AT Commands Set

SIM300_MMS_ATC_V1.00

Development Kit

Hardware Design

Reference Design

Software Design
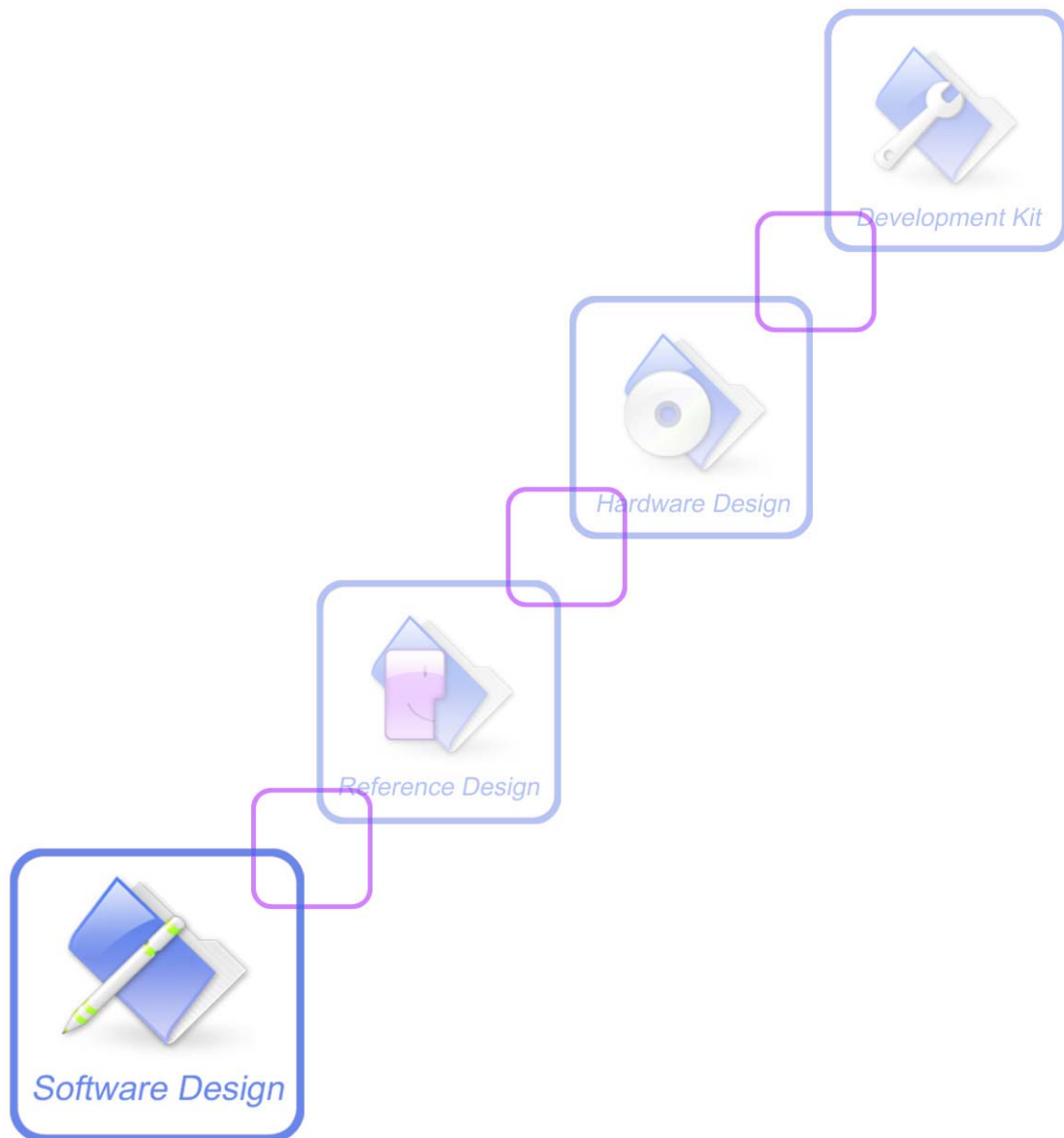
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Version History

Version	Chapter	What is new
V1.00	Origin	

1 Introduction

This document presents the AT command of MMS for SIM300.

