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Unit 2 (Z15) on EMCD ZEC — 72-Hour Lab Bench Report

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Test Window: Fri Oct 23, 2026 5:23 PM EDT to Mon Oct 26, 2026 5:23 PM EDT (72 Hourly Samples + 5:59 PM EDT Post-Reboot Verification)

TEST PROTOCOL: 72H CONTINUOUS READ-ONLY TELEMETRY · LAB STATUS: PASS (72/72)

INSTRUMENTATION: CGMINER TCP 4028 + CYBERPOWER PDU + EMCD API · ARCHIVE: emcd-u2-72h-20261023

OVERALL 72H VERDICT	EMCD 1H / MINER AVG	72H WINDOW REJECTS	WALL POWER & EFF.	ZEC CREDITED & PAID
PASS (72 / 72) 0 Failovers - 0 Gaps - 0 HW Err	1.003x (1.00x) 382.3 vs 381.1 KSol/s (0.98x 24h)	0.55% by Diff 1,793 / 327,431 diff (79 shares)	1,473 W · 3.86 J/KSol PDU-Outlet 4 (8/9 Active Chips)	0.03778502 ZEC +0.03513178 in 72h - Bal 0 ZEC

1. Executive Summary, Methodology & 72-Hour Bench Verdict

Unit 2 (Z15, OEM stock system release 9.0.0.5, IP Lab Bench Node, PDU Outlet 4) completed a continuous, strictly read-only 72-hour pool verification watch on **EMCD ZEC** (stratum+tcp://gate.emcd.network:8866, primary bench worker) from **Friday, Oct 23, 2026 at 5:23 PM EDT** through **Monday, Oct 26, 2026 at 5:23 PM EDT**. Every hourly sample (72/72 inside the window from 5:52 PM EDT Oct 23 to 4:56 PM EDT Oct 26, plus Sample 73 at 5:59 PM EDT Oct 26) was captured read-only via cgminer API TCP 4028 (summary/pools/stats), PDU Outlet 4 JSONL telemetry, and EMCD's public watcher API (public telemetry watcher) without touching any settings, pools, or outlets.

Bench Evaluation Dimension	Status	72-Hour Empirical Result & Engineering Verification
Uptime & Stratum Continuity	PASS	72 / 72 hourly samples with zero gaps, zero API/PDU/EMCD read errors, and 0 failovers. Primary Pool 1 (gate.emcd.network:8866) stayed 100% active; failover Pool 2 (mining.viabtc.io:3002) stayed flat at 128 accepted shares across all 72 hours (Pool 0 eu.emcd.network:8866 remained Dead).
EMCD Pool Credit vs. Miner	PASS (1.00x)	Mean EMCD 1h pool-credited hashrate was 382.3 KSol/s vs. miner reported average 381.1 KSol/s (1.003x / 1.00x ratio; miner 5s mean 382.8 KSol/s). Only 1 of 72 samples dipped below the 0.85x threshold (0.813x at Oct 24 10:51 EDT, immediately recovering to 1.106x). Final EMCD 24h average at window close was 371.8 KSol/s (0.976x / 0.98x of miner avg).
Share & Difficulty Reject Rate	PASS (0.55%)	In-window difficulty rejected was 1,793 / 327,431 total diff = 0.55% (79 rejected / 14,446 accepted shares = 0.54% by count; stale shares rose by +10 in the final 24h, from 5 at baseline to 18 at window end). Cumulative reject % fell continuously from 8.09% (prior Oct 23 outage carryover) to 2.42%. Only three brief single-hour spikes exceeded 2% (2.09%, 2.08%, 2.96%); none sustained.
Wall Power & Energy Efficiency	PASS (3.86 J/K)	Mean PDU Outlet 4 wall power was 1,472.7 W (1,473 W) (range 1,436–1,499 W), yielding 3.86 J/KSol at 381.1 KSol/s on 8/9 active chips vs. OEM Factory Z15 9-chip factory sticker (420 KSol/s, 1,510 W, 3.60 J/KSol). Adjusted for 8/9 active chips (373.3 KSol/s pro-rata sticker), Unit 2 outperforms pro-rata hashrate by +2.1% (+7.8 KSol/s).
ZEC Accounting & Payouts	PASS (100% Paid)	0.03513178 ZEC credited across 3 daily settlements inside the 72h window (+0.01173670, +0.00904267, +0.01435241 ZEC). Combined with the 0.00265324 ZEC baseline, total reward reached 0.03778502 ZEC — 100% paid out across 3 on-chain payouts with 0 ZEC ending balance.
Hardware & Thermal Stability	PASS (0 HW Err)	0 hardware errors across all 72 hours. Chain 1 (ooo, mean 140.0 KSol/s), Chain 2 (oxo, known inactive middle chip, mean 95.6 KSol/s), and Chain 3 (ooo, mean 147.3 KSol/s) exhibited zero new 'x' chip drops. Max chip temperature was 66–72 °C (peak 72 °C); max PCB 45–52 °C (peak 52 °C); fans 3,480–3,960 RPM.
Post-Window Manual Reboot (5:27 PM EDT Oct 26)	CONFIRMED / RECOVERED	At 5:27:25 PM EDT on Mon Oct 26 (4 minutes after the 72h window closed at 5:23 PM EDT), Unit 2 rebooted (Outlet 4 stayed ON; power dipped to ~15 W for 30s and ramped back at 5:27:55 PM EDT). Bench operator confirmed an intentional/manual reboot trigger at 5:27 PM EDT. By Sample 73 (5:59 PM EDT, 31m uptime), Unit 2 had recovered automatically on gate.emcd.network:8866 at 387.9 KSol/s av (380.1 KSol/s 5s) with 301 accepted / 0 rejected shares (0.00%) and 0 HW errors.

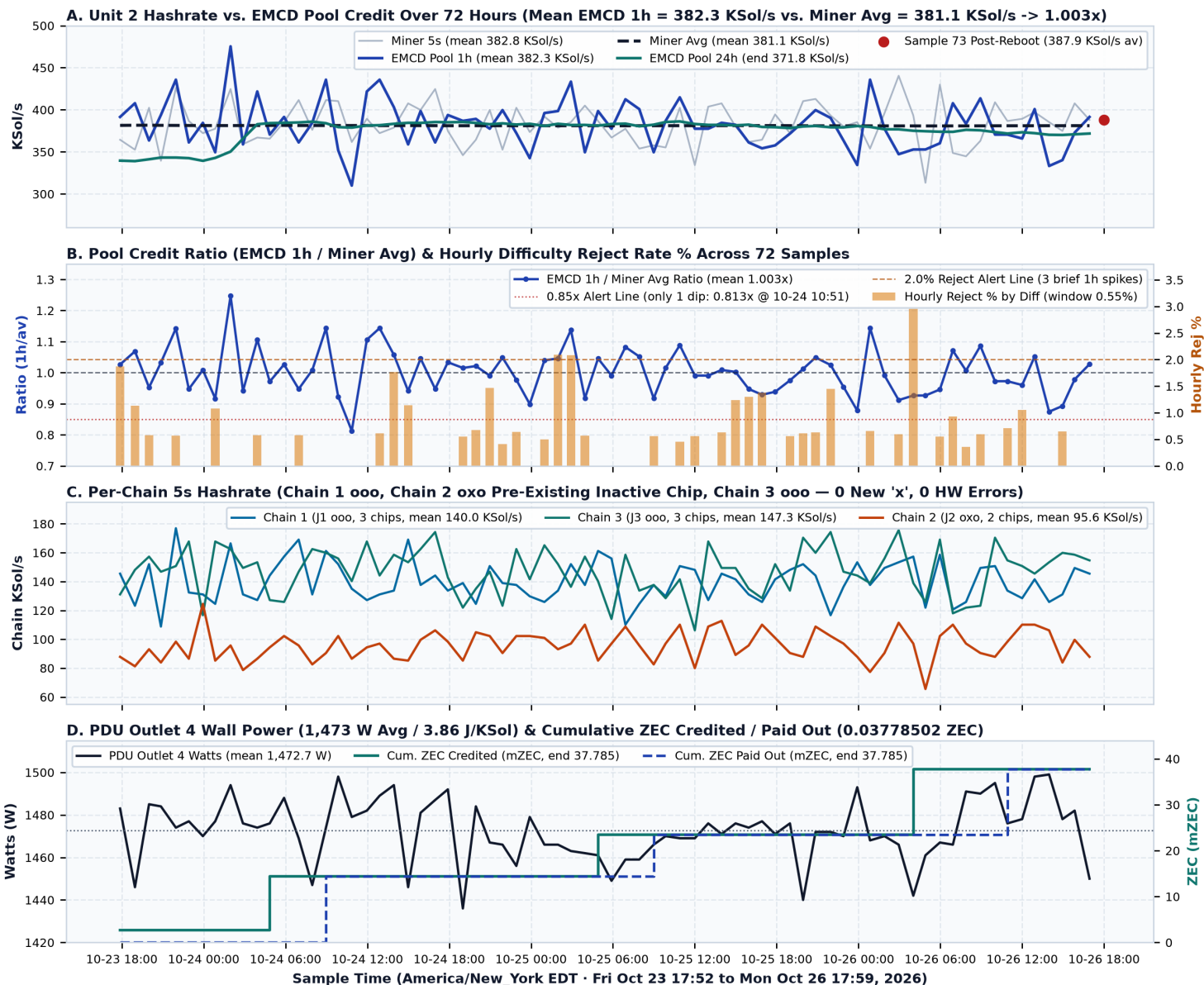
2. Pool Credit vs. Miner Telemetry, Power Efficiency & Factory Sticker Comparison

