Setting FMC Vadj of ZCU111 for CON-FMC

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Abstract

This document addresses how to set FMC Vadj of Xilinx ZCU111 board.

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1 Introduction

CON-FMC only supports Vadj voltage from 1.8V to 3.3V. CON-FMC has an IPMI EEPROM on board, which contains a set of computer interface specifications including FMC Vadj. It is expected carrier board to use the voltage that is specified in the IPMI EEPROM, but some carrier board does not compile with this.

Xilinx ZCU111 board must be configured to drive FMC Vadj 1.8V as follows.

2 Windows: System Controller

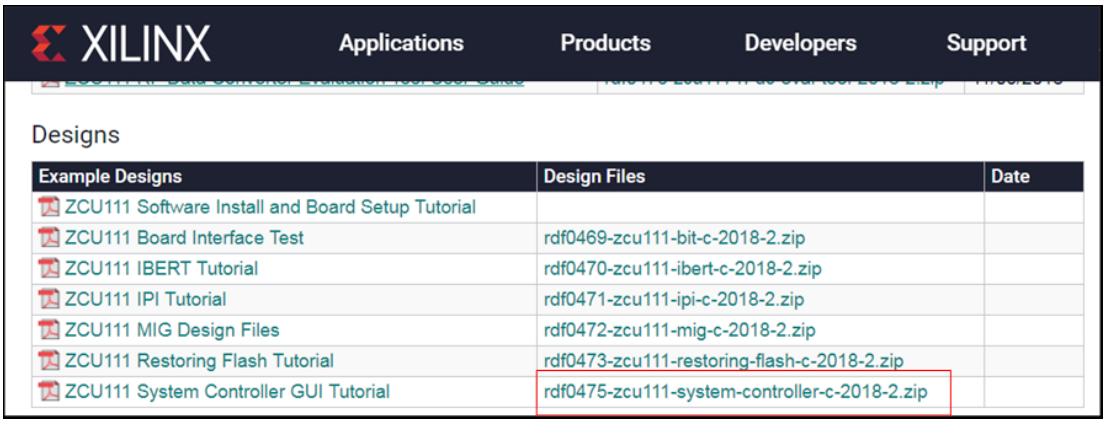
This step modifies configuration at boot stage by on-board system controller.

2.1 Get “ZCU111 System Controller GUI Tutorial” package

Visit Xilinx web-site and search one of followings.

- ZCU111 System Controller GUI Tutorial
- rdf0475

And then download 'rdf0475-zcu111-system-controller-c-2018-2.zip'.



2.2 Connect USB-to-JTAG to the computer

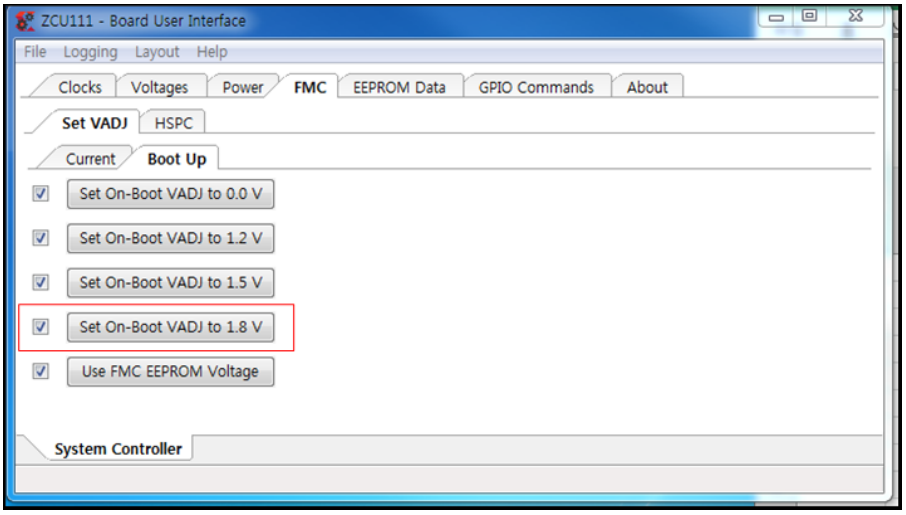
Connect ZCU111 board to the computer through USB port J83.

