



# Coaxial Cable

## 141 SMNB Model Series

50Ω DC to 12.5 GHz



CASE STYLE: KQ1669-XX

XX= cable length in inches

### The Big Deal

- N-Type (F) Bulkhead Connector to SMA (M)
- Hand Formable
- Tight Bend-Radius (8mm min.)
- Ideal for interconnect of assembled systems

### Product Overview

141-SMNB-series Hand-Flex coaxial cables are ideal for integrating rack-mounted coaxial components and sub-assemblies in tight spaces and dense system configurations. N-Type female bulkhead connector at one end is equipped with a nickel-plated brass flange for secure connections to rack mounted equipment. SMA-connector has a passivated stainless-steel coupling nut over a gold-plated connector body. The outer shield is tin-soaked copper braid, which minimizes signal leakage with high flexibility for easy bending, and dielectric is low loss PTFE. 141-SMNB-series Hand-Flex coaxial cables are available in various lengths for different system requirements.

### Key Features

Feature	Advantages
Single N-Type female bulkhead connector	Eliminates need for a bulkhead adapter and connects directly to the front panel of rack-mounted equipment, improving reliability and reducing system cost.
Hand-formable	141-SMNB-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.
8mm bend radius	Ideal for making connections in tight spaces and dense system assemblies.
Excellent return loss	Typical return loss of 21 dB to 12.5 GHz or better makes 141-SMNB series cables ideal for connecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors.
Good power handling capability <ul style="list-style-type: none"><li>• 546W at 0.5 GHz</li><li>• 110W at 12.5 GHz</li></ul>	141-SMNB coaxial cables can support medium to high RF power levels and can be used in the transmit path. (Power rating at sea-level).
Built-in anti-torque nut	Anti-torque feature supports the SMA connector body during installation, preventing stress to the connector/cable interface. Connector interface meets MIL-STD-348.

#### 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

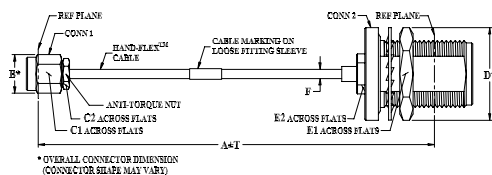
50Ω 18 inch DC to 12.5 GHz

## 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 110W at 12.5 GHz

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

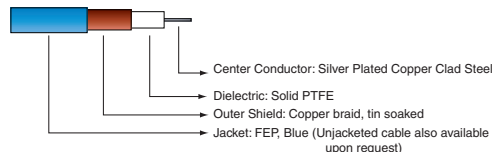
## Outline Drawing



## Outline Dimensions (inch/mm)

A	B	C1	C2	D
18.0	.36	.313	.250	.87
457.20	9.14	7.95	6.35	22.10
E1	E2	F	T	wt
.750	.531	.163±.004	.15	grams
19.05	13.49	4.14±0.10	3.81	61.87

## Cable Construction



SMA-Male  
Connectors: Washer Nut: Stainless Steel Passivated  
Body: Stainless Steel Gold Plated  
Center Pin: Silver Plated Copper Clad Steel

N-Female  
Washer, Nut & Body: Brass Nickel Plated.  
Center Pin: BeCuB, Gold Plated

## Notes

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

## Features

- Bulkhead Female Type-N connector at one end
- Low Loss, 0.7 dB at 12.5 GHz
- Excellent Return Loss, 22 dB at 12.5 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<sup>1</sup>
- 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

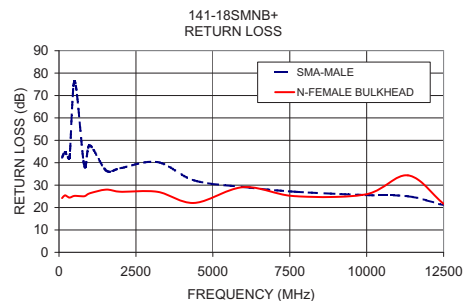
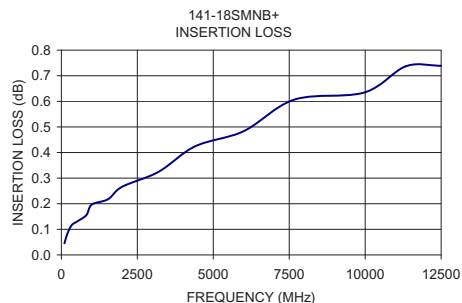
## Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		12.5	GHz
Length <sup>1</sup>			18		inches
Insertion Loss	DC - 2	—	0.27	0.50	dB
	2 - 6	—	0.49	0.90	
	6 - 10	—	0.63	1.20	
	10 - 12.5	—	0.81	1.60	
Return Loss	DC - 2	22.0	24.0	—	dB
	2 - 6	17.0	19.0	—	
	6 - 10	17.0	19.0	—	
	10 - 12.5	17.0	20.0	—	

