



Microwave Integrated Circuit (MIC) Trainer Set (S Band : 2-3GHz)

The package consists of a Components Kit and a detailed Instructions Book.

The following microstrip components are supplied

- Ring resonator
- Power Divider – 2 way equal div & 2 way unequal div
- Branch line directional coupler
- Backward wave directional coupler
- Rat Race Hybrid Ring
- Low pass filter & Hi pass filter
- Band pass filter & Band Stop filter
- Circulator
- Mixer
- RF Switch
- Amplifier
- 50 Ohm Transmission line
- Stripline Directional Coupler



The following accessories required for the characterization of components using either a Test Bench set-up or a Network Analyzer system are also supplied.

- Signal Source – 2.0-3.0 GHz
- RF Power Meter 2.0-3.0 GHz & RF Sensor 2.0-3.0 GHz
- VSWR Meter
- Microwave Detector (0.1-3GHz)
- RF cable 30 cm length, 45cm length & 1m length
- BNC Cable – premium
- Adapter N (M) to SMA (F)
- Adapter SMA (F) to SMA (F)
- Adapter SMA (M) to SMA (M)
- Attenuator pad 3dB, 6dB & 10 dB
- Coaxial matched loads – 50 Ohms
- Short

All components operate over a useful frequency range of approximately 2 to 3GHz. Each component is housed in an enclosure with a transparent cover so that the circuit layout is clearly visible.

Instruction Book – A background Text with Experiments

The book contains the necessary theoretical background and detailed practical experiments. It is intended to be a self-contained background text for performing the MIC experiments, and is divided into two parts.

Part 1 begins with the basics of Microwave Integrated Circuits, discusses planar transmission lines with emphasis on microstrip lines, reviews fundamentals of microwave circuits and describes in general the microwave circuit measurement techniques using the standard Test Bench set-up and also the Network Analyzer.

Part 2 divided into eight sections, describes eight experiments based on the components provided in the Components Kit. Each section begins with the working principle and other theoretical background on the specific MIC component, describes in detail the parameters to be measured, the experimental arrangement/ procedure.