

An abstract graphic on the left side of the image, composed of numerous thin, wavy green lines that swirl and overlap to form a complex, organic shape. The lines are a vibrant green color against the dark blue background.

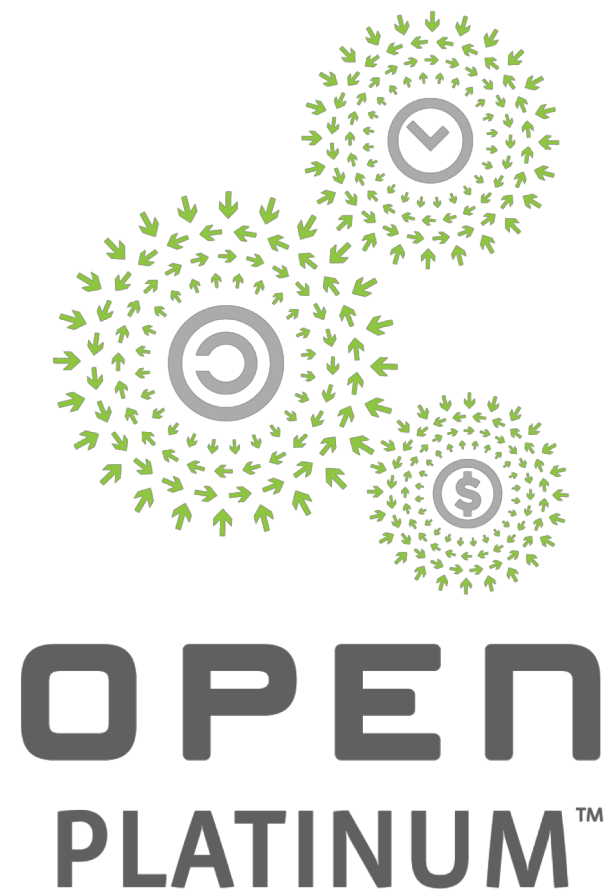
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OCP
SUMMIT

OCP NIC Thermal Test Fixture (TTF) Standardization and Demo

Jon Lewis, Distinguished Engineer, Dell EMC
Hemal Shah, Distinguished Engineer, Broadcom
Yueming Li, Thermal Engineer, Facebook



Agenda



SERVER



Why?

Purpose & Benefits



How?

TTF Features, Setup &
System Management



What?