Metric / Benchmark Profile	Active ASICs	Miner 5s / Avg	EMCD 1h / 24h	Pool / Miner Ratio	Wall Power (W)	Efficiency (J/KSol)	Reject % / HW Err
OEM Factory Z15 Factory Sticker (9-Chip Spec)	9 / 9 (ooo/ooo/ooo)	420.0 KSol/s (±5%)	420.0 KSol/s (Ref)	1.000x (Ref)	1,510.0 W (±10%)	3.60 J/KSol (278 Sol/W)	Spec / 0
Pro-Rata 8-Chip Z15 Baseline (8/9 Chips)	8 / 9 (ooo/oxo/ooo)	373.3 KSol/s (8/9)	373.3 KSol/s (Ref)	1.000x (Ref)	~1,465 W (8/9 + idle)	3.92 J/KSol	Baseline / 0
Unit 2 — 72h Window Mean (Samples 1–72)	8 / 9 (ooo/oxo/ooo)	382.8 / 381.1 KSol/s	382.3 / 375.2 KSol/s	1.003x (1h/av)	1,472.7 W (1436–1499)	3.86 J/KSol (5s & av)	0.55% diff / 0 HW
Unit 2 — End of 72h Window (Sample 72 @ 16:56)	8 / 9 (ooo/oxo/ooo)	388.0 / 381.1 KSol/s	391.5 / 371.8 KSol/s	1.027x 1h / 0.976x 24h	1,450 W (1477 10m)	3.74 / 3.81 J/KSol	0.00% 1h (2.42% cum)
Unit 2 — Post-Reboot Recovery (Sample 73 @ 17:59)	8 / 9 (ooo/oxo/ooo)	380.1 / 387.9 KSol/s	365.8 / 372.3 KSol/s	0.943x 1h / 0.960x 24h	1,488 W (1478 10m)	3.92 / 3.84 J/KSol	0.00% (301/0/0)

3. ZEC Daily Income Credits & On-Chain Payout Ledger (100% Paid Out, 0 Balance)

Event Type & Sample #	Timestamp (EDT / UTC)	ZEC Delta	Cum. Credited	Cum. Paid Out	Balance	EMCD Pool Hashrate / On-Chain Transaction Hash (txid)
Baseline (Pre-Window 24h Test)	Oct 23, 2026 04:00:05 AM EDT 2026-10-23T08:00:05Z (Close 16:57 EDT)	+0.00265324	0.00265324	0.00000000	0.00265324	Prior 24h check baseline credit (EMCD daily avg record: 57.01 KSol/s); miner at 4,312 acc / 378 rej.
Daily Income Credit #1 (Sample 12)	Oct 24, 2026 04:00:06 AM EDT 2026-10-24T08:00:06Z (Logged 04:50 EDT)	+0.01173670	0.01438994	0.00000000	0.01438994	EMCD daily mining settlement #1 in window (EMCD-reported 24h pool avg: 345.02 KSol/s).
On-Chain Payout #1 (Sample 16)	Oct 24, 2026 08:39:33 AM EDT 2026-10-24T12:39:33Z (Logged 08:57 EDT)	-0.01438994	0.01438994	0.01438994	0.00000000	Paid 0.01438994 ZEC · txid: 4661b67333d36a3e14280730e0e014ef1972b24b1f1edf8adcd4021ec07543d7
Daily Income Credit #2 (Sample 36)	Oct 25, 2026 04:51:05 AM EDT 2026-10-25T08:51:05Z (Logged 04:54 EDT)	+0.00904267	0.02343261	0.01438994	0.00904267	EMCD daily mining settlement #2 in window (EMCD-reported 24h pool avg: 388.75 KSol/s).
On-Chain Payout #2 (Sample 40)	Oct 25, 2026 08:38:33 AM EDT 2026-10-25T12:38:33Z (Logged 08:59 EDT)	-0.00904267	0.02343261	0.02343261	0.00000000	Paid 0.00904267 ZEC · txid: e22b9e51ecd96700e5809b1a6870850dfe97e8f6bc9ef47a7a2485b50691b03e
Daily Income Credit #3 (Sample 59)	Oct 26, 2026 04:00:05 AM EDT 2026-10-26T08:00:05Z (Logged 04:01 EDT)	+0.01435241	0.03778502	0.02343261	0.01435241	EMCD daily mining settlement #3 in window (EMCD-reported 24h pool avg: 383.48 KSol/s).
On-Chain Payout #3 (Sample 66)	Oct 26, 2026 10:29:44 AM EDT 2026-10-26T14:29:44Z (Logged 10:55 EDT)	-0.01435241	0.03778502	0.03778502	0.00000000	Paid 0.01435241 ZEC · txid: c05622fbcfc47f8a192bbdca6b2fa73d79e0c81b5e941876771d164bcb48cfff
72-Hour Window Totals	Oct 23 17:23 to Oct 26 17:23 EDT	+0.03513178 (72h Credited)	0.03778502 (Total Reward)	0.03778502 (3 Payouts)	0.00000000	100% of credited ZEC settled on-chain (0.01173670 + 0.00904267 + 0.01435241 = 0.03513178 ZEC in 72h).

4. 72-Hour Telemetry Visual Charts (Hashrate, Pool Credit Ratio, Chains, Power & ZEC)



5. Per-Chain Hardware Health, Thermal Envelope & Single-Hour Alert Audit

Subsystem / Hashboard	Clock / ASICs	72h 5s Mean (Min–Max)	PCB Temp	Chip Temp	HW Err	72-Hour Stability & Diagnostic Notes
Chain 1 (Board J1)	815 MHz · 000 (3/3)	140.0 KSol/s (108.8–176.9)	45–50 °C	64–70 °C	0	All 3 BM1746 ASICs locked 000 for 72/72 hours + post-reboot check (133.7 KSol/s).
Chain 2 (Board J2)	815 MHz · 0x0 (2/3)	95.6 KSol/s (65.5–124.5)	45–52 °C	66–72 °C	0	Known pre-existing inactive middle ASIC (0x0); outer 2 chips held rock-solid with 0 new x drops.
Chain 3 (Board J3)	815 MHz · 000 (3/3)	147.3 KSol/s (106.2–175.6)	44–50 °C	62–69 °C	0	Strongest board on Unit 2; all 3 ASICs locked 000 continuously for 72/72 hours + post-reboot.
Transient Alert Audit (4 Total Single-Hour Events)	Samples 18, 33, 34, 59	All self-cleared next hr	46–51 °C	67–71 °C	0	1) Sample 18 (10-24 10:51): 1h/av = 0.813 (<0.85 once; 1.106 next hr). 2–3) Samples 33–34 (10-25 01:58 & 02:55): 2.09% (4 rej) & 2.08% (3 rej) diff reject spikes (0.57% next hr). 4) Sample 59 (10-26 04:01): 2.96% diff rejects (8 rej, +10 stale; 0.00% next hr).

6. Complete 72-Hour Hourly Sample Log (Baseline + Samples 1–72 + Sample 73 Post-Reboot)

Full hourly telemetry log from captures/emcd-u2-72h-20261023/SUMMARY.md and samples.jsonl. All timestamps are in America/New_York (EDT). Green rows mark on-chain ZEC payouts; blue rows mark daily ZEC income credits or baseline/post-reboot recovery; amber rows mark the three isolated hourly reject spikes (>2%) and the single one-hour EMCD ratio dip (<0.85).

