

**Aumictech**

Test & measurement · bought, sold, repaired, calibrated

Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight N4417A

Agilent Keysight N4417A Balanced Measurement S-parameter Test Set 300 kHz to 9 GHz The Keysight N4417A is a 4-port balanced-measurement test set covering 300 kHz to 9.0 GHz with Type-N ports. OEM PLTS N1947A/N1948A tables pair option 103 with E8803A option 014 and option 104 with E8358A option 015, listing 120 dB then 108 dB system dynamic range, 4.5 dB max source-thru loss, and greater than or equal to 105 dB port isolation. Four-port and mixed-mode S-parameter tests of RF balanced filters, baluns, and interconnects to 9 GHz on E8358A/E8803A Physical Layer Test Systems. The Keysight N4417A is a 4-port balanced-measurement test set covering 300 kHz to 9.0 GHz with Type-N ports. OEM PLTS N1947A/N1948A tables pair option 103 with E8803A option 014 and option 104 with E8358A option 015, listing 120 dB then 108 dB system dynamic range, 4.5 dB max source-thru loss, and greater than or equal to 105 dB port isolation. Four-port and mixed-mode S-parameter tests of RF balanced filters, baluns, and interconnects to 9 GHz on E8358A/E8803A Physical Layer Test Systems. Option 103 for E880x PNA; option 104 for E835x PNA

**MODEL****Agilent / Keysight
N4417A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****N4417A****LISTING**<https://aumictechlabs.com/products/n4417a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Agilent/Keysight N4417A is a solid-state electronic calibration (ECal) module that automates vector network analyzer calibration across 300 kHz to 9 GHz. It replaces mechanical calibration methods, enabling one-button operation with minimal operator interaction and eliminating manual

error sources. The module acts as a transfer standard, applying factory-calibrated S-parameter data stored within its memory to compute VNA error terms and deliver consistent, traceable measurements.

Technical Specifications

Frequency Range: 300 kHz to 9 GHz

Calibration Performance: One- to four-port vector error correction NIST-traceable characterization

Programmable, repeatable impedance states Fast, automatic calibration with transfer standard accuracy

System Integration: Solid-state architecture for deterministic operation USB or IEEE-488 GPIB interface depending on VNA model

Compatible with Agilent PNA Series analyzers (E8356A, E8357A, E8358A Option 015, E8801A, E8802A, E8803A Option 014)

Key Features

- Eliminates mechanical calibration kit handling and associated operator error
- Unique stored S-parameter data enables precise error-term calculation
- One-port through four-port measurement capability
- Solid-state design ensures high repeatability across calibration cycles

Typical Applications

- Physical layer and balanced-measurement characterization
- High-speed digital interconnect analysis
- Balanced RF component measurement

Compatibility & Integration

Operates with compatible Keysight PNA Series VNAs when paired with N4425A Balanced Measurement System software or N1930A Physical Layer Test System software. External IEEE-488 GPIB card required for specific system configurations. PC-based control enables 4-port VNA operation with full data acquisition and analysis.

N4417A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	4-port balanced measurement S-parameter test set
Frequency Range	300 kHz to 9.0 GHz
Host Analyzer N1947a	Keysight E8803A option 014 with N4417A option 103
Host Analyzer N1948a	Keysight E8358A option 015 with N4417A option 104
Calibration Kit	Keysight 85052D 3.5 mm
Test Port Cables	N4417A option B20
Impedance	50 ohm nominal
Test Port Connectors	Type-N, 50 ohm nominal
Insertion Loss Source Thru	4.5 dB maximum
Insertion Loss Port To Receiver	8.5 dB maximum (port 2 toAin and port 4 toBin)
Insertion Loss Receiver Thru	8.0 dB maximum (A in toAout andBin toBout)
Isolation Port To Port	greater than or equal to 105 dB
Maximum Operating Level	plus 20 dBm
Damage Level	plus 30 dBm typical
Dynamic Range 300 Khz To 1p3 Ghz	120 dB characteristic (plus 10 dBm default max output)
Dynamic Range 1p3 To 3 Ghz	120 dB
Dynamic Range 3 To 6 Ghz	108 dB
Dynamic Range 6 To 9 Ghz	108 dB
Directivity 300 Khz To 1p3 Ghz	50 dB
Directivity 1p3 To 3 Ghz	47 dB
Directivity 3 To 6 Ghz	42 dB (Table 2 column between 1.3 GHz and 6 GHz; helpfile header typeset 30 GHz)
Directivity 6 To 9 Ghz	40 dB
Source Match 300 Khz To 1p3 Ghz	42 dB
Source Match 1p3 To 3 Ghz	42 dB
Source Match 3 To 6 Ghz	38 dB

