

FIBOCOM L610 Series

AT Commands_OneNET

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1 OneNET

1.1 +MIPLCFG, Configure OneNET Service parameters

1.1.1 Description

This command is used to set bootstrap server or lwm2m server URL/PORT parameter.

1.1.2 Syntax

Command	Response/Action
AT+MIPLCFG=<bs_mode>,<URL>,<PORT>	OK or +CIS ERROR: <errid>
AT+MIPLCFG?	+MIPLCFG: <bs_mode>,<URL>,<PORT> OK or +CIS ERROR: <errid>
AT+MIPLCFG=?	+MIPLCFG: (list of supported<bs_mode>s), <URL>,<PORT> OK

1.1.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.1.4 Defined Values

<bs_mode>: integer type,

0: the url and port will set to lwm2mserver,

1: the url and port will set to bootstrap server, default value

<URL>: string type; server IP or URL address, Length Range 1-255. Default value is "183.230.40.39"

<PORT>: integer type, server Port, Range 1-65535. Default value is 5683.

Note:

This command is used to set the URL and PORT parameters of the bootstrap server and lwm2m server. When setting this parameter, MIPLCREATE needs to be created with no parameters.

1.2 +MIPLCREATE, Create OneNET Instance

1.2.1 Description

This command creates an instance of communication to CMIoT OneNET platform.

1.2.2 Syntax

Command	Response/Action
AT+MIPLCREATE[=<totalsize>,<config>,<index>,<currentsize>,<flag>]	+MIPLCREATE: <ref> OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLCREATE
+MIPLCREATE: 0
```

```
OK
```

1.2.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.2.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<totalsize>: integer type, total size of configuration data of OneNET connection parameter;

<config>: string type; configuration data, refer to configuration structure Appendix C;

<index>: integer type, index of each configuration data block, beginning from N-1 to 0;

<currentsize>: integer type, current size of this AT command;

<flag>: integer type, message identifier;

1: first message

2: middle message

0: last message

<errid>: errid show in Appendix B;



Note:

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<config> data length of +MIPLCREATE must be less than 1KB, if <totalsize> larger than <config>, users should split configuration into multiple streams with continuous <index>;

Configurations are shown below:

Only one reference ID of OneNET communication instance is supported in current version, redefine configuration will overwrite the former one, and +MIPLOPEN only support <ref>=0;

+MIPLCREATE, it can be used without any parameters, Initialization is done with the default parameters. Recommended use with no parameters. Default parameters value is below:

```
"mtu": 1024
"apn": NULL
"username": NULL
"password": NULL
"bootstrap enabled": TRUE
"host address": "183.230.40.39"
```

1.3 +MIPLDELETE, Delete OneNET Instance

1.3.1 Description

Delete a specified OneNET communication instance.

1.3.2 Syntax

Command	Response/Action
AT+MIPLDELETE=<ref>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLDELETE=<ref>
OK
```

1.3.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 100s

1.3.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

1.4 +MIPLOPEN, Send OneNET Register Request

1.4.1 Description

Sending register request to OneNET with set command, and querying register state with read command.

1.4.2 Syntax

Command	Response/Action
AT+MIPLOPEN=<ref>,<lifetime>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLOPEN=0,90
OK
```

1.4.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 300s

1.4.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<lifetime>: integer type, the lifetime of this registration (unit: second), when lifetime expires and no update process is initiated, the platform considers the device offline. When lifetime is set to 0, it is converted to 90; Lifetime value is range from 15 to 268435455 (does not include boundary values), recommended not less than 90 seconds;



Note:

Set command is an asynchronous command, and returning OK means sending request successfully.

If successful login in time, the UE returns:

```
+MIPLEVENT: 0,1
```

```
+MIPLEVENT: 0,2
```

```
+MIPLEVENT: 0,4
```

```
+MIPLEVENT: 0,6
```

1.5 +MIPLCLOSE, Send OneNET Unregister Request

1.5.1 Description

Sending unregister request to OneNET according to specified reference ID.

1.5.2 Syntax

Command	Response/Action
AT+MIPLCLOSE=<ref>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLCLOSE=0
OK
```

If successful Unregister in time, the UE returns:

```
+MIPLEVENT: <ref>,15
```

1.5.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 93s

1.5.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

1.6 +MIPLUPDATE, Send OneNET Update Request

1.6.1 Description

This command updates the register information, such as lifetime.

