



Armored Test Cable

APC-15FT-NMNM+

Mini-Circuits

50Ω 15FT DC to 18 GHz N-Male

FEATURES

- Wideband coverage, DC to 18 GHz
- Extra rugged construction includes protective shield and 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
- Superior stability of insertion loss, VSWR & phase vs. flexing
- 6 month guarantee*



Generic photo used for illustration purposes only

Model No.	APC-15FT-NMNM+
Case Style	HW1388-15
Connectors	N-Male

APPLICATIONS

- High volume production test stations
- Research & development labs
- Environmental & temperature test chambers
- Replacement of OEM test port cables
- Field RF testing
- Cellular infrastructure site testing

+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.

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency range		DC		18	GHz
Length			15		FT
Insertion Loss	DC - 2.5	—	2.9	3.5	dB
	2.5 - 6	—	4.8	6.0	
	6 - 12	—	7.1	8.6	
	12 - 18	—	9.0	12.0	
Return Loss	DC - 2.5	23	30	—	dB
	2.5 - 6	20	30	—	
	6 - 12	17	27	—	
	12 - 18	17	22	—	

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to +105°C
Storage Temperature	-55°C to +105°C
Power Handling at 25°C	891 W Max at 0.4 GHz 539 W Max at 1 GHz 363 W Max at 2 GHz 180 W Max at 6 GHz 117 W Max at 12 GHz 88 W Max at 18 GHz
Shield Effectiveness	>100 dB





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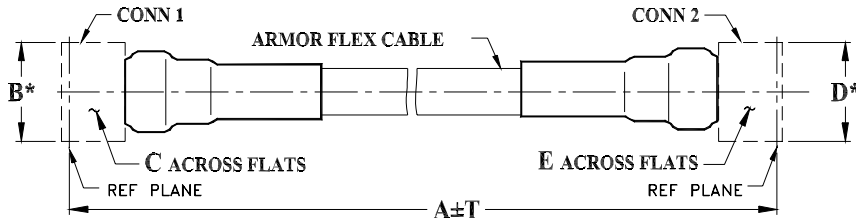
CABLE CONSTRUCTION



- Inner Conductor: 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:
 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									Feet	Meters	grams
15	4.58	.88	.750	.88	.750	.88	.750	.45	.14			1241





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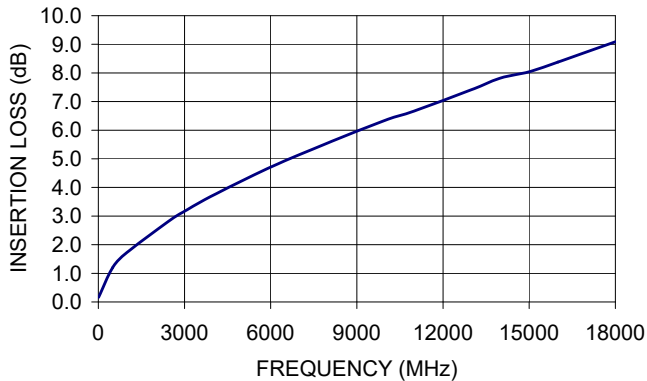
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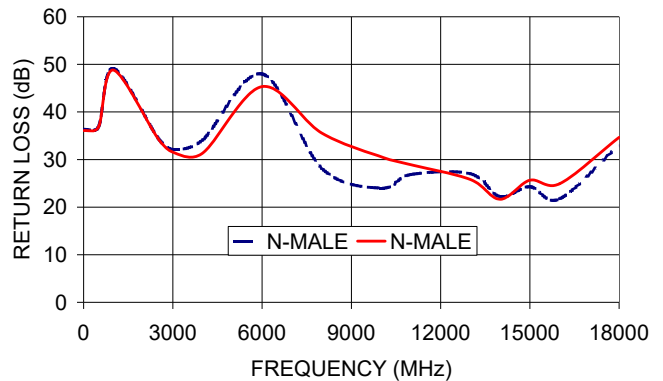
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		N-Male	N-Male
10	0.16	36.37	36.09
500	1.20	36.88	36.85
1000	1.73	49.13	48.82
2500	2.86	34.55	34.45
3000	3.17	32.13	31.56
4000	3.73	34.12	31.36
6000	4.71	47.99	45.33
8000	5.56	28.19	35.58
10000	6.35	23.99	30.59
11000	6.67	26.85	28.92
13000	7.42	27.03	25.81
14000	7.82	22.21	21.66
15000	8.04	24.29	25.65
16000	8.38	21.74	24.91
18000	9.09	33.05	34.67

