Edge Launch Connectors

**ELF110 1.0 mm (110 GHz) Edge Launch Connectors**

- Common Interface: ELF10
- Narrow Profile: ELF110-001
- Standard Profile: ELF110-002

*2” GCPW test board with typical data through 110 GHz*

**ELF67 1.85 mm (67 GHz) Edge Launch Connectors**

- Common Interface: ELF67
- Narrow Profile: ELF67-001
- Standard Profile: ELF67-002

*2” microstrip test board with typical data through 70 GHz*

**ELF50 2.40 mm (50 GHz) Edge Launch Connectors**

- Common Interface: ELF50
- Narrow Profile: ELF50-001
- Standard Profile: ELF50-002

*2” microstrip test board with typical data through 50 GHz*
**ELF40** 2.92 mm (40 GHz) Edge Launch Connectors

- Common Interface: ELF40
- Narrow Profile: ELF40-001
- Standard Profile: ELF40-002

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°
**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.
Top Launch Connectors

**TLF40 2.92 mm (40 GHz)**

- 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

**Test Boards for Top Launch Connectors**

**(40 GHz)**

Vias thru 8 mil RO 4003

Vias not thru FR-4 backer

8 mil RO 4003

FR-4

**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)**

- 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**
Signal Microwave

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.

Complete P.C. Board Set (9 Boards Total)

Frequency Range
040 (GHz) for 2.92 mm connectors
050 (GHz) for 2.40 mm connectors
070 (GHz) for 1.85 mm connectors

Connector Quantity (0 to 18)

Flush Short Quantity (0 or 1)
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
**Signal Microwave**

**Cutaway Side View of a Mated Connector Pair**

- 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

**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

**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.