1.6.2 Syntax

Command	Response/Action
AT+MIPLUPDATE=<ref>,< lifetime>,<withobjectflag>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLUPDATE=0,30,0
OK
```

1.6.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 100s

1.6.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<lifetime>: integer type(Decimal), update the lifetime value of the device to the platform, range from 15 to 268435455(does not include boundary values, if illegal value is used, replaced by the last valid value), recommended not less than 90 seconds;

<withobjectflag>: integer type, the range is 0-1

1: update object info;

0: don't update object info;



Note:

Set command is an asynchronous command, and returning OK means sending request successfully.

If successful update in time, the UE returns:

+MIPLEVENT: <ref>,11

Otherwise there isn't returns.

1.7 +MIPLADDOBJ, Add LWM2M Object

1.7.1 Description

Add lwm2m object to a specified OneNET instance. Concepts and definitions of Object, instance and resource, please refer to Lightweight Machine to Machine Technical Specification, ext-label Objects Produced by IPSO Alliance and oma-label Objects Produced by OMA.

<http://www.openmobilealliance.org/wp/OMNA/LwM2M/LwM2MRegistry.html>

1.7.2 Syntax

Command	Response/Action
AT+MIPLADDOBJ=<ref>,<objectid>,<instancecount> >,<instancebitmap>,<attributecount>,<actioncount>	OK or +CIS ERROR: <errid>

For example:

AT+MIPLADDOBJ=0,3308,3,"100",2,0

OK

AT+MIPLADDOBJ=0,3302,3,"100",2,1

OK

1.7.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.7.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<objectid>: integer type, object identity;

<instancecount>: integer type, the number of new instance identity;

<instancebitmap>: string type, instance bitmap, each character is represented as an instance, of which 1 is available, and 0 is unavailable. For example, the currently added object has 5 instances, of which 1, 3 are available, and the instance bitmap is 00101;

<attributecount>: integer type, readable or writeable number of resources;

<actioncount>: integer type, executable number of resources;

1.8 +MIPLDELOBJ, Delete LWM2M Object

1.8.1 Description

Delete an object from a specified OneNET instance.

1.8.2 Syntax

Command	Response/Action
AT+MIPLDELOBJ=<ref>,<objectid>	OK or +CIS ERROR: <errid>

For example:

AT+MIPLDELOBJ=0,3308

OK

1.8.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.8.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<objectid>: integer type, object identity;

1.9 +MIPLNOTIFY, Notify Value Changes

1.9.1 Description

Notify OneNET that specified values changed.

1.9.2 Syntax

Command	Response/Action
AT+MIPLNOTIFY=<ref>,<msgid>,<objectid>,<instanceid>,<resourceid>,<valuetype>,<len>,<value>,<index>,<flag> [,<ackid>]	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLNOTIFY=0,130493,3308,2,5750,1,5,"qwert",0,0
```

```
OK
```

```
AT+MIPLNOTIFY=0,130493,3308,2,5750,2,6,F1F2F3,1,0
```

```
OK
```

```
AT+MIPLNOTIFY=0,130493,3308,2,5750,3,3,234,1,0
```

```
OK
```

```
AT+MIPLNOTIFY=0,130493,3308,2,5750,4,4,1.22,1,0
```

```
OK
```

```
AT+MIPLNOTIFY=0,130493,3308,2,5750,5,1,0,1,0
```

```
OK
```

1.9.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.9.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message id, It should be the msgid when the resource is observed;

<objectid>: integer type, object identity;

<instanceid>: integer type, instance identity;

<resourceid>: integer type, resource identity;

