BLUMIND

AI for Everyone, Everywhere

Application Brief

All-analog Entry Access Point

Always on AI Entry Access Point

The humble front door is the latest frontier for edge AI deployment. Imaging an always on energy harvesting/battery power entry product that supports AI voice, video and biometric (fingerprint) inferencing and classification for access control. Next generation smart door locks integrate cameras, microphones, and biometrics to provide an elegant low-cost solution for entry door access, but only if the power is low enough. Blumind's AMPL™ all-analog AI solution uses low-cost standard CMOS that delivers a low-latency, small, cost-effective, and ultra-low power solution (see side bar). Local processing of camera, voice and time series data for facial recognition, voice access control, fingerprints, gesture, and threat identification 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 entry system solutions our all-analog approach reduces system power up to 20x. Our low power local AI compute enables the next generation of entry control products.

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 for our all-analog architecture without compromising accuracy of results. 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.