

# Lab Brick<sup>®</sup> Digital Attenuator

## **General Description**

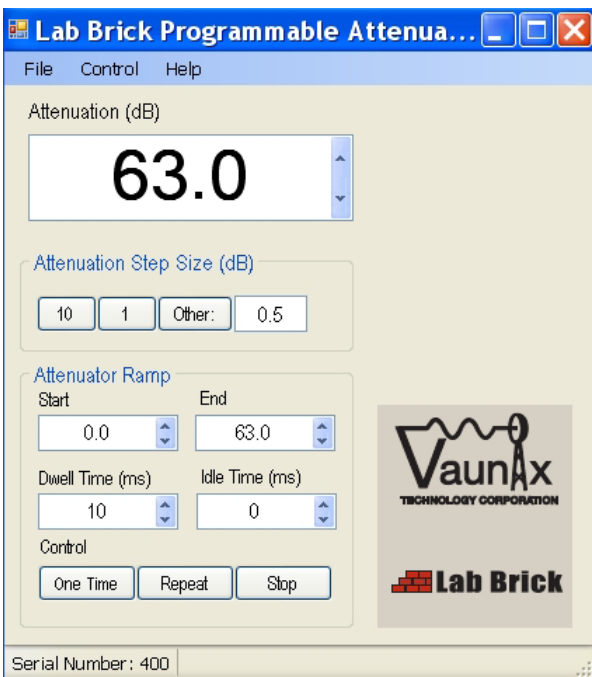
Lab Brick Digital Attenuators are 50 Ohm RF step attenuators with calibrated operation up to 6 GHz. These units require connection to a USB port for control and power. No additional DC supply voltage is required. Lab Brick Digital Attenuators are easily programmable for fixed attenuation or swept attenuation ramps directly from the included GUI. Lab Brick Digital Attenuator API dll and LabVIEW compatible drivers are also available for custom programming applications.

## **Features/Benefits**

- > **USB powered and controlled**
- > **Includes easy to install and use GUI**
- > **Programmable attenuation ramp**
- > **Operate multiple devices directly from a PC or self powered USB hub**
- > **Easily programmable for ATE applications**
- > **Robust aluminum construction**

## **Applications**

- > **Automated Test Equipment (ATE)**
- > **WiMAX, 3G Fading Simulators**
- > **Engineering/Production Test Labs**

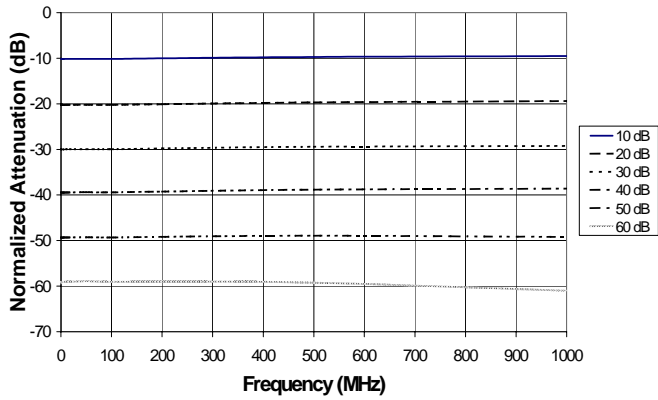


<b>Electrical</b>	<b>LDA-102</b>	<b>LDA-602</b>
Operating Frequency	0.1 to 1000 MHz	6 to 6000 MHz
Insertion Loss	0.1 to 100 MHz : 6 dB max. 100 to 1000 MHz: 7 dB max.	6 to 1000 MHz: 7 dB max. 1000 to 2000 MHz: 8 dB max. 2000 to 4000 MHz: 9 dB max. 4000 to 6000 MHz: 10 dB max.
Attenuation Range	0 to 63 dB	0 to 63 dB
Attenuation Step Size	Programmable: 0.5 dB min. 63 dB max.	Programmable: 0.5 dB min. 63 dB max.
Programmable Step Size Resolution	0.5 dB	0.5 dB
Attenuation Accuracy <sup>2</sup>	$\pm 0.3 + 5\%$ of Atten. Setting, dB max.	$\pm 0.3 + 5\%$ of Atten. Setting, dB max.
Input / Output VSWR	0 dB Atten. Setting: 2.0:1 max. 0.5 dB Atten. Setting: 1.7:1 max. All Other Settings: 1.5:1 max.	0 dB Atten. Setting: 2.0:1 max. 0.5 dB Atten. Setting: 1.8:1 max. All Other Settings: 1.5:1 max.
Input Power for 0.1 dB Compression <sup>3</sup>	+22 dBm typ.	+22 dBm typ.
Input 3 <sup>rd</sup> Order Intercept Point	0 dB Atten. Setting: +46 dBm typ. All Other Settings: +32 dBm typ.	0 dB Atten. Setting: +46 dBm typ. All Other Settings: +32 dBm typ.
Operating Modes	Fixed Attenuation Automatic Stepping	Fixed Attenuation Automatic Stepping
DC Power	via USB	via USB
GUI Compatibility <sup>4</sup>	Windows™2000/XP/Vista	Windows™2000/XP/Vista
<b>Mechanical</b>		
Length	3.86" (98mm)	3.86" (98mm)
Width	2.52" (64mm)	2.52" (64mm)
Height	1.35" (34mm)	1.35" (34mm)
Weight	< 0.5 lbs (0.23 Kg)	< 0.5 lbs (0.23 Kg)
RF Connectors	SMA-F	SMA-F
USB Cable <sup>5</sup>	USB 2.0 A to Mini B	USB 2.0 A to Mini B

