

MegaPhase®



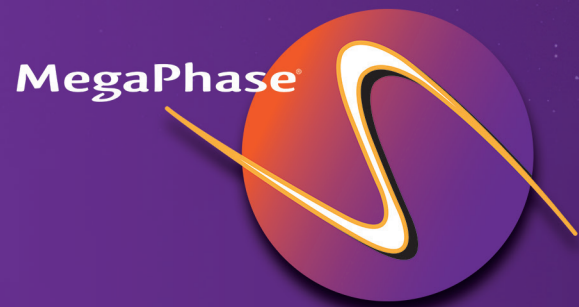
Megaphase Space Capabilities

Cables and Connectors For Space Applications



Test & Measurement Cables
RF & Microwave Cables
RF Components
Connectors
Adapters & Accessories

With the right connections, anything is possible.



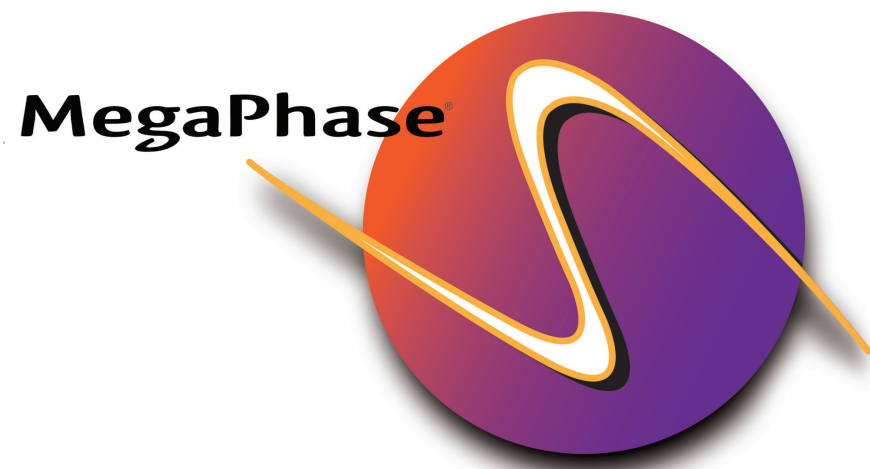
With the right connections, anything is possible

The cables & RF components in your electronic system may not be the most important components to you, but they're everything to us.

We design and manufacture cables & RF components with the understanding that if a connection fails, it can take your whole system with it. That's why our products are known for superior phase & amplitude stability, excellent measurement repeatability, and extra rugged mechanical strength. It's why we developed a unique way to wrap some of our cable in flexible "armor." And why every component shipped from MegaPhase is thoroughly tested and retested. We also provide a powerful warranty, the most responsive deliveries, and highly competitive pricing. Because doing one thing right just isn't enough. Not for us; and not for you.

Call us at 570-424-8400 or Solutions@MegaPhase.com.

Visit us online www.MegaPhase.com



MegaPhase Space Cable and Assemblies

Space Qualified, Ultra Lightweight, High Frequency

Since 1998, MegaPhase has designed and manufactured industry-leading radio frequency interconnect solutions that have allowed some of the biggest names in electronic technology to soar to new heights. Now, with more than 500 active customers in 30 countries, including the U.S. Government and its allies, MegaPhase has become the trusted source of high-performance radio frequency (RF) coaxial cables and connectors, operating from DC-110 GHz, for innovations in advanced microwave and optical electronic systems on the ground, sea, air, and space.

MegaPhase Advances Space Technology

MegaPhase is proud to have provided high-performance telemetry components to past and future space exploration missions, such as the historic long duration Hayabusa program; the first mission to land a spacecraft on an asteroid and return a sample to Earth. MegaPhase products will help propel future innovations such as Echostar's Jupiter-3, an advanced satellite to expand broadband capacity over North and South America, and World View Legion, the next generation of Earth-imaging systems, providing advanced mapping and analysis for emergency response, maritime surveillance, and infrastructure needs.





AlumiBend™ for SPACE:

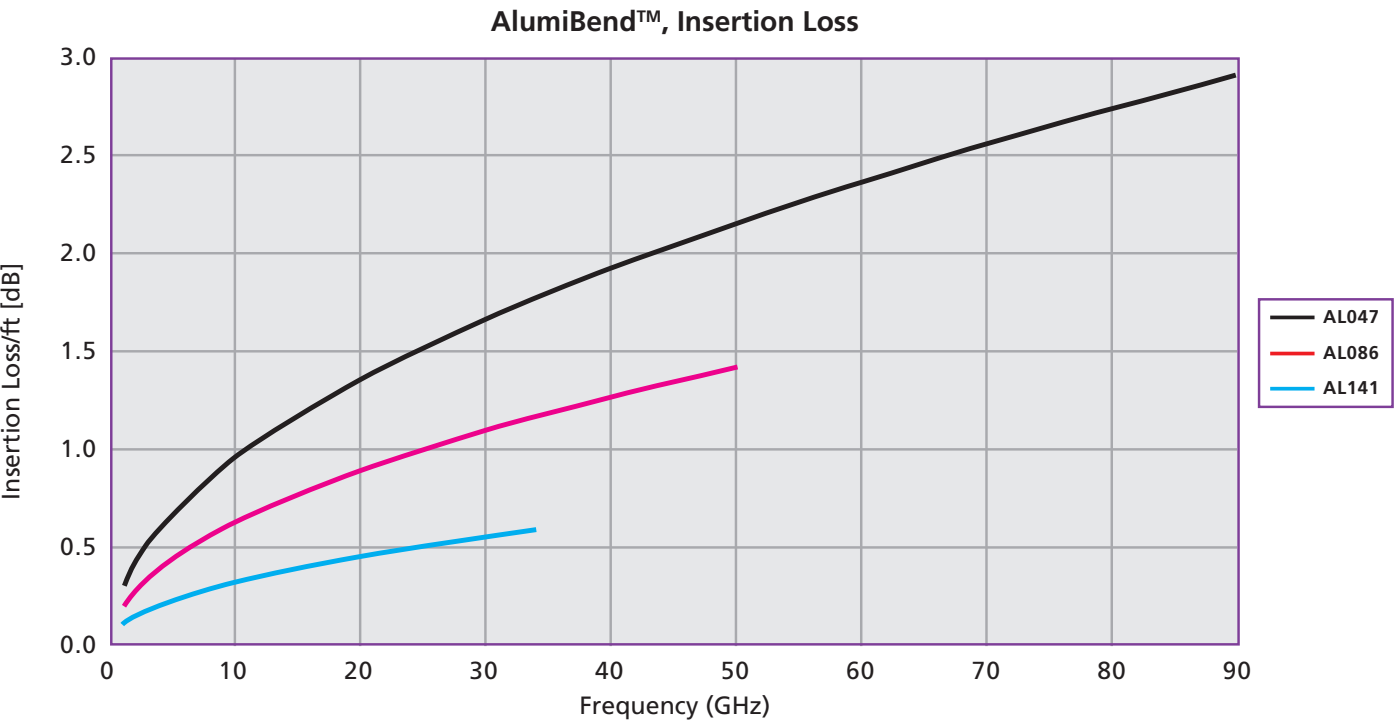
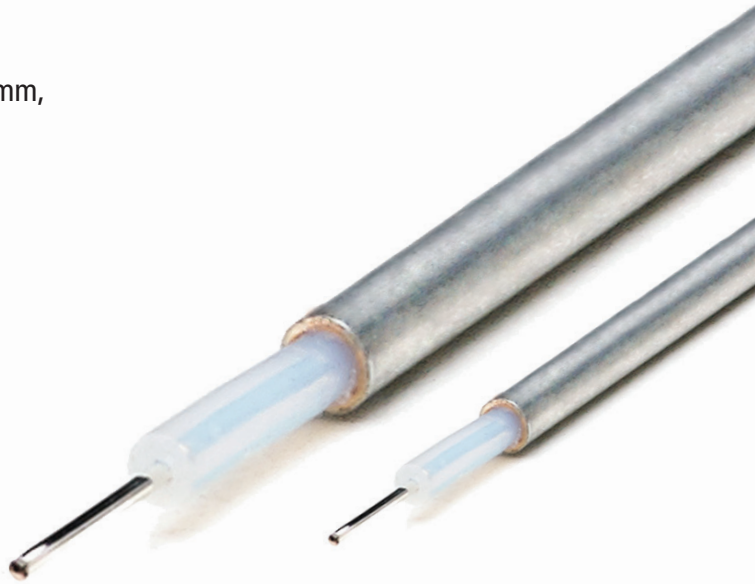
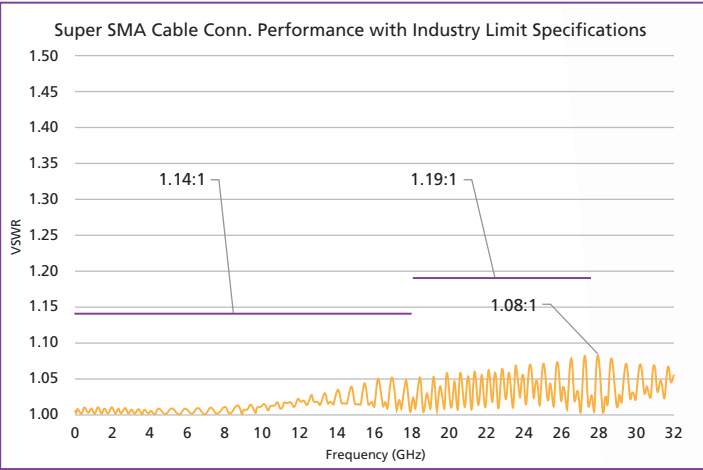
Lightweight and Extended Frequency Performance:

- Phase Stable
- High Shielding Effectiveness
- Multipaction Resistant
- 90 GHz
- Meets ESCC 3408 (Space Qualification).

