

GSM

Quectel Cellular Engine

HTTP Service
AT Commands

GSM_HTTP_ATC_V1.1



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0. Revision history

Revision	Date	Author	Description of change
1.00	2009-07-06	Jay XIN	Initial
1.1	2012-06-04	Will SHAO	Added Command AT+QHTTPDL.

1. Introduction

Quectel Module has an internal TCP/IP stack that is driven by AT commands and enables the host application to easily access the Internet service. It includes TCP service, UDP service, FTP service and HTTP service, etc. This document is a reference guide to all the AT commands and responses defined for HTTP Service. The advantage of this solution is that it eliminates the needs for the application manufacturer to implement own HTTP protocol, thus minimizing cost and time to integrate Internet connectivity into a new or existing host application.

1.1. Reference

Table 1: Reference

SN	Document name	Remark
[1]	GSM_TCPIP_AN.pdf	TCPIP Application Notes
[2]	RFC 2616	

2. AT Commands for HTTP Service

2.1. Overview of AT Commands for HTTP Service

Command	Description
AT+QHTTPURL	Set HTTP Server URL
AT+QHTTPGET	Send HTTP GET Request
AT+QHTTPREAD	Read HTTP Server Response
AT+QHTTPPOST	Send HTTP POST Request
AT+QHTTPDL	Download file from http server

Execution of above HTTP related AT commands will switch to data mode. To switch back to AT mode, you can input “+++” and this will terminate the current HTTP 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 Description of AT Commands for HTTP Service

2.2.1. AT+QHTTPURL Set HTTP Server URL

AT+QHTTPURL Set HTTP Server URL	
Test Command AT+QHTTPURL=?	Response +QHTTPURL: (1-450),(1-65535) OK
Write Command AT+QHTTPURL=<url_len>,<input_time>	Response CONNECT If error is related to ME functionality: ERROR +CME ERROR: <err>
	Parameter <url_len> The length in bytes of the URL. <input_time> Maximum time in seconds to input URL.

Reference	<p>If sending HTTP GET Request, for example, input URL path: http://api.efxnow.com/DEMOWebServices2.8/Service.aspx/Echo?Message=helloquectel</p> <p>If send HTTP POST Request, for example, input URL path: http://api.efxnow.com/DEMOWebServices2.8/Service.aspx/Echo</p> <p>Server address must be provided as IP address in the standard dot-format (e.g. “192.168.1.1”) or as server address names resolvable by a DNS server (e.g. “api.efxnow.xom”).</p>
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2.2.2. AT+QHTTPGET Send HTTP GET Request

AT+QHTTPGET Send HTTP GET Request	
<p>Test Command AT+QHTTPGET=?</p>	<p>Response +QHTTPGET: (1-65535)</p> <p>OK</p> <p>Parameter See Write Command</p>
<p>Write Command AT+QHTTPGET=<to_read_time></p>	<p>Response OK</p> <p>If error is related to ME functionality: ERROR +CME ERROR: <err></p> <p>Parameter <to_read_time> Time in seconds. AT+QHTTPREAD will be invalid if the idle time after AT+QHTTPGET is longer then the time of <to_read_time>.</p>
Reference	

2.2.3. AT+QHTTPREAD Read HTTP Server Response

AT+QHTTPREAD Read HTTP Server Response	
<p>Test Command AT+QHTTPREAD=?</p>	<p>Response +QHTTPREAD: (1-65535)</p> <p>OK</p> <p>Parameter See Write Command</p>
<p>Write Command AT+QHTTPREAD=<wait_time></p>	<p>Response CONNECT <data></p>

	<p>OK</p> <p>If error is related to ME functionality: ERROR +CME ERROR: <err></p>
	<p>Parameter</p> <p><wait_time> Time in seconds. It will close HTTP session when timeout.</p> <p><data> The data of HTTP server responds.</p>
Reference	

2.2.4. AT+QHTTPPOST Send HTTP POST Request

AT+QHTTPPOST Send HTTP POST Request	
<p>Test Command</p> <p>AT+QHTTPPOST=?</p>	<p>Response</p> <p>+QHTTPPOST: (1-29696),(1-65535),(1-65535)</p> <p>OK</p> <p>Parameter</p> <p>See Write Command</p>
<p>Write Command</p> <p>AT+QHTTPPOST=<body_size>,<input_time>,<to_read_time></p>	<p>Response</p> <p>CONNECT</p> <p><body_data></p> <p>OK</p> <p>If error is related to ME functionality: ERROR +CME ERROR: <err></p> <p>Parameter</p> <p><body_size> Size in bytes of the body data to POST.</p> <p><input_time> Maximum time in seconds to input the body data.</p> <p><to_read_time> Time in seconds. AT+QHTTPREAD will be invalid if the idle time after AT+QHTTPGET is longer then the time of <to_read_time></p> <p><body_data> Input the body data to POST from UART.</p>
Reference	

