



July 21st, 2026

Salt Lake City Corporation
451 South State Street
Salt Lake City, UT 84111

To Whom It May Concern:

Friends of Switchpoint, Inc is proposing to redevelop a parcel located at 2080 W. North Temple Street into a deeply affordable housing community. The proposed development would demolish an existing single-story structure (currently used as a coffee shop) and the adjacent parking lot to construct an 80-unit apartment building providing permanent housing for elderly individuals transitioning out of homelessness. This proposed development is adjacent to an existing housing campus that provides supportive housing services for many vulnerable Salt Lake City residents.

Demolition of the existing building is currently anticipated to occur in fall 2026, immediately followed by building permit review for the proposed building. Construction of the new multi-family building is anticipated to commence in February of 2027.

In addition to the residential units, the project will include a variety of on-site amenities available to the community designed to support long-term housing stability and resident well-being, including a community clubhouse, kitchen, laundry facilities, community room, resident lounge, community gardens, Veterans Affairs offices and clinic space, and administrative offices for operational support.

The subject property is currently zoned Mixed Use 6 (MU-6) and is also located within the Airport Influence Zone B within the AFPP Airport Flight Path Protection Overlay District (AFPP). As allowed by current zoning, the property is currently being used as a restaurant/coffee shop. The proposed use of multifamily housing is also permitted in the MU-6 zone; however, the Airport Overlay District Influence Zone B designation currently limits residential development in this area to temporary occupancies, rather than permanent housing described above. The designation also directly conflicts with the desired outcomes for the underlying MU-6 zone.

Switchpoint believes the property would provide significantly greater community benefit as a deeply affordable housing development than as its current use as a coffee shop. The proposed amendment to the AFPP Overlay District boundary is justified for the following reasons:

1. The MU-6 zone is intended to encourage mixed-use development, which includes residential uses. The overlay district, which is intended to protect airport operations, places unnecessary restrictions on long-term residential development for this specific parcel, as the primary concern (noise from aircraft) may be mitigated through architectural features.
2. The property experiences minimal impacts from airport operations. The site is located along the eastern-most edge of the Airport Flight Path Protection Overlay District. Aircraft flight paths do not pass directly over the property, resulting in relatively limited aircraft noise and operational impacts compared to other properties within the overlay district.

3. The surrounding neighborhood is transitioning toward residential development. Several recently completed multi-family residential projects are located along the North Temple corridor adjacent to the subject property and experience equivalent levels of noise from both aircraft and I-215 traffic. Redeveloping the site with affordable housing would complement the area's ongoing revitalization and strengthen the emerging residential neighborhood.
4. The site offers exceptional access to public transportation and community services. The property is located within approximately 1,000 feet of a UTA TRAX station, providing residents with convenient access to essential services throughout the Salt Lake Valley. This location is particularly well suited for seniors and individuals transitioning out of homelessness who may rely on public transit.
5. A professional noise assessment was previously conducted for the property. The study concluded that the indoor noise levels associated with aircraft takeoffs and landings are lower than the noise generated by a passing water truck, a speeding automobile, or traffic along I-215. This study has been included with this application, for reference.
6. The adjacent property, which is the existing Switchpoint campus, was previously approved through the same zoning amendment process, resulting in the removal of the Airport Flight Path Protection Overlay District (AFPP) Influence Zone B designation from the zoning map. The subject property is intended to serve as an extension of the existing campus, which currently provides approximately 170 housing units for individuals transitioning out of homelessness.

In summary, amending the zoning map to remove the subject property from the Airport Flight Path Protection Overlay District (AFPP) Influence Zone B will not negatively impact airport operations and will provide community benefit through the addition of affordable housing units in a growing residential corridor. Because the property is located along the eastern boundary of the overlay district, the boundary can be adjusted to exclude this parcel without affecting the overall purpose or functionality of the overlay district. Requirements for noise attenuation in interior spaces to mitigate sounds of traffic generated by I-215 would be appropriate and welcomed as part of this requested zoning modification.

Approving this boundary adjustment would remove an unnecessary regulatory conflict, allow the property to fulfill the intended purpose of the underlying MU-6 zoning district, and facilitate the development of critically needed affordable housing for one of Salt Lake City's most vulnerable populations.

Please do not hesitate to contact us if you have any questions or require additional information regarding this request.

Sincerely,



Jason Wheeler, AIA
Executive Director
801.355.7085

Property Details

Parcel Number:

08-33-426-027-0000

Street Address:

2080 W North Temple St., Salt Lake City, UT 84116

Property Legal Description:

BEGINNING AT AN EXISTING PLUG IN THE TOP OF THE CURB AT THE INTERSECTION OF THE NORTH LINE OF NORTH TEMPLE STREET AND THE EAST LINE OF 2100 WEST STREET WHICH POINT IS NORTH 89° 58'30" EAST 1,959.03 FEET ALONG THE SECTION LINE AND NORTH 0°00'35" WEST 804.00 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 33, TOWNSHIP 1 NORTH, RANGE WEST, SALT LAKE BASE & MERIDIAN WHICH POINT IS ALSO NORTH 89°58'38" EAST 676.32 FEET ALONG THE MONUMENT LINE OF SAID NORTH TEMPLE STREET AND NORTH 0°00'35" WEST 65.40 FEET FROM AN EXISTING MONUMENT AT THE INTERSECTION OF NORTH TEMPLE AND 2200 WEST STREET AND RUNNING THENCE NORTH 0°00'35" WEST 89.88 FEET ALONG THE EAST LINE OF SAID 2100 WEST STREET (A 44 FEET WIDE ROAD); THENCE EAST 173.75 FEET; THENCE NORTH 41.30 FEET; THENCE EAST 119.25 FEET; THENCE SOUTH 0°07'27" WEST 130.75 FEET ALONG THE WEST BOUNDARY OF THE QUESTAR GAS COMPANY PROPERTY; THENCE SOUTH 89°54'56" WEST .292.70 FEET ALONG THE NORTH LINE OF SAID NORTH TEMPLE STREET TO THE POINT OF BEGINNING.

