



Reference Document for Radio Equipment installed into Vehicles

1 Introduction:

The Radio Equipment Directive 2014/53/EU (RED) applies to radio equipment, as defined in Article 2 of the RED.

To provide some clarity on how the RED applies to radio equipment installed in vehicles, the European Commission (COM) has published a guidance document (EU RED Guide). Whilst helpful to provide further clarity on the scope of the RED as applied to radio equipment installed in vehicles, it does not provide specific guidance to Notified Bodies, manufacturers and installers of radio equipment into vehicles regarding how to achieve and demonstrate compliance.

This Reference Document provides additional guidance to clarify what constitutes a 'vehicle' and further clarifies this section of the EU RED guide based on currently published documents.

2 Scope:

This Reference Document has been written to ensure that a uniform approach is used by all Notified Bodies, vehicle manufacturers, manufacturers, installers and distributors of radio equipment into vehicles regarding the process to determine the applicability of the RED and demonstrating compliance.

This Reference Document also considers the relationship between RED and other EU acts, including legislation regulating Type Approval procedures when radio equipment is installed into a vehicle.

3 References:

- [Ref 1] DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC
- [Ref 2] European Commission Guide to the Radio Equipment Directive 2014/53/EU - 18/12/2018
- [Ref 3] European Commission Supplementary Guidance on the LVD/EMCD/RED – 26/04/2018
- [Ref 4] REGULATION (EU) 2018/858 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 30 May 2018 on the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles, amending Regulations (EC) No 715/2007 and (EC) No 595/2009 and repealing Directive 2007/46/EC
- [Ref 5] REGULATION (EU) No 167/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 5 February 2013 on the approval and market surveillance of agricultural and forestry vehicles
- [Ref 6] REGULATION (EU) No 168/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 January 2013 on the approval and market surveillance of two- or three-wheel vehicles and quadricycles
- [Ref 7] DIRECTIVE (EU) 2016/797 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 11 May 2016 on the interoperability of the rail system within the European Union
- [Ref 8] TGN 01 – REDCA Technical Guidance Note on the RED compliance requirements for a Radio Equipment often referred to as Radio Module and the Final Radio Equipment Product that integrates a Radio Module
- [Ref 9] TGN 31 – REDCA Technical Guidance Note on the RED compliance requirements for multiple transmitters and receivers in same enclosure.

This REDCA Reference Document does not replace the text of the RED – 2014/53/EU – and is for reference only. In legal disputes the text of the RED, other EU Legislation, or their implementation in National Legislation, takes precedence.

4 Definitions:

4.1 Radio Equipment

The definition provided in the RED applies.

Radio equipment that can be installed in vehicles, may often be seen as a “radio module”. The EU RED Guide, Clause 1.6 provides further clarification on “radio modules” and how they qualify as radio equipment under the scope of the RED.

In order to cover both radio modules and radio equipment integrating single or multiple radio modules, this Reference Document will only use the term *radio equipment*. See also REDCA TGN 01 [Ref 8].

4.2 Vehicle

Vehicles can be defined as mobile machines that are intended to carry persons or goods. These vehicles may be subject to Vehicle Type Approval legislation or other EU Acts requiring CE Marking. In the context of this Reference Document, the vehicle is considered as the host product of the radio equipment.

Note: Vehicles include, but are not limited to, cars, trucks, buses, mopeds, trains, agricultural machinery, trailers, earth-moving machinery, material-handling equipment, mining equipment, floor treatment machines and snowmobiles.

4.3 Final Radio Product

A final radio product is the combination of radio equipment and a vehicle that is not subject to Vehicle Type Approval under the following conditions [Ref 3]:

- The radio equipment is incorporated into the vehicle; and
- The radio equipment is permanently affixed to the vehicle.

4.4 Installer of Radio Equipment

A person who is responsible for the installation of radio equipment into a vehicle. This may be the vehicle manufacturer, or any other economic operator in the supply chain.

4.5 Vehicle Type Approval and Individual Vehicle Approval

The process applied by approval authorities to certify that a model of a vehicle, system or component meets all national and/or EU safety, environmental and conformity of production requirements before authorising it to be placed on the national and/or EU market.

‘Individual vehicle approval’ means the procedure whereby an approval authority certifies that a particular vehicle, whether unique or not, satisfies the relevant administrative provisions and technical requirements for EU and/or National individual vehicle approval.

