Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

FMCK1000
DATA SHEET

3.5mm Calibration Kit for General Purpose Includes Short Circuit, Open Circuit, Load and Thru Components Up to 26.5 GHz

The new FMCK1000 Calibration Kit from Fairview Microwave is designed to withstand daily use in high-traffic environments such as in the testing lab or on the production floor. This cost effective calibration kit provides reliable and accurate instrument tuning for all of your test and measurement requirements. Fairview Microwave carries a broad selection of off-the-shelf calibration kits and T&M components all of which ship the same day you order them.

Configuration

Connector	3.5mm
Impedance	50 Ohms
Frequency Range	DC to 26.5 GHz

FMCK1000 Standard Kit Specifications

Part Number	Frequency Range	Connector Type	Connector Gender	Type	Impedance
FMSC2000	DC - 26.5 GHz	3.5mm	Female	Open	50 Ohm
FMSC2001	DC - 26.5 GHz	3.5mm	Male	Open	50 Ohm
FMSC1000	DC - 26.5 GHz	3.5mm	Female	Short	50 Ohm
FMSC1001	DC - 26.5 GHz	3.5mm	Male	Short	50 Ohm
FMTR1000	DC - 26.5 GHz	3.5mm	Female	Load	50 Ohm
FMTR1001	DC - 26.5 GHz	3.5mm	Male	Load	50 Ohm
FMSC3000	DC - 26.5 GHz	3.5mm	Female to Female	Thru	50 Ohm
FMSC3002	DC - 26.5 GHz	3.5mm	Female to Male	Thru	50 Ohm
FMSC3001	DC - 26.5 GHz	3.5mm	Male to Male	Thru	50 Ohm

Features:

- Functional from DC to 26.5 GHz
- Standard kit includes (9) 3.5mm short-open-load-thru (SOLT) components
- Suitable for many 50 Ohm network analyzers including, but not limited to:
- Agilent / HP (N5222A/24A, N5225A/27A, N5232A, N5234A/35A, N5242A/44A, N5245/47A)
- Rohde & Schwarz (ZVB, ZNB)
- Anritsu (MS2038C, MS2028C, MS2027C, MS4640B)

Applications:

- VNA, Full 2-Port CAL
- VNA, Thru CAL
- VNA, Substitution CAL Method
- Test & Measurement
- Lab Equipment Accessories
- Engineering Test and Evaluation
- General Purpose Test and Evaluation

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FMSC2000 3.5mm Female Open Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC - 26.5			GHz
Impedance	50			Ohm
Phase, DC - 3 GHz	0.65	Nominal	0.65	Degrees
Phase, 3 - 8 GHz	1.2	Nominal	1.2	Degrees
Phase, 8 - 26.5 GHz	2	Nominal	2	Degrees

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Female	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 0.945 [24] L	Inch [mm]
Net Weight	8.4	g

FMSC2001 3.5mm Male Open Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC - 26.5			GHz
Impedance	50			Ohm
Phase, DC - 3 GHz	0.65	Nominal	0.65	Degrees
Phase, 3 - 8 GHz	1.2	Nominal	1.2	Degrees
Phase, 8 - 26.5 GHz	2	Nominal	2	Degrees

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Male	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 0.977 [24.8] L	Inch [mm]
Net Weight	9.8	g

FMSC1000 3.5mm Female Short Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Phase, DC - 3 GHz	0.65	Nominal	0.65	Degrees
Phase, 3 - 8 GHz	1.2	Nominal	1.2	Degrees
Phase, 8 - 26.5 GHz	2	Nominal	2	Degrees

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Female	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 0.945 [24] L	Inch [mm]
Net Weight	9.1	g

FMSC1001 3.5mm Male Short Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC - 26.5			GHz
Impedance	50			Ohm
Phase, DC - 3 GHz	0.65	Nominal	0.65	Degrees
Phase, 3 - 8 GHz	1.2	Nominal	1.2	Degrees
Phase, 8 - 26.5 GHz	2	Nominal	2	Degrees