Current Zoning Designation:

Mixed Use 6

AFPP Airport Flight Path Protection Overlay District (Airport Influence Zone B)

Proposed Zoning Amendment:

Adjust zoning map so subject property is excluded from the AFPP Airport Flight Path Protection Overlay District (Airport Influence Zone B)

Existing Usage of Property:

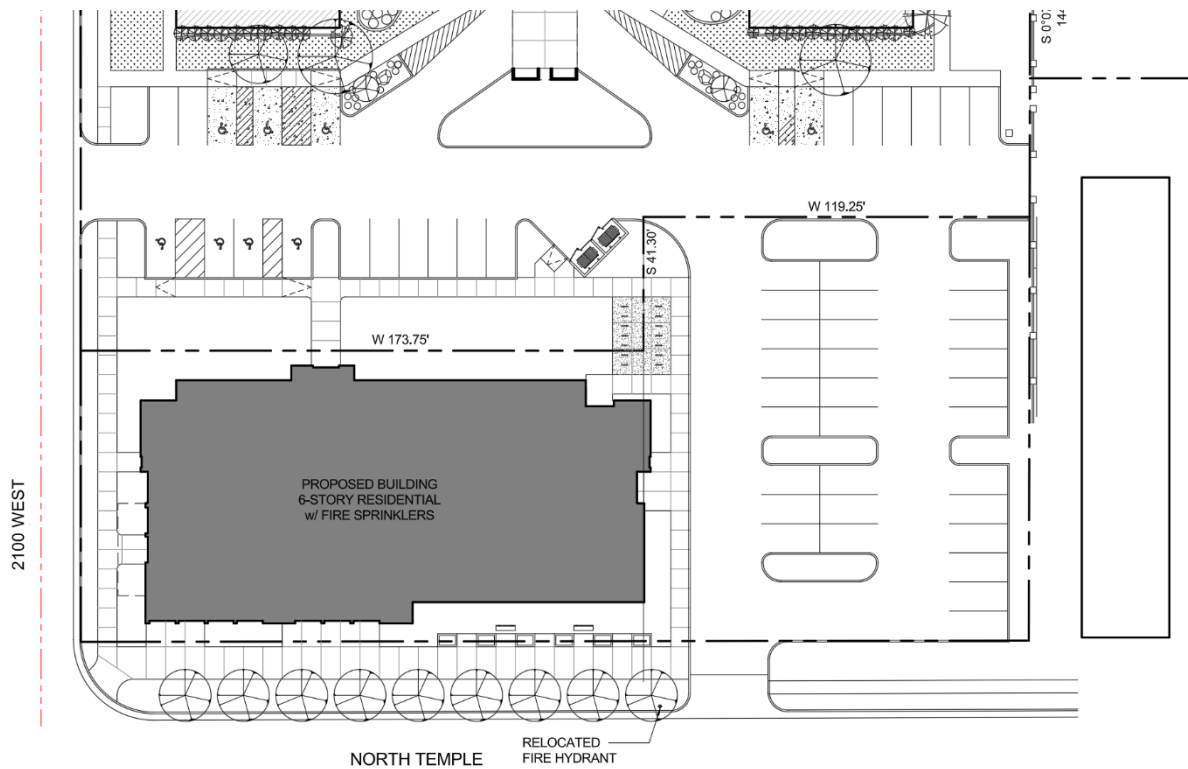
Nonresidential - restaurant

Property currently used by Switchpoint Coffee Co. as a coffee shop, and is owned outright by the property owner: Friends of Switchpoint, Inc. (i.e. no lease agreements are currently in place, no displacement of other tenants will result from the proposed amendment to the AFPP overlay)

Existing Switchpoint Coffee Co. coffee shop footprint: 5,685 SF



Preliminary rendering of proposed development to be located on the subject parcel. (Above)



Draft Site Plan (Above)

Noise Assessment

2080 West North Temple

Bonneville Builders
8610 South Sandy Parkway
Sandy, Utah

September 16, 2022
Terracon Project No. 61227348



Prepared for:
Bonneville Builders
Sandy, Utah

Prepared by:
Terracon Consultants, Inc.
Midvale, Utah

terracon.com

Terracon

Environmental



Facilities



Geotechnical



Materials



September 16, 2022

Bonneville Builders
8610 South Sandy Parkway
Sandy, Utah 84070

Attn: Mr. Drew Wensel
Assistant Project Manager
Bonneville Builders
P: (801) 263-1406
E: DrewW@bonnevillebuilders.com

Re: Noise Assessment
Hotel on North Temple
2080 West North Temple
Salt Lake City, Utah 84116
Terracon Project No. 61227348

Dear Mr. Wensel:

Terracon Consultants, Inc. (Terracon) is pleased to present the results of the industrial hygiene noise monitoring conducted at the hotel located at 2080 West North Temple in Salt Lake City, Utah. This assessment was conducted in general accordance with our proposal P61227348, dated August 31, 2022. This assessment was requested to conduct area noise monitoring and instantaneous sound pressure level measurements in specific areas of the interior and exterior of the hotel.

Terracon appreciates the opportunity to provide services to you. If we can provide any additional environmental, occupational health, or safety-related services, please contact John Murphy at 801-746-5452.

Sincerely,

Terracon Consultants, Inc.

John Murphy, CIH, CSP
Industrial Hygiene and Asbestos
Group Manager

Rush Bowers, CIH, CSP
Senior Industrial Hygiene Consultant

Terracon Consultants, Inc. 6949 South High Tech Drive Midvale, Utah 84047
P (801) 545-8500 F (801) 545-8600 terracon.com

Environmental



Facilities



Geotechnical



Materials

EXECUTIVE SUMMARY

Terracon Consultants, Inc. (Terracon) conducted noise monitoring at the hotel located at 2080 West North Temple in Salt Lake City, Utah. The monitoring included eight hours of stationary noise measurements in four areas each on the hotel interior and exterior, all on the west side of the building. Terracon placed four stationary datalogging noise dosimeters inside west-facing rooms and an additional four on the exterior west side of the hotel. In addition, Terracon used a hand-held sound level meter to measure sound pressure levels in specific locations inside and outside the hotel.

Mr. Carter Benson, Construction Management Intern with Bonneville Builders (Bonneville), coordinated the monitoring. The monitoring was conducted on September 7, 2022, in general accordance with our proposal P61227348, dated August 31, 2022. Mr. Tyler Koch, Industrial Hygienist with Terracon, performed the field work for this project in response to a request by Mr. Benson.

