HI-SPEED INDUSTRIAL SERVICE QualiTest® Diagnostics

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February 8, 2022

St Jude Research Hospital
Memphis TN

The following is a summary of findings from the 2022 annual vibration survey of the AHU-Supply Fans and Exhaust Fans at the Pinkel building.

QualiTest® uses a four-step rating system for defects.

Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

Class II: Defect (s) present that may cause problem in long term (2-6 months). Repair during normal maintenance scheduling. Continue to monitor.

Class III; Defect (s) present that may cause failure in short term (less than 2 months). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

Class IV; Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs

Pinkel Building AHU-Supply Fans

AHU 1 SF
Motor vibration has increased some this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 2 SF
Vibration in the motor has increased this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 3 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 4 SF
Vibration has increased this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 5 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 6 SF
Vibration has increased this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 7 SF
Vibration data of the motor indicates defects are present in the motor bearings. This does not appear to be severe at this time. We will continue to monitor this issue closely. Rated as a **CLASS II** defect.

AHU 8 SF
Data of the motor is showing slight defects are present in the motor bearings. This does not appear to be severe at this time. This will be monitored closely. Rated as a **CLASS II** defect.

AHU 9 SF
Vibration has increased this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. T This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 10 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 11 SF
Vibration has increased this survey. Data shows a high vibration below 1 x rpm in the motor velocity spectra. This could be due to air flow issues or air turbulence. We will monitor this closely. Rated as a **CLASS I** defect.

AHU 12 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 13 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 14 SF
Data of the motor is showing defects are present in the motor bearings. Appears to be low level at this time, but because we only gather data annually, this is rated as a **CLASS II** defect.

AHU 15 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

AHU 16 SF
Measured vibration data is all within acceptable limits. No work is recommended at this time.

IRC Exhaust Fans

EF 1
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 2
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 3
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 4
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 5
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF-6
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 7
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 8
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 9
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 10
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 11
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 12
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 13
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 14
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 15
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 16
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 17
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 18
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 19
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 20
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 21
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 22
Measured vibration data is all within acceptable limits. No work is recommended at this time

EF 23
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 24
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 25
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 26
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 27
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 28
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 29
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 30

Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 31
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 32
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 33
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 34
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 35
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 36
Data of the fan bearings still shows signs of defects/wear of the bearings; however, not much change since last year's survey. Rated as a **CLASS I** defect.

EF 37
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 38
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 39
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 40
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 41
Unit was not in service during the survey.

EF 42
Unit was not in service during the survey.

EF 43
Unit was not in service during the survey.

EF 44
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 45
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 46
Unit was not in service during the survey.

EF 47
Measured vibration data is all within acceptable limits. No work is recommended at this time.

EF 48
Measured vibration data is all within acceptable limits. No work is recommended at this time

EF-50
Measured vibration data is all within acceptable limits. No work is recommended at this time

EF-51
Measured vibration data is all within acceptable limits. No work is recommended at this time

EF 55
Unit was not in service during the survey.

As always, it has been a pleasure to serve St. Jude Research Hospital. If there are any comments or questions, do not hesitate to contact us.

Sincerely,

ISO Certified Vibration Analyst, Category III

HI-SPEED INDUSTRIAL SERVICE
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Abbreviated Last Measurement Summary
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                Database:  stjude~1.rbm
                Station:   IRC
                Route No.  2:  IRC PINKLE AHU

       MEASUREMENT POINT              OVERALL LEVEL        HFD / VHFD
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       AHU 1       - AHU 1    31505                 (07-Feb-22)
                                      OVERALL LEVEL      1 - 20 KHz
              MOH                      .032 In/Sec        .833 G-s
              MIH                      .033 In/Sec        .985 G-s

       AHU 2       - AHU 2    31497                 (07-Feb-22)
                                      OVERALL LEVEL      1 - 20 KHz
              MOH                      .312 In/Sec       1.314 G-s
              MIH                      .350 In/Sec       1.832 G-s

