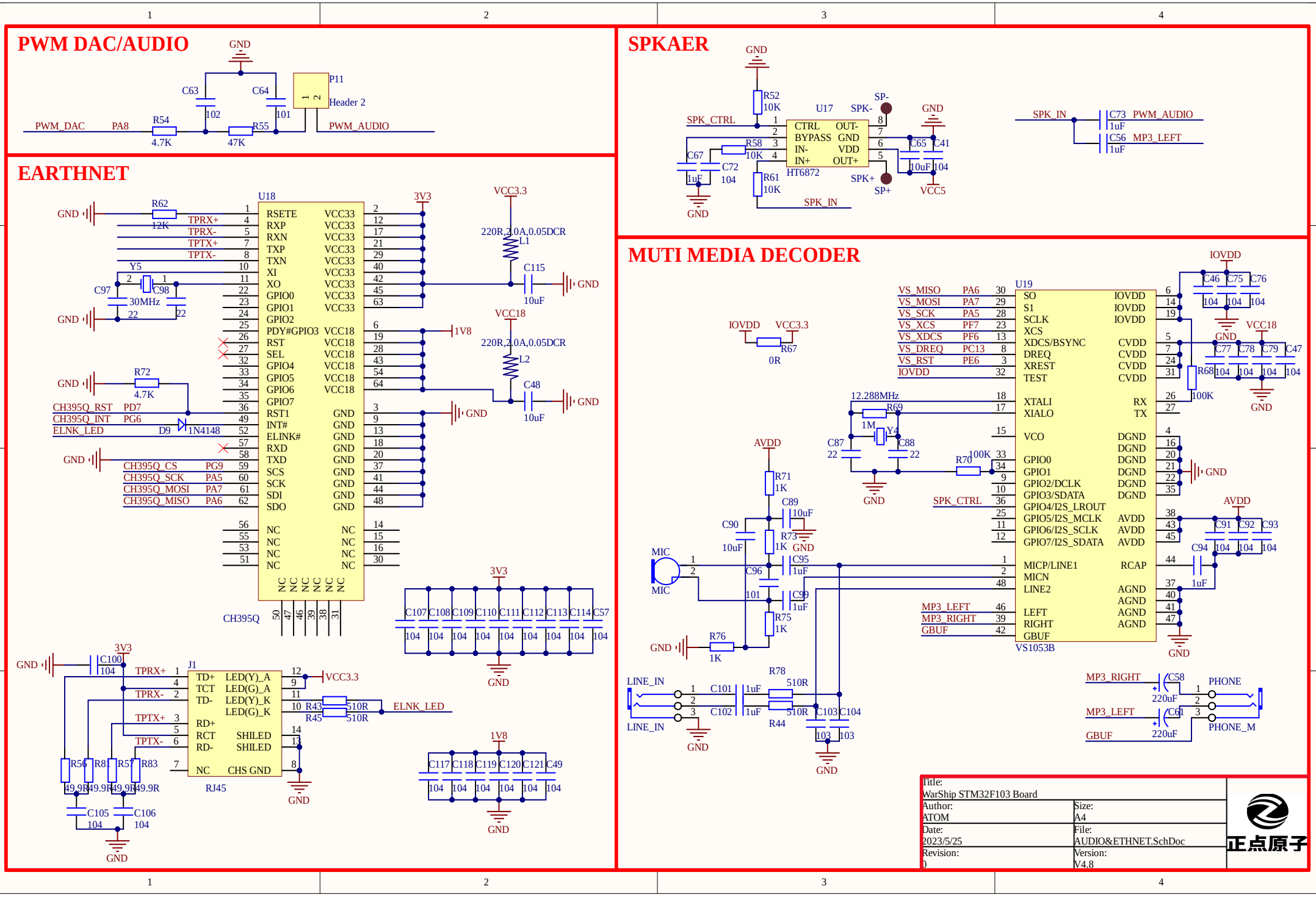

PWM DAC/AUDIO
GND
C63
C64
102
101
P11
Header 2
PWM_DAC
PA8
R54
4.7K
R55
47K
PWM_AUDIO
SPKAER
R52
10K
SPK_CTRL
U17
CTRL
BYPASS
IN-
IN+
OUT-
GND
VDD
OUT+
HT6872
SP-
SPK-
SPK+
SP+
R58
10K
C67
1uF
C72
104
R61
10K
C65
C41
10uF
104
VCC5
SPK_IN
C73
PWM_AUDIO
1uF
C56
MP3_LEFT
EARTHNET
U18
RSETE
RXP
RXN
TXP
TXN
XI
XO
GPIO0
GPIO1
GPIO2
PDY#GPIO3
RST
SEL
GPIO4
GPIO5
GPIO6
GPIO7
RST1
INT#
ELNK#
RXD
TXD
SCS
SCK
SDI
SDO
NC
VCC33
VCC18
GND
3V3
R62
12K
TPRX+
TPRX-
TPTX+
TPTX-
Y5
30MHz
C97
C98
22
VCC3.3
220R,2.0A,0.05DCR
L1
C115
10uF
1V8
L2
C48
R72
4.7K
CH395Q_RST
CH395Q_INT
ELNK_LED
PD7
PG6
D9
1N4148
CH395Q_CS
CH395Q_SCK
CH395Q_MOSI
CH395Q_MISO
PG9
PA5
PA7
PA6
CH395Q
C107
C108
C109
C110
C111
C112
C113
C114
C57
104
J1
TD+
TCT
TD-
RD+
RCT
RD-
NC
LED(Y)_A
LED(G)_A
LED(Y)_K
LED(G)_K
SHILED
CHS GND
RJ45
C100
R43
R45
510R
ELNK_LED
R56
R8
R57
R83
49.9R
C105
C106
C117
C118
C119
C120
C121
C49
MUTI MEDIA DECODER
U19
SO
S1
SCLK
XCS
XDCS/BSYNC
DREQ
XREST
TEST
XTALI
XIALO
VCO
GPIO0
GPIO1
GPIO2/DCLK
GPIO3/SDATA
GPIO4/I2S_LROUT
GPIO5/I2S_MCLK
GPIO6/I2S_SCLK
GPIO7/I2S_SDATA
MICP/LINE1
MICN
LINE2
LEFT
RIGHT
GBUF
IOVDD
CVDD
DGND
AVDD
RCAP
AGND
VS1053B
VS_MISO
VS_MOSI
VS_SCK
VS_XCS
VS_XDCS
VS_DREQ
VS_RST
PA6
PA7
PA5
PF7
PF6
PC13
PE6
C46
C75
C76
C77
C78
C79
C47
R68
100K
12.288MHz
R69
1M
Y4
C87
C88
22
R70
R67
0R
R71
1K
C89
10uF
C90
R73
R75
R76
MIC
C95
C96
C99
101
LINE_IN
C101
C102
R78
510R
R44
C103
C104
103
MP3_RIGHT
MP3_LEFT
GBUF
C58
C61
220uF
PHONE
PHONE_M
C91
C92
C93
C94
Title:
WarShip STM32F103 Board
Author:
ATOM
Size:
A4
Date:
2023/5/25
File:
AUDIO&ETHNET.SchDoc
Revision:
0
Version:
V4.8
正点原子

