



***Preliminary AIC8800 Low-Energy
Wi-Fi6/BT5.0 SoC
SDIO 移植手册***

Revision: 1.1

2022/05/26

历史更新记录

时间	修改内容	修订人	版本
2021/06/03	初版	Aiden	1.0
2022/05/26	新增 Q&A 栏位	Aiden	1.1

该文件移植平台为 A133 Android11.0 平台

内核移植

可对比以下档案，确认是否有档案缺失。

aic8800	Wifi 驱动包
aic8800_porting_package\SDIO\driver_fw\drivers 驱动包	

fmacfw.bin	Wifi 固件
fmacfw_rf.bin	Wifi 测试固件
fw_adid.bin	蓝牙固件
fw_patch.bin	蓝牙固件
fw_patch_bt_only.bin	蓝牙固件
fw_patch_combo.bin	蓝牙固件
fw_patch_test.bin	蓝牙固件
aic8800_porting_package\SDIO\driver_fw\fw 固件档案	

libbt	蓝牙 libbt-vendor
rftest-tools	rf 测试工具
wlan	Wifi hal 接口
aic8800_porting_package\SDIO\driver_fw\aic	

1. 将 aic 驱动包放置在 kernel/drivers/net/wireless/之下，并且修改 kernel/drivers/net/wireless/Kconfig 以及 kernel/drivers/net/wireless/Makefile

<pre>source "drivers/net/wireless/ti/Kconfig" source "drivers/net/wireless/zydas/Kconfig" source "drivers/net/wireless/quantenna/Kconfig" source "drivers/net/wireless/xr829/Kconfig" source "drivers/net/wireless/uwe5622/Kconfig" source "drivers/net/wireless/bcmdhd/Kconfig" source "drivers/net/wireless/aic8800/Kconfig" config PCMCIA_RAYCS tristate "Aviator/Raytheon 2.4GHz wireless support" depends on PCMCIA select WIRELESS_EXT</pre>
修改 kernel\linux-5.4\driver\net\wireless\Kconfig

<pre>obj-\$(CONFIG_WLAN_VENDOR_REALTEK) += realtek/ obj-\$(CONFIG_WLAN_VENDOR_RSI) += rsi/ obj-\$(CONFIG_WLAN_VENDOR_ST) += st/</pre>

```
obj-$(CONFIG_WLAN_VENDOR_TI) += ti/
obj-$(CONFIG_WLAN_VENDOR_ZYDAS) += zydas/
obj-$(CONFIG_WLAN_VENDOR_QUANTENNA) += quantenna/
obj-$(CONFIG_AIC_WLAN_SUPPORT) += aic8800/
```

```
# 16-bit wireless PCMCIA client drivers
obj-$(CONFIG_PCMCIA_RAYCS) += ray_cs.o
obj-$(CONFIG_PCMCIA_WL3501) += wl3501_cs.o
```

修改 kernel\linux-5.4\driver\net\wireless\Makefile

修改内核的 config(或用 make menuconfig)，为以下参数

```
# CONFIG_WLAN_VENDOR_ST is not set
# CONFIG_WLAN_VENDOR_TI is not set
# CONFIG_WLAN_VENDOR_ZYDAS is not set
# CONFIG_WLAN_VENDOR_QUANTENNA is not set
CONFIG_XR829_WLAN=m
CONFIG_AIC_WLAN_SUPPORT=y
CONFIG_AIC8800_WLAN_SUPPORT=m
CONFIG_SPARD_WLAN_SUPPORT=y
CONFIG_WLAN_UWE5622=m
CONFIG_TTY_OVERY_SDIO=m
```

需添加在内核 config 之参数

2. 编译完后即可得到
aic8800_fdrv.ko、aic8800_bsp.ko

3. 各驱动模块的功用
aic8800_bsp.ko：模块固件初始化
aic8800_fdrv.ko：Wifi 驱动

蓝牙移植

将 aic 包放在 andoird\hardware\之下。



针对蓝牙部分进行以下修改。

```
on property:persist.vendor.bluetooth_vendor=sprd
    insmod /vendor/lib/modules/uwe5622_bsp_sdio.ko
    insmod /vendor/lib/modules/sprdbt_tty.ko
    setprop vendor.init.lpm.load 1
```

```
on property:persist.vendor.bluetooth_vendor=aic
    insmod /vendor/lib/modules/aic8800_bsp.ko
    setprop vendor.init.lpm.load 1
```

```
on property:vendor.driver.lpm.load=1
    setprop vendor.init.lpm.load 1
```

```
on property:vendor.init.lpm.load=1
```

