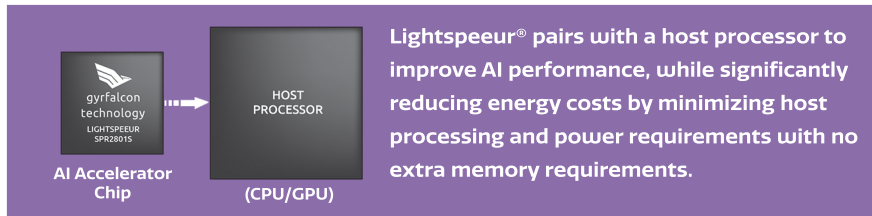# Lightspeeur© 2801 Neural Accelerator

Product Overview

Lightspeeur® 2801 is the world's first commercially available deep learning CNN accelerator chip to run audio and video processing to power AI devices for edge, desktop and data center deployments.

Gyrfalcon's 100% proprietary and patented technologies accelerate CNN processing at extremely high speeds, while consuming very little power.

The architecture uses a unique 2-dimensional Matrix Processing Engine (MPE™) with AI Processing in Memory (APiM™). AI processing memory blocks reduce power requirements and improve performance.

The scalable matrix design of the engines allows each engine to directly communicate and interact with adjacent engines, optimizing and accelerating data flow.

AI Accelerator Chip → **HOST PROCESSOR** (CPU/GPU)

Lightspeeur® pairs with a host processor to improve AI performance, while significantly reducing energy costs by minimizing host processing and power requirements with no extra memory requirements.

HIGH PERFORMANCE
9.3 TOPs/Watt

LOW COST
Priced for scale with IoT endpoints

SMALL SIZE
7mm x 7mm

BEST PEAK PERFORMANCE
5.6 TOPs @ 100MHz

ULTRA LOW POWER
2.8 TOPs @ 300mW

Performance Specifications
· TOPS: 5.6
· Power: 600mW
· Efficiency: 9.3 TOPS/Watt
· Clock Speed: 100 MHz

Supported Models
· VGG16 and variations

Supported Frameworks
· TensorFlow
· Caffe
· PyTorch

Deployment Options
· USB dongle
· Embedded Design
· Data Center

AI Model Processing Capabilities
· Model Parallel Processing

Targeted Inference Applications
· Image Recognition
· Object Detection & Tracking
· Natural Language Processing
· Natural Language Understanding
· Business Intelligence
· Visual Analysis