



Professionalism through Certification

The Institute for RFID Education, Research and Certification

Professional Certificate Blueprint

Version 1.0

Date: July 19, 2016

1 Scope

The blueprint describes the topics to be covered in the exam, the weightings each will receive and the subtopics under area covered.

2 Document Management

All versions of this document are managed and controlled by the RFID Professional Institute. The RFID Professional Institute Secretary is responsible for maintaining this document and future iterations of this document.

3 Document Change History

Issue #	Date of Change	Changed By	Required Information
0-1	13-Jul-16	Mark Brown	Original Draft
0-2	15-Jul-16	Ian Robertson	Fixing some errata
0-3	19-Jul-16	Josef Preishuber-Pflügl	Amendments to curriculum
1-0	19-Jul-16	Ian Robertson	Approved version

4 Certification Description

This section describes the Professional Certification.

4.1 Overview

Following on from the implementation of the Associate Level, this is the second in a series of examination levels planned by the Institute.

It is designed to test the level of knowledge of a candidate who has some years' experience of RFID and a broad knowledge across RFID as indicated in the RFID Professional Level Curriculum¹

¹ This can be downloaded from the RFID Professional Institute's web site at <http://rfidpros.businesscatalyst.com/>

This exam covers a broader scope of RFID and goes into more depth on both the technology and the issues of implementation.

Test Title	RFID Professional Institute Professional Certification
Credential Name	RFID Professional Institute Professional Certified
Credential Letters	“RPIPC”
Intended Audience	Practitioner (integrators, independent software vendor, solution providers), end-users or potential end users of RFID, college engineering or CS junior/senior, or graduates
Exam Format	70 multiple choice or multiple match questions
Prerequisites	<p>Candidates should meet one of the following qualifications:</p> <ul style="list-style-type: none"> • Passed the Institute Associate Level exam • Have a minimum of 5 years RFID experience
Exam Duration	<p>90 minutes – note that once the candidate commences the exam the timing clock will continue and no further answers are accepted after the 90 minutes</p> <p>Candidates with special needs may apply to the Examination Committee to be allocated an additional 30 minutes</p>
Taking the Exam	<p>The exam can be taken via the following methods</p> <ul style="list-style-type: none"> • At a general on site exam session proctored by the Institute • Remotely via the Internet proctored by the ProctorU service

4.2 Test Domain Weightings

A key element of the test certification blueprint is the weightings given to each topic area, or knowledge domain. The table below represents the weightings the Board of Directors has assigned to each knowledge domain for the Professional Certification.

The weightings for the Associate Certification are given for comparison.

	Domain	Weighting	% exam questions
1	RFID Technology - Deep Dive	Medium	8
2	Standards and Regulations	High	12
3	Protocols & Middleware	High	12
4	Physics behind RFID	Medium	8
5	Complete System	High	10
6	RFID Evaluation and Selection	High	15
7	Deployment	High	15
8	Troubleshooting & Maintenance of RFID Systems	High	12
9	Data: Flow, Management & Issues	Medium	8
	Total		100

4.3 Topics and Subtopics

The following chart details the topics and subtopics that will be covered in the RFID Professional Institute's Professional Certification examination.

The major RFID subject area domains are shown in the following table along with the depth into which this exam goes for each subject area. The indications for depth are:

- M Mention
- I Intro
- B Brief
- F Full
- L Later

The depth indications are shown for both this exam and the Associate Level for comparison.

Knowledge Domains	Depth
1. RFID Technology - Deep Dive	
a. RFID Integration Components	F
b. Operational Security	B
c. Integration to interfacing technologies	B
d. Reader Management	F
e. Selecting RFID Tags and Readers, Antennas	F
f. Performance characteristics	F
2. Standards & Regulations	
a. EU	F
b. US	F
3. Protocols & Middleware	
a. UHF	
i. Class 1 Gen2 V2, ISO/IEC 18000-63	F
b. HF	
i. Proximity – ISO 14443 A/B	F

Knowledge Domains	Depth
ii. Vicinity – ISO 15693, ISO/IEC 18000-3M1	F
c. NFC	
i. Tag Types	F
ii. Security	B
iii. Connectivity	B
d. Active	
i. Tag Transmission	F
ii. Activation Frequencies	F
iii. DASH7, ISO/IEC 18000-7	B
e. BLE	
i. Beacons	I
f. ZigBee and Rubees	B
g. Middleware functions	
i. Event Management	F
ii. Business Rules	F
h. Health & Safety	B
4. Physics behind RFID	
a. RF Frequencies, Communication & Protocols (UHF, HF, NFC, Active)	F
b. Reflection/Refraction/Diffraction/Absorption	B
c. Inductive Vs Capacitive Coupling	F

Knowledge Domains	Depth
d. Link Budgets	I
e. Antenna	
i. Types	
1. Linear	F
2. Circular	F
3. Other	B
ii. Design	B
iii. Functionality	F
5. Complete System	
a. Gates, Portals & Tunnels	F
b. Printers	F
c. Sensors & GPS	B
d. Types of readers and mountings	F
e. Peripherals	F
6. RFID Evaluation and Selection	
a. Benchmarking Readers and Tags	F
b. Identifying Correct Technology for Application	F
7. Deployment	
a. Site Survey	F
b. Installing & Configuring Gates & Portals, Tunnels, Vehicle Mount (Forklift, Pickup, Trucks)	F

Knowledge Domains	Depth
c. Antenna Installation	F
d. Locating & Positioning	
iv. RTLS	B
v. Zonal	B
vi. Hot Spots	B
vii. Beaconing	B
e. Deployment Platforms	
i. On-premise	F
ii. Cloud	F
f. Network Integration	F
8. Troubleshooting & Maintenance of RFID Systems	
a. RFID System Problem Identification	F
b. Tag Batteries	B
c. Handheld Batteries, Chargers	B
9. Data: Flow, Management & Issues	
a. Data Encoding Systems – UID, GTIN, UPC, etc.	
i. Tag Data Identifiers, Formats & Translation	F
ii. Data Identifier	F
iii. Application Identifiers	F
iv. Text	F
b. Barcode Compatibility	

Knowledge Domains	Depth
i. 1D	B
ii. 2D	B
c. Integration with other platforms: Maximo, SAP	B