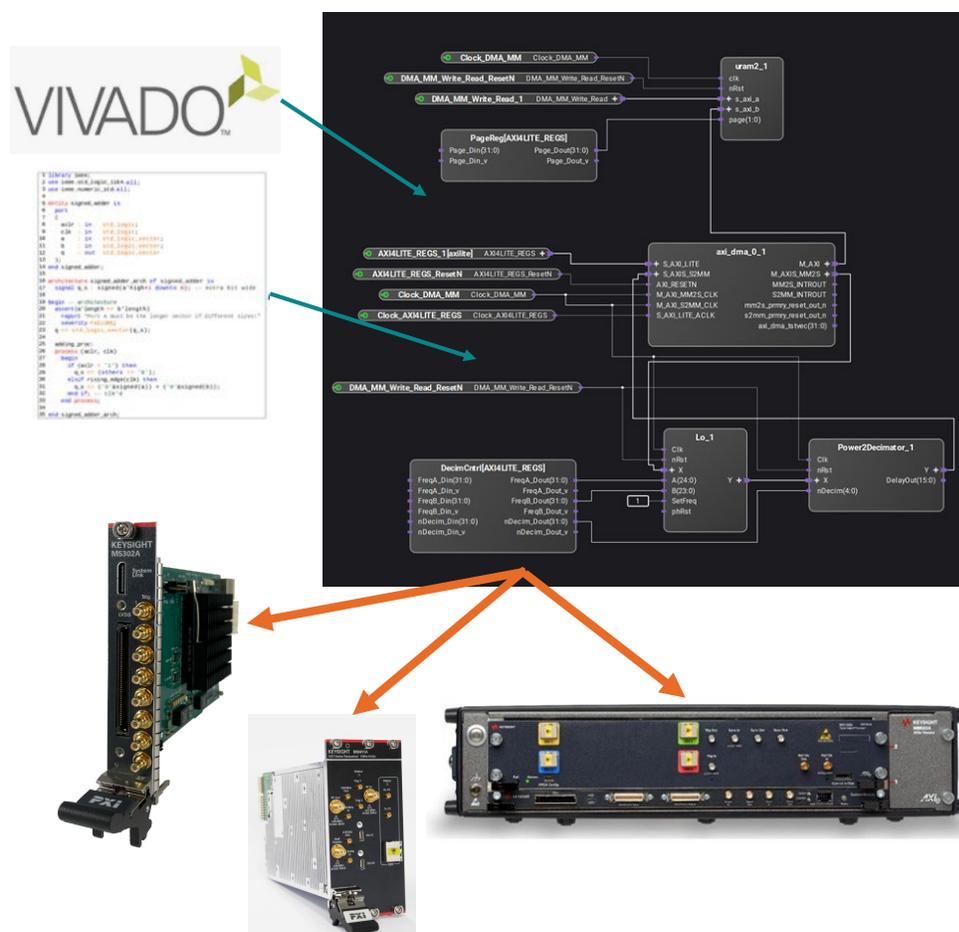


# PathWave FPGA

Programming Environment and Run-Time Software

## Insert Custom Functionality into Keysight Instruments

Keysight's PathWave FPGA software provides the tools and interfaces to add custom functionality and control logic IP (Intellectual Property) blocks to a wide range of Keysight instruments.



## Rapidly prototype and accelerate tests

PathWave FPGA is a graphical environment that provides the ability to rapidly develop FPGA designs on many Keysight instruments. An IP library includes Logic/Math, Memory, and DSP blocks that can be included in an FPGA design. PathWave FPGA supplies components to create custom design flows to go quickly from schematic to bitfile generation with the press of a button.

Easily create hardware-in-the-loop (HIL) tests that accelerate key measurements using PathWave FPGA and add real-time synchronization with PathWave Test Sync Executive.

