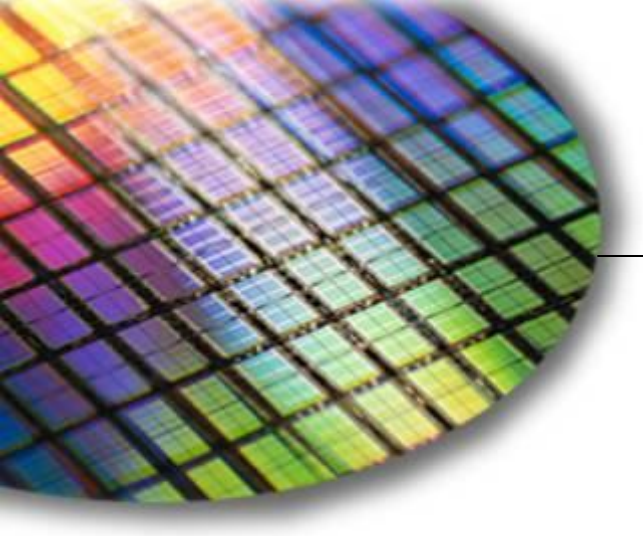


The World Leader in High Performance Signal Processing Solutions

Combine SS4SH & CCES projects to LDR file

Henry.Long@analog.com

0755-82023247

ANALOG DEVICES

Our goal:

- 1. Run SS4SH without the USBi hardware, or
- 2. Run SS4SH from the FLASH

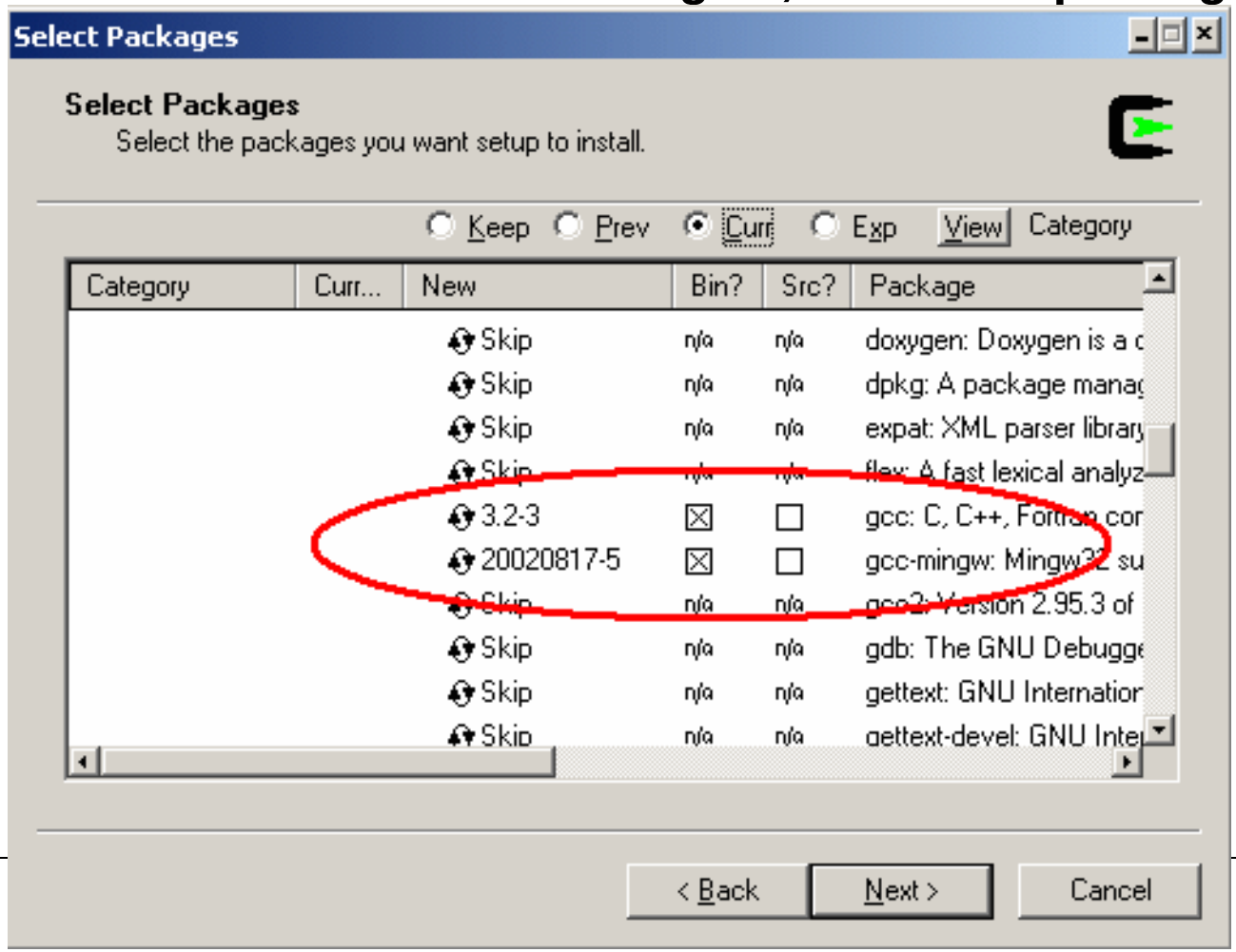
Preparation:

- 1. SS4SH develop environment installed
- 2. USBi hardware ready
- 3. Cygwin downloaded and installed
  - Online install from www.cygwin.com
  - install guide: http://hi.baidu.com/www100/item/b79723f239cf9449932af29f

ANALOG DEVICES

Cygwin install tips:

- **Cygwin's basic package doesn't install *binutils / gcc / gcc-mingw*, then you should change the default setting.**
  Click the Devel class and locate the gcc , make etc. packages as below:



STEP 1: Convert the exported files to required format

- 1. Connect the USBi to the PC correctly.
- 2. Open the *SS4SH* project and compile it successfully.
- 3. Export the system file using "Action → Export System Files" menu.
- 4. Give test as the file suffix for the above dialog box.
- 5. Open Cygwin shell and go to 'utility' directory in the demo folder.
- 6. Copy all the exported files to the 'utility' folder.
- 7. Type *make SWC "EXPORT_FILE=test_IC_1".*
- Assembly file ss_code_param.asm will be generated in the same folder. It contains code and parameter for next step.

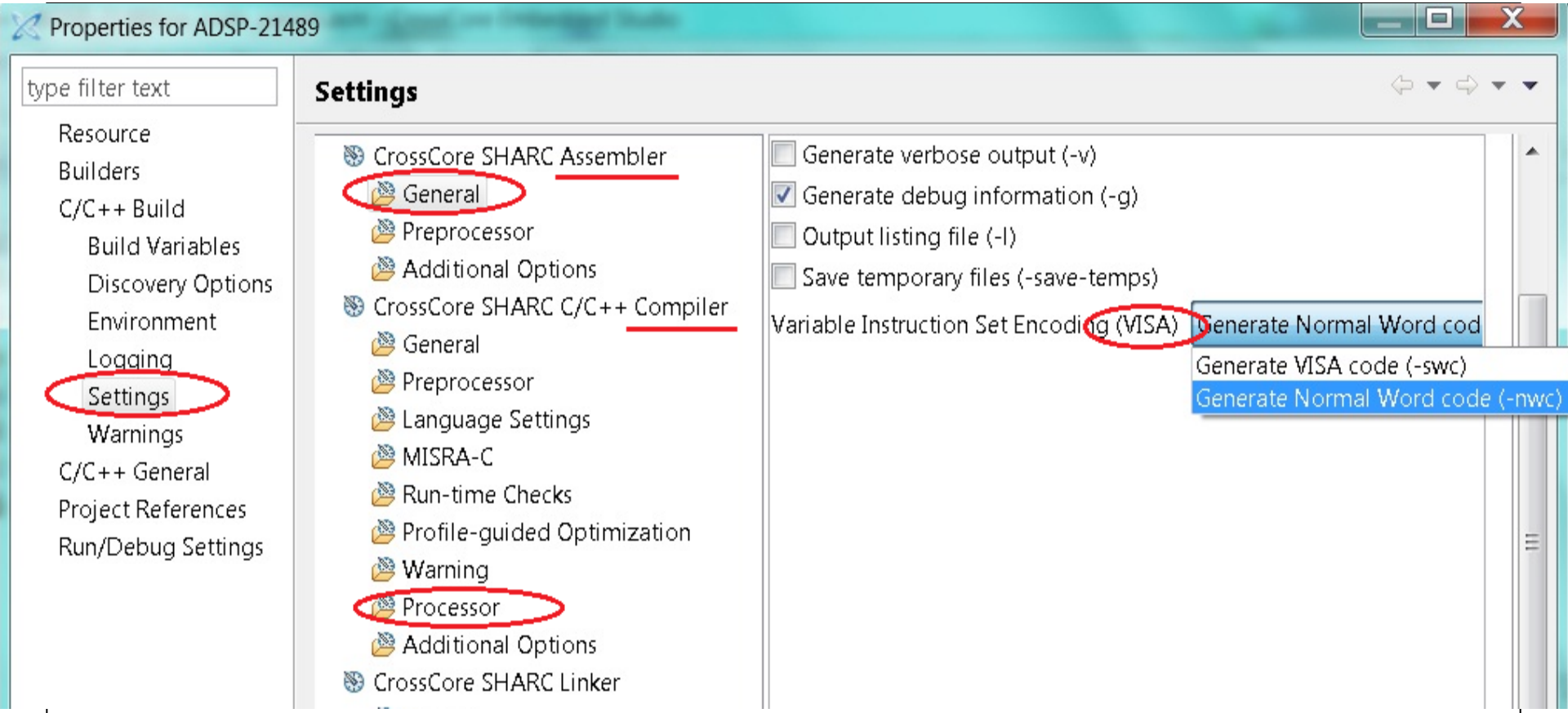
Cygwin command lines

- …
- HLong@HLONG-L01 /cygdrive/c/ss4sharc_no_download/ss4sharc
- $ cd utility
- HLong@HLONG-L01 /cygdrive/c/ss4sharc_no_download/ss4sharc/utility
- $ dir
- export2sharc.c Makefile test.hex test_IC_1_PARAM.h
- export2sharc.exe SigmaStudioFW.h test.params test_IC_1_REG.h
- export2sharc1.c ss_code_param.asm test_IC_1.h
- HLong@HLONG-L01 /cygdrive/c/ss4sharc_no_download/ss4sharc/utility
- $ *make NWC "EXPORT_FILE=test_IC_1"*
- rm -rf export2sharc.exe
