

1. remove and install some software

```
carl@ubuntu:~$ sudo apt-get update
carl@ubuntu:~$ sudo apt-get remove modemmanager
carl@ubuntu:~$ sudo apt-get install vim git busybox dos2unix
```

2. get Quectel Linux Drivers Package, and extract it

```
carl@ubuntu:~$ ls quectel_linux_20161116.zip
quectel_linux_20161116.zip

carl@ubuntu:~$ unzip -x quectel_linux_20161116.zip

carl@ubuntu:~$ cd quectel_linux/
```

```
carl@ubuntu:~/quectel_linux$ ls
Quectel_Android_GPS_SR01A05V07.tgz
Quectel_Android_RIL_Driver_User_Guide_V1.5.pdf
Quectel_Android_RIL_SR01A40V43.tgz
Quectel_Linux_CMUX_SR01A07V01.tgz
Quectel_Linux_ConnectManager_SR01A01V23.tgz
Quectel_Linux_GobiNet_SR01A02V16.tgz
Quectel_Linux_PPP_Scripts_SR01A01V01.tgz
Quectel_Linux_RIL.zip
Quectel_Linux_USB_Drivers_Sample_SR01A01V01.tgz
Quectel_WCDMA&LTE_Linux_USB_Driver_User_Guide_V1.6.pdf
```

3. install Quectel Linux USB drivers

```
carl@ubuntu:~/quectel_linux$ tar -xf Quectel_Linux_USB_Drivers_Sample_SR01A01V01.tgz

carl@ubuntu:~/quectel_linux$ cd Quectel_USB_Drivers_Sample/

carl@ubuntu:~/quectel_linux/Quectel_USB_Drivers_Sample$ ls
2.6.14 2.6.24 2.6.28.10 2.6.32.27 3.13.0 3.19.0 3.5.0 4.0.9
```

3.1 check ubuntu's Linux Kernel Version, for example 3.19.0

```
carl@ubuntu:~/quectel_linux/Quectel_USB_Drivers_Sample$ uname -r
3.19.0-25-generic
```

3.2 for my kernel version is 3.19.0, so switch to 3.19.0

```
carl@ubuntu:~/quectel_linux/Quectel_USB_Drivers_Sample$ cd 3.19.0/
```

3.3 run command "git diff" to see the modify described in Quectel_WCDMA<E_Linux_USB_Driver_User_Guide_V1.6.pdf

```
carl@ubuntu:~/quectel_linux/Quectel_USB_Drivers_Sample/3.19.0$ git diff
```

3.3 run command "make install" to install drivers for UC15/UC20/EC20/EC25, including usb-serial-option usb-cd-acm

qmi_wwan

```
carl@ubuntu:~/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0$ sudo make install
```

```
rm -rf *~ .tmp_versions modules.order Module.symvers
```

```
find . -type f -name *~ -o -name *.o -o -name *.ko -o -name *.cmd -o -name *.mod.c | xargs rm -rf
```

```
make -C /lib/modules/3.19.0-25-generic/build M=/home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0 modules
```

```
make[1]: Entering directory `/usr/src/linux-headers-3.19.0-25-generic'
```

```
CC [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/class/cdc-acm.o
```

```
CC [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/usb_wwan.o
```

```
CC [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/option.o
```

```
CC [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/qcserial.o
```

```
CC [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/net/usb/qmi_wwan.o
```

```
Building modules, stage 2.
```

```
MODPOST 5 modules
```

```
CC /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/net/usb/qmi_wwan.mod.o
```

```
LD [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/net/usb/qmi_wwan.ko
```

```
CC /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/class/cdc-acm.mod.o
```

```
LD [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/class/cdc-acm.ko
```

```
CC /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/option.mod.o
```

```
LD [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/option.ko
```

```
CC /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/qcserial.mod.o
```

```
LD [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/qcserial.ko
```

```
CC /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/usb_wwan.mod.o
```

```
LD [M] /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/./drivers/usb/serial/usb_wwan.ko
```

```
make[1]: Leaving directory `/usr/src/linux-headers-3.19.0-25-generic'
```

```
cp /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/drivers/usb/serial/option.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/
```

```
cp /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/drivers/usb/serial/usb_wwan.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/
```

```
cp /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/drivers/usb/serial/qcserial.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/serial/
```

```
cp /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/drivers/usb/class/cdc-acm.ko /lib/modules/3.19.0-25-generic/kernel/drivers/usb/class/
```

```
cp /home/carl/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0/drivers/net/usb/qmi_wwan.ko /lib/modules/3.19.0-25-generic/kernel/drivers/net/usb/
```

```
modprobe -r option qcserial cdc-acm qmi_wwan
```

```
depmod
```