修改 `android/device/softwinner/common/config/wireless/initrc/init.wireless.bluetooth.rc`

```
BOARD_WIRELESS_SYSTEM_PROPERTIES :=
```

```
WIRELESS_CONFIG_PATH := device/softwinner/common/config/wireless
```

```
SUPPORTED_WIFI_VENDOR := broadcom realtek xradio sprd ssv aic common
```

```
SUPPORTED_BLUETOOTH_VENDOR := broadcom realtek xradio sprd aic common
```

```
SAVED_PRODUCT_COPY_FILES := $(PRODUCT_COPY_FILES)
```

```
PRODUCT_COPY_FILES :=
```

```
BOARD_BLUETOOTH_CONFIG_DIR ?= $(TARGET_DEVICE_DIR)/configs/bluetooth
```

```
.
```

```

.
.
else ifeq ($(BOARD_WIFI_VENDOR), ssv)
    BOARD_WLAN_DEVICE := ssv
    BOARD_WPA_SUPPLICANT_PRIVATE_LIB := lib_driver_cmd_ssv
    BOARD_HOSTAPD_PRIVATE_LIB := lib_driver_cmd_ssv
    BOARD_WIRELESS_PROPERTIES += wifi.direct.interface=p2p0
    -include hardware/ssv/wlan/firmware/$(BOARD_USR_WIFI)/device-ssv.mk
else ifeq ($(BOARD_WIFI_VENDOR), aic)
    BOARD_WLAN_DEVICE := aic
    BOARD_WPA_SUPPLICANT_PRIVATE_LIB := lib_driver_cmd_aic
    BOARD_HOSTAPD_PRIVATE_LIB := lib_driver_cmd_aic
    BOARD_WIRELESS_PROPERTIES += wifi.direct.interface=p2p0
    -include hardware/aic/wlan/firmware/$(BOARD_USR_WIFI)/device-aic.mk
else ifeq ($(BOARD_WIFI_VENDOR), common)
    BOARD_WLAN_DEVICE := common
    BOARD_WPA_SUPPLICANT_PRIVATE_LIB := lib_driver_cmd_common
    BOARD_HOSTAPD_PRIVATE_LIB := lib_driver_cmd_common
    BOARD_WIRELESS_PACKAGES += libwifi-hal-package
    -include hardware/aw/wireless/wlan/firmware/firmware.mk
.
.
.
else ifeq ($(BOARD_BLUETOOTH_VENDOR), sprd)
    BOARD_HAVE_BLUETOOTH_SPRD := true
    BOARD_BLUETOOTH_BDROID_BUILDCFG_INCLUDE_DIR ?=
$(TOP_DIR)hardware/sprd/libbt/conf/sprd/marlin3/include
    -include hardware/sprd/libbt/conf/sprd/runtime/bt_copy_file.mk
else ifeq ($(BOARD_BLUETOOTH_VENDOR), aic)
    BOARD_HAVE_BLUETOOTH_AIC := true
    BOARD_CUSTOM_BT_CONFIG := $(BOARD_CUSTOM_BT_CONFIG_TMP)
    -include
hardware/aic/libbt/firmware/$(BOARD_HAVE_BLUETOOTH_NAME)/aic-bt.mk
else ifeq ($(BOARD_BLUETOOTH_VENDOR), common)
    BOARD_HAVE_BLUETOOTH_COMMON := true
    BOARD_CUSTOM_BT_CONFIG := $(BOARD_CUSTOM_BT_CONFIG_TMP)
    BOARD_WIRELESS_FILES +=
$(BOARD_BLUETOOTH_CONFIG_DIR)/bt_vendor.conf:$(TARGET_COPY_OUT_VENDOR)/etc/blue
tooth/bt_vendor.conf
    BOARD_WIRELESS_FILES +=
$(BOARD_BLUETOOTH_CONFIG_DIR)/rtkbt.conf:$(TARGET_COPY_OUT_VENDOR)/etc/bluetoot
h/rtkbt.conf
    BOARD_WIRELESS_PACKAGES += libbt-package libbt-aic wireless_hwinfo
    -include hardware/aw/wireless/bluetooth/firmware/firmware.mk

```

```
endif
$(call
soong_config_add, vendor, board_bluetooth_vendor, $(BOARD_BLUETOOTH_VENDOR))
else
GLOBAL_REMOVED_PACKAGES += Bluetooth
修改 android/device/softwinner/common/config/wireless/wireless_config.mk
```

Android 移植

可选择当下开发的平台、主控、系统进行比对，例如：移植 A133 Android11 可到补丁包中的 for_Allwinner\al33\Android11 目录下选择比对 orig 以及 mod 之间的差异，将不同之处打上您 SDK 当中。

内核移植、蓝牙移植以及 Android 移植完成后，将 SDK 编译即可使用 AIC8800 Wifi 以及蓝牙功能。Enjoy!

Q&A

Q:GMS 测试发生问题。

A:需要确认 wifi-hal 是否有移植上，可比对移植包中的 orig 以及 mod 进行确认。