

Forschungs- und Transferzentrum e.V.

Prüflabor Automobilelektronik und Elektromagnetische Verträglichkeit (EMV)

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letzte Änderung: 07/2023



Liste der Normen und Prüfverfahren im Geltungsbereich der Akkreditierung einschließlich der Normen und Prüfverfahren, die im Rahmen der Flexibilisierung dem Geltungsbereich hinzugefügt wurden zu Anlage zur Teil-Akkreditierungsurkunde D-PL-19745-02-00 vom 07.08.2023.

Für Prüfungen (DIN EN ISO/IEC 17025):

Standorte

ZKE - Prüflabor Zentrum für Kfz-Elektronik, Am Asch 6, 08056 Zwickau

PKB - Prüflabor Paul-Kirchhof-Bau, Kornmarkt 1, 08056 Zwickau

Verwendete Abkürzungen:

CISPR	Internationales Sonderkomitee für Funkstörungen
IEC	Internationale Elektrotechnische Kommission
ITU	Internationale Fernmeldeunion
DIN	Deutsches Institut für Normung e.V.
ECE	Regelung der Wirtschaftskommission für Europa

Fachbereich	Norm oder Prüfverfahren / Ausgabestand	Titel der Norm oder des Prüfverfahrens	Einschränkungen zum Prüfverfahren
EMV	CISPR12 ed. 5: 2001 + AMD1: 2005	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8 t$ bzw. Gesamtlänge $l_{ges} < 6,5 m$, keine Prüfungen an Wasserfahrzeugen ZKE/PKB
EMV	CISPR12 ed. 6.2: 2009	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8 t$ bzw. Gesamtlänge $l_{ges} < 6,5 m$, keine Prüfungen an Wasserfahrzeugen ZKE/PKB

EMV	CISPR16-1-1:2019	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	ZKE
EMV	CISPR16-1-2:2014 +AMD1:2017	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements	Nur: Abschnitt 4 und Abschnitt 5.1 ZKE
EMV	CISPR16-1-3 ed. 2.2_2020	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbance power	ZKE
EMV	CISPR16-1-4 ed. 3.0: 2010	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4: Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements	ZKE/PKB
EMV	CISPR16-1-4 ed. 4.0:2019 +AMD1:2020 +AMD2:2023	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4: Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements	ZKE
EMV	CISPR16-2-1 ed. 2.0: 2008	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements	ZKE/PKB
EMV	CISPR16-2-1 ed. 3.1 :2014 +AMD1:2017 + Cor1:2020	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements	ZKE

EMV	CISPR25 ed. 2: 2002 + Corr. 2004	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m keine Prüfungen an Wasserfahrzeugen Nur: Abschnitt 5, Abschnitt 6.2, Abschnitt 6.3 und Abschnitt 6.4 ZKE/PKB
EMV	CISPR25 ed. 5:2021	Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of on-board receivers	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m keine Prüfungen an Wasserfahrzeugen Nur: Abschnitt 5, Abschnitt 6.2, Abschnitt 6.3 und Abschnitt 6.4 ZKE/PKB
EMV	CISPR32 ed. 2:2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	ZKE/PKB
EMV	CISPR36 ed. 1.0:2020 AMD1:2023	Electric and hybrid electric road vehicles - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers below 30 MHz	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m keine Prüfungen an Wasserfahrzeugen Ladeleistung ≤ 50 kW, für Ladestecker Typ 2 + CCS ZKE
EMV	IEC 61851-1 ed 3.0:2017	Electric vehicle conductive charging system - Part 1: General requirements	ZKE
EMV	IEC 61967-1 ed. 2.0:2018	Integrated circuits - Measurement of electromagnetic emissions - Part 1: General conditions and definitions	PKB
EMV	IEC 61967-2 ed. 1:2005	Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 2: Measurement of radiated emissions - TEM cell and wideband TEM cell method	PKB
EMV	IEC 61967-4 ed. 2:2021	Integrated circuits - Measurement of electromagnetic emissions – Part 4: Measurement of conducted emissions, 1 ohm/150 ohm direct coupling method	PKB

EMV	IEC 61967-8 ed. 2.0:2023	Integrated circuits - Measurement of electromagnetic emissions - Part 8: Measurement of radiated emissions - IC stripline method	PKB
EMV	IEC 62132-1 ed. 2.0:2015	Integrated circuits - Measurement of electromagnetic immunity - Part 1: General conditions and definitions	PKB
EMV	IEC 62132-2:2010	Integrated circuits - Measurement of electromagnetic immunity - Part 2: Measurement of radiated immunity - TEM cell and wideband TEM cell method	PKB
EMV	IEC 62132-4 ed. 1:2006	Integrated circuits - Measurement of electromagnetic immunity 150 kHz to 1 GHz - Part 4: Direct RF power injection method	PKB
EMV	IEC 62132-8 ed 1.0:2012	Integrated circuits - Measurement of electromagnetic immunity - Part 8: Measurement of radiated immunity - IC stripline method	PKB
EMV	IEC 62215-3 ed 2.0:2013	Integrated circuits - Measurement of impulse immunity - Part 3: Non-synchronous transient injection method	PKB
EMV	IEC 62228-1:2018	Integrated circuits - EMC evaluation of transceivers - Part 1: General conditions and definitions	PKB
EMV	IEC 62228-2 ed. 1.0:2016	Integrated circuits - EMC evaluation of transceivers - Part 2: LIN transceivers	ZKE/PKB
EMV	IEC 62228-3 ed. 1.0:2019	Integrated circuits - EMC evaluation of transceivers - Part 3: CAN transceivers	ZKE/PKB
EMV	IEC 62228-5 ed. 1.0:2021	Integrated circuits - EMC evaluation of transceivers - Part 5: Ethernet transceivers	ZKE/PKB
EMV	ISO 7637-1:2015	Road vehicles - Electrical disturbances from conduction and coupling Part 1: Definitions and general considerations	ZKE/PKB
EMV	ISO 7637-1:2023	Road vehicles - Electrical disturbances from conduction and coupling - Part 1: Vocabulary and general considerations	ZKE/PKB
EMV	ISO 7637-2 ed. 2: 2004	Road vehicles — Electrical disturbances from conduction and coupling Part 2: Electrical transient conduction along supply lines only	ZKE/PKB
EMV	ISO 7637-2 ed. 3:2011	Road vehicles — Electrical disturbances from conduction and coupling Part 2: Electrical transient conduction along supply lines only	ZKE/PKB