Participation &
Open Together

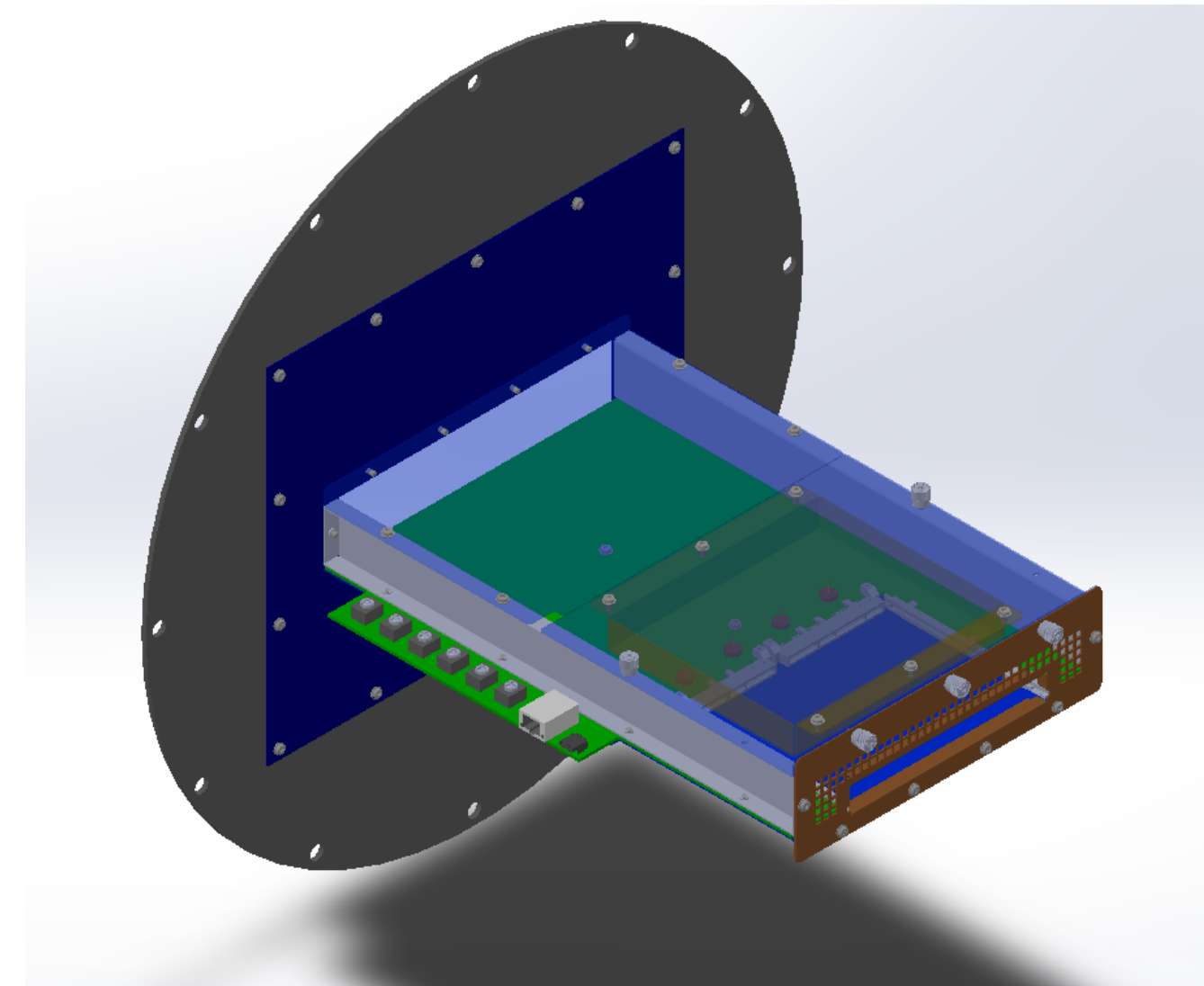
Background

Purpose:

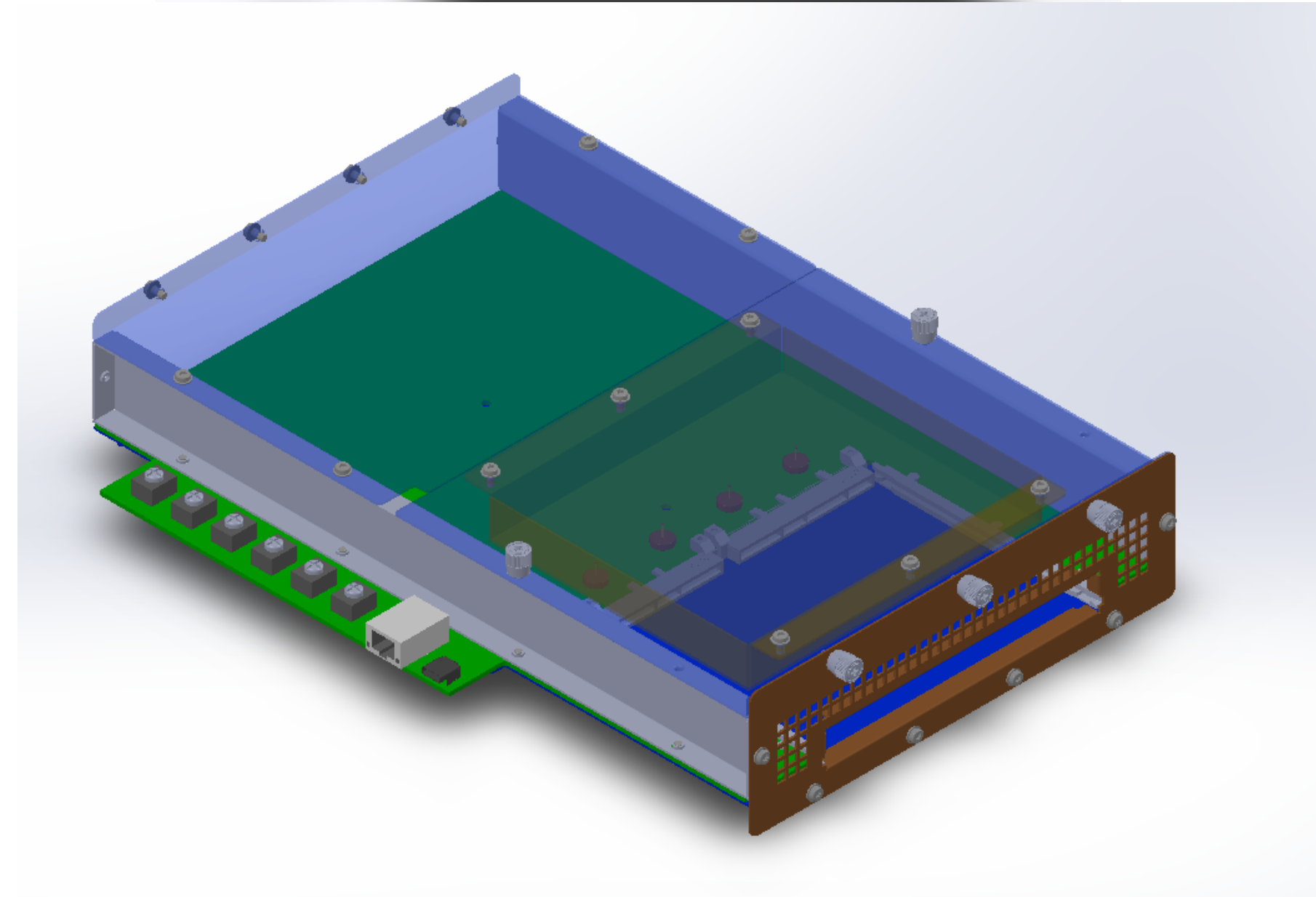
- Provide standardized methodology to get comparable thermal test data across different NIC and system vendors

Benefits:

- Simple and easy adoption by both NIC and system vendors
- Functional test board for power delivery and reporting interfaces
- Pre-defined sensor locations for testing repeatability among partners
- Representative thermal data to define cooling tiers across different use cases



