

Contemporary Wireless

Acknowledgements: Developed by Jesus Casas, Faculty of Austin Community College, Austin, Texas

Time Required: 1 hour

Equipment & Tools

- Computer with Internet Connection
- Standard browsing (web surfing) capabilities

Team or Individual: This is an individual activity.

Learning Objectives

1. Identify the layers of the OSI model.
2. Differentiate between wireless standards.

Introduction:

The aim of the IEEE 802.11 standard was to develop physical, and media access control (MAC) layers for wireless connectivity for fixed, portable, and moving stations within a local area. These two layers are defined in the Open Systems Interconnection (OSI) model set by the International Organization for Standardization. The ZigBee standard, now known as IEEE 802.15.4, specifies the physical and media access control layers for the ZigBee network. Bluetooth, which is the result of a consortium of companies which include Ericsson, IBM, Intel, Nokia, and Toshiba, is now defined by IEEE 802.15.1.

Performance and Task Procedures:

1. Use a search engine like Yahoo.com or Google.com to locate the OSI model.
2. Provide a brief description of all seven layers of the OSI model on Table 1 on the next page.
3. Use a search engine to locate the following IEEE standards:
 - 802.11
 - 802.11a
 - 802.11b
 - 802.11g
 - 802.15.1
 - 802.15.4
4. Read over the standards and complete Table 2.

Deliverables:

- Completed table on OSI model
- Completed table on IEEE standards

Scoring or Grading Criteria:

The criteria for grading is left to the discretion of the instructor.



Note to Instructor: Student answers should reflect the information provided below.

Table 1: Seven Layers of the OSI Model

	Description
Layer 1 Physical	
Layer 2 Data Link	
Layer 3 Network	
Layer 4 Transport	
Layer 5 Session	
Layer 6 Presentation	
Layer 7 Application	



Table 2: Table 2: IEEE Standards

	Bandwidth	Frequency	Approximate Range
802.11			
802.11a			
802.11b			
802.11g			
Bluetooth			
ZigBee			