



**SIGNAL
MICROWAVE**



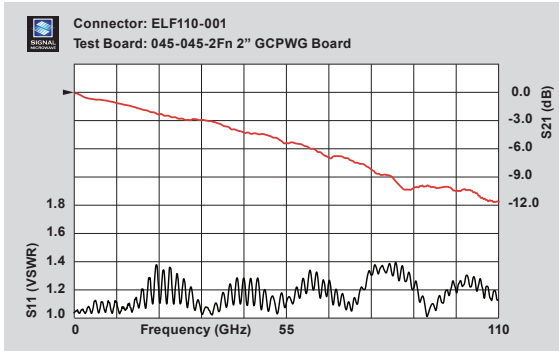
Connector Products April 2019

Edge Launch Key Features:

- No Soldering Required
- Top Ground Only
- Board Design Support Available
- Test Boards Available

Edge Launch Connectors

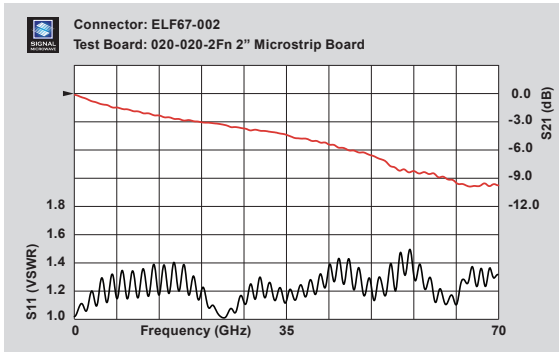
ELF110 1.0 mm (110 GHz) Edge Launch Connectors



2" GCPW test board with typical data through 110 GHz



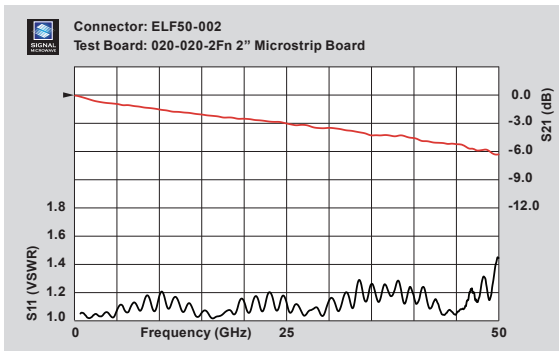
ELF67 1.85 mm (67 GHz) Edge Launch Connectors



2" microstrip test board with typical data through 70 GHz



ELF50 2.40 mm (50 GHz) Edge Launch Connectors

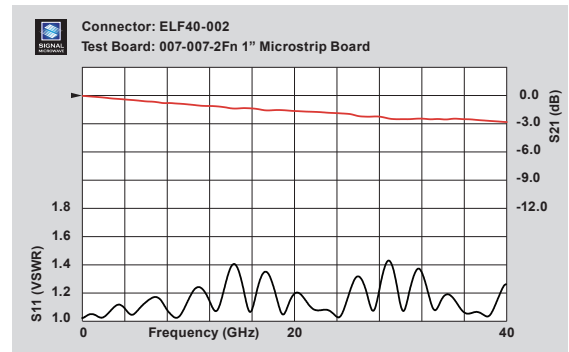


2" microstrip test board with typical data through 50 GHz



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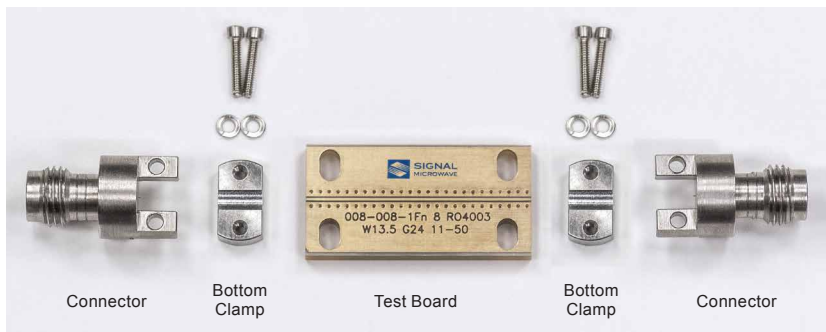
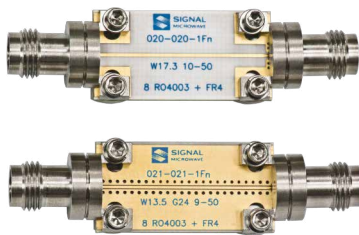
ELF40 2.92 mm (40 GHz) Edge Launch Connectors



1" microstrip test board with typical data through 40 GHz



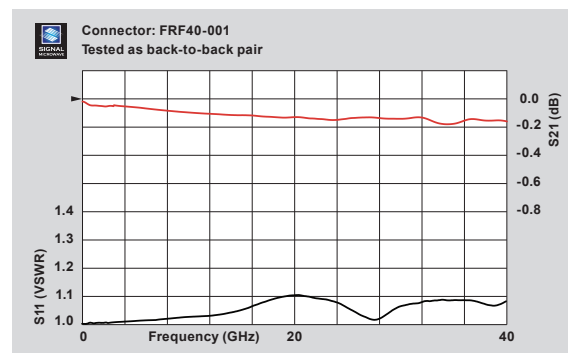
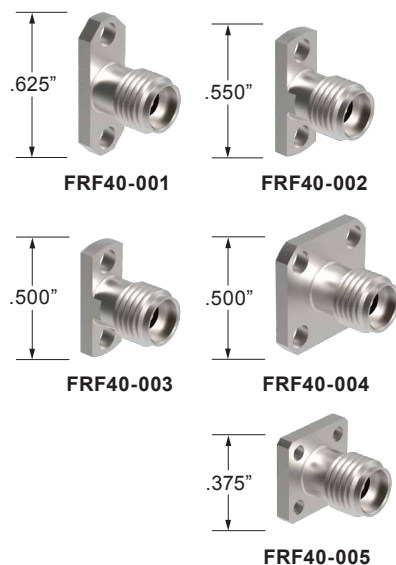
Elements of An Edge Launch Test Board Assembly



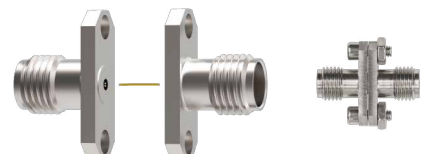
Field Replaceable Connectors

FRF40 2.92 mm (40 GHz)

- 2.92 mm Interface
- Standard 2 & 4 Hole Flanges
- 40 GHz Bandwidth
- Rear Socket for 12 mil pin
- Low VSWR:
DC–27.0 GHz.....1.10:1
27.0–40.0 GHz.....1.15:1
- Temp Range -55° to +105°



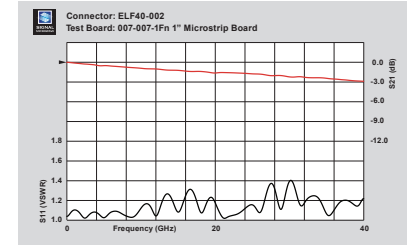
Typical test data through 40 GHz using FRF40-001 back-to-back connector pair with test pin.



