Join the growing community of satisfied HFWorks users who have used HFWorks to perfect their products

- Connectors
- Adaptors
- Transitions
- Waveguides & Cables
- Cable assemblies
- Attenuators
- Dummy loads
- Terminations
- Wire Antennas
- Printed antennas
- Horn antennas
- Aperture antennas
- Reflector antennas
- Feed networks & beamforming
- Antenna arrays
- Radomes
- Baluns
- Filters
- Couplers
- Power combiners splitters
- Lightening arresters
- Resonators
- MMIC passives
- High speed digital interconnects
- Magic Ts
- Orthomode transducers
- Metamaterials
- Magnetrons
- Radar/RCS
- EMI/EMC
- Biomedical applications
- RF MEMS

System requirements

- SolidWorks 2009 or higher
- Microsoft® Windows (64-bit Version) XP, Vista or 7
- Intel® or AMD® based Desktop or Laptop
- 4 GB RAM Memory or greater
- Pointing device
- DVD drive

8300 St-Patrick Street,
Suite 300
Montreal, Quebec
H8N 2H1 Canada

Phone: (514) 634-9797
Fax: (514) 613-0013

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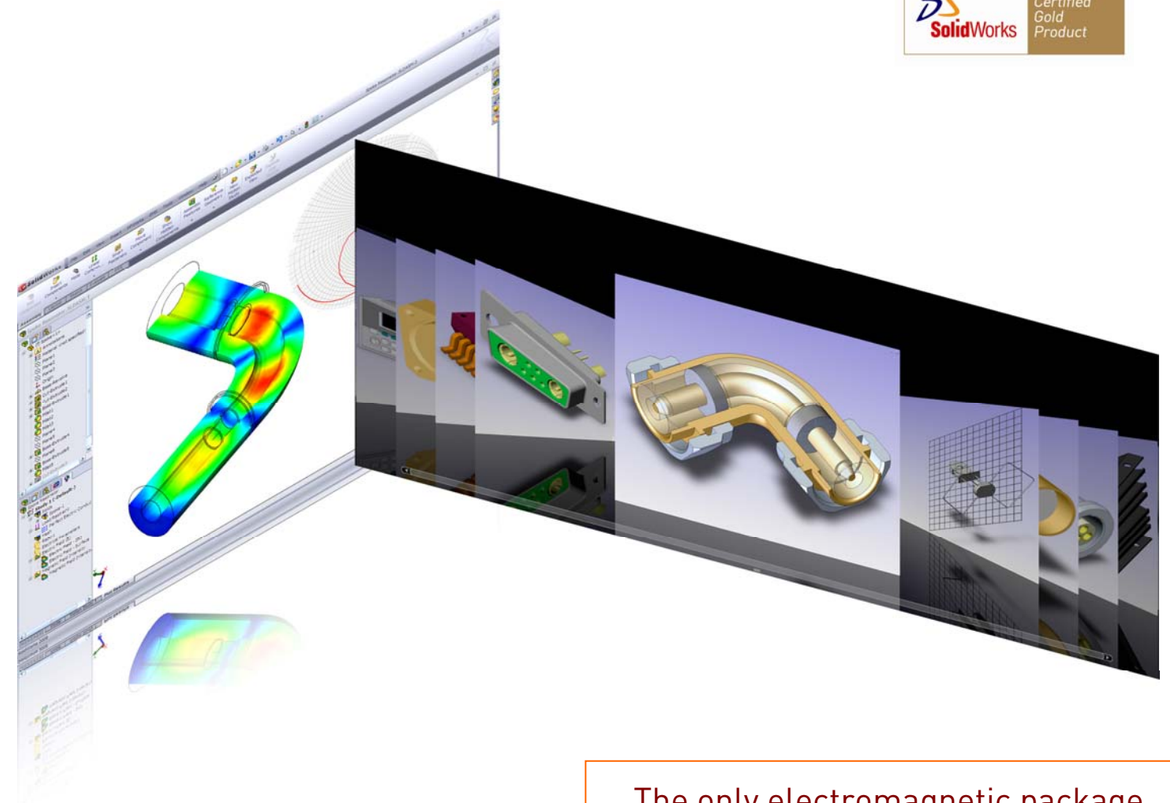
HFWorks

High Frequency Design Made Simple



3D fullwave field simulation for RF, Microwave and millimeter wave applications

The only electromagnetic package fully embedded inside SolidWorks®

Accurate
Powerful
Easy-to-use

The ultimate workbench to test your design ideas!

The original high frequency field simulation package developed exclusively for SolidWorks® users

Resonance

Does your design require careful attention to **resonance**? Are you designing a **resonator**? Do you need to know the **quality-factor** of your resonant structure? Do you need to separate **conductor** and **dielectric losses**? What about optimizing **pole-zero** placement for your **filter design**? How does changing materials/ geometry impact your **resonator/filter** design?

S-Parameters

Do you need to know what the **input impedance** of your structure is? How is its **return loss** over frequency? Is the **insertion loss** acceptable? Are you concerned about **coupling / isolation** in your design? Do you want to make sure that you do not have **mode conversion** in your structure? What about **cross-talk** and **signal integrity**?

Antennas

How well will your **antenna** radiate? What is its **radiation pattern** and how does it vary over frequency? Do you need to reduce **side lobes**? What are its **gain, directivity** and **input impedance**? What is its **radiation resistance**? What about **polarization, axial ratio** and **front/back ratio**? Do you need to make sure your design meets **EMI/EMC** norms?

