

# Course overview

## CompTIA RFID+ Certification

(S647eng)



### Overview and objectives

This 3-day course prepares students for the current CompTIA RFID+ certification exam. Students will learn how to set up and manage RFID systems to track inventory, goods, vehicles, and even people. They will also learn about the physics and radio principles that enable RFID solutions.

Students will learn how to:

- Explain the uses and benefits of RFID, and identify the components of an RFID system.
- Compare radio frequency with wavelength, discuss the factors affecting RF signals, and also discuss the communication methods; discuss antenna characteristics and identify reflective and absorptive materials; calculate ERP.
- Identify the types and functionalities of interrogators, and explain interrogator communication; discuss issues related to dense environment and anti-collision protocols; configure interrogation zones and interrogation commands, and optimize interrogation zones.
- Discuss power, frequency, and safety regulations and their impact on RFID systems; discuss air interface protocols and the impact of standards on business and IT infrastructure.
- Classify tags; discuss the types of antennas and their configuration, integrated circuit, and substrate configuration; discuss labels, inserts, and packing items.
- Explain the interaction between tags and interrogators; discuss the factors affecting tag performance and the effects of packaging materials on a tag; explain tag orientation and placement, the movement of tags, and the issues caused by tag stacking.
- Discuss the effects of signal interference on the RFID system; explain site obstructions that affect RFID system performance; discuss radiation patterns; Review the RF network architecture, site structures, and mechanical equipment.
- Determine the relation between virtual components and hardware components of RFID systems; discuss the hardware components of an RFID system and protection.
- Explain hardware installation and safety considerations in the RFID system; explain the installation of an RFID system in various enterprise applications

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### Certification track

This course will prepare students for the RF0-001 CompTIA RFID+ Certification exam for the objectives and has been approved under the CompTIA Authorized Quality Curriculum program. RFID is quickly becoming the standard technology for tracking goods in the supply chain, but it will only be effective if it is executed by properly trained and certified individuals. CompTIA RFID+ provides a baseline for the knowledge and skills required of RFID workers, giving business owners the opportunity to hire qualified professionals, and individuals a credential to prove their ability. Several companies in the manufacturing and distribution industries value and support CompTIA RFID+ certification, including ODIN Technologies, ScanSource and TI-RFID.



### Target audience

This course will prepare the student to be a CompTIA RFID+ Certified Professional (CRCP). Before taking this course, students should have a foundational RFID knowledge, typically 6-24 months of experience in the RFID industry, and have performed the following tasks as part of his or her job: Installation, configuration, and maintenance of RFID hardware and device software; Site surveys/site analysis; Tag selection, placement, and testing.

### Course prerequisites

Students taking this course should be familiar with personal computers and the use of a keyboard and a mouse. Furthermore, this course assumes that students have completed the following courses or have equivalent experience: CompTIA A+ Certification Support Skills.

### Course contents

- **Introduction to RFID** • RFID basics
- **RF physics** • RF propagation • Antenna field performance • Radiated power output
- **Interrogation zone basics** • Interrogators • Dense environments • Configuring interrogation zones
- **Regulations and standards** • Regulations • RFID standards
- **Characteristics of tags** • Basics of tags • Components of tags • Packaging
- **Tag implementation** • Interaction between tags and interrogators • Factors affecting tag performance • Selection and placement of tags
- **Site analysis** • Electrical environmental conditions • Physical environmental conditions • Coverage area • Site blueprints
- **Design selection** • Virtual components of RFID systems • Hardware components of RFID
- **Installation** • Hardware installation • Installing RFID systems

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- **Monitoring and troubleshooting** • Analyzing read rates • Troubleshooting tag failure • Troubleshooting software
- **RFID peripherals** • RFID printers • RFID enterprise systems
- **Appendix A: Certification exam objectives map**

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