



## GPS L1 Production Test System Spirent GSS6100

The Spirent GSS6100 is designed specifically for high volume manufacturing test applications for devices that include a GPS L1 C/A code receiver.

### Key Features

- 1 channel GPS L1 C/A code
- GPIB (IEEE488), USB or RS232 control interfaces
- Alternative “instant start” mode at power-on, based on pre-defined parameter values
- Supplied SimCHAN PC software allows use in instrument mode as an alternative to GPIB (PC not supplied)
- User control over test parameters including power level, Doppler, PRN, GPS time and data message
- Rack mount 2U chassis
- Comprehensive control ICD for easy integration into manufacturing test rigs
- In-rack annual calibration procedure
- L1 SBAS message support

For many applications, a single channel GPS signal simulator is the preferred way to ensure that each device produced meets defined parameters. While multi-channel GPS testing is essential during R&D, integration and verification testing, in a manufacturing environment many applications prefer a single channel to stimulate the receiver in a test mode. Controlled GPS testing in this way assures correct assembly and verifies expected performance parameters, typically C/No within a specified range for a given RF input power level.

### Benefits

- Easy integration with ATE control systems and other instruments
- Configurable to minimise test time per device
- In-rack calibration ensures minimal downtime and disruption
- In-region and in-country Spirent maintenance and repair service
- Controlled testing assures shipped device quality
- Industry-leading stability, quality and reliability
- May be synchronized to other systems via 1PPS/Trigger, frequency standard input/output and 1PPS output

### GSS4100 Compatibility

The GSS6100 supports all the functionality of the familiar Spirent GSS4100 single channel simulator. In addition, the GSS6100 offers an alternate operating mode that allows continuous generation of pre-defined parameters from power-on, plus the advantages of a standard 19” rack-mounted format.



Production Test GPS System: Spirent GSS6100

**SPECIFICATION**

**Output Frequency**

- Nominal carrier 1575.42MHz
- Doppler range ± 15,000 m/s
- Relative frequency ± 78.8 kHz
- Stability < ±1x10<sup>9</sup> /day

May be locked to an external standard of 1, 5 or 10MHz

**Signal Level**

- Nominal -130dBm (front panel)  
-70dBm (rear panel)
- Range ± 20dB
- Resolution 0.1dB
- Accuracy ± 1dB RSS

**Signal Quality**

- Spurious < -30dBc (in GPS band)
- Carrier Phase Noise < 0.1 rad RMS

**Signal Flexibility**

- Ranging Code PRN 1-37 GPS  
PRN 120-138 SBAS  
All G1/G2 codes  
On/off
- Data message 50bps for GPS  
250bps SBAS  
500sps SBAS FEC  
User definable content

**Signal Generator Unit**

- Size (HxWxD generator) 89 x 449 x 386mm  
(3.5 x 17.75 x 15.25inch)
- Weight (Generator) 5kg (11 lb)
- Power 100 to 264V, 48 to 62Hz
- Physical 19" rack mount, 2U height case

**Calibration adjustment**

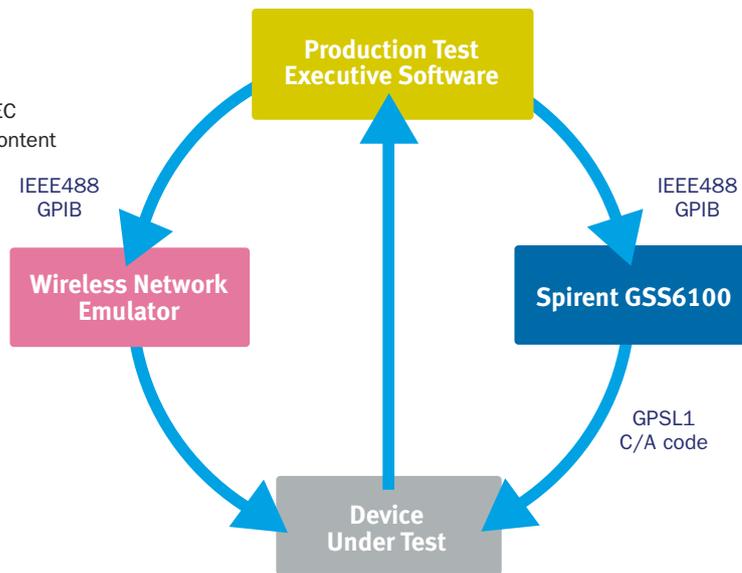
- Accessible from rear panel of unit.

**Product specifications (MS3037) is available on request.** Performance figures and data in this document are typical and must be specifically confirmed in writing by Spirent Communications (SW) Ltd. before they become applicable to any particular order or contract.

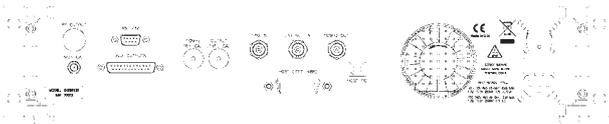
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For current product data, visit the Spirent websites at [www.spirentcom.com](http://www.spirentcom.com) or [www.spirentfederal.com](http://www.spirentfederal.com)

Typical schematic: Spirent GSS6100 as part of a production test system



Typical Rear Panel Layout



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