

Advanced IoT Teaching Lab Solution

Now Remote Ready!

End-to-end IoT Learnings, from Fundamentals to Real-world Design Considerations

The IoT revolution races on, and now educators and students alike can leap ahead with Keysight's ready-to-teach advanced IoT teaching solution. Designed to teach students practical design and test techniques from the fundamentals of system design to wireless communication and power measurement, this solution also covers critical design considerations that is emerging with the evolution of the Internet of Things, such as device and network cybersecurity, radio certification and compliance, and power continuity.

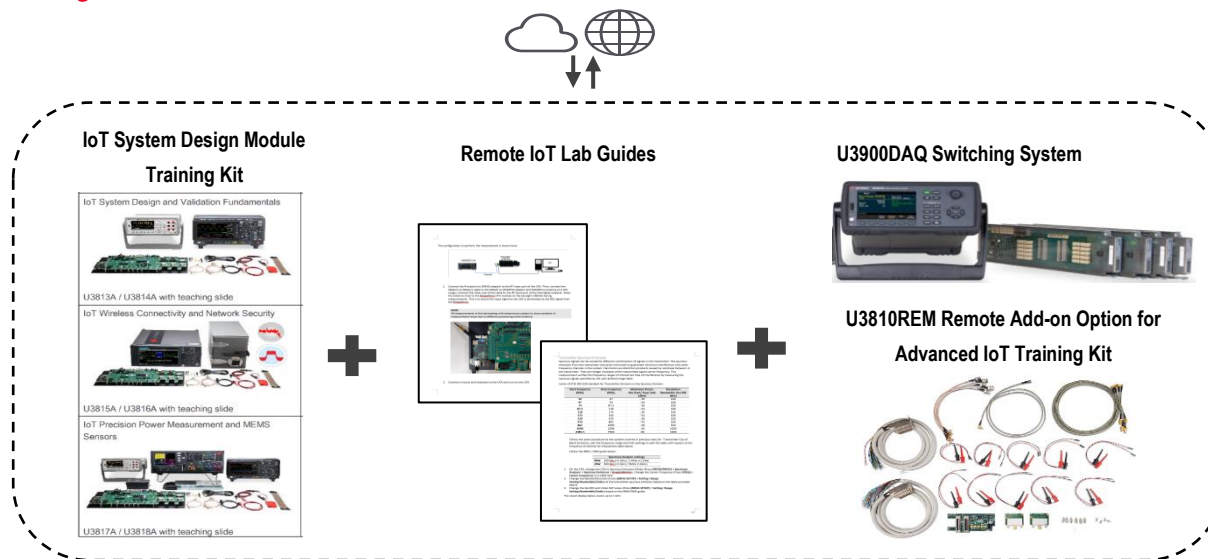
All this content is not rooted in theory alone – the advanced IoT teaching solution comes with editable slides and lab sheets for the classroom and for the lab, and a training kit with detailed lab procedures that is designed to work hand-in-hand with industry standard test and measurement instruments and software, giving students the opportunity to work with the same equipment they would use when they are out in the industry.

Advanced IoT Teaching Lab Solution

- IoT Training Kit
 - Beagle Bone Green - 2.4G ZigBee, Digital and Analog sensors, Lora Module(wired)
- Courseware
 - Editable PowerPoint slides that cover 75+ hours of classroom sessions
 - Editable lab sheets, model answers, problem-based assignments able to covers 50+ hours of lab sessions
- Recommended Instruments and software
 - IoT system design and validation fundamental lab – Digital Multimeter and Oscilloscope
 - IoT wireless connectivity and network security lab – CXA signal analyzer, anechoic chamber, VSA software and X series application in WAN, Bluetooth and EMI
 - IoT precision power measurement and MEMS sensors lab – Digital multimeter, oscilloscope, power analyzer, 2-quadrant source, event detector and analysis software

Remote Advanced IoT Teaching Lab Solution

PW9112EDU PathWave Lab Operations for Remote Learning



Product number	Description
Module 1: IoT System Design and Validation Fundamentals	
U3813A	IoT System Design and Validation Fundamentals applied courseware, with training kit and lab
U3814A	IoT System Design and Validation Fundamentals applied courseware, with training kit, lab and teaching slides
Recommended instruments	
34465A ¹	6½ digit, performance Truevolt digital multimeter
DSOX1204G	Oscilloscope: 70/100/200 MHz, 4 Analog Channels

Note: Other 34460 Series Truevolt DMMs models may be used, but 34465A is recommended as this model comes with a digitizing option for use with the IoT Sensors and Power Management applied courseware)

Product number	Description
Module 2: IoT Wireless Communication and Compliance	
U3815A	IoT Wireless Communication and Compliance applied courseware, with training kit and lab
U3816A	IoT Wireless Communication and Compliance applied courseware, with training kit, lab and teaching slides
Recommended instruments and software	
N9000B	CXA Signal Analyzer - Multi-touch, 9 kHz to 7.5 GHz (minimum 3 GHz required) Option B25 - Analysis Bandwidth, 25 MHz
U3830A	Anechoic WaveChamber -Portable Wireless Anechoic Test Chamber (or equivalent)
For qualified education customers	
89600EDU-E15	89600 VSA software for education, 1-year support included, with 15 seats of perpetual floating license for student, and x1 transportable perpetual for instructor
X-Series Measurement Applications	X-App: Propose perpetual and node locked <ul style="list-style-type: none"> • N9077EM0E: WLAN 802.11a/b/g/j/p/n/af/ah Measurement Application • N9081EM0E: Multi-touch UI Bluetooth® Measurement Application • N6141EM0E: Multi-touch UI X-Series measurement application license for EMI measurements with multi-touch UI

Note: Customer are free to choose other type of license for X-App software according to desire lab size

Product number	Description
Module 3: IoT Precision Power Measurement and MEMS sensors	
U3817A	Precision Power Measurement and MEMS sensors applied courseware, with training kit and lab
U3818A	Precision Power Measurement and MEMS sensors applied courseware, with training kit, lab and teaching slides
Recommended instruments and software	
34465A DMM	<ul style="list-style-type: none"> • 6½ digit, performance Truevolt digital multimeter with high-speed digitizing and 2M memory • DIG + MEM + 34138A
DSOX1204G	Oscilloscope: 70/100/200 MHz, 4 Analog Channels
N6705C	DC Power Analyzer, Modular, 600 W, 4 Slots
N6781A	2-Quadrant Source/Measure Unit for Battery Drain Analysis, 20 V, ±1 A or 6 V, ±3 A, 20 W. Required 2 units in the courseware
X8712AD	Event based detector
KS833A2A	PathWave Event Based Power Analysis, Node Locked, subscription license

Product number	Description
U3810REM	Add Remote Teaching Option for U3810A Advanced IoT Series

Note: U3810REM is the additional remote option for U3813A/14A and U3815/16A IoT training kit

More Information: <https://www.keysight.com/find/AdvancedIoT>

For more information on Keysight Technologies' products, applications, or services, please contact your local Keysight office.

The complete list is available at: www.keysight.com/find/contactus

Learn more at: www.keysight.com

Find us at www.keysight.com

This information is subject to change without notice. © Keysight Technologies, 2020 - 2021, Published in USA, February 2, 2021, 3120-1198.EN

