**ESP32 Introduction**

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# ESP 32 Data sheet ( 65 Pg )

* Single 2.4 GHz Wi-Fi and Bluetooth combo chip.
* Low duty cycle is used to minimize the amount of energy that the chip expends.
* Output of the power amplifier is adjustable
  + Optimal trade off between communication range, data and power consumption
* 20 external components
* **Wi-fi Key Features**
  + **802.11 B/G/N** : IEEE 802.11 is a set of media access control (MAC) and physical layer (PHY) specifications for implementing wireless local area network (WLAN) computer communication in the 900 MHz and 2.4, 3.6, 5, and 60 GHz frequency bands.
  + **UP to 150 Mbps**
  + **WMM :** WMM is a subset of the IEEE 802.11e standard
  + **TX/RX A-MPDU, RX A-MSDU**
  + **Immediate Block ACK :**The Block Ack mechanism improves channel efficiency by aggregating several acknowledgments into one frame.
  + **Defragmentation :**  Help for smoother communication
  + **Automatic Beacon Monitoring** : I am assuming something like watch dog
  + **4 x Virtual Wi-Fi interfaces** : Can connect to four separate Wi-Fi interfaces
  + **Simultaneous support for infrastructure station, SoftAP, and Promiscuous modes**
  + **Antenna Diversity**
* **Bluetooth Key features**
  + +9dBm transmitting power
  + Adaptive frequency Hopping
  + Synchronous Connection-Oriented/Extended
* **MCU and advanced Features ( Bottom of Page 9 )**