

BG95M5 Release Notes

LPWA Module Series

Rev. BG95M5_Firmware_Release_Notes_V0203_01.200.01.200

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1 Preamble

This document provides the Release Notes for BG95M5 firmware version: **BG95M5LAR02A03_01.200.01.200**. It describes major changes compared to BG95M5 firmware version **BG95M5LAR02A03_01.008.01.008**.

Before:

ATI

Quectel

BG95-M5

Revision: BG95M5LAR02A03

After:

ATI

Quectel

BG95-M5

Revision: BG95M5LAR02A03

AT+QGMR

BG95M5LAR02A03_01.200.01.200 //Added the new AT to query the full version information

AT+QAPPVER

+QAPPVER: 01.200.01.200 //Added the new AT to query the application version information

2 Matters Needing Attention

SN	Brief Description
[1]	Not support Cat-M1 CE Mode B.
[2]	The new firmware version cannot be downgraded to previous versions, otherwise the module will not be able to work normally.

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3 New Features

3.1 New Features of Modem Protocol

Item/Category	Brief description	Since
SIM	Added support AT+QCFG="sim/onchip" command.	R02A02_01. 002.01.002
NETWORK	Added support for LTE Antenna RF Tuner function.	R02A02_01. 002.01.002
NETWORK	Added the AT command AT+QNWCFG="hplmnsearch_ctrl" to configure whether the HPLMN searching timer is enabled.	R02A02_01. 003.01.003
NETWORK	Added AT command AT+QCFG="bandrestore" to restore module band configuration to its default.	R02A02_01. 003.01.003
NETWORK	Added command AT+QCFG="timer",3402 for get T3402 configuration.	R02A03_01. 001.01.001
NETWORK	Added command AT+QNWCFG="cfun_init_mode" to configure the CFUN mode when the module power on.	R02A03_01. 001.01.001
NETWORK	Added command AT+QNWCFG="3gpp_rel_control" to configure NB/CATM 3GPP release version.	R02A03_01. 004.01.004
NETWORK	Added command AT+QNWCFG="nb_feature_ctrl" to configure NB features.	R02A03_01. 004.01.004
NETWORK	Added command AT+QNWCFG="catm_feature_ctrl" to configure CATM features.	R02A03_01. 004.01.004
NETWORK	Added command AT+QNWCFG="pci_lock" to restrict module registration to a specified cell.	R02A03_01. 004.01.004
NETWORK	Added support 3GPP command AT+CEMODE .	R02A03_01. 005.01.005
NETWORK	Added support command AT+QNWCFG="esmcause" .	R02A03_01. 005.01.005
NETWORK	Added AT+QSFN to obtain the time aligned to the LTE SFN in span of 0-10240000us.	R02A03_01. 007.01.007
NETWORK	Added AT+QNWCFG="hplmnsearch_cfg" to control whether the module performs HPLMN search in roaming network.	R02A03_01. 008.01.008
NETWORK	Added AT+QCFG="pa_info" to get the physical PA device model, MID and PID.	R02A03_01. 008.01.008
NETWORK	Relevant technical controls have been carried out to restrict normal network registration in regions such as RUS and IRN, thus ensuring that the module can be used only for civilian applications.	R02A03_01. 200.01.200

