

AT command over COM (Serial)

1. Introduction

1.1 Overview

This document contains information regarding the configuration of AT over COM, e.g. able to send SMS messages via a serial connection to the Modem.

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: 641M series.

Firmware Version: V1.1.2 (3be6e5a) or newer

Other Compatible Models: None

1.3 Version

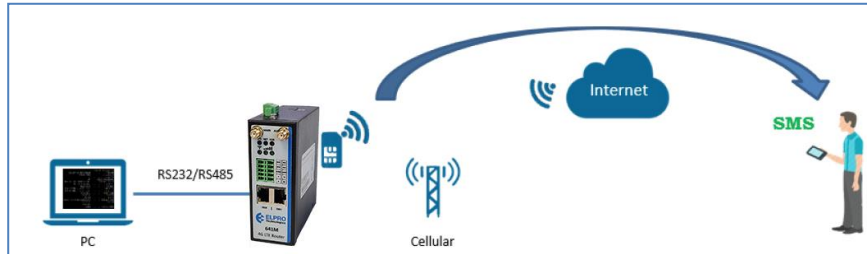
Updates between document versions are cumulative. Therefore, the latest document will include all the content of previous versions.

Release Date	Doc. Version	Firmware Version	Change Description
2020/04/14	V1.0.0	V1.12 (3be6e5a)	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@elprotech.com

2. Topology



1. 641M connect to Internet via SIM card
2. PC connect to 641M via serial port (RS232 or RS485)
3. PC send the special command via serial port to 641M and trigger 641M to send the SMS to the Mobile Phone.

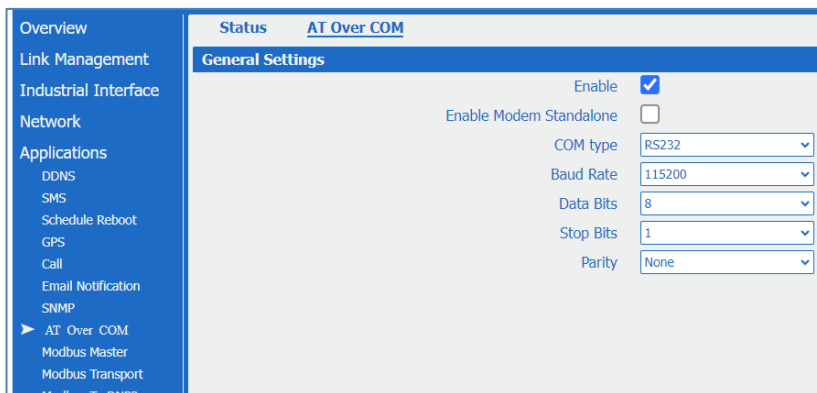
Note:

This application note will show how to send the AT Commands via RS232 interface to send text SMS message.

3. Configuration

3.1 641M Configuration

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



2. Click Save & Apply

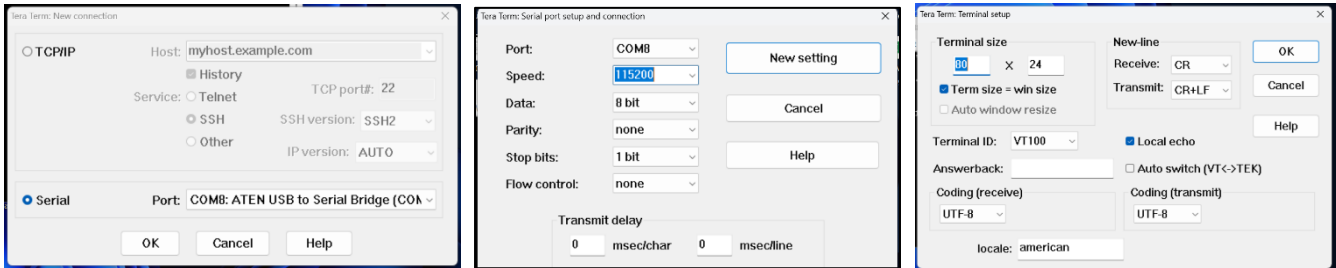
4. Testing

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.