<valuetype>: data type

1	2	3	4	5
string	opaque	integer	float	bool

<len>: integer type, The length of the value, should less than 1000 Bytes;

<value>: if <valuetype> is opaque type, user data string is sent encoded with 0-F hexadecimal digits; if <valuetype> is string type, value must start with “and end with ”;

<index>: integer type, Instruction sequence number. If a Notify operation requires some messages combination to be a complete instruction, the index is numbered from N-1 to 0, and the end of the Notify instruction when the index number is 0;

<flag>: integer type, message identifier;

1: first message

2: middle message

0: last message

<ackid>: integer type, If <ackid> is set(except -1), OneNET server will response ACK message to UE, if UE received ack-messages, output following message:

+MIPLEVENT:<ref>,11,<ackid>

If <ackid> omitted, no ACK will response.



Note:

If there is only one notify instruction for the same message, both index and flag are 0.

1.10 +MIPLREAD, Unsolicited Read Request

1.10.1 Description

Unsolicited result code of remote reading command. It represents that server request device to upload their specified local resource values.

1.10.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLREAD: <ref>,<msgid>,<objectid>,<instanceid>,<resourceid>

For example:

+MIPLREAD: 0,11083,3308,2,5750

1.10.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.10.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<objectid>: integer type, object identity;

<instanceid>: integer type, instance identity, -1 means read all the instances belong to the object, else only read specified instance;

<resourceid>: integer type, resource identity, -1 means read all the resources belong to the instance, else only read specified resource;



Note:

There are 3 kinds of read operations:

1. Read specified object/instance/resource;
2. Read all resources of specified object/instance;
3. Read all resources of all instances of specified object;

Reading result should be replied to server using +MIPLREADRSP command;

Only support 40 queues of read/write/execute request messages, if more than 40 requests untreated, the former information will lose, and cannot reply these message operating result to server using upload command;

1.11 +MIPLREADRSP, Upload Read Messages

1.11.1 Description

The read command set specified resource values, and when flag set to 1, upload these updating values to OneNET. This should be operated when +MIPLREAD URC is received as reply of remote read command.

1.11.2 Syntax

Command	Response/Action
AT+MIPLREADRSP=<ref>,<msgid>,<result>[, <objectid>,<instanceid>,<resourceid>,<valuetype>,<len>, <value>,<index>,<flag>]	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLREADRSP=0,130493,1,3308,2,5750,1,5,"qwert",0,0
```

