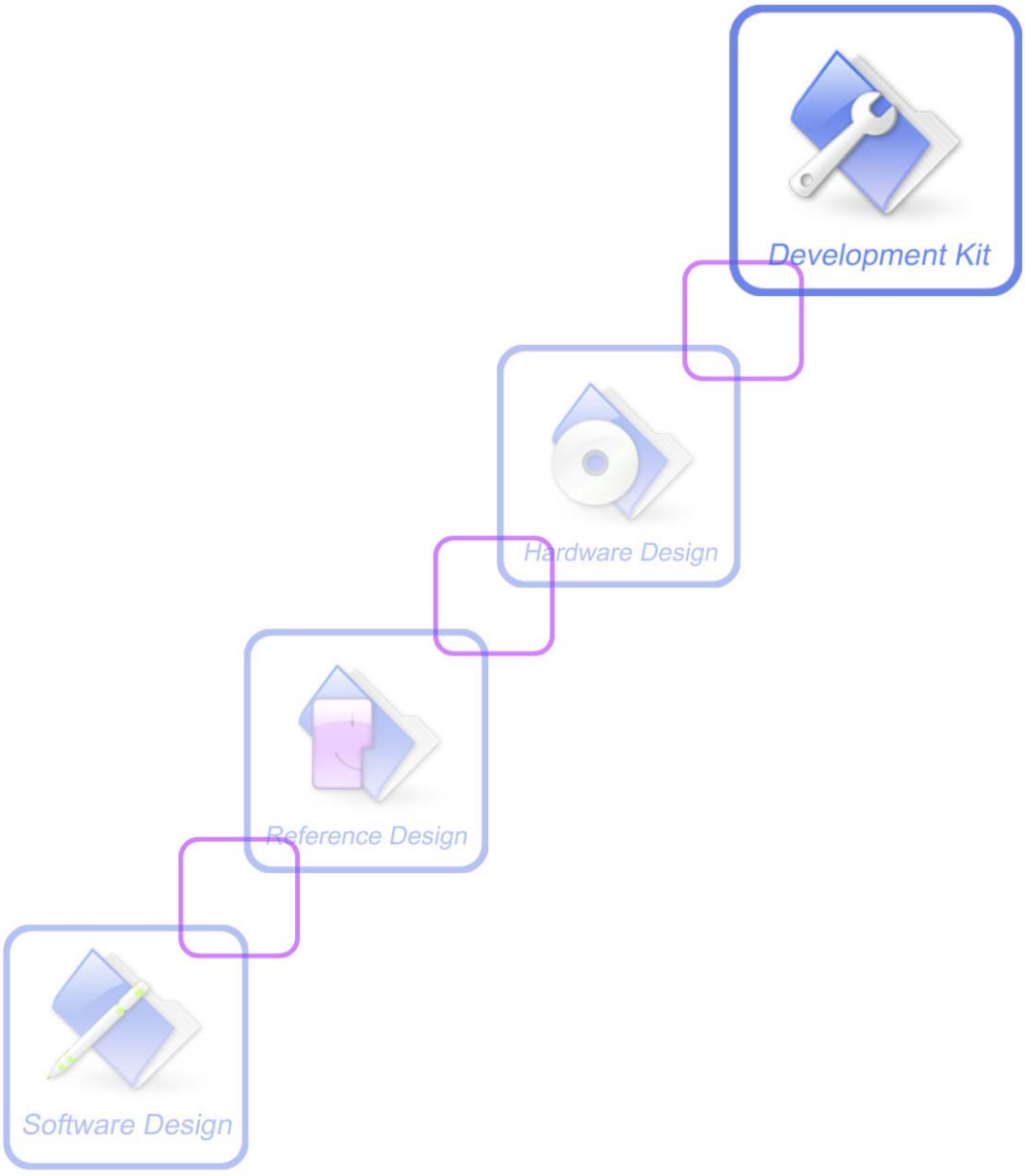
MultiPDP Application Note



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Version History

Version	Chapter	Comments
V0.01	New Version	Song Jin
V0.02	Chapter 5	Add firmware information

Contents

1. Introduction

1.1 Overview

This document gives the usage of SIM52XX MultiPDP functions; user can get useful information about the SIM52XX MultiPDP functions quickly through this document.

