



# PROGRAMMABLE ATTENUATOR

## MVA2P41-90

**0.05 to 8GHz**  
**4/4 CHANNEL**  
**0-90dB**

### Features

- ✓ Insertion Loss Compensation (On/Off Selectable)
- ✓ Step Resolution of 0.25dB
- ✓ High Attenuation levels up to 90dB

### Specifications

PART NUMBER	FREQUENCY	ATTENUATION RANGE	VSWR	CONNECTOR TYPE	CONTROL	SWITCHING SPEED <sup>1</sup>
MVA2P41-90	0.05-8GHz	0-90dB	1.8:1 TYP.	SMA Female	USB(TYPE-C)	1.1μs

<sup>1</sup> 50% CTRL to 90% or 10% RF

### ATTENUATION ACCURACY

	dB	TYP.
Compensate I.L. "OFF" <sup>1</sup>	0 - 30	±0.6
	30 - 60	±1.2
	60 - 90	±1.8
Compensate I.L. "ON" <sup>2</sup>	0 - 30	±0.5
	30 - 60	±1
	60 - 90	±1.5

### RF Input Power

28dBm TYP.

### POWER SUPPLY

+5V

### ISOLATION (between channels)

90 dB<sup>3</sup> TYP.

110 dB<sup>4</sup> TYP.

### IP3 Input

0 dB Att. 50 dBm

### IMPEDANCE

50ohm

### INSERTION LOSS

50 - 4000MHz @ 0 dB Att. 9 dB MAX.

4000 - 8000MHz @ 0 dB Att. 14 dB MAX.

### ENVIRONMENTAL

Operated in 50Ω system, 25°C

### MATERIALS

CONNECTOR: BRASS, NICKLE OR GOLD PLATED

CENCTOR CONDUCTOR: BERYLLIUM BRONZE, GOLD PLATED

BODY: ALUMINUM (Aluminum scratches more easily than more durable materials.), SAND BLASTING

### IP1 Input

0 dB Att. 27 dBm

<sup>1</sup> Compensate Insertion Loss "OFF": This attenuation is relative to insertion loss.  $S_{21}$  = attenuation setting + insertion loss.

<sup>2</sup> Compensate Insertion Loss "ON": The absolute attenuation including insertion loss.  $S_{21}$  = attenuation setting.

<sup>3</sup> Input-to-adjacent-output channel isolation @ 0 dB and 90 dB attenuation setting.

<sup>4</sup> Input-to-adjacent-output channel isolation @ 90 dB and 90 dB attenuation setting

