



ZERION PAR-035

Alchip Technologies, Limited

Paradigm Alignment Report

AI ASIC Design, Advanced-Node NRE, TSMC Ecosystem Leverage, and Hyperscale Custom Silicon
Initial Draft | September 2026 | Based on Zerion Paradigm Alignment Manual v1.8

Field	Assessment
Company	Alchip Technologies, Limited
Ticker	3661.TW
Country / Market	Taiwan / TWSE
Primary Asset / Network	AI/HPC ASIC design services, advanced-node projects, NRE revenue, TSMC ecosystem relationships
Zerion Classification	Paradigm Enabler / AI ASIC Design Platform
Paradigm	Custom AI accelerators, advanced-node ASIC design, and semiconductor design-services leverage
Report Status	Initial PAR draft; not investment advice

Investment Objective Lens: Zerion analysis seeks credible exponential opportunities. The aim is to identify 10x candidates while treating a credible 5x pathway as the minimum initial threshold for deeper work when uncertainty and optionality justify it. This report is an initial framework report, not an investment recommendation.

1. Executive Summary

Alchip is one of the clearest Taiwan-listed vehicles for the AI ASIC design-services paradigm. The company helps customers turn AI and high-performance compute requirements into advanced-node custom chips, with exposure to NRE, recurring design work, and advanced manufacturing ecosystems.

Alchip reported Q2 2026 revenue of USD 241.7M and disclosed that 87% of that revenue came from 7nm and smaller technologies. 3nm/2nm designs accounted for 47% of Q2 revenue, while 5nm/7nm designs accounted for another 40%. This is direct evidence that the company is not merely exposed to old-node design services, but to the leading-edge AI ASIC cycle.

Initial view: Alchip has strong PAR and solid PAM, but CFF is only moderate because customer concentration, project cyclicalilty, foundry/CoWoS capacity, and valuation risk remain significant.

Sources: [S1], [S2], [S3], [S4]

2. Current Market Snapshot

Metric	Snapshot
Latest price snapshot	Approx. NT\$4,030-4,040 in early September 2026
Market capitalization	Approx. NT\$331.7B / USD 10.5B
Q2 2026 revenue	USD 241.7M
Advanced-node mix	87% from 7nm and smaller technologies
3nm/2nm revenue mix	47% of Q2 2026 revenue
Key paradigm exposure	AI ASIC and advanced-node custom silicon

Market data is point-in-time and should be refreshed before investment use.

3. Zerion Score Summary

Framework	Score	Interpretation
PAR	8.3 / 10	Strong alignment with AI custom silicon and advanced-node ASIC demand.
PAM	7.7 / 10	Strong revenue and advanced-node evidence, but still customer/project dependent.
CFF	64 / 100	Moderate survivability due to customer concentration, execution, and capacity risks.
Confidence	Medium-High	Recent company disclosures give good operating evidence, but customer-level concentration details remain critical.

4. Paradigm Overview

The paradigm being evaluated is Custom AI accelerators, advanced-node ASIC design, and semiconductor design-services leverage. Alchip participates through AI/HPC ASIC design services, advanced-node projects, NRE revenue, TSMC ecosystem relationships.

Under the Zerion framework, the key question is whether this participant is aligned with a structural change, whether adoption evidence is real, and whether the value created by the paradigm can be captured by shareholders.

The correct Zerion lens separates paradigm quality from valuation, and separates operating traction from survivability.

Alchip PAR Logic: Paradigm -> friction reduction -> adoption validation -> value capture -> inversion discipline.

5. PAR Assessment

PAR measures structural alignment with a meaningful paradigm shift. Alchip scores 8.3 / 10.

PAR Component	Weight	Score	Weighted Contribution	Rationale
Paradigm Strength	15%	8.5	1.27	AI ASICs are a major response to GPU scarcity and inference cost pressure.
Friction Reduction	15%	8.0	1.20	Alchip reduces design and implementation friction for complex advanced-node chips.
Commercial Readiness	20%	8.0	1.60	Q2 revenue and node mix show commercial readiness.
Ecosystem Potential	15%	8.2	1.23	Ecosystem spans hyperscalers, fabless customers, TSMC, packaging, and EDA.
TPO	15%	8.0	1.20	TPO includes custom AI accelerators, networking, inference, and edge AI.
EPC	20%	8.6	1.72	Alchip can capture NRE and design economics, but does not own foundry capacity.
Total	100%		8.3 / 10	Strong structural alignment with clear AI ASIC evidence.

6. PAM Assessment

PAM evaluates whether adoption, ecosystem expansion, institutional validation, and capital momentum are confirming the thesis. Alchip scores 7.7 / 10.

PAM Component	Weight	Score	Rationale
Commercial Adoption	25%	8.0	Q2 revenue and advanced-node mix validate adoption.
Ecosystem Expansion	25%	7.5	3nm/2nm and 5nm/7nm programs show ecosystem expansion.
Institutional Validation	25%	7.5	TWSE listing and global customer engagement support institutional validation.
Capital Momentum	25%	7.8	Market cap and share price reflect strong AI ASIC capital recognition.
Total	100%	7.7	Adoption evidence is meaningful but must be monitored against cycle risk and valuation.

7. CFF Assessment

CFF evaluates what could prevent the opportunity from realizing its potential. Alchip scores 64 / 100. Higher is better.

CFF Component	Weight	Score	Comment
Technology Validation	20%	78	Advanced-node design execution is validated but unforgiving.
Commercial Viability	15%	66	Revenue depends on project timing, customer launches, and NRE conversion.
Funding & Liquidity	15%	66	Public capital access and GDS financing help.
Regulatory & Political Risk	10%	62	Export controls, customer geography, and foundry access matter.
Governance & Management	10%	68	Governance disclosure is adequate but not global mega-cap level.
Trust & Credibility	10%	70	Credibility benefits from advanced-node execution.
Ecosystem Dependence	10%	58	Depends on TSMC, EDA, IP, packaging, and customer budgets.
Competitive Threat	10%	56	Competitors and in-house ASIC teams are meaningful threats.
Total	100%	64	Survivability is credible, but execution, cycle, concentration, and valuation risks remain important.

8. PLS: Paradigm Lifecycle Stage

Layer	Stage	Interpretation
AI ASIC design	Expansion	Demand for custom accelerators is scaling.
3nm/2nm projects	Validation to Expansion	Revenue mix shows leading-edge transition.
NRE model	Expansion	NRE can validate design wins but can be lumpy.

Layer	Stage	Interpretation
Packaging ecosystem	Validation	CoWoS/HBM availability remains a gating factor.

9. SAM: Stakeholder Alignment Matrix

Stakeholder alignment identifies who benefits, who resists, and which parties must cooperate for the thesis to compound.

Stakeholder	Alignment	Reason
Hyperscale customers	High	Need custom AI accelerators and alternatives to merchant GPUs.
Foundries and packaging partners	High	Alchip complements advanced-node ecosystems.
EDA/IP suppliers	Medium-High	Design complexity increases tool and IP dependency.
Capital markets	High	AI ASIC narrative is recognized.
Competitors	Mixed	ASIC design houses and internal design teams compete.

10. TPO and EPC

TPO evaluates the total economic field affected by the paradigm. EPC evaluates the participant's ability to capture value from that field.

TPO Layer	Opportunity Logic
Custom AI accelerators	Training and inference workloads drive ASIC demand.
Advanced-node migration	2nm/3nm complexity increases outsourcing value.
Networking / data center SoCs	AI clusters require switch, DPU, and interconnect silicon.
Edge AI	Longer-tail custom chips may expand after cloud adoption.

EPC interpretation: Alchip captures value through NRE, design implementation, advanced-node know-how, and customer relationships. EPC is strong, but value can leak to foundries, packaging suppliers, customers, and competitors.

11. Inversion Analysis: What Can Go Wrong?

- A small number of customers drive too much revenue concentration.
- AI ASIC programs are delayed or cancelled after NRE phase.
- CoWoS/HBM/foundry constraints delay customer ramp.
- Hyperscalers insource more design work.
- Valuation prices in too much growth before earnings catch up.