3.2 New Features of Modem APP

Item/Category	Brief description	Since
QuecOpen®	Added support load QuecOpen application from NAND DAM partition.	R02A02_01.001.01.001
GNSS	Added AT+QGPSCFG="gpsdop" to support get the position accuracy data.	R02A02_01.001.01.001
FTM	Added support GSM FTM RX function.	R02A02_01.001.01.001
QuecOpen®	Added QAPI for DFOTA solution.	R02A02_01.001.01.001
QuecThing®	Added support QuecThing function.	R02A02_01.001.01.001
QuecOpen®	Added QAPI for SMS solution.	R02A02_01.002.01.002
QuecOpen®	Added QAPI to support GNSS XTRA related operation.	R02A02_01.002.01.002
QuecLocator®	Added AT+QCELLSCAN to support get the neighbor cell information.	R02A02_01.002.01.002
MQTT	Added AT+QMTPUBEX to support publish JSON format data.	R02A02_01.002.01.002
GNSS	Added support configure GNSS power on mode as cold/warm/hot start.	R02A02_01.003.01.003
GENERAL	Added Fast powered down function.	R02A03_01.001.01.001
QuecOpen®	Added QAPI to support SMS list operation.	R02A03_01.001.01.001
DFOTA	Added command AT+QFOTADL="<file_name>",<type> to support copy DFOTA data package from file system to NAND storage partition.	R02A03_01.002.01.002
GENERAL	Added command AT+QCFG="dbgctl" to enable or disable QXDM log output or not.	R02A03_01.002.01.002
GENERAL	Added command AT+QCFGEXT="USBNET" to configure enable/disable ECM function.	R02A03_01.002.01.002
GENERAL	Added command AT+QCFGEXT="chip_id" to get the chip serial number.	R02A03_01.002.01.002
GENERAL	Added command AT+QPOWD=2 to support fast power down module.	R02A03_01.002.01.002
HTTP	Added commands AT+QHTTTPUT/QHTTTPUTFILE to support HTTP put function.	R02A03_01.002.01.002
JAMMING DETECTION	Added support GNSS jamming detection.	R02A03_01.002.01.002

QuecOpen®	Added QAPI to support XTRA operation.	R02A03_01. 002.01.002
QuecOpen®	Added QAPI to support access DFOTA storage partition.	R02A03_01. 002.01.002
QuecOpen®	Added QAPI to support multiple SPI slaver operation.	R02A03_01. 002.01.002
QuecOpen®	Added QAPI to support access DAM_CFG partition.	R02A03_01. 002.01.002
QuecOpen®	Added QAPI qapi_QT_Get_SecBoot_Status to get the secure boot function enabled or not.	R02A03_01. 002.01.002
QuecOpen®	Added QAPI qapi_Status_t qapi_QT_Chip_Serial_Num_Get to get the chip serial number.	R02A03_01. 002.01.002
GENERAL	Added configuration support for FirstNet-ATT.	R02A03_01. 004.01.004
GNSS	Added AT+QGPSCFG="xtra_autodownload" command to control whether GNSS automatically downloads XTRA files.	R02A03_01. 004.01.004
GNSS	Added AT+QGPSCFG="gpsweek" command.	R02A03_01. 004.01.004
GNSS	Added command AT+QGPSCFG="xtra_urc" to configure whether to report the related URC in the automatic download process of XTRA files.	R02A03_01. 004.01.004
MQTT-SN	Added support MQTT-SN functionality.	R02A03_01. 004.01.004
NITZ	Added command AT+QCFG="timeupdate" to configure whether the local time of the module is automatically updated according to the network time.	R02A03_01. 004.01.004
PSM	Added command AT+QPSMAUXCFG to optimize the configuration of PSM function.	R02A03_01. 004.01.004
QCTEMP	Added AT+QCTEMP command used for high temperature alarm detection.	R02A03_01. 004.01.004
QuecOpen®	Added new QAPI qapi_QT_Tick_To_Time_V2 for converting 64-bit tick values to a specific unit of time.	R02A03_01. 004.01.004
SMS	Added support for handling CMS error code 42/47.	R02A03_01. 004.01.004
SSL	Added command AT+QSSLRECV=<cliendID>,0 to query the length of received read/unread data.	R02A03_01. 004.01.004
SSL	Added AT+QSSLCFG configuration to enable renegotiation function.	R02A03_01. 004.01.004
SSL	Added SNI functionality to SSL for MQTT.	R02A03_01. 004.01.004
SSL	Added command AT+QSSLCRYPT used for AES encryption/decryption and MD5 calculation.	R02A03_01. 004.01.004
QuecOpen®	Added new QAPI to support configuring whether module automatically downloads XTRA file.	R02A03_01. 005.01.005

