

# BC95&BC95-G

# Difference Introduction

**NB-IoT Module Series**

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# About the Document

## History

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|----------|------------|--------------------------------------|-------------|
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# 1 Introduction

This document describes main differences between BC95 and BC95-G in terms of hardware and software designs, including pin assignment, software functions, AT commands comparison, etc.

# 2 Hardware Comparison

## 2.1. Pin Assignment

BC95-G is completely pin-to-pin compatible with BC95, and the pin assignment is illustrated below.

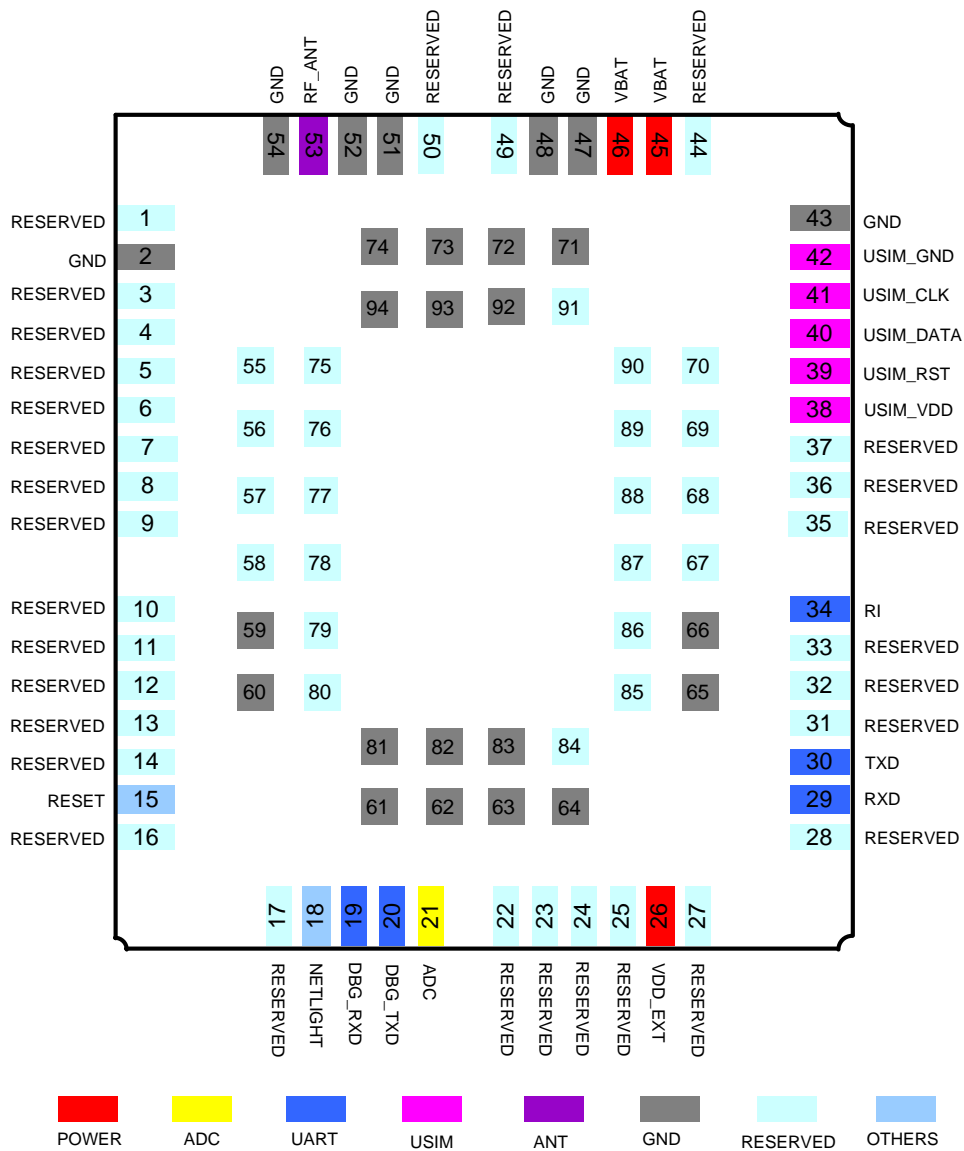


Figure 1: Pin Assignment

## 2.2. Pin Description and Differences

**Table 1: Pin Description and Differences**

| Pin No. | BC95     | BC95-G   | Pin Description           | Differences |
|---------|----------|----------|---------------------------|-------------|
|         | Pin Name | Pin Name |                           |             |
| 1       | RESERVED | RESERVED | Reserved                  | /           |
| 2       | GND      | GND      | Ground                    | /           |
| 3       | RESERVED | RESERVED |                           | /           |
| 4       | RESERVED | RESERVED |                           | /           |
| 5       | RESERVED | RESERVED |                           | /           |
| 6       | RESERVED | RESERVED |                           | /           |
| 7       | RESERVED | RESERVED |                           | /           |
| 8       | RESERVED | RESERVED | Reserved                  | /           |
| 9       | RESERVED | RESERVED |                           | /           |
| 10      | RESERVED | RESERVED |                           | /           |
| 11      | RESERVED | RESERVED |                           | /           |
| 12      | RESERVED | RESERVED |                           | /           |
| 13      | RESERVED | RESERVED |                           | /           |
| 14      | RESERVED | RESERVED |                           | /           |
| 15      | RESET    | RESET    | Reset the module          | /           |
| 16      | RESERVED | RESERVED | Reserved                  | /           |
| 17      | RESERVED | RESERVED |                           | /           |
| 18      | NETLIGHT | NETLIGHT | Network status indication | /           |
| 19      | DBG_RXD  | DBG_RXD  | Receive data              | /           |
| 20      | DBG_TXD  | DBG_TXD  | Transmit data             | /           |



|    |                        |                        |   |  |
|----|------------------------|------------------------|---|--|
| 21 | ADC                    | ADC                    | General purpose analog to digital converter interface | /  |
| 22 | RESERVED               | RESERVED               |   | /  |
| 23 | RESERVED               | RESERVED               | Reserved  | /  |
| 24 | RESERVED               | RESERVED               |   | /  |
| 25 | RESERVED               | RESERVED               |   | /  |
| 26 | VDD_EXT <sup>1)</sup>  | VDD_EXT <sup>1)</sup>  | Supply 3.0V voltage for external circuit              | <b>BC95:</b><br>I <sub>Omax</sub> =20mA (Any mode)<br><b>BC95-G:</b><br>I <sub>Omax</sub> =1mA (In PSM)<br>I <sub>Omax</sub> =20mA (Other modes) |
| 27 | RESERVED               | RESERVED               | Reserved  | /  |