In the context of the present document wherever ‘Vehicle Type Approval’ is written, it means ‘Vehicle Type Approval or Individual Vehicle Approval’. Further detail is found in [Ref 4].

5 Responsibilities:

5.1 Radio Equipment Manufacturer

A manufacturer of radio equipment shall ensure that radio equipment meets the manufacturer requirements of the RED (Article 10 of the RED). This assessment will include all relevant Articles of

the RED. Since the radio equipment is intended to be installed in a vehicle, the manufacturer shall ensure the assessment takes into account the use and operating environment. The radio equipment manufacturer should be aware of, and take into consideration the uniqueness of the vehicle when performing the risk analysis such that the following, non-exhaustive, factors are considered:-

- Test methods and levels designed or adopted for a particular vehicular environment (e.g. electromagnetic, climatic, dynamic environment)
- Proximity of other radio equipment – see [Ref 9]
- Intended installation location(s) of radio equipment relative to humans and domestic animals

5.2 Vehicle Manufacturer

The vehicle manufacturer shall ensure that radio equipment that is installed into a vehicle complies with the RED when the vehicle is placed on the market. They shall ensure that the radio equipment is installed and used in a manner that was intended by the radio equipment manufacturer by following the installation guidelines and instructions for use.

The vehicle manufacturer will be deemed either a manufacturer or a distributor of the radio equipment under the RED, dependant on how the radio equipment is installed and whether the vehicle is subject to vehicle type approval or not. This is described in Section 6.1 and 6.2.

The vehicle manufacturer should be aware of, and take into consideration the uniqueness of the vehicle when performing the risk analysis such that the following, non-exhaustive, factors are considered:-

- Test methods and levels designed or adopted for a particular vehicular environment (e.g. electromagnetic, climatic, dynamic environment)
- Proximity of other radio equipment – see [Ref 9]
- Intended installation location(s) of radio equipment relative to humans and domestic animals

5.3 Radio Equipment Installer

The installer of radio equipment into a vehicle shall ensure that they follow the instructions for installation and use, as supplied by the radio equipment manufacturer, and that it is used in an environment and manner for which it was intended.

The radio equipment installer will be deemed as either a manufacturer or a distributor of radio equipment under the RED, dependant on how the radio equipment is installed and whether the vehicle is subject to type approval or not. This is described in Section 6.1 and 6.2.

6 Guidance:

The EU RED Guide (clause 1.6.3.10) mentions vehicles, some of which may be subject to Type Approval. Sections 6.1 and 6.2 provide guidance regarding what process should be followed by the radio equipment manufacturer, the vehicle manufacturer and the installer of radio equipment into vehicles depending on whether the vehicle is subject to type approval or not.

6.1 Conformity of Radio Equipment installed into Vehicles subject to Vehicle Type Approval

Certain vehicles are subject to Vehicle Type Approval. There is various European Union Legislation presently in force covering such vehicles which include, but is not limited to:

Regulation (EU) 2018/858	On the approval and market surveillance of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles – [Ref 4]
Regulation (EU) 167/2013 (as last amended)	On the approval and market surveillance of agricultural and forestry vehicles – [Ref 5]
Regulation (EU) 168/2013 (as last amended)	On the approval and market surveillance of two- or three-wheel vehicles and quadricycles – [Ref 6]
DIRECTIVE (EU) 2016/797	On the interoperability of the rail system within the European Union [Ref 7]

The following flow diagrams describe the responsibilities of each economic operator to ensure overall compliance of RED compliant radio equipment installed into vehicles.

