

# REPORT No 11682

*Date of issue: May 22, 2026*

*Status: FINAL REPORT*

\*\*\*\*\*

## IEC 60068-2-6

### ENVIRONMENTAL TESTING

### TEST Fc: VIBRATION SINUSOIDAL

### Program: SQO-EV6 (Round 9)

\*\*\*\*\*

This document is issued by the Company subject to its Terms and Conditions, available on request or accessible at <https://www.ptsouthquality.com/terms-and-conditions>. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Copyright © 2026 South Quality, Buenos Aires, ARGENTINA



<b>Prepared by:</b>	<b>Reviewed by:</b>	<b>Approved by:</b>
<b>Berenice Ferrel</b> Assistant Technician	<b>Lic. Esther Casas</b> Physics expert	<b>Eng. Emiliano Medina</b> Quality Assurance Lead

# TABLE OF CONTENTS

<b>1.</b>	<b>FOREWORD</b>	<b>3</b>
<b>2.</b>	<b>ORGANIZATION</b>	<b>3</b>
<b>3.</b>	<b>OBJECTIVE</b>	<b>3</b>
<b>4.</b>	<b>PARTICIPANTS</b>	<b>4</b>
<b>5.</b>	<b>HOMOGENEITY</b>	<b>5</b>
<b>6.</b>	<b>SAMPLE INFORMATION</b>	<b>6</b>
<b>7.</b>	<b>IMAGES</b>	<b>6</b>
<b>8.</b>	<b>ASSIGNED RESULTS</b>	<b>7</b>
<b>9.</b>	<b>STATISTICS</b>	<b>7</b>
<b>10.</b>	<b>PARTICIPANTS' RESULTS</b>	<b>8</b>
<b>11.</b>	<b>EVALUATION OF PERFORMANCE</b>	<b>9</b>
<b>12.</b>	<b>CONCLUSIONS</b>	<b>10</b>
 <b>APPENDIX A</b>		
	<b>A1 - PARTICIPANT DATA</b>	<b>11</b>
	<b>A2 - INSTRUCTIONS</b>	<b>11</b>
	<b>A3 - PARTICIPANT RESULTS (#TYPEAPPR-1130453596-5235)</b>	<b>15</b>
	 <b>APPENDIX B</b>	 <b>21</b>

## 1. FOREWORD

This report summarizes the results of the **SQO-EV6 (Round 9)** proficiency testing program on the adequacy of specimens to resist specified severities of sinusoidal vibration. This program is carried out under a simultaneous participation format, as described in clause A.2.2 of ISO/IEC 17043: 2023 (Types of PT schemes).

**South Quality** conducted the testing program in March/April 2026 with the aim of assessing the laboratory's ability to competently perform the designated tests.

## 2. ORGANIZATION

Program Coordinator: Lic. Esther Casas  
 Assistant Technician: Berenice Ferrel  
 Statistics: Lic. Manuel Tozaki  
 Supervision: Eng. Emiliano Medina

## 3. OBJECTIVE

The objective of this proficiency testing program is to visually and functionally inspect the equipment under test, using the following standard:

Standard
IEC 60068-2-6: 2007

To verify this, electronic equipment has been selected.

Participants in this program have not been previously informed about the expected behavior of the samples they receive.

As part of the usual practice of this program, three different sample combinations may be sent to participants.

- i. Sample A (PASS) + Sample B (PASS).
- ii. Sample A (PASS) + Sample B (FAIL).
- iii. Sample A (FAIL) + Sample B (FAIL).

#### 4. PARTICIPANTS

In the present round, 23 laboratories have participated with the following details:

CODE	Country	ISO 17025 accredited	Results delivered
01	Australia	Yes	Yes
02	Malaysia	Yes	Yes
03	Netherlands	Yes	Yes
04	France	Yes	Yes
05	Portugal	Yes	No
06	Argentina	No	Yes
07	France	Yes	Yes
08	Spain	Yes	Yes
09	Peru	No	No
10	Bangladesh	Yes	Yes
11	Chile	Yes	Yes
12	Germany	Yes	Yes
13	Spain	Yes	No
14	South Africa	No	Yes
15	Türkiye	Yes	Yes
16	Germany	Yes	Yes
17	Thailand	Yes	Yes
18	Belgium	Yes	Yes
19	Italy	Yes	Yes
20	China	Yes	No
21	Brazil	No	Yes
22	Mexico	Yes	Yes
23	Finland	Yes	Yes

## 5. HOMOGENEITY

A homogeneity study was conducted to verify the compliance of the samples with the requirements of the IEC 60068-2-6 standard, using an ISO 17025-accredited laboratory.

