Testing and Simulation Overview

The world’s most GPS/GNSS reliant systems trust Orolia for mission assurance when failure is not an option.
Test and Validate Critical Systems

From harsh environmental conditions to GNSS and PNT challenged environments, Orolia offers comprehensive solutions to test and validate your critical systems.

The worst time to find out that you have a GNSS signal or Positioning, Navigation and Timing (PNT) data problem is when your critical system has already been deployed in the field, in space or in a signal compromised environment.

**Ultra-precise industries that rely on very accurate, continuous data can't afford to risk failure.**

Financial trading companies shouldn't spend years refining and perfecting their networks, only to be brought down with simple denial of service attacks.

Today's automotive industry shouldn't sell vehicles with the latest technology features, only to have them fail and put lives at risk due to GNSS and PNT data issues.

Defense programs can't risk sabotage, the loss of classified technology, casualties and mission failure due to rogue actors using low cost jammers and spoofing technology.

When it comes to critical systems, regular testing and simulation are essential to identify weaknesses, prevent system failure and ensure continuous operations.

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**Test Configuration**
Set up and design of the tests to run. Automation of test environment including receivers.

**Data Collection**
Collection of data from one or more receivers in a format that can be easily analyzed.

**Signal Generation**
Generation of the signals needed to carry out the test plan. Includes navigation and impairment signals.

**Data Analysis**
The capability to visualize the output of multiple receivers and compare the results in a standardized way.

**Report Generation**
Generation of reports that are easy to understand to document the test environment, test plan, and the test results.
Testing & Simulation Portfolio

Skydel Simulation Engine

The Skydel simulation engine is the software that powers Orolia's high-end GNSS simulator products, such as GSG-8 and BroadSim. All products running Skydel share the same software-defined benefits and interoperability. Skydel can run on Orolia's turnkey systems, or on your own COTS hardware.

GSG-8
The GSG-8 is an advanced GNSS/GPS simulator supporting multi-constellation, multi-frequency and hundreds of signals with a 1000 Hz iteration rate. Ideal for space trajectories, custom PNT signals, hardware-in-the-loop, and more.

GSG 5/6
Easy-to-use, essential scenario-based simulator for testing drones, IOT, Connected cars, cellular tests, and other smart applications.

BroadSim Wavefront/Anechoic
Software Defined CRPA Simulation System that supports 4-36 antennas, elements, with over 1000 signals per element. Can simulate multiple spoofers, jammers and repeaters simultaneously. Enables easier and more cost-effective CRPA receiver testing. Using Skydel innovative algorithms, BroadSim Wavefront automatically calibrates itself in a few seconds. Creating scenarios with multiple spoofers and repeaters is easy with a powerful user interface. Simply create virtual transmitters, plot them on their own trajectories, and configure them to transmit arbitrary signals, such as interference or GNSS signals.

BroadSim
Simplifies the creation of advanced jamming and spoofing scenarios with Navigation Warfare (NAVWAR) testing in mind. Supports high dynamics, jamming, spoofing, and encrypted military codes (Y, M-AES, MNSA). BroadSim uses a custom Linux operating system for security and better performance.
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For More Information
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