AlumiBend™ enters the RF microwave space race. Qualified with MegaPhase’s Super SMA Connectors to withstand the most extreme space environments and meet ESCC 3408. Light weight cable materials reduce overall weight by 40% and enable assemblies to be hand formed into a static configuration. The cable is engineered to provide enhanced phase stability over temperature and excellent phase tracking characteristics. The Super SMA is backward compatible with standard MIL-STD-348 SMA interfaces. MegaPhase can engineer customized interconnect solutions to fit your most challenging form factor.

AlumiBend™

- Inner Conductor:** Solid Ag-plated Cu
Dielectric: LD PTFE
Outer Conductor: Ag-plated Al
Available Connectors: 1.85mm, 2.4mm, 2.92mm, 3.5mm, SMA, Super SMA, TNC, Type N



| Part Number | AL047 | AL086 | AL141 |
|---------------------------|----------------|----------------|----------------|
| Operating Frequency (max) | 90 GHz. | 50 GHz. | 34 GHz. |
| Weight (lbs/ft) | 0.0022 | 0.0063 | 0.0167 |
| Operating Temp (c) | -55° to + 250° | -55° to + 250° | -55° to + 250° |
| Propagation Velocity | 76.5% | 76.5% | 76.5% |
| Time delay | 1.33 ns/ft | 1.33 ns/ft | 1.33 ns/ft. |
| Shielding Effectiveness | - 110 dB | - 110 dB | - 110 dB |



AlumiBend™

| Frequency | | AL047 | | AL086 | | AL141 | | Conn Loss dB | VSWR |
|-----------|------|-------------|------|-------------|------|-------------|------|--------------|------|
| | | Attenuation | | Attenuation | | Attenuation | | | |
| Band | GHz | dB/ft | dB/m | dB/ft | dB/m | dB/ft | dB/m | | |
| UHF | 0.3 | 0.16 | 0.54 | 0.11 | 0.35 | 0.05 | 0.18 | 0.006 | 1.1 |
| | 0.5 | 0.21 | 0.70 | 0.14 | 0.45 | 0.07 | 0.23 | 0.009 | |
| | 0.8 | 0.27 | 0.88 | 0.18 | 0.57 | 0.09 | 0.29 | 0.012 | |
| L | 1 | 0.30 | 0.99 | 0.20 | 0.64 | 0.10 | 0.33 | 0.014 | |
| S | 2 | 0.43 | 1.40 | 0.28 | 0.91 | 0.14 | 0.46 | 0.024 | 1.15 |
| | 2.4 | 0.47 | 1.53 | 0.30 | 1.00 | 0.16 | 0.51 | 0.027 | |
| | 3 | 0.52 | 1.71 | 0.34 | 1.12 | 0.17 | 0.57 | 0.032 | |
| C | 4 | 0.60 | 1.98 | 0.39 | 1.29 | 0.20 | 0.66 | 0.04 | |
| | 6 | 0.74 | 2.43 | 0.48 | 1.58 | 0.25 | 0.81 | 0.055 | |
| X | 8 | 0.85 | 2.80 | 0.56 | 1.83 | 0.28 | 0.93 | 0.07 | 1.2 |
| | 10 | 0.96 | 3.14 | 0.62 | 2.05 | 0.32 | 1.04 | 0.084 | 1.25 |
| | 12.4 | 1.07 | 3.50 | 0.70 | 2.28 | 0.35 | 1.16 | 0.101 | 1.3 |
| Ku | 15 | 1.17 | 3.85 | 0.77 | 2.52 | 0.39 | 1.28 | 0.118 | |
| | 18 | 1.29 | 4.22 | 0.84 | 2.76 | 0.43 | 1.40 | 0.139 | 1.35 |
| K | 20 | 1.36 | 4.45 | 0.89 | 2.91 | 0.45 | 1.48 | 0.152 | |
| | 22 | 1.42 | 4.67 | 0.93 | 3.06 | 0.47 | 1.55 | 0.165 | |
| | 24 | 1.49 | 4.88 | 0.97 | 3.20 | 0.49 | 1.62 | 0.178 | |
| | 26.5 | 1.57 | 5.13 | 1.03 | 3.36 | 0.52 | 1.70 | 0.194 | |
| Ka | 28 | 1.61 | 5.28 | 1.05 | 3.46 | 0.53 | 1.75 | 0.204 | 1.4 |
| | 30 | 1.67 | 5.47 | 1.09 | 3.58 | 0.55 | 1.81 | 0.217 | |
| | 32 | 1.72 | 5.65 | 1.13 | 3.70 | 0.57 | 1.87 | 0.23 | |
| | 34 | 1.78 | 5.83 | 1.16 | 3.82 | 0.59 | 1.93 | 0.243 | 1.45 |
| | 36 | 1.83 | 6.00 | 1.20 | 3.93 | | | 0.256 | |
| V | 40 | 1.93 | 6.33 | 1.27 | 4.15 | | | 0.281 | 1.5 |
| | 45 | 2.05 | 6.72 | 1.34 | 4.41 | | | 0.313 | |
| | 50 | 2.16 | 7.09 | 1.42 | 4.65 | | | 0.344 | 1.55 |
| | 60 | 2.37 | 7.78 | 1.56 | 5.11 | | | 0.406 | |
| | 67 | 2.51 | 8.23 | | | | | 0.45 | 1.6 |
| | 75 | 2.66 | 8.72 | | | | | 0.499 | |
| W | 80 | 2.75 | 9.01 | | | | | 0.53 | |
| | 90 | 2.92 | 9.57 | | | | | 0.591 | |