12. 10x / 5x Underwriting Lens

The 10x / 5x lens is an underwriting discipline. It asks whether the current valuation can plausibly compound into a much larger enterprise value under a realistic path, not whether the company is high quality.

Underwriting Test	Formula	Illustrative Result
5x market-cap hurdle	Current market cap x 5	Approx. USD 52B if starting near USD 10.5B
10x market-cap hurdle	Current market cap x 10	Approx. USD 105B
Primary question	Can Alchip become a premier AI ASIC platform?	Must move from project wins to durable platform economics.

13. Scenario Analysis

Scenario	Description	Key Conditions	Illustrative Multiple
Bull / 5x	Alchip becomes a leading AI ASIC design partner.	3nm/2nm programs ramp, margins hold, and customer base broadens.	5x
Extreme Bull / 10x	Alchip becomes a central custom silicon platform.	Multiple hyperscale design wins with durable economics.	10x
Base	Strong niche compounder.	AI demand grows but customer/project concentration persists.	2x-3x
Bear	Design cycle disappoints.	Projects slip, customer concentration bites, valuation compresses.	0.4x-0.8x

Illustrative probability-weighted view: the opportunity has asymmetry, but the 5x and 10x cases require both paradigm growth and sustained economic participation. These figures are not price targets.

14. REI Dashboard

Risk Area	Early Warning	Escalation	Resolution / Positive Signal
Customer concentration	One customer dominates revenue	Design loss or delay hits revenue	Customer base diversifies
Node ramp	3nm/2nm slips	Major program delay	Advanced-node mix keeps rising
Capacity	CoWoS/HBM bottlenecks	Customer volume constrained	Packaging access improves
Margins	NRE volatility rises	Operating leverage weakens	Recurring production economics improve

15. TVI Dashboard

Thesis Area	Evidence That Strengthens Thesis	Evidence That Weakens Thesis
Advanced node mix	7nm and below remain majority of revenue.	Revenue shifts back to mature nodes.
AI ASIC demand	New AI accelerator wins disclosed.	Customer delays or cancellations.
EPC	NRE and production revenue compound.	Value captured mainly by foundry/customers.
5x path	Market sees platform economics.	Market treats Alchip as cyclical design services.

16. Source-Checked Notes

Alchip disclosures provide unusually strong node-mix evidence, supporting PAR and PAM scores. The main evidence gap is customer-level concentration and long-term program durability.

The 10x case requires Alchip to be more than a design-service participant; it must become a durable AI custom-silicon platform.

17. Initial Zerion Conclusion

Alchip deserves a high PAR because custom ASICs are a serious AI-infrastructure paradigm and Alchip is already participating at advanced nodes.

The initial view is strong 5x optionality but fragile CFF due to concentration and capacity risks.

Final Initial View	Assessment
PAR	Strong
PAM	Strong but project-dependent

Final Initial View	Assessment
CFF	Moderate
10x Status	Exceptional / conditional
5x Status	Credible but concentration-sensitive candidate
Next Work	Track customer concentration, NRE pipeline, 3nm/2nm ramp, CoWoS access, and margin durability.

Source Register

ID	Source
S1	Alchip Q2 2026 Financial Results - https://www.alchip.com/public/index.php/jp/Newsroom/Alchip_Technologies_2026_Q2_Financial_Results
S2	Alchip Investor Financials - https://www.alchip.com/public/index.php/en/Investors/financials/seminar
S3	Market Cap Company Alchip - https://marketcap.company/market-capitalization/tw-3661-alchip-technologies-ltd/
S4	StockAnalysis Alchip - https://stockanalysis.com/quote/tpe/3661/

Disclaimer

This PAR report is provided for informational, educational, and research purposes only. It does not constitute investment advice, financial advice, legal advice, tax advice, accounting advice, or any recommendation to buy, sell, or hold any security, digital asset, commodity, currency, fund, derivative, or other financial instrument. All scores are analytical judgments based on available evidence and may change as new information becomes available.

Market data is point-in-time and may be stale. A complete investment decision would require independent verification, valuation analysis, financial modeling, risk assessment, portfolio construction, position sizing, and professional advice where appropriate.