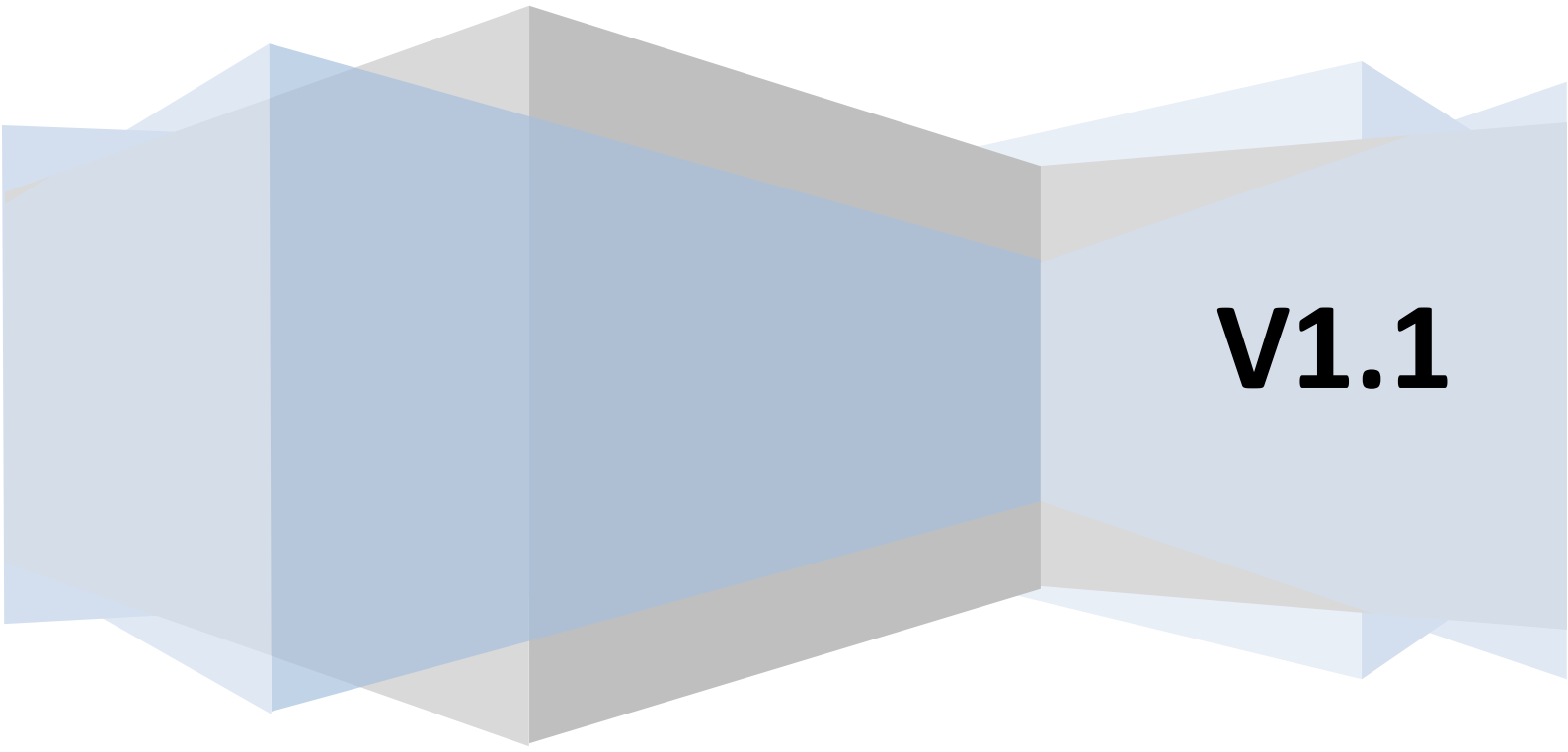
ADVANTECH EmbCore

Quick Start Guide

WISE-1520 Evaluation Kits

Nathan



V1.1

Contents

1 Copyright Notice

2 Introduction

This document is to introduce WISE-1520 evaluation kit and let users start module evaluation easily and smoothly.

