FLEX TEST™

Test Cable

CBL-1.5M-NMNM+

50Ω 1.5 m DC to 18 GHz N-Type Male

FEATURES

- RoHS compliant
- Wideband Coverage, DC to 18 GHz
- Extra-Rugged Construction With Strain Relief for Longer Life
- Stainless Steel N-Type Male Connectors for Long Mating-Cycle Life
- Useful Over Temperature Range, -55 °C to +105 °C
- Triple-Shield Cable for Excellent Shielding Effectiveness
- Flexible for Easy Connection & Bend Radius
- Superior Stability of Insertion Loss, VSWR & Phase vs. Flexing
- 6 Month Guarantee*



Generic photo used for illustration purposes only

Model No.	CBL-1.5M-NMNM+
Case Style	GM1106-4.92
Connectors	N-Type Male

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- High Volume Production Test Stations
- Research & Development Labs
- Environmental & Temperature Test Chambers
- Replacement for OEM Test Port Cables
- Field RF Testing
- Cellular Infrastructure Site Testing

ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length[1]			1.5		m
Insertion Loss	DC–2.5	–	1.0	1.1	dB
	2.5–6	–	1.6	2.0	
	6–12	–	2.4	3.0	
	12–18	–	3.4	3.8	
Return Loss	DC–2.5	23	30	–	dB
	2.5–6	20	30	–	
	6–12	17	27	–	
	12–18	17	22	–	

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS[2]

Parameter	Ratings
Operating Temperature	-55 °C to +105 °C
Storage Temperature	-55 °C to +105 °C
Shielding Effectiveness	>100 dB
Power Handling at +25 °C	891 W Max. at 0.4 GHz 539 W Max. at 1 GHz 363 W Max. at 2 GHz 180 W Max. at 6 GHz 117 W Max. at 12 GHz 88 W Max. at 18 GHz

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

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.

REV. C
ECO-019339
CBL-1.5M-NMNM+
MCL NY
260526

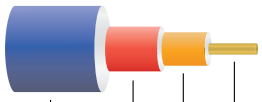
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CABLE CONSTRUCTION



Inner Conductor: Solid Silver-Plated Copper-Clad Steel

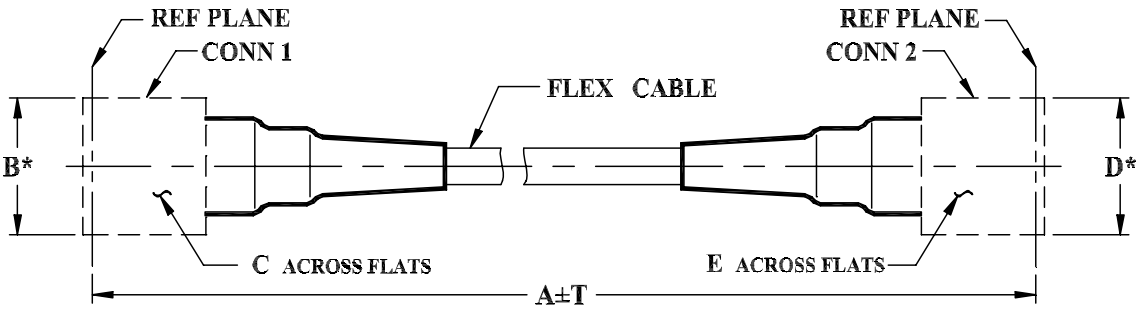
Dielectric: Solid PTFE

Shield: Silver-Plated Copper Flat Ribbon Braid
Aluminum-Polymide Tape Interlayer 36 GA
Silver-Plated Copper Braid (90%k)

Jacket: Blue FEP

Connectors:
- Passivated stainless steel
- Captive contact
- Thick wall interface
- Gold-plated beryllium copper center contacts
- PTFE dielectric

OUTLINE DRAWING



*OVERALL CONNECTOR OR CABLE & BOOT DIMENSION
(CONNECTOR SHAPE MAY VARY)

OUTLINE DIMENSIONS (Inch / mm)

A		B	C	D	E	T		wt
Feet	Meters	.88	.750	.88	.750	Feet	Meters	grams
4.92	1.50	22.35	19.05	22.35	19.05	0.15	0.05	193

