



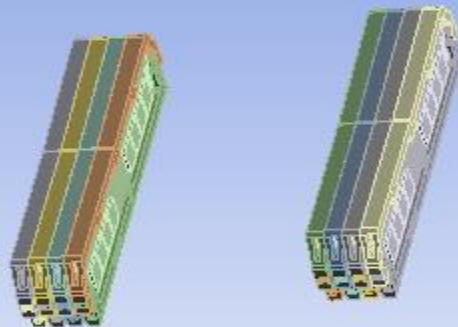
## Project\*

First Saved	Wednesday, May 3, 2023
Last Saved	Monday, May 8, 2023
Product Version	2022 R2
Save Project Before Solution	No
Save Project After Solution	No

### Model

5/10/2023 8:55 AM

Ansys  
2022 R2



0.000 0.100 (m)  
0.050



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## Units

TABLE 1

Unit System	Metric (m, kg, N, s, V, A) Degrees rad/s Celsius
Angle	Degrees
Rotational Velocity	rad/s
Temperature	Celsius

## Model (A4, B4)

TABLE 2

### Model (A4, B4) > Geometry Imports

Object Name	<i>Geometry Imports</i>
State	Solved

TABLE 3

### Model (A4, B4) > Geometry Imports > Geometry Import (A3, B3)

	<i>Geometry Import (A3, B3)</i>
	Solved
<b>Definition</b>	
	\\iowa.uiowa.edu\shared\Engineering\Home\makaufrman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\SYS\DM\
	SpaceClaim
<b>Basic Geometry Options</b>	
	Independent
<b>Advanced Geometry Options</b>	
	No
	3-D

## Geometry

TABLE 4

### Model (A4, B4) > Geometry

	<i>Geometry</i>
	Fully Defined
<b>Definition</b>	
	\\iowa.uiowa.edu\shared\Engineering\Home\makaufrman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\SYS\DM\
	SpaceClaim
	Meters
	Program Controlled
	Body Color
<b>Bounding Box</b>	
	0.48082 m

Y	0.55504 m
Z	4.3696e-002 m
Properties	
Volume	2.1156e-003 m³
Mass	8.3511 kg
Temperature	1.
Statistics	
Count	111
Frequency	111
Sum	453910
Average	231263
Standard Deviation	None
Update Options	
Initial Value	No
Basic Geometry Options	
Is a Sphere	Yes
Is a Cylinder	Yes
Is a Cone	Yes
Is a Prism	Independent
Is a Pyramid	
Is a Torus	Yes
Is a Ring	
Is a Shell	Yes
Is a Hollow	
Is a Solid	Yes
Advanced Geometry Options	
Is a Frustum	Yes
Is a Segment	Yes
Is a Cap	
Is a Lens	No

e	Yes
s	Yes
D	Yes
e	No
e	No
n	3-D
e	3-D
is	3-D
e	3-D
d	None
rt	None
n	None
rt	Source
et	Source
ty	Source
n	No
n	No
rt	No
ch	None
s	None
rt	None
e	Yes
nt	Yes
y	Yes
e	Yes
d	Yes
y	Yes
g	Yes

Smallest

TABLE 5  
Model (A4, B4) > Geometry > Smallest > Parts

Object Name	SCREW-1\SCREW-1	SCREW-2\SCREW-2	SCREW-3\SCREW-3	SCREW-4\SCREW-4	LEFT-NUT-1\LEFT-NUT-1	LEFT-NUT-2\LEFT-NUT-2	LEFT-NUT-3\LEFT-NUT-3	LEFT-NUT-4\LEFT-NUT-4	LEFT-NUT-5\LEFT-NUT-5	LEFT-NUT-6\LEFT-NUT-6	LEFT-NUT-7\LEFT-NUT-7
State	Hidden										
Graphics Properties											
Visible	No										
Transparency	1										
Definition											
Suppressed	No										
Stiffness Behavior	Flexible										
Coordinate System	Default Coordinate System										
Reference Temperature	By Environment										
Treatment	None										
Material											
Assignment	Steel				Structural Steel						



Suppressed	No											
Stiffness Behavior	Flexible											
Coordinate System	Default Coordinate System											
Reference Temperature	By Environment											
Treatment	None											
Material												
Assignment	Structural Steel											
Nonlinear Effects	Yes											
Thermal Strain Effects	Yes											
Bounding Box												
Length X	3.2512e-003 m											
Length Y	7.874e-003 m											
Length Z	7.874e-003 m											
Properties												
Volume	1.0658e-007 m³											
Mass	8.3663e-004 kg	8.3666e-004 kg	8.3663e-004 kg									
Centroid X	0.16035 m		-0.29122 m									
Centroid Y	0.20607 m	0.26163 m	-0.18287 m	-0.12731 m	-7.1745e-002 m	-1.6183e-002 m	3.938e-002 m	9.4942e-002 m	0.1505 m	0.20607 m	0.26163 m	
Centroid Z	-7.7016e-005 m		-8.4579e-005 m									
Moment of Inertia Ip1	7.0864e-009 kg·m²											
Moment of Inertia Ip2	4.1271e-009 kg·m²											
Moment of Inertia Ip3	4.1271e-009 kg·m²											
Statistics												
Nodes	1033	1030	1042	1063	1024	1038	1023	1014	1008	1012	1085	
Elements	521	513	515	541	511	519	509	505	503	506	554	
Mesh Metric	None											
CAD Attributes												
PartTolerance:	0.00000001											
Color:175.159.143												
Color:143.175.175												
Color:143.175.143												
Color:159.143.175												
Color:175.175.143												
Color:143.159.175												
Color:175.143.143												
Color:143.175.159												
Color:175.143.175												
Color:159.175.143												
Color:143.143.175												

V2	SCREW3\SCREW3	SCREW4\SCREW4	SCREW5\SCREW5	SCREW6\SCREW6	SCREW7\SCREW7	SCREW8\SCREW8	SCREW
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SCREW14\SCREW14	SCREW15\SCREW15	SCREW16\SCREW16	SCREW17\SCREW17	SCREW18\SCREW18	SCREW19\SCREW19
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### Graphics Properties

---

1

### Definition

No

Flexible

### Default Coordinate System

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None
------

Material	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
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18	18
19	19
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40	40
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83	83
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86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

Steel

Yes

Vos

**Bounding Box**

9.525e-003 m

7.9248e-003 m

7.9248e-003 m

## Properties

1.5136e-007 m³
----------------

1.1912e-003 kg

	-0.28628 m	0.15538 m	-0.28628 m
--	------------	-----------	------------

0.20607 m	-0.18287 m	0.26163 m	-0.12731 m	-7.1745e-002 m	-1.6183e-002 m
-----------	------------	-----------	------------	----------------	----------------

-0.18287 m
------------

0.26163 m

-0.12731 m

-7.1745e-002 m

1

-8.4575e-005 m

-7.7012e-005 m

-8.4575e

Statistics

	437	432	437	452
--	-----	-----	-----	-----

452

211

CAD Attributes	
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0.00000001

TABLE 9									
Model (A4, B4) > Geometry > Smallest > Parts									
W23\SCREW23	SCREW24\SCREW24	PEM-FASTENER-1\PEM-FASTENER-1	PEM-FASTENER-2\PEM-FASTENER-2	PEM-FASTENER-3\PEM-FASTENER-3	PEM-FASTENER-4\PEM-FASTENER-4	PEM-FASTENER-5\PEM-FASTENER-5	PEM-FASTENER-6\PEM-FASTENER-6	PEM-FASTENER-7\PEM-FASTENER-7	
Hidden									
Graphics Properties									
No									
1									
Definition									
No									
Flexible									
Default Coordinate System									
By Environment									
None									
Material									
Steel		Aluminum 6061-T6; 6061-T651							
Yes									
Yes									
Bounding Box									
9.525e-003 m		7.3324e-003 m	7.3323e-003 m					7.3324e-003 m	
7.9248e-003 m		6.35e-003 m							
7.9248e-003 m		4.7498e-003 m							
Properties									
1.5136e-007 m³		8.8258e-008 m³							
1.1912e-003 kg		2.383e-004 kg							
-0.28628 m		-0.15686 m	6.1604e-004 m	0.12508 m			6.1604e-004 m	-0.15686 m	
0.20607 m	0.26163 m	4.6568e-002 m	0.22818 m		4.4788e-004 m	7.3238e-002 m	8.4788e-004 m		



Length X	7.9756e-003 m							7.0866e-003 m	6.8162e-003 m	6.3498e-003 m
Length Y	7.9756e-003 m							7.0866e-003 m	7.2982e-003 m	7.3321e-003 m
Length Z	9.2456e-003 m							9.4742e-003 m	3.0226e-003 m	3.175e-003 m
Properties										
Volume	1.4187e-007 m³							9.9522e-008 m³	6.5959e-008 m³	7.9856e-008 m³
Mass	1.1165e-003 kg							7.8324e-004 kg	5.191e-004 kg	2.1561e-004 kg
Centroid X	6.1601e-004 m	-0.15686 m	6.6656e-002 m	-0.15686 m	0.12508 m		6.1601e-004 m	-0.15686 m		
Centroid Y	8.4788e-004 m	4.6568e-002 m	7.3238e-002 m	8.4788e-004 m	7.3238e-002 m	0.22818 m		0.20532 m		
Centroid Z	1.5731e-002 m	1.5831e-002 m	1.5731e-002 m	1.5831e-002 m	1.5731e-002 m			1.7521e-002 m	1.8458e-002 m	1.3605e-002 m
Moment of Inertia Ip1	9.5364e-009 kg·m²							7.2928e-009 kg·m²	2.2327e-009 kg·m²	9.5289e-009 kg·m²
Moment of Inertia Ip2	9.5364e-009 kg·m²							7.2928e-009 kg·m²	2.2327e-009 kg·m²	9.5289e-009 kg·m²
Moment of Inertia Ip3	5.1904e-009 kg·m²	5.1905e-009 kg·m²	5.1904e-009 kg·m²	5.1905e-009 kg·m²	5.1904e-009 kg·m²	5.1905e-009 kg·m²		1.8303e-009 kg·m²	3.8087e-009 kg·m²	1.5462e-009 kg·m²
Statistics										
Nodes	927	934	969	921	931	936	969	428	2241	331
Elements	453	462	479	451	457	460	479	194	1174	42
Mesh Metric	None									
CAD Attributes										
PartTolerance:	0.00000001									
or:143.175.175										
or:175.143.159										
or:143.175.143										
or:159.143.175										
or:175.175.143										
or:143.159.175										
or:175.143.143										
or:143.175.159										
or:175.143.175										
or:159.175.143										

Small

TABLE 11  
Model (A4, B4) > Geometry > Small > Parts

DDR4_SLOT_1_1_2_1	DDR4_SLOT_1_1_2_1	DDR4_SLOT_1_1_2_1	DDR4_SLOT_1_1_2_1	DDR4_SLOT_1_1_2_1
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Meshed				
Graphics Properties				
Yes				
1				
Definition				
No				
Flexible				
Default Coordinate System				
By Environment				
None				
Material				
LCP				
Yes				
Yes				
Bounding Box				
6.3034e-003 m				
0.1527 m				
1.965e-002 m				
Properties				
4.8828e-006 m³				
8.5938e-003 kg				
2 m	-3.3027e-002 m	-0.13786 m	-0.14573 m	-0.12474 m
1.0705e-002 m				
1.7584e-007 kg·m²				
1.8398e-005 kg·m²				
1.8513e-005 kg·m²				
Statistics				
30721				
16596				
None				
CAD Attributes				
0.00000001				

TABLE 12  
Model (A4, B4) > Geometry > Small > Parts

M-00175- 1_2_1MEM- 0175- 1_1_2_1	MEM-00175- 02_A_1_1_2_1MEM- 00175- 02_A_1_1_2_1	MEM-00175- 02_A_1_1_2_1MEM- 00175- 02_A_1_1_2_1	IMP- 00393_D_1_1_2_1VMP- 00393_D_1_1_2_1	IMP- 00393_D_1_1_2_1VMP- 00393_D_1_1_2_1	IMP- 00393_D_1_1_2_1VMP- 00393_D_1_1_2_1	C
---	--	--	--	--	--	---

Meshed

Graphics Properties

Yes

1

Definition

No

Flexible

Default Coordinate System

By Environment

None

Material

LCP

Yes

Yes

Bounding Box

-003 m	7.7724e-
3335 m	0.1514
5e-002 m	2.3818e-

Properties

e-006 m³			3.9622e-0			
7e-002 kg			6.9735e-0			
4559 m	-0.15347 m	-0.16134 m	-0.16125 m	-0.15338 m	-0.1455 m	
0.12439 m			0.12487 m			
4e-004 m			-1.4494e-			
e-005 kg·m²			3.1388e-00			
e-005 kg·m²			1.7309e-00			
e-007 kg·m²			1.7538e-00			

Statistics

6017	384.
2871	178

None

CAD Attributes

0.00000001

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TABLE 13  
Model (A4, B4) > Geometry > Small > Parts

Object Name	IMP-00393_D_1_1_2_1VMP- 00393_D_1_1_2_1	IMP-00393_D_1_1_2_1VMP- 00393_D_1_1_2_1
-------------	--	--

State	Meshed	
Graphics Properties		
Visible	Yes	
Transparency	1	
Definition		
Suppressed	No	
Stiffness Behavior	Flexible	
Coordinate System	Default Coordinate System	
Reference Temperature	By Environment	
Treatment	None	
Material		
Assignment	LCP	
Nonlinear Effects	Yes	
Thermal Strain Effects	Yes	
Bounding Box		
Length X	7.7724e-003 m	
Length Y	0.15144 m	
Length Z	2.3818e-002 m	
Properties		
Volume	3.9622e-006 m³	
Mass	6.9735e-003 kg	
Centroid X	-1.7044e-002 m	-9.1687e-003 m
Centroid Y	0.11852 m	
Centroid Z	-1.4494e-002 m	
Moment of Inertia Ip1	3.1388e-007 kg·m²	
Moment of Inertia Ip2	1.7309e-005 kg·m²	
Moment of Inertia Ip3	1.7538e-005 kg·m²	
Statistics		
Nodes	3842	
Elements	1786	
Mesh Metric	None	
CAD Attributes		
PartTolerance:	0.00000001	
Color:175.143.159		

**TABLE 14**  
**Model (A4, B4) > Geometry > Medium > Parts**

Hidden

### Definition

No

Flexible

Default Coordinate System

By Environment

None

Material	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
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98	98
99	99
100	100

Aluminum 6061-T6; 6061-T651	Structural Steel	Aluminum 6061-T6; 6061-T651	Steel	
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Yes

## Bounding Box

	9.144e-003 m	1.651e-002 m	0.48082 m	1.7882e-002 m	6.3
m	0.4826 m	0.49721 m	9.525e-003 m	0.4916 m	0.
m	4.3688e-002 m		4.3307e-002 m	4.3688e-002 m	1.16

## Properties

3	1.4888e-004 m³	1.4882e-004 m³	5.2426e-005 m³		8.2892e-005 m³	6.4756e-005 m³		2.766
	0.40199 kg	0.4018 kg	0.41155 kg		0.22381 kg	0.50963 kg		3.208
m	0.15149 m	-0.28239 m	0.15954 m	-0.29042 m	-6.5449e-002 m	0.16474 m	-0.29561 m	0.15427 m
	1.2658e-002 m	1.2625e-002 m	2.1425e-002 m		-0.23384 m	7.3427e-002 m		3.93
m	-7.4915e-005 m	-7.0093e-005 m	-7.7017e-005 m	-8.4579e-005 m	4.7337e-005 m	-7.6985e-005 m	-8.461e-005 m	-7.7016e-005 m
5	7.7884e-003 kg·m²	7.7855e-003 kg·m²	8.4577e-003 kg·m²		4.8203e-005 kg·m²	1.0799e-002 kg·m²		5.8192
8	7.7224e-003 kg·m²	7.7196e-003 kg·m²	9.1794e-005 kg·m²		5.2268e-003 kg·m²	8.5857e-005 kg·m²		3.8703e-007 kg·m²
8	7.1982e-005 kg·m²	7.1958e-005 kg·m²	8.3699e-003 kg·m²		5.2717e-003 kg·m²	1.072e-002 kg·m²		5.8175

## Statistics

13316	14044	5269	5262	6129	4194	4046	3955
7398	7859	2265	2258	2851	1891	1820	1811

None

### CAD Attributes

0.00000001

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**TABLE 15**  
**Model (A4, B4) > Geometry > Medium > Parts**

Object Name	PCI-2\PCI-2	PCI-3\PCI-3	PCI-4\PCI-4	PCI-5\PCI-5	PCI-6\PCI-6	PCI-7\PCI-7	SINK\SINK	BASE\BASE
State	Hidden							
Graphics Properties								
Visible	No							
Transparency	1							
Definition								
Suppressed	No							
Stiffness Behavior	Flexible							
Coordinate System	Default Coordinate System							
Reference Temperature	By Environment							
Treatment	None							
Material								
Assignment	Structural Steel						Aluminum Scaled	LCP
Nonlinear Effects	Yes							
Thermal Strain Effects	Yes							
Bounding Box								
Length X	7.5e-003 m		7.4e-003 m				7.9e-002 m	
Length Y	5.5999e-002 m		8.9e-002 m	5.5999e-002 m	8.9e-002 m	5.5999e-002 m	0.10214 m	
Length Z	1.108e-002 m						2.4698e-002 m	9.185e-003 m
Properties								
Volume	4.6535e-006 m³		7.2973e-006 m³	4.5915e-006 m³	7.2973e-006 m³	4.5915e-006 m³	1.678e-004 m³	7.4113e-005 m³
Mass	3.653e-002 kg		5.7284e-002 kg	3.6043e-002 kg	5.7284e-002 kg	3.6043e-002 kg	0.1678 kg	0.13044 kg
Centroid X	0.10065 m	8.0327e-002 m	6.0006e-002 m	3.9681e-002 m	1.9366e-002 m	-9.5399e-004 m	-8.5753e-002 m	
Centroid Y	0.16789 m		0.15139 m	0.16789 m	0.15139 m	0.16789 m	0.10549 m	
Centroid Z	9.7451e-003 m						-6.2487e-003 m	1.0693e-002 m
Moment of Inertia Ip1	9.92e-006 kg·m²		3.8398e-005 kg·m²	9.7878e-006 kg·m²	3.8398e-005 kg·m²	9.7878e-006 kg·m²	1.2346e-004 kg·m²	1.1431e-004 kg·m²
Moment of Inertia Ip2	5.4496e-007 kg·m²		8.4745e-007 kg·m²	5.3322e-007 kg·m²	8.4745e-007 kg·m²	5.3322e-007 kg·m²	8.3056e-005 kg·m²	6.8756e-005 kg·m²

Moment of Inertia Ip3	9.7175e-006 kg·m²	3.8073e-005 kg·m²	9.5835e-006 kg·m²	3.8073e-005 kg·m²	9.5835e-006 kg·m²	1.8945e-004 kg·m²	1.8124e-004 kg·m²
Statistics							
Nodes	127	184	127	184	127	1472	714
Elements	12	18	12	18	12	249	88
Mesh Metric	None						
CAD Attributes							
PartTolerance:	0.00000001						
Color:143.159.175							
Color:175.143.143							
Color:143.175.159							
Color:175.143.175							
Color:159.175.143							
Color:143.143.175							
Color:175.159.143							
Color:143.175.175							

**Big**

**TABLE 16**  
**Model (A4, B4) > Geometry > Big > Parts**

Object Name	BOARD\BOARD		PSK\PSK
State	Hidden		
Graphics Properties			
Visible	No		
Transparency	1		
Definition			
Suppressed	No		
Stiffness Behavior	Flexible		
Coordinate System	Default Coordinate System		
Reference Temperature	By Environment		
Treatment	None		
Material			
Assignment	Glass Epoxy Composite	LCP	
Nonlinear Effects	Yes		
Thermal Strain Effects	Yes		
Bounding Box			
Length X	0.30734 m	0.10096 m	
Length Y	0.254 m	0.2222 m	
Length Z	1.6072e-003 m	3.847e-002 m	
Properties			
Volume	1.2467e-004 m³	5.2225e-004 m³	
Mass	0.91006 kg	0.91916 kg	
Centroid X	-1.2014e-002 m	-0.23166 m	
Centroid Y	0.11111 m	0.10571 m	
Centroid Z	1.6085e-002 m	1.2126e-004 m	
Moment of Inertia Ip1	4.8751e-003 kg·m²	3.3407e-003 kg·m²	
Moment of Inertia Ip2	7.1718e-003 kg·m²	6.3751e-004 kg·m²	

Moment of Inertia Ip3	1.2046e-002 kg·m²	3.793e-003 kg·m²
Statistics		
Nodes	2864	3219
Elements	1337	1595
Mesh Metric	None	
CAD Attributes		
PartTolerance:	0.00000001	
Color:175.143.159		
Color:143.143.175		

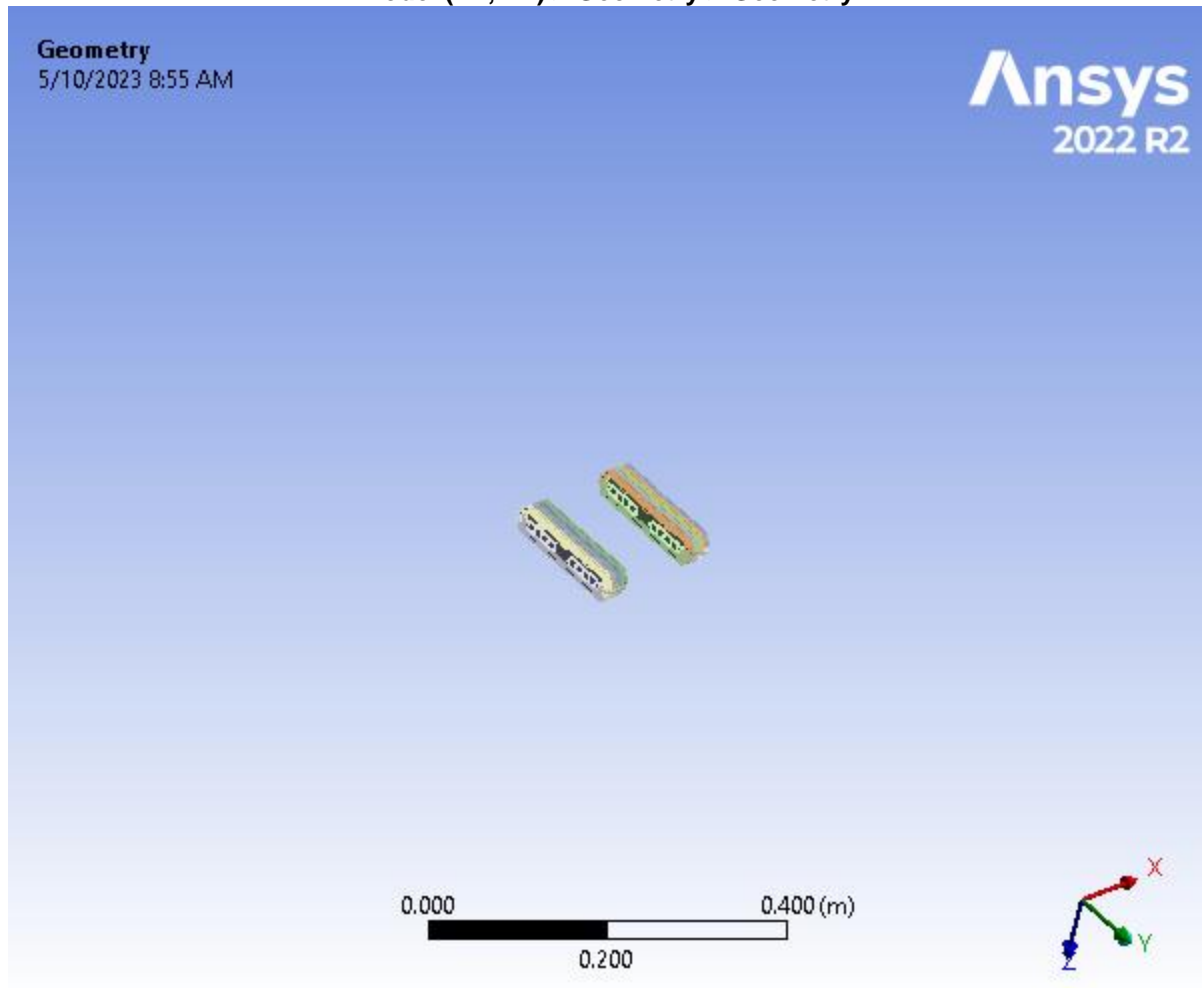
## Biggest

**TABLE 17**  
**Model (A4, B4) > Geometry > Biggest > Parts**

Object Name	PLATE\PLATE
State	Hidden
<b>Graphics Properties</b>	
Visible	No
Transparency	1
<b>Definition</b>	
Suppressed	No
Stiffness Behavior	Flexible
Coordinate System	Default Coordinate System
Reference Temperature	By Environment
Treatment	None
<b>Material</b>	
Assignment	Steel
Nonlinear Effects	Yes
Thermal Strain Effects	Yes
<b>Bounding Box</b>	
Length X	0.43713 m
Length Y	0.48971 m
Length Z	1.5189e-003 m
<b>Properties</b>	
Volume	3.2278e-004 m³
Mass	2.5403 kg
Centroid X	-6.5508e-002 m
Centroid Y	6.888e-003 m
Centroid Z	2.0875e-002 m
Moment of Inertia Ip1	5.0134e-002 kg·m²
Moment of Inertia Ip2	4.0459e-002 kg·m²
Moment of Inertia Ip3	9.0592e-002 kg·m²
<b>Statistics</b>	
Nodes	3118
Elements	411
Mesh Metric	None
<b>CAD Attributes</b>	
PartTolerance:	0.00000001

Color:143.175.143

**FIGURE 1**  
**Model (A4, B4) > Geometry > Geometry**



**TABLE 18**  
**Model (A4, B4) > Materials**

Object Name	<i>Materials</i>
State	Fully Defined
<b>Statistics</b>	
Materials	7
Material Assignments	0

## **Coordinate Systems**

**TABLE 19**  
**Model (A4, B4) > Coordinate Systems > Coordinate System**

Object Name	<i>Global Coordinate System</i>
State	Fully Defined
<b>Definition</b>	

Type	Cartesian
Coordinate System ID	0.
<b>Origin</b>	
Origin X	0. m
Origin Y	0. m
Origin Z	0. m
<b>Directional Vectors</b>	
X Axis Data	[ 1. 0. 0. ]
Y Axis Data	[ 0. 1. 0. ]
Z Axis Data	[ 0. 0. 1. ]

## Connections

**TABLE 20**  
**Model (A4, B4) > Connections**

Object Name	<i>Connections</i>
State	Fully Defined
<b>Auto Detection</b>	
Generate Automatic Connection On Refresh	Yes
<b>Transparency</b>	
Enabled	Yes

**TABLE 21**  
**Model (A4, B4) > Connections > Contacts**

Object Name	<i>Contacts</i>
State	Fully Defined
<b>Definition</b>	
Connection Type	Contact
<b>Scope</b>	
Scoping Method	Geometry Selection
Geometry	All Bodies
<b>Auto Detection</b>	
Tolerance Type	Slider
Tolerance Slider	0.
Tolerance Value	1.8391e-003 m
Use Range	No
Face/Face	Yes
Face-Face Angle Tolerance	75. °
Face Overlap Tolerance	Off
Cylindrical Faces	Include
Face/Edge	No
Edge/Edge	No
Priority	Include All
Group By	Bodies
Search Across	Bodies
<b>Statistics</b>	
Connections	260
Active Connections	260

Region	Contact Region 2	Contact Region 3	Contact Region 4	Contact Region 5	Contact Region 6	Contact Region 7	Contact Region 8	Contact Region 9	Contact Region 10
Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	Region 9	Region 10

Scope
-------

2 Faces	1 Face	2 Faces	1 Face	2 Faces	1 Face	
---------	--------	---------	--------	---------	--------	--

2 Faces	1 Face	2 Faces	1 Face	2 Faces	1 Face	
---------	--------	---------	--------	---------	--------	--

SCREW-1SCREW-1			SCREW-2SCREW-2			SCREW-3SCREW-3			SCREW-4SCREW-4		

No

### Definition

Bonded

Automatic

Automatic

---

Program Controlled

Program Controlled

1.8391e-003 m

No

Display

Display	
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	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40
41	42
43	44
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59	60
61	62
63	64
65	66
67	68
69	70
71	72
73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

No

Advanced

Advanced
Program Controlled

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Program Controlled

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Program Controlled

Program Controlled

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Program Controlled

None

TABLE 23  
Model (A4, B4) > Connections > Contacts > Contact Regions

Contact Region 13	Contact Region 14	Contact Region 15	Contact Region 16	Contact Region 17	Contact Region 18	Contact Region 19	Contact Region 20	Contact Region 21
-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

Fully Defined

Scope

Geometry Selection

1 Face	4 Faces	2 Faces	1 Face	7 Faces	1 Face
1 Face	4 Faces	5 Faces	1 Face	7 Faces	1 Face

FRONT-PLATE\FRONT-PLATE			LEFT-PLATE-INNER\LEFT-PLATE-INNER					
LEFT-PLATE-INNER\LEFT-PLATE-INNER	RIGHT-PLATE-INNER\RIGHT-PLATE-INNER	PLATE\PLATE	LEFT-MOUNTING-EAR\LEFT-MOUNTING-EAR	BACK-PLATE\BACK-PLATE	LEFT-GUIDEBAR\LEFT-GUIDEBAR	SCREW7\SCREW7	SCREW8\SCREW8	SCREW9\SCREW9

No

Definition

Bonded

Automatic

Program Controlled

Program Controlled

1.8391e-003 m

No

Display

No

Advanced

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Geometric Modification

None

None

TABLE 24  
Model (A4, B4) > Connections > Contacts > Contact Regions

n 24	Contact Region 25	Contact Region 26	Contact Region 27	Contact Region 28	Contact Region 29	Contact Region 30	Contact Region 31
------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

Fully Defined

Scope

Geometry Selection

1 Face	2 Faces	1 Face	7 Faces	
1 Face	2 Faces	5 Faces	1 Face	7 Faces

LEFT-PLATE-INNER\LEFT-PLATE-INNER

RIGHT-PLATE-INNER\RIGHT-PLATE-INNER

SCREW12	SCREW13\SCREW13	SCREW14\SCREW14	PLATE\PLATE	RIGHT-MOUNTING-EAR\RIGHT-MOUNTING-EAR	BACK-PLATE\BACK-PLATE	RIGHT-GUIDEBAR\RIGHT-GUIDEBAR	SCREW15\SCREW15
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No

Definition

Bonded

Automatic

Program Controlled

Program Controlled

1.8391e-003 m

No

Display

No

Advanced

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled



Program Controlled

## Program Controlled

## Geometric Modification

None

None

**TABLE 25**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

ion 34	Contact Region 35	Contact Region 36	Contact Region 37	Contact Region 38	Contact Region 39	Contact Region 40	Contact Region 41
--------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

## Fully Defined

## Scope

## Geometry Selection

1 Face	2 Faces	1 Face	
1 Face	2 Faces	4 Faces	

RIGHT-PLATE-INNER\RIGHT-PLATE-INNER

LEFT

REW19	SCREW20\SCREW20	SCREW21\SCREW21	SCREW22\SCREW22	SCREW23\SCREW23	PLATE\PLATE	PSK\PSK	LEFT-NUT-1\LEFT-NUT-1
-------	-----------------	-----------------	-----------------	-----------------	-------------	---------	-----------------------

No

### Definition

Bonded

Automatic

## Program Controlled

Program Controlled

1.8391e-003 m

No

## Display

No

## Advanced

## Program Controlled

Program Controlled

Program Controlled

Program Controlled

## Program Controlled

## Program Controlled

## Program Controlled

Program Controlled

## Geometric Modification

None

None

**TABLE 26**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

Contact Region 46	Contact Region 47	Contact Region 48	Contact Region 49	Contact Region 50	Contact Region 51	Contact Region 52	Contact Region 53	Contact Region 54
-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

## Fully Defined

## Scope

## Geometry Selection

2 Faces	5 Faces	6 Faces	1 Face	3 Faces	2 Faces
6 Faces	1 Face	6 Faces	1 Face	2 Faces	1 Face

LEFT-MOUNTING-EAR\LEFT-MOUNTING-EAR

LEFT-NUT-6\LEFT-NUT-6	LEFT-NUT-7\LEFT-NUT-7	LEFT-NUT-8\LEFT-NUT-8	LEFT-NUT-9\LEFT-NUT-9	BACK-PLATE\BACK-PLATE	LEFT-MOUNTING-EAR_REAR\LEFT-MOUNTING-EAR_REAR	LEFT-GUIDEBAR\LEFT-GUIDEBAR	SCREW1\SCREW1	SCREW3\SCREW3
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	---	-----------------------------	---------------	---------------

No

### Definition

Bonded

Automatic

## Program Controlled

Program Controlled

1.8391e-003 m

No

## Display

No

## Advanced

## Program Controlled

Program Controlled
Program Controlled
Program Controlled
Program Controlled
Program Controlled
Program Controlled
Program Controlled

Geometric Modification
None
None

<div>TABLE 27</div> <div>Model (A4, B4) &gt; Connections &gt; Contacts &gt; Contact Regions</div>						
Contact Region 58	Contact Region 59	Contact Region 60	Contact Region 61	Contact Region 62	Contact Region 63	Contact Region 64

Fully Defined						
Scope						
Geometry Selection						
1 Face						
1 Face						
LEFT-MOUNTING-EAR\LEFT-MOUNTING-EAR						
SCREW9\SCREW9	SCREW10\SCREW10	SCREW11\SCREW11	SCREW12\SCREW12	SCREW13\SCREW13	SCREW14\SCREW14	SCREW15\SCREW15

No
Definition
Bonded
Automatic
Program Controlled
Program Controlled
1.8391e-003 m
No
Display
No

Advanced

Program Controlled

Program Controlled

Program Controlled

Program Controlled
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Program Controlled

Program Controlled

Program Controlled
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Program Controlled
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## Geometric Modification

None

**TABLE 28**

Model (A4, B4) &gt; Connections &gt; Contacts &gt; Contact Regions

Contact Region 69	Contact Region 70	Contact Region 71	Contact Region 72	Contact Region 73	Contact Region 74	Contact 75
----------------------	-------------------	----------------------	-------------------	----------------------	-------------------	---------------

Fully Defined

Scope
-------

## Geometry Selection

2 Faces	1 Face	2 Faces	1 Face	2 Faces	1 Face	2 Faces
---------	--------	---------	--------	---------	--------	---------

1 Face

LEFT-NUT-3\LEFT-NUT-3	LEFT-NUT-4\LEFT-NUT-4	LEFT-NUT-5\LEFT-NUT-5	L
-----------------------	-----------------------	-----------------------	---

LEFT- GUIDEBAR\LEFT- GUIDEBAR	SCREW9\SCREW9	LEFT- GUIDEBAR\LEFT- GUIDEBAR	SCREW10\SCREW10	LEFT- GUIDEBAR\LEFT- GUIDEBAR	SCREW11\SCREW11	LEFT- GUIDEBAR\LEFT- GUIDEBAR
-------------------------------------	---------------	-------------------------------------	-----------------	-------------------------------------	-----------------	-------------------------------------

No

### Definition

Bonded

Automatic

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Program Controlled

Program Controlled
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1.8391e-003 m

