Intel® Agilex™

The Intel Agilex FPGA and SoC portfolio present a wide range of product offerings that address the full breadth of programmable logic needs across every technology sector from edge to embedded systems, to communications and data centers.

With a diversity of chips comes high complexity. At Fidus, as an Intel GOLD Tier Partner, we manage this complexity, so you avoid critical design challenges. As specialists in electronic product development, Fidus works with the latest Intel silicon, tools, and software roadmaps. Our team is made up of long tenured, high pedigree FPGA experts which ultimately enables you to get your solution to market faster.

Fidus has a variety experience with Intel Programmable Solutions and more recently with Agilex. Whether it is implementing Digital Signal Processing functions in FPGA, or the design and implementation of a CDI architecture (composable disaggregated infrastructure) or designing complex custom hardware. Solutions with Intel's SoC requires expert knowledge of embedded software, FPGA, hardware, and verification. Fidus has the full implementation skillset under one roof. Fidus will reduce your risk and will accelerate your application, your development, your Agilex knowledge, and, most importantly your time to market (TTM).

SOME EXAMPLES OF OUR WORK:

Agilex™ 7 F-Series SoC: Fidus developed an Industrial Automated Thermal Test System for IC's. This was an Agilex-based production test platform, featuring RTOS for real time system control requirements. We selected the Agilex 7 F-Series SoC with a high pin count to handle all the peripheral interfaces. The control board we developed simultaneously commands actuators, dispenses thermal paste, heats up thermal heads, open/closes valves for cooling fluid, communicates with robots to insert/remove devices under test (DUTs), etc., all the while aggregating data, and reporting back to a data logger. Fidus increased the throughput of the thermal tester, allowing improved TTM for the customer.

Agilex™ I-Series SoC: Our background in networking met the needs of a customer that develops high-speed networking hardware. Using limited resources, the Agilex 7 – I-Series was used by the Fidus team to leverage its PCIe 5.0 x16 capability. Along with RTL development, our embedded software team did their work in the embedded Intel HPS environment. HPS boot first sequence, U-Boot, Linux were utilized.

Agilex™ 7 F-Series: The Fidus team was hired to create a multi-channel Channelizer Block which included model development, RTL development, filter design, verification, timing closure and documentation. Leveraging Agilex 7, we developed an 8-channel, super-sample rate digital down converter design that matched the customers model simulations and met timing / resources. Design Tools Used: Quartus, HDL Coder, MATLAB, Python and NumPy. With limited resources, the customer was able to leverage Fidus to get their product to market faster and generate revenue quickly.

ADDITIONAL CAPABILITIES TO EASE YOUR AGILEX DESIGN EXPERIENCE INCLUDE:

- Signal integrity (beyond 224Gbps/PAM4) and power integrity (impedance profiling and optimization)
- HBM (High Bandwidth Memory) applications
- Flexibility, performance-based clock, and timing subsystems
- Thermal simulations and solutions
- Embedded software (e.g., Board Support Packages, drivers, etc.)
- Verification (e.g., UVM, CocoTB, Directed)
- Complex signal DSP processing

BRINGING YOU INTEL PSG PARTNERSHIP

As a Gold Intel® Alliance Partner, Fidus receives exclusive training, certification, and early-access to tools, IP, and new silicon. So what does this mean? It means that when you hire Fidus, you know that Fidus is on the forefront of the Intel roadmap, experienced in the most advanced tool flows, and is top of mind within the Intel PSG support network.

ABOUT FIDUS

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo, Ontario, and San Jose, California. Our hardware, software, FPGA, verification, wireless, mechanical, and signal integrity teams work to innovate, design, and deliver next-generation products for customers in emerging technology markets. Fueled by 20+ years' experience and creativity, along with our collaborative and process driven approach, we turn complex challenges into well-designed solutions. And with over 400 customers and 3000+ completed projects, we have the expertise to be a seamless extension of your team, providing a clear focus and commitment to getting designs and prototypes to market faster. Once you start working with us, you'll trust us like one of your own. Our hallmark is transparency. Our guiding principle is first time right.

fidus
innovate·design·deliver

fidus.com