STM32

U1 — STM32F103RCT6

Pin	Name		Pin	Name
1	VBAT		64	VDD_3
2	PC13-TAMPER-RTC		63	VSS_3
3	PC14/OSC32		62	PB9/TIM4_CH4
4	PC15/OSC32		61	PB8/TIM4_CH3
5	PD0/OSCIN		60	BOOT0
6	PD1/OSCOUT		59	PB7/I2C1_SDA
7	NRST		58	PB6/I2C1_SCL
8	PC0/ADC10		57	PB5
9	PC1/ADC11		56	PB4/JNTRST
10	PC2/ADC12		55	PB3/JTDO
11	PC3/ADC13		54	PD2
12	VSSA		53	PC12
13	VDDA		52	PC11
14	PA0/WKUP/ADC0		51	PC10
15	PA1/ADC1		50	PA15/JTDI
16	PA2/USART2_TX/ADC2		49	PA14/JTCK/SWCLK
17	PA3/USART2_RX/ADC3		48	VDD_2
18	GND		47	VSS_2
19	VDD_4		46	PA13/JTMS/SWDIO
20	PA4/SPI1_NSS		45	PA12
21	PA5/SPI1_SCK		44	PA11
22	PA6/SPI1_MISO		43	PA10/USART1_RX
23	PA7/SPI1_MOSI		42	PA9/USART1_TX
24	PC4/ADC14		41	PA8/USART1_CK
25	PC5/ADC15		40	PC9
26	PB0/ADC8		39	PC8
27	PB1/ADC9		38	PC7
28	PB2/BOOT1		37	PC6
29	PB10/USART3_TX		36	PB15/SPI2_MOSI
30	PB11/USART3_RX		35	PB14/SPI2_MISO
31	VSS_1		34	PB13/SPI2_SCK
32	VDD_1		33	PB12/SPI2_NSS

Net labels: VCC3.3, PC13, PC14, PC15, PD0, PD1, RESET, PC0, KEY0 PC1, PC2, PC3, WK_UP PA0, ADC1 PA1, RS485_TX PA2, RS485_RX PA3, WIFI_KEY PA4, PWM4 PB0, PWM3 PB1, BOOT1 PB2, WIFI_RX PB10, WIFI_TX PB11, OSC_IN2 PD0, OSC_OUT2 PD1

Right side: PB9, PB8, BOOT0, PB7, PB6, PB5 PWM2, PB4 PWM1, PB3 JTDO/PB3, PD2 LED1, PC12, PC11, PC10, PA15 WIFI_LED, PA14 JTCK/SWCLK, VCC3.3, GND 104 C3, PA13 JTMS/SWDIO, PA12, PA11, PA10 USART1_RX, PA9 USART1_TX, PA8 LED0, PC9, PC8, PC7 RS485_RE, PC6, PB15, PB14, PB13, PB12 DS18B20

C1 104, C2 104, C4 104, C5 104

ESP-8266

JP7: 4 VCC3.3, 3 DO, 2 AO ADC1, 1 / GND

JP8: 1 WIFI_LED, 3 WIFI_KEY, 5, 7 WIFI_RX | 2 WIFI_TX, 4, 6, 8 / GND
C19 104, +5, GND

SP1 M3, SP2 M3, SP3 M3, SP4 M3

JP3: 1 M1+, 2 M1-
JP4: 2 M2+, 1 M2-
JP5: 1 M3+, 2 M3-
JP6: 2 M4+, 1 M4-

JP9: 4, 3, 2 PB12, 1 VCC3.3, R13 10K, VCC3.3, GND

12V

V2 AMS1117-5V: Vin Vout GND, VM in, +5 out
CE1 10uF/16V, CE2 22uF/16V, GND

STM32 (BOOT table)

	BOOT0	BOOT1	
0			
1	0		ISP
1	1		RAM

JP2: 1 3 5 / 2 4 6
VCC3.3 R14 10K BOOT0, VCC3.3 R15 10K BOOT1, GND

OSC: C6 20pF, C7 20pF, Y1 8MHz, R1 1M, OSC_IN2, OSC_OUT2, GND

ISP TTL

J1 Header 4: 1, 2, 3, 4
+5, PA10, PA9, GND

STM32 USB

V1 AMS1117-3V3: Vin Vout GND
C10 106, C12 104, C11 106, C13 104, +5, VCC3.3, GND

USB1 USB-5P: 1 +5V, 2 D-, 3 D+, 4 ID, 5 GND
USB_D-, USB_D+

RESET--

VCC3.3, R2 10K, RESET, SW1, C8 104, GND

LED1, R5 10K, +5, GND

JP10: 2, 1, S1 KCD1-101 VM, GND

OLED

JP11: 7 PC0, 6 PC15, 5 PC14, 4 PC13, 3 VCC3.3, 2, 1 / GND

TB6612FNG

P1: 8 VM, 7 VCC, 6 GND, 5 M2+, 4 M2-, 3 M1+, 2 M1-, 1 GND
PB5 PWMA, GND AIN2, VCC AIN1, STBY, VCC BIN1, VCC BIN2, PB4 PWMB, GND