PARAMETER	VALUE
Source Match 6 To 9 Ghz	35 dB
Load Match 300 Khz To 1p3 Ghz	50 dB
Load Match 1p3 To 3 Ghz	47 dB
Load Match 3 To 6 Ghz	42 dB
Load Match 6 To 9 Ghz	40 dB
Reflection Tracking 300 Khz To 1p3 Ghz	plus or minus 0.006 dB
Reflection Tracking 1p3 To 3 Ghz	plus or minus 0.007 dB
Reflection Tracking 3 To 6 Ghz	plus or minus 0.009 dB
Reflection Tracking 6 To 9 Ghz	plus or minus 0.015 dB
Transmission Tracking 300 Khz To 1p3 Ghz	plus or minus 0.012 dB
Transmission Tracking 1p3 To 3 Ghz	plus or minus 0.015 dB
Transmission Tracking 3 To 6 Ghz	plus or minus 0.040 dB
Transmission Tracking 6 To 9 Ghz	plus or minus 0.060 dB
Input Voltage Range	100 to 120 V or 220 to 250 V
Warm Up	90 minutes before specs apply
Spec Temperature	25 C plus or minus 5 C unless stated
Corrected Residual Temperature	25 C with less than 1 C variation from calibration
If Bandwidth Dynamic Range	10 Hz IF bandwidth, four-port error correction
Operating Environment	indoor use
Operating Altitude	0 to 2.0 km (6560 ft)
Storage Altitude	0 to 15.24 km (50000 ft)
Operating Temperature	0 C to 40 C
Maximum Relative Humidity	80 percent to 31 C, decreasing linearly to 50 percent at 40 C
Installation Category	II per IEC 61010-1
Pollution Degree	2 per IEC 664
Line Frequency	47 to 63 Hz
Power Consumption	40 VA

PARAMETER	VALUE
Calibration Technique	four-port SOLT
Mass	9.0 kg (19.9 lb)
Height	3.0 in (7.62 cm)
Width	16.75 in (42.55 cm)
Depth	19.25 in (48.90 cm)
Bandwidth	Dynamic Range: 10 Hz IF bandwidth, four-port error correction
Humidity	80 percent to 31 C, decreasing linearly to 50 percent at 40 C

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	0 C to 40 C
Operating Temperature	0 C to 40 C
Humidity	80 percent to 31 C, decreasing linearly to 50 percent at 40 C
Maximum Relative Humidity	80 percent to 31 C, decreasing linearly to 50 percent at 40 C
Installation Category	II per IEC 61010-1
Pollution Degree	2 per IEC 664
Line Frequency	47 to 63 Hz
Power Consumption	40 VA
Calibration Technique	four-port SOLT
Mass	9.0 kg (19.9 lb)
Height	3.0 in (7.62 cm)
Width	16.75 in (42.55 cm)
Depth	19.25 in (48.90 cm) Notes From Keysight PLTS N1947A and N1948A Electrical Specifications (discontinued). Table 2 third residual column header is typeset 30 GHz to 6.0 GHz; values are used as the 3.0 GHz to 6.0 GHz band between the 1.3 GHz and 6 GHz columns. Isolation and insertion-loss rows are Table 3 characteristics.

