



BLOCK 3: N-SERIES

GSB Technical Specification

GSB Block 3 is the latest version of our Global Sounding Balloon (GSB), our smart, long-duration weather balloon. Our GSB, which contains an envelope, ballast, sensors, and avionics, is uniquely capable of collecting repeated vertical atmospheric profiles and navigating autonomously for weeks at a time. We design, manufacture, and operate our GSBs to ensure performance in the harshest environments.

Specification

Envelope dimensions	8.0 x 0.8 m (26.2 x 2.6 ft)
Payload dimensions	654 x 121 mm (25.75 x 4.75 in)
Launch weight	1.2 kg (2.6 lbs)
Connectivity	Iridium
Power source	Solar panels 5.5 V, 1140 mW
Battery	Lithium polymer 3.7 V, 1950 mAh
Regulatory	FAA Part 101 Compliant ICAO Compliant

Telemetry

Frequency band	1616 to 1626.5 MHz
Delivery	Sent in 10 second increments every 1-10 minutes, dynamically adjusted in real-time
Infrastructure	Cloud-first, can be delivered to AWS GovCloud S3 buckets or via any other secure API
Data	Live flight location, history & trajectory, system status, and real-time sensor data via WindBorne Live software

Typical performance

Lifespan	12 days
Cumulative vertical flight	400 km
Soundings	40

Sensors

Humidity	Heated capacitive sensor
Response time	<8 sec at -30 °C (-22 °F) <20 sec at -40 °C (-40 °F)
Measurement range	0 - 100% RH
Uncertainty after calibration	2% RH
Temperature	Thermistor
Response time	1s
Calibrated range	-100 - +40 °C
Uncertainty after calibration	0.1° C
Pressure	Capacitive MEMS
Calibrated range	50-1000 hPa
Resolution	1/64 Pa
Uncertainty after calibration	10 Pa
Wind speed	Calculated from GPS
Range	0 - 100 m/s
Resolution	0.01 m/s
Uncertainty	0.25 m/s
Geopotential Height	Calculated from GPS
Range	80,000 m
Resolution	0.01 m
Long/Lat	Calculated from GPS
Positional accuracy (CEP)	1.5 m

Contact

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