DFOTA	Added support DFOTA download thru FTP(s).	R02A03_01. 005.01.005
USB	Added new command AT+QCFGEXT="usbnet" to support configure module support ECM port or the 2 nd USB AT port.	R02A03_01. 005.01.005
DFOTA	Added new command AT+QCFGEXT="SNI" to support configure SNI function during DFOTA HTTP download progress.	R02A03_01. 005.01.005
MQTT	Added support MQTTSN topic can be wakeup by PSM.	R02A03_01. 005.01.005
SSL	Added support new encryption suites and TLS_PSK_WITH_AES_128_CCM_8(0XC0A8 TLS_PSK_WITH_AES_128_CBC_SHA256(0X00AE).	R02A03_01. 005.01.005
GENERAL	Added support 2Mbps transfer rate on main UART AT port.	R02A03_01. 005.01.005
CMUX	Added AT+QCFG="cmux/signal" to detect the data reception through the RI/DCD pin level jitter in PPP over CMUX mode.	R02A03_01. 006.01.006
TCP	Added AT+QICFG="ipv6prior" to configure whether to preferentially activate IPv6 data call in ipv4v6 dual-mode.	R02A03_01. 007.01.007
NITZ	Added AT+QCFG="timesave"[,<mode>] to control whether to save the timestamp information issued by NITZ.	R02A03_01. 007.01.007
TCP/IP	Added AT+QICFG="asyncmode" to configure whether AT+QIACT activated PDN asynchronously.	R02A03_01. 007.01.007
DFOTA	Supported DAM APP synchronous upgrade.	R02A03_01. 007.01.007
DFOTA	Added AT+QFOTADL=12 to query the space size that can be used to save delta packages.	R02A03_01. 007.01.007
GENERAL	Added qapi_Status_t qapi_QT_Chip_Temp_Read and optimized AT+QTEMP to get the chip internal temperature.	R02A03_01. 008.01.008
FTP	Added the processing logic of FTP state machine for 425 error code.	R02A03_01. 008.01.008
FTM	Added TX command AT+QRFTESTPWR .	R02A03_01. 008.01.008
DFOTA	Added qapi_QT_Check_FOTA_Package to verify the integrality of DFOTA package.	R02A03_01. 008.01.008
TCP	Added AT+QICFG="tcp/inactivetm" to control the TCP inactivity time.	R02A03_01. 008.01.008
CoAP	Added CoAP observe feature.	R02A03_01. 200.01.200
CoAP	Supported CoAP block-wise feature.	R02A03_01. 200.01.200
PSM	Added AT+QCFG="psm_rtc_adjust_ctrl" to control whether to enable autocalibration when the module was in the PSM state.	R02A03_01. 200.01.200
QuecOpen®	Added QAPIs to query the thread object information.	R02A03_01. 200.01.200
QuecOpen®	Added QAPI to control the output of GNSS NMEA sentences.	R02A03_01.

		200.01.200
QuecOpen®	Supported to obtain the DAM application crash information.	R02A03_01. 200.01.200
QuecOpen®	Added PMIC watchdog mechanism.	R02A03_01. 200.01.200
GENERAL	The new firmware version cannot be downgraded to previous versions, otherwise the module will not be able to work normally.	R02A03_01. 200.01.200
GENERAL	Added the function of preventing mis-burning for the module.	R02A03_01. 200.01.200