The MultiPDP functions are provided in AT command format, and they are designed for customers to design their applications easily. User can access the MultiPDP AT commands through UART/ USB interface which communicates with SIM52XX module.

1.2 References

The present document is based on the following documents:

[1] SIMCOM_SIM5218_Serial_ATC_EN_V1.31.doc

[2] SIM52xx_TCP_IP_Application_note_V0.02.doc

[3] SIM52xx_MMS_Application_note_V0.02.doc

[4] SIM52xx_FTP_Application_note_V0.02.doc

[5] SIM52xx_HTTP_Application_note_V0.02.doc

[6] SIM52xx_Email_Application_Note_V1.00.doc

1.3 Terms and Abbreviations

For the purposes of the present document, the following abbreviations apply:

- AT ATtention; the two-character abbreviation is used to start a command line to be sent from TE/DTE to TA/DCE
- EDGE Enhanced Data GSM Environment
- EGPRS Enhanced General Packet Radio Service
- TCP/IP Transmission Control Protocol/Internet Protocol
- GPRS General Packet Radio Service
- GSM Global System for Mobile communications
- PIN Personal Identification Number
- TA Terminal Adaptor; e.g. a data card (equal to DCE)
- TE Terminal Equipment; e.g. a computer (equal to DTE)
- UMTS Universal Mobile Telecommunications System
- URC Unsolicited Result Code
- USIM Universal Subscriber Identity Module

2. Settings of PDP context for external PPP program

When users starts to use Windows Dialup program or Linux PPPd program with SIM52xx module, first user needd to set some parameters of PDP context by AT commands, then to active PDP context defined.

2.1 Define Primary PDP Context

When user wants to use the SIM52xx module as a modem, AT+CGDCONT needs to be used to define PDP context. For example:

AT+CGDCONT=1,"IP","myapn"

After setting the parameter of AT+CGDCONT, then the external PPP program can use the module to dial up to PS domain.

2.2 Define Secondary PDP Context

If the user needs to use the secondary PDP context, the following AT commands needs to be set:

AT+CGDSCONT=2,1
AT+CGTFT=2,1,0,"8.8.8.8.255.255.255.255"
AT+CGEQREQ=2,2,64,64
AT+CGACT=1,1

The AT+CGDSCONT defines the secondary PDP context and the parent primary PDP context. The AT+CGTFT defines the traffic flow template, and the AT+CGEQREQ defines the QOS parameters for the secondary PDP context. The AT+CGACT is used to activate the secondary PDP context.

After using the secondary PDP context, the AT+CGACT=0,1 can be used to deactivate it.

2.3 Define QOS for PDP Context

If user needs to set QOS parameters instead of using the default QOS parameters, the AT+CGQREQ/AT+CGEQREQ/AT+CGQMIN/AT+CGEQMIN can be used to do it. For example:

AT+CGEQREQ=1,2,384,3600

AT+CGEQMIN=1,2,384,3600

The AT+CGQREQ and AT+CGQMIN commands are used for GSM/GPRS modes, and the AT+CGEQREQ and AT+CGEQMIN are used for WCDMA/HSDPA/HSUPA modes.

3. Settings of PDP context for Embedded TCP/IP application

If user needs to use the embedded TCP/IP stack of SIM52xx module, some parameters must be defined first.

3.1 Define Primary PDP Context

When user wants to use the embedded TCP/IP stack of SIM52xx module, AT+CGSOCKCONT needs to be used to define PDP context. For example:

AT+CGSOCKCONT=1,"IP","myapn"

After setting the parameters of AT+CGSOCKCONT, then the inner TCP/IP related applications can use the module to connect to the PS domain.

