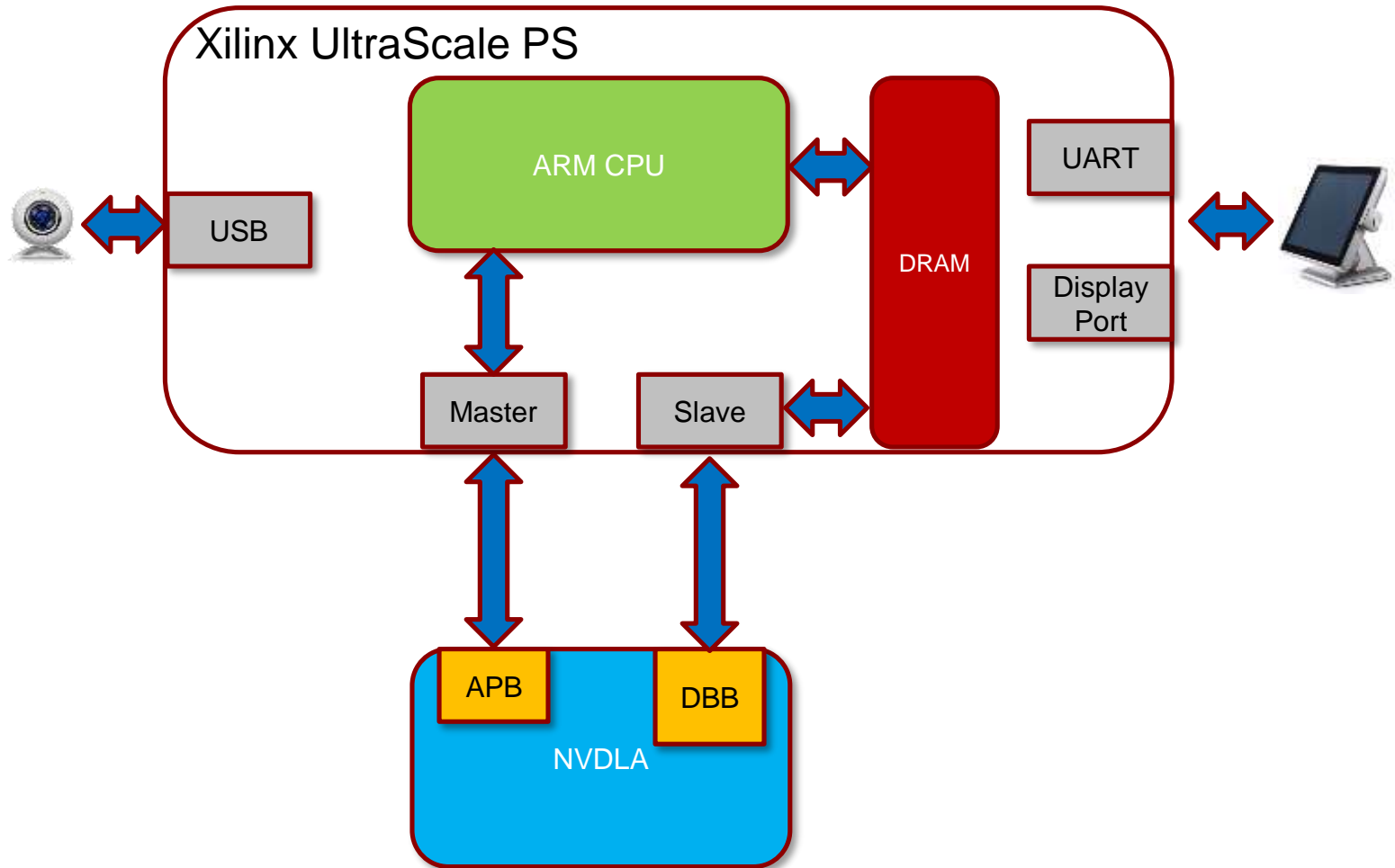


ITRI

