Power supply UNIT

Battery
D1
1N4007
J1
TBlock 2
C1 100uF
R1 1k
D2
U1 VIN VOUT 3 GND LM7805
1
2
VCC
C2 10uF
U2 VIN VOUT 2 GND LD1117V33
3
1
+3V3
+3V3
C3 10uF
GND GND GND GND GND GND

VCC
GND
P1
1
SCL 2
SDA 3
4
5
6
7
8
Header 8

P2
flame 1
smoke 2
vibration 3
brake 4
Header 4

Buzzer

buzzer
R2 100
Bz1
+
-
GND

C6 100nF
GND

Control UNIT

U3
VCC
21 AREF
AVCC 20
VCC 7
buzzer 14 PB0   PD0 2 tx1
esp_rx 15 PB1   PD1 3 rx1
16 PB2   PD2 4 button1
17 PB3   PD3 5 button2
esp_tx 18 PB4   PD4 6
19 PB5   PD5 11
xtal1_1 9 PB6   PD6 12 Rx/Tx schematic sheet2[1C]
xtal2_1 10 PB7   PD7 13 Tx/Rx schematic sheet2[1C]
flame 23 PC0
smoke 24 PC1
vibration 25 PC2
brake 26 PC3
SDA 27 PC4
SCL 28 PC5
reset1 1 PC6/RESET
VCC R3 10k
GND 8
GND 22
GND
ATMEGA328P-PU

B1
button1
B2
button2
GND

Battery Battery schematic sheet2[2D]
VCC VCC schematic sheet2[2D]

UART

J2
reset1
tx1
rx1
Header 4
GND

Y1
xtal1_1 xtal2_1
16MHz
C4 22pF
C5 22pF
GND GND

ESP Module

+3V3 +3V3
U4
RST 7   VCC 8
EN 6   IO0 3
RXD 4   IO2 2
esp_rx R4 1k1
esp_tx TXD 5   GND 1
R5 2.2k
GND
ESP8266-01/ESP-01
GND

Title
Size A
Number
Revision
Date: 6-07-2023
File: V:\Office\..\schematic sheet1.SchDoc
Sheet of
Drawn By:

VCC Battery

U5

| 8 | VS |
| 16 | VSS |

| | ENABLE1 | 1 | motor_enable1 |
| | ENABLE2 | 9 | motor_enable2 |

J4

Left wheels

3	OUTPUT1	INPUT1	2	motor_pin1
6	OUTPUT2	INPUT2	7	motor_pin2
11	OUTPUT3	INPUT3	10	motor_pin3
14	OUTPUT4	INPUT4	15	motor_pin4

J5

4	GND
5	GND
12	GND
13	GND

Right wheels

L293D

GND

Motor Driver

VCC

C7
100nF

J3

TBlock 2

GND

5V Output

J6

	reset2
	tx2
	rx2

Header 4

GND

UART

J7   **VCC**

| | bt_tx |
| | bt_rx |

Header 4   GND

Bluetooth

VCC

U6

| | AVCC | 20 |
| | VCC | 7 |

| 21 | AREF |

schematic sheet1[3C] Tx/Rx
schematic sheet1[3C] Rx/Tx

14	PB0	PD0	2	tx2
15	PB1	PD1	3	rx2
16	PB2	PD2	4	
17	PB3	PD3	5	
18	PB4	PD4	6	
19	PB5	PD5	11	
9	PB6	PD6	12	bt_tx
10	PB7	PD7	13	bt_rx

gps_tx
gps_rx
xtal1_2
xtal2_2

C8
100nF

GND

motor_enable1	23	PC0
motor_enable2	24	PC1
motor_pin1	25	PC2
motor_pin2	26	PC3
motor_pin3	27	PC4
motor_pin4	28	PC5
reset2		PC6/RESET

