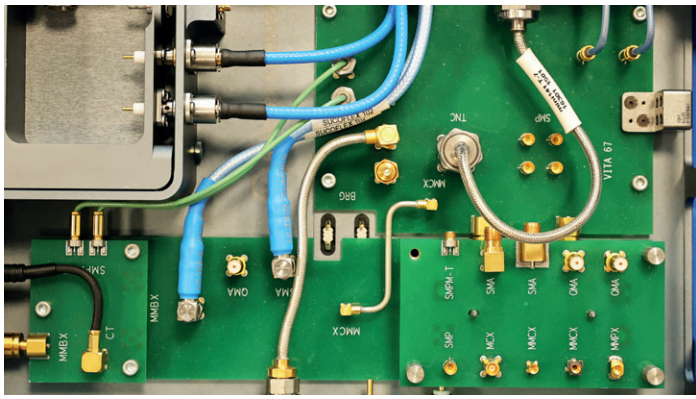
RAYFAST

The Global Supplier with the Personal Touch

Technical question? ask our online chat

RF & Microwave Products



APPROVALS

AS9100
ISO9001
ISO13485
MIL-Spec
UL

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Rayfast provides specialised technical products and solutions to the global Space, Defence, Civil Aviation, Medical, Motorsport, Rail and Industrial markets.

Our product portfolio includes High Performance Lightweight Wire & Cable, Interconnection products, Identification & Protection products.

Rayfast is part of the Interconnect Solutions Group. An international group of companies operating in 8 locations around the world providing technical solutions and specialised products to the aerospace, defence, industrial and energy industries. Operating directly to market through facilities in the UK, USA, France, Germany, the Interconnect Solutions Group is proudly part of Diploma PLC.

Our **RF & Microwave Product Portfolio** consists of a variety of products that can be used in the Defence and Aerospace Industry.

Many of our products are approved to the required standards of Mil Spec, AS9100, VG, and ISO 13485.

RF & Fibre

UTiPHASE® Phase-Linear Microwave Cable Assemblies

The UTiPHASE™ line combines every traditional feature of UTiFLEX with a thermally phase-stable proprietary dielectric that eliminates the PTFE "knee." UTiPHASE also leverages the same cable assembly terminations and proven connector families that have made UTiFLEX famous, thus saving money, validation schedules, and lead times.

Features

- Linear thermal phase performance
- Naturally ruggedized with sturdy concentric core
- Vertically integrated
- Typical velocity of propagation 80%
- Universally configurable with standard connectors and armor

Benefits

- Minimizes system phase variation
- Increases accuracy
- Eliminates PTFE "knee"
- Improved reliability and crush-resistance
- Controlled flouropolymer performance
- Reliable delivery
- Excellent insertion loss
- Drop-in replacement for many competing cables
- Proven UTiFLEX assembly reliability and performance
- Reduced lead time using existing assembly hardware and techniques

UTiFLEX® Ultra-Light Cable Assemblies

Key Features

- ARACON® outer shield for superior weight savings
- Up to 25% weight savings for spaceflight applications
- Low VSWR (1.25:1 to 40 GHz typical)
- Excellent shielding effectiveness

RF and Board Connectors

Our board to board connectors have been designed to meet the requirements of Mil Spec applications in Defence and Space flight.

Our wide range of state-of-the art connector interfaces, panel mount geometries, and customized solutions continue to drive significant growth in a highly specialised and dynamic technical sphere.

MBX

- Very high axial float – best in class
- High output power
- Excellent return loss values
- Smallest board-to-board distances in class

MFBX

- Medium float
- Low cost
- Good board-to-board shielding
- Small board-to-board distances

MMBX

- Very high frequencies – best in class
- Low cost
- Very good return loss values
- Smallest board-to-board distances in class

RF Cables and Assemblies

High performance cable and assemblies for the Defence and Aerospace industries including space flight.

Approvals:

- AS9100
- ISO9001
- ISO13485
- MIL-Spec
- UL

Sucoflex 100

The low loss, high performance microwave cable assembly

- For static and dynamic applications up to 50 GHz
- Excellent return loss
- A range of connectors available, including types which feature NWA-specific interfaces, and can be provided with various ruggedizations to protect the assembly against different environomental influences
- Stock assemblies available

Sucoflex 300

The light-weight, low-loss microwave cable assemblies

- Consistent outstanding mechanical and electrical performance, stability and reliability up to 40 GHz
- Weight reduction of up to 40% compared to our conventional products
- Assemblies produced in a clean environment room (class 100)

Sucoflex 500

Sucoflex 500 assemblies guarantee the highest level of satisfaction Torque, crush and kink resistant

- Precise and repeatable measurements
- Long service life
- Reduce total cost of test with durable, reliable performance
- Increased test and measurement efficiency saving costs due to reduced calibration intervals

High performance assemblies

The light-weight, low-loss Sucoflex 300 series of microwave cable assemblies offer outstanding mechanical and electrical performance, stability and reliability up to 40 GHz.

Offering weight reduction of up to 40% Sucoflex 300 cable assemblies are produced in a clean room environment (class 100).

Minibend HBR

A truly flexible, solderless coaxial cable assembly designed for use in low profile, internal, point-to-point interconnections between RF modules within communications systems. Minibend replaces 0.047, 0.086 and 0.141 inch custom semi-rigid cables with standard flexible cables, eliminating the need for predefined custom lengths and bend configurations.

High radiation resistance

We also extend our RF cable assembly portfolio with five-shielded cable assemblies for high radiation space applications.

The minibend HBR offers a frequency range up to 65 GHz and industry leading 200 MRad radiation resistance.

TVAC assemblies

Assemblies used within the vacuum chamber must meet ECSS-Q-ST-70-02 C and NASA reference publication 1124 outgassing standards to prevent contamination of the chamber or equipment by solvents evaporating from certain materials.

To prevent internal stresses within the cable assemblies, TVAC connectors contain venting holes that allow an unimpeded flow of air into and out of the components during pressurisation/ depressurisation cycles.

High power solutions

The PSM (Power Sub Miniature) interface meets the increasing demand for cost effective, low weight and power sensitive aerospace applications.

The PSM connector system enables customers to maximize connector density and minimize overall system weight.

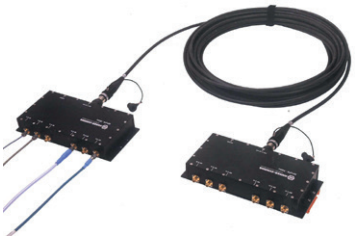
High power cable assemblies

The 32071 cable assemblies are optimised for extremely high power handling applications. The dielectric core construction provides uncompromising mechanical strength and durability along with a high velocity of propagation.

These cable assemblies are ideal solutions for high power space flight and TVAC testing applications.

RF Cables and Assemblies

High performance cable and assemblies for the Defence and Aerospace industries including space flight.



RF-over-Fiber

With customers requiring that new solutions and systems combine various technologies, we are able to provide our customers with end-to-end hybrid technology solutions. The RF-over-Fiber series enables the use of radio frequency and fiber optics in a single system, giving a benefit of low signal loss over greater distances and EMI immunity.

Flexible low loss RF cables

The Spuma product family stands for lowest loss with halogen free materials. Shielding and VSWR are optimised up to 6 GHz. The cables are more flexible than corrugated ones, allowing easier handling and installation. Tight bending radii are possible. With this set of features, Spuma can support a multitude of applications.

Sucotest – the highest standard of measurement

Sucotest is ideal for daily use in component and assembly shops, test labs and high speed digital testing applications up to 40 GHz. Sucotest 18A armoured test assemblies are ideal for testing wireless communication infrastructures and outdoor use.

GNSS over Fibre

GNSSoF

GNSSoF modules are focused on distributing a single GPS signal into multiple receiver systems. This approach ensures that signal data, such as time synchronization into separate, yet connected, systems is always the same. Standard GNSSoF systems include both single and multiport solutions; and accommodate both L1 and L2 bands.

The small form factor of the GNSSoF modules ensures that the systems are ideal for both fixed & mobile applications, where space may be limited.

GNSS

GNSS timing signal for the purpose of timing synchronisation in for example data center, central office, distributed antenna systems or enterprise application.

Accurate time synchronisation gets more and more important as the data transfer speed and volume is increasing. To coordinate data streams in a network very low latency, precision timing and synchronisation is needed.

Features and Benefits

- Allow for greater distances between the RF source and the receiver system
- Immune to RFI, EMI and EMP
- GNSS over fiber offers unlimited flexibility and scalability in signal distribution
- Enables power redundancy due to two integrated power supplies
- Remote control and monitoring via Web interface
- Supports infrastructure installation due to direct GNSS signal evaluation

RF and Board Connectors

Approvals:

- AS9100
- ISO9001
- ISO13485
- MIL-Spec
- UL

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BNC

BNC is still a popular connector series, featuring a two stud bayonet coupling mechanism, which is particulary useful for frequently coupled and uncoupled RF connections with frequencies up to 4 GHz. BNC connectors are suitable for applications up to 3 GHz, contrary to the conventional 75 Ω BNC connector types, which are applicable up to 1 GHz only. They can be assembled quick and easy to all convenient cable types.

TNC

TNC connectors are threaded RF connectors applicable from DC up to 11 GHz. The threaded coupling mechanism improves control over the interface dimensions and allows them to be used under a higher environmental load than BNC, especially under a higher vibration load. The threaded coupling mechanism allows them to be used under higher environmental load than BNC.

N

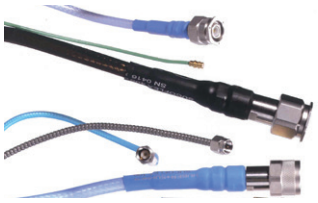
N connectors are available with 50 Ω and 75 Ω impedance. The frequency range extends to 18 GHz, depending on the connector and cable type. The screw-type coupling mechanism provides a sturdy and reliable connection. The N connectors are available for flexible, semi-rigid and corrugated copper tube cables.

