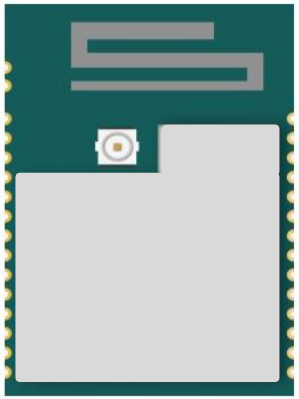
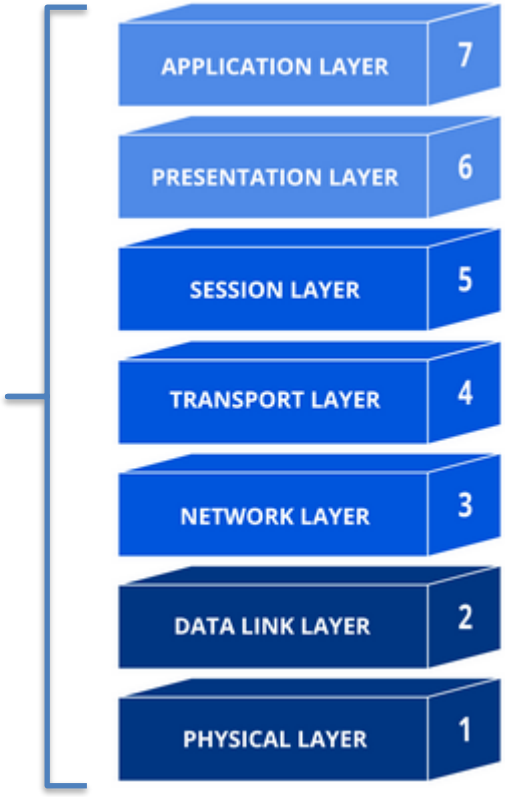
Key Characteristics IoT

