

3.5mm SOLT VNA Calibration Kit up to 26.5 GHz, Including Short Circuit, Open Circuit, Load, and Thru

Fairview Microwave's 3.5mm 26.5 GHz VNA calibration kit is used to calibrate a Vector Network Analyzer (VNA) and associated test setup, thus removing the test instrumentations influence on the device under test (DUT) and allowing the best possible error-free characterization of the DUT. The FMCK1020 SOLT cal kit includes 3.5mm male and female fully-characterized Short Circuits, Open Circuits, Fixed Loads, and Thrus used in a standard multi-port VNA calibration process. In addition to the RF calibration standards, a fixed torque break-over style torque wrench and a set of open-ended wrenches are included for use in mating and de-mating calibration components. Component correction factors have also been documented and are supplied in this VNA calibration kit datasheet. The data file may be downloaded from the FMCK1020 product page on Fairview Microwave's web site or requested by contacting technical support.

A properly performed n-port SOLT calibration allows for full characterization of the VNA test ports. RF calibrations performed using high-quality VNA test cables effectively extends the vector network analyzer test ports to the end of the cables, and this allows for greater flexibility when characterizing a product under test.

Available in-stock and ships same day!

Configuration

Connector
Frequency Range

3.5mm
DC to 26.5 GHz



Features:

- SOL or SOLT versions available
- Cal kit definition files for Keysight, Rohde & Schwarz, and Anritsu VNAs
- Works with all major VNAs
- Protective wooden case for safe storage of components
- Torque wrench and tools included

Applications:

- Calibration of Vector Network Analyzers
- Research and development
- Aerospace and defense
- Production test environments

Fairview Microwave
301 Leora Ln., Suite 100
Lewisville, TX 75056
Tel: 1-800-715-4396 / (972) 649-6678
Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Electrical Specifications for FMCK1020 3.5mm Devices

Item	Part Number	Specifications	Frequency (GHz)
Terminations Female Male	FMTR1059 FMTR1060	1.02 Max VSWR 1.032 Max VSWR 1.052 Max VSWR 1.083 Max VSWR	DC to 3 GHz 3 to 6 GHz 6 to 20 GHz 20 to 26.5 GHz
Shorts Female Male	FMSC3014 FMSC3015	± 2.0° deviation from nominal	DC to 26.5
Opens Female Male	FMSC3029 FMSC3030	± 1.4° deviation from nominal	DC to 26.5
Adapters Female Female/Male Male	FMAD1129 FMAD1130 FMAD1131	1.05 Max VSWR 1.08 Max VSWR	DC to 18 18 to 26.5

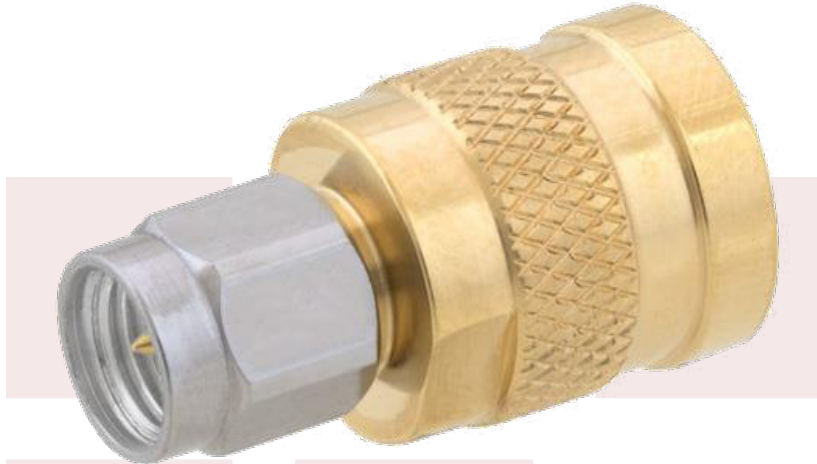
FMSC3014 3.5mm Female Short Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
Phase	DC to 26.5 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	1.3		GΩ/s
Electrical Delay	16.684		ns
Inductance	$L0 \times 10^{-12} = 0$		H
	$L1 \times 10^{-24} = 0$		H/Hz
	$L2 \times 10^{-33} = 0$		H/Hz ²
	$L3 \times 10^{-42} = 0$		H/Hz ³