No

Display

No

## Advanced

## Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

### Program Controlled

Program Controlled

## Geometric Modification

None

None

**TABLE 29**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

Region 78	Contact Region 79	Contact Region 80	Contact Region 81	Contact Region 82	Contact Region 83	Contact Region 84	Contact Region 85	Contact Region 86
-----------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

Fully Defined

## Scope

## Geometry Selection

FACE	2 FACES	1 FACE	2 FACES	1 FACE	2 FACES			
1 FACE					6 FACES			
LEFT-NUT-7\LEFT-NUT-7	LEFT-NUT-8\LEFT-NUT-8		LEFT-NUT-9\LEFT-NUT-9		RIGHT-MOUNTING-EAR\RIGHT-MOUNTING-EAR			
SCREW13	LEFT-GUIDEBAR\LEFT-GUIDEBAR	SCREW14\SCREW14	LEFT-GUIDEBAR\LEFT-GUIDEBAR	SCREW16\SCREW16	RIGHT-NUT-1\RIGHT-NUT-1	RIGHT-NUT-2\RIGHT-NUT-2	RIGHT-NUT-3\RIGHT-NUT-3	RIGHT-NUT-4\RIGHT-NUT-4

No

### Definition

Bonded

Automatic

## Program Controlled

## Program Controlled

1.8391e-003 m

No

## Display

No

## Advanced

## Program Controlled

Program Controlled

## Program Controlled

Program Controlled

Program Controlled

## Program Controlled

Program Controlled

Program Controlled

## Geometric Modification

None

None

**TABLE 30**

**Model (A4, B4) > Connections > Contacts > Contact Regions**

Contact Region 91	Contact Region 92	Contact Region 93	Contact Region 94	Contact Region 95	Contact Region 96	Contact Region 97	Contact Region 98
-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------	-------------------

### Fully Defined

## Scope

## Geometry Selection

	5 Faces	6 Faces	1 Face	3 Faces	2 Faces	
	1 Face	6 Faces	1 Face	2 Faces	1 Face	

RIGHT-MOUNTING-EAR\RIGHT-MOUNTING-EAR

RIGHT-MOUNT- RIGHT- UT-9	BACK- PLATE\BACK- PLATE	RIGHT- MOUNTING- EAR_REAR\RIGHT- MOUNTING- EAR_REAR	RIGHT- GUIDEBAR\RIGHT- GUIDEBAR	SCREW2\SCREW2	SCREW5\SCREW5	SCREW6\SCREW6	SCREW
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No

### Definition

Bonded



Definition	
	Bonded
	Automatic
	Program Controlled
	Program Controlled
	1.8391e-003 m
	No
Display	
	No
Advanced	
	Program Controlled
	Program Controlled
	Program Controlled
	Program Controlled
	Program Controlled
	Program Controlled
	Program Controlled
	Program Controlled
Geometric Modification	
	None
	None

TABLE 32						
Model (A4, B4) > Connections > Contacts > Contact Regions						
Contact Region 113	Contact Region 114	Contact Region 115	Contact Region 116	Contact Region 117	Contact Region 118	Contact Region 119
Fully Defined						
Scope						
Geometry Selection						
2 Faces	1 Face	2 Faces	1 Face	2 Faces	1 Face	2 Faces
1 Face						
RIGHT-NUT-4\RIGHT-NUT-4		RIGHT-NUT-5\RIGHT-NUT-5		RIGHT-NUT-6\RIGHT-NUT-6		RIGHT-NUT-7\RIGHT-NUT-7



RIGHT- GUIDEBAR\RIGHT- GUIDEBAR	SCREW19\SCREW19	RIGHT- GUIDEBAR\RIGHT- GUIDEBAR	SCREW20\SCREW20	RIGHT- GUIDEBAR\RIGHT- GUIDEBAR	SCREW21\SCREW21	GUIDE C
No						
Definition						
Bonded						
Automatic						
Program Controlled						
Program Controlled						
1.8391e-003 m						
No						
Display						
No						
Advanced						
Program Controlled						
Program Controlled						
Program Controlled						
Program Controlled						
Program Controlled						
Program Controlled						
Program Controlled						
Program Controlled						
Geometric Modification						
None						
None						

TABLE 33							
Model (A4, B4) > Connections > Contacts > Contact Regions							
123	Contact Region 124	Contact Region 125	Contact Region 126	Contact Region 127	Contact Region 128	Contact Region 129	C
Fully Defined							
Scope							
Geometry Selection							
	1 Face	3 Faces					
		3 Faces	2 Faces				



## Scope

## Geometry Selection

## 8 Faces

2 Faces

## 2 Faces

LEFT-GUIDEBAR\LEFT-GUIDEBAR

W8\SCREW8	SCREW9\SCREW9	SCREW10\SCREW10	SCREW11\SCREW11	SCREW12\SCREW12	SCREW13\SCREW13	SCREW
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No

### Definition

Bonded

Automatic

## Program Controlled

Program Controlled

1.8391e-003 m

No

## Display

No

## Advanced

## Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

## Geometric Modification

None

None

Contact Region 145	Contact Region 146	Contact Region 147	Contact Region 148	Contact Region 149	Contact Region 150	Contact Region 151
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

	Not Fully Defined	Fully Defined
1. The organization has a formal policy regarding the use of social media.	No	Yes
2. The organization has designated personnel responsible for monitoring social media activity.	No	Yes
3. The organization provides training to employees on appropriate social media use.	No	Yes
4. The organization has established clear guidelines for acceptable use of social media during work hours.	No	Yes
5. The organization has implemented measures to protect sensitive information from being leaked or stolen via social media.	No	Yes
6. The organization has a process in place to respond quickly and effectively to negative feedback or complaints received through social media.	No	Yes
7. The organization actively engages with customers and stakeholders on social media platforms.	No	Yes
8. The organization regularly audits its social media presence for compliance with relevant laws and regulations.	No	Yes
9. The organization uses social media as a primary channel for customer support and service.	No	Yes
10. The organization has a dedicated budget allocated towards managing its social media strategy.	No	Yes

Scope
-------

### Geometry Selection

### 3 Faces

2 Faces
---------

8 Faces
---------

2 Faces

RIGHT-GUIDEBAR\RIGHT-GUIDEBAR

/18\SCREW18

SCREW19\SCREW19

SCREW20\SCREW20

SCREW21\SCREW21

SCREW22\SCREW22

SCREW23\SCREW23

SCR

No

### Definition

Bonded

Automatic

Program Controlled
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Program Controlled

1.8391e-003 m

No

## Display

**Advanced**

Program Controlled
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Program Controlled

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Program Controlled

Program Controlled

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Program Controlled

Program Controlled

Program Controlled

Program Controlled

## Geometric Modification

None

**TABLE 36**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

Contact Region 156	Contact Region 157	Contact Region 158	Contact Region 159	Contact Region 160	Contact Region 161	Contact Region 162	Contact Region 163	Contact Region 164
--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------	--------------------

Fully Defined

Scope
-------

## Geometry Selection

1 Face

1 Face			4 Faces		1 Face				
PCI-5\PCI-5	PCI-6\PCI-6	PCI-7\PCI-7			SINK\SINK	BASE\BASE	BOARD\BOARD		
BOARD\BOARD		DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1			BASE\BASE	BOARD\BOARD	PEM-FASTENER-1\PEM-FASTENER-1	PEM-FASTENER-2\PEM-FASTENER-2	PEM-FASTENER-3\PEM-FASTENER-3

No

### Definition

Bonded

Automatic

---

Program Controlled

Program Controlled

1.8391e-003 m

No

Display

No

## Advanced

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Program Controlled

Program Controlled
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Program Controlled
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Program Controlled

Program Controlled

Program Controlled

Program Controlled
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Program Controlled
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## Geometric Modification

**TABLE 37**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

Contact Region 166	Contact Region 167	Contact Region 168	Contact Region 169	Contact Region 170	Contact Region 171	Contact Region 172	Contact Region 173	Contact Region 174	Contact Region 175
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te	Fully Defined
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	Scope
1	
2	
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95	
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97	
98	
99	
100	

Geometry Selection

act	1 Face
-----	--------

Net	1 Face
-----	--------

BOARD\BOARD

PEM-FASTENER-5\PEM-FASTENER-5	PEM-FASTENER-6\PEM-FASTENER-6	PEM-FASTENER-7\PEM-FASTENER-7	PEM-FASTENER-8\PEM-FASTENER-8	SCREW-12\SCREW-12	SCREW-22\SCREW-22	SCREW-32\SCREW-32	SCREW-42\SCREW-42	SCREW-5\SCREW-5	SCREW-6\SCREW-6	SCREW-7\SCREW-7
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ed	No
----	----

	Definition
1	Product

oe	Bonded
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de	Automatic
----	-----------

or	Program Controlled
----	--------------------

Program Controlled
--------------------

Time	1.8391e-003 m
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ed	No
----	----

Display	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

	No
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Advanced	
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

on	Program Controlled
"	

all ng	Program Controlled
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on od	Program Controlled
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on ce	Program Controlled
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m ct	Program Controlled
m e	1.8391e-003 m
d	No
Display	
nt s	No
Advanced	
n	Program Controlled
ll g	Program Controlled
n d	Program Controlled
n e	Program Controlled
p e	Program Controlled
al s	Program Controlled
e s	Program Controlled
ll n	Program Controlled
Geometric Modification	
ct y n	None
et y n	None

TABLE 41 Model (A4, B4) > Connections > Contacts > Contact Regions											
Object Name	Contact Region 210	Contact Region 211	Contact Region 212	Contact Region 213	Contact Region 214	Contact Region 215	Contact Region 216	Contact Region 217	Contact Region 218	Contact Region 219	Contact Region 220
State	Fully Defined										
Scope											
Clipping Method	Geometry Selection										
Contact	1 Face		2 Faces		1 Face		2 Faces				
Target	1 Face		2 Faces		8 Faces		1 Face		2 Faces		
Contact Bodies	PLATE\PLATE					PEM-FASTENER-1\PEM-FASTENER-1	PEM-FASTENER-2\PEM-FASTENER-2	PEM-FASTENER-3\PEM-FASTENER-3	PEM-FASTENER-4\PEM-FASTENER-4	PEM-FASTENER-5\PEM-FASTENER-5	PEM-FASTENER-6\PEM-FASTENER-6
Target Bodies	SCREW-7\SCREW-7	SCREW-8\SCREW-8	SCREW-9\SCREW-9	NUT-1\NUT-1	PSK\PSK	SCREW-32\SCREW-32	SCREW-8\SCREW-8	SCREW-7\SCREW-7	SCREW-12\SCREW-12	SCREW-6\SCREW-6	SCREW-22\SCREW-22

ected	No
<b>Definition</b>	
Type	Bonded
Scope Mode	Automatic
avior	Program Controlled
Trim ontact	Program Controlled
Trim rance	1.8391e-003 m
essed	No
<b>Display</b>	
ement rmals	No
<b>Advanced</b>	
lation	Program Controlled
Small liding	Program Controlled
ection ethod	Program Controlled
ration rance	Program Controlled
c Slip rance	Program Controlled
ormal fness	Program Controlled
odate fness	Program Controlled
inball egion	Program Controlled
<b>Geometric Modification</b>	
ontact metry ection	None
arget metry ection	None

TABLE 42 Model (A4, B4) > Connections > Contacts > Contact Regions				
Contact Region 225	Contact Region 226	Contact Region 227	Contact Region 228	Contact Region 229
Fully Defined				
Scope				
Geometry Selection				
17 Faces	163 Faces	17 Faces		163 Faces
8 Faces	39 Faces	12 Faces	8 Faces	39 Faces

DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1				
2_1\DDR4_SLOT_1_1_2_1	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1	DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1
No				
Definition				
Bonded				
Automatic				
Program Controlled				
Program Controlled				
1.8391e-003 m				
No				
Display				
No				
Advanced				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Geometric Modification				
None				
None				
TABLE 43				
Model (A4, B4) > Connections > Contacts > Contact Regions				
6	Contact Region 236	Contact Region 237	Contact Region 238	Contact Region 239
Fully Defined				

Scope				
Geometry Selection				
17 Faces		163 Faces	17 Faces	
	8 Faces	39 Faces	12 Faces	8 Faces
DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1				
P-	DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1	DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1
No				
Definition				
Bonded				
Automatic				
Program Controlled				
Program Controlled				
1.8391e-003 m				
No				
Display				
No				
Advanced				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Program Controlled				
Geometric Modification				
None				
None				

**TABLE 44**  
**Model (A4, B4) > Connections > Contacts > Contact Regions**

Object Name	Contact Region 243	Contact Region 244	Contact Region 245	Contact Region 246	Contact Region 247	Contact Region 248	Contact Region 249	Contact Region 250	Contact Region 251	Contact Region 252
State	Fully Defined									
Design Method	Scope									
	Geometry Selection									
Contact	163 Faces	17 Faces	163 Faces	17 Faces	3 Faces					
Target	39 Faces	12 Faces	39 Faces	12 Faces	9 Faces					
Contact Idies	DDR4_SLOT_1_1_2_1\DDR4_SLOT_1_1_2_1				MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1					
Target Idies	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1						
Selected	No									
	Definition									
Type	Bonded									
Scope Mode	Automatic									
Behavior	Program Controlled									
Trim Contact	Program Controlled									
Trim Tolerance	1.8391e-003 m									
Used	No									
	Display									
Environmentals	No									
	Advanced									
Position	Program Controlled									
Small Tiling	Program Controlled									
Position Method	Program Controlled									
Position Tolerance	Program Controlled									
Slip Tolerance	Program Controlled									
Normal Tolerance	Program Controlled									
Plate Tolerance	Program Controlled									
Ball Position	Program Controlled									
	Geometric Modification									
Contact Geometry Definition	None									

Object Name	Contact Region 254	Contact Region 255	Contact Region 256	Contact Region 257	Contact Region 258	Contact Region 259	Contact Region 260
State	Fully Defined						
Scope							
Scoping Method	Geometry Selection						
Contact	3 Faces						
Target	9 Faces	3 Faces					
Contact Bodies	MEM-00175-02_A_1_1_2_1\MEM-00175-02_A_1_1_2_1	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1					
Target Bodies	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1						
Protected	No						
Definition							
Type	Bonded						
Scope Mode	Automatic						
Behavior	Program Controlled						
Trim Contact	Program Controlled						
Trim Tolerance	1.8391e-003 m						
Suppressed	No						
Display							
Element Normals	No						
Advanced							
Formulation	Program Controlled						
Small Sliding	Program Controlled						
Detection Method	Program Controlled						
Penetration Tolerance	Program Controlled						
Elastic Slip Tolerance	Program Controlled						
Normal Stiffness	Program Controlled						
Update Stiffness	Program Controlled						
Pinball Region	Program Controlled						
Geometric Modification							
Contact Geometry Correction	None						

Target Geometry Correction	None
----------------------------------	------

## Mesh

**TABLE 46**  
**Model (A4, B4) > Mesh**

Object Name	<i>Mesh</i>
State	Solved
<b>Display</b>	
Display Style	Use Geometry Setting
<b>Defaults</b>	
Physics Preference	Mechanical
Element Order	Program Controlled
Element Size	Default
<b>Sizing</b>	
Use Adaptive Sizing	Yes
Resolution	Default (2)
Mesh Defeaturing	Yes
Defeature Size	Default
Transition	Fast
Span Angle Center	Coarse
Initial Size Seed	Assembly
Bounding Box Diagonal	0.73564 m
Average Surface Area	9.1312e-005 m <sup>2</sup>
Minimum Edge Length	1.6327e-005 m
<b>Quality</b>	
Check Mesh Quality	Yes, Errors
Error Limits	Aggressive Mechanical
Target Element Quality	Default (5.e-002)
Smoothing	Medium
Mesh Metric	None
<b>Inflation</b>	
Use Automatic Inflation	None
Inflation Option	Smooth Transition
Transition Ratio	0.272
Maximum Layers	5
Growth Rate	1.2
Inflation Algorithm	Pre
View Advanced Options	No
<b>Advanced</b>	
Number of CPUs for Parallel Part Meshing	Program Controlled
Straight Sided Elements	No
Rigid Body Behavior	Dimensionally Reduced
Triangle Surface Mesher	Program Controlled
Topology Checking	Yes
Pinch Tolerance	Please Define
Generate Pinch on Refresh	No



Statistics	
Nodes	453910
Elements	231263

**TABLE 47**  
**Model (A4, B4) > Mesh > Mesh Controls**

Object Name	<i>Smallest</i>	<i>Small</i>	<i>Medium</i>	<i>Big</i>	<i>Biggest</i>
State	Fully Defined				
Scope					
Scoping Method	Geometry Selection				
Geometry	1351 Faces	13128 Faces	648 Faces	51 Faces	21 Faces
Definition					
Suppressed	No				
Type	Element Size				
Element Size	2.5e-003 m	5.e-003 m	1.e-002 m	2.e-002 m	3.e-002 m
Advanced					
Defeature Size	Default				
Influence Volume	No				
Behavior	Soft				

**FIGURE 2**  
**Model (A4, B4) > Mesh > Mesh**

## Named Selections

**TABLE 48**  
**Model (A4, B4) > Named Selections > Named Selections**

Model (A1, B4) > Named Selections > Named Selections									
Object Name	DIMM1	DIMM2	DIMM3	DIMM4	DIMM5	DIMM6	DIMM7	DIMM8	
State	Fully Defined								
Scope									
Scoping Method	Geometry Selection								
Geometry	1 Body								
Definition									
Send to Solver	Yes								
Protected	Program Controlled								
Visible	Yes								
Program Controlled Inflation	Exclude								
Statistics									
Type	Manual								
Total Selection	1 Body								
Suppressed	0								
Used by Mesh Worksheet	No								

## Modal (A5)

**TABLE 49**  
**Model (A4, B4) > Analysis**

Object Name	<i>Modal (A5)</i>
State	Solved
<b>Definition</b>	
Physics Type	Structural
Analysis Type	Modal
Solver Target	Mechanical APDL
<b>Options</b>	
Environment Temperature	22. °C
Generate Input Only	No

**TABLE 50**  
**Model (A4, B4) > Modal (A5) > Initial Condition**

Object Name	<i>Pre-Stress (None)</i>
State	Fully Defined
<b>Definition</b>	
Pre-Stress Environment	None Available

**TABLE 51**  
**Model (A4, B4) > Modal (A5) > Analysis Settings**

Name	<i>Analysis Settings</i>
State	Fully Defined
<b>Options</b>	
Modes to Find	15
Search Range	No
Demand Expansion	No
<b>Solver Controls</b>	
Damped	No
Solver Type	Program Controlled
<b>Rotordynamics Controls</b>	
Effect	Off
Campbell Diagram	Off
<b>Advanced</b>	
Contact Split (DMP)	Off
<b>Output Controls</b>	
Stress	Yes
Surface Stress	No
Stress	No
Strain	Yes
Contact Data	No

Forces	Constrained Nodes
Time and Energy	No
Angles	No
Calculate Reactions	Yes
Modal Results	Program Controlled
General Simultaneous	No
Output File Session	Program Controlled
<b>Analysis Data Management</b>	
Input Files Directory	\\iowa.uiowa.edu\shared\Engineering\Home\makaufman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\SYSTEM
Future Analysis	MSUP Analyses
Scratch Input Files Directory	
APDL db	Yes
Contact Summary	Program Controlled
Delete Needed Files	Yes
Input Units	Active System
Input Unit System	mks

**TABLE 52**  
**Model (A4, B4) > Modal (A5) > Loads**

Object Name	<i>Fixed Support</i>
State	Fully Defined
<b>Scope</b>	
Scoping Method	Geometry Selection
Geometry	24 Faces
<b>Definition</b>	
Type	Fixed Support
Suppressed	No

## ***Solution (A6)***

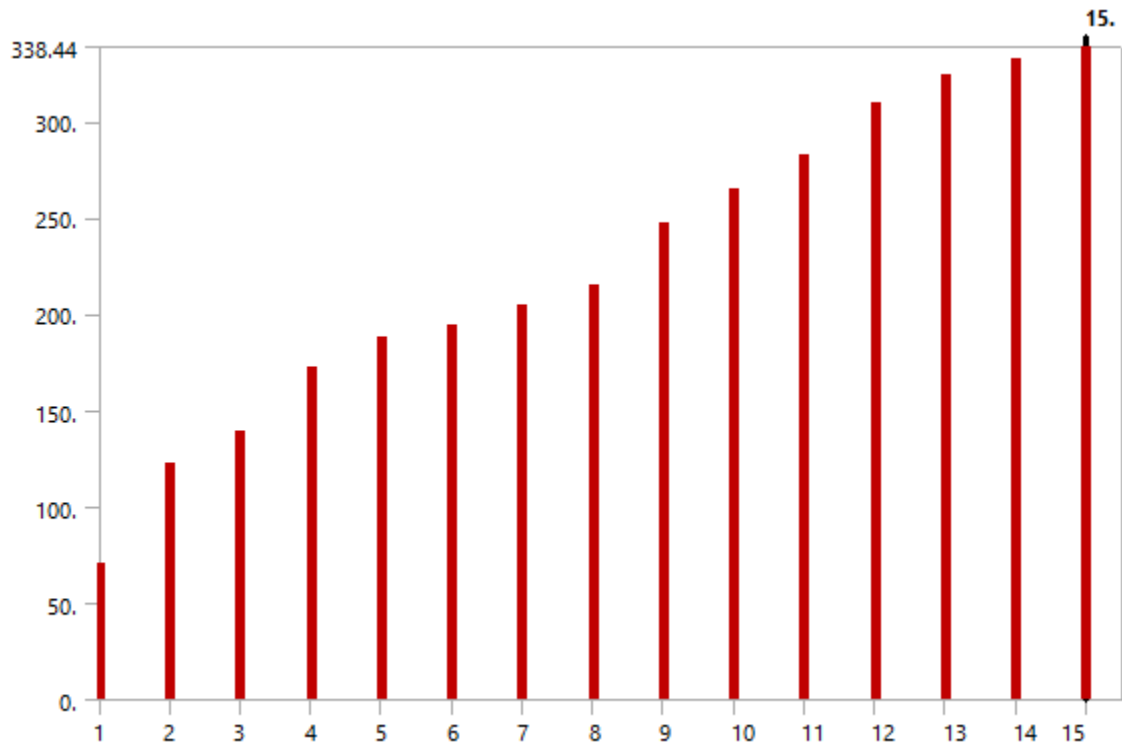
**TABLE 53**  
**Model (A4, B4) > Modal (A5) > Solution**

Object Name	<i>Solution (A6)</i>
State	Solved
<b>Adaptive Mesh Refinement</b>	
Max Refinement Loops	1.

Refinement Depth	2.
<b>Information</b>	
Status	Done
MAPDL Elapsed Time	2 m 56 s
MAPDL Memory Used	16.268 GB
MAPDL Result File Size	1.1532 GB
<b>Post Processing</b>	
Beam Section Results	No

The following bar chart indicates the frequency at each calculated mode.

**FIGURE 3**  
Model (A4, B4) > Modal (A5) > Solution (A6)



**TABLE 54**  
Model (A4, B4) > Modal (A5) > Solution (A6)

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45
9.	246.9

10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

**TABLE 55**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Solution Information**

Object Name	<i>Solution Information</i>
State	Solved
<b>Solution Information</b>	
Solution Output	Solver Output
Newton-Raphson Residuals	0
Identify Element Violations	0
Update Interval	2.5 s
Display Points	All
<b>FE Connection Visibility</b>	
Activate Visibility	Yes
Display	All FE Connectors
Draw Connections Attached To	All Nodes
Line Color	Connection Type
Visible on Results	No
Line Thickness	Single
Display Type	Lines

**TABLE 56**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Results**

Object Name	Total Deformation	Total Deformation 2	Total Deformation 3	Total Deformation 4	Total Deformation 5
State	Solved				
Scope					
Scoping Method	Geometry Selection				
Geometry	All Bodies				
Definition					
Type	Total Deformation				
Mode	1.	2.	3.	4.	5.
Identifier					
Suppressed	No				
Results					
Minimum	0. m				
Maximum	1.0126 m	1.2324 m	1.8732 m	1.3512 m	8.2815 m
Average	0.41174 m	0.35539 m	0.39071 m	0.35397 m	0.27566 m
Minimum Occurs On	LEFT-MOUNTING-EAR\LEFT-MOUNTING-EAR				
Maximum Occurs On	PLATE\PLATE	IMP-00393_D_1_1_2_1\IMP-00393_D_1_1_2_1			
Information					
Frequency	70.532 Hz	122.24 Hz	138.75 Hz	172. Hz	187.94 Hz

**TABLE 57**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Total Deformation**

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45
9.	246.9
10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

**TABLE 58**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Total Deformation 2**

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45
9.	246.9
10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

**TABLE 59**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Total Deformation 3**

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45

9.	246.9
10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

**TABLE 60**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Total Deformation 4**

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45
9.	246.9
10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

**TABLE 61**  
**Model (A4, B4) > Modal (A5) > Solution (A6) > Total Deformation 5**

Mode	Frequency [Hz]
1.	70.532
2.	122.24
3.	138.75
4.	172.
5.	187.94
6.	194.08
7.	204.67
8.	214.45
9.	246.9
10.	264.35
11.	281.94
12.	309.74
13.	323.76
14.	332.04
15.	338.44

## Harmonic Response (B5)



**TABLE 62**  
**Model (A4, B4) > Analysis**

Object Name	<i>Harmonic Response (B5)</i>
State	Solved
<b>Definition</b>	
Physics Type	Structural
Analysis Type	Harmonic Response
Solver Target	Mechanical APDL
<b>Options</b>	
Generate Input Only	No

**TABLE 63**  
**Model (A4, B4) > Harmonic Response (B5) > Initial Condition**

Object Name	<i>Modal (Modal)</i>
State	Fully Defined
<b>Definition</b>	
Modal Environment	Modal
Pre-Stress Environment	None

**TABLE 64**  
**Model (A4, B4) > Harmonic Response (B5) > Analysis Settings**

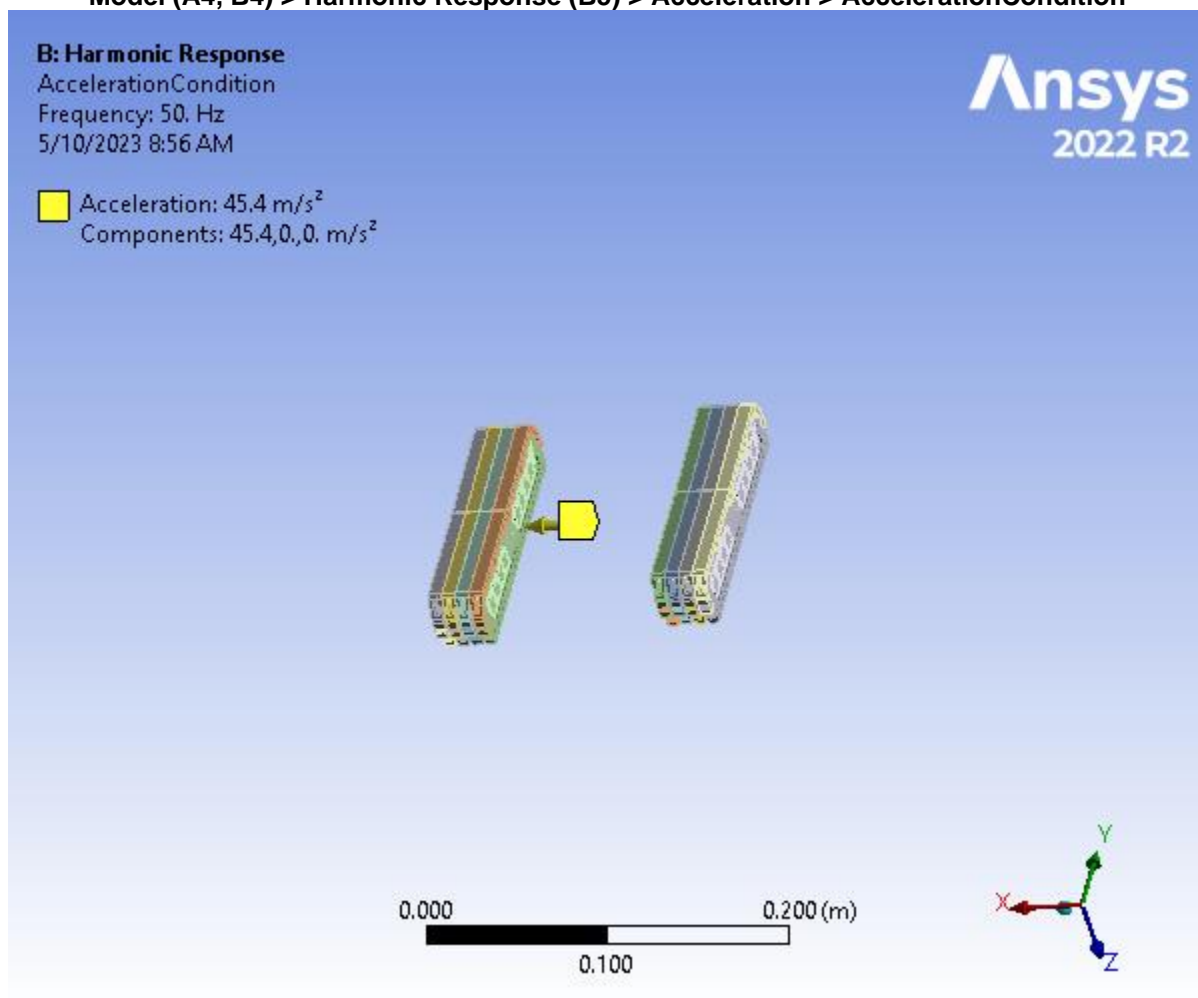
Object Name	<i>Analysis Settings</i>
State	Fully Defined
<b>Step Controls</b>	
Multiple Steps	No
<b>Options</b>	
Frequency Spacing	Linear
Range Minimum	50. Hz
Range Maximum	100. Hz
Solution Intervals	50
Pre-Defined Frequencies	Off
Solution Method	Mode Superposition
Include Residual Vector	No
Cluster Results	No
On Demand Expansion	No
Store Results At All Frequencies	Yes
<b>Rotordynamics Controls</b>	
Gyroscopic Effect	Off
<b>Output Controls</b>	

Stress	Yes
Surface Stress	No
Back Stress	No
Strain	Yes
Contact Data	Yes
Modal Forces	No
Volume and Energy	Yes
Element Angles	Yes
Calculate Reactions	Yes
General Miscellaneous	No
Expand Results From	Program Controlled
Expansion	Modal Solution
Result File Compression	Program Controlled
Damping Controls	
Damping Ratio From Modal	No
Damping Define By	Damping Ratio
Damping Ratio	2.e-002
Stiffness Coefficient Define By	Direct Input
Stiffness Coefficient	0.
Mass Coefficient	0.
Analysis Data Management	
Solver Files Directory	\\iowa.uiowa.edu\shared\Engineering\Home\makaufman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\S1\MECH\
Future Analysis	None
Scratch Solver Files Directory	
Use MAPDL db	No
Contact Summary	Program Controlled
Delete Unneeded Files	Yes
Solver Units	Active System

**TABLE 65**  
**Model (A4, B4) > Harmonic Response (B5) > Accelerations**

Object Name	Acceleration
State	Fully Defined
<b>Scope</b>	
Geometry	All Bodies
<b>Definition</b>	
Base Excitation	No
Define By	Components
Coordinate System	Global Coordinate System
X Component	45.4 m/s <sup>2</sup>
Y Component	0. m/s <sup>2</sup>
Z Component	0. m/s <sup>2</sup>
Suppressed	No

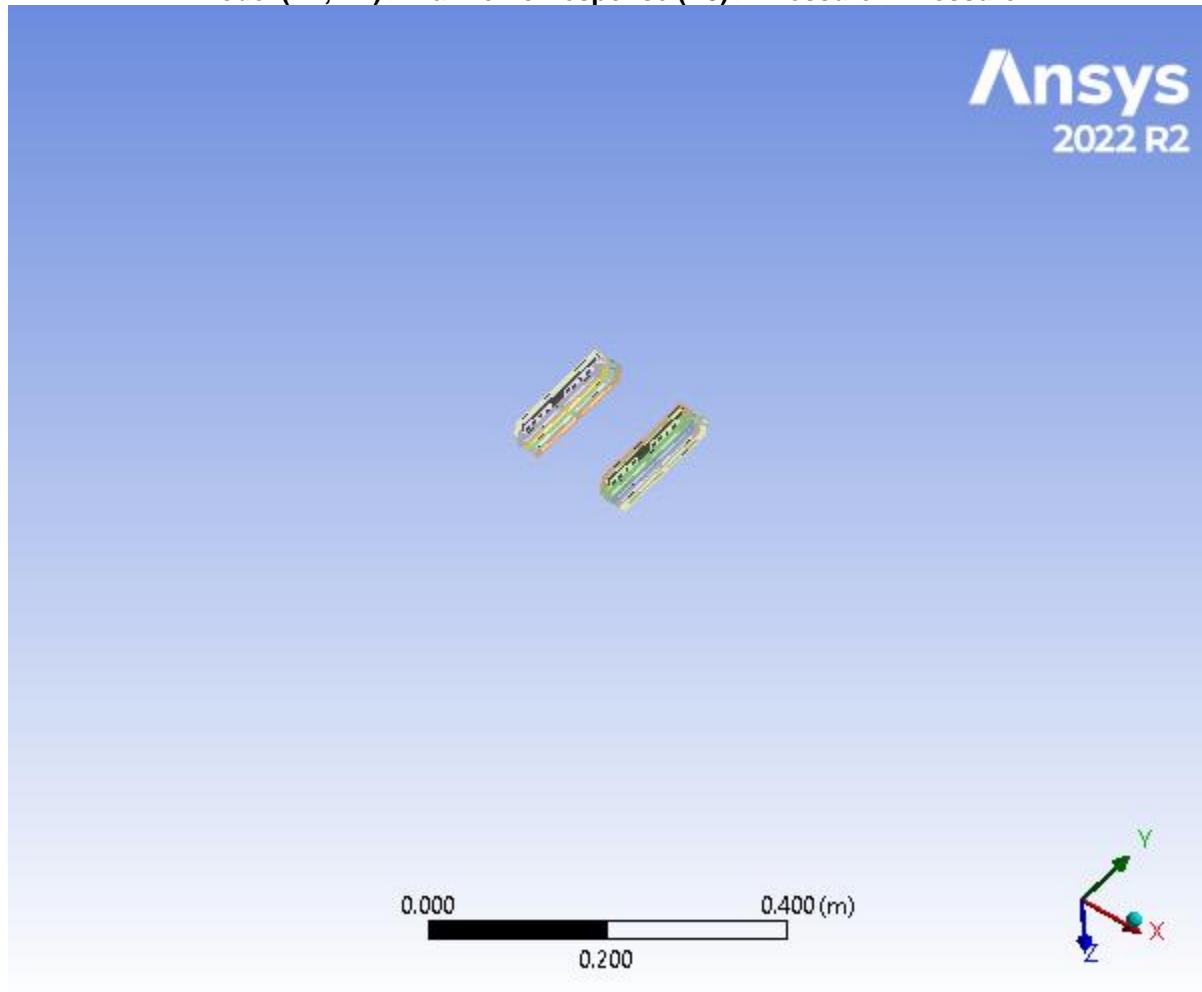
**FIGURE 4**  
**Model (A4, B4) > Harmonic Response (B5) > Acceleration > AccelerationCondition**



