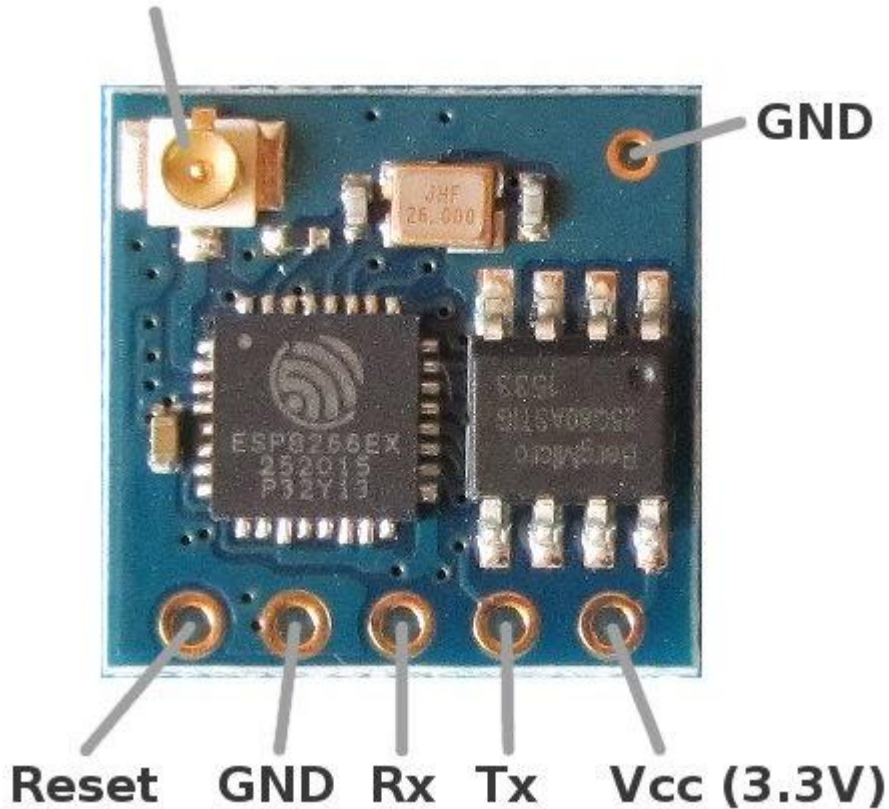Pinout for the ESP8266 Esp-05 5 pin serial WiFi transceiver module. Operating voltage and current consumption information of the module is included below.

ESP8266 Esp-05 Pinout – Top View of Module

The 5 pin version of the ESP8266 Esp-05 WiFi module has the following connections on the 5 pin header:

- **Reset** – active low reset (apply low voltage level to reset), EXT_RSTB pin 32 on ESP8266 chip
- **GND** – GND or 0V of power supply
- **Rx** – UART receive pin (3.3V logic level)
- **Tx** – UART transmit pin (3.3V logic level)
- **Vcc** – 3.3V power supply Vcc connection
  There is an aerial or antennae connector at the top left of the board for an external aerial / antennae.

An additional GND connection can be found at the top right of the board.

Operating Voltage

The ESP8266 chip and ESP-05 module operate at a voltage of 3.3V (working range is 3.0V to 3.6V). I/O pins including the UART pins operate with 3.3V logic.

The chip and module I/O and UART pins are **NOT** 5V tolerant.

Current Consumption

A operating current average value of **80mA** is given for the EXP8266 chip in the datasheet. The ESP8266 SDK getting started guide gives the following note for their evaluation board modules:

*The ESP8266 Wi-Fi module needs 3.3V power supply and may draw current in the order of **500mA**.* Note that this current value is for the Espressif modules and not the ESP-05, but it does give some idea of the current that some modules can draw. The following current consumption values are for the EXP8266 chip when transmitting and receiving. These are the highest typical values from the datasheet.

Transmit Current

The datasheet for the ESP8266 shows a highest typical current consumption of **170mA** under the following conditions: Tx802.11b, CCK 11Mbps, P OUT=+17dBm

Receive Current

The datasheet for the ESP8266 shows a highest typical current consumption of **56mA** under the following conditions: Rx 802.11g, 1024 bytes packet length, -70dBm

ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained Wi-Fi networking solution, allowing it to either host the application or to offload all Wi-Fi networking functions from another application processor.

ESP8266 has powerful on-board processing and storage capabilities that allow it to be integrated with the sensors and other application specific devices through its GPIOs with minimal development up-front and minimal loading during runtime. Its high degree of on-chip integration allows for minimal external circuitry, and the entire solution, including front-end module, is designed to occupy minimal PCB area.

Features

SDIO 2.0, SPI, UART

32-pin QFN package

Integrated RF switch, balun, 24dBm PA, DCXO, and PMU

Integrated RISC processor, on-chip memory and external memory interfaces

Integrated /baseband processors

Quality of Service management

I2S interface for high fidelity audio applications

On-chip low-dropout linear regulators for all internal supplies

Proprietary spurious-free clock generation architecture

Integrated WEP, TKIP, AES, and WAPI engines

Solutions

Supports APSD for optimal VoIP applications

Patented spurious noise cancellation algorithm for integration in SOC applications

Supports Bluetooth co-existence interface

Self-calibrated RF to ensure optimal performance under all operating conditions

Zero factory tuning

No external RF components

Specifications

802.11 b/g/n

Wi-Fi Direct (P2P), soft-AP

Integrated TCP/IP protocol stack

Integrated TR switch, balun, LNA, power amplifier and matching network

Integrated PLLs, regulators, DCXO and power management units

+19.5dBm output power in 802.11b mode

Power down leakage current of <10uA

Integrated low power 32-bit CPU could be used as application processor

SDIO 1.1/2.0, SPI, UART

STBC, 1×1 MIMO, 2×1 MIMO

A-MPDU & A-MSDU aggregation & 0.4ms guard interval

Wake up and transmit packets in < 2ms

Standby power consumption of < 1.0mW (DTIM3)

Help your development more easy.

