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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight N4377A Lightwave Detector

The Keysight N4377A is a USB-powered DC-coupled optical-electrical converter with built-in optical power meter for frequency-domain photonics measurements with VNAs or spectrum analyzers. Options cover 43.5 GHz multimode/single-mode and 70 GHz single-mode. Mach-Zehnder and electro-absorption modulator response, DML/TOSA electro-optical S21, laser linewidth and modulation spectra. On-board S-parameter compensation data for VNA de-embedding. Built-in calibrated optical power meter with bar-graph display. Humidity: 15 percent to 80 percent RH non-condensing. Maximum Operating Altitude: 2000 m (6600 ft). Compensation Data Format: S2P accessible via USB. Frequency, wavelength, power meter, connectors, environmental, and uncertainty rows from Keysight N4377A Lightwave Detector data sheet 5992-4214.

**MODEL****Agilent / Keysight
N4377A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****N4377A****LISTING**<https://aumictechlabs.com/products/n4377a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight N4377A is a network analyzer tailored for precision testing of optical and electrical components. Its advanced capabilities facilitate thorough characterization, making it an indispensable tool in both research and development and manufacturing settings. The analyzer provides highly accurate and reliable measurements, contributing to the optimization of component and system performance. Its solid design and comprehensive features ensure

consistent, high-quality results, making it a critical asset for engineers and technicians focused on maintaining the highest standards of performance and quality in their products.

Features & description

From manufacturer datasheet

Built-in calibrated optical power meter with bar-graph display

Single-mode and multimode fiber versions USBTMC remote programming and S2P download Technical Specifications Model: N4377A Instrument Type: USB powered lightwave detectorOEconverter
Operating Frequency Range M40 S40: DC to 43.5 GHz Calibrated Frequency Range M40 S40: 10 MHz to 43.5 GHz Operating Frequency Range S70: DC to 70 GHz Calibrated Frequency Range S70: 10 MHz to 70 GHz Calibration Wavelengths S40 S70: 1310 nm plus or minus 10 nm and 1550 nm plus or minus 10 nm Calibration Wavelength M40: 850 nm plus or minus 10 nm Operating Wavelength Range Single Mode: 1260 nm to 1650 nm Operating Wavelength Range Multimode: 800 nm to 1600 nm Average Optical Power Measurement Range Typical: -30 dBm to +5 dBm Average Optical Power Uncertainty Typical: plus or minus 0.5 dB at calibration wavelengths Power Meter Update Rate: 2 updates per second Max Safe Average Input Power M40: +8 dBm Max Safe Average Input Power S40: +9 dBm Max Safe Average Input Power S70: +13 dBm Optical Return Loss M40 Typical: greater than 13 dBo Optical Return Loss S40 Typical: greater than 25 dBo Optical Return Loss S70 Typical: greater than 30 dBo Optical Input Connector M40: FC/PC Optical Input Connector S40 S70: FC/APC

N4377A Characteristics / Specifications

PARAMETER	VALUE
Model	N4377A
Instrument Type	USB powered lightwave detectorOEconverter
Operating Frequency Range M40 S	DC to 43.5 GHz
Calibrated Frequency Range M40 S	10 MHz to 43.5 GHz
Operating Frequency Range S	DC to 70 GHz
Calibrated Frequency Range S	10 MHz to 70 GHz
Calibration Wavelengths S40 S	1310 nm plus or minus 10 nm and 1550 nm plus or minus 10 nm
Calibration Wavelength M	850 nm plus or minus 10 nm
Operating Wavelength Range Single Mode	1260 nm to 1650 nm
Operating Wavelength Range Multimode	800 nm to 1600 nm
Average Optical Power Measurement Range Typical	-30 dBm to +5 dBm
Average Optical Power Uncertainty Typical	plus or minus 0.5 dB at calibration wavelengths
Power Meter Update Rate	2 updates per second
Max Safe Average Input Power M	+8 dBm
Max Safe Average Input Power S	+13 dBm
Optical Return Loss M40 Typical	greater than 13 dBo
Optical Return Loss S40 Typical	greater than 25 dBo
Optical Return Loss S70 Typical	greater than 30 dBo
Optical Input Connector M	FC/PC
Optical Input Connector S40 S	FC/APC
Rf Output Connector M40 S	2.4 mm male
Rf Output Connector S	1.85 mm male Relative Frequency Response Uncertainty S40 At 1550 Nm Ten Megahertz To Ten Gigahertz: less than or equal to plus or minus 1.1 dBe typical

