

LDA-802EH 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 Windows GUI and SDK, macOS GUI and SDK, Linux SDK, LabVIEW driver, Python examples and more
- Single shot or repeating programmable attenuation ramps
- Fading profiles programmable from GUI or SDK
- Easily portable USB powered device
- USB or Ethernet Control



Applications

- Wi-Fi 7 / 6E, 5G NR, 4G LTE, UWB, GNSS/GPS, MANET, DVB, Bluetooth
- Microwave Radio Fading Simulation, Handover Testing, Multipath & Coexistence Testing
- Tactical Radio (SDR), S-Band/C-Band SATCOM IF/RF Testing, Radar Target RCS Emulation
- Automated Test Equipment (ATE), Receiver Sensitivity & Dynamic Range Testing, Engineering & Production Test Labs

The Lab Brick® LDA Series of Digital Attenuators brings high functionality, reliability, and simplicity to the microwave test bench at an affordable price point. Spanning frequencies from 6 MHz to 40 GHz, the LDA series offers fine step sizes down to 0.1 dB and input power handling up to 2 Watts (+33 dBm).

Designed with native USB HID and 10/100Base-T Ethernet (IEEE 802.3) control interfaces, Lab Brick attenuators eliminate the complexities of legacy serial or IEEE-488 setups. Users can deploy units instantly without installing custom kernel-level drivers. This universal compatibility allows effortless integration into standard PC environments as well as low-cost embedded Linux systems.

The LDA-802EH is a 50-Ohm, bidirectional digital attenuator delivering a wide 120 dB control range across 200 to 8000 MHz with 0.1 dB resolution. Attenuation states, ramps, and fading profiles can be controlled directly via the included Graphical User Interface (GUI) or webUI. For custom automated test setups, Vaunix provides comprehensive software support including Windows DLLs, Linux libraries, macOS DYLIBs, LabVIEW drivers, Python examples, and much more.

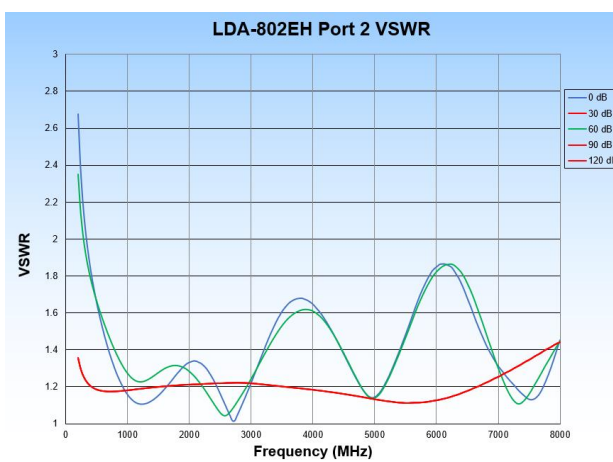
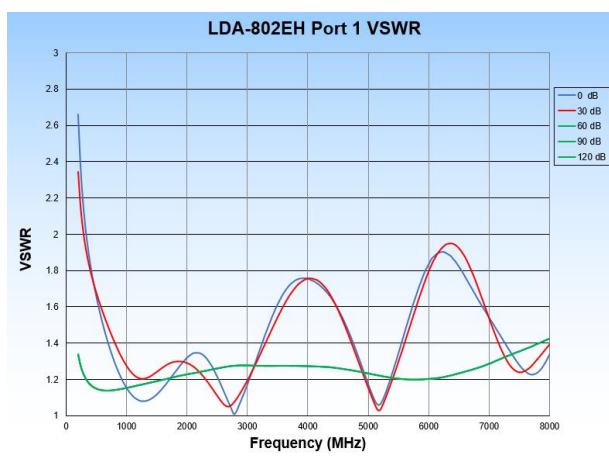
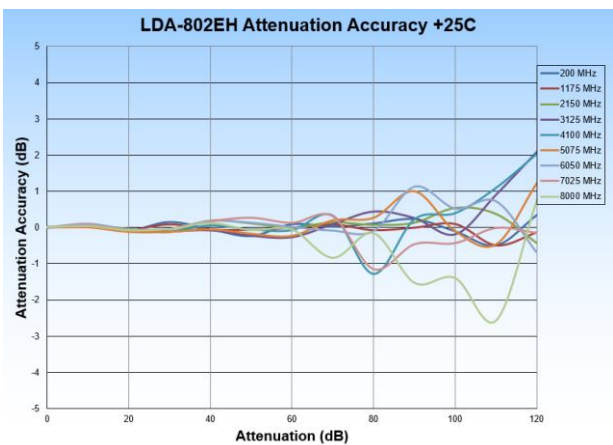
LDA-802EH Specifications