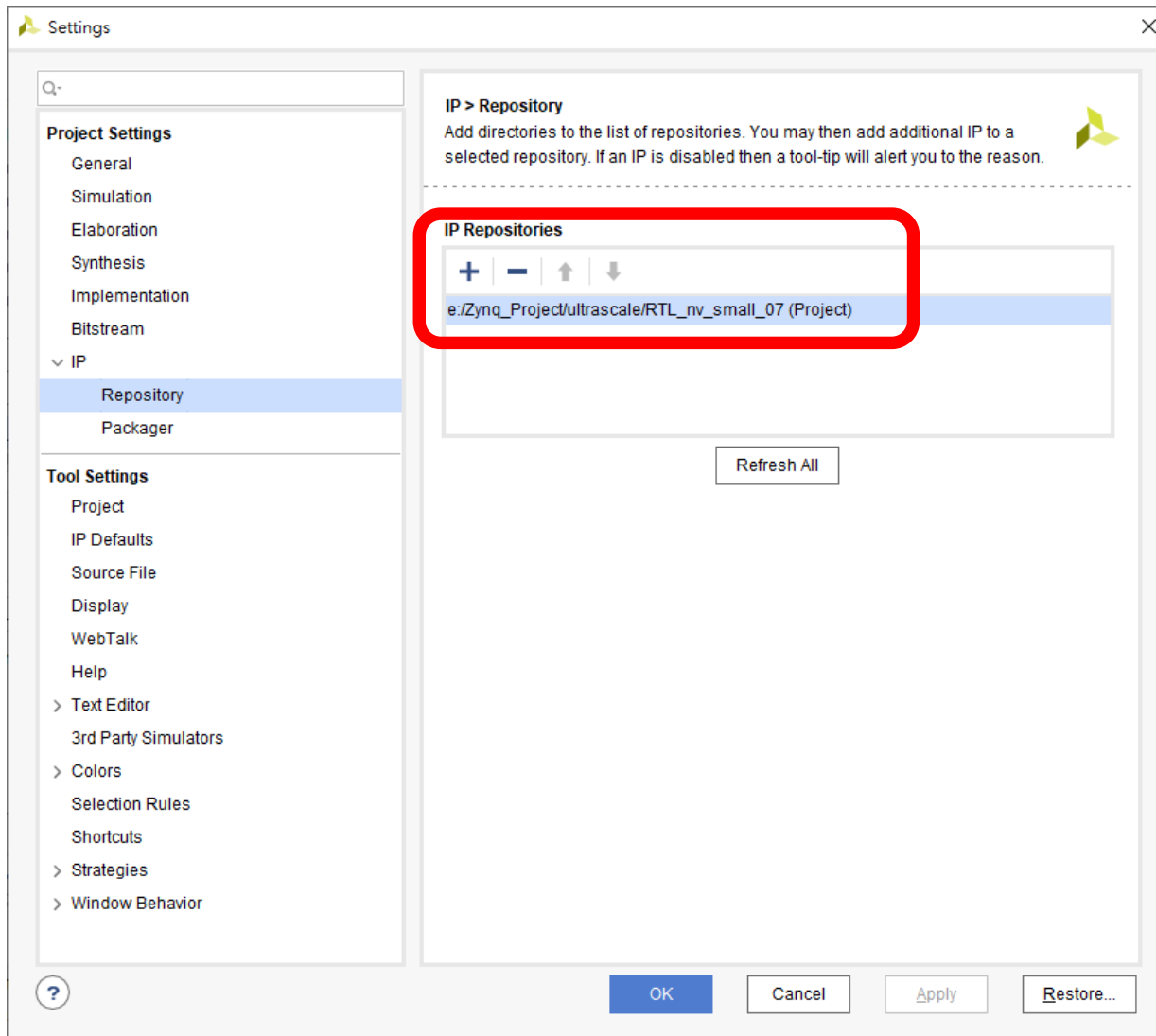
Industrial Technology
Research Institute

