

Programmable Attenuator PAH-9G/95-TTL

MTS-No.: 30580

Page 1 from 3

Description

The PAH-9G/95-TTL is a general purpose, single channel digital programmable attenuator which provides 0 to 95 dB attenuation in 0.5 dB steps.

The coverage from 10 MHz to 9 GHz supports a wide range of applications including digital broadcast, TETRA, GSM, Bluetooth, UWB, Wi-Fi 7 and all LTE+ as well as 5G frequency bands.

Its unique design maintains linear attenuation change per dB, even at the highest attenuation and frequency settings.



Technical data:

1 RF-specifications:

1.1 Impedance	50 Ω		
1.2 Input power	31 dBm max.		
- Operating: Pulsed ¹	28 dBm max.		
- Operating: CW ²			
1.3 Voltage rating	50 WVDC		
1.4 Frequency range	10 - 9000 MHz (1 MHz on request)		
1.5 Attenuation	0 - 95 dB in 0.5 dB steps (glitch-safe state transitions)		
	min.	typ.	max.
1.6 VSWR in / out			
@ 0 - 5.0 dB		1.6	2.2
@ 5.5 - 95.0 dB		1.3	1.9
1.7 Insertion loss (IL)			
@ 10 MHz		3.4 dB	3.7 dB
@ 4000 MHz		5.5 dB	6.1 dB
@ 9000 MHz		7.6 dB	8.5 dB
1.8 IL derating / 20 MHz		0.01 dB	
1.9 Relative phase		25°	
@ 0 - 95 dB			
1.10 Input IP3	48 dBm	55 dBm	
1.11 Switching speed		0.5 μs	
1.12 Attenuation accuracy	(negative means more attenuation)		
@ 2000 - 6000 MHz			
@ 0.5 - 30.0 dB		±0.4 dB	+0.5/-1.0 dB
@ 30.5 - 60.0 dB		-0.5/-1.0 dB	+0.5/-1.5 dB
@ 60.5 - 85.0 dB		-0.5/-1.5 dB	+0.5/-2.0 dB
@ 85.5 - 95.0 dB		-0.5/-1.5 dB	+0.5/-3.0 dB
@ 10 - 9000 MHz			
@ 0.5 - 30.0 dB		0.0/-1.0 dB	+0.5/-1.5 dB
@ 30.5 - 60.0 dB		-0.5/-1.5 dB	+0.5/-2.5 dB
@ 60.5 - 85.0 dB		-0.5/-2.0 dB	+0.5/-3.0 dB
@ 85.5 - 95.0 dB		-0.5/-3.5 dB	+0.5/-6.0 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 11.0 mm (LxWxH)
3.8 Case style	Milled aluminium enclosure
3.9 Colour	SurTec650 (Chrome alloy)
3.10 Weight	70 grams

4 Delivered parts:

PAH-9G/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.

Programmable Attenuator PAH-9G/95-TTL

MTS-No.: 30580

Page 2 from 3

Typical measurements:

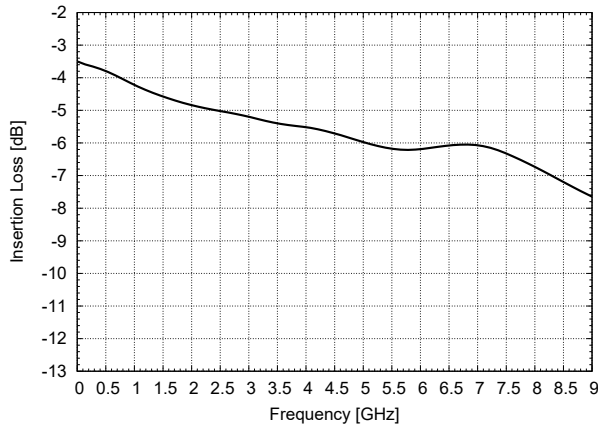


Fig. 1: Input port to output port insertion loss

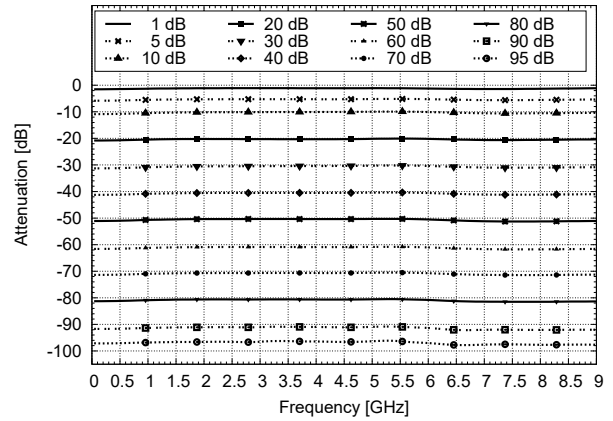


Fig. 2: Attenuation relative to insertion loss

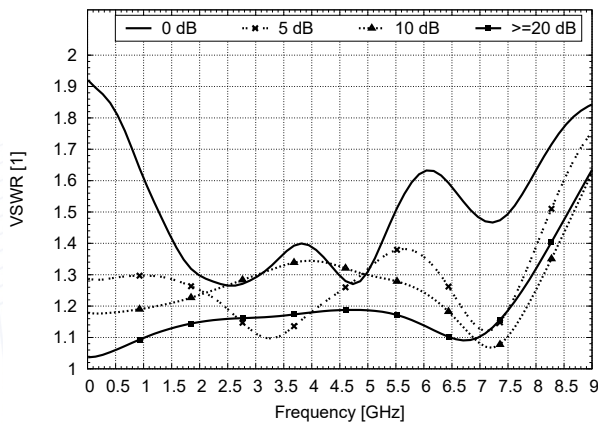


Fig. 3: VSWR for input and output ports

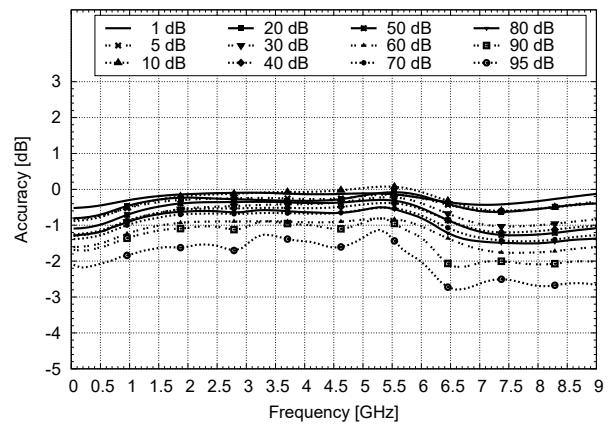


Fig. 4: Attenuation accuracy

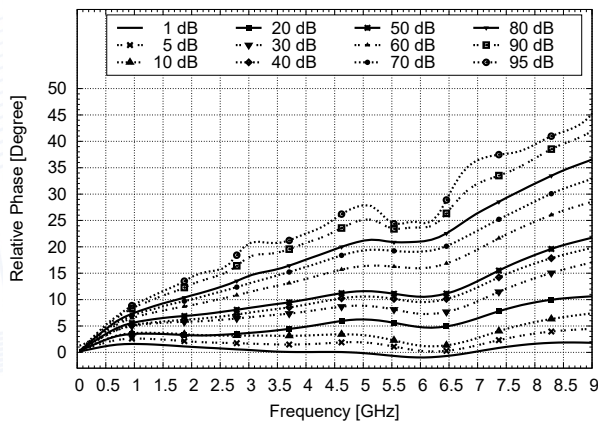


Fig. 5: Phase relative to insertion loss

Programmable Attenuator PAH-9G/95-TTL

MTS-No.: 30580

Page 3 from 3

Views:

