DCB

DCB Technical Product Data

NavtechGPS
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Features

- Blocks DC voltage
- Small Form Factor
  - 2.5” x 0.75” x 0.875” (not including connectors)
- Extremely Flat Group Delay
  - Less than 1ns variation
- Wide Accepted Frequency Range
  - Accepts signals from the entire L-Band, covering all major GNSS constellations.
- Excellent Flatness
  - Gain | L1 – L2 | < 1.0 dB
- Low Insertion Loss < 1.0dB typical

Description

The DCB GPS DC Block (GNSS DC Block) is a one input, one output device that is designed to block unwanted DC voltage anywhere in a system network. The DCB features a miniaturized housing for use when small form factors are required. The frequency response covers the GPS L1, L2, L5, Galileo and GLONASS frequencies (entire L-band) with excellent flatness. In the normal configuration, the RF input and output will block DC from both the input and output.

Use Cases

- Block unwanted DC voltage anywhere in a system network.
- Protecting expensive receivers by blocking the DC path from the antenna.

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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

GPS L1 & L2 RF Specification

Parameter	Notes	Min	Typ	Max	Unit
Gain	The relative increase in signal power provided by the amplifier.	-2	-1	0	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 Gain Flatness	The difference in loss or gain between the L1 and L2 frequencies.		0.25	1	dB

Standard DC Configuration		
All Ports DC Block		
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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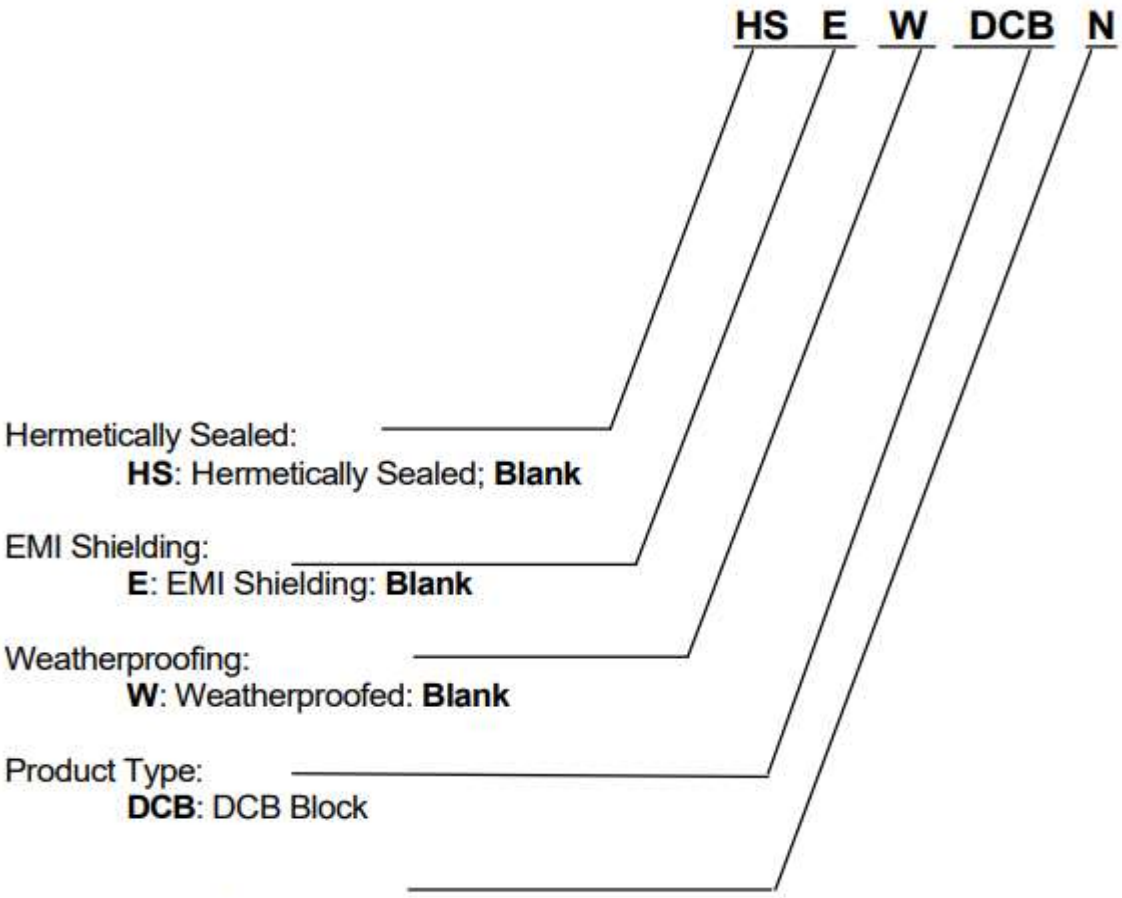
Part Number Configuration



