

## RF CHARACTERIZATION FACILITY



### MODEL:

- Anritsu Lightning 37269D 40MHz-40GHz Vector Network Analyzer
- Anritsu Semi-rigid K coaxial signal cables
- Coaxial K-Cable Calibration set
- Cascade Microtech Summit 9000 RF Probe Station
- Leica S6D Optical Microscope
- Gore Tex Flexible K coaxial signal cables
- Cascade Microtech Infinity Ground-Signal-Ground 40GHz probes
- Wafer Ground-Signal-Ground Calibration set

**INSTALLATION PLACE:** RF Laboratory (room No17-new building), Department of Microelectronics

**DESCRIPTION:** A comprehensive facility measuring the complex S-parameters of 1 and 2-port devices. There are two measurement platforms: One involves relatively macroscopic devices, either free-standing or constructed on PCBs, which can be directly connected to the facility's semi-flexible coax cables through SMA connectors. The other platform is addressed to devices integrated on-wafer, which can be probed on the Cascade RF-prober through its Ground-Signal-Ground RF probes.

### SPECIFICATIONS

1. 2-port Vector Network Analyzer with Frequency Range 40 MHz-40 GHz.
2. Cascade Probe Station with pairs of 40 GHz Cascade Microtech Ground-Signal-Ground 100um-pitch probes.
3. 100 dB dynamic range.

### APPLICATIONS

1. DC-40 GHz S-parameter measurements of 1-and-2-port devices, free-standing or macroscopic, PCB integrated. Characterized devices include antennas, Waveguide discontinuities and Filters, Discrete circuit components and surface-mounted devices, PCB-mounted systems, Artificial Materials and Metamaterials.
2. DC-40 GHz S-parameter measurements of 1-and-2-port devices, microscopic, integrated on-chip, through the RF Probe Station. Characterized devices include components, circuits and networks integrated on-chip, such as on-chip passive RF devices (inductors, capacitors, filters, resonators), transmission lines, baluns, transformers, etc. Further, material RF characterization is possible through fabrication and measurement of application-specific integrated platforms. Characterization addresses a variety of RF integrated circuit applications, including single-chip radio transceivers and mm-wave integrated antennas.

### CERTIFICATION/ACCREDITATION

The facility is certified under ISO9001.

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