

TESTING

Test'ing S.r.l.



Laboratorio Prove e Misure

Via Del Consorzio, 41 – 60015 Falconara M.ma (AN)
Tel. 071 0971877 – Fax. 071 0971883



LAB N° 1414L

TEST REPORT N° : RDP_269-22_EMC_r00

RECEIPT DATE : 28/02/2023

START TESTING : 02/03/2023

END OF TEST : 30/03/2023

TESTS CARRIED OUT: ELECTROMAGNETIC COMPATIBILITY

TEST ITEM : **Electric-powered wheelchair, Mod. EAGLE 4X**

APPLICANT : Mountain Eagles S.r.l.
Centro Artigianale snc
38040 Luserna (TN), Italy

MANUFACTURER : Mountain Eagles S.r.l.
Centro Artigianale snc
38040 Luserna (TN), Italy

***The tests results presented in this report relate only to the object tested, as received.
The content of the data and documents provided by the client and cited or reported in this test report
are the property of the client and under his sole responsibility.
The authenticity of this Test Report and its contents can be verified by contacting Test'ing Srl,
responsible for this Test Report.***

The sampling was carried out by the manufacturer

Tested by

(M. Zagaglia)

Approved by Laboratory Manager

(ing. M. Ambrosi)

31/10/2023



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1 GENERAL INFORMATION

QUOTE N° : OET_269-23

RECEIPT DATE : 28/02/2023

TRANSPORT DOCUMENT : DDT T001-2023

EUT CODE : TL_269-23

TEST RESULTS : PASS

according to the standards of page 6

PHOTOS OF SAMPLE:



FIGURE 1: EUT FRONT SIDE (0°)



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FIGURE 2: EUT LEFT SIDE (90°)



FIGURE 3: EUT REAR SIDE (180°)



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FIGURE 4: EUT RIGHT SIDE (270°)



FIGURE 5: BATTERY CHARGER



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FIGURE 6: CHARGER CONNECTOR



FIGURE 7: CHARGER AC PLUG



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FIGURE 8: DETAILS



FIGURE 9: DETAILS



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FIGURE 10: DETAILS



FIGURE 11: DETAILS



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FIGURE 12: DETAILS



FIGURE 13: DETAILS



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FIGURE 14: DETAILS



FIGURE 15: DETAILS



FIGURE 16: DETAILS



FIGURE 17: DETAILS



FIGURE 18: DETAILS



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FIGURE 19: DETAILS



FIGURE 20: DETAILS



FIGURE 21: DETAILS


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2 STANDARDS

PRODUCT STANDARDS	
Medical electrical equipment Part 1: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic disturbances - Requirements and tests	EN 60601-1- 2:2015/A1:2021* IEC 60601-1-2:2014/ A1:2020*
BASIC STANDARDS	
Electromagnetic compatibility – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current \leq 16A per phase)	EN 61000-3-2:2006/ A1:2009/A2:2009* IEC 61000-3-2:2005/ A1:2008/A2:2009*
Electromagnetic compatibility – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current \leq 16A per phase and not subject to conditional connection.	EN 61000-3-3:2013* IEC 61000-3-3:2013*
Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test	EN 61000-4-2:2009 IEC 61000-4-2:2008
Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3:2006/ A1:2008/IS1:2009/ A2:2010* IEC 61000-4-3:2006/ A1:2007/A2:2010*
Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test	EN 61000-4-4:2012 IEC 61000-4-4:2012
Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques – Surge immunity test	EN 61000-4-5:2014/ A1:2017 IEC 61000-4-5:2014/ A1:2017
Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques – immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6:2013* IEC 61000-4-6:2013*
Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test	EN 61000-4-8:2010* IEC 61000-4-8:2009*
Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity test	EN 61000-4-11:2004/ A1:2017* IEC 61000-4-11:2004/ A1:2017*
Electromagnetic Compatibility (EMC) - Part 4-39: Testing and measurement techniques - Radiated fields in close proximity - Immunity test	EN 61000-4-39:2017* IEC 61000-4-39:2017*
Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011:2016/A1:2017/ A11:2020* CISPR 11:2015/A1:2016/ A2:2019*

***TEST NOT ACCREDITED BY ACCREDIA**



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3 SAMPLE UNDER TEST

PACKAGE CONTENTS

N° EUT EAGLE 4X, comprises:

- 1 **Electric-powered wheelchair**
- 1 **Battery charger**

SUPPLIED ACCESSORIES FOR THE PERFORMANCE OF THE TESTS

None

USER MANUAL

Manuale E4X_r00, 12/09/2023 YES NO

ANALYZED DOCUMENTATION

5.1_03-Analisi dei rischi_r00, 12/09/2023 YES NO

5.1-AnRis_r00 E4X, 12/09/2023 YES NO

MARKING PLATE OF THE EQUIPMENT

YES NO

Mountain Eagle S.r.l.
38040 Luserna (TN) Centro Artigianale Snc
Italia

MD **CE**

Rev. 00

REF **EAGLE 4X**

Descrizione: carrozzina elettrica 4X4

Batteria ai polimeri di litio 48 Vdc
Capacità della batteria: 20 Ah
Tensione di ricarica: 54.4 Vdc
Corrente di ricarica: 2.21 A
Caricabatterie: Mean Well GC120A48-R7B
IPX4
Portata massima: 100 Kg

UDI

(01) 8057587740005 (21) XXXXXXXXXXX (11)MMAA

SN xxxxxxxxxxxxxxxxxxxx

MM/AA

Condizioni di funzionamento

+5°C	+45°C	600 hPa	1060 hPa	10 %	90 %
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LABEL NEAR CHARGER CONNECTOR

Input: 54.4 Vdc, 2.21 A max



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BATTERY CHARGER LABEL



Figure 22: marking plateS



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Supply connection	See marking label
Operation description:	The wheelchair EAGLE 4X is a battery-powered electric wheelchair with hand-g accelerator intended for users with reduced mobility.
Intended use:	Medical equipment to moving in outdoor environments.
Intended environment:	Home healthcare environment
Software version:	-
Table top or Floor standing equipment (For floor-standing equipment indicate the height of the support)	Floor-standing equipment. 15 cm. height of the support.
Alarm	See user manual
Special notes:	/
Prototype <input checked="" type="checkbox"/>	Production Version <input type="checkbox"/>
Unit(s) tested (include serial numbers):	One unit tested
Rationale for the selected sample size:	Random from production. Sampling done by manufacturer


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3.1.1 SIP/SOP and Input/output Ports:

PORT No.	Name	Type#	Cable Length	Cable Shielded (Y/N)	Comments (SIP/SOP lines must include description of use) (PATIENT-coupled cable termination must be described) (Interconnecting cables – describe construction details, ferrites, etc.)
0	Enclosure	Plastic and metallic	—	—	None
1	Mains	AC	< 3 m	N	None (VIA BATTERY CHARGER)
2					
3					
4					

Supplementary information:

#Note

AC= AC Power PORT

DC = DC Power PORT

Batt=Battery

N/E = Non-Electrical

SIP/SOP= SIGNAL INPUT/OUTPUT PORT

PC – PATIENT-Coupled Cable

TP= Telecommunication Ports

IC = Interconnecting cable

CLASSIFICATION

STANDARD	CLASSIFICATION	DESCRIPTION
EN 60601-1-2:2015	Home healthcare environment	Reastaurant cafes, shops, stores, markets, school, churches, libraries, outdoor, domiciles, vehicles, train stations, bus stations, airports, hotels, hostels, pensions, museum, theatres
EN 55011:2009	Class B	equipment suitable for use in domestic establishments and in establishments directly connected to a low voltage power supply network which supplies buildings used for domestic purposes
	Group 1	Equipment in which radio-frequency energy in the frequency range 9 kHz to 400 GHz is NOT intentionally generated and used or only used, in the form of electromagnetic radiation, inductive and/or capacitive coupling, for the treatment of material or inspection
EN 61000-3-2: 2006/A1:2008/A2:2009	Class A	balanced three-phase equipment; household appliances, excluding equipment identified as Class D; tools, excluding portable tools; dimmers for incandescent lamps; audio equipment.

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4 TEST SETUP

Testing Laboratory	Test'ing Srl Via del Consorzio, 41 60015 Falconara Marittima (AN)	
Date	From 02/03/2023 to 30/03/2023	

TEST CONDITIONS

In agreement with the manufacturer, during the tests the sample was connected to the supply that can generate the voltage and current required to operate the device.

The test configurations chosen for the tests are the most critical, and then with the worst results than other configurations.