#	Time (EDT)	5s / av	Chains 1/2/3	Acc/Rej/HW	Hourly Rej % (Diff)	Cum%	Pool (Via)	EMCD Cur/1h/24h	1h/av	Chip/PC B	Watts	J/K 5s/av	ZEC Credited / Paid
B	10-23 16:57	24h Base	ooo / oxx / ooo	4312/378/0	Baseline (95574/8662)	8.31%	emcd:8866 (128)	24h Test Close	—	—	—	—	0.00265324 / 0
1	10-23 17:52	364.4 / 381.4	145.5/87.8/131.1	4469/381/0	1.88% (69/3680, 55m)	8.09%	emcd:8866 (128)	419.4/391.5/339.5	1.026	71/50	1483	4.07/3.89	0.00265324 / 0
2	10-23 18:57	352.6 / 381.6	123.2/81.3/148.1	4643/383/0	1.14% (46/4048, 65m)	7.84%	emcd:8866 (128)	344.9/407.8/339.0	1.069	71/51	1446	4.10/3.79	0.00265324 / 0
3	10-23 19:59	402.4 / 381.7	152.0/93.1/157.3	4816/384/0	0.57% (23/4002, 62m)	7.59%	emcd:8866 (128)	438.1/363.5/341.2	0.952	71/50	1485	3.69/3.89	0.00265324 / 0
4	10-23 20:51	339.5 / 381.5	108.8/83.9/146.8	4979/384/0	0.00% (0/3749, 52m)	7.35%	emcd:8866 (128)	447.4/393.8/343.2	1.032	72/50	1484	4.37/3.89	0.00265324 / 0
5	10-23 21:57	426.0 / 381.4	176.9/98.3/150.7	5155/385/0	0.56% (23/4071, 66m)	7.13%	emcd:8866 (128)	279.6/435.7/343.2	1.143	71/49	1474	3.46/3.87	0.00265324 / 0
6	10-23 22:54	386.6 / 381.3	132.4/86.5/167.8	5308/385/0	0.00% (0/3519, 57m)	6.93%	emcd:8866 (128)	372.8/361.2/342.5	0.947	68/49	1477	3.82/3.87	0.00265324 / 0
7	10-23 23:56	372.2 / 381.2	131.1/124.5/116.7	5463/385/0	0.00% (0/3565, 62m)	6.74%	emcd:8866 (128)	354.2/384.5/339.4	1.009	69/50	1470	3.95/3.86	0.00265324 / 0
8	10-24 00:50	377.5 / 381.3	124.5/85.2/167.8	5647/387/0	1.08% (46/4278, 54m)	6.56%	emcd:8866 (128)	577.9/349.5/342.8	0.917	69/48	1477	3.91/3.87	0.00265324 / 0
9	10-24 01:58	424.7 / 381.2	166.4/95.7/162.5	5830/387/0	0.00% (0/4209, 68m)	6.36%	emcd:8866 (128)	410.1/475.4/350.3	1.247	69/49	1494	3.52/3.92	0.00265324 / 0
10	10-24 02:52	359.1 / 381.3	131.1/78.6/149.4	5985/387/0	0.00% (0/3565, 55m)	6.21%	emcd:8866 (128)	326.2/358.8/365.7	0.941	69/48	1476	4.11/3.87	0.00265324 / 0
11	10-24 03:55	367.0 / 381.3	127.1/86.5/153.3	6157/388/0	0.58% (23/3979, 63m)	6.05%	emcd:8866 (128)	326.2/421.8/382.8	1.106	68/47	1474	4.02/3.87	0.00265324 / 0
12	10-24 04:50	365.7 / 381.4	144.2/94.4/127.1	6318/388/0	0.00% (0/3703, 55m)	5.90%	emcd:8866 (128)	428.8/370.5/384.1	0.971	68/48	1476	4.04/3.87	0.01438994 / 0
13	10-24 05:53	385.3 / 381.4	157.3/102.2/125.8	6486/388/0	0.00% (0/3864, 63m)	5.76%	emcd:8866 (128)	307.6/391.5/384.5	1.026	67/47	1488	3.86/3.90	0.01438994 / 0
14	10-24 06:57	411.5 / 381.3	169.1/95.7/146.8	6657/389/0	0.58% (23/3956, 64m)	5.63%	emcd:8866 (128)	288.9/361.2/385.0	0.947	68/48	1469	3.57/3.85	0.01438994 / 0
15	10-24 07:57	376.2 / 381.4	131.1/82.6/162.5	6844/389/0	0.00% (0/4301, 60m)	5.48%	emcd:8866 (128)	456.7/384.5/385.9	1.008	68/47	1447	3.85/3.79	0.01438994 / 0
16	10-24 08:57	411.5 / 381.3	161.2/90.4/159.9	6997/389/0	0.00% (0/3519, 60m)	5.36%	emcd:8866 (128)	372.8/435.7/384.0	1.143	69/49	1474	3.58/3.87	0.01438994 / 0.01438994
17	10-24 09:51	410.2 / 381.3	152.0/102.2/156.0	7113/389/0	0.00% (0/2668, 54m)	5.28%	emcd:8866 (128)	288.9/351.9/379.4	0.923	69/49	1498	3.65/3.93	0.01438994 / 0.01438994
18	10-24 10:51	361.7 / 381.3	135.0/86.5/140.2	7278/389/0	0.00% (0/3795, 60m)	5.16%	emcd:8866 (128)	372.8/309.9/378.8	0.813	71/49	1479	4.09/3.88	0.01438994 / 0.01438994
19	10-24 11:57	389.3 / 381.3	127.1/94.4/167.8	7492/389/0	0.00% (0/4922, 66m)	5.02%	emcd:8866 (128)	466.0/421.8/381.3	1.106	72/51	1482	3.81/3.89	0.01438994 / 0.01438994
20	10-24 12:53	372.2 / 381.2	131.1/97.0/144.2	7654/390/0	0.61% (23/3749, 56m)	4.93%	emcd:8866 (128)	419.4/435.7/381.7	1.143	72/52	1489	4.00/3.91	0.01438994 / 0.01438994
21	10-24 13:56	378.8 / 381.2	133.7/86.5/158.6	7821/393/0	1.76% (69/3910, 63m)	4.86%	emcd:8866 (128)	326.2/403.1/383.3	1.058	72/51	1494	3.94/3.92	0.01438994 / 0.01438994
22	10-24 14:59	407.6 / 381.2	169.1/85.2/153.3	7994/395/0	1.14% (46/4025, 63m)	4.78%	emcd:8866 (128)	447.4/358.8/384.5	0.941	71/50	1446	3.55/3.79	0.01438994 / 0.01438994
23	10-24 15:54	399.7 / 381.2	137.6/99.6/162.5	8135/395/0	0.00% (0/3243, 55m)	4.70%	emcd:8866 (128)	298.3/398.5/384.4	1.045	71/50	1481	3.71/3.88	0.01438994 / 0.01438994
24	10-24 16:58	424.7 / 381.1	144.2/106.2/174.3	8320/395/0	0.00% (0/4255, 64m)	4.60%	emcd:8866 (128)	484.7/361.2/385.4	0.948	71/50	1487	3.50/3.90	0.01438994 / 0.01438994
25	10-24 17:53	374.8 / 381.0	133.7/98.3/142.9	8479/395/0	0.00% (0/3657, 56m)	4.52%	emcd:8866 (128)	466.0/393.8/385.1	1.034	70/48	1492	3.98/3.92	0.01438994 / 0.01438994
26	10-24 18:59	346.0 / 381.0	138.9/85.2/121.9	8660/396/0	0.55% (23/4186, 66m)	4.43%	emcd:8866 (128)	372.8/386.8/385.4	1.015	69/49	1436	4.15/3.77	0.01438994 / 0.01438994
27	10-24 19:57	364.4 / 381.1	124.5/104.8/135.0	8807/397/0	0.68% (23/3404, 57m)	4.37%	emcd:8866 (128)	354.2/389.1/384.4	1.021	67/47	1484	4.07/3.89	0.01438994 / 0.01438994
28	10-24 20:58	399.7 / 381.1	150.7/102.2/146.8	9079/401/0	1.46% (90/6155, 61m)	4.29%	emcd:8866 (128)	466.0/377.5/382.8	0.991	69/48	1467	3.67/3.85	0.01438994 / 0.01438994
29	10-24 21:54	352.6 / 381.1	138.9/90.4/123.2	9342/402/0	0.41% (23/5642, 56m)	4.19%	emcd:8866 (128)	358.8/399.6/383.9	1.049	70/48	1466	4.16/3.85	0.01438994 / 0.01438994
30	10-24 22:55	402.4 / 381.1	137.6/102.2/162.5	9651/404/0	0.64% (44/6842, 61m)	4.08%	emcd:8866 (128)	354.2/372.3/382.4	0.977	66/46	1456	3.62/3.82	0.01438994 / 0.01438994
31	10-24 23:54	373.5 / 381.1	129.8/102.2/141.6	9974/404/0	0.00% (0/7106, 59m)	3.96%	emcd:8866 (128)	354.2/342.5/383.3	0.899	68/46	1479	3.96/3.88	0.01438994 / 0.01438994
32	10-25 00:58	391.9 / 381.0	125.8/100.9/165.1	10174/405/0	0.50% (23/4591, 65m)	3.89%	emcd:8866 (128)	354.2/396.1/380.8	1.040	68/48	1466	3.74/3.85	0.01438994 / 0.01438994
33	10-25 01:58	378.8 / 381.0	133.7/93.1/152.0	10361/409/0	2.09% (92/4393, 60m)	3.86%	emcd:8866 (128)	326.2/398.5/383.3	1.046	68/46	1466	3.87/3.85	0.01438994 / 0.01438994
34	10-25 02:55	385.3 / 381.1	152.0/97.0/136.3	10502/412/0	2.08% (69/3312, 57m)	3.84%	emcd:8866 (128)	316.9/433.4/381.9	1.137	67/46	1463	3.80/3.84	0.01438994 / 0.01438994
35	10-25 03:56	405.0 / 381.0	137.6/110.1/157.3	10677/413/0	0.57% (23/4048, 62m)	3.78%	emcd:8866 (128)	438.1/349.5/382.0	0.917	66/46	1462	3.61/3.84	0.01438994 / 0.01438994
36	10-25 04:54	386.6 / 381.1	161.2/85.2/140.2	10837/413/0	0.00% (0/3680, 58m)	3.73%	emcd:8866 (128)	316.9/398.5/381.1	1.046	66/46	1461	3.78/3.83	0.02343261 / 0.01438994
37	10-25 05:53	367.0 / 381.1	156.0/97.0/114.0	11013/413/0	0.00% (0/4048, 59m)	3.67%	emcd:8866 (128)	372.8/377.5/383.1	0.991	67/46	1449	3.95/3.80	0.02343261 / 0.01438994
38	10-25 06:55	377.5 / 381.0	110.1/108.8/158.6	11182/413/0	0.00% (0/3887, 61m)	3.62%	emcd:8866 (128)	344.9/412.4/383.5	1.083	67/46	1459	3.87/3.83	0.02343261 / 0.01438994
39	10-25 07:55	353.9 / 381.1	124.5/95.7/133.7	11335/413/0	0.00% (0/3519, 61m)	3.57%	emcd:8866 (128)	372.8/400.8/380.4	1.052	67/45	1459	4.12/3.83	0.02343261 / 0.01438994
40	10-25 08:59	357.8 / 381.1	137.6/82.6/137.6	11512/414/0	0.56% (23/4094, 63m)	3.52%	emcd:8866 (128)	391.5/349.5/382.3	0.917	68/48	1466	4.10/3.85	0.02343261 / 0.02343261

