2023

AOVX

AT Commands

V Series_V2.0

www.aovx.com

History

Revision	Date	Author	Description
V1.0	2021-10-12	Tommy	Initial
V1.1	2021-11-10	Tommy	Upgraded
V1.2	2022-01-11	Tommy	Upgraded QTV/APN/BLIND/QNMEA commands
V1.3	2022-03-15	Tommy	Upgraded ID/SHAKE/GPIO command
V1.4	2022-03-24	Tommy	Upgraded layout
V1.5	2022-05-10	Tommy	Upgraded layout and added SHAKE/GNSS/BTENABLE/REPORTMASK/SENSORMASK/SLEEPMODE commands and etc.
V1.6	2022-07-28	Tommy	Added RELAYMODE and BATMODE
V1.7	2022-08-08	Yuki	Upgraded layout and added band configuration
V1.8	2022-10-18	Yuki	Upgraded layout and Reportmask
V1.9	2022-12-21	Barry	Added electronic fence /GPS sleep configuration /At+OPENGPSTM/AT+CONFIGRETURN /AT+RESETTIME/AT+CRASHRANGE/AT+LOGINMODE/AT+DISTANCE/AT+NETMODE instruction
V2.0	**2023-7-9**	**Barry**	**Added examples;**

Content

1. Introduction

1.1. Commands Introduction

(1) This document is described configuration commands via serial port,SMS and platform. For platform configuration, please refer to AOVX_V Series_Cloud Platform Protocol.

(2) The serial port command needs to add the start symbol "AT+" at the start of the command, and the end symbol "\r\n" at the end of the command. SMS commands do not need to add prefix "AT+" and suffix "\r\n".The command examples in below are all commands sent via the serial port.

(3) Command keywords are case-insensitive. Punctuation symbols are an American input method. When writing text messages, please pay attention to input method switching to avoid command format errors.

1.2. AT Examples Declaration

The examples in this document are intended to provide users to know how to use AT commands and do not constitute advice or a recommendation by AOVX on the design of terminal processes, nor do they imply that the device should be set to the state in the corresponding example. Some AT commands have multiple examples, and there is no continuity or succession between these examples.

1.3. Command Example

SMS command

Command: LOG=1

Reply: +LOG:1

OK

Command: LOG？

Reply: +LOG:1

OK

Platform and config tool command

Command: AT+LOG=1

Reply: +LOG:1

OK

Command: AT+LOG？

Reply: +LOG:1

OK

2. General Tracker AT Commands

2.1. AT+RESET Reboot the Device

Commands	Reply	Description
Configuration commands AT+RESET	+RESET:OK	Reset device
Query commands none		

Example

Command: AT+RESET

Reply: RESET:OK

2.2. AT+LOG Configure Log Level

Commands	Reply	Description
Configuration commands **AT+LOG=<level>**	+LOG:<level> OK	Enable nt the device log in the configuration tool (mainly used to view all the and part of log)
Query commands **AT+LOG?**	+LOG:<level> OK	Query the log level

Parameter

<level>: int type. Turn ON/OFF log

0: disable all log

1: enable all log

2(default): enable some test log

Example

Command: AT+LOG=1

Reply: +LOG:1

OK

Command: AT+LOG？

Reply: +LOG:1

OK

2.3. AT+FORMAT Restore Factory Configuration

Commands	Reply	Description
Configuration commands **AT+FORMAT=<index>**	+FORMAT:<index> OK	This command is used to restore the devices to the factory default configuration
Query commands **None**		

Parameter

<level>: int type. Restore the devices to the factory default configuration.

0: restore all

1: restore all except ID

2: restore all except ID/main IP/mileage/APN

3: restore all to factory

Example

Command: AT+FORMAT=0

Reply: +FORMAT:0

OK

2.4. AT+ATREPORT Enforce to Prepare Packet

Commands	Reply	Description
Configuration commands AT+ATREPORT	+ATREPORT:yes OK	Use this command to enforce preparing packet and report
Query command none		

Example

Command: AT+ATREPORT

Reply: +ATREPORT: yes

OK

3. Basic Parameters Query

3.1. AT+QTV Query Firmware Version

Commands	Reply	Description
Configuration commands **None**		
Query commands **AT+QTV?**	QTV: <firmware version> <datetime> <SDK version> <datetime> OK	This command is used to query the FW version and date time of the devices.

Parameter

<firmware version>: string type. Device firmware version.

<SDK version>: string type. Device SDK version.

<datetime>:string type. Version release date.

Example

Command: AT+QTV?

Reply: +QTV:AOVX_GM100-GL_H0.A_BG95M3LAR02A04_V2.0.6:v02

Date:16:43:47 May 19 2023

SDK:5227

Date:2021/08/27 18:13:27

3.2. AT+QINFO Query Device Information

Commands	Reply	Description
Configuration commands **none**	none	
Query commands **AT+QINFO?**	+QINFO: ID:<id> NET:<operator>,<netmode> CSQ:<csq> GNSS:<gnss status> IP:<index>:<ip>:<port>:<link status> Report:<report interval> Sample:<sample interval> Wakeup:<wakeup interval> APN:<apn>:<name>:<password> OK	Query the basic parameters of devices

Parameter

<id>: device ID

<operator>: network operator

<netmode>: network mode

<csq>: signal strength

<gnss status>: fixed/unfixed

<index>: server ID

<ip>: server domain or IP

<port>: server port

<link status>: the connection status of serve

<report interval>: device report interval

<sample interval>:device sample interval

<wakeup interval>:wake up interval for sensors

<apn>: APN

<name>: user name of APN

<password>: password of APN

Example

Command: AT+QINFO?

Reply: +QINFO:

ID: 344050029763

Net:"CHINA MOBILE",LTE

CSQ:22

GNSS:0

IP:0:124.223.60.234:6608:connected

IP:1:120.24.26.10:6608:connected

Report:3600

Sample:3600

Wakeup:10

APN:america.bics::

OK

3.3. AT+QIMEI Query IMEI

Command	Reply	Description
Configuration commands **none**	none	Query IMEI number of device
Query commands **AT+QIMEI?**	+QIMEI:<imei> OK	

Parameter

<imei>: string type. IMEI of the device.

Example

Command: AT+QIMEI?

Reply: +QIMEI:866344050029763

OK

3.4. AT+QICCID Query ICCID

Commands	Reply	Description
Configuration commands **none**	none	Query ICCID
Query commands **AT+QICCID?**	+QICCID:<iccid> OK	

Parameter

<iccid>: string type. iccid of the SIM card

Example

Command: AT+QICCID?

Reply: +QICCID:898604A6102181622517

OK

3.5. AT+QBS Query Main Base Station Information

Commands	Reply	Description
Configuration commands **none**	none	Query main base station information
Query commands **AT+QBS?**	+QBS:<lac>,<ci> OK	

Parameter

<mcc> Mobil country code

<mnc> Mobil network code

<ci> Cell identity

<lac> location area code

<rssi> Received signal strength indication

Example

Command: AT+QBS?

Reply: +QBS:460,0,85118aa,550b,-88

OK

3.6. AT+QBAT Query Internal Battery Charge Status

Commands	Reply	Description
Configuration commands **none**	none	
Query **AT+QBAT?**	+QBAT:<status> OK	Check internal battery charge status <status>: charging: the internal battery is charging full: the internal battery is fully charged no: the internal battery is uncharged

Parameter

<status> string type. Charge status of internal battery

Charging: the internal battery is charging

Full: the internal battery is fully charged

No: the internal batterye is uncharged

Example

Command: AT+QBAT?