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Test Boards for Edge Launch Connectors (40 GHz)

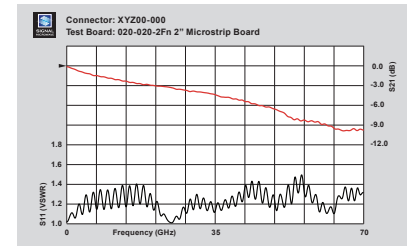
- All test board launch designs are available at no charge in .pdf and .dxf formats
- 1" and 2" length microstrip and grounded coplanar waveguide (GCPW) boards available
- Available in both 40 GHz, 70 GHz and 110 GHz versions



40 GHz Test Board Part Numbers:

- | | |
|-------------|---------------------------------------|
| 007-007-1Fn | 1" Microstrip |
| 007-007-2Fn | 2" Microstrip |
| 008-008-1Fn | 1" Grounded Coplanar Waveguide (GCPW) |
| 008-008-2Fn | 2" Grounded Coplanar Waveguide (GCPW) |

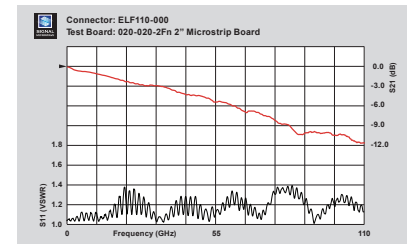
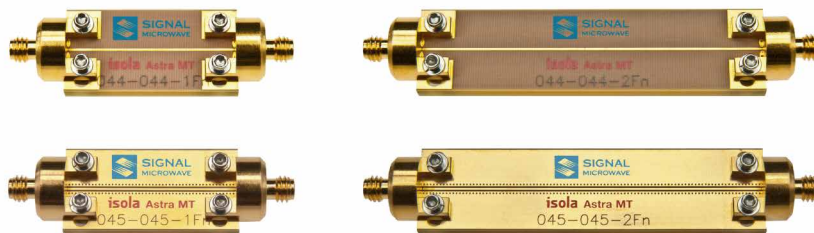
Test Boards for Edge Launch Connectors (70 GHz)



70 GHz Test Board Part Numbers:

- | | |
|-------------|---------------------------------------|
| 020-020-1Fn | 1" Microstrip |
| 020-020-2Fn | 2" Microstrip |
| 021-021-1Fn | 1" Grounded Coplanar Waveguide (GCPW) |
| 021-021-2Fn | 2" Grounded Coplanar Waveguide (GCPW) |

Test Boards for Edge Launch Connectors (110 GHz)



110 GHz Test Board Part Numbers:

- | | |
|-------------|---------------------------------------|
| 044-044-1Fn | 1" Microstrip |
| 044-044-2Fn | 2" Microstrip |
| 045-045-1Fn | 1" Grounded Coplanar Waveguide (GCPW) |
| 045-045-2Fn | 2" Grounded Coplanar Waveguide (GCPW) |

All test board designs are available to customers at no charge in .pdf and .dxf formats.
Demo boards are also available with sample connectors and test data.

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Top Launch Connectors

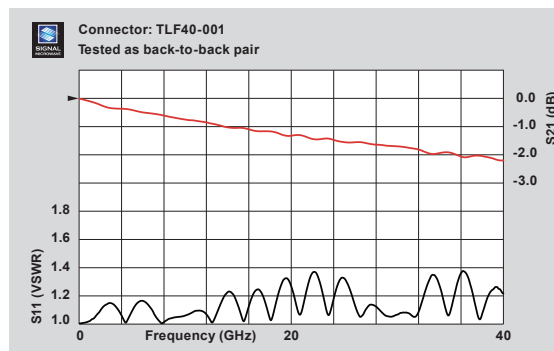
TLF40 2.92 mm (40 GHz)



TLF40-001



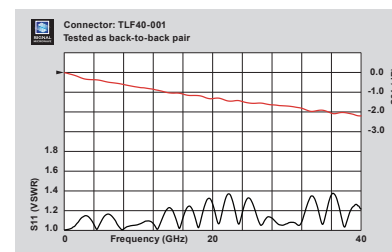
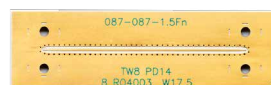
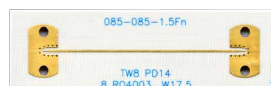
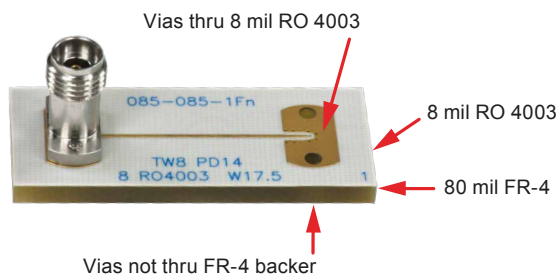
- Edge Launch Type Performance Anywhere on the Board
- 2.92 mm Connector for high speed digital industry with superior electrical performance
- Compression fit, screw-on mounting, does not require soldering



