


Artifact ID: REQ-002	Artifact Title: Bill of Materials	
Revision: 05	Revision Date: February 2, 2025	
Prepared by: Jonah Lowther	Checked by: Blake Folsom	
Purpose: A list identifying all materials and components required to construct two autonomous drones. It is important to note that daily changes and updates are made apart from the major revisions listed below.		

Revision History			
Revision	Revised by	Checked by	Date
01	Jonah Lowther	Blake Folsom	September 19, 2024
02	Blake Folsom	Israel Zenteno	September 25, 2024
03	Joshua Crookston	Jacob Wilkins	November 14, 2024
04	Joshua Crookston	Jacob Wilkins	December 2, 2024
05	Joshua Crookston	Israel Zenteno	February 2, 2025

Part ID	Part Name	Description	Qty	Revision	Vendor	Part #	Cost	Completion
High-Altitude Drone Only								
S-001	RMRC Anaconda – KIT	Basic High-Altitude Drone Airframe	1	1	Ready Made RC	3239	\$249.99	100.00%
S-002	EMAX GT2826-860KV Brushless Motor	High-Altitude Component	1	1	Ready Made RC	83364	\$34.99	100.00%
S-003	EMAX ES9258 27g Metal Gear Digital Servo	High-Altitude Component	3	1	Ready Made RC	83623	\$50.97	100.00%
S-005	EMAX ES3054 17g Metal Gear Digital Servo	High-Altitude Component	4	1	Ready Made RC	83624	\$39.96	100.00%
S-006	RMRC Anaconda - Flap Hardware Kit	High-Altitude Component	1	1	Ready Made RC	3455	\$4.99	100.00%
S-007	APC 13x6.5EP Pusher Prop	High-Altitude Component	1	1	Ready Made RC	945	\$5.73	100.00%
S-014	FLYFUN 60A V5 ESC (3S-6S)	Electronic Speed Controller	1	2	Hobby Wing	30214101	\$46.99	100.00%
S-022	Digital Airspeed Sensor Kit Differential PITOT for PX4 Pixhawk Autopilot Flight	Airspeed Sensor	1	3	Amazon.com	B01J7NCML0	\$48.89	100.00%
S-010	XT60 Parallel Adapter	Power Adapter	4	2	Ready Made RC	82594	\$11.16	100.00%
S-004	Zeee 14.8V 4S Lipo Battery 50C 3300mAh Soft Case Battery with XT60 Plug for RC Airplane Helicopter RC Boat UAV Drone FPV RC Car Truck Boat(2 Packs)	High-Altitude Component	1	1	Amazon.com	Not Listed	\$62.09	100.00%
S-029	SanDisk 32GB MAX ENDURANCE UHS-I microSDHC Memory Card with SD Adapter	Another high quality SD card	1	2	B & H Photo Video	Not Listed	\$12.99	100.00%
Low-Altitude Drone Only								
S-025	Makeflyeasy Hero Drone 2180mm UAV VTOL - Type: PNP	Low-Altitude Drone Framework with VTOL capabilities	1	3	UAV Model	Not Listed	\$1,499.00	100.00%
S-031	Lumenier 22000mAh 6s 20c Lipo Battery	Larger Lipo battery for Low-altitude drone	1	1	GetFPV.com	2445	\$299.99	100.00%
High-Altitude Drone & Low-Altitude Drone								
Power Distribution								
S-018	High current PWR	Power Distribution Board	2	3	3D Robotics	M10121	\$259.80	100.00%
GPS								
S-008	Lumenier SAM-M10Q GPS Module - NDAA	GPS Module	2	2	GetFPV.com	22281	\$159.98	100.00%
Flight Controllers								
S-013	PixRacer Pro	Flight Controllers	2	2	3D Robotics	M10064D	\$699.80	100.00%
S-032	SanDisk 32GB (Pack of 2) Ultra microSDHC UHS-I Memory Card (2x32GB) with Adapter - SDSQUA4-032G-GN6MT [New Version]	Backup SD cards for Pixracer Pros	1	1	Amazon.com	Not Listed	\$13.49	100.00%
Flight Companion Computers								
S-015	Raspberry Pi 5 - 8 GB RAM	On-board Computers	2	2	Adafruit	5813	\$160.00	100.00%
S-019	27W USB-C Power Supply Compatible with Raspberry Pi 5, PD Adapter 5.1V 5A Power Supply Type-C Power Adapter for Raspberry Pi 5 Model B 8GB/4GB (White)	Plug-in power supply for Raspberry Pi 5	1	3	Amazon.com		\$9.99	100.00%
S-028	SanDisk 64GB MAX ENDURANCE UHS-I microSDXC Memory Card with SD Adapter	Upgraded SD Cards for the Rasperry Pi 5's so even with inconsistent power, the SD cards will not get corrupted	2	3	B & H Photo Video	B0D28KNT7H BH #SASQQVR06461 • MFR #SDSQQVR-064G-AN61A	\$31.98	100.00%
Radio Remote Control of Drone								
S-009	RadioMaster Zorro Radio Controller - 4-in-1 Multi-Protocol	Drone RC Controllers	2	2	GetFPV.com	17658	\$233.98	100.00%
S-024	900mah 3.7v Li-ion 18350 Battery for Zorro Radio Controller (2pcs)	Batterys for Drone RC Controllers	2	3	Radio Master	18350	\$19.98	100.00%
S-011	R81 V2 Receiver - FCC Region	Radio Reciever for Flight Controller	2	2	NewBeeDrone	Not Listed	\$15.98	100.00%

