

# speedAI240 Slim

UNTETHER AI

Optimal performance  
in a compact design



## Overview

The speedAI240 Slim accelerator card, designed for real-time deep learning inference applications.

## Key Highlights

Powered by next generation speedAI240™ device delivering unparalleled performance and programmability.

Maximize system flexibility with single-slot half-height half-length card featuring PCIe Gen5 x16 interconnect.

Achieve unmatched energy efficiency at 20 TOPs/W, elevating computer density and substantially reducing costs.

Efficiently process data with precision using FP8 data types and custom network-on-chip

## Target Applications

### Vision/Object Detection

Smart Retail and City

AgTech

Aerospace and Defense

### Finance, Enterprise Datacenter

Speech-to-text

Sentiment analysis

Chatbots

### Automotive

Advanced driver assistance systems (ADAS)

In-Vehicle Experience

## Specifications

Performance	speedAI240 Slim
Processing Elements	>370,000
RISC-V Cores	>1,400
FP8 TFLOPS	2,000
FP16* TFLOPS	1,000
*FP16 is implemented using FP8 activations	
Memory	speedAI240 Slim
On-chip Memory	238 MB on-chip SRAM
External Memory	Two LPDDR x64 interfaces, up to 64GB capacity
On-Chip Memory Bandwidth	1 PB/s
LPDDR5 Bandwidth	100 GB/s

# UNTETHER AI

Board Design	speedAI240 Slim
Form Factor	Half-Height, Half-Length
Dimensions	168 mm x 55mm (64 mm including PCIe fingers)
PCIe Host Interface	x16 PCIe Gen5
Total PCIe Bandwidth	64 GB/s
Total board power	TDP 75 W, typical application power ~40 W
Cooling	Passive and active cooling available
Operating temperature	0°C to 55°C
Power Connector	75W via PCIe edge connector

## Performance

All estimates use the Untether AI FP8 data type.

Network	speedAI240 Slim (FPS)
ResNet50	56,000
BERT-Large 384	7,328
YoloV7 - Tiny	520

## Ordering Information

Part Number	Description
sai240SL-H-P-ES	speedAI240 accelerator card, half height bracket, passive cooled, single slot, engineering sample
sai240SL-F-P-ES	speedAI240 accelerator card, full height bracket, passive cooled, single slot, engineering sample
sai240SL-F-A-ES	speedAI240 accelerator card, full height bracket, active cooled, dual slot, engineering sample

Visit: [www.untether.ai/](http://www.untether.ai/)

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