

BG95-S5 QNWCFG

AT Commands Manual

Satellite Communication Module Series

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About the Document

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1 Introduction

This document describes the subcommands of **AT+QNWCFG** supported on BG95-S5 module.

2 AT Command Introduction

2.1. Definitions

- **<CR>** Carriage return character.
- **<LF>** Line feed character.
- **<...>** Parameter name. Angle brackets do not appear on the command line.
- **[...]** Optional parameter of a command or an optional part of TA information response. Square brackets do not appear on the command line. When an optional parameter is not given in a command, the new value equals its previous value or the default settings, unless otherwise specified.
- **Underline** Default setting of a parameter.

2.2. AT Command Syntax

All command lines must start with **AT** or **at** and end with **<CR>**. Information responses and result codes always start and end with a carriage return character and a line feed character: **<CR><LF><response><CR><LF>**. In tables presenting commands and responses throughout this document, only the commands and responses are presented, and **<CR>** and **<LF>** are deliberately omitted.

AT+QNWCFG commands implemented by BG95-S5 module are categorized as “Extended” syntax, as illustrated below.

Extended

There are several types of extended commands as shown in the following table.

Table 1: Types of AT Commands

Command Type	Syntax	Description
Test Command	AT+<cmd>=?	Test the existence of the corresponding command and return information about the type, value, or range of its parameter.

Read Command	AT+<cmd>?	Check the current parameter value of the corresponding command.
Write Command	AT+<cmd>=<p1>[,<p2>[,<p3>[...]]]	Set user-definable parameter value.
Execution Command	AT+<cmd>	Return a specific information parameter or perform a specific action.

Multiple commands can be placed on a single line using a semi-colon (;) between commands. In such cases, only the first command should have **AT** prefix. Commands can be in upper or lower case.

Spaces should be ignored when you enter AT commands, except in the following cases:

- Within quoted strings, where spaces are preserved;
- Within an unquoted string or numeric parameter;
- Within an IP address;
- Within the AT command name up to and including a =, ? or =?.

On input, at least a carriage return is required. A newline character is ignored so it is permissible to use carriage return/line feed pairs on the input.

If no command is entered after the **AT** token, **OK** will be returned. If an invalid command is entered, **ERROR** will be returned.

Optional parameters, unless explicitly stated, need to be provided up to the last entered parameter.

2.3. AT Command Responses

When the AT command processor has finished processing a line, it will output **OK**, **ERROR** or **+CME ERROR: <err>** to indicate that it is ready to accept a new command. Solicited information responses are sent before the final **OK**, **ERROR** or **+CME ERROR: <err>**.

Responses will be in the format of:

```
<CR><LF>+CMD1:<parameters><CR><LF>
<CR><LF>OK<CR><LF>
```

Or

```
<CR><LF><parameters><CR><LF>
<CR><LF>OK<CR><LF>
```

2.4. Declaration of AT Command Examples

The AT command examples in this document are provided to help you learn about the use of the AT commands introduced herein. The examples, however, should not be taken as Quectel's recommendations or suggestions about how to design a program flow or what status to set the module into. Sometimes multiple examples may be provided for one AT command. However, this does not mean that there is a correlation among these examples, or that they should be executed in a given sequence. The URLs, domain names, IP addresses, usernames/accounts, and passwords (if any) in the AT command examples are provided for illustrative and explanatory purposes only, and they should be modified to reflect your actual usage and specific needs.

3 Description of AT+QNWCFG Commands

3.1. AT+QNWCFG Extended Configuration Settings

This command queries and configures various settings of UE.

