

## Low Loss SMA Male to RA SMA Male Cable LL160 Coax in 50 CM

The SMA Male to RA SMA Male low loss cable using LL160 coax, part number FMCA1686-50CM, from Fairview Microwave is in-stock and ships same day. This SMA to SMA low loss cable assembly features a 82.5% velocity dielectric manufactured from expanded PTFE tape. This microporous dielectric contributes to the low loss and phase stability of the cables. Our triple shielded coaxial cable construction of Fairview's low loss LL160 provides shielding levels as high as 95 dB. The precision connections are constructed with stainless steel bodies and high temperature insulators, supporting a wide range of temperature from -55 to +165 degrees C. This solid combination of connectors and low loss coax are further enhanced with the addition of heavy-duty heat shrink for improved strain relief for this superior quality RF cable assembly.

Fairview's SMA Male to RA SMA Male low loss cable FMCA1686-50CM datasheet, specifications and outline drawing are shown in this PDF below. Our extensive offering of RF, microwave and high speed digital connections allows designers to configure and customize their signals however they like. From reducing losses or improving phase stability, Fairview microwave has the right low loss cable solutions to meet your needs.

### Electrical Specifications

| Description             | Min | Typ        | Max    | Units        |
|-------------------------|-----|------------|--------|--------------|
| Frequency Range         | DC  |            | 18     | GHz          |
| VSWR                    |     |            | 1.35:1 |              |
| Velocity of Propagation |     | 82.5       |        | %            |
| RF Shielding            | -90 |            |        | dB           |
| Capacitance             |     | 25 [82.02] |        | pF/ft [pF/m] |

### Performance by Frequency

| Description           | F1   | F2   | F3   | F4   | F5   | Units |
|-----------------------|------|------|------|------|------|-------|
| Frequency             | 1    | 2    | 4.5  | 9    | 18   | GHz   |
| Insertion Loss (Typ.) | 0.24 | 0.35 | 0.53 | 0.76 | 1.09 | dB    |

#### Electrical Specification Notes:

The Insertion Loss data above is based on the performance specifications of the coax cable used in this assembly. The Insertion Loss includes an estimated insertion loss of  $0.04 * \text{SQRT}(F(\text{GHz}))$  dB maximum per connector.

### Mechanical Specifications

#### Cable Assembly

Length\* 19.69 in [500.13 mm]

#### Cable

Cable Type LL160  
 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



### Configuration:

- SMA Male
- SMA Male Right Angle
- LL160

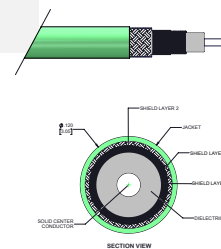
### Features:

- Max Frequency 18 GHz
- Shielding Effectivity > -90 dB
- 82.5% Phase Velocity
- Triple Shielded
- FEP Jacket
- Low VSWR of 1.35:1 to 18 GHz
- -55 to +150 Temperature Range
- Expanded PTFE Tape Dielectric
- Same Day Shipment of Custom Lengths

### Applications:

- General Purpose
- Laboratory Use
- Automated Test Systems
- Military Electronics
- Phased Array Antennas
- RF Countermeasures

### Cable Diagram:



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Shield Layer 2 Aluminum Polyester  
 Shield Layer 3 Silver Plated Copper  
 Jacket Material FEP  
 Jacket Diameter 0.16 in [4.06 mm]  
 Repeated Minimum Bend Radius 0.8 in [20.32 mm]

**Connectors**

| Description                     | Connector 1                | Connector 2                |
|---------------------------------|----------------------------|----------------------------|
| Type                            | SMA Male                   | SMA Male                   |
| Impedance                       | 50 Ohms                    | 50 Ohms                    |
| Contact Material & Plating      | Beryllium Copper, Gold     | Beryllium Copper, Gold     |
| Contact Plating Spec.           | ASTM-B488                  | ASTM-B488                  |
| Dielectric Type                 | PTFE                       | PTFE                       |
| Body Material & Plating         | Passivated Stainless Steel | Passivated Stainless Steel |
| Coupling Nut Material & Plating | Passivated Stainless Steel | Passivated Stainless Steel |