WISE-1520 evaluation kit includes WISE-1520 M2.COM module and WISE-DB1500 Advantech M2.COM Evaluation Carrier Board. It is highly recommended to completely read this document before starting WISE-1520 evaluation since it includes critical information as pin define, handling process and connector information. In the meanwhile, you should also comply with all warming notices and regulations you read in this document, it can prevent damaging WISE-1520 evaluation kit and spoiling those devices being connected.

Inappropriate installation may cause physical damage to WISE-1520 and its carrier board WISE-DB1500, result it function-loss or abnormal behaviors as kernel panic or unstable electric currents in the evaluation kit. In this case, we would identify this inappropriate use of evaluation kit as human negligence and we are afraid it is excluded from our quality assurance policy.

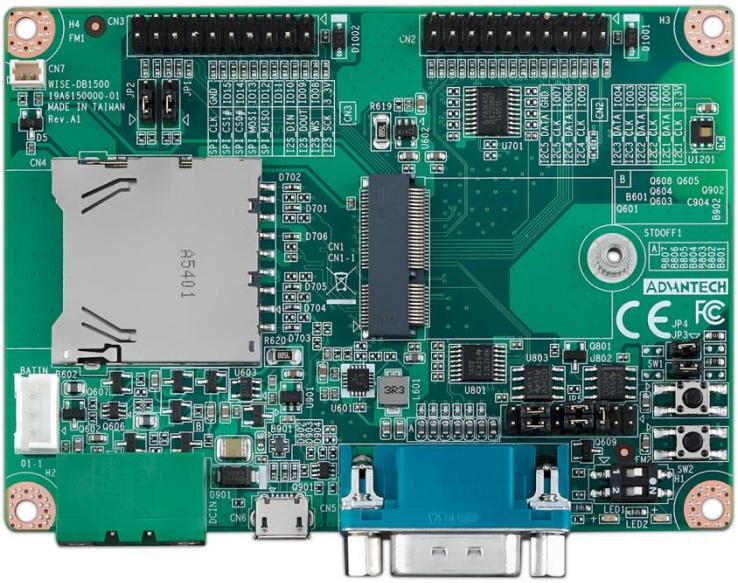
For more information about Advantech's policy and customer services, please visit Advantech official website: www.advantech.com.tw

3 WISE-1520 evaluation kit

3.1 Product Looks

I. WISE-1520

II. WISE-DB1500



3.2 Hardware installation

Important Notice:

For all Advantech M2.COM series products, please handle the M2.COM on Carrier board following the process below to ensure the M2.COM will not be damaged under M2.COM with carrier board assembly process.

Wrong handling process:

When you mount or dismount the Advantech M2.COM on your carrier board, please DO NOT exerts force on both ends of the board.

Photo 1. Wrong handling process

Correct handling process:

Angled insertion is allowable and preferred; intent is to minimize the insertion/extraction force. The minimum of angle of insertion is 5°

