Nokia 7215 IXS-A1 Interconnect System for SONiC

The high-performance, fixed-configuration Nokia 7215 IXS-A1 system is designed to manage data center leaf and spine connectivity requirements for telecommunication providers, AI and cloud providers, and mission-critical enterprise environments. It offers 10GE and 1GE interfaces for intra-fabric out-of-band management.

Overview

High-bandwidth servers are driving the need for greater port speeds and density in data center architectures. Similarly, the need for more power-efficient and state-of-the-art network operating system (NOS) design is driving the modernization of network aggregation and interconnect within data centers.

The 7215 IXS-A1 is optimized for management connectivity in data center designs. It delivers a robust and comprehensive set of capabilities, including IP routing, Layer 2, QoS, telemetry and model-driven management.

The 7215 IXS-A1 is 1RU high with a system capacity of 88 Gb/s full duplex (FD). It is equipped with 48 x 10/100/1000 Mb/s RJ45 ports and 4 x 1/10G SFP+ ports.

The 7215 IXS-A1 is offered in distinct integrated variants, each configured with either redundant AC or redundant DC power supplies and with front-to-back or back-to-front airflow.

The 7215 IXS-A1 supports an optional Modular GPU Accelerated Server (MGX) rack adapter, enabling seamless integration with MGX-accelerated computing racks and speeding up the deployment of GPU-based AI and high-performance computing infrastructure.

7215 IXS-A1

SONiC

Software for Open Networking in the Cloud (SONiC) is an open-source NOS based on Linux. It offers a full suite of network functionality which has been production-hardened in the data centers of some of the largest cloud-service providers.

SONiC offers teams the flexibility to create the network solutions they need while leveraging the collective strength of a large ecosystem and community.

Software features

SONiC offers a comprehensive set of open source features that are readily available and maintained via the SONiC community. For a complete list of capabilities and software support functions, please consult the SONiC website.

Technical specifications

Table 1. Nokia 7215 IXS-A1 for SONiC specifications

Feature	Parameter
System throughput Full duplex (FD)	88 Gb/s
Ports	4 x SFP+ 48 x RJ45
Hardware support (maximum ports per chassis)	
10GE	4
1GE	4
1000/100/10 Mb/s	48
Management ports	1 x 1000Base-T
USB ports	1 x USB 2.0
Console ports	1x RJ45
Processor	4-core ARM
Memory	8 GB DDR4
Memory buffer size	3 MB
Storage	16 GB eMMC
Power	Integrated; Fixed, redundant AC power or redundant DC power systems (orderable variants) AC: 100V to 240V DC: -48 V/ -60V 100 W AC 100 W DC
Fan modules	Integrated; Fixed, redundant front-to-back or back-to-front airflow systems (orderable variants)
Dimensions	Height: 4.37 cm (1.72 in); 1 RU Width: 43.85 cm (17.26 in) Depth: 25.38 cm (9.99 in)
Weight	3.54 kg (7.8 lb)
Mounting options	2-post; 4-post with rail kit option
Discrete Trusted Platform Module (TPM)	Yes
Normal operating temperature range (sustained)	0°C to +40°C (32°F to +104°F)
Shipping and storage temperature range	-20°C to +70°C (-4°F to +158°F)
Normal humidity	5% to 95%, non-condensing

Table 2. MGX rack adapter specifications (optional)

The MGX rack adapter is designed for use in an MGX-accelerated computing rack. The adapter includes an airflow vent, a DC bus-bar connector, a power switch, DC power connectors, and an integrated ground cable with an attachment lug. The Nokia 7215 IXS-A1 and the MGX rack adapter are installed in the rack using sliding rails.

Feature	Parameter
Adapter without system and slide rails installed	
Dimensions	Height: 1.67 in. (4.25 cm) Width: 17.26 in. (43.85 cm) Depth: 23 in. (58.45 cm)
Weight	7.58 lb (3.42 kg)
Adapter with system and slide rails installed	
Dimensions	Height: 1.72 in. (4.37 cm) Width: 19.07 in. (48.45 cm) Depth: 33.46 in. (85 cm)
Weight	Excluding outer rack rails: 16.19 lb (7.33 kg) Including outer rack rails:22.24 lb (10.08 kg)

Standards compliance[1]

Environmental

- ETSI EN 300 019-2-1; Storage Tests, Class 1.2
- ETSI EN 300 019-2-2; Transportation Tests, Class 2.3
- ETSI EN 300 019-2-3; Operational Tests, Class 3.2
- ETSI EN 300 753; Acoustic Noise, Class 3.2
- GR-3160-CORE

Electromagnetic compatibility

- AS/NZS CISPR 32 Class A
- BSMI CNS 15936 Class A
- BT GS-7
- EN 55035
- EN 55032 Class A
- ETSI EN 300 132-1 (AC)
- ETSI EN 300 132-2 (DC)
- ETSI EN 300 386
- ETSI ES 201 468
- FCC Part 15 Class A
- ICES-003 Class A
- IEC CISPR 32 Class A
- IEC CISPR 35
- IEC/ EN 61000-3-2
- IEC/EN 61000-3-3
- IEC/EN 61000-6-2
- IEC/EN 61000-6-4
- KCC Korea - Emissions KS C 9832
- KCC Korea - Immunity KS C 9835
- VCCI Class A

Safety

- AS/NZS 62368-1
- FDA CDRH 21-CFR 1040
- IEC/BS/EN 60825-1
- IEC/BS/EN 60825-2
- IEC/UL/CSA/BS/EN 62368-1

1 System design intent is according to the listed standards. Refer to product documentation for detailed compliance status.

Directives and regional approvals

- Directive 2011/65/EU RoHS (including Commission Delegated Directive EU 215/863)
- Directive 2012/19/EU WEEE
- Directive 2014/30/EU EMC
- Directive 2014/35/EU LVD
- CE Mark: Europe
- CRoHS: China RoHS
- KC Mark: South Korea
- RCM Mark: Australia
- UKCA Mark: United Kingdom
- VCCI Mark: Japan
- BSMI Mark: Taiwan

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As a B2B technology innovation leader, we are pioneering networks that sense, think and act by leveraging our work across mobile, fixed and cloud networks. In addition, we create value with intellectual property and long-term research, led by the award-winning Nokia Bell Labs.

Service providers, enterprises and partners worldwide trust Nokia to deliver secure, reliable and sustainable networks today – and work with us to create the digital services and applications of the future.

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Document code: (January) CID214434