1.1 Feature

1. SIM300 supports to send and receive MMS through WAP protocol or HTTP protocol.
2. Unicode (both little endian and big endian) and UTF8 are supported character set and ASCII is only supported for English and numerals.
3. The maximum data size of a MMS is 60 Kbytes.
4. The maximum size of an image file is 60 Kbytes.
5. The maximum size of a text file is 15 Kbytes.
6. It is necessary to input the header of Unicode (both little endian and big endian) when input the text in the corresponding character set. ("FF FE" is the header for Unicode little endian and "FE FF" is the header for Unicode big endian)
7. It includes "MMS PUSH" in "+CMTI: …" when the received short message is a MMS push message (either M-Notification.ind or M-Delivery.ind [2]).
8. It includes "MMS PUSH" in "+CMGR: …" or "+CMGL: …" when the read short message is a MMS push message.

1.2 Reference

[1] SIM300_ATC_V2.00.doc
[2] wap-209-mmsencapsulation-20020105-a

1.3 Glossary

MMS	multimedia short message
URL	Uniform Resource Locator
UART	Universal Asynchronous Receiver and transmitter
PDU	Protocol Data Unit
MMS Proxy-Relay	A server which provides access to various messaging systems. It may operate as WAP origin server in which case it may be able to utilizes features of the WAP system.

2   AT commands

2.1   AT+CMMSCURL

AT+CMMSCURL	Set the URL of the mms center
Test Command AT+CMMSCURL=?	Response +CMMSCURL: "URL" OK Parameter See Write Command
Read Command AT+CMMSCURL?	Response +CMMSCURL: \<mmscurl> OK
	Parameter See Write Command
Write Command AT+CMMSCURL=< mmscurl>	Response OK ERROR +CME ERROR: \<err>
	Parameter \<mmscurl> The URI of the mms center, not include "http://"
Reference	Note

2.2   AT+CMMSPROTO

AT+CMMSPROTO	Set the protocol parameter and MMS proxy
Test Command AT+CMMSPROTO= ?	Response +CMMSPROTO: (0,1),"(0-255).(0-255).(0-255).(0-255)",(0-65535) OK
	Parameter See Write Command
Read Command AT+CMMSPROTO?	Response +CMMSPROTO: \<type>,\<Gateway>,\<Port> OK

	Parameter See Write Command
Write Command AT+CMMSPROTO =<type>,[<Gateway >,<Port>]	Response OK ERROR
	Parameter <type>　　　the application protocol for MMS。 　　　　　0　wap 　　　　　<u>1</u>　http (default) 　<Gateway> IP address of MMS proxy. <Port>　　　Port of MMS proxy.
Reference	Note

2.3　AT+CMMSNETCFG

AT+CMMSNETCFG　　Set the network parameters for MMS	
Test Command AT+CMMSNETCFG =?	Response +CMMSNETCFG: 0-CSD, "DialNum","USER","PWD",(0-3) +CMMSNETCFG:1-GPRS,"APN","USER","PWD" OK or +CME ERROR: <err>
	Parameter See Write Command
Read Command AT+CMMSNETCFG ?	Response +CMMSNETCFG: <mode>,<dialorapn>, [<rate>] OK
	Parameter See Write Command
Write Command AT+CMMSNETCFG =<mode>[,<dialora pn>[,<user>,<pwd> , [<rate>]]]	Response OK ERROR +CME ERROR: <err>
	Parameter <mode>　　　Adopt CSD or GPRS as access point 　　　　　0　CSD