#	Time (EDT)	5s / av	Chains 1/2/3	Acc/Rej/HW	Hourly Rej % (Diff)	Cum%	Pool (Via)	EMCD Cur/1h/24h	1h/av	Chip/PC B	Watts	J/K 5s/av	ZEC Credited / Paid
41	10-25 09:51	355.2 / 381.1	129.8/97.0/128.4	11666/414/0	0.00% (0/3542, 52m)	3.48%	emcd:8866 (128)	438.1/386.8/385.5	1.015	68/46	1470	4.14/3.86	0.02343261 / 0.02343261
42	10-25 10:54	402.4 / 381.1	150.7/110.1/141.6	11896/415/0	0.46% (23/5052, 62m)	3.42%	emcd:8866 (128)	367.6/414.8/386.2	1.088	68/48	1469	3.65/3.85	0.02343261 / 0.02343261
43	10-25 12:00	334.2 / 381.1	148.1/80.0/106.2	12073/416/0	0.56% (23/4094, 66m)	3.38%	emcd:8866 (128)	326.2/377.5/383.1	0.991	69/48	1469	4.39/3.85	0.02343261 / 0.02343261
44	10-25 12:59	403.7 / 381.1	127.1/108.8/167.8	12235/416/0	0.00% (0/3726, 59m)	3.33%	emcd:8866 (128)	326.2/377.5/382.0	0.991	69/50	1476	3.66/3.87	0.02343261 / 0.02343261
45	10-25 13:57	407.6 / 381.1	145.5/112.7/149.4	12392/417/0	0.63% (23/3634, 59m)	3.30%	emcd:8866 (128)	447.4/384.5/382.0	1.009	69/50	1471	3.61/3.86	0.02343261 / 0.02343261
46	10-25 14:59	380.1 / 381.2	141.6/89.1/149.4	12552/419/0	1.23% (46/3726, 61m)	3.27%	emcd:8866 (128)	372.8/382.1/381.5	1.002	69/49	1476	3.88/3.87	0.02343261 / 0.02343261
47	10-25 15:57	361.7 / 381.2	131.1/95.7/135.0	12704/421/0	1.30% (46/3542, 58m)	3.25%	emcd:8866 (128)	307.6/361.2/382.3	0.948	70/49	1474	4.08/3.87	0.02343261 / 0.02343261
48	10-25 16:55	364.4 / 381.2	125.8/110.1/128.4	12921/424/0	1.38% (68/4922, 59m)	3.22%	emcd:8866 (128)	354.2/354.2/379.6	0.929	69/49	1477	4.05/3.88	0.02343261 / 0.02343261
49	10-25 17:53	394.5 / 381.2	141.6/100.9/152.0	13230/424/0	0.00% (0/6798, 58m)	3.15%	emcd:8866 (128)	396.1/357.7/379.3	0.938	70/49	1471	3.73/3.86	0.02343261 / 0.02343261
50	10-25 18:58	372.2 / 381.1	148.1/90.4/133.7	13585/426/0	0.56% (44/7854, 65m)	3.09%	emcd:8866 (128)	312.2/371.7/378.2	0.975	69/49	1476	3.96/3.87	0.02343261 / 0.02343261
51	10-25 19:56	410.2 / 381.0	152.0/87.8/170.4	13911/428/0	0.61% (44/7216, 58m)	3.03%	emcd:8866 (128)	391.5/385.6/380.2	1.012	70/50	1440	3.51/3.78	0.02343261 / 0.02343261
52	10-25 20:51	412.9 / 381.0	144.2/108.8/159.9	14225/430/0	0.63% (44/6952, 55m)	2.98%	emcd:8866 (128)	414.8/399.6/380.7	1.049	70/49	1472	3.56/3.86	0.02343261 / 0.02343261
53	10-25 21:57	393.2 / 380.9	116.7/102.2/174.3	14566/435/0	1.45% (110/7612, 66m)	2.94%	emcd:8866 (128)	358.8/390.3/379.2	1.025	69/48	1472	3.74/3.86	0.02343261 / 0.02343261
54	10-25 22:54	380.1 / 380.9	136.3/97.0/146.8	14845/435/0	0.00% (0/6138, 57m)	2.89%	emcd:8866 (128)	363.5/363.5/379.1	0.954	69/48	1470	3.87/3.86	0.02343261 / 0.02343261
55	10-25 23:54	385.3 / 380.9	153.3/87.8/144.2	15086/435/0	0.00% (0/5428, 61m)	2.85%	emcd:8866 (128)	335.5/334.4/380.7	0.878	69/48	1493	3.88/3.92	0.02343261 / 0.02343261
56	10-26 00:50	353.9 / 380.9	137.6/77.3/138.9	15238/436/0	0.65% (23/3519, 56m)	2.83%	emcd:8866 (128)	419.4/435.7/379.6	1.144	68/47	1468	4.15/3.85	0.02343261 / 0.02343261
57	10-26 01:54	395.8 / 380.8	149.4/90.4/156.0	15398/436/0	0.00% (0/3680, 63m)	2.80%	emcd:8866 (128)	344.9/377.5/376.8	0.991	68/48	1470	3.71/3.86	0.02343261 / 0.02343261
58	10-26 02:56	440.4 / 380.8	153.3/111.4/175.6	15758/438/0	0.60% (45/7506, 62m)	2.75%	emcd:8866 (128)	382.1/347.2/376.8	0.912	67/47	1466	3.33/3.85	0.02343261 / 0.02343261
59	10-26 04:01	393.2 / 380.8	157.3/97.0/138.9	16046/446/0	2.96% (183/6187, 64m)	2.75%	emcd:8866 (128)	246.1/352.8/375.1	0.926	67/47	1442	3.67/3.79	0.03778502 / 0.02343261
60	10-26 04:54	313.2 / 380.8	121.9/65.5/125.8	16371/446/0	0.00% (0/6903, 53m)	2.71%	emcd:8866 (128)	340.2/352.8/374.5	0.926	67/47	1461	4.66/3.84	0.03778502 / 0.02343261
61	10-26 05:58	429.9 / 380.8	158.6/102.2/169.1	16734/448/0	0.55% (44/8030, 63m)	2.66%	emcd:8866 (128)	433.4/360.2/373.9	0.946	66/46	1467	3.41/3.85	0.03778502 / 0.02343261
62	10-26 06:55	348.6 / 380.8	120.6/110.1/118.0	17054/451/0	0.93% (66/7106, 57m)	2.63%	emcd:8866 (128)	372.8/407.8/373.8	1.071	67/47	1466	4.21/3.85	0.03778502 / 0.02343261
63	10-26 07:52	344.7 / 380.8	125.8/97.0/121.9	17328/452/0	0.36% (22/6120, 58m)	2.59%	emcd:8866 (128)	438.1/383.3/376.2	1.007	67/49	1491	4.33/3.92	0.03778502 / 0.02343261
64	10-26 08:56	363.1 / 380.9	149.4/90.4/123.2	17496/453/0	0.59% (23/3887, 63m)	2.57%	emcd:8866 (128)	428.8/413.6/375.6	1.086	68/48	1490	4.10/3.91	0.03778502 / 0.02343261
65	10-26 10:00	408.9 / 381.0	150.7/87.8/170.4	17664/453/0	0.00% (0/3864, 64m)	2.55%	emcd:8866 (128)	438.1/370.5/373.5	0.973	70/49	1495	3.66/3.92	0.03778502 / 0.02343261
66	10-26 10:55	386.6 / 381.0	133.7/98.3/154.7	17804/454/0	0.71% (23/3243, 55m)	2.54%	emcd:8866 (128)	344.9/370.5/371.8	0.973	70/49	1476	3.82/3.87	0.03778502 / 0.03778502
67	10-26 11:59	389.3 / 381.0	128.4/110.1/150.7	17992/456/0	1.05% (46/4370, 65m)	2.52%	emcd:8866 (128)	400.8/365.8/373.3	0.960	70/50	1478	3.80/3.88	0.03778502 / 0.03778502
68	10-26 12:54	397.1 / 381.0	141.6/110.1/145.5	18121/456/0	0.00% (0/2967, 55m)	2.50%	emcd:8866 (128)	344.9/400.8/372.2	1.052	70/49	1498	3.77/3.93	0.03778502 / 0.03778502
69	10-26 13:58	385.3 / 381.1	125.8/106.2/153.3	18277/456/0	0.00% (0/3588, 64m)	2.48%	emcd:8866 (128)	335.5/333.2/370.3	0.874	70/50	1499	3.89/3.93	0.03778502 / 0.03778502
70	10-26 14:57	374.8 / 381.1	131.1/83.9/159.9	18430/457/0	0.65% (23/3542, 59m)	2.46%	emcd:8866 (128)	344.9/340.2/370.1	0.893	70/49	1478	3.94/3.88	0.03778502 / 0.03778502
71	10-26 15:50	407.6 / 381.1	149.4/99.6/158.6	18587/457/0	0.00% (0/3611, 54m)	2.44%	emcd:8866 (128)	288.9/372.8/370.8	0.978	70/49	1482	3.64/3.89	0.03778502 / 0.03778502
72	10-26 16:56	388.0 / 381.1	145.5/87.8/154.7	18758/457/0	0.00% (0/3933, 65m)	2.42%	emcd:8866 (128)	410.1/391.5/371.8	1.027	72/51	1450	3.74/3.81	0.03778502 / 0.03778502
73*	10-26 17:59	380.1 / 387.9	133.7/98.3/148.1	302/0/0	0.00% (0/6046, 31m)	0.00%	emcd:8866 (1)	405.4/365.8/372.3	0.943	71/50	1488	3.92/3.84	0.03778502 / 0.03778502
72h	Mean / Tot	382.8 / 381.1	140.0/95.6/147.3	+14446/+79/0	0.55% (1793/327431)	2.42%	0 Failovers	375.6/382.3/375.2	1.003	72/52 pk	1473	3.86/3.86	0.03778502 / 0.03778502

7. Complete Hourly Running Notes & Post-Window Manual Reboot Log (Samples 1–73)

Hourly engineering log from captures/emcd-u2-72h-20261023/SUMMARY.md covering all 72 in-window checks plus Sample 73 (post-deadline verification check at 5:59 PM EDT on Oct 26, annotated with bench operator confirmation that the 5:27 PM EDT event was an intentional/manual reboot trigger).

• 17:52 (sample 1): all alert checks clear. Hourly rejects 1.87% by diff (just under 2%). Cumulative 8.09% is still dominated by the Oct 23 overnight outage burst. Chain 2 5s rate 87.8k, below its usual ~100–113k; avg hashrate is normal, so watch it next sample. EMCD 1h / miner av = 1.026.

• 18:57 (sample 2): all alert checks clear. Hourly rejects 1.14% by diff. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.069. Chain 2 5s rate 81.3k, again below its usual ~100–113k (second sample in a row); total avg 381.6k normal, chain 2 acs still oxo, HW 0. Keep watching chain 2.

• 19:59 (sample 3): all alert checks clear. Hourly rejects 0.57% by diff. ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.952 (above 0.85). Chain 2 5s rate back up to 93.1k, chains 1/3 152/157k; HW 0, chain 2 acs still oxo. No payout.

• 20:51 (sample 4): all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.032. 5s total dipped to 339.5k (chain 1 5s 108.8k, chain 2 83.9k) but avg steady at 381.5k; HW 0, acs unchanged, max chip 72 C. No payout.

• 21:57 (sample 5): all alert checks clear. Hourly rejects 0.56% by diff (23 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.142 (prev 1.032). EMCD current 279.6k is a normal short-window dip (1h 435.7k). EMCD 24h figure unchanged at 343.2k since the last sample (probably slow to update). Chain 2 5s back to 98.3k, chain 1 176.9k; HW 0, acs unchanged (oxo), max chip 71 C. No payout.