AT+QNWCFG Extended Configuration Settings	
Test Command AT+QNWCFG=?	Response +QNWCFG: "acqdb" +QNWCFG: "backoff" +QNWCFG: "clearbackoff" +QNWCFG: "activetimer", (list of supported <enable>s), (list of supported <timeout>s) +QNWCFG: "hplmnsearch_ctrl", (list of supported <enable>s) +QNWCFG: "ta" +QNWCFG: "cqi", (list of supported <CQI_val>s) +QNWCFG: "cfun_init_mode", (list of supported <cfun_init_value>s) +QNWCFG: "3gpp_rel_control", (list of supported <RAT>s), (list of supported <operation>s), (list of supported <3gpp_rel_control_value>s) +QNWCFG: "nb_feature_ctrl", (list of supported <operation>s), (list of supported <nb_feature>s) +QNWCFG: "catm_feature_ctrl", (list of supported <operation>s), (list of supported <eMTC_feature>s) +QNWCFG: "pci_lock", (list of supported <RAT>s), (list of supported <operation>s), (list of supported <channel>s), (list of supported <cellID>s) +QNWCFG: "esmcause", (list of supported <display_format>s) +QNWCFG: "hplmnsearch_cfg", (list of supported <mode>s), <mcc1>, <mcc2>, <mcc3>, <mcc4>, <mcc5> +QNWCFG: "rodisallw", (list of supported <cid>s), (list of supported <mode>s) +QNWCFG: "causeinfo", (list of supported <mode>s) OK
Maximum Response Time	300 ms

Characteristics

-

3.1.1. AT+QNWCFG="acqdb" Get All Historic Frequency Information Under NB-IoT, eMTC or IoT-NTN

This command gets all historic frequency information under NB-IoT, eMTC or IoT-NTN.

AT+QNWCFG="acqdb" Get All Historic Frequency Information Under NB-IoT, eMTC or IoT-NTN

Write Command AT+QNWCFG="acqdb"	Response +QNWCFG: "acqdb",<RAT>,<PLMN>,<band>,<channel>,<cellID> [...] OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	-

Parameter

<RAT>	String type. Radio access technology. "eMTC" eMTC "NB-IoT" NB-IoT "NTN NB-IoT" IoT-NTN
<PLMN>	Integer type. PLMN.
<band>	Integer type. Band.
<channel>	Integer type. The frequency that has been locked. Range: 0–4294967295.
<cellID>	Integer type. The physical cell ID that has been locked. Range: 0–503.
<err>	Error code. Please refer to Chapter 4 .

3.1.2. AT+QNWCFG="backoff" Query Back-off Timer Value of FPLMN Searching

This command queries the back-off timer value of FPLMN searching.

AT+QNWCFG="backoff" Query Back-off Timer Value of FPLMN Searching	
Write Command AT+QNWCFG="backoff"	Response +QNWCFG: "backoff",<timer_value> OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	-

Parameter

<timer_value>	Integer type. Back-off timer value of FPLMN searching. Unit: second.
<err>	Error code. Please refer to Chapter 4 .

3.1.3. AT+QNWCFG="clearbackoff" Delete Back-off Timer Value of FPLMN Searching

This command deletes the back-off timer value of FPLMN searching.

AT+QNWCFG="clearbackoff" Delete Back-off Timer Value of FPLMN Searching	
Write Command AT+QNWCFG="clearbackoff"	Response OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	-

Parameter

<err> Error code. Please refer to **Chapter 4**.

3.1.4. AT+QNWCFG="activetimer" Enable/Disable Module's Entering PSM Conditionally

This command enables/disables the module's entering PSM conditionally if no data interaction occurs within **<timeout>**. This command is valid under the premise of enabling PSM. If AT command interaction occurs during **<timeout>**, the module does not enter PSM even if the T3324 timer expires and recounts **<timeout>** after the AT command is executed.

AT+QNWCFG="activetimer" Enable/Disable Module's Entering PSM Conditionally	
Write Command AT+QNWCFG="activetimer"[,<enable>,<timeout>]	Response If the optional parameters are omitted, query the current setting: +QNWCFG: "activetimer",<enable>,<timeout> OK If the optional parameters are specified, enable/disable the module's entering PSM conditionally: OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	The command takes effect immediately. The configurations are saved automatically.

Parameter

<enable> Integer type. Enable/disable the module's entering PSM when no AT command interaction occurs within the time specified by **<timeout>**.

- 0 Disable.
- 1 Enable. The module enters PSM after **<timeout>** is reached and T3324 timer expires.
- 2 Enable. The module enters PSM after **<timeout>** is reached without considering

whether T3324 time expires.

- <timeout>** Integer type. The timeout value for the module to enter PSM. The timeout timer starts once there is no AT command interaction and restarts once an AT command is entered. Range: 1–4294967295. Unit: millisecond.
- <err>** Error code. Please refer to **Chapter 4**.

