

AIRBORNE SOUND INSULATION TEST & PLANNING CONDITION COMPLIANCE

THIS REPORT AND ASSOCIATED ATTACHED FIGURES MAY NOT BE REPRODUCED
OTHER THAN IN FULL AND WITH PRIOR WRITTEN APPROVAL OF IMPACT ACOUSTICS LTD

Client

The Implant Centre
2 The Broadway
Haywards Heath
West Sussex
RH16 3AH

Site Address

2 The Broadway
Haywards Heath
West Sussex
RH16 3AH

Introduction

Impact Acoustics Ltd has been instructed to assess the sound insulation values between the properties within this recently completed site and assess the following planning condition for compliance. The development's sound insulation tests are to be carried out and rated in accordance with following British Standards:-

- BS EN ISO 140-4:1998 – 'Acoustics – Measurement of Sound Insulation in Buildings and of Building Elements. Part 4 'Field Measurement of Airborne Sound Insulation Between Rooms'
- BS EN ISO 717-1:1997 – 'Acoustics - 'Rating of Sound Insulation in Buildings and of Building Elements: Part 1. Airborne Sound Insulation'

Planning Condition

The following planning condition has been set to ensure the finally completed structure achieved a minimum sound insulation value of $D_{nT'w} + C_{tr}$ 60 dB dB. Therefore, the sound insulation tests have been carried out in order to demonstrate compliance with the planning condition.

The development hereby permitted shall not be occupied or brought into use until there has been submitted to the local planning authority a report by a competent person demonstrating that any sound attenuation measures between commercial and residential are effective and achieve a minimum airborne sound insulation value of 60dB ($D_{nTw} + C_{tr}$ dB). Post completion testing shall be required to show this has been achieved. This shall be submitted to the LPA and approved in writing. The approved details shall be implemented before the development is brought into use and thereafter be maintained in accordance with the approved details.

Reason: To safeguard the amenities of neighboring properties and to accord with Policies DP26 and DP29 of the Mid Sussex District Plan 2014 - 2031.

Technical Procedure

Conformity

The sound insulation tests have been carried out in accordance with the standards detailed in this report. The procedures described in appendix B of the Building Regulations Approved Document E have been followed. Prior to commencement of testing, audibility and suitability checks were conducted in order to ensure the rooms are ready for testing.

The above weighted standardized levels were then assessed in accordance with BS EN ISO 717-1:1997 for airborne and BS EN ISO 717-2:1997 for impact. The spectrum adaptation terms (C & Ctr) have also been evaluated and are detailed on the attached data sheets.

Method & Procedure - Airborne

Sound insulation tests were carried out between each set of aforementioned rooms (report section 2) in accordance with BS EN ISO 140-4:1998. These measurements were taken in order to evaluate the separating building elements and the associated flanking structures. A single speaker was used within the source room to produce a steady pink noise source at each 1/3rd octave frequency band between 100 – 3150 Hz. Levels were then recorded within the source and receiving rooms (L1 and L2) respectively. Reverberation time (T) were measured within the receiving room at each 1/3rd octave frequency band between 100 – 3150 Hz. The Standardized Level Difference (DnT) was evaluated using the following formula:-

$$DnT = L1 - L2 + 10\log (T/T_0) \text{ dB}$$

Where:- T₀ is the reference reverberation time 0.5 seconds.

Measurements were taken using pink noise within the source room with 1/3rd octave band frequency sound pressure levels recorded within the source and receiving room at five positions for each of the two speaker positions. The measurements were taken at various heights within each room. From the recorded ten source and ten receiver levels, the average resultant sound pressure level was obtained giving L1 and L2.

Reverberation Time

The resultant reverberation time within the receiving room was measured using the aforementioned noise meter together with a speaker unit. A total of twelve measurements were made in order to evaluate a quantifiable average.

Background

Finally, the existing background noise level within the receiving room was recorded. The background noise level has been applied to the attached data sheets in order to evaluate the true resultant receiving level.

Standardization

The standardized Level Difference (DnT) were evaluated at each frequency between 100 Hz – 3150 kHz. From these levels the DnT_w for airborne were evaluated along with the spectrum adaptation terms C & Ctr.

