



# Accelerate Your Trading Strategies: Introducing the New Alveo™ **X3 Series**

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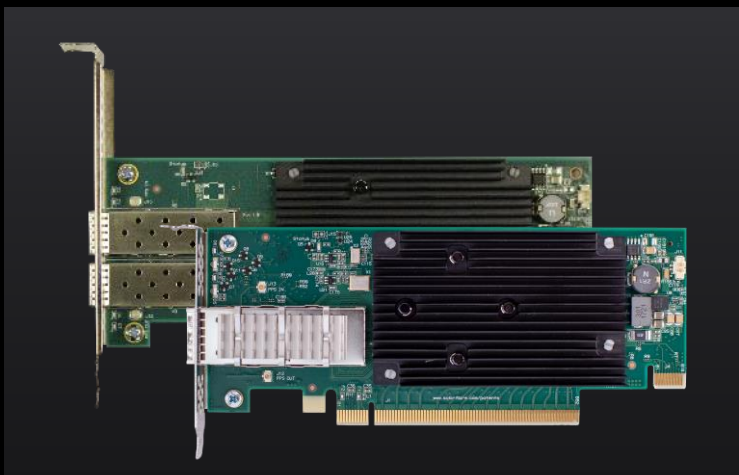
November 30th, 2022



# Introducing the Alveo™ X3 Series Adapters

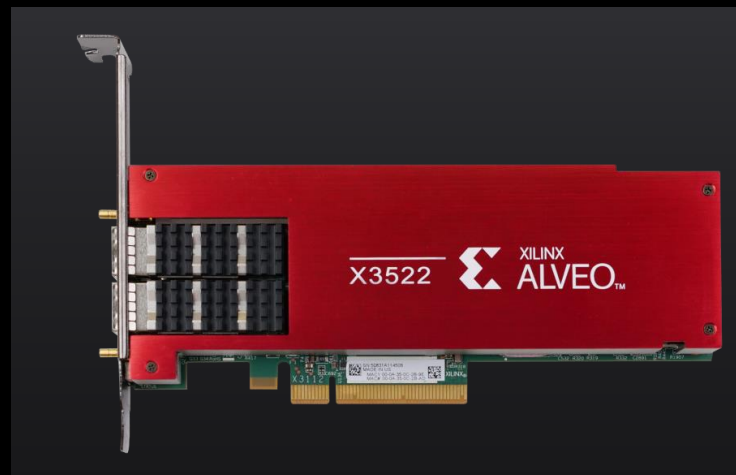
In Production

Alveo X3 Series



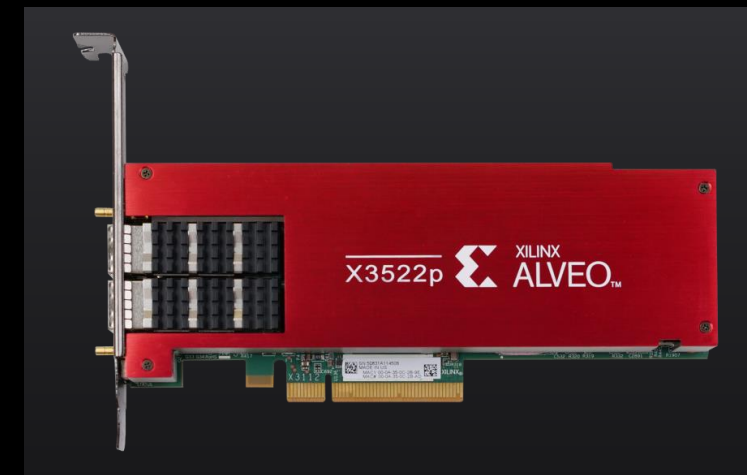
**X2 Series**  
Offload NICs

- X2522 Low Latency NIC  
2x10/25G
- X2541 Low Latency NIC  
1x 10/25/40/50/100G



**Alveo X3522**  
Low Latency Network Adapter

- 4x10/25G
- Lower latency
- Improved architecture
- Upgradeable
- Optional upgrade access to 400K LUTs

