DS-281

Intel Panther Lake SDM Player with 8K output

Features

- Intel SDM-L (Smart Display Module - Large) form factor
- Intel® Core™ Ultra series 3 Panther Lake Processor
- Support dual channel LPDDR5 8533 MT/s, up to 64GB
- 3 independent displays: 1 x DP1.4 and Golden Finger (1 x HDMI 2.1, 1 x DP1.4)
- Supports Intel® ARC™ GPU with up to 12Xe, 4K resolution and NPU up to 50 TOPS
- Equipped with firmware TPM (fTPM) by default; discrete TPM 2.0 available as a BOM option based on project request
- Easy installation and maintenance with Intel® SDM slot-in design

WISE-PaaS/DeviceOn **WISE-PaaS/SignageCMS**

Introduction

The DS-281 design is based on the Intel SDM specification and is powered by Intel® Panther Lake processors. DS-281 delivers 8K output and smooth content streaming via a card edge connector. DS-281 allows slot-in integration that reduces space requirements and lowers deployment and field maintenance costs. It also features built-in I/O such as DP, HDMI, USB 3.0, and a single LAN (RJ-45). DS-281 enables media playback and display and is ideal for all-in-one signage applications with space constraints.

Specifications

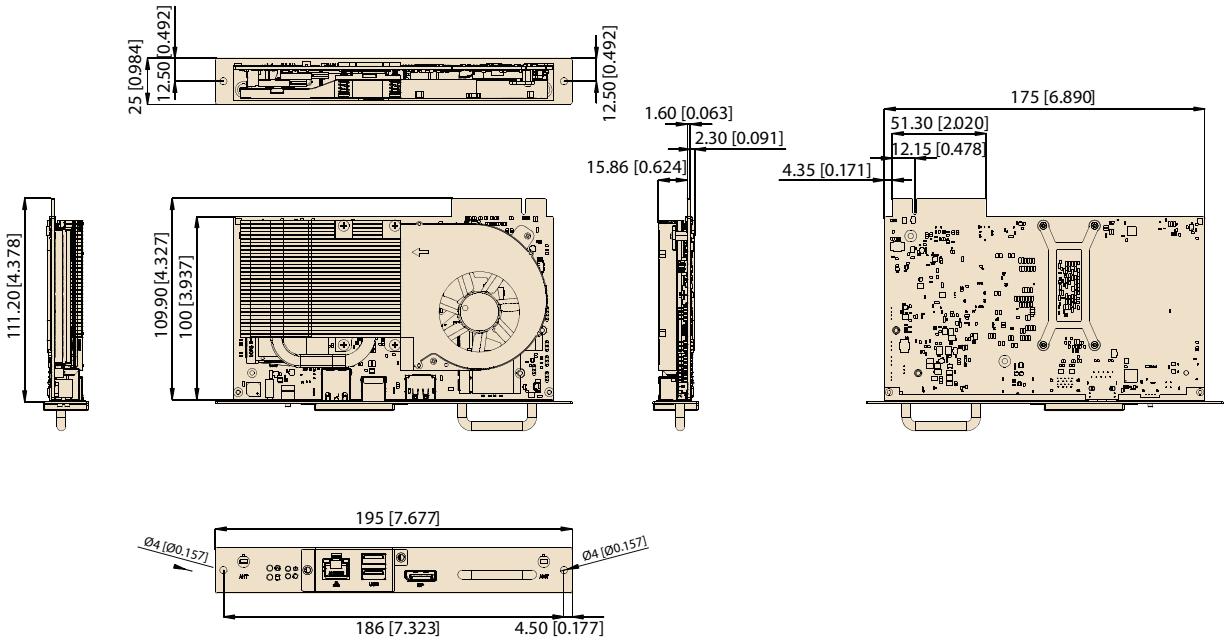
Form Factor	SDM	L (Large)	
Processor System	CPU	Intel® Core™ Ultra 7 - 368H (12Xe)	Intel® Core™ Ultra 5 - 338H (12Xe)
	Frequency	2 GHz up to 5 GHz	1.9 GHz up to 4.7 GHz
	Core Number	16	12
	BIOS	AMI EFI 512 Mbit	
	AI Capability	Up to 180 TOPS	
Memory	Technology	LPDDR5 8533 MT/s Dual Channel, up to 64GB	
	Max. Capacity	64GB, BOM option 32GB	
Display	Controller	CPU integrated	
	Graphic Engine	Intel® Xe 3 LPG (12Xe Cores)	
	Output	DP from front I/O, HDMI 2.1 & DP1.4 from golden finger	
	Max. Resolution	7680 x 4320 @60Hz	
Expansion	M.2	M.2 2280/2242, M-Key PCIex2 (2280 default; 2242 by project request) 2230 E-Key (PCIe & USB2.0)	
I/O Interface	Golden Finger	PCIe x8. The pin define follows Intel® SDM 2.3 specifications	
	DP 1.4	1	
	USB	2 x USB 3.2 Gen1	
	Ethernet	1 x Intel i226 (2.5GbE)	
	SDM I/O Interface	1 x 2.5 GbE, 1 x HDMI 2.1, 1 x Display Port 1.4a, 1 x USB3.2 Gen1, 1 x USB 2.0, UART, I2C, 12V DC-In	
Power Requirement	Management	ACPI 3.0	
	Input Type	ATX/AT Mode	
	Input Voltage	12V DC-In	
Trusted Platform Module	TPM 2.0	fTPM 2.0, Default TPM 2.0 (Infineon_SLB9672), BOM option by project support	
Watchdog Timer	Output	Interrupt, system reset	
	Interval	255 levels timer interval. By SUSI4.0 API	
Physical Characteristics	Dimensions (W x H x D)	175 x 100 x 20 mm (SDM-L compliant)	
	Weight	0.33kg	
Environment	Operating Temperature	0 ~ 55 °C @ Natural Convection Chamber	
	Thermal Solution	Cooler with blower FAN	
	Relative Humidity	95% @ 40 °C (non-condensing), Operating	
Software Development Kit	Operating System	Windows 11 IoT LTSC, Linux by project support	
	Software (Optional)	WISE-PaaS/DeviceOn, WISE-PAAS/SIgnageCMS	
Certification	Electromagnetic	EMC: CE/FCC Class B, CCC, UKCA, BSMI Safety: CB, UL, UKCA, BSMI, CCC	

