

# NCC S1 Neural Network Computing Card - AI Package

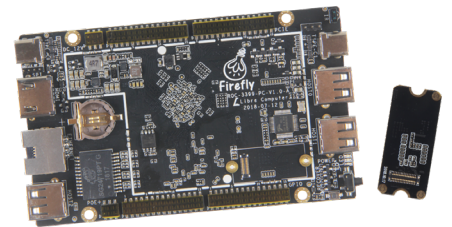
## Product Overview

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## Description

Seeed Studio NCC S1 Neural Network Computing Card - AI Package contains NCC S1 neural network computing card, ROC-RK3399-PC board, charger with cable, heat sink with snap joint, 16GB TF card, and a USB Wi-Fi card. The NCCS1 is a serial NPU (Neural Processing Unit) module that works with Firefly's development board. This package is equipped with complete and easy-to-use model training tools, network training model instances, and a professional hardware platform. Based on the AI-embedded Neural Network Processor (NPU), the NCC S1 possesses 28,000 parallel neural computing cores and supports on-chip parallel and in-situ calculations. This processor can carry out complex high-density calculations for the high-performance edge computing field.



The ROC-RK3399-PC computing board improves performance by connecting it to the expansion board. This board transforms into a pocket portable personal computer when combined with a metal casing. The ROC-RK3399-PC board features a built-in strong core configuration, a rich peripheral interface, 4GB LPDDR4 RAM, and frequency up to 2.0 GHz. This board supports multiple systems, including supports servers, multiple operating systems, and wayland display framework.

## Features

- NCC S1 neural network computing card:
  - APiM AI-specific framework
  - 5.6Tops best peak performance
  - 9.3Tops/W high-energy efficiency
  - PLAI model training tools
  - 28000 parallel neural computing cores
  - 28nm process technology
- ROC-RK3399-PC main board:
  - Six-core 64-bit high-performance board
  - Built-in strong core configuration
  - Small size card computer
  - Expansion board combination



Size	27.5x12.5x3.5mm
NPU	Lightspear SPR2015 (28nm process, unique MPE and APiM architecture)
Peak	5.6 TOPs@100MHz
Low Power	2.8 TOPs@300mW
Platform	Applicable ROC-RK3399-PC platform
Framework	Support Pytorch, Caffe framework, follow-up support TensorFlow
Tools	PLAI model training tool(Support for GGI, GNet1.8 and GNetfc network models based on VGG-16) Support Ubuntu, Windows operating system

## Features

- Support for multiple systems
- Multiple power supply modes
- Rich peripheral interface

## Kit Contents

- 1x NCC S1 Neural Network Computing card
- 1x 64G AI tool
- 1x ROC-RK3399-PC
- 1x charger with cable
- 1x heat sink with snap joint
- 1x 16GB TF card
- 1x USB WiFi card

## Mouser Part Number

[View Part](#)

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