	1 GPRS (default)
	\<dialorapn\> dial number for CSD or APN for GPRS
	\<user\> user name
	\<pwd\> password
	\<rate\> the data rate in CSD connnection
	0 2400bps
	1 4800bps
	2 9600bps (default)
	3 14400bps
Reference	Note

2.4   AT+CMMSSENDCFG

AT+CMMSSENDCFG Set the parameter for sending MMS	
Test Command AT+CMMSSENDCFG =?	Response + CMMSSENDCFG: (0-6), (0-3),(0,1), (0,1),(0-2),(0-4) OK
	Parameter See Write Command
Read Command AT+CMMSSENDCFG?	Response +CMMSSENDCFG: \<valid\>,\<pri\>,\<sendrep\>,\<readrep\>,\<visible\>,\<class\> OK
	Parameter See Write Command
Write Command AT+CMMSSENDCFG=[\<valid\>][,\<pri\>][,\<sendrep\>][,\<readrep\>][,\<visible\>][,\<class\>]	Response OK ERROR +CME ERROR: \<err\>
	Parameter \<valid\> The valid time of sent MMS 0 1 hour 1 12 hours 2 24 hours 3 2 days 4 1 week 5 maximum 6 Not set （default） \<pri\> Priority 0 lowest 1 normal

	2 highest
	3 Not Set（default）
	<sendrep> Whether to need delivery report
	0 No （default）
	1 Yes
	<readrep> Whether need receive report
	0 No （default）
	1 Yes
	<visible> Whether to show the address of the sender
	0 hide the address of the sender
	1 show the address of the sender even if it is a secret address
	2 Not set（default）
	<class> The class of the MMS
	0 Personal
	1 Advertisement
	2 Informational
	3 Auto
	4 Not set （default）
Reference	Note Refer to [2]

2.5 AT+CMMSEDIT

AT+CMMSEDIT	Enter or exit edit mode
Test Command AT+CMMSEDIT=?	Response +CMMSEDIT: (0,1) OK
	Parameter See Write Command
Read Command AT+CMMSEDIT?	Response +CMMSEDIT: <mode> OK
	Parameter See Write Command
Write Command AT+CMMSEDIT=< mode>	Response OK or ERROR

	or
	+CME ERROR: \<err\>
	Parameter
	\<mode\> Whether to allow to edit MMS
	0 Not allow to edit MMS
	1 Allow to edit MMS
Reference	Note
	It includes adding and deleting receipt and downloading and delete files
	and downloading title to edit MMS.

2.6 AT+CMMSDOWN

AT+CMMSDOWN	Download the file data or title from UART
Test command +CMMSDOWN=?	Response +CMMSDOWN: "PIC", (1-61440), (5000-),"NAME"\<CR\>\<LF\> +CMMSDOWN: "TEXT", (1-15360), (2000-),"NAME"\<CR\>\<LF\> +CMMSDOWN: "TITLE", (1-40), (2000-)\<CR\>\<LF\> OK
Read command +CMMSDOWN?	Response ERROR
Write command +CMMSDOWN =\<type\>,\<size\>, \<time\>[,\<name\>]	Response CONNECT or ERROR or +CME ERROR: \<err\>

	Parameter
	\<type\> A string parameter which indicates type of downloaded
	         data
	         "TITLE": mms title data
	         "TEXT": mms text data
	         "PIC": mms image data
	\<size\> Size in bytes of the data to download.
	\<time\> Maximum time in milliseconds to download data.
	\<name\> The file name of the image or text to download, including
	         extended name. The default name for image is
	         "image\<m\>.jpg" and the default name for text is
	         "text\<n\>.txt". \<m\> and \<n\> are in the range 0~255

Reference	Note
	It is strongly recommended to set the time as long as enough to download all file data and that the real size of the file to download is not bigger than <size>.
	The maximum size of <name> is 40 Bytes and only ASCII code is recognized for <name>.