| 28 | RESERVED               | RESERVED               |   | /  |
| 29 | RXD                    | RXD                    | Receive data  | /  |
| 30 | TXD                    | TXD                    | Transmit data   | /  |
| 31 | RESERVED               | RESERVED               |   | /  |
| 32 | RESERVED               | RESERVED               | Reserved  | /  |
| 33 | RESERVED               | RESERVED               |   | /  |
| 34 | RI                     | RI                     | Ring indicator  | /  |
| 35 | RESERVED               | RESERVED               |   | /  |
| 36 | RESERVED               | RESERVED               | Reserved  | /  |
| 37 | RESERVED               | RESERVED               |   | /  |
| 38 | USIM_VDD <sup>2)</sup> | USIM_VDD <sup>2)</sup> | Power supply for USIM card                            | <b>BC95:</b><br>3.0V USIM card<br><b>BC95-G:</b><br>1.8V USIM card<br>Or<br>3.0V USIM card   |
| 39 | USIM_RST               | USIM_RST               | USIM card reset                                       | /  |
| 40 | USIM_DATA              | USIM_DATA              | USIM card data  | /  |

|                                     |          |          |                                  |   |
|-------------------------------------|----------|----------|----------------------------------|---|
| 41                                  | USIM_CLK | USIM_CLK | USIM card clock                  | / |
| 42                                  | USIM_GND | USIM_GND | USIM card ground                 | / |
| 43                                  | GND      | GND      | Ground                           | / |
| 44                                  | RESERVED | RESERVED | Reserved                         | / |
| 45                                  | VBAT     | VBAT     | Main power supply                | / |
| 46                                  | VBAT     | VBAT     | of the module:<br>VBAT=3.1V~4.2V | / |
| 47                                  | GND      | GND      | Ground                           | / |
| 48                                  | GND      | GND      |                                  | / |
| 49                                  | RESERVED | RESERVED | Reserved                         | / |
| 50                                  | RESERVED | RESERVED |                                  | / |
| 51                                  | GND      | GND      | Ground                           | / |
| 52                                  | GND      | GND      |                                  | / |
| 53                                  | RF_ANT   | RF_ANT   | RF antenna pad                   | / |
| 54                                  | GND      | GND      | Ground                           | / |
| 55~58,<br>67~70,<br>75~80,<br>84~91 | RESERVED | RESERVED | Reserved                         | / |
| 59~66,<br>71~74,<br>81~83,<br>92~94 | GND      | GND      | Ground                           | / |

## NOTES

- <sup>1)</sup> BC95 and BC95-G are different in the output current capacity of VDD\_EXT:
  - **BC95**: the maximum output current capacity of VDD\_EXT is 20mA in any operation mode.
  - **BC95-G**: the maximum output current capacity of VDD\_EXT is 1mA in PSM and 20mA in other operation modes.
- <sup>2)</sup> BC95 and BC95-G are different in the USIM card supported by USIM\_VDD:
  - **BC95**: supports 3.0V USIM card.
  - **BC95-G**: supports 1.8V and 3.0V USIM card.

# 3 Software Comparison

The software comparison between BC95 and BC95-G is based on firmware versions as listed below.

**Table 2: Firmware Versions**

|                         | BC95               | BC95-G             |
|-------------------------|--------------------|--------------------|
| <b>Firmware Version</b> | V100R100C10B657SP5 | V150R100C20B300SP2 |

## 3.1. Software Function Differences

**Table 3: Software Function Differences**

| Function          | BC95          | BC95-G                       |
|-------------------|---------------|------------------------------|
| <b>Multi-Tone</b> | Not Supported | Supported                    |
| <b>ECID</b>       | Not Supported | Supported (For Testing Only) |
| <b>OTDOA</b>      | Not Supported | Supported (For Testing Only) |
| <b>IPv6</b>       | Not Supported | Supported                    |
| <b>TCP</b>        | Not Supported | Supported                    |
| <b>LwM2M</b>      | Not Supported | Supported                    |
| <b>MQTT</b>       | Not Supported | Supported                    |

### 3.2. Output/Indication Information Differences

Table 4: Boot Output Information Differences

| Boot Output Information | BC95                                | BC95-G                                   |
|-------------------------|-------------------------------------|--|
| Power on Boot           | REBOOT_CAUSE_UNKNOWN                | REBOOT_CAUSE_SECURITY_PMU_POWER_ON_RESET |
| Hardware Reset          | REBOOT_CAUSE_SECURITY_RESET_UNKNOWN | REBOOT_CAUSE_SECURITY_RESET_PIN          |

Table 5: Huawei IoT Platform Function and Indication Information Comparison

| Huawei IoT Platform    | BC95   | BC95-G  |
|------------------------|--|---|
| Platform Function      | When the Huawei IoT platform is not used, the platform registration function needs not to be disabled. | When the Huawei IoT platform is not used, the platform registration function needs to be disabled through <b>AT+QREGSWT=2</b> . |
| Indication Information | No URC Indication  | <b>+QLWEVTIND:0</b><br><b>+QLWEVTIND:3</b>  |

Table 6: DFOTA Upgrade Indication Information Comparison

| DFOTA Upgrade                        | BC95  | BC95-G   |
|--------------------------------------|---|--|
| DFOTA Upgrade Indication Information | FIRMWARE DOWNLOADING<br>FIRMWARE DOWNLOADED<br>FIRMWARE UPDATING<br>REBOOT_CAUSE_SECURITY_RESET_UNKNOWN<br>FIRMWARE UPDATING<br>FIRMWARE UPDATE SUCCESS<br>FIRMWARE UPDATE OVER | <b>+QLWEVTIND:5</b><br>FIRMWARE DOWNLOADING<br>FIRMWARE DOWNLOADED<br>FIRMWARE UPDATING<br>REBOOT_CAUSE_SECURITY_FOTA_UPGRADE<br>FIRMWARE UPDATE SUCCESS<br>FIRMWARE UPDATE OVER |

### 3.3. AT Command Differences

The following illustrates the differences of the AT commands supported by both BC95 and BC95-G.

#### 3.3.1. Network Related Command

##### 3.3.1.1. AT+COPS PLMN Selection

| BC95   | BC95-G  |
|--|---|
| Test Command<br><b>AT+COPS=?</b>                 | Test Command<br><b>AT+COPS=?</b>  |
| Response<br><b>+COPS:(2,,"46000"),,(0-2),(2)</b> | Response<br><b>+COPS: (2,,"46011"),(3,,"46000"),(3,,"46001"),,(0-2),(2)</b> |
| OK   | OK  |

**Differences Description:** Return values of **AT+COPS=?** are different.

- **BC95**
  - 1) PLMN setting can be queried in any state of RRC, but the return value is the information that has been configured in the USIM card.
  - 2) Other AT commands can be executed before the response of **AT+COPS=?** command is returned. The maximum response time of this command is 300ms.
- **BC95-G**
  - 1) PLMN setting can only be queried when RRC is not connected, and the return value is the operator's PLMN value existing in the current network.
  - 2) Other AT commands cannot be executed before the response of **AT+COPS=?** command is returned, otherwise, an error will be reported. The maximum response time of this command is 630s.