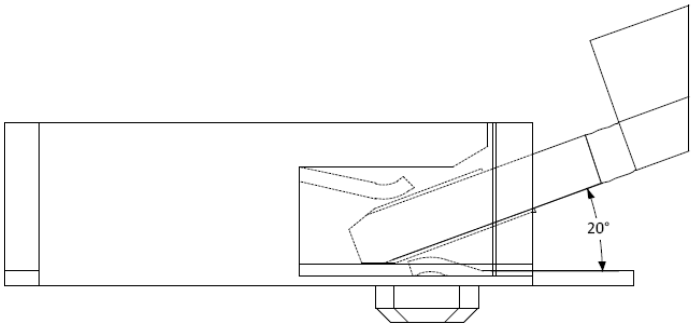


Photo 2. Correct handling process

3.3 WISE-1520 Specification

Specifications

Processor System	CPU/MCU	TI ARM Cotec-M4 Processor
	RAM	256KB
	Flash	1MB
Form Factor		M.2 TYPE 2230-D3-E
Wireless Network	Standard	IEEE802.11 b/g/n
	Frequency Band	2.412~2.472 GHz
	Channels	World Wide 13 Channels 1-11 with active scan, Channels 12,13 with passive scan
	Topology	Star network
	Transmit Power	17 dBm at 1 DSSS 17.25 dBm at 11 CCK 13.5 dBm at 54 OFDM
	Receiver Sensitivity	-94.7 dBm at 1 DSSS -87 dBm at 11 CCK -73 dBm at 54 OFDM
	RF Data Rate	UDP:16Mbps TCP: 13Mbps
	Function	End node
	Antenna connector	MHF4 connector
Ethernet		-
Cellular		-
GPS		-
I/O Interface	UART	1 4-wire(TX/RX/CTS/RTS)
	CANbus	-
	I²C	1
	I²S	-
	GPIO	2
	PWM	2
	SPI	1
	ADC	2 (1 for VCC voltage detect)
	USB	-
Programing Port		-

