

BC95-G Release Notes

NB-IoT Module Series

Rev. BC95-G-JB_Firmware_Release_Notes_V0108

Date: 2020-06-17



1. Preamble

This document provides the Release Notes for BC95-G firmware version **BC95GJBR01A08**. It describes major changes compared to BC95-G firmware version **BC95GJBR01A07**. For a detailed listing of all changes, refer to the BC95-G AT Command Set.

2. Matters Needing Attention

SN	Brief Description
1	LwM2M self-cure feature is turned off by default.

3. New Features

Item /Category	Brief Description	Since
NETWORK	Added the function of In-Band, Guard-band and Stand-alone.	R01A01
NETWORK	Added the function of control plane data.	R01A01
NETWORK	Added the function of paging.	R01A01
DFOTA	Added differential Firmware Upgrade Over-The-Air (DFOTA).	R01A01
NETWORK	Added the function of Cell Reselection.	R01A01
NETWORK	Added the function of Single-tone 3.75KHZ.	R01A01
NETWORK	Added the function of Single-tone 15KHZ.	R01A01
NETWORK	Added the function of Multi-tone.	R01A01
C-DRX	Added the function of C-DRX.	R01A01
NONIP	Added the function of Non-IP.	R01A01
SMS	Added the function of SMS.	R01A01
PSM	Added the function of PSM.	R01A01
eDRX	Added the function of eDRX.	R01A01
GENERAL	Added the function of NETLIGHT, the function is closed by default. Using AT+QLEDMODE=1 can open the function.	R01A01

UART	Supported baud rate 230400/460800.	R01A01
TCP	Added the function of TCP data transmission.	R01A01
GENERAL	Added the function of indication to user when UL data send out in air interface.	R01A01
GENERAL	Added the function of BIP.	R01A01
NETWORK	Added the function of background PLMN Search.	R01A01
GENERAL	Added the function of data transmission over IPv6.	R01A01
DTLS	Added the function of updating DTLS PSK by remote.	R01A01
DFOTA	Added the function of updating KV by FOTA.	R01A01
CoAP	Added AT commands which are also supported by BC95 (AT+NMGS/NMGR/NNMI/NSMI/NQMGR/NQMGS/NMSTATUS).	R01A01
GENERAL	Added the function of show SSB version in response of AT+CGMR .	R01A01
GENERAL	Added AT+CGAUTH command to set APN with user name and password.	R01A03
GENERAL	Added AT+NCSEARFCN command to clear the stored EARFCN.	R01A03
NETWORK	Added AT+CGCONTRDP command to get DNS sever address.	R01A03
NETWORK	Added AT+NIPINFO command to report IP address information.	R01A03
GENERAL	Added AT+NQPODCP command to query the pending originating data list via the control plane.	R01A03
NETWORK	Added AT+NCPCDPR command to configure PDP context dynamic parameter items to read.	R01A03
NETWORK	Added AT+CNMPSD command to indicate that no application on the MT is expected to exchange data.	R01A03
TCP	Added +NSOCLI URC to notify that socket has been closed.	R01A03
GENERAL	Added configure options of AT+NCONFIG command.	R01A03
NETWORK	Added Rel-14 Release Assistant Indication.	R01A03
NETWORK	Supported Rel-13 Multi-PRB.	R01A03
NETWORK	Supported Rel-14 Power Class 14dBm.	R01A03
NETWORK	Supported to send and receive data on Multi-PDN.	R01A03
NETWORK	Provided an interface to handle the timeout of getting IPv6 prefix during attach process, the timer for waiting IPv6 prefix can be set by +NCONFIG:IPV6_GET_PREFIX_TIME .	R01A03

