

Amphenol Corporation Amphenol Operations 40 - 60 Delaware Street Sidney, New York 13838 – 1395	Vibration Test Data Sheet CLT Number : 10732 Report Number : ER23-0014
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Test Vibration Test of CF-020400-062			
Test Specification U2-0000270P; MIL-STD-810G			
Test Item Operational Requirements No Cracking, Breaking or loosening			
Contract # 0798083	Report Prepared By: A. Hosier	Date: 2/17/23	Requested By: Z. Gilmore

Type of Test

Curve A

Swept Sine, sweep time 15 minutes, from 10 to 1000 hertz.

Test duration 0 hours 15 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
20			.01					
40			.5					
1000			.5					

Type of Test

Curve B

Swept Sine, sweep time 15 minutes, from 10 to 1000 hertz.

Test duration 0 hours 15 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
10			.05					
44			1					
1000			1					

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Type of Test

Curve C

Swept Sine, sweep time 15 minutes, from 10 to 1000 hertz.

Test duration 0 hours 15 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
10			.05					
40			1.5					
1000			1.5					

Type of Test

Fixed Sine

Test duration 2 hours 0 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
1239.4			1.5					

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Type of Test

Fixed Sine
Test duration 2 hours 0 minutes.
Test performed in each of three mutual perpendicular axes.
Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
364			1.5					
518			1.5					
1190			1.5					
1347			1.5					

Type of Test

Fixed Sine
Test duration 2 hours 0 minutes.
Test performed in each of three mutual perpendicular axes.
Test performed at ambient temperature

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
899.67			1.5					
1123.56			1.5					
1444.26			1.5					
1635.09			1.5					

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Type of Test

Broad Band Random – **Curve A**

Test duration 0 hours 15 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
20				.001				
200				.001				
250				.004				
500				.004				
2000				.00025				

Type of Test

Broad Band Random – **Curve B**

Test duration 0 hours 15 minutes.

Test performed in each of three mutual perpendicular axes.

Test performed at ambient temperature.

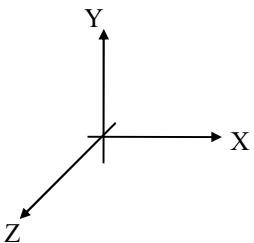
Test Profile								
Freq. Hz	Velocit y In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
20				.004				
500				.004				
2000				.00025				

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Type of Test

Broad Band Random – **Curve C**
Test duration 1 hours 0 minutes.
Test performed in each of three mutual perpendicular axes.
Test performed at ambient temperature.

Test Profile								
Freq. Hz	Velocity In/Sec	Displace. In D.A.	Acceler. G Pk	PSD G ² /Hz	Overall G RMS	Roll Up dB/Oct	Roll Off dB/Oct	Remarks
20				.01				
500				.01				
2000				.000625				

Test Set Up Info	
	Axis Definition: Y - Perpendicular Direction, Through Main Keyway. X - Perpendicular Direction Rotated 90 Degrees from ‘Y’. Z - Longitudinal Direction, Parallel to the long axis of the Connector

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Sample Identification:

CF-020400-062

Purpose of Test:

Perform vibration testing of Ethernet Switch for Qualification

Set-Up Details:

- The harnesses were tied to a mounting point which did not vibrate with the samples.
- Sample Monitored by High Speed Engineering.

Vibration Results:

- Post visual showed no damage detrimental to the operation of the connector.

Discrepancies:

- None

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Item	Mnfg	Model	Ident. No.	Cal Date	Due Date
☒ Vibration, Shaker	UD	T2000	IC-4949	NA	NA
☒ Power Amplifier	UD	T2000	IC-4949	NA	NA
☐ Vibration, Shaker	Ling	A-395	F-1910		
☐ Power Amplifier	Ling	DMA-6XE	F-1910		
☒ Digital Vibration Controller	UD	Apex SL	IC-5999	7/15/22	6/14/23
☐ Digital Vibration Controller	VR	VR9500	IC-4793		
☐ Digital Thermometer	Fluke	2176A	F-2254		
☐ Temperature Chamber	Std Env Sys	SLHV/15.5	F-1914		
☐ Video Chart Recorder	Honeywell	Minitrend	IC-4680		
☐ Temperature Chamber	Std Env Sys	CLHV-10	F-2352		
☐ Video Chart Recorder	Honeywell	Minitrend	IC-4682		
☐ Event Detector	Analysis Tech	32-106	IC-4684		
☐ Event Detector	Analysis Tech	128-105	IC-4683		
☐ Shock Machine, Mechanical	AVCO	SM110-MP	F-2558		
☐ Oscilloscope, Digital	Tektronics	TPS-2024	IC-4573		
☐ Filter, Bandpass	Krohn-Hite	3362	IC-4844		
☐ Charge Amplifier	Kistler	5010B	IC-4916		
☒ Charge Amplifier	U-D	CVA-4	IC-3873	4/08/22	4/08/23
☐ Charge Amplifier	U-D	CVA-4	IC-4156		
☐ Charge Amplifier	U-D	CVA-4	IC-4157		
☐ Charge Amplifier	U-D	CVA-4	IC-4158		
☒ Accelerometer	Endevco	2271AM20	IC-5967	7/13/22	1/12/23
☒ Accelerometer	Endevco	2222C	F-2537	3/01/22	9/01/22
☐ Accelerometer	Endevco				
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Test Item(s): CF-020400-062									Test Identification Number 10732	
Test Requirement(s) No Damage									Tested By: A. Hosier	
Date	Start Time	Stop Time	Elapsed Time	Total Elapsed Time	Test Temp	Vibe Axis	Sample No(s)	Tech	Notes (see below)	Remarks
8/08/22	1112	1127	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve A – Random
8/08/22	1128	1143	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve B - Random
8/08/22	1205	1305	1:00:00	1:00:00	AMB	Y	1	AH	NA	Curve C - Random
8/08/22	1314	1330	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve A - Random
8/08/22	1331	1346	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve B - Random
8/08/22	1350	1355	0:05:00	0:05:00	AMB	Y	1	AH	NA	Resonance Sweep - Sine
8/09/22	0833	1033	2:00:00	2:00:00	AMB	Y	1	AH	NA	Sine Dwell – 1239HZ 1.5G
8/09/22	1102	1117	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve A - Sine
8/09/22	1117	1132	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve B - Sine
8/10/22	0752	0807	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve C - Sine
8/10/22	0832	0847	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve A – Sine
8/10/22	0848	0903	0:15:00	0:15:00	AMB	Y	1	AH	NA	Curve B – Sine
8/10/22	----	----	-----	-----	AMB	Y, Y'	1	AH	NA	Shock – 20G 11mS
Notes: 1. Contacts wired in series and monitored for discontinuities of one/ten micro-sec or greater. 2. Plug coupling nuts torqued and matched marked for visual indication of movement. 3. No discontinuity occurred. 4. Discontinuity occurred. 5 No coupling nut movement occurred. 6. Coupling nut movement occurred.										

