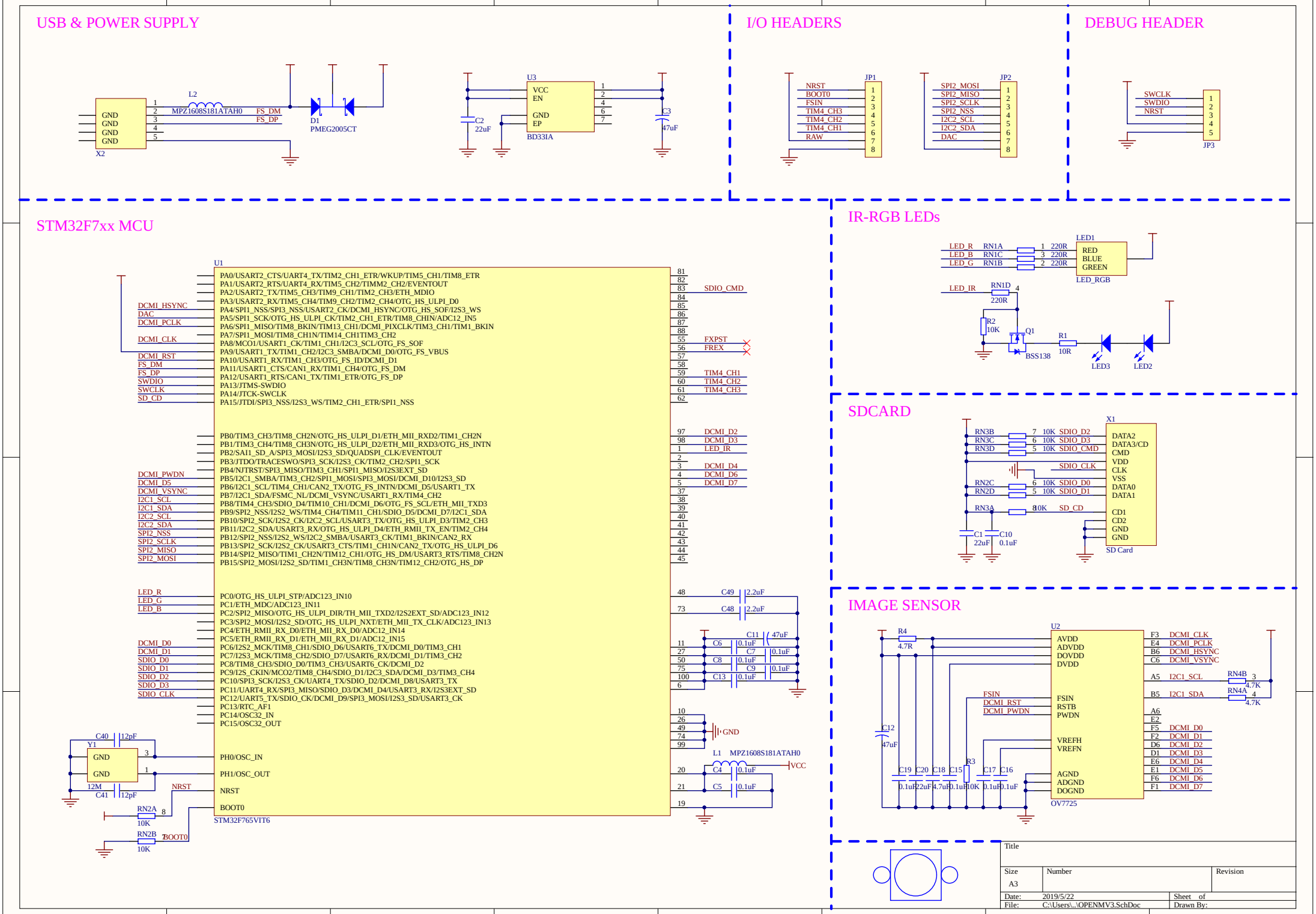
USB & POWER SUPPLY
I/O HEADERS
DEBUG HEADER
STM32F7xx MCU
IR-RGB LEDs
SDCARD
IMAGE SENSOR
L2
MPZ1608S181ATAH0
FS_DM
FS_DP
D1
PMEGD2005CT
X2
GND
GND
GND
GND
U3
VCC
EN
GND
EP
BD33IA
C2
22uF
C3
47uF
JP1
NRST
BOOT0
FSIN
TIM4_CH3
TIM4_CH2
TIM4_CH1
RAW
JP2
SPI2_MOSI
SPI2_MISO
SPI2_SCLK
SPI2_NSS
I2C2_SCL
I2C2_SDA
DAC
SWCLK
SWDIO
NRST
JP3
U1
PA0/USART2_CTS/UART4_TX/TIM2_CH1_ETR/WKUP/TIM5_CH1/TIM8_ETR
PA1/USART2_RTS/UART4_RX/TIM5_CH2/TIMM2_CH2/EVENTOUT
PA2/USART2_TX/TIM5_CH3/TIM9_CH1/TIM2_CH3/ETH_MDIO
PA3/USART2_RX/TIM5_CH4/TIM9_CH2/TIM2_CH4/OTG_HS_ULPI_D0
PA4/SPI1_NSS/SPI3_NSS/USART2_CK/DCMI_HSYNC/OTG_HS_SOF/I2S3_WS
PA5/SPI1_SCK/OTG_HS_ULPI_CK/TIM2_CH1_ETR/TIM8_CHIN/ADC12_IN5
PA6/SPI1_MISO/TIM8_BKIN/TIM13_CH1/DCMI_PIXCLK/TIM3_CH1/TIM1_BKIN
PA7/SPI1_MOSI/TIM8_CH1N/TIM14_CH1TIM3_CH2
PA8/MCO1/USART1_CK/TIM1_CH1/I2C3_SCL/OTG_FS_SOF
PA9/USART1_TX/TIM1_CH2/I2C3_SMBA/DCMI_D0/OTG_FS_VBUS
PA10/USART1_RX/TIM1_CH3/OTG_FS_ID/DCMI_D1
PA11/USART1_CTS/CAN1_RX/TIM1_CH4/OTG_FS_DM
PA12/USART1_RTS/CAN1_TX/TIM1_ETR/OTG_FS_DP
PA13/JTMS-SWDIO
PA14/JTCK-SWCLK
