

REPORT No 12055

Date of issue: August 31, 2026

Status: FINAL REPORT

IEC 60704-2-1

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES DETERMINATION OF AIRBORNE ACOUSTICAL NOISE DRY VACUUM CLEANERS

Program: SQ-7500.V3

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



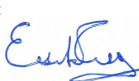
Prepared by:  cn=BERENICE C. FERREL, o=PT SOUTH QUALITY SAS, ou=SOUTH QUALITY, email=tech@ptsouthquality .com, c=AR 2026.08.31 14:44:39 -03'00'	Reviewed by:  cn=ESTHER CASAS, o=PT SOUTH QUALITY SAS, ou=SOUTH QUALITY, email=ecasas@ptsouthqual ity.com, c=AR 2026.09.01 10:01:41 -03'00'	Approved by:  cn=Emiliano Medina, o=SOUTH QUALITY, ou=PT SOUTH QUALITY SAS, email=quality@ptsouthqual ity.com, c=ES 2026.09.01 16:26:42 -03'00'
Berenice Ferrel Assistant Technician	Lic. Esther Casas Physics expert	Eng. Emiliano Medina Quality Assurance Lead

TABLE OF CONTENTS

1. FOREWORD	3
2. ORGANIZATION	3
3. OBJECTIVE	3
4. PARTICIPANT	3
5. HOMOGENEITY	4
6. SAMPLE INFORMATION	4
7. IMAGES	5
8. ASSIGNED VALUES	5
9. PARTICIPANT RESULTS	6
10. STATISTICS	6
11. EVALUATION OF PERFORMANCE	6
12. CONCLUSIONS	7
 APPENDICES	
APPENDIX A - INSTRUCTIONS	8
APPENDIX B - PARTICIPANT RESULTS (TEST REPORT)	11

1. FOREWORD

This report summarizes the results of the **SQ-7500.V3** proficiency testing program on the determination of airborne acoustical noise of mains operated and cordless dry vacuum cleaners. This program is conducted in a bilateral format, following the “split-sample” design described in clause A.4.2 of ISO/IEC 17043: 2023 (Alternative interlaboratory comparisons).

South Quality conducted the testing program in August 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 determine the airborne acoustical noise of main operated and cordless dry vacuum cleaners using the following standard:

Standard
IEC 60704-2-1: 2020

To verify this, batches of cordless handheld vacuum cleaner samples have been selected.

Participants in this program have not been previously informed about the expected values or value ranges of the samples they receive.

4. PARTICIPANT

Company: **INTERTEK TESTING A.S.**
Laboratory: **ELECTRICAL LABORATORY**
Country: Türkiye
Client ID: E487
Contact person: Çiğdem Özkaya Çalışkan
Quality Supervisor
cigdem.caliskan@intertek.com

5. HOMOGENEITY

Several batches were prepared identically by the staff at South Quality.

Subsequently, a homogeneity study was conducted with an ISO 17025 accredited laboratory.

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

The results of this test are presented below:

Size of each batch: **25 units**

Tested samples from each batch: **5 units**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LAU4319	BATCH: LAU4320	BATCH: LAU4321
LwA	YES	NO	YES

Samples for this program are taken from the selected batch identified as **LAU4321**.

For the indicated batch, the values determined in the homogeneity study are utilized as the assigned values.

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 sample was sent for testing:

Batch:	LAU4321
Sample ID:	08
Characteristics:	Cordless handheld vacuum cleaner - 120W Trademark: ALPINE HOME Model: MA5030N

7. IMAGES



8. ASSIGNED VALUES

BATCH	LEVEL SETTING	LwA (dBA)	
		AVG	SD
LAU4321	1	78.5	0.15
	2	80.9	0.09

9. PARTICIPANT RESULTS (SEE APPENDIX B)

CODE	LEVEL SETTING	LwA (dBA) (AVG)
LAU4321-08	1	78.3
	2	80.8

10. STATISTICS

The results must be treated as quantitative.

