



RFID Technical Specialist

1.0 Electronics Fundamentals

- 1.1 Basic Electricity Ohms Law and Kirchoffs Law:
- 1.2 Understanding DC Circuit basic concept of series, and parallel circuit.
- 1.3 Understanding AC Circuit basic concept of RLC circuits
- 1.4 Understanding Semiconductors diode and transistor circuitry
- 1.5 Understanding Basic Semiconductor Circuitry amplifier and oscillator
- 1.6 Principles of Radio Communication
- 1.7 Understanding ASK, FSK, PSK Modulation methods
- 1.8 Basic programming Techniques Basic C structure and XML namespace

2.0 Introduction To RFID

- 2.1 What is RFID: The basic operations of RFID
- 2.2 History of RFID Origin and early usages of RFID

3.0 RF Fundamentals

- 3.1 Basic RF fundamentals: Understanding the nature and properties of RF wave
- 3.2 Understanding RF spectrum and propagation
- 3.3 Understanding Antenna Characteristics
- 3.4 Understanding Antenna and wave propagation
- 3.5 Understanding Antenna field performance

4.0 Method of Communication

- 4.1 Understanding Inductive Coupling
- 4.2 Electromagnetic Backscatter Coupling
- 4.3 Close loop Coupling
- 4.4 Understanding Tag Collisions
- 4.5 Understanding Reader Collisions

5.0 Tag Characteristics

- 5.1 Understanding Passive Tags
- 5.2 Understanding Active Tags
- 5.3 Understanding Tags design
- 5.4 Understanding Smart Label

6.0 Fundamentals Of Interrogator communications

- 6.1 Tag Implementation
- 6.2 Various types of Tags
- 6.3 Readers (interrogators)
- 6.4 Understanding Interrogation Zone
- 6.5 Dense Interrogators Environment
- 6.6 Current RFID market awareness

7.0 Methods and Protocol

- 7.1 Tree-base protocol
- 7.2 Query Tree Protocol
- 7.3 Binary Tree Protocol

8.0 Standards and Regulations

- 8.1 GEN 1 and GEN 2 Standards
- 8.2 EPCglobal and GS1
- 8.3 Defined ISO Standard as it relates to RFID
- 8.4 Defined the various advantage and disadvantage of Class 0,1,2,3,4 tags
- 8.5 Define SSCC
- 8.6 Define ASN
- 8.7 International Standard and regulation as it relates to RDID

9.0 Physical Layers

- 9.1 Understand the advantages & disadvantages of passive and active RFID tag
- 9.2 Understand the advantages & disadvantages of various RFID Antennas
- 9.3 Understand Interrogator international power regulations
- 9.4 Understand RFID Deployment Environments
- 9.5 Host computer connected to Tag Reader

10.0 Software Layers

- 10.1 Understand the meaning of a Device Driver
- 10.2 Understanding the role Middleware and Edgware in RFID architecture
- 10.3 Understand ONS and the role is plays in an enterprise RFID System.

11.0 Site Analysis

- 11.1 Electrical and Network infrastructure Analysis
- 11.2 Blueprints Symbols identification
- 11.3 Understanding RF site Survey
- 11.4 Understanding Physical site Survey
- 11.5 Understanding Coverage Area
- 11.6 Understanding TCP/IP

12.0 Design Selection

- 12.1 Understanding HF and UHF Frequency selection
- 12.2 Understanding Tag Type selection
- 12.3 Understanding Antenna Selection as it relates to RFID
- 12.4 Understanding Power Supply Selection as it relates to RFID
- 12.5 Understanding Cable Consideration as it relates to RFID
- 12.6 Understanding Selection of Interrogators in terms of the application

13.0 Installation

- 13.1 Enterprise Application
- 13.2 Installing and configuring RFID readers
- 13.3 Installing and configuring RFID Antenna

- 13.4 Power Distribution in RFID Technology
- 13.5 Understanding the Fundamentals of TCP/IP

14.0 Troubleshooting an RFID system

- 14.1 Tag Data Management
- 14.2 Readability and Reliability issues
- 14.3 Environmental Tag damage
- 14.4 Define RCN
- 14.5 Define SLRRP
- 14.6 Understanding RFID security

15.0 Instrumentation

- 15.1 Understanding and using a real time spectrum analyzer.
- 15.2 Understanding and using Oscilloscope