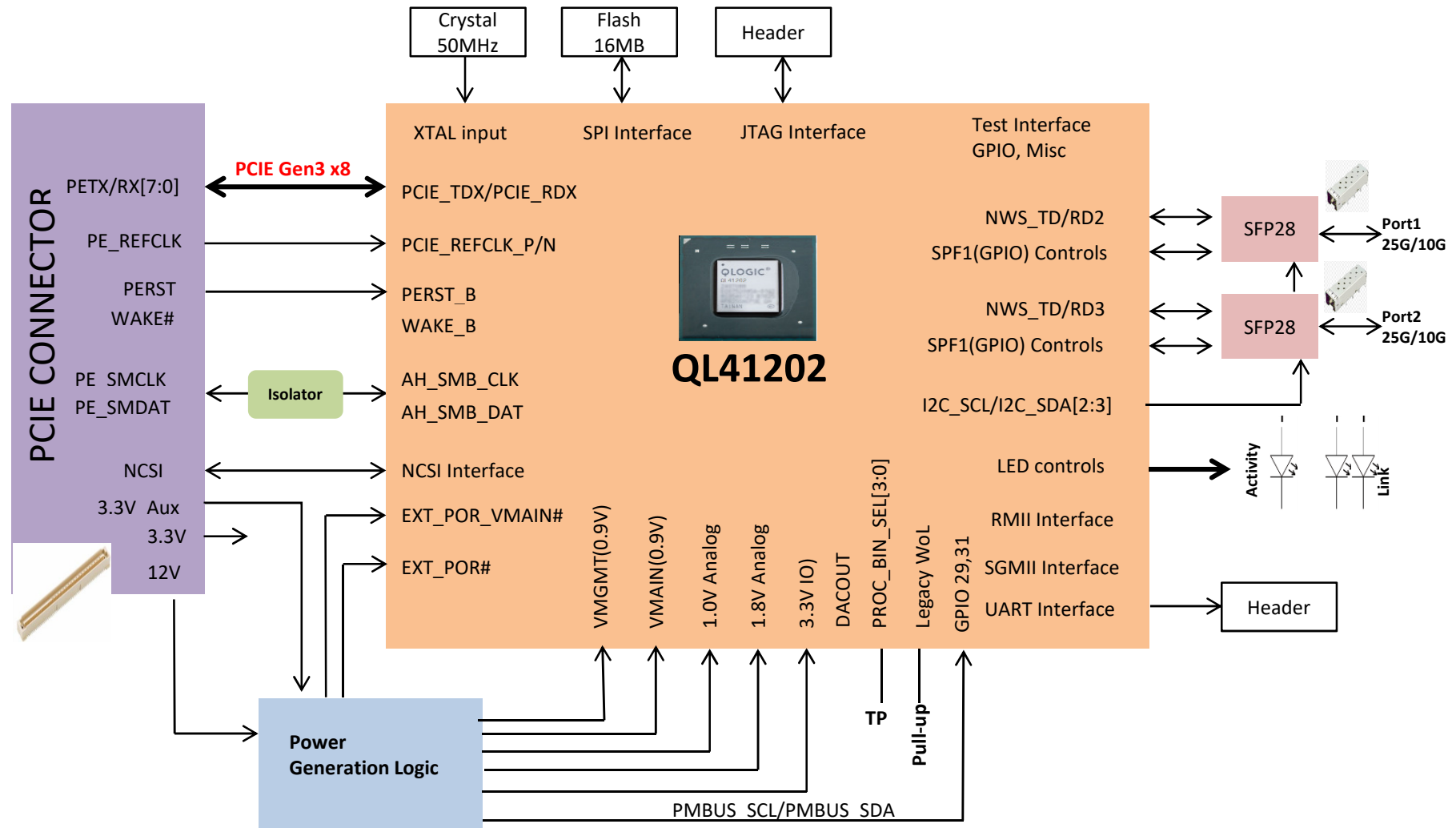




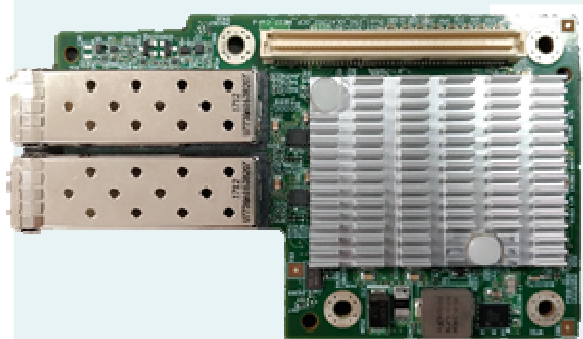
25G SFP28 Dual Port OCP NIC Mezzanine Card