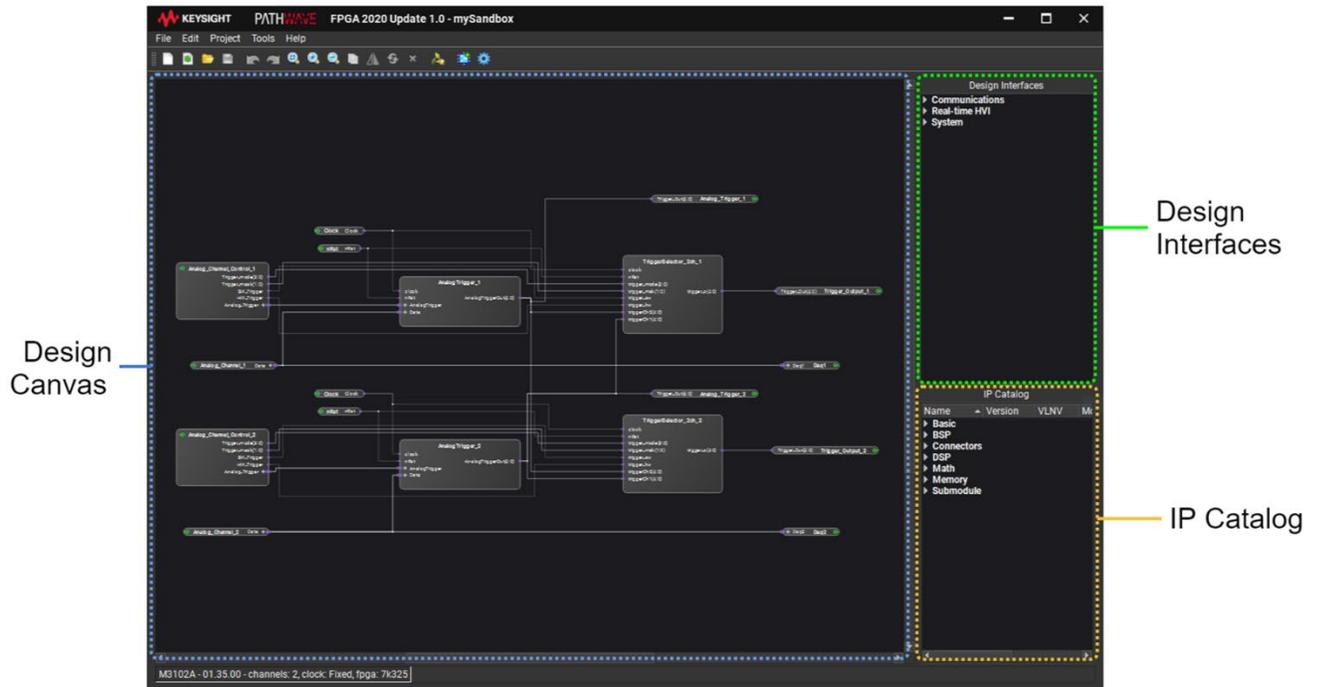


Figure 1. PathWave FPGA User Documentation

## Reduce development time with an intuitive graphical interface

PathWave FPGA ships with a rich set of built-in library elements that can be dropped into a schematic. Easily modify the default template by importing Vivado IP, HDL IP, or by using the PathWave FPGA IP library.

- Visualize application flows and insert custom blocks
- Streamline the design process with full native FPGA-code compatibility
- Quickly compile the bitfile to program the FPGA model embedded in the instrument
- Easily target different instrument FPGAs using Board Support Packages (BSPs)

## Get started quickly

PathWave FPGA provides documentation with step-by-step instructions to create a new project, and modify the default template by importing Vivado IP, HDL IP, or by using the PathWave FPGA IP library.

Adding blocks, connecting ports, and interfaces, and modifying the flow are all done using the graphical user interface.

## Scale-up with Hard Virtual Instrument (HVI) technology

PathWave FPGA along with PathWave Test Sync Executive allows you to synchronize multiple instruments for ultra-fast real-time execution of signal generation, acquisition, and decision making. For applications that require low latency data transfer, Fast Data Sharing technology shares data between FPGA sandboxes in supported instruments in the same or different chassis. The combination of these powerful software tools unlocks the power of the hardware instruments.

## Licensing and Supported Instruments

- **KF9000B PathWave FPGA** is the development software needed to create the custom FPGA designs on Keysight instruments
- **KF9001B PathWave FPGA Run-Time** is the run time license needed to execute the code in the instruments, and each instrument requires a run-time license
- **KS2201A PathWave Test Sync Executive** enables development and execution of synchronous, real-time operations across multiple instruments when used with PathWave FPGA and a license is needed for each instrument

Supported Instruments include many of Keysight's **PXI Products** including Arbitrary Waveform Generators, Digitizers, Digital I/O, and other instruments.

# Reduce Development Time and Accelerate Measurements

PathWave FPGA with its easy-to-use interface and extensive IP libraries provides the tools you need to rapidly develop FPGA designs on supported Keysight instruments. Go from schematic to bitfile generation with the press of a button.

## Learn More

Download a free trial and learn more at [www.keysight.com/find/pathwave-fpga](http://www.keysight.com/find/pathwave-fpga)



For more information on Keysight Technologies' products, applications, or services, please visit: [www.keysight.com](http://www.keysight.com)

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