1. Overview

The Rebellions RBLN-CA12 accelerator card is a full height, full-length (FHFL), single-slot 10.5-inch PCI Express Gen5 equipped with ATOM™, Rebellions' System-on-Chip (SoC) designed for deep learning inference. The card is passively cooled.

RBLN-CA12 supports AI inference tasks for various neural network models, including Convolutional Neural Network, Recurrent Neural Network, and Transformers. The card mainly targets inference acceleration on edge-computing platforms as well as High Performance Computing (HPC) workloads. It can be deployed in cloud data center for scalable AI applications.

Figure 1. Rebellions RBLN-CA12 PCIe Card (FHFL, Single Slot)

2. Specifications

2.1. Product Specifications

Table 1 through Table 3 provide the product, memory, and software specifications for the RBLN-CA12 PCIe card.

Table 1. Product Specifications

Specification	Descripti
Product SKU	RBABB1
Single chip - FP16	FP16 32
INT8/INT4	128 TOP
On-chip SRAM	64 MB
Multi-Instance NPU	HW isola