

CASE FILE 20 / 237UAP00615

# 237UAP00615

Radar/correlation-focused public UAP report; score 70

NORMAL-OBJECT FAVORED

REPORT NO.	UAP-OM-20-237UAP00615	DISPOSITION	NORMAL-OBJECT FAVORED
PRIMARY CASE	237UAP00615	GENERATED	2026-05-20 18:32 UTC
REPORT TIME	2024-02-24T02:39:00+00:00	OBSERVER	32.23967, -77.90289
SOURCE CASE IDS	237UAP00615		

## Abstract

This case file evaluates a reported UAP sighting against the available orbital-object layer. No compact same-launch group fully identifies the file by itself. The final disposition is assigned under a normal-object favored standard, where ordinary aerospace/orbital explanations are preferred when they reasonably fit the report.

This is a standalone independent analysis prepared from public-source records and public orbital datasets. It is not an official government determination, classification marking, or agency-authored report.

# 1. Executive Summary

---

237UAP00615 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N904AN B738 ac7e15 at 33.0 km, azimuth 301.1 deg, elevation 18.72 deg, 1.93 min from report. Dense satellite presence alone is not treated as causation in this packet.

## 1.1 Key Findings

- Source score 70 based on: radar/primary-return language, negative official correlation, high-altitude report, UAP/UFO language.
- Report time used: 2024-02-24T02:39:00+00:00.
- External object layer used: Starlink.
- Disposition standard: NORMAL-OBJECT requires case-specific causal fit. Satellite density above the horizon is context only and cannot by itself resolve the report.
- Case-specific ordinary-object evidence: strong ADS-B aircraft candidate N904AN B738 ac7e15 at 33.0 km, azimuth 301.1 deg, elevation 18.72 deg, 1.93 min from report.
- Non-causal context / rejection screens: substantial orbital-object sky background; context only, not causation.
- Objects above horizon: 277; at/above 10 deg: 128.
- No compact same-launch/designator group survived the report threshold.
- No explicit Starlink/balloon wording was found in the source excerpt used for ranking.

## 1.2 Bottom Line

**NORMAL-OBJECT FAVORED:** A case-specific ordinary-object candidate exists from source language, orbital geometry, launch-object context, or compact trajectory grouping. Dense ordinary sky traffic alone is not treated as causation.

# 2. Source Control

---

The source-control table identifies the public report records reviewed for this case and lists public access links where available. The table is included so this PDF remains interpretable when distributed by itself.

CASE ID	REPORT DATE FIELD	FACILITY / TITLE	TEXT EXTRACT	PUBLIC PDF LINK
237UAP00615	2/23/2024 9:39:00 PM (-05 EST)	NKS1777 UFO-UAP ACTIVITY 02-23-2024	text extract present	<a href="#">237UAP00615.pdf</a>

### 3. Original Report Evidence

PRIMARY EXCERPT USED FOR MATCHING	Washington Operations Center Date: 2/23/2024 9:39:00 PM (-05 EST) Title: NKS1777 UFO-UAP ACTIVITY 02-23-2024 Latitude: 32.239667359999999 Latitude: -77.902888880000006 DESCRIPTION PRELIM INFO FROM FAA OPS: WILMINGTON, NC/UFO-UAP ACTIVITY/2139E/JACKSONVILLE ARTCC ADVISED SPIRIT 1777, A321, FLL - EWR, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON AT THE 12 O'CLOCK POSITION WHILE N BOUND AT FL350 140 S ILM. THE UAP WAS DESCRIBED AS 2 WHITE LIGHTS THAT APPEARED STATIONARY AT FL490. UAP WAS NOT OBSERVED ON RADAR. WOC 7-3333 HM/JE
REPORT TIME USED	2024-02-24T02:39:00+00:00
OBSERVER COORDINATE USED	32.23967, -77.90289
OBSERVER SOURCE BASIS	(public text extract 237UAP00615)

### 4. Methodology

- Spacetime extraction.** The report time and observer coordinate were extracted from the public text report and normalized to UTC. Aviation fixes/radials were resolved during earlier preprocessing where applicable.
- External object dataset.** The object layer used historical Space-Track/TLE-derived Starlink element rows. The analytic mode for this case is historical Starlink element propagation and same-launch/designator sky grouping.
- Propagation.** Orbital elements were propagated to the report minute and observer location. For launch-object checks, samples around the report minute were retained. For Starlink group checks, objects above the horizon were clustered by sky position and filtered for same-launch groupings.
- Comparison.** The output was compared against the report's count of lights, direction cue, motion language, altitude/radar language, and whether the file itself already suggested a satellite explanation.
- Causation standard.** Mere object presence above the horizon is treated as background context only. A normal-object disposition requires a case-specific causal fit, such as a named launch object, a compact same-launch trajectory group, or source language that directly supports that object class.
- Disposition assignment.** *Identified* means a specific normal object fits the report spacetime and the hard reported features do not materially conflict. *Normal-object favored* means a case-specific ordinary aerospace/orbital candidate exists, but it is not a full named identification. *Insufficient* means the file is too thin to carry high anomaly value. *High-value unresolved* is used when radar, video, rapid maneuver, or multi-witness features remain after reasonable normal-object checks.

## 5. External Object Evidence

### 5.1 Search Volume and Density

This table is a screening layer only. Objects above the horizon show background opportunity; they do not establish causation unless a specific object or compact trajectory group matches the reported behavior.

