

Test Report #418.197.1 Rev.A

EMC tests on the devices/equipment:

VENENWWALKER PRO 2

Equipment under Test:

Description: intermittent pneumatic compression device
Model: VENENWWALKER PRO 2

Applicant:

GlobalMIND GmbH
Ernst-Mantius-Str.11
21029 Hamburg, Germany

Manufacturer:

Zero-Plus International Limited
Room 1004, 10/F, Join-In Hang Sing Centre,
71-75 Container Port Road
Kwai Chung. N.T., Hong Kong

Test laboratory:

CEcert GmbH.
 Alter Holzhafen 19/19a
 D-23966 Wismar, Germany

Summary of Test and Certification:

Tests:	Standards:	Result:
Emission:		
Conducted emission	IEC 60601-1-2:2014	PASS
Radiated emission	IEC 60601-1-2:2014	PASS
Interference immunity:		
Electrostatic discharge	IEC 60601-1-2:2014	PASS
Electromagnetic field	IEC 60601-1-2:2014	PASS
Electrical Fast Transient (Burst)	IEC 60601-1-2:2014	PASS
Surge immunity	IEC 60601-1-2:2014	PASS
Conducted disturbances, induced by RF-fields	IEC 60601-1-2:2014	PASS
Magnetic field (power-frequency)	IEC 60601-1-2:2014	PASS
Power supply drop, short interruptions	IEC 60601-1-2:2014	PASS
Low frequency phenomena:		
Harmonic current	IEC 61000-3-2:2014	PASS
Flicker in power supply	IEC 61000-3-3:2013	PASS
Documentation:		
Markings on the outside of the equipment	IEC 60601-1-2:2014	PASS
Accompanying documents	IEC 60601-1-2:2014	PASS

Explanation:

PASS – The EUT meets the test requirements.
 the requirements

N/A – Test is not applicable.

FAIL – The EUT does not meet

Evaluation :

The Equipment under Test (EuT) meets the EMC requirements of the IEC 60601-1-2 in the above listed specification. The requirements of the IEC 61000-3-2(class A) and the IEC 61000-3-3 were met too.

Period of test: 2018-07-09 - 2018-07-12

This test report with appendix consists of **39** pages.

1. General information on the test item(s)

Description: intermittent pneumatic compression device
Model: VENENWWALKER PRO 2
Serial no.: --

Customer: GlobalMIND GmbH
Contact person: Mr. Kreckler
Date of receipt of test items: 2018-07-09, 2019-07-23

Brief description:


EMC conformity test of an intermittent compression device for use in residential application. The test scope was defined by the applicant.

Steps to EMC, suppressions:

- none

Participant in the tests: none

Responsible for the technical content of the test report:

	name	signature
Tested by	Sebastian Lupp	

Approved by Dipl. Ing. (FH) Guido Mumerey



Note:

The CEcert GmbH assures the applicant that the tests are carried out within the scope of the tests outlined under point 2 and in accordance with the test specifications outlined under point 3. Any exceptions or deviations will be clearly indicated.

The results contained in this test report are relevant exclusively to the item(s) submitted for testing. The CEcert GmbH is not liable for any conclusions and generalizations which may be drawn from the test results and applied to further samples and examples of the type of device represented by the item submitted for testing.

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Report history Log:

Ref.	Date of issue	Comment	Approved by
418.197.1 Rev.0	2018-07-12	first certification	A. Schenk
418.197.1 Rev.A	2019-08-01	updated manufacturer/ client ID and type label	G. Mumerey

2. Test Specification

2.1. Emission

Applied standards:

IEC 60601-1-2:2014

Classification: **group 1, class B**

Tests performed:

Test method:	Basic Standard:	Chapter:
Conducted disturbance (EC)	IEC/CISPR 11:2015	4.1.
Radiated disturbance (ER)	IEC/CISPR 11:2015	4.2.

Exceptions and explanations: none

2.2. Susceptibility

Applied standards:

IEC 60601-1-2:2014

Classification: **Home healthcare environment**

Tests performed:

Test method:	Basic Standard:	Chapter:
Electrostatic discharge – ESD	IEC 61000-4-2:2008	5. 1.
Electromagnetic field	IEC 61000-4-3:2010	5. 2.
Electrical Fast Transient / Burst	IEC 61000-4-4:2012	5. 3.
Surge immunity	IEC 61000-4-5:2014	5. 4.
Conducted disturbances, induced by RF fields	IEC 61000-4-6:2013	5. 5.
Magnetic fields (power-frequency)	IEC 61000-4-8:2009	5. 6.
Power supply drop, short interruptions	IEC 61000-4-11:2004	5. 7.

Exceptions and explanations: none

2.3. Low frequency phenomena, line feedback

Applied standards:

IEC 61000-3-2:2014 (harmonic current emission)

Classification: **Class A**

IEC 61000-3-3:2013 (voltage fluctuations and flicker)

Tests performed:

Test method:	Basic Standard:	Chapter:
harmonic current emissions at the main ports	IEC 61000-3-2:2014	6. 1.
voltage fluctuations and flicker at the main ports	IEC 61000-3-3:2013	6. 2.

Exceptions and explanations: none

2.4. Documentation

Applied standards:

IEC 60601-1-2:2014 chapter 5

Tests performed:

Test method:

Markings on the outside of the equipment
Accompanying documents

Basic Standard:

IEC 60601-1-2 chapter 5.1
IEC 60601-1-2 chapter 5.2

Chapter:

7. 1.
7. 2.

Exceptions and explanations: none

2.5. Applied non-standard methods

none

3. Specification of the device/equipment

3.1. Configuration

Description:	Model:	S/N.:	Manufacturer:	Notes:
Product:				
intermittent pneumatic compression device	VENENWALKER PRO 2	--	Zero-Plus	001-1011-00
Accessories/peripherals:				
Leg cuff x2	CUFFL-9818RR2-N	17/10 (17-12)	Zero-Plus	
Simulators: none				
Software: not defined				
List of documents providing further information:				
Item	Description	pages		
Attachment 1	VENENWALKER PRO2 Gebrauchsanleitung (file: Z 04318 M GM V1g 0619)	28		
Attachment 2	VENENWALKER PRO2 Herstellererklärung Elektromagnetische Verträglichkeit (file: TD R0 EMV Tabelle PRO2-1)	3		
Attachment 3	VENENWALKER PRO2 EMC Test Plan (file: EMC Test Plan IEC60601_GM_VWpro2)	4		
Due to big files and bulk of paperwork, the documents listed as Appendix # are included in this document only. Documents listed with Attachment # are kept separately. The documents assessed and listed as 'kept in file' can be supplied upon request. The manufacturer is responsible for this information to be provided.				

3.2. Cables and Lines

Interface:	Type/model/plug:	Length:	Shielding:	Comments:
mains	2-wire, Type C	2 m	no	

3.3. Particulars related to EMC

System frequencies: --
 Earth / Grounding: none
 Shielding: none

3.4. Notes and/or sketches

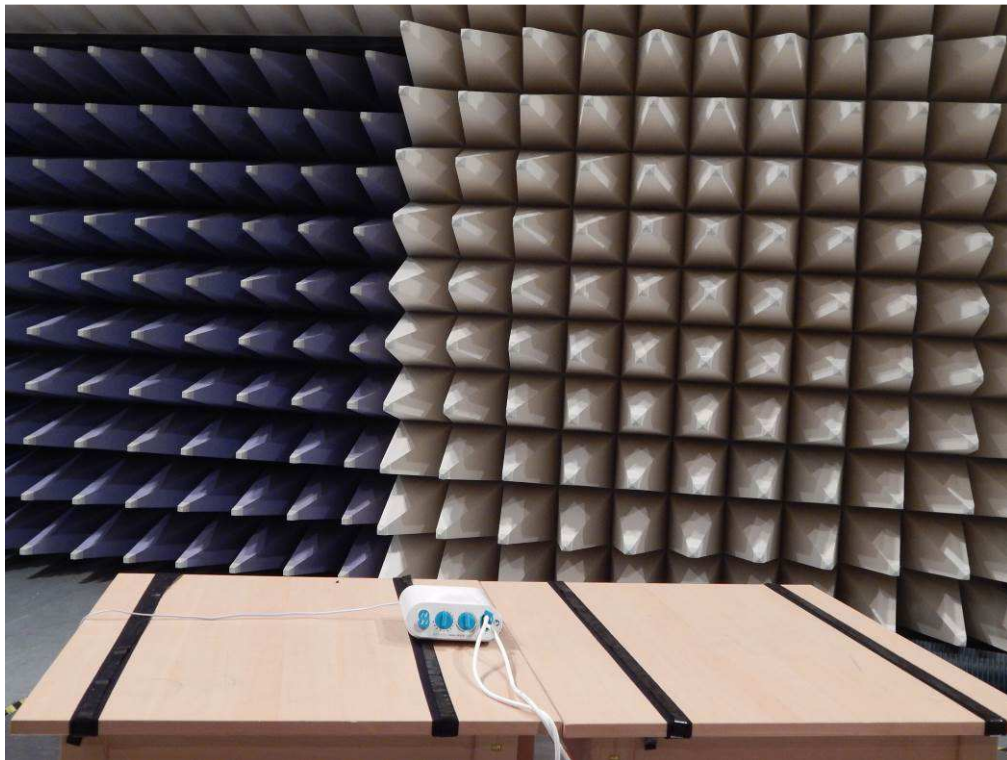


Fig. 1: Test set-up radiated disturbances



Fig. 2: Equipment under Test



Fig. 3: Label

Dimension of EuT: **23 cm x 22,5 cm x 9 cm**

3.5. Operating condition of the product

The status of the test object during the tests represented its normal area of deployment.

intermittent compression: The EUT is switched On and constitutes a pressure in the connected cuffs. During emission test the pressure regulator was set to 100%. During the immunity tests the pressure regulator was set to 50%.

Power supply: 230 V (+6 % / -10 %), 50 Hz (if not otherwise specified in this report)

Climatic conditions during the tests:

Ambient temperature: 15 °C - 35 °C (if not otherwise specified in this report)
Relatively air humidity: 25 % - 75 % (if not otherwise specified in this report)
Air pressure: 86 kPa - 106 kPa (860 mbar - 1060 mbar)

3.6. Evaluation and observation of test results

The Pressure was observed by a pressure meter for significant deviations.

3.7. Simulation of operating conditions

None

3.8. Sampling particulars

The product was tested as a single device.

Measurements and Test Results

4. Emission

4.0.1 Particulars of measuring uncertainties and tolerance range

The calculated uncertainties and tolerance ranges of the Tests are in accordance with the requirements of IEC/CISPR 16-4.

4.0.2 Preliminary remarks and classification

Classification:

Group 1: ISM equipment with intentionally internal used conducted RF-energy

Group 2: ISM equipment in which the intentionally generated RF energy is used as radiation for treatment of materials.

Class A: Equipment to use in non-domestic properties and facilities with direct connection to the low-voltage supply system

Class B: Equipment for use in residential properties, light-industrial locations, business or commercial premises, outdoor locations

The device is classified as follows:

Group 1, Class B.

4.0.3 Pre information

The test object was tested with the configuration and operating conditions described in section 3.

Notes on measuring the radiated measurements:

The spectrographs have a logarithmic frequency division. Measurements with the Peak-detector were used to assess the product. If these measuring values are in the range of the Quasi-Peak or Average limits, the frequencies are measured using the Quasi-Peak or Average detector. The observation time at the relevant frequencies will take at least 3 seconds.

4.1. Conducted Emissions

Basic standard: IEC 60601-1-2:2014

Measuring set-up: CISPR 16-2-1

Measuring Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
002/02	EMI Receiver (20Hz - 26,5GHz)	ESIB 26	R&S	100135	2018,04	2019,03
003/05	Four-line-V-artificial mains network 4 x 25A	ESH2-Z5	R&S	100099	2017,03	2020,03
033/05	Pulse limiter	ESH3-Z2	R&S	100199	2018,03	2019,03
070/02	semi anechoic chamber	10- Meter	Frankonia	--	2016,02	2019,03
071/01	RF cable long	RTK081 22m	Rosenberger	--	2017,10	2018,09
065/06	Data logger	SP-2000-20R	Veriteq	09122166	2018,04	2019,03
PHM 015/08	Software Radimation	V5.8.38	Dare	--	--	--

Measuring process:

For the pre-test a spectrum analyzer was used (configuration with the highest emission) to find out the conducted emissions. Then the conducted emissions were measured with a Line Impedance Stabilization Network (LISN) and a measuring receiver. The Measurement was carried out in a shielded, absorber-lined cabin.

- **Mains:**

The main ports were measured on both phases unsymmetrical (to protective earth) with a V-LISN and a receiver in accordance to CISPR 16.

