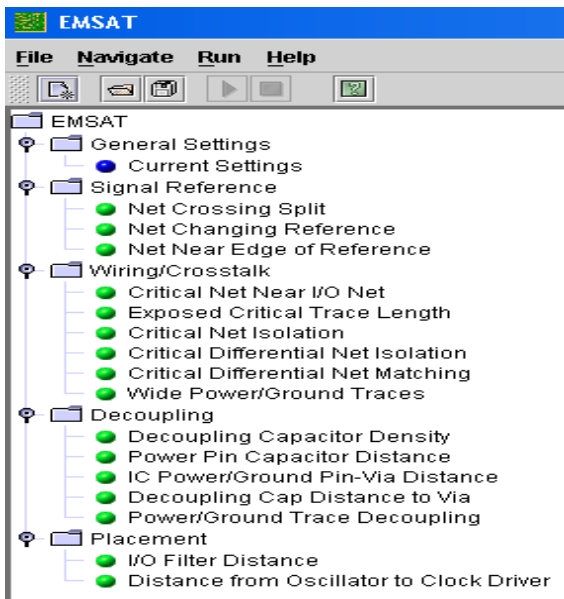


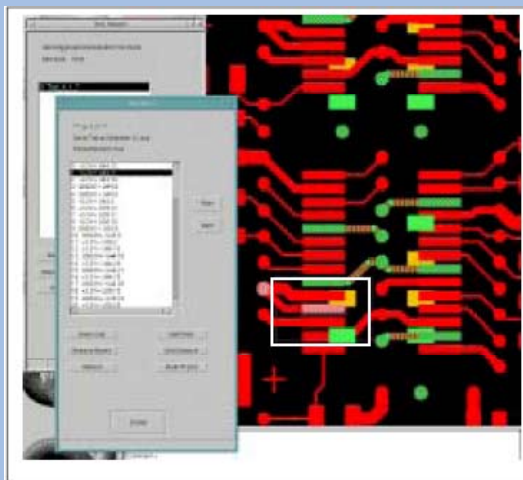
An EASY-TO-USE EMC Rule Checking Program



Major Product Benefits:

- Quick analysis without simulation overhead
- Relieves tedium & reduces human error
- Most important EMC rules provided to start
- False reports are minimized with user controls and advanced rule logic
- Import all popular board files with EMSAT-UV
- Tightly integrated within Allegro environment
- Highlighted violations viewed with EMSAT-UV for non-Allegro board files

EMSAT is an EMC rule checking program that reads all popular board files and checks the PCB design against a suite of EMC rules provided by IBM. The user can designate various nets/components that are critical for EMC, such as I/O nets, power/ground nets, clock nets, and decoupling capacitors. EMSAT relieves the tedium and removes the human error by examining each EMC critical net in turn to check that it does not violate any of the selected EMC design rules. After the rule checking is completed, the EMC rules violations can be viewed graphically in Allegro, EMSAT-UV, or as an HTML document.



Why Use an EMC Rule Checker?

The world of EMI/EMC compliance has become more important than ever before, due to

the higher speed electronics in lower cost packages. Designs must be cost effective and must pass regulatory requirements the first time through the design cycle. The EMC performance of a printed circuit board is heavily influenced by the physical location of the various components and the location of critical nets. Manual checking of multiple layers in today's high speed circuit boards is extremely time consuming and prone to human error. The traditional try-it-and-see approach usually results in products that fail the EMI/EMC requirements, generating multiple design passes before the requirements are met. This iterative design process not only costs extra money, but can also delay product launch, which is often a much bigger impact to company profits.

“IBM Knows EMC”



Example EMSAT Violation View with Highlighting Box

What is EMSAT?

EMSAT is a state-of-the-art program optimized to provide fast and accurate reporting of any EMC violations on a printed circuit board design. Users may tailor the various parameters for each rule for their particular design goals. Each EMSAT rule may be optimized for unique board designs, accommodating a wide range of PCB and IC package technologies.

What are EMC Design Rules?

EMSAT uses the most important EMC printed circuit board (PCB) design rules. Each of these design rules have been completely analyzed using full wave simulation tools, laboratory testing, and finally, real-world product testing. IBM has enjoyed enormous success in passing EMC requirements the first time in the test chamber.

EMSAT rules include:

- Signal Reference rules
- Wiring and crosstalk rules
- Decoupling power/ground rules
- Component placement rules
- Customization potential

EMC Rule Violation Viewing

Once violations are found for a PCB, the ability to find those violations efficiently is vital to completing the design on-time. Violations can be graphically viewed either in Allegro or in **EMSAT-UV**, the companion product to **EMSAT**. **EMSAT-UV** provides a universal violation viewer for most popular board layout files in which the user clicks on a selected violation, the board view is zoomed to the location of the violation, and either the net is highlighted, or a highlight box is drawn around the violation, as appropriate. Also, Allegro users will appreciate the tight integration with the Allegro PCB Editor.



Example EMSAT Violation View with Highlighted Net

Operating Systems

EMSAT is supported on Windows2000/XP, Linux and AIX.