MCU_A

U2A

		WK_UP	PA0	34
		STM_ADC	PA1	35
		USART2_TX	PA2	36
		USART2_RX	PA3	37
	GBC_KEY	STM_DAC	PA4	40
CH395Q_SCK	VS_SCK	SPI1_SCK	PA5	41
CH395Q_MISO	VS_MISO	SPI1_MISO	PA6	42
CH395Q_MOSI	VS_MOSI	SPI1_MOSI	PA7	43
	PWM_DAC	OV_VSYNC	PA8	100
		USART1_TX	PA9	101
		USART1_RX	PA10	102
		USB_D-	PA11	103
		USB_D+	PA12	104
		JTMS	PA13	105
		JTCK	PA14	109
	GBC_LED	JTDI	PA15	110
		LCD_BL	PB0	46
		T_SCK	PB1	47
	T_MISO	BOOT1	PB2	48
	OV_WEN	JTDO	PB3	133
	OV_RCLK	JTRST	PB4	134
		LED0	PB5	135
		IIC_SCL	PB6	136
		IIC_SDA	PB7	137
		BEEP	PB8	139
		REMOTE_IN	PB9	140
		USART3_TX	PB10	69
		USART3_RX	PB11	70
		F_CS	PB12	73
		SPI2_SCK	PB13	74
		SPI2_MISO	PB14	75
		SPI2_MOSI	PB15	76
		OV_D0	PC0	26
		OV_D1	PC1	27
		OV_D2	PC2	28
		OV_D3	PC3	29
		OV_D4	PC4	44
		OV_D5	PC5	45
		OV_D6	PC6	96
		OV_D7	PC7	97
		SDIO_D0	PC8	98
		SDIO_D1	PC9	99
		SDIO_D2	PC10	111
		SDIO_D3	PC11	112
		SDIO_SCK	PC12	113
		VS_DREQ	PC13	7
				8
				9
		FSMC_D2	PD0	114
		FSMC_D3	PD1	115
		SDIO_CMD	PD2	116
	JOY_CLK	OV_SCL	PD3	117
		FSMC_NOE	PD4	118
		FSMC_NWE	PD5	119
		OV_WRST	PD6	122
	RS485_RE	CH395Q_RST	PD7	123
		FSMC_D13	PD8	77
		FSMC_D14	PD9	78
		FSMC_D15	PD10	79
		FSMC_A16	PD11	80
		FSMC_A17	PD12	81
		FSMC_A18	PD13	82
		FSMC_D0	PD14	85
		FSMC_D1	PD15	86

PA0-WKUP/USART2_CTS/ADC123_IN0/TIM5_CH1/TIM2_CH1_ETR/TIM8_ETR
PA1/USART2_RTS/ADC123_IN1/TIM5_CH2/TIM2_CH2
PA2/USART2_TX/ADC123_IN2/TIM5_CH3/TIM2_CH3
PA3/USART2_RX/ADC123_IN3/TIM5_CH4/TIM2_CH4
PA4/SPI1_NSS/DAC_OUT1/USART2_CK/ADC12_IN4
PA5/SPI1_SCK/DAC_OUT2/ADC12_IN5
PA6/SPI1_MISO/TIM8_BKIN/ADC12_IN6/TIM3_CH1
PA7/SPI1_MOSI/TIM8_CH1N/ADC12_IN7/TIM3_CH2
PA8/USART1_CK/TIM1_CH1/MCO
PA9/USART1_TX/TIM1_CH2
PA10/USART1_RX/TIM1_CH3
PA11/USART1_CTS/CAN_RX/TIM1_CH4/USBDM
PA12/USART1_RTS/CAN_TX/TIM1_ETR/USBDP
PA13/JTMS_SWDIO
PA14/JTCK_SWCLK
PA15/JTDI/SPI3_NSS/I2S3_WS

PB0/ADC12_IN8/TIM3_CH3/TIM8_CH2N
PB1/ADC12_IN9/TIM3_CH4/TIM8_CH3N
PB2/BOOT1
PB3/JTDO/TRACESWO/SPI3_SCK/I2S3_CK
PB4/JNTRST/SPI3_MISO
PB5/I2C1_SMBAI/SPI3_MOSI/I2S3_SD
PB6/I2C1_SCL/TIM4_CH1
PB7/I2C1_SDA/FSMC_NADV/TIM4_CH2
PB8/TIM4_CH3/SDIO_D4
PB9/TIM4_CH4/SDIO_D5
PB10/I2C2_SCL/USART3_TX
PB11/I2C2_SDA/USART3_RX
PB12/SPI2_NSS/I2S2_WS/I2C2_SMBAI/USART3_CK/TIM1BKIN
PB13/SPI2_SCK/I2S2_CK/USART3_CTS/TIM1_CH1N
PB14/SPI2_MISO/USART3_RTS/TIM1_CH2N
PB15/SPI2_MOSI/I2S2_SD/TIM1_CH3N