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Female
Screw Thread	1/4-36 UNS-2A
Dimensions	0.55 [13.97] Ø, 0.873 [22.17] Length
Pin Depth	0.0000 - 0.0030

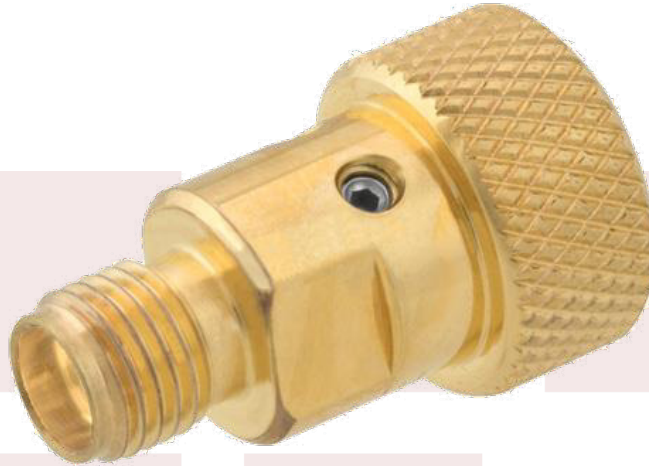
FMSC3015 3.5mm Male Short Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
Phase	DC to 26.5 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	1.3		GΩ/s
Electrical Delay	16.684		ns
Inductance	$L0 \times 10^{-12} = 0$		H
	$L1 \times 10^{-24} = 0$		H/Hz
	$L2 \times 10^{-33} = 0$		H/Hz ²
	$L3 \times 10^{-42} = 0$		H/Hz ³

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Male
Screw Thread	1/4-36 UNS-2B
Dimensions	0.50 [12.70] Ø, 0.91 [23.21] Length
Pin Depth	0.0000 - 0.0030

FMSC3029 3.5mm Female Open Specifications



ELECTRICAL		UNIT
Frequency Range	DC to 26.5	GHz
Phase	DC to 26.5 GHz ±1.4°	Max
Offset Impedance	50	Ω
Offset Loss	1.3	GΩ/s
Electrical Delay	14.49	ps
Capacitance	$C0 \times 10^{-15} = 63.17$	F
	$C1 \times 10^{-27} = -1178.0$	F/Hz
	$C2 \times 10^{-36} = 109.6$	F/Hz ²
	$C3 \times 10^{-45} = -2.15$	F/Hz ³

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Female
Screw Thread	1/4-36 UNS-2A
Dimensions	0.50 [12.7] Ø, 0.83 [21.08] Length
Pin Depth	0.00025 ±0.00020

FMSC3030 3.5mm Male Open Specifications



ELECTRICAL		UNIT
Frequency Range	DC to 26.5	GHz
Phase	DC to 26.5 GHz ±1.4°	Max
Offset Impedance	50	Ω
Offset Loss	1.3	GΩ/s
Electrical Delay	14.49	ps
Capacitance	$C0 \times 10^{-15} = 62.54$	F
	$C1 \times 10^{-27} = -1284.0$	F/Hz
	$C2 \times 10^{-36} = 107.6$	F/Hz ²
	$C3 \times 10^{-45} = -1.89$	F/Hz ³

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Male
Screw Thread	1/4-36 UNS-2B
Dimensions	0.50 [12.7] Ø, 0.87 [22.10] Length
Pin Depth	0.00025 ±0.00020

FMTR1059 3.5mm Female Termination Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
VSWR at Frequency Range	DC to 3 GHz	1.02	Max
	3 to 6 GHz	1.032	Max
	6 to 20 GHz	1.052	Max
	20 to 26.5 GHz	1.083	Max
Impedance	50		Ω
Power Rating	0.5 watt CW 0.25 kW Peak		

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Female
Screw Thread	1/4-28 UNF-2A
Dimensions	0.36 [9.144] Ø, 1.46 [37.084] Length
Pin Depth	0.0000 - 0.0030

