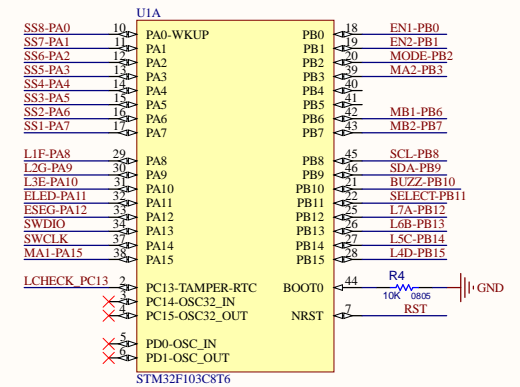
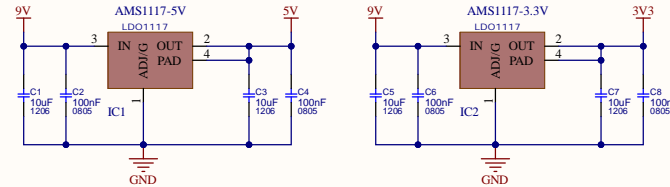
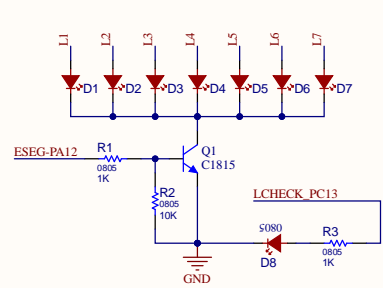


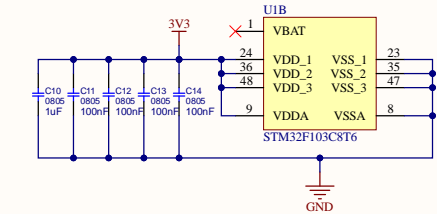
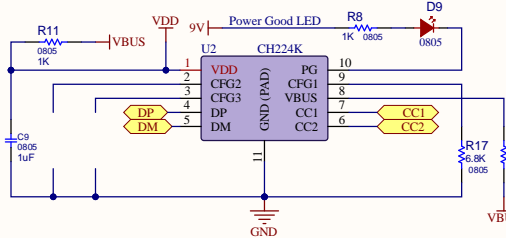
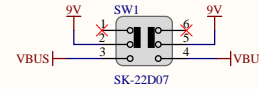
7Seg LED and Status LED

Power Block

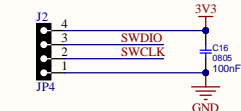
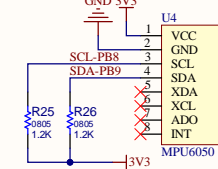
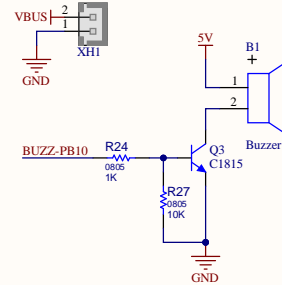
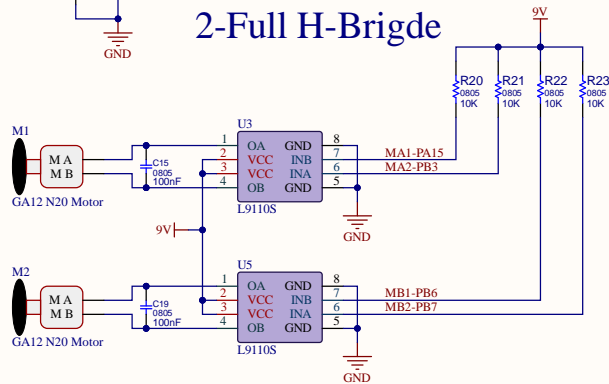
Microcontroller



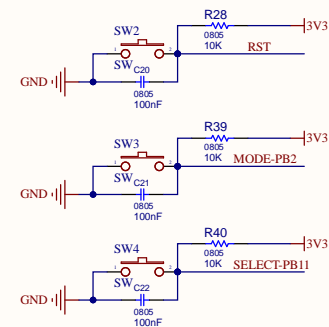
| CFG1 | CFG2 | CFG3 | Request-voltage |
|------|------|------|-----------------|
| 1 | - | - | 5 V |
| 0 | 0 | 0 | 9 V |
| 0 | 0 | 1 | 12 V |
| 0 | 1 | 1 | 15 V |
| 0 | 1 | 0 | 20 V |