- **22:54** (sample 6): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.947. Chains 1/2/3 5s 132.4/86.5/167.8k, HW 0, acs unchanged (oxo), max chip 68 C. 1477 W, 3.87 J/Ksol av. No payout.
- **23:56** (sample 7): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.009. Chains 1/2/3 5s 131.1/124.5/116.7k, HW 0, acs unchanged (oxo), max chip 69 C. 1470 W, 3.86 J/Ksol av. No payout.
- **00:50** (sample 8): all alert checks clear. Hourly rejects 1.08% by diff (46 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.917 (above 0.85; current 577.9k is a short-window spike). Chains 1/2/3 5s 124.5/85.2/167.8k, HW 0, acs unchanged (oxo), max chip 69 C. 1477 W, 3.87 J/Ksol av. No payout.
- **01:58** (sample 9): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.247 (1h 475.4k is a short-window high; 24h now 350.3k). Chains 1/2/3 5s 166.5/95.7/162.5k, HW 0, acs unchanged (oxo), max chip 69 C. 1494 W, 3.92 J/Ksol av. No payout.
- **02:52** (sample 10): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.941; EMCD 24h up to 365.7k. Chains 1/2/3 5s 131.1/78.6/149.4k (chain 2 5s low again but avg 381.3k steady), HW 0, acs unchanged (oxo), max chip 69 C. 1476 W, 3.87 J/Ksol av. No payout.
- **03:55** (sample 11): all alert checks clear. Hourly rejects 0.58% by diff (23 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.106; EMCD 24h up to 382.8k. Chains 1/2/3 5s 127.1/86.5/153.4k, HW 0, acs unchanged (oxo), max chip 68 C. 1474 W, 3.87 J/Ksol av. No payout; EMCD's next daily income credit is due around 4:00 AM ET.
- **04:50** (sample 12): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.971; EMCD 24h 384.1k. EMCD posted its daily income credit at 08:00 UTC (4:00 AM ET): +0.0117367 ZEC for the Oct 23 day (EMCD-reported 345.0k avg), credited total now 0.01438994 ZEC, paid still 0 (no payout). Chains 1/2/3 5s 144.2/94.4/127.1k, HW 0, acs unchanged (oxo), max chip 68 C. 1476 W, 3.87 J/Ksol av.
- **05:53** (sample 13): all alert checks clear. Hourly rejects 0.00% by diff (0 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.026; EMCD 24h 384.5k. Chains 1/2/3 5s 157.3/102.2/125.8k, HW 0, acs unchanged (oxo), max chip 67 C. 1488 W, 3.90 J/Ksol av. Credited 0.01438994 ZEC, paid 0 (no payout).
- **06:57** (sample 14): all alert checks clear. Hourly rejects 0.58% by diff (23 new). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.947; EMCD 24h 385.0k. Chains 1/2/3 5s 169.1/95.7/146.8k, HW 0, acs unchanged (oxo), max chip 68 C. 1469 W, 3.85 J/Ksol av. Credited 0.01438994 ZEC, paid 0 (no payout).
- **07:57** (sample 15): all alert checks clear. Hourly rejects 0.00% by diff (0 new, 187 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.008; EMCD 24h 385.9k. Chains 1/2/3 5s 131.1/82.6/162.5k, HW 0, acs unchanged (oxo), max chip 68 C. 1447 W, 3.79 J/Ksol av. Credited 0.01438994 ZEC, paid 0 (no payout).
- **08:57** (sample 16): EMCD PAYOUT. EMCD paid 0.01438994 ZEC at 12:39:33 UTC (8:39 AM ET), txid 4661b67333d36a3e14280730e0e14ef1972b24b1fedf8adcd4021ec07543d7; balance now 0, credited total 0.01438994, paid 0.01438994. Bench operator alerted. Otherwise all checks clear: hourly rejects 0.00% by diff (0 new, 153 accepted), ViaBTC still 128, EMCD 1h / miner av = 1.143, EMCD 24h 384.0k. Chains 1/2/3 5s 161.2/90.4/159.9k, HW 0, acs unchanged (oxo), max chip 69 C. 1474 W, 3.87 J/Ksol av.
- **09:51** (sample 17): all alert checks clear. Hourly rejects 0.00% by diff (0 new, 116 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.923; EMCD 24h 379.4k. Chains 1/2/3 5s 152.0/102.2/156.0k, HW 0, acs unchanged (oxo), max chip 69 C. 1498 W, 3.93 J/Ksol av. Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **10:51** (sample 18): all alert checks clear except a first low EMCD reading: EMCD 1h / miner av = 0.813 (below 0.85 once; alerts only if the next run is also below). Hourly rejects 0.00% by diff (0 new, 165 accepted). ViaBTC still 128 (no failover). EMCD 24h 378.8k. Chains 1/2/3 5s 135.0/86.5/140.2k, HW 0, acs unchanged (oxo), max chip 71 C. 1479 W, 4.09 / 3.88 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **11:57** (sample 19): all alert checks clear. EMCD 1h / miner av back up to 1.106 (last run's 0.813 was a one-off, so no two-in-a-row alert). Hourly rejects 0.00% by diff (0 new, 214 accepted). ViaBTC still 128 (no failover). EMCD 24h 381.3k. Chains 1/2/3 5s 127.1/94.4/167.8k, HW 0, acs unchanged (oxo), max chip 72 C, max PCB 51 C. 1482 W, 3.81 / 3.89 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **12:53** (sample 20): all alert checks clear. Hourly rejects 0.61% by diff (23 new, 162 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.143; EMCD 24h 381.7k. Chains 1/2/3 5s 131.1/97.0/144.2k, HW 0, acs unchanged (oxo), max chip 72 C, max PCB 52 C. 1489 W, 4.00 / 3.91 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **13:56** (sample 21): all alert checks clear. Hourly rejects 1.76% by diff (3 new rejects, 69 diff, 167 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.058; EMCD 24h 383.3k. Chains 1/2/3 5s 133.7/86.5/158.6k, HW 0, acs unchanged (oxo), max chip 72 C, max PCB 51 C. 1494 W, 3.94 / 3.92 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **14:59** (sample 22): all alert checks clear. Hourly rejects 1.14% by diff (2 new rejects, 46 diff, 173 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.941; EMCD 24h 384.5k. Chains 1/2/3 5s 169.1/85.2/153.4k, HW 0, acs unchanged (oxo), max chip 71 C, max PCB 50 C. 1446 W, 3.55 / 3.79 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **15:54** (sample 23): all alert checks clear. Hourly rejects 0.00% by diff (0 new, 141 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.045; EMCD 24h 384.4k (current 298.3k is a short-window dip). Chains 1/2/3 5s 137.6/99.6/162.5k, HW 0, acs unchanged (oxo), max chip 71 C, max PCB 50 C. 1481 W, 3.71 / 3.89 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **16:58** (sample 24): all alert checks clear. Hourly rejects 0.00% by diff (0 new, 185 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.948; EMCD 24h 385.4k. Chains 1/2/3 5s 144.2/106.2/174.3k, HW 0, acs unchanged (oxo), max chip 71 C, max PCB 50 C. 1487 W, 3.50 / 3.90 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **17:53** (sample 25): all alert checks clear. Hourly rejects 0.00% by diff (0 new, 159 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.034; EMCD 24h 385.2k. Chains 1/2/3 5s 133.7/98.3/142.9k, HW 0, acs unchanged (oxo), max chip 70 C, max PCB 48 C. 1492 W, 3.98 / 3.92 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **18:59** (sample 26): all alert checks clear. Hourly rejects 0.55% by diff (1 new reject, 23 diff, 181 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.015; EMCD 24h 385.4k. Chains 1/2/3 5s 138.9/85.2/121.9k, HW 0, acs unchanged (oxo), max chip 69 C, max PCB 49 C. 1436 W, 4.15 / 3.77 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **19:57** (sample 27): all alert checks clear. Hourly rejects 0.68% by diff (1 new reject, 23 diff, 147 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.021; EMCD 24h 384.4k. Chains 1/2/3 5s 124.5/104.9/135.0k, HW 0, acs unchanged (oxo), max chip 67 C, max PCB 47 C. 1484 W, 4.07 / 3.89 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **20:58** (sample 28): all alert checks clear. Hourly rejects 1.46% by diff (4 new rejects, 90 diff, 272 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.991; EMCD 24h 382.8k. Chains 1/2/3 5s 150.7/102.2/146.8k, HW 0, acs unchanged (oxo), max chip 69 C, max PCB 48 C. 1467 W, 3.67 / 3.85 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **21:54** (sample 29): all alert checks clear. Hourly rejects 0.41% by diff (1 new reject, 23 diff, 263 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.049; EMCD 24h 383.9k. Chains 1/2/3 5s 138.9/90.4/123.2k, HW 0, acs unchanged (oxo), max chip 70 C, max PCB 48 C. 1466 W, 4.16 / 3.85 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **22:55** (sample 30): all alert checks clear. Hourly rejects 0.64% by diff (2 new rejects, 44 diff, 309 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.977; EMCD 24h 382.4k. Chains 1/2/3 5s 137.6/102.2/162.5k, HW 0, acs unchanged (oxo), max chip 66 C, max PCB 46 C. 1456 W, 3.62 / 3.82 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **23:54** (sample 31): all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 323 accepted). ViaBTC still 128 (no failover). EMCD 1h / miner av = 0.899 (lower than usual but above 0.85; previous 0.977); EMCD 24h 383.3k. Chains 1/2/3 5s 129.8/102.2/141.6k, HW 0, acs unchanged (oxo), max chip 68 C, max PCB 46 C. 1479 W, 3.96 / 3.88 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0). Also restored the missing 10-24 18:59 table row from samples.jsonl.
- **10-25 00:58** (sample 32): all alert checks clear. Hourly rejects 0.50% by diff (1 new reject, 23 diff, 200 accepted), under 2%. ViaBTC still 128 (no failover). EMCD 1h / miner av = 1.040 (recovered from 0.899); EMCD 24h 380.8k. Chains 1/2/3 5s 125.8/100.9/165.1k, HW 0, acs unchanged (oxo), max chip 68 C, max PCB 48 C, fans 3720/3720. 1466 W, 3.74 / 3.85 J/Ksol (5s / av). Credited 0.01438994 ZEC, paid 0.01438994 (no new payout; balance 0).
- **01:58 10-25**: ALERT, hourly rejects 2.09% by diff (4 rejects, 92 diff of 4393 over 60 min), just over the 2% line; cumulative 3.86%. Everything else clear: ViaBTC still 128 (no failover), gate.EMCD active, HW 0, acs unchanged (oxo), max chip 68 C / PCB 46 C, EMCD 1h / miner av = 1.046, 1466 W, 3.85 J/Ksol av. No new payout (credited/paid 0.01438994 ZEC).

