







Empowering the Connected World with Semiconductor Solutions

ACL Digital provides high-quality development solutions for various subsystems in System-on-Chip (SoC). We specialize in the design verification and physical implementation of CPU/CPU subsystems, graphics, and high-speed and low-speed interface subsystems. On the analog mixed-signal front, we cater to the needs of semiconductor foundation intellectual properties and core analog-mixed signal blocks. The scope of our services also includes embedded hardware and software engineering.

Our expertise lies in providing end-to-end solutions for High-Performance computing (HPC), Artificial Intelligence/Machine Learning (AI/ML), Automotive, and 5G market segments. Many SoCs taped out from our design house fall under these market segments and we have developed custom SoC solutions optimized for Power, Performance & Area.

Key Semiconductor Offerings

 CPU/CPU Subsystems	 Interface and Memory Subsystems	 Embedded Engineering	 Automotive
RISC V Core Development	PCIe Gen 3/4/5	System Architecture	ADAS
ARM Customization	DDR 3/4, LP DDR	PCB Layout and Analysis	Autosar
Custom Processor Development	Ethernet 10G – 100G	RTOS, Embedded Linux	Body Electronics
3rd Party NOC and Custom NoC	USB 2.0, 3.0, 3.1	FPGA Design and Validation	Human Machine Interface
AMBA – ACE AXI AHB Interface	UCle chip to Chip Interconnect	Emulation (Palladium, Zebu, Veloce)	Infotainment and Connectivity
Core DV with Various Configuration	APB interface	IoT Product Testing	Electrification
MMU, LSU, AIA design/DV	I2C, I3C, SPI, JTAG	QA Automation	Battery Management System
Debug and Trace Design/DV	UART (Universal Asynchronous Receiver/Transmitter)	Design Validation and Compliance Testing	ISO26262 Automotive Functional Safety (SIP, SoC, Hardware, Software)

ACL Digital in Semiconductors

- Rich Legacy - operational for over 15 years with several first-pass tape outs
- More than 1200 chip design & embedded software practitioners with a cross-regional spread across India, the USA, and Europe
- Engagement models: ODCs, on-site managed services, and turnkey fixed-price projects
- Expertise in implementing complex SoCs / ASICs in 5nm, 7nm, 10nm, 14nm, 16nm, 28nm, and other older technology nodes
- Experience collaborating with global top 20 semiconductor and systems companies across North America, Europe, and their counterparts in India

Strategic partnerships with industry associations such as TSMC DCA, ARM AADP to elevate the customer experience



Semiconductor Product Design & Engineering

RTL Design & Architecture

- › Architects – Micro Architects
- › RTL Front-End Design & Integration
- › Linting, CDC, Logical Equivalence
- › RTP Design, IP Design, SoC Integration
- › UPF Based Low Power Expertise

DFT

- › DFT Design – Hierarchical, Full Flat, Mixed Signal
- › DFT Implementation – Logic, Memory, IO
- › DFT Verification – ATPG, MBIST/LBIST BSCAN
- › Experience in Industry Standard Protocols

SoC & IP Verification

- › IP/SOC Verification
- › UVM, OVM, VMM, eRM, RVM
- › Assertion-based Verification
- › Constraint Random Verification
- › Power-aware Verification
- › Formal Verification
- › AMS Verification

Memory & Analog

- › Circuit Design & Char
- › Layout Design
- › View Verification
- › Mem Compiler Dev.
- › Test Chip Dev.
- › AMS Modelling & Verification
- › Tools & Foundries

Physical Design

- › Physical Design (HM, Block, SOC level)
- › Scan Insertion, Synthesis and STA
- › PD Implementation
- › Physical Verification
- › PPA (Power, Perf., Area optimization)
- › Tools and Flow Development
- › Low Power Expertise
- › Technology Experience – 3nm to 180nm

FPGA/Prototyping/Hardware

- › FPGA-based Design and V&V
- › Experienced Team in Safety-critical Design
- › Experienced Team in V&V as per DO254 DALs
- › Emulation – All major emulators
- › ASIC Prototyping
- › Board Design & Post Silicon

Semiconductor Product Design & Engineering

350+

Customers Worldwide

8 Locations

Design & Delivery Centers

25+ years

of Sustained Growth

15+

Strategic Partnerships

Connect with us today:
business@acldigital.com



Complete Range of IC Design Services

Projects ranging from a full turnkey solution to a sub-system, IP block development, or staff augmentation mode

Ideal for production-ready design and cover the entire IC design flow

ACL Digital, an ALLEN Group Company, is a digital product innovation and engineering leader. Headquartered in Silicon Valley, ACL Digital is a leader in design-led digital experience, innovation, enterprise modernization, and product engineering services converging to Technology, Media & Telecom. We are a talented workforce and part of the 50000+ employee ALLEN Group, spread across more than 30 countries, offering a multicultural workplace and a collaborative knowledge environment.

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