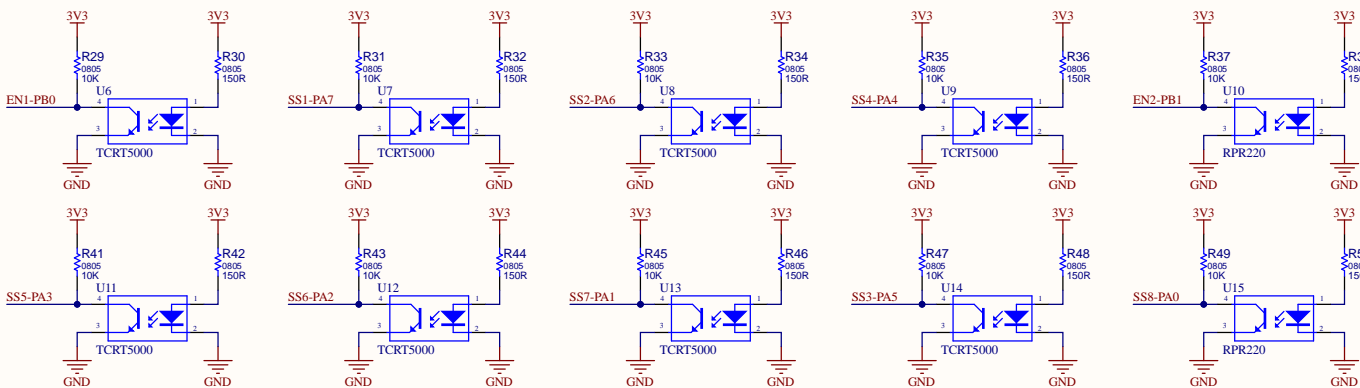
2-Full H-Bridge



Button block



IR Sensor



| Title | | |
|-------|-------------------------------|-----------|
| Size | Number | Revision |
| A3 | | |
| Date: | 12/31/2024 | Sheet of |
| File: | D:\Work\STM32_LineFlow\SchDoc | Drawn By: |

| Comment | Description | Designator | Footprint | LibRef | Quantity | VALUE |
|----------------|---|--|--------------------------------------|-----------------|----------|---------------|
| 0805 | LED Red SMD | D1, D2, D3, D4, D5, D6, D7, D8, D9 | LED0805RED | LED Red SMD | 9 | |
| Buzzer | Buzzer | B1 | Buzzer | Buzzer | 1 | |
| C1815 | BJT C1815 Trans NPN 50V 150mA TO-92 | Q1, Q2, Q3 | 2SC1815-HF | BJT 2SC1815 | 3 | |
| CH224K | CH224K USB PD Decoy, USB Power Delivery Decoy | U2 | ESOP-10 CHAY | CH224K | 1 | |
| GA12 N20 Motor | GA12 N20 Metal Gear Motor | M1, M2 | Motor GA-12 Type3, Motor GA-12 Type2 | GA12 N20 Motor | 2 | |
| JP4 | JP4 | J2 | JP_4PIN | JP4 | 1 | |
| L9110S | L9110 | U3, U5 | SOIC-8 | L9110 | 2 | |
| LED 7S1D | | L1 | LED 7S1D 0.28" | LED 7S1D | 1 | |
| MPU6050 | MPU6050 Module | U4 | MPU-6050 | MPU6050 | 1 | |
| RPR220 | | U10, U15 | RPR220 | RPR220 | 2 | |
| SK-22D07 | SW SK-22D07 Công Tắc Trượt 6 Chân Xuyên Lỗ ON-ON 2P2T 1A | SW1 | SK-22D07 | SW SK-22D07 | 1 | |
| STM32F103C8T6 | ARM Cortex-M3 32-bit MCU, 64 KB Flash, 20 KB Internal RAM, 37 I/Os, 48-pin LQFP, -40 to 85 degC, Tray | U1 | STM-LQFP48_N | STM32F103C8T6AB | 1 | |
| TORT5000 | TORT5000 Cầm Biến Hồng Ngoại Phản Xạ | U6, U7, U8, U9, U11, U12, U13, U14 | TORT5000 | TORT5000 | 8 | |
| TYPEC-31-M-12 | USB Type C Connector Horizontal SMT | J1 | TYPEC-31-M-12 | TYPEC-31-M-12 | 1 | |
| 0805 | RES SMD | R1, R3, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R24 | R0805 | RES SMD | 13 | 1K |
| 0805 | CAP SMD | C9, C10 | cap_0805 | CAP SMD | 2 | 1uF |
| 0805 | RES SMD | R25, R26 | R0805 | RES SMD | 2 | 1.2K |
| 0805 | RES SMD | R17 | R0805 | RES SMD | 1 | 6.8K |
| 0805 | RES SMD | R2, R4, R18, R19, R20, R21, R22, R23, R27, R28, R29, R31, R33, R35, R37, R39, R40, R41, R43, R45, R47, R49 | R0805 | RES SMD | 22 | 10K |
| 1206 | CAP SMD | C1, C3, C5, C7, C17 | cap_1206 | CAP SMD | 5 | 10uF |
| 0805 | CAP SMD | C2, C4, C6, C8, C11, C12, C13, C14, C15, C16, C18, C19, C20, C21, C22 | cap_0805 | CAP SMD | 15 | 100nF |
| 0805 | RES SMD | R30, R32, R34, R36, R38, R42, R44, R46, R48, R50 | R0805 | RES SMD | 10 | 150R |
| HHDR_2 | XH2 JST-XH pitch: 2.5mm | XH1 | XH_2 | XH_2 | 1 | HHDR_2 |
| AMS1117-3.3V | LDO 1117 Available in 1.8V, 2.5V, 2.85V, 3.3V, 5V, and Adjustable Versions | IC2 | SOT223 | LDO 1117 | 1 | LM317 |
| AMS1117-5V | LDO 1117 Available in 1.8V, 2.5V, 2.85V, 3.3V, 5V, and Adjustable Versions | IC1 | SOT223 | LDO 1117 | 1 | LM317 |
| SW | Switch button 2 pin | SW2, SW3, SW4 | SW-SMD | SW2 | 3 | SW chip 2 pin |