

AD-USB8AR38G95

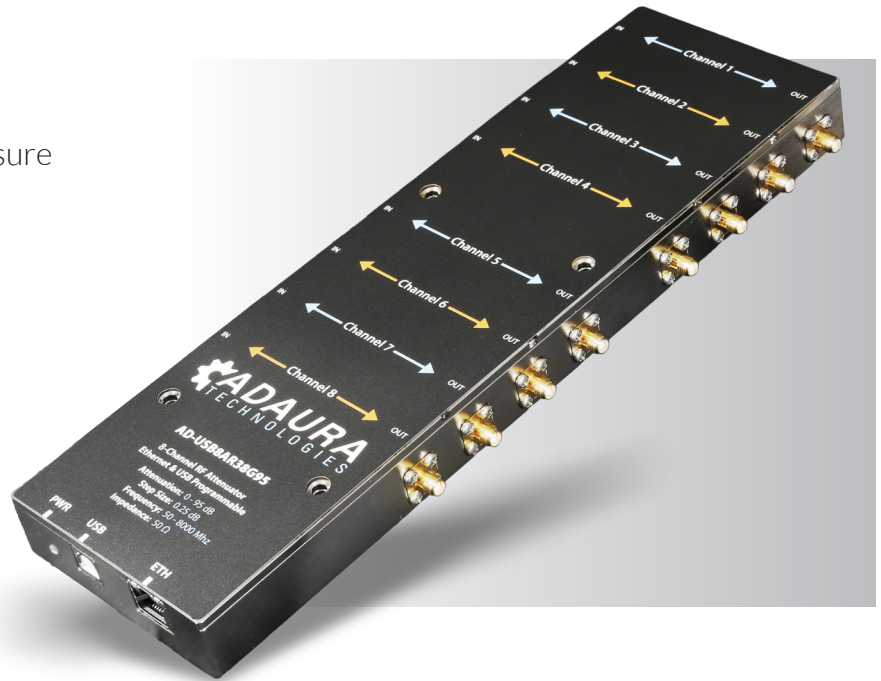


USB/Ethernet Programmable RF Attenuator

95dB, 0.05-8GHz, 0.25dB Step size, Power Over Ethernet (POE)

Key Features

- 8 individual RF channels in single enclosure
- Dynamic range of 95dB
- Attenuation resolution of 0.25dB
- Frequency range of 50 - 8000MHz
- USB powered & controlled
- Ethernet for Telnet and HTTP control
- Power Over Ethernet (POE)
- Easy USB control via COM and HID
- Very compact size
(296.20 x 89.30 x 23.70) mm



Ideal for

- Cellular (3G, 4G, LTE, & more)
- IoT
- WiFi MIMO
- Engineering Development and Automated Manufacturing Test
- U-NII-6 through U-NII-8 (5.925 to 7.125GHz)

Included Accessories

- USB flash drive containing software, drivers, manuals, and sample scripts/programs
- 5 ft. USB type A to type B cable
- 5 ft. CAT5E Ethernet cable

Overview

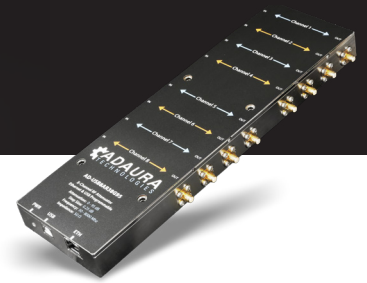
The AD-USB8AR38G95 is Adaura Technologies' latest design in the AD-USB series of programmable RF attenuators. Combining all the best features of the previous models, the R3 is the new series flag ship. With a completely custom machined aluminum enclosure, the AD-USB8AR38G95 boasts 95dB of attenuation with over 110dB of interchain isolation. The addition of Ethernet allows EASY implementation into the most modern of test setups by allowing network control via HTTP web interface or direct Telnet while the USB port powers the device and allows for serial and HID communication. Optional Power Over Ethernet (POE) can be configured to the device.

