



gyrfalcon
technology

Lightspeeur® 5801S Neural Accelerator

Performance with Energy Efficiency Combined with Low Cost for Mass Market Edge AI Device Designs

The Lightspeeur® 5801S AI Accelerator delivers high performance combined with the efficiency of low power use that is optimal for edge AI devices. Combined with low cost, this chip supports designs intended for mass market device applications such as mobile, embedded, and IoT.

This accelerator uses CNN (Convolutional Neural Networks) with a host processor to execute workloads for AI tasks such as Natural Language Processing (NLP), object detection, image classification, speech recognition, and other applications.

This processor uses GTI's patented APiM™ (AI Processing in Memory) technology, which supports on-chip parallelism that eliminates memory bottlenecks, for high performance devices with industry-leading power efficiency.

The Lightspeeur® family supports popular AI frameworks such as Caffe and TensorFlow. To speed system development, GTI provides Software Development kits (SDKs) and turn-key reference designs backed by system verification hardware, software, and tools.

HIGH PERFORMANCE
12.6 TOPs/Watt

LOW COST
Priced for scale

BEST PEAK PERFORMANCE
2.8 TOPs @ 200MHz

ULTRA LOW POWER
2.8 TOPs @ 224mW

SMALL SIZE
6mm x 6mm

Technology

- 12.6 TOPs/Watt
- 2.8 TOPs peak at 200MHz & 224mW
- 28nm process
- APiM™ neural network core
- Inference time: less than 4ms

Product Features

- USB 3.0
- Clock Speed: 50-200 MHz

Industry-Standard Network Support

- VGG
- ResNet
- MobileNet -v1
- Similar custom networks

Applications

- Mobile Edge Computing
- Vision Systems
- Smart Toys/Robotics/Home
- Augmented Reality/Virtual Reality
- Face Detection/Recognition
- Speech/Voice Recognition
- Natural Language Processing
- Deep Learning Enabled Devices
- Edge Inference Systems