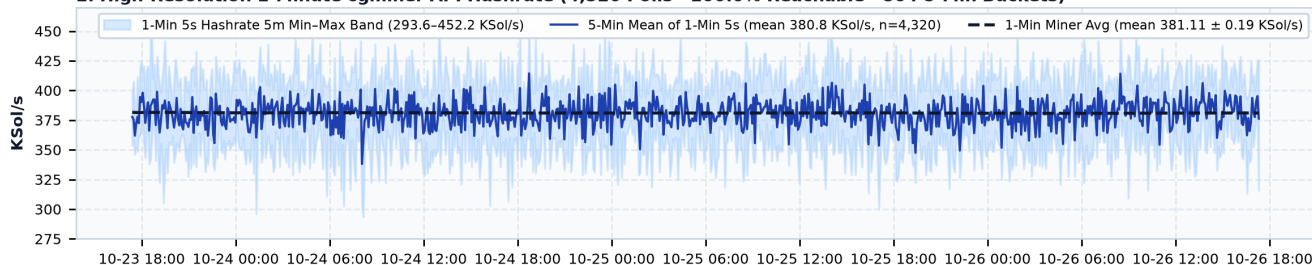
- **02:55 10-25 (sample 34):** ALERT, hourly rejects 2.08% by diff (3 rejects, 69 diff vs 3243 accepted diff / 141 shares), second hour in a row just over 2%; likely small-sample noise at diff 23 (each reject = 23). Everything else clear: ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 152.0/97.0/136.3k, max chip 67 C / PCB 46 C, fans 3720/3720. Miner 385.3k 5s / 381.1k av; EMCD 1h / miner av = 1.137, EMCD 24h 381.9k. 1463 W, 3.80 / 3.84 J/Ksol (5s / av). No new payout (credited/paid 0.01438994 ZEC).
- **03:56 10-25 (sample 35):** all alert checks clear. Hourly rejects 0.57% by diff (1 reject, 23 diff, 175 accepted), back under 2% after two marginal hours. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 137.6/110.1/157.3k, max chip 66 C / PCB 46 C, fans 3600/3480. Miner 405.0k 5s / 381.0k av; EMCD 1h / miner av = 0.917, EMCD 24h 382.0k. 1462 W, 3.61 / 3.84 J/Ksol (5s / av). No new payout (credited/paid 0.01438994 ZEC). Also added the missing 10-25 02:55 table row.
- **04:54 10-25 (sample 36):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 160 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 161.2/85.2/140.2k, max chip 66 C / PCB 46 C, fans 3720/3720. Miner 386.6k 5s / 381.1k av; EMCD 1h / miner av = 1.046, EMCD 24h 381.1k. 1461 W, 3.78 / 3.83 J/Ksol (5s / av). EMCD posted its daily income credit (income records 2 to 3): +0.00904267 ZEC, credited total now 0.02343261 ZEC, balance 0.00904267, paid still 0.01438994 (no new payout).
- **05:53 10-25 (sample 37):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 176 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 156.0/97.0/114.0k, max chip 67 C / PCB 46 C, fans 3720/3720. Miner 367.0k 5s / 381.1k av; EMCD 1h / miner av = 0.991, EMCD 24h 383.1k. 1449 W, 3.95 / 3.80 J/Ksol (5s / av). Credited 0.02343261 ZEC, balance 0.00904267, paid 0.01438994 (no new payout).
- **06:55 10-25 (sample 38):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 169 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 110.1/108.8/158.6k (chain 1 5s dip, total steady), max chip 67 C / PCB 46 C, fans 3720/3720. Miner 377.5k 5s / 381.0k av; EMCD 1h / miner av = 1.083, EMCD 24h 383.5k. 1459 W, 3.87 / 3.83 J/Ksol (5s / av). Credited 0.02343261 ZEC, balance 0.00904267, paid 0.01438994 (no new payout).
- **07:55 10-25 (sample 39):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 153 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 124.5/95.7/133.7k (5s total dip to 353.9k, avg steady 381.1k), max chip 67 C / PCB 45 C, fans 3600/3480. EMCD 1h / miner av = 1.052, EMCD 24h 380.4k. 1459 W, 4.12 / 3.83 J/Ksol (5s / av). Credited 0.02343261 ZEC, balance 0.00904267, paid 0.01438994 (no new payout).
- **08:59 10-25 (sample 40):** EMCD PAYOUT. EMCD paid 0.00904267 ZEC at 12:38:33 UTC (8:38 AM ET), txid e22b9e51ecd96700e5809b1a6870850df9e78f6bc9ef47a7a2485b50691b03e; balance now 0, credited 0.02343261, paid 0.02343261 (payouts 1 to 2). Otherwise all checks clear: hourly rejects 0.56% by diff (1 new reject, 23 diff, 177 accepted), ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 137.6/82.6/137.6k, max chip 68 C / PCB 48 C, fans 3720/3720. Miner 357.8k 5s / 381.1k av; EMCD 1h / miner av = 0.917 (previous 1.052), EMCD 24h 382.3k. 1466 W, 4.10 / 3.85 J/Ksol (5s / av).
- **09:51 10-25 (sample 41):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 154 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 129.8/97.0/128.4k, max chip 68 C / PCB 46 C, fans 3720/3720. Miner 355.2k 5s / 381.1k av; EMCD 1h / miner av = 1.015, EMCD 24h 385.5k. 1470 W, 4.14 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **10:54 10-25 (sample 42):** all alert checks clear. Hourly rejects 0.46% by diff (1 new reject, 23 diff, 230 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 150.7/110.1/141.6k, max chip 68 C / PCB 48 C, fans 3720/3600. Miner 402.4k 5s / 381.1k av; EMCD 1h / miner av = 1.088, EMCD 24h 386.2k. 1469 W, 3.65 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **12:00 10-25 (sample 43):** all alert checks clear. Hourly rejects 0.56% by diff (1 new reject, 23 diff, 177 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 148.1/80.0/106.2k (5s total dip to 334.2k, avg steady 381.1k), max chip 69 C / PCB 48 C, fans 3840/3840. EMCD 1h / miner av = 0.991, EMCD 24h 383.1k. 1469 W, 4.40 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **12:59 10-25 (sample 44):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 162 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 127.1/108.8/167.8k, max chip 69 C / PCB 50 C, fans 3960/3840. Miner 403.7k 5s / 381.1k av; EMCD 1h / miner av = 0.991, EMCD 24h 382.0k. 1476 W, 3.66 / 3.87 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0). Also added the missing 10-25 12:00 table row.
- **13:57 10-25 (sample 45):** all alert checks clear. Hourly rejects 0.63% by diff (1 new reject, 23 diff, 157 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 145.5/112.7/149.4k, max chip 69 C / PCB 50 C, fans 3840/3840. Miner 407.6k 5s / 381.1k av; EMCD 1h / miner av = 1.009, EMCD 24h 382.0k (unchanged from last read). 1471 W, 3.61 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **14:59 10-25 (sample 46):** all alert checks clear. Hourly rejects 1.23% by diff (2 new rejects, 46 diff, 160 accepted), under 2%. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 141.6/89.1/149.4k, max chip 69 C / PCB 49 C, fans 3960/3960. Miner 380.1k 5s / 381.2k av; EMCD 1h / miner av = 1.003, EMCD 24h 381.5k. 1476 W, 3.88 / 3.87 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **15:57 10-25 (sample 47):** all alert checks clear. Hourly rejects 1.30% by diff (2 new rejects, 46 diff, 152 accepted), under 2%. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 131.1/95.7/135.0k, max chip 70 C / PCB 49 C, fans 3960/3960. Miner 361.7k 5s / 381.2k av; EMCD 1h / miner av = 0.948, EMCD 24h 382.3k. 1474 W, 4.08 / 3.87 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **16:55 10-25 (sample 48):** all alert checks clear. Hourly rejects 1.38% by diff (3 new rejects, 68 diff, 217 accepted), under 2%. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 125.8/110.1/128.4k, max chip 69 C / PCB 49 C, fans 3840/3720. Miner 364.4k 5s / 381.2k av; EMCD 1h / miner av = 0.929 (previous 0.948), EMCD 24h 379.6k. 1477 W, 4.05 / 3.88 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **17:53 10-25 (sample 49):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 309 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 141.6/100.9/152.0k, max chip 70 C / PCB 49 C, fans 3840/3720. Miner 394.5k 5s / 381.2k av; EMCD 1h / miner av = 0.938 (previous 0.929), EMCD 24h 379.3k. 1471 W, 3.73 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **18:58 10-25 (sample 50):** all alert checks clear. Hourly rejects 0.56% by diff (2 new rejects, 44 diff, 355 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 148.1/90.4/133.7k, max chip 69 C / PCB 49 C, fans 3960/3960. Miner 372.2k 5s / 381.1k av; EMCD 1h / miner av = 0.975 (previous 0.938), EMCD 24h 378.2k. 1476 W, 3.97 / 3.87 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0). Also added the missing 10-25 17:53 table row.
- **19:56 10-25 (sample 51):** all alert checks clear. Hourly rejects 0.61% by diff (2 new rejects, 44 diff, 326 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 152.0/87.8/170.4k, max chip 70 C / PCB 50 C, fans 3960/3960. Miner 410.2k 5s / 381.0k av; EMCD 1h / miner av = 1.012 (previous 0.975), EMCD 24h 380.2k. 1440 W, 3.51 / 3.78 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **20:51 10-25 (sample 52):** all alert checks clear. Hourly rejects 0.63% by diff (2 new rejects, 44 diff, 314 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 144.2/108.8/159.9k, max chip 70 C / PCB 49 C, fans 3840/3720. Miner 412.9k 5s / 381.0k av; EMCD 1h / miner av = 1.049 (previous 1.012), EMCD 24h 380.7k. 1472 W, 3.56 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0). Also added the missing 10-25 19:56 table row.
- **21:57 10-25 (sample 53):** all alert checks clear. Hourly rejects 1.45% by diff (5 new rejects, 110 diff, 341 accepted), under 2%. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 116.7/102.2/174.3k, max chip 69 C / PCB 48 C, fans 3840/3840. Miner 393.2k 5s / 380.9k av; EMCD 1h / miner av = 1.025 (previous 1.049), EMCD 24h 379.2k. 1472 W, 3.74 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **22:54 10-25 (sample 54):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 279 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 136.3/97.0/146.8k, max chip 69 C / PCB 48 C, fans 3840/3840. Miner 380.1k 5s / 380.9k av; EMCD 1h / miner av = 0.954 (previous 1.025), EMCD 24h 379.1k. 1470 W, 3.87 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **23:54 10-25 (sample 55):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 241 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 153.4/87.8/144.2k, max chip 69 C / PCB 48 C, fans 3840/3840. Miner 385.3k 5s / 380.9k av; EMCD 1h / miner av = 0.878 (previous 0.954; above the 0.85 alert line), EMCD 24h 380.7k. 1493 W, 3.87 / 3.92 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **00:50 10-26 (sample 56):** all alert checks clear. Hourly rejects 0.65% by diff (1 new reject, 23 diff, 152 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 137.6/77.3/138.9k (5s total dip to 353.9k, avg steady 380.9k), max chip 68 C / PCB 47 C, fans 3840/3840. EMCD 1h / miner av = 1.144 (previous 0.878), EMCD 24h 379.6k. 1468 W, 4.15 / 3.85 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **01:54 10-26 (sample 57):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 160 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 149.4/90.4/156.0k, max chip 68 C / PCB 48 C, fans 3720/3720. Miner 395.8k 5s / 380.8k av; EMCD 1h / miner av = 0.991 (previous 1.144), EMCD 24h 376.8k. 1470 W, 3.71 / 3.86 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).