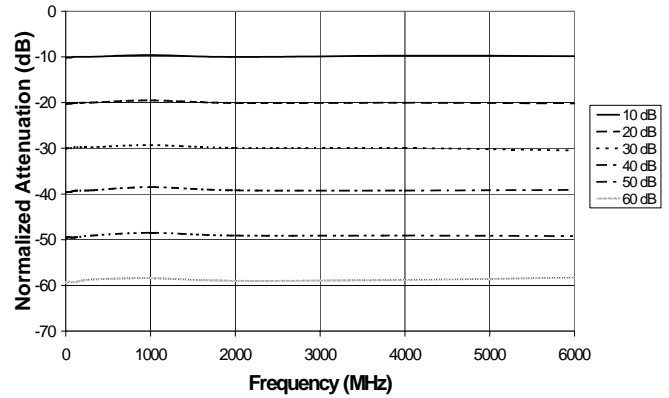
**Notes**

1. These specifications are subject to change without notice.
2. Customized models are available tailored to specific performance requirements.
3. Do not exceed +22 dBm input power. Damage may occur.
4. The GUI software is included with the purchase of each Lab Brick Digital Attenuator.
5. A 6' USB cable is included with the purchase of each Lab Brick Digital Attenuator.

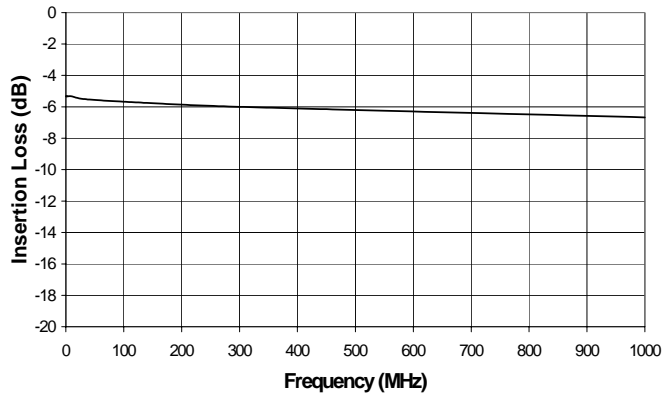
**LDA-102 Normalized Attenuation**



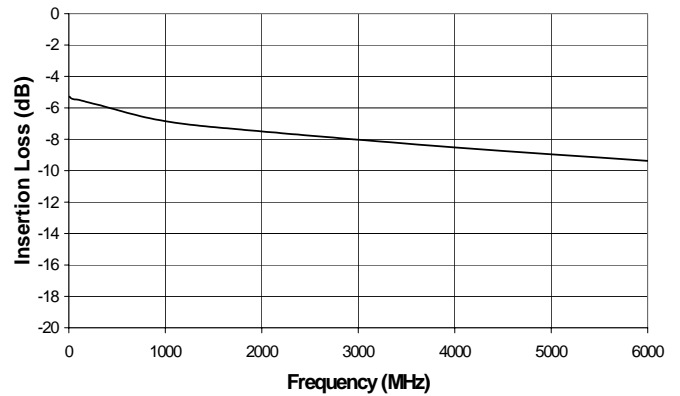
**LDA-602 Normalized Attenuation**



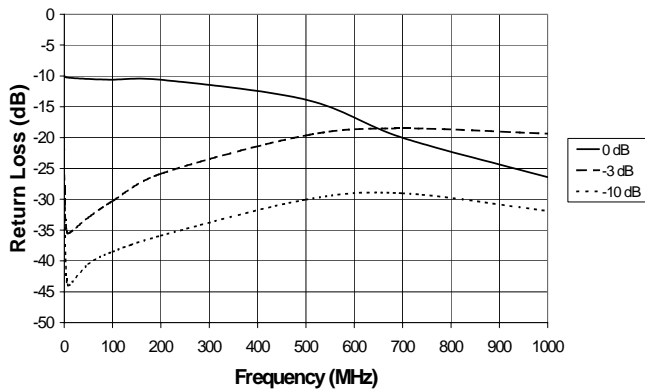
