SANDY BROWN

Consultants in Acoustics, Noise & Vibration

Project number	026813	**Project name**	Balloon St, Manchester
Calculation revision	A		
Calculation by	JP	**Date created**	29/06/2026
Checked by	JA	**Date checked**	29/06/2026
Calculation description	Calculation of predicted plant noise egress level at Commercial premises (1 Balloon St, Level 1 window)		

Comments	**Octave band centre frequency (Hz)**								
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**dBA**
Daikin EWAH505TZBSD1 (2 No.)									
Sound pressure level at 1m	82	72	72	73	70	62	62	54	74
Correction for 2 units	3	3	3	3	3	3	3	3	
Additional source directivity; Q = 1	0	0	0	0	0	0	0	0	
Total SPL at 1m + add. source directivity	85	75	75	76	73	65	65	57	77
Losses									
Distance attenuation - Point source, r=9.25m	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	
Screening loss - Path difference = 0.896m	8.0	9.8	12.0	14.6	17.4	20.3	23.2	25.0	
Total losses	*27*	*29*	*31*	*34*	*37*	*40*	*43*	*44*	
Sound pressure level after losses	58	46	44	42	36	25	22	13	43
Total facade sound pressure level at receptor	61	49	47	45	39	28	25	16	46

Criteria	
Criteria	54
Difference	-8

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Calculation revision	A		
Calculation by	JP	**Date created**	29/06/2026
Checked by	JA	**Date checked**	29/06/2026
Calculation description	Calculation of predicted plant noise egress level at Commercial premises (1 Balloon St, Level 2 window)		

Comments	**Octave band centre frequency (Hz)**								
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**dBA**
Daikin EWAH505TZBSD1 (2 No.)									
Sound pressure level at 1m	82	72	72	73	70	62	62	54	74
Correction for 2 units	3	3	3	3	3	3	3	3	
Additional source directivity; Q = 1	0	0	0	0	0	0	0	0	
Total SPL at 1m + add. source directivity	85	75	75	76	73	65	65	57	77
Losses									
Distance attenuation - Point source, r=12.1m	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	
Screening loss - Path difference = 0.179m	5.6	6.3	7.4	9.1	11.2	13.7	16.4	19.3	
Total losses	*27*	*28*	*29*	*31*	*33*	*35*	*38*	*41*	
Sound pressure level after losses	58	47	46	45	40	30	27	16	46
Total facade sound pressure level at receptor	61	50	49	48	43	33	30	19	49

Criteria	
Criteria	54
Difference	-5

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Project number	026813	**Project name**	Balloon St, Manchester
Calculation revision	A		
Calculation by	JP	**Date created**	29/06/2026
Checked by	JA	**Date checked**	29/06/2026
Calculation description	Calculation of predicted plant noise egress level at Commercial premises (1 Balloon St Level L3 window)		

Comments	**Octave band centre frequency (Hz)**								
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**	**dBA**
Daikin EWAH505TZBSD1 (2 No.)									
Sound pressure level at 1m	82	72	72	73	70	62	62	54	74
Correction for 2 units	3	3	3	3	3	3	3	3	
Additional source directivity; Q = 1	0	0	0	0	0	0	0	0	
Total SPL at 1m + add. source directivity	85	75	75	76	73	65	65	57	77
Losses									
Distance attenuation - Point source, r=15m	23.5	23.5	23.5	23.5	23.5	23.5	23.5	23.5	
Screening loss - Path difference = m	4.8	4.9	5.0	5.2	5.7	6.5	7.8	9.7	
Total losses	*28*	*28*	*29*	*29*	*29*	*30*	*31*	*33*	
Sound pressure level after losses	57	47	47	47	44	35	34	24	48
Total facade sound pressure level at receptor	60	50	50	50	47	38	37	27	51

Criteria	
Criteria	54
Difference	-3