

# GM840-RNF

AMD® Ryzen™ V2000 Series Processors  
Gaming Embedded System



## KEY FEATURES



### Powerful Computing Processor

AMD® Ryzen™ V2000 Series Processors



### 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 x2



### High Security

Jurisdiction BIOS, RSA & Hash Verification

FC CE

## SPECIFICATION

SYSTEM	Processor	AMD® Ryzen™ V2000 Series Processors, BGA V2748 AMD® Ryzen™ V2748, 8C/16T, 4MB Cache, 7 CU, 2.9GHz (4.25GHz),45W AMD® Ryzen™ V2546, 6C/12T, 3MB Cache, 6 CU, 3.0GHz (3.95GHz),45W AMD® Ryzen™ V2718, 8C/16T, 4MB Cache, 7 CU, 1.7GHz (4.15GHz),15W AMD® Ryzen™ V2516, 6C/12T, 3MB Cache, 6 CU, 2.1GHz (3.95GHz),15W	
	Memory	Two 260-pin SODIMM up to 64GB Dual channel DDR4 up to 3200MHz (ECC/ non ECC support)	
	BIOS	AMI BIOS	
GRAPHICS	Controller	AMD® Radeon™ VEGA7 Graphics	
	Feature	OpenGL 4.6, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9	
	Display	4 x DP++	DP++: resolution up to 4096x2160 @ 60Hz
	Quad Displays	4 x DP++	
STORAGE	Interface	2 x SATA 3.0 1 x 2.5" SSD Bay	
EXPANSION	Interface	1 x M.2 2280 M Key (SATA 3.0/ PCIe x4) (support 2242 by BOM opt.)	
AUDIO	Audio Codec	Realtek ALC888S-VD2-GR	
ETHERNET	Controller	2 x Realtek RTL8119-CG (10/100/1000Mbps)	
LED	Indicators	1 x Power LED 1 x HDD LED	
I/O	Ethernet	2 x GbE (RJ-45)	
	Serial	1 x RS-232/422/485 (DB-9) 1 x Full RS-232 (DB-9) 4 x RS-232 (TX,RX) (DB-9) 2 x RS-232 (TX,RX)/ccTalk (Microfit)	
	USB	2 x USB 3.1 Gen1 6 x USB 2.0	
	Display	4 x DP++	
	Audio	1 Audio Jack ( Line-in/Line-out/Mic-in) S/PDIF Out (internal header)	
	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 IoT Enterprise 10 LTSCB	
	Linux	Linux Ubuntu 20.04	
	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)	220 x 125 x 200 mm	
	Weight	2.9 kg	
STANDARDS AND CERTIFICATIONS	Shock	<b>Operation:</b> IEC 60068-2-27 Test Ea: Shock test Half-sine, 3G @ 11ms, 18 Shock ±X, ±Y, ±Z (each axis 3 times) <b>Non-Operation:</b> IEC 60068-2-27 Test Ea: Shock test Half-sine, 5G @ 11ms, 18 Shock ±X, ±Y, ±Z (each axis 3 times)	
		<b>Operation:</b> IEC 60068-2-64 Test Fh: Vibration Board-Band Random Test Random,1Grms @ 5~500 Hz, 30min. <b>Non-Operation:</b> IEC 60068-2-6 Test Fc: Vibration Sinusoidal Test Sweep sine, 2Grms @ 10~500Hz, 30min.	
	Vibration	<b>Operation:</b> IEC 60068-2-64 Test Fh: Vibration Board-Band Random Test Random,1Grms @ 5~500 Hz, 30min. <b>Non-Operation:</b> IEC 60068-2-6 Test Fc: Vibration Sinusoidal Test Sweep sine, 2Grms @ 10~500Hz, 30min.	
	Certifications	CE, FCC class A (ongoing)	