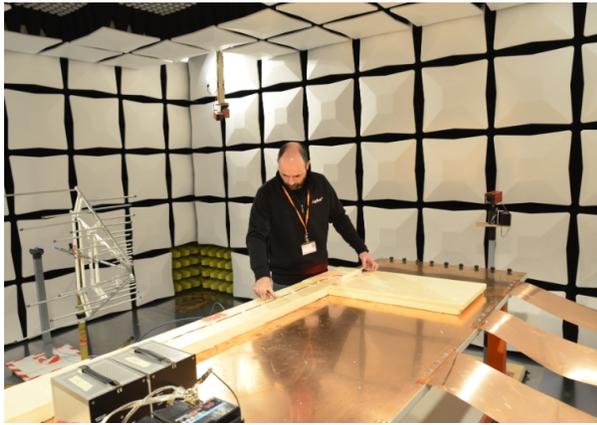


# EMC testing for automotive components

Evaluate reliability, safety and electromagnetic compatibility of vehicles and their components. We have a network of EMC laboratories in Spain, UK, Italy and United States of America and we have the recognition of General Motors (GM), Jaguar Land Rover (JLR), Fiat Chrysler (FCA), Ford (FMC) and Hyundai Motor Group to test according to their standards.



The increasing integration of electronic systems in vehicles and their interaction with portable devices have made the development and validation of automotive products increasingly complex. In order to meet regulatory and industry standards for electromagnetic compatibility (EMC), speed up the validation process and reduce development costs, manufacturers need to evaluate and ensure the reliability, safety and electromagnetic compatibility of electrical and electronic components from the design and concept stage.

## EMC compliance services

Applus+ Laboratories offers a comprehensive package of services to help automotive OEMs and their supply chains achieve compliance and reduce validation times. These services include:

- Definition of test protocols and standards
- Development and pre-evaluation tests
- Compliance testing against OEM standards
- Homologation and certification testing for vehicles and their components (E-mark, CE and FCC, among others)

## EMC/EMI testing for regulatory approval

- Radiated emissions (CISPR12, CISPR25)
- Radiated Immunity (ISO 11451, ISO 11452, SAE J555, SAE J1113)
- Conducted immunity and emission (ISO 7637, ISO 16750, SAE J1113)
- Immunity to electrostatic discharges (ISO 10605, SAE J1113)
- Electrical tests
- Specific tests for electrical vehicles

## EMC/EMI testing for OEM approval

Our network of EMC laboratories in Europe are accredited according to ISO/IEC 17025 ( [see the complete list of our accreditations](#)). We conduct third party EMC testing following OEM standards.

- BMW (GS 95002)
- Daimler (MBN 10284)
- FCA Group (CS.0054)
- Ford (FMC1278)
- General Motors (GMW 3097)
- Hyundai Motor Group (ES 96 200-00)
- Jaguar Land Rover (JLR-EML-CS)
- McLaren (MSL.03.04)
- MAN (M3285, M3499)
- PSA Group: Peugeot, Citroën (PSA B21 7110)
- Renault / Nissan (36-00-808 / 28401NDS)
- Volvo (STD 515-0003)
- VW Group, Seat, Skoda, Audi (VW80000, TL81000)

We also hold specific laboratory recognitions to conduct the **full scope of EMC tests defined by the following OEMs:**

- Barcelona EMC Laboratory, Spain: Jaguar Land Rover (JLR), General Motors (GM) and Hyundai Motor Group.
- Silverstone EMC Laboratory, UK (3C Test Limited): Ford (FMC), Fiat Chrysler (FCA), Jaguar Land Rover (JLR) and General Motors (GM).
- Amaro EMC Laboratory, Italy (Emilab slr): Fiat Chrysler (FCA).

## EMC/EMI testing facilities:

- Semi-anechoic chamber for up to 10 m measurements ([whole vehicle testing](#)) with:
  - Integrated dynamometer (ABS, Start and Stop)
  - Driving robot for development tests (RKE, ABS, brake cycles, interaction with sensors and actuators)
  - [Wireless and ADAS simulation system](#)

- Semi-anechoic chambers for 1 to 3 m measurements (motorcycles, light vehicles and components testing)
- Shielded chambers
- Facilities for open field measurements
- Automated and modular test benches
- Specialized equipment for on-site measurements
- Electromagnetic simulation software and systems.

## **Automotive components validation**

Definition and execution of validation plans (DV or B-samples and PV or C-samples) according to the industry's and each OEM's standards.

Applus+ Laboratories is one of Europe's leaders in EMC testing, with over 20 years of experience in the automotive industry.