```
OK
```

```
AT+ MIPLREADRSP=0,130493,1,3308,2,5750,2,6,F1F2F3,1,0
```

OK

AT+ MIPLREADRSP=0,130493,1,3308,2,5750,3,3,234,1,0

OK

AT+ MIPLREADRSP=0,130493,1,3308,2,5750,4,4,1.22,1,0

OK

AT+ MIPLREADRSP=0,130493,1,3308,2,5750,5,1,0,1,0

OK

1.11.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 15s

1.11.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity from +MIPLREAD;

<result>: integer type, the result of the read operation; the code can be returned as follows:

1	2.05 Content OK
11	4.00 Bad Request
12	4.01 Unauthorized
13	4.04 Not Found
14	4.05 Method Not Allowed
15	4.06 Not Acceptable

<objectid>: integer type, object identity;

<instanceid>: integer type, instance identity;

<resourceid>: integer type, resource identity;

<valuetype>: data type

1	2	3	4	5
string	opaque	integer	float	bool

<len>: integer type, The length of the value, should less than 1000 Bytes;

<value>: if <valuetype> is opaque type, user data string is sent encoded with 0-F hexadecimal digits; if

<valuetype> is string type, in quotation marks;

<index>: integer type, Instruction sequence number. If a Notify operation requires some messages

combination to be a complete instruction, the index is numbered from N-1 to 0, and the end of the Notify instruction when the index number is 0;

<flag>: integer type, message identifier.

1: first message

2: middle message

0: last message



Note:

This command used as response of OneNET read command, total response data length should less than 2048 Bytes.

1.12 +MIPLWRITE, Unsolicited Write Request

1.12.1 Description

Unsolicited result code of remote writing command. It represents that server request device to modify their specified local resource values.

1.12.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLWRITE: <ref>,<msgid>,<objectid>,<instanceid>,<resourceid>,<valuetype>, <len>,<value>,<flag>,<index>

For example:

+MIPLWRITE: 0,11082,3308,2,5750,2,3,696F74,0,0

1.12.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.12.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<objectid>: integer type, object identity;

<instanceid>: integer type, instance identity;

<resourceid >: integer type, resource identity;

<valuetype >: integer type, write data value type;

1: string

2: opaque

3: integer

4: float

5: bool

<len>: integer type, write data length;

<value>: write data value, if string type, in quotation marks;

<flag >: integer type, message flag.

1: first message

2: middle message

0: last message

<index>: integer, message index, from N-1 to 0, refer to +MIPLNOTIFY command;

1.13 +MIPLWRITERSP, Upload Write Result

1.13.1 Description

This command used as reply of remote write command after +MIPLWRITE URC received, to feedback the results of updating specified resource value.

1.13.2 Syntax

Command	Response/Action
AT+MIPLWRITERSP=<ref>,<ms gid>,<result>	OK or +CIS ERROR: <errid>

For example:

AT+MIPLWRITERSP=0,321,2

OK

1.13.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 15s

1.13.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity in +MIPLWRITE;

<result>: integer type, result of writing specified resource, the code can be returned as follows:

2	2.04 Changed OK
11	4.00 Bad Request

12	4.01 Unauthorized
13	4.04 Not Found
14	4.05 Method Not Allowed
19	4.15Unsupported content format



Note:

After receiving the +MIPWRITE URC message, users need to modify the corresponding resource value according to the giving object, instance and resource, and reply the writing result to server.

1.14 +MIPLEXECUTE, Unsolicited Execute Request

1.14.1 Description

Unsolicited result code of remote executing command. It represents that server request device to execute some pre-defined operations on specified resource.

1.14.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLEXECUTE: <ref>, <msgid>, <objectid>, <instanceid>, <resourceid>[, <len>, <arguments>]

For example:

+MIPLEXECUTE: 0,292,3200,0,5500, 5, "reset"

1.14.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.14.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<objectid>: integer type, object identity;

<instanceid>: integer type, integer, instance identity;

<Resourceid>: integer type, integer, resource identity;

<len>: integer type, parameter length;

<arguments>: string type; command that remote server request the resource to execute;

1.15 +MIPLEXECUTERSP, Upload Execute Result

1.15.1 Description

This command is used as reply of remote execute command after +MIPLEXECUTE URC received to feedback the results of user-defined operation.

1.15.2 Syntax

Command	Response/Action
AT+MIPLEXECUTERSP=<ref>,<msgid>,<result>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLEXECUTERSP=0,312,2
OK
```

1.15.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 15s

1.15.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity in +MIPLEXECUTE message;

<result>: integer type, result of specified operations, refer to +MIPLWRITERSP command;

1.16 +MIPLDISCOVER, Unsolicited Discover Request

1.16.1 Description

Unsolicited result code of discover message from server. It represents that server request device to report this object info.

1.16.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLDISCOVER: <ref>,<msgid>,<objectid>

For example:

```
+MIPLDISCOVER: 0, 11078, 3308
```

1.16.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.16.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<objectid>: integer type, object identity;

1.17 + MIPLDISCOVERRSP Upload Discover Result

1.17.1 Description

This command is used as reply of remote execute command after +MIPLDISCOVER URC received to feedback the results of user-defined operation.

