S3102B/BU Cable & Antenna Analyzer

（300kHz～9GHz）

Product Overview

S3102B Cable & Antenna Analyzer

S3102BU Cable & Antenna Analyzer

The Saluki S3102 Cable & Antenna Analyzer covers a frequency range of 300 kHz to 9 GHz. It features test functions for parameters such as cable loss, VSWR (Voltage Standing Wave Ratio), and return loss. By utilizing the Distance-to-Fault (DTF) VSWR or DTF Return Loss functions, it can precisely locate minor issues, thereby eliminating potential faults.

The S3102B Cable & Antenna Analyzer is characterized by its compact size and light weight, making it easy to carry for mobile operations and suitable for use in confined test spaces. The unit features a 10.1-inch LCD touch screen, offering simple operation and a user-friendly interface, which enhances testing efficiency in field environments.

The S3102BU Cable & Antenna Analyzer utilizes USB 3.0 bus communication. Its compact size, high efficiency, and flexibility make it ideal for applications requiring high mobility, portability, and reliability in test systems, such as communication system testing and RF component testing. It is also suitable for occasions demanding high automation and test efficiency.

Key Features

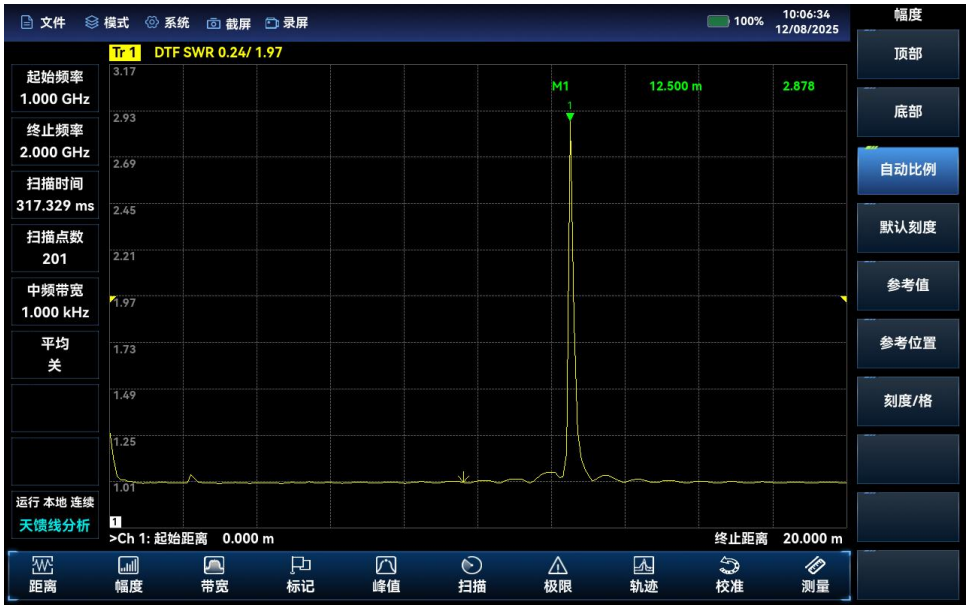
- **Practical Antenna and Cable Analysis**
  Features Return Loss and 1-Port Cable Loss test functions.
  Features Distance-to-Fault (DTF) function.
  Supports TDR cable analysis function to determine the location and nature of faults (e.g., short circuit, open circuit).
- **Supports Embedded Calibration**
  One-key calibration can be completed without external calibration kits, effectively improving test efficiency.
- **Flexible Optical Time Domain Reflectometer (OTDR) and Optical Power Meter (OPM)**
  OTDR: Fiber type G.652 single-mode 9/125, measurement wavelengths 1310nm ±20nm & 1550nm ±20nm, typical dynamic range 38dB.
  OPM: Calibration wavelengths 850/980/1270/1300/1310/1490/1550/1577/1625/1650nm, typical measurement range -50dBm to +20dBm (shared optical port with OTDR).
- **Convenient User Experience**
  10.1-inch LCD capacitive touch screen, supports marker dragging.
  8 independent markers, 4 display windows, 8 trace displays.
- **Excellent Field Usability**
  Operating temperature: -10° C to +55° C, Storage temperature: -40° C to +70° C.
  S3102B unit weight (excluding battery): approx. 1.3 kg.
  S3102BU unit weight: approx. 0.4 kg.

