



# Test Cable

## CBL-3NM-75+

Mini-Circuits

75Ω 3FT DC to 3000 MHz N-Male

### FEATURES

- RoHS compliant
- Wideband coverage, DC to 3000 MHz
- Extra rugged construction with strain relief for longer life
- Stainless steel N-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
- 6 month guarantee\*



Generic photo used for illustration purposes only

|            |             |
|------------|-------------|
| Model No.  | CBL-3NM-75+ |
| Case Style | ND1920-3    |
| Connectors | N-Male      |

### +RoHS Compliant

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

### 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.

### 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

### PRODUCT OVERVIEW

Mini-Circuits CBL-NM-75+ series 75Ω test cables provide extra rugged yet flexible construction, performance qualified up to 20,000 flex cycles for test applications from DC to 3000 MHz, backed by our 6-month product guarantee. Connectors are N-type (M) to N-type (M). Inner conductor is solid silver-plated, copper clad steel, and shield is silver-plated copper braid with aluminum-polymide tape interlayer. Available in a variety of lengths.

### KEY FEATURES

| Feature  | Advantages   |
|--|--|
| Wideband, DC to 3000 MHz   | Wide frequency range covers many applications.   |
| High Power Handling: <ul style="list-style-type: none"> <li>• 338W @ 0.5 GHz</li> <li>• 98W @ 3 GHz</li> </ul> | High power handling makes CBL test cables suitable for applications with a wide range of requirements. |
| Good Return Loss and Low Insertion Loss  | Well matched for 75Ω systems across the entire frequency band.   |
| Extra rugged, triple shield cable construction   | CBL-FM-75+ test cables provide outstanding durability, flexibility, and shielding effectiveness.       |
| Passivated stainless steel N-Male connectors   | Long connector mating cycle life.  |
| Superior stability of Insertion Loss and Return Loss   | Reliable performance in almost any test layout configuration.  |

REV. B  
ECO-019630  
CBL-3NM-75+  
MCL NY  
231010





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### ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter           | Frequency (MHz) | Min. | Typ. | Max. | Units |
|---------------------|-----------------|------|------|------|-------|
| Frequency range     |                 | DC   |      | 3000 | MHz   |
| Length <sup>1</sup> |                 |      | 3    |      | FT    |
| Insertion Loss      | DC - 500        | —    | 0.27 | 0.41 | dB    |
|                     | 500 - 1000      | —    | 0.41 | 0.55 |       |
|                     | 1000 - 2000     | —    | 0.60 | 0.77 |       |
|                     | 2000 - 3000     | —    | 0.70 | 0.95 |       |
| Return Loss         | DC - 500        | 26   | 32   | —    | dB    |
|                     | 500 - 1000      | 26   | 30   | —    |       |
|                     | 1000 - 2000     | 23   | 26   | —    |       |
|                     | 2000 - 3000     | 23   | 24   | —    |       |

1. Custom sizes available, consult factory.

### ABSOLUTE MAXIMUM RATINGS

| Parameter                         | Ratings   |
|-----------------------------------|---|
| Operating Temperature             | -55°C to +105°C   |
| Storage Temperature               | -55°C to +105°C   |
| Power Handling at 25°C, Sea Level | 338W Max. at 0.5 GHz<br>210W Max. at 1 GHz<br>143W Max. at 2 GHz<br>98W Max. at 3 GHz |

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





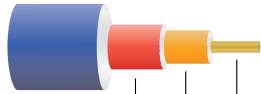
# Test Cable

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75Ω 3FT DC to 3000 MHz N-Male

### CABLE CONSTRUCTION

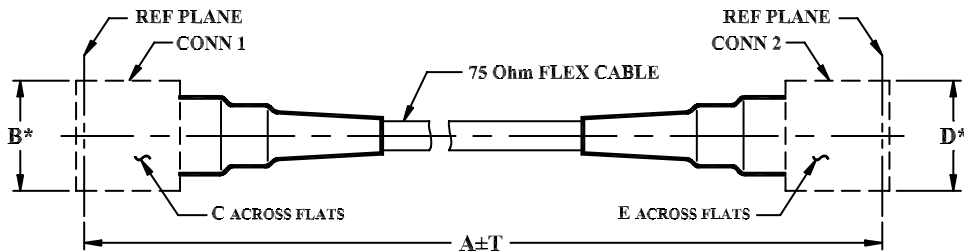


- Inner Conductor: Solid Silver Plated Copper Clad Steel
- Dielectric: Solid PTFE
- Shield: Silver-Plated Copper Flat Ribbon Braid  
Aluminum-Polyimide Tape Interlayer 36 GA  
Silver-Plated Copper Braid (90%k)
- Jacket: Blue FEP

