Fairview Microwave
an INFINITE brand

# FMC1000D DATA SHEET

## Precision 1.85mm Male to RA 1.85mm Male Cable VNA High Flex Coax , Demo Unit

The 1.85mm male to RA 1.85mm male cable using VNA high flex coax, part number FMC1000D, from Fairview Microwave is in-stock and ships same day. This Fairview 1.85mm to 1.85mm cable assembly has a male to male gender configuration with 50 ohm flexible FM-VNA-HF coax. Fairview Microwave's flexible RF cable assemblies are ideal for applications where tight bends and continual flexure are required. The FMC1000D 1.85mm male to 1.85mm male cable assembly operates to 67 GHz. The right angle 1.85mm interface on the FM-VNA-HF cable allows for easier connections in tight spaces. The triple shielding of this Fairview cable assembly provides excellent shielding effectiveness of better than 100 dB. Fairview Microwave's precision VNA test cables with high-flex coax are designed to proivde accurate performance up to 67 GHz. The stainless steel, braided armoring provides a rugged and flexible test cable solution that exceeds 100,000 flexure cycles with proper care. Very low insertion loss and VSWR as low as 1.4:1 with phase stability of +/- 8° with flexure give these test cables excellent electrical properties for even the most demanding applications. The rugged connectors also allow up to 5,000 mating cycles when attached with proper care.

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 RF cable assembly value added services including connector orientation or clocking, heat shrink booting and labeling are also available. RF testing can also be performed to document the electrical performance of your cable assembly.

### Electrical Specifications

| Description | Min | Typ | Max | Units |
|---|---|---|---|---|
| Frequency Range | DC | | 67 | GHz |
| VSWR | | | 1.4:1 | |
| Velocity of Propagation | | 78 | | % |
| RF Shielding | 100 | | | dB |
| Group Delay | | 1.34 [4.4] | | ns/ft [ns/m] |
| Capacitance | | 26.5 [86.94] | | pF/ft [pF/m] |
| Input Power (Average) | | | 18 | Watts |
| Phase Stability with Flexure | | ±8 | | Degrees |

### Performance by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|---|---|---|---|---|---|---|
| Frequency | 5 | 10 | 20 | 40 | 67 | GHz |
| Insertion Loss (Max.) | 2.32 | 3.12 | 4.4 | 6.2 | 8.2 | dB/ft |
| | 7.61 | 10.24 | 14.44 | 20.34 | 26.9 | dB/m |
| Power Handling (Max.) | | | | | 18 | W |

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

## Configuration:

- 1.85mm Male
- 1.85mm Male Right Angle
- FM-VNA-HF

## Features:

- Max Frequency 67 GHz
- Shielding Effectivity > 100 dB
- 78% Phase Velocity
- Triple Shielded
- Phase and Amplitude stable designed for VNA testing
- 1.4:1 VSWR to 67 GHz
- Excellent Amplitude and Phase stability with flexure
- Armored Cable construction is highly flexible
- Non Conductive Nomex outer sleeve
- Serialized test data for each cable assembly
- In stock and ready to ship

## Applications:

- General Purpose
- Laboratory Use
- VNA Test Cables
- Probe testing to 67 GHz
- Precision Development testing
- For use in Automated Test Systems

Fairview Microwave
301 Leora Ln., Suite 100
Lewisville, TX 75056
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

## Mechanical Specifications

### Cable Assembly

| | |
|---|---|
| Length* | 0 in [0 mm] |

### Cable

| | |
|---|---|
| Cable Type | FM-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] |
| Flat Plate Crush | 317 lbs/in [5.66 Kg/mm] |

### Connectors

| Description | Connector 1 | Connector 2 |
|---|---|---|
| Type | 1.85mm Male | 1.85mm Male |
| Impedance | 50 Ohms | 50 Ohms |
| Contact Material & Plating | Beryllium Copper, Gold | Beryllium Copper, Gold |
| Dielectric Type | ULTEM | ULTEM |
| Outer Cond Material & Plating | | Passivated Stainless Steel |
| Body Material & Plating | Passivated Stainless Steel | Passivated Stainless Steel |
| Coupling Nut Material & Plating | Passivated Stainless Steel | |
| Torque | 8 in-lbs 0.9 Nm | 8 in-lbs 0.9 Nm |

## Environmental Specifications

### Temperature

| | |
|---|---|
| Operating Range | -55 to +125 deg C |

## Compliance Certifications (see product page for current document)

## Plotted and Other Data

Notes:

- Values at 25°C, sea level.

