A Spectrally-Controlled Low-EMI Class-D Audio Amplifier

by

John Khoury
Silicon Laboratories, Inc.

Abstract: Class D amplifiers were invented many years ago, but are now receiving new interest due to their high efficiency. These switching amplifiers have one major drawback: they generate significant electromagnetic interference that can impede radio reception. This seminar reviews the operation of Class D amplifiers, the digital generation of PWM signals and will describe new signal processing methods created to control and spectrally shape the EMI. Critical mixed-signal design issues with these types of amplifiers will also be addressed. Experimental results from silicon will be reviewed.

John Khoury is a Distinguished Engineer at Silicon Laboratories developing circuits and systems for Class D amplifiers, FM receivers and TV tuners. Previously, he has held various engineering and management positions at Bell Laboratories and Multilink Technology Corp (purchased by Vitesse). In the mid-1990s, John was an Associate Professor of Electrical Engineering at Columbia. He earned the B.S. and Eng.Sc.D. degrees from Columbia and the S.M. degree from MIT.