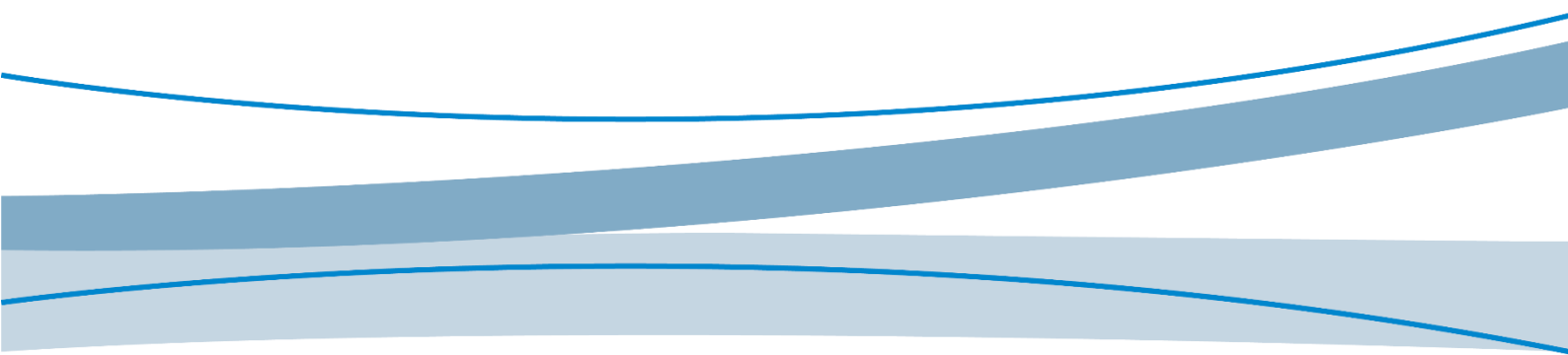




MTC

AT Commands User Manual_MQTT

V1.3



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Applicable Model

No.	Applicable Model	Description
1	L61x Series	<p>1. Except for the L610 series, other series do not support the following commands: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: <Username> The maximum length is 1024 bytes. <Password> The maximum length is 1024 bytes. <ClientIDStr> The maximum length is 1024 bytes.</p>
2	LC61x Series	<p>1. Except for the LC610N series, other series do not support the following commands: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: <Username> The maximum length is 1024 bytes. <Password> The maximum length is 1024 bytes. <ClientIDStr> The maximum length is 1024 bytes.</p> <p>3. LC610N series don't support MQTT TLS.</p>
3	LG61x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: <Username> The maximum length is 1024 bytes. <Password> The maximum length is 1024 bytes. <ClientIDStr> The maximum length is 1024 bytes.</p>
4	MC61x Series	<p>1. Except for the MC610&MC615 series, other series do not support the following commands: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: <Username> The maximum length is 1024 bytes. <Password> The maximum length is 1024 bytes. <ClientIDStr> The maximum length is 1024 bytes.</p>

		<p>3. For MC610&MC615: < ClientIDStr > is a optional parameter, if not set, this field would be replaced by the IMEI of the module.</p> <p>4. The MC615 series doesn't support MQTT TLS.</p>
5	MG61x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: <Username> The maximum length is 1024 bytes. <Password> The maximum length is 1024 bytes. <ClientIDStr> The maximum length is 1024 bytes.</p>
6	NL66x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The NL668-AM series doesn't support MQTT TLS.</p>
7	MC11x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
8	MG11x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
9	MC10x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
10	LC11x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
11	MA51x Series	<p>1. The following instructions are not supported: +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
12	L71x Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
13	LE Series	<p>1. The following instructions are not supported: +MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows: (except for the LE13x/LE17x series) <Password> The maximum length is 256 bytes.</p>
14	FG13x Series	<p>1. The following instructions are not supported:</p>

		<p>+MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows:</p> <p>< Password > The maximum length is 256 bytes.</p>
15	MS18x Series	<p>1. The following instructions are not supported:</p> <p>+MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>
16	MC66x Series	<p>1. The following instructions are not supported:</p> <p>+MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows:</p> <p><Password> The maximum length is 256 bytes.</p>
17	MG66x Series	<p>1. The following instructions are not supported:</p> <p>+MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD</p> <p>2. The parameter range of the MQTTUSER instruction is adjusted as follows:</p> <p><Password> The maximum length is 256 bytes.</p>
18	MC91x Series	<p>1. The following instructions are not supported:</p> <p>+MQTTSNCID, +MQTTSNREG, +MQTTWTOPICUD, +MQTTWMSGUD, +MQTTAUTHDYN, +MQTTAUTHCFG, +MQTTAUTHEVENT</p>

Change History

V1.3 (2024-12-23)	The <Topic id> parameter in the +MQTTMSGI directive is added. Modify the range of <Datasize> parameters in the +MQTTPUB directive.
V1.2 (2024-11-15)	The LE13x/LE17x/LE27x/LE23x/LE37x series in the applicable models should be uniformly modified to the LE series.
V1.1 (2024-11-12)	Modify the response format of the MQTWTOPICUD instruction.
V1.0 (2024-05-09)	Initial version

1 MQTT

1.1 +MQTTUSER, set user account and password

Description

A user name and password can be specified when connecting a client. This command should be set before opening the MQTT connection. If the user name and password are incorrect, the MQTT server will reject the connect. This command is required because the server needs this information to connect.