1" microstrip test board with typical data through 40GHz

Test Boards for Top Launch Connectors

(40 GHz)



40 GHz Test Board Part Numbers:

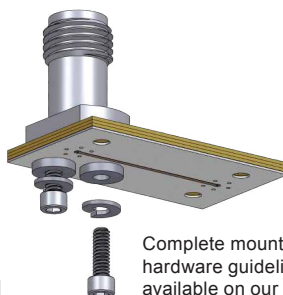
- 086-086-1Fn 1" Microstrip
- 085-085-1.5Fn 1.5" Microstrip
- 088-088-1Fn 1" Grounded Coplanar Waveguide (GCPW)
- 087-087-1.5Fn 1.5" Grounded Coplanar Waveguide (GCPW)

Vertical Launch Connectors

VLF40 2.92 mm (40 GHz)

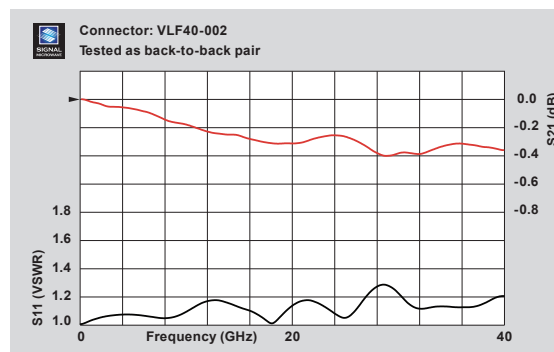


VLF40-002



Complete mounting hardware guidelines available on our website

- 2.92 mm Connector for high speed digital industry with superior electrical performance
- Compression fit, screw-on mounting, does not require soldering



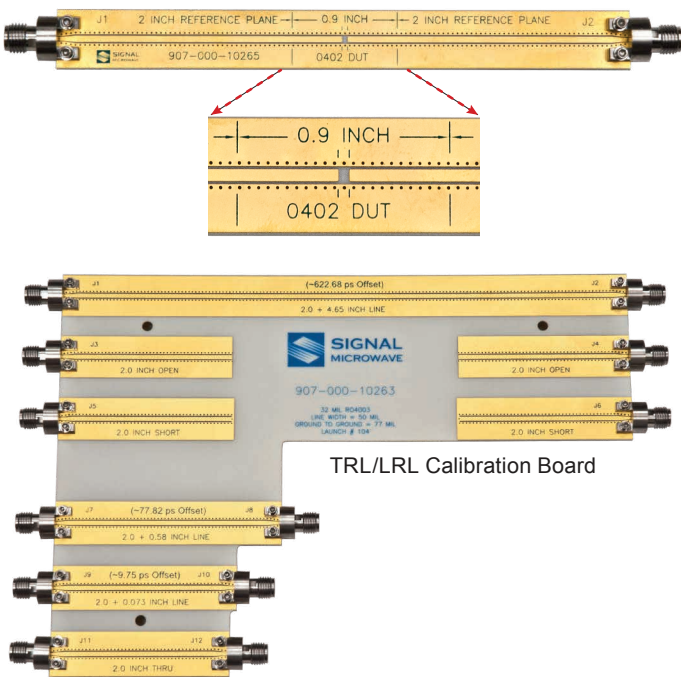
Typical data for 2 connectors tested as a back-to-back pair



