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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 85101C

HP Agilent 85101C 8510C Network Analyzer Display Processor The HP/Agilent 85101C is the display/processor (top box) of the 8510C vector network analyzer. OEM 8510C data sheet 5091-8484E lists broadband measurements from 45 MHz to 50 GHz in 2.4 mm coax, 45 MHz to 110 GHz in 1.0 mm coax, and 33 GHz to 110 GHz in waveguide, with magnitude, phase, and group delay of two-port networks. Display control specifies a 7.5 inch diagonal color raster-scan display (5.5 inch graticule), 16 colors, up to eight limit-line segments per parameter per channel, and electrical delay of plus or minus 1 second. The HP/Agilent 85101C is the display/processor (top box) of the 8510C vector network analyzer. OEM 8510C data sheet 5091-8484E lists broadband measurements from 45 MHz to 50 GHz in 2.4 mm coax, 45 MHz to 110 GHz in 1.0 mm coax, and 33 GHz to 110 GHz in waveguide, with magnitude, phase, and group delay of two-port networks. Display control specifies a 7.5 inch diagonal color raster-scan display (5.5 inch graticule), 16 colors, up to eight limit-line segments per parameter per channel, and electrical delay of plus or minus 1 second. Modular microwave VNA control and display for 8510C systems from 45 MHz through millimeter-wave with matching test sets and 8360 sources.



MODEL

**Agilent / Keysight
85101C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

85101C

LISTING

<https://aumictechlabs.com/products/85101c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 85101C is a test set designed for the 8510C network analyzer system, delivering comprehensive S-parameter measurements and network characterization across microwave frequencies. It measures magnitude, phase, group delay, and all four S-parameters (S₁₁, S₁₂, S₂₁, S₂₂) of two-port networks. The instrument quantifies both scalar parameters - gain, gain flatness, gain compression, reverse isolation, return loss, and gain drift versus time - and vector parameters including deviation from linear phase, group delay, and complex impedance. Optional time domain capability computes the impulse or step response via inverse Fourier transform of frequency domain data.

Technical Specifications

Frequency Coverage: The 85101C operates from 45 MHz to 110 GHz depending on connector and calibration kit selection: 45 MHz to 50 GHz (2.4 mm coax) 45 MHz to 110 GHz (1.0 mm coax) 33 GHz to 110 GHz (waveguide bands) Discrete ranges: 0.045–2 GHz, 2–20 GHz, 20–40 GHz, 40–50 GHz; also 0.045–2 GHz, 2–8 GHz, 8–20 GHz

Dynamic Range: Receiver dynamic range reaches 93 dB at 0.045–2 GHz, 105 dB at 2–20 GHz, 95 dB at 20–40 GHz, and 87 dB at 40–50 GHz. System dynamic range spans 77 dB (0.045–2 GHz) to 89 dB (2–20 GHz), declining to 60 dB (40–50 GHz).

Power Measurement: Maximum power at port 2 ranges from +17 dBm (0.045–2 GHz) to –3 dBm (40–50 GHz). Minimum detectable power varies from –76 dBm (0.045–2 GHz) to –97 dBm (2–20 GHz). Reference power at port 1 nominally ranges from +2 dBm to –6 dBm across frequency bands.

Key Features

- Two-port S-parameter calibration via Thru-Reflect-Line (TRL) for coaxial and Line-Reflect-Match (LRM) for on-wafer and in-fixture measurements
- Internal adapter removal function for non-insertable device characterization with high accuracy
- Four S-parameter color display; CRT or LCD display options
- Time domain response calculation from frequency domain measurements

Typical Applications

Microwave component characterization, filter and amplifier evaluation, transmission line analysis, and device impedance measurement across DC to millimeter-wave frequencies.

Compatibility & Integration

The 8510C system accepts modular source, S-parameter test set, and accessory configurations. Data output supports GPIB and RS-232 connections to plotters and printers.

85101C Characteristics / Specifications

PARAMETER	VALUE
Model	85101C
Instrument Type	8510C network analyzer display/processor
Family Frequency Coax 2p4 Mm	45 MHz to 50 GHz
Family Frequency Coax 1p0 Mm	45 MHz to 110 GHz
Family Frequency Waveguide	33 GHz to 110 GHz
Display Type	color raster scan, 7.5 inch diagonal
Display Graticule	5.5 inch diagonal
Display Colors	16
Title Length	49 characters maximum
Limit Line Segments	up to 8 per parameter per channel
Crt Formats	single, dual overlay, dual split, four-parameter overlay or split
Log Magnitude Scale	0.001 to 500 dB/div
Linear Magnitude Scale	1e-11 to 500 units/div
Phase Cartesian Scale	1e-11 to 500 degrees/div
Polar Phase Per Graticule	45 degrees
Reference Value Range	plus or minus 500 units
Reference Position	0 (bottom) to 10 (top)
Electrical Delay	plus or minus 1 second
Display Channels	2
S Parameters	S11 S21 S12 S22
Auxiliary Voltage Sweep	plus or minus 10 V DC rear-panel stimulus
Hpib Address Class	address 16 on 8510C system
Crt Firmware Class	C.07.xx for CRT serial prefix 3936A and lower or US4116
Lcd Firmware Class	C.08.xx or greater for LCD serial prefix 4116A and higher
Calibration Temperature	23 C plus or minus 3 C for kits; analyzer must remain within plus or minus 1 C of cal temperature

PARAMETER	VALUE
Manufacturer	HP Agilent Keysight
Form Factor	8510C top-box display/processor

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	
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Notes

From Agilent 8510C Network Analyzer data sheet (5091-8484E) display/processor and 8510C capabilities sections, plus 8510C service quick-reference CRT/LCD firmware notes. System dynamic range depends on the paired test set and source.

Ordering Information

OPTION	DESCRIPTION
Option 010	impulse/step via inverse FFT
Option 008	User-redefinable S-parameters plus Z/Y conversions

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

Aumictech

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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.