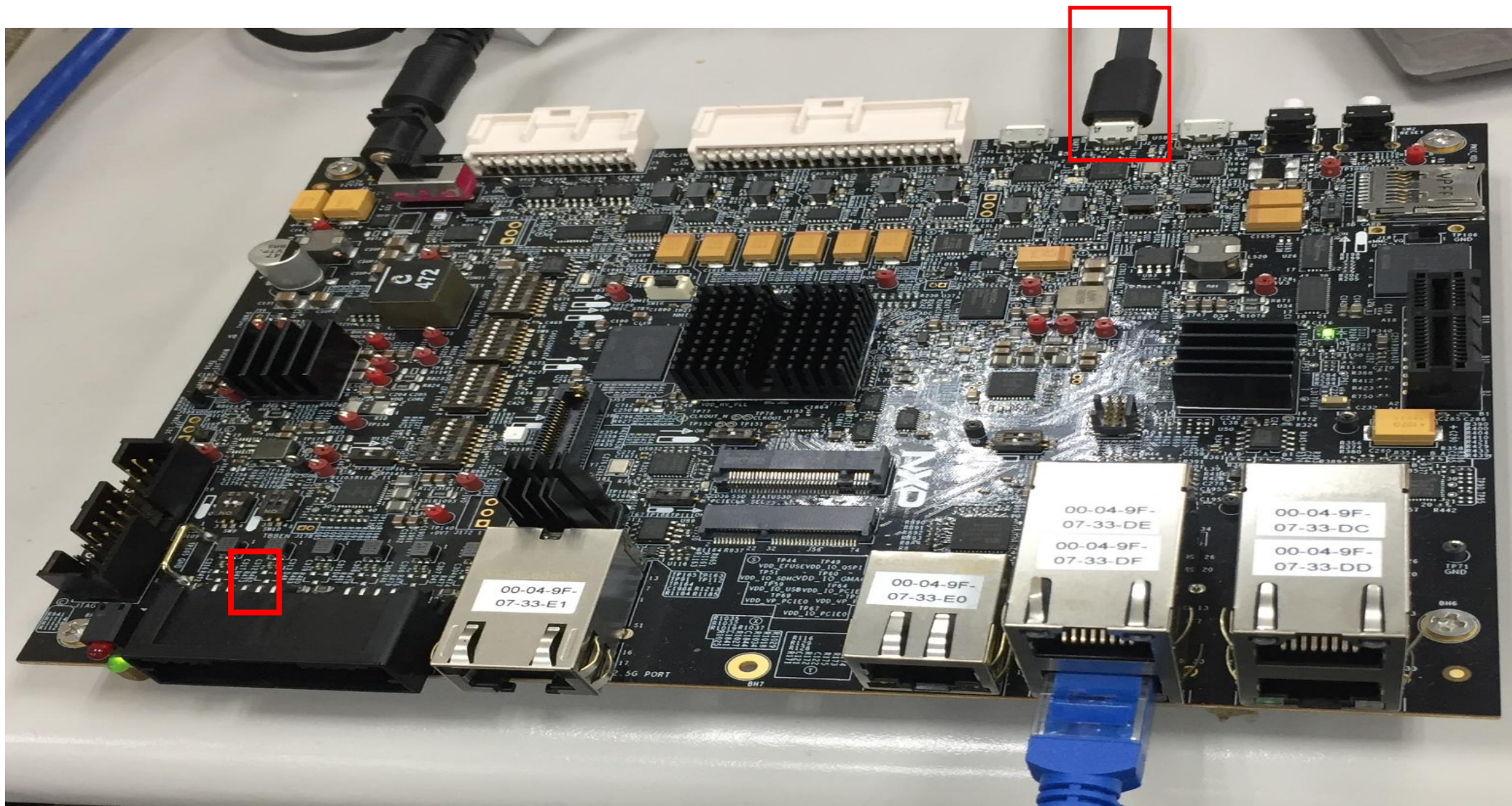


U-boot and Linux image question

- BSP28 flash to EMMC
- BSP30 flash to EMMC

BSP28 flash to EMMC (S32g274ar db2)

