# Keysight EDA University Program

## Providing Industry-Grade Software to Support Universities

- Suite of EDA tools are used by top companies for
  - RF and Microwave, High-Speed Digital Design
  - Power Electronics Design and EMI Analysis
  - System-level Simulation

- Industry leader with 65% market share[1]

- Giving students access to industry-standard tools
  - Provided at low cost to universities
  - Students can request a license for their computer

- To be 'industry-ready', students need to understand the full design flow
  - Design and simulation at the component/device level
  - Test and measurements

- Works with Keysight's RF/Microwave and High-Speed Digital Student Certification Programs
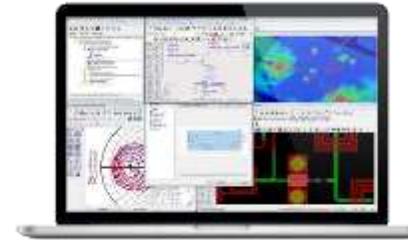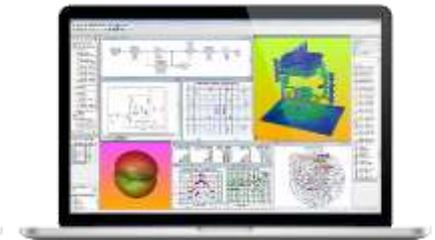
PathWave Advanced Design System (ADS)
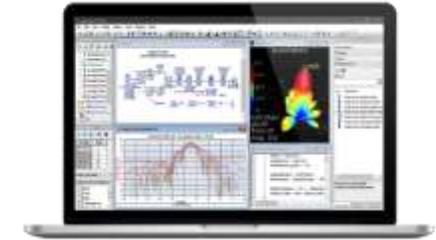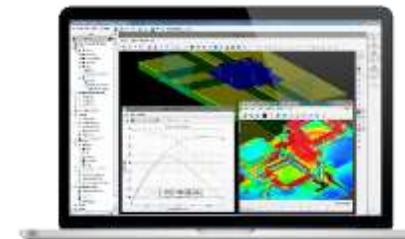
PathWave System Design (SystemVue)
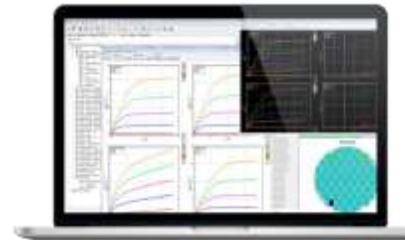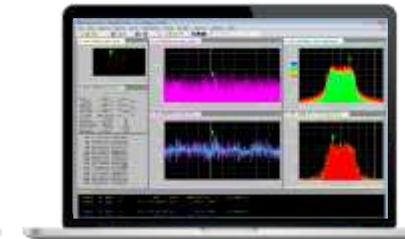
PathWave Device Modeling (IC-CAP, MBP, MQA)
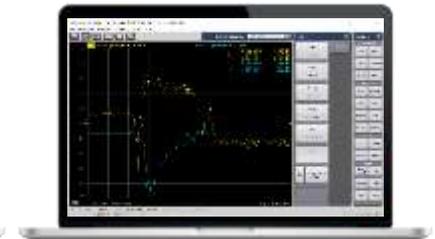
PathWave RFIC Design (GoldenGate)

PathWave RF Synthesis (Genesys)

PathWave EM Design (EMPro)

PathWave Vector Signal Analysis (VSA)[2]

Keysight VNA Simulator (Standard, S94050B)[2]

[1]Industry: RF Design and Simulation, Source: Pedestal Research (Jan. 2020)
[2]Not branded under 'PathWave Design', but application is part of PathWave Design University W2130UU bundle
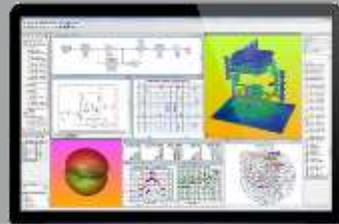
Keysight EDA University Program