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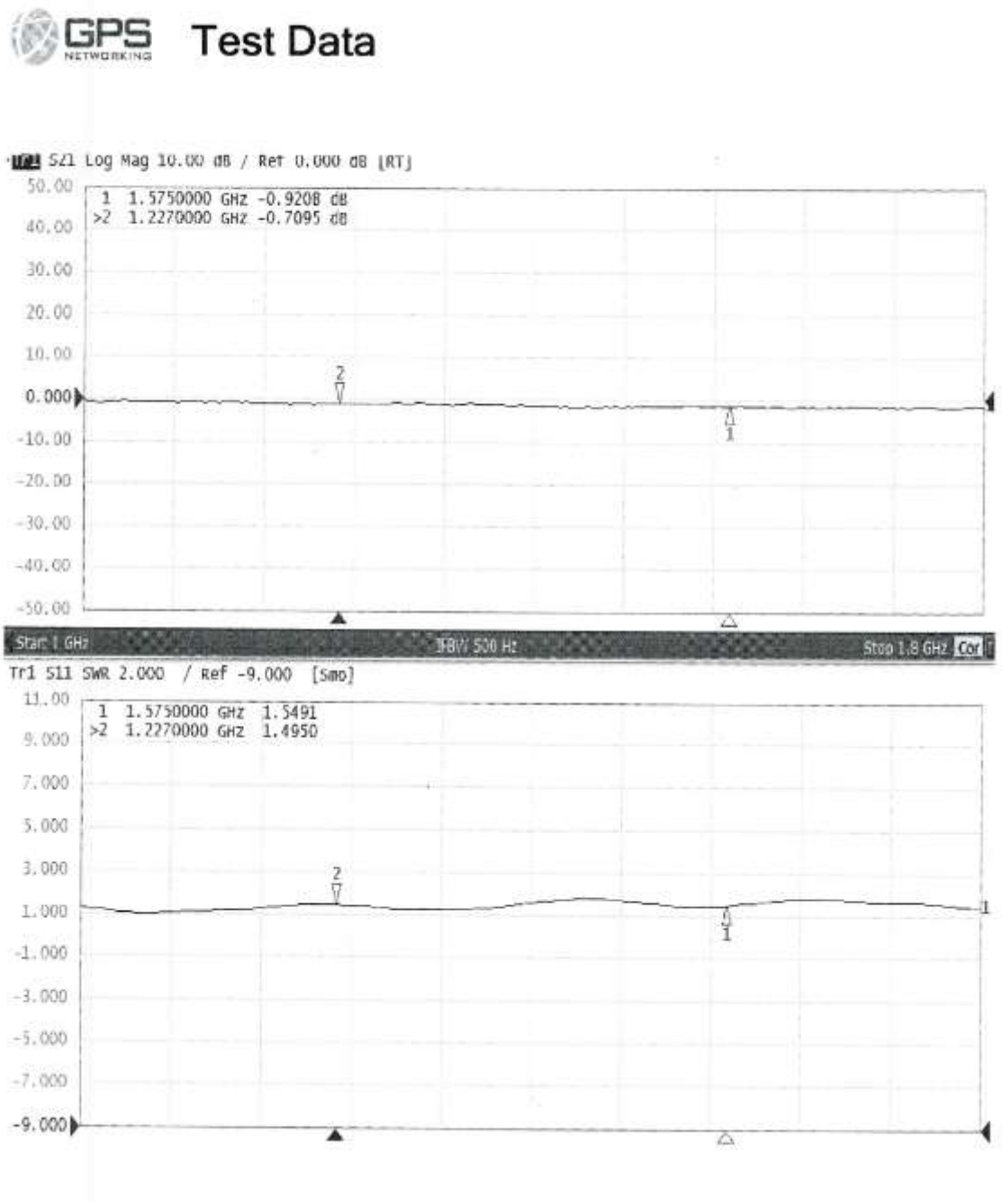
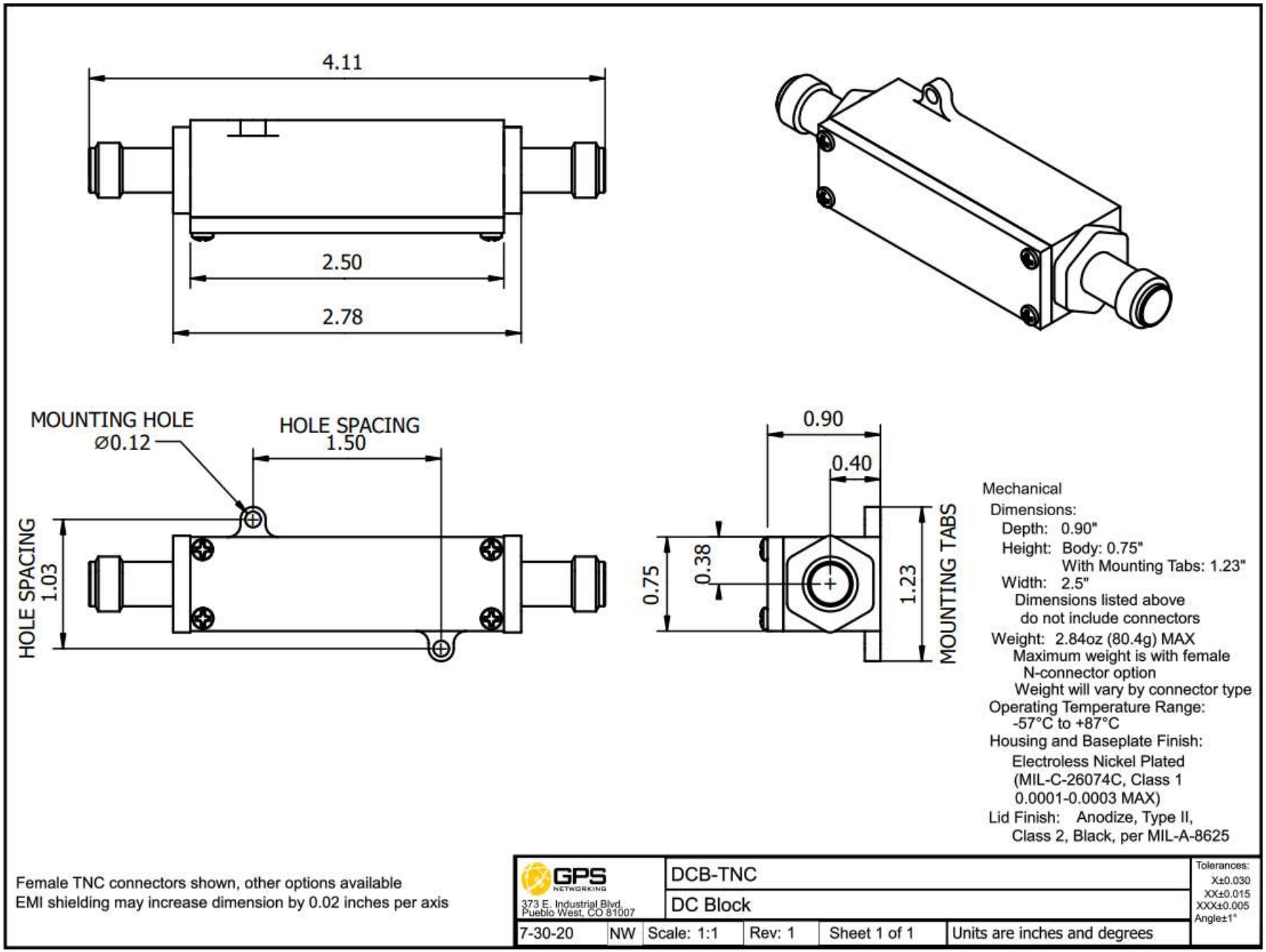
Performance

