

smiths interconnect



Corporate

Overview

CUTTING-EDGE
CONNECTIVITY

About Smiths Interconnect



We Offer



Smiths Interconnect is a leading provider of high reliability connectivity products and solutions serving segments of aerospace and defence, medical, semiconductor test, and industrial markets. It designs and manufactures technically differentiated electronic components, microwave, optical and radio frequency products and sub-systems that connect, protect and control critical applications.

A comprehensive product portfolio providing customers with a single point of supply across multiple markets.

Our technology brands (EMC, Hypertac, IDI, Lorch, Millitech, Plastronics, Reflex Photonics, RF Labs, Sabritec, TECOM, TRAK and HSI) are synonymous with exceptional performance in technologically advanced, high quality solutions required for a high degree of safety and durability. Our extensive product portfolio includes high reliability electrical connectors and cable assemblies, rugged embedded transceivers, solutions for antenna systems, and a wide range of innovative RF and microwave solutions.



Defence & Aerospace



Communications



Industrial



Your partner of choice for cutting-edge connectivity solutions

80+ Years Experience

Technology

Broad Range of Advanced Interconnect Technologies

Flexibility

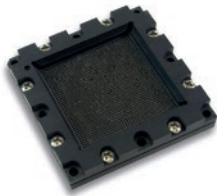
High Volume Product Platforms & Complete Tailored Solutions

Service

Global Reach with Local Support

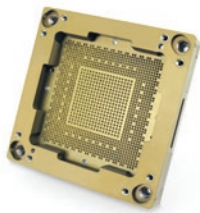
Smiths Interconnect is part of Smiths Group plc, a global leader in applying advanced technologies for markets in threat and contraband detection, energy, communications and engineered components.

Technology Brands



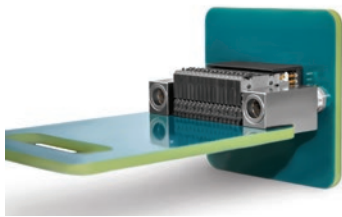
PLASTRONICS

A leading supplier of burn-in test socket solutions for all the latest packaged devices. With the most comprehensive QFN catalogue in the world, in addition to a large portfolio of sockets for burn-in, HAST, failure analysis and other test requirements for Leaded, LGA and BGA devices.



IDI

World's most comprehensive offering of spring probe based solutions, including: contacts, connectors, interposers, semiconductor test sockets, and ATE interfaces. Proven off-the-shelf and custom products deliver the best solution for the customer's specific application.



HYPERTAC

Premium interconnect solutions for electrical and electronic applications requiring optimised quality, performance, and reliability. Hypertac connectors utilise the original high performance hyperboloid contact technology; ideal for harsh environments and safety critical applications.



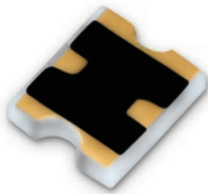
HSI

Joint venture with Sichuan Huafeng Enterprise Group Co. Ltd, one of the major manufacturers of electronic components in China. Industry-leading connectivity solutions for commercial aerospace and railway markets in mainland China.



SABRITEC

High speed quadax, twinax, fibre optic, filter, coax and triax connectors, contacts and cable assemblies. Custom multi-pin circular, D-Sub rack and panel connectors and MIL-Spec interface type products.



EMC

Board-level components incorporating advanced resistive and signal distribution technologies for a broad range of frequency spectrum applications. Extensive portfolio of RF devices used to attenuate, level, or terminate signals available in a variety of packages and footprints.

- Connectors
- Fibre Optics & RF Components
- Semiconductor Test
- RF/MW Subsystems/Smiths Interconnect Inc (SII)



LORCH

Innovative solutions for the electronics and communications industries. Ranging from high performance wireless and RF products to micro-miniature, cavity, discrete, waveguide, tunable, ceramic, and printed filters and integrated assemblies.



REFLEX PHOTONICS

Embedded transceivers and transmit/receive modules for advanced interconnect-based solutions. Targeting high data rate interconnects where ruggedness and radiation resistance are required for defence, space, commercial aerospace and industrial applications.



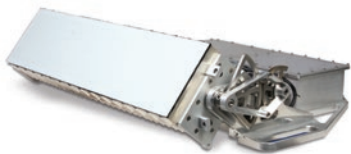
RF LABS

High performance microwave cable assemblies and coaxial components supporting high performance operations, application-specific premium interconnects for high durability and harsh environments.



MILLITECH

Specialising in the engineering, manufacturing, and testing of millimetre-wave components, assemblies, and fully integrated subsystems for space, SATCOM, test and measurement, radar, and scientific applications.



TECOM

Industry leading innovator of antennas and positioning systems for SATCOM in-flight connectivity, instrumentation, datalink, command & control, and telemetry applications integrated into the world's most advanced commercial and military platforms.



TRAK

High reliability multi-function RF systems, ferrite microwave products, and precision time & frequency systems for defence, commercial aerospace, space, homeland security, and public safety applications.

Our Markets

Aerospace & Defence



Commercial Aerospace

We connect customers around the world with our high speed in-flight SATCOM terminals. Our relentless pursuit of innovative high performance connectivity solutions enables us to provide high density, high power handling, EMI/EMP protection, RF and high speed capabilities focused on the next generation of airframe applications.

- Avionics Equipment
- Engine Systems
- Power Distribution
- SATCOM Broadband Connectivity



Communications

Wireless Infrastructure

Our solutions help evolution to 5G, while maximising the use of existing infrastructure. Our components and sub-systems help ensure reliability in mission critical wireless communications.

- 4/5G Networks
- Remote Radio
- Installations
- Distributed Antenna Systems
- Data Centres



Semiconductor Test

We develop sockets and probe card products that ensure superior quality and reliability in testing applications. Our solutions support the finest micron pitches while meeting requirements for higher bandwidths.

- Area Array Test
- Package-on-Package Test
- Wafer Level Test
- Peripheral Package Test

Industrial



Transportation

We offer multiple interconnect technologies able to withstand harsh environments of extreme temperatures, pressure, shock and vibration, ensuring system quality and reliability.

- Rolling Stock
- Signalling
- Infrastructures
- Vehicles
- Automotive
- Unmanned Vehicles



Defence

We partner with our customers to design and manufacture products and solutions including connectors, cable assemblies, multi-function RF systems, SATCOM terminals, datalinks, and antennas to achieve optimal system performance in the most demanding end-user environments.

- Radar
- Electronic Warfare
- Integrated Vehicle Systems
- Intelligence, Surveillance, Reconnaissance (ISR)



Space

We engineer superior NASA and ESA-certified solutions to ensure continuous connectivity within environments where shock and vibration, corrosive atmosphere, and thermal deviations are prevalent.

- GEO/MEO Satellites
- LEO Satellites
- Launchers
- Ground Support Equipment



Test & Measurement

We create high quality connector and cable assemblies that deliver increased phase stability, decreased insertion loss, and design flexibility for long lasting performance in lab and production test environments.

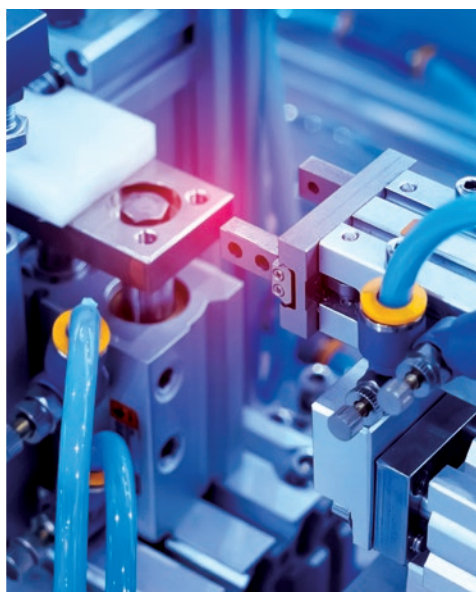
- Electronics Testing
- Automotive Testing
- Telecommunications
- RF and Microwave Testing



Medical

We provide solutions that protect, connect, and control critical medical devices which meet requirements for invasive procedures, disposable components, embedded electronics, high cycle life, and sterilisation.