PA15/JTDI/SPI3_NSS/I2S3_WS/TIM2_CH1_ETR/SPI1_NSS
PB0/TIM3_CH3/TIM8_CH2N/OTG_HS_ULPI_D1/ETH_MII_RXD2/TIM1_CH2N
PB1/TIM3_CH4/TIM8_CH3N/OTG_HS_ULPI_D2/ETH_MII_RXD3/OTG_HS_INTN
PB2/SAI1_SD_A/SPI3_MOSI/I2S3_SD/QUADSPI_CLK/EVENTOUT
PB3/JTDO/TRACESWO/SPI3_SCK/I2S3_CK/TIM2_CH2/SPI1_SCK
PB4/NJTRST/SPI3_MISO/TIM3_CH1/SPI1_MISO/I2S3EXT_SD
PB5/I2C1_SMBA/TIM3_CH2/SPI1_MOSI/SPI3_MOSI/DCMI_D10/I2S3_SD
PB6/I2C1_SCL/TIM4_CH1/CAN2_TX/OTG_FS_INTN/DCMI_D5/USART1_TX
PB7/I2C1_SDA/FSMC_NL/DCMI_VSYNC/USART1_RX/TIM4_CH2
PB8/TIM4_CH3/SDIO_D4/TIM10_CH1/DCMI_D6/OTG_FS_SCL/ETH_MII_TXD3
PB9/SPI2_NSS/I2S2_WS/TIM4_CH4/TIM11_CH1/SDIO_D5/DCMI_D7/I2C1_SDA
PB10/SPI2_SCK/I2S2_CK/I2C2_SCL/USART3_TX/OTG_HS_ULPI_D3/TIM2_CH3
PB11/I2C2_SDA/USART3_RX/OTG_HS_ULPI_D4/ETH_RMII_TX_EN/TIM2_CH4
PB12/SPI2_NSS/I2S2_WS/I2C2_SMBA/USART3_CK/TIM1_BKIN/CAN2_RX
PB13/SPI2_SCK/I2S2_CK/USART3_CTS/TIM1_CH1N/CAN2_TX/OTG_HS_ULPI_D6
PB14/SPI2_MISO/TIM1_CH2N/TIM12_CH1/OTG_HS_DM/USART3_RTS/TIM8_CH2N
PB15/SPI2_MOSI/I2S2_SD/TIM1_CH3N/TIM8_CH3N/TIM12_CH2/OTG_HS_DP
PC0/OTG_HS_ULPI_STP/ADC123_IN10
PC1/ETH_MDC/ADC123_IN11
PC2/SPI2_MISO/OTG_HS_ULPI_DIR/TH_MII_TXD2/I2S2EXT_SD/ADC123_IN12