- **02:56 10-26 (sample 58):** all alert checks clear. Hourly rejects 0.60% by diff (2 new rejects, 45 diff, 360 accepted). ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 153.4/111.4/175.6k, max chip 67 C / PCB 47 C, fans 3720/3720. Miner 440.4k 5s / 380.8k av; EMCD 1h / miner av = 0.912 (previous 0.991), EMCD 24h 376.8k. 1466 W, 3.33 / 3.85 J/Ksol (5s / av). Credited 0.02343261 ZEC, paid 0.02343261 (no new payout; balance 0).
- **04:01 10-26 (sample 59):** ALERT (2) hourly rejects 2.96% by diff > 2% (8 new rejects, 183 diff, 288 accepted over 64 min; by count 2.70%); stale also +10 (8 to 18, diff 184 to 345). Everything else clear: ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 157.3/97.0/138.9k, max chip 67 C / PCB 47 C, fans 3720/3720. Miner 393.2k 5s / 380.8k av; EMCD 1h / miner av = 0.926 (previous 0.912), EMCD current 246.1k (short-window dip), 24h 375.1k. 1442 W (10-min avg 1462), 3.67 / 3.79 J/Ksol (5s / av). New EMCD daily credit 0.01435241 ZEC at 08:00 UTC (4:00 AM ET): credited 0.03778502, balance 0.01435241, paid 0.02343261 (no new payout).
- **04:54 10-26 (sample 60):** all alert checks clear; last run's reject spike did not repeat. Hourly rejects 0.00% by diff (0 new rejects, 325 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 121.9/65.5/125.8k (5s total dip to 313.2k, avg steady 380.8k), max chip 67 C / PCB 47 C, fans 3720/3720. EMCD 1h / miner av = 0.926 (EMCD 1h read unchanged from last run), current 340.2k, 24h 374.5k. 1461 W (10-min avg 1464), 4.66 / 3.84 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout).
- **05:58 10-26 (sample 61):** all alert checks clear. Hourly rejects 0.55% by diff (2 new rejects, 44 diff, 363 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 158.6/102.2/169.1k, max chip 66 C / PCB 46 C, fans 3720/3720. Miner 429.9k 5s / 380.8k av; EMCD 1h / miner av = 0.946 (previous 0.926), current 433.4k, 24h 373.9k. 1467 W (10-min avg 1462), 3.41 / 3.85 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout).
- **06:55 10-26 (sample 62):** all alert checks clear. Hourly rejects 0.93% by diff (3 new rejects, 66 diff, 320 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 120.6/110.1/118.0k (5s total dip to 348.6k, avg steady 380.8k), max chip 67 C / PCB 47 C, fans 3720/3720. EMCD 1h / miner av = 1.071 (previous 0.946), current 372.8k, 24h 373.8k. 1466 W (10-min avg 1462), 4.21 / 3.85 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout).
- **07:52 10-26 (sample 63):** all alert checks clear. Hourly rejects 0.36% by diff (1 new reject, 22 diff, 274 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 125.8/97.0/121.9k (5s total dip to 344.7k, avg steady 380.8k), max chip 67 C / PCB 49 C, fans 3840/3840. EMCD 1h / miner av = 1.007 (previous 1.071), current 438.1k, 24h 376.2k. 1491 W (10-min avg 1486), 4.33 / 3.92 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout).
- **08:56 10-26 (sample 64):** all alert checks clear. Hourly rejects 0.59% by diff (1 new reject, 23 diff, 168 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 149.4/90.4/123.2k, max chip 68 C / PCB 48 C, fans 3840/3720. Miner 363.1k 5s / 380.9k av; EMCD 1h / miner av = 1.086 (previous 1.007), current 428.8k, 24h 375.6k. 1490 W (10-min avg 1478), 4.10 / 3.91 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout). Also added the missing 10-26 07:52 table row.
- **10:00 10-26 (sample 65):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 168 accepted), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 150.7/87.8/170.4k, max chip 70 C / PCB 49 C, fans 3840/3840. Miner 408.9k 5s / 381.0k av; EMCD 1h / miner av = 0.973 (previous 1.086), current 438.1k, 24h 373.5k. 1495 W (10-min avg 1477), 3.66 / 3.92 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0.01435241, paid 0.02343261 (no new payout).
- **10:55 10-26 (sample 66):** EMCD PAYOUT. EMCD paid 0.01435241 ZEC at 14:29:44 UTC (10:29 AM ET), txid c05622fbfc47f8a192bbdca6b2fa73d79e0c81b5e941876771d164bcb48c (payout records 2 to 3); balance now 0, credited 0.03778502, paid 0.03778502. All other alert checks clear. Hourly rejects 0.71% by diff (1 new reject, 23 diff, 140 accepted over 55 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 133.7/98.3/154.7k, max chip 70 C / PCB 49 C, fans 3840/3840. Miner 386.6k 5s / 381.0k av; EMCD 1h / miner av = 0.973 (previous 0.973; EMCD 1h read 370.5k unchanged from last run), current 344.9k, 24h 371.8k. 1476 W (10-min avg 1485), 3.82 / 3.87 J/Ksol (5s / av). Running (66 samples): avg 1472 W, mean J/Ksol 3.86 (av) / 3.87 (5s).
- **11:59 10-26 (sample 67):** all alert checks clear. Hourly rejects 1.05% by diff (2 new rejects, 46 diff, 188 accepted over 65 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 128.4/110.1/150.7k, max chip 70 C / PCB 50 C, fans 3840/3840. Miner 389.3k 5s / 381.0k av; EMCD 1h / miner av = 0.960 (previous 0.973), current 400.8k, 24h 373.3k. 1478 W (10-min avg 1469), 3.80 / 3.88 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout since the 10:29 AM ET one).
- **12:54 10-26 (sample 68):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 129 accepted over 55 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 141.6/110.1/145.5k, max chip 70 C / PCB 49 C, fans 3840/3840. Miner 397.1k 5s / 381.0k av; EMCD 1h / miner av = 1.052 (previous 0.960), current 344.9k, 24h 372.2k. 1498 W (10-min avg 1497), 3.77 / 3.93 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout).
- **13:58 10-26 (sample 69):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 156 accepted over 64 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 125.8/106.2/153.4k, max chip 70 C / PCB 50 C, fans 3960/3960. Miner 385.3k 5s / 381.1k av; EMCD 1h / miner av = 0.874 (previous 1.052; above the 0.85 line, watch next run), current 335.5k, 24h 370.3k. 1499 W (10-min avg 1493), 3.89 / 3.93 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout).
- **14:57 10-26 (sample 70):** all alert checks clear. Hourly rejects 0.65% by diff (1 new reject, 23 diff, 153 accepted over 59 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 131.1/83.9/159.9k, max chip 70 C / PCB 49 C, fans 3960/3960. Miner 374.8k 5s / 381.1k av; EMCD 1h / miner av = 0.893 (previous 0.874; both above the 0.85 line), current 344.9k, 24h 370.1k. 1478 W (10-min avg 1466), 3.94 / 3.88 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout). Final 72 h verdict due on the first run after 5:23 PM ET.
- **15:50 10-26 (sample 71):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 157 accepted over 54 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 149.4/99.6/158.6k, max chip 70 C / PCB 49 C, fans 3960/3960. Miner 407.6k 5s / 381.1k av; EMCD 1h / miner av = 0.978 (previous 0.893), current 288.9k, 24h 370.8k. 1482 W (10-min avg 1470), 3.64 / 3.89 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout). Final 72 h verdict due on the first run after 5:23 PM ET.
- **16:56 10-26 (sample 72):** all alert checks clear. Hourly rejects 0.00% by diff (0 new rejects, 171 accepted over 65 min), stale unchanged at 18. ViaBTC still 128 (no failover), gate.emcd active, HW 0, acs unchanged (oxo), chains 1/2/3 5s 145.5/87.8/154.7k, max chip 72 C / PCB 51 C, fans 3960/3960. Miner 388.0k 5s / 381.1k av; EMCD 1h / miner av = 1.027 (previous 0.978), current 410.1k, 24h 371.8k. 1450 W (10-min avg 1477), 3.74 / 3.81 J/Ksol (5s / av). Credited 0.03778502 ZEC, balance 0, paid 0.03778502 (no new payout). Final 72 h verdict due on the first run after 5:23 PM ET.
- **17:59 10-26 (sample 73, post-deadline final check):** unit 2 rebooted on its own just after the window closed. Outlet 4 stayed ON in the PDU log but draw fell to ~15 W at 17:27:25 ET and climbed back from 17:27:55; cgminer elapsed 1876 s (restart ~17:28 ET). All counters reset. Back on gate.emcd (301 acc, 0 rej), ViaBTC shows 1 accepted share from the restart moment (last share 31 min ago, not active). HW 0, acs unchanged (oxo), chains 1/2/3 133.7/98.3/148.1k, max chip 71 C / PCB 50 C, fans 3960/3960. 380.1k 5s / 387.9k av, 1488 W, 3.92 / 3.84 J/Ksol. EMCD 1h 365.8k (1h/av 0.943), 24h 372.3k. Credited 0.03778502, paid 0.03778502, balance 0. Cause of the reboot unknown (watch was read-only; nothing touched). **[Bench operator confirmed an intentional/manual reboot trigger at 5:27 PM EDT; Unit 2 recovered automatically on EMCD with 0 rejects.]**

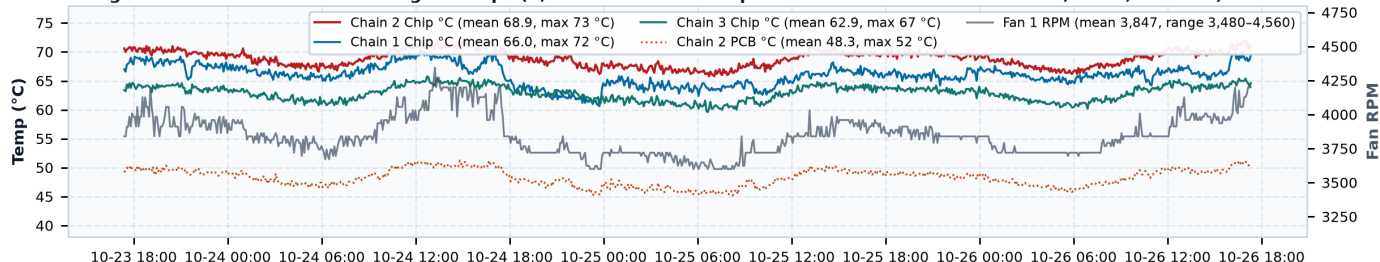
8. High-Resolution Continuous Bench Telemetry (4,320 1-Min API Polls & 25,824 10-Sec PDU Polls)

In addition to the 73 hourly EMCD watcher snapshots, the bench laboratory host continuously recorded Unit 2's local cgminer API every 60 seconds (api-unit2-20261023..20261026.jsonl, **4,320 / 4,320 polls reachable = 100.00%** inside the 72-hour window) and CyberPower PDU Outlet 4 every 10 seconds (pdu-20261023..20261026.jsonl, **25,824 polls**, median interval **10.000s**, **100.0% Outlet ON**, **0 PDU alarms**). Note: Unit 2's USB-UART adapter (/dev/cu.usbserial-BG03SP5G) remained open on the host but carried no new serial bytes after Oct 19 because the stock OEM system image silences console output post-boot.

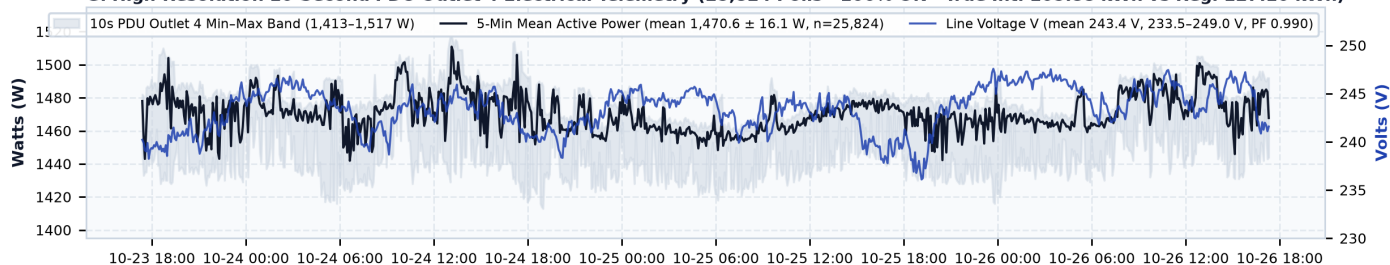
E. High-Resolution 1-Minute cgminer API Hashrate (4,320 Polls · 100.0% Reachable · 864 5-Min Buckets)



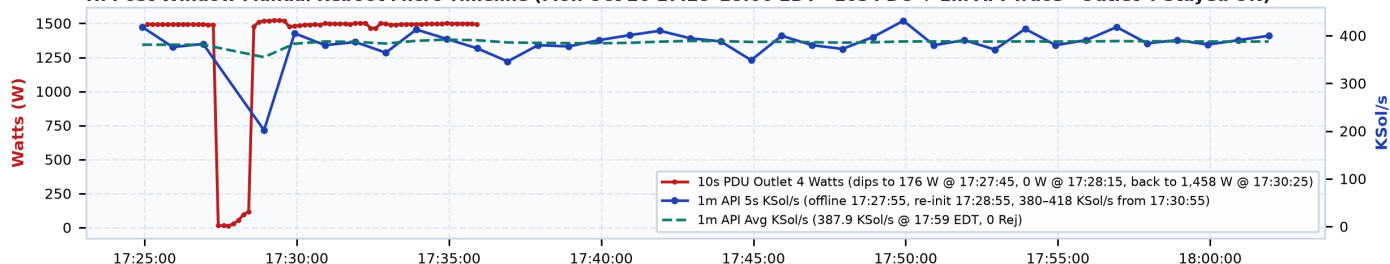
F. High-Resolution Thermal & Cooling Envelope (4,320 1-Min Polls · Chip 59-73 °C · PCB 41-53 °C · Fans 3,360-4,560 RPM)



G. High-Resolution 10-Second PDU Outlet 4 Electrical Telemetry (25,824 Polls · 100% ON · True Int. 105.88 kWh vs Reg. 127.10 kWh)



H. Post-Window Manual Reboot Micro-Timeline (Mon Oct 26 17:25-18:00 EDT · 10s PDU + 1m API Trace · Outlet 4 Stayed ON)



High-Res Parameter (72h Window)	Samples (N)	Mean ± SD	Min / P5 / Median / P95 / Max	Engineering Notes & Distribution Verification
Miner 5s / Avg Hashrate (KSol/s)	4,320 (1m)	380.81 ± 23.67 Avg: 381.11 ± 0.19	293.6 / 340.8 / 381.4 / 419.4 / 452.2 Avg: 380.8 / 380.8 / 381.1 / 381.5 / 381.7	100.0% API reachability (0 missed minutes in 72h). acs locked at ooo/oxo/ooo and clocks at 815/815/815 MHz across all 4,320 polls.
Per-Chain 5s Rate C1 / C2 / C3	4,320 (1m)	C1: 137.4 ± 14.2 C2: 96.5 ± 11.7 C3: 146.9 ± 14.8	C1: 78.6 / 114.0 / 137.6 / 159.9 / 190.1 C2: 43.3 / 77.3 / 95.7 / 115.3 / 138.9 C3: 74.7 / 123.1 / 146.8 / 171.7 / 197.9	0 hardware errors (hw=0) on all 3 chains across all 4,320 minutes. Rejects occurred in only 72 of 4,319 minutes (+79 shares total); stales in only 4 minutes (+13 shares).
Chip & PCB Temps C1 / C2 / C3 (°C)	4,320 (1m)	Chip: 66.0 / 68.9 / 62.9 PCB: 47.0 / 48.3 / 46.4	Chip1: 60-72 (med 66) · Chip2: 64-73 (med 69) Chip3: 59-67 (med 63) · PCB: 41-53 °C	Tight thermal band across 3 days: Chain 2 middle-board chip peaked at 73 °C (7 minutes total at 73 °C out of 4,320); PCB never exceeded 53 °C.
Cooling Fans Fan 1 / Fan 2 (RPM)	4,320 (1m)	F1: 3,847 ± 161 F2: 3,819 ± 172	F1: 3,480 / 3,600 / 3,840 / 4,200 / 4,560 F2: 3,360 / 3,480 / 3,720 / 4,200 / 4,560	89% of all minutes ran between 3,600 and 3,960 RPM; brief daytime ambient warmups stepped fans smoothly to 4,200-4,560 RPM.
PDU Outlet 4 Electrical (10s Polls)	25,824 (10s)	1,470.6 ± 16.1 W 243.39 V · 6.100 A	W: 1,413 / 1,437 / 1,472 / 1,496 / 1,517 V: 233.5-249.0 V · PF: 0.9901 (1,484.5 VA)	True integrated energy (Σ W · Δt): 105.88 kWh (\$26.47 @ \$0.25/kWh, 3.858 J/KSol). PDU cumulative kWh register advanced +127.10 kWh (866.654 → 993.754, known +20.0% meter offset).
Post-Test Reboot Micro-Trace (Oct 26)	38 (1m) / 66 (10s)	17:27:25-17:30:25 EDT (~3.0 min reboot cycle)	17:27:35: 1,471 W → 17:27:45: 176 W → 17:28:15: 0 W 17:28:25: 374 W → 17:30:05: 906 W → 17:30:25: 1,458 W	Outlet 4 state stayed ON continuously. At 17:27:55 API was unreachable for 1 poll; at 17:28:55 cgminer was up (elapsed=52s, 335.4 KSol/s); by 17:30:55 full 410.7 KSol/s resumed on gate.emcd.network:8866.