4. now reboot your computer, and inster Quetcet Modules

```
carl@ubuntu:~/quetcet_linux/Quetcet_USB_Drivers_Sample/3.19.0$ sudo dmesg
```

```
[ 7964.109503] usb 1-2: new high-speed USB device number 5 using ehci-pci
```

```
[ 7964.473003] usb 1-2: New USB device found, idVendor=2c7c, idProduct=0125
```

```
[ 7964.473009] usb 1-2: New USB device strings: Mfr=1, Product=2, SerialNumber=0
```

```
[ 7964.473012] usb 1-2: Product: Android
```

```
[ 7964.473014] usb 1-2: Manufacturer: Android
```

```
[ 7964.964431] usbcore: registered new interface driver usbserial
```

```
[ 7964.964668] usbcore: registered new interface driver usbserial_generic
```

```
[ 7964.964856] usbserial: USB Serial support registered for generic
```

```
[ 7964.965017] usb_wwan: module verification failed: signature and/or required key missing - tainting kernel
```

```
[ 7964.969013] usbcore: registered new interface driver option
[ 7964.969080] usbserial: USB Serial support registered for GSM modem (1-port)
[ 7964.969135] option 1-2:1.0: GSM modem (1-port) converter detected
[ 7964.969397] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB0
[ 7964.969461] option 1-2:1.1: GSM modem (1-port) converter detected
[ 7964.969726] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB1
[ 7964.969780] option 1-2:1.2: GSM modem (1-port) converter detected
[ 7964.969943] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB2
[ 7964.970003] option 1-2:1.3: GSM modem (1-port) converter detected
[ 7964.970163] usb 1-2: GSM modem (1-port) converter now attached to ttyUSB3
[ 7964.987915] usbcore: registered new interface driver cdc_wdm
[ 7964.989197] qmi_wwan 1-2:1.4: cdc-wdm0: USB WDM device
[ 7964.989199] qmi_wwan 1-2:1.4: Quectel EC21&EC25 work on RawIP mode
[ 7964.991341] qmi_wwan 1-2:1.4 wwan0: register 'qmi_wwan' at usb-0000:02:03.0-2, WWAN/QMI device,
72:0a:3c:b4:8b:dd
[ 7964.991651] usbcore: registered new interface driver qmi_wwan
```

5. Test AT Commands

```
carl@ubuntu:~/quectel_linux$ sudo busybox microcom /dev/ttyUSB2
```

```
at
OK
at+cops?
+COPS: 0,0,"CHN-UNICOM",7
```

```
OK
ati
Quectel
EC25
Revision: EC25EFAR02A04M4G
```

```
OK
at+cgreg?
+CGREG: 0,1
```

```
OK
+CMTI: "ME",7
```

5. Test PPP

```
carl@ubuntu:~/quectel_linux$ tar -xf Quectel_Linux_PPP_Scripts_SR01A01V01.tgz
carl@ubuntu:~/quectel_linux$ cd linux-ppp-scripts/
carl@ubuntu:~/quectel_linux/linux-ppp-scripts$ ls
ip-up                quectel-chat-disconnect  quectel-pppd.sh    readme
quectel-chat-connect  quectel-ppp              quectel-ppp-kill
carl@ubuntu:~/quectel_linux/linux-ppp-scripts$ dos2unix *
carl@ubuntu:~/quectel_linux/linux-ppp-scripts$ sudo cp quectel-chat-connect /etc/ppp/peers/
carl@ubuntu:~/quectel_linux/linux-ppp-scripts$ sudo cp quectel-chat-disconnect /etc/ppp/peers/
carl@ubuntu:~/quectel_linux/linux-ppp-scripts$ sudo cp quectel-ppp /etc/ppp/peers/
```

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ pppd call qucetel-ppp &
```

pppd options in effect:

