Navigator Design Suite: FPGA Design Kit and Board Support Package

Expedited development time for complete operational control of the hardware and easy configuration of new FPGA IP functions

The Navigator® Design Suite includes the Navigator® FDK (FPGA Design Kit) for integrating custom IP into the factory-shipped design and the Navigator® BSP (Board Support Package) for creating host applications. Most modern FPGA-processing applications require development of specialized FPGA IP to run on the hardware, and software to control the FPGA hardware from a host computer.

The Navigator Design Suite was designed from the ground up to work with Mercury's data acquisition and processing board architectures and provides a better solution to the complex task of IP and software creation.

NAVIGATOR FDK (FPGA DESIGN KIT)

As FPGAs become larger and IP more complex, the need for IP design tools to manage this growing complexity has never been greater.

- Mercury boards with **AMD** components use a **Navigator** or **Navigator MX** FDK, which works with AMD's Vivado® Design Suite.
- Mercury boards with an **Intel®** Agilex® SoM use a **Navigator** MA FDK, which works with Intel's Quartus® Prime Design Software.

Each Navigator FDK provides the complete IP for a specific Mercury data acquisition and processing board. When the design is opened in Vivado's IP Integrator or in Quartus Prime, the developer can access every component of the board design, replacing or modifying IP as needed for the application.

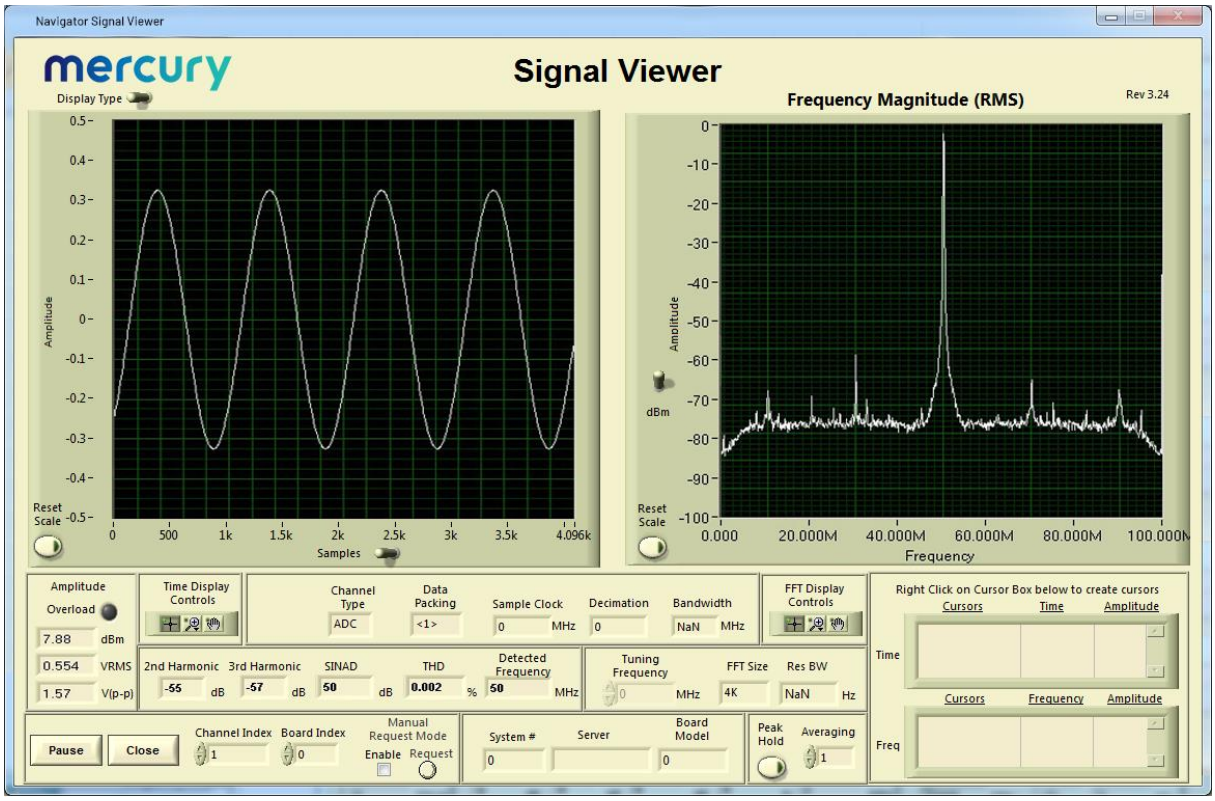
NAVIGATOR BSP (BOARD SUPPORT PACKAGE)

The companion product to the Navigator FDK is the Navigator Board Support Package (BSP). While Navigator FDK provides a streamlined path for creating or modifying new IP for the hardware, the Navigator BSP enables complete operational control of the hardware and all IP functions in the FPGA.

Similar to the FDK, the BSP allows software developers to work at a higher level, abstracting many of the details of the hardware through an intuitive API. The API allows developers to focus on the task of creating the application by letting the API, the hardware and IP-control libraries below it to handle many of the board-specific functions. Developers who want full access to the entire BSP library, enjoy complete C-language source code as well as full documentation.

New applications can be developed on their own or by building on one of the included example programs. Mercury boards that include Navigator support are shipped with a full suite of built-in functions, allowing operation without the need for any custom IP development.

The Navigator BSP includes the Signal Analyzer, a full-featured analysis tool, that displays data in time and frequency domains. Built-in measurement functions display 2nd and 3rd harmonics, THD (total harmonic distortion), and SINAD (signal to noise and distortion). Interactive cursors allow users to mark data points and instantly calculate amplitude and frequency of displayed signals. With the Signal Analyzer, users can install the hardware and Navigator BSP and start viewing analog signals immediately.



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