Purpose : flash u-boot and kernel image to EMMC and boot OK



Flashing Binaries to S32G-VNP-RDB2 Board

a) To load Image using TFTP it required to setup TFTP server and to do the TFTP client settings in u-boot to be initialized. The instructions to setup a TFTP server are outside the scope of this document.

b) Change the environment variable ethact to eth_eqos.

```
=> setenv ethact eth_eqos
```

c) Set Ip address of ipaddr and serverip

```
=> setenv ipaddr 10.193.248.207
=> setenv serverip 10.193.248.72
=> ping 10.193.248.72
Using eth_eqos device
host 10.193.248.72 is alive
```

Step6. Loading image from TFTP server to DDR.

```
=>tftp 80080000 fsl-image-auto-s32g274ardb2.sdcard
#####
#####
3.9 MiB/s
done
Bytes transferred = 490733568 (1d400000 hex)
```

Step7. Set SW3 to OFF, the S32G is connected to the eMMC card.

Step8. Write the image from DDR to eMMC

```
=>mmc rescan
=>mmc write 80080000 0 ea000
```

Step9. After setting the switches to boot from eMMC "[Boot Mode Configuration](#)", perform a power on reset of the board and verify.

nxp.flexnetoperations.com/control/frse/download?element=12593397

EverNote 程式設計與嵌入式... 電影或是電視劇 購買網站 茂金金典 聯誼婚姻 文學文章 電腦維修 電影欣賞評論

NXP PRODUCTS APPLICATIONS DESIGN SUPPORT COMPANY

NXP > Design > Automotive SW - S32G - Linux BSP (Cortex-A53) > S32G2_LinuxBSP28.0.0 : Files

Software & Support

Product List

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Show All Files 6 Files

File Description	File Size	File Name
+ binaries_auto_linux_bsp28.0_s32g274.tgz	1.3 GB	↓ binaries_auto_linux_bsp28.0_s32g274.tgz
+ binaries_auto_linux_bsp28.0_s32g274_pfe.tgz	1.3 GB	↓ binaries_auto_linux_bsp28.0_s32g274_pfe.tgz
+ S32G274A_LinuxBSP28.0.0_User_Manual.pdf	3.5 MB	↓ S32G274A_LinuxBSP28.0.0_User_Manual.pdf
+ S32G274_LinuxBSP28.0.0_license.manifest	58.1 KB	↓ S32G274_LinuxBSP28.0.0_license.manifest
+ S32G274_LinuxBSP28.0.0_PFE_license.manifest	58.2 KB	↓ S32G274_LinuxBSP28.0.0_PFE_license.manifest
+ S32G2_BSP28.0_Release_Notes.pdf	107.3 KB	↓ S32G2_BSP28.0_Release_Notes.pdf

- (1) NXP web side download BSP28 and flash to EMMC
- (2) U-boot(u-boot-s32g274ardb2.s32)
- (3) Fsl-image-auto-s32g274ardb2.sdcard
- (4) U-boot flash via flash-tool and boot ok
- (5) Fsl-image-auto-s32g274ardb2.sdcard flash via tftp and boot ok

LinuxBSP28.0.0 > binaries_auto_linux_bsp28.0_s32g274_0113_download > binaries_auto_linux_bsp28.0_s32g274 > binaries_auto_linux_bsp28.0_s32g274 > s32g274ardb2_TRY

