SPECIFICATIONS AND DESCRIPTIONS

The following specifications must be met in order to fulfill this bona fide need, justified by this procurement request.

The drone platform must be able to support multiple spectral sensors, including the dual camera Micasense RX, and WIRIS thermal camera. The platform must be able to support the sensor payload as well as allow exchanging payloads based on the mission requirements. Even with the addition of the sensor payloads the platform must have a flight time 15 minutes or greater to allow for harmful algal bloom mapping. The platform must pass the NOAA UAS requirements to meet the airworthiness certification for the Wide Area Field Operations. The platform must be covered under NOAA UAS training program in order to meet the NOAA training requirement. The platform must be compliant under all UAS regulations from both the (National Defense Authorization Act) NDAA and FCC.

The technical specifications for the Astro drone platform are listed below in detail.

Specifications in Detail:

General:

Capable of supporting multispectral payloads
Customizable mount for a variety of sensor integration
Provide flight time ≥15min under payload
Approved NOAA UAS platform

Astro Platform:

Unfolded Diameter: 55.4” (1407 mm)
Empty Weight: 6.8 lbs. (3095 g)
Maximum Payload: 3.3 lbs. (1500 g)
Maximum Gross Weight for Takeoff: 14.7 lbs. (6665 g)
Flight Time (No Payload): 39 min
Flight Time (Full Payload): 25 min
Payload Mounts: Vibration Isolated, Smart Dovetail
Operating Temperature: -4° –122 °F (-20° – 50°C)
Available I/O Connections: VBAT Power Out, USB C, PWM, UART, TELEM, CAN

Flight Controller:

Onboard Modules: Cortex-A53 Computer, LTE
Connectivity: BLE, Wifi, USB C, LTE (North America)
Supported Radios: Freefly Pilot Pro
Supported GNSS: L1/L2 GPS, GLONASS, Beidou and Galileo bands

Batteries:

Battery Chemistry: Lithium-Ion
Battery Voltage: 21.6V

Capacity: 157 Wh
Communications: OLED User Screen CAN
Continuous Current 80 A
Max Peak Current 120 A
Operating Temperature: -4° –122 °F (-20° – 50°C)

RTK:
Multi-band system with centimeter level precision
GNSS provides stable height and position holding capabilities

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