



Mini-Circuits

**HAND  
FLEX™**

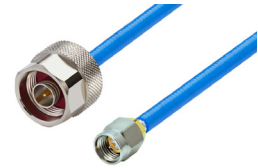
# Coaxial Cable

**141-8SMNM+**

50Ω 8 inch DC to 18 GHz

## THE BIG DEAL

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.7 dB at 18 GHz
- Excellent Return Loss, 22 dB at 18 GHz
- Hand formable to almost any custom shape without special bending tools
- 8mm bend radius for tight installations
- Anti-torque nut prevents cable stress during installation
- Insulated outer jacket standard
- Ideal for interconnect of assembled systems



*Generic photo used for illustration purposes only*

|            |                    |
|------------|--------------------|
| Model No.  | 141-8SMNM+         |
| Case Style | KQ1668-8           |
| Connectors | SMA-Male to N-Male |

## +RoHS Compliant

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

## APPLICATIONS

- Replacement for custom bent 0.141" semi-rigid cables
- Communication Receivers and Transmitters
- Military and Aerospace System
- Environmental and Test Chambers

## PRODUCT OVERVIEW

141 SMNM+ series Hand-Flex coaxial cables are ideal for integrating coaxial components and sub-systems in tight spaces and dense system configurations. SMA to N-Type connection avoids need for an adapter between components with SMA-F and N-F connection ports, reducing system cost and improving reliability. Sturdy, hand-formable cable construction maintains shape after bending with bend-radius as small as 8mm. 141 SMNM+ coaxial cables have the advantages of wide frequency range and excellent return loss and insertion loss. Available in a variety of lengths.

## KEY FEATURES

| Features  | Advantages  |
|---|---|
| Hand-Formable   | 141 SMNM+ series Hand-Flex cables avoid the need for cable-bending tools, alleviating the risk of damage during bending processes typical of semi-rigid cable assemblies.   |
| Tight Bend Radius   | Capable of bending to radii as small as 8mm, the 141 SMNM+ series is ideal for making connections in tight spaces and dense system assemblies.  |
| Excellent Return Loss   | Typical return loss of 25 dB to 6 GHz and 18 dB to 18 GHz makes the 141 SMNM+ series ideal for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors. |
| High Power Handling Capability: <ul style="list-style-type: none"><li>• 546W at 0.5 GHz</li><li>• 90W at 18 GHz</li></ul> | Mini-Circuits 141 SMNM+ series cables can support medium to high RF power levels and can be used in the transmit path. (NOTE: power rating at sea-level).   |
| Built-in Anti-torque Nut  | Supports the connector bodies during installation, preventing stress to the connector/cable interface.  |
| SMA-Male / N-Male connectors  | Eliminates need for adapter when connecting to SMA-F and N-F connectors, reducing cost and improving reliability.   |

**Mini-Circuits**

[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 [sales@minicircuits.com](mailto:sales@minicircuits.com)

REV. C  
ECO-018755  
141-8SMNM+  
MCL NY  
230802

PAGE 1 OF 5



Mini-Circuits

**HAND**  
**FLEX™**

# Coaxial Cable

**141-8SMNM+**

50Ω 8 inch DC to 18 GHz

## ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter           | Frequency (GHz) | Min. | Typ. | Max. | Units  |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range     |                 | DC   |      | 18   | GHz    |
| Length <sup>1</sup> |                 | 8    |      |      | inches |
| Insertion Loss      | DC - 2          | —    | 0.18 | 0.31 | dB     |
|                     | 2 - 6           | —    | 0.42 | 0.56 |        |
|                     | 6 - 10          | —    | 0.54 | 0.74 |        |
|                     | 10 - 18         | —    | 0.86 | 1.04 |        |
| Return Loss         | DC - 2          | 23   | 29   | —    | dB     |
|                     | 2 - 6           | 23   | 26   | —    |        |
|                     | 6 - 10          | 17   | 25   | —    |        |
|                     | 10 - 18         | 17   | 18   | —    |        |

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 | 546W at 0.5 GHz |
|                                   | 387W at 1 GHz   |
|                                   | 273W at 2 GHz   |
|                                   | 156W at 6 GHz   |
|                                   | 121W at 10 GHz  |
|                                   | 90W at 18 GHz   |