CONFIGURATION	DESCRIPTION	NOTE
C1	Battery charger supplied at 230 Vac, 50 Hz	
C2	Battery charger not supplied	

OPERATION MODE	DESCRIPTION	NOTE
M1	EUT off	
M2	EUT on	
M3	EUT on - Forward "SLOW"	
M4	EUT on - Reverse "SLOW"	
M5	EUT on - Forward "FAST"	
M6	EUT on - Reverse "FAST"	



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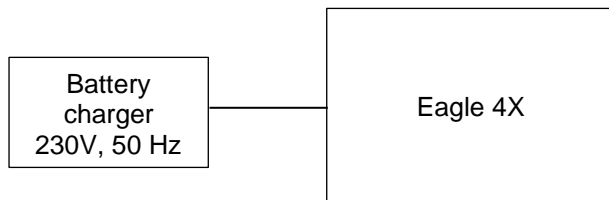


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POTENTIAL EQUALIZATION CONDUCTOR used : Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Note: If yes, include information on connection to the terminal for connection of a potential equalization conductor used during testing, if any, below.

Testing of PERMANENTLY INSTALLED LARGE ME EQUIPMENT OR LARGE ME SYSTEM: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include the following information	
Frequencies tested	
Power levels of RF test sources	
Modulation of RF test sources	
Test distance used	
Other relevant information related to test	

CONFIGURATION BLOCK DIAGRAM:





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PASS/FAIL CRITERIA

For the immunity tests EMC, according to manufacturer documentation, the following pass/fail criteria have been adopted:

A No degradation of essential performance.

BASIC SAFETY AND ESSENTIAL PERFORMANCE

As declared by the manufacturer the BASIC SAFETY and ESSENTIAL PERFORMANCE of the device are the following:

- The device must not move independently.
- The brake must always be activated

In agreement with manufacturer, BASIC SAFETY and ESSENTIAL PERFORMANCE were monitored: Eye minded.

INTERPRETATION OF RESULTS

The opinions about the declaration of conformity / non-conformity with the requirements of the results have been formulated on the basis of limits imposed by the methods used, the performance criteria imposed by the methods used and the level of performance defined by the manufacturer.

TERMINOLOGY USED TO DESCRIBE THE RESULTS

P=PASS	: test / requirement has been successful
F=FAIL	: test / requirement has failed
N/A	: test / requirement has not been deemed applicable and therefore not performed
N/D	: No discharge (for ESD test)
EUT	: Equipment Under Tests
PK	: Peak detector
QP	: Quasi Peak detector
AVG	: Average detector
L	: Line conductor
N	: Neutral conductor
PE	: Protection earth
H	: Horizontal
V	: Vertical

SYMBOLS USED

: it indicates the selected choice between a multitude of options, or that a check was carried out

Throughout this report a comma / point is used as the decimal separator


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5 TEST RESULTS
5.1 ANALYSIS OF DOCUMENTATION ACCORDING TO THE EN 60601-1-2:2015/A1: 2021*

Clause	Requirements + test	Result – Remark	Verdict
4*	GENERAL REQUIREMENTS		
4.1*	RISKS resulting from reasonably foreseeable ELECTROMAGNETIC DISTURBANCES taken into account in the RISK MANAGEMENT PROCESS.	5.1_03-Analisi dei rischi_r00, 12/09/2023 #1.5	P
4.2*	Non-ME EQUIPMENT used in an ME SYSTEM		N/A
	Check 16.1 of general standard, checked by inspection of the RISK MANAGEMENT FILE and OBJECTIVE EVIDENCE of compliance with the respective EMC standards, or by the tests of this collateral standard	RMF Reference Document:	N/A
	non-ME EQUIPMENT used in an ME SYSTEM complies with IEC and ISO EMC standards applicable to that EQUIPMENT, checked by inspection of the RISK MANAGEMENT FILE and OBJECTIVE EVIDENCE of compliance with the respective EMC standards, or by the tests of this collateral standard	RMF Reference Document:	N/A
	non- ME EQUIPMENT used in an ME SYSTEM for which the intended EM ENVIRONMENT could result in the loss of BASIC SAFETY or ESSENTIAL PERFORMANCE of the ME SYSTEM due to the non-ME EQUIPMENT tested according to the requirements of this collateral standard, checked by inspection of the RISK MANAGEMENT FILE and OBJECTIVE EVIDENCE of compliance with the respective EMC standards, or by the tests of this collateral standard	RMF Reference Document:	N/A
4.3.1*	Configurations		P

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Clause	Requirements + test	Result – Remark	Verdict
	ME EQUIPMENT and ME SYSTEMS tested in representative configurations, consistent with INTENDED USE, that are most likely to result in unacceptable RISK as determined by the MANUFACTURER (This was determined using RISK ANALYSIS, experience, engineering analysis, or pretesting). Compliance checked by inspection of the test report and the RISK MANAGEMENT FILE.	See Table CONFIGURATION page 18	P
4.3.2*	Artificial hand		P
4.3.3*	Power input and frequencies	See Table CONFIGURATION page 18	P
5*	IDENTIFICATION, MARKING AND DOCUMENTS		
5.1*	Additional requirements for marking on the outside of ME EQUIPMENT and ME SYSTEMS that are specified for use only in a shielded location SPECIAL ENVIRONMENT		N/A
	ME EQUIPMENT and ME SYSTEMS specified for use only in a shielded location SPECIAL ENVIRONMENT labelled with a CLEARLY LEGIBLE warning that they should be used only in the specified type of shielded location	See LABEL NEAR CHARGER CONNECTOR Input: 54.4 Vdc, 2.21 A max	N/A
5.2*	Accompanying documents		
5.2.1*	Instructions for use		
5.2.1.1*	General		
a)*	a statement of the environments for which the ME EQUIPMENT or ME SYSTEM is suitable. Relevant exclusions, as determined by RISK ANALYSIS, shall also be listed, e.g. hospitals except for near active HF SURGICAL EQUIPMENT and the RF shielded room of an ME SYSTEM for magnetic resonance imaging, where the intensity of EM DISTURBANCES is high.	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §10	P

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Clause	Requirements + test	Result – Remark	Verdict
b)*	the performance of the ME EQUIPMENT or ME SYSTEM that was determined to be ESSENTIAL PERFORMANCE and a description of what the OPERATOR can expect if the ESSENTIAL PERFORMANCE is lost or degraded due to EM DISTURBANCES (the defined term “ESSENTIAL PERFORMANCE” need not be used).	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §10	P
c)*	a warning statement to the effect that “WARNING: Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.” The MANUFACTURER of the ME EQUIPMENT or ME SYSTEM may provide a description or list of equipment with which the ME EQUIPMENT or ME SYSTEM has been tested in a stacked or adjacent configuration and with which stacked or adjacent use resulted in normal operation.	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §10.	P
d)*	a list of all cables and maximum lengths of cables (if applicable), transducers and other ACCESSORIES that are replaceable by the RESPONSIBLE ORGANIZATION and that are likely to affect compliance of the ME EQUIPMENT or ME SYSTEM with the requirements of Clause 7 (EMISSIONS) and Clause 8 (IMMUNITY). ACCESSORIES may be specified either generically (e.g. shielded cable, load impedance) or specifically (e.g. by MANUFACTURER and MODEL OR TYPE REFERENCE). Transducers and cables specified by the MANUFACTURER of the ME EQUIPMENT or ME SYSTEM as replacement parts for internal components need not be listed.	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §5.4	P

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Clause	Requirements + test	Result – Remark	Verdict
e)*	a warning statement to the effect that “WARNING: Use of accessories, transducers and cables other than those specified or provided by the manufacturer of this equipment could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.”	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §7.2	P
f)*	a warning statement to the effect that: “WARNING: Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the [ME EQUIPMENT or ME SYSTEM], including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.” In the above warning, “[ME EQUIPMENT or ME SYSTEM]” shall be replaced with the MODEL OR TYPE REFERENCE of the ME EQUIPMENT or ME SYSTEM.	User Manual Reference document: Manuale E4X_r00, 12/09/2023 §10.	P
5.2.1.2*	Requirements applicable to ME EQUIPMENT and ME SYSTEMS classified class A according to CISPR 11		
	FOR ME EQUIPMENT and ME SYSTEMS that are classified as class A according to CISPR 11, the instructions for use include the following note: NOTE: “The EMISSIONS characteristics of this equipment make it suitable for use in industrial areas and hospitals (CISPR 11 class A). If it is used in a residential environment (for which CISPR 11 class B is normally required) this equipment might not offer adequate protection to radio-frequency communication services. The user might need to take mitigation measures, such as relocating or re-orienting the equipment.”		N/A
5.2.2*	Technical description		P
5.2.2.1*	Requirement for all ME equipment and systems:		

