LLM-1U-RPL 1U Edge AI Rackmount Server with 12th/13th Gen Intel® Core® Processor and Q670E Chipset Getting Started Guide for AWS IoT Greengrass

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1 Document Information

Version	Date	Description
1.0	July 2025	Publish Document

2 Overview

2.1 Introduction

The LLM-1U-RPL is a short-depth 1U edge AI server purpose-built for on-premises large language model (LLM) inferencing. Designed for real-time generative AI workloads, it supports full-length professional NVIDIA RTX GPUs and 13th Gen Intel Core processors. Engineered for on-prem processing and data privacy, the LLM-1U-RPL enables local deployment of generative AI in industrial edge, field, and enterprise environments. It features PCIe 4.0 expansion, high-speed NVMe storage, redundant power, and hardware-level cybersecurity. With UL, CE, FCC, and IEC 62443-4-1 certifications, this edge server ensures high reliability and compliance for mission-critical deployments in space-constrained installations like micro data centers and control rooms.

2.2 About AWS IoT Greengrass

To learn more about AWS IoT Greengrass, see how it works and what's new.

3 Hardware Description

3.1 DataSheet

Click on this link to view the datasheet of LLM-1U-RPL.

3.2 Additional Hardware References

Please refer to the LLM-1U-RPL device page for more product details

3.3 User Provided Items

Not applicable.

3.4 3rd Party Purchasable Items

Not applicable.

4 Set up your Development Environment

AWS IoT Greengrass supports both Windows and Linux: https://docs.aws.amazon.com/greengrass/v2/developerguide/operating-system-feature-support-matrix.html.

Please refer to the developer guide for the required tools and proper setup: https://docs.aws.amazon.com/greengrass/v2/developerguide/what-is-iot-greengrass.html

It is recommended to install the following tools/SDKs:

- Java Runtime Environment (JRE) version 8 or greater
- Java Development Kit (JDK) Amazon Corretto 11 (https://aws.amazon.com/corretto/) or OpenJDK 11 (https://openjdk.java.net/)

- GNU C Library (https://www.gnu.org/software/libc/); (glibc) version 2.25 or greater

5 Set up your Hardware

Please refer to the device User's Manual for the hardware setup.

6 Setup your AWS account and Permissions

Refer to the online AWS documentation at Set up your AWS Account:
https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html

Follow the steps outlined below to create your account and user to get started:
• Sign up for an AWS account:
https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#aws-registration
• Create a user and grant it the proper permissions:
https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#create-iam-user
• Open the AWS IoT console:
https://docs.aws.amazon.com/iot/latest/developerguide/setting-up.html#iot-console-signin

7 Create Resources in AWS IoT

Refer to the instructions on how to create AWS IoT resource:
https://docs.aws.amazon.com/iot/latest/developerguide/create-iot-resources.html

Follow the steps outlined in these sections to provision resources for your device:
• Create an AWS IoT Policy
• Create a thing object

8 Install the AWS Command Line Interface

To install the AWS CLI on your host machine, refer to the instructions:
https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html

Installing the CLI is required to complete the instructions in this guide. Once you have installed AWS CLI, configure it per the instructions:
https://docs.aws.amazon.com/cli/latest/userguide/cli-configure-quickstart.html#cli-configure-quickstart-config

Set the appropriate values for access key ID, secret access key, and AWS Region based on your AWS account. You can set Output format to "json" if you prefer.

9 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

10 Create a Hello World Component

In AWS IoT Greengrass v2, components can be created on the edge device and uploaded to the cloud, or vice versa.

To create, deploy, test, update and manage a simple component on your device, follow the instructions under the section “To Create a Hello World Component”:
https://docs.aws.amazon.com/greengrass/v2/developerguide/getting-started.html

To upload the component to the cloud, follow the instructions under the section “Upload Your Component”:
https://docs.aws.amazon.com/greengrass/v2/developerguide/upload-first-component.html

10.1 Deploy your component

Follow the instructions online at Deploy your Component to deploy and verify that your component is running.

11 Troubleshooting

For AWS IoT Greengrass general troubleshooting tips, please refer to:
https://docs.aws.amazon.com/greengrass/v2/developerguide/troubleshooting.html

For device specific troubleshooting guide, please contact us directly at techsupport@premioinc.com.