HELICALC — POH & W&B VERIFICATION CERTIFICATE

Live On-Device Built-In Self-Test (BIT) • v1.1.20261118 • OnePlus GM1911 (Android 16)

Executed: 20261120 0302z | Runtime: 11.3 ms

VERIFIED
22/22 PASS

1. FAA POH DATA & CRYPTOGRAPHIC SIGNATURES — 5/5 PASS

[POH-R22] R22 Beta II POH Spec & HMAC — PASS
Exp: 1370# max | 100LL 6.0#/g | Long 95.5–102.0" | Lat -2.2/+2.6" | Obs: 1370# | 6.0#/g | HMAC 8a4ba9...

[POH-R44] R44 Raven II POH Spec & HMAC — PASS
Exp: 2500# max | 100LL 6.0#/g | Long 92.0–102.5" | Lat ±3.0" | Obs: 2500# | 6.0#/g | HMAC 071fcaf040…

[POH-R66] R66 Turbine POH Spec & HMAC — PASS
Exp: 2700# max | Jet-A 6.7#/g | Long 91.0–102.5" | Lat ±3.5" | Obs: 2700# | 6.7#/g | HMAC 929e50bb27…

[POH-206] Bell 206B3 JetRanger III Spec & HMAC — PASS
Exp: 3200# max | Jet-A 6.7#/g | Long 106.0–114.2" | Lat -3.0/+4.0" | Obs: 3200# | 6.7#/g | HMAC e5f35...

[SEC-HMAC] HMAC-SHA256 Tamper Detection — PASS
Exp: 4/4 mutated specs rejected | Obs: 4/4 rejected (wt, arm, fuel, envelope)

2. ON-DEVICE AIRCRAFT DATABASE AUDIT — 5/5 PASS

[FILE-R22B2] R22B2.type.json On-Device Audit — PASS
Exp: Untampered (HMAC Verified) | Obs: VERIFIED (8a4ba918b2…)

[FILE-R44II] R44II.type.json On-Device Audit — PASS
Exp: Untampered (HMAC Verified) | Obs: VERIFIED (071fcaf040…)

[FILE-R66] R66.type.json On-Device Audit — PASS
Exp: Untampered (HMAC Verified) | Obs: VERIFIED (929e50bb27…)

[FILE-B206B3] B206B3.type.json On-Device Audit — PASS
Exp: Untampered (HMAC Verified) | Obs: VERIFIED (e5f35ad499…)

[FILE-UGC] User-Defined Aircraft Inventory — PASS
Exp: Transparently flagged Amber | Obs: 1 custom type(s): B505

3. WEIGHT, MOMENT & CG ARITHMETIC — 5/5 PASS

[WB-R22] R22B2 Exact ZFW & TGW Moments — PASS
Exp: TGW 1375.6# | L 92.69" | Lat -0.00" | Obs: TGW 1375.6# | L 92.69" | Lat -0.00"

[WB-R44] R44II Exact ZFW & TGW Moments — PASS
Exp: TGW 2456.9# | L 94.79" | Lat -0.04" | Obs: TGW 2456.9# | L 94.79" | Lat -0.04"

[WB-R66] R66 Turbine Exact 5-Seat & Jet-A Math — PASS
Exp: TGW 2607.0# | L 92.11" | Lat -0.39" | Obs: TGW 2607.0# | L 92.11" | Lat -0.39"

[WB-206] Bell 206B3 Exact 5-Seat & Doors-Off Math — PASS
Exp: TGW 3150.0# | L 107.51" | Lat 0.11" | Obs: TGW 3150.0# | L 107.51" | Lat 0.11"

[WB-CST] Custom Station Engine (Bell 505 Model) — PASS
Exp: TGW 3546.5# | L 119.67" | Lat 0.08" | Obs: TGW 3546.5# | L 119.67" | Lat 0.08"

4. CG ENVELOPE & BOUNDARY PROTECTION — 5/5 PASS

[ENV-WT] Max Gross Overweight Enforcement — PASS
Exp: 4/4 models flag +10# overweight | Obs: 4/4 flagged OVERWEIGHT

[ENV-LNG] Longitudinal & Slanted Taper Limits — PASS
Exp: 5/5 exceedances rejected, 1/1 legal accepted | Obs: 6/6 boundary checks passed

[ENV-LAT] Lateral Slanted Corner & R22 Asymmetry — PASS
Exp: R44 aft ±1.8" & R22 +2.6/-2.2" enforced | Obs: 5/5 lateral corner checks passed

[ENV-BND] Exact Envelope Vertices & Edge Midpoints PASS
Exp: 4/4 on-boundary points legal | Obs: 4/4 legal

[ENV-GWL] Lateral-vs-Gross-Weight Axis Mode PASS
Exp: 3600# @ +3.0" REJECT | 2300# @ +3.0" PASS | Obs: Both gross-weight lateral cases verified

5. ATMOSPHERIC & PROFILE ENGINE 2/2 PASS

[PERF-DA] ISA, Pressure & Density Altitude Math PASS
Exp: Std 0' | Hot 8607' | Cold -1144' | Obs: Std 0' | Hot 8607' | Cold -1144'

[IO-PROF] Aircraft Profile Serialization Integrity PASS
Exp: Exact CSV round-trip preservation | Obs: N206JR (B206B3) exact match