



single path to optimal performance

See back cover to learn about



www.dynawave.com



PhaseTite®

Eliminates "PTFE Knee"

- ▶ Low loss design
- ▶ DC – 40 GHz, 3 cable options
- ▶ SMA, N, TNC, 2.92 mm, and 2.42 mm connectors

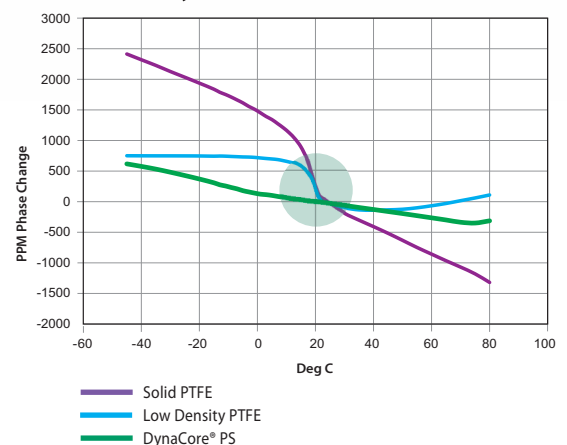
PhaseTite® cable assemblies provide breakthrough phase stability versus temperature performance. Our DynaCore® PS dielectric technology eliminates the dramatic phase shift that occurs with PTFE material over temperature.

Polytetrafluoroethylene (PTFE) has been considered the best dielectric material option for coax cable.

However, PTFE demonstrates a troublesome phenomenon known as the "PTFE Knee." The PTFE dielectric causes an abrupt shift in phase stability between 0° and +20° C.

To eliminate this problem, Dynawave developed a proprietary dielectric material, DynaCore® PS, which significantly reduces the "PTFE Knee" problem and makes Dynawave PhaseTite® the best cable choice for military and commercial radar applications where phase stability over temperature is critical for system performance.

DynaCore® PS vs. the "PTFE Knee"



Best All-Around Performance

PhaseTite® cable assemblies provide breakthrough phase stability versus temperature performance. Our Dynacore® PS dielectric technology eliminates the dramatic phase shift that occurs with PTFE material over temperature. All PhaseTite® connectors are specifically designed with reduced length and diameter for tight installation spaces.

Standard Product Configurations

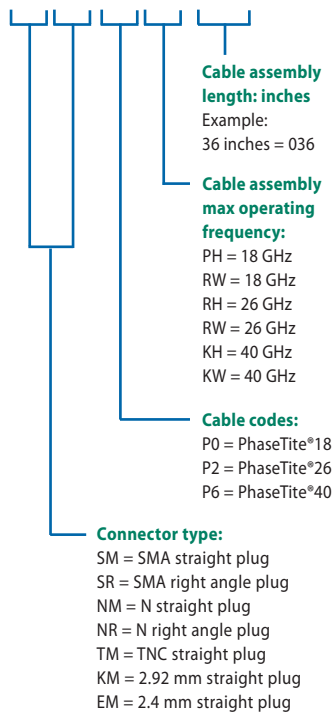
| Part Number | Connector Configuration | Cable | Frequency | Jacket Type* |
|---------------|--|---------------|-----------|--------------|
| SMSM-P0PH-XXX | SMA straight plug to SMA straight plug | PhaseTite® 18 | 18 GHz | HT |
| SMSM-P0PW-XXX | SMA straight plug to SMA straight plug | PhaseTite® 18 | 18 GHz | W |
| SRSR-P0PH-XXX | SMA right angle plug to SMA right angle plug | PhaseTite® 18 | 18 GHz | HT |
| SMSR-P0PH-XXX | SMA straight plug to SMA right angle plug | PhaseTite® 18 | 18 GHz | HT |
| NMNM-P0PH-XXX | N straight plug to N straight plug | PhaseTite® 18 | 18 GHz | HT |
| NRNR-P0PH-XXX | N right angle plug to N right angle plug | PhaseTite® 18 | 18 GHz | HT |
| NMNR-P0PH-XXX | N straight plug to N right angle plug | PhaseTite® 18 | 18 GHz | HT |
| TMTM-P0PH-XXX | TNC straight plug to TNC straight plug | PhaseTite® 18 | 18 GHz | HT |
| SMSM-P2RH-XXX | SMA straight plug to SMA straight plug | PhaseTite® 26 | 26 GHz | HT |
| SMSM-P2RW-XXX | SMA straight plug to SMA straight plug | PhaseTite® 26 | 26 GHz | W |
| KMKM-P6KH-XXX | 2.92 mm straight plug to 2.92 mm straight plug | PhaseTite® 40 | 40 GHz | HT |
| KMKM-P6KW-XXX | 2.92 mm straight plug to 2.92 mm straight plug | PhaseTite® 40 | 40 GHz | W |
| EMEM-P6KH-XXX | 2.4 mm straight plug to 2.4 mm straight plug | PhaseTite® 40 | 40 GHz | HT |

RoHS All assemblies listed are RoHS Compliant

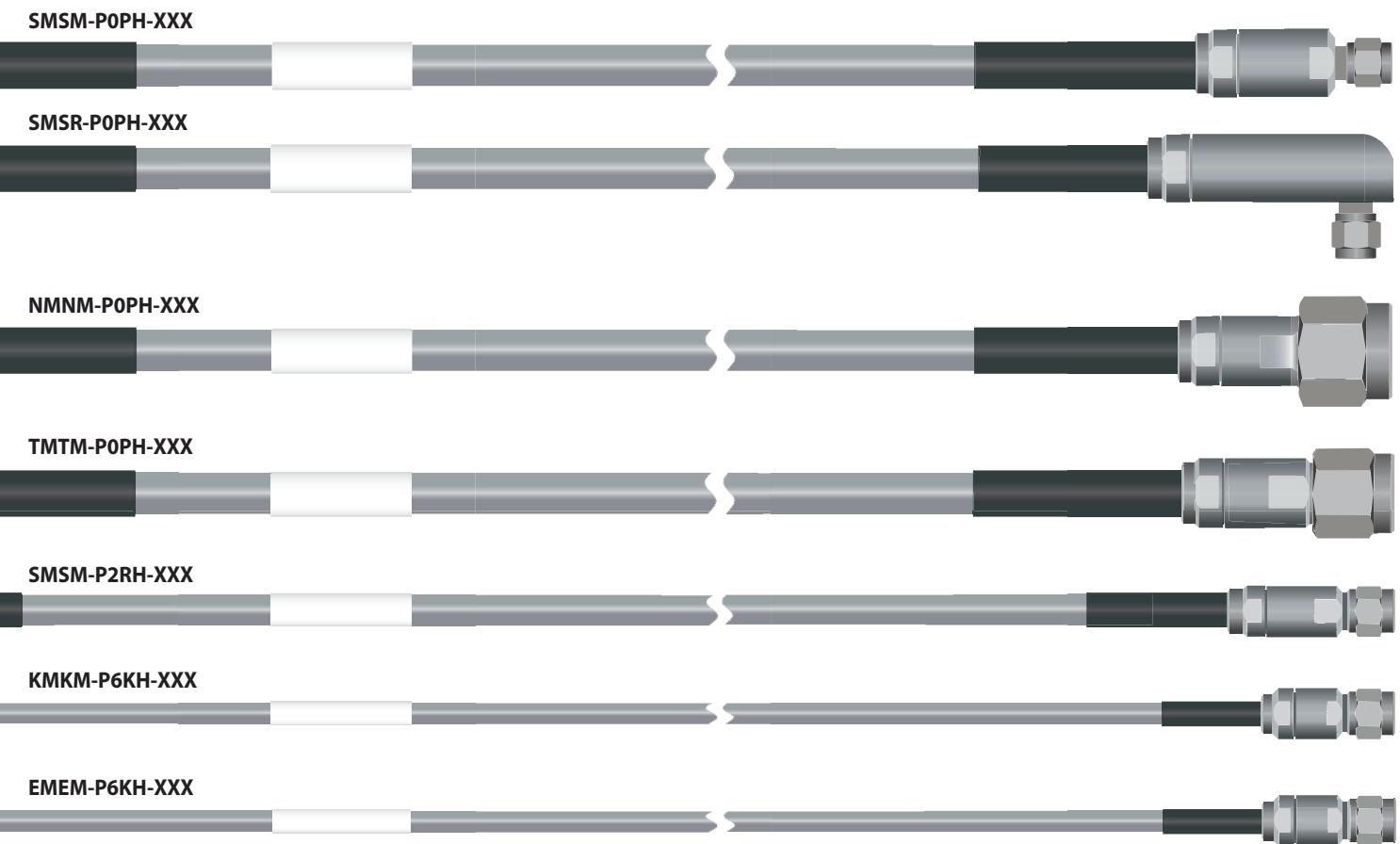
* HT = High Temperature, W = Weatherized

Part Numbering System

XX XX-XXX-XXX



| General Specification | PhaseTite® 18 | | PhaseTite® 26 | | PhaseTite® 40 | |
|-----------------------------|------------------|------|------------------|------|-----------------|------|
| Frequency (max) | 18 GHz | | 26 GHz | | 40 GHz | |
| Impedance | 50 Ohms | | 50 Ohms | | 50 Ohms | |
| Velocity of Propagation | 82% | | 82% | | 82% | |
| Operating Temperature | - 65°C to +125°C | | - 65°C to +125°C | | - 65° to +125°C | |
| VSWR (max) | 1.30:1 | | 1.35:1 | | 1.40:1 | |
| Attenuation (max) | | | | | | |
| 0.5 GHz | dB/ft | dB/m | dB/ft | dB/m | dB/ft | dB/m |
| 1 GHz | 0.03 | 0.10 | 0.05 | 0.17 | 0.07 | 0.23 |
| 3 GHz | 0.05 | 0.13 | 0.07 | 0.23 | 0.11 | 0.37 |
| 6 GHz | 0.10 | 0.33 | 0.13 | 0.43 | 0.20 | 0.63 |
| 12 GHz | 0.15 | 0.50 | 0.20 | 0.67 | 0.29 | 0.97 |
| 18 GHz | 0.24 | 0.80 | 0.31 | 1.03 | 0.44 | 1.47 |
| 26 GHz | 0.32 | 1.07 | 0.40 | 1.33 | 0.56 | 1.87 |
| 40 GHz | | | 0.52 | 1.73 | 0.71 | 2.37 |
| Phase vs Temp (0°C to 40°C) | 5 PPM/°C Typ | | 5 PPM/°C Typ | | 5 PPM/°C Typ | |
| Phase vs Flexure | | | | | | |
| 10 GHz | 1.5° | | 1.5° | | 1.5° | |
| 18 GHz | 2.7° | | 2.7° | | 2.7° | |
| 26 GHz | 3.0° | | 3.0° | | 3.0° | |
| 40 GHz | 6.0° | | 6.0° | | 6.0° | |



| General Specification | PhaseTite® 18 | PhaseTite® 26 | PhaseTite® 40 |
|-------------------------------|--|----------------------|----------------------|
| Shielding Effectiveness (min) | -90 dB | -90 dB | -90 dB |
| Connector Retention (min) | 30 lbs (13.6 kg) | 30 lbs (13.6 kg) | 30 lbs (13.6 kg) |
| Outer Cable Diameter (nom) | 0.302 inch (7.67 mm) | 0.217 inch (5.51 mm) | 0.153 inch (3.89 mm) |
| Minimum Bend Radius | 1.51 inch (38.35 mm) | 1.08 inch (27.43 mm) | 0.76 inch (19.30 mm) |
| Thermal Shock | MIL-STD-202, method 107, condition B-3 | | |
| Mechanical Shock | MIL-STD-202, method 213, condition F | | |
| Sinusoidal Vibration | MIL-STD-202, method 104, condition G | | |
| Random Vibration | MIL-STD-202, method 214, condition K | | |

