



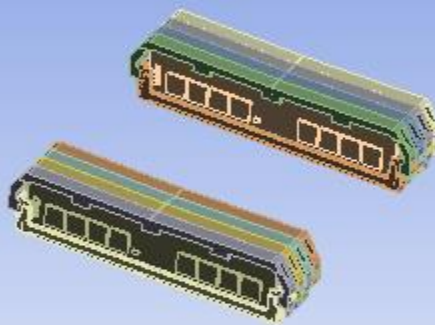
Project*

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 6:02 AM

Ansys
2022 R2



0.000 0.100 (m)
0.050



Contents

- [Units](#)
- [Model \(A4, B4\)](#)
 - [Geometry Imports](#)
 - [Geometry Import \(A3, B3\)](#)
 - [Geometry](#)
 - [Smallest](#)
 - [Parts](#)
 - [Small](#)
 - [Parts](#)
 - [Medium](#)
 - [Parts](#)
 - [Big](#)
 - [Parts](#)
 - [Biggest](#)
 - [PLATE\PLATE](#)
 - [Materials](#)
 - [Coordinate Systems](#)
 - [Connections](#)
 - [Contacts](#)
 - [Contact Regions](#)
 - [Mesh](#)
 - [Mesh Controls](#)
 - [Modal \(A5\)](#)
 - [Pre-Stress \(None\)](#)
 - [Analysis Settings](#)
 - [Fixed Support](#)
 - [Solution \(A6\)](#)
 - [Solution Information](#)
 - [Results](#)
 - [Harmonic Response \(B5\)](#)
 - [Modal \(Modal\)](#)
 - [Analysis Settings](#)
 - [Acceleration](#)
 - [Pressure](#)
 - [Solution \(B6\)](#)
 - [Solution Information](#)
 - [Result Charts](#)
- [Material Data](#)
 - [Steel](#)
 - [Aluminum 6061-T6; 6061-T651](#)
 - [Structural Steel](#)
 - [Nylon](#)
 - [Aluminum Scaled](#)
 - [LCP](#)
 - [Glass Epoxy Composite](#)

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	Geometry Imports
State	Solved

TABLE 3
Model (A4, B4) > Geometry Imports > Geometry Import (A3, B3)

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

Geometry

TABLE 4
Model (A4, B4) > Geometry

	Geometry
	Fully Defined
Definition	
	\\iowa.uiowa.edu\shared\Engineering\Home\makaufman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\SYS\DM\
	SpaceClaim
	Meters
	Program Controlled
	Body Color
Bounding Box	
X	0.48082 m
Y	0.55504 m

Z	4.3696e-002 m
Properties	
ie	2.1156e-003 m³
ss	8.3511 kg
le	
or	1.
ie	
Statistics	
es	111
re	111
es	
es	453910
ts	231263
ic	None
Update Options	
in	
lt	No
al	
Basic Geometry Options	
id	
es	Yes
re	
es	Yes
es	Yes
rs	Independent
er	
ey	
es	Yes
te	
ey	
ed	
is	Yes
ed	
on	
ey	
al	
es	Yes
Advanced Geometry Options	
re	
ty	Yes
te	
is	Yes
te	
ey	
er	
le	
ss	No
ed	
le	
re	
es	Yes

Does the information in this report meet your needs?	Yes
Does the information in this report meet your needs?	No
Does the information in this report meet your needs?	3-D
Does the information in this report meet your needs?	None
Does the information in this report meet your needs?	Source
Does the information in this report meet your needs?	No
Does the information in this report meet your needs?	None
Does the information in this report meet your needs?	Yes
Does the information in this report meet your needs?	Yes

Smallest

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

Object Name	SCREW-1	SCREW-2	SCREW-3	SCREW-4	LEFT-NUT-1	LEFT-NUT-2	LEFT-NUT-3	LEFT-NUT-4	LEFT-NUT-5	LEFT-NUT-6	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						
Nonlinear Effects	Yes										

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												

TABLE 7

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		8.4788e-004 m	7.3238e-002 m	8.4788e-004 m	
-8.4575e-005 m		1.9415e-002 m						

4.0912e-009 kg·m²	1.0709e-009 kg·m²							
1.2206e-008 kg·m²	1.0709e-009 kg·m²							
1.2206e-008 kg·m²	1.1596e-009 kg·m²							

Statistics								
458	450	523	518	563	574	576	549	513
215	208	241	231	257	265	268	250	233
None								

CAD Attributes								
0.00000001								

TABLE 10										
Model (A4, B4) > Geometry > Smallest > Parts										
Object Name	SCREW-22\SCREW-22	SCREW-32\SCREW-32	SCREW-42\SCREW-42	SCREW-5\SCREW-5	SCREW-6\SCREW-6	SCREW-7\SCREW-7	SCREW-8\SCREW-8	SCREW-9\SCREW-9	NUT-1\NUT-1	STANDOFF-1\STANDOFF-1
State	Hidden									

Graphics Properties								
Visible	No							
Transparency	1							

Definition								
Suppressed	No							
Mesh Behavior	Flexible							
Coordinate System	Default Coordinate System							
Reference Temperature	By Environment							
Treatment	None							

Material										
Assignment	Steel									Aluminum 6061-T6 6061-T65
Nonlinear Effects	Yes									
Thermal Strain Effects	Yes									

Bounding Box										
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
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-			
7e-002 kg			6.9735e-			
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						

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
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
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

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

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	
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	...
45	...
46	...
47	...
48	...
49	...
50	...
51	...
52	...
53	...
54	...
55	...
56	...
57	...
58	...
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	...

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
3	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

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
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
Nonlinear Effects	Yes
Thermal Strain Effects	Yes
Bounding Box	
Length X	0.43713 m
Length Y	0.48971 m
Length Z	1.5189e-003 m
Properties	
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
Statistics	
Nodes	3118
Elements	411
Mesh Metric	None
CAD Attributes	
PartTolerance:	0.00000001

Color:143.175.143

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

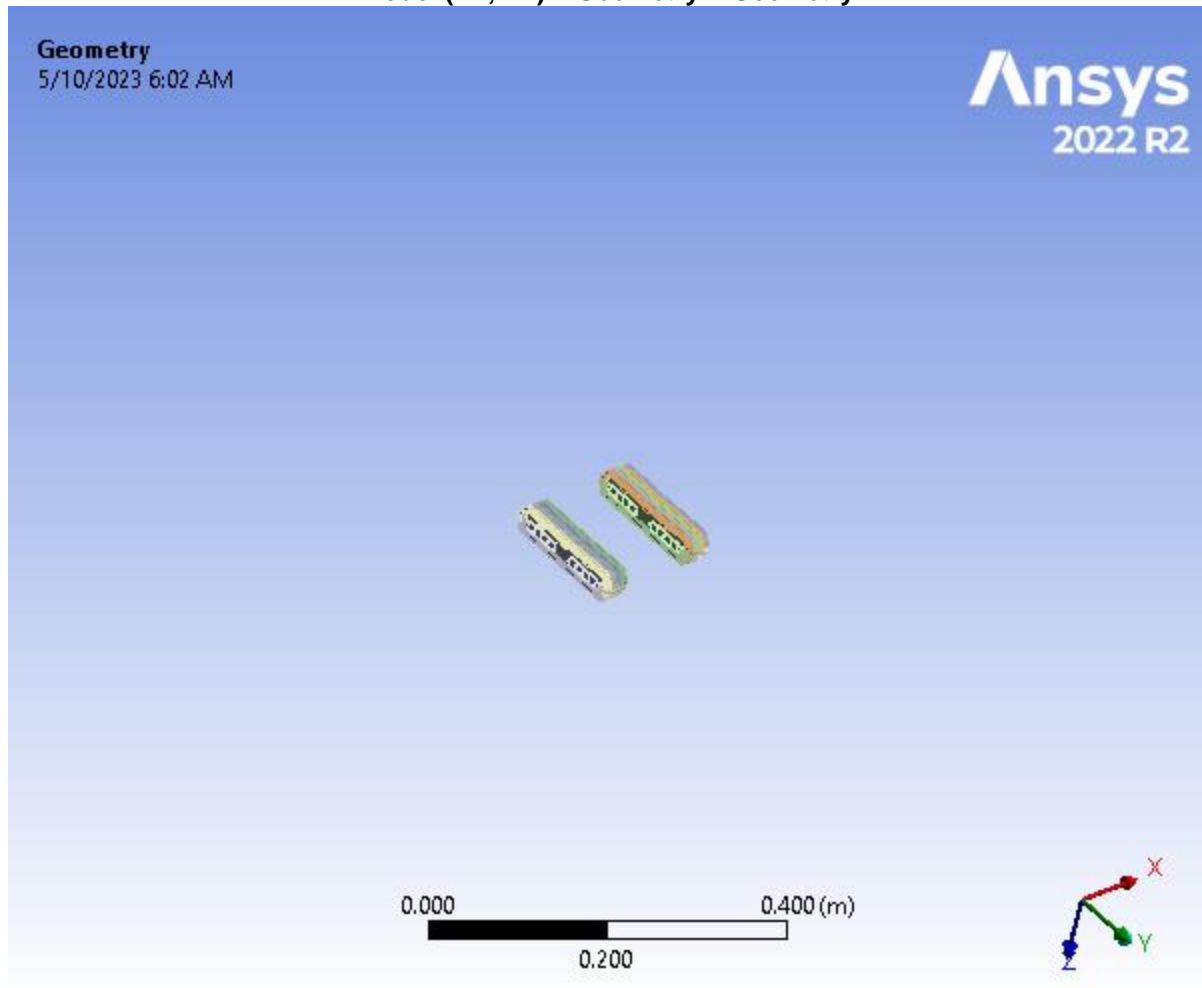


TABLE 18
Model (A4, B4) > Materials

Object Name	<i>Materials</i>
State	Fully Defined
Statistics	
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
Definition	

Type	Cartesian
Coordinate System ID	0.
Origin	
Origin X	0. m
Origin Y	0. m
Origin Z	0. m
Directional Vectors	
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
Auto Detection	
Generate Automatic Connection On Refresh	Yes
Transparency	
Enabled	Yes

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

Object Name	<i>Contacts</i>
State	Fully Defined
Definition	
Connection Type	Contact
Scope	
Scoping Method	Geometry Selection
Geometry	All Bodies
Auto Detection	
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
Statistics	
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
--------	---------------------	---------------------	---------------------	---------------------	---------------------	---------------------	---------------------	---------------------	----------------------

Scope

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

No

Definition

Bonded

Program Controlled

Display

Na

Additional Information

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Geometric Modification

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\RIGHT-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
---------	-----------------	-----------------	-------------	---------------------------------------	-----------------------	-------------------------------	-----------------

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 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

TABLE 27

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

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

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Geometric Modification

None

TABLE 28

Model (A4, B4) > Connections > Contacts > 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

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 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
--------------------------------	-------------------------------	---	---------------------------------------	---------------	---------------	---------------	-------

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	Contact Region 130
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
-----------	---------------	-----------------	-----------------	-----------------	-----------------	-------

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 35
Model (A4, B4) > Connections > Contacts > Contact Regions

Contact Region 145		Contact Region 146	Contact Region 147	Contact Region 148	Contact Region 149	Contact Region 150	Contact Region 151
Fully Defined							
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	SCREW24\SCREW24	SCREW25\SCREW25
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							

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

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

Program Controlled

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
-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	-----------------------	--------------------------	--------------------------

te	Fully Defined
----	---------------

	Scope
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	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
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	

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
-------------------------------	-------------------------------	-------------------------------	-------------------------------	-------------------	-------------------	-------------------	-------------------	-----------------	-----------------	-----------------

ed	No
----	----

	Definition
1. Definition	

oe	Bonded
----	--------

de	Automatic
----	-----------

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

im	Program Controlled
act	

Time	1.8391e-003 m
------	---------------

ed	No
----	----

	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	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
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	
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
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
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
-----------	--------------------

on od	Program Controlled
----------	--------------------

on ce	Program Controlled
----------	--------------------

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											
Mapping 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
Definition	
Type	Bonded
Scope Mode	Automatic
avior	Program Controlled
Trim ontact	Program Controlled
Trim rance	1.8391e-003 m
essed	No
Display	
ement rmals	No
Advanced	
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
Geometric Modification	
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-C02_A_1_1_2_1\00102_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 Ring	Program Controlled									
Position Method	Program Controlled									
Position Tolerance	Program Controlled									
Slip Tolerance	Program Controlled									
Normal Stress	Program Controlled									
Plate Stress	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

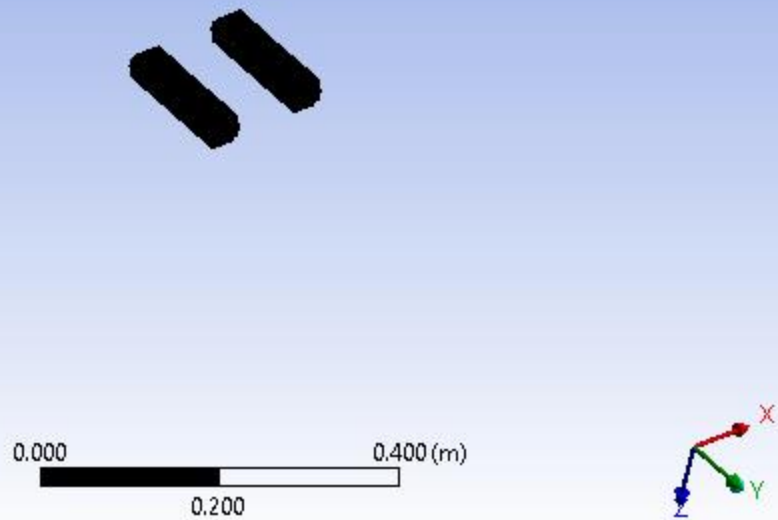
Object Name	<i>Mesh</i>
State	Solved
Display	
Display Style	Use Geometry Setting
Defaults	
Physics Preference	Mechanical
Element Order	Program Controlled
Element Size	Default
Sizing	
Use Adaptive Sizing	Yes
Resolution	Default (2)
Mesh Defeaturing	Yes
Defeature Size	Default
Transition	Fast
Span Angle Center	Coarse
Initial Size Seed	Assembly
Bounding Box Diagonal	0.73564 m
Average Surface Area	9.1312e-005 m ²
Minimum Edge Length	1.6327e-005 m
Quality	
Check Mesh Quality	Yes, Errors
Error Limits	Aggressive Mechanical
Target Element Quality	Default (5.e-002)
Smoothing	Medium
Mesh Metric	None
Inflation	
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
Advanced	
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



Modal (A5)

TABLE 48
Model (A4, B4) > Analysis

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

TABLE 49
Model (A4, B4) > Modal (A5) > Initial Condition

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

Pre-Stress Environment	None Available
------------------------	----------------

TABLE 50
Model (A4, B4) > Modal (A5) > Analysis Settings

Name	<i>Analysis Settings</i>
State	Fully Defined
Options	
Nodes to Find	15
Search Range	No
Demand Expansion	No
Solver Controls	
Damped	No
Solver Type	Program Controlled
Rotordynamics Controls	
Effect	Off
Campbell Diagram	Off
Advanced	
Contact Split (DMP)	Off
Output Controls	
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
Analysis Data Management	
Output Files Directory	\\iowa.uiowa.edu\shared\Engineering\Home\makaufman\windowsdata\Desktop\ASSEMBLIES_FINAL\clip_project_2_files\dp0\SYSTEM
Future Analysis	MSUP Analyses
Scratch Files Directory	

MAPDL db	Yes
Contact Summary	Program Controlled
Delete Needed Files	Yes
r Units	Active System
er Unit system	mks

TABLE 51
Model (A4, B4) > Modal (A5) > Loads

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

Solution (A6)

TABLE 52
Model (A4, B4) > Modal (A5) > Solution

Object Name	<i>Solution (A6)</i>
State	Solved
Adaptive Mesh Refinement	
Max Refinement Loops	1.
Refinement Depth	2.
Information	
Status	Done
MAPDL Elapsed Time	2 m 56 s
MAPDL Memory Used	16.268 GB
MAPDL Result File Size	1.1532 GB
Post Processing	
Beam Section Results	No

