CASE STUDY

# UltraVolt High Power C Series Required in Atom Probe Microscope

| INDUSTRY | SOLUTION | EQUIPMENT |
| --- | --- | --- |
| Analytical Instrumentation | Atom Probe Tomography | UltraVolt High Power C Series |

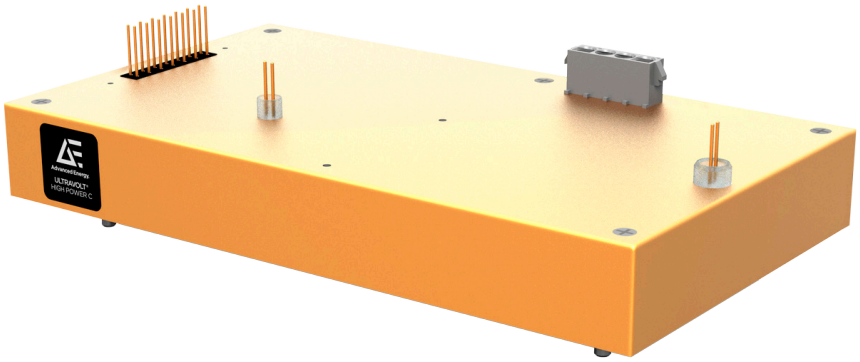
## CHALLENGE

The emergence of advanced analytical instruments has improved laboratory research and development. For this customer the challenge was to provide +2000 V/400 W to provide an electrostatic field to an atom probe microscope. The power supply voltage needed to be applied to a specimen which was shaped into a very sharp tip. The electric charge applied to this sample caused it to eject ions which then underwent a mass-to-charge analysis. The laser module (DC-High Voltage DC) required very high reliability. Applications in the analytical instrumentation industry also require high accuracy, stability, and low noise performance in compact form factors. The customer was interested in AE's UltraVolt High Power C Series which is limited to 250 W but the balance of the features and attributes in this product made it a viable option.

## SOLUTION

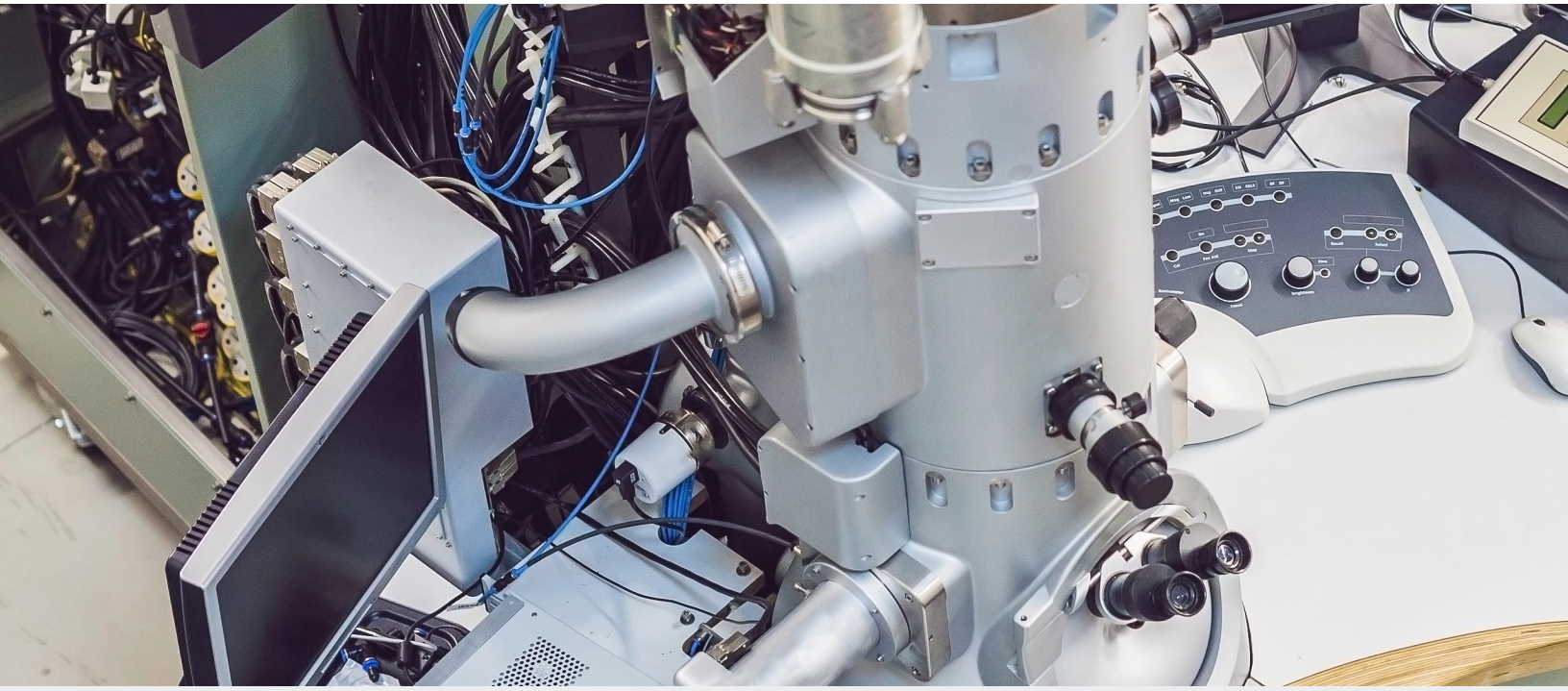
The solution proposed for this application was 2 x 2C24-P250-I5 connected in parallel. With the I5 option installed, the customer was able to to achieve full current sharing across both power supplies. The UltraVolt High Power C was an excellent choice for this application due in large part to these attributes:

- Ability to connect modules in parallel to achieve the required 400 W power specification.
- The customer had used UltraVolt powers supplies many times in the past and had a very satisfying experience, making selecting the UltraVolt High Power C for their next project a natural choice.
- The customer could expand mechanical integration and utilize interconnection.
- Very fast response to technical questions and application/use-case inquiries.
- The AE team worked very closely with the customer as their project developed, which they found very impressive and helpful.



## CONCLUSION / RESULT

Advanced Energy's products have been able to support the customer's long product lifecycles in the past. Their Atomic probe microscope in lab background, light leakage, bokeh,y devices typically have +10 years of production before a new iteration. Our historically low lead-time equated to more rapid development and deployment of beta systems than would have been possible had they chosen the competition. Their ability to seek engineering assistance from the AE team very rapidly facilitated a more seamless development path. Advanced Energy's promise of high reliability products gave this customer the confidence they needed to select our product for the sensitive laser portion of the instrument.



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