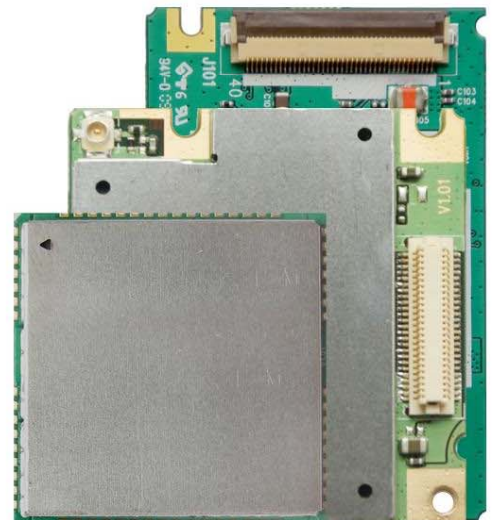




Quectel Cellular Engine

GSM MMS AT Commands

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0. Revision history

Revision	Date	Author	Description of change
1.00	2009-08-07	Jay XIN	Initial
1.01	2009-09-12	Jay XIN	Add error code 3962.
	2009-09-17	Jay XIN	Modify “ AT+QMMCFG ” default value.
	2009-09-18	Jay XIN	Add “ AT+QMPRI ” command.
1.02	2009-09-27	Jay XIN	Modify “ +QMMRECV;(1-20),(1) ”.
	2009-10-23	Jay XIN	Remove “The maximum size of UFS is 100 Kbytes”.
	2009-11-25	Jay XIN	Modify “ AT+QFUPL ” description.

1. Introduction

Quectel GSM/GPRS module provides MMS application interface for sending, receiving messages that include multimedia objects (image, audio, rich text, etc.). This document is a reference guide to all the AT commands defined for MMS.

1.1. Reference

Table 1: Reference

SN	Document name	Remark
[1]	Mxx_ATC	The introduction of AT commands for Mxx
[2]	GSM_TCPIP_AN	To introduce how to use the internal TCP/IP stack
[3]	wap-209-mmsencapsulation-20020105-a	WAP MMS protocol standard package of documents

1.2. Terms and abbreviations

Table 2: Terms and abbreviations

Abbreviation	Description
MMS	Multimedia Message Service
MMSC	Multimedia Message Service Centre
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 utilize features of the WAP system
URL	Uniform Resource Locator
UFS	User File Storage

2. AT Commands for MMS

Quectel GSM/GPRS module supports to transfer MMS Message over HTTP protocol. The MMS service supports the following character sets: US-ASCII, UTF8, UCS2 (Big Endian), and GBK. It is recommended to use PDU mode to input MMS Message title if the character set is not US-ASCII.

2.1. Overview

Command	Description
AT+QMMURL	Set the URL of the MMSC
AT+QMMPROXY	Set the MMS proxy
AT+QMMCFG	Set the parameter for sending MMS Message
AT+QFLDS	Get UFS information
AT+QFLST	List UFS files
AT+QFUPL	Upload file to UFS
AT+QFDWL	Download file from UFS
AT+QFDEL	Delete file in UFS
AT+QMMSCS	Set character sets and input mode
AT+QMMSW	Write MMS Message
AT+QMMSEND	Send MMS Message
AT+QMMRM	Manage the received MMS Message
AT+QMMRR	Read received MMS Message
AT+QMMRECV	Get MMS Message from the MMSC
AT+QMPRI	Set priority of MMS Message and call

TA will switch to data mode after execute the following commands **AT+QFUPL**, **AT+QFDWL**, **AT+QMMRR**. To switch back to AT mode, please input “+++” and this will terminate the current MMS AT command. The interval time between the first “+” and the character before the first “+” **MUST NOT** be less than 500 ms and the interval time between the last “+” and the character next to the last “+” **MUST NOT** be less than 500 ms and the interval time between each “+” **MUST** be less than 1000 ms.