Super SMA for SPACE:

Featuring the MegaPhase Optimized interface* to Extend Performance Up to 32 GHz.

Super SMA assemblies are multipaction and radiation resistant and can operate as high in frequency as 32 GHz.

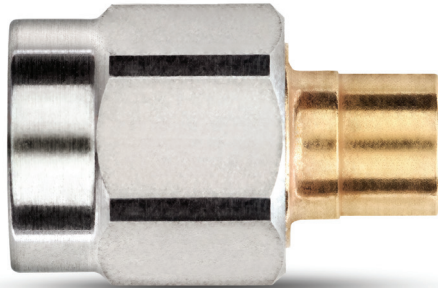
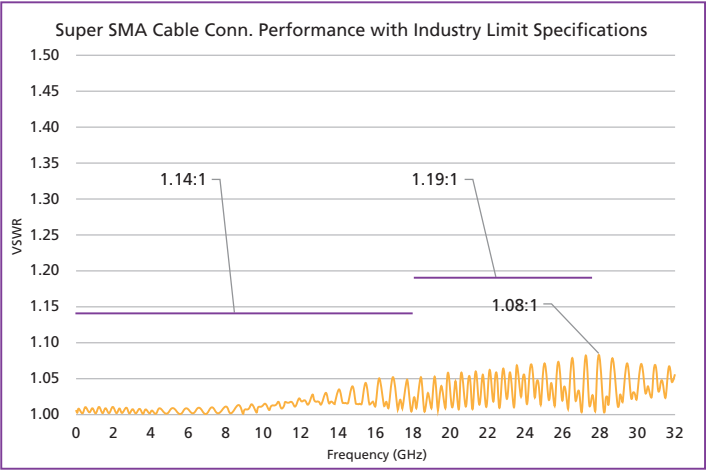
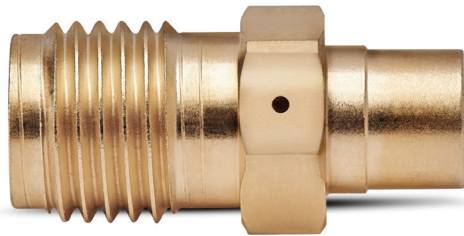
Space Qualified

- Contact: Au-plated BeCu
- Insulator: PTFE
- Body: Au-plated SS
- Coupling Nut: Passivated SS

Operating Frequency (MAX): 32 GHz.
VSWR: 1.25:1 MAX @ 18 GHz.
1.30:1 MAX @ 26 GHz.

- Temperature Range - 40°C to + 95°C
- CW Power Handling: 75 W CW MAX
- DWV: MIL-STD-202, Method 301 (750 Vrms)
- RF Leakage: MIL-STD-1344, Method 3008 (-85 dB)
- Vibration: MIL-STD-202, Condition D
- Thermal Shock: MIL-STD-202, Mothed 107, Condition B

* Interface is backward compatible with standard MIL-STD-348 SMA interfaces



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122 Banner Road, Stroudsburg, PA 18360-6433
Tel: 1-877-634-2742 | 570-424-8400
Solutions@MegaPhase.com | www.MegaPhase.com