STARLINK CATALOG IDS CONSIDERED	5480	HISTORICAL ELEMENT ROWS	5459
ABOVE HORIZON AT REPORT MINUTE	277	AT/ABOVE 10 DEG	128
LARGEST SAME-SKY CLUSTER	76		

No compact same-launch/designator group survived the report threshold. In this condition, satellite density remains context only and cannot by itself resolve a report with hard features.

### 5.2 Same-Launch / Same-Designator Candidate Groups

#	LAUNCH DATE	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS	MEMBERS
No same-launch group identified.						

### 5.3 Primary Group Members

OBJECT	NORAD	LAUNCH	AZ	EL	RANGE KM	APPARENT MOTION	ELEMENT AGE H
No members available.							

### 5.4 Bright-Sky Context: Top Starlink Objects by Elevation

OBJECT	AZ	EL	RANGE KM	APPARENT MOTION	LAUNCH DATE
STARLINK-1808	108.04	78.53	558.78	eastward, setting	2020-10-18
STARLINK-3097	254.0	74.5	528.84	westward, setting	2021-11-13
STARLINK-1904	326.3	68.18	587.56	eastward, setting	2021-05-04
STARLINK-5730	189.64	59.73	639.63	westward, setting	2023-02-12
STARLINK-5176	38.75	59.59	619.65	eastward, setting	2022-10-20
STARLINK-30512	320.38	53.63	681.94	eastward, setting	2023-09-30
STARLINK-3631	169.79	53.19	661.21	westward, setting	2022-02-25
STARLINK-3646	346.43	49.07	697.35	eastward, setting	2022-02-25
STARLINK-30068	1.54	47.49	737.05	eastward, setting	2023-05-19
STARLINK-4408	324.28	44.71	774.56	eastward, setting	2022-07-22
STARLINK-5734	82.33	43.7	778.36	westward, setting	2023-02-12
STARLINK-30494	20.35	43.46	774.31	eastward, setting	2023-09-30

### 5.5 Largest Sky Clusters

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
1	76	0.59-356.81 deg	10.18-49.07 deg	eastward, rising, eastward, setting, westward, rising, westward, setting
2	30	119.46-242.23 deg	10.01-38.87 deg	eastward, rising, eastward, setting, westward, rising, westward, setting
3	8	253.16-275.11 deg	13.16-28.43 deg	eastward, rising, westward, rising

#	COUNT	AZIMUTH SPAN	ELEVATION SPAN	MOTION LABELS
4	4	239.27-261.02 deg	40.1-41.42 deg	eastward, rising, westward, setting
5	3	313.71-324.28 deg	43.36-53.63 deg	eastward, setting

5.6 Space-Track SATCAT Enrichment

Space-Track SATCAT metadata was pulled as a cached subset for NORAD catalog IDs appearing in this packet's evidence tables. This section adds owner/type/status context to the propagated object candidates.

PACKET SATCAT SUBSET ROWS	5370	FETCHED	2026-05-19T01:19:50+00:00
THIS CASE NORAD IDS CHECKED	30	SATCAT ROWS MATCHED	30
TOP OWNERS	US: 30		
OBJECT TYPES	PAYLOAD: 30		

5.7 Space-Track Metadata for Top Propagated Objects

NORAD	OBJECT NAME	TYPE	OWNER	LAUNCH DATE	DECAY DATE
46707	STARLINK-1808	PAYLOAD	US	2020-10-18	2025-04-25
49448	STARLINK-3097	PAYLOAD	US	2021-11-13	2024-05-05
48389	STARLINK-1904	PAYLOAD	US	2021-05-04	2024-08-29
55611	STARLINK-5730	PAYLOAD	US	2023-02-12	n/a
54053	STARLINK-5176	PAYLOAD	US	2022-10-20	n/a
57976	STARLINK-30512	PAYLOAD	US	2023-09-30	n/a
51790	STARLINK-3631	PAYLOAD	US	2022-02-25	n/a
51785	STARLINK-3646	PAYLOAD	US	2022-02-25	n/a
56698	STARLINK-30068	PAYLOAD	US	2023-05-19	n/a
53206	STARLINK-4408	PAYLOAD	US	2022-07-22	n/a
55612	STARLINK-5734	PAYLOAD	US	2023-02-12	n/a
57970	STARLINK-30494	PAYLOAD	US	2023-09-30	n/a

5.9 NASA / NOAA / ADS-B Expansion Layer

This source layer adds free NASA context that was previously missing from most packet cases. It is contextual evidence; it does not replace aircraft, satellite, balloon, or radar causation tests.

HOURL UTC	2024022402
CLOUD AMOUNT	99.7%
PRECIPITATION	9.49 mm/hr
10 M WIND	9.8 m/s
TEMPERATURE	20.82 C
RELATIVE HUMIDITY	85.15%
DONKI +/-1 DAY	CME: unavailable; FLR: unavailable; GST: unavailable; HSS: unavailable; IPS: unavailable; MPC: unavailable; RBE: unavailable; SEP: unavailable; WSAEnliSimulations: unavailable

5.10 Horizons Sky Geometry Context

OBJECT	AZ	EL	APP MAG
Sun	290.89	-45.70	-26.77

OBJECT	AZ	EL	APP MAG
Moon	107.07	50.33	-12.51
Venus	308.74	-69.90	-3.90
Mars	308.57	-70.91	1.31
Jupiter	275.50	18.17	-2.21
Saturn	287.31	-41.99	0.97

- Sun elevation was -45.7 deg, so this was a dark-sky/nighttime sighting.
- Moon was above horizon at azimuth 107.1 deg / elevation 50.3 deg.
- Planets above horizon: Jupiter (18.2 deg).
- NASA POWER cloud amount for the hour was 99.7%, with precipitation 9.49 mm/hr.

