



## **cuPHY System Overview**

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Aerial cuPHY is a software-defined workload hosted on NVIDIA-certified EGX servers and a stack that uses the CUDA OS platform and GPU/NIC/CPU firmware and toolkits. This section highlights the Aerial cuPHY workload configuration interdependencies as part of the NVIDIA platform stack.

## Highlights

- Grace Hopper MGX system supports 20 average loaded (50%) BFP9 cells
- Supports Massive MIMO: 64T64R (16DL | 8UL) @ 100MHz w/ SRS-based Beamforming
- AX800 with Dell R750 supports 8 4T4R peak and 16 4T4R average BFP9 cells
- A100X with Dell R750 supports 5 4T4R peak and 10 4T4R average BFP9 cells
- A100 with Aerial Devkit supports up to 4 4T4R peak and 8 4T4R average BFP9 cells

## Aerial CUDA-Accelerated RAN Overall Platform Qualification

Feature	Configuration	Supported
Grace Hopper MGX Platform	<ul style="list-style-type: none"> <li>• 72-core NVIDIA Grace CPU</li> <li>• NVIDIA H100 Tensor Core GPU</li> <li>• 480GB of LPDDR5X memory with ECC</li> <li>• Supports 96GB of HBM3</li> <li>• BF3 NIC x2</li> </ul>	Y

Platform for Discrete GPU, NIC	<ul style="list-style-type: none"> <li>• Servers x2 Model Gigabyte E251-U70</li> <li>• CPU Intel Xeon Gold 6240R, 2.4GHz, 24C48T</li> <li>• Memory 96GB DDR4</li> <li>• Storage 480GB LiteOn SSD x1</li> <li>• GPU GA100 x2</li> <li>• NIC x2 MLX CX6-DX (MCX623106AE-CDAT)</li> </ul>	Y
Platform for Converged Accelerator	<p>Dell R750</p> <ul style="list-style-type: none"> <li>• Server Skew 10-AYCG</li> <li>• Intel Xeon Gold 6336Y 2.4G, 24C/48T</li> <li>• PCIe Gen4</li> <li>• Memory 512GB DDR4</li> <li>• Storage 2TB</li> <li>• GPU+NIC AX800 or A100X</li> <li>• NIC CX6-DX</li> </ul>	Y

## Discrete GPU Support

Feature	Supported
Maintain integration, qualification of discreet GPU A100	Y
Support Aerial CUDA-Accelerated RAN offload	Y
Preserve existing interfaces / API / shared memory buffers integrated with ISVs	Y
L2+ integrated with x86 host	Y

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