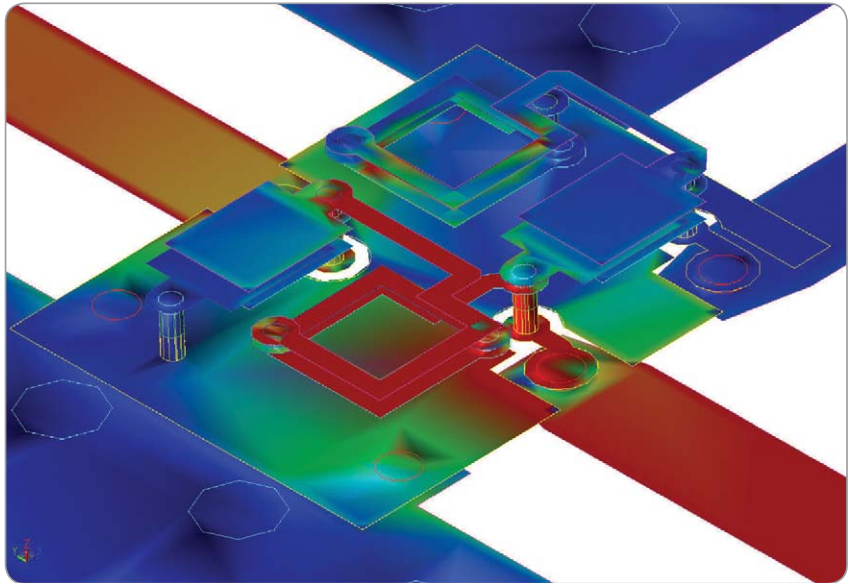


Agilent EEsof EDA

W2341 Momentum G2 Element

W2343 Momentum Turbo Element



Surface current visualization in Momentum G2 pinpoints the location of unwanted resonance or coupling in 3D planar components.

Momentum G2 is the improved, second generation release of the powerful Momentum 3D planar electromagnetic simulator from Agilent EEsof EDA, the technology and innovation leader in high-frequency high-speed electronic design automation (EDA). Momentum G2 is seamlessly integrated into the Advanced Design System (ADS), the only design simulation platform that enables the co-design of IC, package and board in high-frequency and high-speed applications. It seamlessly integrates system, circuit, and full 3D electromagnetic simulation with Agilent's test instrumentation, resulting in repeatable, first-pass electronic design success.

Momentum G2 is an advanced Method of Moment (MOM) 3D planar electromagnetic simulator. It is enhanced with the latest NlogN and multi-threading solver algorithms to deliver the fastest and highest capacity 3D planar EM simulation possible. It is integrated with ADS and allows electromagnetic simulation along with circuit and system co-simulation or co-optimization to account for proximity or radiation effects of planar structures such as traces or printed antennas. Visualization of the results in terms of surface currents or radiated fields provides insight that helps determine the location of problem areas.



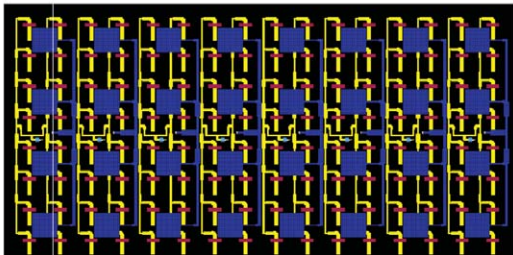
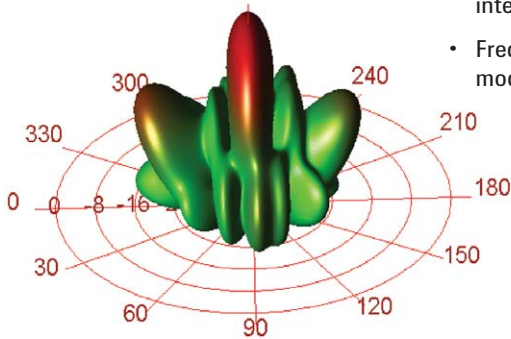
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Momentum G2 is paired with Agilent's parameterized passive model generation capability, Advanced Model Composer (AMC). AMC allows you to create EM based custom libraries of planar 3D models such as transitions, discontinuities or passive components not available in the standard simulation libraries because of novel geometries or dimensions beyond the range of validity. AMC libraries retain the accuracy of EM simulation but simulate and optimize at the speed of circuit simulation through smart interpolation across the parameterized EM database.

Momentum Turbo further accelerates the simulation of Momentum G2 by over 6x through parallel computing on up to eight nodes of a compute cluster. This is especially useful for large simulations of complex boards or packages for signal integrity applications.

The Momentum G2 Element includes:

- Method of Moment (MOM) 3D planar electromagnetic simulator engineered for speed and capacity through advanced NlogN solver technology.



Use Momentum Turbo to quickly analyze large planar phased-array antennas through multi-threaded parallel simulation with optimized NlogN algorithm and adaptive frequency sweep.

- Multi-threaded 32 or 64-bit simulation using up to eight threads for additional speed.
- Advanced Model Composer to create custom parameterized EM-based component libraries for fast simulation and optimization.
- Visualization of surface currents and planar antenna radiation in 3D space.
- Optimization of parameterized geometries together with circuit and system components.
- Generates layout look-alike components in schematic for error-free hookup with circuit or system components.
- User selectable microwave full-wave or faster RF quasi-static mode EM simulation.
- Adaptive frequency sweep to automatically and quickly find all resonant frequencies across the full simulation frequency band.
- Arbitrary polygonal meshing with adaptive mesh reduction for optimal speed, accuracy, and capacity.
- SI/PI Analyzer with easy setup of net-based, connection-oriented simulations for signal and power integrity
- Frequency-dependent dielectric loss model
- Advanced conductor surface roughness model
- Efficient bond wire model
- Efficient via model
- Thick metal analysis of side wall currents and couplings.
- EM excitation from any circuit or system simulation node.
- Drive Momentum Turbo (E8919) parallel simulations on compute clusters for over 6x additional acceleration.

Momentum G2 requires the Layout Element W2321 as the 2D drawing environment.

Momentum Turbo Element details:

- Distributes a frequency sweep over up to eight nodes of a computer cluster.
- Requires separate compute cluster management system such as LSF and SunGrid.
- Requires Momentum G2 as the master simulator.

Unlike other planar stand-alone EM simulators with restrictive rectangular grid meshes or socket-based integration with inconsistent user interfaces, Momentum G2 and Momentum Turbo provide the most efficient and fastest 3D planar EM simulation capability, integrated with Advanced Design System through a common design entry, simulation and optimization user interface. This guarantees you to consistently deliver optimal designs at peak efficiency.

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