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Male	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 0.973 [24.7] L	Inch [mm]
Net Weight	10.4	g

FMTR1000 3.5mm Female Load Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Return Loss, DC - 3 GHz	44	46		dB
Return Loss, 3 - 6 GHz	36	40		dB
Return Loss, 6 - 26.5 GHz	30	34		dB

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Female	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 1.422 [36.1] L	Inch [mm]
Net Weight	14.6	g

FMTR1001 3.5mm Male Load Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Return Loss, DC - 3 GHz	44	46		dB
Return Loss, 3 - 6 GHz	36	40		dB
Return Loss, 6 - 26.5 GHz	30	34		dB

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Male	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.394 [10] ø, 1.449 [36.8] L	Inch [mm]
Net Weight	15.7	g

FMSC3000 3.5mm Female to Female Thru Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Insertion Loss, DC - 26.5 GHz		0.1	0.2	dB
Return Loss, DC - 8 GHz	30	34		dB
Return Loss, 8 - 18 GHz	28	32		dB
Return Loss, 18 - 26.5 GHz	26	30		dB

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Female (Both Ends)	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.335 [8.5] ø, 1.182 [30] L	Inch [mm]
Net Weight	8	g

FMSC3002 3.5mm Female to Male Thru Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Insertion Loss, DC - 26.5 GHz		0.1	0.2	dB
Return Loss, DC - 8 GHz	30	34		dB
Return Loss, 8 - 18 GHz	28	32		dB
Return Loss, 18 - 26.5 GHz	26	30		dB

Mechanical Specifications

Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Female to Male	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.335 [8.5] ø, 1.213 [30.8] L	Inch [mm]
Net Weight	9.4	g

FMSC3001 3.5mm Male to Male Thru Specifications

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range		DC - 26.5		GHz
Impedance		50		Ohm
Insertion Loss, DC - 26.5 GHz		0.1	0.2	dB
Return Loss, DC - 8 GHz	30	34		dB
Return Loss, 8 - 18 GHz	28	32		dB
Return Loss, 18 - 26.5 GHz	26	30		dB

Mechanical Specifications

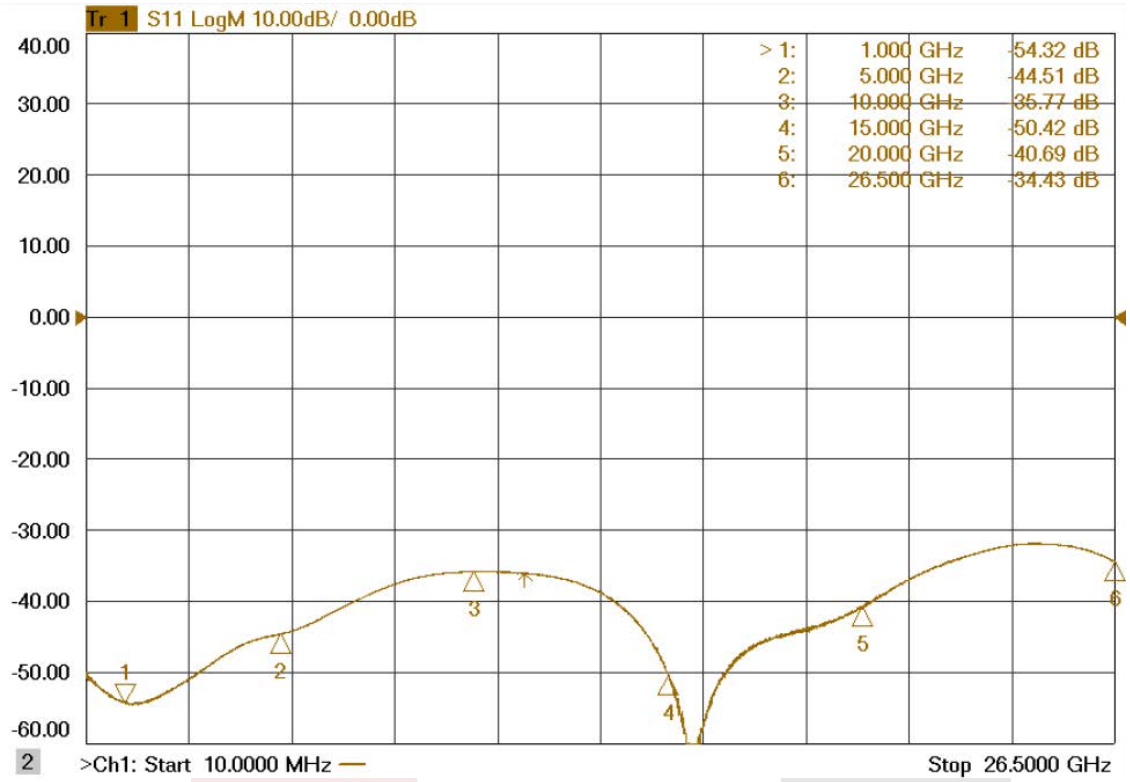
Item	Description	Units
Housing	Gold plated Copper	
Center Pin	Gold plated Beryllium	
Connector	50 Ohm 3.5mm Male (Both Ends)	
Connector Screw Thread	1/4"-36 UNS	Inch
Dimensions	0.335 [8.5] ø, 1.241 [31.5] L	Inch [mm]
Net Weight	10.6	g

