



**RAK**

**RAK**wireless  
Technology Co., Ltd.

# RAK833-LoRaGateway-SolidRun-Yocto

verified on HummingBoard2 rev 1.4 and MicroSOM rev 1.5

## Compilation environment requirements

ubuntu16. Other versions of the operating system may have unpredictable errors.

## prepare yocto image

step1 : Download

refer to guide (<https://wiki.solid-run.com/doku.php?id=products:imx6:software:os:yocto>)

First, get Poky:

```
git clone -b fido git://git.yoctoproject.org/poky.git
```

Then get the Freescale layers:

```
cd poky
git clone -b fido git://git.yoctoproject.org/meta-fsl-arm
git clone -b fido git://github.com/SolidRun/meta-solidrun-arm-imx6.git
```

Add meta-semtech lora layer

```
git clone https://github.com/RAKwireless/RAK833-LoRaGateway-SolidRun-Yocto.git
```

Copy RAK833-LoRaGateway-SolidRun-Yocto/meta-semtech to poky path.

step2 : Copy the file libftdi\_1.1.bb to the directory meta/recipes-support/libftdi/ and the directory meta-fsl-arm/openembedded-layer/recipes-support/libftdi/, if the directory libftdi does not exist, create it.

refer [libftdi\\_1.1.bb](#)

then run

```
source oe-init-build-env
```

step3 : Editing local.conf and bblayers.conf at build/conf

```
set MACHINE ??= "solidrun-imx6" at local.conf
add meta-fsl-arm meta-solidrun-arm-imx6 meta-semtech to bblayers.conf
```

refer [bblayers.conf](#)

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step4 : Customizing images for lora image

```
add IMAGE_INSTALL += "git libftdi libmpsse bash cmake lora-packet-forwarder
lora-gateway-dev lora-gateway-staticdev lora-gateway-utils" to core-image-base.bb
(../poky/meta/recipes-core/images) ,
```

refer [core-image-base.bb](#)

step5 : Building packages

```
source oe-init-build-env
nice bitbake core-image-base
```

step6 : flashing image to SD card(<https://wiki.solid-run.com/doku.php?id=products:imx6:overview:flashsdcard>)

```
sudo dd if=core-image-base-solidrun-imx6.sdcard of=/dev/sdb bs=4M conv=fsync
```

step7 : plug RAK833 module to solidrun HB2 board.

make sure the mini-pcie PERST# signal(pin 22) pulled down (default high will cause rak833 function error)

step8 : Start the packet-forwarder application

```
$ cd /opt/lora-packet-forwarder
$ ./lora_pkt_fwd
```