Reply: +QBAT:full

OK

3.7. AT+QTIME Query Date and Time

Commands	Reply	Description
Configuration commands **none**	none	Query date and time
Query commands **AT+QTIME?**	+QTIME:<time> OK	

Parameter

<time> date and time of the device

Example

Command: AT+QTIME?

Reply: +QTIME:2023/05/20 15:05:59

OK

3.8. AT+GNSS Query GNSS Status

Commands	Reply	Description
Configuration commands	/	/
Query commands **AT+GNSS?**	+GNSS:<status>,<latitude>,<longitude>,<viewstar1>,<viewstar2>,<posstar>,<CN>|<CN>|<CN>|<CN>|<CN>|<CN>|<CN>|<CN> OK	Query GNSS status

Parameter

<status> string type. GPS fix status

Fix: fixed successful

Unfix: unfixed

<latitude>: floating type; latitude

<longitude>: floating type; longitude

<viewstar1>: int type; number of visible satellites

<viewstar2>: int type; number of BEIDOU/GLONASS visible satellites

<posstar>: int type; number of fixed satellites

<CN> int type;visible satellite signal strength, a total of 8 are displayed in order of strength, less than 8 complement 0

Example

Command: AT+GNSS?

Reply: +GNSS:fix,31.832945,117.095474,8,1,6,43|42|38|38|38|37|30|27

OK

3.9. AT+QADC Query Light Level and Internal Battery Voltage

Commands	Reply	Description
Query commands **none**	none	Query light level& battery voltage.
Query commands **AT+QADC?**	+QADC:<light level>,<battery vol> OK	

Parameter

<light level> int type;the voltage detected by photistor. Unit in mV.

<battery vol> int type;battery voltage. Unit in mV.

Example

Command: AT+QADC?

Reply: +QADC:896,4158

OK

3.10. AT+BLIND Query Buffer Data Status

Commands	Reply	Description
Configuration commands **AT+BLIND=<value>**	+BLIND：OK	Clean buffer data
Query commands **AT+BLIND?**	+BLIND:cnt:<cnt>,len:<len>,loss:<loss>,rpos0:<pos>,rpos1:<pos>,wpos0:<pos>,wpos1:<pos> OK	Query buffer data

Parameter

Query buffer data information

<value>: int type. Set as 0.

<cnt>: int type. Total number of buffer data

<len>: int type. Total length of buffer

<loss>: int type. Number of discarded buffer data after full storage

<rpos>: int type. Read offset address

<wpos>: int type. Write offset address

Example

Command: AT+BLIND=0

Reply: +BLIND:OK

Command: AT+BLIND?

Reply: +BLIND:cnt,0 len,0 rpos,64 wpos,64

OK

3.11. AT+QGSENSOR Query Sensor Status

Commands	Reply	Description
Configuration commands **none**	none	
Query commands **AT+QGSENSOR?**	+QGSENSOR:<id>,<x>,<y>,<z> OK	Query the id and xyz values of the G sensor. Unit in mg.

Parameter

<id>: int type. ID of G-sensor

<x>: gravitational acceleration of x-axis. Unit in mg.

<y>: gravitational acceleration of y-axis. Unit in mg.

<z>: gravitational acceleration of z-axis.Unit in mg.

Example

Command: AT+QGSENSOR?

Relzply: +QGSENSOR:17,-64,-32,1040

OK

3.12. AT+QACC Query ACC Status

Commands	Reply	Description
Configuration commands **none**	None	
Query commands **AT+QACC?**	+QACC:<status> OK	Query ACC status

Parameter

<status>: string type; ACC level

Low: ACC outputs low level. (or ACC wire not connected)

High: ACC outputs high level

Example

Command: AT+QACC?

Reply: +QACC:high

OK

3.13. AT+QDCIN Query VCC Status

Commands	Reply	Description
Configuration commands **none**	none	
Query 'commands **AT+QDCIN?**	+QDCIN:<status> OK	query VCC status

Parameter

<status>: string; VCC level

Low: VCC outputs low level. (or ACC wire not connected)

High: VCC outputs high level

Parameter

Command: AT+QDCIN?

Reply: +QDCIN:high

OK

3.14. AT+ID Query ID

Commands	Reply	Description
Configuration commands **none**	none	
Query commands **AT+ID?**	+ID:<id> OK	Query the device ID

Parameter

<id>: int type. Devide id.

Example

Command: AT+ID？

Reply: +ID:344050029763

OK

3.15. AT+BTMAC Quey MAC Address of Device

Commands	Reply	Description
Configuration commands **AT+BTMAC?**	+BTMAC:<mac> OK	

MAC address can be queried when BLE is enable.

Parameter

<mac>: string type; Bluetooth MAC address.

Example

Command: AT+BTMAC?

Reply: +BTMAC:C8:4A:18:FC:55:FC

OK

4. Basic Parameters Configuration

4.1. AT+IP Configure IP and Port

Commands	Reply	Description
Help commands **AT+IP=?**	index:	The port is configured as 0 to cancel this server. It takes effect immediately after configuration.
Configuration command **AT+IP=<index>,<ip>,<port>**	+IP:<index>,<ip>,<port> OK	
Query command **AT+IP?**	+IP:<index>,<ip>,<port> OK	Query the IP and port of the device

Parameter

<index>: int type. Configure server

0: main server

1: backup server

<ip>: IP address of the server, IP supports domain names

<port>: port address of the server,Ignore this server if you set 0.

Example

Command: AT+IP=0,120.24.26.10,6608

Reply: +IP:0,120.24.26.10,6608

OK

Command: AT+IP?

Reply: +IP:

0,120.24.26.10,6608

1,120.24.26.10,6608

2,0,0

OK

4.2. AT+TIMEGAP Configure the Reporting Interval

Commands	Reply	Description
Configuration commands **AT+TIMEGAP=<index>,<time>**	+TIMEGAP:<index>,<time> OK	configure the sampling/reporting interval of the device
Query commands **AT+TIMEGAP?**	+TIMEGAP:report,<time>,sample,<time>,wakeup,<time>,wakeupmax,<time> OK	Query the sampling/reporting interval of the device

Parameter

<index>: int type. Sampling/reporting.

0: report interval

1: sample interval

<wakeup>: Interval of sensor information update

<wakeupmax>: Maximum interval for sensor information update

<time>: interval; unit in second. After configuration, the next report will take effect.

Example

Command: AT+TIMEGAP=0,3600

Reply: +TIMEGAP:report,3600

OK

Command: AT+TIMEGAP?

Reply: +TIMEGAP:report,3600 sample,360 wakeup,10 wakeupmax,600

OK

4.3. AT+SHAKE Configure Shake Level

Commands	Reply	Description
Configuration commands **AT+SHAKE=<count>,<time>,<timegap>**	+SHAKE:<count>,<time>,<timegap> OK	
Query commands **AT+SHAKE?**	+SHAKE:<count>,<time>,<timegap> OK	

Parameter

<count>: int type; reserved

<time>: int type; duration of shake. When the device shakes 3 times within <time> which means the device triggered a shake;

<timegap>: int type; reserved;

Example

Command: AT+SHAKE=0,10,0

Reply: +SHAKE:0,10,0

OK

Command: AT+SHAKE?

