

of **Kiwa Dare B.V.**

This annex is valid from: **27-07-2022** to **01-11-2025**

Replaces annex dated: **23-02-2022**

**Location(s) where activities are performed under accreditation**

**Head Office**

Vijzelmolenlaan 5 & 7  
 3447 GX  
 Woerden  
 The Netherlands

Location	Abbreviation/ location code
Vijzelmolenlaan 5 & 7 3447 GX Woerden The Netherlands	WO
On-site	OS

No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
<b>Electromagnetic Compatibility tests</b>				
<b>EMC.E.02</b>	Electric- and electronic equipment	Conducted Emissions Voltage method (AMN) 9 kHz to 30 MHz	document 850 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11 EN 55014-1, CISPR 14-1 EN 55015, CISPR 15 EN 55022, CISPR 22 EN 55032, CISPR 32	WO
<b>EMC.E.02</b>		Conducted Emissions Voltage method (AMN) 150 kHz - 30 MHz	document 899 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11	OS

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas

<sup>1</sup> If there is a referral to a code starting with NAW, NAP, EA or IAF, this concerns a scheme mentioned on the [RvA-BR010-lijst](#).  
 If no date or version number is mentioned for a normative document, the accreditation concerns the most current version of the document or scheme.

Annex to declaration of accreditation (scope of accreditation)  
 Normative document: EN ISO/IEC 17025:2017  
 Registration number: **L 279**

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
<b>EMC.E.03</b>	Electric- and electronic equipment	Conducted Emissions Voltage method (LISN) 9 kHz – 30 MHz	document 850 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11 EN 55014-1, CISPR 14-1 EN 55015, CISPR 15 EN 55022, CISPR 22 EN 55032, CISPR 32	WO
<b>EMC.E.03</b>		Conducted Emissions Voltage method (LISN) 150 kHz - 30 MHz	document 899 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11	OS
<b>EMC.E.04</b>		Conducted Emissions, Voltage method (Voltage probe) 150 kHz - 30 MHz	document 852 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11 EN 55014-1, CISPR 14-1 EN 55015, CISPR 15	WO
<b>EMC.E.04</b>		Conducted Emissions Voltage method (Voltage probe) 150 kHz - 30 MHz	document 901 EN 55016-2-1, CISPR 16-2-1 EN 55011, CISPR 11	OS
<b>EMC.E.05</b>		Conducted Emissions, Current method (Current probe) 150 kHz to 30 MHz	document 848 EN 55016-2-1, CISPR 16-2-1 EN 55022, CISPR 22 EN 55032, CISPR 32	WO
<b>EMC.E.06</b>		Conducted Emissions Power disturbance method (Absorbing clamp) 30 MHz - 300 MHz	document 854 EN 55016-2-2 EN 55014-1, CISPR 14-1	WO
<b>EMC.E.14</b>		Radiated Emissions Full Anechoic Chamber Method (FACM) 1 GHz - 8 GHz	document 864 EN 55016-2-3 EN 55011, CISPR 11 EN 55022, CISPR 22 EN 55032, CISPR 32	WO
<b>EMC.E.15</b>		Radiated Emissions Semi Anechoic Chamber Method (SACM) 9 kHz - 1 GHz	document 868 EN 55016-2-3 EN 55011, CISPR 11 EN 55022, CISPR 22 EN 55032, CISPR 32	WO

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<b>EMC.E.16</b>	Electric- and electronic equipment	Radiated Emissions Open Area Test Site (OATS) 30 MHz – 1 GHz	document 841 EN 55016-2-3 EN 55011, CISPR 11 EN 55022, CISPR 22 EN 55032, CISPR 32	WO
<b>EMC.E.18</b>		Radiated Emissions Large loop antenna method (LAS) 9 kHz – 30 MHz	document 866 EN 55016-2-3 EN 55011, CISPR 11 EN 55014-1, CISPR 14-1 EN 55015, CISPR 15	WO
<b>EMC.E.21</b>		Radiated Emissions Electric Field 30 MHz - 1 GHz	document 907 In accordance with EN 55016-2-3, CISPR 16-2-3 EN 55011, CISPR 11	WO, OS
<b>EMC.E.26</b>		Harmonic Current Emissions (Up to and including 16A per phase) 1 phase 0 kHz - 2 kHz	document 862 EN-IEC 61000-3-2	WO
<b>EMC.E.27</b>		Voltage changes, voltage fluctuations and flicker Emissions (Up to and including 16A per phase) 1 phase 50 Hz – 60 Hz	document 860 EN-IEC 61000-3-3	WO
<b>EMC.E.34</b>		Conducted Emissions Voltage method (AAN) 150 kHz to 30 MHz	document 1796 EN 55016-2-1, CISPR 16-2-1 EN 55022, CISPR 22 EN 55032, CISPR 32	WO

