

Datasheet

AntSyn for Antenna Synthesis

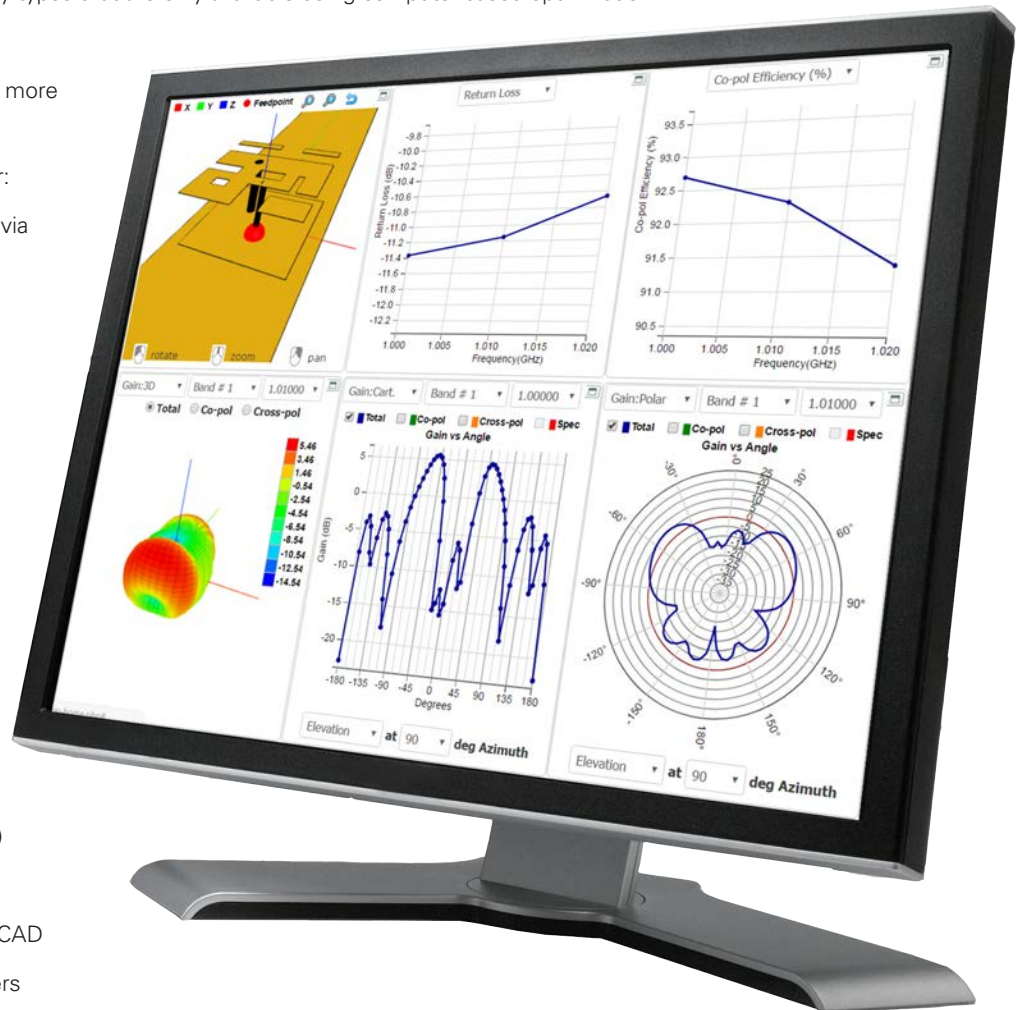
Overview

The growing demand for wireless connectivity and remote sensing requires antenna solutions customized for optimal system performance, cost, and size. Satisfying multiple performance metrics such as impedance matching, gain, radiation efficiency, and operating bandwidth is a time-consuming process involving numerous iterations and a significant amount of design knowledge. With the expected demand for design experience greatly exceeding the current supply of antenna engineers, an alternative approach such as AntSyn™ is warranted.

AntSyn is a cloud-based Software as a Service (SaaS,) automated antenna design, synthesis, and optimization tool that takes antenna engineering requirements as input and produces antenna designs as outputs. AntSyn was designed to be used by all levels of experience, from experts to those who are relatively new to antenna design.