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Test Requirement(s) No Damage									Tested By: A. Hosier	
Date	Start Time	Stop Time	Elapsed Time	Total Elapsed Time	Test Temp	Vibe Axis	Sample No(s)	Tech	Notes (see below)	Remarks
8/10/22	1012	1027	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve A – Random
8/10/22	1029	1044	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve B - Random
8/10/22	1105	1205	1:00:00	1:00:00	AMB	X	1	AH	NA	Curve C - Random
8/10/22	1221	1236	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve A - Random
8/10/22	1237	1252	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve B - Random
8/11/22	0722	0727	0:05:00	0:05:00	AMB	X	1	AH	NA	Resonance Sweep - Sine
8/11/22	0805	1005	2:00:00	2:00:00	AMB	X	1	AH	NA	Sine Dwell
8/11/22	1052	1107	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve A - Sine
8/11/22	1111	1126	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve B - Sine
8/11/22	1126	1141	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve C - Sine
8/11/22	1144	1159	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve A – Sine
8/11/22	1200	1215	0:15:00	0:15:00	AMB	X	1	AH	NA	Curve B – Sine
8/11/22	-----	-----	-----	-----	AMB	X, X'	1	AH	NA	Shock – 20G 11mS
Notes: 1. Contacts wired in series and monitored for discontinuities of one/ten micro-sec or greater. 2. Plug coupling nuts torqued and matched marked for visual indication of movement. 3. No discontinuity occurred. 4. Discontinuity occurred. 5 No coupling nut movement occurred. 6. Coupling nut movement occurred.										

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Test Requirement(s) No Damage									Tested By: A. Hosier	
Date	Start Time	Stop Time	Elapsed Time	Total Elapsed Time	Test Temp	Vibe Axis	Sample No(s)	Tech	Notes (see below)	Remarks
8/11/22	1325	1340	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve A – Random
8/11/22	1341	1355	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve B - Random
8/12/22	0844	0944	1:00:00	1:00:00	AMB	Z	1	AH	NA	Curve C - Random
8/12/22	0957	1012	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve A - Random
8/12/22	1013	1028	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve B - Random
8/12/22	1043	1048	0:05:00	0:05:00	AMB	Z	1	AH	NA	Resonance Sweep - Sine
8/12/22	1058	1258	2:00:00	2:00:00	AMB	Z	1	AH	NA	Sine Dwell
8/12/22	1314	1329	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve A - Sine
8/12/22	1330	1345	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve B - Sine
8/12/22	1354	1409	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve C - Sine
8/12/22	1417	1432	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve A – Sine
8/12/22	1433	1448	0:15:00	0:15:00	AMB	Z	1	AH	NA	Curve B – Sine
8/12/22	-----	-----	-----	-----	AMB	Z, Z'	1	AH	NA	Shock – 20G 11mS
Notes: 1. Contacts wired in series and monitored for discontinuities of one/ten micro-sec or greater. 2. Plug coupling nuts torqued and matched marked for visual indication of movement. 3. No discontinuity occurred. 4. Discontinuity occurred. 5 No coupling nut movement occurred. 6. Coupling nut movement occurred.										

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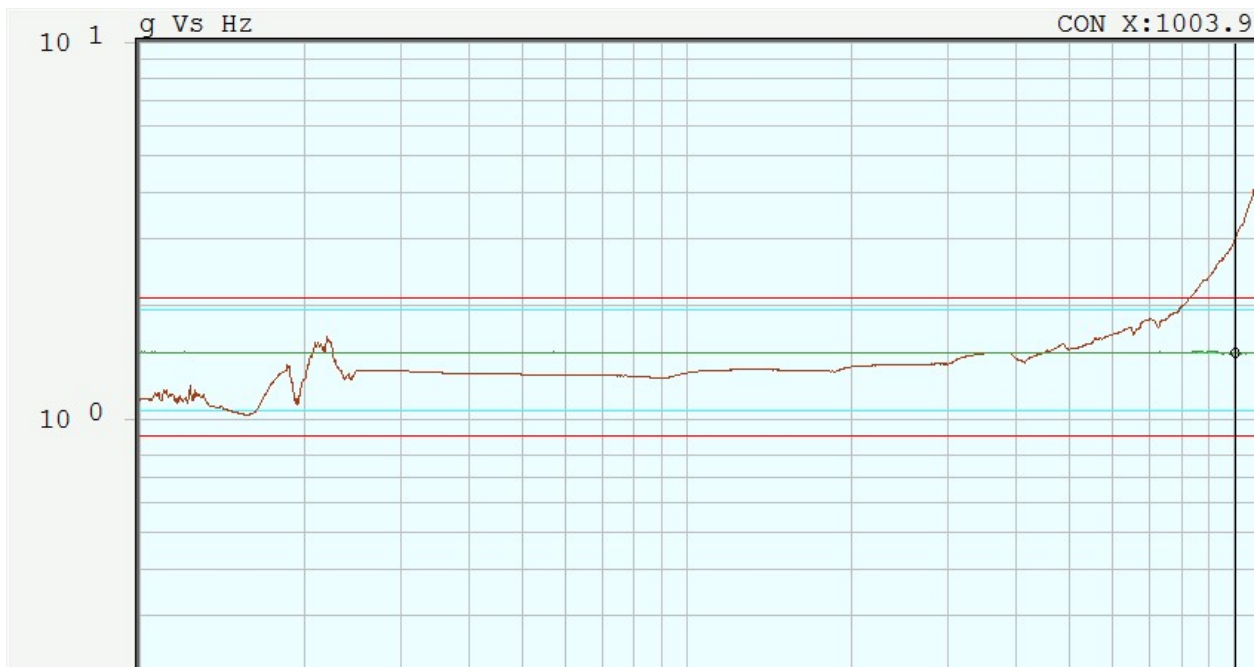
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Vibration Profile – Representative



