FLEXIBLE EMC

TEST & Measurement Solutions

PRODUCT OVERVIEW

mvg
Microwave Vision Group

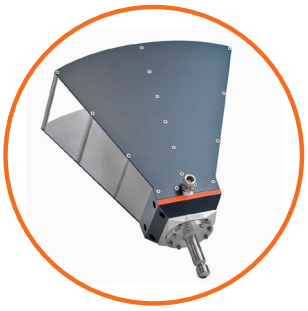
Company Overview

At MVG we design, manufacture, and install best in class semi and fully anechoic chambers and shielded rooms, for a wide variety of EMC, EMPP, RF, microwave and antenna applications. Our solutions are used extensively in the aerospace, defense, telecommunications, commercial electronics and automotive industries as inhouse facilities, and also by major test houses. Whatever you need a quiet RF environment for, such as for EMC testing, be that emissions, immunity, pre-compliant or compliant, within MVG's wide portfolio, coupled with our experience of delivering chambers for over 30 years, we will have a solution for your needs.

Our RF Research & Development

Our 55 R&D engineers work tirelessly to develop our superior range of EMC testing products with an impressive 9.3% of revenue plowed back into product research and development.

Many private companies and public offices choose our EMC testing products to ensure that their tests are compliant to the latest industry standards. Testament to the high quality of our EMC products is that companies like Dyson Ltd, as well as other industry leaders, have chosen MVG's EMC test chambers to help them deliver efficient, on-site, EMC testing to fully compliant levels.



We design, manufacture, supply and install rooms and chambers for EMC, RF, microwave and antenna testing.

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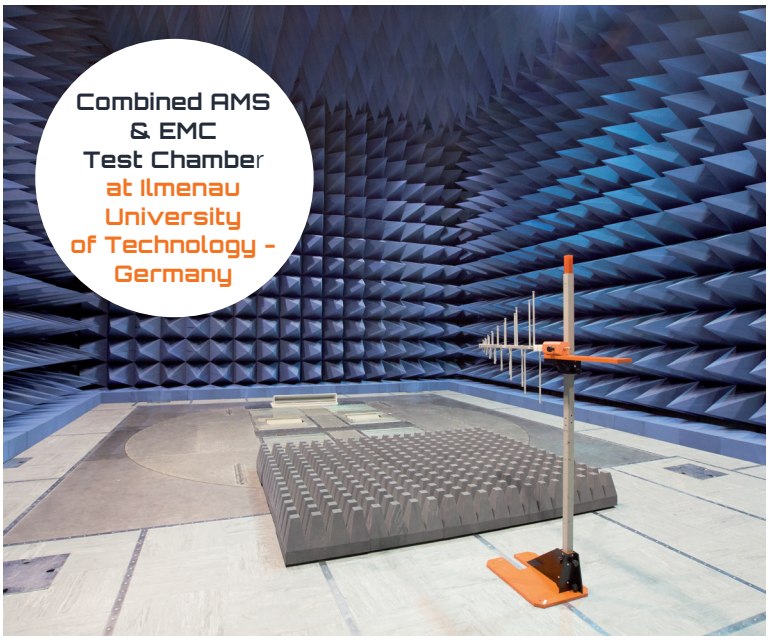
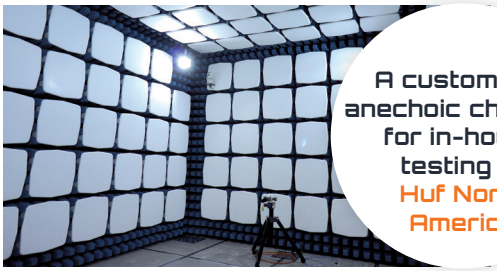
Product specifications and descriptions in this document are subject to change without notice.
Actual products may differ in appearance from images shown.

