RT5350SDK 如何配置实现无线 3G 上网

初次接触 Ralink RT5350,调试了好几天终于给 3G 调试成功了，费了很大的功夫，分享给大家，希望对大家能有帮助，共同学习共同进步。

3G 模块：SIM5320E

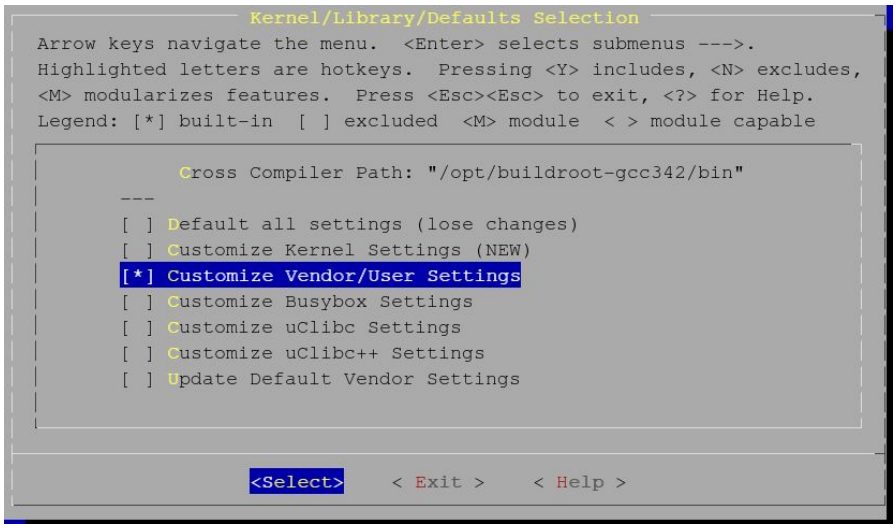
编译配置：

#cd /root/RT288x_SDK/source/

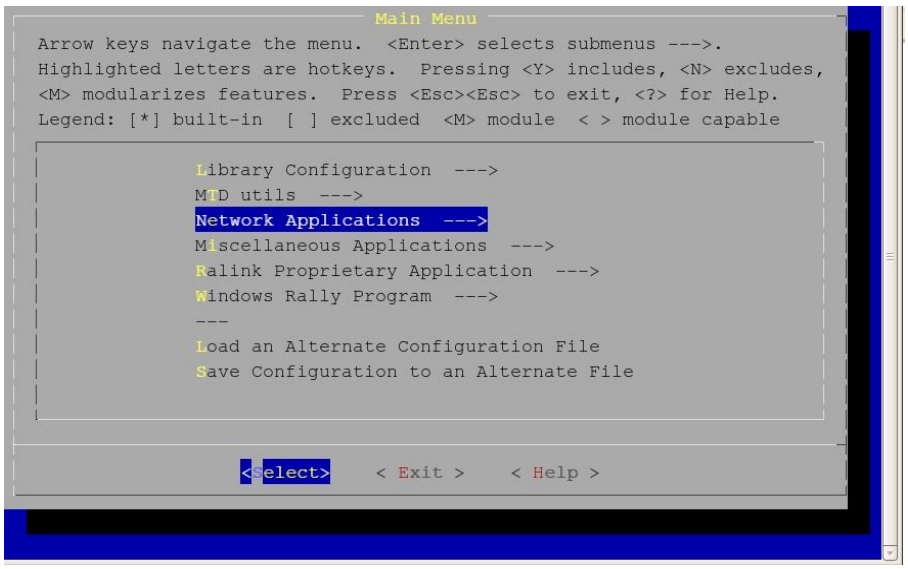
#make menuconfig

进入 Kernel/Library/Defaults Selection --->

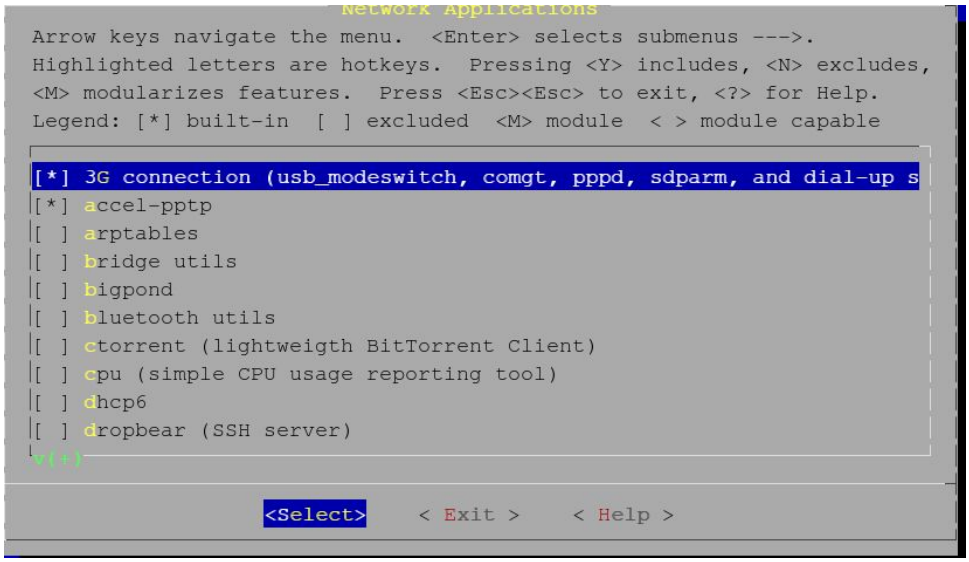
选择 [*] Customize Vendor/User Settings 后退出