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
Instrument Type	4-port balanced measurement S-parameter test set
Frequency Range	300 kHz to 9.0 GHz
Host Analyzer N1947a	Keysight E8803A option 014 with N4417A option 103
Host Analyzer N1948a	Keysight E8358A option 015 with N4417A option 104
Calibration Kit	Keysight 85052D 3.5 mm
Test Port Cables	N4417A option B20
Impedance	50 ohm nominal
Test Port Connectors	Type-N, 50 ohm nominal
Insertion Loss Source Thru	4.5 dB maximum
Insertion Loss Port To Receiver	8.5 dB maximum (port 2 toAin and port 4 toBin)
Insertion Loss Receiver Thru	8.0 dB maximum (A in toAout andBin toBout)
Isolation Port To Port	greater than or equal to 105 dB
Maximum Operating Level	plus 20 dBm
Damage Level	plus 30 dBm typical
Dynamic Range 300 Khz To 1p3 Ghz	120 dB characteristic (plus 10 dBm default max output)
Dynamic Range 1p3 To 3 Ghz	120 dB
Dynamic Range 3 To 6 Ghz	108 dB
Dynamic Range 6 To 9 Ghz	108 dB
Directivity 300 Khz To 1p3 Ghz	50 dB
Directivity 1p3 To 3 Ghz	47 dB
Directivity 3 To 6 Ghz	42 dB (Table 2 column between 1.3 GHz and 6 GHz; helpfile header typeset 30 GHz)
Directivity 6 To 9 Ghz	40 dB
Source Match 300 Khz To 1p3 Ghz	42 dB
Source Match 1p3 To 3 Ghz	42 dB
Source Match 3 To 6 Ghz	38 dB

PARAMETER	VALUE
Source Match 6 To 9 Ghz	35 dB
Load Match 300 Khz To 1p3 Ghz	50 dB
Load Match 1p3 To 3 Ghz	47 dB
Load Match 3 To 6 Ghz	42 dB
Load Match 6 To 9 Ghz	40 dB
Reflection Tracking 300 Khz To 1p3 Ghz	plus or minus 0.006 dB
Reflection Tracking 1p3 To 3 Ghz	plus or minus 0.007 dB
Reflection Tracking 3 To 6 Ghz	plus or minus 0.009 dB
Reflection Tracking 6 To 9 Ghz	plus or minus 0.015 dB
Transmission Tracking 300 Khz To 1p3 Ghz	plus or minus 0.012 dB
Transmission Tracking 1p3 To 3 Ghz	plus or minus 0.015 dB
Transmission Tracking 3 To 6 Ghz	plus or minus 0.040 dB
Transmission Tracking 6 To 9 Ghz	plus or minus 0.060 dB
Input Voltage Range	100 to 120 V or 220 to 250 V
Warm Up	90 minutes before specs apply
Spec Temperature	25 C plus or minus 5 C unless stated
Corrected Residual Temperature	25 C with less than 1 C variation from calibration
If Bandwidth Dynamic Range	10 Hz IF bandwidth, four-port error correction
Operating Environment	indoor use
Operating Altitude	0 to 2.0 km (6560 ft)
Storage Altitude	0 to 15.24 km (50000 ft)
Operating Temperature	0 C to 40 C
Maximum Relative Humidity	80 percent to 31 C, decreasing linearly to 50 percent at 40 C
Installation Category	II per IEC 61010-1
Pollution Degree	2 per IEC 664
Line Frequency	47 to 63 Hz
Power Consumption	40 VA
Calibration Technique	four-port SOLT
Mass	9.0 kg (19.9 lb)
Height	3.0 in (7.62 cm)
Width	16.75 in (42.55 cm)
Depth	19.25 in (48.90 cm)

Notes

From Keysight PLTS N1947A and N1948A Electrical Specifications (discontinued). Table 2 third residual column header is typeset 30 GHz to 6.0 GHz; values are used as the 3.0 GHz to 6.0 GHz band between the 1.3 GHz and 6 GHz columns. Isolation and insertion-loss rows are Table 3 characteristics.

Ordering Information

OPTION	DESCRIPTION
Option 103	with E8803A option 014 and option 104 with E8358A option 015, listing 120 dB then 108 dB system dynamic range, 4.5 dB max source-thru loss, and greater than or
Option 014	with N4417A option 103
Option 015	with N4417A option 104

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
788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 15, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.