According to B.4.1.3 of ISO 17043 the appropriate technique is to compare participant results with the assigned values. The results can be compared using **z score**.

$$z = \frac{x - X}{\hat{\sigma}}$$

x is the participant's result

X is the assigned value

$\hat{\sigma}$ is the standard deviation

The performance evaluation of each sample is carried out with the following criteria:

$|z| \leq 2.0$ indicates “satisfactory” performance and generates no signal;

$2.0 < |z| < 3.0$ indicates “questionable” performance and generates a warning signal;

$|z| \geq 3.0$ indicates “unsatisfactory” performance and generates an action signal;

11. EVALUATION OF PERFORMANCE

BATCH	LEVEL SETTING	LwA (dBA) (AVG)		z score	PERFORMANCE RESULT
		PARTICIPANT RESULT	ASSIGNED VALUE		
LAU4321	1	78.3	78.5	1.3	SATISFACTORY
	2	80.8	80.9	1.1	SATISFACTORY

12. CONCLUSIONS

The overall performance of this **SQ-7500.V3** program from the participant laboratory **INTERTEK TESTING A.S. - ELECTRICAL LABORATORY** is **SUFFICIENT** based on expected results.

The criteria used for evaluating the overall performance are as follows:

- **SUFFICIENT** performance: No unsatisfactory/questionable results were obtained.
- **ALMOST SUFFICIENT** performance: No unsatisfactory results were obtained, but one questionable result was found.
- **INSUFFICIENT** performance: An unsatisfactory result or two questionable results were obtained.

APPENDIX A

INSTRUCTIONS



INSTRUCTIONS

PROGRAM:	Household and similar electrical appliances Determination of airborne acoustical noise Dry vacuum cleaners
CODE:	SQ-7500
VERSION:	3
STANDARD:	IEC 60704-2-1
COORDINATOR:	Lic. Esther Casas (ecasas@ptsouthquality.com)

1 - General

This document serves as a guide for managing the results of the **SQ-7500.V3** program.

2 - Standard

IEC 60704-2-1: 2020

3 - Tests involved

TEST
Determination of airborne acoustical noise of mains operated and cordless dry vacuum cleaners (LwA)

4 - Samples

CODE	SAMPLE	QUANTITY
LAU4321	Cordless handheld vacuum cleaner - 120W Trademark: ALPINE HOME Model: MA5030N	1

5 - Notes

- Being a bilateral program, there is no deadline for submitting results.
- The participant must submit the results using the usual report employed by their laboratory.
- The samples are to be handled as routine lab samples, with all testing, documentation, and reporting adhering to **IEC 60704-2-1**.
- Samples must be retained until the end of the program, which concludes with the submission of the final report.
- To review the results, test images would be appreciated. Images can be attached at the end of this document or sent by email.

PHOTOGRAPHS

DSQ-012 - REV 06 -

SQ-7500.V3

3 de 3

APPENDIX B

PARTICIPANT RESULTS (TEST REPORT)

Form LPT-EM-EA-TROP-07n/Rev. A/15.05.2026



Page 1 of 9

Report No.202XXXXXX15T

DENEY RAPORU / TEST REPORT

BAŞVURU FIRMANIN ADI / APPLICANT NAME
XXXXXXXXXXXXXXXXXX

BAŞVURU FIRMANIN ADRESİ / APPLICANT ADDRESS
XXXXXXXXXXXXXXXXXX

PROJE NUMARASI / PROJECT NUMBER
IST2XQ.0XXX.XX

HİZMET KAPSAMI / SCOPE OF SERVICE
Noise measurements at vacuum cleaner according to IEC/EN
60704-1 and IEC/EN 60704-2-1 and ISO 3744

RAPOR NUMARASI / REPORT NUMBER
SQ-7500.V3

YAYINLANMA TARİHİ / ISSUE DATE
07.08.2026

TOPLAM SAYFA NUMARASI / TOTAL NUMBER OF PAGES
9

Deney ve/veya ölçüm sonuçları, genişletilmiş ölçüm belirsizlikleri (olması halinde) ve deney metodları bu sertifikanın tamamlayıcı kısmı olan takip eden sayfalarda belirtilmiştir.
The test and/or measurement results, the uncertainties (if applicable) with confidence probability and test methods are given on the following pages which are part of this report.

Aksi talep edilmediği sürece Intertek Türkiye Elektrik Laboratuvarı paylaşılan risk karar kuralını uygulamaktadır.
The Intertek Turkey Electrical Laboratory applies the shared risk decision rule unless otherwise requested.

