

ADi-SA2X-RZ

*Gaming Platform based on AMD Ryzen™ Embedded R1000/V1000 Series
 Supports up to Eight Independent Displays Including 4K UHD*

Features

- High performance "all-in-one" gaming platform
- Highly scalable platform meets individual performance, graphics and power needs
- Compact dimension yet with intensive expansion for vertical add-ons
- Advanced security feature set and software solutions
- Intelligent middleware shortens development time



Introduction

ADi-SA2X-RZ all-in-one gaming platform features powerful processing and graphics performance for gaming infotainment and retail. Equipped with AMD Ryzen™ Embedded R1000/V1000 Series, the ADi-SA2X-RZ provides compelling graphics performance from a Radeon™ RX Vega Graphics and/or a PCI Express 3.0 x16 discrete graphics card together with multi-display support for up to eight independent monitors. With the powerful processing performance, advanced security functions, smart middleware solutions, and versatile I/O array, the ADi-SA2X-RZ fully satisfies the needs of your gaming application.

The ADi-SA2X-RZ is a true application-ready gaming platform providing OEMs with a highly flexible and reliable all-in-one system that offers unparalleled portfolio of services that help developers save time and remain in compliance. The platform is designed to meet the GLI-11 (Gaming Laboratories International) certification and all major global gaming market compliance requirements. The comprehensive middleware as well as the security and extensive I/O solutions enable developers to easily bridge applications with peripheral devices, sensors, and surrounding solutions up to central monitoring and control systems.

High Scalability and Ideal Range of Performance Class

The ADi-SA2X-RZ is designed with highly scalable and reliable hardware that can be flexibly scaled from entry level up to the highest performance class, with tailored configuration of CPU and GPU selections. The platform also provides compact dimensions for developers using a more compact cabinet footprint and offers extensive expansion capabilities for the needs of vertical add-ons.

Multi-Display Graphics Capabilities

The ADi-SA2X-RZ provides support for up to 4K resolutions via four standard video outputs. It is capable of supporting a dedicated graphics card for up to eight independent monitors that conform to the latest DisplayPort 1.2 standard.

Advanced Security and NVRAM PCI Express for Gaming Designed to Meet GLI-11

ADLINK's ADi-BSEC is a high-speed PCI Express card with up to 16 MB NVRAM & SRAM. It offers a crypto and authentication security chip with power-off monitoring and event logging designed to meet the GLI-11 (Gaming Laboratories International) certification requirements. Further features are also available, such as TPM2.0 trusted platform module, Bit

Lock, Software Chain of Trust (sCOT), BIOS customizations, Intrusion Detection, Security Dongle to provide the comprehensive protection of the assets.

ADLINK Comprehensive Middleware Solutions

ADLINK's ADiAPI (intelligent Application Programming Interface) and SEMA® (Smart System Management Agent) provide advanced integration of hardware/software monitoring and controlling allowing simplified and unified application development without dependencies on the peripheral devices.



Options

- **ADi-BSEC**
Intelligent Infotainment Security and NVRAM PCI Express Card
- **ADi-BAMP**
Audio Amplifier, 2x 12-15W
- **ADi-BACC**
Gaming and Retail Extension I/O Board
- **ADiAPI**
Intelligent middleware used for controlling peripheral devices
- **ADiDLL**
Middleware used for controlling optional add-on devices
- **SAS 6.02/6.03 engine**