P7: 8 VM, 7 VCC, 6 GND, 5 M4+, 4 M4-, 3 M3+, 2 M3-, 1 GND
PB1 PWMC, GND, VCC, STBY, VCC, VCC, PB0 PWMD, GND

RS485

IC1 SP3485: 1 RO VCC 8, 2 RE B 7, 3 DE A 6, 4 DI GND 5
RS485_RX, RS485_RE, RS485_TX, VCC3.3
C15 104, R7 360, R8 120, R9 360, GND
JP1: 1 B, 2 A

USB USART

IC2 CH340G:
1 GND Vcc 16
2 TxD RS232 15
3 RxD RTS# 14
4 V3 DTR# 13
5 UD+ DCD# 12
6 UD- RI# 11
7 XI DSR# 10
8 XO CTS# 9

USART1_RX, USART1_TX, USB_D+, USB_D-
C16 104, +5, VCC3.3
Q1 SS8550, R10 10K, R11 1M, BOOT0
Q2 SS8550, R12 10K, RESET, GND

Title
Size A3
Number
Revision
Date: 2022/3/8
File: E:\PCB Design\   \SFYTH_Sheet Design.
Sheet of

Comment	Description	Designator	Footprint	LibRef	Quantity
104	[NoValue], [NoValue], [NoValue], [NoValue], [NoValue], GRM39 X7R102K50PT, 贴片电容, 贴片电容, 贴片电容, 贴片电容, 贴片电容, 贴片电容	C1, C2, C3, C4, C5, C8, C12, C13, C15, C16, C17, C19	C 0603_L	CAP, CAP, CAP, CAP, CAP, CAP, C, C, C, C, C, C	12
20pF	CAP CHIP 20P 50V(+-5% C0G 0603)	C6, C7	C 0603_L	CAP	2
10uF	Polarized Capacitor (Surface Mount)	C10, C11	CAP 2.0*5*11	Cap Pol3	2
10uF/16V	直插电解电容	CE1	CAP 2.0*5*11	CE	1
22uF/16V	直插电解电容	CE2	CAP 2.0*5*11	CE	1
SP3485	RS485总线收发芯片	IC1	SOP8_N	SP3485	1
CH340G	串口转USB	IC2	SOP16_L	CH340G	1
Header 4	Header, 4-Pin	J1	HDR2.54-M-LI-4P	Header 4	1
HDR-1X2	2P接插件	JP1, JP10	KF128-5.08-2P	Header 2	2
Header3X2	3*2P接插件	JP2	HDR2.54-LI-2x3P	Header 3X2	1
HDR-1X2	2P接插件	JP3, JP4, JP5, JP6	XH2.54-WI-2P	Header 2	4
HDR-1X4	4P接插件	JP7, JP9	HDR2.54-M-LI-4P	Header 4	2
Header 4X2	4*2P接插件	JP8	HDR2.54-LI-2x4P	Header 4X2	1
HDR-1X7	7P接插件	JP11	HDR2.54-M-LI-7P	Header 7	1
红色	贴片LED	LED1	LED 0603G	LED-SMD	1
Header 8	Header, 8-Pin	P1, P6, P7, P8	HDR2.54-M-LI-8P	Header 8	4
SS8550	高频放大-PNP型	Q1, Q2	TO92B	8550-DIP	2
1M	[NoValue], 贴片电阻	R1, R11	R 0603_L	RES, R	2
10K	[NoValue], 贴片电阻, 贴片电阻, 贴片电阻, 贴片电阻, 贴片电阻, 贴片电阻	R2, R5, R10, R12, R13, R14, R15	R 0603_L	RES, R, R, R, R, R, R	7
360	贴片电阻	R7, R9	R 0603_L	R	2
120	贴片电阻	R8	R 0603_L	R	1
KCD1-101	1路单刀船型开关	S1	KCD1-101	KCD1-101	1
M3铜柱	铜柱	SP1, SP2, SP3, SP4	M3x20_N	铜柱大焊盘	4
6x6x5	直插6x6轻触开关	SW1	TSW DIP-6*6*6	TSW DIP-6x6	1
STM32F103RCT6		U1	LQFP64-2	STM32F103RBT6	1
USB-5P	微型USB母座	USB1	USB-MICRO_E	USB-5P	1
AMS1117-3V3	三端稳压芯片	V1	SOT223_L	AMS1117	1
AMS1117-5V	三端稳压芯片	V2	SOT223_L	AMS1117	1
8MHz	Crystal 8MHz PLUG	Y1	OSC HC-49S	CRYSTAL	1