VCC

R30
4.7k

R31
1.3k

BZV55B3V3
D12

ADC_VCC

GND

VCC
VCC

GND

GND

+3V3   +5V

LED1   LED2

R2   R3
220   330

GND   GND

VCC

C1
47uF

GND

U1
NC   OUTPUT   8
NC   VIN   7
NC   GND   6
FB   ON#/OFF 5
1
2
3
4
LM2594D-5.0RG

R4
4.7k
+3V3

LM_EN

L1
68uH

D1
SS34

C2   C4   C5
47uF   47uF   47uF

+5V

GND

GND

GND

U2
ADJ(GND)   1
VOUT(TAB) 2   TAB   4
VIN   3
AMS1117-3.3

+3V3   +5V

GND   +5V_ISOL

VCC

C6
47uF

C9   47uF

U4
GND   1
VIN   2
VOUT 3
HT7533-1

GND   +3V3

L2
6.8uH

C7
4.7uF

U3
GND   1   Vo   4
Vin   2   0V   3
B0505S-1W

C8
4.7uF

PGND

+5V

U5
Vout 3
GND
2
Vin   1
CJ78M05

+5V

C10
47uF

GND

C13
47uF
VCC

GND

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U9.1 — STM32F405RGT6

Pin	Signal		Signal	Pin
14	PA0-WKUP(PA0)		PB0	26
15	PA1 (ADC_VCC)		PB1	27
16	PA2 (USART2_TX)		PB2-BOOT1(PB2)	28
17	PA3 (USART2_RX)		PB3(JTDOTRACESWO) (F_SWO)	55
20	PA4 (IS_1)		PB4(NJTRST)	56
21	PA5 (IS_2)		PB5	57
22	PA6 (IS_3)		PB6	58
23	PA7 (IS_4)		PB7	59
41	PA8 (USB_OTG_VBUS)		PB8 (CAN1_RX)	61
42	PA9 (USART1_TX)		PB9 (CAN1_TX)	62
43	PA10 (USART1_RX)		PB10	29
44	PA11 (USB_OTG_FS_DM)		PB11	30
45	PA12 (USB_OTG_FS_DP)		PB12	33
46	PA13(JTMS-SWDIO) (F_SWDIO)		PB13	34
49	PA14(JTCK-SWCLK) (F_SWCLK)		PB14 (LM_EN)	35
50	PA15(JTDI)		PB15 (IN_1 / IN_2)	36
8	PC0		PD2	54
9	PC1			
10	PC2		PH0-OSC_IN(PH0)	5
11	PC3		PH1-OSC_OUT(PH1)	6
24	PC4 (IS_5)			
25	PC5 (IS_6)		BOOT0	60
37	PC6 (IN_3)		NRST	7
38	PC7 (IN_4)			
39	PC8 (IN_5)		VCAP_1	31
40	PC9 (IN_6)		VCAP_2	47
51	PC10			
52	PC11			
53	PC12			
2	PC13			
3	PC14-OSC32_IN(PC14)			
4	PC15-OSC32_OUT(PC15)			

R1 4.7k, **D4**, **GND**

X1 8MHz, C3 15pF, C14 15pF

C15 100nF, R5 10k

C16 2.2uF, C17 2.2uF

U9.2 — STM32F405RGT6
- 1 VBAT
- 19 VDD, 32 VDD, 48 VDD, 64 VDD
- 13 VDDA
- 18 VSS, 63 VSS
- 12 VSSA

+3v3

Decoupling caps: C19 100nF, C20 100nF, C21 100nF, C22 100nF, C23 4.7uF, C24 1uF

H1
- 1 F_SWO
- 2
- 3 F_SWDIO
- 4 F_SWCLK
- 5 NRST
- 6 GND
- +3V3

USB / Type-C section
- R29 680, R28, GND
- +5V, D11 B5817W, F1 ASMD0603-020 330
- USB_OTG_VBUS
- USB_OTG_FS_DP, USB_OTG_FS_DM
- USBC1 / TYPE-C-31-M-12
  - B1 GND SH, A12 GND
  - B4 VBUS, A9 VBUS
  - B5 CC2, A8 SBU1
  - B6 DP2, A7 DN1
  - B7 DN2, A6 DP1
  - B8 SBU2, A5 CC1
  - B9 VBUS, A4 VBUS
  - B12 GND SH, A1 GND
- U16 TPESDA6V1BC6, GND

CN4 (+5V)
- 1 USART1_TX
- 2
- 3 USART1_RX
- 4
- GND

CN3 (+5V)
- 1 USART2_TX
- 2
- 3 USART2_RX
- 4
- GND

CN1 XH-2A
- 1 CAN1_H
- 2 CAN1_L

U7 — ISO1050DUBR
- 1 VCC1
- 2 RXD (CAN1_RX)
- 3 TXD (CAN1_TX)
- 4 GND1
- 8 VCC2 (+5V_ISOL)
- 7 CANH
- 6 CANL
- 5 GND2
- +3V3, GND_ISOL2, PGND

CDSOT23-SM712 (U8)
- R6 10, R7 60.4
- R8 10, R9 60.4
- CAN1_H, CAN1_L
- C18 100nF, GND_ISOL2

Title block:
- Schematic: Schematic1
- Board: Board1
- Drawn:
- Reviewed:
- PDB-F800GS
- Create at 2025-03-15
- Update at 2025-03-16
- Page: Ports
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U10 — BTS6143D
OUT_1, IN_1, R10 10k, IS_1, C25 2.2pF, BZV55B3V3, D5, R12 10k, R14 330, VCC, GND

U13 — BTS6143D
OUT_2, IN_2, R17 10k, IS_2, C28 2.2pF, BZV55B3V3, D8, R19 10k, R21 330, VCC, GND

U15 — BTS6143D
OUT_3, IN_3, R23 10k, IS_3, C30 2.2pF, BZV55B3V3, D10, R25 10k, R27 330, VCC, GND

U11 — BTS6143D
OUT_4, IN_4, R11 10k, IS_4, C26 2.2pF, BZV55B3V3, D6, R13 10k, R15 330, VCC, GND

U12 — BTS6143D
OUT_5, IN_5, R16 10k, IS_5, C27 2.2pF, BZV55B3V3, D7, R18 10k, R20 330, VCC, GND

U14 — BTS6143D
OUT_6, IN_6, R22 10k, IS_6, C29 2.2pF, BZV55B3V3, D9, R24 10k, R26 330, VCC, GND

OUT_1 — P1 1, P7 1 — GND
OUT_2 — P2 1, P8 1 — GND
OUT_3 — P3 1, P9 1 — GND
OUT_4 — P4 1, P10 1 — GND
OUT_5 — P5 1, P11 1 — GND
OUT_6 — P6 1, P12 1 — GND

Schematic		Schematic1	Create at	2025-03-15
			Update at	2025-03-16
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