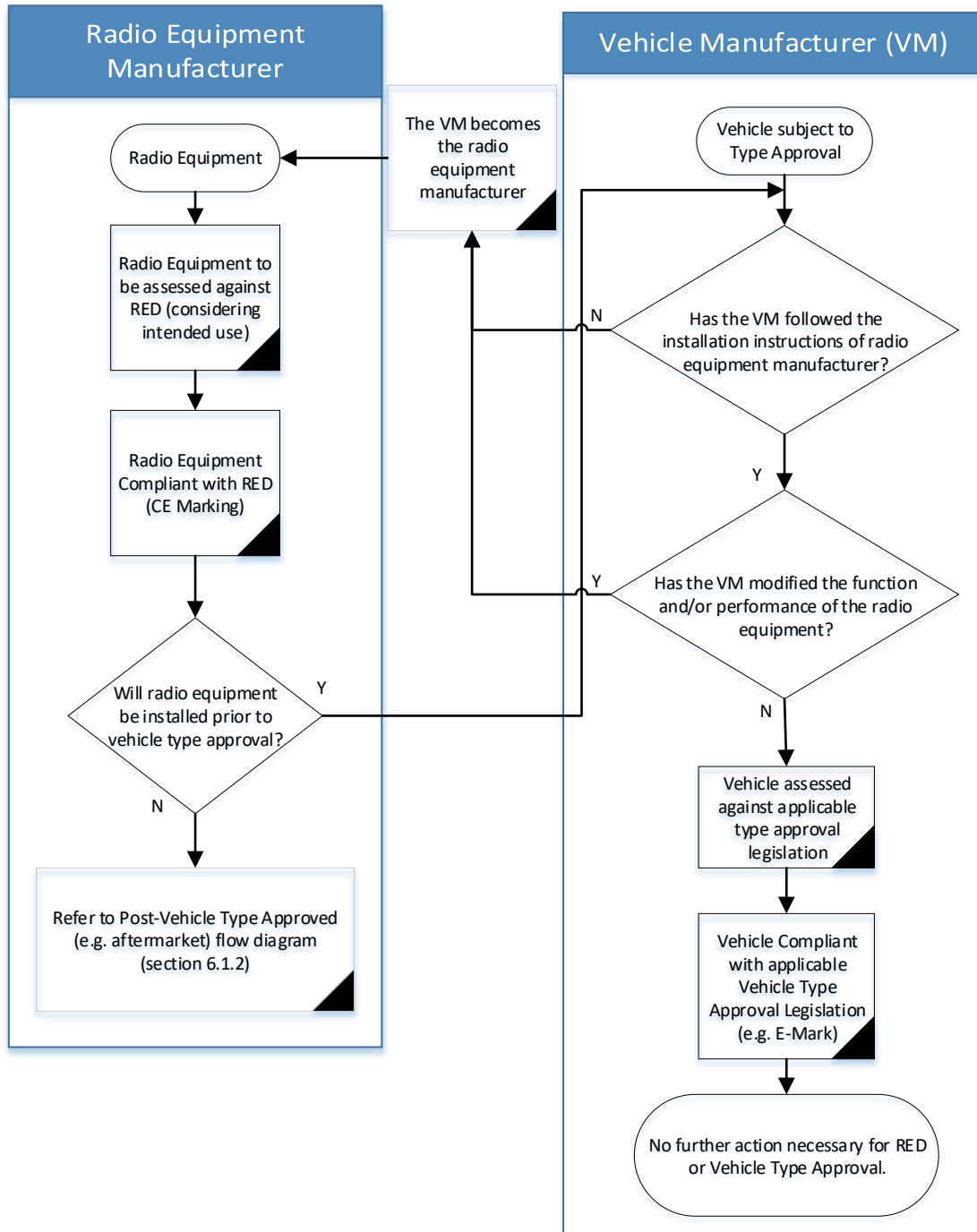
Vehicles that are subject to type approval need to be assessed against the applicable type approval legislation (such as EC Type Approval mark).

The vehicle manufacturer or aftermarket installer of radio equipment shall be considered as the manufacturer of the radio equipment when the vehicle is made available if [Ref 2]:

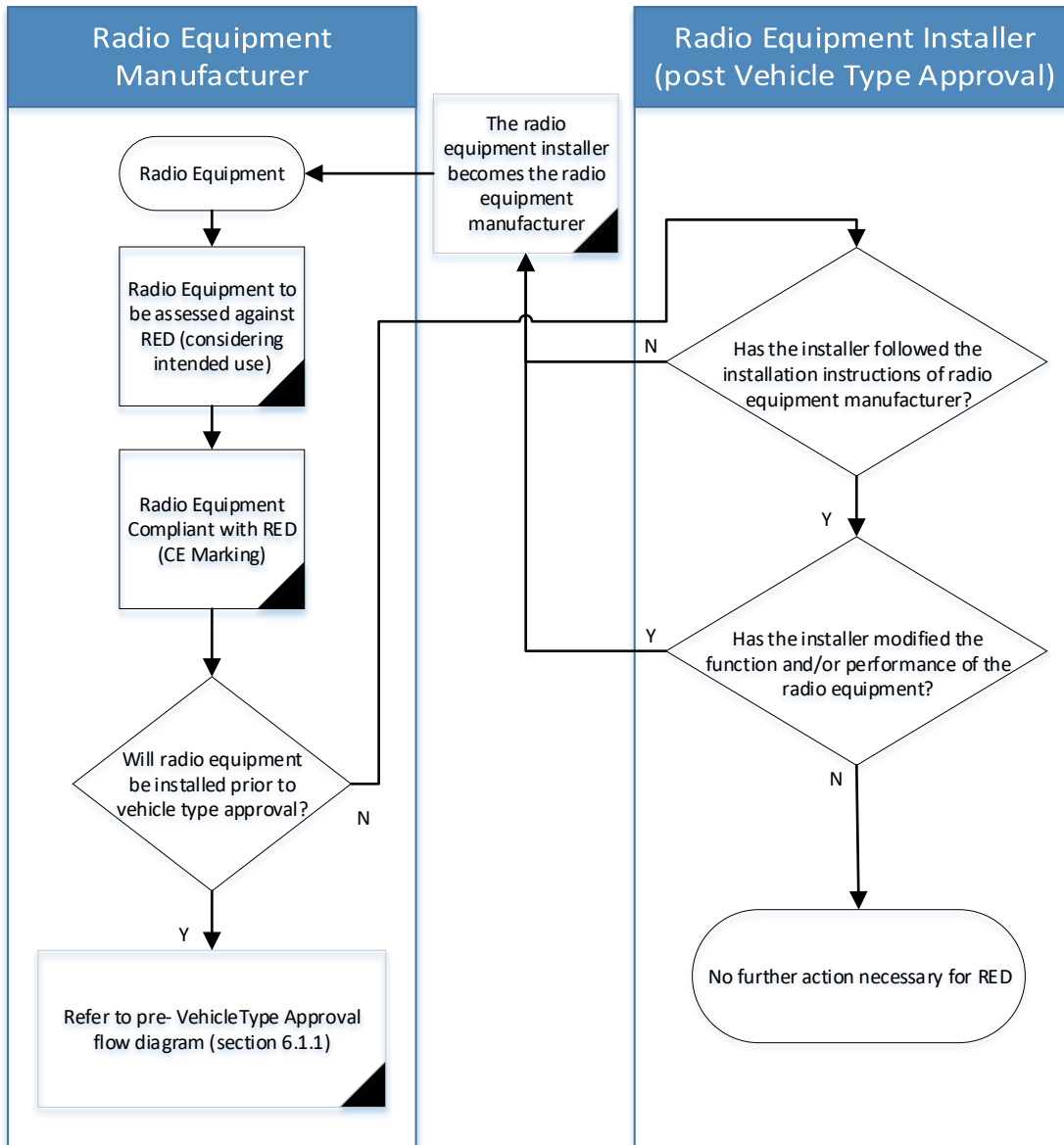
- the compliance is impacted because the installation instructions provided for the radio equipment were not followed; or
- the intended function or performance of the radio equipment is modified.

If either of the above two conditions are not met, then the vehicle manufacturer or aftermarket installer becomes the distributor of the radio equipment.

