



Company Overview

MMIC, RFIC and microwave/mmWave module design specialists

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.



Technology

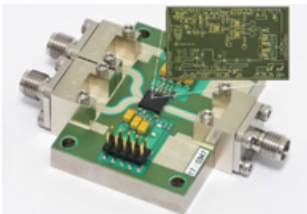
Our skills cover RF, microwave and mmWave components and sub-system development including: custom IC design, high frequency SMT based PCBs, chip and wire assemblies, MCMs, LTCC, thin-film and custom IC package design. We have experience designing on the world's leading foundries including GCS, MACOM (Wolfspeed), Qorvo, UMS and WIN.



Clients

Our clients range from start-ups to major multi-nationals. Companies that have used PRFI's services include Aeroflex, Analog Devices, BAE Systems, Inmarsat, MBDA, National Semiconductor, MBDA, QinetiQ, Qorvo, Samsung, Sony Semiconductor, TDK and Thales. We have a reputation for achieving first-time design success using proven design approaches.

Project Examples



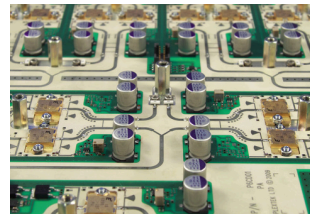
MMIC Design

Our experience includes front-end ICs for mmWave 5G, broadband MMICs for ESM, receiver, transmitter and PA ICs for point to point microwave links and GaN PAs for both commercial and defence applications. We use industry-leading CAD software for our designs and have completed projects in a range of technologies including GaN-on-SiC, GaAs pHEMT, GaAs HBT, GaAs PIN and IPD.



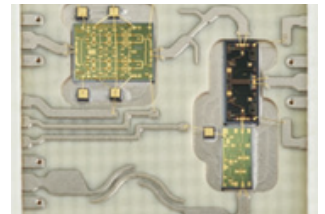
Test & Measurement

PRFI's in-house lab can be used for testing prototype ICs and modules up to 50GHz, either RF on-wafer or connectorised. Most of our test systems can be automated, including small-signal, large-signal, linearity and noise figure setups. Example projects include the automated measurement of a 12-bit phase shifter in all 4096 states and characterising a PRFI-designed 1kW pulsed power module at S-band.



RF Module Design

Example projects include GaN PA modules from L-band to X-band at power levels to 1kW, the design and supply of an 8 to 18GHz, fast switching, low noise synthesiser; a fast switching 200W X-band solid-state PA for a marine radar application, and signal sources for space-based applications. Our capabilities include the design of PCBs, mechanical housings and control boards and helping clients move to volume production.



SMT Package Design

We have extensive experience of SMT packaging to mmWave frequencies. This includes the use of standard plastic overmould packages with custom designed lead-frames, the use of COTS ceramic and plastic packages and the design of full custom laminate and ceramic packages. We have also developed SMT-compatible multi-chip module and Antenna-in-Package (AiP) solutions

PRFI Ltd.

Abbey Barns, Suite 1 Building 3
Duxford Road, Ickleton
Cambridge
CB10 1SX, United Kingdom

www.prfi.com

T: +44 (0)1799 796464

E: enquiries@prfi.com

June 2024