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

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

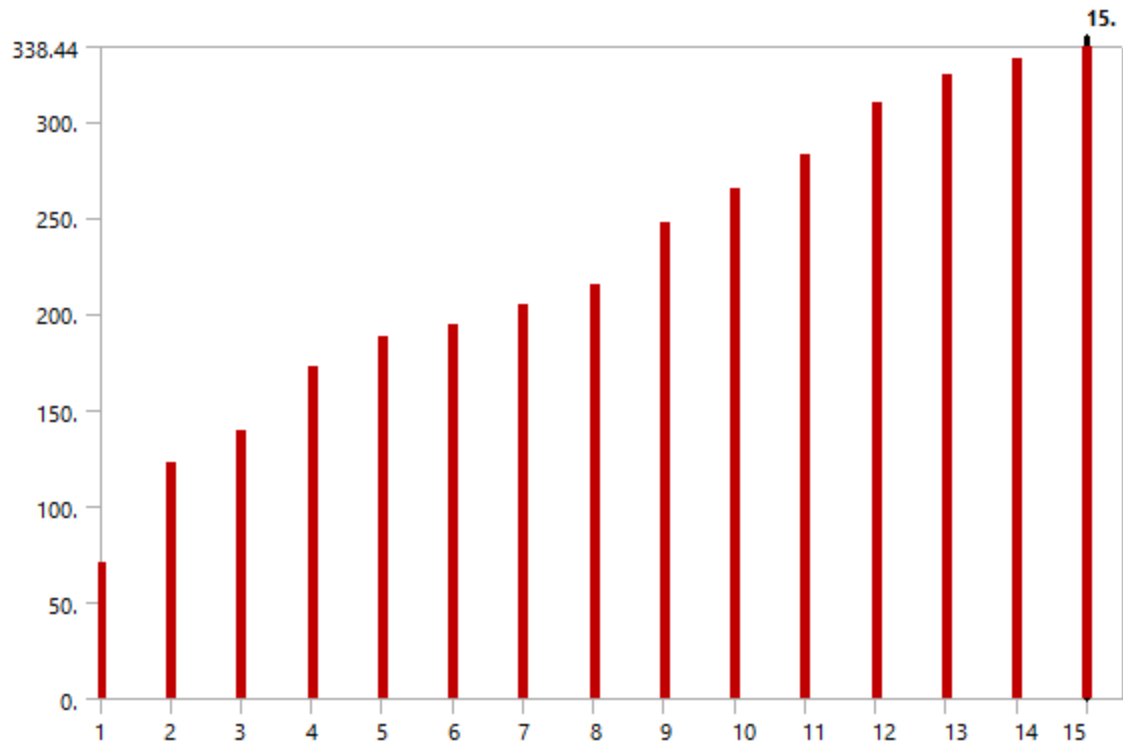


TABLE 53
Model (A4, B4) > Modal (A5) > Solution (A6)

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

Object Name	<i>Solution Information</i>
State	Solved
Solution Information	
Solution Output	Solver Output

Newton-Raphson Residuals	0
Identify Element Violations	0
Update Interval	2.5 s
Display Points	All
FE Connection Visibility	
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 55
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 56
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 57
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 58
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 59
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 60
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 61
Model (A4, B4) > Analysis

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

TABLE 62
Model (A4, B4) > Harmonic Response (B5) > Initial Condition

Object Name	Modal (Modal)
State	Fully Defined
Definition	
Modal Environment	Modal
Pre-Stress Environment	None

TABLE 63
Model (A4, B4) > Harmonic Response (B5) > Analysis Settings

Object Name	Analysis Settings
State	Fully Defined
Step Controls	
Multiple Steps	No
Options	
Frequency Spacing	Linear
Range Minimum	50. Hz
Range Maximum	100. Hz
Solution Intervals	50
User Defined Frequencies	Off
Solution Method	Mode Superposition
Include Residual Vector	No
Cluster Results	No
On Demand Expansion	No
Store Results At All Frequencies	Yes
Rotordynamics Controls	
Gyroscopic Effect	Off
Output Controls	
Stress	Yes
Surface Stress	No
Back Stress	No
Strain	Yes
Contact Data	Yes
Modal Forces	No
Volume and Energy	Yes
Twist 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\makauyman\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
Solver Unit System	mks

TABLE 64
Model (A4, B4) > Harmonic Response (B5) > Accelerations

Object Name	<i>Acceleration</i>
State	Fully Defined
Scope	
Geometry	All Bodies
Definition	
Base Excitation	No

Define By	Components
Coordinate System	Global Coordinate System
X Component	0. m/s ²
Y Component	0. m/s ²
Z Component	-45.4 m/s ²
Suppressed	No

FIGURE 4

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

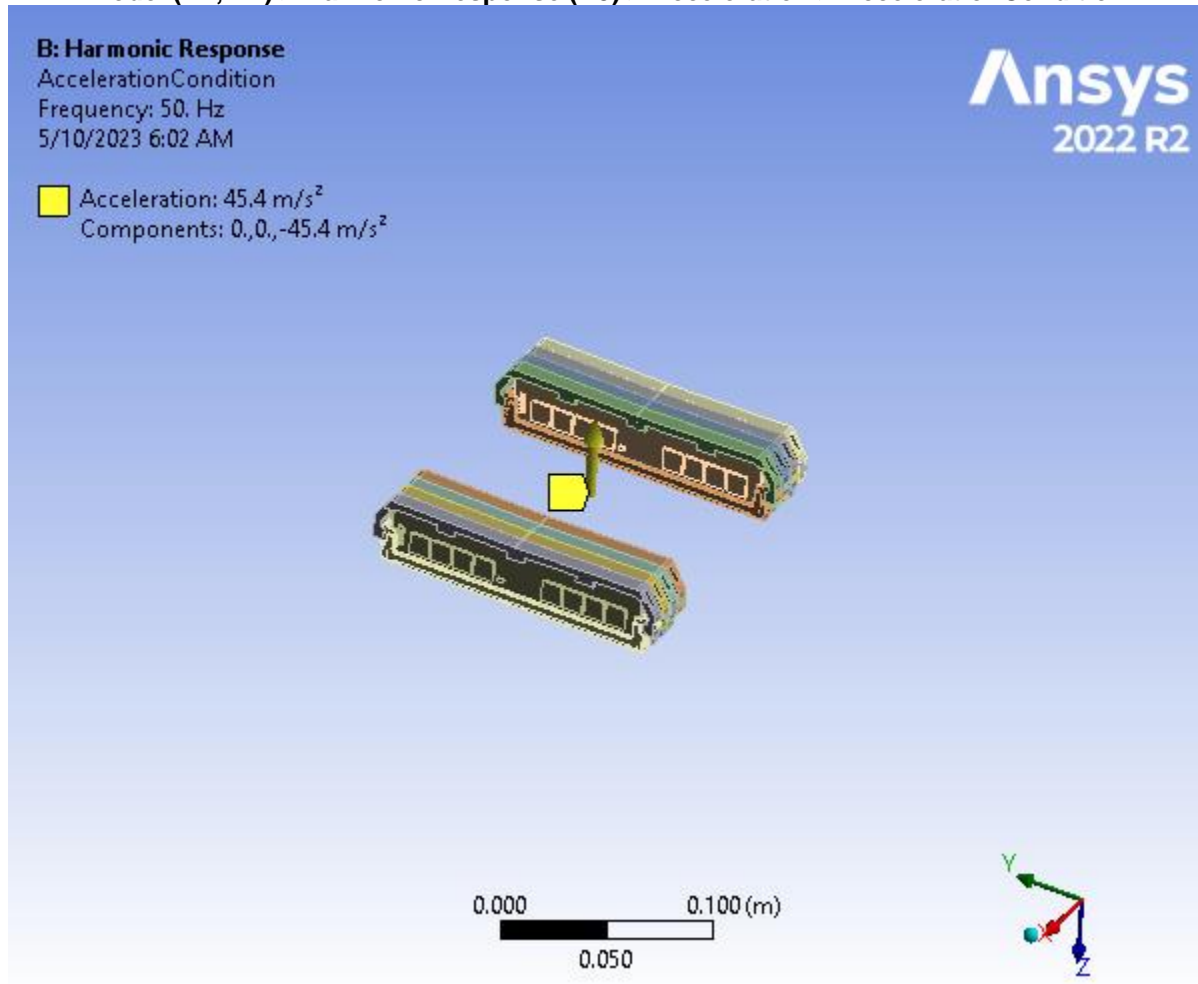


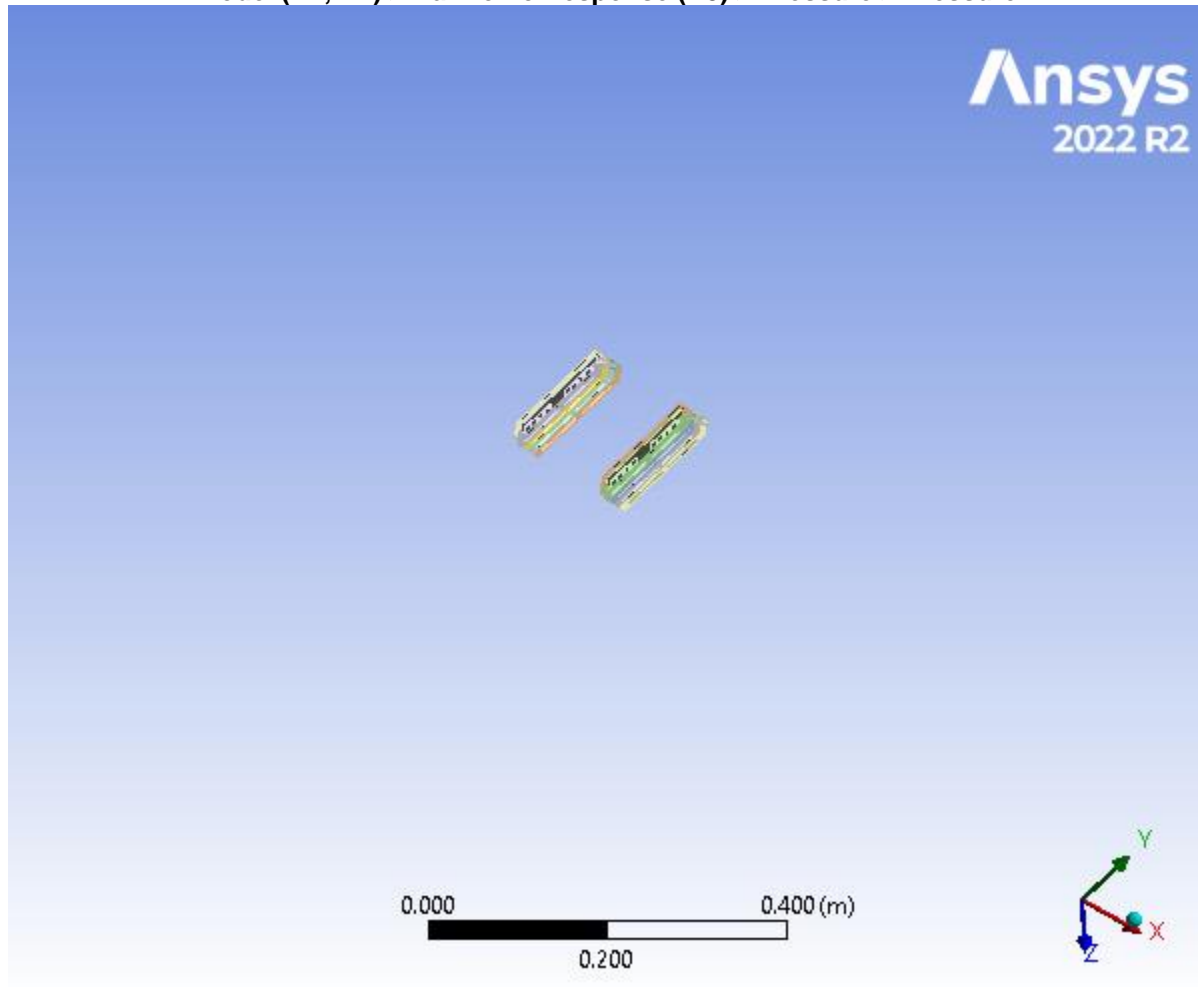
TABLE 65

Model (A4, B4) > Harmonic Response (B5) > Loads

Object Name	<i>Pressure</i>
State	Suppressed
Scope	
Scoping Method	Geometry Selection
Geometry	1 Face
Definition	
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 66
Model (A4, B4) > Harmonic Response (B5) > Solution

Object Name	<i>Solution (B6)</i>
State	Solved
Information	
Status	Done
MAPDL Elapsed Time	10 m 22 s
MAPDL Memory Used	4.4141 GB
MAPDL Result File Size	11.53 GB

Post Processing	
Beam Section Results	No

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

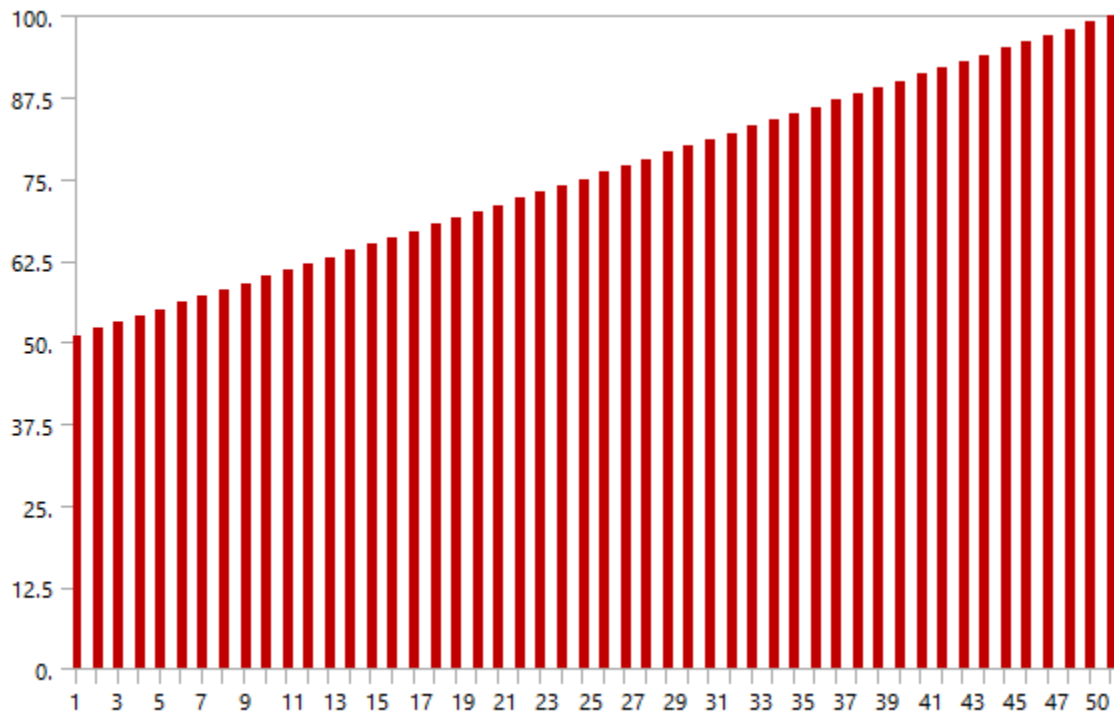


TABLE 67
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Solution Information

Object Name	<i>Solution Information</i>
State	Solved
Solution Information	
Solution Output	Solver Output
Newton-Raphson Residuals	0
Identify Element Violations	0
Update Interval	2.5 s
Display Points	All
FE Connection Visibility	
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 68									
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									
0.14578 m/s	0.20023 m/s		2.5538 m/s		65.035 m/s²		89.325 m/s²		
71. Hz									
161.36 °	161.11 °		-18.206 °		-108.64 °		-108.89 °		
-0.13813 m/s	-0.18945 m/s		2.4259 m/s		-20.789 m/s²		-28.912 m/s²		
4.6601e-002 m/s	6.481e-002 m/s		-0.79791 m/s		-61.622 m/s²		-84.516 m/s²		