Shock Pulse – Representative



Y axis Resonance sweep

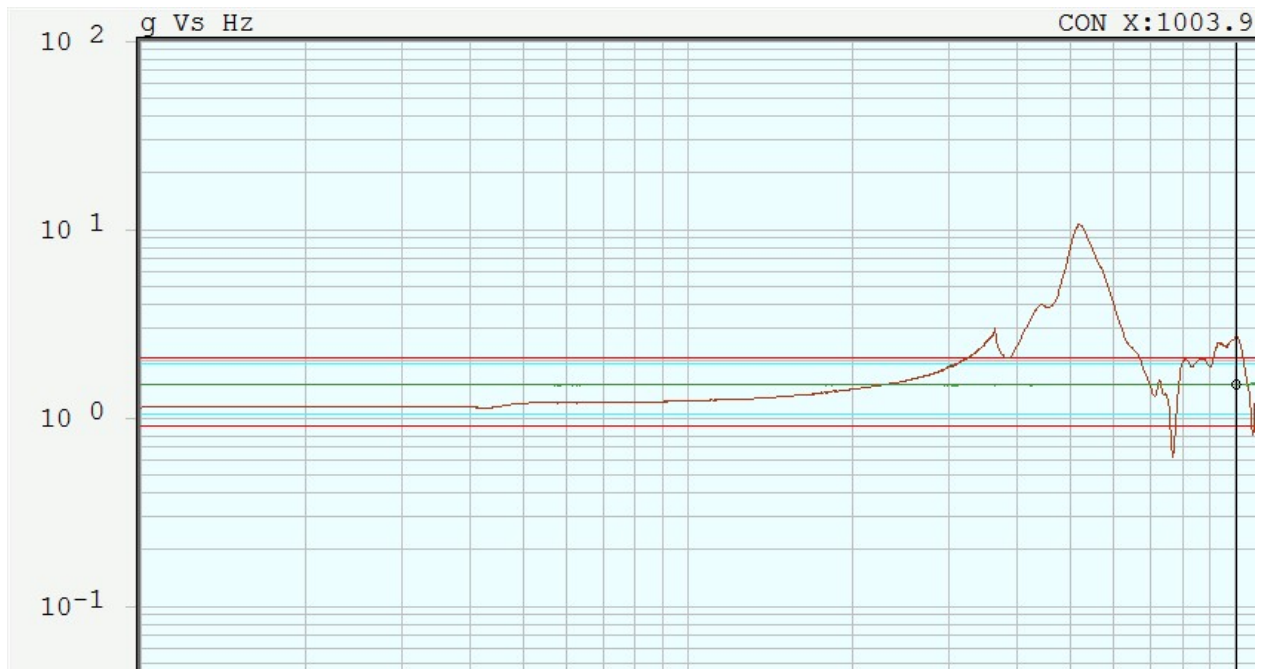
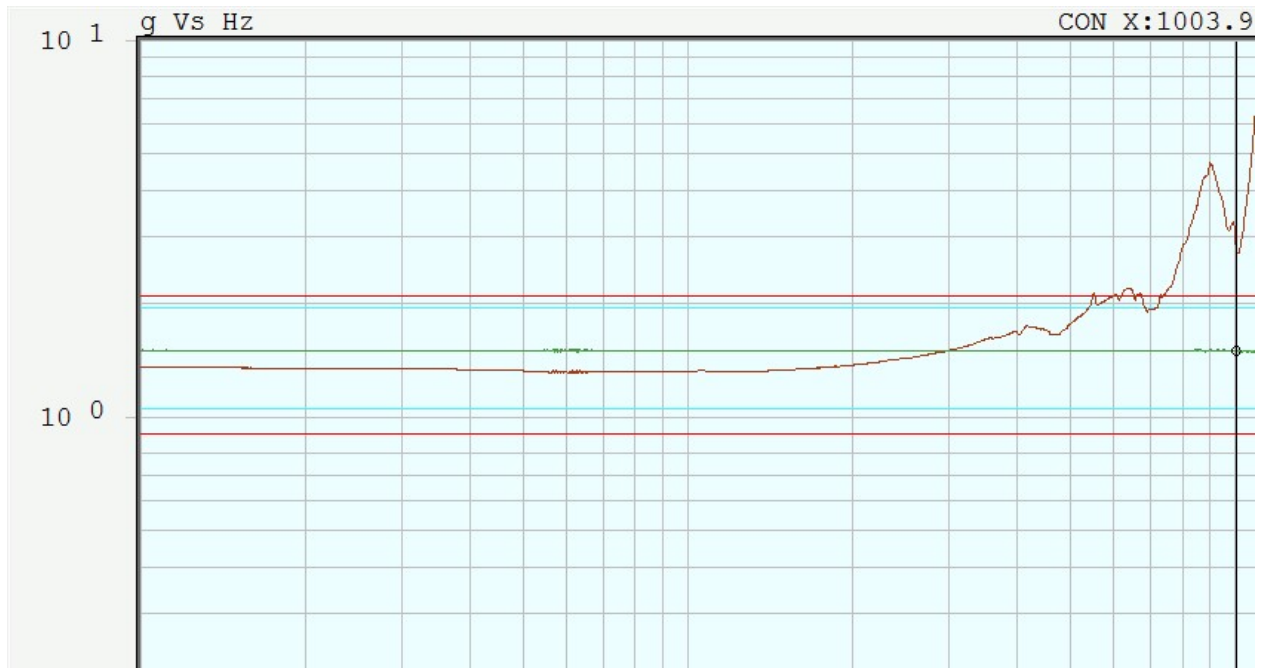
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