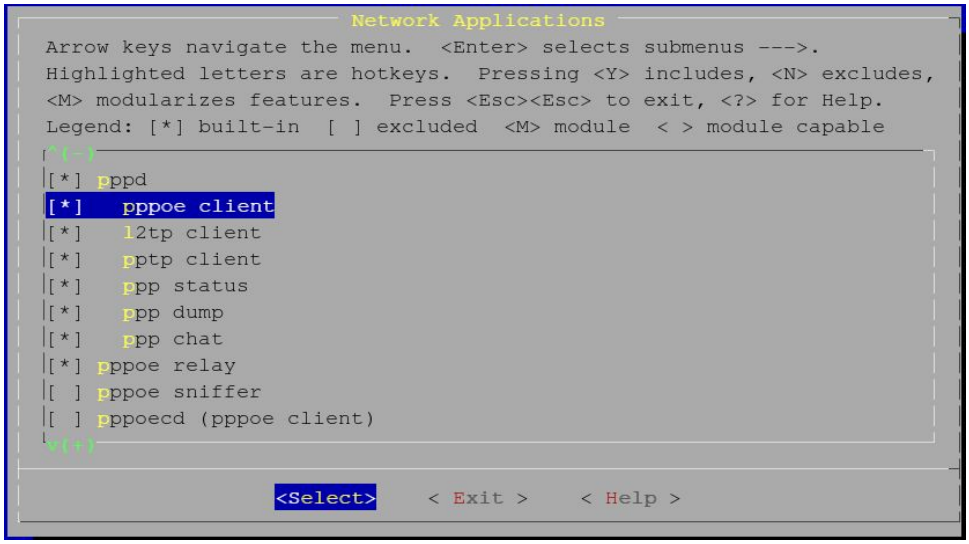
进入 Network Applications --->



选择[*] 3G connection (usb_modeswitch, comgt, pppd, sdparm, and dial-up

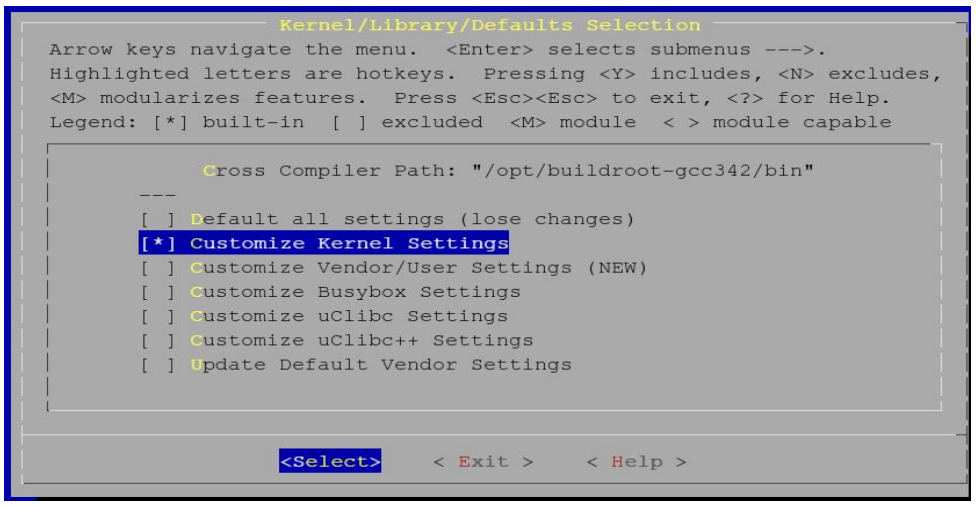


[*] pppd 下全部选择

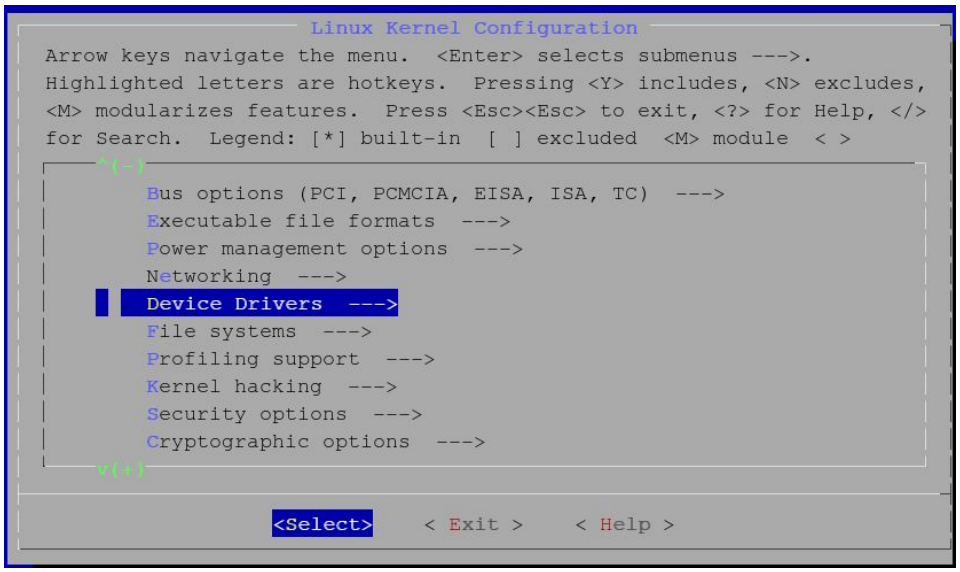


进入 Kernel/Library/Defaults Selection --->

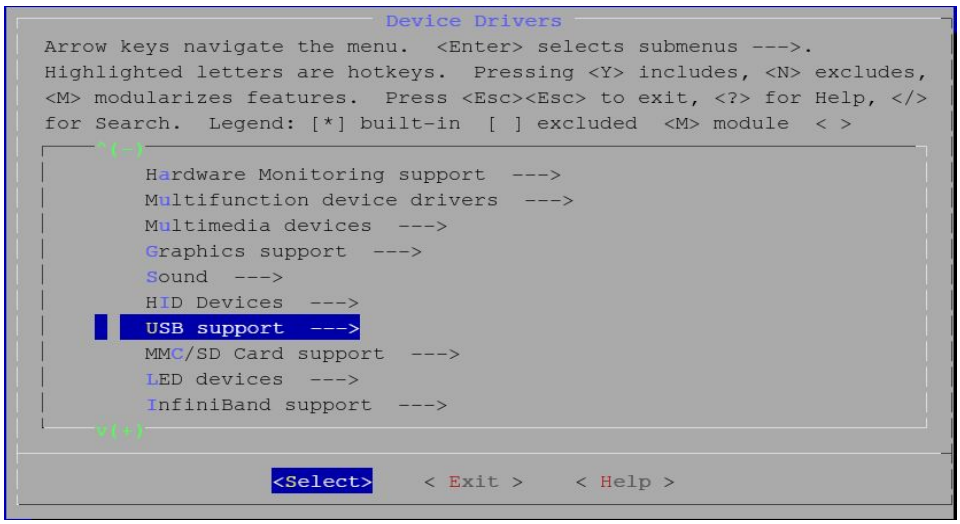
选择 [*] Customize Kernel Settings 后退出



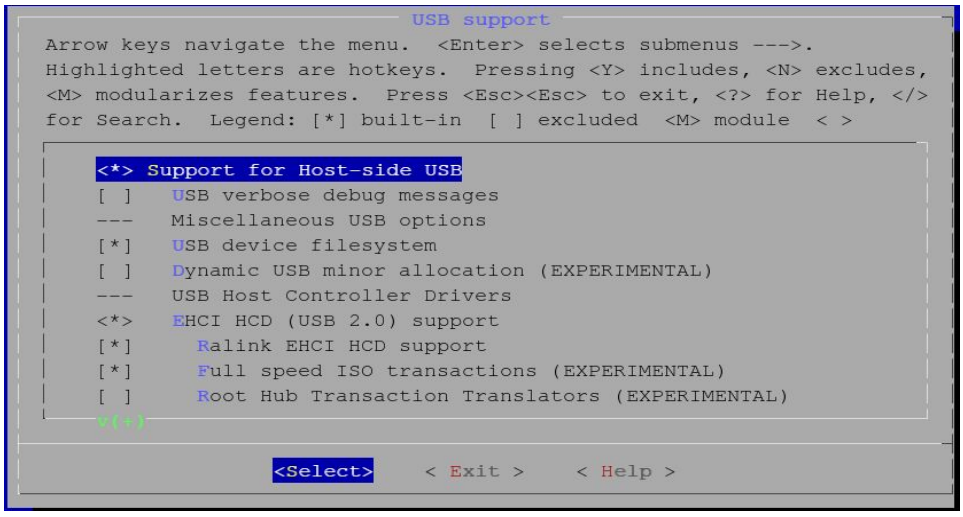
