

Precision 1.0mm Male to 1.0mm Female Cable FM-TC110 Coax and RoHS Compliant

The high performance 110 GHz VNA test cables from Fairview Microwave are specially designed to provide a precision test cable solution for applications requiring a coaxial 1.0mm connector interface. The lightweight armoring helps protect these high performance assemblies from being damaged and improves stability during flexure. These phase and amplitude stable cables also boast excellent VSWR and Insertion Loss properties. Each serialized cable assembly is 100% tested and each unit comes with test data. Fairview's 1.0mm test cables come in standard 6 inch and 12 inch lengths with Male-to-Male or Male-to-Female configurations. These precision 1.0mm test cables are in-stock and ready for same day shipping.

Electrical Specifications

| Description | Min | Typ | Max | Units |
|-----------------|-----|--------------|-------|--------------|
| Frequency Range | DC | | 110 | GHz |
| VSWR | | | 1.5:1 | |
| Group Delay | | 1.34 [4.4] | | ns/ft [ns/m] |
| Capacitance | | 26.5 [86.94] | | pF/ft [pF/m] |

Performance by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|-----------------------|-------|-------|-------|----|----|-------|
| Frequency | 50 | 67 | 110 | | | GHz |
| Insertion Loss (Max.) | 3.71 | 4.33 | 5.62 | | | dB/ft |
| | 12.17 | 14.21 | 18.44 | | | dB/m |
| VSWR (Max.) | 1.3:1 | 1.4:1 | 1.5:1 | | | dB/m |

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

Mechanical Specifications

Cable Assembly

Diameter 0.27 in [6.86 mm]

Cable

Cable Type FM-110TC

One Time Minimum Bend Radius 1 in [25.4 mm]



Configuration:

- 1.0mm Male
- 1.0mm Female
- FM-110TC

Features:

- 110 GHz Maximum Frequency
- 1.0mm stainless steel connectors
- Phase and Amplitude Stable
- Protective outer sleeve
- Supplied with test data for each assembly
- All in-stock and ready to ship same day

Applications:

- VNA testing
- 1.0mm test port extension
- Probe testing semiconductor applications
- Vehicle radar system testing
- Military radar testing

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Connectors

| Description | Connector 1 | Connector 2 |
|---------------------------------|----------------------------|----------------------------|
| Type | 1.0mm Male | 1.0mm Female |
| Impedance | 50 Ohms | 50 Ohms |
| Contact Material & Plating | Beryllium Copper, Gold | Beryllium Copper, Gold |
| Outer Cond Material & Plating | | Passivated Stainless Steel |
| Body Material & Plating | Passivated Stainless Steel | Passivated Stainless Steel |
| Coupling Nut Material & Plating | Passivated Stainless Steel | |
| Torque | 4 in-lbs [0.45 Nm] | |

Mechanical Specification Notes:

*All cable assemblies have a length tolerance of 1.5% or $\pm 3/8"$, whichever is greater.

Environmental Specifications

Temperature

Operating Range -65 to +125 deg C

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

Plotted and Other Data

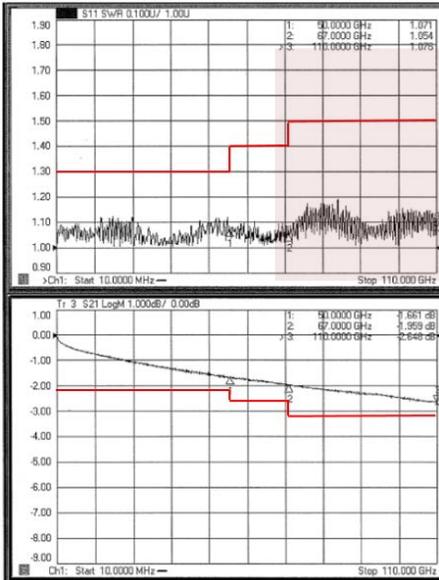
Notes:

- Values at 25°C, sea level.