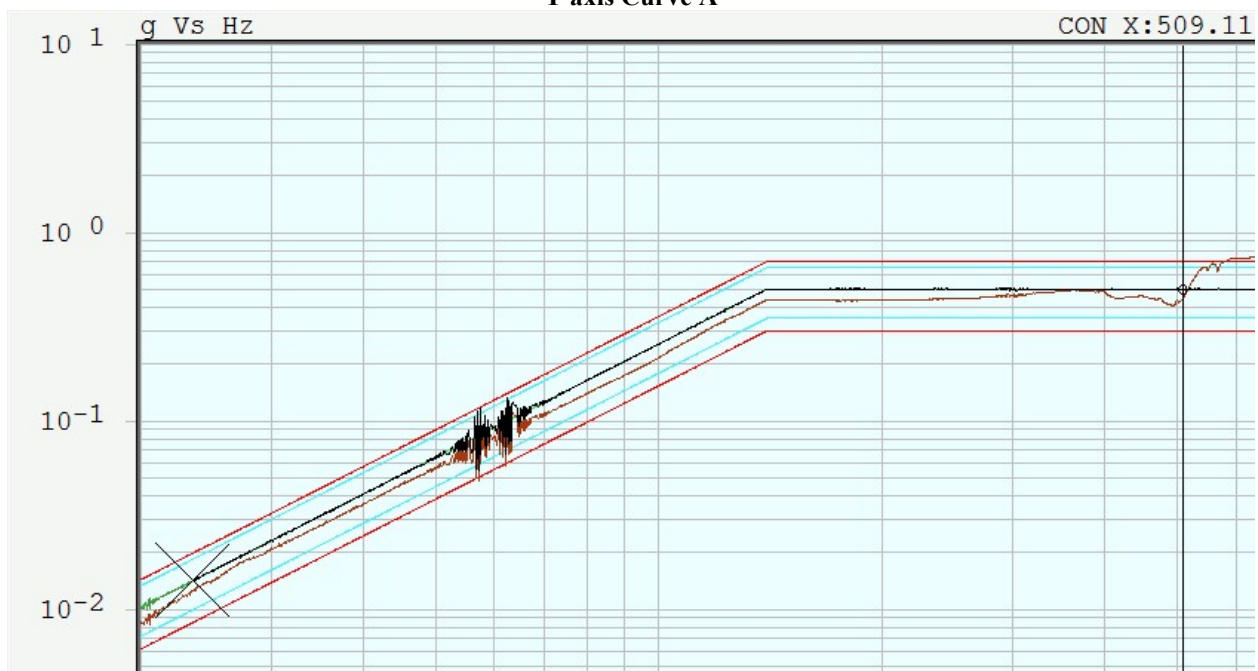
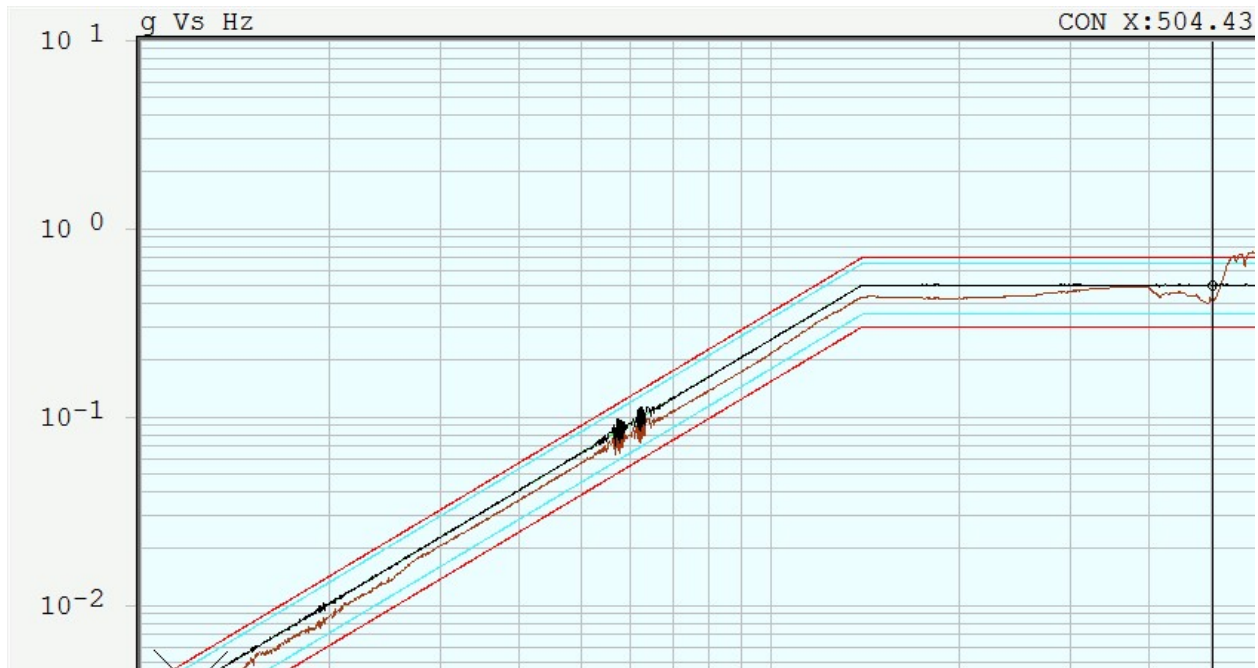
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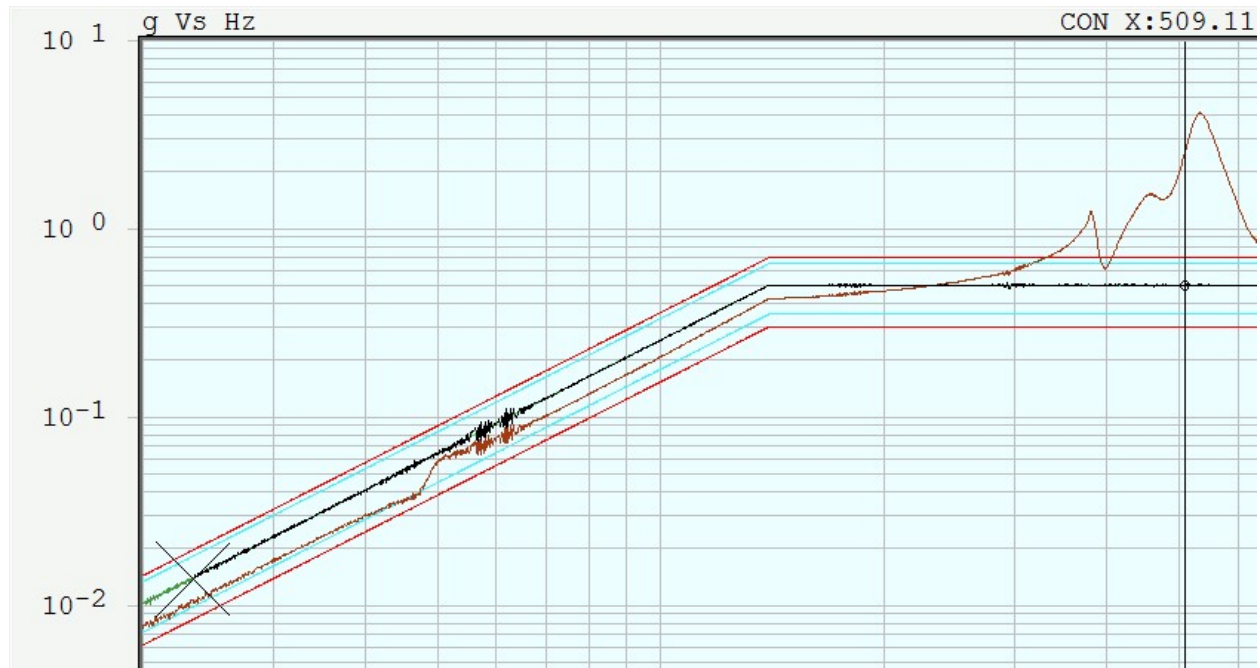
