

# Customer Problem Solved by CEC Team and Modified Power Supply

## INDUSTRY

Medical

## SOLUTION

MINT3110 Series

## APPLICATION

Surgical Camera

### CHALLENGE

Reliability and efficiency are paramount in critical medical applications such as electrosurgery. A customer developing a new surgical camera system faced a significant challenge during integration of a power supply into their device. The system was shut down under certain conditions which were believed to be due to the AC-DC power supply they had chosen. This issue threatened to delay their upcoming product launch, potentially impacting on their market position and customer satisfaction.

### SOLUTION

After initial discussion, the Advanced Energy (AE) team determined that to understand the root cause, a system level analysis was needed. The customer provided their system to the AE Customer Experience Center engineers for analysis. After system level analysis was completed, it was concluded that a significant inrush current demanded by a DC-DC converter used in the device was the root cause of the issue.

While the optimum solution would have been to design an inrush limiting circuit into the system, this would have delayed a critical launch date for their product by a few months.

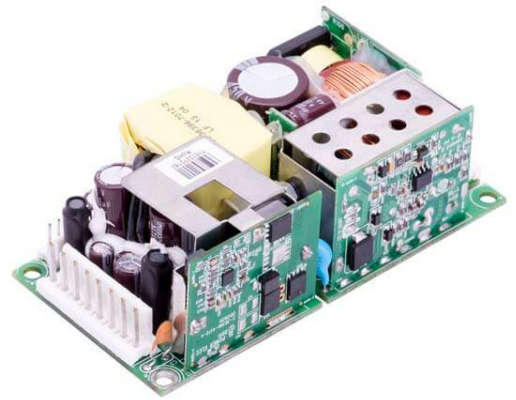
The AE engineering team then determined we could quickly modify the MINT3110 series of AC-DC power supplies to alleviate this issue and provide

other changes to meet the customer's requirements. Some of the changes include:

- **Modified OCP timing:** The overcurrent protection (OCP) timing was adjusted to allow the higher peak current during turn-on, thereby preventing the PSU from shutting down.
- **Output voltage adjustment:** Changes were made to fine tune the output voltage to optimize system level efficiency performance.
- **EMI enhancements** Power supply EMI filtering enhancements through system-level testing to reduce electromagnetic interference.
- **Lower leakage current:** Leakage current was reduced, ensuring safer and more reliable operation.

## RESULT/ CONCLUSION

The modifications made to the MINT3110 series allowed the customer to meet their critical product launch on time. The solution provided a reliable and efficient power supply for the surgical camera, enhancing the overall performance and user experience. The successful implementation of these modifications demonstrates the value Advanced Energy was able to provide through our Customer Experience Centers. AE also provided unparalleled support and the adaptability of the MINT3110 series of open frame products to address specific customer needs without suggesting cost-intensive customized solutions.



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