Acoustic Performance Data Sheet

Wellbeing Instruments Pty Ltd — Document WI-ACS-001

Overview

This document presents field measurement data for the Wellbeing Instruments Explorer outdoor xylophone. All readings are LAeq A-weighted equivalent continuous sound levels, consistent with AS/NZS 1269 methodology. Original measurement records are included in Appendix A.

Measurement Results

Instrument	Sound Level	Distance
Explorer (Wellbeing Instruments)	46 dBA	10 metres

Contextual Reference

Sound Source	Approximate Level
Library / quiet office	35 dBA
Wellbeing Instruments Explorer	46 dBA

Perceptual Impact

The Explorer measures 46 dBA at 10 metres, making it well suited for placement adjacent to classrooms and quiet learning spaces without acoustic disruption to the indoor learning environment. Human hearing perceives loudness as approximately doubling with every 10 dB increase.

Methodology

- Measurement standard: LAeq A-weighted equivalent continuous sound level, AS/NZS 1269
- Test distance: 10 metres
- Explorer measurement: Field tested April 2026, Melbourne VIC
- Instrument configuration: Standard in-ground post installation, open outdoor environment

Product Certifications

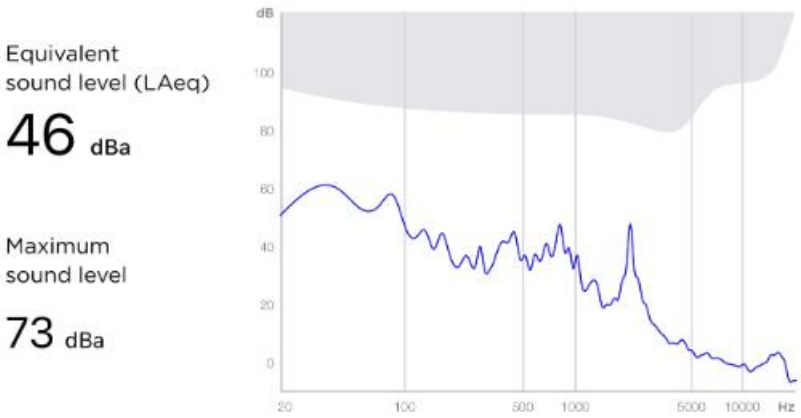
- Certified to AS 4685 Playground Equipment Standard
- Developed in collaboration with Occupational Therapists
- 25-year structural warranty
- No soft-fall requirements

Appendix A: Field Measurement Records

The following records are the original outputs from field testing conducted in April 2026. All measurements were taken in an open outdoor environment using A-weighted equivalent continuous sound level methodology.

Figure 1: LAeq measurement record, Explorer xylophone, 10 metres, April 2026

Equivalent sound level (LAeq) recorded at 46 dBA at 10 metres. The frequency response curve and octave band data confirm a natural musical tone profile across the measured range.

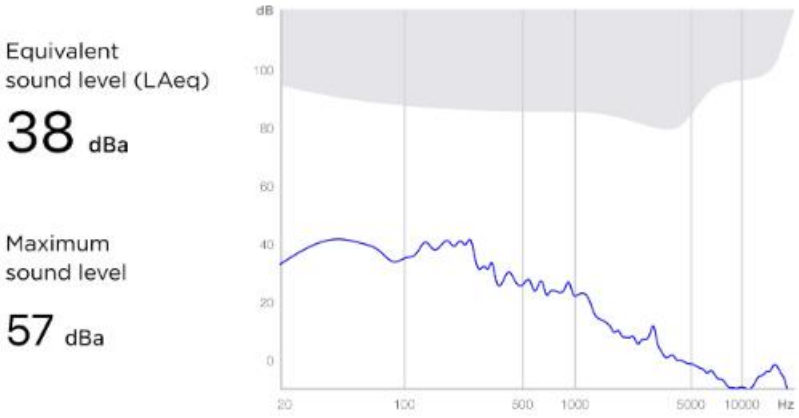


	Sound pressure levels, dB, in octave frequency bands with geometric mean frequencies, Hz								Equivalent sound levels, dBA
	63	125	250	500	1000	2000	4000	8000	
LAeq	60	51	41	35	36	25	13	12	46
Maximum	65	68	59	53	58	40	27	21	73
Minimum	44	42	30	26	24	17	7	8	33

Figure 1

Figure 2: Ambient sound level record, test site, April 2026

Ambient conditions at the test site recorded an LAeq of 38 dBA prior to testing. The Explorer's measurement of 46 dBA represents a reading 8 dB above the ambient baseline, confirming the result reflects the instrument's output under real-world outdoor conditions.



	Sound pressure levels, dB, in octave frequency bands with geometric mean frequencies, Hz								Equivalent sound levels, dBA
	63	125	250	500	1000	2000	4000	8000	
LAeq	41	41	38	29	31	22	10	8	38
Maximum	49	53	55	44	42	30	23	17	57
Minimum	33	34	29	20	23	16	6	7	32

Figure 2