LTE Standard QCFG

AT Commands Manual

LTE Standard Module Series

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About the Document

History

Revision	Date	Author	Description
1.0	2019-09-30	Wythe WANG/ Alessa TANG	Initial

Contents

1 Introduction

The command is used to query and configure various settings of UE.

This document is applicable to following Quectel modules.

- EC2x: EC25, EC21, EC20 R2.0 and EC20 R2.1
- EG2x: EG25-G
- EG9x: EG91 and EG95
- EM05
- EP200

The response order please refer to the actual operation.

AT+QCFG Extended Configuration Settings	
Test Command **AT+QCFG=?**	Response **+QCFG: "apready",** **(**list of supported **<enable>**s**),** **(**list of supported **<level>**s**),** **(**list of supported **<interval>**s**)** **+QCFG: "sleepind/level",** **(**list of supported **<value>**s**)** **+QCFG: "wakeupin/level",** **(**list of supported **<value>**s**)** **+QCFG: "urc/ri/ring",** **(**list of supported **<typeri>**s**),** **(**list of supported **<pulseduration>**s**),** **(**list of supported **<activeduration>**s**),** **(**list of supported **<inactiveduration>**s**),** **(**list of supported **<ringnodisturbing>**s**),** **(**list of supported **<pulsecount>**s**)** **+QCFG: "urc/ri/smsincoming",** **(**list of supported **<typeri>**s**),** **(**list of supported **<pulseduration>**s**),** **(**list of supported **<pulsecount>**s**)** **+QCFG: "urc/ri/other",** **(**list of supported **<typeri>**s**),** **(**list of supported **<pulseduration>**s**),** **(**list of supported **<pulsecount>**s**)** **+QCFG: "risignaltype",**

	(list of supported **<risignaltype>**s**)** **+QCFG: "urc/delay",** **(**list of supported **<enable>**s**)** **+QCFG: "urc/cache",** **(**list of supported **<enable>**s**)** **+QCFG: "urc/poweron",** **(**list of supported **<n>**s**)** **+QCFG: "divct",** **(**list of supported **<sys_mode>**s**),** **(**list of supported **<diversity_info>**s**)** **+QCFG: "bootup",** **(**list of supported **<servicename>**s**),** **(**list of supported **<enable>**s**)** **+QCFG: "PPP/SLEEP_RI",** **(**list of supported **<on_off>**s**),** **(**list of supported **<ri_interval>**s**)** **+QCFG: "THERMAL/TXPWRLMT",** **(**list of supported **<on_off>**s**),** **(**list of supported **<sensor>**s**),** **(**list of supported **<temp_threshold>**s**),** **(**list of supported **<duration>**s**),** **(**list of supported **<trig_cnt>**s**),** **(**list of supported **<crl_cnt>**s**)** **+QCFG: "THERMAL/TXPWRLMT",** **(**list of supported **<level>**s**),** **(**list of supported **<trig>**s**),** **(**list of supported **<clr>**s**)** **+QCFG: "urc/ri/pin",** **(**list of supported **<pin_name>**s**)** **+QCFG: "icf",** **(**list of supported **<data_bit>**s**),** **(**list of supported **<stop_bit>**s**),** **(**list of supported **<parity_mode>**s**)** **+QCFG: "thermal/limit_rates",** **(**list of supported **<enable>**s**)** **+QCFG: "urcdelay",** **(**list of supported **<mode>**s**),** **(**list of supported **<delay_time>**s**)** **+QCFG: "sarcfg",** **(**list of supported **<mode>**s**),** **(**list of supported **<max_power>**s**),** **(**list of supported **<row_grads>**s**),** **(**list of supported **<column_grads>**s**),** **(**list of supported **<band>**s**)**

	+QCFG: "rf/sar/gpioctl", **(**list of supported **<state>**s**),** **(**list of supported **<period>**s**)** **+QCFG: "fast/poweroff",** **(**list of supported **<n>**s**)** **+QCFG: "sleep/datactrl",** **(**list of supported **<dev>**s**),** **(**list of supported **<time_out>**s**),** **(**list of supported **<flag>**s**)** **+QCFG: "tone/incoming",** **(**list of supported **<enable>**s**)** **+QCFG: "pcmclk",** **(**list of supported **<PCM_clkout>**s**)** **+QCFG: "codec/powsave",** **(**list of supported **<satus>**s**)** **+QCFG: "gprsattach",** (list of supported **<attachmode>**s**)** **+QCFG: "nwscanmode",** **(**list of supported **<scanmode>**s**),** **(**list of supported **<effect>**s**)** **+QCFG: "nwscanmode",** **(**list of supported **<service>**s**),** **(**list of supported **<effect>**s**)** **+QCFG: "band",** **(**list of supported **<bandval>**s**),** (list of supported **<ltebandval>**s**),** **(**list of supported **<tdsbandval>**s**),** **(**list of supported **<effect>**s**)** **+QCFG: "rrc",** **(**list of supported **<rrcr>**s**)** **+QCFG: "msc",** **(**list of supported **<mscr>**s**)** **+QCFG: "sgsn",** **(**list of supported **<sgsnr >**s**)** **+QCFG: "hsdpacat",** **(**list of supported **<cat>**s**)** **+QCFG: "hsupacat",** **(**list of supported **<cat>**s**)** **+QCFG: "pdp/duplicatechk",** **(**list of supported **<enable>**s**)** **+QCFG: "disable_backoff_lte",** **(**list of supported **<value>**s**)** **+QCFG: "airplanecontrol",** **(**list of supported **<enable>**s**)**

	+QCFG: "epcflag", **(**list of supported **<n>**s**)** **+QCFG: "lte/bandprior",** **(**list of supported **<band1>**s**),** **(**list of supported **<band2>**s**),** **(**list of supported **<band3>**s**)** **+QCFG: "plmn/addinfbdn",** **(**list of supported **<enable>**s**)** **+QCFG: "cops_no_mode_change",** **(**list of supported **<value>**s**)** **+QCFG: "hplmn/search_timer",** **(**list of supported **<timer>**s**)** **+QCFG: "tdd/config",** **(**list of supported **<assign>**s**),** **(**list of supported **<pattern>**s**)** **+QCFG: "urc_cause_support",** **(**list of supported **<bit_mask_value>**s**)** **+QCFG: "dhcppktfltr",** **(**list of supported **<disable>**s**)** **+QCFG: "oostimer",** **(**list of supported **<timer1>**s**),** **(**list of supported **<timer2>**s**),** **(**list of supported **<timer3>**s**)** **+QCFG: "apn/blocked",** **(**list of supported **<block_mode>**s**),** **(**list of supported **<efs_mode>**s**)** **+QCFG: "redir/3gtolte",** **(**list of supported **<redir _mode>**s**)** **+QCFG: "rssi",** **(**list of supported **<thereshold>**s**)** **+QCFG: "rssi",** **(**list of supported **<roammode>**s**),** **(**list of supported **<effect>**s**)** **+QCFG: "pktsize"** **+QCFG: "fast_dormancy",** **(**list of supported **<op>**s**),** **(**list of supported **<duration>**s**)** **+QCFG: "airplane",** **(**list of supported **<n>**s**)** **+QCFG: "rrc/control",** **(**list of supported **<enable>**s**),** **(**list of supported **<crrc>**s**),** **(**list of supported **<trrc>**s**),** **(**list of supported **<wai_time>**s**),**

	(list of supported **<bar_opt>**s**),** **(**list of supported **<conn_est_latency>**s**)** **+QCFG: "nwscanmodeex",** **(**list of supported **<mode>**s**)** **+QCFG: "assign_plmn_in_limit_search",** **(**list of supported **<enable>**s**),** **(**list of supported **<plmn>**s**)** **+QCFG: "iprulectl",** **(**list of supported **<type>**s**)** **+QCFG: "disrplmn",** **(**list of supported **<RPLMN_enable>**s**),** **(**list of supported **<RPLMNact_enable>**s**)** **+QCFG: "ntp",** **(**list of supported **<cnt>**s**),** **(**list of supported **<interval>**s**)** **+QCFG: "TCP/SendMode",** **(**list of supported **<mode>**s**)** **+QCFG: "tcp/windowsize",** **(**list of supported **<buffer>**s**),** **(**list of supported **<window_size>**s**)** **+QCFG: "amrcodec",** **(**list of supported **<preference>**s**)** **+QCFG: "frhrcodec",** **(**list of supported **<preference>**s**)** **+QCFG: "bip/auth",** **(**list of supported **<n>**s**)** **+QCFG: "sms/listmsgmap",** **(**list of supported **<msgmap>**s**)** **+QCFG: "ims/ut",** **(**list of supported **<n>**s**)** **+QCFG: "ims",** **(**list of supported **<ims_conf>**s**)** **+QCFG: "ltesms/format",** **(**list of supported **<n>**s**)** **+QCFG: "mwictl",** **(**list of supported **<n>**s**)** **+QCFG: "sms/omadm",** **(**list of supported **<n>**s**)** **+QCFG: "volte_disable",** **(**list of supported **<n>**s**)** **+QCFG: "Feature_Switch_Flag",** **(**list of supported **<enable>**s**),** **(**list of supported **<Feature_bit_map>**s**)** **+QCFG: "imsreg/iptype",**

	(list of supported **<n>**s**)** **+QCFG: "sim/recovery",** **(**list of supported **<recovery_count>**s**),** **(**list of supported **<auto_detect_period>**s**),** **(**list of supported **<auto_detect_count>**s**)** **+QCFG: "siminvalirecovery",** **(**list of supported **<enable>**s**),** **(**list of supported **<timer>**s**),** **(**list of supported **<counter>**s**)** **+QCFG: "roaming/voicecall",** **(**list of supported **<voicecall_mode>**s**)** **+QCFG: "ppp/termframe",** **(**list of supported **<flag>**s**)** **+QCFG: "usbnet",** **(**list of supported **<net>**s**)** **+QCFG: "usbid",** (list of supported **<vid>**s**),** **(**list of supported **<pid>**s**)** **+QCFG: "usbcfg",** **(**list of supported **<vid>**s**),** **(**list of supported **<pid>**s**),** **(**list of supported **<diag>**s**),** **(**list of supported **<nmea>**s**),** **(**list of supported **<at_port>**s**),** **(**list of supported **<modem>**s**),** (list of supported **<net>**s**),** **(**list of supported **<adb>**s**)** **+QCFG: "usbee",** **(**list of supported **<on_off>**s**)** **+QCFG: "usbmode",** **(**list of supported **<n>**s**)** **+QCFG: "cdma/pppauth",** **(**list of supported **<n>**s**)** **+QCFG: "cdmaruim",** **(**list of supported **<ruim_ctrl>**s**)** **+QCFG: "ehrpd",** **(**list of supported **<mode>**s**)** **+QCFG: "cdmasms/cmtformat",** **(**list of supported **<n>**s**)** **OK**
Maximum Response Time	300ms
Reference	

2 General Commands

2.1. AT+QCFG="apready" Set the AP Ready Status Detection

The command is used to set AP ready status detection. AP_READY(PIN2) is the default indicator pin. MCU could change indicator pin's level according its actual demands. Indicator pin's main function is shown as follow:

When URC is reported and indicator pin level is invalid, this function will store the reported URC and periodically detect indicator pin's level until it turn to valid, and then the stored URC will be flushed. When the reported URC is stored, RI status will still be changed.

AT+QCFG="apready" Set the AP Ready Status Detection	
Write Command **AT+QCFG="apready",<enable>[,<level>,[<interval>]]**	Response **OK** **ERROR**

Parameter

<enable>	Enable/disable AP ready status detection. 0 Disable AP ready status detection. 1 Enable AP ready status detection.
<level>	The valid level of Indicator pin. This parameter only takes effect when indicator pin detection is running. 0 Low level 1 High level
<interval>	Detection period. Unit: ms. Default value: 500. This parameter only takes effect when indicator pins detection is running. When indicator pin level is invalid and URC is reported, this parameter is used as detection interval to check indicator pin level until it is valid.

NOTES

1. The configuration will be saved to NV automatically.
2. The maximum of stored URC is 15. The module will clear the earliest URC to store new one when

more than 15.
3. When AP Ready is running, only store one **RING** URC during call coming.
4. The default level of AP_READY pin is according to the value of **<level>**.

Example

```
AT+QCFG="apready",1,0,800
OK

AT+QCFG="apready "
+QCFG: "apready",1,0,800

OK
```

2.2. AT+QCFG="sleepind/level" Configure the Output Level of the SLEEP_IND Pin

The command is used to configure the output level of the SLEEP_IND pin when the module is in sleep mode.

AT+QCFG ="sleepind/level" Configure the Output Level of the SLEEP_IND Pin	
Write Command **AT+QCFG="sleepind/level"[,<value>]**	Response If **<value>** is omitted, return the current configuration: **+QCFG: "sleepind/level",<value>** **OK** If **<value>** is not omitted, configure the output level of the SLEEP_IND pin **OK** **ERROR**
Maximum Response Time	300ms

Parameter

<value>	Integer type, indicates the output level after the module enter sleep mode. The default value is 0. 0 When the module enter sleep, SLEEP_IND pin output high level.

1	When the module enter sleep, SLEEP_IND pin output low level.

NOTE

This setting will be saved to NV automatically and is still valid after module restart.

Example

```
AT+QCFG="sleepind/level",0      //Output high level.
OK

AT+QCFG="sleepind/level"
+QCFG: "sleepind/level",0       //Query the current configuration.

OK
```

2.3. AT+QCFG="wakeupin/level" Configure the WAKEUP_IN Pin Trigger Conditions

The command is used to configure WAKEUP_IN pin trigger conditions. If the pin is triggered, the module will be awaked.