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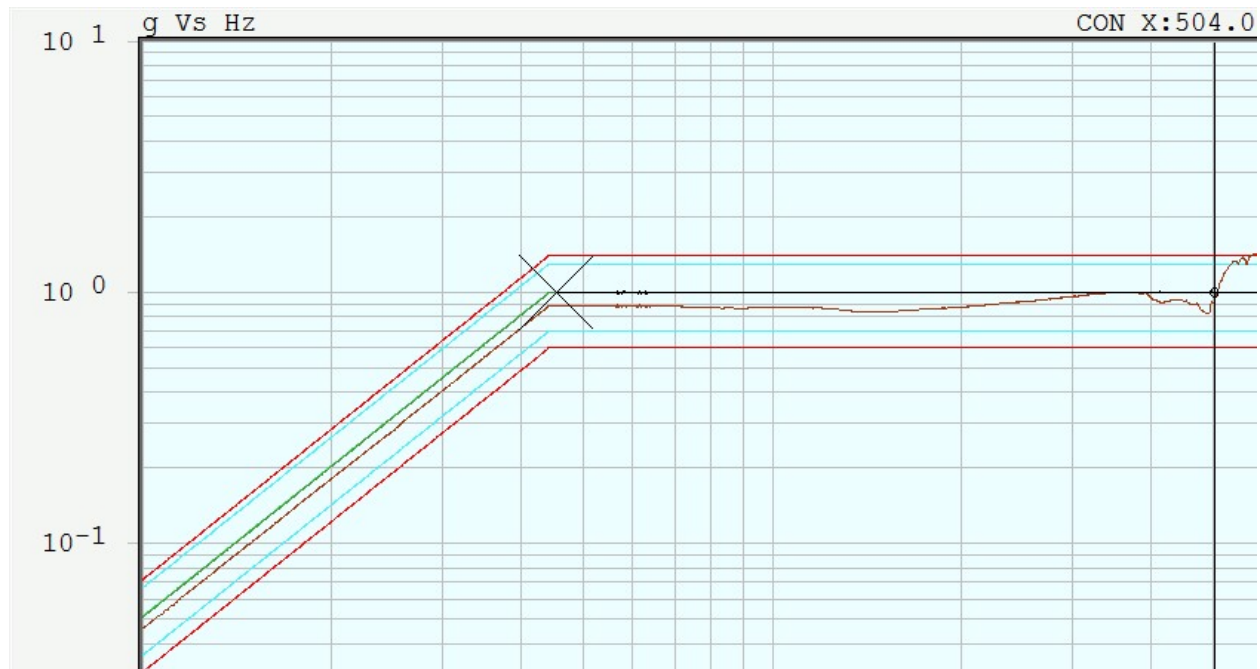
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Z axis Curve A