3.4 WISE-DB1500 Specification

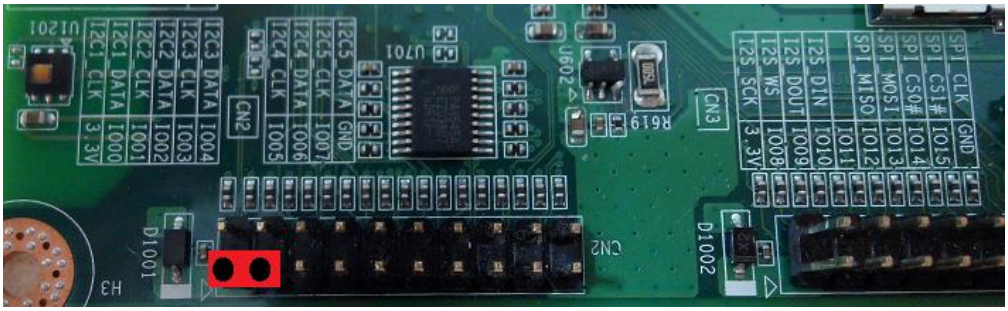
Specifications

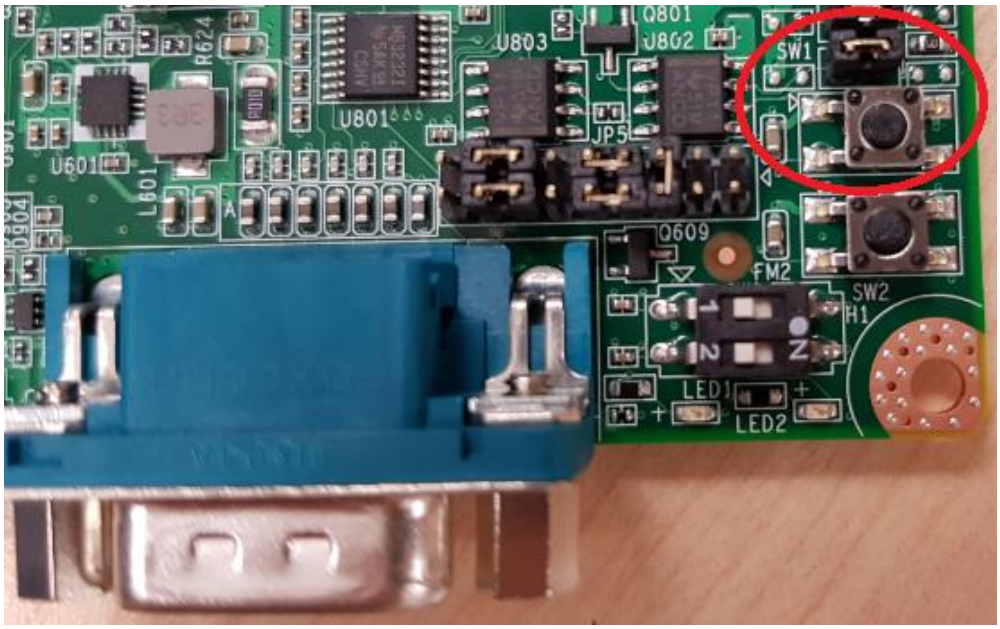
Form Factor		Pico-ITX 100 x 72 mm
Compatible Module		M2.COM module (22 x 30mm Key E)
Display	LCD	-
	VGA	-
	LVDS	-
	HDMI	-
Storage	Flash	-
	SD	1 SD card slot
	SATA	-
Ethernet	LAN	-
I/O Interface	UART	1 RS-232/422/485 (by JUMPER setting)
	CANbus	-
	I2C	2 (1 with 1 to 4 port switch)
	I2S	1
	GPIO	8
	PWM	2
	SPI	1
	ADC	6
	USB	1 USB micro Type B (OTG)
	Camera Input	-
	Audio	-
	Sensor	1 Humidity/Temperature sensor
Expansion	PCIe slot	-
	SIM slot	-
Indicator and Button	LED	2, Power LED , CB_PWR_ON LED
	Button	2, Reset, Wake Up
	Serial Port	-
	Switch	2, Reconfiguration, RF disable
Power Input	Power	5V
Environment	Operational Temperature	-20 ~ 75° C
	Operating Humidity	5% ~ 95% Relative Humidity, non-condensing
Mechanical	Dimensions	100 x 72 mm

4 Quick setup

4.1 Set into AP mode

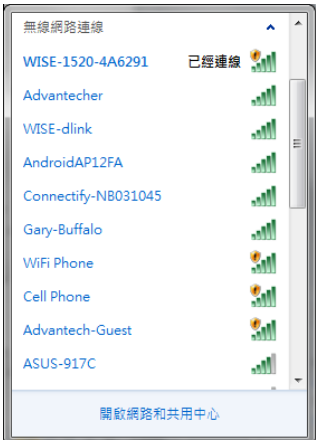
Please check both 3.3V and GPIO0 of CN2 are shorted on WISE-DB1500 and press reset button (SW1) to restart device into AP mode.





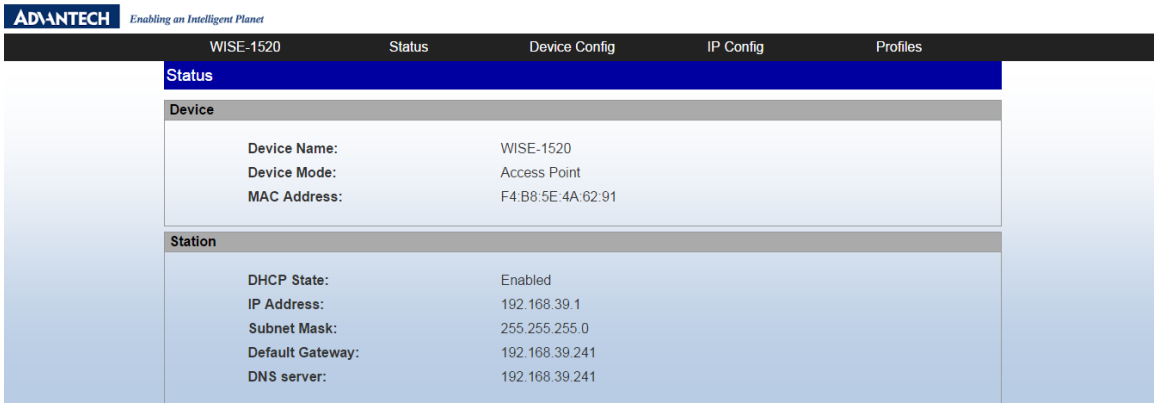
4.2 Connect to device.