AT+QCFG ="wakeupin/level" Configure the WAKEUP_IN Pin Trigger Conditions	
Write Command **AT+QCFG="wakeupin/level"[,<value>]**	Response If **<value>** is omitted, return the current configuration: **+QCFG: "wakeupin/level",<value>** **OK** If **<value>** is not omitted, configure the output level of the SLEEP_IND pin **OK** **ERROR**
Maximum Response Time	300ms

Parameter

<value>	Integer type, indicates the trigger level. The default value is 0.

0	Waked up by low level, the pin is pulled up internally and read high while hanging.
1	Waked up by high level, the pin is pulled down internally and read low while hanging.

NOTE

This setting will be saved to NV automatically and is still valid after module restart.

Example

```
AT+QCFG="wakeupin/level",0      //Waked up by low level.
OK

AT+QCFG="wakeupin/level"
+QCFG: "wakeupin/level",0       //Query the current configuration.

OK
```

2.4. AT+QCFG="urc/ri/ring" RI Behavior When RING URC is Presented

AT+QCFG="urc/ri/ring", **AT+QCFG="urc/ri/smsincoming"** and **AT+QCFG="urc/ri/other"** control the RI (ring indicator) behavior when a URC is reported. These configurations will be stored into NV automatically. The ring indicator is active low. **AT+QCFG="urc/ri/ring"** specifies the RI behavior when URC **RING** is presented to indicate an incoming call.

The sum of parameter **<activeduration>** and **<inactiveduration>** determines the interval time of "RING" indications when a call is coming.

AT+QCFG="urc/ri/ring" RI Behavior When RING URC is Presented	
Write Command **AT+QCFG="urc/ri/ring"[,<typeri>[,<pulseduration>[,<activeduration>[,<inactiveduration>[,<ringnodisturbing>]]]]]**	Response If **<typeri>**, **<pulseduration>**, **<activeduration>**, **<inactiveduration>** and **<ringnodisturbing>** are omitted, return the current configuration: **+QCFG: "urc/ri/ring",<typeri>,<pulseduration>,<activeduration>,<inactiveduration>,<ringnodisturbing>,<pulsecount>** **OK** If all configuration parameters are entered, set the RI

	behavior when **RING** URC is presented: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<typeri>	RI behavior when URCs are presented "off" No change. Ring indicator keeps inactive. "pulse" Pulse. Pulse width determined by **<pulseduration>**. "always" Change to active. RI behavior can be restored to inactive by **AT+QRIR**. "auto" When "RING" is presented to indicate an incoming call, the ring indicator changes to and keeps active. When ring of the incoming call ends, either answering or hanging up the incoming call, the ring indicator will change to inactive. "wave" When **RING** is presented to indicate an incoming call. The ring indicator outputs a square wave. Both **<activeduration>** and **<inactiveduration>** are used to set parameters of the square wave. When the ring of incoming call ends, either answering or hanging up the incoming call, the ring indicator will change to inactive.
<pulseduration>	Set the width of pulse. The value ranges from 1 to 2000ms and the default is 120ms.This parameter is only meaningful when **<typeri>** is "pulse". If this parameter is not needed, it can be set as null.
<activeduration>	The active duration of the square wave. The value ranges from 1 to 10000ms, and the default is 1000ms. This parameter is only meaningful when **<typeri>** is "wave".
<inactiveduration>	Set the inactive duration of the square wave. The value ranges from 1 to 10000ms, and the default is 5000ms. This parameter is only meaningful when **<typeri>** is "wave".
<ringnodisturbing>	Set whether the ring indicator behavior could be disturbed. This parameter is only meaningful when **<typeri>** is configured to "auto" or "wave". For example, when **<typeri>** is configured to "wave", if the square wave does not need to be disturbed by other URCs (including SMS related URCs), then **<ringnodisturbing>** should be set to "on". "off" RI behavior can be disturbed by other URCs when the behavior is caused by an incoming call ringing. "on" RI behavior cannot be disturbed by other URCs when the behavior is caused by an incoming call ringing.

<pulsecount>	The count of pulse. This parameter is only meaningful when **<typeri>** is "pulse". The value ranges from 1 to 5 and the default is 1. The interval time between two pulses is equal to **<pulseduration>**.

2.5. AT+QCFG="urc/ri/smsincoming" RI Behavior When Incoming SMS URCs are Presented

The command is used to specify the RI (ring indicator) behavior when related incoming message URCs are presented. Related incoming message URCs list: **+CMTI**, **+CMT**, **+CDS** and **+CBM**.

AT+QCFG="urc/ri/smsincoming" RI Behavior When Incoming SMS URCs are Presented	
Write Command **AT+QCFG="urc/ri/smsincoming"[,<typeri>[,<pulseduration>]]**	Response If **<typeri>** and **<pulseduration>** are omitted, return the current configuration: **+QCFG: "urc/ri/smsincoming",<typeri>,<pulseduration>,<pulsecount>** **OK** If **<typeri>** and **<pulseduration>** are not omitted, set the RI behavior when incoming SMS URCs are presented: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<typeri>	RI behavior when URCs are presented "off" No change. Ring indicator keeps inactive. "pulse" Pulse. Pulse width determined by **<pulseduration>**. "always" Change to active. RI behavior can be restored to inactive by **AT+QRIR**.
<pulseduration>	Set the width of pulse. Value ranges from 1 to 2000ms and the default is 120ms. This parameter is only valid when **<typeri>** is "pulse".
<pulsecount>	The count of pulse. This parameter is only meaningful when **<typeri>** is "pulse".

	The value ranges from 1 to 5 and the default is 1. The interval time between two pulses is equal to **<pulseduration>**.

2.6. AT+QCFG="urc/ri/other" RI Behavior When Other URCs are Presented

The command is used to specify the RI (ring indicator) behavior when other URCs are presented.

AT+QCFG="urc/ri/other" RI Behavior When Other URCs are Presented	
Write Command **AT+QCFG="urc/ri/other"[,<typeri>[,<pulseduration>]]**	Response If **<typeri>** and **<pulseduration>** are omitted, return the current configuration: **+QCFG: "urc/ri/other",<typeri>,<pulseduration>,<pulsecount>** **OK** If **<typeri>** and **<pulseduration>** are not omitted, set the RI behavior when other URCs are presented: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<typeri>	RI behavior when URCs are presented "off" No change. Ring indicator keeps inactive. "pulse" Pulse. Pulse width determined by **<pulseduration>**.
<pulseduration>	Set the width of pulse. Value ranges from 1 to 2000ms and the default is 120ms. This parameter is effect only when **<typeri>** is "pulse".
<pulsecount>	The count of pulse. This parameter is only meaningful when **<typeri>** is "pulse". The value ranges from 1 to 5 and the default is 1. The interval time between two pulses is equal to **<pulseduration>**.

2.7. AT+QCFG="risignaltype" RI Signal Output Carrier

The command is used to specify the RI (ring indicator) signal output carrier.

AT+QCFG="risignaltype" RI Signal Output Carrier	
Write Command **AT+QCFG="risignaltype",[<risignatype>]**	Response If **<risignatype>** is omitted, return the current configuration: **+QCFG: "risignaltype",<risignatype>** **OK** If **<risignatype>** is not omitted, configure the RI signal output carrier: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<risignaltype>	RI signal output carrier.	
	"respective"	The ring indicator behaves on the port where URC is presented, and the port can be gotten by **AT+QURCCFG="urcport"** command. If URC is presented on UART port, it is physical ring line. If URC is presented on USB modem port, it is virtual ring line. If URC is presented on USB AT port, no ring line for USB AT port which does not support ring line.
	"physical"	No matter which port URC is presented on, URC only causes the behavior of physical ring indicator.

Example

```
AT+QCFG="risignaltype"
+QCFG: "risignaltype","respective"

OK
AT+QCFG="risignaltype","physical"
OK

AT+QCFG="risignaltype"
```

```
+QCFG: "risignaltype","respective"

OK
```

2.8. AT+QCFG="urc/delay" Delay URC Indication

The command is used to delay the output of URC indication until ring indicator pulse ends.

AT+QCFG="urc/delay" Delay URC Indication	
Write Command **AT+QCFG="urc/delay"[,<enable>]**	Response If **<enable>** is omitted, return the current configuration : **+QCFG: "urc/delay",<enable>** **OK** If **<enable>** is not omitted, set when the URC indication will be outputted: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<enable>	0	URC indication will be outputted when ring indicator pulse starts.
	1	URC indication will be outputted when ring indicator pulse ends (only effective when the type of ring indicator is "pulse". Please refer to **AT+QCFG="urc/ri/ring"**, **AT+QCFG="urc/ri/smsincoming"**, **AT+QCFG="urc/ri/other"** for more details).

2.9. AT+QCFG="urc/cache" Enable/Disable URC Cache Function

AT+QCFG="urc/cache" URC Cache Function	
Write Command **AT+QCFG="urc/cache",<enable>**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "urc/cache",<enable>**

	OK If **<enable>** is not omitted, enable/disable URC cache function: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<enable>	0	Disable URC cache
	1	Enable URC cache

NOTE

The settings of the command will take effect immediately and will not be saved after power off.

Example

```
AT+QCFG="urc/cache"
+QCFG: "urc/cache",0        //URC cache function is disabled.

OK
AT+QCFG="urc/cache",1       //Enable URC cache function.
OK
AT+QCFG="urc/cache"
+QCFG: "urc/cache",1

OK

//Make a call and send two messages to the module.

AT+QCFG="urc/cache",0       //Disable URC cache.
OK
```

2.10. AT+QCFG="urc/poweron" Set Output URC of Power On

AT+QCFG Set Output URC of Power On	
Write Command **AT+QCFG="urc/poweron",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG: "urc/poweron",<n>** **OK** If **<n>** is not omitted, set output URC of power on **OK** **ERROR**

Parameter

<n>	Integer type, enable/disable URC output of power on. 0 Using default URC output 1 No URC output

NOTE

This setting takes effect immediately, and will be saved to NVRAM automatically.

Example

```
AT+QCFG="urc/poweron"
+QCFG: "urc/poweron",0          //Query the current configuration of URC output.

OK

at+cfun=0
OK

at+cfun=1
OK

+CPIN: READY

+QUSIM: 1
```

```
+QIND: SMS DONE

+QIND: PB DONE

AT+QCFG="urc/poweron",1          //Set <n> to 1.
OK

at+cfun=0
OK

at+cfun=1
OK

//No urc output

AT+QCFG="urc/poweron"
+QCFG: " urc/poweron",1

OK
```

2.11. AT+QCFG="divctl" Primary Diversity RX Configuration

AT+QCFG="divctl" Primary Diversity RX Configuration	
Write Command **AT+QCFG="divctl"[,<sys_mode>,<diversity_info>]**	Response If **<sys_mode>** and **<diversity_info>** are omitted, return the current configuration: **+QCFG:"divctl",<sys_mode>,<diversity_info>** **OK** If **<sys_mode>** and **<diversity_info>** are not omitted, **OK** **or** **ERROR**

Parameter

<sys_mode>	system mode. "lte" LTE

	"wcdma" WCDMA
<diversity_info>	Rx chain diversity information 0 Rx Chains 0 and 1 are enabled. 1 Signal information is available on Rx chain 0. 2 Signal information is available on Rx chain 1.

Example

```
AT+QCFG="divctl","lte"                  //Query the current LTE configuration mode
+QCFG: "divctl","lte",0

OK

AT+QCFG="divctl","lte",1                //Open LTE RX, close SRX

OK
```

2.12. AT+QCFG="bootup" Enable/Disable Services

The command is used to enable/disable the services in Linux, such as the web services.

AT+QCFG="bootup"	Enable/Disable Services
Write Command **AT+QCFG="bootup",<servicename>,<enable>**	Response **OK** **ERROR**

Parameter

<servicename>	String type. Service Name system mode. web-service WEB Serviec
<enable>	Integer type, indicates the services status. 0 Disable 1 Enable

NOTE

The setting is not valid after the module restart.

Example

```
AT+QCFG="bootup",web-services
+QCFG="bootup",web-service,0
OK

AT+QCFG="bootup",web-services,0
OK
```

2.13. AT+QCFG="PPP/SLEEP_RI"

AT+QCFG="PPP/SLEEP_RI" function	
Write Command **AT+QCFG="PPP/SLEEP_RI",<on_off>,<ri_interval>**	Response **OK** **ERROR**

Parameter

<on_off>	RI pin indicating function is awakened by sleep after PPP establishment. 0 Disable 1 Enable
<ri_interval>	RI jump interval. Range: 500-50000ms. The default value: 10000ms.

NOTES

1. This setting takes effect immediately, is still valid after module restart.
2. Sleep wake under PPP link, RI pin always changes from high to low.

2.14. AT+QCFG="thermal/txpwrlmt" Configure Temperature Protection Strategy

This command is used to configure temperature protection strategy to restrict the maximum transmit power of the module.

