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Electromagnetic interference and electromagnetic compatibility

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Abstract

The world is full of electronic and electrical equipment, in addition to many structures that involve electrical and electronic components such as airplanes, cars, tanks, and weapons. It is of primary importance that these devices operate in harmony such that no equipment interferes with or affects the operation of other equipment. In order to eliminate interference, electromagnetic compatibility is essential. Various countries all over the world have adopted regulations that enforce the manufacturers to adhere to minimum levels of emissions from their equipment. Every product should be tested for compliance with the relevant EMC regulations before being offered for sale. Thus, manufacturers should consider EMC principles during the design stage of a product in order to reduce expenses and to improve the marketability of the product. This paper addresses all these issues.

Biography

Mohammed Saleh Al Salameh is full professor- since 2004- in Electrical Engineering at the Jordan University of Science and Technology and he was the Dean of Scientific Research at the American University of Madaba. He obtained his PhD degree with honours in Electronic Interference/Compatibility, University of Ottawa, and Ottawa, Canada. He was a faculty member in the Hashemite University in Jordan and he was senior researcher in the Royal Military College, Kingston, Canada. He also worked in the communications sector for six years. During his study in Ottawa, he was the President of Graduate Students' Association. He is the author of many international refereed Journal papers as well as conference papers in addition to books. He has supervised and graduated several PhD and MSc students. His research interests include electromagnetic compatibility EMI/EMC, bio-electromagnetics, minimization of human exposure to fields and radiations, EMP interaction, coupling and shielding, crosstalk, satellite communications, neural networks, optical fibers and integrated optical waveguides, unconventional microstrip circuits, dielectric resonator antennas (DRAs), radar sensing, printed circuit boards, VLSI interconnects, radio-wave propagation in various environments, and computer modelling for real-world problems. He is also developing numerical methods, such as the finite element method, finite difference method, and method of moments, for practical EMI/EMC applications. He is an expert in the field of the health effects of electromagnetic energy.

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