

UC20 MMS AT Commands Manual

UMTS/HSPA Module Series

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About the Document

History

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1.1	2014-01-27	Jonathan WEN/Mandy WANG	 Updated error code Modified the parameter format



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1 Introduction

UC20 provides MMS application interface for sending messages including multimedia objects (image, audio, rich text, etc.). This document is a reference guide to all the AT commands defined for MMS.

1.1. General Process of Sending MMS Message

Step 1: Configure and activate the PDP context.

- 1) Configure the PDP context parameters of <apn>, <username>, <password> and other parameters by AT+QICSGP (Please refer to UC20_TCPIP_AT_Commands_Manual). If QoS settings need to be updated, configure them by the commands AT+CGQMIN, AT+CGEQMIN, AT+CGQREQ, and AT+CGEQREQ (Please refer to UC20_AT_Commands_Manual).
- 2) Activate the PDP context by AT+QIACT.
- 3) Configure the PDP context ID for MMS by AT+QMMSCFG="contextid",<contextID>.
- Step 2: Configure the URL and proxy of MMSC.
 - 1) Configure the URL of MMSC by AT+QMMSCFG="mmsc", <URL>.
 - Configure the proxy of MMSC by AT+QMMSCFG="proxy", <gateway>, <port>.
- **Step 3:** Configure the sending parameters.

Configure the sending parameters by AT+QMMSCFG="sendparam",<valid>,<pri>,<sendrep>,<readrep>,<visible>,<class>.

Step 4: Edit the MMS message.

- 1) Add recipient address by AT+QMMSEDIT=1,1,<optstring>.
- 2) Add CC recipient address by AT+QMMSEDIT=2,1,<optstring>.
- 3) Add BCC recipient address by AT+QMMSEDIT=3,1,<optstring>.
- 4) Edit the title by AT+QMMSEDIT=4,1,<optstring>. You should specify the character set as title by AT+QMMSCFG="character",<charset> first.
- 5) Add attachments by AT+QMMSEDIT=5,1,<optstring>. The attachments can be RAM files or UFS files. It is strongly recommended to use RAM file to upload the attachments. You can upload a file to RAM or UFS by AT+QFUPL (Please refer to UC20_FILE_AT_Commands_Manual). After sending MMS message successfully, you should delete the file by AT+QFDEL (Please refer to UC20_FILE_AT_Commands_Manual). If the attachment is a text file, you should specify the character set by AT+QMMSCFG="character",<charset> first.



- **Step 5:** Send MMS message by AT+QMMSEND=<timeout>. It may take some time to send MMS message successfully. You should not send MMS message again before "+QMMSEND: <err>,<httprsp>[,<mmsrsp>]" which indicates the ending of MMS message sending.
- **Step 6:** Clear the content of MMS message by AT+QMMSEDIT=0 and delete the files as attachments by AT+QFDEL (Please refer to *UC20_FILE_AT_Commands_Manual*).

Step 4 to step 6 can be repeated. And step 2 to step 6 can be repeated too.

1.2. Error Handling

1.2.1. Executing MMS AT Command Fails

If you execute MMS AT command and receive response "ERROR" from UC20 module, please check if the SIM card is inserted and AT+CPIN? is in "+CPIN: Ready" status.

1.2.2. PDP Activation Fails

If you failed to activate PDP context by AT+QIACT command, please check the following aspects:

- 1. Query whether the PS domain is attached by AT+CGATT? command. If not, please execute AT+CGATT=1 command to attach PS domain.
- 2. Query the CGREG status by AT+CGREG? command and make sure the PS domain is registered.
- 3. Query the PDP context parameters by AT+QICSGP command and make sure the APN of specified PDP context is set.
- 4. Make sure the specified PDP context ID is neither used by PPP nor activated by AT+CGACT command.
- 5. According to 3GPP specification, it only supports three PDP contexts activated simultaneously, so you must make sure the number of activated PDP contexts is less than 3.

If the result of checking is OK, but the result of executing AT+QIACT command always fails, please reboot the UC20 modem to resolve this issue. After booting the UC20 modem, please check the terms mentioned above at least three times and each time at an interval of 10 minutes to avoid frequently rebooting UC20 modem.