nsmall64 FPGA

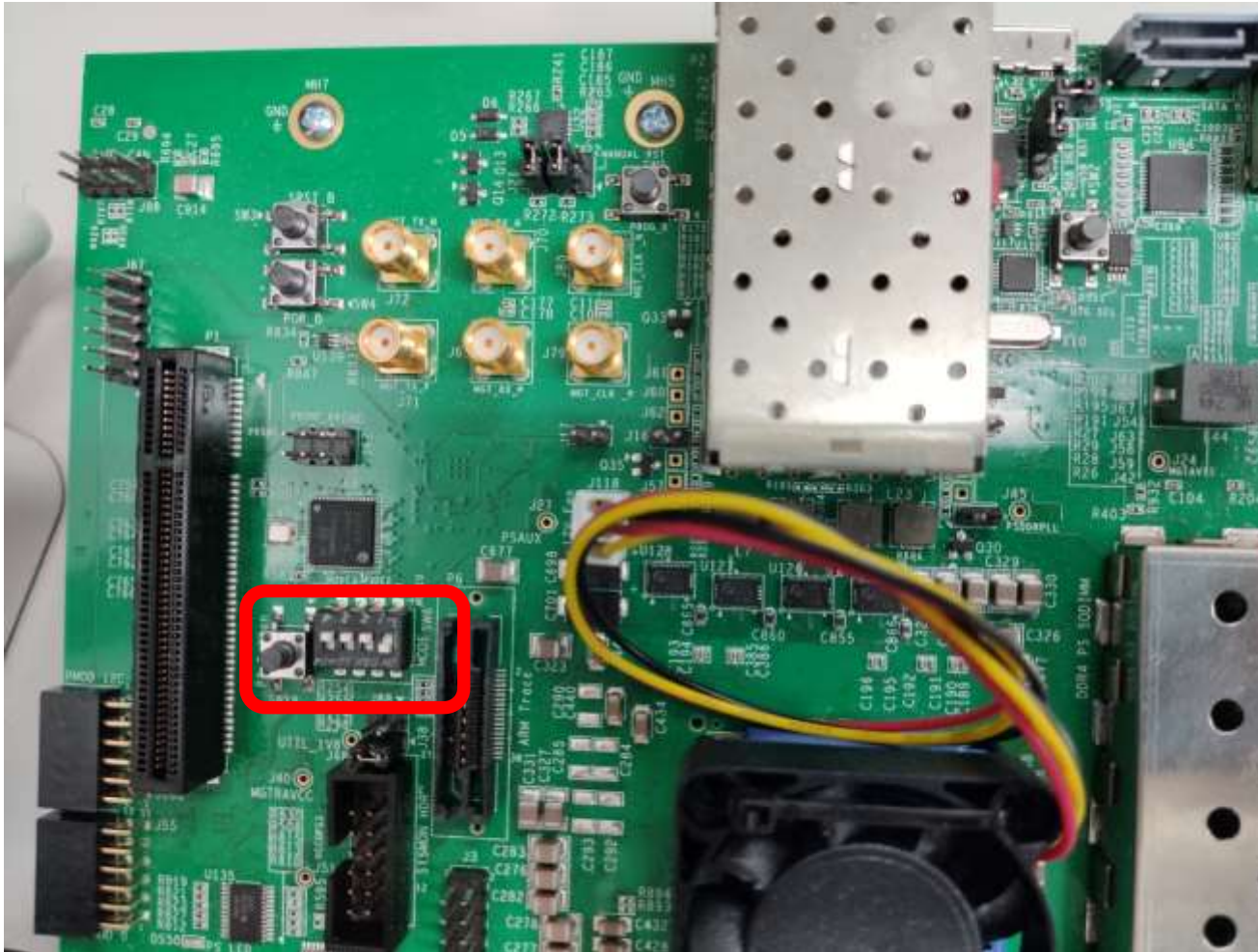
NVDLA FPGA System Architecture



IP Repository

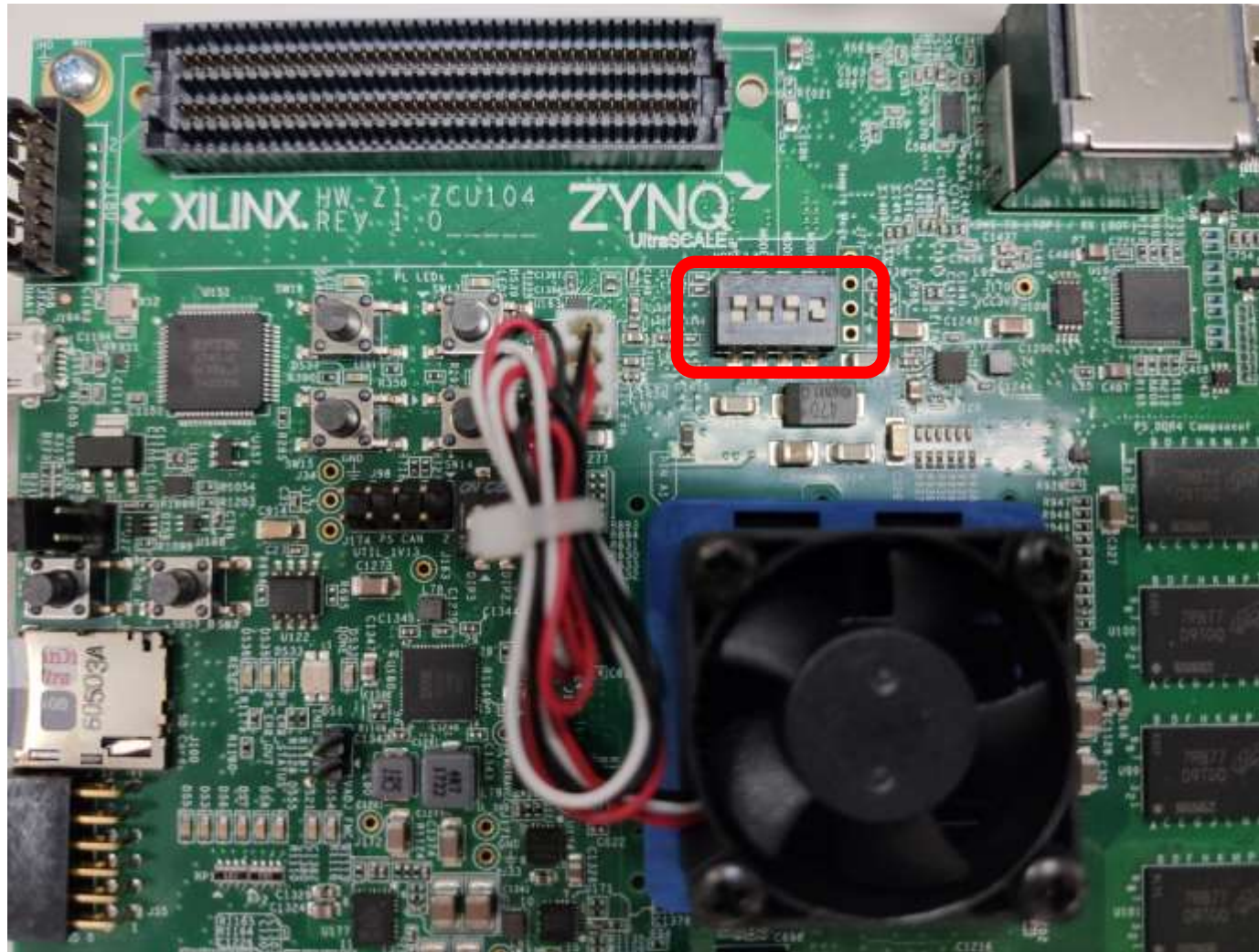