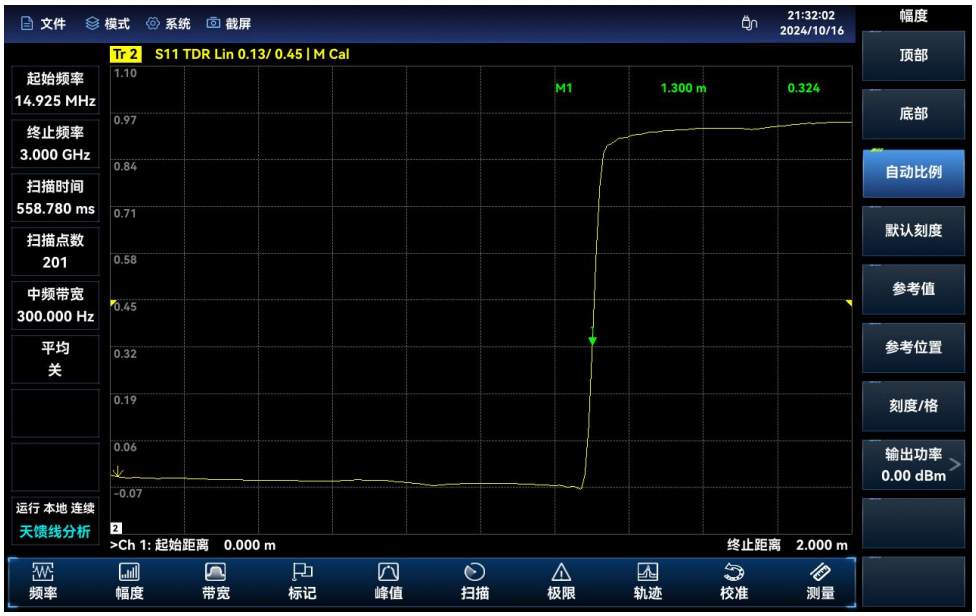
Supports three display modes: Default, Outdoor, and Night Vision.
Built-in large-capacity lithium-ion battery, typical battery life of 4 hours.

Rich Measurement Function Modes and Options

Antenna and Cable Analysis:

The S3102 Cable & Antenna Analyzer is capable of measuring parameters of cables, feeders, and other devices under test, including Return Loss, VSWR (Voltage Standing Wave Ratio), Impedance, Cable Loss, and Distance-to-Fault. Return Loss and Distance-to-Fault measurements help you identify the specific causes of performance degradation in antenna and feeder systems. The Antenna and Cable Analysis function supports TDR testing, enabling analysis of the type of cable fault. Additionally, the instrument has built-in parameters for some common cables and feeders for user convenience.

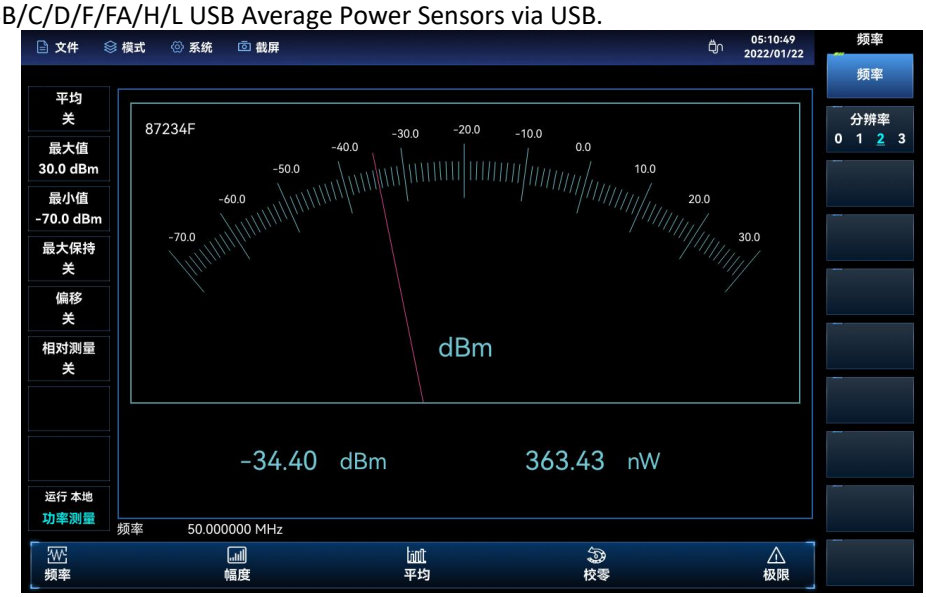




USB Power Measurement (Option):

The S3102B Cable & Antenna Analyzer can measure continuous wave (CW) signal power up

to 67 GHz by connecting external Saluki S87233C/D/E/F/L USB CW Power Sensors and S87235B/C/D/F/FA/H/L USB Average Power Sensors via USB.

