

# Introduction To GSM Software Functions

**GSM/GPRS Module Series**

Rev. GSM\_Software\_Functions\_V1.0

Date: 2012-12-04



**Our aim is to provide customers with timely and comprehensive service. For any assistance, please contact our company headquarter:**

**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](mailto:info@quectel.com)

**Or our local office, for more information, please visit:**

[http://www.quectel.com/quectel\\_sales\\_office.html](http://www.quectel.com/quectel_sales_office.html)

**For technical support, to report documentation errors, please visit:**

<http://www.quectel.com/tecsupport.aspx>

**GENERAL NOTES**

QUECTEL OFFERS THIS INFORMATION AS A SERVICE TO ITS CUSTOMERS. THE INFORMATION PROVIDED IS BASED UPON CUSTOMERS' REQUIREMENTS. QUECTEL MAKES EVERY EFFORT TO ENSURE THE QUALITY OF THE INFORMATION IT MAKES AVAILABLE. QUECTEL DOES NOT MAKE ANY WARRANTY AS TO THE INFORMATION CONTAINED HEREIN, AND DOES NOT ACCEPT ANY LIABILITY FOR ANY INJURY, LOSS OR DAMAGE OF ANY KIND INCURRED BY USE OF OR RELIANCE UPON THE INFORMATION. ALL INFORMATION SUPPLIED HEREIN ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

**COPYRIGHT**

THIS INFORMATION CONTAINED HERE IS PROPRIETARY TECHNICAL INFORMATION OF QUECTEL CO., LTD. TRANSMITTABLE, REPRODUCTION, DISSEMINATION AND EDITING OF THIS DOCUMENT AS WELL AS UTILIZATION OF THIS CONTENTS ARE FORBIDDEN WITHOUT PERMISSION. OFFENDERS WILL BE HELD LIABLE FOR PAYMENT OF DAMAGES. ALL RIGHTS ARE RESERVED IN THE EVENT OF A PATENT GRANT OR REGISTRATION OF A UTILITY MODEL OR DESIGN.

***Copyright © Quectel Wireless Solutions Co., Ltd. 2012. All rights reserved.***

# About the document

## History

| Revision | Date       | Author      | Description |
|----------|------------|-------------|-------------|
| 1.0      | 2012-11-28 | Gralik WANG | Initial     |

---

## Contents

|  |          |
|--|----------|
| <b>Contents .....</b>                            | <b>3</b> |
| <b>1 Introduction .....</b>                      | <b>4</b> |
| <b>2 Detailed Description of Functions .....</b> | <b>5</b> |
| 2.1. SMS.....                                    | 5        |
| 2.2. UFS .....                                   | 5        |
| 2.3. RAM .....                                   | 6        |
| 2.4. SD .....                                    | 6        |
| 2.5. TCP/UDP.....                                | 6        |
| 2.6. PPP .....                                   | 7        |
| 2.7. MMS .....                                   | 7        |
| 2.8. FTP.....                                    | 8        |
| 2.9. SMTP .....                                  | 8        |
| 2.10. HTTP .....                                 | 8        |
| 2.11. NITZ .....                                 | 9        |
| 2.12. PING.....                                  | 9        |
| 2.13. NTP .....                                  | 10       |
| 2.14. TTS.....                                   | 10       |
| 2.15. Voice Recording .....                      | 10       |
| 2.16. DTMF Decoding .....                        | 11       |
| 2.17. Jamming Detection .....                    | 11       |
| 2.18. QuecFOTA .....                             | 12       |
| 2.19. CMUX.....                                  | 12       |
| 2.20. Dual UART .....                            | 13       |
| 2.21. STK .....                                  | 13       |

# 1 Introduction

This document describes the functions of Quectel GSM modules, which helps you to clearly know what kinds of functions each module supports and which document you can refer to when you want to make a deep understanding of each function.