R6
VCC
10k

| | GND | 8 |
| | GND | 22 |

ATMEGA328P-PU

Control UNIT

GND

Y2

xtal1_2   16MHz   xtal2_2

C9
22pF

C10
22pF

GND   GND

VCC

J8

| | gps_rx |
| | gps_tx |

Header 4

GND

GPS

Battery   **Battery**   schematic sheet1[2D]

VCC   **VCC**   schematic sheet1[2D]

Title			
Size	Number		Revision
A			
Date:	6-07-2023		Sheet of
File:	V:\Office\..\schematic sheet2.SchDoc		Drawn By:
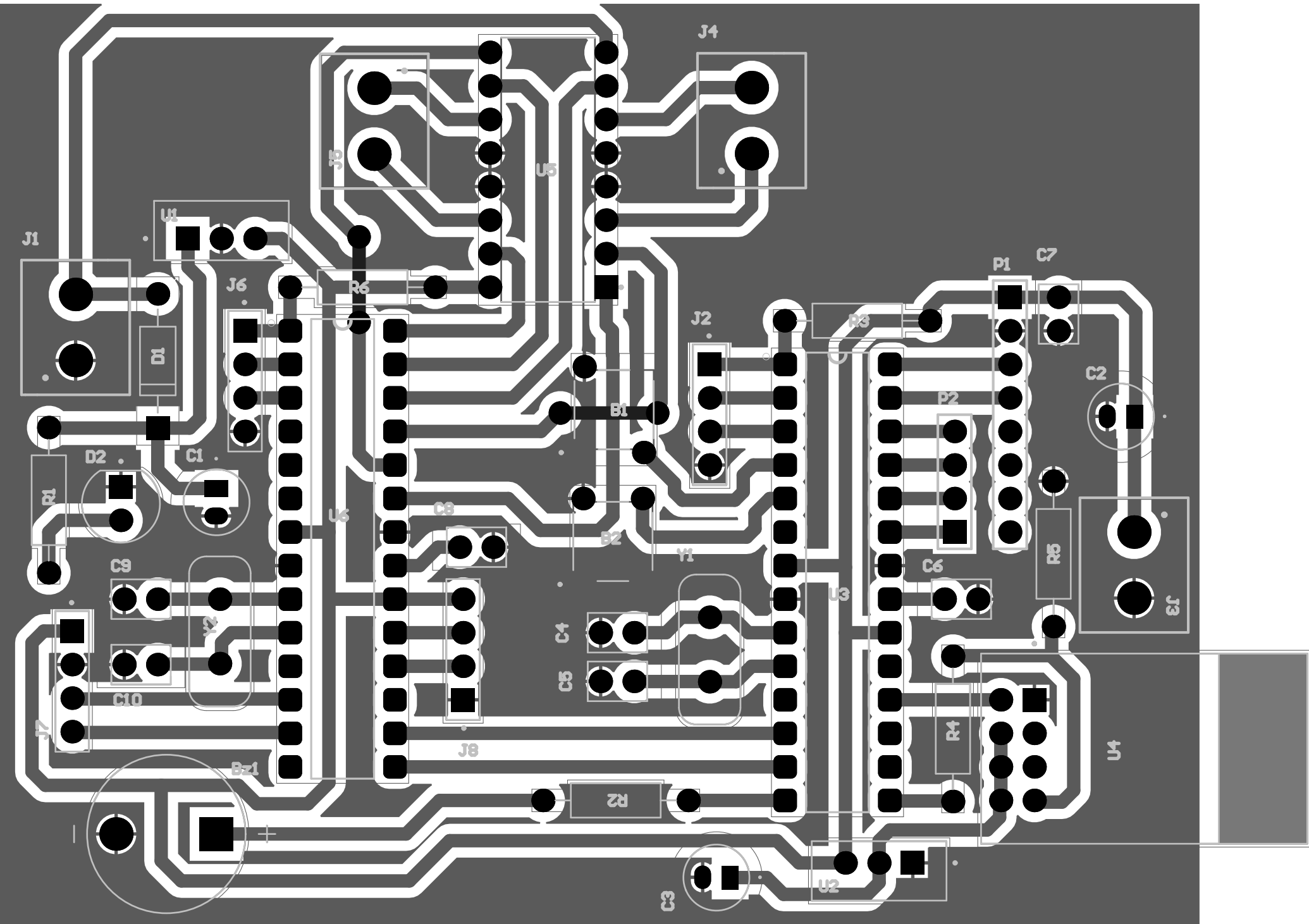
Comment	Description	Designator	Footprint	LibRef	Quantity
Push button		B1, B2	SW_TS02-66-95-BK-260-LCR-D	Push button	2
AI-1223-TWT-12V-R	ELECTRO-MECHANICAL AUDIO INDICATOR	Bz1	XDCR_AI-1223-TWT-12V-R	Buzzer	1
100uF	FS-A	C1	CAPPRD500W50D500H1100	Electrolytic capacitor	1
10uF	FS-A	C2, C3	CAPPRD500W50D500H1100	Electrolytic capacitor	2
22pF	2200 pF Â±10% 250V Ceramic Capacitor X7R Radial	C4, C5, C9, C10	CAPRB500W50L450T300H550	Ceramic capacitor	4
100nF	2200 pF Â±10% 250V Ceramic Capacitor X7R Radial	C6, C7, C8	CAPRB500W50L450T300H550	Ceramic capacitor	3
1N4007	Diode Switching 1KV 1A 2-Pin DO-41	D1	DIOAD1060W80L520D270	1N4007	1
L08R5000Q1	LED, Orange, Through Hole, T-1 3/4 (5mm), 30 mA, 2.1 V, 635 nm	D2	LEDRD254W57D500H1070	LED	1
TBlock 2	2 Position Wire to Board Terminal Block Horizontal with Board 0.197_5.00mm_ Through Hole	J1, J3	691111710002	Terminal Block - 2Pins	2
Header 4	4 Position Header Connector Through Hole	J2, J6, J7, J8	SULLINS_PPTC041LFBN-RC	Female header - 4Pins	4