Measuring results:

operating condition	wire/line	frequency range [Hz]	results diagram/table	Compliance Pass/ Fail/ N/A
intermittent compression	Mains L	150 k - 30 M	see annex	PASS
intermittent compression	Mains N	150 k - 30 M	see annex	PASS

Final test results (frequencies, max hold level) see appendix.

Measurement results:

According to the above test set-up the equipment under test specified in chapter 3 meets the conducted emission requirements in accordance with IEC 60601-1-2:2014.

4.2. Radiated Emissions

Basic standard: IEC 60601-1-2:2014

Measuring set-up: CISPR 16-2-3 (see photo documentation)

Measuring Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
002/02	EMI Receiver (20Hz - 26,5GHz)	ESIB 26	R&S	100135	2018,04	2019,03
008/04	Ultralog antenna (30MHz- 3GHz)	HL562	R&S	100065	2017,04	2020,03
070/02	semi anechoic chamber	10- Meter	Frankonia	--	2016,02	2019,03
071/02	RF cable short	RTK081 12m	Rosenberger	--	2017,10	2018,09
065/06	Data logger	SP-2000-20R	Veriteq	09122166	2018,04	2019,03
PHM 015/08	Software Radimation	V5.8.38	Dare	--	--	--

Measuring process:

A prescan with in horizontal and vertical polarization was done at the beginning. The accessories/peripherals were placed outside the test set-up.

The radiated emissions were measured in the whole frequency range with the maximum level. The position of the equipment and the antenna height were changed during the measurements.

Measurement results:

Operating condition	Frequency range [MHz]	Polarization	Position of the EUT / Antenna height	Test results diagram/table	Compliance Pass/ Fail/ N/A
intermittent compression	30 – 1000	horizontal, vertical	0 - 360° / 1 - 4 m	see annex	PASS

Measuring Distance: 10 m

During this EMC test no relevant interference emissions from the test object could be determined. Final test results (frequencies, max hold level) see appendix.

The measurement environment was the shielded, absorber-lined hall.

Measurement results:

According to the above test set-up the equipment under test specified in chapter 3 meets the radiated emission requirements in accordance with IEC 60601-1-2:2014.

5. Susceptibility

5.0 Performance criteria of failure at the immunity tests

Performance criteria of IEC 60601-1-2:2014

Before immunity testing begins, the manufacturer/ applicant shall determine specific, detailed immunity pass/fail criteria, based on applicable part two standards or risk management, for basic safety and essential performance with regard to EM disturbances. The manufacturer/ applicant shall also determine how the ME equipment or ME system will be monitored during the tests to check for compliance with the specific pass/fail criteria.

Immunity pass/fail criteria may specify degradations that are acceptable because they do not result in unacceptable risk.

ME equipment and ME systems shall meet the immunity pass/fail criteria during and after the immunity tests. For transient phenomena for which it might not be practical to assess performance during the application of the transient, assessing performance before and after the test is acceptable.

Particular performance criteria determined by the manufacturer:

none

5.1. Electrostatic Discharge – ESD

Test set-up:

The test set-up was conforming to the standard IEC 61000-4-2 for desk-type equipment.



Fig. 4: Test set-up ESD

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
014/19	ESD-discharge kit	ESD3000	EMC	1892	2017,10	2018,09
065/06	Data logger	SP-2000-20R	Veriteq	09122166	2018,04	2019,03

Test process:

At each test point there were for each polarity, at least 10 discharges. The product was monitored during this test. The test object and the measuring values were observed as to whether any deviation from normal performance occurred. The periphery was arranged beside the horizontal coupling plate for the indirect discharge.

Tests:

working condition:	point of discharge	test:	test level:	polarity	Compliance Pass/ Fail/ N/A
intermittent compression	Enclosure (all sides), pressure regulator, time regulator, leg switch buttons, ON/ OFF button, cable, cuff connection	D,L	2 kV	pos./neg.	PASS
intermittent compression		D,L	4 kV	pos./neg.	PASS
intermittent compression		D,L	8 kV	pos./neg.	PASS
intermittent compression		D,L	15 kV	pos./neg.	PASS
intermittent compression	Coupling plates	I,H,V	2 kV	pos./neg.	PASS
intermittent compression		I,H,V	4 kV	pos./neg.	PASS
intermittent compression		I,H,V	6 kV	pos./neg.	PASS
intermittent compression		I,H,V	8 kV	pos./neg.	PASS
intermittent compression	Bottom screw	D,K	2 kV	pos./neg.	PASS
intermittent compression		D,K	4 kV	pos./neg.	PASS
intermittent compression		D,K	6 kV	pos./neg.	PASS
intermittent compression		D,K	8 kV	pos./neg.	PASS

Note:

D	direct discharge onto the test object	L	air discharge
I	indirect discharge onto the test object	H	horizontal coupling plate under the EUT
K	contact discharge	V	vertical coupling plate

Allocation of discharge points:



Fig. 5: EuT with assigned test points

Environmental Conditions while test:

Humidity: **52,5 % rH**
 Barometric pressure: **101,4 kPa**

Temperature: **22,6 °C**

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in chapter 3 complies with the electrostatic discharge requirements, in accordance with IEC 60601-1-2:2014.

5.2. High Frequency Electromagnetic Fields

Test set-up:

The test set-up was conforming to the standard IEC 61000-4-3 for desk-type equipment. The equipment was built up 0,8 m over the ground plane. The field strength was calibrated in a distance of 3 m. There the Equipment under Test was placed.

- Antenna distance: 3 m
- Time per step, depends on the reaction time of the product: 1 sec.
- Test level: 10 V/m

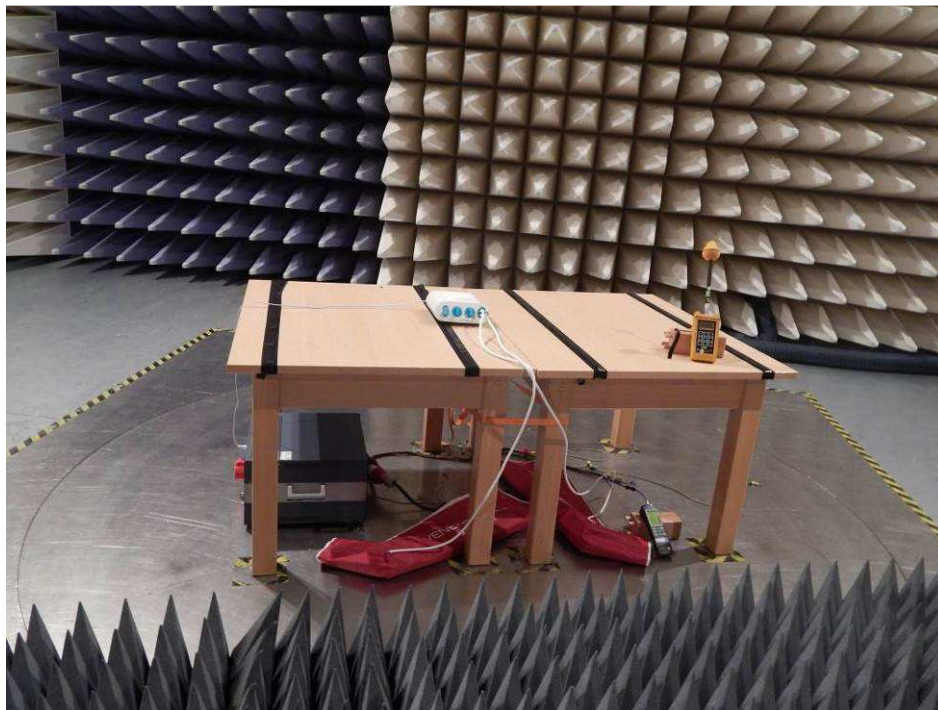


Fig. 6: Test set-up electromagnetic Fields

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
004/01	Dual directional coupler (0,8- 4,2GHz)	DC 7144	ar	--	2018,03	2019,03
004/02	Dual directional coupler	DC 6180 M1	ar	--	2018,03	2019,03
004/05	directional coupler 2-8 GHz	BDC 2080-40/500	Bonn	149722	2018,03	2019,03
008/10	Broadband horn antenna (1- 18GHz)	BBHA 9120 D	Schwarzb.	348	2016,09	2019,09
008/11	Horn antenna (0,8- 5GHz)	AT 4002 A	ar	304917	2018,03	2019,03
008/21	Log.- per. Antenna (80MHz- 1GHz)	ATL 80M1G	ar	0337327	2018,03	2019,03
019/02	Signal generator (9kHz - 1,1GHz)	SML 01	R&S	101415	2016,09	2018,09
019/03	Signal generator (1- 20 GHz)	SMR 20	R&S	100547	2016,10	2019,09
020/04	Broadband rf amplifier (0,08- 1GHz 500W)	500W1000A	ar	305559	2018,06	2019,03
020/12	Broadband rf amplifier (0,8- 4,2GHz)	60S1G4	ar	335054	2018,03	2019,03
020/13	Broadband RF amplifier (2,5- 6GHz)	BLMA2560-30	Bonn	149722	2018,03	2019,03
025/04	E- field probe	HI-6053	ETS-Lindgren	00154844	2018,02	2020,03
033/06	Fixed coaxial attenuator 2dB	1 R-2	Weinschel	LDC 9751	2018,03	2019,03
065/06	Data logger	SP-2000-20R	Veriteq	09122166	2018,04	2019,03
070/03	semi anechoic chamber immunity	3- Meter	Frankonia	--	2018,06	2019,03
PHM 015/08	Software Radimation	V5.8.38	Dare	--	--	--

Test procedure:

The output of the level in the frequency range was gradually changed in steps of 1% of the first frequency and then 1% of the frequency before.

Tests:

Operating conditions:	Frequency range: [MHz]	Test Level [V/m]	Modulation:	Polarization, Antenna direction	Compliance Pass/ Fail/ N/A
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	horizontal, front	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	vertical, front	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	horizontal, left	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	vertical, left	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	horizontal, right	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	vertical, right	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	horizontal, back	PASS
intermittent compression	80 – 2700	10	80 % AM, 1 kHz	vertical, back	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	horizontal, front	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	vertical, front	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	horizontal, left	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	vertical, left	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	horizontal, right	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	vertical, right	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	horizontal, back	PASS
intermittent compression	385, 450 ¹⁾ , 810, 870, 930	28	50 % PM, 18 Hz	vertical, back	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	horizontal, front	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	vertical, front	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	horizontal, left	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	vertical, left	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	horizontal, right	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	vertical, right	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	horizontal, back	PASS
intermittent compression	1720, 1845, 1970, 2450	28	50 % PM, 217 Hz	vertical, back	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	horizontal, front	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	vertical, front	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	horizontal, left	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	vertical, left	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	horizontal, right	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	vertical, right	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	horizontal, back	PASS
intermittent compression	710, 745, 780, 5240, 5500, 5785	9	50 % PM, 217 Hz	vertical, back	PASS

)1 pulse modulation was used as an alternative to FM modulation

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in chapter 3 complies with the immunity requirements in respect of high frequency electromagnetic field, in accordance with IEC 60601-1-2:2014.

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in chapter 3 complies with the Fast Transients (Burst) requirements in accordance with IEC 60601-1-2:2014.

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in chapter 3 complies with the surge-requirements in accordance with IEC 60601-1-2:2014.

5.5. Conducted disturbances, induced by radio-frequency fields

Test set-up: The tests were performed in accordance to IEC 61000-4-6.



Fig. 9: Test set-up induced by RF fields

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
019/05	Signal generator (9kHz – 3,2GHz)	SMC100A	R&S	102135	2016,09	2019,09
020/10	Broadband rf amplifier (10kHz - 100MHz 150W)	150A100B	ar	332515	2017,09	2018,09
022/02	Power meter, single channel	NRVS	R&S	843537/030	2015,08	2018,09
023/02	100-V-voltage probe (Insertion unit)	URV5-Z4	R&S	842619	2016,09	2019,09
032/06	CDN, M 2 Conductor, 16A	FCC-801-M2	FCC	2013	2017,09	2018,09
033/09	Coaxial attenuator 6dB 300W	50FH-006-300	JFW IND.		2018,03	2019,03
065/06	Data logger	SP-2000-20R	Veriteq	09122166	2018,04	2019,03
PHM 015/08	Software Radimation	V5.8.38	Dare	--	--	--

Information about the test:

The output of the level in the frequency range was gradually changed in steps of 1% of the first frequency and then 1% of the frequency before. According to priority order (CDN-M1; Sz; Mz; z=2, 3..) one CDN was terminated with 50 Ω.

Time per step: **1 sec.**
 Frequency range: **150 kHz - 80 MHz**
 Modulation: **1 kHz, 80% AM**

Tests:

working conditions:	wire / line:	test level:	coupling- and decoupling network	Terminated CDN / line:	Compliance Pass/ Fail/ N/A
intermittent compression	Mains	6 V	CDN M2	none	PASS

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in part 3 complies with the requirements of conducted disturbances, induced by radio-frequency fields, in accordance with IEC 60601-1-2:2014.

5.6. Magnetic Field with Power-frequency

Test set-up:

The tests were performed in accordance to IEC 61000-4-8.

The main parts of the configuration are a sufficient big inductance coil with a well known coil factor for producing a homogeny magnetic field and a programmable power supply with sufficient current supply.

A square inductance coil with 1 m x 1 m was used for generation of the magnetic field.



Fig. 10: Test set-up magnetic fields

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
008/05	Magnetic field antenna 1x1m 1- 100A/m	MF 1000	EMC	1000-35	2018,04	2019,03
012/01	Power supply	6560	Chroma	462	2018,04	2019,03
017/02	7 - channel power meter	LMG670	ZES	1171506	2018,04	2019,03
065/05	Data logger temp./humid.	SP-2000-20R-117	Veriteq	09112044	2017,07	2018,09

Tests:

working conditions:	equipment:	test level:	duration:	Compliance Pass/ Fail/ N/A
intermittent compression	whole configuration x-axis	30 A/m, 50 Hz	5 min	PASS
intermittent compression	whole configuration y-axis	30 A/m, 50 Hz	5 min	PASS
intermittent compression	whole configuration z-axis	30 A/m, 50 Hz	5 min	PASS

Functional test after test procedure: PASS

Test results:

No relevant influencing functions of the equipment were detected during this EMC-Test. The performance criterion for the immunity was met. There was no function failure nor loss of data, neither was there any change in the working conditions.

According to the above test set-up the equipment under test specified in part 3 complies with the magnetic field requirements with power-frequency, in accordance with IEC 60601-1-2:2014.

5.7. Power supply drop, Short interruptions

Test set-up:

The tests were performed in accordance to EN 61000-4-11. Variac intern in the generator

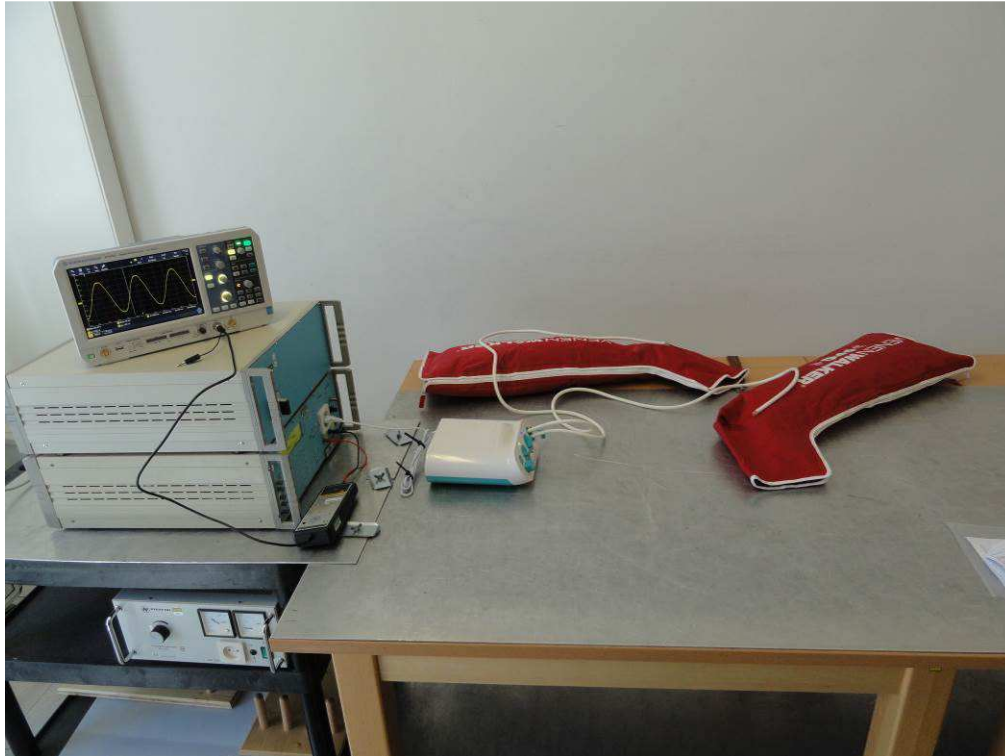


Fig. 11: Test set-up DIPS

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
014/10	Generator for transients	TRA 2000	EMC	790	2018,04	2019,03
014/17	External Variac	VAR-EXT1000	EMC	1560	2018,04	2019,03
054/11	Digital Oscilloscope	RTB2002	R&S	107189	2018,04	2019,03
054/02	Difference voltage probe	700924	Yokogawa	090802	2018,03	2019,03
065/05	Data logger temp./humid.	SP-2000-20R-117	Veriteq	09112044	2017,07	2018,09

Information about the test:

Line under test:

Mains

The product was directly tested on the generator.

Mains frequency during test: 50 Hz

The tests were performed at the following angle for:

beginning 0°, 45°, 90°, 135° and end 180°, 225°, 270°, 315° of voltage variation.

Time distance between events: ca. 60 sec.

Tests:

working conditions:	Reduction: [%U _N]	Duration:	Performance criterion:	Comments/ Observations:	Compliance Pass/ Fail/ N/A
intermittent compression	100	0,5 cycle	--	LED is short off, no change in the working conditions	PASS
intermittent compression	100	1 cycle	--	LED is short off, no change in the working conditions	PASS
intermittent compression	30	25 cycles	--	Temporary reduced LED light, pump is still running with lower pressure	PASS
intermittent compression	100	250 cycles	--	EUT goes OFF and working properly without user intervention after conditioning	PASS

Functional test after test procedure: PASS

Test results:

According to the above test set-up the equipment under test specified in part 3 complies with power supply drops and short interruptions requirements, in accordance with IEC 60601-1-2:2014.

6. Low frequency phenomena

6.1. Harmonic current at the main ports

Basic standard: IEC 61000-3-2

Test set-up: The tests were performed in accordance to IEC 61000-3-2.

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
012/01	Power supply	6560	Chroma	462	2018,04	2019,03
017/02	7 - channel power meter	LMG670	ZES	1171506	2018,04	2019,03
065/05	Data logger temp./humid.	SP-2000-20R-117	Veriteq	09112044	2017,07	2018,09
PHM 015/11	Software LMG Test Suite	V1.042	ZES	--	--	--

Measurements:

The measurement complies with the requirements of the appendix C of the standard IEC 61000-3-2. Transient harmonic currents were measured separately!