**TABLE 66**  
**Model (A4, B4) > Harmonic Response (B5) > Loads**

Object Name	<i>Pressure</i>
State	Suppressed
<b>Scope</b>	
Scoping Method	Geometry Selection
Geometry	1 Face
<b>Definition</b>	
Type	Pressure
Define By	Normal To
Applied By	Direct
Loaded Area	Initial
Magnitude	400. Pa
Phase Angle	0. °
Suppressed	Yes

**FIGURE 5**  
**Model (A4, B4) > Harmonic Response (B5) > Pressure > Pressure**

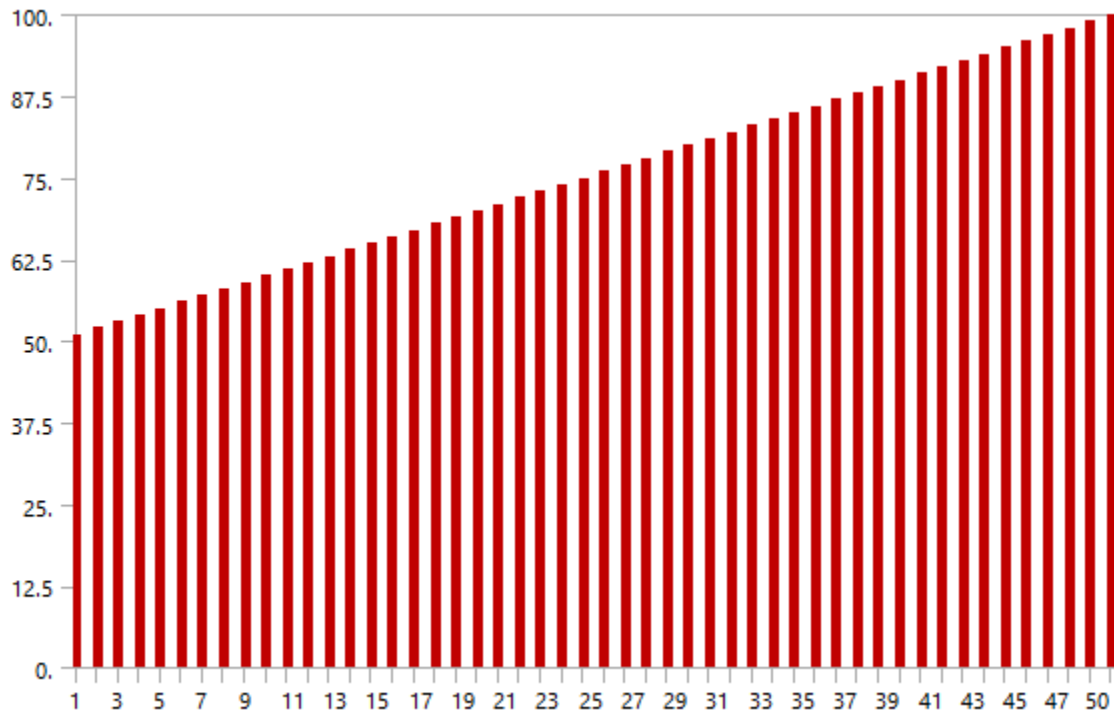


**Solution (B6)**

**TABLE 67**  
**Model (A4, B4) > Harmonic Response (B5) > Solution**

Object Name	<i>Solution (B6)</i>
State	Solved
<b>Information</b>	
Status	Done
MAPDL Elapsed Time	12 m 51 s
MAPDL Memory Used	4.4141 GB
MAPDL Result File Size	11.53 GB
<b>Post Processing</b>	
Beam Section Results	No

**FIGURE 6**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6)**



**TABLE 68**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Solution Information**

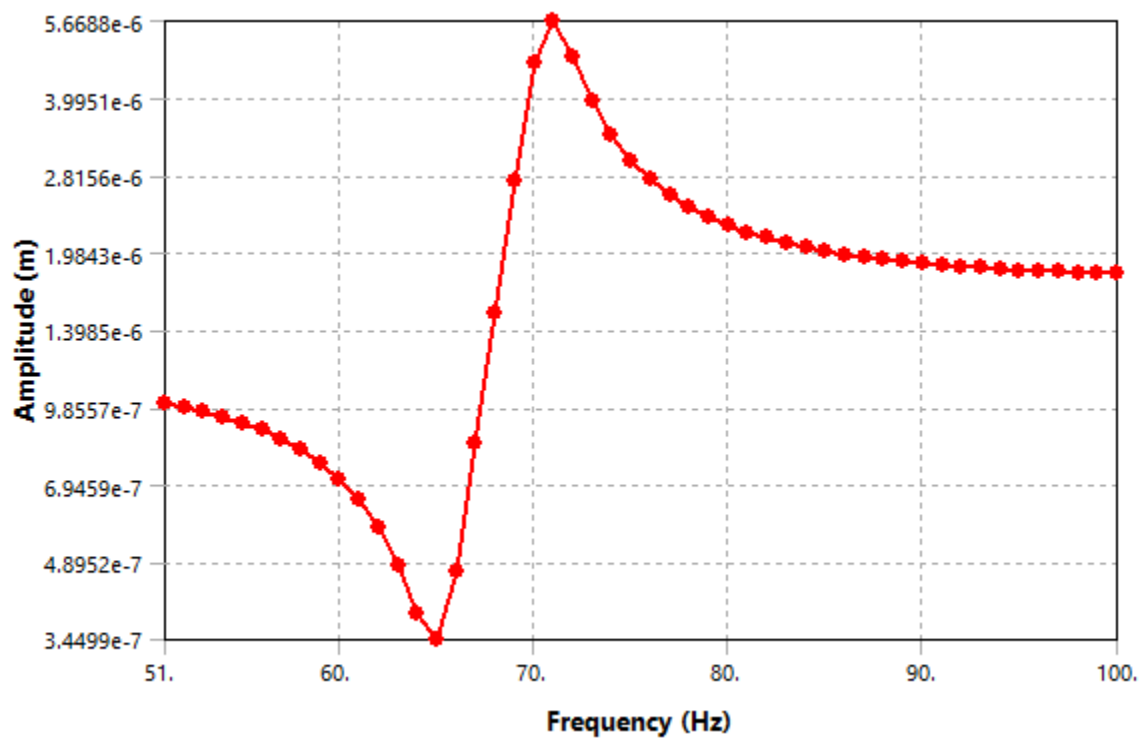
Object Name	<i>Solution Information</i>
State	Solved
<b>Solution Information</b>	
Solution Output	Solver Output
Newton-Raphson Residuals	0
Identify Element Violations	0
Update Interval	2.5 s
Display Points	All
<b>FE Connection Visibility</b>	

Activate Visibility	Yes
Display	All FE Connectors
Draw Connections Attached To	All Nodes
Line Color	Connection Type
Visible on Results	No
Line Thickness	Single
Display Type	Lines

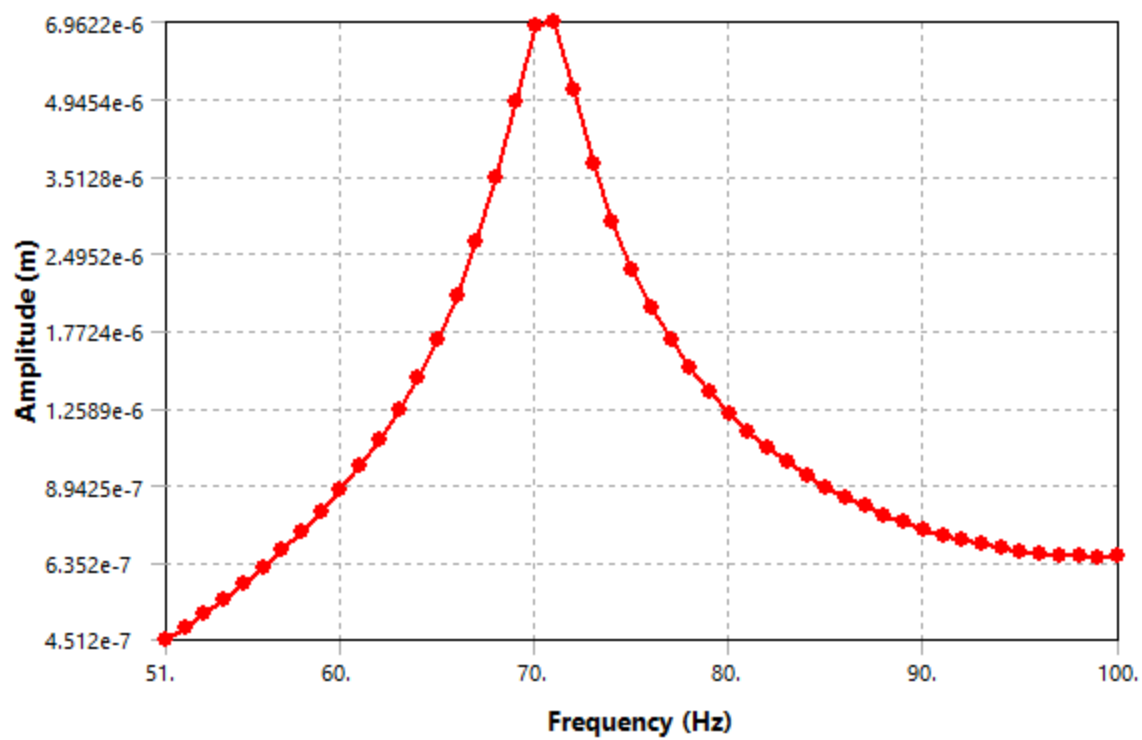
TABLE 69									
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts									
VelocityFrequencyResponseDIMM1x	VelocityFrequencyResponseDIMM1y	VelocityFrequencyResponseDIMM1z	AccelerationFrequencyResponseDIMM1x	AccelerationFrequencyResponseDIMM1y	AccelerationFrequencyResponseDIMM1z	AccelerationFrequencyResponseDIMM1x	AccelerationFrequencyResponseDIMM1y	AccelerationFrequencyResponseDIMM1z	AccelerationFrequencyResponseDIMM1x
Solved									
Scope									
Geometry Selection									
1 Body									
Use Average									
Definition									
Directional Velocity					Directional Acceleration				
X Axis	Y Axis		Z Axis		X Axis		Y Axis		
Global Coordinate System									
No									
Options									
Use Parent									
50. Hz									
100. Hz									
Bode									
Log Y									
Results									
2.5289e-003 m/s	3.1059e-003 m/s		3.9216e-002 m/s		1.1281 m/s²		1.3856 m/s²		

71. Hz		70. Hz		
-32.825 °	-19.851 °	-157.93 °	57.175 °	70.149 °
2.1251e-003 m/s	2.9213e-003 m/s	-3.6342e-002 m/s	0.61154 m/s <sup>2</sup>	0.47049 m
-1.3708e-003 m/s	-1.0547e-003 m/s	-1.4737e-002 m/s	0.94801 m/s <sup>2</sup>	1.3032 m/

**FIGURE 7**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM1x**

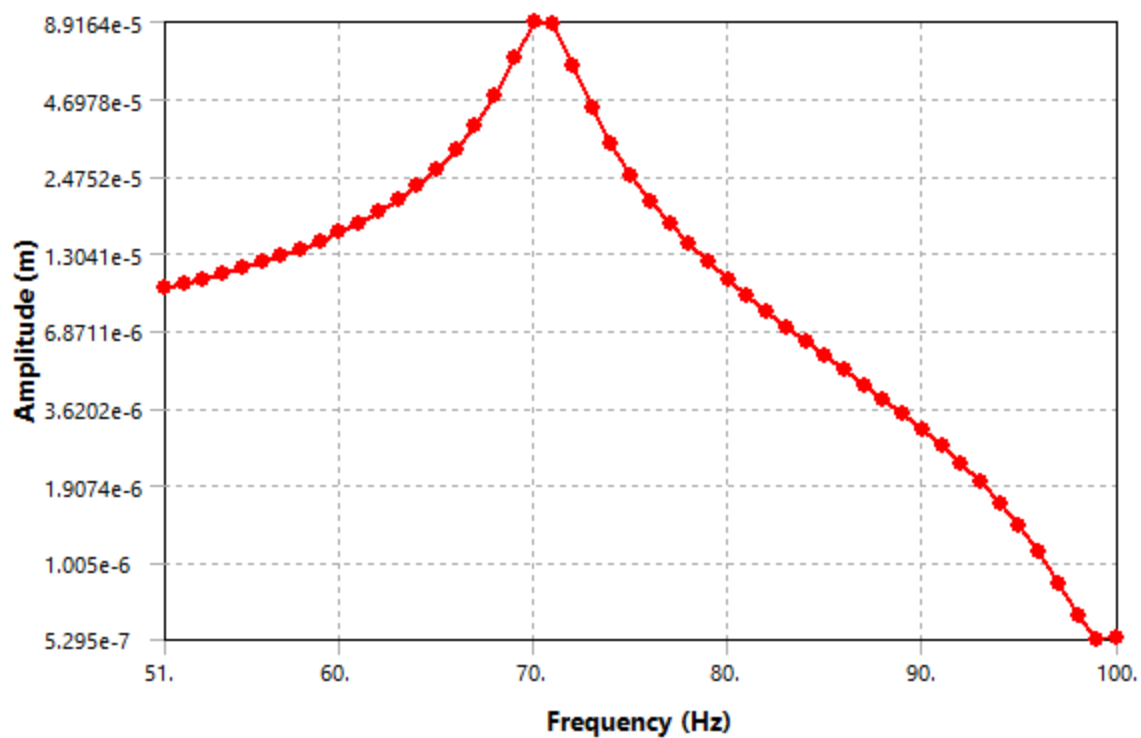


**FIGURE 8**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM1y**

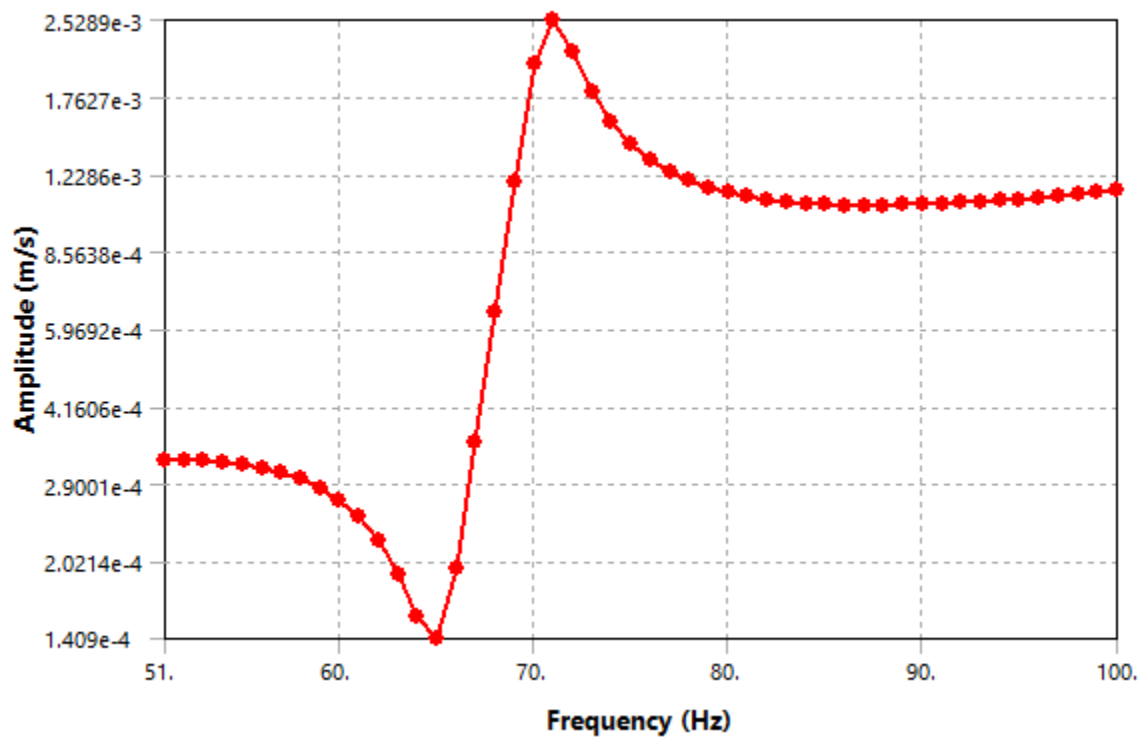


**FIGURE 9**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM1z**

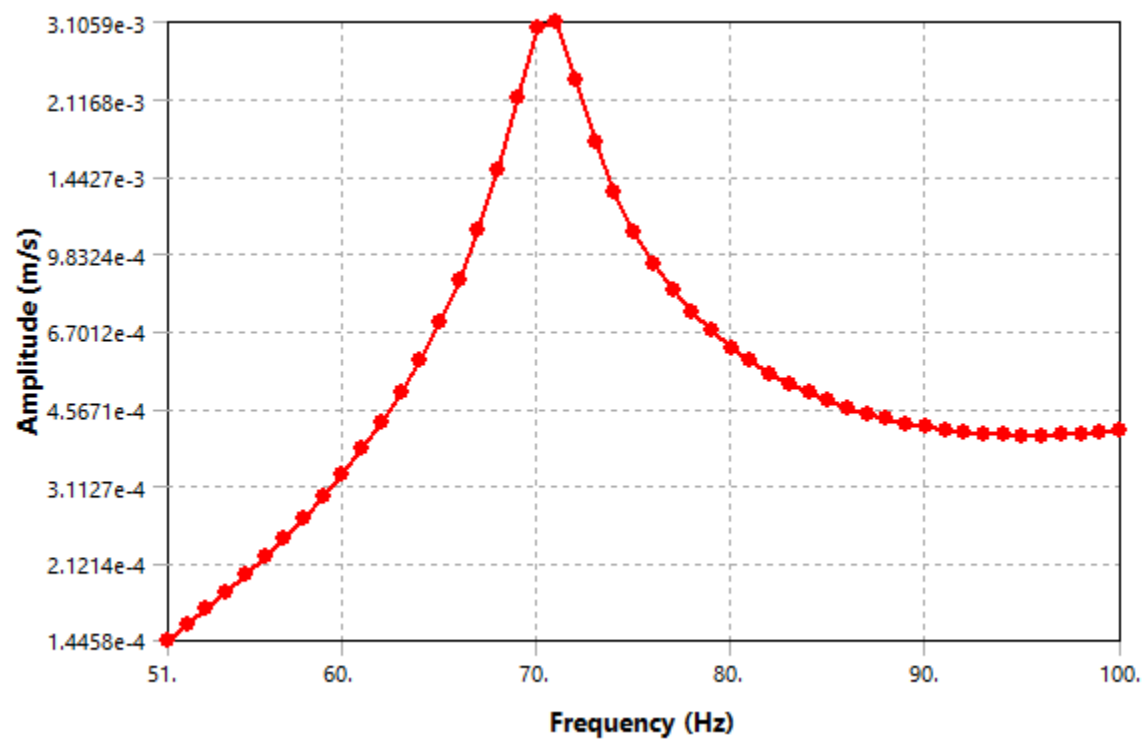




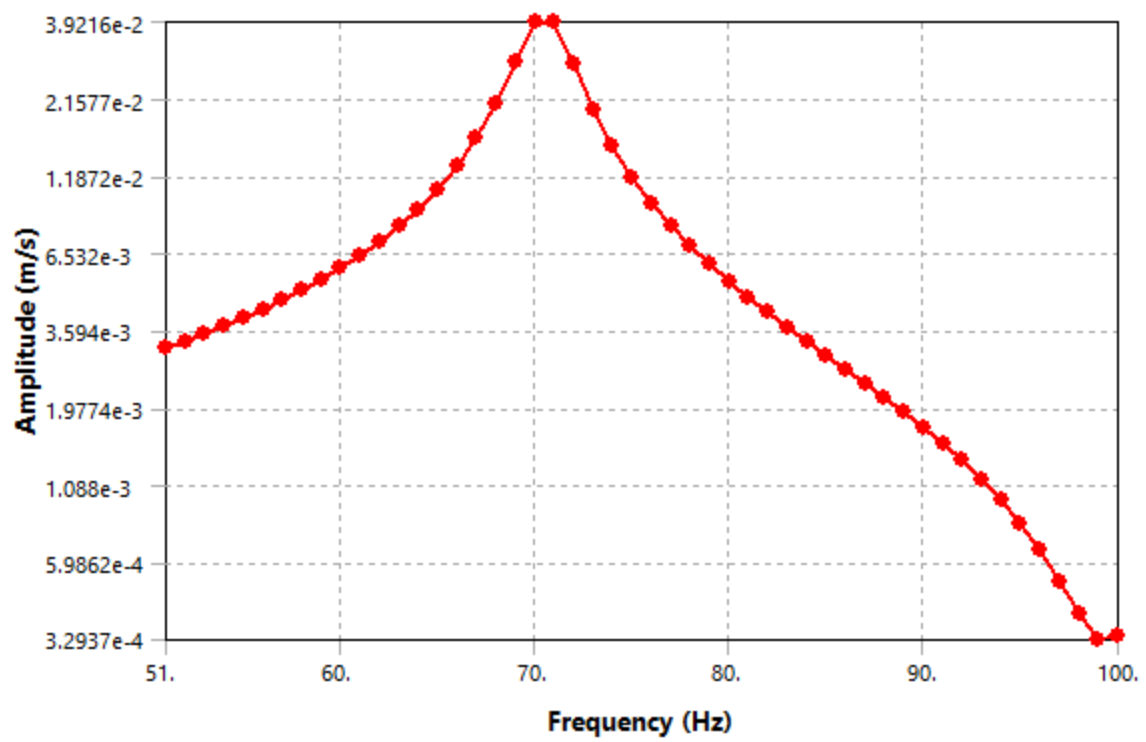
**FIGURE 10**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM1x**



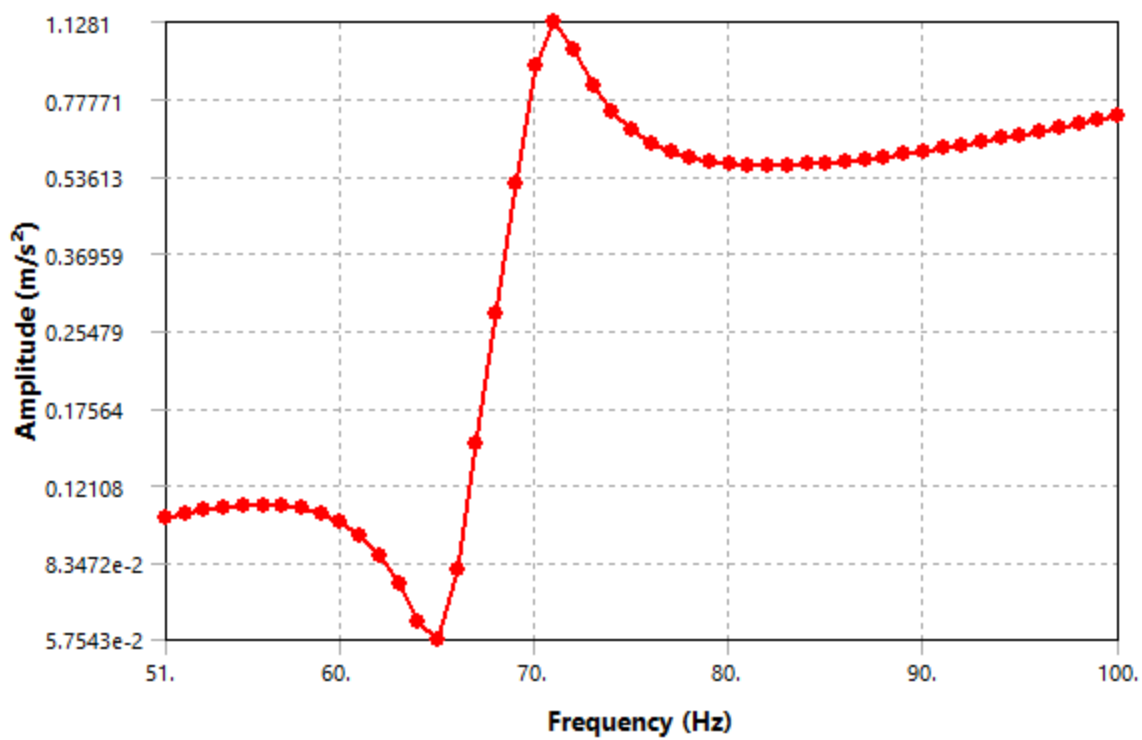
**FIGURE 11**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM1y**



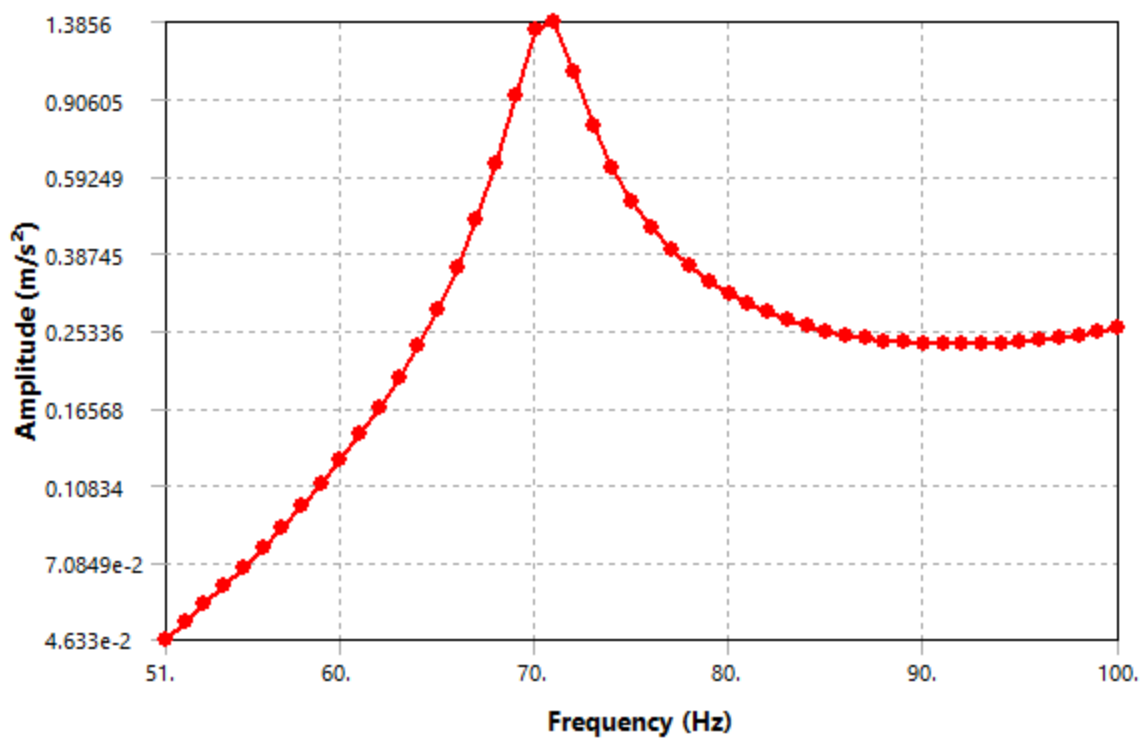
**FIGURE 12**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM1z**



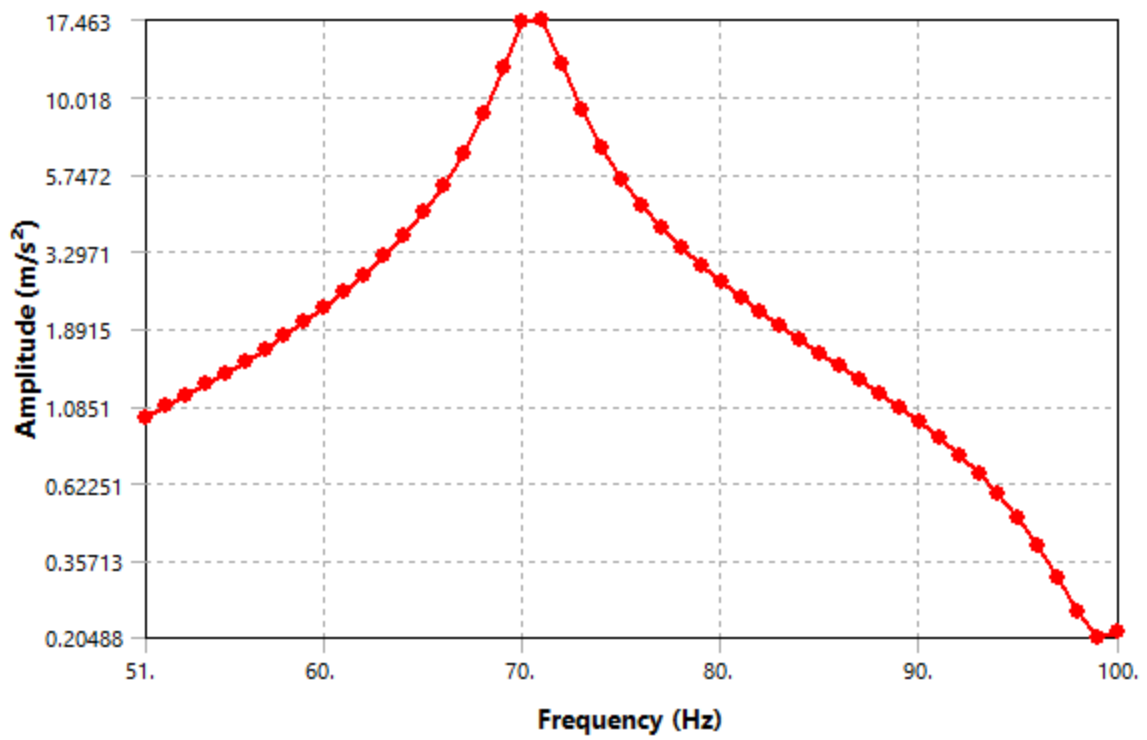
**FIGURE 13**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM1x**



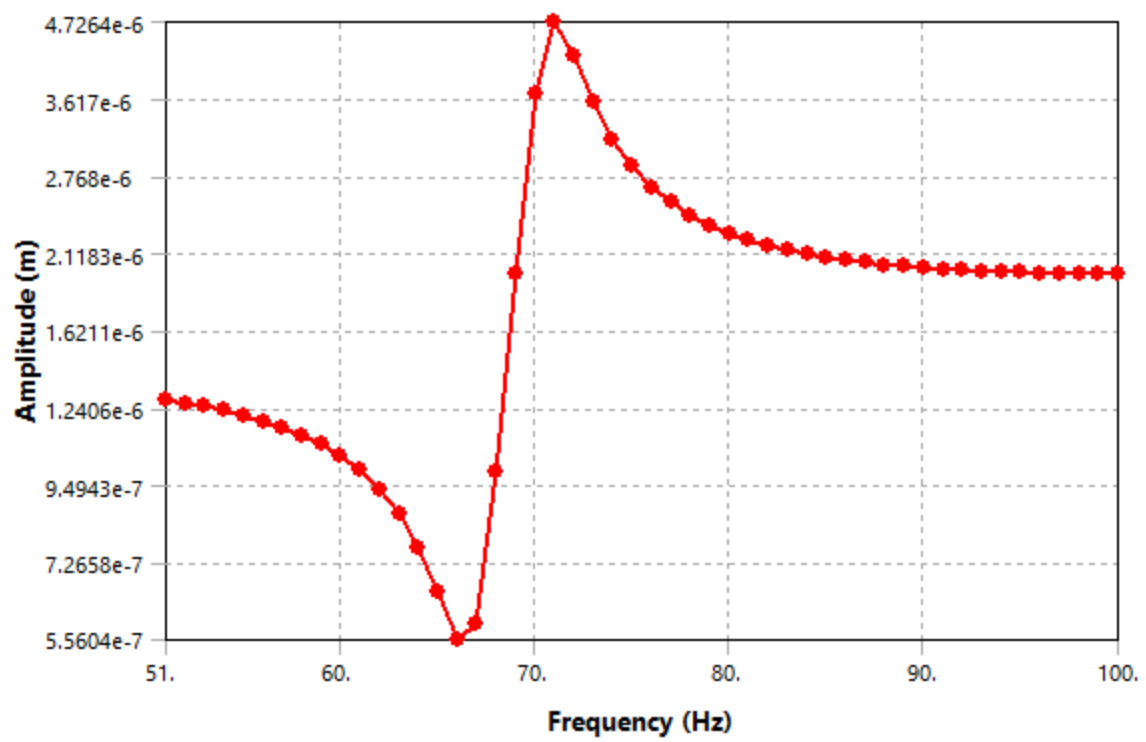
**FIGURE 14**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM1y**



**FIGURE 15**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM1z**



**FIGURE 16**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM2x**



**FIGURE 17**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM2y**

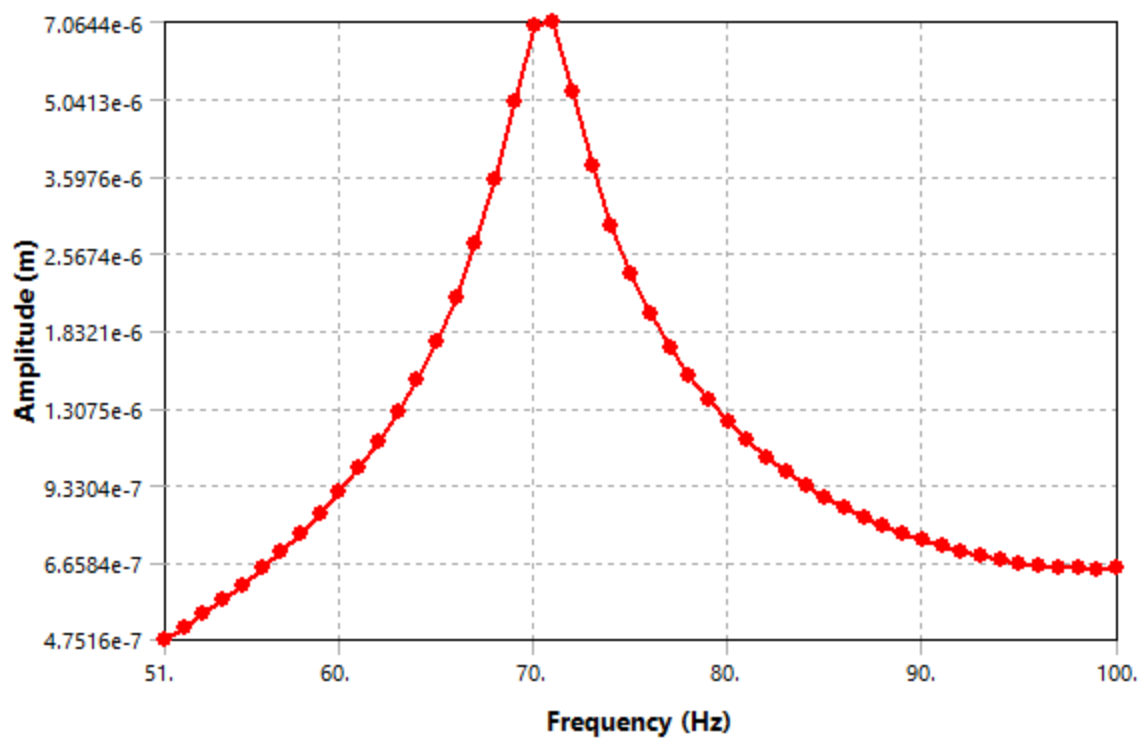
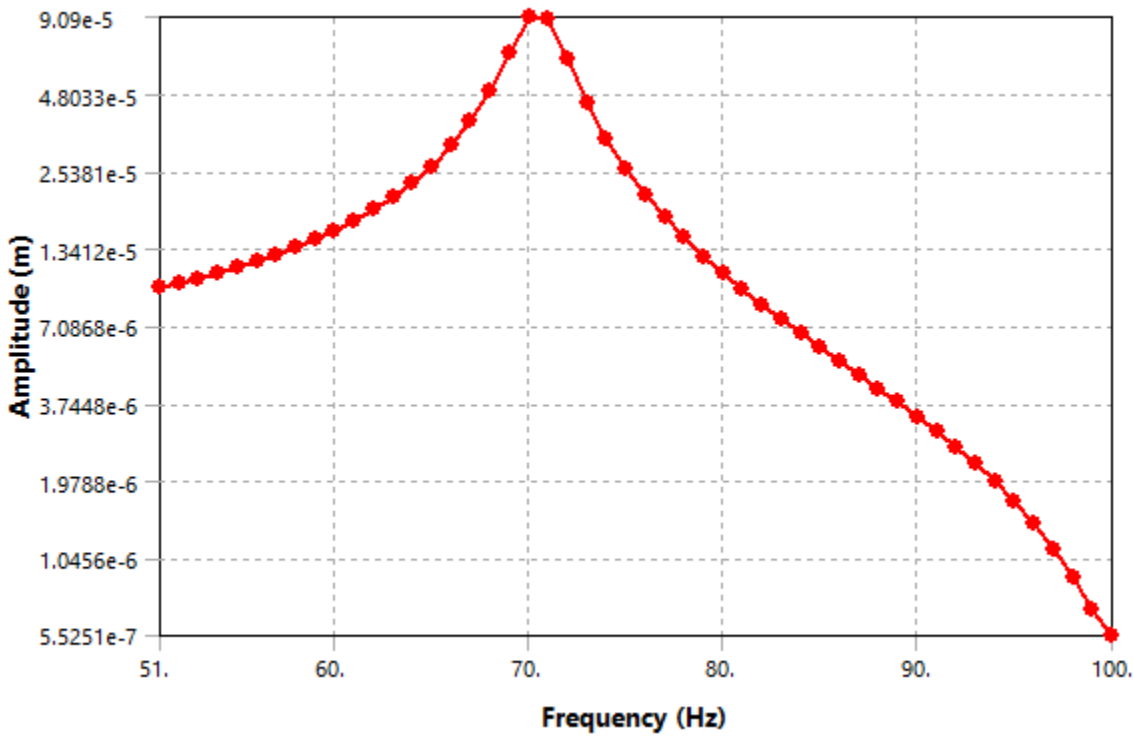