Turnkey 0402 Package Test System

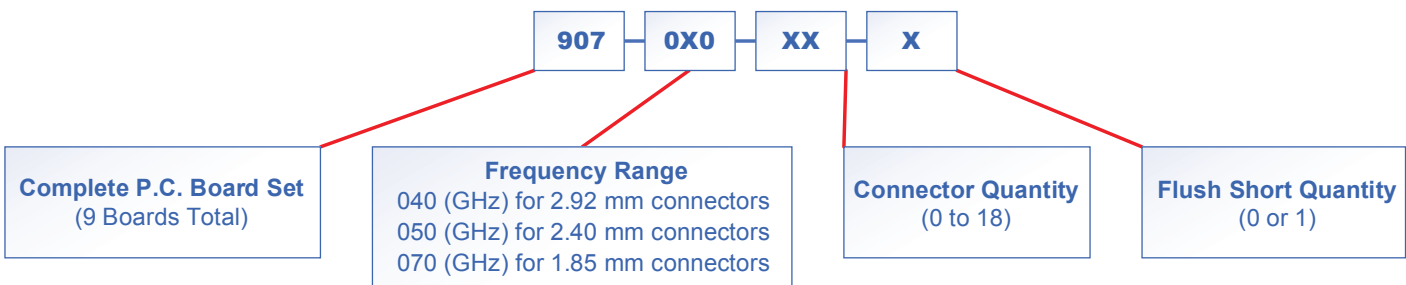
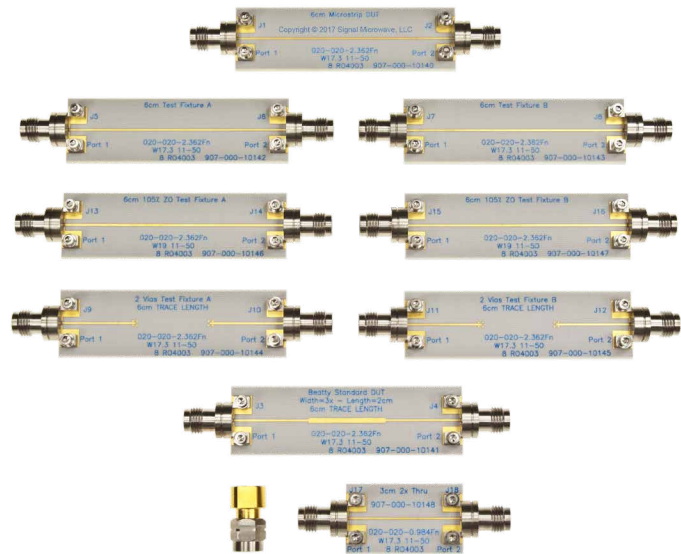
with 40 Ghz TRL/LRL Calibration and DUT Boards

This kit provides a total test fixture solution by providing both the TRL/LRL calibration board to calibrate the VNA to remove the connectors and 4 inches of the PCB trace from the measurement. Each test fixture contains 2.92 mm connectors on each end and a solder point for the SMD component for accurate measurements.



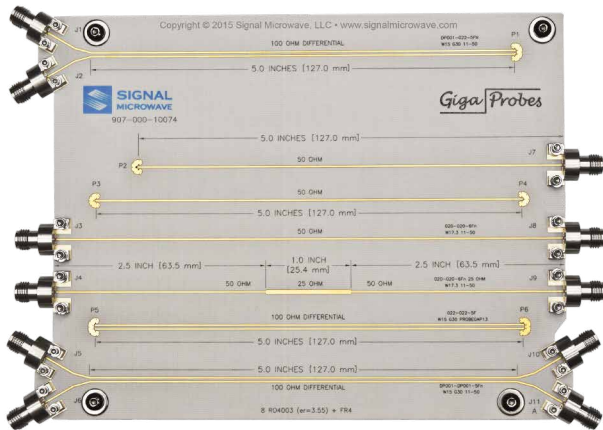
Plug & Play De-embedding Kit in Support of IEEE-P370

Our library of innovative designs led to this kit which includes 70 GHz test boards, 2.92 mm or 1.85 mm connectors, and a flush short, all using our own designed and manufactured boards and connectors. At DesignCon a paper, “A NIST Traceable PCB Kit...” will be presented by members of the committee which describes the use of this kit.