Six batches, each consisting of 35 units of different electronic equipment, were prepared and tested to assess the result homogeneity.

The control process followed ISO 33405: 2024, clauses 7.4.1.1 / 7.4.1.2. Stratified random sampling was applied, and the samples were selected using random-number-generation software.

The results of this test are presented below:

Size of each batch: **35 units**  
 Tested samples from each batch: **8 units**  
 Test conditions: **10-500Hz, 10m/s<sup>2</sup>, 1 oct/min, 3 axes, 15 min/axis**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE SAMPLES ANALYZED		
	BATCH: LEV3018	BATCH: LEV3019	BATCH: LEV3020
Visual inspection	YES	YES	YES
Functional performance	NO	YES	YES

Size of each batch: **35 units**  
 Tested samples from each batch: **8 units**  
 Test conditions: **10-500Hz, 10m/s<sup>2</sup>, 1 oct/min, 3 axes, 15 min/axis**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE SAMPLES ANALYZED		
	BATCH: LEV3468	BATCH: LEV3469	BATCH: LEV3470
Visual inspection	YES	YES	YES
Functional performance	YES	NO	YES

Samples for this program are taken from the selected batches identified as **LEV3020**, and **LEV3468**.

The analysis of the test data indicated that the selected samples exhibited sufficient homogeneity for the program. Therefore, the results of participants identified as outliers cannot be attributed to sample variability.

## 6. SAMPLE INFORMATION

The following samples were sent for testing (Participant **Code 23**):

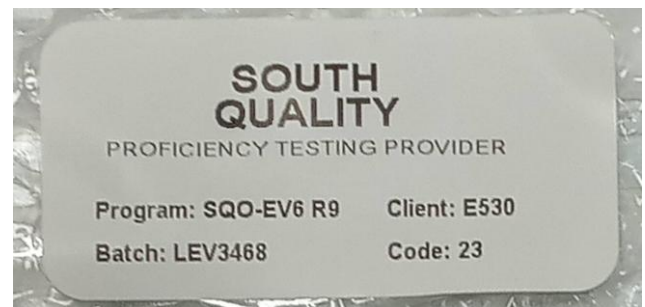
Batch:	LEV3020
Sample ID:	23
Characteristics:	Switching power supply In: 110/220V; 50/60Hz; Class 1 - Out: 12Vcc; 5A; 60W Trademark: SIMALED Model: 12V-5A(S)-60W

Batch:	LEV3468
Sample ID:	23
Characteristics:	ATX power supply 220V - 50Hz - 600W Trademark: ACONCAWA Model: ATX 600 X 24 P 2S

## 7. IMAGES



## SAMPLES



## 8. ASSIGNED RESULTS

The assigned results are obtained from the results reported by all participants (**Consensus values**).

## 9. STATISTICS

The results must be treated as qualitative.

For qualitative results, the comparison will be made directly against the assigned results, so any difference will be evaluated as **Unsatisfactory**.

The assessment involves assigning a compliance verdict (PASS or FAIL) to each verification parameter (Visual and functional performance) carried out by each participant.

## 10. PARTICIPANTS' RESULTS

LABORATORY CODE	LEV3020		LEV3468	
	Visual inspection	Functional performance	Visual inspection	Functional performance
01	PASS	PASS	PASS	PASS
02	PASS	PASS	PASS	FAIL
03	PASS	PASS	PASS	PASS
04	PASS	PASS	PASS	PASS
06	PASS	PASS	PASS	FAIL
07	PASS	PASS	PASS	PASS
08	PASS	PASS	PASS	PASS
10	PASS	PASS	PASS	PASS
11	PASS	PASS	PASS	FAIL
12	PASS	PASS	PASS	PASS
14	PASS	PASS	PASS	FAIL
15	PASS	PASS	PASS	PASS
16	PASS	PASS	PASS	PASS
17	PASS	PASS	PASS	PASS
18	PASS	PASS	PASS	PASS
19	PASS	PASS	PASS	PASS
21	PASS	PASS	PASS	PASS
22	PASS	PASS	PASS	PASS
23	PASS	PASS	PASS	PASS

ASSIGNED RESULTS			
LEV3020		LEV3468	
Visual inspection	Functional performance	Visual inspection	Functional performance
PASS	PASS	PASS	PASS

## 11. EVALUATION OF PERFORMANCE

Laboratory Code 01: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 02: The laboratory obtained **UNSATISFACTORY** result in the functional performance verification of sample **LEV3468**. However, **SATISFACTORY** results were obtained for the remaining parameters.

Laboratory Code 03: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 04: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 05: The laboratory did not send the results before the deadline.

Laboratory Code 06: The laboratory obtained **UNSATISFACTORY** result in the functional performance verification of sample **LEV3468**. However, **SATISFACTORY** results were obtained for the remaining parameters.

Laboratory Code 07: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 08: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 09: The laboratory did not send the results before the deadline.

Laboratory Code 10: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 11: The laboratory obtained **UNSATISFACTORY** result in the functional performance verification of sample **LEV3468**. However, **SATISFACTORY** results were obtained for the remaining parameters.

Laboratory Code 12: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 13: The laboratory did not send the results before the deadline.

Laboratory Code 14: The laboratory obtained **UNSATISFACTORY** result in the functional performance verification of sample **LEV3468**. However, **SATISFACTORY** results were obtained for the remaining parameters.

Laboratory Code 15: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 16: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 17: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 18: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 19: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 20: The laboratory did not send the results before the deadline.

Laboratory Code 21: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 22: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

Laboratory Code 23: The laboratory obtained **SATISFACTORY** results in the verification of all parameters.

## 12. CONCLUSIONS

The overall performance in the **SQO-EV6 (Round 9)** program, based on expected results from the participating laboratories, was as follows:

- Participants Codes **01, 03, 04, 07, 08, 10, 12, 15, 16, 17, 18, 19, 21, 22**, and **23** have obtained **SUFFICIENT** performance according to the expected results, and no action is required;
- Participants Codes **02, 06, 11**, and **14** have obtained **INSUFFICIENT** performance in comparison with the expected results and must take corrective action for the tests in which their results differ from the expected values (see Appendix B).

The criteria used for the evaluation of the overall performance are the following:

- **SUFFICIENT** performance: No unsatisfactory results were obtained.
- **INSUFFICIENT** performance: An unsatisfactory result was obtained.

# APPENDIX A

## A1 - PARTICIPANT DATA

Company: **Nokia Solutions and Networks**


Laboratory: **Type Approval, ENV**

Country: Finland

Client ID: E530

Contact person: Mikko Yppärilä - Technical Leader  
 ( [mikko.ypparila@nokia.com](mailto:mikko.ypparila@nokia.com) )

## A2 - INSTRUCTIONS


**SOUTH  
QUALITY**  
 PROFICIENCY TESTING PROVIDER

# INSTRUCTIONS

<b>PROGRAM:</b>	Environmental testing Test Fc: Vibracion sinusoidal
<b>CODE:</b>	SQO-EV6
<b>ROUND:</b>	9
<b>STANDARD:</b>	IEC 60068-2-6
<b>COORDINATOR:</b>	Lic. Esther Casas ( <a href="mailto:ecosas@ptsouthquality.com">ecosas@ptsouthquality.com</a> )

DSQ-012    - REV 06 -    SQO-EV6 R9    February 2026    1 de 4

### 1 - General

This document serves as a guide for managing the results of the **SQO-EV6 (Round 9)** program.

### 2 - Standard

**IEC 60068-2-6: 2007**

### 3 - Participant

NOKIA SOLUTIONS AND NETWORKS Type Approval, ENV	CODE 23
--	---------

### 4 - Tests involved

TEST
Verification of the adequacy of specimens to resist specified severities of sinusoidal vibration

### 5 - Samples

CODE	SAMPLE	QUANTITY
LEV3020-23	Switching power supply In: 110/220V; 50/60Hz; Class 1 - Out: 12Vcc; 5A; 60W Trademark: SIMALED Model: 12V-5A(S)-60W	1
LEV3468-23	ATX power supply 220 V - 50Hz - 600W Trademark: ACONCAWA Model: ATX 600 X 24 P 2S	1

### 6 - Notes

- a) The deadline for the delivery of results is **April 20, 2026**.
- b) Participants must submit the results using the usual report employed by their laboratory.
- c) The samples are to be handled as routine lab samples, with all testing, documentation, and reporting adhering to **IEC 60068-2-6**.
- d) Samples must be retained until the end of the program, which concludes with the submission of the final report.
- e) To review the results, the submission of images of the tests is appreciated. These images can be attached at the end of this document or sent via email.

