

MC 020	NEWSEAT OF SCHIVAS	<b>MSC CALCULATIONS</b>						
	PLOT 1,2,3,4 & 5	<b>ALL 5 PLOTS HAVE BEEN SHON AS THEY INTERACT DESPITE BEING IN 2 APPLICATIONS</b>						
ASHP	GRANT AERONA HPID 10R32	See Site Plans for positions for ASHP						
CALCULATION		<b>PLOT 1</b>	<b>PLOT 2</b>	<b>PLOT 3</b>		<b>PLOT 4</b>		<b>PLOT 5</b>
Step 1	From manufacturers data A-weighted sound power level	65.2dB(A)	65.2dB(A)	65.2dB(A)	65.2dB(A)	65.2dB(A)	65.2dB(A)	65.2dB(A)
Step 2	Using Note 2 : Sound pressure level & Note 3, Determination of directivity to establish the directivity "Q" of the heat pump	Q=2	Q=4	Q=4	Q=4	Q=4	Q=4	Q=2
Step 3	Measure Distance from heat pump to assessment point in metres. Assessment point is 1m external to central point of door/ window to habitable room measured perpendicular to plane of the window	<b>20.6m to PLOT 5</b>	<b>21.8m to PLOT 1</b>	<b>18.5m to PLOT 1</b>	<b>PLOT 3 33.3m to PLOT 1</b>	<b>9.5m to PLOT 5</b>	<b>PLOT 4 17.3m to PLOT 1</b>	<b>22.5m to PLOT 4</b>
Step 4	Use Note 4 dB distance reduction to obtain a dB reduction .	* -31 dB	* -31 dB	* -25 dB	* -31 dB	*-23dB	*-25dB	* -34 dB
Step 5	Establish if there is a solid barrier between heat pump assessment position using Note 5 Barriers between heat pump & assessment position, note any dB reduction			*-5dB		*-10dB	*-10dB	*-10dB
Step 6	Calculate sound pressure level (See Note 2 SPL from heat pump at assessment position using calculation Step 1 + Step 4 + Step 5)	34.2dB (A)	34.2dB (A)	35.2 dB (A)	34.2dB (A)	32.2 dB (A)	30.2 dB (A)	22.2 dB (A)
Step 7	Background noise level. For MCS Planning for ASH background noise level assumed to be 40dB(A)Lp.	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)	40 dB(A)
Step 8	Determine difference Step 7 background noise level & heat pump noise level using Step 7 - Step 6	*-5.8dB(A)	*-5.8dB(A)	*-4.8dB(A)	*-5.8dB(A)	*-7.8dB(A)	*-9.8dB(A)	*-18.8dB(A)
Step 9	Using table in Note :7 Decibel Correction obtain adjustment figure & add this to whichever is higher dB figure between Step 6 & Step 7 (round up) <b>Therefore 40dB(A) + x = y dB(A) rounded to 0.1</b>	<b>40 x 1.2 (x) = 41.2 dB(A)(y)</b>	<b>40 x 1.2 (x) = 41.2 dB(A)(y)</b>	<b>40 x 1.5 (x) = 41.5 dB(A)(y)</b>	<b>40 x 1.2 (x) = 41.2 dB(A)(y)</b>	<b>40 x 0.8 (x) = 40.8 dB(A)(y)</b>	<b>40 x 0.5 (x) = 40.5 dB(A)(y)</b>	<b>40 x 0.1 (x) = 40.1 dB(A)(y)</b>
Step 10	Is Final Result in Step 9 equal or lower than permitted development noise limit of 42dB(A). If YES the air source heat pump will comply with PD noise Limit. If NO the air source heat pump will not be permitted development	<b>YES final result 41.2dB(A) is lower than 42dB(A)</b>	<b>YES final result 41.2dB(A) is lower than 42dB(A)</b>	<b>YES final result 41.5dB(A) is lower than 42dB(A)</b>	<b>YES final result 41.2dB(A) is lower than 42dB(A)</b>	<b>YES final result 40.8dB(A) is lower than 42dB(A)</b>	<b>YES final result 40.5dB(A) is lower than 42dB(A)</b>	<b>YES final result 40.1dB(A) is lower than 42dB(A)</b>