Fairview Microwave
an INFINITE brand

FMCK1026
DATA SHEET

N Type SOLT VNA Calibration Kit up to 18 GHz, Including Short Circuit, Open Circuit, Load, and Thru

Fairview Microwave's N Type 18 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 FMCK1026 SOLT cal kit includes N Type 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 FMCK1026 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!

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

Configuration

Connector	N
Frequency Range	DC to 18 GHz

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Electrical Specifications for FMCK1026 Type N Devices

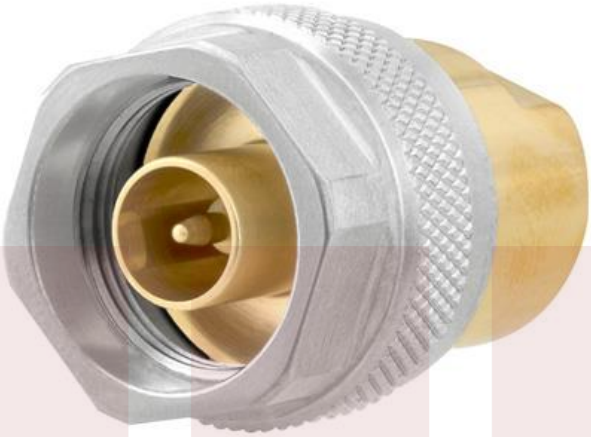
Item	Part Number	Specifications	Frequency (GHz)
Female Termination	FMTR1068	1.02 Max VSWR	DC to 2
		1.03 Max VSWR	2 to 4
Male Termination	FMTR1069	1.06 Max VSWR	4 to 18
Female Short	FMSC3023	±2.0° deviation from nominal	DC to 18
Male Short	FMSC3024		
Female Open	FMSC3038	±2.0° deviation from nominal	DC to 18
Male Open	FMSC3039		
Adapter		1.09 Max VSWR	DC to 18
Thru Female	FMAD1135		
Thru Female to Male	FMAD1137		
Thru Male	FMAD1136		
Torque Wrench	ST-N-1316-BO14	14 in-lb Torque Setting	
Open End Wrench	FMTL1004	9/16" x 9/16" Dimensions	

FMSC3023 Type N Female Short Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 18		GHz
Phase	DC to 18GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	0.7		GΩ/s
Electrical Delay	24.51		nS
Inductance	L0 x 10^-12 = 0.0		H
	L1 x 10^-24 = 0.0		H/Hz
	L2 x 10^-33 = 0.0		H/Hz^2
	L3 x 10^-42 = 0.0		H/Hz^3

MECHANICAL	
Housing	Beryllium Copper (Gold Plate Finish)
Connector	Type N Female
Screw Thread	5/8-24 UNEF-2A
Dimensions	0.62 [15.74]Ø, 1.25 [31.69] Length
Pin Depth	0.207 ± 0/ - 0.003

FMSC3024 Type N Male Short Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 18		GHz
Phase	DC to 18GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	0.7		GΩ/s
Electrical Delay	42.06		nS
Inductance	L0 x 10^-12 = 0.0		H
	L1 x 10^-24 = 0.0		H/Hz
	L2 x 10^-33 = 0.0		H/Hz^2
	L3 x 10^-42 = 0.0		H/Hz^3

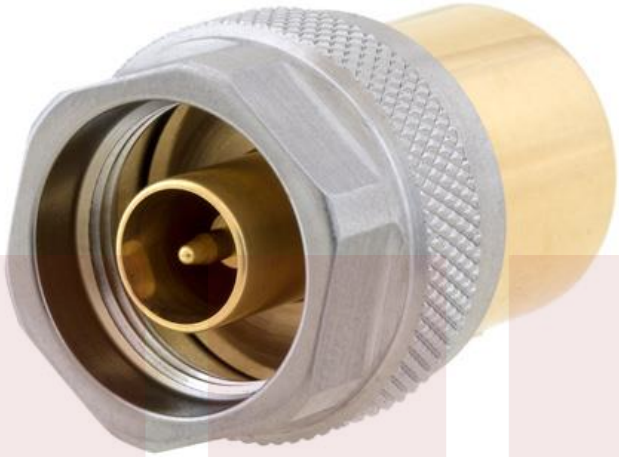
MECHANICAL	
Housing	Beryllium Copper (Gold Plate Finish)
Connector	Type N Male
Screw Thread	5/8-24 UNEF-2A
Dimensions	0.87 [22.1]Ø, 1.135 [28.83] Length
Pin Depth	0.207 ± 0.003/ - 0

FMSC3038 Type N Female Open Specifications

ELECTRICAL			UNIT
Frequency Range	DC to 18		GHz
Phase	DC to 18GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	0.7		GΩ/s
Electrical Delay	19.42		pS
Capacitance	C0 x 10^-15 = 103		F
	C1 x 10^-27 = 0		F/Hz
	C2 x 10^-36 = -110		F/Hz^2
	L3 x 10^-45 = 10.2		F/Hz^3

MECHANICAL	
Housing	Beryllium Copper (Gold Plate Finish)
Connector	Type N Female
Screw Thread	5/8-24 UNEF-2A
Dimensions	0.75 [19.05]Ø, 1.4 [35.56] Length
Pin Depth	0.206 ± 0.0005

