



SIM7070_SIM7080_SIM7090 Series_NIDD _Application Note

LPWA Module

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About Document

Version History

Version	Date	Owner	What is new
V1.00	2020.12.22	Wei.zhang	First Release

Scope

This document applies to the following products

Name	Type	Size(mm)	Comments
SIM7080G	CAT-M/NB	17.6*15.7*2.3	N/A
SIM7070G/SIM7070E	CAT-M/NB/GPRS	24*24*2.4	N/A
SIM7070G-NG	NB/GPRS	24*24*2.4	N/A
SIM7090G	CAT-M/NB	14.8*12.8*2.0	N/A

Contents

About Document.....	3
Version History.....	3
Scope.....	3
Contents.....	4
1 Introduction.....	5
1.1 Purpose of the document.....	5
1.2 Related documents.....	5
1.3 Conventions and abbreviations.....	5
2 NIDD Introduction.....	6
3 NIDD Examples.....	7

1 Introduction

1.1 Purpose of the document

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

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

1.2 Related documents

[1] SIM7070_SIM7080_SIM7090 Series_AT Command Manual

1.3 Conventions and abbreviations

Abbreviation	Description
NIDD	Non IP data delivery

2 NIDD Introduction

NIDD (Non-IP Data Delivery) is supported from 3GPP Rel 13 and later release, it is very important function for enhanced NB-IoT system, for eMTC it is optional. NIDD data is non-IP structured, the data transmission contains two parts: MO and MT. For PDN connection of NIDD, the network will not initiate the private hosting context activation process.

There are few advantages with NIDD:

- 1) Lower power consumption compared with IP protocol.
- 2) Great benefit: customer does not need to have a “white” IP to get access to the module. Customer can send any data directly to the module and see is it online or not. For all these things the MNO is do for customer.
- 3) One byte of data cheaper with NIDD: when customer send 1 byte of data, MNO calculates it with TCP stack data and it can be more than 100 times, when customer sends 1 byte in NIDD –only pay just for 1 byte.
- 4) Simple managing of devices connected to one SCEF/AS.
- 5) Group operations.
- 6) Buffering messages when device in offline.
- 7) Roaming of non-IP data.
- 8) Several AS can manage one device.

3 NIDD Examples

//Demo AT command for NIDD

AT+CGDCONT=1,"Non-IP","nidd.test"

OK

AT+CNCFG=0,3,nidd.test

OK

AT+CNACT=0,1

OK

+APP PDP: 0,ACTIVE

AT+CAOPEN=0,0,NONIP

+CAOPEN: 0,0

OK

AT+CASEND=0,512

>

.....

OK

+CADATAIND: 0

AT+CARECV=0,1024

+CARECV:

512,012345678901234567890123456789012345
678901234567890123456789012345678901234
567890123456789012345678901234567890123
456789012345678901234567890123456789012
345678901234567890123456789012345678901
234567890123456789012345678901234567890
123456789012345678901234567890123456789
012345678901234567890123456789012345678
901234567890123456789012345678901234567
890123456789012345678901234567890123456
789012345678901234567890123456789012345
678901234567890123456789012345678901234
567890123456789012345678901234567890123

//To register network with Non-IP type, If have registered the network with other IP types, please re-register after setting

//Before activation PDN please use AT+CNCFG to set APN\user name\password if needed.

//Activate network, Activate 0th PDP.

//Configure Transfer type is "NONIP"

//Configure success

//Request to send data

//If module receives data, it will report "+CADATAIND: <cid>" to remind user to read data.

//Read data

//Actually, receive 512 bytes data.

45678901

OK

AT+CARECV?

OK

//No data in receive buffer

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