REVERBERATION CHAMBERS

FOR EMC TESTING AND HIGH-FIELD STRENGTH APPLICATIONS

- **High field strength**
- **Higher field-to-input power ratios than anechoic chambers**
- **High performance - minimum space**
- **Flexible, modular construction system**

SOLUTION FOR

EMC test sites requiring high field strength radiated immunity tests

MAIN FEATURES

Standard models

- Mode Stirred and Mode Tuned reverberation chamber models are avilable according to different LUF (Lowest Useable Frequency): 80 MHz, 200 MHz, 400 MHz, 1000 MHz*

Compliant with the following standards

- IEC 61000-4-21
- EUROCAE/ED-14
- MIL-STD 461
- RTCA/DO-160 standards
- ISO 11452-11

* Other LUF's available on demand

EMC Test Chambers - Reverberation Chambers

What is a Reverberation Chamber (RVC)?

- RVCs are special EMC test chambers accepted by international standards for commercial, military, avionics and automotive testing.
- RVCs are mainly used for radiated immunity tests but can also be used for emissions, shielding effectiveness as well as for measuring total radiated power.
- An RVC is basically a shielded room and a stirrer/tuner.
- The RVC's main advantage is that they offer lower overall cost vs anechoic chambers because they offer higher field-to-input power ratios.
- RVCs can also handle large test systems.
- When performing EMC tests an RVC is either mode-stirred (Continuous rotation) or mode-tuned (stepped rotation) using a Stirrer/Tuner.
- A Stirrer/Tuner system is a large proprietary designed metallic plate structure that is rotated during testing.
- The stirrer's objective is to maximize the standing wave pattern in the test volume.
- After stirring the E-Field is statistically evaluated and the "worst case" data are used for the final evaluation of the test result.

We work with our system partners to provide a complete package for customers including RF hardware and software to complete the RVC solution.

Standards

Our reverberation chambers comply with the following standards:

- IEC 61000-4-21
- EUROCAE/ED-14
- MIL-STD 461
- RTCA/DO-160 standards
- ISO 11452-11

Performance

Each RVC is designed so that the total-maximum E-Field intensity within the chamber working volume will be statistically uniform as defined by the chosen standard above.

Stirrer system

Our stirrer (Tuner) systems are compatible with most commercially available software and can be controlled using a standard office PC or laptop.

System Baseline offer includes (Details on request)

- Structural steel support
- High quality Modular sandwich or Tray panel type galvanised shielded panels
- Ground plane floor
- 40 GHz RF shielded personnel door single leaf, manual actuation, left/right hinged
- Access panels
- Floor connection points
- RF filters
- LED lighting
- Electrical distribution
- Honey-Comb Vents (HCV)
- Stirrer/Tuner ≤1 to ≥16 RPM rotational speed with 0.1° angular resolution
- Shielding test according to EN 50147-1
- Installation

Options

- RVC performance testing
  - Field uniformity per IEC 61000-4-21.
- Copper covered ground plane test table size: 2.5 m x 1.0 m x 0.9 m
- 40 GHz shield performance
- CCTV
- Service and maintenance
- Fire detection
- Fire suppression
- RF System (hardware and software)
- Other options available on demand
- Alternative interior lining with aluminium or copper for enhanced performance*

Typical Shield Attenuation per EN 50147-1

Frequency	Field	Shield Effectiveness (dB)	
		SANDWICH PANEL	TRAY PANEL
10 KHz	Magnetic	60	80
100 KHz	Magnetic	80	80
1 MHz	Magnetic	100	> 100
30 MHz	Electric	100	> 100
400 MHz	Electric	100	> 100
1 GHz	PLane	100	> 100
10 GHz	Microwave	80	> 100
18 GHz	Microwave	80	> 100
40 GHz**	Microwave	80	> 100

* Consult us for more information
** If 40 GHz option is selected

MVG - Testing Connectivity for a Wireless World

The Microwave Vision Group offers cutting-edge technologies for the visualization of electromagnetic waves. Enhancing the speed and accuracy of wireless connectivity testing, as well as the performance and reliability of anechoic and EMC technologies, our systems are integral to meeting the testing challenges of a fully connected world.

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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