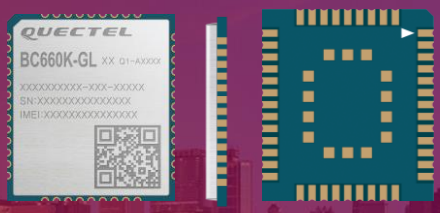
Quectel BC660K-GL

Compact NB-IoT Module with

Ultra-low Power Consumption



BC660K-GL

Release Notes

NB-IoT Module Series

Version: BC660K-GL_Firmware_Release_Notes

Date: 2022-02-11

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

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 5108 6236
Email: info@quectel.com

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Contents

1. Release Content

This document provides the Release Notes for BC660K-GL. The current release includes the firmware package.

Package	Version
Firmware	BC660KGLAAR01A04_01.002.01.002

2. Matters Needing Attention

SN	Item
[1]	Multiple PDN contexts are not recommended to use for some known issues. The default PDN context (CID 0) can be used for normal data service.
[2]	Application is recommended to disable sleep mode via **AT+QSCLK=0** command after reboot or deep sleep wakeup, and execute **AT+QSCLK=1** command to enable sleep mode while data service has been completed.
[3]	Application should re-configure user settings after DFOTA or QFLASH downloading.
[4]	The User Plane mode is not recommended to use for some known issues.
[5]	Application is recommended to execute the **AT+QCFG="OOSScheme"** command to select the desired OOS Scheme. Module will not actively search network when entered into OOS in default mode (mode 4).

3. Release History

3.1. Firmware Release History

Firmware Version	Description
BC660KGLAAR01A02_01.001.01.001	Engineering Sample Version
BC660KGLAAR01A03_01.001.01.001	Commercial Sample Version
BC660KGLAAR01A03_01.002.01.002	Mass Production Version
BC660KGLAAR01A04_01.001.01.001	Mass Production (II) Version
BC660KGLAAR01A04_01.002.01.002	Mass Production (III) Version

3.2. New Features

BC660KGLAAR01A02_01.001.01.001	
Item	**Brief Description**
/	/
BC660KGLAAR01A03_01.001.01.001	
Item	**Brief Description**
NETWORK	Added **AT+QNBIOTRAI** command to release the RRC connection quickly which will switch the modem status from connected to idle mode.
NETWORK	Added **AT+QR14FEATURE** command to query current status of R14 which is supported by network side.
NETWORK	Added FPLMN information display in **AT+QENG=3** command.
GENERAL	Added **AT+QCFG="GPIO"** command to control and query the state of dedicated GPIO pins.
GENERAL	Added **AT+QADC** command to sampling the voltage of dedicated ADC pin.
UDP	Added feature of UDP SERVICE.
BC660KGLAAR01A03_01.002.01.002	

Item	Brief Description
GENERAL	Remove Band 14 support compared to CS version.
GENERAL	Added **AT+QLEDMODE** command to support feature of NETLIGHT.
GENERAL	Added **AT+QIPERF** command which can be used for throughput testing.
NETWORK	Added **AT+QCFG="NcellMeas"** command to disable or enable the neighbor cell measurement.
NETWORK	Added **AT+QPSMS** command to set and query T3324/T3412 timer value in seconds.
TCP	Added feature of TCP LISTENER.
MQTT	Added feature of MQTT.
BC660KGLAAR01A04_01.001.01.001	
Item	**Brief Description**
NETWORK	Added **AT+QOOSAIND** command to disable or enable OOSA URC indication.
NETWORK	Added **AT+QPSC** command to configure power saving control parameters.
NETWORK	Added **AT+CIPCA** command to configure initial PDP context activation behavior.
NETWORK	Added **AT+CSODCP** command to send originating data via control plane.
NETWORK	Added **AT+CRTDCP** command to report terminating data via control plane.
NETWORK	Added **AT+CGAUTH** command to configure authentication parameters for PDP context.
NETWORK	Added **AT+QCFG="SimBip"** command to disable or enable the BIP function.
NETWORK	Added **AT+QENG=2** command to display the total working duration of Radio Tx/Rx.
TLS/DTLS	Added feature of TLS and DTLS.
MQTTS	Added feature of MQTTS.
BC660KGLAAR01A04_01.002.01.002	
Item	**Brief Description**
NETWORK	Extended mode 4 (default mode) for **AT+QCFG="OOSScheme"** command to control the module will not actively search for network when entering OOS with low power consumption consideration. Execute **AT+QPLMNS** command can trigger the module to continue the network searching process in OOS state.
GENERAL	Added **AT+QRELLOCK** command to release the sleep lock of AT layer immediately. The default sleep lock time of AT layer is 10s.

LwM2M	Added feature of LwM2M.

