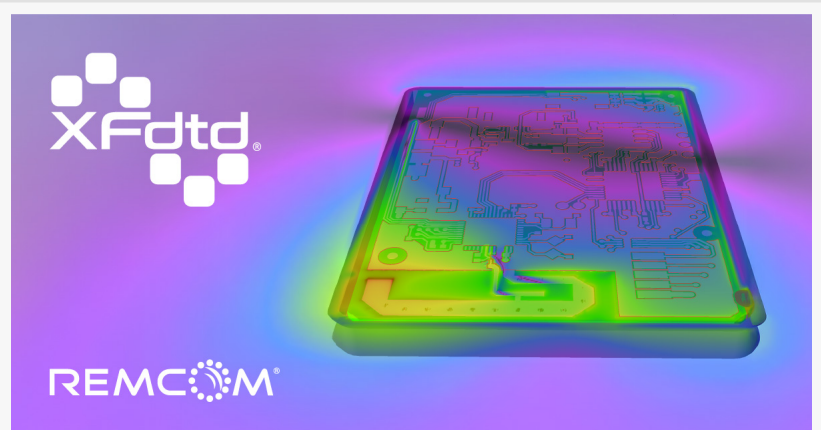


# Remcom Announces Phase Difference for UWB Direction Finding in XFDTD 3D Electromagnetic Simulation Software

*Remcom announces powerful new tools to address the evolving challenges of modern antenna design in XFDTD, including a phase difference post-processing tool.*

STATE COLLEGE, PA, UNITED STATES, October 8, 2025 /EINPresswire.com/ --

Remcom announces a suite of powerful new tools designed to address the evolving challenges of modern antenna design in the latest release of [XFDTD® 3D EM Simulation Software](#), including a phase difference post-processing tool for phased array analysis, enhanced flexibility for far-zone pattern visualization, and significant performance improvements to expedite workflows.



The latest XFDTD release includes several new tools designed to address the challenges of modern antenna design.

The highlight of the release is a new far-zone post-processing tool that enables engineers to calculate and plot the phase difference between antenna elements. This capability is critical for designers of phased arrays used in angle of arrival (AoA) estimation for direction-finding systems. With the rapid growth of ultra-wideband (UWB) technology for high-precision indoor localization and tracking, the ability to accurately simulate phase difference of arrival (PDoA) is essential for predicting system performance. By including a phase unwrapping option, XFDTD automatically resolves a key signal processing challenge in PDoA systems, providing engineers with unambiguous results that are comparable to real-world measurements and eliminating a time-consuming manual correction step.

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XFDTD supports engineers who are designing increasingly detailed and crowded devices with accurate, reliable simulation software that predicts behavior in the real world.”

*Sam Seidel, XFDTD Product Manager*

Additionally, the far-zone spherical coordinate system can now be reoriented, allowing users to generate 2D pattern cuts along any arbitrary plane. This provides a more discerning method for analyzing as-installed antenna performance on intricate platforms such as vehicles and aircraft. By providing insight into an antenna's full 3D radiation characteristics, engineers can evaluate devices' real-world performance, such as a smartphone as it is held in various orientations.

To further enhance simulation fidelity, XFDTD now supports waveguide ports with its XACT Accurate Cell Technology® conformal meshing feature. XACT is a sub-cellular conformal meshing technique that allows the FDTD solver to represent curved surfaces and fine geometric features with high precision without the need for an excessively fine and computationally expensive grid. Applying this technology to waveguide ports improves simulation accuracy and higher-fidelity results for complex microwave components like filters and couplers without sacrificing speed and efficiency.

"The cornerstone of the XFDTD roadmap is to support engineers who are designing increasingly detailed and crowded devices with accurate, reliable simulation software that predicts behavior in the real world," said Sam Seidel, XFDTD product manager. "Features like the phase difference tool enable our customers to keep pace with evolving technologies like UWB, accelerating their time to market while providing more trustworthy insights into device performance."

For more information on the latest release of XFDTD, please visit Remcom's website. Current users without an active Remcom Professional Support contract can upgrade to the latest version by [contacting sales](#).

About Remcom: For more than 30 years, Remcom has provided [electromagnetic simulation and wireless propagation software](#) for commercial users and U.S. government sponsors. Our innovative software tools, combined with exceptional support, have enabled the world's most advanced engineering teams to deliver their devices to market by simplifying EM analysis for a wide variety of applications. Remcom is committed to its customers' unique needs, offering flexible licensing options for installations of all sizes as well as custom-engineered solutions.

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