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4 Improved Features

4.1 Improved Features of Modem Protocol

Item/Category	Brief description	Since
PSM	Fixed the bug that where the module could not access PSM properly after the SIM card was unlocked	R02A02_01.001.01.001
SIM	Fixed the bug that AT+QPINC occasionally returned error.	R02A02_01.002.01.002
NETWORK	Optimized AT+QCFG="band"/"nwscanmode"/"iotopmode"/"nwscanseq" commands match different project configurations.	R02A02_01.002.01.002
NETWORK	Fixed the bug that AT+QNWINFO returning incorrect network information.	R02A02_01.002.01.002
GENERAL	Optimized GSM RF Antenna tuner function.	R02A02_01.002.01.002
NETWORK	Fixed the bug that AT+CGDCONT could mistakenly delete active PDP connections	R02A02_01.003.01.003
NETWORK	Fixed the bug that RRC was released but AT+QENG="SERVINGCELL" returned an incorrect RRC status.	R02A03_01.001.01.001
NETWORK	Optimized RF driver to solve GSM switch spectrum anomaly issue.	R02A03_01.002.01.002
SMS	Added to support CMS Error code 42/47.	R02A03_01.002.01.002
NETWORK	Fixed the bug that AT+QCSCON command returned incorrect RRC connection status occasionally.	R02A03_01.004.01.004
NETWORK	Optimized AT+QCSQ command to support configure whether URC is automatically reported.	R02A03_01.004.01.004
SIM	Added Qualcomm CR#2890754 to fix the bug that failed to update the SIM profile when TCP connection was established.	R02A03_01.004.01.004
NETWORK	Fixed the bug that AT+QENG="neighbourcell" always returning error when profile is deactivated by AT+CGATT=0 .	R02A03_01.005.01.005
NETWORK	Merged Qualcomm CR#2962986 to fix the bug that time cannot be synced with NITZ	R02A03_01.005.01.005
NETWORK	Added support new RF PA drivers.	R02A03_01.005.01.005
NETWORK	Added support handing reject cause#35 as well as #11.	R02A03_01.005.01.005
NETWORK	Corrected the range of <timeout> in AT+QCELLSCAN .	R02A03_01.006.01.006

NETWORK	Fixed the bug that the UICC SIM card could not be detected after the hot-swap function was enabled.	R02A03_01.006.01.006
NETWORK	Fixed the bug that the module cannot be waken up after entering PSM between eDRX.	R02A03_01.007.01.007
NETWORK	Fixed the problem that SFN feature could not be disabled by AT+QSFN=0,0,1 once SFN feature was enabled.	R02A03_01.008.01.008
NETWORK	Fixed the problem that UE could not restore the attached configuration file to the data PDN after OTA provisioning except for Korean network.	R02A03_01.200.01.200
NETWORK	Optimized <code>qapi_QT_Real_Time_Clock_Set()</code> to fix the problem that the time zone configuration did not take effect.	R02A03_01.200.01.200

4.2 Improved Features of Modem APP

Item/Category	Brief description	Since
LwM2M	Fixed the bug that abnormal operation on GPIO26 after enabling LwM2M function.	R02A02_01.001.01.001
FTM	Fixed the bug that module cannot switch from GSM TX FTM to LTE TX FTM.	R02A02_01.001.01.001
GENERAL	Removed the unexpected URC output while module entering into PSM.	R02A02_01.001.01.001
TCP/IP	Fixed the bug that AT+QAUGDCNT returned incorrect result.	R02A02_01.001.01.001
TCP/IP	Fixed the bug that AT+QIDNSGIP returned incorrect IP address under IPV6 supported network.	R02A02_01.001.01.001
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%	R02A02_01.002.01.002
NIDD	Fixed the bug that module occasionally crashed when using AT+QCFGEXT="nipdr" to receive hexadecimal data.	R02A02_01.002.01.002
GENERAL	Optimized that unexpected abnormal power consumption during idle mode.	R02A02_01.002.01.002
FTP	Fixed the bug that module returned error when using AT+QFTPGET to get files with file names longer than 254 characters.	R02A02_01.002.01.002
GENERAL	Fixed the bug that AT+CPSMS?/AT+QPSMEXTCFG?/AT+QPSMCFG? returned the result which don't match the description in the guidance document.	R02A02_01.003.01.003
GENERAL	Optimized that change the USB descriptor as Quectel.	R02A02_01.003.01.003
GENERAL	Fixed the bug that AT+CTZU command probability returned an incorrect time.	R02A02_01.003.01.003

