

# VCU108 Evaluation Kit

## Quick Start Guide

The VCU108 Evaluation Kit contains all the necessary hardware, tools, and IP to evaluate and develop your Virtex® UltraScale™ FPGA design.

This guide provides instructions for running the VCU108 Board Self Test and installing the Xilinx tools.

### VCU108 Evaluation Kit

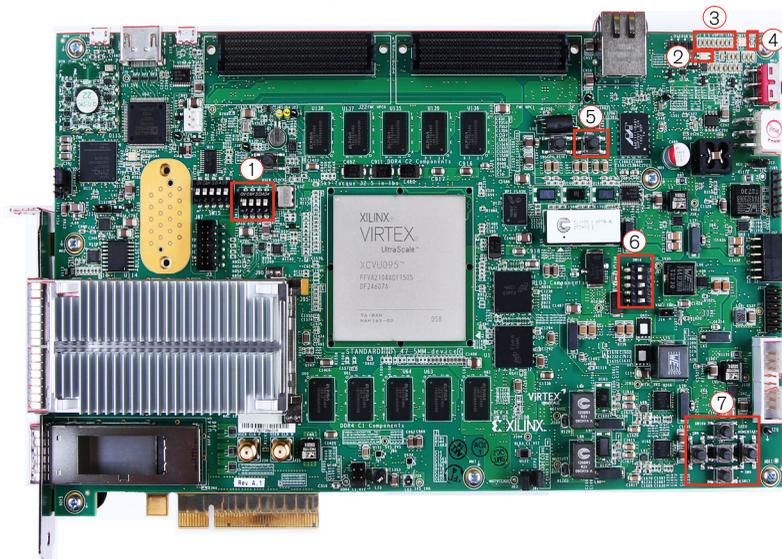


For more information visit [www.xilinx.com/vcu108](http://www.xilinx.com/vcu108).

# Board Self Test Instruction

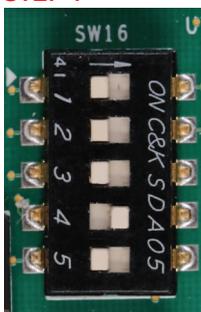
## VCU108 Evaluation Kit

The Board Self Test FPGA configuration file is stored in the on-board BPI flash memory.



- 1: SW12
- 2: DS3
- 3: GPIO LEDs
- 4: DS34
- 5: SW4
- 6: SW16
- 7: Pushbuttons

### STEP 1



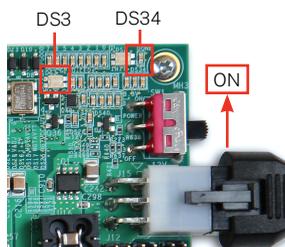
### Set Configuration Switches

Set the configuration mode DIP switch (SW16) so that the Board Self Test file is loaded at power-up from the BPI flash memory as shown below:

Switch	Setting*	Purpose
SW16-1	0	Configuration file storage location: 00 = 1st, 01=2nd, 10=3rd, and 11=4th
SW16-2	0	
SW16-3	0	FPGA configuration mode: 010=Load from BPI Flash 101=JTAG Configuration
SW16-4	1	
SW16-5	0	

1=ON, 0=OFF

### STEP 2



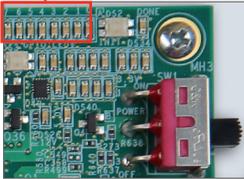
### Connect Power to the Board

Connect the 6-pin power supply plug to J15, and power on the board using the SW1 switch.

LED, DS3 ON indicates that the power system is good.  
DONE LED, DS34 ON indicates that Virtex UltraScale FPGA is configured successfully.

### STEP 3

GPIO LEDs



### Run the Board Self Test

The Board Self Test consists of a set of pass/fail tests. On power-up, the Clock, DDR, BRAM, FLASH, and I2C tests are run without user input.

A passing test is indicated when the corresponding GPIO LED for each test is ON. See the table in page 3 for the LED that corresponds to each test.

The DIP and PB tests require user interaction, as described in the following steps. The blinking LED indicates which test is waiting for user input.