Reply: +SHAKE:0,10,0

OK

4.4. AT+SHAKETIME Configure the SHAKETIME

Commands	Reply	Description
Configuration commands **AT+SHAKETIME=<time1>,<time2>**	+SHAKETIME:<time1>,<time2> OK	Used to determine the status(motion and static) of devicet when ACC is disconnected
Query commands **AT+SHAKETIME?**	+SHAKEIME:<time1>,<time2> OK	

Parameter

<time1>: int type; the device is in motion condition when the continuous shake time over <time1>;

<time2>:int type; the device is in static condition when the continuous non-shake time over <time2>;

Example

Command:

AT+SHAKETIME=3,300

Reply: +SHAKETIME:3,300

OK

Command: AT+SHAKETIME？

回复 +SHAKETIME:3,300

4.5. AT+APN Configure APN

Commands	Reply	Description
Configuration commands **AT+APN=<apn>,<name>,<password>**	+APN:<apn>,<name>,<password> OK	Configure access point name(APN), user name and password
Query commands **AT+APN?**	+APN:<apn>,<name>,<password> OK	Query access point name(APN), user name and password

Parameter

<apn>: string type; access point name(APN)

<name>: string type; user name of APN

<password>: string type; password of APN

Leave <apn>/<name>/<password> empty to clear the corresponding fields.

Example

Command: AT+APN=123,123,123

Reply: +APN:123,123,123

OK

Command: AT+APN?

Reply: +APN:123,123,123

OK

4.6. AT+TIMEZONE Configure Time Zone

Commands	Reply	Description
Configuration commands **AT+TIMEZONE=<zone>**	+TIMEZONE:<zone> OK	configure time zone
Query commands **AT+TIMEZONE?**	+TIMEZONE:<zone> OK	query time zone

Parameter

<timezone>: int type; device time zone; the range of time zone: [-11,12]

Example

Command: AT+TIMEZONE=8

Reply: +TIMEZONE:8

OK

Command: AT+TIMEZONE?

Reply: +TIMEZONE:8

OK

4.7. AT+QNMEA Enable/disable NMEA Sentences

Commands	Reply	Description
Configuration commands **AT+QNMEA**	+QNMEA:<status> OK	Enable/disable NMEA sentence
Query commands **none**	none	

Parameter

<status>: status of NMEA sentence

Yes: enable

No: disable

Example

Command: AT+QNMEA

Reply: +QNMEA:yes

OK

4.8. AT+MILEAGE Configure Initial Mileage

Commands	Reply	Description
Configuration commands **AT+MILEAGE=<mile>**	+MILEAGE:<mile> OK	
Query commands **AT+MILEAGE?**	+MILEAGE:<mile> OK	

Parameter

<mile>: initial mileage of device. Unit in meter.

Example

Command: AT+MILEAGE=1000

Reply: +MILEAGE:1000

OK

Command: AT+MILEAGE?

Reply: +MILEAGE:1000

OK

4.9. AT+FOTA Start FOTA Upgrade

Commands	Reply	Description
Configuration commands **AT+FOTA=[type],[version],[url]**	+FOTA:<type>,<version>,<url> OK	upgrade firmware
Query commands **None**		

Parameter

<type>: int type; OTA upgrade type;

0: app upgrade type

1: core upgrade type

<version>:target firmware version

<url>:

full http url for fota

Example

Command:
AT+FOTA=AT+FOTA=0,AOVX_GX100-XX_H2.0_V2.0.6,http://18.139.115.64:8080/file/Firmware_Jt808_AOVX/20230519/AOVX_GX100-XX_H2.0_V2.0.6_v02.bin

Reply:
FOTA:0,AOVX_GX100-XX_H2.0_V2.0.6,http://18.139.115.64:8080/file/Firmware_Jt808_AOVX/20230519/AOVX_GX100-XX_H2.0_V2.0.6_v02.bin

OK

4.10. AT+SHAKERANGE Configure Gsensor Range

Commands	Reply	Description
Configuration commands **AT+SHAKERANGE=<enable>,<range>,<shakelevel>**	+SHAKERANGE:<enable>,<range>,<shakelevel> OK	Shake value=(<range>/255)*<shakelevel> Unit in mg
Query commands **AT+SHAKERANGE?**	+SHAKERANGE:<enable>,<range>,<shakelevel> OK	

Parameter

<enable>: int type; reserved; 1 as default.

<range>: int type; range of G sensor; unit in G. 1G=1024mg

0: ±2G

1: ±4G

2: ±8G

3: ±16G

<shakelevel>:int type; range:0-255;

Example

Command: AT+SHAKERANGE=1,0,2

Reply: +SHAKERANGE:1,0,2

OK

Command: AT+SHAKERANGE?

Reply: +SHAKERANGE:1,0,2

OK

4.11. AT+WIFIENABLE Enable/Disable WIFI

Commands	Reply	Description
Configuration commands **AT+WIFIENABLE=<enable>**	+WIFIENABLE:<enable> OK	Enable/disable WIFI
Query commands **AT+WIFIENABLE?**	+WIFIENABLE:<enable>,<scantime> OK	query the status of WIFI

Parameter

<enable>: int type; enable/disable WIFI

0: disable

1: enable

Example

Command: AT+WIFIENABLE=1

Reply: +WIFIENABLE:1

OK

Command: AT+WIFIENABLE？

Reply: +WIFIENABLE:1

OK

4.12. AT+BTENABLE Enable/Disable Bluetooth

Commands	Reply	Description
Configuration commands **AT+BTENABLE=<enable>,<scantime>**	+BTENABLE:<enable> OK	Enable/disable Bluetooth
Query commands **AT+BTENABLE?**	+BTENABLE:<enable> OK	query the status of Bluetooth

Parameter

<enable>: int type; enable/disable BT

0: disable

1: enable

Example

Command: AT+BTENABLE=1

Reply: +BTENABLE:1

OK

Command：AT+BTENABLE?

Reply: +BTENABLE:1

OK

4.13. AT+REPORTMASK Set Report Mask for 0x0200 Package

Commands	Reply	Description
Configuration commands **AT+REPORTMASK=<mask>**	+REPORTMASK:<mask> OK	Configure the report mask
Query commands **AT+REPORTMASK?**	+REPORTMASK:<mask> OK	Query the report mask

Parameter

<mask>: int type. Each report mask corresponds to one binary bit, 15 bits in total. Report mask in decimal notation.

Bit0: gnss

Bit1: mileage

Bit2: mobile network signal

Bit3: the number of satellites used by gnss

Bit4: main cell station information

Bit5: neighborcell station information

Bit6: external power voltage

Bit7: firmware version

Bit8: bluetooth infomation

Bit9: wifi infomation

Bit10: GPIO information

Bit11: sensor information

Bit12: battery infomation

Bit13: device infomation

Bit14: auxiliary information

Threshold: 0-32767

Example

Command: AT+REPORTMASK=32767

Reply: +REPORTMASK:32767 (mile:1 csq:1 gpsnum:1 bs:1,1 power:1 fw:1 bt:1 wifi:1 io:1 sensor:1 battery:1 assist:1)

OK

Command: AT+REPORTMASK?

Reply: +REPORTMASK:32767 (mile:1 csq:1 gpsnum:1 bs:1,1 power:1 fw:1 bt:1 wifi:1 io:1 sensor:1 battery:1 assist:1)

OK

4.14. AT+SENSORMASK Configure Sensor Mask for 0x0200 Package

Commands	Reply	Description
Configuration commands **AT+SENSORMASK=<mask>**	+SENSORMASK:<mask> OK	Set sensor mask
Query commands **AT+SENSORMASK?**	+SENSORMASK:<mask> OK	Query sensor mask

Parameter

<mask>: int type; each report mask corresponds to one binary bit, 7 bits in total. Report mask in decimal notation.