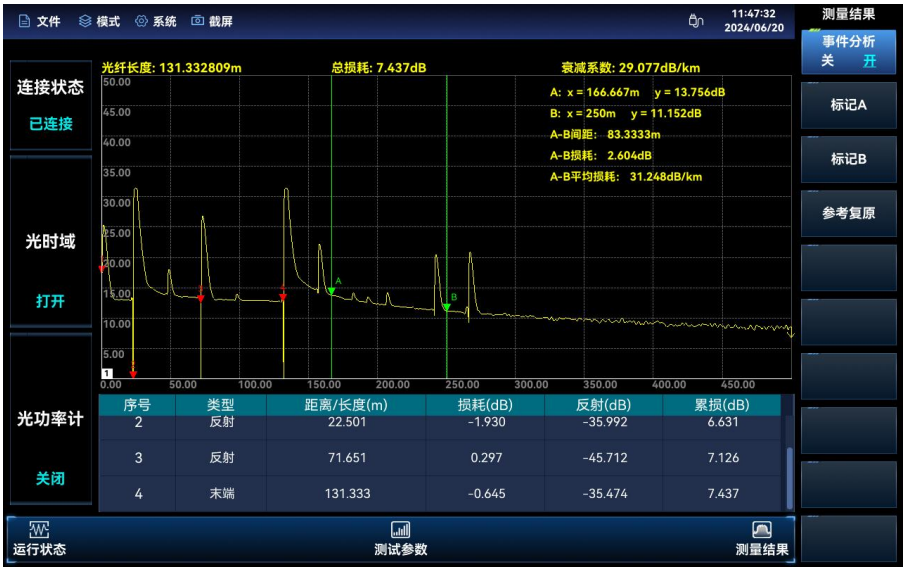


USB Peak Power Measurement (Option):

The S3102B Cable & Antenna Analyzer can test RF/microwave signals up to 67 GHz by connecting external Saluki S87234D/E/F/L USB Peak Power Sensors and S87236D/E/F/L USB Peak Power Sensors via the USB interface, enabling pulse power measurement over a wide dynamic range.

Optical Time Domain Reflectometer (Option):

The OTDR function of the S3102B Cable & Antenna Analyzer, when connected to an external USB OTDR, can locate and analyze fiber optic faults and perform optical power measurements.



Typical Applications

On-Site Comprehensive Performance Evaluation of Electronic Equipment

The S3102B Cable & Antenna Analyzer features high performance specifications, fast sweep speed, and simple operation. Its handheld st**ructure offers a** compact size, light weight, and strong environmental adaptability. It can be battery-powered and is suitable for on-site installation, commissioning, and maintenance support of various electronic equipment.

Multi-Parameter Testing in CATV, Wireless Communications, and Other Fields

Cable TV operators, cellular phone system providers, digital mobile communication operators, and equipment manufacturers utilize the S3102 series Cable & Antenna Analyzer for on-site integrated testing, including antenna/feeder contact performance, S-parameters of components, and feed-through power.

Building Multi-Channel S11 Parameter Test Systems

The S3102BU Cable & Antenna Analyzer is a USB bus module product. Its compact size, high efficiency, and flexibility make it ideal for building multi-channel S11 parameter test systems on production lines, providing users with a low-cost integrated solution for S11 parameter test systems.

