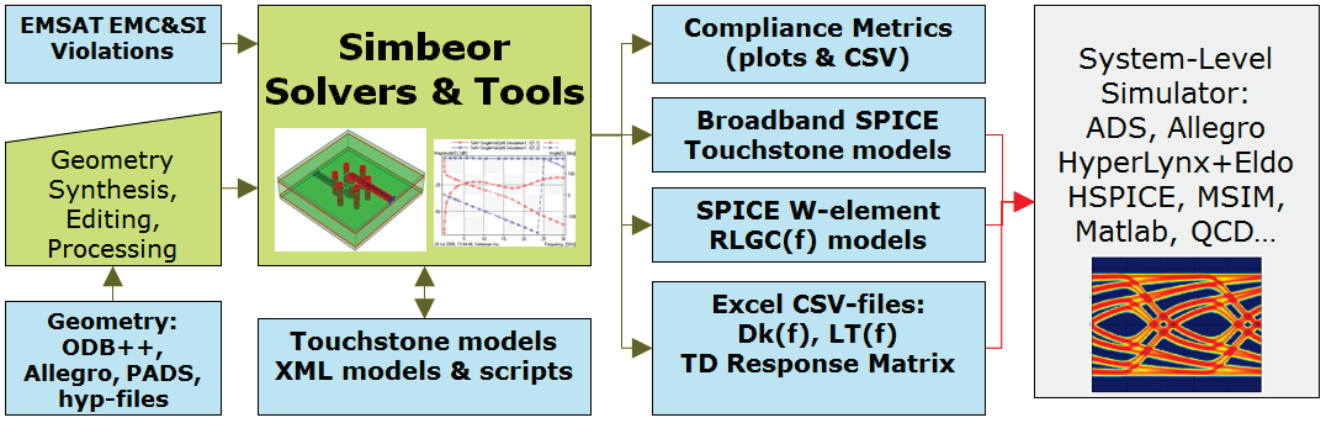
Simbeor® THz

Electromagnetic Signal Integrity Software™

Supports systematic interconnect design flow that guaranties the analysis to measurement correlation!

Simbeor THz is accurate, productive and cost-effective electromagnetic signal integrity software for pre and post layout analysis of PCB/packaging interconnects with 3D full-wave models. Accuracy of the analysis in Simbeor is formally and independently validated with measurements. **Simbeor THz provides unique systematic approach to the interconnect design** that starts from dielectric and conductor roughness model identification and guaranties the analysis to measurement correlation at the end. Simulation of data links with the electromagnetic models in Simbeor THz eliminates uncertainties of simplified models and guaranties the first pass design success.



Use Simbeor THz for…

- PCB and packaging interconnects budget exploration (pre-layout) and design verification (post-layout) with advanced 3D full wave decompositional frequency and time domain compliance analyses;
- Synthesis of geometry for impedance controlled transmission lines and minimal reflection via-holes;
- Advanced electromagnetic modeling of transmission lines, via-holes and discontinuities in data links;
- Building rational compact and broadband SPICE macro models for consistent time and frequency domain analyses of interconnects, connectors, packages, and complete data links;
- Automation of S-parameter models quality assurance and all macro modeling tasks;
- Identification of broadband models for dielectrics, conductive materials and roughness;
- De-embedding of test fixtures;
- Clarifying doubts about results obtained with measurements or with your current EM or SI tool;

Accurate, productive and cost-effective software for physical design of PCB and packaging interconnects operating at 6-100 Gbps and beyond

Simbeor THz Electromagnetic Signal Integrity Software™

Accurate	**Formally validated with measurements from DC to 50 GHz for analysis of 28-32 Gbps (NRZ) links** Causal dielectric dispersion and loss models with anisotropy and weave effects Analysis of regular and multilayered conductors with unique models for nickel and surface roughness **Unique broadband material parameters identification with accurate patented algorithm** Unique macro modeling capabilities for consistent frequency and time domain analyses with S-parameters
Productive	**Electromagnetic analysis accelerated with multi-level local and distributed parallelization** **Unique post-layout decomposition electromagnetic analysis in Board Analyzer™ tool** Fast and accurate frequency, TDR/TDT, PRBS and compliance analyses of interconnects Fast synthesis of geometry for single and differential t-lines and via-holes with Via Analyzer™ tool Automation of S-parameters quality assurance and all macro modeling tasks with Touchstone Analyzer™ tool Fast interactive tuning and optimization of via geometries, material models and linear networks in SiTune™ tool Analysis acceleration with **distributed computing** **Easy-to-learn and easy-to-use**
Cost-Effective	**#1 in price-performance (accuracy and productivity)!**

System requirements

- Windows 7/8/10 (64-bit preferable) and compatible operating systems
- 1.5 GHz or faster processor with 16 GB memory, multi-core 2-3 GHz systems with 64 GB memory are preferable
- 3D graphic card with OpenGL 2.0 support

Support

Simberian engineers can answer your technical questions by e-mail support@simberian.com. They can also provide technical assistance and online training on demand. Simberian Knowledge Base www.kb.simberian.com gives you answers to your technical questions – 24 hours a day, 7 days a week.

Features and Prices (USA)

Features\Simbeor License Type	**Viewer** (free)	**Qualify** (no 3D EM)	**Explore** (3DML, pre-layout)	**Complete** (3DTF, post-layout)
Max number of external ports in linear networks and rational macro-models (frequency and time domain analyses, final quality metric for S-parameters)	4	16	32	1024
S-parameters quality assurance in ***Touchstone Analyzer***™	X	X	X	X
Linear network analysis in frequency and time domains	X	X	X	X
Transmission line and via-hole wizards	X	X	X	X
Violation Browser™ for **EMSAT rule checker**	X	X	X	X
GMS-parameters extraction for material characterization	-	X	X	X
Gamma extraction with **SPP Analyzer**™ for material characterization	-	X	X	X
Integrated cross-talk computation with **ICN Analyzer**™	-	X	X	X
Test fixture S-parameters extraction for **de-embedding**	-	X	X	X
T-line analysis with quasi-static field solver **Simbeor SFS**™	-	X	X	X
Geometry synthesis with ***Via Analyzer***™	-	X	X	X
Optimization in ***SiTune***™ (material identification, linear networks, vias)	-	-	X	X
3D EM field solver for layered geometries **Simbeor 3DML**™	-	-	X	X
3D EM field solver **Simbeor 3DTF**™ with EM fields visualization	-	-	-	X
PCB geometry translators from **ODB++, hyp, brd/mcm files**	-	-	-	X
Post-layout analysis (geometry extraction) in ***BoardAnalyzer***™	-	-	-	X
1-year License Fee (1 network seat or node-locked)	**free**	**$1,500**	**$4,500**	**$7,500**

1 network license allows use of 2 Simbeor Computational Agents for acceleration with distributed computing. Technical product support and software updates are included in all term licenses. Perpetual license includes 3 years of support and software updates. To continue support and updates after 3 years with perpetual license, regular annual licensing fees are applicable. **Complete** license includes online training classes on demand. **Request quotation for other licensing terms from sales@simberian.com**

For more information and to order Simbeor software

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