TABLE 70				
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts				
DeformationFrequencyResponseDIMM3z	DeformationFrequencyResponseDIMM4x	DeformationFrequencyResponseDIMM4y	DeformationFrequencyResponseDIMM4z	DeformationFrequencyResponseDIMM4x
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
Directional Deformation				
Z Axis	X Axis	Y Axis	Z Axis	X Axis
Global Coordinate System				
No				
Options				
Use Parent				

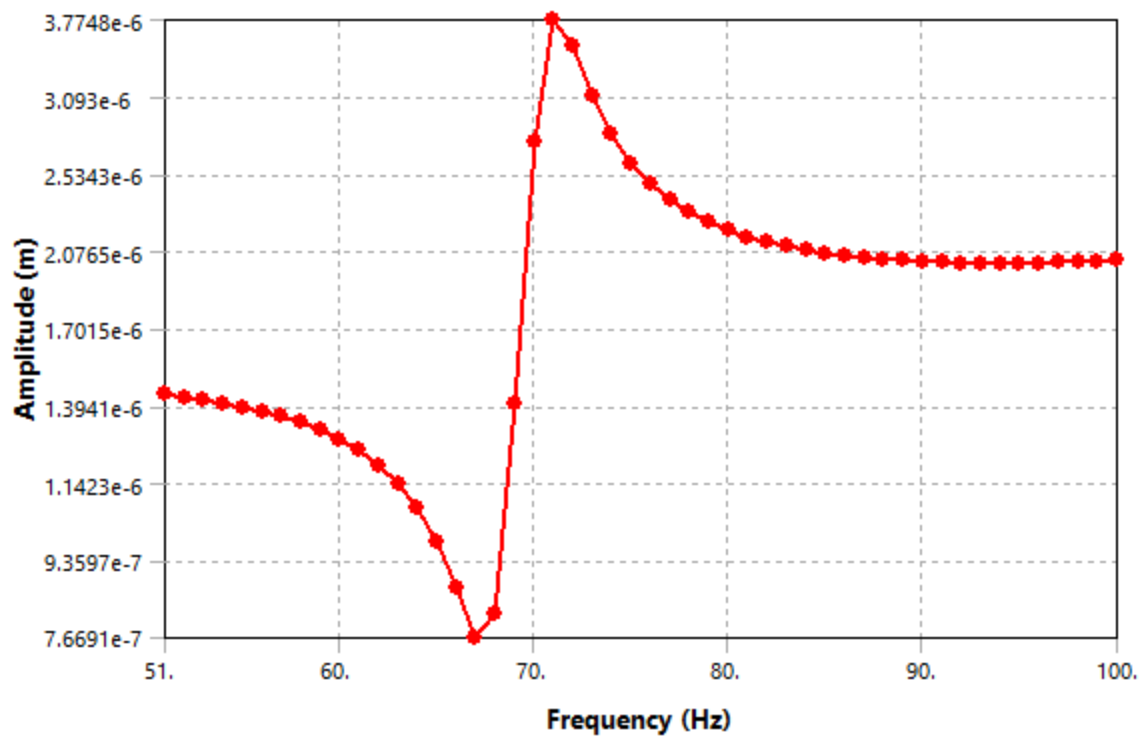


50. Hz				
100. Hz				
Bode				
Log Y				
Results				
9.189e-005 m	2.7856e-006 m	7.2225e-006 m	9.2102e-005 m	6.1079e-006 m
70. Hz	71. Hz		70. Hz	
111.76 °	-145.29 °	-109.43 °	111.59 °	140.9 °
-3.4072e-005 m	-2.2898e-006 m	-2.4028e-006 m	-3.3896e-005 m	-4.7425e-006 m
8.534e-005 m	-1.5863e-006 m	-6.8111e-006 m	8.5638e-005 m	3.849e-006 m

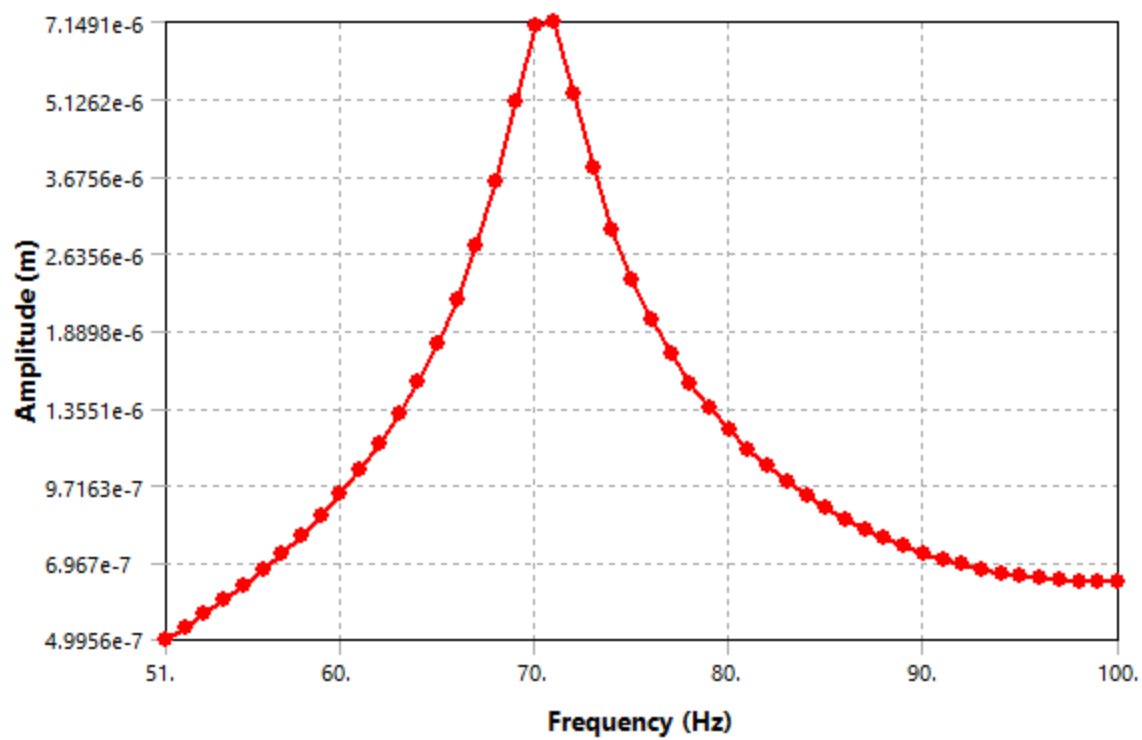
**FIGURE 18**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM2z**



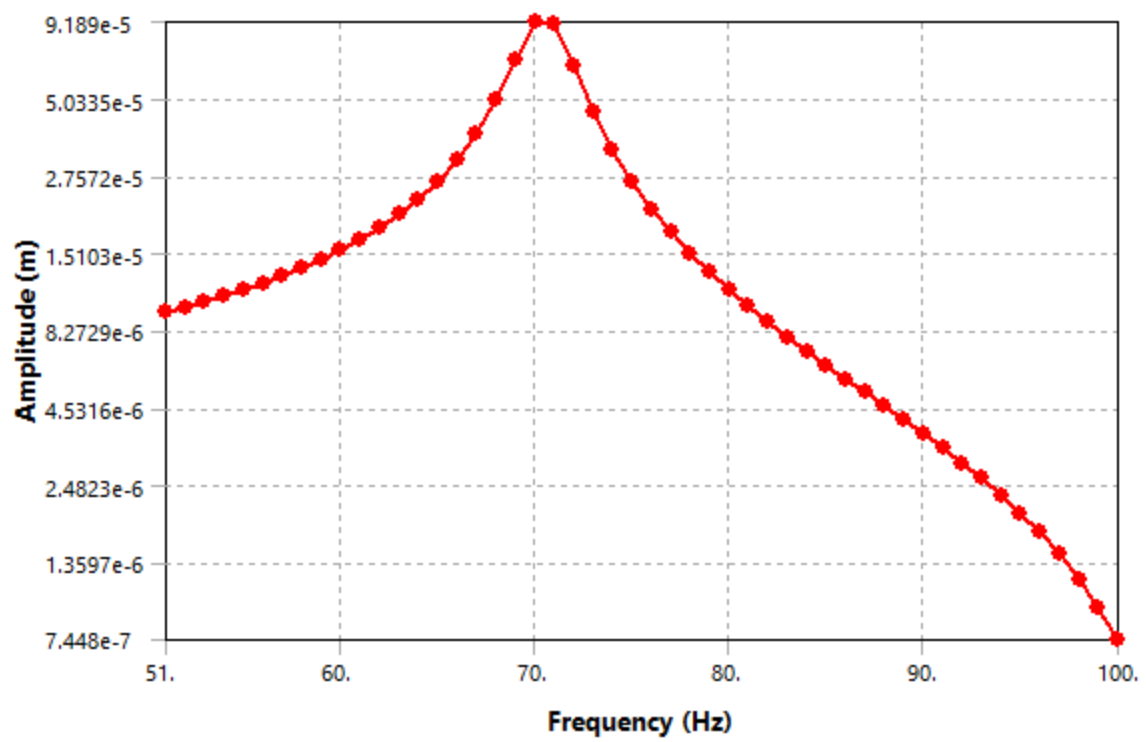
**FIGURE 19**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM3x**



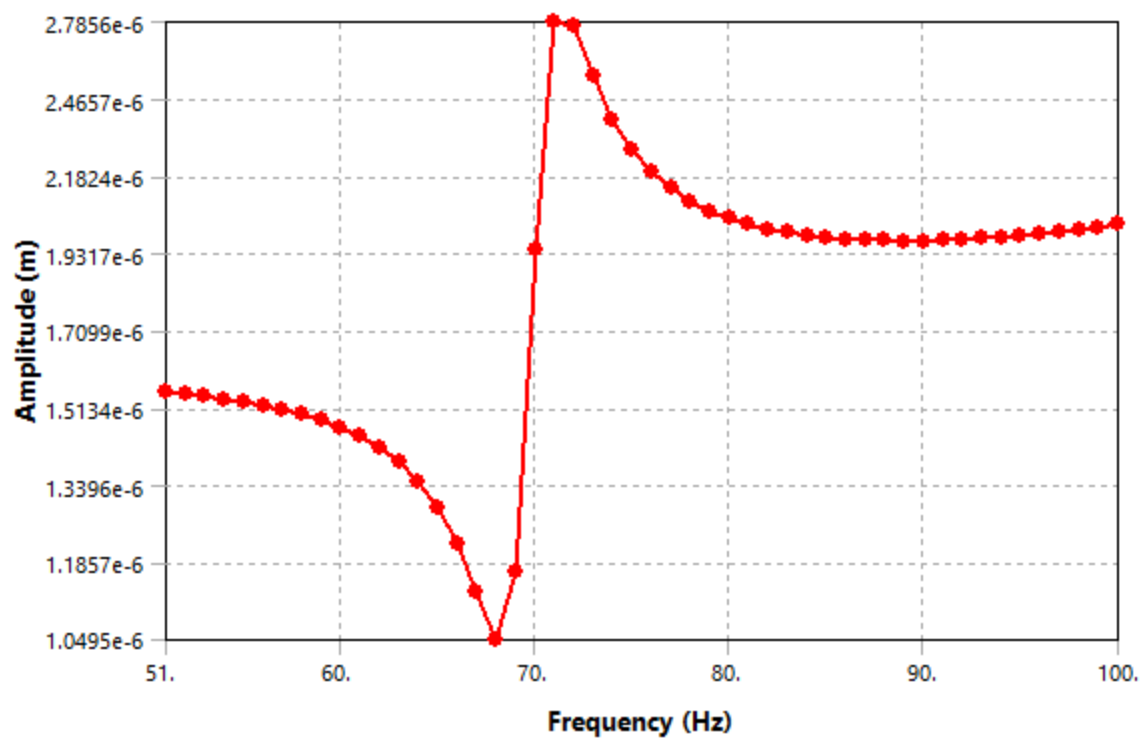
**FIGURE 20**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM3y**



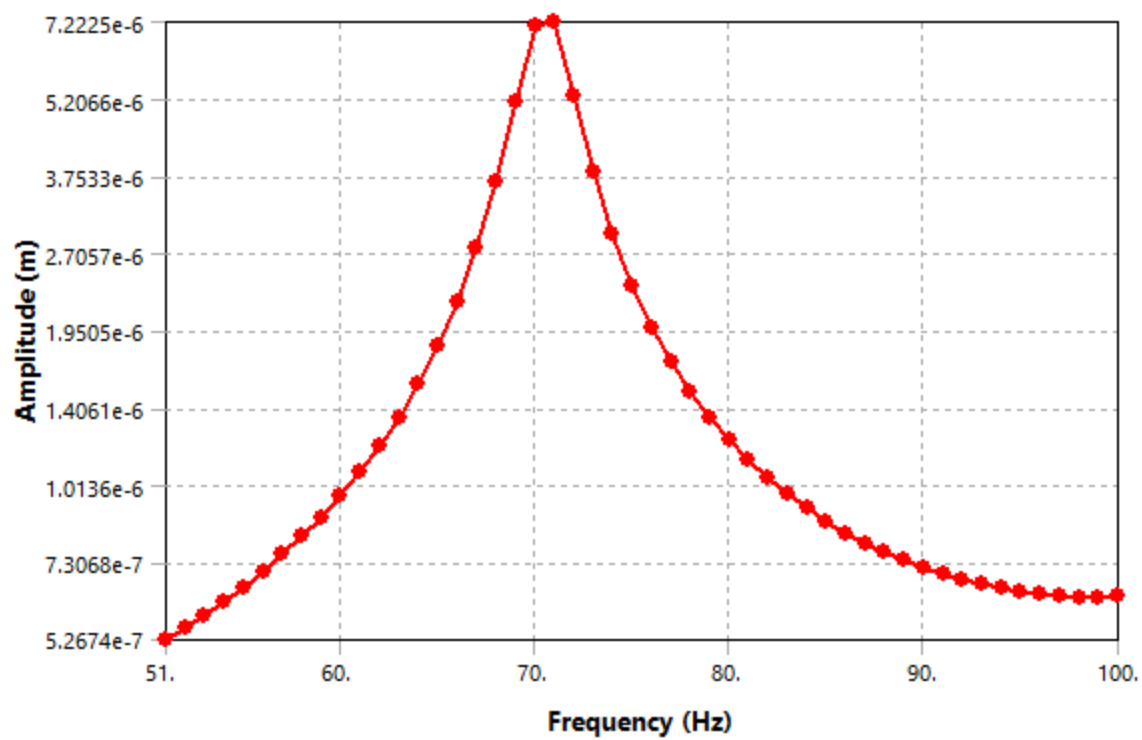
**FIGURE 21**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM3z**



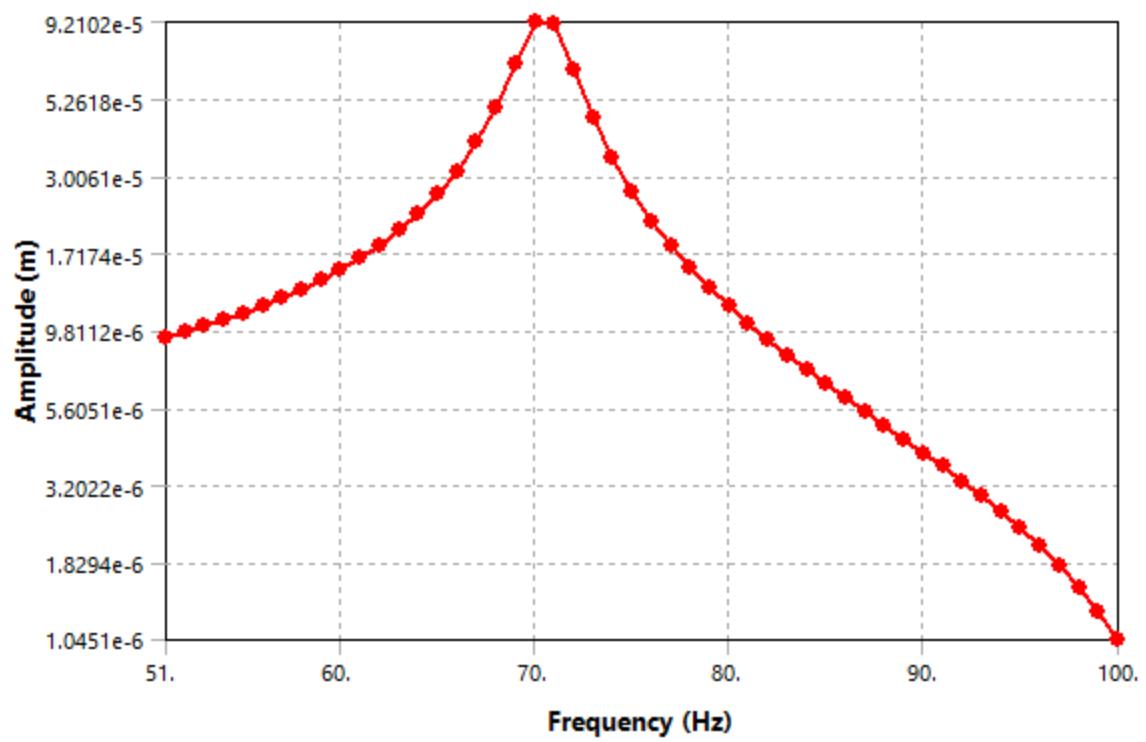
**FIGURE 22**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM4x**



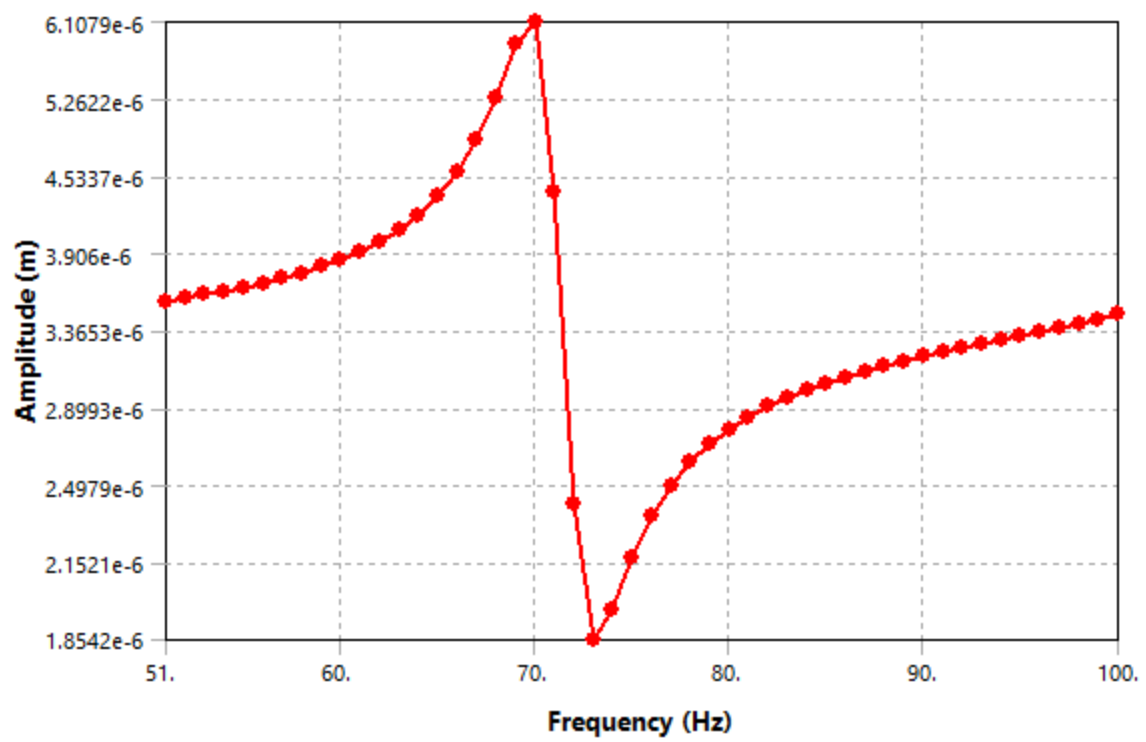
**FIGURE 23**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM4y**



**FIGURE 24**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM4z**

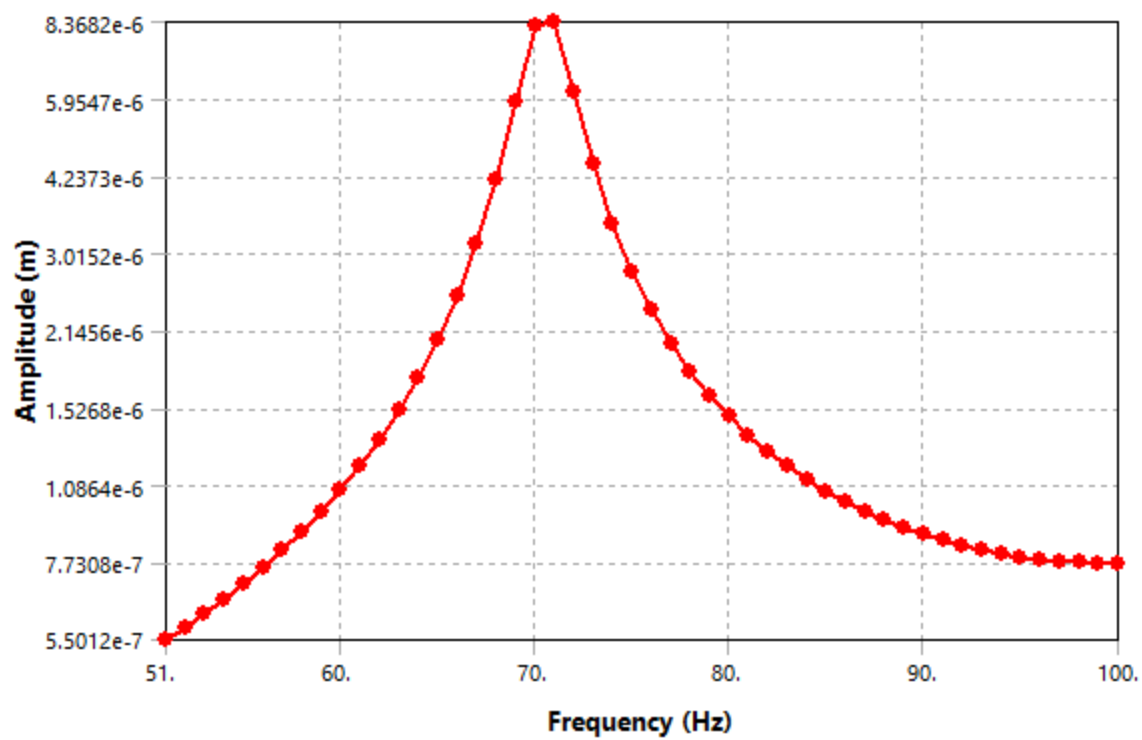


**FIGURE 25**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM5x**

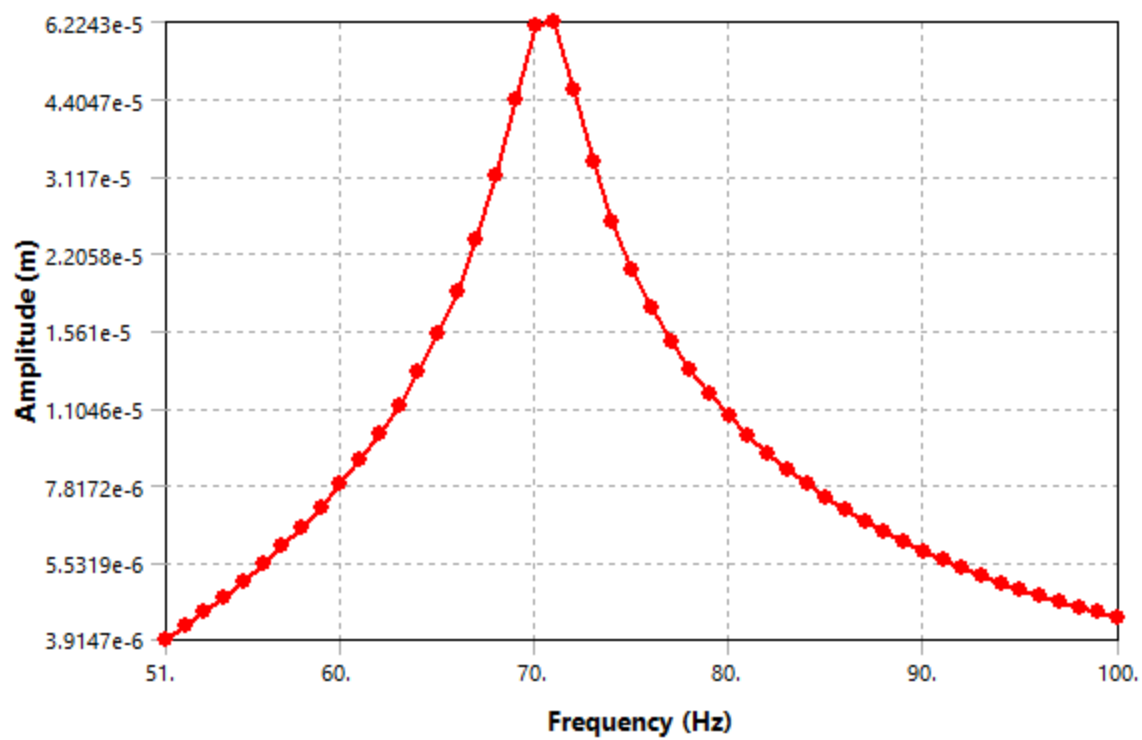


**FIGURE 26**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM5y**

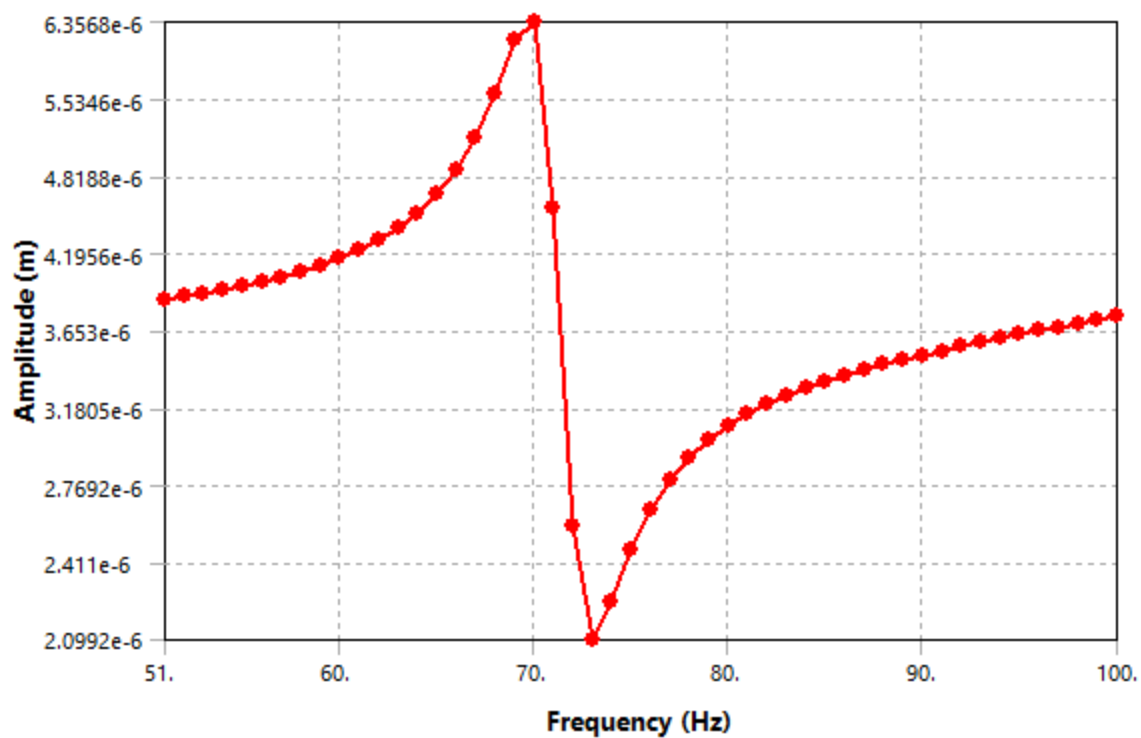




**FIGURE 27**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM5z**



**FIGURE 28**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM6x**

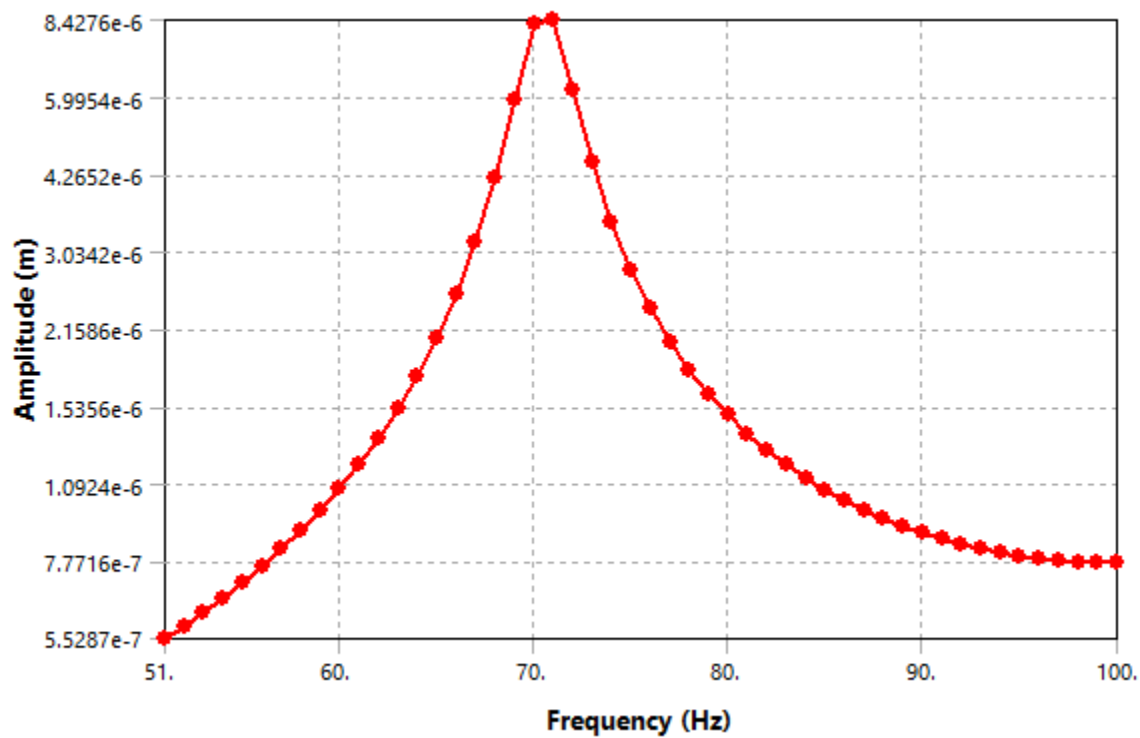


**TABLE 71**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts**

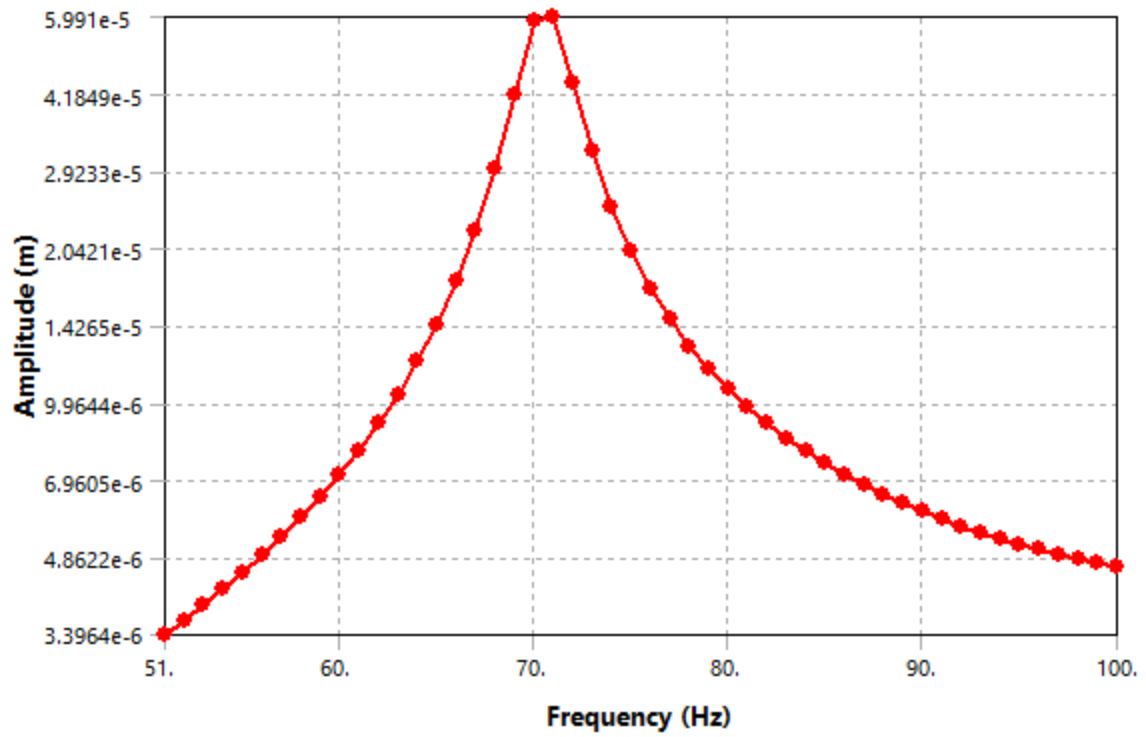
DeformationFrequencyResponse eDIMM7y	DeformationFrequencyResponse eDIMM7z	VelocityFrequencyResponse DIMM2x	VelocityFrequencyResponse DIMM2y	VelocityFrequencyResponse DIMM2z
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
Y Axis	Z Axis	X Axis	Y Axis	Z Axis
Global Coordinate System				
No				
Options				
Use Parent				