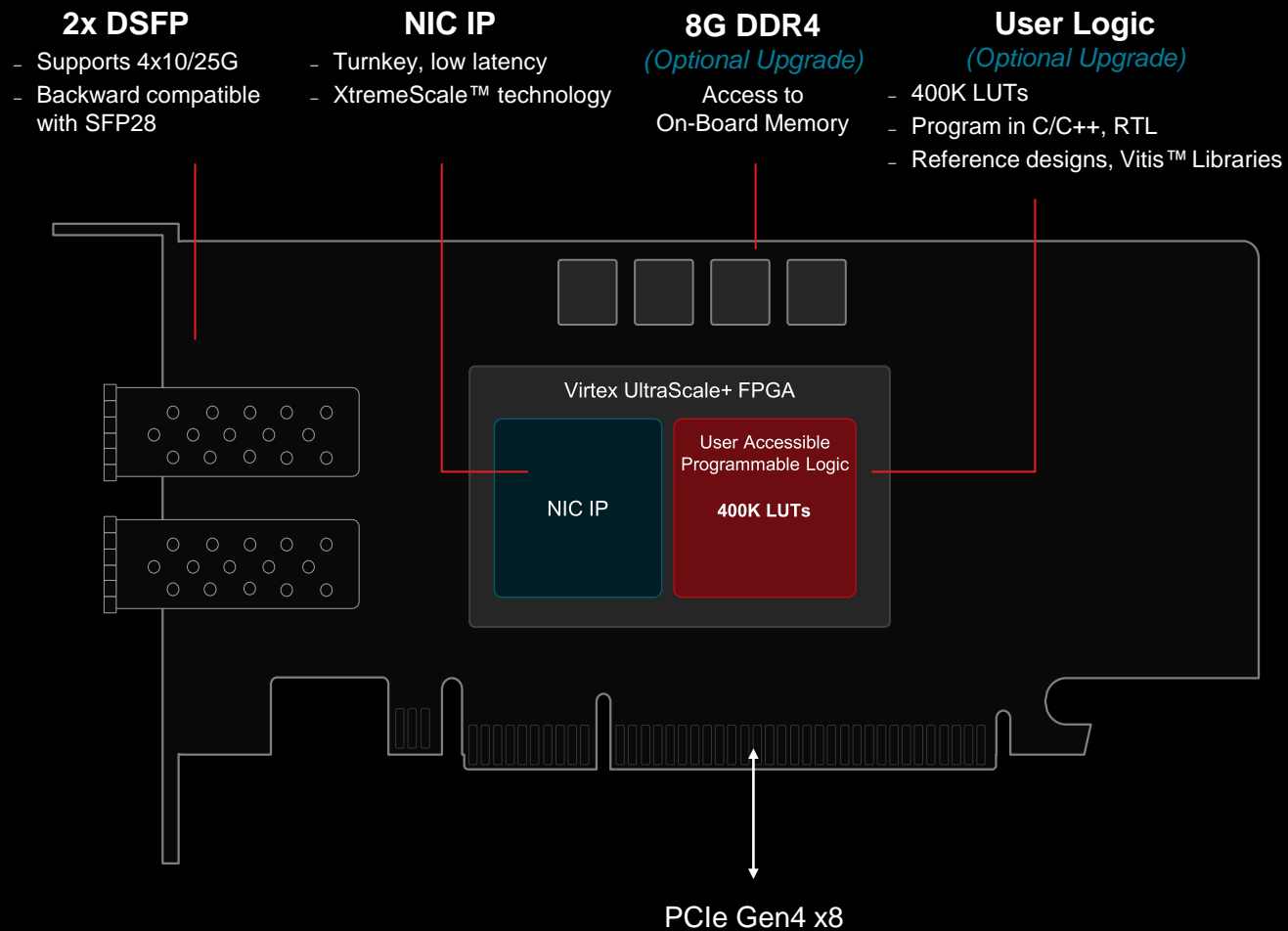


**Alveo X3522PV**  
Accelerator Card

- 2x DSFP connectors
- Time synchronization (PPS In/Out)
- Access to ~1M LUTs
- -3 silicon enables up to 644MHz operation, 16b

