

NXA-B9P

MESH ATTENUATOR

9 Port Mesh Attenuator
200 to 8000 MHz

OVERVIEW

The NXA-B9P programmable mesh attenuator is a fully shielded, high-performance, digitally controlled RF attenuator system featuring 36 channels. It is designed for automated RF testing applications that require precise signal power control. The NXA-B9P delivers excellent attenuation accuracy, a wide dynamic range, and fast response speed. Its superior performance is achieved through a high-precision attenuator design along with thorough calibration.

Applications

- Wi-Fi 7/6E/6 and IoT testing
- 5G/4G/3G/2G cellular system validation
- MIMO and multipoint RF fading simulation
- Automated test equipment (ATE) integration
- R&D characterization and high-volume production testing



Key Features

- **Wideband Frequency Coverage:** Supports operation from 200 MHz to 8 GHz, enabling testing across Wi-Fi, cellular, and broadband RF systems.
- **Designed for Continuous Operation:** Built for 24/7 unattended use, making it ideal for fully automated and long-duration RF test environments.
- **Fully Shielded Architecture:** A completely shielded RF enclosure ensures accurate, low-interference measurements across all mesh paths.
- **Full 9-Port Mesh Topology:** Implements a non-blocking 9-port mesh with 36 independent attenuation paths, configurable to support diverse test scenarios.
- **High Dynamic Attenuation Range:** Provides up to 95 dB attenuation with 0.25 dB resolution, enabling precise and repeatable RF fading and path-loss emulation.
- **Intuitive Control Software:** Offers a user-friendly GUI with programmable APIs, allowing efficient manual control and seamless automation.

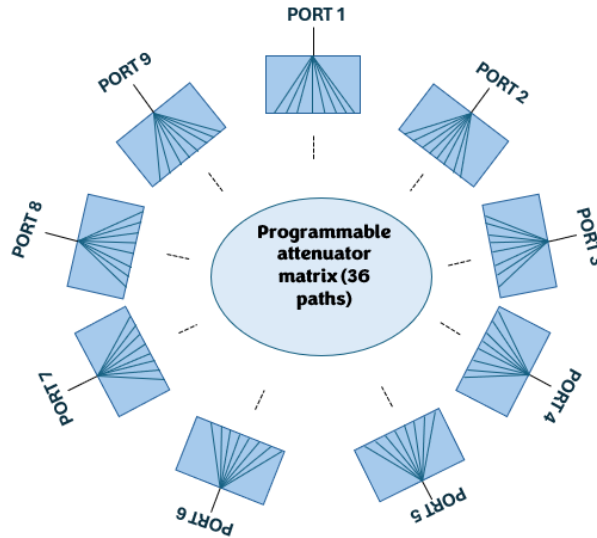
ELECTRICAL SPECIFICATION

Parameter		Min	Typ	Max
Frequency Range (MHz)		200		8000
Impedance (Ω)			50	
Number of RF Ports			4	
Attenuation Range (dB)		95		
Shielding (dB)			90	
Isolation between Channels (dB)			90	
Step Size (dB)		0.25		
Insertion Loss (dB) * Includes theoretical loss of power dividers	< 3 GHz		24	
	< 6 GHz		29	
	< 8 GHz		32	
Attenuation Accuracy (dB)			± 0.25	± 1.5
Switching Speed (μ s)			2	
Maximum Input Level (dBm)			+28 (operating) +33 (absolute max)	
Operating modes	Uni/Bi-Directional GUI control or APIs			
Operating Temperature	-30 °C to +70 °C			
RF connectors	SMA			
Control Interface	Ethernet or USB			
Operating System	Windows, Linux and Mac			
Custom APIs as per user requirements	Yes			

MECHANICAL SPECIFICATIONS

Parameter	Test Conditions
Power Requirements	100 – 240 V AC, 50/60 Hz
Environmental Conditions	Operating Temperature: 0°C to +40°C
Physical Connections	Power Connector: Power Cord Control: USB/Ethernet RF Connectors: SMA – female
Mechanical	Size (3RU): 17.0 × 18 × 5.23 inches Weight: 32 lbs / 14.5kg

Functional Diagram



Attenuator Mapping

Path	Attenuator Channel No.	Path	Attenuator Channel No.
Path 1 to 5	Channel 1	Path 7 to 9	Channel 19
Path 2 to 5	Channel 2	Path 8 to 9	Channel 20
Path 3 to 5	Channel 3	Path 3 to 4	Channel 21
Path 4 to 5	Channel 4	Path 2 to 4	Channel 22
Path 2 to 6	Channel 5	Path 1 to 4	Channel 23
Path 3 to 6	Channel 6	Path 4 to 9	Channel 24
Path 4 to 6	Channel 7	Path 2 to 3	Channel 25
Path 5 to 6	Channel 8	Path 1 to 3	Channel 26
Path 3 to 7	Channel 9	Path 3 to 9	Channel 27
Path 4 to 7	Channel 10	Path 3 to 8	Channel 28
Path 5 to 7	Channel 11	Path 1 to 2	Channel 29
Path 6 to 7	Channel 12	Path 2 to 9	Channel 30
Path 4 to 8	Channel 13	Path 2 to 8	Channel 31
Path 5 to 8	Channel 14	Path 2 to 7	Channel 32
Path 6 to 8	Channel 15	Path 1 to 9	Channel 33
Path 7 to 8	Channel 16	Path 1 to 8	Channel 34
Path 5 to 9	Channel 17	Path 1 to 7	Channel 35
Path 6 to 9	Channel 18	Path 1 to 6	Channel 36