



# NITROWAVE™

## HIGH-PERFORMANCE MICROWAVE CABLE ASSEMBLIES

DC TO

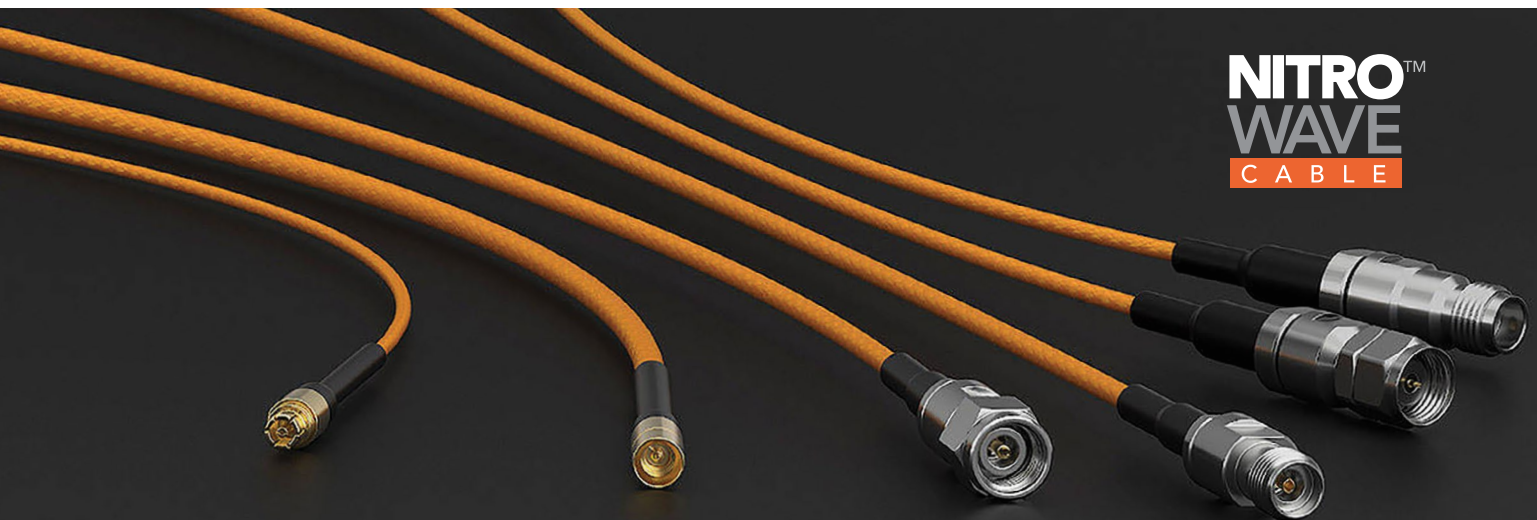
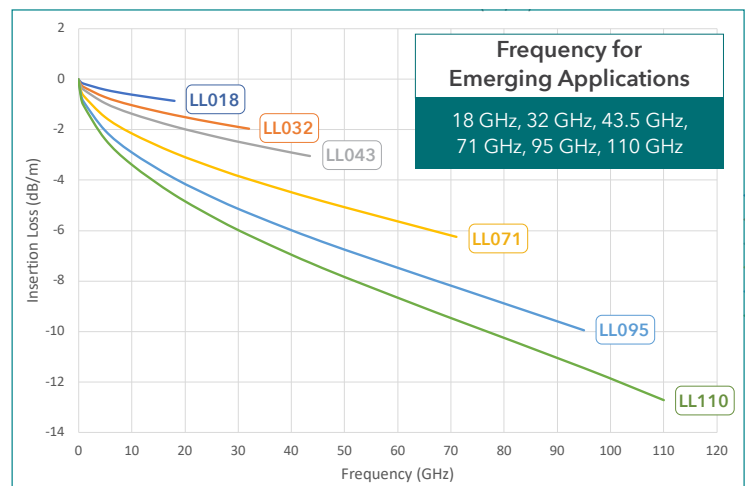
110  
GHz

Samtec's new Nitrowave™ Phase & Amplitude Stable RF Cable offers improved stability with flexure. The coaxial structure – with an outer jacket colored in **distinctive Samtec orange** – is designed to meet the demands of aerospace, defense, datacom, computer/semiconductor, and instrumentation markets. Performance is optimized at frequencies beyond traditional industry targets to support emerging applications.

