POSITIONING YOU FOR SUCCESS

YOUR TRUSTED PNT PARTNER

Spirent™
Promise. Assured.

SimIQ
I/Q CAPTURE & REPLAY

GNSS simulation with I/Q data files

Getting successful products to market demands precise, reliable, and flexible test capabilities. SimIQ enables greater efficiency and consistency throughout the development cycle, delivering the exceptional performance expected from our world-leading signal generation architecture.

Create I/Q data files with configurable sample rates up to 120 Ms/s, and bit-depths up to 16

Generate high fidelity and accuracy RF signals from I/Q data files using Spirent GSS7000 and GSS9000 Series GNSS simulators

Promote collaboration and consistency across businesses with multiple sites, enabled by sharing common I/Q files for testing

Same hardware, greater capability

From the next generation of chipsets through to handsets and vehicles, bringing new products to market is a challenging process. Finding the balance between extensively testing and optimising, and time-to-market, can be a risk-filled compromise.

SimIQ is a software solution that enables Spirent's GSS7000 and GSS9000 Series simulators to capture, replay and share I/Q data files without the need for additional hardware. This capability opens up opportunities for testing receiver algorithms earlier in the development cycle, saving time and money while delivering greater collaborative processes to global teams through simple sharing and consistent playback.

Key applications

Testing GNSS software receivers

To cope with the demands of short product development timelines, developers are including virtual testing in roadmaps. SimIQ enables validation of GNSS software receivers by injecting the generated I/Q data, removing RF real-time constraints and allowing massive parallel simulation.
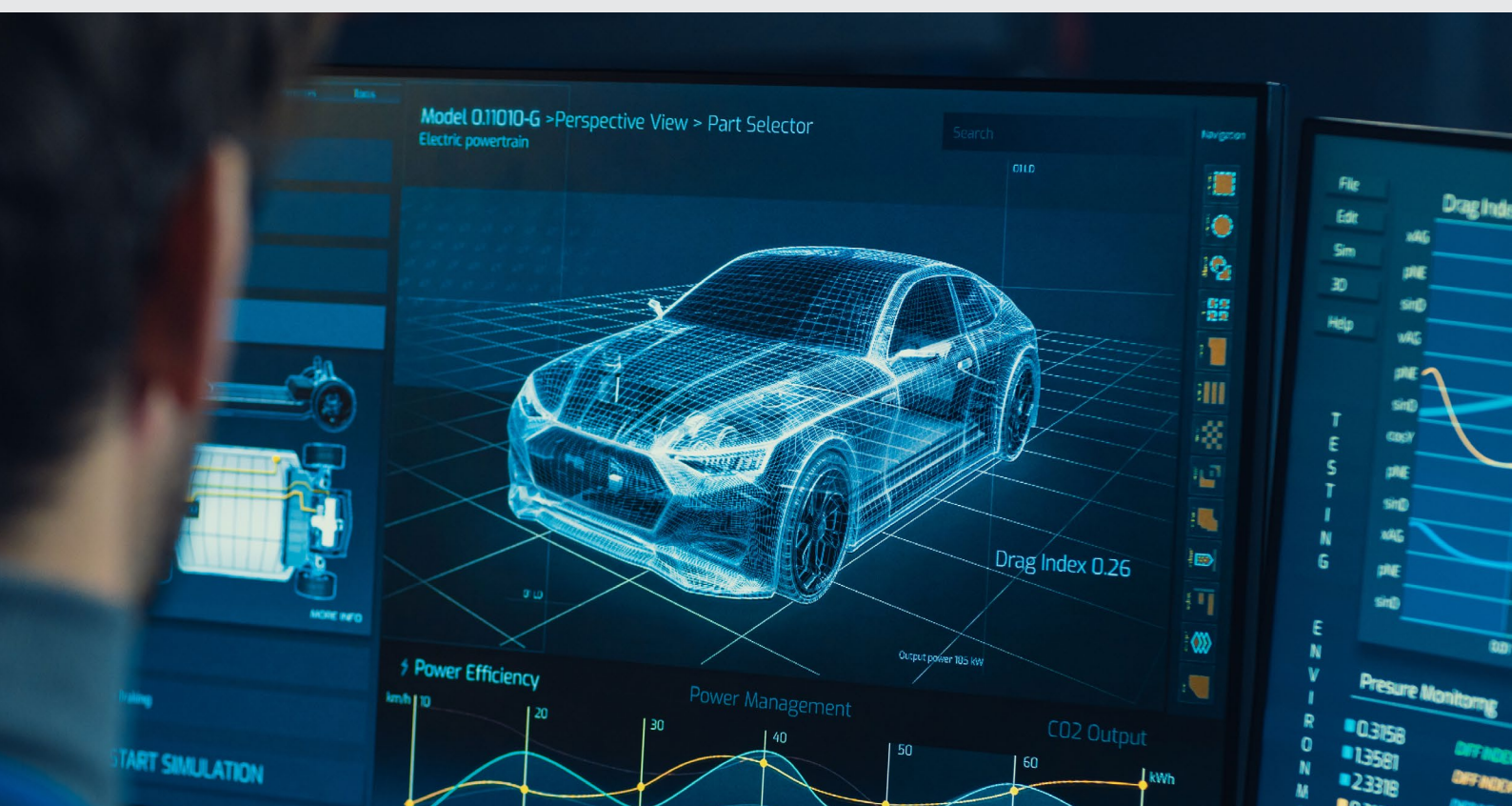
Validation of receiver algorithms