### 3.3.2. UDP Related Commands

#### 3.3.2.1. AT+NSOCR Create a Socket

| BC95   | BC95-G   |
|--|--|
| Write Command<br><b>AT+NSOCR=&lt;type&gt;,&lt;protocol&gt;,&lt;listen port&gt;[,&lt;receive control&gt;]</b> | Write Command<br><b>AT+NSOCR=&lt;type&gt;,&lt;protocol&gt;,&lt;listenport&gt;[,&lt;receive control&gt;[,&lt;af_type&gt;[,&lt;ip address&gt;]]]</b> |
| Response<br><b>&lt;socket&gt;</b>  | Response<br><b>&lt;socket&gt;</b>  |
| <b>OK</b>  | <b>OK</b>  |

**Differences Description:** Supported socket types (<type>) and the starting value of created socket reference number (<socket>) in the response are different.

- **BC95**
  - 1) Only <type>=DGRAM (indicates UDP socket) is supported.
  - 2) <socket>, indicating a reference to created socket, supports values starting from 0 or 1.
- **BC95-G**
  - 1) Both <type>=DGRAM (indicates UDP socket) and <type>=STREAM (indicates TCP socket) are supported.
  - 2) <socket>, indicating a reference to created socket, supports values starting from 1, 2 or 3.
  - 3) Additional parameters <af\_type> and <ip address> are supported.

#### 3.3.2.2. AT+NSOST SendTo Command (UDP Only)

| BC95   | BC95-G  |
|--|---|
| Write Command<br><b>AT+NSOST=&lt;socket&gt;,&lt;remote_addr&gt;,&lt;remote _port&gt;,&lt;length&gt;,&lt;data&gt;</b> | Write Command<br><b>AT+NSOST=&lt;socket&gt;,&lt;remote_addr&gt;,&lt;remote _port&gt;,&lt;length&gt;,&lt;data&gt;[,&lt;sequence&gt;]</b> |
| Response<br><b>&lt;socket&gt;,&lt;length&gt;</b>   | Response<br><b>&lt;socket&gt;,&lt;length&gt;</b>  |
| <b>OK</b>  | <b>OK</b>   |

**Differences Description:** The maximum data length and the return values are different.

- **BC95**
  - 1) Supports data transmission of maximally 512 bytes at a time with **<length>** and **<data>**.
  - 2) The return value does not support URC reporting.
- **BC95-G**
  - 1) Supports data transmission of maximally 1358 bytes at a time with **<length>** and **<data>**.
  - 2) Parameter **<sequence>** is additionally supported. After the transmission is completed, if **<sequence>** is set from 1 to 255, the result will be reported as URC in the form of **+NSOSTR:<socket>,<sequence>,<status>**.

### 3.3.2.3. AT+NSOSTF SendTo Command with Flags (UDP Only)

| BC95   | BC95-G  |
|--|---|
| Write Command  | Write Command   |
| <b>AT+NSOSTF=&lt;socket&gt;,&lt;remote_addr&gt;,&lt;remote_port&gt;,&lt;flag&gt;,&lt;length&gt;,&lt;data&gt;</b> | <b>AT+NSOSTF=&lt;socket&gt;,&lt;remote_addr&gt;,&lt;remote_port&gt;,&lt;flag&gt;,&lt;length&gt;,&lt;data&gt;[,&lt;sequence&gt;]</b> |
| Response   | Response  |
| <b>&lt;socket&gt;,&lt;length&gt;</b>   | <b>&lt;socket&gt;,&lt;length&gt;</b>  |
| <b>OK</b>  | <b>OK</b>   |

**Differences Description:** The maximum data length and the return values are different.

- **BC95**
  - 1) Supports data transmission of maximally 512 bytes at a time with **<length>** and **<data>**.
  - 2) The return value does not support URC reporting.
- **BC95-G**
  - 1) Supports data transmission of maximally 1358 bytes at a time with **<length>** and **<data>**.
  - 2) Parameter **<sequence>** is additionally supported. After the transmission is completed, if **<sequence>** is set from 1 to 255, the result will be reported as URC in the form of **+NSOSTR:<socket>,<sequence>,<status>**.

### 3.3.3. UART Baud Rate Configuration Related Command

#### 3.3.3.1. AT+NATSPEED Configure UART Port Baud Rate

| BC95         | BC95-G       |
|--------------|--------------|
| Test Command | Test Command |

| AT+NATSPEED=?   | AT+NATSPEED=?   |
|---|---|
| Response<br><b>+NATSPEED:(4800,9600,57600,115200),(0-30),<br/>(0,1),(0-3),(1,2)</b> | Response<br><b>+NATSPEED:(4800,9600,57600,115200,230400,46<br/>0800),(0-30),(0,1),(0-3),(1,2),(0-2),(0,1)</b> |
| <b>OK</b>   | <b>OK</b>   |

**Differences Description:** Default return values are different.

- **BC95**  
Only supports 4 baud rates.
- **BC95-G**  
Supports 6 baud rates, as well as parity check and software flow control.