Y axis Curve B

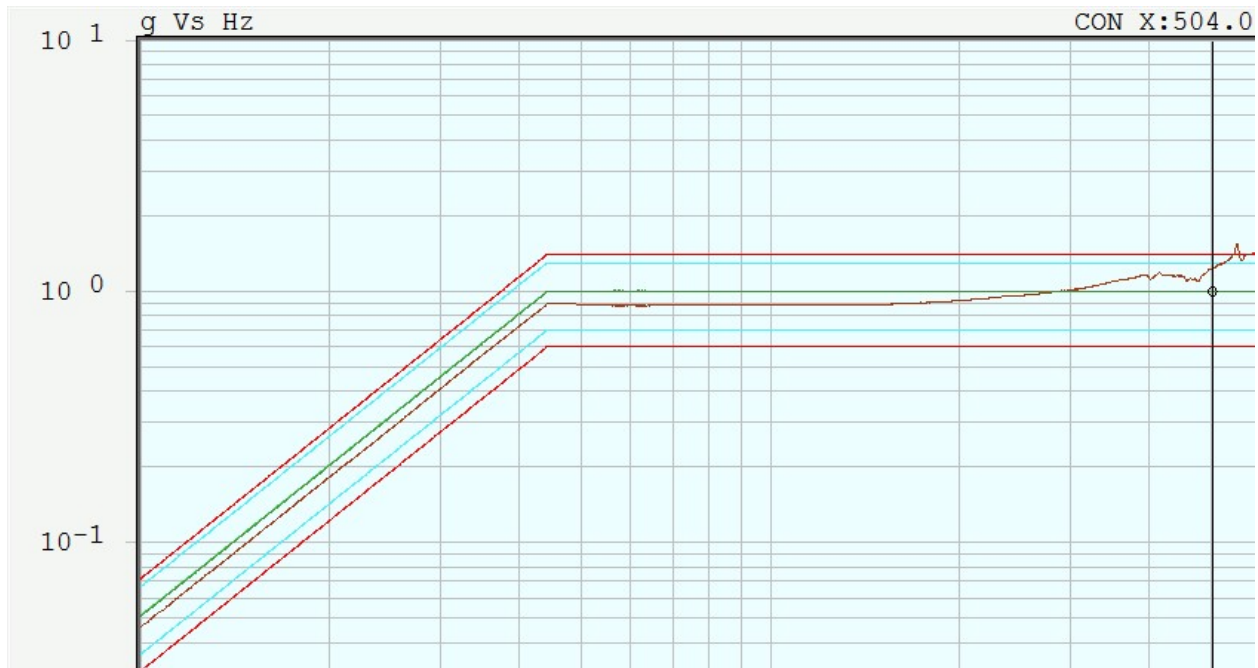
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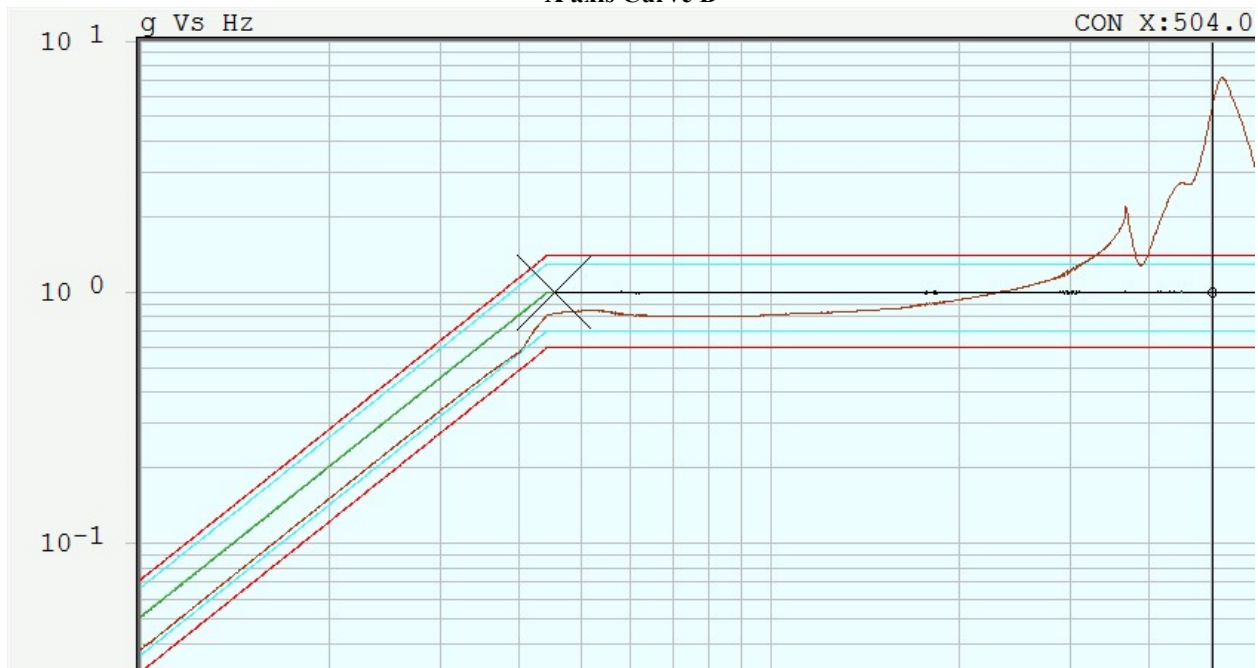
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X axis Curve B



