Silicom Connectivity Solutions

Seville 1U Networking Appliance Series

Universal CPE supporting up to 22 core Intel® Xeon® D-2700/D-2800 processors

Product Description

Seville 1U Networking Appliance features a Next-gen Intel® Xeon® D-2700/D-2800 processors designed to deliver server-class computing, cyber security, and high-bandwidth with built-in AI acceleration, Deep Learning Boost and powerful real-time capabilities. The Seville is designed for fast network processing and cutting-edge developments including next-generation WAN optimization and security.

The Seville platform is a groundbreaking solution that creates an excellent platform for developing applications in the fields of networking uCPE SD-WAN, SASE, SSE, 5G DU and IoT Edge Computing. Its outstanding features allow it to improve packet processing performance while also providing network security within virtual network functions.

Based on Intel's Xeon® D-2700/D-2800 the Seville Networking appliance can run multiple virtual machines and control systems. With its high-capacity support that includes real-time systems as well as Hypervisor Support, it consolidates many different types of workloads providing a one-stop-solution Networking Edge Appliance.

The Seville is a family of products powered by the Intel Ice Lake-D HCC (High Core Count) SoC, built using Intel 10-nanometer process technology. The Intel® Xeon® D-2700/D-2800 Processors are high-performance SoCs with integrated Ethernet in high-density Ball-Grid Array packages. They deliver server-class computing, hardware-based security, and high-bandwidth I/Os for embedded and rugged applications at the edge. The Intel® Xeon® D-2700/D-2800 Processors with Integrated AI acceleration, QAT, support for hard-real-time workloads, extreme temperature range and industrial use conditions. This makes them ideal for demanding applications in high-bandwidth video analytics, as well as manufacturing, aerospace, etc.

Key Features

- Intel® Xeon® D-2700/D-2800 Platform. Support 22,20,16, and 12-core CPU SKUs
- Memory support up to 128GB DDR4
- Supports a Dual x4 PCIe NVMe
- Networking
    - 4x 1G/10G SFP+
    - 4x 10G/25G SFP28
    - 8x 1GBE RJ45
    - 1x 2.5GbE MGMT
- Redundant 1+1 800W AC Power Supplies
- Commercial Temperature
- Enclosure depth 19”/400.9mm
- 2x PCIe x16 Gen4 Full-Height ¾-Length: Bypass, ACCL, additional Networking
- 2x USB3.0 front-panel I/O ports, 1x USB3.0 Internal
- TPM support for Secure Boot.
- BMC with in-band support

Technical Specifications

General Technical Specifications	
CPU	Intel® Ice Lake-D HCC CPU Processor, Supports all NAC-enabled SKUs. Cores: 12C – 22C TDP: 87W – 135W Max: 2.2Ghz
System Memory	• Four channel 288-pin DDR4 DIMM sockets (SKU Dependent) • Single rank or dual rank per DIMM channel • 1x DIMM per channel • Speeds up to DDR4-2933 MT/s • Supports 8GB – 32GB registered DIMMs (RDIMM) or unbuffered DIMMs (UDIMM), ECC or non-ECC • Max total 128GB
Storage	• SOC eMMC 5.1 (4GB to 256GB options) • Multiple NVMe configurations through PCIe expansion ports • Supports Two SATA Gen 3 6Gbps on-board connectors and one on-board 12V/5V power connector for internal 2.5” HDDs.

Network Interfaces	• CPU/SoC LAN
	  ○ QUAD0: 4x SFP28 (option to support only 2x SFP28). Supports 1G,10G, 25G (SKU Dependent)
	  ○ QUAD1: 4x SFP+ Supports 1G,10G (SKU Dependent)
	• One 2500Base-T (Intel i226) CPU/SoC LAN
	• Eight 1000Base-T (2 x Intel i350) CPU/SoC LAN

PCIe x32 Riser Connector	• Supports 2x PCIe x16 Gen4 Full-Height ¾-Length: Bypass, ACCL, additional Networking. • Includes Power Blades for 12V and 3.3V – powers two 75W PCIe add-in cards. Riser card provides 12V AUX power to PCIe add-in cards. • 4C+ (168 position) and 1C (56 position) connectors • Supports Riser Card and Cabling options. • Riser options to support multiple PCIe Cards • Two PCIe clocks provide support for 2x PCIe x16 Gen4
NVMe Riser Connector	• Supports x8 PCIe Gen 3 • Supports up to two x4 NVMe 2242/2280 cards

Wireless Expansion Board Connector	• Supports 2x HSIO which can be configured as follows:
	  ○ 2x PCIe
	  ○ 1x PCIe, 1x USB3.0
	• Sideband signals for wireless module
	• Intended use case is LTE/5G modem module.
	• MCIO board-to-wire connector

BMC	• Aspeed AST2620 • Thermal monitor/fan control • DC Voltage monitors • Remote Updates • Remote Power MGMT • In-band Management • Serial over LAN • eMMC 5.1, 8GB • Internal 100Base-TX Ethernet port for in-band management to Silicom NIC's • 1000Base-T management port
Console	• RS232 RJ-45 (Cisco pinout) • Supports auto-detect
USB	• 2x USB3.0 front-panel I/O ports • 1x USB3.0 Internal
Buttons	• 1x momentary power button • 1x recessed reset button
LEDs	• Three front-panel programmable RGB/Amber LED's
Security	• TPM2.0 • Hardware root of trust/ Intel PFR • Intrusion switch support over header
Fans	• Support up to 7 fans

Debug	• ICE Debugger for Aspeed BMC • JTAG Support for single-chain scan for manufacturing • Test points for ICT
Other	• CR2032 RTC Battery • Watchdog
BIOS	• Insyde BIOS
Power Input	• 12V, 800W
Operating Temperatures	• Standard: 0°C – 40°C • Extended: -20°C – 55°C
Dimensions	• 1U, 430 x 401 x 43.9mm (W x D x H)

Order Information

P/N	Description	Notes
90500-0171-G00	Seville, Intel® Xeon® D-2700, 20 Core CPU, 64GB RAM	D-2798NT, Mid End SKU
90500-0171-G01	Seville, Intel® Xeon® D-2800, 22 Core CPU, 128GB RAM	D-2899NT, High End SKU
90500-0171-G02	Seville, Intel® Xeon® D-2700, 16 Core CPU, 32GB RAM	D-2776NT, Traditional End SKU
90500-0171-G03	Seville, Intel® Xeon® D-2700, 12C Core CPU, 64GB RAM	D-2753NT, Low End SKU
90500-0171-G04	Seville, Intel® Xeon® D-2700, 20C Core CPU, 64GB RAM	D-2798NT, OEM End SKU