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)				
	1x SPI header for external BIOS				
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			
Graphics	Radeon Vega 3 Graphics	Radeon Vega 3 Graphics	Radeon Vega 8 Graphics	Radeon Vega 8 Graphics	Radeon Vega 9 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 suport (SPI)
	1-Wire support (UID & EEPROM)
	Key lock, eyelet for sealing, TPM, dedicated security ICs, secure key storage
	Fully customizable secure BIOS

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