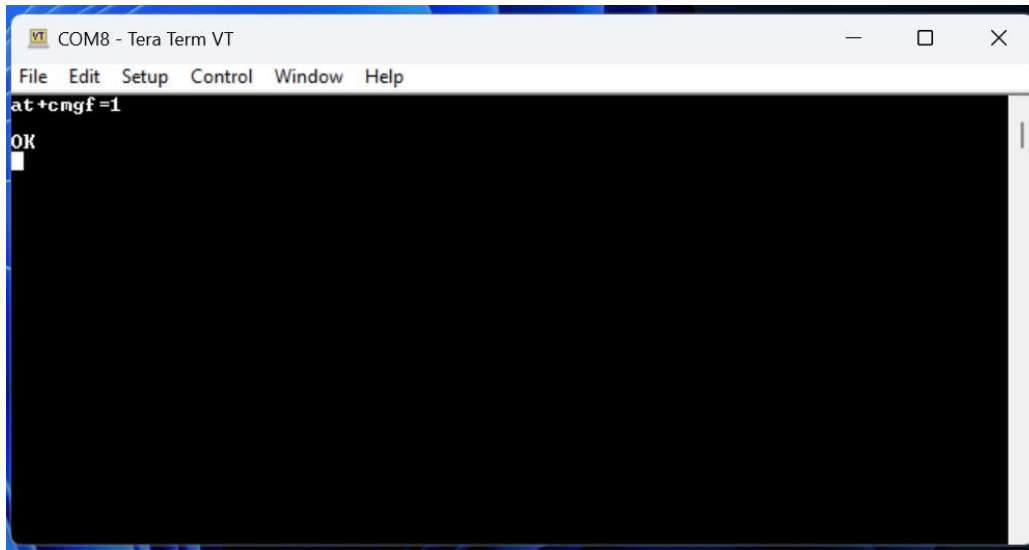
- a. at+cmgf= 1\r
- b. at+cmgs="61419888555"\r
- c. HELLO\r
- d. 1a

Note: "\r" means the keyboard Carriage return (CR / enter key)
Command "c" is the text content need to be sent under text mode;
Command "d" is the ending code (eof – end of file) need to be sent with HEX characters 1a (1a = ALT+026 on keyboard)

- 1. Run Tera Term software and connect the 641M router via serial port, select com port, baud rate, Transmit CR+LF, and local echo as below:

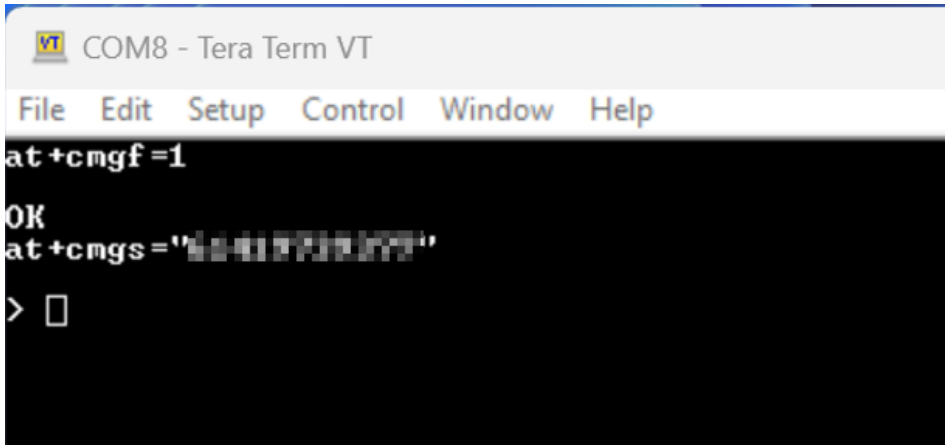


- 2. Send the AT command at+cmgf=1 to initialise. Command must be typed using lower case characters on keyboard. Cut and paste will not work properly with Tera Term.



You should get an "OK" to indicate success.