3.3. Improved Features

BC660KGLAAR01A02_01.001.01.001	
Item	**Brief Description**
/	/
BC660KGLAAR01A03_01.001.01.001	
Item	**Brief Description**
GENERAL	Optimized the wakeup event process which is triggered by PSM_EINT, after module is waked up by PSM_EINT from deep sleep mode, sleep lock timer is started and the duration is according to the configuration of **AT+QCFG="slplocktimes"** command.
GENERAL	Optimized the accuracy of URC RI hopping mechanism.
NETWORK	Fixed the bug that the IP address is still kept when the module has entered the OOS state.
TCP/UDP	Fixed the bug that the inputted data is still sent after the data mode has been exited with **ESC** character.
TCP/UDP	Fixed the bug that the DNS configuration via **AT+QIDNSCFG** command is lost after the module wakes up from deep sleep.
TCP/UDP	Fixed the bug that the returned IPv6 DNS address is misplacement when executing **AT+QIDNSCFG=0** command in IPv6 only scenario.
BC660KGLAAR01A03_01.002.01.002	
Item	**Brief Description**
NETWORK	Modify the **<cid>** range supported by **AT+CGDCONT** from 0-11 to 0-10.
TCP/UDP	Optimize the DNS priority handling for some typical scenario. (**AT+QIDNSCFG**/network contributed/deep sleep wakeup).
BC660KGLAAR01A04_01.001.01.001	
Item	**Brief Description**
GENERAL	Fixed the bug that module will low probability unable to enter deep sleep state after modem has entered PSM state.
GENERAL	Fixed the bug that module reboots continuously when using some operator SIMs, such as KT(Korea) and starHUB(Singapore).
NETWORK	Fixed the bug that module will low probability reboot after entering idle mode when board EARFCN of BAND 4 is locked and registered.

NETWORK	Fixed the bug that an extra space exists within the returned response of <state> parameter by **AT+QPLMNS?** command
UDP	Fixed the bug that the previously closed UDP service context still can be quired after the module wakes up from deep sleep state.
MQTT	Modified the <msg_len> range supported by **AT+QMTPUB** in hex mode from 0-1460B to 0-730B.

BC660KGLAAR01A04_01.002.01.002	
Item	**Brief Description**
TCP/UDP	Modified the parameter <contextID> value range supported by **AT+QISTATE** command from 0-11 to 0-10.
TCP/UDP	Fixed the bug that UDP uplink still reports "SEND OK" result when DNS resolution has been failed already after the module wakes up from deep sleep mode.
MQTT	Fixed the bug that the module failed to connect to the Azure IoT platform by using the unauthenticated encryption mode.
NETWORK	Fixed the bug that the values of T3324 and T3412 can still be queried after attach procedure is rejected by network when the CEREG mode is configured as 4 or 5.
NETWORK	Modified the parameter <cid> value range supported by **AT+CGPADDR** command from 0-11 to 0-10.
GENERAL	Optimized DFOTA update agent (add MD5 check) to match the change of DIFF-TOOL.

3.4. Known Issues

Item	Bug Description
[1]	Module can not enter deep sleep mode after PSM with STK enabled SIM sending polling on but never sending polling off event occurs.

NOTE

Verification Environment is shown below. For more details, please contact Quectel technical support.
For Windows,
USB Driver: CDM21228_Setup.zip
QFlash Tool: QFlash_V5.7_EN
QLOG Tool: EPAT_V1.3.96.159

4. Functions List

Category	Item	Supported Version(Since)	Note
Basic Function	/	/	/
Protocol Function	TCP/UDP	BC660KGLAAR01A02_01.001.01.001	BC660KGLAAR01A03_01.001.01.001 added feature of UDP SERVICE; BC660KGLAAR01A03_01.002.01.002 added feature of TCP LISTENER.
	NITZ	BC660KGLAAR01A02_01.001.01.001	/
	PING	BC660KGLAAR01A02_01.001.01.001	/
	NTP	BC660KGLAAR01A02_01.001.01.001	/
	MQTT	BC660KGLAAR01A03_01.002.01.002	/
	MQTTS	BC660KGLAAR01A04_01.001.01.001	/
	SSL/TLS	BC660KGLAAR01A04_01.001.01.001	/
	LwM2M	BC660KGLAAR01A04_01.002.01.002	/
Special Function	DFOTA	BC660KGLAAR01A02_01.001.01.001	/
	PSM	BC660KGLAAR01A02_01.001.01.001	/

About Quectel

Quectel Wireless Solutions is the leading global supplier of cellular and GNSS modules, with a broad product portfolio covering the most recent wireless technologies of 5G, LTE/LTE-A, NB-IoT/LTE-M, UMTS/HSPA(+), GSM/GPRS and GNSS. As a professional IoT (Internet of Things) technology developer and cellular module supplier, Quectel is able to provide one-stop services for IoT cellular modules. Quectel products have been widely applied in IoT/M2M fields including smart payment, telematics and transport, smart energy, smart cities, security, wireless gateways, industry, healthcare, agriculture, and environment monitoring.