Spirent GSS6300M

Multi-Channel GNSS Simulator

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

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 17025:2005
The GSS6300M is calibrated to the ISO 17025 standard at the time of delivery.

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## 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
- Master Clock Stability: < ±1 x 10^-9 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 B1I
- QZSS L1 C/A
- Size (W x D x H): 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 or www.spirentfederal.com

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**Contact Us**

For more information, call your Spirent sales representative or visit us on the web at www.spirent.com/ContactSpirent.

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