ZCU102 FPGA Jumper Setting



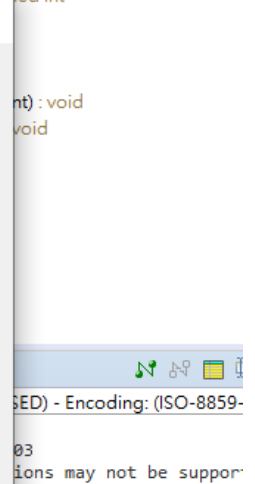
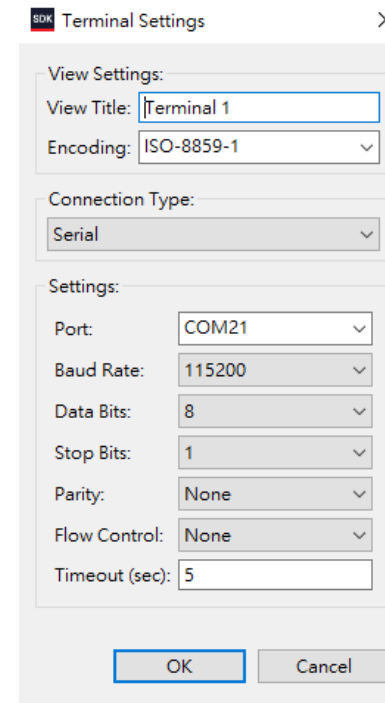
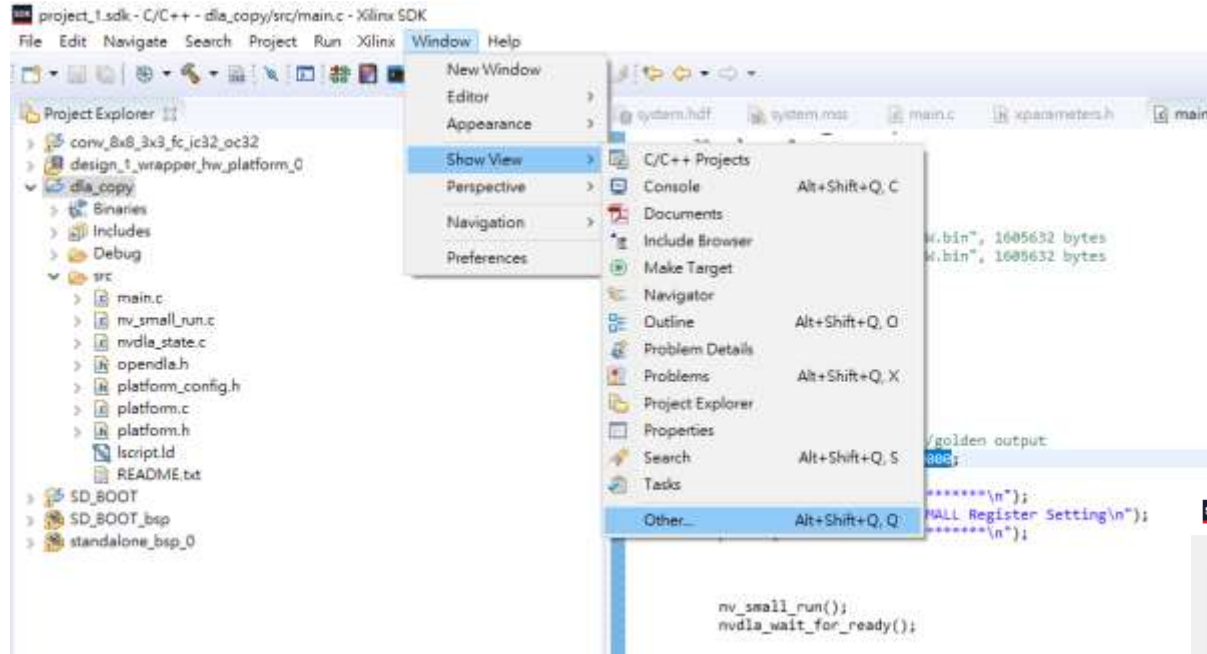
- SD Boot Mode

