

Base Flight Computer BOM

Project:	Avionics Flight Computer: Baseline Functionality										
Revision:	1.0										
Date:	5/18/2023										
Author:	Colton Acosta										
Qty	Component	Manufacturer	Part Number	Designator	Footprint	Footprint Type	Price per Unit	Data Sheet	Source	Alternate Parts	Usage
1	IC MCU 32BIT 512KB FLSH 32UFQFPN	STMicroelectronics	STM32G4A1KEU6	U1	32-UFQFPN	SMD	\$7.03	STM32G4A1KEU6	Digikey		Microcontroller
5	CAP CER 0.1UF 10V X7R 0402	Samsung Electro-Mechanics	CL05B104KP5NNNC	C1, C2, C8, C9, C14	0402	SMD	\$0.10	CL05B104KP5N	Digikey		Decoupling Capacitors
1	LED GREEN CLEAR SMD	Lite-On Inc.	LTST-C191KGKT	D3	0603	SMD	\$0.26	LTST-C191KGKT	Digikey		Power Supply Indication LED
1	IC REG LINEAR 3.3V 300MA SOT89-3	Diodes Incorporated	AP7370-33Y-13	U3	SOT89-3	SMD	\$0.42	AP7370-33Y-13	Digikey		
2	RES SMD 240 OHM 1% 1/10W 0402	Panasonic Electronic Components	ERJ-2RKF2400X	R6, R16	0402	SMD	\$0.13	ERJ-2RKF2400X	Digikey		
3	CAP CER 1UF 6.3V X5R 0402	YAGEO	CC0402KRX5R5BB105	C5-C7	0402	SMD	\$0.11	CC0402KRX5R5	Digikey		
1	External Flash	Microchip	SST25VF040B-50-4I-S2AE-T	U4	8-SOIC	SMD	\$0.92	SST25VF040B-5	Digikey	SST25VF040B-50-4I-S2AF-T	
2	POWER MOSFET N-CH 30V 2A TSMT5	Rohm Semiconductor	QS5U17TR	Q1, Q4	TSOT-23-5	SMD	\$0.63	QS5U17TR	Digikey		Ignition MOSFETS
1	St-Link V2 Programmer	STMicroelectronics	St-LINK V2				\$25.31	St-LINK V2	ST		
1	TERM BLK 6POS SIDE ENT 3.5MM PCB	TE Connectivity AMP Connectors	284391-6	P1	6POS	Through-hole	\$3.25	284391-6	Digikey		E-match screw terminals
3	RES 100K OHM 1% 1/16W 0402	YAGEO	RC0402FR-07100KL	R3, R9, R20	0402	SMD	\$0.10	RC0402FR-0710	Digikey		
1	CAP CER 4.7UF 6.3V X5R 0402	Murata Electronics	GRM155R60J475ME47D	C3	0402	SMD	\$0.12	GRM155R60J47	Digikey		MCU decoupling capacitor
2	RES 82 OHM 1% 1/16W 0402	YAGEO	RC0402FR-0782RL	R4, R5	0402	SMD	\$0.10	RC0402FR-0782	Digikey		Blue/Green Current Limiting LEDs
1	LED RGB CLEAR 4PLCC SMD	CreeLED, Inc.	CLMVC-FKA-CL1D1L71BB7C3C3	D1	4LEAD SMD	SMD	\$0.19	CLMVC-FKA-CL	Digikey		
2	RES 4.7K OHM 5% 1/16W 0402	YAGEO	RC0402JR-074K7L	R12, R13	0402	SMD	\$0.10	RC0402JR-074K	Digikey		
1	CRYSTAL 24.0000MHZ 12PF SMD	ECS Inc.	ECS-240-12-37B-CKY-TR	Y1	4-SMD, No Lead	SMD	\$0.38	ECS-240-12-37B	Digikey		
2	CAP CER 4PF 50V COG/NP0 0402	Murata Electronics	GJM1555C1H4R0BB01D	C10, C11	0402	SMD	\$0.10	GJM1555C1H4R	Digikey		
1	TERM BLK 2POS SIDE ENT 3.5MM PCB	TE Connectivity AMP Connectors	1546551-2	P4	2POS	Through-hole	\$1.34	1546551-2	Digikey		Main Power Connector
3	DIODE SCHOTTKY 30V 1A DSN1006-2	Nexperia USA Inc.	PMEG3010AESBYL	D2, D4, D5	DSN1006-2	SMD	\$0.38	PMEG3010AESR	Digikey		Power mux diodes
1	CONN RCPT USB2.0 MICRO B SMD R/A	Amphenol ICC (FCI)	10118194-0001LF	P2	SMD/Through-hole	MD/Through-hole	\$0.48	10118194-0001L	Digikey		
7	RES SMD 10K OHM 1% 1/16W 0402	Samsung Electro-Mechanics	RC1005F103CS	R1, R7, R8 R17-R19, R22	0402	SMD	\$0.10	RC1005F103CS	Digikey		
1	BUZZER PIEZO 5V 13.8MM TH	PUI Audio, Inc.	AT-1438-TWT-R	BZ1	2POS	Through-hole	\$1.69	AT-1438-TWT-R	Digikey		
1	SENSOR PRESSURE ABS	Bosch Sensortec	BMP390	U2	10-WFLGA	SMD	\$5.36	BMP390	Bosch Sensortec		
1	RES SMD 200K OHM 1% 1/16W 0402	Samsung Electro-Mechanics	RC1005F204CS	R11	0402	SMD	\$0.10	RC1005F204CS	Digikey		
1	CONN HEADER VERT 6POS 1.25MM	Molex	530470610	P3	6POS	Through-hole	\$0.48	530470610	Digikey		Programming Connector
1	PICOBLADE 6 CIRCUIT 300MM	Molex	151340603				\$5.50	151340603	Digikey		Programming Cable
4	MOSFET N-CH 60V 115MA SOT323	Diodes Incorporated	2N7002W-7-F	Q2, Q3, Q5, Q6	SOT323	SMD	\$0.41	2N7002W-7-F	Digikey		Continuity MOSFETS
1	CAP CER 10000PF 50V X7R 0402	Murata Electronics	GCM155R71H103KA55D	C4	0402	SMD	\$0.10	GCM155R71H10	Digikey		MCU Analog Decoupling
1	RES SMD 39K OHM 5% 1/10W 0402	Panasonic Electronic Components	ERJ-2GEJ393X	R21	0402	SMD	\$0.10	ERJ-2GEJ393X	Digikey		Battery Voltage Measurement
1	CONN HEADER VERT 2POS 2MM	JST Sales America Inc.	B2B-PH-K-S(LF)(SN)	P5	2POS,	Through-hole	\$0.17	B2B-PH-K-S(LF)	Digikey		LiPo Battery Connector
2	CAP CER 1UF 50V X5R 0603	Samsung Electro-Mechanics	CL10A105KB8NNC	C12, C13	0603	SMD	\$0.14	CL10A105KB8N	Digikey		
2	TERM BLK 4POS SIDE ENT 3.5MM PCB	TE Connectivity AMP Connectors	1546551-4		4POS	Through-hole	\$1.60	1546551-4	Digikey		Screw terminals