BLUMIND

AI for Everyone, Everywhere

Application Brief

Next Gen of Vehicle HMI Systems

Transition to a new human-machine interaction

In the past, a human-machine interface (HMI) consisted of a physical control panel with push buttons, switches and indicator lights through which users could interact with a car. Today, HMI applications are ubiquitous, with voice commands and gesture recognition being deployed for all types of vehicles. Envision vehicles without switches and button that are AI *aware* but not intrusive, enabling a safe and intuitive in-cabin experience for drivers and passengers. The Blumind neural signal processor products for "always on" audio and time series data applications and "always on" video and image classification applications are ready for for the next generation of automotive HMI. Blumind solutions are enabling new functionality with AI at the edge, offer great performance with ultra-low power consumption and enable smart HMI interfaces.

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 HMI our tiny devices need only a 1.8V power supply and a SPI or I2C connection to the MCU. Integration of our all-analog AI couldn'd be easier.

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 CMOS with a roadmap to advanced process node.

By exploiting advanced CMOS device physics Blumind creates single transistor synapses 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.