Material and Finish

| | |
|----------------------------|---|
| Cable Jacket | Fluoroplastic, type IX (per ASTM D2116) or type X (per ASTM D3159) |
| Cable Dielectric | DynaCore® expanded PTFE, Type F (per ASTM D4894 & D4895) |
| First Shield | Silver plated copper (per ASTM B298) |
| Second Shield | High temperature, aluminum polyimide foil |
| Third Shield | Silver plated copper (per ASTM B298) |
| Cable Center Conductor | Solid, silver plated copper (per ASTM B298) |
| Strain Relief Shrink Boots | Polyolefin (per M23053) |
| Connector Housing | Passivated stainless steel (per ASTM-A-582, type 303) |
| Connector Dielectric | PTFE (per ASTM-D-1710-02 or polystyrene/polyethylene thermoplastic) |
| Connector Center Contacts | BeCu, gold plated (per ASTM-B-488, type 1) |



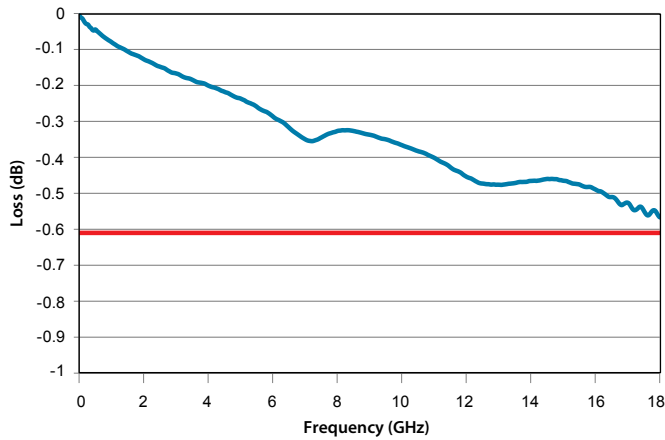
O ring seals eliminate the need for bulky adhesive boots.

Performance Data

PhaseTite® cable assemblies provide breakthrough phase stability versus temperature performance. The performance data on these pages shows typical VSWR and Loss.

