

# EastMSP

Verified Local Aerospace Intelligence

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

QUERY	Flight: ASA181   From: 2026-04-30T00:00:00+00:00   To: 2026-04-30T23:59:59+00:00
GENERATED	2026-04-30 14:32:07 UTC
STATION	ADSBX_EASTMSP · Kirkland, WA · 47.66°N, 122.19°W
FREQUENCY	1090 MHz — Passive ADS-B / Mode S EHS Reception
CALLSIGN(S)	ASA181
ICAO HEX(S)	aa9136
AIRCRAFT TYPE	Boeing B789
SQUAWK(S)	3532
AIRCRAFT CAT.	A5
DATA SOURCE(S)	adsb_icao
OBSERVATIONS	13
TIME WINDOW	2026-04-30 00:14:01 → 2026-04-30 00:20:02
ALT RANGE	9,200 – 15,025 ft
AVG RSSI	-15.1 dBFS (min -21.5 / max -7.4)

BARO ALT RANGE <b>9,200 – 15,025 ft</b>	SEL ALT INTENT <b>7,008 – 11,008 ft</b>	GROUND SPEED <b>284 – 348 kt</b>	VERTICAL RATE —
MAG HEADING <b>203.9° – 206.7°</b>	NAV MODES <b>althold, autopilot, lnav, tcas, vnav</b>	EMERGENCY <b>None</b>	ALERTS / SPI <b>0 alerts · 0 SPI</b>

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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
2026-04-30 00:14:01	ASA181	aa9136	Boeing B789	—	47.826920	-121.784683	15,025	15,375	adsb_icao	none
2026-04-30 00:14:31	ASA181	aa9136	Boeing B789	3532	47.790201	-121.834224	14,200	14,525	adsb_icao	none
2026-04-30 00:15:01	ASA181	aa9136	Boeing B789	3532	47.755096	-121.881844	13,575	13,900	adsb_icao	none
2026-04-30 00:15:31	ASA181	aa9136	Boeing B789	3532	47.720978	-121.927819	12,850	13,175	adsb_icao	none
2026-04-30 00:16:01	ASA181	aa9136	Boeing B789	3532	47.686902	-121.973595	12,150	12,450	adsb_icao	none
2026-04-30 00:16:31	ASA181	aa9136	Boeing B789	3532	47.653290	-122.018623	11,475	11,775	adsb_icao	none
2026-04-30 00:17:01	ASA181	aa9136	Boeing B789	3532	47.620239	-122.062981	10,800	11,075	adsb_icao	none
2026-04-30 00:17:31	ASA181	aa9136	Boeing B789	3532	47.587097	-122.107544	10,725	11,000	adsb_icao	none
2026-04-30 00:18:02	ASA181	aa9136	Boeing B789	3532	47.556928	-122.147827	10,750	11,025	adsb_icao	none
2026-04-30 00:18:32	ASA181	aa9136	Boeing B789	3532	47.520338	-122.172969	10,450	10,750	adsb_icao	none
2026-04-30 00:19:02	ASA181	aa9136	Boeing B789	3532	47.484238	-122.173943	9,875	10,150	adsb_icao	none
2026-04-30 00:19:32	ASA181	aa9136	Boeing B789	3532	47.460938	-122.173805	9,575	9,850	adsb_icao	none
2026-04-30 00:20:02	ASA181	aa9136	Boeing B789	3532	47.460938	-122.173805	9,200	9,475	adsb_icao	none

## 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)
2026-04-30 00:14:01	ASA181	11,008	203.9°	—	—	—	-1600	—	—	222.3°	347.6
2026-04-30 00:14:31	ASA181	11,008	206.7°	—	—	—	-1408	—	—	222.2°	345.5
2026-04-30 00:15:01	ASA181	11,008	206.7°	—	—	—	-1088	—	—	222.5°	337.6
2026-04-30 00:15:31	ASA181	11,008	206.7°	—	—	—	-1920	—	—	222.2°	333.4
2026-04-30 00:16:01	ASA181	11,008	206.7°	—	—	—	-1280	—	—	222.2°	327.8
2026-04-30 00:16:31	ASA181	11,008	206.7°	—	—	—	-1408	—	—	222.2°	322.8
2026-04-30 00:17:01	ASA181	11,008	206.7°	—	—	—	-640	—	—	222.2°	321.4
2026-04-30 00:17:31	ASA181	11,008	206.7°	—	—	—	64	—	—	222.2°	315.8
2026-04-30 00:18:02	ASA181	11,008	206.7°	—	—	—	-128	—	—	222.1°	298.1
2026-04-30 00:18:32	ASA181	7,008	206.7°	—	—	—	-1280	—	—	184.5°	290.9
2026-04-30 00:19:02	ASA181	7,008	206.7°	—	—	—	-1152	—	—	180.0°	289.0
2026-04-30 00:19:32	ASA181	7,008	206.7°	—	—	—	-960	—	—	179.6°	284.0
2026-04-30 00:20:02	ASA181	7,008	206.7°	—	—	—	-960	—	—	179.6°	284.0