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

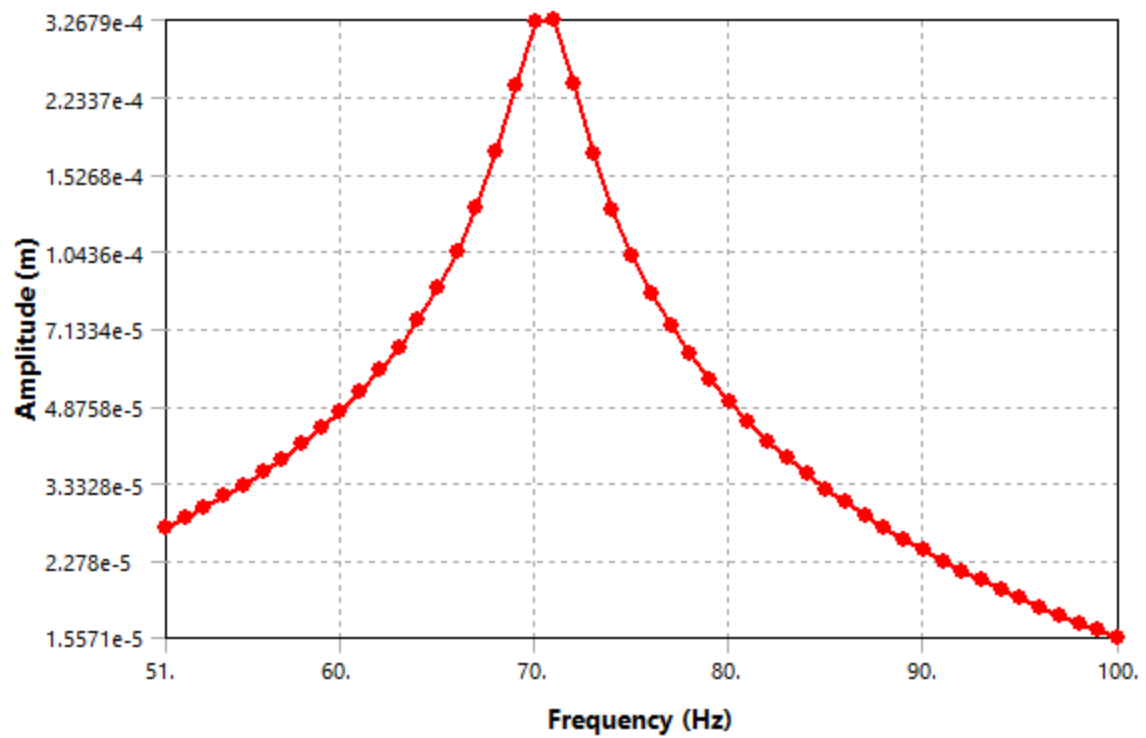


FIGURE 8
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM1y

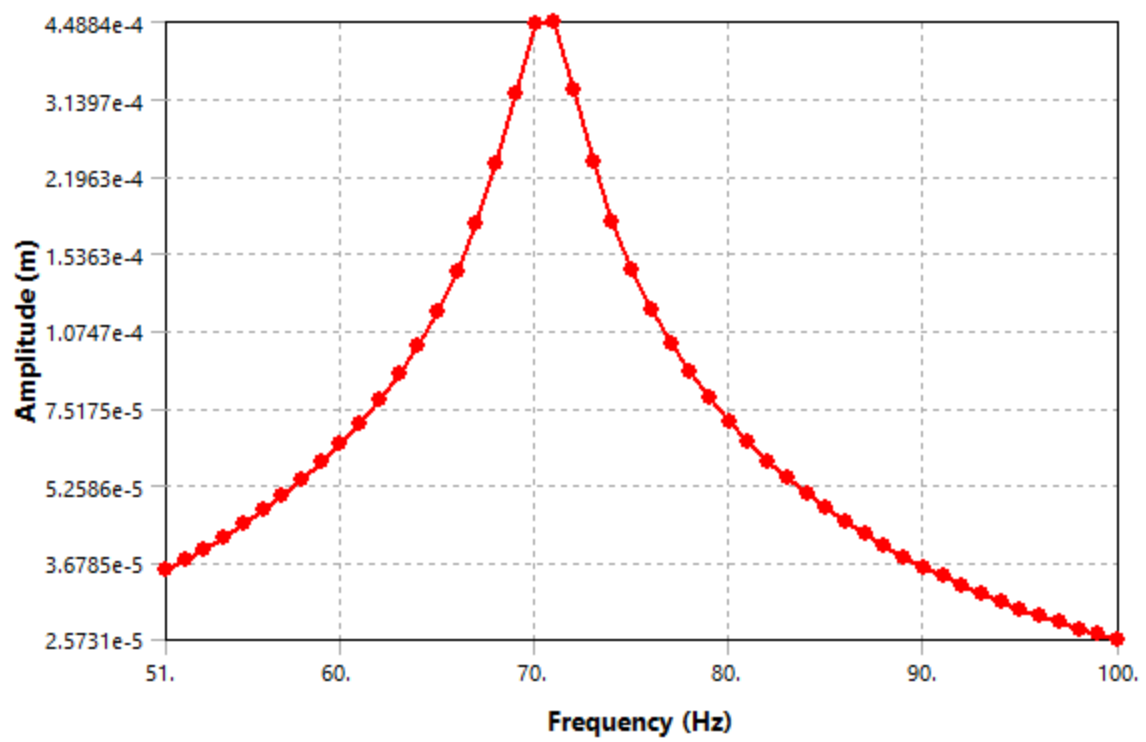


FIGURE 9
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM1z

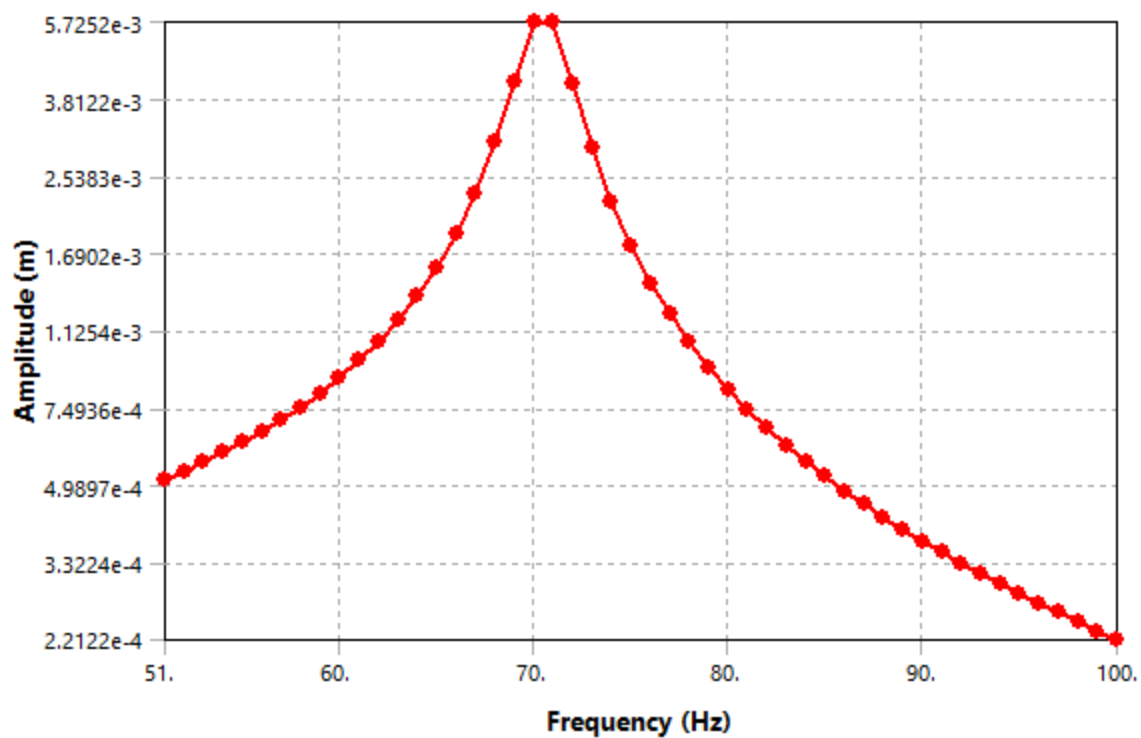


FIGURE 10
 Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM1x

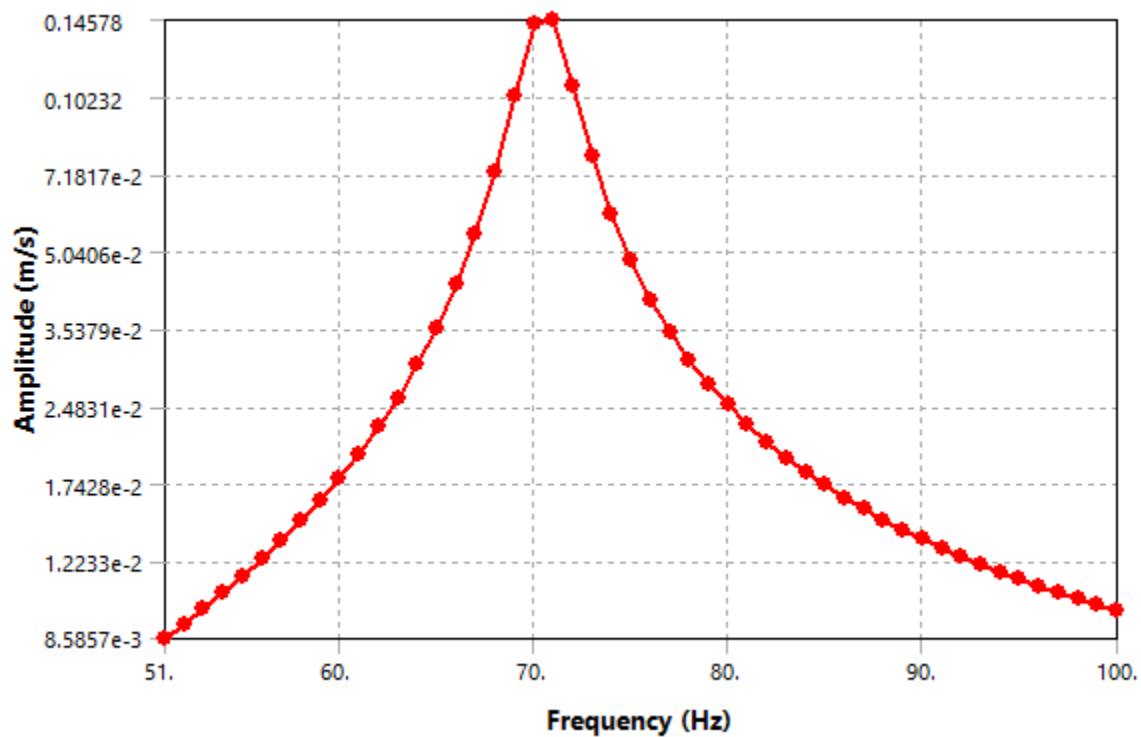


FIGURE 11

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

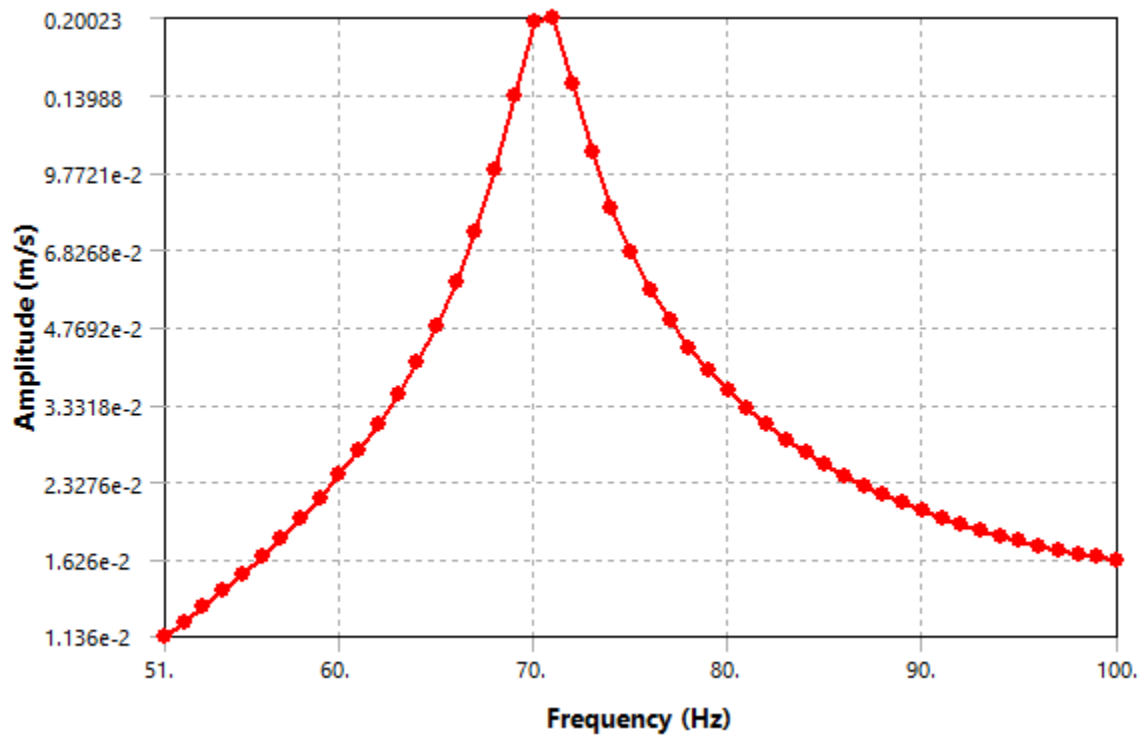


FIGURE 12

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

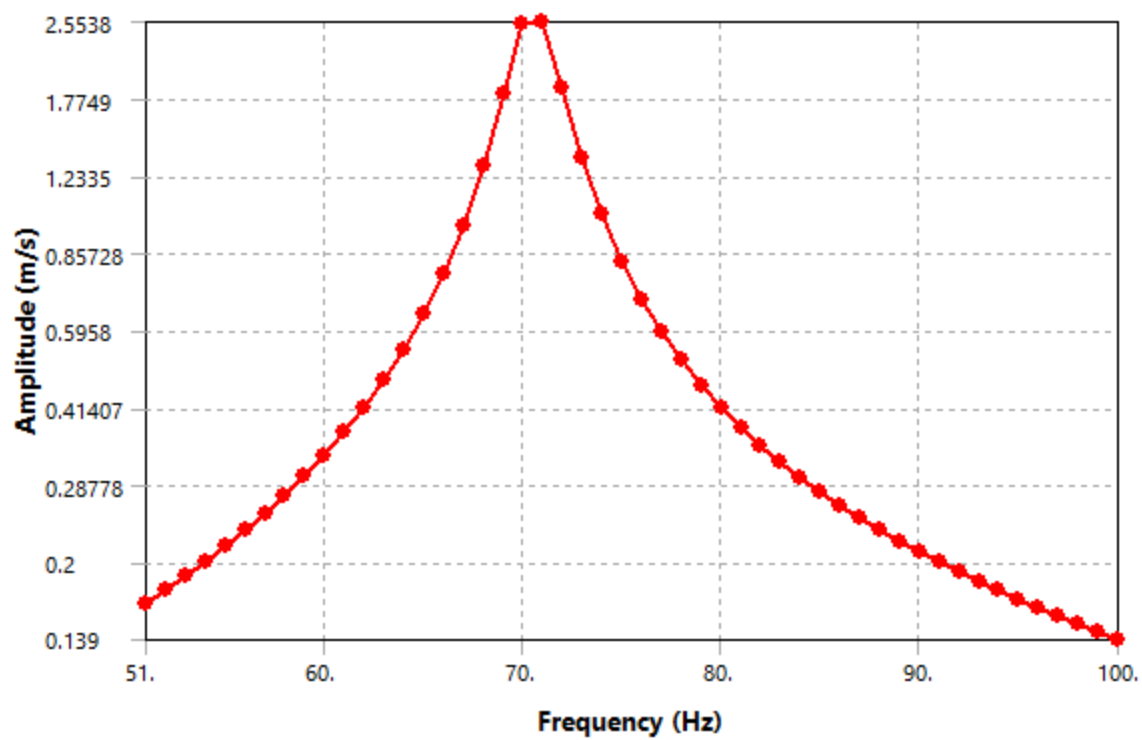


FIGURE 13
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM1x

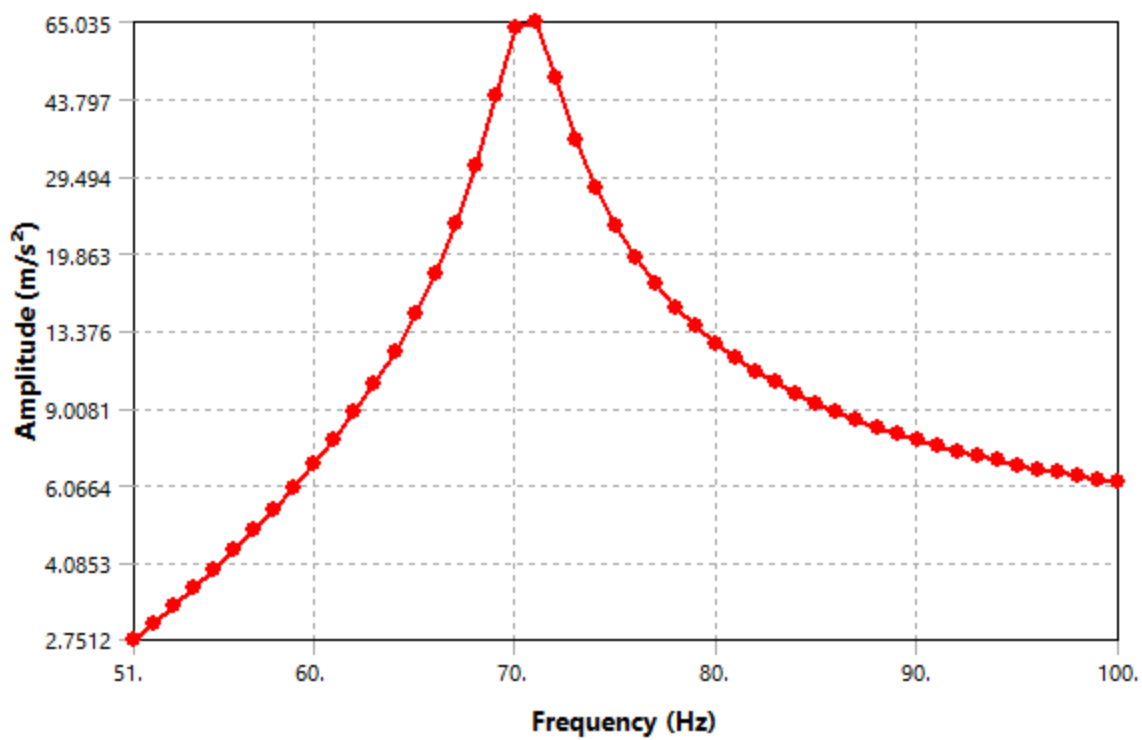


FIGURE 14
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM1y