Affordable, Industry-Grade Software to Support Universities
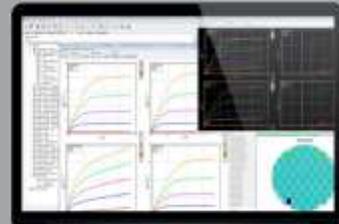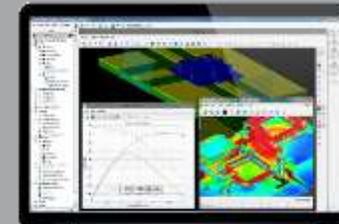
W2030UU

W2130UU

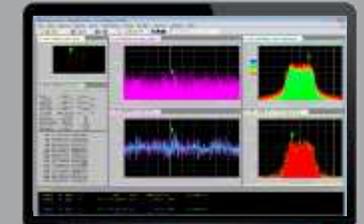**PathWave Advanced Design System (ADS)**

PathWave RF Synthesis (Genesys)

PathWave Device Modeling (IC-CAP, MBP, MQA)

PathWave EM Design (EMPro)

PathWave Vector Signal Analysis (VSA)

PathWave RFIC Design (GoldenGate)

PathWave System Design (SystemVue)

Keysight VNA Simulator (Standard, S94050B)
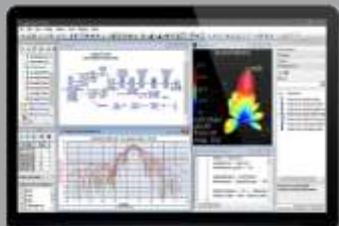
What can the software be used for?
- ✓ Teaching
- ✓ Degree granting, non-commercial research

What kind of support is included?
- ✓ Phone support for professors
- ✓ Email support for students
- ✓ Knowledge Center access for everyone

What are the prices?
- ✓ Affordable – contact your local sales rep for pricing
- ✓ Agreement required

What do the bundles come with?
- ✓ Same functionality as commercial products
- ✓ 52 networked licenses for lab computers
- ✓ Unlimited student licenses

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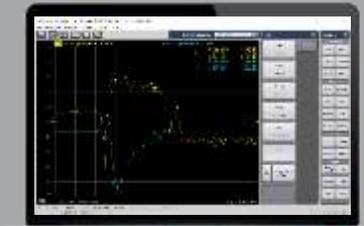# RF and HSD Certifications: Partnering for Student Success

RF & Microwave

Indicates the competency and proficiency in the use of Keysight electronic design automation (EDA) software and Keysight test and measurement instruments

Levels of Certification:

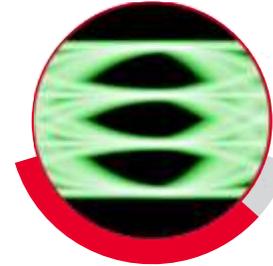| Level	Key Specifications	Example
Level 1 Proficiency	Basic PathWave Design software knowledge	PathWave Advanced Design System (ADS) circuit filter design
	Basic Keysight instrument measurement expertise	Network Analyzer S-parameter measurements of filter
Level 2 Proficiency	Additional design analysis with more PathWave Design software such as PathWave EM Design (EMPro) or PathWave System Design (SystemVue)	Momentum or PathWave EM Design (EMPro) simulation in PathWave ADS with modulated signal creation
	More involved measurement expertise	Signal Sources and Analyzers

High Speed Digital

Indicates the competency and proficiency in the use of Keysight electronic design automation (EDA) software and Keysight test and measurement instruments

Types of Certification:

| Level	Key Specifications	Example
Level 1 Proficiency	Basic EDA software knowledge	Advanced Design System (ADS) transmission line design, channel, and transient simulations.
	Basic Keysight instrument measurement expertise using offline instruments	Vector network analyzer S-parameter measurements and TDR/TDT analysis, along with basic eye diagram measurements.
Level 2 Proficiency	Additional design analysis with more EDA software such as EM Design (EMPro) or System Design (SystemVue)	Momentum or EM Design (EMPro) simulation in ADS with modulated signal creation
	Hands-on measurement expertise using test instruments in laboratory environment	**Hands-on** transmission line and channel measurements using vector network analyzer. **Hands-on** advanced eye diagram measurements including jitter decomposition and techniques for compensating channel loss using oscilloscope.

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40+ Universities Participating
600+ Students Certified

Certification Process
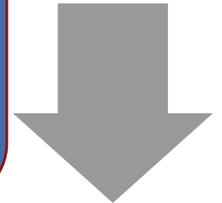
What is Certification?

University Submits Application
- Direct discussions between Keysight representative and the university
- Keysight describes program and process
- University describes curriculum
- University submits application form
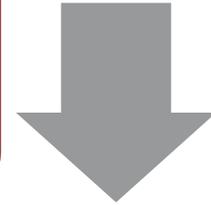
Keysight Certifies Curriculum as Meeting Requirements
- Keysight reviews curriculum and labs to assure that minimum requirements are met
- Any modifications or changes are communicated to the university
- Professor notifies students of the program
- Press release on program

Professors Nominate Students
- Students complete course and meet pre-determined certification criteria
- Professor nominates students meeting criteria to Keysight for recognition
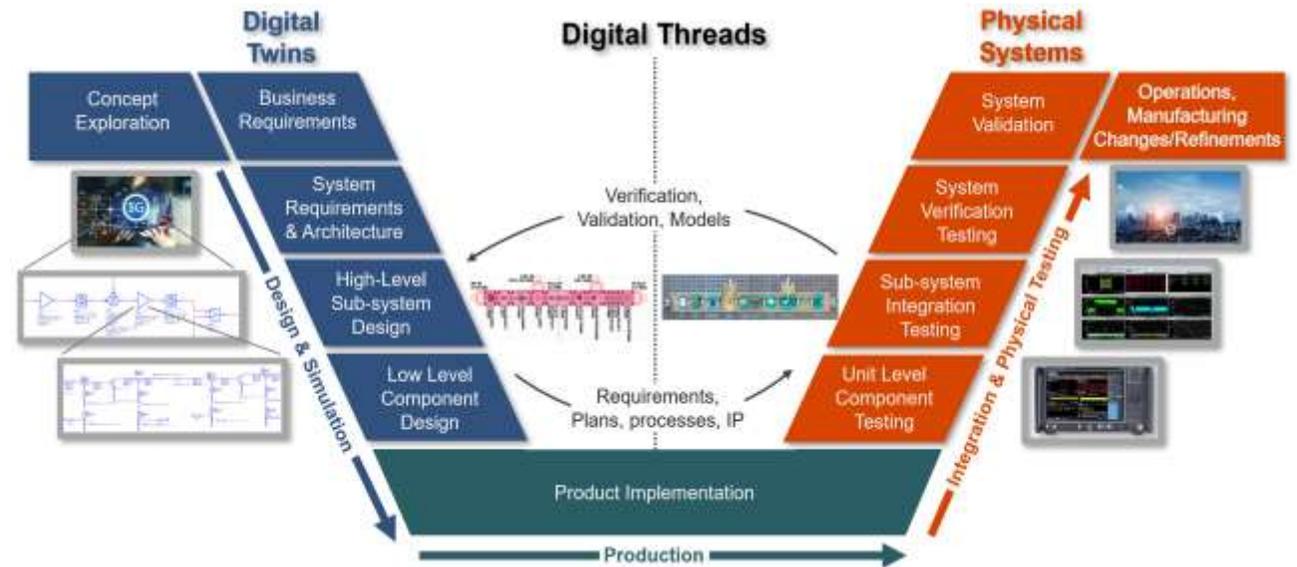- Keysight acknowledges accomplishments with certificate and on Keysight website