SimIQ enables developers and testers to validate models before the real hardware is introduced. The efficient sharing of I/Q files means the same realistic scenarios can later be used to validate the hardware front end.

Injection of externals signals

SimIQ Replay generates RF including GNSS signals, custom waveforms, custom noise, and even interference and jamming events, helping users to navigate through growing GNSS vulnerabilities.

Generation of classified signals and codes from I/Q data

Approved users can now alleviate any potential security concerns by replaying confidential I/Q data files with the same hardware used to test with civilian signals.
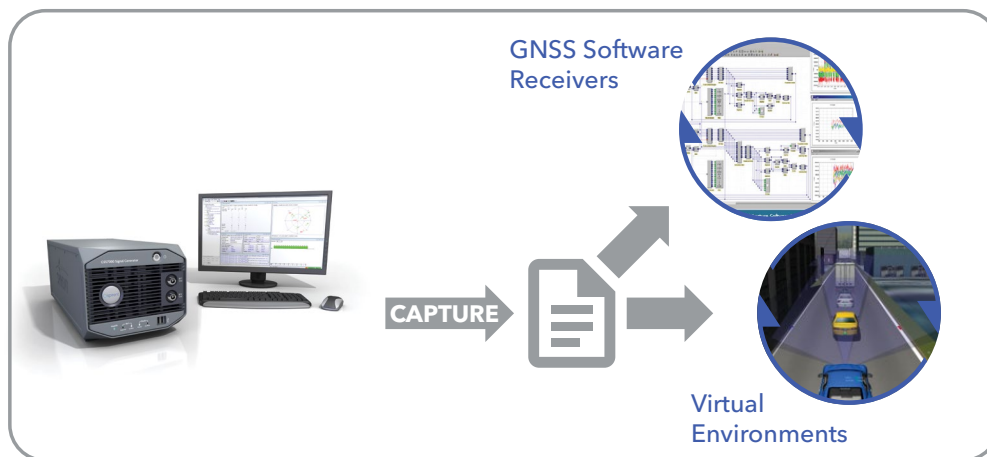
SimIQ Capture

Available via subscription, SimIQ Capture is a non-RF mode of operation where I/Q data files are generated and stored by the GNSS simulator. Features include:

- Configurable sample rates up to 120 Ms/s
- Bit-depths up to 16 bits
- Simultaneous recording of up to three files
- Compatible with both GSS7000 and GSS9000 Series GNSS simulators
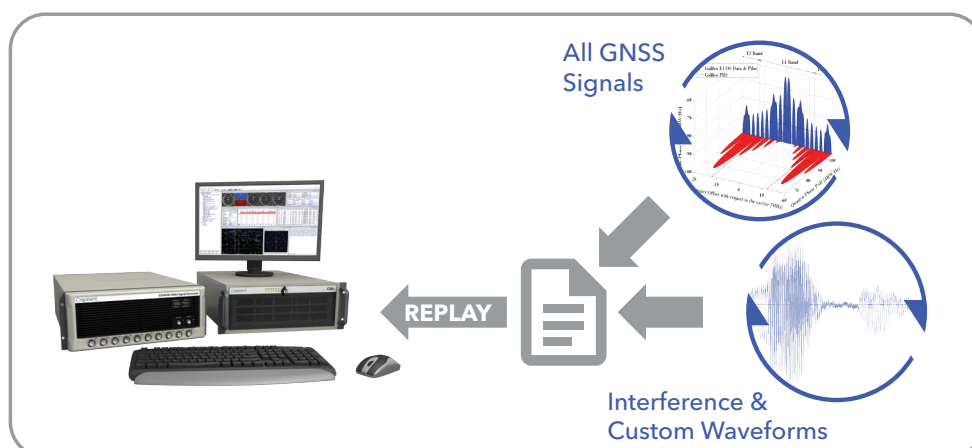- Compatible with SimGEN, SimREPLAYplus and SimTEST

