

Bringing a great product to life with critical electronic circuitry and embedded firmware is easier said than done.

Focus Embedded expertly optimizes tradeoffs at the Proof Of Concept, Prototype, and Pilot Production stages – and throughout the lifespan of the product. When your time, energy, money, and reputation are on the line, you want to trust (and verify) with our team's expertise in one or more of the following areas:

Analog, Digital, and Power Supply Circuit Design

- We save you time and money through properly done Signal Processing and Control Systems Design.
- We do SPICE analysis, Laplace Transform and z-Transform, and Fourier Theory analysis.
- We can design switchmode power supplies, power transfer systems, impedance matching circuitry, motor control systems, and “green” energy circuitry.

FPGA/CPLD Design

- We help you build your portfolio of reusable Intellectual Property.
- We're experts for Xilinx, Lattice Semiconductor, Altera, and Actel FPGA/CPLD product families.
- We do thorough simulation for all our Algorithmic State Machine design. We enter the prototyping lab knowing what will happen before spending time and money “seeing if it works.”

High End PCB Layout “Service Bureau” Design Support

- We have a century of team experience in all aspects of the Printed Circuit Board life cycle.
- We design for manufacturability, testability, process variation, and FCC radiation compliance.
- We follow best practices for assembly, cost reduction, traceability, and audit trail generation.
- We do layout for DDR2/3, LPDDR, modern PC bus standards (PCIe, PCI-X, etc.), LVDS, WAN serial, USB (1.0, 1.1, 2.0, and 3.0), Rambus, GMII, RGMII, USB, Firewire, HDMI/DVI video, switching power supplies, low-noise analog circuits, RF and co-planar wave guide (CPWG) PCB's, and flex circuitry.

Embedded Firmware

- We develop algorithms, Device Drivers, and API's. We're also former RTOS writers and emulator designers, so we know our embedded operating systems.
- We craft all application code, device drivers, and macros with clear audit trails.
- We reduce complex time-critical algorithms (addressing hard deadlines as required) to practice in most common languages – including assembly languages when timing and memory footprints and organizations become critical.

System Architecture

- We prove and double-check the “hard math” early in the design – during proof of concept – and prototyping, saving you time, money and aggravation.
- We develop architectures based on sound “first principles” and an understanding of the fundamental purpose of a system. We solve the right problem.
- We work directly with Business Teams, Venture Capitalists and Angel Investors during your prototyping and Proof of Concept phases in order to secure you the funding you may need for additional development.

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