

GNSS Simulation for CRPA Testing

Testing CRPA with live sky signals is not always practical. Orolia has you covered.



Orolia offers two flexible solutions for testing CRPA: GSG Anechoic and GSG Wavefront. These advanced configurations have been carefully designed to provide the advanced simulation features required for CRPA testing in a well-thought-out package. Both provide COTS hardware benefits: configuration flexibility and cost-effectiveness.

GSG Anechoic

Orolia's GSG Anechoic is a complete system featuring the Skydel simulation engine, advanced calibration tools and full hardware.

GSG Anechoic is designed to speed up chamber calibration setup and reduce the multiplication of hardware systems.

Based on COTS hardware, it supports 32+ RF outputs to provide a cost-effective CRPA testing solution for lab equipped with an anechoic chamber.



Advanced Jammers Module
 A perfect companion to CRPA tests, the Advanced Jammer module enables the creation of scenarios featuring complex user-defined interferences, jammer dynamics, and seamless integration into the GNSS simulation package.

Specifications*

- 32+ RF outputs
- Automatic antenna mapping
- Automatic time delay calibration (< +/- 0.5 ns)
- Automatic power loss calibration (< +/- 0.5 dB)
- Very high jamming power (>110 dB of J/S)

Select for:

- Comprehensive testing including the antenna
- Testing unlimited number of antenna elements
- Testing static positions only

* Systems' specifications are provided as an example, and can change depending on the simulator setup. Contact our team of engineers to review your project needs: They'll provide you a complete custom offering analysis.

GSG Wavefront

Orolia's GSG Wavefront combines high performance with Advanced Jammers to enable unlimited test scenarios.

GSG Wavefront leverages multi-instance synchronization to enable simulation scenarios, including high-dynamics trajectories (GNSS and non-GNSS). GSG Wavefront generates phase-synchronized signals in real time, enabling the to realistically simulate the behavior of a CRPA antenna.

Delivered in a compact form factor, GSG Wavefront is an attractive solution for testing CRPA units supporting 4, 7, or more antenna elements.

Generate over 100 signals in real time –GNSS satellites, jammers, multipath.

Specifications*

- High performance (Accurate phase synchronization under 1° RMS)
- 8+ antenna elements
- Large number of dynamic transmitters + user-defined waveforms

Select for:

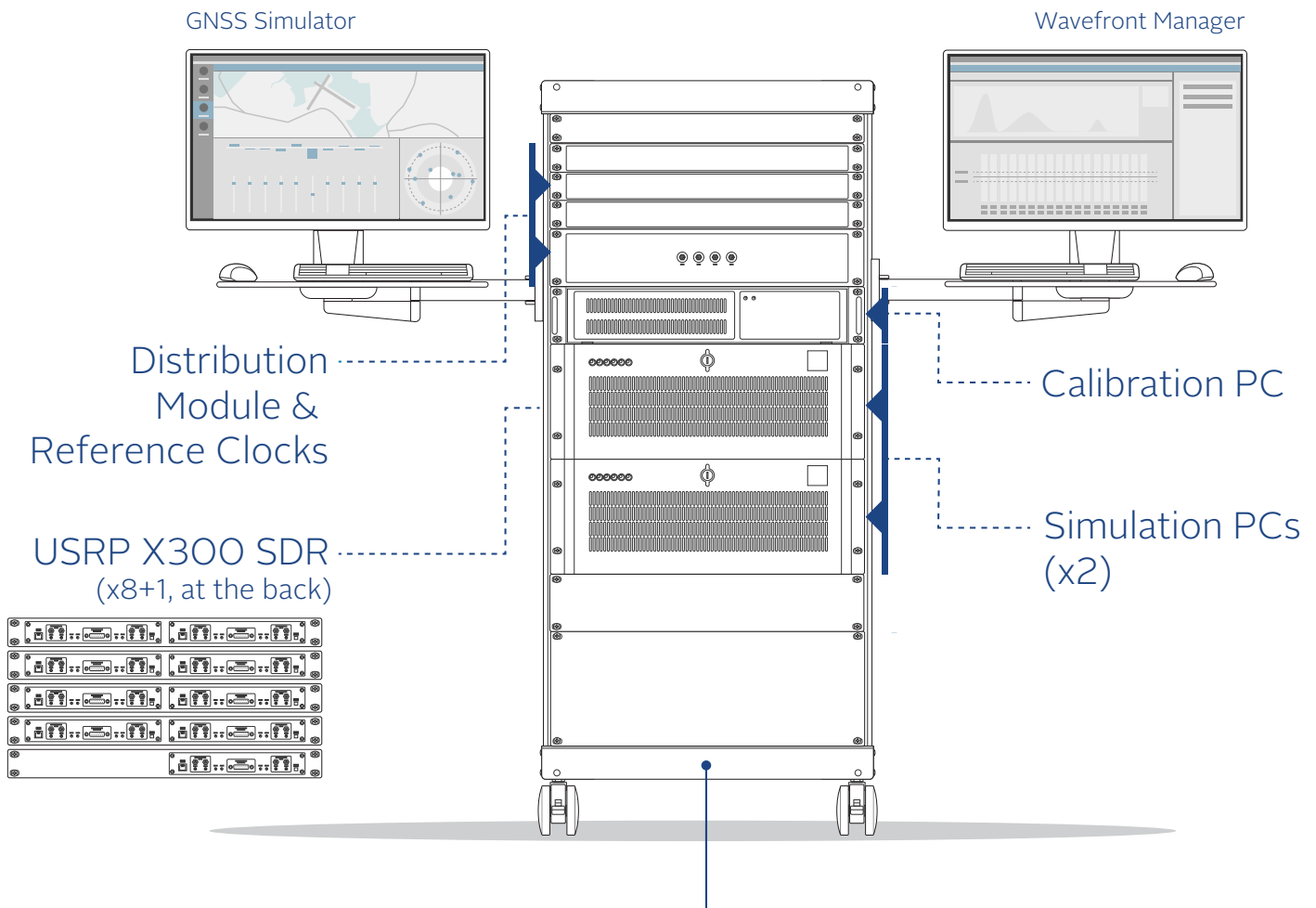
- Tests scenarios integrating both dynamic receiver' and interferences' positions
- Lab installations where anechoic chamber is not practical
- Testing CRPA processing unit (without antenna)

State-of-the-Art & Software-Defined

Orolia offers a proven platform for GNSS simulation with a large user base in aeronautics, automotive, military, research, and space exploration. Designed to exploit the flexibility of COTS hardware (SDR + GPU), our simulators feature easy yet powerful scenario creation, a complete API, high dynamics and a precise simulation engine suitable for the most demanding simulation needs.

Benefits

- Restricted signals capabilities (GPS Y/M + Galileo PRS)
- Integrated user-defined interference with dynamics
- Innovative and powerful automation
- Easy to use with intuitive scenario creation



Example configuration for a 4-antenna, dual-frequency wavefront system

Flexible Configurations

Every Orolia simulator use COTS hardware and GPU-acceleration to create signals in real-time.



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