PC0/ADC123_IN10
PC1/ADC123_IN11
PC2/ADC123_IN12
PC3/ADC123_IN13
PC4/ADC12_IN14
PC5/ADC12_IN15
PC6/I2S2_MCK/TIM8_CH1/SDIO_D6
PC7/I2S3_MCK/TIM8_CH2/SDIO_D7
PC8/TIM8_CH3/SDIO_D0
PC9/TIM8_CH4/SDIO_D1
PC10/UART4_TX/SDIO_D2
PC11/UART4_RX/SDIO_D3
PC12/UART5_TX/SDIO_D4
PC13-TAMPER-RTC
PC14-OSC32_IN
PC15-OSC32_OUT

PD0/FSMC_D2
PD1/FSMC_D3
PD2/TIM3_ETR/UART5_RX/SDIO_CMD
PD3/FSMC_CLK
PD4/FSMC_NOE
PD5/FSMC_NWE
PD6/FSMC_NWAIT
PD7/FSMC_NE1/FSMC_NCE2
PD8/FSMC_D13
PD9/FSMC_D14
PD10/FSMC_D15
PD11/FSMC_A16
PD12/FSMC_A17
PD13/FSMC_A18
PD14/FSMC_D0
PD15/FSMC_D1

STM32F103ZET6_AB

Y1 32.768K
C5 10
C6 10
GND

IO

P1 HEAD2*22

PE1	1	2	PE0
PE3	3	4	PE2
PE5	5	6	PE4
PC13	7	8	PE6
PF1	9	10	PF0
PF3	11	12	PF2
PF5	13	14	PF4
PF7	15	16	PF6
PF9	17	18	PF8
PC0	19	20	PF10
PC2	21	22	PC1
PA1	23	24	PC3
PA4	25	26	PA0
PA6	27	28	PA5
PC4	29	30	PA7
PB0	31	32	PC5
PB2	33	34	PB1
PF12	35	36	PF11
PF14	37	38	PF13
PG0	39	40	PF15
PB13	41	42	PG1
GND	43	44	PB12

P2 HEAD2*22

PB9	1	2	PB8
PB7	3	4	PB6
PB5	5	6	PB4
PB3	7	8	PG15
PG14	9	10	PG13
PG12	11	12	PG11
PG10	13	14	PG9
PD7	15	16	PD6
PD5	17	18	PD4
PD3	19	20	PD2
PC12	21	22	PC11
PC10	23	24	PA15
PA14	25	26	PA13
PA8	27	28	PC9
PC8	29	30	PC7
PC6	31	32	PG8
PG7	33	34	PG6
PG5	35	36	PG4
PG3	37	38	PG2
PD13	39	40	PD12
PD11	41	42	PB15
PB14	43	44	GND

P3 HEAD1*16

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PD14	PD15	PD0	PD1	PE7	PE8	PE9	PE10	PE11	PE12	PE13	PE14	PE15	PD8	PD9	PD10

JTAG

VCC3.3
R5
R6 10K JTRST
R7 10K JTDI
10K JTMS
10K JTCK
R10 10K JTDO
RESET
R13 10K
GND

JTAG

	1	2	VDD
JTRST	3	4	GND
JTDI	5	6	GND
JTMS	7	8	GND
JTCK	9	10	GND
	11	12	GND
JTDO	13	14	GND
RESET	15	16	GND
	17	18	GND
	19	20	GND