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





Mini-Circuits

**HAND  
FLEX™**

# Coaxial Cable

**141-8SMNM+**

50Ω 8 inch DC to 18 GHz

## CABLE CONSTRUCTION



- Center Conductor: Silver Plated Copper Clad Steel
- Dielectric: Solid PTFE
- Outer Shield: Copper Braid, Tin Soaked
- Jacket: FEP, Blue (Unjacketed cable also available upon request)

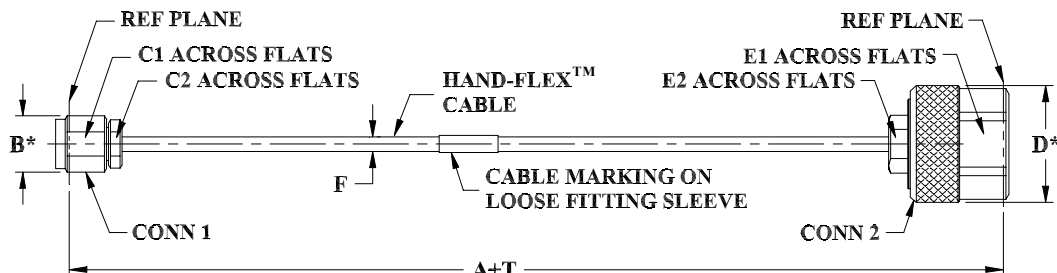
### SMA-Male Connector:

- Coupling Nut: Stainless Steel Passivated
- Body: Stainless Steel Gold Plated
- Center Pin: Silver Plated Copper Clad Steel

### N-Male Connector:

- Coupling Nut: Brass, Nickel Plated
- Body: Brass, Nickel Plated
- Center Pin: Brass, Gold Plated

## OUTLINE DRAWING



\* OVERALL CONNECTOR DIMENSION  
[CONNECTOR SHAPE MAY VARY]

## OUTLINE DIMENSIONS (Inch mm)

| A      | B    | C1   | C2   | D     | E1    | E2   | F         | T    | wt    |
|--------|------|------|------|-------|-------|------|-----------|------|-------|
| 8.0    | .36  | .313 | .250 | .88   | .750  | .375 | .163±.004 | .10  | grams |
| 203.20 | 9.14 | 7.95 | 6.35 | 22.35 | 19.05 | 9.53 | 4.14±0.10 | 2.54 | 42.44 |

**Mini-Circuits**



Mini-Circuits

HAND  
FLEX™

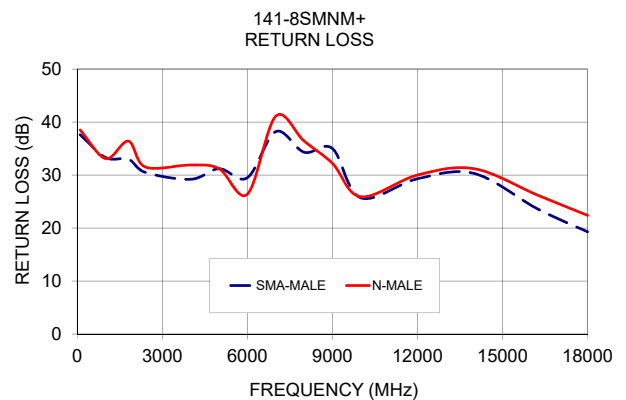
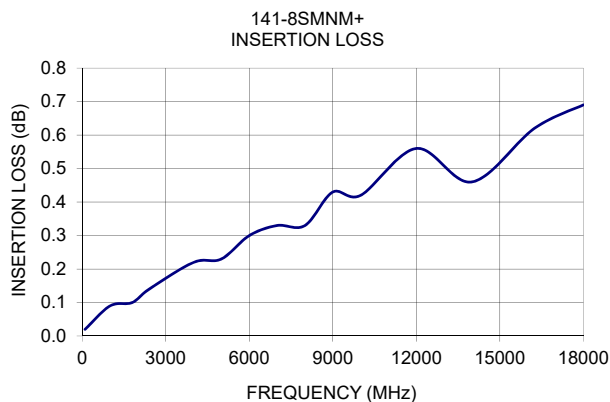
# Coaxial Cable