FMSC3039 Type N Male Open Specifications



ELECTRICAL			UNIT
Frequency Range	DC to 18		GHz
Phase	DC to 18GHz	±2.0°	Max
Offset Impedance	50		Ω
Offset Loss	0.7		GΩ/s
Electrical Delay	37.03		pS
Capacitance	C0 x 10^-15 = 99.14		F
	C1 x 10^-27 = 353.6		F/Hz
	C2 x 10^-36 = 62.23		F/Hz^2
	L3 x 10^-45 = 0		F/Hz^3

MECHANICAL	
Housing	Beryllium Copper (Gold Plate Finish)
Connector	Type N Male
Screw Thread	5/8-24 UNEF-2B
Dimensions	0.87 [22.1]Ø, 1.25 [31.87] Length
Pin Depth	0.208 ± 0.0005

FMTR1068 Type N Female Termination Specifications

ELETRICAL			UNIT
Frequency Range	DC to 18		GHz
VSWR at Frequency Range	DC to 2 GHz	1.02	Max
	2 to 4 GHz	1.04	Max
	4 to 18 GHz	1.06	Max
Impedance	50		Ω
Power Rating	1 watt CW		
	1kW Peak		

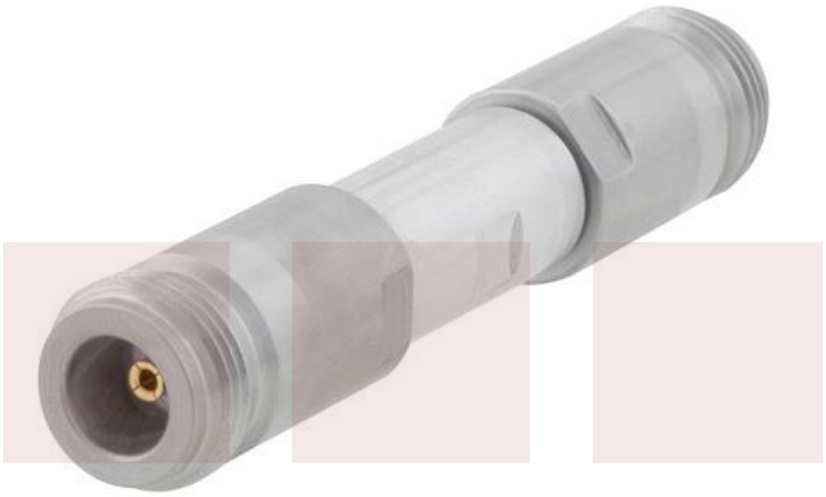
MECHANICAL	
Housing	Stainless Steel/Aluminum
Connector	Type N Female
Screw Thread	5/8-24 UNEF-2A
Dimensions	0.51 [12.95]Ø, 1.73 [43.9] Length
Pin Depth	0.207 ± 0/ - 0.003

FMTR1069 Type N Male Termination Specifications

ELETRICAL			UNIT
Frequency Range	DC to 18		GHz
VSWR at Frequency Range	DC to 2 GHz	1.02	Max
	2 to 4 GHz	1.04	Max
	4 to 18 GHz	1.06	Max
Impedance	50		Ω
Power Rating	1 watt CW		
	1kW Peak		

MECHANICAL	
Housing	Stainless Steel/Aluminum
Connector	Type N Male
Screw Thread	5/8-24 UNEF-2B
Dimensions	0.870 [22.09]Ø, 1.76 [44.7] Length
Pin Depth	0.207 ± 0.003/ - 0

FMAD1135 Type N Thru Female Specifications



ELECTRICAL			Unit
Frequency Range	DC to 18		GHz
VSWR at Frequency Range	DC to 4 GHz	1.03	Max
	4 to 10 GHz	1.05	Max
	10 to 18 GHz	1.09	Max
Impedance	50		Ω
Typical Delay	223		ps

MECHANICAL	
Housing	Aluminum, Stainless Steel
Connector	Type N Female to Type N Female
Screw Thread	5/8-24 UNEF-2A
Dimensions	0.625 [15.88]Ø, 3.22 [81.78] Length
Pin Depth	0.207 + 0/ - 0.003

FMAD1136 Type N Thru Male Specifications

ELECTRICAL			Unit
Frequency Range	DC to 18		GHz
VSWR at Frequency Range	DC to 4 GHz	1.03	Max
	4 to 10 GHz	1.05	Max
	10 to 18 GHz	1.09	Max
Impedance	50		Ω
Typical Delay	223		ps

MECHANICAL	
Housing	Aluminum, Stainless Steel
Connector	Type N Male to Type N Male
Screw Thread	5/8-24 UNEF-2B
Dimensions	0.870 [22.1]Ø, 2.6 [65.53] Length
Pin Depth	0.207 + 0.003/ -0

FMAD1137 Type N Thru Female to Male Specifications

ELECTRICAL			Unit
Frequency Range	DC to 18		GHz
VSWR at Frequency Range	DC to 4 GHz	1.03	Max
	4 to 10 GHz	1.05	Max
	10 to 18 GHz	1.09	Max
Impedance	50		Ω
Typical Delay	223		ps

MECHANICAL	
Housing	Aluminum, Stainless Steel
Connector	Type N Female to Type N Male
Screw Thread	5/8-24 UNEF-2B
Dimensions	0.870 [22.1]Ø, 2.9 [73.66] Length
Pin Depth	0.207 + 0.003/ -0

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

N Type SOLT VNA Calibration Kit up to 18 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: N Type SOLT VNA Calibration Kit up to 18 GHz, Including Short Circuit, Open Circuit, Load, and Thru FMCK1026

URL: https://www.fairviewmicrowave.com/n-short-open-load-thru-solt-analyzer-calibration-kit-18ghz-fmck1026-p.aspx