Scattering

Are you interested in **radar cross-section (RCS)** calculations? Do you need to solve **plane wave incidence** problems? Are you concerned about **electromagnetic pulse (EMP)** penetration into enclosures? Is your design's **susceptibility** to incoming waves of concern to you? Does your application call for **ground penetrating radar** and electromagnetic detection of **buried objects**?

1 ANSWER: HFWorks

Versatile ■ Powerful ■ Affordable

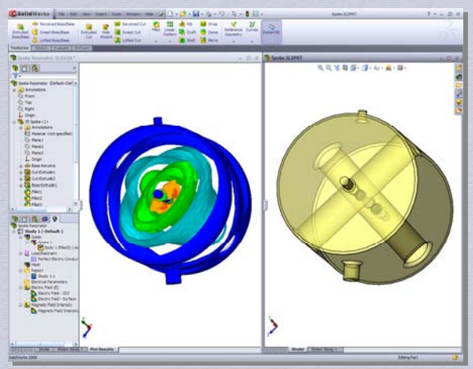
Specify materials and excitations and let HFWorks do the rest.

Materials
- Built-in extensive library
- User-definable

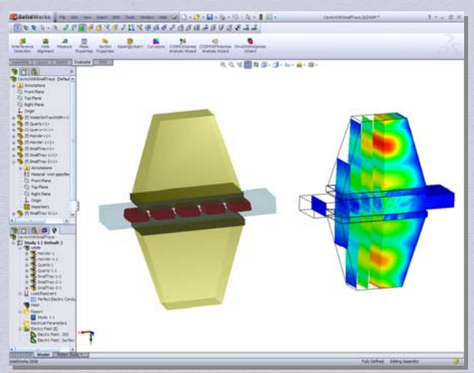
Excitations / Boundary conditions
- Ports
- PEC/PMC
- Absorbing
- PML

Use HFWorks's visualization tools to help you gain insight into your design and to validate your work.

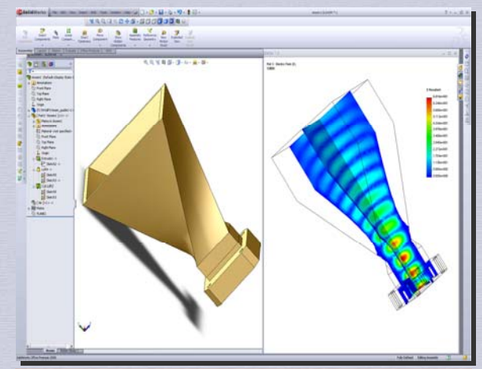
Results: data & visualization
- Electric field
- Magnetic field
- S-parameters
- Antenna gain
- Quality factor
- Input impedance
- Custom HTML reports
- Vector/Contour/Shaded/Section/Iso plots



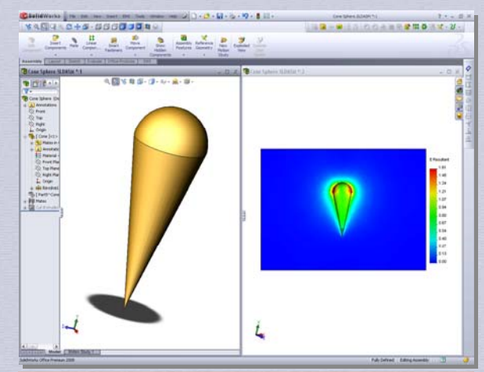
Resonance analysis – spoke cavity



S-parameter analysis – microwave heating

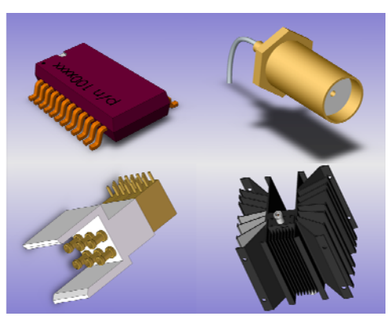


Antenna analysis – twisted horn antenna



Scattering analysis – spherical cone

SOLIDWORKS INTEGRATION



HFWorks allows you to leverage the full power of **SolidWorks** to bring your design experience to a whole new level.

Because it is fully embedded inside SolidWorks, HFWorks allows you to enhance your productivity and your design experience. In this powerful design environment you will be able to:

- Construct complex 3D models in record time.
- Import designs in a wide range of popular CAD formats.
- Exploit advanced visualization and rendering technologies that bring unprecedented realism to your models.
- Generate engineering drawings and CAM-ready files quickly and automatically and share your designs with your mechanical engineers.
- Shorten product design time and lower design cost.

KEY FEATURES

Design Tables | **Parameterization** | **Multiconfigurations**

- Quickly and efficiently compare alternative designs and choose the optimal one for final production.
- Drag and drop to create and clone analysis studies.
- Easily model air parts and gaps using features like molds and cavities.
- Easily apply metallization in printed circuit boards using split surfaces.
- Share your HFWorks models with mechanical, thermal and fluid flow analysis packages inside SolidWorks for multi-physics applications.
- Combine **HFWorks**, **EMS** and **CosmosWorks®**, all inside the **SolidWorks** environment to analyze **RF MEMS**.

With HFWorks & SolidWorks, RF, Microwave and Wireless design has never been this easy!