Format

Type	Command	Response
Setting command	AT+MQTTUSER=<Clientid>,<Username>,<Password>[,<ClientIDStr>]	Response 1: OK
		Response 2: +CME ERROR: <err>
Read current settings	AT+MQTTUSER?	Response 1: +MQTTUSER:<Clientid>,<Username>,<Password>[,<ClientIDStr>] +MQTTUSER:<Clientid>,<Username>,<Password>[,<ClientIDStr>] OK
		Response 2: +MQTTUSER: <Clientid>,<Username>,<Password>[,<ClientIDStr>] OK
		Response 3: OK
Query command parameter range	AT+MQTTUSER=?	+MQTTUSER: (list of supported<Clientid>s),<ulength>,<plength>[,<clength>] OK

Parameter

Name	Description	Value
Clientid	A unique number identifying the connection	Type: integer Valid client IDs are 1 and 2.
Username	Registered user name of the MQTT server	Type: string Range: The maximum length is 128

Name	Description	Value
		bytes.
Password	Registered password of the server	Type: string Range: The maximum length is 128 bytes.
ClientIDStr	ClientID registered by the MQTT server	Type: string Range: The maximum length is 256 bytes. This is an optional parameter. If it is not set, this field will be replaced by the IMEI+ClientID of the module and will not exceed 23 bytes in length.
ulength	The maximum length of the Username field	Type: integer
plength	The maximum length of the Password field	Type: integer
clength	The maximum length of the ClientIDStr field	Type: integer

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Sync command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000

Example

AT+MQTTUSER=?

+MQTTUSER: (1,2),128,128[,256]

OK

AT+MQTTUSER?

OK

AT+MQTTUSER=1,"a15d8UcWd2H","5sTckZackL3UI578mmUzME","Device1"

OK

1.2 +MQTTOPEN, establish connection through MQTT or MQTT-SN protocol

Description

This command opens a connection between the module and the MQTT server or between the module and the MQTT-SN gateway.

Format

Type	Command	Response
Setting command	AT+MQTTOPEN=<Clientid>,<Remote IP/URL>,<RemotePort>,<Clean session flag>,<Keepalive time>[,<Usetls>]	Response 1: OK +MQTTOPEN: < Clientid>,<Status> Response 2: +CME ERROR: <err>
Read current settings	AT+MQTTOPEN?	Response 1: +MQTTOPEN: < Clientid> OK For each client ID that can be opened Response 2: +MQTTOPEN:0 OK If there are no free client
Query command parameter range	AT+MQTTOPEN=?	+MPQTTOPEN: (list of supported < Clientid>s),(<Remote IP/URL>),(range of supported <RemotePort>s),(range of supported <Clean session flag>s),(range of supported <Keepalive Time>s) [, (range of supported <Usetls>s)] OK

Parameter

Name	Description	Value
Clientid	A unique number identifying the connection	Type: integer Valid client ID is 1, 2, 101, and 102 <ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server Client ID is 101 or 102, the module will connect to the MQTT-SN gateway
Remote IP/URL	Host name of the remote site	Type: string

Name	Description	Value
		Length: maximum 255 characters Format: "AAA.BBB.CCC.DDD" The TP value can be written in 1, 2, or 3 digits.
RemotePort	Port of the remote site	Range: 1 to 65535 (decimal)
Cleansession Flag	Protocol stack type	Type: integer <ul style="list-style-type: none"> • 0: client information is not cleared when the connection is closed • 1: client information is cleared when the connection is closed
Keepalive Time	Keep alive time	Range: 1s to 300s
Usetls	Set whether to use TLS connection	Type: integer <ul style="list-style-type: none"> • 0: use mqtt over tcp. (default) • 1: reserved • 2: use mqtt over tls
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> • 0: failed • 1: success

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	5000

Example

AT+MQTTOPEN=?

+MQTTOPEN: (1,2,101,102),(<"Remote IP/URL">),(1-65535),(0,1),(1-300)[,(0-2)]

OK

AT+MQTTOPEN?

+MQTTOPEN: 1,2,101,102

OK

1.3 +MQTTCLOSE, close the MQTT or MQTT-SN connection

Description

This command allows the module to release the socket accumulation buffer and close the socket.