Example

```
AT+QNWCFG="activetimer",1,6000 //Enable the module's entering PSM after 6000 ms and
                                T3324 timer expires.
OK
AT+QNWCFG="activetimer"
+QNWCFG: "activetimer",1,6000
OK
```

NOTE

1. It is recommended to configure **<timeout>** to a value over 5000, otherwise the module cannot respond in time.
2. Please make sure to enable PSM through **AT+CPSMS=1**. See **document [1]** for details.

3.1.5. AT+QNWCFG="hplmnsearch_ctrl" Enable/Disable HPLMN Searching when HPLMN Search Timer Expires

This command enables/disables HPLMN searching when the HPLMN search timer expires in roaming state.

AT+QNWCFG="hplmnsearch_ctrl" Enable/Disable HPLMN Searching when HPLMN Search Timer Expires

Write Command	Response
AT+QNWCFG="hplmnsearch_ctrl" [,<enable>]	If the optional parameter is omitted, query the current setting: +QNWCFG: "hplmnsearch_ctrl",<enable> OK If the optional parameter is specified, enable/disable HPLMN searching when HPLMN search timer expires: OK If there is an error related to ME functionality: +CME ERROR: <err>

	If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configuration is saved automatically.

Parameter

<enable>	Integer type. Enable/disable HPLMN searching when the HPLMN search timer expires. 0 Disable 1 Enable
<err>	Error code. Please refer to Chapter 4 .

3.1.6. AT+QNWCFG="ta" Query Timing Advance Value Under Current RAT

This command queries the timing advance value under current RAT.

AT+QNWCFG="ta" Query Timing Advance Value Under Current RAT	
Write Command AT+QNWCFG="ta"	Response +QNWCFG: "ta",<current_RAT>,<ta_value> OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	-

Parameter

<current_RAT>	String type. Current radio access technology. "GSM" GSM "eMTC" eMTC "NB-IoT" NB-IoT "NTN NB-IoT" IoT-NTN
<ta_value>	Integer type. Timing advance.
<err>	Error code. Please refer to Chapter 4 .

3.1.7. AT+QNWCFG="cqi" Query Channel Quality Indication Under eMTC

This command queries the channel quality indication under eMTC.

AT+QNWCFG="cqi" Query Channel Quality Indication Under eMTC	
Write Command AT+QNWCFG="cqi"	Response +QNWCFG: "cqi",<CQI_value> OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	-

Parameter

<CQI_value>	Integer type. Channel quality indication value. Range: 0–15.
<err>	Error code. Please refer to Chapter 4 .

NOTE

1. Please make sure to enable the log output first through **AT+QCFG="dbgctl",0**. See **document [2]** for details.
2. This command is valid only when module registers to eMTC RAT.

3.1.8. AT+QNWCFG="cfun_init_mode" Configure Module Booting Mode

This command configures the module booting mode.

AT+QNWCFG="cfun_init_mode" Configure Booting Mode	
Write Command AT+QNWCFG="cfun_init_mode" [,<cfun_init_value>]	Response If the optional parameter is omitted, query the current setting: +QNWCFG: "cfun_init_mode",<cfun_init_value> OK If the optional parameter is specified, configure the module

	booting mode: OK
	If there is an error related to ME functionality: +CME ERROR: <err>
	If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configuration is saved automatically.

Parameter

<cfun_init_value>	Integer type. The module booting mode. 0 Minimum functionality 1 Full functionality
<err>	Error code. Please refer to Chapter 4 .

Example

```
AT+QNWCFG="cfun_init_mode",0 //Configure the module booting mode to minimum functionality.
OK
AT+QNWCFG="cfun_init_mode" //Query the current setting.
+QNWCFG: "cfun_init_mode",0
OK
```



When **<cfun_init_value>** is 0, the actual state of the module is the same as that of **AT+CFUN=4**.

3.1.9. AT+QNWCFG="3gpp_rel_control" Configure 3GPP Release Version Under NB-IoT or eMTC

This command configures 3GPP release version under NB-IoT or eMTC.

