



# Anderson Williams

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## SUMMARY

Thermal engineering leader with 14 years developing and productizing cooling solutions for high performance electronics. Leads liquid cooled and air cooled architecture, CFD, **thermal testing**, validation, production readiness, and **simulation to test correlation** across compute and networking platforms. Hands on work includes cold plates, manifolds, pumps, CDUs, heat sinks, heat pipes, vapor chambers, TIMs, and **thermal data acquisition**. Applies physical measurements to define design parameters, improve models, and resolve reliability risks. Experience covers ASIC, optical, and power systems with BGA, Flip Chip, and **2.5D/3D IC packaging**. Partners with suppliers, ODMs, manufacturing, hardware design, and executive teams to move advanced cooling concepts from modeling through qualification and scalable production.

## EXPERIENCE

### Principal Thermal Engineering Leader

July 2021 - Present

Apex Compute Systems

*Austin, TX*

Leads thermal architecture, modeling, validation, supplier integration, and production readiness for high performance compute platforms. Guides technical decisions across **liquid cooling**, air cooling, advanced packaging, reliability, and executive communication.

- Directed liquid cooled and air cooled architecture from concept modeling through production qualification.
- Productized **cold plates**, **manifolds**, pumps, and CDUs with suppliers and ODM partners for scaled manufacturing.
- Built CFD and thermal testing workflows that correlated predictions with instrumented hardware measurements.
- Integrated heat pipes, **vapor chambers**, TIMs, and **heat sinks** around advanced IC packages.
- Led failure investigations using **thermal data acquisition**, physical inspection, and model updates.
- Presented qualification findings, design tradeoffs, and cooling roadmaps to executive stakeholders.

### Senior Thermal Engineer

March 2017 - June 2021

Summit Network Hardware

*Denver, CO*

Owned thermal design and validation for networking platforms with high power ASIC, optical, and power system assemblies. Mentored engineers while shaping test methods, reliability decisions, and liquid loop development.

- Owned thermal design and validation for networking platforms with high power ASIC assemblies.
- Developed **liquid loop** concepts using cold plates, pumps, and manifolds against prototype test data.
- Established **air cooling** designs with vapor chambers, **heat pipes**, heat sinks, and TIMs.
- Defined thermal test plans, instrumentation layouts, **acceptance criteria**, and qualification documentation.
- Evaluated reliability risks from temperature gradients, interface performance, and flow distribution.
- Mentored engineers on **CFD** discipline, correlation methods, and structured **thermal troubleshooting**.

### Thermal Mechanical Engineer

August 2014 - February 2017

BlueMesa Electronics

*Phoenix, AZ*

Supported thermal mechanical design, documentation, prototype evaluation, and build readiness for compact electronics. Connected engineering requirements with controlled procedures, drawings, measurements, and cross functional reviews.

- Designed thermal solutions within mechanical packaging constraints using **heat transfer** analysis and testing.
- Created work instructions translating engineering requirements into repeatable **manufacturing** execution steps.
- Used **CAD**, drawings, and dimensional data to improve hardware build readiness.
- Investigated technical issues with **root cause** methods and controlled corrective documentation.
- Coordinated engineering, quality, fabrication, and laboratory stakeholders through technical reviews.
- Presented findings, risks, and recommendations supporting informed engineering decisions.

### Mechanical Engineer, Electronics Cooling

June 2012 - July 2014

Canyon Ridge Instruments

*Tempe, AZ*

Supported enclosure cooling, airflow development, heat sink interfaces, and component temperature limits for electronics programs. Prepared measurements, procedures, technical reports, and review material for controlled engineering execution.

- Supported enclosure cooling and airflow design for electronics with component temperature limits.
- Created work instructions that translated engineering requirements into repeatable execution steps.
- Used CAD, engineering drawings, and dimensional data to evaluate hardware readiness.
- Investigated technical issues with root cause methods and recorded corrective findings.

- Coordinated engineering, quality, fabrication, and laboratory stakeholders through controlled reviews.
- Presented results, risks, and recommendations through clear technical reports.

## PROJECTS

### Compute Platform Liquid Cooling Productization 📅 2024

Moved cold plate, manifold, pump, and CDU concepts from analysis through supplier alignment and production qualification. Physical measurements strengthened model correlation and supported repeatable hardware decisions.

### Advanced Package Thermal Validation 📅 2020

Validated cooling performance around ASIC, optical, and power assemblies using CFD, instrumentation, and structured test plans. Findings informed reliability reviews and packaging choices.

## LEADERSHIP & AWARDS

- Recognized as a technical leader for productizing liquid cooling across compute hardware programs.
- Selected to present thermal qualification findings and roadmap decisions to executive engineering audiences.
- Trusted mentor for CFD modeling, simulation to test correlation, and thermal troubleshooting practices.

## EDUCATION

### Master of Science in Mechanical Engineering

2012

Arizona State University GPA: 3.8

Tempe, AZ

**Coursework:** Thermal Sciences, Fluid Mechanics, Computational Fluid Dynamics, Heat Transfer

### Bachelor of Science in Mechanical Engineering

2010

University of Arizona GPA: 3.8

Tucson, AZ

**Coursework:** Thermodynamics, Heat Transfer, Fluid Mechanics, Mechanical Design

## CERTIFICATIONS

- ASME Professional Development, Electronics Cooling and Thermal Management 📅 2024
- Thermal Management and Electronics Cooling Professional Training 📅 2024

## TECHNICAL SKILLS

- **Liquid Cooling Hardware:** Cold plates, Manifolds, Pumps, CDUs
- **Air Cooling Hardware:** Heat sinks, Heat pipes, Vapor chambers
- **Thermal Interface Materials:** TIM selection, Interface analysis, Contact resistance
- **CFD and Modeling:** Computational Fluid Dynamics, Thermal models, Flow modeling
- **Thermal Testing:** Thermal test plans, Instrumentation, Acceptance criteria
- **Data Acquisition:** Temperature sensors, Thermal data acquisition, Physical measurements
- **Advanced Packaging:** BGA, Flip Chip, 2.5D and 3D IC packaging
- **Thermal Validation:** Simulation to test correlation, Performance validation, Qualification
- **Reliability Engineering:** Component reliability, System reliability, Failure investigation
- **Product Development:** Production readiness, Supplier engineering, ODM collaboration
- **Mechanical Design:** CAD, Engineering drawings, Dimensional data
- **Technical Communication:** Technical reports, Executive presentations, Design reviews

## SKILLS

- |                  |                  |                                  |                       |
|------------------|------------------|----------------------------------|-----------------------|
| • Liquid Cooling | • CDUs           | • CFD                            | • BGA Packaging       |
| • Cold Plates    | • Heat Pipes     | • Thermal Testing                | • Flip Chip Packaging |
| • Manifolds      | • Vapor Chambers | • Thermal Data Acquisition       | • System Reliability  |
| • Pumps          | • TIMs           | • Simulation to Test Correlation |                       |

## PROFESSIONAL AFFILIATIONS

- ASME professional development participant focused on electronics cooling and thermal management.
- Technical contributor across supplier, ODM, manufacturing, hardware design, and reliability reviews.

## LANGUAGES

- English (Native)
- Spanish (Intermediate)

**ADDITIONAL INFORMATION**

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**Work Status** : Authorized to work in United States. No sponsorship required.

**REFERENCES**

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AVAILABLE ON REQUEST