Format

Type	Command	Response
Setting command	AT+MQTTCLOSE=<Client id>	Response 1: OK +MQTTCLOSE: <Client id>,<Status>
		Response 2: ERROR
Read current settings	AT+MQTTCLOSE?	Response 1: +MQTTCLOSE: <Client id> OK For each client ID that can be closed
		Response 2: +MQTTCLOSE:0 OK If there are no free client id
Query command parameter range	AT+MQTTCLOSE=?	+MQTTCLOSE: (list of supported <Client id>s) OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102. <ul style="list-style-type: none">• Client ID is 1 or 2, the module will connect to the MQTT server.• Client ID is 101 or 102, the module will connect to the MQTT-SN gateway.
Status	Status value after command execution	Type: integer <ul style="list-style-type: none">• 0: failed• 1: success

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example

AT+MQTTCLOSE=1

OK

+MQTTCLOSE: 1,1

AT+MQTTCLOSE?

+MQTTCLOSE: 0

OK

AT+MQTTCLOSE=?

+MQTTCLOSE: (1,2,101,102)

OK

1.4 +MQTTBREAK, MQTT or MQTT-SN disconnection report

Description

This is an unsolicited command that is reported when the MQTT or MQTT-SN unexpectedly disconnects.

Format

Type	Response
Active response	+MQTTBREAK: <Client id>,<cause>

Parameter

Name	Description	Value
Client id	A unique number identifying the	Type: integer

Name	Description	Value
	connection	Valid client IDs are 1, 2, 101, and 102. <ul style="list-style-type: none"> • Client ID is 1 or 2, the module will connect to the MQTT server. • Client ID is 101 or 102, the module will connect to the MQTT-SN gateway.
Cause	Cause for MQTT disconnection	Type: integer <ul style="list-style-type: none"> • 1: An MQTT that is disconnected unexpectedly, such as the server actively disconnects the current connection or the client disconnects because the ping request is not responded. • 2: The wireless link is down, such as the disappearance of a valid IP address due to a network failure. • 3: Unregistered GPRS networks, such as CGREG or CEREGR reports 0.

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Unsolicited result code
Require Restart to Take Effect	--	Require Data Store at Power Down	--
Max Response Duration (ms)	--	Max Result Returning Duration (ms)	--

Example

```
+MQTTBREAK: 1,1
```

1.5 +MQTTSUB, subscribe topics

Description

After the client connects to the MQTT server, you can subscribe to one or more topics to the MQTT server or MQTT-SN gateway.

Format

Type	Command	Response
Setting command	AT+MQTTSUB=<Client id>,<Topic/Topic id>,<Qos>	Response 1: OK

Type	Command	Response
		+MQTTSUB: <Client id>,<Status>
		Response 2: ERROR
Read current settings	AT+MQTTSUB=?	+MQTTSUB:(list of supported <Client id>s),<tlength/Topic id>,(range of supported <Qos>s) OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102 <ul style="list-style-type: none"> • Client ID is 1 or 2, the module will connect to the MQTT server • Client ID is 101 or 102, the module will connect to the MQTT-SN gateway
Topic	Topic should be printable ASCII characters	Type: string Range: 1 to 255 If the module is already connected to the MQTT-SN gateway, the topic can be a short topic with a length in the range of 2.
Topic id	Topic ID	Type: integer Range: 1 to 65535
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> • 0: The message will be delivered at most once, and it may not be delivered. • 1: The message will be delivered at least once, but in some cases it may be delivered more than once. • 2: The message will be delivered accurately once.
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> • 0: failed • 1: success
tlength	An integer value representing the maximum length of the Topic field.	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example**AT+MQTTSUB=?****+MQTTSUB: (1,2,101,102),255,(0-2)****AT+MQTTSUB=1,1,1**

OK

+MQTTSUB: 1,1

1.6 +MQTTUNSUB, unsubscribe messages

Description

This command unsubscribes a specific topic from the server.

Format

Type	Command	Response
Setting command	AT+MQTTUNSUB=<Client id>,<Topic/Topic id>	Response 1: OK +MQTTUNSUB: <Client id>,<Status> Response 2: ERROR
Query command parameter range	AT+MQTTUNSUB=?	+MQTTUNSUB: (list of supported <Client id>s),<length/Topic id> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102 <ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server

Name	Description	Value
		<ul style="list-style-type: none"> Client ID is 101 or 102, the module will connect to the MQTT-SN gateway
Topic	Topic should be printable ASCII characters	Type: string Range: 1 to 255 If the module is already connected to the MQTT-SN gateway, the topic can be a short topic with a length in the range of 2.
Topic id	Topic ID	Type: integer Range: 1 to 65535
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> 0: failed 1: success
tlength	An integer value representing the maximum length of the Topic field.	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example

AT+MQTTUNSUB=1,1

OK

+MQTTUNSUB: 1,1

AT+MQTTUNSUB=?

+MQTTUNSUB: (1,2,101,102),255

OK

1.7 +MQTTPUB, publish a topic

Description

After a client connects to an MQTT server or an MQTT-SN gateway, messages with a specific topic can be published.