50. Hz				
100. Hz				
Bode				
Log Y				
Results				
8.4578e-006 m	5.7666e-005 m	2.1085e-003 m/s	3.1515e-003 m/s	3.99
71. Hz				
-109.8 °	69.528 °	-38.008 °	-19.724 °	
-2.8644e-006 m	2.0169e-005 m	1.6613e-003 m/s	2.9666e-003 m/s	-3.8
-7.958e-006 m	5.4024e-005 m	-1.2983e-003 m/s	-1.0636e-003 m/s	1.17

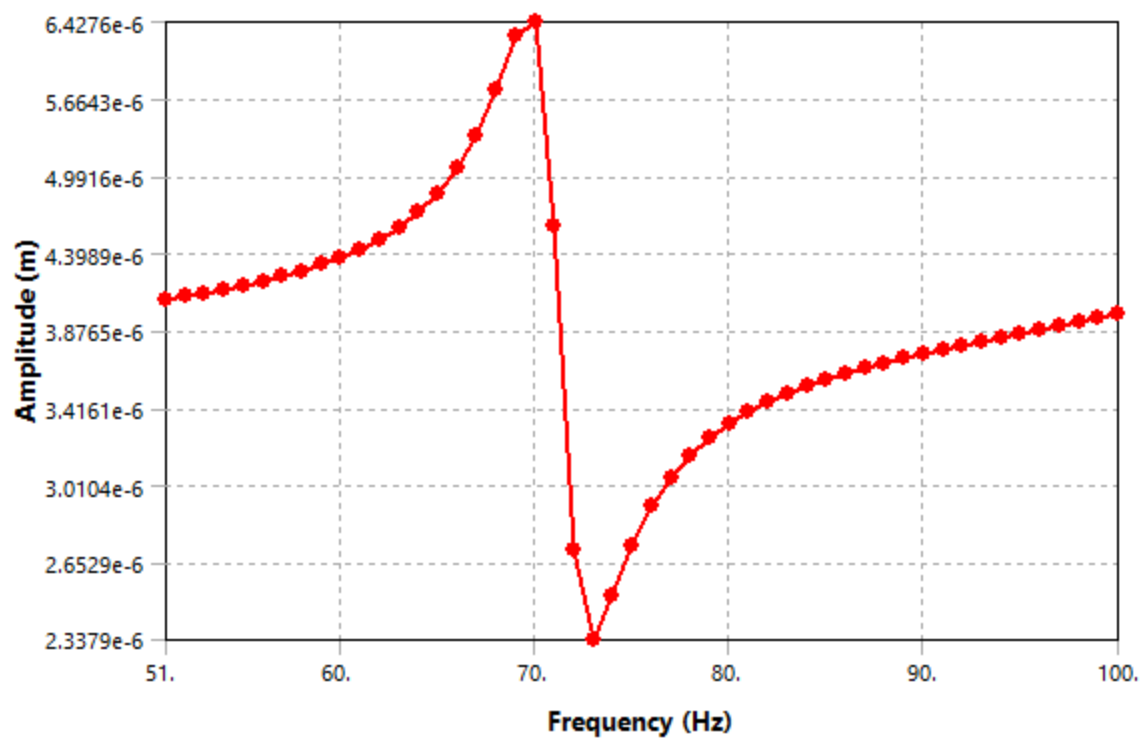
**FIGURE 29**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM6y**



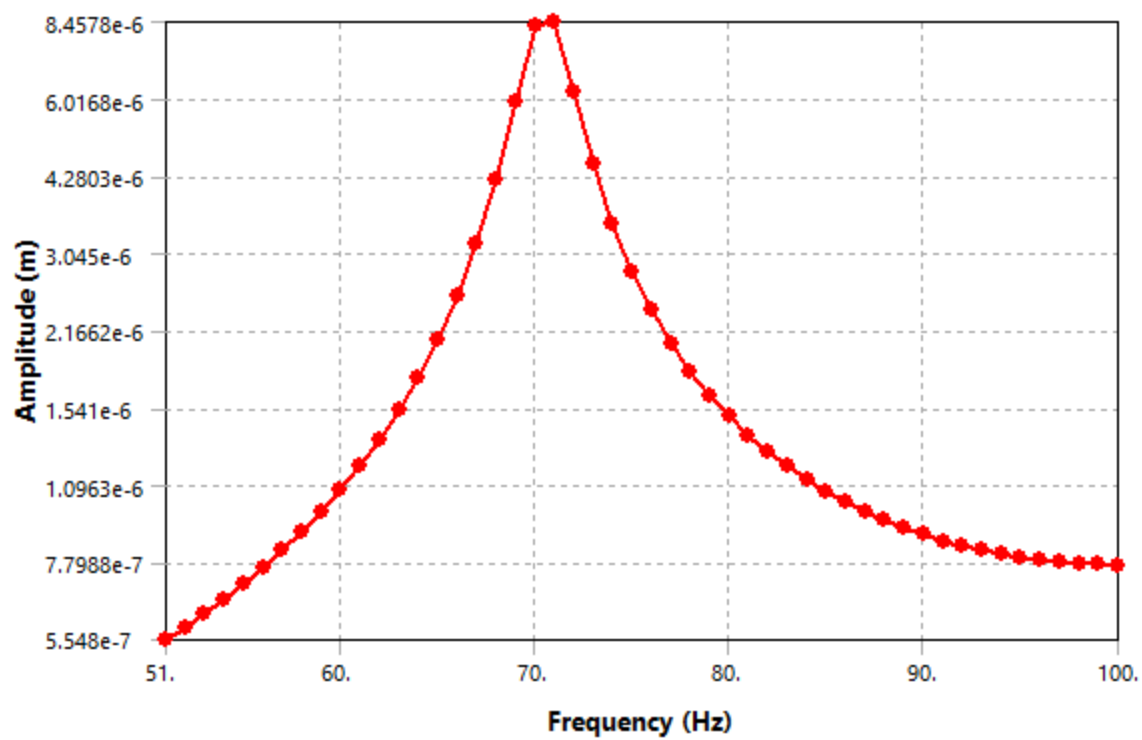
**FIGURE 30**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM6z**



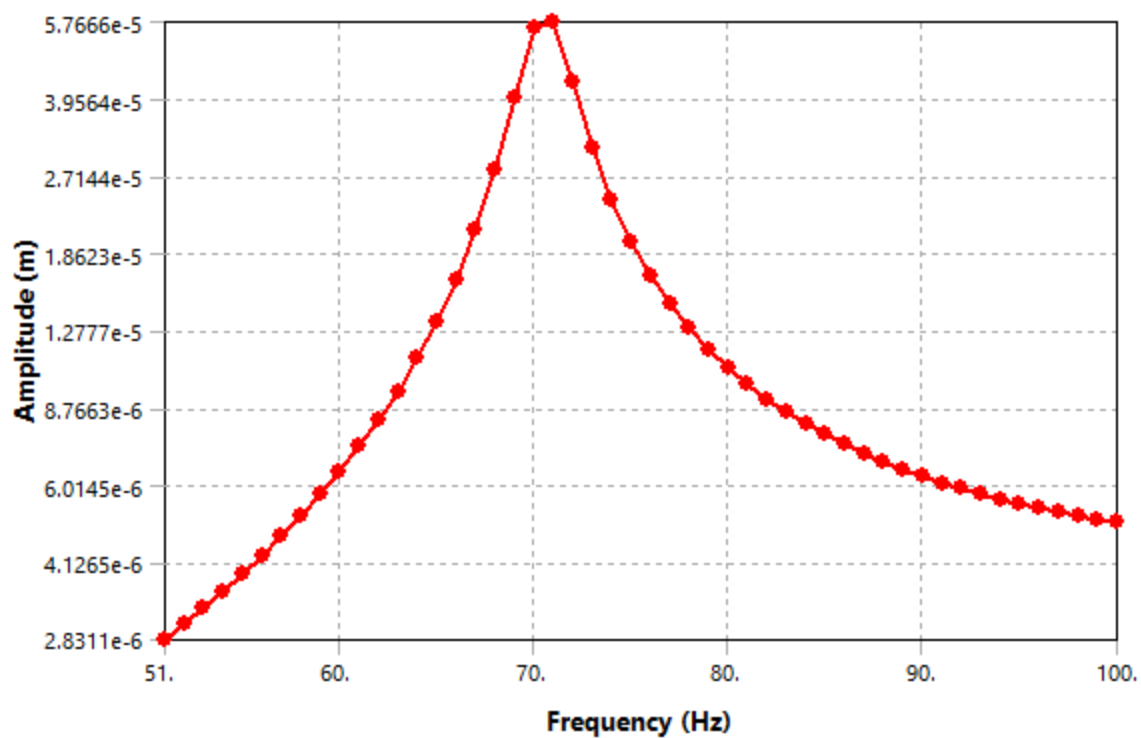
**FIGURE 31**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM7x**



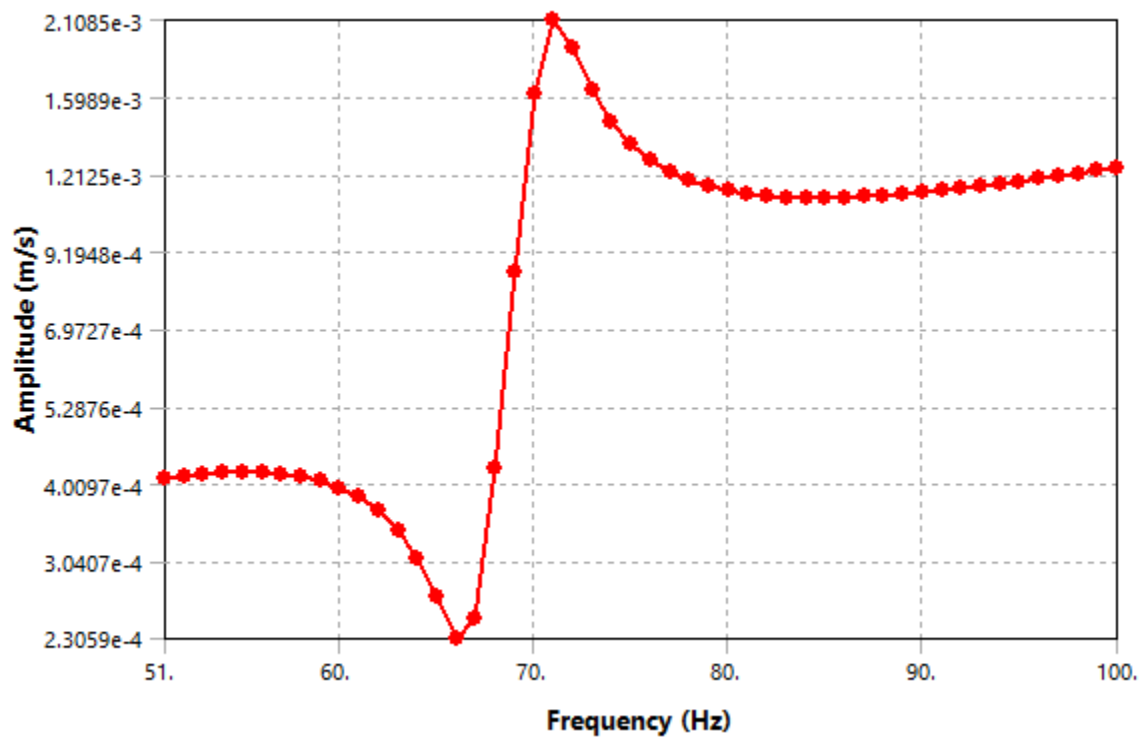
**FIGURE 32**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM7y**



**FIGURE 33**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM7z**



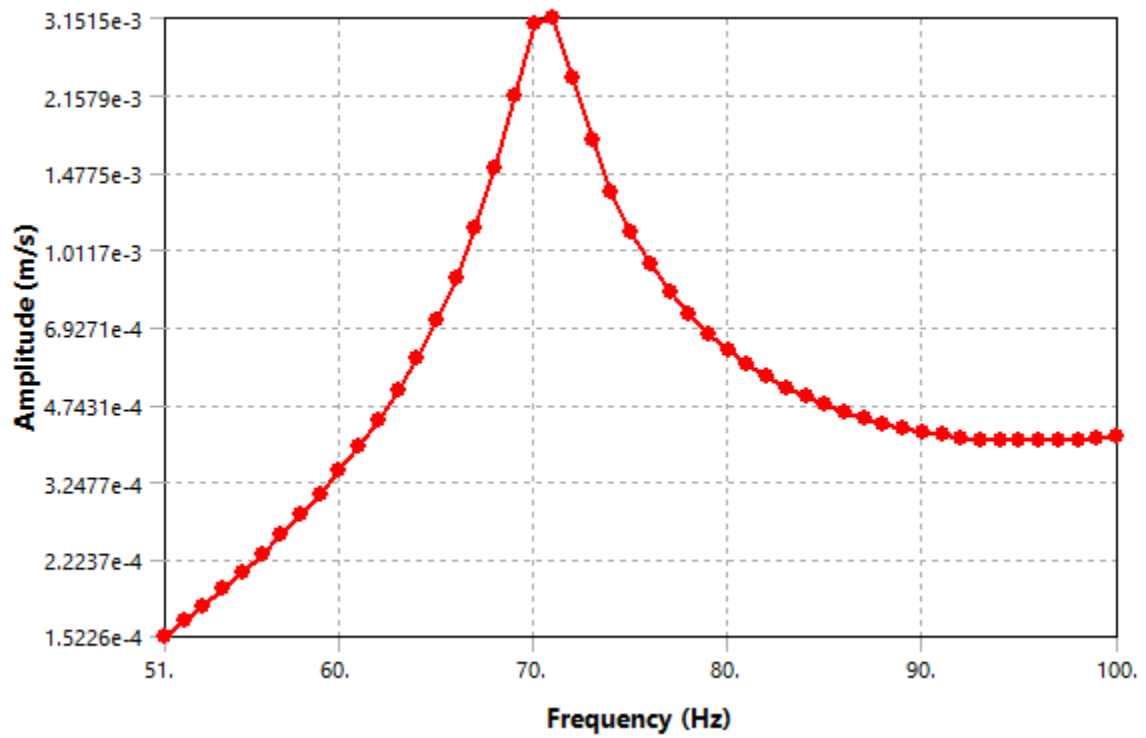
**FIGURE 34**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2x**





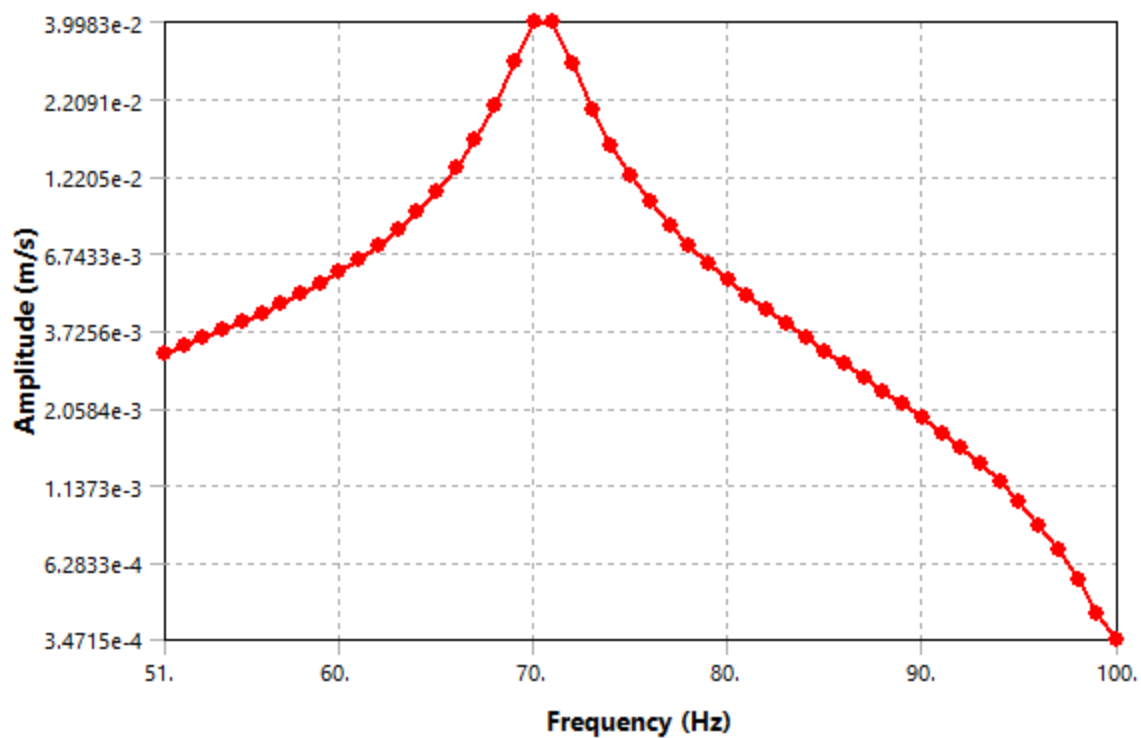
**FIGURE 35**

**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2y**

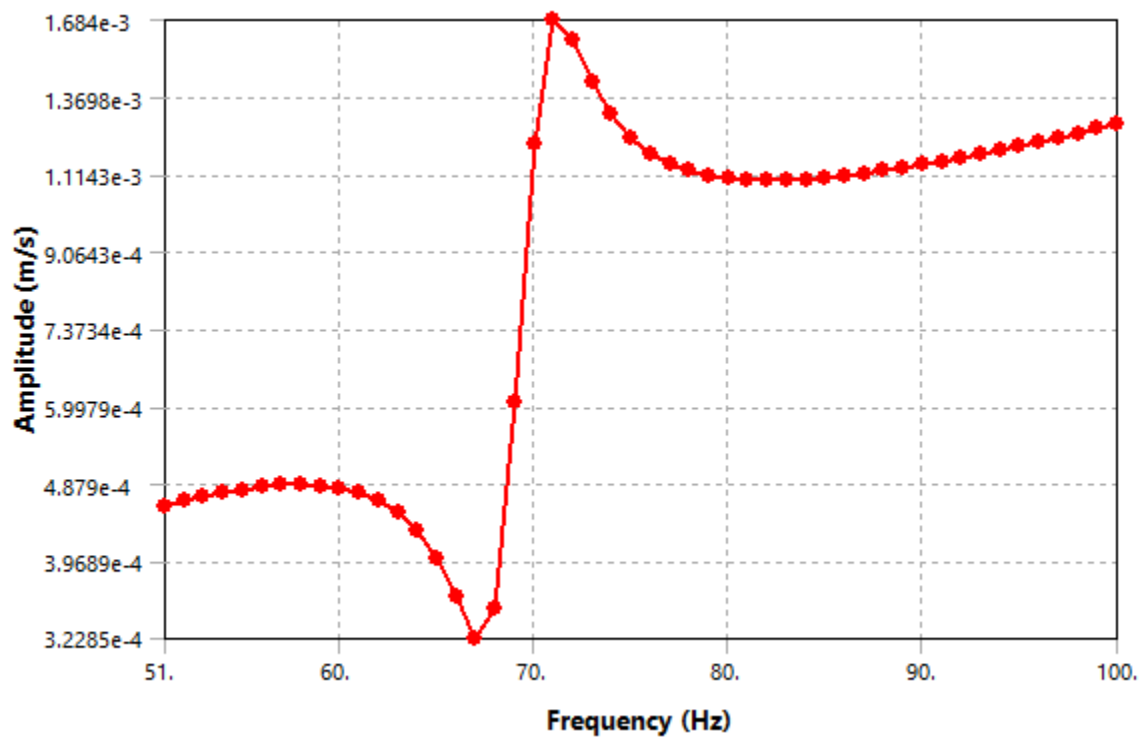


**FIGURE 36**

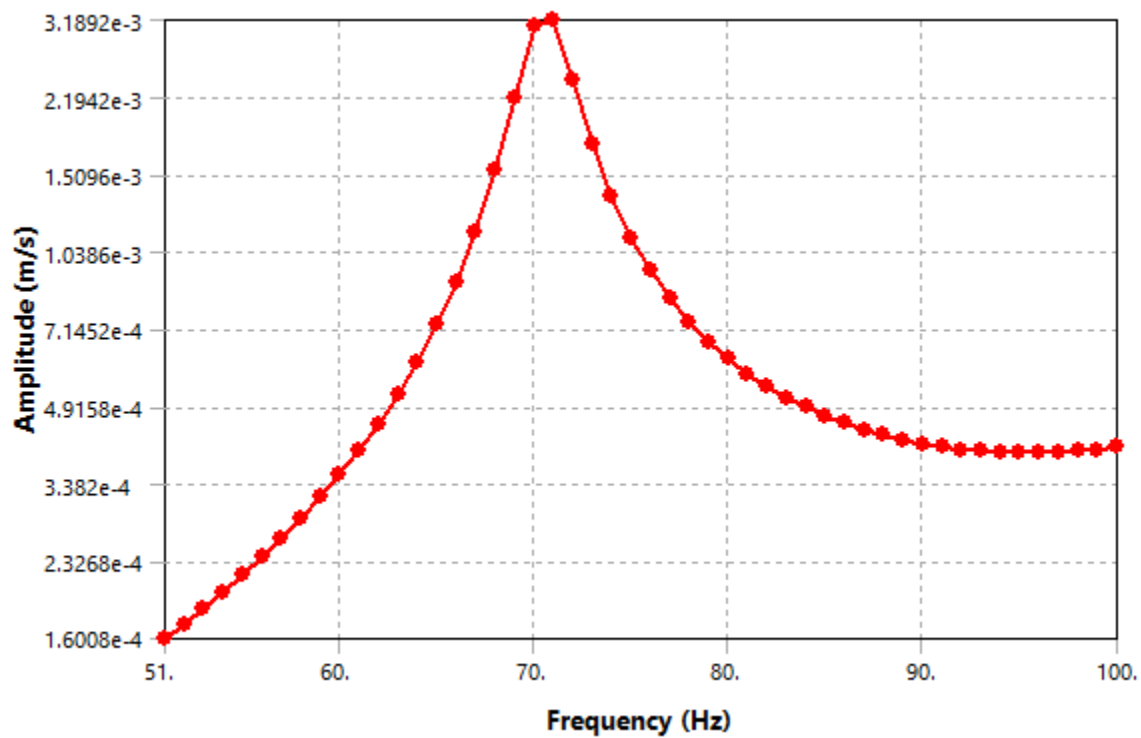
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2z**



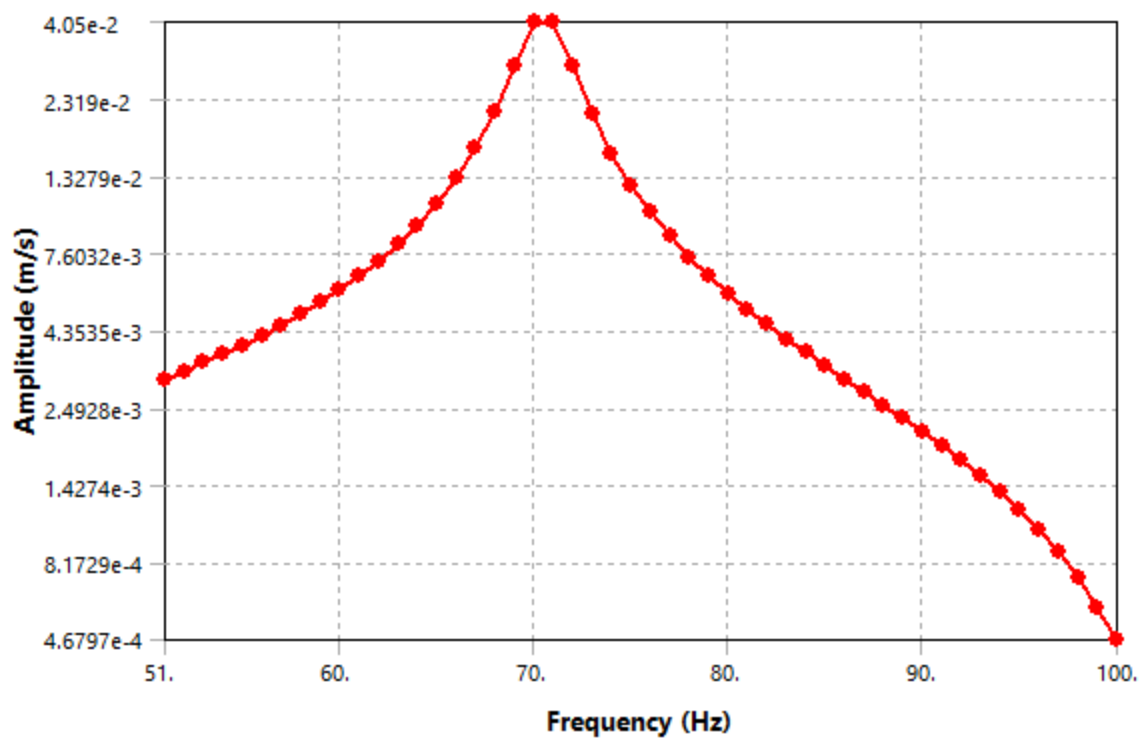
**FIGURE 37**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM3x**



**FIGURE 38**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM3y**



**FIGURE 39**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM3z**

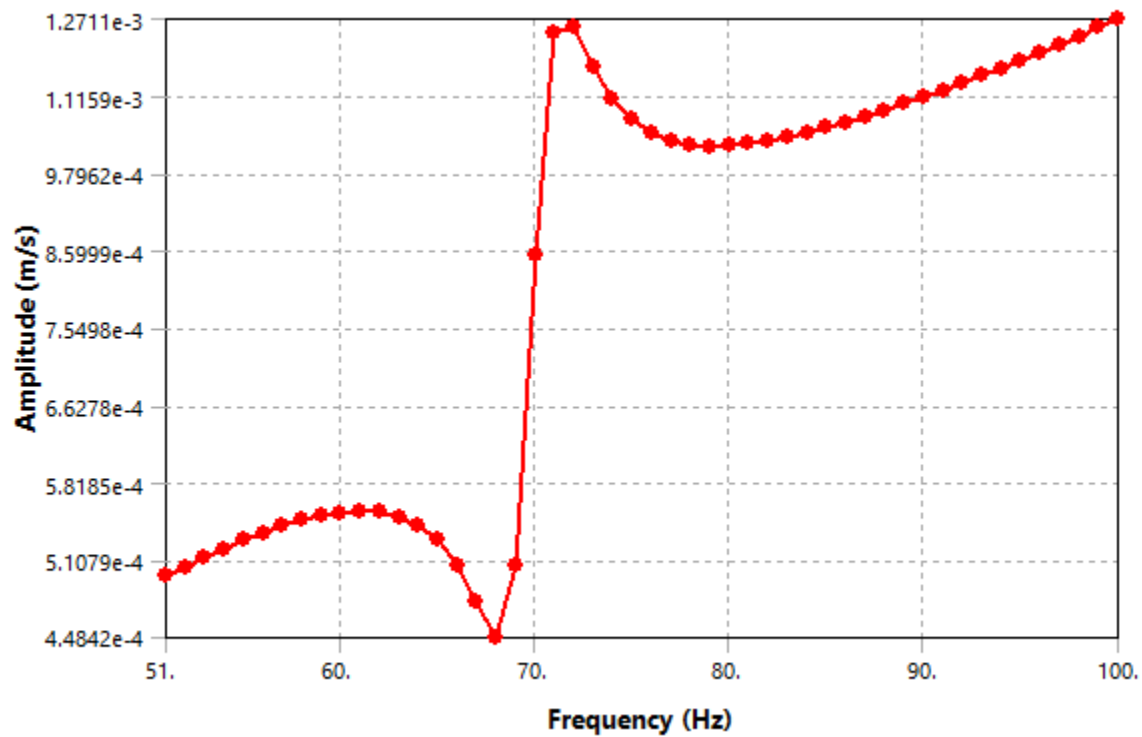


**TABLE 72**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts**

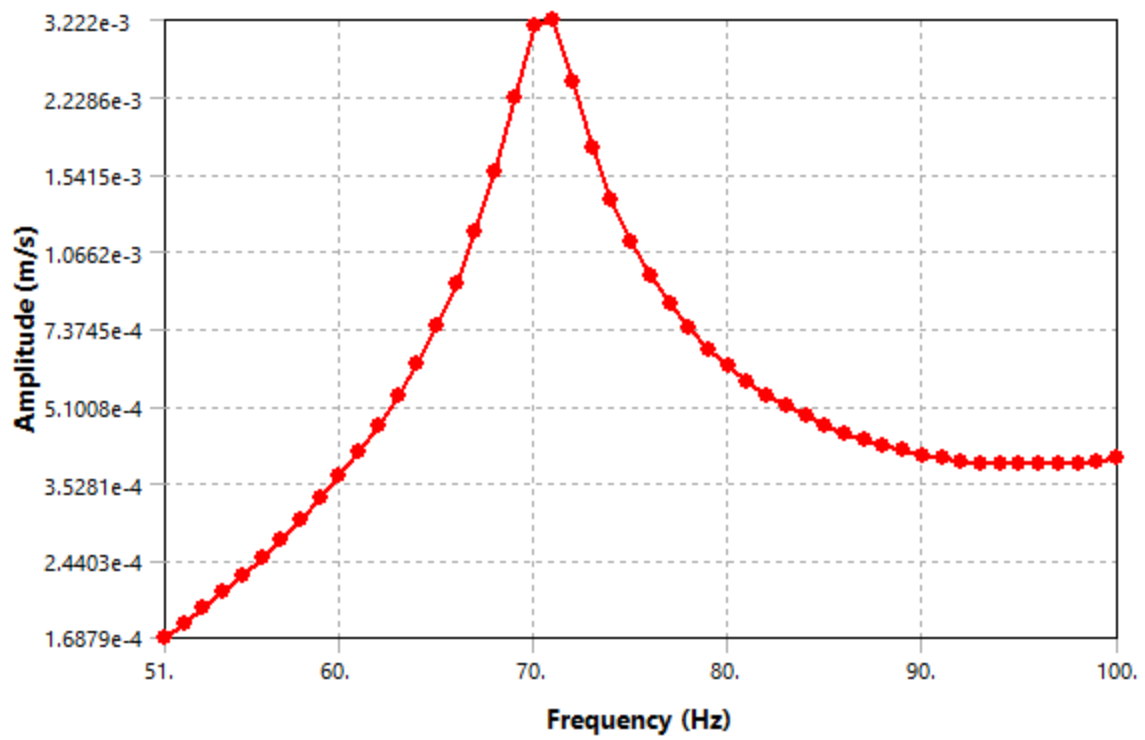
VelocityFrequencyResponse DIMM5x	VelocityFrequencyResponse DIMM5y	VelocityFrequencyResponse DIMM5z	VelocityFrequencyResponse DIMM6x	VelocityFrequencyResponse DIMM6y
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
Directional Velocity				
X Axis	Y Axis	Z Axis	X Axis	Y Axis
Global Coordinate System				
No				
Options				
Use Parent				

50. Hz				
100. Hz				
Bode				
Log Y				
Results				
2.6864e-003 m/s	3.7331e-003 m/s	2.7767e-002 m/s	2.7959e-003 m/s	3.7596e-
70. Hz	71. Hz		70. Hz	
-129.06 °	-19.798 °	160.3 °	-127.46 °	-19.
-1.6929e-003 m/s	3.5125e-003 m/s	-2.6143e-002 m/s	-1.7003e-003 m/s	3.5373e-
-2.0859e-003 m/s	-1.2645e-003 m/s	9.3578e-003 m/s	-2.2194e-003 m/s	-1.2735e-

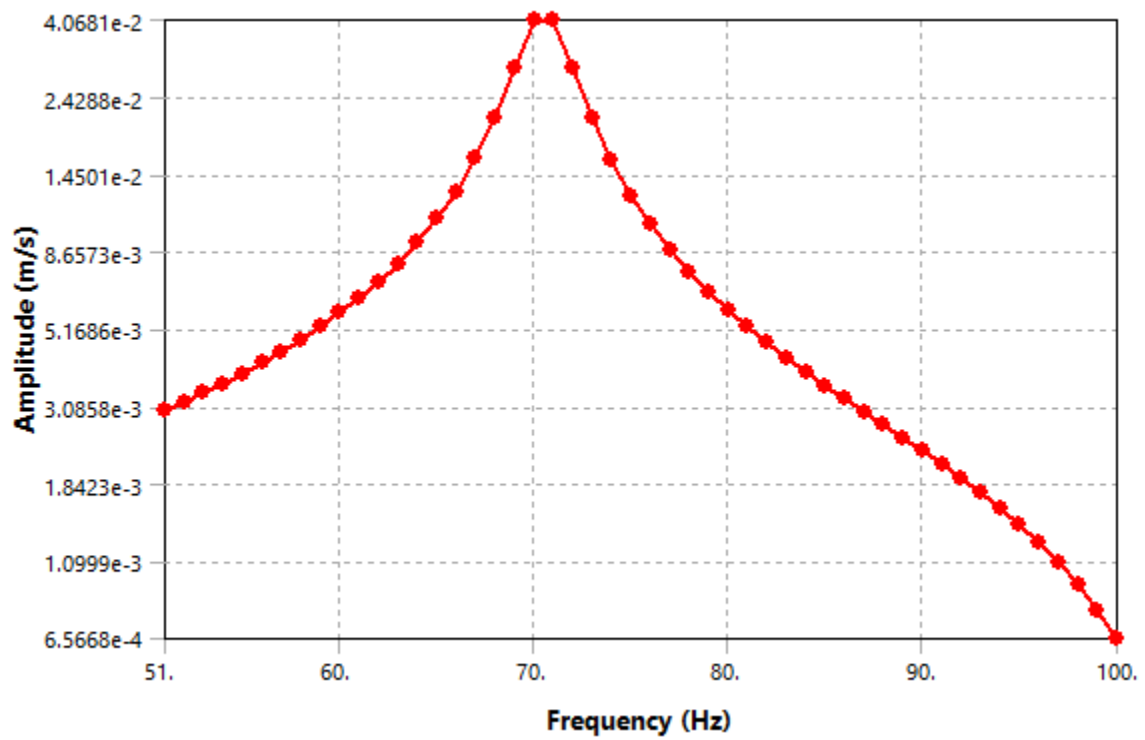
**FIGURE 40**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM4x**