SERVER

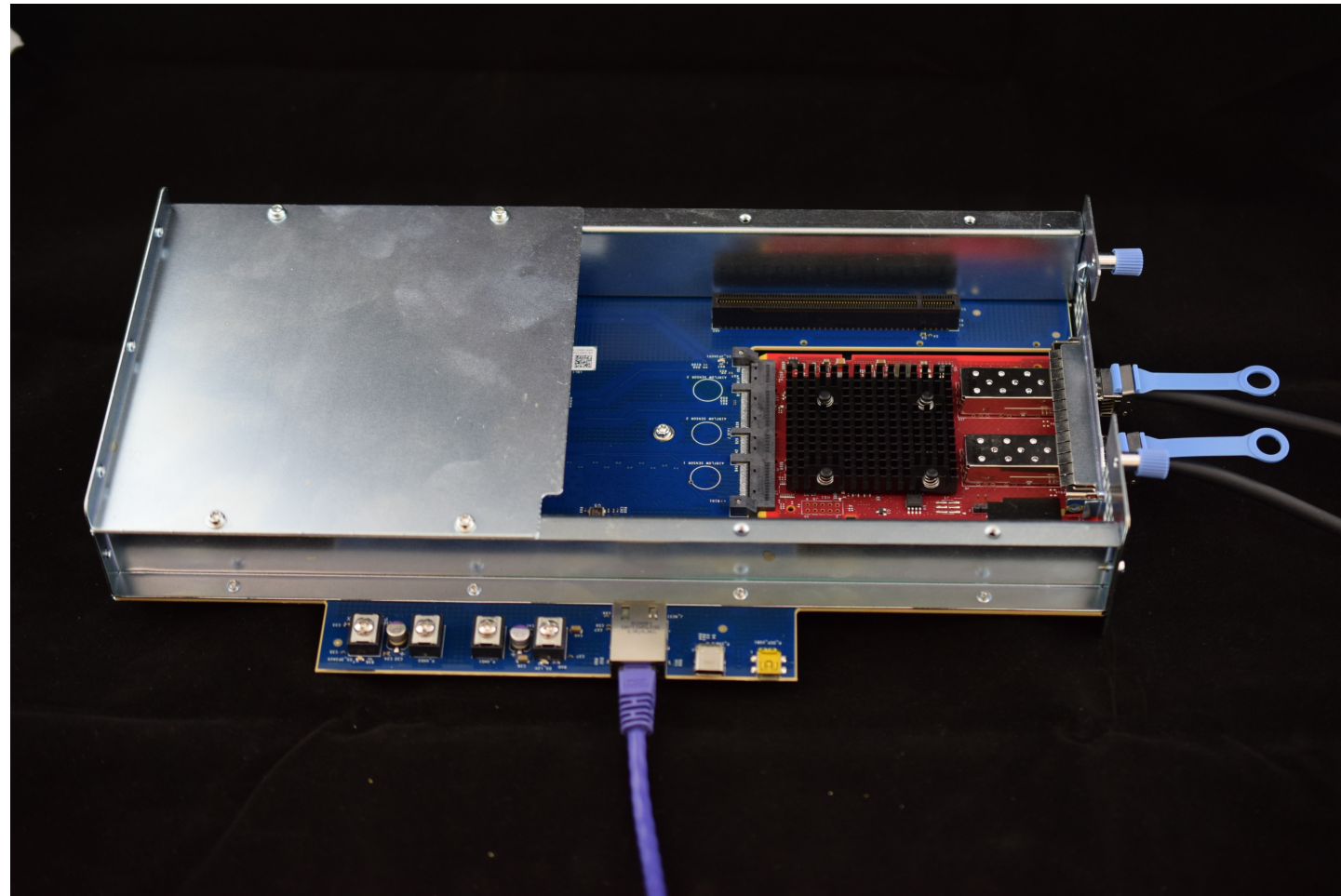


Test Fixture Features

- PCIe Technology 4.0 capable
- Provides access to scan chain, USB port, SMBus and RBT
 - LFF TTF adds UART, x16 PCIe, and power
- Supports candlestick airflow sensors
- Passive PCIe riser configuration
 - Air block passive HHL PCIe adapter
- Powered Riser also included for user defined purposes

