



Vehicle  
Certification  
Agency

# VCA AUTOMOTIVE TYPE APPROVAL FOR ELECTROMAGNETIC COMPATIBILITY

# AUTOMOTIVE TYPE APPROVAL FOR ELECTROMAGNETIC COMPATIBILITY (EMC)

Note: the following is intended as informal guidance only; no guarantee is given or implied that the document is free of any errors or omissions, what is written only represents an opinion, as neither VCA or the Department for Transport may interpret the law as this is the sole prerogative of the courts, it is suggested that readers seek their own independent legal advice.

## About 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 UN Regulations.

## The Relevant EMC Instruments

Currently the most relevant standard for road vehicle EMC Approval is UN Regulation 10.

## Do I Need Approval?

### 1. Vehicles

As part of Whole Vehicle Type Approval (WVTA) set out in the framework 2018/858, all vehicles need to meet the requirements of UN Regulation 10(as amended) for new approvals as one of the separate legislative acts which form part of the overall WVTA process.

In the case of the framework regulation 167/2013 for tractors and 168/2013 for motorcycles and quadricycles the provisions of UN Regulation 10 also apply.

### 2. Electronic Sub-Assemblies (ESA) / Components / Separate Technical Units (STU)

ESA, components or STUs are defined in Regulation 10. Relevant parts built into vehicles as original equipment will either require their own Regulation 10 EMC approval at ESA, component or STU level, or to be covered as part of the vehicle-level Regulation 10 EMC approval. This also covers the supply of spare parts under the provisions of Regulation 10.

For aftermarket, equipment only those products that are defined as being 'immunity-related' need Type Approval in the automotive environment.

'Immunity-related' is defined within UN Regulation 10, but generally 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 (Regulation 10 approval and E-marking).

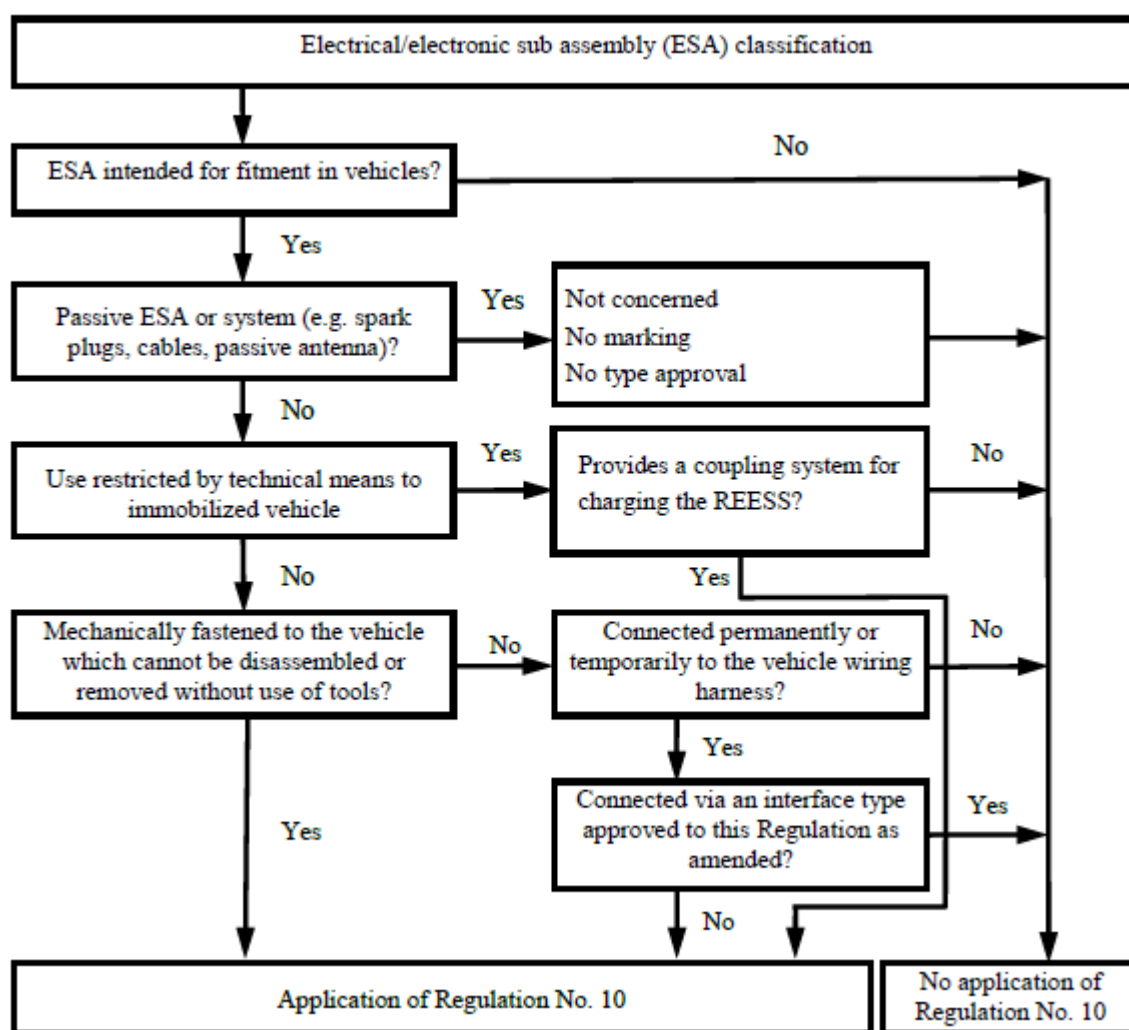
On the other hand those products which are not 'immunity related' will require CE marking in Europe and UKCA marking within the UK.