COMPLETED PROJECTS



Combined AMS & EMC Test Chamber at Ilmenau University of Technology - Germany

EMC Compact Chamber at Sonos - USA



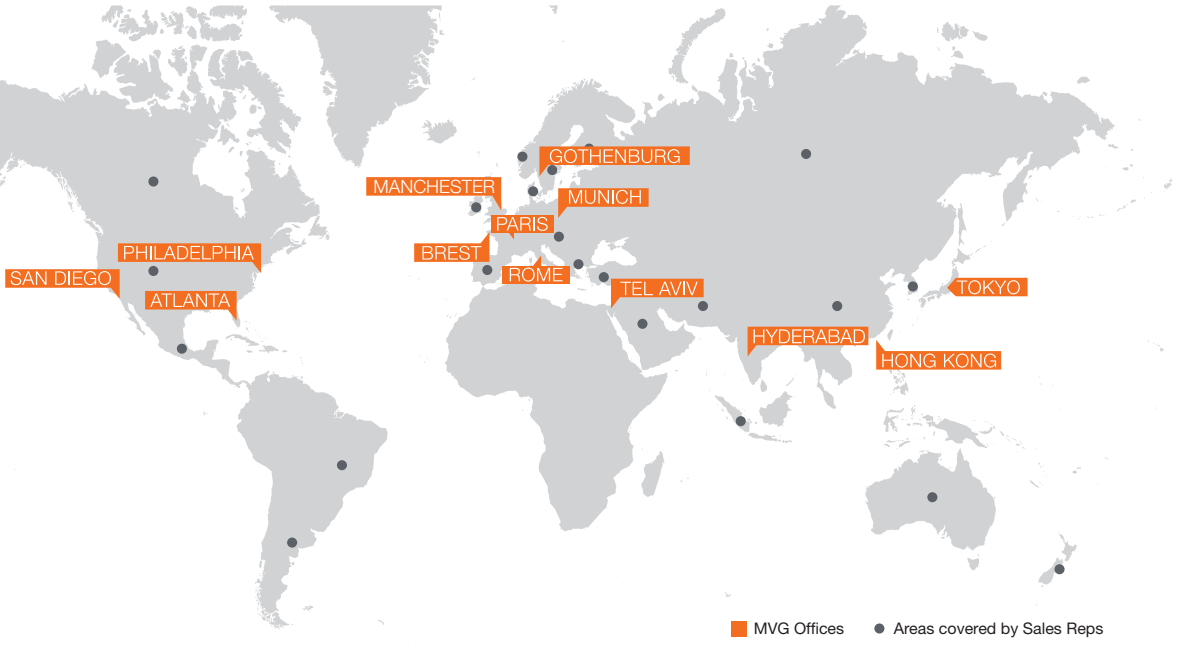
A customized anechoic chamber for in-house testing at Huf North America

WORLDWIDE LOCAL SALES AND PROJECT MANAGEMENT SUPPORT

MVG teams are supported by a network of sales representatives around the world, providing assistance and follow through from purchase to design, delivery and installation. This local presence enables responsiveness and high quality customer support.

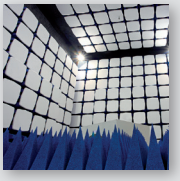
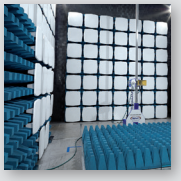
Where are our Sales Reps?

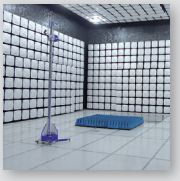
Asia, Europe, North America, Oceania, South America



Find the full list of Sales Reps at: https://www.mvg-world.com/en/distributors

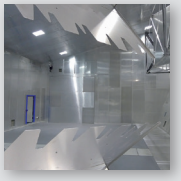
Quick Guide of MVG's EMC Test Chamber Solutions