名稱	修改日期	類型	大小
 fsl-image-auto-s32g274ardb2.sdcard	2021/3/5 上午 11:44	SDCARD 檔案	483,328 KB
 fsl-image-auto-s32g274ardb2.tar.gz	2021/3/5 上午 11:44	GZ 檔案	118,333 KB
 fsl-image-base-s32g274ardb2.cpio.gz.u-boot	2021/3/5 上午 11:44	U-BOOT 檔案	9,399 KB
 fsl-image-flash-s32g274ardb2.flashimage	2021/3/5 上午 11:44	FLASHIMAGE 檔案	65,536 KB
 fsl-s32g274a-rdb2.dtb	2021/3/5 上午 11:44	DTB 檔案	34 KB
 Image	2021/3/5 上午 11:44	檔案	10,231 KB
 u-boot-s32g274ardb2.s32	2021/3/5 上午 11:44	S32 檔案	775 KB
 u-boot-s32g274ardb2.s32-qspi	2021/3/5 上午 11:44	S32-QSPI 檔案	775 KB

File Explorer window showing the contents of the directory `/home/tzeng015/fsl-auto-yocto-bsp28/build_s32g274ardb2/tmp/deploy/images/s32g274ardb2/`.

Name	Size	Changed
<code>fsl-image-auto-s32g274ardb2.cpio.gz.u-boot</code>	1 KB	2022/1/18 下午 06:26...
<code>fsl-image-auto-s32g274ardb2.ext3</code>	1 KB	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2.manifest</code>	1 KB	2022/1/18 下午 06:32...
<code>fsl-image-auto-s32g274ardb2.sdcard</code>	1 KB	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2.tar.gz</code>	1 KB	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2.testdata.json</code>	1 KB	2022/1/18 下午 06:32...
<code>fsl-image-auto-s32g274ardb2-20220118051338.rootfs.cpio.gz.u-boot</code>	118,005...	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2-20220118051338.rootfs.ext3</code>	450,560...	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2-20220118051338.rootfs.manifest</code>	16 KB	2022/1/18 下午 06:32...
<code>fsl-image-auto-s32g274ardb2-20220118051338.rootfs.sdcard</code>	479,232...	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2-20220118051338.rootfs.tar.gz</code>	118,276...	2022/1/18 下午 06:33...
<code>fsl-image-auto-s32g274ardb2-20220118051338.testdata.json</code>	420 KB	2022/1/18 下午 06:32...
<code>fsl-s32g274a-rdb2.dtb</code>	1 KB	2022/1/18 下午 06:28...
<code>fsl-s32g274a-rdb2--5.4-r0-s32g274ardb2-20220118051338.dtb</code>	34 KB	2022/1/18 下午 06:28...
<code>fsl-s32g274a-rdb2-s32g274ardb2.dtb</code>	1 KB	2022/1/18 下午 06:28...
<code>Image</code>	1 KB	2022/1/18 下午 06:28...
<code>Image--5.4-r0-s32g274ardb2-20220118051338.bin</code>	10,231 KB	2022/1/18 下午 06:28...
<code>Image-s32g274ardb2.bin</code>	1 KB	2022/1/18 下午 06:28...
<code>modules--5.4-r0-s32g274ardb2-20220118051338.tgz</code>	449 KB	2022/1/18 下午 06:28...
<code>modules-s32g274ardb2.tgz</code>	1 KB	2022/1/18 下午 06:28...
<code>u-boot.s32</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot.s32-qspi</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot.s32-sdcard</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot-flashenv-s32g274ardb2.bin</code>	1 KB	2022/1/18 下午 06:27...
<code>u-boot-flashenv-s32g274ardb2-1.0+fslgit-r0.bin</code>	8 KB	2022/1/18 下午 06:27...
<code>u-boot-flashenv-sd-s32g274ardb2.bin</code>	1 KB	2022/1/18 下午 06:27...
<code>u-boot-flashenv-sd-s32g274ardb2-1.0+fslgit-r0.bin</code>	8 KB	2022/1/18 下午 06:27...
<code>u-boot-qspi-2020.04-r0.s32</code>	775 KB	2022/1/18 下午 06:26...
<code>u-boot-s32g274ardb2.s32</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot-s32g274ardb2.s32-qspi</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot-s32g274ardb2.s32-sdcard</code>	1 KB	2022/1/18 下午 06:26...
<code>u-boot-sdcard-2020.04-r0.s32</code>	775 KB	2022/1/18 下午 06:26...

