Silicon Labs Solidifies Market Lead with Industry's Most Advanced TV Tuners

Next-Generation Si21x7 TV Tuner Family Debuts as Silicon Labs Reaches New Milestone, Shipping 200 Million Silicon Tuner ICs into TVs

"After launching our first TV tuner in 2009, we reached our 100-million-unit shipment milestone in 2012, and now a year later, we've shipped more than 200 million units, demonstrating an exponential market momentum that no competitor can match"

AUSTIN, Texas--(BUSINESS WIRE)--Silicon Labs (NASDAQ: SLAB), a leader in high-performance, analog-intensive, mixed-signal ICs, today introduced a new family of silicon TV tuners offering the industry's highest performance, integration and lowest system cost while supporting all worldwide terrestrial and cable TV standards. The new Si21x7 tuner family provides TV and set-top box (STB) makers with an unsurpassed level of field-proven, global performance based on five generations of patented architectural enhancements and a production history of more than 200 million silicon tuner units shipped into TVs to date. The Si21x7 family includes five products optimized for hybrid analog/digital iDTVs, analog-only TVs, portable TVs, DVD and Blu-ray recorders, and terrestrial and cable STBs.

The Si21x7 TV tuner family offers the same best-in-class sensitivity and selectivity, reduced bill of materials (BOM) cost and low power consumption that TV and STB makers have come to expect from Silicon Labs, while enhancing performance in several key areas. The Si21x7 tuners improve noise figure (NF) across all bands, return loss for a given NF, channel selectivity in the presence of terrestrial blockers and in a fully loaded and/or tilted cable spectrum, and linearity over an extended RF input power range. Improvements in these key areas deliver enhanced reception of terrestrial or cable broadcasts across a broad variety of real-world field conditions, and they extend Silicon Labs' lead in TV tuner performance over competing solutions.

The highly integrated Si21x7 tuners are designed to enable the lowest BOM cost of any silicon TV tuner solution in mass production. Unlike competing silicon TV tuners, the Si21x7 tuners require no external balanced-to-unbalanced transformer (balun) on the RF input, which significantly reduces system cost and complexity without performance degradation. In addition, the Si21x7 TV tuners integrate all tracking filter inductors, and they eliminate the need for inductive power supply filtering, thanks to built-in high supply ripple tolerance, a key consideration for on-board designs. An integrated power-on reset monitor and optional single 3.3 V power supply operation further reduce system cost. Moreover, the Si21x7 tuners exhibit enhanced electrostatic discharge (ESD) protection and performance on pins critical to TV module designs, removing the need for costly ESD diodes and reducing BOM cost for Tier 1 TV modules that require higher ESD immunity.

The ultra-low-power Si21x7 TV tuners operate at less than 500 mW, helping manufacturers minimize the power consumption of their TV and STB products and achieve compliance with Energy Star and other green energy standards. Low TV tuner power consumption also helps simplify multi-tuner designs by reducing power supply and thermal requirements.

With the growing prevalence of Wi-Fi and LTE communications in the home, it is becoming increasingly important for TV designers to consider the TV tuner's ability to reject these RF signals, which can interfere with TV reception. The Si21x7 TV tuner architecture addresses this need by offering high rejection of Wi-Fi and LTE signals without requiring external filtering components. This built-in Wi-Fi/LTE signal immunity makes the Si21x7 tuners an ideal solution for smart/connected TVs with integrated Wi-Fi and LTE radios.

The ultra-low noise floor at the IF output for Silicon Labs' Si2157 and Si2127 TV tuners enables industry-leading video signal-to-noise ratio (SNR) at the audio/video SoC's analog demodulator output, resulting in a clearer, crisper and less grainy picture during reception of analog broadcasts. The enhanced linearity over an extended RF input power range results in increased carrier-to-composite second order (CSO) and composite triple beat (CTB), which are the most critical specifications for cable mode reception.

As with all Silicon Labs TV tuners, the Si21x7 family supports all worldwide TV broadcast standards including NTSC, PAL and SECAM for analog TV, and DVB-T2/C2/T/C, ISDB-T/C, ATSC/QAM and DTMB for digital TV. To ensure the utmost flexibility in matching TV tuners with various system architectures, all products within the Si21x7 family have compatible pinouts and share a single software API. This compatibility allows a single module or PCB design to address multiple TV and STB applications for both digital and analog TV. The Si21x7 TV tuner family is also pin-to-pin and API-compatible with the Si21x8 family, enabling a smooth transition for existing customers with no hardware modifications and trivial software updates.

"After launching our first TV tuner in 2009, we reached our 100-million-unit shipment milestone in 2012, and now a year later, we've shipped more than 200 million units, demonstrating an exponential market momentum that no competitor can match," said James Stansberry, vice president and general manager of Silicon Labs' broadcast products. "Solidifying our number-one position in the video tuner market, we are now supplying silicon TV tuners in high volumes to nine out of the world's top 10 TV

makers.”

As the silicon TV tuner market share leader whose tuners have been adopted by virtually all name-brand TV makers, Silicon Labs maintains a significant technical and market lead over competing suppliers by delivering a combination of highest performance and lowest system cost. Silicon Labs continues to invest in its TV tuner portfolio, extending the benefits of its state-of-the-art TV tuners to new and existing customers.

Pricing and Availability

Samples and production quantities of the Si2177/57/47/37/27 TV tuners are available now in a compact 4 mm x 4 mm 28-pin QFN package. Pricing for the Si21x7 hybrid TV tuner family begins at $0.85 USD in 10,000-unit quantities. The Si2177-A-EVB, Si2157-A-EVB, Si2147-A-EVB and Si2137-A-EVB evaluation kits, each priced at $395 (USD MSRP), provide comprehensive platforms for evaluating Silicon Labs’ TV tuners for TV and STB applications. For more information about Silicon Labs’ Si21x7 TV tuners and to purchase samples and development tools, please visit www.silabs.com/pr/tv-tuner.

Silicon Labs

Silicon Labs is an industry leader in the innovation of high-performance, analog-intensive, mixed-signal ICs. Developed by a world-class engineering team with unsurpassed expertise in mixed-signal design, Silicon Labs’ diverse portfolio of patented semiconductor solutions offers customers significant advantages in performance, size and power consumption. For more information about Silicon Labs, please visit www.silabs.com.

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