

BG95M3 Release Notes

LPWA Module Series

Rev. BG95M3_Firmware_Release_Notes_V0204_01.001.01.001

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1. Preamble

This document provides the Release Notes for BG95M3 firmware version: **BG95M3LAR02A04_01.001.01.001**. It describes major changes compared to BG95M3 firmware version **BG95M3LAR02A03_01.009.01.009**. For a detailed listing of all changes, please refer to the BG95 AT Command Set.

Before:

ATI

Quectel

BG95-M3

Revision: BG95M3LAR02A04

After:

ATI

Quectel

BG95-M3

Revision: BG95M3LAR02A04

AT+QGMR

BG95M3LAR02A04_01.001.01.001 //Added the new AT to query the full version information

AT+QAPPVER

+QAPPVER: 01.001.01.001 //Added the new AT to query the application version information

2. New Features

2.1 New Features of Modem Protocol

Item /Category	Brief description	Since
NETWORK	Added AT+QCFG="apn/display" command.	R02A03_01. 003.01.003
NETWORK	Added AT+VZMTCRAT command for Verizon.	R02A03_01. 003.01.003
NETWORK	Added support for LTE Antenna RF Tuner function.	R02A03_01. 003.01.003
NETWORK	Added AT+QCFG="irat/timer" command.	R02A03_01. 004.01.004
SIM	Added support AT+QCFG="sim/onchip" command.	R02A03_01. 005.01.005
NETWORK	Added AT+QCFG="ta" to support get the TA configuration.	R02A03_01. 006.01.006
JAMMING DETECTION	Added support cellular jamming detection.	R02A03_01. 006.01.006
SIM	Added support AT+QCFG="bip/auth" command.	R02A03_01. 006.01.006
NETWORK	Added support AT+QSPN command.	R02A03_01. 006.01.006
NETWORK	Added command AT+QNWCFG="cqi" to get CATM network band channel CQI.	R02A03_01. 009.01.009
NETWORK	Added command AT+QCFG="timer",3402 for get T3402 configuration.	R02A03_01. 009.01.009
NETWORK	Added command AT+QNWCFG="cfun_init_mode" to configure the CFUN mode when the module power on.	R02A03_01. 009.01.009

2.2 New Features of Modem APP

Item /Category	Brief description	Since
SMS	Added SMS function support.	R02A02_01. 002.01.002
FILE	Added File function support	R02A02_01. 002.01.002
PPP	Added PPP function support.	R02A02_01. 002.01.002

TCP/UDP	Added TCP&UDP function support.	R02A02_01. 002.01.002
HTTP	Added HTTP function support.	R02A02_01. 002.01.002
HTTPS	Added HTTPS function support.	R02A02_01. 002.01.002
FTP	Added FTP function support.	R02A02_01. 002.01.002
FTPS	Added FTPS function support.	R02A02_01. 002.01.002
MQTT	Added MQTT function support.	R02A02_01. 002.01.002
MQTTS	Added MQTTS function support.	R02A02_01. 002.01.002
SSL	Added SSL/TLS function support.	R02A02_01. 002.01.002
NITZ	Added NITZ function support.	R02A02_01. 002.01.002
PING	Added Ping function support.	R02A02_01. 002.01.002
PSM	Added PSM function support.	R02A02_01. 002.01.002
TCP/IP	Added AT+QICFG="sack" to configure TCP client SACK option.	R02A03_01. 003.01.003
QuecLocator®	Added support QuecLocator.	R02A03_01. 003.01.003
GNSS	Added support AT+QGPSCFG="autogps" command.	R02A03_01. 003.01.003
GNSS	Added support AT+QGPSCFG="nmeasrc" command.	R02A03_01. 003.01.003
GNSS	Added support AT+QGPSCFG="priority" command.	R02A03_01. 003.01.003
FILE	Added support Security folder.	R02A03_01. 003.01.003
DTLS	Added support PSK auth mode.	R02A03_01. 003.01.003
TCP/IP	Added support AT+QGDCNT/AT+QAUGDCNT commands.	R02A03_01. 003.01.003
CMUX	Added support CMUX function.	R02A03_01. 003.01.003
HTTPS	Added support HTTPS SNI function.	R02A03_01. 003.01.003
LwM2M	Added support AT+ODIS for AT&T OMA certification.	R02A03_01. 003.01.003
FTM	Added support FTM function.	R02A03_01. 003.01.003
GNSS	Added support GNSS GEO fence function.	R02A03_01. 003.01.003