The objective of the monitoring was for Bonneville to obtain data on the noise levels inside and outside the hotel for comparison to the 2022 Salt Lake City International Airport Master Plan's Influence Zone B Regulation, which states "Hotels and motels are prohibited (in Zone B) except those constructed with air circulation systems and at least twenty-five A-weighted decibels (dBA) of sound attenuation in sleeping areas." The hotel on North Temple lies within Overlay Zone B of the Salt Lake City International Airport.

Findings

Results obtained from the area noise monitoring indicate that noise levels outside the hotel on the day of monitoring were too low to document a 25-dBA attenuation inside the building.

Recommendations

If actual noise measurements are required to document a 25-dBA sound attenuation, it may be possible to employ an artificial noise source outside the building while measuring noise levels inside and outside the building simultaneously to determine whether 25-dBA sound attenuation is achieved.

Bonneville could seek an alternate means of verifying the 25-dBA sound attenuation between the exterior and the interior of the building. An architect or acoustic engineer could review the hotels construction documents to determine the theoretical sound attenuation resulting from the actual materials used in the construction of the building, if this is an acceptable means of determination.

The report that follows this Executive Summary should be read in its entirety because it includes important information, such as the methods we used to conduct the assessment, pertinent regulatory requirements, and specific work practice details.

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NOISE ASSESSMENT 2080 WEST NORTH TEMPLE SALT LAKE CITY, UTAH

**Terracon Project No. 61227348
September 16, 2022**

1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon) conducted noise monitoring in stationary locations and sound pressure level measurements inside and outside the hotel located at 2080 West North Temple in Salt Lake City, Utah. The monitoring included eight hours of stationary noise measurements in four areas each on the hotel interior and exterior, all on the west side of the building. Terracon placed four stationary datalogging noise dosimeters inside west-facing rooms and an additional four on the exterior west side of the hotel.

Mr. Carter Benson, Construction Management Intern with Bonneville Builders (Bonneville), coordinated the monitoring. The monitoring was conducted on September 7, 2022, in general accordance with our proposal P61227348, dated August 31, 2022. Mr. Tyler Koch, Industrial Hygienist with Terracon, performed the field work for this project in response to a request by Mr. Benson.

The objective of the monitoring was for Bonneville to obtain data on the noise levels inside and outside the hotel for comparison to the 2022 Salt Lake City International Airport Master Plan's Influence Zone B Regulation.

2.0 REGULATORY OVERVIEW

The hotel on North Temple lies within Overlay Zone B of the Salt Lake City International Airport. The Salt Lake City Airport Influence Zone B Regulation states "Hotels and motels are prohibited (in Zone B) except those constructed with air circulation systems and at least twenty-five A-weighted decibels (dBA) of sound attenuation in sleeping areas."

3.0 METHODS

The dosimeters and sound level meter were calibrated before and after monitoring, using sound calibrators provided by the manufacturers. The dosimeters, sound level meter, and sound calibrators are calibrated annually by the manufacturer using equipment traceable to the National Institute of Standards and Technology (NIST). At the end of the monitoring period, the measured noise levels were recorded in field notes.

3.1.1 Stationary Noise Monitoring

Stationary noise monitoring was performed using 3M™ Edge eg5 Type 2¹ electronic data-logging noise dosimeters. Seven hours of stationary noise measurements were conducted in four areas each on the hotel interior and exterior, all on the west side of the building. Terracon placed four stationary datalogging noise dosimeters in the inside west-facing rooms and four stationary datalogging dosimeters on the exterior west side of the hotel. Two interior measurements were made on the first floor and two on the second floor; one each at the north and south ends of the building. Table 1 in [Appendix A](#) summarizes the results.

3.1.2 Short-duration Sound Pressure Level Measurements

Short-duration sound pressure level measurements were collected using a calibrated 3M™ SD200 Type 2 sound level meter, using the slow response setting and the A-weighted scale. Measurements were obtained on the interior of the hotel within rooms where stationary noise measurements were being collected and in open areas on the west exterior of the hotel outside those same rooms. Table 2 in [Appendix A](#) summarizes the short-duration sound pressure level measurement results.

4.0 RESULTS

All stationary noise monitoring results are summarized in Table 1 in [Appendix A](#). All short-duration sound level measurement results are summarized in Table 2 in [Appendix A](#). In addition, all annual calibration certificates for the noise dosimetry equipment used are provided in [Appendix B](#).

4.1.1 Stationary Noise Monitoring

Results obtained from the stationary noise monitoring indicate that noise levels outside the hotel on the day of monitoring were too low to document a 25-dBA attenuation inside the building. Average interior noise levels over the monitoring period ranged from 60.1 dBA to 63.1 dBA and average outdoor noise levels ranged from 63.9 dBA to 66.9 dBA. The differences in paired inside-outside noise levels ranged from 2.5 dBA to 6.9 dBA.

4.1.2 Short-duration Sound Pressure Level Measurements

Short-duration sound level measurements recorded one instance out of eight in which the sound level outside the hotel was great enough to realize a 25-dBA sound attenuation inside the hotel. The noise generated during this instance was due to a construction water truck passing by the hotel.

¹ A Type 2 instrument has an error factor of plus or minus two decibels (dB)

5.0 CONCLUSIONS

The noise monitoring data collected on the day of the assessment is insufficient to determine if the 25 dBA sound attenuation level is being obtained between the outside and the inside of the hotel.

6.0 RECOMMENDATIONS

If actual noise measurements are required to document a 25-dBA sound attenuation, it may be possible to employ an artificial noise source outside the building while measuring noise levels inside and outside the building simultaneously to determine whether 25-dBA sound attenuation is achieved.

Bonneville could seek an alternate means of verifying the 25-dBA sound attenuation between the exterior and the interior of the building. An architect or acoustic engineer could review the construction documents to determine the theoretical sound attenuation resulting from the actual materials used in the construction of the building, if this is an acceptable means of determination.

7.0 GENERAL COMMENTS

The level of effort and associated tasks completed for this assessment were limited to the scope of services outlined in Terracon's Proposal P61227348, dated August 31, 2022. Terracon did not attempt to identify every potential noise exposure or hazard present at the subject property.

