



# **SIM7070\_SIM7080\_SIM7090 Series\_NIDD \_Application Note**

**LPWA Module**

## **SIMCom Wireless Solutions Limited**

SIMCom Headquarters Building, Building 3, No. 289 Linhong  
Road, Changning District, Shanghai P.R. China

Tel: 86-21-31575100

[support@simcom.com](mailto:support@simcom.com)

[www.simcom.com](http://www.simcom.com)

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### **SIMCom Wireless Solutions Limited**

SIMCom Headquarters Building, Building 3, No. 289 Linhong Road, Changning District, Shanghai P.R. China

Tel: +86 21 31575100

Email: [simcom@simcom.com](mailto:simcom@simcom.com)

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# About Document

## Version History

Version	Date	Owner	What is new
V1.00	2020.12.22	Wei.zhang	First Release
V1.01	2021.12.02	Wenjie.lai	Add +NIDDDATA URC for buffered data in SCEF

## 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

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# 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

**+NIDDDATA,11:01234567890**

**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

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

//If there is buffered data in SCEF when module is offline,when module gets registered to network again the buffered data will be output with this URC.

11 is data length,01234567890 is data string.

//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.

901234567890123456789012345678901234567  
890123456789012345678901234567890123456  
789012345678901234567890123456789012345  
678901234567890123456789012345678901234  
567890123456789012345678901234567890123  
45678901

OK

AT+CARECV?

OK

//No data in receive buffer

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