ESP32-S3-Zero

Antenna / LNA Section

J1
IND1 0.5pF
C3 0.75pF
C2 0R
LNA_IN
GND

WS2812B

U1 WS2812B-0807
3V3
R1 1K
1 VDD DIN 4 IO21
2 DOUT VSS 3 GND

Buttons

3V3 R2 10K RESET K1 GND
3V3 R3 10K IO0 K2 GND

Type-C Connector

GND C1 2.2uF

Type_C1
Pin	Signal
GND	MTB
GND	A1/B12
VBUS	A4/B9	VBUS
SBU2	B8
CC1	A5	CC1
DN2	B7	USB_N
DP1	A6	USB_P
DN1	A7	USB_N
DP2	B6	USB_P
SBU1	A8
CC2	B5	CC2
VBUS	A9/B4	VBUS
GND	A12/B1

GND

CC1 R4 5.1k
CC2 R5 5.1k
GND

Crystal

C6 11pF
X1 40MHz
3 XTALP
2
4 GND
1 XTALN
GND
C10 11pF

Power Regulator

VBUS
C8 0.1uF
C9 10uF
GND

U3 ME6217C33M5G
1 VIN VOUT 5 3V3
2
GND
3 EN BP 4
C7 10uF
GND

U2 ESP32-S3FH4R2

Pin	Signal		Signal	Pin	Net
1	LNA_IN		VDDA	56	3V3
2	VDD3P3		VDDA	55	
3	VDD3P3		XTAL_P	54	XTALP
4	CHIP_PU		XTAL_N	53	XTALN
5	GPIO0		GPIO46	52	
6	GPIO1		GPIO45	51	IO45
7	GPIO2		U0RXD	50	IO44
8	GPIO3		U0TXD	49	IO43
9	GPIO4		MTMS	48	IO42
10	GPIO5		MTDI	47	IO41
11	GPIO6		VDD3P3_CPU	46	3V3
12	GPIO7		MTDO	45	IO40
13	GPIO8		MTCK	44	IO39
14	GPIO9		GPIO38	43	IO38
15	GPIO10		GPIO37	42	
16	GPIO11		GPIO36	41	
17	GPIO12		GPIO35	40	
18	GPIO13		GPIO34	39	
19	GPIO14		GPIO33	38	
20	VDD3P3_RTC		SPICLK_P	37	IO47
21	XTAL_32K_P		SPICLK_N	36	IO48
22	XTAL_32K_N		SPID	35	
23	GPIO17		SPIQ	34	
24	GPIO18		SPICLK	33	
25	GPIO19		SPICS0	32	
26	GPIO20		SPIWP	31	
27	GPIO21		SPIHD	30	
28	SPICS1	EP	VDD_SPI	29	

57 EP GND

LNA_IN
VDD3V3
RESET
IO0
IO1
IO2
IO3
IO4
IO5
IO6
IO7
IO8
IO9
IO10
IO11
IO12
IO13
IO14
3V3
IO15
IO16
IO17
IO18
USB_N R7 22R U_N
USB_P R8 22R U_P
IO21

P15 Connector

Pin	Net
18	VBUS
17	GND
16	3V3
15	IO1
14	IO2
13	IO3
12	IO4
11	IO5
10	IO6
9	IO7
8	IO8
7	IO9
6	IO10
5	IO11
4	IO12
3	IO13
2	IO44
1	

IO43 R6 499R

Decoupling

VDD3V3
C15 0.1uF
IND2 2nH
3V3
C11 1uF
C16 10uF
GND

3V3
C17 0.1uF
GND

3V3
C12 0.1uF
GND

3V3
C13 10nF
C14 1uF
GND