**LDA-102 Insertion Loss (dB)**



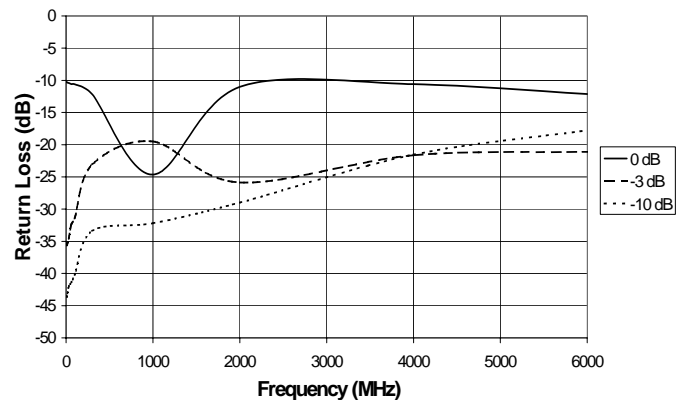
**LDA-602 Insertion Loss**



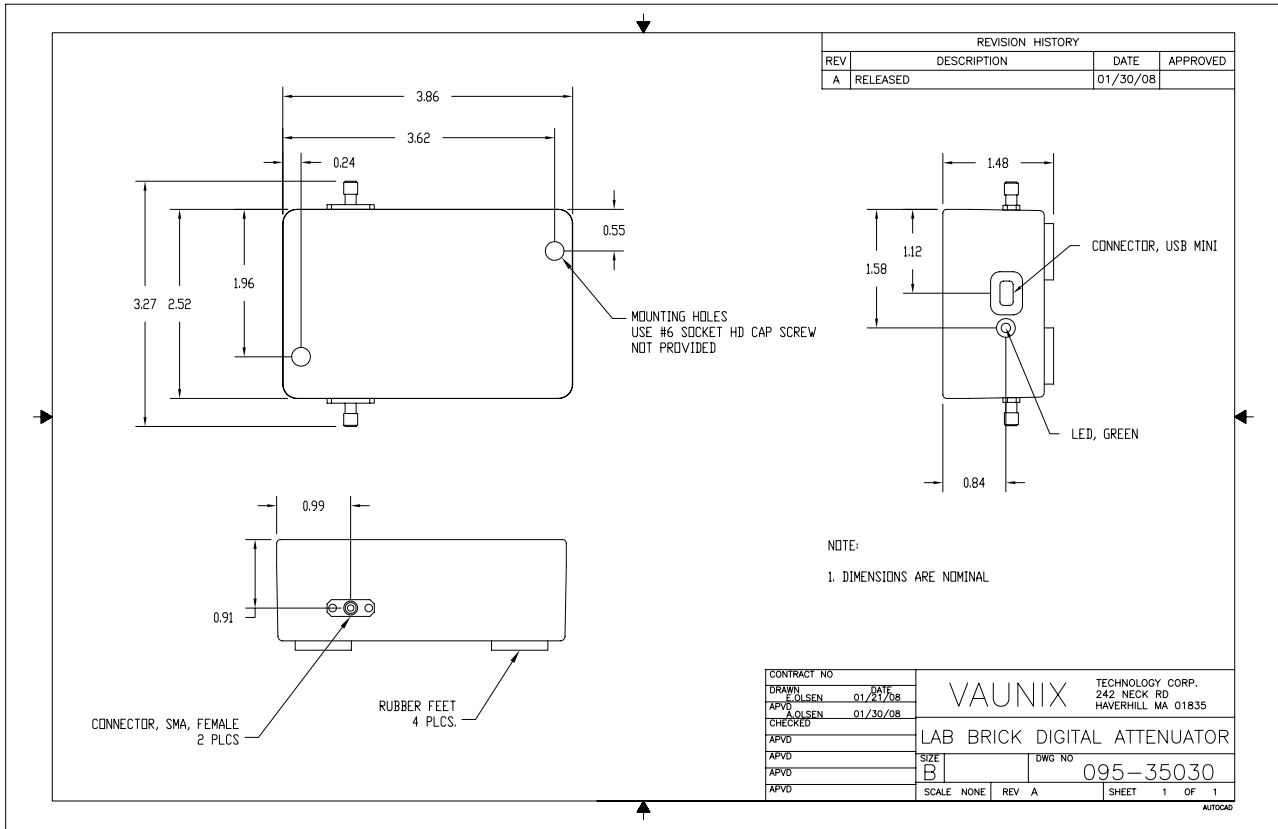
**LDA-102 Input/Output Return Loss**



**LDA-602 Input/Output Return Loss**



**Mechanical Outline**



**Ordering Information**

For price, delivery and order placement please contact Vaunix Technology Corporation:  
242 Neck Road Haverhill, MA 01835 Phone: 978-662-7839 Fax: 978-662-7842  
or visit [www.labbrick.com](http://www.labbrick.com) to order online

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