Block Diagram



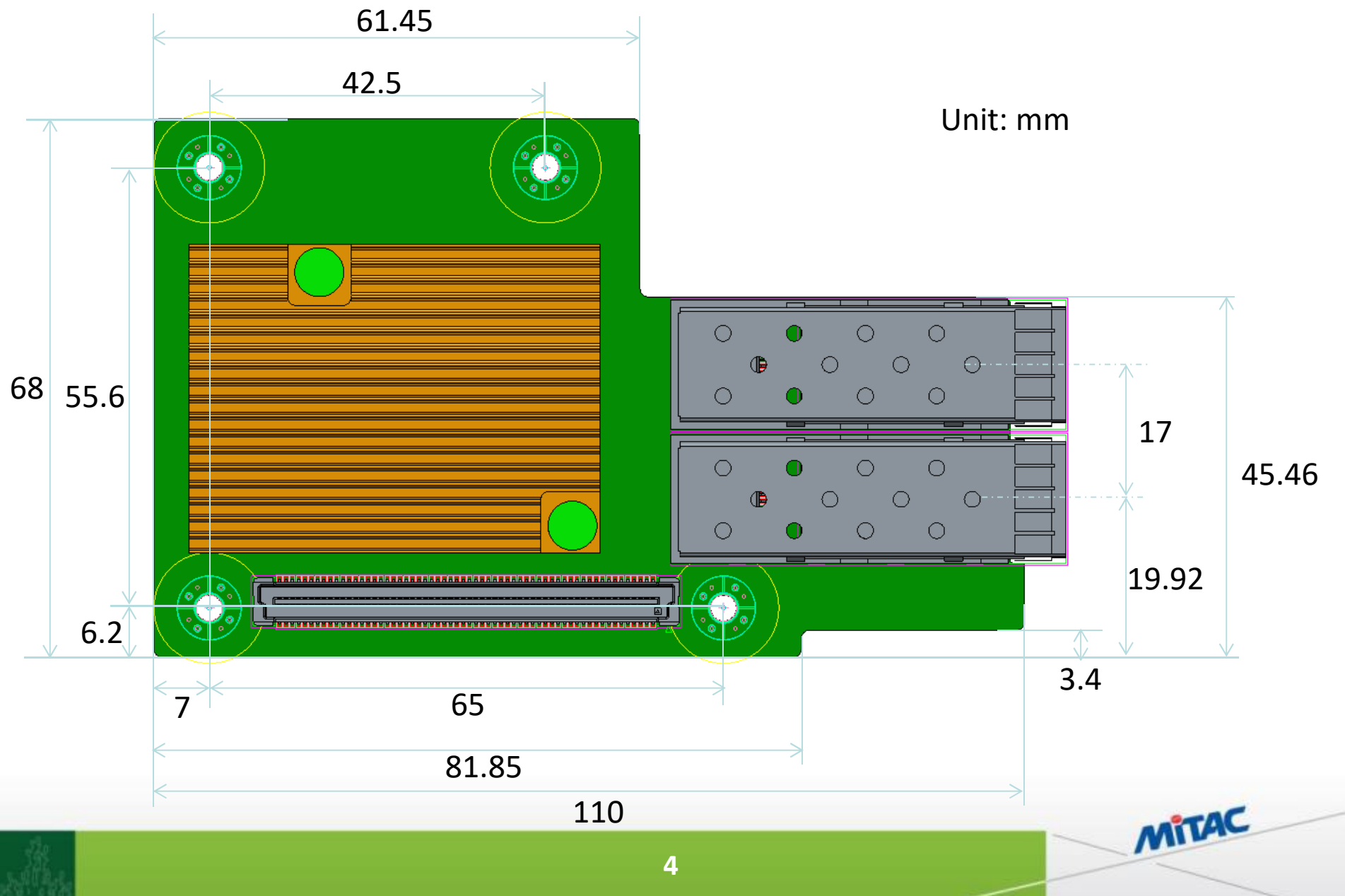
MiTAC 25G OCP Dual port Mezzanine Card

Module	OCP 25G Dual SFP28 ML41202-2P
Ethernet controllers	Cavium/QL41202
Ports	Dual 25G SFP28
Maximum Bus Speed	PCI Express 3.0 (8Gbps)
Cabling type	Direct attach SFP28 copper
Form factor	110.05* 68* 1.57 mm (OCP v2.0)
Maximum power consumption	~13W
Feature	- Support L2 NIC (PXE boot) - Support Wake on LAN - Support RoCE and iWARP - Support NC-SI for Manageability connection to BMC - Support data center bridging (DCB), including IEEE 802.1Qbb (Priority-based Flow Control) and 802.1Qaz (Enhanced Transmission Selection), and features capability for Edge Virtual Bridging (IEEE 802.1Qbg) and Bridge Port Extension (IEEE 802.1Qbh) - Complies with the management component transport protocol over SMBus standard - Configurable LED operation for software or customizing OEM LED displays. - OS: Linux Red hat/ Microsoft Windows server



