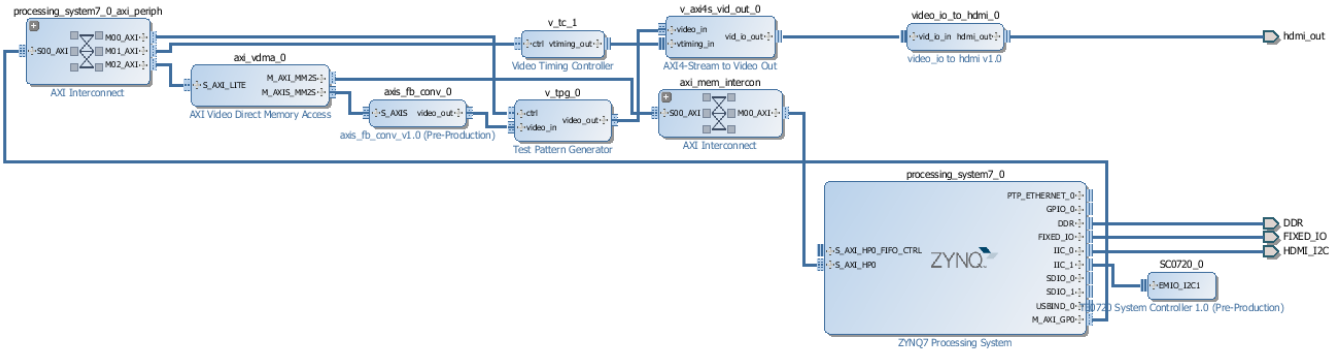
HDMI with ADV7511

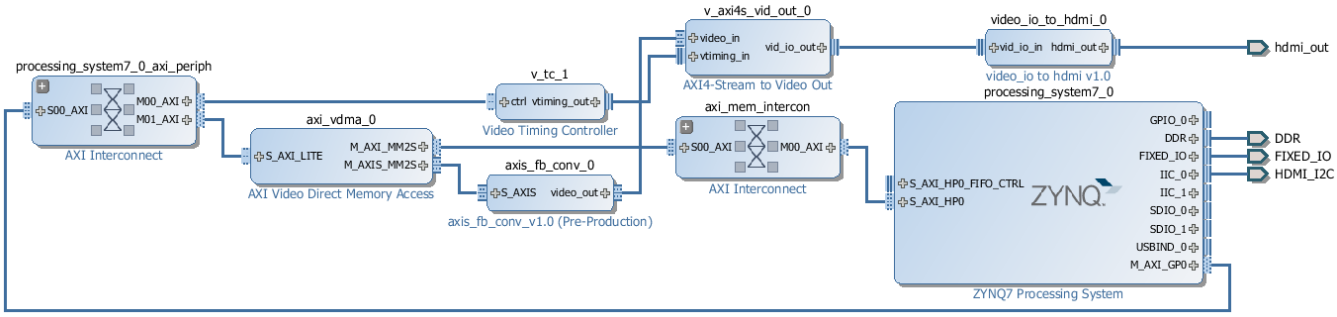
Test Platforms Supported by the design

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

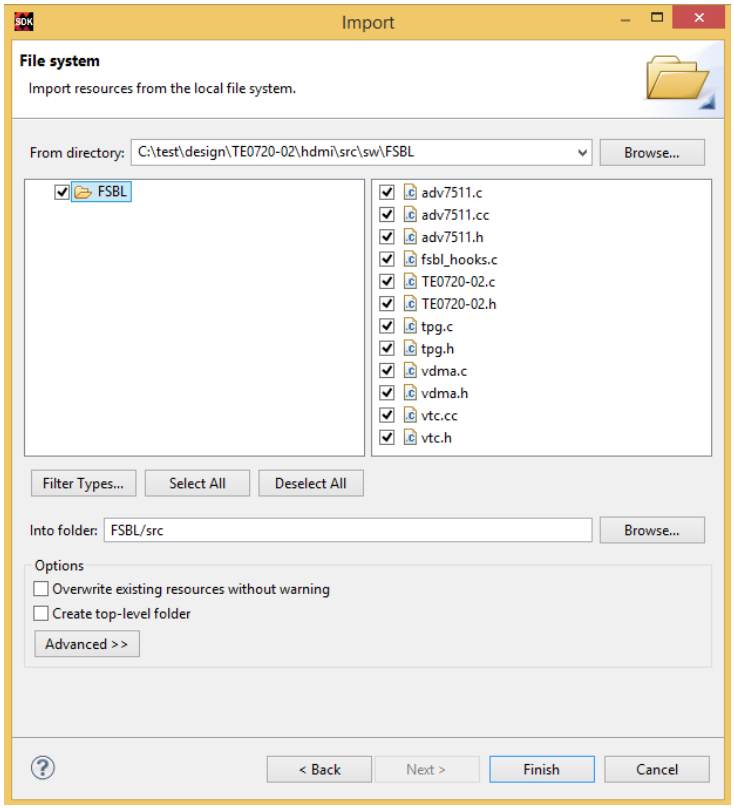
	Vendor	License	Description
axis_fb_conv	TE	Free	Remap axi_vdma into linux framebuffer color format for axi4s_video_out
video_io_to_hdmi	TE	Free	
axi_vdma	Xilinx	Free	
axi4s_video_out	Xilinx	Free	