1.17.2 Syntax

Command	Response/Action
AT+MIPLDISCOVERRSP=<ref>,<msgid> >,<result>,<length>,<valuestring>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLDISCOVERRSP=0,879,1,9,"5600;5750"
```

```
OK
```

1.17.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 15s

1.17.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity in +MIPLDISCOVER message;

<result>: integer type, result of specified operations, refer to +MIPLREADRSP command;

<length>: integer type, the length of <valuestring>;

<valuestring>: string type, the object attribute requires the use of a semicolon between multiple attributes to separate "1101;1102;1103";

1.18 +MIPLOBSERVE, Unsolicited Observe Request

1.18.1 Description

Unsolicited result code of observe message from server. It represents that server request device to upload the values of specified resource, or all resources of specified instance when they change.

1.18.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLOBSERVE: <ref>,<msgid>,<flag>,<objectid>,<instanceid>,<resourceid>

For example:

+MIPLOBSERVE: 0,130493,1,3308,2,-1

1.18.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.18.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<flag>: integer type, observe flag, 1 indicates observe, 0 indicates cancel observe;

<objectid>: integer type, object identity;

<instanceid>: integer type, integer, instance identity, observe all resources of all instances of the object if instanceid equals -1;

<resourceid>: integer type, integer, resource id, observe all resources of the instance if resourceid equals -1;

1.19 +MIPLOBSERVERSP Upload Observe Result

1.19.1 Description

This command is used as reply of remote execute command after +MIPLOBSERVE URC received to feedback the results of user-defined operation.

1.19.2 Syntax

Command	Response/Action
AT+MIPLOBSERVERSP=<ref>, <msgid>,<result>	OK or +CIS ERROR: <errid>

1.19.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 93s

For example:

```
AT+MIPLOBSERVERSP=0,568,1
OK
```

1.19.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity in +MIPLOBSERVE message;

<result>: integer type, result of specified operations, refer to +MIPLREADRSP command;

1.20 +MIPLPARAMETER, Unsolicited Parameter Request

1.20.1 Description

Unsolicited result code of observe parameter message from server, like interval, threshold value of specified resource etc.

1.20.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLPARAMETER: <ref>,<msgid>,<objectid>,<instanceid>,<resourceid>, <len>,<parameter>

For example:

```
+MIPLPARAMETER: 0,312,3200,3,5600,4, "pmin=1;pmax=5"
```

1.20.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.20.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, identity of this message;

<objectid>: integer type, object identity;

<instanceid>: integer type, instance identity, observe all resources of all instances of the object if instanceid equals -1;

<resourceid>: integer type, resource identity, observe all resources of the instance if resourceid equals -1;

<len>: integer type, parameter length;

<parameter>: string type; like: "pmin=xxx;pmax=xxx;gt=xxx;lt=xxx;stp=xxx"

1.21 +MIPLPARAMETERRSP, Upload Execute Result

1.21.1 Description

This command is used as reply of remote execute command after MIPLPARAMETER URC received to feedback the results of user-defined operation.

1.21.2 Syntax

Command	Response/Action
AT+MIPLPARAMETERRSP=<ref>,<msgid>,<result>	OK or +CIS ERROR: <errid>

For example:

```
AT+MIPLPARAMETERRSP=0,312,2
```

```
OK
```

1.21.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	No	Yes	< 15s

1.21.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<msgid>: integer type, message identity in MIPLPARAMETER message;

<result>: integer type, result of specified operations, refer to +MIPLWRITERSP command;

1.22 +MIPLVER, Read Version

1.22.1 Description

Get version of OneNET protocol.

1.22.2 Syntax

Syntax	Response/Action
AT+MIPLVER?	+MIPLVER: <version> OK or +CIS ERROR: <errid>

For example:

```
+MIPLVER?
+MIPLVER: 2.1.1
```

```
OK
```

1.22.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
Yes	No	Yes	Yes	< 1s

1.22.4 Defined Values

<version>: One or more lines of information text related to the OneNET version

1.23 +MIPLEVENT

1.23.1 Description

The instruction is reported to a state event.

1.23.2 Syntax

Command	Response/Action
Unsolicited Response	+MIPLEVENT: <ref>,<evtid>[,<extend>]

For example:

```
+MIPLEVENT: 0,11
```

1.23.3 Attributes

Pin Restricted	Persistent	Sync Mode	Execute Immediately	Time of Duration
NA	NA	NA	NA	NA

1.23.4 Defined Values

<ref>: integer type, reference ID of OneNET communication instance;

<evtid>: integer type, id of state event;

<extend>: integer type, identity of this message when the message send failed;

Appendix A

The following table show the id of state event:

Event meaning	Event	Note
CIS_EVENT_BOOTSTRAP_START	+MIPLEVENT: 0,1	-
CIS_EVENT_BOOTSTRAP_SUCCESS	+MIPLEVENT: 0,2	-
CIS_EVENT_BOOTSTRAP_FAILED	+MIPLEVENT: 0,3	-
CIS_EVENT_CONNECT_SUCCESS	+MIPLEVENT: 0,4	-
CIS_EVENT_CONNECT_FAILED	+MIPLEVENT: 0,5	-
CIS_EVENT_REG_SUCCESS	+MIPLEVENT: 0,6	-
CIS_EVENT_REG_FAILED	+MIPLEVENT: 0,7	-
CIS_EVENT_REG_TIMEOUT	+MIPLEVENT: 0,8	-
CIS_EVENT_LIFETIME_TIMEOUT	+MIPLEVENT: 0,9	-
CIS_EVENT_STATUS_HALT	+MIPLEVENT: 0,10	-
CIS_EVENT_UPDATE_SUCCESS	+MIPLEVENT: 0,11	-
CIS_EVENT_UPDATE_FAILED	+MIPLEVENT: 0,12	-
CIS_EVENT_UPDATE_TIMEOUT	+MIPLEVENT: 0,13	-
CIS_EVENT_UPDATE_NEED	+MIPLEVENT: 0,14,interval	interval: the remainingtime,After this period of time the Registration lifetime will be over(unit: seconds)
CIS_EVENT_UNREG_DONE	+MIPLEVENT: 0,15	
CIS_EVENT_RESPONSE_FAILED	+MIPLEVENT: 0,20,msgid	msgid: message id in the notify message

Event meaning	Event	Note
CIS_EVENT_RESPONSE_SUCCESS	+MIPLEVENT: 0,21	-
CIS_EVENT_NOTIFY_FAILED	+MIPLEVENT: 0,25,msgid	msgid: message id in the notify message
CIS_EVENT_NOTIFY_SUCCESS	+MIPLEVENT: 0,26	-

Appendix B

The following table show the id of CIS ERROR:

ONENET_AT_ERRID_UNKNOWN_ERROR	0
ONENET_AT_ERRID_SYSTEM_ERROR	1
ONENET_AT_ERRID_NETWORK_ERROR	2
ONENET_AT_ERRID_REGISTRATION_FAILURE	3
ONENET_AT_ERRID_CONTINUE	1000
ONENET_AT_ERRID_OK	650
ONENET_AT_ERRID_MEMORY_ERROR	651
ONENET_AT_ERRID_PARAMETER_ERROR	652
ONENET_AT_ERRID_NOT_SUPPORT	653
ONENET_AT_ERRID_SDK_ERROR	654
ONENET_AT_ERRID_NOT_FOUND	655



Note:

all 652, 653 and 655 are related to format or parameters, which are easy to be confused and misunderstood without detailed explanation. Now which case belongs to 652, which case belongs to 653, which case belongs to 655 make specific and clear explanation.