GNSS	Optimized GNSS by using the AT+QGPSLOC command to configure whether location information is output in URC.	R02A02_01.003.01.003
GNSS	Disabled GTP function by default.	R02A02_01.003.01.003
QuecLocator®	Optimized AT command AT+QCELLSCAN to add timeout protect mechanism.	R02A02_01.003.01.003
QuecOpen®	Fixed the bug that ADC cannot be closed completely by QAPI.	R02A02_01.003.01.003
TCP/IP	Optimized AT+QICFG="recvind" used to configure to enable/disable the length of output data in URC information.	R02A02_01.003.01.003
GENERAL	Fixed the bug that " APP RDY " loss issue.	R02A03_01.001.01.001
GNSS	Fixed the bug that module stopped positioning early during GNSS positioning.	R02A03_01.001.01.001
GNSS	Fixed the bug that the GNSS NMEA sentence had only 5 decimal places but should have been 6 decimal places.	R02A03_01.001.01.001
QuecOpen®	Fixed the bug that QAPI of ATC Pipe send out data was incomplete when it encountered '\0'.	R02A03_01.001.01.001
LwM2M	Optimized LwM2M AT commands.	R02A03_01.001.01.001
SSL	Fixed the bug that data loss during SSL retransmission.	R02A03_01.001.01.001
CoAP	Fixed the bug that module crashed occasionally with send CON type data.	R02A03_01.001.01.001
PING	Fixed the bug that URC results were not returned for a period of time after AT+QPING was executed continuously.	R02A03_01.001.01.001
CoAP	Added Qualcomm CR#2829284 to fix "CoAP Crash during send failure due to double free of CoAP packet" issue.	R02A03_01.002.01.002
CMUX	Fixed the bug that upload file failure via CMUX port 3 or 4.	R02A03_01.002.01.002
DFOTA	Fixed the bug that failed to download DFOTA package from some HTTP servers that do not support HTTP head method.	R02A03_01.002.01.002
GENERAL	Fixed the bug that several pins' power level cannot hold default configuration during downloading progress.	R02A03_01.002.01.002
GENERAL	Fixed the bug the firmware upgrade failure via QFLASH firehose mode.	R02A03_01.002.01.002
GENERAL	Fixed the bug that part of the data was truncated and lost when sending data with "\0" characters in transparent mode after enabling AUX AT port (via AT+QDIAGPORT).	R02A03_01.002.01.002
GENERAL	Fixed the bug that USB failed to load successfully on the Raspberry Pi evaluation board.	R02A03_01.002.01.002
GENERAL	Fixed the bug that GPIO_07 changed abnormally when module starting up.	R02A03_01.002.01.002

GENERAL	Fixed the bug that power level of debugging UART pins were always out of control during the firmware download progress.	R02A03_01.002.01.002
GNSS	Fixed the bug that AT+QGPSGNMEA="GSV" returned error occasionally if configure AT+QGPSCFG="autogps",1 .	R02A03_01.002.01.002
GNSS	Fixed the bug that leap second time injection error causes GNSS location failure.	R02A03_01.002.01.002
GNSS	Added QCOM CR2748699 to fix GNSS load failure issue.	R02A03_01.002.01.002
MQTT	Fixed the bug that encountered concatenated package in MQTT downlink data.	R02A03_01.002.01.002
MQTT	Fixed the bug that module would fail to connect to a normal server after connecting to a closed server several times in a row.	R02A03_01.002.01.002
MQTT	Fixed the bug abnormal power consumption encountered after close the MQTT connection.	R02A03_01.002.01.002
QuecOpen®	Fixed the bug that QuecOpen SSL QAPI cannot work normally after enable secure boot function.	R02A03_01.002.01.002
QuecOpen®	Optimized module only "*.mbn" format QuecOpen application can be loaded if secure boot enabled.	R02A03_01.002.01.002
QuecOpen®	Fixed the bug that encountered memory leak while frequent opening/closing of UART serial port.	R02A03_01.002.01.002
QuecOpen®	Optimized internal object pool to 140K Bytes.	R02A03_01.002.01.002
TCP/IP	Fixed the bug that TCP handshake failure if the "shift.cnt" of the "TCP Window Scale Option" in TCP SYNC frame is 14.	R02A03_01.002.01.002
CoAP	Fixed the bug that CRC validation failure for COAP downloaded FOTA file.	R02A03_01.004.01.004
DFOTA	Optimized AT+QFOTADL command to download the server files to the Apps file system.	R02A03_01.004.01.004
DFOTA	Optimized command AT+QFOTADL to support breakpoint download and resume function.	R02A03_01.004.01.004
DNS	Merge the CR#2895096 to fix the bug that modem crash issue during test DNS query in DT lab.	R02A03_01.004.01.004
DTLS	Fixed the bug that no URC was reported during the configured timeout when DTLS couldn't connect.	R02A03_01.004.01.004
FOTA	Optimized the FOTA upgrade strategy to solve the potential bug of insufficient memory causing the data stream cannot be properly parsed.	R02A03_01.004.01.004
FOTA	Optimized FOTA upgrade strategy to solve the problem that FOTA download fails due to the failure of DNS resolution in the scenario where AP-side data services already exist.	R02A03_01.004.01.004
FTM	Optimized LTE FTM TX sending logic to fix the bug that TX power of some LTE bands did not conform to the expected setting.	R02A03_01.004.01.004
GNSS	Fixed the bug that with AT+QGPSLOC=2 configuration, the module couldn't display some special latitude/longitude information correctly.	R02A03_01.004.01.004

GNSS	Fixed the bug that AT+QGPSXTRATIME command returned incorrect time, missing the leap seconds.	R02A03_01.004.01.004
GNSS	Fixed the bug that COG was not calculated correctly.	R02A03_01.004.01.004
GPIO	Optimized the number of GPIO interrupt support to 5.	R02A03_01.004.01.004
HTTP	Fixed the bug that after sending POST request when HTTP body data type is configured to 3(multipart/form-data), AT+QHHTTPREAD always returns 705 error code.	R02A03_01.004.01.004
HTTP	Adjusted the maximum length of HTTP URL from 700 to 3000 bytes.	R02A03_01.004.01.004
Jamming Detection	Fixed the bug that related URC might be lost after removing the interference source in GSM network.	R02A03_01.004.01.004
MQTT	Fixed the bug in AT+QMTPUBEX command that if there are multiple pairs of curly braces in payload, data transmission will fail.	R02A03_01.004.01.004
NITZ	Added Qualcomm CR#2918361 to fix the bug that AT+CCLK probability returned an incorrect time after the module recovered from a network outage.	R02A03_01.004.01.004
PSM	Fixed the bug that when the module entered PSM but there is no PSM POWER DOWN URC reported.	R02A03_01.004.01.004
QuecLocator®	Fixed the bug that Queclocator doesn't work properly.	R02A03_01.004.01.004
QuecOpen®	Optimized that customer must invoke the QAPI QAPI_QT_MAIN_UART_ENABLE_SET firstly if want to configure the main AT port as a general UART port in a QuecOpen Application.	R02A03_01.004.01.004
QuecOpen®	Fixed the bug that source file cannot be deleted probabilistically after QuecOpen application was updated.	R02A03_01.004.01.004
QuecOpen®	Fixed the bug that TCP long connection consumption is high under QuecOpen.	R02A03_01.004.01.004
SSL	Fixed the bug that when SSL certificate file size exceeds 32K bytes would lead to connection establishment failure.	R02A03_01.004.01.004
DTLS	Fixed the bug that connection cannot be disconnected when issue AT+QSSLCLOSE	R02A03_01.005.01.005
DFOTA	Added support user-defined HTTP headers of DFOTA HTTP download	R02A03_01.005.01.005
CoAP	Fixed the bug that in CoAP over TLS session where TLS context was not properly released.	R02A03_01.005.01.005
GENERAL	Merged Qualcomm CR#2968381 to fix the bug that CCLK time not correct after module back from OOS status.	R02A03_01.005.01.005
GENERAL	Optimized that module USB DM port can be loaded automatically if the module enters into crash DUMP mode	R02A03_01.005.01.005
QuecOpen®	Merged Qualcomm CR#2974502 to fix the bug that incorrect time display after 49.7 days of continuous operation of the device.	R02A03_01.005.01.005