VTC	Xilinx	Free	Video timing generator, with AXI Control. Can be converted to fixed timing version to save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

Software support

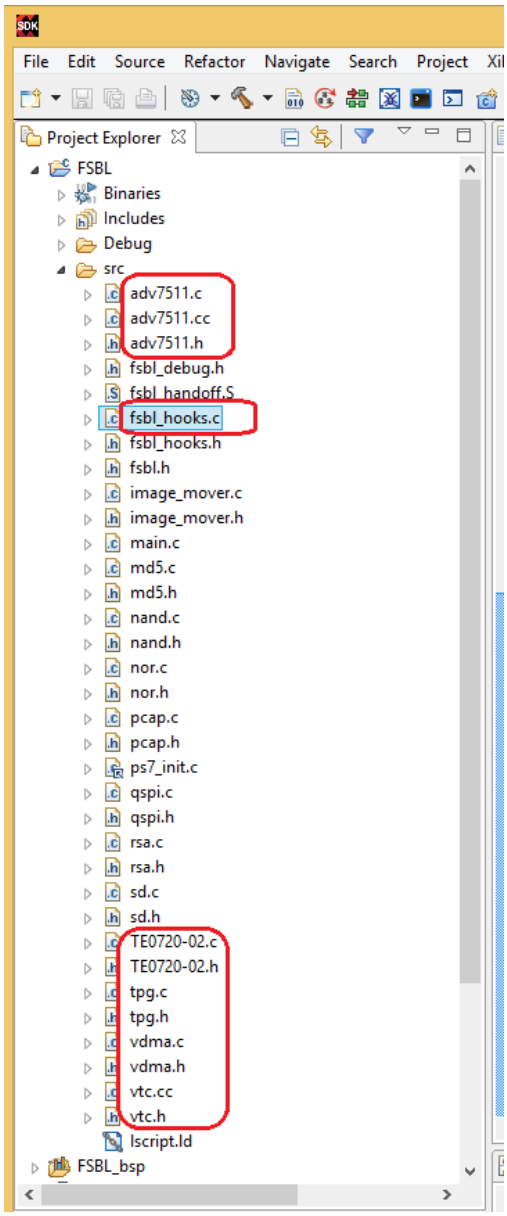
All initialization is done in FSBL, there is no extra software or drivers needed later. Linux simple framebuffer has to be enabled in devicetree.

> ⚠ 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.

