Table 2-1. Pin Overview

Name	No.	Type	Function								
Analog											
VDDA	1	P	Analog power supply (2.3 V ~ 3.6 V)								
LNA_IN	2	I/O	RF input and output								
VDD3P3	3	P	Analog power supply (2.3 V ~ 3.6 V)								
VDD3P3	4	P	Analog power supply (2.3 V ~ 3.6 V)								
VDD3P3_RTC											
SENSOR_VP	5	I	GPIO36,	ADC1_CH0,	RTC_GPIO0						
SENSOR_CAPP	6	I	GPIO37,	ADC1_CH1,	RTC_GPIO1						
SENSOR_CAPN	7	I	GPIO38,	ADC1_CH2,	RTC_GPIO2						
SENSOR_VN	8	I	GPIO39,	ADC1_CH3,	RTC_GPIO3						
CHIP_PU	9	I	High: On; enables the chip Low: Off; the chip shuts down Note: Do not leave the CHIP_PU pin floating.								
VDET_1	10	I	GPIO34,	ADC1_CH6,	RTC_GPIO4						
VDET_2	11	I	GPIO35,	ADC1_CH7,	RTC_GPIO5						
32K_XP	12	I/O	GPIO32,	ADC1_CH4,	RTC_GPIO9,	TOUCH9,	32K_XP (32.768 kHz crystal oscillator input)				
32K_XN	13	I/O	GPIO33,	ADC1_CH5,	RTC_GPIO8,	TOUCH8,	32K_XN (32.768 kHz crystal oscillator output)				
GPIO25	14	I/O	GPIO25,	ADC2_CH8,	RTC_GPIO6,	DAC_1,	EMAC_RXD0				
GPIO26	15	I/O	GPIO26,	ADC2_CH9,	RTC_GPIO7,	DAC_2,	EMAC_RXD1				
GPIO27	16	I/O	GPIO27,	ADC2_CH7,	RTC_GPIO17,	TOUCH7,	EMAC_RX_DV				
MTMS	17	I/O	GPIO14,	ADC2_CH6,	RTC_GPIO16,	TOUCH6,	EMAC_TXD2,	HSPICLK,	HS2_CLK,	SD_CLK,	MTMS
MTDI	18	I/O	GPIO12,	ADC2_CH5,	RTC_GPIO15,	TOUCH5,	EMAC_TXD3,	HSPIQ,	HS2_DATA2,	SD_DATA2,	MTDI
VDD3P3_RTC	19	P	Input power supply for RTC IO (2.3 V ~ 3.6 V)								
MTCK	20	I/O	GPIO13,	ADC2_CH4,	RTC_GPIO14,	TOUCH4,	EMAC_RX_ER,	HSPID,	HS2_DATA3,	SD_DATA3,	MTCK
MTDO	21	I/O	GPIO15,	ADC2_CH3,	RTC_GPIO13,	TOUCH3,	EMAC_RXD3,	HSPICS0,	HS2_CMD,	SD_CMD,	MTDO
GPIO2	22	I/O	GPIO2,	ADC2_CH2,	RTC_GPIO12,	TOUCH2,		HSPIWP,	HS2_DATA0,	SD_DATA0	
GPIO0	23	I/O	GPIO0,	ADC2_CH1,	RTC_GPIO11,	TOUCH1,	EMAC_TX_CLK,	CLK_OUT1,			
GPIO4	24	I/O	GPIO4,	ADC2_CH0,	RTC_GPIO10,	TOUCH0,	EMAC_TX_ER,	HSPIHD,	HS2_DATA1,	SD_DATA1	
VDD_SDIO											
GPIO16	25	I/O	GPIO16,	HS1_DATA4,	U2RXD,	EMAC_CLK_OUT					
VDD_SDIO	26	P	Output power supply: 1.8 V or the same voltage as VDD3P3_RTC								
GPIO17	27	I/O	GPIO17,	HS1_DATA5,	U2TXD,	EMAC_CLK_OUT_180					
SD_DATA_2	28	I/O	GPIO9,	HS1_DATA2,	U1RXD,	SD_DATA2,	SPIHD				
SD_DATA_3	29	I/O	GPIO10,	HS1_DATA3,	U1TXD,	SD_DATA3,	SPIWP				
SD_CMD	30	I/O	GPIO11,	HS1_CMD,	U1RTS,	SD_CMD,	SPICS0				
SD_CLK	31	I/O	GPIO6,	HS1_CLK,	U1CTS,	SD_CLK,	SPICLK				
SD_DATA_0	32	I/O	GPIO7,	HS1_DATA0,	U2RTS,	SD_DATA0,	SPIQ				
SD_DATA_1	33	I/O	GPIO8,	HS1_DATA1,	U2CTS,	SD_DATA1,	SPID				
VDD3P3_CPU											
GPIO5	34	I/O	GPIO5,	HS1_DATA6,	VSPICS0,	EMAC_RX_CLK					
GPIO18	35	I/O	GPIO18,	HS1_DATA7,	VSPICLK						
GPIO23	36	I/O	GPIO23,	HS1_STROBE,	VSPID						
VDD3P3_CPU	37	P	Input power supply for CPU IO (1.8 V ~ 3.6 V)								
GPIO19	38	I/O	GPIO19,	U0CTS,	VSPIQ,	EMAC_TXD0					
GPIO22	39	I/O	GPIO22,	U0RTS,	VSPIWP,	EMAC_TXD1					
U0RXD	40	I/O	GPIO3,	U0RXD,	CLK_OUT2						
U0TXD	41	I/O	GPIO1,	U0TXD,	CLK_OUT3,	EMAC_RXD2					
GPIO21	42	I/O	GPIO21,		VSPIHD,	EMAC_TX_EN					
Analog											
VDDA	43	P	Analog power supply (2.3 V ~ 3.6 V)								
XTAL_N	44	O	External crystal output								
XTAL_P	45	I	External crystal input								
VDDA	46	P	Analog power supply (2.3 V ~ 3.6 V)								
CAP2	47	I	Connects to a 3.3 nF (10%) capacitor and 20 kΩ resistor in parallel to CAP1								
CAP1	48	I	Connects to a 10 nF series capacitor to ground								
GND	49	P	Ground								

Regarding highlighted cells, see Section 2.2.1 Restrictions for GPIOs and RTC_GPIOs.

For a quick reference guide to using the IO_MUX, Ethernet MAC, and GPIO Matrix pins of ESP32, please refer to Appendix ESP32 Pin Lists.