The inner TCP/IP applications now includes raw AGPS, TCP/IP, MMS, FTP, HTTP, EMAIL, FTPS, HTTPS module. For detailed information about these modules, please refer to the ATC document and the related application notes.

3.2 Define Secondary PDP Context

Currently the secondary PDP context is not supported by Embedded PDP context.

3.3 Define QOS for PDP Context

If user needs to set QOS parameters instead of using the default QOS parameters, the AT+CGSOCKQREQ/AT+CGSOCKEQREQ/AT+CGSOCKQMIN/AT+CGSOCKEQMIN can be used to do it. For example:

AT+CGSOCKEQREQ=1,2,384,3600
AT+CGSOCKEQMIN=1,2,384,3600

The AT+CGSOCKQREQ and AT+CGSOCKQMIN commands are used for GSM/GPRS modes, and the AT+CGSOCKEQREQ and AT+CGSOCKEQMIN are used for WCDMA/HSDPA/HSUPA modes.

4. Use Multiple PDP Context

SIM52xx module supports multiple PDP contexts activation by using different CID.

4.1 Use the external PPP program and the embedded TCP/IP applications with different APNs

User can use the external PPP program and the embedded TCP/IP applications at the same time:

AT+CGDCONT=1,"IP","myapn1"

Then use the external PPP program to dial up to the PS domain.

AT+CGSOCKCONT=1,"IP","myapn2"

Then use raw TCP/IP or the MMS/FTP/HTTP/EMAIL/FTPS/HTTPS AT commands to do PS network access.

4.2 Use the embedded TCP/IP applications with different APNs

User can use embedded TCP/IP applications with different APNs:

AT+CGSOCKCONT=1,"IP","myapn1"

Then use raw TCP/IP or the MMS/FTP/HTTP/EMAIL/FTPS/HTTPS AT commands to do PS network access.

AT+CGSOCKCONT=2,"IP","myapn2"

Then use another embedded TCP/IP application do PS network access.

For example, User can do the FTP/MMS/TCPIP operations together:
AT+CGSOCKCONT=1,"IP","ftpapn"
AT+CSOCKSETPN=1
//do FTP operation (AT+CFTPPUT…)
AT+CGSOCKCONT=2,"IP","mmsapn"
AT+CSOCKSETPN=2
//do MMS operation (AT+CMMSSEND…)

AT+CGSOCKCONT=3,"IP","tcpipapn"
AT+CSOCKSETPN=3
//do raw TCP/IP operation (AT+NETOPEN…)

4.2 Enable activating the PDP context using the same APN name

Usually the APN of the activated PDP context cannot be the same, If user needs to activate the PDP context with the same APN, the AT+CENDUPPDP=1 needs to be set first.

AT+CENDUPPDP=1
AT+CGDCONT=1,"IP","myapn"
//Use external PPP program to dial up to the PS network
AT+CGSOCKCONT=1,"IP","myapn"
AT+CSOCKSETPN=1
// do FTP operation (AT+CFTPPUT…)
AT+CGSOCKCONT=2,"IP","myapn"
AT+CSOCKSETPN=2
//do raw TCP/IP operation (AT+NETOPEN…)
AT+CGSOCKCONT=3,"IP","myapn"
AT+CSOCKSETPN=3
//do FTPS operation (AT+CFTPSPUT…)

5. Firmware information

5.1 Supporting Embedded TCP/IP QOS

Following Siim52xx firmware begins to support AT+CGSOCKQREQ/AT+CGSOCKEQREQ/AT+CGSOCKQMIN/AT+CGSOCKEQMIN:

1575B06V01SIM5320E
1575B02V01SIM5320J
1575B09V01SIM5215A
1575B13V01SIM5215E
1575B03V01SIM5215J
1575B09V01SIM5216A
1575B11V01SIM5216E
1575B03V01SIM5216J

5.2 Supporting Activating PDP Contexts with the Same APNs

Following Sim52xx firmware begins to support activating same APNs:

1575B06V01SIM5320E

1575B02V01SIM5320J

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