Council Directive 72/245/EEC of 20 June 1972 relating to the radio interference (electromagnetic compatibility) of vehicles (repealed)

ANNEX I

REQUIREMENTS TO BE MET BY VEHICLES AND ELECTRICAL/ ELECTRONIC SUBASSEMBLIES FITTED TO A VEHICLE

1. SCOPE

2. DEFINITIONS
   2.1. . . . .

3. APPLICATION FOR EC TYPE-APPROVAL
   3.1. Approval of a vehicle type
      3.1.1. . . . .
      3.1.2. . . . .
      3.1.3. . . . .
      3.1.4. . . . .
      3.1.5. . . . .
      3.1.6. . . . .
      3.1.7. . . . .
      3.1.8. . . . .
   3.2. Approval of a type of electrical/electronic subassembly (ESA)
      3.2.1. . . . .
      3.2.2. . . . .
      3.2.3. . . . .
      3.2.4. . . . .
      3.2.5. . . . .
      3.2.6. . . . .
      3.2.7. . . . .
      3.2.8. . . . .
      3.2.9. . . . .

4. TYPE-APPROVAL
   4.1. Routes to type-approval
      4.1.1. Type-approval of a vehicle
         4.1.1.1. Approval of a vehicle installation
         4.1.1.2. Approval of vehicle type by testing of individual ESAs
         4.1.1.3. . . . .

Vehicle broadband reference axis: 10 m

Appendix 3

Vehicle broadband reference limits Antenna and vehicle separation: 3 m

Appendix 4

Vehicle narrowband reference limits Antenna and vehicle separation: 10 m

Appendix 5

Vehicle narrowband reference limits Antenna and vehicle separation: 3 m

Appendix 6

Electrical broadband subassembly limits Broadband subassembly

Appendix 7

Electrical narrowband subassembly limits Narrowband subassembly

Appendix 8

Model for the EC type-approval mark

ANNEX II A

Information document No ... pursuant to Annex I to Directive 70/156/EEC relating to EC type-approval of a vehicle with respect to electromagnetic compatibility (72/245/EEC), as last amended by Directive 2004/104/EC

. . . .
. . . .

0. GENERAL
0.1. . . . .
0.2. . . . .
0.4. . . . .
0.5. . . . .
0.8. . . . .

1. GENERAL CONSTRUCTION CHARACTERISTICS OF THE VEHICLE
1.1. . . . .
1.6. . . . .

ANNEX II B

Information document No … relating to EC type-approval of an...

ANNEX III A

MODEL

EC TYPE-APPROVAL CERTIFICATE

SECTION I

0.1. . . . .

0.1. . . . .
0.2. . . . .
0.4. . . . .
0.5. . . . .
0.8. . . . .

SECTION II

1. . . . .

1. . . . .
2. . . . .
3. . . . .
4. . . . .
5. . . . .
6. . . . .
7. . . . .
8. . . . .
9. . . . .

Appendix to EC type-approval of a vehicle with regard to...
1. . . . .
- 1.1. . . . .
- 1.2. . . . .
- 1.3. . . . .
  - 1.3.1. . . . .
  - 1.3.2. . . . .
- 1.4. . . . .

5. . . . .

ANNEX III B

MODEL

EC TYPE-APPROVAL CERTIFICATE

SECTION I

0.1. . . . .

0.1. . . . .
0.2. . . . .
0.3. . . . .
- 0.3.1. . . . .

0.5. . . . .
0.7. . . . .
0.8. . . . .

SECTION II

1. . . . .

1. . . . .
2. . . . .
3. . . . .
4. . . . .
5. . . . .
6. . . . .
7. . . . .
8. . . . .
9. . . . .

Appendix to EC type-approval certificate No … concerning the type-approval...

1. . . . .
   - 1.1. . . . .
   - 1.2. . . . .
     - 1.2.1. . . . .
   - 1.3. . . . .
     - 1.3.1. . . . .
   - 1.4. . . . .
   - 1.5. . . . .

5. . . . .

ANNEX III C

MODEL

ATTESTATION WITH REGARD TO ANNEX I, 3.2.9.

