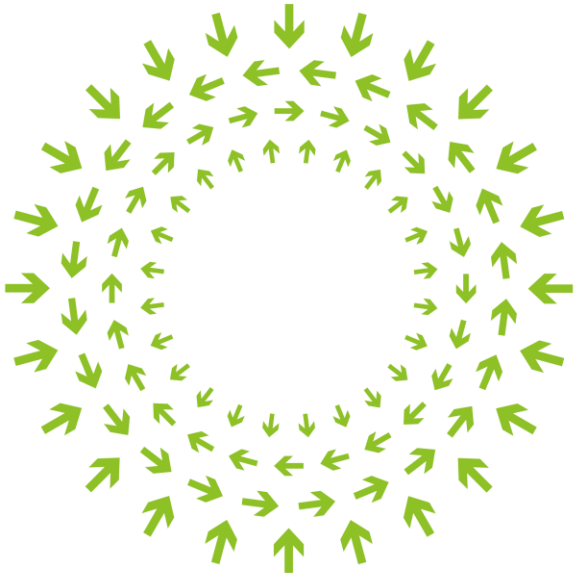

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Compute Project

QCT Rackgo X Tioga Pass

Product Marketing Specification

<Revision:1.2>

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Revision History

Revision	Date	Change Summary
1.0	2018/04/23	Product specification revision 1.0 release
1.1	2018/10/15	1. Add the OWFa 1.0 license information 2. Update description
1.2	2018/11/20	1. Update photo

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1. Overview

The product marketing product specification illustrates ‘’QCT Rackgo X Tioga Pass’’ is next generation OCP general purpose compute server based on the latest Intel® Xeon® Scalable Processor family (aka Skylake-SP) CPU. The baseboard design with single sided SKU, supporting up to 12 DIMMs, which is designed to fit in the OCP Cubby chassis and mounted in ORv2 Rack.

Note: Double sized with 24 DIMMs SKU is not orderable as plan

Figure 1 QCT Rackgo X Tioga Pass

2. High Level System Features

Feature	Specification
Processor	(2) Intel®Xeon® Skylake-SP processor family per node, up to 165W
Chipset	Intel® C621
Memory	(12) 2666 MHz DDR4 RDIMM per node
Drive Bay	(1) 3.5" fixed drive bays per node(Ready/Orderable) or (6) 2.5” hot swapped drive bays per node(Planning)
Network Controller	Support following QCT OCP mezzanine card (PCIe x16) for network option in front IO per node (1) QCT 1/10GbE RJ45 dual port OCP mezzanine card (1) QCT 10G/25Gb SFP+/SFP28 OCP dual port mezzanine card (1) QCT 40/56G QSFP+ OCP single port mezzanine card (1) QCT 100G QSFP28 OCP single port mezzanine card
Expansion Slot	(2) PCIe gen 3 x16 FHHL PCIe expansion slots per node with 1x LFF drive SKU(Ready/Orderable) (1) PCIe gen 3 x16 OCP mezzanine V2 slot per node or (2) PCIe gen 3 x16 HHHL PCIe expansion slots per node with 6x SFF drive SKU(Planning) (1) PCIe gen 3 x16 OCP mezzanine V2 slot per node
Form Factor	(3) nodes in 2OU (Open Rack) Rackmount
Rack Compatible	Open Rack v2
Onboard Storage	(1) M.2 PCIe/SATA 2280/22110
Management Port	(1) Share NIC from OCP V2 mezzanine card, driven by BMC through RMII/NCSI
Integrated BMC chip	Aspeed AST2500/AST2520
Front I/O	(1) USB 3.0 type A port(debug) (1) USB 3.0 type C port (1) VGA port (with AST2500)

Table 1 High Level System Features

3. Block Diagram

The Figure 1 illustrates the functional block diagram of the QCT Rackgo X Tioga Pass. The dashed lines are for reserved connection, dual layout, and high-speed mid-plane option.