Z axis Curve B

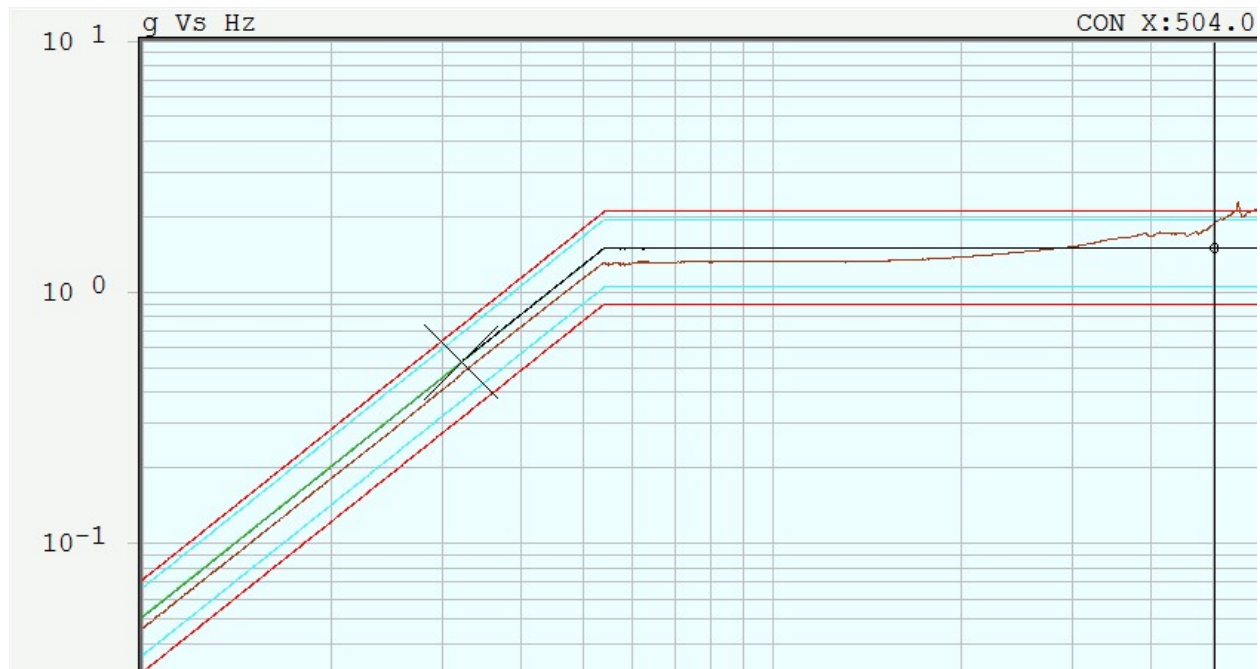
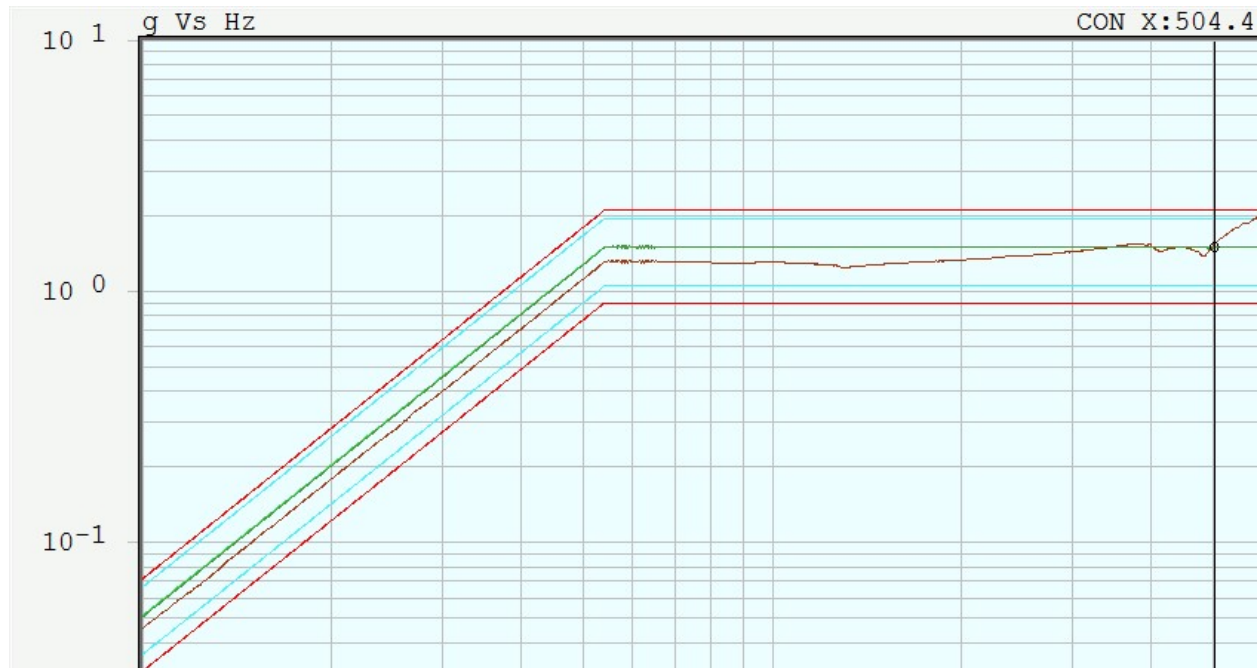
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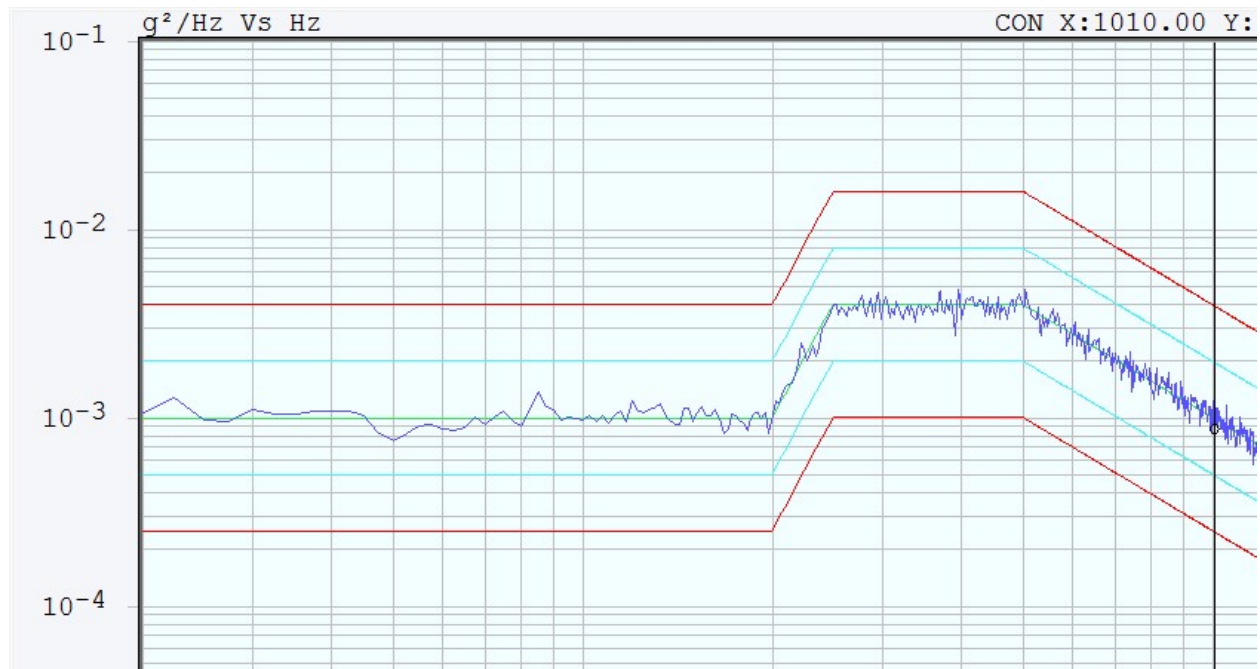