Format

Type	Command	Response
Setting command	AT+MQTTPUB=<Client id>,<Topic/Topic id>,<Qos>,<Retain flag>,<Payload/Datasize>	Response 1: OK +MQTTPUB: <Client id>,<Status> Response 2: ERROR
Query command parameter range	AT+MQTTPUB=?	+MQTTPUB: (list of supported <Client id>s),<length/Topic id>,(range of supported <Qos>s),(range of supported <Retain flag>s),<plength> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client ID is 1, 2, 101, and 102 <ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server Client ID is 101 or 102, the module will connect to the MQTT-SN gateway
Topic	Topic should be printable ASCII characters	Type: string Range: 1 to 255 If the module is already connected to the MQTT-SN gateway, the topic can be a short topic with a length in the range of 2.
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> 0: The message will be delivered at most once, and it may not be delivered. 1: The message will be delivered at least once, but in some cases it may be delivered more than once. 2: The message will be delivered

Name	Description	Value
		accurately once.
Retain flag	The retain flag indicates whether the server should reserve messages published by the server.	Type: integer <ul style="list-style-type: none"> • 0: The MQTT server should not reserve this message. • 1: The MQTT server should reserve this message.
Topic id	Topic ID should be an integer.	Type: integer Range: 1 to 65535
Payload	Message should be printable ASCII characters.	Type: string Range: 0 to 1024
Datasize	This command causes the data to be sent in hexadecimal. When the command is received, the module will respond "> <CR> <LF> ". Send any data in hexadecimal. When the module receives the corresponding length data, the data is automatically pushed and the module returned to the normal AT command mode.	Type: integer Range: 1 to 1024
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> • 0: failed • 1: success
tlength	An integer value representing the maximum length of the Topic field.	- -
plength	An integer value representing the maximum length of the Payload field.	- -

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example

```
AT+MQTTPUB=1,1,1,"message"
```

```
OK
```

```
+MQTTPUB: 1,1
```

```
AT+MQTTPUB=?
```

```
+MQTTPUB: (1,2,101,102),255,(0-2),(0,1),1024
```

```
OK
```

1.8 +MQTTCONF, configure the form of the received messages

Description

After subscribing to a topic, this command is determined to be in the form of an unsolicited event when you receive any messages about that topic.

Format

Type	Command	Response
Setting command	AT+MQTTCONF=<mode>	Response 1: OK Response 2: +CME ERROR: <err>
Read current settings	AT+MQTTCONF?	+MQTTCONF: <mode> OK
Query command parameter range	AT+MQTTCONF=?	+MQTTCONF: (list of supported <mode>s) OK

Parameter

Name	Description	Value
mode	Form of unsolicited message	Type: integer <ul style="list-style-type: none">0: Report the contents of topics and loads directly through the MQTTMSG command (default value).1: Report the length of topics and loads through MQTTMSGI command.

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Sync command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000

Example

```
AT+MQTTCONF=1
```

```
OK
```

```
AT+MQTTCONF?
```

```
+MQTTCONF: 0
```

```
OK
```

```
AT+MQTTCONF=?
```

```
+MQTTCONF: (0,1)
```

```
OK
```

1.9 +MQTTMSG, receive messages from server

Description

After subscribing to a topic, the module sends this unsolicited event to the terminal when it receives any message about the topic. This command displays the contents of the message.

Format

Type	Response
Active response	+MQTTMSG: <Client id>,<Qos>,<Topic/Topic id>,<Payload>

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102. <ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server.

Name	Description	Value
		<ul style="list-style-type: none"> Client ID is 101 or 102, the module will connect to the MQTT-SN gateway.
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> 0: The message will be delivered at most once, and the message may not be delivered. 1: The message will be delivered at least once, but in some cases it may be delivered more than once. 2: The message will be delivered accurately once.
Topic	Topic should be printable ASCII characters	Type: string Range: 1 to 255 If the module is already connected to the MQTT-SN gateway, the topic can be a short topic with a length in the range of 2.
Topic id	Topic ID	Type: integer Range: 1 to 65535
Payload	Message should be printable ASCII characters.	Type: string Range: 0 to 1500 MA510&MC100E Range: 0 to 1024

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Unsolicited result code
Require Restart to Take Effect	--	Require Data Store at Power Down	--
Max Response Duration (ms)	--	Max Result Returning Duration (ms)	--

Example

```
+MQTTMSG: 1,0,"topic","1111"
```

1.10 +MQTTMSGI, length of messages received from server

Description

After subscribing to a topic, the module sends this unsolicited event to the terminal when it receives any message about the topic. This command displays the subject of the message and the length of the payload.

