

Advantech MIC-770V3

Getting Started Guide for AWS IoT Greengrass

Table of Contents

1	<i>Document information</i>	1
2	<i>Overview</i>	1
3	<i>Hardware description</i>	2
4	<i>Set up your development environment</i>	2
5	<i>Set up device hardware</i>	2
6	<i>About AWS IoT Greengrass</i>	2
7	<i>Greengrass prerequisites</i>	2
8	<i>Install AWS IoT Greengrass</i>	3
9	<i>Create a “Hello World” component</i>	3
10	<i>Troubleshooting</i>	3

1 Document information

1.1 Document revision history

Date	Version	Description
2023/4/28	1	1 st Version
2023/5/22	2	2 nd Version
2023/5/25	3	3 rd Version

1.2 Applicable operating systems for this guide

This guide is applied to the MIC-770V3 with an Intel processor and an operating system to run AWS Greengrass.

2 Overview

The Advantech MIC-770 V3 is a compact, fanless system that utilizes the latest generation Intel® 14nm platform with the new PCH R680E/H610E on a proprietary form factor motherboard. The design concept of the Advantech MIC-770 V3 system focuses on an "expansion slot module," allowing for different applications to integrate the MIC-770 V3 system when developing a complete industrial computer. Additionally, the MIC-770 V3 can function as an independent, fanless, compact embedded box computer; and accepts a wide range of DC power inputs. The

rugged aluminum case provides an excellent thermal solution and resists high EMI as well as shock, and vibration. The MIC-770 V3 is equipped with a 12th Gen Intel® Core™ i desktop CPU featuring up to 16 cores, making it highly suitable for embedded and industrial PC applications that require high processor performance within limited spaces. The system also features powerful I/O interfaces — including Ethernet, USB 3.2, serial port, and 2 x Mini PCIe. Furthermore, the MIC-770 V3 (W SKU) adopts Advantech WISE-iBMC out-of-band management solution, enabling remote power control via NIC port & LAN2 should abnormal OS operation occur.

3 Hardware description

3.1 Datasheet

[MIC-770V3 Datasheet \(advantech.com\)](#)

3.2 Standard kit contents

- 1 x MIC-770 V3 bare-bones system
- 1 x Startup Manual for MIC-770 V3
- 1 x 4-Pin phoenix connector
- 2 x Mounting bracket
- 1 x SATA cable
- 1 x SATA power cable

For more details, please visit: [MIC-770V3 - Compact Fanless System with 12th Gen Intel® Core™ i CPU Socket \(LGA 1700\) - Advantech](#)

3.3 User provided items

Peripheral (CPU, Memory, Storage, Adapter...)

3.4 3rd party purchasable items

Not Applicable

4 Set up your development environment

4.1 Tools installation (IDEs, Toolchains, SDKs)

As an Industrial PC, this device is compatible with many Ubuntu and Windows development environments. The development environment chosen should be based on the device's intended end use.

5 Set up device hardware

Please refer to the MIC-770V3 Startup Manual from the link below:

[MIC-770V3 Startup Manual \(Advantech.com\)](#)

6 About AWS IoT Greengrass

To learn more about AWS IoT Greengrass, see [How AWS IoT Greengrass works](#) and [What's new in AWS IoT Greengrass Version 2](#).

7 Greengrass prerequisites

Refer to the online documentation detailing the [Prerequisites](#) needed for AWS IoT Greengrass. Follow the instructions in the following sections:

[Step 1: Set up an AWS account](#)

[Step 2: Set up your environment](#)

8 Install AWS IoT Greengrass

Follow the online guide to [Install with automatic provisioning](#). Refer to the instructions in the following steps:

- [Set up the device environment](#)
- [Provide AWS credentials to the device](#). For development environments, you can use the option “Use long-term credentials from an IAM User”. An example of how to do this is shown below:

```
export AWS_ACCESS_KEY_ID=<the access key id for your user>
export AWS_SECRET_ACCESS_KEY=<the secret access key for your user>
```
- [Download the AWS IoT Greengrass Core software](#)
- [Install the AWS IoT Greengrass Core software](#)

9 Create a “Hello World” component

9.1 Create the component on your edge device

Follow the instructions online under the section [Develop and test a component on your device](#) to create a simple component on your device.

9.2 Upload the “Hello World” component

Follow the instructions online at [Create your component in the AWS IoT Greengrass service](#) to upload your component to the cloud, where it can be deployed to other devices as needed.

9.3 Deploy your component

Follow the instructions online at [Deploy your component](#) to deploy and verify that your component is running.

10 Troubleshooting

For further support of MIC-770V3 please refer the link: [Support](#)

For more information, refer to the online documentation [Troubleshooting Greengrass v2](#).