



R7072_TCPIP_Application Note

LPWA Module

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Version History

Version	Date	Owner	What is new
V1.00	2021.05.31	Yulong.Li	New version

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1 Introduction

1.1 Purpose of the document

Based on module AT command manual, this document will introduce TCPIP application process.

Developers could understand and develop application quickly and efficiently based on this document.

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2 TCPIP Introduction

TCPIP is used to setup connections between clients and servers, which are used for TCP/UDP clients communicating with servers.

2.1 Characteristic

➤ **Support connecting TCP/UDP servers;**

✧ **TCP connections**

Module works as TCP clients. It communicates with TCP servers by TCP connections.

✧ **UDP connections**

Module works as UDP clients. It communicates with UDP servers.

➤ **Support accepting TCP clients;**

✧ **TCP servers**

Module works as TCP servers. It listens TCP clients accept request and communicates with TCP clients.

➤ **Support multiple data transmission mode;**

✧ **Direct Push Mode**

Host data will be sent to internal protocol stack and forwarded to air interface. Data received from air interface will be transmitted to internal protocol stack and forwarded to COM ports.

✧ **Buffer Access Mode**

Host data will be sent to internal protocol stack and forwarded to air interface. Data received from air interface will be saved into local buffers. Host could retrieve buffer data by AT commands.

✧ **Transparent Access Mode**

Host data will be directly sent to air interface. Data received from air interface will be directly sent to COM ports.

2.2 TCPIP Commands Process

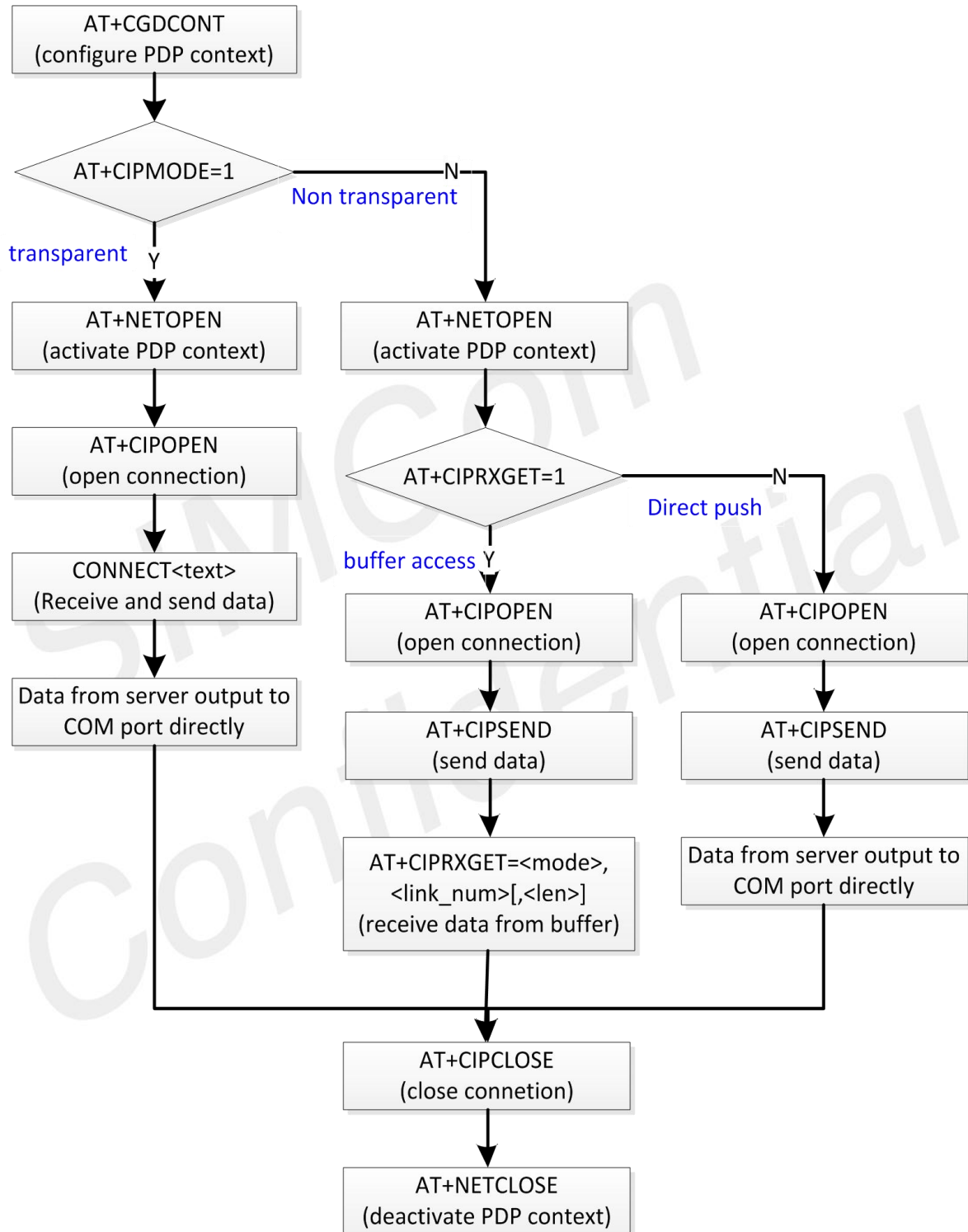


Figure 1: Flow Chart of Using TCP/IP Commands

3 AT Commands for TCPIP

Command	Description
AT+NETOPEN	Start TCPIP Service
AT+NETCLOSE	Stop TCPIP Service
AT+CIOPEN	Setup TCP/UDP Client Socket Connections
AT+CIPCLOSE	Destroy TCP/UDP Client Socket Connections
AT+CIPSEND	Send TCP/UDP Data
AT+CIPRXGET	Retrieve TCP/UDP Buffer Data
AT+CIPMODE	Enable/Disable Transparent Access Mode
AT+SERVERSTART	Setup TCP Server Socket Connections
AT+SERVERSTOP	Destroy TCP Server Socket Connections
AT+CDNSGIP	Analysis IP Address from Domain Name
AT+CSOCKSETPN	Set PDP context of TCP/IP services

For detail information, please refer to “R7070 Series_AT Command Manual_V1.00”.

4 Bearer Configuration

4.1 Start TCPIP Service

```
//Example of PDN activation.
```

AT+CPIN?

+CPIN: READY

Check Status of SIM Card

OK

AT+CSQ

+CSQ: 27,99

Check RF Signal

OK

AT+CGREG?

+CGREG: 0,1

Check Status of PS Service

OK

AT+COPS?

```
+COPS: 0,0,"CHN-CT",9
```

Check Information of Operator

OK

AT+CPSI?

+CPSI:

LTE,Online,460-00,0x1816,27593483,139,EUTRAN-BAND39
.38400.5.5.-88.-868.-578.18

Check Information of Network

OK

AT+CGDCONT?

+CGDCONT:

```
1,"IP","CMNET","0.0.0.0.0.0.0.0.0.0.0.0.0.0",0,0,0,0
```

Check Information of PDP Context

OK

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

OK

Set PDP Context

AT+CSOCKSETPN=1

Set PDP Context of TCPIP services

OK

AT+NETOPEN

OK

+NETOPEN: 0

Start TCPIP Service

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