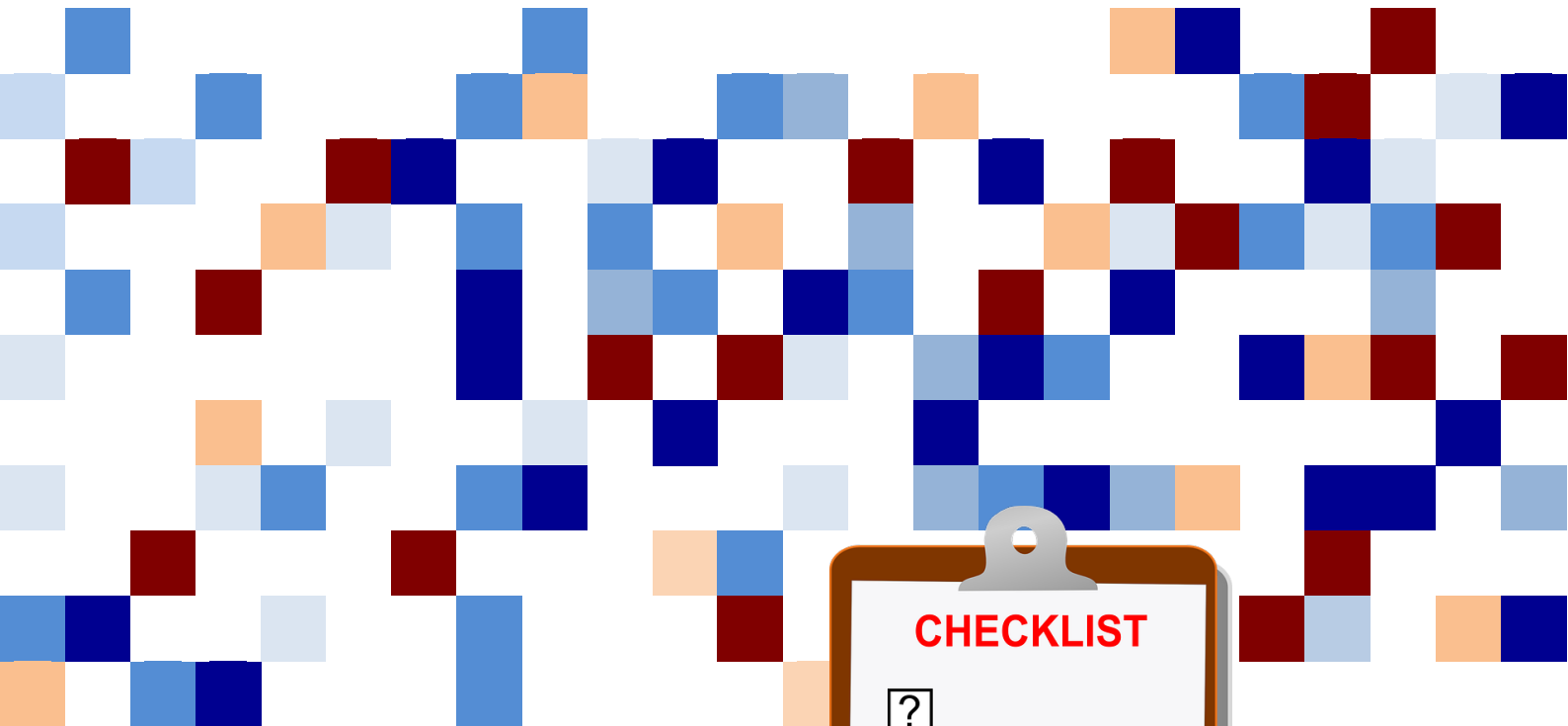
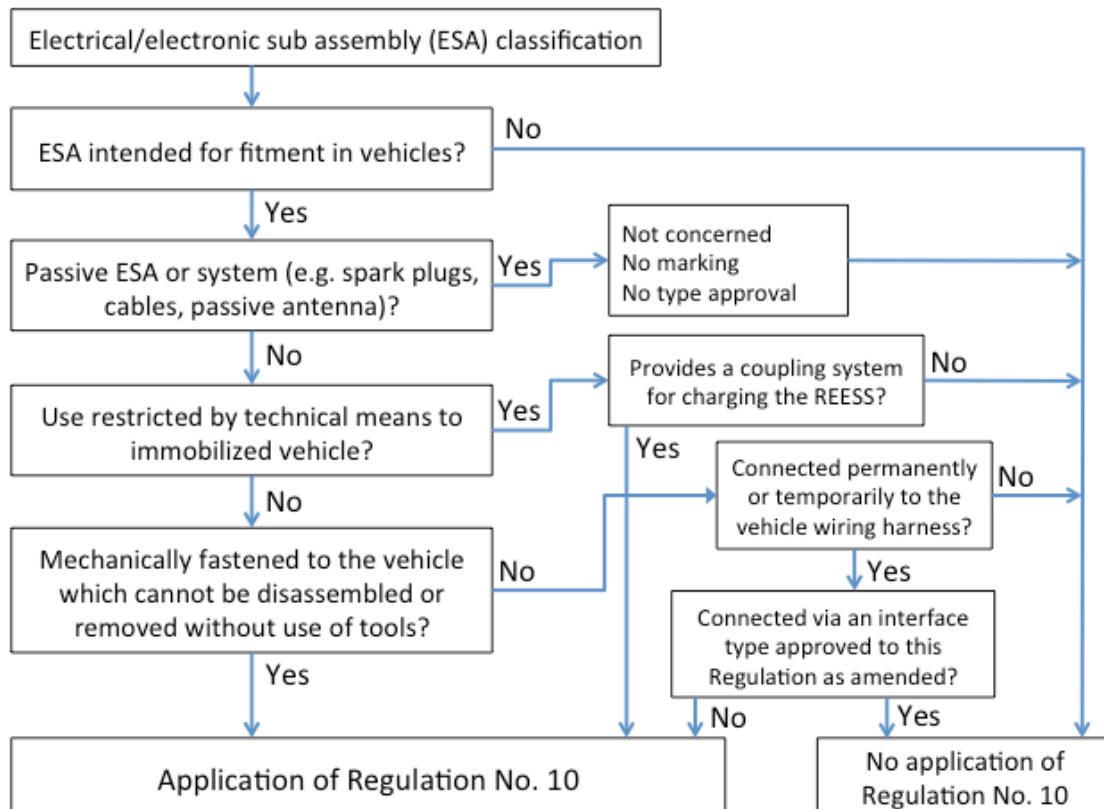