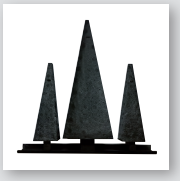







Product Name	EMC MC Mini Compact Chamber	EMC-3C Pre-Compliance Compact Chamber	EMC-3m Fully Compliant Chamber	EMC-5m Test Range Chamber	EMC-10m Anechoic Chamber	MIL-STD Chamber
Dimensions (shield)	6 m x 3 m x 2.4 m	7 m x 3 m x 3 m	8.9 m x 5.6 m x 5.8 m	11.5 m x 7.5 m x 5.8 m	21 m x 12 m x 8.5 m	Dimensions may vary. E.g: a test bench up to Aircraft
RF Frequency Capability	26 MHz – 40 GHz	30 MHz - 40 GHz Radiated Immunity: 30 MHz - 18 GHz Shielded door 30 MHz - 18 GHz 1m QZ	30 MHz - 40 GHz Radiated Immunity: 30 MHz - 18 GHz Shielded door 2m QZ	30 MHz - 40 GHz Radiated Immunity: 30 MHz - 18 GHz Shielded door 3m QZ	30 MHz - 40 GHz Radiated Immunity: 30 MHz - 18 GHz Shielded door 3m > QZ	10 kHz - 40 GHz
Applicable Industry Standards	Pre-compliant: • ANSI C63.4 • FCC Parts 15 & 18 • EN 50147-2 • EN50011/CISPR 11 • EN550016/CISPR 16 • EN550022/CISPR 22 • VCCI V-3/2004.04 • 2004/104/EC-SAE J551 /CISPR25	Pre-compliant: • CISPR-16 Compliant: • EN61000.4.3	Compliant: • ANSI C63.4 • MIL STD 461F • CISPR 16-1-4 • EN61000.4.3	Compliant: • ANSI C63.4 • MIL STD 461F • CISPR 16-1-4 • EN61000.4.3	Compliant; • ANSI C63.4 • MIL STD 461F • CISPR 16-1-4 • EN61000.4.3	• MIL STD 461 • RTCA DO 160
Materials	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid absorbers for 26 MHz - 40 GHz	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid absorbers for 26 MHz - 40 GHz	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid absorbers for 26 MHz - 40 GHz	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid absorbers for 26 MHz - 40 GHz	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid absorbers for 26 MHz - 40 GHz	SmartShield shielding with HyPyr-Loss™ ferrite and hybrid lining available
Datasheet						

Complementary EMC Products to our Anechoic Test Chamber Solutions


Product Name	CISPR25 Automotive Component Test Chamber	Mode Stir/ Reverberation Chamber	RF Shielded Rooms	SmartShield Door Systems	Hyperloss RF Absorbers	EMC Antennas
Application	Designed for benchtop testing of automotive components and wiring harness. Dimensions (shield): 5.6 m x 5.1 m x 3.5 m	Often used for very high field strength immunity testing applications. Typically 7000V/m or more may be generated with such designs	• EMC Testing (conducted emissions, conducted immunity) • Shielded control and amplifier rooms • RF development testing • Electromagnetic pulse protection • Electromagnetically secure environments • Medical (audiology, EEG, etc)	A very efficient RF shielded door system to comple-ment any RF shielded room environment including TEMPEST & EMPP designs	Both broadband antenna & hybrid EMC applications available. The ULTRA is a new polypropy-lene material only available from MVG	EMI testing for commercial, automotive, and mil/aero applications
RF Frequency Capability	9 kHz to 18 GHz (40 GHz options available)	80 MHz - 40 GHz	10 kHz - 100 GHz plus	10 kHz- 100 GHz plus	10 kHz - 100 GHz plus	30 MHz to 18 GHz
Applicable Industry Standards	• CISPR25 • ISO11452-2	• MIL-STD 461 • RTCA/DO 160	• IEEE-Std-299 • IEC/EN 50147-1 March 1996	• IEEE-Std-299 • IEC/EN 50147-1 March 1996	• ANSI 63.4 • CISPR 11, 12, 13, 16-1-4, 16-1-6, 25, 32 • EN 61000-6-3, EN 61000-6-4 • FCC Part 15, 18, 25, 90 • IEC 60601-1-2 • MIL-STD 461 RTCA/DO 160	• ANSI 63.4 • CISPR 11, 12, 13, 16-1-4, 16-1-6, 25, 32 • EN 61000-6-3, EN 61000-6-4 • FCC Part 15, 18, 25, 90 • IEC 60601-1-2 • MIL-STD 461 • RTCA/DO 160
Benefits	• Minimum space • Hybrid anechoic material using UH-series polypropylene absorber • Meets CISPR25, Annex J performance requirements	• Modular or welded construction screened rooms with stirrer paddles, automated servo motors and test software	• Flexible modular panel or welded room designs with doors, filters and all RF penetrations • All accessories to ensure RF shielding specifications are achieved	• Doors with manual, semi-auto and fully-auto functions. Large range of dimensions available • High level of RF shielding compatible with our screened room performance	• Wide range of RF polyurethane & polypropylene pyramidal absorbers • Ferrite tile materials where required	• Stiff/robust & lightweight mechanical design • Reduced higher order modes • Smooth AF • High reliability N coaxial connector
Datasheet						