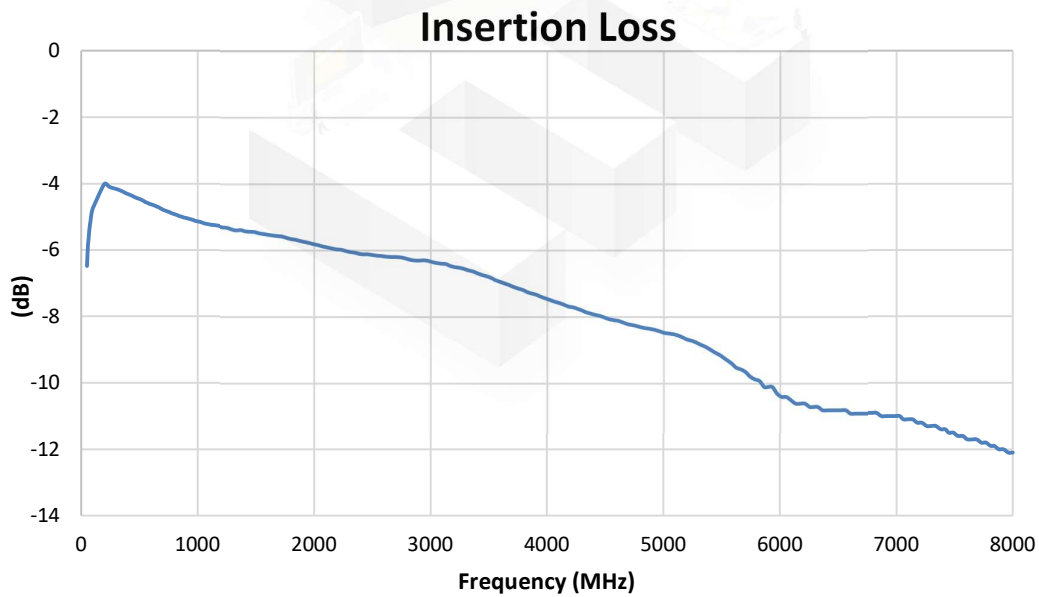
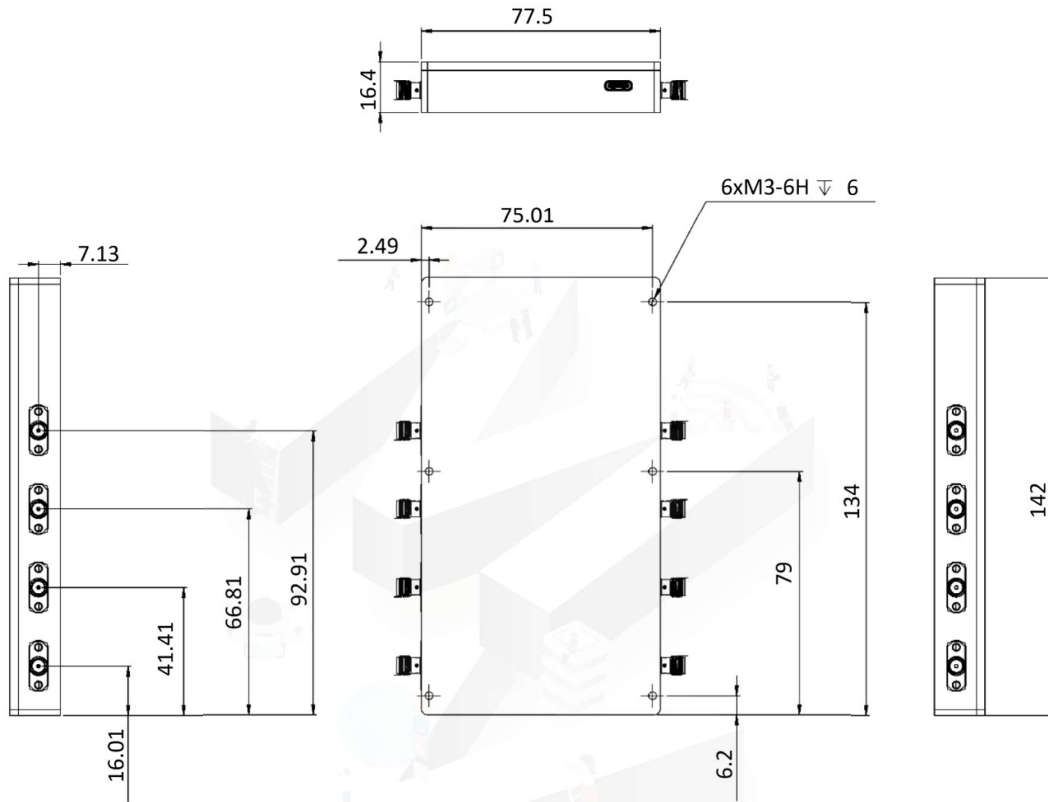
NOTES:

1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY



Tolerance:  $\pm 5\%$

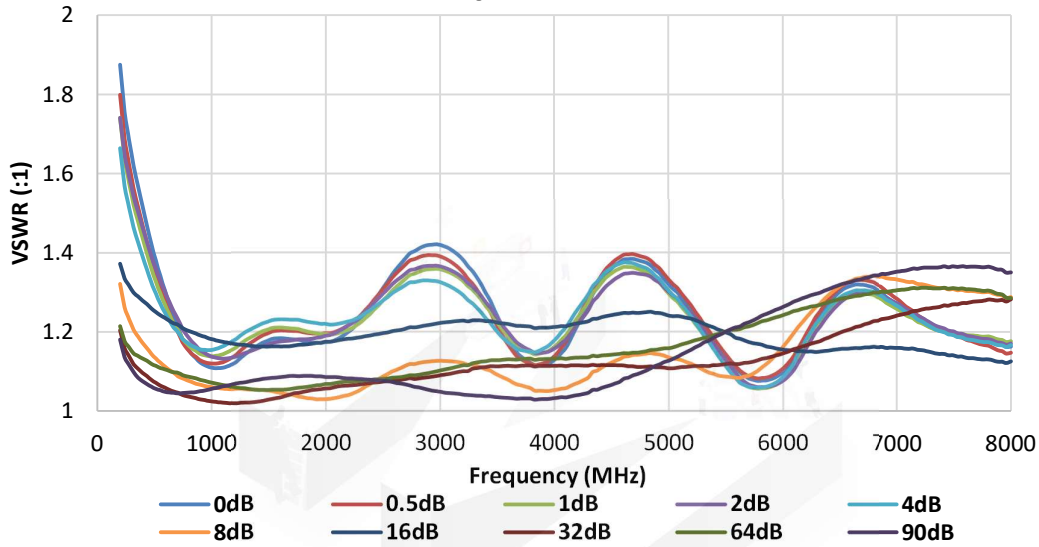
**Outline Drawing (Unit: mm)**



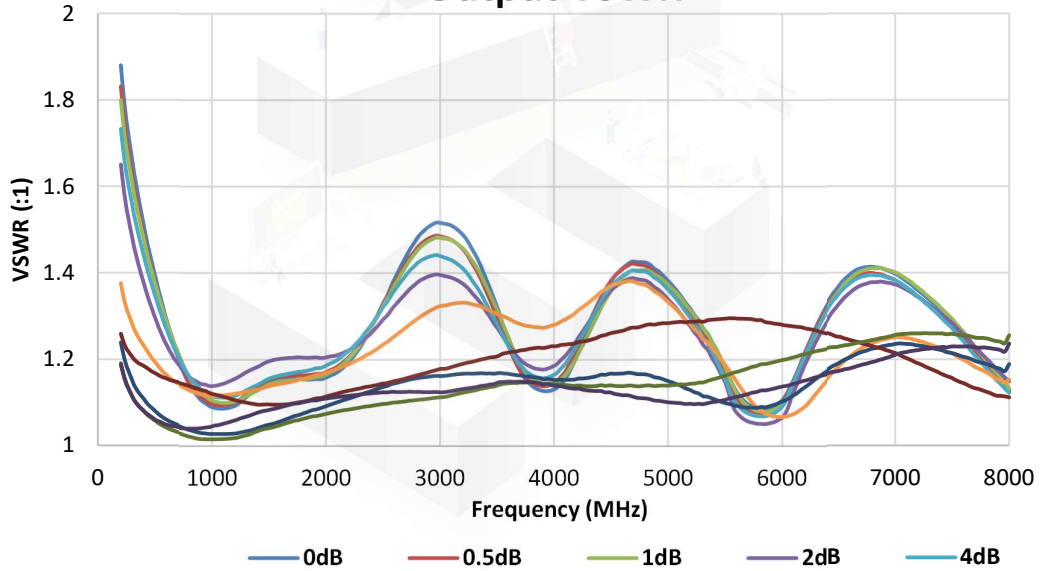
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### Input VSWR