The results, findings, conclusions, and recommendations expressed in this report are based on conditions observed on September 7, 2022. Many factors, such as the amount and proximity of air traffic, variations in nearby vehicular traffic, and other events occurring outside the hotel can affect noise monitoring results. The information contained in this report should not be relied upon to represent conditions that existed previously or at a later date. Terracon does not warrant the services of regulatory agencies, laboratories, or other third parties supplying information, which may have been used in the preparation of this report. No warranty, express or implied is made.

This report is prepared for the exclusive use of Bonneville for the specific application to the project discussed and has been prepared in accordance with generally accepted industrial hygiene practices. In the event any changes in nature or location of processes, materials, or other conditions as outlined in this report are observed, the conclusions contained in this report cannot be considered valid unless the changes are reviewed, and the conclusions of this report are modified or verified in writing by the industrial hygienist.

APPENDIX A

Tables 1 & 2 - Noise Monitoring Results

Date	Dosimeter Number	Location	Sample Period		Measured Time (min)	Average Sound Level (dBA)	Sound Attenuation (dBA)
			Start	Stop			
9/8/2022	1	Inside Room 109	9:18:14 AM	5:18:26 PM	480	60.8	3.1
9/8/2022	2	Outside Room 109	9:18:15 AM	5:18:25 PM	480	63.9	
9/8/2022	3	Inside Room 114	9:18:14 AM	5:18:26 PM	480	63.1	2.5
9/8/2022	4	Outside Room 114	9:18:14 AM	5:18:26 PM	480	65.6	
9/8/2022	5	Inside Room 209	9:18:21 AM	5:18:36 PM	480	60.6	6.3
9/8/2022	6	Outside Room 209	9:18:21 AM	5:18:36 PM	480	66.9	
9/8/2022	7	Inside Room 214	9:18:27 AM	5:18:42 PM	480	60.1	6.9
9/8/2022	8	Outside Room 214	9:19:08 AM	5:19:23 PM	480	67.0	

min = minutes
dBA = A-weighted decibels

Date	Location	Sound Level dBA	Comments
9/8/2022	Inside room 109	43.0	Plane landing
9/8/2022	Outside room 109	60.3	Plane landing
9/8/2022	Inside room 109	43.0	None
9/8/2022	Outside room 109	58.1	Plane taking off
9/8/2022	Inside room 114	43.0	None
9/8/2022	Outside room 114	65.4	Plane taking off
9/8/2022	Inside room 114	43.0	Plane landing
9/8/2022	Outside room 114	68.7	Water truck passing by
9/8/2022	Inside room 209	43.0	Plane landing
9/8/2022	Outside room 209	52.4	Plane landing
9/8/2022	Inside room 209	43.0	Plane landing
9/8/2022	Outside room 209	67.4	Automobile speeding by
9/8/2022	Inside room 214	43.0	None
9/8/2022	Outside room 214	56.4	None
9/8/2022	Inside room 214	43.0	None
9/8/2022	Outside room 214	56.8	Plane taking off
9/8/2022	Outside, east side near I-215	72.9	N/A
9/8/2022	Outside, east side near I-215	73.9	N/A
9/8/2022	Outside, east side near I-215	66.9	N/A
9/8/2022	Outside, east side near I-215	65.2	N/A
dBA = A-weighted decibels N/A = Not applicable Highway and air traffic could be heard at least faintly at all times when outside			

APPENDIX B

Sound Measuring Equipment Calibration Certificates



TSI INCORPORATED – OCONOMOWOC

Page 1 of 2

1060 Corporate Center Drive, Oconomowoc, WI 53066 USA
tel 651 490 2811 + toll free 800 245 0779 + web www.tsi.com

Certificate of Calibration

Certificate No: 1014214 ESN010113

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESN010113

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: EDGE 5 DOSIMETER

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

Serial Number:

MICROPHONE ACO 7318 1/4 IN. ELECTRET

29826

Calibration Procedure: 53V735

Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By:

WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:

Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.

**Certificate of Calibration**

Certificate No: 1014214 ESN010113

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>		<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Range/119dB	119.0	118.0	120.0		119.8	118.9	dB
Range/114dB	114.0	113.5	114.5	A	114.9	114.0	dB
Range/109dB	109.0	108.0	110.0		109.9	109.1	dB
Range/99dB	99.0	98.0	100.0	A	100.1	99.2	dB
Range/89dB	89.0	88.0	90.0	A	90.3	89.5	dB
Range/79dB	79.0	78.0	80.0	A	80.6	79.7	dB
A Weighting/125Hz	97.9	96.4	99.4		98.6	97.8	dB
A Weighting/250Hz	105.4	103.9	106.9		106.2	105.4	dB
A Weighting/500Hz	110.8	109.3	112.3		111.7	110.9	dB
A Weighting/1kHz	114.0	113.5	114.5	A	114.9	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2		116.2	115.3	dB
C Weighting/125Hz	113.8	112.3	115.3		114.8	113.8	dB
C Weighting/250Hz	114.0	112.5	115.5		115.0	114.1	dB
C Weighting/500Hz	114.0	112.5	115.5		115.1	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	A	114.9	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8		114.9	113.9	dB

* indicates non accredited



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tel 651 490 2811 + toll free 800 245 0779 + web www.tsi.com

Page 1 of 2

Certificate of Calibration

Certificate No: 1014214 ESN010112

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESN010112

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: EDGE 5 DOSIMETER

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

MICROPHONE ACO 7318 1/4 IN. ELECTRET

Serial Number:

17114

Calibration Procedure: 53V735

Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

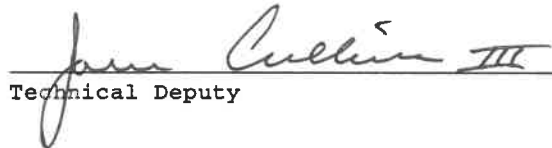
Calibrated By:


WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:


Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



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tel 651 490 2811 + toll free 800 245 0779 + web www.tsi.com

