

Mfgtool for Vybrid Release Notes

1 Overview

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

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2 Supported Features

A summary of the main features is as follows:

- Mfgtool supported for SD Card.
- Mfgtool supported for Quad SPI.
- 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. Set boot options to USB. (Board boot options table)
2. Insert mini SD card on twr's board.
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.imx. 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 SD card. (Board boot options table)
9. Power on the board. You could plug the serial cable to see the messages sent by the console.

NOTE:

By default the application has included two images that can be downloaded. Uboot image and Led sample 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.

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	0

1 =Close

0 = Open

3.1 Example XML List

```
<LIST name="vybrid-uboot" desc="Vybrid u-boot">
  <CMD state="BootStrap" type="boot" body="BootStrap" file ="u-boot.imx" >Loading U-boot</CMD>
  <CMD state="BootStrap" type="jump" > Jumping to OS image. </CMD>
  <CMD state="Updater" type="push" body="pipesd dev=0 skip=2" file="u-boot.imx">Sending and writing U-boot to SD card</CMD>
  <CMD state="Updater" type="push" body="$ echo 'Update Complete!'">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. Check the NOTE at the end of this section.

```
[LIST]
name = vybrid-qspi-uboot
```

2. Set boot options to USB. (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.imx. 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. (Board boot options table)
9. Power on the board. You could plug the serial cable to see the messages sent by the console.

NOTE:

By default the application has included two images that can be downloaded to QuadSPI: led_sample_qspi.bin image and qspi u-boot 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

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	0

1 =Close

0 = Open

4.1 Example XML List

```
<LIST name="vybrid-qspi" desc="Boot Vybrid FW">
  <CMD state="BootStrap" type="boot" body="BootStrap" file ="u-boot.imx" >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="pipeqspi" file="files/led_sample_qspi.bin">Sending and writing QSPI Led Sample</CMD>
  <CMD state="Updater" type="push" body="$ !">Done</CMD>
</LIST>
```

5 Known issues

Section below lists some key known issues:

- Occasionally downloading data over UTP fails. At one point, after the board firmware received a UTP data packet and wrote it to the SD card, it would return PASS for the SCSI command. Sending data over UTP would fail every time. There's no official workaround yet. A quick workaround is to re-start the process from the beginning.

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