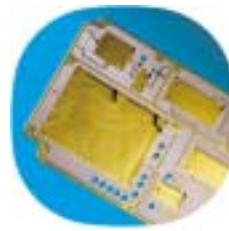
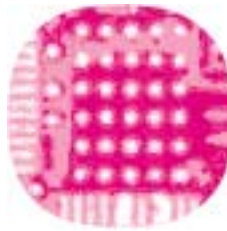




# LABTECH

Microwave PCB &  
MMIC Packaging Solutions



- MMIC Packaging
- MIC Assembly
- Softboard
- Metal backed
- Multilayers



Turnkey - MIC outsourcing service



## MICROWAVE PCB AND MMIC PACKAGING SOLUTIONS

Labtech, has a wealth of experience in the manufacture of high frequency printed circuit boards and MMIC packaging techniques for the global microwave market. We actively seek ways in which we can handle all your PTFE circuit requirements.

Contact us directly for more information or please refer to our website for more details including contacts in our expanding regional representative network.

[www.labtechcircuits.com](http://www.labtechcircuits.com)



## MICROWAVE CIRCUITS ON OFFER

### **Metal backed PTFE circuits**

Aluminium, brass and copper carrier  
Post and pre-bonded processing  
PTH through ptfе and metal carrier  
Extensive in house machining facility

### **Single Sided & Double Sided Soft PTFE Circuits**

High tolerance softboard  
Complete processing in house

### **Multilayer Microwave Circuits**

PTFE Multilayer  
Mixed dielectric multilayers  
Metal backed multilayers  
Metal core multilayers  
Fusion bonded multilayers  
Blind & buried vias  
Tri-plate antennas  
Conformal antennas  
Assembly of embedded resistors, capacitors and



## MMIC PACKAGING AND MIC ASSEMBLY ON OFFER

Custom Design for Manufacturing service

Single chip modules & MIC assemblies developed using PTFE circuit technology

MMIC chip & wire assembly

In house class 10,000 clean room - ESD protected area

Gold, ribbon & aluminium bond wires.

- \* Electrolytic pure gold
- \* Universal finish
- \* High build electroless gold

Test available on a project-by-project basis.

\* *all available in house*





## TURNKEY - MIC OUTSOURCING SERVICE

Labtech has combined its wide range of precision microwave PCB and MMIC packaging capabilities to launch a 'Turnkey-MIC outsourcing' service to address the growing market demand for assembled high frequency MIC substrates and components.

The company, renowned for its innovation and customer service, has developed a portfolio of capabilities into a turnkey package that starts with a 'Design For Manufacturing' approach. Taking customer circuit designs, Labtech will develop an optimised tooling package suited for economic volume substrate production. Circuits are then assembled on-site in the company's newly established Class 10,000 MIC clean room.



## LABTECH'S TURNKEY OFFERING IN SUMMARY

**Design for Manufacturing Support** – from our team of specialists, we can offer you advice with regards to Microwave PCB constructions; selection of PTFE laminates; MMIC packaging techniques using PTFE and MMIC assembly on PTFE.

**High capability PCB manufacture** – Post and Pre Bonded Metal Backed circuits; Precision Softboard and Mixed Dielectric Multilayers are all produced in house and with a range of plated finishes and features.

**In house Metal machining** – Machined housings & Metal Backed PCB's are produced in Labtech's extensive machine shop that has many machining centers producing a wide and varied mix of components.

**PCB construction and Assembly** – High volume capability and experience in the bringing together of machined metal backed components, and the bonding of Microwave PCB's utilizing conductive and non-conductive adhesives. A mechanical assembly service is also available for connectors and embedded resistors.

**MMIC Assembly** – Housed in a class 10,000 ESD protected clean room, Labtech can assemble MMIC die using chip and wire techniques and bond directly to PTFE circuits.

**MMIC Module and Test** – An expanding service that is being developed to meet each requirement on a project-by-project basis.



## SPECIALIST MICROWAVE ASSEMBLY AND TEST

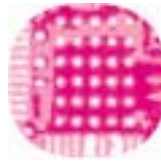
Assembly of packaged components, connectors, cables, MMIC chip placement, ESD protection and tests on a project-by-project basis.





## ABOUT THE COMPANY

- Labtech is a committed leading supplier to the international microwave markets.
- We focus on proactive and dedicated team building relationships with our key account management approach.
- A wide range of microwave materials are used at Labtech - more information is available.
- Labtech is dedicated to protect the environment. Please visit our web site for further details at [www.labtechcircuits.com](http://www.labtechcircuits.com).
- We offer free technical seminars on detailed manufacturing aspects of PTFE circuits and modules.
- Award winning company for business excellence and employee training.



## SPECIALITIES

Fine tolerance etching  $\pm 10$  microns/0.0004"  
 Fine track & gap feature 50 microns/0.002"  
 Wide range of plating finishes available  
 Edge plating & plated machined pockets  
 Blind plating vias  
 Small via drilling 0.20mm/0.008"  
 Side to side registration  $\pm 0.04$ mm/0.0015"



## LOCATION



## QUALITY APPROVALS



No. FM 09457

ISO 9002 certificate held since 1994



ESA (European Space Agency)



UL Approval

[www.labtechcircuits.com](http://www.labtechcircuits.com)

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