- (1) NXP web side download BSP28 **source and Build OK**
- (2) NXP web side download BSP28 and flash to EMMC
- (3) U-boot(u-boot-s32g274ardb2.s32)
- (4) Fsl-image-auto-s32g274ardb2.sdcard
- (5) U-boot flash via flash-tool and boot ok
- (6) Fsl-image-auto-s32g274ardb2.sdcard flash via tftp and boot ok

Simple View

100,740
10,682
65,536
41
12,175

開啟

<< 本機磁碟 (C:) > software > NXP > LinuxBSP28.0.0 > s32g274ardb2_TRY

搜尋 s32g274ardb2_TRY

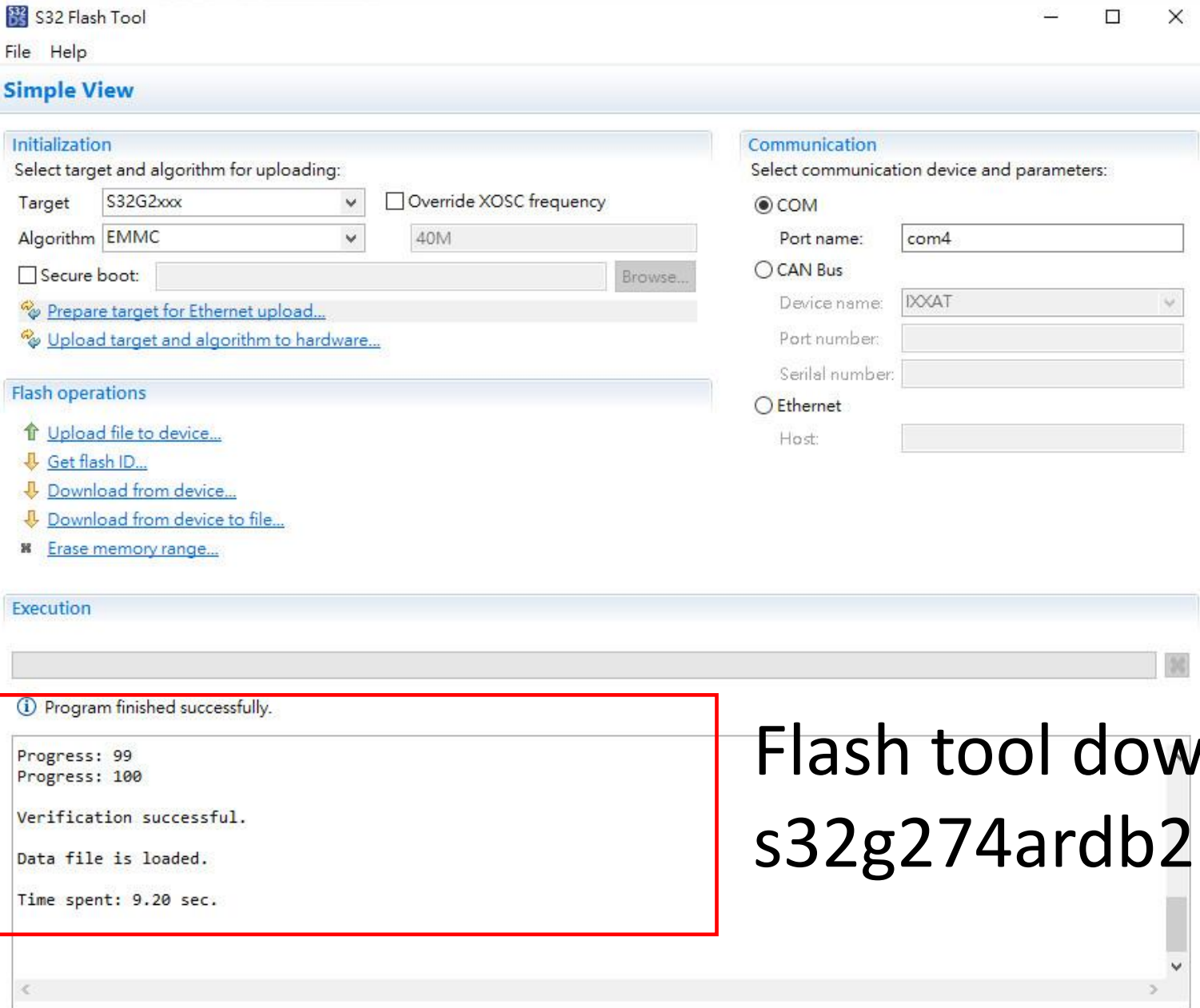
組合管理 新增資料夾

名稱	修改日期	類型	大小
fsl-image-auto-s32g274ardb2.sdcard	2021/3/5 上午 11:44	SDCARD 檔案	483,328 KB
fsl-image-auto-s32g274ardb2.tar.gz	2021/3/5 上午 11:44	GZ 檔案	118,333 KB
fsl-image-base-s32g274ardb2.cpio.gz...	2021/3/5 上午 11:44	U-BOOT 檔案	9,399 KB
fsl-image-flash-s32g274ardb2.flashim...	2021/3/5 上午 11:44	FLASHIMAGE 檔案	65,536 KB
fsl-s32g274a-rdb2.dtb	2021/3/5 上午 11:44	DTB 檔案	34 KB
Image	2021/3/5 上午 11:44	檔案	10,231 KB
u-boot-s32g274ardb2.s32	2021/3/5 上午 11:44	S32 檔案	775 KB
u-boot-s32g274ardb2.s32-qspi	2021/3/5 上午 11:44	S32-QSPI 檔案	775 KB