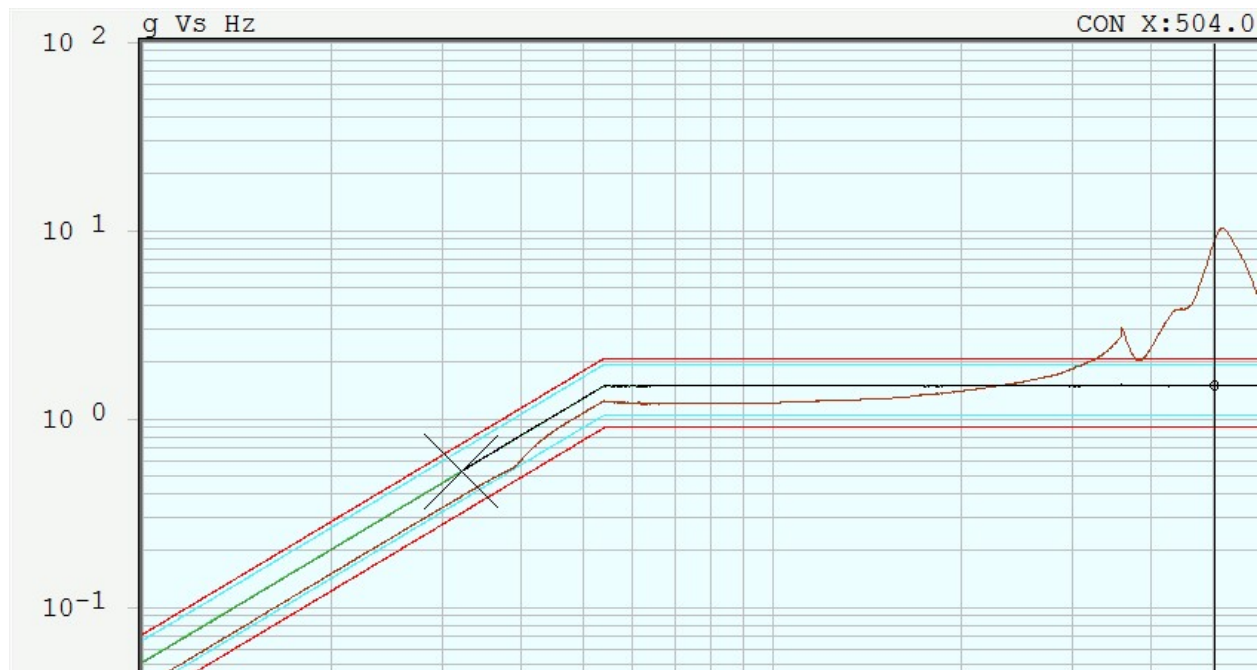
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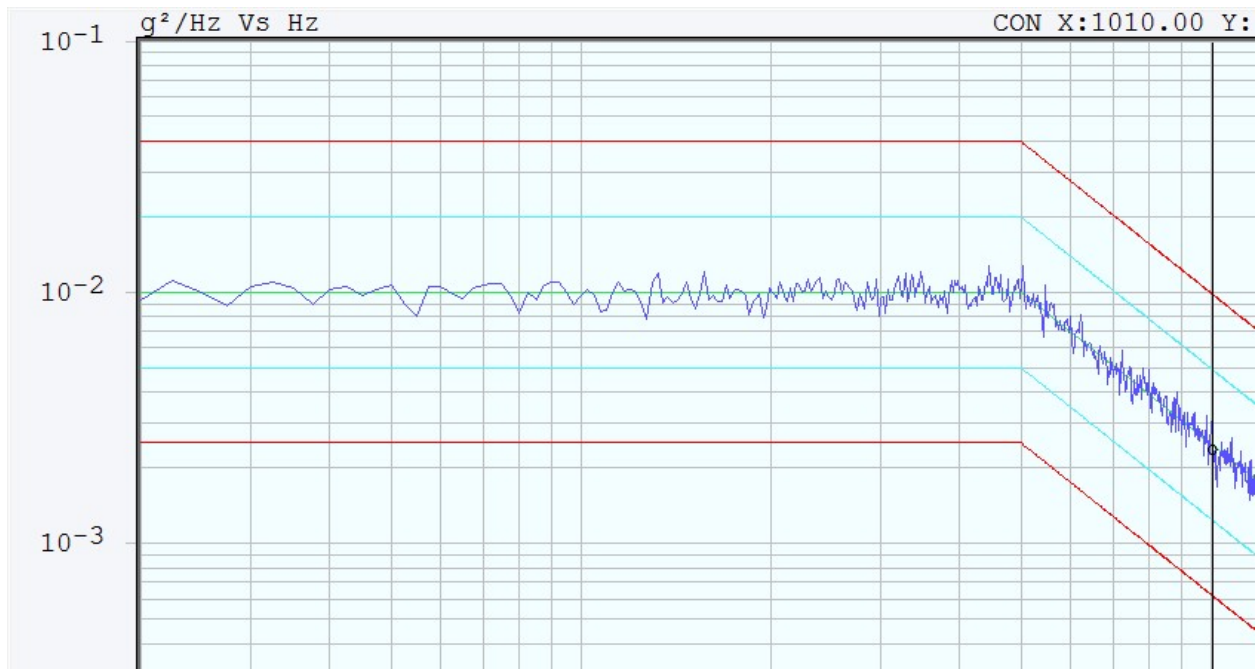
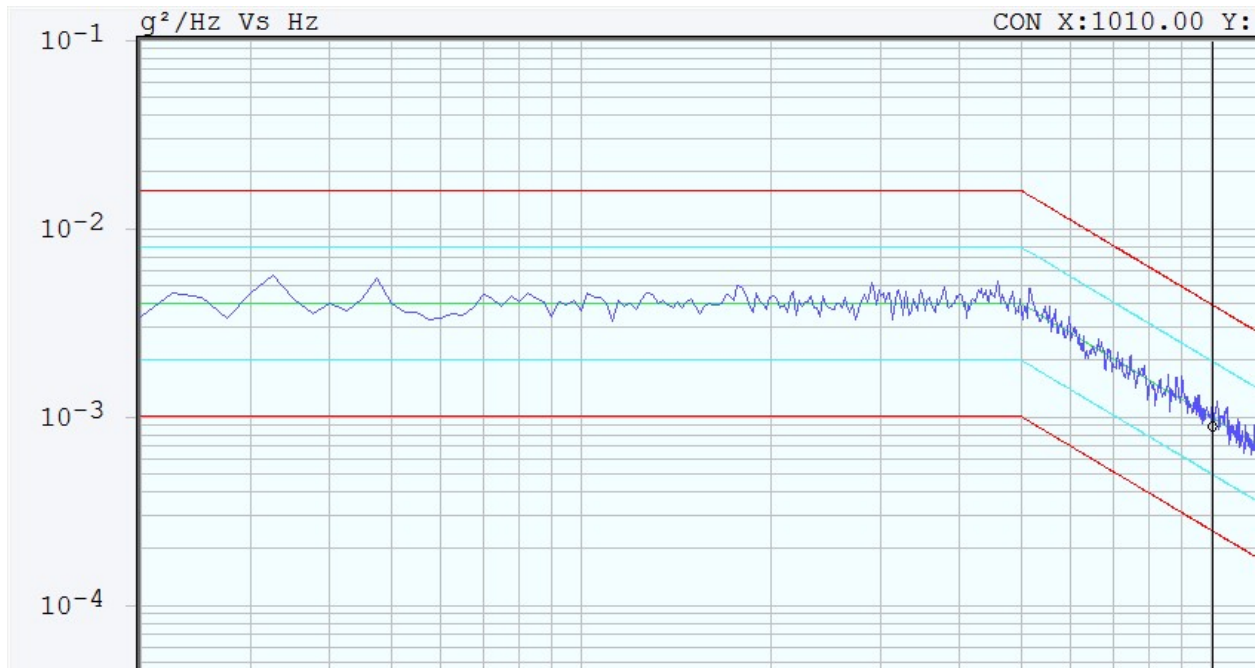
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