Keysight Technologies
M8190A Arbitrary Waveform Generator
Data sheet

Industries and Applications

- Aerospace and defense
- Radar and satellite testing
- Wideband signal generation
- Wireless communications
- Consumer and computation
- Education and research

Product Description

From low-observable systems to high-density communications, testing is more realistic with precision arbitrary waveform generation. Now you can take reality to the extreme. A Keysight Technologies, Inc. AWG is the source of greater fidelity, delivering high resolution and wide band-width—simultaneously. This unique combination lets you create signal scenarios that push your designs to the limit and bring new insights to your analysis. Get bits and bandwidth—enhance your reality.

Models	
M8190A	AXIe Modular Arbitrary Waveform Generator Module

Main Features and Benefits

Product features	Your benefits
5 GHz analog bandwidth	The modulation bandwidth meets market requirements today and tomorrow
14 bit with 8 GSa/s	Best SFDR in the market
Switchable between 12 bit, 12 GSa/s and 14 bit and 8 GSa/s	Adopt the application to your needs
2 GSa memory	Test your application with realistic scenarios over long periods of time
Digial upconversion	Change parameters on the fly
Streaming for download	Modify waveforms while playing them, for infinite playtime

Specifications and Characteristics

Hardware	
Size	2-slot AXIe module
Sample rate	125 MSa/s to 12 GSa/s
Resolution	12 bits up to 12 GSa/s 14 bits up to 8 GSa/s
Analog Bandwidth	5 GHz
Spurious-free-dynamic range (SFDR)	Up to 80 dBc typical
Harmonic distortion (HD)	Up to –72 dBc typical
Transition times	50 ps (20/80)
Memory depth	2 GSa
Type of output	Single-ended or differential, DC-coupled
Impedance	50 Ω (nom)

Chassis compatibility:	AXIe

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Software Information

The M8190A can be controlled via SCPI commands or through IVI drivers.

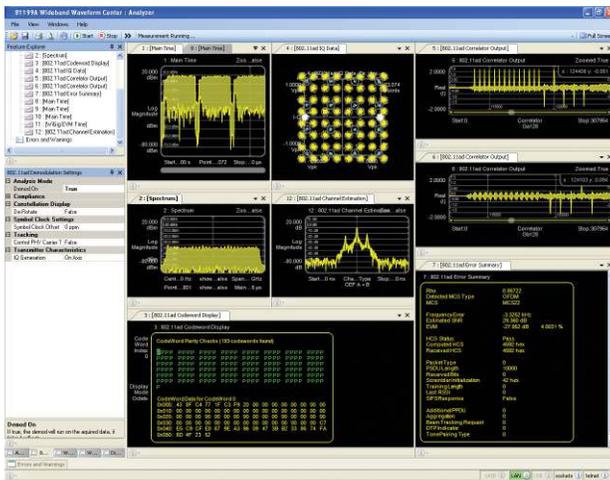|	
Supported operating systems	Microsoft Windows XP (32-bit) Microsoft Windows Vista (32/64-bit) Microsoft Windows 7 (32/64-bit)
Standard compliant drivers	IVI-COM, IVI-C, LabVIEW, MATLAB
Supported application development environments (ADE)	Keysight Benchlink Waveform Editor, Keysight Signal Studio, Keysight SystemVue, Keysight Wideband Waveform Center Visual Studio (VB.NET, C#, C/C++), VEE, LabVIEW, LabWindows/CVI, MATLAB
Keysight IO Libraries	Includes: VISA Libraries, Keysight Connection Expert, IO Monitor

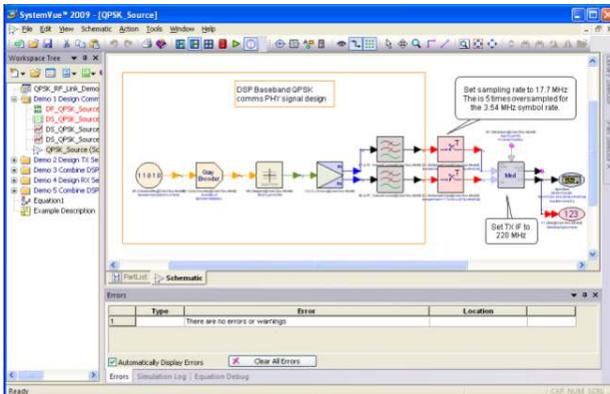Figure 1. Keysight Wideband Signal Creator for waveform generation.

Figure 2. M8190A integration into SystemVue.

Ordering Information

Typical Product Configuration	
Model	**Description**
M8190A[1]	Product only with required accessories
M8190A-001 M8190A-002	1 channel 2 channel
M8190A-14B	14 bit, 8 GSa/s
M8190A-12G	12 GSa/s, 12 bit
M8190A-02G	2048 MSa per channel
M9132A	50-ch SPST general purpose switch

1. Product requires 2-slot or 5-slot chassis with PCIe card adapter and cable

Related products	
M8192A	Synchronization module for up to 12 M8190A channels
M9045B	PCIe ExpressCard adaptor
M9047A	PCIe desktop adaptor
M9502A	2-slot AXIe chassis
M9505A	5-slot AXIe chassis
M9536A	AXIe controller

Advantage Services: Warranty	

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

M8190A-Cal	Annual calibration
R-50C-011-3 QC	Keysight Calibration - 3 years
R-50C-011-5 QC	Keysight Calibration - 5 years

Challenge the Boundaries of Test Keysight Modular Products

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