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Clause	Requirements + test	Result – Remark	Verdict
	The technical description describes precautions to be taken to prevent adverse events to the PATIENT and Operator due to electromagnetic disturbances	Reference Document: Manuale E4X_r00, 12/09/2023 §10	P
a)*	the compliance for each EMISSIONS and IMMUNITY standard or test specified by this collateral standard, e.g. EMISSIONS class and group and IMMUNITY TEST LEVEL;	Manuale E4X_r00, 12/09/2023 §10	P
b)*	any deviations from this collateral standard and allowances used;	Reference Document:	N/A
c)*	all necessary instructions for maintaining BASIC SAFETY and ESSENTIAL PERFORMANCE with regard to ELECTROMAGNETIC DISTURBANCES for the EXPECTED SERVICE LIFE.	Manuale E4X_r00, 12/09/2023 §10	P
5.2.2.2*	Requirements applicable to ME EQUIPMENT and ME SYSTEMS specified for use only in a shielded location SPECIAL ENVIRONMENT		
a)*	a warning to the effect that: "WARNING: Failure to use this equipment in the specified type of shielded location could result in degradation of the performance of this equipment, interference with other equipment or interference with radio services";		N/A
b)*	specifications for the shielded location, including: <ul style="list-style-type: none"> – minimum RF shielding effectiveness; – for each cable that enters or exits the shielded location, the minimum RF filter attenuation; and – the frequency range(s) over which the specifications apply; 	Reference Document:	N/A
c)*	recommended test methods for measurement of RF shielding effectiveness and RF filter attenuation;		N/A

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Clause	Requirements + test	Result – Remark	Verdict
d)*	<p>one or more of the following and a recommendation that a notice containing this information be posted at the entrance(s) to the shielded location:</p> <ul style="list-style-type: none"> – a specification of the EMISSIONS characteristics of other equipment allowed inside the shielded location with the ME EQUIPMENT or ME SYSTEM; – a list of specific equipment allowed; – a list of types of equipment prohibited. 	Reference Document:	N/A
5.2.2.3*	Requirements applicable to ME EQUIPMENT that intentionally receives RF electromagnetic energy for the purpose of its operation	Reference Document:	N/A
5.2.2.4*	Requirements applicable to ME EQUIPMENT that includes RF transmitters	Reference Document:	N/A
5.2.2.5*	Requirements applicable to PERMANENTLY INSTALLED LARGE ME EQUIPMENT and LARGE ME SYSTEMS		
	The technical description includes the following information:		
a)*	A statement that an exemption has been used and that the EQUIPMENT has not been tested for radiated RF IMMUNITY over the entire frequency range 80 MHz to 6 GHz	Reference Document:	N/A
b)*	WARNING: "This EQUIPMENT has been tested for radiated RF IMMUNITY only at selected frequencies, and use nearby of emitters at other frequencies could result in improper operation"		N/A
c)*	A list of the frequencies and modulations used to test the IMMUNITY of the ME EQUIPMENT or ME SYSTEMS		N/A
5.2.2.6*	Requirements applicable to ME EQUIPMENT and ME SYSTEMS that claim compatibility with HF SURGICAL EQUIPMENT		
	Technical description includes a statement of HF SURGICAL EQUIPMENT compatibility and the conditions of INTENDED USE during HF Surgery	Reference Document:	N/A

* test not accredited by Accredia

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5.2 ANALYSIS OF ELECTROMAGNETIC COMPATIBILITY TESTS ACCORDING TO THE CEI EN 60601-1-2:2016*

Requirement – Test	Result/Comments	Verdict
Clause 7 – EMISSIONS*		
Classification		—
Class A or B	B	—
Group 1 or 2	Group 1	—
CISPR 11, 14-1, or ISO 7137	CISPR 11	—
<u>Conducted RF EMISSIONS*</u>		P
<u>Radiated RF EMISSIONS*</u>		P
<u>Disturbance Power (if applicable)*</u>		N/A
<u>Harmonic Distortion per IEC 61000-3-2 (Class A, B, C, D)*</u>	Class A	P
<u>Voltage Fluctuations and Flicker per IEC 61000-3-3*</u>		P
Clause 8 - IMMUNITY		
<u>Electrostatic Discharges</u>		P
<u>Radiated RF EM Fields*</u>		P
<u>Radiated RF EM Fields and Proximity Wireless fields*</u>		P
<u>Electrical Fast Transients and bursts</u>		P
<u>Surges</u>		P
<u>Conducted Disturbances, induced by RF fields*</u>		P
<u>Voltage Dips and Interruptions*</u>		P
<u>Rated Power-frequency Magnetic Field*</u>		P
<u>Immunity to proximity magnetic fields*</u>		P
Supplemental Information: If tests are not performed, provide rationale here for each test:		
If applicable, describe methods used to reduce the impact of ambient:		

* test not accredited by Accredia

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LAB N° 1414L

6 TEST TABLES

6.1	EN 55011:2016/A1:2017/A11:2020*	CONDUCTED RF EMISSIONS
------------	---------------------------------	------------------------

Test environmental conditions					
Temperature	25±10°C	Humidity	<75%	Pressure	1000±20 hPa



FIGURE 23: CONDUCTED EMISSIONS TEST SETUP

TEST SETUP (see Figure 23)			
Configuration	C1	Operation mode	M2
Port	Mains	EUT code	TL_269-23
Measurement uncertainty	± 3,3 dB k=2, 95%confidence interval		

Limits for continuous disturbance at terminal voltages				
Frequency range [MHz]	Limits QP [dBµV]	Limits AVG [dBµV]	RESULT	
			Phase L	Phase N
0,15 ÷ 0,5	79	66	PASS	PASS
0,5 ÷ 5,0	73	60	PASS	PASS
5,0 ÷ 30,0	73	60	PASS	PASS

RESULT	PASS
Graph 1	PEAK SIGNAL ON PHASE "L"
Graph 2	PEAK SIGNAL ON PHASE "N"
NOTE	

*test not accredited by Accredia



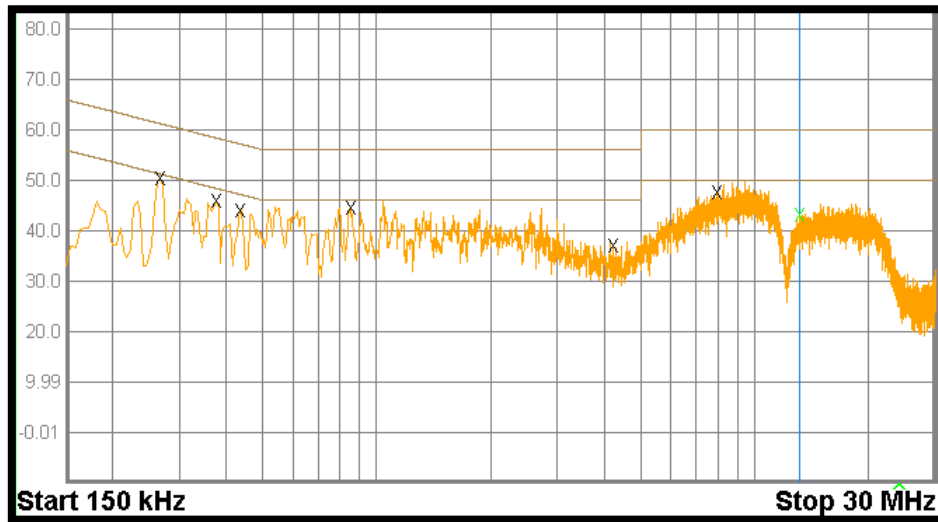
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GRAPH 1: PEAK SIGNAL ON PHASE "L"

LIST OF DISTURBANCE PEAKS ON L POWER CONDUCTOR								
SIG	FREQUENCY (kHz)	Quasi Peak (dBμV)	Limit Quasi peak (dBμV)	Δ Quasi peak (dB)	Average (dBμV)	Average Limit (dBμV)	Δ average (dB)	RBW (kHz)
1	266,63	49,11	61,22	-12,12	36,86	51,22	-14,37	9
2	374,98	45,47	58,39	-12,92	38,60	48,39	-9,79	9
3	433,47	41,87	57,19	-15,32	34,19	47,19	-12,99	9
4	847	42,43	56,00	-13,57	37,80	46,00	-8,20	9
5	4190	31,87	56,00	-24,13	25,11	46,00	-20,89	9
6	7907	44,82	60,00	-15,18	38,31	50,00	-11,69	9
7	13119	40,25	60,00	-19,75	34,02	50,00	-15,98	9