1. High quality & low price

2. LWIP agreement

3. Support 3 modes: AP, STA, AP+STA

4. Perfect and simple AT commands

>>>>Translate data sheet
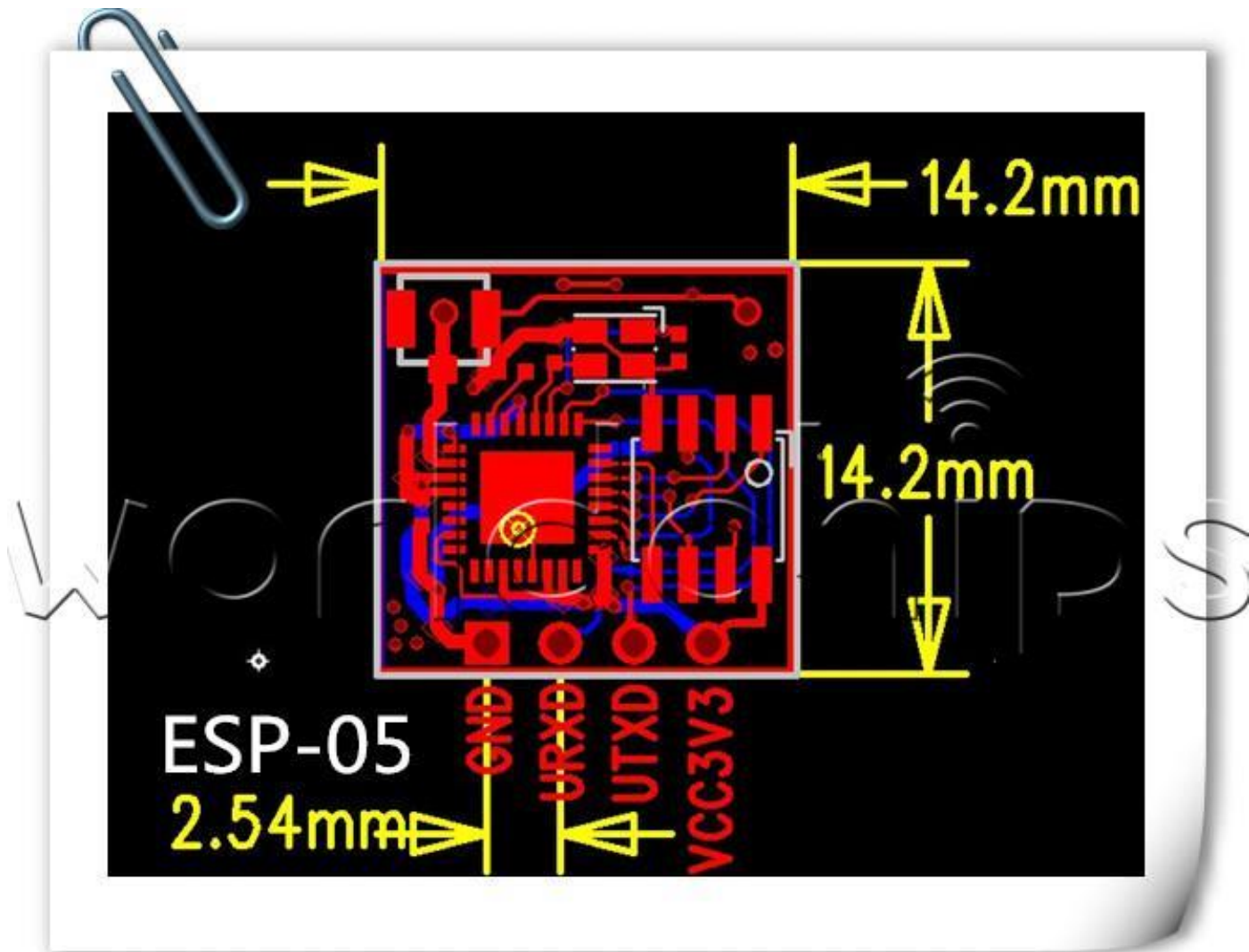
>>>>Some translated document

>>>>Turial

Now your with for Arduino can get on WiFI without braking the bank.

Use this module for your next Interet of Things project, home automation, Or remote sensor project.

This module adats the ESP8226 IC for use over a serial connection using simple AT commands.

No SPI interface or Know-How is required.

Warnings:

This module requires a 3.3 volt supply for VCC, and 3.3V logic. It is not 5V tolant. Connect RX or TX on 5V Ard will

destroy this module. You must use a logic level converter, or a 3.3V Ard

The 3.3V supply on for Arduino Uno has inadequate current capabilit to power this module. You must provide a separate,

higher 3.3V supply(about 300mA or better)