ZCU104 FPGA Jumper Setting



- SD Boot Mode

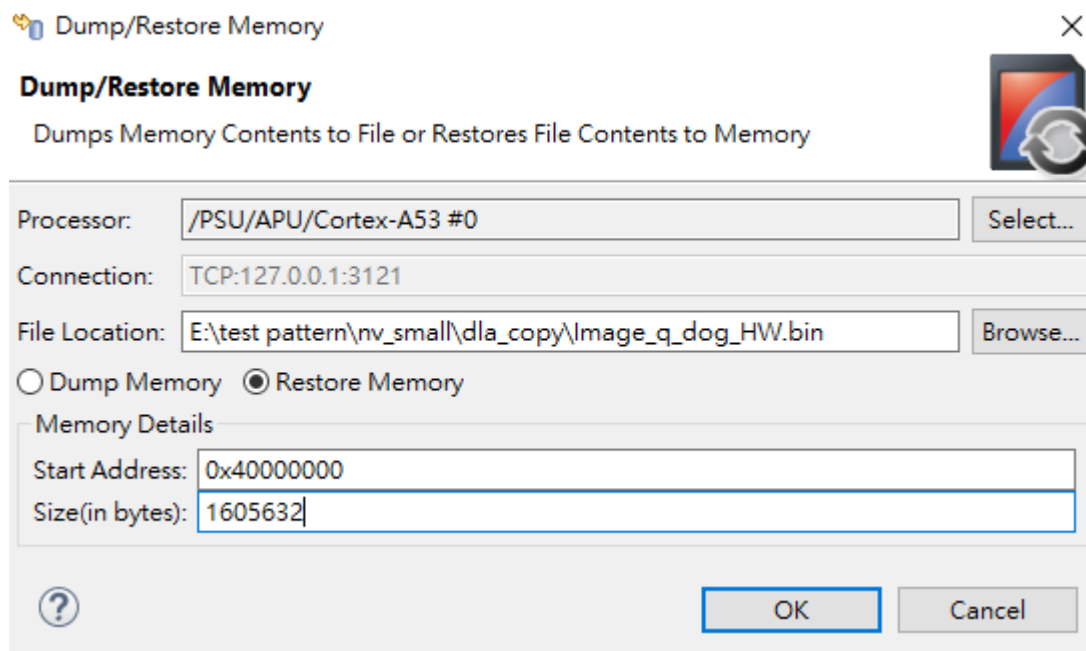
SDK Opening Terminal



Dla copy

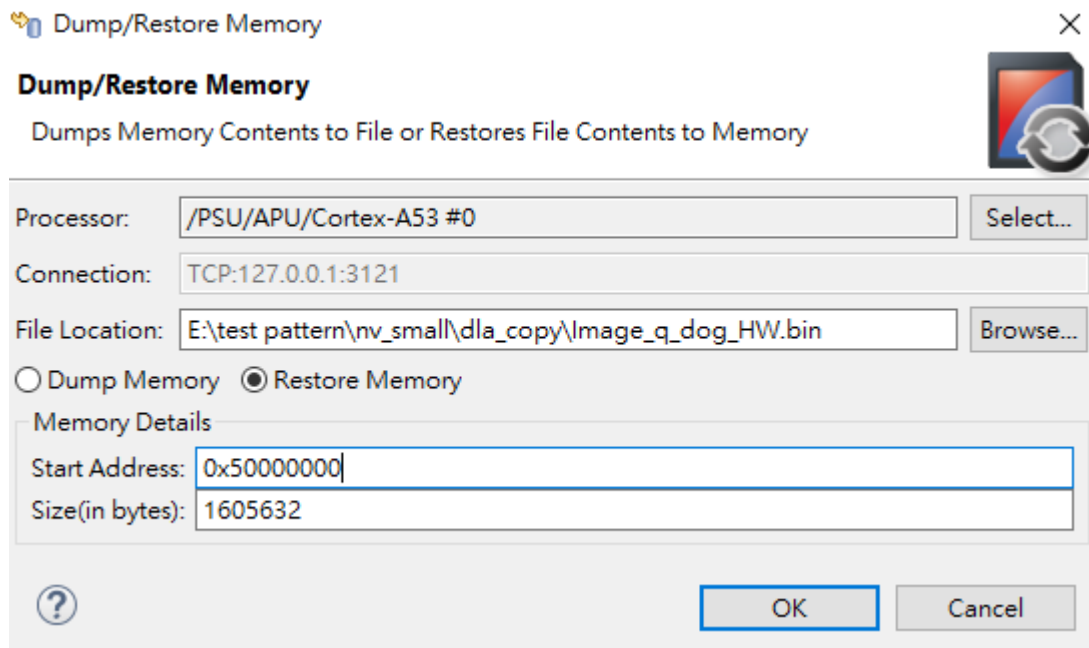
- nvsmall64 will transfer data(Image_q_dog_HW.bin) from 0x40000000(Source) to 0x40200000(Destination)
- And compare with 0x50000000 (Golden) and 0x40200000(Destination)

Dla copy : Restore Memory - 1



- SDK :Xilinx --> **Restore** Memory --> Image_q_dog_HW.bin to Start Address : 0x40000000 (Source)

Dla copy : Restore Memory - 2



- SDK :Xilinx --> **Restore** Memory --> Image_q_dog_HW.bin to Start Address : 0x50000000 (Golden)

Dla copy : Run Configuration

SDK Run Configurations

Create, manage, and run configurations

Run or Debug a program using System Debugger.