#### Connectors:

- Passivated stainless steel
- Captive contact
- Thick wall interface (SMA)
- 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 | .81   | .750  | .81   | .750  | Feet | Meters | grams |
| 3    | 0.91   | 20.57 | 19.05 | 20.57 | 19.05 | 0.09 | 0.03   | 128   |





# Test Cable

## CBL-3NM-75+

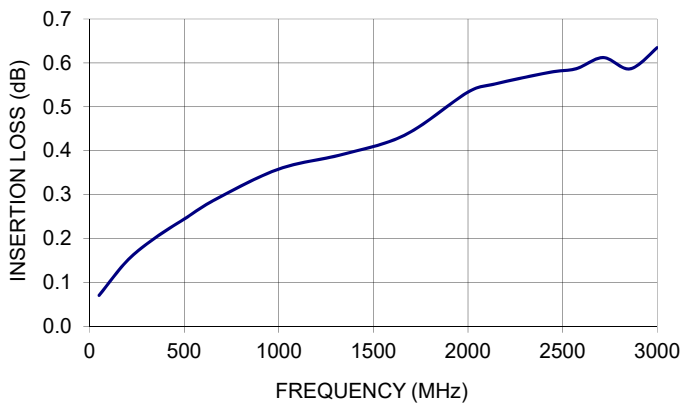
Mini-Circuits

75Ω 3FT DC to 3000 MHz N-Male

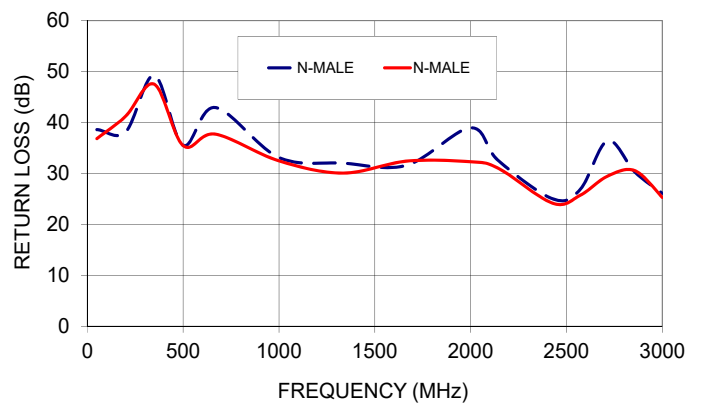
### TYPICAL PERFORMANCE DATA

| Frequenc<br>(MHz) | Insertion Loss<br>(dB) | Return Loss<br>(dB) |        |
|-------------------|------------------------|---------------------|--------|
|                   |                        | N-Male              | N-Male |
| 50                | 0.07                   | 38.6                | 36.8   |
| 200               | 0.15                   | 38.1                | 41.2   |
| 350               | 0.20                   | 49.3                | 47.5   |
| 500               | 0.24                   | 35.5                | 35.5   |
| 667               | 0.29                   | 42.9                | 37.7   |
| 1000              | 0.36                   | 33.1                | 32.5   |
| 1334              | 0.39                   | 32.0                | 30.1   |
| 1667              | 0.44                   | 31.6                | 32.4   |
| 2000              | 0.53                   | 39.0                | 32.3   |
| 2144              | 0.55                   | 32.6                | 31.0   |
| 2429              | 0.58                   | 25.0                | 24.1   |
| 2572              | 0.59                   | 26.9                | 25.7   |
| 2715              | 0.61                   | 36.4                | 29.5   |
| 2857              | 0.59                   | 30.3                | 30.5   |
| 3000              | 0.63                   | 26.1                | 25.3   |

CBL-3NM-75+  
INSERTION LOSS



CBL-3NM-75+  
RETURN LOSS



#### NOTES

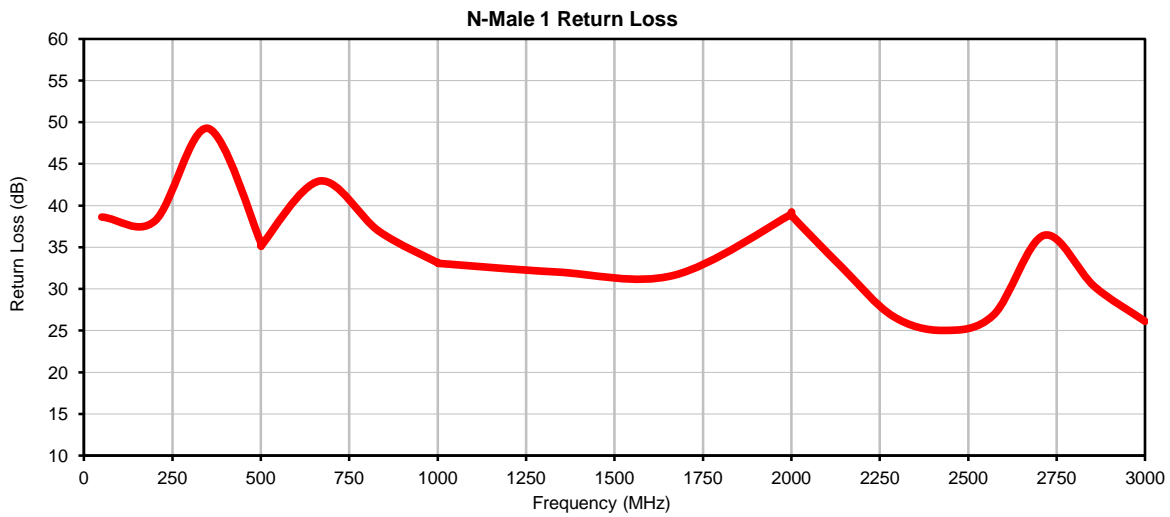
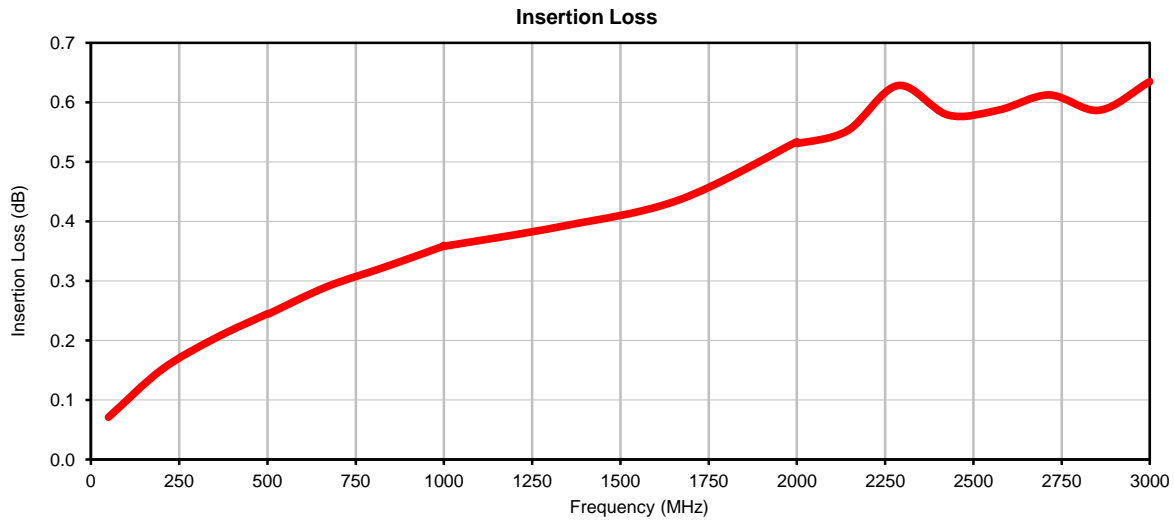
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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## Typical Performance Data

