Fairview Microwave
an INFINITE brand

FMCK1015
DATA SHEET

2.4mm SOL VNA Calibration Kit up to 50 GHz, Including Short Circuit, Open Circuit, and Load

Fairview Microwave's 2.4mm 50 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 FMCK1015 SOL cal kit includes 2.4mm male and female fully-characterized Short Circuits, Open Circuits, and Fixed Loads 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 FMCK1015 product page on Fairview Microwave's web site or requested by contacting technical support.

A properly performed n-port SOL 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	2.4mm
Frequency Range	DC to 50 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

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Electrical Specifications for FMCK1015
2.4mm Devices

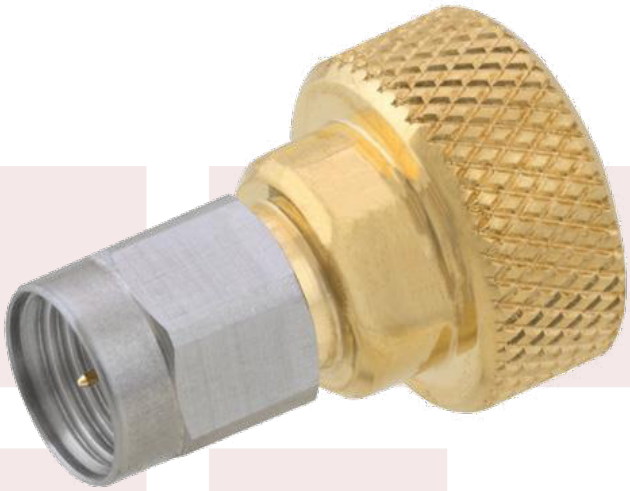
Item	Part Number	Specifications	Frequency (GHz)
Termination Female Male	FMTR1055 FMTR1056	1.02 Max VSWR 1.15 Max VSWR	DC to 4 GHz 4 to 50 GHz
Short Female Male	FMSC3010 FMSC3011	± 2.0° deviation from nominal	DC to 50
Open Female Male	FMSC3025 FMSC3026	± 2.0° deviation from nominal	DC to 50

FMSC3010 2.4mm Female Short Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
Phase	DC to 50 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	2.806		GΩ/s
Electrical Delay	16.929		ns
Inductance	L0 x 10^{-12} = 0		H
	L1 x 10^{-24} = 0		H/Hz
	L2 x 10^{-33} = 0		H/Hz^2
	L3 x 10^{-42} = 0		H/Hz^3

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Female
Screw Thread	M7 x .075-6g
Dimensions	0.55 [13.97] Ø, 0.82 [20.83] Length
Pin Depth	0.000 - 0.002

FMSC3011 2.4mm Male Short Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
Phase	DC to 50 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	2.806		GΩ/s
Electrical Delay	16.929		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

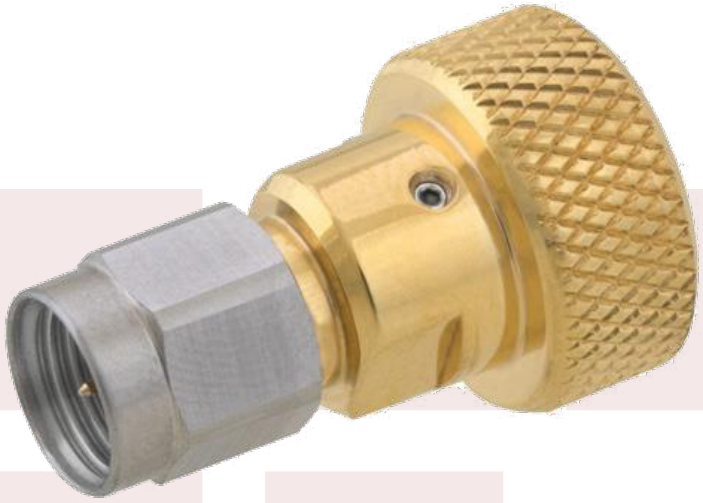
MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Male
Screw Thread	M7 x .075-6g
Dimensions	0.55 [13.97] Ø, 0.797 [20.24] Length
Pin Depth	0.000 - 0.002

FMSC3025 2.4mm Female Open Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
Phase	DC to 50 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	2.57		GΩ/s
Electrical Delay	14.927		ps
Capacitance	$C0 \times 10^{-15} = 34.0$		F
	$C1 \times 10^{-27} = 60.0$		F/Hz
	$C2 \times 10^{-36} = 8.7$		F/Hz^2
	$C3 \times 10^{-45} = -0.08$		F/Hz^3

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Female
Screw Thread	M7 x .078-6g
Dimensions	0.55 [13.97] Ø, 0.92 [23.37] Length
Pin Depth	0.00025 ±0.00015

FMSC3026 2.4mm Male Open Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
Phase	DC to 50 GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	2.57		GΩ/s
Electrical Delay	14.927		ps
Capacitance	C0 x 10^{-15} = 36.0		F
	C1 x 10^{-27} = 50.0		F/Hz
	C2 x 10^{-36} = -0.95		F/Hz^2
	C3 x 10^{-45} = 0.11		F/Hz^3

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Male
Screw Thread	M7 x .075-6g
Dimensions	0.55 [13.97] Ø, 0.90 [22.78] Length
Pin Depth	0.00025 ±0.00015

FMTR10552.4mm Female Termination Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
VSWR at Frequency Range	DC to 4 GHz	1.02	Max
	4 to 50 GHz	1.15	Max
Impedance	50		Ω
Power Rating	0.5 watt CW 0.25 kW Peak		

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Female
Screw Thread	M7 x 0.075-6g
Dimensions	0.36 [9.14] Ø, 1.52 [38.70] Length
Pin Depth	0.0000 - 0.0020

FMTR1056 2.4mm Male Termination Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 50		GHz
VSWR at Frequency Range	DC to 4 GHz	1.02	Max
	4 to 50 GHz	1.15	Max
Impedance	50		Ω
Power Rating	0.5 watt CW 0.25 kW Peak		

MECHANICAL	
Housing	Gold Plated Beryllium Copper
Connector	2.4mm Male
Screw Thread	M7 x 0.075-6g
Dimensions	0.36 [9.14] Ø, 1.48 [37.59] Length
Pin Depth	0.0000 - 0.0020

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

2.4mm SOL VNA Calibration Kit up to 50 GHz, Including Short Circuit, Open Circuit, and Load 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: 2.4mm SOL VNA Calibration Kit up to 50 GHz, Including Short Circuit, Open Circuit, and Load FMCK1015

URL: https://www.fairviewmicrowave.com/2.4mm-short-open-load-sol-analyzer-calibration-kit-50ghz-fmck1015-p.aspx