

Mimix

BROADBAND™

Microwave Office Success Story

Mimix uses Microwave Office to successfully design industry-leading 35-45 GHz receiver

Customer Background

Mimix Broadband, Inc., an ISO 9001-registered company, designs, develops and supplies high performance gallium arsenide (GaAs) semiconductors from DC to 50 GHz for microwave and millimeter-wave wireless communications applications - as bare die or in surface mount packages.

Mimix has assembled a team of world-class scientists focused on the development of state-of-the-art semiconductors for the last decade. The Company also leverages strategic partnerships for manufacturing, in order to expedite the time-to-market cycle and meet market requirements.

Due in part to its recent acquisition of Celeritek, Mimix offers a highly diversified product line that serves the top tier telecom, satellite and defense companies. Mimix combines its design capabilities in complete communications systems with semiconductor device expertise to deliver innovative solutions for its customers' most challenging applications.

Customer:

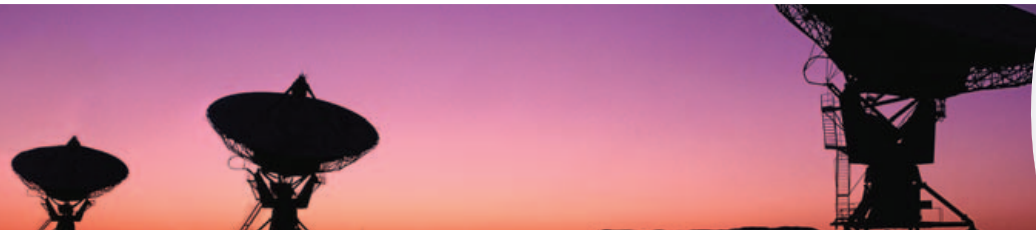
Mimix Broadband, Inc. Houston, TX

Application:

Integrated receiver, single chip device at 38 GHz

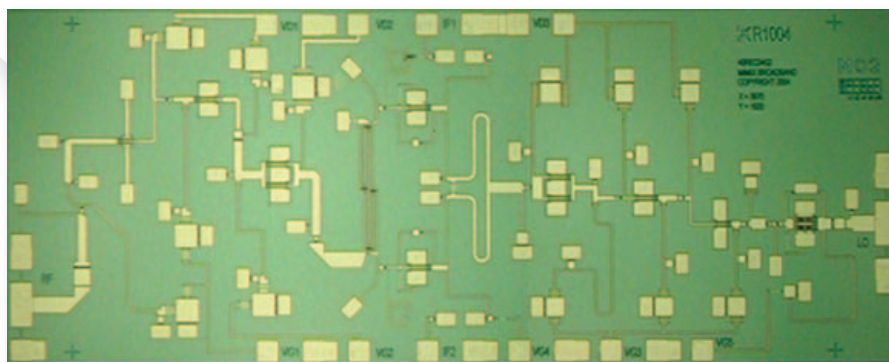
AWR Products:

Microwave Office® Design Suite



The Design Challenge

The challenge was to integrate four functions on a single chip. AWR's Microwave Office® software enabled the Mimix design team to integrate all of these functions together and accurately model and simulate the final performance.



Integrated receiver, single chip device at 38 GHz

"With intense time-to-market pressures, our designers need proven design flows that work seamlessly and Microwave Office fills this need."

*Dr. Simon Mahon
Director of MMIC Design
Mimix Broadband, Inc.
www.mimixbroadband.com*

The Solution

What design problem did AWR's software help you to solve?

The challenge was the integration of four functions on a single chip: a low noise amplifier, an image reject mixer, an LO buffer amplifier, and an LO frequency doubler. Each building block was separately designed and its performance was simulated and optimized. The structure of the MWO unified design environment made it easy to simultaneously optimize performance and design an integrated layout all within the one project.

What were your reasons for choosing AWR software?

- ◀ Integrated structure of the AWR design environment
- ◀ Ability to make changes in layout and schematic mode simultaneously
- ◀ Clear and extensive documentation
- ◀ Superior technical support

What were the key benefits of using AWR software?

The ability to make changes in layout and schematic mode simultaneously was integral to the success of the design task. Critical sections of the design were EM simulated to ensure that coupling was not affecting simulated performance. The end result was a highly integrated 35-45 GHz receiver, XR1004, that is leading the industry in performance and level of integration.

What, in your estimation, are the most positive features of AWR's software?

The user environment, the integrated, single platform, and the superior technical support.

"The fully integrated and easy-to-use solution speeds the design time of microwave and millimeter-wave integrated circuits.

In addition, the product comes with clear and extensive documentation and the support provided is first class."

Dr. Simon Mahon

Director of MMIC Design

Mimix Broadband, Inc.

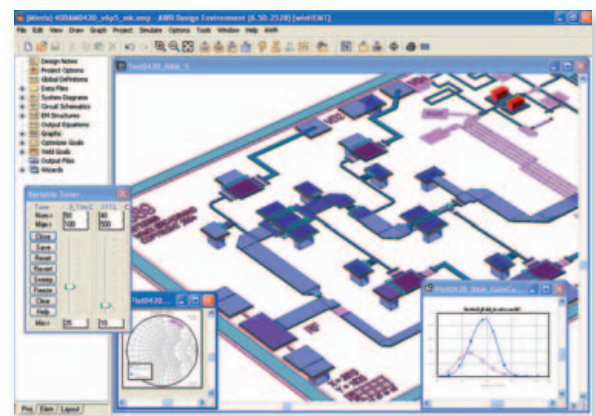
www.mimixbroadband.com

Product Overview

Microwave Office® design suite is the industry's fastest growing microwave design platform and has completely revolutionized the communications design world by providing users with a superior choice. Built on the unique AWR high-frequency platform with its open design environment and unified data model, Microwave Office design suite offers unparalleled ease-of-use, powerful technologies, and unprecedented openness and interoperability, enabling integration with best-in-class tools for each part of the design process. Microwave Office software includes all of the essential technology: linear and non-linear circuit simulators, EM analysis tools, integrated schematic and layout, statistical design capabilities, and parametric cell libraries with built-in DRC.

The 2006 product release continues to deliver key productivity improvements, such as faster EM simulation, faster and higher capacity layout, and a more integrated EM editor, that shorten design cycle time and speed time-to-market for RF/microwave products.

With the acquisition of APLAC Solutions, AWR now offers the most powerful and flexible RF/microwave design environment available in the industry. The unique combination of APLAC's incomparable RF simulation technology and AWR's own robust simulators provides designers with the best of both worlds: powerful, speedy simulation capabilities for both large and highly nonlinear designs within an easy-to-use, integrated design platform.



APLAC's incomparable RF simulation Technology



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