652: when the number of total parameters is too much or too little.

The value type of a parameter is not correct, or the value is not in the range of its type.

653: wrong mode, It should be ? or =

instance have been exist when create instance.

655: the value of a parameter is within its type range, but is not the required value.

Appendix C

When the basic communication suite is initialized, corresponding configuration parameters are required. The configuration parameters are provided by the UE and are organized according to the format required by the specification. During initialization, the UE needs to provide a pointer to the configuration data to the basic communication suite, and the basic communication suite obtains correspondences. The configuration parameters to complete the initialization work.

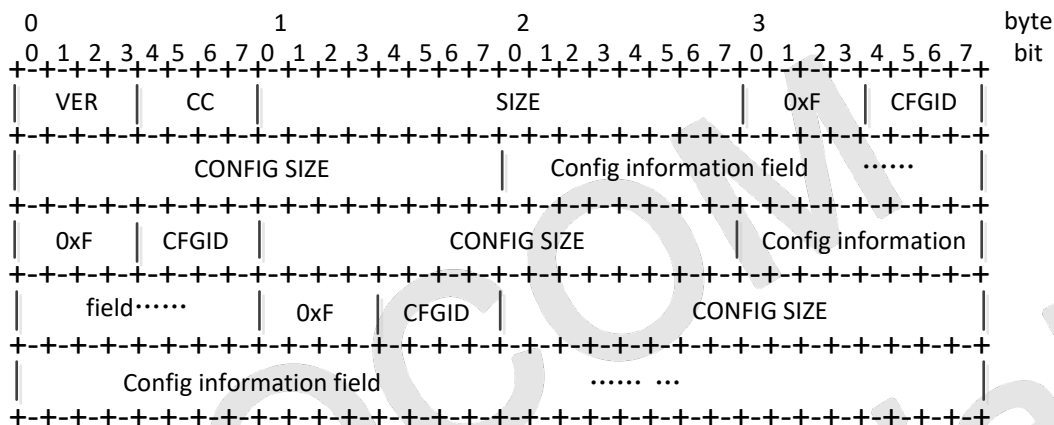


Figure 1 structure diagram of Parameter <config>

[ver]: Hexadecimal integer type, Version number, Value ranges:0-15;

[cc]: Hexadecimal integer type, Config Count, Value ranges:0-16;

[size]: Hexadecimal integer type, Config Size of Byte, Value ranges:0-65535;

[CFGID]: Hexadecimal integer type, Config ID, Value ranges:0-15;

[CONFIG SIZE]: Hexadecimal integer type, the size of CFGID, contains configuration headers, size fields, and configuration information size, for example: the size of Config information field is 0, the size of CFGID is 3;

Table 1 config ID details

Parameter Name	Meaning of the Parameter	Description
cfgid	Configuration ID	<pre>typedef enum enum_cis_cfgid { cis_cfgid_init = 0x01, cis_cfgid_net = 0x02, cis_cfgid_sys= 0x03 } cis_cfgid_t;</pre>

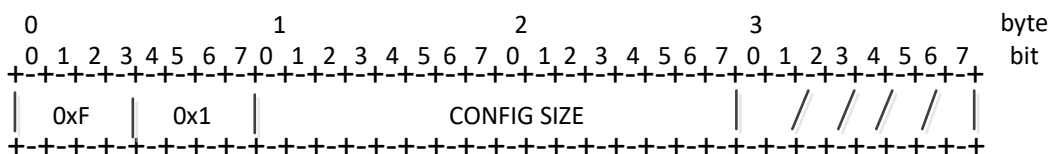


Figure 2 Structure diagram of config ID equal 1

[CFGID]: Hexadecimal integer type, 0x01, System initialization configuration, temporarily reserved;

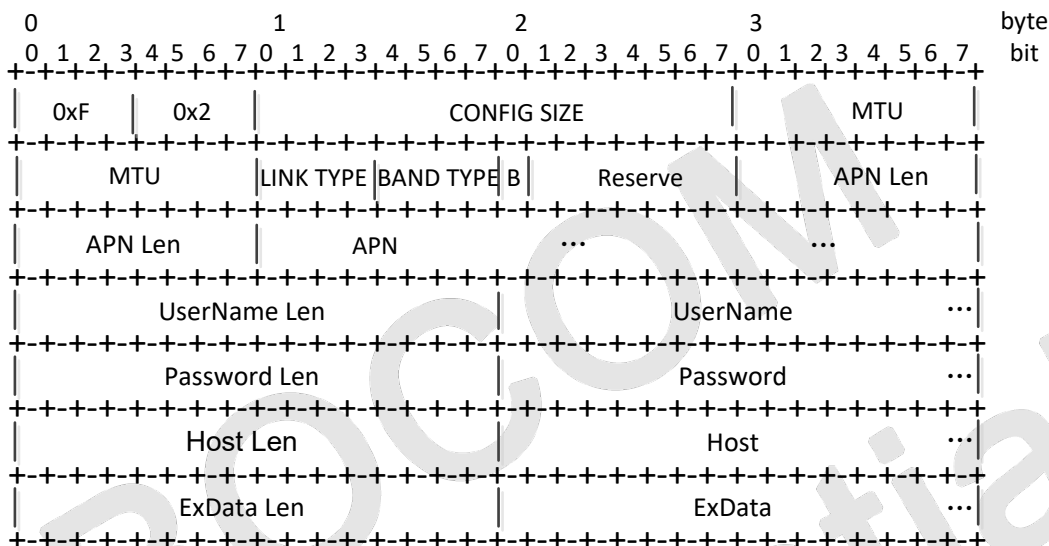


Figure 3 Structure diagram of config ID equal 2