Bu raporda yer alan deney ve ölçüm sonuçları, müşteri tarafından sağlanan numune veya numunelere ait olup yalnızca test edilen numune(ler) için geçerlidir; uygunluk değerlendirmesi de bu numune(ler) üzerinden yapılmıştır.
The test and measurement results in this report belong to the sample(s) provided by the customer and are only valid for the tested sample(s); the conformity assessment has been made based on these sample(s).

Bu rapor, laboratuvarın yazılı izni olmadan kısmen kopyalanamaz, çoğaltılamaz, üçüncü şahıslarla paylaşılamaz, reklam aracı olarak kullanılamaz ve imza bulunmayan raporlar geçersizdir.
This report cannot be partially copied, reproduced, shared with third parties, or used as an advertising tool without the written permission of the laboratory, and reports without signature are not valid.



Intertek Test Hizmetleri A.Ş.
Merkez Mahallesi Sanayi Cad.
Altındağ Plaza No:23
Yenibosna 34197 İstanbul - Türkiye

Tel: +90 212 496 4646 • Fax: +90 212 452 8055
intertek.turkey@intertek.com
Intertek.com • Intertek-turkey.com
Trade Register Number: 337606/285188 • Marmara Kurumları V.D. : 465 004 2498



DENEY RAPORU / TEST REPORT**BÖLÜM 1: TEST BAŞVURUSUNA AİT GENEL BİLGİLER****/SECTION 1: GENERAL INFORMATION ABOUT THE TEST APPLICATION****TALEP EDİLEN HİZMET / SERVICE REQUESTED**

Numune Tanımı: / Test item Description	Vacuum cleaner
Marka: / Trademark	Alpina
Model/Tip referansı: / Model/Type reference	MA5030N
Üretici Firmanın Adı ve Adresi : / Manufacturer Name & Address	N/A
Proje İrtibat Kişisi: / Project Contact	N/A

STANDARTLAR / STANDARDS

1.	IEC 60704-1:2021 Edition 4.0
2.	IEC 60704-2-1:2026 Edition 5.0
3.	ISO 3744:2010

TEST / TESTING

Test Numunesi Geliş Tarihi: / Date of receipt of test item	08.07.2026
Test Numunesi Kabul No: / Test item receipt number	S26.0542
Test Numunesi Seri No: / Test item serial number	Engineering Sample
Test Tarihi: / Date (s) of performance of tests	06.08.2026

İŞARETLEME ETİKETLERİ / MARKING PLATES

N/A

Intertek Test Hizmetleri A.Ş.
Merkez Mahallesi Sanayi Cad.
Altındağ Plaza No:23
Yenibosna 34197 İstanbul - Türkiye

Tel: +90 212 496 4646 • Fax: +90 212 452 8055
intertek.turkey@intertek.com
intertek.com • intertek-turkey.com
Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498



DENEY RAPORU / TEST REPORT**BÖLÜM 2: TEST METODU VE YAPILIŞ:**
/SECTION 2: TEST METHOD AND APPLICATION

Rechargeable vacuum cleaners are measured with fully charged batteries and disconnected from the external power source.
If the manufacturer provides no instructions on determination of fully charged battery, a charging time of 24 h shall be used.

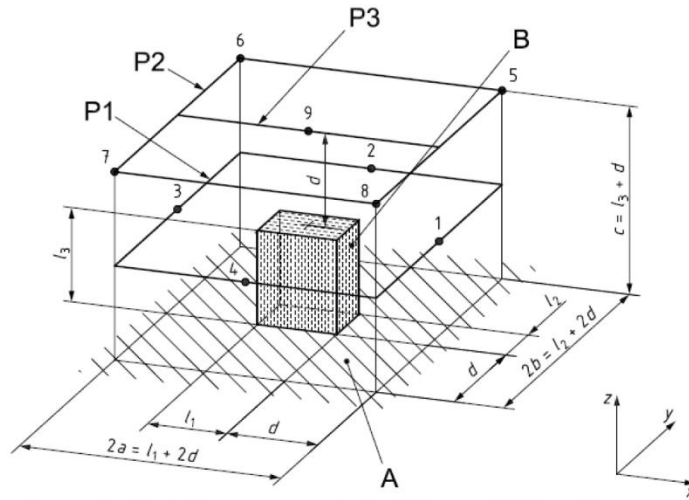
After a full charge, a battery cooling-down period of at least 30 min shall be observed. The battery shall be disconnected from the charger during this period. Prior to this period no testing of the cordless cleaner shall be performed. After charging, the cordless cleaner shall be tested within 24 h if the battery is outside the device and 2 h if the battery is inside the device.