EMV	ISO 7637-3 ed. 3:2016	Road vehicles — Electrical disturbances from conduction and coupling Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines	ZKE/PKB
EMV	ISO 10605 ed. 3:2023	Road vehicles — Test methods for electrical disturbances from electrostatic discharge	ZKE/PKB
EMV	ISO 11451-1 ed. 3:2005 +Amd1:2008	Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology	ZKE
EMV	ISO 11451-1 ed. 4:2015	Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology	ZKE
EMV	ISO 11451-2 ed. 4:2015	Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 2: Off-vehicle radiation sources	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m Test Level II ZKE
EMV	ISO 11451-4:2013	Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 4: Harness excitation methods	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m ZKE
EMV	ISO 11451-4 ed. 4:2022	Road vehicles — Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 4: Harness excitation methods	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8$ t bzw. Gesamtlänge $l_{ges} < 6,5$ m ZKE
EMV	ISO 11452-1 ed. 3:2005 + Amd1:2008	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology	ZKE/PKB
EMV	ISO 11452-1 ed. 4:2015	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology	ZKE/PKB
EMV	ISO 11452-2 ed. 2:2004	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 2: Absorber-lined shielded enclosure	ZKE

EMV	ISO 11452-2 ed. 3:2019	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 2: Absorber-lined shielded enclosure	Tests nicht für HV-Komponenten ZKE
EMV	ISO 11452-3 ed. 3:2016	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 3: Transverse electromagnetic (TEM) cell	ZKE/PKB
EMV	ISO 11452-3 ed. 4:2024	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 3: Transverse electromagnetic (TEM) cell	ZKE/PKB
EMV	ISO 11452-4 ed. 4:2011	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 4: Harness excitation methods	ZKE
EMV	ISO 11452-4 ed. 5:2020	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 4: Harness excitation methods	Tests nicht für HV-Komponenten ZKE
EMV	ISO 11452-5 ed. 2:2002	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 5: Stripline	ZKE
EMV	ISO 11452-8 ed. 2:2015	Road vehicles — Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 8: Immunity to magnetic fields	Frequenzbereich 30 Hz – 100 kHz PKB
EMV	IEC 61000-3-2 ed 3.2 – 2005 + A1:2008 + A2: 2009	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-2 ed. 5:2018 +AMD1:2020 +AMD2:2024	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-3 ed 1.0:2008	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	Ladeleistung ≤ 50 kW, max. 32 A ZKE

EMV	IEC 61000-3-3 ed. 3.2:2013 + AMD1:2017 + AMD2: 2021 (2021-03)	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-11 ed 1.0:2000	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current ≤ 75 A and subject to conditional connection	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-11 ed. 2.0: 2017	Electromagnetic compatibility (EMC) - Part 3-11: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems - Equipment with rated current ≤ 75 A and subject to conditional connection	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-12 ed. 1.0:2004	Electromagnetic compatibility (EMC) - Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤ 75 A per phase	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-3-12 ed. 2.1:2011 + AMD1:2021	Electromagnetic compatibility (EMC) - Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤ 75 A per phase	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-4-4 ed. 2.0:2004	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-4-4 ed. 3.0:2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-4-5 ed 2.0:2005	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	Ladeleistung ≤ 50 kW, max. 32 A ZKE
EMV	IEC 61000-4-5 ed. 3.1:2014 + AMD1:2017	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	Ladeleistung ≤ 50 kW, max. 32 A ZKE

EMV	IEC 61000-6-3 ed 2.0:2006	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments	ZKE
EMV	IEC 61000-6-3 ed. 3.0:2020	Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments	ZKE
EMV	ECE-R10 Addendum 9 Rev. 5: 2014	Regulation No. 10 Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8 \text{ t}$ bzw. Gesamtlänge $l_{ges} < 6,5 \text{ m}$ Keine Prüfung von HV-Komponenten Nur Prüfverfahren nach Anhang 9 Einschränkung: Ladeleistung Fahrzeug $< 50 \text{ kW}$ (max. 32 A) ZKE/PKB
EMV	ECE-R10 Addendum 9 Rev. 6: 2019 ECE-R10 Add 9_Rev. 6_AMD1_2020 ECE-R10-6 Add 9_AMD2_2022	06 series of amendments to UN Regulation No. 10 (Electromagnetic compatibility) Uniform provisions concerning the approval of vehicles with regard to electromagnetic compatibility	für Prüflinge mit Gesamtgewicht $m_{ges} < 3,8 \text{ t}$ bzw. Gesamtlänge $l_{ges} < 6,5 \text{ m}$ Keine Prüfung von HV-Komponenten Nur Prüfverfahren nach Anhang 9 Einschränkung: Ladeleistung Fahrzeug $< 50 \text{ kW}$ (max. 32 A) ZKE/PKB