



## 1、USB 驱动安装与加载

### 1.1 USB 信息

PID	VID	接口号	注释
0x19D2	0x0199	0	ZTE CMCC AT Interface
		1	以太网卡
		2	ZTE CMCC Modem Interface
		3	ZTE CMCC Log Interface

Linux3.8 及以上内核已经支持上述 PID 以及接口组合的驱动。只需要按下面的方法配置内核即可。

### 1.2 USB 串口驱动的安装

USB 接口中的 0、2、3 三个接口需要安装 USB 转串口驱动。需要编译内核的 drivers/usb/serial 模块。通过 make menuconfig 配置内核编译该模块的方法如下：

```
.config - Linux/arm 3.4.5 Kernel Configuration

Linux/arm 3.4.5 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters
are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press
<Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [ ]
excluded <M> module < > module capable

[*] Bus support --->
  [*] Kernel Features --->
  [*] Boot options --->
  [*] CPU Power Management --->
  [*] Floating point emulation --->
  [*] Userspace binary formats --->
  [*] Power management options --->
  [*] Networking support --->
  [*] Device Drivers --->
  [*] File systems --->

<Select> < Exit > < Help >
```

.config - Linux/arm 3.4.5 Kernel Configuration

Device Drivers

Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ] excluded <M> module < > module capable

```
[*] Sonics Silicon Backplane --->
[*] Broadcom specific AMBA --->
[*] Multifunction device drivers --->
[ ] Voltage and Current Regulator Support --->
< > Multimedia support --->
    Graphics support --->
< > Sound card support --->
[ ] HID Devices --->
[*] USB support --->
< > MMC/SD/SDIO card support --->
```

<Select> < Exit > < Help >

.config - Linux/arm 3.4.5 Kernel Configuration

USB support

Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ] excluded <M> module < > module capable

```
< > USB Wireless Device Management support (NEW)
< > USB Test and Measurement Class support (NEW)
    *** NOTE: USB_STORAGE depends on SCSI but BLK_DEV_SD may ***
    *** also be needed; see USB_STORAGE Help for more info ***
[ ] The shared table of common (or usual) storage devices (NEW)
    *** USB Imaging devices ***
< > USB Mustek MDC800 Digital Camera support (NEW)
    *** USB port drivers ***
[*] USB Serial Converter support --->
    *** USB Miscellaneous drivers ***
```

<Select> < Exit > < Help >

.config - Linux/arm 3.4.5 Kernel Configuration

USB Serial Converter support

Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ] excluded <M> module < > module capable

```
< > USB Safe Serial (Encapsulated) Driver (NEW)
< > USB Siemens MPI driver (NEW)
< > USB Sierra Wireless Driver (NEW)
< > USB Symbol Barcode driver (serial mode) (NEW)
< > USB TI 3410/5052 Serial Driver (NEW)
< > USB REINER SCT cyberJack pinpad/e-com chipcard reader (NEW)
< > USB Xircom / Entegra Single Port Serial Driver (NEW)
[*] USB driver for GSM and CDMA modems
< > USB ZyXEL omni.net LCD Plus Driver (NEW)
< > USB Opticon Barcode driver (serial mode) (NEW)
```

<Select> < Exit > < Help >

### 1.3 网卡驱动安装

USB 接口中的接口 1 为网络数据接口。如果设备枚举的是标准的 CDC 类网络设备（如 ECM）驱动的加载不在此处描述。

首先需要配置将文件 drivers/net/usb 下的 qmi\_wwan.c 编译到内核，通过 make menuconfig 配置内核编译该模块

```
.config - Linux/arm 3.4.5 Kernel Configuration

Linux/arm 3.4.5 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus --->.
Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes,
<M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </>
for Search. Legend: [*] built-in [ ] excluded <M> module < >

[*] Bus support --->
Kernel Features --->
Boot options --->
CPU Power Management --->
Floating point emulation --->
Userspace binary formats --->
Power management options --->
[*] Networking support --->
Device Drivers --->
File systems --->

<Select> < Exit > < Help >
```

```
.config - Linux/arm 3.4.5 Kernel Configuration

Device Drivers
Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted
letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes
features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend:
[*] built-in [ ] excluded <M> module < > module capable

<*> Memory Technology Device (MTD) support --->
< > Parallel port support --->
[*] Block devices --->
Misc devices --->
SCSI device support --->
< > Serial ATA and Parallel ATA drivers --->
[ ] Multiple devices driver support (RAID and LVM) --->
[*] Network device support --->
[ ] ISDN support --->
Input device support --->

<Select> < Exit > < Help >
```

.config - Linux/arm 3.4.5 Kernel Configuration

Network device support

Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ] excluded <M> module < >

```
< > Universal TUN/TAP device driver support
< > Virtual ethernet pair device
*** CAIF transport drivers ***
[ ] Ethernet driver support --->
< > PHY Device support and infrastructure --->
< > Micrel KS8995MA 5-ports 10/100 managed Ethernet switch
< > PPP (point-to-point protocol) support
< > SLIP (serial line) support
[*] USB Network Adapters --->
[*] Wireless LAN --->
```

<Select> < Exit > < Help >

.config - Linux/arm 3.4.5 Kernel Configuration

USB Network Adapters

Arrow keys navigate the menu. <Enter> selects submenus --->. Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [\*] built-in [ ] excluded <M> module < >

```
< > USB CATC NetMate-based Ethernet device support (EXPERIMENTAL)
< > USB KLSI KL5USB101-based ethernet device support (NEW)
< > USB Pegasus/Pegasus-II based ethernet device support (NEW)
< > USB RTL8150 based ethernet device support (EXPERIMENTAL) (NEW)
[*] Multi-purpose USB Networking Framework
<*> ASIX AX88xxx Based USB 2.0 Ethernet Adapters (NEW)
- *- CDC Ethernet support (smart devices such as cable modems)
< > CDC EEM support (NEW)
<*> CDC NCM support (NEW)
< > Davicom DM9601 based USB 1.1 10/100 ethernet devices (NEW)
```

<Select> < Exit > < Help >

## .config - Linux/x86\_64 3.8.13 Kernel Configuration

### USB Network Adapters

Arrow keys navigate the menu. <Enter> selects submenus --->.  
Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes,  
<M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </>  
for Search. Legend: [\*] built-in [ ] excluded <M> module < >

^(-)

- [\*] AnchorChips 2720 based cables (Xircom PGUNET, ...)
- [\*] eTEK based host-to-host cables (Advance, Belkin, ...)
- [\*] Embedded ARM Linux links (iPaq, ...)
- [\*] Epson 2888 based firmware (DEVELOPMENT)
- [\*] KT Technology KC2190 based cables (InstaNet)
- <M> Sharp Zaurus (stock ROMs) and compatible
- < > Conexant CX82310 USB ethernet port
- < > Samsung Kalmia based LTE USB modem
- <\*> QMI WWAN driver for Qualcomm MSM based 3G and LTE modems
- <M> Option USB High Speed Mobile Devices

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<Select>    < Exit >    < Help >