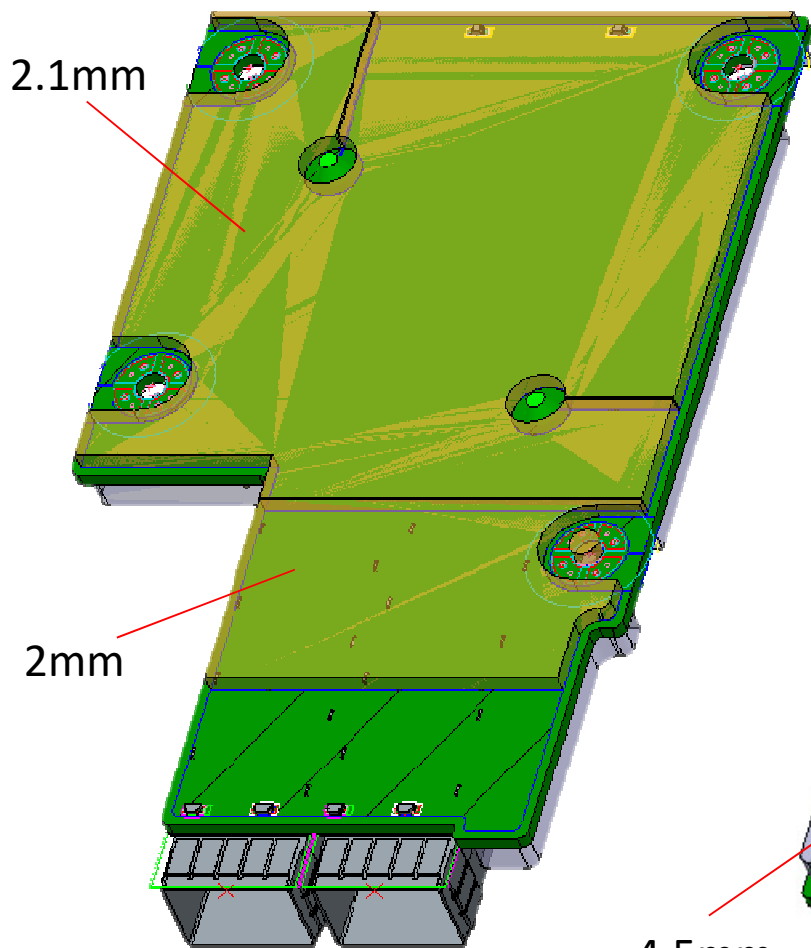
MiTAC 25G Mezzanine Card Dimension

Unit: mm

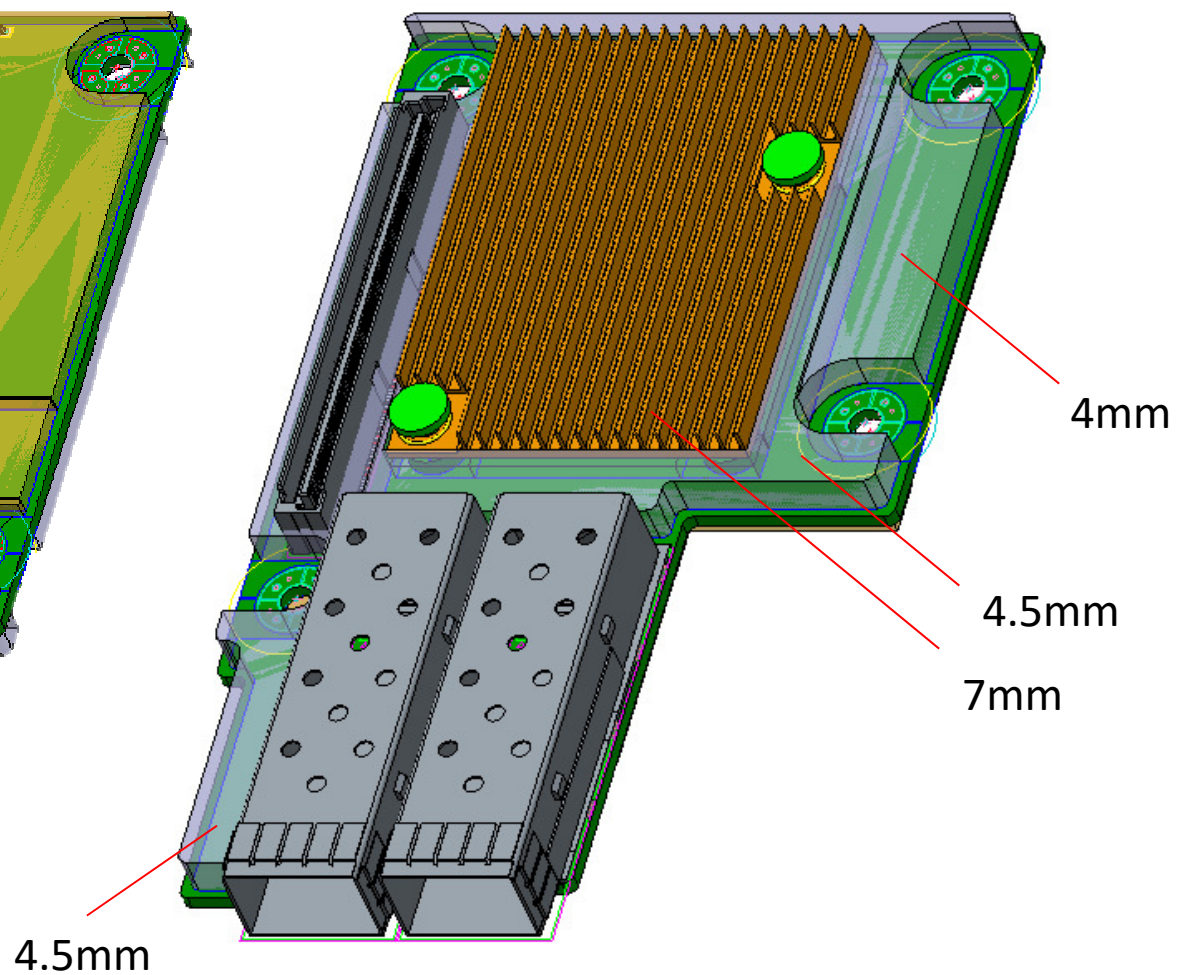


