Portable Simulator

Precision testing anywhere, anytime

Ospirent™
Federal Systems

Truly mobile test capabilities

In today's safety- and mission-critical systems, testing is critical at every stage of the development cycle. Many businesses are seeing a need to test in multiple locations and are experiencing delays in moving and configuring test equipment – particularly for open range testing. Spirent's Portable Simulator combines the performance needed to test modern applications with the flexibility to be easily moved to different locations and configured.

What is Spirent's Portable Simulator?

Configurable according to your requirements, the Portable Simulator enables high precision testing that can move from location to location. Whether in the lab or in the field, and whether conducted or radiated, the Portable Simulator delivers signals from GPS, Galileo, GLONASS, BeiDou and QZSS for powerful and flexible GNSS testing. In addition, the ability to closely synchronise to live sky signals offers the capability to conduct powerful in-field spoofing testing.

*Portable Simulator with integrated
live sky synchronization*

Technology disclosed in this document is subject to patents and pending patents in UK, EU and US. Any product information provided in this document is for informational purposes only and is subject to change. No contractual commitments are being made.

Key features

- Easily portable – weighing from just 3.3 kg and measuring 28 x 22 x 8 cm (L x W x H) depending on configuration, the Portable Simulator can be carried and configured by a single engineer

- Can be run using an external battery pack

- Multi-frequency, multi-constellation capability with up to 36 channels easily configured in the field

- Powered by Spirent's industry leading SimGEN engine, users gain powerful flexibility and unrivalled control over a full range of features and capabilities

- Time-saving remote control capability

- Low and high-power RF outputs

- Optional: Live sky synchronization including reference receiver integrated into a single enclosure

- Optional: Rack mountable case

Environmental robustness

- Operating temperature: 0°C–50°C

- Relative humidity: 10%–90% non-condensing

- Altitude (pressure): min 800 mbar @ 25°C

Performance specifications

- Simulation iteration rate: 100Hz

- Hardware iteration rate: 100Hz

- Pseudorange accuracy 3mm

- Phase Noise: 0.05 rad RMS

- High power port: -60 dBm reference (for low power port, please see table below)

- Carrier Level Control

  - Maximum +15 dB

  - Minimum -20 dB

  - Resolution 0.1 dB

In-field spoofing testing[1]

While laboratory testing offers the greatest possible control over the environment, testing of the fully integrated product in its final form factor is often carried out in a live sky environment. The Portable Simulator brings the control and integrity needed to this environment, enabling powerful spoofing testing using real-world signals. The capability to synchronise to live sky signals make it the perfect tool to facilitate advanced testing — from trajectory to navigation data spoofing.

Remote location testing

Due to high power requirements, form factor and weight, most lab-based test equipment cannot easily be moved. However, portable solutions often lack the required precision and realism, as well as a truly flexible and feature-rich control software platform. The portable simulator enables users to perform powerful and reliable testing between different locations without compromising on performance or useability.

Available signals

System	Carrier	Signal	Level (dBm) (Low Power Port)
GPS	L1	C/A	–130.0
		L1c Pilot Code	–128.25
		L1c Data Code	–133.0
		P	–133.0
	L2	L2c or C/A	–136.0
		P	–136.0
	L5	I, Q	–127.9
Galileo	E1	E1-B, E1-C	–127.0
GLONASS	L1	C/A	–131.0
		P	–131.0
	L2	C/A	–137.0
		P	–137.0
BeiDou	B1 (1.561098 GHz)	B1I	–133.0
	B1 (1.57542 GHz)	B1C	–130.0
	B2 (1.20714 GHz)	B2I	–133.0
	B2 (1.17645 GHz)	B2a	–127.0
	B2 (1.20714 GHz)	B2b	–131.0
QZSS	L1	C/A Code	–128.5
		L1S	–131.0
		L1c Data + Pilot	–127.0
	L2	L2c	–130.0
	L5	I + Q	–124.9
		L5S	–124.0

1 Over-the-air spoofing testing is restricted to authorised users only. Emitting GNSS signals into the environment requires local permits, and the user has sole responsibility for obtaining these.

Americas   Europe   Asia

About Spirent Positioning Technology

Spirent enables innovation and development in the GNSS (global navigation satellite system) and additional PNT (positioning, navigation and timing) technologies that are increasingly influencing our lives.

Our clients promise superior performance to their customers. By providing comprehensive and tailored test and assurance solutions, Spirent assures that our clients fulfill that promise.

Why Spirent?

Across five decades Spirent has brought unrivaled power, control and precision to positioning, navigation and timing technology. Spirent is trusted by the leading developers across all segments to consult and deliver on innovative solutions, using the highest quality dedicated hardware and the most flexible and intuitive software on the market.

Spirent delivers

- Ground-breaking features proven to perform
- Flexible and customizable SDR technology for future-proofed test capabilities
- World-leading innovation, redefining industry expectations
- First-to-market with new signals and ICDs
- Signals built from first principles — giving the reliable and precise truth data you need
- Unrivaled investment in customer-focused R&D
- A global customer support network with established experts

About Spirent Communications

Spirent Communications (LSE: SPT) is a global leader with deep expertise and decades of experience in testing, assurance, analytics and security, serving developers, service providers, and enterprise networks. We help bring clarity to increasingly complex technological and business challenges. Spirent's customers have made a promise to their customers to deliver superior performance. Spirent assures that those promises are fulfilled. For more information visit: **www.spirent.com**

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