

VNA TEST CABLE ASSEMBLY

For Vector Network Analyzers (VNA)

2021



VNA test cable assembly is a high-performance phase stable test cable mainly utilized in vector network analyzers. It supports continually and frequently repeated bending. Hence it can be applied to high precision microwave electrical parameter testing under environments such as laboratory, production line, testing system etc. From DC to 67GHz, it provides extremely stable VSWR and insertion loss, extraordinary mechanic phase & amplitude stability and repeatedly connection

Additionally, high-precision NMD/APC connector in solid and light mechanical structure withstands bending, squeezing, twisting, stretching and other external forces while maintaining reliable performance. Dressing up with our special stainless steel double spiral strip + black nylon armor, the assembly can effectively extend the service life of the vector network analyzers.



■ Product Features

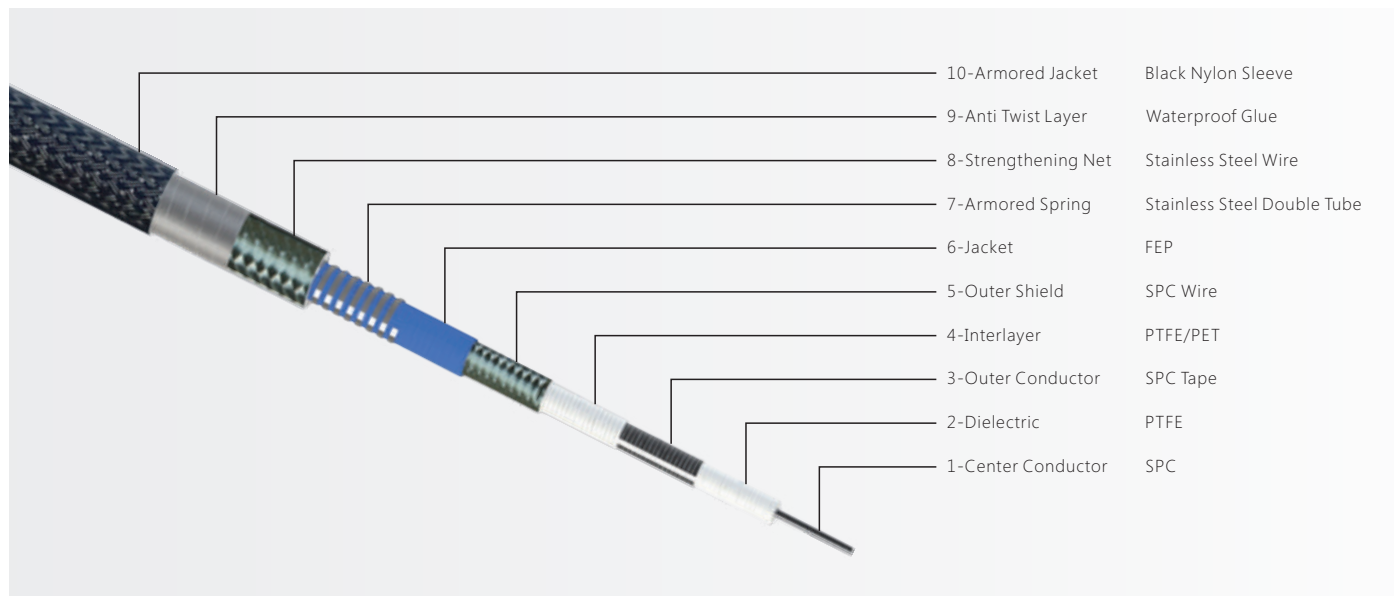
- Extremely accurate measurement with stable electrical performance up to 67GHz
- Same excellent phase & amplitude stability even at flexure
- Super robust cable, equipped with NMD connector, can withstand repeated mating, extrusion, twisting and bending, extraordinary reliability
- Extend the validity of utilization after calibration, reduce the repeated calibrations



