



## Model 5510V Attenuators

- 1.85 mm DC to 60 GHz
- 5 ps Risetime

The PSPL Model 5510V 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 risetimes and are recommended for measuring pulses with risetimes of 13 ps or slower. They are ideal for use with PSPL's Model 4015C, 15 ps pulse generator. 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. PSPL also offers SMA, 18 GHz and 2.92 mm, 40 GHz attenuators.

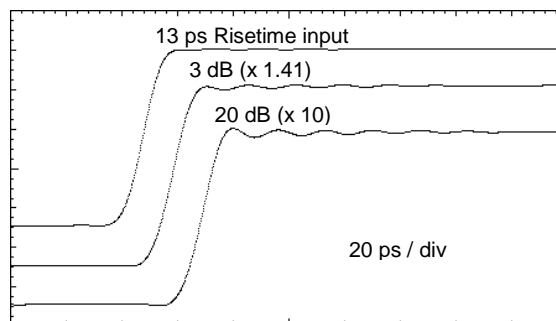


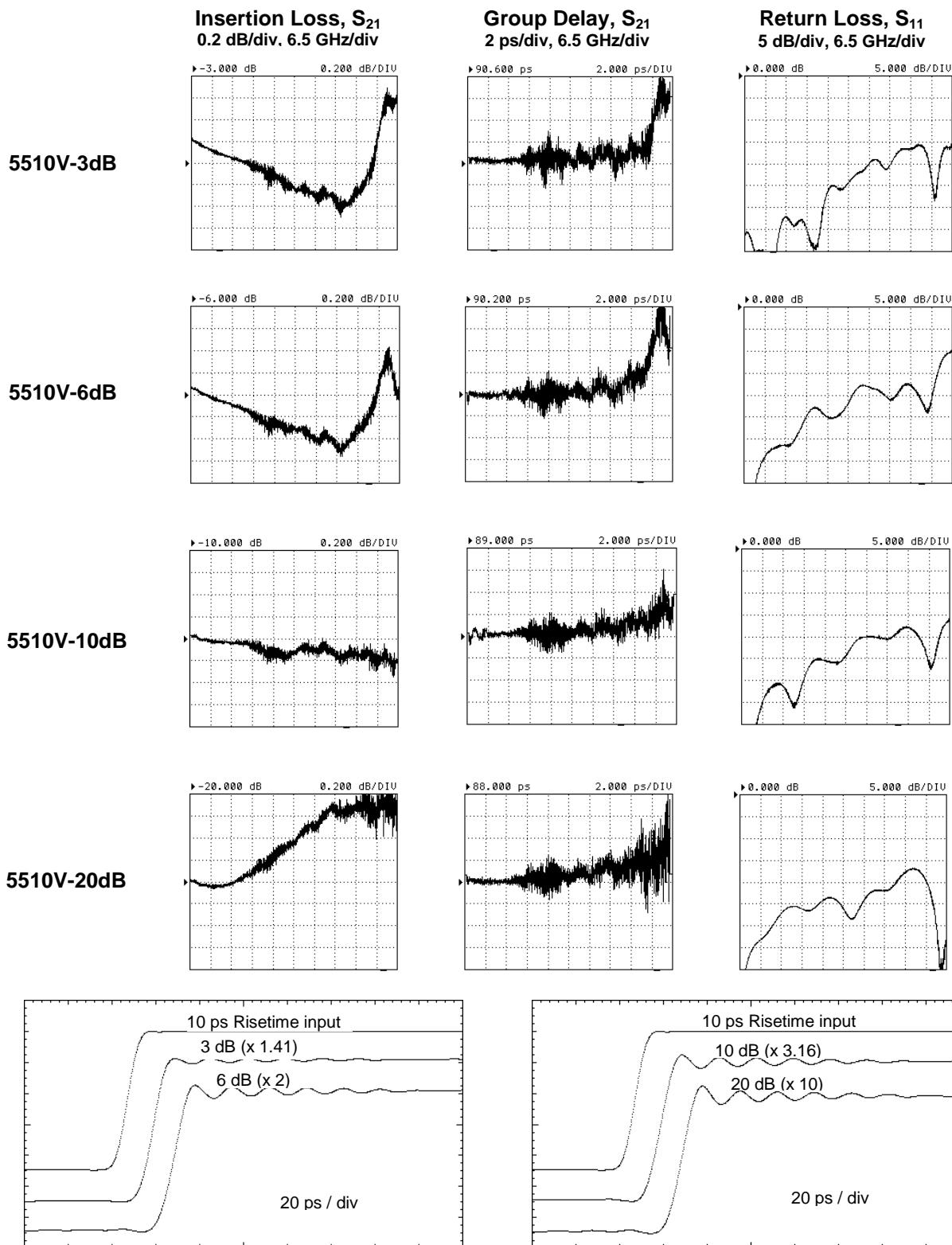
<b>Model Number</b>	5510V-302-XdB	<b>Values Available</b>	3, 6, 10, & 20 dB
<b>Frequency Range</b>	DC to 60 GHz	<b>Connectors</b>	1.85 mm jack & plug
<b>Risetime</b> (10% - 90%) (see typ. plots, p. 2)	5 ps, typical, when tested with 10 ps risetime pulse	<b>Impedance – DC</b>	50 $\Omega$ $\leq \pm 3 \Omega$ typical $+ 7.5 \Omega, - 6.5 \Omega$ max
<b>DC Attenuation Accuracy</b>	$\pm 0.5$ dB max. limits guaranteed	<b>Return Loss – DC</b>	$> 30$ dB typ, 23 dB min
<b>Attenuation Flatness</b> (see typ. plots, p.2)	$\leq \pm 0.5$ dB $f < 18$ GHz $\leq \pm 1.0$ dB $f < 40$ GHz $\leq \pm 1.2$ dB $f < 60$ GHz	<b>VSWR – DC</b>	$< 1.06$ typ, 1.15 max
<b>Return Loss – AC</b> (see typ. plots, p.2)			$> 20$ dB, $f < 18$ GHz $> 15$ dB, $f < 40$ GHz $> 12$ dB, $f < 60$ GHz
<b>Delay</b>	90 ps (see typical group delay plots, p. 2)		
<b>Max. Power Input</b>	2 W avg at 25C, derated linearly to 1 W at 85C, 50 W peak, $< 0.1 \mu$ s pulse		
<b>Temperature Range</b>	$-55^{\circ}\text{C}$ to $+85^{\circ}\text{C}$ operating, $-55^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ storage, 0.001 dB/dB/C temp. coeff.		
<b>Dimensions &amp; Weight</b>	28.8 mm length, 8 mm diameter, 8 gm		
<b>Material</b>	stainless steel		
<b>Serial Number</b>	yes		
<b>Warranty</b>	One Year. See PSPL Terms & Conditions of Sale for details		

**Note:** All parameters listed are typical unless max/min guaranteed limits are provided.

### Ordering Information

Model Number	Connector Configuration
5510V-302-XDB where X=attenuation in dB	1.85 mm Jack — Plug





**Notes:** All plots are from randomly selected samples. The 10 ps step responses were measured using a PSPL Model 4015C pulse generator and an HP-54750, 50 GHz oscilloscope. The frequency responses were measured using an Anritsu 37397A, 65 GHz vector network analyzer.