       AHU 3       - AHU 3    31517                 (07-Feb-22)
                                      OVERALL LEVEL      1 - 20 KHz
              MOH                      .158 In/Sec       2.096 G-s
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	MIH		.190 In/Sec	3.182 G-s
AHU 4	- AHU 4	31498	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.442 In/Sec	2.290 G-s
	MIH		.490 In/Sec	3.727 G-s
AHU 5	- AHU 5	31499	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.038 In/Sec	2.088 G-s
	MIH		.034 In/Sec	2.658 G-s
AHU 6	- AHU 6	31513	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.477 In/Sec	1.646 G-s
	MIH		.496 In/Sec	1.850 G-s
AHU 7	- AHU 7	31516	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.044 In/Sec	1.106 G-s
	MIH		.063 In/Sec	1.238 G-s
AHU 8	- AHU 8	31495	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.074 In/Sec	1.643 G-s
	MIH		.180 In/Sec	2.139 G-s
AHU 9	- AHU 9	31502	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.322 In/Sec	2.116 G-s
	MIH		.238 In/Sec	1.577 G-s
AHU 10	- AHU 10	31494	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.018 In/Sec	1.465 G-s
	MIH		.018 In/Sec	1.515 G-s
AHU 11	- AHU 11	31501	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.526 In/Sec	1.713 G-s
	MIH		.525 In/Sec	1.856 G-s
AHU 12	- AHU 12	31503	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.054 In/Sec	.975 G-s
	MIH		.037 In/Sec	1.417 G-s
AHU 13	- AHU 13	31504	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.042 In/Sec	.540 G-s
	MIH		.094 In/Sec	.382 G-s
AHU 14	- AHU 14	31496	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.032 In/Sec	3.140 G-s
	MIH		.035 In/Sec	2.427 G-s
AHU 15	- AHU 15	31514	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.035 In/Sec	.865 G-s
	MIH		.040 In/Sec	.478 G-s
AHU 16	- AHU 16	31500	(07-Feb-22)	
			OVERALL LEVEL	1 - 20 KHz
	MOH		.199 In/Sec	1.135 G-s
	MIH		.167 In/Sec	.939 G-s

Station: IRC
Route No. 1: IRC PINKLE EF

MEASUREMENT POINT	OVERALL LEVEL	HFD / VHFD
EF 1 - EF 1 31156	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.042 In/Sec	.875 G-s
MIH	.050 In/Sec	.894 G-s
MIA	.037 In/Sec	.825 G-s
FIH	.048 In/Sec	.184 G-s
FOH	.035 In/Sec	.175 G-s
EF 2 - EF 2 31159	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.097 In/Sec	.670 G-s
MIH	.076 In/Sec	.785 G-s
MIA	.100 In/Sec	1.194 G-s
FIH	.105 In/Sec	.052 G-s
FOH	.076 In/Sec	.289 G-s
EF 3 - EF 3 31160	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.063 In/Sec	.698 G-s
MIH	.074 In/Sec	.914 G-s
MIA	.061 In/Sec	.987 G-s
FIH	.069 In/Sec	.075 G-s
FOH	.052 In/Sec	.100 G-s
EF 4 - EF 4 31321	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.080 In/Sec	.522 G-s
MIH	.080 In/Sec	.419 G-s
MIA	.057 In/Sec	.531 G-s
FIH	.096 In/Sec	.151 G-s
FOH	.051 In/Sec	.146 G-s
EF 5 - EF 5 31319	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.056 In/Sec	.735 G-s
MIH	.060 In/Sec	.789 G-s
FIH	.069 In/Sec	.050 G-s
FOH	.054 In/Sec	.117 G-s
EF 6 - EF 6 32704	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.074 In/Sec	.443 G-s
MIH	.073 In/Sec	.452 G-s
MIA	.034 In/Sec	.195 G-s
FIH	.106 In/Sec	.055 G-s
FOH	.052 In/Sec	.153 G-s
EF 7 - EF 7 31532	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.088 In/Sec	.747 G-s
MIH	.098 In/Sec	1.009 G-s
MIA	.068 In/Sec	.635 G-s
FIH	.123 In/Sec	.070 G-s
FOH	.092 In/Sec	.066 G-s
EF 8 - EF 8 31531	(07-Feb-22)	
	OVERALL LEVEL	1 - 20 KHz
MOH	.146 In/Sec	.790 G-s
MIH	.075 In/Sec	.656 G-s
MIA	.077 In/Sec	.511 G-s
FIH	.115 In/Sec	.088 G-s
FOH	.100 In/Sec	.110 G-s

EF 9 - EF 9 31313 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.107 In/Sec	.816 G-s
MIH	.094 In/Sec	.862 G-s
MIA	.082 In/Sec	.572 G-s
FIH	.163 In/Sec	.064 G-s
FOH	.083 In/Sec	.106 G-s

EF 10 - EF 10 31526 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.051 In/Sec	.531 G-s
MIH	.062 In/Sec	.594 G-s
MIA	.069 In/Sec	.423 G-s
FIH	.108 In/Sec	.039 G-s
FOH	.059 In/Sec	.058 G-s

EF 11 - EF 11 31529 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.140 In/Sec	.455 G-s
MIH	.098 In/Sec	.448 G-s
MIA	.124 In/Sec	.395 G-s
FIH	.152 In/Sec	.094 G-s
FOH	.117 In/Sec	.089 G-s

EF 12 - EF 12 31311 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.060 In/Sec	.322 G-s
MIH	.049 In/Sec	.322 G-s
MIA	.050 In/Sec	.220 G-s
FIH	.058 In/Sec	.091 G-s
FOH	.061 In/Sec	.057 G-s