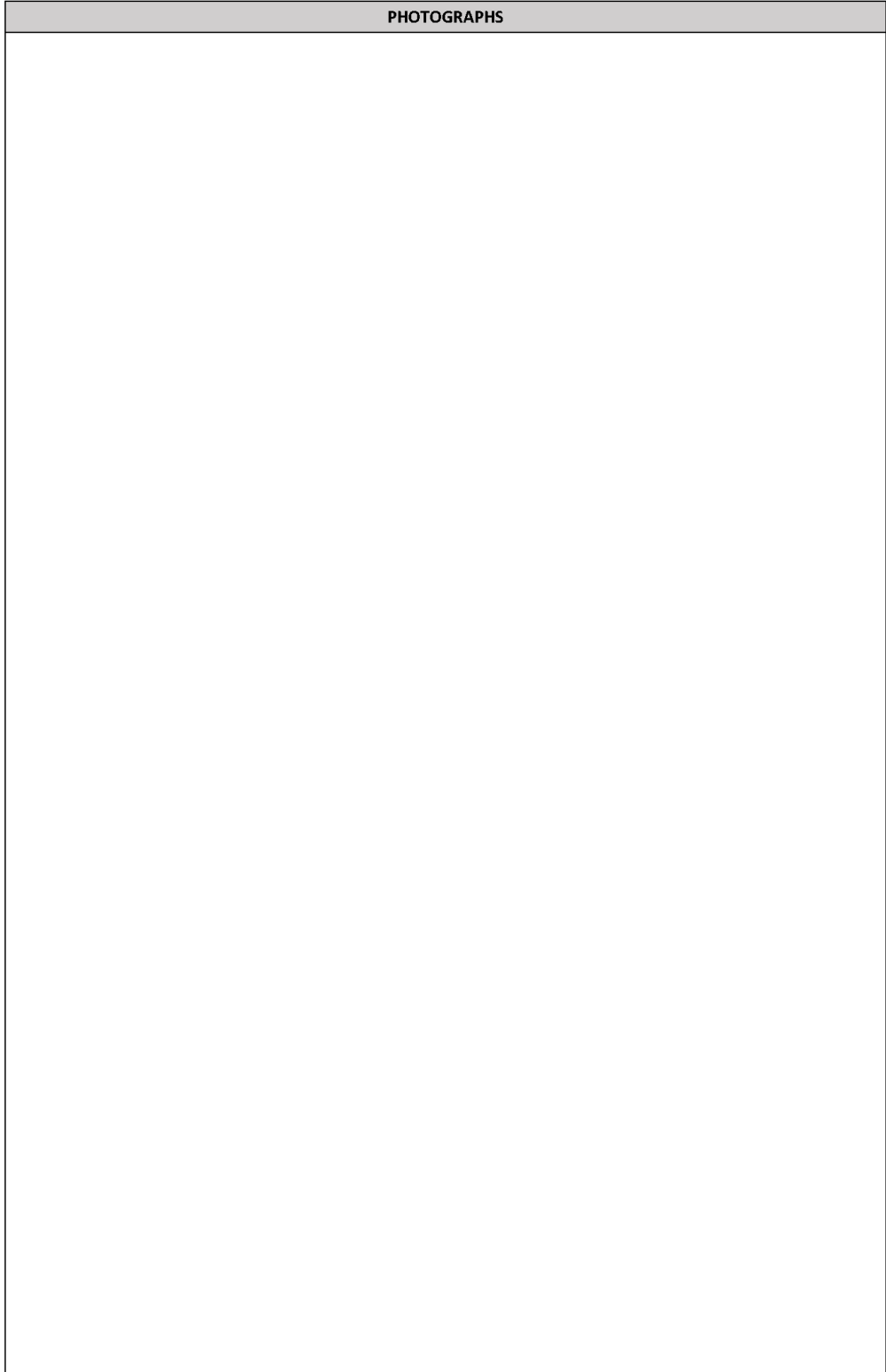
### 7 - Test conditions

CODE	CONDITION	TEST SEVERITIES
LEV3020-23	Powered-off	10-500 Hz, 10 m/s <sup>2</sup> , 1 oct/min round-trip, 3 axes, 15 min/axis effective (single-point control at fixing point, rigid horizontal mounting)
LEV3468-23	Powered-off	10-500 Hz, 10 m/s <sup>2</sup> , 1 oct/min round-trip, 3 axes, 15 min/axis effective (single-point control at fixing point, rigid horizontal mounting)