Executive Summary

The following tables illustrate the summary of the achieved results carried out by Mark Grist:

AIRBORNE TEST - FLOORS			ACHIEVED $D_{nT,w} + C_{tr}$ dB	REQUIRED $D_{nT,w} + C_{tr}$ dB	RESULT
TEST NO.	FROM	TO			
8154/1	Surgery 2	Flat 2 – Living Room	60	60	PASS
8154/2	Surgery 2	Flat 2 - Bedroom	60	60	PASS

Equipment

All the following equipment was calibrated by a UKAS accredited laboratory in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service (UKAS) on the following dates. Calibration schedules are implemented in accordance with UKAS directive LAB 23.

Description	Make	Type	Serial No.	Calibration Intervals	Uncertainty	Next Due Calibration
Integrated Sound Level Meter	Norsonic	118	28191	2 YEARS	0.0 dB	16.05.2027
Integrated Sound Level Meter (Filters)	Norsonic	118	28191	2 YEARS	2.0 dB	16.05.2027
Integrated Sound Level Meter (RT 60sec)	Norsonic	118	28191	2 YEARS	0.2 dB	16.05.2027
12.5mm Microphone (with windshield)	GRAS	40AF	73337	2 YEARS	0.0 dB	16.05.2027
Microphone Pre – Amplifier	Norsonic	1206	27587	2 YEARS	0.0 dB	16.05.2027
Calibrator	Norsonic	1251	31963	1 YEAR	0.12 dB	16.05.2026
The above equipment was calibrated using a sound pressure level of 114.0 dB at an octave band centre frequency of 1000Hz with reference to $2 \times 10^{-5} \text{ Nm}^{-2}$ before and after the tests and the equipment set to have no inaccuracy greater than 0.5 dB.						

Conclusion

The sound testing that has been carried out at 2 The Broadway has demonstrated that the required planning condition of 60dB ($D_{nTw} + C_{tr}$) dB has been achieved. Therefore, no further acoustic treatment is required.

Please note this data sheet is to be read in conjunction with report SA.SI.106. 0

Client Details:	Impact Acoustics Ltd
Site Address:	2 The Broadway, Haywards Heath