DNS	Added support AT+QCFGEXT="dnsc_timeout" to configure the timeout of DNS.	R02A03_01.003.01.003
FILE	Added support open file operations in append mode.	R02A03_01.003.01.003
PSM	Added support exit from PSM with PON_TRIG pin.	R02A03_01.003.01.003
GNSS	Added support GNSS NHZ positioning function.	R02A03_01.004.01.004
NIDD	Added support NIDD(Non-IP Data Delivery) function.	R02A03_01.004.01.004
NETWORK	Added AT+QNWCFG="acqdb" to get information about the last time the network was camped.	R02A03_01.004.01.004
SIM	Added AT commands CCHO/CGLA/CCHC support.	R02A03_01.004.01.004
NETWORK	Added AT commands AT+QNWCFG="backoff" and AT+QNWCFG="clearbackoff" to support query and operation on backoff timer.	R02A03_01.004.01.004
GNSS	Added AT command AT+QGPSCFG="xtrafilesize" to support select the XTRA file size as needed.	R02A03_01.004.01.004
GNSS	Added AT+QGPSCFG="gpsdop" to support get the position accuracy data.	R02A03_01.004.01.004
FTM	Added support GSM FTM RX function.	R02A03_01.004.01.004
TCP/IP	Added support IPv6 function.	R02A03_01.004.01.004
PSM	Added AT command AT+QNWCFG="activetimer" to enable module automatically enter into PSM if there is no AT command interaction in the specified time.	R02A03_01.004.01.004
GNSS	Added AT command AT+QGPSXTRATIME to inject time for XTRA.	R02A03_01.004.01.004
GNSS	Added AT command AT+QGPSCFG="xtra_info" to get more details about the XTRA files injected into the module.	R02A03_01.004.01.004
QuecThing®	Added support QuecThing function.	R02A03_01.004.01.004
QuecOpen®	Added QAPI to support SMS related operation.	R02A03_01.005.01.005
QuecOpen®	Added QAPI to support GNSS XTRA related operation.	R02A03_01.005.01.005
QuecLocator®	Added AT+QCELLSCAN to support get the neighbor cell information.	R02A03_01.005.01.005
MQTT	Added AT+QMT PUBEX to support publish JSON format data.	R02A03_01.005.01.005
GENERAL	Added AT+QCFGEXT="pwm" to support PWM related operation.	R02A03_01.005.01.005
FILE	Added AT+QFCRC/AT+QFCPY commands.	R02A03_01.006.01.006
DNS	Added AT+QIDNSCFG to support configure module DNS address.	R02A03_01.006.01.006
GNSS	Added AT+QGPSCFG="nmea_epe" & AT+QGPSCFG="estimation_error" commands.	R02A03_01.006.01.006
GNSS	Added AT+QGPSCFG="xtra_apn" command.	R02A03_01.006.01.006

GENERAL	Added support configure debug UART as second AT command port.	R02A03_01.006.01.006
CoAP	Added support CoAP AT commands.	R02A03_01.006.01.006
CMUX	Added support AT+QCFG="cmux/flowctrl" to enable/disable flow control in CMUX mode.	R02A03_01.006.01.006
GNSS	Added AT+QGPSCFG="xtra_download" command to support manual triggering of download XTRA files.	R02A03_01.006.01.006
NIDD	Added support RAI for NIDD(Non-IP Data Delivery) function.	R02A03_01.006.01.006
GENERAL	Added Fast powered down function.	R02A03_01.009.01.009
QuecOpen®	Added QAPI to support SMS list operation.	R02A03_01.009.01.009
QuecOpen®	Added QAPI to support XTRA operation.	R02A04_01.001.01.001
QuecOpen®	Added QAPI support to read and write DFOTA file storage partition.	R02A04_01.001.01.001
QuecOpen®	Added support SPI multi-slaver function.	R02A04_01.001.01.001

