



American Standard Circuits
Sunstone Circuits

AMERICAN STANDARD CIRCUITS TURNKEY ASSEMBLY SOLUTIONS

Discover ASC's commitment to close collaboration with their customers, showcasing how obstacles seamlessly transform into opportunities and long term solutions.

USE CASE SUMMARY

Wireless telecommunication devices require immense reliability and efficiency of base station power amplifiers to provide seamless connectivity and improve network performance. This whitepaper illustrates how American Standard Circuits partners with clients to focus on rapid production and delivery utilizing an integrated turnkey assembly solution.

CHALLENGE

One of our telecommunications client was encountering issues sourcing power amplifiers for their wireless base stations. Repeated low quality and late deliveries from existing suppliers lead to production and delivery delays of the final product. They needed a solution offering both rapid turnaround times and uncompromised quality on a consistent basis.

SOLUTION

ASC, partnering closely with this customer, proposed the following comprehensive turnkey assembly solution to effectively address the challenges faced by the customer:

- **Manufactured PCB**

Our team created a custom PCB manufacturing solution tailored to the power amplifier's specific requirements, incorporating advanced features for high-frequency performance and thermal management.

- **Manufactured Heatsink**

ASC's engineering team focused on design and production of a custom heatsink for efficient heat dissipation, engineered to facilitate effective thermal management.

- **Plated Heatsink**

Thermal conductivity and corrosion resistance were enhanced through a plating process, ensuring durability in wireless base station environments.

- **Bonding PCB Heatsink**

Utilizing advanced sweat solder technology, ASC was able to securely bond the PCB and heatsink, ensuring a robust mechanical and thermal interface.

- **Stencil and Tooling Design**

Custom stencils and tooling were designed for precise component placement and soldering accuracy during the SMT assembly process.



SOLUTION CONTINUED

- **SMT Assembly**

ASC utilized state-of-the-art, automated equipment for surface mount component assembly, ensuring consistency and accuracy for their customer.

- **Turnkey Product Shipment**

Rigorous testing and quality assurance processes were conducted before shipping the fully assembled power amplifier units to the customer, achieving a remarkable 15-day turnaround time with no defects

RESULTS

The implementation of the turnkey assembly solution resulted in significant benefits for our customer.

- **Rapid Turnaround Time**

Delivery of high-quality power amplifier units within a 15-day timeframe, meeting urgent demand requirements and production deadlines.

- **Enhanced Performance and Reliability**

Our custom-designed PCB, optimized heatsink, and advanced assembly techniques ensured superior performance and reliability in base station applications.

- **Cost-Efficiency**

Consolidation of manufacturing processes and economies of scale led to reduced production costs and enhanced profitability.



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CONCLUSION

The integration of ASC's custom PCB manufacturing, heatsink production, advanced assembly techniques, and comprehensive quality assurance processes offered a fast, efficient, and cost-effective solution for producing high-performance power amplifiers for wireless base stations. This whitepaper underscores our commitment to delivering innovative solutions that meet evolving industry needs for our customers.