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<b>Automotive</b>				
<b>EMC.E.01</b>	Electrical/electronic subassemblies	Conducted Emissions, Voltage method (AN) 150 kHz to 108 MHz	document 877, 940, 1888 CISPR 25 GMW3097 JLR-EMC-CS_v1.0	WO
<b>EMC.E.05</b>		Conducted Emissions Current method (Current probe) 150 kHz - 245 MHz	document 879 CISPR 25 JLR-EMC-CS_v1.0	WO
<b>EMC.E.14</b>		Radiated Emissions Full Anechoic Chamber Method (FACM) 150 kHz – 2,5 GHz	document 887, 940, 1888 CISPR 25 GMW3097 ECE Regulation No. 10, Annex 7 and 8 JLR-EMC-CS_v1.0	WO
<b>EMC.E.15</b>	Motor vehicles	Radiated Emissions Semi Anechoic Chamber Method (SACM) 30 MHz - 1 GHz	document 885 CISPR 12 ECE Regulation No. 10 Annex 4 and 5	WO
<b>Immunity of susceptibility</b>				
<b>EMC.I.07</b>	Electric- and electronic equipment	Immunity to conducted disturbances Induced by radio-frequency fields 0 - 30 Vrms 150 kHz to 230 MHz	document 856 EN-IEC 61000-4-6	WO
<b>EMC.I.07</b>		Immunity to conducted disturbances Induced by radio-frequency fields 0 - 10 Vrms 150 kHz - 80 MHz	document 903 Equivalent to EN-IEC 61000-4-6	WO, OS
<b>EMC.I.12</b>		Radiated Immunity Electric Field 26 MHz to 80 MHz: 10 V/m 80 MHz to 4 GHz: 30 V/m 4 GHz to 6 GHz: 10 V/m	document 872 EN-IEC 61000-4-3	WO

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
<b>EMC.I.21</b>	Electric- and electronic equipment	Electrostatic discharge Immunity (ESD) Contact discharge: 0 - ± 8 kV Air discharge: 0 - ± 15 kV	document 859, 906 EN-IEC 61000-4-2	WO
<b>EMC.I.22</b>		Electrical fast transient / burst Immunity (EFT) 3 phase 32A 0 - ± 4 kV	document 858 EN-IEC 61000-4-4	WO
<b>EMC.I.22</b>		Electrical fast transient / burst Immunity (EFT) 3 phase 32A 0 - ± 4 kV	document 905 EN-IEC 61000-4-4	WO, OS
<b>EMC.I.23</b>		Surge Immunity 3 phase 32A 0 - ± 4 kV	document 874 EN-IEC 61000-4-5	WO, OS
<b>EMC.I.24</b>		Power frequency magnetic field Immunity 50/60 Hz 1 – 30 A/m	document 1829 EN-IEC 61000-4-8	WO
<b>EMC.I.26</b>		Voltage dips, short interruptions and voltage variations Immunity 1 phase 230 V 50 Hz All angles	document 1852 EN-IEC 61000-4-11	WO
<b>EMC.I.42</b>		Radiated electromagnetic field immunity, 80 MHz to 1 GHz: 10 V/m	document 909 In-house method	WO, OS

**Automotive**

<b>EMC.I.02</b>	Electrical/electronic subassemblies	Conducted RF Immunity Bulk Current Injection method 100 kHz to 1 MHz, up to 150 mA 1 to 400 MHz, up to 300 mA	document 875, 940, 1888 ISO 11452-4 ECE Regulation No. 10, Annex 9 GMW3097 JLR-EMC-CS_v1.0	WO
<b>EMC.I.12</b>	Motor vehicles	Radiated Immunity Electric Field 20 MHz to 80 MHz up to 30 V/m 80 MHz to 4 GHz up to 50 V/m	document 889 ISO 11451-2 ECE Regulation No. 10 Annex 6	WO