FLEX TEST™

Test Cable

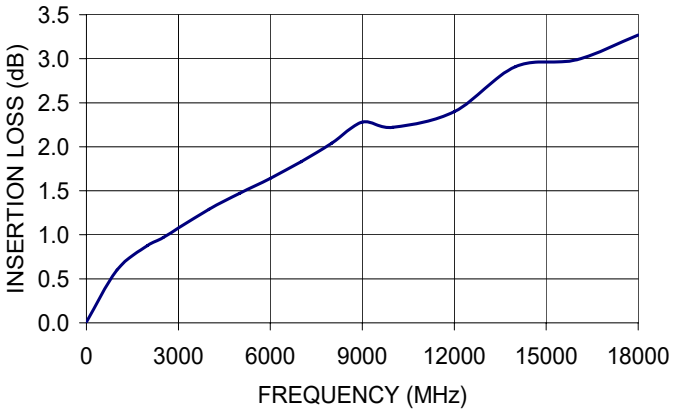
CBL-1.5M-NMNM+

50Ω 1.5 m DC to 18 GHz N-Type Male

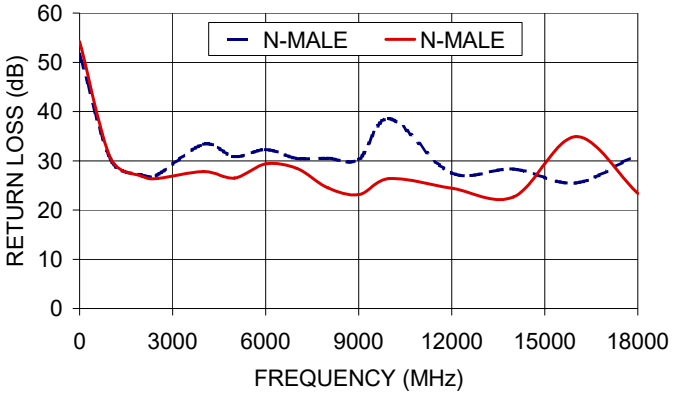
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		N-Type Male	N-Type Male
0.30	0.01	51.64	54.23
1000.00	0.60	30.19	30.46
2000.00	0.88	27.13	26.88
2500.00	0.97	27.08	26.41
4000.00	1.29	33.36	27.81
5000.00	1.47	30.84	26.51
6000.00	1.64	32.31	29.39
7000.00	1.83	30.47	28.45
8000.00	2.04	30.51	24.55
9000.00	2.28	30.26	23.12
10000.00	2.22	38.53	26.39
12000.00	2.40	27.50	24.45
14000.00	2.91	28.32	22.68
16000.00	2.99	25.50	34.93
18000.00	3.27	31.35	23.36

CBL-1.5M-NMNM+
INSERTION LOSS



CBL-1.5M-NMNM+
RETURN LOSS



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-Circuits' 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/terms/viewterm.html

Test Cable, N-Male/N-Male CBL-1.5M-NMNM+

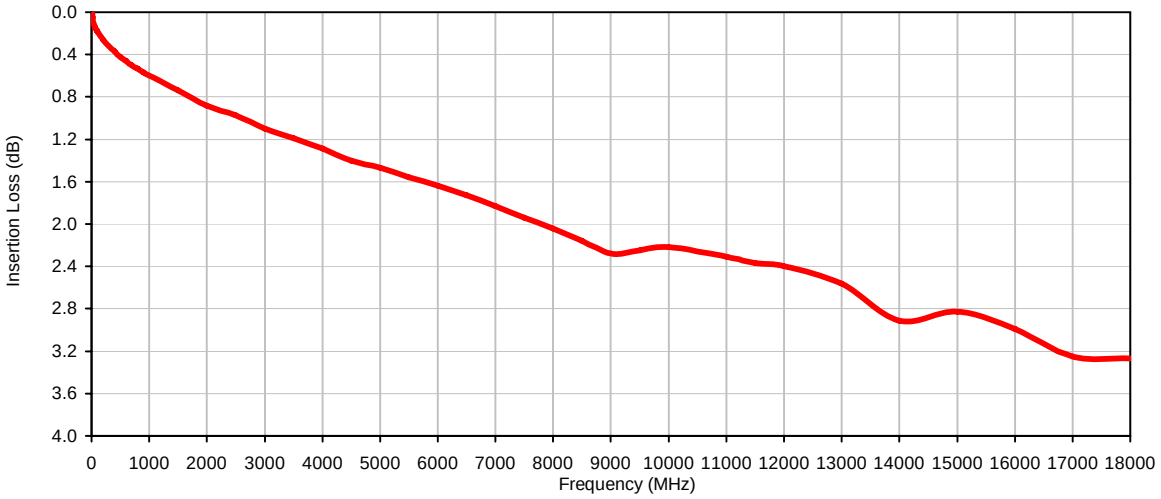
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	N-MALE 1 RETURN LOSS (dB)	N-MALE 2 RETURN LOSS (dB)
0.3	0.01	51.64	54.23
0.7	0.02	51.53	51.61
1.0	0.02	50.46	50.51
3.0	0.03	47.02	47.04
5.0	0.04	45.45	45.44
7.0	0.04	44.50	44.39
9.0	0.05	43.78	43.64
10.0	0.05	43.15	43.33
30.0	0.10	40.32	39.35
50.0	0.13	40.82	39.93
70.0	0.15	46.63	48.74
90.0	0.17	43.77	42.76
100.0	0.18	40.43	39.27
200.0	0.26	37.05	37.07
300.0	0.32	46.87	47.46
400.0	0.37	35.44	34.72
500.0	0.42	33.01	33.08
600.0	0.46	42.18	43.29
700.0	0.50	31.44	32.31
800.0	0.53	35.70	36.50
900.0	0.57	32.93	36.01
1000.0	0.60	30.19	30.46
1500.0	0.74	29.01	29.11
2000.0	0.88	27.13	26.88
2500.0	0.97	27.08	26.41
3000.0	1.10	27.34	26.19
3500.0	1.19	29.57	27.11
4000.0	1.29	33.36	27.81
4500.0	1.40	32.09	26.46
5000.0	1.47	30.84	26.51
5500.0	1.56	32.16	27.03
6000.0	1.64	32.31	29.39
6500.0	1.73	31.84	29.96
7000.0	1.83	30.47	28.45
7500.0	1.94	29.28	29.67
8000.0	2.04	30.51	24.55
8500.0	2.16	30.21	24.03
9000.0	2.28	30.26	23.12
9500.0	2.25	38.99	32.10
10000.0	2.22	38.53	26.39
11000.0	2.31	25.41	21.97
11500.0	2.37	26.94	25.50
12000.0	2.40	27.50	24.45
13000.0	2.56	26.12	25.15
14000.0	2.91	28.32	22.68
15000.0	2.83	38.09	29.83
16000.0	2.99	25.50	34.93
17000.0	3.25	26.09	31.79
18000.0	3.27	31.35	23.36

