Andrew Macko, Magna Electronics | Shielding Techniques to Prevent Coupling from a Near-Field Automotive Antenna

Abstract

This presentation illustrates the EM effects from a Near-Field Antenna irradiating onto an Electronic Device and Circuitry. Many OEMs specify ISO 11452-9. This recommended procedure uses a specially-design antenna to expose electronic products to the radiation effects from hand-held transceivers. The frequency range encompasses transceivers from 360 MHz - 2.7 GHz. The problem description models the antenna to produce the virtual field for simulation. This is followed by the steps necessary to minimize overall simulation time. Early simulation outputs provide insight to the problem, as well as, some of the necessary shielding techniques to ameliorate the coupling to the susceptible circuitry. While not complete in showing the final solution the presentation details some of the necessary steps for a complex EM simulation.