

WIFI Tag MQTT Interaction Protocol

Content

1.	Message Overview	3
2.	Device online report message.....	3
3.	Device offline report message	5
4.	Device report USB status Message.....	6
5.	Device Report Button Message.....	7
6.	Server Set up Device Message	7
6.1.	Server Modify Device LED status.....	8
6.2.	Device feedback LED Result to Server	8
6.3.	Server get Battery voltage.....	9
6.4.	Device feedback battery voltage to Server	10
6.5.	Server update Device's screen Message	10
6.6.	Device feedback screen update result to Server.....	11
6.7.	Server Remote Reboot Device Message	12
6.8.	Device feedback the result of device reboot to Server	13
6.9.	Server Modify MQTT information of Device	13
6.10.	Device feedback Result of modify MQTT to Server.....	14

1. Message Overview

NO.	Topic	Description	Reference
1	/device/\${mac}/\${devtype}/online	Device online report message	1.2Chapter
2	/device/\${mac}/\${devtype}/offline	Device offline report message	1.3Chapter
3	/device/\${mac}/\${devtype}/usb_state	Device report USB status message	1.4Chapter
4	/device/\${mac}/\${devtype}/button	Device report button message	1.5Chapter
5	/device/\${mac}/\${devtype}/property	Server Setting Device Parameter Message	1.6Chapter
6	/device/\${mac}/\${devtype}/property_reply	Device feedback parameter setting results	

2. Device online report message

Power on the device and report the equipment information to the server, and the format of subscribe TOPIC is following below.

```
/device/${mac}/${devtype}/online
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the online message format is as follows.

```
/device/D43D39172A84/10/online
```

The content format of the information is as follows:

```
{
  "method": "online",
  "version": 1,
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "ip": "192.168.1.147",
    "devId": "99.97.65.47",
    "sn": "SN99999999",
    "devtype": 10,
    "screentype": 10,
    "sw": 256,
    "hw": 261,
    "station": {
      "ssid": "CW-2G4",
      "password": "corewind2",
      "rssi": -72
    }
  },
}
```

```

    "mqtt": {
      "broker": "192.168.1.108",
      "port": 8883,
      "username": "test",
      "password": "123456"
    },
    "led": {
      "color": 0
    },
    "sms": {
      "reboot": 96,
      "display": {
        "success": 17,
        "fail": 10
      },
      "network": {
        "conn": 99,
        "conn_fail": 1,
        "discon": 13
      }
    },
    "usbState": 1,
    "voltage": 437
  }
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	online	method
2	version	Integer	1	version
3	apiKey	String	Key Value	Apl Key Value
3	message.mac	String	Mac	MAC address
4	message.ip	String	IP address	IP address
5	message.devId	String	Device ID	Device ID
6	message.sn	String	Serial number	Serial number
7	message.devtype	Integer	10	Device type
8	message.screentype	Integer	10	Screen type
9	message.sw	Integer	256	Software Version
10	message.hw	Integer	261	Hardware Version
11	message.station.ssid	String		AP SSID
12	message.station.password	String		Password of AP
13	message.station.rssi	Integer		Wifi Signal strength
14	message.mqtt.broker	String		MQTT BROKER IP

15	message.mqtt.port	Integer		MQTT port
16	message.mqtt.username	String		MQTT username
17	message.mqtt.password	String		MQTT password
18	message.led.color	Integer		RGBValue
19	message.sms.reboot	Integer		Count the number of device restarts
20	message.display.success	Integer		Count the success times of device display
21	message.display.fail	Integer		Count the number of device display failures
22	message.network.conn	Integer		Count the number of successful device networking
23	message.network.conn_fail	Integer		Count the number of device networking failures
24	message.network.discon	Integer		Count the times of equipment is disconnected
25	message.usbState	Integer		Device USB status
26	message.voltage	Integer	battery voltage x100	100 times the device battery voltage

3. Device offline report message

Message information from the offline server of the device, in the form of TOPIC subscription as follows.

```
/device/${mac}/${devtype}/offline
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the offline message format is as follows.

```
/device/D43D39172A84/10/offline
```

The Message format of the information is as follows:

```
{
  "method": "offline",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84"
  }
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	offline	method
3	apiKey	String	keyValue	Api Key Value
3	message.mac	String	Mac	MAC address

4. Device report USB status Message

The device plugs the USB cable and reports the USB status to the server, the form of TOPIC subscription as follows.