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Specifications

Attenuation Step Size (dB)	0.25			
Number of individually controlled RF chains	8			
Operating Frequency (MHz)	50 - 8,000			
Attenuation Range (dB)	0 - 95			
Input 0.1dB Compression Power (dBm)	34			
Impedance (Ω)	50			
IP3 Input (dBm) ¹	+58			
Attenuation Accuracy (dB)	Frequency	Conditions	Typical	Max
	20.25 - 60	± 0.50	$\pm (2.0\% \text{ of Atten.} + 0.90)$	
	60.25 - 90	± 0.75	$\pm (3.5\% \text{ of Atten.} + 0.70)$	
	2000 - 4000 MHz	0.25 - 20	± 0.20	$\pm (5.5\% \text{ of Atten.} + 0.25)$
		20.25 - 60	± 0.30	$\pm (2.0\% \text{ of Atten.} + 0.70)$
		60.25 - 90	± 0.40	$\pm (3.0\% \text{ of Atten.} + 0.90)$
	4000 - 6000 MHz	0.25 - 20	± 0.15	$\pm (6.5\% \text{ of Atten.} + 0.15)$
		20.25 - 60	± 0.35	$\pm (3.5\% \text{ of Atten.} + 0.45)$
		60.25 - 90	± 0.65	$\pm (3.5\% \text{ of Atten.} + 0.90)$
	6000 - 8000 MHz	0.25 - 20	± 0.20	$\pm (6.5\% \text{ of Atten.} + 0.45)$
		20.25 - 60	± 0.40	$\pm (6.7\% \text{ of Atten.} + 0.55)$
60.25 - 90		± 0.70	$\pm (7.0\% \text{ of Atten.} + 0.90)$	
Dwell Time per Channel (μsec) ²	126			
Min. Dwell Time for all Channels (μsec) ³	461			
Attenuation Transition Time (ns) ⁴	568			
VSWR	50 - 2000 MHz	1.15	:1	
	2000 - 4000 MHz	1.20		
	4000 - 6000 MHz	1.25		
	6000 - 7200 MHz	1.50		
	7200 - 8000 MHz	1.80		
Max Input RF Power	+28 dBm (operating) +33 dBm (absolute max)			
Power Use (mA)	115			
Power Over Ethernet ⁵	IEEE802.3at Class 2 compliant			
Operating Temperature ($^{\circ}\text{C}$)	0 to 60			
Communication ⁶	USB (Hybrid Serial COM Port and HID) Ethernet (Telnet, HTTP, HTTP Web GUI, DHCP & Static IP)			
Interchain Isolation (Chain-to-chain isolation)(dB)	>120			
External Isolation (dB)	>120			
Insertion Loss (dB)		Typical	Max	
		50 MHz	4.2	5.0
		2400 MHz	5.5	6.3
		6000 MHz	7.8	9.0
		8000 MHz	10.1	10.8

^A Exceeding absolute maximum ratings may cause permanent damage. Operation should be restricted to the limits in the Operating Ranges table.

Operation between operating range maximum and absolute maximum for extended periods may reduce reliability.

^B Attenuator RF ports are interchangeable bidirectional signal transmission.

¹ Tested with 1 MHz span between signals.

² Dwell Time per Channel is the time the will take an individual attenuator channel to transition to a new attenuation state (without PC communication delays).

³ Minimum Dwell Time for All Channels is the time it takes all channels to transition to a new attenuation state (without PC communication delays).

⁴ Attenuation Transition Time is the time it takes an attenuator to reach a new attenuation state.

⁵ Power Over Ethernet (POE) available by optional configuration.

⁶ USB support for simultaneous HID and Serial connections.

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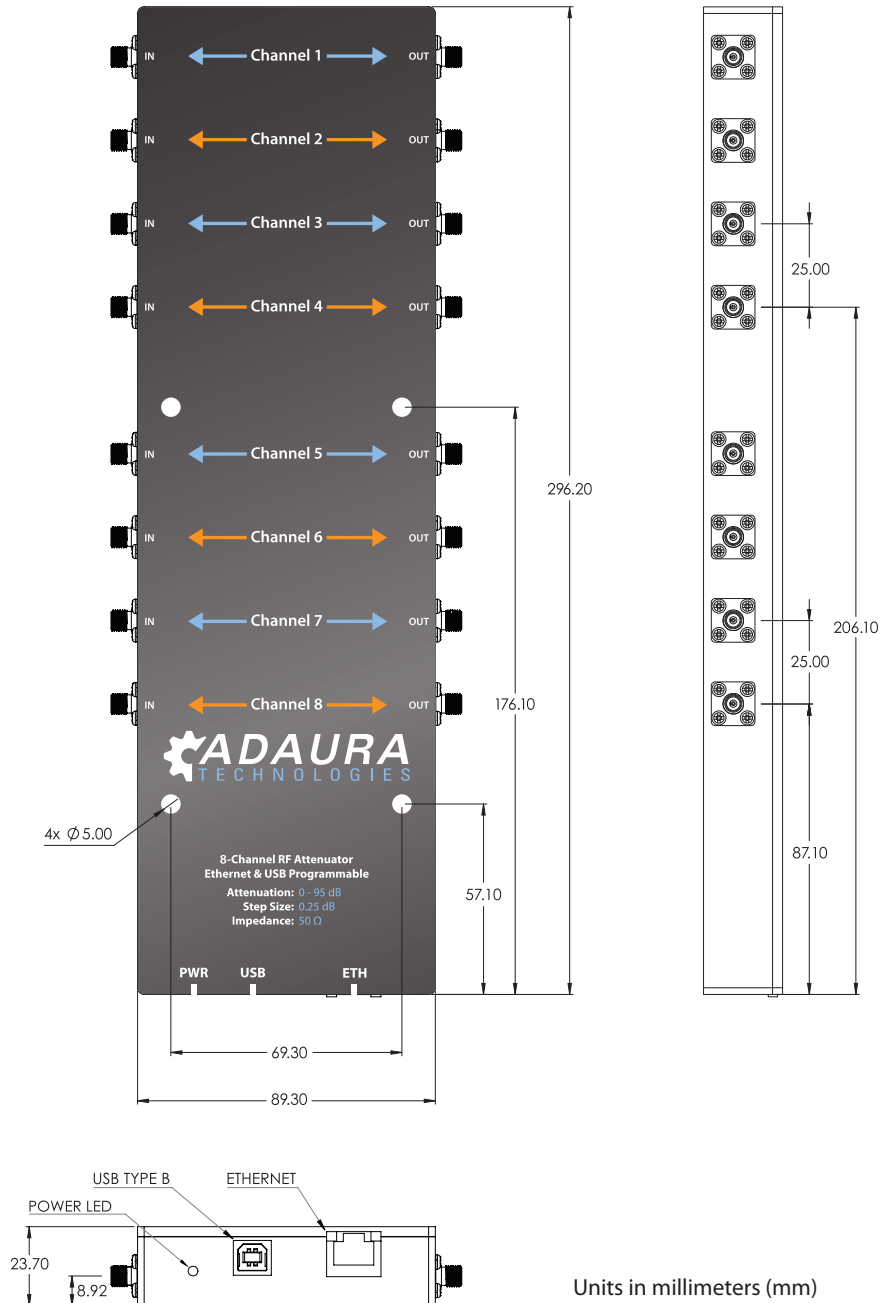


