SIM800 Series_MMS _Application Note

GPRS Module

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About Document

Version History

Version	Date	Owner	What is new
V1.00	2013-08-01	Dingfeng.zhu	New version
V1.01	2016-11-17	Dingfen.zhu	Scope
V1.02	2020-06-15	Fumei.zeng /Wenjie.Lai	Change the style

Scope

This document presents the AT command of MMS operation and application examples. This document can apply to SIM800 series modules with MMS function.

Contents

1 Introduction

1.1 Purpose of the document

Based on module AT command manual, this document will introduce MMS application process.

Developers could understand and develop application quickly and efficiently based on this document.

1.2 Related documents

[1] SIM800 Series_AT Command Manual
[2]wap-209-mmsencapsulation-20020105-a

1.3 Conventions and abbreviations

Abbreviation	Description
MMS	Multimedia short message
URL	Uniform Resource Locator
UART	Universal Asynchronous Receiver and transmitter
PDU	Protocol Data Unit

2 MMS Introduction

This chapter introduces the MMS feature of SIM800 series modules.

1) SIM800 series support sending and receiving MMS only through HTTP protocol.
2) Character sets of SIM800 series support Unicode (both little endian and big endian) and UTF8 and support ASCII code only for English and numerals.
3) The maximum data size of an MMS is 300 Kbytes.
4) The maximum size of an image file is 300 Kbytes.
5) The maximum size of a text file is 15360 bytes.
6) The maximum number of files to be enclosed is 10.
7) It is necessary to input text data into modem with header of Unicode (both little endian and big endian, "FF FE" is the header for Unicode little endian and "FE FF" is the header for Unicode big endian).
8) It includes "MMS PUSH" in "+CMTI: …" when the received short message is a MMS push message (either M-Notification.ind or M-Delivery.ind).
9) If the current received MMS push message is a concatenated message, it will include ",<m>,<n>" after "MMS PUSH". <m> is the total number of the parts of the concatenated message and <n> is the index of the current part in the whole concatenated message. For example: +CMTI: "SM",1,"MMS PUSH",2,1. In the URC, 2 means the concatenated push message including two parts and 1 means the current message is the first part. When all parts of the concatenated push message have been received, it will prompt "+CMTI: …" URC with "MMS PUSH" and without ",<m>,<n>". For example: +CMTI: "SM",1,"MMS PUSH".
10) X-profile parameters need to be configured for some MMS server, or some problems like image compression error may occur, also the x-profile address which is not configured by default should be set according to the customer's own hardware environment.
11) The output text from the modem is encoded with little endian Unicode, but the head of Unicode is omitted.

3 AT Commands

3.1   AT Commands Description

Command	Description
AT+CMMSCURL	Set the URL of the MMS center
AT+CMMSPROTO	Set the protocol parameter and MMS proxy
AT+CMMSCID	Set the network parameters for MMS
AT+CMMSSENDCFG	Set the parameters for sending MMS
AT+CMMSEDIT	Enter or exit edit mode
AT+CMMSDOWN	Download the file data or title from UART
AT+CMMSDELFILE	Delete the file of the edited MMS by file index
AT+CMMSSEND	Start MMS sending
AT+CMMSRECP	Add recipients
AT+CMMSCC	Add copy recipients
AT+CMMSBCC	Add secret recipients
AT+CMMSDELRECP	Delete recipients
AT+CMMSDELCC	Delete copy recipients
AT+CMMSDELBCC	Delete secret recipients
AT+CMMSRECV	Receive MMS
AT+CMMSVIEW	Get the MMS into buffer and show the information
AT+CMMSREAD	Read the given file of the MMS in the buffer
AT+CMMSRDPUSH	Read the information of the MMS PUSH message
AT+CMMSUA	Set user agent
AT+CMMSPROFILE	Set user agent profile
AT+CMMSTIMEOUT	Set MMS timeout
AT+CMMSSTATUS	Get MMS status
AT+CMMSINIT	Initialize MMS function
AT+CMMSTERM	Exit MMS function
AT+CMMSSCONT	Save MMS context

3.2 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 result code ERROR. None of the following commands should be executed in the same Command line. Neither ERROR nor OK result code will be returned. The following <err> is just the additional <err> code for MMS. About other <err> codes, please refer to reference [1].

Code of <error>	Meaning
171	MMS task is busy now
172	The MMS data is oversized
173	The operation is overtime
174	There is no MMS receiver
175	The storage for address is full
176	Failed to find the address
177	The connection to network is failed
178	Failed to read push message
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 in edit mode
186	It is not in edit mode
187	No content in the buffer
188	Not find the file
189	Failed to receive MMS
190	Failed to read MMS
191	Not M-Notification.ind
192	The MMS inclosure is full
193	Unknown

4 MMS Examples

SIM800 series module provides MMS solution which communicates via HTTP protocol.

Unicode (little endian and big endian) and UTF8 character set are supported, also ASCII is supported only for English and numerals. SIM800 series module can send JPG format pictures. When receiving the title, text and picture data of MMS, module can create a MMS file automatically. User can set phone number or e-mail address as MMS destination.