Hostless Mode

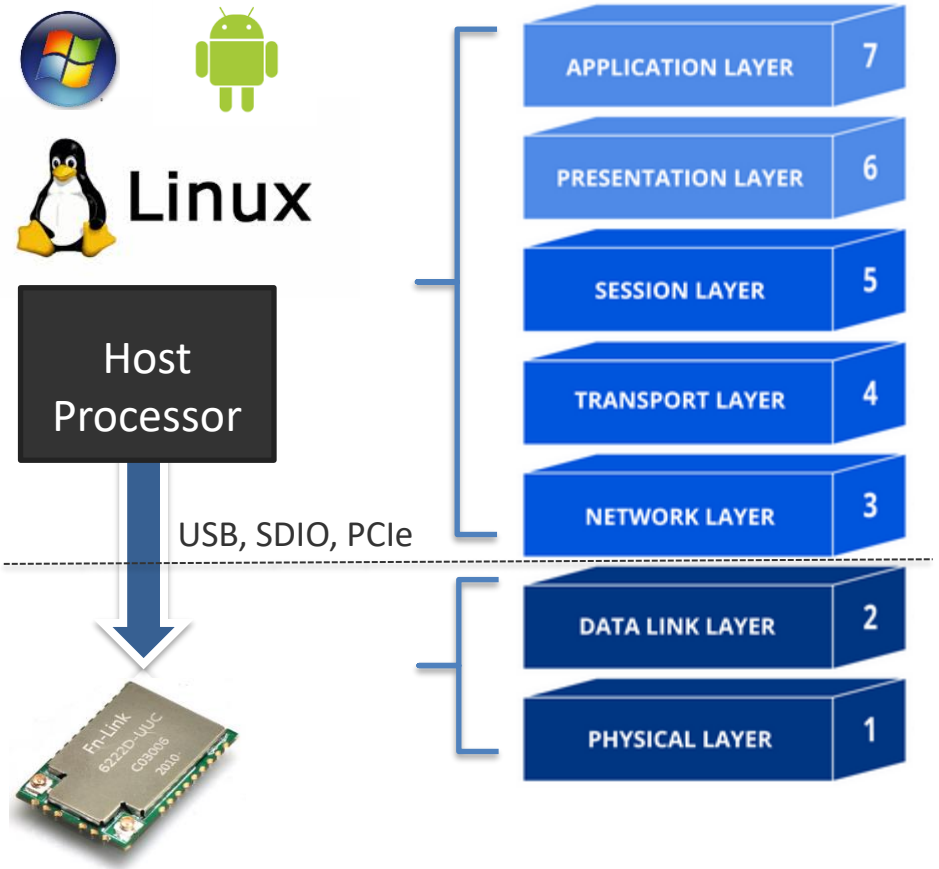


IoT Module



- IoT modules are standalone solutions but compared to SOMs they have much less CPU power, memory footprint, size and are optimized for low power applications (often battery driven)
- The integrated WiFi SoCs are based on 32 bit µC CPUs like Cortex-M or RISC-V running with µC typical OSs e.g. **freeRTOS (no Linux)**
- Use cases are **Hostless Mode** (main use case) and Hosted Mode (as WiFi modem) via low speed interfaces e.g. SPI, UART, etc.
- Are intended only for client applications with low data rates (but with Soft AP support)
- Provide many µC typical interfaces: ADC, DAC, PWM, UART, SPI, I2C, GPIOs, etc.
- Support also Bluetooth, Thread, Zigbee, etc.

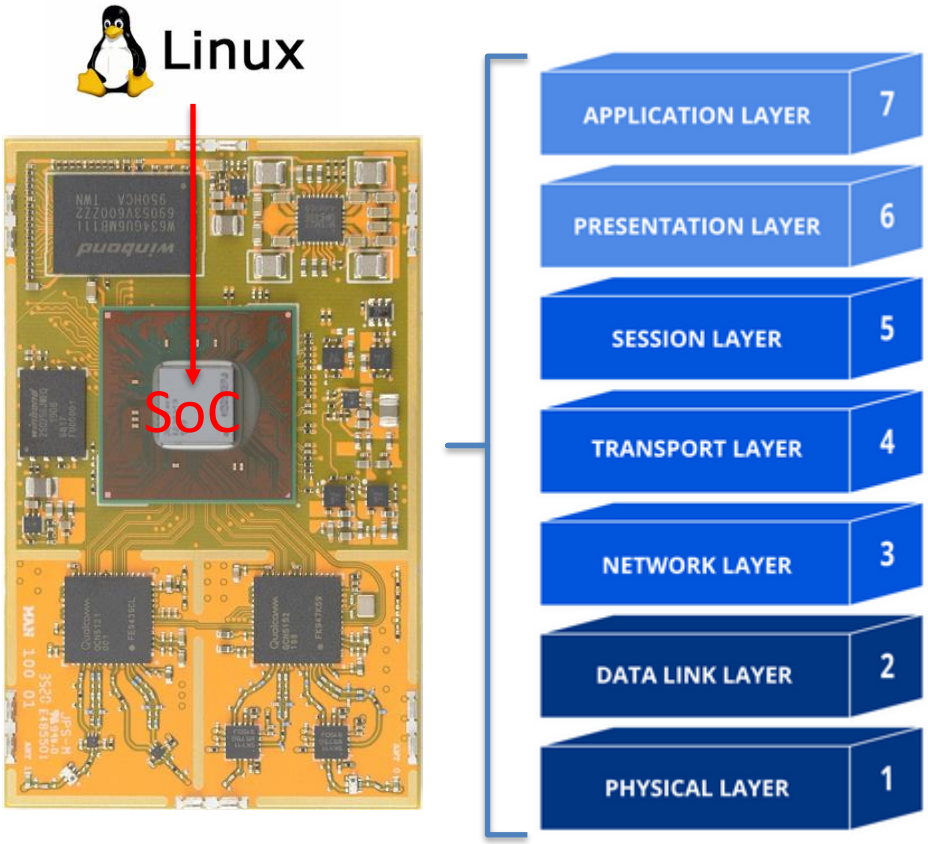
Key Characteristics Radio



Radio Module

- Radio Modules require always a **Linux,** Windows or Android based Host Processor
- Typical Interfaces are USB, SDIO and PCIe
  Remark: For low speed interfaces like UART and SPI please refer to IoT
- The Application and Layers 3-6 are running on the Host Processor
- Layers 1 and 2 are covered by the radio module, which acsts only as WiFi modem
- Available for Client (with Soft AP support) & Full Access Point applications
- Many Radios support also Bluetooth (Combo Radio)

Key Characteristics SOM



SOM

- SOM (System On Module) is based on a WiFi **SoC** that integrates one or multiple application CPUs and high speed interfaces e.g. Ethernet, USB, PCIe, SDIO
- No external intelligence (CPUs) and memory required (stand alone solution)
- SOM supports also low speed interfaces e.g. UART, SPI, I2C and many GPIOs, but doesn‘t have µC typical interfaces like IoT modules (ADC, DAC, etc.)
- The complete protocol stack and application are running with **Linux**
- Support always Full Access Point with high data rates