Name: System Debugger using Debug_dla_copy.elf on Local

Target Setup | Application | Arguments | Environment | Symbol Files

Hardware Platform: design_1_wrapper_hw_platform_0

Bitstream File: design_1_wrapper.bit

Initialization File: psu_init.tcl

FPGA Device: Auto Detect

PS Device: Auto Detect

Summary of operations to be performed

Following operations will be performed before launching the debugger:

- The following processors will be reset and suspended.
 - psu_cortexa53_0
- All processors in the system will be suspended, and Applications will be downloaded to the following processors as specified in the Application:
 - psu_cortexa53_0 (E:\e38\project_1.sdk\dla_copy\Debug\dla_copy)

Filter matched 7 of 10 items

Run

Dla copy : Program Compare

```

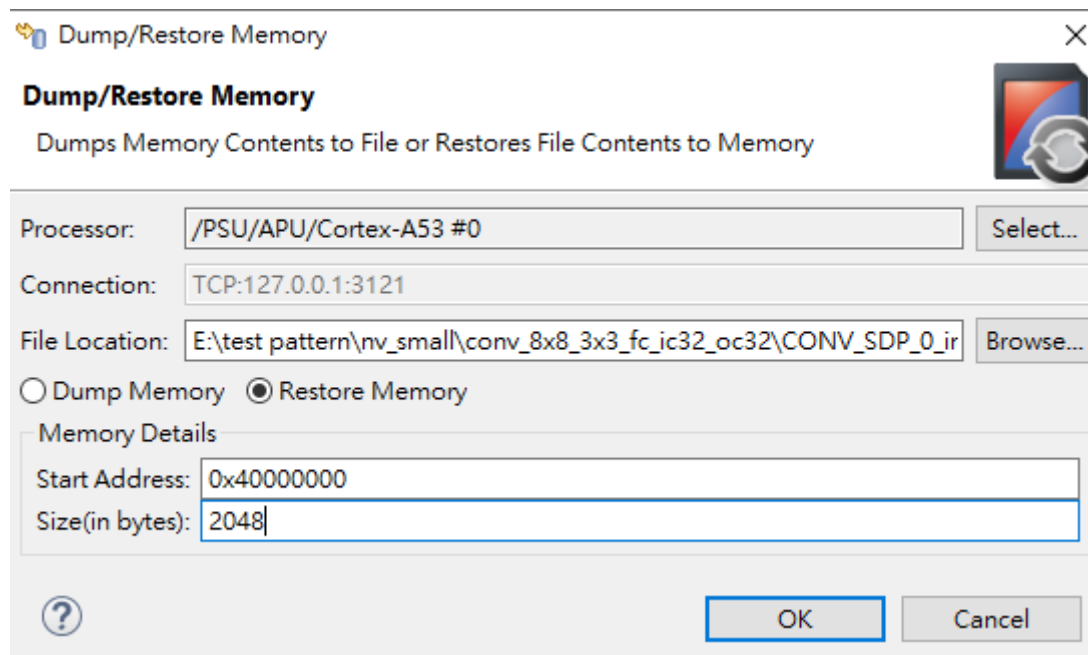
SDK Log Terminal 1
Serial: (COM21, 115200, 8, 1, None, None - CONNECTED) - Encoding: (ISO-8859-1)
Xilinx Zynq MP First Stage Boot Loader
Release 2018.3 Sep 9 2019 - 15:19:03
PMU-FW is not running, certain applications may not be supported.
*****
Begin NVDLA NV_SMALL Register Setting
*****
*****
Finish NVDLA NV_SMALL Register Setting
*****
DLA Copy Test Success
    
```