### 8 - Parameters to determine

CODE	PARAMETERS (BEFORE VIBRATION)	RECOVERY / STABILIZATION PHASE (AFTER VIBRATION)	PARAMETERS (AFTER RECOVERY)
LEV3020-23	- Visual inspection - Voltage measurement (After 15 minutes powered-on - No load)	2 hours at maximum load - Input: 220 V - 50 Hz - Output: +12 V at 5 A (resistive load)	- Visual Inspection - Voltage measurement (after recovery load)
LEV3468-23	- Visual inspection - Voltage measurement (After 15 minutes powered-on - No load)	2 hours at maximum load - Input: 220 V - 50 Hz - Output: +12 V at 11 A (resistive load)	- Visual Inspection - Voltage measurement (after recovery load)

**PHOTOGRAPHS**



## A3 - PARTICIPANT RESULTS (TEST REPORT #TYPEAPPR-1130453596-5235)



**Nokia Solutions and Networks Oy**  
Testing Laboratory A1300  
Ritaharjuntie 3  
90590 Oulu  
Finland



### Environment Test Report

Requirements: IEC 60068-2-6  
Environmental testing Test Fc: Vibration sinusoidal

**Client**

**Nokia Solutions and Networks Oy**  
Ritaharjuntie 3  
90590 Oulu  
Finland

**Product Evaluated**

**SIMALED and ACONCAWA**  
12V Power supply

**Report Number**

**[TYPEAPPR-1130453596-5235](#)**

TYPEAPPR-1130453596-5204

CONFIDENTIAL

Page 1 of 18

Report Number  
Table of Contents

1	SYSTEM INFORMATION AND REQUIREMENTS	4
1.1	INTRODUCTION	5
1.2	PURPOSE AND SCOPE	5
1.3	TEST STANDARDS AND MEASUREMENT PROCEDURES	5
1.3.1	Test Standards	5
1.3.2	Measurement Procedures	5
2	PRODUCT DESCRIPTION INFORMATION	6
2.1	PHOTOS OF EUTS ON THE VIBRATION TABLE	6
2.2	TEST ENVIRONMENT	7
2.3	SYSTEM ACCEPTANCE	7
2.4	TEST ANOMALIES	7
2.5	EXECUTIVE SUMMARY	7
3	TEST PROCEDURE	8
3.1	TYPE OF TEST	8
3.2	INITIAL MEASUREMENTS	8
3.3	DETAILS OF MOUNTING AND SUPPORTS	8
3.4	VISUAL INSPECTION BEFORE TESTS	9
3.5	SINUSOIDAL VIBRATION 10-500 HZ, 10 M/S <sup>2</sup> , 1 OCT/MIN ROUND-TRIP, 3 AXES, 15 MIN/AXIS EFFECTIVE	11
3.6	RECOVERY	14
3.7	FINAL MEASUREMENTS	15
4	VISUAL INSPECTION AND VOLTAGE MEASUREMENT AFTER RECOVERY	15
5	TEST EQUIPMENT	18

Revisions

Date	Revision	Change
7/0/04/7/076	0	Initial Release

Prepared by	Approved by	Dated
Juha Vuorma, Wille Hyryläinen Tester	Veli-Matti Moilanen Team Manager	20.04.2026

1 System Information and Requirements

Equipment Under Test (EUT)	SIMALED and ACONCAWA power supply
Serial Number(s)	LEV2020-23, LEV3468-23
Manufacturer	SIMALED, ACONCAWA
Test Requirement(s)	IEC 60068-2-6
Test Standard(s)	IEC 60068-2-6
Measurement Procedure (s)	Refer to Section 5 Test FC Vibration sinusoidal
Test Date(s)	April 17 – 18 2026
Test Performed By:	Nokia Solutions and Networks Oy Testing Laboratory A1300 Ritaharjunlie 3 90590 Oulu Finland +358 400 290964
Test Engineer(s)	Juha Vuorma, Wille Hyryläinen