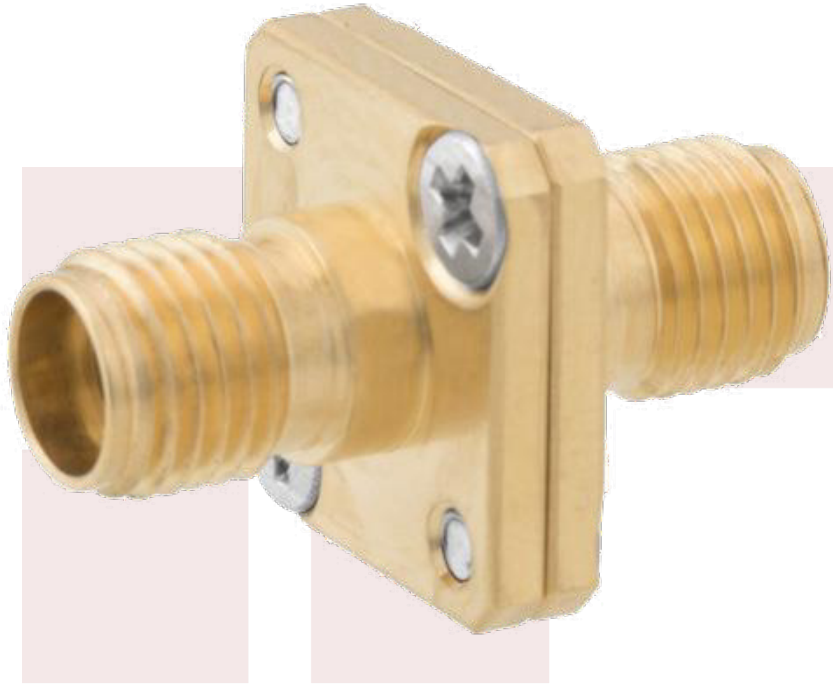
FMTR1060 3.5mm Male Termination Specifications



ELECTRICAL		UNIT
Frequency Range	DC to 26.5	GHz
VSWR at Frequency Range	DC to 3 GHz	1.02 Max
	3 to 6 GHz	1.032 Max
	6 to 20 GHz	1.052 Max
	20 to 26.5 GHz	1.083 Max
Impedance	50	Ω
Power Rating	0.5 watt CW 0.25 kW Peak	

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Male
Screw Thread	1/4-28 UNF-2B
Dimensions	0.36 [9.144] \varnothing , 0.15 [3.81] Length
Pin Depth	0.0000 - 0.0030

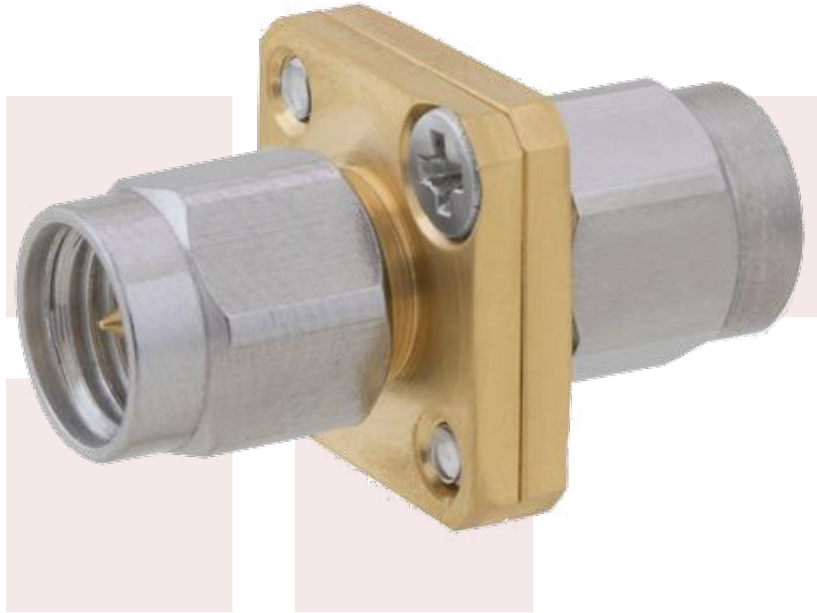
FMAD1129 3.5mm Female Thru Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
VSWR at Frequency Range	DC to 18 GHz	1.05	Max
	18 to 26.5 GHz	1.08	Max
Impedance	50		Ω
Typical Delay	59.0		ps

