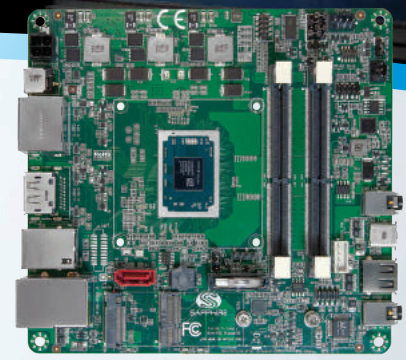# SAPPHIRE
Embedded Solutions

SAPPHIRE FS-FP5R
Embedded 5x5 Platform

AMD Ryzen™ Embedded R1000 APU Three 4K displays

The new SAPPHIRE FS-FP5R 5"x 5" small form factor embedded motherboard is based on the latest AMD Ryzen™ Embedded R-Series Family APUs which features the industry leading Vega GPU graphics combined with the dual-core high-performance "Zen" CPU. Three 4K displays can be supported in addition to dual-channel DDR4-2400 memory, dual Ethernet controllers, and M.2 for WiFi and SSD expansion. The SAPPHIRE FS-FP5R is an ideal solution for small for factor, high resolution visual embedded applications like electronic gaming machines, medical imaging, interactive digital signage, thin clients, POS terminals and more.
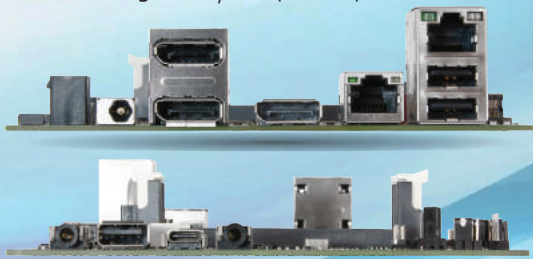
AMD Ryzen™ Embedded Processors

◆ "Zen" Architecture with 14nm FinFET
◆ Dual CPU cores / Four threads
◆ Vega GPU up to 3 Compute Units
◆ Dual-channel DDR4 Up to 2400 MT/s with ECC
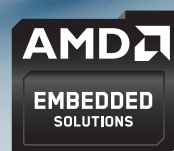
Sapphire FS-FP5R Platform Features

◆ Up to three DisplayPort 1.4 Displays
◆ Dual Gigabit Ethernet ports
◆ One COM port (RS232/422/485)
◆ ALC262 HD 2CH
◆ One USB3.1 Type-C port
◆ Three USB2.0 ports
◆ 12-19V DC power input
◆ TPM 2.0 support
◆ Active APU cooler included

Expansion Slots

◆ M.2 2280 M Key slot (PCIe x 4 or SATA III)
◆ M.2 2230 E Key slot (PCIe x 1)

Model		FS-FP5R
CPU		AMD Ryzen™ Embedded R1000 series APU
System Memory		DDR4 SO-DIMM, supports ECC
		2x DDR4-Up to 2400, Max. 32GB
External I/O Edge Connectors	Displays	3 x DP++
	Ethernet	2 x 1GbE RJ-45
	COM	1 x RS232/422/485
	Audio	1 x Line-Out, 1 x Mic-In
		Built-in HD audio w/ALC262 codec for 2CH channel
	USB	1 x USB3.1 Type-C, 3 x USB2.0
Internal I/O Headers	COM	1 x RS232/422/485 headers (Jumperless)
	GPIO	5 x 2 pins
	Front Panel	5 x 2 pins
	SMBus	4 x 1 pins
Security	TPM	Infineon SLB9670 TPM2.0 on board
	Chassis	Intrusion Alert
Power		DC 12-19V, 90W, 1 x DC Power Jack
		2x2 power header in parallel (with protection diode)
Expansion Slots		1x M.2 (Key M, 2280) with PCIe x4 and SATA for SSD
		1x M.2 (Key E, 2230) with PCIe x1 and USB2.0 for Wireless
		1 x SATA3.0

https://www.sapphiretech.com/embedded