檔案名稱(N): u-boot-s32g274ardb2.s32

開啟(O) 取消





Flash tool download u-boot-
s32g274ardb2.s32 OK


```
C:\Users\tzeng\Documents\download process.txt - Notepad++
檔案(F) 編輯(E) 搜尋(S) 檢視(V) 編碼(N) 語言(L) 設定(T) 工具(O) 巨集(M) 執行(R) 外掛(P) 視窗(W) ?
新文件 2 新文件 4 main.c 新文件 3.txt retarget.c download process.txt BSP30.txt
1 setenv ethact eth_eqos
2 setenv ipaddr 10.193.248.207
3 setenv serverip 10.193.248.72
4 ping 10.193.248.72
5 //BSP 30
6 tftp 80080000 fsl-image-auto-s32g274ardb2-20220112061422.rootfs.sdcard
7 tftp 80080000 fsl-image-auto-s32g274ardb2.sdcard
8 //BSP 28
9 tftp 80080000 fsl-image-auto-s32g274ardb2.sdcard
10 mmc rescan
11 mmc write 80080000 0 ea000
```

BSP28 image

Tftpd64 by Ph. Jounin

Current Directory: C:\software\NX\LinuxBSP28.0.0\s32g274ardb2_TRY

Server interfaces: 10.193.248.72 Realtek USB GbE Family Controller #2

peer	file	start time	progress	bytes	total	timeo...
10.193.248.207:1482	<fsl-image-auto-s...	15:58:09	0%	4083976	494927872	0

fsl-image-auto-s32g274ardb2.sd...

