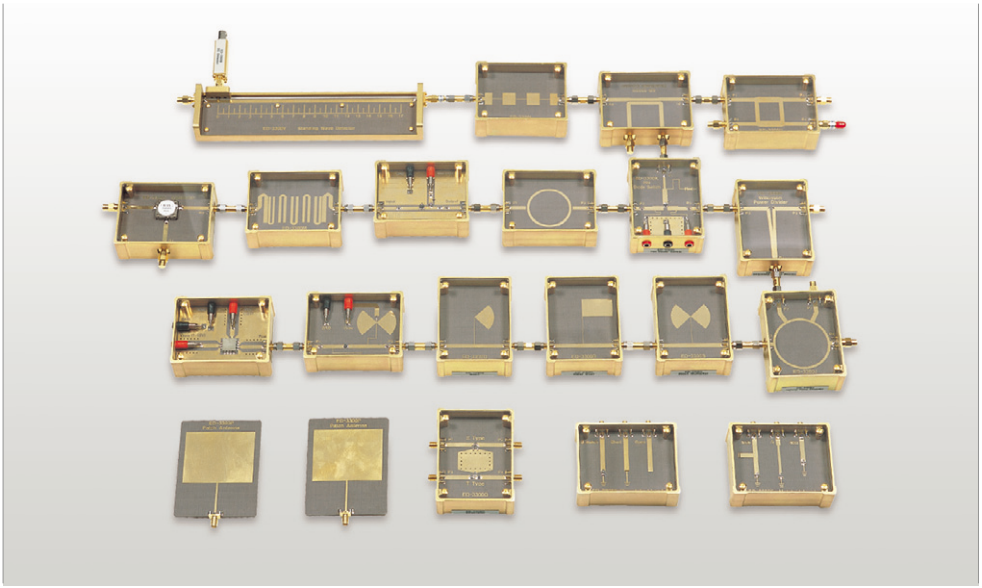
MICROSTRIP LINE TRAINER

ED-3300

- Helps understand theories on the Microstrip Line Theory and Microwave Elements Design
- Composed of 22 types of modules such as VCO using Coupler, Divider, Circulator, Attenuator and Filter
- SWR Detector, Modulation, Transmission/Reception, Detector, Self-Oscillation functions



> EXPERIMENTS

- VCO and DC Detector
- Principle of Circulator
- Characteristics of Directional Coupler
- Other types of Coupler
- Reflection and Impedance Matching
- Attenuator
- SWR Measurement
- PIN Diode Switch
- MMIC Amplifier

> SPECIFICATIONS

TECHNICAL

- **VCO**
  - » Frequency Range : 1.4~2.4GHz
  - » Output Power : 10dB ±2dB
- **DC Detector**
  - » Measurement Range : -25~10dBm
  - » Output Power : Below 2V
- **Circulator**
  - » Bandwidth : 300MHz
  - » Insertion Loss : 0.5dB
  - » Separation : 20dB
- **Directional Coupler**
  - » Insertion Loss : 0.4dB
  - » Return Loss : 28dB
  - » Coupling : 15 ±0.5dB
- **Unmatched Load :** Load 100Ω, short circuit, open circuit
- **Matched Load :** Load 50Ω, stub, λ/4 Converter
- **Attenuator(T / ∩Type) :** Attenuation : 3dB
- **Wilkinson Power Divider :** Coupling : 3dB
- **Branch Line Coupler** : Coupling : 3dB
- **Hybrid Ring Coupler** : Coupling : 3dB
- **PIN Diode Switch(SPDT)**
  - » Insertion Loss : 1.5 ±0.5dB
  - » Voltage : 5V, 4m/A
- **Low Pass Filter**
  - » Pass Band : DC~1.9GHz
  - » Insertion Loss : 0.4dB
- **Band Pass Filter**
  - » Pass Band : 100MHz
  - » Insertion Loss : 2dB
- **MMIC Amplifier**
  - » Frequency Range : 1~2.5GHz
  - » Gain : 17 ±0.5dB
  - » Voltage : 12V, 110mA
- **Patch Antenna**
  - » Return Loss : 20dB

GENERAL CHARACTERISTICS

- **Transmission Line :** Microstrip Line
- **Peculiarity Impedance :** 50Ω
- **Frequency Range :** 1.4~2.4GHz
- **Center Frequency :** 1.8GHz
- **Connector :** SMA type
- **Dimension :** 460(W) x 350(D) x 120(H)mm
- **Weight :** 6.3kg

ACCESSORIES

- Open Connector : 2ea
- 10dB Attenuator : 2ea
- Short Connector : 2ea
- 20dB Attenuator : 2ea
- SMA 50Ω load : 5ea
- DC Source Connector Cable : 4ea
- SMA Plug-Plug Connector : 8ea
- Spanner : 1ea
- SMA Jack-Jack Connector : 2ea
- User Manual : 1ea

※ Required Instrument : Power Supply(ED-4770 model or ED-330 model recommended)