

BES-53248 Operational Considerations

This document lists special operations scenarios applicable to BES-53248 switch and should be reviewed by the engineers and architects planning to use the switch for their applications.

VERSION HISTORY

| Version | Change Description | Date | Author |
|------------------|--|-------------|---------------|
| 1.0 Draft | Creation: Quad-Group and Thermal Range | May 2, 2019 | Broadcom |

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1. Behavior of Quad-Groups in BES-53248

The 48 SFP28 ports in the BES-53248 switch are internally grouped into 12 quads (group of 4 ports), called Quad-Groups.

Port1-4 = Quad-Group1, Port5 to 8 = Quad-Group2 and so on.

The four SFP28 ports belonging to the same Quad-Group can only run at the same speed, i.e., 25G or 10G, the exception being that any of the ports in the group can run at 1G regardless of the speed of the other ports in that group. Each Quad-Group is completely independent of any other Quad-Group in terms of the speed of individual ports.

The last port that comes up in the Quad-Group forces the other members of the group to be set at its current speed, exception being ports manually configured at 1G mode.

To use the switch in a scenario that needs 10G and 25G ports on the switch to be simultaneously operational, connectivity on the switch should be carefully chosen such that the ports in the Quad-Group run at the same speed 10G or 25G.

4 individual 25G links on the QSFP28 interface are internally wired to be on the same Quad-Group, which collectively run at 100G. The individual links within the QSFP28 port can be individually broken out as up to 4 separate ports. These broken out ports will conform to the same constraint as outlined above for the SFP28 ports in terms of behavior within the Quad-Group.

2. OPERATING TEMPERATURE AND MARGIN

Default thermal specification of BES-53248 is 0-40 degree C, with 5 degree C margin at 40 degree C when DAC or SR optics dissipating 3.5W or less are used in the QSFP28 connectors.

- If only the top 4x QSFP28 ports are using LR Optics transceiver dissipating 5W each
 - Operating thermal range can be the default
- If all 8x QSFP28 (top and bottom) use LR Optics transceiver dissipating 5W each
 - Operating thermal range to be changed to 0-35 degree C with 5 degree C margin for bottom row and 10 degree C margin for top row