- rm -rf ss_code_param.asm
- rm -rf export2sharc1.c
- sed 's/sample3_IC_1/test_IC_1/g' export2sharc.c > export2sharc1.c
- rm -rf export2sharc.exe
- gcc export2sharc1.c -o export2sharc.exe
- ./export2sharc.exe 0 > ss_code_param.asm
- HLong@HLONG-L01 /cygdrive/c/ss4sharc_no_download/ss4sharc/utility
- $

STEP 2: Modify the app to incorporate the code and parameter buffers

- 0. Use example project in SS4SH folder:
  ..\SigmaStudioForSHARC-SH-Rel2.0.0\Target\Demo\ADSP-21489
- 1. Edit the example file *app.c* to remove memory allocation for code (~~adi_ss_mem1~~) and Parameter (~~adi_ss_mem5~~).
- 2. Change the SPI ID in the communication instance config to *SELECT_SPI0_NO_WAIT*.
- 3. Set *oSSnConfig.bSkipInitial* Download to '*1*'.
  - This will skip the initial download.
- 4. Copy and include ss_code_param.asm to the CCES project.
- 5. Check/setting the *VISA mode* in the project properties (see more in next page).
- 6. Include *adi_sigma_sharc.ldf* to the CCES project (in the folder of ../target/ldf folder).
- 7. Build the project to generate a LDR file.

Project option setting



STEP 3: Loading the LDR from the FLASH

- 1. Write the LDR file to the parallel FLASH using VDSP's '**FLASH Programmer**'.
  - Pre-program erase option: "Erase Affected"
  - File format: Binary
  - Offset: 0x00.
- 2. Modify the SW4 switch on the EVM board from position '***0***' to '***1***'.
- 3. Reset the board.

For more:

- Doc : http://ez.analog.com/docs/DOC-2711
- FAQ: http://ez.analog.com/message/87397

Good Luck! ☺

ANALOG DEVICES