EF 13 - EF 13 31165 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.131 In/Sec	.686 G-s
MIH	.051 In/Sec	.657 G-s
MIA	.144 In/Sec	.846 G-s
FIH	.080 In/Sec	.052 G-s
FOH	.057 In/Sec	.073 G-s

EF 14 - EF 14 31163 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.150 In/Sec	.647 G-s
MIH	.109 In/Sec	.848 G-s
MIA	.147 In/Sec	.780 G-s
FIH	.094 In/Sec	.079 G-s
FOH	.058 In/Sec	.082 G-s

EF 15 - EF 15 31290 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.070 In/Sec	.816 G-s
MIH	.039 In/Sec	.677 G-s
MIA	.101 In/Sec	.621 G-s
FIH	.125 In/Sec	.050 G-s
FOH	.089 In/Sec	.126 G-s

EF 16 - EF 16 31288 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.300 In/Sec	.743 G-s
MIH	.158 In/Sec	1.110 G-s
MIA	.293 In/Sec	.528 G-s
FIH	.108 In/Sec	.068 G-s
FOH	.078 In/Sec	.084 G-s

EF 17 - EF 17 31288 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.098 In/Sec	.745 G-s
MIH	.051 In/Sec	.709 G-s
MIA	.081 In/Sec	.421 G-s
FIH	.157 In/Sec	.121 G-s

	FOH	.058 In/Sec	.251 G-s	

EF 18 - EF 18 31286 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.099 In/Sec	.656 G-s
MIH	.098 In/Sec	.772 G-s
MIA	.074 In/Sec	.501 G-s
FIH	.095 In/Sec	.164 G-s
FOH	.071 In/Sec	.137 G-s

EF 19 - EF 19 31331 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.122 In/Sec	.750 G-s
MIH	.082 In/Sec	1.030 G-s
MIA	.060 In/Sec	.262 G-s
FIH	.068 In/Sec	.137 G-s
FOH	.059 In/Sec	.063 G-s

EF 20 - EF 20 31333 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.207 In/Sec	.460 G-s
MIH	.120 In/Sec	.746 G-s
MIA	.166 In/Sec	.381 G-s
FIH	.197 In/Sec	.079 G-s
FOH	.079 In/Sec	.129 G-s

EF 21 - EF 21 31336 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.088 In/Sec	.520 G-s
MIH	.079 In/Sec	.598 G-s
MIA	.152 In/Sec	.424 G-s
FIH	.112 In/Sec	.131 G-s
FOH	.065 In/Sec	.154 G-s

EF 22 - EF 22 31127 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.204 In/Sec	.746 G-s
MIH	.128 In/Sec	.671 G-s
MIA	.196 In/Sec	.596 G-s
FIH	.128 In/Sec	.081 G-s
FOH	.068 In/Sec	.152 G-s

EF 23 - EF 23 31524 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.078 In/Sec	.710 G-s
MIH	.064 In/Sec	.553 G-s
MIA	.070 In/Sec	.766 G-s
FIH	.074 In/Sec	.175 G-s
FOH	.035 In/Sec	.235 G-s

EF 24 - EF 24 31119 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.154 In/Sec	.778 G-s
MIH	.084 In/Sec	.820 G-s
MIA	.096 In/Sec	.536 G-s
FIH	.078 In/Sec	.050 G-s
FOH	.097 In/Sec	.063 G-s

EF 25 - EF 25 31121 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.077 In/Sec	.782 G-s
MIH	.082 In/Sec	.903 G-s
MIA	.068 In/Sec	.770 G-s
FIH	.108 In/Sec	.138 G-s
FOH	.093 In/Sec	.077 G-s

EF 26 - EF 26 31123 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.111 In/Sec	.699 G-s
MIH	.086 In/Sec	.987 G-s

	MIA	.129 In/Sec	.550 G-s
	FIH	.172 In/Sec	.044 G-s
	FOH	.089 In/Sec	.078 G-s

EF 27 - EF 27 31154 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.057 In/Sec	.985 G-s
MIH	.112 In/Sec	.958 G-s
MIA	.123 In/Sec	1.035 G-s
FIH	.115 In/Sec	.208 G-s
FOH	.054 In/Sec	.154 G-s

EF 28 - EF 28 31153 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.084 In/Sec	.936 G-s
MIH	.074 In/Sec	1.289 G-s
MIA	.075 In/Sec	.899 G-s
FIH	.084 In/Sec	.125 G-s
FOH	.086 In/Sec	.142 G-s

EF 29 - EF 29 31149 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.159 In/Sec	.743 G-s
MIH	.113 In/Sec	.889 G-s
MIA	.123 In/Sec	.675 G-s
FIH	.144 In/Sec	.029 G-s
FOH	.125 In/Sec	.101 G-s