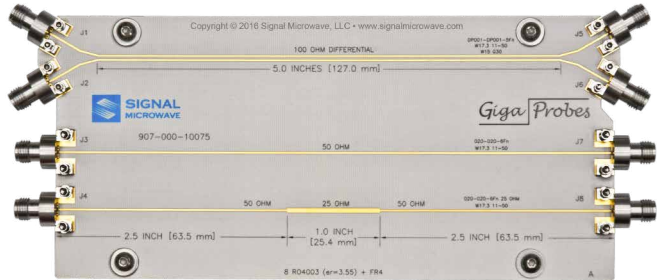


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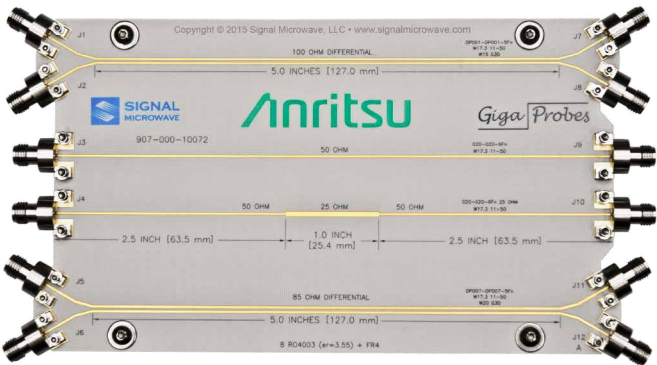
Broadband Test Verification Boards (40 GHz and 70 GHz)



