KEYSIGHT TECHNOLOGIES (AGILENT HP)

83485A

The Keysight (formerly Agilent HP) 83485A is a high-performance plug-in module featuring a 20 GHz optical channel and a 20 GHz electrical channel. Compatible with the Agilent 83480A and 86100A/B/C mainframes, it delivers high-speed waveform characterization and SONET/SDH transceiver compliance testing utilizing a switchable 4th-order Bessel-Thomson reference receiver filter.

SPECIFICATIONS

General

Interfaces	Mainframe backplane interface (supports HP-IB/GPIB control via host mainframe)
Display	None (relies on host mainframe display)

Physical

Power Supply	Powered by host mainframe
Dimensions (W×H×D)	124 mm × 76 mm × 279 mm mm
Weight	1.2 kg kg

System Compatibility

Compatible Mainframes	Agilent 83480A, 86100A, 86100B, 86100C

Electrical Channel Specifications

Electrical Channel Bandwidth	12.4 GHz and 20 GHz (selectable)
Electrical Transition Time (12.4 GHz)	28.2 ps
Electrical Transition Time (20 GHz)	17.5 ps
Electrical Maximum RMS Noise (12.4 GHz)	0.25 mV
Electrical Maximum RMS Noise (20 GHz)	0.5 mV
Electrical Scale Factor Range	1 mV/div minimum to 100 mV/div maximum (8 divisions)
Electrical DC Offset Range	±500 mV
Electrical Nominal Input Impedance	50 Ω
Electrical Dynamic Range	±400 mV relative to channel offset
Electrical Maximum Safe Input	±2 V + peak AC (+16 dBm)
Electrical Connector Type	3.5 mm female

Optical Channel Specifications

Optical Maximum RMS Noise (20 GHz)	25 µW
Optical Scale Factor Range	20 µW/div minimum to 500 µW/div maximum (8 divisions)
Optical DC Offset Range	+1 to -3 mW
Optical Average Power Monitor Range	-30 dBm to +3 dBm (1 µW to 2 mW)
Optical Dynamic Range	2 mW
Optical Maximum Safe Input	10 mW peak
Calibrated Wavelengths	1310 nm and 1550 nm
Wavelength Range	1200 - 1600 nm
Optical Fiber Input Type	9/125 µm single-mode
Optical Connector Type	HP universal adapter

Reference Receiver Features

Reference Receiver Standards Compliance	ITU-TS (formerly CCITT) G.957 and Bellcore GR-253-CORE
Bessel-Thomson Filter Type	4th-order
Filter Switch Mechanism	Internal repeatable HP microwave switch (button or HP-IB controlled)

Auxiliary Interfaces

Probe Power Output	One probe power connector

Optical Channel

Photodetector Type	InGaAs
Optical Return Loss	33 dB minimum
Reference Receiver Filter Rate	2.488 Gb/s (OC-48/STM-16)

Environmental

Storage Temperature	-40 °C to +70 °C
Operating Humidity	Up to 95% RH at 40 °C (non-condensing)
Operating Altitude	Up to 4,600 m (15,000 ft)

Channel Configuration

Number of Channels	2 (1 optical, 1 electrical)

Clock Recovery

Clock Recovery Rates (Option 011)	155 Mb/s, 622 Mb/s, 2488 Mb/s

TECHNOLOGY

Optical and Electrical Sampling Oscilloscope Module

APPLICATIONS

High-speed digital transmitter characterization, transceiver compliance testing, and SONET/SDH testing