2.2. Detailed descriptions of commands

2.2.1. AT+QMMURL Set the URL of the MMSC

AT+QMMURL Set the URL of the MMSC	
Test Command AT+QMMURL=?	Response +QMMURL: "URL" OK
	Parameter See Write Command.
Read Command AT+QMMURL?	Response +QMMURL: <mmsc url> OK
	Parameter See Write Command.
Write Command AT+QMMURL=<mmsc url>	Response OK If error is related to ME functionality: +CME ERROR: <err>
	Parameter <mmsc url> The URL of the MMSC
Reference	Note: The maximum length of URL is 100 bytes.

2.2.2. AT+QMMPROXY Set the MMS proxy

AT+QMMPROXY Set the MMS proxy	
Test Command AT+QMMPROXY=?	Response +QMMPROXY: (1,"(0-255).(0-255).(0-255).(0-255)",(0-65535)) OK
	Parameter See Write Command.
Read Command AT+QMMPROXY?	Response +QMMPROXY: <type>,<gateway>,<port> OK
	Parameter See Write Command.

Write Command AT+QMMPROXY =<type>,<gateway>[,<port>]	Response OK If error is related to ME functionality: +CME ERROR: <err>
Reference	Parameter <type> <u>1</u> HTTP protocol <gateway> IP address of MMS proxy <port> Port of MMS proxy. The range of the parameter is 0-65535. Default is 80

2.2.3. AT+QMMCFG Set the parameters for sending MMS Message

AT+QMMCFG Set the parameters for sending MMS Message	
Test Command AT+QMMCFG =?	Response +QMMCFG: (0-6), (0-3),(0,1),(0,1),(0-2),(0-4) OK
Read Command AT+QMMCFG?	Response +QMMCFG: <valid>,<pri>,<sendrep>,<readrep>,<visible>,<class> OK
Write Command AT+QMMCFG=<valid>[,<pri>][,<sendrep>][,<readrep>][,<visible>][,<class>]	Response OK If error is related to ME functionality: +CME ERROR: <err>
	Parameter <valid> The validity period of MMS Message 0 1 hour 1 12 hours 2 24 hours 3 2 days 4 1 week 5 Maximum <u>6</u> Use the network configuration <pri> Priority 0 Low <u>1</u> Normal

	2 High 3 Use the network configuration <sendrep> 0 Do not need delivery report 1 Need delivery report <readrep> Whether need read report 0 No 1 Yes <visible> Indicate whether to hide address 0 Hide any address 1 Show even secret address 2 Use the network configuration <class> The class of the MMS Message 0 Personal 1 Advertisement 2 Informational 3 Auto 4 Use the network configuration
Reference	

2.2.4. AT+QFLDS Get UFS information

AT+QFLDS Get UFS information	
Test Command AT+QFLDS=?	Response OK
Execution Command AT+QFLDS	Response +QFLDS:<ufs file size>,<ufs file number> OK Parameter <ufs file size> The size in bytes of all files in UFS <ufs file number> The number of files in UFS
Reference	

2.2.5. AT+QFLST List UFS files

AT+QFLST List UFS files	
Test Command AT+QFLST=?	Response OK
Execution Command AT+QFLST	Response +QFLST: <file name>,<file size> OK

	Parameter <file name> Name of the file <file size> Size in bytes of the file
Reference	

2.2.6. AT+QFUPL Upload file to UFS

AT+QFUPL Upload file to UFS	
Test Command AT+QFUPL=?	Response +QFUPL: "file name",(1-102400),(1-65535) OK Parameter See Write Command.
Write Command AT+QFUPL=<file name>[,<file size>][,<timeout>]	Response CONNECT TA switches to data mode, and the bin data of file can be inputted. When the total size of the input data reaches <file size> (unit: byte) or TA receives “+++” sequence from UART, TA returns to command mode and replies the following codes. +QFUPL: <upload size>,<checksum> OK Parameter <file name> The name of the file to be stored in UFS <file size> The maximum size of the file to upload. Default is 10240. Unit: byte <upload size> The size of the actually uploaded data. Unit: byte <timeout> The maximum time in seconds to upload data Default is 65535 <checksum> The checksum of the uploaded data
Reference	Note: <ul style="list-style-type: none"> ● It is strongly recommended to use DOS 8.3 file name format for <file name>. ● <checksum> is 16 bit checksum based on bitwise exclusive OR. ● “+++” sequence will cause TA to end the command and switch to command mode; however, data previously entered are still being preserved as the data of the file.