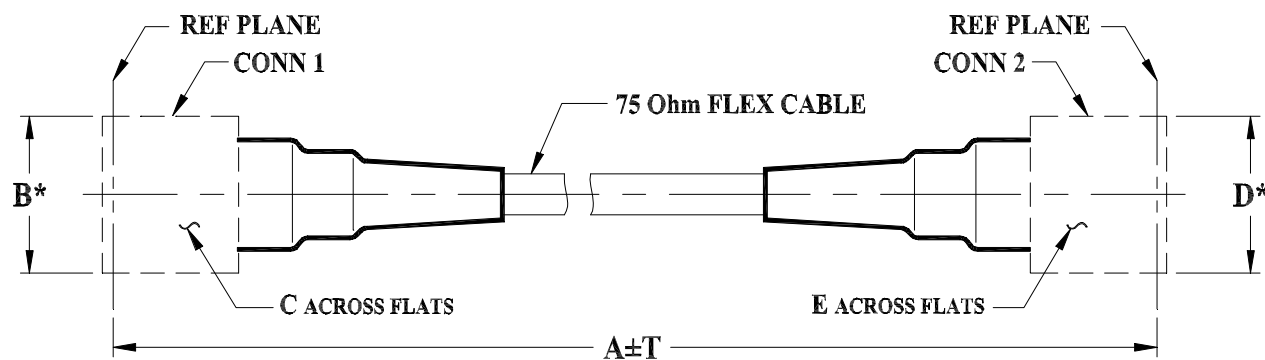
| FREQUENCY<br>(MHz) | INSERTION LOSS<br>(dB) | N-MALE 1<br>RETURN LOSS<br>(dB) | N-MALE 2<br>RETURN LOSS<br>(dB) |
|--------------------|------------------------|---------------------------------|---------------------------------|
| 50.0               | 0.07                   | 38.6                            | 36.8                            |
| 200.0              | 0.15                   | 38.1                            | 41.2                            |
| 350.0              | 0.20                   | 49.3                            | 47.5                            |
| 500.0              | 0.24                   | 35.5                            | 35.5                            |
| 500.3              | 0.24                   | 35.2                            | 35.4                            |
| 500.7              | 0.24                   | 35.1                            | 35.3                            |
| 501.0              | 0.24                   | 35.2                            | 35.1                            |
| 667.3              | 0.29                   | 42.9                            | 37.7                            |
| 833.7              | 0.32                   | 36.9                            | 38.6                            |
| 1000.0             | 0.36                   | 33.1                            | 32.5                            |
| 1000.3             | 0.36                   | 33.2                            | 32.5                            |
| 1000.7             | 0.36                   | 33.0                            | 32.5                            |
| 1001.0             | 0.36                   | 33.1                            | 32.5                            |
| 1334.0             | 0.39                   | 32.0                            | 30.1                            |
| 1667.0             | 0.44                   | 31.6                            | 32.4                            |
| 2000.0             | 0.53                   | 39.0                            | 32.3                            |
| 2000.3             | 0.53                   | 38.9                            | 32.5                            |
| 2000.7             | 0.53                   | 39.2                            | 32.7                            |
| 2001.0             | 0.53                   | 38.8                            | 32.7                            |
| 2143.7             | 0.55                   | 32.6                            | 31.0                            |
| 2286.4             | 0.63                   | 26.7                            | 25.8                            |
| 2429.1             | 0.58                   | 25.0                            | 24.1                            |
| 2571.9             | 0.59                   | 26.9                            | 25.7                            |
| 2714.6             | 0.61                   | 36.4                            | 29.5                            |
| 2857.3             | 0.59                   | 30.3                            | 30.5                            |
| 3000.0             | 0.63                   | 26.1                            | 25.3                            |

## Typical Performance Curves



## Outline Dimensions

ND1920



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

ND1919 SERIES

N MALE 75 Ohm (CONN-1)

N MALE 75 Ohm (CONN-2)

| CASE STYLE # | A    |        | B              | C               | D              | E               | T    |        | WEIGHT GRAMS |
|--------------|------|--------|----------------|-----------------|----------------|-----------------|------|--------|--------------|
|              | FEET | METERS |                |                 |                |                 | FEET | METERS |              |
| ND1920-3     | 3.00 | .91    | .81<br>(20.57) | .750<br>(19.05) | .81<br>(20.57) | .750<br>(19.05) | .09  | .03    | 128          |
| ND1920-6     | 6.00 | 1.83   |                |                 |                |                 | .18  | .05    | 185          |
|              |      |        |                |                 |                |                 |      |        |              |
|              |      |        |                |                 |                |                 |      |        |              |
|              |      |        |                |                 |                |                 |      |        |              |
|              |      |        |                |                 |                |                 |      |        |              |
|              |      |        |                |                 |                |                 |      |        |              |

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl.  $\pm .03$ ; 3Pl.  $\pm .015$

### Note:

- 75 Ohm Flexible Coaxial Cable.



INTERNET <http://www.minicircuits.com>

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Mini-Circuits ISO 9001 & ISO 14001 Certified



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<br>Ambient Environment   | Individual Model Data Sheet                           |
| Storage Temperature   | -55° to 105°C<br>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<br>During each cycle, cable flexed from 90° through 0° to -90° and back with a Radii of 3 inches | - - -   |