# CDMA8000 模块用户手册

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## 第一部分 介绍

## 第一章 概述

#### 1.1 介绍

CDMA8000 是天漠公司推出的 3G 无线通讯模块,基于高通最新的 MSM6290 平台开发的 UMTS 标准开发的,该模块适用于 EDGE,GPRS,GSM and WCDMA(HSPA)网络,可实现 全球漫游。通用的 USB 接口和强大的软件支撑平台,使模块具备友好的二次开发软硬件平台,可以支持多种外围设备,满足 3G 用户丰富的业务功能需求产品特征

### 1.2 产品特性

- 网络:
  - ➢ CDMA 1xRTT(2G CDMA 网络)、
  - ▶ CDMA 1xEV-DO Rev.0 (3G 网络 CDMA2000 中的一个版本)、
  - ▶ CDMA 1xEV-DO Rev.A (3G网络 CDMA2000 中的一个版本) 800MHz
- 类型接口: 支持 USB2.0
- 操作系统: Windows 2000(SP4),
  - ➢ Windows XP(SP2),
  - ➢ Windows Vista,
  - ➢ Windows 7,
  - ➢ Linux 2.6,
  - ▶ Mac OS X V10.0以上
- 驱动提供:免驱(存储卡内置驱动)
- 主要功能: 高速分组数据业务、短信收发、双工语音通话、TF 卡扩展

# 第二部分 硬件部分

### 第二章 硬件特性



说明:

①(U) IM Card 为 SIM (Subscriber Identity Module-熟称手机卡)卡槽;
②Micro SD 为 TF(Trans Flash-一种存储卡)卡扩展槽;

### 2.2 尺寸和重量

尺寸: 50.85(L)mm×29.90(W)mm×2.6(H)mm 重量: 约25克 工作电压: 3.3~4.2V DC 工作温度: -20℃~+55℃ 存储温度: -40℃~+85℃ 相对湿度: 5%~95%

## 第三章 接口定义

## 3.1 硬件接口

- PCI Express Mini Card 标准接口
- USB2.0高速传输
- LED灯控制
- 兼容50 Ohm RF天线

## 3.2 USB 接口定义

| 引脚 | 信号定义 | 引脚描述 |
|----|------|------|
| 1  | VBUS |      |
| 2  | DN   |      |
| 3  | DP   |      |
| 4  | GND  |      |

# 第三部分 LINUX

## 第四章 使用步骤

### 4.1 操作平台

硬件: DevKit8000 评估套件, CDMA8000 模块, SIM 卡, USB HUB, 软件: DevKit8000、CDMA8000 配套软件

注:

1、对于 CDMA8000 模块推出前购买 DevKit8000 开发板的客户,需要手动修改内核配置,重新生成映像,方能正常使用 CDMA8000 模块。 内核配置修改如下:

Device Drivers ---> [\*] USB support ---> <M> USB S

USB Serial Converter support ---> [\*] USB Generic Serial Driver

[\*] USB Generic Serial Dr

Device Drivers --->

[\*] Network device support --->

- <\*> PPP (point-to-point protocol) support
- [\*] PPP multilink support (EXPERIMENTAL)
- [\*] PPP filtering
- <\*> PPP support for async serial ports
- <\*> PPP support for sync tty ports
- <\*> PPP Deflate compression
- <\*> PPP BSD-Compress compression
- <\*> PPP MPPE compression (encryption) (EXPERIMENTAL)
- <\*> PPP over Ethernet (EXPERIMENTAL)
- <\*> PPP over L2TP (EXPERIMENTAL)

2、对于 CDMA8000 模块推出后购买 DevKit8000 开发板的客户,内核配置已经修改好, 直接使用光盘提供映像即可。

### 4.2 初始化

**4.2.1** 拷贝 CDMA8000 的 usr 目录到 SD 卡,在 devkit8000 评估套件插入 SD, 启动 devkit8000。

4.2.2 系统启动后,执行以下命令安装 CDMA8000 模块所需要的驱动与测试工具。

root@DevKit8000:~# cd /media/mmcblk0p1/

root@DevKit8000:/media/mmcblk0p1# cp -R usr/ /

root@DevKit8000:/media/mmcblk0p1# chmod a+x /usr/bin/\*

root@DevKit8000:/media/mmcblk0p1# insmod /usr/lib/usbserial.ko vendor=0x19f5 product=0x9909

usbcore: registered new interface driver usbserial

USB Serial support registered for generic

usbcore: registered new interface driver usbserial\_generic

usbserial: USB Serial Driver core

**4.2.3** 将 USB HUB 接上 CDMA8000 模块,再将 USB HUB 接上 devkit8000 评估套件,出现以下提示。

root@DevKit8000:~# usb 1-1: new high speed USB device using ehci-omap and address 2