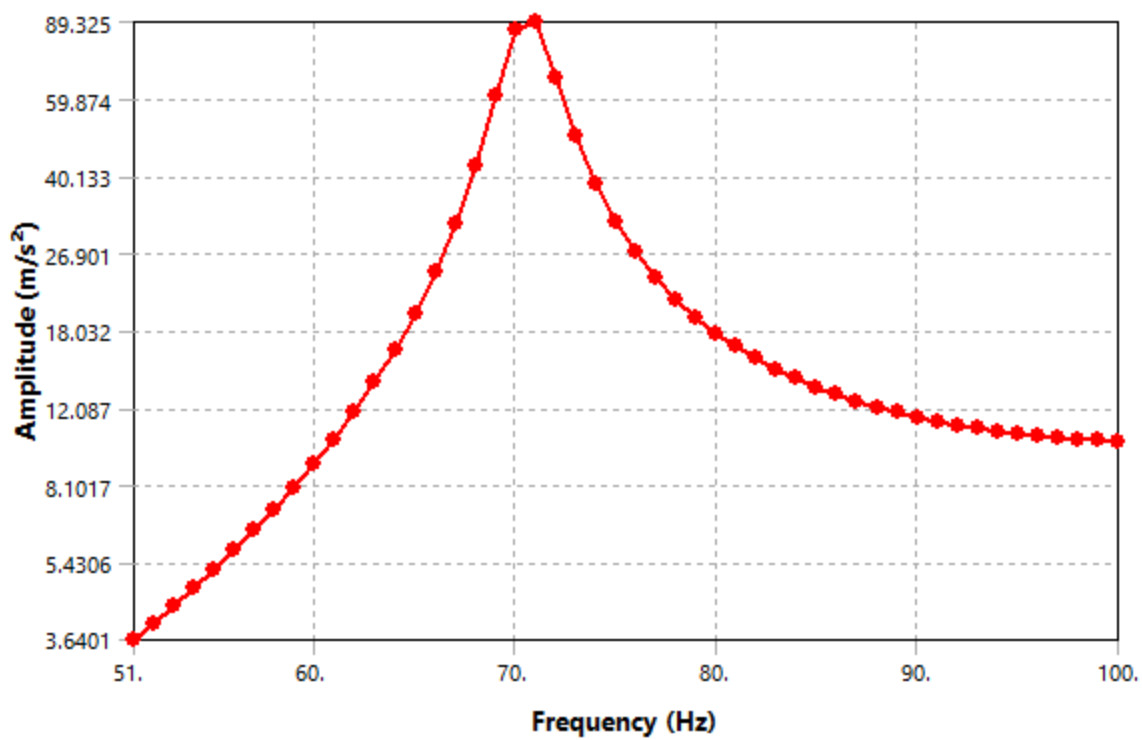


FIGURE 15
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM1z

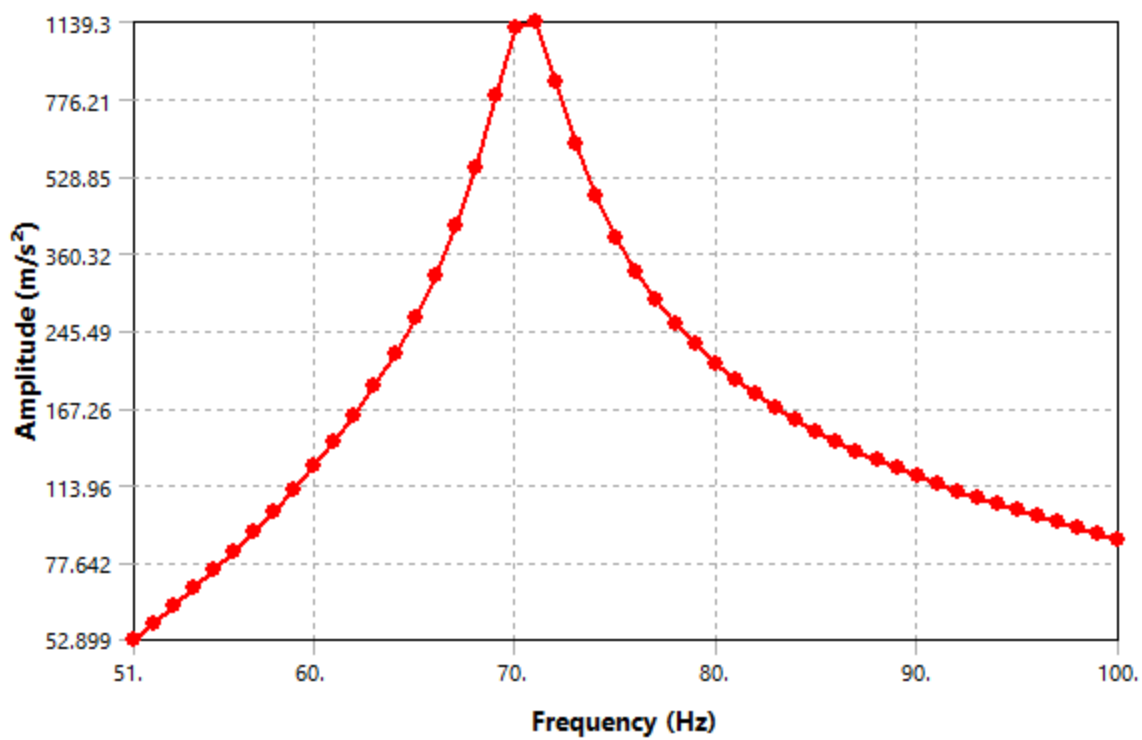


FIGURE 16
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM2x

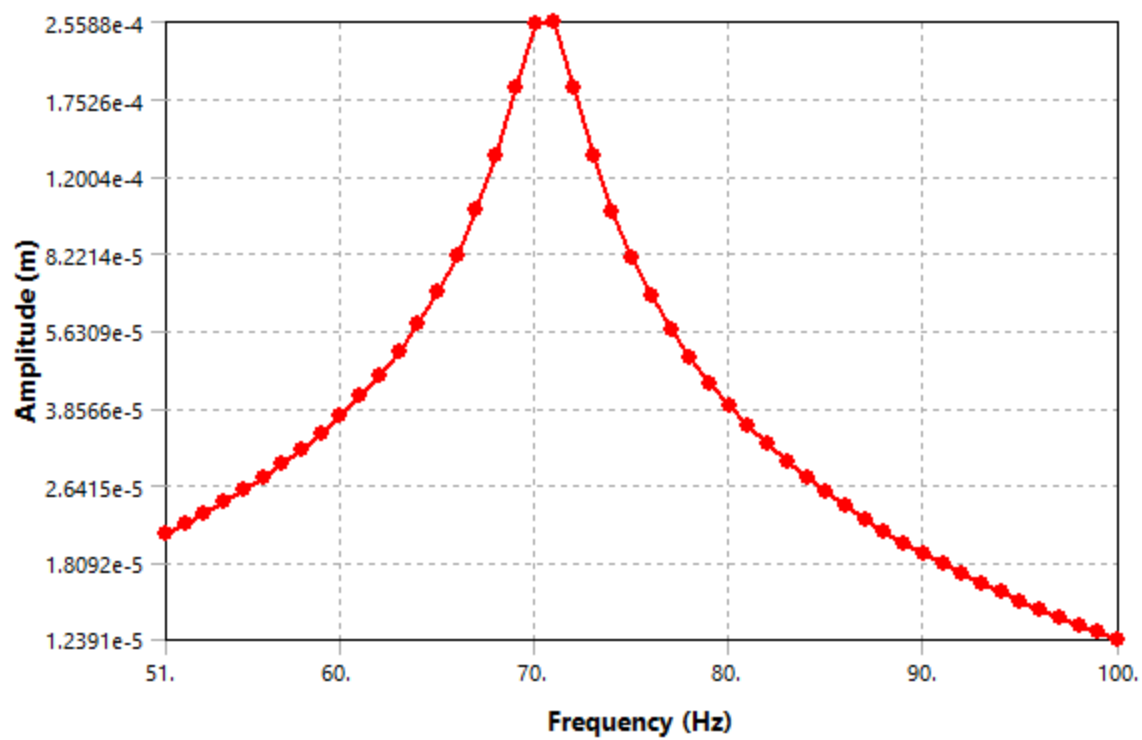


FIGURE 17
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM2y

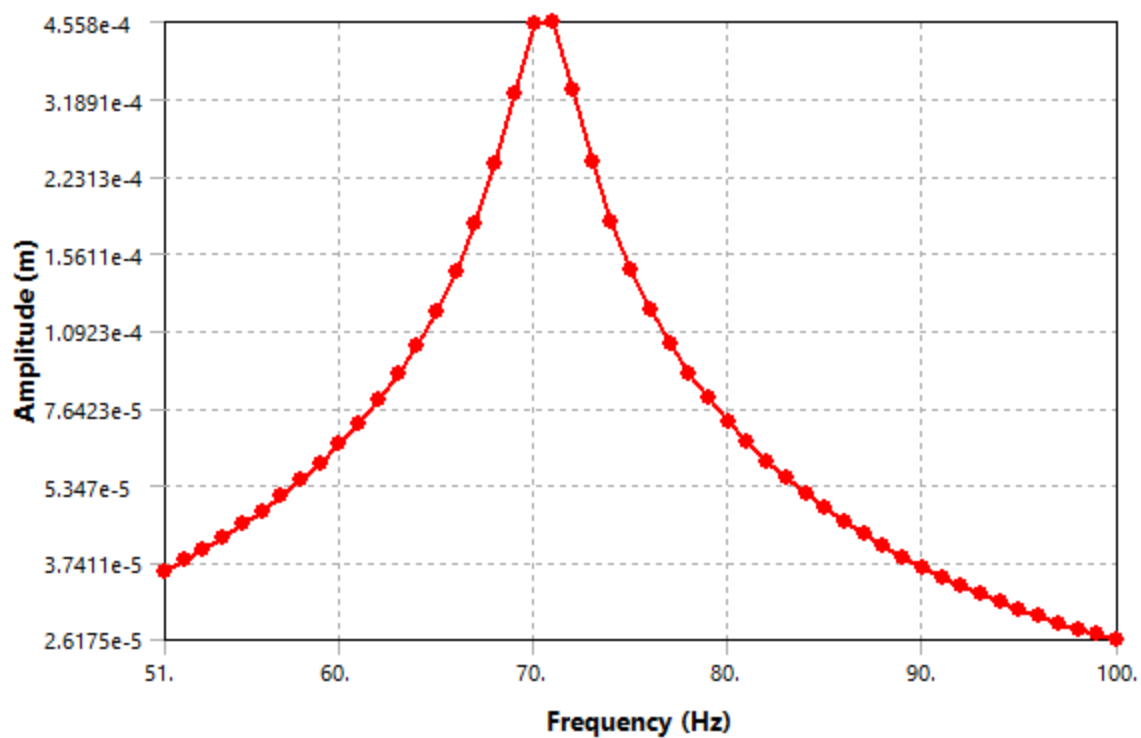


TABLE 69
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts

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				
5.9135e-003 m	1.0977e-004 m	4.6688e-004 m	5.9345e-003 m	2.6524e-003 m
71. Hz				
-108.22 °	71.351 °	71.098 °	-108.22 °	-108.6 °
-1.849e-003 m	3.5101e-005 m	1.5125e-004 m	-1.8557e-003 m	-8.4639e-004 m
-5.617e-003 m	1.0401e-004 m	4.417e-004 m	-5.6369e-003 m	-2.5137e-003 m