MiTAC 25G Mezzanine Card Dimension cont.

SECONDARY SIDE



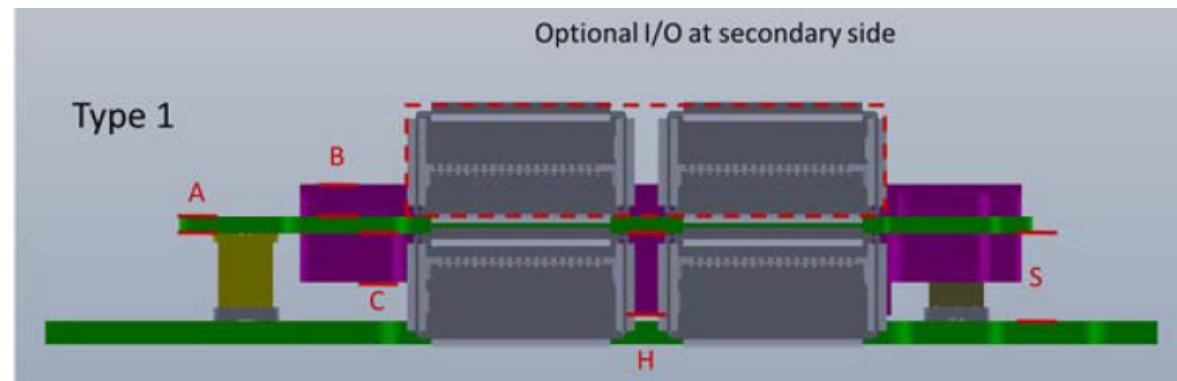
PRIMARY SIDE



