



Getting Started with AMD Embedded Development Framework (EDF) using Pre-built Images

This How-To Video Covers . . .



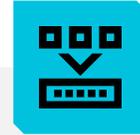
Introduction to
AMD EDF



Set up the AMD
Versal™
VEK385 Board:
Connect to
Board System
Controller



Download and
Flash OSPI, SD
Card: Boot into
EDF Linux®



Load Prebuilt
Application in
EDF Linux



Explore
Application
Running on
Board Using
Python™ Script



AMD Embedded Development Framework

Open-Source



- Non-proprietary tooling
 - Long-term flexibility
 - Handoff to an Operating System vendor
- Broad ecosystem of compatible extensions and developer tools
 - Yocto Project™
 - Easy integration into existing open-source environments

Complete Solution Stack



- Embedded SW flows with pathways to deployment
 - Develop HW & SW independently
- Pre-configured system images
 - Feature rich, turnkey evaluation
 - Advanced flows

Fast Development



- Easy build flows for complex systems
 - CED-based hardware projects
- Yocto Project-based Software and images

Follow Along:

Requirements

- 1 AMD Versal™ Evaluation Kit with latest system controller firmware

- 2 EDF Linux® BSP Disk Image: Prebuilt Linux image

- 3 OSPI boot firmware: Bootloader (Only for Multi-stage Boot)

- 4 gpio-bram-test: Python™ file for exploring prebuilt PL firmware application

- 5 Serial Terminal emulator (PuTTY/screen)

Text-based Guide

Discovery and Evaluation: AMD Versal Device Portfolio

AMD EDF Boot Flows Support

All boot and configuration options are supported with EDF tools

Single stage, multistage

All boot devices – JTAG, QSPI, OSPI, SDCARD, eMMC, UFS

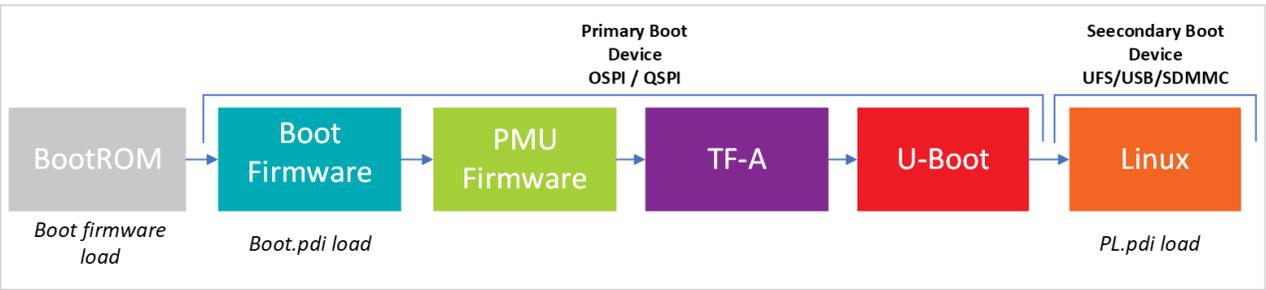
Segmented configuration, monolithic configuration

Advanced – PCIe®, GbE, Tandem Boot

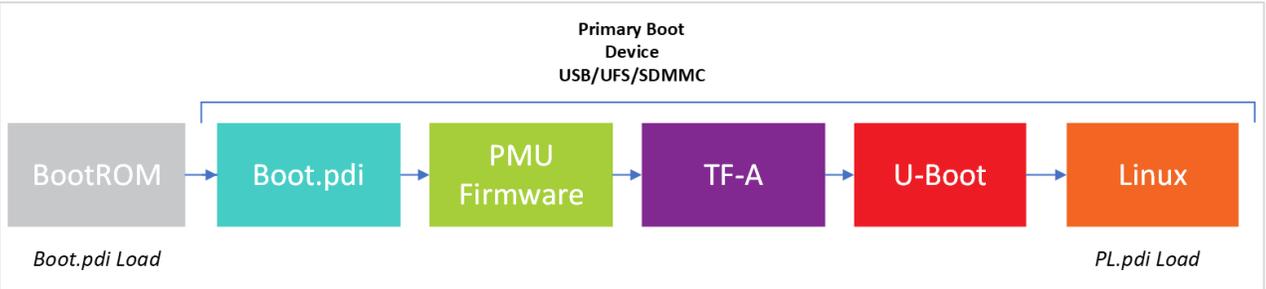
Default boot architecture for EDF Linux® BSP