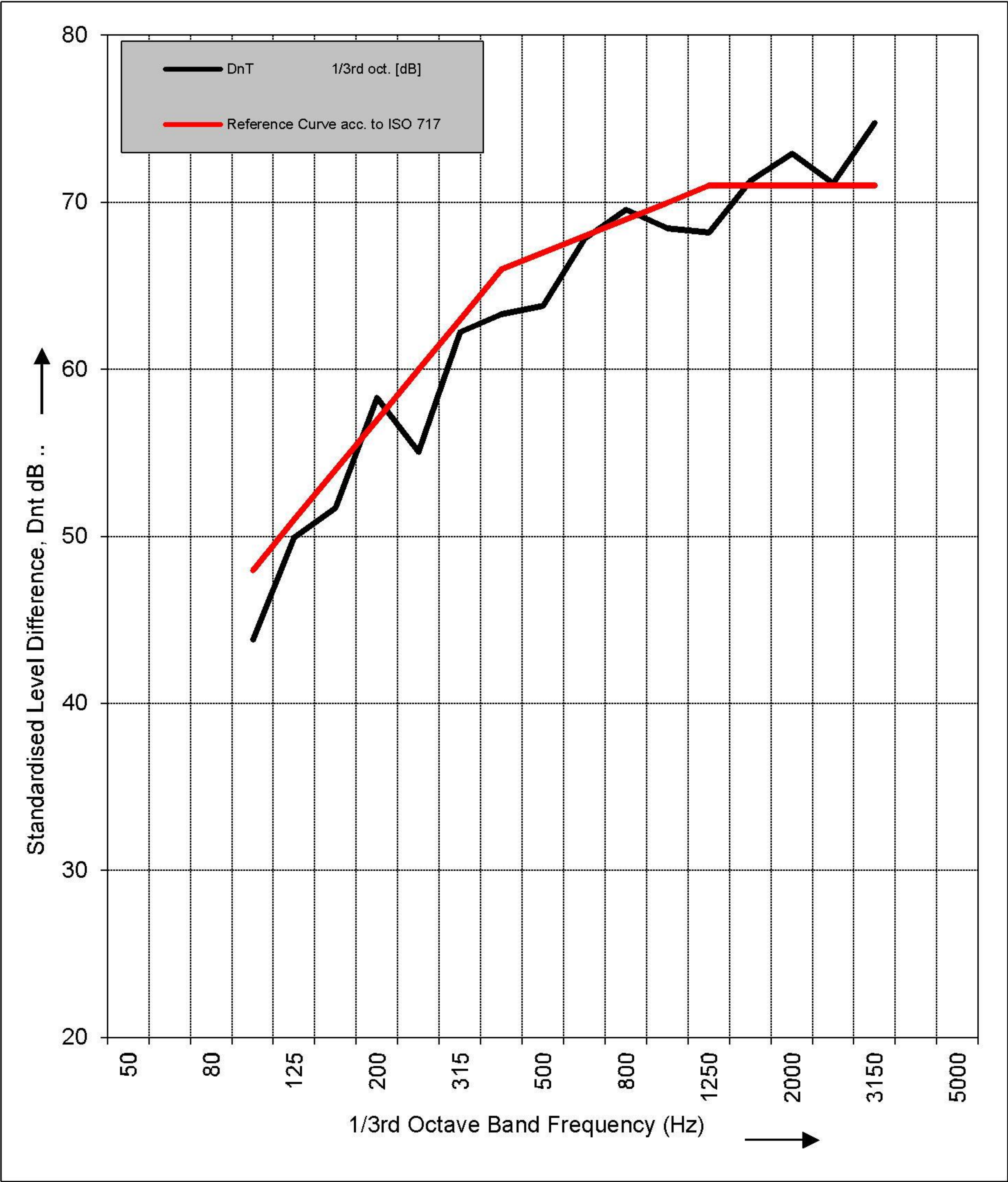
Figure:	1
Test No.:	0 / 1

Test Location:	From:	Surgery 2
	To:	Flat 2 - Living Room

Test Dated	11.09.2025
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Source Room Volume (Approx) 42 m³
Reciever Room Volume (Approx) 64 m³

Frequency [Hz]	D _{nT} 1/3rd oct. [dB]		
	6 dB	B	<6
50			
63			
80			
100	-9.1	43.8 B	<6
125	-1.0	50.0 B	
160	0.3	51.7 B	
200	2.3	58.3 B	
250	-6.1	55.1 B	
315	0.4	62.3 B	
400	-0.3	63.3 B	
500	-0.4	63.8 B	
630	2.7	67.8 B	
800	2.8	69.6 B	<6
1000	0.0	68.5 B	<6
1250	-2.5	68.2 B	<6
1600	-0.7	71.3 B	<6
2000	1.3	72.9 B	<6
2500	-0.6	71.1 B	
3150	0.6	74.7 B	
4000			
5000			



Rating According to ISO 717 1997 Part 1. Airborne Sound Insulation

D_{nT,w} (C,Ctr) 67 (-2 ; -7) dB

B = Background Corrected Sample Level
<6 = Limit Of Measurement

D_{nT,w} + C_{tr} 60 dB

Evaluation based on field measurement results obtained in one third octave bands by an engineering method