### 3.3.4. Huawei IoT Platform Related Commands

#### 3.3.4.1. AT+NMGS Send a Message

| BC95  | BC95-G  |
|---|---|
| Write Command<br><b>AT+NMGS=&lt;length&gt;,&lt;data&gt;</b> | Write Command<br><b>AT+NMGS=&lt;length&gt;,&lt;data&gt;[,&lt;seq_num&gt;]</b> |
| Response<br><b>OK</b>                                       | Response<br><b>OK</b>   |
| <b>[+NSMI:&lt;status&gt;]</b>                               | <b>[+NSMI:&lt;status&gt;[,&lt;seq_num&gt;]]</b>                               |

**Differences Description:** Parameters supported by the command are different.

- **BC95**
  - 1) Does not support **<seq\_num>**.
  - 2) When sent message status indication is enabled with **AT+NSMI=1**, the URC in the form of **+NSMI:<status>** will be reported and the parameter **<status>** indicates SENT or DISCARDED.
- **BC95-G**
  - 1) Supports **<seq\_num>**, of which the range is 1-255.
  - 2) When sent message status indication is enabled with **AT+NSMI=1**, the URC in the form of **+NSMI:<status>[,<seq\_num>]** will be reported and the parameter **<status>** indicates SENT, SENT\_TO\_AIR\_INTERFACE or DISCARDED.



**NOTE**

**+NSMI:<status>** for BC95 and **+NSMI:<status>[,<seq\_num>]** for BC95-G are message status indications that will be reported after setting **AT+NSMI=1**. When **AT+NSMI=0** is set, there will only be a response of **OK** for **AT+NMGS** write command.

### 3.3.4.2. AT+NNMI New Message Indications

| BC95                            | BC95-G                          |
|---------------------------------|---------------------------------|
| Read Command<br><b>AT+NNMI?</b> | Read Command<br><b>AT+NNMI?</b> |
| Response<br><b>+NNMI:0</b>      | Response<br><b>+NNMI:1</b>      |
| <b>OK</b>                       | <b>OK</b>                       |

**Differences Description:** Default return values are different:

- **BC95**  
The default return value is 0.
- **BC95-G**  
The default return value is 1.

### 3.3.4.3. AT+QLWULDATAEX Send CON/NON Message

| BC95  | BC95-G  |
|---|---|
| Write Command<br><b>AT+QLWULDATAEX=&lt;length&gt;,&lt;data&gt;,&lt;mode&gt;</b> | Write Command<br><b>AT+QLWULDATAEX=&lt;length&gt;,&lt;data&gt;,&lt;mode&gt;[,&lt;seq_num&gt;]</b> |
| Response<br><b>OK</b>   | Response<br><b>OK</b>   |
| <b>[+QLWULDATASTATUS:&lt;status&gt;]</b>  | <b>[+QLWULDATASTATUS:&lt;status&gt;[,&lt;seq_num&gt;]]</b>  |

**Differences Description:** Parameters supported by the command are different.

- **BC95**  
1) Does not support **<seq\_num>**.

- 2) The URC in the form of **+QLWULDATASTATUS:<status>** will be reported when it is configured to send a CON message (<mode> is set to 0x0100).

- **BC95-G**

- 1) Supports <seq\_num>, of which the range is 0-255.
- 2) The URC in the form of **+QLWULDATASTATUS:<status>[,<seq\_num>]** will be reported when it is configured to send a CON message (<mode> is set to 0x0100).

#### 3.3.4.4. AT+QLWULDATASTATUS Query CON Messages Sent Status

| BC95   | BC95-G   |
|--|--|
| Read Command<br><b>AT+QLWULDATASTATUS?</b>         | Read Command<br><b>AT+QLWULDATASTATUS?</b>                           |
| Response<br><b>+QLWULDATASTATUS:&lt;status&gt;</b> | Response<br><b>+QLWULDATASTATUS:&lt;status&gt;[,&lt;seq_num&gt;]</b> |
| <b>OK</b>  | <b>OK</b>  |

**Differences Description:** Parameters returned by the command are different.

- **BC95**

Only <status> will be returned.

- **BC95-G**

<status> and <seq\_num> will be returned.