General Instructions and Usage Notes

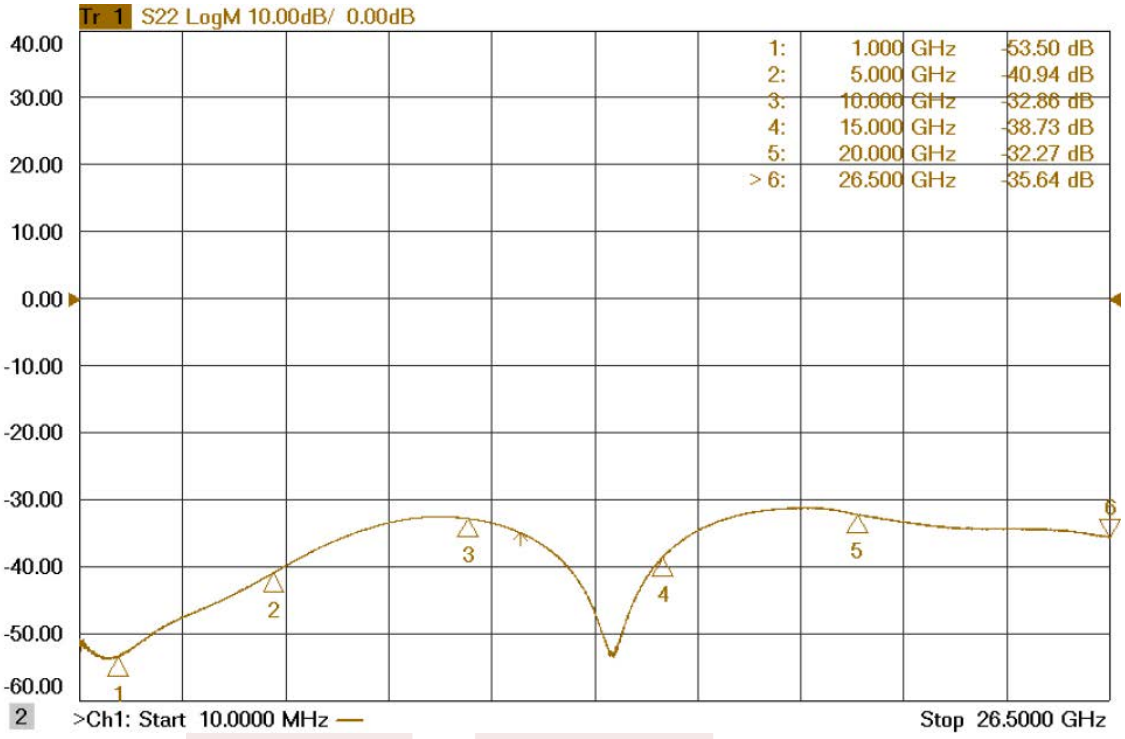
#	Notes
1	Keep provided protective red caps installed when not in use.
2	Store in climate controlled environment.
3	Always keep connectors clean.
4	Avoid touching the connector interface.
5	Use caution when handling.
6	For female components, do not insert male pin greater than 0.037" [.94 mm]. **Failure 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.
11	Torque wrench provided is intended for 3.5mm connector types and is calibrated to 8 in-lbs.

