

VATTENPDC

Variable GPS Attenuator Technical Product Data

Features

- Variable Attenuation Range
 - Attenuation from -3 to -30dB typical
- Small Form Factor
 - 2.5 x 0.75 x 1.49 in (Not Including Connectors).
- Extremely Flat Group Delay
 - Less than 1ns variation
- Excellent Flatness
 - Attenuation | L1 – L2 | < 1.0 dB
- Low SWR < 1.5:1 typical



Description

This **Variable Attenuator Pass DC (VATTENPDC)** is a one input, one output attenuator that operates with a variable attenuation range that can be user selected via a potentiometer control. This unit provides between 3 – 30dB (typical) of attenuation in a miniaturized housing. The frequency response covers the GPS L1/L2 and GLONASS bands with excellent flatness. In the normal configuration, the RF output (J1) passes DC from the connected GPS receiver through the attenuator to the antenna, allowing the GPS receiver to power both the antenna and the attenuator.

Use Cases

- Attenuating excessive power for sensitive applications.
- Receiver threshold testing.
- GNSS lab work.

VATTENPDC

Electrical Specifications, TA=25°C

General Specification

Parameter	Notes	Min	Typ	Max	Unit
Frequency Range	Covers all major GNSS constellations.	1.1		1.7	GHz
Characteristic Impedance	Input and output ports matched to 50Ω.		50		Ω
Req. DC Input V.	Operating voltage range for non-networked units.	3.3		15	VDC
Current Draw	Typical current consumption.		2		mA

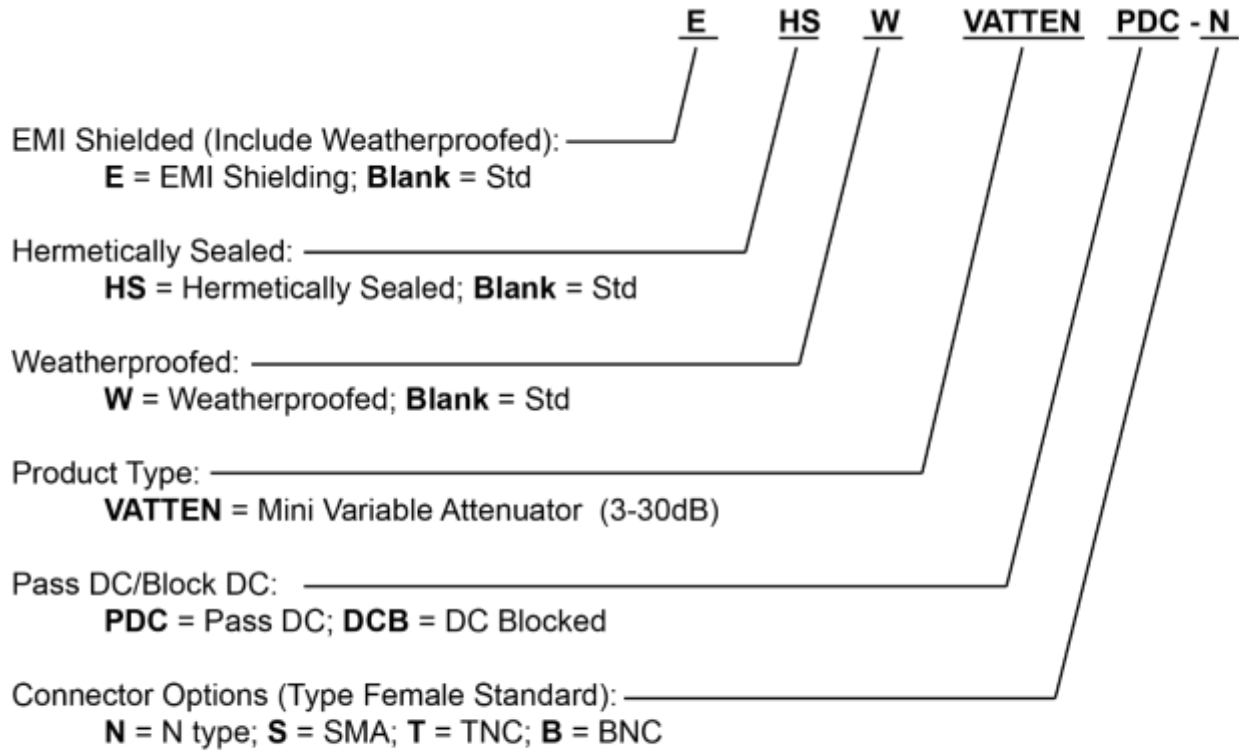
GPS L1 & L2 RF Specification

Parameter	Notes	Min	Typ	Max	Unit
Min Attenuation	The relative decrease in signal power provided by the attenuator.	2	3	4	dB
Max Attenuation	The relative decrease in signal power provided by the attenuator.	29	30	31	dB
Input SWR	Input Standing Wave Ratio: S11 at L1 and L2		1.5:1	2.0:1	-
Output SWR	Output Standing Wave Ratio: S22 at L1 and L2		1.5:1	2.0:1	-
Band Attenuation Flatness	The difference in loss or gain between the L1 and L2 frequencies.		0.5	1.0	dB
Tolerance	The difference between gain setting and actual attenuation value.		1.0	2.0	dB
Group Delay Flatness	The difference in signal delay between the L1 and L2 frequencies.		0.6	1.0	ns