All product specifications are subject to change without notice.

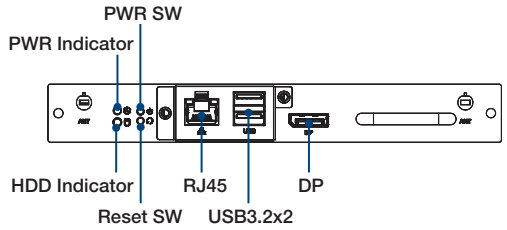
Last updated: 28-Oct-2026

Dimensions

Unit: mm [inch]



Front View



Ordering Information

Part Number	Description
DS-2810B-U0A1E	DS-281, 338H, LPDDR5 64G, Barebones
DS-2810B-U0A2E	DS-281, 338H, LPDDR5 32G, Barebones
DS-2810B-U1A1E	DS-281, 368H, LPDDR5 64G, Barebones
DS-2810B-U1A2E	DS-281, 368H, LPDDR5 32G, Barebones

Note: Storage and Operating System bundled by request

Storage

Part Number	Description
SQF-C8MV2-128GDEDC	Storage M.2 NVMe Gen3 2280 TLC 128GB
SQF-C8MV2-256GDEDC	Storage M.2 NVMe Gen3 2280 TLC 256GB
SQF-C8MV2-512GDEDC	Storage M.2 NVMe Gen3 2280 TLC 512GB

Embedded OS

Part Number	Description
TBD	Win11 IoT LTSC EN, 64b Entry

Optional Items

Part Number	Description
EWM-W165M202E	Wi-Fi 6+BT 5.3 Module 2.4/5/6GHz M.2 2230 Vpro
1751000648-01	1 x Cable Ant. 100mm
1751000635-01	1 x Cable Ant. 200mm
AIW-512	1 x WiFi 6E Dipole ANTENNA ; order in multiples of 2

Note: If Wi-Fi is required, the package must include the module, antenna, and antenna cable.