Technical Specifications

Model	S3102B：300kHz～9GHz S3102BU：300kHz～9GHz
Frequency Accuracy	±1.0ppm
IF Bandwidth	3Hz、10Hz、30Hz、100Hz、300Hz、1kHz、3kHz、10kHz、30kHz、100kHz
Reflection Tracking	±0.08dB (300kHz≤f≤9GHz)
Effective Directivity	≥42dB (300kHz≤f≤6GHz) ≥36dB (6GHz＜f≤9GHz)
Effective Source Match	≥31dB (300kHz≤f≤9GHz)
Dimensions	S3102B: Nominal Dimensions (W×H×D): (258.3 ± 2.5) mm × (179.4 ± 2.5) mm × (37.0 ± 1.5) mm (excluding dust plugs, connectors, and side strap) S3102BU： Nominal Dimensions (W×H×D): (167 ± 1.2) mm × (75 ± 0.8) mm × (24.5 ± 0.5) mm, excluding interface plugs.
Weight	S3102B: ≤1.3 kg (excluding built-in battery) S3102BU: ≤0.4 kg
Operating Temperature	-10℃～+55℃
Storage Temperature	-40℃～+70℃
Electromagnetic Compatibility (EMC)	Complies with the relevant requirements of clause 3.9.1 of GJB 3947A-2009
Power Input Type	S3102B: AC Power Adapter: Input voltage 100 V to 240 V AC, 50 Hz/60 Hz; Output voltage 15 V DC, 1.5 A Built-in Lithium-ion Battery: Nominal voltage 7.2 V S3102BU: AC Power Adapter: Input voltage 100 V to 240 V AC, 50 Hz/60 Hz; Output voltage 5 V DC, 2.0 A
Battery Life	Typical 4 hours
Test Port	S3102B/BU: N-type female adapter
Other Interfaces	S3102B: GPS Antenna Interface: SMA female (Option) S3102BU: Trigger Input: MMCX Trigger Output: MMCX
Communication and Auxiliary Interfaces	S3102B: USB Interface: 1 USB Type-C interface Storage Card: Micro SD card S3102BU: USB Interface: 2 USB Type-C interfaces

Ordering Information

Main Unit:

Model	Name	Frequency Range
S3102B	Cable & Antenna Analyzer	300 kHz to 9 GHz
S3102BU	Cable & Antenna Analyzer	300 kHz to 9 GHz

Standard Accessories

S3102B Cable & Antenna Analyzer:

No.	Name	Qty	Description
1	Power Cord	1	
2	Rechargeable Li-ion Battery	1	
3	Power Adapter	1	
4	Quick Start Guide	1	Quick start guide for the instrument
5	Product Certificate	1	Factory inspection certificate

S3102BU Cable & Antenna Analyzer:

No.	Name	Qty	Description
1	Communication Cable Assembly	2	
2	Quick Start Guide	1	Quick start guide for the instrument
3	Product Certificate	1	Factory inspection certificate

S3102B Options

No.	Option Code	Option Name	Function
1	S3102-01	English Version Option	Includes English nameplate, menu, and quick start guide.
2	S3102-02	User Manual (Chinese)	User manual in Chinese.
3	S3102-03	User Manual (English)	User manual in English.
4	S3102-04	Programming Manual (Chinese)	Programming manual in Chinese.
5	S3102-05	Programming Manual (English)	Programming manual in English.
6	S3102-S01	USB Power Measurement	Provides power measurement function. Requires external USB CW power sensors (S87233C/D/E/F/L and USB average power sensors (S87235B/C/D/F/FA/H/L).
7	S3102-S02	USB Peak Power Measurement	Provides peak power measurement function. Requires S87236D/E/F/L USB Peak/Average Power Sensors.
8	S3102-S32	TDR (Time Domain Reflectometry)	Analyzes the nature of faults at cable fault locations.
9	S3102-S34	Optical Time Domain Reflectometer (OTDR)	Provides OTDR and optical power meter functions.
10	S3102-S38	Embedded Electronic Calibration	
11	S3102-H01	GPS/BeiDou Function	Enables GPS or BeiDou positioning via an