进入 Device Drivers --->



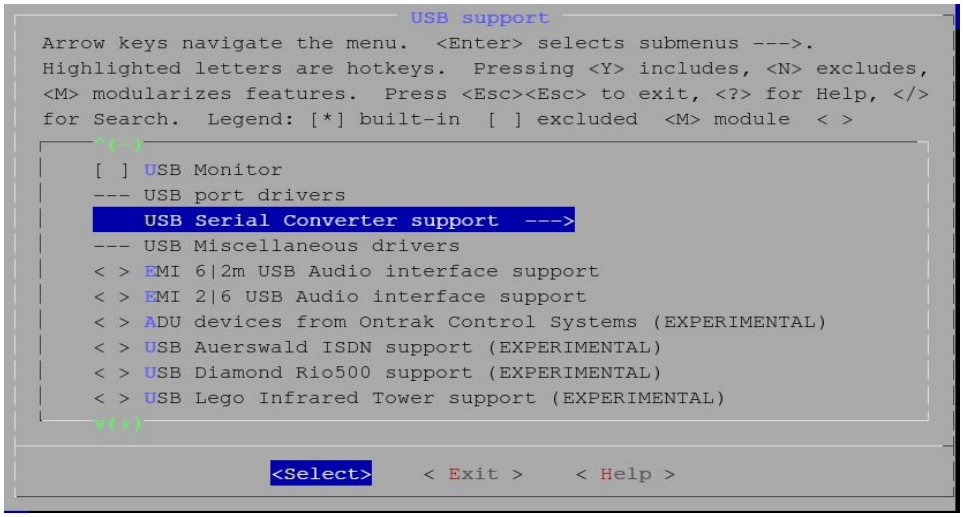
进入 USB support --->



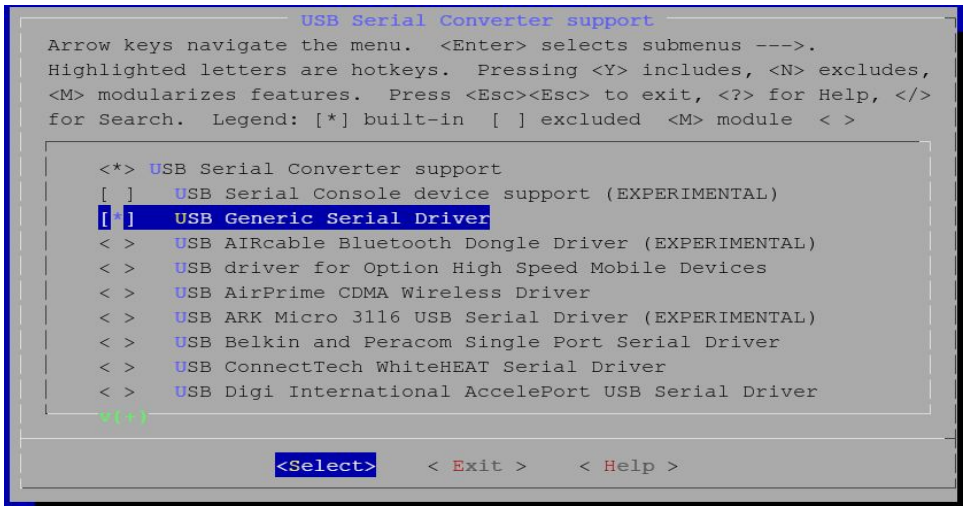
选择<*> Support for Host-side USB



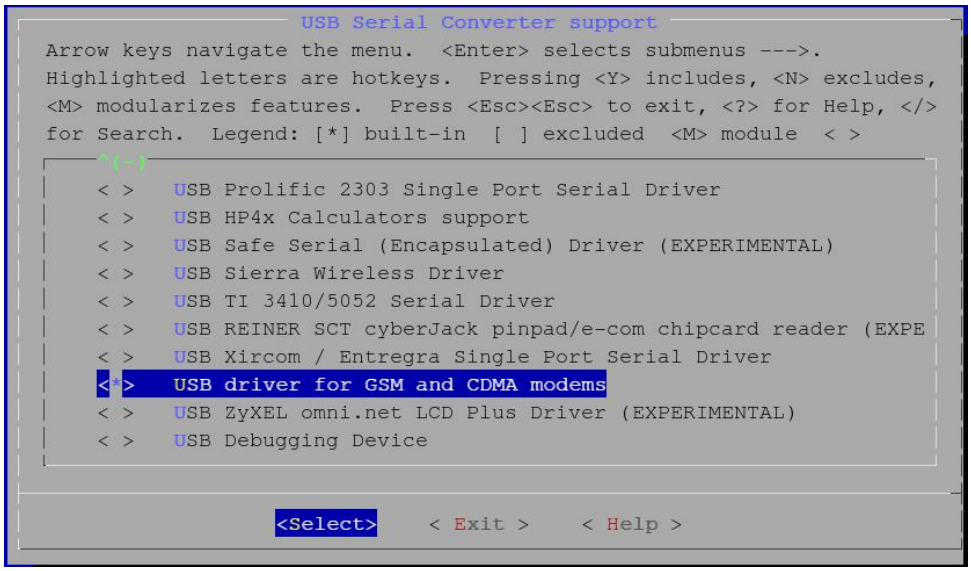
进入 USB Serial Converter support --->



选择 [*] USB Generic Serial Driver



选择<*> USB driver for GSM and CDMA modems



修改配置文件：

1. 获取 Vendor ProdID

#cat /proc/bus/usb/devices

2. 目录 root/RT288x_SDK/source/user/rt2880_app/scripts

修改：3g.sh

```
killall -q pppd
hso_connect.sh down
sleep 8
#change 3G dongle state to modem
if [ "$dev" = "MU-Q101" ]; then
        usb_modeswitch -c /etc_ro/usb/usb_modeswitch_MU-Q101.conf
elif [ "$dev" = "HUAWEI-E169" ]; then
        usb_modeswitch -c /etc_ro/usb/usb_modeswitch_HUAWEI-E169.con
elif [ "$dev" = "BandLuxe-C270" ]; then
   sdparm --command=eject /dev/sr0
   sdparm --command=eject /dev/sg0
elif [ "$dev" = "OPTION-ICON225" ]; then
   usb_modeswitch -c /etc_ro/usb/usb_modeswitch_OPTION-ICON225.conf
elif [ "$dev" = "DATANG-M5731" ]; then
   usb_modeswitch -c /etc_ro/usb/usb_modeswitch_DATANG-M5731.conf
elif [ "$dev" = "SIMCOM-5320E" ]; then
   usb_modeswitch -c /etc_ro/usb/usb_modeswitch_SIMCOM-5320E.conf
```