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

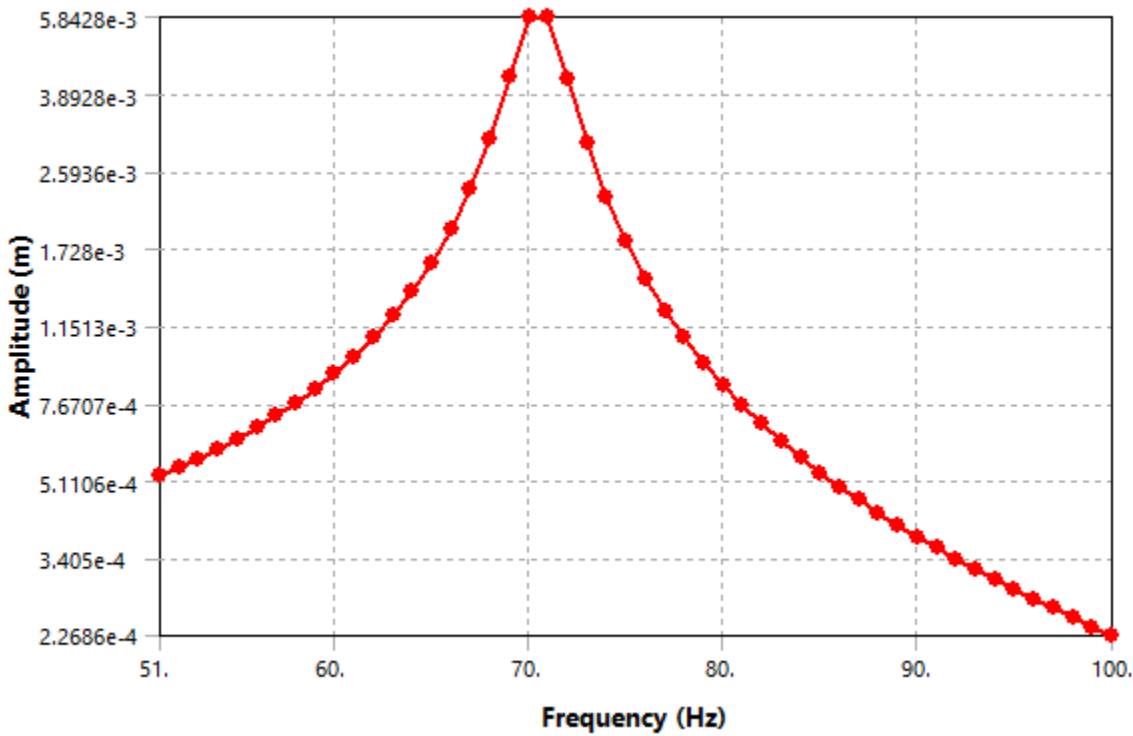


FIGURE 19
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM3x

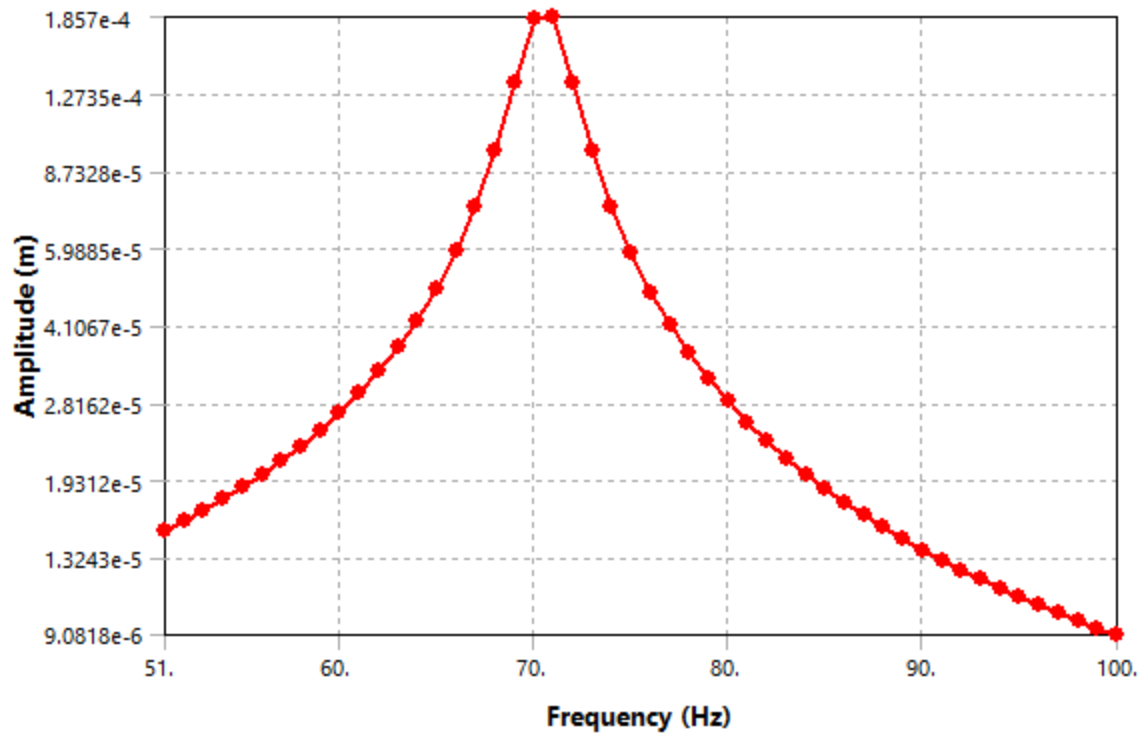


FIGURE 20
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM3y

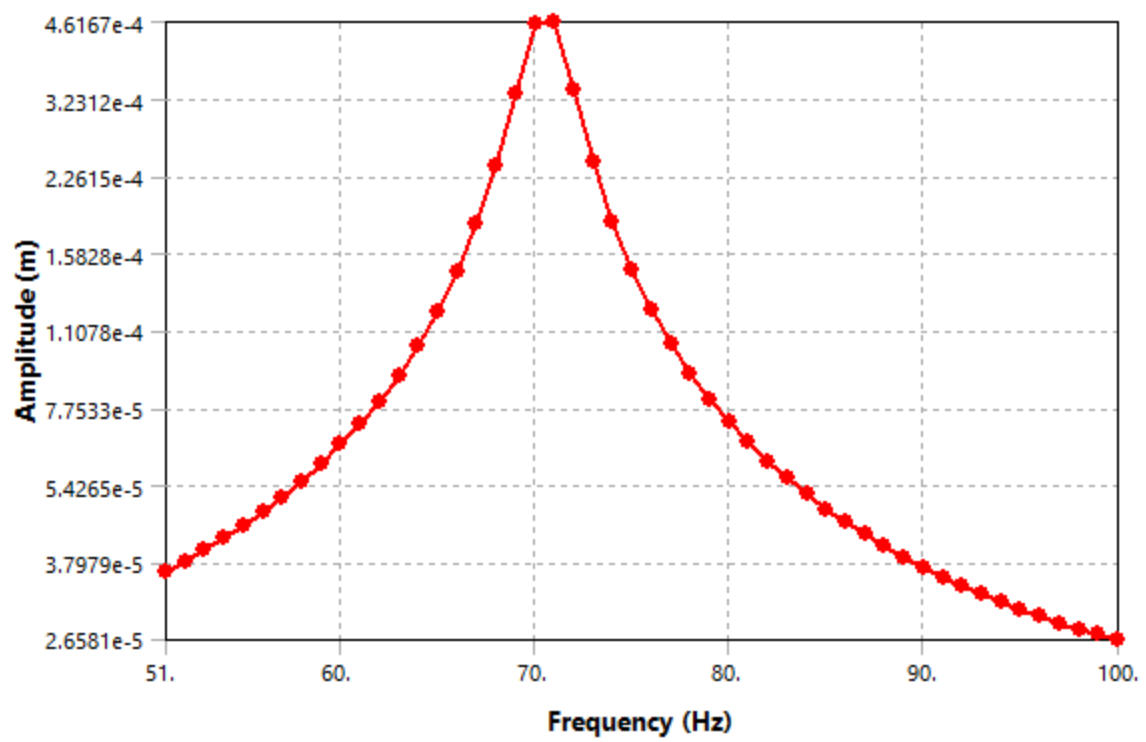


FIGURE 21
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM3z

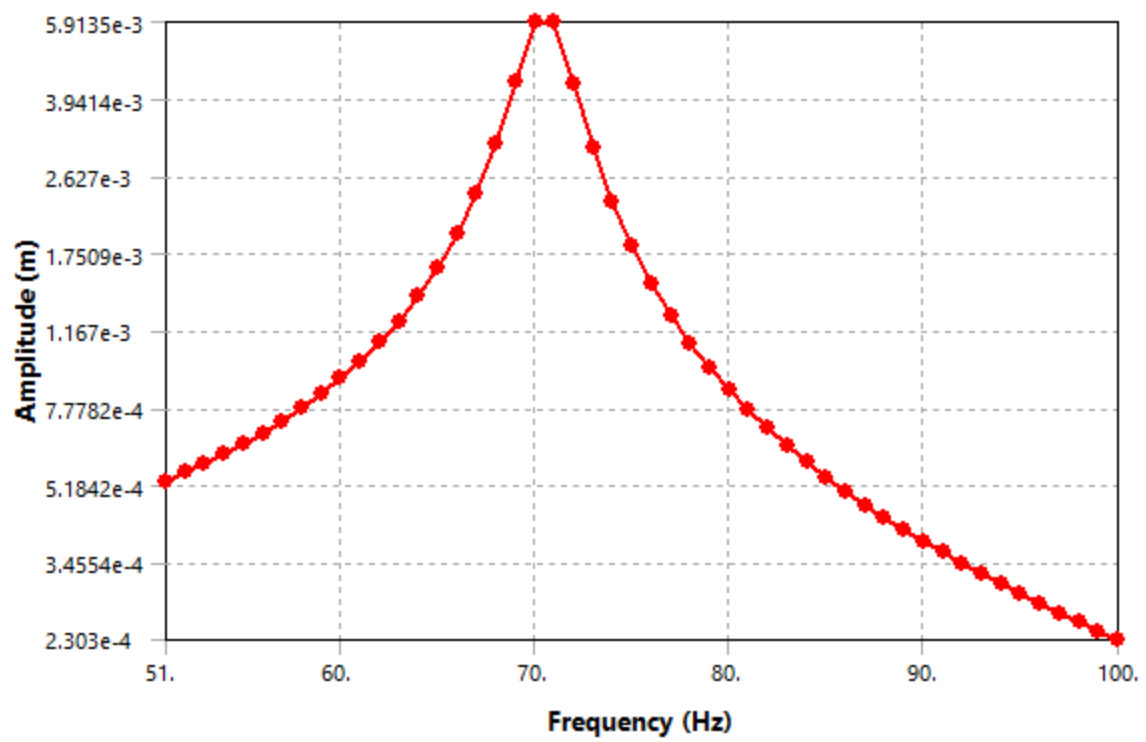


FIGURE 22
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM4x

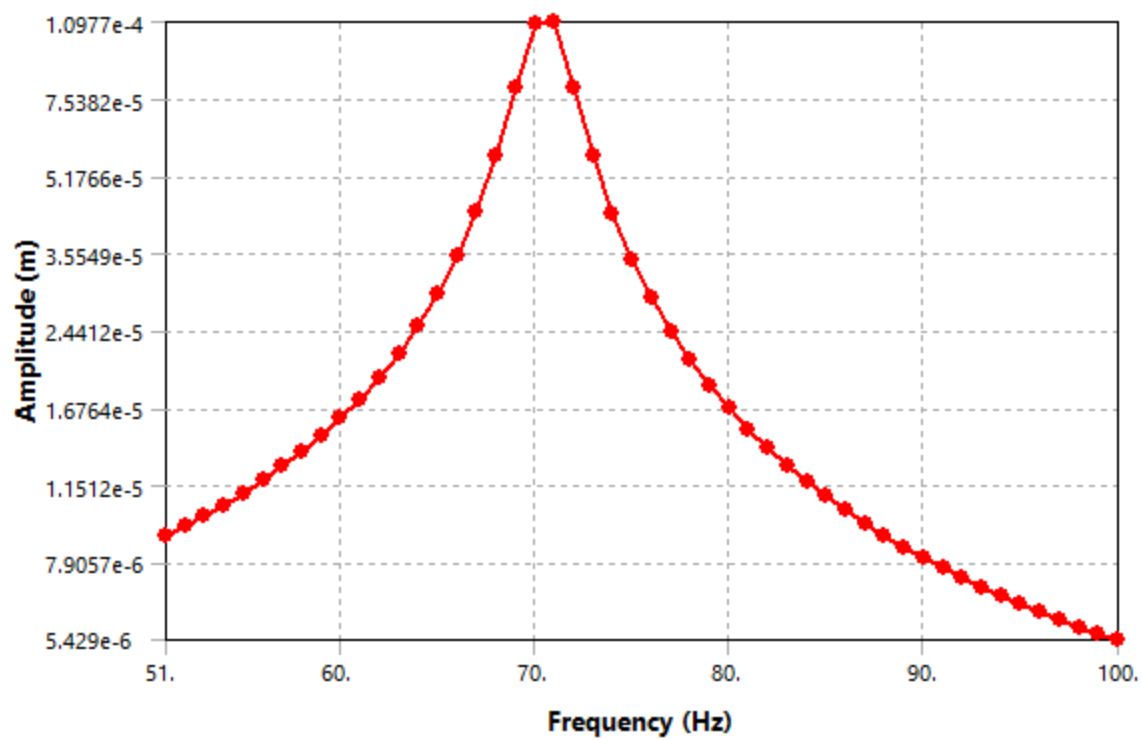


FIGURE 23
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM4y

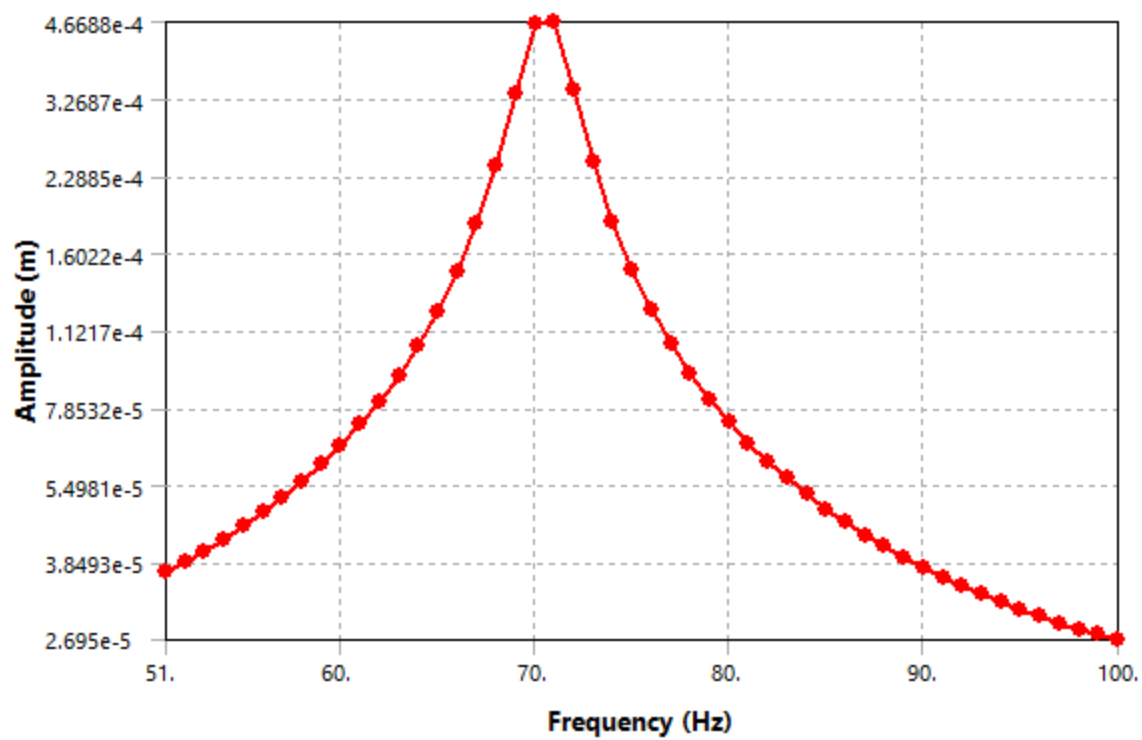


FIGURE 24
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM4z

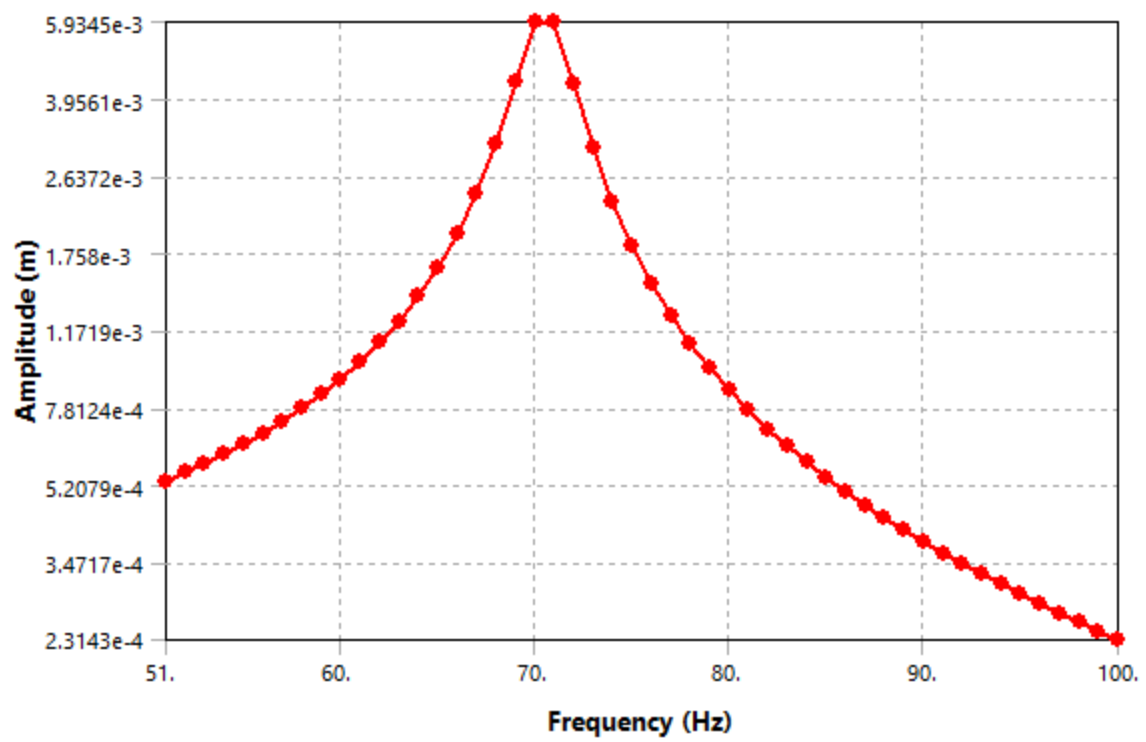


FIGURE 25