PC3/SPI2_MOSI/I2S2_SD/OTG_HS_ULPI_NXT/ETH_MII_TX_CLK/ADC123_IN13
PC4/ETH_RMII_RX_D0/ETH_MII_RX_D0/ADC12_IN14
PC5/ETH_RMII_RX_D1/ETH_MII_RX_D1/ADC12_IN15
PC6/I2S2_MCK/TIM8_CH1/SDIO_D6/USART6_TX/DCMI_D0/TIM3_CH1
PC7/I2S3_MCK/TIM8_CH2/SDIO_D7/USART6_RX/DCMI_D1/TIM3_CH2
PC8/TIM8_CH3/SDIO_D0/TIM3_CH3/USART6_CK/DCMI_D2
PC9/I2S_CKIN/MCO2/TIM8_CH4/SDIO_D1/I2C3_SDA/DCMI_D3/TIM3_CH4
PC10/SPI3_SCK/I2S3_CK/UART4_TX/SDIO_D2/DCMI_D8/USART3_TX
PC11/UART4_RX/SPI3_MISO/SDIO_D3/DCMI_D4/USART3_RX/I2S3EXT_SD
PC12/UART5_TX/SDIO_CK/DCMI_D9/SPI3_MOSI/I2S3_SD/USART3_CK
PC13/RTC_AF1
PC14/OSC32_IN
PC15/OSC32_OUT
PH0/OSC_IN
PH1/OSC_OUT
NRST
BOOT0
STM32F765VIT6
DCMI_HSYNC
DAC
DCMI_PCLK
DCMI_CLK
DCMI_RST
FS_DM
FS_DP
SWDIO
SWCLK
SD_CD
DCMI_PWDN
DCMI_D5
DCMI_VSYNC
I2C1_SCL
I2C1_SDA
I2C2_SCL
I2C2_SDA
SPI2_NSS
SPI2_SCLK
SPI2_MISO
SPI2_MOSI
LED_R
LED_G
LED_B
DCMI_D0
DCMI_D1
SDIO_D0
SDIO_D1
SDIO_D2
SDIO_D3
SDIO_CLK
SDIO_CMD
FXPST
FREX
TIM4_CH1
TIM4_CH2
TIM4_CH3
DCMI_D2
DCMI_D3
LED_IR
DCMI_D4
DCMI_D6
DCMI_D7
C49
2.2uF
C48
2.2uF
C11
47uF
C6
0.1uF
C7
0.1uF
C8
0.1uF
C9
0.1uF
C13
0.1uF
GND
L1