usb 1-1: configuration #1 chosen from 1 choice

hub 1-1:1.0: USB hub found

hub 1-1:1.0: 4 ports detected

usb 1-1.2: new full speed USB device using ehci-omap and address 3

usb 1-1.2: configuration #1 chosen from 1 choice

scsi0 : SCSI emulation for USB Mass Storage devices

usbserial\_generic 1-1.2:1.1: generic converter detected

usb 1-1.2: generic converter now attached to ttyUSB0

usbserial\_generic 1-1.2:1.2: generic converter detected

usb 1-1.2: generic converter now attached to ttyUSB1

usbserial\_generic 1-1.2:1.3: generic converter detected

usb 1-1.2: generic converter now attached to ttyUSB2

usbserial\_generic 1-1.2:1.4: generic converter detected

usb 1-1.2: generic converter now attached to ttyUSB3

scsi 0:0:0:0: CD-ROM Qualcomm MMC Storage 2.31 PQ: 0 ANSI: 2

root@DevKit8000:/media/mmcblk0p1# pppd connect 'chat -v "" "AT" "" "AT" "" "AT&C1" "" "AT" "" "ATDT#777 CONNECT"' user CARD password CARD /dev/ttyUSB1 115200 updetach nocrtscts nocdtrcts multilink usepeerdns defaultroute debug

Serial connection established. using channel 1 Starting negotiation on /dev/ttyUSB1 rcvd [LCP ConfReq id=0x1 <asyncmap 0x0> <auth chap MD5> <magic 0xcef3183f>]

sent [LCP ConfReq id=0x1 <asyncmap 0x0> <magic 0xbf4903d8> <pcomp> <accomp> <mrru 1500> <endpoint [MAC:00:11:22:33:44:55]>] sent [LCP ConfAck id=0x1 <asyncmap 0x0> <auth chap MD5> <magic 0xcef3183f>] rcvd [LCP ConfRej id=0x1 <mrru 1500>] sent [LCP ConfReq id=0x2 <asyncmap 0x0> <magic 0xbf4903d8> <pcomp> <accomp> <endpoint [MAC:00:11:22:33:44:55]>] rcvd [LCP ConfAck id=0x2 <asyncmap 0x0> <magic 0xbf4903d8> <pcomp> <accomp> <endpoint [MAC:00:11:22:33:44:55]>] rcvd [CHAP Challenge id=0x1 <4167b6cd8c2b28f4267ff2e1a45c1cab>, name = "GD-GZ-PMC-PD-18.CDMA"] sent [CHAP Response id=0x1 <769eb74e9e351fba72108dc448143e57>, name = "CARD"] rcvd [CHAP Success id=0x1 ""] CHAP authentication succeeded CHAP authentication succeeded Using interface ppp0 sent [CCP ConfReq id=0x1 <deflate 15> <deflate(old#) 15> <bsd v1 15>] sent [IPCP ConfReq id=0x1 <compress VJ 0f 01> <addr 0.0.0.0> <ms-dns1 0.0.0.0> <ms-dns3 0.0.0.0>] rcvd [IPCP ConfReq id=0x1 <addr 115.168.82.82>] sent [IPCP ConfAck id=0x1 <addr 115.168.82.82>] rcvd [LCP ProtRej id=0x2 80 fd 01 01 00 0f 1a 04 78 00 18 04 78 00 15 03 2f] Protocol-Reject for 'Compression Control Protocol' (0x80fd) received rcvd [IPCP ConfRej id=0x1 <compress VJ 0f 01>] sent [IPCP ConfReg id=0x2 <addr 0.0.0.0 < ms-dns1 0.0.0.0 > <ms-dns3 0.0.0.0 >] rcvd [IPCP ConfNak id=0x2 <addr 113.114.69.196> <ms-dns1 202.96.128.86> <ms-dns3 220.192.32.103>] sent [IPCP ConfReq id=0x3 <addr 113.114.69.196> <ms-dns1 202.96.128.86> <ms-dns3 220.192.32.103>] rcvd [IPCP ConfAck id=0x3 <addr 113.114.69.196> <ms-dns1 202.96.128.86> <ms-dns3 220.192.32.103>] Failed to create /etc/ppp/resolv.conf: No such file or directory local IP address 113.114.69.196 remote IP address 115.168.82.82 primary DNS address 202.96.128.86 secondary DNS address 220.192.32.103 root@DevKit8000:/media/mmcblk0p1# 4.2.4 配置 DNS 服务 root@DevKit8000:/media/mmcblk0p1# vi /etc/resolv.conf