Pre test: find out the configuration/operating condition with the highest emission of harmonic current

Final test: recording the highest emission at steady state and fluctuating test settings

Classification / limits: **A**

Measurement results:

Observation time: **10 min.**

Active input power: **8,5 W** Power-factor: **0,669**

Working conditions:	Wire / line:	Frequency range: [Hz]	Diagram/table	Compliance Pass/ Fail/ N/A
intermittent compression	Mains	50 Hz - 2 kHz	see annex	PASS

Comment:

The controlled active input power is ≤ 100 W.

Valuation of the measurement results:

According to the above test set-up the equipment under test specified in part 3 complies with the harmonic current requirements, in accordance with IEC 61000-3-2:2014.

6.2. Flicker in power supply

Basic standard: IEC 61000-3-3

Test set-up: The tests were performed in accordance to IEC 61000-3-3.

Test Equipment:

Invent No.	Description	Model/Type	Manufacturer	Serial-No.	Calibration	Next Calibration
012/01	Power supply	6560	Chroma	462	2018,04	2019,03
013/00	Artificial mains network	NI 2415	ZES	A9703016	2018,04	2021,03
017/02	7 - channel power meter	LMG670	ZES	1171506	2018,04	2019,03
065/05	Data logger temp./humid.	SP-2000-20R-117	Veriteq	09112044	2017,07	2018,09
PHM 015/11	Software LMG Test Suite	V1.042	ZES	--	--	--

Measurements:

The equipment and the programs worked in a worst case for producing flicker on the main ports. Some special test requirements are described in appendix A.

Frequency range / limits:

Short time flicker P_{st} may be not higher than 1,0

Long time flicker P_{lt} may be not higher than 0,65

relative voltage distortion d_c may be not higher than 3,3 %

the greatest relative voltage distortion d_{max} may be not higher than 4 %

the level $d(t)$ during one change of voltage may be not higher than 3,3 % for not more than 500 ms

Notes:

The requirements for flicker are not applicable, when manual switching is the source of flicker or the voltage dips are less than 1 time per hour.

Limits for special equipments were described in the appendix A.

Measurement results (short time flicker):

working conditions:	wire / line:	Diagram/table	Comments/ observations	Compliance Pass/ Fail/ N/A
intermittent compression	main ports	P_{st} 0,011 P_{lt} 0,010 d_c 0,0% d_{max} 0,0%		PASS

Valuation of the measurement results:

According to the above test set-up the equipment under test specified in part 3 complies with the flicker requirements, in accordance with IEC 61000-3-3:2013.

7. Documents

7.1. Markings on the outside of the equipment

Basic standard: IEC 60601-1-2:2014 Chapter 5.1

Requirement:	Comment:	Compliance Pass/ Fail/ N/A
Marking on outside of ME equipment and ME systems that are specified for use only in a shielded location special environment	equipment is not specified for use only in a shielded location	N/A

The equipment under test specified in part 3 complies with the markings requirements on the outside of the equipment, in accordance with IEC 60601-1-2:2014.

7.2. Accompanying documents

Basic standard: IEC 60601-1-2:2014 Chapter 5.2

Instruction for use:

Requirement:	Comment:	Compliance Pass/ Fail/ N/A
A statement of the environments the ME equipment will be used. Relevant exclusions, as determined by Risk Analysis, shall also be listed.	See IFU chapter Zweckbestimmung	PASS
The essential performance of ME equipment and a description of what the operator can expect if the Essential Performance is lost or degraded due to EM disturbances.	See chapter chapter Kurzbeschreibung	PASS
A warning regarding stacking and location close to other equipment	See TD R0 EMV Tabelle PRO2-1	PASS
List of cables, transducers and accessories	See IFU chapter Erlaubtes Zubehör	PASS
A warning that other cables and accessories may negatively affect EMC performance	See TD R0 EMV Tabelle PRO2-1	PASS
A statement that portable RF communications equipment. Including antennas, can effect medical electrical equipment. The warning should include a use distance such as "...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"	See TD R0 EMV Tabelle PRO2-1	PASS
Required statement from standard for Class A equipment	No Class A equipment	N/A

Technical instruction:

Requirement:	Comment:	Compliance Pass/ Fail/ N/A
Describe precautions to be taken to prevent adverse events to the Patient and Operator due to electromagnetic disturbances	See TD R0 EMV Tabelle PRO2-1	PASS
Compliance information for each test	See TD R0 EMV Tabelle PRO2-1	PASS
Statement of any deviations from standards used	No deviations used	N/A
Statements to maintain basic safety and essential performance in regards to EMC	See TD R0 EMV Tabelle PRO2-1	PASS
Requirements for equipment specified for use only in shielded location	equipment not specified for use only in shielded location	N/A
Requirements for equipment that intentionally receives RF electromagnetic energy for the purpose of its operation	equipment does not receive RF energy for the purpose of its operation	N/A
Requirements for equipment that includes RF transmitters	equipment does not include an RF transmitter	N/A
Requirements for permanently installed large equipment	Not permanently connected	N/A
Requirements for equipment that claim compatibility with HF surgical equipment	No compatibility with HF surgical equipment claimed	N/A

The equipment under test specified in part 3 complies with the accompanying document requirements in accordance with IEC 60601-1-2:2014.

Annex List:

Test (description)	Page
Conducted emission (Peak-detector), Line L	33
Conducted emission (Peak-detector), Line N	34
Radiated emission (Peak-detector) Max-Hold-Graph;	35
Low voltage phenomena - harmonic current at Mains	36

CEcert GmbH

EUT:

Serial Number:

Manufacturer:

Operating Condition:

Test Specification:

Comment:

Conducted Emissions

VENENWWALKER PRO 2

--

Zero-Plus International Limited

intermittent compression

Line L1

Scan Settings:

Frequency Range:

0,15 MHz – 30 MHz

Receiver Bandwidth:

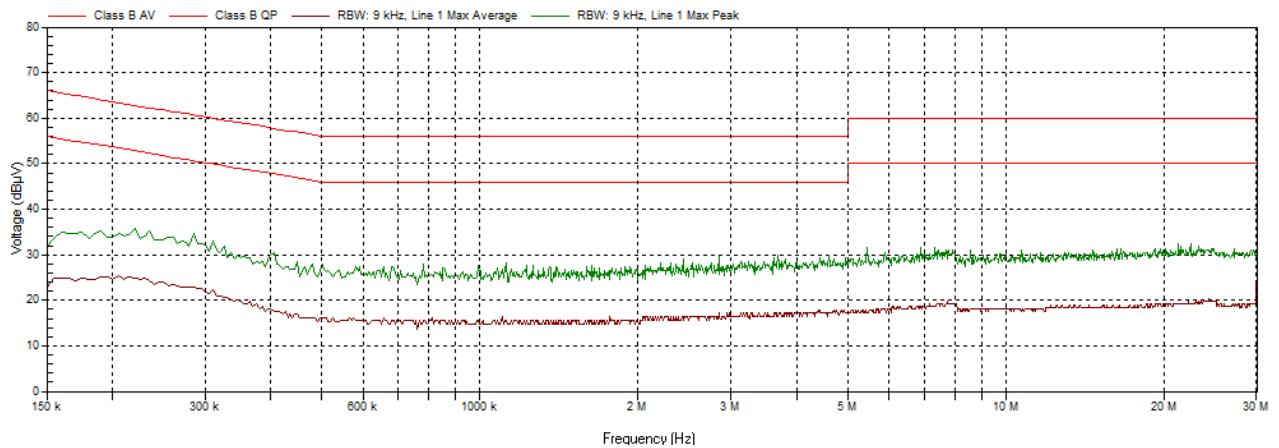
9 kHz

Measure Time:

15 ms (Prescan)

3 s (Final QP)

3 s (Final AV)

Prescan:**Detected Peaks:**

none

CEcert GmbH

EUT:

Serial Number:

Manufacturer:

Operating Condition:

Test Specification:

Comment:

Conducted Emissions

VENENWWALKER PRO 2

--

Zero-Plus International Limited

intermittent compression

Line N

Scan Settings:

Frequency Range:

0,15 MHz – 30 MHz

Receiver Bandwidth:

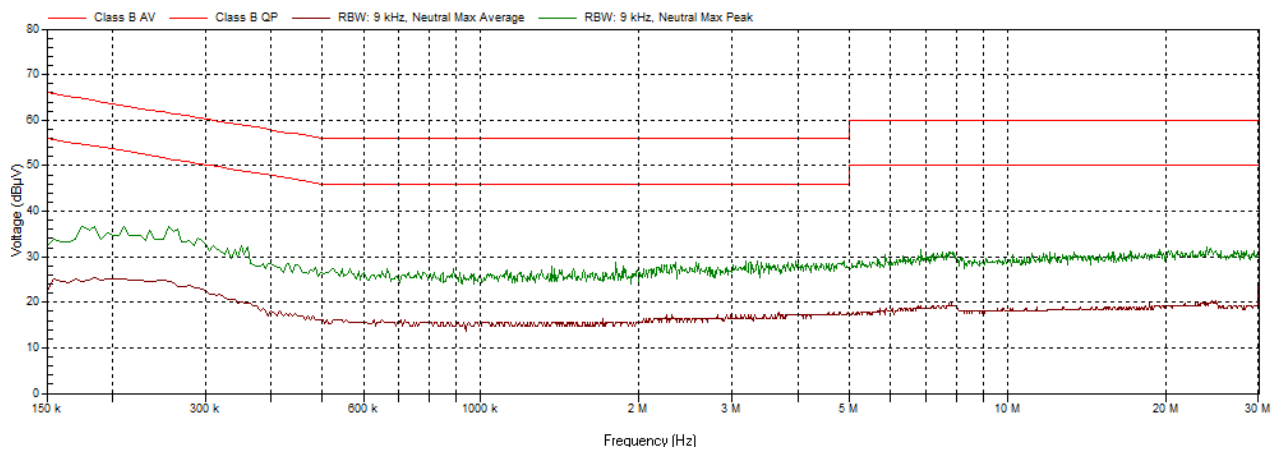
9 kHz

Measure Time:

15 ms (Prescan)

3 s (Final QP)

3 s (Final AV)

Prescan:**Detected Peaks:**

none

CEcert GmbH

EUT:

Serial Number:

Manufacturer:

Operating Condition:

Comment:

Radiated Emissions

VENENWWALKER PRO 2

--

Zero-Plus International Limited

intermittent compression

Scan Settings:

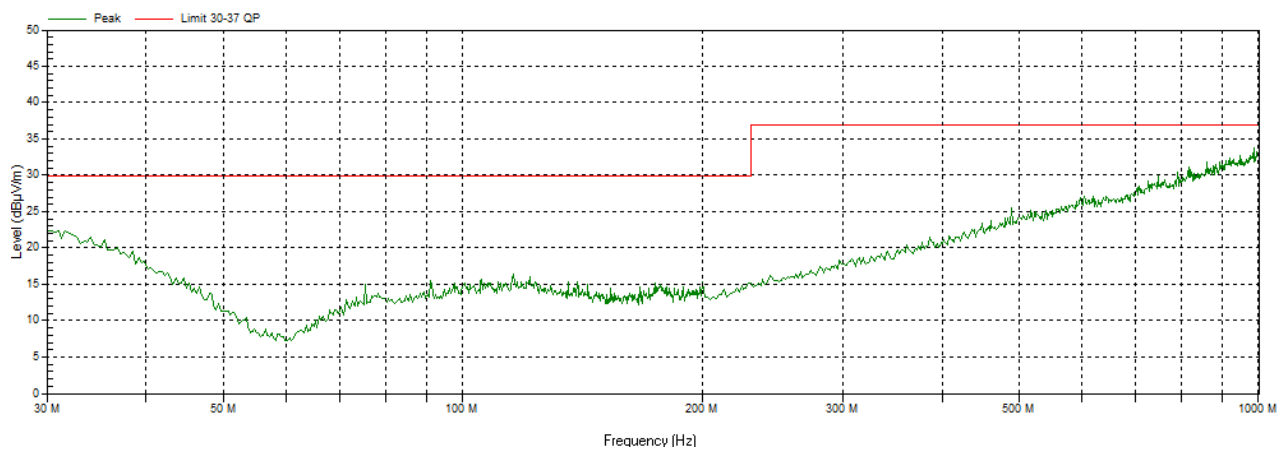
Frequency Range: 30 MHz – 1000 MHz

Receiver Bandwidth: 120 kHz

Measure Time: 15 ms (Prescan), 3 s (Final Measurement)

Measurement Distance: 10 m

Prescan (MAX Hold Graph):