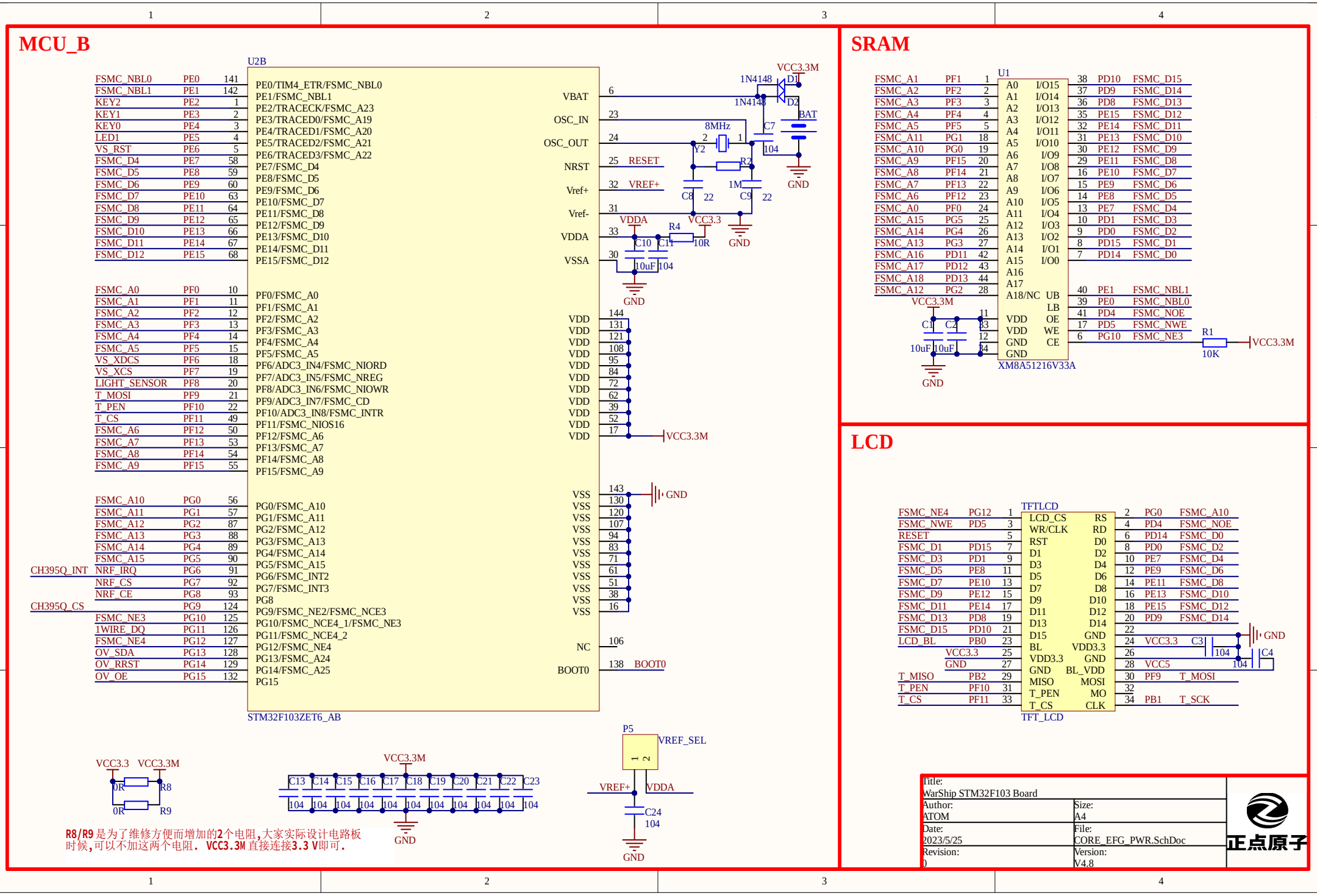
VDD TRST TDI TMS/SWDIO TCK/SWCLK NC TDO/SWO RESET# NC NC

JTAG

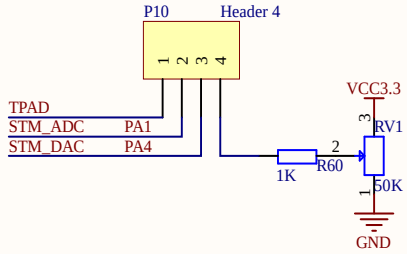
GND

Title: WarShip STM30F103 Board	
Author: ATOM	Size: A4
Date: 2023/5/25	File: CORE_ABCD.SchDoc
Revision: 0	Version: V4.8