### 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
2026-04-30 00:14:01	ASA181	autopilot,vnav,lhav,tcas	1022.4	—	-18.7	82	0.2	0	0
2026-04-30 00:14:31	ASA181	autopilot,lhav,tcas	1022.4	—	-18.8	233	0.1	0	0
2026-04-30 00:15:01	ASA181	autopilot,lhav,tcas	1022.4	—	-14.3	412	0.1	0	0
2026-04-30 00:15:31	ASA181	autopilot,lhav,tcas	1022.4	—	-13.5	656	0.2	0	0
2026-04-30 00:16:01	ASA181	autopilot,lhav,tcas	1022.4	—	-12.9	900	0.2	0	0
2026-04-30 00:16:31	ASA181	autopilot,lhav,tcas	1022.4	—	-10.9	1125	0.1	0	0
2026-04-30 00:17:01	ASA181	autopilot,althold,lhav,tcas	1022.4	—	-11.7	1372	0.1	0	0
2026-04-30 00:17:31	ASA181	autopilot,althold,lhav,tcas	1022.4	—	-7.4	1631	0.1	0	0
2026-04-30 00:18:02	ASA181	autopilot,althold,lhav,tcas	1022.4	—	-13.2	1905	1.0	0	0
2026-04-30 00:18:32	ASA181	autopilot,lhav,tcas	1022.4	—	-13.1	2097	0.1	0	0
2026-04-30 00:19:02	ASA181	autopilot,lhav,tcas	1022.4	—	-18.8	2306	2.9	0	0
2026-04-30 00:19:32	ASA181	autopilot,lhav,tcas	1022.4	—	-21.2	2397	3.5	0	0
2026-04-30 00:20:02	ASA181	autopilot,lhav,tcas	1022.4	—	-21.5	2398	33.5	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
2026-04-30 00:14:01	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:14:31	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:15:01	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:15:31	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:16:01	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:16:31	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:17:01	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:17:31	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:18:02	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:18:32	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:19:02	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:19:32	ASA181	8	1	9	1	3	perhour	2	2	186	2
2026-04-30 00:20:02	ASA181	8	1	9	1	3	perhour	2	2	186	2

