

Introduction

Specialist Microwave Solutions Ltd

- **Microwave Components**
- **Microwave Assemblies**
- **New Design & Repair**
- **Realisation of Customer Designs**
- **Build to Print**
- **UK Based Design & Manufacture**



European Source for Microwave Components & Assemblies

Commercial in Confidence

Background

Company Profile

Specialist Microwave Solutions (SMS) was founded in 1999 by three engineers and has grown into a respected supplier of high-reliability RF and Microwave components for the aerospace and defence industries. Our RF and Microwave engineering team brings more than 200 years of combined hands-on experience, delivering robust design, rapid problem solving, and field-proven solutions.

As an independently owned UK company, SMS offers a strategic advantage when serving European aerospace and defence programmes, with a streamlined, adaptable business model that responds quickly to customer requirements and delivery schedules.

Facilities

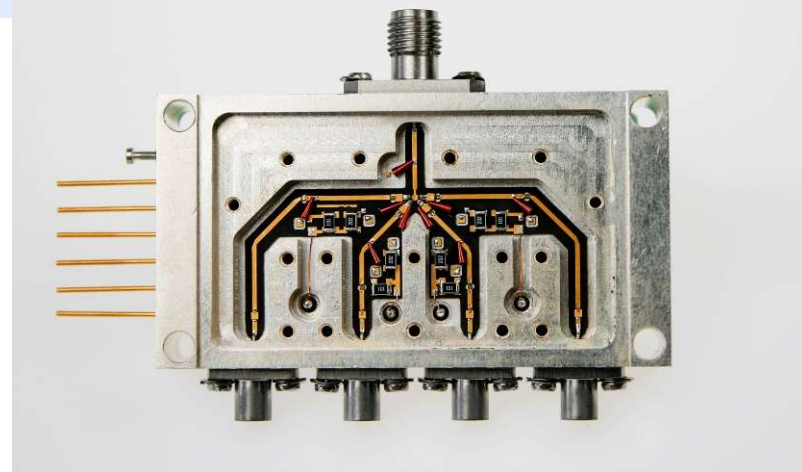
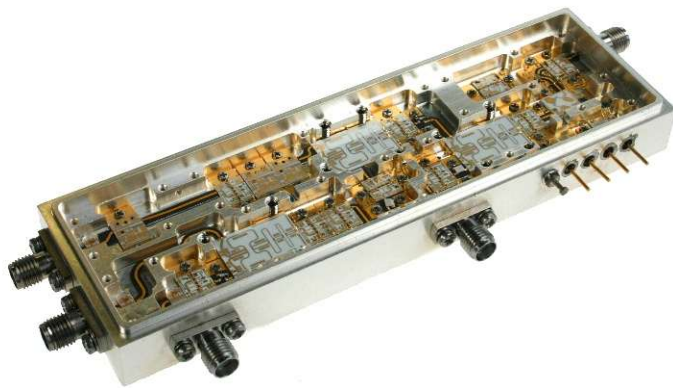
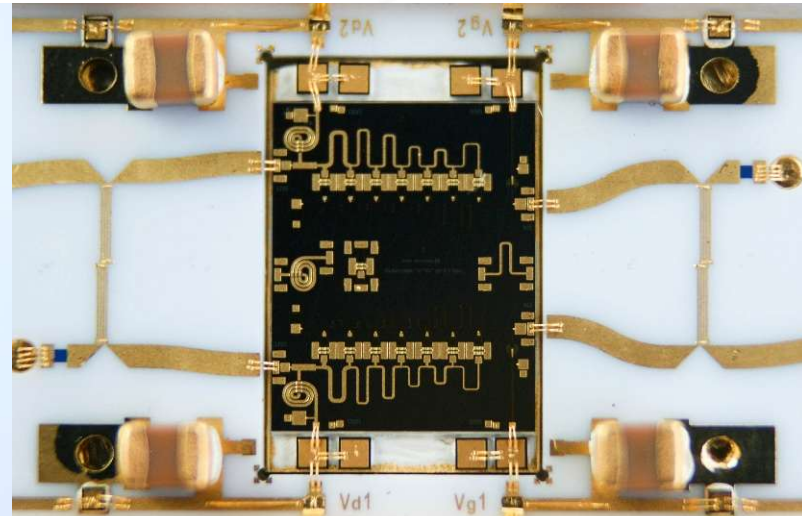
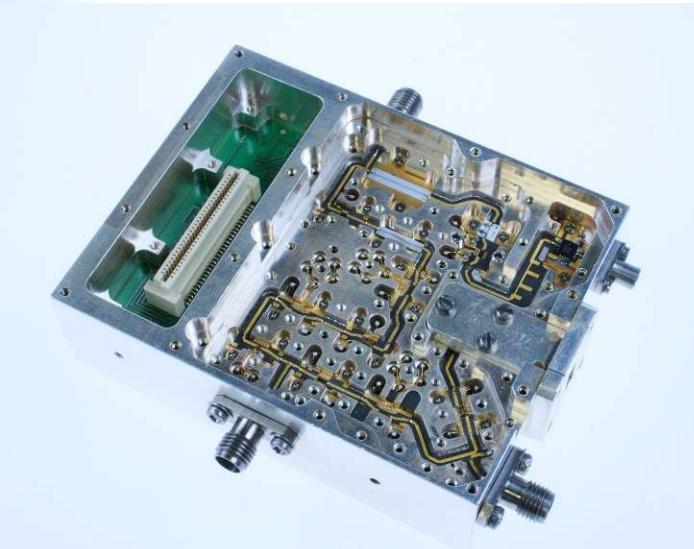
Based at Cranfield Technology Park, SMS operates from 221 m² of modern office space and 334 m² of dedicated manufacturing floor area. A purpose-built **Class 10,000 cleanroom** is due for completion by year-end 2025, unlocking opportunities in space and other high-reliability product lines while strengthening our manufacturing and test capabilities.