在 resolv.conf 文件中添加 DNS 服务器地址

nameserver 202.96.134.133

4.3 测试

root@DevKit8000:/etc# **ping www.google.com** PING www.baidu.com (220.181.6.19): 56 data bytes 64 bytes from 220.181.6.19: seq=0 ttl=56 time=91.491 ms 64 bytes from 220.181.6.19: seq=1 ttl=56 time=101.196 ms 64 bytes from 220.181.6.19: seq=2 ttl=56 time=95.459 ms 64 bytes from 220.181.6.19: seq=3 ttl=56 time=96.893 ms

--- www.baidu.com ping statistics ---4 packets transmitted, 4 packets received, 0% packet loss round-trip min/avg/max = 91.491/96.259/101.196 ms

注意:用户需要修改参数/dev/ttyUSB1

# 第四部分 WINCE

## 第五章 使用步骤

#### 5.1 操作平台

硬件: DevKit8000(带usb-host)开发板,CDMA8000模块,SIM卡,USBHUB, 软件: DevKit8000(带usb-host)、CDMA8000配套软件

#### 5.2 操作步骤

1, copy EvdoUsbcdcDriver.dll to \$(\_FLATRELEASEDIR) 2,copy e300device.reg to \$(\_FLATRELEASEDIR) 3,modify platform.bib in \$(\_FLATRELEASEDIR) Add line in platform.bib MODULES EvdoUsbcdcDriver.dll \$(\_FLATRELEASEDIR)\EvdoUsbcdcDriver.dll NK SHK 4,modify platform.reg in \$(\_FLATRELEASEDIR) Add line in platform.reg #include "\$(\_FLATRELEASEDIR)\e300device.reg"

5, makeimg

6,运行新映像



| Start Network Connections        | Storage Card                      | 🎐 🌉 👮 12:04 PM 🛛 🞯 🛗 |
|----------------------------------|-----------------------------------|----------------------|
|                                  | 图 1                               |                      |
| 8,选择 CDMAModem /                 | 后点击 configure 配置端口属性。             |                      |
| <u>File Edit View Advanced X</u> |                                   | ? ×                  |
| <b>S</b>                         |                                   |                      |
| Make New<br>Connection           |                                   | _                    |
|                                  | Modem ×                           | 1                    |
|                                  | My Connection                     |                      |
|                                  | Select a modem:                   |                      |
|                                  | EDMAModem 🔽                       |                      |
|                                  | Bluetooth                         |                      |
|                                  | TCP/IP Settings Security Settings |                      |
|                                  |                                   |                      |
|                                  | < <u>B</u> ack <u>N</u> ext >     |                      |
|                                  |                                   | -                    |

| Start Network Connections | Storage Card | 🎐 🌉 🍠 12:04 PM | <b>B</b> |
|---------------------------|--------------|----------------|----------|
| △ 九田辿口目丛                  |              |                |          |

9,设置端口属性

| <u>F</u> ile <u>E</u> dit | <u>V</u> iew <u>G</u> o | Favorites                   | <b>Ⅲ</b> ▼             | ? × |
|---------------------------|-------------------------|-----------------------------|------------------------|-----|
| Address \St               | orage Card              |                             |                        | •   |
|                           |                         | <b>A</b>                    |                        |     |
| EBOOTSD                   | MLO                     | NK SnapShot                 |                        |     |
|                           |                         | Device Properties           | ? OK ×                 |     |
|                           |                         |                             | Connection Preferences |     |
|                           |                         | strings)                    | Baud Rate 115200 💌     |     |
|                           |                         | Terminals                   | Data Bits 8            |     |
|                           |                         | Use terminal window         | Parity None 💌          |     |
|                           |                         | - Use terminal window after | Stop Bits              |     |
|                           |                         | dialing                     | Elow Control None      |     |

| Network Connections         | Storage Card                          | Device Properties | 🎐 🤹 🍠 12:04 PM 🛛 🞯 🎰 |
|-----------------------------|---------------------------------------|-------------------|----------------------|
| 10,设置电话号码,输。                | 入#777 后按 Finish                       |                   |                      |
| Eile Edit View Advanced 🔀 😭 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |                   | ? ×                  |
| <b>%</b>                    |                                       |                   |                      |
| Make New<br>Connection      |                                       |                   |                      |
|                             | Phone Number                          | ×                 |                      |
|                             | My Connection                         |                   |                      |
|                             | Country/region code: 1                |                   |                      |
|                             | Area code: 425                        |                   |                      |
|                             | Phone number: $J_{\#77}$              | ,<br>             |                      |
|                             | Eorce long distance                   |                   |                      |
|                             |                                       |                   |                      |
|                             |                                       |                   |                      |
|                             | < <u>B</u> ac                         |                   |                      |
|                             |                                       |                   |                      |
|                             |                                       |                   |                      |