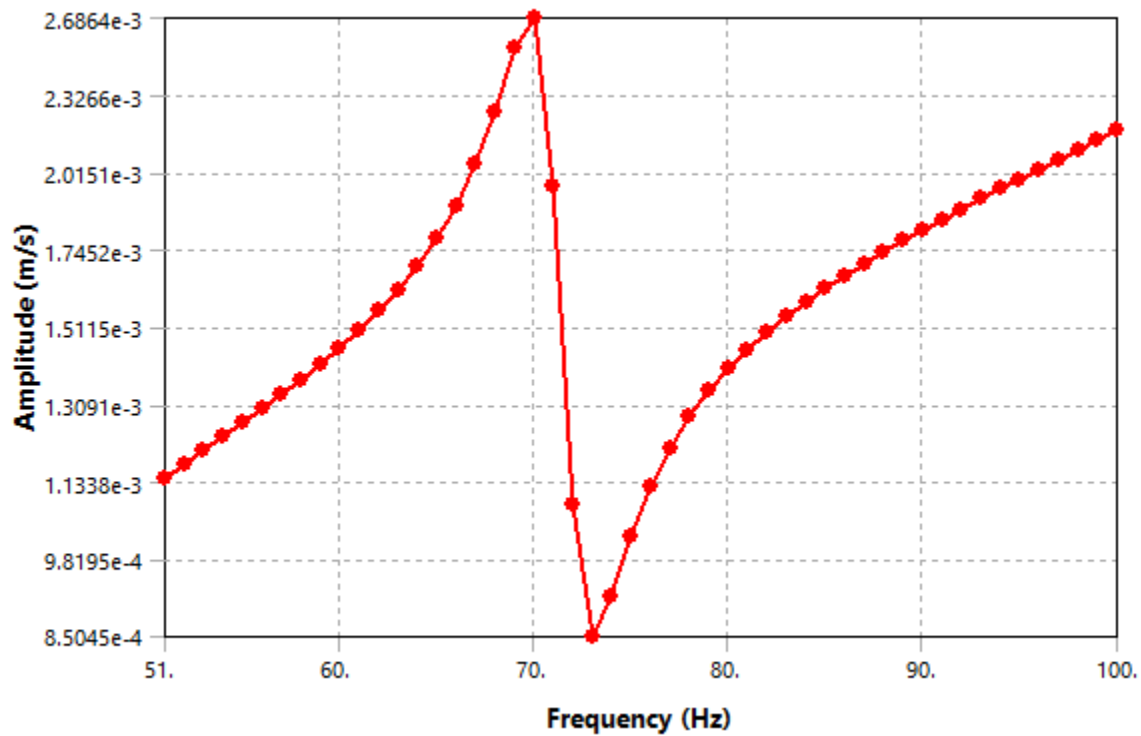
**FIGURE 41**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM4y**



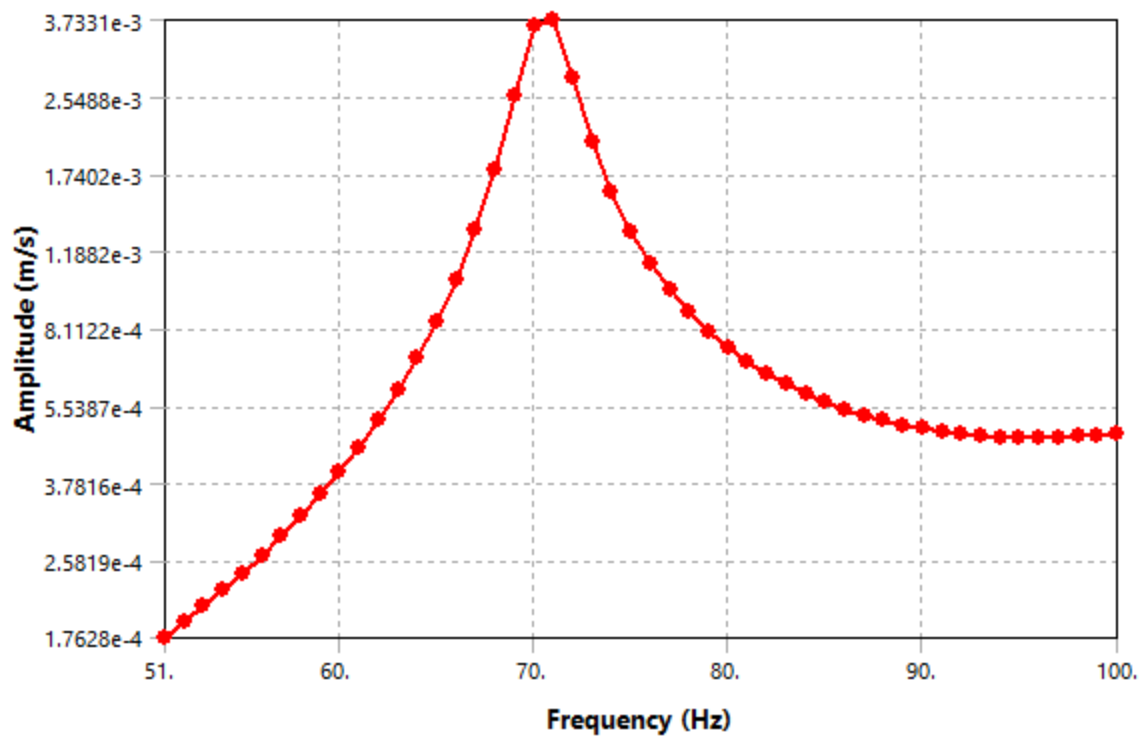
**FIGURE 42**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM4z**



**FIGURE 43**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM5x**



**FIGURE 44**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM5y**



**FIGURE 45**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM5z**

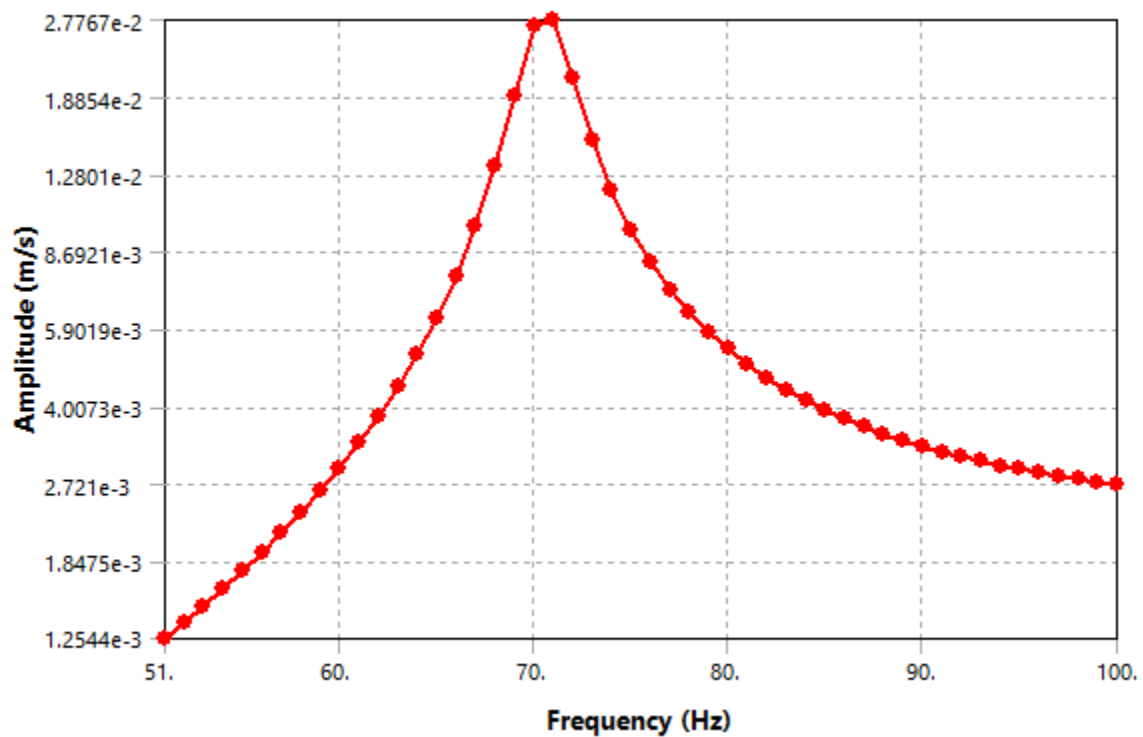




FIGURE 46

Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM6x

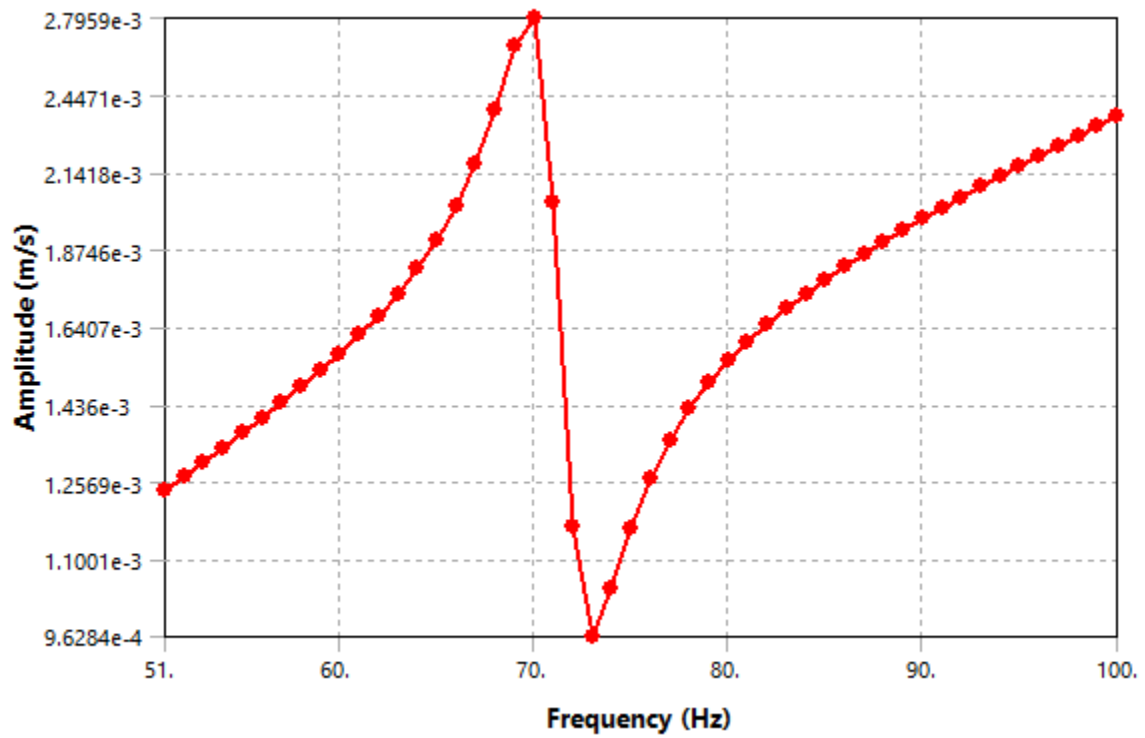
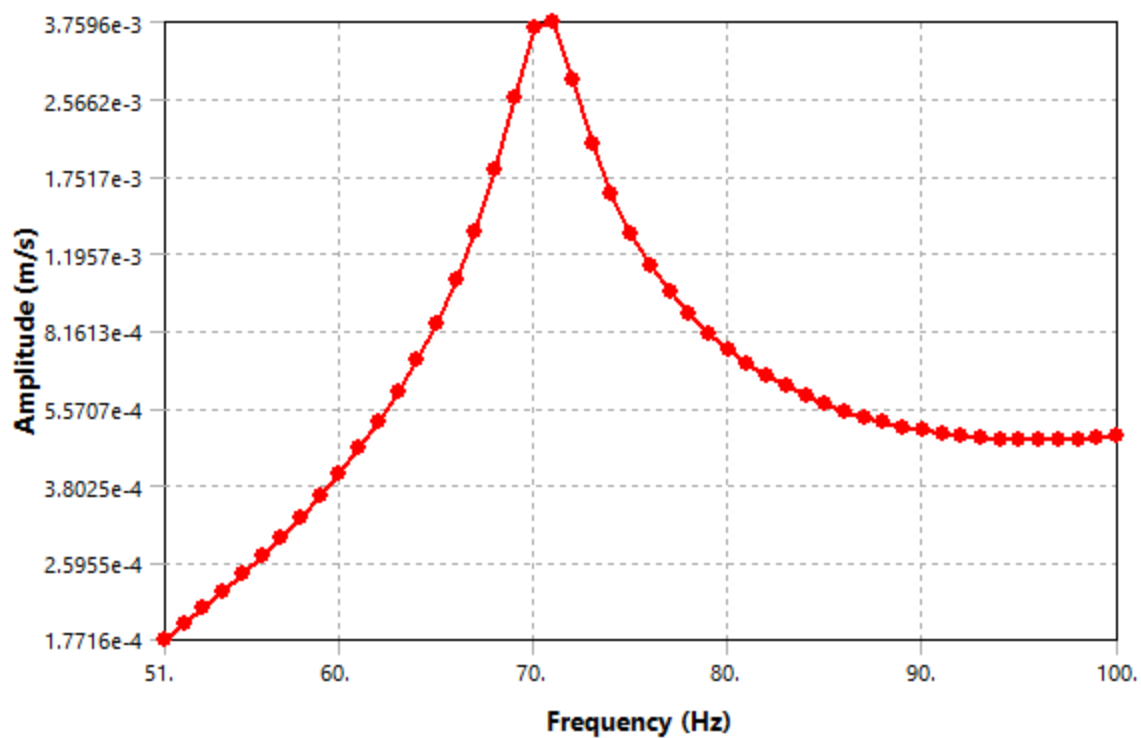
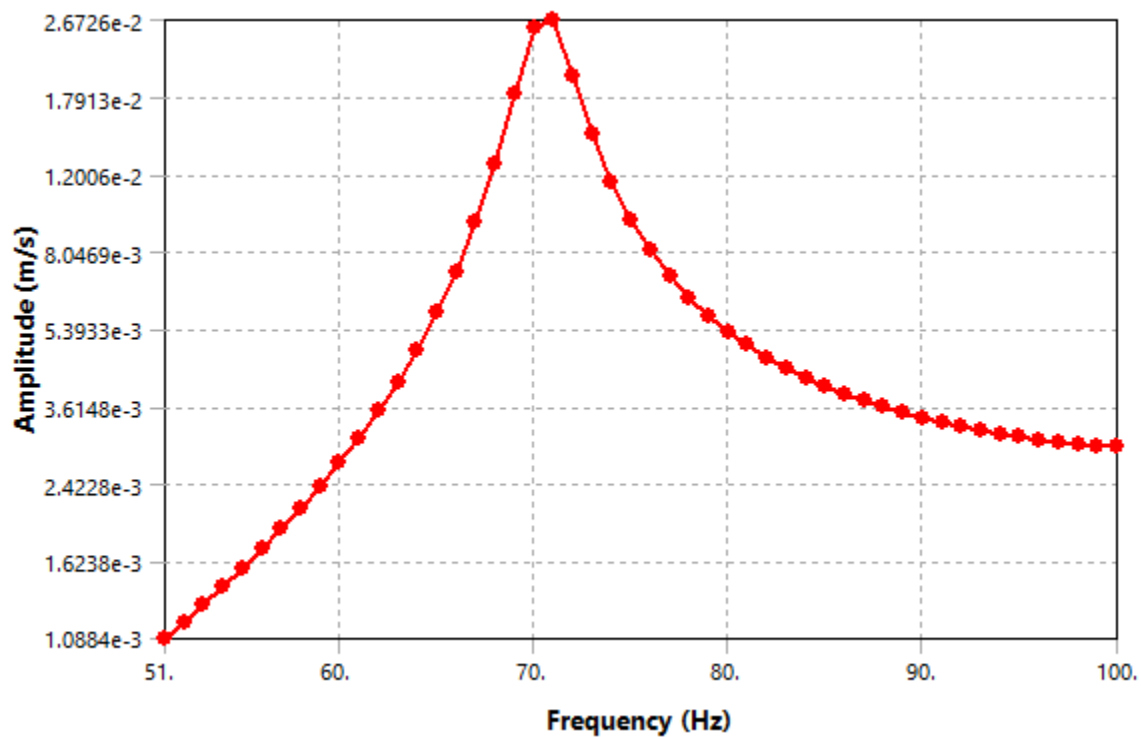


FIGURE 47

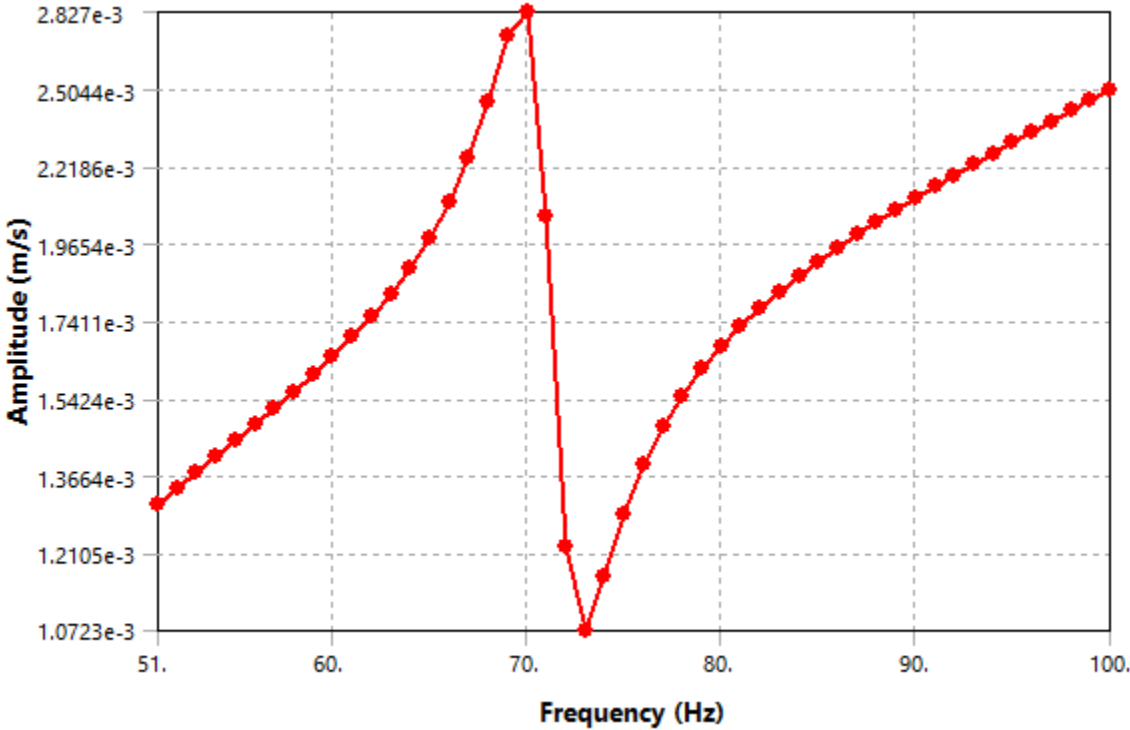
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM6y



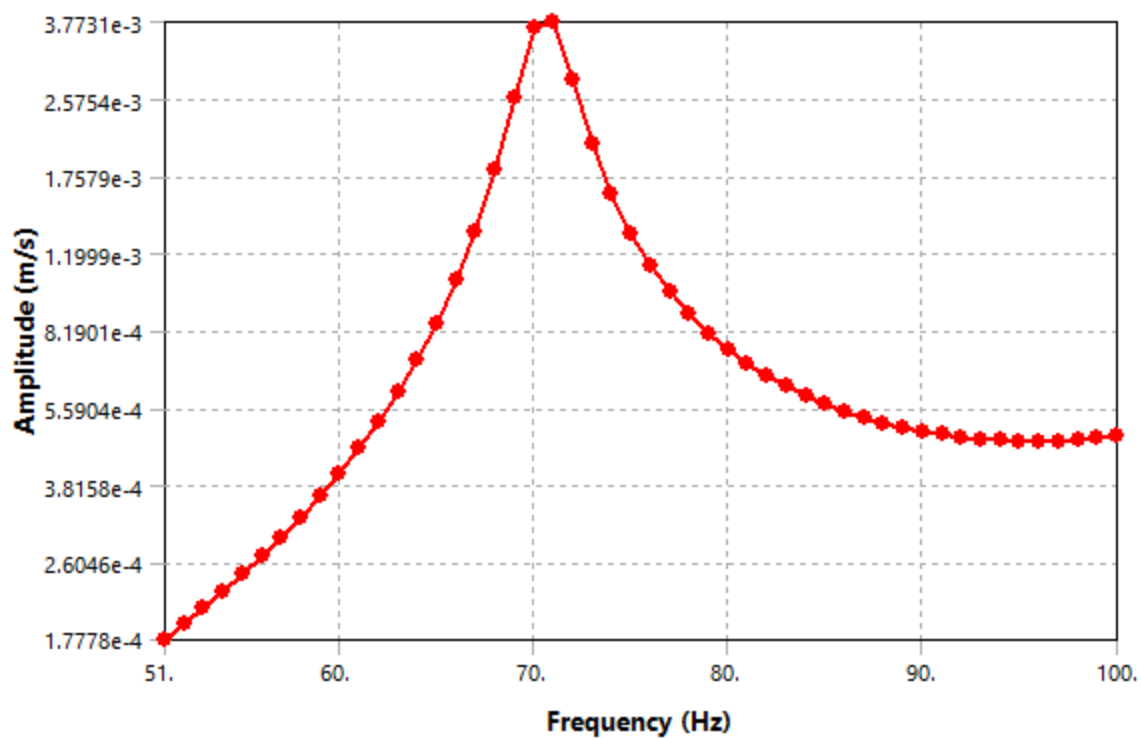
**FIGURE 48**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM6z**



**FIGURE 49**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM7x**



**FIGURE 50**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM7y**



**TABLE 73**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts**

FrequencyResponse DIMM8z	AccelerationFrequencyResponse seDIMM2x	AccelerationFrequencyResponse seDIMM2y	AccelerationFrequencyResponse seDIMM2z	AccelerationFrequencyResponse seDIMM3x
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
	Directional Acceleration			
Z Axis	X Axis	Y Axis	Z Axis	X Axis
Global Coordinate System				
No				
Options				
Use Parent				

50. Hz				
100. Hz				
Bode				
Log Y				
Results				
32e-002 m/s	0.9406 m/s <sup>2</sup>	1.4059 m/s <sup>2</sup>	17.837 m/s <sup>2</sup>	0.80196 m/s <sup>2</sup>
71. Hz				100. Hz
58.96 °	51.992 °	70.276 °	-107.04 °	-0.95847 °
77e-002 m/s	0.57919 m/s <sup>2</sup>	0.47447 m/s <sup>2</sup>	-5.2257 m/s <sup>2</sup>	0.80185 m/s <sup>2</sup>
45e-003 m/s	0.74112 m/s <sup>2</sup>	1.3234 m/s <sup>2</sup>	-17.054 m/s <sup>2</sup>	-1.3415e-002 m/s <sup>2</sup>

**FIGURE 51**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM7z**

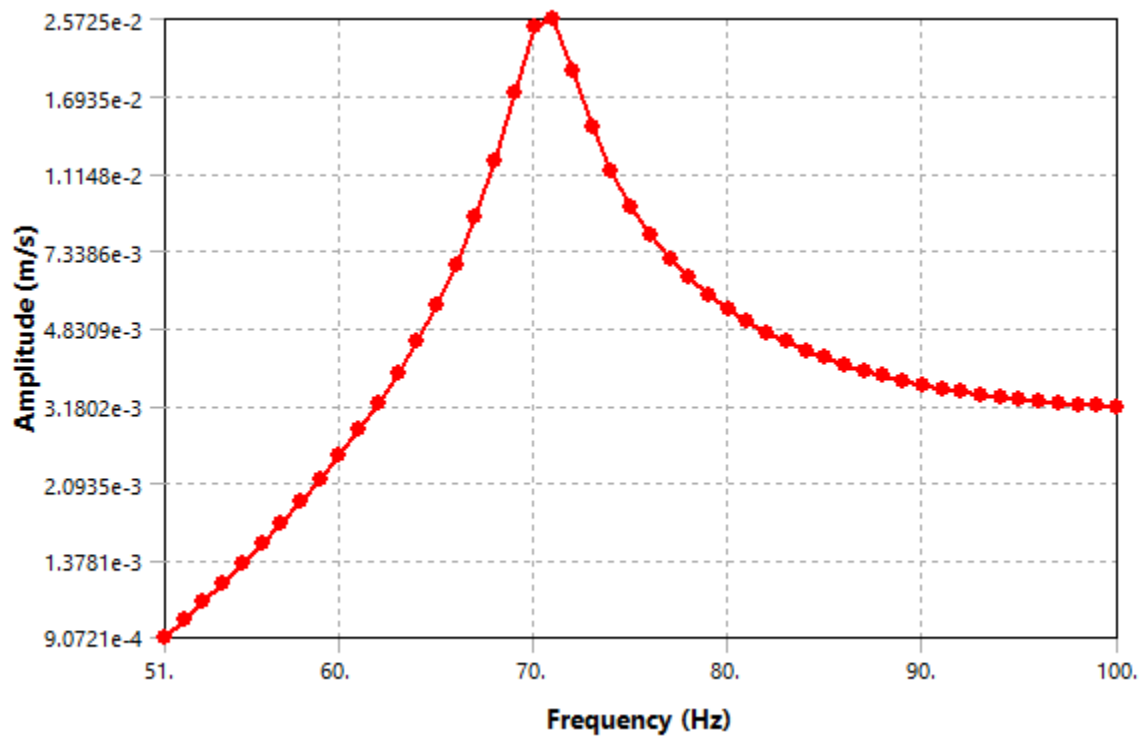


FIGURE 52

Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM8x

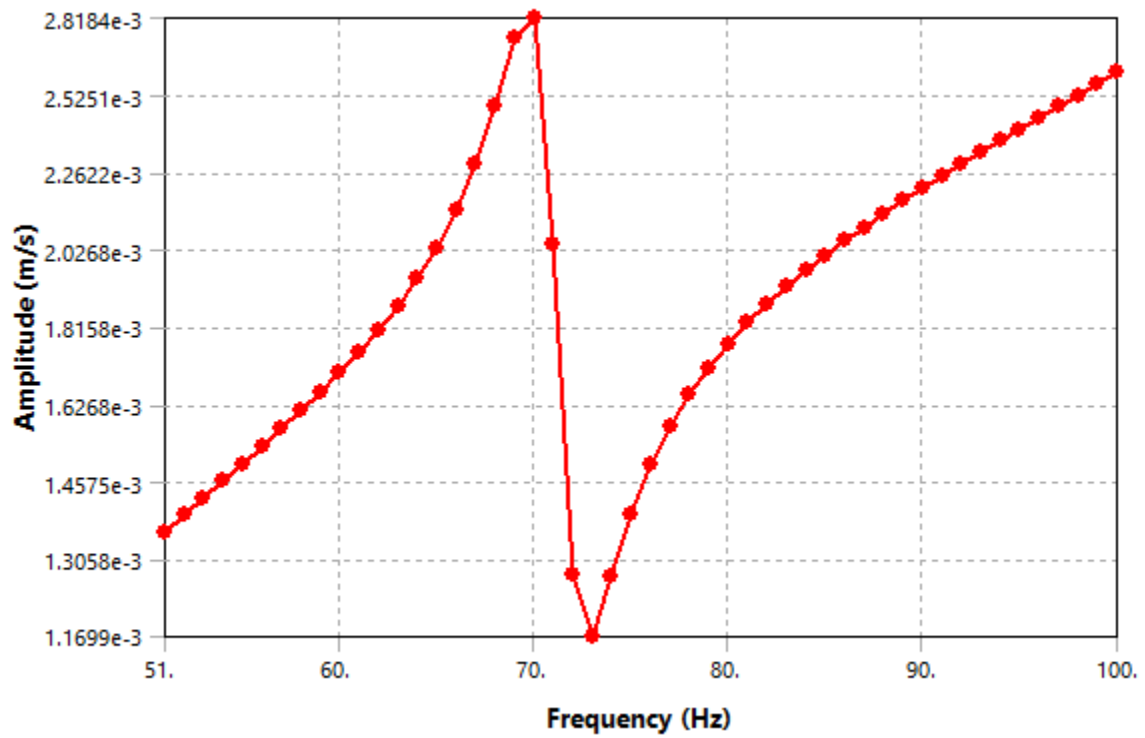
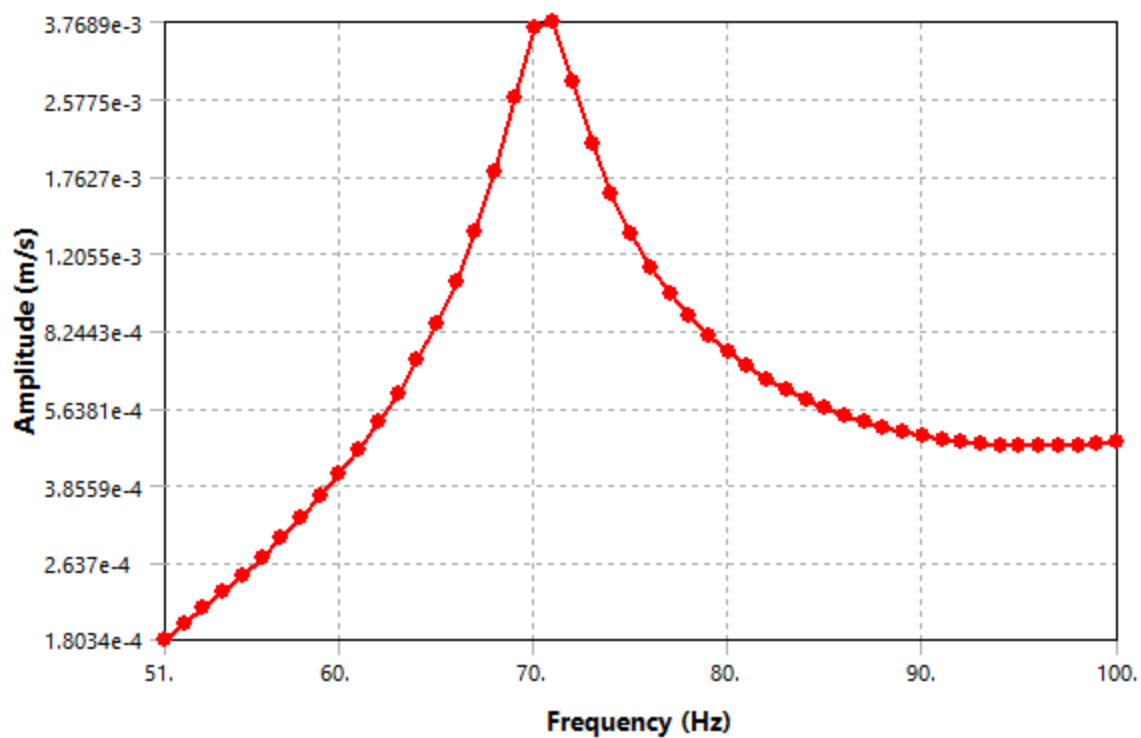
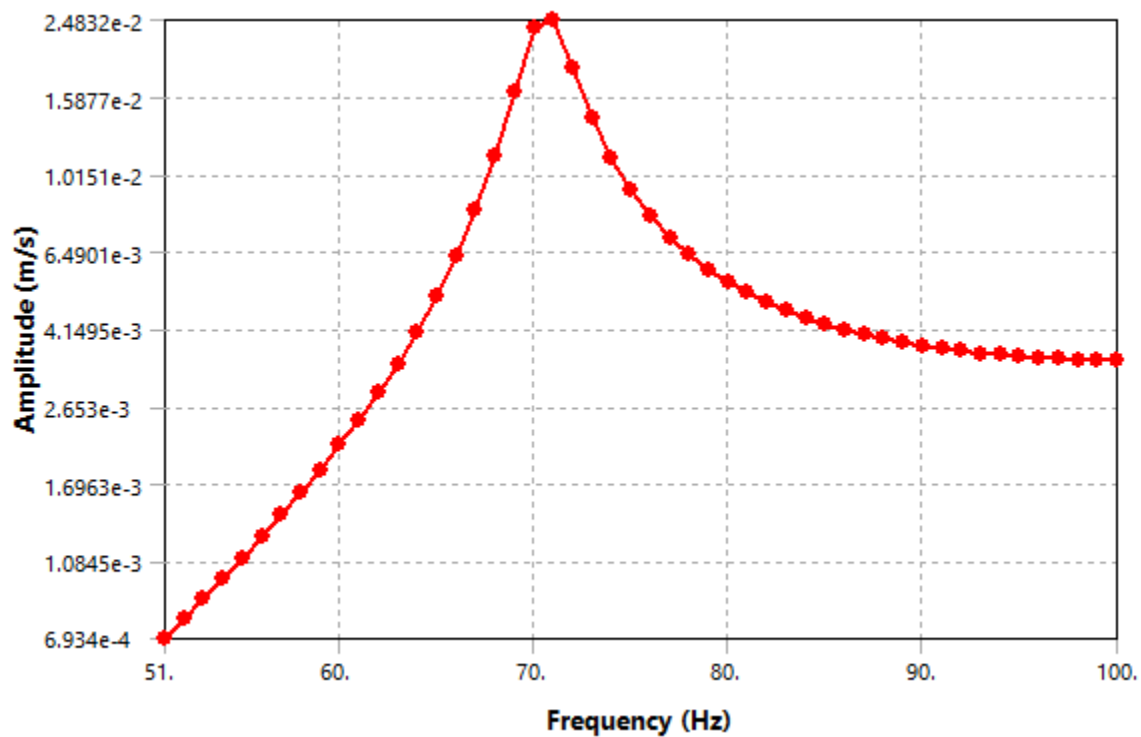