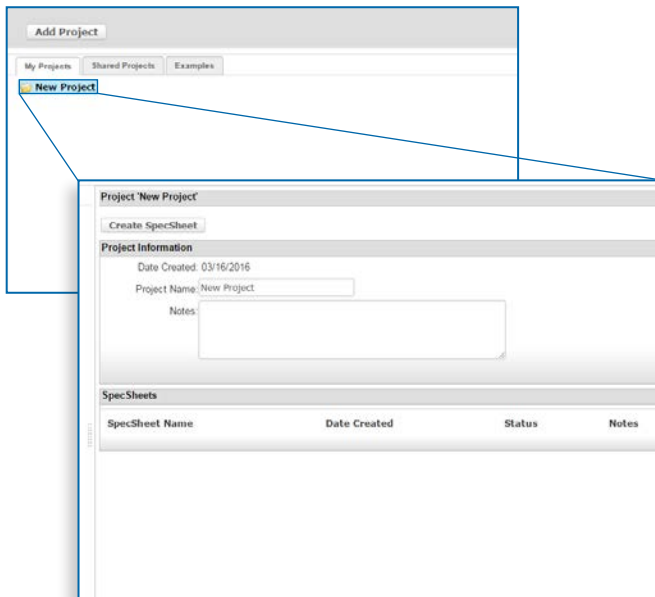
Features at a Glance

- The self-guiding templates are intuitive and easy to use, supporting dozens of antenna types ranging from spirals to patch antennas to Yagi and Vivaldi styles, including many types that are only available using computer-based optimization
- Browser-based interface
- Cloud-based execution for faster and more efficient design space exploration
- Proprietary evolutionary algorithm for:
 - Improved antenna performance via smart optimization
 - Exploring novel design options
- Diverse range of antenna types
 - High-efficiency
 - Handset
 - Loaded
 - Electrically small
 - Phased-array
 - Multiband
 - And more
- Data export to:
 - AWR Design Environment™ (Microwave Office and Analyst™)
 - ANSYS and CST
 - STEP, DXF, SolidWorks and FreeCAD
 - Excel for performance parameters

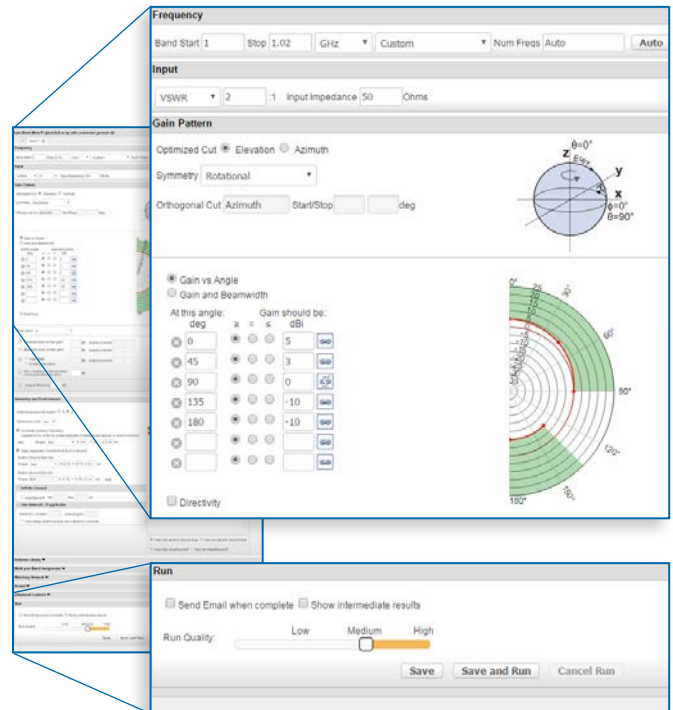


How it Works

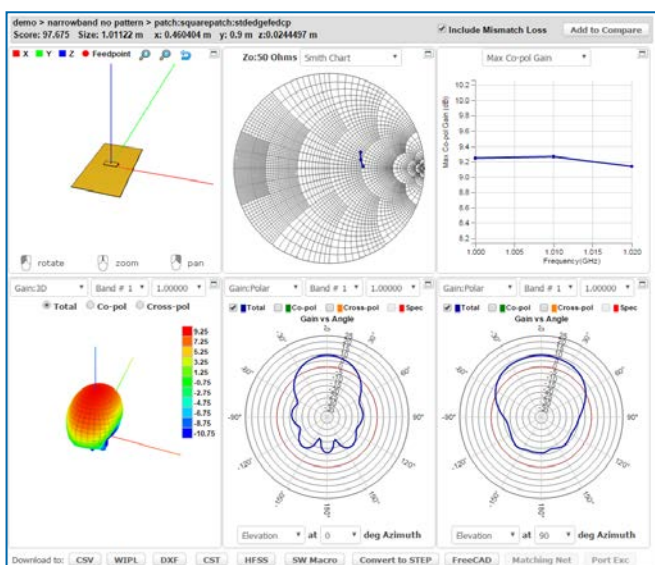
Step 1. The antenna design process in AntSyn is intended to be relatively simple. The first of four steps is to create a project and spec sheet.



Step 2. Input antenna specifications such as frequency band, target impedance match (return loss), gain pattern, and more into the spec sheet and run.



Step 3. AntSyn returns one or more optimized antenna designs. The results such as voltage standing wave ratio (VSWR), return loss (dB), complex impedance (Z), max gain vs. frequency, and more are then viewable in a customizable dashboard for rapid evaluation. Additionally, multiple design results can be added to a Compare page where graphs are overlaid for more detailed analysis.



Step 4. Finalize design selection and export to realize end-system design within AWR Design Environment or your preferred EM simulator.