Test Results: The EUT, as tested, met the above-listed Test Requirements. The decision rule employed is binary (Pass/Fail) based on the measured values without accounting for Measurement Uncertainty or any Guard Band. The measured values obtained during testing were compared to a value given in the referenced regulation or normative standard. Report copies and other information not contained in this report are held by either the product engineer or in an identified file at the Nokia Testing Laboratory A1300, Oulu, Finland

1.1 Introduction

The product tested in this report is the SIMALED 12V Power supply herein referred to as the EUT (Equipment Under Test). Testing was conducted in accordance with IEC 60068-2-14 Section 7 Test Na: Rapid change of temperature with prescribed time of transfer with test procedures in accordance with those outlined in the Measurement Procedures section preceding this paragraph.

1.2 Purpose And Scope

The purpose of this document is to provide Test Fc: Verification of the adequacy of specimens to resist specified severities of sinusoidal vibration

Testing covered:

Section/Test	Criteria
Test Fc: Vibration sinusoidal	IEC 60068-2-6

This document contains the following information:

- Description of the Equipment under Test (or apparatus) to which it refers.
- References to the test specifications.
- Description of the test facilities and test environment.

1.3 Test Standards and Measurement Procedures

1.3.1 Test Standards

A list of the applicable documents is provided here in:  
IEC 60068-2-6

1.3.2 Measurement Procedures

Section/Test	Test Procedure
Test Fc:	IEC 60068-2-6

## 2 Product Description Information

LEV3020-23  
Switching power supply in: 110/220V, 50/60Hz; Class 1 - Out: 12Vdc; 5A; 60W  
Trademark: SINA-LED, Model: 12V-5AS-60W

LEV3468-23:  
ATX power supply 220 V - 50Hz - 600W  
Trademark: ACCONCAWA, Model: STX 600 X 24 > 25

### 2.1 Photos of EUTs on the vibration table

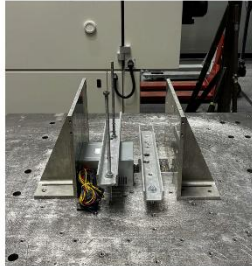


Figure 1 LEV3020-23 and LEV3468-23 on the vibration table

## 2.2 Test Environment

The EUT has been tested to the requirements for IEC 60068-2-6

### 2.3 System Acceptance

**Functional Damage Description:** EUT functionality has been tested before and after vibration and no significant differences were observed in functionality.

**Physical Damage:** No change in the condition or appearance of a product was observed.

### 2.4 Test Anomalies

All test anomalies are reported in the comments section of each specific requirement.

### 2.5 Executive Summary

7 Test Na: Rapid change of temperature with prescribed time of transfer			
	RESULTS	NOTES	PAGE
Evaluation of the suitability of mechanical components, and of materials and combinations of materials to withstand sinusoidal vibration test	CONFORMS	Sinusoidal vibration did not cause any material or functional changes.	10, 11

#### Results Guide:

**CONFORMS** – Passed all applicable tests  
**DOES NOT CONFORM** – Did not pass any of the applicable tests.  
**PARTIALLY CONFORMS** – Passed some of the applicable tests.  
**N/A** – Not Applicable  
**NT** – Not Tested

## 3 Test Procedure

### 3.1 Type of test

Verification of the adequacy of specimens to resist specified severities of sinusoidal vibration

### 3.2 Initial measurements

CODE	PARAMETERS (BEFORE VIBRATION)	RECOVERY / STABILIZATION PHASE (AFTER VIBRATION)	PARAMETERS (AFTER RECOVERY)
LEV3020-23	- Visual inspection - Voltage measurement After 15 minutes power-on - No load	2 hours at maximum load - Input: 220 V - 50 Hz - Output: +12 V at 5 A (resistive load)	- Visual Inspection - Voltage measurement (after recovery load)
LEV3468-23	- Visual inspection - Voltage measurement After 15 minutes power-on - No load	> 7 hours at maximum load - Input: 220 V - 50 Hz - Output: +12 V at 11 A (resistive load)	- Visual Inspection - Voltage measurement (after recovery load)

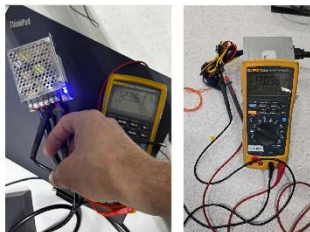


Figure 2-3 Voltage measurements before vibration test (12.361V and 12.098V)

### 3.3 Details of mounting and supports

The devices are placed on the vibration table. Aluminum profile has been placed over the device to mount the units on the vibration table. The devices are unpacked and switched off.

