



NS8102 Series Navigation Signal Simulator

Datasheet



Saluki Technology Inc.

The document applies to the satellite navigation signal simulator of the following model:

- NS8102 Series

Standard package and accessories:

| No. | Item |
|-----|------------------|
| 1 | Main Machine |
| 2 | Power cable |
| 3 | User manual |
| 4 | Bundled RF cable |

Options of the NS8102 series navigation signal simulator (up to 3 signal frequencies):

| Option No. | Description |
|------------|-------------------|
| NS8102 -01 | BeiDou System: B1 |
| NS8102-02 | BeiDou System: B2 |
| NS8102-03 | BeiDou System: B3 |
| NS8102-04 | GPS: L1 |
| NS8102-05 | GPS: L2 |
| NS8102-06 | GPS: L5 |
| NS8102-07 | GLONASS: L1 |
| NS8102-08 | GLONASS: L2 |
| NS8102-09 | Galileo: E1 |
| NS8102-10 | Galileo: E5a |
| NS8102-11 | Galileo: E5b |
| NS8102-12 | RDSS: S |
| NS8102-13 | RDSS: L |

Preface

Thank you for choosing NS8102 series satellite navigation signal simulator produced by Saluki Technology Inc.

We devote ourselves to meeting your demands, providing you high-quality measuring instrument and the best after-sales service. We persist with “superior quality and considerate service”, and are committed to offering satisfactory products and service for our clients.

Document No.

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Saluki Technology

Document Authorization

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Product Quality Assurance

The warranty period of the product is 36 months from the date of delivery. The instrument manufacturer will repair or replace damaged parts according to the actual situation within the warranty period.

Product Quality Certificate

The product meets the indicator requirements of the document at the time of delivery. Calibration and measurement are completed by the measuring organization with qualifications specified by the state, and relevant data are provided for reference.

Quality/Settings Management

Research, development, manufacturing and testing of the product comply with the requirements of the quality and environmental management system.

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1. Overview

Saluki NS8102 series navigation signal simulator is a low-cost test solution for satellite navigation terminal manufacturers. It is configured with 8 signal channels. NS8102 has the satellite navigation signal analog output capability of BDS constellation (36 RNSS), GPS constellation (32), GLONASS constellation (24), Galileo constellation (24) and its mixed constellation. Optional standard Ethernet interface for easy integration into production line ATE systems and for PCBA testing of semi-finished and finished products.

NS8102 series navigation signal simulator has many features like small size, light weight, easy to carry, abundant functions etc.. It supports both wired and wireless test methods, which can be used for user machine sensitivity, signal-to-noise ratio, first positioning time, positioning accuracy, speed measurement accuracy and other indicators test. It is suitable for car navigation, navigation mobile phone, digital products (with navigation) manufacturers to test and use.

1. 1. Definitions

Specification (Spec.)

Specifications describe the performance of parameters within the warranty of the instrument. Product specifications applies under the following conditions:

- 1) Two hours storage at ambient temperature(0-40 °C) followed by 30 minutes warm-up operation
- 2) Specified environmental conditions met
- 3) Instrument is within its calibration cycle.
- 4) The specification listed in the datasheet includes measurement uncertainties.

Data in this document are Spec. unless otherwise noted.

Typical (typ.)

Typical data is not guaranteed by instrument warranty. It describes additional product performance information that 80 percent of the units exhibit. Typical data only valid at 25 °C. Typical performance does not include measurement uncertainty.

Nominal (nom.)

Nominal values indicate expected performance, or describe product performance that is useful in the application of the product, but are not covered by the product warranty.

2. Specifications

2. 1. Signal Simulation Performance

2. 1. 1. Signal Output Frequency

| No. | Signal Type | Frequency |
|-----|-------------|-------------|
| 1 | Beidou B1 | 1561.098MHz |
| 2 | Beidou B2 | 1207.14MHz |
| 3 | Beidou B3 | 1268.52MHz |
| 4 | GPS L1 | 1575.42MHz |
| 5 | GPS L2 | 1227.60MHz |
| 6 | GPS L5 | 1176.45MHz |
| 7 | GLONASS L1 | 1602.000MHz |
| 8 | GLONASS L2 | 1246.00MHz |
| 9 | Galileo E1 | 1575.42MHz |
| 10 | Galileo E5a | 1176.45MHz |
| 11 | Galileo E5b | 1207.14MHz |
| 12 | RDSS L | 1618.25MHz |
| 13 | RDSS S | 2491.75MHz |

2. 1. 2. Modulation System

| | |
|------------------------|------|
| Modulation Mode | BPSK |
|------------------------|------|

2. 1. 3. Signal Power Control

| No. | Parameters | Range |
|-----|-------------------|-------------------|
| 1 | Power range | -150dBm to -60dBm |
| 2 | Resolution | Superior to 1dB |
| 3 | Absolute accuracy | Superior to 1dB |

2. 1. 4. Signal Scale

| | |
|-----------------------|-----------------------------------|
| Channel Number | Up to 8 channels in one frequency |
|-----------------------|-----------------------------------|

2. 1. 5. Phase Noise

| No. | Frequency Level | Noise Value |
|-----|-----------------|-------------|
| 1 | 100Hz | -75dBc/Hz |
| 2 | 1kHz | -80dBc/Hz |
| 3 | 10kHz | -85dBc/Hz |
| 4 | 100kHz | -90dBc/Hz |

2. 1. 6. Spurious Level

| | |
|----------------|----------|
| Spurious Level | < -40dBc |
|----------------|----------|

2. 1. 7. Harmonics Level

| | |
|-----------------|----------|
| Harmonics Level | < -35dBc |
|-----------------|----------|

2. 1. 8. External Interface

| | |
|----------------|-----------------------------------|
| RF output port | 1 N-type (optional for two ports) |
|----------------|-----------------------------------|

2. 2. General Information

| | |
|-----------------------|--------------------------|
| Power Supply | AC power: 220V±20V, 200W |
| Operation Temperature | -20°C - +50°C |
| Storage Temperature | -45°C - +75°C |
| Size | 518.4mm * 482.6mm * 44mm |

2. 3. Compliant

2. 3. 1. CE



- EMC

Complies with the requirements of the EC EMC directives.

Test Standards: EN 61326

- Safety

Complies with **EC LVD** Directive.

Test Standard: **EN61010-1**

2. 3. 2.

2. 3. 3. **ISO**



- Manufacturing

This instrument is manufactured in an ISO-9001 registered facility.

- End of Document -