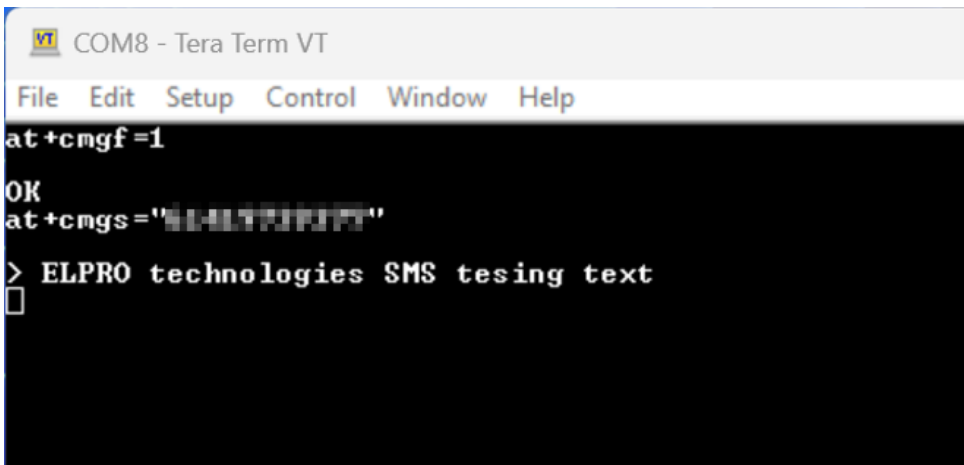
3. Enter the AT command `at+cmgs="61419888555"`, then press enter.



```
VT COM8 - Tera Term VT
File Edit Setup Control Window Help
at+cmgfb=1
OK
at+cmgs="61419888555"
> □
```

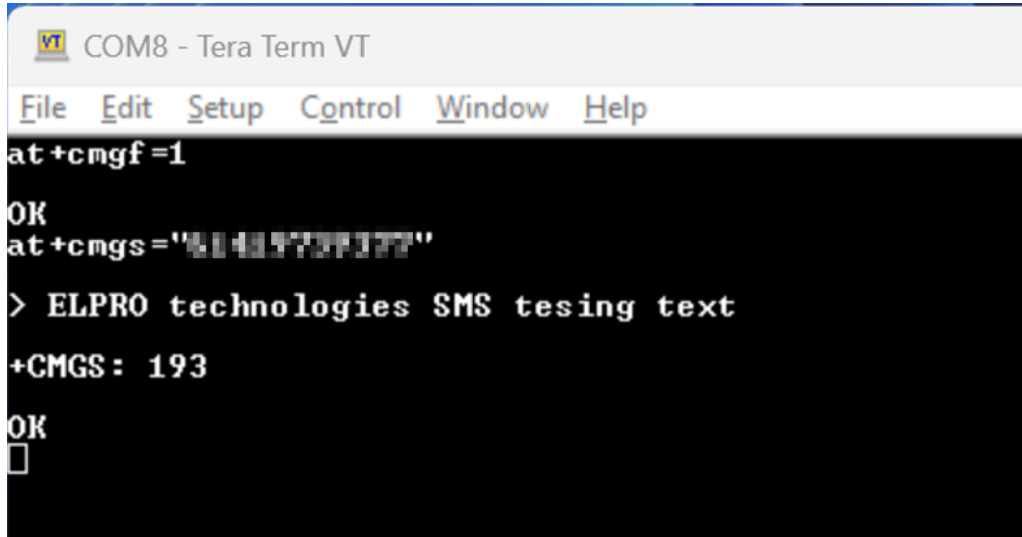
61419888555 is the full phone number with country code (61= Australia)
You should get a ">" to indicate Text entry mode.

4. Next, enter end the text you wish to send, i.e. " ELPRO Technologies SMS testing text " and press enter.
No need to put Quote marks(" ").



```
VT COM8 - Tera Term VT
File Edit Setup Control Window Help
at+cmgfb=1
OK
at+cmgs="61419888555"
> ELPRO technologies SMS tesing text
□
```

- To complete the process, you need to send the ending code "1a" (end of file character) in HEX.
To do this, press and hold ALT key, then type 0 2 6 and release the ALT key.
(Make sure num lock is on keyboard and type 026 using numpad. On some keyboards, number keys on top of letters may not work)



```
COM8 - Tera Term VT
File Edit Setup Control Window Help
at+cmgf=1
OK
at+cmgs="01439739377"
> ELPRO technologies SMS tesing text
+CMGS: 193
OK
□
```

You see the reply "OK", which means it has sent out the SMS successfully.

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