# Low Latency NIC Features and Capabilities

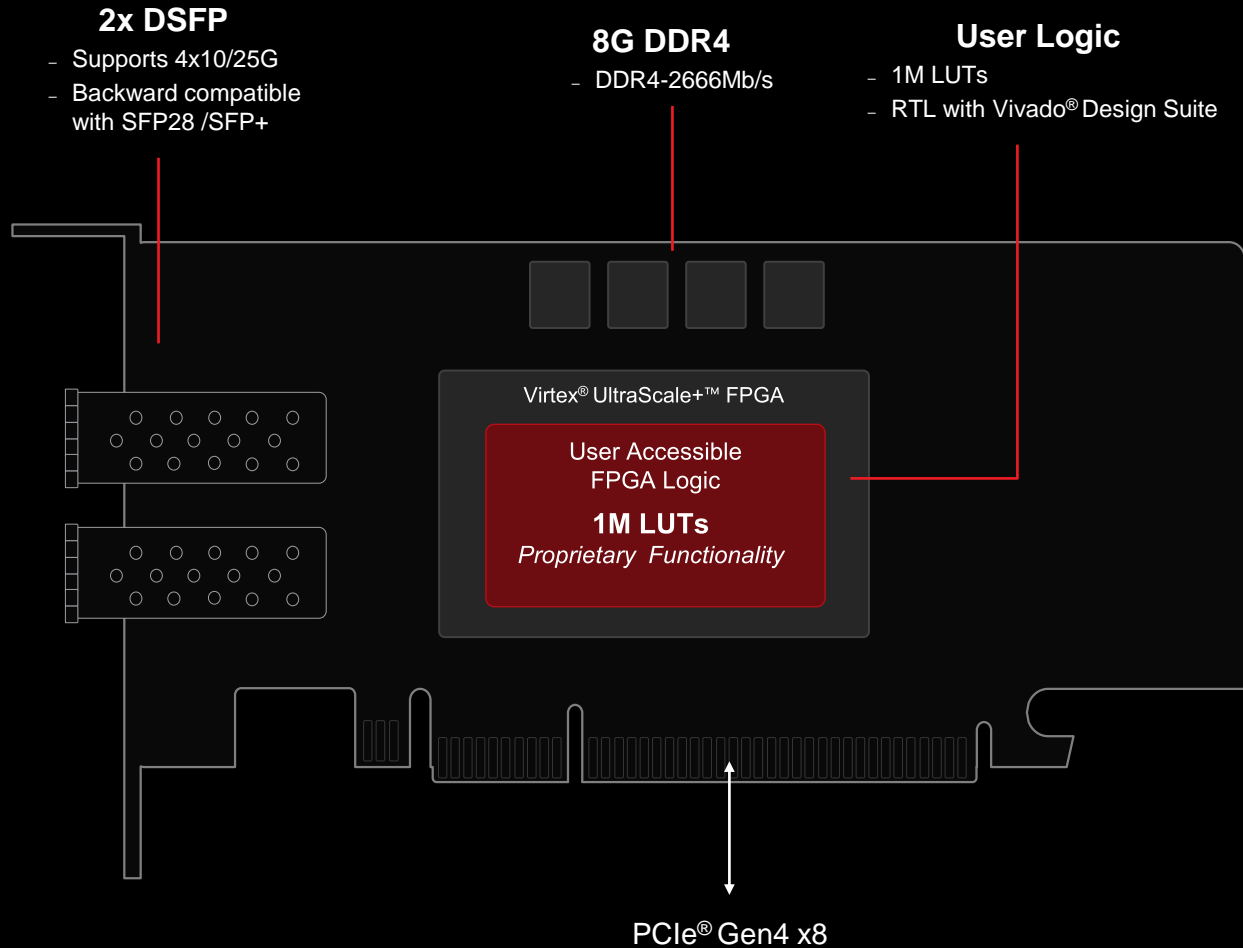
## Alveo™ X3522



FEATURES	SPECIFICATION
Power	<ul style="list-style-type: none"> <li>• 35W (NIC mode)</li> <li>• Up 75W max power (hybrid mode) (PL dependent)</li> </ul>
User Functional Space	400K LUTs (hybrid upgrade package)
Programmability	<ul style="list-style-type: none"> <li>• C/C++ High-Level Synchess (HLS)</li> <li>• RTL (hardware design)</li> <li>• ULL Framework IP from Orthogone Technologies</li> <li>• ANTS reference design (utilizes Onload®)</li> <li>• Delegated Send</li> </ul>
Memory	8GB DDR4 (hybrid upgrade package)
PCIe® Config	Gen4 x8
Network Port Config	4 x 10GbE/25GbE
1PPS Support	SMA connector, through IO bracket
PTP	Stratum 3 oscillator, PTPv2 support
Software	<ul style="list-style-type: none"> <li>• Vitis® SW Environment (C/C++, libraries)</li> <li>• Onload SW for kernel bypass</li> <li>• TCPDirect</li> <li>• ef_vi API for latency optimization</li> <li>• XRT runtime SW</li> </ul>