- Surgical Systems
- Patient Monitoring
- Imaging Systems
- Disposables



Industrial

We design durable and robust platform products and customized solutions combining rugged backshells with high reliability contact technologies for easy assembly.

- Heavy Equipment/Machinery
- Industrial Automation
- Utilities

Product Overview

80 + Years
Experience

Technology

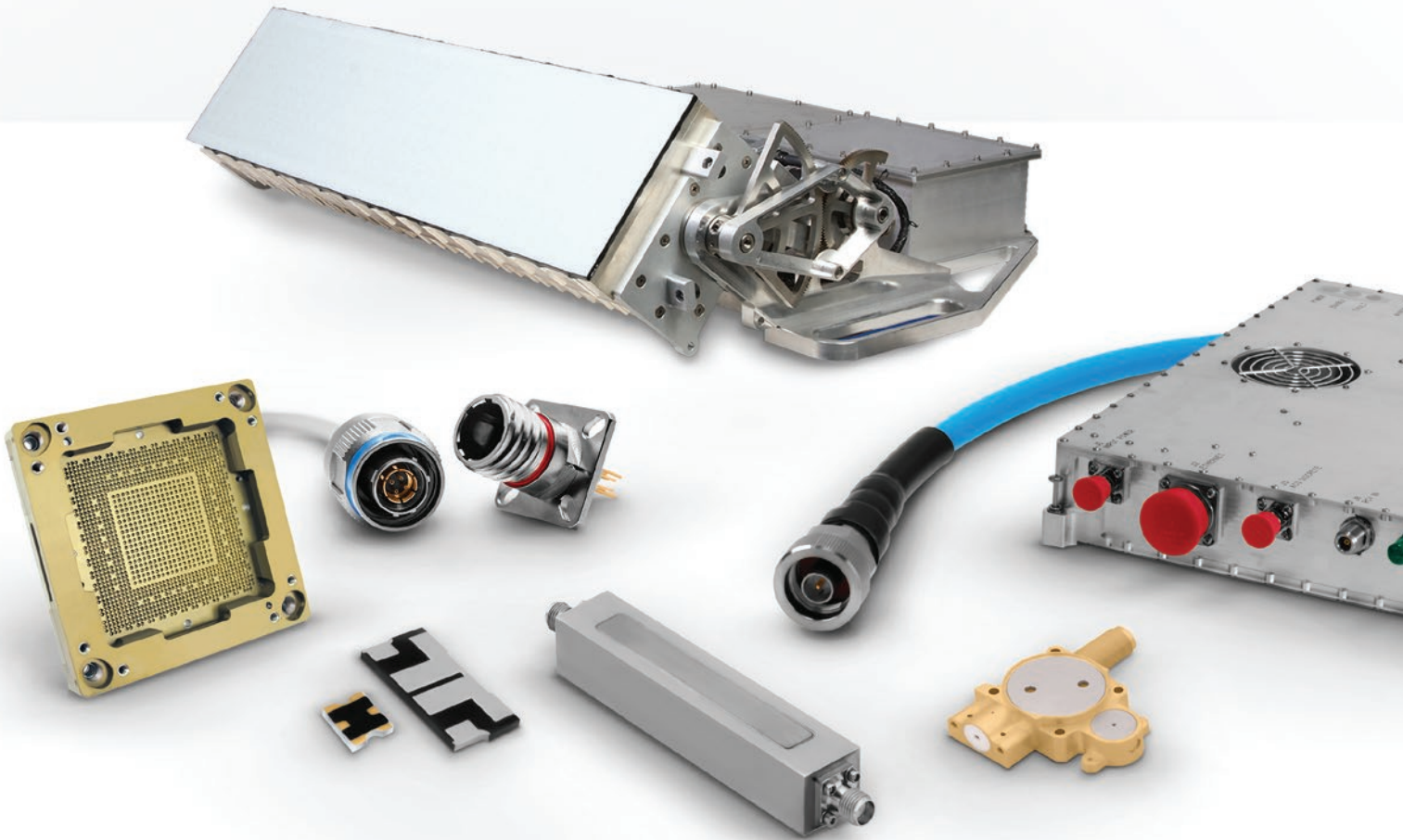
Broad Range of Advanced
Interconnect Technologies

Flexibility

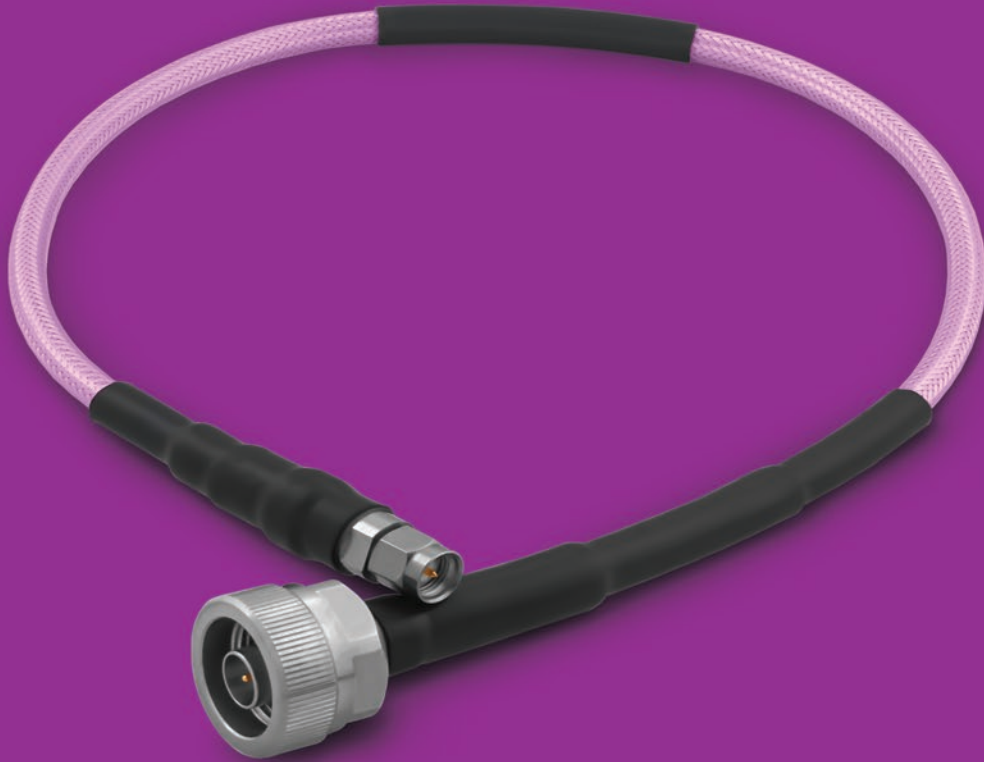
High Volume Product Platforms &
Complete Tailored Solutions

Service

Global Reach with
Local Support



Cable Assemblies



Premium Interconnects

High performance microwave cable assemblies and coaxial components supporting critical operations with application-specific premium interconnects for high durability. Embedded with RF Florida Lab technology, our cables are available with customised option packages and are especially well-suited for precision testing applications and harsh environments in aircraft, marine, space and ground applications.