Bit0-2: reserved;

Bit3: acceleration value

Bit4-7: reserved

Threshold： 0-8

Example

Command: AT+SENSORMASK=8

Reply: +SENSORMASK:8 (acce:1)

OK

Command: AT+SENSORMASK？

Reply: +SENSORMASK:8 (acce:1)

OK

4.15. AT+CRASHRANGE Configure Crash Range

Commands	Reply	Description
Configuration commands **AT+CRASHRANGE=<crashrange>**	+CRASHRANGE:<crashrange> OK	Crash value=(<range>/255)*<crash range> Unit in mg
Query commands **AT+CRASHRANGE?**	+CRASHRANGE:<crashrange> OK	

Parameter

<crashrange>: int type; range: 0~255

Example

Command: AT+CRASHRANGE=200

Reply: +CRASHRANGE:200

OK

Command: AT+CRASHRANGE?

Reply: +CRASHRANGE:200

OK

4.16. AT+VOLTAGE Configure Voltage for Different Types

Commands	Reply	Description
Configuration commands **AT+VOLTAGE=<index>,<voltage>**	+VOLTAGE:<index>,<voltage> OK	
Query commands **AT+VOLTAGE?**	+VOLTAGE:run,<voltage>,stop,<voltage>,sleep,<voltage> OK	

Parameter

<index>: int type; configure voltage;

0: voltage in run condition;

1: voltage in stop condition;

2: voltage in sleep condition;

<voltage>: int type; configure voltage range. Unit in mV;

Example

Command: AT+VOLTAGE=0,13500

Reply: +VOLTAGE:Run,13500

OK

Command: AT+VOLTAGE?

Reply: +VOLTAGE:run,13500 stop,13500 sleep,11850

OK

4.17. AT+TURNANGLE Configure Turnangle

Commands	Reply	Description
Configuration commands **AT+TURNANGLE=<angle>**	+TURNANGLE:<angle> OK	
Query commands **AT+TURNANGLE?**	+TURNANGLE:<angle> OK	

Parameter

<angle>: int type; angle range[1,180], unit in degree.

Example

Command: AT+TURNANGLE=15

Reply: +TURNANGLE:15

OK

Command: AT+TURNANGLE?

Reply: +TURNANGLE:15

OK

4.18. AT+OVERSPEED Configure the Overspeed

Commands	Reply	Description
Configuration commands **AT+OVERSPEED=<speed>,<time>**	+OVERSPEED:<speed>,<time> OK	Configure the overspeed threshold and duration, the speed unit is km/h, and the time unit is seconds. Exceeding the configured duration is judged as overspeed.
Query commands **AT+OVERSPEED?**	+OVERSPEED:<speed>,<time> OK	

Parameter

<speed>: int type; the range of overspeed; unit in km/h.

<time>: int type; duration of overspeed status;

Example

Command: AT+OVERSPEED=120,5

Reply:+OVERSPEED:120,5

OK

Command: AT+OVERSPEED?

Reply: +OVERSPEED:120,5

OK

4.19. AT+GNSSAST Enable/disable GNSS Assit in Virtual ACC Mode

Commands	Reply	Description
Configuration commands **AT+GNSSAST=<enable>**	+GNSSAST:<enable> OK	The GNSS Auxiliary Ignition Alarm is triggered when the device condition meets the following conditions: 1 Vibration detected over 10 seconds 2 The GPS was successfully located within 40s seconds and the latest GPS point at each of the three consecutive localization points was greater than the previous one.
Query commands **AT+GNSSAST?**	+GNSSAST:<enable> OK	

VG300*

VL300/VM300:Supported in two-wire mode only

Parameter

<enable>: int type; Enable/disable GNSSAST;

0: disable;

1: enable;

Example

Command；AT+GNSSAST=0

Reply: +GNSSAST:0

OK

Command: AT+GNSSAST?

Reply: +GNSSAST:0

OK

4.20. AT+GPIOVALUE Configure and Query GPIO Value

Commands	Reply	Description
Configuration commands **AT+GPIOVALUE=<channel>,<value>**	+GPIOVALUE:<channel>,<value> OK	Only output GPIOs support configuration commands Channel value range: 0-15
Query commands **AT+GPIOVALUE?**	**VG300**: +GPIOVALUE:0,<value> OK **VL30X/VM30X:** +GPIOVALUE:0,<value> 1,<value> 16,<value> OK	

Parameter

<channel>: int type;Channels of GPIOs to be configured

0: 1st output: GPIO, DO0（RELAY）

1:2nd output: GPIO, DO1

2-15: reserved;

16: input: GPIO，DI1/AI1

17-32: reserved;

<value>: int type; output GPIO or digital input GPIO, only 1 and 0 represent high and low levels;

GPIO indicates voltage value at analog input. The unit is mV

0: low voltage

1: high voltage

Example

Command: AT+GPIOVALUE=0,0

Reply: +GPIOVALUE:0,0

OK

Command: AT+GPIOVALUE?

Reply: +GPIOVALUE:0:0 1:0 16:1

OK

4.21. AT+RESETTIME Timed Restart Function

Commands	Reply	Description
Configuration commands **AT+RESETTIME=<time>**	+RESETTIME:<time> OK	
Query commands **AT+RESETTIME?**	+RESETTIME:<time> OK	

VG300*

Paramter

<time>: int type; Disable timed restart function if time=0; unit in hour;

Device will be reset every <time> after successful configuration;

Example

Command: AT+RESETTIME=0

Reply；+RESETTIME:0

OK

Command: AT+RESETTIME?

Reply: +RESETTIME:0

OK

4.22. AT+DISTANCE Configure the Distance Alarm

Commands	Reply	Description
Configuration commands **AT+DISTANCE=<mileage>**	+DISTANCE:<mileage> OK	An alarm is triggered when the device exceeds its mileage limit.
Query commands **AT+DISTANCE?**	+DISTANCE:<mileage> OK	

Parameter

<mileage>: int type; Alarms are triggered when a device exceeds its mileage limit; disable the distance alarm. Unit in m.

Example

Command: AT+DISTANCE=2500

Reply: +DISTANCE:2500

OK

Comand: AT+DISTANCE?

Reply: +DISTANCE:2500

OK

4.23. AT+DI1ENABLE DI1 Enable/disable DI1

Commands	Reply	Description
Configuration commands **AT+DI1ENABLE=<enable>**	+DISTANCE:<enable> OK	
Query commands **AT+DI1ENABLE?**	+DISTANCE:<enable> OK	

Parameter

<enable>: int type; Enable/disable DI1

0: disable; no alarm when DI1 triggerred

1: enable; Alarm when DI1 triggerred

Example

Command: AT+DI1ENABLE=1

Reply: +DI1ENABLE:1

OK

Command: AT+DI1ENABLE?

