

# NR500 Series Industrial Cellular VPN Router

## Application Note 043

### AT Over COM

**Version:** V1.0.0  
**Date:** Sep 2019  
**Status:** Confidential



## Directory

1. Introduction.....	3
1.1 Overview.....	3
1.2 Compatibility.....	3
1.3 Version.....	3
1.4 Corrections.....	3
2. Topology.....	4
3. Configuration.....	5
3.1 NR500 Pro Configuration.....	5
4. Testing.....	6

# 1. Introduction

## 1.1 Overview

This document contains information regarding the configuration and use of IP Over COM.

This guide has been written for use by technically competent personnel with a good understanding of the communications technologies used in the product, and of the requirements for their specific application.

## 1.2 Compatibility

This application note applies to:

**Models Shown:** NR500 series.

**Firmware Version:** V1.1.0(ddcaac4) or newer

**Other Compatible Models:** None

## 1.3 Version

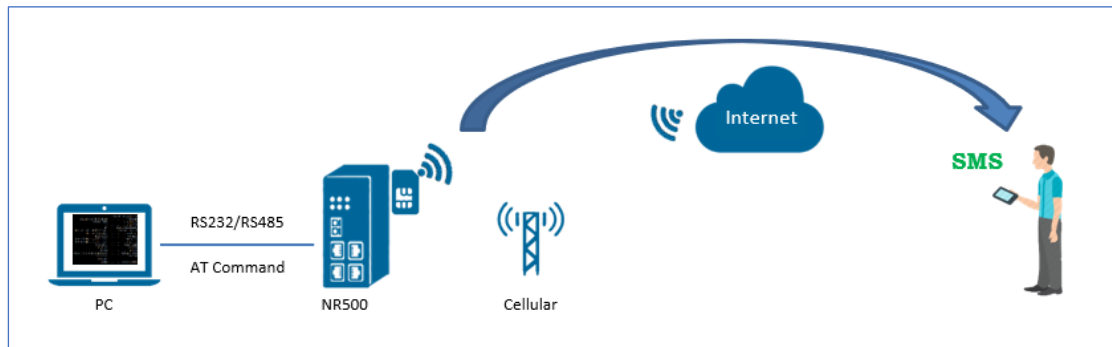
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2019/09/03	V1.0.0	V1.1.0(ddcaac4)	First released

## 1.4 Corrections

Appreciate for corrections or rectifications to this application note, and if any request for new application notes please email to: [support@navigateworx.com](mailto:support@navigateworx.com)

## 2. Topology



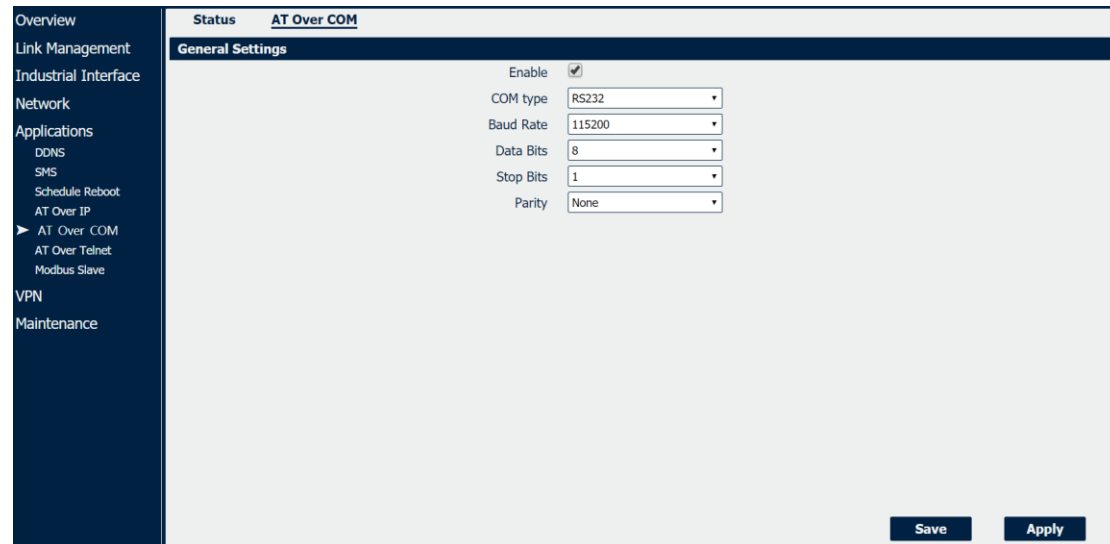
1. NR500 Pro connect to Internet via SIM card.
2. PC connect to NR500 Pro via serial port (RS232 or RS485).
3. PC send AT Command to control the module of NR500 Pro to do some action.