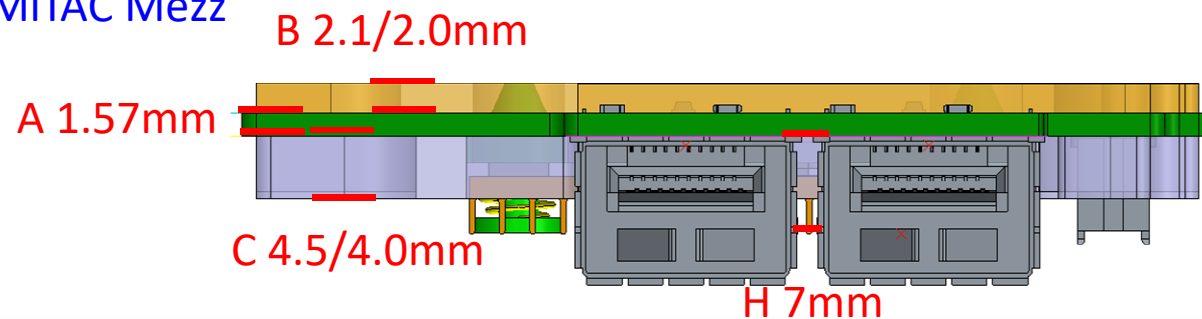
MiTAC 25G Mezzanine Card Dimension cont.

- OCP Mezz 2.0 spec requirement: for example.

