

60 GHz Attenuator

PSPL5510V Datasheet



The PSPL5510V Attenuators address a need that has been totally ignored by other microwave component manufacturers who specify their products in the frequency domain, but ignore the time domain responses. For time domain measurements, it is important to also know the transient response of attenuators used in a test set-up. These 1.85 mm attenuators have 5 ps rise times and are recommended for measuring pulses with rise times of 13 ps or slower. For frequency domain measurements, the useful frequency range is DC to 60 GHz. The 1.85 mm connector is compatible with 2.4 mm connectors.

Key performance specifications

- 1.85 mm connectors
- DC to 60 GHz
- 5 ps Rise time

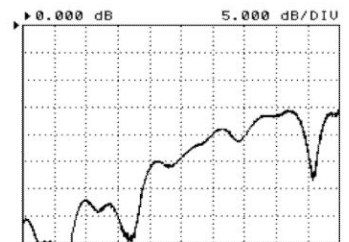
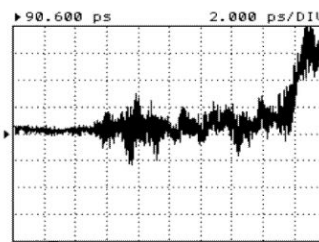
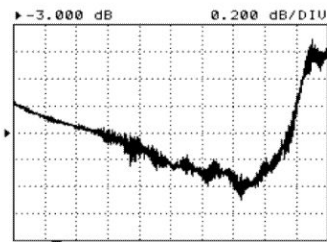
Typical performance

Insertion Loss, S_{21}
0.2 dB/div, 6.5 GHz/div

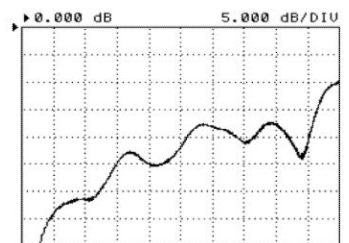
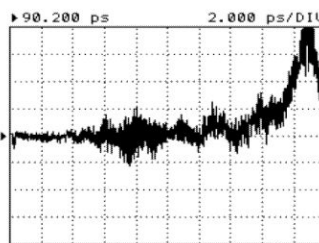
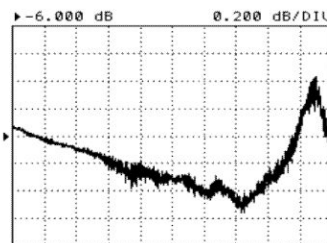
Group Delay, S_{21}
2 ps/div, 6.5 GHz/div

Return Loss, S_{11}
5 dB/div, 6.5 GHz/div

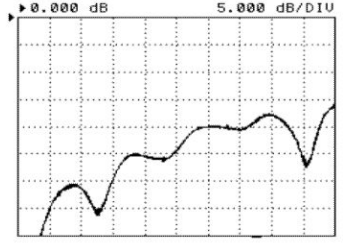
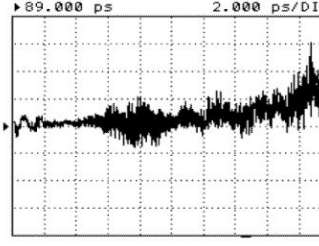
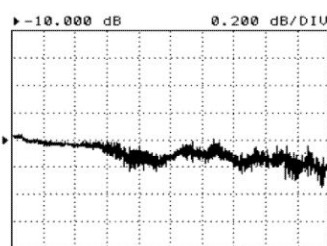
PSPL5510V
Opt. 3DB



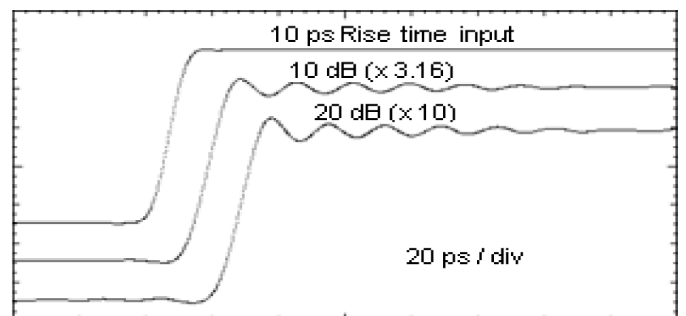
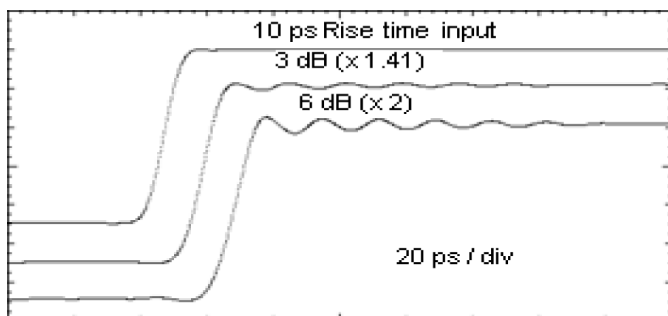
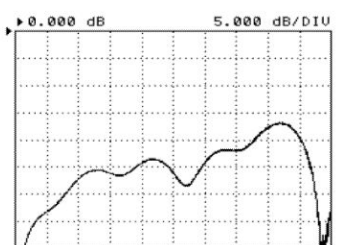
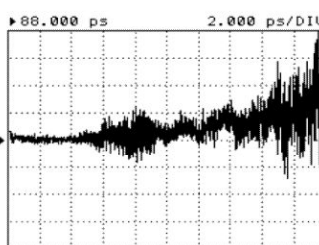
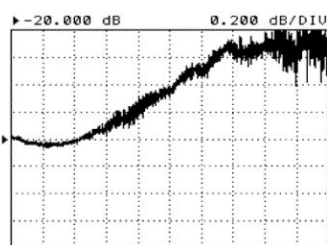
PSPL5510V
Opt. 6DB



