

# RFID

(Radio Frequency Identification)



# EAS

(Electronic Article Surveillance)

## WHAT'S THE DIFFERENCE?

### 2 PARTS OF AN RFID SYSTEM



RFID Reader

+



Tag or label with RFID chip and antenna

### 3 PARTS OF AN EAS SYSTEM



At least one electronic antenna

+



An electronic tag

+



A deactivator or detacher

### HOW THEY WORK

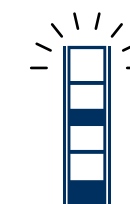


- Reader sends out a radio frequency signal
- Reader waits for a response from any tags in range



- Antenna sends out a signal in pulses that also power EAS tags
- Tags in range of the antenna respond

- Active tags trigger an alarm when passing by an antenna



### ACTIVE VS. PASSIVE RFID



#### Active

- Tags have batteries and transmit an identification signal
- Extremely long read ranges up to 150 m
- Large memory capacity

#### Passive

- Tags have no battery and are powered by signal from readers
- Smaller, cheaper tags
- Broad range of form-factors for tags and labels



### FREQUENCY & READ RANGES



#### Low Frequency (LF)

- 125-134 KHz
- Short read range up to 10cm



#### High Frequency (HF)

- 13.56 MHz
- Read range up to 1m



#### Ultra High Frequency (UHF)

- 865-960 MHz
- Read range from 5-6m up to 30m +

### AM VS. RF



#### Acousto Magnetic (AM)

- 58 KHz
- Wider detection range than RF with less interference

#### Radio Frequency (RF)

- 8.2 MHz
- Versatile design ideal for packaged products



### FUN FACTS

Because an RFID system is very flexible, it can be customized easily with different types of RFID tags and readers.

The use of EAS in retail first started in 1966!