Dyson Ltd

CASE STUDY

Download the full document here

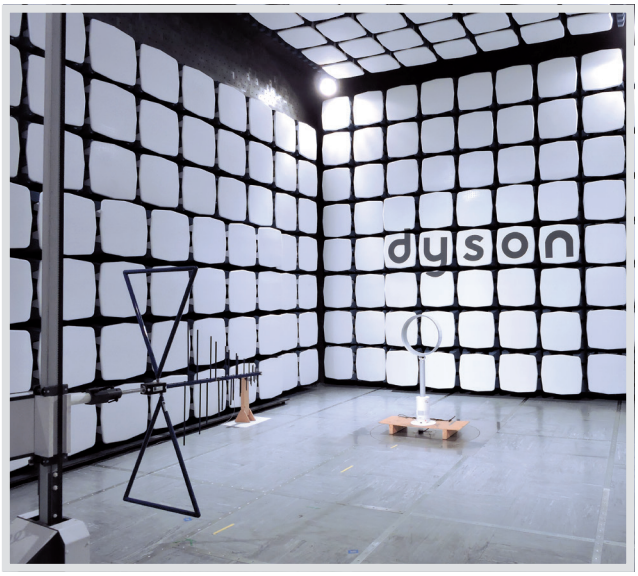
Today's industry is highly competitive. The secrecy in their knowledge and developments has been a crucial element in Dyson's success to date. But how do they achieve this? Fabio Scalon, Principal Engineer at Dyson Ltd says: ... "our tests are all completed in house in our SAC which helps us to maintain confidentiality and keep product developments on-site rather than shipping to outside test facilities. This also gives us the capability to test to the standards specified by the industry, namely CISPR, IEC and FCC."

The existing chamber was evaluated by MVG and upgraded to refit new "Hyperloss" hybrid absorber matched to the existing ferrite tiles. Fabio explains, "With changes in the complexity of our products, we now have a need to also test for Electro Magnetic Fields (EMF) up to 2.7 GHz. The upgraded chamber will allow us to do this, therefore expanding both the capability and the performance of the chamber."

+ EMC FAQs

Why do you need to use a professional EMC test laboratory environment?

To ensure accuracy of answers and to meet compliance regulations, such as the Euro Norms series of European regulations for compliance of products.



THE BENEFITS

The benefits of having an on-site test facility at Dyson are:

- The capability to test to full compliance on-site.
- It maintains confidentiality during development.
- With prototype testing we can test, check, modify and re-test within minutes.
- Quick validation as we can check and verify compliance when needed.
- Time saving, as we have no delays from using an outside test centre.
- Cost saving, as our test chamber runs 8 hours per day. Imagine the cost of outsourcing that!

Allegro MicroSystems, LLC, USA

Download the full document here

Allegro MicroSystems are an industry leader in the world of integrated circuit (IC) design. Their design and testing center 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, decided it was time to review their testing processes. They chose a SmartShield anechoic chamber from MVG which measured 3.5 m, by 6 m, by 3 m 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.

Are the regulations a legal requirement?

Yes and non-compliance of these regulations could result in heavy fines and prevention of a product launch to market, or even worse, forced retraction from the market.

Are the European regulations used in other global regions?

Yes, the European regulations are often adopted or duplicated by local standards in many countries outside of mainland Europe.

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.

MVG - Testing Connectivity for a Wireless World

The Microwave Vision Group offers cutting-edge technologies for the visualization of electromagnetic waves. With advanced test solutions for antenna characterization, radar signature evaluation and electromagnetic measurements, we support company R&D teams in their drive to innovate and boost product development.

WORLDWIDE GROUP, LOCAL SUPPORT

Our teams, in offices around the world, guide and support you from purchase, through design, to delivery and installation. Because we are local, we can assure speed and attention in project follow through. This includes customer support and maintenance once the system is in place. For the exact addresses and up-to-date contact information:
www.mvg-world.com/mvg-offices

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For more information:
mvg.link/EMC

Contact us:
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