Hardware Serial Peripheral Interface

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| Status : working, ~~validated~~, ~~documented~~ | 00/00/0000 |

# Introduction

The ESP8266 has two independent SPI (Serial Peripheral Interface). One is used to connect an external Flash memory for program storage, the other is the main board-level interface between ESP8266 and hardware. It is through this interface that the most WiFi bandwidth can be exploited.

The second interface is called “HSPI” (Hardware SPI ?)

## State of the library

This library is currently usable but not fully validated.

It is missing mechanisms for reading from SPI.

## Origin of the library

The source files for this library come from an example project in the Unofficial SDK and may be related to a project by someone called “Metal Phreak”. This information will be updated once the origin of the code has been ascertained.

This original library counts two files : “hspi.h” and “hspi.c”. It was originally intended for Espressif’s own RTOS.

Nefastor added several modifications to make it compatible with FreeRTOS. This includes the creation of a second header, “spi\_registers\_2.h”, out of Espressif code. This header is used internally by the library and does not need to be included in source files using the HSPI library.

# Using the library

# API

## hspi\_init

## hspi\_wait\_ready

## hspi\_prepare\_tx

## hspi\_start\_tx

## hspi\_send\_uint8

## hspi\_send\_uint16

## hspi\_send\_uint32

## hspi\_send\_data

## hspi\_send\_uint16\_r