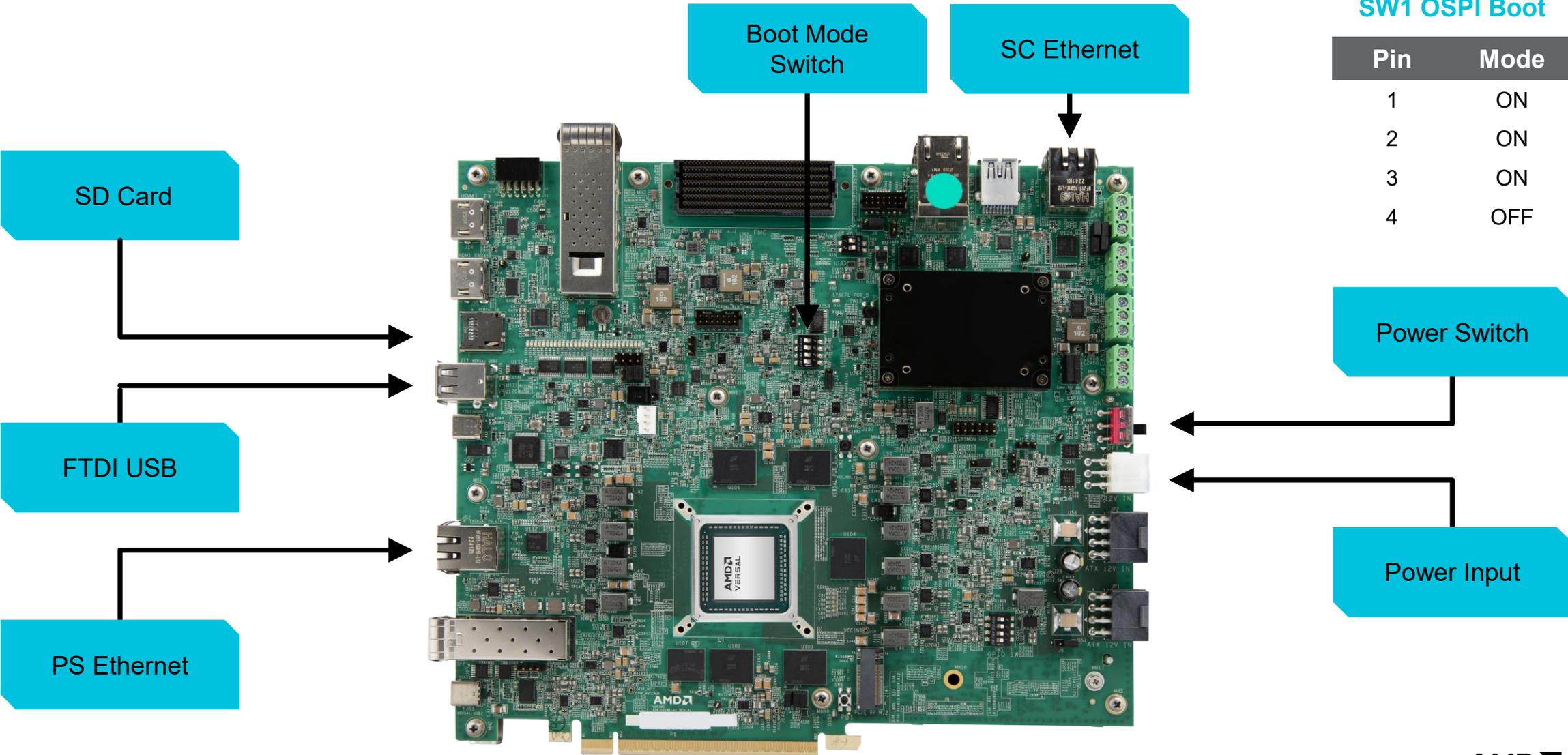
For AMD Versal™ AI Edge and Prime Series Gen 2: **Multistage boot with deferred PL load**



For the first-generation Versal devices and previous architectures (including the AMD Zynq™ portfolio): **SD card boot with deferred PL load**



Board Setup: AMD Versal™ VEK385 Board



SW1 OSPI Boot

Pin	Mode
1	ON
2	ON
3	ON
4	OFF

Watch the full Demo video

<https://www.amd.com/en/products/software/adaptive-socs-and-fpgas/embedded-software/embedded-development-framework.html#resources>

Summary - What We Just Showed

1

Download required images for AMD EDF

2

Set up AMD VEK385 and program OSPI flash with downloaded boot firmware using BEAM GUI

3

Flash SD card with EDF Linux® BSP Disk Image

4

Boot EDF Linux from the SD Card

5

Load prebuilt PL firmware application using “dfx-mgr-client” command

6

Explore prebuilt PL firmware application using the provided Python™ program

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