EVK Set Up Quick Start Guide

1. Open the box and confirm that the following materials are present:
    a. Silanna SDEVK daughter card.
    b. SD memory card.
    c. USB-C to ethernet cable.
2. The SDEVK requires a ZedBoard Zynq-7000 ARM/FPGA SoC Development Board (not provided).
3. Insert SD memory card into the back of the ZedBoard.

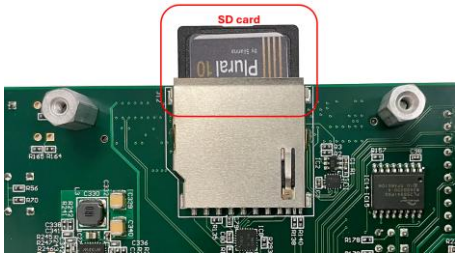

Figure 1: Backside of the Digilent Zedboard

4. Make sure that the power supply switch for the ZedBoard is in the OFF position. Verify that jumper J18 is set to 2.5V, jumpers MI02, MI03, MI04, MI05 and MI06 are set to GND, GND, 3v3, 3v3 and GND, respectively.

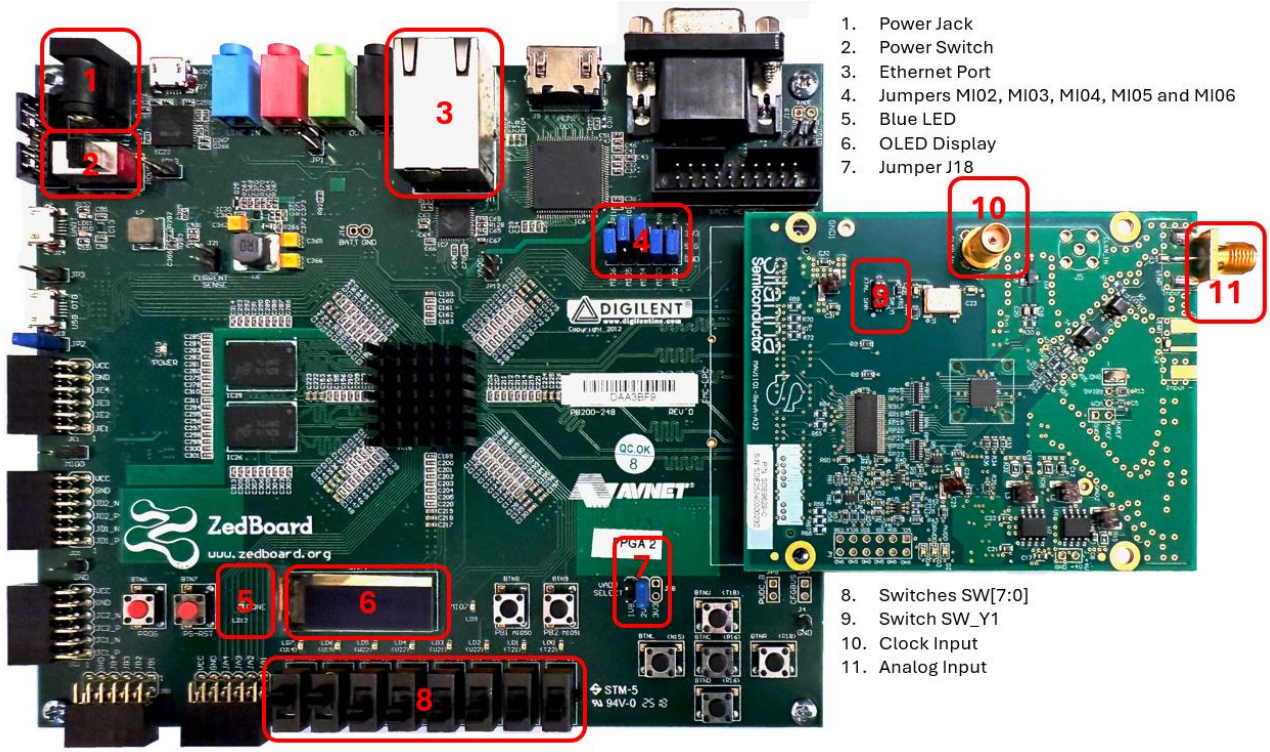

Figure 2: Top view of Silanna's Plural SDEVK board.