FIGURE 53

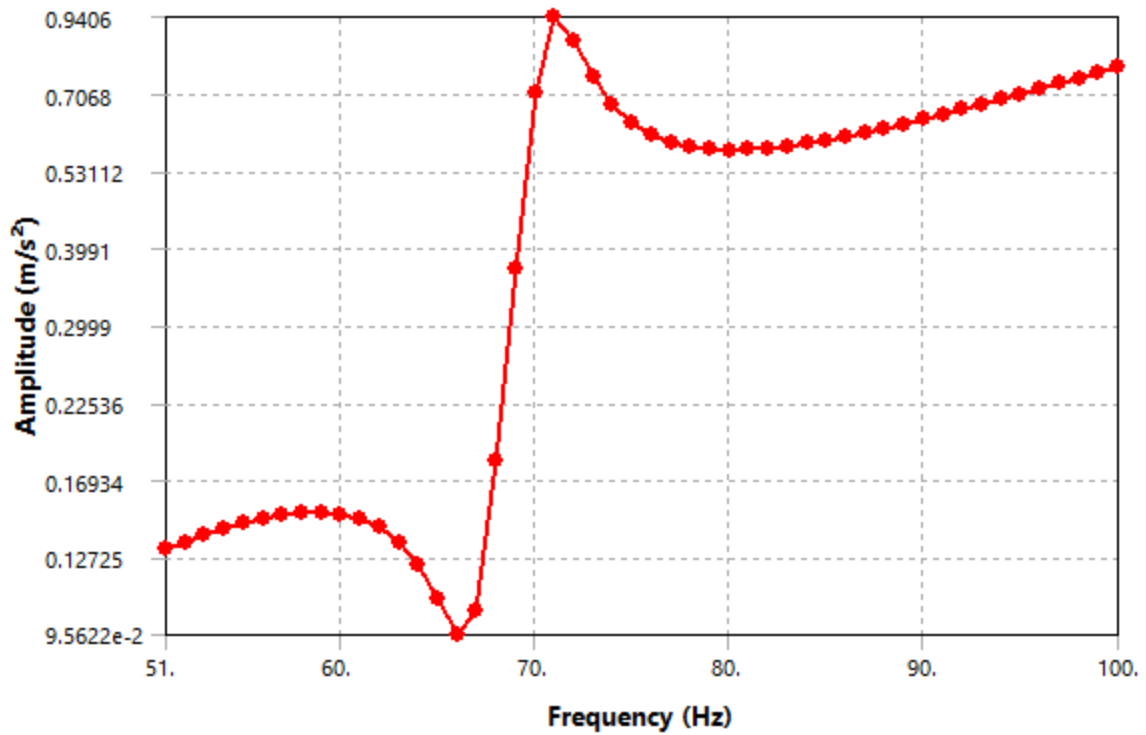
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM8y



**FIGURE 54**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM8z**

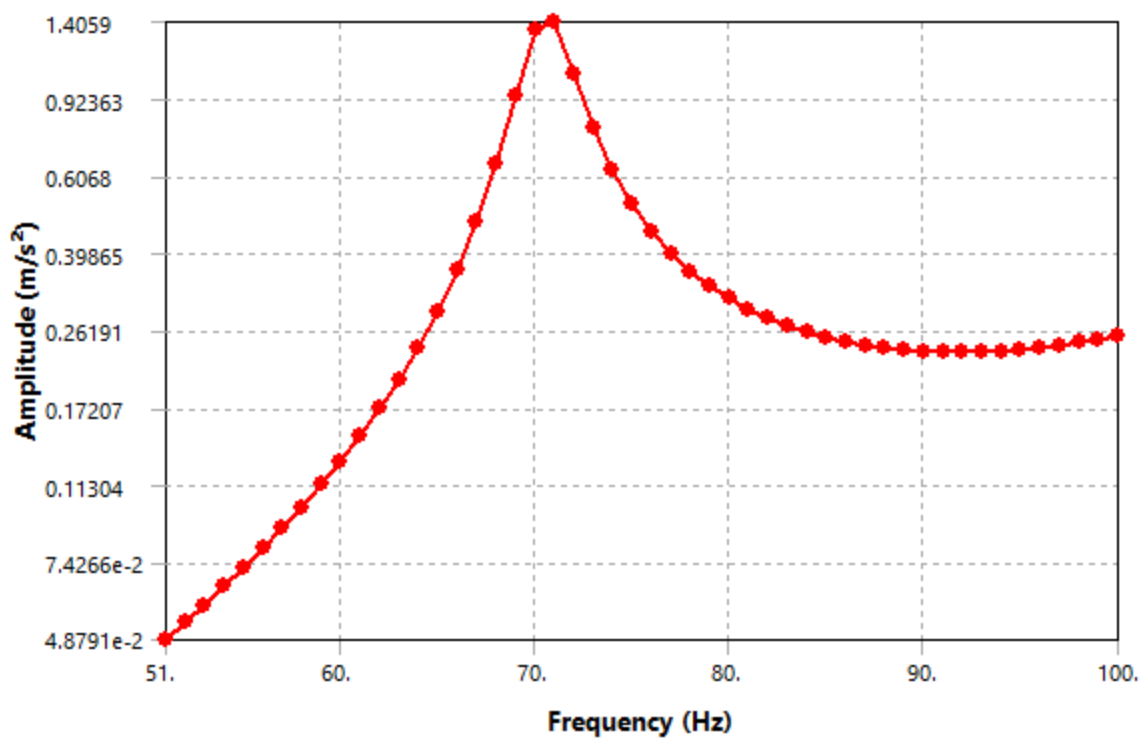


**FIGURE 55**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM2x**

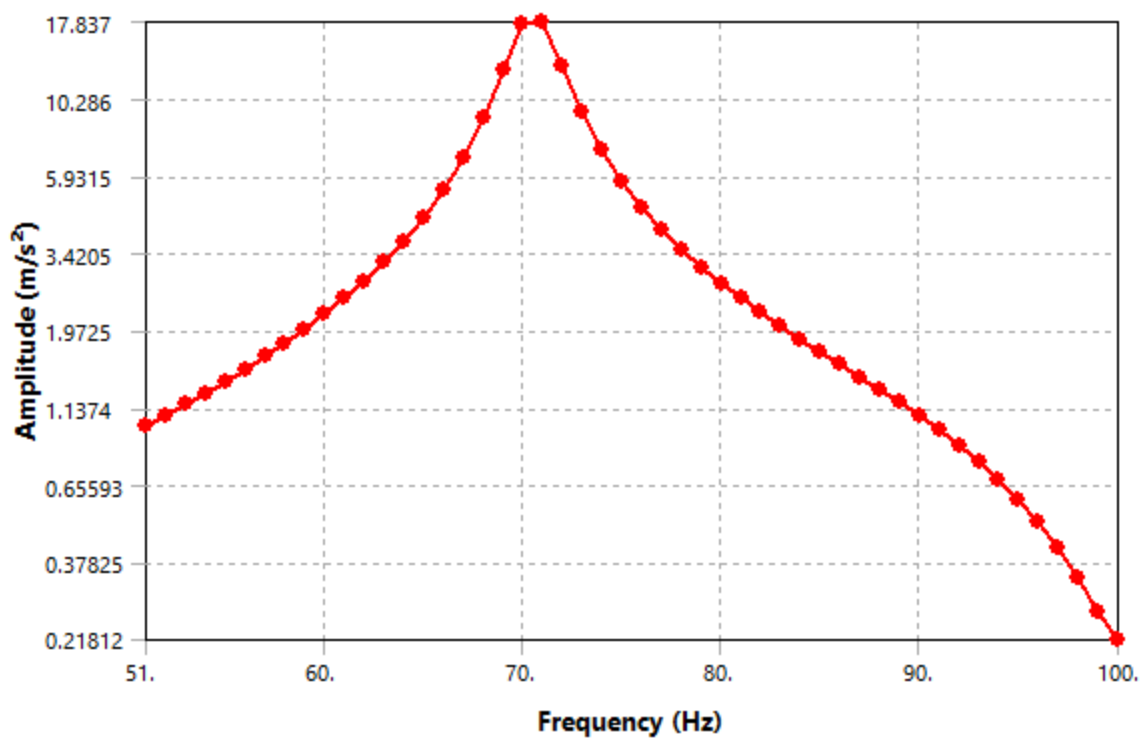


**FIGURE 56**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM2y**

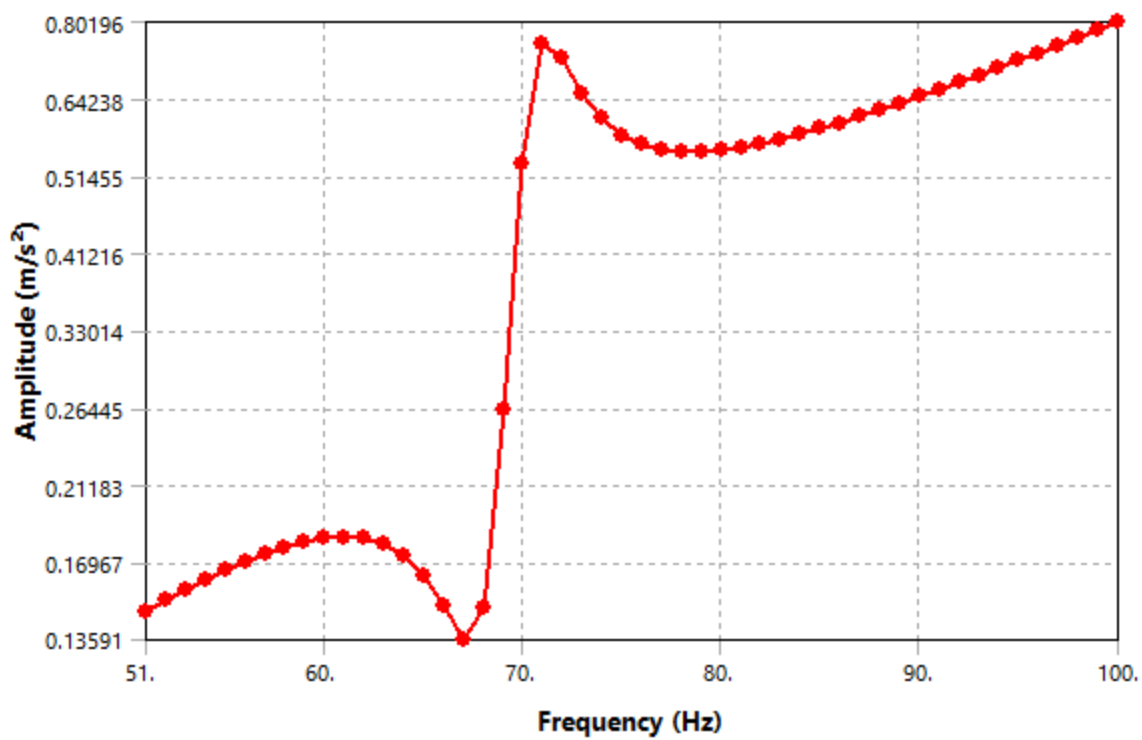




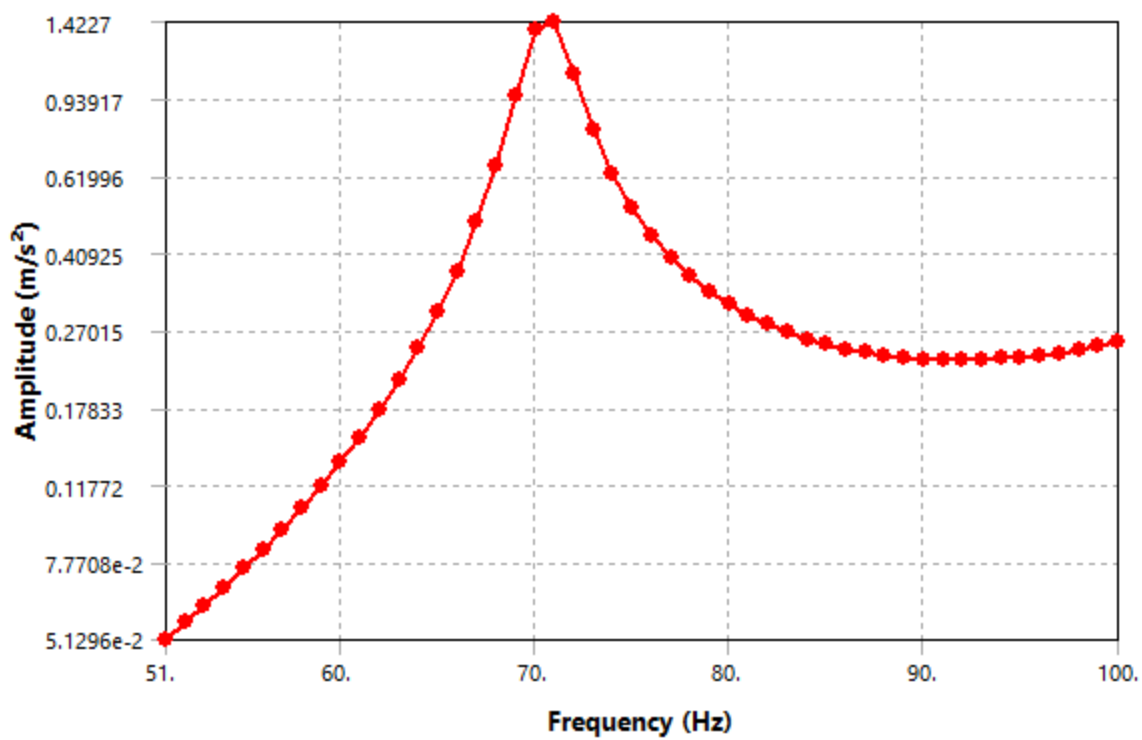
**FIGURE 57**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM2z**



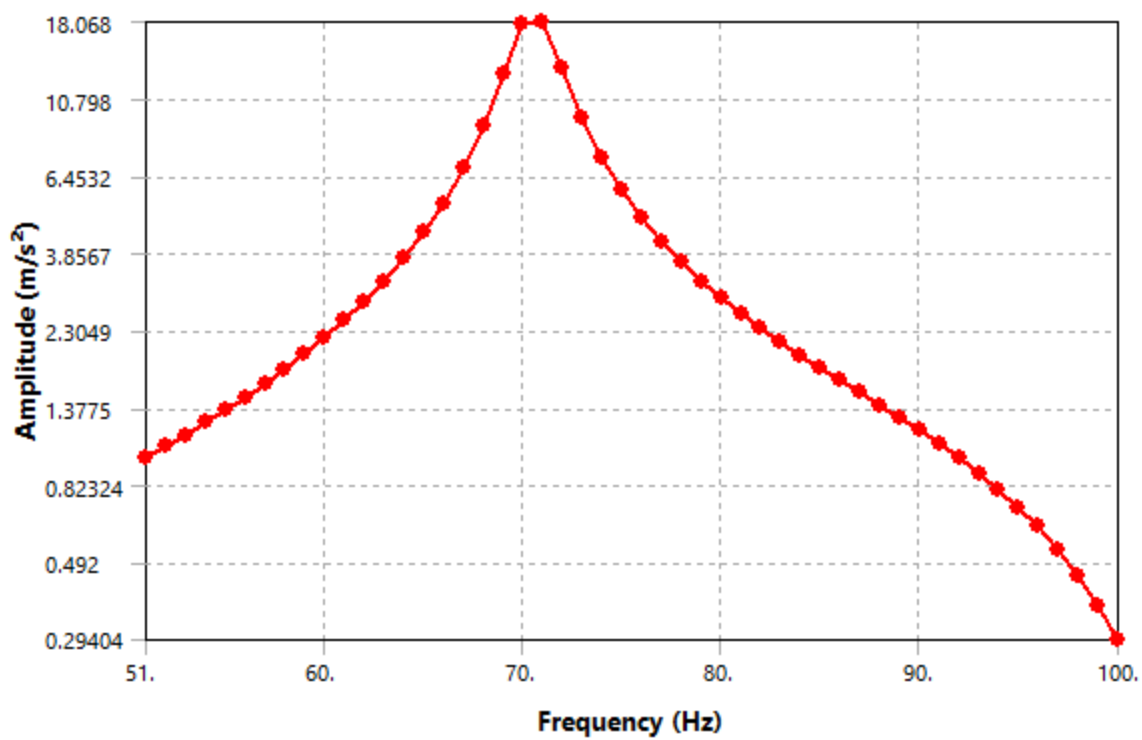
**FIGURE 58**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM3x**



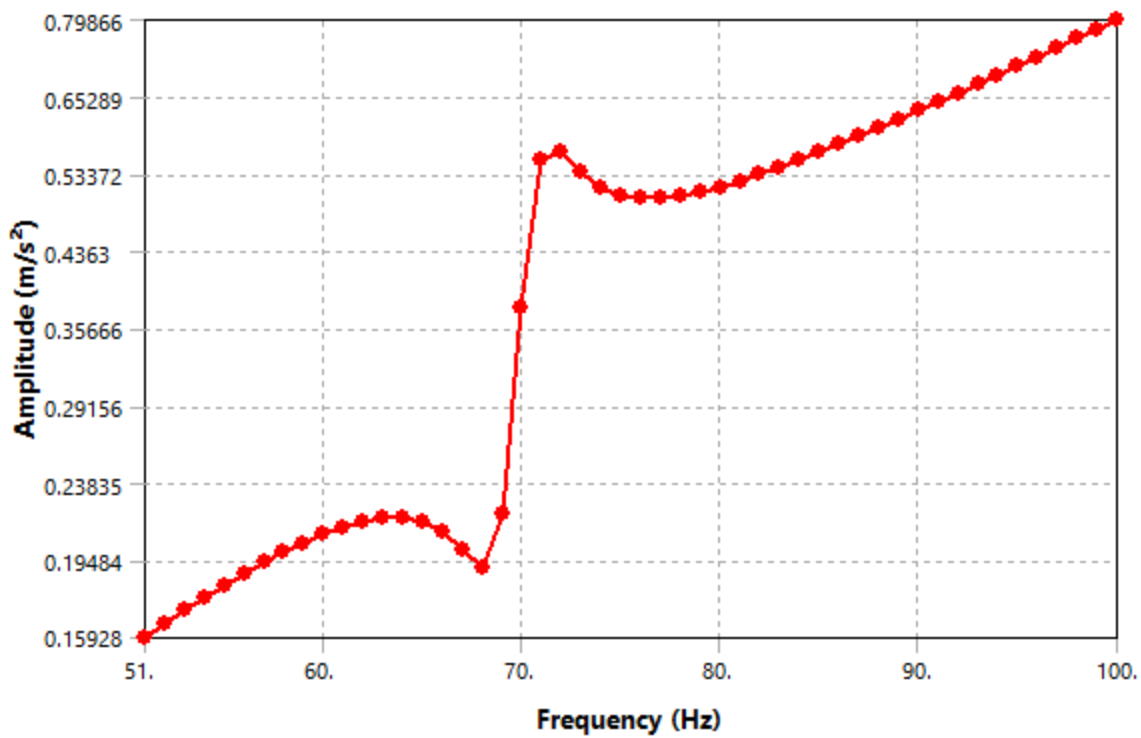
**FIGURE 59**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM3y**



**FIGURE 60**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM3z**



**FIGURE 61**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM4x**

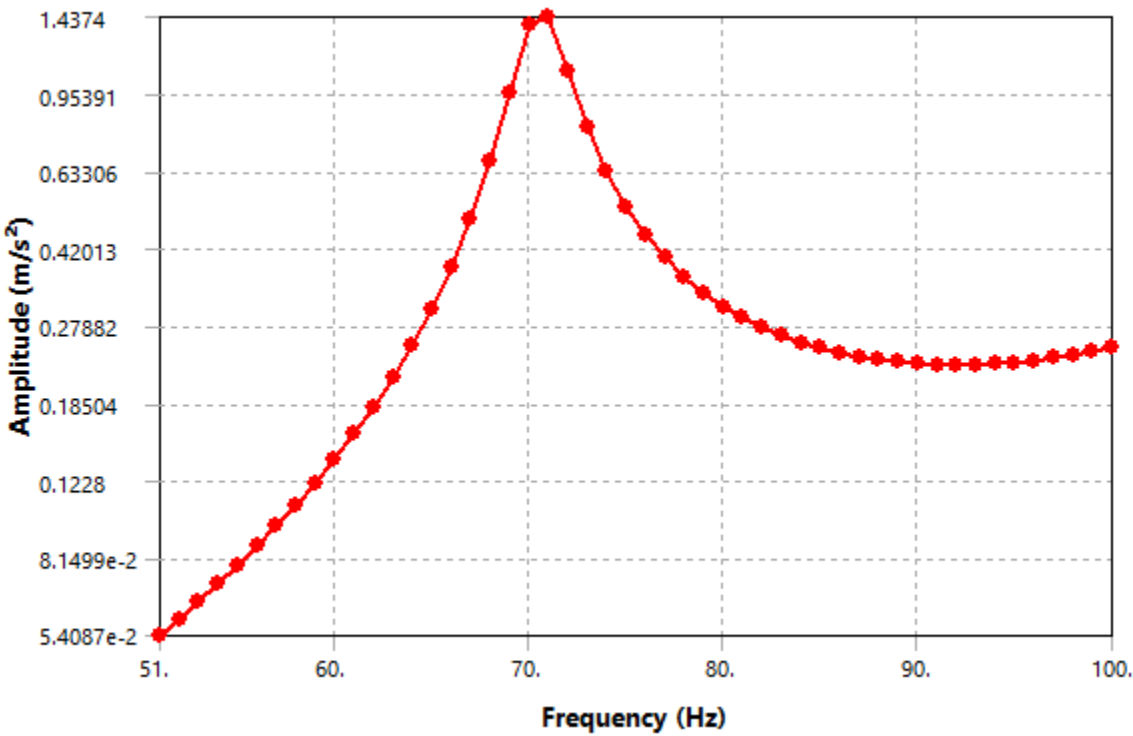


**TABLE 74**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts**

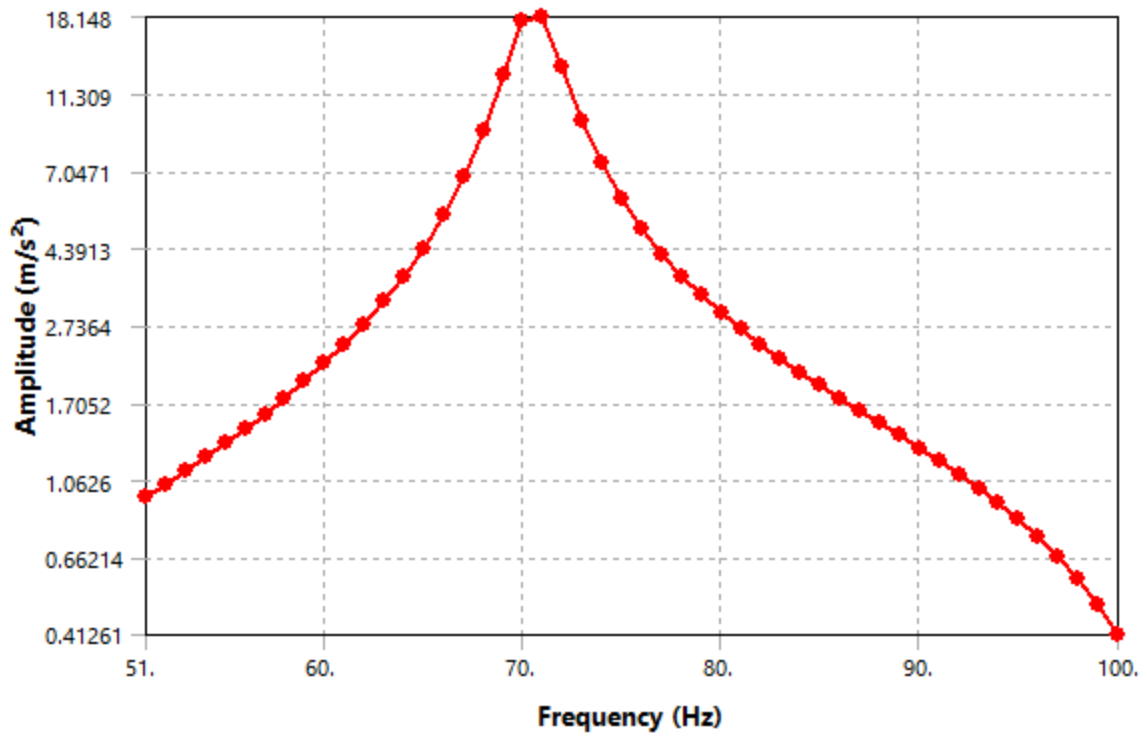
AccelerationFrequencyRespo nseDIMM5y	AccelerationFrequencyRespo nseDIMM5z	AccelerationFrequencyRespo nseDIMM6x	AccelerationFrequencyRespo nseDIMM6y	AccelerationFre nseDIM
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
Directional Acceleration				
Y Axis	Z Axis	X Axis	Y Axis	Z Ax
Global Coordinate System				
No				
Options				
Use Parent				

50. Hz				
100. Hz				
Bode				
Log Y				
Results				
1.6654 m/s <sup>2</sup>	12.387 m/s <sup>2</sup>	1.4839 m/s <sup>2</sup>	1.6772 m/s <sup>2</sup>	11.923
71. Hz		100. Hz	71. Hz	
70.202 °	-109.7 °	-1.3741 °	70.2 °	-110.0
0.56408 m/s <sup>2</sup>	-4.1746 m/s <sup>2</sup>	1.4835 m/s <sup>2</sup>	0.56813 m/s <sup>2</sup>	-4.0869
1.5669 m/s <sup>2</sup>	-11.662 m/s <sup>2</sup>	-3.5584e-002 m/s <sup>2</sup>	1.578 m/s <sup>2</sup>	-11.2

**FIGURE 62**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM4y**

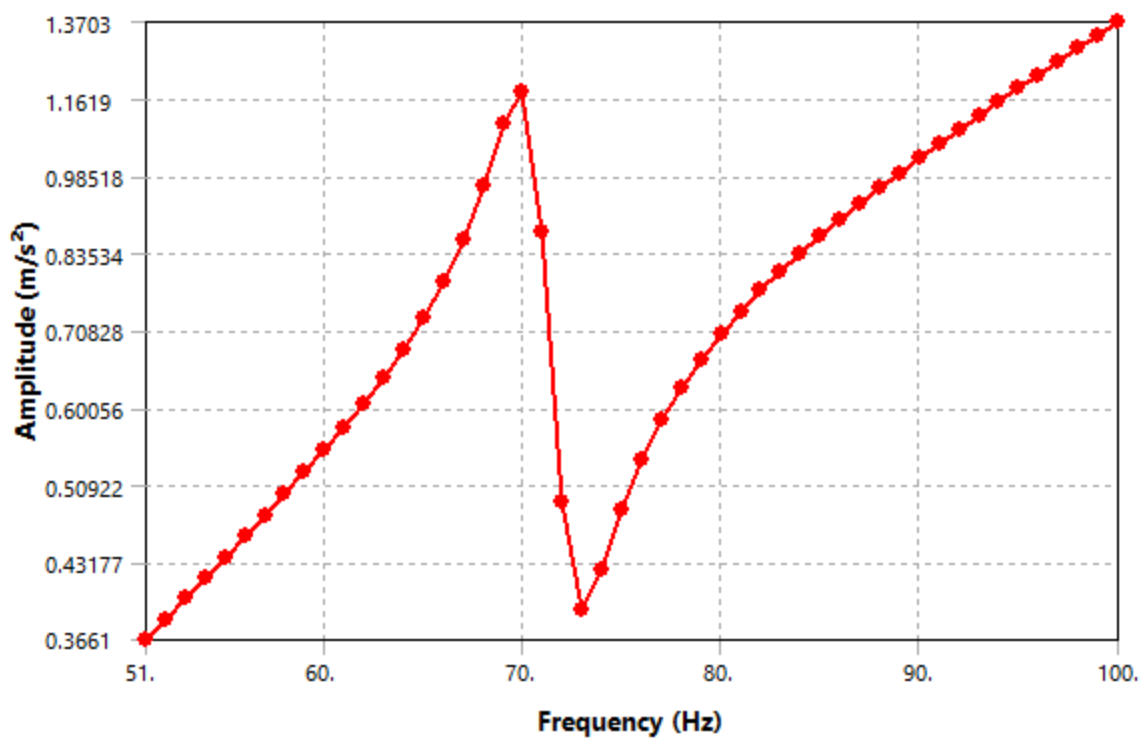


**FIGURE 63**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM4z**

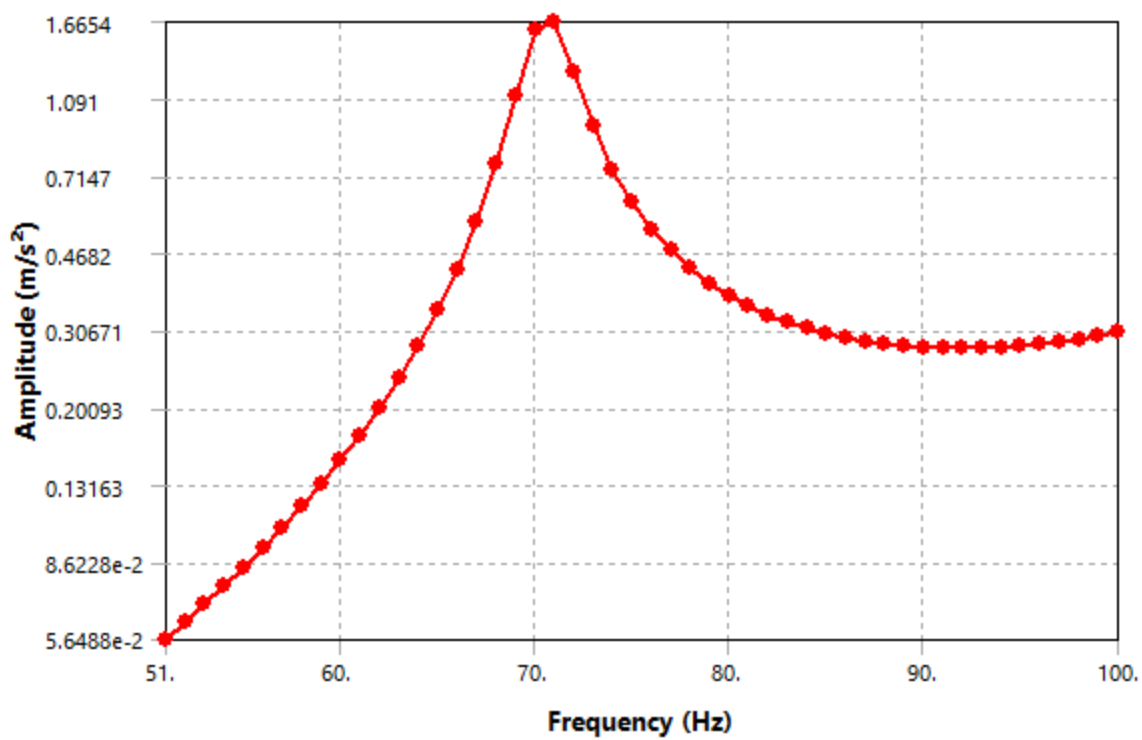


**FIGURE 64**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM5x**

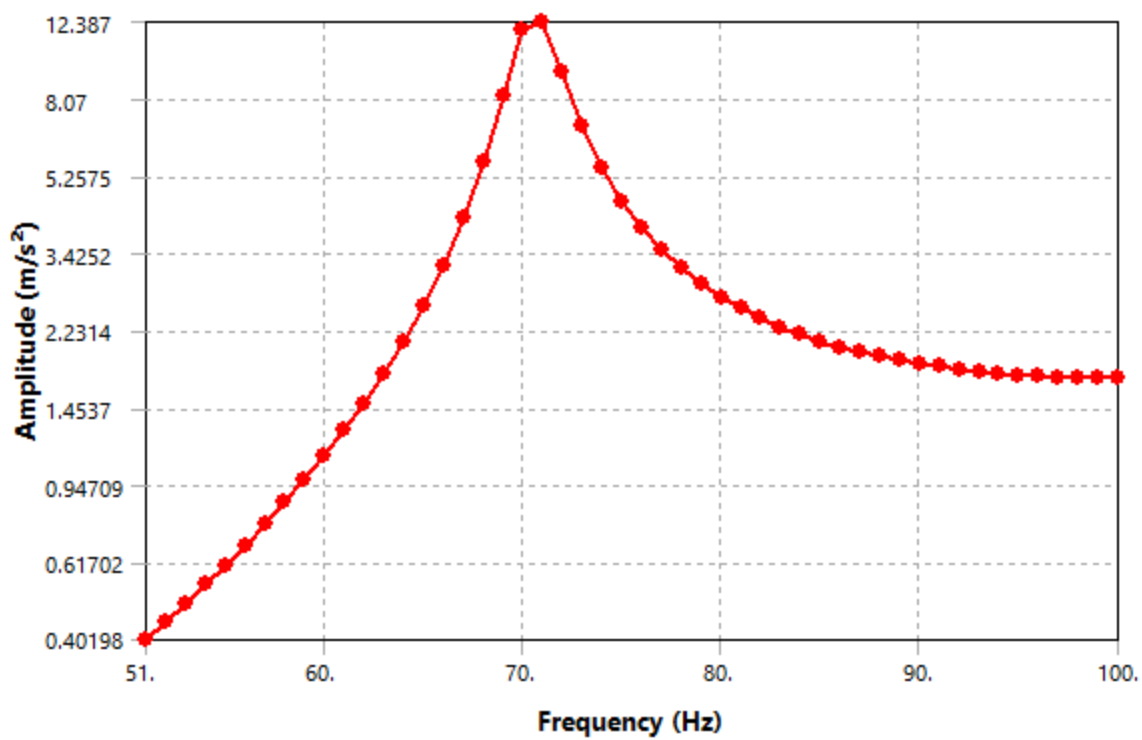




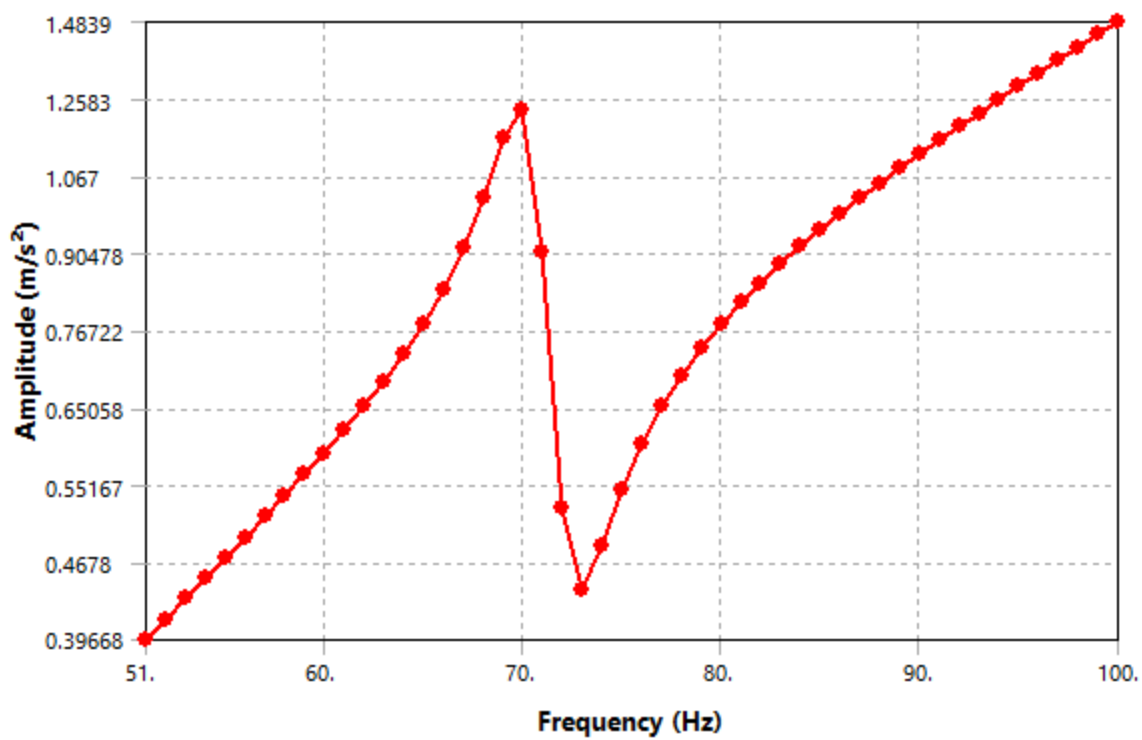
**FIGURE 65**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM5y**



