Spirent GSS7765

Interference Simulation System

The GSS7765 Interference Simulation System, when combined with one of Spirent's GNSS satellite constellation simulators, offers a comprehensive solution for testing satellite navigation equipment in the presence of intentional or unintentional RF interference.

The GSS7765 package comprises one or more high quality commercial signal generators plus an Interference Combination Unit (ICU). The package is supported by Spirent's SimGEN software suite.

The GSS7765 offers a very broad range of interfering signal options, which may be used to represent a varied array of threat sources. Interference signals available include Continuous Wave (CW), AM, FM, some of which may be pulsed. The generator also supports noise generation with variable bandwidth.

The GSS7765 can be configured to support up to 4 fully independent interference sources by the addition of extra generators to the single-source base configuration.

The SimGEN software supports three operating modes. Fixed mode allows a scripted series of events to be defined, while Modelled mode allows the user to position interference sources in the scenario and model the level effects as the simulated vehicle moves within the specified environment. Interactive mode enables the interference source power level and modulation characteristics to be controlled in real-time.





Key Features

- Fully supported in SimGEN scenarios
- Full control over interference signal content and dynamics
- Wide range of interference types
- Large power and frequency range
- Modelled and static operating modes
- Interactive mode enables power and modulation to be controlled in real-time
- Multiple configurations
- Compatible with embedded jamming (where available on the underlying system)
- Up to 4 fully independent interference sources supported



Specification

Output Frequency

500MHz to 2GHz All signal types

 Resolution 0.01Hz

• Stability <± 1ppm per year

<± 1ppm typical over 0 to 55°C

May also be frequency locked to an external standard of 1,2 or 10MHz

Signal Quality

<-30 dBc • Harmonics • Non-harmonics <-48 dBc • Sub-harmonics <-76 dBc

Signal Level at Generator Output

 Noise -169 to -23dBW • Other signals -166 to -20dBW

0.02 dB • Resolution

Interference/Signal Ratios (via ICU)

Relative to GPS L1P signal at -163dBW

 Noise -16 to +130 dB • Other signals -13 to +133 dB

Modulation types

Stepped-CW 2 to 65535 steps, 0.1ms to 100s

dwell time

AM 0 to 90% in 0.1% steps, sine,

> square, ramp, triangle rate 0.1Hz to 10kHz (sine 50kHz), 0.1Hz steps

FM 20MHz max, 0.1% steps, sine,

> square, ramp, triangle rate 0.1Hz to 10kHz (sine 50kHz), 0.1Hz steps

NOISE 1Hz to 48MHz bandwidth, 0.1Hz steps

PULSE On/Off ratio >80dB

Rise/Fall <50ns (typ) Period 2µs to 42s

Connections

• RF Output (ICU and generators) Type N female co-axial

Size (HxWxD approx)

 Generators 133 x 426 x 432mm | (5.25 x 16.8 x 17inch) ICU 133 x 426 x 200mm | (5.25 x 16.8 x 7.9inch)

Weight

Generators <13.5kg (28lb)

Configurations

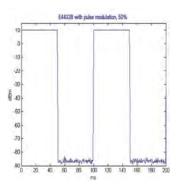
1 to 4 generators, plus ICU

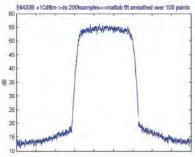
Product Specifications (MS3055/MS3008) are available on request.

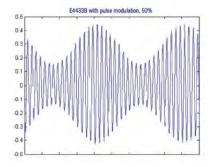
Performance figures and data in this document are typical and must be specifically confirmed in writing by Spirent Communications plc. before they become applicable to any particular order or contract.

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