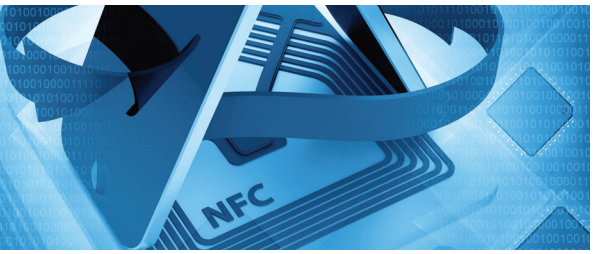


OPTENNI

Success Story

www.optenni.com

COJOT

MORE THAN ONE WAVELENGTH

COJOT Speeds Up Antenna Matching with Optenni Lab

Company Name
COJOT Oy

Contact
Petri Rautio, RF Designer

Application
Wideband Antenna Solutions

Company Profile
Founded in 1986, COJOT has established a first class reputation for delivering field proven quality equipment on time. COJOT designs and develops omnidirectional VHF/UHF/SHF wideband antennas and accessories for mobile tactical communication, electronic warfare and spectrum monitoring applications. Motivated by the need for wider bandwidth in RF systems, our years of design, development and manufacturing experience has enabled us to offer the highest technological excellence to protect lives and property in the most hostile environments throughout the globe.

More Info
www.cojot.com

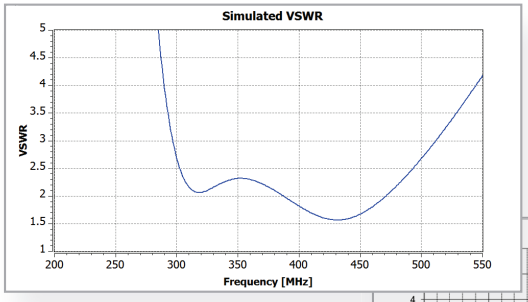
The Design Task

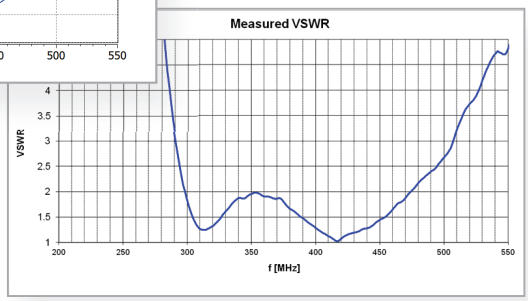
COJOT was set to design a portable radio dipole antenna operating at 300 - 500MHz. Integration on PCB substrate was chosen due to easy integration, robustness and cost. The antenna was specified to deliver up to 20W output power, and the VSWR was required to be less than three over the whole operating band. Meeting the design target required implementation of a carefully chosen matching circuit, which was designed with Optenni Lab™.

The Optenni Solution

The matching circuit design using Optenni Lab's discrete component libraries was straightforward, and proved to be very accurate. The radiator was first designed and roughly optimized in CST Studio Suite. Then the simulation data was sent to Optenni Lab for matching circuit synthesis. The matching circuit was then automatically sent back to CST Studio Suite, closing the optimization loop. After a few co-optimization iterations the final design was ready for prototyping.

Overall Optenni Lab was simple to use, and the link to CST Studio Suite simplified the design flow. Optenni Lab speeds up antenna design, making this tool a must for all antenna designers.





The simulated VSWR results matched very well with measurements.

"We completed the antenna design task in record time, and the measured VSWR results agreed very well with the simulated results from Optenni Lab. Even with a simple antenna the choice of matching topology can be tricky, while Optenni Lab automatically provides a few best performing topologies, and optimizes them using the vendor components. This speeds up the design work considerably."

Petri Rautio, RF Designer, COJOT