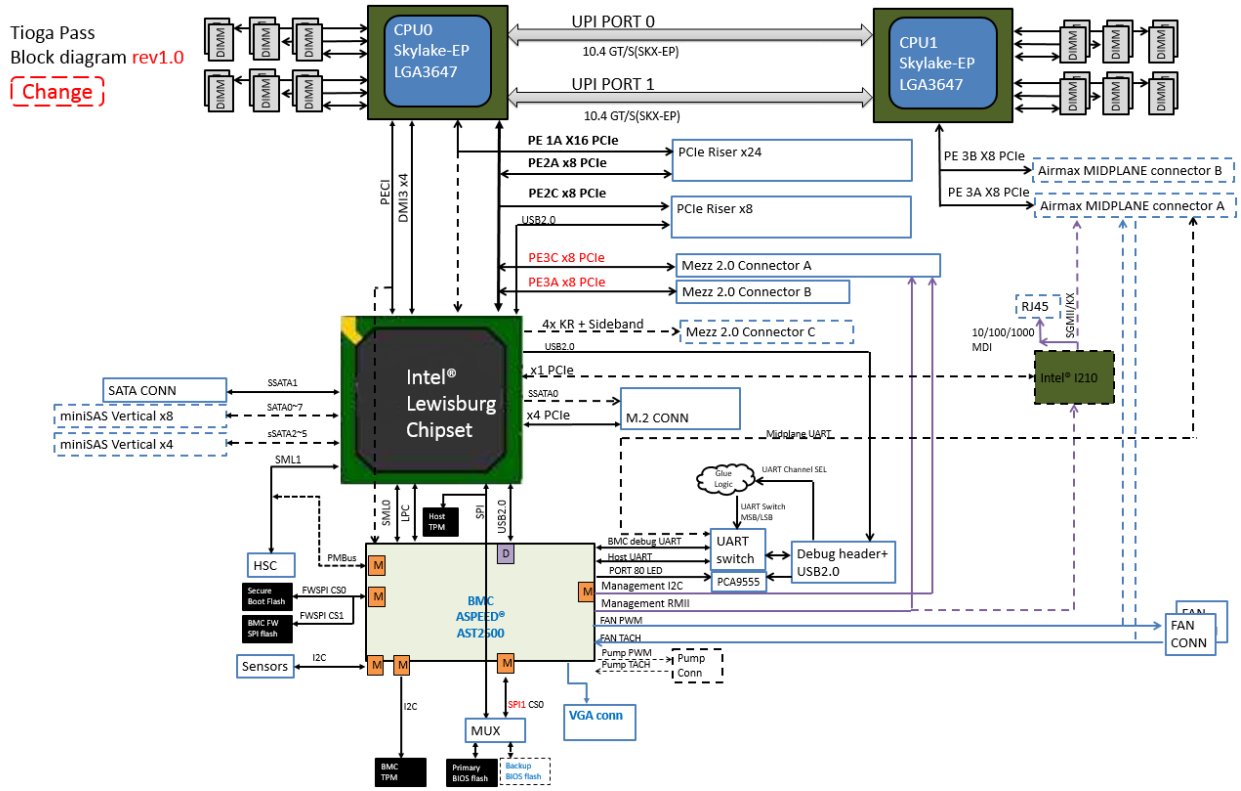


Figure 1 QCT Rackgo X Tioga Pass Block Diagram

4. Mechanical Dimension

Figure 2 Mechanical System View

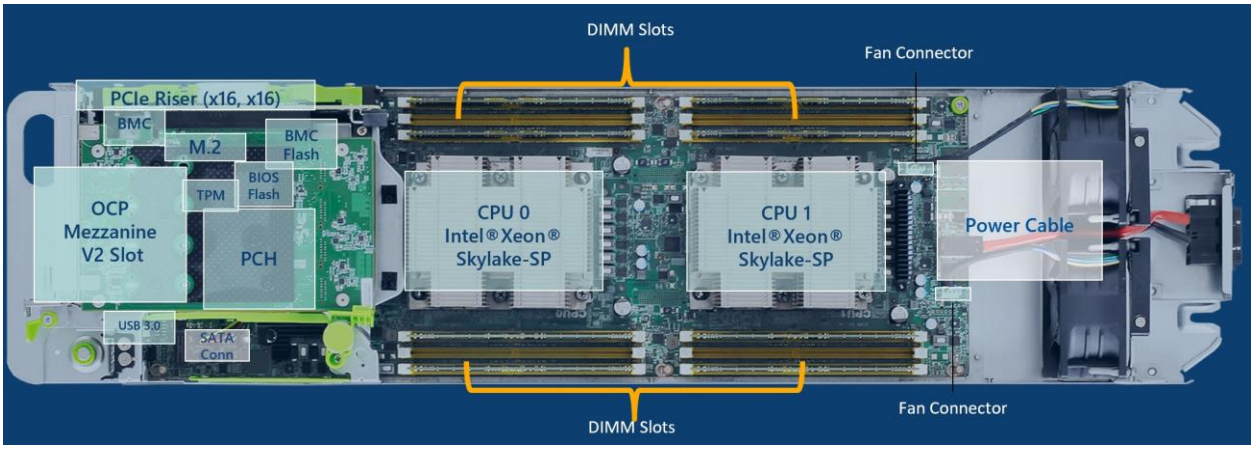
Figure 3 2x FH slots with 1x3.5'' HDD SKU(Single Side)