Format

Type	Response
Active response	+MQTTMSGI: <Client id>,<Qos>,<tlength/Topic id>,<plength>

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102. <ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server. Client ID is 101 or 102, the module will connect to the MQTT-SN gateway.
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> 0: The message will be delivered at most once, and the message may not be delivered. 1: The message will be delivered at least once, but in some cases it may be delivered more than once. 2: The message will be delivered accurately once.
Topic id	Topic ID	Type: integer Range: 1 to 65535 <ul style="list-style-type: none"> When you need to use Topic id, the Client id must be 101 or 102.
tlength	An integer type value for the length of the received topic	--
plength	Integer value of payload receive length	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
-------------------------	-----	------------------------------	-----

Require Data Connection	Yes	Async or Sync Command	Unsolicited result code
Require Restart to Take Effect	--	Require Data Store at Power Down	--
Max Response Duration (ms)	--	Max Result Returning Duration (ms)	--

Example

```
+MQTTMSGI: 1,1,1,1
```

1.11 +MQTTREAD, read messages that have been received

Description

After the MQTTMSGI command receives a message, this command is used to read the contents of the message.

Format

Type	Command	Response
Setting command	AT+MQTTREAD=<Client id>	<p>Response 1: +MQTTREAD: <Client id>,0,0,0 OK If the client id is not received message</p> <p>Response 2: +MQTTREAD: <Client id>,<Qos>,<length>,<plenlength>,<Topic/Topic id>,<Payload> OK If the client id has received message</p> <p>Response 3: +CME ERROR: <err></p>
Query command parameter range	AT+MQTTREAD=?	+MQTTREAD: (list of supported <Client id>s) OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 1, 2, 101, and 102.

Name	Description	Value
		<ul style="list-style-type: none"> Client ID is 1 or 2, the module will connect to the MQTT server. Client ID is 101 or 102, the module will connect to the MQTT-SN gateway.
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> 0: The message will be delivered at most once, and the message may not be delivered. 1: The message will be delivered at least once, but in some cases it may be delivered more than once. 2: The message will be delivered accurately once.
Topic	Topic	Type: string Range: 1 to 255
Topic id	Topic ID	Type: integer Range: 1 to 65535
tlength	An integer type value for the length of the received topic	--
plength	Integer value of payload receive length	--
Payload	Message	Type: string Range: 0 to 1024

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Sync command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000

Example

AT+MQTTREAD=1

+MQTTREAD: 1,0,0,0

OK

AT+MQTTREAD=?

+MQTTREAD: (1,2)

OK

1.12 +MQTTWILL, set MQTT/MQTT-SN will

Description

This command is optional and that needs to be set before opening an MQTT or MQTT-SN connection. If the will message is set, it will be sent to clients that subscribe to the will topic when the client is abnormally disconnected from the server.

Format

Type	Command	Response
Setting command	AT+MQTTWILL=<Client id>,<Topic>,<Qos>,<Retain flag>,< Payload/Datasize>	Response 1: OK Response 2: ERROR
Read current settings	AT+MQTTWILL?	Response 1: +MQTTWILL: <Client id>,<Topic>,<Qos>,<Retain flag>,<Payload> +MQTTWILL: <Client id>,<Topic>,<Qos>,<Retain flag>,<Payload> OK Response 2: +MQTTWILL: <Client id>,<Topic>,<Qos>,<Retain flag>,<Payload> OK Response 3: OK
Query command parameter range	AT+MQTTWILL=?	+MQTTWILL: (list of supported <Client id>s),<length>,(range of supported <Qos>s),(range of supported <Retain flag>s),<length> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer • Client ID is 1 or 2, the module will

Name	Description	Value
		connect to the MQTT server <ul style="list-style-type: none"> Client ID is 101 or 102, the module will connect to the MQTT-SN gateway
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> 0: The message will be delivered at most once, and it may not be delivered. 1: The message will be delivered at least once, but in some cases it may be delivered more than once. 2: The message will be delivered accurately once.
Topic	Topic	Type: string Range: 1 to 255
tlength	An integer type value for the length of the received topic	- -
plength	Integer value of payload receive length	- -
Payload	Message	Type: string Range: 0 to 1024
Retain flag	The retain flag indicates whether the server should reserve messages published by the server.	Type: integer <ul style="list-style-type: none"> 0: The MQTT server should not reserve this message. 1: The MQTT server should reserve this message.
Datasize	When the command is received, the module will respond "> <CR> <LF> ". When the module receives the corresponding length data, the data is set as a will message. and the module returned to the normal AT command mode.	Type: integer Range: 0 to 1024

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Sync command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000



Only the MC66x&MG66x&FG13x series support <Datasize>.

Example

```
AT+MQTTWILL=1,"topic1",0,0,"disconnect unexpectedly"
```

```
OK
```

```
AT+MQTTWILL?
```

```
OK
```

```
AT+MQTTWILL=?
```

```
+MQTTWILL: (1,2,101,102),255,(0-2),(0,1),1024
```

```
OK
```

1.13 +MQTTSNCID, set client ID string

Description

A client ID string is set when connecting a client. This command should be set before opening the MQTT-SN connection.

