Designing of PCB for EMC

Preamble :

Electronic gadgets have proliferated in every area of our day to day lives. Incorporation of switching devices within circuits have led to faster responses and attractive performances of product but has also resulted in such problems like **Electromagnetic Interference (EMI)**.

EMI/EMC compliance is an essential requirement of various international certifications. Many industries and government departments are demanding EMI/EMC compliant products.

Objective :

To comply for EMC, one requires a thorough understanding of the phenomenon. PCB design enables engineers and designers to efficiently meet the demands of new technologies that require multilayer & high-speed design, advance packaging, design reuse, and more.

The objective of this program is to learn signal integrity & high speed design aspects for Electromagnetic Compatibility (EMC) at board level.

Duration : 1 Day

Who should attend :

The Managers, Engineers and professionals involved in PCB Design, Production & Quality Assurance of Electronics, Electrical, Electromechanical, Computers, Telecommunication, Medical Electronics, Power Electronics, Lighting Equipments & I.T. Products.

The course is highly relevant for designing of critical electronics controls used in automobile, space, defence, railways and similar industry.

COURSE CONTENTS :

- Fundamentals of EMI / EMC
- Overview of EMC Design in respect of PCBs
- PCB Structure
- Use of power & ground planes
- Use of parallel plane pairs
- Routing traces close to plane
- Loop: Loop area/Where's the loop
- Digital & Analog Circuits on PCB
- Shielding of PCB
- Reflections & Transmission lines
- Propagation & critical length
- Transmission line terminations
- Guidelines for design & layout of high speed logic PCBs
- High speed routing on high density PCBs
- Effect of vias on PCB traces
- Splitting planes for speed & power
- Do's and Don't for high speed design

Course Methodology :

The Participant's will learn about the importance and intricacies of EMI/EMC while designing the PCBs. The course is awareness type and will include the lectures and discussion on cases studies with suitable examples.

Participants are awarded a Certificate.