



## High Dynamic Range Electrical Attenuator, Positive Bias W Band

### Description:

**Model SKA-7531142520-1010-AP** is a W-Band, PIN diode based electrical attenuator. The attenuator exhibits 2.5 dB typical insertion loss and 20 dB nominal attenuation across the frequency range of 75 to 110 GHz. The control voltage of the standard model is 0 to +5 V<sub>DC</sub> with a typical current draw of 5 mA. However, the attenuator can also be configured with a negative control voltage from 0 to -5 V<sub>DC</sub>. The control speed of the attenuator can go up to 100 ns. The RF input and output ports are WR-10 waveguides with UG-387/U-M flanges, and a female SMA coaxial connector provides the control signal.



### Features:

- Low Insertion Loss
- High Dynamic Range
- Fast Controlling Speed

### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	75 GHz		110 GHz
Insertion Loss		2.5 dB	3.0 dB
Attenuation	3.0 dB	20 dB	
Power Handling		+20 dBm	
Control Voltage		0 to +5 V <sub>DC</sub> /5 mA	0 to +6 V <sub>DC</sub> /8 mA
Controlling Speed		100 ns	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

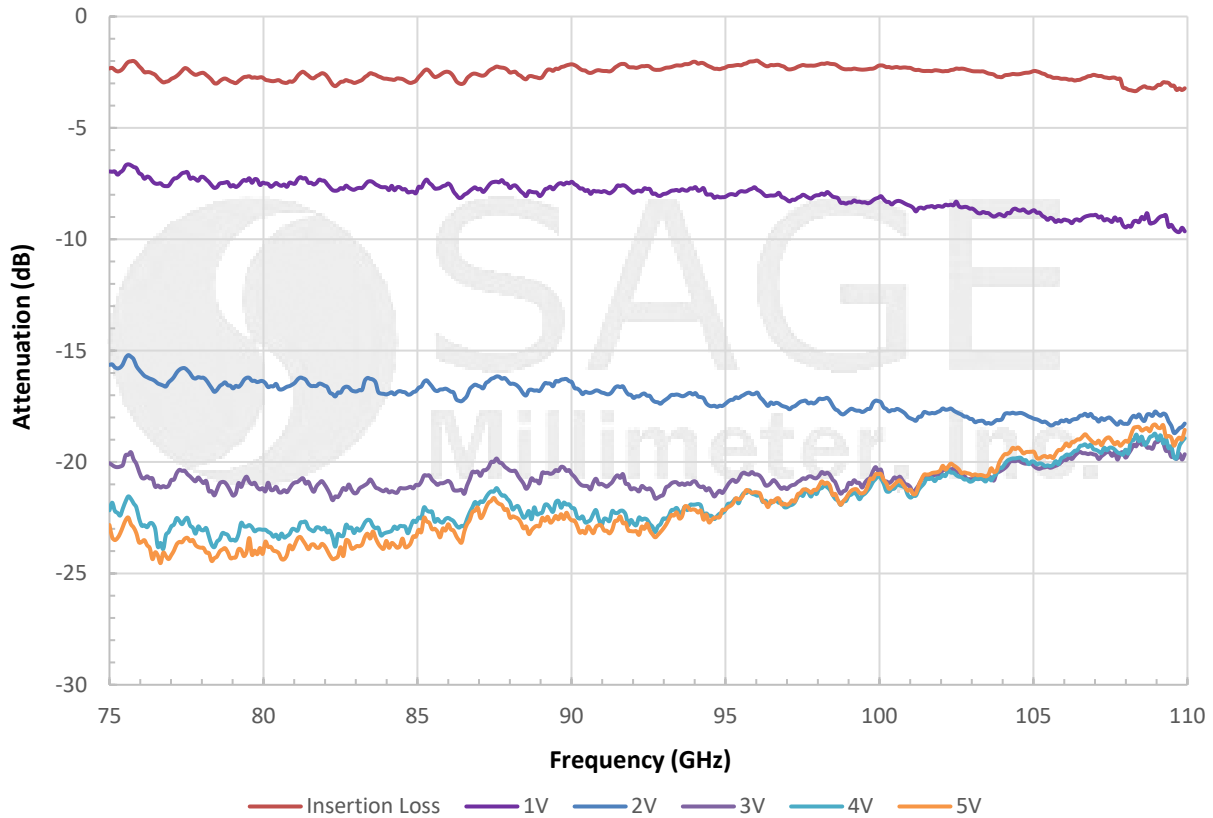
Item	Specification
RF Ports	WR-10 Waveguide with UG-387/U-M Flange
Bias	SMA(F)
Case Material	Aluminum
Finish	Gold Plated
Weight	0.4 Oz
Insertion Length	1.2"
Outline	KA-AW



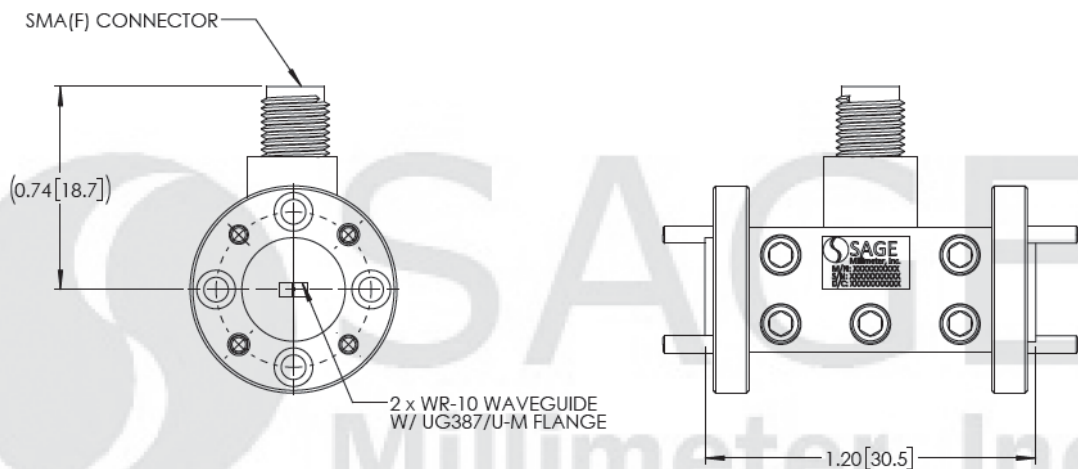


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### Typical Insertion Loss and Attenuation vs. Frequency



### Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])





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### Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25 °C case temperature.
- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The attenuator is a static sensitive device. Always follow ESD rules when working with the attenuator.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.
- Proper torque,  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