LA20RPDC (Standard Gain)

Each LA20RPDC 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


4.11
2.50
2.78
MOUNTING HOLE
Ø0.12
HOLE SPACING
1.50
HOLE SPACING
1.03
0.90
0.40
0.75
0.38
1.23
MOUNTING TABS
Mechanical
Dimensions:
Depth: 0.90"
Height: Body: 0.75"
With Mounting Tabs: 1.23"
Width: 2.5"
Dimensions listed above
do not include connectors
Weight: 2.84oz (80.4g) MAX
Maximum weight is with female
N-connector option
Weight will vary by connector type
Operating Temperature Range:
-57°C to +87°C
Housing and Baseplate Finish:
Electroless Nickel Plated
(MIL-C-26074C, Class 1
0.0001-0.0003 MAX)
Lid Finish: Anodize, Type II,
Class 2, Black, per MIL-A-8625
Female TNC connectors shown, other options available
EMI shielding may increase dimension by 0.02 inches per axis
GPS NETWORKING
373 E. Industrial Blvd.
Pueblo West, CO 81007
DCB-TNC
DC Block
Tolerances:
X±0.030
XX±0.015
XXX±0.005
Angle±1°
7-30-20
NW
Scale: 1:1
Rev: 1
Sheet 1 of 1
Units are inches and degrees