Parameter	Test Conditions	Min	Typ	Max
Frequency Range (MHz)		200		8000
Impedance (Ω)			50	
Channels			1	
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	

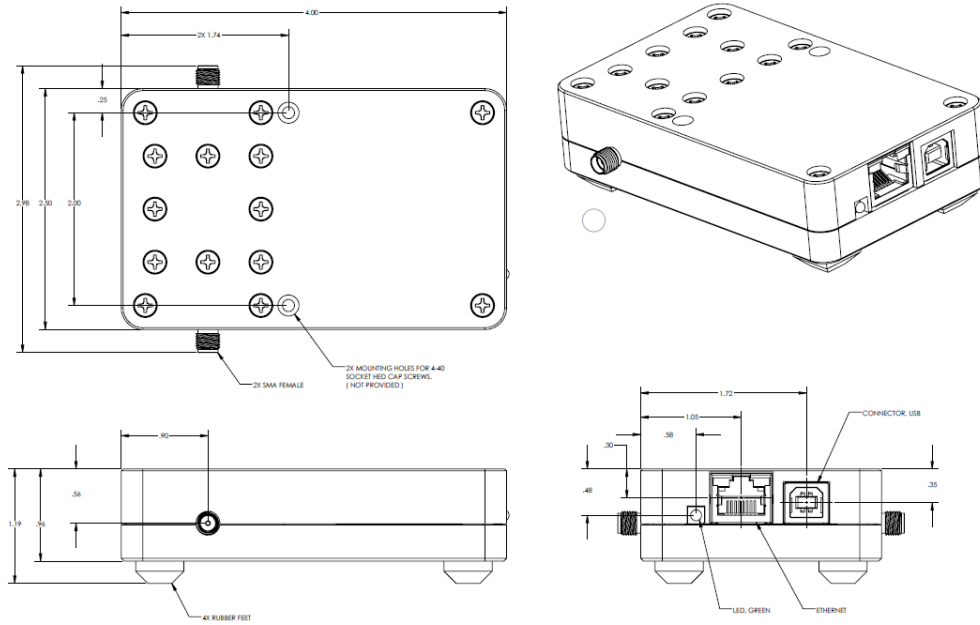
Parameter	Test Conditions/Notes	
Power Requirements	From the USB connection	+5 VDC 100 mA
Environmental	Operating Temperature	-30 °C to +70 °C
	Relative Humidity (non-condensing)	<95%
Physical Connections	Power	USB Type B
	Control	USB 2.0 (HID Class, Driverless) Ethernet-RJ45 IEEE 802.3(10/100Base-T)
	RF Connectors	SMA – female
Operating Modes	Manual Attenuation Control Swept Attenuation – uni/bi directional – one time/repeat Profile	
Mechanical	Size	4.0 x 2.5 x 0.96 inches 101.6 x 63.5 x 24.4 millimeters
	Weight	0.5 pounds 227 grams

***Note:** Attenuation ramps and profiles have a minimum duration of 1ms per attenuation step.

LDA-802EH Performance Plots



LDA-802EH Mechanical Outline



LDA-802EH Software Interface

Windows GUI

Lab Brick Programmable Attenuator - LDA-802EH

File Control Help

Attenuation (dB)

120.0

Attenuation Step Size (dB)

10 1 Other 0.1

Working Frequency (MHz)

8000

Ramp Profile

Attenuator Ramp

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

0.0 120.0 1 1

Bidirectional Ramp

Dwell Time (ms) Hold Time (ms)

1 0

Control

One Repeat Stop

☐ Bidirectional Ramp

Serial Number: 99990

WebUI

vaunix LDA-802EH

STATUS SETUP LOGIN

RF Settings

Advance Settings

Network Settings

Account Settings

RF Configuration

Channel# 1

Frequency 200 MHz (Valid range: 200-8000)

Attenuation Step 1dB 0.1 dB (Valid range: 0.0-120.0)

Attenuation 0.0 dB (Valid range: 0.0-120.0)

Apply Changes

Ramp Configuration

Ramp Mode Up

Ramp Direction Unidirectional

Start Attenuation 0.0 dB (Valid range: 0.0-120.0)

Stop Attenuation 120.0 dB (Valid range: 0.0-120.0)

Dwell Time 1000 msec (Valid range: 1-10000)

Idle Time 0 msec (Valid range: 0-10000)

Bidirectional Dwell Time 1 msec (Valid range: 1-10000)

Hold Time 0 msec (Valid range: 0-10000)

Ramp Control Mode Stop

Apply Changes

Profile Configuration

Input Profile Choose File No file chosen Load Profile

Profile Length 1

Dwell Time 100 msec (Valid range: 1-10000)

Idle Time 0 msec (Valid range: 0-10000)

Profile Control Mode Stop

Apply Changes Save Settings

www.vaunix.com | Contact | Customer Support