4.1 Initialization

//Example of Initialization	
AT+CMMSINIT **OK**	//This command must be executed when entering the MMS function,

4.2 Configuration

Before sending or receiving MMS, please configure parameters as following:

//Example of Configuration	
AT+CMMSCURL="mmsc.monternet.com" **OK**	//Set the MMS center URL without "http://"
AT+CMMSCID=1 **OK**	//Set bearer context id
AT+CMMSPROTO="10.0.0.172",80 **OK**	//Set the IP address（10.0.0.172）and port of MMS proxy（80）
AT+CMMSSENDCFG=6,3,0,0,2,4,1,0 **OK**	//Set the parameter for the MMS PDU to be sent. This is not required. About the details of these parameters, please refer to reference [1]

4.3   Active Bearer Profile

//Example of Active Bearer Profile	
AT+SAPBR=3,1,"Contype","GPRS"	//Set bearer parameter
OK	
AT+SAPBR=3,1,"APN","CMWAP"	//Set bearer context
OK	
AT+SAPBR=1,1	//Active bearer context
OK	
AT+SAPBR=2,1	
+SAPBR: 1,1,"10.89.193.1"	//Read bearer parameter
OK	

4.4   Send MMS

//Example of send MMS	
AT+CMMSEDIT=1	//Enter edit mode to edit MMS
OK	
AT+CMMSDOWN="PIC",12963,20000	//Download an image whose size is 12963 Bytes and the maximum latency time for downloading is 20000 ms. It is recommended to set the latency time as long as possible so it is enough time to download all the data within the latency period
CONNECT	//It is ready to receive data from UART. And DCD has been set to low
......	//Receive data from UART without echo
OK	//All data has been received, and DCD is set to high
AT+CMMSDOWN="TITLE",3,5000	//Download a title for the MMS, it is not required to download a title for the MMS.
CONNECT	//It is ready to receive data from UART. And DCD has been set to low
	//Receive data from UART without echo
......	All data has been received over, and DCD is set to high. for example, is " HUA"
OK	
AT+CMMSDOWN="TEXT",5,5000	//Download a text whose size is 5 Bytes and the maximum latency time is 5000 ms. It is recommended to set the latency time as long as enough to download all the data in the latency time

CONNECT	//It is ready to receive data from UART. And DCD has been set to low
……	//Receive data from UART without echo
OK	//All data has been received over, and DCD is set to high. for example, is "ilove"

Note: if the data is in Unicode (big endian) format, it must begin with "FE FF"; if the data is in Unicode (little endian) format, it must follow with "FF FE". For example, the data is "00 31 00 32 00 33 00 34" in big endian format, then before sending, it should be encoded to be "FE FF 00 31 00 32 00 33 00 34".

AT+CMMSRECP="13918181818" **OK**	//Add the first recipient
AT+CMMSCC="13564545454" **OK**	//This command is optional. It is for adding copy address
AT+CMMSBCC="simcom@sim.com" **OK**	//This command is optional. It is for adding secret email address
AT+CMMSDELBCC **OK**	//This command is optional. It is for deleting BCC address
AT+CMMSDELCC **OK**	//This command is optional. It is for deleting CC address
AT+CMMSBCC="simcom@sim.com" **OK**	//This command is optional. It is for adding secret email address
AT+CMMSVIEW **+CMMSVIEW:** **2,"","13918181818","","simcom@sim.com",** **"2003-01-01,12:07:18","480055004100",13054** **1,"image0.jpg", 7, 12963** **2,"text0.txt", 4, 5** **OK**	//View the information of sending MMS
AT+CMMSDELFILE=2 **OK**	//TEXT data of MMS is deleted, that's "text0.txt"
AT+CMMSVIEW **+CMMSVIEW:** **2,"","13918181818","","simcom@sim.com",** **"2003-01-01,12:07:18","480055004100",13004** **1,"image0.jpg", 7, 12963** **OK**	//The second part of MMS has been deleted
AT+CMMSSEND **……**	//Send MMS //Sending, UART will not respond to any AT command
OK	//Sent successfully

AT+CMMSEDIT=0 **OK**	//Exit from edit mode and the MMS in buffer will be cleared up

4.5   Receive MMS

//Example of receive MMS	
+CMTI: "SM",3,"MMS PUSH"	//Received a MMS push message
AT+CMMSEDIT=0 **OK**	Exit edit mode. It is not allowed to receive MMS in edit mode //Receive the MMS from the MMS proxy
AT+CMMSRECV=3 **+CMMSRECV:** **"+8613818181818","2008-05-02,** **03:38:12","", 26670** **1, "image0.jpg",7,26625**	
OK	//Successfully received the MMS and the MMS included the file "image0.jpg" whose size is 26625 Bytes. The sender is "+8613818181818". The size of the MMS body is 26670 Bytes
AT+CMGD=3 **OK**	//Delete the MMS push message

4.6   Read a Push Message

//Example of read a push message	
+CMTI: "SM",1,"MMS PUSH",2,1	//Received the first part of a concatenated MMS push message which includes two parts
+CMTI: "SM",2,"MMS PUSH",2,2	//Received the second part of a concatenated MMS push message which includes two parts
+CMTI: "SM",1,"MMS PUSH"	//Received all the parts of the concatenated MMS push message
AT+CMMSEDIT=0 **OK** **AT+CMMSRDPUSH=1** **+CMMSRDPUSH:**	//Exit edit mode. It is not allowed to receive MMS in edit mode
2,"+85266097746","6C8FD1531AFF2E00610 **0","0110000012082090415183122001","http:/**	//Read PUSH message content

/203.142.105.122:38090/mms/0110000012082 090415183122001","2013-05-28,09:35:37",0, 14735 **OK**	
AT+CMGD=1 **OK**	//Delete the MMS push message and all the parts of the concatenated MMS push message will be deleted

4.7 Read a File of MMS

//Example of read a file of MMS	
AT+CMMSREAD=1	//The parameter 1 is the index of the file in the MMS. Please refer to the response of AT+ CMMSRECV= 3
+CMMSREAD: "image0.jpg", 26625	Include file name and size
……	//The data of the file " image0.jpg"
OK	All the data of the file has been read over

4.8 Exit

//Example of exit	
AT+CMMSTERM **OK**	//Exiting the MMS function