*Note: This application note will show how to send the AT Command via RS232 interface to control module to send text mode SMS message.*

## 3. Configuration

### 3.1 NR500 Pro Configuration

1. Go to **Application>AT Over COM**, enable AT Over COM feature like below:



The screenshot shows the configuration page for 'AT Over COM'. The left sidebar contains a navigation menu with the following items: Overview, Link Management, Industrial Interface, Network, Applications (with sub-items: DDNS, SMS, Schedule Reboot, AT Over IP, AT Over COM, AT Over Telnet, Modbus Slave), VPN, and Maintenance. The 'AT Over COM' item is selected. The main content area is titled 'Status AT Over COM' and contains a 'General Settings' section. The settings are as follows:

Setting	Value
Enable	<input checked="" type="checkbox"/>
COM type	RS232
Baud Rate	115200
Data Bits	8
Stop Bits	1
Parity	None

At the bottom right of the configuration area, there are two buttons: 'Save' and 'Apply'.

2. Click Save>Apply.

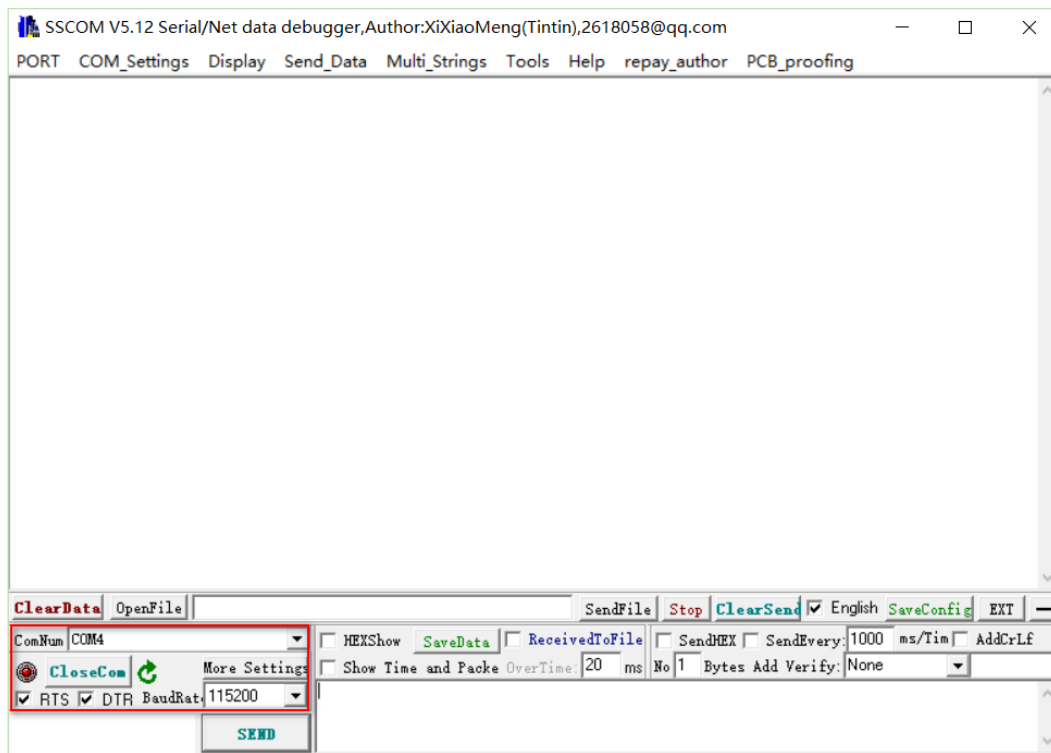
## 4. Testing

Send the content "HELLO" to the mobile phone under text mode as an example. Below is the AT Command and Content need to be sent one by one to the router.