The user can connect her/his WiFi enabled device PC/Smartphone to WISE-1520 which is connected with default SSID “WISE-1520-<mac address>” and security type “OPEN”. The snapshot is showing that the notebook is connected to device.



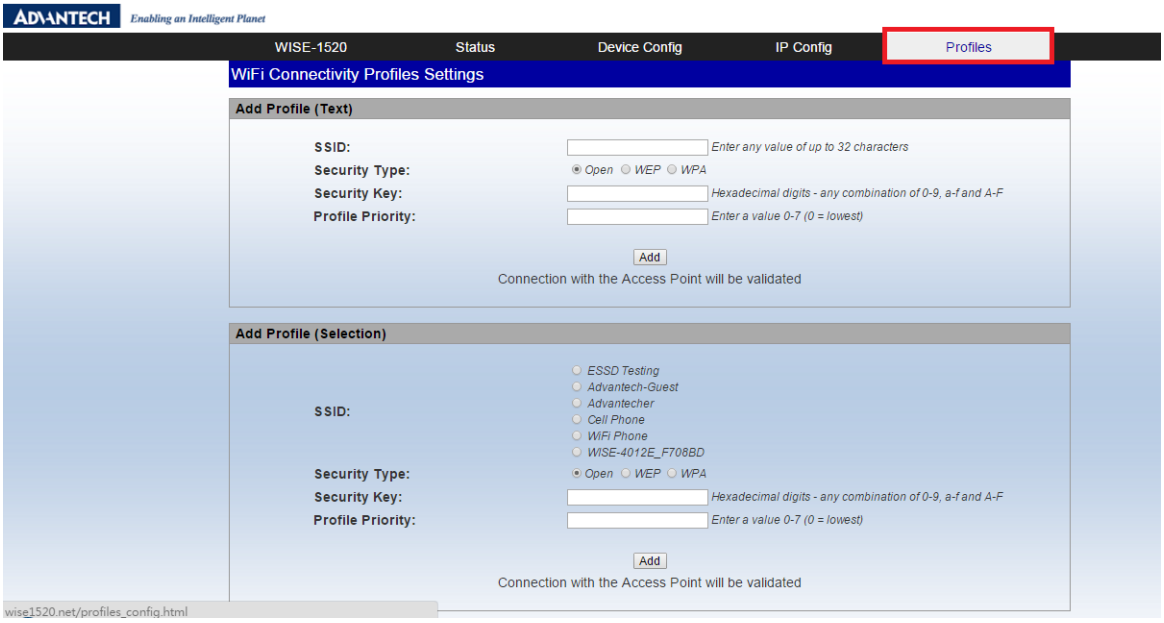
4.3 Open main page.

Open browser, go to http://192.168.1.1 or http://wise1520.net and login by default account/password (admin/admin).



4.4 Open page “Profiles”.

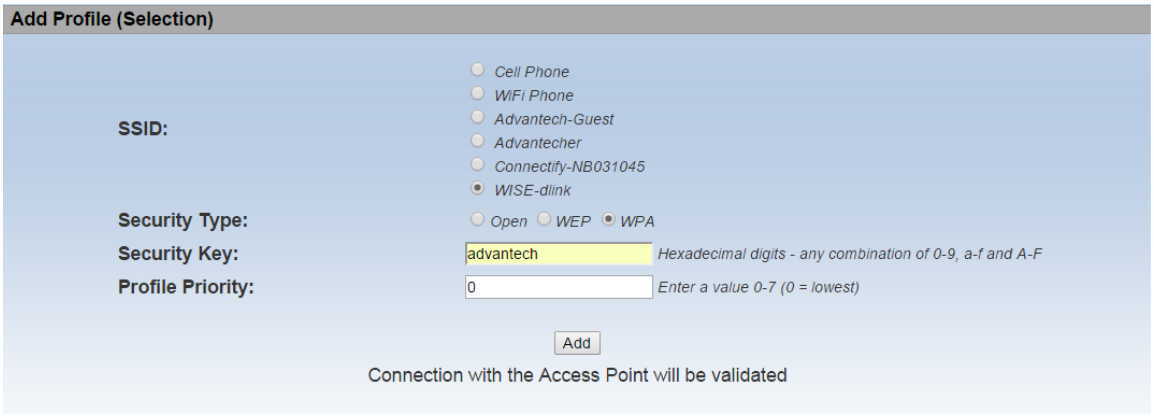
Select item “Profiles” on top of main page.



