

Programmable Attenuator PAH-4G/95-TTL

MTS-No.: 23909-01

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Description

The PAH-4G/95-TTL is a general purpose, single channel digital programmable attenuator which provides 0 to 95 dB attenuation in 0.25 / 0.5 dB steps.

The coverage from 50 MHz to 4 GHz supports a wide range of applications including digital broadcast, TETRA, GSM, Bluetooth and LTE as well as frequency bands up to 4 GHz.



Technical data:

1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power			
- Operating: Pulsed ¹	31 dBm max.		
- Operating: CW ²	28 dBm max.		
1.3 Voltage rating	50 WVDC		
1.4 Frequency range	50 - 4000 MHz (further on request)		
1.5 Attenuation	0 - 32 dB in 0.25 dB steps 32 - 95 dB in 0.5 dB steps		
	min.	typ.	max.
1.6 VSWR in / out			
@ 50 - 700 MHz			
@ 0 - 5.0 dB		1.45	1.8
@ 5.25 - 95.0 dB		1.15	1.6
@ 700 - 4000 MHz			
@ 0 - 5.0 dB		1.25	1.65
@ 5.25 - 95.0 dB		1.1	1.5
1.7 Insertion loss (IL)			
@ 50 MHz		2.8 dB	3.1 dB
@ 4000 MHz		5.8 dB	6.5 dB
1.8 IL derating / 20 MHz		0.015 dB	
1.9 Relative phase			
@ 0 - 95 dB		90°	
1.10 Input IP3		55 dBm	
1.11 Switching speed		1 μ s	
1.12 Attenuation accuracy	(negative means more attenuation)		
@ 50 - 3000 MHz			
@ 0.25 - 30.0 dB		± 0.1 dB	± 0.8 dB
@ 30.25 - 60.0 dB		± 0.4 dB	$\pm 1.5/-0.8$ dB
@ 60.5 - 95.0 dB		± 0.8 dB	$\pm 2.5/-1.5$ dB
@ 3000 - 4000 MHz			
@ 0.25 - 30.0 dB		0.0/-0.3 dB	± 0.8 dB
@ 30.25 - 45.0 dB		0.0/-1.1 dB	$\pm 0.8/-1.5$ dB
@ 45.5 - 60.0 dB		0.0/-1.1 dB	$\pm 0.8/-2.0$ dB
@ 60.5 - 85.0 dB		0.0/-1.9 dB	$\pm 1.5/-2.5$ dB
@ 85.5 - 95.0 dB		0.0/-1.9 dB	$\pm 1.5/-3.5$ dB

2 Connections:

2.1 RF connectors	SMA female
2.2 Control connector	12pole male, type SMC Erni

3 General specifications:

3.1 Internal voltage (TTL)	5 VDC ± 5 %
3.2 Power consumption	5 mW max.
3.3 Control	8 bit parallel (TTL)
3.4 Operating temperature	-40 °C - +85 °C
3.5 Storage temperature	-55 °C - +150 °C
3.6 Reference temperature of specifications (typ.)	+25 °C
3.7 Dimensions (without connections)	56.4 mm x 48.7 mm x 11.1 mm (LxWxH)
3.8 Case style	Milled aluminium enclosure
3.9 Colour	SurTec650 (Chrome alloy)
3.10 Weight	55 grams

4 Delivered parts:

PAH-4G/95-TTL
Datasheet
Drawing and connector pin assignment

5 Comments:

Warranty	12 months
RoHS-compliant	Yes

6 Recommended accessories:

RF-cables
Processor card

Notes: 1. 100 % duty cycle, all bands, 50 Ω .

2. The maximum average power of any complex waveform should not exceed the operating maximum RF input power, CW.

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Technical subject to change

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Typical measurements:

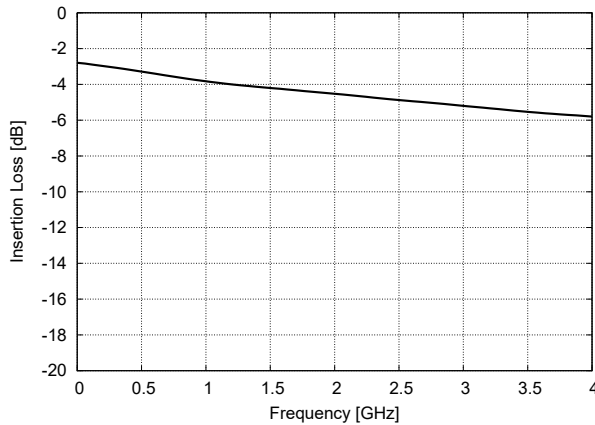


Fig. 1: Input port to output port insertion loss

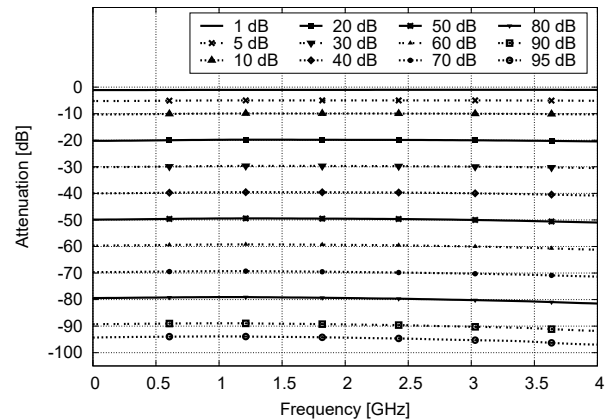


Fig. 2: Attenuation relative to insertion loss

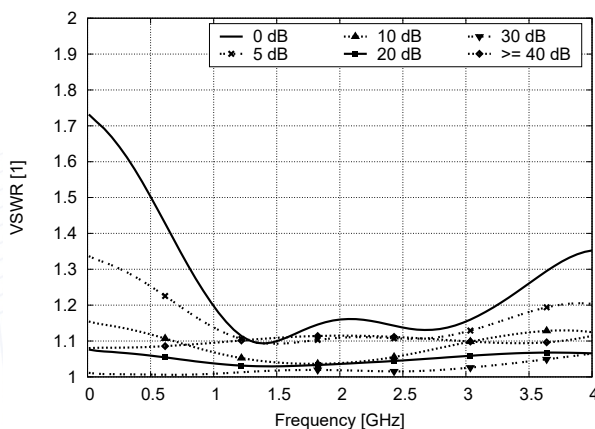


Fig. 3: VSWR for input and output ports

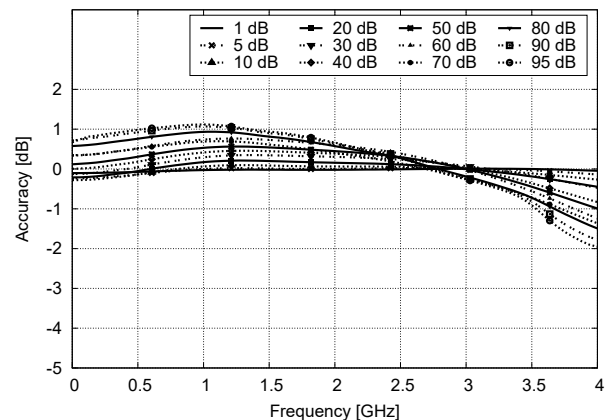


Fig. 4: Attenuation accuracy

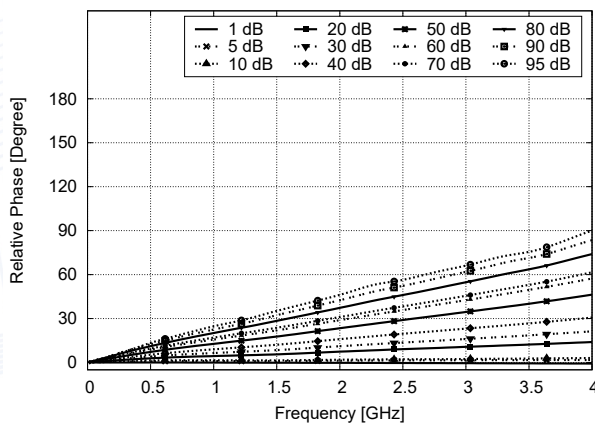


Fig. 5: Phase relative to insertion loss

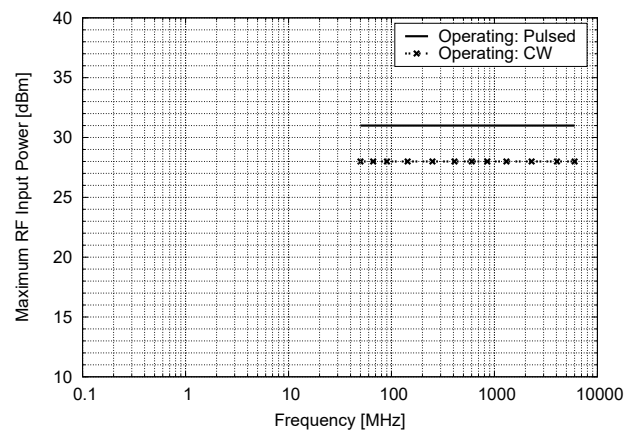


Fig. 6: Power derating curve

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Views:

