

6.1 Introduction to Bluetooth Technology

What is Bluetooth?

Bluetooth is a global wireless technology standard for exchanging data over short distances. Its primary purpose is to replace the cables connecting electronic devices, allowing for communication in a clean, efficient manner. It operates in the unlicensed Industrial, Scientific, and Medical (ISM) radio frequency band, specifically from 2.402 GHz to 2.480 GHz.

At its core, Bluetooth facilitates the creation of Wireless Personal Area Networks (WPANs). This means it connects devices that are in close proximity to a user, such as a smartphone, wireless headphones, a smartwatch, a keyboard, and a laptop, allowing them to work together seamlessly.

All Bluetooth devices are certified and managed by the Bluetooth Special Interest Group (SIG), a non-profit organization that oversees the development of the standards, manages the licensing of the technology, and ensures that devices from different manufacturers can interoperate correctly.

The Origin of the Name and Technology

The name "Bluetooth" is an homage to a 10th-century Viking king, Harald "Bluetooth" Gormsson. King Harald was famous for uniting the disparate tribes of Denmark and Norway into a single kingdom. Similarly, the creators of the technology saw it as a way to unite different communication protocols from various devices into one universal standard.

The iconic Bluetooth logo is a combination of two ancient Norse runes, which are the initials of Harald Bluetooth:

- ᚱ (Hagall): The rune for the letter 'H'.
- Bjarkan): The rune for the letter 'B'.

The technology itself was initiated in 1989 at Ericsson Mobile in Sweden. The goal was to develop a low-power, low-cost radio interface for wireless headsets. In 1998, Ericsson, along with Intel, Nokia, and Toshiba, formed the Bluetooth Special Interest Group (SIG) to establish a single, open standard, which has since grown to include tens of thousands of member companies.