

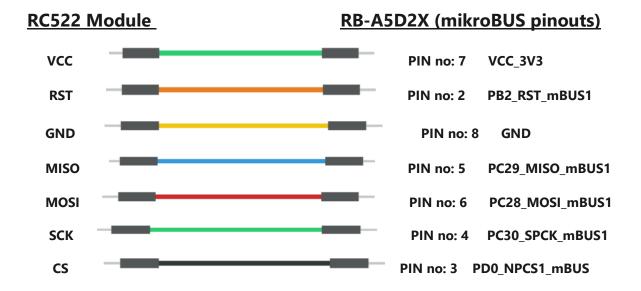
"Integration of RFID-RC522 Module with SPI Protocol on RB-A5D2X Board"

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Required Hardware:

- Rugged Board- a5d2x
- USB cable
- RFID RC522 module
- Patch Cards
- RFID Tags

Pin connections:





Step1: Create a directory to download the kernel source.

- \$ mkdir kernel_source
- \$ cd kernel source

Step2: Clone kernel with the proper branch.

- \$ git clone https://github.com/rugged-board/linux-rba5d2x.git
- \$ cd linux-rba5d2x
- \$ git checkout origin/linux-rba5d2x

Step3: Copy the below patch files to the kernel source directory which you got with documents.

- I) 0001-Rb-a5d2x.dtsi. patch
- ii) 0002-rfid-rc522 driver. patch

Step4: Apply the patch files in the kernel source

- \$ git am 0001-Rb-a5d2x.dtsi. patch
- \$ git am 0002-rfid-rc522_driver. patch

Step5: Enable the toolchain.

\$. /opt/poky-tiny/2.5.2/environment-setup-cortexa5hf-neon-poky-linux-musleabi



Step6: Configure the kernel fo rugged board-a5d2x

Step11: After compilation of the make command.

\$ cp arch/arm/boot/zImage

Note: From this location copy the zImage to BOOT partition of the SD card

\$ cp arch/arm/boot/dts/imx6ul-phytec-ruggedboard-rdk.dtb

Note: "imx6ul-phytec-ruggedboard-rdk.dtb" file from this location to the BOOT partition of the SD card and rename it as "oftree".



Bootable SD card:

Follow below steps to prepare Bootable SD card:

Note: Here we will use zImage = we have compiled

Here we will use oftree = we have compiled

barebox.bin image = Default images

Step2: Copy kernel image(zImage), oftree image(.dtb) into the boot partition of the sdcard.

\$ cp zImage /media/<username>/BOOT

\$ cp oftree /media/<username>/BOOT

Step3: extract 'tar -xvf armhf-rootfs-debian-bullseye.tar' it into rootfs partition of SD card.

\$ sudo tar -xvf armhf-rootfs-debian-bullseye.tar -C /media/<username>/rootfs/

Testing the RFID-RC522 module in Host terminal:

Step 4: Open the terminal and follow the given steps to boot the board.

\$ Sudo minicom

: ~# root