

KEYSIGHT TECHNOLOGIES (AGILENT HP)

86109A

The Keysight Technologies (formerly Agilent HP) 86109A is a high-performance optical and electrical receiver plug-in module designed for the Infiniium DCA (Digital Communications Analyzer) 86100 series mainframes. Featuring a 30 GHz optical channel and a 40 GHz electrical channel, it is optimized for high-speed waveform characterization, eye diagram analysis, and transmitter compliance testing of optical and electrical signals up to 10 Gb/s and beyond.

SPECIFICATIONS

General

Interfaces	Mainframe backplane interface (interfaces with Keysight/Agilent 86100 series mainframes)
Display	None (uses mainframe display)

Physical

Power Supply	Powered by mainframe slot
Operating Temperature	10 to 40 °C

System Compatibility & Integration

Mainframe Platform Compatibility	Keysight / Agilent 86100A, 86100B, 86100C Infiniium DCA mainframes
Required Slot Width	Single-slot

Optical Receiver Performance

Optical Bandwidth (-3 dB)	30 GHz (typical)
Factory Calibration Wavelengths	1310 nm, 1550 nm

Optical Input Specifications

Wavelength Range	1000 nm to 1600 nm
Fiber Type Compatibility	9/125 µm (Single-mode)
Optical Connector Interface	Universal Optical Interface (compatible with Keysight 81000 series adapters)
Optical Return Loss	> 30 dB (with FC/PC connector)
Maximum Safe Input Power	10 mW (average)
Polarization Dependence Loss	Typically < 0.5 dB

Electrical & RF Outputs

Electrical Bandwidth (-3 dB)	40 GHz
RF Connector Type	2.4 mm (female)

Environmental & Calibration

Operating Temperature Range	10 °C to 40 °C
Storage Temperature Range	-40 °C to +70 °C

Electrical Channel Performance

Electrical Channel Selectable Bandwidths	30 GHz / 40 GHz
Electrical Channel RMS Noise (30 GHz)	0.25 mV (typical), 0.5 mV (maximum)
Electrical Channel RMS Noise (40 GHz)	0.5 mV (typical), 1.0 mV (maximum)
Electrical Channel Maximum Input Voltage	±2 V dc

Optical Channel Performance

Optical Channel RMS Noise	11 µW (typical), 15 µW (maximum)
Optical Channel Maximum Average Input Power	10 mW
Optical Channel Maximum Peak Input Power	20 mW

Optical Channel

Optical Channel Transition Time (10% to 90%, typical)	14.7 ps (calculated from 0.44 / BW)
Optical Channel Scale Factor (Minimum)	10 µW/div
Optical Channel Scale Factor (Maximum)	2 mW/div

Electrical Channel

Electrical Channel Transition Time (10% to 90%, typical)	11.0 ps @ 40 GHz, 14.7 ps @ 30 GHz (calculated from 0.44 / BW)
Electrical Channel Scale Factor (Minimum)	1 mV/div
Electrical Channel Scale Factor (Maximum)	100 mV/div
Electrical Channel DC Offset Range	±500 mV

TECHNOLOGY

Optical and Electrical Sampling Oscilloscope Module

APPLICATIONS

High-speed optical and electrical transmitter characterization, eye diagram measurements, and compliance testing.

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.