Figure 4 2x HH Slots with 6x2.5'' HDD SKU(Single Side)(Under planning)

5. Component Placement

The key part placement of QCT Rackgo X Tioga Pass is shown as below:

Top side:



Note: This is only for whole feature description, not all features are available in orderable SKU

Figure 5 key part placement

6. Compatible Components List & User Guide

''QCT Rackgo X OCP Tioga Pass'' could be operated with

- Rackgo X OCP Debug Card with LCD
- Rackgo X OCP AVA-4 M.2 Carrier Card

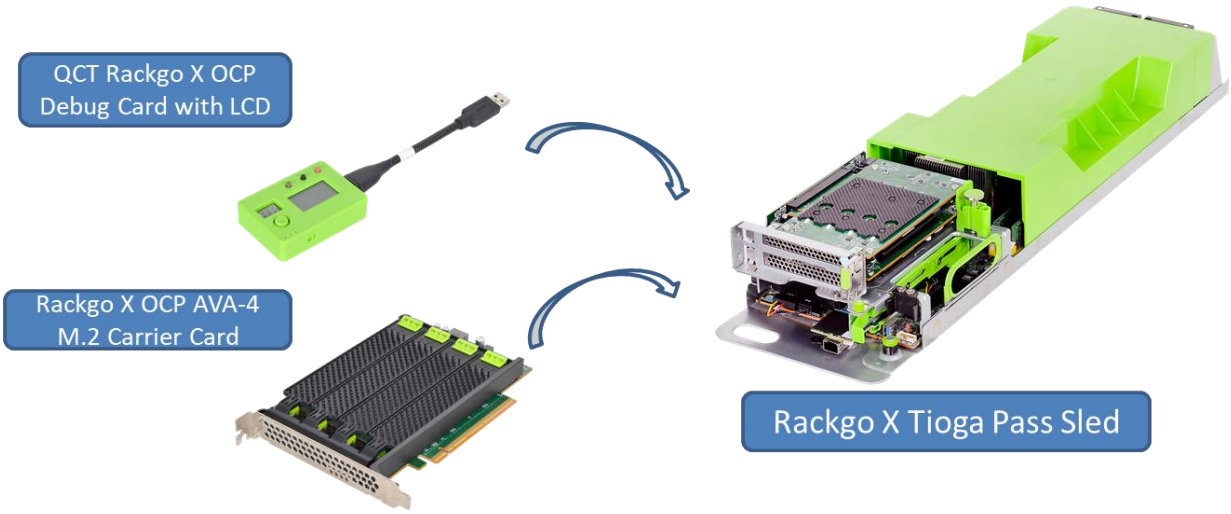


Figure 6 Compatible Components List

7. OCP Tenets/Principles

- **Efficiency**

  - New design to trim the dimension requirement of compute node to achieve the optimization of space use in the chassis
  - Selectable riser to support 2x FH slots riser with 1x 3.5” HDD or 2x HH slots riser with 6x 2.5’’ HDD according to the IO bandwidth requirement
  - Utilize efficiently the layout of rack, each chassis is with 2OU height, totally 16x 2OU system in one rack without remaining space
- **Scalability**
  - Comply with current Cubby chassis to extend the various platform use case
- **Openness**
  - Comply with ORv2 standard
- **Impact**
  - New design architecture of placing DIMM on bottom side of baseboard to utilize efficiently the chassis space

8. Reference

- Facebook 2S Server Tioga Pass Rev 1.0