| Start Network Connections | Storage Card            | 🎐 🌺 💆 12:06 PM [ 🚱 🛗 |
|---------------------------|-------------------------|----------------------|
| 11,按 Finish 后新建了-         | 一个名为 My Connection 的链接, | 如下图所示:               |

| <u>F</u> ile | <u>E</u> dit | <u>V</u> iew | Adva <u>n</u> ced | $\times$ | ď | <u>ם</u> | 8-<br>8- | m |  |
|--------------|--------------|--------------|-------------------|----------|---|----------|----------|---|--|
| 1            |              | <u> </u>     |                   |          |   |          |          |   |  |

| -          | <u> Z</u>  |
|------------|------------|
| Make New   | My         |
| Connection | Connection |

| 🎝 Start 🔊 Network Connections                     | Storage Card   |   | S- 🗶 🏓            | 12:06 PM 🧭 🎰 |
|---|--|---|-------------------|--------------|
| 12, 双击 My Connectio                               | n 打开链接对话框,   | 用户名:card,                                     | 密码 card。Dial      | Properties 选 |
| Home。然后点击 connect 进行                              | 行拨号链接。如图 x   | ,图 x 所示:                                      |                   |              |
| <u>File Edit View Advanced X</u>                  | <u><u><u>a</u></u></u>                                     |   |                   | ? ×          |
| <u>s</u> 2  |  |   |                   |              |
| Make New My<br>Connection Connection              |  |   |                   |              |
| Dial-Up Conn<br>User Name<br>Password:<br>Domain: | ection<br>/ Connection<br>: card<br>*****<br>Save password | Phone: #777<br>Dial from:<br>Home<br>Dial Pro | perties<br>Cancel |              |

| 💦 Start 🔍 Network Connections 🛛 🗢 Storage Card 💦 🕼 🖟 🖉 🎬 |
|--|
|--|

| <u>F</u> ile <u>E</u> dit | <u>V</u> iew | <u>G</u> o | F <u>a</u> vorites    |                     |                             | <b>*</b>       |                      |                |   | ? × |
|---------------------------|--------------|------------|-----------------------|---------------------|-----------------------------|----------------|----------------------|----------------|---|-----|
| Address \S                | torage Car   | ď          |                       |                     |                             |                |                      |                |   | -   |
|                           |              |            |                       | ٢                   |                             |                |                      |                |   |     |
| EBOOTSD                   | MLO          |            | NK                    | SnapSho             | ot                          |                |                      |                |   |     |
|                           |              |            |                       |                     |                             |                |                      |                | 1 |     |
|                           |              |            | Dialing Pi            | roperties           |                             |                |                      | ? UK X         |   |     |
|                           |              |            | When diali            | ng from:            | Home                        |                | ▼ <u>N</u> ew        | <u>R</u> emove |   |     |
|                           |              |            | <sub>[</sub> Local se | ettings ar          | 'e:                         |                |                      |                |   |     |
|                           |              |            |                       | The l               | local <u>a</u> rea code is: | 425            | <u>D</u> ialing Patt | erns           |   |     |
|                           |              |            | The I                 | ocal <u>c</u> ount  | ry/region code is:          | 1              |                      |                |   |     |
|                           |              |            |                       |                     | Dial using:                 | ● <u>T</u> one | O <u>P</u> ulse      |                |   |     |
|                           |              |            | 🛛 🗖 Di                | sable call <u>v</u> | <u>w</u> aiting by dialing: |                | <b>V</b>             |                |   |     |
|                           |              |            |                       |                     |                             |                |                      |                |   |     |

| 都 Start 🔍 Network Connections | Storage Card         | ▶ My Connection Status | 🐌 🌭 🏂 🏂 12:07 PM | 🞯 🛗      |
|-------------------------------|----------------------|------------------------|------------------|----------|
| 13,拨号成功后提示 co                 | onnected,如下图所表       | Ā:                     |                  |          |
| My Device                     |                      |                        |                  |          |
| 2<br>Recycle Bin              |                      |                        |                  |          |
| Internet<br>Explorer          | My Connection Status | ×                      |                  |          |
| Media Player                  | Hide this message:   | Disconnect             |                  |          |
| My<br>Documents               |                      |                        |                  |          |
| Start                         | My Connection Status |                        | 🍃 🕹 🕹 👌 12:07 PM | <b>@</b> |