增加 conf 文件选项：

```
elif [ "$dev" = "SIMCOM-5320E" ]; then
   usb_modeswitch -c /etc_ro/usb/usb_modeswitch_SIMCOM-5320E.conf
```

```
#create ppp call script for 3G connection
if [ "$dev" = "MU-Q101" ]; then
        modem_f=ttyUSB0
elif [ "$dev" = "HUAWEI-E169" ]; then
        modem_f=ttyUSB0
elif [ "$dev" = "BandLuxe-C270" ]; then
        modem_f=ttyUSB0
elif [ "$dev" = "DATANG-M5731" ]; then
        modem_f=ttyUSB0
elif [ "$dev" = "SIMCOM-5320E" ]; then
        modem_f=ttyUSB3
else
        #other supported devcies
        modem_f=ttyUSB0
fi
```

增加端口选择项：（根据模块厂商提供资料选择拨号端口）

```
elif [ "$dev" = "SIMCOM-5320E" ]; then
        modem_f=ttyUSB3
```

修改：autoconn3G.sh

```
#! /bin/sh

LOCK_FILE=/var/lock/LOCK.3G.auto
DEV_FILE=/tmp/usb_dev
SUPPORT_3G="12D1:1001:HUAWEI-E169
        0408:EA02:MU-Q101
        0408:1000:MU-Q101
        0AF0:6971:OPTION-ICON225
        1AB7:5700:DATANG-M5731
        1AB7:5731:DATANG-M5731
        1A8D:1000:BandLuxe-C270
        1A8D:1009:BandLuxe-C270
        05C6:9000:SIMCOM-5320E"
```

增加 Vendor ProdID：注意为大写十六进制

05C6:9000:SIMCOM-5320E"

3. 目录：root/RT288x_SDK/source/user/usb_modeswitch-0.9.5/ conf

新建文件 usb_modeswitch_SIMCOM-5320E.conf，文件名与 3g.sh 中的配置匹配

文件内容：（根据不同的模块进行配置）

```
########################################################
# SIMCOM-5320E
#
#

DefaultVendor=  0x05c6
DefaultProduct= 0x9000

TargetVendor=   0x05c6
TargetProduct=  0x9000

DetachStorageOnly=1
```

4. 目录：root/RT288x_SDK/source/linux-2.6.21.x/drivers/usb/serial/

修改：option.c

```
#define AMOI_VENDOR_ID          0x1614
#define AMOI_PRODUCT_9508       0x0800

#define QUALCOMM_VENDOR_ID      0x05C6

#define MAXON_VENDOR_ID         0x16d8

#define TELIT_VENDOR_ID         0x1bc7
#define TELIT_PRODUCT_UC864E    0x1003

/* ZTE PRODUCTS */
#define ZTE_VENDOR_ID           0x19d2
#define ZTE_PRODUCT_MF628       0x0015
#define ZTE_PRODUCT_CDMA_TECH   0xfffe
#define ZTE_PRODUCT_CDMA_TECH2  0x0003

#define ANYDATA_VENDOR_ID       0x16d5
#define ANYDATA_PRODUCT_ID      0x6501

#define SIMCOM_VENDOR_ID        0x05c6
#define SIMCOM_PRODUCT_5320E    0x9000
```