### 3.4 Visual inspection before tests

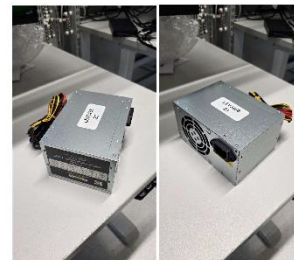


Figure 4 -10 Visual inspection before test



Figure 6

Figure 7

NOKIA

FINAS  
Product Accuracy in Service  
 T221 (EN ISO/IEC 17025)

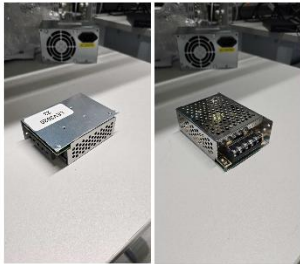


Figure 8

Figure 9



Figure 10

TYPEAPPR-1130453596-5204

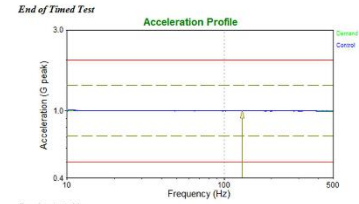
CONFIDENTIAL

Page 10 of 18

NOKIA

FINAS  
Product Accuracy in Service  
 T221 (EN ISO/IEC 17025)

3.5 Sinusoidal vibration 10-500 Hz, 10 m/s<sup>2</sup>, 1 oct/min round-trip, 3 axes, 15 min/axis effective



**Breakpoint table:**

Start Freq.	Amplitude	End Freq.	Amplitude
10 Hz	1 G	500 Hz	1 G

**Sweep rate:**  
Sweep between 10 Hz and 500 Hz at 1 Oct/min

**Test level schedule:**

Duration	Level
1) 0:15:00	100%
2) View Report	

\*\* Test started Apr 17, 2026 08:53:22, running for 0:15:10  
 \*\* Current level: 1, running at 100 %, 0:15:00

**Current Measurements:**

Demand: 1 G at 130.4 Hz	Ch1: 1.001 G
Control: 1.001 G	Ch2: 1.525e-005 G
Control Val: 0.0197 m/s	Ch3: 0 G
Control Disp: 0.0292 mm	Ch4: 1.333e-005 G

Drive voltage: 0.68022 Volts peak  
 System gain: 0.08017 Volts/G

**Accelerometer calibration details:**

Ch1: 101.6 mV/G	(C137983, May 01, 2025)
Ch2: 50.4 mV/G	(S2533, May 01, 2025)

Figure 11 Sine sweep X axis

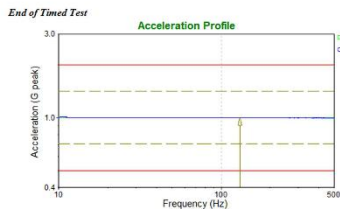
TYPEAPPR-1130453596-5204

CONFIDENTIAL

Page 11 of 18

NOKIA

FINAS  
Product Accuracy in Service  
 T221 (EN ISO/IEC 17025)



**Breakpoint table:**

Start Freq.	Amplitude	End Freq.	Amplitude
10 Hz	1 G	500 Hz	1 G

**Sweep rate:**  
Sweep between 10 Hz and 500 Hz at 1 Oct/min

**Test level schedule:**

Duration	Level
1) 0:15:00	100%
2) View Report	

\*\* Test started Apr 17, 2026 09:18:45, running for 0:15:10  
 \*\* Current level: 1, running at 100 %, 0:15:00

**Current Measurements:**

Demand: 1 G at 130.4 Hz	Ch1: 1 G
Control: 1 G	Ch2: 6.317e-006 G
Control Val: 0.0197 m/s	Ch3: 0 G
Control Disp: 0.02921 mm	Ch4: 1.476e-005 G

Drive voltage: 0.08121 Volts peak  
 System gain: 0.0812 Volts/G

**Accelerometer calibration details:**

Ch1: 101.6 mV/G	(C137983, May 01, 2025)
Ch2: 50.4 mV/G	(S2533, May 01, 2025)