2.7 AT+CMMSDELFILE

AT+CMMSDELFILE	Delete the file of the editing MMS by file name
Test command +CMMSDELFILE=?	Response OK
Write command +CMMSDDELFILE =<fileIndex>	Response OK or ERROR or +CME ERROR: <err>
	Parameter <fileIndex> The index of the file to delete in the MMS. Refer to +CMMSVIEW
Reference	Note This command is valid when allow to edit MMS

2.8 AT+CMMSSEND

AT+CMMSSEND	Start mms sending
Test command +CMMSSEND=?	Response +CMMSSEND: "ADDRESS" OK
Write command +CMMSSEND =<address>	Response OK or ERROR or +CME ERROR: <err>

	Parameter
	<address> a string parameter which indicates address of recipients.
Execution Command +CMMSSEND	Response OK ERROR +CME ERROR: <err>
Reference	Note It is not allowed to input <address> when not allow to edit MMS

2.9 AT+CMMSRECP

AT+CMMSRECP Add recipients	
Test command +CMMSRECP=?	Response +CMMSRECP: "ADDRESS" OK
Read command +CMMSRECP?	Response +CMMSRECP: the list of <addr>
	Parameters: see write command
Write command +CMMSRECP=<add r>	Response OK ERROR +CME ERROR: <err>

	Parameters
	<addr> a string parameter which indicates phone number or email
	           address of recipients. The maximum length of the string is
	           40.

Reference	Note The maximum of recipients is 20 and this command is valid only when allow to edit MMS

2.10 AT+CMMSCC

AT+CMMSCC Add copy recipients	
Test command +CMMSCC =?	Response +CMMSCC: "ADDRESS" OK
Read command +CMMSCC?	Response +CMMSCC: the list of <addr>

	Parameters: see write command
Write command +CMMSCC=<addr>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <addr> a string parameter which indicates phone number or email address of copy recipients. The maximum length of the string is 40.
Reference	Note The maximum of copy recipients is 20 and this command is valid only when allow to edit MMS

2.11 AT+CMMSBCC

AT+CMMSBCC Add secret recipients	
Test command +CMMSBCC =?	Response +CMMSBCC: "ADDRESS" OK
Read command +CMMSBCC?	Response +CMMSBCC: the list of <addr>
	Parameters: see Write command
Write command +CMMSBCC=<addr>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <addr> a string parameter which indicates phone number or email address of secret recipients. The maximum length of the string is 40.
Reference	Note The maximum of secret recipients is 20 and this command is valid only when allow to edit MMS

2.12 AT+CMMSDELRECP

AT+CMMSDELRECP	Delete recipients
Test command +CMMSDELRECP =?	Response +CMMSDELRECP: "ADDRESS" OK
Write command +CMMSDELRECP =<addr>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <addr>　　　　a string parameter which indicates phone number or email 　　　　address of recipient. The maximum length of the string is 　　　　40.
Execute command +CMMSDELRECP	Delete all the recipients Response OK
Reference	Note This command is valid when allow to edit MMS

2.13 AT+CMMSDELCC

AT+CMMSDELCC	Delete copy recipients
Test command +CMMSDELCC=?	Response +CMMSDELCC: "ADDRESS" OK
Write command +CMMSDELCC =<addr>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <addr>　　　　a string parameter which indicates phone number or email 　　　　address of copy recipients. The maximum length of the 　　　　string is 40.
Execute command	Delete all the copy recipients

+CMMSDELCC	Response
	OK
Reference	Note
	This command is valid when allow to edit MMS

2.14 AT+CMMSDELBCC

AT+CMMSDELBCC	Delete secret recipients
Test command	Response
+CMMSDELBCC=?	+CMMSDELBCC: "ADDRESS"
	OK
Write command	Response
+CMMSDELBCC	OK
=<addr>	or
	ERROR
	or
	+CME ERROR: <err>
	Parameters
	<addr> a string parameter which indicates phone number or email address of recipient. The maximum length of the string is 40.
Execute command	Delete all the secret recipients
+CMMSDELBCC	Response
	OK
Reference	Note
	This command is valid when allow to edit MMS