3. Improved Features

3.1 Improved Features of Modem Protocol

Item/Category	Brief description	Since
NETWORK	Fixed the bug that incorrect band information returned occasionally while module camping on the network.	R02A03_01.003.01.003
NETWORK	Fixed the bug that incorrect result returned when CEREG=4 mode.	R02A03_01.003.01.003
NETWORK	Optimized AT+QCFG="band"/"nwscanmode"/"iotopmode"/"nwscanseq" commands match different project configurations.	R02A03_01.003.01.003
NETWORK	Optimized that configure eDRX disabled as default.	R02A03_01.003.01.003
NETWORK	Optimized that incorrect RAT description in QENG command.	R02A03_01.003.01.003
NETWORK	Fixed the bug that where AT+COPS? returned the wrong operator name.	R02A03_01.003.01.003
NETWORK	Fixed the bug that AT+QENG="servingcell" returning incorrect RRC status when module is in connection state.	R02A03_01.003.01.003

NETWORK	Optimized that AT+COPS=? only search GSM network when module under GSM network.	R02A03_01.004.01.004
NETWORK	Fixed the bug that AT+CEDRXS=? returned incorrect result.	R02A03_01.004.01.004
SIM	Fixed the bug that AT+QPINC occasionally returned error.	R02A03_01.005.01.005
NETWORK	Optimized that AT command AT+CSCS no longer affects the result of AT+COPS? .	R02A03_01.005.01.005
NETWORK	Fixed the bug that AT+QNWINFO returning incorrect network information.	R02A03_01.005.01.005
NETWORK	Fixed the bug that configure AT+CGREG=4 , the result format reported by URC is incorrect.	R02A03_01.006.01.006
SIM	Optimization that add CR2758392 to fix USCC SIM profile activate failure issue.	R02A03_01.009.01.009
NETWORK	Added CR2748699/CR2761613 to solve the problem of data transmission failure when switching GNSS/LTE.	R02A03_01.009.01.009
NETWORK	Fixed the bug that incorrect network information returned by QNWINFO after module registration with BAND27/B85.	R02A03_01.009.01.009
NETWORK	Fixed the bug that RRC was released but AT+QENG="SERVINGCELL" returned an incorrect RRC status.	R02A03_01.009.01.009
NETWORK	Added CR2761912 to solve CAT-M network 5RB registration issue.	R02A03_01.009.01.009

3.2 Improved Features of Modem APP

Item/Category	Brief description	Since
FTP	Fixed the bug that FTP connection failed in explicit FTP mode over TLS.	R02A03_01.003.01.003
FTP	Fixed the bug that URC output abnormally after uploading files in implicit FTP mode over TLS.	R02A03_01.003.01.003
GENERAL	Fixed the bug that no URC output after enable the AP READY function by AT+QCFG="apready" command.	R02A03_01.003.01.003
HTTP	Fixed the bug that HTTP get data timeout retry but always return 703 error result.	R02A03_01.003.01.003
GENERAL	Fixed the bug that AT+QCFG="airplanecontrol" configuration but no effect.	R02A03_01.003.01.003