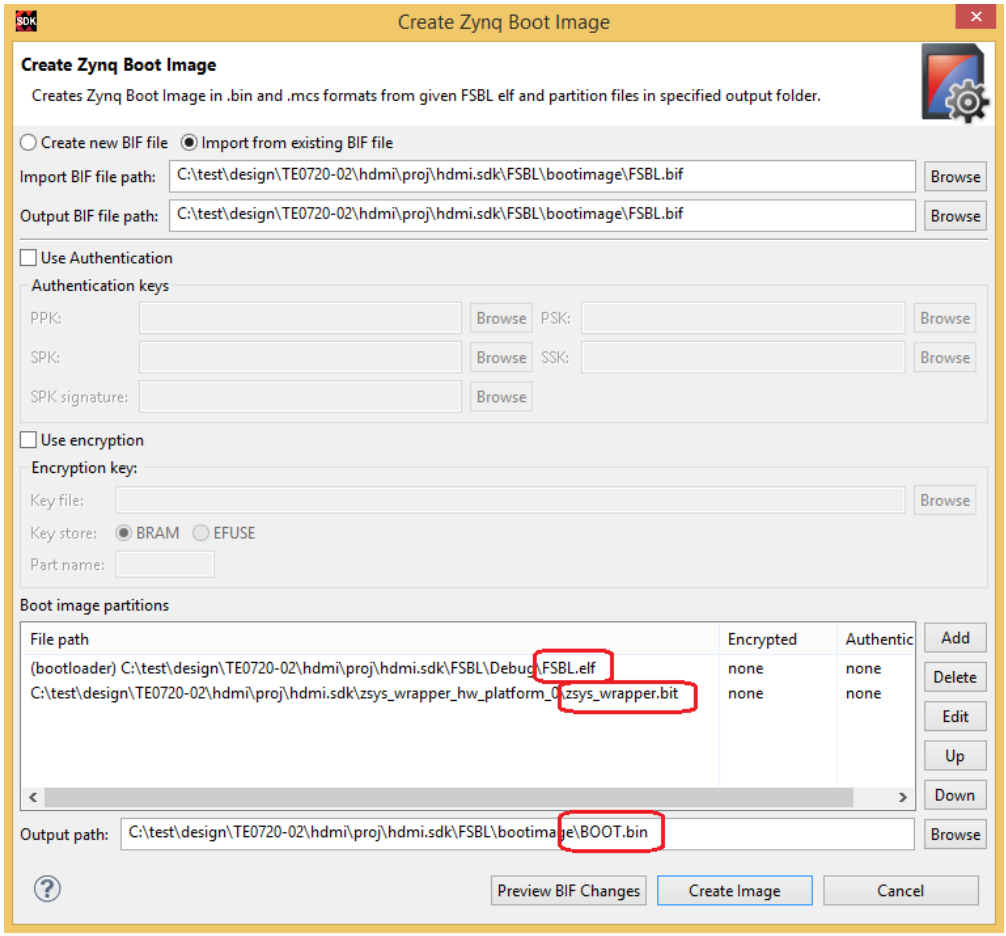


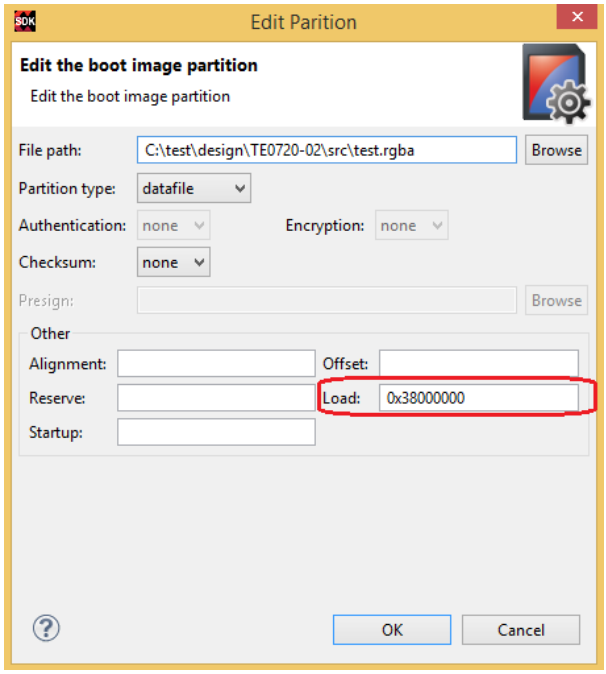
Image format

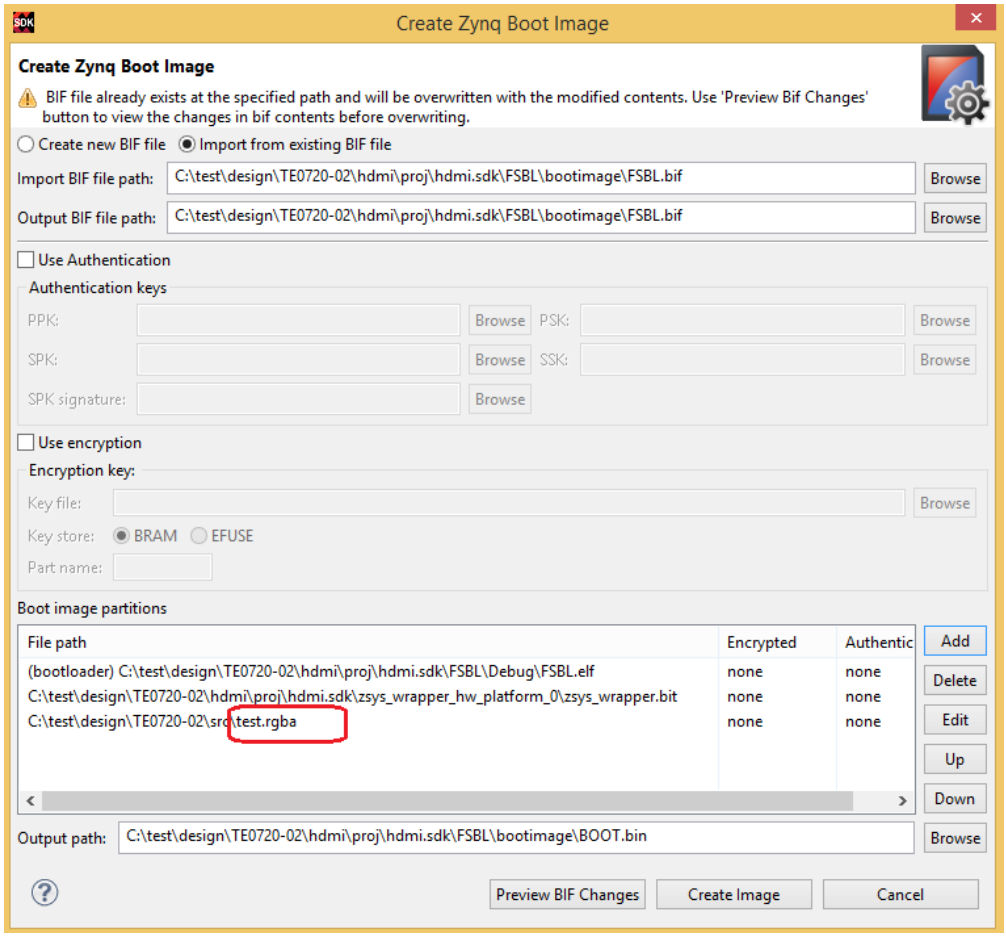
This design configures the framebuffer in Linux simple framebuffer format a8r8g8b8, screen size 1280x720. Images can be converted to this format with ImageMagick.

```
convert splashscreen.jpg splashscreen.rgba
```

You can also use this file to do a test first: test.rgba

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 Parition
Edit the boot image partition
Edit the boot image partition
File path:
C:\test\design\TE0720-02\src\test.rgba
Browse
Partition type:
datafile
Authentication:
none
Encryption:
none
Checksum:
none
Presign:
Browse
Other
Alignment:
Offset:
Reserve:
Load:
0x38000000
Startup:
OK
Cancel



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