2.2.5. AT+QHTTPDL Download file from http server

AT+QHTTPDL Download file from http server	
<p>Test Command AT+QHTTPDL=?</p>	<p>Response +QHTTPDL:"filename"[,<length>[(1-65535)]]</p> <p>OK</p> <p>Parameter See Write Command</p>
<p>Write Command AT+QHTTPDL= “<filename>”[,<length> [, wait_time]]</p>	<p>Response OK</p> <p>Finally, if download the file successfully, response + QHTTPDL:<dl size>,<content-length>,<errcode></p> <p>If error is related to ME functionality: ERROR +CME ERROR: <err></p> <p>Parameter</p> <p><filename> The path of the file to be stored, such as “RAM:1.txt”</p> <p><length> The maximum size of the file to be download. Default is 10240. Unit: byte. It is only used for RAM file.</p> <p><wait_time> Time in seconds. It will close HTTP session when timeout.</p> <p><dl size> The length of data has been download.</p> <p>< content-length> The content length. If the content-length is unknown, then set it to -1.</p> <p><errcode> If all data has been download, the <errcode> is 0, else it is a numeric to indicate the type of error, please refer to the chapter 3.</p> <p><err> A numeric to indicate the type of error, please refer to the chapter 3.</p>
Reference	

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 HTTP. About other <err> codes, please refer to [1].

<err> values used by common messaging commands:

Code of <err>	Meaning
3801	HTTP time out
3802	HTTP busy
3803	HTTP UART busy
3804	HTTP get no request
3805	HTTP network busy
3806	HTTP network open failed
3807	HTTP network no config
3808	HTTP network deactive
3809	HTTP network error
3810	HTTP url error
3811	HTTP empty url
3812	HTTP ip addr error
3813	HTTP DNS error
3814	HTTP socket create error
3815	HTTP socket connect error
3816	HTTP socket read error
3817	HTTP socket write error
3818	HTTP socket close
3819	HTTP data encode error
3820	HTTP data decode error
3821	HTTP toread timeout
3822	HTTP reponse failed
3823	incoming call busy
3824	voice call busy
3825	input timeout
3826	wait data timeout
3827	wait HTTP response timeout
3828	alloc memory fail
3829	HTTP need relocation

4000	Exceed max length
4001	Open file fail
4002	Write file fail
4003	Get size fail
4004	Read fail
4005	List file fail
4006	Delete file fail
4007	Get Disk info fail
4008	No space
4009	Time out
4010	File not found
4011	Driver full over
4012	File already exist
4013	Invalid parameter
4014	Driver error
4015	Create fail
4016	Access denied
4017	File too large

4. Examples

4.1. Send HTTP GET Request

```
AT+QIFGCNT=0
OK

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

AT+QIREGAPP                    // Optional
OK

AT+QIACT                       // Optional
OK

AT+QHTTPURL=79,30              //Set the URL

CONNECT
....
//for example, input 79 bytes:
http://api.efxnow.com/DEMOWebServices2.8/Service.aspx/Echo?Message=helloquectel

OK

AT+QHTTPGET=60                 //Send HTTP GET Request
OK

AT+QHTTPREAD=30                //Read the response of HTTP server.

CONNECT
....                           // Output the response data of HTTP server to UART.

//for example, UART outputs:
<?xml version="1.0" encoding="utf-8"?>
<string xmlns="https://api.efxnow.com/webservices2.3">Message='helloquectel' ASCII:104 101
108 108 111 113 117 101 99 116 101 108 </string>
OK

AT+QIDEACT                     // Deactivate GPRS PDP connect.
DEACT OK
```

4.2. Send HTTP POST Request

```

AT+QIFGCNT=0
OK

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

AT+QIREGAPP                     //Optional
OK

AT+QIACT                       //Optional
OK

AT+QHTTPURL=58,30             //Set the URL

CONNECT
....
//for example, input 58 bytes:
http://api.efxnow.com/DEMOWebServices2.8/Service.asmx/Echo

OK

AT+QHTTPPOST=18,50,10        // POST the data whose size is 18 Bytes and the maximum
                               latency time for inputting is 50s. 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.

//for example, input 18 bytes: Message=helloworld
OK
//This means all data has been received over, and DCD is set to high.

AT+QHTTPREAD=30              //Read the response of HTTP server.

CONNECT
....
                               //Output the response data of HTTP server to UART
//for example, UART outputs:
<?xml version="1.0" encoding="utf-8"?>
<string xmlns="https://api.efxnow.com/webservices2.3">Message='helloworld' ASCII:104 101
108 108 111 119 111 114 108 100 </string>

```

OK

AT+QIDEACT //Deactivate GPRS PDP connect.
DEACT OK

4.3. Download file form HTTP server

AT+QIFGCNT=0

OK

AT+QICSGP=1,"CMNET" //Set APN

OK

AT+QIREGAPP //Optional

OK

AT+QIACT //Optional

OK

AT+QHTTPURL=29,30 //Set the URL

CONNECT

....

//for example, input 29 bytes:
http://api.efxnow.com/1.TXT

OK

AT+QHTTPGET=60 //Send HTTP GET Request

OK

AT+QHTTPDL= "RAM:1.TXT" ,1024 //Download the file to "RAM:1.TXT", max size is
1024 bytes

+ QHTTPDL: 100,100,0

OK



Shanghai Quectel Wireless Solutions Co., Ltd.

Room 501, Building 13, No.99, Tianzhou Road, Shanghai, China 200233

Tel: +86 21 5108 6236

Mail: info@quectel.com