Pass/Block DC Options		
	ANTENNA PORT	J1 PORT
PDC – Pass DC – XXATTENPDC	DC THRU	DC THRU
BDC – Block DC – XXATTENBDC	DC BLOCKED	DC THRU
Connector Options	Connector Style	Charge
	Type N-female	No Charge
	Type SMA-female	No Charge
	Type TNC-female	No Charge
	Type BNC-female	No Charge
	Other	Contact GPS Networking

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Part Number Configuration



Contact GPS Networking Technical Support at 1-800-463-3063 or salestech@gpsnetworking.com for any questions regarding non-standard configurations and corresponding part numbers.

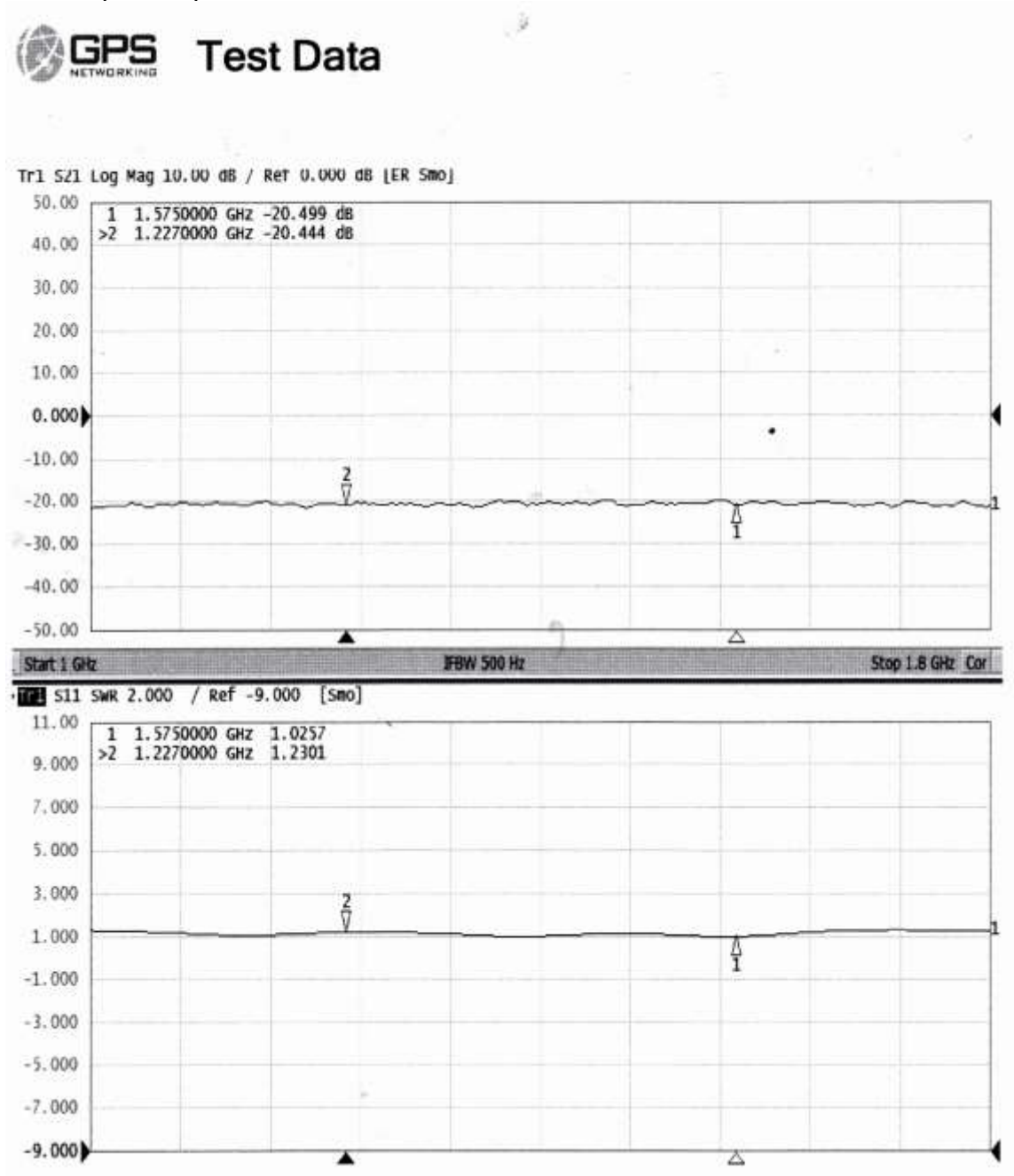
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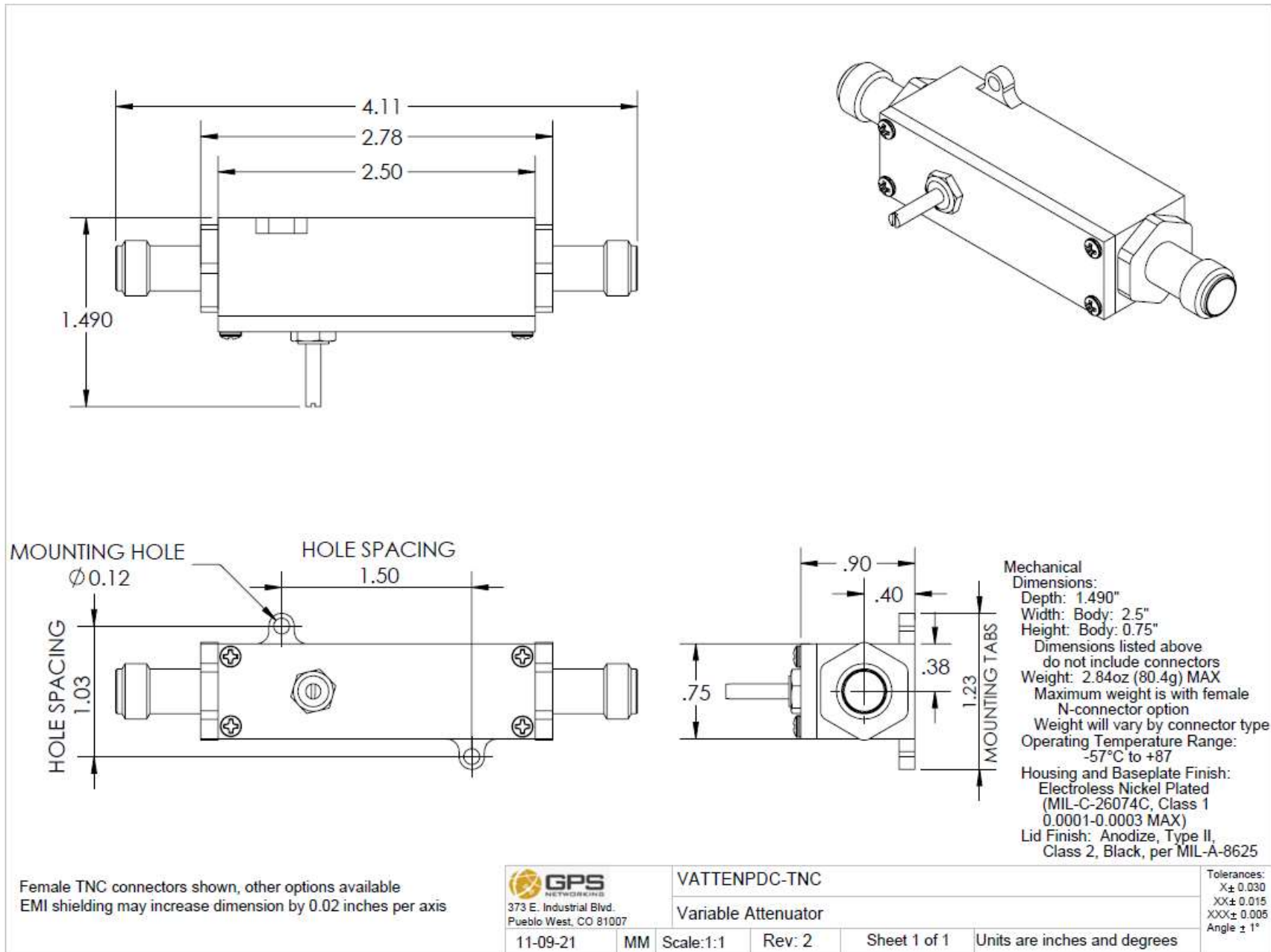
Performance

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Each VATTENPDC ships with a test sheet that verifies critical performance characteristics, such as gain, input VSWR, and amplitude balance; a typical VNA test sheet is shown below. Noise figure test data is available upon request.



Mechanical



Contact us at salestech@gpsnetworking.com for 3D models or CAD drawings.