

# Memorandum



To: Cory Styron, Director of Community Services, Los Alamos County

From: Nick Kronshage, Biologist

CC: Conrad Ley, Civil Practice Lead

Date: 9/3/2024

Re: Los Alamos County Pickleball Noise Analysis

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The purpose of this memorandum is to 1) identify Los Alamos County current noise ordinance, as well as, appropriate noise monitoring procedures; 2) evaluate sound levels from noise recordings conducted by Wilson & Company; and 3) present and use analyzed field data to compare noise levels to County ordinances.

## 1. Project Description & Study Methods

Wilson conducted a field survey in Los Alamos, New Mexico, at the Canyon Road Tennis Court, to determine the sound levels generated from a typical game of pickleball. Noise from pickleball activity result in frequent loud “pops” which occur when the ball is struck. The “pops” created during pickleball activity typically reflect high peak A-weighted decibels (dBA). This means that when analyzing the noise levels of a typical game of pickleball, it is important to separate the quick loud instances of a “pop”, with the overall average sound produced over a period of time to generate an accurate representation of the noise level.

Data was collected by replication methods done in previous studies which reflect the American National Standards Institute Section 12.9, *Quantities and Procedures For Description and Measurement of Environmental Sound* (ANSI S12.9), as well as Los Alamos County Noise Ordinance Article III. ANSI works with the US voluntary standards and conformity assessment system to structure sampling methodology. ANSI S12.9 provides base sampling methods and requirements which should be followed when conducting sound level measurements (SLM), including a standard measuring height of 4’ and placing the measuring device away from any reflecting surfaces to avoid noise refractions. Los Alamos County Noise Ordinances prohibits noise escaping from a property over 65 dBA during daylight hours from 7:00 AM to 9:00 PM; furthermore, restricting sound escaping from a property to exceed 53 dBA during the hours between 9:00 PM and 7:00 AM. Additionally, activities between the hours of 7:00 AM to 9:00 PM may exceed the current limit by up to 10 dBA for a period no than longer than ten minutes in any given hour.

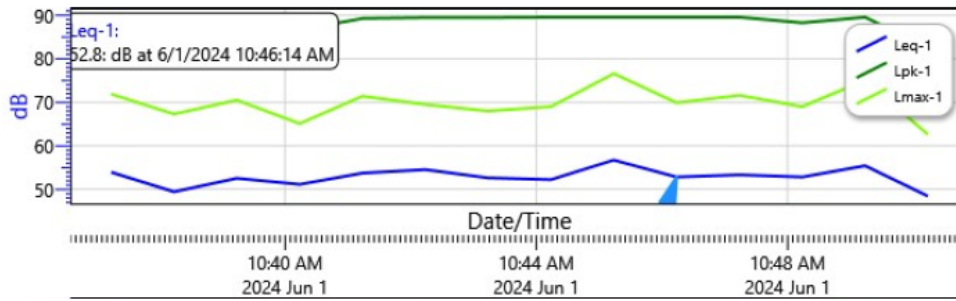
Sound measurements were taken at seven different locations over the span of an hour. Six locations were measured for ten minutes while residents of Los Alamos County replicated standard pickleball activity. Additionally, one location was measured after pickleball activities had concluded to establish the standard sound levels in the test area. The various locations for each noise sample were used to determine sound levels in different directions and different distances from the court to determine impacts in a large area. Using multiple sampling locations allows to show differences in noise at closer and farther distances, but most importantly allows for multiple sampling points to be taken along the property boundary. Following ANSI 12.9 standards a type 2 sound level meter with a wind screen was used to collect data. At each location a field table was filled out to ensure consistency between points, record time and location data, as well as note any overt instances which could cause an increase in sound levels. **Table 1** identifies each site number and its corresponding field notes.

**Table 1:** A collection of sites used during the field survey.

Site Number	Date & Time	Acoustics Measured	Time or Frequency Weighting	Microphone Height	Location (Lat, Long)	Specific Noise Instances	Weather Conditions
1	06/01/2024 9:15 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885502, -106.302513	N/A	Clear, 6-13 MPH, 63 degrees
2	06/01/2024 9:36 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885572, -106.302693	@14:55 & @15:24 car driving behind in parking lot	Clear, 6-13 MPH, 64 degrees
3	06/01/2024 10:01 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885707, -106.302804	N/A	Clear, 7-15 MPH, 67 degrees
4	06/01/2024 10:19 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885502, -106.302513	@11:40 car driving behind in parking lot	Clear, 7-15 MPH, 68 degrees
5	06/01/2024 10:35 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885572, -106.302693	@12:10 car driving behind in parking lot	Clear, 8-16 MPH, 69 degrees
6	06/01/2024 10:51 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885707, -106.302804	@7:14-7:45 dog barking, @8:23 car driving behind in parking lot, @13:25-14:00 Truck driving behind in parking lot	Clear, 8-16 MPH, 70 degrees
7 (Control - No Activity)	06/01/2024 11:24 AM	1/3 Octave Bands	A Frequency, F Timing	4'	35.885572, -106.302693	@9:30-9:40 car driving behind in parking lot	Clear, 9-18 MPH, 73 degrees

## 2. Field Data and Sound Level Recordings

Wilson conducted field testing on June 1<sup>st</sup>, 2024, collecting data at the seven locations which has been used to evaluate sound levels resulting from pickleball activity. The study was conducted at the tennis courts located off of Canyon Road in Los Alamos, New Mexico. This location includes two tennis courts. The study had four concurrent games of doubles occurring between the two courts. Since pickleball courts are much smaller than a standard tennis court, two games were able to be played on each court. This led to a total of 16 players concurrently playing at once with a few reserve players waiting to fill in when needed. Files compiling logged data at each location were analyzed to determine Lmax, Leq, and Lpk. Lmax reflects the highest average sound signal over a period of time and Leq measures the average sound signal over a given time. Lpk or Lpeak displays the peak level of noise without being weighted over time, giving the true peak of the signal. An example of each of these elements is included below. Lmin, the minimum average sound over a period of time was also recorded but does not provide any information for the context of this study.



Relating to the typical game of pickleball, Lpk, Lmax, and Leq are all very important parameters to understand and define. Lpk is a reflection of a single instance, which in this case is the “pop” created from striking the ball. In contrast, the Lmax will take the instances of a “pop” and spread it over a given amount of time. This gives a more accurate reflection to the overall max noise produced over a typical game of pickleball, rather than just using looking at the quick peaks from a “pop”. Most importantly the Leq represents the average noise level across a given time. For this study, Leq can be used to determine the average dBA produced from a typical game of pickleball. Recordings of sound levels at each location can be found below in **Table 2**.

**Table 2:** Sounds measurements recorded at each location

Site Number	Lpk	Lmax	Leq
1	89.6 dBA	75.5 dBA	57.0 dBA
2	89.6 dBA	75.6 dBA	58.0 dBA
3	89.6 dBA	75.2 dBA	56.6 dBA
4	89.6 dBA	74.7 dBA	57.1 dBA
5	89.6 dBA	76.6 dBA	56.7 dBA
6	89.6 dBA	73.4 dBA	51.9 dBA
7	77.3 dBA	59.2 dBA	45.0 dBA

After evaluating data from all the sampled locations, every location which was sampled during pickleball activity peaked at 89.6 dBA with an average maximum A-weighted decibel fluctuating between 73.4 dBA and 76.6 dBA. The Leq or average sound produced throughout a typical game of pickleball was 56.2 dBA, but did vary depending on where the sample was taken. Site number 7, which was recorded after pickleball activities concluded helps separate the sound levels between active and non-active pickleball courts. The Leq was over 7 dBA lower when there were no pickleball activities, with the Lmax being nearly 15 dBA lower. A map showing all seven locations that were sampled included in **Figure 1** and a complete report for each location can be found in **Appendix A**.

### 3. Noise Ordinance Discussion & Evaluation

Los Alamos County Noise Ordinance Article III requires the maximum sound escaping a property to be measured than no higher than 65 dBA. Additionally, noise may increase to 75 dBA for no longer than 10 minutes of time in any one hour. During the field study, Lpk and Lmax were consistently above the 65 dBA threshold set by the county, but the Lmax was consistently in the low to mid 70 dBA range; therefore, possibly making this noise permissible for short periods of time. In addition, the Leq or average noise level was significantly lower than the limit set by the county.

There are many points of discussion which need to be taken into consideration when analyzing the noise produced from a typical pickleball game. First and most importantly, is that the peak sounds which are producing higher dBA numbers are quick instances from striking the ball, that are not always repeatable or quantifiable. For example, the official USA Pickleball Factsheet for 2022 lists a typical pickleball game lasting 15-45 minutes. With such a large variation in playing time and playing styles, especially in a recreational game of pickleball, it is impossible to quantify how many “pops” will occur over a given period of time. Additionally, as displayed in **Figure 1**, it is important to factor in distances when discussing the volumes at which sound travels. The Inverse Square Law used in many noise sampling applications, states that for every doubling of distance, sound is reduced by six decibels. In the context of this study, if the “pop” of a pickleball measures at 89.6 dBA roughly 3 ft from the court, a measurement taken 6 ft away should read approximately be 83.6 dBA. Field measurements were taken at different locations including next to the courts and near the property line to capture this effect. For example, Site 5 was sampled on the edge of the courts and had an Leq of 56.7 dBA, but Site 6 was taken closer to the property line and farther from the courts, resulting in a much lower Leq of 51.9 dBA.

Using point source noise data recorded during the site study, it is possible to use data collected in the field to estimate sound levels in other locations. A noise modeling program was used to illustrate the sound levels at three different pickleball courts in Los Alamos, these can be found in **Appendix B**. The three locations include the original testing site along Canyon Road, as well as two single court locations which were located in neighborhoods of off 36<sup>th</sup> street and Myrtle Street. Models were created using a combination of noise sources (measured pickleball activity noise) and receivers (artificial points) to recreate noise levels which were measured during the original site study. This analysis helps visualize noise levels for both the Lmax and Leq at each site, as well as how noise from the courts will expand and reflect off structures and other surfaces in the area. Noise models at each location reflect almost identical results to the original study. Lmax levels immediately around the court remained in the low to mid 70 dBA, with sound leaving the property around 70 dBA and reaching nearby buildings between 65 dBA and 70 dBA. The average noise level, Leq, was around 57dBA in close proximity to the court, with noise levels leaving the most the properties between 50 dBA and 55 dBA; furthermore, noise levels were reduced to 50 dBA by the time most structures were reached. **Table 3** and **Table 4** list estimated sound levels for both the Lmax and Leq at each model location, including estimates of sound at both the closest property line and closest structure. The modeled results do not account of the effect of vegetation between the noise sources and the receivers, which can reduce noise levels; however, noise reduction by vegetation is inconsistent and can change seasonally, so they were not included in the model.

**Table 3:** Lmax sound recording estimates using modeling

Location	Sound at Edge of Court	Sound at Closest Property Line*	Sound at Closest Building*
Canyon Road	75 dBA	71 dBA	68 dBA
36 <sup>th</sup> Street	73 dBA	71 dBA	66 dBA
Myrtle Street	75 dBA	74 dBA	74 dBA
*Estimated using sound models			

**Table 4:** Leq sound recording estimates using modeling

Location	Sound at Edge of Court	Sound at Closest Property Line*	Sound at Closest Building*
Canyon Road	57 dBA	54 dBA	51 dBA
36 <sup>th</sup> Street	55 dBA	53 dBA	48 dBA
Myrtle Street	56 dBA	55 dBA	55 dBA
*Estimated using sound models			

In conclusion, Wilson & Company conducted a noise analysis of pickleball activity in Los Alamos, New Mexico, in order to determine if the noise would be permitted under Los Alamos County Sound Ordinances. Field results indicated “pops” resulting from striking the ball in a typical game of pickleball produce high peak dBA over short periods of time. However, the average sound over a given game of pickleball was much lower than the 65 dBA threshold set by the Los Alamos County Noise Ordinance. The average maximum sound level was 75.2 dBA which is just above the extended limit of 75 dBA in a ten minute segment of any hour. Any buildings around the Canyon Road Tennis Court, would most likely not receive a noise level higher than 75 dBA after traveling that significant of a distance, but loud instances from striking the ball may still exceed sound limits when crossing nearby property boundaries.

#### 4. Recommendations

Although the average maximum sound level exceeds those set by standards from the Los Alamos County Noise Ordinance, there are possible solutions to reduce noise levels as sound leaves the courts or property.

Due to the close proximity of many structures to the pickleball courts, especially at Myrtle Street courts, noise reduction could be addressed by either the addition of noise-reducing fencing materials or the modification of the surrounding buildings. The addition of noise reducing fencing materials, which may include coverings that attach to existing chain link fences, can provide noise dampening and reflect noise away from structures. Producers of noise reducing fences claim noise reductions up to 30 dBA, which could provide a significant reduction in current sound levels. Fences are generally recommended when the court is at an equal elevation relative to the surrounding structures, because to interrupt noise transmission, the fencing must block the-of-sight between the noise source and the receptor. On the other hand, the modification of existing structures can help improve noise reduction. This includes retrofitting existing building components, especially windows. A typical exterior wall can reduce noise similar to the levels of reducing fences, up to 30dBA. However, other exterior features like windows, door, or other openings in the wall’s fabric can compromise noise reductions when entering a structure. Modern windows, especially double glass pane windows, can help reduce noise levels. Double pane windows introduce a cavity of gases and air, reducing airborne noise transmission. Therefore, modifications to windows and other openings could result in reduced noise levels inside neighboring buildings.

If additional information or clarification is needed regarding this assessment, please contact me at [Nicholas.kronshage@wilsonco.com](mailto:Nicholas.kronshage@wilsonco.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Kronshage', with a long horizontal flourish extending to the right.

Nick Kronshage  
Wetland Specialist/Biologist



**Figure 1:** Sampling locations used for noise analysis and distance correlation



## APPENDIX A - Site Reports



# Session Report

7/22/2024

## Information Panel

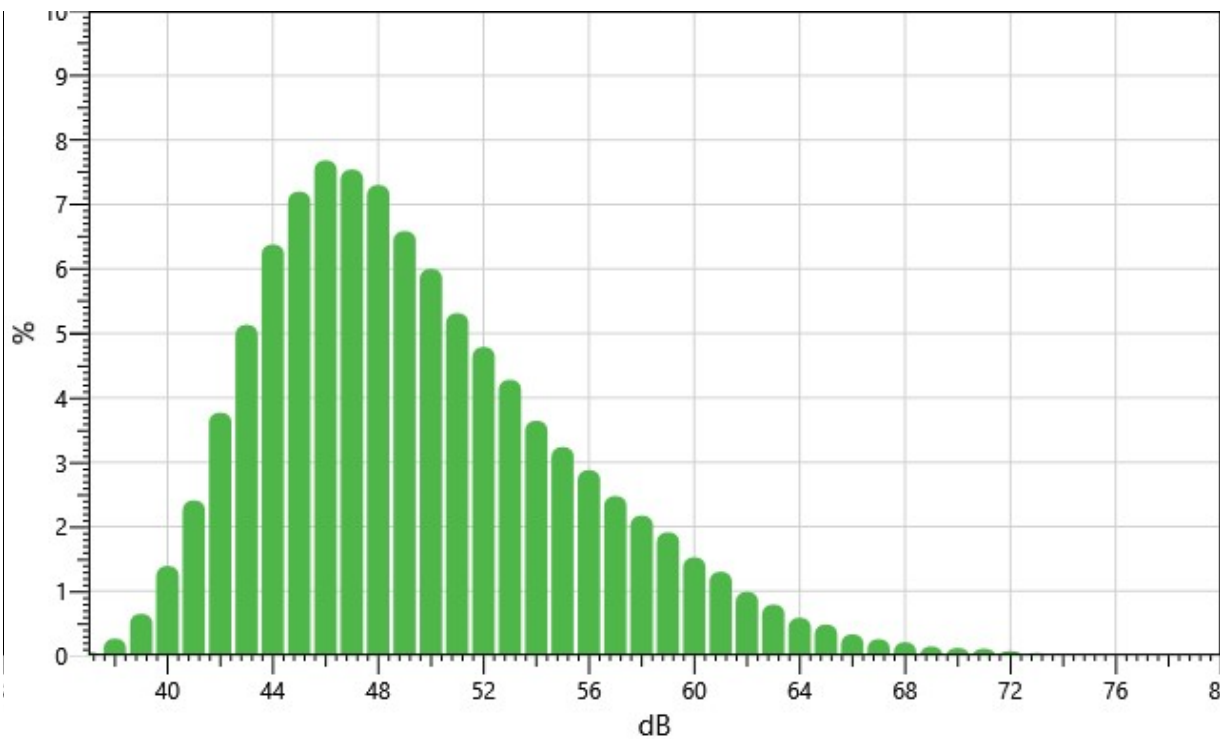
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Start Time	6/1/2024 9:16:06 AM
Stop Time	6/1/2024 9:31:07 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	55.4 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site1: Statistics Chart



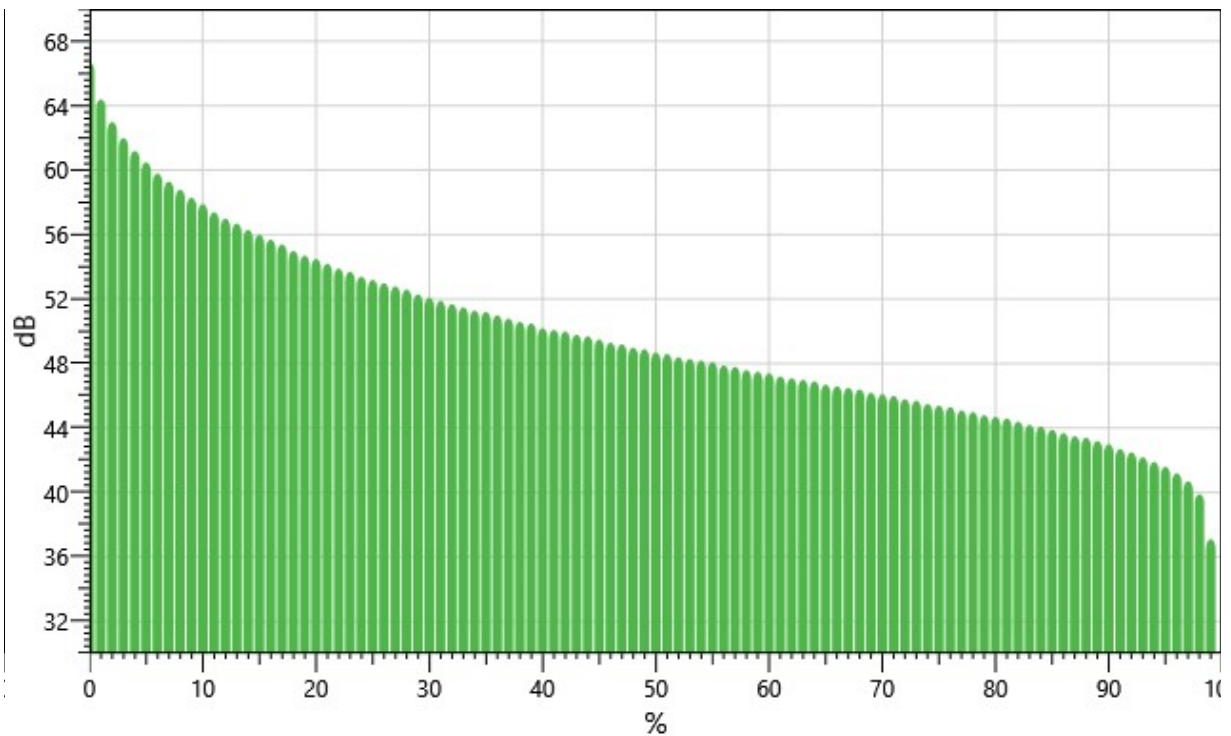
## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.02	0.05
38:	0.02	0.02	0.03	0.02	0.02	0.02	0.03	0.04	0.03	0.03	0.26
39:	0.05	0.03	0.06	0.07	0.06	0.07	0.07	0.09	0.07	0.07	0.65
40:	0.10	0.10	0.11	0.11	0.13	0.16	0.14	0.19	0.18	0.18	1.39
41:	0.22	0.23	0.19	0.23	0.11	0.30	0.24	0.30	0.30	0.29	2.41
42:	0.36	0.32	0.35	0.39	0.33	0.42	0.36	0.43	0.40	0.40	3.77
43:	0.44	0.49	0.51	0.46	0.48	0.52	0.59	0.50	0.57	0.56	5.13
44:	0.64	0.57	0.68	0.72	0.20	0.68	0.68	0.72	0.70	0.78	6.38
45:	0.68	0.72	0.71	0.73	0.70	0.75	0.72	0.74	0.73	0.72	7.20
46:	0.75	0.73	0.76	0.75	0.68	0.83	0.81	0.77	0.81	0.80	7.68
47:	0.77	0.87	0.84	0.90	0.29	0.82	0.82	0.79	0.73	0.71	7.54
48:	0.71	0.72	0.75	0.75	0.79	0.82	0.68	0.68	0.73	0.67	7.30
49:	0.73	0.66	0.66	0.66	0.66	0.64	0.58	0.61	0.70	0.69	6.58
50:	0.65	0.70	0.70	0.72	0.23	0.62	0.63	0.60	0.59	0.56	6.00
51:	0.53	0.55	0.51	0.54	0.54	0.55	0.53	0.54	0.54	0.49	5.31
52:	0.53	0.45	0.43	0.48	0.48	0.47	0.50	0.43	0.52	0.50	4.79
53:	0.52	0.43	0.54	0.48	0.14	0.47	0.46	0.40	0.43	0.40	4.28
54:	0.40	0.35	0.43	0.32	0.38	0.41	0.35	0.30	0.36	0.35	3.64
55:	0.34	0.31	0.33	0.32	0.33	0.33	0.34	0.32	0.28	0.34	3.24
56:	0.35	0.30	0.33	0.35	0.13	0.29	0.30	0.29	0.28	0.27	2.88
57:	0.28	0.27	0.25	0.23	0.27	0.23	0.25	0.23	0.23	0.23	2.47
58:	0.24	0.24	0.19	0.24	0.20	0.21	0.22	0.21	0.21	0.22	2.17
59:	0.23	0.20	0.23	0.20	0.12	0.16	0.18	0.23	0.18	0.18	1.91
60:	0.18	0.15	0.15	0.17	0.14	0.15	0.17	0.15	0.14	0.12	1.52
61:	0.14	0.15	0.12	0.13	0.14	0.13	0.13	0.13	0.12	0.12	1.30
62:	0.12	0.11	0.11	0.11	0.10	0.07	0.09	0.12	0.08	0.08	0.99
63:	0.09	0.09	0.08	0.09	0.07	0.09	0.06	0.07	0.07	0.07	0.79
64:	0.07	0.06	0.06	0.06	0.05	0.07	0.06	0.04	0.07	0.05	0.59
65:	0.06	0.06	0.06	0.06	0.02	0.03	0.04	0.06	0.03	0.06	0.48
66:	0.03	0.03	0.03	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.33
67:	0.03	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.25
68:	0.02	0.03	0.02	0.04	0.03	0.02	0.01	0.01	0.02	0.02	0.21
69:	0.03	0.02	0.01	0.03	0.01	0.01	0.02	0.00	0.01	0.01	0.14
70:	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.02	0.01	0.12
71:	0.02	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.01	0.01	0.11
72:	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.07
73:	0.00	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.01	0.04

74:	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
75:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

## Exceedance Chart

Site1: Exceedance Chart

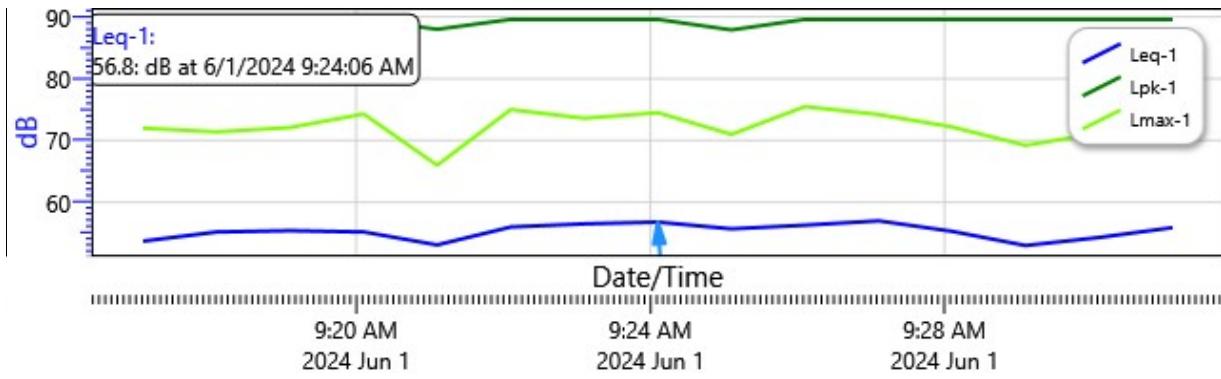


## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		66.7	64.4	63.0	62.0	61.2	60.5	59.8	59.3	58.8
10%:	58.3	57.9	57.4	57.0	56.7	56.3	56.0	55.7	55.4	55.0
20%:	54.7	54.5	54.2	53.9	53.7	53.4	53.2	53.0	52.8	52.6
30%:	52.3	52.1	51.9	51.7	51.5	51.3	51.2	51.0	50.8	50.6
40%:	50.5	50.2	50.1	50.0	49.8	49.7	49.5	49.3	49.2	49.0
50%:	48.9	48.7	48.6	48.4	48.3	48.2	48.1	47.9	47.8	47.6
60%:	47.5	47.4	47.2	47.1	47.0	46.9	46.7	46.6	46.5	46.4
70%:	46.2	46.1	46.0	45.8	45.7	45.5	45.4	45.3	45.1	45.0
80%:	44.8	44.7	44.6	44.4	44.2	44.1	43.9	43.7	43.5	43.4
90%:	43.2	43.0	42.7	42.5	42.2	41.9	41.6	41.2	40.7	39.9
100%:	37.1									

# Logged Data Chart

Site1: Logged Data Chart



# Session Report

7/22/2024

## Information Panel

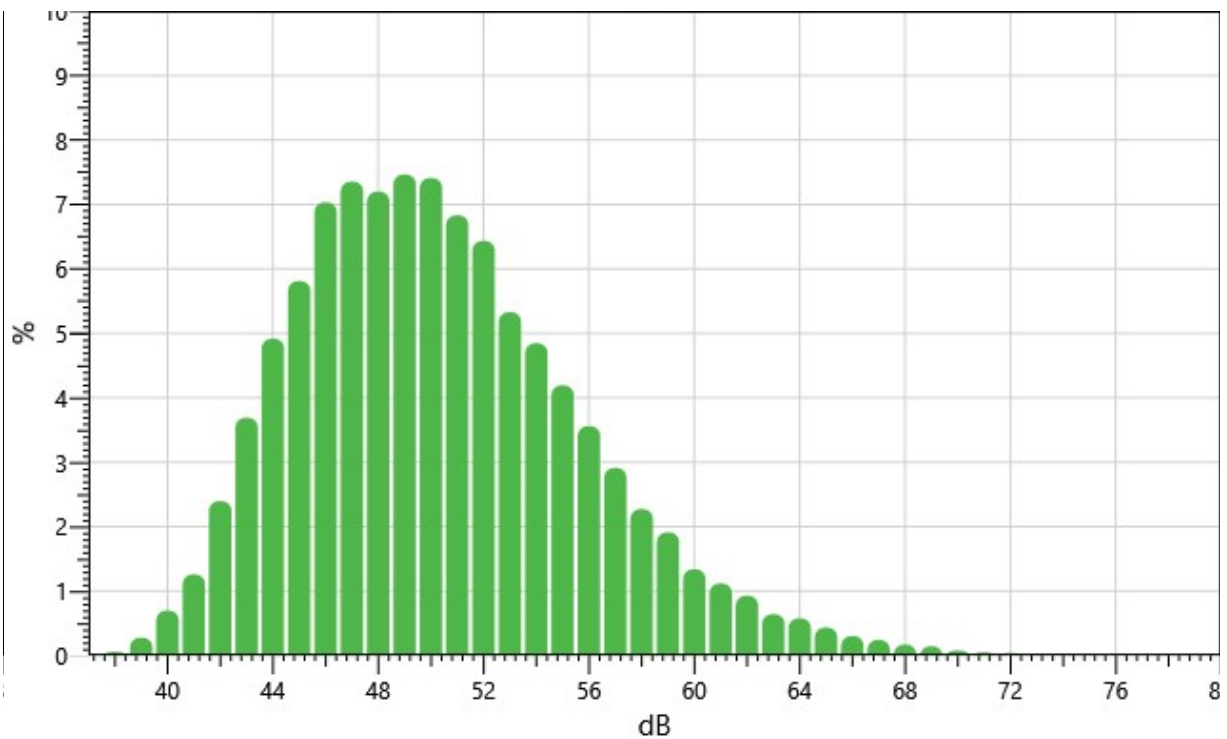
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Start Time	6/1/2024 9:36:21 AM
Stop Time	6/1/2024 9:51:56 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	55.2 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site2: Statistics Chart



## Statistics Table

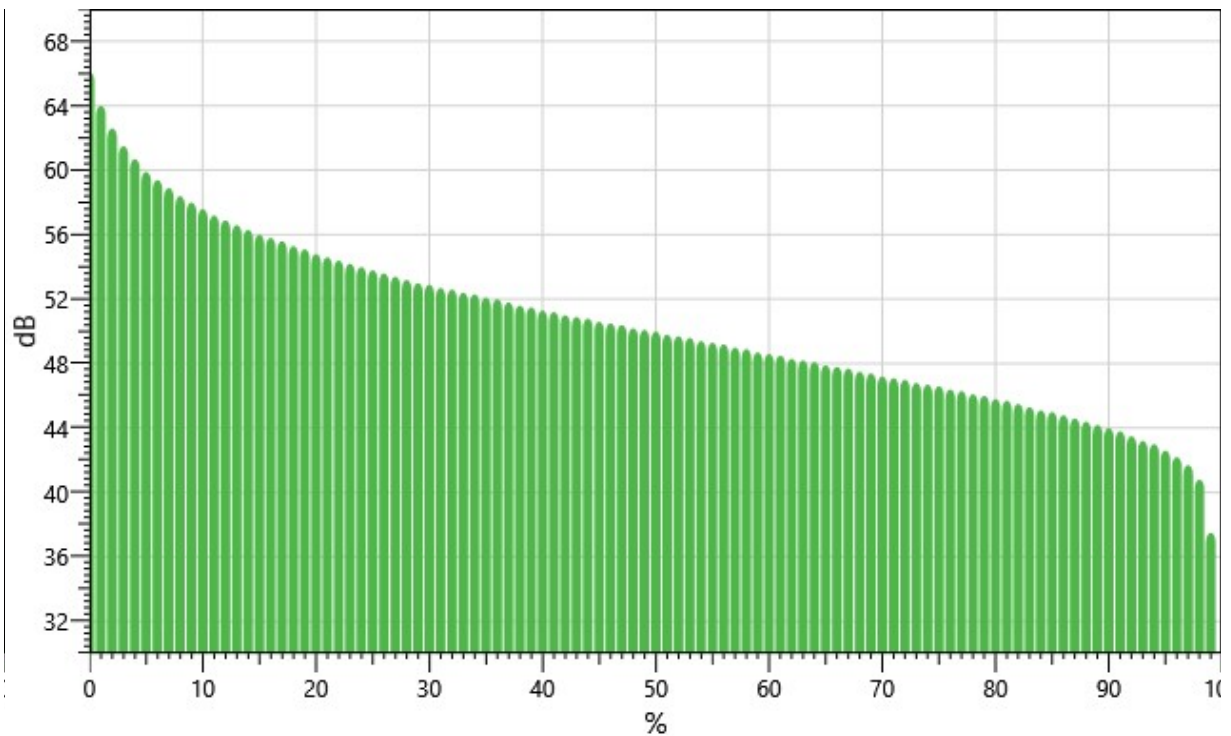
dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
38:	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.02	0.06
39:	0.01	0.02	0.02	0.03	0.03	0.03	0.05	0.04	0.03	0.03	0.28
40:	0.04	0.05	0.04	0.06	0.05	0.08	0.09	0.11	0.08	0.10	0.70
41:	0.10	0.12	0.13	0.13	0.05	0.15	0.09	0.15	0.18	0.16	1.26
42:	0.17	0.20	0.20	0.18	0.23	0.26	0.25	0.28	0.30	0.32	2.40
43:	0.27	0.35	0.38	0.32	0.34	0.44	0.36	0.37	0.40	0.47	3.69
44:	0.48	0.53	0.47	0.55	0.15	0.50	0.57	0.50	0.55	0.61	4.92
45:	0.58	0.56	0.58	0.58	0.56	0.65	0.54	0.58	0.59	0.59	5.81
46:	0.58	0.68	0.67	0.66	0.62	0.72	0.80	0.66	0.78	0.86	7.03
47:	0.73	0.84	0.82	0.87	0.28	0.75	0.76	0.77	0.75	0.79	7.35
48:	0.74	0.72	0.75	0.69	0.70	0.68	0.78	0.72	0.72	0.70	7.20
49:	0.75	0.78	0.66	0.73	0.78	0.71	0.77	0.75	0.72	0.80	7.46
50:	0.80	0.83	0.79	0.80	0.30	0.81	0.73	0.79	0.79	0.77	7.41
51:	0.71	0.73	0.67	0.70	0.69	0.65	0.64	0.73	0.63	0.69	6.83
52:	0.59	0.68	0.64	0.64	0.66	0.68	0.63	0.67	0.63	0.61	6.43
53:	0.56	0.65	0.60	0.60	0.21	0.61	0.54	0.54	0.48	0.54	5.33
54:	0.53	0.49	0.50	0.51	0.48	0.47	0.50	0.45	0.47	0.46	4.85
55:	0.45	0.45	0.42	0.40	0.39	0.39	0.40	0.44	0.42	0.43	4.19
56:	0.41	0.47	0.39	0.38	0.17	0.32	0.39	0.37	0.31	0.34	3.56
57:	0.36	0.32	0.29	0.32	0.30	0.31	0.28	0.23	0.28	0.23	2.91
58:	0.25	0.23	0.22	0.22	0.21	0.21	0.24	0.24	0.21	0.24	2.27
59:	0.24	0.21	0.23	0.21	0.09	0.18	0.19	0.19	0.17	0.19	1.91
60:	0.13	0.18	0.15	0.12	0.13	0.13	0.14	0.11	0.13	0.12	1.34
61:	0.13	0.09	0.12	0.12	0.12	0.12	0.12	0.10	0.10	0.11	1.12
62:	0.11	0.11	0.12	0.09	0.09	0.06	0.09	0.11	0.08	0.08	0.93
63:	0.09	0.06	0.08	0.07	0.06	0.05	0.05	0.06	0.07	0.06	0.64
64:	0.06	0.06	0.08	0.07	0.03	0.07	0.07	0.06	0.05	0.04	0.58
65:	0.05	0.05	0.06	0.06	0.04	0.02	0.05	0.03	0.04	0.05	0.44
66:	0.03	0.04	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.02	0.30
67:	0.03	0.03	0.02	0.03	0.02	0.04	0.02	0.02	0.02	0.02	0.24
68:	0.02	0.03	0.01	0.03	0.01	0.01	0.02	0.02	0.02	0.02	0.17
69:	0.01	0.02	0.03	0.03	0.01	0.01	0.01	0.02	0.00	0.01	0.15
70:	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.08
71:	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.05
72:	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.04
73:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.03



74:	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02
75:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

## Exceedance Chart

Site2: Exceedance Chart

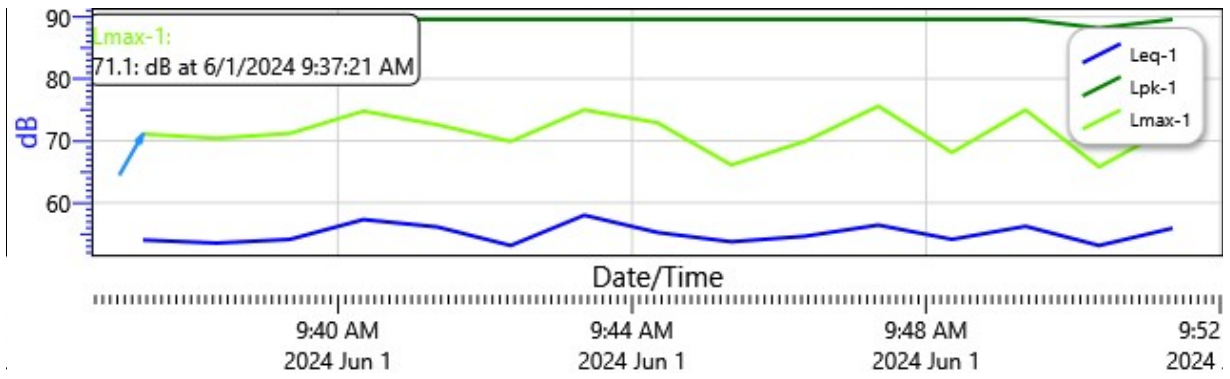


## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		66.1	64.0	62.6	61.5	60.7	59.9	59.4	58.9	58.4
10%:	58.0	57.6	57.2	56.9	56.6	56.3	56.0	55.8	55.6	55.3
20%:	55.1	54.8	54.6	54.4	54.2	54.0	53.8	53.6	53.4	53.2
30%:	53.0	52.9	52.7	52.6	52.4	52.3	52.1	52.0	51.8	51.6
40%:	51.5	51.3	51.2	51.0	50.9	50.8	50.6	50.5	50.4	50.2
50%:	50.1	50.0	49.8	49.7	49.6	49.4	49.3	49.2	49.0	48.9
60%:	48.7	48.6	48.5	48.3	48.2	48.1	47.9	47.8	47.7	47.5
70%:	47.4	47.2	47.1	47.0	46.8	46.7	46.6	46.4	46.3	46.1
80%:	46.0	45.8	45.7	45.5	45.3	45.1	45.0	44.8	44.6	44.4
90%:	44.2	44.0	43.8	43.5	43.2	43.0	42.6	42.2	41.7	40.8
100%:	37.5									

# Logged Data Chart

Site2: Logged Data Chart



# Session Report

7/22/2024

## Information Panel

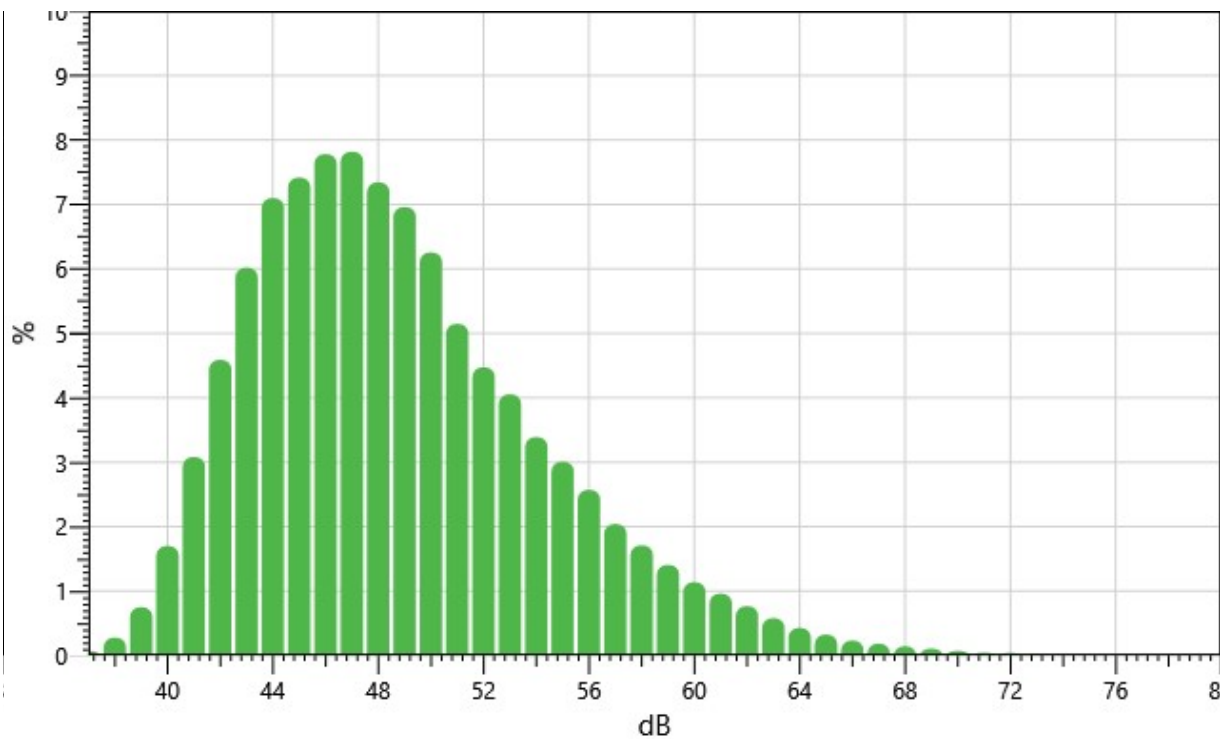
Name	Site3
Start Time	6/1/2024 9:55:22 AM
Stop Time	6/1/2024 10:16:00 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	54.3 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site3: Statistics Chart



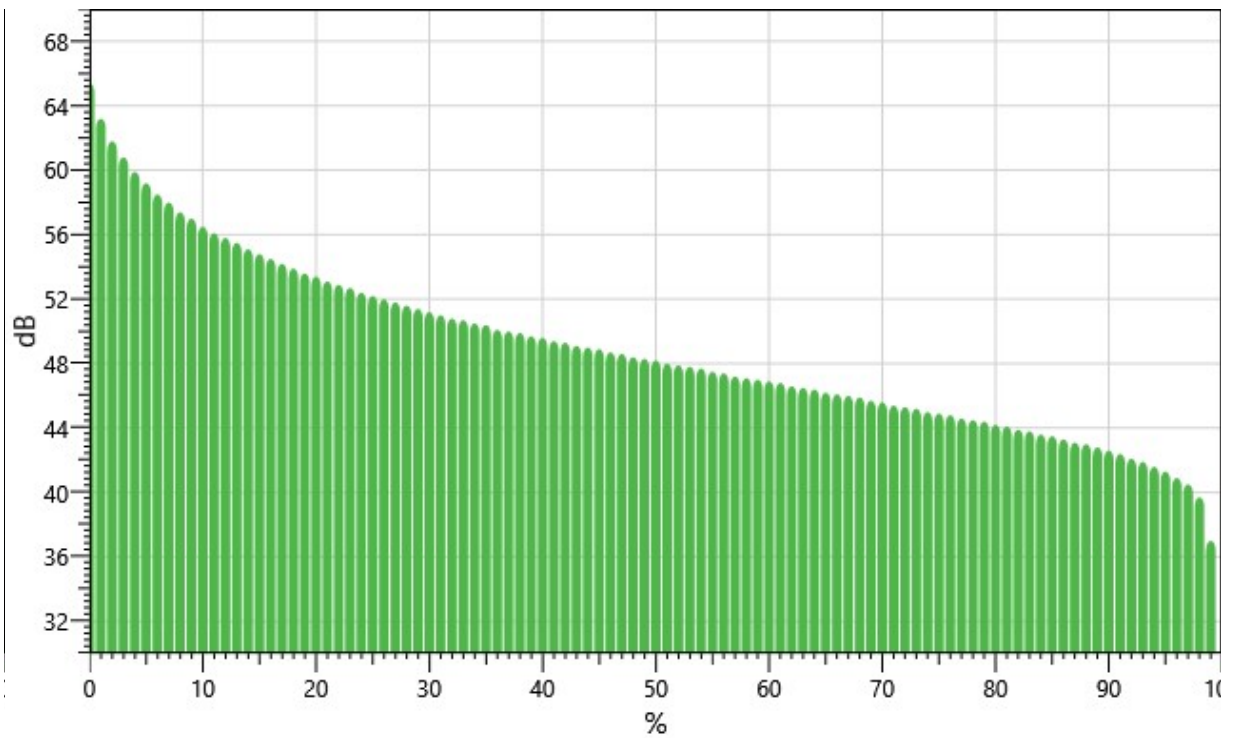
## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
37:	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.02	0.07
38:	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.04	0.03	0.05	0.28
39:	0.06	0.06	0.05	0.07	0.06	0.08	0.09	0.07	0.12	0.10	0.75
40:	0.12	0.14	0.14	0.14	0.15	0.15	0.17	0.21	0.24	0.25	1.70
41:	0.26	0.31	0.31	0.31	0.12	0.33	0.33	0.34	0.42	0.35	3.08
42:	0.38	0.38	0.41	0.43	0.45	0.48	0.50	0.52	0.49	0.54	4.59
43:	0.53	0.57	0.54	0.56	0.63	0.58	0.60	0.68	0.66	0.68	6.02
44:	0.72	0.77	0.73	0.90	0.25	0.76	0.75	0.75	0.77	0.70	7.10
45:	0.79	0.75	0.75	0.73	0.74	0.75	0.73	0.68	0.74	0.76	7.41
46:	0.75	0.76	0.77	0.74	0.75	0.79	0.80	0.82	0.74	0.86	7.78
47:	0.82	0.80	0.92	0.92	0.28	0.76	0.84	0.84	0.82	0.80	7.82
48:	0.75	0.80	0.77	0.72	0.69	0.74	0.72	0.71	0.70	0.74	7.34
49:	0.68	0.72	0.73	0.67	0.69	0.68	0.74	0.68	0.67	0.69	6.96
50:	0.73	0.69	0.73	0.65	0.26	0.72	0.64	0.61	0.62	0.61	6.25
51:	0.55	0.57	0.56	0.53	0.50	0.52	0.48	0.46	0.51	0.47	5.15
52:	0.46	0.46	0.46	0.42	0.48	0.42	0.44	0.49	0.44	0.39	4.47
53:	0.47	0.47	0.44	0.43	0.18	0.43	0.48	0.39	0.38	0.40	4.05
54:	0.40	0.36	0.33	0.35	0.32	0.35	0.31	0.30	0.31	0.34	3.39
55:	0.33	0.29	0.27	0.35	0.29	0.27	0.33	0.29	0.32	0.28	3.01
56:	0.29	0.32	0.29	0.32	0.13	0.25	0.24	0.26	0.24	0.23	2.57
57:	0.21	0.23	0.23	0.23	0.20	0.17	0.19	0.20	0.18	0.19	2.04
58:	0.18	0.19	0.17	0.19	0.16	0.17	0.16	0.14	0.17	0.18	1.71
59:	0.15	0.15	0.16	0.15	0.10	0.12	0.15	0.14	0.14	0.14	1.40
60:	0.11	0.11	0.11	0.13	0.12	0.12	0.09	0.11	0.12	0.11	1.14
61:	0.09	0.09	0.11	0.09	0.11	0.10	0.09	0.09	0.09	0.11	0.96
62:	0.09	0.09	0.09	0.09	0.06	0.05	0.06	0.09	0.07	0.06	0.77
63:	0.06	0.06	0.07	0.07	0.04	0.06	0.05	0.06	0.06	0.05	0.58
64:	0.04	0.05	0.05	0.03	0.05	0.03	0.04	0.03	0.06	0.04	0.43
65:	0.03	0.04	0.04	0.05	0.03	0.01	0.03	0.04	0.03	0.03	0.32
66:	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.23
67:	0.01	0.02	0.03	0.02	0.01	0.02	0.01	0.02	0.02	0.02	0.18
68:	0.01	0.01	0.03	0.02	0.02	0.01	0.01	0.02	0.01	0.01	0.14
69:	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.11
70:	0.01	0.00	0.01	0.01	0.01	0.02	0.01	0.00	0.01	0.01	0.07
71:	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.05
72:	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.04
73:	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

74:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
75:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### Exceedance Chart

Site3: Exceedance Chart

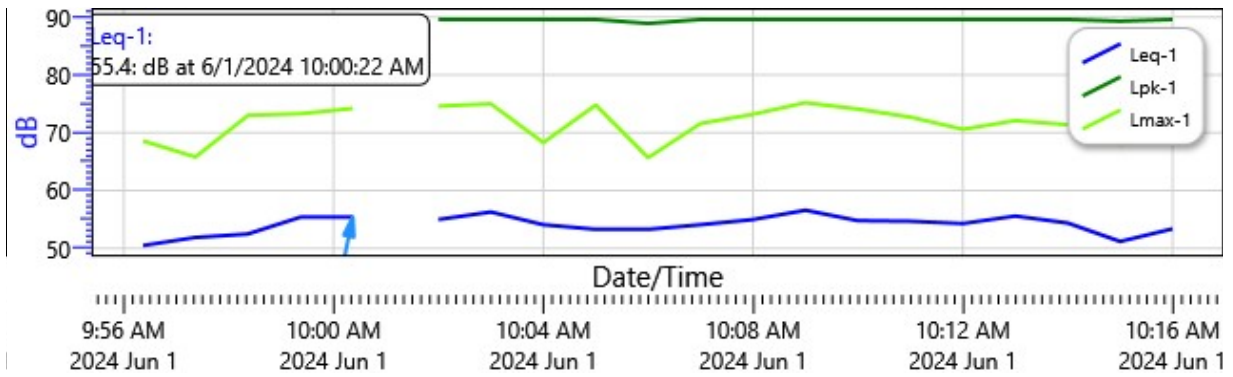


### Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		65.4	63.2	61.8	60.8	59.9	59.2	58.5	58.0	57.4
10%:	57.0	56.5	56.1	55.8	55.5	55.1	54.8	54.5	54.2	53.9
20%:	53.6	53.4	53.1	52.9	52.7	52.4	52.2	52.0	51.8	51.6
30%:	51.4	51.2	51.0	50.8	50.7	50.5	50.4	50.1	50.0	49.9
40%:	49.7	49.6	49.4	49.3	49.1	49.0	48.9	48.7	48.6	48.4
50%:	48.3	48.2	48.0	47.9	47.8	47.7	47.5	47.4	47.2	47.1
60%:	47.0	46.9	46.8	46.6	46.5	46.4	46.2	46.1	46.0	45.9
70%:	45.7	45.6	45.4	45.3	45.2	45.0	44.9	44.8	44.6	44.5
80%:	44.4	44.2	44.1	43.9	43.8	43.6	43.5	43.3	43.1	43.0
90%:	42.8	42.6	42.4	42.1	41.9	41.6	41.3	40.9	40.5	39.7
100%:	37.0									

## Logged Data Chart

Site3: Logged Data Chart



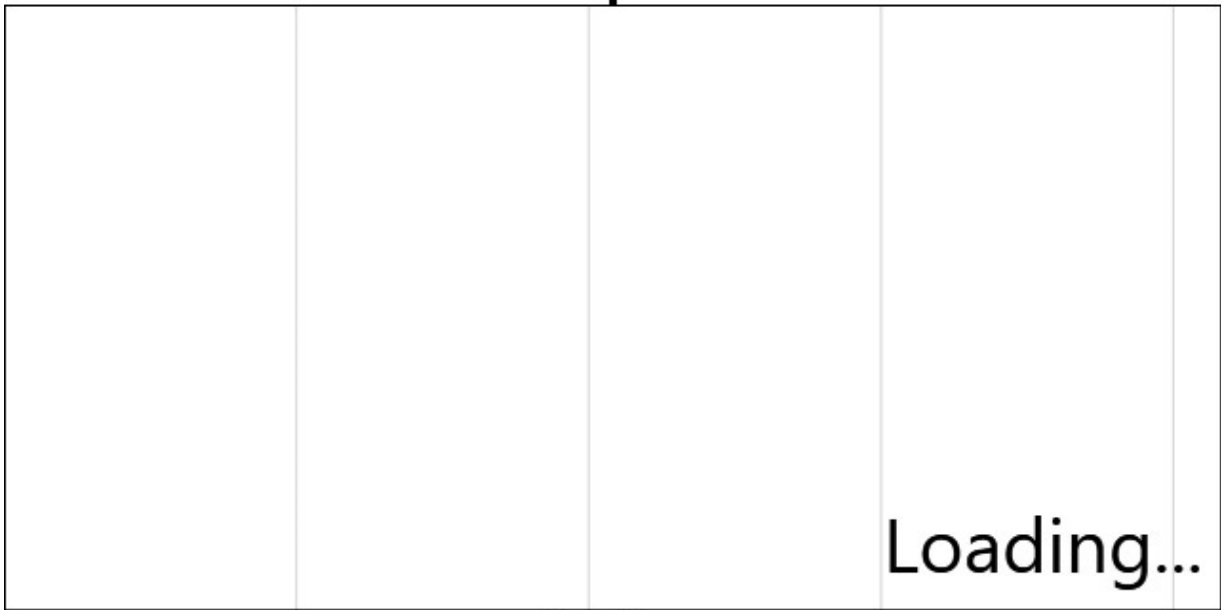
## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Dose	1	0 %	Lpk	1	89.6 dB
Lmax	1	74.2 dB	Response	1	FAST
Weighting	1	A	Exchange Rate	1	3 dB
Bandwidth	1	1/3	Log Rate	1	60 s
Integrating Threshold	1	80 dB	Integrating Threshold	2	80 dB
Exchange Rate	2	5 dB	Response	2	SLOW
Weighting	2	A			



## Logged Data Chart

Study 1: Logged Data Chart



Date/Time

.....  
) AM                      12:04 AM                      12:08 AM                      12:12 AM                      12:16 AM  
/Jan 1                      0001 Jan 1                      0001 Jan 1                      0001 Jan 1                      0001 Jan 1

# Session Report

7/22/2024

## Information Panel

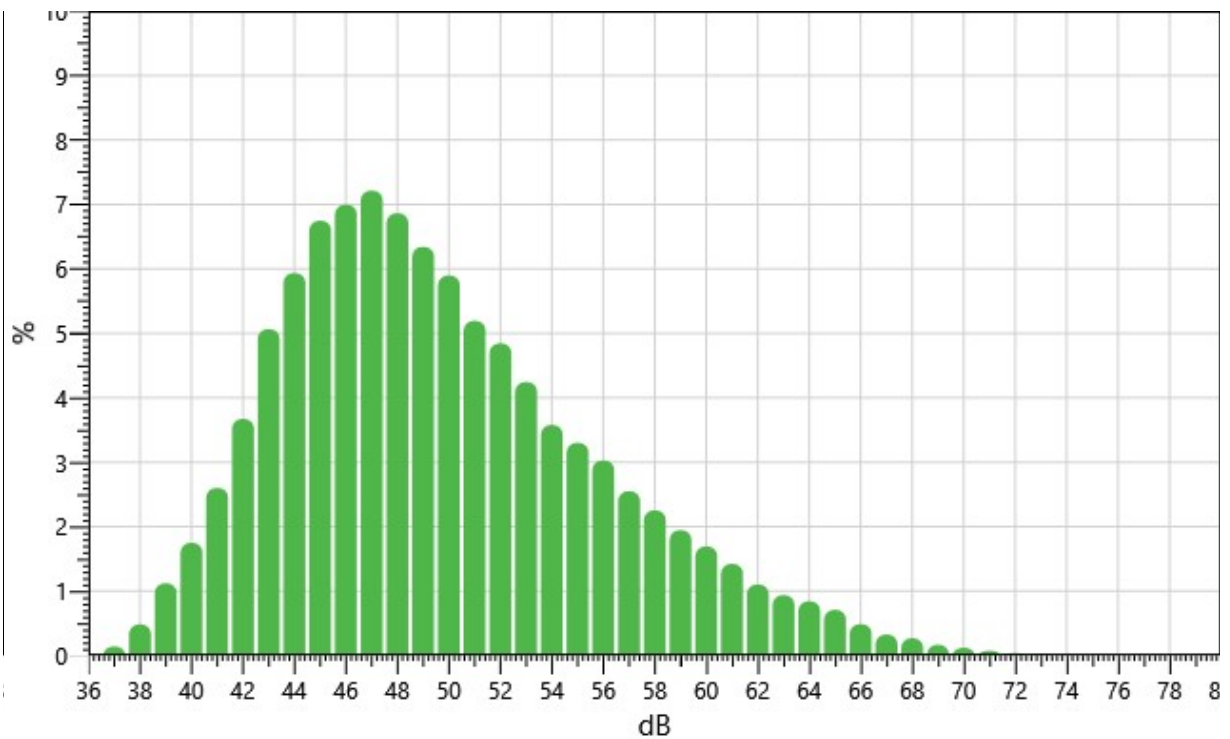
Name	Site4
Start Time	6/1/2024 10:19:27 AM
Stop Time	6/1/2024 10:34:27 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	55.7 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site4: Statistics Chart



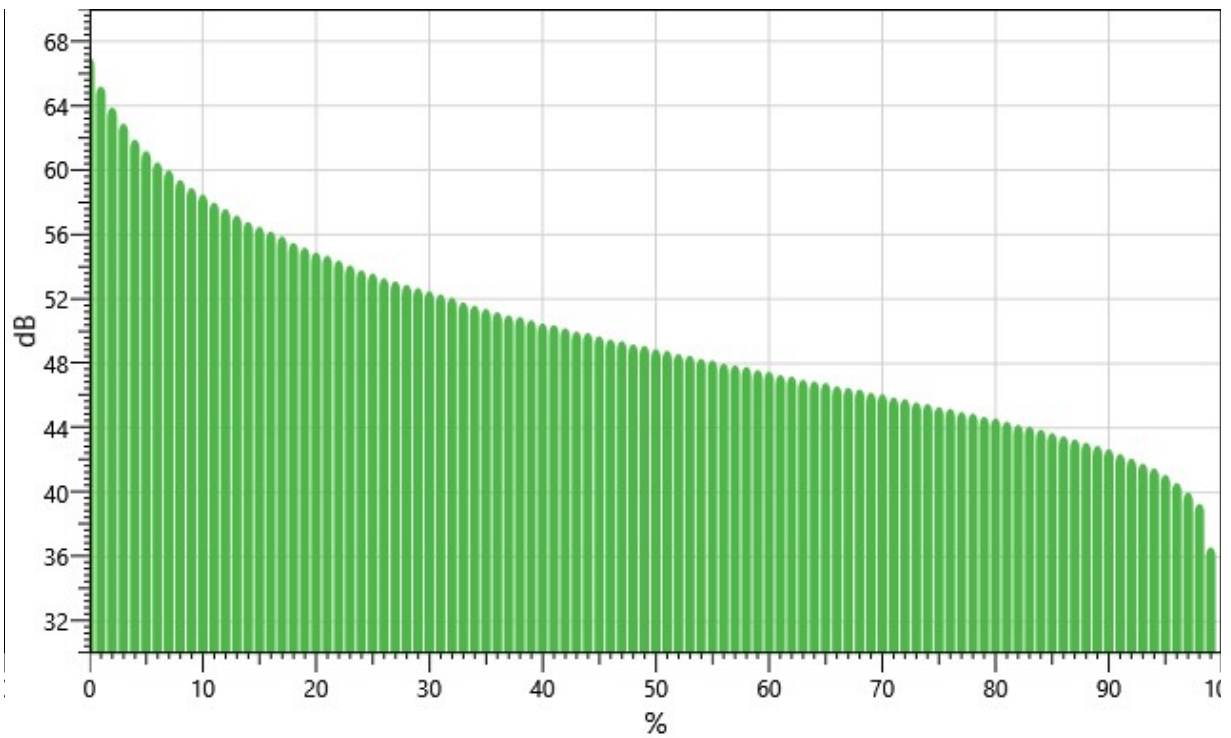
## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
36:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
37:	0.01	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.02	0.02	0.14
38:	0.02	0.03	0.06	0.03	0.03	0.05	0.06	0.06	0.07	0.06	0.48
39:	0.06	0.08	0.09	0.11	0.08	0.13	0.14	0.15	0.15	0.14	1.12
40:	0.16	0.15	0.14	0.14	0.17	0.16	0.18	0.21	0.21	0.23	1.75
41:	0.22	0.25	0.25	0.27	0.12	0.30	0.29	0.30	0.29	0.31	2.60
42:	0.34	0.33	0.35	0.36	0.37	0.35	0.37	0.39	0.43	0.39	3.67
43:	0.48	0.43	0.49	0.48	0.50	0.51	0.53	0.52	0.55	0.56	5.06
44:	0.60	0.56	0.61	0.68	0.20	0.65	0.68	0.63	0.71	0.62	5.94
45:	0.72	0.63	0.65	0.64	0.65	0.70	0.70	0.63	0.68	0.75	6.75
46:	0.71	0.66	0.72	0.62	0.70	0.71	0.70	0.70	0.73	0.75	7.00
47:	0.70	0.84	0.89	0.82	0.26	0.79	0.71	0.68	0.75	0.77	7.21
48:	0.64	0.69	0.75	0.72	0.66	0.71	0.64	0.74	0.70	0.61	6.86
49:	0.69	0.64	0.68	0.60	0.58	0.65	0.65	0.62	0.63	0.61	6.34
50:	0.61	0.69	0.71	0.72	0.20	0.61	0.60	0.61	0.55	0.59	5.90
51:	0.58	0.61	0.54	0.55	0.51	0.48	0.51	0.51	0.41	0.49	5.19
52:	0.47	0.49	0.49	0.47	0.49	0.48	0.49	0.43	0.52	0.53	4.84
53:	0.53	0.50	0.48	0.51	0.15	0.44	0.44	0.39	0.41	0.39	4.24
54:	0.41	0.35	0.35	0.34	0.39	0.38	0.31	0.33	0.33	0.39	3.58
55:	0.34	0.29	0.35	0.33	0.37	0.35	0.32	0.31	0.33	0.31	3.30
56:	0.34	0.30	0.34	0.38	0.14	0.32	0.28	0.32	0.32	0.28	3.03
57:	0.28	0.27	0.24	0.24	0.30	0.25	0.24	0.22	0.27	0.23	2.55
58:	0.25	0.26	0.20	0.21	0.23	0.23	0.23	0.22	0.20	0.23	2.25
59:	0.23	0.22	0.21	0.22	0.14	0.17	0.20	0.21	0.16	0.18	1.95
60:	0.23	0.19	0.16	0.16	0.16	0.18	0.18	0.16	0.14	0.13	1.69
61:	0.18	0.14	0.14	0.11	0.13	0.18	0.14	0.14	0.13	0.13	1.42
62:	0.13	0.14	0.12	0.11	0.08	0.07	0.13	0.11	0.11	0.09	1.10
63:	0.10	0.11	0.10	0.11	0.07	0.10	0.10	0.10	0.09	0.06	0.94
64:	0.09	0.09	0.08	0.09	0.08	0.07	0.09	0.08	0.09	0.08	0.84
65:	0.08	0.09	0.07	0.08	0.07	0.05	0.06	0.07	0.05	0.07	0.71
66:	0.06	0.05	0.05	0.06	0.06	0.05	0.05	0.04	0.04	0.06	0.49
67:	0.04	0.03	0.04	0.02	0.03	0.04	0.03	0.02	0.03	0.03	0.33
68:	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.03	0.03	0.27
69:	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.01	0.02	0.17
70:	0.02	0.03	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.12
71:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.07
72:	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.04

73:	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.03
74:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

### Exceedance Chart

Site4: Exceedance Chart

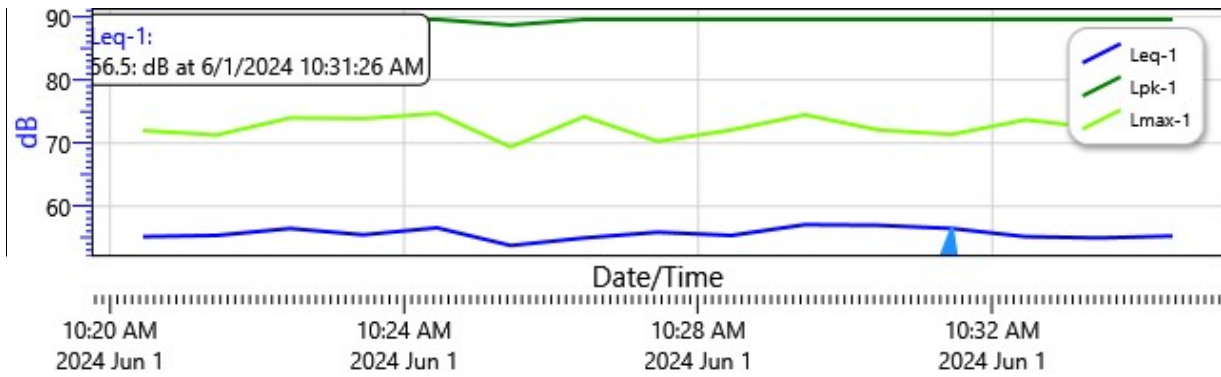


### Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%:		67.0	65.2	63.9	62.9	61.9	61.2	60.5	60.0	59.4
10%:	58.9	58.5	58.0	57.6	57.2	56.8	56.5	56.2	55.9	55.5
20%:	55.2	54.9	54.7	54.4	54.1	53.8	53.6	53.3	53.1	52.9
30%:	52.7	52.5	52.3	52.1	51.8	51.6	51.4	51.2	51.0	50.9
40%:	50.7	50.5	50.4	50.2	50.0	49.9	49.7	49.5	49.4	49.2
50%:	49.1	48.9	48.8	48.6	48.5	48.3	48.2	48.0	47.9	47.8
60%:	47.6	47.5	47.3	47.2	47.0	46.9	46.8	46.6	46.5	46.4
70%:	46.2	46.1	45.9	45.8	45.6	45.5	45.3	45.2	45.0	44.9
80%:	44.7	44.6	44.4	44.2	44.1	43.9	43.7	43.5	43.3	43.1
90%:	42.9	42.7	42.4	42.1	41.8	41.5	41.1	40.6	40.0	39.3
100%:	36.6									

# Logged Data Chart

Site4: Logged Data Chart



# Session Report

7/22/2024

## Information Panel

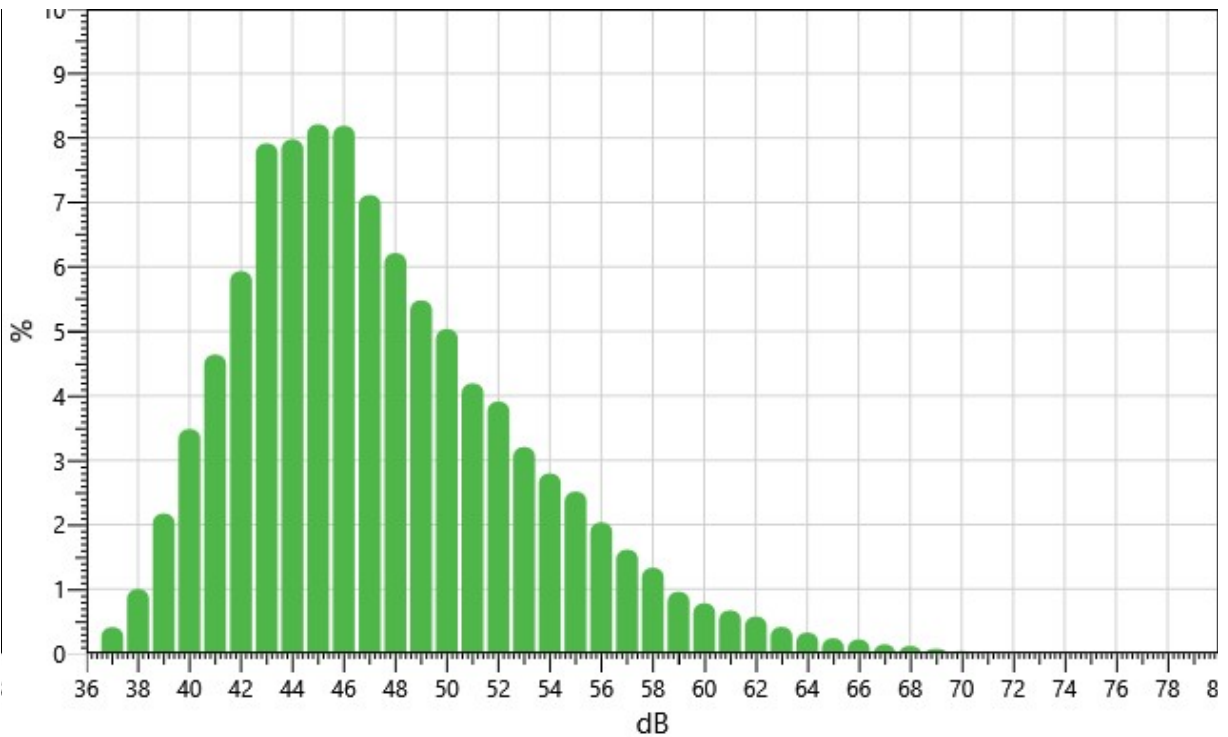
Name	Site5
Start Time	6/1/2024 10:36:14 AM
Stop Time	6/1/2024 10:50:45 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	53.1 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site5: Statistics Chart





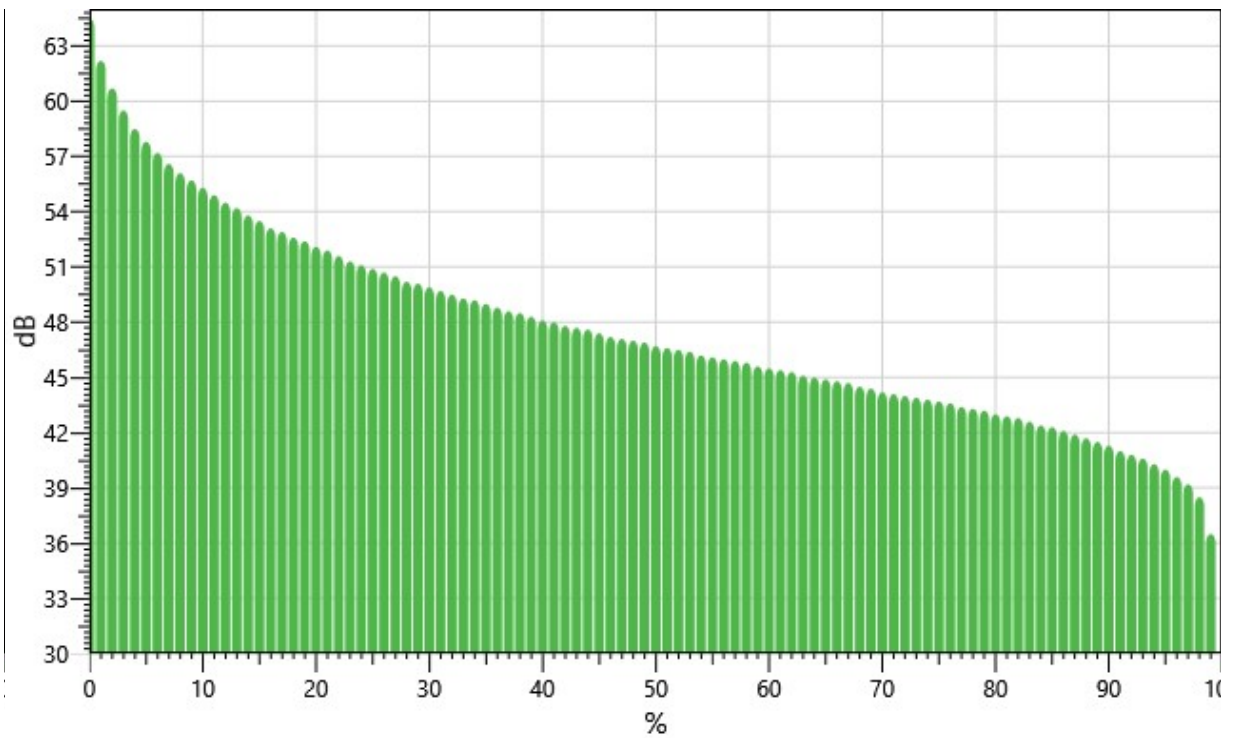
## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
36:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
37:	0.01	0.01	0.02	0.02	0.04	0.04	0.05	0.07	0.06	0.08	0.41
38:	0.08	0.09	0.09	0.08	0.05	0.10	0.11	0.13	0.15	0.12	1.00
39:	0.19	0.18	0.21	0.20	0.20	0.22	0.22	0.24	0.26	0.25	2.17
40:	0.25	0.28	0.30	0.32	0.34	0.37	0.39	0.38	0.44	0.42	3.48
41:	0.50	0.45	0.47	0.46	0.22	0.52	0.47	0.51	0.51	0.54	4.64
42:	0.50	0.53	0.55	0.60	0.61	0.54	0.67	0.58	0.65	0.70	5.93
43:	0.71	0.71	0.74	0.70	0.80	0.81	0.81	0.84	0.90	0.89	7.92
44:	0.85	0.90	0.91	0.88	0.28	0.79	0.88	0.80	0.82	0.86	7.98
45:	0.83	0.87	0.79	0.81	0.79	0.80	0.83	0.79	0.89	0.82	8.21
46:	0.84	0.84	0.86	0.85	0.77	0.76	0.82	0.85	0.79	0.81	8.19
47:	0.82	0.79	0.83	0.80	0.27	0.74	0.76	0.71	0.71	0.69	7.11
48:	0.67	0.65	0.70	0.60	0.58	0.60	0.65	0.54	0.64	0.57	6.21
49:	0.57	0.54	0.53	0.54	0.61	0.49	0.56	0.52	0.56	0.55	5.48
50:	0.62	0.51	0.54	0.65	0.21	0.49	0.47	0.53	0.53	0.49	5.04
51:	0.48	0.44	0.46	0.44	0.41	0.41	0.41	0.42	0.34	0.40	4.19
52:	0.43	0.35	0.43	0.38	0.41	0.39	0.38	0.37	0.41	0.35	3.91
53:	0.39	0.34	0.41	0.35	0.13	0.34	0.34	0.29	0.32	0.29	3.20
54:	0.32	0.26	0.30	0.29	0.31	0.30	0.25	0.27	0.27	0.23	2.79
55:	0.27	0.25	0.24	0.28	0.28	0.25	0.20	0.22	0.27	0.25	2.51
56:	0.22	0.24	0.25	0.21	0.09	0.20	0.24	0.17	0.21	0.20	2.04
57:	0.19	0.14	0.16	0.16	0.16	0.16	0.14	0.17	0.17	0.17	1.61
58:	0.16	0.16	0.14	0.14	0.16	0.11	0.11	0.11	0.12	0.12	1.33
59:	0.11	0.11	0.12	0.12	0.07	0.09	0.08	0.10	0.09	0.09	0.96
60:	0.07	0.10	0.06	0.10	0.07	0.09	0.06	0.10	0.08	0.06	0.78
61:	0.07	0.06	0.07	0.08	0.06	0.08	0.06	0.06	0.07	0.06	0.67
62:	0.05	0.07	0.08	0.07	0.04	0.04	0.06	0.06	0.06	0.04	0.57
63:	0.05	0.05	0.04	0.02	0.06	0.04	0.04	0.04	0.04	0.04	0.41
64:	0.02	0.04	0.04	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.33
65:	0.03	0.03	0.02	0.02	0.02	0.01	0.03	0.02	0.02	0.02	0.24
66:	0.03	0.02	0.03	0.02	0.02	0.01	0.02	0.03	0.03	0.01	0.22
67:	0.02	0.01	0.02	0.02	0.02	0.01	0.02	0.01	0.01	0.02	0.14
68:	0.02	0.02	0.01	0.01	0.00	0.01	0.02	0.02	0.00	0.01	0.12
69:	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.08
70:	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.04
71:	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.02
72:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

73:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
74:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
75:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
76:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

### Exceedance Chart

Site5: Exceedance Chart

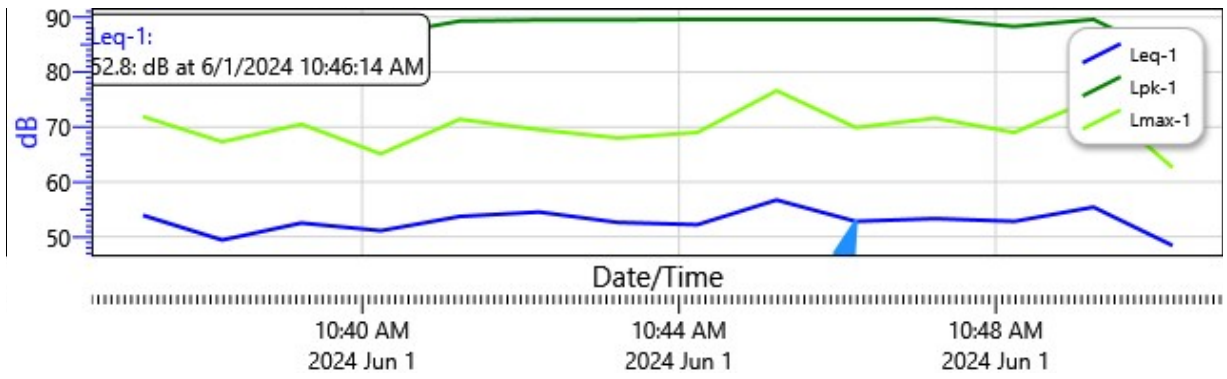


### Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%:		64.5	62.2	60.7	59.5	58.5	57.8	57.2	56.6	56.1
10%:	55.7	55.3	54.9	54.5	54.2	53.8	53.5	53.1	52.9	52.6
20%:	52.4	52.1	51.9	51.6	51.3	51.1	50.9	50.7	50.5	50.2
30%:	50.1	49.9	49.7	49.5	49.3	49.2	49.0	48.8	48.6	48.5
40%:	48.3	48.1	48.0	47.8	47.7	47.6	47.4	47.2	47.1	47.0
50%:	46.9	46.7	46.6	46.5	46.4	46.2	46.1	46.0	45.9	45.8
60%:	45.6	45.5	45.4	45.3	45.1	45.0	44.9	44.8	44.7	44.5
70%:	44.4	44.2	44.1	44.0	43.9	43.8	43.7	43.6	43.4	43.3
80%:	43.2	43.0	42.9	42.8	42.6	42.4	42.3	42.1	41.9	41.7
90%:	41.5	41.3	41.0	40.8	40.6	40.3	40.0	39.6	39.2	38.5
100%:	36.5									

# Logged Data Chart

Site5: Logged Data Chart



# Session Report

7/23/2024

## Information Panel

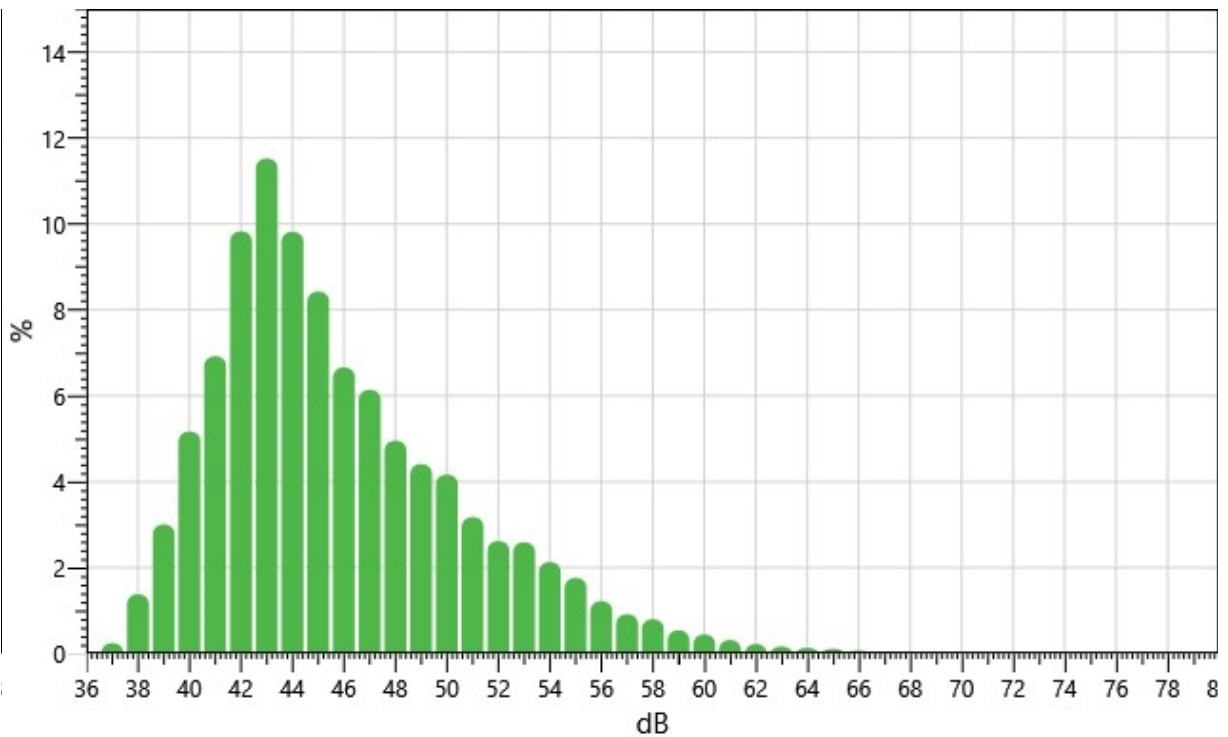
Name	Site6
Start Time	6/1/2024 10:51:45 AM
Stop Time	6/1/2024 11:06:45 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	50.5 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site6: Statistics Chart

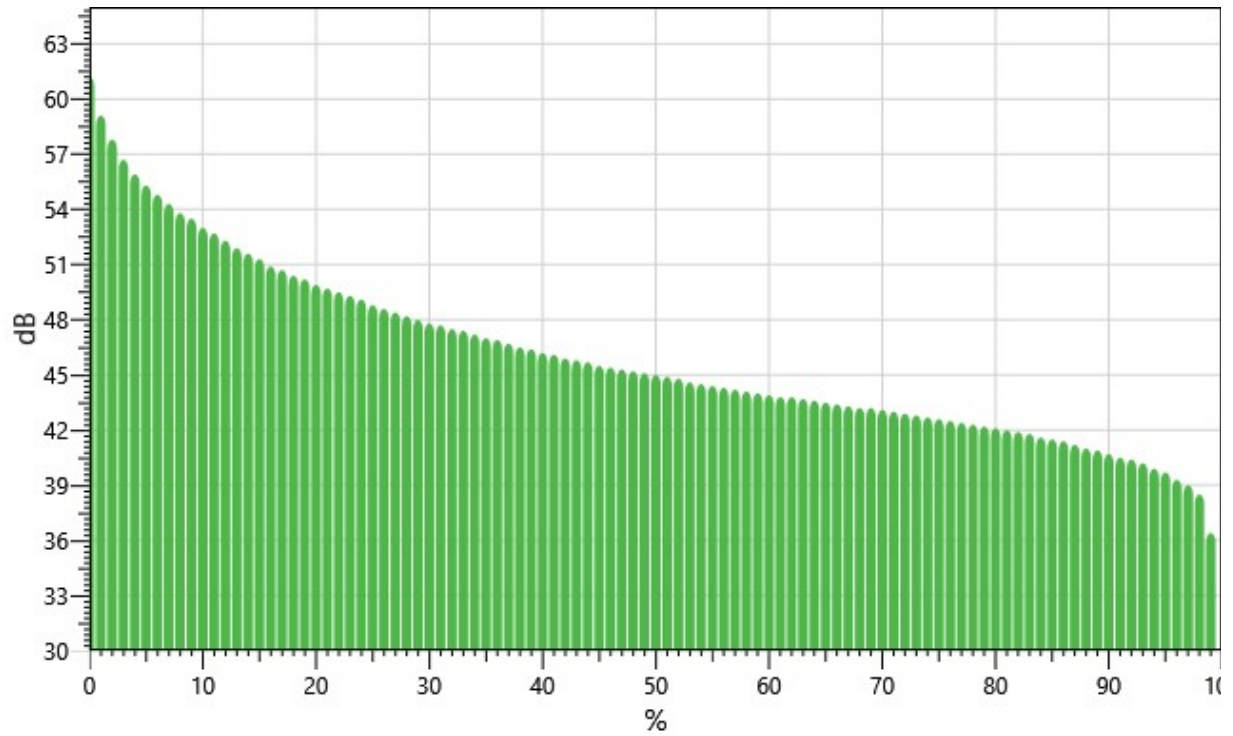


## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
36:	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.03
37:	0.01	0.01	0.01	0.02	0.01	0.04	0.03	0.02	0.04	0.06	0.24
38:	0.08	0.11	0.13	0.09	0.08	0.14	0.19	0.18	0.20	0.20	1.38
39:	0.24	0.24	0.30	0.28	0.31	0.28	0.30	0.30	0.35	0.40	3.00
40:	0.41	0.43	0.48	0.45	0.52	0.59	0.59	0.52	0.58	0.60	5.17
41:	0.67	0.72	0.77	0.67	0.31	0.69	0.71	0.72	0.82	0.85	6.92
42:	0.88	0.84	0.97	0.97	1.02	0.98	1.07	1.03	1.02	1.04	9.83
43:	1.16	1.10	1.14	1.19	1.19	1.15	1.11	1.15	1.24	1.10	11.52
44:	1.10	1.14	1.14	1.18	0.37	1.01	1.07	0.96	0.93	0.93	9.81
45:	0.94	0.83	0.94	0.87	0.86	0.84	0.83	0.81	0.74	0.77	8.43
46:	0.73	0.70	0.65	0.66	0.63	0.67	0.66	0.61	0.68	0.67	6.66
47:	0.61	0.69	0.67	0.74	0.26	0.66	0.66	0.65	0.64	0.56	6.14
48:	0.56	0.55	0.52	0.48	0.52	0.47	0.48	0.46	0.46	0.45	4.95
49:	0.47	0.44	0.46	0.40	0.47	0.46	0.40	0.39	0.44	0.49	4.41
50:	0.51	0.46	0.46	0.52	0.15	0.44	0.44	0.40	0.38	0.40	4.17
51:	0.36	0.34	0.30	0.30	0.37	0.29	0.32	0.31	0.31	0.30	3.18
52:	0.26	0.27	0.26	0.26	0.27	0.27	0.25	0.26	0.26	0.26	2.62
53:	0.26	0.30	0.28	0.28	0.11	0.28	0.26	0.31	0.26	0.25	2.59
54:	0.24	0.23	0.23	0.21	0.21	0.19	0.23	0.20	0.20	0.19	2.13
55:	0.20	0.22	0.17	0.17	0.18	0.18	0.15	0.17	0.15	0.16	1.76
56:	0.14	0.16	0.15	0.14	0.05	0.10	0.13	0.13	0.10	0.11	1.22
57:	0.11	0.10	0.09	0.10	0.10	0.09	0.08	0.06	0.09	0.09	0.92
58:	0.08	0.07	0.09	0.09	0.09	0.08	0.05	0.07	0.10	0.08	0.80
59:	0.05	0.07	0.06	0.07	0.04	0.06	0.05	0.05	0.05	0.05	0.54
60:	0.04	0.06	0.05	0.05	0.05	0.05	0.03	0.05	0.04	0.03	0.45
61:	0.03	0.03	0.04	0.04	0.03	0.02	0.04	0.02	0.03	0.03	0.31
62:	0.02	0.03	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.03	0.22
63:	0.01	0.02	0.01	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.16
64:	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.14
65:	0.01	0.02	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.11
66:	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.07
67:	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.05
68:	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
69:	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02
70:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
71:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
72:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### Exceedance Chart

Site6: Exceedance Chart

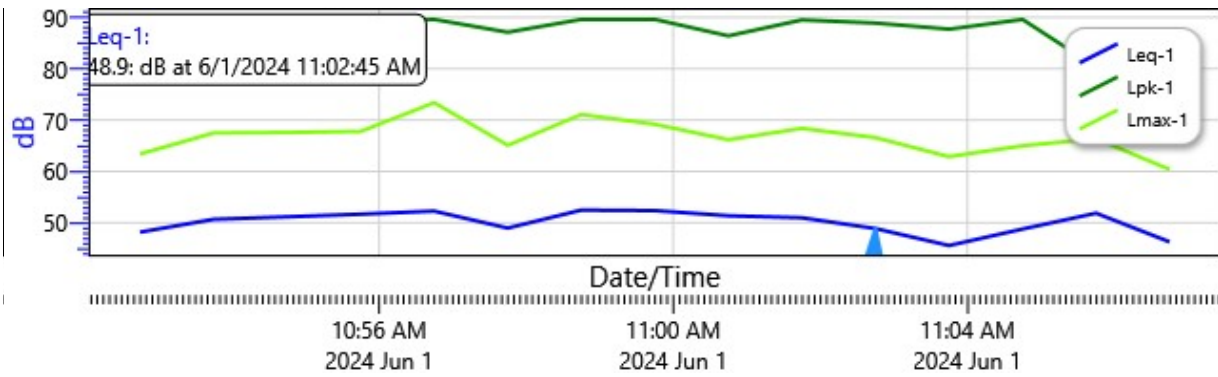


### Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	%7	%8	%9
0%:		61.2	59.1	57.8	56.7	55.9	55.3	54.8	54.3	53.8
10%:	53.5	53.0	52.7	52.3	51.9	51.6	51.3	50.9	50.7	50.4
20%:	50.2	49.9	49.7	49.5	49.3	49.1	48.8	48.6	48.4	48.2
30%:	48.0	47.8	47.7	47.5	47.4	47.2	47.0	46.9	46.7	46.5
40%:	46.4	46.2	46.1	45.9	45.8	45.7	45.5	45.4	45.3	45.2
50%:	45.1	45.0	44.9	44.8	44.6	44.5	44.4	44.3	44.2	44.1
60%:	44.0	43.9	43.8	43.8	43.7	43.6	43.5	43.4	43.3	43.2
70%:	43.2	43.1	43.0	42.9	42.8	42.7	42.6	42.5	42.4	42.3
80%:	42.2	42.1	42.0	41.9	41.8	41.6	41.5	41.4	41.2	41.0
90%:	40.9	40.7	40.5	40.4	40.2	39.9	39.7	39.3	39.0	38.5
100%:	36.4									

# Logged Data Chart

Site6: Logged Data Chart



# Session Report

7/22/2024

## Information Panel

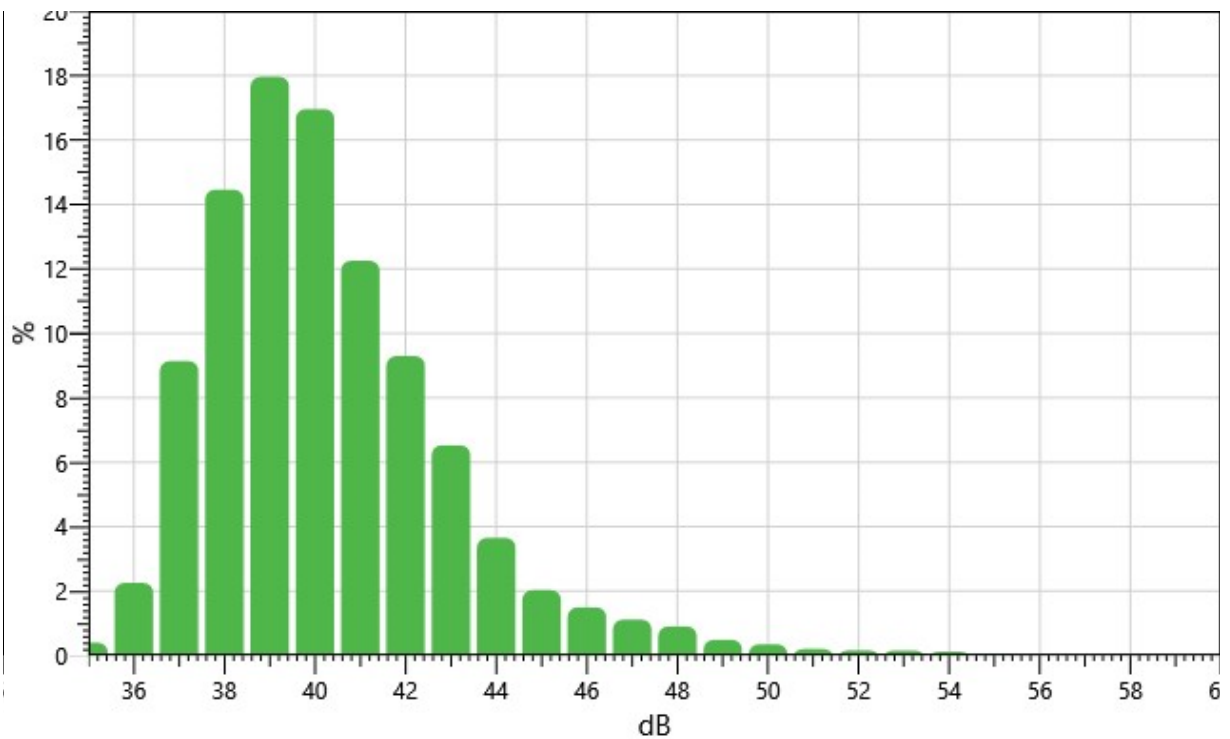
Name	Site7
Start Time	6/1/2024 11:24:48 AM
Stop Time	6/1/2024 11:40:09 AM
Device Name	BIJ090043
Model Type	SoundPro DL
Device Firmware Rev	R.13H
Comments	

## Summary Data Panel

Description	Meter	Value	Description	Meter	Value
Leq	1	42 dB			
Exchange Rate	1	3 dB	Weighting	1	A
Response	1	FAST	Bandwidth	1	1/3
Exchange Rate	2	5 dB	Weighting	2	A
Response	2	SLOW			

## Statistics Chart

Site7: Statistics Chart



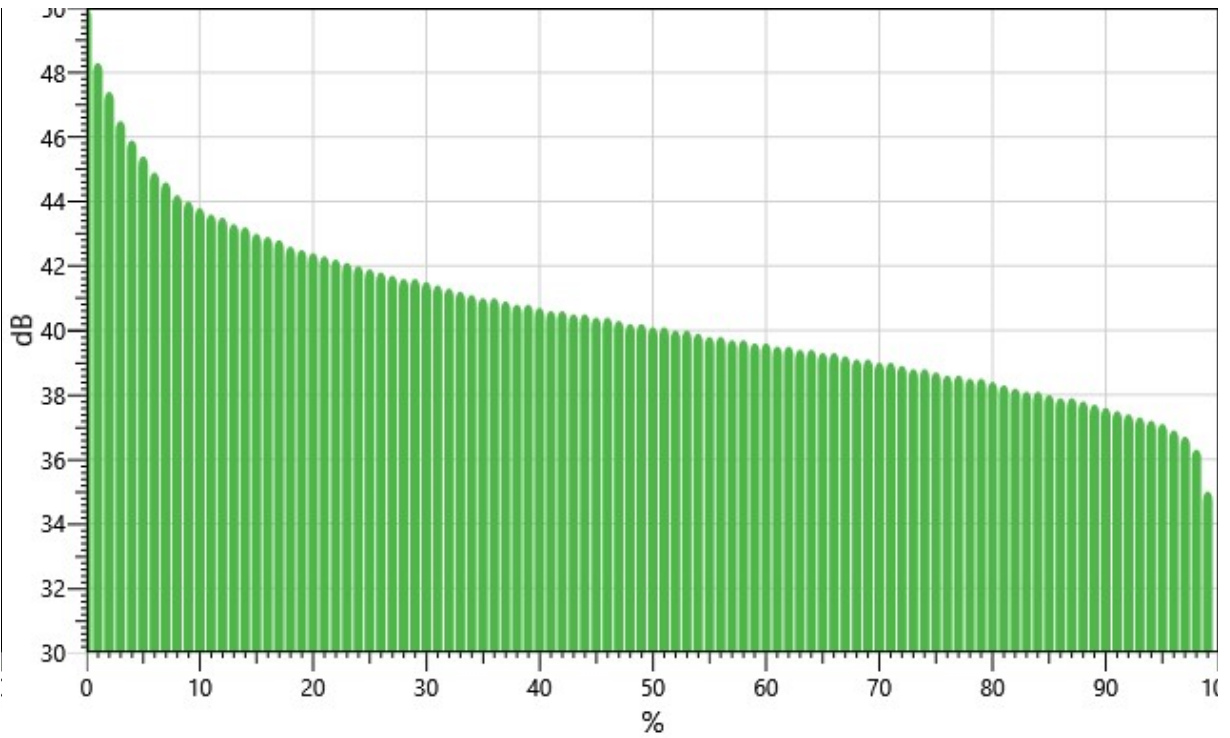


## Statistics Table

dB:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
35:	0.00	0.00	0.01	0.03	0.02	0.05	0.06	0.04	0.08	0.10	0.40
36:	0.11	0.12	0.11	0.14	0.13	0.16	0.25	0.34	0.41	0.47	2.25
37:	0.53	0.63	0.63	0.73	0.88	1.03	0.98	1.17	1.23	1.32	9.14
38:	1.41	1.47	1.69	1.35	0.74	1.54	1.50	1.59	1.58	1.58	14.46
39:	1.74	1.67	1.73	1.62	1.87	1.82	1.92	1.90	1.91	1.79	17.96
40:	1.71	1.73	1.76	1.81	1.75	1.62	1.78	1.67	1.58	1.56	16.96
41:	1.47	1.50	1.32	1.25	0.54	1.34	1.20	1.24	1.20	1.19	12.25
42:	1.17	1.14	1.02	1.01	0.92	0.86	0.85	0.84	0.79	0.71	9.29
43:	0.75	0.78	0.75	0.61	0.68	0.71	0.59	0.61	0.53	0.52	6.52
44:	0.51	0.47	0.45	0.46	0.14	0.36	0.34	0.34	0.31	0.29	3.65
45:	0.24	0.22	0.20	0.21	0.20	0.23	0.17	0.15	0.20	0.21	2.03
46:	0.17	0.21	0.17	0.15	0.14	0.16	0.13	0.11	0.14	0.11	1.49
47:	0.11	0.11	0.13	0.14	0.06	0.13	0.09	0.10	0.13	0.12	1.12
48:	0.10	0.09	0.12	0.11	0.10	0.10	0.09	0.06	0.08	0.06	0.90
49:	0.04	0.05	0.06	0.06	0.04	0.04	0.05	0.05	0.05	0.04	0.49
50:	0.05	0.06	0.04	0.04	0.02	0.03	0.03	0.02	0.02	0.03	0.34
51:	0.03	0.02	0.02	0.01	0.03	0.02	0.02	0.03	0.02	0.01	0.21
52:	0.01	0.02	0.02	0.01	0.01	0.02	0.02	0.01	0.02	0.02	0.16
53:	0.02	0.02	0.02	0.01	0.01	0.02	0.03	0.02	0.01	0.01	0.16
54:	0.02	0.02	0.01	0.01	0.01	0.01	0.02	0.00	0.01	0.01	0.12
55:	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.01	0.05
56:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02
57:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
58:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
59:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

## Exceedance Chart

Site7: Exceedance Chart

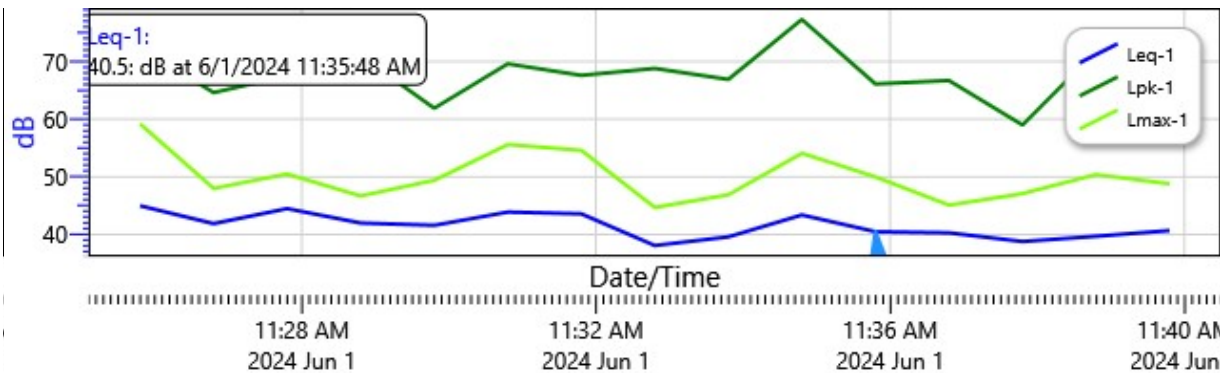


## Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%:		50.0	48.3	47.4	46.5	45.9	45.4	44.9	44.6	44.2
10%:	44.0	43.8	43.6	43.5	43.3	43.2	43.0	42.9	42.8	42.6
20%:	42.5	42.4	42.3	42.2	42.1	42.0	41.9	41.8	41.7	41.6
30%:	41.6	41.5	41.4	41.3	41.2	41.1	41.0	41.0	40.9	40.8
40%:	40.8	40.7	40.6	40.6	40.5	40.5	40.4	40.4	40.3	40.2
50%:	40.2	40.1	40.1	40.0	40.0	39.9	39.8	39.8	39.7	39.7
60%:	39.6	39.6	39.5	39.5	39.4	39.4	39.3	39.3	39.2	39.1
70%:	39.1	39.0	39.0	38.9	38.8	38.8	38.7	38.6	38.6	38.5
80%:	38.5	38.4	38.3	38.2	38.1	38.1	38.0	37.9	37.9	37.8
90%:	37.7	37.6	37.5	37.4	37.3	37.2	37.1	36.9	36.7	36.3
100%:	35.0									

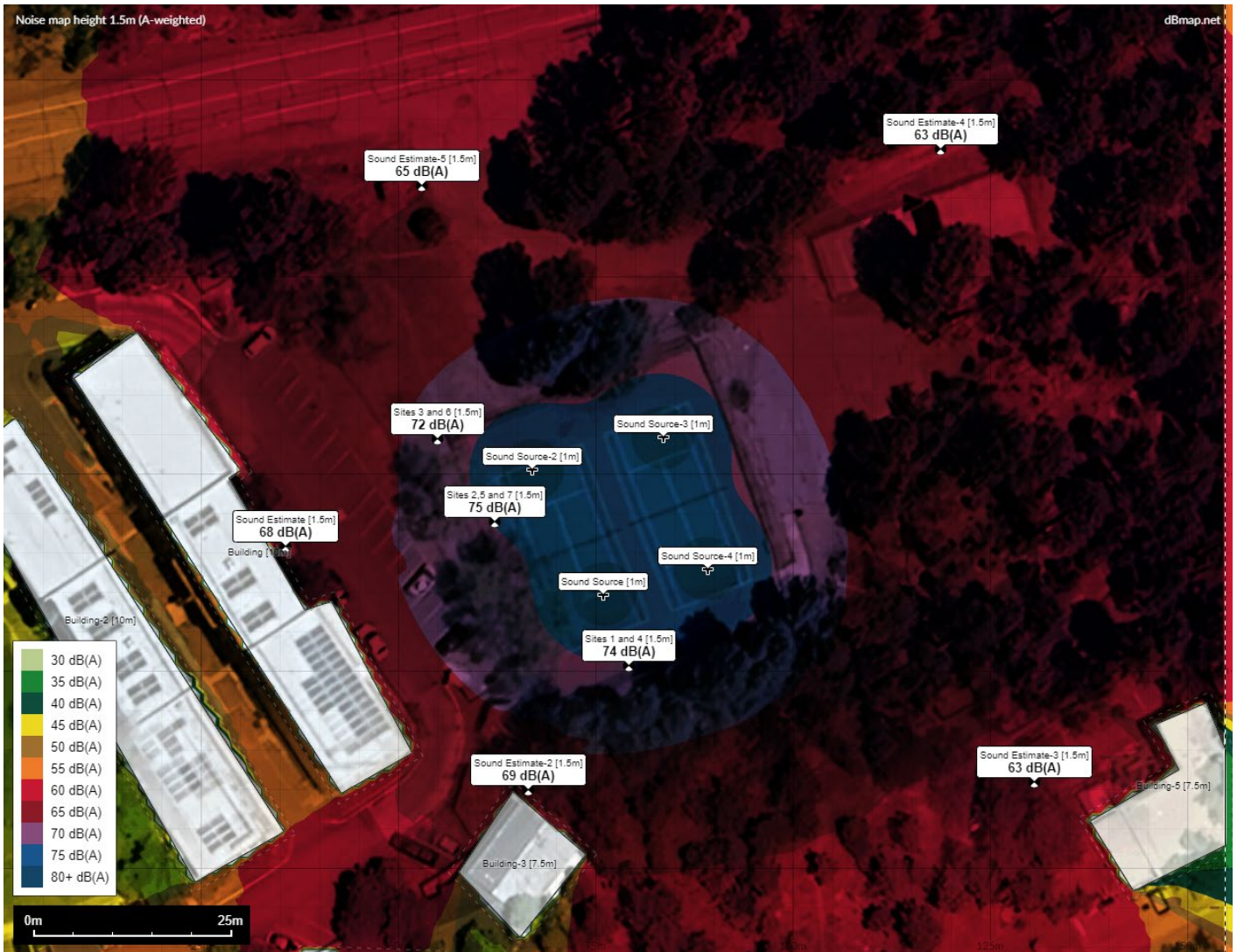
# Logged Data Chart

Site7: Logged Data Chart



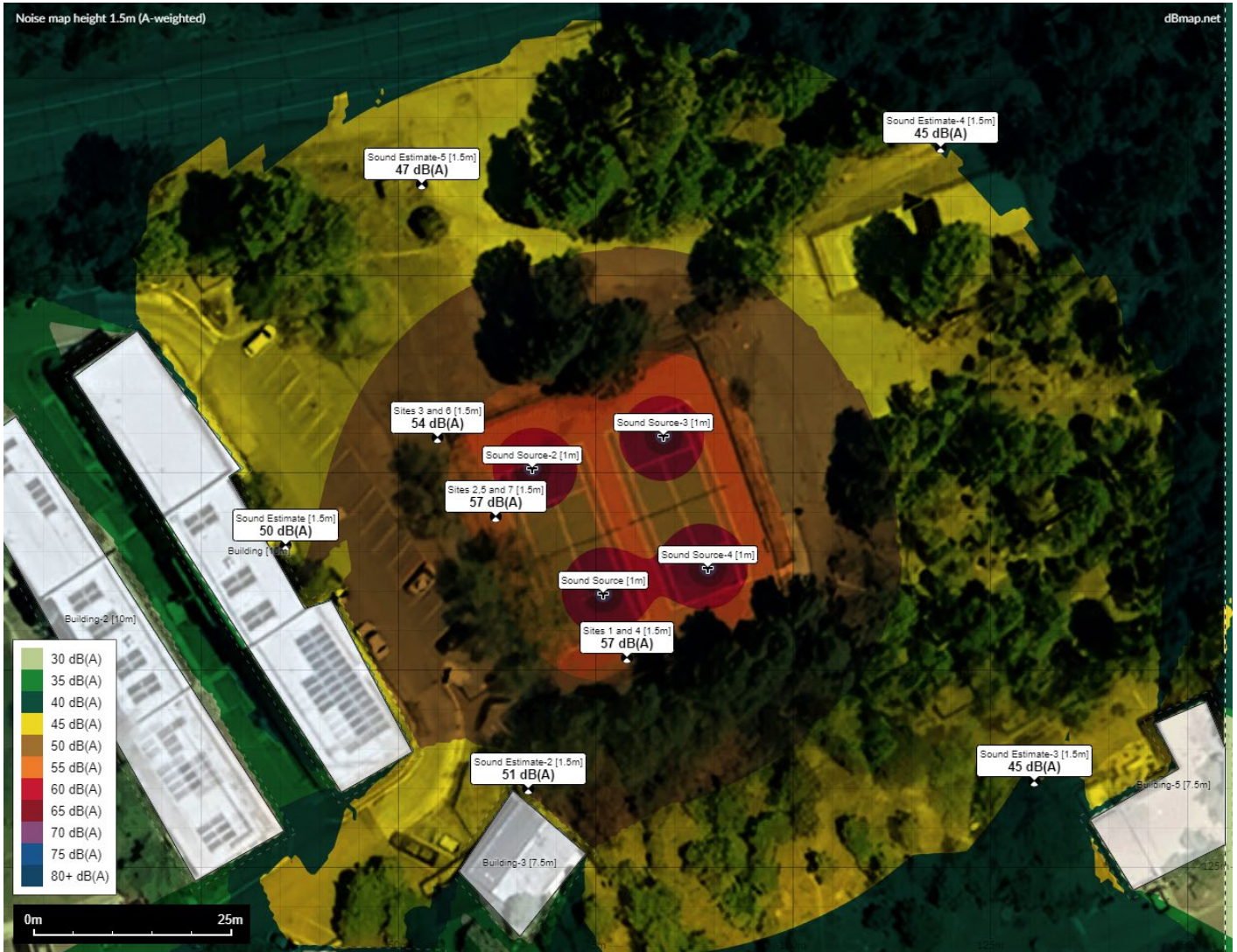
## APPENDIX B - COURT MODELS

Model 1: Lmax levels modeled at the location of the original study





## Model 2: Leq levels modeled at the location of the original study



**Model 3: Lmax levels modeled at the Myrtle Street court**



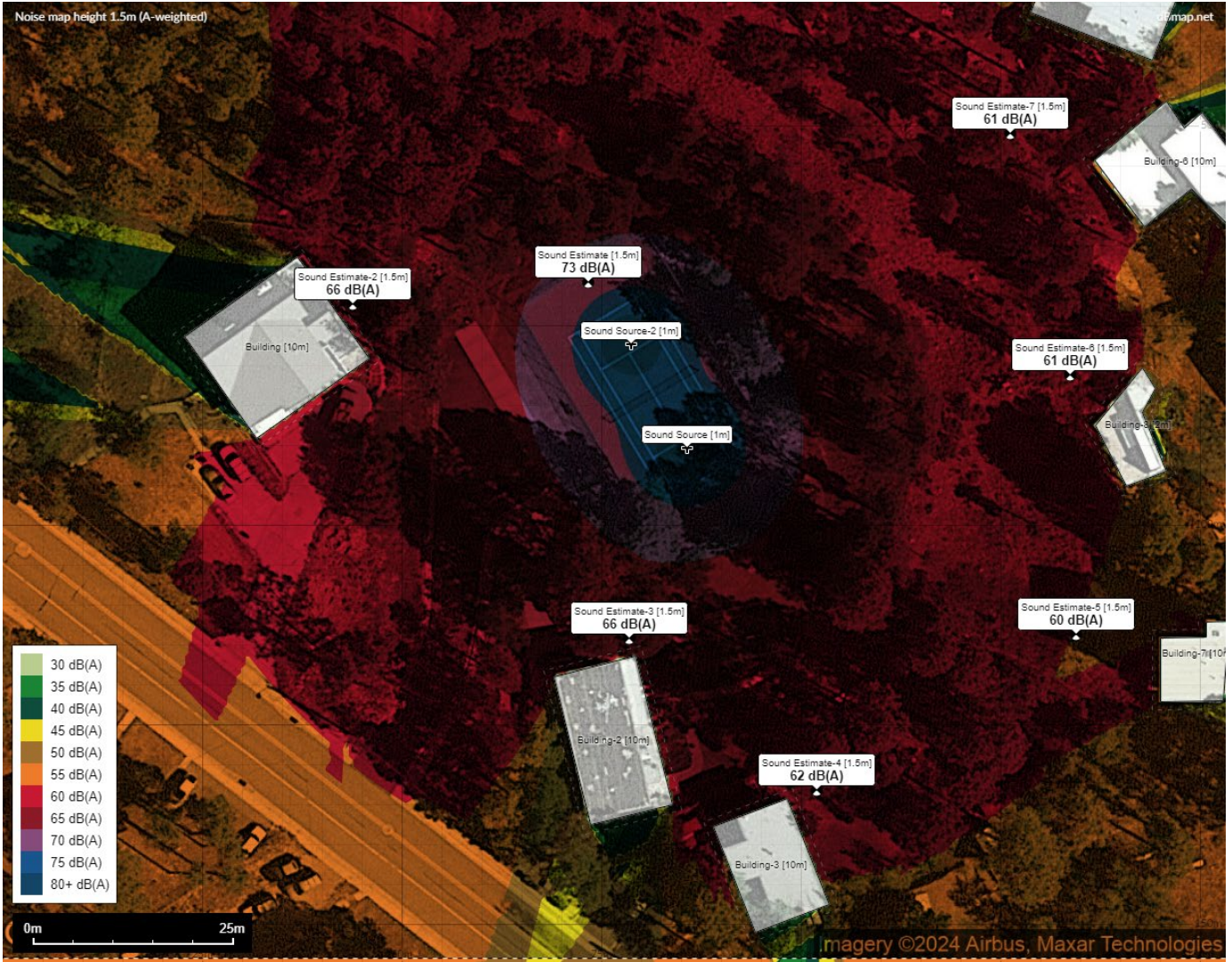


**Model 4: Leq levels modeled at the Myrtle Street Court**





# Model 5: Lmax levels modeled at the 36th Steet court





Model 6: Leq levels modeled at the 36th Street court

