

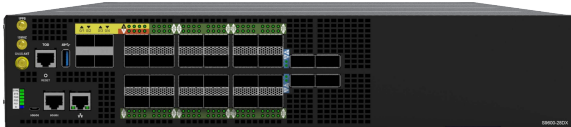
# S9600-28DX

## Open Aggregation Router

The S9600-28DX, is a multi-function, white box open aggregation router. It is equipped with Broadcom's Qumran2c merchant silicon with Intel's Icelake processor. The platform features 24x100G and 4x400G high speed ports with a switching capacity of up to 2.4Tbps.

The S9600-28DX can be deployed at C-RAN hubs to provide 5G fronthaul transport aggregation, positioned at the backhaul for aggregating BBU pools, or be programmed to be a Broadband Network Gateway (BNG) to enable next generation broadband network. Supporting OpenZR+ makes it an ideal solution for metro aggregation.

Specializing in 5G time-critical applications, the S9600-28DX can act as an Edge Grandmaster (T-GM) or Boundary Clock (T-BC). Our open aggregation router is compatible with high accuracy fronthaul synchronization and timing requirements to ensure error free operation of 5G and cooperative radio techniques.



## KEY BENEFITS

- Highly reliable, high performance routing platform
- Enable Time Sensitive Networking for 5G compatibility
- Integrate open NOS applications for highly reliable composable networks
- Futureproof to meet the evolving requirements of 5G with ultra-low latency, high precision frequency and phase timing synchronization support
- Suitable for WAN and long-haul applications, supports OpenZR+ for metro and regional aggregation
- Streamline maintenance with redundant and hot swappable power and fan modules

## KEY FEATURES

- High density, 24x100GE ports with additional 4x400GE ports
- 2.4Tbps switching capacity with an 8-Core, 2.1GHz processor
- 4GB Deep Buffer
- Fully supports SyncE and IEEE 1588v2 timing synchronization profiles
- Integrated Stratum 3E OCXO with optional hold over performances
- Class C timing accuracy
- Internal GNSS receiver for master clock implementations
- Rich timing interfaces: GNSS, 10MHz, 1PPS and ToD

# SPECIFICATIONS

## PHYSICAL

- ◆ 4 x 40/100/200/400G QSFP-DD ports with 400G ZR/ZR+ support
- ◆ 24 x 40/100G QSFP28 ports
- ◆ 4 x 1/10/25G SFP28 (In-band port share with 100GE Port 0)
- ◆ 1 x RJ45 & Micro USB serial console ports
- ◆ 1 x 100/1000M RJ45 management port
- ◆ 1 x USB 3.0 Type-A port

|            |                                                                                      |
|------------|--------------------------------------------------------------------------------------|
| Processor  | Intel Icelake-D 8-Core @ 2.1GHz                                                      |
| Memory     | 32GB DDR4                                                                            |
| Storage    | 128GB SSD                                                                            |
| ASIC       | Broadcom Qumran2c BCM88820                                                           |
| BMC        | AST2620                                                                              |
| Timing     | 1 x GNSS input SMA                                                                   |
| Interfaces | 1 x 10MHz input/output SMB<br>1 x 1PPS input/output SMB<br>1 x ToD input/output RJ45 |

|                 |                                                                                                                                                                                        |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Timing Support* | Stratum 3E OCOXO<br>ITU-T Synchronous Ethernet (SyncE)<br>IEEE 1588v2 - Default, G.8265.1 G.8275.1, G.8275.2, SMPTE ST 2059-2+, T-GM, T-BC/OC, T-TC<br>Time Sensitive Networking (TSN) |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |                                                                                                 |
|-----------------|-------------------------------------------------------------------------------------------------|
| Chassis (WxDxH) | 2RU, 436 x 762 x 87.7 mm<br>or 17.17" x 30" x 3.45"<br>Weight: 17.66kg or 38.93lb (without FRU) |
|-----------------|-------------------------------------------------------------------------------------------------|

|            |                                                                       |
|------------|-----------------------------------------------------------------------|
| Redundancy | Hot swappable, 1+1 redundant PSU<br>Hot swappable, 3+1 redundant Fans |
|------------|-----------------------------------------------------------------------|

\*NOS integration is necessary to activate the specific feature.  
\*\*Additional license is required

S9600-28DX

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## ENVIRONMENTAL

|                           |                                                                                                          |
|---------------------------|----------------------------------------------------------------------------------------------------------|
| Power Specs.              | AC input: 100 to 240V, 12A<br>DC input: -40 to -75V, 40A<br>Typical power: 324 Watts (no transceiver)    |
| Max. Operating Specs.     | Operating temperature: 0°C to 45°C (32°F to 113°F)<br>Operating humidity: 5% to 85% (RH), non-condensing |
| Max. Non-Operating Specs. | Storage temperature: -40°C to 70°C (-40°F to 158°F)<br>Storage humidity: 5% to 93% (RH), non-condensing  |

## PERFORMANCE

|                    |         |
|--------------------|---------|
| Switching Capacity | 2.4Tbps |
| Deep Buffer        | 4GB     |

## REGULATORY COMPLIANCE

|             |                           |     |                                                                                                                                 |
|-------------|---------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------|
| Safety      | UL 62368-1<br>IEC 62368-1 | EMC | FCC Part 15, Subpart B, Class A<br>ICES-003, Class A<br>EN 55032, Class A<br>EN 55035<br>EN 300 386<br>EN 301 489<br>EN 303 413 |
| Environment | WEEE                      |     | EN 62479<br>EN 50663                                                                                                            |

Specifications are subject to change without notice.  
Contact our sales team for current configuration options.

S9600-28DX Front and Back Views



## ACCESSORIES

- Compatible Transceiver Types  
400G QSFP-DD SR, 400G QSFP-DD LR, 400G QSFP-DD ER, 400G QSFP-DD ZR, 400G QSFP-DD OpenZR+, 100G QSFP28 SR, 100G QSFP28 LR, 100G QSFP28 ER, 100G QSFP28 ZR, 25G SFP28 SR, 25G SFP28 LR, 25G SFP28 ER, 10G SFP+ SR, 10G SFP+ LR, 10G SFP+ ER, 1G SFP SX, 1G SFP LX, 1G SFP EX
- Compatible Timing Cable Types  
50 ohms SMA coaxial cable with 1/4-36UNS-2B connector for GNSS  
50 ohms SMB coaxial cable with 10-32UNF-2A connector for 1PPS and 10MHz  
Shield cable with RJ45 for ToD
- Available to Order  
Power Supply Types  
PSU-132-DESR, 1300W DC, exhaust air flow  
PSU-132-AESR, 1300W AC, exhaust air flow  
Fan Types  
FAN-803816-HI, exhaust air flow