**Well-suited for
precision testing
applications
and harsh
environments**

ASR Precision Test

- High performance VNA test cables for precision testing applications
- Maintains mechanical configuration for consistent, repeatable test results
- Available with a wide range of connectors including 2.4 mm and 2.92 mm NMD connectors
- Individual or phase matched pairs



Lab-Flex®

- Field-proven up to 50 GHz
- 40% lower insertion loss than solid dielectrics
- Solder sleeve cable-connector termination delivers superior electrical performance and pull retention
- Shielding: <90 dB
- Stranded centre conductors available (Lab-Flex® S)
- Phase stable (Lab-Flex® T) and phase matched options available



Semi-Rigid, Conformable & Flexible

- High frequency
- High isolation up to >100 dB
- Copper, Aluminium and Tin filled composite jackets
- Range of protective coverings available
- Low loss options available in Silver and Tin plated outer conductors



SpaceNXT™ QT Series

- Space qualified flexible cable assemblies
- Mode-free frequency response up to 50 GHz
- Radiation resistant jacket materials tested up to 100Mrad total dosage (~15 years flight life)
- Available with wide range of connectors and add-on testing packages for configurable products to meet all design and schedule constraints
- Flight heritage and qualification reports available upon request

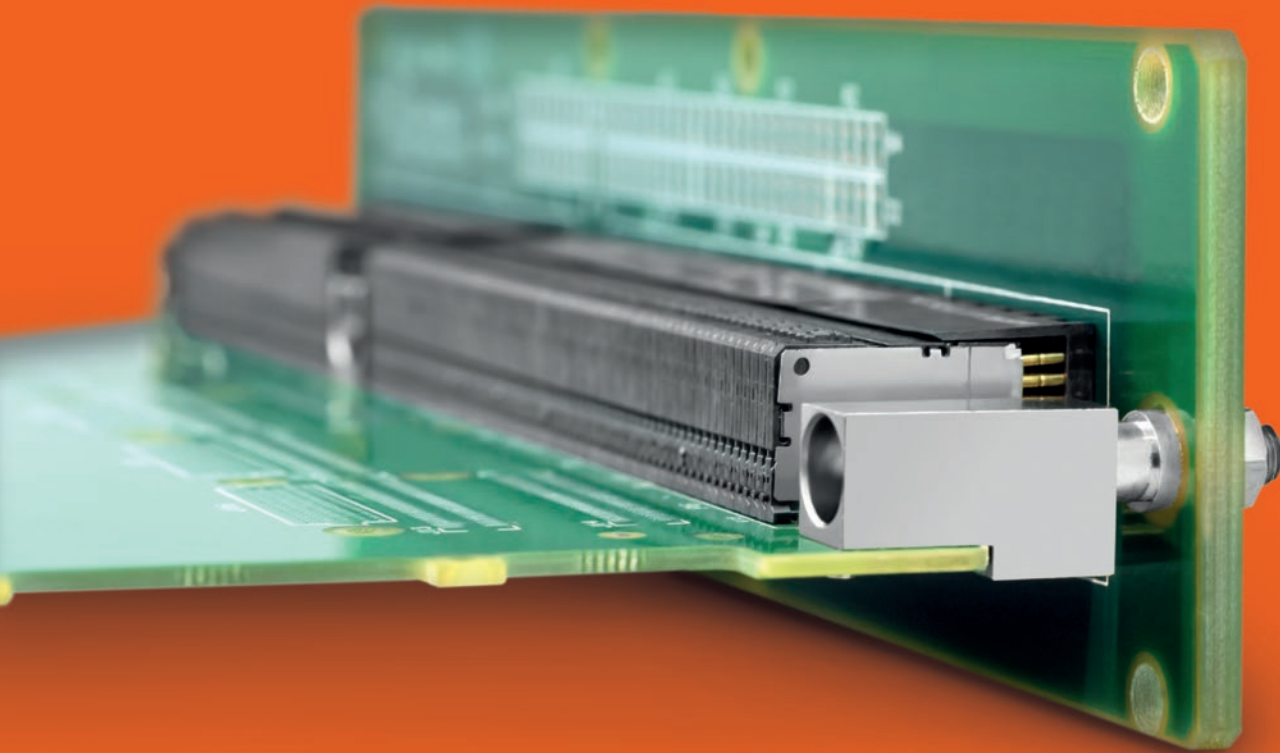


Titan-Flex®

- Robust solder termination
- Crush-resistant and durable
- Superior electrical performance over comparable products
- Optimised braiding construction for excellent shielding to 18 GHz



Connectors



Reliability and Safety

Through our Hypertac, HSI, IDI and Sabritec technology brands, we supply application-specific, high-reliability electrical interconnect solutions from highly integrated assemblies to microminiature connectors and spring probe contacts. The core of our advanced interconnect solutions is our contact technologies: Hyperboloid, Spring Probe, High Speed, Fibre Optic, High Power and High Temperature.

**Providing
exceptional
performance
in critical
applications**

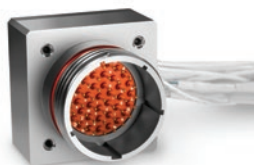
Circular

- Available in metal and plastic shells
- Crimp and solder terminations
- Push-pull and colour-coded options



EMI/EMP Filter

- Intermateable and interchangeable with standard non-filter connectors
- C, L, and Pi style EMI filters
- TVS protection meeting the requirements of RTCA D160, Section 22, up to Level 5



High Power

- Standard 100 and 150 ohm split pair quadrax, quadrax, and twinax contacts
- Excellent power performance up to 700 Amps
- Suitable for harsh environmental conditions
- High number of mating cycles



High Speed

- Standard 100 and 150 Ω quadrax and twinax contacts
- Formats MIL-DTL-38999, ARINC 600, MIL-DTL-83527, and D-Subminiature
- Manufacturing to Fibre Channel, Ethernet, Firewire, USB, and DVI protocols



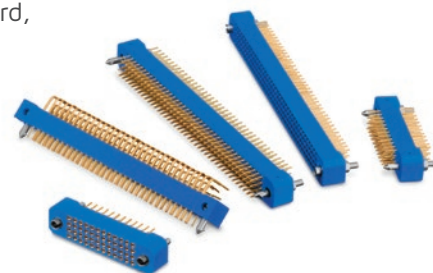
Modular/Rectangular

- Configurable with signal, power, RF, twinax, triax, quadrax, and fibre optic contacts into a single connector
- Guided hardware for blind mating



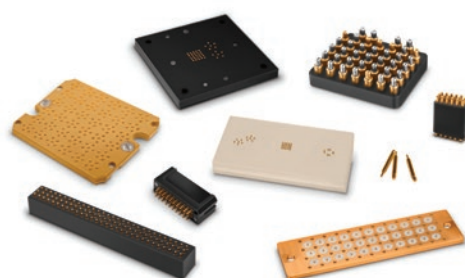
PCB

- Low, medium, and high density connectors with long life cycle
- Signal, power, coaxial, and high speed configurations
- Board-to-board, cable-to-cable, cable-to-board, and stacking

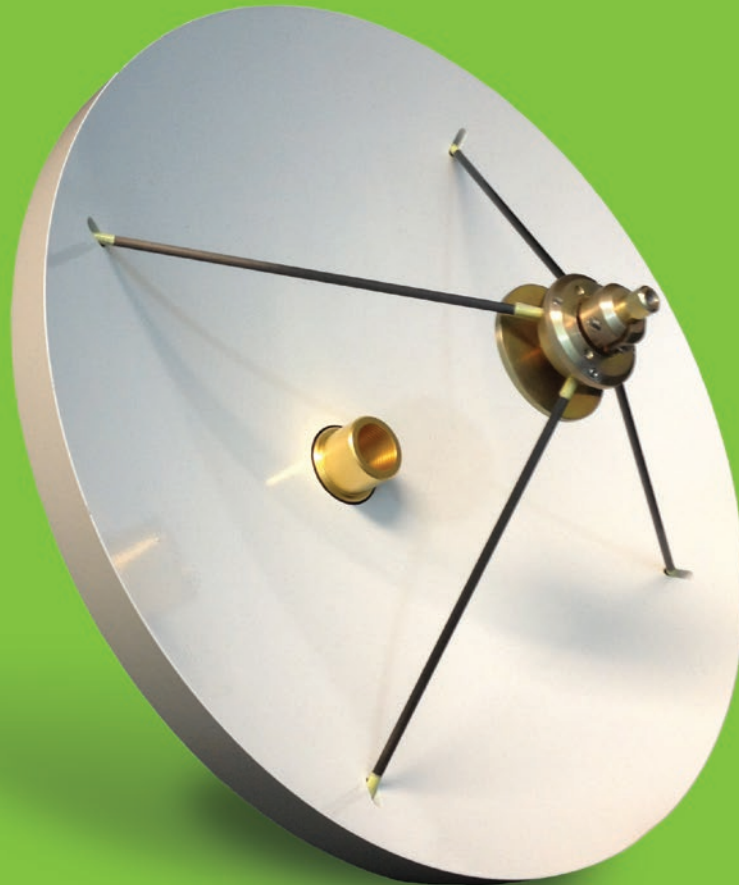


Spring Probe Interposers

- High insertion life
- Suited for blind mate connections
- Low profile, high compliance ratio
- Ideal for high shock and vibration environments



Defence Antenna Systems



Specific Application Knowledge

Smiths Interconnect offers antenna systems for Aerospace & Defence applications, from SATCOM, GPS, flush mounted, micro strip, blade instrumentation & data-link to fixed and mobile positioning systems. Our broad portfolio of off-the-shelf and build-to print solutions featuring TECOM and Millitech innovative technologies is designed to meet specific end-user needs.

**Design to
specification and
off-the-shelf
antenna
solutions**

Airborne/Missile/Space

- Broad range of off-the-shelf and build-to-print antenna systems designed to meet program-specific needs
- Full line of high performance telemetry, MDI and tracking beacon antennas specifically designed for flight instrumentation data collection in extreme mission critical operational environments
- Directional, omni-directional, and hemispherical configurations including Log Periodic, Biconical, Parabolic, El-Par, and CSC2 antennas



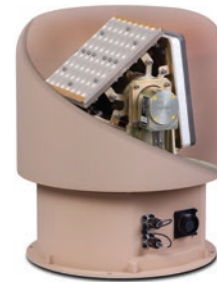
Antennas & Quasioptical Products

- Full range of MMW antenna products and technologies including aperture, reflector, and lens-based antennas
- Standard models from 325 GHz to 100 GHz
- Custom designed antenna arrays available
- Additional offerings: polarisers, orthomode transducers, monopulse comparators, waveguide rotary joints & precision corner reflectors for RCS references



Positioners/Controllers

- Fixed and mobile positioning systems for use in range telemetry, flight termination, airborne and ground datalink, target tracking and jamming, signal intelligence, and direction finding applications
- Ranging from man-portable to 7 metre installations, rack mounting or embedded in the pedestal
- Turnkey solutions available with reflector and feed assemblies from 325 GHz to 100 GHz
- Designed to meet environmental MIL-STD requirements

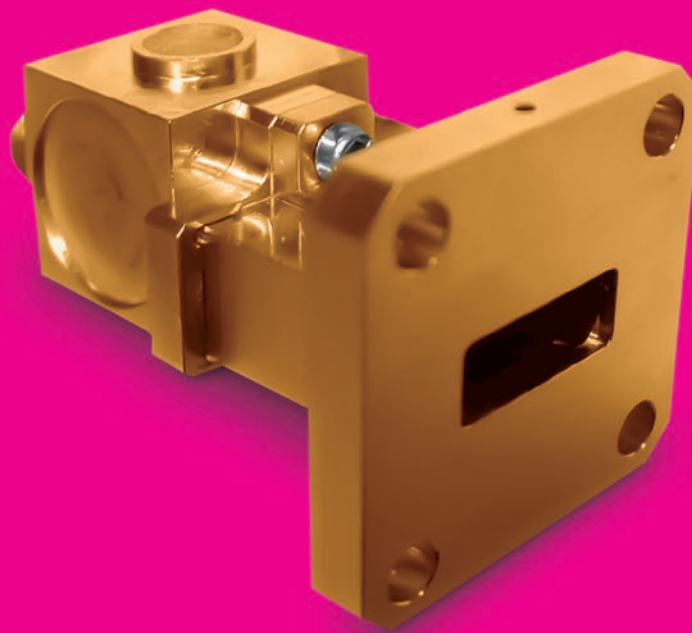


Wideband Antennas

- Broad portfolio of wideband and directional antennas for broadband surveillance, tracking, direction finding and jamming systems
- Frequency range from 20 MHz to 40 GHz
- Omni-Directional, Log Periodic, Biconical & Planar Cavity-Backed Spiral antennas



Ferrites & Passive Sub-Assemblies



High Performance Components

Smiths Interconnect offers a wide range of ferrite devices and waveguide products featuring TRAK brand technology that are ideal for a variety of space, defence & commercial applications. Our product range includes isolators and circulators, combiners, transitions, terminations, iso-adapters and integrated assemblies.

**Ideal for a
variety of space,
defence and
commercial
applications**

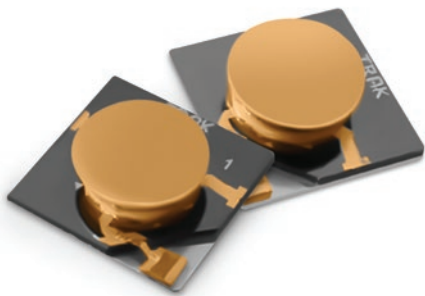
Coaxial

- Wide range of isolators, circulators, loads, terminations and attenuators
- Designed to operate from 300 MHz to 26 GHz
- Unique solid connectors (male/female connector barrel machined to be integrated in housing) with female and male orientations, in SMA and TNC styles
- All products are optimised for thermal and dynamic operational environments



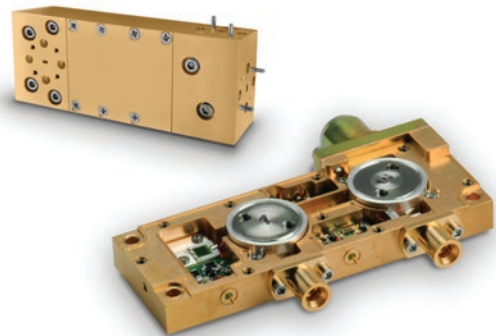
Microstrip, Surface Mount & Stripline

- Isolators and circulators
- Stripline devices operating in assigned bands from 0.4-18 GHz
- SMT devices in S, C & X-bands suitable for pick and place and re-flow soldering
- Microstrip offers a unique blend of broad band operation, low mass and low profile with devices available in assigned bands from 2.2 to 32GHz



Passive Sub-Assemblies

- Full waveguide band isolators and circulators
- High power waveguide circulators for protecting TWTs
- Standard models from 18 to 260 GHz
- Low-pass, band-pass, and high-pass waveguide filters
- Waveguide diplexers and triplexers
- Metrology grade lab assets
- Able to deliver solutions for classified requirements



Waveguide

- Isolators, circulators, combiners, couplers, loads, transitions, terminations, and multi-function assemblies
- High power waveguide circulators/isolators for protecting TWTs up to 32GHz
- All products are optimised for thermal and dynamic operational environments
- High power devices are supplied as junction or differential phase shift types
- Where appropriate, devices are supplied with cooling/thermal management systems and additional functionalities as required



Filters



Advanced Quality

Smiths Interconnect provides technically advanced, high quality Lorch technology RF Filters, Multiplexers, Switched Filter Banks and Integrated Assemblies, from 100 KHz to 90 GHz. Our rigorous design, manufacturing & inspection criteria processes and procedures ensure products that are fully compliant to each application's unique specifications.

**Rigorous design,
manufacturing
and inspection
criteria**

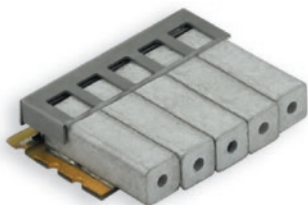
Cavity

- Frequency range: 30 MHz to 80 GHz
- Bandwidth: 3 dB from 0.5 to 66%
- High "Q", low loss
- High power
- Helical, combline, inter-digital and coaxial



Ceramic

- Frequency range: 400 MHz to 6,000 MHz
- Bandwidth: 0.5 to 10%
- Surface mount, PC mount, connectorised options
- Stand-alone or diplexed



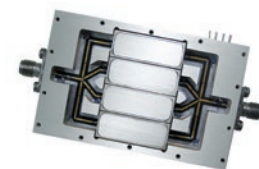
Discrete

- Frequency range: 5 MHz to 10 GHz
- Bandwidth: 3 dB to >100%
- Band-pass, low-pass, high-pass, or notch
- Surface mounts, pins or connectors



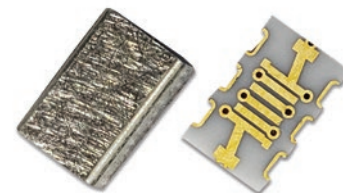
Integrated Assemblies

- Frequency range: 500 MHz to 18 GHz
- 2 to 9 channels available
- Use of both MIMIC and solid state switching
- Connector or RF pin launch
- Hermetic seal available



Planar X

- Compact size
- Light weight
- Excellent rejection characteristics
- Low insertion loss



Tunable

- Frequency range: 24 MHz to 4,000 MHz
- Direct readout
- Octave tuning
- High power

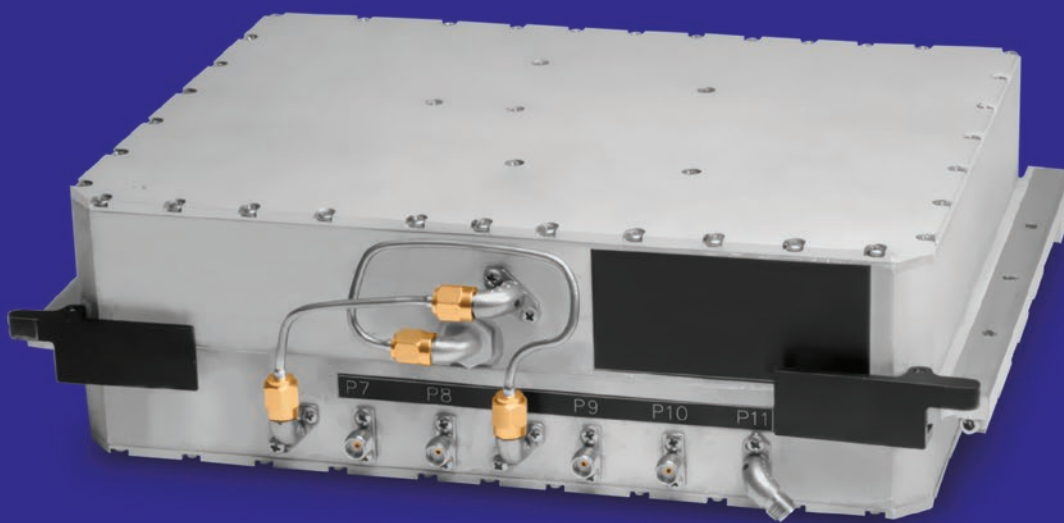


Waveguide

- Frequency range: 2 GHz to 90 GHz
- 2 through 20 sections
- W/G flange, or connectorised
- Stand-alone filters, filter banks, diplexer and multiplexers
- WR-159 to WR-19
- Band-pass, low-pass, high-pass, and notch filters



Multi-Function RF Systems



Compact Ultra-Low Noise

Our Multi-Function RF Systems incorporating TRAK and Millitech technologies include compact ultra-low phase noise and spurious frequency sources and exciters, high dynamic range block and tuned frequency converters, receivers and receiver protectors, amplifiers, for harsh military, aerospace and space environments enabling EW, communication, SATCOM, remote sensing, and datalink systems.

Custom and
standard high
performance
solutions

Complex Frequency Sources

- Low phase noise
- Low spurious
- Synthesised and direct



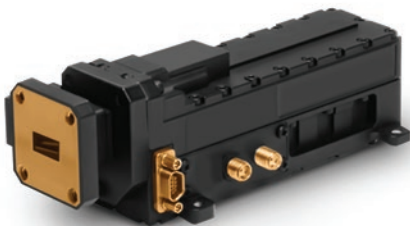
Radar Exciters

- Electronic and mechanical vibration mitigation
- Size/weight reduction
- Increased processing capability



Receiver Protectors

- Discrete diode and MMIC limiters
- Receiver filter
- LNA
- T/R blanking switch
- Ferrite isolators



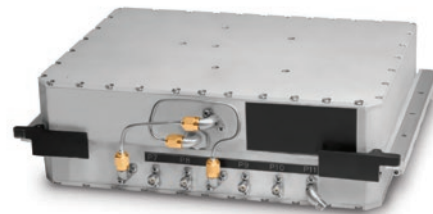
Transceivers

- Single and multi-channel integrated assembly
- Up/Down Converter
- 10 MHz reference
- Power supply
- 25W PA



Up/Down Converters & Receivers

- Single and multi-channel
- Integrated up/down converter and exciter with fast hopping synthesiser
- LO and vibration mitigated reference source
- Through 325 GHz

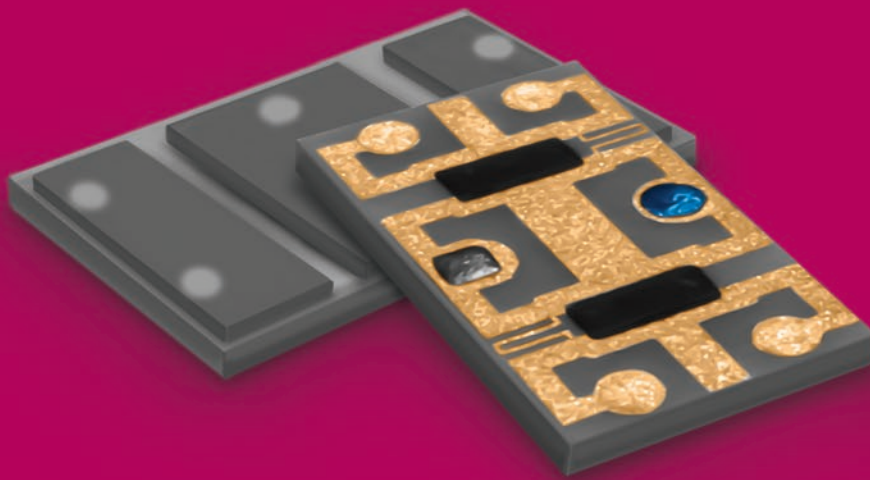


Vibration Mitigated Master Oscillators

- Ultra-low phase noise
- Crystal based
- Ovenised and non-ovenised



Radio Frequency Components



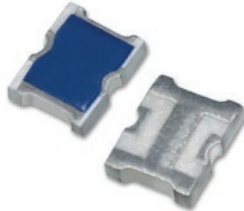
Advanced Technologies

Our high-performance board-level components featuring EMC technology incorporate advanced resistive and signal distribution technologies for a broad range of frequency spectrum applications. Our extensive portfolio of RF devices is used to attenuate, level, or terminate signals available in a variety of packages and footprints for demanding high reliability environments.

**Available
in a variety of
packages and
footprints**

Attenuators

- Operating frequencies up to 50 GHz
- Superior broadband performance
- Space and military qualified
- Wide range of attenuation values
- Surface mount and wire bondable packages



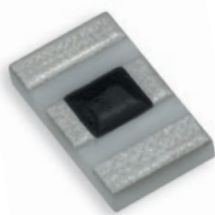
Diamond RF Resistives®

- Highest power to size ratio resistive components available
- Extremely low parasitic capacitance resulting in broadband performance
- Standard footprints available from 0402 (20 watts) up to 2010 (300 watts)
- Substantial size and weight reduction for space and high reliability applications
- Easy to implement packages; solderable & wire-bondable chips or tabbed and flange options are available



Resistors

- Wide range of resistance values: 1-1K ohms
- Power handling up to 1500 watts
- Operating frequencies up to 30 GHz
- Tight tolerances are available: ± 5 , ± 2 or ± 1
- Various finishes available: Tin/Lead, Silver & non-magnetic
- SMT & wire-bondable chips, tabbed and flange options or rod



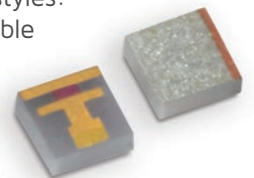
Signal Distribution

- Resistive power dividers, Wilkinson power dividers and power samplers
- 2, 3 & 4 way power splits options available
- Operating frequencies up to 50 GHz
- Surface mountable packages