TABLE 1

*TEST NOT ACCREDITED BY ACCREDIA



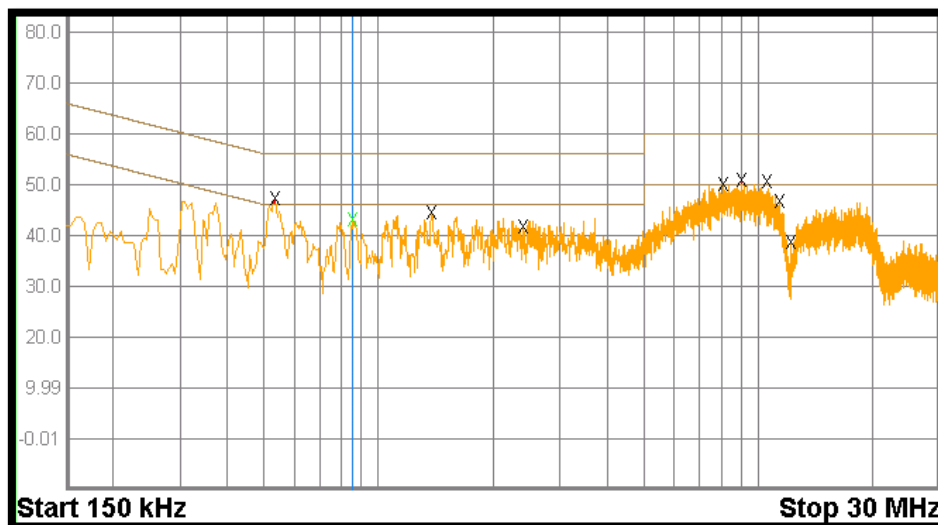
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GRAPH 2: PEAK SIGNAL ON PHASE “N”

LIST OF DISTURBANCE PEAKS ON N POWER CONDUCTOR								
SIG	FREQUENCY (kHz)	Quasi Peak (dBμV)	Quasi Peak Limit (dBμV)	Δ Quasi Peak (dB)	Average (dBμV)	Average Limit (dBμV)	Δ Average (dB)	RBW (kHz)
1	532	45,03	56,00	-10,97	32,92	46,00	-13,08	9
2	848	43,01	56,00	-12,99	38,27	46,00	-7,73	9
3	1371	42,73	56,00	-13,27	36,10	46,00	-9,90	9
4	2395	39,92	56,00	-16,08	32,01	46,00	-13,99	9
5	8038	46,85	60,00	-13,15	40,15	50,00	-9,85	9
6	8992	47,52	60,00	-12,48	41,08	50,00	-8,92	9
7	11288	44,55	60,00	-15,45	38,16	50,00	-11,84	9
8	12105	33,01	60,00	-26,99	25,20	50,00	-24,80	9

TABLE 2

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6.2	EN 55011:2016/A1:2017/A11:2020*	RADIATED EMISSIONS
-----	---------------------------------	--------------------

Test environmental conditions					
Temperature	25±10°C	Humidity	<75%	Pressure	1000±20 hPa

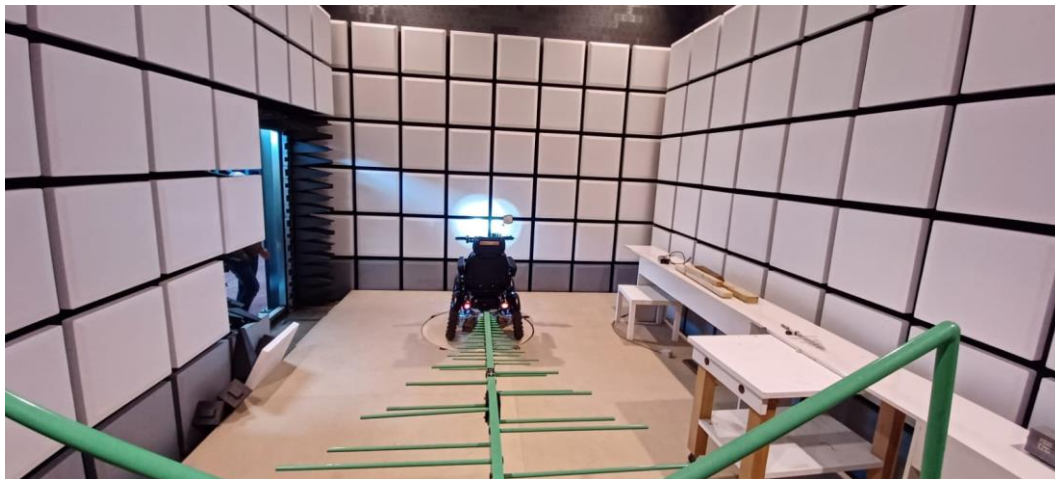


FIGURE 24: RADIATED EMISSIONS TEST SETUP

TEST SETUP (see Figure 24)			
Configuration	C2	Operation mode	M5
Port	ENCLOSURE	EUT code	TL_269-23
Measurement uncertainty	Horizontal polarization between 30-200 MHz:4,5 dB k=2, 95%confidence interval Vertical polarization between 30-200 MHz:4,8 dB k=2, 95%confidence interval Horizontal polarization between 200-1000 MHz:4,9 dB k=2, 95%confidence interval Vertical polarization between 200-1000 MHz:6.1 dB k=2, 95%confidence interval		

Limits for continuous radiated disturbances at 3 m				
Frequency range [MHz]	Limits QP [dBµV/m]	RESULT		
30 ÷ 230	50	<input checked="" type="checkbox"/>	P	<input type="checkbox"/> F
230 ÷ 300	57	<input checked="" type="checkbox"/>	P	<input type="checkbox"/> F
300 ÷ 1000	57	<input checked="" type="checkbox"/>	P	<input type="checkbox"/> F

RESULT	PASS
Graph 3	Peak signal with horizontal polarization antenna
Graph 4	Peak signal with vertical polarization antenna
Note	

***TEST NOT ACCREDITED BY ACCREDIA**

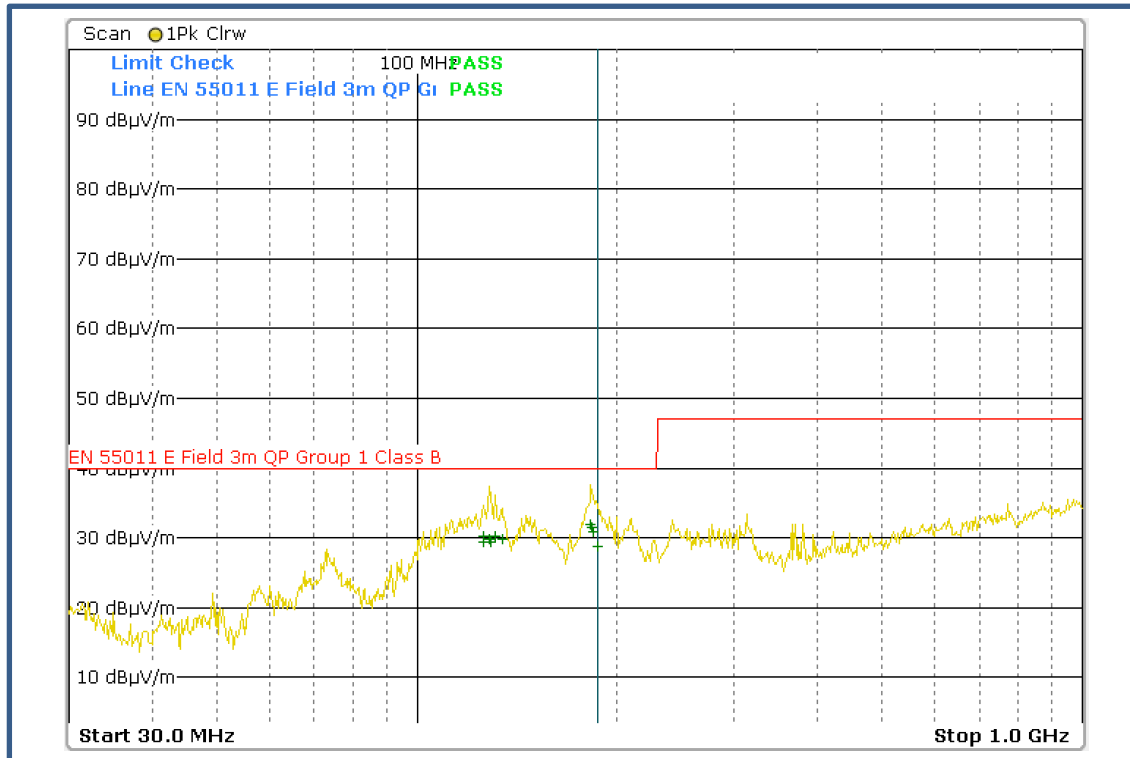


Test'ing S.r.l.

