cuPHY Release Notes

This section describes the supported configurations, test-vector configurations, and limitations for this release of Aerial cuPHY.

Important Terms

This section defines common acronyms, abbreviations, and terms that are used in this Aerial cuBB documentation.

Term or Abbreviation	Definition
Aerial	Software suite that accelerates 5G RAN functions with the GPU
cuBB	CUDA GPU software libraries/tools that accelerate 5G RAN compute-intensive processing
cuPHY	CUDA 5G PHY layer software library of the cuBB
cuPHY-CP	cuPHY control-plane software
HDF5	A data file format used for storing test vectors. The HDF5 software library provides functions for reading and writing the test vector files
CMake	CMake is a software tool for configuring the makefiles for building the CUDA examples
DPDK	Data Plane Development Kit
CX6-DX	Mellanox ConnectX6-DX NIC
CDM/FDM/TDM	Code-division multiplexing, Frequency Division Multiplexing, Time-Division Multiplexing
MU-MIMO	Multi-User Multiple Input - Multiple Output
SU-MIMO	Single-User Multiple Input - Multiple Output
RB	Resource Block
PRB	Physical Resource Block
RE	Resource Element
REG	Resource Element Group
CORESET	Control Resource Set

DCI	Downlink Control Information
DMRS	Demodulation Reference Signal
eCPRI	Enhanced Common Public Radio Interface
MIB	Master Information Block
O-RAN	Open Radio Access Network
SIB/SIB1	System Information Block
TTI	Transmission Time Interval
LDPC	Low-Density Parity Check Code
PDCCH	Physical Downlink Control Channel
PDSCH	Physical Downlink Shared Channel
PUCCH	Physical Uplink Control Channel
PUSCH	Physical Uplink Shared Channel
PRACH	Physical Random Access Channel
UCI	Uplink Control Information
UE-EM	UE Emulator Test Equipment