- program compare check 0x40200000 and 0x50000000 and see “DLA Copy Test Success” message in Terminal

conv_8x8_3x3_fc_ic32_oc32

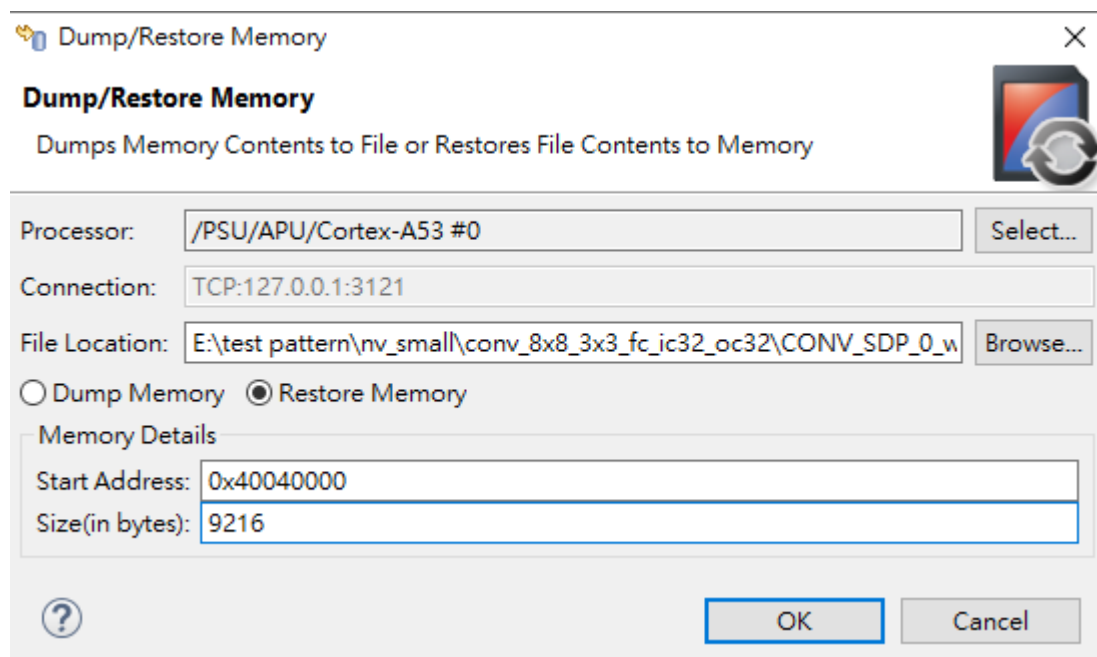
- nvsmall64 execute convolution operation and generate OFM : 6x6x32 at 0x40080000
- And compare with 0x40080000(OFM) and 0x50000000 (Golden OFM)

conv_8x8_3x3_fc_ic32_oc32 : Restore Memory - 1



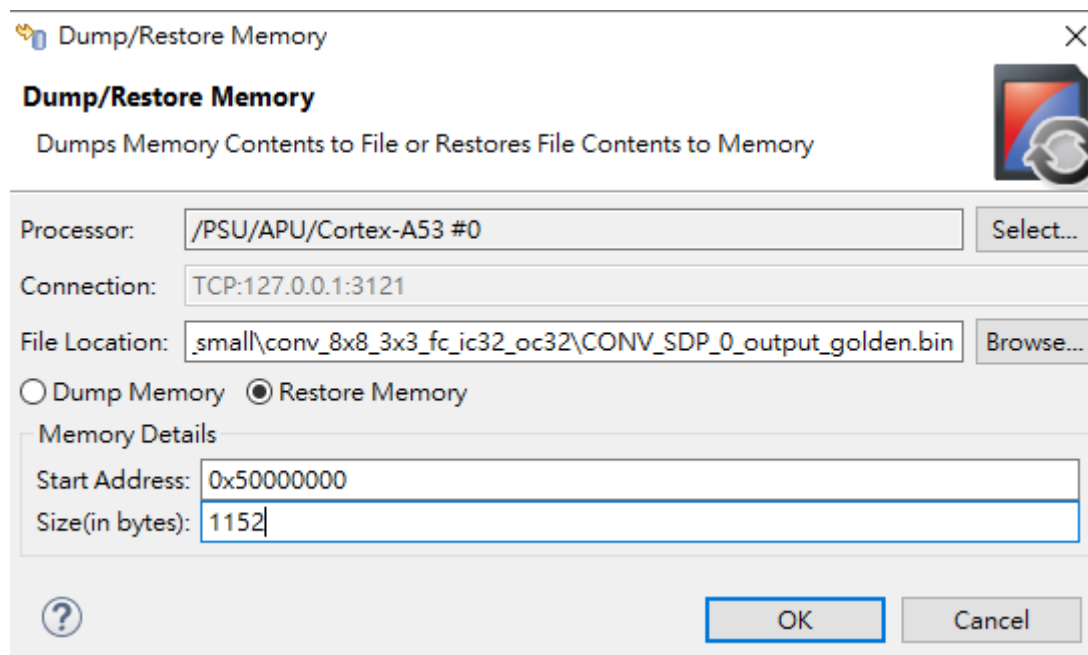
- SDK :Xilinx --> Restore Memory --> CONV_SDP_0_input.bin to Start Address : 0x40000000 (IFM)