Reply: +DI1ENABLE:1

OK

4.24. AT+VEHALERTMODE TOW/IDLE/PARKING Configure VEHALERTMODE

Commands	Reply	Description
Configuration commands **AT+VEHALERTMODE=<tow>,<idle>,<parking>**	+VEHALERTMODE:<tow>,<idle>,<parking> OK	1. TOW mode is only supported when ACC is connected. if the tow distance alert is disable, the TOW alarm is triggered if a continuous vibration is detected within 3 seconds when the device in ignition off condition .Then .will cancled the alarm If there is no vibration for 5 minutes.When the TOW distance alarm is enabled, the alarm will be triggered if the monitored towed distance exceeds 500m when in ignition off condition; 2. idle alarm. The alarm will be triggered when the vehicle is in ACC ON but the device is in the state of speed 0 within 1 minute. 3. Parking Alarm: When the TOW distance alarm is turned on, the vehicle will trigger the parking alarm if it monitors ACC ON and travels 500m when in ignition off status.
Query commands **AT+VEHALERTMODE?**	+VEHALERTMODE:<tow>,<idle>,<parking> OK	

Supported only when ACC connection

Parameter

<tow>: int type; enable/disable TOW alarm

0: disable;

1: enable;

2: trigger alarm only once

<idle>: int type; enable/disable adle alarm

0: disable

1; enable

2: trigger alarm only once

<parking>: int type; Enable/disable parking alarm

0: disable;

1: enable;

2: Trigger alarm only once

Example

Command: AT+VEHALERTMODE=0,1,2

Reply: +VEHALERTMODE:0, 1, 2

OK

Command; AT+VEHALERTMODE?

Reply: +VEHALERTMODE:0, 1, 2

OK

4.25. AT+SPEEDCHANGESWI Enable/disable Rapid Accelerate and Decelerate

Commands	Reply	Description
Configuration commands **AT+SPEEDCHANGESWI=<enable1>, <enable2>**	+SPEEDCHANGESWI:<enable1>, <enable2> OK	Alarms are triggered when 3 consecutive GPS speed changes exceed the SPEEDCHANGESWI configured threshold in run mode.
Query commands **AT+SPEEDCHANGESWI?**	+SPEEDCHANGESWI:<enable1>, <enable2> OK	

Parameter

<enable1>: int type;enable/disable rapid accelerate

0: diable rapid accelerate

1: enable rapid accelerate

<enable2>: int type; enable/disable rapid decelerate

0: disable rapid decelerate

1: enable rapid decelerate

Example

Command: AT+SPEEDCHANGESWI=1,1

Reply: +SPEEDCHANGESWI:1, 1

OK

Command: AT+SPEEDCHANGESWI?

Reply: +SPEEDCHANGESWI:1, 1

OK

4.26. AT+SPEEDCHANGE Cofigure the Value of Rapid Accelerate and Decelerate

Commands	Reply	Description
Configuration commands **AT+SPEEDCHANGE=<speed>**	+SPEEDCHANGE:<speed> OK	unit in km/h
Query commands **AT+SPEEDCHANGE?**	+SPEEDCHANGE:<speed> OK	

Parameter

<speed>:int type; range of rapid accelerate and decelerate, unit in km/h;

Example

Command: AT+SPEEDCHANGE=10

Reply: +SPEEDCHANGE:10

OK

Command: AT+SPEEDCHANGE?

Reply: +SPEEDCHANGE:10

OK

4.27. AT+TIGHTTURN Configure Sharp Turn Angle

Commands	Reply	Description
Configuration commands **AT+TIGHTTURN=<enable>, <angle>**	+TIGHTTURN:<enable>, <angle> OK	The alarm is triggered when 3 consecutive GPS speeds exceed 65km/h and the turning angle is greater than the threshold when in run mode
Query commands **AT+TIGHTTURN?**	+TIGHTTURN:<enable>, <angle> OK	

parameter

<enable>: int type; enable/disable sharp turn angle

0: diable

1: enable

<angle>: int type; range of angle(0-180)

Example

Command: AT+TIGHTTURN=1,15

Reply: +TIGHTTURN:1, 15

OK

Command: AT+TIGHTTURN?

Reply: +TIGHTTURN:1, 15

OK

4.28. AT+BLOWSPEED Enable/disable Low Speed Alarm

Commands	Reply	Description
Configuration commands **AT+BLOWSPEED=<enable>**	+BLOWSPEED:<enable> OK	
Query commands **AT+BLOWSPEED?**	+BLOWSPEED:<enable> OK	

Parameter

<enable>: int type; enable/disable low speed alarm;

0: disable;

1: enable;

Example

Command: AT+BLOWSPEED=1

Reply: +BLOWSPEED:1, 15

OK

Command: AT+BLOWSPEED?

Reply: +BLOWSPEED:1, 15

OK

4.29. AT+BLOWSPEEDPARAM Configure Range of Low Speed Alarm

Commands	Reply	Description
Configuration commands **AT+BLOWSPEEDPARAM=<noblowspeedtime>,<time>,<speed>**	+BLOWSPEED:<noblowspeedtime>,<time>,<speed> OK	
Query commands **AT+BLOWSPEEDPARAM?**	+BLOWSPEED:<noblowspeedtime>,<time>,<speed> OK	

parameter

<noblowspeedtime>: int type; The time at which the device determines the low speed alarm, which is triggered when the device's speed falls below the threshold at <noblowspeedtime>. Unit in second.

<time>: Delayed reporting time for low-speed alarms; unit in second;

<speed>: range of low speed alarm. Unit in km/h.

Example

Command: AT+BLOWSPEEDPARAM=10,0,20

Reply: +BLOWSPEEDPARAM:10, 0, 20

OK

Command: AT+BLOWSPEEDPARAM?

Reply: +BLOWSPEEDPARAM:10, 0, 20

OK

4.30. AT+BLEMAC Add MAC Address of Broadcastable Device

Commands	Reply	Description
Configuration commands **AT+BLEMAC=<void>,<Mac>**	+BLEMAC:<void>,<Mac> OK	
Query commands **AT+BLEMAC?**	+BLEMAC:<void>,<Mac> OK	

Parameter

<void>: int type;Device No., range 0~20;

<Mac>: MAC address;

Example

Command: AT+BLEMAC=1,F0,32,36,B9,7D,75

Reply: +BLEMAC:1 F0 32 36 B9 7D 75

OK

Command: AT+BLEMAC?

Reply: +BLEMAC:

01. F0 32 36 B9 7D 75

02. ……

20. FF FF FF FF FF FF

OK

4.31. AT+BLEADVDATA Configure the Broadcast Data

Commands	Reply	Description
Configuration commands **AT+BLEADVDATA=<void>,<data>**	+BLEADVDATA:<void>,<data> OK	
Query commands **None**		

Parameter

<void>: int type; fixed value as 1

<Mac>: broadcast data;

Example

Command: AT+BLEADVDATA=1,123456

Reply: +BLEADVDATA:OK

4.32. AT+ATPASSWORD Configure AT Command Password

Commands	Reply	Description
Configuration commands **AT+ATPASSWORD=<void>, <password>**	+ATPASSWORD:state OK	
Query commands **AT+ATPASSWORD?**	+ATPASSWORD:<void> OK	

parameter

<void>: int type; enable/disable AT command password

0: disable

1: enable

<password>: digit string type;

Example

First time password activation:

Command: AT+ATPASSWORD=1,123

Reply: +ATPASSWORD: ENABLE ATPASSWORD

OK

Change Password:

Command: AT+ATPASSWORD=1,123,321

Reply: +ATPASSWORD: CHANGE ATPASSWORD

OK

Verify Password:

Command: AT+ATPASSWORD=321

Reply: +ATPASSWORD:TRUE

OK

Disable password:

Command: AT+ATPASSWORD=0,321

Reply: +ATPASSWORD: DISABLE ATPASSWORD

OK

4.33. AT+HEARTBEATMODE Enable/disable Heartbeat Packet in Run Mode

Commands	Reply	Description
Configuration commands **AT+HEARTBEATMODE=<void>**	+HEARTBEATMODE:<void> OK	
Query commands **AT+HEARTBEATMODE?**	+HEARTBEATMODE:<void> OK	

Parameter

<void>: int type; enable/disable heartbeat packet in run mode;

0: disable

1: enable

Example

Command: AT+HEARTBEATMODE=0

Reply: +HEARTBEATMODE:0

OK

Command: AT+HEARTBEATMODE?