5. Plug the SDEVK into the Digilent ZedBoard FMC connector.
6. Connect the analog and clock inputs, ethernet cable and power cable into the ZedBoard.
7. Make sure that SW_Y1 is set to XTAL.
8. Turn on the power to the ZedBoard.
    a. The blue LED should quickly turn on, indicating that the FPGA is booting correctly (if not, make sure that the SD card is properly inserted).

b. The display will show the state of the board booting up and will finish with a displayed IP address (the booting process can take up to 80 seconds).

Figure 3: GUI EVK IP address.

9. The FPGA board can be connected to a LAN via ethernet switch or via point-to-point connection to a PC.
10. Open a web browser and type the IP address shown on the display in the address bar.
    c. The FPGA will test for the availability of a DHCP server and try to get an IP address. If this fails, the FPGA will assume a local network identity and the IP address will be 192.168.0.xx, where xx = 10+SW[5:3]. Make sure that the PC has been configured to be part of the same sub-network.
    d. In case multiple SDEVKs are used at the same time, the lower 3 bits of the MAC address can be selected using SW[2:0].
    e. Changing the switches will require a reboot of the FPGA board.
11. Once the connection is established, the webGUI page, shown below, should appear on the screen.

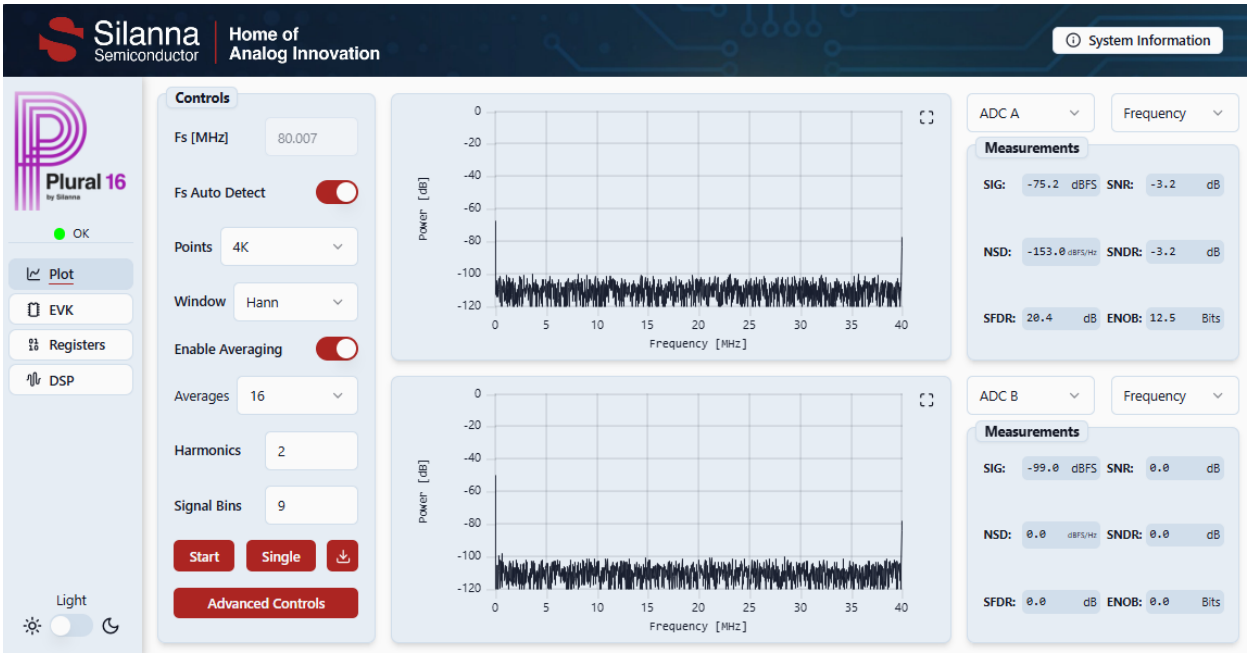

Figure 4: GUI Start-Up page.

12. Click on System Information→Links to access the latest firmware, data sheet and the EVK User's Guide.

Socket Access

The EVK supports direct register access and data capture via a network socket, bypassing the webGUI. This method allows longer data captures, precise control over capture trigger timing, and integration into a custom test environment. The root of the SD-memory card (or the .zip file, if loaded from Silanna's web site) includes a folder named *tools*, which contains Python and MATLAB scripts. These provide functions for connecting to the EVK and examples for reading/writing control registers and performing data captures.

NOTE: Any active data capture using the webGUI should be paused before using the socket interface.