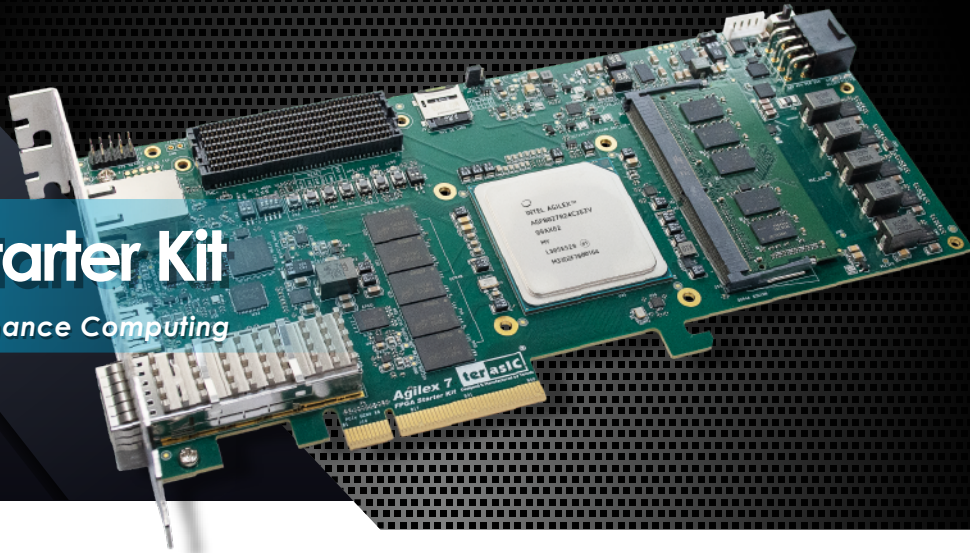# Agilex 7 FPGA Starter Kit
Essential Instruments for High Performance Computing

Agilex 7 FPGA Starter Kit – Cost Effective, and Optimized to Accelerate

The Terasic Agilex 7 FPGA Starter Kit takes advantage of the latest Intel® Agilex™ 7 SoC FPGA F-Series devices with either 800K or 2.7M logic elements options, offering 50% higher fabric performance and 40% lower power consumption than equivalent Stratix® 10 devices.

The Terasic Agilex 7 FPGA Starter Kit combines a number of high-end hardware interfaces such as PCI Express 4.0 x8, one 100G QSFP-28 connector, on-board HDMI 2.1 output, along with up to 16GB of DDR4, to provide optimal acceleration and throughput for compute-intensive applications. In addition, the on-board FMC+ connector makes the board extensible and can work with various daughter cards, such as Terasic's HDMI-FMC , XTS-FMC, 12G SDI-FMC, and P16E-FMCP daughter card.

The Agilex 7 FPGA Starter Kit also supports the Intel® oneAPI, Intel® OpenCL and Linux BSP for SoC booting. Developers can customize their own unique acceleration workloads effortlessly by leveraging the Intel Agilex™ FPGA on the Terasic Agilex 7 FPGA Starter Kit.

Key Benefits

FPGA
Intel® Agilex™ 7 FPGA F-Series devices offered with either 800K or 2.7M logic densities and 32 transceivers each capable of up to 58Gps PAM4 rates

PCI EXPRESS®
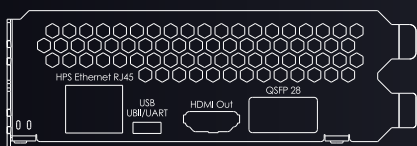PCI Express 4.0 x8 with full-height, 3/4-length form-factor package

QSFP
One QSFP28 connector for 100/40/25/10 GbE network interface

FMC+
One FMC+ connector for interface expansion (Support 181 FPGA I/O and 16 high speed transceivers)

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DDR4

One DDR4 SO-DIMM socket and 8GB on-board DDR4 with error correction code (ECC) for both FPGA and HPS fabric

HPS Interface

Support USB to UART, MicroSD socket and Gigabit PHY interface for HPS communication

HDMI and Timing Header

On-board HDMI 2.1 output port and a 2x5 timing expansion header for 1pps or other high-precision clock inputs

Block Diagram

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