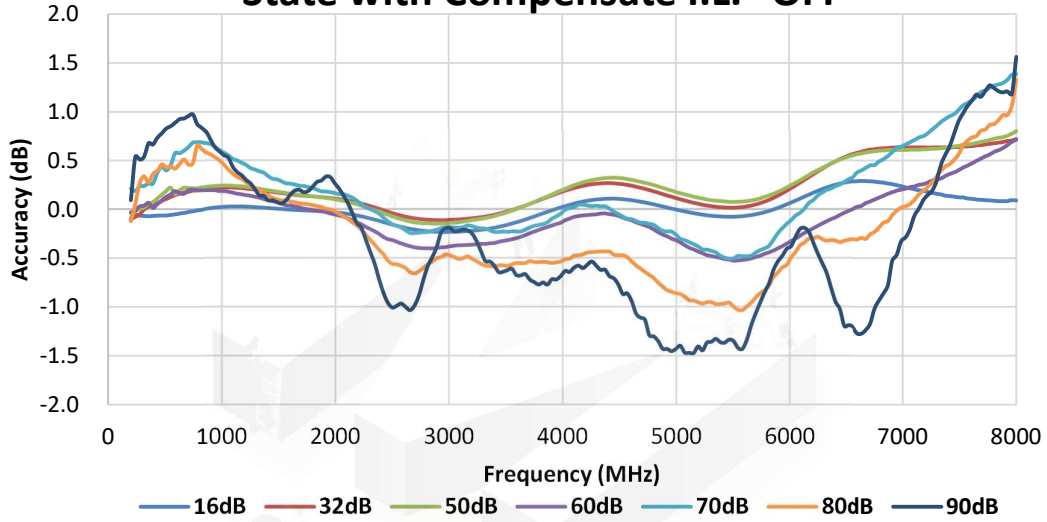
### Output VSWR



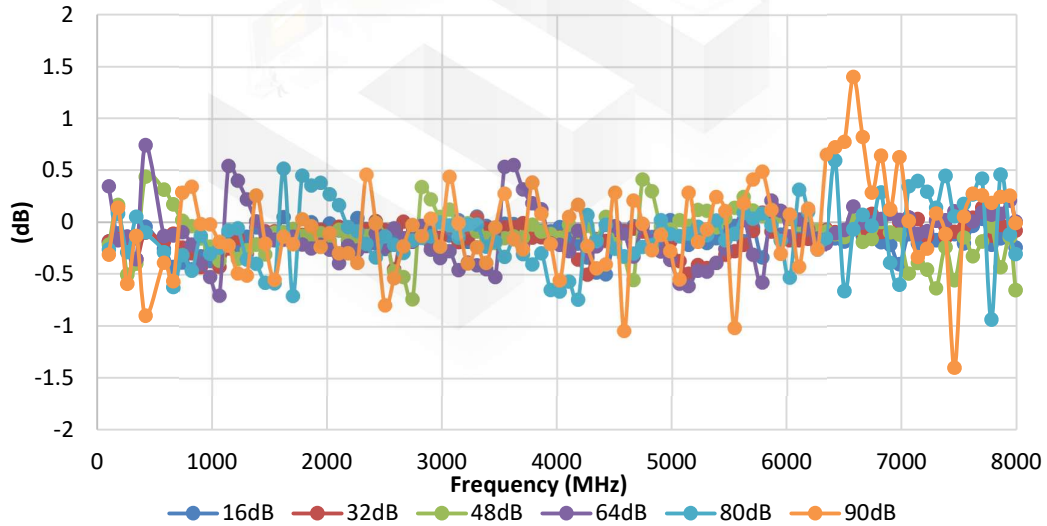
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### Normalized Attenuation Accuracy for All State with Compensate I.L. "OFF"