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Female to 3.5mm Male
Screw Thread	1/4-36 UNS-2A
Dimensions	0.50 [12.7] \varnothing , 0.80 [20.32] Length
Pin Depth	0.000 - 0.003

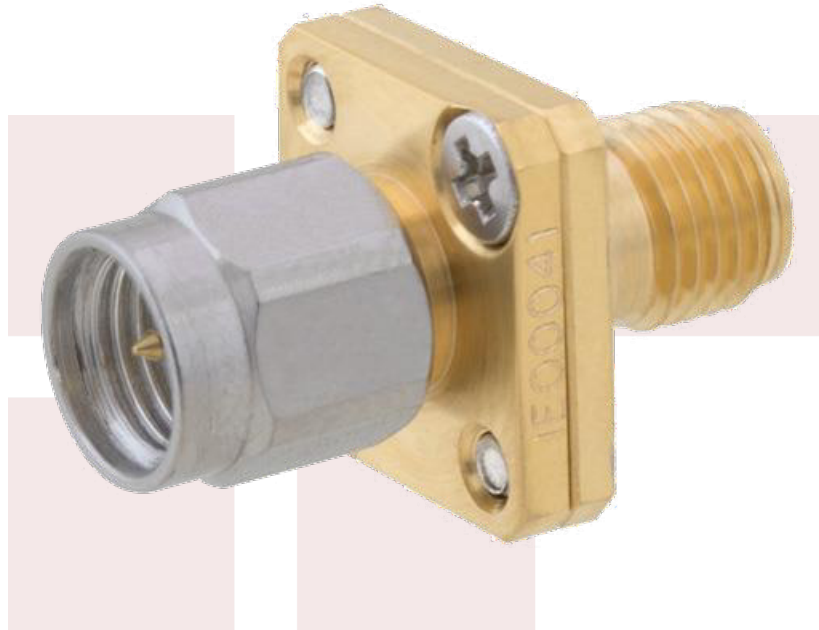
FMAD1130 3.5mm Male Termination Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
VSWR at Frequency Range	DC to 18 GHz	1.05	Max
	18 to 26.5 GHz	1.08	Max
Impedance	50		Ω
Typical Delay	59.0		ps

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Male to 3.5mm Male
Screw Thread	1/4-36 UNS-2B
Dimensions	0.50 [12.7] \varnothing , 0.88 [22.35] Length
Pin Depth	0.000 - 0.003

FMAD1131 3.5mm Female to Male Thru Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 26.5		GHz
VSWR at Frequency Range	DC to 18 GHz	1.05	Max
	18 to 26.5 GHz	1.08	Max
Impedance	50		Ω
Typical Delay	59.0		ps

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	3.5mm Female to 3.5mm Male
Screw Thread	1/4-36 UNS-2A
Dimensions	0.50 [12.7] \varnothing , 0.84 [21.336] Length
Pin Depth	0.000 - 0.003

General Instructions and Usage Notes

#	Notes
1	Keep provided protective blue caps installed when not in use.
2	Store in climate controlled environment.
3	Always keep connectors clean.
4	Avoid touching the connector interface.
5	Use caution when handling.
6	For female components, do not insert male pin greater than 0.037" [.94 mm]. Failure to comply will result in damage to the female connector.
7	When mating, always ensure that the components to be interconnected remain in a fixed position while rotating only the coupling nut slowly to mate the connectors.
8	When de-mating, always ensure that the interconnected components remain in a fixed position while rotating only the coupling nut slowly to de-mate the connectors.
9	Visually inspect the connector threads prior to use. If needed, clean the center conductor pin and outer conductor with alcohol to remove any debris that may be present. Be sure to apply the alcohol in a circular motion with a lint-free cloth or applicator.
10	Use at room temperature.

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

Plotted and Other Data

Notes:

- Values at 25 °C, sea level

3.5mm SOLT VNA Calibration Kit up to 26.5 GHz, Including Short Circuit, Open Circuit, Load, and Thru from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [3.5mm SOLT VNA Calibration Kit up to 26.5 GHz, Including Short Circuit, Open Circuit, Load, and Thru FMCK1020](#)

URL: <https://www.fairviewmicrowave.com/3.5mm-short-open-load-thru-solt-analyzer-calibration-kit-26.5ghz-fmck1020-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.