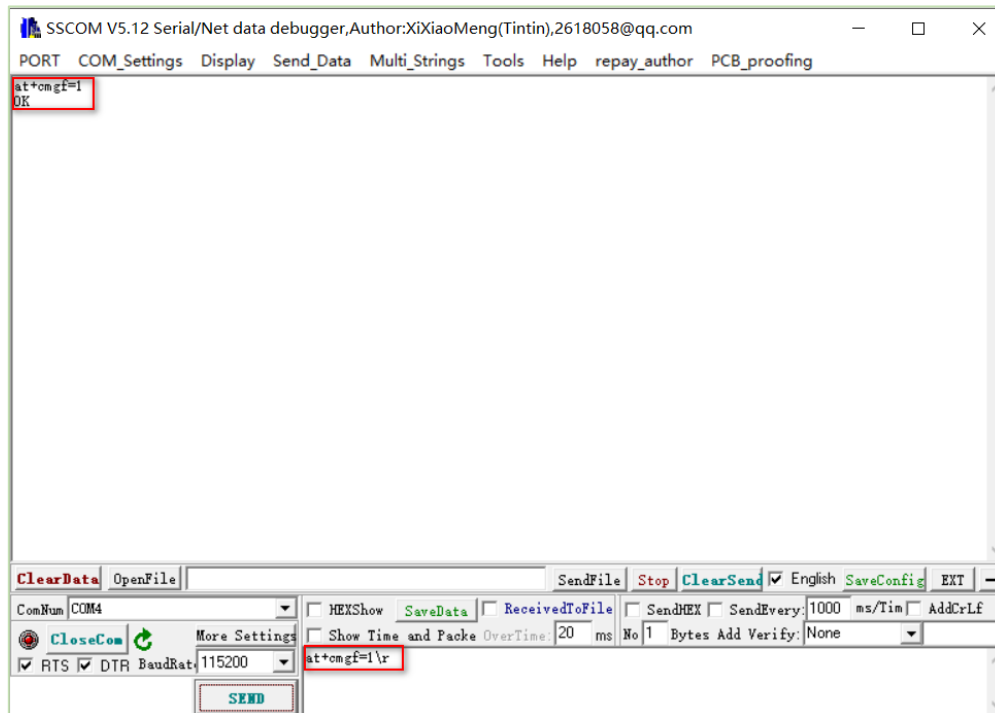
- a. at+cmgf=1\r
- b. at+cmgs=15915802180\r
- c. HELLO
- d. 1a

*Note: "\r" means the keyboard "Enter"; Option "c" is the content need to be sent under text mode; Option "d" is the ending code need to be sent with HEX.*

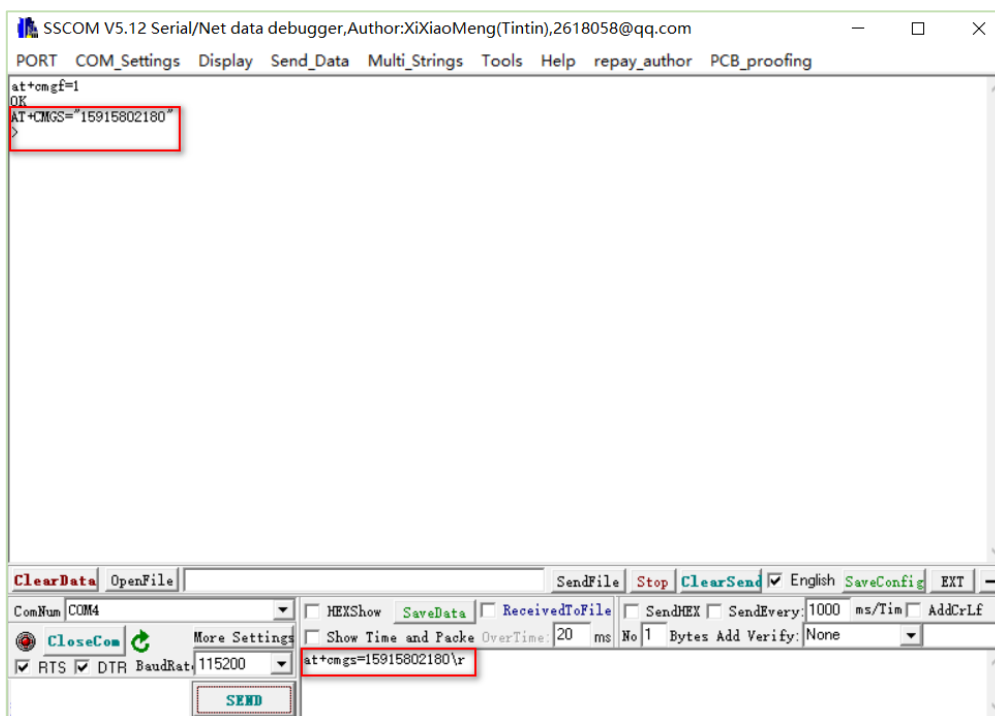
1. Run SSCOM software and connect the NR500 router via serial port, like below:



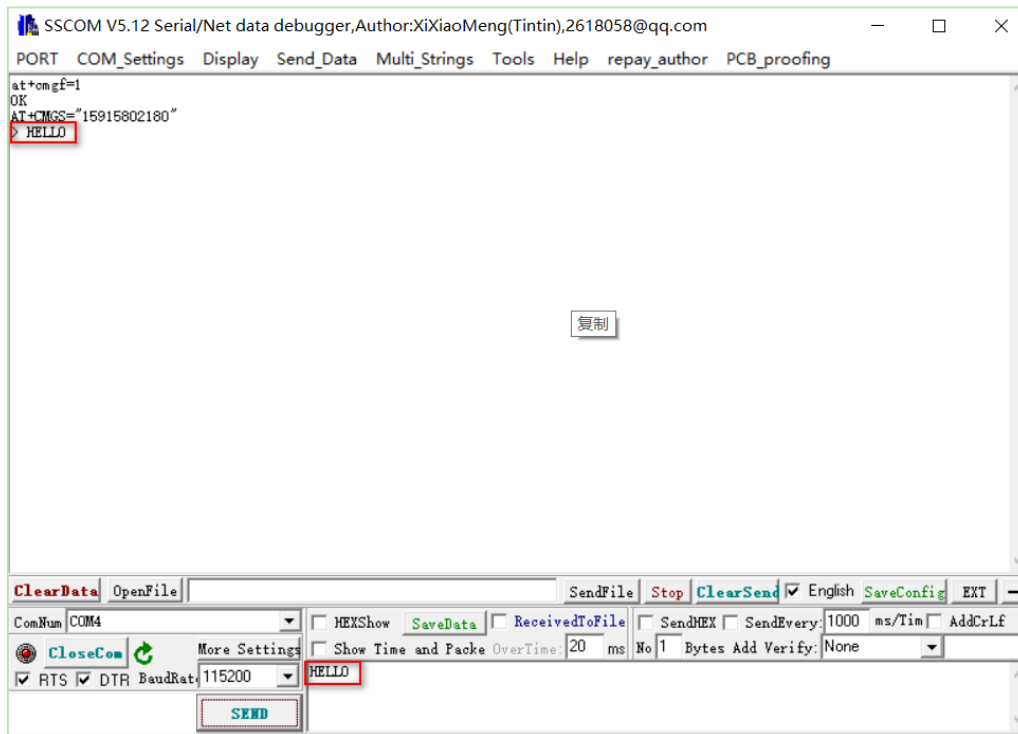
2. Send the AT command "at+cmgf=1\r" to make sure under TEXT mode



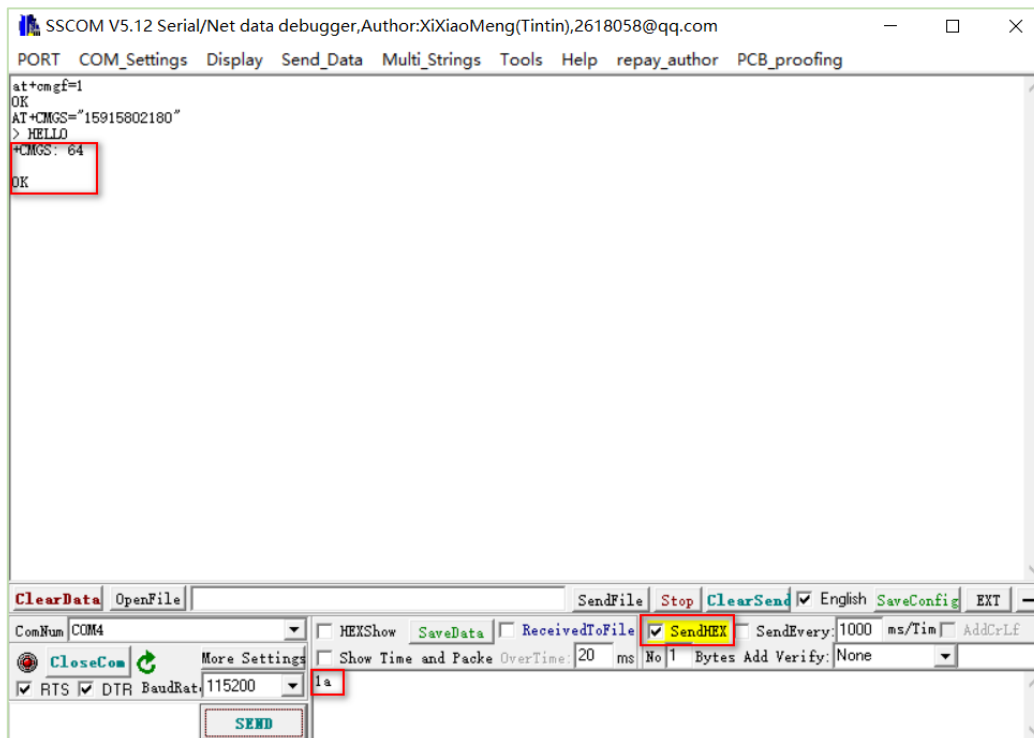
3. Send the AT command “`at+cmgs=15915802180\r`” to start to send the content to the special phone number.



4. Send the content “HELLO”.



5. Send the ending code "1a" with HEX, reply "OK" means send out the SMS successfully.





6. Test successfully, the mobile phone can receive the SMS message.