Authentication Signature
Mrs S Grist Quality Manager

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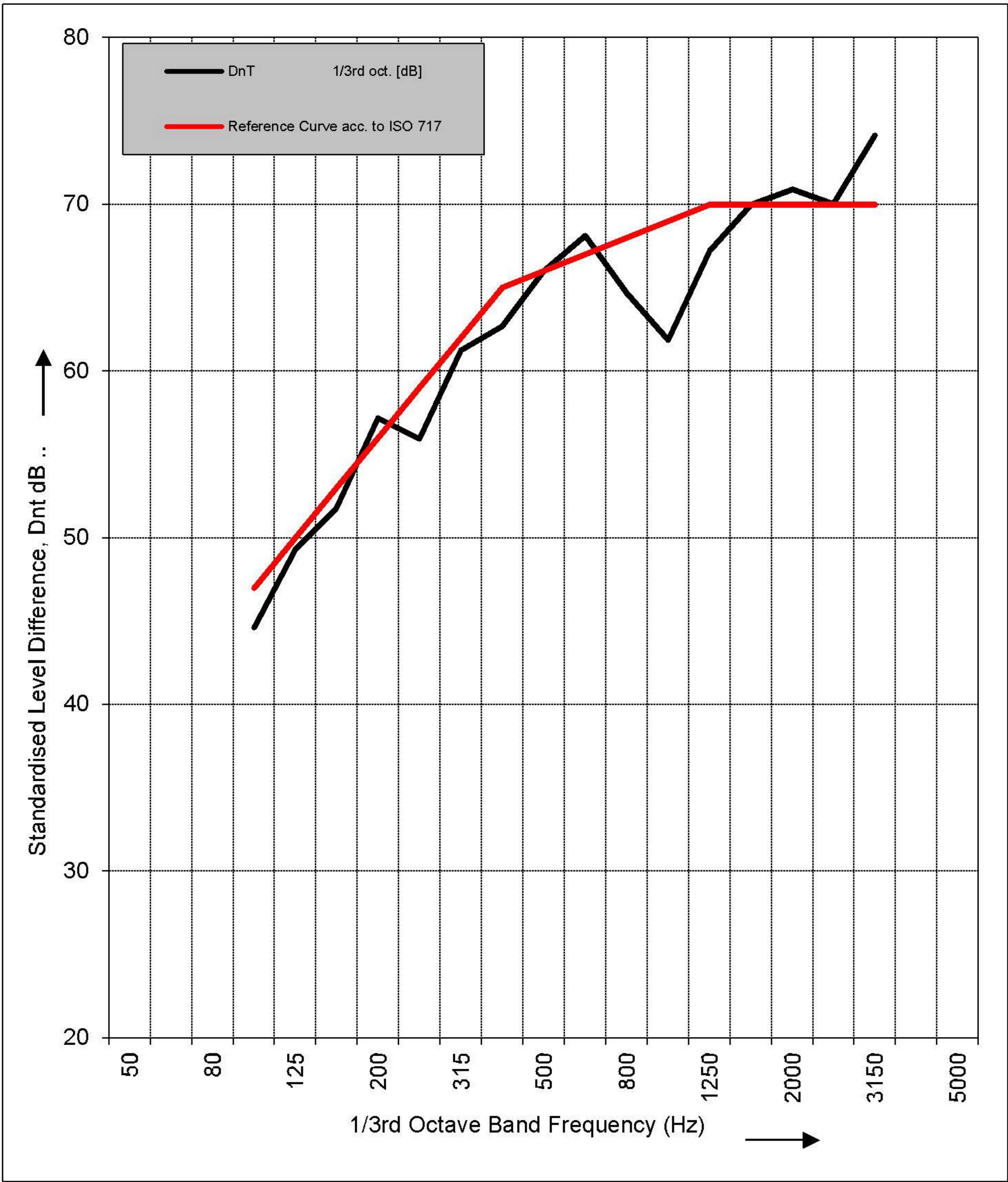
Figure:	2
Test No.:	0 / 2

Test Location:	From:	Surgery 2
	To:	Flat 2 - Bedroom

Test Dated	11.09.2025
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Source Room Volume (Approx) 42 m³
Reciever Room Volume (Approx) 34 m³

Frequency [Hz]	D _{nT} 1/3rd oct. [dB]		
	6 dB	B	<6
50			
63			
80			
100	-9.1	44.6	B <6
125	-1.0	49.3	B <6
160	0.3	51.8	B <6
200	2.3	57.2	B <6
250	-6.1	56.0	B <6
315	0.4	61.3	B <6
400	-0.3	62.7	B <6
500	-0.4	66.0	B <6
630	2.7	68.1	B <6
800	2.8	64.7	B <6
1000	0.0	61.9	B <6
1250	-2.5	67.2	B <6
1600	-0.7	70.0	B <6
2000	1.3	70.9	B <6
2500	-0.6	70.0	B <6
3150	0.6	74.1	B <6
4000			
5000			



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Evaluation based on field measurement results obtained in one third octave bands by an engineering method

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