AT+QCFG="THERMAL/TXPWRLMT" Configure Temperature Protection Strategy	
Write command **AT+QCFG="THERMAL/TXPWRLMT"[,<on_off>,<sensor>,<temp_threshold>,<duration>,<trig_cnt>,<crl_cnt>]**	Response If configuration parameters **<on_off>,<sensor>,<temp_threshold>,<duration>,<trig_cnt>,<crl_cnt>** are omitted, return the current configuration: **+QCFG: "thermal/txpwrlmt",<on_off>,<sensor>,<temp_threshold>,<duration>,<trig_cnt>,<crl_cnt>** **OK** If configuration parameters **<on_off>,<sensor>,<temp_threshold>,<duration>,<trig_cnt>,<crl_cnt>** are entered, then configure temperature protection strategy: **OK** Or **ERROR**

Parameter

<on_off>	This command can restrict the maximum TX power when a specified sensor reaches the temperature threshold. 1 Disable this feature 0 Enable this feature, default value
<sensor>	Sensor ID; range: 0-7 2 Modem temperature sensor 5 PA temperature sensor 7 XO temperature sensor Other parameters are not necessary to be paid attention to.
<temp_threshold>	Temperature threshold; Range:-150ºC~150ºC.
<duration>	Detect period; Range:1000-360000;Unit:ms
<trig_cnt>	Trigger counter; range: 1-10000
<clr_cnt>	Clear counter; range: 1-10000

NOTES

1. The command will take effect immediately and save configuration into NV
2. There are 8 stages for TX power limitation and mapping is as below:
   Level 0=23dBm; Level 1=22dBm; Level 2=21dBm; Level 3=20dBm; Level 4=19dBm; Level 5=18dBm; Level 6=17dBm; Level 7=16dBm.

2.15. AT+QCFG="thermal/modem" Configure Working Condition under Thermal Threshold

The command is used to configure the thermal threshold to trigger the rate descending.

AT+QCFG="thermal/modem"	Configure Working Condition under Thermal Threshold
Write Command **AT+QCFG="thermal/modem"[,<level>,<trig>,<clr>]**	Response If configuration parameters **<level>,<trig>** and **<clr>** are omitted, query the current configuration: **+QCFG: "thermal/modem", <level>,<trig>,<clr>** .. **+QCFG: "thermal/modem", <level>,<trig>,<clr>** **OK** If configuration parameters **<level>,<trig>** and **<clr>** are entered, configure the thermal threshold to trigger the rate descending. **OK** **ERROR**

Parameter

<level>	Working condition of module under thermal threshold. Range: 1-3 1 Descending UL rate. 2 Descending DL UL rate. 3 Limited service state
<trig>	Trigger threshold
<clr>	Clear threshold

NOTES

1. This setting takes effect after the module restart, and will be saved when power off.

2. **<level>**=1: Descending UL rate. Default value: 1,100000,95000
   Higher than 100 degrees into Level1, lower the ascending UL rate, lower than 95 degrees out of Level1.
   <level>=2: Descending DL UL rate. Default value: 2,105000,100000
   Higher than 105 degrees enter level2, and lower the UL and DL rate, lower than 100 degrees exit level2.
   <level>=3: Limited service state. Default value: 3,115000,105000
   Higher than 115 degrees enter limited service state, lower than 100 degrees exit level3.

2.16. AT+QCFG="urc/ri/pin" Configure PIN Corresponding to RI

AT+QCFG="urc/ri/pin" Configure PIN Corresponding to RI	
Write Command **AT+QCFG="urc/ri/pin"[,<pin_name>]**	Response If **<pin_name>** is omitted, return the current configuration: **+QCFG: "urc/ri/pin", <pin_name>** **OK** If **<pin_name>** is omitted, configure pin which corresponding to RI. **OK** **ERROR**

Parameter

<pin_name>	String type. "uart_ri" "uart_dcd"

2.17. AT+QCFG="icf" Configure the Main UART

The command is used to configure the data bit, stop bit, parity bit of Main UART. After configuration, the module should be restarted, and then if serial communication fails, indicates the command is not supported, if the serial communication succeeds, indicates the command is supported and the configuration will take effect.

AT+QCFG="icf" Configure Main UART

Write Command **AT+QCFG="cf"[,<data_bit>,<stop_bit>,<parity_mode>]**	Response If **<data_bit>, <stop_bit>** and **<parity_mode>** are omitted, return the current configuration: +QCFG: "icf",<data_bit>,<stop_bit>,<parity_mode> **OK** If **<data_bit>, <stop_bit>** and **<parity_mode>** are entered, configure the Main UART: **OK** **ERROR**

Parameter

<data_bit>	Integer type, the range of data bits per char supported. 0 5 DATA BITS PER CHAR 1 6 DATA BITS PER CHAR 2 7 DATA BITS PER CHAR 3 8 DATA BITS PER CHAR
<stop_bit>	Integer type, the range of stop bit supported 0 0.5 STOP BITS 1 1 STOP BITS 2 1.5 STOP BITS 3 2 STOP BITS
<parity_mode>	Integer type, the range of parity mode supported. 0 NO_PARITY 1 ODD_PARITY 2 EVEN_PARITY 3 SPACE_PARITY

NOTES

This command couldn't work on Debug UART and USB Serial Port.

Example

```
AT+QCFG="icf"
+QCFG: "icf",3,1,0      //Default Value, 8 DATA BITS PER CHAR, 1 STOP BITS, NO PARITY

OK

AT+QCFG="icf",2,1,1    //7 DATA BITS PER CHAR, 1 STOP BITS, ODD PARITY
OK
```

2.18. AT+QCFG="thermal/limit_rates" Enable/Disable the Feature of Limit Rate

The command is used to enable/disable the feature of limit rate under high temperature.

AT+QCFG="thermal/limit_rates"	Enable/Disable the Feature of Limit Rate
Write Command **AT+QCFG="thermal/limit_rates"[,<enable>]**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "thermal/limit_rates",<enable>** **OK** If **<enable>** is entered, enable/disable the feature of limit rate: **OK** **ERROR**

Parameter

<enable>	Integer type, enable/disable the feature of limit rate. 0 Disable 1 Enable

Example

```
AT+QCFG="thermal/limit_rates"
+QCFG: "thermal/limit_rates",0

OK

AT+QCFG="thermal/limit_rates",1
OK
```

2.19. AT+QCFG="urcdelay" Configure URC Delay

The command is used to enable/disable URC delay report. When this feature is enabled, URC will report after the specified delay time.

AT+QCFG="urcdelay"	Configure Main UART
Write Command **AT+QCFG="urcdelay"[,<mode>,<delay_time>]**	Response If **<mode>** and **<delay_time>** are omitted, return the current configuration: **+QCFG: "urcdelay",<mode>,<delay_time>** OK If **<mode>** and **<delay_time>** are entered, configure URC delay: **OK** **ERROR**

Parameter

<mode>	Integer type, disable or enable URC Delay feature. 0 Disable 1 Enable
<delay_time>	Integer type, indicates the delay time. Range: 0-10000. Unit: second. Default value: 3.

NOTES

This command couldn't be saved.

Example

```
AT+QCFG="urcdelay"
+QCFG: "urcdelay",0,0          //URC Delay feature is disable by default.

OK

AT+QCFG="urcdelay",1,3000    //Enable URC Delay feature, delay URC for 3s.
OK
```

2.20. AT+QCFG="sarcfg" Set SAR TX Power for LTE/WCDMA/GSM

The command is used to set the specific transmission power corresponding to the SAR power level.

AT+QCFG="sarcfg"	Set SAR TX Power for LTE/WCDMA/GSM

Write Command **AT+QCFG="sarcfg"[,<mode>[,<max_power>,<row_grads>,<column_grads>[,<band>]]]**	Response If configuration parameters **<mode>**, **<max_power>**, **<row_grads>**, **<column_grads>** and **<band>** are omitted, return current configuration format: **+QCFG: "sarcfg",<("lte_wcdma","gsm","lte","wcdma")>,<max_power>,<row_grads>,<column_grads>[,band]** **OK** If configuration parameters **<max_power>**, **<row_grads>**, **<column_grads>** and **<band>** are omitted, then return the power parameter of the network mode that **<mode>** specified: **+QCFG: "sarcfg",<("lte_wcdma","gsm","lte","wcdma")>,<max_power>,<row_grads>,<column_grads>** **OK** If configuration parameters **<max_power>**, **<row_grads>** and **<column_grads>** are omitted, then return the power parameter of the specified band under the network mode that **<mode>** specified: **+QCFG: "sarcfg",<("lte_wcdma","gsm","lte","wcdma")>,<max_power>,<row_grads>,<column_grads>[,band]** **OK** If configuration parameters are entered: **OK** Or **ERROR**
Maximum Response Time	300ms

Parameter

<mode>	String type, indicates network mode.	
	"lte_wcdma"	Configure LTE&WCDMA
	"gsm"	Configure GSM only
	"lte"	Configure LTE only
	"wcdma"	Configure WCDMA only
<max_power>	Integer type. Indicates the corresponding power value with maximum SAR level. When **<mode>** is "gsm", the range is 600-3000. Unit: 0.01db.	

	When **<mode>**is not "gsm", the range is 600-300. Unit: 0.01db.
<row_grads>	Integer type. Indicates power difference between adjacent SAR levels. Range: less than **<max_power>** configured in the AT command; Unit: 0.01db
<column_grads>	Integer type. Indicates power difference between adjacent slot levels. Range: 600-3000; Unit: 0.01db.
<band>	When **<mode>** is "lte" or "wcdma", a single band can be specified with **<band>**. If **<band>** is omitted, configure all the bands of LTE or WCDMA.

LTE:

0	LTE B1
1	LTE B2
2	LTE B3
3	LTE B4
4	LTE B5
5	LTE B6
6	LTE B7
7	LTE B8
8	LTE B9
9	LTE B10
10	LTE B11
11	LTE B12
12	LTE B13
13	LTE B14
14	LTE B17
15	LTE B18
16	LTE B19
17	LTE B20
18	LTE B21
19	LTE B23
20	LTE B24
21	LTE B25
22	LTE B26
23	LTE B27
24	LTE B28
25	LTE B30
26	LTE B31
27	LTE B33
28	LTE B34
29	LTE B38
30	LTE B39
31	LTE B40
32	LTE B41
33	LTE B42
43	LTE B43
45	LTE B45

66	LTE B66	
71	LTE B71	
WCDMA:		
35	WCDMA B1	WCDMA2100
36	WCDMA B2	WCDMA1900
37	WCDMA B4	WCDMA1700
38	WCDMA B5	WCDMA850
39	WCDMA B8	WCDMA900
40	WCDMA B9	WCDMA1700
41	WCDMA B11	WCDMA1500

NOTES

1. **<column_grads>** is valid only when <mode> is "gsm". When <mode> is not "gsm", **<column_grads>** must be set to 0.
2. When **<max_power>-<row_grads>***level(n)<0, TX power of the $SAR_{level(n)}$ equals that of $SAR_{level(n-1)}$.
3. **<row_grads>** and **<column_grads>** must be less than <**max_power>**.
4. (Default LTE and WCDMA). The TX power of $SAR_{level(1)}$ to $SAR_{level(8)}$ corresponds to 23dBm to 16dBm. **<max_power>**=230(23dBm), **<row_grads>**=10(1dBm).
5. **(default GSM)** GSM 5 slot 8 SAR level. The TX power of $SAR_{level}(1)$ to $SAR_{level(8)}$ corresponds to 28dBm to 12dBm. The default values are: <**max_power>**=2800(28dBm), **<row_grads>**=100(1dBm)**. <column_grads>**=100(1dBm).
6. The configuration will take effect after rebooting.

Example

```
AT+QCFG="sarcfg"                    //Query the configured format.
+QCFG: "sarcfg",("lte_wcdma","gsm","lte","wcdma"),max_power,row_grads,column_grads,[band]

OK

AT+QCFG="sarcfg","lte_wcdma"
+QCFG: "sarcfg","lte_wcdma",230,10,0

OK

AT+QCFG="sarcfg","lte",5
+QCFG: "sarcfg","lte",230,10,0

OK

AT+QCFG="sarcfg","lte_wcdma",230,10,0
```

```
OK

AT+QCFG="sarcfg","lte",230,10,0,5

OK
```

2.21. AT+QCFG="rf/sar/gpioctl" Configure GPIO to SAR Feature

The command is used to enable or disable GPIO detecting level signals and to detect level signals period.

AT+QCFG="rf/sar/gpioctl" Configure the GPIO to SAR Feature	
Write Command **AT+QCFG="rf/sar/gpioctl"[,<state>[,<period>]]**	Response If configuration parameters **<state>** and **<period>** are omitted, return current configuration: **+QCFG: "rf/sar/gpioctl",<state>,<period>** **OK** If configuration parameters **<state>** and **<period>** are omitted, then return: **OK** Or **ERROR**
Maximum Response Time	300ms

Parameter

<state>	A numeric parameter. Configure GPIO to detect level signals. 0 Disable GPIO detecting level signals. 1 Enable GPIO detecting level signals.
<period>	A numeric parameter. Configure the period of GPIO detecting level. Default value is 250. Unit: ms, the range is 20-5000. If this parameter is not set, the default value "250" will be used.

NOTE

The parameters will be saved into NV after power-off and take effect after rebooting.