#### 3.3.4.5. AT+NMSTATUS Message Registration Status

| BC95                                 | BC95-G                               |
|--------------------------------------|--------------------------------------|
| Test Command<br><b>AT+NMSTATUS=?</b> | Test Command<br><b>AT+NMSTATUS=?</b> |
| Response<br><b>UNINITIALISED</b>     | Response<br><b>UNINITIALISED</b>     |
| <b>MISSING_CONFIG</b>                | <b>MISSING_CONFIG</b>                |
| <b>INIT_FAILED</b>                   | <b>INIITIALISING</b>                 |
| <b>INIITIALISING</b>                 | <b>INIITIALISED</b>                  |

---

|                      |                      |
|----------------------|----------------------|
| INITIALISED          | INIT_FAILED          |
| REGISTERING          | REGISTERING          |
| REREGISTERING        | REGISTERED           |
| REGISTERED           | DEREGISTERED         |
| REREGISTERED         | MO_DATA_ENABLED      |
| MO_DATA_ENABLED      | NO_UE_IP             |
| NO_UE_IP             | REJECTED_BY_SERVER   |
| MEMORY_ERROR         | TIMEOUT_AND_RETRYING |
| COAP_ERROR           | REG_FAILED           |
| MSG_SEND_FAILED      | DEREG_FAILED         |
| REJECTED_BY_SERVER   | OK                   |
| TIMEOUT_AND_RETRYING |                      |
| TIMEOUT_AND_FAILED   |                      |
| OK                   |                      |

---

**Differences Description:** Default return values of the command are different:

- **BC95**  
17 types of message registration status are supported.
- **BC95-G**  
14 types of message registration status are supported.

### 3.3.4.6. AT+QSECSWT Set Data Encryption Mode

| BC95                                     | BC95-G                         |
|--|--------------------------------|
| Write Command                            | Write Command                  |
| AT+QSECSWT=<type>[,<renegotiation time>] | AT+QSECSWT=<type>[,<NAT type>] |

---

|                       |                       |
|-----------------------|-----------------------|
| Response<br><b>OK</b> | Response<br><b>OK</b> |
|-----------------------|-----------------------|

**Differences Description:** Setting parameters of the command are different.

- **BC95**  
Supports setting parameter **<renegotiation time>** to configure the renegotiation time.
- **BC95-G**  
Supports fixed renegotiation times based on different **<NAT type>** types.

### 3.3.5. Other Commands

#### 3.3.5.1. AT+NPING Test IP Network Connectivity to a Remote Host

| BC95   | BC95-G   |
|--|--|
| Write Command<br><b>AT+NPING=&lt;remote_address&gt;[,&lt;p_size&gt;[,&lt;timeout&gt;]]</b> | Write Command<br><b>AT+NPING=&lt;remote_address&gt;[,&lt;p_size&gt;[,&lt;timeout&gt;]]</b> |
| Response<br><b>OK</b>  | Response<br><b>OK</b>  |

**Differences Description:** The value range of **<p\_size>** (indicating the size in bytes of echo packet payload) is different.

- **BC95**  
Supports a range from 8 to 1460 for **<p\_size>**, and the default value is 8.
- **BC95-G**  
Supports a range from 12 to 1500 for **<p\_size>**, and the default value is 12.

#### 3.3.5.2. AT+CGDCONT Define a PDP Context

| BC95   | BC95-G   |
|--|--|
| Test Command<br><b>AT+CGDCONT=?</b>                                  | Test Command<br><b>AT+CGDCONT=?</b>  |
| Response<br><b>+CGDCONT:(0-10),("IP","NONIP"),,,(0),(0),,,,(0,1)</b> | Response<br><b>+CGDCONT:(0-10),("IP","NONIP","IPV6","IPV4V6"),,,(0),(0),,,,(0,1)</b> |

|   |   |
|---|---|
| <b>OK</b>   | <b>OK</b>   |
| Write Command<br><b>AT+CGDCONT=&lt;cid&gt;[,&lt;PDP_type&gt;[,&lt;APN&gt;]]</b> | Write Command<br><b>AT+CGDCONT=&lt;cid&gt;[,&lt;PDP_type&gt;[,&lt;APN&gt;[,,,,,,,&lt;NSLPI&gt;]]]</b> |
| Response<br><b>OK</b>   | Response<br><b>OK</b>   |

**Differences Description:** <APN> values and PDP types (<PDP\_type>) are different.

- **BC95**
  - 1) <APN> value will be acquired even when not being configured.
  - 2) The default <PDP\_type> is IPv4.
- **BC95-G**
  - 1) <APN> value, which is empty when not being configured, is set by the write command.
  - 2) The default <PDP\_type> is IPv4v6.

