

Self-boot Programmer

ADAU1450, ADAU1451, ADAU1452

This document describes how to utilize SigmaStudio to write a SigmaDSP (ADAU1450, ADAU1451, ADAU1452) self-boot program to an external memory device. SigmaStudio version 3.9 or newer is required.

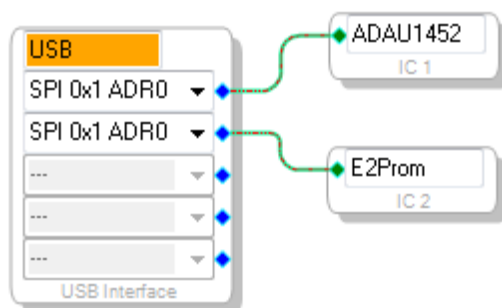
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To submit questions or comments concerning this document, contact us at sigmadsp@analog.com

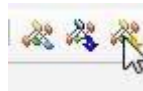
Self-boot Program Generation and Download

SigmaStudio provide a DSP program which allows a self-boot program to be written to an external EEPROM or flash memory device via the slave control port and through the DSP core. Both SPI and I²C devices are supported. The memory device must be sufficiently large to accommodate the program and parameter data which depending on the device and project algorithms requires up to 1.5Mbit or memory.

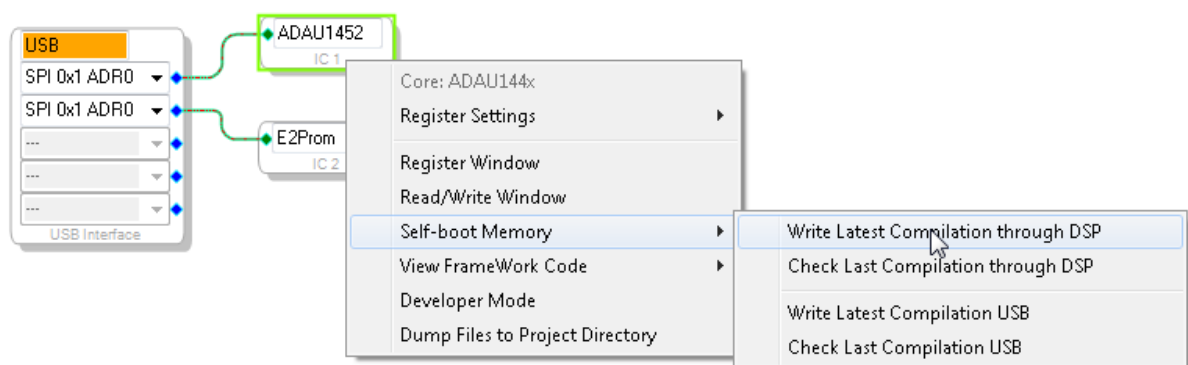
1. In the hardware configuration tab, add an E2Prom IC to the USBi Interface.



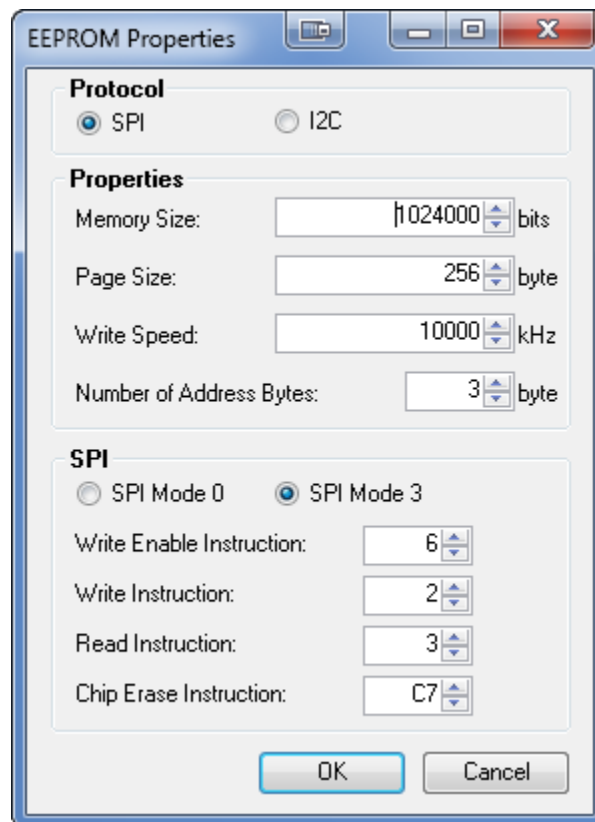
2. Link-Compile-Download the project (F7)



3. Right click the ADAU145x cell and select "Self-boot Memory | Write Latest Compilation through DSP".



4. Set the appropriate protocol and properties for the EEPROM or flash memory in use. The settings shows below are for the 25AA1024 included on the eval-adau145x_lite evaluation board. Note, the programmer will attempt a chip erase instruction before writing the self-boot program. If you do not wish to erase the memory device, enter an alternate command (such as write enable) in the "Chip Erase Instruction" field to prevent chip erase.



5. Press the "OK" button and wait for the self-boot program to be written to the external device. SigmaStudio will download a program to the DSP which implements memory writing. When complete the current project will be re-downloaded to the DSP.

6. Set SELFBOOT pin low (if not already) and reset the part (either by power cycle, reset pin, or soft-reset register) to initiate self-boot.