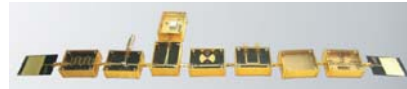


MW 2008 MIC Trainer Kit



Parts in MW 2008 Trainer Kit



Portion MW 2008 Connecting Photo

MW-2008 MIC Trainer Kit is designed to train students through increased access to the Microwave Integrated Circuit basic structure, working principle, simulation analysis, test equipment and measurement skills in a rational and perceptual knowledge. Truly master the time domain and frequency domain, the transmission lines, radio wave propagation, antennas, RF modules and radio frequency communication and other basic concepts. And learn how to use MIC .

MW2008 MIC Trainer uses radio frequency modular training for the structural design of experiment in the training provided a very simple, flexible assembly, while equipment can be integrated in a box, easy to carry and transport. The module circuit use all microstrip circuit design, have transparent Plexiglas on the cover and can be clearly observed that structure of all microstrip circuit.

RF and microwave is different with other experiment system, the training system is mainly based on frequency-domain technology and spectrum measurement equipment to do so the following has to be taken consideration;

- 1) The RF communication, sensing, signal processing and other terms of the most important areas. Frequency domain contains many the important messages that in the time domain measurement difficult or inconvenient to find, thus use high sensitivity and wide dynamic range analyzer.
- 2) We can facilitate the measurement low-level AM, FM and pulse modulated RF signal, Carrier Frequency, Modulation frequency, Frequency Modulation, clam Modulation distortion, also can be easily detect the frequency converter of loss, isolation distortion characteristics.
But more impotent is that despite the advantage of measuring the spectrum have long recognized. However, the high prices of spectrum analyzer had make it concealed in the research analyzer had make it rate meeting with the students. But the domestic high-cost performance of the available spectrum analyzer, ideas become into really that spectrum analyzer series to be the main instrument of teaching experimental.

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ST 103 A VSWR Meter



Specifications

Sensitivity : 0.1 μ V for 200 W input impedance for full scale deflection.

Noise Level : Less than 0.02 μ V

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 \pm 10%

Power Supply : 230 V \pm 10%, 50 Hz / 60 Hz on request

Power consumption : 2 VA (approx)

Dimension (mm) : W 262 \times D 316 \times H 130

ST 104 Microwave Generator

Specifications

Frequency Range : 2.2 - 3 GHz Continuously Variable

Display : 4 Digit LCD

Display Accuracy : 40 MHz

Impedance : 50 Ω

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 \pm 10%, 50 Hz

Power Consumption : 5 VA (approx)

Dimension (mm) : W 262 \times D 316 \times H 13

MIC Components

1. 50 Ω Microstrip Line
2. Band Stop Filter
3. Parallel line Directional Coupler(15 dB)
4. Wilkinson Power Divider (3 dB)
5. Branchline Directional Coupler (3 dB)
6. Low Pass Filter
7. High Pass filter
8. Band Pass Filter
9. Ring Resonator
10. Rat-Race Hybrid Ring Coupler (3 dB)
11. MIC Antennas (2 Nos.)
12. MIC Amplifier

Accessories

1. Matched Loads (5 Nos.)
2. Short
3. Coaxial detector
4. Microstrip Directional Coupler (10 dB)
5. SMA to SMA Adapters (Both male & female)
6. SMA (male) connector fitted cables
7. Attenuator (3 dB)
8. +12 V DC Adaptor

Experiments

1. Measurement of transmission loss and reflection loss
2. Measurement of substrate dielectric constant using ring resonator
3. Measurement of power division, isolation and return loss characteristics
4. Measurement of coupling, isolation and return loss characteristics
5. Measurement of coupling and directivity
6. Measurement of power division and isolation characteristics
7. Measurement of Low Pass filter characteristics
8. Measurement of High Pass filter characteristics
9. Measurement of Band Pass filter characteristics
10. Measurement of Band Stop filter characteristics
11. Measurement of characteristics of Patch antennas
12. Measurement of characteristics of an MIC amplifier
13. To Understand Principal and method of impedance matching
14. To study Attenuator.