增加 Vendor ProdID 定义：（根据不同模块配置）

```
#define SIMCOM_VENDOR_ID        0x05c6
#define SIMCOM_PRODUCT_5320E    0x9000
```

```
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_100B) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_100C) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_100D) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_100E) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_100F) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_1010) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_1011) },
    { USB_DEVICE(BANDRICH_VENDOR_ID, BANDRICH_PRODUCT_1012) },
    { USB_DEVICE(KYOCERA_VENDOR_ID, KYOCERA_PRODUCT_KPC650) },
    { USB_DEVICE(KYOCERA_VENDOR_ID, KYOCERA_PRODUCT_KPC680) },
    { USB_DEVICE(QUALCOMM_VENDOR_ID, 0x6000)}, /* ZTE AC8700 */
    { USB_DEVICE(QUALCOMM_VENDOR_ID, 0x6613)}, /* Onda H600/ZTE MF330 */
    { USB_DEVICE(MAXON_VENDOR_ID, 0x6280) }, /* BP3-USB & BP3-EXT HSDPA */
    { USB_DEVICE(TELIT_VENDOR_ID, TELIT_PRODUCT_UC864E) },
    { USB_DEVICE(ZTE_VENDOR_ID, ZTE_PRODUCT_MF628) },
    { USB_DEVICE(ZTE_VENDOR_ID, ZTE_PRODUCT_CDMA_TECH) },
    { USB_DEVICE(ZTE_VENDOR_ID, ZTE_PRODUCT_CDMA_TECH2) },
    { USB_DEVICE(SIMCOM_VENDOR_ID, SIMCOM_PRODUCT_5320E) },
    { } /* Terminating entry */
};
MODULE_DEVICE_TABLE(usb, option_ids);
```

将 Vendor ProdID 定义加入设备结构列表：

```
 { USB_DEVICE(SIMCOM_VENDOR_ID, SIMCOM_PRODUCT_5320E) },
```

5. 目录：root/RT288x_SDK/source/user/goahead/web/internet/

修改：wan.asp

```
        document.wanCfg.connectionType.options.selectedIndex = 5;

        if (dev_3g == "Auto")
           document.wanCfg.Dev3G.options.selectedIndex = 0;
        else if (dev_3g == "HUAWEI-E169")
           document.wanCfg.Dev3G.options.selectedIndex = 2;
        else if (dev_3g == "BandLuxe-C270")
           document.wanCfg.Dev3G.options.selectedIndex = 3;
        else if (dev_3g == "OPTION-ICON225")
           document.wanCfg.Dev3G.options.selectedIndex = 4;
        else if (dev_3g == "DATANG-M5731")
           document.wanCfg.Dev3G.options.selectedIndex = 5;
        else if (dev_3g == "SIMCOM-5320E")
           document.wanCfg.Dev3G.options.selectedIndex = 6;
        else
           document.wanCfg.Dev3G.options.selectedIndex = 7;

        //w3GOPModeSwitch();

    }
    else {
```

增加：

```
else if (dev_3g == "SIMCOM-5320E")
    document.wanCfg.Dev3G.options.selectedIndex = 6;
```

```
<tr>
  <td class="head" id="w3GDev" >USB 3G modem</td>
  <td>
    <select name="Dev3G" size="1">
      <option value="Auto" id="Auto">AutoDetect</option>
      <option value="MU-Q101" id="MU-Q101">NU MU-Q101</option>
      <option value="HUAWEI-E169" id="E169">HUAWEI E169</option>
      <option value="BandLuxe-C270" id="C270">BandLuxe C270</option>
      <option value="OPTION-ICON225" id="ICON225">OPTION ICON 225</option>
      <option value="DATANG-M5731" id="M5731">DATANG M5731</option>
      <option value="SIMCOM-5320E" id="5320E">SIMCOM-5320E</option>
    </select>
  </td>
</tr>
```

增加 web 选项：

```
<option value="SIMCOM-5320E" id="5320E">SIMCOM-5320E</option>
```

