

Keysight Technologies

E9524A MicroBlaze Trace Toolset

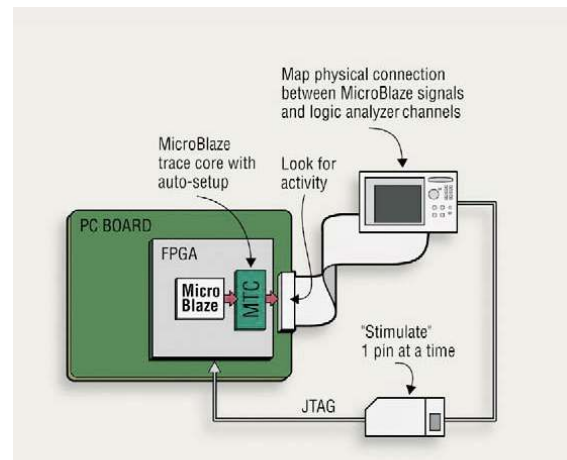
Easily trace MicroBlaze software execution with Keysight's MicroBlaze trace core and inverse assembler

Keysight Technologies, Inc. and Xilinx have developed a logic analyzer trace solution for Xilinx's MicroBlaze embedded processor that overcomes the traditional difficulties of tracing software execution. Combining the capabilities of a MicroBlaze inverse assembler with a specialized trace core simplifies measurement setup and reduces the number of pins required. In addition, the trace core overcomes the lack of visibility you encounter when you employ cache and pipelining, and unlocks the power of the logic analyzer to make accurate measurements. You get easy access to the insight you need to increase the quality of your design and ensure its timely completion.

A brief summary of features:

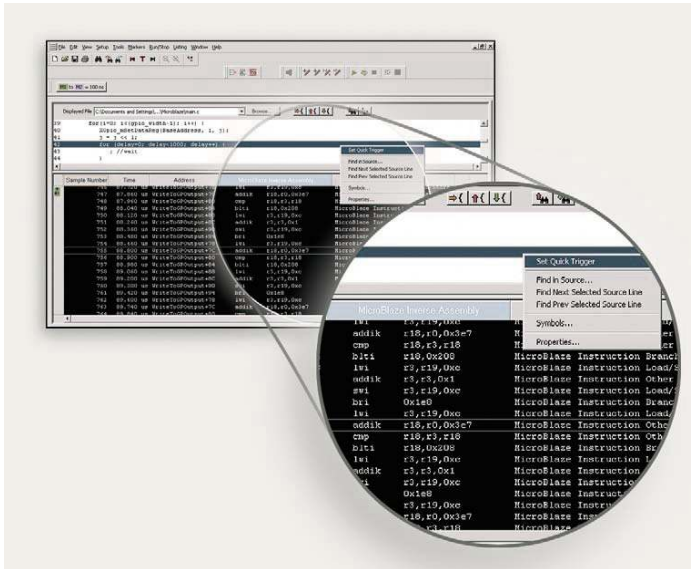
- Capture real-time instruction-side and/or data-side code flow from one or more MicroBlaze cores
- Time-correlate this activity with logic analyzer measurements from the surrounding system
- Display processor execution in assembly instruction mnemonics and correlate the instructions to high-level source code
- Employ the powerful triggering and deep memory trace of the Keysight logic analyzer
- Automated measurement setup with Xilinx EDK tools and Keysight's MicroBlaze Trace Core reduces setup time from hours to a few minutes

For more information, please visit www.keysight.com/find/microblaze or contact your local Keysight Technologies sales representative.



Sample Number	Address	MicroBlaze Inverse Assembly	Cycle Type
13	0000 02B4	Read Data 0x3	Read Data
19	0000 01C4	addik r18,r0,0x0009	Instruction Other
20		Register r18 = 0x9	Write Register
24	0000 01C8	cmp r18,r3,r18	Instruction Other
25		Register r18 = 0x6	Write Register
28	0000 01CC	blic r18,0x000001ec	Instruction Branch
32	0000 01D0	lwi r3,r19,0x0020	Instruction Load/Store
33	0000 02B8	Read Data 0x3	Read Data
39	0000 01D4	addik r3,r3,0x0001	Instruction Other
40		Register r3 = 0x4	Write Register
44	0000 01D8	swi r3,r19,0x0020	Instruction Load/Store
45	0000 02B8	Write Data 0x4	Write Data
50	0000 01DC	lwi r3,r19,0x001C	Instruction Load/Store
51	0000 02B4	Read Data 0x3	Read Data
58	0000 01E0	addik r3,r3,0x0001	Instruction Other
59		Register r3 = 0x4	Write Register
63	0000 01E4	swi r3,r19,0x001C	Instruction Load/Store
64	0000 02B4	Write Data 0x4	Write Data
69	0000 01E8	bri 0x000001c0	Instruction Branch
78	0000 01C0	lwi r3,r19,0x001C	Instruction Load/Store
79	0000 02B4	Read Data 0x4	Read Data

Keysight's MicroBlaze Trace Toolset uses a very small trace core inserted in your FPGA design to simplify probing the trace signals for the MicroBlaze core. This core works in conjunction with software on your Keysight logic analyzer to provide inverse assembly and correlation with your source code – a powerful addition to your debug environment.



Keysight logic analyzers come standard with a source correlation window that provides correlation between assembly mnemonics and high-level source code. One-click trigger specification simplifies triggering on a specific line in the source code.

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

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