Format

Type	Command	Response
Setting command	AT+MQTTSNCID=<Client id>,<ClientIDStr>	Response 1: OK
		Response 2: ERROR
Read current settings	AT+MQTTSNCID?	Response 1: +MQTTSNCID: <Client id>,<ClientIDStr> +MQTTSNCID: <Client id>,<ClientIDStr> OK
		Response 2: +MQTTSNCID: <Client id>,<ClientIDStr> OK

Type	Command	Response
		Response 3: OK
Query command parameter range	AT+MQTTSNCID=?	+MQTTSNCID: (list of supported <Client id>s), <clength> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	<ul style="list-style-type: none"> Type: integer Valid client IDs are 101 and 102.
ClientIDStr	ClientID registered by the MQTT server	Type: string Range: 0 to 2 Length: maximum 256 bytes L610: Length: maximum 1024 bytes MC610&MA510&MC100E : Length: maximum 23 bytes
Clength	The integer type value of the maximum length of the ClientIDStr field	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Sync command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000



If you do not invoke the command to set clientidstr, it will be replaced by the module's IMEI+Clientid, which is no longer than 23 bytes.

Example

```
AT+MQTTSNCID=101,"5sTckZackL3UI578mmUzME"
```

```
OK
```

AT+MQTTSNCID?

OK

1.14 +MQTTSNREG, register a topic ID for the topic name

Description

A registration message is sent by the client to the MQTT-SN gateway to request a topic ID value containing the topic name. It is also sent by the GW to inform the client that it has been assigned a topic ID that contains the topic name. This command can only be executed after the MQTT-SN has established a connection.

Format

Type	Command	Response
Setting command	AT+MQTTSNREG=<Client id>,<TopicName>	Response 1: OK +MQTTSNREG: <Client id>,<Status>[,<TopicID>,<TopicName>] Response 2: ERROR
Read current settings	AT+MQTTSNREG?	Response 1: OK Response 2: OK +MQTTSNREG: <Client id>,<TopicID>,<TopicName> ... List all registered TopicID and TopicName, the module stores a maximum of 5 groups of data for each connection.
Query command parameter range	AT+MQTTSNREG=?	+MQTTSNREG: (list of supported <Client id>s),<tlength> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 101 and 102.
TopicName	Topic	Type: string Range: 1 to 255

Name	Description	Value
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> • 0: Failed • 1: Customer registration succeeded • 2: The gateway notifies the client that the message registration succeeded
TopicID	If <Status> is 1, the topic name is successfully registered on the client.	Type: integer Range: 1 to 65535
length	An integer value representing the maximum length of the TopicName.	- -

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000



If you do not invoke the command to set clientidstr, it will be replaced by the module's IMEI+Clientid, which is no longer than 23 bytes.

Example

```
AT+MQTTSNREG=101,1
```

```
OK
```

```
+MQTTSNREG: 101,1
```

```
AT+MQTTSNREG?
```

```
OK
```

1.15 +MQTTWTOPICUD, update will subject in MQTT-SN gateway

Description

This command is used by the client to update the will subject name stored in the MQTT-SN gateway. This command can only be executed after the MQTT-SN has established a connection.

Format

Type	Command	Response
Setting command	AT+MQTTWTOPICUD=<Client id>,<Qos>,<Retain flag>,<WilltopicName>	Response 1: OK +MQTTWTOPICUD: <Client id>,<Status> Response 2: ERROR
Query command parameter range	AT+MQTTWTOPICUD=?	+MQTTWTOPICUD: (list of supported <Client id>s),(range of supported <Qos>s),(range of supported <Retain flag>s),<tlength> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 101 and 102.
Qos	Quality of service	Type: integer <ul style="list-style-type: none"> • 0: The message will be delivered at most once, and it may not be delivered. • 1: The message will be delivered at least once, but in some cases it may be delivered more than once. • 2: The message will be delivered accurately once.
Status	Status value after command execution	Type: integer <ul style="list-style-type: none"> • 0: failed • 1: success
Retain flag	The retain flag indicates whether the server should reserve messages published by the server.	Type: integer <ul style="list-style-type: none"> • 0: The MQTT server should not hold this message. • 1: The MQTT server should reserve

Name	Description	Value
		this message.
WilltopicName	Will topic name	Type: string Range: 1 to 255
tlength	An integer value representing the maximum length of the TopicName.	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example

```
AT+MQTTWTOPICUD=101,0,1,1
```

```
OK
```

```
+MQTTWTOPICUD: 101,1
```

1.16 +MQTTWMSGUD, update will message in MQTT-SN gateway

Description

This command is used by the client to update the will message name stored in the MQTT-SN gateway. This command can only be executed after the MQTT-SN has established a connection.

Format

Type	Command	Response
Setting command	AT+MQTTWMSGUD=<Client id>,<WillMessage>	Response 1: OK +MQTTWMSGUD: <Client id>,<Status> Response 2: ERROR
Query command parameter range	AT+MQTTWMSGUD=?	+MQTTWMSGUD: (list of supported <Client id>s),<plength> OK

Parameter

Name	Description	Value
Client id	A unique number identifying the connection	Type: integer Valid client IDs are 101 and 102.
Status	Status value after command execution	Type: integer • 0: failed • 1: success
WillMessage	Will message	Type: string Range: 1 to 1024
Plength	An integer value representing the maximum length of the Payload field.	--

Characteristic

Require SIM Card Normal	Yes	Require Network Registration	Yes
Require Data Connection	Yes	Async or Sync Command	Async command
Require Restart to Take Effect	No	Require Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	3000

Example

```
AT+MQTTMSGUD=101,"will message"
```

```
OK
```

```
+MQTTMSGUD: 101,1
```

1.17 +MQTTAUTHDYN, Configure dynamic registration of MQTT cloud

Description

The command is used to configure dynamic registration parameters of MQTT cloud.

