

ABSTRACT

THE COMMERCIAL MARKETS FOR MMIC'S

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The MIMIC Program has contributed significantly to the technology of monolithic circuits. This support has created a practical, small size and low cost technology that now allows U.S. firms to penetrate the domestic and international commercial and industrial markets for millimeter, microwave and RF components and subsystems.

The outlook for sustained growth in the commercial market for mmics will be presented. It is estimated that the overall commercial markets for mmics is growing in the U.S. at approximately 30% per year and it appears that growth rate will be sustained. The various segments of the commercial markets will be discussed with comments on their size and growth rate.

Examples will include the following:

Automotive: Applications include anti-collision, blind spot and near obstacles radars as well as speed over ground sensors and smart card readers.

T.V. Distributors: Applications include DBS, CATV and MMDS.

Wireless Communications: Applications include cellular, PCN, PCS, wireless data, MSS, and wireless LAN.

Communications: Applications include VSAT, radio links, MDS, studio transmitter links, etc.

Industrial: Applications include product controls, inventory management, distance measurements and security.

Consumer Products: Application include radar detectors, burglar alarms, door openers and toys.

In addition the military markets for MMICs will be discussed with particular emphasis on millimeter applications such as the Longbow and SADARM systems.

Although the commercial markets for mmic devices and circuits are growing at a healthy rate, most of the programs are at the R&D or prototype stage where investment is still required. At the same time the markets for conventional microwave and millimeter products for the military are shrinking at a faster rate with the result that the profit outlook for the next year or two for companies engaged in monolithic circuits will not be sufficient to sponsor GaAs R&D at a rate that the MIMIC Program has provided over the past several years. It is recommended that the MIMIC Program continue as a national program for several years after the completion of the present Phase 2 program.

At the end of the present MIMIC Program additional work, especially on millimeter wave devices, circuits and system applications must be continued since, with the very fine structures required for millimeter waves, additional programs emphasizing manufacturing and cost reduction will be necessary.

If we do continue the support, the long term outlook is positive for the U.S. to have a strong commercial manufacturing base that can supply chips and circuits for the future military and commercial needs in an economic way.