The handles of hand-supported and upright vacuum cleaners are resiliently suspended or supported in normal position of use (middle of the handles at (800 ± 50) mm above the floor, if possible), the cleaning head being in full contact with the floor.

For battery-powered devices, the stabilization time is 1 minute. The A-weighted sound pressure level of a dry vacuum cleaner shall be time-averaged during 30 s. If an operation period is shorter than 30 s the measurement shall be repeated until an averaging time of 30 s is reached.

The product has two speed settings. Therefore, the tests were conducted at both Speed Level 1 and Speed Level 2. The microphone positions shown in Figure C.7 of ISO 3744 were used, based on the product configuration.

DENEY RAPORU / TEST REPORT



ISO 3744 Figure C.7: Microphone locations

Intertek Test Hizmetleri A.Ş.
Merkez Mahallesi Sanayi Cad.
Altındağ Plaza No:23
Yenibosna 34197 İstanbul - Türkiye

Tel +90 212 496 4646 • Fax +90 212 452 8055
intertek.turkey@intertek.com
intertek.com • intertek-turkey.com
Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498



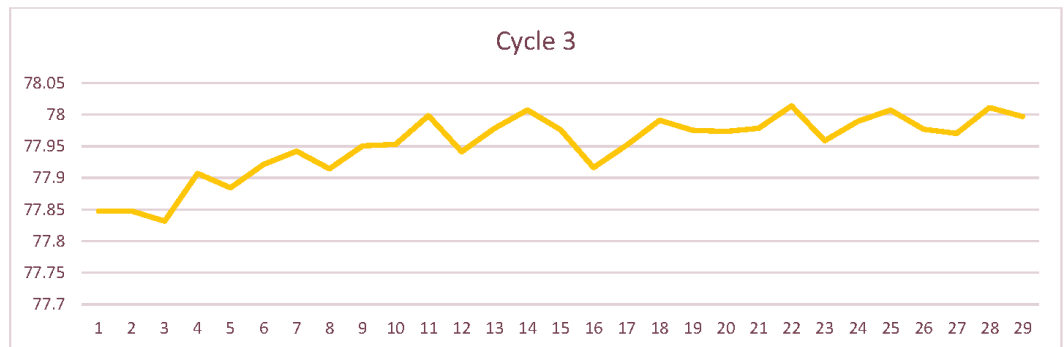
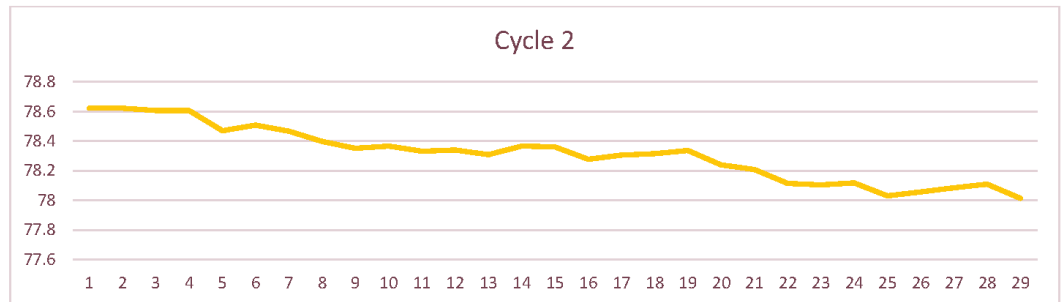
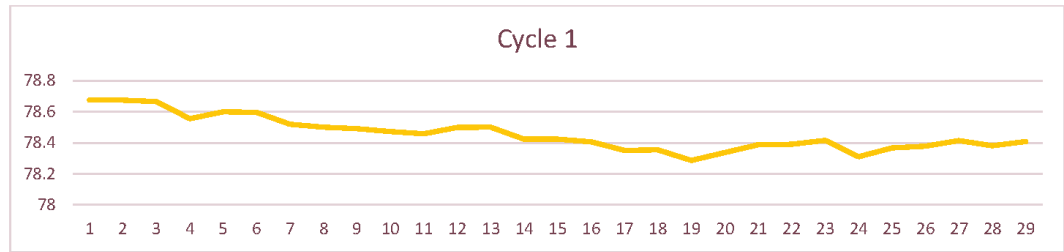
DENEY RAPORU / TEST REPORT