1.2.3. Error Response of AT+QMMSEND

+QMMSEND: <err>,<httprsp>[,<mmsrsp>] will be returned after operating AT+QMMSEND. If <err> is not 0, it indicates the sending is failed, please resend it. If resending is not successful, you should deactivate the PDP context by AT+QIDEACT command, and try again. (Please refer to Chapter 1.2.2).



2 Description of AT Command

2.1. AT+QMMSCFG Configure the Parameters of MMS

You can configure the PDP context ID, MMSC, proxy, character type and sending parameter of MMS by AT+QMMSCFG.

AT+QMMSCFG Configure the Pa	rameters of MMS
Test Command AT+QMMSCFG=?	Response: +QMMSCFG: "contextid",(1-16) +QMMSCFG: "mmsc", <url> +QMMSCFG: "proxy",<gateway>,(1-65535) +QMMSCFG: "character",("ASCII","UTF8","UCS2","GBK") +QMMSCFG: "sendparam"[,(0-6),(0-3),(0,1),(0,1),(0-2),(0-4)] OK</gateway></url>
Write Command AT+QMMSCFG="contextid"[, <contextid"]< td=""><td>Response: If <contextid> is not omitted, OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "contextid",<contextid></contextid></err></contextid></td></contextid"]<>	Response: If <contextid> is not omitted, OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "contextid",<contextid></contextid></err></contextid>
Write Command AT+QMMSCFG="mmsc"[, <url>]</url>	Response: If <url> is not omitted, OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "mmsc",<url></url></err></url>



	ОК
Write Command AT+QMMSCFG="proxy"[, <gateway>, <port>]</port></gateway>	Response: If <gateway> and <port> are not omitted OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "proxy",<gateway>,<port> OK</port></gateway></err></port></gateway>
Write Command AT+QMMSCFG="character"[, <charse t="">]</charse>	Response: If <charset> is not omitted, OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "character", <charset></charset></err></charset>
Write Command AT+QMMSCFG="sendparam"[, <valid>,<pri>,<sendrep>,<readrep>,<visibl e="">,<class>]</class></visibl></readrep></sendrep></pri></valid>	Response: If <valid>,<pri>,<sendrep>,<readrep>,<visible>,<class> are not omitted, OK or +CME ERROR: <err> Else, query the current settings, +QMMSCFG: "sendparam",<valid>,<pri>,<sendrep>, <readrep>,<visible>,<class> OK</class></visible></readrep></sendrep></pri></valid></err></class></visible></readrep></sendrep></pri></valid>

Parameter

<contextid></contextid>	Integer type,	PDP context ID, the range is 1-16, default value is 1	
<url></url>	String type, the address of MMSC, the maximum length of URL is 100 bytes		
<gateway></gateway>	String type, the IP address of MMS proxy, the maximum length of gateway is 50 bytes		
<port></port>	Integer type, the port of MMS proxy. The range is 1-65535		
<charset></charset>	String type, indicates the type of character		
	"ASCII"	US-ASCII character set	
	"UTF8"	UTF8 character set	



	"UCS2"	ISO-10646-UCS-2 character set, this needs to specify Big Endian
	"CDV"	order
	"GBK"	GBK character set
<valid></valid>		e validity period of MMS Message
	0 1 hour	
	1 12 ho	
	2 24 hou	
	3 2 days	
	4 1 wee	
	5 Maxim	
		e network configuration
<pri></pri>	Integer type, pr	iority
	0 Low	
	1 Norma	al entre
	2 High	
	3 Use th	e network configuration
<sendrep></sendrep>	Integer type, w	nether need delivery report
	<u>0</u> No	
	1 Yes	
<readrep></readrep>	Integer type, w	nether need read report
	<u>0</u> No	
	1 Yes	
<visible></visible>	Integer type, w	nether to hide address
	0 Hide a	ny address
	1 Show	even Bcc address
	Use the entire of the entir	e network configuration
<class></class>	Integer type, th	e class of the MMS message
	0 Person	nal
	1 Adver	isement
	2 Inform	ational
	3 Auto	
	4 Use th	e network configuration
<err></err>		dicates the type of error, please refer to Chapter 4

2.2. AT+QMMSEDIT Edit MMS Message

You can add recipient address, edit title and add attachments for MMS message by AT+QMMSEDIT. The character set of title or a text file is specified by AT+QMMSCFG="character",<charset>. For example, if the content of a text file uses UTF8 character set, AT+QMMSCFG="character", "UTF8" must be executed first.