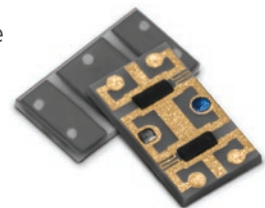
Terminations

- Optimised impedance matching and Low VSWR
- Power handling up to 2.2 kilowatts
- Operating frequencies up to 67 GHz
- Multiple substrate options: Alumina, Beryllium Oxide & Aluminium Nitride
- Large selection of mounting styles: solderable SMT & wire-bondable chips or tabbed and flange options are available

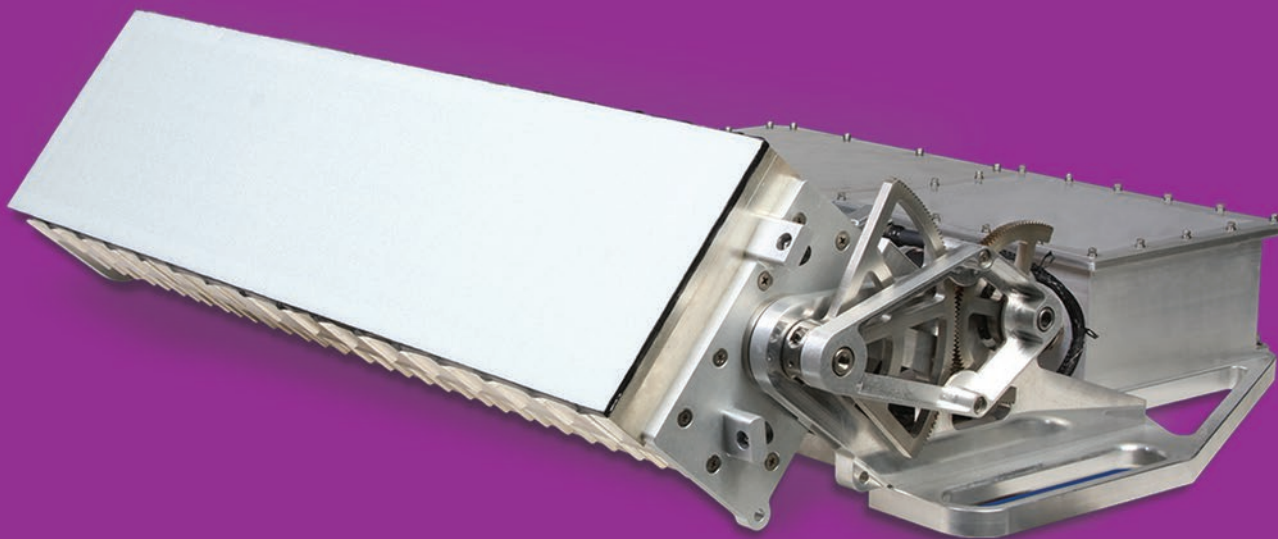


Thermopad®

- Passive solution for gain variation over temperature
- Operating frequencies up to 36 GHz
- Multiple attenuation and temperature shift values
- Footprint compatible with fixed attenuator series
- Standard HR (High Reliability) tested options available
- Surface mount and wire bondable packages



SATCOM Systems



Gate-to-Gate Connectivity

Smiths Interconnect offers a complete line of network flexible Ku-band and Ka-band SATCOM antenna systems enabled by industry leading TECOM technology. Our SATCOM antenna systems provide non-stop gate-to-gate in-flight connectivity for commercial air transport, business jet and various military applications.

**High speed
network agnostic
connectivity**

Antenna Control Unit

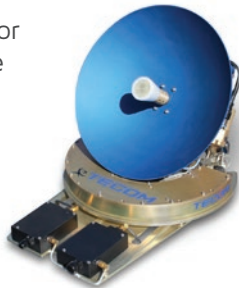
- Provides antenna positioning command and control
- Interfaces with aircraft for navigation information



Ka-Band Antenna Systems

KaStream® 5000 Series

- Light weight fully integrated 3 LRU system
 - High gain antenna system with integrated High Power Transceiver (HPT)
 - Antenna Control Unit (ACU)
 - Modem agnostic (customer selected)
- Broad frequency coverage for commercial and military use
- Real time switchable dual polarisation
- Operates on global Ka-band HTS satellite networks



Ku-Band Antenna Systems

KuStream® 5000 Series

- Light weight fully integrated 3 LRU system
 - High gain antenna system with integrated High Power Transceiver (HPT)
 - Antenna Control Unit (ACU)
 - Modem agnostic (customer selected)
- Full Ku-band spectrum coverage for military and commercial use
- Gate-to-gate connectivity
- Operates on global Ku-band networks and new HTS satellites



Ku-Band High Power Transceiver

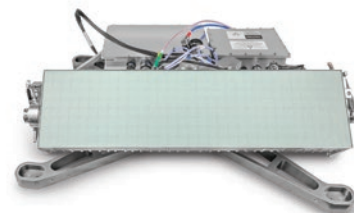
- Qualified for commercial airborne use
- Modular BUC, BDC, SSPA, power supply and controller in compact package
- Optional internal reference ensures compliance when exposed to random vibration DO-160 profiles



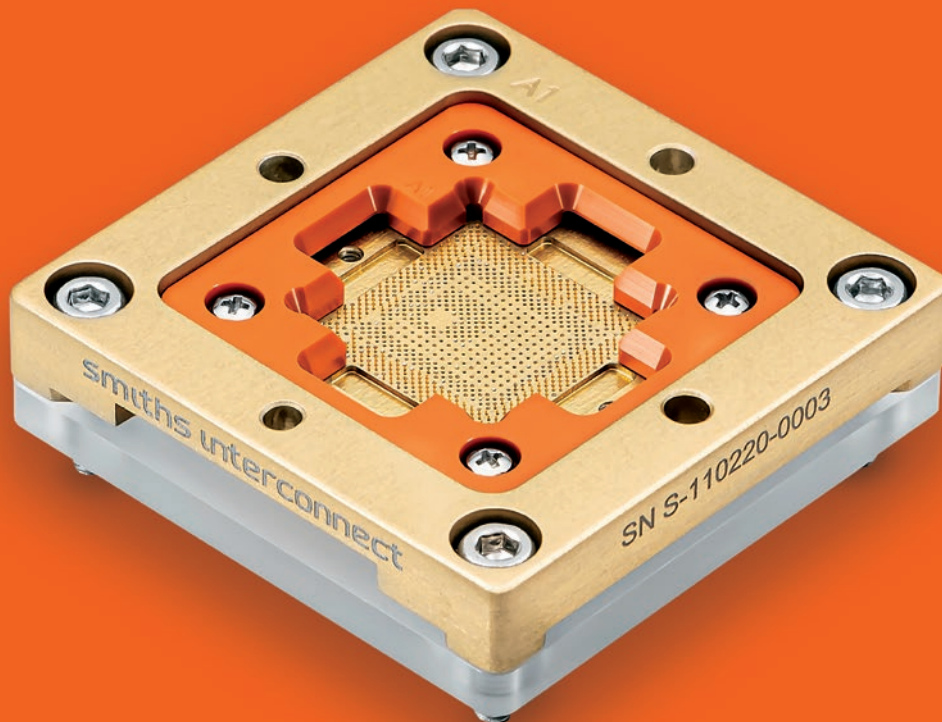
Ku-Band Antenna Systems

KuStream® 1000 Series

- Integrated 4 LRU system
 - Satellite Antenna Assembly (SAA)
 - Antenna Control Unit (ACU)
 - High Power Transceiver (HPT)
 - Modem agnostic (customer selected)
- Large Install Base
 - Over 1000 aircraft installations
 - More than 15 million flight hours
 - Commercial and military variants
- Market leader
 - Full Ku-band spectrum coverage for military and commercial use
 - Full compliance with stringent FCC regulatory standards
 - Gate-to-gate connectivity
 - Operates on global Ku-band networks and new HTS satellites



Semiconductor Test



Best-in-Class

Smiths Interconnect's test socket and probe card solutions utilise IDI contact technology to ensure superior quality and reliability in semiconductor test applications. The acquisition of Plastronics expands Smiths Interconnect's product portfolio for the reliability test segment. Our best-in-class engineering, development and technical expertise ensure support of automated, system level, burn-in and development test platforms.