### 3.3.5.3. AT+NCONFIG Configure UE Behaviors

| BC95  | BC95-G  |
|---|---|
| Read Command<br><b>AT+NCONFIG?</b>  | Read Command<br><b>AT+NCONFIG?</b>  |
| Response<br><b>+NCONFIG:AUTOCONNECT,TRUE<br/>+NCONFIG:CR_0354_0338_SCRAMBLING,TRUE<br/>+NCONFIG:CR_0859_SI_AVOID,TRUE<br/>+NCONFIG:COMBINE_ATTACH,FALSE<br/>+NCONFIG:CELL_RESELECTION,FALSE<br/>+NCONFIG:ENABLE_BIP,FALSE</b> | Response<br><b>+NCONFIG:AUTOCONNECT,TRUE<br/>+NCONFIG:CR_0354_0338_SCRAMBLING,TRUE<br/>+NCONFIG:CR_0859_SI_AVOID,TRUE<br/>+NCONFIG:COMBINE_ATTACH,FALSE<br/>+NCONFIG:CELL_RESELECTION,TRUE<br/>+NCONFIG:ENABLE_BIP,FALSE<br/>+NCONFIG:MULTITONE,TRUE<br/>+NCONFIG:NAS_SIM_POWER_SAVING_ENABLE,TRUE<br/>+NCONFIG:BARRING_RELEASE_DELAY,64<br/>+NCONFIG:RELEASE_VERSION,13<br/>+NCONFIG:RPM,FALSE<br/>+NCONFIG:SYNC_TIME_PERIOD,0<br/>+NCONFIG:IPV6_GET_PREFIX_TIME,15<br/>+NCONFIG:NB_CATEGORY,1<br/>+NCONFIG:RAI,FALSE<br/>+NCONFIG:HEAD_COMPRESS,FALSE<br/>+NCONFIG:RLF_UPDATE,FALSE<br/>+NCONFIG:CONNECTION_REESTABLISHMENT,FALSE</b> |
| <b>OK</b>   | <b>OK</b>   |

**Differences Description:** Default return values of the command are different.

- **BC95**  
6 UE behaviors are supported.
- **BC95-G**  
18 UE behaviors are supported.

#### 3.3.5.4. AT+NUESTATS Query UE Statistics

| BC95  | BC95-G  |
|---|---|
| Execution Command<br><b>AT+NUESTATS</b>   | Execution Command<br><b>AT+NUESTATS</b>   |
| Response<br><b>Signal power:-32768</b><br><b>Total power:-32768</b><br><b>TX power:-32768</b><br><b>TX time:0</b><br><b>RX time:0</b><br><b>Cell ID:4294967295</b><br><b>ECL:255</b><br><b>SNR:-32768</b><br><b>EARFCN:4294967295</b><br><b>PCI:65535</b><br><b>RSRQ:-32768</b> | Response<br><b>Signal power:-32768</b><br><b>Total power:-32768</b><br><b>TX power:-32768</b><br><b>TX time:0</b><br><b>RX time:0</b><br><b>Cell ID:4294967295</b><br><b>ECL:255</b><br><b>SNR:-32768</b><br><b>EARFCN:4294967295</b><br><b>PCI:65535</b><br><b>RSRQ:-32768</b><br><b>OPERATOR MODE:0</b> |
| <b>OK</b>   | <b>OK</b>   |

**Differences Description:** Default return values of the command are different.

- **BC95**  
OPERATOR MODE is not supported.
- **BC95-G**  
OPERATOR MODE is supported.

### 3.3.5.5. AT+NUESTATS=RADIO Query UE Statistics

| BC95  | BC95(R2.0)/BC95-G                                     |
|---|---|
| Write Command<br><b>AT+NUESTATS=RAIOD</b>             | Write Command<br><b>AT+NUESTATS=RAIOD</b>             |
| Response<br><b>NUESTATS:RADIO,Signal power:-32768</b> | Response<br><b>NUESTATS:RADIO,Signal power:-32768</b> |
| <b>NUESTATS:RADIO,Total power:-32768</b>              | <b>NUESTATS:RADIO,Total power:-32768</b>              |
| <b>NUESTATS:RADIO,TX power:-32768</b>                 | <b>NUESTATS:RADIO,TX power:-32768</b>                 |
| <b>NUESTATS:RADIO,TX time:0</b>                       | <b>NUESTATS:RADIO,TX time:0</b>                       |
| <b>NUESTATS:RADIO,RX time:0</b>                       | <b>NUESTATS:RADIO,RX time:0</b>                       |
| <b>NUESTATS:RADIO,Cell ID:4294967295</b>              | <b>NUESTATS:RADIO,Cell ID:4294967295</b>              |
| <b>NUESTATS:RADIO,ECL:255</b>                         | <b>NUESTATS:RADIO,ECL:255</b>                         |
| <b>NUESTATS:RADIO,SNR:-32768</b>                      | <b>NUESTATS:RADIO,SNR:-32768</b>                      |
| <b>NUESTATS:RADIO,EARFCN:4294967295</b>               | <b>NUESTATS:RADIO,EARFCN:4294967295</b>               |
| <b>NUESTATS:RADIO,PCI:65535</b>                       | <b>NUESTATS:RADIO,PCI:65535</b>                       |
| <b>NUESTATS:RADIO,RSRQ:-32768</b>                     | <b>NUESTATS:RADIO,RSRQ:-32768</b>                     |
| <b>OK</b>   | <b>NUESTATS:RADIO,OPERATOR MODE:0</b>                 |
|   | <b>OK</b>   |

**Differences Description:** Default return values of the command are different.

- **BC95**  
OPERATOR MODE is not supported.
- **BC95-G**  
OPERATOR MODE is supported.