Reply: +HEARTBEATMODE:0

OK

4.34. AT+SPEEDTH Configure Speed Range of FUEL

Commands	Reply	Description
Configuration commands **AT+SPEEDTH=<void>**	+SPEEDTH:<void> OK	
Query commands **AT+SPEEDTH?**	+SPEEDTH:<void> OK	

Parameter

<void>:int type; range: 0-6553, unit in km/h.

Example

Command: AT+SPEEDTH=20

Reply: +SPEEDTH:20

OK

Command: AT+SPEEDTH?

Reply: +SPEEDTH:20

OK

4.35. AT+BSINFO Configure Base Station Report

Commands	Reply	Description
Configuration commands **AT+BSINFO=<void>**	+BSINFO:<void> OK	
Query commands **AT+BSINFO?**	+BSINFO:<void> OK	

This command is valid when Base Station Mask is selected.

Parameter

<void>: int type; device starts reporting base station information when the base station Mask is selected and the parameter is 1.

0： string type; disable;

1: string type; enable;

Example

Command: AT+BSINFO=0

Reply: +BSINFO:0

OK

Command: AT+BSINFO?

Reply: +BSINFO:0

OK

4.36. AT+JAMMING Enable/disable JAMMING

Commands	Reply	Description
Configuration commands **AT+JAMMING=<void>**	+JAMMING:<void> OK	
Query commands **AT+JAMMING?**	+JAMMING:<void> OK	

Parameter

<void>: string type; enable/disable JAMMING

0,0,0: string type; disable;

1,1,5: string type; enable;

Example

Command: AT+JAMMING=1,1,5

Reply: +JAMMING:open

OK

Command: AT+JAMMING?

Reply: +JAMMING?

+QJDR: NO JAMMING

OK

5. Modes Configuration and Query

5.1. AT+FUEL Control FUEL

Commands	Reply	Description
Configuration commands **AT+FUEL=<status>**	+FUEL:<status> OK	
Query commands **AT+FUEL?**	+FUEL:<status> OK	

parameter

<status>: string type; Control the level status of Relay.

ON: Relay outputs low level, enable the FUEL

OFF: Relay outputs high level. When this command is fininshed and the device at a speed of less than 30km/h it will pull up and pull down the DO1 for 5 time, then,disable the FUEL.

Example

Command: AT+FUEL=OFF

Reply: +FUEL:OFF

OK

Command: AT+FUEL？

Reply: +FUEL:OFF

OK

5.2. AT+GNSSMODE Set the GNSS galaxy

Commands	Reply	Description
Configuration commands **AT+GNSSMODE=<galaxy>,<reserve>,<reserve>**	+GNSSMODE:<galaxy>,<reserve>,<reserve> OK	
Query commands **AT+GNSSMODE?**	+GNSSMODE:<galaxy>,<reserve>,<reserve> OK	

Parameter

<galaxy>: int type; Select GNSS type.

0: gps+bd

1: gps+glo

2: gps+gal

reserve: int type; 0.

Example

Command; AT+GNSSMODE=1,0,0

Reply: +GNSSMODE:1,0,0

OK

Command: AT+GNSSMODE?

Reply: +GNSSMODE:1,0,0

OK

5.3. AT+GPIOMODE Configure Input GPIO Mode

Commands	Reply	Description
Configuration commands **AT+GPIOMODE=<channel>,<mode>**	+GPIOMODE:<channel>,<mode> OK	
Query commands **AT+GPIOMODE?**	+GPIOMODE:<channel>,<mode> OK	

Parameter

<channel>: int type;

16: Input GPIO. Only GPIO6 supported.

<mode>: int type; input types;

0: digit input;

1: analog input

Example

Command: AT+GPIOMODE=16,0

Reply: +GPIOMODE:16:0

OK

Command:AT+GPIOMODE？

Reply: +GPIOMODE:16:0

OK

5.4. AT+BTMODE Configure Bluetooth Mode

Commands	Reply	Description
Configuration commands **AT+BTMODE=<mode>**	+BTMODE:<mode> OK	
Query commands **AT+BTMODE?**	+BTMODE:<mode> OK	

Parameter

<mode>: int type. Configure the Bluetooth modes.

0： support Bluetooth scaning only;

1: Support Bluethooth broadcasting only

1: Supports switching between Bluetooth scanning and Bluetooth broadcasting

Example

Command: AT+BTMODE=0

Reply: +BTMODE:0

OK

Command: AT+BTMODE？

Reply: +BTMODE:0

OK

5.5. AT+REPORTMODE Set Report Transmission Protocol Mode

Commands	Reply	Description
Configuration commands **AT+REPORTMODE=<mode>**	+REPORTMODE:<mode> OK	
Query commands **AT+REPORTMODE?**	+REPORTMODE:<mode> OK	

Parameter

<mode>: int type; network protocol;

0: TCP

1: UDP

Example

Command: AT+REPORTMODEE=0

Reply: +REPORTMODE:0

OK

Command: AT+REPORTMODE？

Reply: +REPORTMODE:0

OK

5.6. AT+BTMASK Configure the Bluetooth Report Mask

Commands	Reply	Description
Configuration commands **AT+BTMASK=<mask>**	+BTMASK:<mode> OK	
Query commands **AT+BTMASK?**	+BTMASK:<mode> OK	

Parameter

<mode>: int type; configure the sleep mode;

0: heartbeat mode;

1: deep sleep mode;

Example

Command: AT+BTMASK=63

Reply: +BTMASK:63 (N:1 F:1 V:1 T:1 H:1 S:1)

OK

Command: AT+BTMASK？

Reply: +BTMASK:63 (N:1 F:1 V:1 T:1 H:1 S:1)

OK

5.7. AT+SLEEPMODE Configure Sleep Mode

Commands	Reply	Description
Configuration commands **AT+SLEEPMODE=<mode>**	+SLEEPMODE:<mode> OK	
Query commands **AT+SLEEPMODE?**	+SLEEPMODE:<mode> OK	

Parameter

<mode>: int type; configure sleeep mode;

0: heartbeat mode;

1: deep sleep mode;

Example

Command: AT+SLEEPMODE=0

Reply: +REPORTMODE:0

OK

Command: AT+REPORTMODE？

Reply: +REPORTMODE:0

OK

5.8. AT+RELAYMODE Control RELAYMODE

Commands	Reply	Description
Configuration commands **AT+RELAYMODE=<mode>**	+RELAYMODE:<mode> OK	
Query commands **AT+RELAYMODE?**	+RELAYMODE:<mode> OK	

Parameter

<mode>: int type; Control RELAYMODE

0: GPIO channel 0 used for fuel control

1: GPIO channel 0 used for GPIO(output)

Example

Command: AT+RELAYMODE=0

Reply: +RELAYMODE:0

OK

Command: AT+RELAYMODE?