Example

```
AT+QCFG="rf/sar/gpioctl"
+QCFG: "rf/sar/gpioctl",1,250

OK

AT+QCFG="rf/sar/gpioctl",1

OK

AT+QCFG="rf/sar/gpioctl",1,200

OK
```

2.22. AT+QCFG="fast/poweroff" Enable/Disable the Feature of Fast Power Off

AT+QCFG="fast/poweroff" Enable/Disable the Feature of Fast Power Off	
Write Command **AT+QCFG="fast/poweroff"[,<n>]**	Response If **<n>** is omitted, return current configuration: **+QCFG: "fast/poweroff",<n>** **OK** If **<n>** is entered, enable/disable the feature of fast power off: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR:<err>**

Parameter

<n>	Integer type, enable/disable the feature of fast power off 0 Disable 1 Enable

Example

```
AT+QCFG="fast/poweroff"          //Query the current configuration.
+QCFG: "fast/poweroff",0

OK
AT+QCFG="fast/poweroff",1        //Set <n>=1, enable fast poweroff function.
OK

AT+QCFG="fast/poweroff"          //Query the value of fast poweroff, 1 is the current value.
+QCFG: "ariplane",1

OK
```

2.23. AT+QCFG="sleep/datactrl" Configure Data Cache

The command is used to configure data sending when the module under the sleep mode.

AT+QCFG="sleep/datactrl"	Configure the Data Cache
Write Command **AT+QCFG="sleep/datactrl"[,<dev>[,<time_out>[,<flag>]]]**	Response If **<dev>**, **<time_out>** and **<flag>** are omitted, return current configuration: **+QCFG: "sleep/datactrl",<dev>,<time_out>,<flag>** **OK** If **<dev>**, **<time_out>** and **<flag>** are entered, configure the data sending when the module under the sleep mode: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR:<err>**

Parameter

<dev>	Integer type, indicates the type of the device to be cached. (e.g. 5=1+4, indicates caching the data that from UART1 and USB _AT port when the module under the sleep mode.) 0 No device. This command is disabled. 1 UART1 2 USB modem port. Not supported 4 USB AT port. Not supported

<time_out>	Integer type, indicates the maximum time the module to cache the data that from the specified transport port. If reach this value, the data will be output. Default value: 300. Unit: ms.
<flag>	Integer type, indicates the data automatic sending flag when USB bus status changing. This parameter is not supported currently. 1 When the status of USB bus recovery from DISCONNECT or SUSPEND to CONFIGURED, module will send the cached data immediately. 0 When the status of USB bus recovery to normal, the sending operation will not be triggered.

NOTES

1. The parameters will not be saved, and is invalid after rebooting the module.
2. When all of the following conditions are met, the module judges that the host is in the sleep mode.
   - DTR condition: If the feature of the DTR sleep control is enabled, and DTR should be with high-level. If the feature of the DTR sleep control is disabled, this condition can be ignored.
   - USB bus condition: The status of USB bus is DISCONNECT or SUSPEND.
   - AT+QSCLK condition: **AT+QSCLK** is configured to 1.

Example

```
AT+QCFG="sleep/datactrl",1,800,0    //Enable the feature of data caching when the module the sleep
                                      mode. Specify the caching device is UART1. Timeout is 800ms.
OK
AT+QCFG="sleep/datactrl"
+QCFG: "sleep/datactrl",0,300,1     //Query the current configuration, this setting is disabled.

OK
```

3 Audio Commands

3.1. AT+QCFG="tone/incoming" Ring tone Function

AT+QCFG="tone/incoming" Ring Tone Function	
Write Command **AT+QCFG="tone/incoming",<enable>**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "tone/incoming",<enable>** **OK** If **<enable>** is not omitted, enable/disable ring tone function: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Reference	

Parameter

<enable>	0	Disable ring tone
	1	Enable Nokia ring tone
	2	Enable ring tone

NOTE

The settings of the command will take effect immediately, and will be saved after power off.

Example

```
AT+QCFG="tone/incoming"
+QCFG: "tone/incoming",0          //Ring tone function is disabled
```

```
OK
AT+QCFG="tone/incoming",1        //Enable ring tone
OK
AT+QCFG="tone/incoming"
+QCFG: "tone/incoming",1

OK
```

3.2. AT+QCFG="pcmclk" PCM Clock Signal Configuration

The command is used to enable or disable PCM clock output when there is no calling and audio play. The configuration will be stored into NV automatically.

AT+QCFG="pcmclk" PCM CLK Signal Configuration	
Write Command **AT+QCFG="pcmclk"[,<PCM_clkout>]**	Response If **<PCM_clkout>** is omitted, return the current configuration: **+QCFG: "pcmclk",<PCM_clkout>** **OK** If **<PCM_clkout>** is entered, enable or disable PCM clock output: **OK** Or **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<PCM_clkout>	Enable/disable PCM clock output	
	0	Disable PCM clock output
	1	Enable PCM clock output

NOTES

1. Configuration will be saved to NV immediately by default.

2. The output frequency is depend on the **<clock>** parameter of **AT+QDAI**.

3.3. AT+QCFG="codec/powsave" Set Power Saving Mode for ALC5616 Codec

The command is used to enable/disable the power saving mode for ALC5616 Codec.

AT+QCFG="codec/powsave"	Set Power Saving Mode for ALC5616 Codec
Write Command **AT+QCFG="codec/powsave"[,<status>]**	Response If **<status>** is omitted, return the current configuration: **+QCFG: "codec/powsave",<status>** **OK** If **<status>** is entered, enable/disable power saving mode for ALC5616 Codec: **OK** Or **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**

Parameter

<satus>	Enable/disable the power saving mode.	
	0	Disable the power saving mode.
	1	Enable the power saving mode.

NOTES

1. The configuration will be saved.
2. The configuration will take effect during the next calling.

Example

```
AT+QCFG="codec/powsave",1          //Enable the power saving mode for ALC5616 Codec
OK
AT+QCFG="codec/powsave"            //Query the current saving mode.
```

```
+QCFG: "codec/powsave",1

OK
```

4 Network Commands

4.1. AT+QCFG="gprsattach" GPRS Attach Mode Configuration

This command is used to specify the mode to attach GPRS when UE is powered on. This configuration is valid only after the module is restarted.

AT+QCFG="gprsattach" GPRS Attach Mode Configuration	
Write Command **AT+QCFG="gprsattach"[,<attachmode>]**	Response If **<attachmode>** is omitted, return current configuration: **+QCFG: "gprsattach",<attachmode>** **OK** If the configuration parameter **<attachmode>** is not omitted, configure the GPRS attach mode: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<attachmode>	Number format, the mode to attach GRPS when UE is powered on 0 Manual attach 1 Auto attach

4.2. AT+QCFG="nwscanmode" Network Search Mode Configuration

The command is used to specify the network mode to be serached. If **<effect>** is omitted, the configuration will take effect immediately.

AT+QCFG="nwscanmode" Network Search Mode Configuration	
Write Command **AT+QCFG="nwscanmode"[,<scanmode>[,<effect>]]**	Response If **<scanmode>** and **<effect>** are both omitted, return the current configuration: **+QCFG: "nwscanmode",<scanmode>** **OK** If **<scanmode>** and **<effect>** are not omitted, set the network mode to be searched: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<scanmode>	Number format, network search mode	
	0	AUTO
	1	GSM only
	2	WCDMA only
	3	LTE only
	4	TD-SCDMA only
	5	UMTS only
	6	CDMA only
	7	HDR only
	8	CDMA and HDR only
<effect>	Number format. When to take effect	
	0	Take effect after UE reboots
	1	Take effect immediately

4.3. AT+QCFG="servicedomain" Service Domain Configuration

The command is used to specify the registered service domain. If **<effect>** is omitted, the configuration will take effect immediately.

AT+QCFG="servicedomain" Service Domain Configuration

Write Command **AT+QCFG="servicedomain"[,<service>[,<effect>]]**	Response If **<service>** and **<effect>** are both omitted, return the current configuration: **+QCFG: "servicedomain",<service>** **OK** If **<service>** and **<effect>** are not omitted, configure the service domain of UE: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<service>	Service domain of UE 0 CS only 1 PS only 2 CS & PS
<effect>	Number format. When to take effect 0 Take effect after UE reboots 1 Take effect immediately

4.4. AT+QCFG="band" Band Configuration

The command is used to specify the preferred frequency bands to be searched of UE. If **<effect>** is omitted, the configuration will take effect immediately.

AT+QCFG="band" Band Configuration	
Write Command **AT+QCFG="band"[,<bandval>,<ltebandval>,<tdsbandval>[,<effect>]]**	Response If **<bandval>,<ltebandval>,<tdsbandval>** and **<effect>** are both omitted, return the current configuration: **+QCFG: "band",<bandval>,<ltebandval>,<tdsbandval>** **OK** If **<bandval>,<ltebandval>,<tdsbandval>** and **<effect>** are not omitted, configure the preferred frequency bands to be

	searched: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<bandval> A hexadecimal value that specifies the GSM and WCDMA frequency band. If it is set to 0, it means not to change GSM and WCDMA frequency band. (e.g.: 00000013=00000001(GSM900)+00000002(GSM1800)+00000010(WCDMA 2100))

00000000	No change
00000001	GSM900
00000002	GSM1800
00000004	GSM850
00000008	GSM1900
00000010	WCDMA 2100
00000020	WCDMA 1900
00000040	WCDMA 850
00000080	WCDMA 900
00000100	WCDMA 800
00000200	WCDMA 1700
0000FFFF	Any frequency band

<ltebandval> A hexadecimal value that specifies the LTE frequency band. If it is set to 0 or 0x40000000, it means not to change LTE frequency band. (e.g.: 0x15=0x1(LTE B1)+0x4(LTE B3)+0x10(LTE B5))

0x1 (CM_BAND_PREF_LTE_EUTRAN_BAND1)	LTE B1
0x4 (CM_BAND_PREF_LTE_EUTRAN_BAND3)	LTE B3
0x10 (CM_BAND_PREF_LTE_EUTRAN_BAND5)	LTE B5
0x40 (CM_BAND_PREF_LTE_EUTRAN_BAND7)	LTE B7
0x80 (CM_BAND_PREF_LTE_EUTRAN_BAND8)	LTE B8
0x80000(CM_BAND_PREF_LTE_EUTRAN_BAND20)	LTE B20
0x7FFFFFFFFFFFFFFF(CM_BAND_PREF_ANY)	Any frequency band

<tdsbandval> A hexadecimal value that specifies the TD-SCDMA frequency band. If it is set to 0 or 0x40000000, it means not to change TD-SCDMA frequency band. (e.g.: 0x21=0x1(TDS BCA)+0x20(TDS BCF))

0x1 (CM_BAND_PREF_TDS_BANDA)	TDS BCA
0x2 (CM_BAND_PREF_TDS_BANDB)	TDS BCB
0x4 (CM_BAND_PREF_TDS_BANDC)	TDS BCC
0x8 (CM_BAND_PREF_TDS_BANDD)	TDS BCD

	0x10 (CM_BAND_PREF_TDS_BANDE)	TDS BCE
	0x20 (CM_BAND_PREF_TDS_BANDF)	TDS BCF
<effect>	When to take effect	
	0 Take effect after UE reboots	
	1 Take effect immediately	

4.5. AT+QCFG="rrc" RRC Release Version Configuration

The command is used to specify the RRC release version. This configuration is valid only after the module is restarted.

AT+QCFG="rrc" RRC Release Version Configuration	
Write Command **AT+QCFG="rrc"[,<rrcr>]**	Response If **<rrcr>** is omitted, return the current configuration: **+QCFG: "rrc",<rrcr>** **OK** If **<rrcr>** is not omitted, configure the RRC release version: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<rrcr>	RRC release version. 0 R99 1 R5 2 R6 3 R7 4 R8

4.6. AT+QCFG="msc" UE MSC Release Version Configuration

The command is used to specify the UE MSC release version. This configuration is valid only after the module is restarted.

AT+QCFG="msc" UE MSC Release Version Configuration	
Write Command **AT+QCFG="msc"[,<mscr>]**	Response If **<mscr>** is omitted, return the current configuration: **+QCFG: "msc",<mscr>** **OK** If **<mscr>** is not omitted, configure the MSC release version: **OK** **ERROR** If there is an error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<mscr>	MSC release version 0 R97 1 R99 2 Dynamic

4.7. AT+QCFG="sgsn" UE SGSN Release Version Configuration

The command is used to specify the UE SGSN release version. This configuration is valid only after the module is restarted.

AT+QCFG="sgsn" UE SGSN Release Version Configuration	
Write Command **AT+QCFG="sgsn"[,<sgsnr>]**	Response If **<sgsnr>** is omitted, return the current configuration: **+QCFG: "sgsn",<sgsnr>** **OK** If **<sgsnr>** is not omitted, configure the SGSN release version: **OK** **ERROR** If there is any error related to ME functionality:

	+CME ERROR: <err>
Maximum Response Time	300ms

Parameter

<sgsnr>	SGSN release version 0 R97 1 R99 2 Dynamic

4.8. AT+QCFG="hsdpacat" HSDPA Category Configuration

The command is used to specify the HSDPA category. This configuration is valid only after the module is restarted.

AT+QCFG="hsdpacat" HSDPA Category Configuration	
Write Command **AT+QCFG="hsdpacat"[,<cat>]**	Response If **<cat>** is omitted, return the current configuration: **+QCFG: "hsdpacat",<cat>** **OK** If **<cat>** is not omitted, configure the HSDPA category: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<cat>	HSDPA category 6 Category 6 8 Category 8 10 Category 10 12 Category 12

14	Category 14
18	Category 18
20	Category 20
24	Category 24

4.9. AT+QCFG="hsupacat" HSUPA Category Configuration

The command is used to specify the HSUPA category. This configuration is valid only after the module is restarted.

