

# Model 8258

The power of Versal® ACAP technology in a ready-to-run, proven and tested platform



Model 8258

The **8258** is a low-cost 6U VPX development platform to build, run and debug applications on the SCFE6931 Dual Versal ACAP (advanced compute acceleration platform) heterogeneous processing module. Providing power and cooling to match the SCFE6931 in a small desktop footprint, the chassis allows access to all required front-panel interfaces on the SCFE6931. The **8258** can be configured with optional rear-panel connectors to support 100 GigE. Mercury's Navigator® FPGA design kit (FDK) and board support package (BSP) complete the development platform.

## FAQ

### What advantages does the Versal ACAP offer?

This heterogenous mix of Versal ACAP resources gives designers the freedom to assign compute power to the processing engine most suitable to the task at hand, and the ability to adaptively reassign resources as required. This flexibility of ACAP delivers as much as ten times the performance over dedicated processor types alone.

Different members of the ACAP family provide different blends of three major processing resources: scalar processors (ARM CPUs), adaptable logic (FPGAs), and vector processors (GPUs and DSPs). These last two resources support AI capabilities such as inference, image processing, pattern recognition and signature detection.

### What does the Model 8258 enable?

The 8258 platform delivers a preconfigured, out-of-the-box solution to begin ACAP development right after power up. If needed, all code and the board itself can easily transition to the deployed environment to keep engineering schedules on track.

### What does the chassis include?

The Model 8258 includes a single air-cooled 6U OpenVPX slot for installing and powering the SCFE6931. The chassis' power supply and cooling are ideally matched to requirements of the SCFE6931.

### How do I communicate with the SCFE6931?

The SCFE6931 front panel includes two RS-232, one RJ45 and two JTAG connectors. These give you full access to the board's ACAP processors.

### What kind of supporting software is available?

The Navigator® design suite is a set of tools and libraries to enable development on the ACAP platform immediately with preconfigured examples. It provides IP libraries to help build your applications as well as a path to integrate custom IP with the factory-installed functions or to replace them entirely with new IP. The Navigator design suite consists of two components: the FPGA design kit and the board support package.

**What is the Navigator FPGA design kit?**

The Navigator FPGA design kit (FDK) consists of a library of proven functions delivered as IP cores. The FDK is designed to work seamlessly with Xilinx's Vivado® IP Integrator environment, and the factory-installed IP design provided in the SCFE6931 is included as a complete block diagram of AXI-4 compliant modules that can be edited in IP Integrator. In addition to the installed IP, the FDK includes a collection of IP cores that can be used and modified to create custom IP. Complete documentation and VHDL source are provided for all IP cores.

**What is the Navigator Board support package?**

Similar to the Navigator FDK, the Navigator board support package (BSP) includes all the software needed to start developing immediately. The BSP matches the FDK with a software module for every IP core provided. This allows custom changes to the IP to be easily mapped with changes to the control software. The BSP libraries include complete documentation and C-language source code.

**What are the optical interfaces mentioned on the 8258 used for?**

The SCFE6931 is equipped with up to eight 4-lane optical interfaces running at 25 gbps. These are driven by the ACAP's gigabit serial interfaces and can be supported with various protocols including 10, 40 and 100 GigE. The optical interfaces on the SCFE6931 pass through VITA 66.4 connectors on the 6U backplane and are presented on the back of the 8258 chassis as 8 MPO optical connectors. These allow easy connections to other optically interfaced equipment.

**Learn more**

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