

# Main Controller Module

## 메인 컨트롤러 모듈

# 컴포넌트 핀 연결 요약본 v0.1.0

문서 이력

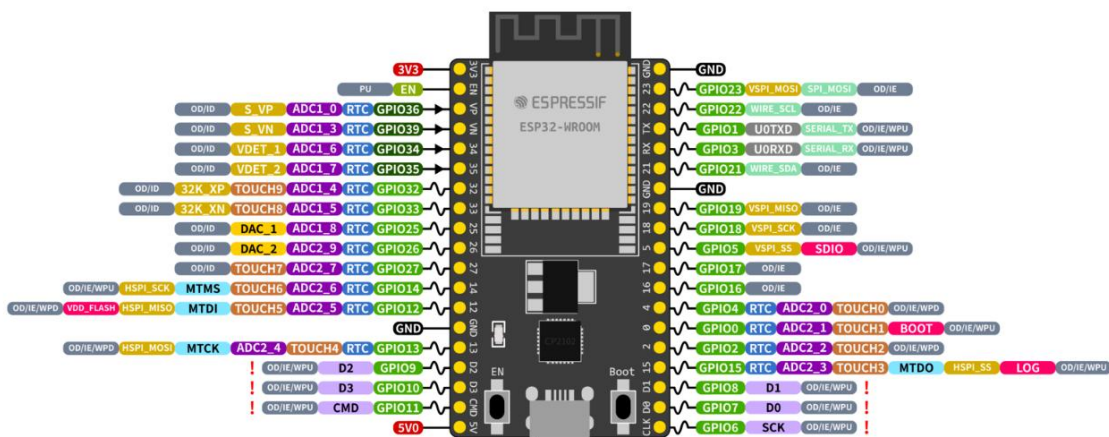
버전	작성자	일자	변경 내용
V0.1.0	김선욱	2025-11-05	컴포넌트 핀 연결 요약본 최초 작성

## 1. ESP32 DevKitC WROOM-32D V4 CH9102X 개발보드

<https://www.devicemart.co.kr/goods/view?no=15314103>













핀 맵

ESP32-DevKitC



## ESP32 Specs

32-bit Xtensa® dual-core @240MHz  
Wi-Fi IEEE 802.11 b/g/n 2.4GHz  
Bluetooth 4.2 BR/EDR and BLE  
520 KB SRAM (16 KB for cache)  
448 KB ROM  
34 GPIOs, 4x SPI, 3x UART, 2x I2C,  
2x I2S, RMT, LED PWM, 1 host SD/eMMC/SDIO,  
1 slave SDIO/SPI, TWAI®, 12-bit ADC, Ethernet

	<b>PWM</b>	PWM Capable Pin
	<b>GPIOX</b>	GPIO Input Only
	<b>GPIOX</b>	GPIO Input and Output
	<b>DAC_X</b>	Digital-to-Analog Converter
	<b>DEBUG</b>	JTAG for Debugging
	<b>FLASH</b>	External Flash Memory (SPI)
	<b>ADCC_X</b>	Analog-to-Digital Converter
	<b>TOUCHX</b>	Touch Sensor Input Channel
	<b>OTHER</b>	Other Related Functions
	<b>SERIAL</b>	Serial for Debug/Programming
	<b>ARDUINO</b>	Arduino Related Functions
	<b>STRAP</b>	Strapping Pin Functions

**RTC** RTC Power Domain (VDD3P3\_RTC)  
**GND** Ground  
**PWD** Power Rails (3V3 and 5V)  
**!** Pin Shared with the Flash Memory  
 Can't be used as regular GPIO

**GPIO STATE**

**WPU:** Weak Pull-up (Internal)  
**WPD:** Weak Pull-down (Internal)  
**PU:** Pull-up (External)  
**IE:** Input Enable (After Reset)  
**ID:** Input Disabled (After Reset)  
**OE:** Output Enable (After Reset)  
**OD:** Output Disabled (After Reset)

## 2. ILI9488 3.5인치 TFT LCD 모듈

<https://www.devicemart.co.kr/goods/view?no=15454170>

TFT LCD 핀	ESP32 핀
VDD	3V3
GND	GND
CS	GPIO 5
RST	GPIO 4
D/C	GPIO 2
SDI	GPIO 23
SCK	GPIO 18
BL	3V3
SDO	GPIO1 9
TCK	GPIO 18(공유)
TCS	GPIO 15
TDI	GPIO 23(공유)
TDO	GPIO 19(공유)
PEN	GPIO 27

## 3. 수동 부저

수동 부저 핀	ESP32 핀
+	GPIO 25
-	GND

## 4. SN65HVD230 CAN통신 트랜시버

<https://www.devicemart.co.kr/goods/view?no=15007385>

CAN 모듈 핀	ESP32 핀
3.3v	3V3
GND	GND
CAN Tx	GPIO 21
CAN Rx	GPIO 22

## 5. 로터리 스위치 모듈

로터리 스위치 핀	ESP32 핀
V+	3V3
GND	GND
CLK	GPIO 32
DT	GPIO 33
SW	GPIO 26

## 6. RGB LED

RGB LED 핀	ESP32 핀
LED_RED+	GPIO 16
LED_BLUE+	GPIO 17
LED_GREEN+	GPIO 14
LED_RGB-	GND