No.	Option Code	Option Name	Function
			external antenna.
12	S3102-H02	Wi-Fi Communication	Enables wireless data transmission with external devices.
13	S3102-H06	Power Adapter	Power adapter.
14	S3102-H07	Rechargeable Li-ion Battery	Spare battery pack, nominal voltage 7.2 V, battery capacity 9900 mAh.
15	S3102-H11	Storage Card	Micro SD card, 128 GB capacity.
16	S3102-H12	Type-C 10-in-1 Docking Station	For communication interface expansion.
17	S3102-H14	Type-C to USB Adapter	USB-C male to USB-A female adapter. Required for S3102B if power measurement, peak power measurement, or OTDR options are selected.
18	S87233C	USB CW Power Sensor	Frequency range: 8 kHz to 12 GHz, Connector type: N-type (male)
19	S87233D	USB CW Power Sensor	Frequency range: 10 MHz to 18 GHz, Connector type: N-type (male)
20	S87233E	USB CW Power Sensor	Frequency range: 50 MHz to 26.5 GHz, Connector type: 3.5 mm (male)
21	S87233F	USB CW Power Sensor	Frequency range: 50 MHz to 40 GHz, Connector type: 2.4 mm (male)
22	S87233L	USB CW Power Sensor	Frequency range: 50 MHz to 67 GHz, Connector type: 1.85 mm (male)
23	S87235B	USB Average Power Sensor	Frequency range: 8 kHz to 8 GHz, Connector type: N-type (male)
24	S87235C	USB Average Power Sensor	Frequency range: 10 MHz to 8 GHz, Connector type: N-type (male)
25	S87235D	USB Average Power Sensor	Frequency range: 10 MHz to 18 GHz, Connector type: N-type (male)
26	S87235F	USB Average Power Sensor	Frequency range: 10 MHz to 33 GHz, Connector type: 3.5 mm (male)
27	S87235FA	USB Average Power Sensor	Frequency range: 10 MHz to 40 GHz, Connector type: 2.92 mm (male)
28	S87235H	USB Average Power Sensor	Frequency range: 10 MHz to 50 GHz, Connector type: 2.4 mm (male)
29	S87235L	USB Average Power Sensor	Frequency range: 50 MHz to 67 GHz, Connector type: 1.85 mm (male)
30	S87236D	USB Peak/Average Power Sensor	Frequency range: 50 MHz to 18 GHz, Connector type: N-type (male).
31	S87236E	USB Peak/Average Power Sensor	Frequency range: 50 MHz to 26.5 GHz, Connector type: 3.5 mm (male).
32	S87236F	USB Peak/Average Power Sensor	Frequency range: 50 MHz to 40 GHz, Connector type: 2.4 mm (male).
33	S87236L	USB Peak/Average Power Sensor	Frequency range: 500 MHz to 67 GHz, Connector type: 1.85 mm (male).
34	S31101A	N-type Male Calibration Kit	DC to 18 GHz calibration kit
35	S31101B	N-type Female Calibration Kit	DC to 18 GHz calibration kit
36	S20201A	N-type Male Calibration Kit	DC to 9 GHz calibration kit
37	S20201B	N-type Female Calibration Kit	DC to 9 GHz calibration kit

No.	Option Code	Option Name	Function
38	S20201AE	N-type Economy Male Calibration Kit	DC to 9 GHz calibration kit
39	S20201BE	N-type Economy Female Calibration Kit	DC to 9 GHz calibration kit
40	S87302AZ	Test Cable	N/N-JJ test cable (0.6 m)
41	S87302BA	Test Cable	N/N-KJ test cable (0.6 m)
42	S3102-H67	USB OTDR	For USB optical time domain reflectometry and optical power measurement.
43	S3102B-JL	Calibration Service	Provides calibration service and calibration report. Applicable to S3102B only.
44	S3102B-EWT1	Extended Warranty (1 Year)	1-year extended warranty beyond standard period. Order 2 for a 2-year extension, etc. Excludes calibration, includes one-way shipping only. Applicable to S3102B only.

- **S3102BU Options**

No.	Option Code	Option Name	Function
1	S3102U-01	English Version Option	Includes English nameplate, menu, and quick start guide.
2	S3102U-02	User Manual (Chinese)	User manual in Chinese.
3	S3102U-03	User Manual (English)	User manual in English.
4	S3102U-04	Programming Manual (Chinese)	Programming manual in Chinese.
5	S3102U-05	Programming Manual (English)	Programming manual in English.
6	S3102-S32	TDR (Time Domain Reflectometry)	Analyzes the nature of faults at cable fault locations.
7	S3102-S38	Embedded Electronic Calibration	
8	S3102U-H13	USB 3.0 Hub	10-port USB 3.0 hub.
9	S31101A	N-type Male Calibration Kit	DC to 18 GHz calibration kit
10	S31101B	N-type Female Calibration Kit	DC to 18 GHz calibration kit
11	S20201A	N-type Male Calibration Kit	DC to 9 GHz calibration kit
12	S20201B	N-type Female Calibration Kit	DC to 9 GHz calibration kit
13	S20201AE	N-type Economy Male Calibration Kit	DC to 9 GHz calibration kit
14	S20201BE	N-type Economy Female Calibration Kit	DC to 9 GHz calibration kit
15	S87302AZ	Test Cable	N/N-JJ test cable (0.6 m)
16	S87302BA	Test Cable	N/N-KJ test cable (0.6 m)
17	S3102BU-JL	Calibration Service	Provides calibration service and calibration report. Applicable to S3102BU only.
18	S3102BU-EWT1	Extended Warranty (1 Year)	1-year extended warranty beyond standard period. Order 2 for a 2-year extension, etc. Excludes calibration, includes one-way shipping only. Applicable to S3102BU only