



## MEGAPHASE ALUMIBEND™ CABLES TO 90 GHZ



### AlumiBend™ Cables to 90 GHz

Space-Qualified, Ultra-Light Performance

- Lightweight aluminum-jacketed cable assemblies up to 40% lighter than copper for weight-sensitive applications
- Low-loss, phase-stable performance across temperature with operation up to 90 GHz
- Space-qualified, multipaction-resistant design that can be bent to shape while maintaining form

### Electrical Data

Maximum Frequency	Impedance	Propagation Velocity	Time Delay
AL047: 90 GHz AL086: 67 GHz AL141: 26.5 GHz	50 Ω nominal	76.5% nominal	1.33 ns/ft (4.36 ns/m)
Shielding Effectiveness	Dielectric Withstanding Voltage	Capacitance	
-110 dB minimum (cable only)	AL047: 2.0 kV at 60 Hz AL086 & AL141: 5.0 kV rms at 60 Hz	29 pF/ft (95.1 pF/m)	

### Mechanical Data

Finished Outer Diameter	Static Bend Radius	Weight with Standard Jacket/ Armor	Operating Temp Range
AL047: 0.047 in (0.119 cm) AL086: 0.0865 in (0.220 cm) AL141: 0.141 in (0.358 cm)	AL047: 0.125 in (0.318 cm) AL086: 0.25 in (0.635 cm) AL141: 0.50 in (1.270 cm)	AL047: 0.0022 lbs./ft (0.0033 kg/m) AL086: 0.0063 lbs./ft (0.0094 kg/m) AL141: 0.0167 lbs./ft (0.0249 kg/m)	-67 to 482°F (-55 to +250°C)

### Cable Construction

Inner Conductor	Dielectric	Outer Conductor
Solid Ag-plated Cu	LD PTFE	Ag-plated Al

### Available Connectors

(Cable Dependent)  
1.85 mm, 2.4 mm, 2.92 mm, 3.5 mm,  
SMA, TNC, Type N  
Other connectors available upon request



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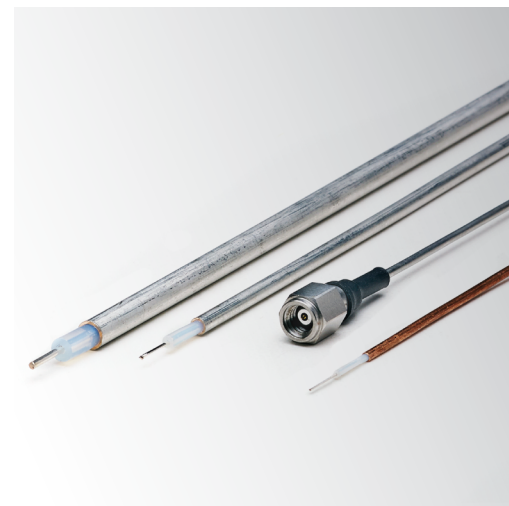
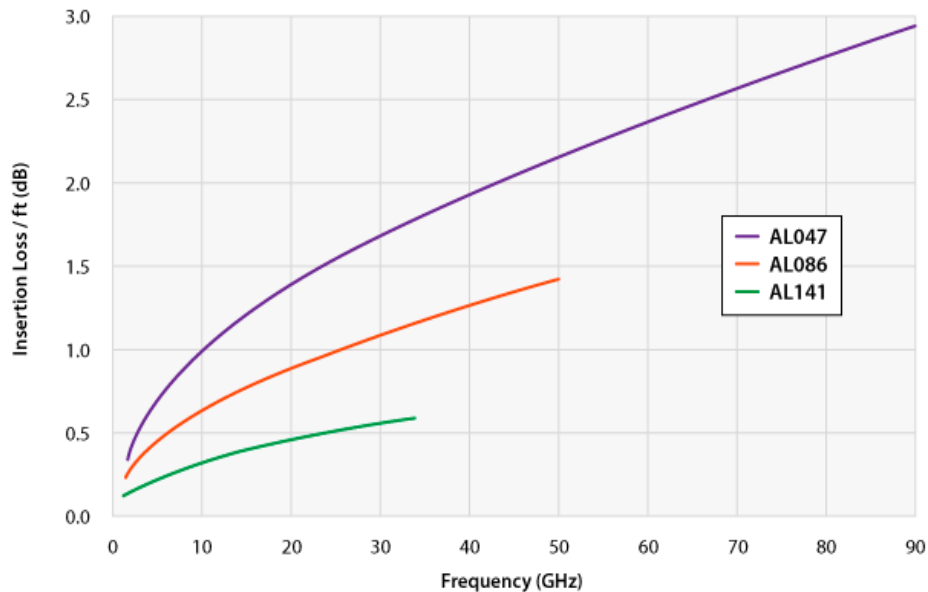
### Specifications

