



## 1.85mm NMD Female to 1.85mm Female Precision Cable 24 Inch Length Using High Flex VNA Test Coax

### RF Cable Assemblies Technical Data Sheet

PE3TC0970-24

#### Configuration

- Connector 1: 1.85mm NMD Female
- Connector 2: 1.85mm Female
- Cable Type: PE-VNA-HF

#### Features

- Max Frequency 70 GHz
- Shielding Effectivity > 100 dB
- 78% Phase Velocity
- Triple Shielded
- Designed for use as VNA test port extenders
- Highly flexible armored cable construction
- 1.40:1 VSWR to 70 GHz
- Excellent amplitude and phase stability with flexure
- Non-conductive protective Nomex outer sleeve
- In-stock and ready to ship same-day

#### Applications

- General Purpose
- Laboratory Use
- Vector Network analyzer test port extenders
- Semiconductor probe testing
- Precise bench-top testing
- Lab and production testing

#### Description

Pasternack's PE3TC0970-24 1.85mm NMD female to 1.85mm female 24 inch cable using high flex VNA test coax is part of our full line of RF components available for same-day shipping. Pasternack's flexible RF cable assemblies are ideal for applications where tight bends and flexure are required. This Pasternack 1.85mm NMD to 1.85mm cable assembly has a female to female gender configuration with 50 ohm flexible PE-VNA-HF coax. The PE3TC0970-24 1.85mm NMD female to 1.85mm female cable assembly operates to 70 GHz. The triple shielding of this Pasternack cable assembly provides excellent shielding effectiveness of better than 100 dB. Pasternack high performance high flex VNA test cables are designed to provide customers repeatable and accurate VNA measurements. These Test cables have excellent electrical properties including low Insertion Loss, low VSWR and phase stability of  $\pm 8^\circ$  with flexure. The braided stainless steel armoring provides a rugged, but flexible cable with a life exceeding 100,000 flex cycles. The rugged connectors provide up to 5,000 mating cycles when attached with proper care. The flexibility of these cables makes it easier and safer to test your Device Under Test (DUT). 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.

Custom versions of most RF cable assemblies can be built and shipped same day. Custom cable assembly lengths can be obtained by specifying the desired length on the web site at time of order or by contacting a sales representative. Other available RF cable assembly value added services include connector orientation or clocking, heat shrink booting and custom labeling. RF testing can also be performed to document the electrical performance of your cable assembly.

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [1.85mm NMD Female to 1.85mm Female Precision Cable 24 Inch Length Using High Flex VNA Test Coax PE3TC0970-24](#)



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### Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		70	GHz
VSWR			1.4:1	
Velocity of Propagation		78		%
RF Shielding	100			dB
Group Delay		1.34 [4.4]		ns/ft [ns/m]
Capacitance		25.9 [84.97]		pF/ft [pF/m]
Input Power (Average)			14	Watts
Phase Stability with Flexure		8		Degrees
Amplitude Stability with Flexure		0.1		dB

### Specifications by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency	50	70				GHz
Insertion Loss (Max.)	4	4.8				dB
VSWR (Max.)	1.4:1	1.4:1				
Power Handling (Max.)					18	W

Electrical Specification Notes:  
Values at 25°C, sea level.

### Mechanical Specifications

#### Cable Assembly

Length\* 24 in [609.6 mm]

#### Cable

Cable Type PE-VNA-HF  
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 Tape  
Shield Layer 2 Silver Plated Copper Braid  
Shield Layer 3 Silver Plated Copper Braid  
Jacket Diameter 0.27 in [6.86 mm]

One Time Minimum Bend Radius 1 in [25.4 mm]

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### RF Cable Assemblies Technical Data Sheet

PE3TC0970-24

Flat Plate Crush

317 lbs/in [5.66 Kg/mm]

#### Connectors

Description	Connector 1	Connector 2
Type	1.85mm NMD Female	1.85mm Female
Impedance	50 Ohms	50 Ohms
Contact Material and Plating	Beryllium Copper, Gold	Beryllium Copper, Gold
Dielectric Type	ULTEM	ULTEM
Outer Conductor Material and Plating	Passivated Stainless Steel	Passivated Stainless Steel
Body Material and Plating	Passivated Stainless Steel	Passivated Stainless Steel
Coupling Nut Material and Plating	Passivated Stainless Steel	
Torque	8 in-lbs [0.9 Nm]	8 in-lbs [0.9 Nm]

#### Environmental Specifications

##### Temperature

Operating Range

-65 to +125 deg C

**Compliance Certifications** (see [product page](#) for current document)

#### Plotted and Other Data

Notes:

- Values at 25°C, sea level.