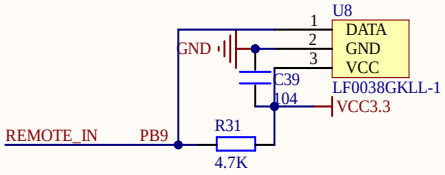
正点原子


MCU_B
U2B
FSMC_NBL0 PE0 141
FSMC_NBL1 PE1 142
KEY2 PE2 1
KEY1 PE3 2
KEY0 PE4 3
LED1 PE5 4
VS_RST PE6 5
FSMC_D4 PE7 58
FSMC_D5 PE8 59
FSMC_D6 PE9 60
FSMC_D7 PE10 63
FSMC_D8 PE11 64
FSMC_D9 PE12 65
FSMC_D10 PE13 66
FSMC_D11 PE14 67
FSMC_D12 PE15 68
FSMC_A0 PF0 10
FSMC_A1 PF1 11
FSMC_A2 PF2 12
FSMC_A3 PF3 13
FSMC_A4 PF4 14
FSMC_A5 PF5 15
VS_XDCS PF6 18
VS_XCS PF7 19
LIGHT_SENSOR PF8 20
T_MOSI PF9 21
T_PEN PF10 22
T_CS PF11 49
FSMC_A6 PF12 50
FSMC_A7 PF13 53
FSMC_A8 PF14 54
FSMC_A9 PF15 55
FSMC_A10 PG0 56
FSMC_A11 PG1 57
FSMC_A12 PG2 87
FSMC_A13 PG3 88
FSMC_A14 PG4 89
FSMC_A15 PG5 90
CH395Q_INT NRF_IRQ PG6 91
NRF_CS PG7 92
NRF_CE PG8 93
CH395Q_CS PG9 124
FSMC_NE3 PG10 125
1WIRE_DQ PG11 126
FSMC_NE4 PG12 127
OV_SDA PG13 128
OV_RRST PG14 129
OV_OE PG15 132
PE0/TIM4_ETR/FSMC_NBL0
PE1/FSMC_NBL1
PE2/TRACECK/FSMC_A23
PE3/TRACED0/FSMC_A19
PE4/TRACED1/FSMC_A20
PE5/TRACED2/FSMC_A21
PE6/TRACED3/FSMC_A22
PE7/FSMC_D4
PE8/FSMC_D5
PE9/FSMC_D6
PE10/FSMC_D7
PE11/FSMC_D8
PE12/FSMC_D9
PE13/FSMC_D10
PE14/FSMC_D11
PE15/FSMC_D12
PF0/FSMC_A0
PF1/FSMC_A1
PF2/FSMC_A2
PF3/FSMC_A3
PF4/FSMC_A4
PF5/FSMC_A5
PF6/ADC3_IN4/FSMC_NIORD
PF7/ADC3_IN5/FSMC_NREG
PF8/ADC3_IN6/FSMC_NIOWR
PF9/ADC3_IN7/FSMC_CD
PF10/ADC3_IN8/FSMC_INTR
PF11/FSMC_NIOS16
PF12/FSMC_A6
PF13/FSMC_A7
PF14/FSMC_A8
PF15/FSMC_A9
PG0/FSMC_A10
PG1/FSMC_A11
PG2/FSMC_A12
PG3/FSMC_A13
PG4/FSMC_A14
PG5/FSMC_A15
PG6/FSMC_INT2
PG7/FSMC_INT3
PG8
PG9/FSMC_NE2/FSMC_NCE3
PG10/FSMC_NCE4_1/FSMC_NE3
PG11/FSMC_NCE4_2
PG12/FSMC_NE4
PG13/FSMC_A24
PG14/FSMC_A25
PG15
VBAT 6
OSC_IN 23
OSC_OUT 24
NRST 25 RESET
Vref+ 32 VREF+
Vref- 31
VDDA 33
VSSA 30
VDD 144 131 121 108 95 84 72 62 39 52 17
VSS 143 130 120 107 94 83 71 61 51 38 16
NC 106
BOOT0 138 BOOT0
STM32F103ZET6_AB
VCC3.3M
1N4148 D1
1N4148 D2
BAT
GND
8MHz
Y2
C7 104
R2
1M
C8 22
C9 22
VCC3.3
VDDA
C10
C11
R4 10R
10uF 104
GND
VCC3.3
VCC3.3M
R8 0R
R9 0R
C13 C14 C15 C16 C17 C18 C19 C20 C21 C22 C23
104 104 104 104 104 104 104 104 104 104 104
GND
P5
VREF_SEL
VREF+
VDDA
C24 104
GND
R8/R9是为了维修方便而增加的2个电阻,大家实际设计电路板时候,可以不加这两个电阻. VCC3.3M直接连接3.3 V即可.
SRAM
U1
FSMC_A1 PF1 1
FSMC_A2 PF2 2
FSMC_A3 PF3 3
FSMC_A4 PF4 4
FSMC_A5 PF5 5
FSMC_A11 PG1 18
FSMC_A10 PG0 19
FSMC_A9 PF15 20
FSMC_A8 PF14 21
FSMC_A7 PF13 22
FSMC_A6 PF12 23
FSMC_A0 PF0 24
FSMC_A15 PG5 25
FSMC_A14 PG4 26
FSMC_A13 PG3 27
FSMC_A16 PD11 42
FSMC_A17 PD12 43
FSMC_A18 PD13 44
FSMC_A12 PG2 28
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 A17 A18/NC
I/O15 I/O14 I/O13 I/O12 I/O11 I/O10 I/O9 I/O8 I/O7 I/O6 I/O5 I/O4 I/O3 I/O2 I/O1 I/O0
UB LB OE WE CE
VDD VDD GND GND
38 PD10 FSMC_D15
37 PD9 FSMC_D14
36 PD8 FSMC_D13
35 PE15 FSMC_D12
32 PE14 FSMC_D11
31 PE13 FSMC_D10
30 PE12 FSMC_D9
29 PE11 FSMC_D8
16 PE10 FSMC_D7
15 PE9 FSMC_D6
14 PE8 FSMC_D5
13 PE7 FSMC_D4
10 PD1 FSMC_D3
9 PD0 FSMC_D2
8 PD15 FSMC_D1
7 PD14 FSMC_D0
40 PE1 FSMC_NBL1
39 PE0 FSMC_NBL0
41 PD4 FSMC_NOE
17 PD5 FSMC_NWE
6 PG10 FSMC_NE3
R1 10K
VCC3.3M
VCC3.3M
C1 C2
10uF 10uF
GND
XM8A51216V33A
LCD
TFTLCD
FSMC_NE4 PG12 1
FSMC_NWE PD5 3
RESET 5
FSMC_D1 PD15 7
FSMC_D3 PD1 9
FSMC_D5 PE8 11
FSMC_D7 PE10 13
FSMC_D9 PE12 15
FSMC_D11 PE14 17
FSMC_D13 PD8 19
FSMC_D15 PD10 21
LCD_BL PB0 23
VCC3.3 25
GND 27
T_MISO PB2 29
T_PEN PF10 31
T_CS PF11 33
LCD_CS WR/CLK RST D1 D3 D5 D7 D9 D11 D13 D15 BL VDD3.3 GND MISO T_PEN T_CS
RS RD D0 D2 D4 D6 D8 D10 D12 D14 GND VDD3.3 BL_VDD MOSI MO CLK
2 PG0 FSMC_A10
4 PD4 FSMC_NOE
6 PD14 FSMC_D0
8 PD0 FSMC_D2
10 PE7 FSMC_D4
12 PE9 FSMC_D6
14 PE11 FSMC_D8
16 PE13 FSMC_D10
18 PE15 FSMC_D12
20 PD9 FSMC_D14
22
24 VCC3.3 C3 104
26
28 VCC5 104 C4
30 PF9 T_MOSI
32
34 PB1 T_SCK
GND
TFT_LCD
Title: WarShip STM32F103 Board
Author: ATOM
Size: A4
Date: 2023/5/25
File: CORE_EFG_PWR.SchDoc
Revision: 0
Version: V4.8
正点原子