```
debug      # (from /etc/ppp/peers/qucetel-ppp)
nodetach   # (from /etc/ppp/peers/qucetel-ppp)
dump       # (from /etc/ppp/peers/qucetel-ppp)
noauth     # (from /etc/ppp/peers/qucetel-ppp)
user test  # (from /etc/ppp/peers/qucetel-ppp)
password ?????? # (from /etc/ppp/peers/qucetel-ppp)
remotename 3gppp # (from /etc/ppp/peers/qucetel-ppp)
/dev/ttyUSB3 # (from /etc/ppp/peers/qucetel-ppp)
```

.....

Could not determine remote IP address: defaulting to 10.64.64.64

local IP address 10.21.95.21

remote IP address 10.64.64.64

primary DNS address 58.242.2.2

secondary DNS address 218.104.78.2

Script /etc/ppp/ip-up started (pid 14501)

Script /etc/ppp/ip-up finished (pid 14501), status = 0x0

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ ifconfig ppp0
```

```
ppp0      Link encap:Point-to-Point Protocol
          inet addr:10.21.95.21  P-t-P:10.64.64.64  Mask:255.255.255.255
          UP POINTOPOINT RUNNING NOARP MULTICAST  MTU:1500  Metric:1
          RX packets:7 errors:0 dropped:0 overruns:0 frame:0
          TX packets:7 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:3
          RX bytes:666 (666.0 B)  TX bytes:233 (233.0 B)
```

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ cat /etc/resolv.conf
```

```
# Dynamic resolv.conf(5) file for glibc resolver(3) generated by resolvconf(8)
#     DO NOT EDIT THIS FILE BY HAND -- YOUR CHANGES WILL BE OVERWRITTEN
nameserver 58.242.2.2
nameserver 218.104.78.2
```

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ route -n
```

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
0.0.0.0	0.0.0.0	0.0.0.0	U	0	0	0	ppp0
10.64.64.64	0.0.0.0	255.255.255.255	UH	0	0	0	ppp0

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ ping www.baidu.com
```

PING www.a.shifen.com (61.135.169.121) 56(84) bytes of data.

64 bytes from 61.135.169.121: icmp_seq=1 ttl=53 time=50.4 ms

64 bytes from 61.135.169.121: icmp_seq=2 ttl=53 time=53.2 ms

```
carl@ubuntu:~/qucetel_linux/linux-ppp-scripts$ sudo killall pppd
```

Terminating on signal 15

Connect time 0.1 minutes.

Sent 113 bytes, received 370 bytes.

6. Test qmi_wwan and quectel-CM

```
carl@ubuntu:~/quectel_linux$ tar -xf Quectel_Linux_ConnectManager_SR01A01V23.tgz
```

```
carl@ubuntu:~/quectel_linux$ cd quectel-CM/
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ chmod a+x default.script
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ dos2unix default.script
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ sudo mkdir -p /etc/udhcpc
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ sudo cp default.script /etc/udhcpc/
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ make
```

```
rm -rf quectel-CM *~
```

```
gcc -Wall -s QmiWwanCM.c GobiNetCM.c main.c MPQMUX.c QMIThread.c util.c udhcpc.c -o quectel-CM -lpthread
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ sudo ./quectel-CM &
```

```
[1] 14884
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$
```

```
[12-07_21:58:05:085] Quectel_Linux_ConnectManager_SR01A01V23
```

```
[12-07_21:58:05:090] ./quectel-CM profile[1] = (null)/(null)/(null)/0, pincode = (null)
```

```
[12-07_21:58:05:090] Find qmichannel = /dev/cdc-wdm0
```

```
[12-07_21:58:05:090] Find usbnet_adapter = wwan0
```

```
[12-07_21:58:05:099] cdc_wdm_fd = 7
```

```
[12-07_21:58:05:138] Get clientWDS = 19
```

```
[12-07_21:58:05:150] Get clientDMS = 1
```

```
[12-07_21:58:05:162] Get clientNAS = 3
```

```
[12-07_21:58:05:176] Get clientUIM = 1
```

```
[12-07_21:58:05:185] Get clientWDA = 1
```

```
[12-07_21:58:05:195] requestBaseBandVersion EC25EFAR02A04M4G 1 [Nov 10 2016 17:00:00]
```