4.5 Create new session with method “Text” or “Selection”.

Fill in all columns of SSID, Security Type, Security Key and Profile Priority as below.

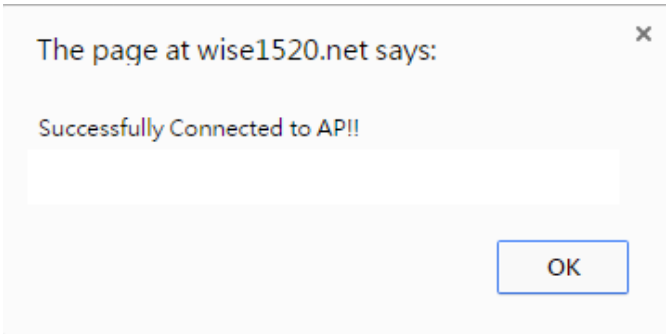
Create new session in “Text”.



Create new session in “Selection”

4.6 Check connection status.

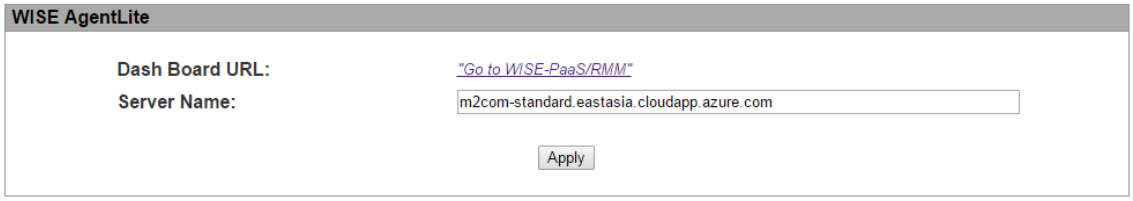
After the connection is successful, alert message is displayed as below.



Note: During connection status check, user’s device PC/Smartphone might connect to different AP, user needs to reconnect to WISE-1520 device again.

4.7 Set AgentLite reported server

GO to the **Device Config** page and fill in field “Server Name”, and press “Apply” to browse the WISE-PaaS/RMM

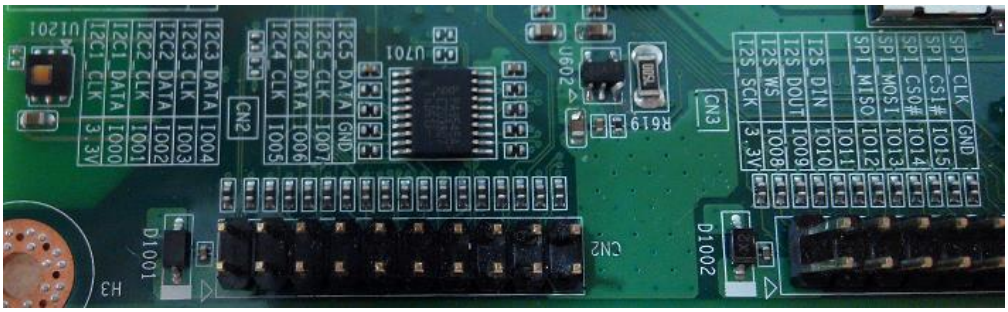


Note: Default WISE-PaaS/RMM URL is m2com-standard.eastasia.cloudapp.azure.com, please fill your URL if you setup your own WISE-PaaS server.