EMC Assessment



Guidance Notes



Definitions:

"**Electrical/electronic sub-assembly**" (ESA) means an electrical and/or electronic device or set(s) of devices intended to be part of a vehicle, together with any associated electrical connections and wiring, which performs one or more specialized functions. An ESA may be approved at the request of a manufacturer or his authorized representative as either a "component" or a "separate technical unit (STU)".

"**REESS**" means the rechargeable energy storage system that provides electric energy for electric propulsion of the vehicle.

"**Coupling system for charging the REESS**" means the electrical circuit installed in the vehicle used for charging the REESS.

3.3. You can use table 3.2 to record the analysis of whether or not the Regulation applies. Any ticks in shaded boxes mean that the Regulation is likely to apply and you should seek further advice.

3.4. Section 3.2 only applies to equipment intended to be used in vehicles. It can be ignored or deleted for other equipment.

4. Applicable standards

4.1. The standards applicable to your equipment should be included here.

4.2. You should review the available standards (at http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/electromagnetic-compatibility/index_en.htm or shop.bsigroup.com for example) to determine which standards are applicable.

Assessment example

8. Supply disturbance risk factors - emissions

The equipment contains the following sources of surges, dips and transients:

	High current loads	Present in equipment? Y/N	Evidence of compliance or methods used to reduce emissions	Further action required? Y/N
8.1.	Large motors	Y	Declaration from manufacturer	N
8.2.	Industrial heating	Y	Awaiting manufacturer's data	Y
8.3.	Power generation equipment	N	N/A	N
8.4.	Power distribution switching	N	N/A	N
8.5.	Lightning strike	N	Equipment installed indoors	N

9. Magnetic fields risk factors - emissions

The equipment contains the following sources of strong magnetic fields:

	Magnetic field generators	Present in equipment? Y/N	Evidence of compliance or methods used to reduce emissions	Further action required? Y/N
9.1.	Large motors	Y	Declaration from manufacturer	N
9.2.	Magnetisation coils	Y	Part of motor listed previously	N
9.3.	Resistance heating/welding	Y	Awaiting manufacturer's data for heating elements	Y
9.4.	Transformers	Y	Statement from manufacturer	N
9.5.	Underfloor heating	N	N/A	N
9.6.	Supply distribution	N	N/A	N
9.7.	Arc welding	N	N/A	N
9.8.	RIC Engine cranking	N	N/A	N
9.9.	Electric traction	N	N/A	N
9.10.	Fuel cells	N	N/A	N
9.11.	Permanent magnets (motors, loudspeakers)	Y	Part of motor listed previously	N

Assessment

Ref.	Feature		Yes	No
3.2.1.	Equipment connected via standard accessory socket only			
3.2.2.	Equipment connected directly to vehicle wiring			
3.2.3.	Equipment only used when vehicle is stationary			
3.2.4.	Interlock with park brake/transmission provided			
3.2.5.	Immunity functions relating to direct control of the vehicle	by degradation or change in engine, gear, brake, suspension, active steering, speed limitation devices, for example,		
3.2.6.		by affecting driver's position, e.g. seat or steering wheel positioning,		
3.2.7.		by affecting driver's visibility: e.g. dipped beam, windscreen wiper;		
3.2.8.	Immunity functions related to driver, passenger and other road-user protection:	e.g. airbag and safety restraint systems;		
3.2.9.	Immunity functions which, when disturbed, cause confusion to the driver or other road users:	optical disturbances: incorrect operation of e.g. direction indicators, stop lamps, end outline marker lamps, rear position lamp, light bars for emergency system, wrong information from warning indicators, lamps or displays related to functions in clauses (a) or (b) which might be observed in the direct view of the driver,		
3.2.10.		acoustical disturbances: incorrect operation of anti-theft alarm, horn, for example;		
3.2.11.	Immunity functions related to vehicle data bus functionality:	by blocking data transmission on vehicle data bus-systems, which are used to transmit data, required to ensure the correct functioning of other immunity-related functions;		
3.2.12.	Immunity functions which, when disturbed, affect vehicle statutory data:	e.g. tachograph, odometer.		
3.2.13.	Immunity functions relating to charging of electric vehicles, failure of which could lead to:	unexpected motion of the vehicle		
3.2.14.		incorrect charging conditions		

NB: definitions of immunity-related functions from UNECE Regulation 10 section 2.12