Certificate of Calibration

Certificate No: 1014214 ESN010112

(A) indicates out of tolerance condition

Test Type	Nominal	Tolerance-	Tolerance+		As Found	As Left	Unit
Range/119dB	119.0	118.0	120.0		119.5	118.9	dB
Range/114dB	114.0	113.5	114.5	A	114.6	114.0	dB
Range/109dB	109.0	108.0	110.0		109.7	109.0	dB
Range/99dB	99.0	98.0	100.0		99.9	99.3	dB
Range/89dB	89.0	88.0	90.0	A	90.1	89.4	dB
Range/79dB	79.0	78.0	80.0	A	80.4	79.6	dB
A Weighting/125Hz	97.9	96.4	99.4		98.6	97.9	dB
A Weighting/250Hz	105.4	103.9	106.9		106.0	105.4	dB
A Weighting/500Hz	110.8	109.3	112.3		111.4	110.8	dB
A Weighting/1kHz	114.0	113.5	114.5	A	114.6	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2		116.0	115.3	dB
C Weighting/125Hz	113.8	112.3	115.3		114.5	114.0	dB
C Weighting/250Hz	114.0	112.5	115.5		114.7	114.1	dB
C Weighting/500Hz	114.0	112.5	115.5		114.7	114.1	dB
C Weighting/1kHz	114.0	113.5	114.5	A	114.6	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8		114.6	114.0	dB

* indicates non accredited



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Page 1 of 2

1060 Corporate Center Drive, Oconomowoc, WI 53066 USA
tel 651 490 2811 + toll free 800 245 0779 + web www.tsi.com

Certificate of Calibration

Certificate No: 1014214 ESN010111

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESN010111
Customer ID:
Model: EDGE 5 DOSIMETER
Test Conditions:

Date Received: 4/27/2022
Date Issued: 5/3/2022
Valid Until: 5/3/2023

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description: MICROPHONE ACO 7318 1/4 IN. ELECTRET

Serial Number: 25135

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

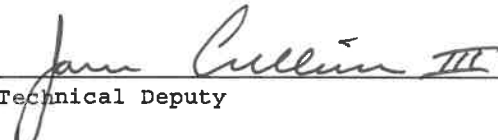
Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By:


WILLIAM MALONE Service Technician 5/3/2022

Reviewed By:


Technical Deputy 5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



Certificate of Calibration

Certificate No: 1014214 ESN010111

(A) indicates out of tolerance condition

Test Type	Nominal	Tolerance-	Tolerance+		As Found	As Left	Unit
Range/119dB	119.0	118.0	120.0		119.6	119.0	dB
Range/114dB	114.0	113.5	114.5	A	114.7	114.0	dB
Range/109dB	109.0	108.0	110.0		109.8	109.2	dB
Range/99dB	99.0	98.0	100.0	A	100.1	99.3	dB
Range/89dB	89.0	88.0	90.0	A	90.1	89.5	dB
Range/79dB	79.0	78.0	80.0	A	80.4	79.7	dB
A Weighting/125Hz	97.9	96.4	99.4		98.4	97.9	dB
A Weighting/250Hz	105.4	103.9	106.9		106.0	105.4	dB
A Weighting/500Hz	110.8	109.3	112.3		111.5	110.9	dB
A Weighting/1kHz	114.0	113.5	114.5	A	114.7	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2		116.1	115.4	dB
C Weighting/125Hz	113.8	112.3	115.3		114.5	114.1	dB
C Weighting/250Hz	114.0	112.5	115.5		114.8	114.2	dB
C Weighting/500Hz	114.0	112.5	115.5		114.8	114.3	dB
C Weighting/1kHz	114.0	113.5	114.5	A	114.7	114.1	dB
C Weighting/2kHz	113.8	111.8	115.8		114.7	114.1	dB

* indicates non accredited



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Certificate of Calibration

Certificate No: 1014214 ESN010110

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESN010110

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: EDGE 5 DOSIMETER

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C

As Found: OUT OF TOLERANCE

Humidity: 20% to 80%

As Left: IN TOLERANCE

Barometric Pressure: 890 mbar to 1050 mbar

SubAssemblies:

Description:

MICROPHONE BSWA MP418

Serial Number:

525214

Calibration Procedure: 53V735

Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB

Estimated at 95% Confidence Level (k=2)

Calibrated By:

WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:

Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



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Certificate of Calibration

Certificate No: 1014214 ESN010110

(A) indicates out of tolerance condition

Test Type	Nominal	Tolerance-	Tolerance+	As Found	As Left	Unit
Range/119dB	119.0	118.0	120.0	118.2	119.0	dB
Range/114dB	114.0	113.5	114.5	A 113.3	114.0	dB
Range/109dB	109.0	108.0	110.0	108.3	109.1	dB
Range/99dB	99.0	98.0	100.0	98.5	99.3	dB
Range/89dB	89.0	88.0	90.0	88.7	89.5	dB
Range/79dB	79.0	78.0	80.0	78.8	79.6	dB
A Weighting/125Hz	97.9	96.4	99.4	97.3	98.1	dB
A Weighting/250Hz	105.4	103.9	106.9	104.8	105.5	dB
A Weighting/500Hz	110.8	109.3	112.3	110.1	110.9	dB
A Weighting/1kHz	114.0	113.5	114.5	A 113.3	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	114.9	115.6	dB
C Weighting/125Hz	113.8	112.3	115.3	113.4	114.2	dB
C Weighting/250Hz	114.0	112.5	115.5	113.5	114.2	dB
C Weighting/500Hz	114.0	112.5	115.5	113.4	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	A 113.3	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	113.6	114.2	dB

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Certificate of Calibration

Certificate No: 1014214 ESN010109

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESN010109

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: EDGE 5 DOSIMETER

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C

As Found: IN TOLERANCE

Humidity: 20% to 80%

As Left: IN TOLERANCE

Barometric Pressure: 890 mbar to 1050 mbar

SubAssemblies:

Description:

Serial Number:

MICROPHONE BSWA MP418

515156

Calibration Procedure: 53V735

Reference Standard(s):

I.D. Number Device

EF000352 QUEST-CAL

ET0000556 B&K ENSEMBLE

Last Calibration Date Calibration Due

10/26/2021 10/26/2022

6/18/2020 6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB

Estimated at 95% Confidence Level (k=2)

Calibrated By:

WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:

Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



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Certificate of Calibration

Certificate No: 1014214 ESN010109

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Range/119dB	119.0	118.0	120.0	119.3	119.0	dB
Range/114dB	114.0	113.5	114.5	114.3	114.0	dB
Range/109dB	109.0	108.0	110.0	109.3	109.0	dB
Range/99dB	99.0	98.0	100.0	99.1	98.7	dB
Range/89dB	89.0	88.0	90.0	89.2	88.9	dB
Range/79dB	79.0	78.0	80.0	79.3	79.0	dB
A Weighting/125Hz	97.9	96.4	99.4	98.2	98.1	dB
A Weighting/250Hz	105.4	103.9	106.9	105.8	105.5	dB
A Weighting/500Hz	110.8	109.3	112.3	111.1	110.8	dB
A Weighting/1kHz	114.0	113.5	114.5	114.3	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	115.9	115.6	dB
C Weighting/125Hz	113.8	112.3	115.3	114.7	114.5	dB
C Weighting/250Hz	114.0	112.5	115.5	114.6	114.3	dB
C Weighting/500Hz	114.0	112.5	115.5	114.5	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	114.3	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	114.6	114.3	dB

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Certificate of Calibration

Certificate No: 1014214 QIH110102

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: QIH110102

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: QC-10 CALIBRATOR

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: IN TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

Serial Number:

Calibration Procedure: 56V981
Reference Standard(s):

I.D. Number	Device
ET0000556	B&K ENSEMBLE
ET000176	FLUKE 45 MULTIMETER

Last Calibration	Date Calibration Due
6/18/2020	6/18/2022
2/24/2021	2/24/2023

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB AC VOLTAGE +/- 1.4% FREQUENCY +/- 0.058%
Estimated at 95% Confidence Level (k=2)

Calibrated By:

WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:

Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

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Certificate of Calibration

Certificate No: 1014214 QIH110102

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
AC OUT/1kHz	1.000	0.950	1.050	1.002	1.002	VAC
Calibration	114.0	113.7	114.3	114.0	114.0	dB
Frequency	1000	980	1020	998	998	Hz

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Certificate of Calibration

Certificate No: 1014214 ESM010026

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESM010026

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: EDGE 5 DOSIMETER

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description: MICROPHONE ACO 7318 1/4 IN. ELECTRET

Serial Number: 15695

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device	Last Calibration	Date Calibration Due
EF000352	QUEST-CAL	10/26/2021	10/26/2022
ET0000556	B&K ENSEMBLE	6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By:


WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:


Technical Deputy

5/3/2022

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Certificate of Calibration

Certificate No: 1014214 ESM010026

(A) indicates out of tolerance condition

Test Type	Nominal	Tolerance-	Tolerance+	As Found	As Left	Unit
Range/119dB	119.0	118.0	120.0	119.8	118.9	dB
Range/114dB	114.0	113.5	114.5	A 114.9	114.0	dB
Range/109dB	109.0	108.0	110.0	110.0	109.1	dB
Range/99dB	99.0	98.0	100.0	A 100.1	99.3	dB
Range/89dB	89.0	88.0	90.0	A 90.3	89.4	dB
Range/79dB	79.0	78.0	80.0	A 80.5	79.5	dB
A Weighting/125Hz	97.9	96.4	99.4	98.4	97.5	dB
A Weighting/250Hz	105.4	103.9	106.9	106.0	105.1	dB
A Weighting/500Hz	110.8	109.3	112.3	111.6	110.7	dB
A Weighting/1kHz	114.0	113.5	114.5	A 114.9	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	116.3	115.4	dB
C Weighting/125Hz	113.8	112.3	115.3	114.8	113.9	dB
C Weighting/250Hz	114.0	112.5	115.5	115.0	114.0	dB
C Weighting/500Hz	114.0	112.5	115.5	115.0	114.1	dB
C Weighting/1kHz	114.0	113.5	114.5	A 114.9	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	114.8	113.9	dB

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Certificate of Calibration

Certificate No: 1014214 ESJ030041

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESJ030041 Date Received: 4/27/2022
Customer ID: 001885 Date Issued: 5/3/2022
Model: EDGE 5 DOSIMETER Valid Until: 5/3/2023

Test Conditions: Model Conditions:
Temperature: 18°C to 29°C As Found: IN TOLERANCE
Humidity: 20% to 80% As Left: IN TOLERANCE
Barometric Pressure: 890 mbar to 1050 mbar

SubAssemblies:
Description: Serial Number:
MICROPHONE BSWA MP418 503626

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device	Last Calibration	Date Calibration Due
EF000352	QUEST-CAL	10/26/2021	10/26/2022
ET0000556	B&K ENSEMBLE	6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By: 
WILLIAM MALONE Service Technician 5/3/2022

Reviewed By: 
Technical Deputy 5/3/2022

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Certificate of Calibration

Certificate No: 1014214 ESJ030041

(A) indicates out of tolerance condition

Test Type	Nominal	Tolerance-	Tolerance+	As Found	As Left	Unit
Range/119dB	119.0	118.0	120.0	119.4	119.0	dB
Range/114dB	114.0	113.5	114.5	114.4	114.0	dB
Range/109dB	109.0	108.0	110.0	109.5	109.0	dB
Range/99dB	99.0	98.0	100.0	99.6	99.2	dB
Range/89dB	89.0	88.0	90.0	89.7	89.3	dB
Range/79dB	79.0	78.0	80.0	79.8	79.5	dB
A Weighting/125Hz	97.9	96.4	99.4	98.4	98.0	dB
A Weighting/250Hz	105.4	103.9	106.9	105.9	105.5	dB
A Weighting/500Hz	110.8	109.3	112.3	111.3	110.8	dB
A Weighting/1kHz	114.0	113.5	114.5	114.4	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	116.1	115.7	dB
C Weighting/125Hz	113.8	112.3	115.3	114.4	114.1	dB
C Weighting/250Hz	114.0	112.5	115.5	114.5	114.2	dB
C Weighting/500Hz	114.0	112.5	115.5	114.5	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	114.4	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	114.7	114.4	dB

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Certificate of Calibration

Certificate No: 1014214 ESJ030040

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESJ030040
Customer ID: 001884
Model: EDGE 5 DOSIMETER

Date Received: 4/27/2022
Date Issued: 5/3/2022
Valid Until: 5/3/2023

Test Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

Model Conditions:

As Found: IN TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description: MICROPHONE ACO 7318 1/4 IN. ELECTRET