Figure 12 Sine Sweep Y axis

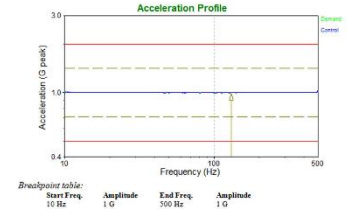
TYPEAPPR-1130453596-5204

CONFIDENTIAL

Page 12 of 18

NOKIA

FINAS  
Product Accuracy in Service  
 T221 (EN ISO/IEC 17025)



**Breakpoint table:**

Start Freq.	Amplitude	End Freq.	Amplitude
10 Hz	1 G	500 Hz	1 G

**Sweep rate:**  
Sweep between 10 Hz and 500 Hz at 1 Oct/min

**Test level schedule:**

Duration	Level
1) 0:15:00	100%
2) View Report	

\*\* Test started Apr 17, 2026 07:51:27, running for 0:15:10  
 \*\* Current level: 1, running at 100 %, 0:15:00

**Current Measurements:**

Demand: 1 G at 130.5 Hz	Ch1: 7.703e-006 G
Control: 0.997 G	Ch2: 0.9997 G
Control Val: 0.0197 m/s	Ch3: 0 G
Control Disp: 0.02915 mm	Ch4: 1.544e-005 G

Drive voltage: 0.09605 Volts peak  
 System gain: 0.09605 Volts/G

**Accelerometer calibration details:**

Ch1: 101.6 mV/G	(C137983, May 01, 2025)
Ch2: 50.4 mV/G	(S2533, May 01, 2025)

Figure 13 Sine Sweep Z axis

TYPEAPPR-1130453596-5204

CONFIDENTIAL

Page 13 of 18

**3.6 Recovery**

**RECOVERY / STABILIZATION PHASE (AFTER VIBRATION)**

2 hours at maximum load  
- Input: 230 V - 50 Hz  
- Output: +12 V at 5 A (resistive load)

2 hours at maximum load  
- Input: 220 V - 50 Hz  
- Output: +12 V at 11 A (resistive load)

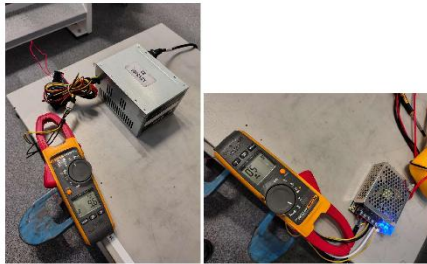


Figure 14-15 Loaded powers after vibration tests

**3.7 Final measurements**

**PARAMETERS (AFTER RECOVERY)**

Visual inspection  
- Voltage measurement (after recovery load)

**4 Visual inspection and voltage measurement after recovery**

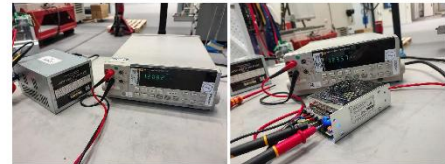


Figure 16-17 Voltage measurement after recovery load (12.052V)

Figure 17 (12.357V)



Figure 18-24 Visual inspection after tests

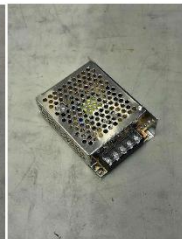


Figure 19



Figure 20

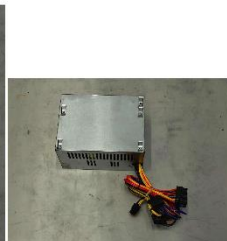


Figure 21



Figure 22



Figure 23



Figure 24



## 5 Test Equipment

Type	Model	Serial	Manufacturer	Calibration date	Calibration due
Air cooled vibrator	LDS V875-640	SP5027-001/1	LDS	5-2025	5-2026
ICP accelerometer	8704B50M1	C137983	Kistler	5-2025	5-2026
ICP accelerometer	353B31	35253	PCB	5-2025	5-2026
Vibration VIEW I/O Unit		951C305E	Vibration Research Corporation	5-2025	5-2026
Power Supply	CW2501P	1203A01443	Elgar	Not calibrated	
Dual Display Multimeter	45	7389019	Fluke	2025-12-05	2026-12-05
<b>Laboratory condition: Temperature 23.88°C / Air humidity 27.40 % RH / Air pressure 1028.05hPa</b>					

# APPENDIX B

**VOID**

**----- END OF REPORT -----**