2.15 AT+CMMSRECV

AT+CMMSRECV	Receive MMS
Test command	Response
+CMMSRECV=?	+CMMSRECV: (range of <index>)
	OK

Write command +CMMSRECV=<index>	Response +CMMSRECV: "<sender>","<time>","<subject>",<size><CR><LF> List of <fileIndex,name,type,filesize><CR><LF> OK or +CME ERROR: <err>

	Parameter
	<index> The index of the push message save in the SIM message
	           box.
	<sender> The address of the sender
	<time> The time to receive the MMS
	<subject> the title of the MMS
	<size> The size of the MMS
	<fileIndex,name,type,filesize> The index and name and size of every
	           file included in the MMS. The value of type are defined as
	           following.
	        2 text
	        3 text/html
	        4 text/plain
	        5 image
	        6 image/gif
	        7 image/jpg
	        8 image/tif
	        9 image/png
	        10 smil

Reference	Note
	1、This command is valid only when it is not allowed to edit MMS and
	   the buffer for MMS will be clear up. So it is recommended to save
	   the MMS in the buffer before receive MMS.
	2、The received MMS is just saved in the buffer but not saved in the
	   flash, so it is necessary to save the MMS by AT+CMMSSAVE to
	   save MMS to MMS mail box.

2.16 AT+CMMSVIEW

AT+CMMSVIEW	Get the MMS in the given mail box into buffer and show the information
Test command +CMMSVIEW=?	Response +CMMSVIEW: (0-1) OK
Execute command +CMMSVIEW	Response +CMMSVIEW: <mmstype>, "<sender>", "<receipts>", "<ccs>",

"<bccs>", "<datetime>","<subject>",<size><CR><LF>list of
<fileIndex, name, filesize><CR><LF>

OK
or
+CME ERROR: <err>

	Parameter See Write command
Write command +CMMSVIEW=<index>	Response +CMMSVIEW: <mmstype>, "<sender>", "<receipts>", "<ccs>", "<bccs>", "<datetime>","<subject>",<size><CR><LF>list of <fileIndex,name,type,filesize><CR><LF> OK or +CME ERROR: <err>

	Parameter
	<index> the MMS mail box index
	<mmstype> the type of mms
	      0 received mms
	      1 sent mms
	      2 unsent mms
	<sender> the address of the sender
	<receipts> the list of the recipients, and separated by ";"
	<ccs> the list of the copy recipients, and separated by ";"
	<bccs> the list of the secret recipients, and separated by ";"
	<time> the time to receive MMS
	<subject> MMS title
	<size> MMS data size
	<fileIndex,name,type,filesize> The index and name and size of every
	                file included in the MMS. The define of type,
	                please refer to +CMMSRECV

Reference	Note The execute command of this command is used to output the information of the MMS in the MMS buffer to UART. The write command of this command is used to read the MMS in the given mail box to the MMS buffer and output the information of the MMS to UART.

2.17 AT+CMMSREAD

AT+CMMSREAD Read the given file of the MMS in the buffer

Test command +CMMSREAD=?	Response OK
Write command +CMMSREAD=<index>	Response +CMMSREAD: <name> <datSize> File content OK

	Parameter
	<index> the index of the file to read of the MMS in the buffer，i.e. the
	      parameter <fileIndex> in "AT+CMMSRECV" and
	      "AT+CMMSVIEW"
	<name> the file name of the file to read
	<datSize> the size of the file to read.

Reference	Note If the file type is text, the character set of the output text is Unicode little endian without the header "FF FE".