691111710002	2 Position Wire to Board Terminal Block Horizontal with Board 0.197_5.00mm_ Through Hole	J4, J5	691111710002	Terminal Block - 2Pins	2
Header 8	Header, 8-Pin	P1	HDR1X8	Header 8	1
Header 4	Header, 4-Pin	P2	HDR1X4	Header 4	1
1k	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R1	RESAD1100W55L680D260	Resistor (0.25W)	1
100	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R2	RESAD1100W55L680D260	Resistor (0.25W)	1
10k	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R3, R6	RESAD1100W55L680D260	Resistor (0.25W)	2
1k1	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R4	RESAD1100W55L680D260	Resistor (0.25W)	1
2.2k	(MFR-25FBF52-10K) 10,2 kOhm bei 1% 0,25W, 1/4W Durchbohrlochwiderstand Axial Metal Film	R5	RESAD1100W55L680D260	Resistor (0.25W)	1
LM7805		U1	TO255P1020X450X1968-3	LM78__	1
LD1117V33		U2	TO255P1020X450X1968-3	LD1117V33	1
ATMEGA328P-PU	ATmega Series 20 MHz 32 KB Flash 2 KB SRAM 8-Bit Microcontroller - DIP-28	U3, U6	DIP794W46P254L2967H457Q28B	ATMEGA328P-PU	2
ESP8266-01/ESP-01	MakerFocus 4pcs ESP8266 ESP-01 Serial Wireless WiFi Transceiver Receiver Module 1MB SPI Flash DC3.0-3.6V Internet of Things WiFi Module Board Compatible with Arduino	U4	XCVR_ESP8266-01/ESP-01	ESP8266-01 Module	1
L293D	4-Channel Motor Driver 24V 16-Pin Power PDIP Tube	U5	DIP880W50P254L2000H510Q16	L293D	1
16MHz	CRYSTAL T/H	Y1, Y2	XTAL_ECS-160-20-4X	Crystal oscilator	2