Typical Performance Data

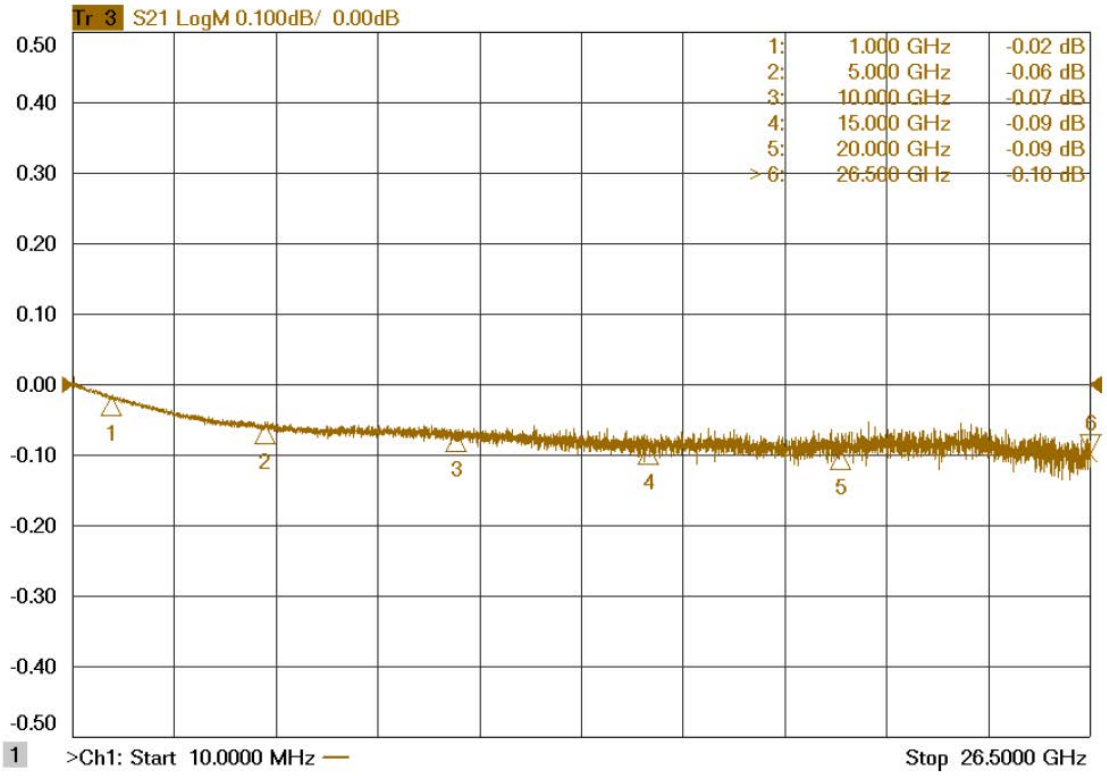
FMTR1000 Return Loss
Span: 26.5 GHz



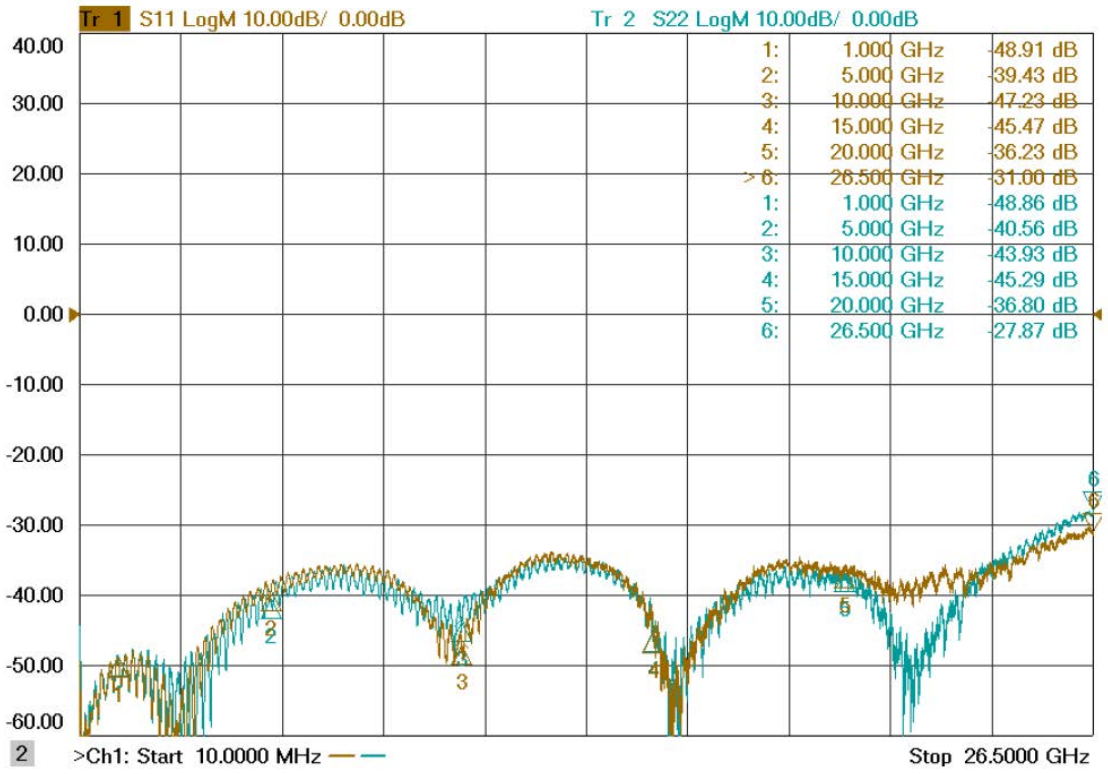
FMTR1001 Return Loss
Span: 26.5 GHz



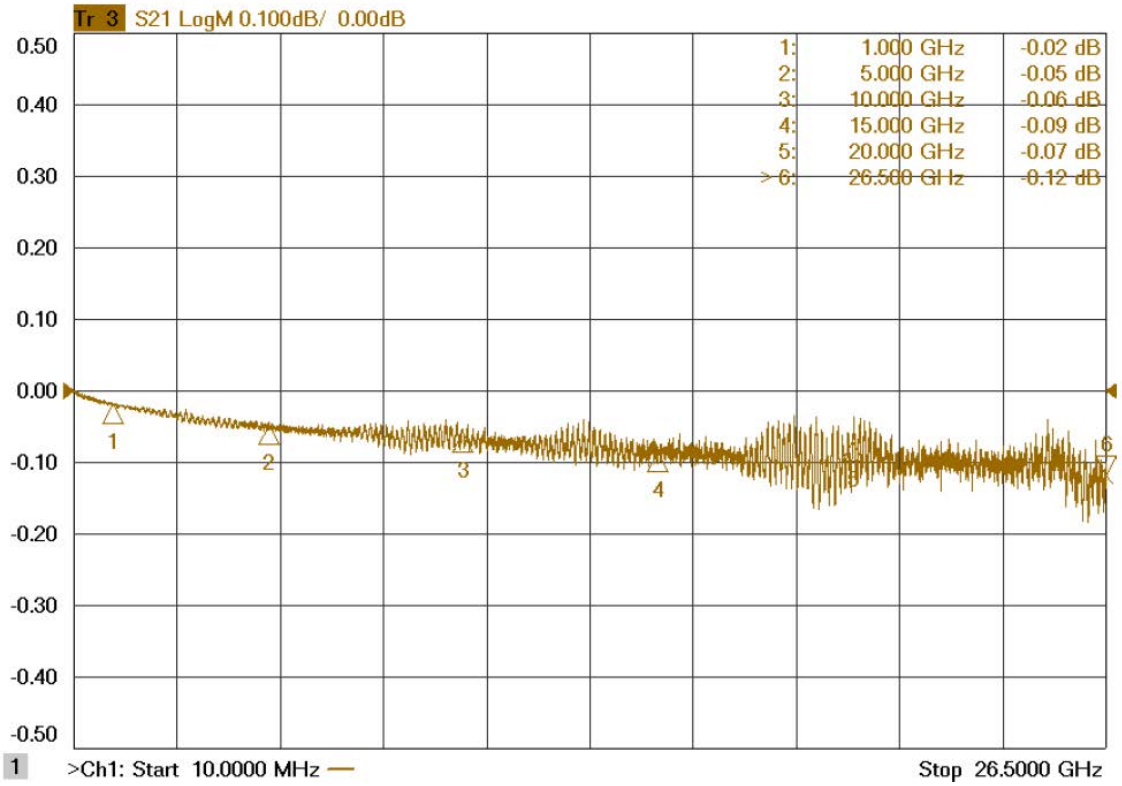
FMSC3000 Insertion Loss