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Agenda

- **Introduction to Keysight EDA**
- **EDA Portfolio**
- **Going through the design phase**
  - **Data and IP Management**
  - **Device Modeling**
  - **Circuit, Module, PCB Design**
  - **System**
- **Supporting Universities**
- **Conclusion**
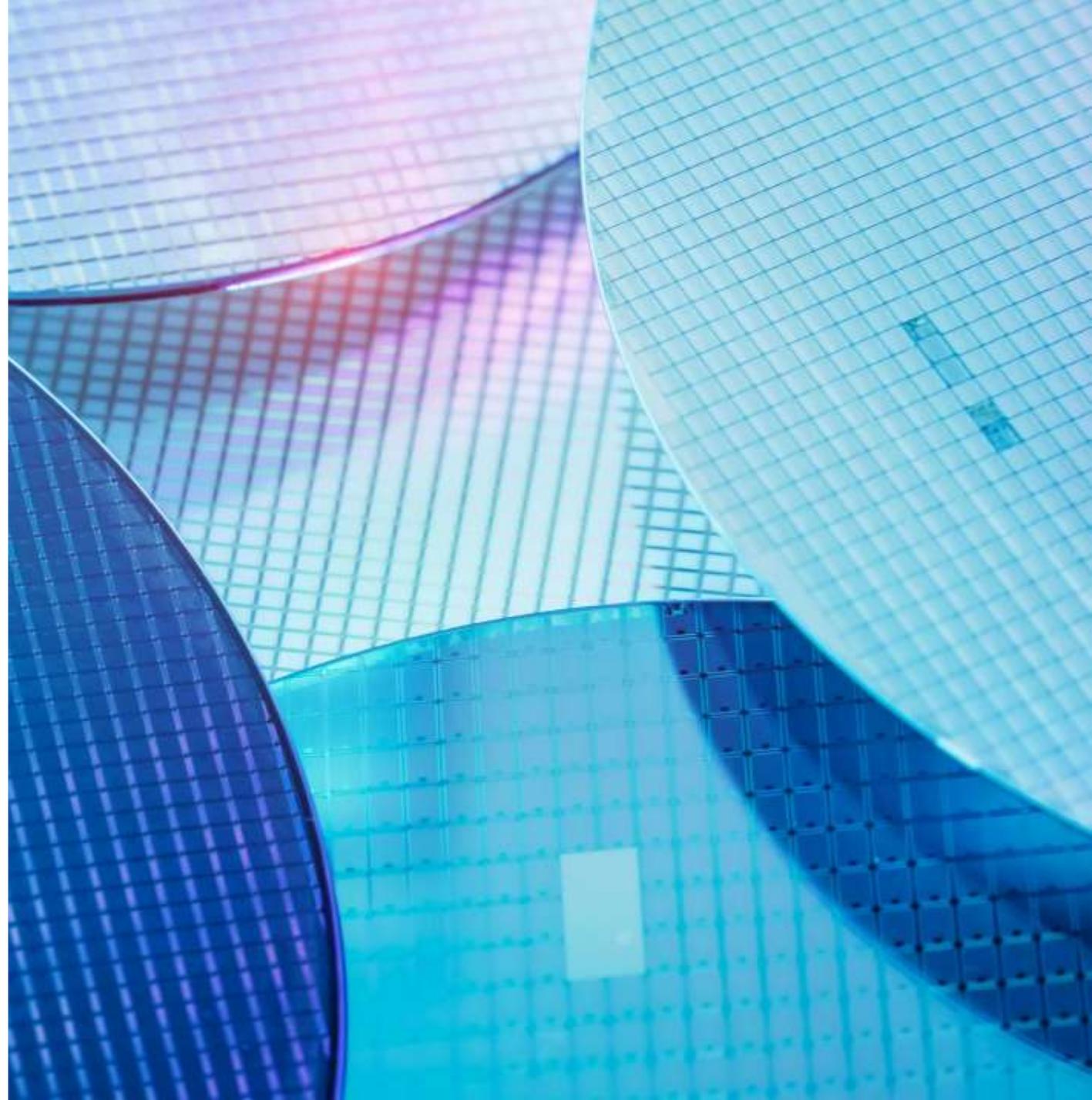
KEYSIGHT

Keysight EDA Helps You Speed Up the Lab-to-Fab Transition

- Keysight EDA covers the entire design cycle
  - Data and IP Management
  - Device Modeling
  - Circuit, Module, PCB Design
  - System
- Committed to providing universities with industry-grade software

Thank you

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