/device/\${mac}/\${devtype}/usb_state

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

/device/D43D39172A84/10/usb_state

The Message format of the information is as follows:

```
{
  "method": "usb_state",
  "version": 1,
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "usbState": 1,
    "voltage": 418
  }
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	usb_state	method
2	apiKey	String	Device keyValue	Device api Key Value
3	version	Integer	Version	Message version
4	message.mac	String	Mac	Device MAC address
5	message.usbState	Integer		Device USB status
6	message.voltage	Integer	battery voltage x100	100 times the device battery voltage

5. Device Report Button Message

Send a message to the server after the device button is pressed, the subscription form of TOPIC is as follows.

```
/device/${mac}/${devtype}/button
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/button
```

The Message format of the information is as follows:

```
{
  "method": "button",
  "version": 1,
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "buttonState": 1,
    "usbState": 1,
    "voltage": 418
  }
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	USB status	method
2	apiKey	String	Device key Value	Device apiKey Value
3	version	Integer	Version	Message Version
4	message.mac	String	Mac	Device MAC address
5	message.usbState	Integer		Device USB status
6	message.voltage	Integer	battery voltage x100	100 times the device battery voltage
7	message.buttonState	Integer		Device Button Message

6. Server Set up Device Message

Server set up DevicestatusMessage, the subscription format of TOPIC is as follows.

```
/device/${mac}/${devtype}/property
```

6.1. Server Modify Device LED status

Server modify Device LED statusMessage, the subscription format of TOPIC is as follows.

```
/device/${mac}/${devtype}/property
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property
```

The Message format of the information is as follows:

```
{
  "method": "led",
  "msgId": "1650869868250",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "red": 255,
    "green": 0,
    "blue": 0
  },
  "version": 1
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	option	Description
1	method	String	led	required	method
2	msgId	String	Time stamp	required	Mark Unique
3	message.mac	String	Mac	required	Device MAC address
4	message.red	Integer	255/0	optional	Red light on/off
5	message.green	Integer	255/0	optional	Green light on/off
6	message.blue	Integer	255/0	optional	Blue light on/off
7	version	Integer	1	required	Version
8	apiKey	String		required	Product apiKey

6.2. Device feedback LED Result to Server

Device feedback Message of LED result to Server, the subscription format of TOPIC is as follows.

```
/device/${mac}/${devtype}/property_reply
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property_reply
```


The Message format of the information is as follows:

```

{
  "method": "led_reply",
  "msgId": "1650869868250",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "version": 1,
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "result": 200
  }
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	led_reply	method
2	msgId	String	Time stamp	Mark Unique
3	apiKey	String	DevicekeyValue	Device apiKey Value
3	message.mac	String	Mac	Device MAC address
4	message.result	Integer	200/400	Success/Failure
5	version	Integer	1	Version

6.3. Server get Battery voltage

The subscript TOPIC Message of Server getting battery voltage is as follows.

```

/device/${mac}/${devtype}/property

```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```

/device/D43D39172A84/10/property

```

The Message format of the information is as follows:

```

{
  "method": "battery",
  "msgId": "1650870304940",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84"
  },
  "version": 1
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	option	Description
1	method	String	battery	required	method
2	msgId	String	Time stamp	required	Mark Unique

3	message.mac	String	Mac	required	Device MAC address
4	version	Integer	1	required	Version
5	apiKey	String		required	Product apiKey

6.4. Device feedback battery voltage to Server

The subscription TOPIC Message of device feedback battery voltage to server is as follows.

```
/device/${mac}/${devtype}/property_reply
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property_reply
```

The Message format of the information is as follows:

```
{
  "method": "battery_reply",
  "msgId": "1650870304940",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "version": 1,
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "usbState": 1,
    "voltage": 416
  }
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	battery_reply	method
2	msgId	String	Time stamp	Mark Unique
3	apiKey	String	Device keyValue	Device api Key Value
3	message.mac	String	Mac	Device MAC address
4	message.usbState	Integer	1/0	USB status plug in/out
5	message.voltage	Integer	battery voltage x100	100 times the device battery voltage
6	version	Integer	1	Version

6.5. Server update Device's screen Message

The subscription TOPIC Message of server update Device's screen is as follows.

