

GM841-HPF

AMD® Ryzen™ Embedded 8000 Series
Gaming Embedded System



KEY FEATURES



Powerful Computing Processor

AMD® Ryzen™ Embedded 8000 Hawk Point Series
up to 54W



High Performance AI

AMD® Ryzen™ Embedded 8000 Hawk Point APUs
(38 TOPs Total)



Superior Graphic Engine

Support 4 DP++ (up to 4096x2160@60Hz)



Design for Gaming system

- Retain NVRAM Data for 5 Years during AC off
- 8 Intrusion Detection, 32 x DIDO, 8 x Meter, iButton x1, cctalk x4, Stereo 6W+6W Audio AMP Output



Reliable Data Security

Jurisdiction BIOS, RSA & Hash Verification



SPECIFICATION

SYSTEM	Processor	AMD® Ryzen™ Embedded 8000 Series Processors, TDP up to 54W AMD® Ryzen™ Embedded 8845HS, 8C/16T, 8MB Cache, 3.8GHz (5.1GHz), 45W (35-54W) AMD® Ryzen™ Embedded 8645HS, 6C/12T, 6MB Cache, 4.3GHz (5.0GHz), 45W (35-54W) AMD® Ryzen™ Embedded 8840U, 8C/16T, 8MB Cache, 3.3GHz (5.1GHz), 28W (15-30W) AMD® Ryzen™ Embedded 8640U, 6C/12T, 6MB Cache, 3.5GHz (4.9GHz), 28W (15-30W)
	Memory	Dual-channel SODIMM up to 64GB Dual-channel DDR5 5600/5200/4800MHz, with ECC support
	BIOS	AMI SPI 256 Mbit
	Controller	RDNA3 graphics with up to 6 WGP (Work Group processors)
GRAPHICS	Feature	OpenGL 4.6, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9, AV1 HW Encode: MPEG2, AVC/H.264, JPEG, HEVC/H265, VP8, VP9, AV1
	Display	4 x DP++ or 3 x DP++ + 1 M.2 A display DP1.2: resolution up to 4096x2304 @ 60Hz
	Quad Displays	4 DP++ or 3 DP++ + 1 M.2 A display
STORAGE	Interface	2 x SATA 3.0 1 x 2.5" SSD Bay
EXPANSION	Interface	1 x PCIE Gen4 x16 slot (x8 Gen4)
		1 x M.2 M Key 2280 (SATA 3.0/ PCIE Gen3x4) SATA3(opt) selected by BIOS
		1 x M.2 A Key 3042, Standoff at 3030
		Support BT/WiFi6 A key 2230 Support DFI M2A-display module (DP, HDMI, VGA, eDP/LVDS) Support DP, PCIE Gen3 x1 and USB2.0 signal
AUDIO	Audio Codec	Realtek ALC888S
ETHERNET	Controller	2 x i226-V (10/100/1000/2500 MHz)
LED	Indicators	1 x Power LED 1 x HDD LED

SPECIFICATION

I/O	Ethernet	2 x 2.5GHz RJ45
	Serial	1 x RS-232/422/485 (DB-9) 1 x Full RS-232 (DB-9) 4 x RS232 (TX/RX, 2 ccTalk, DB-9) 2 x RS-232 (TX/RX, 2 ccTalk, Microfit)
	USB	2 x USB 3.2 Gen2 7 x USB 2.0
	Display	4 x DP++
	Audio	1 Audio Jack (Line-in/Line-out/Mic-in) Stereo 6W+6W Class D Audio AMP Output S/PDIF Out
	Cooling	1 x 8cm System Fan, with replaceable air filter
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
GAMING	Intrusion Detection	8 x Intrusion detection Operates With and Without AC Power Logs Date/ Time of latest 64 events Coin Battery backup to Retain Data for 5 years during AC off
	NVRAM	Supports up to 16Mbyte Coin Battery backup to Retain Data for 5 years during AC off Support Battery voltage monitoring & Warning
	DI/DO	32-bit Digital Input 32-bit OC output (29-bit x 500mA, disconnect detection up to 8 meters; 3-bit x 3A)
	iButton	Support iButton 1-wire protocol
SECURITY	TPM	TPM 2.0
POWER	Type	12V DC IN
	Connector	DC-in Jack or Right Angle Connector (4-pin)
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise LTSC(64-bit) Windows 11 22H2 GAC
	Linux	Linux Ubuntu 22.04
	Software	Supplied with gaming function SDK
ENVIRONMENT	Operating Temperature	0~45°C
	Storage Temperature	-20~85°C
	Relative Humidity	5%~90%
MECHANISM	Mounting	Wall Mount
	Dimensions (W x H x D)	230 x 140 x 210 mm
	Weight	2.9 kg
STANDARDS AND CERTIFICATIONS	Shock	Operation: IEC 60068-2-27 Test Ea: Shock test Half-sine, 3G @ 11ms, 18 Shock $\pm X$, $\pm Y$, $\pm Z$ (each axis 3 times) Non-Operation: IEC 60068-2-27 Test Ea: Shock test Half-sine, 5G @ 11ms, 18 Shock $\pm X$, $\pm Y$, $\pm Z$ (each axis 3 times)
	Vibration	Operation: IEC 60068-2-64 Test Fh: Vibration Board-Band Random Test Random,1Grms @ 5~500 Hz, 30min. Non-Operation: IEC 60068-2-6 Test Fc: Vibration Sinusoidal Test Sweep sine, 2Grms @ 10~500Hz, 30min.
	Certifications	CE, FCC class A (ongoing)