2.18 AT+CMMSSAVE

AT+CMMSSAVE Save the MMS in the buffer to some mail box	
Test command +CMMSSAVE=?	Response +CMMSSAVE: (0-1) ,(0-2) OK
Execute command +CMMSSAVE	Response +CMMSSAVE: <index> OK or +CME ERROR: <err>
Write command +CMMSSAVE=[<index>][,<mmstype>]	Response +CMMSSAVE: <index> OK or +CME ERROR: <err>
	Parameter <index> the index of MMS mail box. If the parameter is default, the MMS will be saved to the first empty mail box. <mmstype> the type of mms.

	0 received mms
	1 sent mms
	2 unsent mms
	The default value is 0 after receive a MMS. And the default value is 1 after send a MMS. And the default value is 2 when edit a MMS.
Reference	Note

2.19 AT+CMMSDELETE

AT+CMMSDELETE delete MMS in the mail box	
Test command +CMMSDELETE=?	Response +CMMSDELETE: (0-1) OK
Read command +CMMSDELETE?	Response + CMMSDELETE: <mmsNum> See Write command
Write command +CMMSDELETE =<index>	Response OK or ERROR or +CME ERROR: <err>
	Parameters <mmsNum> The number of MMS saved in MMS mail box <index> the index of the MMS in mail box.
Execution Command + CMMSDELETE	Response OK Delete all MMS in mailbox.
Reference	Note

2.20 AT+CMMSREADPUSH

AT+CMMSREADPUSH Read the information of the MMS PUSH message	
Test command	Response

+CMMSREADPUSH=?	+CMMSREADPUSH: (range of \<index\>) OK
Write command +CMMSREADPUSH=\<index\>	Response +CMMSREADPUSH: 2,"\<sender\>","\<subject\>","\<transaction\>","\<location\>","\<time\>",\<class\>,\<size\> OK or +CMMSREADPUSH: 6, "\<receiver\>","\<time\>",\<status\> OK or +CMMSREADPUSH: 255 OK or +CME ERROR: \<err\>

	Parameter The first parameter of the response 2 or 6 or is the type of the MMS PDU.

Parameter
The first parameter of the response 2 or 6 or is the type of the MMS PDU.

      2   m-notification-ind[2]. To inform about the contents of a received MMS

      6   m-delivery-ind[2]. A delivery report

      255 unknown MMS PDU

\<index\>   The index of the push message save in the SIM message box.

\<sender\>   The address of the sender

\<receiver\>   The address of the receiver

\<subject\>   the title of the MMS

\<transaction\>   The X-Mms-Transation-ID[2] of the received MMS

\<location\>   The X-Mms-Content-Location[2] of the received MMS

\<class\>   The X-Mms-Class[2] of the received MMS

      0   Personal

      1   Advertisement

      2   Informational

      3   Auto

\<time\>   Date and time when the push message was received.

\<size\>   The size of the MMS

\<status\>   The status of the sent MMS

      0   Expired

      1   Retrieved

	2	Rejected
	3	Defered
	4	Unrecognised
Reference	Note	
	3、 This command is valid only when it is not allowed to edit MMS and the buffer for MMS will be clear up. So it is recommended to save the MMS in the buffer before receive MMS.	
	4、 The received MMS is just saved in the buffer but not saved in the flash, so it is necessary to save the MMS by AT+CMMSSAVE to save MMS to MMS mail box.	

3 Supported unsolicited result codes

3.1 Summary of CME ERROR Codes

Final result code +CME ERROR: <err> indicates an error related to mobile equipment or network. The operation is similar to ERROR result code. None of the following commands in the same Command line is executed. Neither ERROR nor OK result code shall be returned. The following <err> is just the new <err> code for MMS. About other <err> codes, please refer to [1].

