Wireless Products Research Assignment

1. LoRaWAN Gateway

- **Manufacturer:** Kerlink

- **Link:** [Kerlink Wirnet iStation](#)

- **Description:** A LoRaWAN gateway acts as a bridge between low-power end-devices and a network server, allowing for long-range data transmission in IoT networks. Kerlink's gateways are built for industrial-grade reliability and feature high interference resistance for dense outdoor deployments.

2. Zigbee Module

- **Manufacturer:** Digi International

- **Link:** [Digi XBee3 Zigbee 3.0](#)

- **Description:** Zigbee modules provide short-range, low-power mesh networking capabilities suitable for home automation and industrial sensor monitoring. The XBee3 series is notable for its compact form factor and the ability to switch between multiple protocols using the same hardware.

3. Wi-Fi 6 Chipset

- **Manufacturer:** Qualcomm

- **Link:** [Qualcomm FastConnect 6900](#)

- **Description:** This chipset is designed to manage high-speed wireless connectivity in mobile devices, supporting the 802.11ax standard for improved efficiency. It features 4-stream Dual Band Simultaneous (DBS) technology and advanced 4K QAM to provide multi-gigabit speeds and low latency.

4. NB-IoT Module

- **Manufacturer:** Quectel

- **Link:** [Quectel BC660K-GL](#)

- **Description:** Narrowband IoT (NB-IoT) modules enable cellular connectivity for massive IoT deployments that require deep indoor penetration and long battery life. The BC660K-GL is an ultra-compact module that supports multiple frequency bands with extremely low power consumption.

5. Sigfox Device

- **Manufacturer:** UnaBiz

- **Link:** [Sens'it Discovery](#)

- **Description:** Sigfox devices utilize a global Ultra-Narrowband network to transmit small bursts of data over very long distances with minimal energy usage. The Sens'it is a multi-sensor device that includes a thermometer, hygrometer, and accelerometer for various environmental tracking applications.

6. Bluetooth Low Energy (BLE) Beacon

- **Manufacturer:** Kontakt.io

- **Link:** [Kontakt.io Smart Beacon 2](#)

- **Description:** BLE beacons are small hardware transmitters that broadcast signals to nearby smart devices for indoor positioning and asset tracking. The Smart Beacon 2 features a dual-battery design for a long lifespan and can broadcast both iBeacon and Eddystone formats.

7. Ultra-Wideband (UWB) Transceiver

- **Manufacturer:** Qorvo

- **Link:** Qorvo DW3110

- **Description:** UWB transceivers provide highly accurate spatial awareness and micro-location data, often precise to within 10 centimeters. The DW3000 series is designed for low-power operation and is optimized for use in automotive and mobile "find-my" applications.

8. Wi-Fi 6E Access Point

- **Manufacturer:** Aruba (HPE)

- **Link:** Aruba 630 Series Access Points

- **Description:** Wi-Fi 6E access points expand on Wi-Fi 6 by utilizing the 6GHz band to reduce congestion and increase throughput for enterprise environments. Aruba's 630 series features tri-band coverage and ultra-tri-band filtering to minimize interference.

9. 5G IoT Module

- **Manufacturer:** Telit Cinterion

- **Link:** Telit FN990A series

- **Description:** 5G IoT modules provide high-bandwidth, low-latency cellular connectivity for demanding applications like industrial robotics and high-definition video surveillance. The FN990A series supports 3GPP Release 16 for global 5G Sub-6 deployments.