2.2.7. AT+QFDWL Download file from UFS

AT+QFUPL Download file from UFS	
Test Command AT+QFDWL=?	Response +QFDWL: "file name" OK
	Parameter See Write Command.
Write Command AT+QFDWL=<file name>	Response CONNECT TA switches to data mode, and the bin data of the file will be outputted. When the file was read over, TA returns to command mode and replies the following codes: +QFDWL: <download size>,<checksum> OK
	Parameter <file name> The name of the file to be downloaded from UFS <download size> The size of the downloaded data <checksum> The checksum of the downloaded data
Reference	Note: <ul style="list-style-type: none"> ● "+++" sequence will cause TA to end the command and switch to command mode. ● <checksum> is 16 bit checksum based on bitwise exclusive OR.

2.2.8. AT+QFDEL Delete file in UFS

AT+QFDEL Delete file in UFS	
Test Command AT+QFDEL=?	Response +QFDEL: "file name" OK
	Parameter See Write Command.
Write Command AT+QFDEL=<file name>	Response OK
	Parameter <file name> The name of the file to be deleted from UFS
Reference	

2.2.9. AT+QMMSCS Set character sets and input mode

AT+QMMSCS Set character sets and input mode	
Test command AT+QMMSCS=?	Response +QMMSCS: ("ASCII","UTF8","UCS2","GBK"),(0,1) OK
	Parameter See Write Command.
Read command AT +QMMSCS?	Response +QMMSCS: <charset>,<input mode> OK
	Parameter See Write Command.
Write command AT+QMMSCS =<charset>[,<input mode>]	Response OK If error is related to ME functionality: +CME ERROR: <err>
	Parameter < charset > A string parameter which indicates the type of character sets: "ASCII" US-ASCII character set <u>"UTF8"</u> UTF8 character set "UCS2" ISO-10646-UCS-2 character set; this needs to specify Big Endian order. "GBK" GBK character set < input mode > The mode to input or view MMS Message title <u>0</u> PDU mode 1 Text mode
Reference	Note: This settings affect the following commands: AT+QMMSW=4,1, input MMS Message title. AT+QMMSW=4, view MMS Message title. AT+QMMSW=5,1,"test.txt", append a text file.

2.2.10. AT+QMMSW Write MMS Message

AT+QMMSW Write MMS Message	
Test command AT+QMMSW=?	Response +QMMSW: (0-5) OK

	<p>Parameter See Write Command.</p>
<p>Write command 1) If MMS title is written (<function>=4 and <operate>=1): AT+QMMSW=<function>,<operate> > title string is entered <ctrl-Z> 2) Otherwise: AT+QMMSW=<function>[,<operate>][,<oprstring>]</p>	<p>Response If the operation is successful: OK If error is related to ME functionality: +CME ERROR: <err></p> <p>Parameter</p> <p><function> Operate function 0 Clean all the content of MMS Message 1 Operate "TO address" 2 Operate "CC address" 3 Operate "BCC address" 4 Operate title 5 Operate file appended</p> <p><operate> It is omitted if <function> is 0 0 Clean 1 Write</p> <p><oprstring> Address string if <function> is 1, 2 or 3, the length of which must be less than 50. File name if <function> is 5, the length of which must be less than 13</p>
Reference	<p>Note:</p> <ul style="list-style-type: none"> ● The maximum number of "TO address" is 6. ● The maximum number of "CC address" is 6. ● The maximum number of "BCC address" is 6. ● The maximum number of "append file" is 6. ● Address could be a subscriber number or an email address (e.g. info@quectel.com). ● The file to be appended must have been stored in UFS. It is strongly recommended that the file name should use DOS 8.3 format. ● The maximum length of MMS Message title is 100. ● The character set of the MMS Message title or the content of a text file are specified by AT+QMMSCS. For example: If the content of a text file uses UTF8 character set, AT+QMMSCS="UTF8",0 must be executed firstly.

