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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 83438A Lightwave Source

Agilent Keysight 83438A Erbium ASE Source The Agilent 83438A is an erbium-doped-fiber ASE incoherent source for high-loss component characterization in the 1550 nm band. OEM 83437A/83438A data sheet lists total output plus 5.5 dBm minimum to plus 8.1 dBm maximum, spectral density greater than minus 13 dBm in 1 nm at 1530/1550/1560 nm, power stability less than plus or minus 0.02 dB (15 min) and plus or minus 0.05 dB (6 h), and TTL modulation DC to 300 Hz. IL/crosstalk of DWDM filters and isolators; lock-in measurements with 270 Hz-class modulation; polarized output Option 009. The Agilent 83438A is an erbium-doped-fiber ASE incoherent source for high-loss component characterization in the 1550 nm band. OEM 83437A/83438A data sheet lists total output plus 5.5 dBm minimum to plus 8.1 dBm maximum, spectral density greater than minus 13 dBm in 1 nm at 1530/1550/1560 nm, power stability less than plus or minus 0.02 dB (15 min) and plus or minus 0.05 dB (6 h), and TTL modulation DC to 300 Hz. IL/crosstalk of DWDM filters and isolators; lock-in measurements with 270 Hz-class modulation; polarized output Option 009.

**MODEL****Agilent / Keysight
83438A****CALIBRATION****Available on
request****CONDITION****Used****STATUS****In stock****RFQ / SKU****83438A****LISTING**<https://aumictechlabs.com/products/83438a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Agilent/Keysight 83438A is an Erbium Amplified Spontaneous Emission (ASE) lightwave source that generates incoherent light centered at 1550 nm for characterizing optical components.

It delivers high power spectral density - up to one hundred times stronger than an EELED and ten thousand times stronger than a white light source - making it ideal for measuring insertion loss, crosstalk, bandwidth, and polarization dependencies of passive components with medium to high losses.

Technical Specifications

Optical Output Type: Erbium Amplified Spontaneous Emission (ASE) source

Wavelength: Centered at 1550 nm

Output power: +5.5 dBm (minimum), +6 dBm (typical), +8.1 dBm (maximum)

Single-mode fiber output with standard Agilent optical interface (angled contact and built-in polarizer options available)

Modulation TTL modulation input supporting on/off control or modulation from DC to 300 Hz

Stability Power stability: $\leq \pm 0.02$ dB over 15 minutes, $\leq \pm 0.05$ dB over 6 hours

Electrical Supply voltage: 90–132 V or 198–264 V AC, 47–63 Hz

Power consumption: 50 W

Fuse: IEC 127 5×20 mm, 6.3 A, 250 V (Agilent part number 2110-0703)

Physical Dimensions 4.0 × 8.4 × 17.7 inches

Key Features

- IEC Laser Class 1 safety classification
- Integrated optical isolator protects the active fiber from back-reflections, ensuring stability
- High power spectral density enables characterization of high-loss components
- Pump laser-activated Erbium-doped fiber amplifier architecture

Typical Applications

- Measuring isolation, insertion loss, and bandwidth of isolators and circulators
- Characterizing add/drop multiplexers, gratings, and demultiplexers
- Dense wavelength-division multiplexing (DWDM) component validation
- Optical spectrum analyzer-based testing workflows

Compatibility & Integration

The 83438A integrates with Agilent/Keysight Lightwave Solution Platform mainframes and supports older module series, enabling flexible system configurations for optical component test labs.

83438A Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Erbium ASE broadband source
Series Family	Agilent 83437A/83438A light sources
Compatible Fiber	9/125 um single-mode
Total Output Power Min	plus 5.5 dBm
Total Output Power Max	plus 8.1 dBm (6.5 mW)
Spectral Density 1530 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Spectral Density 1550 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Spectral Density 1560 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Output Return Loss	greater than 30 dB (50 dB at 1550 nm with Option 022 FC/APC)
Power Stability 15 Min	less than plus or minus 0.02 dB (15 min, plus or minus 1 C, after 1 hour, power meter RL greater than 30 dB)
Power Stability 6 Hour	less than plus or minus 0.05 dB (6 h, same conditions)
Degree Of Polarization Standard	less than 5 percent (standard)
Degree Of Polarization Option 0	greater than 95 percent (Option 009)
Modulation	digital TTL, DC to 300 Hz
Laser Safety	21 CFR 1040.10 Class I, IEC 825-1 Class 1
Weight	5.5 kg (12 lb)
Dimensions	102 mmHx 213 mmWx 450 mmDLine Power: 90 to 132 V or 198 to 264 V AC, 47 to 63 Hz, 50 W
Operating Temperature	0 to plus 45 C
Storage Temperature	minus 40 to plus 70 C
Characteristic Spectrum	1500 nm to 1600 nm ASE
Power stability	15 Min: less than plus or minus 0.02 dB (15 min, plus or minus 1 C, after 1 hour, power meter RL greater than 30 dB)
Return loss	greater than 30 dB (50 dB at 1550 nm with Option 022 FC/APC)