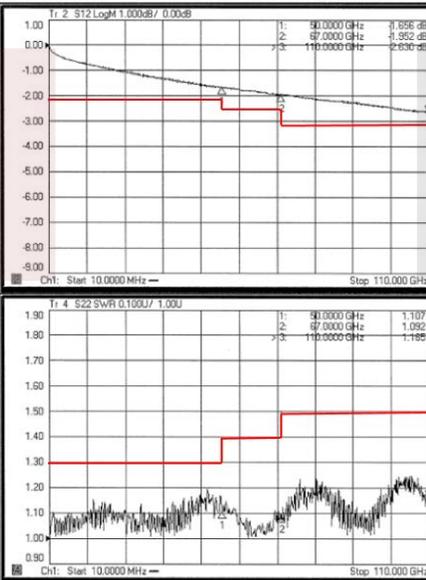
Typical Performance Data

FMTC701-6

S11 VSWR



S12 Insertion Loss, dB



S21 Insertion Loss, dB

Frequency: DC to 110 GHz

S22 VSWR

How to Order

Part Number Configuration:

FMTC701 - xx uu



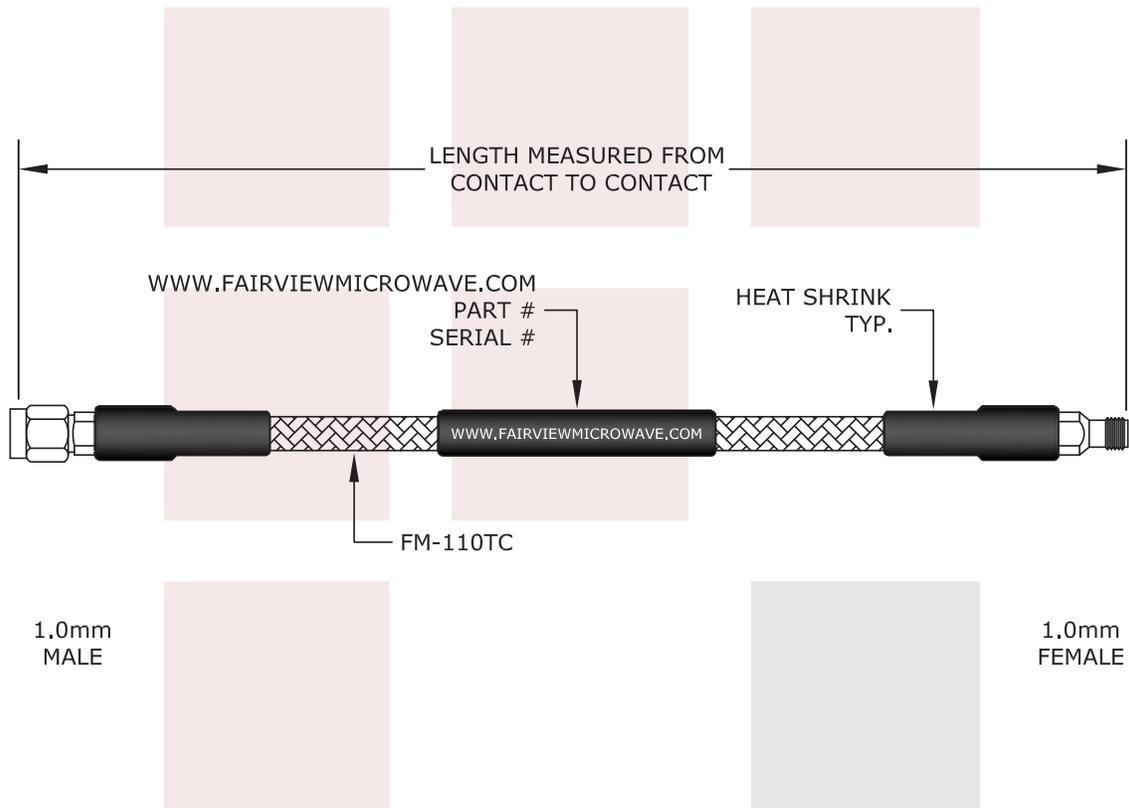
Example: FMTC701-12 = 12 inches long cable
 FMTC701-100cm = 100 cm long cable

Precision 1.0mm Male to 1.0mm Female Cable FM-TC110 Coax and RoHS Compliant from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and fiber optic 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 1.0mm Male to 1.0mm Female Cable FM-TC110 Coax and RoHS Compliant FMTC701](#)

URL: <https://www.fairviewmicrowave.com/precision-1.0mm-male-1.0mm-female-cable-fm-tc100-coax-fmtc701-p.aspx>

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. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



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|--|--------|---|-------|--------------------|-------------|
| FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM | | 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]. | | | |
| TITLE Precision 1.0mm Male to 1.0mm Female Cable FM-TC110 Coax and RoHS Compliant | | DWG NO FMTC701 | | CAGE CODE 3FKR5 | |
| CAD FILE | 031116 | SHEET | SCALE | N/A | SIZE A 2233 |