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM5x

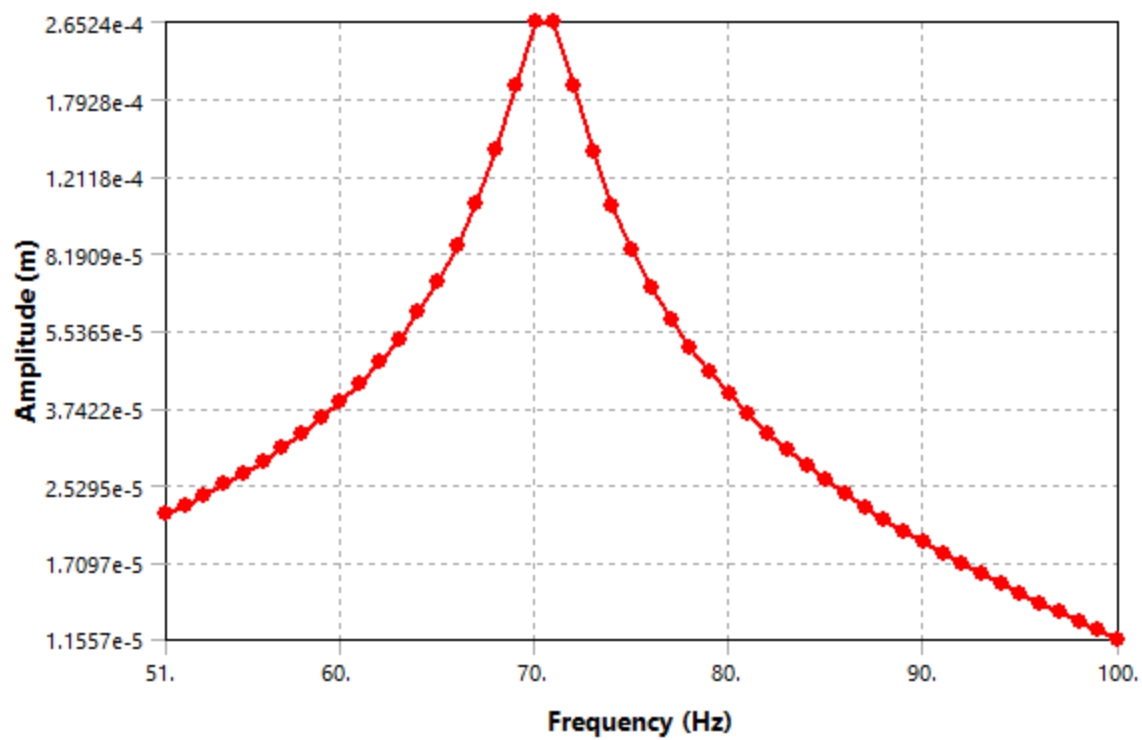


FIGURE 26
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM5y

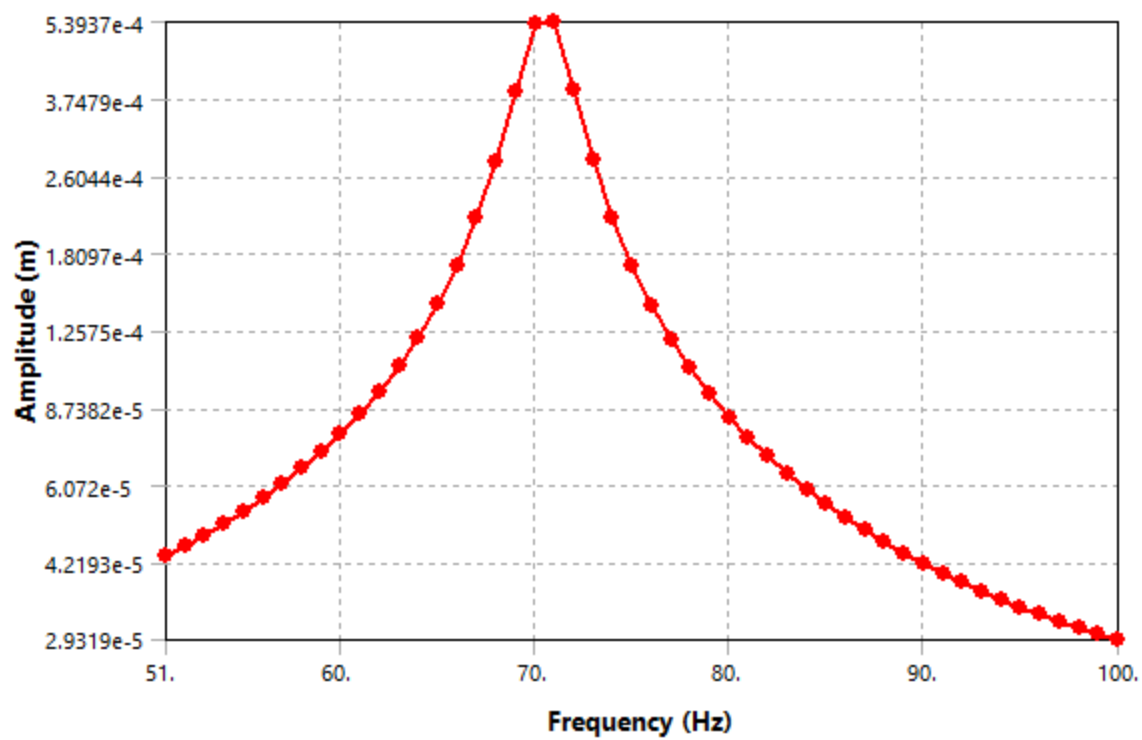


FIGURE 27
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM5z

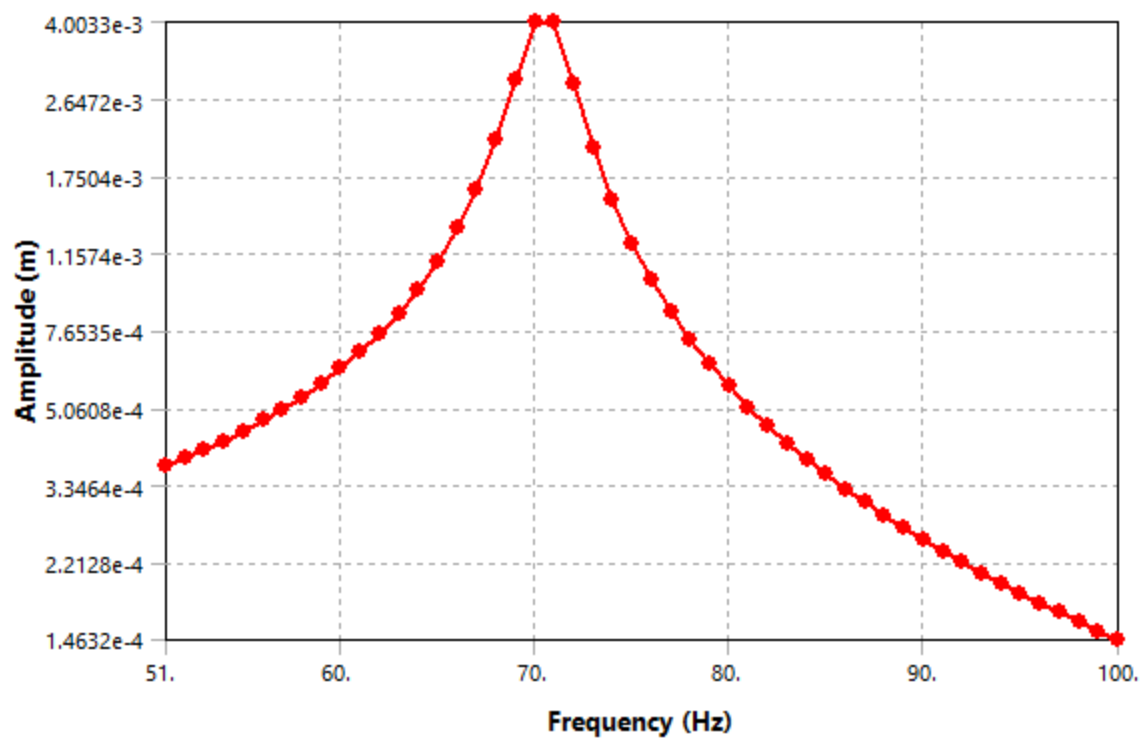


FIGURE 28
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM6x

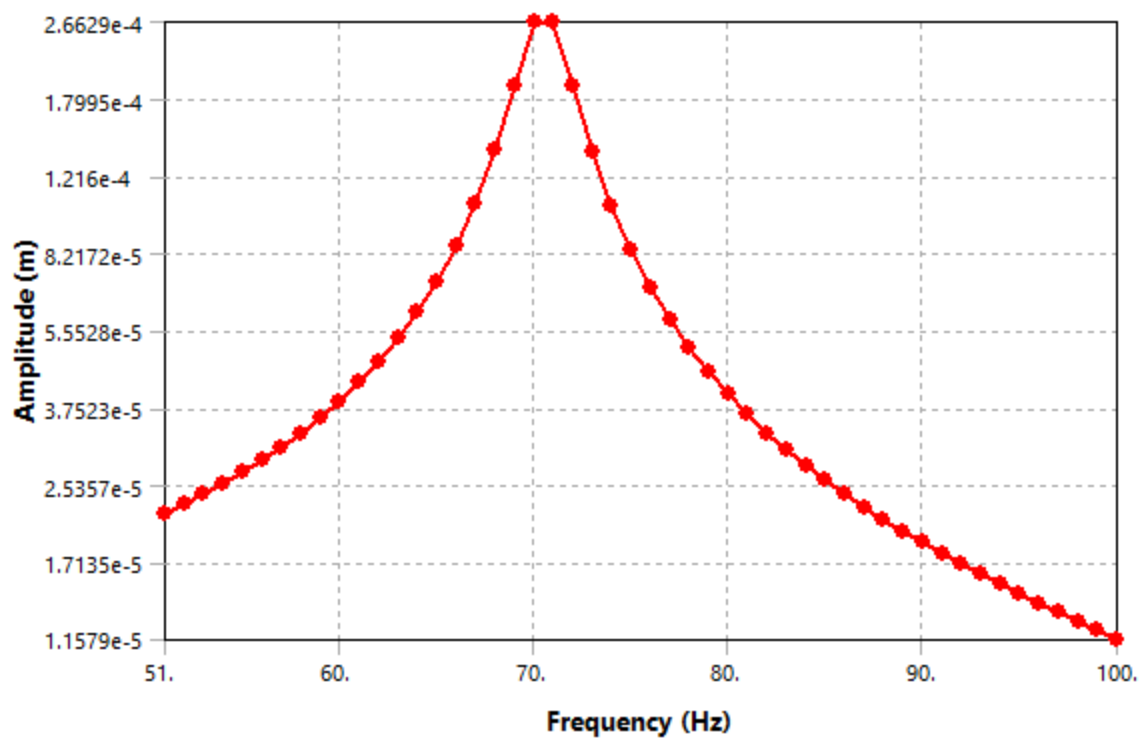


TABLE 70
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts

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				
5.4501e-004 m	3.6919e-003 m	0.11415 m/s	0.20334 m/s	2
. Hz	70. Hz			
71.259 °	-69.017 °	161.33 °	161.11 °	
1.7511e-004 m	1.322e-003 m	-0.10814 m/s	-0.19239 m/s	2
5.1611e-004 m	-3.447e-003 m	3.6544e-002 m/s	6.5829e-002 m/s	-0