6.1.1 Radio Equipment installed into Vehicles prior to Vehicle Type Approval



6.1.2 Radio Equipment installed into Vehicles post Vehicle Type Approval (e.g. aftermarket)



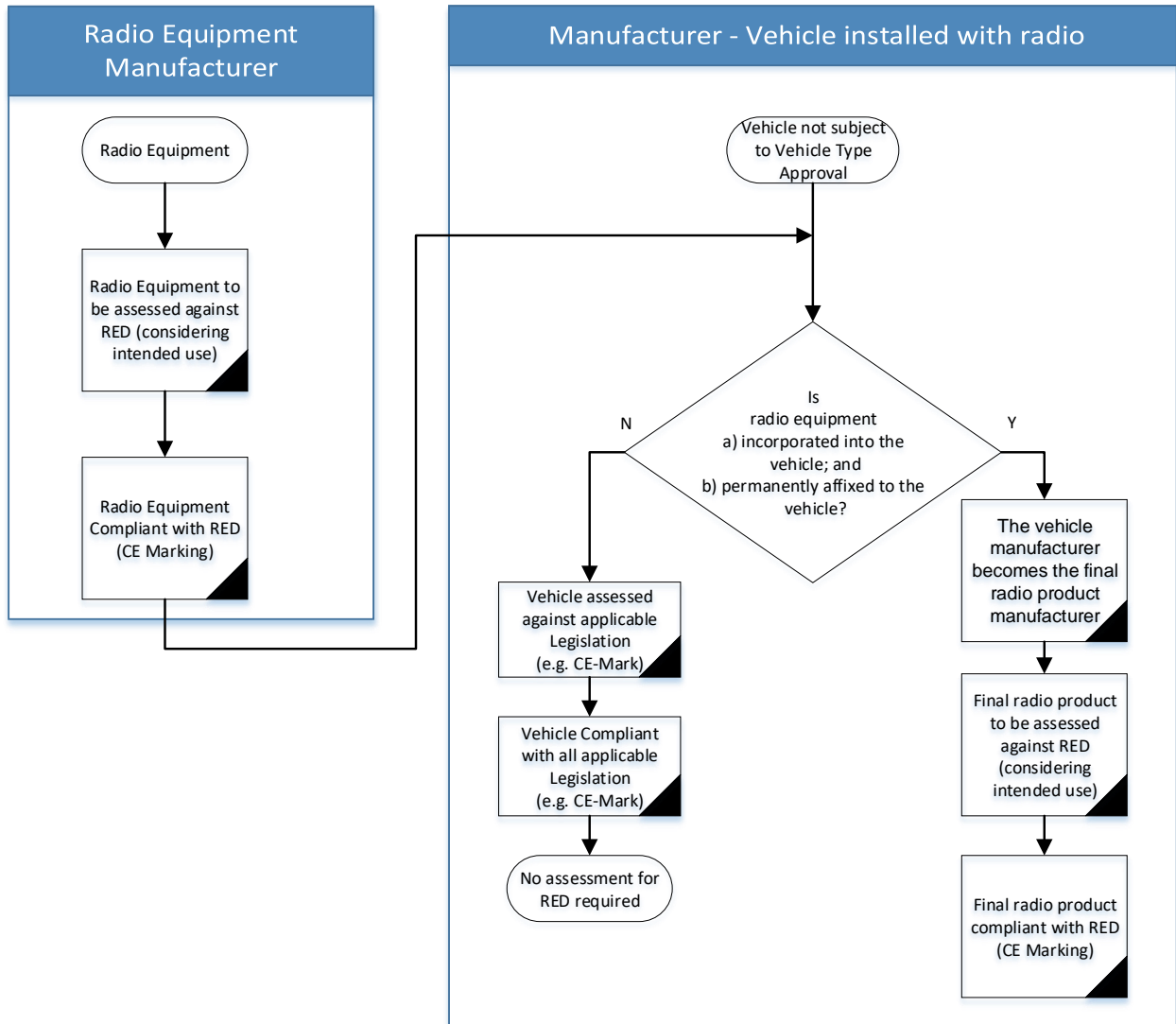
6.2 Conformity of Radio Equipment installed into Vehicles not subject to Vehicle Type Approval

Vehicles that are not subject to Vehicle Type Approval require CE marking to other legislation (e.g. directives and/or regulations). Examples include, but not limited to: the Machinery Directive (2006/42/EC as amended), the ATEX Directive (2014/34/EU).

Radio equipment incorporated and permanently affixed into these types of vehicles become a final radio product which need to be assessed and declared as compliant to the RED and any other applicable EU Acts (such as machinery, construction products, recreational craft directives, and the like). The manufacturer of the vehicle or the installer of the radio equipment becomes the manufacturer of the final radio product.

If the radio equipment is not incorporated and permanently affixed into the vehicle, then the vehicle is not subject to the RED but only the radio equipment.

6.2.1 Radio Equipment installed by the Vehicle Manufacturer into Vehicles not subject to Vehicle Type Approval prior to being placed on the market



6.2.2 Radio Equipment installed Aftermarket into Vehicles not subject to Vehicle Type Approval

