

CS1000 Provides System Level EN55032 Class B Compliance for Electrosurgery Device

INDUSTRY**Medical****SOLUTION****CS1000
(CS10M-48N-04BL)****APPLICATION****Electrosurgery
Platform****CHALLENGE**

A leading global medical technology company approached Advanced Energy's Field Application Engineer (FAE) team after identifying a need for additional compliance margin during EN55032 Conducted Emissions Class B testing while integrating the CS1000 power supply into their electrosurgery system. Since the application was medical, the challenge was particularly complex because any design changes had to maintain strict compliance with leakage current requirements, radiated emissions limits, and other critical safety standards. In addition, the customer was approaching the final stages of product certification, leaving very limited time for implementation and making extensive hardware modifications impractical.

SOLUTION

The Customer Engineering Center (CEC) team quickly investigated the issue and determined that additional conducted emissions margin could be achieved through a firmware modification that adjusted the power supply's switching frequency. This approach provided a targeted solution while preserving the existing hardware design and avoiding costly redesign efforts.

Because the solution was firmware-based, implementation was straightforward and aligned with the customer's aggressive certification timeline.



RESULTS

Following the firmware update, the customer submitted the modified power supplies for independent testing at an external compliance laboratory.

The project delivered several positive outcomes:

- Successful EN55032 Conducted Emissions Class B compliance with strong margin across the tested frequency range.
- Validation of the solution through independent external laboratory testing.
- Customer request for five additional modified power supplies to support further system-level testing and qualification.
- Deployment of customized firmware modification into ongoing customer power supply orders.

BENEFITS

This project highlights the value of CEC's advanced troubleshooting expertise and extensive EMC pre-compliance testing capabilities. By rapidly identifying the root cause and validating a practical solution, Advanced Energy was able to provide a fast and cost-effective path to compliance.

The ability to perform modifications, verification testing, and qualification activities in-house gave the customer confidence in both power supply performance and overall system compliance. This collaborative approach reduced project risk, shortened development timelines, and helped accelerate progress toward final product certification.

CONCLUSION

Through a focused engineering investigation, the CEC team successfully identified the root cause of the customer's EN55032 Conducted Emissions Class B compliance challenge and implemented an optimized solution. The firmware-based modification provided the required emissions margin while preserving critical medical safety and performance requirements. Rapid qualification testing confirmed the effectiveness of the approach, and subsequent external laboratory validation verified compliance success, enabling the customer to continue their certification process with confidence.

With a broad portfolio of reliable medical power solutions and deep electrosurgical expertise, Advanced Energy (AE) helps OEMs solve complex power challenges, accelerate development, reduce risk, and bring innovative devices to market faster. Backed by global engineering support and extensive medical application knowledge, AE is more than a power supplier, AE is a trusted technology partner powering the next generation of electrosurgical devices.



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