

## RESEARCH ENVIRONMENT

### LABORATORY

The accurate instrument lab is one of the professional labs in this department where emphasizes on fundamental theories and professional knowledge with the certain quality on scientific researches. It is a high-frequency microwave circuit measurement lab in which mainly is in charge of experiment teaching. Through the operation of the experiments, students can integrate professional knowledge with practical applications and proficiently handle the professional skills of communication system and microwave measurement.

### FACILITY



E5071B ENA Series 4-Port RF  
Network Analyzer, 300 kHz – 8.5 GHz



10060A  
Programmable Pulse Generator



8510c Network Analyzer System (45MHz~110GHz)

#### 8510c: VNA

Main Controller and Display Panel
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#### 8517B: S-parameter Test Set

Frequency range	45MHz to 50GHz
Test ports nominal operating power level	+2 to -29; +5 to -16 (dBm)
Connector type	2.4 mm (m)
Dynamic Range	98-106dB typically
Impedance, DC bias	50 $\Omega$ nominal, 0.5A, 40 Vdc maximum

#### 83651B: Synthesized Sweeper

Radio Frequency Source Generator	
Frequency Range	10MHz – 50GHz



#### 85105A: Millimeter Wave Controller

Frequency range	50GHz to 110GHz (Connector dependent)
Test ports nominal operating power level	0, -3 (dBm)
Connector type	WR-22, WR-19, WR-15, WR-10
Impedance, DC bias	Waveguide impedance, no bias



**On-wafer measurement system**  
with HP8510c and CASCADE probe station

## Probe station system

**Stage: CASCADE RHM-05**

Type: vacuum chuck stage  
Travel: 15.24 cm x 15.24 cm  
Drive: manual positioning  
Anti-vibration

**Micropositioners: CASCADE MH-5**

Excursion x, y, z:  
2.54cmx2.54cmx1.57cm



**Microscope: Olympus sz-60**

Zoom: x150  
Stereo

**Probes: CASCADE**



**Accessories:**

Cal Kits for probes, Light system...



83640B Synthesized Swept-Signal Generator, 0.01  
- 40 GHz



8564E Portable Spectrum Analyzer  
9 kHz - 40 GHz



N8975A Noise Figure  
10 MHz~26.5 GHz



TDS 3024B  
200 MHz Digital Phosphor Oscilloscope