FLEX TEST™

Instrumentation Test Cable VNAX-2FT-VMVRF+

50Ω 2 ft DC to 50 GHz Low Loss 2.4 mm Male to 2.4 mm Rugged Female

THE BIG DEAL

- Ultra-Wideband Operation, DC to 50 GHz
- 2.4 mm Rugged Female Connector for Direct Interface With VNA Ports Up to 50 GHz
- Low Insertion Loss and Excellent Return Loss
- Rugged Construction, Crush and Torque Resistant

Generic photo used for illustration purposes only

Model No.	VNAX-2FT-VMVRF+
Case Style	RH2515-2
Connectors	2.4 mm Male to 2.4 mm Rugged Female

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

APPLICATIONS

- Military and Defense Applications
- Research & Development Labs
- Precision Testing

PRODUCT OVERVIEW

Mini-Circuits' VNAX-2FT-VMVRF+ is an ultra-wideband precision instrumentation cable specially designed for use with VNA equipment up to 50 GHz in test environments. The cable provides excellent VSWR and very low insertion loss over its entire frequency range. 2.4 mm rugged female to 2.4 mm male connector configuration provides direct connection from the ports of a VNA to 2.4 mm connectorized devices without the need for adapters. The cable features a rugged crush and torque resistant outer sheath that protects the cable from damage in demanding lab settings.

KEY FEATURES

Features	Advantages
DC to 50 GHz Operation Designed for Use With Vector Network Analyzers (VNA)	Covers a wide range of test applications; rugged 2.4 mm connector interfaces directly with VNA without the need for an adapter for improved VSWR performance and lower cost.
Rugged Cable-Connector Interface	Chrome-plated metal back shell maintains integrity of the cable-connector interface improving the reliability and extending life of use.
Extra Rugged Yet Flexible Armored Cable Construction	100% coverage, non-interleaved, stainless steel spiral sheath provides crush resistance and captured, opposing force steel braid provides torque resistance. PET monofilament yarn outer cover eliminates conductivity and allows easy handling.
2 ft Length	Standard VNA cable length makes this model a high performing, cost-effective replacement for expensive OEM cables.

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ELECTRICAL SPECIFICATIONS AT +25 °C

Parameter	Frequency (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		50	GHz
Length			2		ft
Insertion Loss	DC-18	–	1.3	1.7	dB
	18-26.5	–	1.6	2.0	
	26.5-40	–	2.0	2.6	
	40-50	–	2.4	3.1	
Return Loss	DC-18	19	21	–	dB
	18-26.5	17	20	–	
	26.5-40	16	19	–	
	40-50	15	17	–	

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	+18 °C to +28 °C
Storage Temperature	-40 °C to +50 °C
Power Handling at +25 °C, Sea Level	140 W at 2 GHz 46 W at 18 GHz 38 W at 26.5 GHz 30 W at 40 GHz 25 W at 50 GHz

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

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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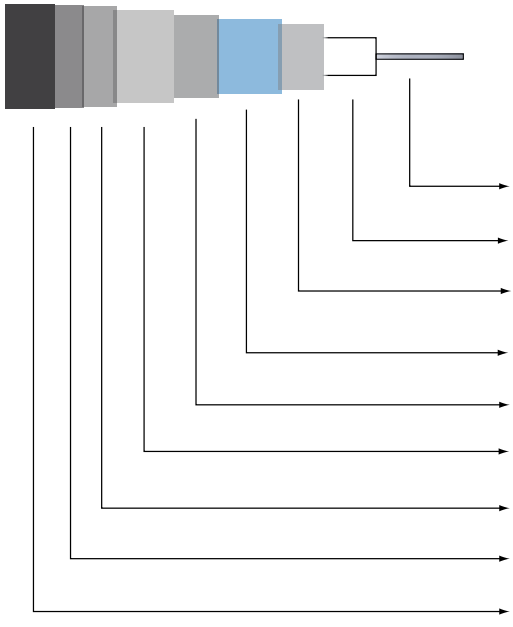
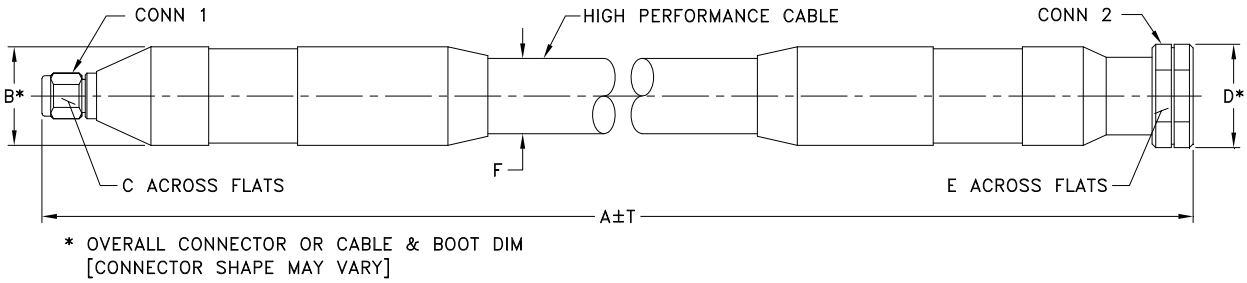
CABLE CONSTRUCTION



