

**ADLINK Technical Document**

<b>Abstract</b>	How to Use MQTT in GMLite		
<b>OS</b>	Windows		
<b>Keyword</b>	Phoenix GMLite		
<b>Related Products</b>	MCM-100, USB-2405		
<b>Date</b>	2021-12-22	<b>No.</b>	202110001

- Issue Details:

Phoenix GMLite provides an MQTT connection to get g(pk), g(rms), mm/s(pk), mm/s(rms), and um(pp) data through the internet. This document shows how to use MQTT with GMLite and self-test the system.

- Prerequisites:

Phoenix GMLite installed.

- Solution:

**Step 1: Installation**

Download, unzip, and install the following applications:

1. **Mosquitto:** An open-source message broker that implements the MQTT protocol  
Download link: <https://ftp.adlinktech.com/daq/mosquitto.zip>
2. **Sample program:** An MQTT subscriber sample program to receive data from the publisher.  
Download link: [https://ftp.adlinktech.com/daq/mqtt\\_client.zip](https://ftp.adlinktech.com/daq/mqtt_client.zip)



## Step 2: Start mosquitto broker

The MQTT broker receives messages from the publisher, filters the message by topic, and distributes them to subscribers. On the local machine, run `\mosquitto\mosquitoo.exe` to start the broker.

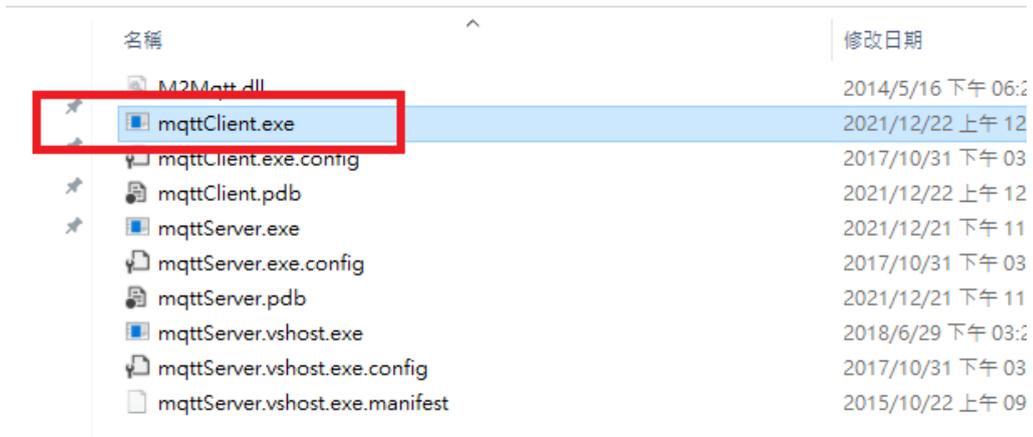
名稱	修改日期
devel	2021/12/
aclfile.example	2016/8/1
ChangeLog.txt	2016/8/1
edl-v10	2016/8/1
epl-v10	2016/8/1
libeay32.dll	2016/9/2
mosquitto.conf	2016/8/1
mosquitto.dll	2016/8/2
<b>mosquitto.exe</b>	2016/8/2
mosquitto_passwd.exe	2016/8/2
mosquitto_pub.exe	2016/8/2
mosquitto_sub.exe	2016/8/2
mosquittoopp.dll	2016/8/2
pthreadVC2.dll	2016/12/
pwfile.example	2016/8/1
readme.md	2016/8/1
readme-windows.txt	2016/8/1
ssleay32.dll	2016/9/2
Uninstall.exe	2016/12/

選取 D:\Dell Backup\IoT Project\mosquitto\mosquitoo.exe



### Step 3: Start MQTT subscriber

The MQTT subscriber program receives data from the publisher on the local system. On the local system, run `\mqtt_client\mqttServer\bin\Debug\mqttClient.exe` to start the subscriber program.