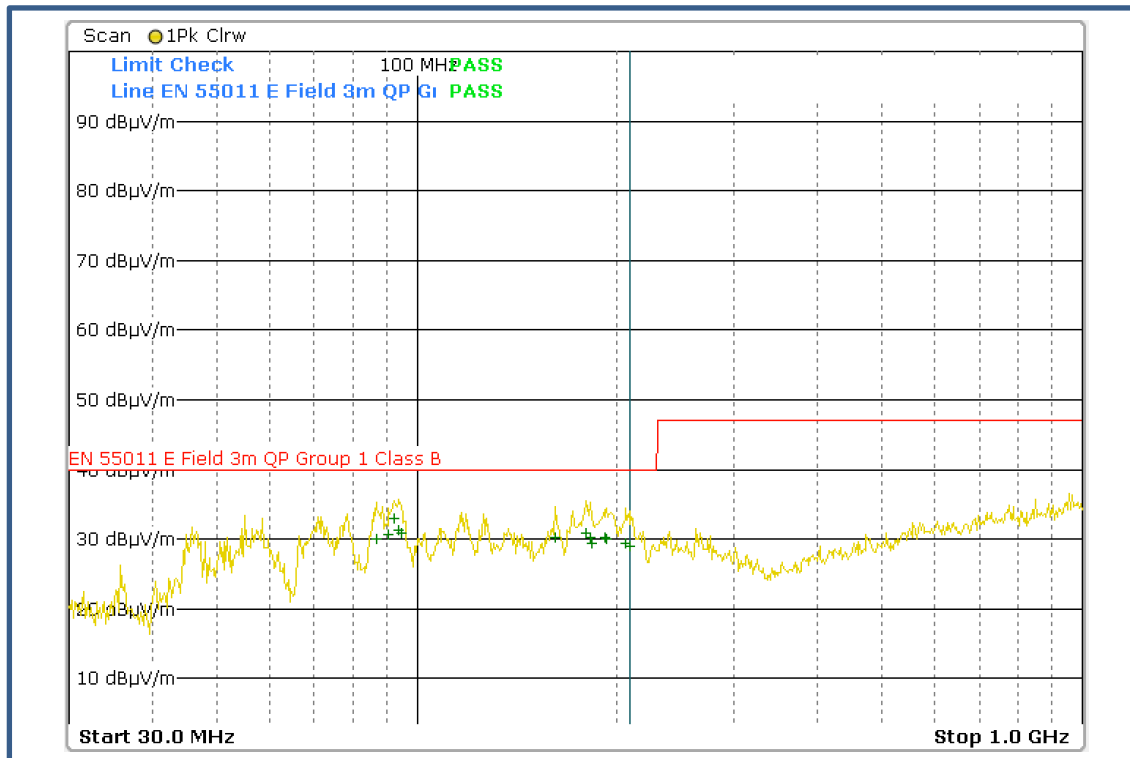
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GRAPH 3: PEAK SIGNAL WITH HORIZONTAL POLARIZATION ANTENNA



GRAPH 4: PEAK SIGNAL WITH VERTICAL POLARIZATION ANTENNA

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HIGHEST PEAKS WITH VERTICAL/HORIZONTAL POLARIZATION ANTENNA

Test Frequency [MHz]	Detector	Polarity	Azimuth [degrees]	Antenna Height [cm]	Level [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
125.60	QP	H	180	150	29.39	40	-10.61
126.16	QP	H	180	150	30.25	40	-9.75
128.24	QP	H	180	150	29.83	40	-10.17
128.88	QP	H	180	150	29.43	40	-10.57
131.16	QP	H	180	150	30.16	40	-9.84
134.12	QP	H	180	150	29.85	40	-10.15
181.92	QP	H	180	150	31.88	40	-8.12
182.56	QP	H	180	150	32.03	40	-7.97
86.92	QP	V	180	150	30.08	40	-9.92
90.68	QP	V	180	150	30.68	40	-9.32
92.60	QP	V	180	150	32.90	40	-7.10
93.96	QP	V	180	150	31.35	40	-8.65
94.76	QP	V	180	150	30.95	40	-9.05
161.72	QP	V	180	150	30.33	40	-9.67
179.76	QP	V	180	150	30.96	40	-9.04
182.12	QP	V	180	150	30.19	40	-9.81
182.68	QP	V	180	150	29.46	40	-10.54
191.20	QP	V	180	150	30.21	40	-9.79
193.00	QP	V	180	150	29.94	40	-10.06
205.92	QP	V	180	150	29.31	40	-10.69
208.40	QP	V	180	150	29.07	40	-10.93

TABLE 3

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6.3	EN 61000-3-2:2006/A1:2009/A2:2009*	HARMONIC DISTORTION
-----	------------------------------------	---------------------

Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	1000±20 hPa



FIGURE 25: HARMONIC CURRENT EMISSION TEST SET-UP

TEST SETUP (see Figure 25)			
Configuration	C1	Operation mode	M2
Port	Mains	EUT code	TL_269-23

EUT classification	Class A
Type of equipment behavior	Quasi stationary
Observation period	2 min.
% of limit	150%
N° considered harmonics	40

RESULT	PASS
--------	------

***TEST NOT ACCREDITED BY ACCREDIA**



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AVERAGE HARMONIC CURRENT RESULTS				
Harmonic order n	I _{EFF} [A]	I _{EFF} [%]	Limit [A]	Result
1	25.849E-3	25.849E-3		
2	1.607E-3	1.607E-3		PASS
3	18.002E-3	18.002E-3	2.30	PASS
4	1.622E-3	1.622E-3		PASS
5	18.448E-3	18.448E-3	1.14	PASS
6	1.278E-3	1.278E-3		PASS
7	18.156E-3	18.156E-3	770.00E-3	PASS
8	1.197E-3	1.197E-3		PASS
9	16.692E-3	16.692E-3	400.00E-3	PASS
10	1.297E-3	1.297E-3		PASS
11	15.759E-3	15.759E-3	330.00E-3	PASS
12	1.136E-3	1.136E-3		PASS
13	14.792E-3	14.792E-3	210.00E-3	PASS
14	1.050E-3	1.050E-3		PASS
15	13.429E-3	13.429E-3	150.00E-3	PASS
16	901.735E-6	901.735E-6		PASS
17	12.371E-3	12.371E-3	132.35E-3	PASS
18	843.132E-6	843.132E-6		PASS
19	11.081E-3	11.081E-3	118.42E-3	PASS
20	883.497E-6	883.497E-6		PASS
21	9.477E-3	9.477E-3	160.71E-3	PASS
22	671.958E-6	671.958E-6		PASS
23	8.486E-3	8.486E-3	146.74E-3	PASS
24	660.180E-6	660.180E-6		PASS
25	7.195E-3	7.195E-3	135.00E-3	PASS
26	648.686E-6	648.686E-6		PASS
27	5.700E-3	5.700E-3	124.99E-3	PASS
28	634.399E-6	634.399E-6		PASS
29	4.781E-3	4.781E-3		PASS
30	703.181E-6	703.181E-6		PASS
31	3.559E-3	3.559E-3		PASS
32	617.905E-6	617.905E-6		PASS
33	2.503E-3	2.503E-3		PASS
34	693.888E-6	693.888E-6		PASS
35	1.762E-3	1.762E-3		PASS
36	662.364E-6	662.364E-6		PASS
37	882.053E-6	882.053E-6		PASS
38	651.324E-6	651.324E-6		PASS
39	693.384E-6	693.384E-6		PASS
40	708.679E-6	708.679E-6		PASS

TABLE 4

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

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MAXIMUM HARMONIC CURRENT RESULTS				
Harmonic order n	I_{EFF} [A]	I_{EFF} [%]	Limit [A]	Result
1	26.588E-3			
2	2.235E-3			PASS
3	18.654E-3	0.541	3.45	PASS
4	2.169E-3			PASS
5	19.036E-3	1.113	1.71	PASS
6	1.453E-3			PASS
7	18.585E-3	1.609	1.15	PASS
8	1.374E-3			PASS
9	16.970E-3	2.828	600.00E-3	PASS
10	1.556E-3			PASS
11	16.011E-3	3.234	495.00E-3	PASS
12	1.271E-3			PASS
13	14.954E-3	4.747	315.00E-3	PASS
14	1.172E-3			PASS
15	13.613E-3	6.050	225.00E-3	PASS
16	982.408E-6			PASS
17	12.541E-3	6.317	198.52E-3	PASS
18	928.043E-6			PASS
19	11.243E-3	6.329	177.63E-3	PASS
20	984.906E-6			PASS
21	9.632E-3	5.994	160.71E-3	PASS
22	850.679E-6			PASS
23	8.584E-3	5.850	146.74E-3	PASS
24	781.776E-6			PASS
25	7.367E-3	5.457	135.00E-3	PASS
26	753.019E-6			PASS
27	5.821E-3	4.657	124.99E-3	PASS
28	722.736E-6			PASS
29	4.920E-3			PASS
30	850.287E-6			PASS
31	3.691E-3			PASS
32	698.935E-6			PASS
33	2.628E-3			PASS
34	775.783E-6			PASS
35	1.906E-3			PASS
36	758.755E-6			PASS
37	991.781E-6			PASS
38	744.458E-6			PASS
39	798.189E-6			PASS
40	836.461E-6			PASS