QuecOpen®	Fixed the bug that data is easily lost when being output via UART port quickly.	R02A03_01. 003.01.003
FILE	Optimized that report error 405 while deleting a nonexistent file.	R02A03_01. 003.01.003
GENERAL	Fixed the bug that PSM_IND pin behave incorrectly in PSM.	R02A03_01. 003.01.003
GENERAL	Fixed the bug that power down URC cannot output issue.	R02A03_01. 003.01.003
MQTT	Fixed the bug that incomplete data reception after MQTT session recovery was enabled.	R02A03_01. 003.01.003
PPP	Fixed the bug that PPP cannot work issue.	R02A03_01. 003.01.003
PSM	Adjust the PSM threshold value to 20 seconds.	R02A03_01. 003.01.003
QPING	Fixed the bug that a memory leak caused by continuous execution of AT+QPING command.	R02A03_01. 003.01.003
GNSS	Fixed the bug that an extra '\0' with NMEA statement output.	R02A03_01. 003.01.003
GENERAL	Optimized that when an abnormal crash is encountered, the default behavior of the optimization module is reset mode.	R02A03_01. 003.01.003
DFOTA	Fixed the but that the parameter " <i>timeout</i> " configuration did not take effect.	R02A03_01. 004.01.004
SSL	Optimized SSL to support a new cipher suite 0XC02B.	R02A03_01. 004.01.004
GNSS	Fixed the bug that negative values in GNSS latitude and longitude results.	R02A03_01. 004.01.004
GNSS	Optimized the AT command AT+QGPSCFG="priority" configuration take effect immediately.	R02A03_01. 004.01.004
TCP/IP	Fixed the bug that module lost the listening mode occasionally after abnormally handshake.	R02A03_01. 004.01.004
GENERAL	Optimized AT+QCFG="band" to support parameter configuration starting with 0x hex string.	R02A03_01. 004.01.004
LwM2M	Fixed the bug that abnormal operation on GPIO26 after enabling LwM2M function.	R02A03_01. 004.01.004
FTM	Fixed the bug that abnormal function of GSM FTM TX.	R02A03_01. 004.01.004
TCP/IP	Fixed the bug that AT+QIRD get incorrect data in TCP buffer data mode.	R02A03_01. 004.01.004
MQTT	Fixed the bug that module lost URC corresponding to QMTOPEN and QMTCLOSE under weak network signal.	R02A03_01. 004.01.004
GENERAL	Optimized GSM RF Antenna tuner function.	R02A03_01. 004.01.004
GENERAL	Fixed the bug that incorrect result reported after enabled	R02A03_01.

	AT+QINDCFG="csq",1.	004.01.004
TCP/IP	Fixed the bug that AT+QAUGDCNT returned incorrect result.	R02A03_01. 004.01.004
GNSS	Fixed the bug that returned incorrect timestamp in the GNSS NMEA sentences.	R02A03_01. 004.01.004
PSM	Fixed the bug that where the module could not access PSM properly after the SIM card was unlocked	R02A03_01. 004.01.004
GENERAL	Fixed the bug that still can get the CCID number after unplugging the SIM card.	R02A03_01. 004.01.004
QuecLocator®	Fixed the bug that module crashed occasionally while issue AT+QLBS under CAT.M network.	R02A03_01. 004.01.004
GENERAL	Fixed the bug that AT+CPOL command returned incorrect characters.	R02A03_01. 004.01.004
GENERAL	Fixed the bug that AT+COPS? command returned incorrect PLMN.	R02A03_01. 004.01.004
TCP/IP	Fixed the bug that the reported data length is not correct when AT+QICFG="recvind" is enabled.	R02A03_01. 005.01.005
FTP	Fixed the bug that module returned error when using AT+QFTPGET to get files with file names longer than 254 characters.	R02A03_01. 005.01.005
NIDD	Fixed the bug that module occasionally crashed when using AT+QCFGEXT="nipdr" to receive hexadecimal data.	R02A03_01. 005.01.005
FTM	Fixed the bug that Antenna RF tuner doesn't work under GSM RAT.	R02A03_01. 005.01.005
QuecOpen®	Fixed the bug that ADC cannot be closed completely by QAPI.	R02A03_01. 005.01.005
GENERAL	Optimized that unexpected abnormal power consumption during idle mode.	R02A03_01. 005.01.005
GENERAL	Fixed the bug that when the voltage is lower than 3.2V, the voltage percentage queried by the AT+CBC command is always 100%	R02A03_01. 005.01.005
GENERAL	Fixed the bug that module using the AT+QCFG="band" query command returned an incorrect list of GSM bands.	R02A03_01. 005.01.005
GENERAL	Fixed the bug that AT+CPSMS?/AT+QPSMEXTCFG?/AT+QPSMCFG? returned the result which don't match the description in the guidance document.	R02A03_01. 005.01.005
GENERAL	Optimized that change the USB descriptor as Quectel.	R02A03_01. 005.01.005
GENERAL	Fixed the bug that AT+CTZU command probability returned an incorrect time.	R02A03_01. 005.01.005
NIDD	Fixed the bug that unexpected URC reported when disconnect NIDD connection.	R02A03_01. 006.01.006
DFOTA	Fixed the bug that HTTP download under IPV6 network.	R02A03_01. 006.01.006

