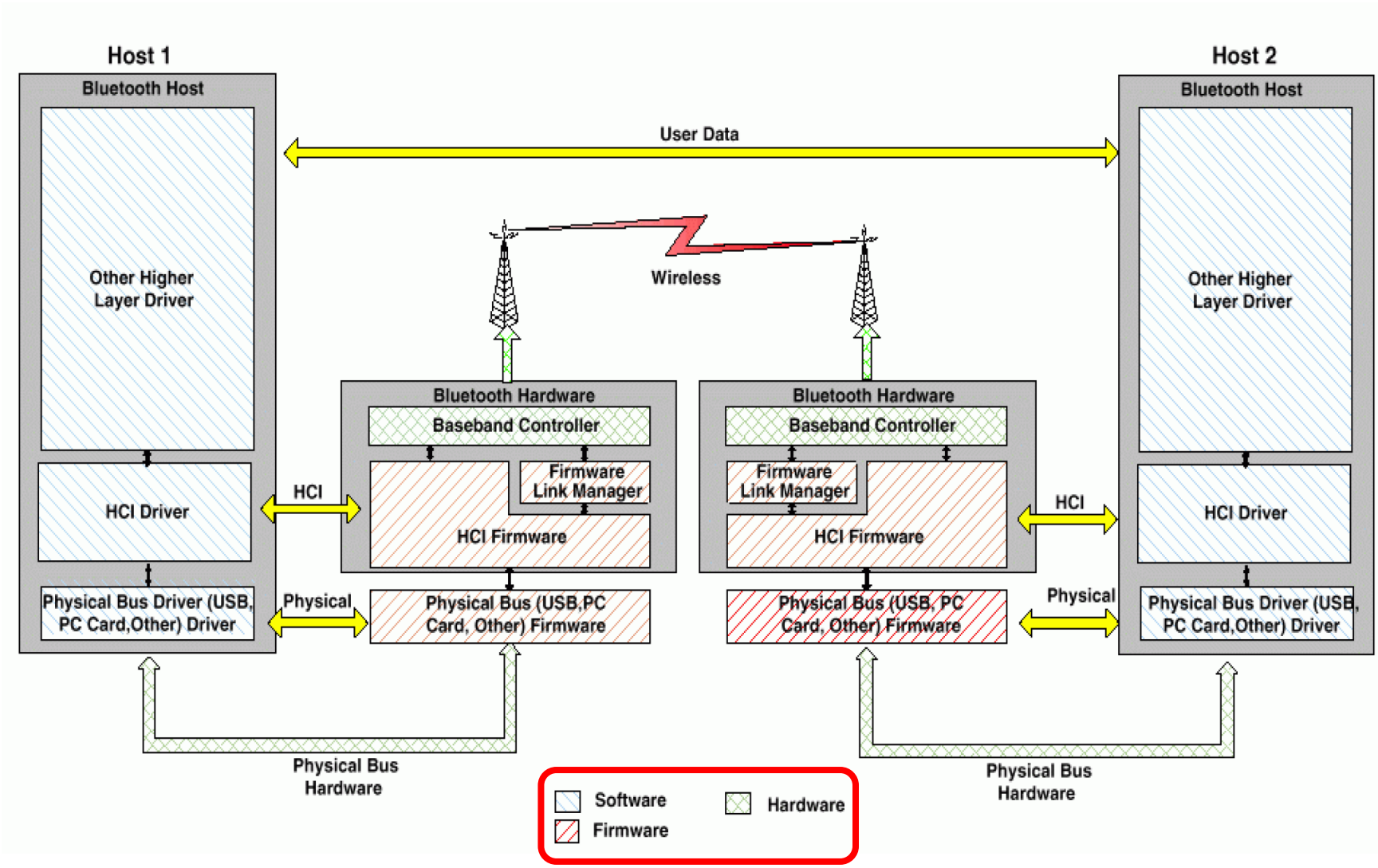
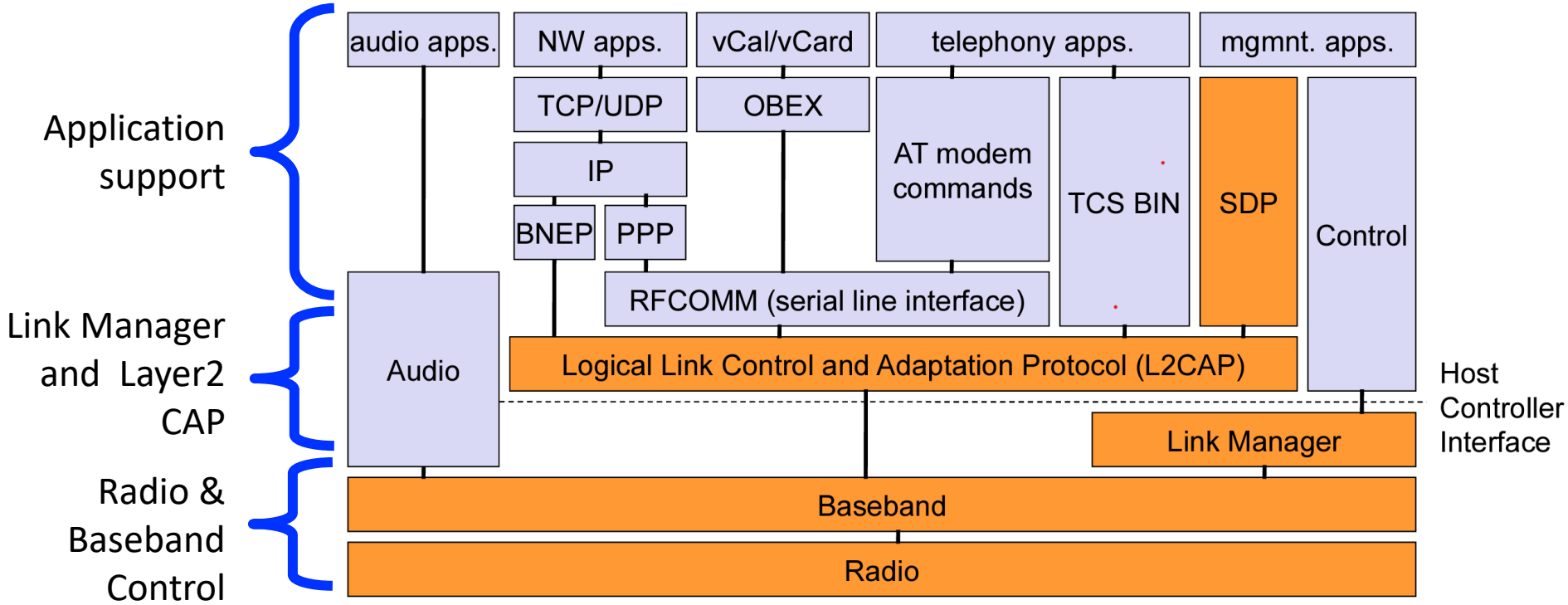
Communication between two BT devices