AT+QMMSEDIT Edit MMS Message	
Test Command	Response
AT+QMMSEDIT=?	+QMMSEDIT: (0-5),(0,1), <optstring></optstring>
	ОК
Write Command	Delete all content about MMS message:
AT+QMMSEDIT=0	OK
	or
	+CME ERROR: <err></err>
Write Command	Query the specified settings of <function>:</function>
AT+QMMSEDIT= <function></function>	List of
<function> is not 0</function>	[+QMMSEIDT: <function>,<optstring><cr><lf>]</lf></cr></optstring></function>
	OK
	or
	+CME ERROR: <err></err>
Write Command	Delete the specified settings of <function>:</function>
AT+QMMSEDIT= <function>,0</function>	OK
<function> is not 0</function>	or
	+CME ERROR: <err></err>
Write Command	Configure the specified settings of <function>:</function>
AT+QMMSEDIT= <function>,1,<optstring></optstring></function>	OK
<function> is not 0</function>	or
	+CME ERROR: <err></err>

Parameter

<function></function>	Integer type, operated function	
	0 Delete all	
	1 Operate "TO address"	
	2 Operate "CC address"	
	3 Operate "BCC address"	
	4 Operate title	
	5 Operate file as attachment	
<optstring></optstring>	String type	
	If <function>=1, 2, 3, it is recipient address. The maximum number of "TO address",</function>	
	"CC address" and "BCC address" is 6 respectively. The maximum length of address is	
	50 bytes	
	If <function>=4, it is the title. The maximum length of title is 200 bytes</function>	
	If <function>=5, it is the file name of attachments. If the file name is started with "RAM:",</function>	
	the file is from "RAM", else the file is from "UFS". It is strongly recommended to use	
	RAM file to upload the attachments. The max length of file name is 30 bytes, the	
	maximum number of attachments is 12, and the maximum size of total attachments is	



restricted by the Operator

<err> Integer type, indicates the type of error, please refer to Chapter 4

The following examples show how to edit the MMS message.

2.2.1. Add the Recipient Address

//You can add phone number or email address as recipients. The maximum number of recipients address is 6.

AT+QMMSEDIT=1,1,"13856122546" //Add a phone number as recipient

OK

AT+QMMSEDIT=1,1, "recipient .test@quectel.com" //Add an email address as recipient

OK

AT+QMMSEDIT=1 //Query recipient address

+QMMSEDIT: 1,"13856122546"

+QMMSEDIT: 1,"recipient .test@quectel.com"

OK

//Of course, if you want to delete the recipient address, you can run AT+QMMSEDIT=1,0 as follows:

AT+QMMSEDIT=1,0 //Delete recipient

OK

AT+QMMSEDIT=1 //Query recipient address

OK

2.2.2. Add CC Recipient or BCC Recipient

//Add CC recipient or BCC recipient. The operation is the same as adding recipient address; the only difference is <function> value.

AT+QMMSEDIT=2,1,"13856122546" //Add a phone number as CC recipient OK

2.2.3. Edit the Title of MMS Message

//The character set of title is set by AT+QMMSCFG="character",<charset>. If the <charset> is "ASCII", add title as follows:

AT+QMMSCFG="character", "ASCII" //Set the charset as "ASCII"

OK

AT+QMMSEDIT=4,1,"test uc20 mms" //Edit the title of MMS message

OK

AT+QMMSEDIT=4 //Query the title of MMS message



+QMMSEDIT: 4,"ASCII","test uc20 mms"

OK

//If the <charset> is not ASCII, the <optstring> should be the hex string of the inputted data.