Reply: +RELAYMODE:0

OK

5.9. AT+BATMODE Configure Internal Battery Mode

Commands	Reply	Description
Configuration commands **AT+BATMODE=<mode>**	+BATMODE:<mode> OK	
Query commands **AT+BATMODE?**	+BATMODE:<mode> OK	

Parameter

<mode>: int type; configure the internal battery modes;

0: device cannot be woken up from sleep mode when powered by the internal battery

1:Device can be woken up from sleep mode when powered by the internal battery

Example

Command: AT+BATMODE=0

Reply: +BATMODE:0

OK

Command: AT+BATMODE？

Reply: +BATMODE:0

OK

5.10. AT+LOGINMODE Configure Registration Authentication

Commands	Reply	Description
Configuration commands **AT+LOGINMODE=<mode>**	+LOGINMODE:<mode> OK	
Query commands **AT+LOGINMODE?**	+LOGINMODE:<mode> OK	

Parameter

<mode>: int type; Configure the registration authentication type;

0: required registration;

1: registration without authentication

Example

Command: AT+LOGINMODE=0

Reply: +LOGINMODE:0

OK

Command: AT+LOGINMODE?

Reply: +LOGINMODE:0

OK

5.11. AT+NETMODE Set NETMODE

Commands	Reply	Description
Configuration commands **AT+NETMODE=<mode>**	+NETMODE:<mode> OK	
Query commands **AT+NETMODE?**	+NETMODE:<mode> OK	

Parameter

<mode>: int type; configure the network mode of device module.

0: AUTO. Support for all network modes of the module;

1: GSM only

2: LTE(CAT1/CATM) only

3: CATM+NB only

4: GSM+NB only

5: NB only

NOTE:

VL support 0,1,2 mode;

VM support 0,1,2,3,4,5 mode

Example

Command: AT+NETMODE=0

Reply: +NETMODE:0

OK

Command: AT+NETMODE？

Reply: +NETMODE:0

OK

5.12. AT+DO1MODE Set DO1 Mode

Commands	Reply	Description
Configuration commands **AT+DO1MODE=<mode>**	+DO1MODE:<mode> OK	
Query commands **AT+DO1MODE?**	+DO1MODE:<mode> OK	

Parameter

<mode>: int type; configure DO1 mode;

0: DO not used by default;

1: DO1 outputs a high level when the vehicle is speeding.

Example

Command: AT+DO1MODE=0

Reply: +DO1MODE:0

OK

Command: AT+DO1MODE?

Reply: +DO1MODE

OK

6. Module AT Commands Transparent Transmission

6.1. AT+CMD Module AT Command Transparent Transmission

Commands	Reply	Description
Configuration commands **AT+CMD=<command>**	<at respond>	Module AT transparent transmission command
Query commands **none**	none	

Parameter

<command>: AT commands supported by the module.

<at respond>:Response for module AT command

Response

Command: AT+CMD=AT+CGREG?

Reply: +CGREG: 0,1

OK

6.2. AT+QCFG=band Configure Frequency Band

6.2.1. VM300

AT+QCFG="band" Configure network search bands

This Write Command configures the frequency bands to be searched for or queries the current setting.

AT+QCFG="band" Configure network search Band	
Write Command **AT+QCFG="band"[,<GSM_bandval>,<eMTC_bandval>,<NB-IoT_bandval>[,<effect>]]**	Response If the optional parameters are omitted, query the current setting: +QCFG: "band",<GSM_bandval>,<eMTC_bandval>,<NB-IoT_bandval>
	OK
	If any of the optional parameters is specified, configure the frequency bands to be searched for: OK
	If there is an error related to ME functionality: +CME ERROR: <err>
	If there is any other error: ERROR
Maximum Response Time	300 ms
Characteristics	<effect> determines when the command will take effect. The configurations will be saved automatically.

Parameter	
<GSM_bandval> A	hexadecimal value that specifies the GSM frequency band (e.g.: 0xa = 0x2(DCS1800) + 0x8(PCS1900)). If it is set to 0, it means not to change GSM frequency band. 0 No change 0x1 EGSM900 0x2 DCS1800 0x4 GSM850

	0x8 PCS1900 0xF All of the supported bands above
<eMTC_bandval> A	hexadecimal value that specifies the eMTC frequency band (e.g.: 0x15 = 0x1(LTE B1) + 0x4(LTE B3) + 0x10(LTE B5)). If it is set to 0, it means not to change the eMTC frequency band. 0 No change 0x1 (BAND_PREF_LTE_BAND1) LTE B1 0x2 (BAND_PREF_LTE_BAND2) LTE B2 0x4 (BAND_PREF_LTE_BAND3) LTE B3 0x8 (BAND_PREF_LTE_BAND4) LTE B4 0x10 (BAND_PREF_LTE_BAND5) LTE B5 0x80 (BAND_PREF_LTE_BAND8) LTE B8 0x800 (BAND_PREF_LTE_BAND12) LTE B12 0x1000 (BAND_PREF_LTE_BAND13) LTE B13 0x20000 (BAND_PREF_LTE_BAND18) LTE B18 0x40000 (BAND_PREF_LTE_BAND19) LTE B19 0x80000 (BAND_PREF_LTE_BAND20) LTE B20 0x1000000 (BAND_PREF_LTE_BAND25) LTE B25 0x2000000 (BAND_PREF_LTE_BAND26) LTE B26 0x4000000 (BAND_PREF_LTE_BAND27) LTE B27 0x8000000 (BAND_PREF_LTE_BAND28) LTE B28 0x40000000 (BAND_PREF_LTE_BAND31) LTE B31 0x20000000000000000 (BAND_PREF_LTE_BAND66) LTE B66 0x800000000000000000 (BAND_PREF_LTE_BAND72 LTE B72 0x1000000000000000000 (BAND_PREF_LTE_BAND73) LTE B73 0x100000000000000000000 (BAND_PREF_LTE_BAND85) LTE B85
<NB-IoT_bandval> A	hexadecimal value that specifies the NB-IoT frequency band (e.g.: 0x15 = 0x1(LTE B1) + 0x4(LTE B3) + 0x10(LTE B5)). If it is set to 0, it means not to change the NB-IoT frequency band. 0 No change 0x1 (BAND_PREF_LTE_BAND1) LTE B1 0x2 (BAND_PREF_LTE_BAND2) LTE B2 0x4 (BAND_PREF_LTE_BAND3) LTE B3 0x8 (BAND_PREF_LTE_BAND4) LTE B4 0x10 (BAND_PREF_LTE_BAND5) LTE B5 0x80 (BAND_PREF_LTE_BAND8) LTE B8 0x800 (BAND_PREF_LTE_BAND12) LTE B12 0x1000 (BAND_PREF_LTE_BAND13) LTE B13

	0x20000 (BAND_PREF_LTE_BAND18) LTE B18 0x40000 (BAND_PREF_LTE_BAND19) LTE B19 0x80000 (BAND_PREF_LTE_BAND20) LTE B20 0x1000000 (BAND_PREF_LTE_BAND25) LTE B25 0x8000000 (BAND_PREF_LTE_BAND28) LTE B28 0x40000000 (BAND_PREF_LTE_BAND31) LTE B31 0x20000000000000000 (BAND_PREF_LTE_BAND66) LTE B66 0x400000000000000000 (BAND_PREF_LTE_BAND71) LTE B71 0x800000000000000000 (BAND_PREF_LTE_BAND72) LTE B72 0x1000000000000000000 (BAND_PREF_LTE_BAND73) LTE B73 0x100000000000000000000 (BAND_PREF_LTE_BAND85) LTE B85
<effect>	Int type. When to take effect. 0 Take effect after rebooting 1 Take effect immediately

NOTE:

- For the specific bands supported by each model, see corresponding specifications of the modules.

