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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 35689B

HP Agilent 35689B S-Parameter Test Set 100 kHz to 1.8 GHz The HP 35689B is the higher-frequency S-parameter test set companion to 35689A. OEM 4396B/35689 tables list 35689B covering 100 kHz to 1.8 GHz for 4396B-class combination analyzers, while 35689A covers 100 kHz to 500 MHz for 4395A. The test set provides directional bridges and port switching for transmission/reflection measurements. RF/microwave S-parameter tests on 4396B from 100 kHz to 1.8 GHz. Host Analyzer: HP 4396B combination analyzer class The HP 35689B is the higher-frequency S-parameter test set companion to 35689A. OEM 4396B/35689 tables list 35689B covering 100 kHz to 1.8 GHz for 4396B-class combination analyzers, while 35689A covers 100 kHz to 500 MHz for 4395A. The test set provides directional bridges and port switching for transmission/reflection measurements. RF/microwave S-parameter tests on 4396B from 100 kHz to 1.8 GHz. Host Analyzer: HP 4396B combination analyzer class Related Test Set: 35689A 100 kHz to 500 MHz for 4395A



MODEL

**Agilent / Keysight
35689B**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

35689B

LISTING

<https://aumictechlabs.com/products/35689b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight 35689B is a 75-ohm S-parameter test set that extends the vector network analysis capabilities of the 3589A spectrum analyzer. Operating from 100 kHz to 150 MHz, this 2-port measurement system delivers automated switching and full test port control through Type-N

connectors. The 35689B addresses 75-ohm system characterization, complementing the 50-ohm 35689A variant.

Technical Specifications

Frequency Range: 100 kHz to 150 MHz

System Impedance: 75 Ohms

Ports: 2-port configuration

Test Port Connectors: Type-N

Spectrum Input Port: 75 Ohm

Switching: Automatic

Key Features

Automatically switched measurement architecture eliminates manual port selection during testing

Type-N test ports ensure reliable 75-ohm RF connections

Direct integration with the 3589A spectrum analyzer for control and data flow

Full 2-port S-parameter measurement capability across the 100 kHz to 150 MHz band

Typical Applications

The 35689B serves transmission line characterization, impedance matching networks, filter response analysis, and component S-parameter extraction in 75-ohm RF and microwave systems. Cable and connector measurements benefit from its dedicated 75-ohm design.

Compatibility & Integration

Purpose-built for the Agilent/Keysight 3589A spectrum analyzer, the 35689B interfaces directly with the analyzer's measurement engine. The test set operates exclusively in 75-ohm environments; users working with 50-ohm systems require the 35689A model instead.

35689B Characteristics / Specifications

PARAMETER	VALUE
Model	35689B
Instrument Type	S-parameter test set
Frequency Range	100 kHz to 1.8 GHz
Host Analyzer	HP 4396B combination analyzer class
Related Test Set	35689A 100 kHz to 500 MHz for 4395A
System Impedance	50 ohm
Measurements	S11 S21 transmission/reflection class
Form Factor	dedicated S-parameter test set
Manufacturer	HP Agilent Keysight
Use Case	RF network measurements with 4396B
Connectors	50 ohm coaxial
Control	from host 4396B
Operating Temperature Class	RF analyzer laboratory window
Literature	HP 35689A/35689B S-parameter test set tables
Directivity Class	test-set directional bridge
Source Path	host analyzer source through the test set
Receiver Path	coupled ports to 4396B receivers
Calibration	SOLT/response with 4396B
Related Analyzer 43	use 35689A not 35689B
Documentation Type	OEM combination-analyzer accessory table
Brand Lineage	Hewlett Packard Agilent Keysight
Calibration Source	OEM published specifications
Operating temperature	Class: RF analyzer laboratory window

35689B Specifications

PARAMETER	VALUE
Applications	RF/microwave S-parameter tests on 4396B from 100 kHz to 1.8 GHz.
Key Features	S-parameter test set for 4396B
Companion 35689A to 500 MHz	50 ohm coaxial
Technical Specifications	Model: 35689B

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Class: RF analyzer laboratory window
Operating Temperature	Class: RF analyzer laboratory window
Operating Temperature Class	RF analyzer laboratory window
Literature	HP 35689A/35689B S-parameter test set tables
Directivity Class	test-set directional bridge
Source Path	host analyzer source through the test set
Receiver Path	coupled ports to 4396B receivers
Calibration	SOLT/response with 4396B
Related Analyzer 43	use 35689A not 35689B
Documentation Type	OEM combination-analyzer accessory table
Brand Lineage	Hewlett Packard Agilent Keysight
Calibration Source	OEM published specifications Notes From HP 35689B S-parameter test-set listings (100 kHz to 1.8 GHz with 4396B). Directivity and port match versus frequency are on the 35689B data sheet.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Model	35689B
Instrument Type	S-parameter test set
Frequency Range	100 kHz to 1.8 GHz
Host Analyzer	HP 4396B combination analyzer class
Related Test Set	35689A 100 kHz to 500 MHz for 4395A
System Impedance	50 ohm
Measurements	S11 S21 transmission/reflection class
Form Factor	dedicated S-parameter test set
Manufacturer	HP Agilent Keysight
Use Case	RF network measurements with 4396B
Connectors	50 ohm coaxial
Control	from host 4396B
Operating Temperature Class	RF analyzer laboratory window
Literature	HP 35689A/35689B S-parameter test set tables
Directivity Class	test-set directional bridge
Source Path	host analyzer source through the test set
Receiver Path	coupled ports to 4396B receivers
Calibration	SOLT/response with 4396B
Related Analyzer 4395	use 35689A not 35689B
Documentation Type	OEM combination-analyzer accessory table
Brand Lineage	Hewlett Packard Agilent Keysight
Calibration Source	OEM published specifications
Notes	
From HP 35689B S-parameter test-set listings (100 kHz to 1.8 GHz with 4396B). Directivity and port match versus frequency are on the 35689B data sheet.	

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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NIST-traceable calibration · SAM registered ·
30-day returns
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.