**Please note the UKCA scheme is administered by the Department for Business, Energy and Industrial strategy – BEIS – who should be approached for more information and advice.**

It is for the manufacturer, importer or distributor to determine whether a product is "immunity related" or not and satisfy themselves that this is the case. However where there is any doubt advice can be sought from a designated Technical Service.

The following diagram extracted from paragraph 3.2.1 of Annex 1 to UN Regulation 10.06 may help in determining whether or not approval of an ESA is relevant;

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When determining if an approval is needed a particularly important aspect of the above diagram is the box marked;

*‘Use restricted by technical means to immobilised vehicle’*

For example; if a product can only be used when the vehicle is stationary (e.g. through an interlock device such as a power supply connection via a relay switch fed the parking brake warning light) then it would not need to have an approval.

## The Type Approval Process

### Application

To obtain E11 approval, the manufacturer should apply to a VCA designated [Technical Service](#). (see below, under ‘Testing’).

## Testing

VCA is the automotive Approval Authority and Technical Service in the UK. However, VCA does not have its own EMC test facilities. VCA has also designated many laboratories both in the UK and abroad as Technical Services and as such they may conduct tests on our behalf. A full list can be found on the VCA website.

Those organisations that are designated 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 designated Technical Services **must** be witnessed by VCA. A list of suitable facilities can be found in publication VCA054 – Test Facilities Suitable for Automotive EMC Tests”. Note that these are **not** designated Technical Services, but are laboratories where VCA **must** witness the test work.

If the client wishes to use VCA for testing we can witness the test work being carried out at **any** of the laboratories listed in VCA054. 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.

## Worst-case selection

Worst-case selection prior to testing is done in order to reduce the amount of testing needed across the range of a product type. A meeting will be held between the Technical Service and the manufacturer in order to consider the products to be tested, and the tests to be carried out. The manufacturer may present results of in house testing, and any other information, in order to assist the worst case selection.

## 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](#) (CoP) - 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. The CoP process can run alongside the testing process, in order to avoid delays, and the manufacturer should make a separate [application](#) to VCA.

## The Manufacturer

Approval can be given only to the manufacturer of a product - or someone who is able to take legal authority for the manufacture of the product (an 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.