MCU

U1 STM32F103C8T6

+3.3V R1 10k R2 10k GND

Pin	Signal		Pin	Signal
10	PA0-WKUP	ADC	18	TIM3_CH3/PB0	2.4_IRQ
11	PA1/ADC_IN1	OUT_1	19	TIM3_CH4/PB1	2.4_CSN
12	PA2/USART2_TX	2.4_CE	20	PB2/BOOT1	R5 10k
13	PA3/USART2_RX		39	PB3/JTDO	JTDO
14	PA4/ADC12_IN4	2.4_SCK	40	PB4/JNTRST	JTRST
15	PA5/ADC12_IN5	2.4_MISO	41	PB5	
16	PA6/TIM3_CH1	2.4_MOSI	42	TIM4_CH1/PB6	GY_SCL
17	PA7/TIM3_CH2		43	TIM4_CH2/PB7	GY_SDA
29	PA8/TIM1_CH1	MOS_1	45	TIM4_CH3/PB8	GY_FSYNC
30	PA9/USART1_TX	MOS_2	46	TIM4_CH4/PB9	GY_INTA
31	PA10/USART1_RX	MOS_3	21	I2C2_SCL/PB10	GY_DRDY
32	PA11/TIM1_CH4	MOS_4	22	I2C2_SDA/PB11	505LED
33	PA12/TIM1_ETR		25	SPI2_NSS/PB12	LED_1
34	PA13/JTMS/SWDIO	JTMS	26	SPI2_SCK/PB13	LED_2
37	PA14/JTCK/SWCLK	JTCK	27	SPI2_MISO/PB14	LED_3
38	PA15/JTDI	JTDI	28	SPI2_MOSI/PB15	LED_4
5	OSC_IN/PD0		2	PC13-TAMPER-RTC	
6	OSC_OUT/PD1		3	PC14-OSC32_IN	
			4	PC15-OSC32_OUT	
44	BOOT0				
7	NRST				
1	VBAT				
24	VDD_1		23	VSS_1	
36	VDD_2		35	VSS_2	
48	VDD_3		47	VSS_3	
9	VDDA		8	VSSA	GND

GND
R8 10k
C8 20PF
Y1 8MHz
R11 1M
C9 20PF
GND
R12 10k
R13 10k +3.3V
L4 10uH +3.3V
C10 100NF GND

+3.3V R18 10k
1 2 JTMS
3 4 JTDI
5 6 JTDO
7 8
JTRST

+3.3V
C11 100NF C12 100NF C13 100NF
GND

Power Supply

J1 Li Battery - 3.7V S1
2 1
BAT
GND
SW-DPDT
BAT R3 0R BAT+
SGND L2 10UH GND
C1 10UF
L3 10UH
D1
R6 620K C2 3.3pF
R4 1k L1 +3.3V
GND 白
R7 100k
ADC
R9 100k C4 100NF C5 4.7UF
U2 TPS6140
VIN SWD 1
FB 3
EN GND 2
5
4
R10 200K
C3 4.7UF
GND
SGND
+5.0V
U3 AMS1117
1 GND
2
3 In
Out 4 +3.3V
C6 10UF C7 0.1UF
GND

Motor Control

BAT+ J2 BAT+ J3 BAT+ J4 BAT+ J5
1 2 M1 1 2 M1 1 2 M1 1 2 M1
D2 D3 D4 D5
MOS_1 Q1 SI2302 MOS_2 Q2 SI2302 MOS_3 Q3 SI2302 MOS_4 Q4 SI2302
R14 10k R15 10k R16 10k R17 10k
GND GND GND GND

Communication Interface

J6
4 JTMS
3 JTCK
2 +3.3V
1 GND
ST_LINK

J7
3 OUT_1
2 BAT+
1 GND
SIP3

MPU6050+HMC5883L+MS5611

U5 GY_86
1 VCC_IN
2 3.3V +3.3V
3 GND GND
4 SCL GY_SCL
5 SDA GY_SDA
6 FSYNC GY_FSYNC
7 INTA GY_INTA
8 DRDY GY_DRDY

2.4GHz Transceiver

U4 2.4G_mini
1 3.3V +3.3V
2 GND GND
3 CE 2.4_CE
4 CSN 2.4_CSN
5 SCK 2.4_SCK
6 MOSI 2.4_MOSI
7 MISO 2.4_MISO
8 IRQ 2.4_IRQ
2.4G

LED Display

R19 2K BAT+
R20 100R BAT+
B R G D6 LED D7 LED D8 LED
505LED LED_3 BAT+
Q5 SI2302
R21 2K R22 2K R23 2K
R24 10k
GND
D9 LED D10 LED D11 LED D12 LED D13 LED D14 LED
LED_1 LED_2 LED_4

Title		
Size A4	Number	Revision
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Comment	Description	Designator	Footprint	LibRef	Quantity
10UF	Capacitor/小容量电容	C1, C6	1206C	CAP	2
3.3pF	Capacitor/小容量电容	C2	0805C	CAP	1
4.7UF	Capacitor/小容量电容	C3	1206C	CAP	1
100NF	Capacitor/小容量电容	C4, C10, C11, C12, C13	0805C	CAP	5
4.7UF	Capacitor/小容量电容	C5	0805C	CAP	1
0.1UF	Capacitor/小容量电容	C7	0805C	CAP	1
20PF	Capacitor/小容量电容	C8, C9	0805C	CAP	2
DIODE-S	SCHOTTKEY	D1, D2, D3, D4, D5	C_SMA_3216	DIODE-S	5
LED		D6	LED5050_RGB	LED_5050RGB	1
LED		D7, D8, D9, D10, D11, D12, D13, D14	0805D	LED	8
Li Battery - 3.7V		J1	P2_2.0-2	SIP2	1
M1		J2, J3, J4, J5	P2_2.0-1	SIP2	4
ST_LINK		J6	P4_2.54-1	SIP4	1
SIP3		J7	PC_3	SIP3	1
白		L1	D0805	LED	1
10UH		L2, L3	1206	L	2
INDUCTOR		L4	R0805	INDUCTOR	1
SI2302		Q1, Q2, Q3, Q4, Q5	SI2302	SI2302	5
RES	Semiconductor Resistor	R1, R2, R5, R7, R8, R9, R11, R12, R13, R14, R15, R16, R17, R19, R21, R22, R23, R24	R0805	RES	18
0R		R3	2512R - duplicate	Res_1	1
Res1	Resistor	R4	R0805	Res1	1
620K		R6	0805R	Res	1
200K		R10	0805R	Res	1
10k	8P4R_0603	R18	8P4R_0603	8P4R_0603	1
100R		R20	0805R	Res	1
SW-DPDT	Double-Pole, Double-Throw Switch	S1	KEY_KFT7.0	SW-DPDT	1
STM32F103C8T6	STM32 ARM-based 32-bit MCU with 64 Kbytes Flash, 48-pin LQFP, Industrial Temperature	U1	LQFP48_N	STM32F103C8T6	1
TPS6140		U2	SOT-23-5	TPS6140	1
AMS1117	Header, 2-Pin	U3	ZZ311	AMS1117	1
2.4G		U4	2.4G_mini	2.4G_mini	1
GY_86		U5	P8_2.54-1	GY_86	1
CRYSTAL1	CRYSTAL1	Y1	Y2	CRYSTAL1	1