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<b>EMC.I.15</b>	Electrical/electronic subassemblies	Radiated disturbances Immunity  200 MHz to 4 GHz up to 200 V/m 1,2 to 1,4 GHz and 2,7 to 3,1 GHz up to 300 V/m	document 891, 940, 1888 ISO 11452-2 ECE Regulation No. 10, Annex 9 GMW3097 JLR-EMC-CS_v1.0	WO
<b>EMC.I.21</b>		Electrostatic discharge Immunity (ESD) Contact discharge 0 - ± 8 kV Air discharge 0 - ± 25 kV  Contact discharge: 0 - ± 8 kV Air discharge: 0 - ± 25 kV	document 1790, 940, 1888 ISO 10605 (2008) GMW3097 JLR-EMC-CS_v1.0  document 0881 ISO 10605 (2001)	WO
<b>EMC.I.27</b>		Electric transient transmission via lines other than supply lines Immunity	document 884, 940 ISO 7637-3 GMW3097	WO
<b>EMC.I.39</b>		Electric transient transmission along supply lines Immunity	document 0882, 2124, 940, 1888 ISO 7637-2 (2011), ISO 16750-2 ECE Regulation No. 10, Annex 10 GMW3097 JLR-EMC-CS_v1.0  document 0883 ISO 7637-2 (2004)	WO

**FCC and ISED**

<b>EMC.E.02</b>	Electric- and electronic equipment, unintentional radiators	Conducted Emissions Voltage method (AMN) 10 kHz - 30 MHz	document 911 In accordance with ANSI C63.4 (2014) FCC MP-5 (1986) 47 CFR 15, 47 CFR 18	WO
<b>EMC.E.03</b>		Conducted Emissions Voltage method (LISN) 10 kHz - 30 MHz	document 911 In accordance with ANSI C63.4 (2014) FCC MP-5 (1986) 47 CFR 15, 47 CFR 18	WO

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<b>EMC.E.14</b>	Electric- and electronic equipment, unintentional radiators	Radiated Emissions Full Anechoic Chamber Method (FACM) 1 GHz - 8 GHz	document 1129 ANSI C63.4 (2014) 47 CFR 15, 47 CFR 18	WO
<b>EMC.E.15</b>		Radiated Emissions Semi Anechoic Chamber Method (SACM) 30 MHz - 1 GHz	document 1129 In accordance with ANSI C63.4 (2014) FCC MP-5 (1986) 47 CFR 15, 47 CFR 18	WO
<b>EMC.E.16</b>		Radiated Emissions Open Area Test Site (OATS) 30 MHz - 1 GHz	document 913 In accordance with ANSI C63.4 (2014) FCC MP-5 (1986) 47 CFR 15, 47 CFR 18	WO

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
<b>Temperature and Humidity tests</b>				
1	Electrical products, equipment, components and installations	Cold test type Ab and Ad Time: Up to 200 hours Temp: -25 up to +5°C Humidity: 0% (up to 0°C) 50% above 0°C	Document 1614 EN-IEC 60068-2-1	WO
2		Dry heat test type Bb and Bd Time: Up to 200 hours Temp: +25 up to +160°C Humidity: 20-50%	document 1614 EN-IEC 60068-2-2	WO
3		Damp heat cycle Db Time: Up to 200 hours Temp: +25/+55°C Humidity: 90-98%	document 1614 EN-IEC 60068-2-30	WO
4		Composite T/H cycle Z/AD Time: Up to 300 hours Temp: -10 up to +65°C Humidity: 50-98%	document 1614 EN-IEC 60068-2-38	WO
5		Damp heat type Ca and Cb. Time: Up to 200 hours Temp: +25 up to +45°C Humidity: 80-98%	document 1614 EN-IEC 60068-2-78	WO
<b>Electrical Safety tests and measurements</b>				
6	Electrical products, equipment, components and installations	Input power measurement	document 1039	WO, OS
7		Creepage and clearance measurement	document 1029 EN-IEC 60664-1	WO, OS
8		Distance through insulation measurement	document 1022	WO, OS