■ Product Application

- Vector network analyzer
- Laboratory test
- Critical test& measurement

VNA Cable Construction



VNA Cable Assembly Specifications

Electrical Specifications

VNA Cable Type	V18			V26			V40			V50			V67		
Operating Frequency (GHz)	18			26.5			40			50			67		
Cable Assembly Length (Inch)	25	38	48	25	38	48	25	38	48	25	38	48	25	38	48
Typical VSWR	1.18			1.18			1.25			1.25			1.35		
Maximum VSWR	1.25			1.25			1.32			1.35			1.40		
Typical Insertion Loss (dB)	1.42	2.05	2.54	1.75	2.53	3.12	2.17	3.13	3.88	2.45	3.53	4.36	4.27	6.21	7.70
Maximum Insertion Loss (dB)	1.77	2.41	2.90	2.16	2.93	3.53	2.66	3.62	4.37	2.98	4.07	4.90	4.59	6.54	8.03
Typical Mechanical Phase (°)	2.0	2.0	3.0	2.0	2.0	3.0	1.5	3.0	3.0	1.5	4.0	4.0	4.0	5.0	7.0
Maximum Mechanical Phase (°)	2.5	4.0	4.0	2.7	5.5	5.5	3.0	6.0	6.0	3.5	8.0	8.0	8.5	10.5	10.5
Typical Mechanical Amplitude (dB)	0.02	0.02	0.03	0.01	0.02	0.03	0.02	0.02	0.03	0.01	0.03	0.03	0.02	0.02	0.04
Maximum Mechanical Amplitude (dB)	0.08	0.10	0.10	0.08	0.10	0.10	0.08	0.10	0.10	0.08	0.10	0.13	0.10	0.13	0.20
Impedance (Ω)	50														
Shielding Effectiveness (dB)	>100														
Velocity of Propagation	74%														
Time Delay (ns/cm)	4.5														

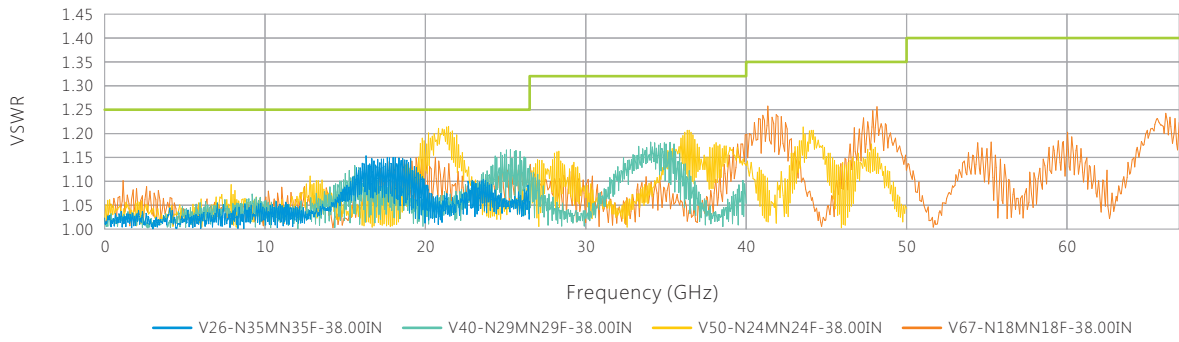
Mechanical Specifications

Outside Diameter of Armored Cable (mm)	14.8														
Minimum Bending Radius:Installation (mm)	74														
Minimum Bending Radius:Repeated (mm)	148														
Weight (g/m)	315	385	455	315	385	455	315	385	455	315	385	455	315	385	455
Flexible Life (cycle)	>50000														
Crush Resistance (kgf/cm)	>150														

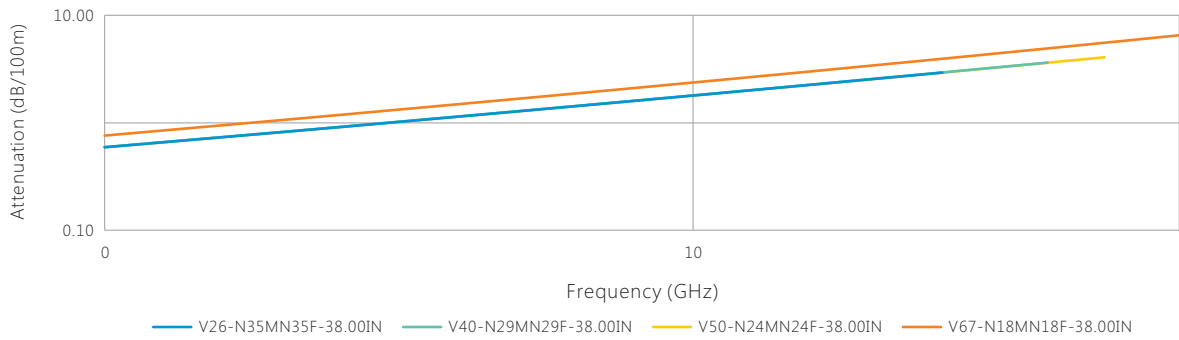
Environmental Specifications

Temperature Range (°C)	-40~+85														
------------------------	---------	--	--	--	--	--	--	--	--	--	--	--	--	--	--