Format

Type	Command	Response
Query command parameter range	AT+MQTTAUTHDYN=?	Response 1: +MQTTAUTHDYN: 1,<host>,<port>,<productkey>,<product secret>,<devicename>

Type	Command	Response
		+MQTTAUTHDYN: 2,<url>,<productkey>,<productsecret>,<devicename> +MQTTAUTHDYN: 3,<productkey>,<productsecret>,<devicekey>,<clearflag>,<authmode> OK Response 2: ERROR Or +CME ERROR:<err>
Set command	AT+MQTTAUTHDYN=1,<host>,<port>,<productkey>,<productsecret>,<devicename>	Response 1: OK +MQTTAUTHDYN: 1,<productkey>,<devicename>,<devicesecret> Response 2: ERROR Or +CME ERROR:<err>
Set command	AT+MQTTAUTHDYN=2,<url>,<productkey>,<productsecret>,<devicename>	Response 1: OK +MQTTAUTHDYN: 2,<encryptiontype>[,<devicesecret>] Response 2: ERROR Or +CME ERROR:<err>
Set command	AT+MQTTAUTHDYN=3,<productkey>,<productsecret>,<devicekey>,<clearflag>,<authmode>	Response: 1: OK +MQTTAUTHDYN: 3,<status>,<devicesecret>,<token> Response: 2: ERROR

Parameter

Name	Description	Value
cloudtype	MQTT cloud type	Range: 1-3 1:ali cloud 2:tencent cloud 3:unicom dmp
host	MQTT host	String type length 0-255
port	MQTT port	Integer type 1-65535
productkey	Product id	String type length 0-128.
devicename	MQTT device name	String type length 0-128
productsecret	MQTT product secret	String type length 0-128
devicesecret	Tencent cloud MQTT device secret	String type length 0-128
encryptiontype	Tencent cloud MQTT encryption type.	1 Certificate certification. 2 Psk authentication.
clearflag	Clear flag	0 No clear config. 1 Clear config.
authmode	Auth mode	1 One type and one secret pre-registration. 2 One type and one secret without pre-registration.
status	Auth status	0 Auth success. 1 Auth error.
token	Token	String type length 1-128
url	HTTP Request Path(tencent cloud)	String type length 1-255
devicekey	Device key	String type length 0-128

Characteristic

SIM Card Ready Required	No	Network Registration Required	No
Data Connection Required	No	Asynchronous or Synchronous	Asynchronous
Restart to Take Effect	No	Data Store at Power Down	No

 Required

Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000
----------------------------	------	------------------------------------	------

1.18 +MQTTAUTHCFG, Configure registration parameters of MQTT cloud

Description

The command is used to configure registration parameters of MQTT cloud.

Format

Type	Command	Response
Query command parameter range	AT+MQTTAUTHCFG=?	+MQTTAUTHCFG: 1,<productkey>,<devicename>,<devicesecret>,<tls> +MQTTAUTHCFG: 2,<productkey>,<devicename>,<devicesecret> > +MQTTAUTHCFG: 3,<devicename>,<devicesecret> +MQTTAUTHCFG: 4,<actiontype>[,<productkey>,<uuid>,<authkey>] +MQTTAUTHCFG: 5,<productid>,<devicename>,<accesskey> +MQTTAUTHCFG: 6,<iotcoreid>,<devicekey>,<devicesecret> +MQTTAUTHCFG: 7 +MQTTAUTHCFG: 8,<productid>,<devicenum>,<token>,<aeusername> 9,<productkey>,<devicekey>,<devicesecret>,<token> OK
Set command	AT+MQTTAUTHCFG=1,<productkey>,<devicename>,<devicesecret>,<tls>	Response 1: +MQTTAUTHCFG: 1,"<username>","<password>","<ClientIDStr> " OK If there is any error: ERROR Response 2: +CME ERROR:<err>