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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
9	Electrical products, equipment, components and installations	Stability measurement	document 1047	WO, OS
10		Mechanical strength of housing tests:  Vertical (steel ball) & spring hammer tests (IK2 – IK9)  Free Fall tests  Push / force tests	document 1031 EN-IEC 60068-2-31, EN-IEC 60068-2-75, EN-IEC 62262, EN-IEC60065: cl. 9.1.1, 9.1.3 – 9.1.5, 9.1.7, 12.4, EN-IEC 60335: cl. 22.11, EN-IEC 60598: cl. 4.13.3, EN-IEC 60601: 5.9.2, 9.4.4., 15.3.2, EN-IEC 60950: cl. 2.1.1.1, 4.2.2, 4.2.3, 4.2.4, 4.2.6, EN-IEC 62368: cl. 4.4.4, 4.8.4, 4.8.5, 8.2-8.12 EN-IEC 61010: cl. 6.2.2, 8.2, 8.3	WO, OS
11		(Earth) Leakage current measurement	document 1035 EN-IEC 60990	WO, OS
12		Abnormal operation and single fault conditions	document 1020	WO, OS
13		Capacitance discharge / residual voltage measurement	document 1043	WO, OS
14		Earth resistance measurement	document 1033	WO, OS
15		Reverse current of lithium battery measurement	document 1045 EN-IEC 60086-4	WO, OS
16		Dielectric and electric strength test	document 1027 EN-IEC 60664-1, EN 61180	WO, OS
17		Insulation resistance test	document 1037	WO, OS
18		Temperature test	document 1041	WO
19	Degree of protection provided by enclosures (IP) IPx3, IPx4, IPx5 IP0x, IPx0, IP1x, IP2x, IP3x, IP4x	document 1024 EN-IEC 60529	WO	

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No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
20	Electrical products, equipment, components and installations	Durability and legibility of labeling test	document 1414	WO, OS
21	Medical Electrical Equipment	Defibrillation proof applied parts: - Defibrillation protection (common mode and differential mode) - Energy reduction test	document 1821 EN-IEC 60601-1:2006 +A1:2013, cl. 8.5.5 EN-IEC 60601-2-27:2014 cl. 201.8.5.5 EN-IEC 60601-2-25:2015 cl. 201.8.5.5	WO
22		ECG functional tests (essential performance / protection against hazardous output)	document 1584 EN-IEC 60601-2-47:2015 cl. 201.12.4 EN-IEC 60601-2-27:2014, cl. 201.12.1.101 EN-IEC 60601-2-25:2015 cl. 201.12.4	WO
<b>Electromagnetic Compatibility Electromagnetic Fields</b>				
<b>EMC.F.01</b>	Household appliances and similar apparatus	Magnetic flux density	document 1543 EN-IEC 62233	WO, OS

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**Product standards containing one or more of the above mentioned test activities are listed below.  
 Accreditation is only applicable to the tests mentioned above.**

No.	Material of product	Activity reference number	Product Standard	Location
<b>EMC.S.02</b>	Automotive EMC tests	EMC.E.01, EMC.E.05, EMC.E.14, EMC.E.15, EMC.I.02, EMC.I.12, EMC.I.15, EMC.I.21, EMC.I.27, EMC.I.39	ECE Regulation No. 10 EN 55012, CISPR 12 EN 55025, CISPR 25 EN 15194 BMW GS95002-2, GS95002-5 Brembo BDS-04.48 DAF BSL 0006-100 DaimlerChrysler DC-10614, DC-10615, DC-11224 Fiat CS.00054, 9.90110, 9.90111 Ford FMC1278, EMC-CS-2009 GMW3097 JLR-EMC-CS v1.0 Amd. 4 John Deere JDQ 202, JDQ 203 MAN M3285 Mercedes-Benz MBN 10284-2, MBN 10284-4 Mazda MES PW 67602 Nissan 28400 NDS, 28401 NDS PSA PEUGEOT – CITROËN B21 7110 Renault 36-00-808/--N Scania TB1901 Volvo STD 515-0003 Volkswagen TL 81000	N/A
	Maritime EMC tests	EMC.E.02, EMC.E.03, EMC.E.04, EMC.E.05, EMC.E.06, EMC.E.14, EMC.E.15, EMC.E.16, EMC.E.21, EMC.E.26, EMC.E.27, EMC.E.34, EMC.I.07, EMC.I.12, EMC.I.21, EMC.I.22, EMC.I.23, EMC.I.24, EMC.I.26, EMC.I.42	EN-IEC 60945 DNVGL-CG-0339 Lloyd's Register TSN 1 Germanischer Lloyd VI Part 7	N/A