2.3 Decompress the ZIP file

Decompress the ZIP file and then invoke BoardUI.exe. Then select 'ZCU111'.

2.4 Select 1.8V for VADJ

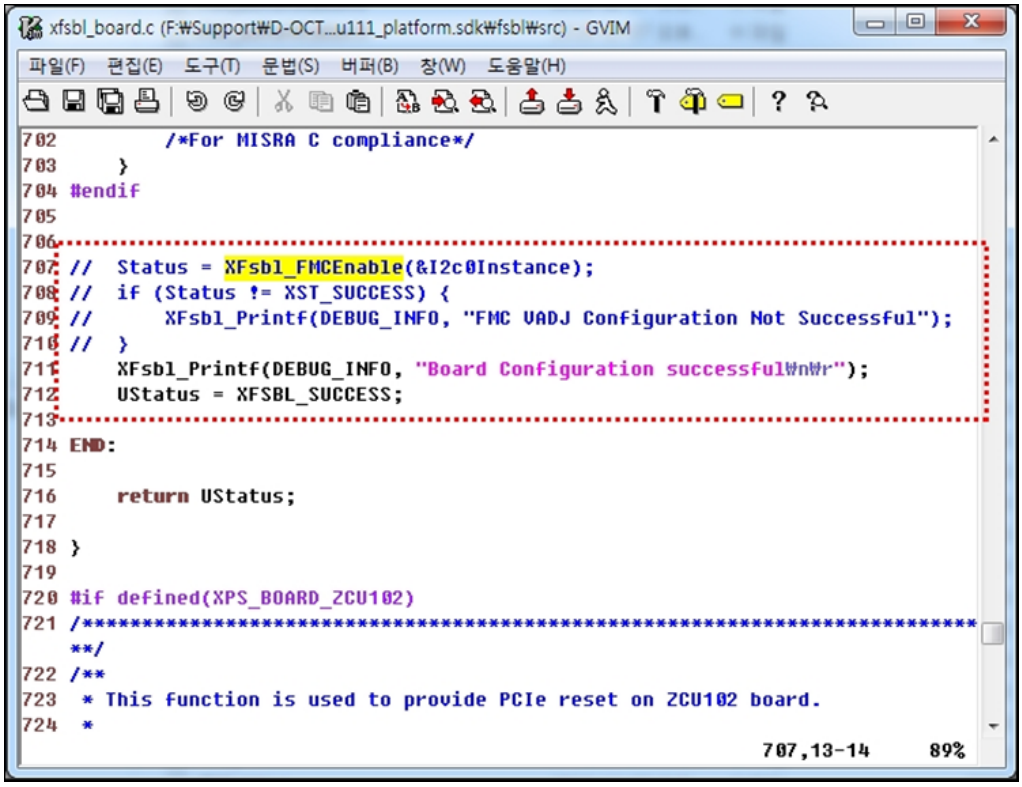
Select 'Set On-Boot VADJ to 1.8V' from 'FMC->Set VADJ->BootUp' menu tab.



3 FSBL

When ZCU111 board brings up using uSD Card, FSBL should set board as expected, but current FSBL for ZCU111 may not be properly prepared yet, so makes FSBL skip the step to configure FMC board voltage.

This code makes ARM in the PS of carrier board not to set FMC_Vadj at the step of FSBL. This means the system controller should take care of FMC_Vadj as described previous section. Following code shows how to modify FSBL code; simply comment out the code.



4 References

[1] Xilinx, ZCU111 Evaluation Board, User Guide, UG1271, 2018.

[2] Xilinx, ZCU111 RFSoC RF Data Converter Evaluation Tool Getting Started Guide, https://xilinx-wiki.atlassian.net/wiki/spaces/A/pages/57606309/ZCU111+RFSoC+RF+Data+Converter+Evaluation+Tool+Getting+Started+Guide

[3] Xilinx, Package Location ZCU111, https://xilinx-wiki.atlassian.net/wiki/spaces/A/pages/136085583/Package+Location+ZCU111

Revision history

☐ 2019.06.15: Started

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