Building and Testing

S-023	Woodland Scenics FBA_WOOST1444 Glue, White	Glue to construct airframe	1	3	Amazon.com	Not Listed	\$21.99	100.00%
S-020	Standard Wood Supply Firewood Bundle	Build fire to test cameras	2	3	Home Depot	86675500010	\$13.94	100.00%
S-021	Diamond Strike-a-Fire Starter Matches	Start fire to test cameras	1	3	Home Depot	4878911003	\$5.98	100.00%

Ground Control Station Control of Drone (Radio)

S-016	TUOLNK 4PCS SMA Coax Connector Cable Gender Changers,SMA Male/Female to RP-SMA Male/Female Coax Adapter Low Loss Coaxial Connector for Radio Antenna, Audio - 4 pcs	Adapters for SiK Telemetry Radios to use a new antenna (only for Ground Control Stations)	1	3	Amazon.com	SMA Straight Adapter	\$6.87	100.00%
S-017	12dBi 433MHz Antenna High Gain Radio Antenna SMA Male Connector Omni-Directional Antenna Wireless Antenna for Wireless Sensor Network Router Modem Pack of 2	Long-range radio antenna for ground station (to be connected to the SiK Telemetry Radio)	1	3	Amazon.com	Not Listed	\$9.68	100.00%
S-012	SiK Telemetry Radio V3 - 500 mW 433 MHz	Plug-in Radio Modules for Drones and Ground Control Stations	2	2	HolyBro	17014	\$125.98	100.00%

Ground Control Station Control of Drone (Wi-Fi)

S-030	BrosTrend AX1800 WiFi 6 Linux Compatible WiFi Adapter for PC and Raspberry Pi 2+ w/Longer Range WiFi Antenna & AC650 Linux WiFi Adapter USB Wireless Adapter with 5dBi Antenna	Set of long-range usb ONE wifi adapter and ONE receiver for ground control station and raspberry pi 5	1	1	Amazon.com	Not Listed	\$51.99	100.00%
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Cameras

S-026	S304SP Mosaic Core Starter Kit 320x240, 57HFOV, 9HZ	Two long-wave fire detection cameras	2	1	Seek Thermal	S304SP	\$798.00	100.00%
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Total Cost: \$5,007.15