ANNEX IV

METHOD OF MEASUREMENT OF RADIATED BROADBAND ELECTROMAGNETIC EMISSIONS FROM VEHICLES

1. General
   - 1.1. . . . .
   - 1.2. Test method

2. Vehicle state during tests
   - 2.1. Engine
   - 2.2. Other vehicle systems

3. Test requirements
   - 3.1. . . . .
   - 3.2. . . . .
   - 3.3. Measurements
   - 3.4. Readings

ANNEX V

METHOD OF MEASUREMENT OF RADIATED NARROWBAND ELECTROMAGNETIC EMISSIONS FROM VEHICLES

1. General
   - 1.1. . . . .
   - 1.2. Test method
   - 1.3 As an initial step the levels of emissions in the...

2. Vehicle state during tests
   - 2.1. . . . .
   - 2.2. . . . .
   - 2.3. . . . .

3. Test requirements
   - 3.1. . . . .
   - 3.2. . . . .
   - 3.3. Measurements
   - 3.4. Readings

ANNEX VI

METHOD OF TESTING FOR IMMUNITY OF VEHICLES TO ELECTROMAGNETIC RADIATION

1. General
   - 1.1. . . . .
   - 1.2. Test method
   - 1.3. Alternative test methods

2. Vehicle state during tests
   - 2.1. The vehicle shall be in an unladen condition except for...
     - 2.1.1. . . . .
     - 2.1.2. Basic vehicle conditions
     - 2.1.3. . . . .
     - 2.1.4. . . . .
   - 2.2. . . . .
   - 2.3. . . . .

3. Test requirements
   - 3.1. Frequency range, dwell times, polarisation
     - 3.1.1. . . . .

4. Generation of required field strength
   - 4.1. Test methodology
     - 4.1.1. . . . .
     - 4.1.2. Calibration
     - 4.1.3. Test phase

ANNEX VII

METHOD OF MEASUREMENT OF RADIATED BROADBAND ELECTROMAGNETIC EMISSIONS FROM ELECTRICAL/ELECTRONIC SUBASSEMBLIES

1. General
   - 1.1. . . . .
   - 1.2. Test method

2. ESA state during tests
   - 2.1. . . . .

3. Test arrangements
   - 3.1. . . . .
   - 3.2. Alternative measuring location
   - 3.3. Ambient

4. Test requirements
   - 4.1. . . . .
   - 4.2. . . . .
   - 4.3. Measurements
   - 4.4. Readings

Appendix 1

Figure 1 Open-area test site: Electrical/electronic subassembly test area boundary Level, clear...Level, clear area free from electromagnetic reflecting surfaces . ....

ANNEX VIII

METHOD OF MEASUREMENT OF RADIATED NARROWBAND ELECTROMAGNETIC EMISSIONS FROM ELECTRICAL/ELECTRONIC SUBASSEMBLIES

1. General
   - 1.1. . . . .
   - 1.2. Test method

2. ESA state during tests

3. Test arrangements
   - 3.1. . . . .
   - 3.2. Alternative measuring location
   - 3.3. Ambient

4. Test requirements
   - 4.1. . . . .
   - 4.2. . . . .
   - 4.3. Measurements
   - 4.4. Readings

ANNEX IX

METHOD(S) OF TESTING FOR IMMUNITY OF ELECTRICAL/ ELECTRONIC SUBASSEMBLIES TO ELECTROMAGNETIC RADIATION

1. General
   - 1.1. . . . .
   - 1.2. Test methods
     - 1.2.1. . . . .

2. State of ESA during tests
   - 2.1. . . . .
   - 2.2. . . . .
   - 2.3. . . . .
   - 2.4. . . . .
   - 2.5. . . . .

3. General test requirements
   - 3.1. Frequency range, dwell times
   - 3.2. . . . .
   - 3.3. . . . .

4. Specific test requirements
   - 4.1. Absorber chamber test
     - 4.1.1. Test method
     - 4.1.2. Test methodology
   - 4.2. TEM cell testing
     - 4.2.1. Test method
     - 4.2.2. Test methodology
   - 4.3. Bulk current injection testing
     - 4.3.1. Test method
     - 4.3.2. Test methodology
   - 4.4. Stripline testing
     - 4.4.1. Test method
     - 4.4.2. Test methodology
   - 4.5. 800 mm stripline testing
     - 4.5.1. Test method
     - 4.5.2. Test methodology
       - 4.5.2.1. Positioning of stripline
       - 4.5.2.2. Calibration of the stripline
       - 4.5.2.3. Installation of the ESA under test
       - 4.5.2.4. Main wiring loom and sensor/actuator cables

Appendix 1

Figure 1800 mm stripline testing

Figure 2800 mm stripline dimensions

Appendix 2

Typical TEM cell dimensions

ANNEX X

METHOD(S) OF TESTING FOR IMMUNITY TO AND EMISSION OF TRANSIENTS OF ELECTRICAL/ELECTRONIC SUBASSEMBLIES

1. General

2. Immunity against disturbances conducted along supply lines

3. Emission of conducted disturbances along supply lines