AT+QMMSCFG="character","UTF8" //Set the charset as "UTF8"

OK

AT+QMMSEDIT=4,1,"746573742075633230206D6D73" //Edit the title of MMS message,

"746573742075633230206D6D73" is the hex string of "test uc20 mms" in UTF8

OK

AT+QMMSEDIT=4 //Query the title of MMS message

+QMMSEDIT: 4,"UTF8","746573742075633230206D6D73"

OK

//Of course, if you want to delete the title, you can run AT+QMMSEDIT=4,0.

AT+QMMSEDIT=4,0 //Delete the title of MMS message

OK

AT+QMMSEDIT=4 //Query the title of MMS message

+QMMSEDIT: 4,"UTF8",""

OK

2.2.4. Add Attachment

//You can add attachments for MMS message. The attachments can be RAM files or UFS files. It is strongly recommended to use RAM file to upload the attachments. The maximum number of attachments is 12, and the maximum length of file name is 30 bytes. The total size of attachments may be restricted by the Operator. In the following example, the attachment is a RAM text file:

AT+QFUPL="RAM:test_mms.txt",100,200,1

//Upload a file to RAM, the file will be saved as "test_mms.txt" and the maximum size of file is 100 bytes. 200 indicates timeout, 1 indicates ACK mode, Please refer to UC20_FILE_AT_Commands_Manual)

CONNECT

<Input 100 bytes data>

+QFUPL: 100,707

OK

AT+QFLST="RAM:*" //Query the file list of RAM

+QFLST: "RAM:test_mms.txt",100

OK



AT+QMMSCFG="character","ASCII" //Set the charset as "ASCII" for "RAM: test_mms.txt" OK AT+QMMSEDIT=5,1,"RAM:test_mms.txt" //Add attachment for MMS message AT+QMMSEDIT=5 //Query the attachments +QMMSEDIT: 5,"RAM:test_mms.txt" OK //In the following example, the attachment is a RAM JPG file: AT+QFUPL="RAM:test_pic.jpg",200,300,1 //Upload a file to RAM, the file will be saved as "test pic.jpg" and the maximum size of file is 200 bytes. 300 indicates timeout, 1 indicates ACK mode.(Please refer to UC20 FILE AT Commands Manual) CONNECT <Input 200 bytes data> +QFUPL: 200,707 OK AT+QFLST="RAM:*" //Query the file list of RAM +QFLST: "RAM:test mms.txt",100 +QFLST: "RAM:test_pic.jpg",200 OK //"RAM: test_pic.ipg" is not text file, you need not specify AT+QMMSEDIT=5,1,"RAM:test_pic.jpg" the character set OK AT+QMMSEDIT=5 //Query the attachments +QMMSEDIT: 5,"RAM:test_mms.txt" +QMMSEDIT: 5,"RAM:test pic.jpg" OK //If you want to delete the attachments, do as follows: AT+QMMSEDIT=5,0 //Delete attachments for MMS message, all attachments will be deleted OK AT+QMMSEDIT=5 //Query the attachments OK //After sending MMS message successfully, you should delete the files by AT+QFDEL. AT+QFDEL="RAM:test_mms.txt" //Delete the RAM file OK

AT+QFDEL="RAM:test_pic.jpg"

//Delete the RAM file



OK
AT+QFLST="RAM:*" //Query the file list of RAM
OK

2.2.5. Clear all the Content of MMS Message

//AT+QMMSEDIT=0 will delete the recipient, CC recipients, BCC recipients, title and attachments of MMS message.

AT+QMMSEDIT=0 //Clear all the content of MMS message

OK

AT+QMMSEDIT=1 //Query the recipients

OK

AT+QMMSEDIT=2 //Query the CC recipients

OK

AT+QMMSEDIT=3 //Query the BCC recipients

OK

AT+QMMSEDIT=4 //Query the title of MMS message

+QMMSEDIT: 4,"ASCII",""

OK

AT+QMMSEDIT=5 //Query the attachments

OK

2.3. AT+QMMSEND Send MMS Message

AT+QMMSEND is used to send MMS message. You should not re-execute AT+QMMSEND until "+QMMSEND: <err>,<httprsp>[,<mmsrsp>]" is returned. When the <timeout> is reached, but the process of sending MMS message has not finished yet, MMS sending will be interrupted.