5.11 Free Source Availability and Remaining Work

LAYER	STATUS	CASE-SPECIFIC NOTE
ADSB.LOL HISTORICAL RELEASE LISTING	screened/present	planes-readsb-staging-0 1725.0 MiB; planes-readsb-prod-0 1727.0 MiB
ADSB TRACKS DOWNLOADED	not yet exhausted	Requires targeted extraction from large daily history archives before claiming aircraft exhaustion.
NOAA GOES IMAGERY	not yet exhausted	Needed for cloud/lightning visual context.
NOAA GOES ABI/GLM MANIFEST	screened/present	Public S3 object availability for the report hour.
NOAA NEXRAD WEATHER RADAR	not yet exhausted	Weather radar only; not ATC radar.
NOAA IGRA RADIOSONDE	screened/present	Needed for balloon drift plausibility.
ASOS/METAR WEATHER OBSERVATIONS	screened/present	Nearest station surface observations around report time.

- ADSB.lol historical: extract aircraft traces from adsblol/globe\_history\_2024 for 2024-02-24, then filter +/-60 min and 250 nmi around 32.0199,-77.8744.
- NASA POWER/Horizons/DONKI: batch context for 237UAP00615 at 2024-02-24T02:39:00+00:00.
- NOAA GOES: pull nearest ABI/GLM products for the UTC hour and render cloud/lightning map.
- NOAA NEXRAD: select nearest radar stations and render Level-II/III weather radar sweep around event time.
- NOAA IGRA: find nearest radiosonde station launches bracketing the event and model wind drift for balloon-like descriptions.
- Space-Track gp\_history/decay: fetch exact historical element rows and decay/reentry status for top candidate NORAD IDs.

5.12 Weather, Imagery, and Balloon Query Plan

This plan identifies the concrete free sources needed for the next case-specific weather and balloon checks. These are not treated as completed exclusions until the data are downloaded and plotted.

GOES SATELLITE	GOES16
GOES ABI PREFIX	<a href="https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/055/02/">https://noaa-goes16.s3.amazonaws.com/ABI-L2-CMIPF/2024/055/02/</a>
GOES GLM LIGHTNING PREFIX	<a href="https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/055/02/">https://noaa-goes16.s3.amazonaws.com/GLM-L2-LCFA/2024/055/02/</a>

5.13 Nearest Weather-Airport Candidates

STATION	NAME	DISTANCE KM	COORDINATE
KMYR	Myrtle Beach International Airport	209.20	33.68, -78.93
KCRE	Grand Strand Airport	214.40	33.81, -78.72
KCHS	Charleston International Airport	225.20	32.90, -80.04
KILM	Wilmington International Airport	250.50	34.27, -77.91
KHXD	Hilton Head Airport	266.80	32.22, -80.70

- KMYR: [IEM ASOS/METAR daily CSV query](#)

- KCRE: [IEM ASOS/METAR daily CSV query](#)
- KCHS: [IEM ASOS/METAR daily CSV query](#)

#### 5.14 Nearest Radiosonde Stations

STATION	NAME	DISTANCE KM	COORDINATE
USM00072208	CHARLESTON/MUN.; SC.	224.20	32.90, -80.03
USM00072305	NEWPORT; NC.	320.20	34.78, -76.88
USM00072206	JACKSONVILLE/INTNL.; FL.	401.80	30.48, -81.70
USM00074794	CAPE KENNEDY	471.30	28.47, -80.55
USM00072317	GREENSBORO/G.-HIGH PT.; NC.	491.80	36.10, -79.94

#### 5.15 ASOS/METAR Surface Weather Observations

surface visibility ranged 1-10 statute miles; precipitation was reported in at least one observation; low/broken/overcast cloud layers were present in at least one observation. Surface ASOS/METAR observations describe airport-level weather and visibility; they do not by themselves prove conditions at the sighting altitude or line of sight.

STATION	DISTANCE KM	NEAREST OBS UTC	VIS SM	SKY	WIND DEG/KT	METAR
KMYR	209.20	2024-02-24T02:56:00 +00:00	10.00	FEW12000, M, M, M	310.00 / 3.00	KMYR 240256Z 31003KT 10SM FEW120 11/11 A2966 RMK AO2 SLP044 60003 T01110111 52004
KCRE	214.40	2024-02-24T02:53:00 +00:00	10.00	CLR, M, M, M	0.00 / 0.00	KCRE 240253Z AUTO 00000KT 10SM CLR 12/10 A2965 RMK AO1 SLP039 60005 T01220100 51017
KCHS	225.20	2024-02-24T02:56:00 +00:00	10.00	SCT08000, M, M, M	250.00 / 3.00	KCHS 240256Z 25003KT 10SM SCT080 13/08 A2969 RMK AO2 SLP054 T01330083 51032

#### 5.16 NOAA IGRA Radiosonde Wind Profile

Nearest sounding implies mean 0-12 km wind drift toward 87.6 deg at 33.96 m/s; a passive balloon could drift about 244.5 km in two hours under this crude layer-average model. Radiosonde winds are sparse station soundings; balloon drift remains approximate without launch time, ascent rate, object altitude, and exact line-of-sight bearing.

STATION	NAME	DISTANCE KM	SOUNDING UTC	MEAN DRIFT BEARING	MEAN SPEED M/S	2H DRIFT KM	MAX WIND
USM00072208	CHARLESTON/ MUN.; SC.	224.20	2024-02-24T00:00 :00+00:00	87.60	33.96	244.50	61.70 at 10380.00 m

#### 5.17 NOAA GOES ABI/GLM Public File Manifest

GOES public S3 objects are listed for the report hour where available. This is an availability manifest, not yet a rendered satellite image.

SATELLITE	GOES16	BUCKET	noaa-goes16
ABI SAMPLE FILES	12	GLM SAMPLE FILES	12

#### ABI sample objects:

- [ABI-L2-CMIPF/2024/055/02/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20240550200204\\_e20240550209512\\_c20240550209574.nc](#)
- [ABI-L2-CMIPF/2024/055/02/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20240550210204\\_e20240550219512\\_c20240550219570.nc](#)

- [ABI-L2-CMIPF/2024/055/02/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20240550220204\\_e20240550229512\\_c20240550229573.nc](#)
- [ABI-L2-CMIPF/2024/055/02/OR\\_ABI-L2-CMIPF-M6C01\\_G16\\_s20240550230204\\_e20240550239512\\_c20240550239578.nc](#)

GLM lightning sample objects:

- [GLM-L2-LCFA/2024/055/02/OR\\_GLM-L2-LCFA\\_G16\\_s20240550200000\\_e20240550200200\\_c20240550200217.nc](#)
- [GLM-L2-LCFA/2024/055/02/OR\\_GLM-L2-LCFA\\_G16\\_s20240550200200\\_e20240550200400\\_c20240550200414.nc](#)
- [GLM-L2-LCFA/2024/055/02/OR\\_GLM-L2-LCFA\\_G16\\_s20240550200400\\_e20240550201000\\_c20240550201016.nc](#)
- [GLM-L2-LCFA/2024/055/02/OR\\_GLM-L2-LCFA\\_G16\\_s20240550201000\\_e20240550201200\\_c20240550201217.nc](#)

5.18 ADSB.lol Historical Aircraft Track Extraction

This layer uses the downloaded ADSB.lol daily history archive to test actual aircraft tracks near the report coordinate and minute. It is not treated as a primary-radar substitute; it is a transponder/receiver-derived aircraft screen.

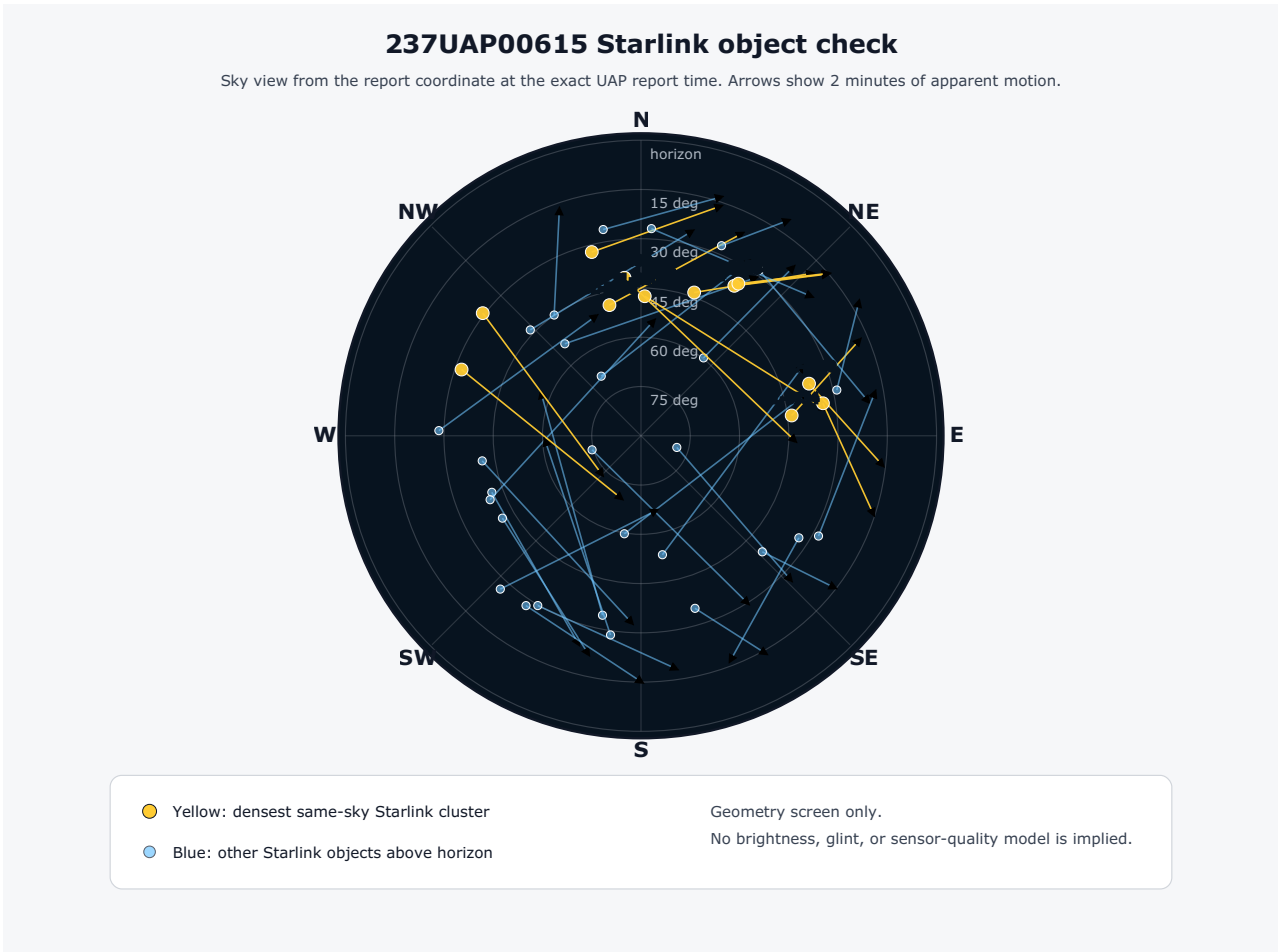
ARCHIVE WINDOW	2024-02-24T01:39:00+00:00 to 2024-02-24T03:39:00+00:00	RADIUS	250.00 nmi
TRACE FILES SCANNED	53785	TRACKS RETAINED	800
SUPPORT STATUS	aircraft strong candidate present	BEST-CANDIDATE NOTE	ordinary-object favored if the report's count, color, direction, and motion can be reconciled with the candidate track(s).
STRONG CANDIDATES	15	PLAUSIBLE CANDIDATES	27
REPORTING-AIRCRAFT TRACKS EXCLUDED	0	WEAK CANDIDATES	94

5.19 Top ADS-B Candidate Tracks

AIRCRAFT	STATUS	SCORE	MIN DIST KM	NEAREST DT MIN	ALT FT	AZ	EL
N904AN B738 ac7e15	strong aircraft candidate	82.61	33.00	1.93	37000	301.10	18.72
N361DN A321 a4105b	strong aircraft candidate	81.67	25.40	4.19	34025	278.40	22.06
N949JT A321 ad2f71	strong aircraft candidate	78.07	24.80	1.79	37000	121.30	23.53
N8646B B738 abe0df	strong aircraft candidate	73.91	68.30	0.12	39000	341.00	9.57
N37535 B39M a4493d	strong aircraft candidate	73.08	49.80	0.14	35000	38.00	11.88
0c4354	strong aircraft candidate	71.54	55.70	0.07	38000	70.80	11.48
N5430G GLF5 a6e570	strong aircraft candidate	69.45	49.50	0.04	45000	359.20	15.28
N355DN A321 a3f7b8	strong aircraft candidate	69.05	55.20	0.01	32950	1.10	10.11



6. Annotated Evidence Figure



Generated figure copied from the local evidence-plot output. It is included as an analytic visualization, not as original sensor imagery.

## 7. Analytic Comparison

CRITERION	REPORT EVIDENCE	ANALYTIC TREATMENT
TIME CONSTRAINT	2024-02-24T02:39:00+00:00	Directly used in propagation; this is a hard filter, not descriptive context.
LOCATION CONSTRAINT	32.23967, -77.90289	Directly used as observer point for azimuth/elevation/range computation.
COUNT / PATTERN	three-object/light language present	No compact same-launch count match; retained for unresolved report features.
MOTION LANGUAGE	stationary	Apparent motion labels in the object table provide a plausible but not definitive comparison.
RADAR / OFFICIAL CHECK	not observed on ATC radar	No ATC radar return can be consistent with distant orbital objects or visual aircraft-light hypotheses, but it does not prove the match.
ANALYTIC DISPOSITION	normal-object	237UAP00615 is assessed as normal-object favored because the available public evidence gives a case-specific ordinary-object candidate: strong ADS-B aircraft candidate N904AN B738 ac7e15 at 33.0 km, azimuth 301.1 deg, elevation 18.72 deg, 1.93 min from report. Dense satellite presence alone is not treated as causation in this packet.

## 8. Caveats, Limitations, and Collection Gaps

- No raw cockpit video, ATC replay, radar plot, or witness interview transcript was reviewed unless explicitly stated in the public source text.
- Aviation-derived coordinates can represent a nearby fix/radial or report point, not necessarily the actual line-of-sight intercept point.
- Starlink visibility depends on illumination, observer altitude, atmospheric conditions, and apparent brightness; this analysis tests geometry, not photometry. No brightness model is used unless explicitly stated elsewhere in the case file.
- TLE propagation is appropriate for screening and reconstruction but is not a substitute for authoritative operational ephemerides.
- When many satellites are above the horizon, generic presence is weak evidence and is not treated as causation. The report emphasizes named launch-object checks or compact same-launch trajectory groups.
- Normal-object favored is not the same as a perfect named-object identification; it requires a case-specific ordinary-object candidate stronger than simple object density.

# Appendix A. Public Report Text Extracts

## 237UAP00615

Washington Operations Center

Date: 2/23/2024 9:39:00 PM (-05 EST)  
Title: NKS1777 UFO-UAP ACTIVITY 02-23-2024  
Latitude: 32.239667359999999                      Latitude: -77.902888880000006

DESCRIPTION

PRELIM INFO FROM FAA OPS: WILMINGTON, NC/UFO-UAP ACTIVITY/2139E/JACKSONVILLE ARTCC ADVISED SPIRIT 1777, A321, FLL - EWR, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON AT THE 12 O'CLOCK POSITION WHILE N BOUND AT FL350 140 S ILM. THE UAP WAS DESCRIBED AS 2 WHITE LIGHTS THAT APPEARED STATIONARY AT FL490. UAP WAS NOT OBSERVED ON RADAR. WOC 7-3333 HM/JE

## Appendix B. Computational Evidence Digest

This appendix preserves the principal computed values used in the assessment, shortened to the fields most relevant to audit and review.

```
{
  "report_time_utc": "2024-02-24T02:39:00+00:00",
  "source_excerpt": "Washington Operations Center\n\n\n\nDate: 2/23/2024 9:39:00 PM (-05 EST)\nTitle: NKS1777 UFO-UAP\nACTIVITY 02-23-2024\nLatitude: 32.239667359999999\nLatitude: -77.90288880000006\n\n\n\nDESCRIPTION\n\nPRELIM INFO FROM FAA OPS: WILMINGTON, NC/UFO-UAP ACTIVITY/2139E/JACKSONVILLE ARTCC\nADVISED SPIRIT\n1777, A321, FLL - EWR, REPORTED AN UNIDENTIFIED AERIAL PHENOMENON AT THE 12 O'CLOCK POSITION WHILE N\nBOUND AT\nFL350 140 S ILM. THE UAP WAS DESCRIBED AS 2 WHITE LIGHTS THAT APPEARED STATIONARY AT\nFL490. UAP WAS NOT OBSERVED ON RADAR. WOC\n7-3333 HM/JE",
  "historical_starlink_element_rows": 5459,
  "observer": {
    "lat": 32.23966736,
    "lon": -77.90288888,
    "source": "(public text extract 237UAP00615)"
  },
  "case_id": "237UAP00615",
  "starlink_above_horizon_at_report_time": 277,
  "starlink_catalog_ids_considered": 5480,
  "largest_same-sky_cluster_count": 76,
  "starlink_at_or_above_10_deg": 128,
  "top_starlinks": [
    {
      "azimuth_deg": 108.04,
      "azimuth_plus_2m_deg": 133.94,
      "azimuth_plus_5m_deg": 136.1,
      "element_age_hours": 0.98,
      "element_epoch": "2024-02-24T03:37:46.199424+00:00",
      "elevation_deg": 78.53,
      "elevation_plus_2m_deg": 26.28,
      "elevation_plus_5m_deg": 4.39,
      "epoch_altitude_km": 553.27,
      "ground_track_bearing_deg": 137.77,
      "ground_track_label": "SE",
      "launch_date": "2020-10-18",
      "name": "STARLINK-1808",
      "norad_id": "46707",
      "range_km": 558.78,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 31.9499,
      "subpoint_lon": -76.874
    },
    {
      "azimuth_deg": 254.0,
      "azimuth_plus_2m_deg": 147.4,
      "azimuth_plus_5m_deg": 142.21,
      "element_age_hours": 4.65,
      "element_epoch": "2024-02-23T22:00:01.999584+00:00",
      "elevation_deg": 74.5,
      "elevation_plus_2m_deg": 29.16,
      "elevation_plus_5m_deg": 4.86,
      "epoch_altitude_km": 517.12,
      "ground_track_bearing_deg": 138.0,
      "ground_track_label": "SE",
      "launch_date": "2021-11-13",
      "name": "STARLINK-3097",
      "norad_id": "49448",
      "range_km": 528.84,
      "sky_motion_label": "westward, setting",
      "subpoint_lat": 31.9074,
      "subpoint_lon": -79.233
    },
    {
      "azimuth_deg": 326.3,
      "azimuth_plus_2m_deg": 31.79,
      "azimuth_plus_5m_deg": 40.01,
      "element_age_hours": 0.19,
      "element_epoch": "2024-02-24T02:27:23.048640+00:00",
      "elevation_deg": 68.18,
      "elevation_plus_2m_deg": 27.31,
      "elevation_plus_5m_deg": 4.98,
      "epoch_altitude_km": 553.42,
      "ground_track_bearing_deg": 44.06,
      "ground_track_label": "NE",
      "launch_date": "2021-05-04",
      "name": "STARLINK-1904",
      "norad_id": "48389",
      "range_km": 587.56,
      "sky_motion_label": "eastward, setting",
      "subpoint_lat": 33.7421,
      "subpoint_lon": -79.1071
    }
  ],
}
```

```

{
  "azimuth_deg": 189.64,
  "azimuth_plus_2m_deg": 75.55,
  "azimuth_plus_5m_deg": 62.83,
  "element_age_hours": 0.2,
  "element_epoch": "2024-02-24T02:26:44.163456+00:00",
  "elevation_deg": 59.73,
  "elevation_plus_2m_deg": 37.69,
  "elevation_plus_5m_deg": 8.47,
  "epoch_altitude_km": 565.68,
  "ground_track_bearing_deg": 55.37,
  "ground_track_label": "NE",
  "launch_date": "2023-02-12",
  "name": "STARLINK-5730",
  "norad_id": "55611",
  "range_km": 639.63,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 29.6025,
  "subpoint_lon": -78.4151
},
{
  "azimuth_deg": 38.75,
  "azimuth_plus_2m_deg": 42.08,
  "azimuth_plus_5m_deg": 43.15,
  "element_age_hours": 9.34,
  "element_epoch": "2024-02-24T11:59:33.045792+00:00",
  "elevation_deg": 59.59,
  "elevation_plus_2m_deg": 20.41,
  "elevation_plus_5m_deg": 2.24,
  "epoch_altitude_km": 545.92,
  "ground_track_bearing_deg": 44.23,
  "ground_track_label": "NE",
  "launch_date": "2022-10-20",
  "name": "STARLINK-5176",
  "norad_id": "54053",
  "range_km": 619.65,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 34.2578,
  "subpoint_lon": -75.9373
},
{
  "azimuth_deg": 320.38,
  "azimuth_plus_2m_deg": 36.17,
  "azimuth_plus_5m_deg": 53.01,
  "element_age_hours": 1.85,
  "element_epoch": "2024-02-24T00:48:15.945696+00:00",
  "elevation_deg": 53.63,
  "elevation_plus_2m_deg": 30.22,
  "elevation_plus_5m_deg": 6.69,
  "epoch_altitude_km": 565.61,
  "ground_track_bearing_deg": 61.43,
  "ground_track_label": "ENE",
  "launch_date": "2023-09-30",
  "name": "STARLINK-30512",
  "norad_id": "57976",
  "range_km": 681.94,
  "sky_motion_label": "eastward, setting",
  "subpoint_lat": 34.795,
  "subpoint_lon": -80.4941
},
{
  "azimuth_deg": 169.79,
  "azimuth_plus_2m_deg": 66.54,
  "azimuth_plus_5m_deg": 49.7,
  "element_age_hours": 6.2,
  "element_epoch": "2024-02-24T08:50:44.050560+00:00",
  "elevation_deg": 53.19,
  "elevation_plus_2m_deg": 36.1,
  "elevation_plus_5m_deg": 7.8,
  "epoch_altitude_km": 545.92,
  "ground_track_bearing_deg": 40.72,
  "ground_track_label": "NE",
  "launch_date": "2022-02-25",
  "name": "STARLINK-3631",
  "norad_id": "51790",
  "range_km": 661.21,
  "sky_motion_label": "westward, setting",
  "subpoint_lat": 28.9953,
  "subpoint_lon": -77.2384
},
{
  "azimuth_deg": 346.43,
  "azimuth_plus_2m_deg": 26.74,
  "azimuth_plus_5m_deg": 37.8,
  "element_age_hours": 6.15,
  "element_epoch": "2024-02-24T08:48:08.047584+00:00",
  "elevation_deg": 49.07,
  "elevation_plus_2m_deg": 20.79,

```

```

    "elevation_plus_5m_deg": 2.76,
    "epoch_altitude_km": 545.95,
    "ground_track_bearing_deg": 45.58,
    "ground_track_label": "NE",
    "launch_date": "2022-02-25",
    "name": "STARLINK-3646",
    "norad_id": "51785",
    "range_km": 697.35,
    "sky_motion_label": "eastward, setting",
    "subpoint_lat": 35.9268,
    "subpoint_lon": -78.9982
  },
  {
    "azimuth_deg": 1.54,
    "azimuth_plus_2m_deg": 82.14,
    "azimuth_plus_5m_deg": 104.39,
    "element_age_hours": 6.91,
    "element_epoch": "2024-02-23T19:44:12.921792+00:00",
    "elevation_deg": 47.49,
    "elevation_plus_2m_deg": 32.99,
    "elevation_plus_5m_deg": 7.88,
    "epoch_altitude_km": 565.66,
    "ground_track_bearing_deg": 116.75,
    "ground_track_label": "ESE",
    "launch_date": "2023-05-19",
    "name": "STARLINK-30068",
    "norad_id": "56698",
    "range_km": 737.05,
    "sky_motion_label": "eastward, setting",
    "subpoint_lat": 36.3672,
    "subpoint_lon": -77.7654
  },
  {
    "azimuth_deg": 324.28,
    "azimuth_plus_2m_deg": 340.27,
    "azimuth_plus_5m_deg": 345.47,
    "element_age_hours": 4.96,
    "element_epoch": "2024-02-23T21:41:26.731104+00:00",
    "elevation_deg": 44.71,
    "elevation_plus_2m_deg": 16.4,
    "elevation_plus_5m_deg": 0.24,
    "epoch_altitude_km": 568.39,
    "ground_track_bearing_deg": 347.88,
    "ground_track_label": "NNW",
    "launch_date": "2022-07-22",
    "name": "STARLINK-4408",
    "norad_id": "53206",
    "range_km": 774.56,
    "sky_motion_label": "eastward, setting",
    "subpoint_lat": 35.9005,
    "subpoint_lon": -81.1742
  },
  {
    "azimuth_deg": 82.33,
    "azimuth_plus_2m_deg": 66.19,
    "azimuth_plus_5m_deg": 61.43,
    "element_age_hours": 8.21,
    "element_epoch": "2024-02-23T18:26:29.689152+00:00",
    "elevation_deg": 43.7,
    "elevation_plus_2m_deg": 16.96,
    "elevation_plus_5m_deg": 1.1,
    "epoch_altitude_km": 565.58,
    "ground_track_bearing_deg": 58.73,
    "ground_track_label": "ENE",
    "launch_date": "2023-02-12",
    "name": "STARLINK-5734",
    "norad_id": "55612",
    "range_km": 778.36,
    "sky_motion_label": "westward, setting",
    "subpoint_lat": 32.7443,
    "subpoint_lon": -72.4247
  },
  {
    "azimuth_deg": 20.35,
    "azimuth_plus_2m_deg": 46.66,
    "azimuth_plus_5m_deg": 55.48,
    "element_age_hours": 0.27,
    "element_epoch": "2024-02-24T02:22:55.400448+00:00",
    "elevation_deg": 43.46,
    "elevation_plus_2m_deg": 17.88,
    "elevation_plus_5m_deg": 1.66,
    "epoch_altitude_km": 559.55,
    "ground_track_bearing_deg": 64.27,
    "ground_track_label": "ENE",
    "launch_date": "2023-09-30",
    "name": "STARLINK-30494",
    "norad_id": "57970",
    "range_km": 774.31,

```

```
    "sky_motion_label": "eastward, setting",
    "subpoint_lat": 36.5976,
    "subpoint_lon": -75.8933
  }
],
"adsb_lol_analysis": {
  "classificationSupport": {
    "bestCandidate": {
      "bestScoredPoint": {
        "altitudeFt": 37000,
        "azimuthDeg": 301.1,
```

## Appendix C. Source Exhaustion Checklist

This checklist records which source layers were actually applied to this individual report. It separates checked evidence from unexhausted collection gaps so the disposition is auditable when the PDF is read alone.

