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AnyNet 2G click

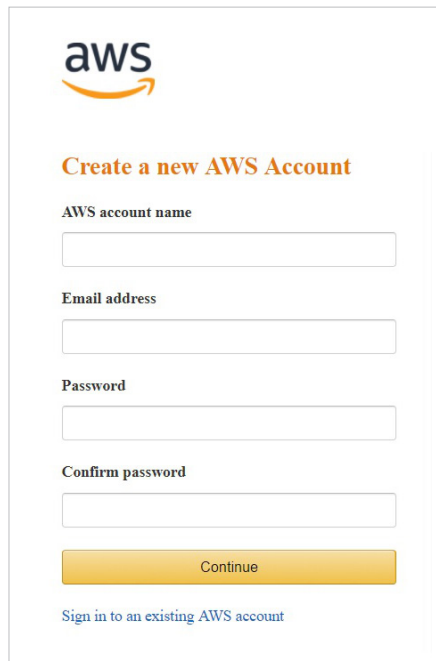
USER MANUAL

This document details which steps should be taken in order to connect AnyNet 2G click to the AWS cloud and exchange data.

1. Set up an account on AWS IoT Service

It is required to create an AWS account and an Administrator User. Please follow these instructions for creating it:

<https://aws.amazon.com/premiumsupport/knowledge-center/create-and-activate-aws-account/>



The screenshot shows the AWS account creation page. At the top left is the AWS logo. Below it is the heading 'Create a new AWS Account'. The form contains four input fields: 'AWS account name', 'Email address', 'Password', and 'Confirm password'. Below the fields is a yellow 'Continue' button. At the bottom, there is a link for 'Sign in to an existing AWS account'.

aws

Create a new AWS Account

AWS account name

Email address

Password

Confirm password

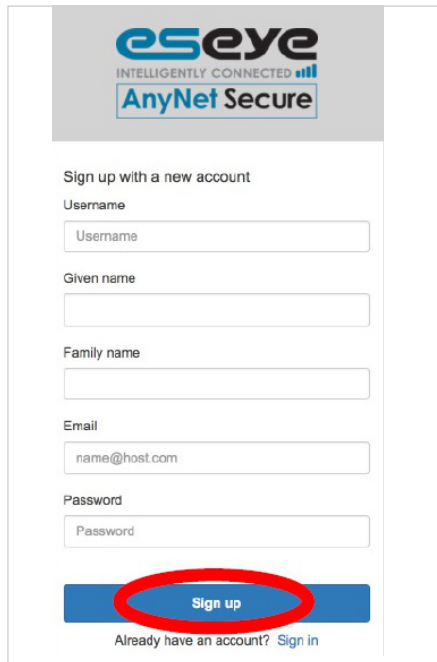
Continue


[Sign in to an existing AWS account](#)

2. Subscribe to AnyNet Secure SAAS

After successfully creating an account you need to subscribe to a “AnyNet Secure Cellular Connectivity” on AWS Marketplace and make an account. Follow the instructions explained here:

<https://eseye.zendesk.com/hc/en-us/articles/115005289086>



eseye
INTELLIGENTLY CONNECTED 
AnyNet Secure

Sign up with a new account

Username

Given name

Family name

Email

Password

Sign up

Already have an account? [Sign in](#)

