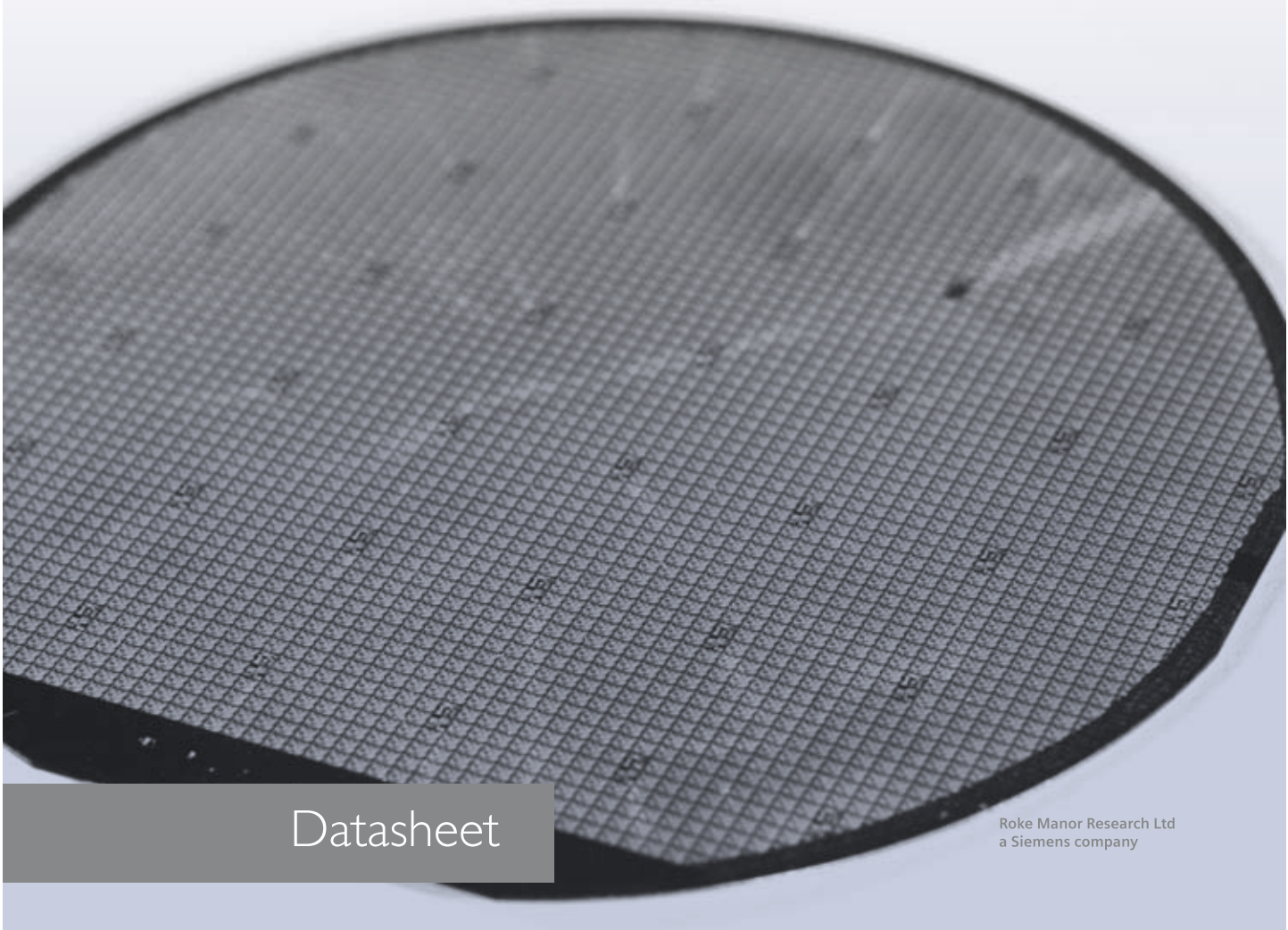


## Complete Monolithic Microwave Integrated Circuit (MMIC) design service

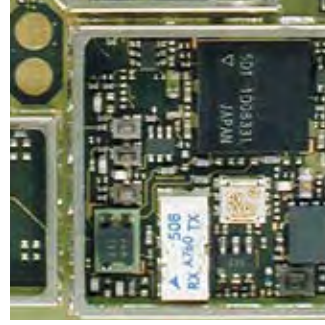
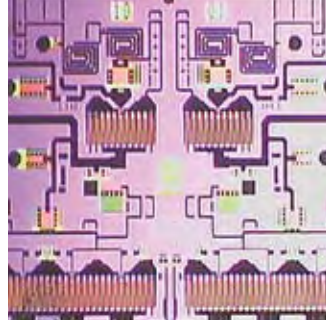
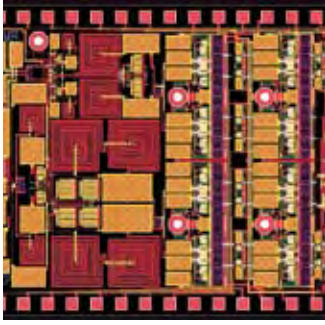
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Roke Manor Research provides a complete and independent MMIC design service covering a wide range of compound semiconductor technologies. MMICs provide a single chip solution to RF circuitry requirements above 1GHz. They enable smaller sizes, better power efficiency and repeatable performance.

Our custom design service can include system specification, foundry support, RF design, layout, tape out, evaluation of prototype, module integration and system proving. With the ability to provide RF modules with both bespoke and off the shelf technology, Roke can help you achieve competitive advantage in your specific market place.



Datasheet



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## Complete GaAs MMIC and pHEMT design and consultancy service

Roke 's experienced team provides a complete GaAs MMIC design and consultancy service. Power Amplifier (PA) design, HBT development for mobile handsets and compact, low-current MMIC designs are a speciality.

Our service covers initial specification, through to design, RF assessment, system implementation and product introduction. As well as providing a custom design service, we will also recommend off-the-shelf technology where possible, ensuring costs are kept to a minimum.

### Benefits of a custom MMIC solution

- Small size
- Power efficient
- Meets your exact requirements

## Capabilities and facilities

The MMIC design team has the technical capability, relevant experience and facilities to undertake all aspects of MMIC design and usage, up to 94GHz. We liaise closely with our customers through all stages of the design cycle, from agreement of requirement, through to the product introduction of the MMIC in the customer's system.

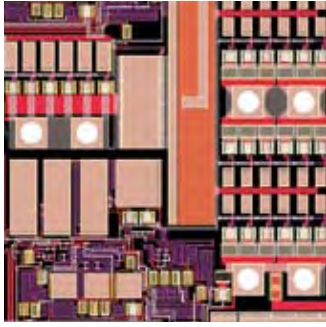
### Services

Study and prototyping  
System simulation  
MMIC simulation  
MMIC design  
Electromagnetic (EM) simulation  
MMIC layout and design rule checking (DRC)  
Realisation and test  
Prototype bonding and packaging  