### 3.3.5.6. AT+NPOWERCLASS Set the Mapping for Band and Power Class

| BC95                                      | BC95-G  |
|---|---|
| Test Command<br><b>AT+NPOWERCLASS=?</b>   | Test Command<br><b>AT+NPOWERCLASS=?</b>                 |
| Response<br><b>+NPOWERCLASS:(5),(3,5)</b> | Response<br><b>+NPOWERCLASS:(5,8,3,28,20,1),(3,5,6)</b> |
| <b>OK</b>                                 | <b>OK</b>   |

**Differences Description:** Supported bands and the power class value (<power class>) of the command is different.

- **BC95**  
Single band (5) is supported. And <power class> supports 3 and 5.
- **BC95-G**  
Multiple bands (5, 8, 3, 28, 20, 1) are supported. And <power class> supports 3, 5 and 6.

## 3.4. Additional AT Commands of BC95-G

The following table lists the additional AT commands of BC95-G when comparing it with BC95.

**Table 1: Additional AT Commands of BC95-G**

| No. | AT Commands  | Description                              |
|-----|--------------|--|
| 1   | AT+QLEDMODE  | Set NETLIGHT LED Function Mode           |
| 2   | AT+CGCONTRDP | Read PDP Context Dynamic Parameters      |
| 3   | AT+CNMPSD    | No More PS Data                          |
| 4   | AT+NQSOS     | Query the List of Pending Socket Message |
| 5   | AT+NSOCO     | Connect Command (TCP Only)               |
| 6   | AT+NSOSD     | Send Command (TCP Only)                  |
| 7   | +NSOCLI      | Socket Close Indicator (Response Only)   |



|    |                |   |
|----|----------------|---|
| 8  | AT+NIPINFO     | IP Address Information Report                             |
| 9  | AT+NCPCDPR     | Configure PDP Context Dynamic Parameters to be Read       |
| 10 | AT+NQPODCP     | Query Pending Originating Data List via the Control Plane |
| 11 | AT+QDNS        | Trigger DNS Domain Name Resolution                        |
| 12 | AT+QLWSREGIND  | Register Control  |
| 13 | AT+QLWULDATA   | Send Data   |
| 14 | AT+QLWFOTAIND  | Set DFOTA Update Mode                                     |
| 15 | AT+QREGSWT     | Set Registration Mode                                     |
| 16 | +QLWEVTIND     | LwM2M Event Report (Response Only)                        |
| 17 | AT+QRESETDTLS  | Reset DTLS Mode   |
| 18 | AT+QDTLSSTAT   | Query the State of DTLS                                   |
| 19 | AT+QLWSERVERIP | Set/Delete Bootstrap/LwM2M Server IP                      |
| 20 | AT+QCHIPINFO   | Read System Information                                   |
| 21 | AT+NSONMI      | Control UDP/TCP Downlink Data Format                      |

**NOTE**

For more details of the above-mentioned AT commands, please refer to *Quectel\_BC95-G&BC68\_AT\_Commands\_Manual*.

# 4 Appendix A References

**Table 7: Related Documents**

| SN  | Document Name                          | Remark                         |
|-----|--|--------------------------------|
| [1] | Quectel_BC95_Hardware_Design           | BC95 hardware design           |
| [2] | Quectel_BC95-G_Hardware_Design         | BC95-G hardware design         |
| [3] | Quectel_BC95_AT_Commands_Manual        | BC95 AT commands manual        |
| [4] | Quectel_BC95-G&BC68_AT_Commands_Manual | BC95-G&BC68 AT commands manual |

**Table 8: Terms and Abbreviations**

| Abbreviation | Description                                 |
|--------------|---|
| DNS          | Domain Name System                          |
| DTLS         | Datagram Transport Layer Security           |
| ECID         | Enhanced Cell ID                            |
| IPv4         | Internet Protocol Version 4                 |
| IPv6         | Internet Protocol Version 6                 |
| LwM2M        | Lightweight Machine to Machine              |
| NB-IoT       | Narrow Band Internet of Thing               |
| OTDOA        | Observed Time Difference of Arrival         |
| PDP          | Packet Data Protocol                        |
| PLMN         | Public Land Mobile Network                  |
| TCP          | Transmission Control Protocol               |
| UART         | Universal Asynchronous Receiver/Transmitter |

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|     |                         |
|-----|-------------------------|
| UE  | User Equipment          |
| UDP | User Datagram Protocol  |
| URC | Unsolicited Result Code |

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