Optional Accessories

- **ADi-BSEC cable**
- **Box PC cable kit**
- **ADi-BACC Cable kit**

Specifications

| Model Name | ADi-SA2X-RZ | | | | |
|--|---|------------------------|--|------------------------|------------------------|
| Core System | | | | | |
| Product Image |  AMD Ryzen™ Embedded R1000 Series | |  AMD Ryzen™ Embedded V1000 Series | | |
| APU | R1102G/1305G/1505G/1606G (25W) | V1202B (25W) | V1605B (25W) | V1756B (54W) | V1807B (54W) |
| BIOS | AMI EFI in 16MB SPI BIOS; Optional socket SPI BIOS socket onboard and SPI header for external BIOS; Dual BIOS support | | | | |
| Expansion Slot | 1x PCIe x16 Gen 3 slot (PCIe x8 signal; x4 signal for R series) | | | | |
| | 1x PCIe x1 Gen3 slot (PCIe 3.0) | | | | |
| | N/A for R series | | 1x full-size Mini-PCIe slot (for mSATA device) | | |
| | 1x M.2 (M key, 2242/2260/2280, support NVMe, PCIe 3.0 x2 signal; R series W/O SATA interface) | | | | |
| Memory | Dual channel, ECC 2400MHz DDR4 memory up to 32GB in dual vertical SODIMM sockets | | Dual channel, ECC 3200/2400MHz DDR4 memory up to 32GB in dual vertical SODIMM sockets | | |
| | Radeon Vega 3 Graphics | Radeon Vega 3 Graphics | Radeon Vega 8 Graphics | Radeon Vega 8 Graphics | Radeon Vega 9 Graphics |
| Graphics | NVIDIA® QUADRO® P620 embedded with extended availability NVIDIA® QUADRO® P1000 embedded with extended availability NVIDIA® QUADRO® T1000 embedded with extended availability Other options on request | | | | |
| Storage | 2 x SSD (2.5") | | | | |
| | 2 x CFast (via 2.5" adapter option) | | | | |
| | 2 x SATADOM by request | | | | |
| Security | Kensington Lock, Intrusion switch for ADi-BSEC power-off, Security Dongle, Eylet for seal, TPM, Bit Lock, Software Chain of Trust, BIOS Customization, ADi-BSEC security card (option), Cable and connector covers (option) | | | | |
| I/O interface | | | | | |
| Serial ATA | 2x SATA 6 Gbps ports; Ports 0 and 1 provide clearance for SATADOMs | | | | |
| Ethernet | 1x GbE ports (10/100/1000 Mbit/s connection) | | 2x GbE ports (10/100/1000 Mbit/s connection) | | |
| Serial Ports | 1x RS-232/422/485 on internal header | | | | |
| | 3x RS-232 on internal headers | | | | |
| | 1x ccTalk connector for 2x ccTalk devices | | | | |
| Audio Interface | Realtek® ALC892 | | | | |
| | 7.1 channel audio via 5 jacks and S/PDIF output on rear I/O | | | | |
| | 7.1 channel audio signals and S/PDIF output on internal header | | | | |
| USB | 4x USB3.0 and 4 x USB2.0 on rear I/O | | | | |
| | 2x USB2.0 on header | | | | |
| | 1x USB2.0 on vertical connector with space for dongle | | | | |
| DisplayPort | 3x outputs with resolution up to 3840 x 2160@60Hz | | 4x outputs with resolution up to 3840x2160@60Hz | | |
| Wi-Fi | 802.11 a/b/g/n (option) | | | | |
| Power supply (option) | | | | | |
| ADi-SPSU (100-240VAC) or 3pin DC in connector (+9-36VDC) or 14 pin ATX power adaptor (+12V/120W) | | | | | |
| Mechanical | | | | | |
| Dimensions | 265 mm (W) x 225 mm (D) x 87 mm (H; w/o brackets) (10.4 in x 8.9 in x 3.4 in) ADi-SPSU option: +43 mm (w); ADi-BACC option: +20 mm (D) | | | | |
| Environmental & Safety | | | | | |
| Operating Temperature | 0°C to 50°C (32°F to 122°F) | | | | |
| Storage Temperature | -20°C to 70°C (-4°F to 158°F) (excl. HDD/SSD/CFast) | | | | |
| Humidity | ~85% @ 50°C (144°F) (non-condensing) | | | | |
| Vibration | Operating, 1 Grms, 5-500 Hz, 3 axes (w/ CFast or SSD) | | | | |
| | Operating, 0.5 Grms, 5-500 Hz, 3 axes (w/ 2.5" HDD) | | | | |
| Shock | Operating, 20 G, half sine 11 ms duration (w/ CFast or SSD) | | | | |

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| EMC | CE and FCC Class A |
| ESD | Contact +/-4 KV and Air +/-8 KV |
| Safety | UL/cUL, CB |
| Operating Systems | Windows® 10 IoT/Linux 64-bit |
| Gaming-Specific Features and Security (Options) | Up to 2x 8MB dual independent (battery-buffered) high-speed NVRAM (fast PCIe x1 interface) |
| | Crypto & Authentication Security Chip (SHA-256, RNG, UID, EEPROM, OTP) |
| | Intrusion detection and event logging (battery-buffered) |
| | EEPROM support (various; SMD down and DIP socket jurisdiction EEPROM) |
| | 1-Wire bus support (multiple UID S/Ns silicon numbers and EEPROM) |
| | 4x additional serial interfaces (RS-232, RS-232 TTL, ccTalk) |
| | ccTalk, ID003, EBDS, SSP, TCL and MDB |
| | 32x digital inputs / 32x digital outputs |
| | 24 x open drain /40V LED drivers |
| | 3x high-current outputs |
| | EPFail support (early power fail detection input) |
| | User LEDs and function switches |
| | DIP switch option |
| | 8x independent current-sensed hardmeter support |
| | SEC soft meter support (SPI) |
| | 1-Wire support (UID & EEPROM) |
| | Key lock, eyelet for sealing, TPM, dedicated security ICs, secure key storage |
| | Fully customizable secure BIOS |