```
[12-07_21:58:05:220] requestGetSIMStatus SIMStatus: SIM_READY
```

```
[12-07_21:58:05:232] requestGetProfile[1] 3gnet///0
```

```
[12-07_21:58:05:242] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE
```

```
[12-07_21:58:05:250] requestQueryDataCall ConnectionStatus: DISCONNECTED
```

```
[12-07_21:58:05:266] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE
```

```
[12-07_21:58:05:294] requestSetupDataCall WdsConnectionIPv4Handle: 0x8798d620
```

```
[12-07_21:58:05:305] requestQueryDataCall ConnectionStatus: CONNECTED
```

```
[12-07_21:58:05:319] Fail to access /usr/share/udhcpc/default.script, errno: 2 (No such file or directory)
```

```
[12-07_21:58:05:321] udhcpc (v1.21.1) started
```

```
[12-07_21:58:05:323] Sending discover...
```

```
[12-07_21:58:05:331] Sending select for 10.21.95.21...
```

```
[12-07_21:58:05:337] Lease of 10.21.95.21 obtained, lease time 7200
```

```
[12-07_21:58:05:342] /etc/udhcpc/default.script: Resetting default routes
```

```
SIOCDELRT: No such process
```

```
[12-07_21:58:05:344] /etc/udhcpc/default.script: Adding DNS 58.242.2.2
```

```
[12-07_21:58:05:345] /etc/udhcpc/default.script: Adding DNS 218.104.78.2
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ ifconfig wwan0
```

```
wwan0      Link encap:Ethernet  HWaddr 72:0a:3c:b4:8b:dd
```

```
inet addr:10.21.95.21 Bcast:10.21.95.23 Mask:255.255.255.252
inet6 addr: fe80::700a:3cff:feb4:8bdd/64 Scope:Link
UP BROADCAST RUNNING NOARP MULTICAST MTU:1500 Metric:1
RX packets:4 errors:0 dropped:0 overruns:0 frame:0
TX packets:38 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:979 (979.0 B) TX bytes:5996 (5.9 KB)
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ cat /etc/resolv.conf
nameserver 58.242.2.2
nameserver 218.104.78.2
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ route -n
```

Kernel IP routing table

Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Iface
0.0.0.0	10.21.95.22	0.0.0.0	UG	0	0	0	wwan0
10.21.95.20	0.0.0.0	255.255.255.252	U	0	0	0	wwan0

```
carl@ubuntu:~/quectel_linux/quectel-CM$ ping www.baidu.com
PING www.a.shifen.com (61.135.169.121) 56(84) bytes of data.
64 bytes from 61.135.169.121: icmp_seq=1 ttl=53 time=48.4 ms
64 bytes from 61.135.169.121: icmp_seq=2 ttl=53 time=51.0 ms
^C
```

```
--- www.a.shifen.com ping statistics ---
```

```
2 packets transmitted, 2 received, 0% packet loss, time 1001ms
rtt min/avg/max/mdev = 48.497/49.763/51.029/1.266 ms
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ sudo killall quectel-CM
[12-07_21:58:38:375] requestDeactivateDefaultPDP err = 0
[12-07_21:58:38:442] QmiWwanThread exit
[12-07_21:58:38:443] main exit
```

7. Test GobiNet and quectel-CM

```
carl@ubuntu:~/quectel_linux$ tar -xf Quectel_Linux_GobiNet_SR01A02V16.tgz
```

```
carl@ubuntu:~/quectel_linux$ cd GobiNet/
```

```
carl@ubuntu:~/quectel_linux/GobiNet$ sudo make install
```

```
In -sf makefile Makefile
```

```
make ARCH=x86_64 CROSS_COMPILE= -C /lib/modules/3.19.0-25-generic/build M=/home/carl/quectel_linux/GobiNet
modules
```