Frequency		AL047		AL086		AL141		Conn Loss dB	VSWR
Band	GHz	Attenuation		Attenuation		Attenuation			
		dB/ft	dB/m	dB/ft	dB/m	dB/ft	dB/m		
UHF	0.3	0.165	0.540	0.107	0.351	0.055	0.180	0.006	1.10
	0.5	0.213	0.697	0.138	0.454	0.071	0.232	0.009	
	0.8	0.269	0.882	0.175	0.574	0.090	0.294	0.012	
L	1.0	0.301	0.987	0.196	0.642	0.100	0.328	0.014	
S	2.0	0.426	1.397	0.277	0.910	0.142	0.465	0.024	1.15
	2.4	0.467	1.531	0.304	0.997	0.155	0.509	0.027	
	3.0	0.522	1.712	0.340	1.116	0.174	0.570	0.032	
C	4.0	0.603	1.978	0.393	1.290	0.201	0.658	0.040	
	6.0	0.740	2.426	0.482	1.582	0.246	0.806	0.055	
X	8.0	0.855	2.804	0.558	1.830	0.284	0.932	0.070	1.20
	10.0	0.957	3.138	0.625	2.049	0.318	1.042	0.084	1.25
	12.4	1.066	3.498	0.697	2.285	0.354	1.161	0.101	1.30
Ku	15.0	1.174	3.850	0.767	2.517	0.390	1.278	0.118	
	18.0	1.287	4.222	0.842	2.761	0.427	1.400	0.139	
K	20.0	1.358	4.453	0.888	2.913	0.450	1.477	0.152	1.35
	22.0	1.425	4.673	0.932	3.058	0.472	1.549	0.165	
	24.0	1.489	4.884	0.975	3.196	0.493	1.619	0.178	
	26.5	1.566	5.135	1.025	3.362	0.519	1.702	0.194	
Ka	28.0	1.610	5.280	1.054	3.458			0.204	1.40
	30.0	1.667	5.468	1.092	3.582			0.217	
	32.0	1.723	5.650	1.129	3.702			0.230	
	34.0	1.776	5.827	1.164	3.819			0.243	1.45
	36.0	1.829	5.998	1.199	3.932			0.256	
V	40.0	1.929	6.328	1.265	4.150			0.281	1.50
	45.0	2.048	6.719	1.344	4.409			0.313	
	50.0	2.161	7.089	1.419	4.654			0.344	1.55
	60.0	2.372	7.779	1.558	5.112			0.406	
	67.0	2.509	8.230	1.650	5.411			0.450	
W	80.0	2.747	9.011					0.503	1.60
	90.0	2.918	9.571					0.591	