[CFGID]: Hexadecimal integer type, 0x02, Network Configuration;

[MTU]: Hexadecimal integer type, Maximum Transmission Unit;

[LINK TYPE]: Hexadecimal integer type, Connection Type, based on UDP or TCP;

[BAND TYPE]: temporarily reserved;

[B]: Hexadecimal integer type, bootstrap enabled flag, 1 is enable, 0 is disable;

[APN Len]: Hexadecimal integer type, APN length;

[APN]: Hexadecimal integer type, Hexadecimal value of ASCII of APN;

[UserName Len]: Hexadecimal integer type, User name length;

[UserName]: Hexadecimal integer type, Hexadecimal value of ASCII of User name;

[Password Len]: Hexadecimal integer type, Password length;

[Password]: Hexadecimal integer type, Hexadecimal value of ASCII of Password;

[Host Len]: Hexadecimal integer type, Bootstrap host address length;

[Host]: Hexadecimal integer type, Hexadecimal value of ASCII of Bootstrap host address, The format is "server: port", Only one bootstrap server is supported at this stage;

[ExData Len]: Hexadecimal integer type, Other configuration information length;

[ExData]: Other configuration information. The basic communication suite does not parse this part of the

data and transparently transmits the configuration data to the underlying system for parsing and configuration.

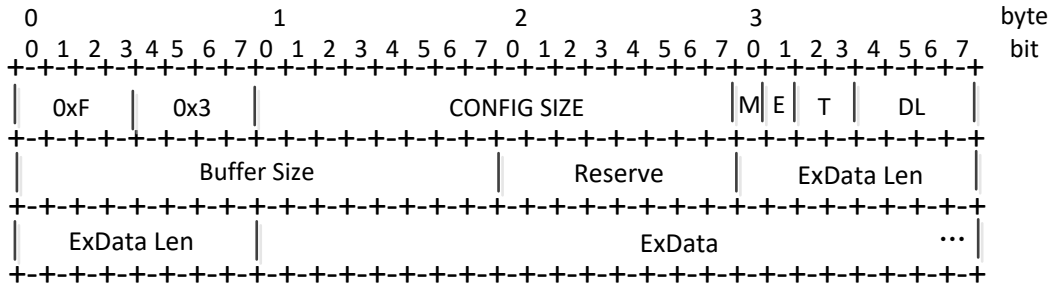


Figure 4 Structure diagram of config ID equal 3

[CFGID]Hexadecimal integer type, 0x03, System Configuration;

[M] : Debug mode, Debug switch, value 0 or 1;

0: disable

1: enable

[E] : Extend Info Mode, Extended information switch, value 0 or 1;

0: disable

1: enable

[T] : Log output mode, Log output mode;

00: DEFAULE

01: LCD

10: CONSOLE

11: UART

[DL]: Debug Level of Log Output, Log output debug level

0001: DEBUG

0010: INFORMATION

0100: WARNING

1000: ERROR

[ExData Len]: Length of other configuration information;

[ExData]: Other configuration information. The basic communication suite does not parse this part of the data and transparently transmits the configuration data to the underlying system for parsing and configuration.