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## 1.85mm NMD Female to 1.85mm Female Precision Cable 24 Inch Length Using High Flex VNA Test Coax

### RF Cable Assemblies Technical Data Sheet

PE3TC0970-24

#### How to Order

Part Number Configuration:

**PE3TC0970**

- **xx**

**uu**

Unit of Measure:  
cm = Centimeters  
<blank> = Inches  
Length  
Base Number

Example: PE3TC0970-12 = 12 inches long cable  
PE3TC0970-100cm = 100 cm long cable

1.85mm NMD Female to 1.85mm Female Precision Cable 24 Inch Length Using High Flex VNA Test Coax from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% 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: [1.85mm NMD Female to 1.85mm Female Precision Cable 24 Inch Length Using High Flex VNA Test Coax PE3TC0970-24](https://www.pasternack.com/1.85mm-nmd-female-1.85mm-female-vna-cable-cable-assembly-pe3tc0970-24-p.aspx)

URL: <https://www.pasternack.com/1.85mm-nmd-female-1.85mm-female-vna-cable-cable-assembly-pe3tc0970-24-p.aspx>

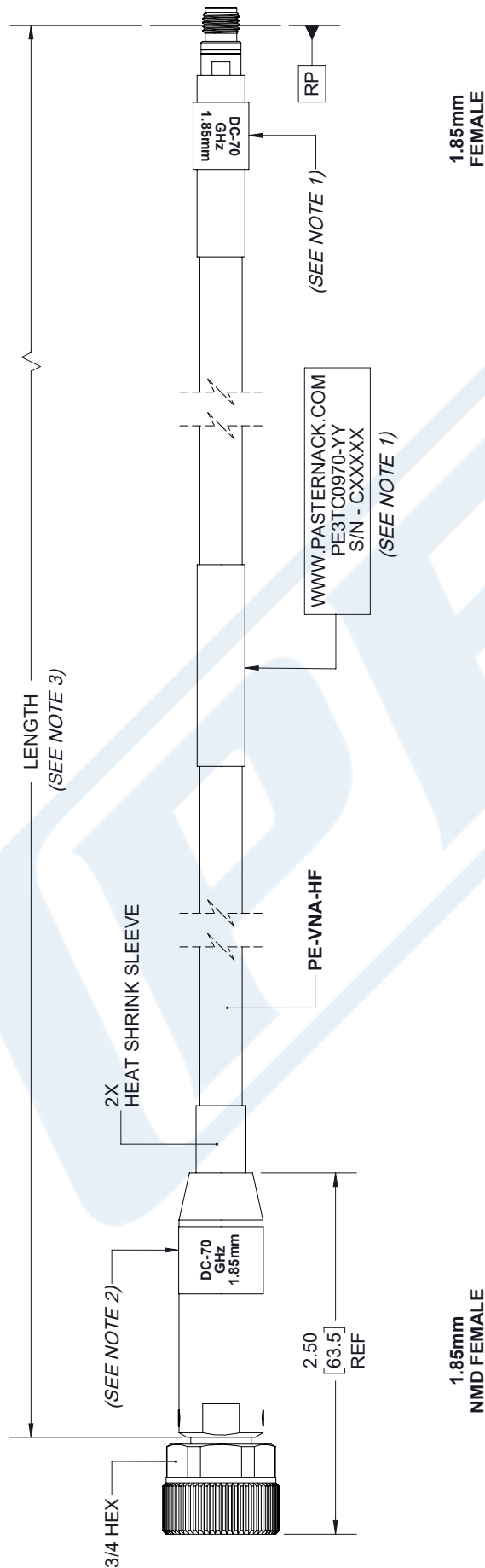
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# PE3TC0970-24 CAD Drawing

1.85mm NMD Female to 1.85mm Female Precision Cable

24 Inch Length Using High Flex VNA Test Coax

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	6/2/2020	S.ELLIS



UNLESS OTHERWISE SPECIFIED  
LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:

.X = ± .2	[.08]	FRACTIONS
.XX = ± .02	[.51]	± 1/32
.XXX = ± .005	[.13]	ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305]	± .1 [25]	/ -0
12 [305] < L ≤ 60 [1524]	± .2 [51]	/ -0
60 [1524] < L ≤ 120 [3048]	± .4 [102]	/ -0
120 [3048] < L ≤ 300 [7620]	± .6 [152]	/ -0
300 [7620] < L	± .5% L	/ -0

ALL DIMENSIONS SHOWN  
ARE FOR REFERENCE ONLY.

**PE PASTERNAK**  
an INFINITI brand

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THIRD-ANGLE PROJECTION

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SHEET 1 OF 1

SCALE N/A

SIZE A

CAGE CODE 53919

DRAWN BY K.DANG

ITEM NO. PE3TC0970

REV A

## NOTES:

- WHITE LETTER ON BLACK LABEL.
- BLACK LETTER ON SILVER LABEL WITH CLEAR COVER.
- CABLE LENGTH (L) TOLERANCES:
  - L ≤ 24 = ± .25 inches.
  - L ≥ 24 = ± 2%L.

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