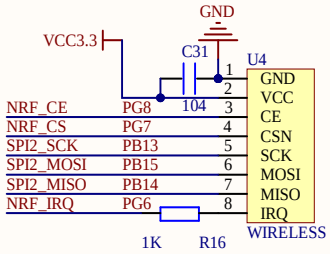
ADC&DAC



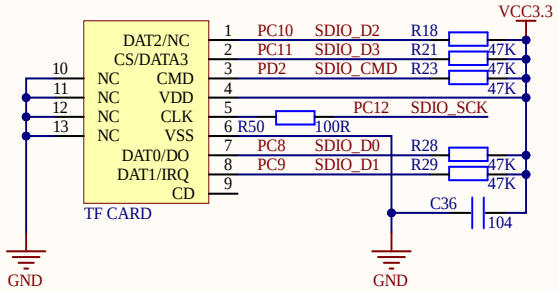
REMOTE



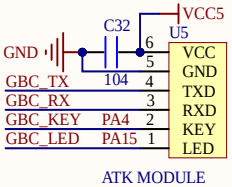
WIRELESS



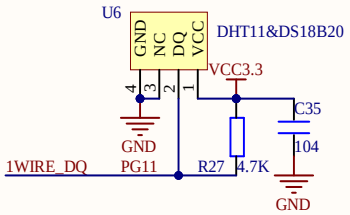
TF CARD



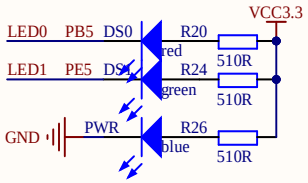
ATK MODULE



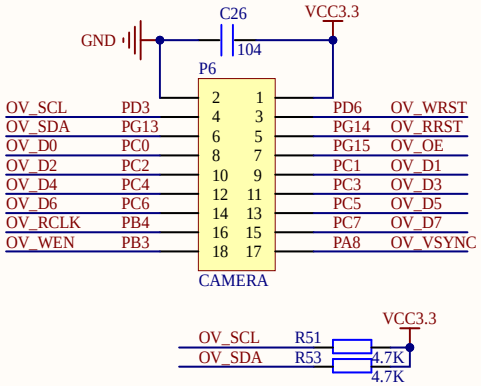
TEMP&HUMI SENSOR



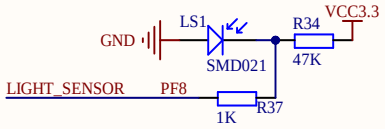
LED



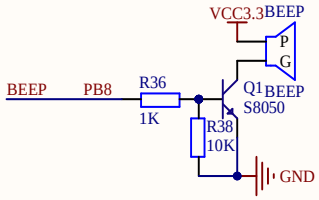
OLED&CAMERA



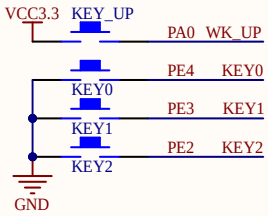
LIGHT_SENSOR



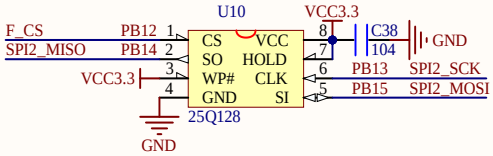
BEEP



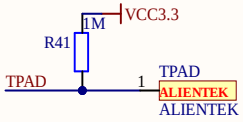
KEY



SPI FLASH



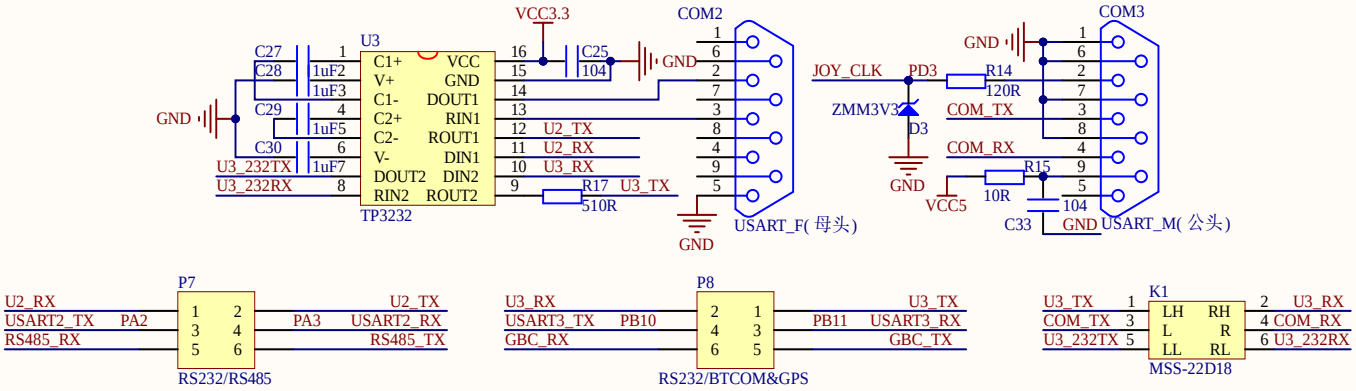
TOUCH_KEY



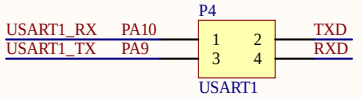
Title: WarShip STM32F103 Board	
Author: ATOM	Size: A4
Date: 2023/5/25	File: DEVICE1.SchDoc
Revision: 0	Version: V4.8

正点原子

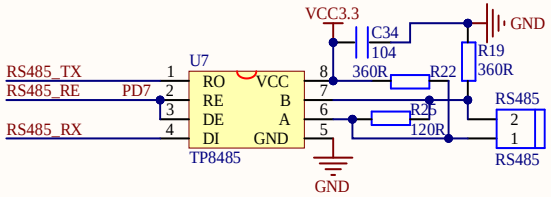
RS232&JOYPAD



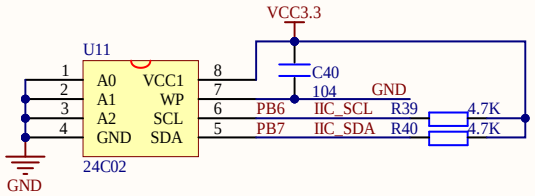
USB_UART/USART1



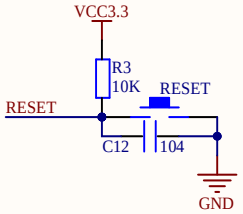
RS485



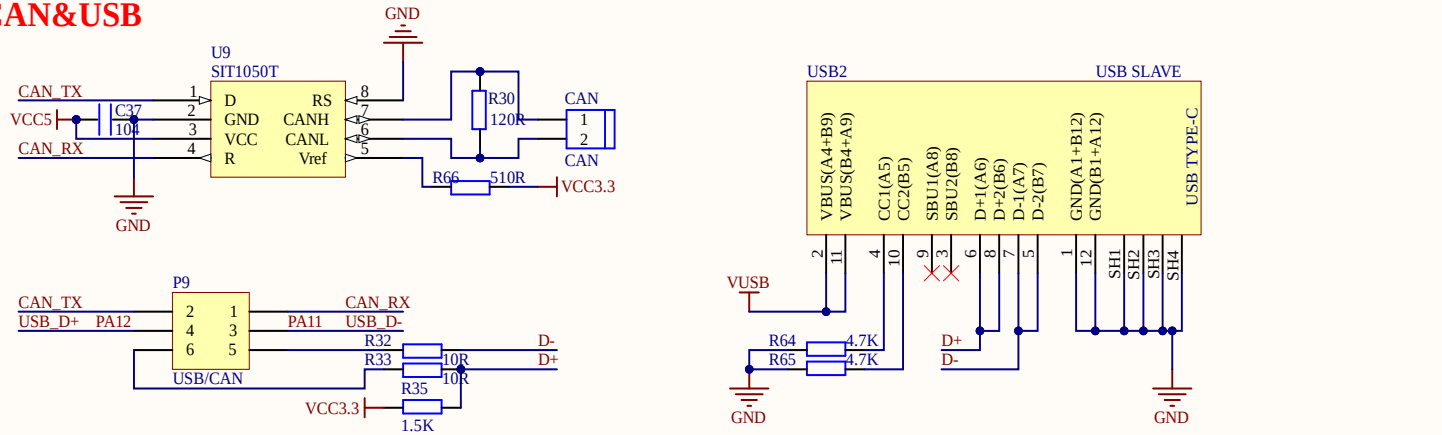
EEPROM



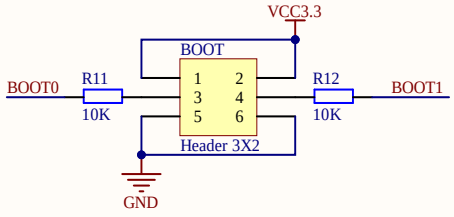
RESET



CAN&USB



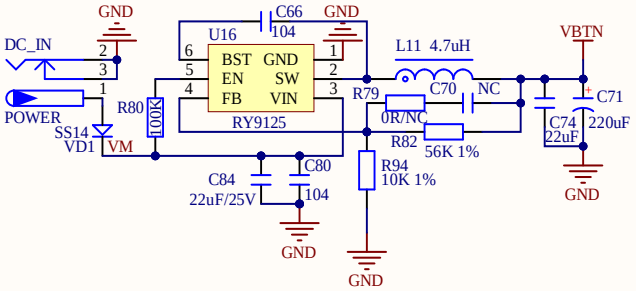
BOOT



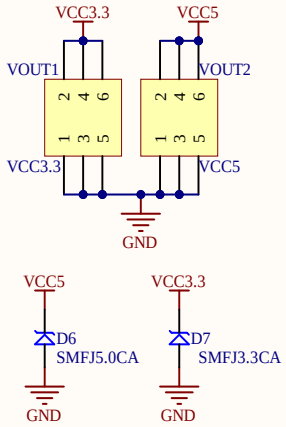
Title: WarShip STM32F103 Board	
Author: ATOM	Size: A4
Date: 2023/5/25	File: DEVICE2.SchDoc
Revision: *	Version: V4.8

