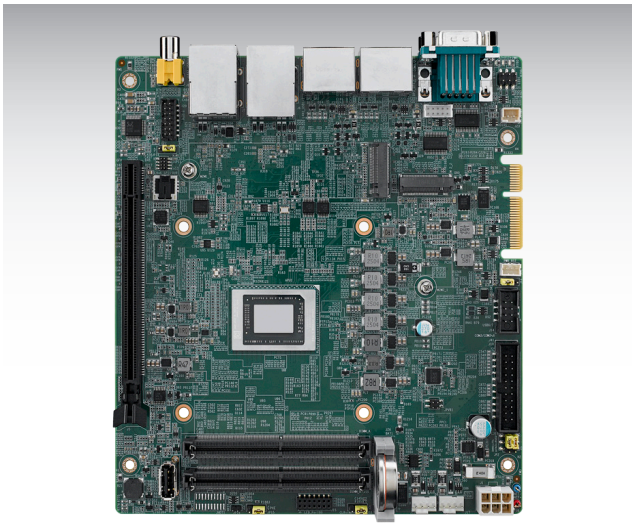
DPX®-M280

AMD® Ryzen™ Embedded 8000 Series Multi-media Gaming Platform



Features

- AMD multi-core SoCs
- AMD Radeon™ RDNA3 integrated graphics
- Supports up to 4 independent displays
- PCIe x16 graphics card slot
- Intrusion detection, hardware monitoring, precision RTC
- Modular Expansion Port - Edge connector
- Gaming Platform Security Architecture (GPSA)
- Comprehensive gaming I/O and security with full driver API support
- Hardware & Software backwards and forwards compatible

AMD Embedded Solutions | Windows | Linux

Introduction

The DPX-M280 is the latest addition to the highly successful DPX-M series multi-media gaming platform range. Based on the AMD Ryzen Embedded 8000 'Hawk Point' SoC platform, the DPX-M280 offers the latest high-performance multi-core technology. Four independent DisplayPort 1.4a outputs plus standard PCIe x16 graphics interface supporting today's latest graphics cards, allow the M280 to create stunning games

The modular expansion architecture allows cost effective modules to be tailored to the specific application, adding features such as I/O, COMs, NVRAM, security and specialised interfaces. The mainboard includes an ARM TrustZone™ based GPSA security sub-system to ensure a secure operating environment. DPX-M280 is also available with two turn-key enclosure solutions.

Specifications

System / Processor	AMD Ryzen Embedded 8000 Series SoC's
	6-core and 8-core options up to 54 W TDP
	Long lifecycle availability
Graphics (Integrated)	Integrated AMD Radeon RDNA3 graphics
	4 x DP++ (DisplayPort 1.4a) supporting up to 4 independent displays
	DirectX 12
Graphics (Expansion)	PCIe x16 Gen.4 graphics expansion slot (x16 lanes)
	Supports simultaneous operation of integrated and discrete graphics
Memory	2 x SO-DIMM sockets up to 96 GB (48 GB per slot)
	DDR5-5600 MT/s
	Non-ECC support
Storage	2 x M.2 'M-Key' PCIe NVMe slots
	1 x 2280 (4-lane), 1 x 2242 (4-lane)
Security	Gaming Platform Security Architecture (GPSA)
	Secure Media Transfer and Initialisation Schema (SMITS)
	TPM 2.0 compliant security device on board
	Optional secure Precision RTC
	Up to 6 intrusion detection inputs with battery-backed event logging
Discrete I/O	5 individually configurable signals
	Selectable as digital input, digital output, or logged intrusion input
Interfaces	6 x serial ports RS-232 (2 fully featured, 4 Tx/Rx)
	Configurable: 1 ccTalk / RS-232, 1 ID003 / TTL / RS-232
	10 x USB (8 x USB 2.0, 2 x USB 3.2)
	2 x I²C (1 protected)
	Cabinet PWR and RST header
	Port 80 debug
LAN	2 x Gigabit Ethernet (full duplex, Wake-on-LAN support)

Expansion	Modular expansion edge connector, PCIe x16, I²C
BIOS	AMI Aptio UEFI BIOS
	Expansion OpROM support
	Fully write-protected and immutable with secure update capability
	BIOS customization
Embedded Controller	Uptime counters for licensing
	Event logging (system resets and brownouts)
	Hardware monitoring (voltage, temperature, fans, battery)
	Secure I²C
	Precision RTC
Audio	7.1-channel HD audio
	Internal multi-channel header and external SPDIF
Watchdog Timer	Programmable timeout
Asset Tag	Unique ID and API-readable serial number
OS Support	Windows, Linux
Battery	BR2477 (holder with solder terminals)
	Battery state software readable
Power	12 V DC single input
	Power fail detection – external sensor input
Environment	Operating temp.: 0 ~ 60 °C (typical), –5 ~ 65 °C (maximum)
	Storage temp.: –20 ~ 85 °C
Approvals	UKCA, CE, FCC Class A, RoHS, WEEE
Dimensions	Extended Mini-ITX; 170 mm x 185 mm

Benefits

- AMD Radeon RDNA3 architecture and PCIe x16 for discrete graphics cards
- Single board integrated solution
- Wide expansion capabilities
- Backwards compatible with DPX-M series boards
- Small size
- Low power
- Long lifecycle

Software Products

- Media Validation SDK
- DPX Connector SDK
- DPX Diagnostics
- DPX SAS Connector
- MS Windows Embedded licenses
- EC Dashboard

DPX Security Architecture

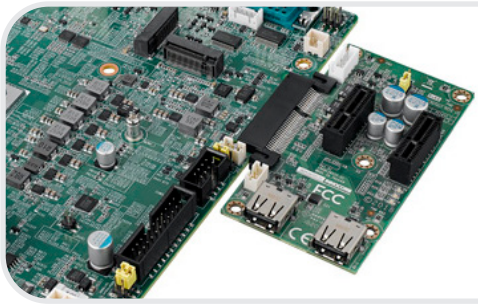
- SESIP3/PSA ARM TrustZone based Gaming Platform Security Architecture (GPSA)
- Support for OPAL2.0 media with pre boot authentication
- Pre and post boot BIOS integrity checking
- Immutable BIOS with secure update capability
- Tamper protected GPSA inter-component communications with API support
- RSA & AES Secure Media Transfer and Initialisation Schema (SMITS)

Optional Accessories

- M.2 modules, M.2 -> SATA adapter (SATA DoM, SSD storage)
- Expansion port breakout boards (standard or custom)
- Full system Chassis
- Range of PCIe graphics cards



DPX-M280 Interface plate



Modular expansion



DPX-M1280 system



DPX-M2280 system

OEM Customization and Product Development

Advantech Gaming Solutions provides PC-based hardware and software design services for regulated gaming applications, supporting customized platform development and long-term product lifecycle management.

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