Keysight M9168C PXI
Programmable Step Attenuator Module

Industries and Applications

– RF signal path attenuation simulation
– Engineering verification
– RF receiver sensitivity test
– Adjacent channel interference

Product Description

Keysight Technologies, Inc. M9168C is a programmable step attenuator module based on the PXI hybrid platform, operating from DC to 26.5 GHz with a guaranteed 0.03 dB insertion loss repeatability for each section throughout the 5 million cycles operating life. Its excellent attenuation accuracy across a wide operating temperature range, ensures precise measurement. M9168C is a signal conditioning module that enhances the measurement accuracy and flexibility of PXI based RF and microwave test systems.

Models

M9168C	PXI Programmable Step Attenuator, DC to 26.5 GHz

Main Features and Benefits

Product features	Your benefit
Guaranteed 0.03 dB insertion loss repeatability throughout the operating life of up to 5 million cycles	Reduce downtime for recalibration, improve testing efficiency, therefore maximizing throughput
Broad attenuation range of 0 to 101 dB with 1 dB step	Maximize measurement accuracy and system flexibility
High attenuation accuracy and flatness of +/- 0.4 dB at 26.5 GHz	Superior attenuation accuracy ensures precise measurements, across a wide temperature range

Specifications

Hardware

Size	2 slots wide module
Frequency	DC to 26.5 GHz
Attenuation resolution	1 dB, 5 dB and 10 dB step
Attenuation accuracy	Refer to Table 1 on page 2. Specified across operating frequency of 0°C to 50°C
Repeatability	0.03 dB guaranteed
Life cycle	5 million cycles per section (guaranteed)
Maximum input power	1 W (+30 dBm) avg. 50 W peak, (10 µs max)
Maximum reverse power	1 W avg. 50 W peak (10 µs max)
RF connector	3.5 mm (f), SMA compatible
Connector compatibility: cPCI, PXI-H, PXI-1	

Software

Software development platform	Microsoft Visual Studio with C/C++ Microsoft Visual Studio .NET with C# or Visual Basic, National Instruments LabVIEW, National Instruments, LabWindows CVI, The MathWorks MATLAB, Keysight VEE
Supported Operating Systems	Windows XP SP3, 32-bit Windows Vista 32-bit and 64-bit Windows 7 32-bit and 64-bit
Drivers Provided	IVI-COM, IVI-C, LabVIEW, MATLAB
Included GUI	Soft front panel
Application code examples	C, C++, C#, Visual Basic, VEE, MATLAB

Table 1. M9168C Attenuation Accuracy

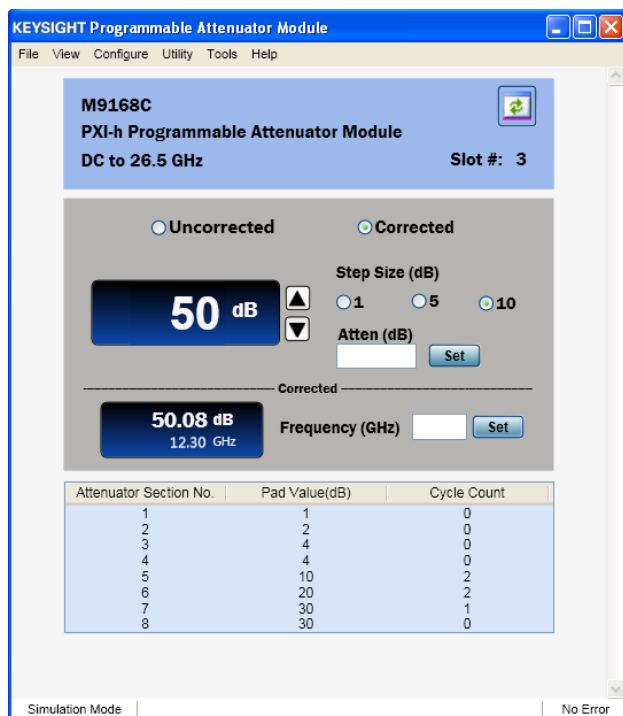| Attenuation Setting for Step Ranges (dB)	DC to 18 GHz	18 to 26.5 GHz
1 to 2	0.35	0.4
3 to 6	0.55	0.7
7 to 10	0.7	0.8
11 to 20	1.2	1.4
21 to 40	1.4	1.6
41 to 60	1.9	2.5
61 to 80	2.5	2.7
81 to 101	3.7	4.0

Figure 1. Soft front panel of M9168C provides an intuitive approach for program simulation and troubleshooting

Recommended Configuration

Model	Description
M9018A	PXIe Chassis, 18- slots, 3U, 8 GB/s
M9202A	PXIe IF Digitizer: 12-Bit, 1 GHz
M9361A	PXI Downconverter: 2.75 to 26.5 GHz
M9168C	PXI-h Programmable Attenuator Module, DC to 26.5 GHz

Ordering Information

Typical Product Configuration

Model	Description
M9168C	PXI-h Programmable Attenuator Module, DC to 26.5 GHz

Related products

M9392A	PXI Vector Signal Analyzer
M9351A	PXI Downconverter (50 MHz to 2.9 GHz)
M9360A	PXI Attenuator/Preselector
M9155/6/7C	PXI Switch Modules, DC to 26.5 GHz

Advantage Services: Calibration and Warranty

Keysight Advantage Services is committed to your success throughout your equipment's lifetime.

M9168C-UK6	Commercial calibration certificate with test data included
R-51B-001-C	1 year Return-to-Keysight warranty

KEYSIGHT
TECHNOLOGIES

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