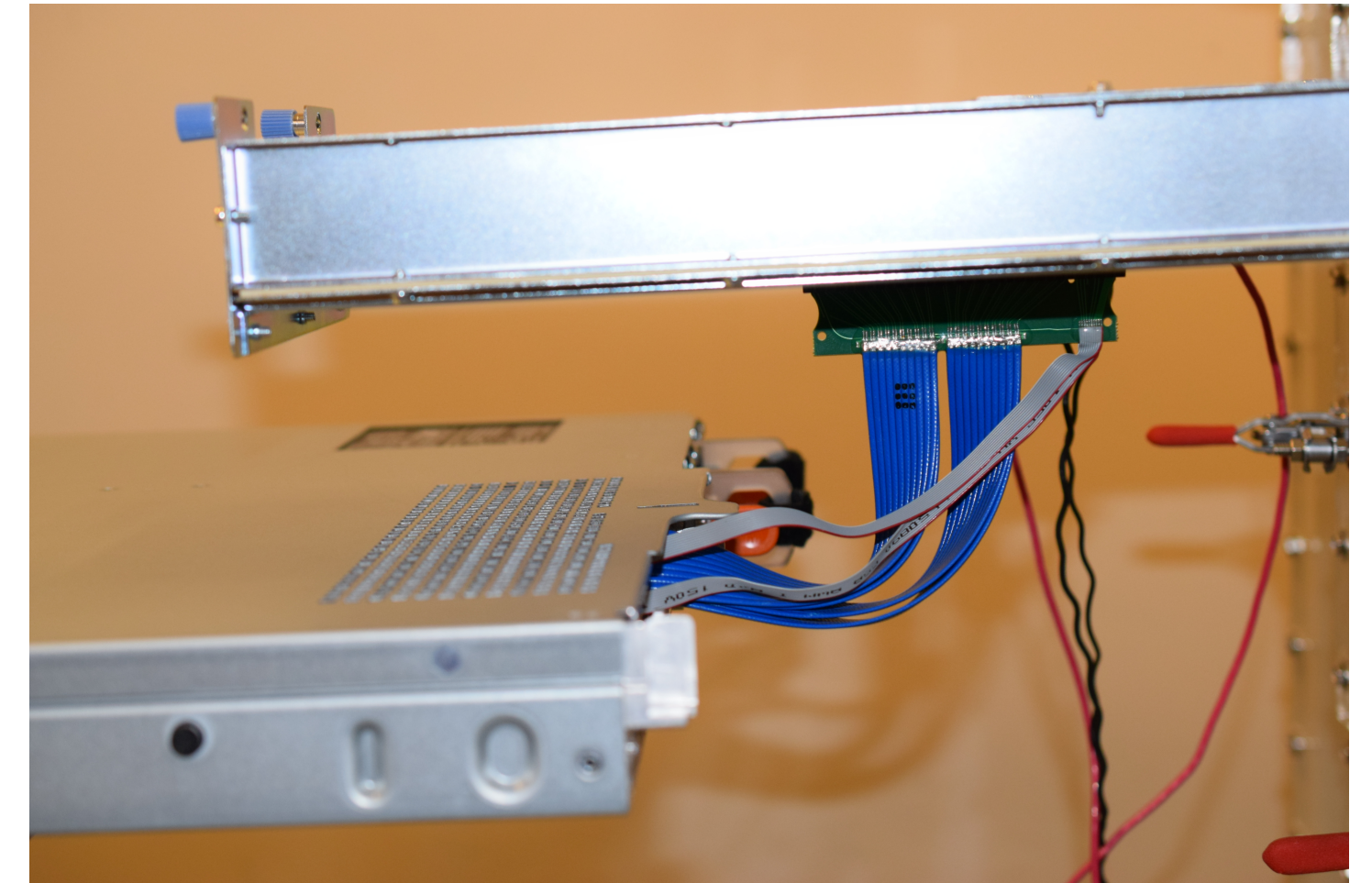
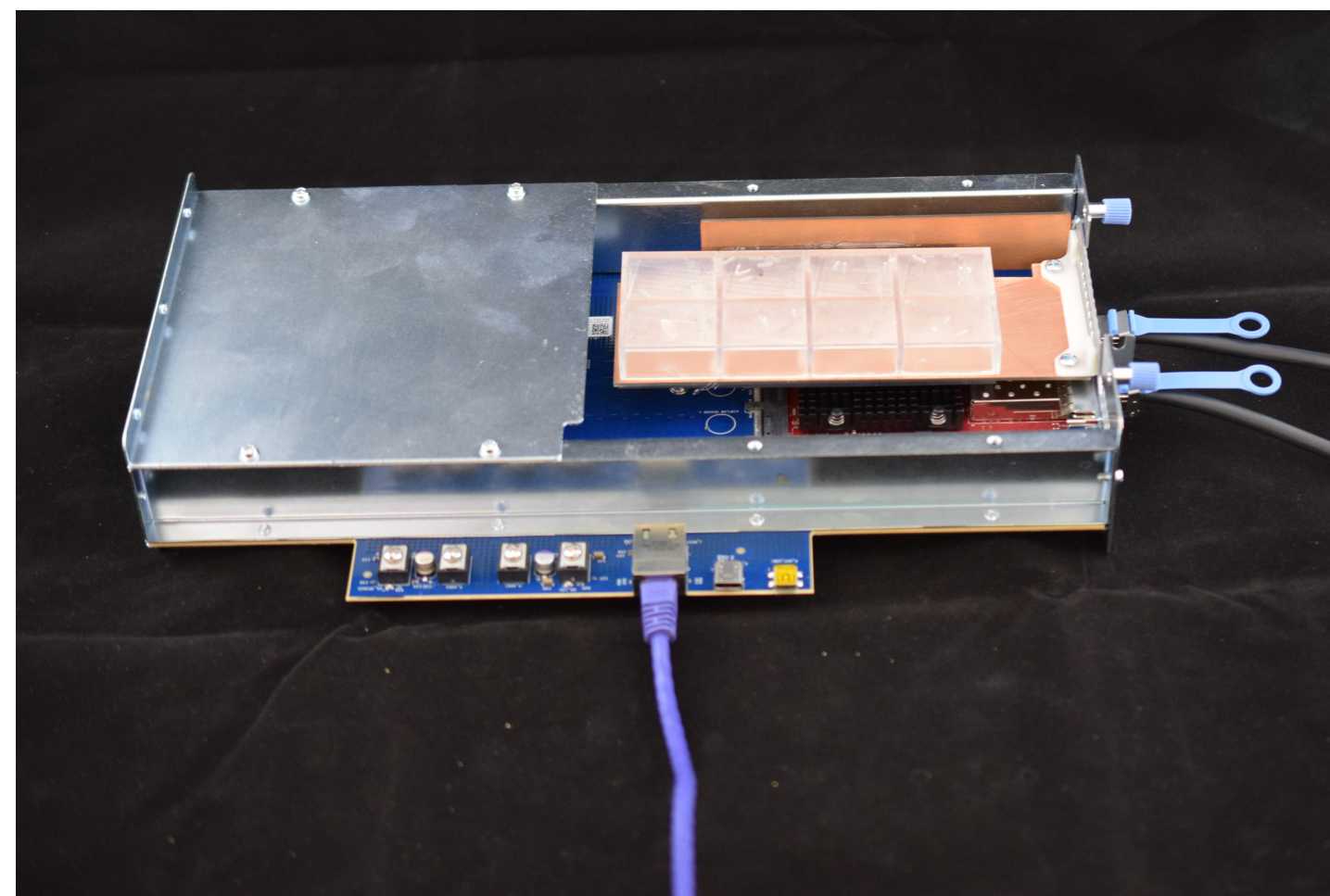


TTF Setup



OCP installed

Riser/Blocker
installed



TTF Connected to
Flowbench and host
server.



Thermal Management

- Thermal tiers have been defined
- The adapter's thermal tier info can be read from its FRU EEPROM allowing the BMC to safely decide when to enable the adapter
- Real-time temperature reporting is required for components with TDP > 5W



Open Together

- OCP NIC TTF Demo @ OCP Experience lab
- OCP NIC TTF Design Files (3D CAD + board files)
- OCP NIC mailing list

Project Wiki with latest specification : <http://www.opencompute.org/wiki/Server/Mezz>

Thermal Test Fixture Mechanical File: [3D CAD Files for Small and Large Form Factor NIC](#)

Thermal Test Fixture Board Files: [Electrical Board Files](#)

Mailing list: <http://lists.opencompute.org/mailman/listinfo/opencompute-mezz-card>





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OCP Global Summit | March 14–15, 2019

