

GaAs HBT RF ICs for Wireless Applications: A Profitable Business

David A. Norbury

President, C.E.O.

RF Micro Devices, Inc.

7625 Thorndike Road

Greensboro, N.C.

Ph: (910) 664-1233, Fax: (910) 664-0454, dnorbury@rfmd.com

The rapidly growing market for wireless communications products has created a dramatically increasing demand for Radio Frequency Integrated Circuits (RFICs), and, particularly, for GaAs HBT RFICs. RF Micro Devices was formed 6 years ago to address and serve wireless markets with low-cost, high-performance components technology-matched to a variety of applications. This concept, termed *Optimum Technology Matching*[™], selects the most appropriate semiconductor technology, such as GaAs MESFET, GaAs HBT or Si Bipolar, to provide the optimum cost/performance profile for each component. Founded as a fabless IC house, RFMD offers a variety of standard and custom RF ASIC products fabricated using each of these technologies. GaAs HBT-based products, however, have quickly become the leading technology-of-choice for many wireless applications, particularly for power amplifiers. Currently fabricated by TRW, RFMD's low-cost HBT products are

being used in cordless phones, cellular and PCS handsets, wireless LANs and many other applications. The demand has in fact been so strong that RFMD is currently building a new GaAs HBT fab facility in Greensboro, NC, with the eventual capacity of more than 25,000 wafers per year.

This presentation will address our outlook regarding the current and future applications of GaAs components in the emerging wireless communications market, with a focus on HBT RFICs. We will discuss the technical and business advantages and risks associated with this market, with a particular focus on GaAs HBT products. We will also show that RFMD's multiple technology or *Optimum Technology Matching*[™] approach, combined with innovative RF design provides a low-cost, optimum-performance ASIC solution for each application and lowers the business risk in serving this fast-moving market.