SMPM/SMP

Offering reliable instead of unrivaled miniaturisation and performance for RF applications up to 65 GHz. SMPM/SMP connectors are MIL-SPEC qualified for defense and space flight applications. Together with the unique bend-to-the-end microbend style cable connectors, we offers a large range of PCB mount SMPM/SMP connectors that have been designed with optimized PCB trace launch geometries to offer a complete interconnect design solution from “wire-to-trace”.

SMPM-T

The smallest threaded open source connector on the market. Its unique and innovative combination of a MIL-STD-348 SMPM female interface connector together with a retractable threaded nut provides an integrated solution offering unprecedented electrical and mechanicalperformance.



CT product family

Developed for phase critical applications requiring precision electrical length connectivity. Innovative cable manufacturing technology creates a stable and reliable interconnect solution to satisfy a huge range of customer applications where phase stability is key.

SMA

- Very high axial float – best in class
- High output power
- Excellent return loss values
- Smallest board-to-board distances in class

QLA

- Medium float
- Low cost
- Good board-to-board shielding
- Small board-to-board distances

QMA

- Very high frequencies – best in class
- Low cost
- Very good return loss values
- Smallest board-to-board distances in class

Lightning Protection

Series 3401/3402

Gas discharge tube protectors with exchangeable GDTs, for applications with RF and DC components on the antenna line the standard GDT lightning/EMP protectors feature DC continuity and large bandwidth.

Series 3403

The Hybrid GDT fine protectors recommended for very sensitive DC powered receivers, such as those used in GPS installations. The hybrid GDT fine protectors with integrated transient voltage suppressor diodes guarantee lowest residual pulse energy.

Series 3406

Known as the True broadband GDT protectors, SlimLine GDT protectors feature high return loss in the frequency band between DC and 6 GHz. This design is best suited for point to point and WLAN equipment.

Series 3409

Hybrid/low PIM/high power GDT protectors, this patented technology features low passive intermodulation at extremely high continuous and peak instantaneous power (up to 25 kW PIP).

Series 3410

Bias-T/DC injectors with integrated lightning protector are used to “feed-in” or “pick-off” DC voltage into or from antenna feeder cables, provide the operating voltage for active electronics installed on the mast.

Semper

The Semper design guarantees safe extinguishing of the GDT under high RF power or with additional DC components on the antenna line. By retrofitting standard GDTs with the Semper GDT existing installations can be upgraded. The Semper technology is a true improvement to the standard gas tube technology and increases reliability and lifetime of GDT protectors.

Antennas

Sencity Omni (variants)

Rugged omni-directional antenna for installation on outdoor cabinets. Supports TETRA/LTE450 with up to 2 radiators plus 2G/3G/4G/5G cellular bands. Supports additionally Wi-Fi with up to 4 radiators (4x4 MIMO). Low profile housing with single hole mounting and feed-through with up to 7 ports.

Special purpose Antenna

Omni-directional antennas with GNSS option. Gain 0 dB (ref. to the quarter-wave antenna). Vertical polarisation and NATO certified. Ideal for ruggedised installations, mobile/vehicle access to PMR networks.

3D Waveguide Antenna

Low losses (<8-10dB/meter)
Broad working frequency range (up to 20%)
Horizontal, Vertical, Slant and Circular polarization supported. Frequency above 50GHz up to 150GHz. Qualified versus a selection of ECSS and MIL standard requirement (ECSS-E-ST-10-03 / MIL-STD-202).
Increased power transmission and SNR performances. Low weight due to plastic components.

Our Added Value Services

At Rayfast we offer a comprehensive range of Added Value Services, allowing customers to tailor-make from our high-quality products to suit their requirements and applications.

With a prompt turnaround and a dedicated team, we are also able to produce pre-printed identification products, from simple individual markers to large complex kits.

Contact us today for additional information or to discuss your particular needs.

Cutting Services

- Cut piece tubing
- Cut piece sleeving
- Wire and cable spooling

Pre Print Services

- Wire and cable markers
- Tie-on markers
- Adhesive labels
- Identification product support

Cable Solutions

- Custom multi-core cables
- Over-braiding service
- Custom assemblies

Logistics

- Next day delivery
- Technical support
- Flexible MOQ's
- Component kitting
- KanBan and consignment stock
- Component sampling

Our supply partners

ABB PMA · BREYDEN PRODUCTS, INC. · CABLETEC · CARLISLE INTERCONNECT TECHNOLOGIES · COTRONICS · DT device technologies · Draka · HUBER+SUHNER · LAPP MULLER · amokabel · Nexans · PANDUIT · PIC WIRE & CABLE · TENNECO SYSTEMS PROTECTION · TE connectivity

Technical question? ask our online chat

Dedicated Account Managers
Technical Specialist Support
Internal Sales Team
Online Chat, Sales and Enquiries

Quality Accreditations:
ISO9001 and AS9120

RAYFAST
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