



Test & Measurement Services

MMICs, RFICs and microwave/mmWave modules up to 50 GHz

PRFI Ltd. is a UK-based design house specialising in the design and development of RFICs and MMICs, and microwave/mmWave modules. Projects range from feasibility studies to the design and development of microwave ICs, components and sub-systems. Our offices and labs are located near Cambridge, in the UK.



Overview

We offer test, measurement and characterisation services at RF & microwave/mmWave frequencies. We can test active and passive devices operating up to 50 GHz and 1 kW, with digital or analogue control. Our lab is setup for prototype testing, rather than full-scale production tests, but measurements can be automated to accommodate larger requests.

Measurements up to mmWave Frequencies

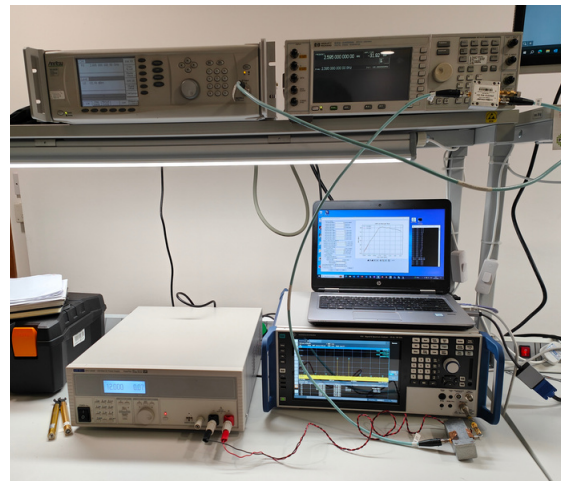
The lab has VNAs, spectrum analysers and signal generators operating up to 50 GHz for small and large signal measurements, and we can measure noise figure up to 44 GHz.

Automation

Most of our measurements are or can be automated for large scale prototype testing. The measurement software is developed in-house, and custom routines can be developed as needed. Our existing programmes include standard measurements (small signal, two-tone, power sweeps, etc.); programmes can be developed for other measurements, such as noise figure and characterisation over temperature.

Example Projects

- Measurement of a 12-bit phase shifter (4096 states) from 15 to 35 GHz.
- Characterisation of a 1 kW pulsed power PA module at S-band.
- Testing of COTS bare die MMICs (mixer and switch)
- Debugging of PA control module using thermal imaging camera.
- Automated Measurement and Evaluation of 6-bit Amplitude and Phase Control Modules
- Measurement of Noise Power Ratio (NPR)



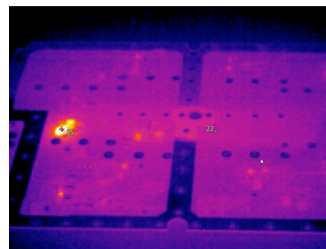
RFOW

RF-on-wafer (RFOW) testing is carried out using a manual probe station. Up to two RF and two DC probes can be fitted.



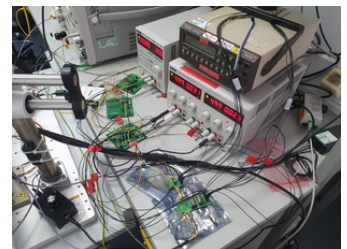
Temperature Chamber

Thermotron temperature chamber for characterising devices over temperature. Capable of operating beyond -40°C and 85°C.



Thermal Imaging

A thermal imaging camera can be used to debug issues with PCBs and modules, by quickly identifying problems areas.



Digital Control

Up to 12-bit digital control of devices is possible during testing; an NI-DAQ for the control logic and SPST switch boards to set custom control voltages.

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