AT+QNWCFG="3gpp_rel_control" Configure 3GPP Release Version Under NB-IoT or eMTC

Write Command	Response
AT+QNWCFG="3gpp_rel_control"	If <operation> and <3gpp_rel_control_value> are omitted,

[,<RAT>[,<operation>[,<3gpp_rel_control_value>]]]	<p>query the current setting: +QNWCFG: "3gpp_rel_control",<RAT>,<operation>[,<3gpp_rel_control_value>] [...]</p> <p>OK</p> <p>If any of <operation> and <3gpp_rel_control_value> is specified, delete or configure 3GPP release version under NB-IoT or eMTC: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configurations are saved automatically.

Parameter

<RAT>	String type. RAT to be controlled. "eMTC" eMTC "NBloT" NB-IoT
<operation>	Integer type. 0 Delete the configuration 1 Configure 3GPP release version
<3gpp_rel_control_value>	A hexadecimal value that specifies 3GPP release version. This parameter is omitted when <operation> is 0. In the Write Command, "0x" is allowed to be omitted. 0xA0 Rel-13 version 0xB0 Rel-14 version
<err>	Error code. Please refer to Chapter 4 .

Example

```

AT+QNWCFG="3gpp_rel_control","eMTC",1,B0 //Configure 3GPP release version under eMTC.
OK
AT+QNWCFG="3gpp_rel_control" //Query the current configuration.
+QNWCFG: "3gpp_rel_control","eMTC",1,0xb0
+QNWCFG: "3gpp_rel_control","NBloT",0
    
```

```
OK
AT+QNWCFG="3gpp_rel_control","eMTC",0 //Delete the configuration under eMTC.
OK
```

3.1.10. AT+QNWCFG="nb_feature_ctrl" Configure Capability Features Under NB-IoT

This command configures the capability features under NB-IoT.

AT+QNWCFG="nb_feature_ctrl" Configure Capability Features Under NB-IoT	
Write Command AT+QNWCFG="nb_feature_ctrl"[,<operation>[,<nb_feature>]]	<p>Response</p> <p>If the optional parameters are omitted, query the current setting: +QNWCFG: "nb_feature_ctrl",<operation>[,<nb_feature>]</p> <p>OK</p> <p>If any of the optional parameters is specified, delete or configure the capability features under NB-IoT: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configurations are saved automatically.

Parameter

<operation>	Integer type. 0 Delete the capability features 1 Enable the capability features
<nb_feature>	A hexadecimal value that specifies the NB-IoT capability features. This parameter is omitted when <operation> is 0. Range: 0–0xFFE. In the Write Command, "0x" is allowed to be omitted. 0x2 NB1_RRC_CAP_FEATURE_MULTI_TONE_BM 0x4 NB1_RRC_CAP_FEATURE_MULTI_CARRIER_BM 0x8 NB1_RRC_CAP_FEATURE_MULTI_NS_PMAX_BM 0x10 NB1_RRC_CAP_FEATURE_MULTI_TONE_MSG3_BM 0x20 NB1_RRC_CAP_FEATURE_TWO_HARQ_BM

0x40	NB1_RRC_CAP_FEATURE_INTERFERENCE_RANDOM_BM
0x80	NB1_RRC_CAP_FEATURE_R14_RAI_BM
0x100	NB1_RRC_CAP_FEATURE_R14_DATA_INAC_TIMER_BM
0x200	NB1_RRC_CAP_FEATURE_MULTI_CARRIER_PRACH_BM
0x400	NB1_RRC_CAP_FEATURE_CFRA_CONFIG_ENABLED_BM
0x800	NB1_RRC_CAP_FEATURE_MULTI_CARRIER_PAGING_BM
<err>	Error code. Please refer to Chapter 4 .

3.1.11. AT+QNWCFG="catm_feature_ctrl" Configure Capability Features Under eMTC

The command configures the capability features under eMTC.

AT+QNWCFG="catm_feature_ctrl" Configure Capability Features Under eMTC	
Write Command AT+QNWCFG="catm_feature_ctrl"[, <operation>[,<eMTC_feature>]]	<p>Response</p> <p>If the optional parameters are omitted, query the current setting: +QNWCFG: "catm_feature_ctrl",<operation>[,<eMTC_feature>]</p> <p>OK</p> <p>If any of the optional parameters is specified, delete or configure the capability features under eMTC: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configurations are saved automatically.