**Superior quality
and reliability in
semiconductor test
applications**

Burn-In Sockets

- Extensive portfolio of socket design solutions for all IC packages
- H-Pin® technology for unmatched electrical performance
- Tri-Temperature testing capability with H-Pin® contact technology
- High speed signal integrity solutions supporting all IC packages
- Thermal optimisation for advanced IC Burn-In requirements
- Variety of verification tools and design standards to ensure out of the box performance



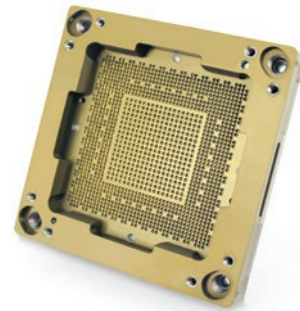
Replacement Spring Probes

- Available to support all Interconnect Test Sockets including DaVinci, Volta, Array and Celsius
- Long life cycle
- Manufactured with superior engineered materials
- Low and stable contact resistance
- High compliance
- Superior signal integrity



Test Sockets

- Extensive portfolio of spring probe, scrubbing and other contact technologies
- Variety of verification tools and design standards to ensure simultaneous engagement and alignment to both package sides
- DaVinci technology for high speed coaxial test
- High performance Elastomeric contact technology
- Tri-Temperature testing capability with Celsius scrubbing contact technology
- High speed signal integrity solutions supporting most IC packages

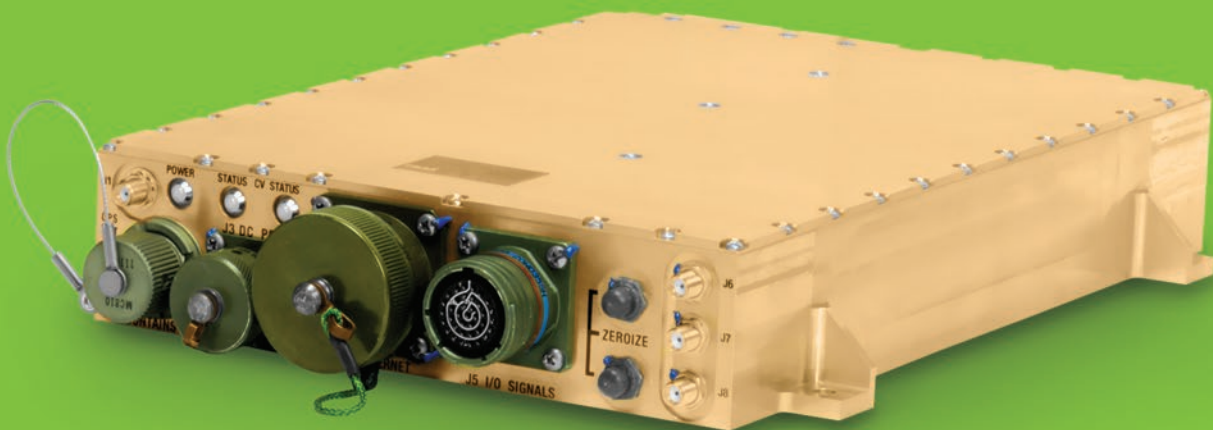


WLCSP Probe Head

- Utilising spring probe and other contact technologies
- Capable of testing 180µm and higher pitch
- High site-to-site test parallelism
- Superior signal integrity and high speed / RF testing capabilities
- Low and stable contact resistance
- Increased test throughput



Time & Frequency Systems



Emergency Response Systems

We provide timing and frequency solutions for the next-generation in emergency response systems, and more. Embedding the renowned TRAK technologies, our solutions offer accuracy, stability, and remote manageability that are critical for the success of the end user's applications.

**Solutions
offering accuracy,
stability,
and remote
manageability**

Distribution Systems

- Stand-alone and modular solutions
- Pulse rates, reference frequencies, and time codes
- Redundant and non-redundant configurations
- Low phase noise reference frequency distribution



GPS Clocks

- High performance, cost effective, small form factor
- High stability ovenised oscillator or optional rubidium oscillator
- AC and DC power inputs to meet power requirements
- Remote configuration and monitoring through Ethernet and RS-232



Modular Systems

- Dual-redundant modular system
- For high reliability applications requiring uninterruptable 24-7 service
- Redundant GPS RX, high stability OCXO or rubidium, time and frequency generator, and NTP servers
- Six, 4-channel distribution module providing 24 outputs. Expansion shelf available



Network Time Protocol (NTP) Servers

- Designed for time synchronising networks using IRIG-B as the time reference
- Accepts a fibre optic or wireline IRIG-B time code
- Time synchronisation of SIPRNET and NIPRNET
- Remote configuration and monitoring via Ethernet and RS-232



Tactical Global Positioning Systems (GPS)

- Compact, rugged enclosure
- Contains rubidium oscillator and low phase noise clean-up oscillator meeting frequency stability, and phase noise requirements of the military SATCOM system
- Remote configuration and monitoring via Ethernet and RS-232
- Standard C/A-Code GPS or optional SAASM GPS

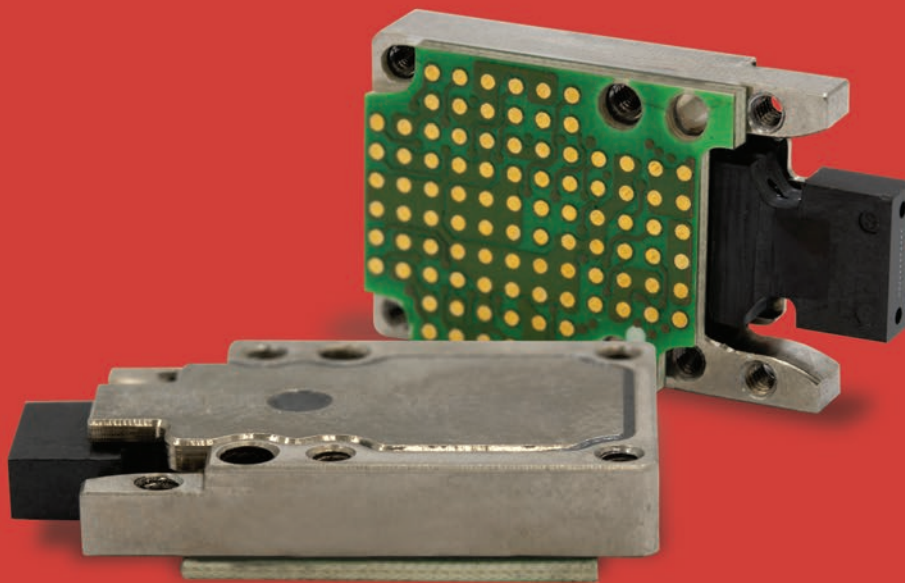


Time Code Processors

- Modular construction with over 100 module options
- Standard C/A-Code GPS or optional SAASM GPS
- Wide variety of outputs are available
- Remote configuration and monitoring is available through Ethernet and RS-232



Optical Transceivers



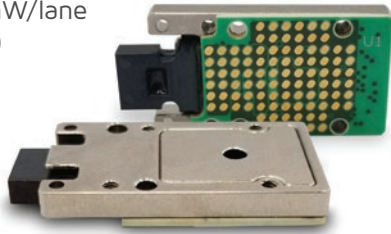
Advanced Solutions

Embedded optical transceivers modules with Reflex Photonics technology for advanced interconnect based solutions. Targeting high-reliability interconnects where high data rate communication links with low SWaP are required. Space-qualified versions are also radiation resistant.