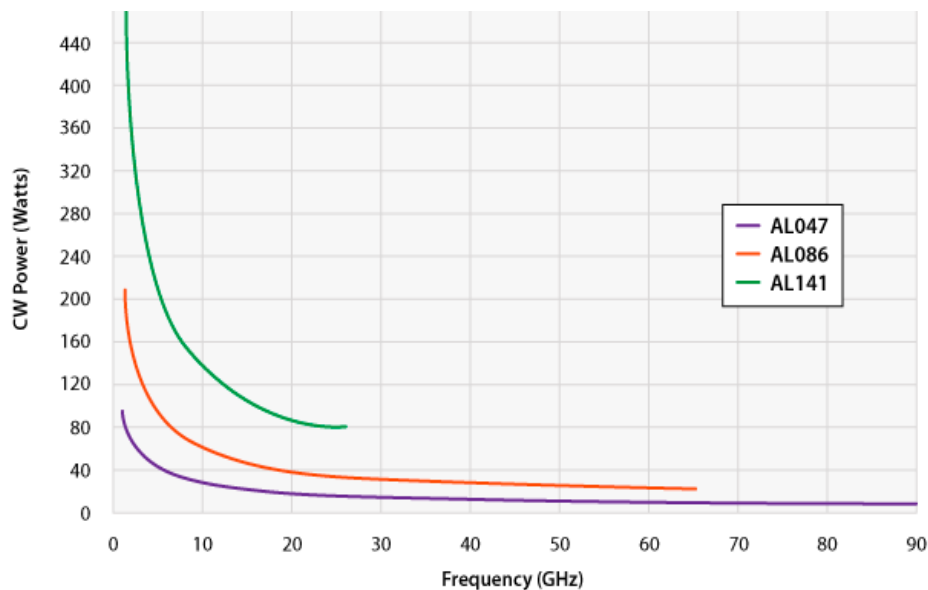


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### Insertion Loss



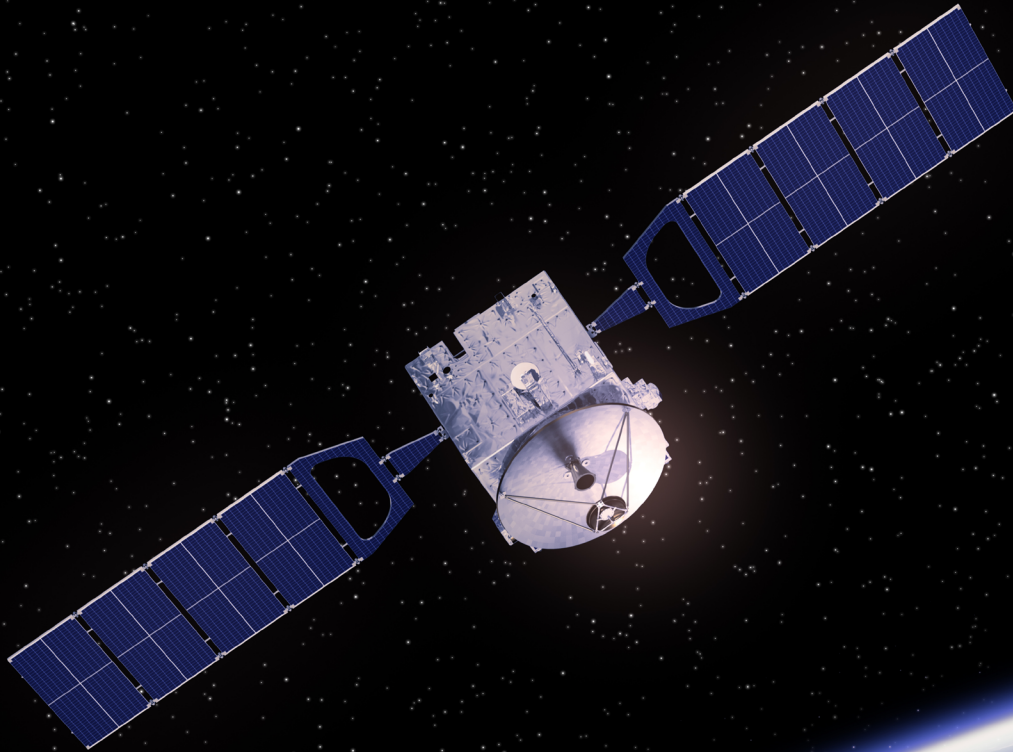
### Cable CW Power Handling





# MegaPhase®

*With the right connection anything is possible*



**Visit us at [megaphase.com](http://megaphase.com)**

## About us

Founded in 1998 and headquartered in Stroudsburg, Pennsylvania, MegaPhase designs and manufactures high-performance RF coaxial cables and connectors for OEMs in critical markets including test instrumentation, defense, aerospace, telecommunications, and satellite systems. Serving more than 500 customers in 30 countries—including major technology leaders and the U.S. government—MegaPhase is best known for its industry-leading GrooveTube® technology, a breakthrough flexible cable design used in high-reliability, high-power, and phase-defined applications across ground, sea, air, and space platforms. All products are manufactured in-house, tested 100% in a state-of-the-art RF lab up to 110 GHz, and engineered to deliver exceptional phase stability, low loss, and long-term measurement repeatability, helping customers achieve more reliable results at a lower cost per measurement.

**MegaPhase**

122 Banner Road, Stroudsburg, PA 18360-6433 | Tel: 570-424-8400 | [Solutions@MegaPhase.com](mailto:Solutions@MegaPhase.com)