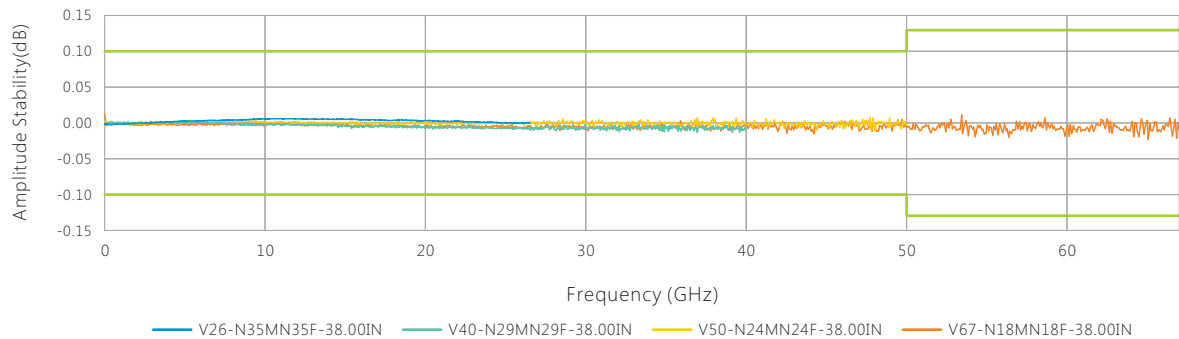
■ VSWR



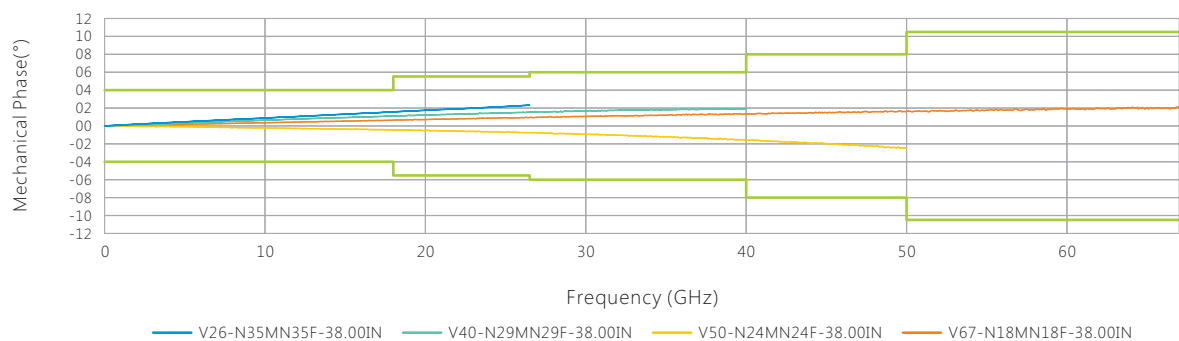
■ Frequency & Attenuation



■ Typical Value of Mechanical Amplitude Stability



■ Typical Value of Mechanical Phase Stability



■ Component Selection Information

1	2	3	-	4	5	6	7	8	9	10	11	-	12	13	14	15	16	17
Cable Type				Connector									Customized Length				Unit	

Digit 1-3: Cable type: V67/V50/V40/V26/V18

Digit 4-7: Left connector, e.g.: N18M

Digit 8-11: Right connector, e.g.: A35F

Digit 12-15: Customized length. e.g.: 1-"01.00"