3. Connect your hardware and power up the module

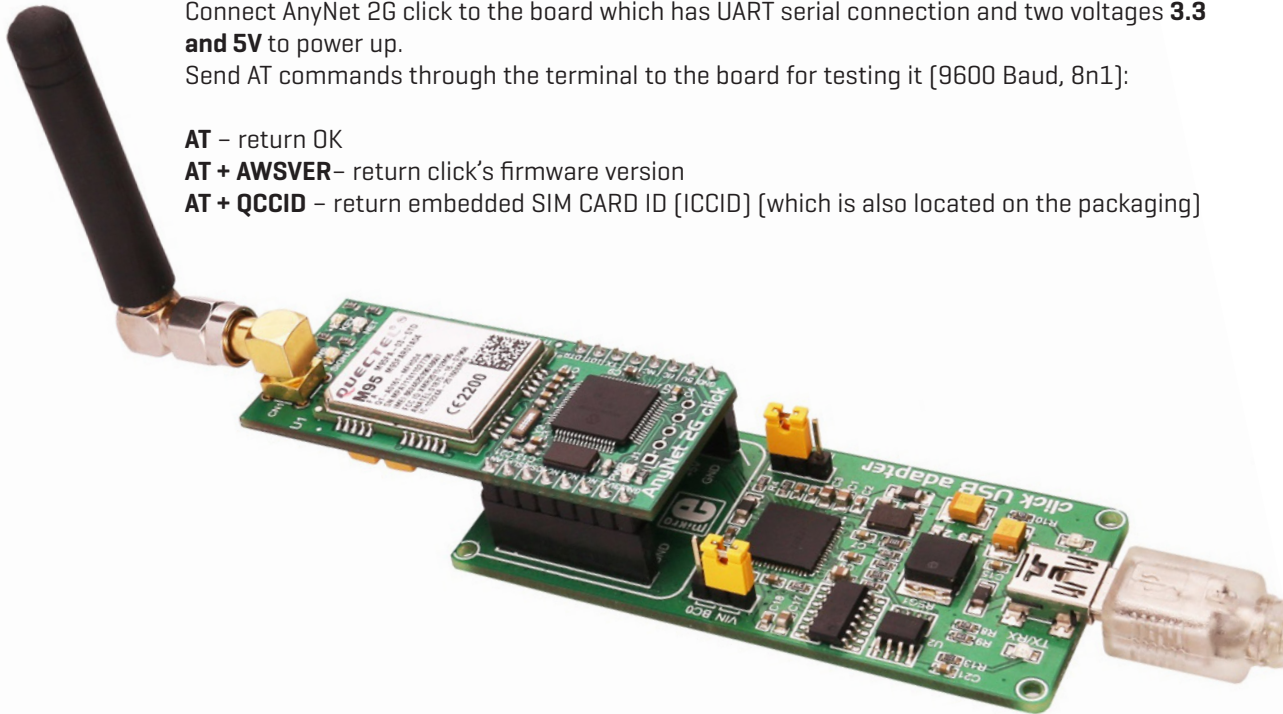
Connect AnyNet 2G click to the board which has UART serial connection and two voltages **3.3 and 5V** to power up.

Send AT commands through the terminal to the board for testing it [9600 Baud, 8n1]:

AT – return OK

AT + AWSVER – return click's firmware version

AT + QCCID – return embedded SIM CARD ID [ICCID] [which is also located on the packaging]





4. ICCID number label

On the inside of the AnyNet 2G click packaging you will find a unique ICCID number which you can use to make AWS 'Thing' device.

5. Create a 'Thing' on AWS IoT Console

In the AWS IoT console you need to create a "Thing" - following these instructions:

<https://eseye.zendesk.com/hc/en-us/articles/115005302466>



Monitor



Onboard



Manage

Things

Types

Things

AnyNet_2G_Click
NO TYPE

6. Activate your device and exchange Certificates

Once the Thing has been created the module will connect to the GSM network and obtain all required security material from the AWS. [This may take up to 10 minutes to complete]. Progress can be observed by watching LED's on the board.

7. AnyNet 2G click LED description:

PWR [green solid]	- the click board™ is powered
NET [red flashing]	- The module is attempting to connect to the network and service
SIGNAL [blue solid]	- The module has registered to the local GSM network
KEY [orange solid]	- The AnyNet Secure SIM card has received certificates and other security material
AWS [greed solid]	- The module has established an End-To-End connection into the AWS IoT platform

8. How to send Data to the AWS Cloud

Using the serial interface software commands, you will be able to send a package from your hardware and publish data on the AWS IoT Service. You may observe them on the AWS Console in TEST section.

Using the Serial Interface software, commands to publish data may now be sent. First, to observe the message in the AWS IoT Service, log in to the AWS console and Select AWS IoT

- Select TEST
- In the subscribe box type MyTopic/#
- Select 'Display Payloads as strings' in the MQTT payload display section
- Click "Subscribe to topic"

The screenshot shows the 'Subscribe to topic' interface in the AWS IoT console. At the top, there is a navigation bar with 'ClickTest', 'Ireland', and 'Sup' (partially visible). Below the navigation bar, a text box explains: 'Devices publish MQTT messages on topics. You can use this client to subscribe to a topic and receive these messages.' The main form contains the following elements:

- Subscription topic:** A text input field containing 'MyTopic' and a blue 'Subscri...' button to its right.
- Max message capture:** A dropdown menu currently set to '100'.
- Quality of Service:** Two radio button options:
 - 0 - This client will not acknowledge to the Device Gateway that messages are received
 - 1 - This client will acknowledge to the Device Gateway that messages are received
- MQTT payload display:** Three radio button options:
 - Auto-format JSON payloads (improves readability)
 - Display payloads as strings (more accurate)
 - Display raw payloads (in hexadecimal)
- Publish:** A section with the text 'Specify a topic and a message to publish with a QoS of 0.'

