

ISO 11451-1:2025-06 (E)

Road vehicles - Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy - Part 1: General principles and terminology

Contents

Page

Foreword.....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions.....	1
4 General aim and practical use.....	6
5 General test conditions.....	7
5.1 General.....	7
5.2 Test temperature.....	7
5.3 Supply voltage.....	8
5.3.1 Vehicle low voltage (LV) power supply.....	8
5.3.2 Hybrid or electric vehicle not connected to power mains.....	8
5.3.3 Hybrid or electric vehicle in charging mode (a.c. or d.c.).....	8
5.4 Modulation.....	8
5.5 Dwell time.....	9
5.6 Frequency step sizes.....	9
5.7 Definition of test severity levels.....	10
5.8 Evaluation of test instrumentation uncertainties.....	10
6 Instrumentation.....	10
6.1 DC-charging-AN, AMN, and AAN.....	10
6.2 Test signal quality.....	10
7 Test procedure.....	10
7.1 Test plan.....	10
7.2 Test methods.....	11
7.2.1 General.....	11
7.2.2 Substitution.....	11
7.2.3 Closed loop levelling.....	12
7.2.4 Disturbance application process.....	12
7.3 Test report.....	13
Annex A (normative) Function performance status classification (FPSC).....	14
Annex B (normative) Direct current charging artificial networks (DC-charging-AN), artificial mains networks (AMN) and asymmetric artificial networks (AAN).....	17
Annex C (normative) Constant peak test level for amplitude modulation.....	24
Annex D (informative) Broadband test signal generation.....	27
Annex E (informative) Evaluation of test instrumentation uncertainties.....	36
Bibliography.....	39