2.2.11. AT+QMMSSEND Send MMS Message

AT+QMMSSEND Send MMS Message	
Test Command AT+QMMSSEND=?	Response +QMMSSEND: (1)

	<p>OK</p> <p>Parameter See Write Command.</p>
Write Command AT+ QMMSEND=<operate>	<p>Response</p> <p>OK</p> <p>If error is related to ME functionality: +CME ERROR: <err></p> <p>Parameter <operate> 1 Start to send</p>
Reference	<p>Note:</p> <p>The response OK means starting to send MMS Message. When MMS Message sending has finished, an unsolicited result code will be returned: " +QMMNOTIFY: 1,<mms index>,<error code>".</p> <p>It means successfully to send MMS Message if <error code> is equal to 0.</p>

2.2.12. AT+QMMRM Manage the received MMS Message

AT+QMMRM Manage the received MMS Message	
Test command AT+QMMRM=?	<p>Response</p> <p>+ QMMRM: (0-1)</p> <p>OK</p> <p>Parameter See Write Command.</p>
Write command AT+QMMRM=<operate>[,<from>][,<to>]	<p>Response</p> <p>If the operate is to list MMS Message: +QMMRM: <mms index>,<from address>,<ind>,<date>,<time>,<message size> [...]</p> <p>OK</p> <p>Otherwise: OK</p> <p>If error is related to ME functionality: +CME ERROR: <err></p> <p>Parameter</p> <p><operate> 0 Delete MMS Message 1 List MMS Message</p> <p><from> The beginning MMS Message index for operating. The minimum index is 1</p>

	<p><to> The end MMS Message index to operate. The minimum index is 1</p> <p><mms index> The index of MMS Message</p> <p><from address> Origination address</p> <p><ind> 0 The MMS Message is not downloaded 1 The MMS Message has been downloaded</p> <p><date> Download date. Its format is MM/DD/YYYY. e.g. "07/25/2009"</p> <p><time> Download time. Its format is HH:MM:SS. e.g. "10:25:56"</p> <p><message size> MMS Message size in bytes</p>
Reference	

2.2.13. AT+QMMRR Read a received MMS Message

AT+QMMRR Read a received MMS Message	
Test command AT+QMMRR=?	Response +QMMRR: (1-5) OK
	Parameter See Write Command.
Write command AT+QMMRR=<operate>[,<mms index>][,<para>][,<file name>]	Response The following is the format to view "Origination address", "TO address" and "CC address"(<operate>=1,2, or 3; <para> is omitted): +QMMRR: 1,<address> OK The following is the format to view MMS Message title (<operate>=4): +QMMRR: 4,<charset>,<title data> OK The following is the format to list append file (<operate>=5; <para> is omitted): +QMMRR: 5,<file index>,<file name>,<charset>,<file size> [...]
	OK The following is the format to read the content of a file (AT command

	<p>AT+QMMRR=6, <mms index>,<para> is entered):</p> <p>CONNECT</p> <p>TA switches to data mode, and the bin data of the file will be outputted. After the file is read over, TA will return to command mode and reply the following codes:</p> <p>+QMMRR: 6,<download size>,<checksum></p> <p>OK</p> <p>The following is the format to copy the content of file to UFS (AT command AT+QMMRR=6,<mms index>,<para>,<file name> is entered):</p> <p>OK</p> <p>If error is related to ME functionality:</p> <p>+CME ERROR: <err></p> <hr/> <p>Parameter</p> <p>< operate > 1 View origination address 2 View "TO address" 3 View "CC address" 4 View MMS title 5 List "Append file" 6 Read append file data of MMS Message</p> <p><mms index > Received MMS Message index, base 1</p> <p><para> If <operate> is 6, it indicates file index If <operate> is 4, it indicates output mode</p> <p> 0 PDU mode 1 Text mode</p> <p> If <operate> is not 4 or 6, <para> is omitted.</p> <p>< file name> It is valid only if <operate> is 6</p>
Reference	

