Wi-Fi 功能启用说明

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REVISION HISTORY

Revision No.	Description	Date
0.1	• Initial release	06/27/2019
	•	
	•	

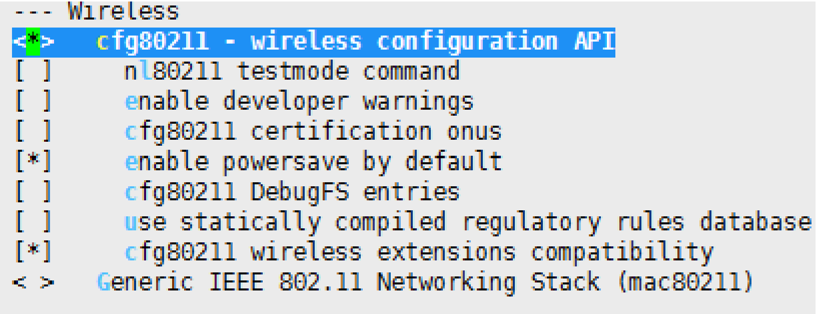
Kernel 使用配置：

1. **Spinand flash**

make infinity2m_ssc011a_s01a_minigui_defconfig

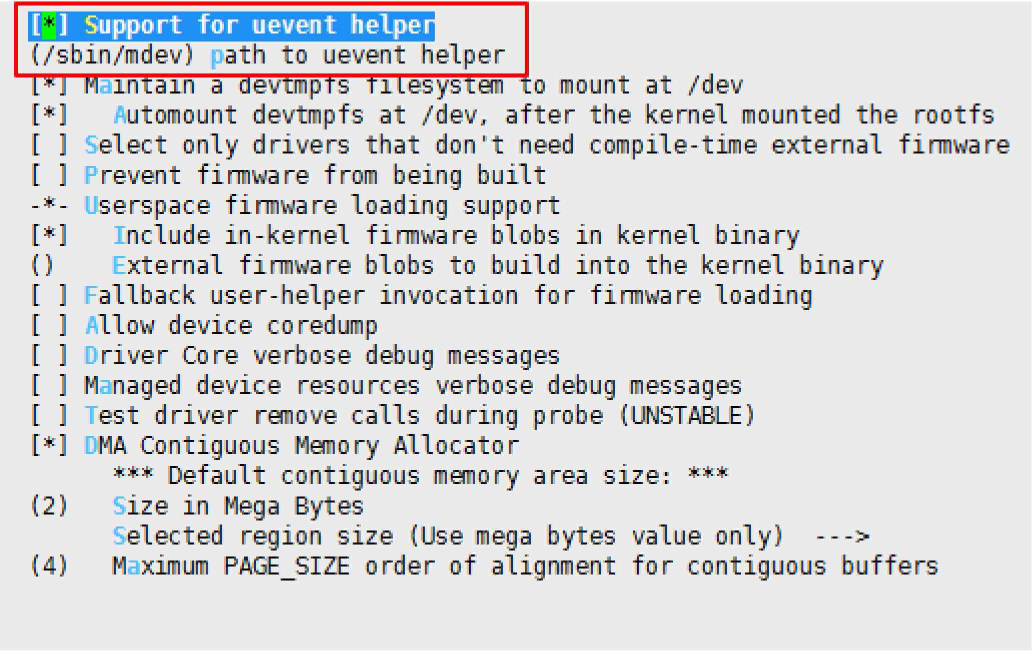
make menuconfig

进入 Networking support -> Wireless，将下面选项由模块编译改为 build-in



```
--- Wireless
<*>   cfg80211 - wireless configuration API
[ ]     nl80211 testmode command
[ ]     enable developer warnings
[ ]     cfg80211 certification onus
[*]     enable powersave by default
[ ]     cfg80211 DebugFS entries
[ ]     use statically compiled regulatory rules database
[*]     cfg80211 wireless extensions compatibility
< >   Generic IEEE 802.11 Networking Stack (mac80211)
```

进入 Device Drivers->Generic Driver options，将下面选项编译方式改为 build-in



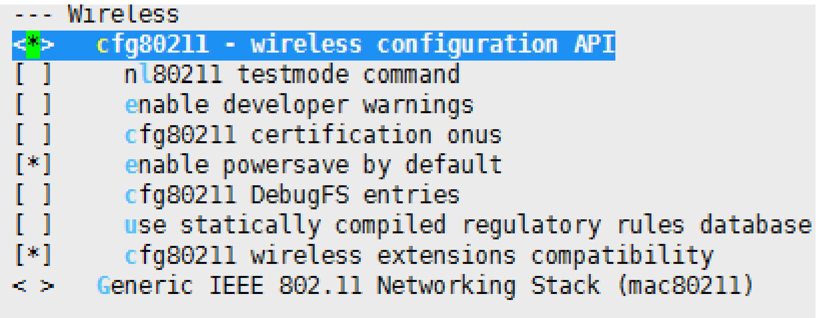
```
[*] Support for uevent helper
(/sbin/mdev) path to uevent helper
[*] Maintain a devtmpfs filesystem to mount at /dev
[*]   Automount devtmpfs at /dev, after the kernel mounted the rootfs
[ ] Select only drivers that don't need compile-time external firmware
[ ] Prevent firmware from being built
-*- Userspace firmware loading support
[*]   Include in-kernel firmware blobs in kernel binary
()    External firmware blobs to build into the kernel binary
[ ] Fallback user-helper invocation for firmware loading
[ ] Allow device coredump
[ ] Driver Core verbose debug messages
[ ] Managed device resources verbose debug messages
[ ] Test driver remove calls during probe (UNSTABLE)
[*] DMA Contiguous Memory Allocator
      *** Default contiguous memory area size: ***
(2)   Size in Mega Bytes
      Selected region size (Use mega bytes value only)  --->
(4)   Maximum PAGE_SIZE order of alignment for contiguous buffers
```