At the bottom of the console, a footer contains the text: '2008 - 2017, Amazon Web Services, Inc. or its affiliates. All rights reserved. Privacy Policy Te' (partially visible).

Note that the display is not persistent, messages are only displayed if the window is open as the message is sent.

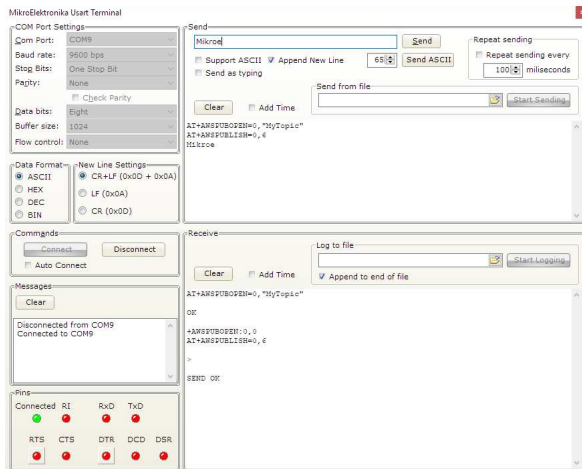
To send a message from the device to a topic, there are two commands required. The first opens the topic for publishing, and is needed once per session. The second tells the module the number of bytes that will be in the message to be published. In the example, a 6 character message is to be published

```
AT+AWSPUBOPEN=0,"MyTopic"
```

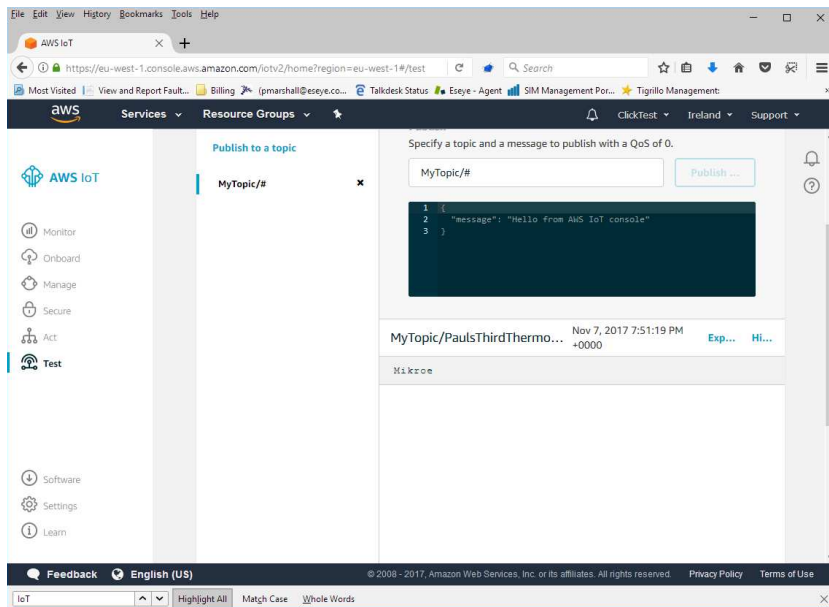
```
AT+AWSPUBLISH=0,6
```

The module will respond with a > Prompt and the 6 characters to be published should be sent e.g.
>Mikroe

The Screenshot on the right shows a terminal window after the Pub Open and Publish commands have been issued, and a 6 character message entered. The module has responded 'Send OK'



