

## The Mandatory Unit - Level 3, Unit 1 – RDK-B Software Solutions (6 credits)

1. Understanding the mechanics of RDK-B	2. Working within the RDK-B framework	3. Developing projects for RDK-B
1.1 I can understand the role of the RDK-B platform	2.1 I can identify the management protocols available in RDK-B	3.1 I can work with build tools to create embedded systems
1.2 I can explain the role of RDK-B	2.2 I can understand the role of Xconf in RDK-B	3.2 I can understand how to implement build tool SDKs into the RDK-B development workflow
1.3 I can highlight the data model used by RDK-B	2.3 I can highlight common features that are unavailable in RDK-B	3.3 I can work with key components of the RDK-B framework
1.4 I can understand the management protocols available in RDK-B	2.4 I can explain the RDK-B layers	3.4 I can highlight the features of key technologies like rbus and what it brings to RDK-B
1.5 I can explain how networking is implemented in RDK-B.	2.5 I can understand the RDK-B WiFi stack	3.5 I can identify the appropriate technologies for managing databases in RDK-B

## Level 3 Unit 2: Networking and Security (6 credits)

1. Understand, demonstrate and explain how networks function	2. Design and implement computer networks	3. Understand the concepts and technologies that allow network scaling	4. Understanding network security issues and technologies
1.1 I can understand common networking technologies	2.1 I can design and build a local area network infrastructure to meet a commercial requirement	3.1 I can understand and implement common dynamic routing technologies and concepts	4.1 I can work with Linux tools to create a secure networked environment
1.2 I can configure a range of different systems used within a network infrastructure	2.2 I can design and build a wide area network infrastructure to meet a commercial requirement	3.2 I can explain the benefits of network redundancy and resilience	4.2 I can explain the functional operation of different security features in Linux
1.3 I can explain common protocols, their purpose and how to use them in RDK	2.3 I can configure and build and justify a secure network infrastructure design	3.3 : I can effectively troubleshoot connectivity issues between networks	4.3 I can describe cryptographic techniques and where they are applied
1.4 I can design and build a networked solution to meet a commercial requirement		3.4 I can describe the benefits and demands of scalable networked systems	4.4 I can describe, manage and implement secure systems
1.5 I can evaluate the potential performance effectiveness of an implemented solution			4.5 I can configure and build secure network infrastructure

### Level 3 Unit 3: Programming (6 credits)

<b>1. Understanding the C programming language and the bash scripting language</b>	<b>2. Creating applications with C</b>	<b>3. Understanding how C and RDK-B work together with supporting technologies</b>
<b>1.1</b> I can understand the key features of the C programming language	<b>2.1</b> I can highlight the tools and technologies needed to create RDK-B applications with C	<b>3.1</b> I can highlight the need for build tools when working with RDK-B
<b>1.2</b> I can highlight the purpose of the Bash scripting language	<b>2.2</b> I can create applications using the C programming language	<b>3.2</b> I can highlight how RDK-B applications utilise the C programming language for embedded systems development
<b>1.3</b> I can understand how Bash works with Linux	<b>2.3</b> I can create RDK-B applications using the C programming language	<b>3.3</b> I can use build tools with RDK-B
<b>1.4</b> I can explain how RDK-B works with C	<b>2.4</b> I understand how to deploy C powered RDK-B applications	<b>3.4</b> I can build applications using the RDK-B development workflow

## Level 2 Unit 4: The Linux Operating System (6 credits)

1. Understand the mechanics and ecosystem of Linux	2. Navigating the Linux operating system	3. Working with and configuring Linux for enterprise and development use	4. Setting up networking on Linux
1.1 I can understand the concept of different Linux distributions	2.1 I can Installing Linux in a virtualised environment	3.1 I can work with wildcards and advanced file management	4.1 I can configure Linux to operate on a computer network
1.2 I can explain the role that Linux plays in both traditional systems and embedded devices	2.2 I can Understand the Linux directory system and structure	3.2 I can configure environment variables	4.2 I can explain how containers work
1.3 I can highlight the range of implementations that Linux is available in	2.3 I can use the Linux command line to navigate around the system and searching for files	3.3 : I can understand Linux processes	4.3 I can configure DNS and hostnames
1.4 I can explain the role open-source systems	2.4 I can understand and work with the Linux permissions structure on files and folders	3.4 I can perform user management and maintenance on Linux	
1.5 I can explain the relationships between commercial and volunteer interests in a software development community	2.5 I can use Vi to edit files	3.5 I can demonstrate advanced OS management skills	