Integrated Sensor Electronics

Mixed Signal Design Service

IoT applications and other electronic solutions with special requirements place demands on the installation space and robustness of the installed sensors. In addition, there is a growing demand for powerful and at the same time energy-efficient electronic systems that are used, for example, in automotive engineering, industrial automation or assistance systems.

At Fraunhofer IIS/EAS we focus our design work on high-performance data converters for various use cases or customize sensor interfaces with regard to their energy efficiency and performance. This is the basis e.g. for high-speed chip-to-chip communication according to new standards. Another focus lies on edge computing concepts and the precalculation of measured high precision data by data reduction in the edge device.

Our Services

- Complete IC design service from specification, layout, testing to prototyping
- Individual IC design with focus on high performance and ultra-low power sensors
- Yield optimization (design for yield)
- Rapid adaptation to change requests/supply of IP variants
- Establishment of in-house, modular, automated component library
- Feasibility analysis at system level
- Inhouse testing and verification
- On request production of small series

Your Benefits

- In-house methodology with several design tools (Cadence and others)
- Software openness and various exchange formats
- Reduction of costs and effort due to our wide range of technologies, manufacturers and process nodes
- Shorter development times with focus on high quality by in-house developed design methodologies
- Circuit optimization at system, circuit layout and post-layout level
- Increased design reliability thanks to automated, flexible IP components
- Technology migration and porting with new automation approaches

More Information

Part of

Forschungsfabrik Mikroelektronik
Deutschland
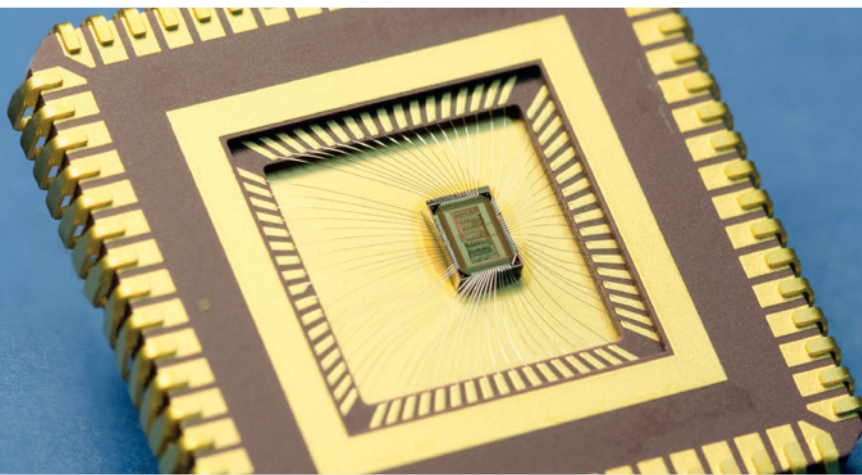
Benefit from the wide range of software and hardware environments we cover with our mixed signal service.

Mixed Signal Design Service

With our analog/mixed-signal design service, we create individual solutions for integrated sensing applications. Benefit from our long-time experience in a wide range of technologies from numerous foundries from 0.6 µm to 5 nm.

Our in-house developed analog design methodology and reliable porting methods for diverse technologies allow for a fast design cycle including layout design, testing, prototyping and small production series on request.

Our detailed knowledge in different design tools, manufacturers and structure widths in combination with direct cooperation with vendors themselves enable us to also develop integrated circuit solutions for small and medium-sized companies and design concepts which can reduce costs and efforts. For that we transfer newest design topologies and architectures from leading-edge research to industrial solutions and offer prototyping and small production series services.

Key Measurement Possibilities

In addition, you can benefit from our measurement capabilities in our laboratories. We are able to perform characterization of ASICs in packages, bare dies or on wafer level. Benefit from our climate chamber with its heating, cooling and humidity capabilities and our fast temperature characterization with thermostream. We also offer automated

high-precision measurements of ultra-low voltages and currents. Our wide variety of common, market-standard software and hardware environments allows us to implement diverse, comprehensive design and test requirements.

- Characterization of ASICs in package, bare dies or wafer level
- Testing in climate chamber with heating, cooling and humidity possibilities
- Fast temperature characterization with thermostream
- Automated high precision measurement of ultra-low voltages and currents
- Design and test with all common software and hardware environments on the market

Contact

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