MCU 1 core and 2MB ext. RAM

J1
USB_C_Receptacle_USB2.0
VBUS A4
CC1 A5 R6 5.1k
CC2 B5 R7 5.1k
D- A7
D- B7
D+ A6
D+ B6
SBU1 A8
SBU2 B8
SHIELD S1
GND A1
GND

U2
ESP32-S2-WROVER
GND 1
USB_D- 22
USB_D+ 23
IO21 24 EP_CKH
IO26 25 IO26 is the CS pin of PSRAM
IO33 27 EP_D0
IO34 28 EP_D1
IO35 29 EP_D2
IO36 30 EP_D3
IO37 31 EP_D4
IO38 32 EP_D5
IO39 33 EP_D6
IO40 34 EP_D7
IO41 35 EP_CKV
IO42 36 EP_STH
TXD0 37 TX
RXD0 38 RX
IO45 39
IO46 40 TPS_PWR_GOOD
3V3 2
EN 41 BOOT_MODE
IO00 3
IO01 4
IO02 5
IO03 6
IO04 7
IO05 8
IO06 9
IO07 10
IO08 11 SDA
IO09 12 SCL
IO10 13 TPS_VCOM_CTRL
IO11 14 TPS_nINT
IO12 15 EP_LE
IO13 16 EP_OE
IO14 17 EP_MODE
IO15 18 EP_STV
IO16 19 TPS_PWRUP
IO17 20 IO17
IO18 21 TPS_WAKEUP
R8 10K
SW1 RESET
R1 10K
C13 0.1u

VIN to 3.3v LDO
U1
MCP1700-1202E_SOT23
VIN 3
VI
GND 1
VO 2 +3.3V
C15 C_Polarized

P1
CONN_02X13
2 3.3v
4 IO01
6 IO02
8 IO03
10 IO04
12 IO05
14
16 SCL
18
20 SDA
22
24 TPS_PWR_GOOD
26
1
3 IO45
5 IO17
7 IO07
9 IO06
11
13
15
17
19
21 RX
23 TX
25

BOOT Mode

SW2
BOOT
BOOT_MODE
C14 0.1u

Battery jack

J2
Jack-DC
1
2 BAT+

Battery charging

U7
TPS2113APW
VBUS
BAT+
8 IN1
6 IN2
3 VSNS
4 ILIM
OUT 7 VIN
STAT 1
EN_N 2
GND 5
C2 100nF
C3 100nF
R4 400

U11
TP4056
D8 GRE
D9 RED
R2 1K
R3 1K
VCC 4
CE 8
PP 9
CHRG 7
STDBY 6
BAT 5 BAT+
TEMP 1
PROG 2
GND 3
C22 100nF
R5 6.8K

EPD PMIC power lines

VIN
SW_VIN
EPD_VDD
C19 10uF

U3
TPS651851RSLR
VNEG_IN
EPAD 49
AGND2 48
TS 47
V3P3 46 EPD_VDD
VIN3P3 45 +3.3V
VPOS 44
VPOS_IN 43
VB 42
PGND1 41
VB_SW 40
NC 39
NC 38
VDDH_IN 37
VDDH_DRV 36
VDDH_DIS 35 +22V
VDDH_D 34
VDDH_FB 33
PGND2 32
VEE_FB 31
VEE_D 30
VEE_DIS 29 -20V
VEE_DRV 28
VEE_IN 27
VN 26 VNEG_IN
VN_SW 25
VREF 1
NINT 2 TPS_nINT
VNEG 3
VNEG_IN 4 VNEG_IN
WAKEUP 5 TPS_WAKEUP
DGND 6
INT_LDO 7
AGND1 8
VNEG_DIS 9 -15V
VIN 10 SW_VIN
NC 11
VCOM_CTRL 12 TPS_VCOM_CTRL
NC 13
VCOM_DIS 14
VCOM 15 EP_VCOM
VCOM_PWR 16 VNEG_IN
SCL 17 SCL
SDA 18 SDA
VPOS_DIS 19 15V
NC 20
PWRUP 21 TPS_PWRUP
PBKG 22 VNEG_IN
PWR_GOOD 23 TPS_PWR_GOOD
VIN_P 24 SW_VIN
R18 43k
TH1 10k/3380K
C31 4.7uF 15V
C26 4.7uF
C28 4.7uF
C32 10uF
D4
L2 2.2uH
SW_VIN
D5
D6
PWR_FLAG +22V
R23 1M
C33 2.2uF
R24 47.5k
C25 10nF
C29 100nF
C30 100nF
D2
R19 1M
R20 52.3k
L1 4.7uH
D1
C24 4.7uF
C27 2.2uF
PWR_FLAG -20V
C20 10nF
C11 4.7uF
C8 4.7uF
C1 4.7uF
C4 4.7uF
C9 10uF
C6 22uF
C7 4.7uF
C5 4.7uF
C12 10uF
C10 22uF

U6
ED060XC5
-15V 1 VNEG
-20V 2 VEE
3 VSS
4 NC
5 NC
EPD_VDD 6 VDD
7 VSS
EP_CKH 8 XCL
9 VSS
EP_LE 10 XLE
EP_OE 11 XOE
EP_STH 12 XSTL
EP_D0 13 D0
EP_D1 14 D1
EP_D2 15 D2
EP_D3 16 D3
EP_D4 17 D4
EP_D5 18 D5
EP_D6 19 D6
EP_D7 20 D7
EP_VCOM 21 VCOM
22 NC
23 NC
24 NC
25 NC
26 VSS
EP_MODE 27 MODE1
EP_CKV 28 CKV
EP_STV 29 SPV
30 NC
31 BORDER
32 VSS
15V 33 VPOS
+22V 34 VGG

TP1 +22V
R26 47k
C34 1uF/50V
TP3 -20V
R28 47k
C36 1uF/50V
TP2 -15V
R27 47k
C35 1uF/25V
TP4 +15V
R29 47k
C37 1uF/25V
TP5 VCOM
R30 100k
C38 1uF/25V
EP_VCOM
Close to EPD connector