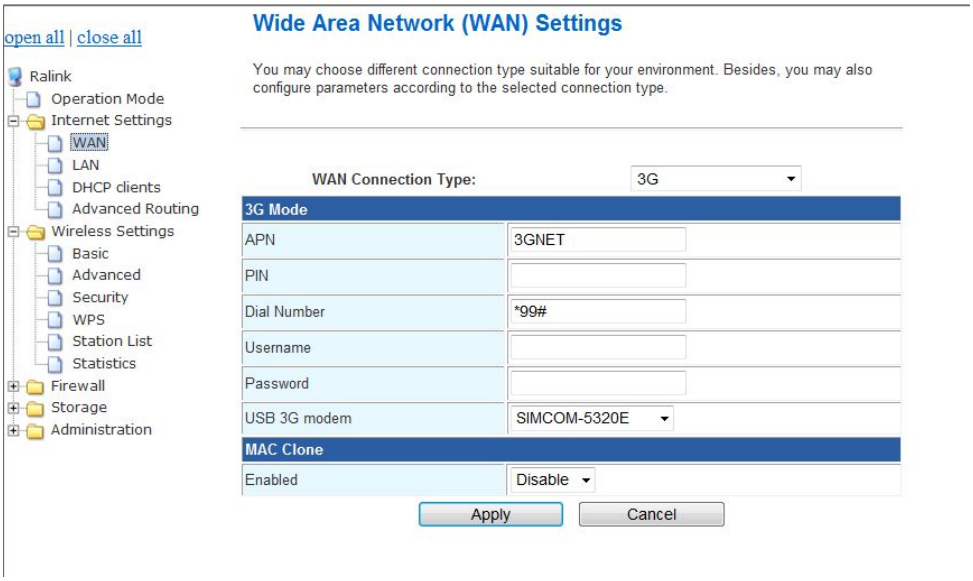
6. 至此，全部配置完成

Make clean

Make dep

Make

下载到开发板，进入到 WEB 的 WLAN 项选择 3G 模式



7. 重启设备,在最后查看串口打印信息，说明设备配置成功

```
br0: topology change detected, propagating
br0: port 2(eth2.1) entering forwarding state
br0: topology change detected, propagating
br0: port 1(ra0) entering forwarding state

 * usb_modeswitch: tool for controlling "flip flop" mode USB devices
 * Version 0.9.5 (C) Josua Dietze 2008
 * Works with libusb 0.1.12 and probably other versions

Looking for target devices
 Found target devices (1)
Looking for default devices
 Found default devices (1)
Prepare switching, accessing latest device
Looking for active default driver to detach it
 OK, driver found ("option")
 No usb-storage driver found. Switching not necessary. Bye

rmmod: option: No such file or directory
rmmod: hso: No such file or directory
insmod: option.ko: module not found
```

8. 测试是否可以 ping 通外网：

```
br0: topology change detected, propagatingRAM:  32
1>/dev/null 2>&1iver initialized
killall -q ripdf 16384K size 1
ping www.baidu.com

64 bytes from 61.135.169.105: seq=1 ttl=53 time=172.480 ms
64 bytes from 61.135.169.105: seq=2 ttl=53 time=164.520 ms
64 bytes from 61.135.169.105: seq=3 ttl=53 time=140.520 ms
64 bytes from 61.135.169.105: seq=4 ttl=53 time=176.500 ms
64 bytes from 61.135.169.105: seq=5 ttl=53 time=851.520 ms
64 bytes from 61.135.169.105: seq=6 ttl=53 time=157.520 ms
64 bytes from 61.135.169.105: seq=7 ttl=53 time=243.500 ms
64 bytes from 61.135.169.105: seq=8 ttl=53 time=3050.580 ms
64 bytes from 61.135.169.105: seq=9 ttl=53 time=2046.760 ms
64 bytes from 61.135.169.105: seq=10 ttl=53 time=1042.880 ms
64 bytes from 61.135.169.105: seq=11 ttl=53 time=438.500 ms
64 bytes from 61.135.169.105: seq=12 ttl=53 time=133.500 ms
64 bytes from 61.135.169.105: seq=13 ttl=53 time=120.520 ms
64 bytes from 61.135.169.105: seq=14 ttl=53 time=135.520 ms
64 bytes from 61.135.169.105: seq=15 ttl=53 time=131.500 ms
64 bytes from 61.135.169.105: seq=16 ttl=53 time=647.600 ms
64 bytes from 61.135.169.105: seq=17 ttl=53 time=123.520 ms
64 bytes from 61.135.169.105: seq=18 ttl=53 time=139.500 ms

--- www.baidu.com ping statistics ---
19 packets transmitted, 19 packets received, 0% packet loss
round-trip min/avg/max = 120.520/553.488/3050.580 ms

#
```

能 ping 通外网，说明已经可以开始上网了