TABLE 5

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

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6.4	EN 61000-3-3:2013*	VOLTAGE FLUCTUATION AND FLICKER
-----	--------------------	---------------------------------

Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	1000±20 hPa



FIGURE 26: VOLTAGE FLUCTUATIONS AND FLICKER TEST SET-UP

TEST SETUP (see Figure 26)			
Configuration	C1	Operation mode	M2
Port	Mains	EUT code	TL_269-23

Measurement time	10 minute	Number of measurement	1	Effective	1
	Observed values	limits	result		
P_{st}	0.028	1.00	PASS		
Plt	0.028	0.65	PASS		
d_c [%]	0.000	3.30	PASS		
d_{max} [%]	0.066	4.00	PASS		
D_t [s]	0.000	0.50	PASS		

RESULT	PASS
---------------	-------------

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LAB N° 1414L

6.5	EN 61000-4-2:2009	ELECTROSTATIC DISCHARGE IMMUNITY TEST
-----	-------------------	---------------------------------------

Test environmental conditions					
Temperature	25±10°C	Humidity	30÷60%	Pressure	960±100 hPa

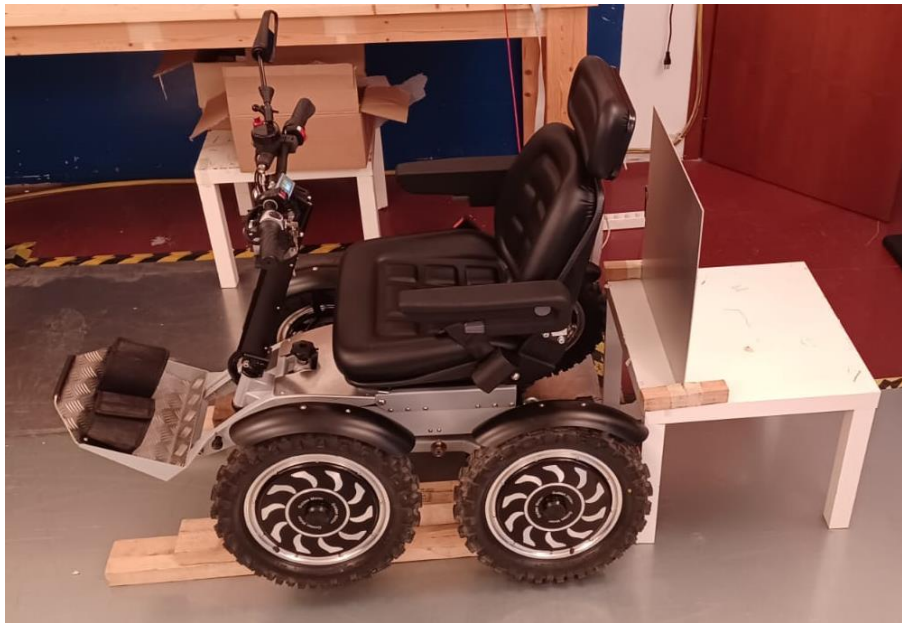


FIGURE 27: ESD TEST SET UP

TEST SETUP (see Figure 27)			
Configuration	C2	Operation mode	M5
Port	ENCLOSURE	Required criteria	A
EUT code	TL_269-23		
Measurement uncertainty	It has been demonstrated that the ESD generator meets the specified requirements in the standard with at least a 95% confidence.		

	N° of discharge	Polarity	Applied voltage (kV)	RESULT
Indirect contact on horizontal coupling plane	10/side	Pos/neg	8	N/A
Indirect contact on vertical coupling plane	10/side	Pos/neg	8	A
Direct contact to the conductive surfaces	10/point	Pos/neg	8	A
Air discharge on following points	10/point	Pos/neg	2; 4; 8; 15	A



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Direct discharges: Air and Contact			
Discharge location	Contact discharge voltage (kV)	Polarity	Remark
1) Seat metallic enclosure	8	+	N/D
		-	N/D
2)-3) AC main srew	8	+	N/D
		-	N/D
4) Battery enclosure	8	+	N/D
		-	N/D
5)-8) Seat screws	8	+	N/D
		-	N/D
9) Brake lever	8	+	N/D
		-	N/D
10) Handlebar	8	+	N/D
		-	N/D
11) Frontal metallic enclosure	8	+	N/D
		-	N/D
12)-13) Frontal fenders	8	+	N/D
		-	N/D
14)-15) Rear fenders	8	+	N/D
		-	N/D
16)-17) Armrest enclosure	8	+	N/D
		-	N/D
18)-19) Rear brake calipers	8	+	N/D
		-	N/D
20) Charger's metal enclosure	8	+	N/D
		-	N/D
21)-22) Frontal brake calipers	8	+	N/D
		-	N/D
23) Footrest	8	+	N/D
		-	N/D


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Direct discharges: Air and Contact			
Discharge location	Air discharge voltage (kV)	Polarity	Remark
a) Handles	2	+	N/D
		-	N/D
b) Brake pump cap	2	+	N/D
		-	N/D
c) Intuitive display	2	+	N/D
		-	N/D
d) Technical display	2	+	N/D
		-	N/D
e) Switches environment	2	+	N/D
		-	N/D
f) Light switch	2	+	N/D
		-	N/D
g) "ON/OFF" button	2	+	N/D
		-	N/D
h) Light lenses	2	+	N/D
		-	N/D
i) Seat	2	+	N/D
		-	N/D
l) Arrows	2	+	N/D
		-	N/D
m) Stop light	2	+	N/D
		-	N/D
n) Armrests	2	+	N/D
		-	N/D
o) Headrest	2	+	N/D
		-	N/D
p) Charger power cable	2	+	N/D
		-	N/D
a) Handles	4	+	N/D
		-	N/D
b) Brake pump cap	4	+	N/D
		-	N/D
c) Intuitive display	4	+	N/D
		-	N/D
d) Technical display	4	+	N/D
		-	N/D
e) Switches environment	4	+	N/D
		-	N/D
f) Light switch	4	+	N/D
		-	N/D
g) "ON/OFF" button	4	+	N/D
		-	N/D
h) Light lenses	4	+	N/D
		-	N/D
i) Seat	4	+	N/D
		-	N/D
l) Arrows	4	+	N/D
		-	N/D
m) Stop light	4	+	N/D



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		-	N/D
n) Armrests	4	+	N/D
		-	N/D
o) Headrest	4	+	N/D
		-	N/D
p) Charger power cable	4	+	N/D
		-	N/D
a) Handles	8	+	N/D
		-	N/D
b) Brake pump cap	8	+	N/D
		-	N/D
c) Intuitive display	8	+	N/D
		-	N/D
d) Technical display	8	+	N/D
		-	N/D
e) Switches environment	8	+	N/D
		-	N/D
f) Light switch	8	+	N/D
		-	N/D
g) "ON/OFF" button	8	+	N/D
		-	N/D
h) Light lenses	8	+	N/D
		-	N/D
i) Seat	8	+	N/D
		-	N/D
l) Arrows	8	+	N/D
		-	N/D
m) Stop light	8	+	N/D
		-	N/D
n) Armrests	8	+	N/D
		-	N/D
o) Headrest	8	+	N/D
		-	N/D
p) Charger power cable	8	+	N/D
		-	N/D
a) Handles	15	+	N/D
		-	N/D
b) Brake pump cap	15	+	N/D
		-	N/D
c) Intuitive display	15	+	N/D
		-	N/D
d) Technical display	15	+	N/D
		-	N/D
e) Switches environment	15	+	N/D
		-	N/D
f) Light switch	15	+	N/D
		-	N/D
g) "ON/OFF" button	15	+	N/D
		-	N/D
h) Light lenses	15	+	N/D
		-	N/D
i) Seat	15	+	N/D
		-	N/D



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l) Arrows	15	+	N/D
		-	N/D
m) Stop light	15	+	N/D
		-	N/D
n) Armrests	15	+	N/D
		-	N/D
o) Headrest	15	+	N/D
		-	N/D
p) Charger power cable	15	+	N/D
		-	N/D
q) Arrows	15	+	N/D
		-	N/D


