

Dedicated for RF/Microwave Circuit Design

RFPro Electromagnetic (EM) Simulation Environment

Performing EM analysis is as easy as Circuit simulation

RFPro, the industry's first EM environment dedicated for RF and Microwave circuit design, is seamlessly integrated with Keysight EEsof's Advanced Design System (ADS) 2019. RFPro makes performing EM analysis as easy as running circuit simulations, dramatically simplifying circuit-EM co-simulation of RFIC, MMIC and RF module designs for 5G, IoT and defense-aerospace applications.

“The vision for RFPro began over three years ago. Circuit designers want to simply simulate any portion of their design with an EM tool and get the correct answer without having to “cookie cut” and worry about wrongly setting up EM ports and ground references.

They want to have full confidence that the EM analysis was done correctly and immediately use the results in circuit-EM co-simulation to perfect their designs or to understand the impact of laminate layer misalignment, fabrication over-sizing or under-sizing.

They hate spending hours, days or even weeks of manual work removing active components or surface mount parts just to perform the EM simulation and then re-attaching them all back for circuit-EM co-simulation. “



Joe Civello
ADS Product Manager

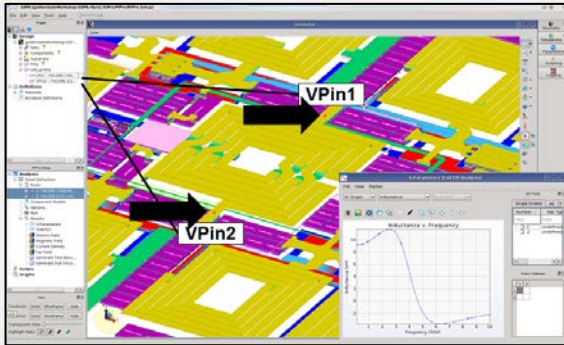
"Imagine if I could just 'EM' any portion of my RF layout in situ"



Matt Ozalas
RF Module and RFIC designer
Keysight Technologies

"With increasing frequency, data rates and product miniaturization, RF circuit simulation alone is no longer adequate for the design of RF modules, RFIC and MMIC due to inevitable electromagnetic interactions. EM simulators are traditionally disconnected from RF circuit simulators, presenting design and optimization challenges at every iterative design step, which slows innovation and product introductions,"

"Imagine if I could just 'EM' any portion of my RF layout in situ without worrying about how to set up the analysis correctly and spontaneously use the EM results in my circuit design workflow; then I can account for or exploit the EM-circuit interactions to quickly explore innovative design options that would be very tedious to do before".



RFPPro performs EM analysis of RF layout in situ without cookie cutting



Predictive EM expert settings makes EM-circuit co-simulation of this MMIC as easy as circuit simulation

RFPPro in ADS 2019

The first release of RFPPro in ADS 2019 offers predictive expert presets for correct EM analysis of user-identified physical circuit layout structures and automatic EM-circuit co-simulation partitioning for effortless integration of EM results into circuit design for interactive tuning and optimization. It makes significant progress on our vision to enable EM-circuit designs that can be parameterized, swept, tuned and optimized as easily as in circuit simulation. This means:

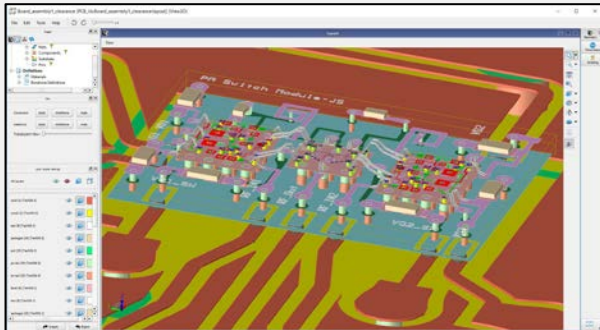
- Saving 2 hours to 2 weeks per simulation versus using external EM simulators
- Instant correct setup of circuit-EM co-simulation
- Automatic assignment of EM ports and materials
- No waiting for someone else to setup and run batched external EM analysis

RFPro Upgrades

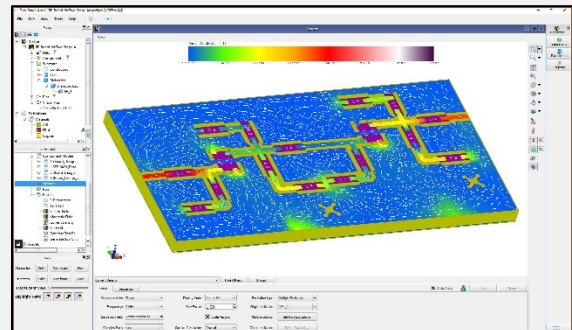
Increasingly powerful EM innovations with solver, meshing and predictive analysis settings are under active development to be included with each subsequent release of Keysight's Advanced Design System every 4 months over the next 12-16 months. RFPro is offered in the following ADS bundles and element. Early RFPro customers enjoy free upgrades even as prices increase with the addition of new powerful capabilities in subsequent ADS releases.

Additional product information is available at www.keysight.com/find/eesof-RFPro.

Model Number	Description
W2243BP/BT	ADS Core, Layout, RFPro, Momentum, FEM Bundle
W2206BP/BT	ADS Core, Layout, Adv. Layout, Harmonic Balance, RFPro, Momentum, FEM Bundle
W2209BP/BT	ADS Core, Circuit Sim, Layout, RFPro, Momentum, FEM, Ptolemy, Verilog-A, Mature Wireless Libraries Bundle
W2215BP/BT	ADS/EMPro Core, Harmonic Balance, Layout, Adv Layout, RFPro, Momentum, FEM Bundle
W2340EP/ET	RFPro, Momentum, FEM Element



RF Module power amplifier (PA) simulation in RFPro



RF board surface current density analysis in RFPro

Learn more at: www.keysight.com

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

