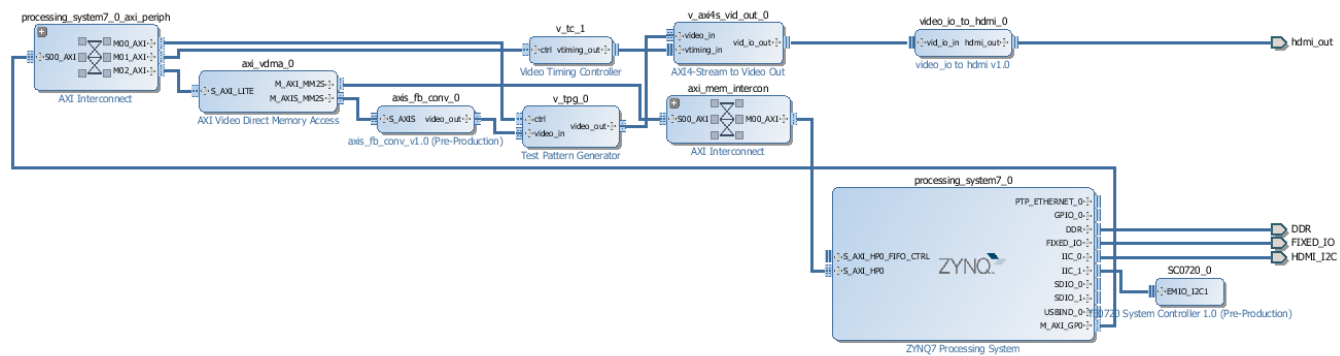


HDMI with ADV7511

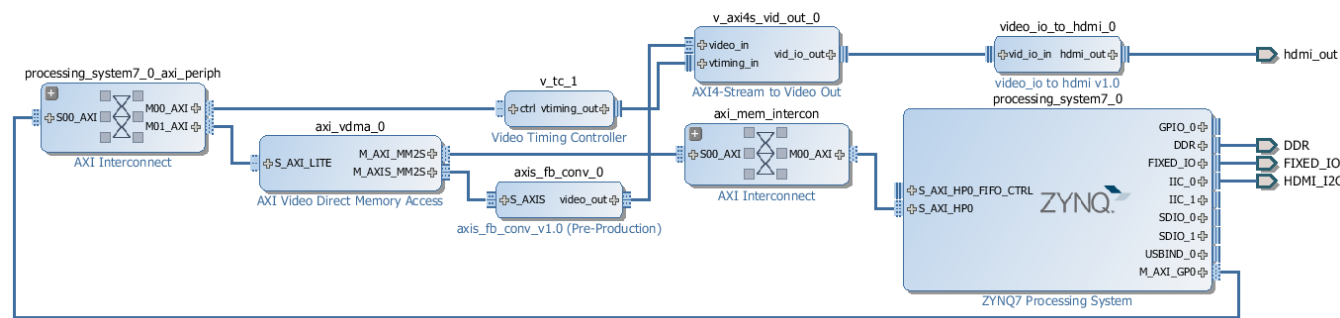
Test Platforms Supported by the design

SoM	Base	Vivado	Status
TE0720-02-2IF	TE0701-05	2014.4	released
TE0715-15	TE0701-05	2015.2	planned

Block Design



TE0720, Vivado 2014.4



TE0715, Vivado 2015.4 (TPG is removed from the design)

IP Cores used

	Vendor	License	Description
axis_fb_conv	TE	Free	Remap axi_vdma into linux framebuffer color format for axi4s_video_out
video_io_to_hdmi	TE	Free	
axi_vdma	Xilinx	Free	
axi4s_video_out	Xilinx	Free	
VTC	Xilinx	Free	Video timing generator, with AXI Control. Can be converted to fixed timing version to save resources
TPG	Xilinx	Free	Test pattern generator. Optional, can be removed from design

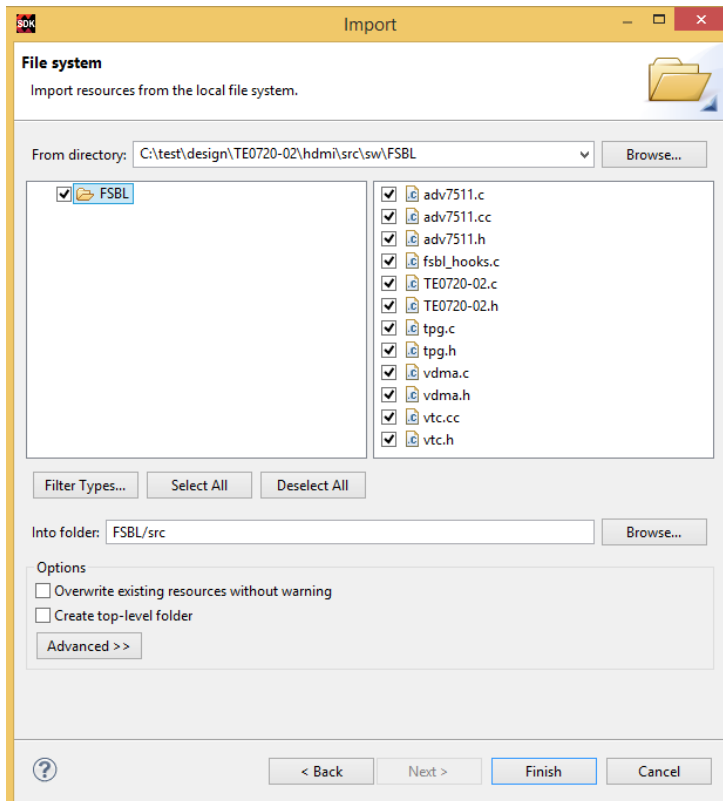
Software support

All initialization is done in FSBL, there is no extra software or drivers needed later. Linux simple framebuffer has to be enabled in devicetree.