Cascade RF on wafer probe station.

### Specialist capabilities

In addition to PAs and low current designs, we have evaluated high band gap materials (SiC and GaN) for use in PAs. We also offer an automated PA evaluation capability to reduce your design bottlenecks.

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## Complete HBT service

### HBT bias circuitry

Today's competitive HBT MMIC products use clever bias techniques to unlock the full potential of the active RF devices. Our patented configurable bias circuit provides the key competitive edge needed to break into or increase your share of the HBT market.

### HBT power amplifiers

We provide design solutions for requirements employing both saturated and linear modulation schemes. In addition to design services our comprehensive test facilities enable the characterisation of bare die and packaged MMICs.

### HBT MMICs for a range of applications

In addition to our proven track record in PA design, we also offer a range of other services for the design and test of MMIC products where HBT technology is often the optimum choice.

## Confidentiality and independence

Roke provides innovative solutions and contract R&D to a broad customer base and guarantees total commercial confidentiality and vendor independence. We have links to major foundries such as WIN, TriQuint, OMMIC and UMS.

Roke has many years design experience in both HBT and HEMT technologies, backed by our history in GaAs MMIC design. This is complemented by our RFIC (BiCMOS) team.

For further information on our services in these areas please contact us.

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## Glossary

<b>PA</b>	Power Amplifier
<b>ASIC</b>	Application Specific Integrated Circuit
<b>DRC</b>	Design Rule Check
<b>GaAs</b>	Gallium Arsenide
<b>GaN</b>	Gallium Nitride
<b>InP</b>	Indium Phosphide
<b>LVS</b>	Layout versus Schematic
<b>MEMS</b>	Micro Electro Mechanical System
<b>MMIC</b>	Monolithic Microwave Integrated Circuit
<b>HBT</b>	Hetrojunction Bipolar Transistor
<b>pHEMT</b>	Pseudomorphic High Electron Mobility Transistor
<b>RF</b>	Radio Frequency
<b>RFIC</b>	Radio Frequency Integrated Circuit
<b>SiC</b>	Silicon Carbide

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