APC-15FT-NMNM+ INSERTION LOSS



APC-15FT-NMNM+ RETURN LOSS



NOTES

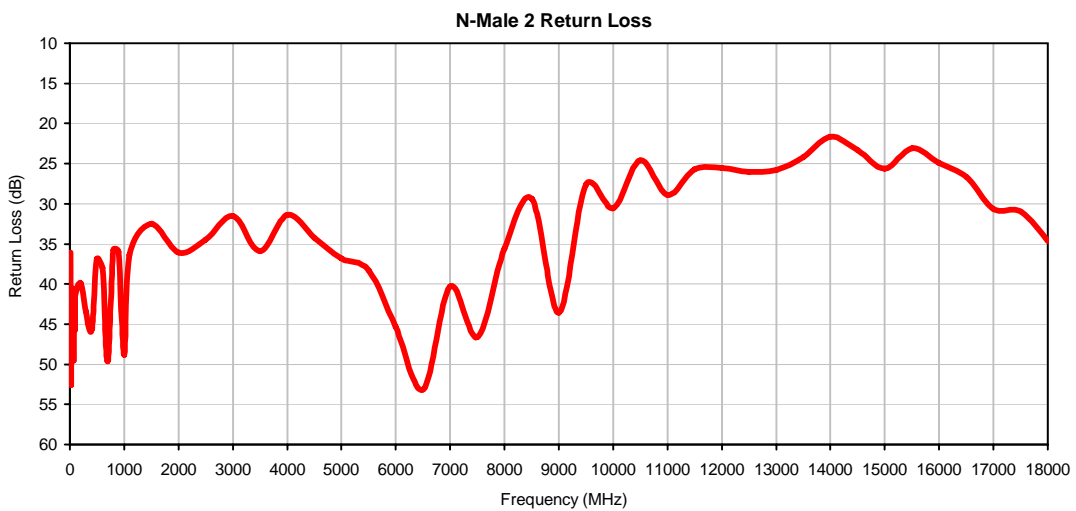
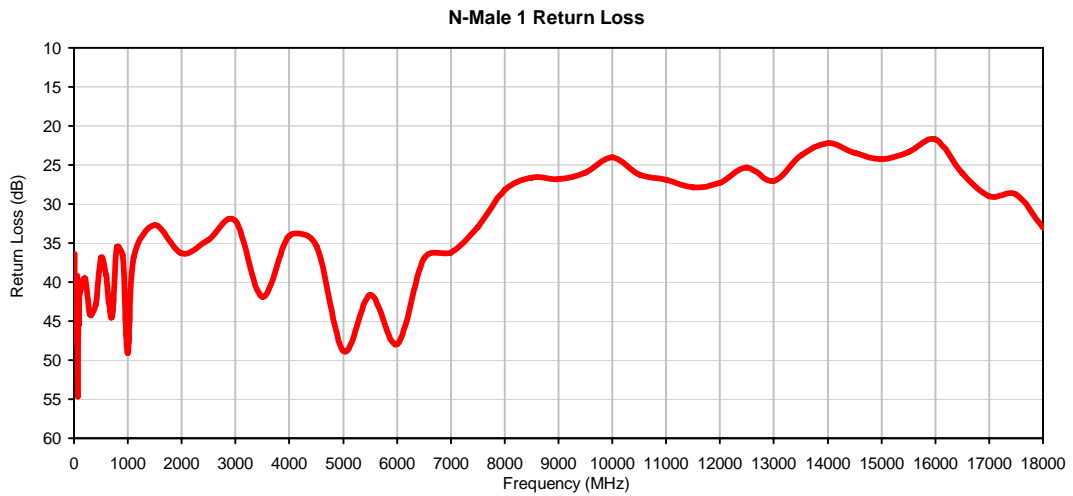
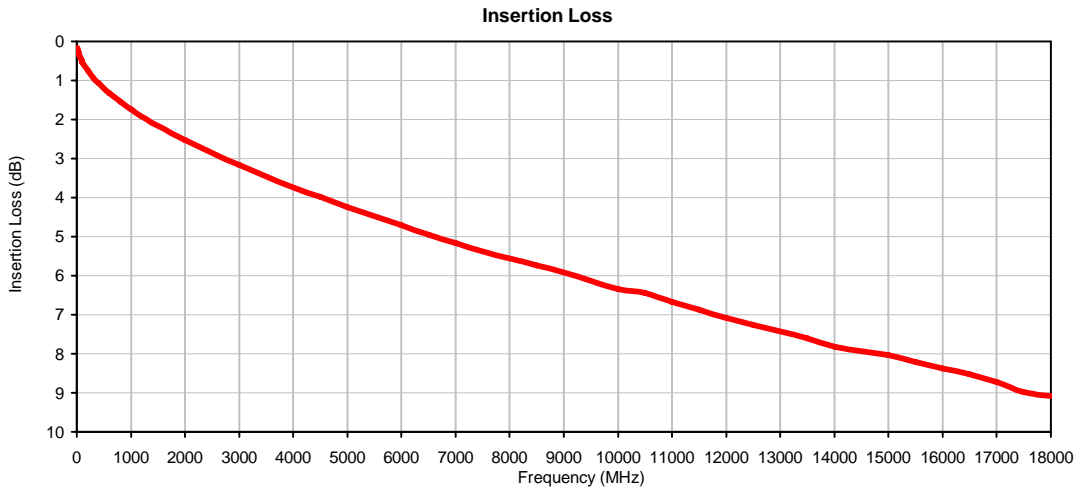
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits'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

