

## KEYSIGHT TECHNOLOGIES (AGILENT HP)

# 83437A

The Keysight (Agilent) 83437A is a versatile incoherent broadband light source designed to work alongside an optical spectrum analyzer (OSA) for measuring insertion loss, crosstalk, bandwidth, and polarization dependencies of passive optical components. It can be customized with up to four edge-emitting LEDs (EELEDs) to provide high spectral power density across multiple wavelength bands.

## SPECIFICATIONS

### Physical

|                       |                            |
|-----------------------|----------------------------|
| Power Supply          | Powered via mainframe slot |
| Operating Temperature | 0 °C to +55 °C °C          |
| Module Slot Width     | 1 slot                     |

### Optical Performance Specifications

|                         |                                                                   |
|-------------------------|-------------------------------------------------------------------|
| Source Type             | Edge-emitting LED (EELED)                                         |
| Number of EELEDs        | Up to 4 (built to order)                                          |
| Available Wavelengths   | 1200 nm, 1310 nm, 1550 nm, 1650 nm                                |
| Output Power at 1200 nm | -17 dBm                                                           |
| Output Power at 1310 nm | -13 dBm                                                           |
| Output Power at 1550 nm | -13 dBm                                                           |
| Output Power at 1650 nm | -17 dBm                                                           |
| Peak Power Density      | > 25 dB stronger than a white light source (in single-mode fiber) |

### Optical Interface & Connectivity

|                             |                                    |
|-----------------------------|------------------------------------|
| Optical Fiber Type          | Single-mode                        |
| Optical Connector Interface | Angled connector options available |

### Modulation & Control Features

|                                     |                                        |
|-------------------------------------|----------------------------------------|
| External Modulation Input Port      | Supported (on/off control)             |
| External Modulation Frequency Range | Up to 100 kHz                          |
| Modulation Application Support      | Lock-in techniques or external control |

### System Integration & Remote Control

|                      |                                                                                    |
|----------------------|------------------------------------------------------------------------------------|
| Primary Applications | Measurement of insertion loss, crosstalk, bandwidth, and polarization dependencies |
|----------------------|------------------------------------------------------------------------------------|

### Performance

|                          |                                               |
|--------------------------|-----------------------------------------------|
| Power Stability (15 min) | ±0.02 dB (at constant temperature)            |
| Power Stability (24 h)   | ±0.05 dB (with temperature variation < ±1 °C) |

**General**

|              |        |
|--------------|--------|
| Warm-up Time | 1 hour |
|--------------|--------|

**Optical Specifications**

|                             |                                                                             |
|-----------------------------|-----------------------------------------------------------------------------|
| Center Wavelength Tolerance | ±30 nm for all nominal wavelengths (1200 nm, 1310 nm, 1550 nm, 1650 nm)     |
| Spectral Width (FWHM)       | ≥ 50 nm (1200 nm), ≥ 60 nm (1310 nm), ≥ 70 nm (1550 nm), ≥ 80 nm (1650 nm)  |
| Spectral Power Density      | ≥ -37 dBm/nm (1200 nm), ≥ -33 dBm/nm (1310/1550 nm), ≥ -37 dBm/nm (1650 nm) |

**Modulation**

|                                 |                                           |
|---------------------------------|-------------------------------------------|
| Internal Modulation Frequencies | 270 Hz, 350 Hz, 1 kHz, 2 kHz (selectable) |
|---------------------------------|-------------------------------------------|

**Compatibility & Configuration**

|                       |                                                                                                                                                        |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Available Options     | Option 001 (1310 nm), Option 002 (1550 nm), Option 003 (1310/1550 nm), Option 004 (1200/1310/1550/1650 nm), Option 005 (1200 nm), Option 006 (1650 nm) |
| Compatible Mainframes | Agilent / HP 8163A/B, 8164A/B, 8166A/B                                                                                                                 |

**Environmental**

|                     |                                              |
|---------------------|----------------------------------------------|
| Storage Temperature | -40 °C to +70 °C                             |
| Humidity Range      | 95% R.H. from 0 °C to 40 °C (non-condensing) |

**TECHNOLOGY**

|                           |
|---------------------------|
| Edge-Emitting LED (EELED) |
|---------------------------|

**APPLICATIONS**

|                            |
|----------------------------|
| Fiber Optic Test Equipment |
|----------------------------|

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