TYPE	A(typ)	B(max)	C(max)	H(max)	S(typ)	I/O	Controller IC
TYPE 1	1.57mm	2.9mm /2.0mm	4.5mm /4mm	7.5mm	8mm	Primary side	Primary side

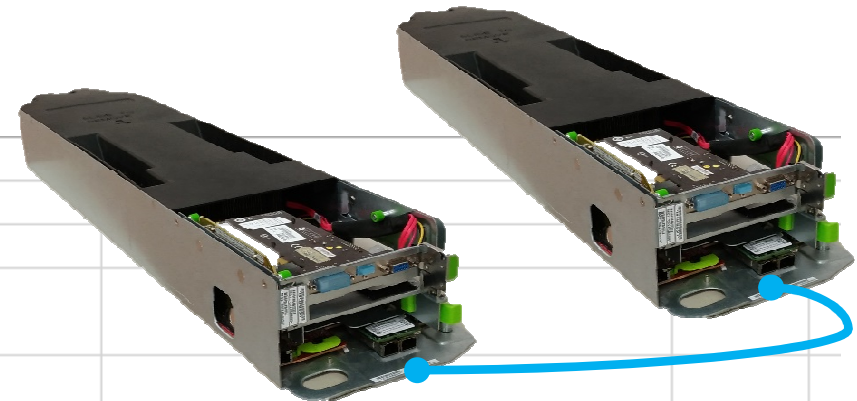


- Dimension of MiTAC Mezz



iPerf Test result

Test config	Description
System	Leopard
CPU	Intel Xeon E5-2678 v3 @ 2.50GHz x2
DIMM	Micron MTA18ASF1G72PZ-2G1 DDR4 PC4-2133 8GB x4
Lan Cable	Mellanox_MCP2M00-A003 REV:A3_Passive Copper cable, ETH, up to 25Gb/s, SFP28, 3m, 30AWG

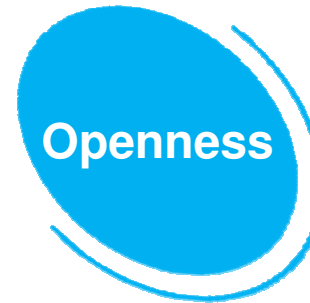
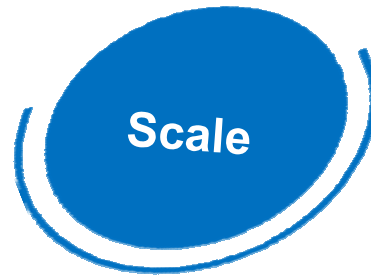


OCP card	Description	FW	Driver	OS
OCP 25G dual ML41202-2P	25G SFP28 Dual Port OCP NIC Mezzanine Card	8.18.11.0	kmod-qlgc-fastlinq-8.15.7.0-1.rhel7u3.x86_64.rpm qlgc-fastlinq-8.15.7.0-1.rhel7u3.src.rpm qlgc-libqedr-8.15.2.0-1.rhel7u3.src.rpm qlgc-libqedr-8.15.2.0-1.rhel7u3.x86_64.rpm	RHEL 7.3

OCP card	Result	Setting
OCP 25G dual ML41202-2P	port0 : 23509 Mbits/sec port1 : 23511 Mbits/sec	iperf -c 192.168.1.50 -f m -t 86400 -P 4 -M 1500

Note: iPerf result by back to back test

OCP Dual Port 25G Mezzanine Card



1. Adaptive power scaling
2. Optimized heat sink design to improve heat removal

1. Adaptive voltage scaling, voltage optimization tune to performance needs. network virtualization/storage/key encryption Offloading with low CPU usage, efficient low power design.
2. Able to accommodate the deployment in the OCP server with I/O in front with Minor impact or in the standard server I/O at the rear side with preheat temperature.