2.2.14. AT+QMMRECV Get a MMS Message from MMSC

AT+QMMRECV Get a MMS Message from MMSC	
Test Command AT+QMMRECV=?	Response +QMMRECV: (1-20),(1) OK Parameter See Write Command.
Write Command AT+QMMRECV=<mms index >,<operate>	Response OK If error is related to ME functionality:

	+CME ERROR: <err> Parameter < mms index > MMS Message index which starts from 1 <operate> 1 Start to get MMS Message
Reference	Note: The response OK means starting to get MMS Message. When MMS Message receiving has finished, an unsolicited result code will be returned: “ +QMMNOTIFY: 2,<mms index>,<error code> ”. It means successfully to get MMS Message if <error code> is equal to 0.

2.2.15. AT+QMMPRI Set priority of MMS Message and call

AT+QMMPRI Set priority of MMS Message and call	
Test Command AT+QMMPRI=?	Response +QMMPRI: (0,1) OK Parameter See Write Command.
Read Command AT+QMMPRI?	Response +QMMPRI: <pri> OK Parameter See Write Command.
Write Command AT+QMMPRI=<pri>	Response OK If error is related to ME functionality: +CME ERROR: <err> Parameter <pri> Priority 0 Call has higher priority than MMS Message 1 MMS Message has higher priority than call
Reference	

3. URC for MMS

URC	Meaning
+QMMNOTIFY: 1, <mms index>,0	Sending MMS Message successful, <mms index> is 0.
+QMMNOTIFY: 1,<mms index>,<error code>	Sending MMS Message failed, <mms index> is 0. Please refer to chapter 4 for <error code>.
+QMMNOTIFY: 2, <mms index>,0	Getting MMS Message successful.
+QMMNOTIFY: 2,<mms index>,<error code>	Getting MMS Message failed. Please refer to chapter 4 for <error code>.
+QMMNOTIFY: 3,<mms index>,0	A new MMS Message has arrived. AT+QMMRECV can be used to get it.

4. Summary of 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 listed **<err>** codes here are just related with MMS. About other **<err>** codes, please refer to document [1].

Code of <err>	Meaning
3901	Timeout
3902	URL too long
3903	Invalid URL
3904	Unsupported proxy
3905	Invalid proxy address
3906	IP address error
3907	DNS error
3908	Parameter error
3909	TO addresses exceeded
3910	CC addresses exceeded
3911	BCC addresses exceeded
3912	Appended file capacity exceeded
3913	File name too long
3914	The number of files exceeded
3915	Non-existent address
3916	UFS storage full
3917	Drive full
3918	Drive error
3919	File not found
3920	Invalid file name
3921	File already existed
3922	Failed to create file
3923	Failed to write file
3924	Failed to open file
3925	Failed to read file
3926	MMS busy
3927	Sending MMS busy
3928	Sending MMS stopped
3929	Already stop to send
3930	Receiving MMS busy
3931	Receiving MMS stopped

3932	Already stop to receive
3933	HTTP response failure
3934	Invalid MMS response
3935	MMS response error
3936	Invalid push message
3937	Already downloaded
3938	Network busy
3939	Failed to open network
3940	Network no configured
3941	Network deactivated
3942	Network error
3943	Network shutdown
3944	UART busy
3945	UART escaped
3946	Failed to create socket
3947	Failed to connect socket
3948	Failed to read socket
3949	Failed to write socket
3950	Socket closed
3951	MMS length error
3952	Failed to encode MMS
3953	Failed to decode MMS
3954	Failed to decode HTTP
3955	Failed to decode push message
3956	PDU align error
3957	PDU character error
3958	String too long
3959	MMS full
3960	Non-existent MMS
3961	Invalid address
3962	Voice call busy