Span: 26.5 GHz



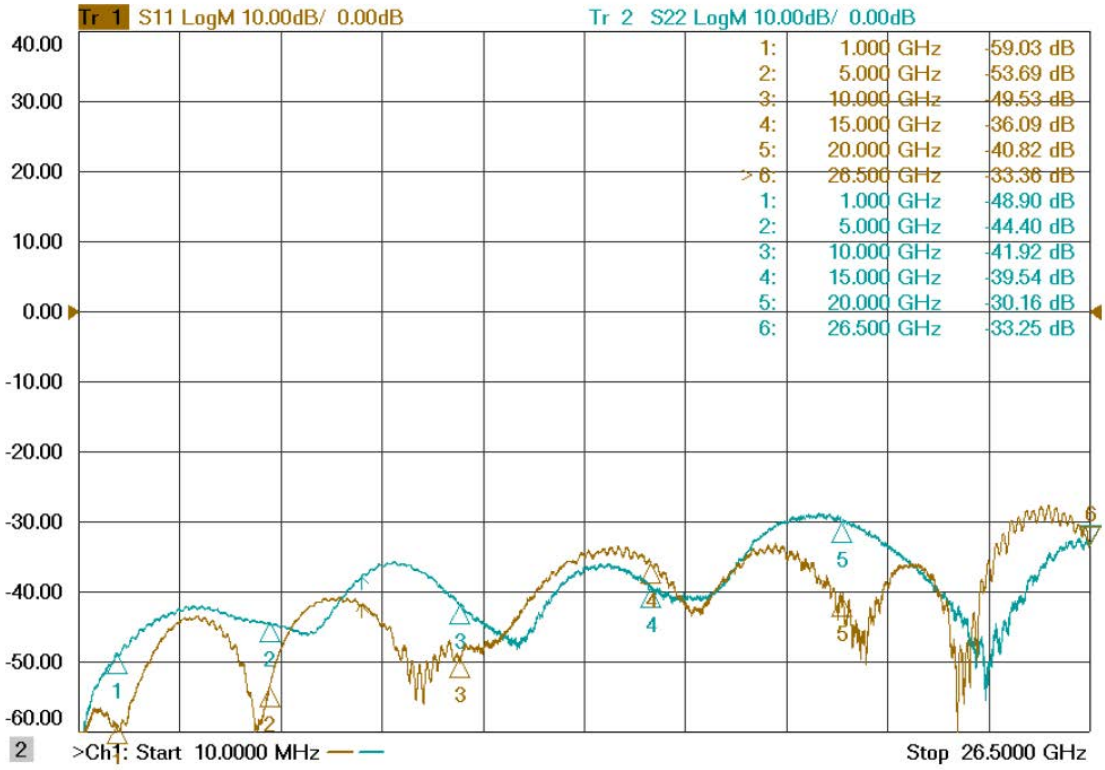
FMSC3000 Return Loss
Span: 26.5 GHz



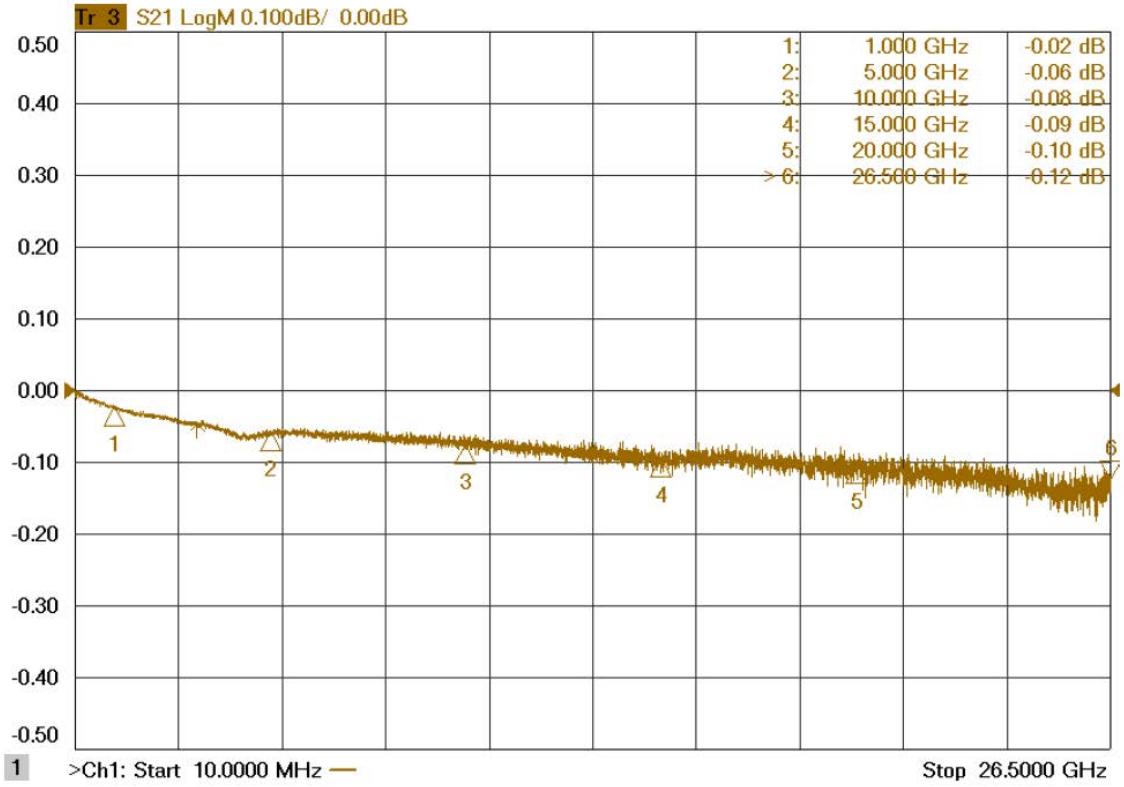
FMSC3002 Insertion Loss
Span: 26.5 GHz



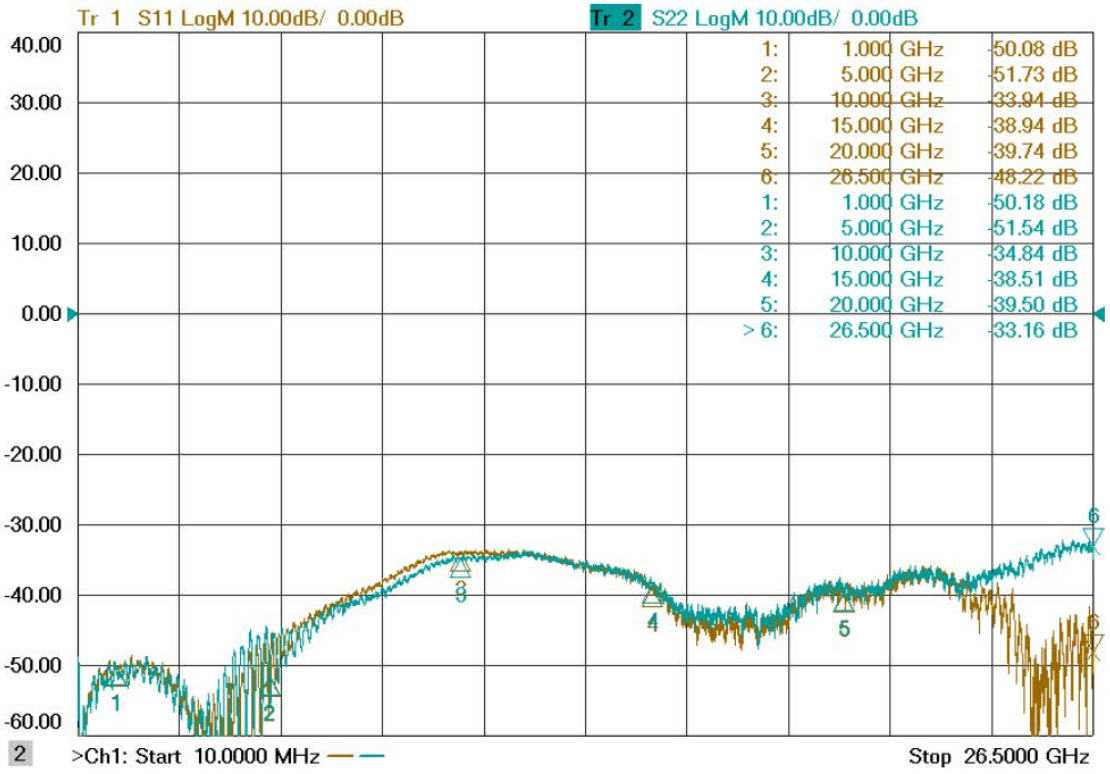
FMSC3002 Return Loss
Span: 26.5 GHz



FMSC3001 Insertion Loss
Span: 26.5 GHz



FMSC3001 Return Loss
Span: 26.5 GHz



Compliance Certifications (visit www.FairviewMicrowave.com for current document)

RoHS Compliant	Yes
REACH Compliant	06/16/2014

Plotted and Other Data

Notes:

- Values at 25 °C, sea level

3.5mm Calibration Kit for General Purpose Includes Short Circuit, Open Circuit, Load and Thru Components Up to 26.5 GHz 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 Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: 3.5mm Calibration Kit for General Purpose Includes Short Circuit, Open Circuit, Load and Thru Components Up to 26.5 GHz FMCK1000

URL: http://www.fairviewmicrowave.com/open-short-load-calibration-kit-type-3.5mm-26.5-ghz-fmck1000-p.aspx