Reference	Value	Footprint	Qty
C1,C2,C3,C7,C9,C10,C11,C16,C18,C19,C20,C24,C30,C35,C36,C38,C39,C40,C41,C42,C44,C45,C	100nF	Capacitor_SMD:C_0603_1608Metric	30
C4,C22,C25,C29,C31,C33,C48	1uF	Capacitor_SMD:C_0603_1608Metric	7
C5,C6,C12,C13,C14,C50,C52,C70	220nF	Capacitor_SMD:C_0603_1608Metric	8
C8	470pF	Capacitor_SMD:C_0603_1608Metric	1
C15,C53,C54,C57,C58,C59,C63	10nF	Capacitor_SMD:C_0603_1608Metric	7
C17	10uF	Capacitor_SMD:CP_Elec_6.3x5.4	1
C21	47uF	Capacitor_SMD:CP_Elec_5x5.3	1
C23,C26	12pF	Capacitor_SMD:C_0603_1608Metric	2
C27,C28	20pF	Capacitor_SMD:C_0603_1608Metric	2
C32,C34	2.2uF	Capacitor_SMD:C_0603_1608Metric	2
C37	47uF	Capacitor_SMD:CP_Elec_5x5.4	1
C43,C56,C69,C71	10uF	Capacitor_SMD:C_0603_1608Metric	4
C60	3.3nF	Capacitor_SMD:C_0603_1608Metric	1
C62	680pF	Capacitor_SMD:C_0603_1608Metric	1
C65	330pF	Capacitor_SMD:C_0603_1608Metric	1
C66	47pF	Capacitor_SMD:C_0603_1608Metric	1
D1,D2,D3,D4,D7,D8,D9,D10,D31,D33,D35,D36	LED	LED_SMD:LED_0603_1608Metric	12
D5,D6,D11,D12,D32,D34	1N4148WS	Diode_SMD:D_SOD-323_HandSoldering	6
D13,D25,D26,D29,D40	1N5819W	Diode_SMD:D_SOD-123	5
D14	SS14	Diode_SMD:D_SMA	1
D15	D_TVS	Diode_SMD:D_SMA	1
D16,D17,D18,D19,D20,D21,D22,D23,D24,D27,D28,D37,D38,D39	BAT54S	Package_TO_SOT_SMD:SOT-23	14
D41	BAT54C	Package_TO_SOT_SMD:SOT-23	1
F1,F3	0.5A	Fuse:Fuse_1206_3216Metric	2
F2	1206	Fuse:Fuse_1206_3216Metric	1
IC1,IC2	TLE9201SG	TLE9201SG	2
IC3	BTS4175SGA	SOIC127P600X175-8N	1
J1,J6,J7	Conn_01x02	Connector_PinHeader_2.54mm:PinHeader_1x02_P2.54mm_Vertical	3
J2	STLink	Connector_PinHeader_2.54mm:PinHeader_1x04_P2.54mm_Vertical	1
J3	USB_C_Receptacle_USB2.0	Connector_USB:USB_C_Receptacle_GCT_USB4105-xx-A_16P_TopMnt_Horizontal	1
J4	PJ-320B	PJ-320B:BOOMELE_PJ-320B	1
J5	MSD-1-A	MSD_1_A:CUI_MSD-1-A	1
J8	Conn_02x02_Top_Bottom	Connector_Molex:Molex_Micro-Fit_3.0_43045-0600_2x03_P3.00mm_Horizontal	1
J9	S48B-ZROK-2A-R	S48BZROK2AR	1
JP1	Ignition Voltage	Jumper:SolderJumper-3_P1.3mm_Open_RoundedPad1.0x1.5mm	1
JP2,JP3	HALL_VR	Jumper:SolderJumper-3_P1.3mm_Open_RoundedPad1.0x1.5mm	2
JP4,JP5	PULLUP	Jumper:SolderJumper-2_P1.3mm_Open_RoundedPad1.0x1.5mm	2
JP10	VRef	Jumper:SolderJumper-2_P1.3mm_Open_RoundedPad1.0x1.5mm	1
LED1,LED2,LED3	RED	LED_SMD:LED_0603_1608Metric	3
P2	Dual VR C	Package_DIP:DIP-8_W7.62mm_Socket	1
Q1,Q2,Q3,Q4,Q11,Q12	Q_NMOS_GDS	Package_TO_SOT_SMD:SOT-223-3_TabPin2	6
Q5,Q7,Q8,Q9,Q13	AO3400A	Package_TO_SOT_SMD:SOT-23	5
R1,R2,R15,R16,R43,R91,R93,R96,R114,R115	100k	Resistor_SMD:R_0603_1608Metric	10
R3,R4,R19,R20,R27,R29,R33,R45,R59,R62,R63,R64,R84,R85,R90,R99,R100,R113,R118,R119,R125,	10k	Resistor_SMD:R_0603_1608Metric	23
R5,R6,R17,R18,R37,R47,R49,R92,R94,R97,R107,R116,R117	1k	Resistor_SMD:R_0603_1608Metric	13
R7,R8,R21,R22,R101,R102	0R	Resistor_SMD:R_0603_1608Metric	6
R9,R10,R23,R24,R95,R98	2.4k	Resistor_SMD:R_0603_1608Metric	6
R11,R12,R13,R25,R26,R28,R31,R32,R34,R38,R39,R40,R44,R48,R50,R51,R65,R66,R71,R72,R73,R74	470R	Resistor_SMD:R_0603_1608Metric	30
R14,R67,R68,R69,R70,R75,R76,R77,R78,R133	910R	Resistor_SMD:R_0603_1608Metric	10
R30	82K	Resistor_SMD:R_0603_1608Metric	1
R35,R36	2.49k	Resistor_SMD:R_0603_1608Metric	2
R41,R42,R56,R86,R108	2k7	Resistor_SMD:R_0603_1608Metric	5
R46,R60,R61,R89,R112	100R	Resistor_SMD:R_0603_1608Metric	5
R52,R53,R54,R55,R105,R106	15R	Resistor_SMD:R_2512_6332Metric	6
R57	220R	Resistor_SMD:R_0603_1608Metric	1
R58	1M	Resistor_SMD:R_0603_1608Metric	1
R79,R80	5.1K	Resistor_SMD:R_0603_1608Metric	2
R81,R82,R111	22R	Resistor_SMD:R_0603_1608Metric	3
R83,R123	4.7K	Resistor_SMD:R_0603_1608Metric	2
R120,R121,R130	33K	Resistor_SMD:R_0603_1608Metric	3
R122,R128	100K	Resistor_SMD:R_0603_1608Metric	2
R124	470K	Resistor_SMD:R_0603_1608Metric	1
R126	12K	Resistor_SMD:R_0603_1608Metric	1
R134,R136	470R	Resistor_SMD:R_0603_1608Metric	2
R135,R137	910R	Resistor_SMD:R_0603_1608Metric	2
SW1,SW2	SW_Push	Button_Switch_SMD:SW_SPST_CK_RS282G05A3	2
TP1,TP2	TestPoint	TestPoint:TestPoint_Pad_D1.0mm	2
U1	STM32F407VGTx	Package_QFP:LQFP-100_14x14mm_P0.5mm	1
U2,U4,U10	TC4424A	TC4424AVOA:SOIC127P599X175-8N	3
U3	AMS1117-3.3	Package_TO_SOT_SMD:SOT-223-3_TabPin2	1
U5,U6,U11	MCP6004	MCP6004T_I_SL:SOIC127P600X175-14N	3
U7	MCP2551-I-SN	Package_SO:SOIC-8_3.9x4.9mm_P1.27mm	1
U8	LM2940S-5.0	Package_TO_SOT_SMD:TO-263-3_TabPin2	1
U9	USBLC6-2SC6	Package_TO_SOT_SMD:SOT-23-6	1
U12,U13	VNLD5090	Package_SO:SO-8_3.9x4.9mm_P1.27mm	2
U14	MCP6002-xSN	MCP6002T_I_SN:SOIC127P600X175-8N	1
Y1	8Mhz	Crystal:Crystal_SMD_5032-2Pin_5.0x3.2mm	1
Y2	32.768KHz	Crystal:Crystal_SMD_3215-2Pin_3.2x1.5mm	1