Digit 16-17: Unit: IN-inch

For example: V67-N18FA18F-25.00IN

■ Connector Type



NMD FEMALE



NMD MALE



APC FEMALE



NMD 7M

■ Connector Selection

VNA Cable Type			V67	V50	V40	V26	V18
Connector Code	Connector Type	Operating Frequency / Diameter	14.8mm				
N18F	NMD 1.85mm Female	67GHz	●				
A18F	APC 1.85mm Female	67GHz	●				
N18M	NMD 1.85mm Male	67GHz	●				
N24F	NMD 2.4mm Female	50GHz		●			
A24F	APC 2.4mm Female	50GHz		●			
N24M	NMD 2.4mm Male	50GHz		●			
N29F	NMD 2.92mm Female	40GHz			●		
A29F	APC 2.92mm Female	40GHz			●		
N29M	NMD 2.92mm Male	40GHz			●		
N35F	NMD 3.5mm Female	26.5GHz				●	
A35F	APC 3.5mm Female	26.5GHz				●	
N35M	NMD 3.5mm Male	26.5GHz				●	
7M	NMD 7mm	18GHz					●

Note: For other connectors, please consult Focusimple sales team

■ VNA 67GHz Series Cable Assemblies-Fast Delivery of Standard Products

Product Code	Products Designation	Connector A	Connector B	Length	Frequency	VSWR	Insertion Loss	Mechanical Phase	Mechanical Amplitude
T-CA21-10151	V67-N18FA18F-25.00IN	NMD 1.85mm Female	APC 1.85mm Female	25 inches	67GHz	1.40	4.59dB	±8.5°	±0.10dB
T-CA21-10152	V67-N18MN18F-25.00IN	NMD 1.85mm Male	NMD 1.85mm Female	25 inches	67GHz	1.40	4.59dB	±8.5°	±0.10dB
T-CA21-10153	V67-N18FA18F-38.00IN	NMD 1.85mm Female	APC 1.85mm Female	38 inches	67GHz	1.40	6.54dB	±10.5°	±0.13dB
T-CA21-10154	V67-N18MN18F-38.00IN	NMD 1.85mm Male	NMD 1.85mm Female	38 inches	67GHz	1.40	6.54dB	±10.5°	±0.13dB
T-CA21-10155	V67-N18FA18F-48.00IN	NMD 1.85mm Female	APC 1.85mm Female	48 inches	67GHz	1.40	8.03dB	±10.5°	±0.20dB
T-CA21-10156	V67-N18MN18F-48.00IN	NMD 1.85mm Male	NMD 1.85mm Female	48 inches	67GHz	1.40	8.03dB	±10.5°	±0.20dB

Note: if you need other length, please consult Focusimple sales team.

■ VNA 50GHz Series Cable Assemblies-Fast Delivery of Standard Products

Product Code	Products Designation	Connector A	Connector B	Length	Frequency	VSWR	Insertion Loss	Mechanical Phase	Mechanical Amplitude
T-CA21-10157	V50-N24FA24F-25.00IN	NMD 2.4mm Female	APC 2.4mm Female	25 inches	50GHz	1.35	2.98dB	±3.5°	±0.08dB
T-CA21-10158	V50-N24MN24F-25.00IN	NMD 2.4mm Male	NMD 2.4mm Female	25 inches	50GHz	1.35	2.98dB	±3.5°	±0.08dB
T-CA21-10159	V50-N24FA24F-38.00IN	NMD 2.4mm Female	APC 2.4mm Female	38 inches	50GHz	1.35	4.07dB	±8.0°	±0.10dB
T-CA21-10160	V50-N24MN24F-38.00IN	NMD 2.4mm Male	NMD 2.4mm Female	38 inches	50GHz	1.35	4.07dB	±8.0°	±0.10dB
T-CA21-10161	V50-N24FA24F-48.00IN	NMD 2.4mm Female	APC 2.4mm Female	48 inches	50GHz	1.35	4.90dB	±8.0°	±0.13dB
T-CA21-10162	V50-N24MN24F-48.00IN	NMD 2.4mm Male	NMD 2.4mm Female	48 inches	50GHz	1.35	4.90dB	±8.0°	±0.13dB

Note: if you need other length, please consult Focusimple sales team.

