



SKYWORKS®

AM Interference Canceller (AMIC) Improves AM Radio Enjoyment in Electric/Hybrid Vehicles

Value added capabilities for Skyworks Hybrid SDR Automotive Tuners

AMIC is a proprietary solution that significantly improves spurious radiation issues that make EVs a challenging environment for AM reception. These interference issues have led some EV manufacturers to consider removing AM radio from their designs, eliminating a critical and reliable channel for local, state, and federal public safety announcements. As EV sales surge, automakers worldwide are urged to adopt solutions to minimize electromagnetic interference EVs cause to AM radio signals.

Features

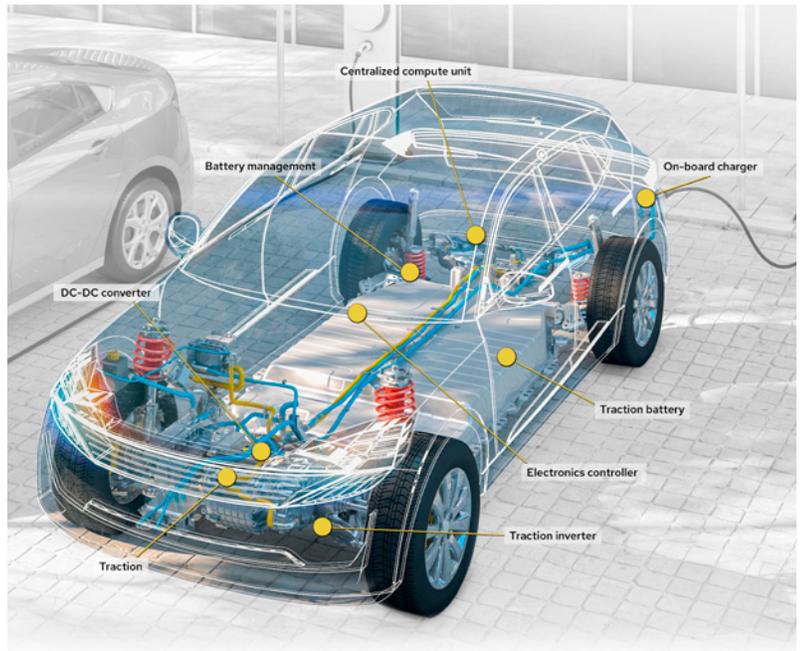
- Mitigates asymmetrical tonal interference
- Leverages I/Q imbalance to identify interference
- Cancels noise sources in either sideband
- Dynamically selects the best signal source for audible frequencies
- Optimizes background scan performance
- Compatible with Software Defined Radio (SDR), cockpit, and Remote Tuner Module (RTM) systems

Benefits

- Removes interference that impacts AM broadcast reception
- Allows EV makers to deploy a dependable receiver essential for public emergencies
- Improves the listening experience for satisfactory AM signals
- Allows access to AM content without employing alternative technologies

How AMIC Works

AMIC is a software-based noise mitigation feature created to augment Skyworks popular hybrid SDR automotive tuner families. The AMIC algorithm leverages the AM property of symmetry in which the upper sideband matches the lower sideband. When AMIC detects interference appearing in only one sideband the interferer is removed and replaced with the frequency content from the opposite sideband.



Performance Highlights

- Suppresses noise from 50 Hz to 5 kHz
- Lab tests with field-like noise show improvement from 5 dB audio SINAD to 20 dB
- Patented performance enhancer becomes a competitive advantage in audio SINAD improvement
- Able to react to noise sources within 10 ms
- No noticeable degradation to AM signal when interference is not present
- Compatible with Skyworks flexible architecture
- Skyworks customers can activate AMIC on select tuner products with a software license and no additional hardware

Skyworks Tuners Supported	Description
Si4796x	Dual hybrid SDR tuner without audio hub
Si4797x	Dual hybrid SDR tuner with audio hub
Si4798x	Single hybrid SDR tuner with audio hub
Software License	
SW479-AMIC-GE01	AM interference canceler software license
Design Assistance	
Si4797x-2DT1F-EVB	Dual hybrid SDR scalable digital radio with audio hub

AMIC is just one of Skyworks multiple AM noise abatement strategies. Other methods include: AM AGC Step Compensation, AM Noise Blanker, Advanced Audio Compression and Servo Mitigation Engines.