DB40-002 Probe Verification Board



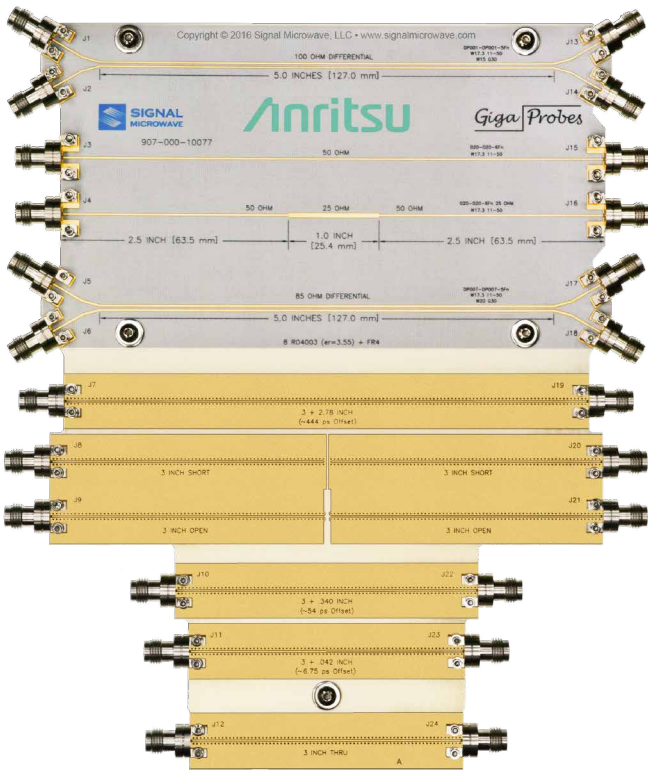
DB40-003 Basic Verification Board



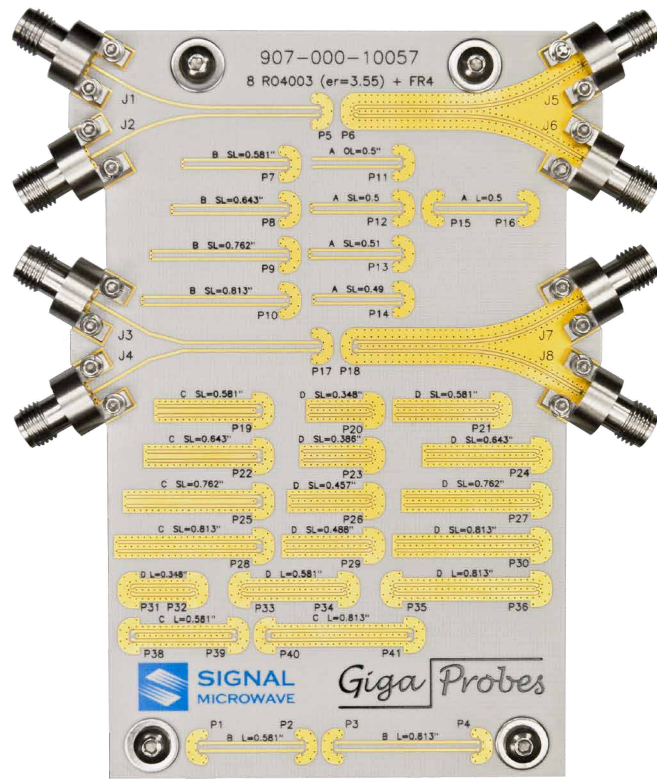
907-040-10072 Anritsu Verification Board

“xxx” is a placeholder to define frequency range depending on connector types.

Calibration Boards (40 GHz and 70 GHz)



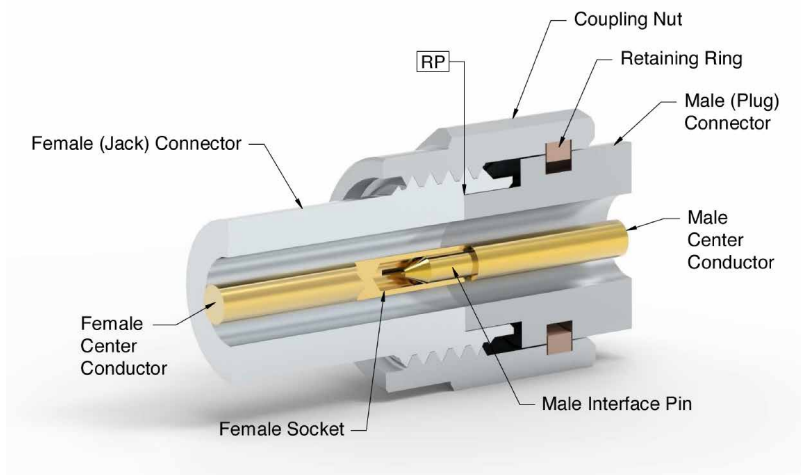
Part No. 907-xxx-10077



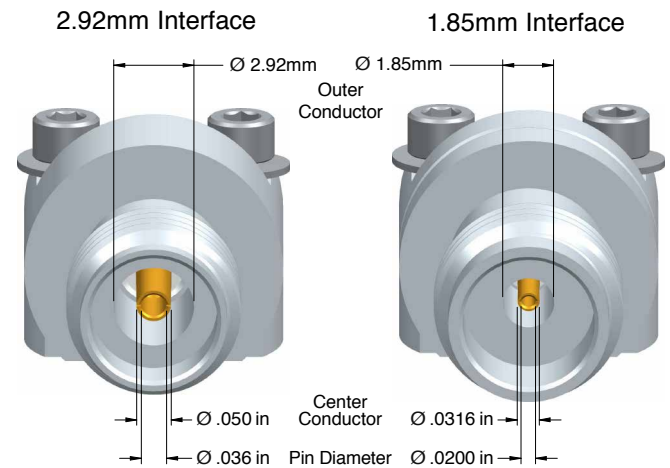
Part No. 907-xxx-10057

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Cutaway Side View of a Mated Connector Pair