AT+QCFG="hsupacat" HSUPA Category Configuration	
Write Command **AT+QCFG="hsupacat"[,<cat>]**	Response If **<cat>** is omitted, return the current configuration: **+QCFG: "hsupacat",<cat>** **OK** If **<cat>** is not omitted, configure the HSUPA category: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<cat>	HSUPA category	
	5	Category 5
	6	Category 6

4.10. AT+QCFG="PDP/duplicatechk" Establish Multi PDNs with the Same APN

The command is used to allow/refuse establishing multi PDNs with the same APN profile. The configuration will take effect immediately.

AT+QCFG="pdp/duplicatechk" Establish Multi PDNs with the Same APN

Write Command **AT+QCFG="pdp/duplicatechk"[,<enable>]**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "pdp/duplicatechk",<enable>** **OK** If **<enable>** is not omitted, allow/refuse establishing multiple PDNs with the same APN profile: **OK** **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<enable>	0	Refused to establish multi PDNs with the same APN profile
	1	Allowed to establish multi PDNs with the same APN profile

4.11. AT+QCFG="disable_backoff_lte" Turn On/Off Backoff LTE Disabling Function

The command is used to configure whether to disable backoff LTE when using China CT card when VOICE/SMS is not available because of the unavailable SRLTE.

AT+QCFG="disable_backoff_lte"	Turn On/Off Backoff LTE Disabling Function
Write Command **AT+QCFG="disable_backoff_lte",<value>**	Response **OK** **ERROR**
Maximum Response Time	300ms

Parameter

<value>	1	Turn on backoff LTE disabling function
	0	Turn off backoff LTE disabling function

NOTE

Auto save the configuration to NV. The setting is still valid after module restart.

4.12. AT+QCFG="airplanecontrol" Wireless Disable Configuration

AT+QCFG="airplanecontrol"	Wireless Disable Configuration
Write Command **AT+QCFG="airplanecontrol"[,<enable>]**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "airplanecontrol",<enable>,<status>** **OK** If **<enable>** is not omitted, turn on/off the wireless disabling configuration: **OK** **ERROR**

Parameter

<enable>	Integer type, Wireless Disable Configuration 0 Wireless Disable feature disabled 1 Wireless Disable feature enabled. Enter airplane mode when Wireless Disable pin turns to active and exit airplane mode when Wireless Disable pin turns to inactive. Unsolicited result code **+QIND: airplanestatus,<status>** when Wireless Disable pin status changes. Not allowed exit airplane mode by **AT+CFUN=1** command when Wireless Disable pin active. 2 Wireless Disable feature enabled. Enter airplane mode when Wireless Disable pin turns to active and exit airplane mode when Wireless Disable pin turns to inactive. Unsolicited result code **+QIND: airplanestatus,<status>** when Wireless Disable pin level changes. Not allowed exit airplane mode by **AT+CFUN=1** command or QMI when Wireless Disable active.
<status>	Integer type, 0 Enter airplane mode 1 Exit airplane mode

NOTES

1. Wireless Disable pin active is low level and inactive is high level for now.
2. This setting takes effect immediately, and will be saved to NVRAM automatically.
3. Please refer to hardware design manual for more information about W_Disable pin.

Example

```
AT+QCFG="airplanecontrol"
+QCFG: "airplanecontrol",0,0        //Wireless Disable Configuration is 0, disabled

OK

//W_disable pin is active

AT+QCFG="airplanecontrol",1        //Active Wireless Disable Configuration and take effect immediately.
OK

+QIND: airplanestatus,1            //Enter airplane mode because W_disable pin is active

AT+CFUN?
+CFUN: 4                           //In airplane mode

OK

//Set W_disable pin to inactive

+QIND: airplanestatus,0            //Exit airplane mode

AT+CFUN?
+CFUN: 1 //In normal mode

OK

//Reboot modem

AT+QCFG="airplanecontrol"
+QCFG: "ariplanecontrol",1,0       //This setting still takes effect after reboot

OK

//Set W_disable pin to active

+QIND: airplanestatus,1            //Enter airplane mode
```

```
AT+CFUN?
+CFUN: 4                    //In airplane mode

OK
```

4.13. AT+QCFG="epcflag" Set Value of EPC Capability in Attach Request

AT+QCFG="epcflag"	Set Value of EPC Vapability in Attach Request
Write Command **AT+QCFG="epcflag",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG="epcflag",<n>** **OK** If **<n>** is not omitted, set the value of EPC capability in attach request: **OK** **ERROR**

Parameter

<n>	Integer type, value of EPC capability. 0 In LTE mode, set value of EPC capability in attach request information is 0. 1 In LTE mode, set value of EPC capability in attach request information is 1. .

NOTES

3. The default value of EPC capability is 1.
4. This setting will be saved automatically.

Example

```
AT+QCFG="epcflag"
+QCFG: "epcflag",1        //Query the value of EPC capability,1 is the default value

OK
```

```
AT+QCFG="epcflag",0     //Switch the default frequency of the SIM to 3.8MHz
OK

AT+QCFG="epcflag"
+QCFG: "epcflag",0      //Query the value of EPC capability, 0 is the current value

OK
```

4.14. AT+QCFG="lte/bandprior" Set Searching Oder Priority of LTE Band

AT+QCFG="lte/bandprior"	Set searching Order Priority of LTE Band
Write Command **AT+QCFG="lte/bandprior"[,<band1>][,<band2>][,<band3>]**	Response If **<band1>**, **<band2>** and **<band3>** are omitted, return the current configuration: **+QCFG: "lte/bandprior",<band1>[,<band2>][,<band3>]** **OK** If **<band1>**, **<band2>** and **<band3>** are omitted, set the searching order priority: **OK** **ERROR** If error is related to ME functionality: **+CME ERROR:<err>**
Maximum Response Time	300ms
Reference	

Parameter

<band1>	Band id of first preferred LTE BAND, range from 1 to 43
<band2>	Band id of second preferred LTE BAND, range from 1 to 43
<band3>	Band id of third preferred LTE BAND, range from 1 to 43

NOTES

1. There is no default value for **<band1>,<band2>,<band3>**.

2. If want to specify LTE band search priority, please set this command, then reboot the module.

Example

```
AT+QCFG="lte/bandprior",7,5,41          //Set searching order priority of LTE band
OK

//Reboot the module, this setting activates.

AT+QCFG="lte/bandprior"                 //Read searching order priority of LTE band
+QCFG: "lte/bandprior",07,05,41

OK
```

4.15. AT+QCFG="plmn/addinfbdn"

AT+QCFG =AT+QCFG="plmn/addinfbdn"	
Write Command **AT+QCFG="plmn/addinfbdn",<enable>**	Response If **<enable>** is omitted, return the current configuration: **+QCFG: "plmn/addinfbdn",<enable>** **OK** If **<enable>** is not omitted, configure whether to add the current PLMN into FPLMN event: **OK** **ERROR**

Parameter

<enable>	Integer type, configure whether to add the current PLMN into FPLMN event if it is in the EHPLMN. 0 Disabled 1 Enabled

NOTES

1. The configuration would not be saved into NV.
2. If the parameter is omitted, the default value or previous value will be used.

Example

```
AT+QCFG="plmn/addinfbdn"
+QCFG: "plmn/addinfbdn",0       //Query the current value, it is the default value 0.

OK
AT+QCFG="plmn/addinfbdn",1      //Switch the value to 1.
OK

AT+QCFG="plmn/addinfbdn"
+QCFG: "plmn/addinfbdn",1       //Query the current value, it is 1.

OK
```

4.16. AT+QCFG="cops_no_mode_change"

AT+QCFG =AT+QCFG="cops_no_mode_change"	
Write Command **AT+QCFG="cops_no_mode_change" ,<value>**	Response **OK** **ERROR**

Parameter

<value>	1	Disable the switch under cops auto mode.
	0	Enable the switch under cops auto mode.

NOTE

This setting takes effect immediately.

4.17. AT+QCFG="hplmn/search_timer" Configure HPLMN Search Interval

This command is used to configure HPLMN search interval. The configuration will take effect immediately and will not be saved.

AT+QCFG="hplmn/search_timer" Configure HPLMN Search Interval

Write Command	Response
AT+QCFG="hplmn/search_timer",<timer>	**OK** **ERROR**

Parameter

<timer>	HLPMN search interval (unit: min). Range: 1-71582.

NOTE

When the PLMN registered by the UE is different from HPLMN and EHPLMN, the HPLMN search timer will be started.

4.18. AT+QCFG="tdd/config" Get the LTE TDD Parameters

The command is used to get the LTE TDD parameters.

AT+QCFG="tdd/config" Get the LTE TDD Parameters	
Write Command **AT+QCFG="tdd/config",<assign>,<pattern>**	Response **+QCFG: "tdd/config",<assign>,<pattern>** **OK**

Parameter

<assign>	TDD Subframe Assignment. Range: 0-6.
<pattern>	TDD Special Subframe Patterns. Range: 0-8.

NOTE

These parameters are only available for LTE TDD

4.19. AT+QCFG="urc_cause_support" Control the URC Report of the Cause(ESM/EMM/CP)

This command is used to control whether to report the URC of the cause (ESM/EMM/CP) when the network reject the module and give a cause. The configuration will take effect immediately.

AT+QCFG="urc_cause_support"	Control the URC Report of the Cause (ESM/EMM/CP)
Write Command **AT+QCFG="urc_cause_support",<bit_mask_value>**	Response **OK** **ERROR**

Parameter

<bit_mask_value>	bit 0：support ESM causereport bit 1：support EMM causereport bit 2：support CP causereport

4.20. AT+QCFG="dhcppktfltr" Enable/Disable UDP DHCP Package Parsing

AT+QCFG="dhcppktfltr"	Enable/Disable UDP DHCP Package Parsing
Write Command **AT+QCFG="dhcppktfltr",<disable>**	Response If **<disable>** is omitted, return the current configuration: **+QCFG: "dhcppktfltr",<disable>** **OK** If **<disable>** is not omitted, enable/disable the UDP DHCP package by the local stack: **OK** **ERROR**

Parameter

<disable>	Integer type. 0 The UDP DHCP package is parsed by local stack after the module gets IP address. 1 The UDP DHCP package is shipped to the external network after the module gets IP address.

NOTES

1. The configuration will not be saved into NV.
2. If an parameter is omitted, the default value or previous value will be used

Example

```
AT+QCFG="dhcppktfltr"
+QCFG: "dhcppktfltr",0        //Query the current value, it is the default value 0.

OK
AT+QCFG="dhcppktfltr",1       //Switch the value to 1.
OK

AT+QCFG="dhcppktfltr"
+QCFG: "dhcppktfltr",1        //Query the current value, it is 1.

OK
```

4.21. AT+QCFG="oostimer" Set the Mode for OOS Search Network

AT+QCFG="oostimer" Set the Mode for OOS Search Network	
Write Command **AT+QCFG="oostimer",<timer1>,<timer2>,<timer3>**	Response If **<timer1>**, **<timer2>** and **<timer3>** are omitted, return the current configuration: **+QCFG: "oostimer ",< timer1>,<timer2>,<timer3>** **OK** If **<timer1>**, **<timer2>** and **<timer3>** are not omitted, set the mode for OOS search network: **OK** **ERROR**

Parameter

<timer1>	In the OOS state, first search the network 10 times with **<timer1>** as the cycle. Default value: 30. Unit: second.
<timer2>	If network cannot be found with**<timer1>**, search the network 10 times with **<timer2>** as the cycle. Default value: 45. Unit: second.
<timer2>	If network cannot be found with **<timer2>**, keep searching the network with **<timer3>**as

	the cycle. Default value: 60. Unit: second.

Example

```
AT+QCFG="oostimer",5,5,5

OK
```

4.22. AT+QCFG="apn/blocked"

AT+QCFG="apn/blocked"	Extension configuration
Write Command **AT+QCFG="apn/blocked"[,<block_mode>[,<efs_mode>]]**	Response If **<block_mode>** and **<efs_mode>** are omitted, return the current configuration: **+QCFG:"apn/blocked",<block_mode>,<efs_mode>** **OK** If **<block_mode>** and **<efs_mode>** are not omitted, **OK** or **ERROR**

Parameter

<block_mode>	Configure the APN which was blocked by network whether allowed to write NV.	
	0	Allowed to write, all the APN which was blocked by network are allowed to write its result to EFS.
	1	Not allow to write, all the APN which was blocked by network are not allowed to write its result to NV.
<efs_mode>	0	Query all APN that was blocked.
	1	Delete all APN that was blocked.

NOTE

<block_mode> will be saved to NV automatically, and this setting still take effect after module restart.

Example

```
AT+QCFG="apn/blocked"                  //Query apn/blocked mode.
+QCFG: "apn/blocked",0,0

OK

AT+QCFG=" apn/blocked ",0,1            //Configure <block_mode> to 0, and delete all blocked APN.
OK
```

4.23. AT+QCFG="redir/3gtolte" Configure the Redirection Mode

AT+QCFG="redir/3gtolte" Configure the Redirection Mode	
Write Command **AT+QCFG="redir/3gtolte"[,<redir_mode>]**	Response If **<redir/3gtolte>** is omitted, return the current configuration: **+QCFG:"redir/3gtolte",<redir_mode>** **OK** If **<redir/3gtolte>** is entered, configure the redirection mode: **OK** or **ERROR**

Parameter

<redir_mode>	Configure the redirection mode whether allow module redirect LTE from 3G. 0 Do not allow module redirect LTE from 3G once was rejected by network when try to register LTE. 1 Allow module redirect LTE from 3G if was rejected by network when try to register LTE.

NOTE

<redir_mode> will be saved to NV automatically, and this setting still takes effect after module restart.