5. Examples

5.1. Set the parameters

```
AT+QMMURL="http://mmsc.monternet.com" // Set the MMSC URL
OK

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

5.2. Activate GPRS network

```
AT+QIFGCNT=0
OK

AT+QICSGP=1,"CMWAP" // Set APN
OK

AT+QIREGAPP // Optional, register TCP/IP stack
OK

AT+QIACT // Optional, activate GPRS PDP context
OK
```

5.3. File transmit operation

```
AT+QFUPL="test.txt" // Upload the text file "test.txt"
CONNECT
<input file bin data>
+QFUPL: 3222,B3E4

OK

AT+QFDWL="test.txt" // Download the file "test.txt"
CONNECT
<output file bin data>
```

```
+QFDWL: 3222,B3E4
```

```
OK
```

```
AT+QFUPL="test2.txt"
```

```
// Upload the text file "test2.txt"
```

```
CONNECT
```

```
<input file bin data>
```

```
+QFUPL: 4222,13E4
```

```
OK
```

```
AT+QFUPL="pic1.jpg"
```

```
// Upload the picture file "pic1.jpg"
```

```
CONNECT
```

```
<input file bin data>
```

```
+QFUPL: 13222,D5E4
```

```
OK
```

5.4. Write and send MMS Message

```
AT+QMMSW=0
```

```
// Clean the content of MMS Message
```

```
OK
```

```
AT+QMMSW=1,1,"13072168083"
```

```
// Add the first "TO address"
```

```
OK
```

```
AT+QMMSW=1,1,"13156789900"
```

```
// Add the second "TO address"
```

```
OK
```

```
AT+QMMSW=1,1,"jay.xin@yahoo.com"
```

```
// Add the third "TO address"
```

```
OK
```

```
AT+QMMSCS="UTF8",1
```

```
// Character set is UTF8, input mode is  
Text mode
```

```
OK
```

```
AT+QMMSW=4,1
```

```
// Input MMS Message title
```

```
>abcd<Ctrl-Z>
```

```
OK
```

```
AT+QMMSW=5,1,"pic1.jpg"
```

```
// Add the first file to MMS Message, this  
file is jpg file
```

```

OK

AT+QMMSCS="UTF8" // Must select character set before adding
                  text file

OK

AT+QMMSW=5,1,"test.txt" // Add the second file to MMS Message,
                        this file character set is UTF8

OK

AT+QMMSW=5,1,"test2.txt" // Add the third file to MMS Message, this
                          file character set is UTF8

OK

AT+QMMSSEND=1 // Send MMS Message
OK

+QMMNOTIFY: 1,0,0 // Send MMS Message successfully

```

5.5. Get MMS Message

```

+QMMNOTIFY:3,1 // Receive an MMS push message,
               indicating a new MMS, index is 1.

AT+QMMRECV=1,1 // Get MMS Message from MMSC
OK

+QMMNOTIFY: 2,1,0 // Get MMS Message successfully

```

5.6. Manage received MMS Message

```

AT+QMMRM=1 // List MMS Message
+QMMRM: 1,"+8613950062882",1,"7/23/2009","0:39:4",3745

OK

AT+QMMRR=1,1 // Read MMS Message "Original address"
+QMMRR: 1,"+8613950062882"

OK

AT+QMMRR=4,1 // Read MMS Message title
+QMMRR: 4,"UTF8","abcde"

```


OK

AT+QMMRR=5,1

// List the files in the MMS Message

+QMMRR: 5,1,"test.txt","UTF8",3222

// It include one file whose index is 1

OK

AT+QMMRR=6,1,1

// Get the data of the file 1 (defined by the second "1") in the MMS 1 (defined by the first "1")

CONNECT

<output file bin data>

+QMMRR: 6,3222,B3E4

OK

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