The Message will appear in the AWS IoT Console



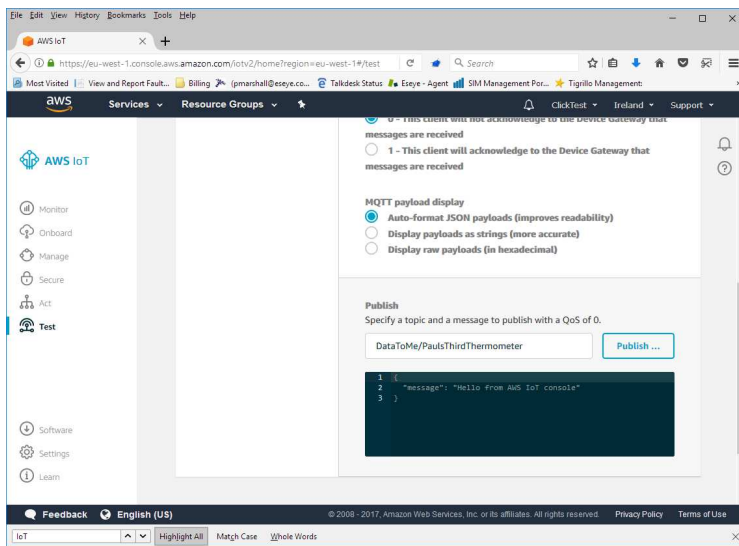
9. How to receive data from the AWS Cloud

In order to receive data from the AWS you need to subscribe to the topic from your hardware using AT commands (open session, setting the number of bytes to be received) and then by Publishing Topic from the AWS Console you will send a package. To Subscribe to a topic the AT+AWSSUBOPEN command is used.

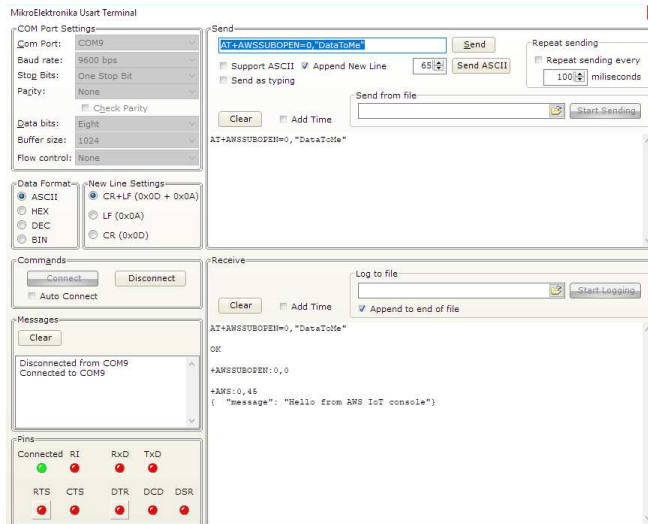
The screenshot displays the MikroElektronika Usart Terminal application. The interface is divided into several sections:

- COM Port Settings:** Shows configuration for COM9, 9600 bps, One Stop Bit, None Parity, Eight Data bits, 1024 Buffer size, and None Flow control.
- Data Format:** Radio buttons for ASCII (selected), HEX, DEC, and BIN.
- New Line Settings:** Radio buttons for CR+LF (0x0D + 0x0A) (selected), LF (0x0A), and CR (0x0D).
- Commands:** Includes Connect, Disconnect, and Auto Connect buttons.
- Messages:** A text area showing "Disconnected from COM9" and "Connected to COM9".
- Pins:** A grid of status LEDs for Connected, RI, RxD, TxD, RTS, CTS, DTR, DCD, and DSR.
- Send:** A text input field containing "AT+AWSSUBOPEN=0,\"DataToMe\"", a Send button, and options for Support ASCII, Append New Line (65), Send ASCII, Send as typing, Repeat sending, and Repeat sending every (100) milliseconds.
- Receive:** A text area showing the received command "AT+AWSSUBOPEN=0,\"DataToMe\"", the response "OK", and the data "+AWSSUBOPEN: 0,0". It also includes a Log to file field, a Start Logging button, and Append to end of file checkbox.

In the terminal window enter the command: AT+AWSSUBOPEN=0,"DataToMe"
This is shown below with the response OK and confirmation that index 0 has been subscribed to the topic.
In the AWS Console, Select AWS IoT and choose TEST
Select **"Public to a topic"** and the page will scroll to the bottom.



In the Publish... box type the topic and Thing Name in the format topic/thingname. The example shows the topic 'DataToMe' and the ThingName 'PaulsThirdThermometer'
Click **"Public to topic"**. The message may be observed appearing in the 'Receive' section of the terminal program.



The Module will issue an unsolicited Serial Message, first indicating the index and the length of the message, followed by the message characters.

10. FREE activation and credit

Each AnyNet 2G click is coming with one Free activation and 5,000 messages enabled only with Eseye AnyNet Secure Cellular Connectivity (MQTT messaging buckets) through AWS Marketplace:
<https://aws.amazon.com/marketplace/pp/B073S37V78>