■ VNA 40GHz Series Cable Assemblies-Fast Delivery of Standard Products

Product Code	Products Designation	Connector A	Connector B	Length	Frequency	VSWR	Insertion Loss	Mechanical Phase	Mechanical Amplitude
T-CA21-10163	V40-N29FA29F-25.00IN	NMD 2.92mm Female	APC 2.92mm Female	25 inches	40GHz	1.32	2.66dB	±3.0°	±0.08dB
T-CA21-10164	V40-N29MN29F-25.00IN	NMD 2.92mm Male	NMD 2.92mm Female	25 inches	40GHz	1.32	2.66dB	±3.0°	±0.08dB
T-CA21-10165	V40-N29FA29F-38.00IN	NMD 2.92mm Female	APC 2.92mm Female	38 inches	40GHz	1.32	3.62dB	±6.0°	±0.10dB
T-CA21-10166	V40-N29MN29F-38.00IN	NMD 2.92mm Male	NMD 2.92mm Female	38 inches	40GHz	1.32	3.62dB	±6.0°	±0.10dB
T-CA21-10167	V40-N29FA29F-48.00IN	NMD 2.92mm Female	APC 2.92mm Female	48 inches	40GHz	1.32	4.37dB	±6.0°	±0.10dB
T-CA21-10168	V40-N29MN29F-48.00IN	NMD 2.92mm Male	NMD 2.92mm Female	48 inches	40GHz	1.32	4.37dB	±6.0°	±0.10dB

Note: if you need other length, please consult Focusimple sales team.

■ VNA 26.5GHz Series Cable Assemblies-Fast Delivery of Standard Products

Product Code	Products Designation	Connector A	Connector B	Length	Frequency	VSWR	Insertion Loss	Mechanical Phase	Mechanical Amplitude
T-CA21-10169	V26-N35FA35F-25.00IN	NMD 3.5mm Female	APC 3.5mm Female	25 inches	26.5GHz	1.25	2.16dB	±2.7°	±0.08dB
T-CA21-10170	V26-N35MN35F-25.00IN	NMD 3.5mm Male	NMD 3.5mm Female	25 inches	26.5GHz	1.25	2.16dB	±2.7°	±0.08dB
T-CA21-10171	V26-N35FA35F-38.00IN	NMD 3.5mm Female	APC 3.5mm Female	38 inches	26.5GHz	1.25	2.93dB	±5.5°	±0.10dB
T-CA21-10172	V26-N35MN35F-38.00IN	NMD 3.5mm Male	NMD 3.5mm Female	38 inches	26.5GHz	1.25	2.93dB	±5.5°	±0.10dB
T-CA21-10173	V26-N35FA35F-48.00IN	NMD 3.5mm Female	APC 3.5mm Female	48 inches	26.5GHz	1.25	3.53dB	±5.5°	±0.10dB
T-CA21-10174	V26-N35MN35F-48.00IN	NMD 3.5mm Male	NMD 3.5mm Female	48 inches	26.5GHz	1.25	3.53dB	±5.5°	±0.10dB

Note: if you need other length, please consult Focusimple sales team.

■ VNA 18GHz Series Cable Assemblies-Fast Delivery of Standard Products

Product Code	Products Designation	Connector A	Connector B	Length	Frequency	VSWR	Insertion Loss	Mechanical Phase	Mechanical Amplitude
T-CA21-10175	V18-7M7M-25.00IN	NMD 7mm	NMD 7mm	25 inches	18GHz	1.25	1.77dB	±2.5°	±0.08dB
T-CA21-10176	V18-7M7M-38.00IN	NMD 7mm	NMD 7mm	38 inches	18GHz	1.25	2.41dB	±4.0°	±0.10dB
T-CA21-10177	V18-7M7M-48.00IN	NMD 7mm	NMD 7mm	48 inches	18GHz	1.25	2.90dB	±4.0°	±0.10dB

Note: if you need other length, please consult Focusimple sales team.



JIAXING FOCUSIMPLE ELECTRONICS CO.,LTD

Factory: 2nd F, Bldg 2, No.587 Taoyuan Rd, Xiuzhou Dist., Jiaxing, Zhejiang Prov., China
Tel: 0573-83528518
Fax: 0573-83528519

Sales Office: 602, No.24, Lane 298, Shuiqing Road, Minhang District, Shanghai
Tel: 021-64309869
Fax: 021-64307805

Web: www.focusimple.com
E-mail: int@focusimple.com