Flexible Test Cable

FLC-2M-SMNM+

50Ω DC to 18 GHz

The Big Deal

- Ultra-wideband, DC to 18 GHz
- Minimal performance change versus flexure
- Low loss

CASE STYLE: MU2339

Product Overview

Mini-Circuits' FLC-2M-SMNM+ flexible test cable provides ultra-wideband performance from DC to 18 GHz with low insertion loss and excellent VSWR. Specially designed for outstanding stability of phase and insertion loss versus flexure, this cable is ideal for demanding lab environments where crowded layouts and frequent bending are common. It features SMA-M to N-M stainless steel connectors and rugged cable construction with protective shield and strain relief for excellent durability.

Key Features

Feature	Advantages
Ultra-wideband, DC to 18 GHz	Supports a wide range of test applications including R&D, military and defense, production test and more.
Excellent stability of phase and insertion loss versus flexure	The FLC-2M-SMNM+ has been tested in bend radii as tight as 2.4 inches to qualify minimal change in insertion loss, insertion phase, and VSWR, providing reliable performance in a wide range of configurations.
Low insertion loss	Allows accurate measurement with minimal compensation for the effects of the cable connection.
Performance qualified to 20,000 flexures	Like all Mini-Circuits test cables, the FLC-2M-SMNM+ has been performance qualified up to 20,000 bend cycles, ensuring outstanding durability and extra long life.

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50Ω 2M DC to 18 GHz

CASE STYLE: MU2339-6.56

Connectors		Model
Conn1	**Conn2**	
SMA-MALE	**N-MALE**	FLC-2M-SMNM+

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to +85°C
Storage Temperature	-55°C to +85°C
Power Handling at 25°C Sea Level	315W at 2 GHz 94W at 18 GHz

Permanent damage may occur if any of these limits are exceeded.

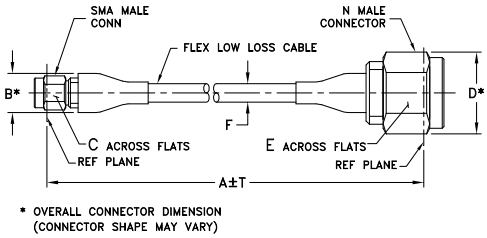
Features

- Low insertion loss, 4.25 dB at 18 GHz
- Rugged construction includes protective shield and strain relief for longer life
- Stainless steel connectors for long mating-cycle life
- Extra flexible

Applications

- Military and defense applications
- Research & development labs

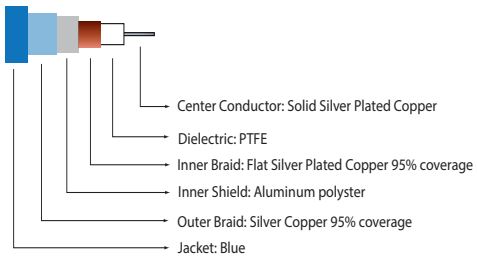
Outline Drawing



Outline Dimensions (inch / mm)

A		B	C	D	E	F	T		wt
Feet	Meters	.42	.312	.84	.75	.194	Inch	mm	grams
6.56	2.00	10.70	7.93	21.30	19.00	4.95	+1.57/-0	+40.0/-0	156

Cable Construction



FLEX TEST™ *20K stress flex's*

Product Guarantee

Mini-Circuits® will repair or replace your test cable at its option if the connector attachment fails within six months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.

Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length[1]			2		M
Insertion Loss	DC - 6	—	1.43	2.6	dB
	6 - 16	—	2.62	4.6	
	16 - 18	—	4.03	5.0	
VSWR	DC - 6	—	1.05	1.38	:1
	6 - 16	—	1.04	1.38	
	16 - 18	—	1.05	1.38	

1. Custom sizes available, consult factory.

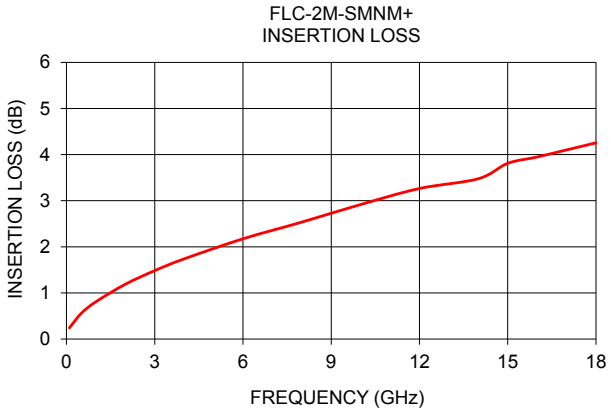
Performance Change vs. Flexure (Typical)[2]

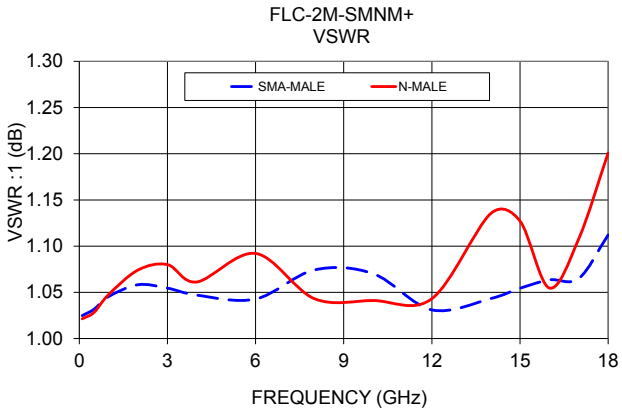
Parameter	Condition (GHz)	Bend Radius (inches)			Units
		10.0	3.25	2.40	
Insertion Loss[3]	DC - 6	0.00	0.01	0.01	dB
	6 - 18	0.01	0.02	0.03	
	18 - 26	0.01	0.04	0.05	
Insertion Phase[3]	DC - 6	0.03	0.09	0.49	Deg
	6 - 18	0.03	0.31	1.7	
	18 - 26	0.07	1.6	2.9	
VSWR[3]	DC - 6	0.00	0.01	0.01	:1
	6 - 18	0.01	0.02	0.02	
	18 - 26	0.01	0.08	0.11	

2. Performance change versus flexure with a 3 ft cable 360° around a 4" diameter mandrel.
3. Absolute values normalized to the reference position 0. See AN-46-003 under Associated Application Notes

Typical Performance Data

Frequency (GHz)	Insertion Loss (dB)	VSWR (:1)	
		SMA MALE	N MALE
0.1	0.24	1.02	1.02
0.5	0.55	1.03	1.03
1.0	0.81	1.05	1.05
2.0	1.19	1.06	1.07
3.0	1.48	1.05	1.08
4.0	1.74	1.05	1.06
6.0	2.17	1.04	1.09
8.0	2.54	1.07	1.04
10.0	2.92	1.07	1.04
12.0	3.26	1.03	1.04
14.0	3.48	1.04	1.14
15.0	3.81	1.05	1.13
16.0	3.95	1.06	1.05
17.0	4.10	1.06	1.11
18.0	4.25	1.11	1.20





Additional Notes

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.

B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.

C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp