



# Coaxial Cable

## 141 SMNM Model Series

50Ω DC to 18 GHz



CASE STYLE: KQ1668-XX

XX= cable length in inches

### The Big Deal

- SMA to N-Type Connection
- Excellent Return Loss and Insertion Loss
- Tight Bend Radius (8mm min.)
- Ideal for interconnect of assembled systems

### 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

| Feature                                                                                                                   | 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.                                                                                                           |

#### 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](http://www.minicircuits.com/MCLStore/terms.jsp)





# Coaxial Cable

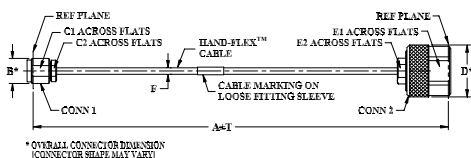
50Ω 10 inch DC to 18 GHz

## Maximum 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.

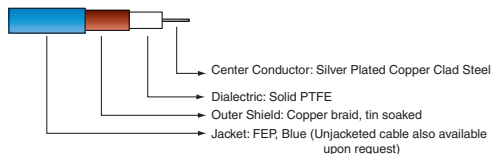
## Outline Drawing



## Outline Dimensions (inch/mm)

| A      | B    | C1        | C2   | D     |
|--------|------|-----------|------|-------|
| 10.0   | .36  | .313      | .250 | .88   |
| 254.00 | 9.14 | 7.95      | 6.35 | 22.35 |
| E1     | E2   | F         | T    | wt    |
| .750   | .375 | .163±.004 | .10  | grams |
| 19.05  | 9.53 | 4.14±0.10 | 2.54 | 44.73 |

## Cable Construction



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

## Features

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.4 dB at 18 GHz
- Excellent Return Loss, 25 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**

## Applications

- Replacement for custom bent 0.141" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

# 141-10SMNM+



CASE STYLE: KQ1668-10

| Connectors        | Model       |
|-------------------|-------------|
| SMA-Male / N-Male | 141-10SMNM+ |

**+RoHS Compliant**

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

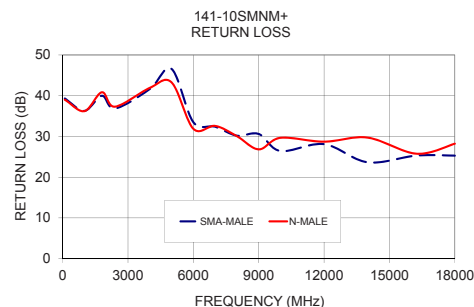
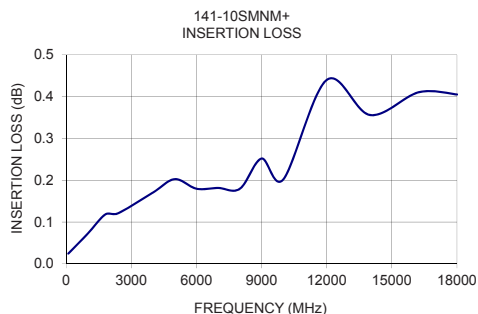
## Electrical Specifications at 25°C

| Parameter           | Condition (GHz) | Min. | Typ. | Max. | Unit   |
|---------------------|-----------------|------|------|------|--------|
| Frequency Range     |                 | DC   |      | 18   | GHz    |
| Length <sup>1</sup> |                 |      | 10   |      | inches |
| Insertion Loss      | DC - 2          | —    | 0.16 | 0.34 | dB     |
|                     | 2 - 6           | —    | 0.34 | 0.62 |        |
|                     | 6 - 10          | —    | 0.44 | 0.93 |        |
|                     | 10 - 18         | —    | 0.69 | 1.16 |        |
| Return Loss         | DC - 2          | 23   | 32   | —    | dB     |
|                     | 2 - 6           | 23   | 29   | —    |        |
|                     | 6 - 10          | 17   | 23   | —    |        |
|                     | 10 - 18         | 17   | 20   | —    |        |

1. Custom sizes available, consult factory.

## Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) |
|-----------------|---------------------|------------------|
|                 |                     | SMA-Male N-Male  |
| 100             | 0.02                | 39.3 39.0        |
| 1000            | 0.07                | 36.3 36.2        |
| 1800            | 0.12                | 40.0 40.8        |
| 2404            | 0.12                | 36.9 37.3        |
| 4001            | 0.17                | 41.6 41.9        |
| 5000            | 0.20                | 46.6 43.3        |
| 6000            | 0.18                | 33.5 31.9        |
| 7001            | 0.18                | 32.4 32.6        |
| 8001            | 0.18                | 30.2 30.1        |
| 9000            | 0.25                | 30.6 26.8        |
| 10000           | 0.20                | 26.4 29.7        |
| 12001           | 0.44                | 28.1 28.7        |
| 14001           | 0.36                | 23.7 29.7        |
| 16242           | 0.41                | 25.3 25.8        |
| 18000           | 0.41                | 25.3 28.2        |



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M167677  
141-10SMNM+  
RK/CP/AM  
180504

## 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 torqueing 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-torqueing the connector.

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