SMS

Specialist Microwave Solutions

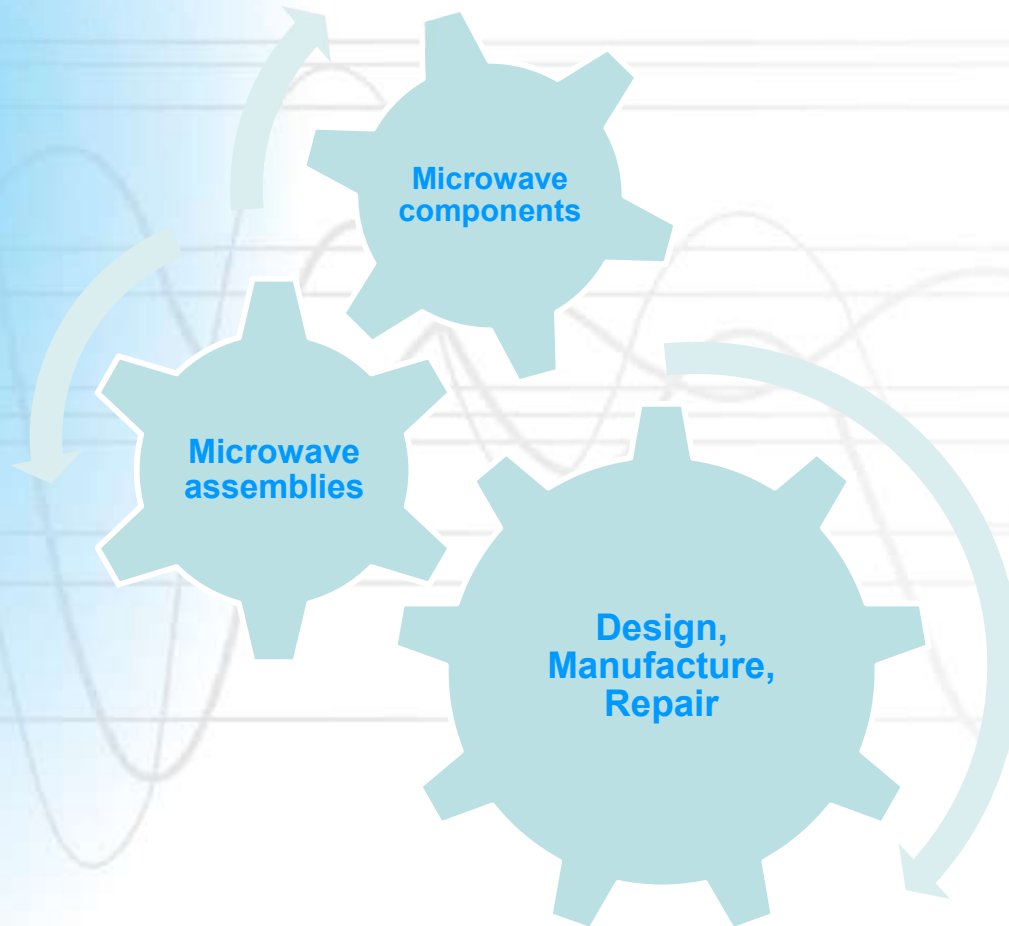
Typical Products



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Capabilities



Design, Manufacture and Repair of:

- Switches & Limiters
- Hybrid Amplifiers
- Digital & Analogue Attenuators
- Detectors & Mixers
- Voltage Controlled Oscillators
- DLVA's & SDLVA's
- Fast Switched Crystal Sources
- Synthesised Microwave Sources
- Multi-function Components
- Assemblies & Sub-systems



SMS

Specialist Microwave Solutions

Manufacturing Capabilities

Chip and Bond to complete Multi-function Assemblies

Our manufacturing team has a unique skill set, from handling bare die and wire bonding to complete subsystem assembly.

Processes:

- Bare chip handling
- Fine wire bonding
- Argon Plasma cleaning
- Chip and SMT component assembly
- Alumina, soft board and FR4 circuits
- Hermetic sealing
- Precision Laser labelling



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Technical Capabilities

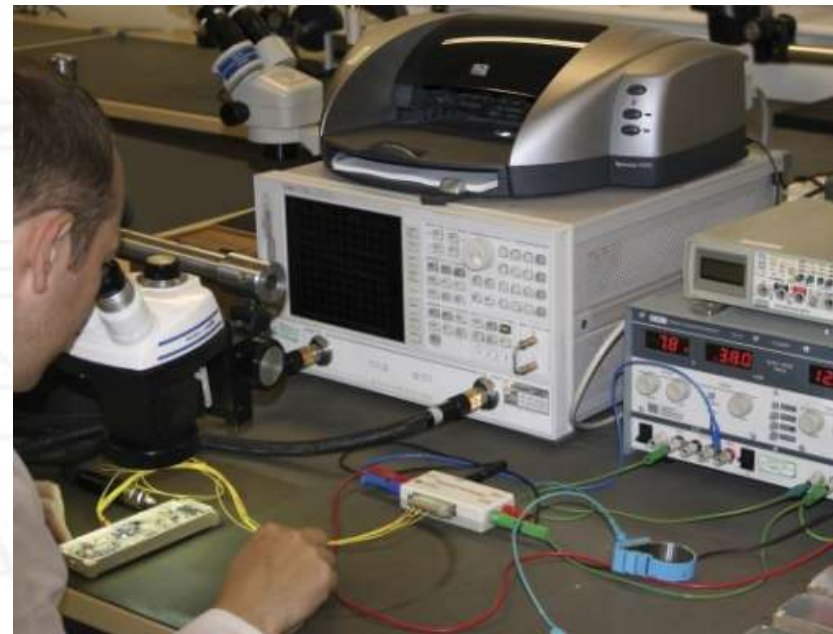
Our team's uncommon blend of theoretical expertise and hands-on experience across bare-die and packaged designs sets us apart, enabling robust, manufacturable solutions for demanding applications. Designing up to 50GHz

- End-to-end design — Expertise from concept and simulation through to packaged production.
- Bare-die proficiency — Capability to design, handle, and integrate die-level components for Defence and Aerospace applications.
- Packaged component know-how — Experience optimising performance, reliability, and manufacturability of finished parts.
- Rapid prototyping — Translate theoretical designs into working prototypes quickly and accurately.
- Design for Manufacturing - aware designs — Designs optimised for manufacturability, yield, and testability.
- Failure-mode insight — Deep understanding of reliability drivers and mitigation strategies for harsh environments.
- Customisation capability — Tailored solutions across RF, microwave, and subsystem levels to meet specific client requirements.
- Seamless tech transfer — Smooth handover from engineering to production with clear documentation and process control.

