

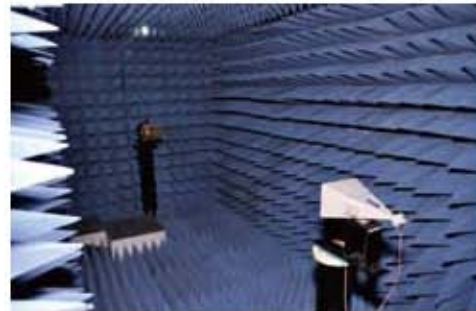


RESEARCH ENVIRONMENT

FACILITY

Antenna/Electromagnetic Anechoic Chamber Lab(702-3)

National Taipei University of Technology Department of Electronic Engineering, Antenna & EM Anechoic Chamber was established in 2001. The Major research project include antenna element design, the antenna parameter measurements and discussion on electromagnetic wave propagation phenomena. The chamber of electromagnetic measurement plays a bridge between academic research and industry application in north research area.



Microwave/Wireless Components Lab(702-2)

Research interests include phone antenna, RFID, analysis of Balun, meta-material and the application of dielectric resonator. Recently, we develop in wireless power transmission, include rectenna, contactless charger, with the industry technical standards to achieve practical application.

Wireless Communication and Electromagnetic Application Lab(702-1)

The main research topics is wireless communication, radio multipath fading channel modeling and microwave engineering. In recent years, we have committed to the design of miniaturized antenna, wireless power transmission circuits design, RFID antenna design, signal integrity and power integrity, actively promoting industry-university cooperation, and promote research results matching practical application.



Microwave Integrated Circuits Lab(410)

The research topics of the microwave integrated circuits laboratory include radar system engineering and CMOS RF integrated circuits. The IC designs consist of LNA, VCO, active/passive filters, mixer, couplers, and other active circuits.

RF Circuits and Systems Lab(410)

The RF systems laboratory is focusing on different research objectives, such as wireless RF sensing

technology, novel transceiver architectures, and frequency synthesizer designs. We target at integrated circuit design of RF/microwave active components including amplifiers, oscillators, up/down mixers, modulators, demodulators, and the whole RF transceiver system with high performance.

Electromagnetic Lab(310)

Electromagnetic lab research include high-frequency measurement and calibration techniques, microwave and millimeter-wave polarimetric radar systems, electromagnetic scattering, and microwave circuit designs.

Communication Integrated Circuit Design Lab(208)

The research topics of the communication integrated circuit laboratory include radio-frequency Identification (RFID), seismic sensor, and CMOS RF integrated circuits. The RFIC designs consist of LNA, PA, VCO, and other active/passive circuits.

EQUIPMENTS

Name	Company	Model	Main Spec.	Location
PNA Series Network Analyzer	Agilent	E8362B	10 MHz~20 GHz	702-3
Spectrum Analyzer	ROHDE&SCHWARZ	FSP	9kHz~7GHz	702-3
Network Analyzer	HP	8720C	50MHz~20GHz	702-3
RF and Microwave Signal Generator	ROHDE&SCHWARZ	SMB100A	~40GHz	702-2
Vector Signal Generator	Agilent	E4438C	250kHz~6GHz	702-3
UHF RFID Reader	Yeon Fixed	Impinj	922~928MHz	702-1
Microwave Anechoic Chamber			325 cm (W) x 282 cm (H) x 665 cm (L)	702-3
WorkStation	HP			410
Arbitrary Waveform Generator	RIGOL	DG5102	100 MHz BW, 1 Gsps rate, and 14-bit resolution	410
Mixed-signal Oscilloscope	Agilent	MSOX2024A	200 MHz BW, 4 analog + 8 digital channels, 20 MHz Wave Gen inside	410
Triple Output Power Supply	Agilent	E3631A	80W, 6V, 5A & ±25V, 1A	
Digital multimeter	Tektronix	DMM4050		208
Trinocular stereomicroscope	Microtech	S630B76		208

SOFTWARE

Software	Company
HFSS	Ansoft
Advanced Design System	Agilent
IE3D	Zeland
Microwave Office	AWR
FEKO	EMSS-SA
EM-Pro	Aglient
Semcad	speag