Serial Number: 10469

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

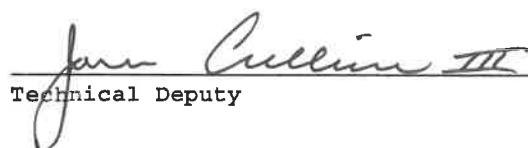
Calibrated By:


WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:


Technical Deputy

5/3/2022

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Certificate of Calibration

Certificate No: 1014214 ESJ030040

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Range/119dB	119.0	118.0	120.0	119.3	119.0	dB
Range/114dB	114.0	113.5	114.5	114.3	114.0	dB
Range/109dB	109.0	108.0	110.0	109.4	109.0	dB
Range/99dB	99.0	98.0	100.0	99.5	99.2	dB
Range/89dB	89.0	88.0	90.0	89.8	89.4	dB
Range/79dB	79.0	78.0	80.0	79.9	79.6	dB
A Weighting/125Hz	97.9	96.4	99.4	98.0	97.6	dB
A Weighting/250Hz	105.4	103.9	106.9	105.7	105.3	dB
A Weighting/500Hz	110.8	109.3	112.3	111.1	110.8	dB
A Weighting/1kHz	114.0	113.5	114.5	114.3	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	115.7	115.3	dB
C Weighting/125Hz	113.8	112.3	115.3	114.3	113.9	dB
C Weighting/250Hz	114.0	112.5	115.5	114.5	114.1	dB
C Weighting/500Hz	114.0	112.5	115.5	114.5	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	114.4	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	114.3	113.9	dB

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Certificate of Calibration

Certificate No: 1014214 ESJ030039

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESJ030039
Customer ID: 001883
Model: EDGE 5 DOSIMETER
Test Conditions:

Date Received: 4/27/2022
Date Issued: 5/3/2022
Valid Until: 5/3/2023

Model Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

As Found: IN TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description: MICROPHONE BSWA MP418

Serial Number: 480246

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration Date	Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By:


WILLIAM MALONE Service Technician 5/3/2022

Reviewed By:


John Cullen III Technical Deputy 5/3/2022

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Certificate of Calibration

Certificate No: 1014214 ESJ030039

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Range/119dB	119.0	118.0	120.0	119.0	118.9	dB
Range/114dB	114.0	113.5	114.5	114.0	114.0	dB
Range/109dB	109.0	108.0	110.0	109.1	109.1	dB
Range/99dB	99.0	98.0	100.0	99.2	99.2	dB
Range/89dB	89.0	88.0	90.0	89.4	89.4	dB
Range/79dB	79.0	78.0	80.0	79.4	79.5	dB
A Weighting/125Hz	97.9	96.4	99.4	97.5	97.5	dB
A Weighting/250Hz	105.4	103.9	106.9	105.2	105.2	dB
A Weighting/500Hz	110.8	109.3	112.3	110.7	110.7	dB
A Weighting/1kHz	114.0	113.5	114.5	114.0	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	115.7	115.7	dB
C Weighting/125Hz	113.8	112.3	115.3	114.2	114.1	dB
C Weighting/250Hz	114.0	112.5	115.5	114.3	114.2	dB
C Weighting/500Hz	114.0	112.5	115.5	114.2	114.2	dB
C Weighting/1kHz	114.0	113.5	114.5	114.1	114.1	dB
C Weighting/2kHz	113.8	111.8	115.8	114.3	114.3	dB

* indicates non accredited



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Certificate of Calibration

Certificate No: 1014214 ESJ030037

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: ESJ030037
Customer ID: 001881
Model: EDGE 5 DOSIMETER

Date Received: 4/27/2022
Date Issued: 5/3/2022
Valid Until: 5/3/2023

Test Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

Model Conditions:

As Found: OUT OF TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

MICROPHONE BSWA MP418

Serial Number:

480188

Calibration Procedure: 53V735
Reference Standard(s):

I.D. Number	Device
EF000352	QUEST-CAL
ET0000556	B&K ENSEMBLE

Last Calibration	Date Calibration Due
10/26/2021	10/26/2022
6/18/2020	6/18/2022

Measurement Uncertainty:

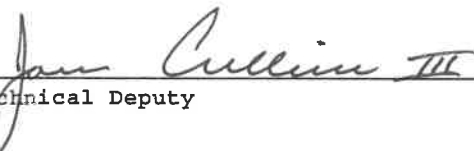
ACOUSTIC +/- 0.19dB
Estimated at 95% Confidence Level (k=2)

Calibrated By:


WILLIAM MALONE Service Technician

5/3/2022

Reviewed By:


Jan Cullin III
Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



Certificate of Calibration

Certificate No: 1014214 ESJ030037

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Range/119dB	119.0	118.0	120.0	119.5	119.0	dB
Range/114dB	114.0	113.5	114.5	114.5	114.0	dB
Range/109dB	109.0	108.0	110.0	109.6	109.1	dB
Range/99dB	99.0	98.0	100.0	99.8	99.3	dB
Range/89dB	89.0	88.0	90.0	89.8	89.4	dB
Range/79dB	79.0	78.0	80.0	80.0	79.7	dB
A Weighting/125Hz	97.9	96.4	99.4	98.4	97.9	dB
A Weighting/250Hz	105.4	103.9	106.9	106.0	105.4	dB
A Weighting/500Hz	110.8	109.3	112.3	111.3	110.8	dB
A Weighting/1kHz	114.0	113.5	114.5	114.5	114.0	dB
A Weighting/2kHz	115.2	113.2	117.2	116.3	115.8	dB
C Weighting/125Hz	113.8	112.3	115.3	114.7	114.1	dB
C Weighting/250Hz	114.0	112.5	115.5	114.8	114.1	dB
C Weighting/500Hz	114.0	112.5	115.5	114.8	114.1	dB
C Weighting/1kHz	114.0	113.5	114.5	A 114.6	114.0	dB
C Weighting/2kHz	113.8	111.8	115.8	115.0	114.4	dB

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Certificate of Calibration

Certificate No: 1014214 QIJ010094

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: QIJ010094
Customer ID: 001880
Model: QC-10 CALIBRATOR

Date Received: 4/27/2022

Date Issued: 5/3/2022

Valid Until: 5/3/2023

Test Conditions:

Temperature: 18°C to 29°C
Humidity: 20% to 80%
Barometric Pressure: 890 mbar to 1050 mbar

Model Conditions:

As Found: IN TOLERANCE
As Left: IN TOLERANCE

SubAssemblies:

Description:

Serial Number:

Calibration Procedure: 56V981
Reference Standard(s):

I.D. Number	Device
ET0000556	B&K ENSEMBLE
ET000176	FLUKE 45 MULTIMETER

Last Calibration Date	Calibration Due
6/18/2020	6/18/2022
2/24/2021	2/24/2023

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB AC VOLTAGE +/- 1.4% FREQUENCY +/- 0.058%
Estimated at 95% Confidence Level (k=2)

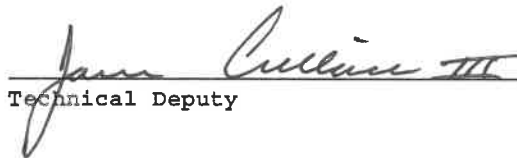
Calibrated By:


WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:


Technical Deputy

5/3/2022

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Certificate of Calibration

Certificate No: 1014214 QIJ010094

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
AC OUT/1kHz	1.000	0.950	1.050	0.999	0.999	VAC
Calibration	114.0	113.7	114.3	114.0	114.0	dB
Frequency	1000	980	1020	1004	1004	Hz

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Certificate of Calibration

Certificate No: 1014214 SD20018074

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number:	SD20018074	Date Received:	4/27/2022
Customer ID:		Date Issued:	5/3/2022
Model:	SD-200 SLM	Valid Until:	5/3/2023
Test Conditions:		Model Conditions:	
Temperature:	18°C to 29°C	As Found:	IN TOLERANCE
Humidity:	20% to 80%	As Left:	IN TOLERANCE
Barometric Pressure:	890 mbar to 1050 mbar		

SubAssemblies:

Description: Serial Number:

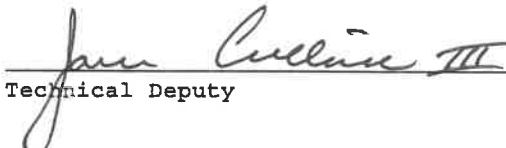
Calibration Procedure: 53V771
Reference Standard(s):

I.D. Number	Device	Last Calibration	Date Calibration Due
EF000352	QUEST-CAL	10/26/2021	10/26/2022
ET0000556	B&K ENSEMBLE	6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB
Estimated at 95% Confidence Level (k=2)

Calibrated By:  5/3/2022
WILLIAM MALONE Service Technician

Reviewed By:  5/3/2022
Technical Deputy

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.





Certificate of Calibration

Certificate No: 1014214 SD20018074

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Calibration	114.0	113.9	114.1	113.9	114.0	dB
A Weighting/125Hz	97.9	96.1	99.7	98.3	98.5	dB
A Weighting/250Hz	105.1	103.4	106.8	105.8	105.9	dB
A Weighting/500Hz	110.5	108.8	112.2	111.0	111.1	dB
A Weighting/1kHz	114.0	113.8	114.2	113.9	114.0	dB
A Weighting/2kHz	115.5	113.1	117.9	115.1	115.2	dB
C Weighting/125Hz	113.8	112.0	115.6	114.4	114.6	dB
C Weighting/250Hz	113.7	112.0	115.4	114.6	114.7	dB
C Weighting/500Hz	113.7	112.0	115.4	114.4	114.5	dB
C Weighting/1KHz	114.0	113.8	114.2	114.0	114.1	dB
C Weighting/2KHz	114.2	111.8	116.6	113.9	113.9	dB
Linearity/120	120.0	119.3	120.7	120.1	120.2	dB
Linearity/110	110.0	109.3	110.7	110.1	110.0	dB
Linearity/100	100.0	99.3	100.7	100.1	100.1	dB
Linearity/90	90.0	89.3	90.7	90.2	90.3	dB
Linearity/80	80.0	79.3	80.7	80.4	80.5	dB
Linearity/70	70.0	69.3	70.7	70.0	70.2	dB

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Certificate of Calibration

Certificate No: 1014214 AC300002354

Submitted By: TERRACON CONSULTANTS
6949 S HIGH TECH DR
MIDVALE, UT 84047-3705

Serial Number: AC300002354

Date Received: 4/27/2022

Customer ID:

Date Issued: 5/3/2022

Model: AC-300 CALIBRATOR

Valid Until: 5/3/2023

Test Conditions:

Model Conditions:

Temperature: 18°C to 29°C

As Found: IN TOLERANCE

Humidity: 20% to 80%

As Left: IN TOLERANCE

Barometric Pressure: 890 mbar to 1050 mbar

SubAssemblies:

Description:

Serial Number:

Calibration Procedure: 057V879

Reference Standard(s):

I.D. Number	Device
ET0000556	B&K ENSEMBLE

Last Calibration Date	Calibration Due
6/18/2020	6/18/2022

Measurement Uncertainty:

ACOUSTIC +/- 0.19DB FREQUENCY +/- 0.058%
Estimated at 95% Confidence Level (k=2)

Calibrated By:

WILLIAM MALONE

Service Technician

5/3/2022

Reviewed By:

Technical Deputy

5/3/2022

This report certifies that all calibration equipment used in the test is traceable to NIST, and applies only to the unit identified under equipment above. This report must not be reproduced except in its entirety without the written approval of TSI Incorporated.

The unit is found to have passed when the readings are within the specification limits of the device as presented as the allowable range stated (Tolerance - to Tolerance +) with each measurement on page 2. The customer shall assess the results and uncertainty in order to determine if the results meet their needs.



Certificate of Calibration

Certificate No: 1014214 AC300002354

(A) indicates out of tolerance condition

<u>Test Type</u>	<u>Nominal</u>	<u>Tolerance-</u>	<u>Tolerance+</u>	<u>As Found</u>	<u>As Left</u>	<u>Unit</u>
Cal/1kHz/114dB	114.0	113.7	114.3	114.1	114.0	dB
Cal/250Hz/114dB	114.0	113.7	114.3	114.0	114.0	dB
Frequency/1000Hz	1000	980	1020	1000	1000	Hz
Frequency/250Hz	250	245	255	251	251	Hz

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