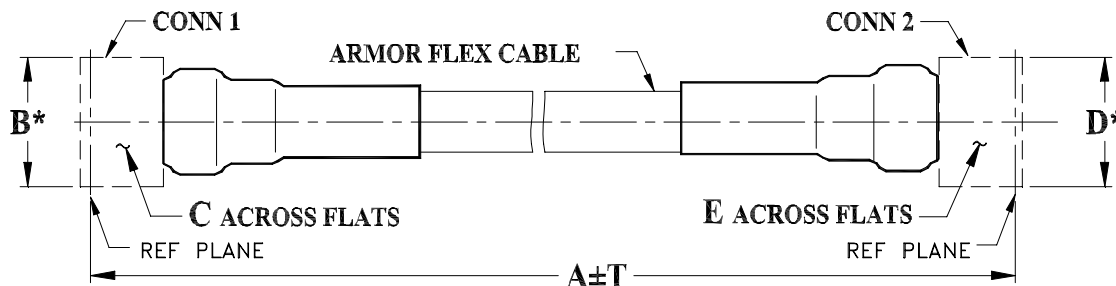
FREQUENCY (MHz)	INSERTION LOSS (dB)	N-MALE 1 RETURN LOSS (dB)	N-MALE 2 RETURN LOSS (dB)
10.0	0.16	36.37	36.09
20.0	0.23	47.61	52.47
30.0	0.28	42.55	41.34
40.0	0.32	41.04	41.53
50.0	0.36	47.04	48.58
60.0	0.40	39.34	40.53
70.0	0.43	54.68	49.54
80.0	0.46	40.20	41.05
90.0	0.49	45.44	45.75
100.0	0.52	42.00	41.59
200.0	0.74	39.49	39.88
300.0	0.92	44.15	43.38
400.0	1.07	42.90	45.73
500.0	1.20	36.88	36.85
600.0	1.32	39.12	38.02
700.0	1.43	44.51	49.65
800.0	1.54	35.52	35.75
900.0	1.64	36.52	35.96
1000.0	1.73	49.13	48.82
1100.0	1.83	36.87	36.43
1500.0	2.16	32.74	32.51
2000.0	2.53	36.28	36.07
2500.0	2.86	34.55	34.45
3000.0	3.17	32.13	31.56
3500.0	3.46	41.90	35.89
4000.0	3.73	34.12	31.36
4500.0	3.99	35.43	34.24
5000.0	4.24	48.82	36.76
5500.0	4.48	41.63	38.29
6000.0	4.71	47.99	45.33
6500.0	4.95	36.94	53.15
7000.0	5.17	36.21	40.32
7500.0	5.37	32.99	46.59
8000.0	5.56	28.19	35.58
8500.0	5.74	26.66	29.36
9000.0	5.92	26.80	43.58
9500.0	6.13	26.01	27.72
10000.0	6.35	23.99	30.59
10500.0	6.44	26.26	24.59
11000.0	6.67	26.85	28.92
11500.0	6.87	27.86	25.71
12000.0	7.09	27.29	25.59
12500.0	7.27	25.35	25.99
13000.0	7.42	27.03	25.81
13500.0	7.60	23.80	24.19
14000.0	7.82	22.21	21.66
14500.0	7.94	23.48	23.28
15000.0	8.04	24.29	25.65
15500.0	8.22	23.37	23.10
16000.0	8.38	21.74	24.91
16500.0	8.52	26.09	26.63
17000.0	8.72	29.00	30.66
17500.0	8.99	28.75	30.95
18000.0	9.09	33.05	34.67

