"Generating the patch for the RFID-RC522 module on the A5D2X board:"

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Note: Follow the steps below to add RFID-RC522 drivers to the A5D2X kernel in the specified path.

Step 1: First, create a folder named `rfid_rc522` at the following path: /drivers/misc/

Step 2: Copy the files rc522.c, rc522_api.c, and rc522_api.h to the directory /drivers/misc/rfid_rc522.

Step 3: vim drivers/misc/ rfid_rc522/Kconfig

```
config RFID_RC522
tristate "rfid RC522 for RB-A5D2x"
        default y
help
    This driver helps you to interface with RFID RC522 with RB-A5D2x.
```

Step 4: vim drivers/misc/ rfid_rc522/Makefile

```
obj-$(CONFIG_RFID_RC522)     += rfid-rc522.o
rfid-rc522-objs          += rc522.o rc522_api. O
```

Step 5: vim drivers/misc/Kconfig

source "drivers/misc/rfid_rc522/Kconfig"

Step 6: vim drivers/misc/Makefile

obj-y += rfid_rc522/

Step 7: Describe Hardware ina5d2x_rugged_board_ common.dtsi file

```
flx4: flexcom@fc018000 {
atmel,flexcom-mode = <ATMEL_FLEXCOM_MODE_SPI>;
status = "disabled";
status = "okay";
pinctrl-names = "default";
pinctrl-0 = <&pinctrl_mikrobus_spi &pinctrl_mikrobus1_spi_cs
&pinctrl_mikrobus1_rst>;
atmel,fifo-size = <16>;
status = "disabled";
status = "okay";
spidev@0 {
compatible = "rohm, dh2228fv";
reg = <0>;
spi-max-frequency = <500000>;
status = "disabled";
status = "okay";
};
```

```
rc522@1 {
compatible = "phytec, rfid_rc522";
reg = <1>;
spi-max-frequency = <13560000>;
status = "okay";
};
};
```

i2c3: i2c@600 {

compatible = "atmel, sama5d2-i2c";

After adding the RFID-RC522 drivers to the specified path, follow the steps below to generate the patch for the a5d2x-dtsi file:

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Step-1: **git status**

Step-2: **git add arch/arm/boot/dts/a5d2x-rugged_board_common.dtsi**

Step-3: **git commit – m "Rb-a5d2x_ common.dtsi "**

Step-4: **git format – patch – p1**

Generating the patch for misc Kconfig & Makefile

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Step 1: **git status**

Step 2: **git add drivers/misc/Kconfig drivers/misc/Makefile**

Step 3: **git commit – m "rfid_misc_patch"**

Step 4: **git format – patch – p2**

Generating the patch for rfid_rc522 Kconfig & Makefile

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Step 1: **git status**

Step 2: **git add drivers/misc/rfid_rc522/Makefile**
drivers/misc/rfid_rc522/Kconfig

Step 3: **git commit – m "rfid_rc522_Kconfig-Makefile_patch"**

Step 4: **git format – patch – p3**

Generating the patch for rfid_rc522.c files:

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Step 1: **git status**

Step 2: **git add drivers/misc/rfid_rc522/rc522.c**
drivers/misc/rfid_rc522/ rc522_api.c drivers/misc/rfid_rc522/
rc522_api.h

Step 3: **git commit – m "rfid_rc522"**

Step 4: **git format – patch – p4**

Note: Apply the patch to the newly cloned git repository version.

$ git apply 0001- Rb-a5d2x_ common.dtsi. patch

$ git apply 0002- rfid_misc_patch. patch

$ git apply 0003- rfid_rc522_Kconfig-Makefile_patch. patch

$ git apply 0004- rfid_rc522.patch

Step 1: Enable the toolchain.

$. /opt/ampliphy/BSP-Yocto-Ampliphy-i.MX6UL-PD22.2.1/environment-setup-cortexa7t2hf-neon-vfpv4-phytec-linux-gnueabi

Step8: Configure the kernel for rugged board – a5d2x.

$ make distclean

$ make clean

$ make rb_a5d2x_defconfig

$ make