

# Allegro MicroSystems, LLC, USA

Reducing EMC noise to improve product quality



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MVG are certainly on the list of chosen suppliers we like to work with. They work with us to deliver a project which meets our needs in all areas, project scope, price and support.

Richard Garvey  
Director of Systems Engineering  
at Allegro MicroSystems



**On-site repeatability testing, saving time and money**

## ■ The challenge:

When a customer regularly requests a service which requires resources and costs being outsourced, there comes a point when you need to review the effectiveness of these processes. As industry demands for reduced RF noise grows, the need for testing and retesting our products during the stages of design have increased.

Allegro MicroSystems are an industry leader in the world of integrated circuit (IC) design. Their design and testing centre in Manchester, New Hampshire, USA invests in testing to ensure that their developments deliver exactly what their customers need. However, this was becoming increasingly challenging using off-site services.

In 2014, Richard Garvey, Director of Systems Engineering at Allegro MicroSystems, decided it was time to review their testing processes. Richard explains: "We were increasingly reviewing the levels of EMC testing for our ICs in line with customer demands. The RF or EMC noise from end equipment, can create issues in your home or your car and to test and debug these often we would book an off-site facility for say 4 hours. Being offsite we lost some of our resources for debug so testing would not be quite complete. Then, a further 4 hour slot would have to be booked when perhaps we only needed another 40 minutes, which was a poor use of budget. Also, being offsite, it wasn't always convenient to travel to a testing facility which was a 30 minute round trip."

To continue to deliver the high standards their customers expected, they needed to review their testing capabilities.

### **// Our solution:**

Producing ICs for a competitive industry requires investment in the latest, market leading technology. "The development process is a constant cycle of develop, test, measure, modify and re-test to see any improvement. We needed to bring this testing capability in-house." says Richard.

Allegro MicroSystems chose a SmartShield Anechoic chamber from MVG which measured 3.5m, by 6m, by 3m tall. The chamber has the capability to measure EMC from 30 MHz to 1 GHz in accordance with CISPR-25 EMC standard, which met Allegro's current testing needs.

"With IC tests being completed in house we can be extremely reactive to both our own development and our customer requirements. We maintain control, which means that we can keep our product developments on-site and confidentiality is more secure than when we complete testing at off-site facilities. Another benefit is that the environment and conditions during testing are one hundred percent within our control and the same every single time we test. This means that we know the changes we make are having the impact, not an external factor. This also gives us the capability to test to the standards specified by the industry, for example, General Motor's GMW3097.

"The project moved swiftly and smoothly from discussion through to installation within five months and has made a positive impact to our business; saving hours, money and improving quality."



### **THE BENEFITS:**

#### **The benefits of having an on-site test facility at Allegro MicroSystems are:**

- The capability to test to pre-compliance on-site in accordance with current EMC standards for our product scope.
- Maintaining confidentiality during the development process.
- During development we can more easily test, check, adapt and re-test.
- We have 100% control of the testing environment.
- Quick validation as we can check and verify compliance when needed.
- Reduced time, resources and costs from using an outside test centre.



### System of choice:

Allegro MicroSystems started exploring the supplier possibilities last September where they looked at both the new and used market. What were the factors in selecting MVG as the supplier? Richard explains the reasons MVG were selected for this project:

“There were four suppliers in the final selection process. With MVG, their expertise came across very strong during the selection process and the in-depth discussions demonstrated that they could meet our needs. Also, the price, which although wasn't the first priority, MVG's flexibility to work with us on this certainly helped. Our new chamber has expanded our testing capability and the performance of our ICs.

“As MVG EMC are the experts in their field, we knew that the chamber design would meet any compliance levels we needed and provide the test results our customers require.”

### Next steps:

Allegro MicroSystems are already a leader in the world of high performance semi-conductors and are already looking at their next steps, says Richard, “As industry testing demands increase we will also be looking to expand our in-house testing facilities by adding absorbing cones as our operating frequencies move higher. MVG EMC will certainly be a first choice in our list of suppliers.”

### Product information:

A selection of standard sized chambers for a variety of electromagnetic compatibility testing requirements. Whether for emissions, immunity, compliance or pre-compliance testing, MVG-EMC chambers are customizable and module based to meet your specifications.



To find out more about how MVG products could help your business please visit [www.mvg-world.com](http://www.mvg-world.com) or email [salesteam@mvg-world.com](mailto:salesteam@mvg-world.com)