PARAMETER	VALUE
Coupling	DC coupled optical to electrical conversion
Power Interface	USB powered USBTMC
Storage Temperature	-40 C to +70 C
Operating Temperature	+10 C to +40 C
Humidity	15 percent to 80 percent RH non-condensing
Maximum Operating Altitude	2000 m (6600 ft)
Recommended Recalibration Period	1 year
Compensation Data Format	S2P accessible via USB
Wavelength range	Single Mode: 1260 nm to 1650 nm
Optical Return Loss	M40 Typical: greater than 13 dBo
Return loss	M40 Typical: greater than 13 dBo

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	40 C to +70 C
Operating temperature	+10 C to +40 C
Operating Temperature	+10 C to +40 C
Humidity	15 percent to 80 percent RH non-condensing
Maximum Operating Altitude	2000 m (6600 ft)
Recommended Recalibration Period	1 year
Compensation Data Format	S2P accessible via USB Notes Frequency, wavelength, power meter, connectors, environmental, and uncertainty rows from Keysight N4377A Lightwave Detector data sheet 5992-4214.

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	N4377A
Instrument Type	USB powered lightwave detector0Econverter
Operating Frequency Range M40 S40	DC to 43.5 GHz
Calibrated Frequency Range M40 S40	10 MHz to 43.5 GHz
Operating Frequency Range S70	DC to 70 GHz
Calibrated Frequency Range S70	10 MHz to 70 GHz
Calibration Wavelengths S40 S70	1310 nm plus or minus 10 nm and 1550 nm plus or minus 10 nm
Calibration Wavelength M40	850 nm plus or minus 10 nm
Operating Wavelength Range Single Mode	1260 nm to 1650 nm
Operating Wavelength Range Multimode	800 nm to 1600 nm
Average Optical Power Measurement Range Typical	-30 dBm to +5 dBm
Average Optical Power Uncertainty Typical	plus or minus 0.5 dB at calibration wavelengths
Power Meter Update Rate	2 updates per second
Max Safe Average Input Power M40	+8 dBm
Max Safe Average Input Power S40	+9 dBm
Max Safe Average Input Power S70	+13 dBm
Optical Return Loss M40 Typical	greater than 13 dBo
Optical Return Loss S40 Typical	greater than 25 dBo
Optical Return Loss S70 Typical	greater than 30 dBo
Optical Input Connector M40	FC/PC
Optical Input Connector S40 S70	FC/APC
Rf Output Connector M40 S40	2.4 mm male
Rf Output Connector S70	1.85 mm male
Relative Frequency Response Uncertainty S40 At 1550 Nm Ten Megahertz To Ten Gigahertz: less than or equal to plus or minus 1.1 dBe typical	

Specifications

PARAMETER	VALUE
Coupling	DC coupled optical to electrical conversion
Power Interface	USB powered USBTMC
Storage Temperature	-40 C to +70 C
Operating Temperature	+10 C to +40 C
Humidity	15 percent to 80 percent RH non-condensing
Maximum Operating Altitude	2000 m (6600 ft)
Recommended Recalibration Period	1 year
Compensation Data Format	S2P accessible via USB

Notes
Frequency, wavelength, power meter, connectors, environmental, and uncertainty rows from Keysight N4377A Lightwave Detector data sheet 5992-4214.

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.