KEYSIGHT TECHNOLOGIES (AGILENT HP)

83487A

The Keysight (Agilent/HP) 83487A is a dual-rate optical and electrical receiver plug-in module designed for use with the 83480A Digital Communications Analyzer (DCA) and 54750A Digitizing Oscilloscope mainframes. It provides integrated reference receivers for both 2.488 Gb/s (OC-48/STM-16) and 9.953 Gb/s (OC-192/STM-64) telecom rates, paired with a high-performance 20 GHz electrical channel for comprehensive transceiver and transmitter waveform testing.

SPECIFICATIONS

General

Interfaces	User-interchangeable optical connector adapter, 3.5 mm male RF connector, clock recovery outputs (option dependent)
Display	None (uses mainframe display)

Physical

Power Supply	Powered directly by mainframe slot
Operating Temperature	15 °C to 35 °C (specified accuracy); 0 °C to 55 °C (operating) °C
Dimensions (W×H×D)	Double-wide plug-in module mm
Weight	1.2 kg

System Compatibility & Integration

Mainframe Platform Compatibility	HP / Agilent 83480A, HP / Agilent 54750A
Required Slot Width	2 slots
Hot-Swappability Support	No (power down mainframe before module installation or removal)
Number of Channels	2 (1 Optical, 1 Electrical)

Optical Input Specifications

Optical Input Wavelength Range	1200 nm to 1600 nm
Fiber Type Compatibility	9/125 µm (Single-mode)
Connector Interface Options	HMS-10/HP, FC/PC, SC, ST, DIN (via user-selectable connector adapters)

Optical Receiver Performance

Supported Filter Rates	2.488 Gb/s (OC-48/STM-16) and 9.953 Gb/s (OC-192/STM-64)
Filter Type	4th-order Bessel-Thomson filter response

Electrical & RF Outputs

Electrical Channel Bandwidth	20 GHz
Electrical Channel Rise Time (10% to 90%)	17.5 ps (calculated)
Electrical Channel Connector	3.5 mm (male)
Electrical Channel Impedance	50 Ω

Clock Recovery & Triggering

Clock Recovery Option (Option 010)	Available for 2.488 Gb/s and 9.953 Gb/s

Optical Performance

CW Power Meter Range	+3 dBm to -30 dBm
Maximum Average Input Power	2 mW
Maximum Peak Input Power	10 mW
Reference Receiver Wavelengths	1310 nm / 1550 nm

Electrical Performance

Electrical Scale Factor Range	1 mV/div to 100 mV/div

Optical Channel Performance

Optical Channel Return Loss	> 33 dB (with straight connector patchcord)

Electrical Channel Performance

Electrical Channel Selectable Bandwidth	12.4 GHz or 20 GHz
Electrical Channel RMS Noise	< 0.25 mV (at 12.4 GHz) / < 0.5 mV (at 20 GHz)
Electrical Channel Safe Input Voltage	±2 V

TECHNOLOGY

Optical and Electrical Waveform Analysis

APPLICATIONS

OC-48/STM-16 and OC-192/STM-64 transmitter and receiver compliance testing