3.1 整体介绍

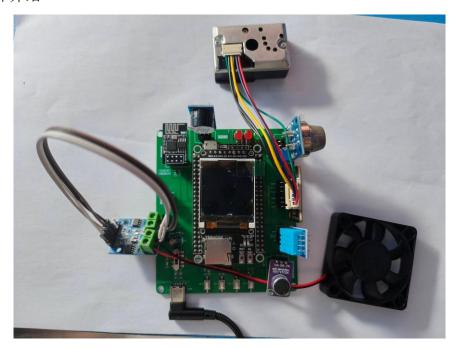


图 14 整个系统实物的正面

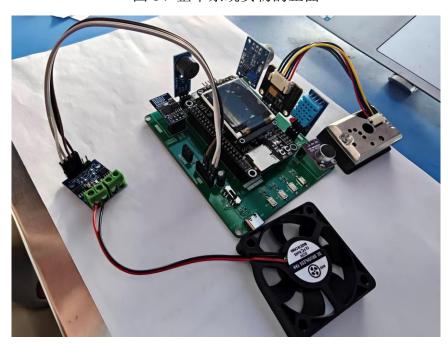


图 15 斜 45°全局性照片

3.2 工程成果

3.2.1 机械成果

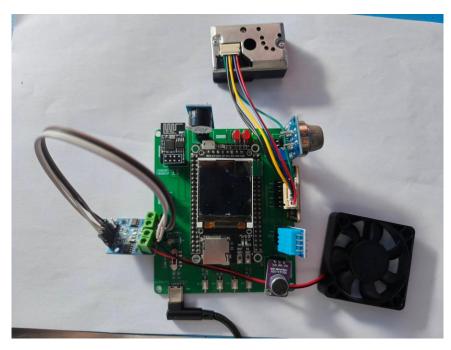


图 16 机械成果图

3.2.2 电路成果

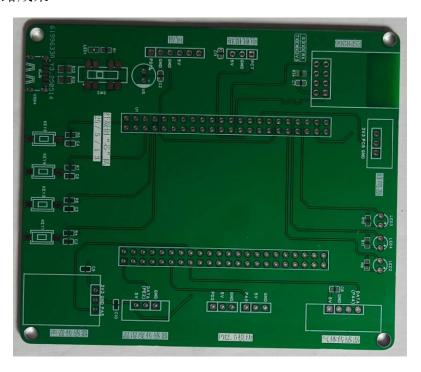


图 17 电路成果图

3.2.3 软件成果

```
🔣 E:\STM32Project\bhyF407\F407 (car distance)\F407 (car distance)\MDK-ARM\F407.uvprojx - μVision
 File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
                                                                                                 u 🖟 🚹 🖶 💠 🥎 🚳
                                          main.c
    Ė 🚂 F407

    Application/MDK-ARM

       startup_stm32f407xx.s

Application/User/Core
         # main.c

# gpio.c

# adc.c

# dma.c

# i2c.c

# spi.c
         spi.c
tim.c
usart.c
stm32f4xx_it.c
stm32f4xx_hal_msp.c
       🖃 🦾 bsp
         GUI.c

Lcd_Driver.c
          ⊕ 📗 lcd.c
         ⊕ DB.c

⊕ PM.c

⊕ LED.c
          ⊕ 📗 beep.c
Build Output
Program Size: Code=23094 RO-data=9562 RW-data=72 ZI-data=2368 FromELF: creating hex file... "#407\F407\Assumer asf" o Error(s), 0 Warning(s). Build Time Elapsed: 00:00:26
```

图 18 软件界面图

3.3 特性成果

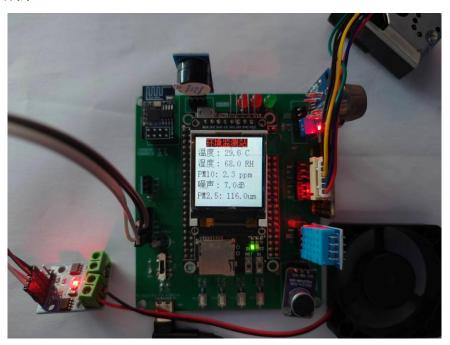


图 19 系统的各项监测参数图之一

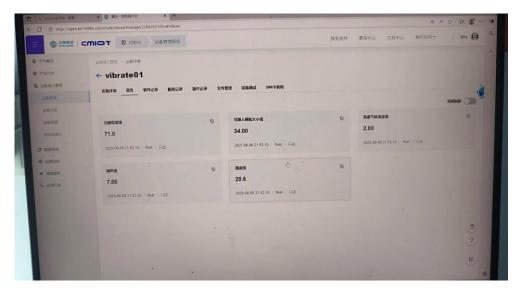


图 20 测试物联网云平台数据显示情况