

# LDA-5018V Lab Brick® High Resolution Digital Attenuator

50 MHz – 18 GHz Frequency | 50 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
- Programmable attenuation ramp and fading profiles
- Operate multiple devices directly from a PC or self powered hub
- Easily portable USB powered device
- Sized to fit into a single rack unit for ATE applications



## Applications

- WiMAX, 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 20 GHz with an input level tolerance of 2 Watts and step size as small as 0.1 dB.

Lab Bricks use a native USB 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.

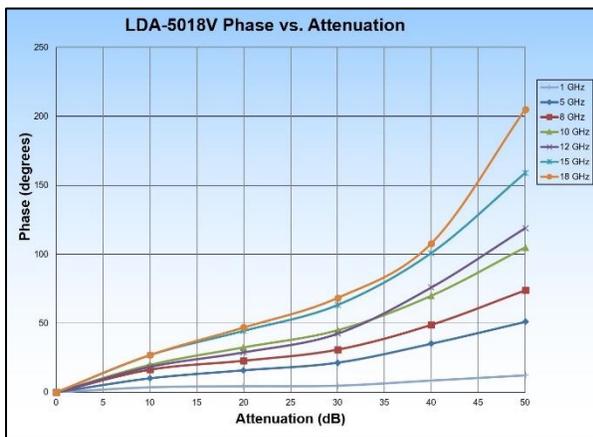
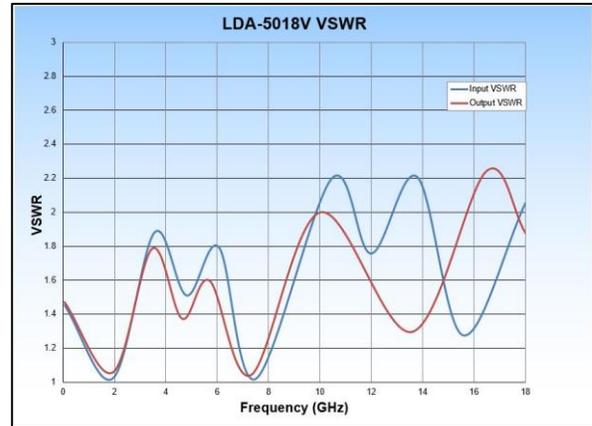
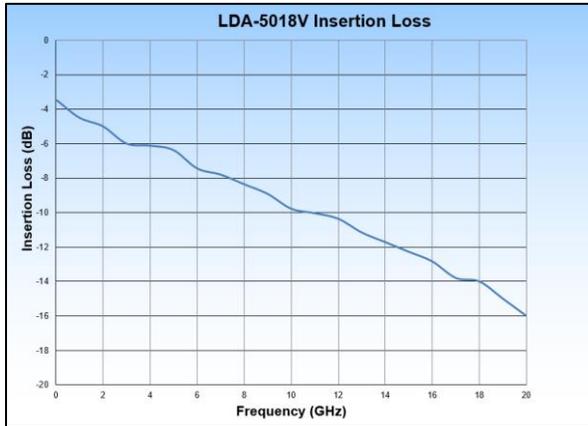
The LDA-5018V Digital Attenuator is a highly accurate, bidirectional, 50 Ohm step attenuator. The LDA-5018V provides calibrated attenuation from 50 to 18000 MHz with an amazing step size of 0.1 dB and typical accuracy <1.0 dB over 50 dB of control range. The attenuators are easily programmable for fixed attenuation, swept attenuation ramps, and fading profiles directly from the included Graphical User Interface (GUI). Alternatively, Vaunix supplies LabVIEW drivers, Windows API DLL files, macOS DYLIB files, Linux drivers, Python examples, and more for users wishing to develop their own interface.

