

DS-054

Modern AI-ready PCs, combining
high-performance AMD Ryzen™
8000-series Zen CPU cores



Introduction

DS-054 is designed for modern AI-ready PCs, combining high-performance Zen CPU cores with integrated RDNA graphics and built-in AI acceleration. They deliver strong compute performance, efficient power management, and enhanced AI capabilities for productivity, multimedia, and edge applications.

Specifications

		DS-0540B-U0A1E	DS-0540B-U1A1E
Processor	Processor	AMD R8640 (6 Cores/ 12 Threads)	AMD R8840 (8 Cores/ 16 Threads)
	Chipset	Integrated in SOC	
	BIOS	AMI uEFI 256 Mbit	
Memory	Technology	DDR5 5600 MHz	
	Max. Capacity	96GB (48GB per SO-DIMM)	
	Socket	2 x 260-pin SODIMM	
CPU TDP		28W	28W
Thermal Solution		Smart-Fan	Smart-Fan
Display	Graphics Engine	AMD Radeon (8 GPU Compute Units)	AMD Radeon (12 GPU Compute Units)
	Output (HDMI EDID support)	1 x HDMI 2.1 (FRL, up to 8K) and 3 x HDMI 2.1 (TMDS, up to 4K@60Hz)	1 x HDMI 2.1 (FRL, up to 8K) and 3 x HDMI 2.1 (TMDS, up to 4K@60Hz)
	Resolution	FRL, up to 8K and TMDS, up to 4K@60Hz	
Ethernet	Controller	Intel I210: 10/100/1000 Mbps LAN, supporting Wake-on-LAN and OOB management via EdgeBMC	
	Interface	Intel I226: 10/100/1000/2500 Mbps LAN, supporting Wake-on-LAN	
	Connector	Gigabit LAN Controller	
I/O Interfaces	Audio	2 x RJ-45	
	USB	Realtek ALC888S, High Definition Audio 3.5mm Audio jack sense (Line or Mic-in)	
	Serial Port	1 x USB 3.2 Gen1, 2 x USB2.0, 1 x USB-C (support 1x 20Gbps, DP ALT mode, 15W)	
	EDID	1 x RS-232 (support High speed COM)	
	LED Indicators	1 x EDID_CLR button	
	Remote Switch	1 x Power, 1 x Storage Access	
		1x (Reset, Power on, Ground, and Watchdog output signal)	
Expansion	M.2	2 x 2230 E Key PCIe Gen3;USB 2.0 for WiFi/Bluetooth or Hailo module	
Storage	M.2	1 x 2280 M Key PCIe Gen3 (X2) (BOM option) for Hailo module	
Power Requirement	Power Management	1 x 2242 M Key PCIe Gen4 (X4) for NVMe	
	Input Voltage	ACPI 3.0	
Trusted Platform Module	TPM2.0	12-24V (ATX/AT mode)	
Watchdog Timer	Output	fTPM 2.0, Default	
	Interval	TPM 2.0 (NPCT764AAEYX), BOM option by project support	
Physical Characteristics	Mounting	Interrupt, system reset	
	Dimensions (W x D x H)	255-level timer interval, setup by software	
	Weight	Wall Mount	
Environment	Operating Temperature	180 x 177 x 23 mm	
	Relative Humidity	0.9 kg (1.98 lb)	
Software Support	Operating System	0 ~ 40° C (32 ~ 104F) with 0.7 m/s airflow	
	Linux	95% @ 40° C (non-condensing), operating	
Certifications	EMC	DeviceOn/Edge BMC/SUSI	
	Safety	Win11LTSC x64	
		ubuntu 24.04	
		CE, FCC Class B, CCC, BSMI, UKCA	
		UL, CB, CCC, BSMI, UKCA (No RED certification)	