```
make[1]: Entering directory `/usr/src/linux-headers-3.19.0-25-generic'
```

```
CC [M] /home/carl/quectel_linux/GobiNet/GobiUSBNet.o
```

```
CC [M] /home/carl/quectel_linux/GobiNet/QMIDevice.o
```

```
CC [M] /home/carl/quectel_linux/GobiNet/QMI.o
```

```
LD [M] /home/carl/quectel_linux/GobiNet/GobiNet.o
```

```
Building modules, stage 2.
```

```
MODPOST 1 modules
```

```
CC /home/carl/quectel_linux/GobiNet/GobiNet.mod.o
```

```
LD [M] /home/carl/quectel_linux/GobiNet/GobiNet.ko
```

```
make[1]: Leaving directory `/usr/src/linux-headers-3.19.0-25-generic'
```

```
mkdir -p /lib/modules/`uname -r`/kernel/drivers/net/usb/
cp -f GobiNet.ko /lib/modules/`uname -r`/kernel/drivers/net/usb/
depmod
modprobe -r GobiNet
modprobe GobiNet
```

```
carl@ubuntu:~/quectel_linux/GobiNet$ sudo modprobe -r qmi_wwan GobiNet
carl@ubuntu:~/quectel_linux/GobiNet$ sudo modprobe -a GobiNet
carl@ubuntu:~/quectel_linux/GobiNet$ sudo dmesg -c
[ 8806.862480] usbcore: deregistering interface driver qmi_wwan
[ 8806.862525] qmi_wwan 1-2:1.4 wwan0: unregister 'qmi_wwan' usb-0000:02:03.0-2, WWAN/QMI device
[ 8806.889236] usbcore: deregistering interface driver cdc_wdm
[ 8811.077980] usbcore: deregistering interface driver GobiNet
[ 8816.321967] GobiNet: Quectel_Linux_GobiNet_SR01A02V16
[ 8816.337375] GobiNet 1-2:1.4 eth1: register 'GobiNet' at usb-0000:02:03.0-2, GobiNet Ethernet Device,
8a:91:bf:c2:a1:46
[ 8816.342153] creating qcqmi1
[ 8816.344985] usbcore: registered new interface driver GobiNet
```

```
carl@ubuntu:~/quectel_linux/quectel-CM$ sudo ./quectel-CM &
[1] 15324
carl@ubuntu:~/quectel_linux/quectel-CM$ [12-07_22:02:50:987] Quectel_Linux_ConnectManager_SR01A01V23
[12-07_22:02:50:992] ./quectel-CM profile[1] = (null)/(null)/(null)/0, pincode = (null)
[12-07_22:02:50:992] Find qmichannel = /dev/qcqm1
[12-07_22:02:50:993] Find usbnet_adapter = eth1
[12-07_22:02:51:020] Get clientWDS = 7
[12-07_22:02:51:028] Get clientDMS = 8
[12-07_22:02:51:038] Get clientNAS = 9
[12-07_22:02:51:048] Get clientUIM = 10
[12-07_22:02:51:060] Get clientWDA = 11
[12-07_22:02:51:070] requestBaseBandVersion EC25EFAR02A04M4G 1 [Nov 10 2016 17:00:00]
[12-07_22:02:51:092] requestGetSIMStatus SIMStatus: SIM_READY
[12-07_22:02:51:107] requestGetProfile[1] 3gnet///0
[12-07_22:02:51:116] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE
[12-07_22:02:51:124] requestQueryDataCall ConnectionStatus: DISCONNECTED
[12-07_22:02:51:143] requestRegistrationState2 MCC: 460, MNC: 1, PS: Attached, DataCap: LTE
[12-07_22:02:51:172] requestSetupDataCall WdsConnectionIPv4Handle: 0x8798d620
[12-07_22:02:51:196] requestQueryDataCall ConnectionStatus: CONNECTED
[12-07_22:02:51:211] Fail to access /usr/share/udhcpc/default.script, errno: 2 (No such file or directory)
[12-07_22:02:51:233] udhcpc (v1.21.1) started
[12-07_22:02:51:237] Sending discover...
[12-07_22:02:51:244] Sending select for 10.21.95.21...
[12-07_22:02:51:247] Lease of 10.21.95.21 obtained, lease time 7200
[12-07_22:02:51:251] /etc/udhcpc/default.script: Resetting default routes
SIOCDELRT: No such process
[12-07_22:02:51:254] /etc/udhcpc/default.script: Adding DNS 58.242.2.2
[12-07_22:02:51:254] /etc/udhcpc/default.script: Adding DNS 218.104.78.2
```