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…from Simberian Inc.

Welcome to the latest edition of Simberian News!

Design rough and Ni-plated interconnects with confidence…

Simberian continues to lead in innovative electromagnetic analysis of interconnects. The results of two projects on roughness and nickel characterization have been reported this month in two papers at IEEE EMC 2012 symposium in Long Beach CA. **The unique measurement-validated roughness and nickel models discussed in the papers are exclusively available in our two-time DesignVision award winning Simbeor 2011 software.** Simbeor simply beats the competition when it comes to innovative measurement-validated interconnect models.

Together with Isola Group we have developed and reported a **new conductor surface roughness characterization methodology that can be used to separate effect of roughness and dielectric on both attenuation and group delay**. The proposed roughness models are validated with measurements up to 50 GHz. Substantial increase of interconnect capacitance due to roughness has been reported and modeled first time for PCBs (capacitive effect of roughness was discovered as in microelectronics a few years ago).

During a recent material characterization project with Teraspeed Consulting Group, **we have developed and validated a new model for nickel layer in nickel-plated interconnects (ENIG finish)**. A resonance between 2-3 GHz in nickel-plated interconnects has been discovered and attributed to nickel electrical properties. The resonance was noticed earlier in some publications, but never accurately modeled. It was shown that Landau-Lifshits model for nickel provides good correlation with measurements and can be used to design ENIG finished interconnects with confidence up to 40 GHz.

Download and try Simbeor today, or let us know if you would like to have an overview and demo of Simbeor at your company site or over the internet. The EMC papers and presentations are available in publications and presentations sections of our knowledge base site. Click here to see the latest demo-videos on design exploration, industrial S-parameters quality assurance and macro-modeling. For more information on product pricing and availability, contact Simberian at info@simberian.com.

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