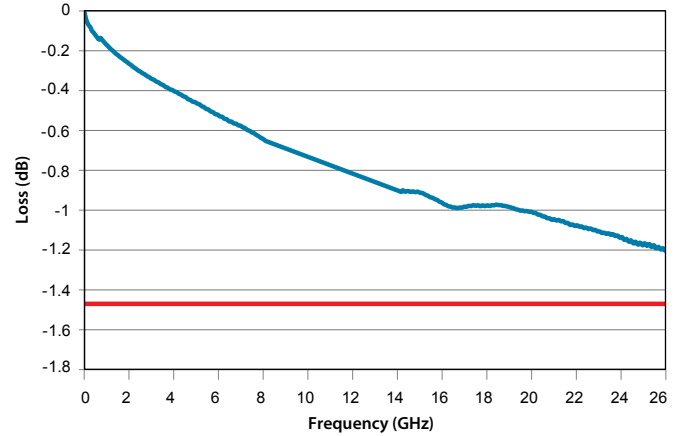
18 GHz

Typical Loss: SMSM-P0PH-012

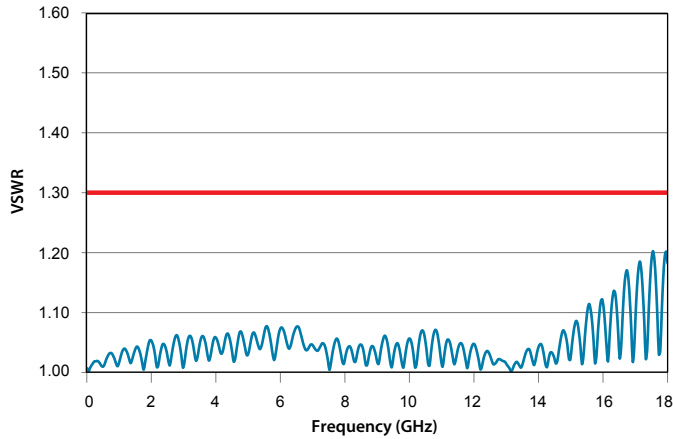


26 GHz

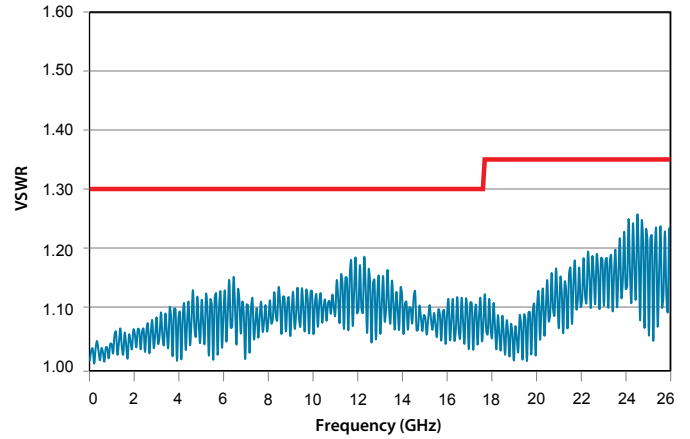
Typical Loss: SMSM-P2RH-024



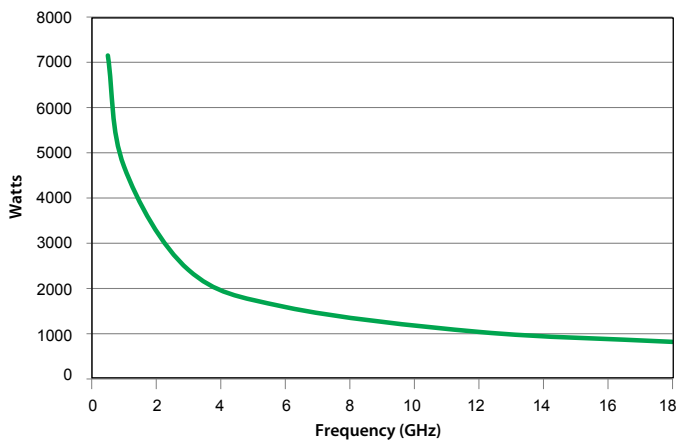
Typical VSWR: SMSM-P0PH-012



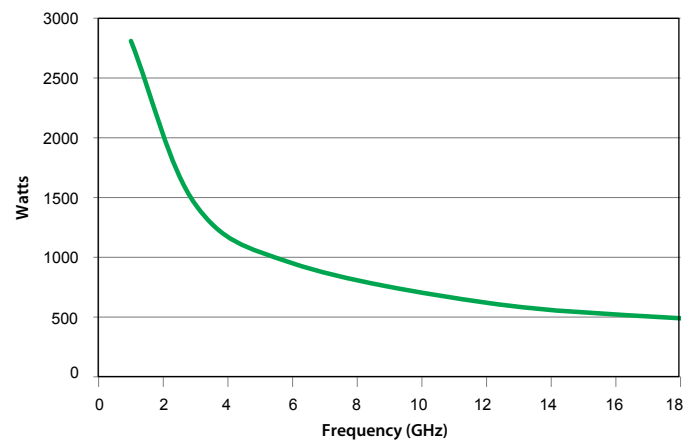
Typical VSWR: SMSM-P2RH-024



Average Power, PhaseTite® 18 Cable

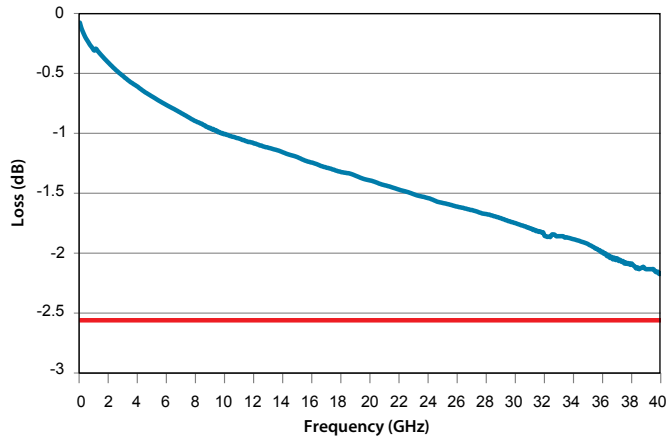


Average Power, PhaseTite® 26 Cable

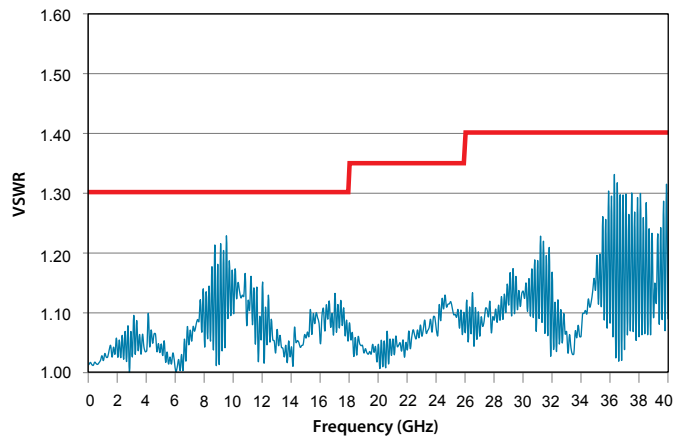


40 GHz

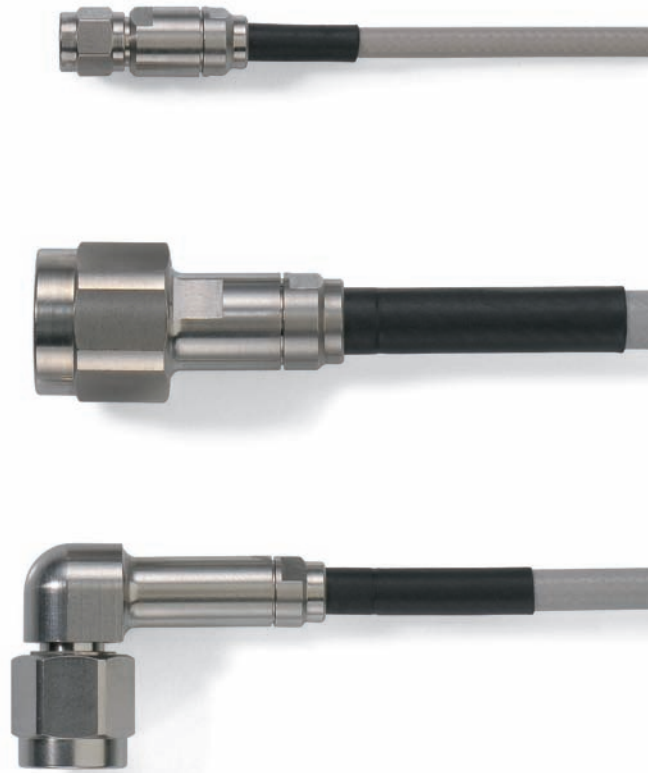
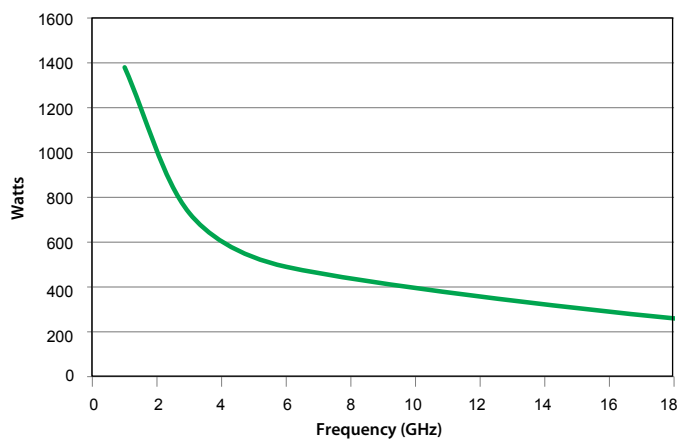
Typical Loss: KMKM-P6KH-024



Typical VSWR: SMSM-P2RH-024



Average Power, PhaseTite® 40 Cable



Custom Solutions and In-house Manufacturing

Proven reliability, exacting performance, and competitive cost under one roof

Dynawave's full range of cable manufacturing capabilities can be employed to deliver custom cable products. Our fully equipped machining center supports fast turn prototypes and production runs for custom connectors. And our vertically integrated manufacturing capability for both connectors and cables can satisfy your cable assembly requirements under one roof, whether your needs involve customization, specialty design or fabrication, and expedited delivery.

