

GM850-ARF

Intel Arrow Lake S processor
Gaming Embedded System



KEY FEATURES



Powerful Computing Processor

Intel Arrow Lake S processor, TDP up to 65W



High Performance GPU

2,048 GFLOPS



Superior Graphic Engine

1 HDMI + 1 DP++ + 1 USB Type C (DP Alt-mode)
+ 1 eDP(MXM) + 1 internal DFI M2A-Display



Design for Gaming system

- Retain NVRAM Data for 5 Years during AC off
- 8 Intrusion Detection, 32 x DIDO, 8 x Meter, iButton x1, Stereo 3W Audio AMP Output



Reliable Data Security

Jurisdiction BIOS, RSA & Hash Verification



SPECIFICATION

SYSTEM	Processor	Intel® Core™ Ultra LGA 1851 Socket Processors, support up to TDP 65W. Intel® Core™ U9-285T (24 Cores, 36M Cache, up to 1.4 GHz); 35W Intel® Core™ U9-285 (24 Cores, 36M Cache, up to 2.5 GHz); 65W Intel® Core™ U7-265T (20 Cores, 30M Cache, up to 1.5 GHz); 35W Intel® Core™ U7-265F (20 Cores, 30M Cache, up to 2.4 GHz); 65W Intel® Core™ U7-265 (20 Cores, 30M Cache, up to 2.4 GHz); 65W Intel® Core™ U5-225F (10 Cores, 20M Cache, up to 3.3 GHz); 65W Intel® Core™ U5-225 (10 Cores, 20M Cache, up to 3.3 GHz); 65W
	Memory	2x 260-pin SODIMM up to 96GB Dual Channel DDR5 5600MHz/6400MHz, W880 support ECC
	Chipset	Intel® W880/Q870/H810
	BIOS	AMI SPI 256 Mbit
	GRAPHICS	Controller
Feature		DirectX 12 HW Decode: H.264, H.265, VP9, AV1 HW Encode: H.264, H.265, HEVC, AV1
Display		1 x HDMI Resolution up to 4096 x 2160 @ 30Hz 1 x DP++ Resolution up to 4096x2304@60Hz 1 x USB Type C: DP 1.2 alt-mode Resolution up to 4096x2304@60Hz 1 x eDP resolution supports up to 4096x2304 @60Hz 1 x Internal DFI M2A-Display (DDI)
Quad Displays		1 HDMI + 1 DP++ + 1 USB Type C(DP Alt-mode) + 1 eDP(MXM) + 1 internal DFI M2A-Display
STORAGE	Interface	1 x M.2 B Key slot (Support PCIe Gen3 x1 ,SATA, USB 3.2, USB 2.0 signal)
EXPANSION	Interface	1 x PCIe x16 slot w/ locker, PCIe Gen5 supported 1 x M.2 2230 Key-E (PCIe Gen4x1, USB2.0, CNVi module) 1 x M.2 2280Key-M 1 x M.2 2242/3042/3052 Key-B (PCIe Gen3 x1, SATA, USB 3.2, USB 2.0) 1 x M.2 A key
	Audio Codec	Codec IC: Realtek ALC888 Amp IC: Realtek ALC105
ETHERNET	Controller	2 x i226-V (10/100/1000/2500 MHz)
LED	Indicators	1 x Power LED 1 x HDD LED
I/O	Ethernet	2 x 2.5GHz RJ45
	Serial	2 x RS-232/422/485 (DB-9)
	USB	6 USB 3.2 Gen2 or 5 USB 3.2 Gen2 + 1 USB 3.2 Gen2x2 Type C
	Display	1 HDMI + 1 DP++ + 1 USB Type C(DP Alt-mode) + 1 eDP(MXM) + 1 internal DFI M2A-Display
	Audio	1 Audio Jack (Line-out/Mic-in) L/R 3W speaker
	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	ARS101 12V DC IN, ARS103 12V~28V DC IN
	Connector	DC-Jack & 2x2p ATX power vertical/right conn
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise LTSC(64-bit) Windows 11 IoT Enterprise LTSC(64-bit)
	Linux	Linux Ubuntu 24.04
	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)	TBD
	Weight	TBD

SPECIFICATION

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)

OPTIONAL ITEMS

Optional Items	Part Number	Description
MXM Quadro T1000	612-M3T100-100G	50W, 896 CUDA Cores, 2.6 TFLOPS, 0~55°C
MXM Quadro RTX A500	612-M3A500-000G	35W, 2048 CUDA Cores, 6.54 TFLOPS, 0~55°C
MXM Quadro RTX A1000	612-M3A100-000G	60W, 2048 CUDA Cores, 6.66 TFLOPS, 0~55°C
MXM Quadro RTX A2000	612-M3A200-000G	60W, 2560 CUDA Cores, 8.64 TFLOPS, 0~55°C
MXM Quadro RTX3000	612-M3T300-000G	80W, 1920 CUDA Cores, 5.3 TFLOPS, 0~55°C
MXM Quadro RTX A4500	612-M3A450-000G	115W, 5888 CUDA Cores, 17.66 TFLOPS, 0~55°C
MXM Cooler	A71-110100-000G	MXM cooler for RTX3000 87x106.35x34mm
MXM Cooler	TBD	MXM cooler for T1000 73x60x32.1mm