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Indirect discharges: HCP			
Discharge side	Contact discharge voltage (kV)	Polarity	Remark
0°	/	+	N/A
		-	N/A
90°	/	+	N/A
		-	N/A
180°	/	+	N/A
		-	N/A
270°	/	+	N/A
		-	N/A
Indirect discharges: VCP			
Discharge side	Contact discharge voltage (kV)	Polarity	Remark
0°	8	+	N/D
		-	N/D
90°	8	+	N/D
		-	N/D
180°	8	+	N/D
		-	N/D
270°	8	+	N/D
		-	N/D

RESULT	PASS
NOTE	Discharge point are illustrated in the following Figures



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FIGURE 28



FIGURE 29



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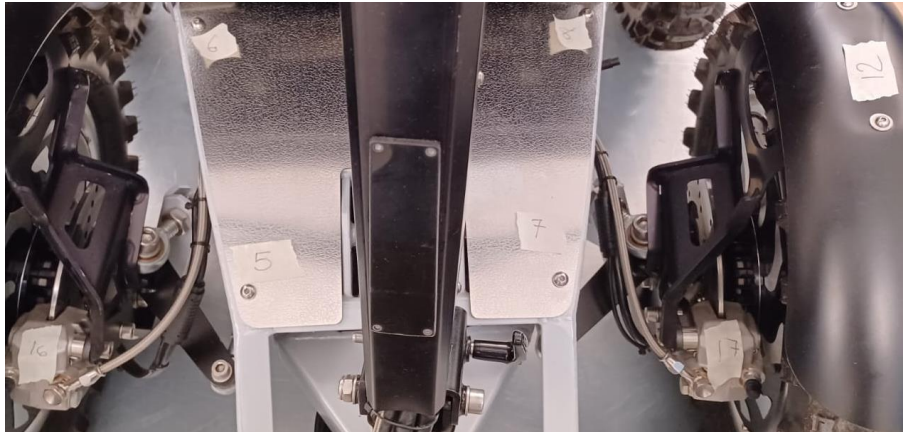


FIGURE 30



FIGURE 31



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FIGURE 32



FIGURE 33



FIGURE 34



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FIGURE 35



FIGURE 36



FIGURE 37



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FIGURE 38



FIGURE 39



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6.6	EN 61000-4-3:2006 /A1:2008/IS1:2009/A2:2010*	RADIATED, RADIO-FREQUENCY, ELECTROMAGNETIC FIELD IMMUNITY TEST
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa

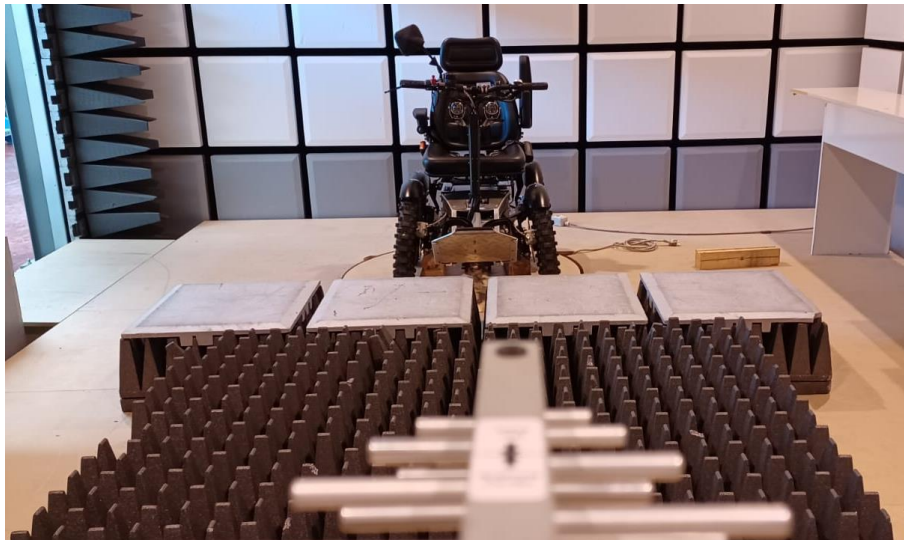


FIGURE 40: RF ELECTROMAGNETIC FIELD TEST SET-UP

TEST SETUP (see Figure 40)			
Configuration	C2	Operation mode	M5
Port	ENCLOSURE	Required criteria	A
EUT code	TL_269-23		
Field strength	10 V/m		
Frequency	From 80 MHz to 2,7 GHz		
Modulation scheme	Sinusoidal - AM		
Modulation frequency	1 kHz		
Modulation depth	80%		
Dwell Time	3 s		
Antenna distance	3 m		
Antenna height	1,5 m		
Antenna polarization	Vertical and horizontal		
Frequency steps	1 %		
EUT rotation degrees	0°		

RESULT	PASS with criteria A
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* TEST NOT ACCREDITED BY ACCREDIA



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LAB N° 1414L

6.7	EN 61000-4-4:2012	ELECTRICAL FAST TRANSIENT/BURST IMMUNITY TEST
-----	-------------------	---

Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 41: BURST AC POWER PORT TEST SET-UP

TEST SETUP (see Figure 41)			
Configuration	C1	Operation mode	M2
Port	Mains	Required criteria	A
EUT code	TL_269-23		
Measurement Uncertainty	It has been demonstrated that the generator meets the specified requirements in the standard with at least a 95% confidence.		

Voltage [kV]	Pulse frequency [kHz]	Pulse period [ms]	Interval [ms]	Polarity	Duration [min]	Coupling	RESULT
2	100	0,75	300	+	2	L-N-PE	A
2	100	0,75	300	-	2	L-N-PE	A

RESULT	PASS
---------------	-------------



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LAB N° 1414L

6.8	EN 61000-4-5:2014/A1:2017	SURGE IMMUNITY TEST
-----	---------------------------	---------------------

Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 42: SURGE AC POWER PORT TEST SET-UP

TEST SETUP (see Figure 42)			
Configuration	C1	Operation mode	M2
Port	Mains	Required criteria	A
EUT code	TL_269-23		
Measurement Uncertainty	It has been demonstrated that the generator meets the specified requirements in the standard with at least a 95% confidence.		

Voltage [kV]	Coupling	Angle [°]	Time between successive impulse [s]	Polarity	N° of impulse for each polarity and each angle	RESULT
0.5	L-N	0/90/180/270	30	+/-	5	A
1	L-N	0/90/180/270	30	+/-	5	A
0.5	L-PE	0/90/180/270	30	+/-	5	A
1	L-PE	0/90/180/270	30	+/-	5	A
2	L-PE	0/90/180/270	30	+/-	5	A
0.5	N-PE	0/90/180/270	30	+/-	5	A
1	N-PE	0/90/180/270	30	+/-	5	A
2	N-PE	0/90/180/270	30	+/-	5	A

RESULT	PASS
---------------	-------------



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LAB N° 1414L

6.9	EN 61000-4-6:2013*	IMMUNITY TO CONDUCTED DISTURBANCES, INDUCED BY RADIO-FREQUENCY FIELDS
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 43: RF CONDUCTED DISTURBANCE AC POWER PORT TEST SET-UP

TEST SETUP (see Figure 43)			
Configuration	C1	Operation mode	M2
Port	Mains	Required criteria	A
EUT code	TL_269-23		
Amplitude	3 V (6 V in ISM and amateur radio bands between 0,15 MHz and 80 MHz)		
Frequency	0,15 ÷ 80 MHz		
Modulation frequency	1 kHz		
Modulation depth	80 %		
Dwell Time	1,5 s		
Frequency increase	1 %		

RESULT	PASS with criteria A
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* TEST NOT ACCREDITED BY ACCREDIA



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LAB N° 1414L

6.10	EN 61000-4-11:2004/A1:2017*	VOLTAGE DIPS, SHORT INTERRUPTIONS AND VOLTAGE VARIATIONS IMMUNITY TEST
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 44: VOLTAGE DIPS AND INTERRUPTIONS TEST SET-UP

TEST SETUP (see Figure 44)				
Configuration		C1	Operation mode M3	
Port		Mains	Required criteria A	
EUT code		TL_182-22		
Voltage [%V _{nom}]	Duration [ms]	Angle phase [°]	Interval [s]	RESULT
0	10	0 – 45 – 90 – 135 – 180 – 225 – 270 – 315	10	A
0	20	0	10	A
70	500	0	10	A
0	5000	0	10	A

RESULT	PASS
---------------	-------------

* TEST NOT ACCREDITED BY ACCREDIA



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LAB N° 1414L

6.11	EN 61000-4-8:2010*	RATED POWER-FREQUENCY MAGNETIC FIELD
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 45: MAGNETIC FIELD TEST SET-UP

