



Wake up your further dream.



LDA-802-8 Lab Brick® High Resolution Digital Attenuator

200 – 8000 MHz Frequency | 120 dB Attenuation Range | 0.1 Step Size

Features/Benefits

- Reliable and Repeatable solid state digital attenuation
- Includes GUI, Windows Linux and MAC SDK, LabVIEW driver
- 8 Independently controlled channels
- Single shot or repeating programmable attenuation ramps
- Fading profiles programmable from GUI or SDK
- Easily portable USB powered device
- Sized to fit into a single rack unit for ATE applications



Applications

- Wi-Fi 6E, Wi-Fi 3G, 4G, 5G, LTE, DVB, Microwave Radio Fading Simulators
- Engineering/Production Test Labs
- Automated Test Equipment (ATE)

The Lab Brick LDA series of Digital Attenuators bring affordability, functionality, reliability, and simplicity to the microwave test bench. The LDA products range from 6 MHz to 40 GHz with input level tolerance to 2 Watts and step size as small as 0.1 dB.

The LDA-802-8 offers both USB and Ethernet interfaces. The USB port uses a native HID interface to avoid the difficulties inherent in using older serial or IEEE-488 interfaces implemented over USB. As a result, Lab Brick users can get to work faster without having to install kernel level drivers, and Lab Brick devices can be easily used on any system that supports USB HID devices, including low-cost embedded computers using Linux or similar operating systems. The Ethernet interface is configurable for Static IP or DHCP with the ability to assign the HTTP port for extra security.

The LDA-802-8 Digital Attenuator is a high dynamic range, 8-channel, bidirectional, 50 Ohm step attenuator. The LDA-802-8 provides 120 dB of attenuation control range from 200 to 8000 MHz with a step size of 0.1 dB. The attenuators are easily programmable for fixed attenuation, swept attenuation ramps and fading profiles directly from the included Graphical User Interface (GUI). Alternatively, for users wishing to develop their own interface, Vaunix supplies LabVIEW drivers, Windows API DLL files, Linux drivers, Python examples and much more.



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LDA-802-8 Specifications

Parameter	Test Conditions	Min	Typ	Max
Frequency Range (MHz)		200		8000
Impedance (Ω)			50	
Channels			8	
Attenuation Range (dB)		120		
Step Size (dB)		0.1		
Insertion Loss (dB)	< 2 GHz		5.5	6.5
	< 4 GHz		6.5	8
	< 8 GHz		8.5	10
Attenuation Accuracy (dB)	<30 dB		0.2	1
	<60 dB		0.4	1.5
	<90 dB		0.6	2.5
	<110 dB		1	3
	<120 dB		2	4.5
Switching Speed (μ s)			2	
Maximum Input Level (dBm)	Avg/Peak		25/30	
Input IP3 (dBm)		38	45	
VSWR			1.5:1	

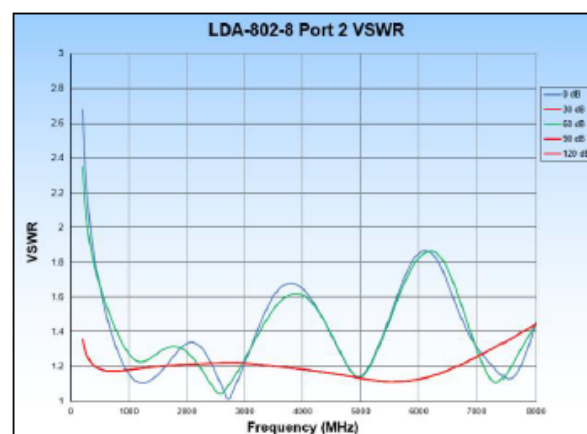
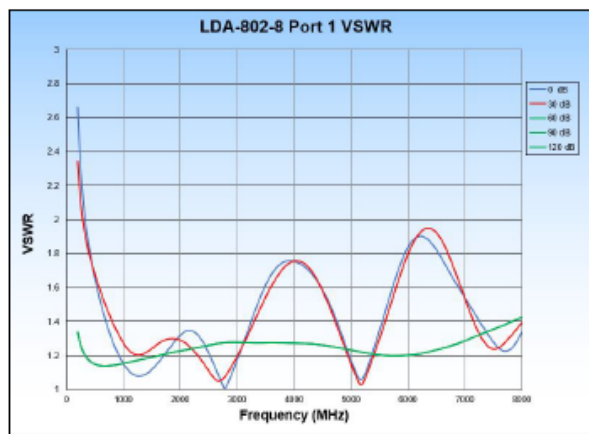
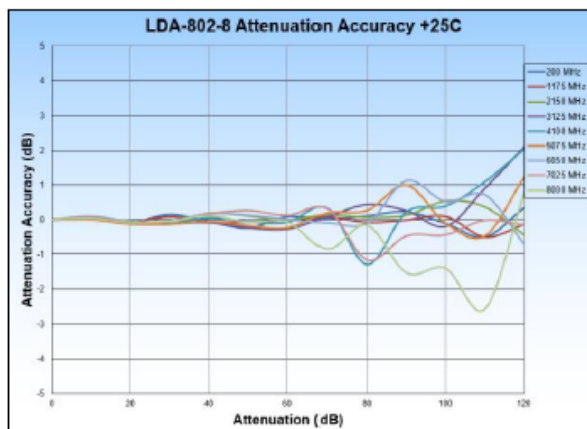
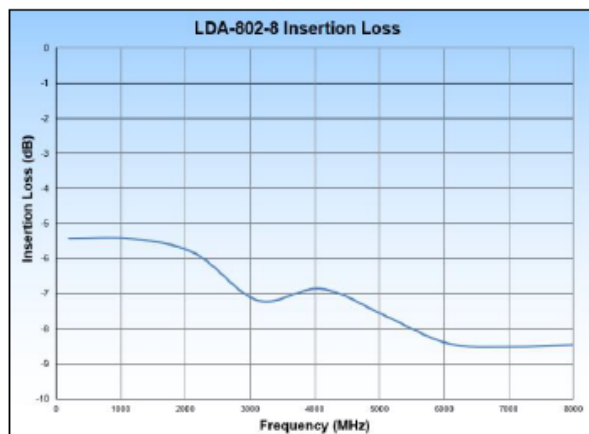
Parameter	Test Conditions/Notes	
Power Requirements	From the USB connection	+5 VDC 95 mA
Environmental	Operating Temperature	-30 °C to +70 °C
	Relative Humidity (non-condensing)	<95%
Physical Connections	Power	USB Type C – female
	Control	USB/Ethernet
	RF Connectors	SMA – female
Operating Modes	Manual Attenuation Control Swept Attenuation – uni/bi directional – one time/repeat Profile - 1000 configurable attenuation states	
Mechanical	Size	9.0 x 2.5 x 0.55 inches 228.6 x 63.5 x 14 millimeters
	Weight	0.7 pounds 318 grams



