

Installing Linux to NXP i.MX RT1170 EVK Board

1. Download the bootable U-Boot and Linux images from the Emcraft web site:

- <https://emcraft.com/jdownloads/demos/rt1170/u-boot.flexspi>
- <https://emcraft.com/jdownloads/demos/rt1170/rootfs.uImage>

`u-boot.flexspi` is the wrapped U-Boot image ready to install to the QSPI Flash on the NXP i.MX RT1170 EVK Board. `rootfs.uImage` is a composite image that contains Linux kernel and root file system as well as a target-specific configuration file.

2. Connect the target board to PC host using the J11 USB connector. Drag and drop the `u-boot.flexspi` image to the detected U-Disk (refer to *MIMXRT1170 EVK Board Hardware User's Guide* for details on the DAP-Link feature). Set up jumpers to boot from the QSPI Flash and reset the board. The U-Boot prompt shall appear on the target console:

```
U-Boot 2017.09-rc1-imxrt-2.5.4 (May 22 2023 - 16:23:05 +0300)

CPU: i.MX RT117x at 996MHz
Model: NXP i.MXRT1174 EVK
DRAM: 64 MiB
MMC: FSL_SDHC: 0
SF: Detected is25wp128a with page size 256 Bytes, erase size 64 KiB, total
16 MiB
In: serial@4007c000
Out: serial@4007c000
Err: serial@4007c000
Net: eth0: ethernet@40424000
Hit any key to stop autoboot: 0
Wrong Image Format for bootm command
ERROR: can't get kernel image!
=>
```

3. Connect the NXP i.MX RT1170 EVK Board to LAN using the J3 100M ENET connector. Customize the `ipaddr`, `serverip` and `tftpdir` variables in the U-Boot command monitor to enable TFTP download:

```
=> env default -a -f
## Resetting to default environment
=> setenv ipaddr 192.168.1.15
=> setenv serverip 192.168.1.89
=> setenv tftpdir rt1170/
=> savee
Saving Environment to SPI Flash...
SF: Detected is25wp128a with page size 256 Bytes, erase size 64 KiB, total
16 MiB
Erasing SPI flash...Writing to SPI flash...done
Valid environment: 1
=>
```

4. Copy the `rootfs.uImage` Linux image to a TFTP server in the same network as the target board is connected to. Run the following commands in the U-Boot command monitor to install the image to the QSPI Flash:

```
=> sf probe 0
SF: Detected is25wp128a with page size 256 Bytes, erase size 64 KiB, total
16 MiB
```