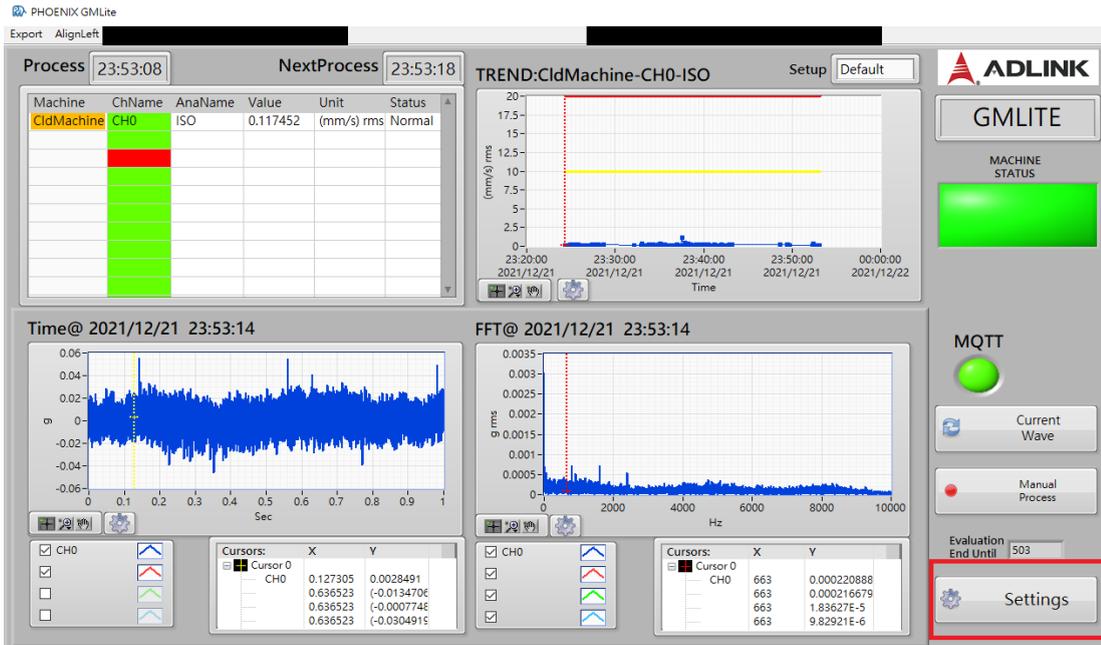
名稱	修改日期
M2Mqtt.dll	2014/5/16 下午 06:2
mqttClient.exe	2021/12/22 上午 12
mqttClient.exe.config	2017/10/31 下午 03
mqttClient.pdb	2021/12/22 上午 12
mqttServer.exe	2021/12/21 下午 11
mqttServer.exe.config	2017/10/31 下午 03
mqttServer.pdb	2021/12/21 下午 11
mqttServer.vshost.exe	2018/6/29 下午 03:2
mqttServer.vshost.exe.config	2017/10/31 下午 03
mqttServer.vshost.exe.manifest	2015/10/22 上午 09

D:\Dell Backup\IoT Project\mqtt client\mqttServer\bin\Debug\mqttClient.exe



### Step 4: Phoenix GMLite settings

- a. Run Phoenix GMLite and click **Settings**.

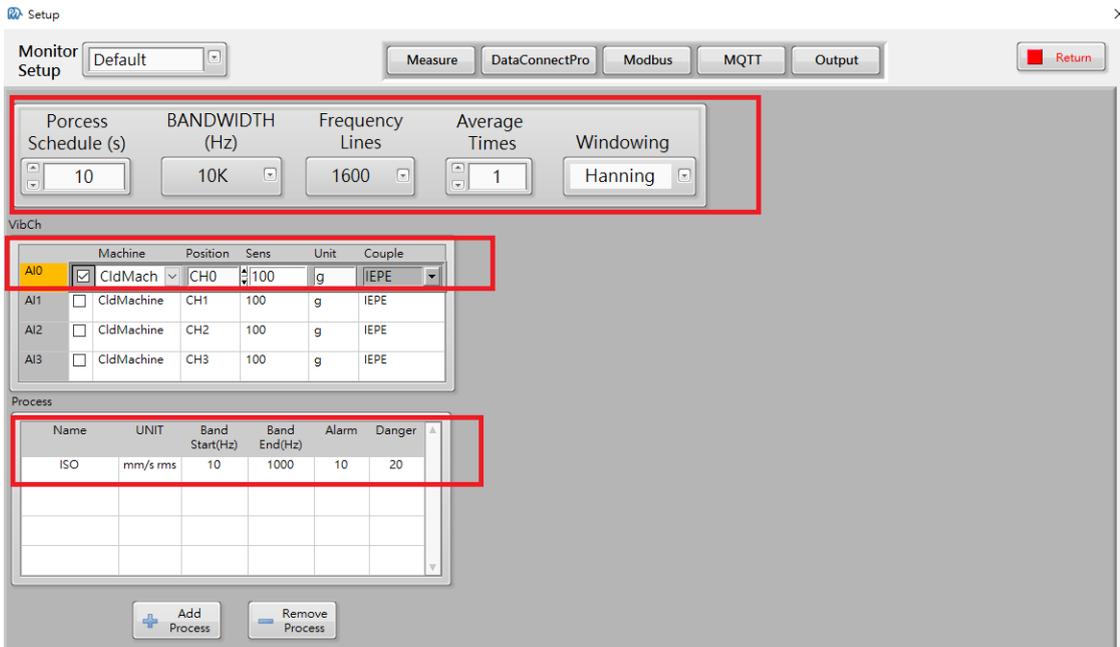


The screenshot shows the Phoenix GMLite software interface. The top left displays the process name 'CldMachine' and its value '0.117452 (mm/s) rms'. The top right shows a trend graph for 'CldMachine-CH0-ISO'. The bottom left shows a time-domain graph and an FFT graph. The bottom right shows the 'Settings' button highlighted with a red box.

Machine	ChName	AnaName	Value	Unit	Status
CldMachine	CH0	ISO	0.117452	(mm/s) rms	Normal

Process	UNIT	Band Start(Hz)	Band End(Hz)	Alarm	Danger
ISO	mm/s rms	10	1000	10	20

- b. Enter the settings as shown below.



