

BG96 Release Notes

LPWA Module Series

Rev. BG96_Firmware_Release_Notes_V0404_01.004.01.004

Date: 2020-01-22



1. Preamble

This document provides the Release Notes for BG96 firmware version **BG96MAR04A04M1G_01.004.01.004**. It describes major changes compared to BG96 firmware version **BG96MAR04A03M1G_01.003.01.003**. For a detailed listing of all changes, please refer to the BG96 AT Command Set.

Before:

ATI

Quectel

BG96

Revision: BG96MAR04A03M1G

After:

ATI

Quectel

BG96

Revision: BG96MAR04A04M1G

AT+QGMR

BG96MAR04A04M1G_01.004.01.004 //Added the new AT to query the full version information

AT+QAPPVER

+QAPPVER: 01.004.01.004 //Added the new AT to query the application version information

2. New Features

2.1 New Features of Modem Protocol

No update.

2.2 New Features of Modem APP

Item /Category	Brief description	Since
GENERAL	Added AT command AT+QCFGEXT="disusb" to disable USB function.	R04A02_01.0 02.01.002

GENERAL	Added AT command AT+QAUDCFG to support adjust audio volume gain.	R04A02_01.0 02.01.002
CALL	Added URC " +ALERTING: <id>,<number>,<num_type>" to prompt the remote ringback.	R04A02_01.0 02.01.002
SSL	Added AT Command to support DTLS function.	R04A02_01.0 02.01.002
TCP/IP	Added AT command AT+QICFG="tcp/keepalive"	R04A02_01.0 02.01.002
FILE	Added Security file function.	R04A02_01.0 02.01.002
MQTT	Added AT command AT+QMTCFG="recv/mode" to control if there is a payload when related URC reported.	R04A02_01.0 02.01.002
GENERAL	Added AT command AT+QECCNUM .	R04A02_01.0 02.01.002
LwM2M	Supported 3/0/30000 for Verizon Motive test requirement.	R04A02_01.0 02.01.002
FILE	Added AT commands to support access AP file system.	R04A03_01.0 03.01.003
GENERAL	Added AT command AT+QCFG="optimize/t3396" to optimize T3396 timeout processing.	R04A03_01.0 03.01.003
GENERAL	Added Verizon customization AT command AT+VZMTCRAT to support the network registration status.	R04A03_01.0 03.01.003
GENERAL	Added the mechanism of output data will be discarded actively when USB buffer is full in the condition of USB disconnect.	R04A03_01.0 03.01.003
QuecLocator™	Added support QuecLocator.	R04A03_01.0 03.01.003
Quecopen®	Added QAPI to disable or enable USB function.	R04A03_01.0 03.01.003
LwM2M	Added the LwM2M related requirement of the AT&T operator.	R04A03_01.0 03.01.003
FOTA	Added the URC to report FOTA download process.	R04A03_01.0 03.01.003
NETWORK	Added AT command AT+QNWCFG="acqdb" to query the resident information saved after the module registered the network.	R04A03_01.0 03.01.003
NETWORK	Added AT command AT+QIMSCFG="urc_qearlymediai" to enable output related URC which received from the network.	R04A03_01.0 03.01.003
Quecopen®	Added QAPI to get chip serial number.	R04A04_01.0 04.01.004
GENERAL	Added support configure debug UART as second AT command port.	R04A04_01.0 04.01.004
SSL	Added support AT+QSSLCFG="checkhost" command.	R04A04_01.0 04.01.004
SSL	Added support AT+QSSLCFG="sni" command.	R04A04_01.0 04.01.004

TCP/IP	Added support AT+QICFG="ipv6prior" command.	R04A04_01.0 04.01.004
SSL	Added support AT+QSSLCFG="ignorecertchain" command.	R04A04_01.0 04.01.004

3. Improved Features

3.1 Improved Features of Modem Protocol

Item/Category	Brief description	Since
NETWORK	Added Qualcomm® CR2550572 "when the ecp cell sss metric is less than 0.4 times the top peak, prune it from the cnf".	R04A04_01.00 4.01.004

3.2 Improved Features of Modem APP

Item/Category	Brief description	Since
TCP/IP	Optimized for IPV6 support.	R04A02_01.00 2.01.002
FTM	Fixed the bug that AT+QRXFTM returns an abnormal query value.	R04A02_01.00 2.01.002
Quecopen®	Fixed IIC issue.	R04A02_01.00 2.01.002
SMS	Fixed the bug that the URC " +CMTI: -1 " is reported when the module receives WAP message.	R04A02_01.00 2.01.002
SMS	Fixed the bug that module cannot receive new message after got a WAP format message.	R04A02_01.00 2.01.002
NETWORK	Fixed the bug that module cannot register to NW successfully occasionally after deactivate MBN file manually.	R04A02_01.00 2.01.002
MQTT	Fixed the bug that module cannot output all data if there is a '0' character in the data payload.	R04A02_01.00 2.01.002
CMUX	Fixed the bug that hardware flow control was enabled incorrectly when execute AT+CMUX=0 .	R04A03_01.00 3.01.003
Quecopen®	Fixed the bug that data is easily lost when being output via UART port quickly.	R04A03_01.00 3.01.003
GENERAL	Optimized module stability at high temperature with 85 degree Celsius.	R04A03_01.00 3.01.003
LwM2M	Fixed the bug that module always return 405 error when server want to modify /3/0/11 resource.	R04A03_01.00 3.01.003