Test Resources

Test Resources to 50 GHz:

- Scalar & VNA Measurements
- Spectrum Analysis
- Synthesised Sources
- Noise Figure Meters & Noise Sources
- High Frequency (2GHz) Oscilloscopes
- High Power Test Sources



Quality & Reliability

Quality and Reliability

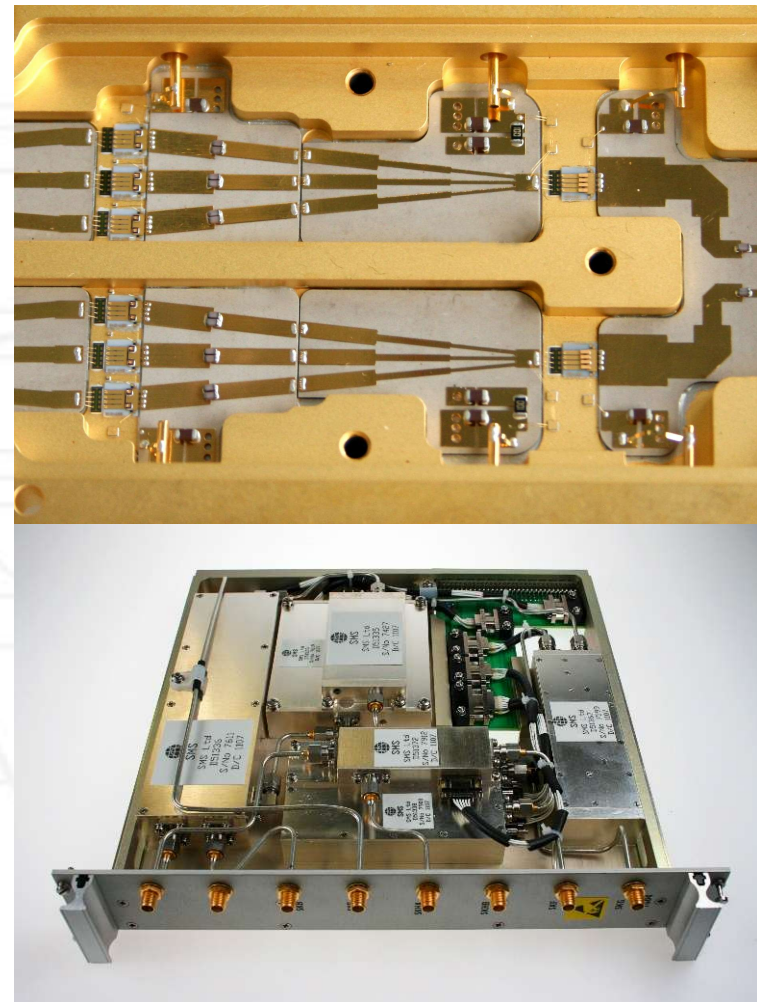
SMS develops high-reliability electronics for extreme environments — from missiles to radar systems. We validate designs with in-house and accredited external testing to MIL-STD levels, including vibration, thermal cycling, burn-in, and hermeticity verification.

In-House and Partner Capability: -

- **Gross Leak Test** — Bubble Leak Testing.
- **Fine Leak Test** — Helium Mass Spectrometer leak detector.
- **Burn-In** — Extended high temperature testing under operation test conditions.
- **Thermal Cycling** — Repeated temperature extremes, typically between -40°C and +125°C.
- **Acceleration** — Centrifuge-based testing of small components
- **Humidity** — Elevated humidity levels at temperature
- **PIND** — Testing of small components
- **Partner Companies** — X-Ray testing (Capital NDT)

Products

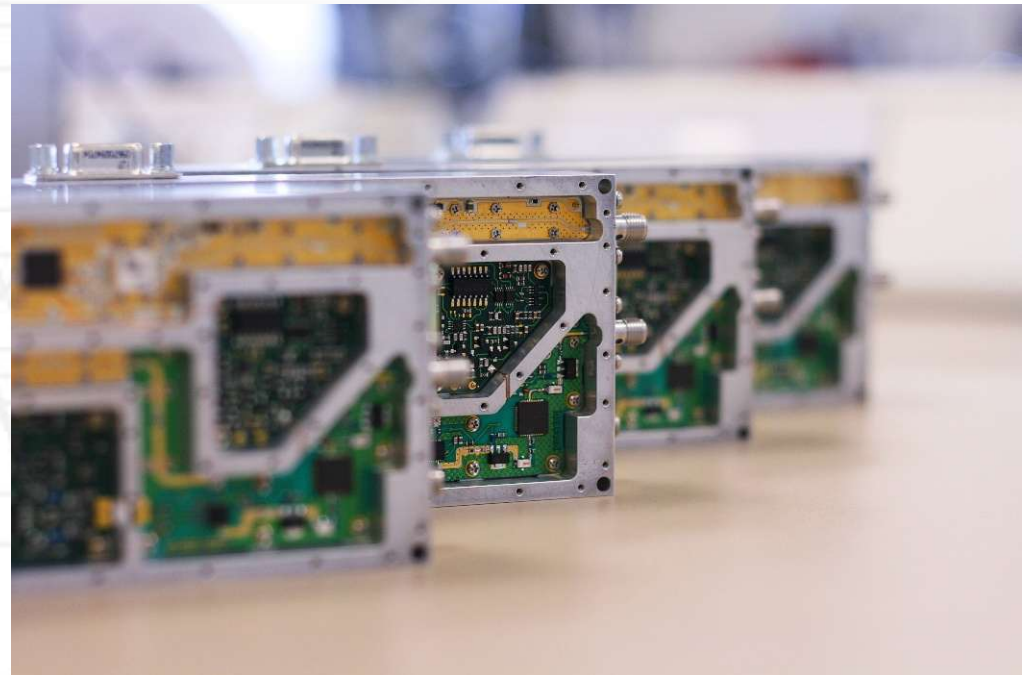
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Products

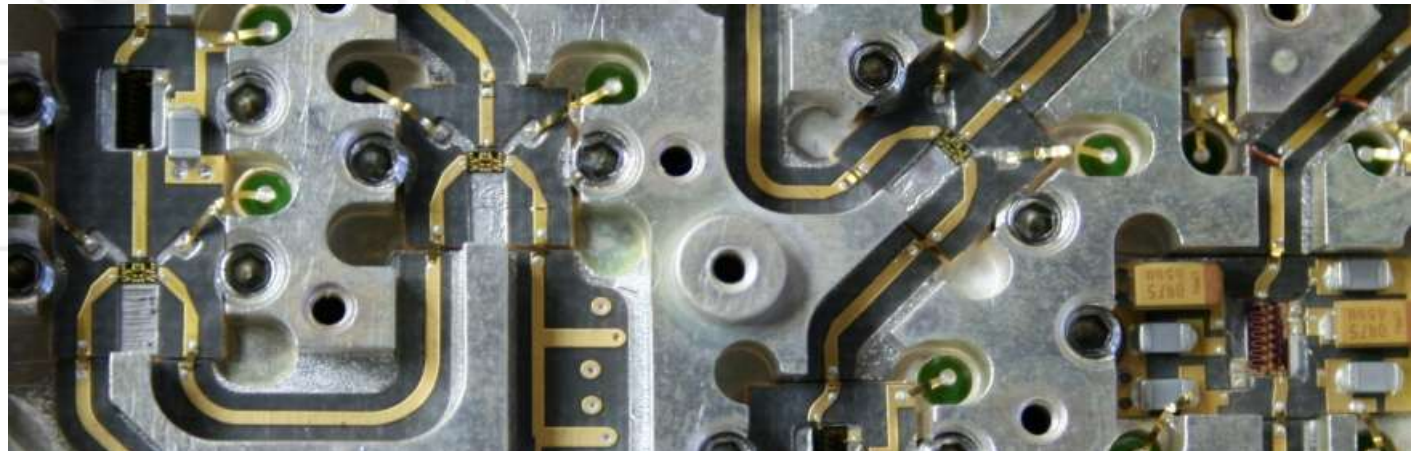
Assemblies using any combination of the above functions, together with:

- Passive Components
- Logic and Drive Circuits
- BITE
- Digital Interfaces
- Connectorised, SMT or Drop in



Customers

- The major Aerospace & Defence OEMs :- Thales, Leonardo, MBDA, Hensoldt, Qinetiq, BAE, Teledyne.
- Companies who no longer maintain in-house hybrid microwave manufacturing facilities
- Research & Development establishments
- Small design companies



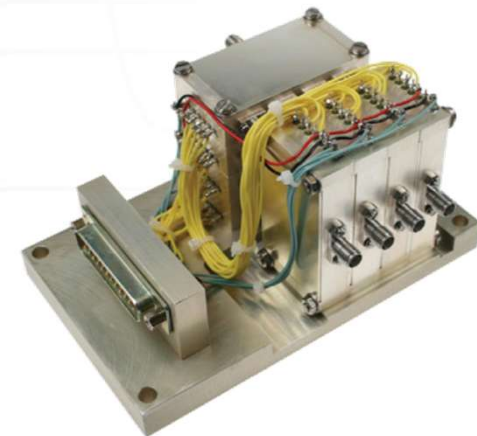
Repair & Support

Repair of
Heritage Products

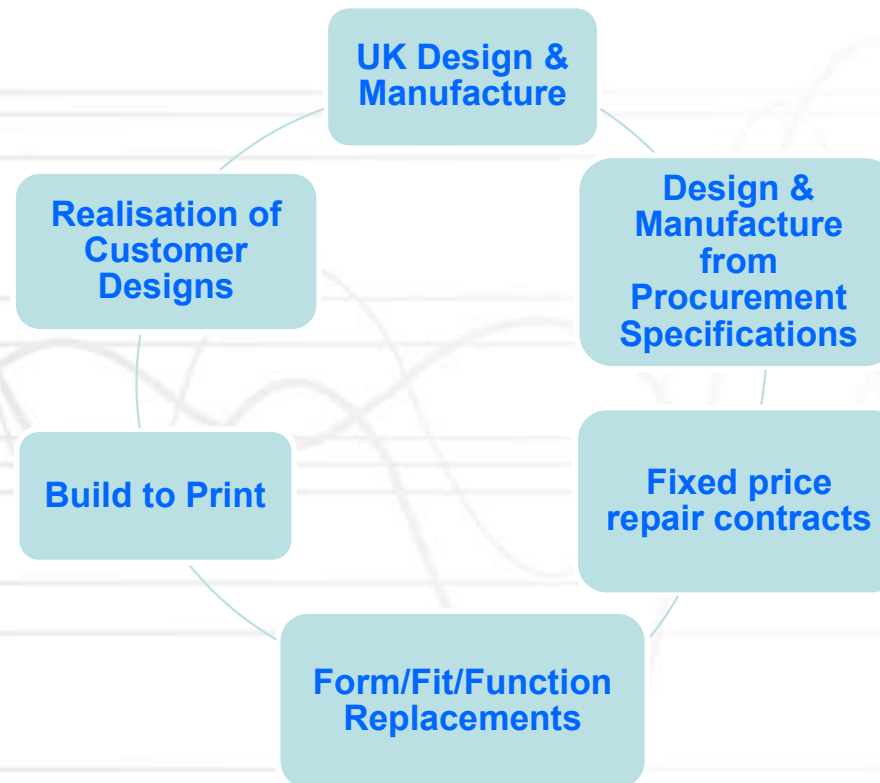
Form/Fit/
Function
Replacements

Upgrading
of Existing
Designs

- Repair of OEM components & assemblies
- Original drawings not required
- Fixed price repair contracts
- Agreed turn around times (TAT)



Customer Support



Customer commitment

We deliver best-fit solutions defined by clear, realistic specifications and dependable delivery timelines. Close collaboration with customers ensures outcomes that meet technical, schedule, and reliability expectations.

New Technology & Products

- **QFN Multi-function Modules**
- **Realisation of Customer Designs**
- **Performance Enhanced COTS Components**
- **3U VPX Interface Products, I²C Bus Controlled**





SMS

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