Freescale Semiconductor
Release Notes

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Mfgtool for Vybrid Release Notes

1 Overview

This document shows the Mfgtool implementation for Vybrid based on “TWR” board.

Contents

2 Supported Features

A summary of the main features is as follows:

- Mfgtool supported for SD Card.
- Mfgtool supported for Quad SPI.
- Mfgtool supported for NAND.
- Support only Cortex-A5 as primary boot core (Cortex-M4 boot is not supported on this release).

3 Guidelines to download image to SD Card

The section below describes how to download image to SD Card.

1. Modify the LIST field in the cfg.ini file to point to the vybrid-sd script which corresponds to the image you want to download (check the NOTE at the end of this section). For example for loading u-boot to SD:

   [LIST]
   name = vybrid-sd-uboot

2. Set boot options to USB. (Check the Board boot Options table)
3. Insert micro SD card on twr's board.
4. Power on the board with a MicroUSB cable on J3 connector.
5. Connect your PC through a MicroUSB cable on J8 connector.
6. Open Mfgtool application. Make sure the application recognizes the "HID-compliant device" on the message status panel.
7. On Mfgtool, click "Start" button. The application will start to download the image selected on the cfg.ini file. By default this image is u-boot.vybrid. Make sure the message "Done" appears on the status panel. If failure occurs, click on "stop" button, reset the board and click "Start" button again.
8. Power off the board.
9. Change boot options to SD card. (Check the Board boot Options table)
10. Power on the board. You could plug the serial cable to see the messages sent by the console. Note that UART1 on Vybrid TWR is used for serial logging with a baud rate of 115200.

NOTE:

By default the application has included two images that can be downloaded to SD: u-boot.vybrid image and led_sample.bin. Image selection is stored on "cfg.ini" file on the "name" tag. For more information on the image names, check "Vybrid Profiles Included readme" document. For both the samples images and the mfgtool, UART1 is used for serial logging with a baud rate of 115200.

Table 1. Board Boot Options

Jumper J22	1-2	3-4	5-6	7-8	9-10	11-12
USB Boot	0	1	x	x	x	1
SD Card Boot	1	0	1	1	0	x

1 =Close
0 = Open

3.1 Example XML List

```
<LIST name="vybrid-sd-uboot" desc="Boot Vybrid FW">
  <CMD state="BootStrap" type="boot" body="BootStrap" file ="u-boot.vybrid" >Loading U-boot</CMD>
  <CMD state="BootStrap" type="jump" > Jumping to OS image. </CMD>
  <CMD state="Updater" type="push" body="pipesd mmc=0 skip=2" file="files/u-boot.vybrid">Sending and writing U-Boot</CMD>
  <CMD state="Updater" type="push" body="ubootcmd mmc erase 300 1">Erase u-boot environment sector</CMD>
  <CMD state="Updater" type="push" body="$ !">Done</CMD>
</LIST>
```

4 Guidelines to download image to QuadSPI

1. Modify the LIST field in the cfg.ini file to point to the vybrid-qspi script which corresponds to the image you want download (check the NOTE at the end of this section). For example, for loading u-boot to QuadSPI:

   [LIST]
   name = vybrid-qspi-uboot

2. Set boot options to USB. (Check the Board boot Options table)
3. Power on the board with a MicroUSB cable on J3 connector.
4. Connect your PC through a MicroUSB cable on J8 connector.
5. Open Mfgtool application. Make sure the application recognizes the “HID-compliant device” on the message status panel.
6. On Mfgtool, click “Start” button. The application will start to download the image selected on the cfg.ini file. By default this image is u-boot.vybrid. Make sure the message “Done” appears on the status panel. If failure occurs, click on “stop” button, reset the board and click “Start” button again.
7. Power off the board.
8. Change boot options to QuadSPI. (Check the Board boot Options table)
9. Power on the board. You could plug the serial cable to see the messages sent by the console. Note that UART1 on Vybrid TWR is used for serial logging with a baud rate of 115200.

NOTE:

By default the application has included two images that can be downloaded to QuadSPI: led_sample_qspi.bin image and u-boot-quadspi.vybrid image. Image selection is stored on “cfg.ini” file on the “name” tag. For more information on the image names, check “Vybrid Profiles Included readme” document. For both the samples images and the mfgtool, UART1 is used for serial logging with a baud rate of 115200.

Table 2. Board Boot Options

Jumper J22	1-2	3-4	5-6	7-8	9-10	11-12
USB	0	1	X	x	x	1
QuadSPI	1	0	0	0	0	x

1 =Close
0 = Open

4.1 Example XML List

```
<LIST name="vybrid-qspi-uboot" desc="Boot Vybrid FW">
   <CMD state="BootStrap" type="boot" body="BootStrap" file ="u-boot.vybrid" >Loading U-boot</CMD>
   <CMD state="BootStrap" type="jump" > Jumping to OS image. </CMD>
   <CMD state="Updater" type="push" body="qspiinit dev=0">Initializing QSPI</CMD>
   <CMD state="Updater" type="push" body="ubootcmd qspierase 0x20040000">Erase u-boot environment sector</CMD>
   <CMD state="Updater" type="push" body="pipeqspi" file="files/u-boot-quadspi.vybrid">Sending and writing QSPI U-Boot</CMD>
   <CMD state="Updater" type="push" body="$ !">Done</CMD>
</LIST>
```

5 Guidelines to download image to NAND

1. Modify the LIST field in the cfg.ini file to point to the vybrid-nand script which corresponds to the image you want to download (check the NOTE at the end of this section). For example, for loading u-boot to NAND:

   [LIST]
   name = vybrid-nand-uboot

2. Set boot options to USB. (Check the Board boot Options table)
3. Power on the board with a MicroUSB cable on J3 connector.
4. Connect your PC through a MicroUSB cable on J8 connector.
5. Open Mfgtool application. Make sure the application recognizes the “HID-compliant device” on the message status panel.
6. On Mfgtool, click “Start” button. The application will start to download the image selected on the cfg.ini file. By default this image is u-boot.vybrid. Make sure the message “Done” appears on the status panel. If failure occurs, click on “stop” button, reset the board and click “Start” button again.
7. Power off the board.
8. Change boot options to NAND. (Check the Board boot Options table)
9. Power on the board. You could plug the serial cable to see the messages sent by the console. Note that UART1 on Vybrid TWR is used for serial logging with a baud rate of 115200.

NOTE:

By default the application has included two images that can be downloaded to NAND: led_sample.bin image and u-boot-nand.vybrid image. Image selection is stored on “cfg.ini” file on the “name” tag. For more information on the image names, check “Vybrid Profiles Included readme” document. For both the samples images and the mfgtool, UART1 is used for serial logging with a baud rate of 115200.

Table 3. Board Boot Options

Jumper J22	1-2	3-4	5-6	7-8	9-10	11-12
USB	0	1	X	x	x	1
NAND	1	0	0	0	1	x

1 =Close
0 = Open

5.1 Example XML List

```
<LIST name="vybrid-nand-uboot" desc="Boot Vybrid FW">
   <CMD state="BootStrap" type="boot" body="BootStrap" file ="u-boot_nand.vybrid" >Loading U-boot</CMD>
   <CMD state="BootStrap" type="jump" > Jumping to OS image. </CMD>
   <CMD state="Updater" type="push" body="nandinit addr=0x80000">Initializing NAND</CMD>
   <CMD state="Updater" type="push" body="pipenand addr=0x80000" file="files/u-boot-nand.vybrid">Sending and writing NAND U-Boot</CMD>
   <CMD state="Updater" type="push" body="$ !">Done</CMD>
 </LIST>
```

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