2. **Nor flash**

make infinity2m_ssc011a_s01a_minigui_defconfig

make menuconfig

进入 Networking support -> Wireless，将下面选项由模块编译改为 build-in



```
--- Wireless
<*>   cfg80211 - wireless configuration API
[ ]     nl80211 testmode command
[ ]     enable developer warnings
[ ]     cfg80211 certification onus
[*]     enable powersave by default
[ ]     cfg80211 DebugFS entries
[ ]     use statically compiled regulatory rules database
[*]     cfg80211 wireless extensions compatibility
< >   Generic IEEE 802.11 Networking Stack (mac80211)
```

编译 kernel:

make clean –j16;make –j16

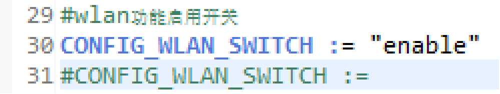
编译成功后会生成 kernel/arch/arm/uImage.xz, 将此文件拷贝到 sdk 中，替换掉同名文件。
Spinand 的目标路径为：project/release/nvr/i2m/011A/glibc/8.2.1/bin/kernel/spinand
Nor 的目标路径为：project/release/nvr/i2m/011A/glibc/8.2.1/bin/kernel/

修改 Sdk 配置，在 project/release/customer_tailor/nvr_i2m_display_glibc_tailor.mk 下添加 interface_wlan:=enable，然后编译 sdk 即可。

App 选择开启/禁用 wifi 功能

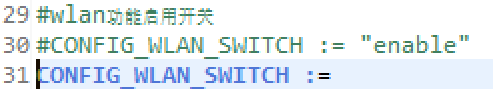
修改 SSD_sample/jni/Makefile：

启用 wifi：



```
#wlan功能启用开关
CONFIG_WLAN_SWITCH := "enable"
#CONFIG_WLAN_SWITCH :=
```

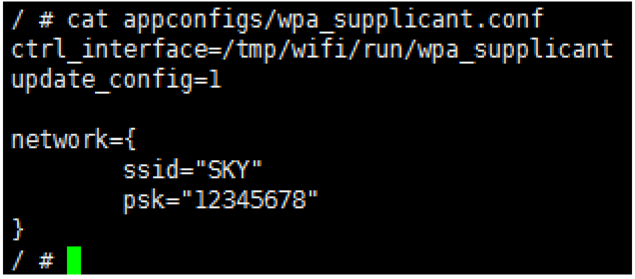
禁用 wifi：



```
#wlan功能启用开关
#CONFIG_WLAN_SWITCH := "enable"
CONFIG_WLAN_SWITCH :=
```

测试 wifi

修改/appconfigs/wpa_supplicant.conf，添加 AP，如图：



```
/ # cat appconfigs/wpa_supplicant.conf
ctrl_interface=/tmp/wifi/run/wpa_supplicant
update_config=1

network={
        ssid="SKY"
        psk="12345678"
}
/ #
```

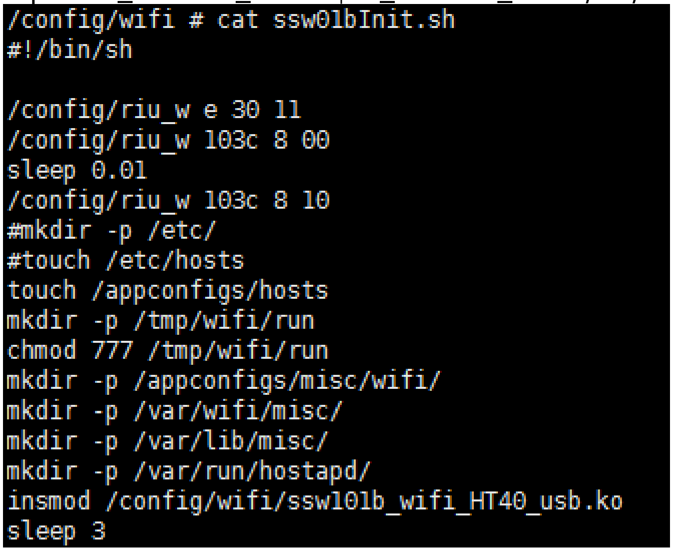
测试的热点 ssid 为”SKY”，访问密码为”12345678”。

wifi 模块初始化

cd /config/wifi

./ssw01bDeInit.sh

export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/usr/local/lib:/lib:/config/wifi



```
/config/wifi # cat ssw01bInit.sh
#!/bin/sh

/config/riu_w e 30 11
/config/riu_w 103c 8 00
sleep 0.01
/config/riu_w 103c 8 10
#mkdir -p /etc/
#touch /etc/hosts
touch /appconfigs/hosts
mkdir -p /tmp/wifi/run
chmod 777 /tmp/wifi/run
mkdir -p /appconfigs/misc/wifi/
mkdir -p /var/wifi/misc/
mkdir -p /var/lib/misc/
mkdir -p /var/run/hostapd/
insmod /config/wifi/ssw101b_wifi_HT40_usb.ko
sleep 3
```