## LDA-5018V Specifications

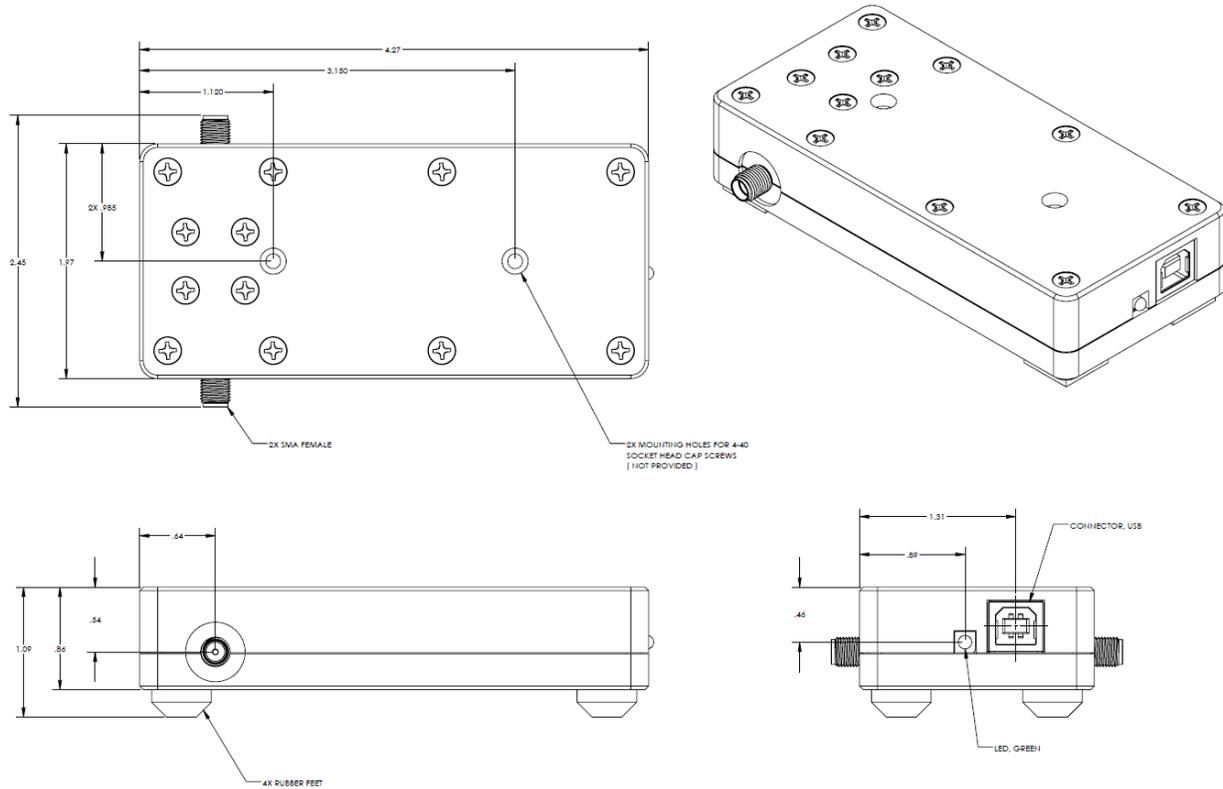
Parameter	Test Conditions	Min	Typ	Max
Frequency Range (MHz)		50		18000
Impedance ( $\Omega$ )			50	
Attenuation Range (dB)		50		
Step Size (dB)		0.1		
Insertion Loss (dB)	< 2 GHz		5	6
	< 6 GHz		6	7.5
	< 10 GHz		8	10.5
	< 18 GHz		13.5	16
Attenuation Accuracy (dB)	+25 °C		1	1.5
	-30 °C to +70 °C		1.5	2.5
Switching Speed ( $\mu$ s)			2	
Maximum Input Level (dBm)	<1 GHz		16	
	>1 GHz		23	
Input IP3 (dBm)		38	45	
VSWR			2.0:1	

Parameter	Test Conditions/Notes	
Power Requirements	From the USB connection	+5 VDC 65 mA
Environmental	Operating Temperature	-30 °C to +70 °C
	Relative Humidity (non-condensing)	<95%
Physical Connections	Power and Control	USB Type B – female
	RF Connectors	SMA – female
Operating Modes	Manual Attenuation Control Swept Attenuation – uni/bi directional – one time/repeat Profile	
Mechanical	Size	4.27 x 1.97 x 0.86 inches 108.5 x 50 x 21.8 millimeters
	Weight	0.4 pounds 0.182 kilograms

# LDA-5018V Performance Plots



## LDA-5018V Mechanical Outline



## LDA-5018V Software Interface