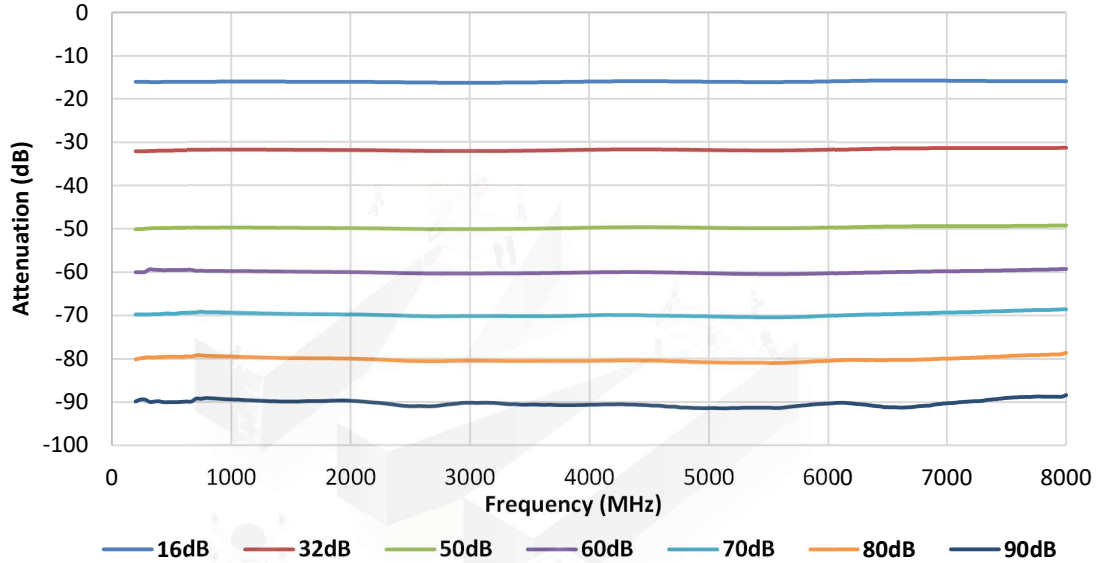
### Attenuation Accuracy for All Attenuation & Frequency Settings with Compensate I.L. "ON"



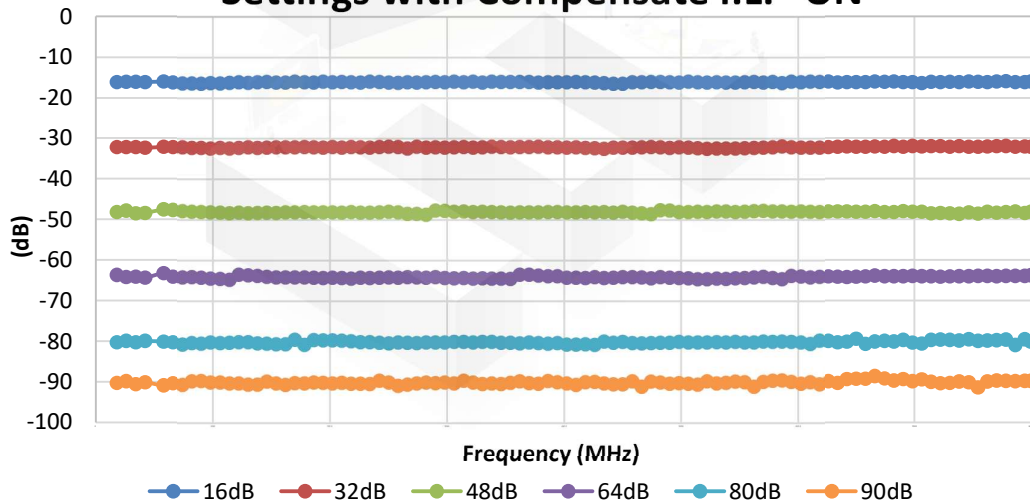
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### Normalized Attenuation for All State with Compensate I.L. "OFF"



