

sUTP 5017

GNSS SIMULATOR

FOR INDIVIDUAL REAL-TIME SIMULATIONS



PRODUCT

Applications: Production Test Systems, Product Validation, Signal Simulation

SUTP 5017 GNSS AT A GLANCE

Our sUTP 5017 turnkey solution consists of a modular Skydel GNSS software simulation combined with high end hardware components for running real-time individual signal simulations.

The integrated Scenario Editor allows free definition of trajectories in up to 6 Degrees of Freedom. It supports differential GNSS and multi-vehicle simulation, GNSS satellite orbit modification, unlimited pseudorange additive ramps and custom fixed positions.

It is equipped with 2 Software Defined Radios (SDR) with 4 RF channels in total.

- › Including PC, high end graphic card, Software defined radio ...
- › 1000 Hz simulation update rate
- › Integrated maps for flexible and intuitive scenario creation
- › Import NMEA, KML (Google), or CSV Files
- › High dynamics
- › Open source remote API for easy automation in multiple programming languages
- › Satellite orbit modification and custom fixed position
- › Navigation message modification and corruption
- › Interference generation and injection in GNSS signals
- › File formats: CSV, KML, NMEA, etc.
- › Powerful automation & intuitive API (Python, C# and C++ open source client)
- › Runs on Linux and Windows



TECHNICAL DATA

sUTP 5017 GNSS

Mechanics

Housing	450 x 318 x 495 mm / 7RU (W x H x D)
Weight	20 kg

Power supply

Input voltage	100 - 240 VAC
Input current	10.0 A (Max.)
Input fuse	RC/CB C16 30 mA

Input / Output Interfaces

Inputs

IEC Socket
3 x USB 3.0
2x1 Gbit Eth.
1x10 Gbit Eth. (optional)
1x RF In (SMA jack, GNSS evaluation unit)
2x USB - JTAG (USRP A / USRP B)
2x USRP AUX I/O - 15 Pin
1x GPS Antenna / SMA-f
1x ext. 10 MHz signal / SMA-f
1x PPS Signal / SMA-f

Outputs

1x HDMI
2x RF DUT (SMA jack, identical signal)
2x GPS Antenna
2x USRP Reference signal / SMA-f
2x USRP Trigger signal / SMA-f
2x 10 MHz Signal / SMA-f
2x PPS Signal / SMA-f

Provided signals

Basic satellite signals

GPS L1 C/A, L1 C, L2 C, L5, P-Code
Glonass G1, G1/G2, CDMA
Galileo E1, E1/E5/AltboC, E1 OS-NMA, E6 CS
Beidou B1, B1/B2, Phase III
SBAS, L1, L5

Signal manipulation

Advanced Jamming, Interference/Jamming with CW, Chirp, Pulse, BPSK, BOC, AGWN, Spoofing, Multipath

Further signal options

Multi Instance option
Anechoic Chamber multi antenna installation

Simulation possibilities

Single antenna, single vehicle
Multi antenna, multi vehicle
HIL, RTK