NS1102X Series Navigation Signal Simulator

Datasheet

Saluki Technology Inc.

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

I NS1102X Series

Standard package and accessories:

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

Ordering information of the NS1102X series navigation signal simulator:

Model No.	Item
L1	GPS-L1, BDS-B1I, BDS-B1C, GLONASS-L1, Galileo-E1
L2	GPS-L2, BDS-B2I, GLONASS-L2, Galileo-E5a, Galileo-E5b

Preface

Thank you for choosing NS1102X 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.

NS1102-02-01

Version

Rev01 2020.01

Saluki Technology

Document Authorization

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.

Contacts

Service Tel:	886. 909 602 109
Website:	www.salukitec.com
Email:	sales@salukitec.com
Address:	No. 367 Fuxing N Road, Taipei 105, Taiwan (R.O.C.)

Content

1. Overview

Saluki NS1102X series navigation signal simulator is a low-cost test solution for satellite navigation terminal manufacturers. It is configured with up to 12 signal channels. NS1102X 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.

NS1102X 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℃) 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℃. 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 B1I	1561.098MHz
2	Beidou B2I	1207.14MHz
3	GPS L1	1575.42MHz
4	GPS L2	1227.60MHz
5	GLONASS L1	1602.000MHz
6	GLONASS L2	1246.00MHz
7	Galileo E1	1575.42MHz
8	Galileo E5a	1176.45MHz
9	Galileo E5b	1207.14MHz

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 0 . 2 dB
3	Absolute accuracy	Superior to 0 . 7 dB

2.1.4. Signal Scale

Channel Number	Up to 16 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)

2.1.9. Signal accuracy

Pseudorange phase control accuracy	Better than 0.05m
Pseudorange change rate accuracy	Better than 0.005m/s
Channel-to-channel consistency	0.3ns

2.1.10. Dynamic range

Speed	0-16000 m/s
Acceleration	0-900 m/s^2
Jerk:	0-900 m/s^3

2.2.General Information

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

2.3.Compliant

2.3.1. CE

CE

I EMC

Complies with the requirements of the **EC EMC** directives.

Test Standards: **EN 61326**

I Safety

Complies with **EC LVD** Directive.

Test Standard: **EN61010-1**

2.3.2. ISO

l Manufacturing

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

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