EF 30 - EF 30 31539 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.117 In/Sec	1.318 G-s
MIH	.138 In/Sec	.894 G-s
MIA	.126 In/Sec	.741 G-s
FIH	.169 In/Sec	.187 G-s
FOH	.103 In/Sec	.101 G-s

EF 31 - EF 31 33495 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.075 In/Sec	.867 G-s
MIH	.068 In/Sec	.770 G-s
MIA	.082 In/Sec	.643 G-s
FIH	.083 In/Sec	.052 G-s
FOH	.057 In/Sec	.163 G-s

EF 32 - EF 32 31300 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.081 In/Sec	.552 G-s
MIH	.105 In/Sec	.806 G-s
MIA	.111 In/Sec	.652 G-s
FIH	.128 In/Sec	.063 G-s
FOH	.049 In/Sec	.150 G-s

EF 33 - EF 33 31298 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.064 In/Sec	.980 G-s
MIH	.102 In/Sec	1.035 G-s
MIA	.123 In/Sec	1.178 G-s
FIH	.069 In/Sec	.142 G-s
FOH	.051 In/Sec	.047 G-s

EF 34 - EF 34 31296 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.099 In/Sec	.662 G-s
MIH	.085 In/Sec	.650 G-s
MIA	.106 In/Sec	.605 G-s
FIH	.118 In/Sec	.220 G-s
FOH	.062 In/Sec	.121 G-s

EF 35 - EF 35 31294 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz

MOH	.150 In/Sec	.305 G-s	
MIH	.086 In/Sec	.304 G-s	
MIA	.151 In/Sec	.310 G-s	
FIH	.197 In/Sec	.171 G-s	
FOH	.120 In/Sec	.063 G-s	

EF 36 - EF 36 31291 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.190 In/Sec	.540 G-s
MIH	.123 In/Sec	.673 G-s
MIA	.137 In/Sec	.594 G-s
FIH	.137 In/Sec	.111 G-s
FOH	.166 In/Sec	.251 G-s

EF 37 - EF 37 31330 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.079 In/Sec	.905 G-s
MIH	.079 In/Sec	1.212 G-s
MIA	.076 In/Sec	.440 G-s
FIH	.080 In/Sec	.112 G-s
FOH	.075 In/Sec	.110 G-s

EF 38 - EF 38 31328 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.092 In/Sec	.862 G-s
MIH	.158 In/Sec	1.053 G-s
MIA	.156 In/Sec	.565 G-s
FIH	.157 In/Sec	.087 G-s
FOH	.089 In/Sec	.307 G-s

EF 39 - EF 39 31537 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.237 In/Sec	.544 G-s
MIH	.105 In/Sec	.783 G-s
MIA	.209 In/Sec	.861 G-s
FIH	.072 In/Sec	.052 G-s
FOH	.037 In/Sec	.082 G-s

EF 40 - EF 40 31540 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.124 In/Sec	.593 G-s
MIH	.113 In/Sec	1.006 G-s
MIA	.071 In/Sec	.621 G-s
FIH	.070 In/Sec	.047 G-s
FOH	.077 In/Sec	.235 G-s

EF 44 - EF 44 31326 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.085 In/Sec	1.492 G-s
MIH	.137 In/Sec	.855 G-s
MIA	.113 In/Sec	.620 G-s
FIH	.101 In/Sec	.106 G-s
FOH	.059 In/Sec	.092 G-s

EF 45 - EF 45 31534 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.089 In/Sec	.526 G-s
MIH	.089 In/Sec	.648 G-s
MIA	.107 In/Sec	.997 G-s
FIH	.102 In/Sec	.090 G-s
FOH	.063 In/Sec	.066 G-s

EF 47 - EF 47 31315 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.224 In/Sec	.682 G-s
MIH	.121 In/Sec	.807 G-s
MIA	.214 In/Sec	.976 G-s
FIH	.080 In/Sec	.081 G-s
FOH	.093 In/Sec	.081 G-s

EF 48 - EF 48 31125 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.117 In/Sec	.829 G-s
MIH	.063 In/Sec	.836 G-s
MIA	.185 In/Sec	.494 G-s
FIH	.067 In/Sec	.122 G-s
FOH	.063 In/Sec	.286 G-s

EF 50 - EF 50 33496 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
MOH	.239 In/Sec	.294 G-s
MIA	.169 In/Sec	.163 G-s
FIH	.294 In/Sec	.349 G-s
FOH	.274 In/Sec	.336 G-s

EF 51 - EF 51 33497 (07-Feb-22)

	OVERALL LEVEL	1 - 20 KHz
FIH	.190 In/Sec	.280 G-s
FOH	.081 In/Sec	.506 G-s

Clarification Of Vibration Units:

Acc --> G-s RMS

Vel --> In/Sec PK