Order Code - 10411
Advanced MIC Trainer

Advanced Microwave Integrated Circuits (MIC) Trainer includes instruments and accessories for studying the characteristics of any MIC component over the frequency range 2.2 to 3 GHz. By making the transmission loss and reflection loss measurements we can study the characteristics of all components listed below. The theoretical background on these components and experimental details are provided in the manual which is supplied along with this trainer.

All components listed above are designed at a centre frequency of 2.4 GHz except low pass filter with cut-off frequency 2.3 GHz.

- Complete Setup with Generators, Components & Meter
- Gold Plated components and connectors
- Generator is provided with internal AM and FM
- PC to PC Data Communication

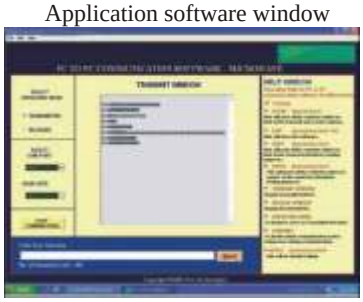
This Trainer kit includes :

1. VSWR Meter
2. Microwave Generator (2.2 - 3 GHz)
3. MIC Components Kit with Accessories
4. Operating manual

VSWR Meter

Sensitivity	:	0.1µV for 200 W input impedance for full scale deflection.
Noise Level	:	Less than 0.02 iV
Range	:	0 - 60 dB in 10 dB steps.
Input	:	Un-biased low and high impedance crystal biased crystal (200 and 200 K)
Meter Scale	:	SWR 1-4, SWR 3-10, dB 0-10, expand SWR 1-1.3, dB 0-2
Gain Control	:	Adjusts the reference level, variable range 0 -10 dB (approx.)
Input Connector	:	BNC (F)
Input Frequency	:	1000 Hz ±10%
Power Supply	:	230 V ±10%, 50 Hz / 60 Hz on request
Power consumption	:	2 VA (approx)

Application software window



Application software window

Microwave Generator

Frequency Range	:	2.2 - 3 GHz Continuously Variable
Display	:	4 Digit LCD
Display Accuracy	:	40 MHz
Impedance	:	50 W
Min RF level	:	5 mW
Output Level Variation	:	10 - 20 dB
Operating Modes	:	Sweep, CW, Int. AM, Int. FM, Ext. AM, PC communication
Modulating Frequency	:	100 Hz to 5 KHz AM Square Wave, FM Triangular Wave
Power Supply	:	230 V ±10%, 50 Hz
Power Consumption	:	5 VA (approx)

Experiments that can be performed

- PC to PC Data Communication using MIC components
- Measurement of transmission loss and reflection loss
- Measurement of substrate dielectric constant using ring resonator
- Measurement of power division, isolation and return loss characteristics
- Measurement of coupling, isolation and return loss characteristics
- Measurement of coupling and directivity
- Measurement of power division and isolation characteristics
- Measurement of Low Pass filter characteristics
- Measurement of Band Pass filter characteristics
- Measurement of Band Stop filter characteristics
- Measurement of characteristics of Patch antennas
- Measurement of characteristics of an MIC amplifier

MIC Components

- 50 Ω Microstrip Line
- Band Stop Filter
- Parallel line Directional Coupler(15 dB)
- Wilkinson Power Divider (3 dB)
- Branchline Directional Coupler (3 dB)
- Low Pass Filter
- Band Pass Filter
- Ring Resonator
- Rat-Race Hybrid Ring Coupler (3 dB)
- MIC Antennas (2 Nos.)
- MIC Amplifier

Accessories

- Matched Loads (5 Nos.)
- Short
- Coaxial detector
- Microstrip Directional Coupler (10 dB)
- SMA to SMA Adapters (Both male & female)
- SMA (male) connector fitted cables
- Attenuator (3 dB)
- +12 V DC Adaptor

Note: Specifications are subject to change.

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