The screenshot shows the Phoenix GMLite Setup dialog box. The 'Monitor Setup' tab is selected, and the 'Process Schedule', 'BANDWIDTH', 'Frequency Lines', 'Average Times', and 'Windowing' settings are highlighted with a red box.

Machine	Position	Sens	Unit	Couple	
AI0	CldMach	CH0	100	g	IEPE
AI1	CldMachine	CH1	100	g	IEPE
AI2	CldMachine	CH2	100	g	IEPE
AI3	CldMachine	CH3	100	g	IEPE

### Step 5: MQTT publisher settings

Use the following setting to configure the MQTT parameters.

- HostName: 127.0.0.1
- Port: 1883
- Topic: ChannelValue

Setup

Monitor Setup Default

Measure DataConnectPro Modbus MQTT Output

MQTT

MQTTEnable

HostName

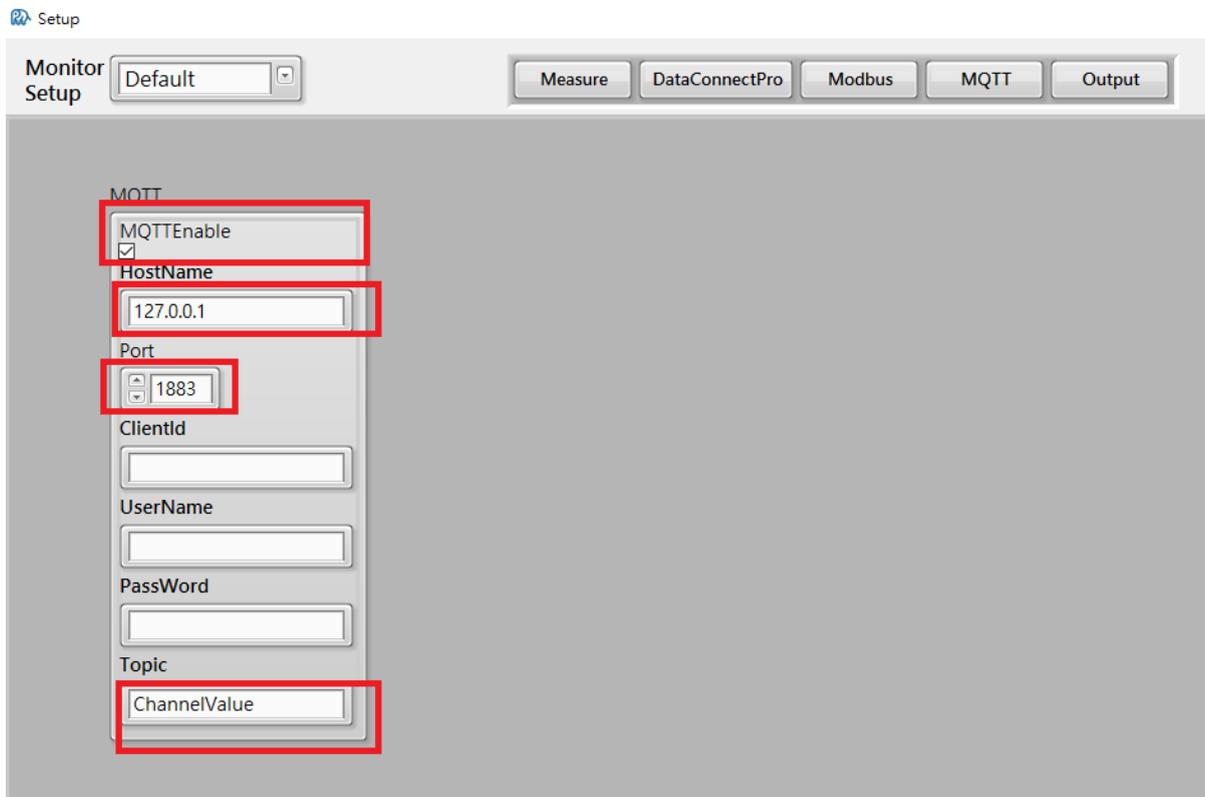
Port

ClientId

UserName

PassWord

Topic



### Step 6: Check results

The sample MQTT subscriber will receive data when the Phoenix GMLite starts to measure the data. This indicates that Phoenix GMLite successfully sent data by MQTT on the local system.

```

D:\Dell Backup\IoT Project\mqtt client\mqttServer\bin\Debug\mqttClient.exe
{"ProcessTime":" 2021/12/22  00:59:46","Rlt":[{"ChName":"CH0","ProcessName":"ISO","Value":0.12848313346011766556 "unit":
"(mm/s) rms ","Status":0,"Alarm":10,"Danger":20}]}
    
```

PHOENIX GMLite

Export

Process 00:59:46      NextProcess 00:59:56

Machine	ChName	AnaName	Value	Unit	Status
CldMachine	CH0	ISO	0.128483	(mm/s) rms	Normal