File size: 494927872

4083976 Bytes sent 2041988 Bytes/sec

```
命令提示字元
以太网网卡 以太网 2:
  連線特定 DNS 尾碼 . . . . . :
  連結-本機 IPv6 位址 . . . . . : fe80::c806:f806:524f:ce87%17
  IPv4 位址 . . . . . : 10.193.248.72
  子網路遮罩 . . . . . : 255.255.255.0
  預設閘道 . . . . . :

以太网网卡 藍牙網路連線:
  媒體狀態 . . . . . : 媒體已中斷連線
  連線特定 DNS 尾碼 . . . . . :
```

```
COM4 - PuTTY
U-Boot 2020.04+geef88755a7 (Mar 03 2021 - 07:18:34 +0000)
CPU: NXP S32G274A rev. 2.1.0
Reset cause: Power-On Reset
Model: NXP S32G2XX
Board: NXP S32G274A-RDB
DRAM: 3.5 GiB
CA53 core 1 running.
CA53 core 2 running.
CA53 core 3 running.
All (4) cores are up.
MMC: FSL_SDHC: 0
Loading Environment from MMC... OK
Using external clock for PCIe0
Configuring PCIe0 as RootComplex(x2)
Using external clock for PCIe1
Frequency 125Mhz configured for PCIe1
Configuring PCIe1 as SGMII(x2) [XPCS0 2.5G, XPCS1 OFF]
PCIe0: Failed to get link up
Pcie0: LINK_DBG 1: 0x00000000, LINK_DBG 2: 0x00000800 (expected 0x000000d1)
DEBUG_R0: 0x00a47b00, DEBUG_R1: 0x08200000
PCI: Failed autoconfig bar 20
PCI: Failed autoconfig bar 24
PCIe1: Not configuring PCIe, PHY not configured
In: serial
Out: serial
Err: serial
Board revision: RDB2/GLDBOX Revision D
Net: EQOS phy: rgmii @ 1

Warning: eth_eqos (eth0) using random MAC address - 2e:9d:4a:77:30:63
eth0: eth_eqos PFE: emac0: sgmi emac1: none emac2: rgmii
** No partition table - mmc 0 **
PFEng firmware file 'mmc@0:1:s32g_pfe_class.fw' loading failed: -1

Hit any key to stop autoboot: 0
=> version
U-Boot 2020.04+geef88755a7 (Mar 03 2021 - 07:18:34 +0000)

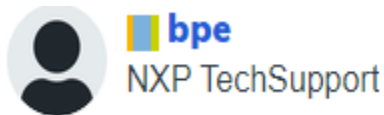
aarch64-fsl-linux-gcc (GCC) 10.2.0
GNU ld (GNU Binutils) 2.35.1
=> setenv ethact eth_eqos
=> setenv ipaddr 10.193.248.207
=> setenv serverip 10.193.248.72
=> ping 10.193.248.72
eth_eqos Waiting for PHY auto negotiation to complete..... done
Using eth eqos device
host 10.193.248.72 is alive
=> tftp 80080000 fsl-image-auto-s32g274ardb2.sdcard
Using eth eqos device
TFTP from server 10.193.248.72; our IP address is 10.193.248.207
Filename 'fsl-image-auto-s32g274ardb2.sdcard'.
Load address: 0x80080000
Loading: #####
#####
#####
#####
#####
#####
#####
#####
```


Summary:

- (1) My Purpose is “ flash u-boot and kernel image to EMMC and boot OK”
- (2) Does the page 4-10 the right process and relate files?
ps : **files**
U-boot(u-boot-s32g274ardb2.s32)
Fsl-image-auto-s32g274ardb2.sdcard
- (3) u-boot (u-boot-s32g274ardb2.s32) via flash tool download
- (4) Linux image (Fsl-image-auto-s32g274ardb2.sdcard) via tftp download
- (5) According your answer “u-Boot is not a very good choice” , I can’t understand the reason .
- (6) If page 4-10 is OK of BSP28, I can’t understand BSP30 doesn’t flash OK.
- (7) According your answer of P1 , I want to flash u-boot to EMMC **via flash-tool not SD Card** and boot u-boot OK

My question is (5) / (6) / (7)

P1 :



The full BSP bootable SD card image is relatively large. You may be hitting reserved areas of the address space when downloading. If you want to prepare a bootable SD card for your RDB2, u-Boot is not a very good choice. Use either Linux or S32DS. For more details on how u-Boot sees and uses RAM, see [this file](#), section titled “Memory Management” and the processor memory map spreadsheet.

Best Regards

Platon