



## VNA Ruggedized Test Cable 2.4mm Male to 2.4mm Male 40GHz 48 Inch Length, RoHS

### RF Cable Assemblies Technical Data Sheet

PE3VNA4004-48

#### Configuration

- Connector 1: 2.4mm Male
- Connector 2: 2.4mm Male
- Cable Type: PE-VNA-R

#### Features

- Designed for use as VNA Test Port extenders
- Excellent VSWR and Insertion Loss
- Stainless Steel Armoring provides crush resistance
- Non Conductive protective outer sleeve
- Torsion resistant connector heads
- Rugged connector interface with machined strain relief collar
- Excellent Amplitude and Phase stability with flexure
- Each Serialized assembly comes with test data
- In stock and ready to ship

#### Applications

- Vector Network Analyzer Test port extenders
- Precise Bench top testing
- Lab and Production testing

#### Description

Pasternack ruggedized VNA Test Cables are designed to provide customers with repeatable accurate VNA measurements. These Test cables have excellent electrical properties including low Insertion Loss, low VSWR and phase stability of  $\pm 5^\circ$  with flexure. Torsion resistant connector heads are directly attached to stainless steel conduit style armoring providing a rugged design for up to 5,000 mattings cycles with proper care. The cable armoring enhances amplitude and phase stability by preventing stress due to over bending while maintaining the flexibility required for testing in a lab environment. When used with the appropriate calibration KIT these test cables effectively extend the test port of the VNA allowing for accurate measurements of devices that cannot be directly connected to a Network Analyzer test port.

#### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		40	GHz
VSWR			1.38:1	
Velocity of Propagation		70		%
RF Shielding	90			dB
Capacitance		26.8 [87.93]		pF/ft [pF/m]
Phase Stability with Flexure		$\pm 5$		Degrees

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [VNA Ruggedized Test Cable 2.4mm Male to 2.4mm Male 40GHz 48 Inch Length, RoHS PE-3VNA4004-48](#)



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#### Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency	18	26	40			GHz
Insertion Loss (Max.)	2.41	2.98	3.85			dB
VSWR (Max.)	1.38:1	1.38:1	1.38:1			
Power Handling (Max.)			42			Watts

#### Mechanical Specifications

##### Cable Assembly

Length	48 in [121.92 cm]
One Time Minimum Bend Radius	3 in [76.2 mm]

##### Cable

Cable Type	PE-VNA-R
Impedance	50 Ohms
Inner Conductor Type	Solid
Inner Conductor Material and Plating	Copper, Silver
Dielectric Type	PTFE
Number of Shields	3
Shield Layer 1	Silver Plated Copper Braid
Shield Layer 2	Silver Plated Copper Tape
Shield Layer 3	Silver Plated Copper Braid
Jacket Material	PET
Jacket Diameter	0.43 in [10.92 mm]

##### Connectors

Description	Connector 1	Connector 2
Type	2.4mm Male	2.4mm Male
Impedance	50 Ohms	50 Ohms
Connection Method	Standard	Standard
Contact Material and Plating	Beryllium Copper, Gold	Beryllium Copper, Gold
Dielectric Type	Noryl	Noryl
Coupling Nut Material and Plating	Passivated Stainless Steel	Passivated Stainless Steel
Body Material and Plating	Passivated Stainless Steel	Passivated Stainless Steel

##### Mechanical Specification Notes:

Crush Resistance: 1,050 lbs.  
 Jacket Material is a PET weave over a spiral stainless steel sheath

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**Environmental Specifications**

**Temperature**

Operating Range

+125 deg C

**Compliance Certifications** (visit [www.Pasternack.com](http://www.Pasternack.com) for current document)

RoHS Compliant

Yes

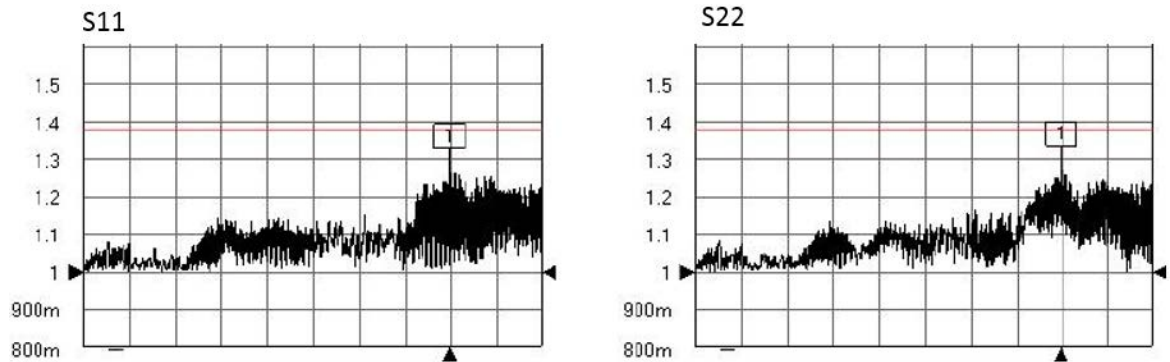
**Plotted and Other Data**

Notes:

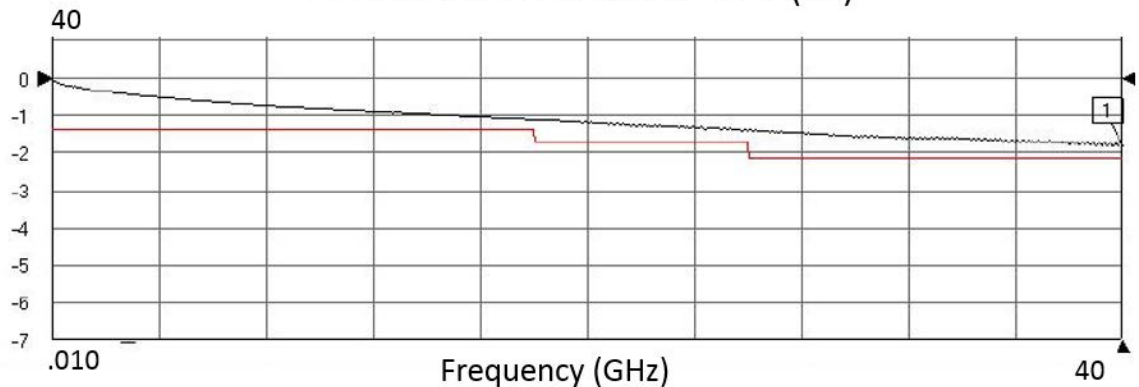
- Values at 25°C, sea level.

**Typical Performance Data**

PE3VNA4004-24 VSWR



PE3VNA4004-24 Insertion Loss (dB)



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**How to Order**

Part Number Configuration:

**PE3VNA4004**

- **xx**

**uu**

Unit of Measure:

cm = Centimeters

<blank> = Inches

Length

Base Number

Example: PE3VNA4004-12 = 12 inches long cable  
PE3VNA4004-100cm = 100 cm long cable

VNA Ruggedized Test Cable 2.4mm Male to 2.4mm Male 40GHz 48 Inch Length, RoHS from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

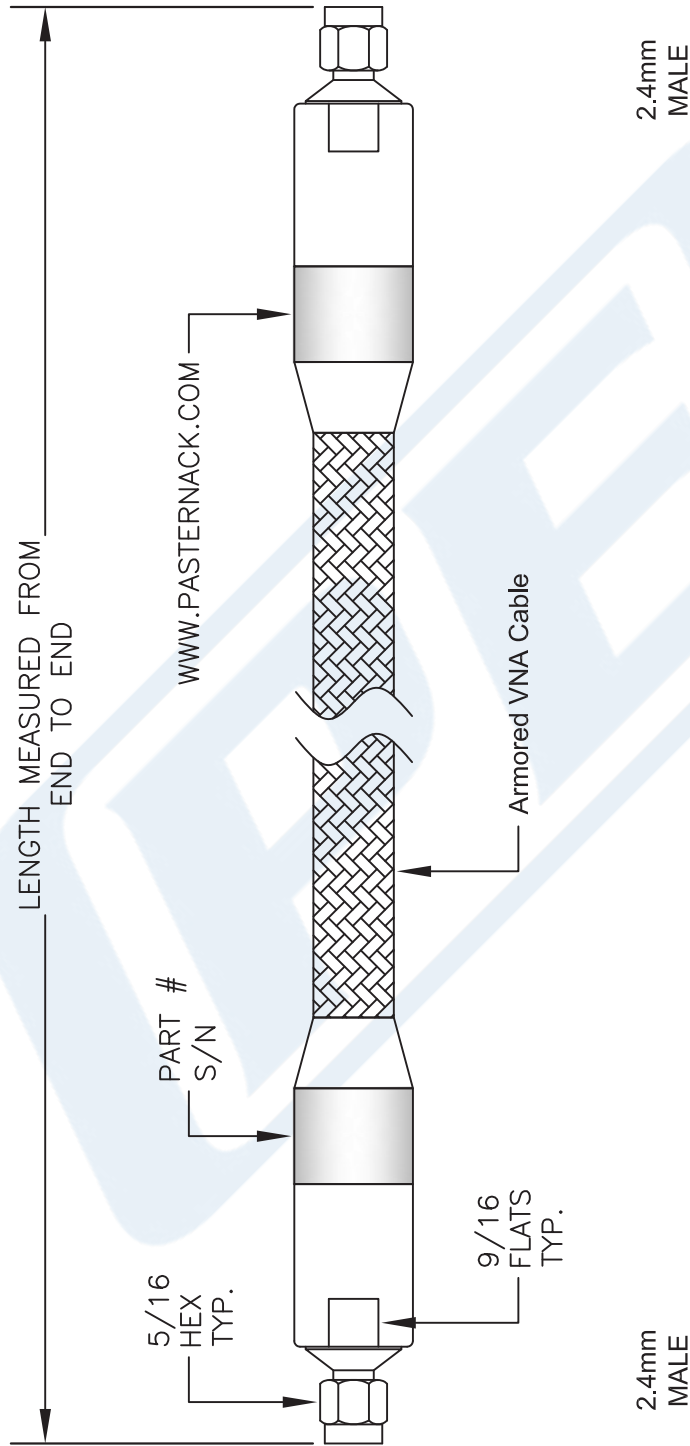
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [VNA Ruggedized Test Cable 2.4mm Male to 2.4mm Male 40GHz 48 Inch Length, RoHS PE3VNA4004-48](http://www.pasternack.com/2.4mm-male-2.4mm-male-vna-cable-cable-assembly-pe3vna4004-48-p.aspx)

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The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE3VNA4004-48 CAD Drawing

VNA Ruggedized Test Cable 2.4mm Male to 2.4mm Male 40GHz 48 Inch Length, RoHS



- NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
  2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
  3. DIMENSIONS ARE IN INCHES [mm].
  4. LENGTH TOLERANCE IS  $\pm 2\%$

DWG TITLE  
**PE3VNA4004**

FSCM NO. 53919

CAD FILE 072115

SCALE N/A

SIZE A

2233

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