QuecOpen®	Fixed the bug that qapi_time_get returning incorrect time after module restart.	R02A03_01.005.01.005
DFOTA	Fixed the bug that error 506 would be reported when AT+QFOTADL=1 and the DFOTA package size is 2048 integer multiples +4 bytes.	R02A03_01.005.01.005
QuecOpen®	Fixed the bug that AP_READY cannot be controlled correctly in QuecOpen application.	R02A03_01.005.01.005
ECM	Fixed the bug that data could not be routed and forwarded when ECM was connected under roaming network.	R02A03_01.006.01.006
FTP	Fixed the FTP request failure caused by spaces in FTP commands QUIT, STOU, ABOR and SYST.	R02A03_01.006.01.006
FTP	Fixed the data connection failure caused by FTP client using an incorrect port.	R02A03_01.006.01.006
GNSS	Fixed the probabilistic bug that GNSS UART failed to output GNSS NMEA sentences.	R02A03_01.006.01.006
FOTA	Fixed the bug that the imported CA certificate and client certificate could not be deleted in some scenarios of the DFOTA over HTTPS application.	R02A03_01.006.01.006
CoAP	Fixed the bug that the \n contained in the downlink data was automatically converted to \r\n.	R02A03_01.006.01.006
CoAP	Supported CoAP over IPv6.	R02A03_01.006.01.006
TCP	Fixed the memory leak caused by entering the illegal characters when executing AT+QISENDEX .	R02A03_01.006.01.006
SSL	Fixed the bug that under SSL multiplexing, if any connection was closed, other connections would be abnormal.	R02A03_01.006.01.006
QuecOpen®	Fixed the bug that error code 506 was reported when downloading a DFOTA package over HTTP, which caused by a large amount of data was in a single packet.	R02A03_01.006.01.006
QuecOpen®	Fixed the bug that an error occurred when qapi_QT_Get_File_Hash() conducted MD5 calculation on the file containing null characters.	R02A03_01.006.01.006
TCP	Supported the URC +QIURC:"closed" reporting when the server actively disconnected the TCP connection if there was data in the TCP receive buffer under buffer access mode.	R02A03_01.007.01.007
TCP/IP	Fixed the bug of no URC report if the failure occurred caused by the network exception when TCPIP application protocol performed DNS parsing.	R02A03_01.007.01.007
QuecLocator®	Fixed the bug that the module sent invalid cell information to server when using AT+QLBS to locate.	R02A03_01.007.01.007
GNSS	Fixed the probabilistic bug that after executing AT+QGPSCFG="autogps",1 , the first packet of NMEA sentences was garbled after booting.	R02A03_01.007.01.007
FILE	Supported the access control of HTTP/FTP client to other directories except UFS.	R02A03_01.007.01.007