BÖLÜM 3: TEST SONUÇLARI:

/SECTION 3: TEST RESULTS

Speed level:	Normal power mode (Level 1)			
Testing voltage (V), frequency (Hz)	Battery operated			
Measurements	Cycle 1	Cycle 2	Cycle 3	Arithmetic Mean
Testing Period*	30 sec	30 sec	30 sec	30 sec
Overall LwA measurement (dBA)	78.5	78.3	78.0	78.3

(*) For battery-powered devices, the stabilization time is 1 minute



Intertek Test Hizmetleri A.Ş.
 Merkez Mahallesi Sanayi Cad.
 Altındağ Plaza No:23
 Yenibosna 34197 İstanbul - Türkiye

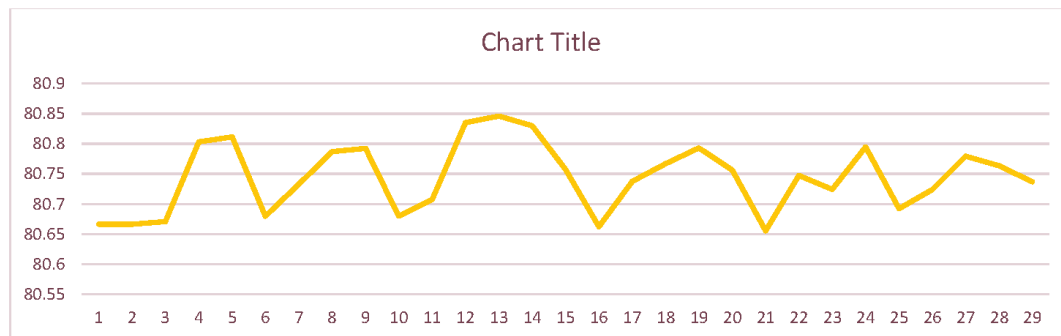
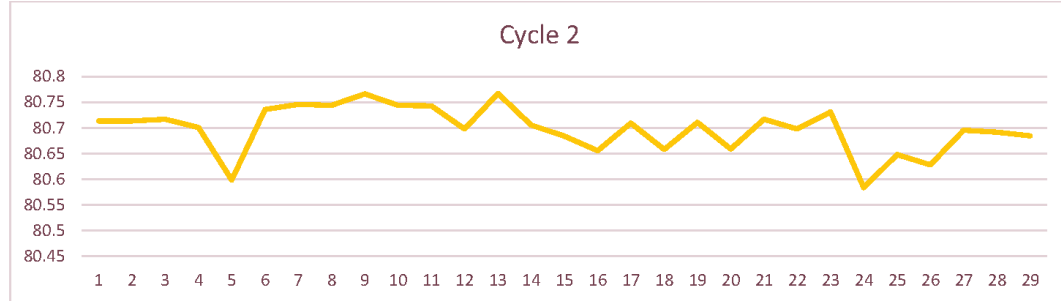
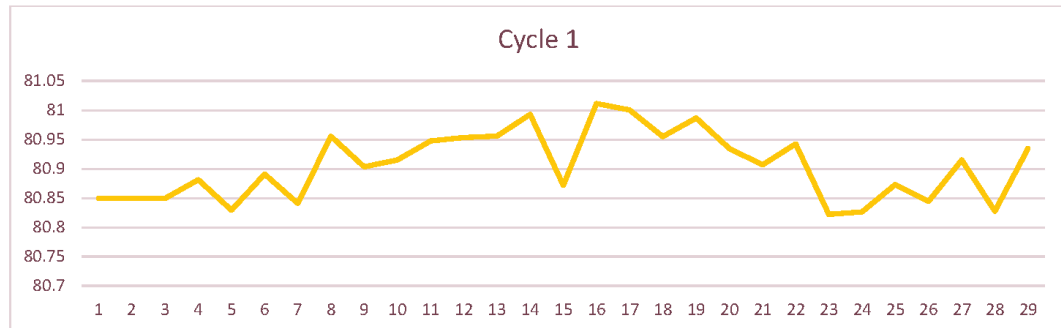
Tel: +90 212 496 4646 • Fax: +90 212 452 8055
 intertek.turkey@intertek.com
 intertek.com • intertek-turkey.com
 Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498