Parameter

<operation>	Integer type. 0 Delete the capability features 1 Enable the capability features
<eMTC_feature>	A hexadecimal value that specifies the eMTC capability features. This parameter

is omitted when **<operation>** is 0. Range: 0–0x1FFE. In the Write Command, "0x" is allowed to be omitted.

- 0x2 LTE_RRC_CAP_INTRE_FREQ_GAPLESS_MEAS_SUPPORT_FDD
- 0x4 LTE_RRC_CAP_DISABLE_CE_PUSCH_NB_MAX_TBS_R14
- 0x8 LTE_RRC_CAP_DISABLE_INTRA_FREQ_CE_MODE_A_HO
- 0x10 LTE_RRC_CAP_DISABLE_INTRA_FREQ_CE_MODE_A_MEAS
- 0x20 LTE_RRC_CAP_DISABLE_EXTENDED_POLL_BYTE_R14
- 0x40 LTE_RRC_CAP_DISABLE_R14_RAI
- 0x80 LTE_RRC_CAP_DISABLE_POWER_CLASS_PER_BAND
- 0x100 LTE_RRC_CAP_DISABLE_R14_DATA_INAC_TMR
- 0x200 LTE_RRC_CAP_DISABLE_CE_PDSCH_PUSCH_ENH_R14
- 0x400 LTE_RRC_CAP_DISABLE_IE_CE_MEAS_R14
- 0x800 LTE_RRC_CAP_DISABLE_CE_PDSCH_TEN_PROCESSES_R14
- 0x1000 LTE_RRC_CAP_DISABLE_CE_RETUNING_SYMBOLS_R14

<err> Error code. Please refer to **Chapter 4**.

Example

```

AT+QNWCFG="catm_feature_ctrl",1,40 //Configure to LTE_RRC_CAP_DISABLE_R14_RAI.
OK
AT+QNWCFG="catm_feature_ctrl" //Query the current configuration.
+QNWCFG: "catm_feature_ctrl",1,0x40
OK
AT+QNWCFG="catm_feature_ctrl",0 //Delete the configuration.
OK
    
```

3.1.12. AT+QNWCFG="pci_lock" Lock Physical Cell ID and Frequency Under NB-IoT, eMTC or IoT-NTN

This command locks physical cell ID and frequency under NB-IoT, eMTC or IoT-NTN.

AT+QNWCFG="pci_lock" Lock Physical Cell ID and Frequency Under NB-IoT, eMTC or IoT-NTN	
Write Command	Response
AT+QNWCFG="pci_lock"[,<RAT>,<operation>,<channel>,<cellID>]]	If <operation> , <channel> , and <cellID> are omitted, query the current setting: +QNWCFG: "pci_lock",<RAT>,<operation>,<channel>,<cellID>] [...]
	OK
	If any of <operation> , <channel> , and <cellID> is specified, delete

	<p>the NV file or lock the physical cell ID and frequency under NB-IoT, eMTC or IoT-NTN: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configurations are saved automatically.

Parameter

<RAT>	String type. The type of radio access technology. "eMTC" eMTC "NB-IoT" NB-IoT "NTN NB-IoT" IoT-NTN
<operation>	Integer type. 0 Delete the NV file. <channel> and <cellID> are omitted. 1 <channel> and <cellID> must be configured.
<channel>	Integer type. The frequency to be locked. This parameter is omitted when <operation> is 0. Range: 0–4294967295.
<cellID>	Integer type. Physical cell ID to be locked. This parameter is omitted when <operation> is 0. Range: 0–503.
<err>	Error code. Please refer to Chapter 4 .

Example

```

AT+QNWCFG="pci_lock","eMTC",1,6300,102        //Lock the specific frequency and physical cell ID.
OK
AT+QNWCFG="pci_lock"                            //Query the current configuration.
+QNWCFG: "pci_lock","eMTC",1,6300,102
+QNWCFG: "pci_lock","NB-IoT",0
OK
    
```

3.1.13. AT+QNWCFG="esmcause" Query ESM Cause Value

This command queries the ESM cause value in session management.