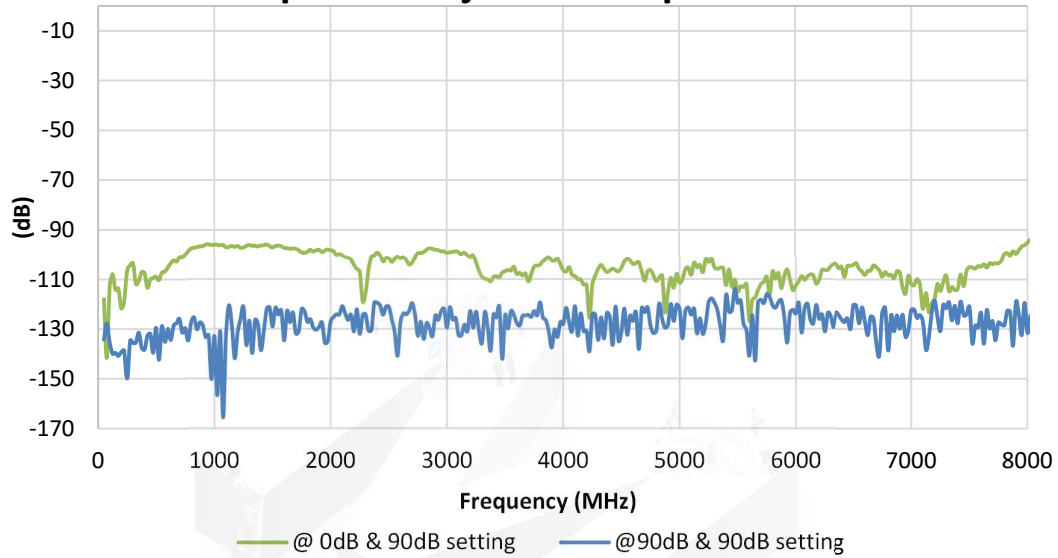
### Attenuation for All Attenuation & Frequency Settings with Compensate I.L. "ON"



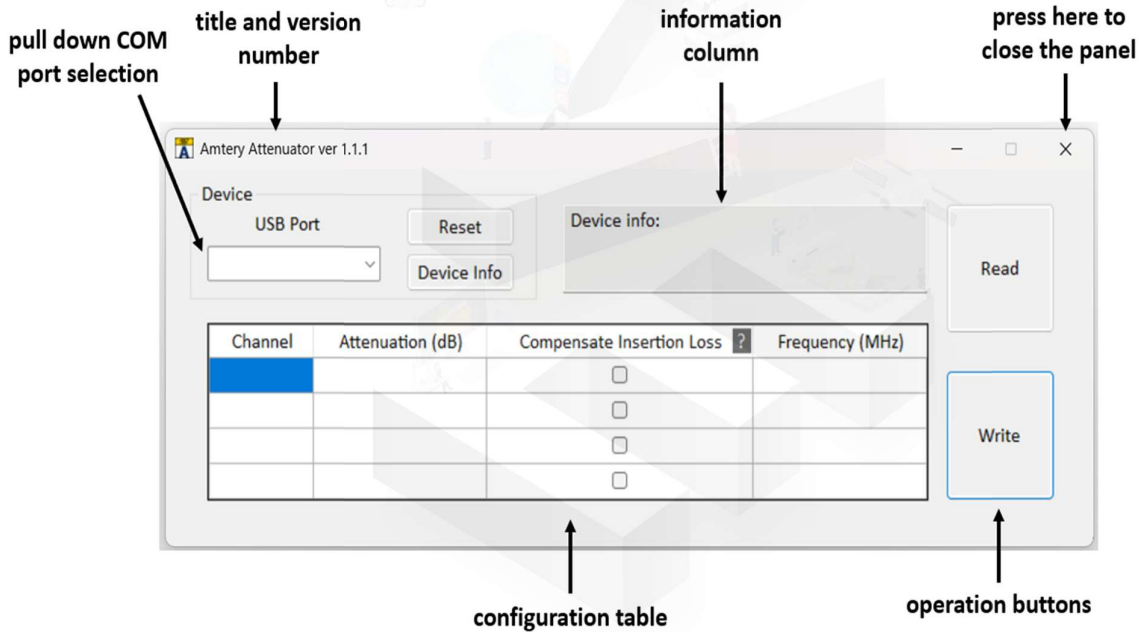
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## Input-to-Adjacent-Output Isolation



## Graphical User Interface (GUI)



To enable the compensation function, select the “Compensate Insertion Loss” checkbox and enter the desired frequency.

Compensation can only be applied to a single frequency point.

To disable the compensation function, clear the “Compensate Insertion Loss” checkbox. The “Frequency (MHz)” field will be disabled.

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