## How to Order

Part Number Configuration: **FMC1000D - xx uu**

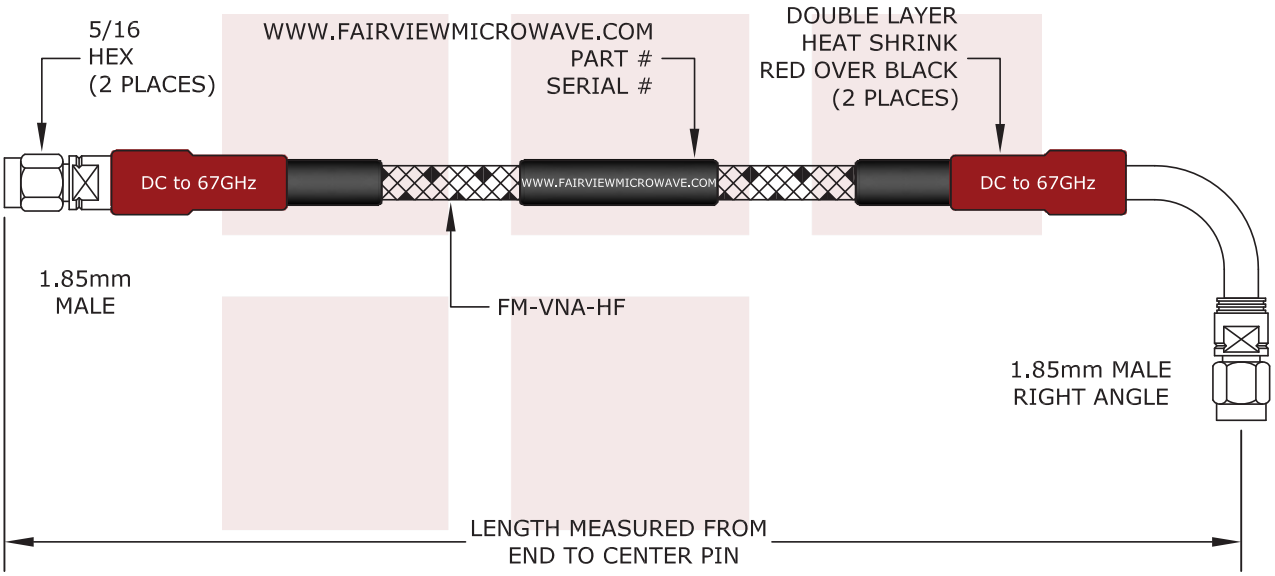
- uu: cm = Centimeters; <blank> = Inches
- xx: Length

Example: FMC1000D-12 = 12 inches long cable
FMC1000D-100cm = 100 cm long cable

Precision 1.85mm Male to RA 1.85mm Male Cable VNA High Flex Coax , Demo Unit from Fairview Microwave 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 to obtain additional part information: Precision 1.85mm Male to RA 1.85mm Male Cable VNA High Flex Coax , Demo Unit FMC1000D

URL: https://www.fairviewmicrowave.com/precision-1.85mm-male-ra-1.85mm-male-cable-vna-cable-coax-fmc1000d-p.aspx

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|---|---|---|---|---|---|
| FAIRVIEW MICROWAVE INC.<br>ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM | NOTES:<br>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.<br>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.<br>3. DIMENSIONS ARE IN INCHES [mm]. | | | | |
| TITLE<br>Precision 1.85mm Male to RA 1.85mm Male Cable VNA High Flex Coax , Demo Unit | DWG NO<br>FMC1000 | | CAGE CODE<br>3FKR5 | | |
| | CAD FILE 100815 | SHEET | SCALE N/A | SIZE A | 2233 |