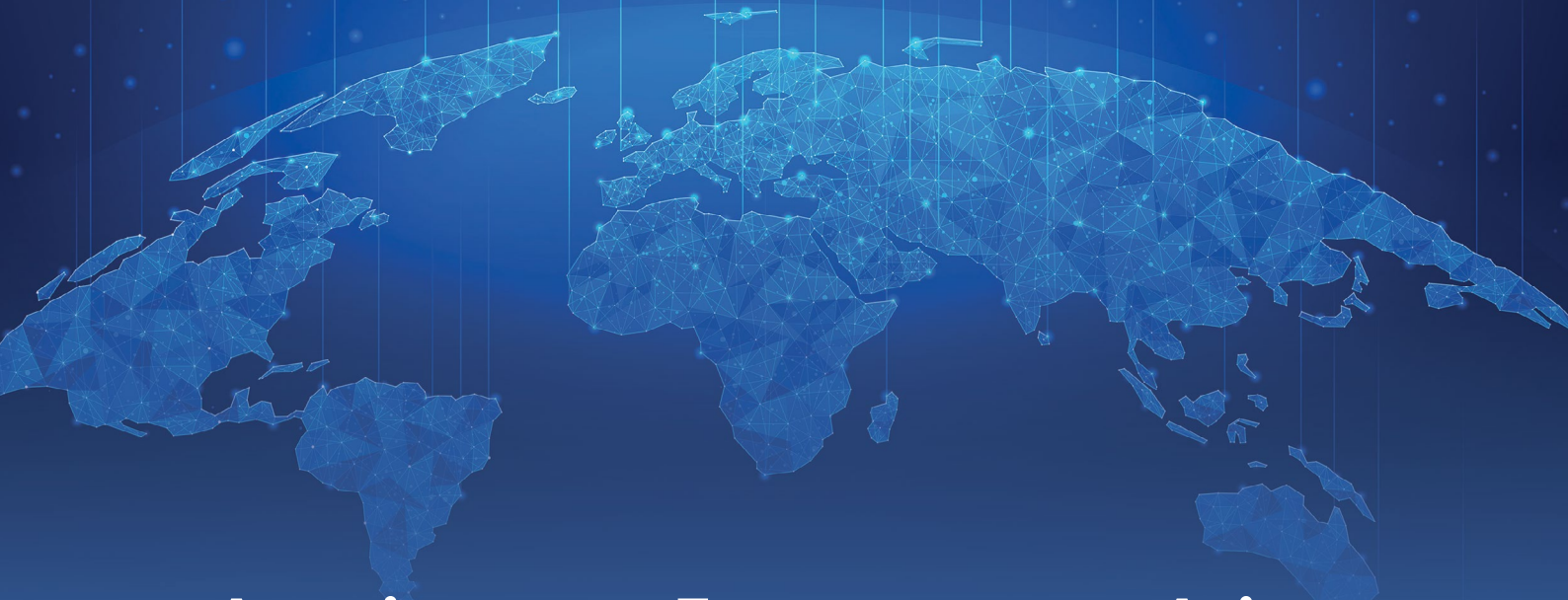| Constellation	Signals
GPS	L1 / L2 / L5
GLONASS	L1 / L2
Galileo	E1 / E5
BeiDou	B1I / B1C / B2I / B2a / B3I
QZSS	L1 / L2 / L5 / L6
SBAS	L1 / L5

GNSS Software Receivers

CAPTURE

Virtual Environments

SimIQ Replay

Also available via subscription, SimIQ Replay reads I/Q data from files and generates the corresponding RF signals using Spirent's GSS7000 and GSS9000 Series simulators, enabling receiver testing at RF. Features include:

- Configurable sample rates up to 120 Ms/s
- Bit-depths up to 16 bits
- Simultaneous recording of up to three files
- Compatible with both GSS7000 and GSS9000 Series GNSS simulators
- Compatible with SimGEN

All GNSS Signals

REPLAY

Interference & Custom Waveforms

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 solutions, Spirent assures that our clients fulfil that promise.

Why Spirent?

Over five decades Spirent has brought unrivalled 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 customisable systems 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
- Unrivalled investment in customer-focused R&D
- A global customer support network with established experts

Contact Us

For more information, visit us on the web at www.spirent.com/ContactSpirent.

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