Features

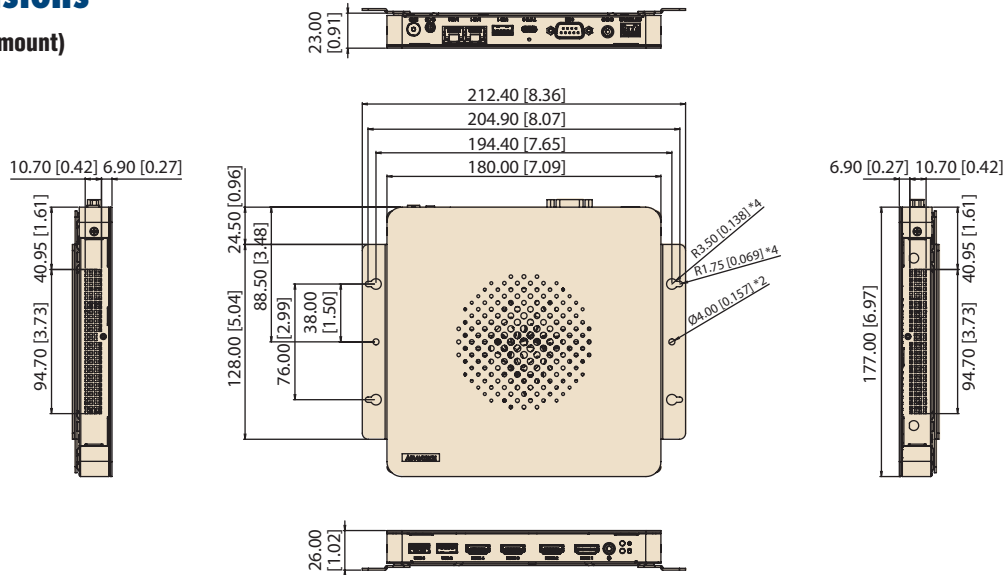
- AMD Ryzen™ Embedded 8000 (Zen 4), up to 8C/16T
- RDNA 3 GPU + XDNA NPU, up to 16 TOPS AI performance
- 23mm ultra-slim design for space-limited deployment
- Quad HDMI (1×8K + 3×4K) display support
- DeviceOn / SignageCMS for remote management and control
- OOB remote management & EDID support
- fTPM onboard, optional TPM 2.0

McAfee Acronis WISE-PaaS/SignageCMS WISE-DeviceOn

Dimensions

(with wall mount)

Unit: mm [inch]



Front View



Rear View



Ordering Information

Part Number	Description
DS-0540B-U0A1E	AMD R8640, 4xHDMI, 2xLAN, EDID, OOB, RC, barebone
DS-0540B-U1A1E	AMD R8840, 4xHDMI, 2xLAN, EDID, OOB, RC, barebone
DS-0540B-U0A1U	AMD R8640, 4xHDMI, 2xLAN, EDID, OOB, RC, barebone MIT
DS-0540B-U1A1U	AMD R8840, 4xHDMI, 2xLAN, EDID, OOB, RC, barebone MIT

Packing List

Part Number	Description
-	1 x DS-054
XDS-FSP090-DBBN3	1 x 19V 90W power adapter
1960057740T002	2 x Wall Mount brackets and screws

Optional Items

Part Number	Description
96PSA-A84W12V1-4	12V power adapter
96DL-FSP090-AAAN3	24V power adapter
EWM-W179M201E	IEEE 802.11ax (2.4GHz+5GHz+6GHz)+BT 5.3, 2T2R
1751000648-01	RF Cable SMA/F-R MHF4L/113 BLK L100mm
1751000635-01	RF Cable SMA/F-R MHF4L/113 BLK L200mm
AIW-512-I	2 x WiFi 6E Dipole ANTENNA

RAM & Storage

Part Number	Description
SQR-SD5N8G5K6HNGAG	SODIMM DDR5 5600 8GB 1Gx16 (0-95°C) Hynix
SQR-SD5N16G5K6HNGAG	SODIMM DDR5 5600 16GB 2Gx8 (0-95°C) Hynix
SMI-SD5V8GN56-CC	Semi Ind D5 SO DIMM 5600 8GB 1Gx16 (0-85°C)
SMI-SD5V16GN56-CB	Semi Ind D5 SO DIMM 5600 16GB 1Gx8 (0-85°C)
SQF-C4MV2-128GDEDC	QF M.2 2242 720-D 128G 3D TLC BiCS5 (0-70°C)
SQF-C4MV2-256GDEDC	SQF M.2 2242 720-D 256G 3D TLC BiCS5 (0-70°C)
SQF-C4MV2-256GDEFM	SQF M.2 2242 730-D 256G 3D TLC BiCS5 (-20-85°C)

Embedded OS

Part Number	Description
20706WLH1S0141	Win11 LTSC Highend 64b 24H2 ENU
20706WLV1S0141	Win11 LTSC Value 64b 24H2 ENU
20706WLE1S0141	Win11 LTSC Entry 64b 24H2 ENU

Power Cord

Part Number	Description
1700001524	3-pin power cord (US)
170203183C	3-pin power cord (EU)
170203180A-01	3-pin power cord (UK)
1700008921	3-pin power cord with PSE (Japan)
1700019146	3-pin power cord (CCC)
1700018553	3-pin power cord (AU)
1700024849-01	3-pin power cord (TW)