

Spirent GSS6300

GNSS Signal Generator

The GSS6300 GNSS Signal Generator from Spirent has been designed specifically for high volume production test applications for devices that use commercial GPS/SBAS/QZSS, GLONASS, BeiDou and Galileo receivers.

The GSS6300 GNSS Signal Generator can be configured with one channel of GPS only, or with multiple constellations. It is easily upgradable in the field to add QZSS and/or GLONASS and/or BeiDou and/or Galileo test capabilities to an existing GSS6300 unit. Typical configurations include:

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

To support varying test requirements, the GSS6300 can be controlled remotely via standard interfaces including

IEEE-488, USB or RS-232. Alternatively, Spirent SimCHAN™ software is provided to enable real-time user control of the GSS6300 as precision laboratory GPS/SBAS/QZSS, GLONASS, BeiDou and/or Galileo test equipment.

The GSS6300 GPS/SBAS performance is equivalent to Spirent's proven GSS6100 Single Channel Production Test System. In addition, the GSS6300 offers QZSS, GLONASS, BeiDou and Galileo test capabilities to support your evolving GNSS testing needs.



GNSS Signal Generator: Spirent GSS6300

Key Features

- Single channel GPS/SBAS/QZSS L1 C/A and/or GLONASS L1 C/A and/or BeiDou-2 B1 and/or Galileo E1 signals in one chassis
- Easily field upgradable to add GLONASS and/or BeiDou and/or Galileo and/or QZSS to existing GSS6300 chassis
- IEEE-488, USB or RS-232 control interfaces
- Equivalent GPS performance to Spirent's proven GSS6100
- Alternative "instant start" continuous run mode
- Supplied with Spirent SimCHAN™ software
- Industry leading accuracy, fidelity and reliability
- A GSS6300 configured with GPS supports L1 SBAS messages
- Comprehensive remote command set for easy ATE integration
- Rack mount 2U chassis
- In-rack annual calibration
- Interactive run time control over power level, Doppler, PRN, GPS time and data message for each GNSS signal
- May be synchronized to external systems via 1PPS/Trigger, reference frequency input/output and 1PPS output

Specification

Output Frequency

• GPS L1	1575.42MHz
• QZSS L1	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
• QZSS L1 C/A	PRN 193 – 202
• GLONASS L1 C/A	Channels -7 to +6
• BeiDou-2 B1	PRN 1 – 37
• Galileo E1 CBOC	PRN 1 – 50

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

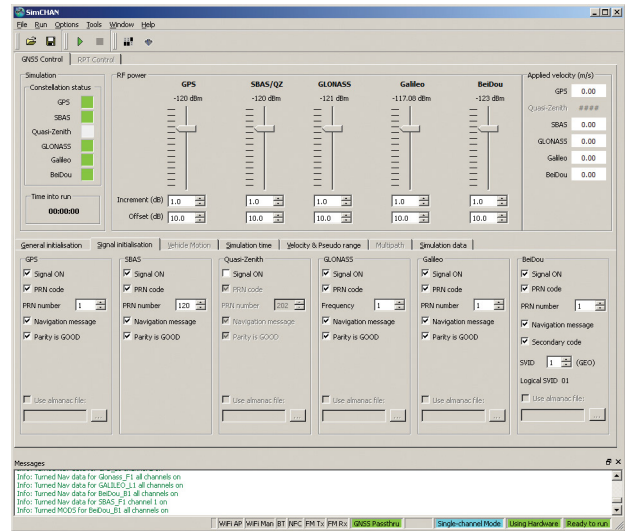
• Range	+15/-20dB
• Resolution	0.1dB
• Linearity	±0.5dB
• Accuracy	±1.0dB RSS

Signal Quality

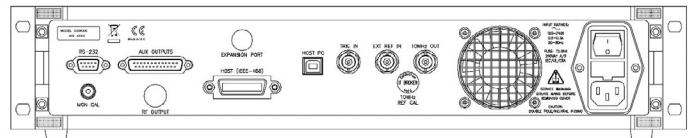
• Spurious	< -30dBc
• Harmonics	< -40dBc
• Phase Noise	< 0.1 Rad RMS
• Main Clock Stability	< ±1 x 10 ⁻⁹ over one day

Signal Generator Unit

• Channel Type	1 GPS L1 C/A and SBAS or QZSS L1 C/A and/or 1 GLONASS L1 C/A and/or BeiDou-2 B1 and/or 1 Galileo E1
• Size (W x D x H)	449 x 386 x 89mm (17.75 x 15.25 x 3.5in)
• Weight	6.5kg (14.5 lbs)
• Power	100 – 240 V AC 50 – 60 Hz



SimCHAN for Windows® User Interface



Typical Rear Panel Layout



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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.