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.

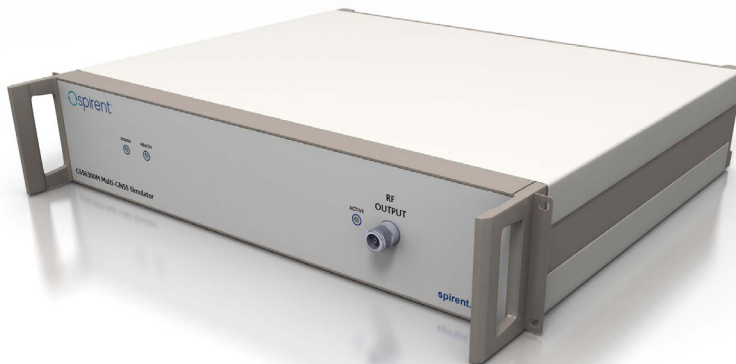More features with software enhancement pack (optional)

- 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 can be controlled via remote commands using USB, RS-232 or IEE-488 interfaces. Contact Spirent for details on external controller options.

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 SimTestTM 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
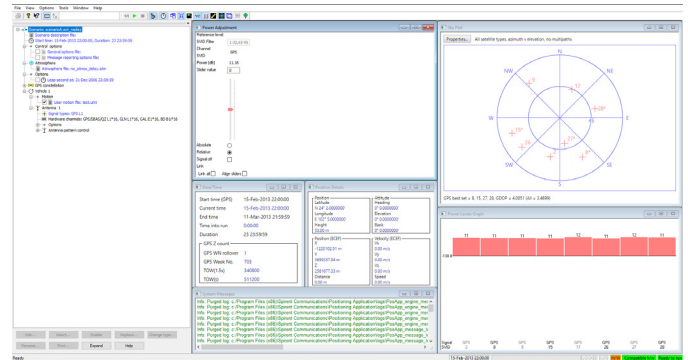- Main Clock Stability   < ±1 x 10-9 over one day

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.

The publication of information in this document does not imply freedom from patent or other rights of Spirent Communications plc. or others.

For current product data, visit the Spirent websites at www.spirent.com/positioning or 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**

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