PSPL5510V
Opt. 10DB



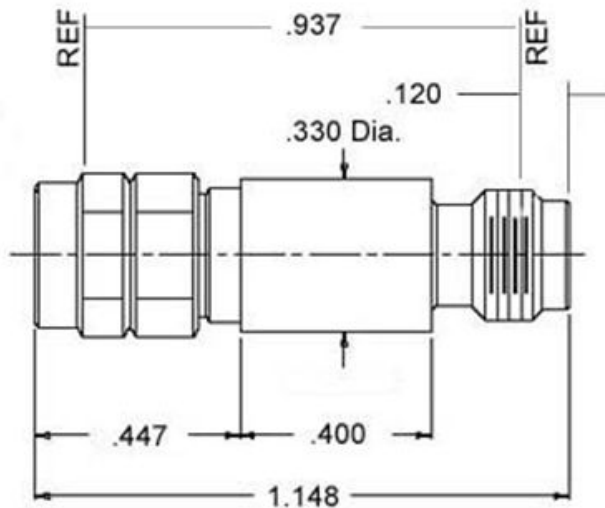
PSPL5510V
Opt. 20DB



Specifications

Parameter ¹	Value
Values available	3, 6, 10, and 20 dB
Frequency range	DC to 60 GHz
Connectors	1.85 mm jack (f) & plug (m)
Rise time (10% to 90%)	5 ps, when tested with 10 ps rise time pulse
Impedance - DC	50 Ω, < ±3 Ω typical, +7.5 Ω / -6.5 Ω maximum
Delay	90 ps (see typical performance plots)
DC Attenuation accuracy	±0.5 dB maximum limits guaranteed
Return loss – DC VSWR – DC	> 30 dB typical, 23 dB minimum > 1.06 typical, 1.15 maximum
Attenuation Flatness (see Typical performance plots)	< ±0.5 dB, f < 18 GHz < ±1.0 dB, f < 40 GHz < ±1.2 dB, f < 60 GHz
Return Loss – AC (see Typical performance plots)	> 20 dB, f < 18 GHz > 15 dB, f < 40 GHz > 12 dB, f < 60 GHz
Max. Power Input	2 W average at 25 °C, derated linearly to 1 W at 85 °C, 50 W peak for < 0.1 μs
Temperature Range	-55 to +85 °C operating, -55 to +125 °C storage, 0.001 dB/dB/ °C temp. coefficient.
Dimensions	28.8 mm length, 8 mm diameter
Weight	8 gm
Material	Stainless steel
Serial Number	Yes
Warranty	One Year

Mechanical dimensions



1.85 mm connectors, jack-plug only; all dimensions in inches

¹ All parameters listed are typical unless maximum or minimum guaranteed limits are provided.

Ordering information

Models

PSPL5510V Attenuator, 60 GHz

Options

Opt. 3DB	3 db attenuation
OPT 6DB	6 db attenuation
Opt. 10DB	10 db attenuation
Opt. 20DB	20 db attenuation

ASEAN / Australasia (65) 6356 3900
Belgium 00800 2255 4835*
Central East Europe and the Baltics +41 52 675 3777
Finland +41 52 675 3777
Hong Kong 400 820 5835
Japan 81 (3) 6714 3010
Middle East, Asia, and North Africa +41 52 675 3777
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Taiwan 886 (2) 2722 9622

Austria 00800 2255 4835*
Brazil +55 (11) 3759 7627
Central Europe & Greece +41 52 675 3777
France 00800 2255 4835*
India 000 800 650 1835
Luxembourg +41 52 675 3777
The Netherlands 00800 2255 4835*
Poland +41 52 675 3777
Russia & CIS +7 (495) 6647564
Sweden 00800 2255 4835*
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Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777
Canada 1 800 833 9200
Denmark +45 80 88 1401
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Norway 800 16098
Portugal 80 08 12370
South Africa +41 52 675 3777
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* European toll-free number. If not accessible, call: +41 52 675 3777

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