Type	Command	Response
Set command	AT+MQTTAUTHCFG=2, <productkey>,<devicename>,<devicesecret>	<p>Response 1: +MQTTAUTHCFG: 2,"<username>","<password>","<ClientIDStr> "</p> <p>OK If there is any error: ERROR</p> <p>Response 2: +CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=3,<deviceid>,<devicesecret>	<p>Response 1: +MQTTAUTHCFG: 3,"<username>","<password>","<ClientIDStr> "</p> <p>OK If there is any error: ERROR</p> <p>Response 2: +CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=4,<actiontype>[,<productkey>,<uid>,<authkey>]	<p>Response 1: +MQTTAUTHCFG: 4,"<host>",<port>",<username>","<password> >","<ClientIDStr>"</p> <p>OK If there is any error: ERROR</p> <p>Response 2: +CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=5,<productid>,<devicename>,<accesskey>	<p>Response 1: +MQTTAUTHCFG: 5,"<username>","<password>","<ClientIDStr> "</p> <p>OK If there is any error: ERROR</p> <p>Response 2: +CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=6,<Iotcoreid>,<devicekey>,<device secret>	<p>Response 1: +MQTTAUTHCFG: 6,"<username>","<password>","<ClientIDStr> "</p>

Type	Command	Response
		<p>"</p> <p>OK</p> <p>If there is any error:</p> <p>ERROR</p> <p>Response 2:</p> <p>+CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=7	<p>Response 1:</p> <p>OK</p> <p>If there is any error:</p> <p>ERROR</p> <p>Response 2:</p> <p>+CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=8,<productid>,<devicenumber>,<token>,<aepusername>	<p>Response 1:</p> <p>+MQTTAUTHCFG:</p> <p>8,"<username>","<password>","<ClientIDStr></p> <p>"</p> <p>OK</p> <p>If there is any error:</p> <p>ERROR</p> <p>Response 2:</p> <p>+CME ERROR:<err></p>
Set command	AT+MQTTAUTHCFG=9,<productkey>,<devicekey>,<devicesecret>,<token>	<p>Response 1:</p> <p>+MQTTAUTHCFG:</p> <p>9,"<username>","<password>","<ClientIDStr></p> <p>"</p> <p>OK</p> <p>Response 2:</p> <p>ERROR</p>

Parameter

Name	Description	Value
cloudtype	MQTT cloud type.	<p>Range: 1-9</p> <p>1:ali cloud</p> <p>2:tencent cloud</p> <p>3:huawei cloud</p> <p>4:tuya cloud</p> <p>5:onenet</p>

Name	Description	Value
		6:baidu cloud 7:amazon 8:aep 9:unicom dmp
host	MQTT host.	String type length 0-255
port	MQTT port.	Integer type 1-65535
productkey	Product id.	String type length 0-128.
devicename	MQTT device name.	String type length 0-128
deviceid	MQTT device ID.	String type length 0-128
uuid	UUID for Tuya cloud.	String type length 0-128
authkey	Authkey for tuyu cloud.	String type length 0-128
ClientIDStr	MQTT client id.	String type
username	MQTT username.	String type
password	MQTT password.	String type
actiontype	Tuya action type.	Integer type, length 0-1: 1: Turn on Tuya Cloud, <productkey>, <uuid>, <authkey> are mandatory. 0: Turn off Tuya Cloud, <productkey>, <uuid>, <authkey> are optional.
tls	Aliyun tls enable.	String type 1:enable tls 0 :disable tls
Iotcoreid	MQTT Iot core id for baidu cloud.	String type length 0-128
devicekey	MQTT device key for baidu cloud.	String type length 0-128
accesskey	MQTT device accesskey for onenet cloud.	String type length 0-128
productid	MQTT product ID on AEP.	String type length 0-255
devicenumber	MQTT Device Number on AEP.	String type

Name	Description	Value
		length 0-255
token	MQTT Device token on AEP.	String type length 0-255
aepusername	The username when log in AEP website.	String type length 0-255
devicesecret	Tencent cloud MQTT device secret	String type length 0-128

Characteristic

SIM Card Ready Required	Yes	Network Registration Required	Yes
Data Connection Required	No	Asynchronous or Synchronous	Synchronous
Restart to Take Effect Required	No	Data Store at Power Down	No
Max Response Duration (ms)	1000	Max Result Returning Duration (ms)	1000

1.19 +MQTTAUTHEVENT, Registration event of MQTT cloud

Description

The command is used to notify the registration event of MQTT cloud.

Format

Type	Response
Active response	MQTTAUTHEVENT: <cloudtype>,<tuyastatus>

Parameter

Name	Description	Value
cloudtype	MQTT cloud type.	4:tuya cloud
tuyastatus	Retention time	String type 1 RESET: reset mqtt client 2 BIND START: start bind 3 BIND TOKEN ON: bind token on 4 ACTIVATE SUCCEEDED: activate succeeded 5 MQTT CONNECTED: mqtt connected 6 MQTT DISCONNECT: mqtt disconnect 7 BIND STOP: stop bind

Characteristic

SIM Card Ready Required	Yes	Network Registration Required	Yes
Data Connection Required	No	Asynchronous or Synchronous	Unsolicited result code
Restart to Take Effect Required	No	Data Store at Power Down	No
Max Response Duration (ms)	- -	Max Result Returning Duration (ms)	- -

2 Error Codes

2.1 MQTT Error Code

<err> Value	Description
700	Unacceptable protocol version
701	Identifier rejected
702	Server unavailable
703	Bad user name or password
704	Not authorized