<err> values used by common messaging commands:

Code of <err>	Meaning
171	MMS task is busy now
172	The mms data is oversize
173	The operation is overtime
174	There is no mms receiver
175	The storage for address is full
176	Not find the address
177	The connection to network is failed
178	Failed to read mms
179	This is not a mms push message
180	Gprs in not attached
181	Tcpip stack is busy
182	The mms storage is full
183	The box is empty
184	Failed to save mms
185	It is busy editing MMS now
186	It is not allowed to edit now
187	No content in the buffer
188	Not find the file
189	Failed to receive MMS
190	Failed to read MMS from mail box
191	Not M-Notification.ind[2]

4 Examples

4.1 Set the parameters

AT+CMMSURL="mmsc.monternet.com"   //Set the MMS center URL without "http://"
OK
AT+CMMSNETCFG=1,"CMWAP"   //Use GPRS connection and set APN to "CMWAP"
                                   without user name or password.

OK
AT+CMMSPROTO=1,"10.0.0.172",80   //Use HTTP protocol to send MMS and set the IP
                                   address and port of MMS proxy to "10.0.0.172" and
                                   80.

OK
AT+CMMSSENDCFG=6,3,0,0,2,4   //Set the parameter for the MMS PDU to send. This
                                   is unnecessary to set. About the details of these
                                   parameters, Please refer to [2].

OK

4.2 Send MMS

Call Ready   //Wait for "Call Ready" before the following operations
AT+CGATT?   //Make sure that GPRS has been attached
+CGATT: 1

OK
AT+CMMSEDIT=1   //Enter edit mode to edit MMS
OK
AT+CMMSDOWN="PIC",61287,20000 //Download an image whose size is 61287 Bytes and
                                   the maximum latency time for downloading is 20000
                                   ms. It is recommended to set the latency time as long as
                                   enough to download all the data in the latency time.
CONNECT   //This means it is ready to receive data from UART.
                                   And DCD has been set to low.
... ...   //Receive data from UART and not echo.
OK   //This means all data has been received over, and
                                   DCD is set to high.
AT+CMMSDOWN="TITLE",20,5000   //Download a title for the MMS, it is not necessary to
                                   download a title for the MMS.
CONNECT   //It is similar with downloading an image.
... ...
OK
AT+CMMSDOWN="TEXT",100,5000   //Download a text whose size is 100 Bytes and the
                                   maximum latency time is 5000 ms. As the former to

	download an image, it is recommended to set the latency time as long as enough too.
CONNECT	//It is similar with the former downloading operations.
......	
OK	//Successfully to download the text. Here maybe return "+CME ERROR:172" although 61287 plus 100 is less than 61440. The reason is that the character set of a text in a MMS data is UTF8.
AT+CMMSRECP="13918181818"	//Add the first recipient.
OK	//Successfully to add a recipient.
AT+CMMSRECP="simcom@sim.com"	//Add a email address as a recipient.
OK	
AT+CMMSSEND	//Send MMS
... ...	//sending MMS and the UART can't receive AT command now
OK	//Successfully to send MMS
AT+CMMSSAVE	//Save the MMS in the first empty mail box
+CMMSSAVE: 0	//The MMS has been saved in the mail box 0
OK	
AT+CMMSEDIT=0	//Exit from edit mode and the MMS in buffer was cleared up.

4.3   Receive MMS

+CMTI: "SM",3,"**MMS PUSH**"	//received a MMS push message
AT+CMMSEDIT=0	//exit edit mode. It is not allowed to receive MMS in edit mode.
OK	
AT+CMMSRECV=3	//Receive the MMS from the MMS proxy

+CMMSRECV: "+8613818181818", "2008-05-02, 03:38:12","", 26670
1, "image0.jpg", 26625

OK	//Successfully receives the MMS and the MMS includes the file "image0.jpg" whose size is 26625 Bytes. The sender is "+8613818181818". The size the MMS body is 26670 Bytes.
AT+CMMSSAVE	//Save the received MMS to the first empty mail box.
+CMMSSAVE: 0	//The received MMS is saved in the first mail box
OK	
AT+CMGD=3	//Delete the MMS push message.
OK	

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