



With the right connections,  
anything is possible.

## AlumiBend™ Cables to 90 GHz Space Qualified and Ultra-Light

- Phase stable over temperature
- Low loss
- Multipaction Resistant
- 40% lighter than copper
- For applications up to 90 GHz
- Space Qualified

MegaPhase's aluminum jacketed semi-rigid coaxial cable assemblies are cost-effective, high-performance alternatives to standard semi-rigid coax. Suitable for applications up to 90 GHz, these low loss cable assemblies feature a microporous dielectric, which provides lower attenuation and higher operating temperatures. Additionally, AlumiBend™ offers great phase stability vs. temperature when compared to solid PTFE semi-rigid cables. The MegaPhase AL Series is unique in that it is easily bent to its finished shape and still maintains its shape after bending. These cable assemblies are Space Qualified and are 40% lighter than their copper jacketed equivalents

### Electrical Data

**Maximum Frequency:**

AL047: 90 GHz

AL086: 50.0 GHz

AL141: 34.0 GHz

**Impedance:**

50  $\Omega$  nominal

**Propagation Velocity:**

76.5% nominal

**Time Delay:**

1.33 ns/ft (4.36 ns/m)

**Shielding Effectiveness:**

-110 dB minimum (cable only)

**Dielectric Withstanding Voltage:**

AL047: 2.0 kV at 60 Hz

AL086 & AL141: 5.0 kV rms at 60 Hz

**Capacitance:**

29 pF/ft (95.1 pF/m)

### Mechanical Data

**Finished Outer Diameter:**

AL047: 0.047 in (0.119 cm)

AL086: 0.0865 in (0.220 cm)

AL141: 0.141 in (0.358 cm)

**Static Bend Radius:**

AL047: 0.125 in (0.318 cm)

AL086: 0.25 in (0.635 cm)

AL141: 0.50 in (1.270 cm)

**Weight with Standard Jacket/Armor:**

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)

**Operating Temp. Range:**

-67 to 482° F (-55 to +250° C)



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## AlumiBend™ Cables to 90 GHz (continued)

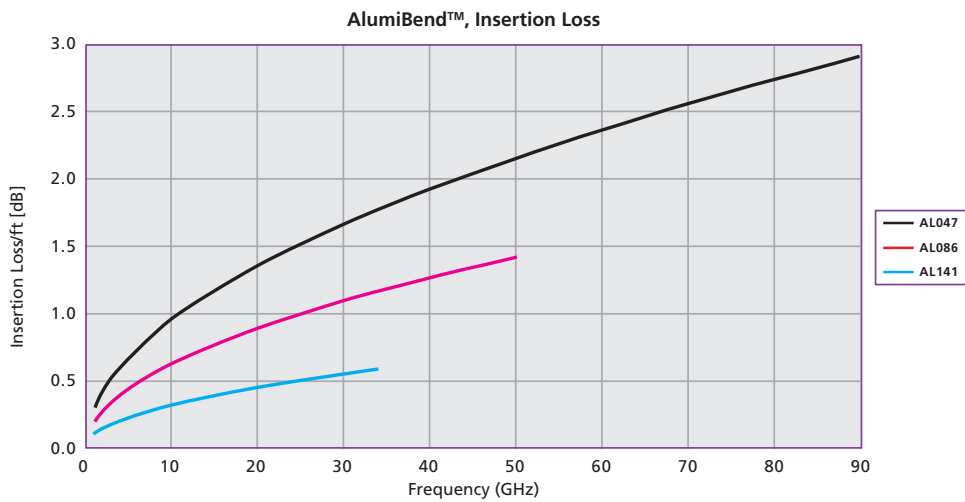
### Cable Construction

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

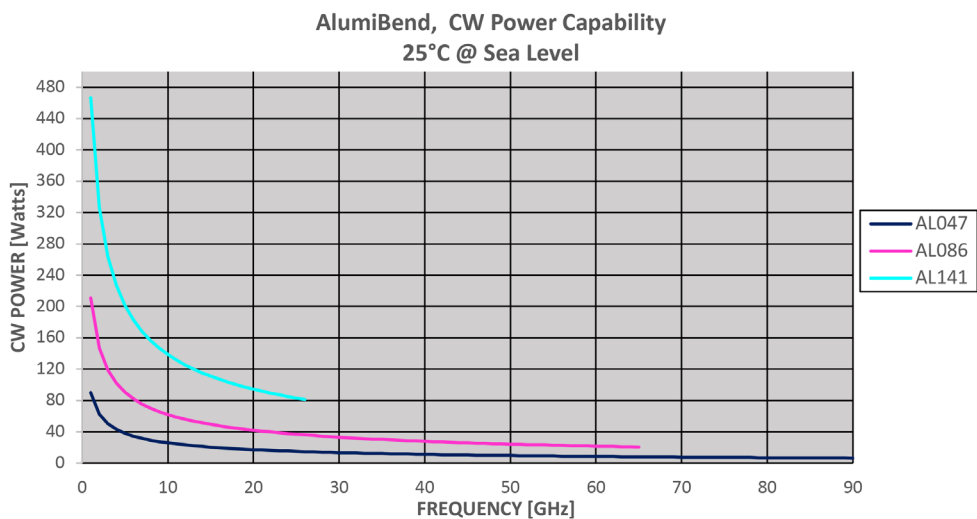
### Available Connectors (cable dependent)

1.85mm, 2.4mm, 2.92mm, 3.5mm,  
SMA, TNC, Type N

### Insertion Loss



### Cable CW Power Handling





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## AlumiBend™ Cables to 90 GHz (continued)

### 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	