MPZ1608S181ATAH0
VCC
C4
0.1uF
C5
0.1uF
C40
12pF
Y1
12M
C41
12pF
RN2A
10K
RN2B
10K
BOOT0
LED_R
RN1A
LED_B
RN1C
LED_G
RN1B
220R
LED1
RED
BLUE
GREEN
LED_RGB
RN1D
R2
10K
Q1
BSS138
R1
10R
LED3
LED2
X1
DATA2
DATA3/CD
CMD
VDD
CLK
VSS
DATA0
DATA1
CD1
CD2
GND
GND
SD Card
RN3B
RN3C
RN3D
RN2C
RN2D
RN3A
10K
SDIO_D2
SDIO_D3
SDIO_CMD
SDIO_CLK
SDIO_D0
SDIO_D1
SD_CD
C1
22uF
C10
0.1uF
U2
AVDD
ADVDD
DOVDD
DVDD
FSIN
RSTB
PWDN
VREFH
VREFN
AGND
ADGND
DOGND
OV7725
R4
4.7R
C12
47uF
R3
10K
C19
0.1uF
C20
22uF
C18
4.7uF
C15
0.1uF
C17
0.1uF
C16
0.1uF
F3 DCMI_CLK
E4 DCMI_PCLK
B6 DCMI_HSYNC
C6 DCMI_VSYNC
A5 I2C1_SCL
B5 I2C1_SDA
RN4B
RN4A
4.7K
A6
E2
F5 DCMI_D0
F2 DCMI_D1
D6 DCMI_D2
D1 DCMI_D3
E6 DCMI_D4
E1 DCMI_D5
F6 DCMI_D6
F1 DCMI_D7
Title
Size
A3
Number
Revision
Date: 2019/5/22
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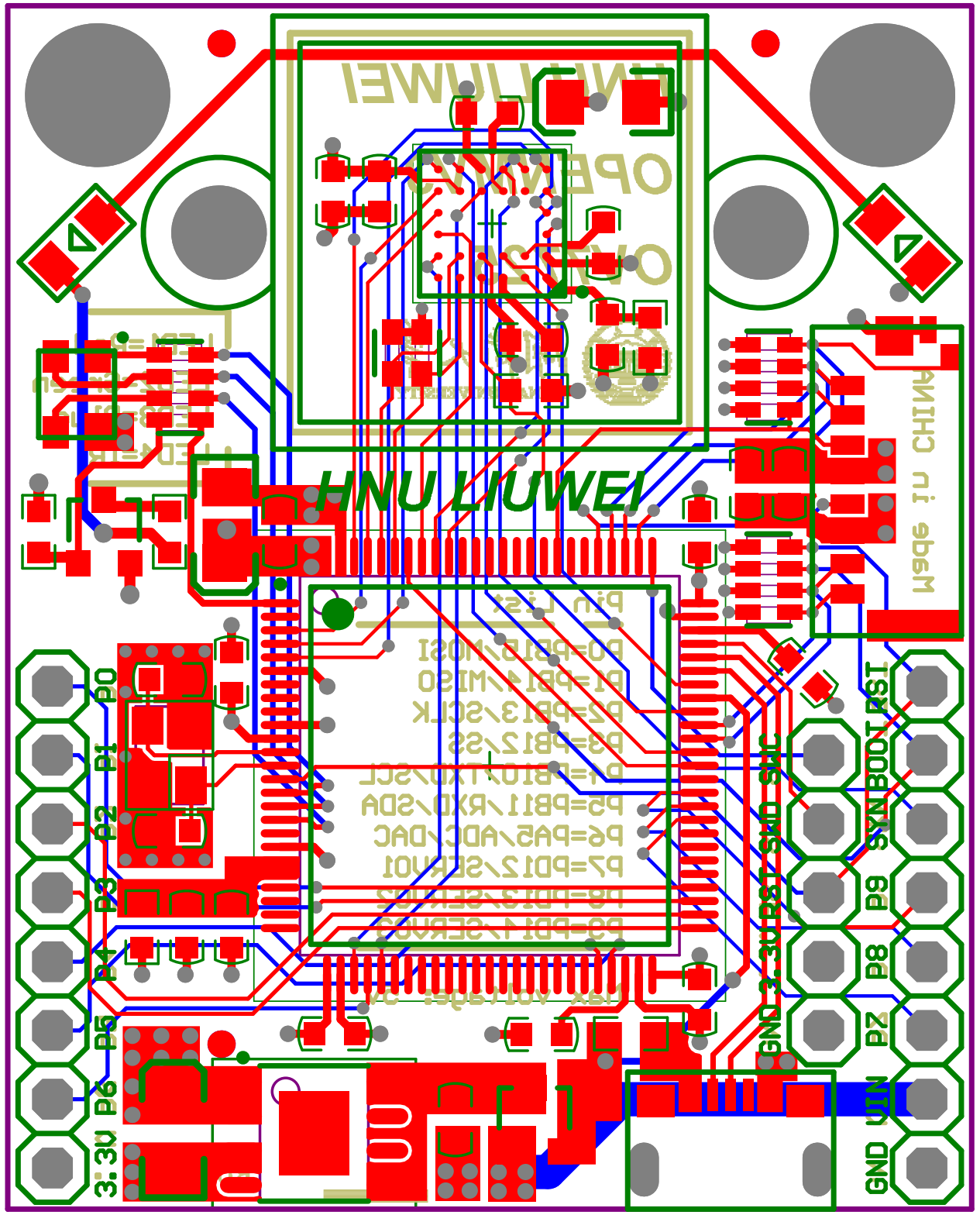
HNU LIUWEI
P0
P1
P2
P3
P4
P5
P6
3.3V
GND
VIN
P7
P8
P9
SYN
BOOT_RST
SWC
SWD
3.3V
RST
GND

| Value | Comment | Designator | Footprint | LibRef | Quantity |
|---|---|---|---|---|---|
| 12M | Crystal | Y1 | XTAL-3225 | 无源晶振 | 1 |