4.8 Set into station mode

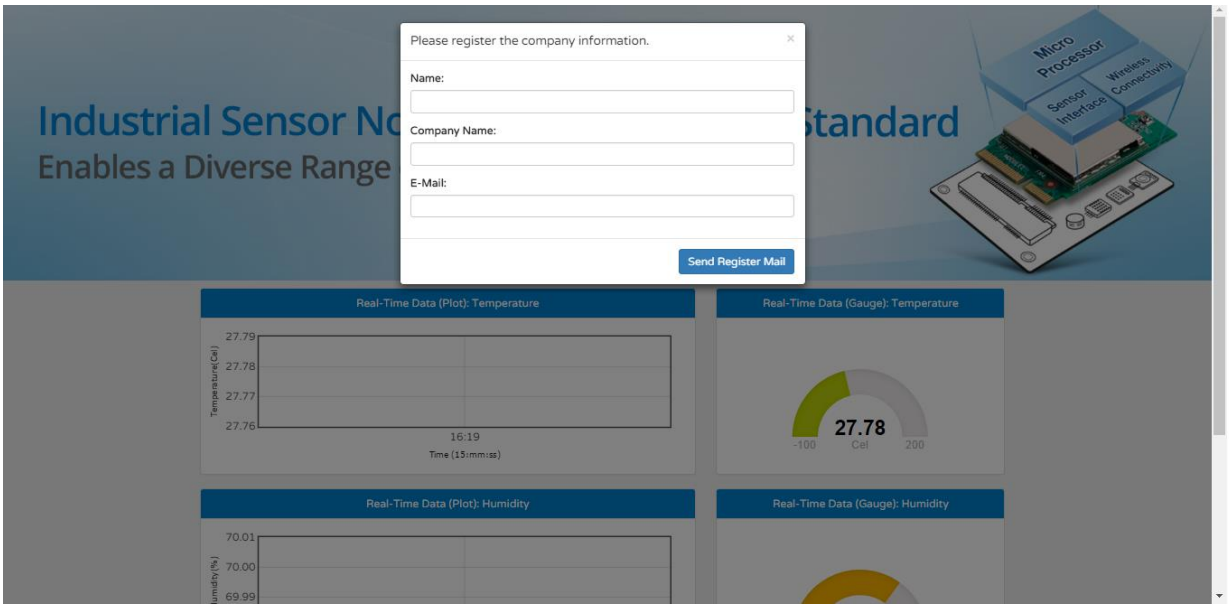
Follow the instructions showed on the website.

Please check both 3.3V and GPIO0 of CN2 are opened on WISE-DB1500 as below and **restart** the device.



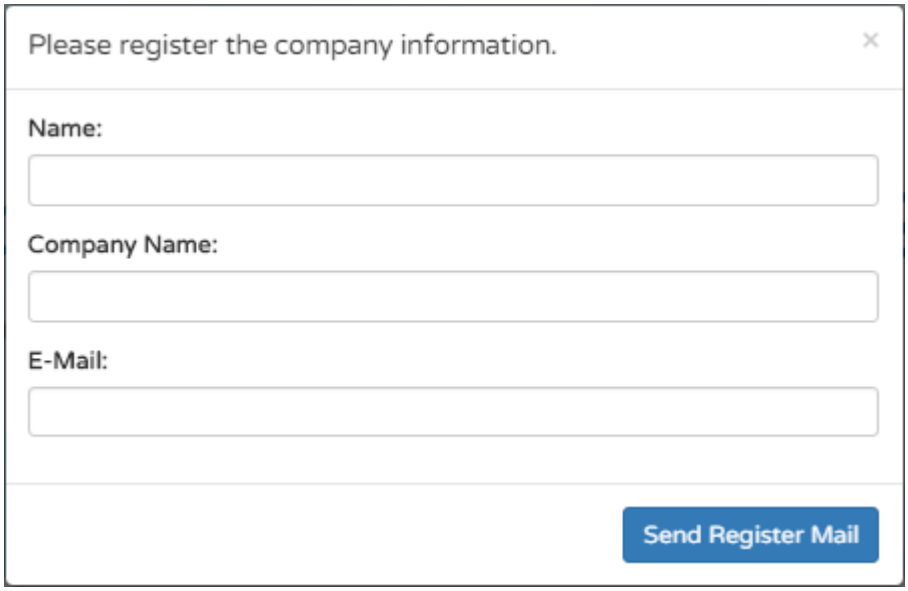
4.9 Visit the WISE-PaaS/RMM on Microsoft Azure cloud server