Detected Peaks:

none

Result Overview

Test Name	Test Result	Limit Usage	Info
Supply Voltage Frequency Test (61000-4-7) [L1]	OK		50.00 Hz (50.00 Hz \pm 0.5%)
Supply peak voltage test (61000-4-7) [L1]	OK		
Positive peak test	OK		All positive peak values within the allowed range
Negative peak test	OK		All negative peak values within the allowed range
Supply peak position test (61000-4-7) [L1]	OK		All peak values within the allowed range
Supply Voltage Harmonic Distortion Test (61000-4-7) [L1]	OK		
Voltage Distortion H2	OK	1.6%	0.00% < 0.20%
Voltage Distortion H3	OK	23.5%	0.21% < 0.90%
Voltage Distortion H4	OK	1.4%	0.00% < 0.20%
Voltage Distortion H5	OK	3.9%	0.02% < 0.40%
Voltage Distortion H6	OK	0.8%	0.00% < 0.20%
Voltage Distortion H7	OK	1.4%	0.00% < 0.30%
Voltage Distortion H8	OK	0.9%	0.00% < 0.20%
Voltage Distortion H9	OK	0.8%	0.00% < 0.20%
Voltage Distortion H10	OK	0.6%	0.00% < 0.20%
Voltage Distortion H11	OK	2.5%	0.00% < 0.10%
Voltage Distortion H12	OK	1.3%	0.00% < 0.10%
Voltage Distortion H13	OK	1.5%	0.00% < 0.10%
Voltage Distortion H14	OK	0.7%	0.00% < 0.10%
Voltage Distortion H15	OK	2.7%	0.00% < 0.10%
Voltage Distortion H16	OK	1.3%	0.00% < 0.10%
Voltage Distortion H17	OK	1.1%	0.00% < 0.10%
Voltage Distortion H18	OK	0.6%	0.00% < 0.10%
Voltage Distortion H19	OK	1.6%	0.00% < 0.10%
Voltage Distortion H20	OK	1.3%	0.00% < 0.10%
Voltage Distortion H21	OK	1.0%	0.00% < 0.10%
Voltage Distortion H22	OK	1.1%	0.00% < 0.10%
Voltage Distortion H23	OK	1.2%	0.00% < 0.10%
Voltage Distortion H24	OK	0.7%	0.00% < 0.10%
Voltage Distortion H25	OK	2.1%	0.00% < 0.10%
Voltage Distortion H26	OK	0.4%	0.00% < 0.10%
Voltage Distortion H27	OK	0.4%	0.00% < 0.10%
Voltage Distortion H28	OK	1.4%	0.00% < 0.10%
Voltage Distortion H29	OK	1.2%	0.00% < 0.10%
Voltage Distortion H30	OK	0.8%	0.00% < 0.10%
Voltage Distortion H31	OK	0.6%	0.00% < 0.10%
Voltage Distortion H32	OK	1.0%	0.00% < 0.10%
Voltage Distortion H33	OK	0.5%	0.00% < 0.10%
Voltage Distortion H34	OK	0.5%	0.00% < 0.10%
Voltage Distortion H35	OK	1.6%	0.00% < 0.10%
Voltage Distortion H36	OK	2.2%	0.00% < 0.10%
Voltage Distortion H37	OK	1.5%	0.00% < 0.10%
Voltage Distortion H38	OK	1.0%	0.00% < 0.10%
Voltage Distortion H39	OK	1.5%	0.00% < 0.10%
Voltage Distortion H40	OK	0.8%	0.00% < 0.10%
Frequency groups up to 9kHz (61000-4-7) [L1]	OK		
Table 1 Harmonic Current Test (61000-3-2) [L1]	OK		
Harmonic Current Test	OK		

100%		
100% Test H2	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H3	OK	No test required ($0.003 A \leq 0.005 A$)
100% Test H4	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H5	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H6	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H7	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H8	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H9	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H10	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H11	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H12	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H13	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H14	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H15	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H16	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H17	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H18	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H19	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H20	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H21	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H22	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H23	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H24	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H25	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H26	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H27	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H28	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H29	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H30	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H31	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H32	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H33	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H34	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H35	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H36	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H37	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H38	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H39	OK	No test required ($0.000 A \leq 0.005 A$)
100% Test H40	OK	No test required ($0.000 A \leq 0.005 A$)
Harmonic Current Test	OK	
150%		
150% Test H2	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H3	OK	No test required ($0.003 A \leq 0.005 A$)
150% Test H4	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H5	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H6	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H7	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H8	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H9	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H10	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H11	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H12	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H13	OK	No test required ($0.000 A \leq 0.005 A$)
150% Test H14	OK	No test required ($0.000 A \leq 0.005 A$)

150% Test H15	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H16	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H17	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H18	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H19	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H20	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H21	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H22	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H23	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H24	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H25	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H26	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H27	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H28	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H29	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H30	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H31	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H32	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H33	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H34	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H35	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H36	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H37	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H38	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H39	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H40	OK	No test required (0.000 A ≤ 0.005 A)
Harmonic Current Test 200%	OK	
200% Test H2	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H3	OK	No test required (0.003 A ≤ 0.005 A)
200% Test H4	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H5	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H6	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H7	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H8	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H9	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H10	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H11	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H12	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H13	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H14	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H15	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H16	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H17	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H18	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H19	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H20	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H21	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H22	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H23	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H24	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H25	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H26	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H27	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H28	OK	No test required (0.000 A ≤ 0.005 A)

Test Report: 418197_1A EMC 601-1-2_4TH GLOBALMIND VWPRO2

200% Test H29	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H30	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H31	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H32	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H33	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H34	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H35	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H36	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H37	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H38	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H39	OK	No test required (0.000 A ≤ 0.005 A)
200% Test H40	OK	No test required (0.000 A ≤ 0.005 A)
POHC Test	OK	POHC Limit met (0.000 A ≤ 0.251 A)
100% Test H2	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H3	OK	No test required (0.003 A ≤ 0.005 A)
100% Test H4	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H5	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H6	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H7	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H8	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H9	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H10	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H11	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H12	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H13	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H14	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H15	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H16	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H17	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H18	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H19	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H20	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H21	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H22	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H23	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H24	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H25	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H26	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H27	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H28	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H29	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H30	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H31	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H32	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H33	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H34	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H35	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H36	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H37	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H38	OK	No test required (0.000 A ≤ 0.005 A)
150% Test H39	OK	No test required (0.000 A ≤ 0.005 A)
100% Test H40	OK	No test required (0.000 A ≤ 0.005 A)