Center Conductor:	Solid SPC
Dielectric:	ND-PTFE
Outer Conductor:	SPC Strip
Interlayer:	LD-PTFE
Outer Shield:	SPC Braid
Jacket:	FEP
Armor Spiral:	SUS304
Armor Braid:	Nylon Braid
Armor Jacket:	Nylon Braid (Black)

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch / mm)

A		B	C	D	E	F	T		wt
Feet	Meters	0.79	.315	0.83	.75	.602	Inch	MM	grams
2.00	0.61	20.07	8.00	21.08	19.05	15.29	+.787/-0	+20/-0	328

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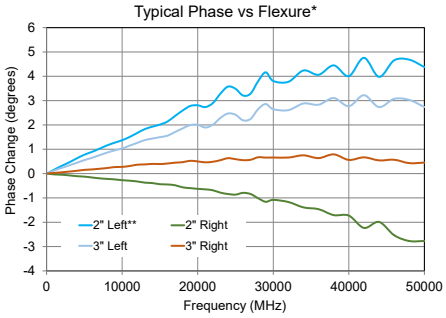
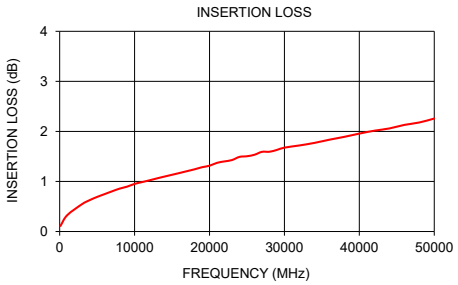
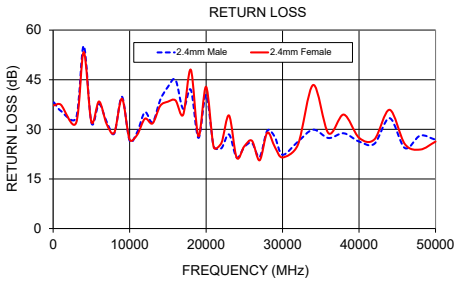
TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		2.4 mm Male	2.4 mm Female
100	0.11	38.17	37.24
1000	0.33	35.59	37.45
4000	0.63	55.21	53.36
6000	0.75	37.66	38.43
10000	0.95	26.56	26.90
14000	1.10	38.88	37.09
18000	1.24	41.96	48.03
22000	1.40	24.27	25.84
27000	1.59	21.64	20.63
30000	1.68	22.31	21.49
32000	1.72	26.25	25.29
34000	1.77	29.89	43.41
36000	1.83	27.38	28.83
38000	1.89	28.80	34.46
40000	1.96	26.32	27.45
50000	2.26	26.85	26.29







* Typical phase change over flexure performed on VNAX-3FT-VMVRF+ by wrapping cable 360° around 2″ and 3″ radii mandrels referenced to normalized straight position.

** Setup is flipped and measurement is repeated.

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