AT+QMMSEND Send MMS Message		
Test Command	Response (4 CEEEE)	
AT+QMMSEND=?	+QMMSEND: (1-65535)	
	ок	
Write Command	Response	
AT+QMMSEND= <timeout></timeout>	ОК	
	+QMMSEND: <err>,<httprsp>[,<mmsrsp>]</mmsrsp></httprsp></err>	
	or	
	+CME ERROR: <err></err>	



Parameter

<timeout></timeout>	Integer type, the maximum time to send MMS. The unit is second. The range is 1-65535
<err></err>	If you send MMS successfully, <err> is 0, else <err> indicates the type of error, please</err></err>
	refer to Chapter 4
<httprsp></httprsp>	Integer type, the reply code of HTTP, for reference only. For example, 200 indicates
	HTTP posts data successfully, please refer to Chapter 5
<mmsrsp></mmsrsp>	String type, the reply string from MMSC when sending MMS message failed, for
	reference only

Example

AT+QMMSEND=100	//Send MMS message	
ОК		
+QMMSEND: 0,200	//Indicate the result of sending MMS message	



3 Example

3.1. Send MMS Message

```
//Step 1: Configure and activate the PDP context.
AT+QICSGP=1,1,"UNIWAP","",1
                                                //Configure PDP context 1, APN is "UNIWAP" for
                                                  China Unicom
OK
AT+QIACT=1
                                                //Activate PDP context 1
OK
                                                //Activate successfully
AT+QIACT?
                                                //Query the state of PDP context
+QIACT: 1,1,1,"10.7.157.1"
OK
                                               //Set the PDP context ID as 1. The PDP context ID
AT+QMMSCFG="contextid",1
                                                 must be activated before
OK
AT+QMMSCFG="contextid"
                                                //Query the PDP context ID
+QMMSCFG: "contextid",1
OK
//Step 2: Configure the URL and proxy of MMSC.
AT+QMMSCFG="mmsc","http://mmsc.myuni.com" //Configure the URL of MMSC, "mmsc.myuni.com"
                                                 is for China Unicom
OK
AT+QMMSCFG="mmsc"
                                                //Query the URL of MMSC
+QMMSCFG: "mmsc", "http://mmsc.myuni.com"
OK
AT+QMMSCFG="proxy","10.0.0.172",80
                                               //Configure the proxy address and port of MMSC
                                                "10.0.0.172:80" is for China Unicom
OK
AT+QMMSCFG="proxy"
                                               //Query the proxy address and port of MMSC
+QMMSCFG: "proxy","10.0.0.172",80
OK
```



//Step 3: Configure sending parameter. AT+QMMSCFG="sendparam",6,2,0,0,0,4 //Configure the sending parameters OK AT+QMMSCFG="sendparam" //Query the sending parameters +QMMSCFG: "sendparam",6,2,0,0,0,4 OK //Step 4: Edit the MMS message. AT+QMMSEDIT=1,1,"13856122546" //Add a phone number as recipient OK AT+QMMSEDIT=2,1,"copy.test@quectel.com" //Add an email address as CC recipient OK AT+QMMSEDIT=3,1,"secret.test@quectel.com" //Add an email address as BCC recipient AT+QMMSEDIT=1 //Query recipient address +QMMSEDIT: 1,"13856122546" OK AT+QMMSEDIT=2 //Query CC recipient address +QMMSEDIT: 2,"copy.test@quectel.com" OK AT+QMMSEDIT=3 //Query BCC recipient address +QMMSEDIT: 3,"secret.test@quectel.com" OK AT+QMMSCFG="character","ASCII" //Configure the character type as ASCII for title AT+QMMSEDIT=4,1,"test uc20 mms" //Edit the title of MMS message OK AT+QMMSEDIT=4 //Query the title of MMS message +QMMSEDIT: 4,"ASCII","test uc20 mms" OK //Add attachments AT+QFUPL="RAM:test ram.txt",100,300,1 //Upload a file to RAM, the file will be saved as "test ram.txt" and the maximum size of file is 100. 300 indicates timeout, 1 indicates ACK mode, Please refer UC20_FILE_AT_Commands_Manual). CONNECT <Input 100 bytes data>