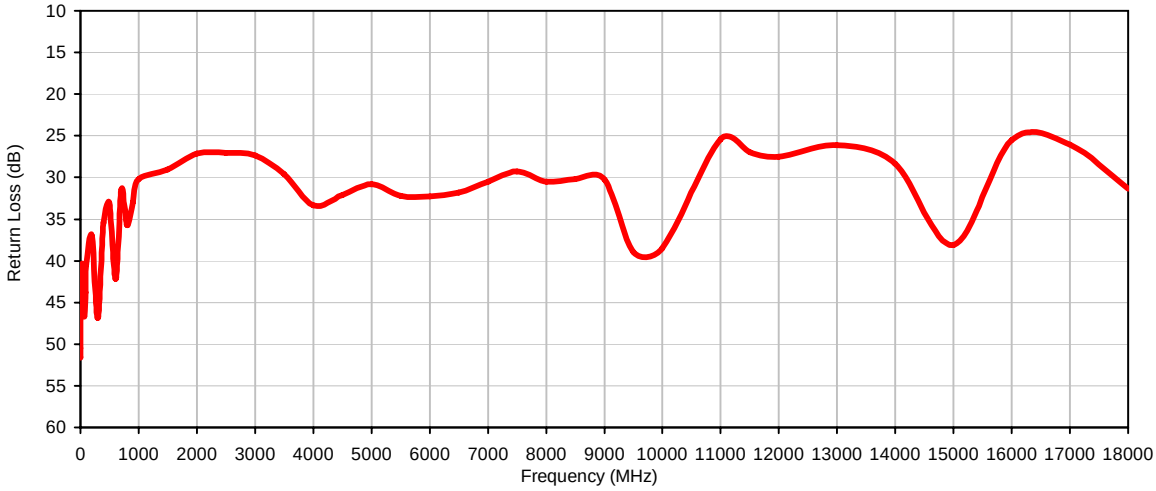
Test Cable, N-Male/N-Male CBL-1.5M-NMNM+

