

EastMSP

Verified Local Aerospace Intelligence

ADS-B / Mode S EHS · Forensic Verification Report · v2.0

QUERY	Flight: ASA180 From: 2026-04-29T00:00:00+00:00 To: 2026-04-29T23:59:59+00:00
GENERATED	2026-04-30 14:47:30 UTC
STATION	ADSBX_EASTMSP · Kirkland, WA · 47.66°N, 122.19°W
FREQUENCY	1090 MHz — Passive ADS-B / Mode S EHS Reception
CALLSIGN(S)	ASA180
ICAO HEX(S)	aa9136
AIRCRAFT TYPE	Boeing B789
SQUAWK(S)	6670
AIRCRAFT CAT.	A5
DATA SOURCE(S)	adsb_icao
OBSERVATIONS	12
TIME WINDOW	2026-04-29 01:05:09 → 2026-04-29 01:11:09
ALT RANGE	11,950 – 21,775 ft
AVG RSSI	-14.8 dBFS (min -21.0 / max -4.4)

BARO ALT RANGE 11,950 – 21,775 ft	SEL ALT INTENT 15,008 – 35,008 ft	GROUND SPEED 383 – 466 kt	VERTICAL RATE —
MAG HEADING 47.8° – 345.2°	NAV MODES autopilot, lnav, tcas, vnav	EMERGENCY None	ALERTS / SPI 0 alerts · 0 SPI

This report contains six sections: Position & Identity · Golden 8 EHS Parameters · Navigation State & Signal · Data Integrity Metrics · Chain of Custody · Flight Path Map. All data captured via passive 1090MHz reception. No transmission by ground station.

Section 1 — Position & Identity Log

GPS coordinates, altitude, squawk, source, and emergency state per observation.

Timestamp (UTC)	Callsign	Hex	Aircraft	Squawk	Latitude	Longitude	Alt Baro (ft)	Alt Geom (ft)	Source	Emergency
2026-04-29 01:05:09	ASA180	aa9136	Boeing B789	6670	47.564484	-122.060097	11,950	12,025	adsb_icao	none
2026-04-29 01:05:39	ASA180	aa9136	Boeing B789	6670	47.619681	-122.062542	12,575	12,675	adsb_icao	none
2026-04-29 01:06:09	ASA180	aa9136	Boeing B789	6670	47.676407	-122.064903	13,625	13,725	adsb_icao	none
2026-04-29 01:06:39	ASA180	aa9136	Boeing B789	6670	47.733582	-122.066895	14,650	14,750	adsb_icao	none
2026-04-29 01:07:09	ASA180	aa9136	Boeing B789	6670	47.790900	-122.068951	15,625	15,750	adsb_icao	none
2026-04-29 01:07:39	ASA180	aa9136	Boeing B789	6670	47.847061	-122.070946	16,475	16,600	adsb_icao	none
2026-04-29 01:08:09	ASA180	aa9136	Boeing B789	6670	47.907578	-122.073418	17,525	17,650	adsb_icao	none
2026-04-29 01:08:39	ASA180	aa9136	Boeing B789	6670	47.964706	-122.063049	18,625	18,725	adsb_icao	none
2026-04-29 01:09:09	ASA180	aa9136	Boeing B789	6670	47.998169	-122.035378	19,250	19,350	adsb_icao	none
2026-04-29 01:09:39	ASA180	aa9136	Boeing B789	—	47.998169	-122.035378	19,250	19,350	adsb_icao	—
2026-04-29 01:10:39	ASA180	aa9136	Boeing B789	—	48.089067	-121.801406	—	—	adsb_icao	—
2026-04-29 01:11:09	ASA180	aa9136	Boeing B789	—	48.105194	-121.752960	21,775	21,950	adsb_icao	—

Section 2 — Mode S EHS Golden 8 Downlink Aircraft Parameters

Pilot intent (Selected Altitude) and airframe performance decoded from Mode S EHS BDS registers 4.0, 5.0, 6.0.

Timestamp (UTC)	Callsign	Sel Alt (ft)	Mag Hdg	IAS (kt)	Mach	V/S Baro	V/S Geom	Roll	Trk Rate	Track	GS (kt)
2026-04-29 01:05:09	ASA180	15,008	345.2°	—	—	—	1088	—	—	357.9°	383.3
2026-04-29 01:05:39	ASA180	23,008	341.7°	—	—	—	1664	—	—	358.4°	402.2
2026-04-29 01:06:09	ASA180	23,008	341.7°	—	—	—	2368	—	—	358.6°	407.1
2026-04-29 01:06:39	ASA180	23,008	341.7°	—	—	—	2048	—	—	358.5°	412.1
2026-04-29 01:07:09	ASA180	23,008	341.7°	—	—	—	2048	—	—	358.6°	417.1
2026-04-29 01:07:39	ASA180	23,008	341.7°	—	—	—	1792	—	—	358.5°	424.1
2026-04-29 01:08:09	ASA180	23,008	341.7°	—	—	—	2560	—	—	358.5°	424.1
2026-04-29 01:08:39	ASA180	23,008	341.7°	—	—	—	2624	—	—	0.4°	423.0
2026-04-29 01:09:09	ASA180	23,008	47.8°	—	—	—	1920	—	—	37.6°	431.4
2026-04-29 01:09:39	ASA180	23,008	47.8°	—	—	—	1920	—	—	37.6°	431.4
2026-04-29 01:10:39	ASA180	—	—	—	—	—	1472	—	—	63.5°	464.7
2026-04-29 01:11:09	ASA180	35,008	47.8°	—	—	—	1216	—	—	63.5°	466.0

Section 3 — Navigation State & Signal Quality

Autopilot modes, QNH, FMS altitude, signal strength, message count, and transponder flags.