DTLS	Added AT+QRESETDTLS command to set whether the DTLS connection needs to reestablished by the terminal.	R01A03
DTLS	Added AT+QDTLSSTAT command to query DTLS status.	R01A03
GENERAL	Added AT+QDNS command to trigger the DNS domain name resolution.	R01A03
TCP/UDP	Added AT+NSONMI command to set the format of unsolicited message to notify that data has been received on a socket.	R01A04
MQTT	Added AT commands to implement basic MQTT functionality (AT+QMTCFG/QMTENAUTH/QMTOPEM/QMTCLOSE/QMTCON N/QMTDISC/QMTSUB/QMTUNS/QMTPUB).	R01A04
GENERAL	Added AT+QCHIPINFO command to get chip temperature and voltage of module.	R01A04
CoAP	Added AT commands to implement basic CoAP functionality (AT+QCOAPCREATE/QCOAPDEL/QCOAPOPTION/QCOAPHE AD/QCOAPADDRES/QCOAPSEND/QCOAPDATASTATUS/QCO APCFG).	R01A05
GENERAL	Added AT+CPIN command to support enter PIN.	R01A05
GENERAL	Added AT+CPINR command to read of the number of remaining PIN.	R01A05
GENERAL	Added a configure option of AT+NCONFIG command for PCO setting. The firmware attach with ePCO by default.	R01A05
NITZ	Added AT+NITZ command to set time update mode.	R01A05
DFOTA	Supported that upgrade package is downloaded using block size of 1024 bytes, which is compatible with the previous block size of 512 bytes.	R01A05
DFOTA	Added AT+QCRITICALDATA command to terminate FOTA upgrades when urgent alarm data needs to be sent.	R01A05
LwM2M	Supported that resources 4/0/0, 4/0/1, 4/0/4, and 4/0/11 are readable.	R01A05
LwM2M	Added AT+QCFG="LWM2M/Lifetime" command to configure lifetime functionality of LwM2M.	R01A05
GENERAL	Added AT+QIDNSCFG command to configure the DNS server address.	R01A05
MQTT	Added new feature for AT+QMTPUB command to support sending specific length data.	R01A06
CoAP	Added new feature for AT+COAPSEND command to support sending specific length data and hex string format data.	R01A06
GENERAL	Added new feature for AT+QDNS command to obtain the DNS domain name resolution result directly from the network when the mode is equal to 2 for DNS domain name resolution.	R01A07
LwM2M	Added AT+QCFG="LWM2M/EndpointName" command to configure the Endpoint Name of LwM2M.	R01A07

LwM2M	Supported instance 19/1 for LwM2M.	R01A07
CoAP	Added new feature for AT+QCOAPOPTION command to support setting the custom option.	R01A07
LwM2M	Added AT+QCFG="LWM2M/BindingMode" command to configure Binding Mode of LwM2M.	R01A08
LwM2M	Added AT+QLWEVTIND command to set whether +QLWEVTIND URC is output. +QLWEVTIND URC prompt is enabled by default.	R01A08
CoAP	Supported ETAG option in CoAP protocol.	R01A08
LwM2M	Added AT+QCFG="LWM2M/PNP" command to configure LwM2M self-cure feature mode, the feature is turned off by default.	R01A08
GENERAL	Added AT+QDNS=2,<hostname> command to allow send DNS request immediately without using history records.	R01A08

4. Improved Features

Item /Category	Brief Description	Since
GENERAL	Optimized RF performance.	R01A02
GENERAL	Optimized cell search process under inter frequency network.	R01A03
LwM2M	Changed LwM2M send and receive data to use the socket interface. LwM2M initialization will occupy a socket number.	R01A03
DTLS	Modified AT+QSECSWT command to delete old parameter <renegotiationtime> and add <NAT type>.	R01A03
GENERAL	Added error code: 528(configuration conflicts), 529(FOTA is updating), 530(Not the AT command allocated socket).	R01A03
CoAP	Updated parameters of AT+NMGS and AT+NSMI commands.	R01A03
LwM2M	Added RELEASE_AFTER_REPLY RAI flag for using AT+QLWULDATAEX to send Non-confirmable(NON) messages.	R01A04
SMS	Modified the format of the result returned by the AT+CMGC and AT+CMGS commands.	R01A04
GENERAL	Optimized the power consumption when the UE in IDLE of DRX/eDRX .	R01A04
NITZ	Fixed a problem where the read time is not accurate when the local time zone did not exist.	R01A04
TCP	Optimized the response of URC when UE establish TCP connection with remote server, UE can't notice the connection has been closed when the server close the connection initiative.	R01A04
GENERAL	Modified the result of the AT+NCPCDPR=? command.	R01A04