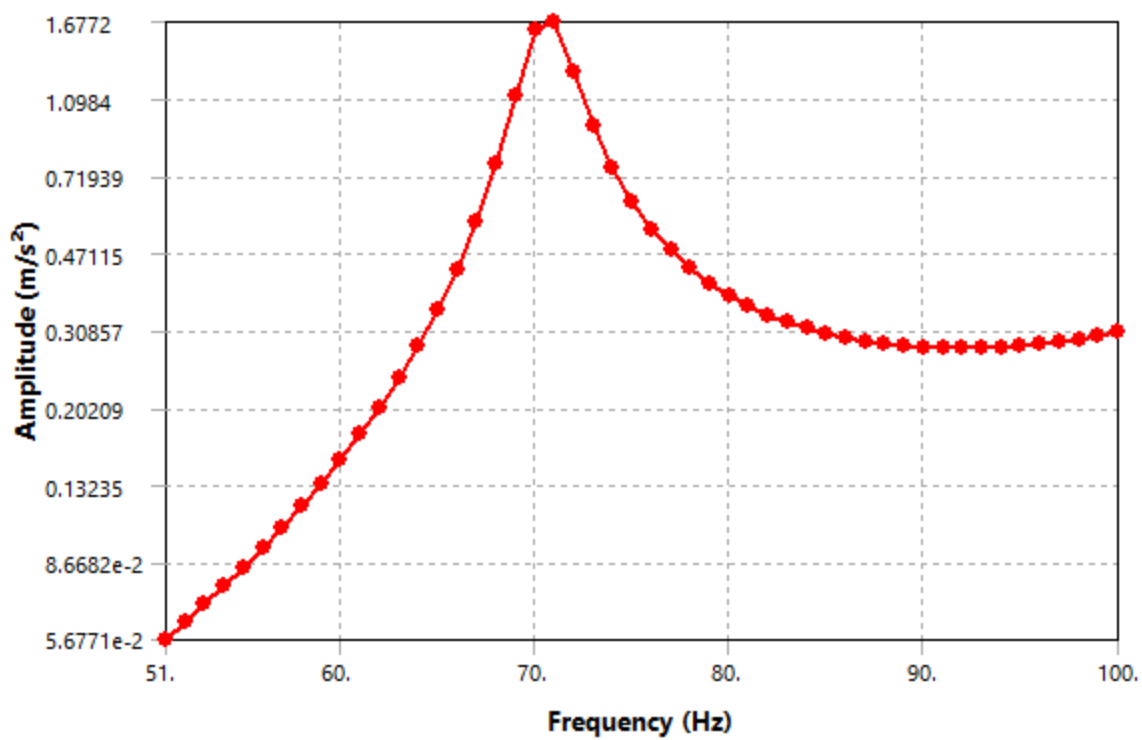
**FIGURE 66**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM5z**



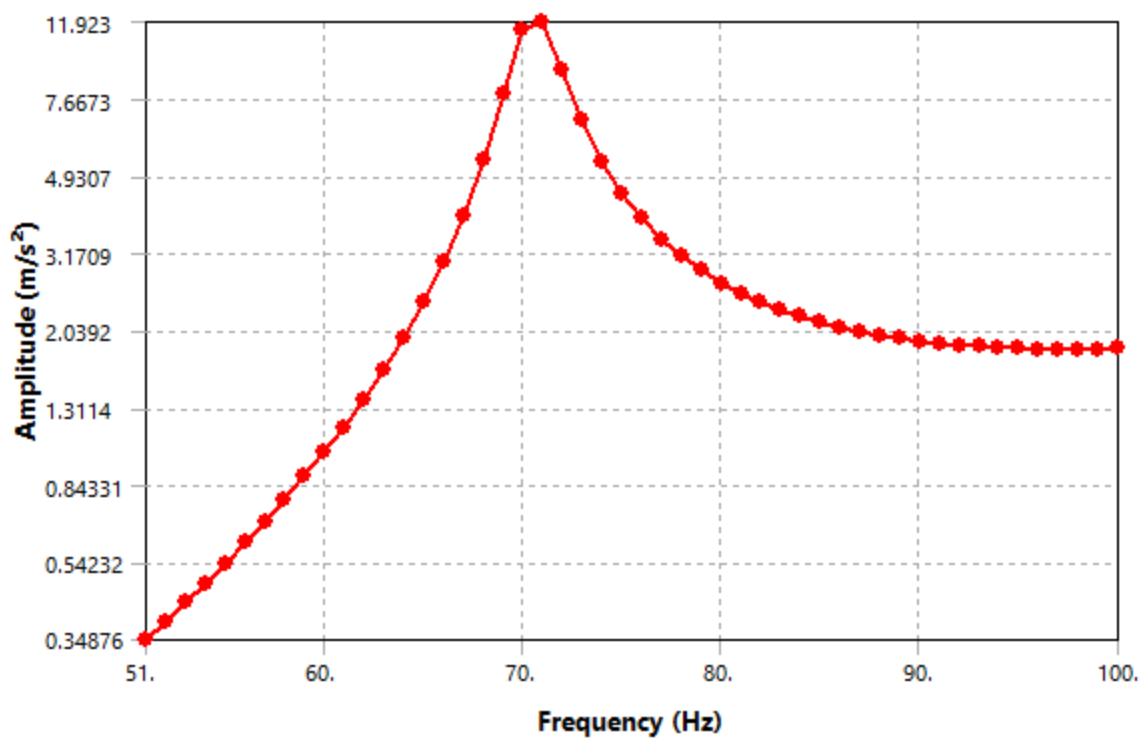
**FIGURE 67**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM6x**



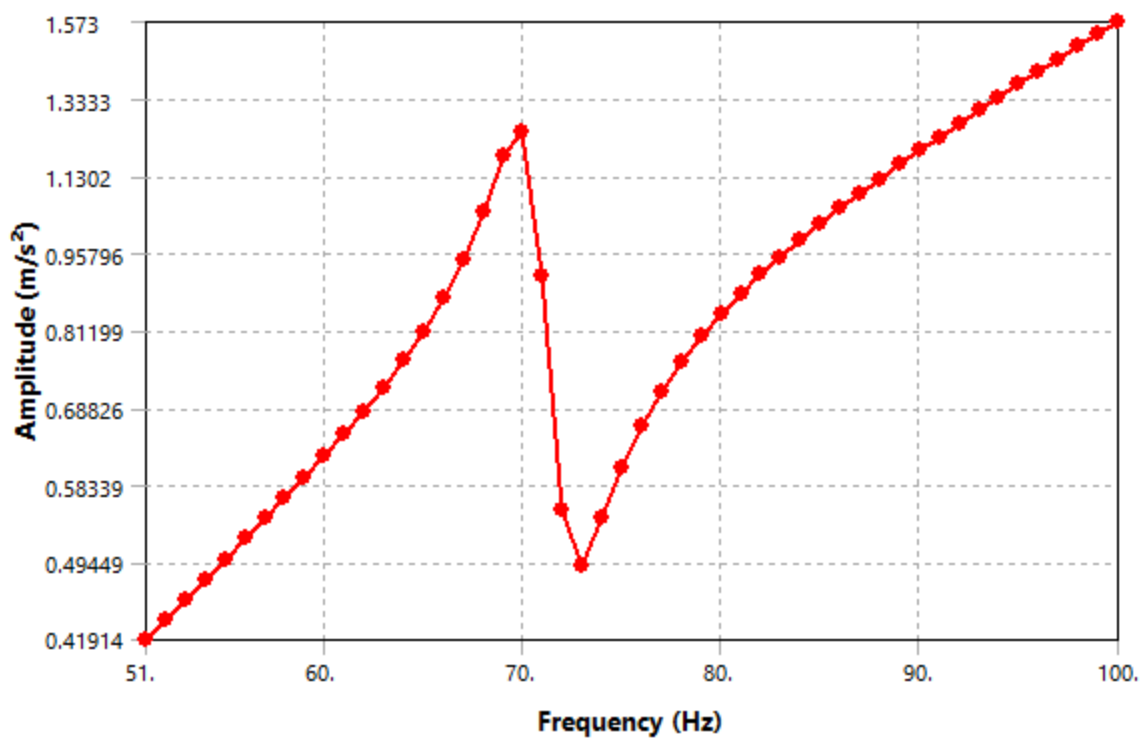
**FIGURE 68**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM6y**



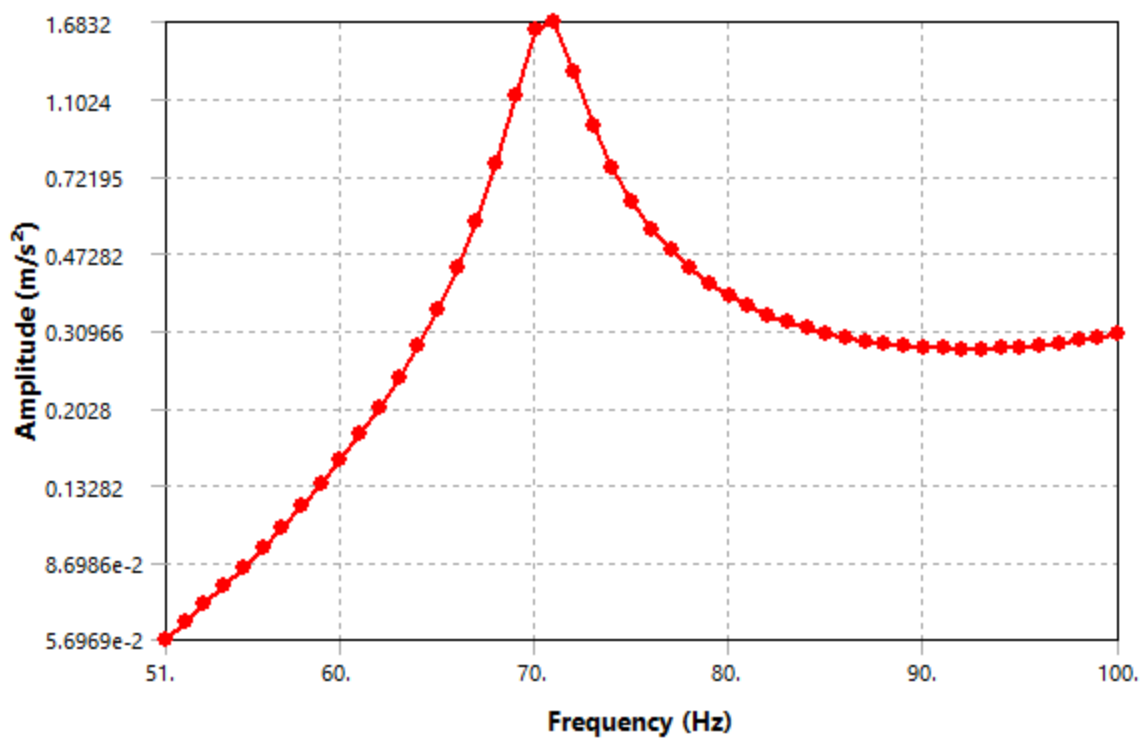
**FIGURE 69**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM6z**



**FIGURE 70**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM7x**



**FIGURE 71**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM7y**



**FIGURE 72**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM7z**

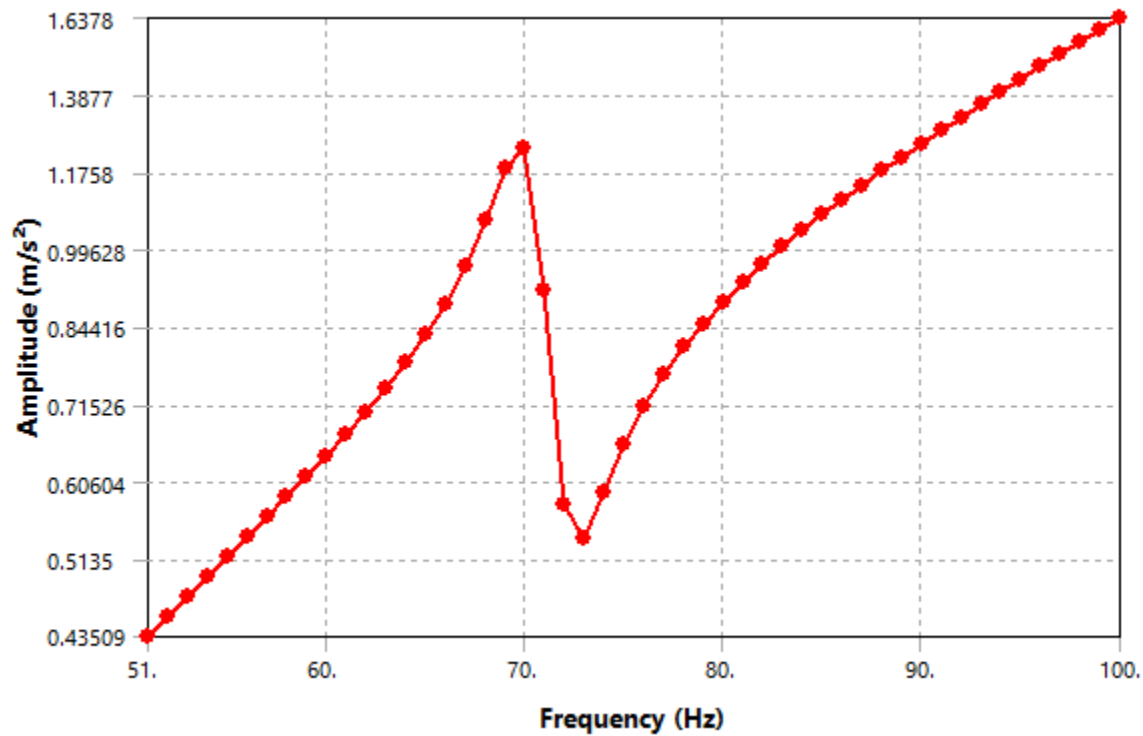




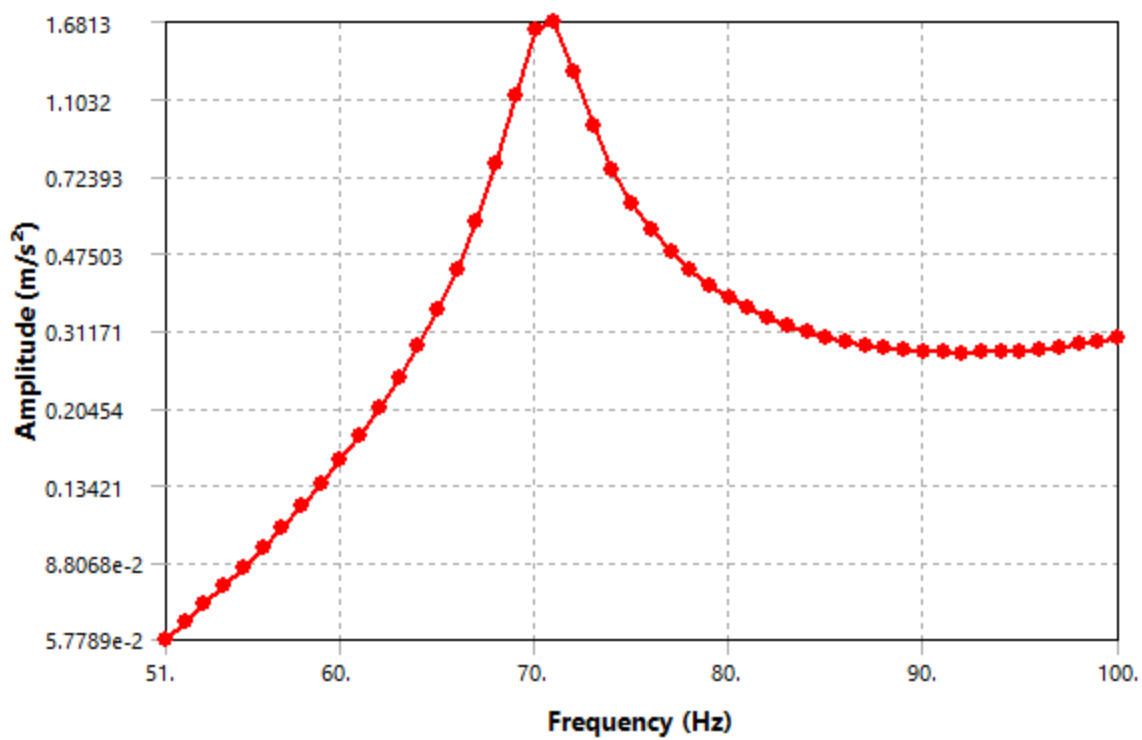
Log Y

Results			
1.6813 m/s <sup>2</sup>	11.078 m/s <sup>2</sup>	6.4081e-006 m	8.448
71. Hz		70. Hz	
70.263 °	-111.04 °	146.3 °	-10
0.56778 m/s <sup>2</sup>	-3.9768 m/s <sup>2</sup>	-5.331e-006 m	-2.85
1.5825 m/s <sup>2</sup>	-10.339 m/s <sup>2</sup>	3.5558e-006 m	-7.952

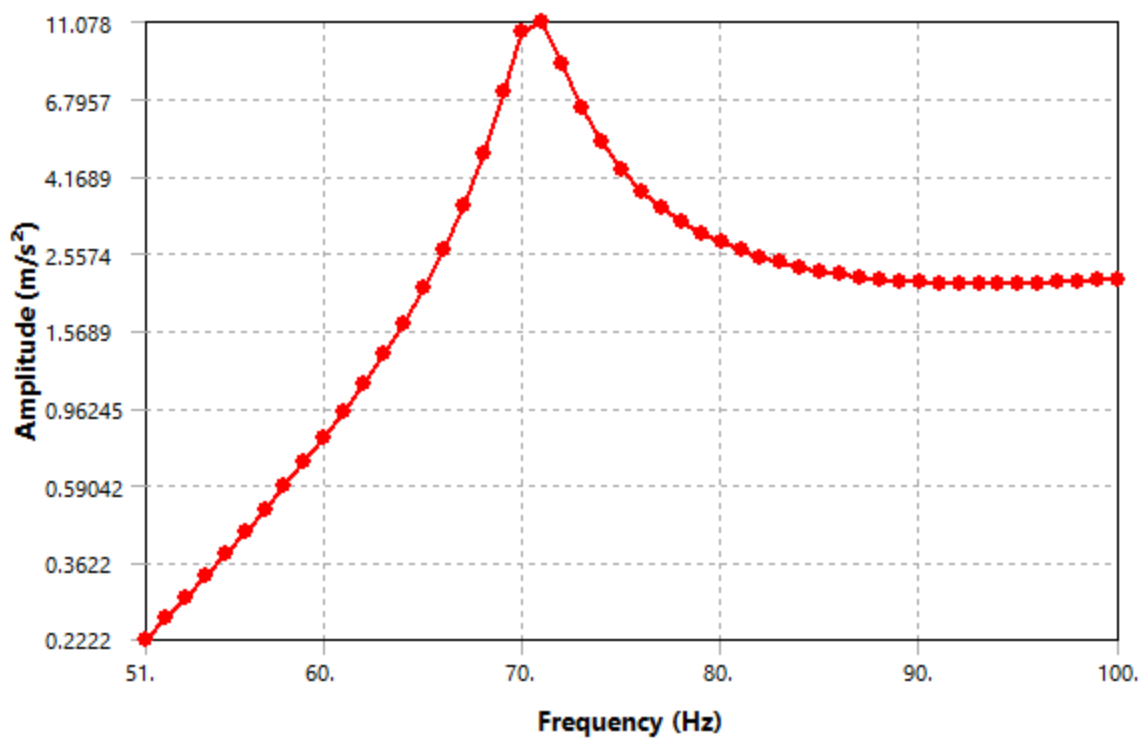
**FIGURE 73**  
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >  
AccelerationFrequencyResponseDIMM8x



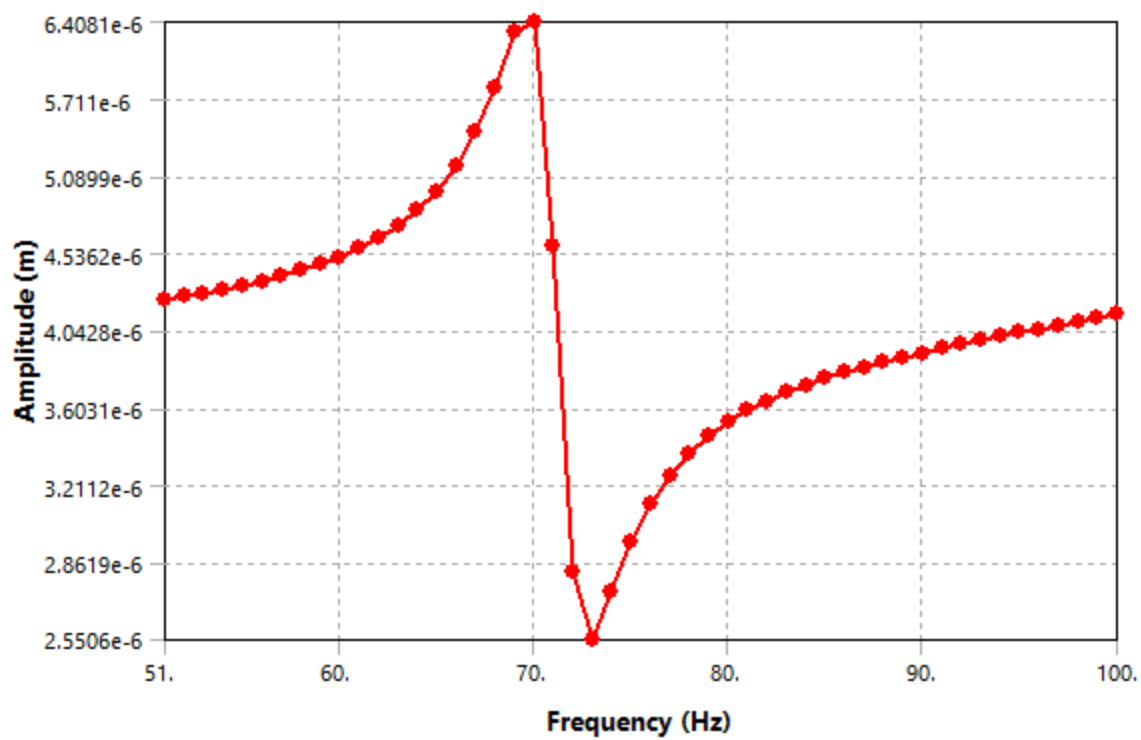
**FIGURE 74**  
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >  
AccelerationFrequencyResponseDIMM8y



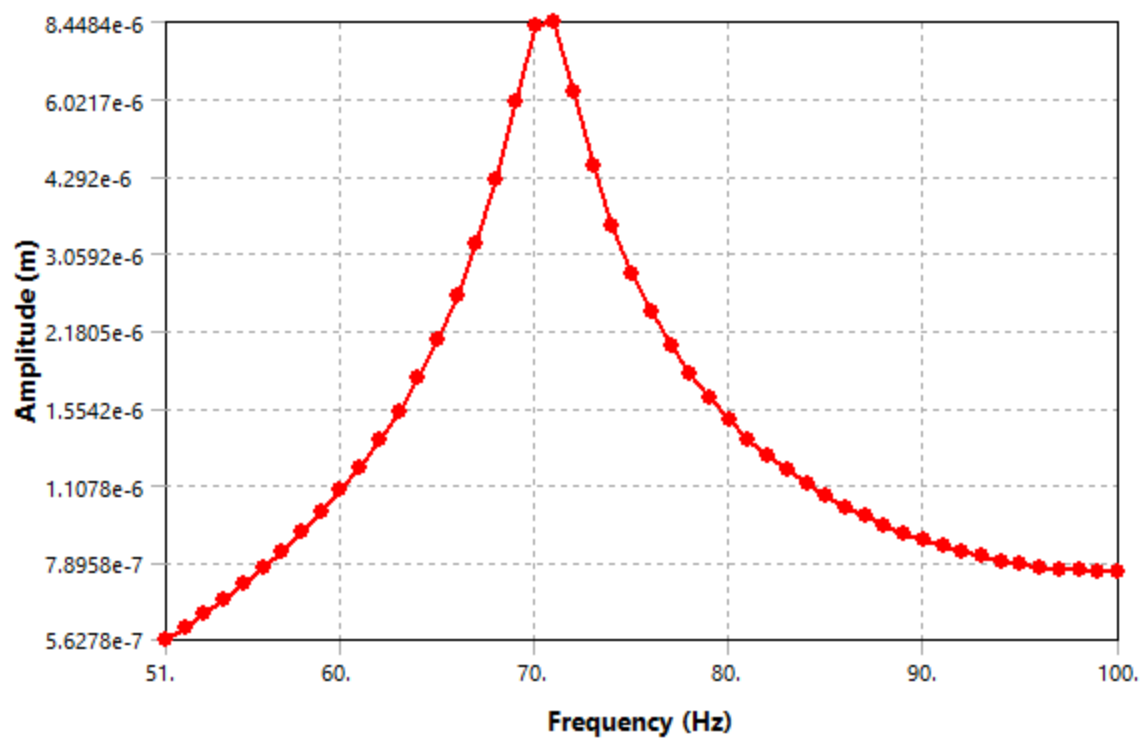
**FIGURE 75**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**AccelerationFrequencyResponseDIMM8z**



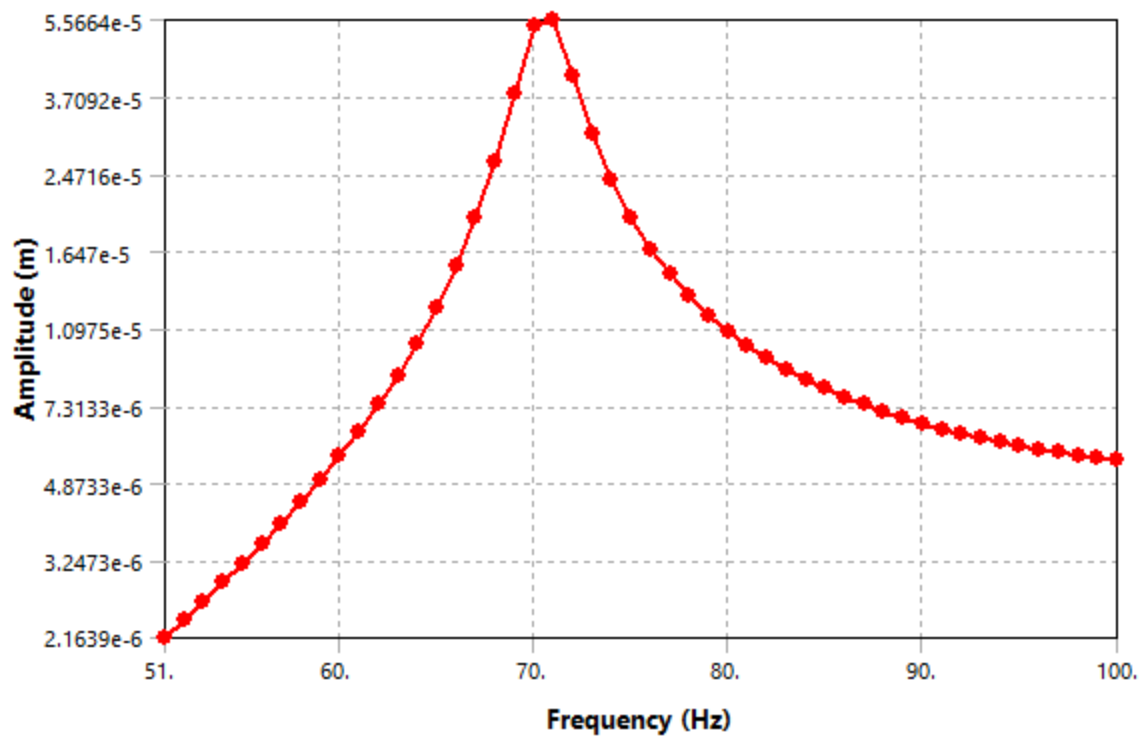
**FIGURE 76**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM8x**



**FIGURE 77**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM8y**



**FIGURE 78**  
**Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >**  
**DeformationFrequencyResponseDIMM8z**



## Material Data

### Steel

**TABLE 76**  
**Steel > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
2.05e+011	0.29	1.627e+011	7.9457e+010

**TABLE 77**  
**Steel > Density**

Density kg m <sup>-3</sup>
7870

**TABLE 78**  
**Steel > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion C <sup>-1</sup>
Zero-Thermal-Strain Reference Temperature C
22

**TABLE 79**  
**Steel > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 80**  
**Steel > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
4.2e+008

**TABLE 81**  
**Steel > Specific Heat Constant Pressure**

Specific Heat J kg <sup>-1</sup> C <sup>-1</sup>
486

**TABLE 82**  
**Steel > Isotropic Thermal Conductivity**

Thermal Conductivity W m <sup>-1</sup> C <sup>-1</sup>
51.9

## ***Aluminum 6061-T6; 6061-T651***

**TABLE 83**  
**Aluminum 6061-T6; 6061-T651 > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
6.895e+010	0.33	6.7598e+010	2.5921e+010

**TABLE 84**  
**Aluminum 6061-T6; 6061-T651 > Density**

Density kg m <sup>-3</sup>
2700

**TABLE 85**  
**Aluminum 6061-T6; 6061-T651 > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion C <sup>-1</sup>
Zero-Thermal-Strain Reference Temperature C
22

**TABLE 86**  
**Aluminum 6061-T6; 6061-T651 > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 87**  
**Aluminum 6061-T6; 6061-T651 > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
3.103e+008

**TABLE 88**  
**Aluminum 6061-T6; 6061-T651 > Specific Heat Constant Pressure**

Specific Heat J kg <sup>-1</sup> C <sup>-1</sup>
896

**TABLE 89**  
**Aluminum 6061-T6; 6061-T651 > Isotropic Thermal Conductivity**



Thermal Conductivity W m <sup>-1</sup> C <sup>-1</sup>
167.2

## Structural Steel

**TABLE 90**  
**Structural Steel > Constants**

Density	7850 kg m <sup>-3</sup>
Coefficient of Thermal Expansion	1.2e-005 C <sup>-1</sup>
Specific Heat	434 J kg <sup>-1</sup> C <sup>-1</sup>
Thermal Conductivity	60.5 W m <sup>-1</sup> C <sup>-1</sup>
Resistivity	1.7e-007 ohm m

**TABLE 91**  
**Structural Steel > Color**

Red	Green	Blue
132	139	179

**TABLE 92**  
**Structural Steel > Compressive Ultimate Strength**

Compressive Ultimate Strength Pa
0

**TABLE 93**  
**Structural Steel > Compressive Yield Strength**

Compressive Yield Strength Pa
2.5e+008

**TABLE 94**  
**Structural Steel > Tensile Yield Strength**

Tensile Yield Strength Pa
2.5e+008

**TABLE 95**  
**Structural Steel > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
4.6e+008

**TABLE 96**  
**Structural Steel > Isotropic Secant Coefficient of Thermal Expansion**

Zero-Thermal-Strain Reference Temperature C
22

**TABLE 97**  
**Structural Steel > S-N Curve**

Alternating Stress Pa	Cycles	Mean Stress Pa
3.999e+009	10	0
2.827e+009	20	0
1.896e+009	50	0

1.413e+009	100	0
1.069e+009	200	0
4.41e+008	2000	0
2.62e+008	10000	0
2.14e+008	20000	0
1.38e+008	1.e+005	0
1.14e+008	2.e+005	0
8.62e+007	1.e+006	0

**TABLE 98**  
**Structural Steel > Strain-Life Parameters**

Strength Coefficient Pa	Strength Exponent	Ductility Coefficient	Ductility Exponent	Cyclic Strength Coefficient Pa	Cyclic Strain Hardening Exponent
9.2e+008	-0.106	0.213	-0.47	1.e+009	0.2

**TABLE 99**  
**Structural Steel > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa	Temperature C
2.e+011	0.3	1.6667e+011	7.6923e+010	

**TABLE 100**  
**Structural Steel > Isotropic Relative Permeability**

Relative Permeability
10000

## Nylon

**TABLE 101**  
**Nylon > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
3.e+009	0.42	6.25e+009	1.0563e+009

**TABLE 102**  
**Nylon > Density**

Density kg m <sup>-3</sup>
1160

**TABLE 103**  
**Nylon > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion C <sup>-1</sup>
Zero-Thermal-Strain Reference Temperature C
22

**TABLE 104**  
**Nylon > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 105**  
**Nylon > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
7.e+007

**TABLE 106**  
**Nylon > Specific Heat Constant Pressure**

Specific Heat J kg <sup>-1</sup> C <sup>-1</sup>
950

**TABLE 107**  
**Nylon > Isotropic Thermal Conductivity**

Thermal Conductivity W m <sup>-1</sup> C <sup>-1</sup>
0.285

## *Aluminum Scaled*

**TABLE 108**  
**Aluminum Scaled > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
6.895e+010	0.33	6.7598e+010	2.5921e+010

**TABLE 109**  
**Aluminum Scaled > Density**

Density kg m <sup>-3</sup>
1000

**TABLE 110**  
**Aluminum Scaled > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion C <sup>-1</sup>
Zero-Thermal-Strain Reference Temperature C
22

**TABLE 111**  
**Aluminum Scaled > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 112**  
**Aluminum Scaled > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
3.103e+008

**TABLE 113**  
**Aluminum Scaled > Specific Heat Constant Pressure**

Specific Heat J kg <sup>-1</sup> C <sup>-1</sup>
896

**TABLE 114**  
**Aluminum Scaled > Isotropic Thermal Conductivity**

Thermal Conductivity W m <sup>-1</sup> C <sup>-1</sup>
167.2

## LCP

**TABLE 115**  
**LCP > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
2.e+009	0.36	2.381e+009	7.3529e+008

**TABLE 116**  
**LCP > Density**

Density kg m <sup>-3</sup>
1760

**TABLE 117**  
**LCP > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion C <sup>-1</sup>
Zero-Thermal-Strain Reference Temperature C
22

**TABLE 118**  
**LCP > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 119**  
**LCP > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
1.17e+008

**TABLE 120**  
**LCP > Specific Heat Constant Pressure**

Specific Heat J kg <sup>-1</sup> C <sup>-1</sup>
1850

**TABLE 121**  
**LCP > Isotropic Thermal Conductivity**

Thermal Conductivity W m <sup>-1</sup> C <sup>-1</sup>
0.18

## Glass Epoxy Composite

**TABLE 122**  
**Glass Epoxy Composite > Isotropic Elasticity**

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
2.14e+010	0.3	1.7833e+010	8.2308e+009

**TABLE 123**  
**Glass Epoxy Composite > Density**

Density kg m <sup>-3</sup>
7300

**TABLE 124**  
**Glass Epoxy Composite > Isotropic Secant Coefficient of Thermal Expansion**

Coefficient of Thermal Expansion $^{\circ}\text{C}^{-1}$
Zero-Thermal-Strain Reference Temperature $^{\circ}\text{C}$
22

**TABLE 125**  
**Glass Epoxy Composite > Tensile Yield Strength**

Tensile Yield Strength Pa
---------------------------

**TABLE 126**  
**Glass Epoxy Composite > Tensile Ultimate Strength**

Tensile Ultimate Strength Pa
3.19e+008

**TABLE 127**  
**Glass Epoxy Composite > Specific Heat Constant Pressure**

Specific Heat $\text{J kg}^{-1} ^{\circ}\text{C}^{-1}$
1620

**TABLE 128**  
**Glass Epoxy Composite > Isotropic Thermal Conductivity**

Thermal Conductivity $\text{W m}^{-1} ^{\circ}\text{C}^{-1}$
1.19