

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	
	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	1G I210, support OOB by EdgeBMC 2.5G I226, support Wake On Lan	
	Interface	Gigabit LAN Controller	
	Connector	2 x RJ-45 10/100/1000/2500 Mbps	
I/O Interfaces	Audio	3.5mm Audio Jack for jack sense (Line-in/out or Mic-in)	
	USB	1 x USB 3.2 Gen1, 2 x USB2.0, 1 x USB-C (support DP ALT mode, 5Vx3A)	
	Serial Port	1 x RS-232 (support High speed COM)	
	Switch/button	1 x Power on/off button; 1 x EDID_CLR button	
	LED Indicators	1 x Power, 1 x Storage Access	
	Remote Switch	1x (Reset, Power on, Ground, and Watchdog output signal)	
Expansion	M.2	2 x 2230 E Key WIFI/Hailo PCIe x 2 1 x 2280 M Key WIFI/Hailo PCIe x 2 (BOM option)	
Storage	M.2	M.2 2242 M Key PCIe4	
Power Requirement	Power Management	ACPI 3.0	
	Input Voltage	12-24V (ATX/AT mode)	
Trusted Platform Module	TPM2.0	fTPM 2.0, Default TPM 2.0 (NPCT764AAEYX), BOM option by project support	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	255-level timer interval, setup by software	
Physical Characteristics	Mounting	Wall Mount	
	Dimensions (W x D x H)	180 x 177 x 23 mm	
	Weight	0.9 kg (1.98 lb)	
Environment	Operating Temperature	0 ~ 40° C (32 ~ 104F) with 0.7 m/s airflow	
	Relative Humidity	95% @ 40° C (non-condensing), operating	
Software Support		DeviceOn/Edge BMC/SUSI	
Operating System	Operating System	Win11LTSC x64	
	Linux	supported by project	
Certifications	EMC	CE, FCC Class B, CCC, BSMI, UKCA	
	Safety	UL, CB, CCC, BSMI, UKCA (No RED certification)	

Features

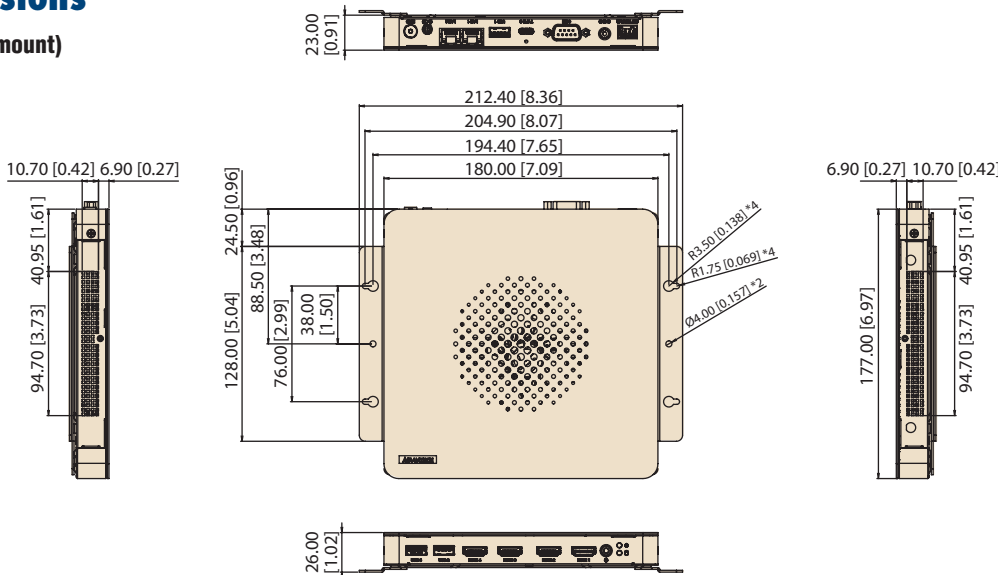
- AMD Ryzen™ Embedded 8000 (Zen 4), up to 8C/16T
- RDNA 3 GPU + XDNA NPU, up to 16 TOPS AI performance
- 23mm ultra-slim design for space-limited deployment
- Quad HDMI (1x8K + 3x4K) display support
- Cable-less design for easy maintenance
- DeviceOn / SignageCMS for remote management and control
- OOB 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

RAM & Storage

Part Number	Description
SQR-SD5N8G5K6HNGAG	SODIMM DDR5 5600 8GB 1Gx16 (0-95) Hynix
SQR-SD5N16G5K6HNGAG	SODIMM DDR5 5600 16GB 2Gx8 (0-95) Hynix
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)

Packing List

Part Number	Description
-	1 x DS-054
96PSA-A65W19V1-3	1 x 19V power adapter
1960057740T002	2 x Wall Mount brackets and screws

Embedded CMS

Part Number	Description
server(virtual):32ASDSC3SWPR01	SignageCMS Windows Server Pro License/300 client
server(sticker):36ASDSC3SWPR01	SignageCMS Windows Server Pro License/300 client
client(virtual):32ASDSC3CWPR01	SignageCMS Windows Pro Client License
client(sticker):36ASDSC3CWPR01	SignageCMS Windows Pro Client License

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

Embedded OS

Part Number	Description
TBD	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)