### NITROWAVE™ CABLE TECHNOLOGY

- High-performance, low-loss microwave cable assemblies
- Phase and amplitude stable with flexure
- Consistent contact resistance between layers
- Lower density dielectric minimizes loss
- State-of-the-art shielding techniques and Dynamic Performance Layer (DPL)
- Silver plating enhancements mitigate corrosion potential
- Electrical performance optimized at next generation frequencies (GHz): 18, 32, 43.5, 71, 95, 110
- Mechanical and environmental robustness
- Phase vs. Bending =  $< 0.2^\circ \times F(\text{GHz})$
- VSWR = 1.4:1 @ 43.5 GHz (LL043 Series)
- Typical phase vs. temp and power handling: see product specification sheet

### MAXIMUM INSERTION LOSS (dB/m)



**NITRO**  
**WAVE**  
CABLE

*"We challenged every assumption about what makes a great cable and did not rest until we optimized every element. We invested in new technologies, and new materials, allowing for better process controls and ultimately better overall performance and stability."*

*~ Microwave Cable Engineering Manager, Samtec*

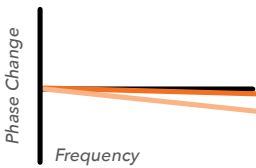
# NITROWAVE™ CABLE SPECIFICATIONS

## LOW-LOSS CABLE CONSTRUCTION WITH DPL

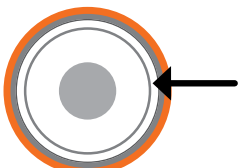


## DYNAMIC PERFORMANCE LAYER IMPROVES STABILITY

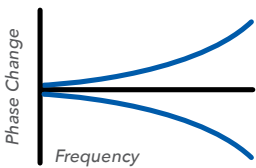
The addition of a DPL improves stability resulting in more accurate, dependable performance.



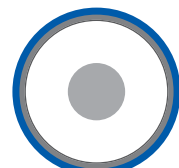
Good Stability vs Flexure



With DPL



Poor Stability vs Flexure



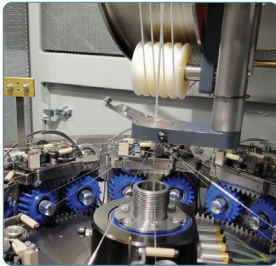
Without DPL

Series	LL018	LL032	LL043	LL071	LL095	LL110
Impedance ( $\Omega$ )	50					
Max Frequency (GHz)	18	32	43.5	71	95	110
Outer Dia. (inches)	0.309	0.182	0.141	0.094	0.076	0.068
Min Static Bend Radius (inches)	1.25	0.375	0.25	0.125	0.156	0.156
Velocity of Propagation (%)	77					
Min Shielding Effectiveness (dB)	-90					
Temp Range ( $^{\circ}\text{C}$ )	-65 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$					
Insertion Loss	See Maximum IL Chart on Previous Page					
End 1 / End 2	1.00 mm, 1.35 mm, 1.85 mm, 2.40 mm, 2.92 mm, SMPM, SMP, SMA, N Type, TNCA					

## TESTING & TECHNICAL SUPPORT

High-level design and development of advanced interconnect systems along with industry leading expertise allow us to offer effective strategies and support for optimizing the entire signal channel.

RF technical support includes launch optimization, simulation, and testing. Contact the [RFGroup@samtec.com](mailto:RFGroup@samtec.com) to discuss your application and testing requirements.



Please visit [samtec.com/Nitrowave](https://www.samtec.com/Nitrowave) for additional information.