Alveo cards

PRODUCT BRIEF

Alveo U55C Accelerator card

OVERVIEW

Next-generation HPC applications need to do more with each watt: squeeze more out of each clock cycle, scale out more efficiently, and do the same amount of work while moving data less.

Built from the ground up to deliver the best performance-per-watt for HPC and Big Data workloads, the Alveo™ U55C accelerator card delivers the efficiency and scalability called for by the most demanding applications. The U55C delivers dense compute and HBM, with onboard 200Gbps networking enabling massive scale-out using Xilinx's groundbreaking open-standards based clustering.

CoreEL Technologies India Pvt Ltd
#21, 7th Main, 1st Block, Koramangala, Bangalore - 560034, India
Phone No: +91-80-41970400
Email : upt@coreel.com

ALVEO ADVANTAGES

Built around Xilinx's powerful Virtex™ XCU55 UltraScale+ FPGA, the Alveo U55C card delivers blazing fast application acceleration. The U55C harnesses the power of Xilinx Adaptive Computing to deliver extraordinary performance unmatched by competing architectures, with:

- Data pipeline hyperparallelism
- Superior memory Management
- Optimized data movement

KEY FEATURES

- High performance, low power High Bandwidth Memory (HBM2)
- High performance per watt
- Fast and easy clustering
- Onboard 200Gbps networking
- Single slot, small form factor design

CoreEL Technologies India Pvt Ltd
#21, 7th Main, 1st Block, Koramangala, Bangalore - 560034, India
Phone No: +91-80-41970400
Email : upt@coreel.com

Features	Alveo U55C card
Architecture	Virtex UltraScale+
LUTs	1304K
Registers	2,607K
DSP Slices	9,024
Form factor	Single Slot, Full Height, Half Length
Micro USB	Yes
HBM Memory	16GB
HBM Bandwidth	460 GB/s
N/W interface	2 x QSFP28 ports
PCI express	PCIe Gen3 x 16, 2 x PCIe Gen 4x8
Thermal solution	Passive
Power (TDP)	115W
Tool support	Vitis

CoreEL Technologies India Pvt Ltd
#21, 7th Main, 1st Block, Koramangala, Bangalore - 560034, India
Phone No: +91-80-41970400
Email : upt@coreel.com

HPC CLUSTERING FOR EVERY DATA CENTER

Alveo™ U55C Accelerator Card

Xilinx U55C customers can scale-out their deployment across hundreds of Alveo U55C cards with Xilinx's standards-based, API-driven HPC clustering solution. Alveo accelerators can cluster over a data center's existing infrastructure and network, with lossless performance requiring no proprietary hardware, while eliminating vendor lock in.

- Scale Out Architecture on RoCE v2 and DCBx with **existing data center server Infrastructure**
- Shared workload and shared memory **across multiple cards**
- **MPI enables hyper-parallelism** of Xilinx Adaptive Compute across nodes

HIGH LEVEL PROGRAMMABILITY WITH VITIS™

Xilinx's Vitis Unified Software Platform targets the U55C with high high-level programmability of both the application and cluster, enabling a world of developers and data scientists to unlock the performance benefits of Xilinx Adaptive Computing.

Vitis includes an extensive set of open source, performance-optimized libraries that offer out-of-the-box acceleration with minimal to zero-code changes to your existing applications.

CoreEL Technologies India Pvt Ltd
#21, 7th Main, 1st Block, Koramangala, Bangalore - 560034, India
Phone No: +91-80-41970400
Email : upt@coreel.com

Vitis HPC Clustering Libraries

> Ease of programming
> Custom data movement
> Write your application in C/C++

CoreEL Technologies India Pvt Ltd
#21, 7th Main, 1st Block, Koramangala, Bangalore - 560034, India
Phone No: +91-80-41970400
Email : upt@coreel.com