LwM2M	Fixed the bug that server always notice that "device not reachable" error.	R04A03_01.00 3.01.003
GENERAL	Fixed the bug that AT+CBC result showed incorrect power percentages	R04A03_01.00 3.01.003
SSL	Fixed the bug that caused the module to enter an abnormal state by sending 0 byte of data using the AT+QSSSEND command.	R04A03_01.00 3.01.003
SSL	Fixed the bug that DTLS handshake fail when using PSK mode.	R04A03_01.00 3.01.003
NETWORK	Fixed the bug that an extra blank line in URC " +CREG" when lost network.	R04A03_01.00 3.01.003
SMS	Fixed the bug that module's SMS storage location setting can't be saved after the module powered down.	R04A03_01.00 3.01.003
GNSS	Fixed the bug that QGPSLOC command still can query location sentences after GPS lost the location.	R04A03_01.00 3.01.003
SSL	Fixed the bug that connection can't establish successfully when set TLS version as TLS1.0 or TLS 1.1.	R04A03_01.00 3.01.003
MQTT	Fixed the bug that the URC " +QMTRECV" can't be controlled by AT+QCFG="urc/delay" .	R04A03_01.00 3.01.003
TCP/IP	Fixed the bug that TCP will lost data when transfer big data in transparent mode.	R04A03_01.00 3.01.003
MQTT	Increased the maximum data length of the AT+QMTPUB support to 4096 bytes.	R04A03_01.00 3.01.003
PPP	Fixed the bug that PPP connection could not recovery from command mode to online mode.	R04A03_01.00 3.01.003
FOTA	Fixed the bug that configuring the parameters "user" and "pass" is invalid when using the command AT+QCFGEXT="fota_apn" .	R04A03_01.00 3.01.003
FOTA	Fixed the bug that failed to get delta package from authentication server.	R04A03_01.00 3.01.003
TCP/IP	Fixed the bug that the reported data length is not correct when AT+QICFG="recvind" is enabled.	R04A03_01.00 3.01.003
SSL	Fixed the bug that all data output when request part of received data via AT+QSSLRCV .	R04A03_01.00 3.01.003
FTP	Fixed the bug that no URC reported possibly when exit data mode via "+++" sequence.	R04A03_01.00 3.01.003
Quecopen®	Fixed the bug that upload file always failed through ATC Pipe QAPIs.	R04A03_01.00 3.01.003
GENERAL	Increased the maximum data length of the AT command line support to 3000 bytes.	R04A03_01.00 3.01.003
TCP/IP	Fixed the bug that no URC reported when PING timeout.	R04A03_01.00 3.01.003
Quecopen®	Fixed the bug that returned error 4097 when using QAPI to close GNSS.	R04A04_01.00 4.01.004
LwM2M	Fixed the bug that failed to download DFTOA package from Motive server with In-Band mode.	R04A04_01.00 4.01.004

GENERAL	Optimization that module restarts itself by default in exceptional cases.	R04A04_01.00 4.01.004
NETWORK	Fixed the bug that module returns incorrect band information with AT+QNWINFO occasionally after module camped on network.	R04A04_01.00 4.01.004
GNSS	Fixed the bug that module crash occasionally when enable GNSS and LwM2M at the same time.	R04A04_01.00 4.01.004
TCP/IP	Optimized AT command AT+QICFG="tcp/keepalive" .	R04A04_01.00 4.01.004
CMUX	Optimization that enable close CMUX function directly without close each logical channel.	R04A04_01.00 4.01.004
GENERAL	Fixed the bug that Band 25 support missing after enabled the ROW MBN.	R04A04_01.00 4.01.004
FTPS	Fixed the bug that error 609 returned when enable explicit FTP over TLS.	R04A04_01.00 4.01.004
HTTP	Fixed the bug that executing HTTPREAD command don't exit data mode when get HTTP server's body is 0.	R04A04_01.00 4.01.004
QuecOpen®	Added Qualcomm® CR2580545 to fix certification file parse failure issue.	R04A04_01.00 4.01.004
GNSS	Removed Qualcomm® CR2127285 to solve the problem of abnormal power consumption after GNSS powered off.	R04A04_01.00 4.01.004

4. Functions

Basic Function

SMS	Voice Call	Data Call	Fax	USSD	PHB	STK	CMUX	Dual UART
Y	Y	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	PSM	DFOTA	Quecopen®	QuecLocator™
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.