DFOTA	Optimized to support HTTP URL length to 2048 characters.	R02A03_01. 006.01.006
DFOTA	Fixed the bug that HTTP authentication exception in DFOTA download.	R02A03_01. 006.01.006
DFOTA	Fixed the but that where APN configuration did not take effect using AT+QCFGEXT="fota_apn" .	R02A03_01. 006.01.006
UDP	Added AT+QISENDEX command support to configure RAI function.	R02A03_01. 006.01.006
QuecOpen®	Fixed the bug that qapi_time_get returns incorrect time after module had been running for a long time (more than 49.7 days).	R02A03_01. 006.01.006
CMUX	Fixed the bug that module cannot enter into slow clock mode in CMUX mode.	R02A03_01. 006.01.006
FTM	Fixed the bug that module cannot switch from GSM TX FTM to LTE TX FTM.	R02A03_01. 006.01.006
FTM	Fixed the bug that the first time of FTM RX returns an incorrect value.	R02A03_01. 006.01.006
TCP/IP	Fixed the bug that the modem side data service would fail due to the AP side data service.	R02A03_01. 006.01.006
CoAP	Fixed the bug that module crashed occasionally with send CON type data.	R02A03_01. 009.01.009
DFOTA	Optimized DFOTA package download mechanism to improve download success rate.	R02A03_01. 009.01.009
FILE	Fixed the bug that AT+QFCRC/AT+QFCPY did not support file paths prefixed with "UFS:".	R02A03_01. 009.01.009
GENERAL	Fixed the bug that AT command combinations using semicolon connections did not execute correctly.	R02A03_01. 009.01.009
GENERAL	Fixed the bug that "APP RDY" loss issue.	R02A03_01. 009.01.009
GNSS	Fixed the bug that incorrect error code returned by AT+QGPSCFG="estimation_error" when GPS is off.	R02A03_01. 009.01.009
GNSS	Fixed the bug that module crashed occasionally when inject XTRA file.	R02A03_01. 009.01.009
GNSS	Fixed the bug that module stopped positioning early during GNSS positioning.	R02A03_01. 009.01.009
GNSS	Fixed the bug that the GNSS NMEA sentence had only 5 decimal places but should have been 6 decimal places.	R02A03_01. 009.01.009
Jamming Detection	Optimized Jamming Detection function under CAT-M network.	R02A03_01. 009.01.009
LwM2M	Optimized LwM2M AT commands.	R02A03_01. 009.01.009
NETWORK	Fixed the bug that GSM FTM TX continuous mode work abnormally.	R02A03_01. 009.01.009
PING	Fixed the bug that URC results were not returned for a period of time	R02A03_01.

	after AT+QPING was executed continuously.	009.01.009
QuecLocator®	Fixed the bug that provided WiFi information but the module was still unable to locate successfully under NBIoT network.	R02A03_01. 009.01.009
QuecOpen®	Fixed the bug that QAPI of ATC Pipe send out data was incomplete when it encountered '\0'.	R02A03_01. 009.01.009
SSL	Fixed the bug that data loss during SSL retransmission.	R02A03_01. 009.01.009
GENERAL	Fixed the bug that AT+CGCONTRDP=? returned incorrect result.	R02A04_01. 001.01.001
GENERAL	Optimized that disabled the QXDM log output by default.	R02A04_01. 001.01.001

4. Functions

Basic Function

SMS	Voice Call	Data Call	Fax	USSD	PHB	STK	CMUX	Dual UART
Y	N	N	N	N	N	N	Y	N
FILE ¹⁾	Triple UART							
Y	N							

Protocol Function

TCP/UDP	PPP	FTP	HTTP	NITZ	PING	HTTPS	TCP SSL	FTPS ²⁾
Y	Y	Y	Y	Y	Y	Y	Y	Y
MQTT	LwM2M							
Y	Y							

Special Function

GNSS	DFOTA	PSM	Quec Open ®	Quec Locator®	Quec Thing ®
Y	Y	Y	Y	Y	Y

NOTES

1. Y means the firmware supports this function.
2. N means the firmware does not support this function.
3. ¹⁾ Supports UFS FILE only.
4. ²⁾ Supports FTPS-Implicit SSL only.

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