Application Note GSM0000AN004

Enabler Modems SMS Configuration and Use

Revision 1.00

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Objective: The intent of this document is to give the user a basic understanding of SMS initialization, sending/receiving, and management of GSM Short Message Service messages. Please refer to the Enfora ***GSM0107AT001 – Enfora Enabler IIG AT Command Set*** and GSM 7.05 for more advanced SMS applications.

Equipment Needed:

In this example the requirements are:

- An Enfora, Inc. Enabler-G Modem loaded with firmware version 1.4.0 or above is required.
- A notebook or desktop computer with any version of Microsoft Windows that has HyperTerminal. If this hardware is not available, the user could use a DOS terminal emulation program or DUMB ASCII terminal.

Procedures:

1. Start **HyperTerminal** and create a new session with the following settings:

Connection Name =	**Enabler-G SMS Test**
Connect Using =	**Direct connect to COMx**, COMx is the communications port that the Enfora, Inc. Enabler-G Modem is physically attached to.
Bits Per Second =	**115200**
Flow control =	**None**

2. Type **AT** and press **<ENTER>** the modem should respond with **OK**. This will verify that you are communicating with the modem. If you cannot see characters entered on the screen, enter **ATE1V1**.

3. The following examples provide the AT commands and responses for setting modem parameters. For more information about the commands and response codes, see the ***GSM0107AT001 – Enfora Enabler IIG AT Command Set***.

4. Please refer to **Application Note GSM0000AN005 - Enabler-G Automated Network Connection Configuration and Use**, to set the appropriate network connection.

5. To be able to send SMS text messages, the Enfora Enabler-G module must be initialized with the proper SMS mode. The following examples provide the AT commands and responses for initializing the SMS mode.

6. The following command initializes the Enfora Enabler-G module by setting the text mode parameters.

AT+CSMP=17,167,0,0	Set text mode parameters:	
	AT+CSMP=<fo>,<vp>,<pid>,<dcs>	
	<fo>=17	Sets reply pat, user data header, status report request, validity period format, reject duplicates and message type.
	<vp>=167	Sets validity period.
	<pid>=0	Higher layer protocol indicator.
	<dcs>=0	Information encode format.
OK	Modem Response.	

7. After initializing the module with the proper SMS mode, query the module for the correct service center. The service center is required fro proper routing of an SMS through the network. The service center is programmed into the SIM by the network service provider. The following command queries the service center.

AT+CSCA?	Query service center.
+CSCA: "+12063130004"	Modem Response. (VoiceStream – USA)

8. If no service center is entered, then contact your service provider for correct service center. To enter the correct service center, enter the following command:

AT+CSCA="+12063130004"	Sets the service center. (VoiceStream – USA)
OK	Modem Response.

9. The following command selects TEXT mode for SMS messages.

AT+CMGF=1	Set message format to TEXT mode.
OK	Modem Response.

10. The following command sets the indicators for receiving an SMS message.

AT+CNMI=1,1,0,0,0	Set the new message indicators.
	AT+CNMI=<mode>,<mt>,<bm>,<ds>,<bfr>
	<mode>=1 discard unsolicited result codes indication when TA – TE link is reserved.
	<mt>=1 SMS-DELIVERs are delivered to the SIM and routed using unsolicited code.
	<bm>=0 no CBM indications are routed to the TE.
	<ds>=0 no SMS-STATUS-REPORTs are routed.
	<bfr>=0 TA buffer of unsolicited result codes defined within this command is flushed to the TE.
OK	Modem Response.

11. The following command saves the SMS settings. Once the SMS commands have been saved, the initialization commands do not need to be sent again until they are changed.

AT+CSAS	Save SMS settings. This may take up to 10 seconds.
OK	Modem Response.

12. For more advanced SMS options, see the ***GSM0107AT001 – Enfora Enabler IIG AT Command Set*** for the following AT commands:

AT+CSCS	Character set.
AT+CSMS	Select message service.
AT+CPMS	Preferred storage.
AT+CSDH	Show text mode parameters.

13. After the Enfora Enabler-G module has been initialized, the following commands demonstrate the transmission of an SMS message to a GSM mobile number.

AT+CMGS="12017572673"	Send a message to the telephone number.
>	Ready to enter a message.
This is a test message^Z	Enter the text message. End the message with Control Z.
+CMGS: 1	Successful transmission. The number will increment with each SMS sent.
OK	Modem Response.

14. For an incoming SMS with the above initialization settings, the following indication will be displayed over the serial port:

+CMTI: "SM",1	Incoming message indication stored in message location 1.

15. To read the above message, enter the following:

AT+CMGR=1	Read SMS message in SIM location 1.
+CMGR: 1,”REC READ”,”12145551212”,,”02/08/01,14:24:41+08”, 145,4,0,0,”12063130004”,145,5 **This is a test message**	
OK	Modem response. See ***GSM0107AT001 – Enfora Enabler IIG AT Command Set*** for parameter details.

16. To store an SMS message on the SIM for later retrieval, enter the following:

AT+CMGW="12017572673"	Store a message on the SIM.
>	Ready to enter a message.
This is a stored message^Z	Enter the text message. End the message with Control Z.
+CMGW: 2	Successfully stored in memory location 2.
OK	Modem Response.

17. To send a message previously stored on the SIM, enter the following:

AT+CMSS=2	Send message from memory location 2.
+CMSS:2	Successful transmission. The number will increment with each SMS sent.
OK	Modem Response.

18. To list all of the messages stored on the SIM, enter the following:

AT+CMGL=”ALL”	List messages on the SIM.
+CMGL: 1,”REC UNREAD”,”12145551212”,,”02/08/01,14:24:41+08”,145,5 **This is a test message**	
+CMGL: 2,"STO SENT","17192326602",,,129,22 **This is a stored message**	
OK	Modem response. See ***GSM0107AT001 – Enfora Enabler IIG AT Command Set*** for parameter details.

19. The following command deletes a message from the SIM location specified.

AT+CMGD=1	Delete SMS message in SIM location 1.
OK	Modem response upon successful delete.

Revision History

Date	Rev	Author	Description
8/16/02	Draft	Matt Glover	Initial Draft.
9/3/02	1.00	Matt Glover	• Removed steps to manually turn radio on and select network operator and replaced with reference to GSM0000AN005 - Enabler-G Automated Network Connection Configuration and Use due to architecture change that provides automated network attachment. • Initial Release