  <GSM_bandval> is valid only on BG95-M3, BG95-M5 and BG600L-M3 modules.

  <NB-IoT_bandval> is invalid on BG95-M1 module.

  LTE B31/B72/B73 is valid on BG95-M4 module only.

- The value setting of <eMTC_bandval> when all eMTC bands are intended to be searched for:

  0x100182000000004F0E189F for BG95-M4

  0x100002000000000F0E189F for BG77, BG600L-M3 and other BG95 series modules

- The value setting of <NB-IoT_bandval> when all NB-IoT bands are intended to be searched for:

  0x10018200000000490E189F for BG95-M4

  0x10004200000000090E189F for BG77, BG600L-M3 and other BG95 series modules

6.2.2. VL300

This Write Command configures the network search bands to be searched for or queries the current setting.

AT+QCFG="band" Configure network search Band	
Write Command **AT+QCFG="band"[,<bandval>,<lte ba ndval>[,<effect>]**	Response If the optional parameters are omitted, query the current setting: +QCFG: +QCFG: "band",<bandval>,<ltebandval>
	OK
	If any of the optional parameters is specified, configure the frequency bands to be searched for: OK or ERROR
	If there is an error related to ME functionality: +CME ERROR: <err>
Maximum Response Time	300 ms
Characteristics	<effect> determines when the command will take effect. The configurations will be saved automatically.

Parameter	
<bandval>	hexadecimal value that specifies the GSM frequency band. If it is set to 0, it means not to change GSM frequency band.(eg: 0003 = 0001 (EGSM900) + 0002 (DCS1800)) 0 No change 0001 EGSM900

	0002 DCS1800 0004 GSM850 0008 PCS1900 FFFF All of the supported bands above
<ltebandval>	hexadecimal value that specifies the LTE frequency band. If it is set to 0, it means not to change the LTE frequency band.(e.g.: 0x15 = 0x1 (LTE B1) + 0x4 (LTE B3) + 0x10 (LTE B5)) 0 No change 0x1 (CM_BAND_PREF_LTE_EUTRAN_BAND1) LTE B1 0x2 (CM_BAND_PREF_LTE_EUTRAN_BAND2) LTE B2 0x4 (CM_BAND_PREF_LTE_EUTRAN_BAND3) LTE B3 0x8 (CM_BAND_PREF_LTE_EUTRAN_BAND4) LTE B4 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 0x8000000 (CM_BAND_PREF_LTE_EUTRAN_BAND28 LTE B28 0x200000000 (CM_BAND_PREF_LTE_EUTRAN_BAND34) LTE B34 0x2000000000 (CM_BAND_PREF_LTE_EUTRAN_BAND38) LTE B38 0x4000000000 (CM_BAND_PREF_LTE_EUTRAN_BAND39) LTE B39 0x8000000000 (CM_BAND_PREF_LTE_EUTRAN_BAND40) LTE B40 0x10000000000 (CM_BAND_PREF_LTE_EUTRAN_BAND41) LTE B41 0x20000000000000000(CM_BAND_PREF_LTE_EUTRAN_BAND66) LTE B66 0x7FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF(CM_BAND_PREF_ANY) All of the supported bands above
<effect>	Integer type. When to take effect. 0 Take effect after rebooting

	1 Take effect immediately

NOTE:

- The module can set up to 5 LTE bands at the same time (<ltebandval>when set to "all Band", all the set bands can be unlocked); If it sets more than 5 frequency bands, an error code will be responsed.
- For details of the frequency bands actually supported by the module, please refer to the product specification of each device.

6.2.3. VG300*/VG200*

AT+QBAND Get and Set Mobile Operation Band	
Test Command **AT+QBAND=?**	Response +QBAND: (list of supported <op_band>s) OK
Read Command **AT+QBAND?**	Response +QBAND: <op_band> OK
Write Command **AT+QBAND=<op_band>**	Response OK If there is any error related to ME functionality: +CME ERROR: <err>
Maximum Response Time	30s, determined by network.

7. Configure and Query Geo Fence

7.1. AT+GTGEO Configure Geo Fence

Commands	Reply	Description
Configuration commands **AT+GTGEO=<GEO ID>,<Mode>,<Shape>,<CheckIntreval>,<StartTime>,<EndTime>,<TriggerMode>,<Radius/serial number>,<Radius/serial number>,<Longitude>,<Latitude>**	+GTGEO: True OK	If you enter only the previous data during parameter configuration, you can also configure the parameters. However, the default value of the unconfigured parameters is 0. eg.AT+GTGEO=1,3,0,5
Query commands **AT+QGEOFENCE=<GEO ID>**	\	Please refer to 7.2 for explanation.

Parameters are same with 7.2

Parameter

<GEO ID>: Area ID (1-5). Currently, a device can be configured with a maximum of five areas

<mode>: Status trigger reporting (0-3) Default 0:

disable electronic fence reporting;

1. enter trigger;

2. out trigger;

3. in and out of the trigger.

<Shape>:Area shape (0,1) Default 0:

0. circle;

1. Polygon.

<CheckIntreval>:Trigger reporting interval (5-86400) s. Prevent frequent trigger reporting.

<StartTime>:he start time point of area detection. 8 am start: 0800. If always open: 0000;

By default, it is always open. (0001-2359)

<EndTime>End time point of area detection. eg.Ends at 8 p.m. : 2000. If always open: 0000;

By default, it is always open. (0001-2359)

<TriggerMode>The ignition itself becomes the center of the circle. (0,1,2) Default 0:

0. Disable this function.

1. Continuously change the center point to its own coordinate point during flameout (provided that the car is not in the previous flameout area).

2. Only execute once. After exiting the previous flameout area, the data will be cleared and the

function will end.

<Radius/serial number> The circle represents the radius (50-6000000). Default 50m .Polygon represents coordinate number (1-100).When it is a polygon, this parameter represents the total number of points in the polygon.

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<Longitude>: Longitude (-180-180), default 0.

<Latitude>:Latitude (-90-90), default 0.

Example

Command:AT+GTGEO=1,3,0,5

Reply: +GTGEO: True

OK

Command: AT+QGEOFENCE=1

reply: +QGEOFENCE:
1,3,0,5,0000,0000,0,50,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,
0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000,0.000000

7.2. AT+QGEOFENCE Query Geo Fence

Commands	Reply	Description
Configuration commands **AT+QGEOFENCE=<GEO ID>**	+QGEOFENCE: <GEO ID>,<Mode>,<Shape>,<CheckIntreval>,<StartTime>,<EndTime>,<TriggerMode>,<Radius/serial number>,<Radius/serial number>,<Longitude>,<Latitude>,..... OK	“.....” Represents the remaining configurable latitude and longitude.
\	\	\

8. AT+CONFIGRETURN Configuration of Platform Interaction Commands

Commands	Reply	Description
Configuration commands **AT+CONFIGRETURN=<mode>**	+CONFIGRETURN:<mode> OK	When <mode> is set to 0, the platform displays configuration parameters. When <mode> is set to 1, the platform does not display configuration parameters.
Query commands **AT+CONFIGRETURN?**	+CONFIGRETURN:<mode> OK	

Parameter

<mode>:int type; Used to configure the type of message that the platform interacts with the device: default value is 0

0:Type of message returned by the device: 0104

1: Type of message returned by the device: 0001

Example

Command: AT+CONFIGRETURN=0

Reply: +CONFIGRETURN:0

OK

Command: AT+CONFIGRETURN？

Reply: +CONFIGRETURN:0