SOURCE LAYER	STATUS	CASE-SPECIFIC NOTE
NARA PUBLIC UAP/FAA REPORT	reviewed	Source IDs: 237UAP00615
TIME AND OBSERVER COORDINATE	extracted	2024-02-24T02:39:00+00:00 at 32.23967, -77.90289
ORBITAL OBJECT PROPAGATION	screened	Starlink
SPACE-TRACK SATCAT METADATA	screened	30 NORAD IDs checked; 30 matched in local SATCAT subset
LAUNCH-OBJECT/SUPGP LAYER	not applicable	not a launch-object case
NASA/JPL KNOWN SMALL-BODY LAYER	not selected	CAD/Horizons secondary screen included when this case had NEO-relevant timing/geometry
NASA POWER/HORIZONS/DONKI CONTEXT	screened	Hourly weather, sky geometry, and space-weather context where local JSON is present
AIRCRAFT/ADS-B LAYER	screened	53785 trace files scanned; 800 tracks retained; aircraft strong candidate present
NOAA GOES IMAGERY LAYER	not exhausted	Cloud/lightning imagery layer for the report hour
NOAA GOES ABI/GLM MANIFEST	screened	Public S3 object listing for the report hour
NOAA/NEXRAD WEATHER RADAR LAYER	not exhausted	Weather radar only; not ATC/primary radar
NOAA IGRA RADIOSONDE LAYER	screened	Balloon drift plausibility layer
ASOS/METAR SURFACE WEATHER	screened	Nearest station visibility, cloud, wind, precipitation, and METAR observations
WEATHER/BALLOON SOURCE PLAN	planned	Nearest weather-airport, GOES, and radiosonde queries are listed where local plan JSON is present
FINAL ANALYTIC DISPOSITION	normal-object favored	Presence-only satellite density is context only; a stronger case-specific fit is required for normal-object disposition



## References and Source Links

---

1. National Archives and Records Administration. *Records Related to Unidentified Flying Objects (UFOs) and Unidentified Anomalous Phenomena (UAPs) at the National Archives*. <https://www.archives.gov/research/topics/uaps>
2. National Archives and Records Administration. *Record Group 615: Unidentified Anomalous Phenomena Records Collection*. <https://www.archives.gov/research/topics/uaps/rg-615>
3. National Archives and Records Administration. *Bulk Downloads for Records Related to Unidentified Anomalous Phenomena (UAPs)*. <https://www.archives.gov/research/catalog/catalog-bulk-downloads/uap-bulk-download>
4. National Archives Catalog. *Records from the Federal Aviation Administration Relating to Unidentified Anomalous Phenomena, National Archives Identifier 493468575*. <https://catalog.archives.gov/id/493468575>
5. National Archives direct digital object. *237UAP00615.pdf, FAA UAP report record copied from RG 615 bulk digital objects*. <https://s3.dualstack.us-east-1.amazonaws.com/NARAprdstorage/lz/electronic-records/rg-615/493468575/237UAP00615.pdf>
6. Hugging Face dataset. *oxzoid/space-track-tle-history: historical TLE archive used for Starlink screening*. <https://huggingface.co/datasets/oxzoid/space-track-tle-history>
7. Space-Track.org. *Public source for the underlying U.S. Space Surveillance Network TLE distribution referenced by the historical TLE archive*. <https://www.space-track.org/>
8. Space-Track.org. *API documentation for SATCAT and catalog metadata classes used for local enrichment*. <https://www.space-track.org/documentation#/api>
9. NASA POWER. *Hourly point API documentation for meteorological context*. <https://power.larc.nasa.gov/docs/services/api/temporal/hourly/>
10. NASA/JPL Solar System Dynamics. *Horizons API documentation for observer geometry and apparent magnitude queries*. <https://ssd-api.jpl.nasa.gov/doc/horizons.html>
11. NASA. *DONKI space weather API documentation*. <https://api.nasa.gov/>
12. ADSB.lol. *Interactive API documentation and OpenAPI definition*. <https://api.adsb.lol/docs>
13. ADSB.lol. *Historical open-data release documentation*. <https://www.adsb.lol/docs/open-data/historical/>
14. OpenSky Network. *REST API documentation*. <https://openskynetwork.github.io/opensky-api/rest.html>
15. OpenSky Network. *Historical data via Trino documentation*. <https://openskynetwork.github.io/opensky-api/trino.html>
16. NASA GIBS. *Global Imagery Browse Services API documentation*. <https://nasa-gibs.github.io/gibs-api-docs/>
17. NASA Earthdata. *Common Metadata Repository search API documentation*. <https://cmr.earthdata.nasa.gov/search/site/docs/search/api.html>
18. NOAA / AWS Open Data. *GOES public dataset registry*. <https://registry.opendata.aws/noaa-goes/>
19. NOAA / AWS Open Data. *NEXRAD public dataset registry*. <https://registry.opendata.aws/noaa-nexrad/>
20. NOAA NCEI. *Integrated Global Radiosonde Archive*. <https://www.ncei.noaa.gov/products/weather-balloon/integrated-global-radiosonde-archive>
21. Iowa Environmental Mesonet. *ASOS/AWOS/METAR data download service*. <https://mesonet.agron.iastate.edu/request/download.phtml>
22. Celestrak. *Spacetrack Report No. 3: Models for propagation of NORAD element sets*. <https://celestrak.org/NORAD/documentation/spacetrk.pdf>
23. Celestrak. *Supplemental GP element sets documentation and current endpoint index*. <https://celestrak.org/NORAD/elements/supplemental/>