Typical Performance Curves

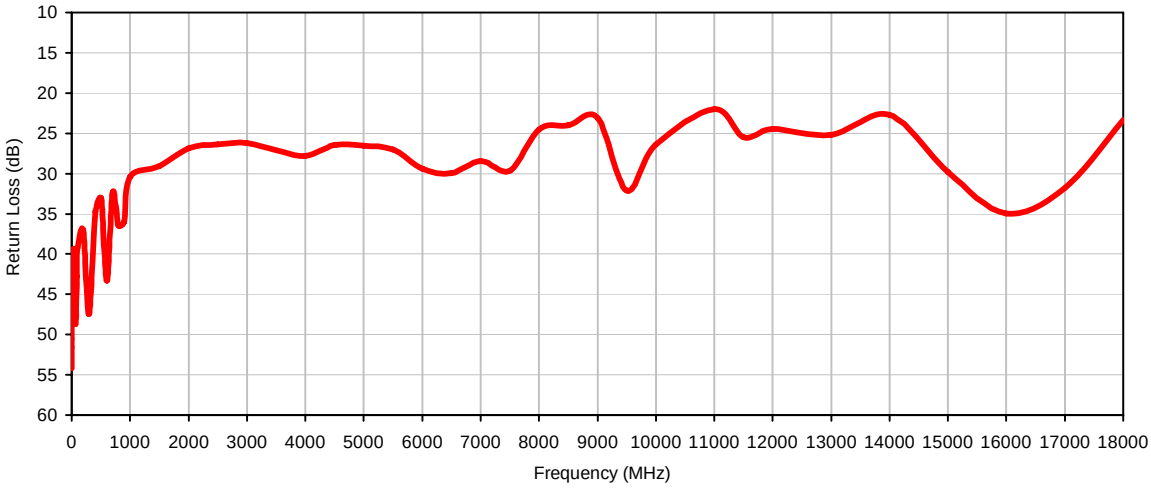
Insertion Loss



N-Male 1 Return Loss



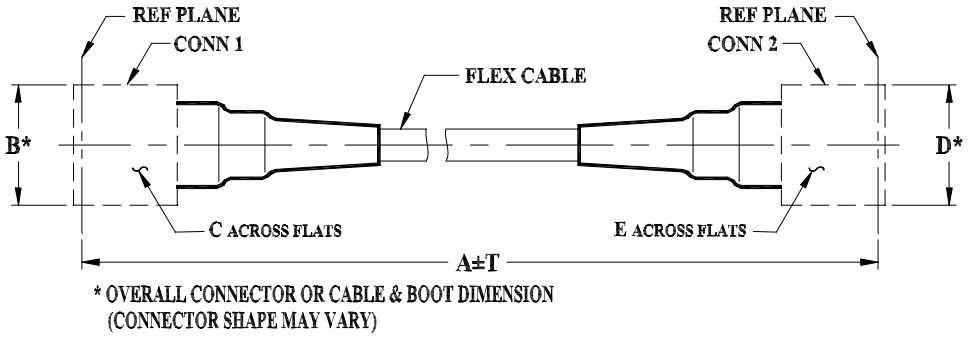
N-Male 2 Return Loss



Case Style GM

GM1106

Outline Dimensions



GM1106 SERIES
N MALE (CONN-1)
N MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					FEET	METERS	
GM1106-1	1.00	.30	.88 (22.35)	.750 (19.05)	.88 (22.35)	.750 (19.05)	.06	.02	117
GM1106-1.5	1.50	.46					.06	.02	127
GM1106-1.64	1.64	.50					.06	.02	129
GM1106-2	2.00	.61					.06	.02	137
GM1106-3	3.00	.91					.09	.03	156
GM1106-3.28	3.28	1.00					.10	.03	161
GM1106-4	4.00	1.22					.12	.04	176
GM1106-4.92	4.92	1.50					.15	.05	193
GM1106-5	5.00	1.52					.15	.05	195
GM1106-6	6.00	1.83					.18	.05	215
GM1106-6.56	6.56	2.00					.20	.06	225
GM1106-7	7.00	2.13					.21	.06	221
GM1106-7.5	7.50	2.29					.23	.07	244
GM1106-8	8.00	2.44					.24	.07	240
GM1106-9	9.00	2.74					.27	.08	273
GM1106-9.84	9.84	3.00					.30	.09	289
GM1106-10	10.00	3.05					.30	.09	293
GM1106-12	12.00	3.66					.36	.11	332
GM1106-13.1	13.12	4.00					.39	.12	353
GM1106-15	15.00	4.57					.45	.14	390
GM1106-16.4	16.40	5.00					.49	.15	417
GM1106-20	20.00	6.10					.60	.18	488
GM1106-25	25.00	7.62					.75	.23	585
GM1106-30	30.00	9.14					.90	.27	683
GM1106-50	50.00	15.24					1.50	.46	1073
GM1106-131	131.23	40.00					3.94	1.20	2656

Unless otherwise specified dimensions are in inches (mm).
Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. Flexible Coaxial Cable.

Mini-Circuits®
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Mini-Circuits

Environmental Specifications ENV34

All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 105°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except -105°C
Mechanical Flexing	20,000 cycles During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches	- - -

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