NASA Glenn Research Center Acoustical Testing Lab (ATL)

ISO 11201 / NASA SSP 57000 Rack Front Noise Emission Test Report

Report Date: 1/10/2005, 3:31 PM

Test Information		Source Information			
Test Name	*FIR 31 Amb-All Quiet 07 Sou-TC 46 0*	**Source Type**	*0*		
Test Date/Time	*1/10/2005, 3:31 PM*	**Manufacturer**	*0*		
Test Operator	*James C. Akers, PhD*	**Model Number**	*0*		
Test Description	*Ambient = Everything off (water chille*	**Serial Number**	*0*		
Comments	*CVP mic 6 between pos #13 & #14.*	**Operating Mode**	*0*		
		Mounting	*0*		
Meteorological Information		**Dimensions**	*L= 0, W= 0, H= 0*		
Temperature (C)	*23.1*	**Voltage (V)**	*0*	**Current (A)**	*0*
Humidity (%)	*38*	**Line Freq (Hz)**	*0*	**RPM**	*0*
Pressure (KPa)	*99.6*				

Measurement Information

All sound pressure data reported herein has been obtained in accordance with the procedures specified ISO 11201:1995(E) and NASA SSP 57000 E, except as noted. All data is expressed in decibels(dB) with a reference level of 2*10E-5 Pa.

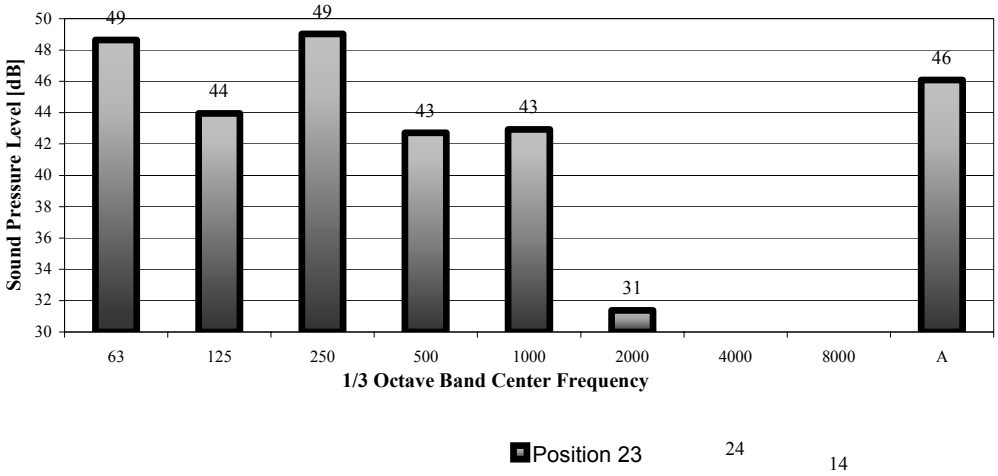
Compliance Verification Point	Position 23
Sound Level (dBA)	46
NC-Rating (Est'd)	42

Sound Pressure Level Results

Octave Band Center Freq[Hz]	Noise Emission Levels (dB)	Notes
63	49	0
125	44	0
250	49	0
500	43	0
1000	43	0
2000	31	0
4000	24	0
8000	14	0
A	46	
Lin	53	

Notes:
0 = Source SPL exceeds Ambient SPL by 3dB
1 = Source SPL within 3dB of Ambient SPL
2 = Source SPL less than or equal to Ambient SPL

Noise Emission Level



ACOUSTICAL TESTING LABORATORY

NASA Glenn Research Center Acoustical Testing Lab (ATL)

ISO 11201 / NASA SSP 57000 Rack Front Noise Emission Test Data Sheet

Report Date: 1/10/2005, 3:31 PM

Test Information

Test Name	*FIR 31 Amb-All Quiet 07 Sou-1*
Test Date/Time	*1/10/2005, 3:31 PM*
Test Operator	*James C. Akers, PhD*
Test Description	*Ambient = Everything off (wate*
Comments	*CVP mic 6 between pos #13 &*

Source Information

Source Type	*0*
Manufacturer	*0*
Model Numbe	*0*
Serial Number	*0*
Operating Mo	*0*
Mounting	*0*
Dimensions	*L= 0, W= 0, H= 0*
Voltage (V)	*0*
Current (A)	*0*
Line Freq (Hz	*0*
RPM	*0*

Meteorological Information

Temperature (C)	*23.1*
Humidity (%)	*38*
Pressure (KPa)	*99.6*

Greatest Impulsive Indicato Pos's 1 through 21 : 1.9 dBA

Measurement Information

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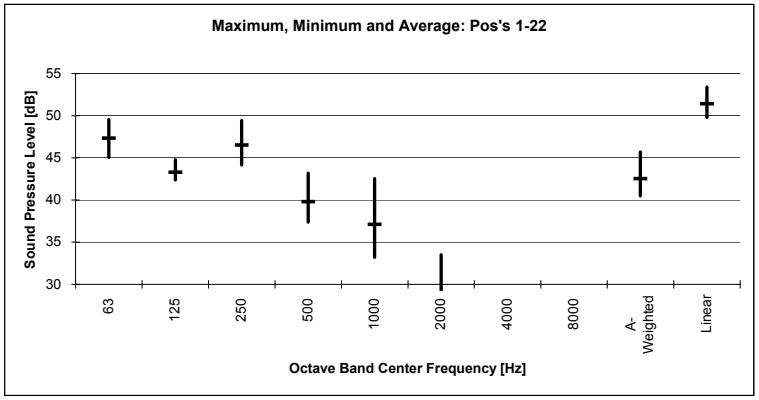
Compliance Verification Point 23

Pos	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Octave Band Freq (Hz)	Left Top SPL (dB)	Left SPL (dB)	Left SPL (dB)	Left Mid SPL (dB)	Left SPL (dB)	Left SPL (dB)	Left Bttm SPL (dB)	Cntr Top SPL (dB)	Cntr SPL (dB)	Cntr SPL (dB)	Cntr Mid SPL (dB)	Cntr SPL (dB)	Cntr SPL (dB)	Cntr Bttm SPL (dB)	Right Top SPL (dB)	Right SPL (dB)	Right SPL (dB)	Right Mid SPL (dB)	Right SPL (dB)	Right SPL (dB)	Right Bttm SPL (dB)	Fire Extng SPL (dB)	Comp Verif SPL (dB)	Below Rack SPL (dB)	External Ref. SPL (dB)
63	45	46	46	46	47	48	49	46	47	47	47	47	48	50	46	47	47	47	48	48	49	48	49	54	38
125	43	43	43	43	44	43	44	43	43	43	43	44	44	45	43	43	42	43	43	43	44	44	44	52	36
250	45	45	47	48	47	49	47	45	45	47	48	47	49	47	44	44	46	46	45	47	46	49	49	57	38
500	38	38	40	39	40	42	43	38	38	39	39	40	42	43	37	38	38	39	38	41	42	43	43	50	32
1000	37	36	35	35	37	39	41	37	37	37	35	34	40	43	36	36	35	34	33	39	38	41	43	45	29
2000	30	32	31	28	29	30	31	34	29	28	27	30	30	33	28	29	30	27	28	30	32	31	31	37	26
4000	19	18	18	19	19	21	24	20	19	18	19	20	23	24	20	18	18	19	19	22	24	23	24	31	14
8000	13	12	12	13	13	13	14	13	12	12	13	13	13	16	13	12	13	12	12	12	14	15	14	22	12
A-Weighted	42	41	42	42	43	45	45	42	41	42	42	42	45	46	41	41	41	41	41	43	43	46	46	52	35
Linear	50	50	51	51	51	53	53	50	50	51	52	51	53	53	50	50	51	51	51	52	52	53	53	60	43
NC (est'd)	*36*	*35*	*37*	*37*	*37*	*39*	*39*	*36*	*36*	*37*	*38*	*36*	*39*	*41*	*35*	*35*	*35*	*36*	*35*	*37*	*37*	*40*	*42*	*49*	*28*



Measurement Uncertainty - ISO 11201 provides an estimate of the standard deviation of reproducibility of 1.0 dBA for a "well-defined" family of machines with broadband noise emission characteristics. ISO 7779 procedures for measurement of emission sound pressure levels and operator and bystander positions provides an estimate of the standard deviation of reproducibility of 1.5 dBA. The ATL maintains an Internal Repeatability Testing program and Program for Estimation of Measurement Uncertainty that is available for client review, upon request. For additional information on uncertainty in each 1/3-octave band, see ISO 7779, Section 8.2 and the ATL Program for Estimation of Measurement Uncertainty."

		Left			Center		Right		
Top	1	41.5		8	41.9		40.8	15	
	2	41.2		9	41.3		40.8	16	
	3	42.2		10	42.1		41.3	17	
Middle	4	42.3		11	42.1		41.2	18	
	5	42.6		12	42.0		40.5	19	
	6	44.6		13	44.6		43.2	20	
Bottom	7	44.7		14	**45.7**		43.4	21	

45.7 Max A-weighted
0.5 Range to Highlight