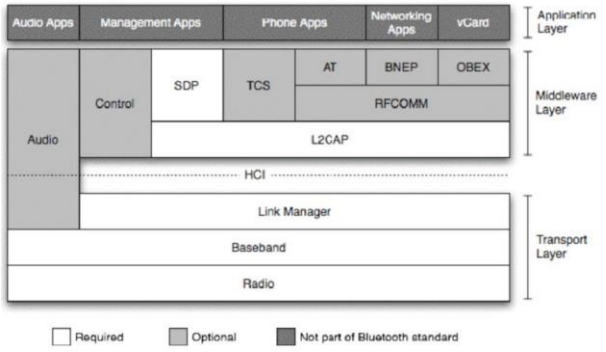


Stack Bluetooth

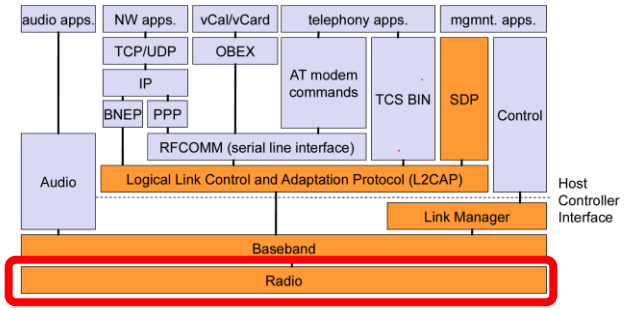


Bluetooth includes:

- A HW description
- An environment for applications



Bluetooth Protocol



- Radio layer
  - Defines requirements for a Bluetooth radio transceiver
  - Handles conformity to 2.4GHz (ISM) band
  - Establishes specifications for using *Spread-Spectrum Frequency Hopping* (FHSS)
  - Classifies device into one of three power classes:
    - Long range; Class 1 - 100mW, 100m
    - Normal/standard range; Class 2 - 2.5mW, 10m
    - Short range; Class 3 - 1 mW, 1m

Type	Power	Max Power Level	Designed Operating Range	Sample Devices
Class 1	High	100 mW (20 dBm)	Up to 100 meters (328 feet)	USB adapters, access points
Class 2	Medium	2.5 mW (4 dBm)	Up to 10 meters (33 feet)	Mobile devices, Bluetooth adapters, smart card readers
Class 3	Low	1 mW (0 dBm)	Up to 1 meter (3 feet)	Bluetooth adapters

Radio Layer

- Radio: FH SS
  - 79 channels of 1 Mb/s
  - Hoping: per slot
    - Packets have 1, 3, or 5 slots of 625 uS
    - Hoping (nominal) 1600 times per second
  - Frame includes two packets
    - Transmission followed by reception
  - Radio designed to low cost and universal usage
    - noise, synchronous action technology 2.4GHz, etc…,