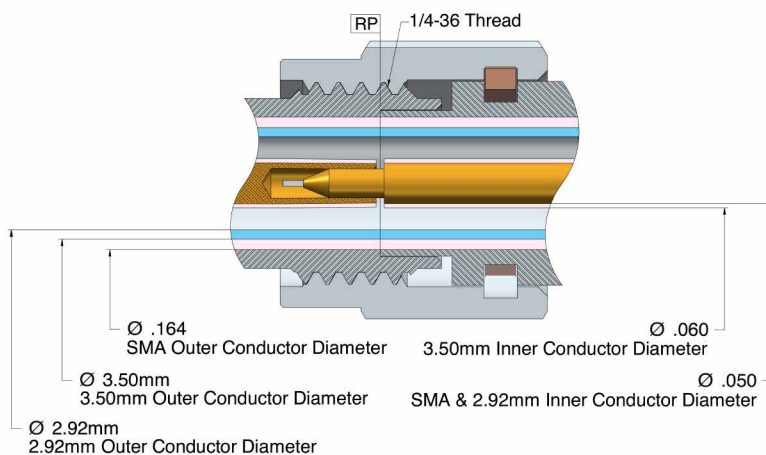


Connector Nomenclature



SMA / 3.5mm / 2.92mm

- SMA interface connectors (18/27 GHz bandwidth)
- 3.5mm interface connectors (33 GHz bandwidth)
- 2.92mm interface connectors (40 GHz bandwidth)
- All of these connectors are compatible with each other



2.40mm / 1.85mm

- 2.40mm interface connectors (50 GHz bandwidth)
- 1.85mm interface connectors (70 GHz bandwidth)
- All of these connectors are compatible with each other

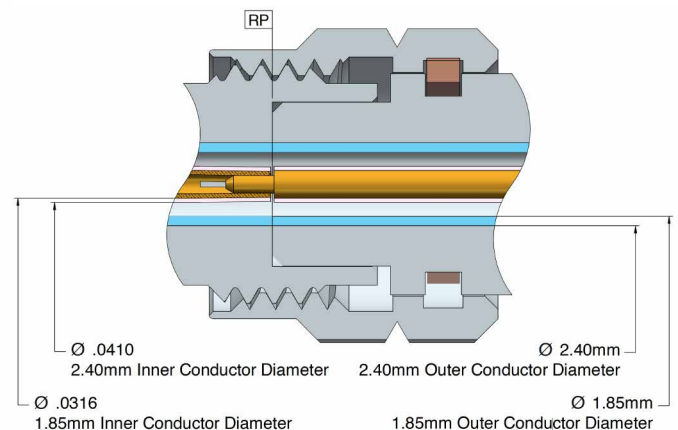
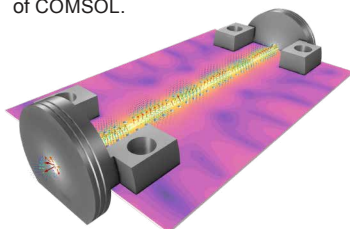
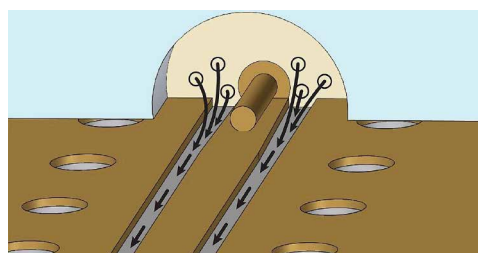


Image made using COMSOL Multiphysics® software and provided courtesy of COMSOL.



PCB Design Resources for Board Mount Connectors

- 3D models for simulation are available at no charge to help customers in their own development efforts.
- "Transparent Connections for 5G and WiGig Testing" that describes using 3D modeling tools to design board launches.



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