Example

```
AT+QCFG="redir/3gtolte"                //Query the current configuration.
+QCFG: "redir/3gtolte", 0
```

```
OK

AT+QCFG="redir/3gtolte",1                    //Configure <redir_mode> to 1.
OK
```

4.24. AT+QCFG="rssi"

AT+QCFG="rssi"	
Write Command **AT+QCFG="rssi"[,<thereshold>]**	Response If **<thereshold>** is omitted, return the current configuration: **+QCFG: "rssi",<thereshold>** **OK** If **<thereshold>** is entered, **OK** or **ERROR**

Parameter

<thereshold>	Integer type. Range: 0-20. Default value: 5.

4.25. AT+QCFG="roamservice" Roam Service Configuration

The command is used to enable or disable the roam service. If **<effect>** is omitted, the configuration will take effect immediately.

AT+QCFG="roamservice" Roam Service Configuration	
Write Command **AT+QCFG="roamservice"[,<roammode>[,<effect>]]**	Response If **<roammode>** and **<effect>** are both omitted, return the current configuration: **+QCFG: "roamservice",<roammode>**

	OK If **<roammode>** and **<effect>** are entered, configure the mode of roam service : **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**
Maximum Response Time	300ms

Parameter

<roammode>	Number format. The mode of roam service 1 Disable roam service 2 Enable roam service 255 AUTO
<effect>	Number format. When to take effect 0 Take effect after UE reboots 1 Take effect immediately

4.26. AT+QCFG="pktsize" Obtain the MTU Value

The command is used to obtain the MTU value when using RmNet network card.

AT+QCFG="pktsize" Obtain the MTU Value	
Write Command **AT+QCFG="pktsize"**	Response **OK** or **ERROR**

4.27. AT+QCFG="fast_dormancy" Dynamically control the RRC connection

The command is used to dynamically control the RRC connection under WCDMA network.

AT+QCFG="fast_dormancy"	Dynamically control the RRC connection
Write Command **AT+QCFG="fast_dormancy"[,<op>[,<duration>]]**	Response If **<op>** and **<duration>** are omitted, return the current configuration: If **<op>** and **<duration>** are entered, dynamically control the RRC connection under WCDMA network: **OK** or **ERROR**

Parameter

<op>	Integer type. 0 Disable the feature of fast dormancy. 1 Query whether there is business data in the period of **<duration>** and if not, disconnect RRC automatically. 2 Disconnect RRC immediately.
<duration>	Integer type, only valid when **<op>**=1. Unit: second. Range: 1-65535. Default value: 5.

4.28. AT+QCFG="airplane" Airplane Mode Configuration

AT+QCFG="airplane"	Airplane Mode Configuration
Write Command **AT+QCFG="airplane",<n>**	Response If **<n>** is omitted, return current configuration: **+QCFG: "ariplane",<n>** **OK** If **<n>** is entered, configure the airplane mode: **OK** **ERROR**

Parameter

<n>	Integer type, Airplane Mode Configuration 0 Not set, use default setting at EFS file

1	Force entry into Airplane Mode
2	Force exit Airplane Mode

NOTE

This setting will be saved automatically in NVM. And take effect when the module is restarted.

Example

```
AT+QCFG="airplane"
+QCFG: "airplane",0     //Query the value of Airplane Mode Configuration, 0 is the default value.

OK

AT+QCFG="airplane",1 //Set <n>=1, force entry into Airplane Mode.
OK

//Reboot modem
AT+QCFG="airplane"
+QCFG: "ariplane",1     //Query the value of Airplane Mode Configuration,1 is the current value

OK
```

4.29. AT+QCFG="rrc/control" Configure the Feature of RRC Control

AT+QCFG="rrc/control" Configure the Feature of RRC Control	
Write Command **AT+QCFG="rrc/control"[,<enable>,<crrc>,<trrc>,<wai_time>,<bar_opt>,<conn_est_latency>]**	Response If **<enable>**, **<crrc>**, **<trrc>**, **<wai_time>**, **<bar_opt>** and **<conn_est_latency>** are omitted, return current configuration: **+QCFG: "rrc/control",<enable>,<crrc>,<trrc>,<wai_time>,<bar_opt>,<conn_est_latency>** **OK** If **<enable>**, **<crrc>**, **<trrc>**, **<wai_time>**, **<bar_opt>** and**<conn_est_latency>** are entered, control the feature of RRC control: **OK** **ERROR**

Parameter

<enable>	Integer type. Enable/disable the feature of RRC control. 0 Disable 1 Enable
<crrc>	Integer type. Indicates the count of RRC failure number. Range: 0-60. Default value: 0.
<trrc>	Integer type. Indicates the duration of the cell access being denied when the CRRC meets the condition. Range: 0-60. Default value: 0.
<wai_time>	Integer type. The waiting time to add blacklist after RRC failure. Range: 0-300. Default value: 0.
<bar_opt>	Integer type. 0 1 The cause of the random access failure reported by the RRC to the NAS layer is fixed into LTE RRC CONN_EST_FAILURE_CONN_REJECT.
<conn_est_latency>	Integer type. Indicates the extend wait time corresponded to **<bar_opt>**. Range: 0-60. Default value: 0.

4.30. AT+QCFG="nwscanmodeex" Configure the Network Searching Mode

AT+QCFG="rrc/control" Configure the Network Searching Mode	
Write Command **AT+QCFG="nwscanmodeex"[,<mode>]**	Response If **<mode>** is omitted, return current configuration: **+QCFG: "nwscanmodeex",<mode>** OK If **<mode>** is entered, control the feature of network searching mode: **OK** **ERROR**

Parameter

<mode>	Integer type, default value: 63.

NOTES

1. This setting will be saved automatically in NVM, and take effect immediately.
2. When Bit 0 to Bit 5 are all set to 1, corresponding to **<scanmode>**=0 of command **AT+QCFG="nwscanmode"**.
   Bit 0 : cdma2000 1X
   Bit 1 : cdma2000 HRPD (1xEV-DO)
   Bit 2 : GSM
   Bit 3 : WCDMA
   Bit 4 : LTE
   Bit 5 : TDS
   If only configure LTE, indicated as 0001 0000, corresponding to 16 in decimal.
   AT+QCFG="nwscanmodeex",16 //LTE only

Example

```
AT+QCFG="nwscanmodeex",28   //Configure network searching mode to GSM,WCDMA,LTE
                              0001 1100 →28
OK

AT+QCFG=" nwscanmodeex"
+QCFG: "nwscanmode",28

OK
```

4.31. AT+QCFG="assign_plmn_in_limit_search" Camp on the Cell Operator

The command is used to enable/disable the feature of camping on the cell operator with limit service when no SIM card inserted.

AT+QCFG="assign_plmn_in_limit_search" Camp on the Cell Operator	
Write Command **AT+QCFG="assign_plmn_in_limit_search"[,<enable >,<plmn>]**	Response If **<enable>** and **<plmn>** are omitted, return the current configuration: **+QCFG: "assign_plmn_in_limit_search",<enable>,<plmn>** **OK** If **<enable>** and **<plmn>** are entered, enable/disable the feature of camping on the cell operator with limit service when

	no SIM card inserted: **OK** **ERROR**

Parameter

<enable>	Integer type. 0 Disable 1 Enable
<plmn>	The Operator name, such as for China Mobile, it is "46000".

NOTE

The configuration only take effect after switching CFUN=0/1 or rebooting the module and need to cooperate with lock type.

Example

```
AT+QCFG="assign_plmn_in_limit_search",1,"46000"
OK
AT+QCFG="assign_plmn_in_limit_search",0
OK
AT+QCFG="assign_plmn_in_limit_search"
+QCFG: "assign_plmn_in_limit_search",1,46000

OK
```

4.32. AT+QCFG="iprulectl" Configure the Gateway Generation Rule

The command is used to enable/disable the customized gateway generation rule when the module used as the network card.

AT+QCFG="iprulectl" Configure the Gateway Generation Rule	
Write Command **AT+QCFG="iprulectl"[,<type>]**	Response If **<type>** is omitted, return the current configuration: **+QCFG: "iprulectl",<type>** **OK** If **<type>** is entered, enable/disable the customized gateway generation rule:

	OK **ERROR**

Parameter

<type>	Integer type, indicates the service status. 0 Use the default rule to generate the gateway. 1 Fix the gateway address as IP address minus 1.

NOTES

1. The default gateway generation rule: If the IP address is odd, the gateway address is IP plus 1, if the IP address is even, the gateway address is IP minus 1.
2. The configuration take effect immediately and the client need to be re-connected.
3. The configuration is still valid after power down.

Example

```
AT+QCFG="iprulectl"
+QCFG: "iprulectl",0

OK
AT+QCFG="iprulectl",1
OK
```

4.33. AT+QCFG="disrplmn" Configure RPLMNact for Network Searching

AT+QCFG="disrplmn"	**Configure RPLMNact for Network Searching**
Write Command **AT+QCFG="disrplmn"[,<RPLMN_enable>,<RPLMNact_enable>]**	Response If **<RPLMN_enable>** and **<RPLMNact_enable>** are omitted, return current configuration: **+QCFG: "disrplmn",<RPLMN_enable>,<RPLMNact_enable>** **OK** If **<RPLMN_enable>** and **<RPLMNact_enable>** are entered, configure RPLMNact for network searching: **OK** Or

	ERROR If there is any error related to ME functionality: **+CME ERROR: <err>**

Parameter

<RPLMN_enable>	Integer type, whether use RPLMN when search network. 0 Not to use RPLMN when search network. 1 Use RPLMN when search network
<RPLMNact_enable>	Integer type, whether use RPLMNact when search network 0 Not to use RPLMNact when search network 1 Use RPLMNact when search network

NOTE

The combination of **<RPLMN_enable>**=1 and **<RPLMNact_enable>**=0 is invalid.

5 PS Commands

5.1. AT+QCFG="ntp" Specify the Maximum Query Times and the Interval of NTP

The command is used to specify the maximum query times and the interval of NTP. The configuration will take effect immediately.

AT+QCFG="ntp"	Specify the Maximum Query Times and the Interval of NTP
Write Command **AT+QCFG="ntp"[,<cnt>,<interval>]**	Response If **<cnt>** and **<interval>** are omitted, return the current configuration: **+QCFG: "ntp",<cnt>,<interval>** **OK** If **<cnt>** and **<interval>** are not omitted, specify the maximum query times and the interval of NTP: **OK** **ERROR**

Parameter

<cnt>	Integer type, NTP send Cnt configuration, range: 1-10, the default value is 3.
<interval>	Integer type, NTP send Interval configuration, range:5-60, the default value is 15.

Example

```
AT+QCFG="ntp"
+QCFG: "ntp",3,15       //Query the value of ntp cnt and interval configuration,3 and 15 are the default
                          values
OK

AT+QCFG="ntp",5,20      //Set value of ntp cnt and interval Configuration Mode
OK
```

```
AT+QCFG="ntp"
+QCFG: "ntp",5,20      //Query the current value of ntp cnt and interval configuration.
OK
```

5.2. AT+QCFG="TCP/SendMode"

AT+QCFG="TCP/SendMode"	
Write Command **AT+QCFG="TCP/SendMode"[,<mode>]**	Response If **<mode>** is omitted, return the current configuration: **+QCFG: "TCP/SendMode",<mode>** **OK** If **<mode>** is omitted, **OK** Or **ERROR** If error is related to ME functionality: **+CME ERROR: <err>**

Parameter

<mode>	Range: 0-1.	
	0	At port responses "SEND OK" immediately after TCP socket sending data from serial port.
	1	At port responses "SEND OK" until receiving the ack form remote tcp socket.

Example

```
AT+QCFG="TCP/SendMode"
+QCFG: "TCP/SendMode",0

OK
AT+QCFG="TCP/SendMode",1
OK
```

5.3. AT+QCFG="tcp/windowsize" Configure the Available Size of TCP Window Size

The command is used to configure the available size of TCP window size when sending/receiving data.

AT+QCFG="tcp/windowsize"	Configure the Available Size of TCP Window Size
Write Command **AT+QCFG="tcp/windowsize"[,<buffer>,<window_size>]**	Response If **<buffer>** and **<window_size>** are omitted, return current configuration: **+QCFG: "disrplmn",<buffer>,<window_size>** **OK** If **<buffer>** and **<window_size>** are entered, configure the available size of TCP window size: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**

Parameter

<buffer>	Integer type, whether use RPLMN when search network. 0 Receiving buffer 1 Sending buffer
<window_size>	Integer type, the available size of TCP window size. Range: 16-100.