```
/device/${mac}/${devtype}/property
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format

is as follows.

```
/device/D43D39172A84/10/property
```

The Message format of the information is as follows:

```
{
  "method": "display",
  "msgId": "1650872964104",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "url":
"http://192.168.1.108:3000/admin/api/mqtt/download/9a1900df1999428f94eb1c518eca
ba62.bin",
    "crc": 1690730695
  },
  "version": 1
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Option	Description
1	method	String	display	required	method
2	msgId	String	Time stamp	required	Mark Unique
3	message.mac	String	Mac	required	Device MAC address
4	message.url	String		required	Image data download address
5	message.crc	Integer	File CRCValue	required	Image data CRCValue
6	version	Integer	1	required	Version
7	apiKey	String		required	Product apiKey

6.6. Device feedback screen update result to Server

The subscription TOPIC Message of device feedback screen update result to server is as follows.

```
/device/${mac}/${devtype}/property_reply
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property_reply
```

The Message format of the information is as follows:

```
{
  "method": "display_reply",
  "msgId": "1650872964104",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "version": 1,
}
```

```

"message": {
  "mac": "D4:3D:39:17:2A:84",
  "result": 200
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	Display reply	method
2	msgId	String	Time stamp	Mark Unique
3	apiKey	String	Device keyValue	Device api Key Value
3	message.mac	String	Mac	Device MAC address
4	message.result	Integer	200/400	Success/Failure
5	version	Integer	1	Version

6.7. Server Remote Reboot Device Message

The subscription TOPIC Message of Server Remote Reboot Device is as follows.

```

/device/${mac}/${devtype}/property

```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```

/device/D43D39172A84/10/property

```

The Message format of the information is as follows:

```

{
  "method": "reboot",
  "msgId": "1650873435276",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "message": {
    "mac": ["D4:3D:39:17:2A:84"]
  },
  "version": 1
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Option	Description
1	method	String	reboot	required	method
2	msgId	String	Time stamp	required	Mark Unique
3	message.mac	Array	Mac	required	Device MAC address list
4	version	Integer	1	required	Version
5	apiKey	String		required	Product apiKey

6.8. Device feedback the result of device reboot to Server

The subscription TOPIC Message of Device feedback the result of device reboot to is as follows.

```
/device/${mac}/${devtype}/property_reply
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property_reply
```

The Message format of the information is as follows:

```
{
  "method": "reboot_reply",
  "msgId": "1650873435276",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "version": 1,
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "result": 200
  }
}
```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
1	method	String	reboot_reply	method
2	msgId	String	Time stamp	Mark Unique
3	apiKey	String	Device keyValue	Device apiKey Value
3	message.mac	String	Mac	Device MAC address
4	message.result	Integer	200/400	Success/Failure
5	version	Integer	1	Version

6.9. Server Modify MQTT information of Device

The subscription TOPIC Message of Server Modify MQTT information of Device is as follows.

```
/device/${mac}/${devtype}/property
```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```
/device/D43D39172A84/10/property
```

The Message format of the information is as follows:

```
{
  "method": "reboot",
  "msgId": "1650873435276",
```

```

"apiKey": "bc6a402fc429aa6bcde7417c",
"message": {
  "broker": "192.168.1.107",
  "port": "1883",
  "username": "abc",
  "password": "abcdef"
},
"version": 1
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Option	Description
1	method	String	mqtt	required	method
2	msgId	String	Time stamp	required	Mark Unique
5	apiKey	String		required	Product apiKey
3	message.broker	String		optional	BROKER IP
3	message.port	String		optional	BROKER port
3	message.username	String		optional	MQTT username
3	message.password	String		optional	MQTT password
4	version	Integer	1	required	Version

6.10. Device feedback Result of modify MQTT to Server

The subscription TOPIC Message of Device feedback Result of modify MQTT to server is as follows.

```

/device/${mac}/${devtype}/property_reply

```

For example, the MAC address is D4:3D:39:17:2A:84, devtype is 10, the Publish message format is as follows.

```

/device/D43D39172A84/10/property_reply

```

The Message format of the information is as follows:

```

{
  "method": "mqtt_reply",
  "msgId": "1650965937418",
  "apiKey": "bc6a402fc429aa6bcde7417c",
  "version": 1,
  "message": {
    "mac": "D4:3D:39:17:2A:84",
    "result": 200
  }
}

```

Message field Description as follows.

NO.	Field	Value Type	Value	Description
-----	-------	------------	-------	-------------

1	method	String	mqtt_reply	method
2	msgId	String	Time stamp	Mark Unique
3	apiKey	String	Device keyValue	Device api Key Value
3	message.mac	String	Mac	Device MAC address
4	message.result	Integer	200/400	Success/Failure
5	version	Integer	1	Version