Timestamp (UTC)	Callsign	Nav Modes	QNH (hPa)	Alt FMS (ft)	RSSI (dBFS)	Messages	Seen (s)	Alert	SPI
2026-04-29 01:05:09	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-15.2	159	0.1	0	0
2026-04-29 01:05:39	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-10.2	373	0.7	0	0
2026-04-29 01:06:09	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-7.0	642	0.4	0	0
2026-04-29 01:06:39	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-4.4	920	0.3	0	0
2026-04-29 01:07:09	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-5.0	1168	0.1	0	0
2026-04-29 01:07:39	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-12.3	1296	0.1	0	0
2026-04-29 01:08:09	ASA180	autopilot,vnav,lnav,tcas	1023.2	—	-19.0	1363	0.6	0	0
2026-04-29 01:08:39	ASA180	autopilot,vnav,lnav,tcas	1012.8	—	-20.5	1409	1.0	0	0
2026-04-29 01:09:09	ASA180	autopilot,vnav,lnav,tcas	1012.8	—	-21.0	1417	10.9	0	0
2026-04-29 01:09:39	ASA180	autopilot,vnav,lnav,tcas	1012.8	—	-21.0	1417	40.9	0	0
2026-04-29 01:10:39	ASA180	—	—	—	-20.7	1420	0.1	0	0
2026-04-29 01:11:09	ASA180	autopilot,vnav,lnav,tcas	1012.8	—	-20.8	1428	23.0	0	0

Section 4 — Data Integrity & Accuracy Metrics

Per-observation accuracy indicators as broadcast by the aircraft transponder.

Timestamp (UTC)	Callsign	NIC	NIC Baro	NACp	NACv	SIL	SIL Type	GVA	SDA	RC (ft)	ADS-B Ve
2026-04-29 01:05:09	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:05:39	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:06:09	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:06:39	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:07:09	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:07:39	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:08:09	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:08:39	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:09:09	ASA180	8	1	9	1	3	perhour	2	2	186	2
2026-04-29 01:09:39	ASA180	8	1	9	1	3	perhour	—	—	186	2
2026-04-29 01:10:39	ASA180	8	—	8	1	2	perhour	—	—	186	0
2026-04-29 01:11:09	ASA180	8	1	9	1	3	perhour	—	—	186	0

Section 5 — Chain of Custody

SHA-256 digest computed at capture time from 20 core fields. Any post-capture modification to any field produces a non-matching hash. Fields hashed: captured_utc, station_id, hex, flight, lat, lon, alt_baro, nav_altitude_mcp, nav_heading, ias, baro_rate, roll, track_rate, track, gs, rssi, emergency, squawk, alert, spi.

Timestamp (UTC)	Callsign	Hex	Squawk	Lat	Lon	Alt Baro	Status	SHA-256 Hash
2026-04-29 01:05:09	ASA180	aa9136	6670	47.564484	-122.060097	11,950	OK	afa3dd08f6c7e3163405b1d1d2873a38 bb9eb9e446e845f08b2e8025b95582d39
2026-04-29 01:05:39	ASA180	aa9136	6670	47.619681	-122.062542	12,575	OK	38e3532677e564a47efcb0feac82a030 c58de6b4cd720035204d318baa736ac1
2026-04-29 01:06:09	ASA180	aa9136	6670	47.676407	-122.064903	13,625	OK	31e797567218e0b0bb883397d370ae52 58ed0575a6b0a71e168f3fbef5cca3ae
2026-04-29 01:06:39	ASA180	aa9136	6670	47.733582	-122.066895	14,650	OK	2b4bdf976bb1a183207191575200f0f0 53d9d8ae3f9ae29847a5784d2b73f23a
2026-04-29 01:07:09	ASA180	aa9136	6670	47.790900	-122.068951	15,625	OK	7faef2780f9add83f8b23a79361f62c3 e700e4b567327379806f5d2e96c5fad8
2026-04-29 01:07:39	ASA180	aa9136	6670	47.847061	-122.070946	16,475	OK	b7c0c3e9910207d7cf097b61d5f2a7ae f6a6a08c119bf31c59158bba29c5475e
2026-04-29 01:08:09	ASA180	aa9136	6670	47.907578	-122.073418	17,525	OK	ffe7a2be94bd6a46ba2b268afc04ad7a 7001ca3e9432393b58322cdaafacbe83
2026-04-29 01:08:39	ASA180	aa9136	6670	47.964706	-122.063049	18,625	OK	25e3c4a7062429eff4cc6e7d6c5ee758 423e578b8f96efbbc218bf4117c437a7
2026-04-29 01:09:09	ASA180	aa9136	6670	47.998169	-122.035378	19,250	OK	de28f1d81e7105882fd1bc4c6f4047fe d52df195cf45128e29ec0ff576420316
2026-04-29 01:09:39	ASA180	aa9136	—	47.998169	-122.035378	19,250	OK	bc618fd69337460a17a7e8b53abd4a69 82f7b76203feb192e70334e99a5a1186
2026-04-29 01:10:39	ASA180	aa9136	—	48.089067	-121.801406	—	OK	931581fbf7129c1b7cf41ea129fe1b77 27d879be73020b68ec3aeca779c25ce
2026-04-29 01:11:09	ASA180	aa9136	—	48.105194	-121.752960	21,775	OK	35d8e5dff6c129612b941b1309b2e49e eb8b01417dc0297793b02ca26df96b15

Section 6 — Flight Path Map

Lat/lon track coloured by barometric altitude. Green circle = first fix, red square = last fix, cyan triangle = ground station.

