

Startup Launches ASIC, SoC Design-to-Manufacture Services

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Boasting sizable backlog and a strong pipeline with 30 CPU design and consumer electronic applications, design engineers in Silicon Valley and Malaysia, Santa Clara, Calif.-based fabless ASIC and system-on-chip (SoC) startup Key ASIC announced its design-to-manufacture services for portable and consumer applications.

The Santa Clara, Calif.-based company is focused on designing ASICs and SoCs implementing specialized techniques for RF CMOS, high-voltage, low-power mixed-signal and digital design.

The company says its primary technology is the KeySoC Platform for ASIC/SoC design-to-manufacture that aims to reduce customer design time and allow first time silicon success.

The platform provides a high-performance ARM-based CPU platform with a CPU core and memory blocks for integration of domain specific IP blocks to design ASICs or SoCs. Key ASIC provides a variety of mixed-signal blocks, including video front ends for HDTV applications, high-end A/D and D/A solutions for wireless and wired communications, high-quality audio and voice codecs and peripheral interfaces for quick integration.

The company says the platform is specifically targeted for a variety of communications and consumer electronics applications including PMP/portable games devices, MP3/Digital audio players, set top boxes, digital TVs, HDTVs, digital imaging/video technologies, home media servers, home networking devices, VoIP, mobile phones and wireless networks. The platform also consists of a wide selection of silicon proven interfaces such as USB2.0, IEEE 1394, ETHERNET, PCI, PCI-X, CE-ATA, PCI-Express and Serial ATA.

In addition to the design aspect of the KeySoC Platform, the company says it provides customers a one-stop design-to-manufacture service, having formed extensive partner relationships with top semiconductor foundries. Customer engagements can begin at three different levels, ranging from high-level specification to GDS II, with Key ASIC delivering tested and packaged chips or tested wafers.

Customers can provide detailed ASIC specifications and Key ASIC will design from specifications at RTL, going through RTL simulations, synthesis and gate level simulation. Upon successful completion of the gate level simulation, the company will perform physical implementation, parameter extraction and post layout timing analysis before producing a GDS II file.

Additionally, the customer can give Key ASIC a thoroughly verified netlist and the company will provide P&R services and extractions. Alternatively, customers can complete the entire design in-house and provide Key ASIC with a GDS II file.

Through its KeyIP service, the company offers customers access to license IP from its rich pool of silicon-proven mixed-signal and digital IP, including interfaces, IP blocks, CPU and DSPcores. Through KeyShuttle the company offers customers a low-cost, fast prototyping service. Shuttle runs include reticles and wafer lots, as well as test and packaging options to meet customer demands.

"During a seemingly difficult time to start up an ASIC design company, especially with some industry discussion about the future of ASIC technology, Key ASIC is coming to market with a more complete

solution than most advanced players," said Rich Wawrzyniak, senior analyst for ASICs and SoCs at Semico Research Corp. in a statement.

"The company's targeted offering is filling a necessary niche and has the potential to be very successful with its array of CE engineering talent, diverse locations and top-tier partners to support customers throughout the design-to-manufacture process," he added.

"We are seeing great demand for integration of multiple functions onto a single piece of silicon that has to fit into a very small form factor and this need is prompting companies to outsource the design and manufacturing of these targeted ASICs and SoCs to companies with extensive real-world expertise in consumer electronics and communications," concluded Kah Yee Eg, founder and CEO of Key ASIC.

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