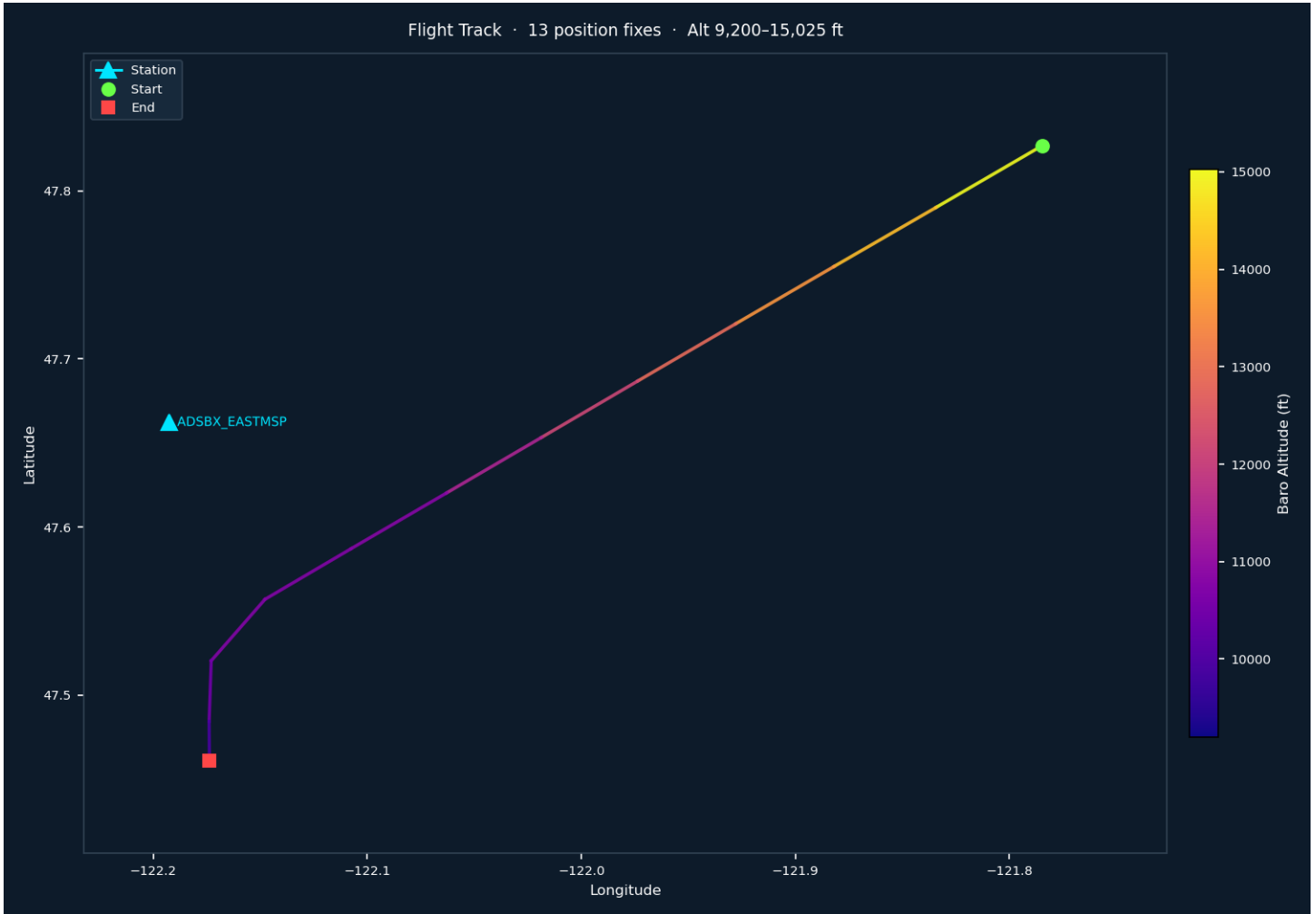
## Section 5 — Chain of Custody

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
2026-04-30 00:14:01	ASA181	aa9136	—	47.826920	-121.784683	15,025	OK	df fac3256659318ef073e3f03da8ec966458ad00b3e1de62c99fadea9a00738d
2026-04-30 00:14:31	ASA181	aa9136	3532	47.790201	-121.834224	14,200	OK	836982cd99aa37594352b2c4a7b078153d336c4c8c6c0a8e7586ac52da83c1e9
2026-04-30 00:15:01	ASA181	aa9136	3532	47.755096	-121.881844	13,575	OK	4aa0d0b066e37e28b5bbbc3afeda739a511970a77c40c33df11ba104a91c8159
2026-04-30 00:15:31	ASA181	aa9136	3532	47.720978	-121.927819	12,850	OK	66c98c9f31df6cc26141477df6725075277353fdfff153463a7ea3de8e3afffe
2026-04-30 00:16:01	ASA181	aa9136	3532	47.686902	-121.973595	12,150	OK	20045a800a1f407172ae5c8526da9b42ea7f0153d38e8baa8dc0a53ff8392233
2026-04-30 00:16:31	ASA181	aa9136	3532	47.653290	-122.018623	11,475	OK	2abf0c3f70590fcb9d1988c4163f36a66f9e8e76bae7eae0ae9dd1d76b5755d4
2026-04-30 00:17:01	ASA181	aa9136	3532	47.620239	-122.062981	10,800	OK	5c2022192c3fb113a96c45b109f3d3ef952dfab4e8cf92714649f0b314644bdd
2026-04-30 00:17:31	ASA181	aa9136	3532	47.587097	-122.107544	10,725	OK	45559812b07c3fdc01086aea963eab18af7321b15076f0dc32c07027d5cb7de9
2026-04-30 00:18:02	ASA181	aa9136	3532	47.556928	-122.147827	10,750	OK	33bba242227ac8bcbae5ff7e9fa0c42e40720c43d31630e221a410333d6cd1c9
2026-04-30 00:18:32	ASA181	aa9136	3532	47.520338	-122.172969	10,450	OK	c26132a0b1e93bfe8b78351ce2a0534ee0362ed8cc1174c65ad2e89865875f2d
2026-04-30 00:19:02	ASA181	aa9136	3532	47.484238	-122.173943	9,875	OK	0deb460689e5458233a78a0dc7dc7a09a6550341c9758a72b57963790b724e78
2026-04-30 00:19:32	ASA181	aa9136	3532	47.460938	-122.173805	9,575	OK	fd a8590861614d5275cbcb4c69b376f36215ad67e38a70fa0efe0c9b98004c0d
2026-04-30 00:20:02	ASA181	aa9136	3532	47.460938	-122.173805	9,200	OK	67f314a23797024433c54fe08bf54bdd381d4fc3e44c8373d6f27bbe79d888be

## Section 6 — Flight Path Map

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



EastMSP Technical Solutions · Kirkland, WA · Station ADSBX\_EASTMSP · 47.66°N 122.19°W · Passive ADS-B / Mode S EHS reception on 1090 MHz · Independent ground-truth recordings · Report v2.0 · Generated 2026-04-30 14:32:07 UTC