6 CS Commands

6.1. AT+QCFG="amrcodec" AMR Codec Configuration

AT+QCFG="amrcodec"	AMR Codec Configuration
Write Command **AT+QCFG="amrcodec"[,<preference>]**	Response If **<preference>** is omitted, return the current configuration: **+QCFG: "amrcodec",<preference>** **OK** If **<preference>** is not omitted, configure AMR Codec: **OK** **ERROR**

Parameter

<preference>	AMR configurations(e.g. 7=1+2+4 means GSM AMR NB&GSM AMR WB&GSM HR AMR) 0 No AMR configuration 1 GSM AMR NB 2 GSM AMR WB 3 GSM HR AMR 8 WCDMA AMR WB 16 IMS AMR WB (Mode Set) 32 IMS AMR WB (Octet aligned mode) 63 The above six AMR configurations are supported 64 Reserved 128 Reserved

Example

```
AT+QCFG="AMRCODEC"          //Read configuration
+QCFG: "amrcodec",5
```

```
OK
AT+QCFG="amrcodec",63          //Write configuration
OK
AT+QCFG="amrcodec"
+QCFG: "amrcodec",63

OK
```

6.2. AT+QCFG="frhrcodec" GSM EFR/HR/FR Codec Configuration

AT+QCFG="frhrcodec" GSM EFR/HR/FR Codec Configuration	
Write Command **AT+QCFG="frhrcodec"[,<preference>]**	Response If **<preference>** is omitted, return the current configuration: **+QCFG: "frhrcodec",<preference>** **OK** If **<preference>** is not omitted, configure GSM Codec: **OK** **ERROR**
Reference	

Parameter

<preference>	GSM EFR/HR/FR configurations(e.g. 7=1+2+4 means GSM EFR/HR/FR) 0 No codec configuration 1 GSM FR 2 GSM HR 4 GSM EFR

Example

```
AT+QCFG="frhrcodec" //read configuration
+QCFG: "frhrcodec",7
OK
AT+QCFG="frhrcodec",3 //write configuration gsm hr and fr
OK
```

```
AT+QCFG="frhrcodec"
+QCFG: "frhrcodec",3
OK
```

6.3. AT+QCFG="bip/auth" Configure the Type of PDP Authentication in the BIP Process

AT+QCFG= bip/auth"	Configure the Type of PDP Authentication in the BIP Process
Write Command **AT+QCFG="bip/auth",<n>**	Response **OK**

Parameter

<n> Configure the type of PDP authentication in the BIP process
- 0 No PDP authentication
- 1 PAP PDP authentication type
- 2 CHAP PDP authentication type

NOTES

1. PDP in the BIP process generally does not require authentication.
2. Currently this command only support for IDEMIA operator.
3. This setting takes effect immediately.

Example

```
AT+QCFG="bip/auth"

+QCFG: "bip/auth",0      //No PDP authentication by default.
OK

AT+QCFG="bip/auth",1   //Set PAP as the PDP authentication type in the BIP process.
OK

AT+QCFG="bip/auth"

+QCFG: "bip/auth",1
OK
```

6.4. AT+QCFG="sms/listmsgmap" List the Message Map

AT+QCFG="sms/listmsgmap" List Message Map	
Write Command **AT+QCFG="sms/listmsgmap",<msgmap>**	Response **+QCFG: "sms/listmsgmap",<msgtype>,<msgmap>** **OK** If error is related to ME functionality: **+CME ERROR: <err>**
Reference	

Parameter

<msgtype >	Message type	
	"rec unread"	Received unread messages
	"rec read"	Received read messages
	"sto unsent"	Stored unsent messages
	"sto sent"	Stored sent messages

NOTE

This subcommand lists messages with the type specified by **<msgmap>** in the storage specified by **<mem1>** of **AT+CPMS**;
<msgmap> shows the bit map of total messages in the storage specified by **<mem1>** of **AT+CPMS**. If the bit is 1, it means the message is on the type specified by **<msgtype>**. If the bit is 0, it means the message is not on the type specified by **<msgtype>**;
The position of the bit in bit map specified by **<msgtype>** indicates the message index in the storage specified by **<mem1>** of **AT+CPMS**. The most significant bit represents the less message index in the storage specified by **<mem1>** of **AT+CPMS**;

Example

```
AT+QCFG=?           //Query supported system configurations

+QCFG: "sms/listmsgmap",("rec unread","rec read","sto unsend","sto sent")

OK

AT+QCFG?            //Query current values of system configurations

OK
```

```
AT+QCFG="wrongsubcommand"              //Execute wrong sub command.

ERROR

AT+CPMS?
+CPMS: 24,40,24,40,24,40

OK

AT+QCFG="sms/listmsgmap","rec unread"   //List the received unread message map
+QCFG: "sms/listmsgmap","rec unread"," 000F5B0000"

OK

AT+QCFG?                //Query current values of system configurations

OK
```

6.5. AT+QCFG="ims/ut" Enable/Disable IMS/UT Function

AT+QCFG Enable Or Disable IMS/UT Function	
Write Command **AT+QCFG="ims/ut"[,<n>]**	Response If **<n>** is omitted, return the current configuration: **+QCFG: "ims/ut",<n>,<ics>,<ussd>** **OK** If **<n>** is not omitted, enable/disable the IMS/UT Function **OK** or **ERROR** If error is related to ME functionality: **+CME ERROR:<err>**

Parameter

<n>	Integer type, IMS/UT function state. 2 Disable IMS/UT function 2 Enable IMS/UT function
<ics>	Integer type, Supplementary service over LTE state.

	0	Supplementary service over LTE is available
	1	Supplementary service over LTE is unavailable
<ussd>	Integer type, USSD over LTE state.	
	0	USSD over LTE is available
	1	USSD over LTE is unavailable

NOTE

3. This setting will be saved automatically in NV70263. And take effect when the module is restarted.
4. UT is a sub function of IMS function, UT is running over IMS, IMS is running over LTE.
5. If **<ics>** is 0, it means Supplementary service (eg: CCFC/CCWA) over LTE NOT allow.
6. If **<ussd>** is 0, it means USSD over LTE NOT allow.
7. If disable IMS/UT function, **<ics>** MUST be 0 and Supplementary service (eg: CCFC/CCWA) over LTE NOT allow, it will use CSFB.

Example

```
AT+QCFG="ims/ut"
+QCFG: "ims/ut",1,1,0                 //UT is enable, ics is available, ussd is available
OK

AT+QCFG="ims/ut",0                    //Restart module and ims/ut function is disable.
                                      //CCFC and CCWA will not use IMS domain, use CSFB.
OK

AT+QCFG="ims/ut"
+QCFG: "ims/ut",0,0,0
OK
```

6.6. AT+QCFG="ims" Configuring IMS Function

AT+QCFG="ims" Configuring IMS Function	
Write Command **AT+QCFG="ims",<ims_conf>**	Response If **<ims_conf>** are omitted, return the current configuration: **+QCFG: "ims",<ims_conf>,<volte_cap>** **OK** If **<preference>** is not omitted, configure GSM Codec: **OK**

	ERROR If error is related to ME functionality: **+CME ERROR:<err>**

Parameter

<ims_conf>	Integer type, indicates the IMS function configuration. 0 Not set, use default setting at MBN file 1 Force IMS function enable 2 Force IMS function disable
<volte_cap>	Integer type, indicates the capability of VoLTE. 0 VoLTE is disabled 1 VoLTE is enabled

NOTE

This setting will be saved automatically in NV67218. And take effect when the module is restarted.

Example

```
AT+QCFG="ims"
+QCFG: "ims",0,0

OK

AT+QCFG="ims",1

OK

AT+QCFG="ims"          //You can make a VoLTE session
+QCFG: "ims",1,1

OK
```

6.7. AT+QCFG="ltesms/format" Set format of SMS in LTE Mode

AT+QCFG ="ltesms/format" Set format of SMS in LTE Mode	
Write Command **AT+QCFG="ltesms/format"[,<n>]**	Response If **<n>** is omitted, return the current configuration:

	+QCFG="ltesms/format",<n> **OK** If **<n>** is not omitted, set the format of SMS in LTE mode **OK** **ERROR** If error is related to ME functionality: **+CME ERROR:<err>**
Maximum Response Time	300ms
Reference	

Parameter

<n>	0	CDMA format
	1	GSM format

NOTES

3. Project EC21V/EC21VD/EC25VD/EC25V, default value of **<n>** is 0.
4. Other project, default value of **<n>** is 1.

Example

```
AT+CMGF=1
OK

AT+QCFG="ltesms/format",0              //Set CDMA format for SMS in LTE mode
OK

AT+CMGS="15021012496"                  //Send CDMA format SMS in LTE mode
> This is a test from Quectel
+CMGS: 24

OK

AT+QCFG="ltesms/format",1              //Set GSM format for SMS in LTE mode
OK

AT+CMGS="15021012496"                  //Send GSM format SMS in LTE mode
> This is a test from Quectel
```

```
+CMGS: 25

OK
```

6.8. AT+QCFG="mwictl" Enable MWI function

AT+QCFG="mwictl" Enable mwi function	
Write Command **AT+QCFG="mwictl",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG="mwictl",<n>** **OK** If **<n>** is not omitted, enable/disable the MWI function: **OK** **ERROR**

Parameter

<n>	Integer type, configuration of this AT command. 0 Disable mwi function 1 Enable mwi function

NOTES

1. The default value of mwictl is 0.
2. This setting will be saved automatically in EFS file

Example

```
AT+QCFG="mwictl"
+QCFG: "mwictl",1

OK

AT+QCFG="mwictl",0
OK

AT+QCFG="mwictl"
+QCFG: "mwictl",0
```

OK

6.9. AT+QCFG="sms/omadm" Set OMADM Message Parsing Mode

AT+QCFG="mwictl" Set OMADM Message Parsing Mode	
Write Command **AT+QCFG="sms/omadm",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG="sms/omadm",<n>** **OK** If **<n>** is not omitted, set the OMADM massage parsing mode: **OK** **ERROR**

Parameter

<n>	Integer type, value of EPC capability. 0 OMADM short message is parsed 1 OMADM short message is not parsed

NOTES

1. The default value of OMADM short message is parsed.
2. This setting will be saved automatically.

Example

```
AT+QCFG="sms/omadm"
+QCFG: "sms/omadm",0        //Query the value of OMADM SMS,0 is the default value

OK

AT+QCFG="sms/omadm",1       // Set the value of OMADM SMS to 1
OK

AT+QCFG="sms/omadm"
+QCFG: "sms/omadm",0        //Query the value of OMADM SMS,1 is the current value
```

```
OK
```

6.10. AT+QCFG="volte_disable" Turn On/Off VoLTE Disabling Function

AT+QCFG="volte_disable"	Turn On/Off VoLTE Disabling Function
Write Command **AT+QCFG="volte_disable",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG="volte_disable",<n>** **OK** If **<n>** is not omitted, turn on/off VoLTE disabling function: **OK** **ERROR**

Parameter

<n>	Integer type, VoLTE disable function switch. 3 VoLTE disable function OFF 4 VoLTE disable function ON

NOTES

1. For EC21VD and EC25VD, default Values is 1. Other projects are 0.
2. This setting will be saved automatically in EFS file: /nv/item_files/quectel/qcfg_volte_disable.

Example

```
AT+QCFG="volte_disable"
+QCFG: "volte_disable",0          //For EC21VD and EC25VD, default Value is 1.Other Projects
                                    are 0
OK

AT+QCFG="volte_disable",1         //All VoLTE MT,MO calls will be rejected.

OK
```

6.11. AT+QCFG="Feature_Switch_Flag" Enable/Disable Some Quectel Feature

The command is used to enable/disable some Quectel feature.

AT+QCFG="Feature_Switch_Flag"	Enable/Disable Some Quectel Feature
Write Command **AT+QCFG="Feature_Switch_Flag",<enable>,<Feature_bit_map>**	Response **OK** **ERROR**

Parameter

<enable> Configure some quectel feature
0 Disable the Feature_bit_map indicate feature
1 Enable the Feature_bit_map indicate feature

<Feature_bit_map> Different bit mean different Feature function, 32bit indicate 32 Feature Switch
In Read Command Response: the bit mean whether the feature enable or not ,
If the bit is 1 mean the feature is enable ,if the bit is 0 mean the feature is disable

In the Set Command: the bit mean whether configure the feature or not,
If the bit is 1 mean the feature will be set ,if the bit is 0 mean the feature not set
0x01 Report ETWS URC feature Bit
(In EC25J_DCM, EC21J_DCM, EC25J_SBK, EC25J, EC21J
Default enable the Feature ,other project disable)

NOTE

Auto save the configuration to NV. The setting is still valid after module restart.

Example

```
AT+QCFG="Feature_Switch_Flag"          //Query which features are currently enabled.
+QCFG: "Feature_Switch_Flag",0

OK

AT+QCFG="Feature_Switch_Flag",1,1      //Enabled the ETWS URC reporting feature.
OK

AT+QCFG="Feature_Switch_Flag",0,1      //Disabled the ETWS URC reporting feature.
OK
```

6.12. AT+QCFG="imsreg/iptype" Configure IP Type for IMS Registration

AT+QCFG="imsreg/iptype"	Configure IP Type for IMS Registration
Write Command **AT+QCFG="imsreg/iptype",<n>**	Response **OK**
Reference	

Parameter

<n>	Configure IP type for IMS registration.	
	0	IPV4
	1	IPV6

NOTE

This setting only takes effect after module restart.

Example

```
AT+QCFG="imsreg/iptype"
+QCFG: "imsreg/iptype",0          //The current configuration is IPV4

OK

AT+QCFG="imsreg/iptype",1         //Configure the IP type when IMS registering to IPV6.
OK

AT+QCFG="imsreg/iptype"
+QCFG: "imsreg/iptype",1

OK
```

6.13. AT+QCFG="sim/recovery" Configure SIM Card Hot-Swap

AT+QCFG="sim/recovery"	Configure SIM Card Hot-Swap
Write Command **AT+QCFG="sim/recovery"[,<recovery_count>,<auto_detect_period>,<auto_detect_count>]**	Response If **<recovery_count>**, **<auto_detect_period>** and **<auto_detect_count>** are omitted, return the current configuration: **+QCFG: "sim/recovery",<recovery_count>,<auto_detect_period>,<auto_detect_count>** **OK** If **<recovery_count>**, **<auto_detect_period>** and **<auto_detect_count>** are entered, configure SIM card hot-swap: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**

Parameter

<recovery_count>	Integer type. The number of times to resend an APDU immediately after sending an APDU to receive an error response.
<auto_detect_period>	Integer type. Automatic detection cycle. Unit: second.
<auto_detect_count>	Integer type. The number of times of automatic detection.