## 2 Detailed Description of Functions

### 2.1. SMS

| SMS                       |  |
|---------------------------|--|
| <b>Description</b>        | Short Message Service (SMS) is a text messaging service.   |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M75 R1.0, M75 R2.0<br>M80<br>M95 |
| <b>Reference</b>          | Mxx_ATC<br>GSM_ATC_AN<br>GSM_SMS_AN  |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.                                    |

### 2.2. UFS

| UFS                       |  |
|---------------------------|--|
| <b>Description</b>        | User File System (UFS) is a kind of file storage on the module, which can store the files permanently. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0<br>M80  |
| <b>Reference</b>          | GSM_FILE_ATC   |
| <b>Notes</b>              | None   |

## 2.3. RAM

| RAM                       |  |
|---------------------------|--|
| <b>Description</b>        | Random Access Memory (RAM) is a kind of file storage on the module, which can store the files temporarily. |
| <b>Applied to Modules</b> | M10 R2.0<br>M12 R2.0<br>M72 R2.0<br>M80<br>M95   |
| <b>Reference</b>          | GSM_FILE_ATC   |
| <b>Notes</b>              | None   |

## 2.4. SD

| SD                        |  |
|---------------------------|--|
| <b>Description</b>        | Secure Digital Memory Card (SD) is a kind of file storage, which can be installed on the module. |
| <b>Applied to Modules</b> | M10 R2.0<br>M12 R2.0<br>M80  |
| <b>Reference</b>          | GSM_FILE_ATC   |
| <b>Notes</b>              | None   |

## 2.5. TCP/UDP

| TCP/UDP                   |   |
|---------------------------|---|
| <b>Description</b>        | Transmission Control Protocol/User Datagram Protocol, the protocol for data transfer. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95          |

|                  |   |
|------------------|---|
| <b>Reference</b> | Mxx_ATC<br>GSM_TCPIP_AN<br>GSM_TCPIP_Recommended_Process        |
| <b>Notes</b>     | Mxx_ATC refers to the special ATC for the corresponding module. |

## 2.6. PPP

| PPP                       |   |
|---------------------------|---|
| <b>Description</b>        | Point to Point Protocol (PPP) is a data link protocol commonly used in establishing a direct connection between two networking nodes. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95  |
| <b>Reference</b>          | Mxx_ATC<br>GSM_ATC_AN<br>GSM_PPP_Dialup_Setting_UGD   |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.   |

## 2.7. MMS

| MMS                       |   |
|---------------------------|---|
| <b>Description</b>        | Multimedia Messaging Service(MMS) is a standard way to send messages that include multimedia content to and from mobile phones. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0<br>M80   |
| <b>Reference</b>          | GSM_FILE_ATC<br>GSM_MMS_ATC   |
| <b>Notes</b>              | None  |



## 2.8. FTP

| FTP                       |  |
|---------------------------|--|
| <b>Description</b>        | File Transfer Protocol, is a standard network protocol used to transfer files from one host or to another host over a TCP-based network, such as the Internet. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95   |
| <b>Reference</b>          | GSM_FILE_ATC<br>GSM_FTP_ATC  |
| <b>Notes</b>              | None   |

## 2.9. SMTP

| SMTP                      |  |
|---------------------------|--|
| <b>Description</b>        | Simple Mail Transfer Protocol is an Internet standard for e-mail transmission across Internet Protocol networks. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95                                     |
| <b>Reference</b>          | GSM_FILE_ATC<br>GSM_SMTP_ATC   |
| <b>Notes</b>              | None   |

## 2.10. HTTP

| HTTP               |  |
|--------------------|--|
| <b>Description</b> | Hypertext Transfer Protocol is an application protocol for distributed, collaborative, hypermedia information systems. |

|                           |  |
|---------------------------|--|
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95 |
| <b>Reference</b>          | GSM_HTTP_ATC   |
| <b>Notes</b>              | None   |

## 2.11. NITZ

| NITZ                      |   |
|---------------------------|---|
| <b>Description</b>        | Network Identity and Time Zone, is a mechanism for provisioning local time and date, as well as network provider identity information to mobile devices via a wireless network. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M75 R1.0, M75 R2.0<br>M80<br>M95  |
| <b>Reference</b>          | Mxx_ATC   |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.   |

