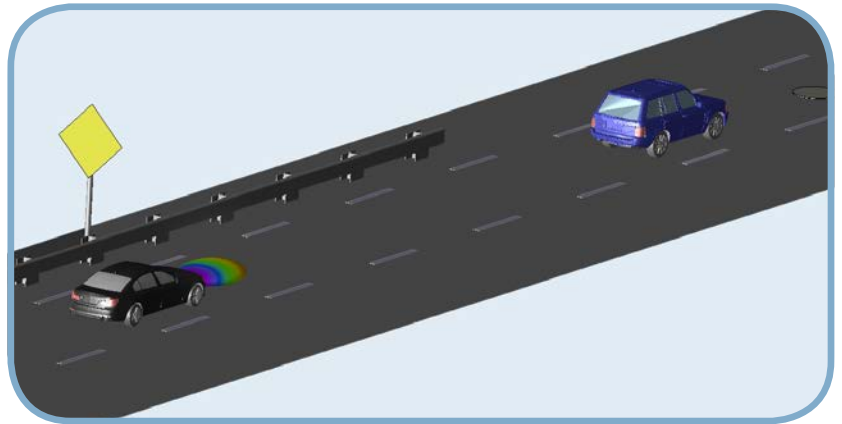


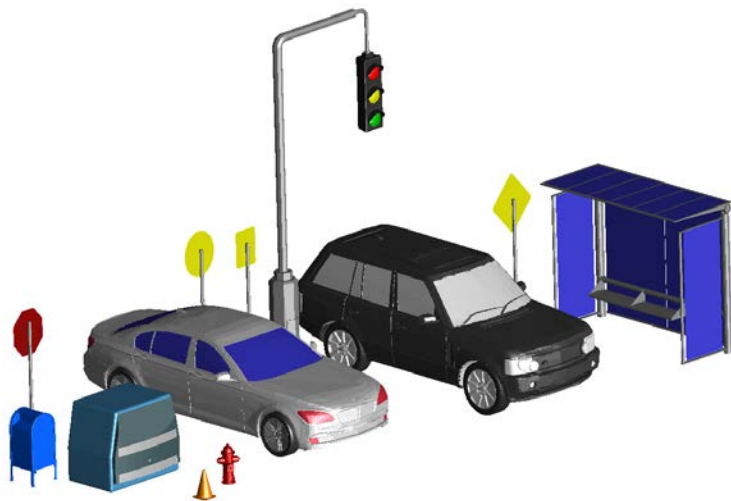
WaveFarer™ Automotive Radar Simulation Software

Remcom's Targeted Solution for Sensor Design Experts

The automotive version of **WaveFarer** is a high-fidelity radar simulator for drive scenario modeling at frequencies up to and beyond 79 GHz. Created specifically for automotive radar sensor design and placement, it enables OEMs and Tier 1 suppliers to virtually test and refine sensors earlier in the design process, reducing the overhead required to build prototypes and improving installed performance.



Drive test including secondary scatterers.



WaveFarer's library of target objects.

WaveFarer enables testing for:

- **Antenna Design:** input Tx and Rx radiation patterns and use simulation results to evaluate a variety of antenna designs.
- **Sensor Placement:** analyze Tx and Rx radiation patterns that include the effects of fascia to optimize sensor placement.
- **Signal Processing and Target Identification Algorithms:** test algorithms to determine their effectiveness in identifying targets in the scene.

Repeatable test scenarios:	Scenarios can include:	
<ul style="list-style-type: none"> ■ Corner reflectors ■ NCAP vehicle targets ■ General drive tests 	<ul style="list-style-type: none"> ■ Road signs ■ Manhole covers ■ Telephone poles 	<ul style="list-style-type: none"> ■ Buildings ■ Vehicle models



Wavefarer's Features Enable Fast and Accurate Analysis of Repeatable Drive Test Scenarios.

User interface and calculation engine:

- Linux and Windows
- Supports GPUs and high-performance computing (HPC)
- Shared platform with **XFtdtd**® 3D EM Simulation Software

CAD setup:

- Define objects by creating from scratch, loading from Remcom's library, or importing from third-party tools
- Apply simple or complicated movement to objects using parameterization or scripting
- Assign EM scattering properties using material definitions
- Define Tx and Rx antenna properties by importing measured data or loading XF results

Primary and secondary scatterers:

- Library of objects distributed with the software: NCAP vehicle targets, common vehicle targets, road signs, traffic cones
- Define custom signs, guard rails, etc. using WaveFarer's modeling tools or via CAD import

Tx and Rx antenna patterns:

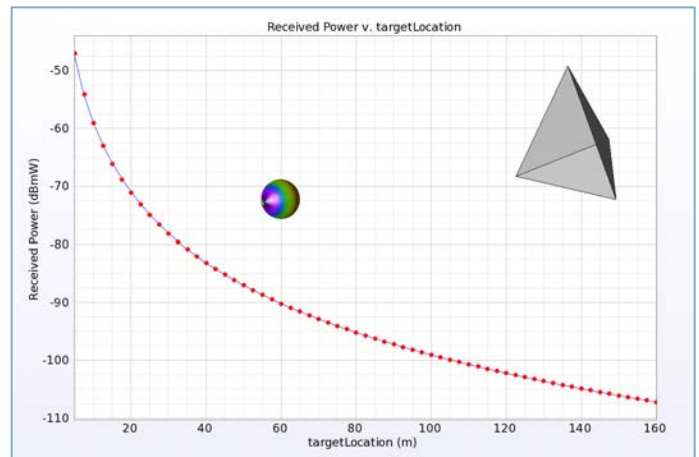
- Isotropic
- Half-wave dipole
- Directional
- Import user-defined antennas

Near field scattering:

- Targeted ray casting ensures 100% illumination of scattering object's surface
- Multiple interactions with a scattering object
- Multi-path effects from ground bounce
- Multiple reflection and diffraction interactions along a ray path
- Single frequency continuous waveforms
- Atmospheric parameters

Results:

- Time-binned complex impulse response at each receiver
- Received power at each receiver
- Data available for post processing via WaveFarer's scripting API, MATLAB, or third-party tools



Simulated distance between an antenna and corner reflector.

See the comprehensive capabilities list at

www.remcom.com/wavefarer-capabilities >>>



REMCOM®

Remcom, Inc.
315 S. Allen St., Suite 416
State College, PA 16801 USA

+1.888.7.REMCOM (US/CAN)
+1.814.861.1299 phone
+1.814.861.1308 fax

sales@remcom.com