NC-SI supporting for Remote management

MiTAC NIC adapter mezzanine supports Network Controller Sideband Interface (NC-SI). Allow remote management system via the ports of mezzanines card

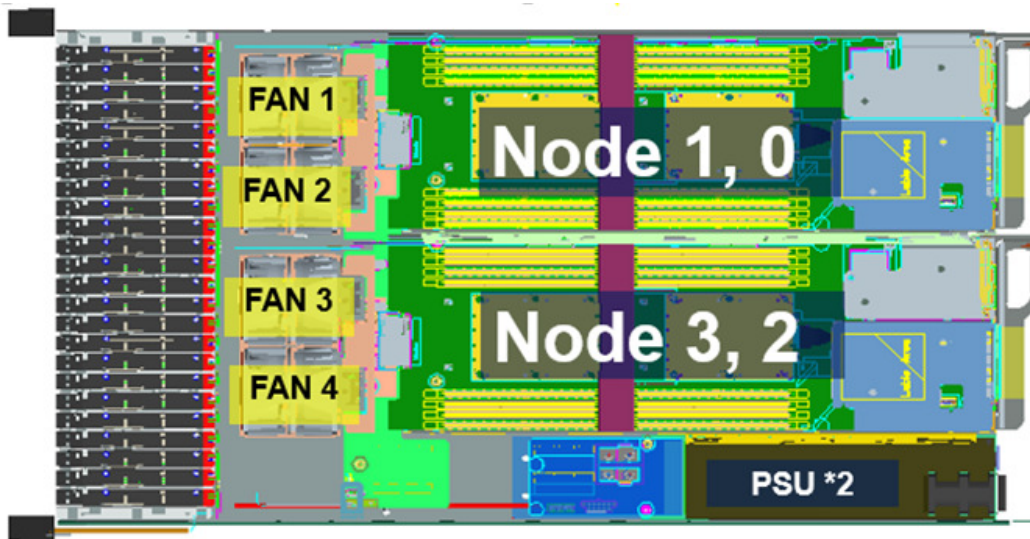
Yes, the specification has been contributed on 2018/9

MiTAC 25G NIC mezzanine follows OCP mezzanine 2.0 specification

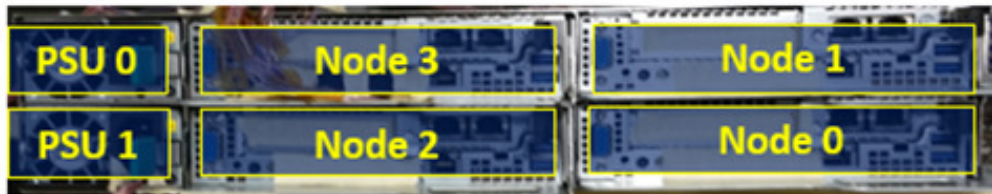
Enhance 25G NIC application

MiTAC 25G NIC mezzanine compatible with 10Gb E switch and 25 GbE switch. Offer to upgrade infrastructure step by step

25G Mezz Downstream Thermal Test



NH2 2U4N system



HW/SW	Description
Processors per node	(2) Intel_SKYLAKE 2.1GHz_140W
Heat Sink per node	(1) Al Base + Al Fin (1) Al Base + Cu Base + Al Fin + 3HPs
RAM per node	(16) SK_DDR4_32GB_2666
HDD	(4) Intel_ P3600 _ 2.5" NVMe SSD 1.2T (20)Toshiba_SAS_300GB_2.5"
OCP card per node	25G SFP28 Dual Port OCP NIC
PSU	(2) SoluM_POWER SUPPLY 2130W
Sys Fan	(4) GFM0812DW-DG69B08-REV01

25G Mezz Thermal Test Result

■ OCP 25G Mezz test condition:

- Using worse case that Node 3 sled with fan #4 failed at system ambient at 35 degree C.

■ Test result:

- OCP Card Inlet 62.7 degree C
- The HS base temperature = 93.2 C (spec = 96.1 C)
- SFP28 Tcase = 76.9 C (spec = 85C).

■ Approaching airflow temperature: 65C at a flow rate of 2.032 m/s (AL heatsink solution)