83438A Specifications

PARAMETER	VALUE
Agilent Keysight 83438A Erbium ASE Source	Overview
Applications	IL/crosstalk of DWDM filters and isolators; lock-in measurements with 270 Hz-class modulation; polarized output Option 009.
Optical isolator standard	Option 009 polarized output (greater than 95 percent DOP; 3 dB less power)
Technical Specifications	Instrument Type: Erbium ASE broadband source

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 to plus 70 C
Operating temperature	0 to plus 45 C
Operating Temperature	0 to plus 45 C
Characteristic Spectrum	1500 nm to 1600 nm ASE Notes Numeric rows from Agilent 83437A Broadband Light Source / 83438A Erbium ASE Source data sheet specification table. Total power measured with InGaAs sensor. Spectral density and DOP are characteristic (not warranted) as footnoted.

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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Modulation	digital TTL, DC to 300 Hz
Laser Safety	21 CFR 1040.10 Class I, IEC 825-1 Class 1
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Dimensions	102 mm H x 213 mm W x 450 mm D
Line Power	90 to 132 V or 198 to 264 V AC, 47 to 63 Hz, 50 W
Operating Temperature	0 to plus 45 C
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Characteristic Spectrum	1500 nm to 1600 nm ASE
Specifications	
PARAMETER	VALUE
Instrument Type	Erbium ASE broadband source
Series Family	Agilent 83437A/83438A light sources
Compatible Fiber	9/125 um single-mode
Total Output Power Min	plus 5.5 dBm
Total Output Power Max	plus 8.1 dBm (6.5 mW)
Spectral Density 1530 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Spectral Density 1550 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Spectral Density 1560 Nm	greater than minus 13 dBm in 1 nm (greater than 50 uW/nm)
Output Return Loss	greater than 30 dB (50 dB at 1550 nm with Option 022 FC/APC)
Power Stability 15 Min	less than plus or minus 0.02 dB (15 min, plus or minus 1 C, after 1 hour, power meter RL greater than 30 dB)
Power Stability 6 Hour	less than plus or minus 0.05 dB (6 h, same conditions)
Degree Of Polarization Standard	less than 5 percent (standard)
Degree Of Polarization Option 009	greater than 95 percent (Option 009)
Option 009 Power Penalty: 3 dB less output with Option 009	
Specifications	

PARAMETER	VALUE
Modulation	digital TTL, DC to 300 Hz
Laser Safety	21 CFR 1040.10 Class I, IEC 825-1 Class 1
Weight	5.5 kg (12 lb)
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Notes

Numeric rows from Agilent 83437A Broadband Light Source / 83438A Erbium ASE Source data sheet specification table. Total power measured with InGaAs sensor. Spectral density and DOP are characteristic (not warranted) as footnoted.

Ordering Information

OPTION	DESCRIPTION
Option 009	polarized output (greater than 95 percent DOP; 3 dB less power)
Option 022	for 50 dB return loss

Laser Safety: 21 CFR 1040.10 Class I, IEC 825-1 Class 1 Weight: 5.5 kg (12 lb) Dimensions: 102 mmHx 213 mmWx 450 mmD Line Power: 90 to 132 V or 198 to 264 V AC, 47 to 63 Hz, 50 W Operating Temperature: 0 to plus 45 C Storage Temperature: minus 40 to plus 70 C Characteristic Spectrum: 1500 nm to 1600 nm ASE Notes Numeric rows from Agilent 83437A Broadband Light Source / 83438A Erbium ASE Source data sheet spec

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.