1. Custom sizes available, consult factory.

## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA-Male	N-Female Bulkhead
100	0.05	42.4	24.2
200	0.08	44.7	25.4
340	0.12	42.3	24.4
510	0.13	76.3	25.2
820	0.16	38.8	25.0
1000	0.20	47.7	26.3
1540	0.22	36.4	28.0
2000	0.27	37.6	27.1
3200	0.32	40.3	27.0
4400	0.42	32.1	22.1
6000	0.48	29.2	29.1
7670	0.61	27.0	25.1
9970	0.63	25.6	25.9
11340	0.74	25.0	34.4
12500	0.74	21.1	21.7



## 141-18SMNB+



CASE STYLE: KQ1669-18

Connectors	Model
Conn1 Conn2	
SMA-Male N-Female Bulkhead	141-18SMNB+

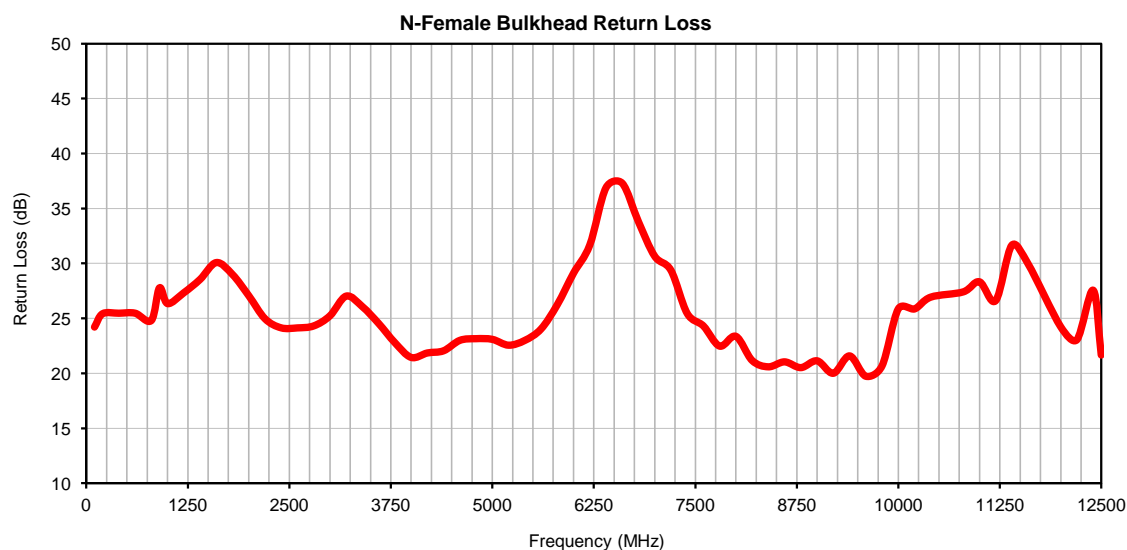
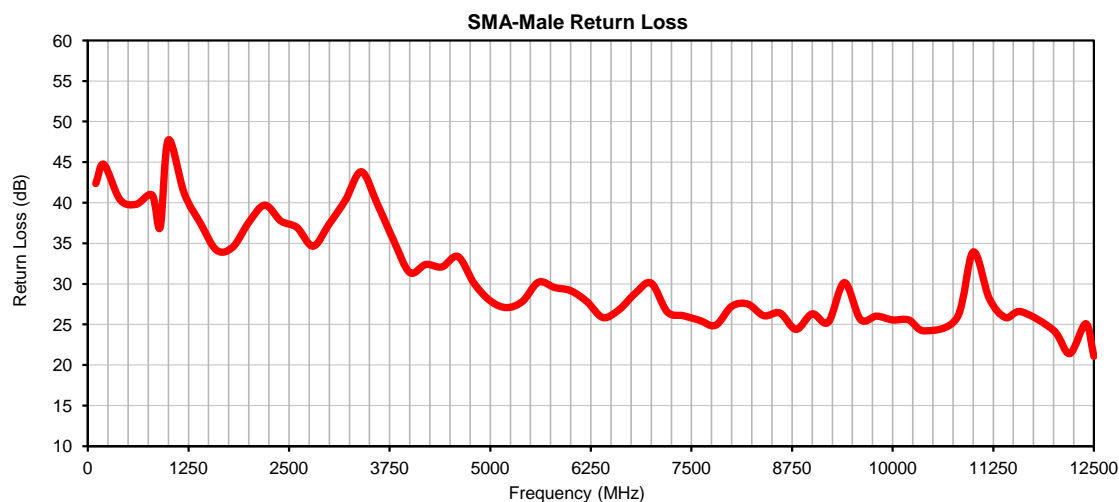
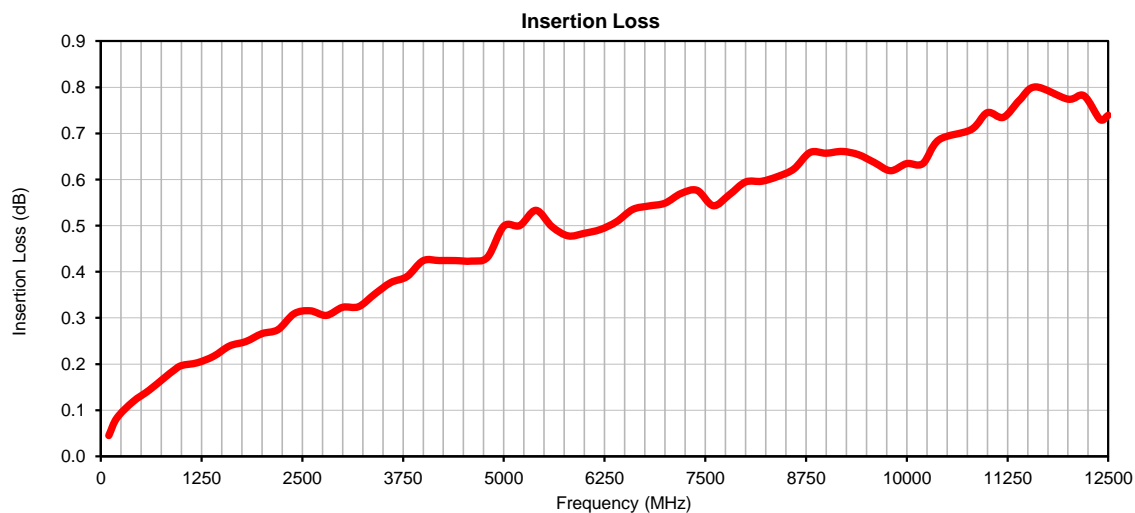
## +RoHS Compliant