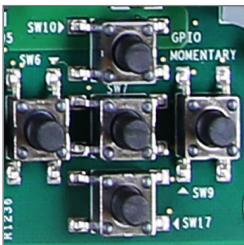
### Board Self Test Assignments for GPIO LEDs

GPIO LEDs							
7	6	5	4	3	2	1	0
Clock	DDR	BRAM	Flash	I2C	DIP	PB	NA



The DIP test checks the DIP switch, SW12 operation. To complete the test, push all four switches into the ON position.

A passing test is indicated when GPIO LED-2 is ON.



The PB test checks pushbutton operation.

To complete the test, push the N, W, S, and E pushbuttons in any order and then push the center button.

A passing test is indicated when GPIO LED-1 is ON.



To run the Board Self Test again, press SW4 (PROG).

For information on testing FMC, PCIe, CFP2 and QSFP board interfaces, visit [www.xilinx.com/kits/vcu108bit](http://www.xilinx.com/kits/vcu108bit).

## Install Xilinx Tools and Redeem the License Voucher

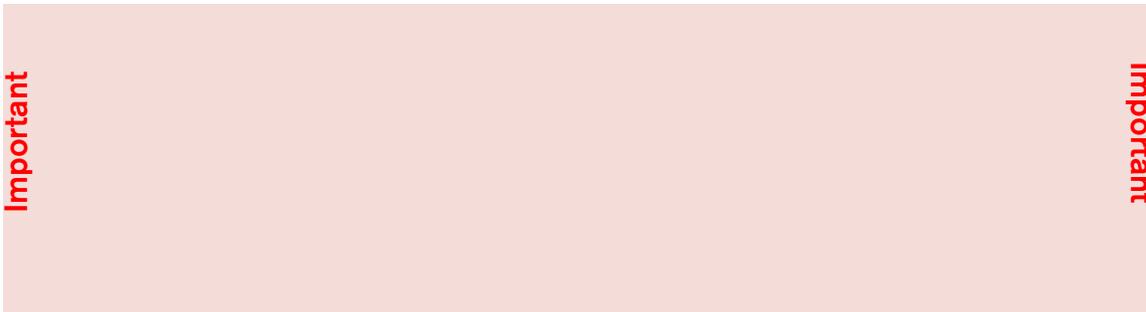
A Vivado® Design Suite: Design Edition, voucher code is included with this VCU108 Evaluation Kit. This Vivado license is node-locked & device-locked to the XCVU095 device.

### STEP 4

#### Redeem the Vivado Tools License Voucher

To redeem the Vivado Tools voucher code, go to [www.xilinx.com/getlicense](http://www.xilinx.com/getlicense) and enter the voucher code shown below. This will put the licenses into your account. You can then generate the license file, which will be emailed to you. For additional assistance redeeming your voucher, go to [www.xilinx.com/kits/voucher](http://www.xilinx.com/kits/voucher).

**Note:** This voucher code can only be used once and must be redeemed within one year of purchase.



### STEP 5

#### Install Vivado Design Suite

- a. To install the Vivado Design Suite, go to [www.xilinx.com/download](http://www.xilinx.com/download) to select and download the latest version of the Vivado tools for your operating system.
- b. The Vivado installation flow will open the Vivado License Manager. 1. Under the Get License heading, select Load License. 2. Click Copy License. 3. In the Select License File dialog box, click Browse. 4. Navigate to the License file that you have received from Xilinx. 5. Select the file and click Open.
- c. If you need assistance, review the Vivado installation guide at [www.xilinx.com/kits/vivadoinstall](http://www.xilinx.com/kits/vivadoinstall).

### Next Steps

#### More Information

To learn more, visit [www.xilinx.com/kits/vcu108-nextsteps](http://www.xilinx.com/kits/vcu108-nextsteps) for extensive collection of resources, including tutorials, instructional videos, detailed reference design guides, schematics, hardware user guides, and other reference designs to move you from the evaluation and learning phase to developing your own product.

#### Support

For support options related to this product, see Xilinx support website at [www.xilinx.com/support/index.htm](http://www.xilinx.com/support/index.htm).

#### Warranty

For product warranty, go to [www.xilinx.com/kits/warranty](http://www.xilinx.com/kits/warranty).

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