Software used

- HFSS electrical simulation software program for electrical modeling
- 3D design using CAD Software

VISIT OUR WEBSITE: Tools for every need

Dynawave's website (www.dynwave.com) offers a variety of tools from configurators and insertion loss calculators, to helpful formulas to help guide you toward an optimal solution for your most complex projects.

Tools you'll find on our website include:

Design Cable Configurators

- *This simple charting system allows you to experiment with custom assemblies to configure and compare project solutions.*

Assembly Insertion Loss Calculator

- *Our engineering design tool provides a quick and accurate determination of IL at any specific frequency and allows comparison of multiple designs on the same screen.*

Competitive Cross Reference

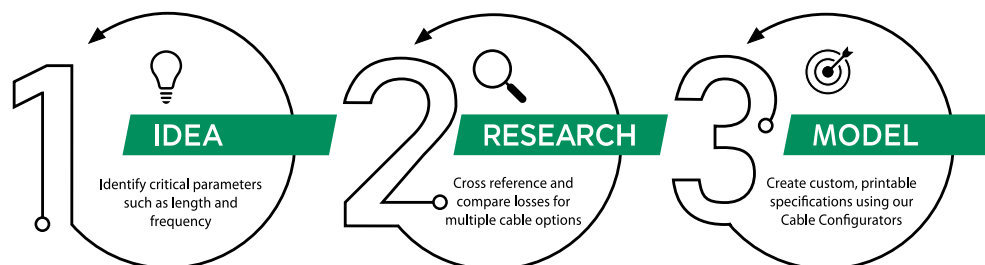
- *This handy chart allows you to compare Dynawave products to our competitors by part number and product type. We stand by the quality and transparency of our offerings.*



To compliment our innovative product designs and custom solution systems, Dynawave has invested in the latest manufacturing technologies for all of your cable, connector, and assembly needs. Our investment ensures efficient and repeatable manufacturing processes, resulting in on-time delivery of exacting-quality products for our customers. Dynawave's vertical integration means we don't need to depend on 3rd party vendors from concept to delivery.

Computer controlled cable manufacturing and electronic quality monitoring systems distinguish Dynawave's modern cable fabrication facility. This allows us to ensure 100% tested reliability for every cable assembly we send out the door.

Dynawave also develops and produces RF and Microwave connectors and cable assemblies in-house, giving us unparalleled expertise in transmitting signals through coaxial interconnects. As a result, customers can benefit from a broad range of electrically matched cables and connectors to meet any problem or project.