**Rugged
embedded
transceivers for
harsh environment
interconnect**

Mid-Board Space-Qualified Optical Transceivers

- Space heritage (TRL 9) since 2021
- Small: Height as low as 5.5mm with interposer
- Space qualified for radiation, shock and vibration, TVAC, and outgassing
- Expected life: Up to 20 years
- Cold start temperature: -55°C
- 10 and 25 Gbps data rates on 4-lane transceivers and 12-channel transmitters/receivers
- Operating temperature: From -40°C to 85°C
- Sensitivity: Up to -9dBm @ BER 10^{-12}
- Power consumption: As low as 85 mW/lane (<10 pJ per bit)
- LGA interposer interface



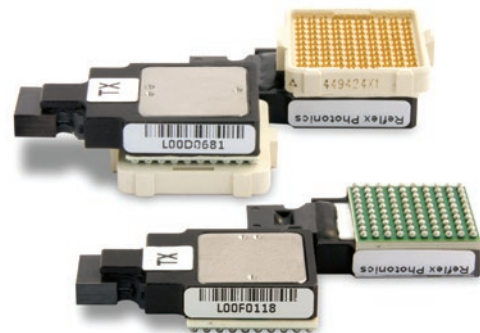
Rugged Backplane Optical Modules

- Compliant with VITA 66.5-defined backplane connectors
- Performance: 1 Gbps up to 28 Gbps/lane
- Operating temperature: From -40°C to 85°C
- Low power consumption: As low as 100 mW/lane
- Ultra-high port bandwidth density of up to 720 Gbps full-duplex in a half-width slot
- Rugged: MIL-STD 883 shock and vibration qualified
- Sensitivity: Up to -12 dBm @ BER 10^{-12}
- Ingress protection: Moisture, thermal and shock resistant
- Maximises board space on 3U and 6U high-speed switch and payload VPX boards



Rugged Mid-Board Optical Transceivers

- Proven: Used in many defence applications
- Small: Height as low as 5.5mm with interposer
- Rugged: MIL-STD 883 shock and vibration qualified
- Sealed: Moisture and thermal shock resistant
- Storage temperature: -57°C to 125°C
- Performance: Up to 28 Gbps/lane
- Operating temperature: From -40°C to 85°C
- Sensitivity: Up to -12dBm @ BER 10^{-12}
- Low power consumption: As low as 100 mW/lane
- Channel configurations: 4TRx, 12TRx (10G only), 12Rx, and 12Tx



High bandwidth,
low latency
and SWaP in
differentiated
high reliability
applications

Global Capabilities



Reliable Solutions

In-house capabilities encompassing design, development, manufacturing and testing to anticipate market needs, respond quickly and accurately to customers, and provide the most reliable connectivity solutions.



Market-leading Engineering and Technology Solutions

80+

Years Experience





Certifications, Standards & Compliance

- AS9100D
- ISO 9001
- ISO 14001
- ISO 45001
- NF F 61-030
- NF F 61-032
- NF F 16-101
- NF F 16-102
- NF-C 93421
- DIN 41612
- DIN 43652
- EN 50124
- EN 45545-2
- IEEE-1101.2-'92
- IEC 1076-4 101
- IEC 61373
- IEC 61984
- HE 501
- HE 704
- UTE C93-425
- UL94 VO
- RoHS compliance
- IRIS

Engineering

- 3D EM Modelling
- Advanced RF & System Modelling
- CAD/CAM & Solid Modelling
- Finite Element Analysis
 - Thermal Analysis
 - Shock & Vibration Analysis
- Reliability Analysis

Prototyping

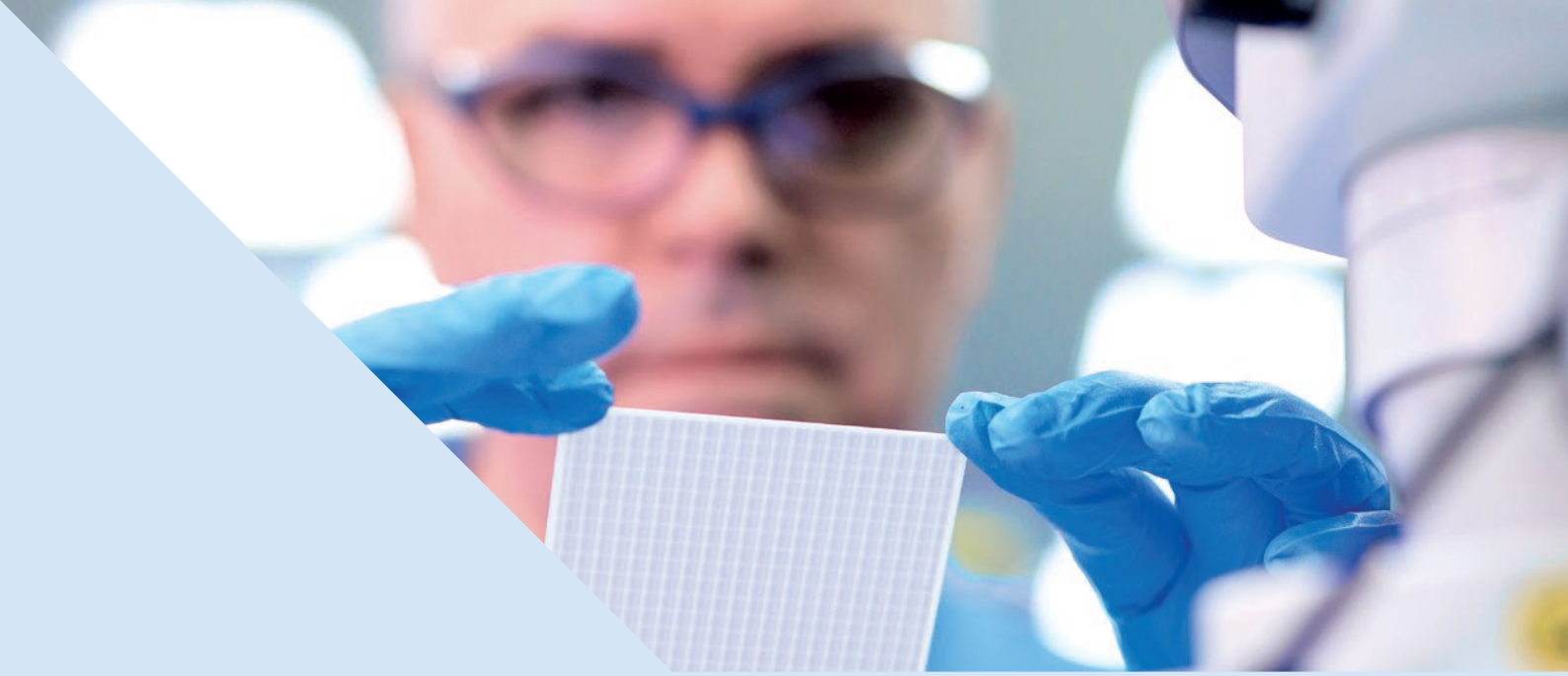
- CNC Turning & Milling Centres
- Cabling / Prototype Assembly
- 3D Printing
- Ceramic Grinding
- EDM
- Circuit Board Routing

Manufacturing

- Precision Machine Shops
- Connector, Contact & Cable Assembly
- Automated PCB Assembly & Inspection
- Automated Hybrid Assembly
 - Die Placement
 - Wedge & Wire Bonding
 - Gap Welding
- NASA Certified Soldering
- Automated Test & Tune
- Optical Alignment
- System Integration
- Validation Testing

Testing/Qualification

- Electrical Acceptance & LOT Test
- RF Test Capability, up to 325 GHz
- High Speed Digital
- Anechoic Chamber Testing
- ESS Environmental Qualification
- ESS Temperature, Shock & Vibration
- Metallurgical
- Real Time X-Ray
- Near Field/Compact Antenna Range
- Thermal Vacuum
- High Power RF Testing
- Optics Lab
- Multi paction, SRS mechanical shock



Connecting Global Markets

Smiths Interconnect's strong focus on serving international markets and customers is supported by our sales and technical teams across the Americas, Europe and Asia.

smithsinterconnect.com



Business Unit

Connectors

Fibre Optics &
RF Components

Semiconductor
Test

RF/MW
Subsystems

Worldwide Support

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Technical Support

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Pioneers of Progress

Advancing the world through cutting-edge connectivity

We aim to be the partner of choice for innovative connectivity solutions where reliability, high quality, technical expertise, application knowledge, and a reputation for excellence is vital.



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