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Drawing



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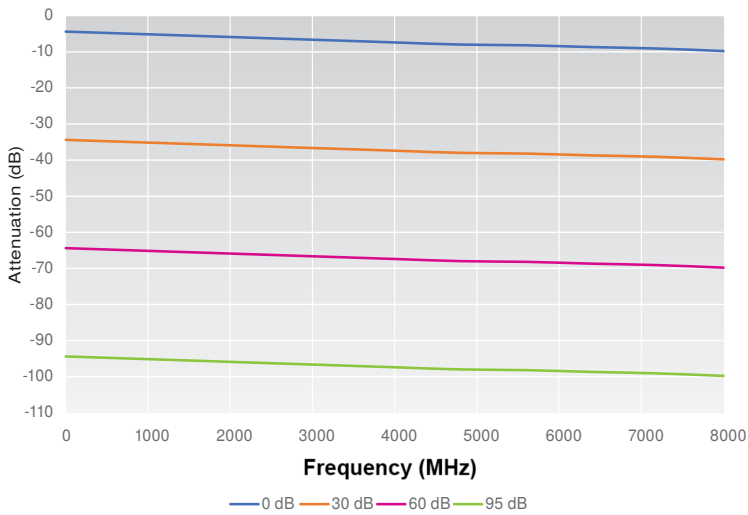
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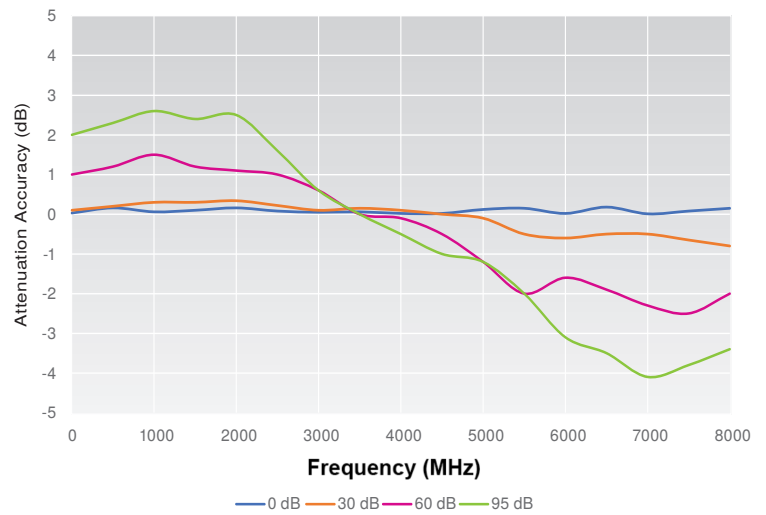


Performance

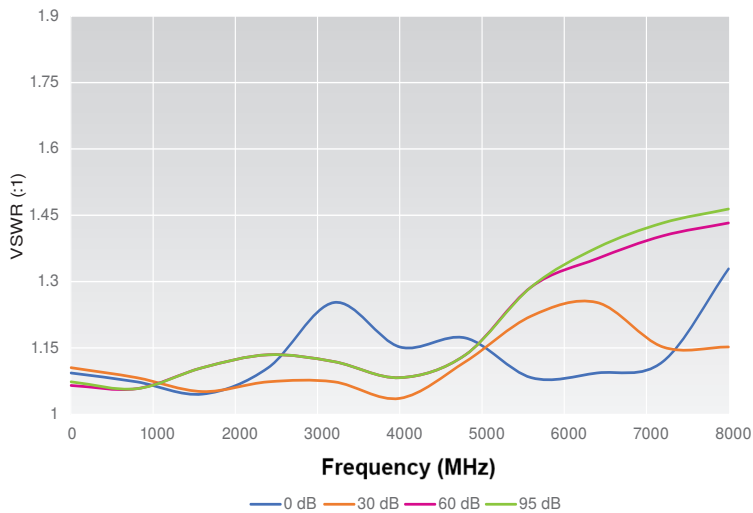
Attenuation



Attenuation Accuracy



Input VSWR



Output VSWR

