![Simberian Electromagnetic Solutions]

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…from Simberian Inc.
Welcome to the latest edition of Simberian News!

In this issue: Broad-band SPICE macro-modeling without limits

Did you know that Simbeor 2008.01 contains rational compactor for approximation of tabulated Touchstone models with the <u>continuous rational compact</u> and <u>broad-band (BB) SPICE macro-models</u>? S-parameter component models are becoming ubiquitous both in microwave & RF and in high-speed signal integrity applications. Usually the models are results of either measurements or electromagnetic analysis available in tabulated Touchstone model files. The best way to use such models in a circuit simulator is to convert them into rational compact or BB SPICE macro-models. Simbeor contains powerful and reliable engine for the rational approximation of Touchstone models. Macro-models of passive components built with Simbeor are causal and passive by construction. It restores the DC point. The accuracy of approximation is explicitly estimated and visible in the frequency domain, unlike in the applications with the conversion of S-parameters into a pulse response where all approximation errors are hidden. Examples of macro-models built with Simbeor are ranging from **connectors and packages with hundred of ports to complete electrically long differential channels with backplanes and twin-ax coaxial cables** – <u>click here to see a demo of a complete serial channel macro-modeling</u>.

Simbeor can be also used to **estimate and enforce passivity, causality, reciprocity and geometric symmetry on S-parameter models**. Just one number on from 0 to 100 is conveniently used as the quality metric for each estimated quality parameter. The quality measures can be also plotted as functions of frequency. <u>Click here to read more on that</u>.

New demo-videos on rational macro-modeling and on semi-automatic de-compositional analysis of PCBs are available at the <u>Demo Videos</u> section of our webs site.

New application notes on application of rational macro-models to broad-band TDR analysis of t-line segments, on design of minimal-reflection localizable via-holes, and on benchmarking of Simbeor are available in the <u>App Notes</u> section of our web site.

Our customers say that "Simbeor's rational compactor beats the competition both on the performance and price" – <u>click here to see the licensing options</u>**.** <u>Download and try Simbeor today</u>, or let us know if you would like to have an overview and demo of Simbeor 2008.01 at your company site or over the webex.

Sincerely,
Team Simberian

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