

# Spirent GSS6300M

## Multi-Channel GNSS Simulator

The GSS6300M is the ideal entry-level multi channel GNSS simulator for busy production testing environments and receiver integrators. Its 36 channels of operation can simulate L1/E1 signals from GPS/SBAS, QZSS, GLONASS, BeiDou and Galileo to test the fundamental positioning capabilities of any GNSS device.

More features with software enhancement pack (optional)

- Select from range of trajectories including 3GPP TS 25.171 defined
- Generate route-matched trajectory data from Google Maps®
- Add realistic receiver antenna pattern and multipath effects
- Real-time visualisation of calculated position of device under test data with truth (simulation) data
- Add environmental effects including tropospheric (wet or dry) and ionospheric correction

The GSS6300M GNSS Signal Generator can be configured with 4 or 8 channels per constellation. It is easily upgradable in the field to add any constellation to an existing GSS6300M. Typical configurations include:

- GPS only
- GPS\SBAS, GLONASS
- GPS\SBAS, QZSS, GLONASS, BeiDou and Galileo

The GSS6300M is a “one-box” solution with everything required to start testing immediately and can be easily controlled from a tablet or smartphone, or via remote commands across multiple interfaces including USB, IEEE-488 or Ethernet.

The GSS6300M offers all of the flexibility, ease-of-use and reliability you expect from Spirent. Also including continuous run mode for efficient high-volume production testing and real-time user control, allowing you to create your own scenarios and modify parameters such as user position, date and time.



### ISO/IEC 17025

The GSS6300M is calibrated to the ISO 17025 standard at the time of delivery.

## Key Features

- Multi-channel GPS/SBAS L1 C/A and/or QZSS and/or GLONASS L1 C/A and/or BeiDou-2 and/or Galileo E1 signals
- Simulate 3D position from GPS/SBAS, QZSS, GLONASS, BeiDou or Galileo constellations
- IEEE-488, USB, Ethernet or RS-232 control interfaces
- Supplied with Spirent SimTest™ software
- Comprehensive remote command set for easy ATE integration
- Rack mount 2U chassis
- Interactive run time control over power level, user position, date, time, atmospheric condition, Doppler, PRN and data message
- May be synchronized to external systems via 1PPS/Trigger, reference frequency input/output and 1PPS output
- Fully supports GSS6300 single channel operation

## Specification

### Output Frequency

- GPS/SBAS/QZSS 1575.42MHz
- GLONASS L1 (Ch0) 1602MHz
- BeiDou-2 B1 1561.098MHz
- Galileo E1 1575.42MHz

### Signal Codes

- GPS L1 C/A PRN 1 – 63
- SBAS L1 C/A PRN 120 – 138
- GLONASS L1 C/A Channels -7 to +6
- BeiDou-2 B1 PRN 1 – 37
- Galileo E1 CBOC PRN 1 – 50
- QZSS PRN 182 – 202

### Signal Dynamics

- Relative Velocity (Max) ±15,000m/s
- Velocity Resolution 0.01m/s

### Signal Level

- GPS/SBAS/QZSS L1 C/A -130dBm nominal
- GLONASS L1 C/A -131dBm nominal
- BeiDou-2 B1 -133dBm
- Galileo E1 -127dBm nominal

### Signal Level Control

- Range +15/-20dB
- Resolution 0.1dB
- Linearity ±0.5dB
- Accuracy ±1.0dB RSS

### Signal Quality

- Spurious < -30dBc
- Harmonics < -40dBc
- Phase Noise < 0.1 Rad RMS
- Main Clock Stability < ±1 x 10<sup>-9</sup> over one day

### Signal Generator Unit

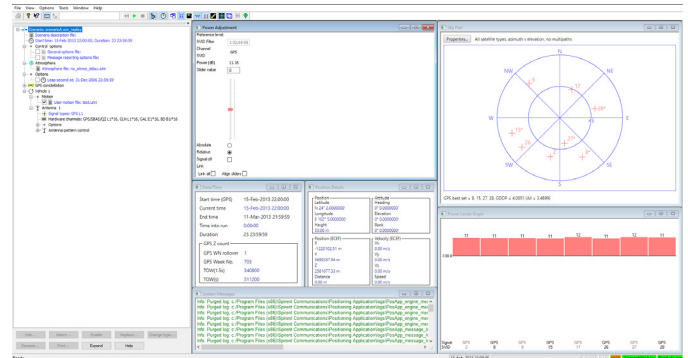
- 4 or 8 channels per constellation GPS/SBAS L1 C/A  
GLONASS L1 C/A  
Galileo E1-B/C CBOC  
BeiDou BD2 B1  
QZSS L1 C/A
- Size 449 x 386 x 89mm  
(17.75 x 15.25 x 3.5in)
- Weight 7.0kg (15.5 lbs)
- Power 100 – 240 V AC  
50 – 60 Hz

### Product Specification (MS3085) is available on request.

Performance figures and data in this document are typical and must be specifically confirmed in writing by Spirent Communications plc. Before they become applicable to any particular order or contract.

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For current product data, visit the Spirent websites at [www.spirent.com/positioning](http://www.spirent.com/positioning) or [www.spirentfederal.com](http://www.spirentfederal.com)



SimTest™



### 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](http://www.spirent.com)

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