141-8SMNM+

50Ω 8 inch DC to 18 GHz

## TYPICAL PERFORMANCE DATA AND CHARTS

| Frequency<br>(MHz) | Insertion Loss<br>(dB) | Return Loss<br>(dB) |        |
|--------------------|------------------------|---------------------|--------|
|                    |                        | SMA-Male            | N-Male |
| 100                | 0.02                   | 37.6                | 38.5   |
| 1000               | 0.09                   | 33.3                | 33.1   |
| 1800               | 0.10                   | 33.0                | 36.4   |
| 2404               | 0.14                   | 30.5                | 31.5   |
| 4001               | 0.22                   | 29.2                | 31.9   |
| 5000               | 0.23                   | 31.2                | 31.2   |
| 6000               | 0.30                   | 29.5                | 26.4   |
| 7001               | 0.33                   | 38.2                | 41.1   |
| 8001               | 0.33                   | 34.3                | 36.4   |
| 9000               | 0.43                   | 35.0                | 32.2   |
| 10000              | 0.42                   | 25.7                | 25.9   |
| 12001              | 0.56                   | 29.3                | 30.0   |
| 14001              | 0.46                   | 30.3                | 31.2   |
| 16242              | 0.62                   | 23.6                | 26.2   |
| 18000              | 0.69                   | 19.3                | 22.4   |



Mini-Circuits



Mini-Circuits

**HAND  
FLEX™**

# Coaxial Cable

**141-8SMNM+**

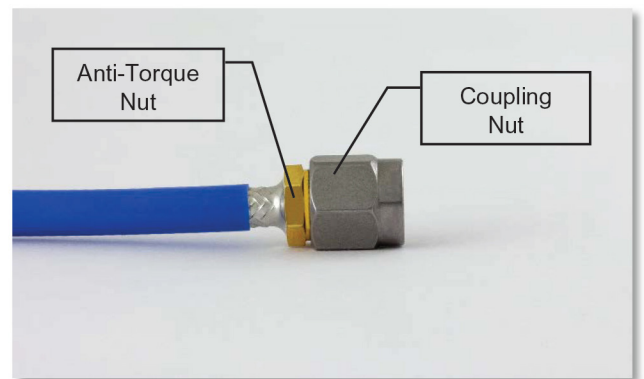
50Ω 8 inch DC to 18 GHz

## PROPER CABLE CONNECTION USING ANTI-TORQUE NUT

Mini-Circuits 141-series HandFlex™ interconnect cables are constructed with an anti-torque nut adjacent to the connector coupling nut. When used properly, this feature prevents possible damage to the cable due to torquing and twisting when tightening the cable connector.

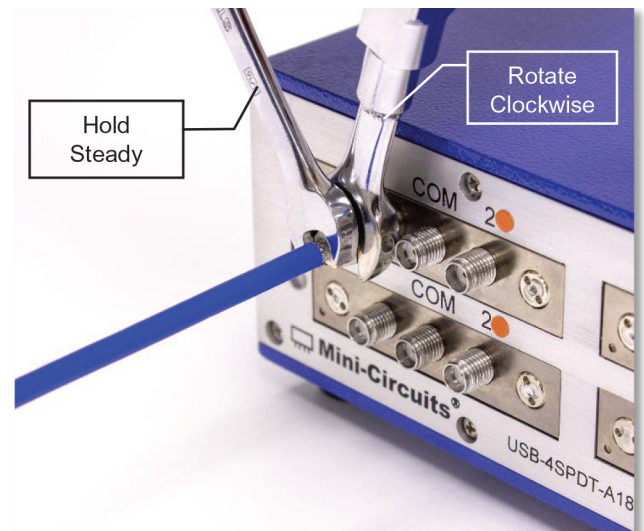
### TO PROPERLY TIGHTEN THE CABLE CONNECTOR:

1) The cable connector includes a coupling nut which rotates to fasten the connector, and an anti-torque nut, which is fixed to prevent the cable from twisting during connection.



2) To properly tighten the cable, use a standard 1/4 inch open end wrench to brace the anti-torque nut.

3) Using a 5/16-inch open end wrench, rotate the coupling nut clockwise to tighten the cable connector.



\*NOTE: Mini-Circuits recommends using a 5/16-inch open end wrench calibrated to 8 inch-pounds maximum torque to prevent damage due to over-torquing the connector.

### 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Mini-Circuits:](#)

[141-8SMNM+](#)