The webpage redirect to WISE-PaaS/RMM which for showing your WISE-1520 data



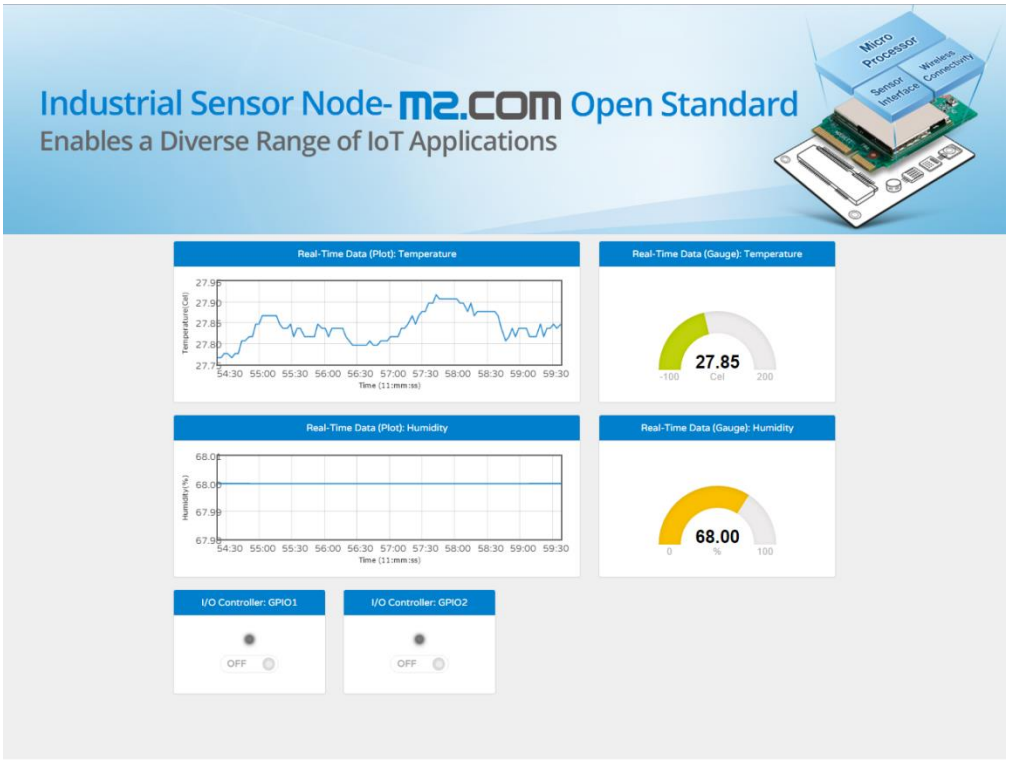
4.10 Register for your WISE-1520 development kit

Please fill information to the form, the server will send you an e-mail for activate your WISE-1520



4.11 Explore your WISE-1520 with WISE-PaaS/RMM

You will see the WISE-PaaS/RMM present the sensor data and I/O status in real-time.



Please visit Advantech IoT Forum for more information about WISE-PaaS/RMM.

http://iotforum.advantech.com/