SSL	Supported the translation of IPv4-embedded IPv6 addresses for SSL session under KT network.	R02A03_01.008.01.008
FTP	Supported SSL check host feature to prevent the certificate validity check failure on SSL client using multi-domain certificate.	R02A03_01.008.01.008
DNS	Fixed the bug that URC was not reported for TCP service when network was disconnected during DNS resolution.	R02A03_01.008.01.008
Lwm2m	Fixed the bug that the module did not work normally in the process of LwM2M repeatedly triggering factory reset.	R02A03_01.008.01.008
TCP/IP	Fixed the bug that URC was not reported for data service when AT+QIDEACT was executed to disconnect the network during DNS resolution.	R02A03_01.008.01.008
DNS	Fixed the bug that the module did not work normally caused by Service Reject in the process of DNS resolution.	R02A03_01.008.01.008
SSL	Updated the version of Modem SSL lib to mbedtls 2.28.0.	R02A03_01.008.01.008
FTP	Fixed the problem that FTP client failed to login to some servers that only required usernames.	R02A03_01.008.01.008
LwM2M	Fixed the problem that URC report was incorrect when the LwM2M server sent data to the module through /19/1/0.	R02A03_01.008.01.008
CoAP	Fixed the problem of memory leaks caused by repeatedly opening and closing the CoAP connection in the process of CoAP stress test.	R02A03_01.008.01.008
DFOTA	Fixed the problem that there was no corresponding processing method when some HTTP servers returned the response code 206 in the DFOTA download process.	R02A03_01.200.01.200
FILE	Fixed the problem of inconsistent size of the data written by AT+QFWRITE .	R02A03_01.200.01.200
GNSS	Solved the problem that the time of the Age of differential data field in the GNS sentence was incorrect.	R02A03_01.200.01.200
HTTP	Solved the problem that the module would switch to transparent transmission mode unexpectedly after executing AT+QHTTPPUTFILE and accessing the HTTP(s) server if the request header customization was enabled.	R02A03_01.200.01.200
HTTP	Fixed the problem that the module disconnected HTTP connection early when the data packets sent by the HTTP server contained HTTP header information without content-length.	R02A03_01.200.01.200
MQTT	AT+QMTCFG supported configuring the parameters in JSON format.	R02A03_01.200.01.200
MQTT	Fixed the problem that the module was abnormally rebooted once the server was disconnected when the MQTT client continually sent data to the server with 4096 bytes in the weak NB-IoT network.	R02A03_01.200.01.200
MQTT	Fixed the problem that the data sent by the server was not reported due to MQTT packet splicing.	R02A03_01.200.01.200
MQTT	Optimized the logic of MQTT disconnection when MQTT Client sent MQTT DISCONNECT package, and currently the specified URC was	R02A03_01.200.01.200

	reported according to the server's behavior.	
MQTT	Fixed the problem that the connection state returned by executing AT+QMTCONN? was still connected after the connection request by executing AT+QMTCONN was rejected.	R02A03_01. 200.01.200
POWER	Solved the problem that there was an abnormal level of 0.5 V on STAUS pin in the booting process.	R02A03_01. 200.01.200
POWER	Solved the problem that sometimes the URC of POWERED DOWN was not reported when the module was powered down with AT+QPOWD=1 .	R02A03_01. 200.01.200
POWER	Solved the probabilistic problem of high power consumption after the module exited sleep mode from QSCLK.	R02A03_01. 200.01.200
QuecOpen®	Optimized the UART receiving mechanism to solve the probabilistic problem of incomplete received data.	R02A03_01. 200.01.200
QuecLocator®	Fixed the small probability problem of AT+QLBS execution stuck when AT+QLBS was repeatedly executed to obtain the location information in a short period of time.	R02A03_01. 200.01.200
TCP/UDP	Fixed the problem that NO CARRIER was reported before the data was completely spit out because the close event was triggered when the data was spit out in TCP transparent transmission mode.	R02A03_01. 200.01.200
UART	Fixed the problem that the module would work abnormally when the UART Debug Port frequently reported URC.	R02A03_01. 200.01.200
USB	Fixed the bug of module memory exhaustion caused by URC data cached in the USB buffer because the URC was frequently reported by the module when the USB was not connected.	R02A03_01. 200.01.200
GENERAL	Fixed the bug that the RPM did not work normally caused by long wake-up time of modem.	R02A03_01. 200.01.200
GENERAL	Fixed the problem that the USB NMEA port could not output NMEA sentences after GNSS was turned on when the USB was configured to Modem or ECM mode through AT+QCFGEXT="usbnet" .	R02A03_01. 200.01.200
GENERAL	Fixed the limitation that "\" could not be separately input in the AT command.	R02A03_01. 200.01.200
GENERAL	Optimized the backup and restore.	R02A03_01. 200.01.200

5 Known Issues

NA.

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6 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
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.