

ICs Provide Entire Automotive Radio Tuner Solution from Antenna in to Audio Out



Silicon Laboratories, a leader in high-performance, analog-intensive, mixed-signal ICs, introduced what is presented as the most highly integrated car radio tuner IC family, incorporating the entire radio tuner solution from antenna input to audio output in a single CMOS IC. Silicon Labs' new automotive-grade Si475x AM/FM receiver family provides unrivaled performance for cost-sensitive automotive radio designs in the high-growth "BRIC" (Brazil, Russia, India and China) markets. Target applications include automotive OEM and aftermarket head units and radio tuner RF modules.

An ISO/TS-16949 certified company, Silicon Labs is a fast-growing automotive semiconductor supplier offering a wide range of mixed-signal IC products for the global automotive market. In addition to its popular automotive-grade AM/FM tuner portfolio, Silicon Labs offers AEC-Q100-qualified microcontrollers with CAN and LIN interfaces for body electronics applications; sub-GHz RF ICs for remote and passive keyless entry (RKE/PKE) and tire pressure monitoring systems (TPMS); capacitive touch sense MCUs and proximity sensors for infotainment systems, center stack control and automotive human-machine interface (HMI); and digital isolators, isolated gate drivers and current sensors for hybrid and electric vehicle battery management.

According to J.D. Power and Associates, "the center of the automotive universe" is shifting to rapidly growing BRIC economies such as Brazil, China, India and Southeast Asia where lower vehicle prices are creating demand for more cost-effective components. Automakers in developed markets including the U.S., Europe and Japan also are looking to optimize cost and performance.

Responding to these trends, Silicon Labs' Si475x AM/FM radio ICs provide a cost-effective yet feature-rich and high-performance solution for the mid-grade

automotive market. Industry-leading integration in a small 5 mm x 5 mm 32-pin QFN package eliminates the need for several costly external components, dropping the car radio tuner bill of materials by up to 50 percent and reducing the external component count by up to 70 percent. This high level of integration is achieved without sacrificing radio performance or functionality.

Silicon Labs' Si475x tuner ICs support worldwide radio band requirements including AM, FM, FM radio data system (RDS), long wave (LW) and short wave (SW), giving car radio developers the flexibility to support a variety of global market requirements with a single design. The tuners incorporate Silicon Labs' patented RDS decoding technology, offering RDS performance superior to any other FM RDS demodulator/decoder available.

The Si475x tuner ICs incorporate high-performance standard automotive features such as selectivity, sensitivity, linearity, impulse noise blanking, weak signal processing and dynamic bandwidth control for suppression of strong blockers. The superior linearity of the Si475x tuner's integrated RF front end, combined with a high-performance on-chip radio DSP and microcontroller, delivers outstanding RF dynamic range and immunity to multi-path fading.

"The Si475x radio tuners are based on our patented digital low-IF architecture shipping worldwide in more than 800 million radios," said James Stansberry, general manager of Silicon Labs' broadcast audio products. "The Si475x ICs are designed to deliver automotive-grade performance and reliability while also providing the signature industry-leading integration and reduction in manufacturing costs that are the hallmark of Silicon Labs' radio solutions."

Pricing and Availability

The Si475x is the latest member of Silicon Labs' growing family of automotive-grade radio tuners, which includes the Si474x tuner family for economy radio applications. Samples and production quantities of the Si475x car radio tuner ICs are available now. Pricing for the Si475x tuner ICs begins at \$8.18 (USD) in 10,000-unit quantities. The Si4757LNA-A-EVB evaluation board is available to automotive customers for \$450 (USD). For additional Si475x product information, please visit www.silabs.com/pr/automotive [1].

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[1] <http://www.silabs.com/pr/automotive>