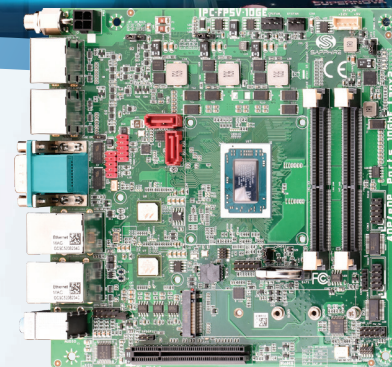# SAPPHIRE
Embedded Solutions

SAPPHIRE IPC-FP5V
Embedded 10GbE Mini-ITX Platform

AMD Ryzen™ Embedded V1000 APU Quad 4K displays

The new SAPPHIRE IPC-FP5V Mini-ITX embedded motherboard is based on the latest AMD Ryzen™ Embedded V-Series Family APUs which features the industry leading "Vega" GPU graphics combined with the high-performance "Zen" CPU Core. Four independent 4K DP++ displays are supported in addition to dual-channel DDR4-3200 SODIMM memory, dual 1 or 10 Gigabit Ethernet controllers, and M.2 expansion for WiFi and SSD modules. The SAPPHIRE IPC-FP5V is an ideal solution for applications requiring a high speed communications front-end like a mini-server or high resolution display products like electronic gaming machines, medical imaging, interactive digital signage, thin clients, or POS terminals.
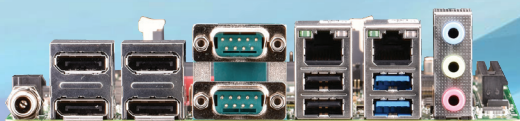
AMD Ryzen™ Embedded Processors

- ◆ "Zen" Architechture with 14nm FinFET
- ◆ Up to four CPU cores / eight threads
- ◆ "Vega" GPU up to 11 Compute Units
- ◆ Dual-channel DDR4 Up to 3200 MT/s with ECC
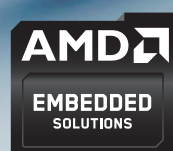
Sapphire IPC-FP5V Platform Features

- ◆ Up to four DisplayPort 1.4 Displays
- ◆ Dual 10 Gigabit Ethernet ports (IPC-FP5V-10GE)
- ◆ Dual 1 Gigabit Ethernet ports (IPC-FP5V-1GE)
- ◆ Two COM ports (RS232/422/485)
- ◆ Two COM headers (RS232)
- ◆ ALC662 HD 5.1 Channel Audio
- ◆ Four USB2.0 Headers
- ◆ Two USB3.1 ports
- ◆ Two USB2.0 ports
- ◆ 12V DC power input
- ◆ TPM 2.0 support
- ◆ Active APU cooler included

Expansion Slots

- ◆ M.2 2242/2260/2280 M Key slot (PCIe x 2 or SATA III)
- ◆ M.2 2230 E Key slot (PCIe x 1)
- ◆ PCIe x 8 slot

Model		IPC-FP5V-10GE	IPC-FP5V-1GE
CPU		AMD Ryzen™ Embedded V1000 series APU	
System Memory		DDR4 SO-DIMM, supports ECC	
		2x DDR4-Up to 3200(Depends on APU), Max. 32GB	
External I/O Edge Connectors	Displays	4 x DP++, 1 x eDP (Shared with 1 DP++)	
	Ethernet	2 x 10GbE RJ-45	2 x 1GbE RJ-45
	COM	2 x RS232/422/485	
	Audio	1 x Line-In, 1 x Line-Out, 1 x Mic-In	
		Built-in HD audio w/ALC662 codec for 5.1 channel	
	USB	2 x USB3.1 Gen2, 2 x USB2.0	
Internal I/O Headers	USB	4 x USB2.0	
	COM	2 x RS232 (Jumperless)	
	GPIO	5 x 2 pins	
	Front Panel	5 x 2 pins	
Security	TPM	Infineon SLB9670 TPM2.0 on board	
	Chassis	Intrusion Alert	
Power		DC 12V, 150W, Power Jack	
		2x2 power header in parallel (with protection diode)	
Expansion Slots		1 x M.2 (Key M, 2242/2260/2280) with PCIe x2 and SATA for SSD	
		1 x M.2 (Key E, 2230) with PCIe x1 and USB2.0 for Wireless	
		1 x either SATA3.0 or M key	
		1 x SATA3.0	
		1 slot, PCIE x8	

AMD RYZEN EMBEDDED V

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