

- Automotive: Collision avoidance radar test
- Communications: Point-to-point backhaul system test
- Wafer Test: Probe Connections
- Electronic Warfare: Targeting/tracking systems, satellite testing
- Environmental: Remote atmospheric sensing



Photo courtesy of Anritsu



Photo courtesy of Keysight



SilverLine®-VNA 110 GHz is an armored, extremely high frequency coax cable assembly designed for use where waveguide is impractical .

SilverLine®-VNA 110 GHz now offers the user working in these frequencies an alternative to the limited selection of semi - rigid solutions offered by current suppliers. Test technicians experienced in the use and handling of traditional 110 GHz products will find Times' solution to be more than competitive for RF stability and overall product life.

Features & Benefits:

- Flexible / rebendable
- Steel armored, torque resistant
- Nomex® outer sleeve (Nomex® is a registered trademark of DuPont)
- 1.0mm male and female connectors
- ROHS Compliant

Connectors:

Stainless steel. Solder contact and braid. Additional crimp to armor for added strength and torsion resistance.

1. Standard "tick-tock" flex test. Contact Times for test details.

Care and Handling Guidelines:

While armored, 110 GHz cables are sensitive microwave instruments. Flexible cables can easily be forced beyond the recommended minimum bend radius. This will likely degrade or destroy the RF performance. All flexible cables have a limited flex life. Develop procedures that limit flexing. 1.0mm interfaces are delicate. Keep them meticulously clean and the center contacts concentric within the outer contact. Use a microscope to examine if necessary. DO NOT mate connectors that are dirty, suspected of being damaged or outside concentric tolerances. Connectors MUST be aligned when mating. Misalignment will damage the interfaces and voids the warranty. Test equipment makers publish extensive use and handling procedures on their websites that cover these and related topics.

Always:

- Inspect interfaces before every mate. Clean if needed.
- Gently start the coupling nut and fully thread with fingers first.
- Hand tighten, but use a calibrated torque wrench to tighten. 4 lbs max.
- Limit use to experienced technicians.
- Cap connectors and store cables separately in a protective container.
- Keep a spare pair of cables ready, just in case.

NEVER:

- Force the cable to bend beyond the recommended minimum radius.
- Force two connectors. If any resistance is felt STOP and examine.

Warranty

Product to be free from workmanship and materials defects and to meet stated data sheet performance for a period of 90 days. Excludes cable or connector interface damage from misuse, abuse, mishandling or mis-mating outside the data sheet recommendations. Warranty claims are subject to factory analysis and may include analysis charges depending on findings.

Ordering Information:

SilverLineSteel ArmoredVNA
(Nomex® cover)

SLSV 110-XXXXXX-CM

110 GHz

Connector Codes

10M = 1.0mm Male
10F = 1.0mm Female

Whole centimeters
(7 cm min, 45 cm
max length)

First Connector
↓
Second Connector

A brand new cable can have a break-in period of several hundred flexes.

Mechanical Specifications		
Dimensions	in	mm
Armored Diameter: armor/strain relief	0.180	4.60
Min bend radius, armored (max flex life)	0.40	10
Mating life cycle *	500	
Temperature range	-85°/+ 257°F	-65°/+125°C
Electrical Specifications		
Impedance	50 Ohms	
Velocity of Propagation	78%	
Shielding Effectiveness	>100 dB	
Capacitance	25.9 pf/ft (85 pf/m)	
VSWR (maximum)	110 GHz	
	1.4:1	
Phase Stability (degrees) **	typical	+/- 10°
Attenuation, max@77°F (25°C)	dB/100 ft	(dB/100 m)
50 GHz	328	1076
72 GHz	398	1306
84 GHz	433	1419
96 GHz	465	1524
110 GHz	501	1642

Maximum attenuation at any frequency: $(K1 \times \sqrt{f(\text{GHz})}) + (K2 \times f(\text{GHz}))$ K1=1.430, K2=0.0129

Specifications subject to change without notice

* Mating life requires hand tightening and/or the strict use of a calibrated torque wrench and clean interfaces that are within the IEEE 287 precision connector standards.

** RF stability and flex life are in accordance with the flex test method example. Data is for cables 4ft or shorter. Longer cables may exhibit different stability characteristics. A cable will exhibit some instability when new. A very brief period of use is required to alleviate cable component stresses from manufacturing after which the cable will "settle" and maintain the values stated.

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