**Environmental Specifications**

**Temperature**

Operating Range -55 to +165 deg C

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

**Plotted and Other Data**

Notes:

**How to Order**

Part Number Configuration:

**FMCA1686 - xx uu**

cm = Centimeters  
 <blank> = Inches  
 Length

Example: FMCA1686-12 = 12 inches long cable  
 FMCA1686-100cm = 100 cm long cable

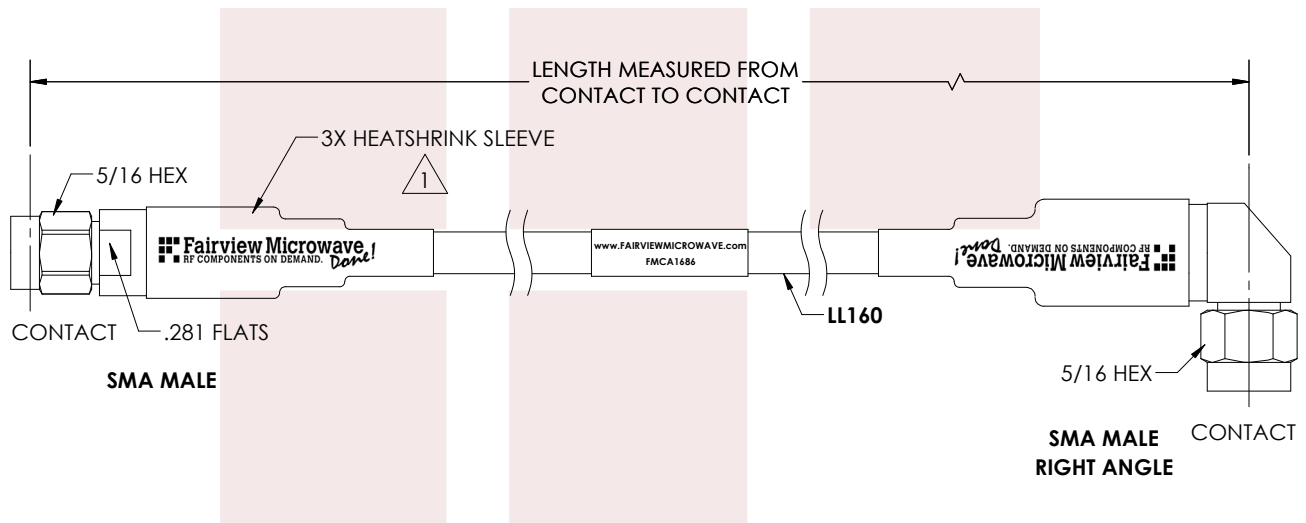
Low Loss SMA Male to RA SMA Male Cable LL160 Coax in 50 CM from Fairview Microwave has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99% availability and are part of the broadest selection in the industry.

Click the following link to obtain additional part information: [Low Loss SMA Male to RA SMA Male Cable LL160 Coax in 50 CM FMCA1686-50CM](#)

URL: <https://www.fairviewmicrowave.com/low-loss-sma-male-ra-sma-male-cable-ll160-coax-fmca1686-50cm-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.





NOTES:  
1. BLACK HEAT SHRINK WITH  
WHITE MARKINGS 3 PLACES.

| STANDARD TOLERANCES |        |
|---------------------|--------|
| .X                  | ±0.2   |
| .XX                 | ±0.01  |
| .XXX                | ±0.005 |

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

|   |  |   |       |                         |
|---|--|---|-------|-------------------------|
| <b>FAIRVIEW MICROWAVE INC.</b><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>Low Loss SMA Male to RA SMA Male Cable LL160 Coax<br>in 50 CM      |  | DWG NO<br>FMCA1686  |       | CAGE CODE<br>3FKR5      |
|   |  | CAD FILE 07/12/18   | SHEET | SCALE N/A SIZE A CN2379 |