Nokia 7220 IXR-D4 Interconnect Router for SONiC

Nokia community SONiC Release 202505

As part of the Nokia Data Center portfolio, the Nokia 7220 Interconnect Router (IXR)-D4 is designed for leaf and spine layers of data center fabrics, delivering high-scale interconnectivity for enterprise, service provider, webscale data center and cloud environments.

Overview

High-bandwidth servers are driving the need for higher port speeds and interface density in data center architectures. Likewise, the demand for more power-efficient and state-of-the-art hardware designs is driving the modernization of network aggregation and interconnect within data centers.

The Nokia 7220 IXR-D4 is well-suited for leaf-type deployments in data center CLOS architectures. It offers high density 400GE and 100GE interfaces for intra-fabric and workload connectivity.

Nokia 7220 IXR-D4 28QSFP28 8QSFPDD

The Nokia 7220 IXR-D4 is 1 RU in height with a system capacity of 6.0 Tb/s Full Duplex (FD). It is equipped with twenty-eight 100GE QSFP28 and eight 400GE QSFP-DD ports.

These port options provide exceptional flexibility in a variety of leaf or spine deployment configurations.

The 7220 IXR-D4 supports two AC power supplies with 1+1 redundancy.

The system supports front-to-back airflow configuration with six N+1 hot- swappable fans.

7220 IXR-D4

SONiC

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 and Nokia Community SONiC release notes.

Technical specifications

Table 1. Nokia 7220 IXR-D4 series specifications

Feature	7220 IXR-D4
System throughput: Full duplex (FD)	6.0 Tb/s
Ports	28 x QSFP28 8 x QSFPDD
Hardware support (maximum ports per chassis)	
400GE	8
100GE	28
Management ports	1 x 1000BASE-T
USB ports	1 x USB2.0
Console port	1 x RJ-45
Processor	8-core x 86
Memory	16G DDR4
Memory buffer size	82 MB
SSD	50G MLC
Power	1+1 redundant AC: 100 V to 240 V 650 W AC
Fan modules	6 fans, N+1 redundant Front-to-back airflow
Hot-swappable fan modules	Yes
Hot-swappable power supplies	Yes
Dimensions	Height: 4.35 cm (1.75 in); 1 RU Width: 43.84 cm (17.26 in) Depth: 59 cm (23.23 in) Fits in standard 19-in mounting rack
Weight	7.88 kg (17.37 lb) (unpopulated) 10.93 kg (24.09 lb) (fully populated)
4-post mounting	Yes; rail kit option
Discrete Trusted Platform Module (TPM)	Yes
Normal operating temperature range	0°C to +40°C (32°F to +104°F) sustained
Shipping and storage temperature	-40°C to +70°C (-40°F to +158°F)
Normal humidity	5% to 95%, non-condensing

Standards compliance[1]

Environmental and NEBS

- 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[2]
- GR-3160-CORE
- GR63 Level 2

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

Electromagnetic compatibility

- AS/NZS CISPR 32 Class A
- BSMI CNS 13438 Class A
- EN 55035
- EN 55032 Class A
- ETSI EN 300 132-1 (AC)
- ETSI EN 300 132-2 (LVDC)
- ETSI EN 300 386
- FCC Part 15 Class A
- GR1089
- 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 - Immunity KS C 9835/KN35
- KCC Korea - Emissions KS C 9832/KN32
- VCCI Class A

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 2014/35EU Low LVD
- CE Mark: Europe
- CRoHS: China RoHS
- KC Mark: South Korea
- RCM Mark: Australia
- UKCA Mark: United Kingdom
- VCCI Mark: Japan

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

2 Certain airflow configurations will impact acoustics. Please contact Nokia for details

About Nokia

At Nokia, we create technology that helps the world act together.

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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