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

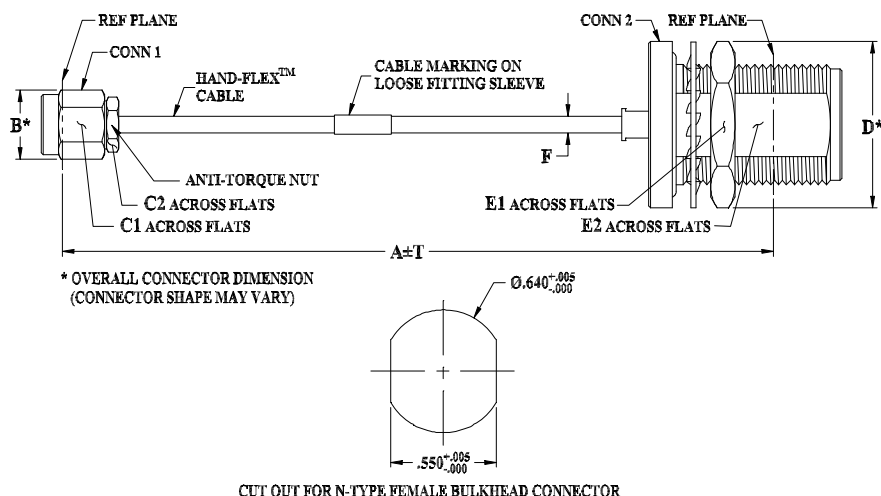
## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	SMA-MALE RETURN LOSS (dB)	N-FEMALE BULKHEAD RETURN LOSS (dB)
100.0	0.05	42.4	24.2
200.0	0.08	44.7	25.4
400.0	0.12	40.4	25.5
600.0	0.14	39.8	25.5
800.0	0.17	40.9	24.8
900.0	0.19	37.0	27.8
1000.0	0.20	47.7	26.3
1200.0	0.20	41.1	27.3
1400.0	0.22	37.5	28.5
1600.0	0.24	34.1	30.1
1800.0	0.25	34.5	29.0
2000.0	0.27	37.6	27.1
2200.0	0.27	39.7	25.0
2400.0	0.31	37.7	24.1
2600.0	0.32	36.9	24.1
2800.0	0.31	34.6	24.3
3000.0	0.32	37.4	25.2
3200.0	0.32	40.3	27.0
3400.0	0.35	43.8	26.1
3600.0	0.38	39.8	24.5
3800.0	0.39	35.4	22.8
4000.0	0.42	31.4	21.4
4200.0	0.42	32.4	21.9
4400.0	0.42	32.1	22.1
4600.0	0.42	33.4	23.0
4800.0	0.43	30.1	23.2
5000.0	0.50	27.9	23.1
5200.0	0.50	27.1	22.6
5400.0	0.53	27.8	23.0
5600.0	0.50	30.2	24.0
5800.0	0.48	29.5	26.2
6000.0	0.48	29.2	29.1
6200.0	0.49	27.8	31.7
6400.0	0.51	25.9	36.9
6600.0	0.54	26.8	37.3
6800.0	0.54	28.8	33.8
7000.0	0.55	30.1	30.7
7200.0	0.57	26.5	29.4
7400.0	0.58	26.1	25.5
7600.0	0.54	25.5	24.3
7800.0	0.57	24.9	22.5
8000.0	0.59	27.2	23.4
8200.0	0.60	27.5	21.2
8400.0	0.61	26.1	20.6
8600.0	0.62	26.4	21.0
8800.0	0.66	24.4	20.5
9000.0	0.66	26.3	21.1
9200.0	0.66	25.3	20.0
9400.0	0.65	30.2	21.6
9600.0	0.64	25.6	19.7
9800.0	0.62	26.0	20.7
10000.0	0.63	25.6	25.9
10200.0	0.63	25.6	25.9
10400.0	0.69	24.2	26.9
10800.0	0.71	25.8	27.4
11000.0	0.74	33.9	28.3
11200.0	0.73	28.2	26.6
11400.0	0.77	25.9	31.7
11600.0	0.80	26.6	29.9
12000.0	0.77	24.3	24.2
12200.0	0.78	21.4	23.1
12400.0	0.73	25.1	27.6
12500.0	0.74	21.1	21.7

## Typical Performance Curves



### Outline Dimensions



KQ1669 SERIES  
SMA MALE (CONN-1)  
N FEMALE BULKHEAD (CONN-2)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F		T		WEIGHT GRAMS
	INCH	MM							141U-ASMNB+	141-ASMNB+	INCH	MM	
KQ1669-3	3.00	76.20	.36 (9.14)	.313 (7.95)	.250 (6.35)	.87 (22.10)	.750 (19.05)	.531 (13.49)	.141 ± .003 (3.58 ± 0.07)	.163 ± .004 (4.14 ± 0.10)	.05	1.27	44.73
KQ1669-4	4.00	101.60									.05	1.27	45.87
KQ1669-5	5.00	127.00									.05	1.27	47.02
KQ1669-6	6.00	152.40									.05	1.27	48.16
KQ1669-7	7.00	177.80									.10	2.54	49.30
KQ1669-8	8.00	203.20									.10	2.54	50.44
KQ1669-9	9.00	228.60									.10	2.54	51.59
KQ1669-10	10.00	254.00									.10	2.54	52.73
KQ1669-11	11.00	279.40									.10	2.54	53.87
KQ1669-12	12.00	304.80									.10	2.54	55.02
KQ1669-14	14.00	355.60									.15	3.81	57.30
KQ1669-16	16.00	406.40									.15	3.81	59.59
KQ1669-18	18.00	457.20									.15	3.81	61.87
KQ1669-20	20.00	508.00									.15	3.81	64.16
KQ1669-24	24.00	609.60									.15	3.81	68.73
KQ1669-30	30.00	762.00									.20	5.08	75.59
KQ1669-36	36.00	914.40									.20	5.08	82.45

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

#### Note:

1. 141 Hand-Flex™ Coaxial Cable.
2. "A" represents length of cable.



INTERNET <http://www.minicircuits.com>  
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661  
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010  
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 Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 105°C Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 50 Cycles	MIL-STD-202F; Method 107G
Multiple Bend Radius	40 mm, 5 times for 141 series cables 30 mm, 5 times for 086 series cables	
Single Bend Radius	8 mm for 141 series cables 6 mm for 086 series cables	