



VCA

TYPE APPROVAL

FOR

**ELECTROMAGNETIC
COMPATIBILITY**

**Vehicle Certification Agency
1, The Eastgate Centre
Eastgate Road
Bristol BS5 6XX**

Telephone: 0117 951 5151
[e-mail: enquiries@vca.gov.uk](mailto:enquiries@vca.gov.uk)
website: www.vca.gov.uk



AUTOMOTIVE TYPE APPROVAL FOR ELECTRO MAGNETIC COMPATIBILITY

Note: the following is intended as informal guidance only; VCA cannot be held responsible for any errors or omissions.

VCA

The Vehicle Certification Agency (VCA) is an Executive Agency of the United Kingdom Department for Transport, charged with operating the system of automotive type approval in the UK. VCA is the designated UK Approval Authority and Technical Service for all type approvals to automotive EC Directives and ECE Regulations. VCA is also accredited to issue quality systems certification to ISO9000 and QS9000/ISO/TS16949 and environmental management systems certification to ISO14001 and EMAS.

THE EMC DIRECTIVES

The relevant standards for automotive EMC Type Approval are:

Directive 72/245/EEC of 20 June 1972

Directive 95/54/EC of 31 October 1995

Directive 2004/104/EC of 14 October 2004 (including the Corrigendum published on 13 November 2004)

Directive 2005/49/EC of 25 July 2005

Directive 2005/83/EC of 23 November 2005

Directive 2006/28/EC of 6 March 2006

Directive 2009/19/EC of 12 March 2009

DO I NEED APPROVAL ?

Vehicles

As part of European Whole Vehicle Type Approval (E WVTA), all M1 category vehicles (passenger cars) need full Type Approval to Directive 72/245/EEC as amended as one of the separate directives which form part of the approval process.

Other categories of vehicles (goods vehicles, buses and trailers) are being brought into the E WVTA Scheme over the next few years and will also need type approval to the EMC Directive.

Aftermarket Electronic Sub-Assemblies (ESAs) – Components and Separate Units

Directive 2004/104/EC and the subsequent amendments made important changes as to which products need automotive type approval (so called 'e-marking'). Only those that are defined as being 'immunity-related' need automotive type approval.

Products defined as being '**non**-immunity related' require compliance with the generic EMC Directive (so called 'CE-marking'), but part of the CE declaration is that the product still meets the relevant requirements of the automotive directive, 2004/104/EC.



ESAs fitted to vehicles at the time of manufacture

ESAs fitted to vehicles at the time of the vehicle manufacture must be included on the vehicle type approval. In this case, they must either be fitted to the vehicle during the vehicle EMC test or be 'e-marked' *even if they are 'non-immunity related'*.

'Immunity-related' is defined within the Directive, but the term covers these 5 areas:

- Related to the direct control of the vehicle
- Related to driver, passenger and other road-user protection
- Related to causing confusion to the driver and other road users by optical and audible disturbances (although in-car entertainment systems which are not connected to any systems which affect the direct control do not require Type Approval)
- Related to vehicle data bus functionality
- Related to vehicle statutory data

If your product falls within any of these 5 areas, you will need full Type Approval (e-marking),



THE TYPE APPROVAL PROCESS

Routes to approval

Vehicles can be approved in one of two ways. Either a complete vehicle test can be performed (and worst-casing may result in more than one test, depending on the complexity of the model range to be approved) or the vehicle can be approved using the ESA-route.

The ESA-route allows a vehicle manufacturer to get an approval by collecting ESA type approvals for all relevant electronic systems on his vehicle. In this case, even non-immunity related ESAs must still have a full type approval.

WHAT NEXT ?

Application

The manufacturer should apply to VCA in writing (either email, fax or post) for the work to be done (addressed to the Administration Supervisor, Vehicle Systems, Product Certification), which will set the process in motion. If an authorised Technical Service is to be used (see below, under 'Testing') then direct contact with them should be made.

Worst case selection

VCA practices worst-case selection prior to testing in order to reduce the amount of testing needed across the range of a product type. A meeting will be held between VCA and the manufacturer in order to consider the products to be tested, the tests to be carried out, and the date and venue for the testing. If an independent test house is to be used (see below), then they can be present also if appropriate. If that laboratory has been appointed by VCA as a Technical Service then they will conduct the meeting. The manufacturer may present results of in house testing, and any other information, in order to assist the worst case selection.

Testing

VCA is the automotive Approval Authority and Technical Service in the UK. However, VCA does not have its own EMC facilities. VCA has accredited some laboratories both in the UK and abroad. A full list can be found in VCA Publication VCA054 – Test Facilities Suitable for Automotive EMC Tests.

Those organisations that are authorised as Technical Services will handle the whole process for the client. They will give the client a price for the complete test including the VCA fees for the issue of the approval certificate.

Tests carried out at Laboratories that are not Technical Services **must** be witnessed by VCA.



If the client wishes to use VCA, VCA can witness the test work being carried out at **any** of the laboratories listed. The client will take out a job number (order reference) with VCA and be responsible for making the test booking with the test laboratory, paying the test laboratory and paying VCA for witnessing the test and issuing the approval certificate.

If a manufacturer has their own EMC test facilities then VCA can witness tests on site, without the involvement of any other test house, provided that the facilities prove acceptable after appraisal.

Conformity of production

Type approval requires not only the testing of a sample of the type and the documentation of the technical specification, but also it requires conformity of production - confirmation that the manufacturer can consistently produce products to the approved specification. To do this VCA quality assessors will wish to examine the quality systems in place in the factory. Our approach follows established quality system principles as in ISO 9002. Certification to ISO9002 or its equivalents will normally be accepted in place of factory assessments, though control plans dealing with issues specific to type approval activities may be needed in addition.

The COP process can run along side the testing process, in order to avoid delays, and will be triggered by the application letter to VCA.

The manufacturer

Approval can be given only to the manufacturer of a product - or some one who is able to take legal authority for the manufacture of the product - or his appointed representative. Therefore if a distributor of a product wishes to seek approval, he will need to gain written authority from the manufacturer to act as the manufacturer's representative for the purposes of type approval. Note, though, that only one type approval may be issued to a product by one Approval Authority, so the distributor would have to ensure that he is the sole representative for this purpose.

FURTHER INFORMATION

For Technical Enquiries at VCA, please contact:

Derek Jones

Manager – Vehicle Systems, Product Certification derek.jones@vca.gov.uk

For Administrative Enquiries at VCA, please contact:

Patricia Britton

Administration Supervisor – Vehicle Systems, Product Certification pat.britton@vca.gov.uk