| | USB | X2 | MicroUSB_5P_2h | USB | 1 |
| | SD Card | X1 | SD_Slot | SD_Slot | 1 |
| | BD33IA | U3 | SOIC8-HS | BD33IA | 1 |
| | OV7725 | U2 | BGA28C80P6X6_535X535X96 | OV7725 | 1 |
| | STM32F765VIT6 | U1 | LQFP100 | STM32F765VIT6 | 1 |
| 4.7K | Res | RN4 | R0603_x2 | RES-Pack2 | 1 |
| 220R, 10K, 10K | Res | RN1, RN2, RN3 | R0603_x4 | RES-Pack4 | 3 |
| 10R, 10K, 10K, 4.7R | Resistor | R1, R2, R3, R4 | R0603 | R | 4 |
| | BSS138 | Q1 | sot-23 | AO3402 | 1 |
| | CameraLens | P0 | CamLens_M12-2016 | CameraLens | 1 |
| | LED | LED2, LED3 | LED1206 | LED | 2 |
| | LED_RGB | LED1 | LED_RGB_3528 | LED_RGB | 1 |
| MPZ1608S181ATAH0 | Inductance | L1, L2 | R0603 | L | 2 |
| | HEADER1*5 | JP3 | HEADER1*5_oct | HEADER1*5 | 1 |
| | HEADER1*8 | JP1, JP2 | HEADER1*8_oct | HEADER1*8 | 2 |
| | PMEG2005CT | D1 | SOT-23 | D_Double | 1 |
| 47uF | CAP | C3, C11, C12 | CAP-A | CAP-B | 3 |
| 22uF, 22uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 0.1uF, 4.7uF, 0.1uF, 22uF, 12pF, 12pF, 2.2uF, 2.2uF | CAP | C1, C2, C4, C5, C6, C7, C8, C9, C10, C13, C15, C16, C17, C18, C19, C20, C40, C41, C48, C49 | C0603 | C | 20 |