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

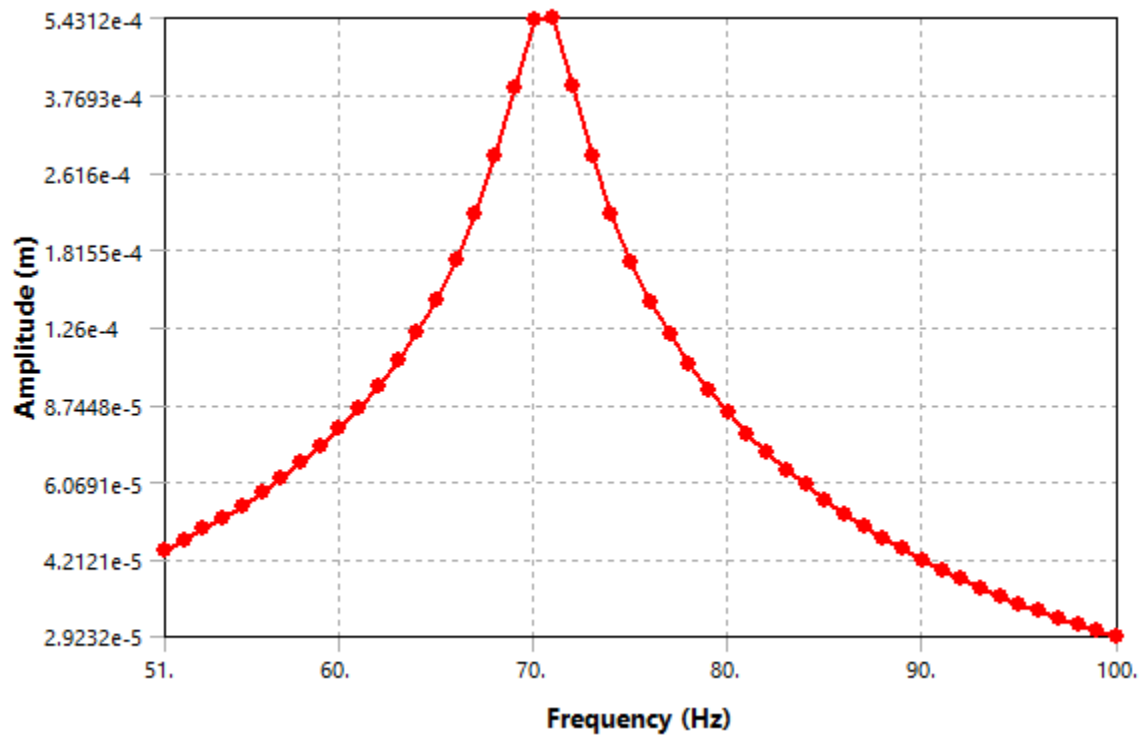


FIGURE 30
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM6z

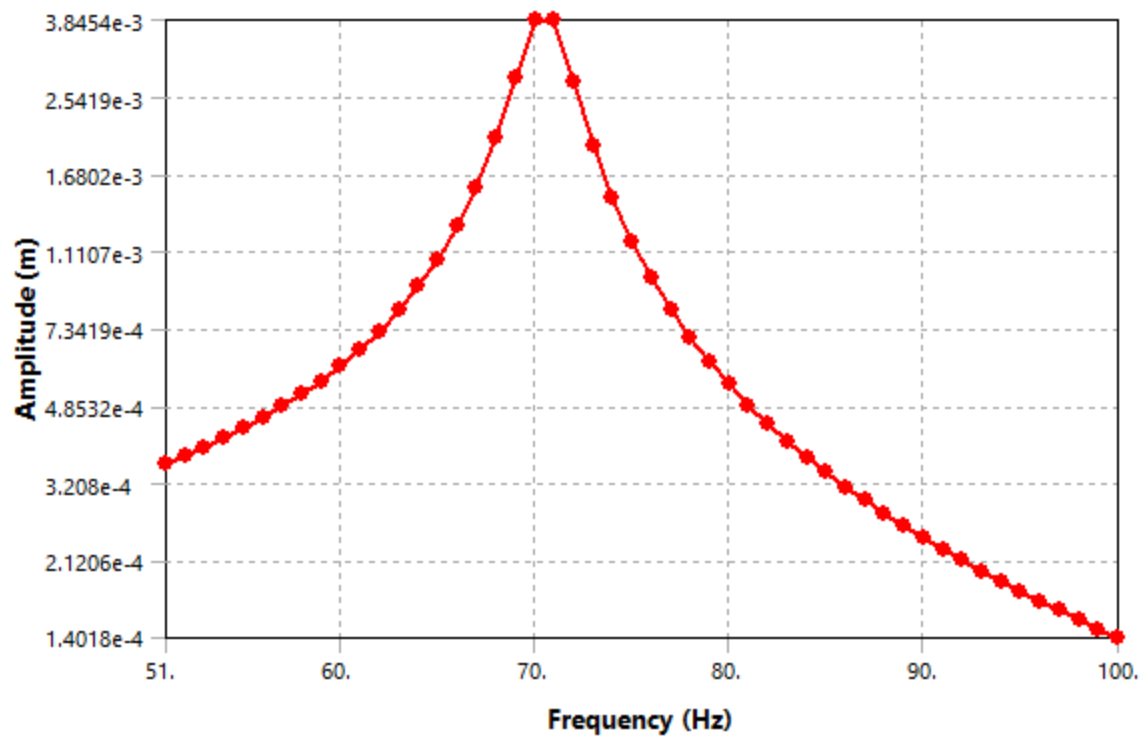


FIGURE 31
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM7x

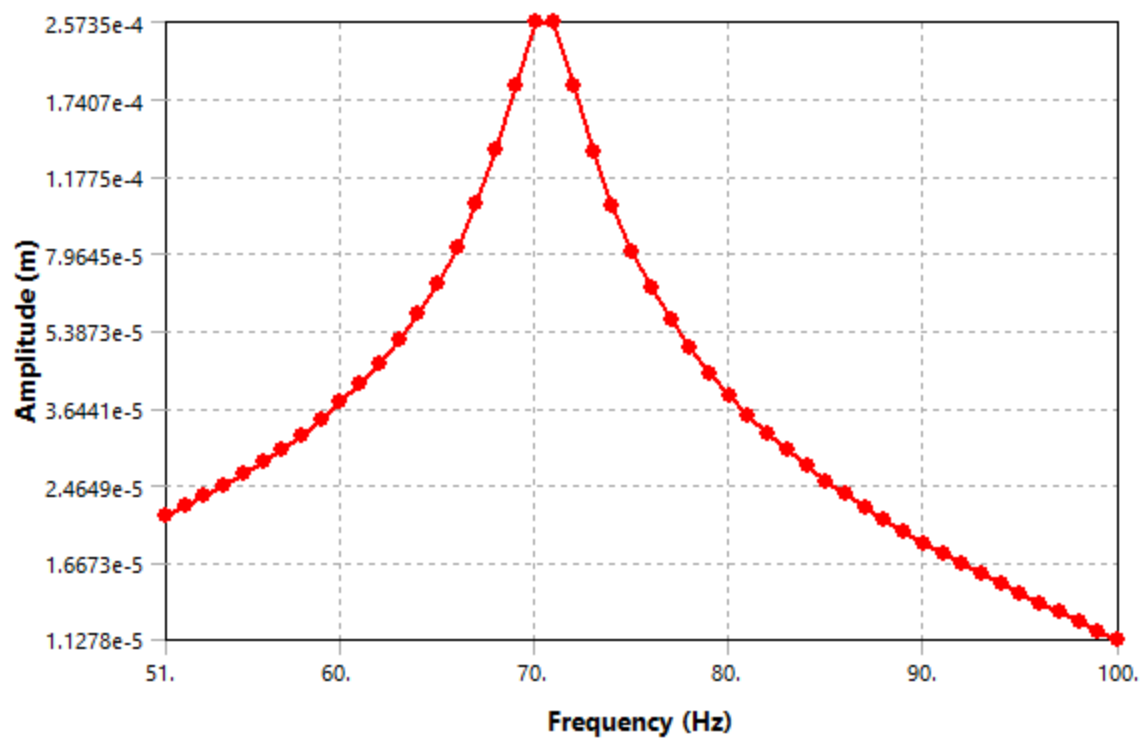


FIGURE 32
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM7y

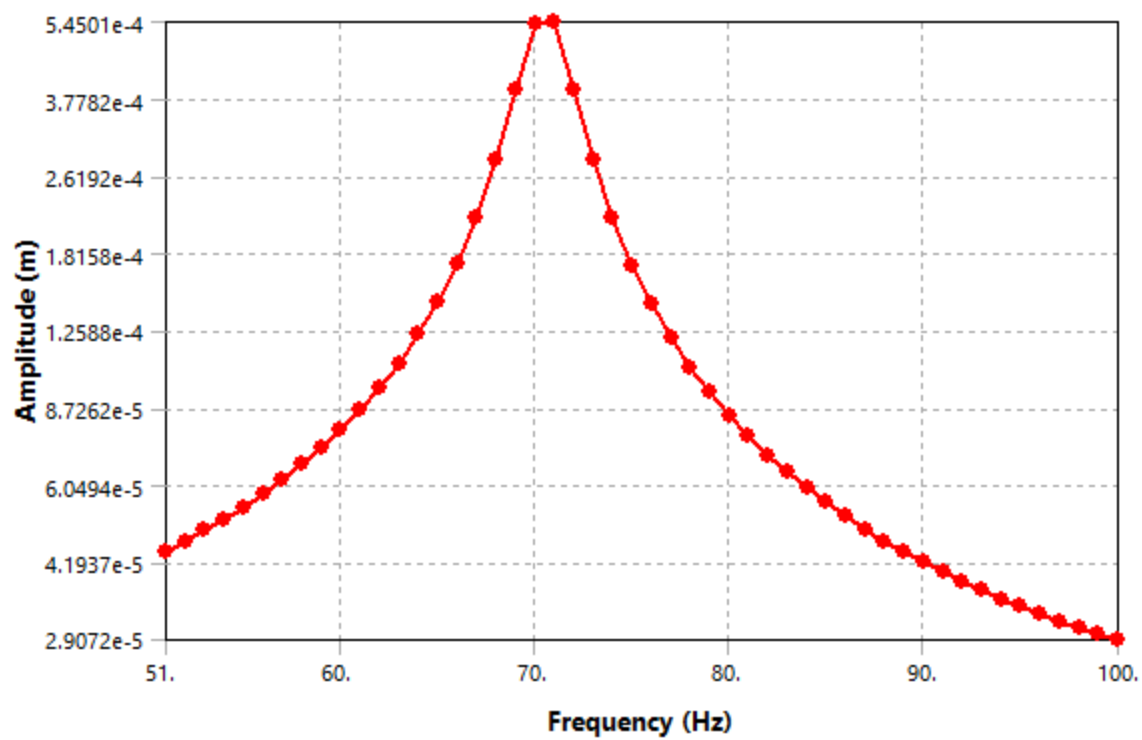


FIGURE 33
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM7z

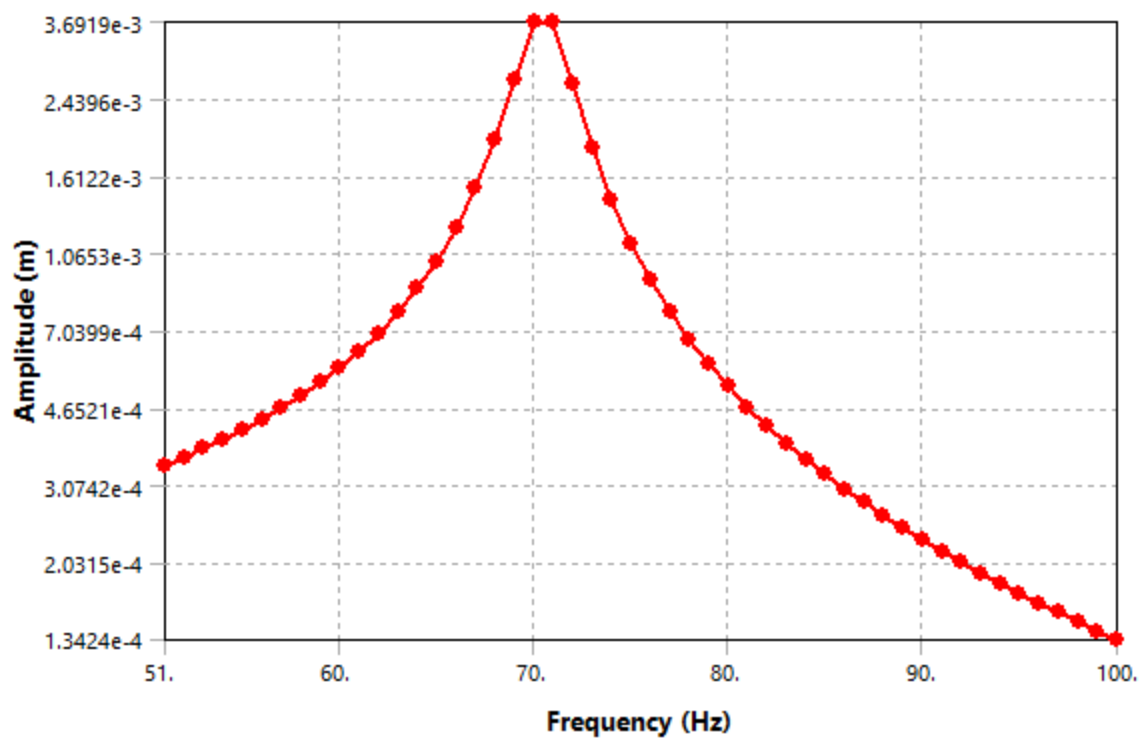


FIGURE 34
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2x

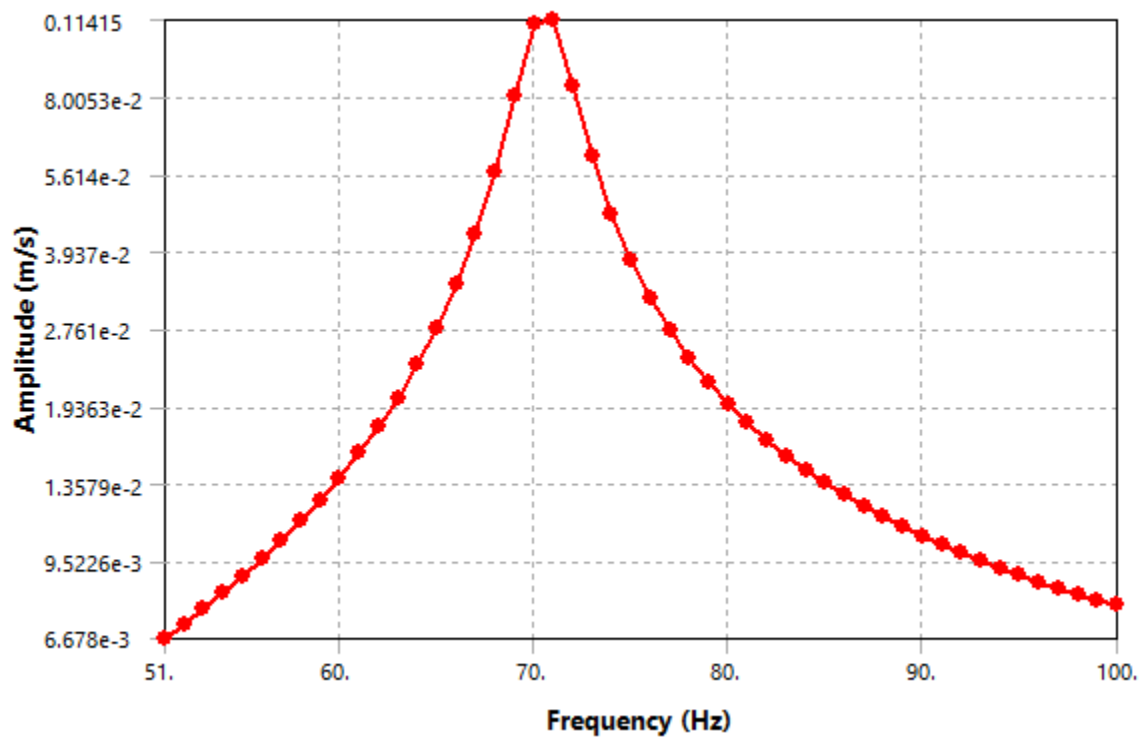


FIGURE 35
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2y

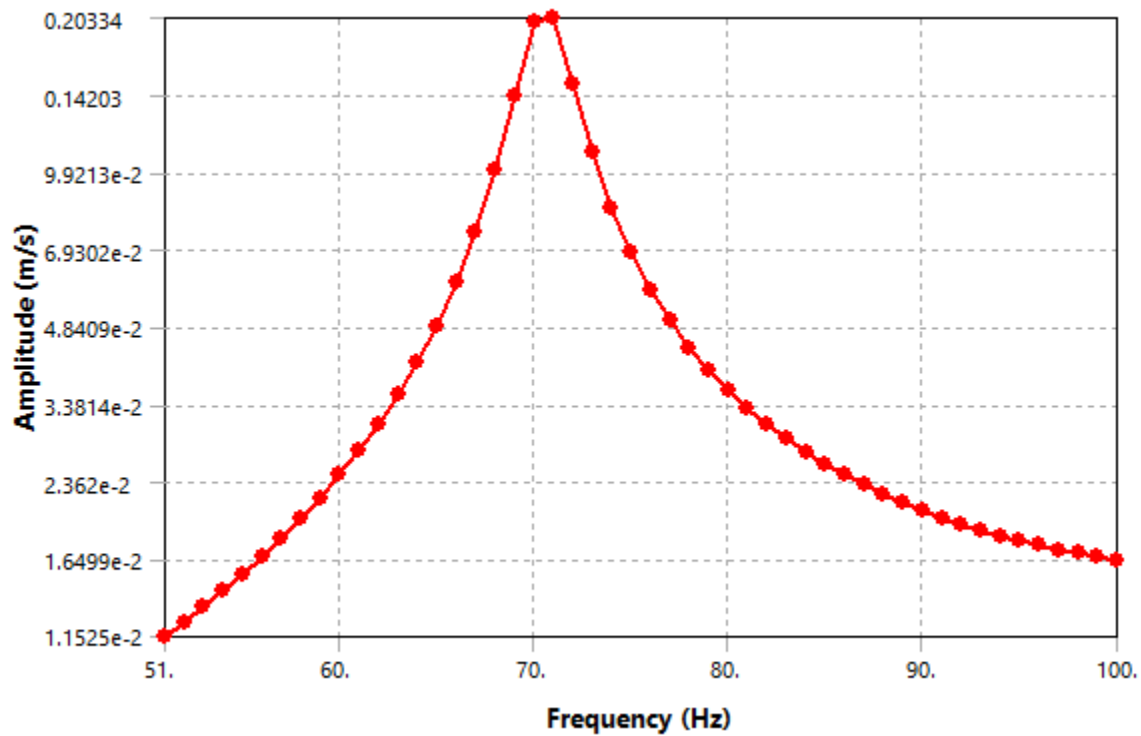


FIGURE 36
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM2z

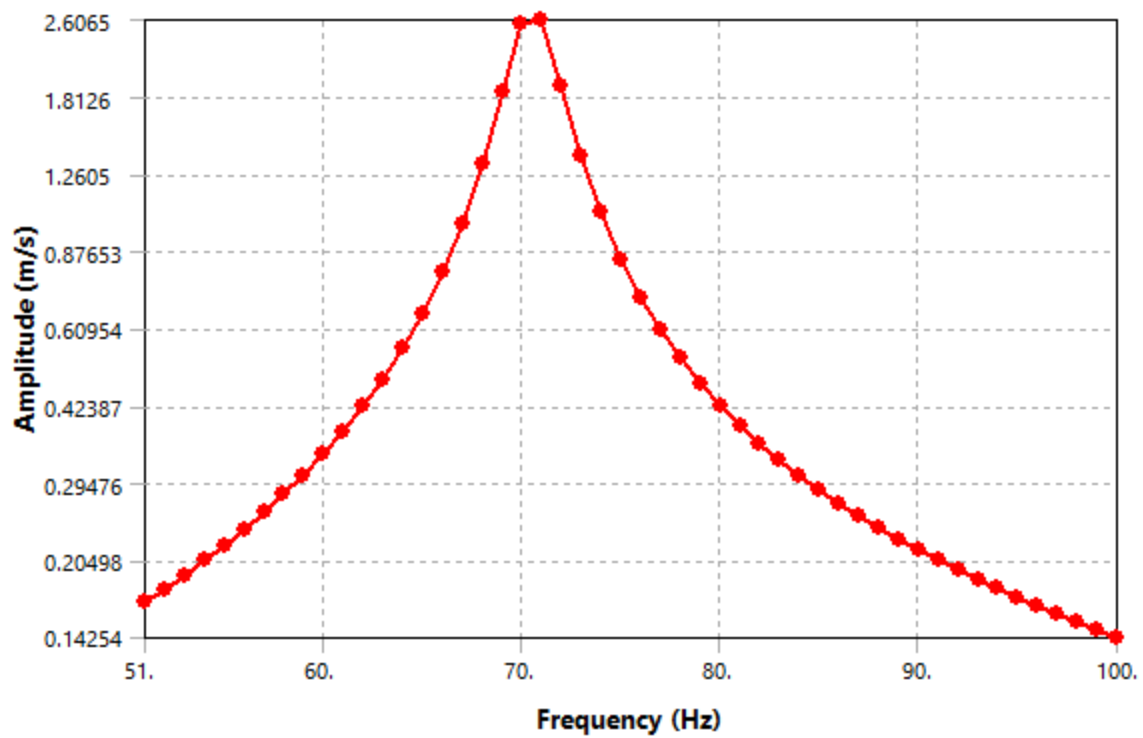


FIGURE 37
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM3x

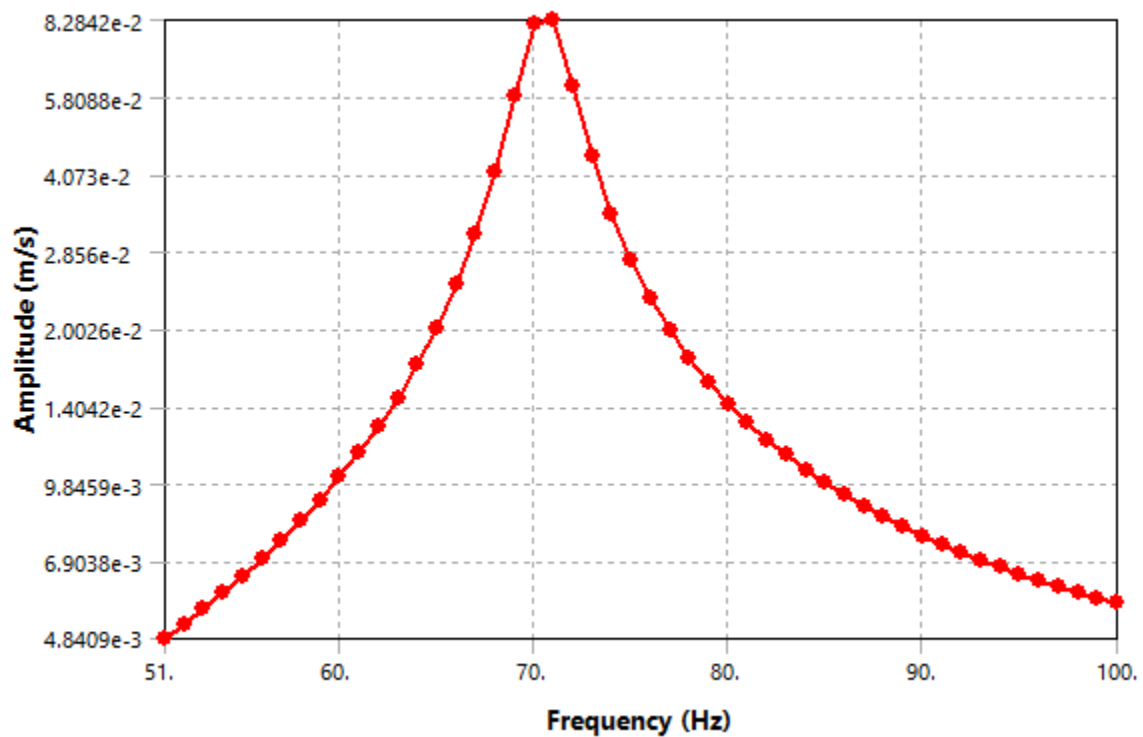