# Accelerator Card Features and Capabilities

## Alveo™ X3522PV



### FEATURES

### SPECIFICATION

Power	75W Max Power
Device	<ul style="list-style-type: none"> <li>• Virtex UltraScale+ XCUX35</li> <li>• -3 speed grade</li> </ul>
SerDes (GTY) Capability	16b, 644MHz operation supported
Programmability	Vivado Design Suite
Memory	8GB DDR4
PCIe Config	Gen4 x8
Network Port Config	4 x 10GbE/25GbE
1PPS Support	SMA connector, through IO bracket
Software	Vivado Design Suite
Sideband Support	PLDM over MCTP over SMBus
LUTs	1,030K
Embedded RAM	<ul style="list-style-type: none"> <li>• 99 Mb UltraRAM</li> <li>• 74.3Mb Block RAM</li> </ul>

# Alveo™ X3 Series Advantages



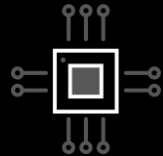
## Low latency, plug-and-play NIC

High port density (4x 10/25GbE), based on Xtremescale™ NIC technology



## Determinism for reliable trade execution

Reordering, underruns, collisions handled by NIC



## CPU offload for hybrid trading

Offload business logic to NIC



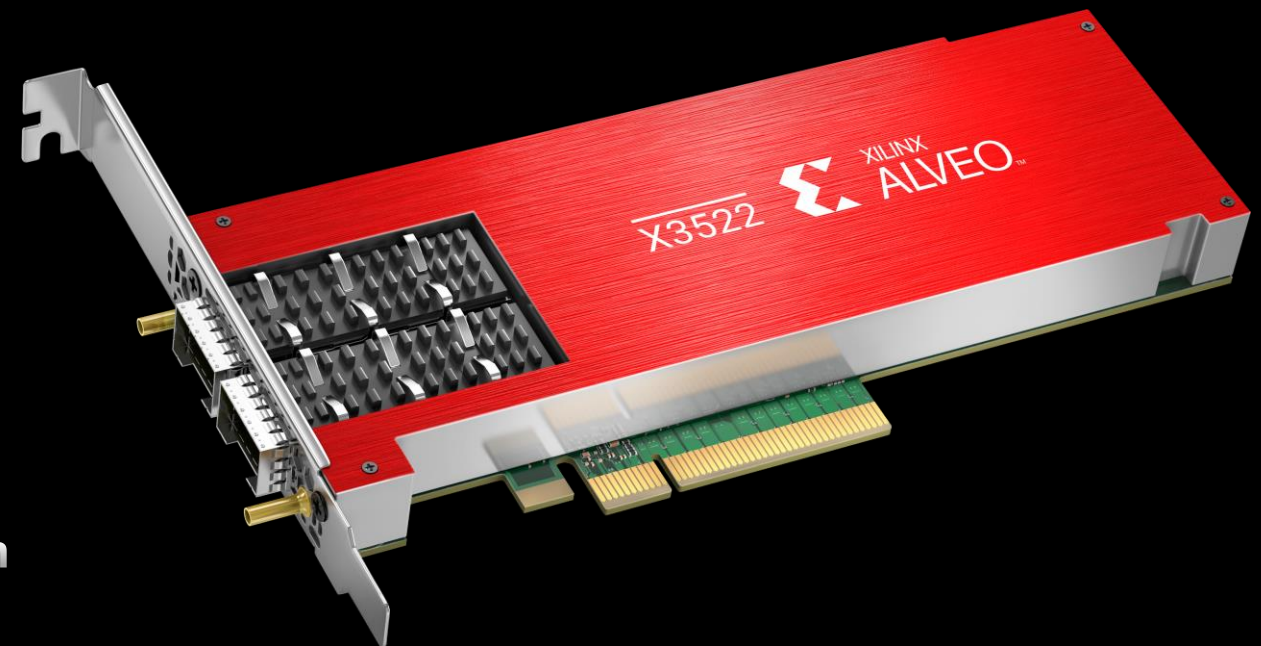
## HW upgradeable after deployment

Integrate new features from AMD



## Adaptable Acceleration and Customization

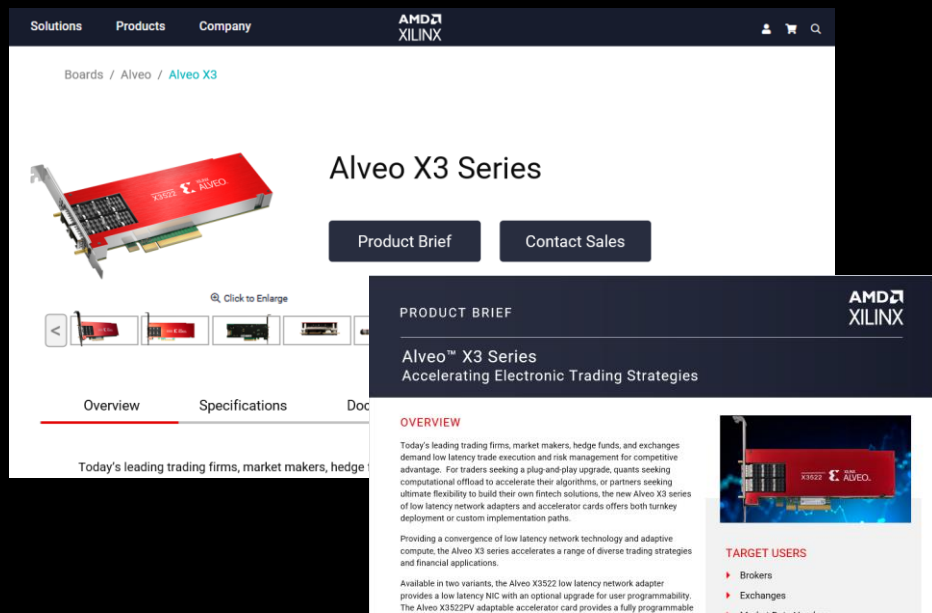
Hardware flexibility for custom fintech solutions



# Get Started Now

## Learn More

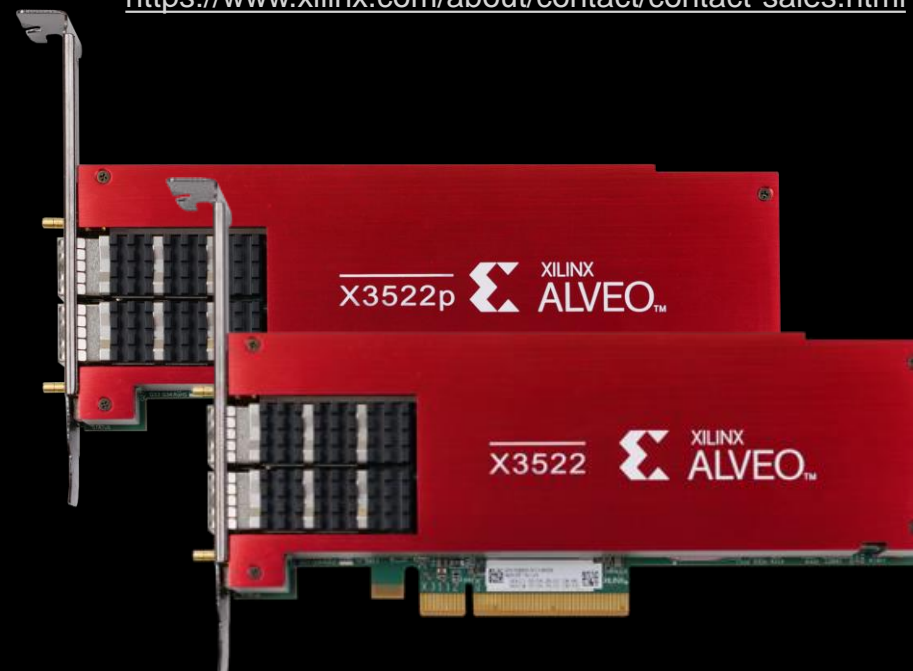
[www.xilinx.com/x3](http://www.xilinx.com/x3)



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