AT+QNWCFG="esmcause" Query ESM Cause Value	
Write Command AT+QNWCFG="esmcause"[,<display_format>]	<p>Response</p> <p>If the optional parameter is omitted, query the current ESM cause value: +QNWCFG: "esmcause",<cause_value></p> <p>OK</p> <p>If the optional parameter is specified or there is no current ESM cause value: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	-

Parameter

<display_format>	Integer type. The format of ESM reject cause. 0 Numeric value 1 Verbose value
<cause_value>	ESM reject cause.
<err>	Error code. Please refer to Chapter 4 .

NOTE

Please make sure to enable the log output first through **AT+QCFG="dbgctl",0**. See **document [2]** for details.

3.1.14. AT+QNWCFG="hplmnsearch_cfg" Configure Whether to Trigger the HPLMN Searching After the HPLMN Search Timer Expires

The command queries and configures whether to trigger the HPLMN searching after the HPLMN search timer expires. Currently, if the MCC of the camped PLMN is different with the MCC extracted from HPLMN, the UE will not trigger the HPLMN searching, as it considers itself to be outside home country. In addition, this command allows users to define a list of MCCs, and the UE will consider these MCCs as the same one.

AT+QNWCFG="hplmnsearch_cfg" Configure Whether to Trigger the HPLMN Searching after the HPLMN Search Timer Expires	
Write Command	Response
AT+QNWCFG="hplmnsearch_cfg" [,<mode> [,<mcc1> [,<mcc2>] [,<mcc3>] [,<mcc4>] [,<mcc5>]]]	<p>If the optional parameters are omitted, query the current setting: +QNWCFG: "hplmnsearch_cfg",<mode> [,<mcc1> [,<mcc2> [,<mcc3> [,<mcc4> [,<mcc5>]]]]]</p> <p>OK</p> <p>If any of the optional parameters is specified, configure whether to trigger the HPLMN searching after the HPLMN search timer expires: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any other error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect after the module is rebooted. The configurations are saved automatically.

Parameter

<mode>	Integer type. Whether to trigger HPLMN searching after the HPLMN timer expires.
0	Trigger the HPLMN searching only when the MCC of camped PLMN is the same as the MCC extracted from HPLMN
1	Trigger the HPLMN searching only when the MCC of camped PLMN is the same as the MCC extracted from HPLMN, and allow users to define a list of MCCs
2	Always trigger HPLMN searching after the HPLMN timer expires
<mccX>	Integer type. Mobile country code. Range: 1–999.

<err> Error code. Please refer to **Chapter 4**.

NOTE

The implementation of this command does not comply with the standards and specifications defined by 3GPP protocol.

3.1.15. AT+QNWCFG="causeinfo" Get Information of Latest Network Cause

This command gets the information of the latest network rejection cause. If <mode> is configured to 1, URC **+QCAUSEINFO: <mode>,<act>,<cause_type>,<cause_value>** will be reported by the UE when the information of network rejection cause is got.

AT+QNWCFG="causeinfo" Get Information of Latest Network Rejection Cause	
Write Command AT+QNWCFG="causeinfo" [,<mode>]	<p>Response</p> <p>If the optional parameter is omitted, query the current setting: +QNWCFG: "causeinfo",<mode></p> <p>OK</p> <p>If <cause_value> exists, query the current cause information: +QNWCFG: "causeinfo",<mode>,<act>,<cause_type>,<cause_value></p> <p>OK</p> <p>If the optional parameter is specified, enable/disable URC reporting when the information of network rejection cause is got: OK</p> <p>If there is an error related to ME functionality: +CME ERROR: <err></p> <p>If there is any error: ERROR</p>
Maximum Response Time	300 ms
Characteristics	The command takes effect immediately. The configuration is saved automatically.

Parameter

<mode>	Integer type. Enable/disable the report of URC +QCAUSEINFO: <mode>,<act>,<cause_type>,<cause_value> when the information of network rejection cause is got. 0 Disable 1 Enable
<act>	Integer type. Access technology. 0 GSM 8 eMTC 9 NB-IoT 14 IoT-NTN
<cause_type>	Integer type. Network cause type. 0 MM cause 1 GMM cause 2 SM cause 3 EMM cause 4 ESM cause
<cause_value>	Integer type. Network cause value. Refer to <i>3GPP 24.008</i> and <i>3GPP 24.301</i> .
<err>	Error code. Please refer to Chapter 4 .