正点原子

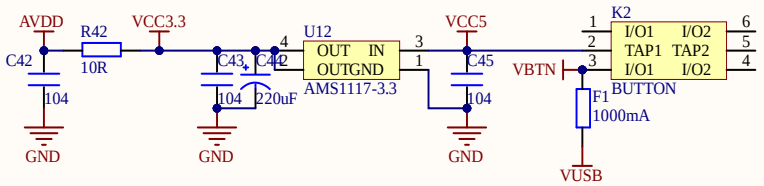
DC POWER IN



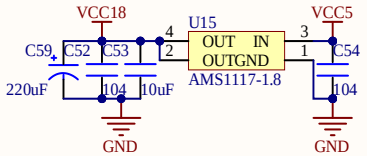
ON BOARD POWER SOURCE



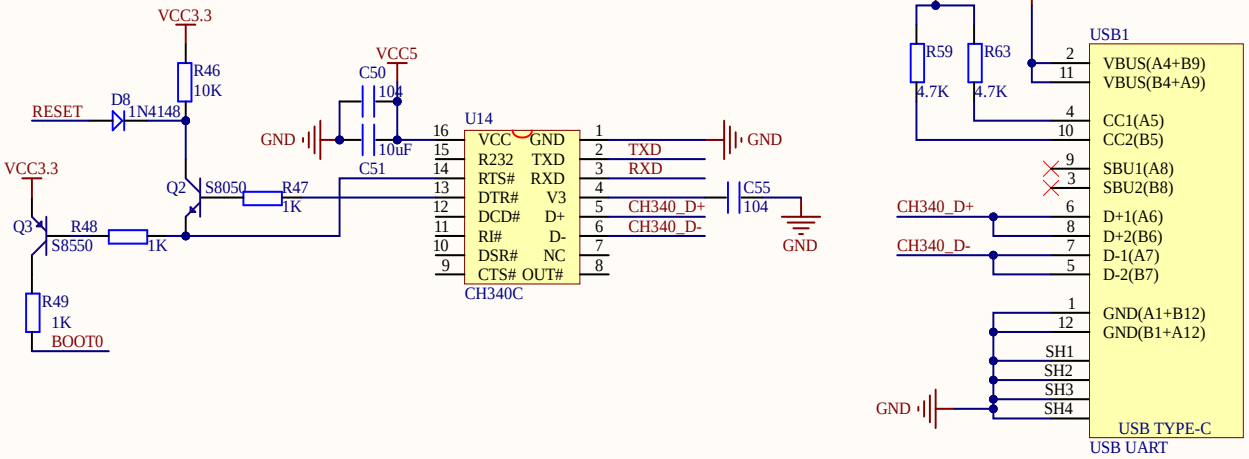
3.3V & POWER SWITCH



CVDD POWER_V1.8

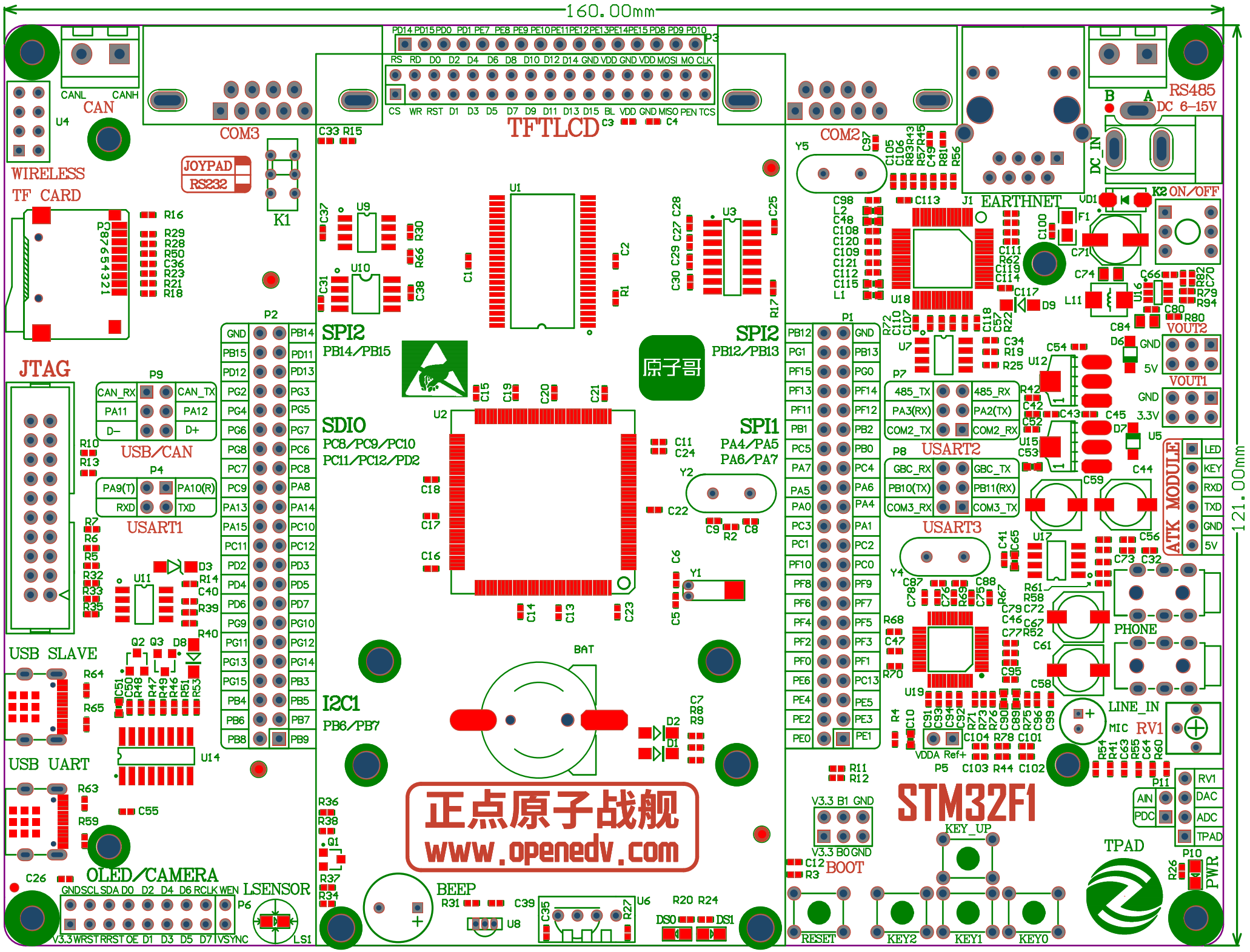


USB USART&USB POWER



Title: WarShip STM32F103 Board	
Author: ATOM	Size: A4
Date: 2023/5/25	File: POWER&USB_USART.SchDoc
Revision: 0	Version: V4.8

正点原子


160.00mm
121.00mm
CAN
CANL
CANH
U4
WIRELESS
TF CARD
COM3
JOYPAD
RS232
K1
TFTLCD
P3
RS RD D0 D2 D4 D6 D8 D10 D12 D14 GND VDD GND VDD MOSI MO CLK
CS WR RST D1 D3 D5 D7 D9 D11 D13 D15 BL VDD GND MISO PEN TCS
COM2
RS485
DC 6-15V
DC_IN
B
A
EARTHNET
J1
K2 ON/OFF
VD1
F1
VOUT2
VOUT1
GND
5V
3.3V
SPI2
PB14/PB15
SPI2
PB12/PB13
原子哥
SDIO
PC8/PC9/PC10
PC11/PC12/PD2
SPI1
PA4/PA5
PA6/PA7
I2C1
PB6/PB7
JTAG
P9
CAN_RX
CAN_TX
PA11
PA12
D-
D+
USB/CAN
P4
PA9(T)
PA10(R)
RXD
TXD
USART1
USB SLAVE
USB UART
OLED/CAMERA
GNDSCL SDA D0 D2 D4 D6 RCLK WEN
V3.3 WR RST OE D1 D3 D5 D7 VSYNC
LSENSOR
P6
LS1
BEEP
BAT
P1
P2
P7
485_TX
485_RX
PA3(RX)
PA2(TX)
COM2_TX
COM2_RX
P8
USART2
GBC_RX
GBC_TX
PB10(TX)
PB11(RX)
COM3_RX
COM3_TX
USART3
ATK MODULE
LED
KEY
RXD
TXD
GND
5V
PHONE
LINE_IN
MIC
RV1
P5
VDDA Ref+
P11
AIN
PDC
RV1
DAC
ADC
TPAD
P10
PWR
V3.3 B1 GND
V3.3 B0 GND
BOOT
STM32F1
KEY_UP
TPAD
RESET
KEY2
KEY1
KEY0
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