

Aerial Facilities uses Microwave Office to achieve first-time-right amplifier designs

## Customer Background

Aerial Facilities Limited (AFL) designs, manufactures, and sells a range of specialized products and services for the fixed and mobile telecommunications industries, enabling improved signal coverage, reception, and more economical use of resources. The company's product range includes channelized cell enhancers, optical repeaters, and RF amplifiers, as well as passive antenna combining and multicoupling components.

## The RF Design Challenge

AFL provides hardware that successfully addresses the challenges of RF engineering and interference as a result of increased cell phone and RF traffic. The company offers state-of-the-art RF/microwave amplifiers as a part of its product portfolio, aimed at developing and deploying systems to improve call coverage and reception worldwide. Microwave Office software is a critical part

Customer:

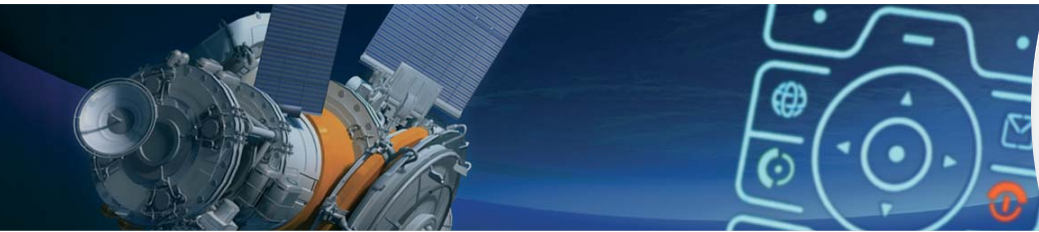
**Aerial Facilities Limited**

Application:

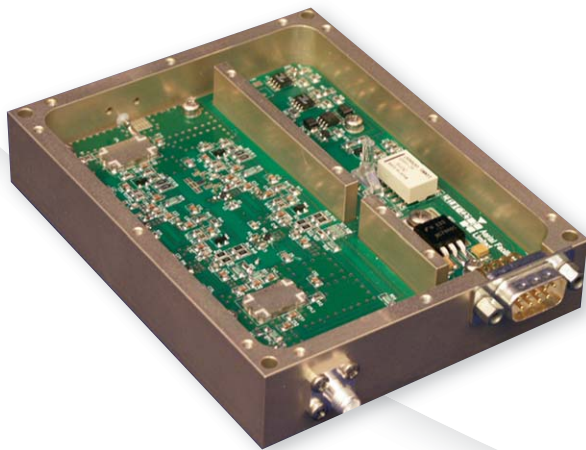
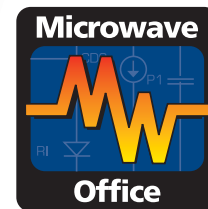
**RF/microwave amplifiers**

AWR Products:

**Microwave Office® design suite**



of AFL's technical innovation program as it enables AFL designers to quickly and accurately design and deliver to market amplifiers that meet demanding signal coverage and reception specifications.



*1.7-2.2GHz High dynamic range amplifier*

“The Microwave Office intuitive environment, the interaction of all of its simulation engines, and its integration with third-party design tools has enabled us to develop a seamless, first-time-right design process for our RF/microwave amplifiers.”

*Ivan Boshnakov  
Senior Principal Engineer  
Aerial Facilities Limited  
[www.aerialfacilities.com](http://www.aerialfacilities.com)*

## The Solution

### What design problem did AWR software help solve?

AFL uses Microwave Office software in tandem with a third-party tool to design its state-of-the-art RF/microwave amplifiers. Microwave Office, with its seamless integration to third-party tools, has enabled AFL to consistently achieve first-time-right designs with optimum performance. With its very fast and accurate linear, non-linear, and electromagnetic (EM) simulation tools, Microwave Office provides the final confirmation that the design will be right the first time, and that the manufactured design will function as predicted in the simulations.

### Why was Microwave Office selected?

AFL found Microwave Office to be intuitive to learn, very user-friendly, and readily able to identify and solve complex RF/microwave design problems. Of additional importance to AFL was AWR's open design environment, which provided easy interoperability to other third-party design tools.

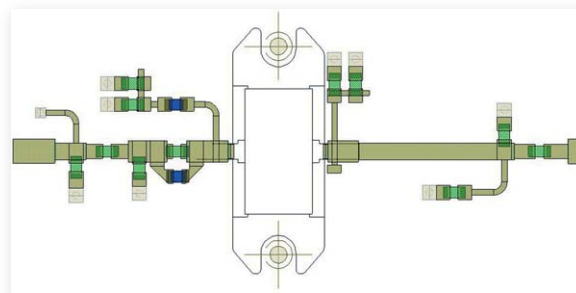
### What were the key benefits of using AWR software?

The overall stability, accuracy, and intuitiveness of Microwave Office software, as well as its ability to function seamlessly with third-party tools, uniquely met AFL's RF design needs. The technical and product flow features of AWR's Microwave Office software are unmatched by any other EDA software tool on the market.

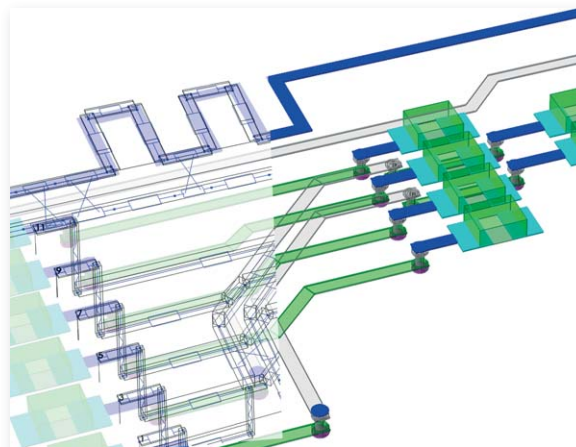
## Product Overview

Microwave Office design suite is the industry's fastest growing microwave design platform because it provides users with superior technology, flow, and choice. Microwave Office design suite offers unparalleled intuitiveness-of-use, powerful and innovative 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 design-rule check (DRC).

The 2007 product release delivers key productivity improvements, including innovative new technologies like ACE™, the industry's first automated circuit extraction technology. Microwave Office software enables developers to improve productivity, shorten design cycle time, and speed products to market.



*Microwave Office RF layout of a GaN HEMT stage*



*ACE technology for modeling your most complex interconnects*



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