3.1.16. AT+QNWCFG="rodisallw" Enable/Disable Roaming Under LTE Network

This command enables/disables the roaming on a specific PDP context identifier under LTE network. The module will try to register only on the HPLMN/EHPLMN network when **<cid>=1** and **<mode>=1**.

AT+QNWCFG="rodisallw" Enable/Disable Roaming Under LTE Network	
Write Command AT+QNWCFG="rodisallw",<cid>[,<mode>]	Response If the optional parameter is omitted, query the current setting: +QNWCFG: "rodisallw",<cid>,<mode> OK If the optional parameter is specified, enable/disable the roaming on a specific PDP context identifier under LTE network: OK If there is an error related to ME functionality: +CME ERROR: <err> If there is any other error: ERROR

Maximum Response Time	300 ms
Characteristics	The command takes effect immediately. The configurations are saved automatically.

Parameter

<cid>	Integer type. PDP context identifier. Range: 1–15.
<mode>	Integer type. Enable/disable the roaming under LTE network. 0 Disable 1 Enable
<err>	Error code. Please refer to Chapter 4 .

4 Summary of CME Error Codes

Final result code **+CME ERROR: <err>** indicates an error related to mobile equipment or network. The operation of **+CME ERROR: <err>** final result code is similar to the regular **ERROR** result code: if **+CME ERROR: <err>** is the result code for any of the commands in a command line, none of the following commands in the same command line is executed (neither **ERROR** nor **OK** result code shall be returned as a result of a completed command line execution). The format of **<err>** can be either numeric or verbose. This is set with **AT+CMEE**. For more details, see *document [1]*.

<err> values are mostly used by common message commands. The following table lists most of general and GRPS related **ERROR** codes. For some GSM protocol failure cause described in GSM specifications, the corresponding **ERROR** codes are not included.

Table 2: Different Coding Schemes of +CME ERROR: <err>

Numeric <err> Value	Verbose <err> Value
0	Phone failure
1	No connection to phone
2	Phone-adaptor link reserved
3	Operation not allowed
4	Operation not supported
5	PH-SIM PIN required
6	PH-FSIM PIN required
7	PH-FSIM PUK required
10	SIM not inserted
11	SIM PIN required
12	SIM PUK required
13	SIM failure

14	SIM busy
15	SIM wrong
16	Incorrect password
17	SIM PIN2 required
18	SIM PUK2 required
20	Memory full
21	Invalid index
22	Not found
23	Memory failure
24	Text string too long
25	Invalid characters in text string
26	Dial string too long
27	Invalid characters in dial string
30	No network service
31	Network timeout
32	Network not allowed - emergency calls only
40	Network personalization PIN required
41	Network personalization PUK required
42	Network subset personalization PIN required
43	Network subset personalization PUK required
44	Service provider personalization PIN required
45	Service provider personalization PUK required
46	Corporate personalization PIN required
47	Corporate personalization PUK required

5 Appendix References

Table 3: Related Documents

Document Name
[1] Quectel_BG95-S5_AT_Commands_Manual
[2] Quectel_BG95-S5_QCFG_AT_Commands_Manual

Table 4: Terms and Abbreviations

Abbreviation	Description
3GPP	3rd Generation Partnership Project
eDRX	extended Discontinuous Reception
EGPRS	Enhanced General Packet Radio Service
EHPLMN	Equivalent Home PLMN
eMTC	enhanced Machine-Type Communication
EPS	Evolved Packet System
ESM	EPS Session Management
FPLMN	Forbidden Public Land Mobile Network
GSM	Global System for Mobile Communications
HPLMN	Home Public Land Mobile Network
ID	Identifier
IMS	IP Multimedia Subsystem
IoT-NTN	Internet of Things - Non-Terrestrial Network
MCC	Mobile Country Code

ME	Mobile Equipment
NAS	Non-Access Stratum
NB-IoT	Narrowband Internet of Things
NTN	Non Terrestrial Network
PIN	Personal Identification Number
PLMN	Public Land Mobile Network
PSM	Power Saving Mode
PUK	PIN Unlock Key
RAT	Radio Access Technology
SMS	Short Message Service
TA	Terminal Adapter
UE	User Equipment
URC	Unsolicited Result Code
(U)SIM	(Universal) Subscriber Identity Module
