SPIRENT Inspired Innovation

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

GPS L1 Production Test System

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SPECIFICATION

Output Frequency

Nominal carrier	1575.42MHz
Doppler range	± 15,000 m/s
Relative frequency	± 78.8 kHz
Stability	< $\pm 1 \times 10^{-9}$ /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 (in GPS band)	< -30dBc
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

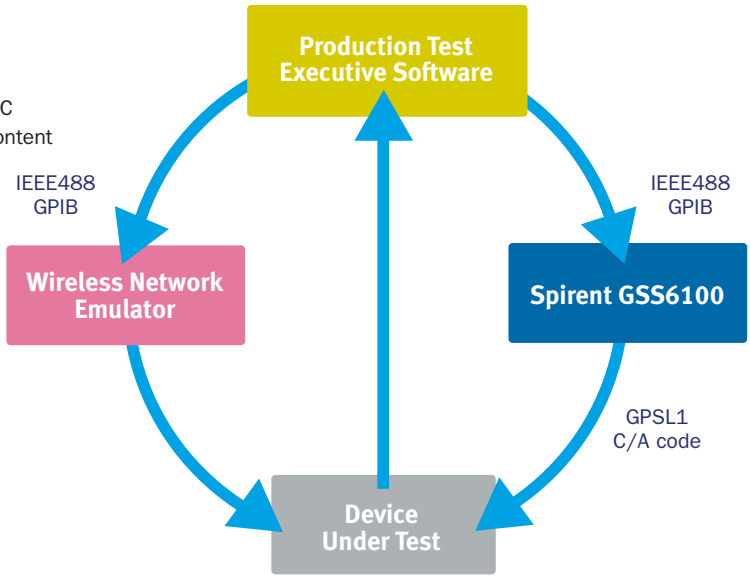
- Accessible from rear panel of unit.

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.

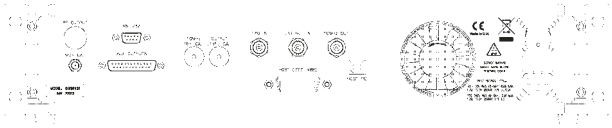
The publication of information in this document does not imply freedom from patent or other rights of Spirent Communications (SW) Ltd. or others.

For current product data, visit the Spirent websites at www.spirentcom.com or www.spirentfederal.com

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



Typical Rear Panel Layout



SALES AND INFORMATION
Spirent Communications
Aspen Way, Paignton
Devon, TQ4 7QR, England
T: +44 1803 546325
sales-uk@spirentcom.com
www.spirentcom.com

SALES AND INFORMATION
Spirent Federal Systems Inc.
22345 La Palma Avenue
Suite 105, Yorba Linda,
CA 92887
T: +1 714 692 6565
info@spirentfederal.com
www.spirentfederal.com

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