



Armored Test Cable

APC-4FT-SMNM+

50Ω 4FT DC to 18 GHz

The Big Deal

- Crush resistant armored construction
- Excellent stability of insertion loss, VSWR and phase vs. flexing
- SMA-Male to N-Male connectors



CASE STYLE: HW1223-4

Product Overview

Mini-Circuits' APC-4FT-SMNM+ is a wideband, armored test cable supporting a wide range of applications from DC to 18 GHz. APC-series test cables feature extra-rugged, crush resistant construction, ideal for demanding production floor environments where heavy machinery is used. This model is 4 ft. in length with SMA-Male to N-Male connectors and provides low insertion loss, excellent return loss, and superior stability of insertion loss, VSWR, and phase versus flexure. Like all Mini-Circuits test cables, the APC-4FT-SMNM+ has been performance qualified to 20,000 bend cycles and comes with our 6 month guarantee.*

Key Features

Feature	Advantages
Wideband, DC to 18 GHz	Covers a wide range of test applications.
Extra-rugged, crush-resistant armored construction	Provides superior durability and reliability in high-volume production test floor environments where heavy machinery is used and cables are often subjected to mechanical stress.
Excellent stability of insertion loss, VSWR and phase versus flexure	Reliable performance in a wide range of configurations and in demanding environments where frequent bending is required.
Low insertion loss and excellent return loss	Allows accurate measurement with minimal compensation for the effects of the cable connection.
SMA-Male to N-Male connectors	Interfaces between equipment with SMA and N-Type connectors without the need for additional adapters.

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



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APC-4FT-SMNM+



Generic photo used for illustration purposes only

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Connectors	Model	
Conn1 SMA-MALE	Conn2 N-MALE	APC-4FT-SMNM+

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

Maximum Ratings

Operating Temperature	-55°C to 105°C
Storage Temperature	-55°C to 105°C
Permanent damage may occur if any of these limits are exceeded.	

Shielding Effectiveness	>100 dB
Power Handling at 25°C	891W Max. at 0.4 GHz
	539W Max. at 1 GHz
	363W Max. at 2 GHz
	180W Max. at 6 GHz
	117W Max. at 12 GHz
	88W Max. at 18 GHz
Jacket	Clear FEP

Features

- RoHS compliant
- wideband coverage, DC to 18 GHz
- extra rugged construction with strain relief for longer life
- stainless steel 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*

Applications

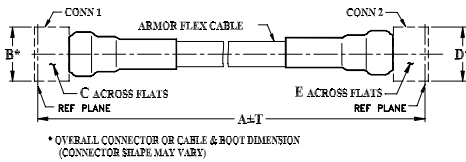
- high volume production test stations
- research & development labs
- environmental & temperature test chambers
- replacement for OEM test port cables
- field RF testing
- cellular infrastructure site testing

Electrical Specifications at 25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC		18	GHz
Length			4		FT
Insertion Loss	DC - 2.5	—	0.8	1.05	dB
	2.5 - 6	—	1.33	1.65	
	6 - 12	—	2.0	2.45	
	12 - 18	—	2.55	3.15	
Return Loss	DC - 2.5	23	30		dB
	2.5 - 6	20	30	—	
	6 - 12	17	27	—	
	12 - 18	17	22	—	

Custom sizes available, consult factory.

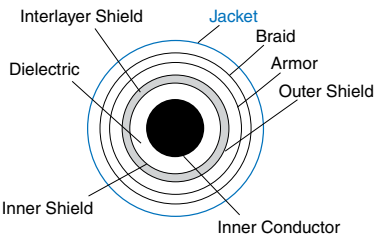
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	T	wt		
Feet	Meters				Feet	Meters	grams	
4	1.22	17.78	7.92	22.35	19.05	0.12	0.04	377

Cable Cross Section



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)
Armor	Stainless Steel
Braid	Stainless Steel with Copper Wire Winding
Jacket	TPE
Connectors	
<ul style="list-style-type: none"> • passivated stainless steel • captive contact • thick wall interface (SMA) • gold plated beryllium copper center contacts • PTFE dielectric 	

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.

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Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA-MALE	N-MALE
10	0.01	47.88	49.85
1000	0.44	41.37	39.60
2000	0.70	33.64	31.89
3000	0.87	33.68	31.26
4000	1.03	37.41	42.11
5000	1.20	30.40	35.66
6000	1.34	34.24	35.30
7000	1.46	35.43	34.64
8000	1.56	32.99	27.11
9000	1.67	30.34	29.73
10000	1.78	30.13	25.18
11000	1.88	29.50	21.96
12000	1.98	28.22	22.05
16000	2.38	25.01	21.29
18000	2.55	24.78	31.87

