BLUMIND

AI for Everyone, Everywhere

Application Brief

All-analog AI for Automotive

Always on AI for Automotive

Automotive AI use is constrained by legacy digital inferencing technology. Limited Space, thermal constraints, low-latency, distributed compute needs, and total solution cost are core challenges that automotive sub-system designers face. Digital AI technology is increasingly a bottleneck to deployment and adoption. Blumind's AMPL™ all-analog AI solution uses low-cost standard CMOS that delivers a low-latency, small, cost-effective and low power solution ideal for demanding automotive applications. (see side bar). Cameras, radar and lidar for ADAS, EV powertrain, facial recognition or voice access control, occupancy detection, gesture and voice UI are just a few of the value-added features that Blumind can enable.

Integrated solution

Blumind holistic approach achieves the highest total system value for clients. We consider system level power, size, and cost to achieve the most efficient solution. For automotive solutions our all-analog approach reduces system power up to 20x while lowering cost compared to our nearest competitors. Our video and audio solutions enable the next generation of automotive AI solutions.

Ease of Deployment

Blumind offers high integration ASSP devices and Chiplet/IP solutions for system-in-package integration options. Our products use standard software tool flows with a simple remapping of the results to our all-analog architecture. Contact us to find our more.

Blumind AMPL™ Technology

Blumind's AMPL technology is unique. The Blumind all-analog approach delivers the lowest power solution while the inherently parallel architecture delivers ultra-low latency for real time applications, all in a tiny footprint.

No high-speed clocks, ADCs, DACs, or specialty memory are used. AMPL technology is built in standard advance CMOS with a roadmap to advanced process node.

By exploiting advanced CMOS device physics Blumind create single transistor neurons that are small and power efficient.

The AMPL architecture was built from the ground up to address analog compute challenges of variations in process, temperature, voltage, and long-term drift and our results are impressive.

Standard PyTorch and TensorFlow software tools are used to create the parameters for the powerful AMPL neural network.