## 2.12. PING

| PING                      |   |
|---------------------------|---|
| <b>Description</b>        | Ping is a computer network tool used to test whether a particular host is reachable across an IP network. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95                              |
| <b>Reference</b>          | Mxx_ATC   |

|              |   |
|--------------|---|
| <b>Notes</b> | Mxx_ATC refers to the special ATC for the corresponding module. |
|--------------|---|

## 2.13. NTP

| NTP                       |   |
|---------------------------|---|
| <b>Description</b>        | Network Time Protocol is a means of synchronizing clocks over a computer network. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95      |
| <b>Reference</b>          | Mxx_ATC   |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.                   |

## 2.14. TTS

| TTS                       |  |
|---------------------------|--|
| <b>Description</b>        | A Text-To-Speech system converts normal language text into speech. |
| <b>Applied to Modules</b> | M80  |
| <b>Reference</b>          | Mxx_ATC<br>GSM_TTS_AN  |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.    |

## 2.15. Voice Recording

| Voice Recording           |   |
|---------------------------|---|
| <b>Description</b>        | Record the voice while the module is in call mode or idle mode. |
| <b>Applied to Modules</b> | M10 R2.0<br>M12 R2.0  |

|                  |                  |
|------------------|------------------|
|                  | M80              |
| <b>Reference</b> | GSM_Recording_AN |
| <b>Notes</b>     | None             |

## 2.16. DTMF Decoding

| DTMF Decoding             |  |
|---------------------------|--|
| <b>Description</b>        | The decoding for Dual-tone multi-frequency signaling.                        |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M80<br>M95 |
| <b>Reference</b>          | Mxx_ATC<br>GSM_DTMF_AN   |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.              |

## 2.17. Jamming Detection

| Jamming Detection         |  |
|---------------------------|--|
| <b>Description</b>        | A method can report URC, when jamming happens.   |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M75 R2.0<br>M80<br>M95 |
| <b>Reference</b>          | GSM_Jamming_Detection_AN   |
| <b>Notes</b>              | None   |

## 2.18. QuecFOTA

| QuecFOTA                  |  |
|---------------------------|--|
| <b>Description</b>        | Provide the customer with the necessary information to develop a upgrade protocol running on his equipment, in order to upgrade the module firmware from the external MCU. |
| <b>Applied to Modules</b> | M10 R2.0<br>M12 R2.0<br>M72 R2.0<br>M75 R2.0<br>M80<br>M95   |
| <b>Reference</b>          | GSM_QuecFOTA_AN  |
| <b>Notes</b>              | None   |

## 2.19. CMUX

| CMUX                      |  |
|---------------------------|--|
| <b>Description</b>        | Provide the customer with the necessary information to develop a Multiplexing Protocol running on his equipment in order to use the CMUX protocol. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M75 R1.0, M75 R2.0<br>M80<br>M95   |
| <b>Reference</b>          | Mxx_ATC<br>GSM_MUX_AN  |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.  |

## 2.20. Dual UART

| Dual UART                 |  |
|---------------------------|--|
| <b>Description</b>        | Provide two physical channels to let the customer input command. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M80                  |
| <b>Reference</b>          | Mxx_ATC  |
| <b>Notes</b>              | Mxx_ATC refers to the special ATC for the corresponding module.  |

## 2.21. STK

| STK                       |  |
|---------------------------|--|
| <b>Description</b>        | SIM Tool Kit (STK) is a standard of the GSM system which enables the SIM to initiate actions which can be used for various value-added services. |
| <b>Applied to Modules</b> | M10 R1.0, M10 R2.0<br>M12 R1.0, M12 R2.0<br>M72 R1.0, M72 R2.0<br>M75 R1.0, M75 R2.0<br>M80<br>M95   |
| <b>Reference</b>          | GSM_STK_ATC  |
| <b>Notes</b>              | None   |