如果使用其它 wifi ko，只需将对应 ko 拷贝至 /config/wifi 目录，然后修改 ssw01bInit.sh，insmod 依赖的 ko 即可。

测试 wifi 连接

./wpa_supplicant -Dnl80211 -i wlan0 -c /appconfigs/wpa_supplicant.conf -d &

sleep 2

udhcpc -q -i wlan0 -s /etc/init.d/udhcpc.script &

扫描热点：

./iwlist wlan0 scanning

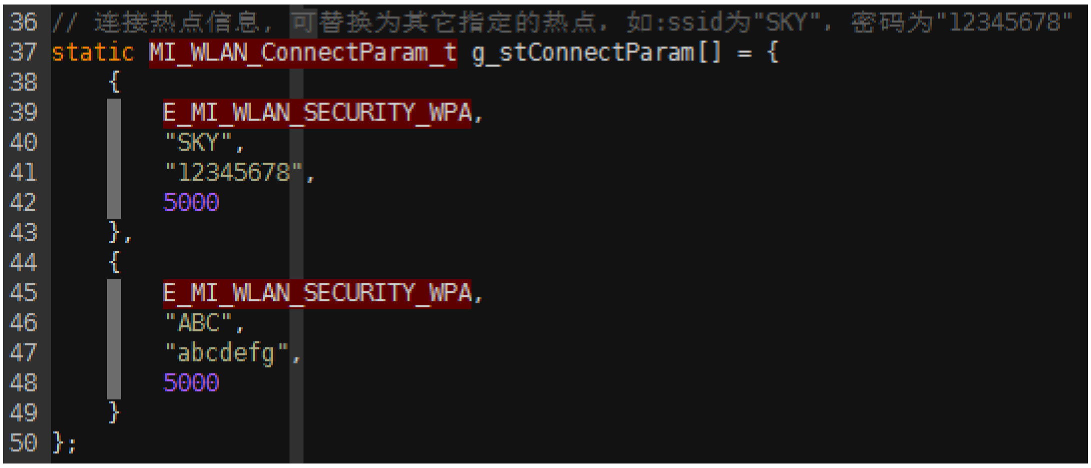
Wifi 应用样例

Source code：

wifiDemo.rar

测试步骤：

1）修改 sample code，添加指定的 wifi 热点信息，如图：

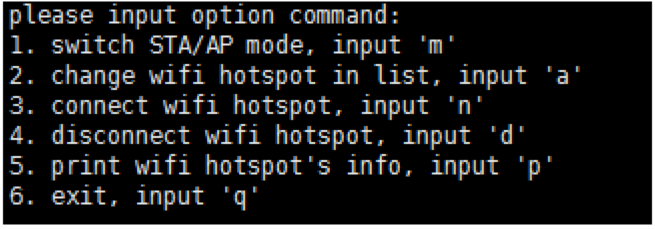


```
// 连接热点信息，可替换为其它指定的热点，如:ssid为"SKY"，密码为"12345678"
static MI_WLAN_ConnectParam_t g_stConnectParam[] = {
    {
        E_MI_WLAN_SECURITY_WPA,
        "SKY",
        "12345678",
        5000
    },
    {
        E_MI_WLAN_SECURITY_WPA,
        "ABC",
        "abcdefg",
        5000
    }
};
```

2) 修改 Makefile 中的 PROJECT_PATH，使用本地的 sdk 路径，然后编译 demo code：

3）将生成的 testWifi 拷贝到目标板中，运行 testWifi

App 运行后会出现下面的提示



```
please input option command:
1. switch STA/AP mode, input 'm'
2. change wifi hotspot in list, input 'a'
3. connect wifi hotspot, input 'n'
4. disconnect wifi hotspot, input 'd'
5. print wifi hotspot's info, input 'p'
6. exit, input 'q'
```

输入‘m‘， 切换 STA/AP 模式，默认是 STA 模式；

用户可在 code 里面预设需要连接的 wifi 热点列表，输入’a’，切换到列表中的下一个热点，默认从 0 开始循环；

输入‘n’，在 STA 模式下连接指定的 wifi，在 AP 模式下，打开个人热点；

输入‘d’，在 STA 模式下断开连接，在 AP 模式下，关闭个人热点；

输入‘p’，在 STA 模式下打印当前扫描到的热点信息，在 AP 模式下，打印连接的设备信息；

输入‘q’，退出 app。