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LDA-802-8 Performance Plots

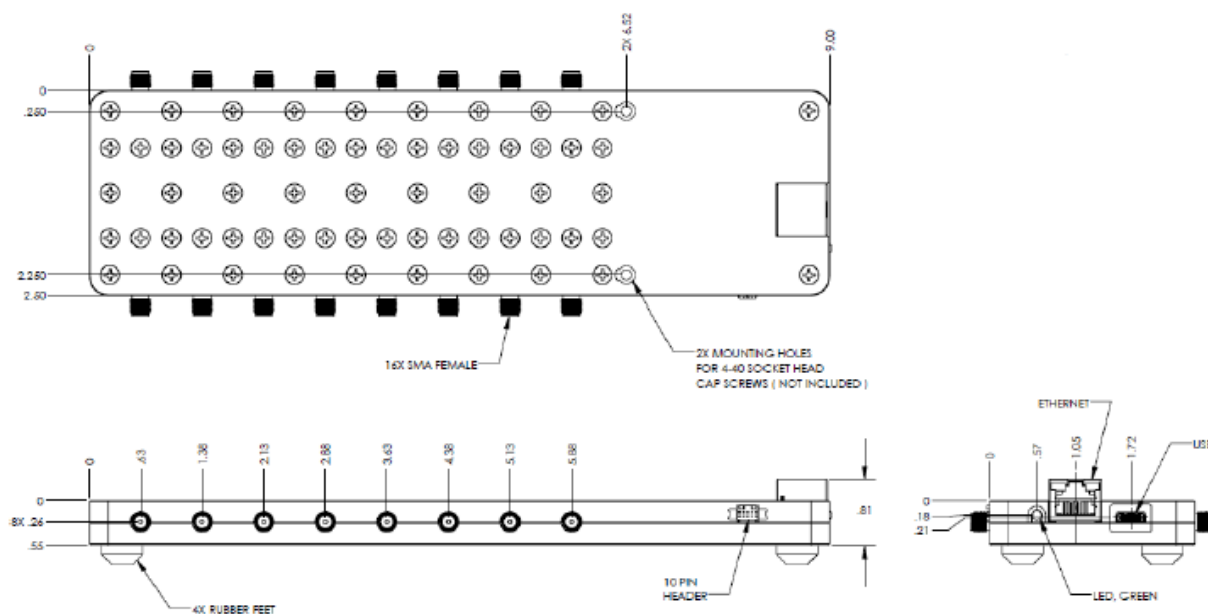




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LDA-802-8 Mechanical Outline





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LDA-802-8 Software Interface

Windows GUI

Lab Brick Programmable Attenuator - LDA-802-8

File Control Help

Attenuation (dB)

120.0

Attenuation Step Size (dB)

10 1 Other 0.1

Working Frequency (MHz)

8000

Channel

1

Ramp Profile TCP-IP Settings

Attenuator Ramp

Start End Dwell Time (ms) Idle Time (ms)

0.0 120.0 1000 0

Bidirectional Ramp

Dwell Time (ms) Hold Time (ms)

1 0

Control

One Repeat Stop

☐ Bidirectional Ramp

Serial Number: 29517 Channel: 1

Web UI

vaunix LDA-802-8

STATUS SETUP LOGOUT

RF Settings

Advance Settings

Network Settings

Account Settings

Save Config

Global Configuration

Frequency 8000 MHz (Valid range: 200-8000) Set All

Attenuation 0.0 dB (Valid range: 0.0-120.0) Set All

Read Config Apply Changes ☐ Auto-Refresh

Attenuation Settings

Chn#	Action	Atten. (dB)	Step Size (dB)	Ramp Start (dB)	Ramp End (dB)	Dwell Time (ms)	Idle Time (ms)	Ramp Mode	Bi-Dwell Time (ms)	Bi-Hold Time (ms)	Bi-Ramp
1	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
2	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
3	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
4	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
5	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
6	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
7	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>
8	Set	0.0	1.0	0.0	120.0	1000	0	Stop	1	0	<input type="checkbox"/>



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