conv_8x8_3x3_fc_ic32_oc32 : Restore Memory - 2



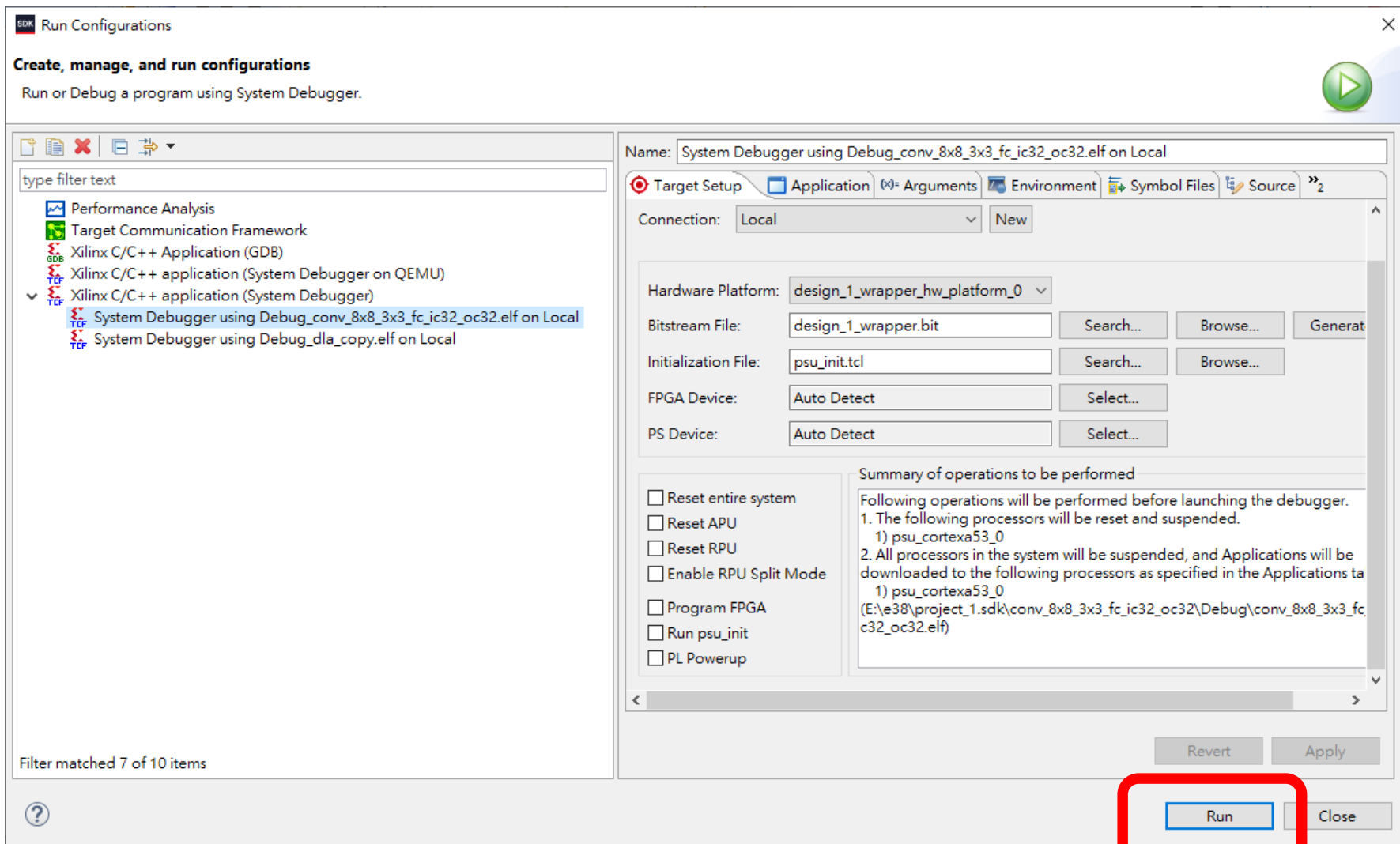
- SDK :Xilinx --> Restore Memory --> CONV_SDP_0_weight.bin to Start Address : 0x40040000 (Weight)

conv_8x8_3x3_fc_ic32_oc32 : Restore Memory - 3



- SDK :Xilinx --> Restore Memory --> CONV_SDP_0_output_golden.bin to Start Address : 0x50000000 (Golden OFM)

conv_8x8_3x3_fc_ic32_oc32 : Run Configuration



conv_8x8_3x3_fc_ic32_oc32 : Program Compare

```

SDK Log Terminal 1
Serial: (COM21, 115200, 8, 1, None, None - CONNECTED) - Encoding: (ISO-8859-1)
Xilinx Zynq MP First Stage Boot Loader
Release 2018.3 Sep 9 2019 - 15:19:03
PMU-FW is not running, certain applications may not be supported.
*****
Begin NVDLA NV_SMALL Register Setting
*****
*****
Finish NVDLA NV_SMALL Register Setting
Convolution Test Success
    
```

- program compare check 0x40080000 and 0x50000000 and see “Convolution Test Success” message in Terminal