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# Coilcraft SMD-F Test Fixture

The Coilcraft SMD-F fixture can be used with many impedance measurement instruments to provide accurate and repeatable measurements of SMD chip inductors and other SMD components.

## Fixture Characteristics

| | |
|---|---|
| SMD Chip Size: | 0201 – 0402 |
| Frequency Range: | DC to 1.8 GHz |
| Connectors: | 3.5 mm to APC-7<br>3.5 mm to 3.5 mm |
| Electrical Length: | 5.25 cm (3.5 mm to APC-7 adapter)<br>0.50 cm (3.5 mm to 3.5 mm adapter)<br>$5.21e^{-12}$ sec (optional Coilcraft 4286-ADAPT adapter) |

## Package Contents

SMD-F test fixture with standard placement mask

Shorting bars

Sample chip inductors

## General Measurement Procedure

Note: For instrument-specific procedures, follow the instructions supplied with the test instrument.

1. Determine the required test frequency or frequency range from the component data sheet or specification. Verify that the required test frequency is within the fixture frequency range.
2. Set the instrument for the required frequency range, measurement parameters (e.g. L, Q, Z, θ), number of measurement (frequency) points, and averaging parameters.
3. Calibrate the instrument using accurate reference standards.

Note: Coilcraft 4286-ADAPT adapter (not included) is required to connect the SMD–F to an Agilent/HP 4286A LCR Meter.

4. Connect the SMD-F to the test instrument by sliding the fixture onto the test instrument binding posts until the SMD-F is level.

**CAUTION:** Do not over-tighten the connector. Over-tightening can damage the center conductor.

5. Fasten the connector of the test instrument onto the SMD-F connector until snug (approx. 3 turns). Make sure the fixture is supported evenly so that uneven forces are not applied to the electrical connection.
6. Enter the electrical length to compensate for fixture phase delay.

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7. Make sure there is no component or shorting bar in the fixture, and perform OPEN fixture compensation.
9. Select a shorting bar that is closest in size to the test component.
10. Place the shorting bar into the fixture mask and center over the gap. Lower the plunger and perform SHORT fixture compensation. Remove the shorting bar.
11. Place the test component into the fixture mask and center over the gap. Lower the plunger.
12. Read the displayed value on the instrument.

## References

The following application notes are available on the Coilcraft website at: www.coilcraft.com/appnotes.cfm

Test Fixture Compatibility Chart

Calibration, Compensation and Correlation

Testing Inductors at Application Frequencies



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