100% RF Tested Before Shipment

Value you can measure

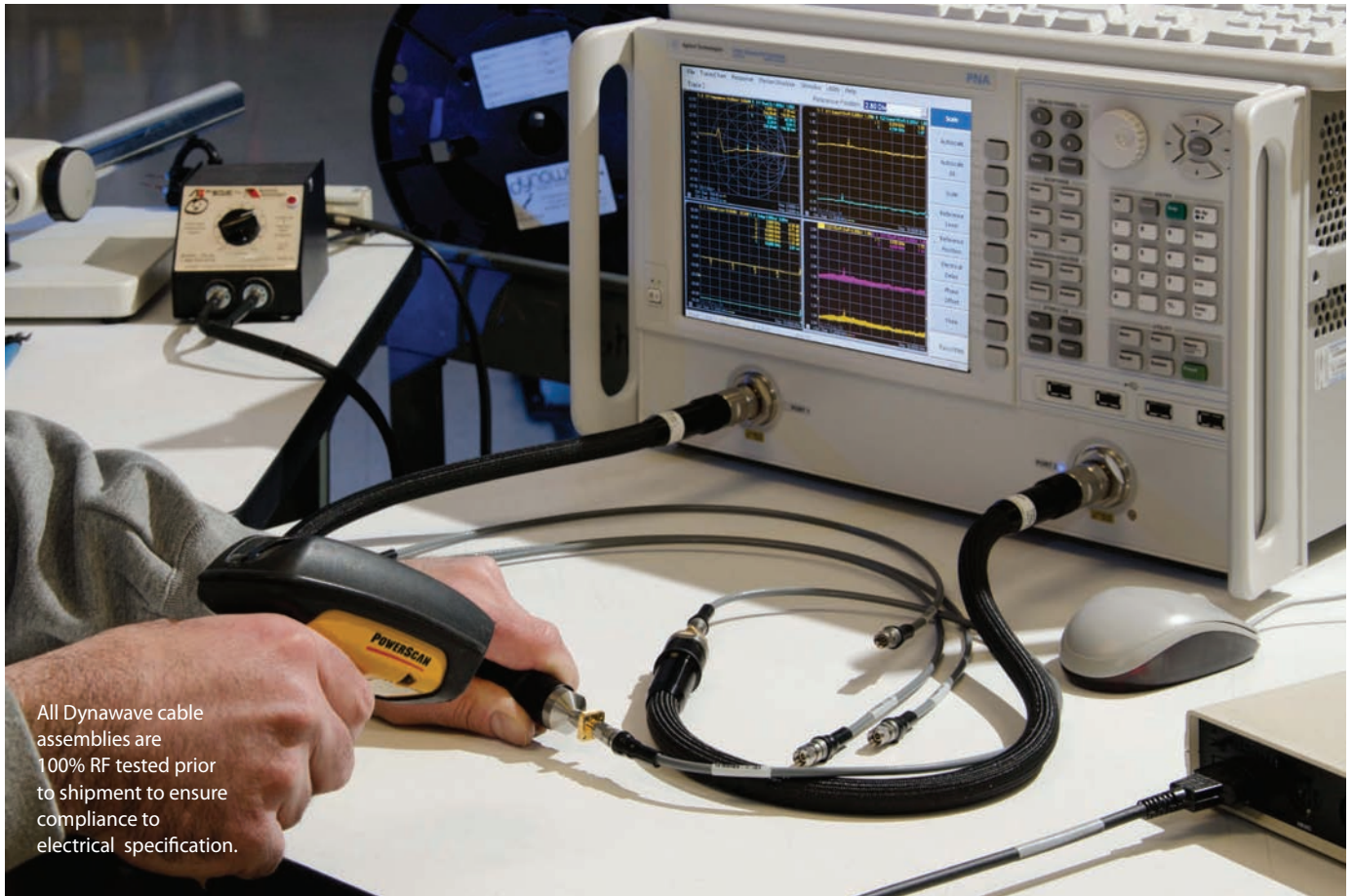
For dependable, high-performance broadband cables look to Dynawave cable assemblies. All Dynawave products undergo functional performance verification. Fully automated, software controlled, and networked test stations are used throughout our facility.

What sets Dynawave apart from competitors is our vertically integrated, end-to-end control of every product that we release to our customers. Every cable, connector, and assembly is designed and manufactured on site and on time to exacting specifications.

Reliability, performance, and competitive cost under one roof. Our team possesses all the technical resources necessary to provide the exact level of support you require to develop a new application solution for any specification or problem you bring.

Explore our standard products or dive deeper with custom resources to help you uncover the right solutions.

Learn more at www.dynawave.com





YOU REQUEST A QUOTE

24

Contact us Monday -Thursday
and receive a quote within 24 hours.
Contact us Friday or on a Holiday
and receive your quote the next
business day.

WE SHIP QUICKLY

24

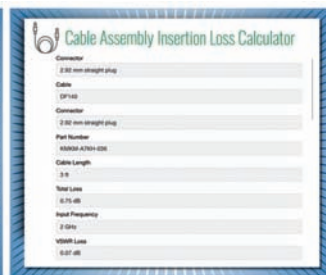
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by email or phone, and we will ship
within 24 hours.
If you order on Friday or a Holiday
we will ship the next business day.

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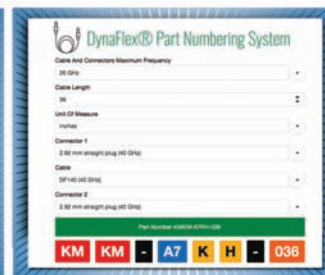
Visit our website www.dynawave.com and experience easy to use tools to design, specify, and quote the best assembly for your application.



Cable Assembly Configurator



Cable Assembly Insertion Loss
Calculator



DynaFlex® Part Numbering
System

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