PSM	Optimized the wakeup time from PSM after 1-2 days.	R01A04
GENERAL	Removed SNR limitation of 20dB reported in the log.	R01A04
GENERAL	Supported to pull down the RI pin when reboot happened.	R01A05
GENERAL	Fixed the problem of HPLMN background search failure caused by entering PSM Mode.	R01A05
GENERAL	Supported to query band currently being used with AT+NUESTATS command.	R01A05
GENERAL	Optimized the cell reselection performance in inter-frequency network environment.	R01A05
PSM	Fixed the problem that setting the PSM related parameters does not take effect when radio is off.	R01A05
GENERAL	Fixed the problem that module cannot enter deep sleep when the USIM card is removed.	R01A05
GENERAL	Fixed the problem that module may always search an invalid PLMN even the PLMN has been rejected.	R01A05
GENERAL	Fixed the ERROR 523 problem caused by UART RX pin being pulled down before the first AT command was sent.	R01A05
GENERAL	Optimized the RPLMN file writing mechanism of USIM card to reduce the time of module attachment network.	R01A05
eDRX	Modified the default mode of eDRX to enable.	R01A05
PING	Fixed the problem that AT+NPING command can't ping long IPV6 address.	R01A05
LwM2M	Fixed the bug that module output messages with repeat message ID when IoT platform send CON message to module under poor network environment.	R01A05
GENERAL	Supported to show the APN received from NW with AT+CGCONTRDP command.	R01A05
NITZ	Supported to set time and date with AT+CCLK command.	R01A05
MQTT	Modified the output mode of AT+QMTENAUTH command execute result to URC mode.	R01A06
MQTT	Fixed the bug that the data output was abnormal when special characters were received.	R01A06
MQTT	Supported to show the MQTT related commands in response of AT+CLAC command.	R01A06
CoAP	Optimized data process mechanism for frequent CoAP communication.	R01A06
MQTT	Optimized the format of response of AT+QMTPUB test command.	R01A06
CoAP	Fixed the bug that when sending data in ">" mode, command echo function does not work normally.	R01A06

SMS	Supported SMS when MME does not include additional update result IEI in periodic tracking area updating procedure.	R01A07
NETWORK	Fixed the problem that when the back-off timer is near expiry, sending AT+CFUN=0 or AT+NRB command, the back-off remaining timer will be set to max value probably.	R01A07
CoAP	Fixed the problem that Confirmable message can't retransmit.	R01A08
GENERAL	Fixed the bug that domain names that begin with a number cannot be parsed correctly.	R01A08
GENERAL	Improved the AT+QDNS command to allow configure the max retry count and the value of timeout.	R01A08
CoAP	Fixed the problem that the module automatically responds to the server with a wrong port in separate response mode.	R01A08

5. Known Issues

Item/Category	Brief Description
NETWORK	The module does not support 320 hours of Extended periodic TAU value.

6. Functions

Basic Function

SMS

Y

Protocol Function

NITZ	PING	CoAP ²⁾	NONIP	TCP/UDP	MQTT ¹⁾	LwM2M
Y	Y	Y	Y	Y	Y	Y

Special Function

DFOTA	PSM
Y	Y

NOTES

1. Y means the firmware supports this function.
2. N means the firmware does not support this function.
3. ¹⁾ MQTT function supports from R01A04.
4. ²⁾ Supports new feature of Quectel basic CoAP function from R01A05.