

Resurgence in 8051 Microcontroller Applications Drives New IP Cores Sales for CAST

WOODCLIFF LAKE, NJ USA — May 25, 2018 — Semiconductor intellectual property provider CAST, Inc. has seen a significant upswing in licenses for the venerable 8051 microcontroller, as today's designers rediscover that the simplicity, low-power operation, small silicon area, and relatively inexpensive cost of this 8-bit MCU are an excellent match for the demands of many modern products. Specifically, in just the first quarter of 2018, CAST 8051 licenses were up by 30% compared to all of 2017, and reached their highest level for the last twelve years.

CAST first introduced 8051 IP cores [in 1997](#), marked [its 200th license in 2013](#), and has continued healthy sales since then. Early applications ranged “[from washing machines to space probes](#),” and today 8051s from CAST have been in hundreds of thousands of shipped customer products.



Continuous improvements over twenty years led to performance many times greater than envisioned by the 8051's architects, while retaining compatibility with the original MCS-51 instruction set architecture. Silicon area and memory requirements have shrunk with IP maturity, and improvements to configurability, deliverables, and packaging have simplified 8051 development, integration, and testing. There is also a full ecosystem of evaluation options, programming tools, debugging hardware, reference design boards, and more, making the 8051s available from CAST some of the easiest MCUs to use.

Today these benefits make modern 8051 IP cores an excellent solution for Internet of Things and other applications with constrained power availability. One CAST customers' wireless communications SoC, for example, operates strictly by harvesting the energy it needs from the environment. Designers today also value the reliability of the 8051 and use it in automotive, industrial, and space applications. New designs use 8051s in a variety of roles such as a power-management controller; the control and calibration engine for sensors, analog front ends, and high-speed serial interfaces; or the processor executing low-level software stacks for wireless and other communication protocols. Beyond the technical advantages, CAST's royalty-free licensing makes its 8051s especially attractive for high volume applications.

“8051 compatibles have been a mainstay of the CAST IP product line for two decades,” said Nikos Zervas, chief executive officer for CAST. “We had thought 32-bit processors like our BA2X line would eventually replace the 8051s, but we’re excited to continue providing—and improving—these 8-bit wonders for designers who find them a great solution for a whole new set of system design challenges.”

About the 8051-Compatible MCU Family

The [8051-Compatible Microcontroller IP Cores Family](#) available from CAST is a cost-effective range of MCS-51 conforming 8- and 16-bit microcontrollers with a variety of options for performance, size, peripherals, and configurability. It includes some of the fastest and the smallest such cores available, plus integrated hardware debugging options, reference designs and hardware/software evaluation boards, and support by leading software development environments,

The 8051 MCU IP cores are sourced from Silesia Devices, whose engineers created some of the first such cores ever developed and are today world-leading experts in MCS-51 microcontrollers and related systems. Learn more at www.silesia-devices.com.

About CAST

In addition to the 8051 family, CAST offers extreme-low-power 32-bit BA2X™ processors; industry-leading automotive interfaces and data compression solutions; a range of video and image processing functions; and a variety of peripherals, interfaces, security, and other IP cores. CAST IP features easy integration and reuse, royalty-free licensing, and availability for ASICs (RTL) or FPGAs (netlists) from all leading silicon providers. Learn more by visiting www.cast-inc.com, emailing info@cast-inc.com, or calling +1 201.391.8300.

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