DENEY RAPORU / TEST REPORT

Speed level:	Maximum power mode (Level 2)			
Testing voltage (V), frequency (Hz)	Battery operated			
Measurements	Cycle 1	Cycle 2	Cycle 3	Arithmetic Mean
Testing Period*	30 sec	30 sec	30 sec	30 sec
Overall LwA measurement (dBA)	80.9	80.7	80.7	80.8

(*) For battery-powered devices, the stabilization time is 1 minute


 Intertek Test Hizmetleri A.Ş.
 Merkez Mahallesi Sanayi Cad.
 Altındağ Plaza No:23
 Yenibosna 34197 İstanbul - Türkiye

 Tel: +90 212 496 4646 • Fax: +90 212 452 8055
 intertek.turkey@intertek.com
 intertek.com • intertek-turkey.com
 Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498


intertek

Page 7 of 9

Report No.202XXXXXXIST

DENEY RAPORU / TEST REPORT

Test Eden: /Tested by	Anıl DİLBER	Onaylayan: /Approved by	Hüseyin YAMAN
Ünvan: /Title	Senior Project Engineer	Ünvan: /Title	Team Leader
İmza: /Signature	 (e-signature)	İmza: /Signature	 (e-signature)
Tarih: /Date	07.08.2026	Tarih: /Date	07.08.2026

Intertek Test Hizmetleri A.Ş.
Merkez Mahallesi Sanayi Cad.
Altındağ Plaza No:23
Yenibosna 34197 İstanbul - Türkiye

Tel +90 212 496 4646 • Fax +90 212 452 8055
intertek.turkey@intertek.com
intertek.com • intertek-turkey.com
Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498



DENEY RAPORU / TEST REPORT**BÖLÜM 4: TEST EKİPMANLARI:**
/SECTION 4: TEST EQUIPMENT

Ekipman Adı /Equipment Name	Üretici /Manufacturer	Ekipman /ID	Kalibrasyon Tarihi /Calibration Date	Sonraki Kal. Tarihi /Next Cal. Date
Analyser	Brüel & Kjaer	EN 163	08.2025	08.2026
Calibrator	Brüel & Kjaer	EN 164	08.2025	08.2026
Microphone 1	G.R.A.S	EN 165	08.2025	08.2026
Microphone 2	G.R.A.S	EN 166	08.2025	08.2026
Microphone 3	G.R.A.S	EN 167	08.2025	08.2026
Microphone 4	G.R.A.S	EN 168	08.2025	08.2026
Microphone 5	G.R.A.S	EN 169	08.2025	08.2026
Microphone 6	Brüel & Kjaer	EN 170	08.2025	08.2026
Microphone 7	Brüel & Kjaer	EN 171	08.2025	08.2026
Microphone 8	Brüel & Kjaer	EN 172	08.2025	08.2026
Microphone 9	Brüel & Kjaer	EN 173	08.2025	08.2026
Tape	Ceta Form P05-0316	EN 040	11.2025	11.2028
Laser Distance Meter	Fluke	EN 006	10.2025	10.2026
Hand-held Thermometer	FLUKE 52-II	EN 008	11.2025	11.2026

DENEY RAPORU / TEST REPORT**BÖLÜM 5: FOTO DOKÜMANTASYON**
/SECTION 5: PHOTO DOCUMENTATION**Photo 1.** General view of the appliance**Photo 2.** General view of the appliance

Intertek Test Hizmetleri A.Ş.
Merkez Mahallesi Sanayi Cad.
Altındağ Plaza No:23
Yenibosna 34197 İstanbul - Türkiye

Tel +90 212 496 4646 • Fax +90 212 452 8055
intertek.turkey@intertek.com
intertek.com • intertek-turkey.com
Trade Register Number: 337606/285188 • Marmara Kurumlar V.D. : 465 004 2498



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