NOTES

1. This command is a software hot-swap implementation, which correspond to the hardware hot-swap implementation by **AT+QSIMDET**.
2. This setting only takes effect after module restart.

Example

```
AT+QCFG="sim/recovery"
+QCFG: "sim/recovery",3,0,0          //The feature of software hot-swap is disabled.

OK
```

6.14. AT+QCFG="siminvalirecovery" Enable/Disable Re-attach Request

The command is used to enable/disable re-attach request after SIM card attaching failure.

AT+QCFG="siminvalirecovery"	Enable/Disable Re-attach Request
Write Command **AT+QCFG="siminvalirecovery"[,<enable>,<timer>,<counter>]**	Response If **<enable>, <timer>** and **<counter>** are omitted, return the current configuration: **+QCFG: "siminvalirecovery",<enable>,<timer>,<counter>** **OK** If **<enable>, <timer>** and **<counter>** are entered, enable/disable re-attach request after SIM card attaching failure: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**

Parameter

<enable>	Integer type. 1 Enable 0 Disable
<timer>	Time interval between two attach requests. Unit: s. Range: 1-60. Default value: 5.
<counter>	The maximum number of attaching requests. Range: 1-255. Default value: 5. When the value is 255, indicates an unlimited number of times.

NOTE

Invalid sim card is required when testing this command.

Example

```
AT+QCFG="siminvalirecovery",1,10,255
OK
AT+QCFG="siminvalirecovery",0,1,255
OK
```

6.15. AT+QCFG="roaming/voicecall" Enable/Disable Voice Call

The command is used to enable/disable the feature of Voice Call in roaming mode.

AT+QCFG="roaming/voicecall"	Enable/Disable Voice Call
Write Command **AT+QCFG="roaming/voicecall"[,<voicecall_mode>]**	Response If **<voicecall_mode>** is omitted, return the current configuration: **+QCFG: "roaming/voicecall",<voicecall_mode>** **OK** If **<voicecall_mode>** is entered, return the current configuration: **OK** Or **ERROR** If there is any error related to ME functionality: **+CME ERROR: <err>**

Parameter

<voicecall_mode>	Enable/Disable the feature of Voice Call when UE in the roaming mode. 0 Enable 1 Disable

NOTE

The configuration will be saved to NV automatically. Restarting the module it would be valid.

7 PPP Commands

7.1. AT+QCFG="ppp/termframe" Enable/Disable the PPP TERM Frame Sending

The command is used to enable/disable the PPP TERM frame sending when PPP is hung up by module itself.

AT+QCFG="ppp/termframe" Enable/Disable the PPP TERM Frame Sending	
Write Command **AT+ QCFG="ppp/termframe"[,<flag>]**	Response If **<flag>** is omitted, return the current configuration: **+QCFG: "ppp/termframe",<flag>** **OK** If **<flag>** is not omitted, enable/disable the PPP TERM frame sending: **OK** **ERROR**

Parameter

<flag>	Integer type.	
	0	Disable TERM frame sending when hang up PPP by module itself.
	1	Enable TERM frame sending when hang up PPP by module itself.

NOTES

1. This setting will be saved into NV.
2. If **AT+QPPPDROP** hangs up PPP with TERM frame, module will send TERM frame to MCU no matter whether **<flag>** is 0 or 1.

Example

```
AT+QCFG="ppp/termframe",1
```

```
OK

AT+QCFG="ppp/termframe"
+QCFG: "ppp/termframe",1

OK
```

8 USB Commands

8.1. AT+QCFG="usbnet"

AT+QCFG ="usbnet" func	
Write Command **AT+QCFG="usbnet",<net>**	Response If **<net>** is omitted, return the current configuration: **+QCFG: "usbnet ",<n>** **OK** If **<net>** is not omitted, balala **OK** **ERROR** If error is related to ME functionality: **+CME ERROR:<err>**
Maximum Response Time	300ms
Reference	

Parameter

<net>	The protocol of net port 0 RMNET interface 1 ECM interface 2 MBIM interface 3 RNIDS interface

NOTE

This setting takes effect after the module restart.

8.2. AT+QCFG="usbid" Configure VID and PID

The command is used to change the VID(Vendor ID) and PID(Product ID) for the module.

AT+QCFG="usbid" Configure VID and PID	
Write Command **AT+QCFG="usbid",<vid>,<pid>**	Response If **<vid>** and **<pid>** are omitted, return the current configuration: **+QCFG:"usbid",<vid>,<pid>** **OK** If **<vid>** and **<pid>** are omitted, change the VID and PID: **OK** **ERROR**

Parameter

<vid>	Vendor ID of USB device, the maximum value is 65535
<pid>	Product ID of USB device, the maximum value is 65535

NOTE

This setting will be saved to NV automatically.

8.3. AT+QCFG="usbcfg" Configure VID, PID and Porting Settings

The command is used to configure VID, PID and port settings for the module.

AT+QCFG="usbcfg" Extended Configuration Settings	
Write Command **AT+QCFG="usbcfg",<vid>,<pid>,<diag>,<nmea>,<at_port>,<modem>,<net>,<adb>**	Response If configuration parameters are omitted,return the current configuration: **+QCFG:"usbcfg",<vid>,<pid>,<diag>,<nmea>,<at_port>,<modem>,<net>,<adb>** **OK** If configuration parameters are not omitted, configure VID, PID and port settings:

	OK **ERROR**

Parameter

<vid>	Vendor ID of USB device, the maximum value is 65535
<pid>	Product ID of USB device, the maximum value is 65535
<diag>	Status of USB DIAG port 0 Disable 1 Enable
<nmea>	Status of USB NMEA port 0 Disable 1 Enable
<at_port>	Status of USB AT port 0 Disable 1 Enable
<modem>	Status of USB Modem port 0 Disable 1 Enable
<net>	Status of USB net device 0 Disable 1 Enable
<adb>	Status of USB ADB device 0 Disable 1 Enable

NOTE

This setting will be saved to NV automatically.

Example

```
AT+QCFG=" usbid",1478,37397          // Set USB VID to 1478(0x05c6) and PID to 37397(0x9215)
OK

AT+QCFG=" usbid"                     //Query the USB VID & PID
+QCFG: "usbid",11388,293

OK

AT+QCFG="usbcfg",11388,293,1,1,1,1,1 //Set USB VID to 11388(0x2C7C) and PID to 293(0x0125) and
                                      enable the DIAG,NMEA,AT,MODEM,RMNET port
OK
```

8.4. AT+QCFG="usbee" Control the USB Device Loading

The command is used to control whether USB device loading needs to wait for Modem to start.

AT+QCFG="usbee" Control the USB Device Loading	
Write Command **AT+QCFG= "usbee"[,<on_off>]**	Response If **<on_off>** is omitted, return the current configuration: **+QCFG: "usbee",<on_off>** OK If **<on_off>** is entered, control whether USB device loading needs to wait for Modem to start: **OK** or **ERROR**

Parameter

<on_off>	Integer type. 0 The USB device loading not need to wait for Modem to start. 1 The USB device loading need to wait for Modem to start.

8.5. AT+QCFG="usbmode" Get USB Bus Mode

The command is used to query USB bus mode or enable/disable the module to automatically report URCs about bus mode change.

AT+QCFG=usbmode" Get USB Bus Mode	
Write Command **AT+QCFG="usbmode"[,<n>]**	Response If **<n>** is omitted, return the current configuration: **+QCFG:"usbmode",<n>,<state>** OK If **<n>** is entered, configure the module to automatically report URCs about bus mode change: **OK** **ERROR**

Parameter

<n>	Integer type. The operation about data counter. 0 Disable to automatically report URCs about USB bus mode change. 1 Enable to automatically report URCs about USB bus mode change.
<state>	Integer type, indicates the USB bus mode. "SUSPEND" "CONFIGURED" "DISCONNECTED" "CONNECTED" "UNKNOWN"

NOTE

1. The configuration will take effect immediately.
2. When **<n>**=1, URCs can be reported to UART1.
3. Only when **<state>**="CONFIGURED", application can transfer data via USB.
4. Only when VBUS of USB PHY is connected (such as charger), **<state>** can be switched to "CONNECTED".

Example

```
AT+QCFG="usbmode"
+QCFG:"usbmode",0,"SUSPEND"

OK
AT+QCFG="usbmode",1                    //Set <n> to 1 for report URCs about bus mode
                                         change.
OK
+QCFG:"usbmode",1,"CONFIGURED"         //The URC about USB bus mode "CONFIGURED".
```

9 CDMA Commands

9.1. AT+QCFG="cdma/pppauth" Enable/Disable the PPP Authentication Optimization under CDMA

AT+QCFG="cdma/pppauth"	Enable/Disable the PPP Authentication Optimization under CDMA
Write Command **AT+QCFG="cdma/pppauth",<n>**	Response **OK**

Parameter

<n> Whether to enable the PPP authentication optimization under CDMA.
0 Disable
1 Enable

NOTE

This setting takes effect immediately, and will not be saved to NV.

Example

```
AT+QCFG="cdma/pppauth"
+QCFG: "cdma/pppauth",0      //The PPP authentication optimization is disabled by default.
OK

AT+QCFG="cdma/pppauth",1     //Enable the PPP authentication optimization under CDMA.
OK

AT+QCFG="cdma/pppauth"
+QCFG: "cdma/pppauth",1
OK
```

9.2. AT+QCFG="cdmaruim" Enable/Disable PPP CHAP Response Generation

The command is used to enable/disable the PPP CHAP response generation.

AT+QCFG="cdmaruim"	Enable/Disable PPP CHAP Response Generation
Write Command **AT+QCFG="cdmaruim",<ruim_ctrl>**	Response If **<ruim_ctrl>** is omitted, return the current configuration: **+QCFG: "cdmaruim",<ruim_ctrl>** **OK** If **<ruim_ctrl>** is not omitted, enable/disable PPP CHAP response generation. **OK** **or** **ERROR**

Parameter

<ruim_ctrl>	Enable/Disable generate PPP CHAP response.	
	0	Use the User Name/Password from USIM and use MMGSDI md5 response format.
	1	Use the User Name/Password from NV and use SW md5 response format

NOTES

1. This setting will be saved to NV automatically, and still take effect after module restart.
2. If this nv is not set ,the module will set the nv item to 1 when generate CHAP response in PPP process.
3. This command is only used for China Telecom 2G/3G.

Example

```
AT+QCFG="cdmaruim"              //Query the way of generate CHAP response.
+QCFG: "cdmaruim",1

OK

AT+QCFG="cdmaruim",0            //Configure the way of generate CHAP response.
OK
```

9.3. AT+QCFG="ehrpd" Configure CDMA Mode

The command is used to configure the net mode which the module expect to use.

AT+QCFG="ehrpd" Configure CDMA Mode	
Write Command **AT+QCFG="ehrpd",<mode>**	Response If **<mode>** is omitted, return the current configuration: **+QCFG:" ehrpd ",< mode>** **OK** If **<mode>** is not omitted, configure the CDMA mode. **OK** **or** **ERROR**

Parameter

<mode>	Configure the net mode which the module is expect to use by write NV 0 HDRSCP_REV0_PROTOCOLS_ONLY 1 HDRSCP_REVA_PROTOCOLS_WITH_MFPA 2 HDRSCP_REVA_PROTOCOLS_WITH_MFPA_AND_EMPA 3 HDRSCP_REVB_PROTOCOLS_WITH_MMPA 4 HDRSCP_REVA_PROTOCOLS_WITH_EHRPD 5 HDRSCP_REVB_PROTOCOLS_WITH_EHRPD 6 HDRSCP_REVA_PROTOCOLS_WITH_EHRPD_AND_IRAT 7 HDRSCP_REVB_PROTOCOLS_WITH_EHRPD_AND_IRAT

NOTES

1. This setting will be saved to NV automatically, and still take effect after module restart
2. If this NV is not set, the module will use HDRSCP_REVA_PROTOCOLS_WITH_MFPA as default.

Example

```
AT+QCFG="ehrpd"                 //Query the current net mode.
+QCFG: "ehrpd",2

OK

AT+QCFG="ehrpd ",2              //Configure the net mode.
OK
```

9.4. AT+QCFG="cdmasms/cmtformat" Set CMT format of CDMA SMS PDU

AT+QCFG ="cdmasms/cmtformat"	Set CMT format of CDMA SMS PDU
Write Command **AT+QCFG="cdmasms/cmtformat",<n>**	Response If **<n>** is omitted, return the current configuration: **+QCFG: "cdmasms/cmtformat",<n>** **OK** If **<n>** is not omitted, **OK** **ERROR** If error is related to ME functionality: **+CME ERROR:<err>**
Maximum Response Time	300ms

Parameter

<n>	0	CDMA format
	1	GSM format

Example

```
AT+CMGF=0
OK

AT+CNMI=2,2                          //Show CDMA SMS content directly and not store it
OK

AT+QCFG="cdmasms/cmtformat",0        //Set CDMA format
OK

//Receive a new CDMA SMS
^HCMT: ,46
0000021002020702C6155968C69C0601FC081B00031D2B8001061022E8312580030616101021282308
01000A0100

AT+QCFG="cdmasms/cmtformat",1        //Set GSM format
OK
```

//Receive a new CDMA SMS
+CMT: ,24
00000B818155563001F70000610101128232000 4AE207109