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<b>EMC.S.03</b>	Electrical and electronic equipment EMC tests	EMC.E.02, EMC.E.03, EMC.E.04, EMC.E.05, EMC.E.06, EMC.E.14, EMC.E.15, EMC.E.16, EMC.E.18, EMC.E.21, EMC.E.26, EMC.E.27, EMC.E.34, EMC.I.07, EMC.I.12, EMC.I.21, EMC.I.22, EMC.I.23, EMC.I.24, EMC.I.26, EMC.I.42	EN 12015 EN 12016 EN 12895 EN 13309 EN-ISO 13766 EN-ISO 13766-1 EN-ISO 14982 EN 50121-3-2 EN 50121-4 EN 50121-5 EN 50130-4 EN 50148 EN 50155 EN 50270 EN 50370 EN 50293 EN 50498 EN 55011, CISPR 11 EN 55014-1, CISPR 14-1 EN 55014-2, CISPR 14-2 EN 55015, CISPR 15 EN-IEC 61547 EN 55022, CISPR 22 EN 55024, CISPR 24 EN 55032, CISPR 32 EN 55035, CISPR 35 EN 55103-1 EN 55103-2 EN-IEC 60601-1-2 EN-IEC 61000-6-3 EN-IEC 61000-6-1 EN-IEC 61000-6-4 EN-IEC 61000-6-2 EN-IEC 61000-6-5 EN-IEC 61131-2 EN-IEC 61204-3 EN-IEC 61326-1 EN-IEC 61326-3-1 EN-IEC 61800-3 EN 301 489-1 EN 301 489-3	N/A
<b>EMC.S.05</b>	FCC EMC tests	EMC.E.02, EMC.E.03, EMC.E.14, EMC.E.15, EMC.E.16	47 CFR 15 47 CFR 18	N/A

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<b>EMC.S.07</b>	ISED EMC tests	EMC.E.02, EMC.E.03, EMC.E.14, EMC.E.15, EMC.E.16	Industry Canada ICES-003	N/A

**Item a as given below shows the relation between the Temperature&Humidity + Safety test activities (1 - 23) as mentioned above and the standards, directive and/or approval requirements in which the test activity is included**

a.	<p>Electrical Safety tests and measurements on:</p> <ul style="list-style-type: none"> <li>-Information technology equipment including office equipment</li> <li>-Electrical equipment for measurement, control and laboratory use</li> <li>-Electrical equipment of machines</li> <li>-Medical electrical equipment</li> <li>-Household and similar electrical appliances</li> <li>-Luminaries</li> <li>-Audio, video and similar electrical appliances</li> </ul>	<p>Activity documents:            1039, 1029, 1022, 1047, 1031, 1035, 1020, 1043, 1033, 1045, 1027, 1037, 1041, 1024, 1414, 1584, 1614, 1821, 2229            as far as relevant in the following documents</p> <p>Product testing</p>	<p>EN-IEC 60950-1            EN-IEC 62368-1            EN-IEC 61010-1, 2-010, 2-030, 2-040, 2-081            EN-IEC 60204-1            EN-IEC 60601-1, 2-1, 2-5, 2-10, 2-22, 2-24, 2-25, 2-26, 2-27, 2-38, 2-40, 2-47            EN-IEC 60335-1, 2-6, 2-8, 2-9, 2-13, 2-15, 2-21, 2-23, 2-24, 2-27, 2-29, 2-30, 2-31, 2-32, 2-35, 2-40, 2-44, 2-53, 2-60, 2-65, 2-66, 2-75, 2-80, 2-82, 2-88, 2-97            EN-IEC 60598-1, 2-1, 2-3, 2-4, 2-7            EN-IEC 60065            EN-IEC 60529            EN-IEC 60068-2-1, EN-IEC 60068-2-2, EN-IEC 60068-2-30, EN-IEC 60068-2-31, EN-IEC 60068-2-38, EN-IEC 60068-2-75, EN-IEC 60068-2-78</p>	N/A
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