Typical Performance Curves



Outline Dimensions

HW1388



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

HW1388 SERIES

N MALE (CONN-1)

N MALE (CONN-2)

CASE STYLE #	A		B	C	D	E	T		WEIGHT GRAMS
	FEET	METERS					FEET	METERS	
HW1388-1	1	.30	.88 (22.35)	.750 (19.05)	.88 (22.35)	.750 (19.05)	.06	.02	174
HW1388-2	2	.61					.06	.02	250
HW1388-3	3	.91					.09	.03	326
HW1388-3.28	3.28	1.00					.10	.03	347
HW1388-4	4	1.22					.12	.04	402
HW1388-4.92	4.92	1.50					.15	.05	472
HW1388-5	5	1.52					.15	.05	479
HW1388-6	6	1.83					.18	.05	555
HW1388-6.56	6.56	2.00					.20	.06	597
HW1388-7	7	2.13					.21	.06	631
HW1388-8	8	2.44					.24	.07	707
HW1388-9	9	2.74					.27	.08	783
HW1388-9.84	9.84	3.00					.30	.09	847
HW1388-10	10	3.05					.30	.09	860
HW1388-11	11	3.35					.33	.10	936
HW1388-12	12	3.66					.36	.11	1012
HW1388-13	13	3.96					.39	.12	1088
HW1388-14	14	4.27					.42	.13	1164
HW1388-15	15	4.57					.45	.14	1241
HW1388-16	16	4.88					.48	.15	1317
HW1388-16.4	16.4	5.00	.49	.15	1347				
HW1388-17	17	5.18	.51	.16	1393				
HW1388-18	18	5.49	.54	.16	1469				
HW1388-19	19	5.79	.57	.17	1545				
HW1388-20	20	6.10	.60	.18	1622				
HW1388-32.8	32.81	10.00	.98	.30	2598				
HW1388-49.2	49.21	15.00	1.48	.45	3847				
HW1388-125	125	38.10	3.75	1.14	9623				
HW1388-131	131.23	40.00	3.94	1.20	10097				

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

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