+QFUPL: 100,707

OK

AT+QFLST="RAM:*" //Query the file list of RAM

+QFLST: "RAM:test_ram.txt",100

OK

AT+QMMSCFG="character", "ASCII" //Configure the character type as ASCII for

"RAM:test ram.txt"

OK

AT+QMMSEDIT=5,1,"RAM:test_ram.txt" //Add attachment for MMS message, "test_ram.txt"

is RAM file

OK

AT+QMMSEDIT=5 //Query the attachments

+QMMSEDIT: 5,"RAM:test_ram.txt"

OK

AT+QFUPL="RAM:test_pic.jpg",200,300,1 //Upload a file to RAM, the file will be saved as

"test_pic.jpg" and the maximum size of file is 200 bytes. 300 indicates timeout, 1 indicates ACK mode, Please refer to

UC20_FILE_AT_Commands_Manual)

CONNECT

<Input 200 bytes data>

+QFUPL: 200,707

OK

AT+QFLST="RAM:*" //Query the file list of RAM

+QFLST: "RAM:test_ram.txt",100

+QFLST: "RAM:test_pic.jpg",200

OK

AT+QMMSEDIT=5,1,"RAM:test_pic.jpg" //"RAM:test_pic.jpg" is not text file, you need not

specify the character set

OK

AT+QMMSEDIT=5 //Query the attachments

+QMMSEDIT: 5,"RAM:test ram.txt"

+QMMSEDIT: 5,"RAM:test_pic.jpg"

OK

//Step 5: Send MMS message.

AT+QMMSEND=100 //Send MMS message

OK



+QMMSEND: 0,200 //Indicate the result of sending MMS message

//Step 6: Clear the content of MMS message.

AT+QMMSEDIT=0 //Clear the contents of MMS message

OK

AT+QFDEL="RAM:test_ram.txt" //Delete the RAM file

OK

AT+QFDEL="RAM:test_pic.jpg" //Delete the RAM file

OK



4 Summary of Error Codes

<err> indicates an error related to mobile equipment or network. The details about <err> are described in the following table.

Table 1: Summary of Error Codes

<err></err>	Meaning
751	Unknown error
752	URL length error
753	URL error
754	Proxy type invalid
755	Proxy address error
756	Invalid parameter
757	Recipient address full
758	CC recipient address full
759	BCC recipient address full
760	Attachments full
761	File error
762	No recipient
763	File not found
764	MMS busy
765	Server response failed
766	Error response of HTTP post
767	Invalid report of HTTP post



768	Activate PDP fail
769	PDP deactivated
770	Socket create fail
771	Socket connect fail
772	Socket read fail
773	Socket write fail
774	Socket closed
775	Timeout
776	Encode data error
777	HTTP decode data error



5 Description Of HTTP Response Code

The HTTP response error code <a href="https://example.com/https://

Table 2: Description of HTTP Response Code

<httprsp></httprsp>	Meaning
200	ОК
400	Bad Request
403	Forbidden
404	Not found
409	Conflict
411	Length required
500	Internal server error
502	Bad Gate Way



6 Appendix A Reference

Table 3: Related Documents

SN	Document Name	Remark
[1]	Wap-209-mmsencapsulation-20020105-a	Wap MMS protocol standard package of documents
[2]	RFC2616	Hypertext Transfer Protocol HTTP/1.1
[3]	UC20_FILE_AT_Commands_Manual	Introduction about UC20 FILE AT commands
[4]	UC20_TCPIP_AT_Commands_Manual	Introduction about UC20 TCPIP AT commands
[5]	UC20_AT_Commands_Manual	UC20 AT commands sets

Table 4: Terms and Abbreviations

Abbreviation	Description
MMS	Multimedia Messaging Service
MMSC	Multimedia Messaging Service Center
HTTP	Hypertext Transfer Protocol
CC	Carbon Copy
BCC	Blind Carbon Copy
PDP	Packet Data Protocol
URL	Uniform Resource Locator