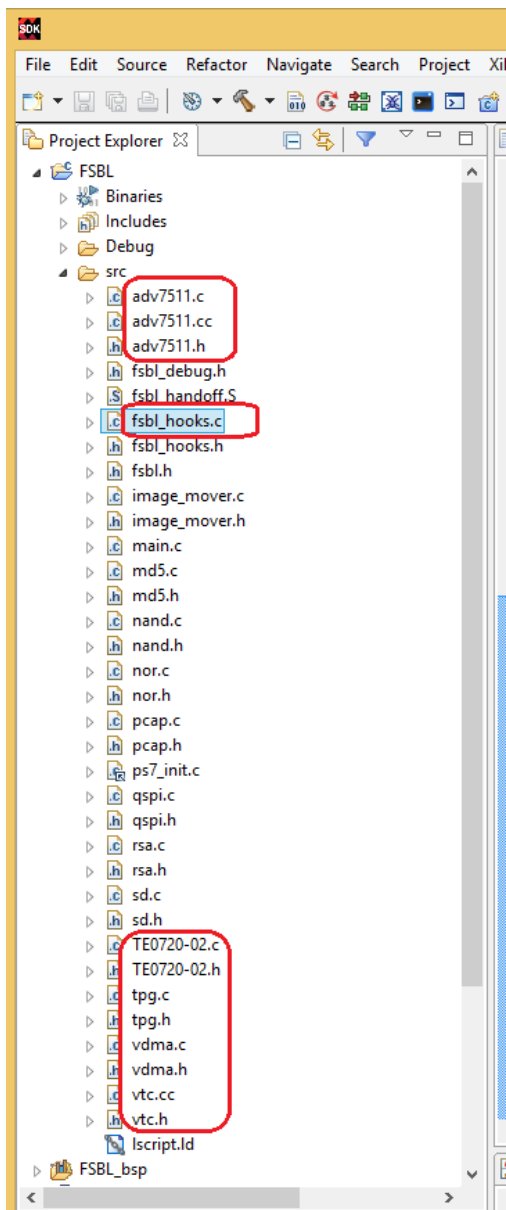


FSBL has to include all initialization for the ADV7511 and IP Cores.

To import the provided FSBL files:



All the initialization will be included, and the fsbl_hooks.c will be replaced.



Use the .elf file to create boot image.

Create Zynq Boot Image

Creates Zynq Boot Image in .bin and .mcs formats from given FSBL elf and partition files in specified output folder.

☐ Create new BIF file ☒ Import from existing BIF file

Import BIF file path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\FSBL.bif Browse

Output BIF file path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\FSBL.bif Browse

☐ Use Authentication

Authentication keys

PPK: Browse PSK: Browse

SPK: Browse SSK: Browse

SPK signature: Browse

☐ Use encryption

Encryption key:

Key file: Browse

Key store: ☒ BRAM ☐ EFUSE

Part name:

Boot image partitions

File path	Encrypted	Authentic	
(bootloader) C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\Debug\FSBL.elf	none	none	Add
C:\test\design\TE0720-02\hdm\proj\hdm.sdk\zsys_wrapper_hw_platform_0\zsys_wrapper.bit	none	none	Delete
			Edit
			Up
			Down

Output path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\BOOT.bin Browse

? Preview BIF Changes Create Image Cancel

Image format

This design configures the framebuffer in Linux simple framebuffer format a8r8g8b8, screen size 1280x720. Images can be converted to this format with ImageMagick.

```
convert splashscreen.jpg splashscreen.rgb
```

You can also use this file to do a test first: [test.rgb](#)

File extension should be changed to bin, then the file can be added to boot.bin as data file setting load offset to 0x38000000.

 Edit Partition ✕

Edit the boot image partition 

Edit the boot image partition

File path: Browse

Partition type:

Authentication: Encryption:

Checksum:

Presign: Browse

Other

Alignment: Offset:

Reserve: Load:

Startup:

? OK Cancel

SDK

Create Zynq Boot Image

×

Create Zynq Boot Image

BIF file already exists at the specified path and will be overwritten with the modified contents. Use 'Preview Bif Changes' button to view the changes in bif contents before overwriting.

☐ Create new BIF file
☒ Import from existing BIF file

Import BIF file path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\FSBL.bif

Browse

Output BIF file path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\FSBL.bif

Browse

☐ Use Authentication

Authentication keys

PPK:

Browse

 PSK:

Browse

SPK:

Browse

 SSK:

Browse

SPK signature:

Browse

☐ Use encryption

Encryption key:

Key file:

Browse

Key store: ☒ BRAM ☐ EFUSE

Part name:

Boot image partitions

File path	Encrypted	Authentic	
(bootloader) C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\Debug\FSBL.elf	none	none	Add
C:\test\design\TE0720-02\hdm\proj\hdm.sdk\zsys_wrapper_hw_platform_0\zsys_wrapper.bit	none	none	Delete
C:\test\design\TE0720-02\src\test.rgba	none	none	Edit
			Up
			Down

<

>

Output path: C:\test\design\TE0720-02\hdm\proj\hdm.sdk\FSBL\bootimage\BOOT.bin

Browse

?

Preview BIF Changes

Create Image

Cancel

FSBL would then preload the splash-screen image into framebuffer.