TEST SETUP (see Figure 45)			
Configuration	C1	Operation mode	M5
Port	ENCLOSURE	Required criteria	A
EUT code	TL_269-23		
Type magnetic field	<input checked="" type="checkbox"/> Continuous field <input type="checkbox"/> Short duration		
Amplitude	30 A/m		
Frequency	50 Hz		
Coupling plan	<input checked="" type="checkbox"/> X <input checked="" type="checkbox"/> Y <input checked="" type="checkbox"/> Z		

RESULT	PASS with criteria A
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* TEST NOT ACCREDITED BY ACCREDIA



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LAB N° 1414L

6.12	EN 61000-4-3:2006 /A1:2008/IS1:2009/A2:2010*	IMMUNITY TO PROXIMITY FIELDS FROM RF WIRELESS COMMUNICATION EQUIPMENT
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa



FIGURE 46: RF ELECTROMAGNETIC FIELD TEST SET-UP

TEST SETUP (see Figure 46)			
Configuration	C2	Operation mode	M5
Port	ENCLOSURE	Required criteria	A
EUT code	TL_269-22		
Dwell Time		3 s	
Antenna distance		3 m	
Antenna height		1,5 m	
Antenna polarization		Vertical and horizontal	
Frequency steps		1 %	
EUT rotation degrees		0°/90°/180°/270°	

* TEST NOT ACCREDITED BY ACCREDIA



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Test frequency	Band	Service	Modulation	Maximum power	Distance	IMMUNITY TEST LEVEL
[MHz]	[MHz]			[W]	[m]	[V/m]
385	38 - 390	TETRA 400	Pulse modulation 18 Hz	1,8	0,3	27
450	430 - 470	GMRS 460 FRS 460	FM ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 – 787	LTE Band 13, 17	Pulse modulation 217 Hz	0,2	0,3	9
745						
780						
810	800 – 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0,3	28
870						
930						
1720	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 5	Pulse modulation 18 Hz	2	0,3	28
1845						
1970						
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RIFD 2450, LTE Band 70	Pulse modulation 217 Hz	2	0,3	28
5240	5100 - 5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0,2	0,3	9
5500						
5785						

RESULT

PASS

*** TEST NOT ACCREDITED BY ACCREDIA**


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6.13	EN 61000-4-39:2017*	IMMUNITY TO PROXIMITY MAGNETIC FIELDS
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Test environmental conditions					
Temperature	25±7°C	Humidity	<75%	Pressure	960±100 hPa

TEST SETUP (see Figure 46)			
Configuration	C2	Operation mode	M5
Port	ENCLOSURE	Required criteria	A
EUT code	TL_269-22		
Application point	Button		
	Battery		
	Display		
	Power button		
	Electrical box		
FREQUENCY kHz	Modulation	Test Level (A/m)	
30	CW	8	
134,2	PM 2.1kHz 50% Duty Cycle	65	
13560	PM 250kHz 50% Duty Cycle	7,5	

* TEST NOT ACCREDITED BY ACCREDIA



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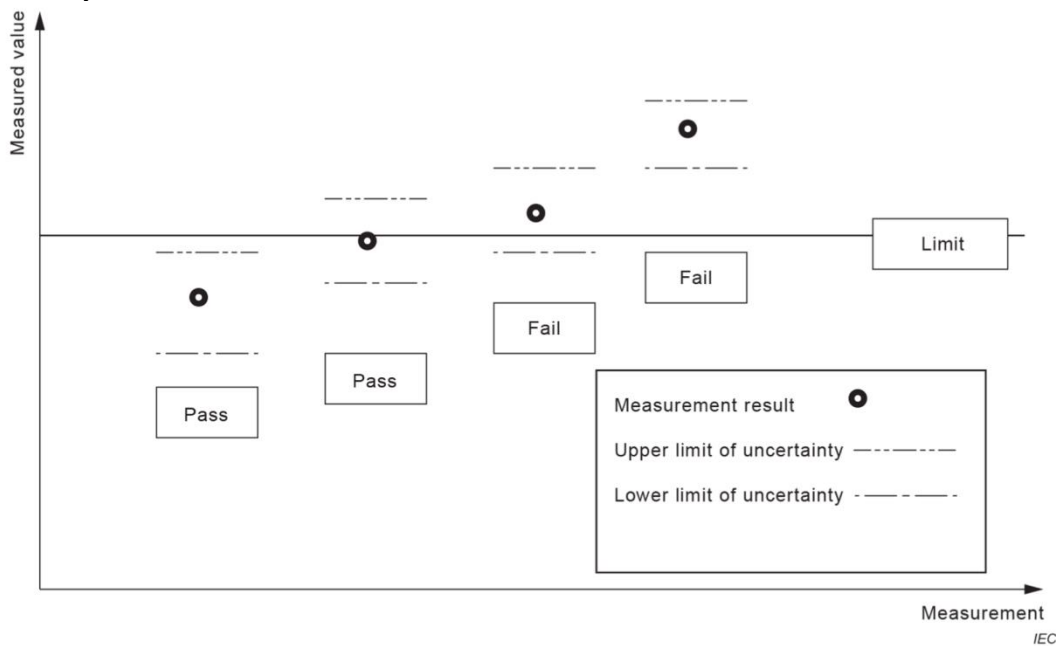


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7 DECISIONAL RULE

The definition of the declarations of conformity to the applied standard (PASS or FAIL verdict) was made by technician in charge to perform the test and assessed by laboratory manager during the issuing of the test report.

The declaration of conformity, for all the performed tests (excluded the ones indicated below), was made according to chapter 4.4 of IEC Guide 115:2021, therefore the measurement result is considered in conformance with the requirement if it is within the prescribed limit, without considering the measurement uncertainty calculated by the laboratory for such test



Therefore, according to ILAC-G8:09/2019 guide §4.2.1, specific risk to Accept False positive is (PFA) < 50%

Regarding the electromagnetic compatibility tests (conducted emissions, radiated emissions and disturbance power), the laboratory calculated the extended uncertainty relating to the individual tests (ULAB), which is lower than the extended uncertainty calculated by the referenced test method (UCISPR), therefore, in accordance with the EN 55016-4-2: 2011 §4.2 standard, the laboratory will declare compliance or not with the test levels exclusively on the basis of the measured value (PASS for measured values below the limit and FAIL for measured values above the limit).


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8 TEST MEASUREMENT EQUIPMENT

Internal code	Test	Brand	Model	Serial number
ST042	Environmental condition	PCE GROUP	THB 38	Q677335
ST007	Electrostatic discharge	EMTEST	DITO	V1046107943
ST002	Fast transient Surges Voltage dips	EMTEST	UCS 500N5	V1046107942
ST098		AMETEK CTS	CCI	P1933232230
ST021		EMTEST	V4780	0610-139
ST001	Conducted disturbances, induced by RF fields	EMTEST	CWS 500 N	V1046107944
ST022		EMTEST	CDN M2-M3N	1110-57
ST023		EMTEST	ATT6	0710-52
ST020		FCC	EM INJECTION CLAMP	110529
ST091	Conducted emissions	KEYSIGHT	N9038A	MY57290123
ST056		AFJ Instruments	LS16C\10	16011526366
ST003	Harmonic distortion and voltage fluctuations and flicker	EMTEST	DPA 500 N	V104617945
ST003		EMTEST	ACS 500 N	V1046107946
ST004	Disturbance power	KEYSIGHT	N9038A	MY57290123
ST047		R&S	MDS-21	832711/007
ST_014	Power frequency magnetic field	EM TEST AG	MS 100N	0610-69
ST_018		EM TEST AG	MC26100	0210-49
ST_025		HIOKI	3282	81109033
ST_031		REM AUTOMAZIONE	VARIAC	R11020
ST091	Radiated emission	KEYSIGHT	N9038A	MY57290123
ST072		Shaffner	CBL 6118	CBL 6118
ST092		INNCO Systems	MA4000-PP	MA 4000/644/42670218/P
ST_093		INNCO Systems	CO3000	CO3000/1080/42670218/ P
ST_066		Anechoic chamber	/	/
ST_097		INNCO Systems		
ST072	Radiated immunity	Shaffner	CBL 6118	CBL 6118
ST_147		PMM	LP-03	000ZX00104
ST_149		SCHWARZBEC K MESS – ELEKTRONIC	VULP 9118 E	1029
ST_150		PRANA	N-MT 140	2010-2776



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ST_151		PRANA	N-SV 28 AS	2010-2777
ST_152		PRANA	UX 15	2104-2869
ST_153		SIGLENT	SSG5060X	SSG5XCAD4R0061

END OF TEST REPORT