FIGURE 38

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

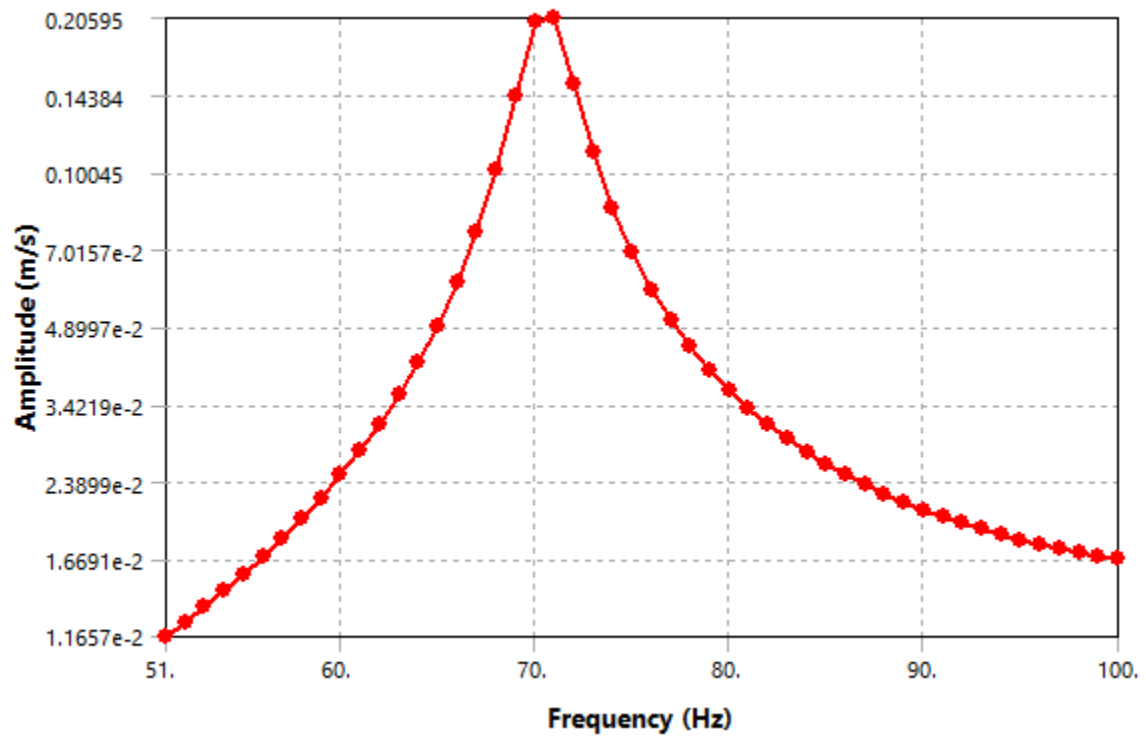


FIGURE 39

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

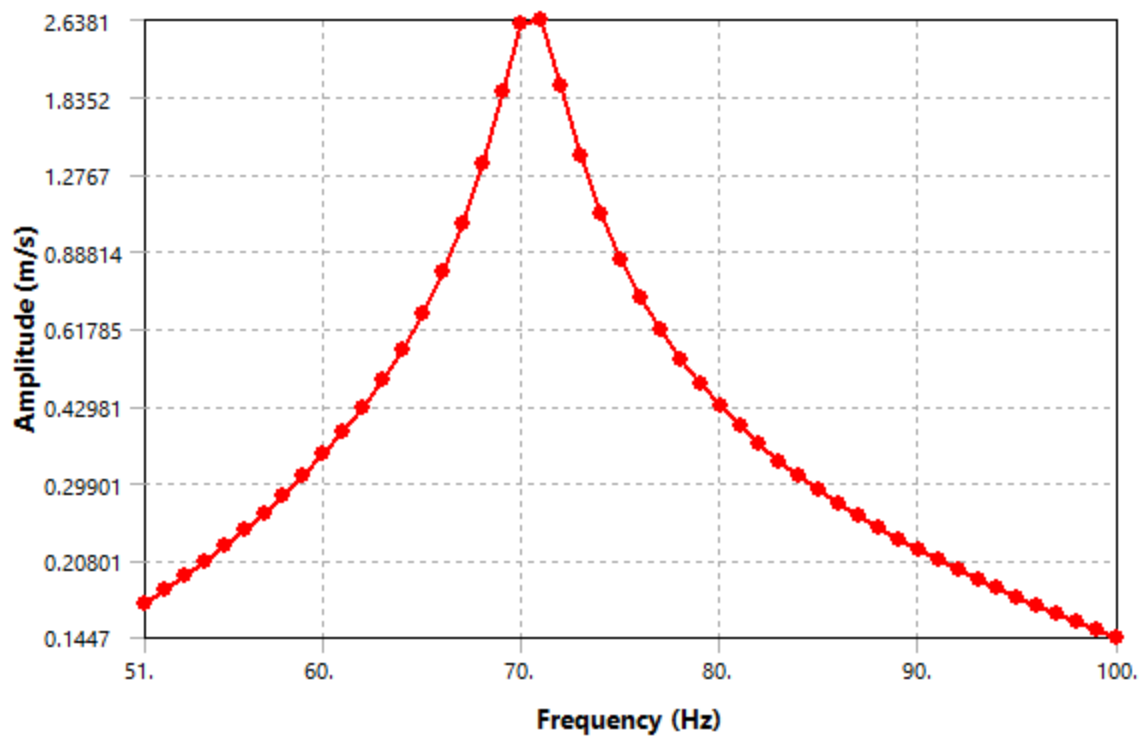


TABLE 71
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts

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				
0.11832 m/s	0.24061 m/s	1.7826 m/s	0.11879 m/s	0.2422
71. Hz				
-18.609 °	161.22 °	-18.063 °	-18.602 °	161.2
0.11214 m/s	-0.2278 m/s	1.6947 m/s	0.11259 m/s	-0.2294
-3.7758e-002 m/s	7.7466e-002 m/s	-0.55272 m/s	-3.7893e-002 m/s	7.7922e-

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

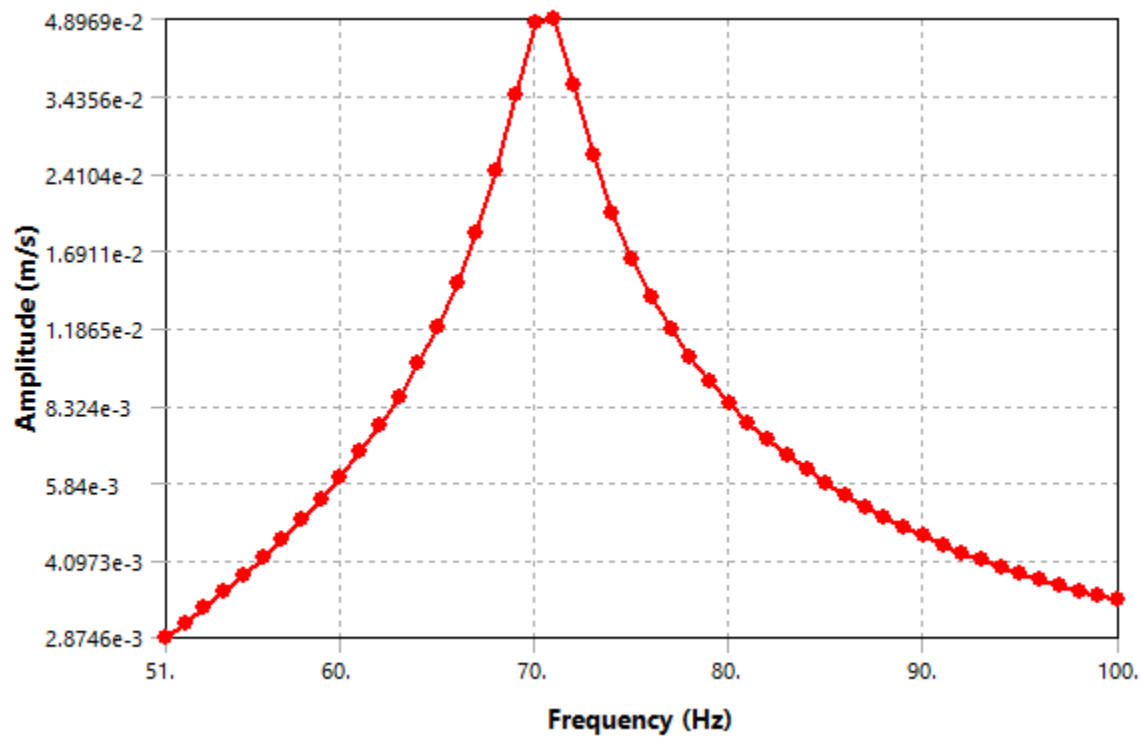


FIGURE 41
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM4y

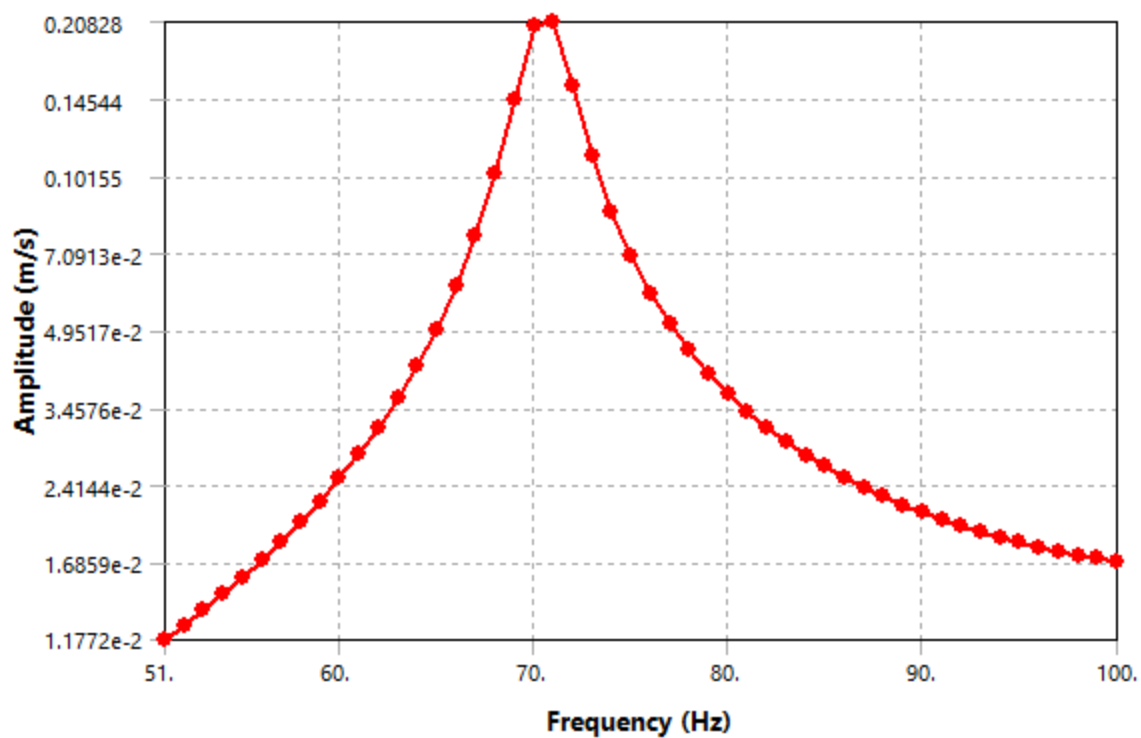


FIGURE 42
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM4z

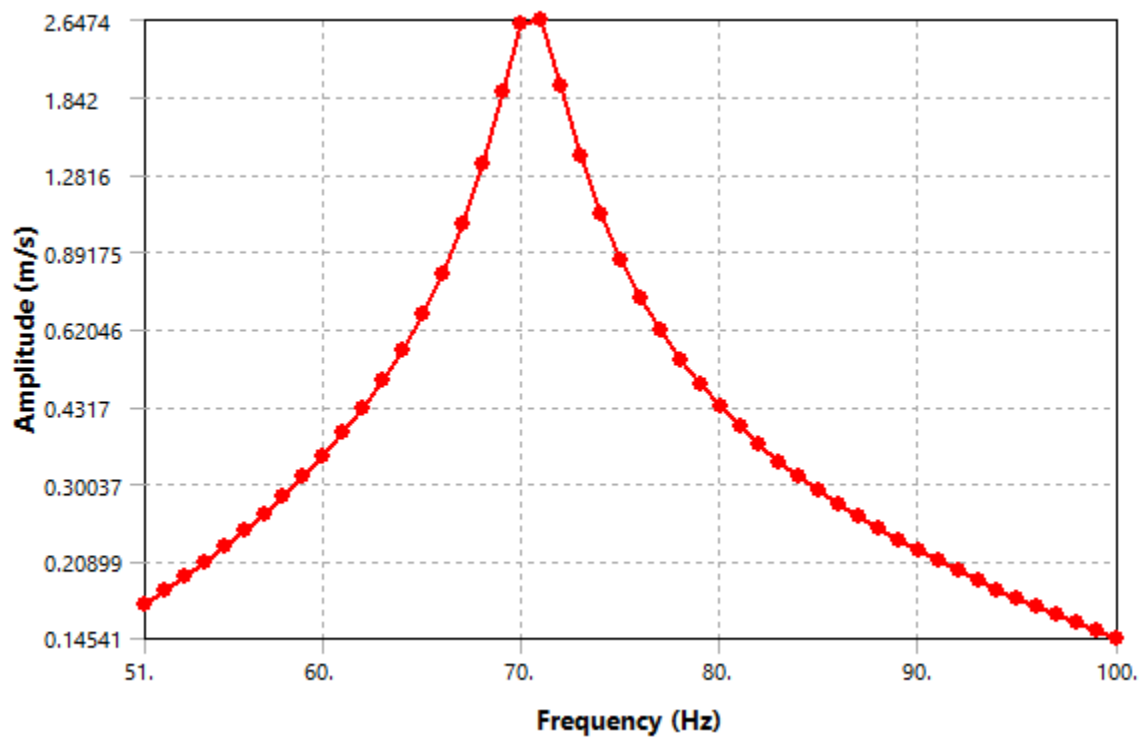


FIGURE 43

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

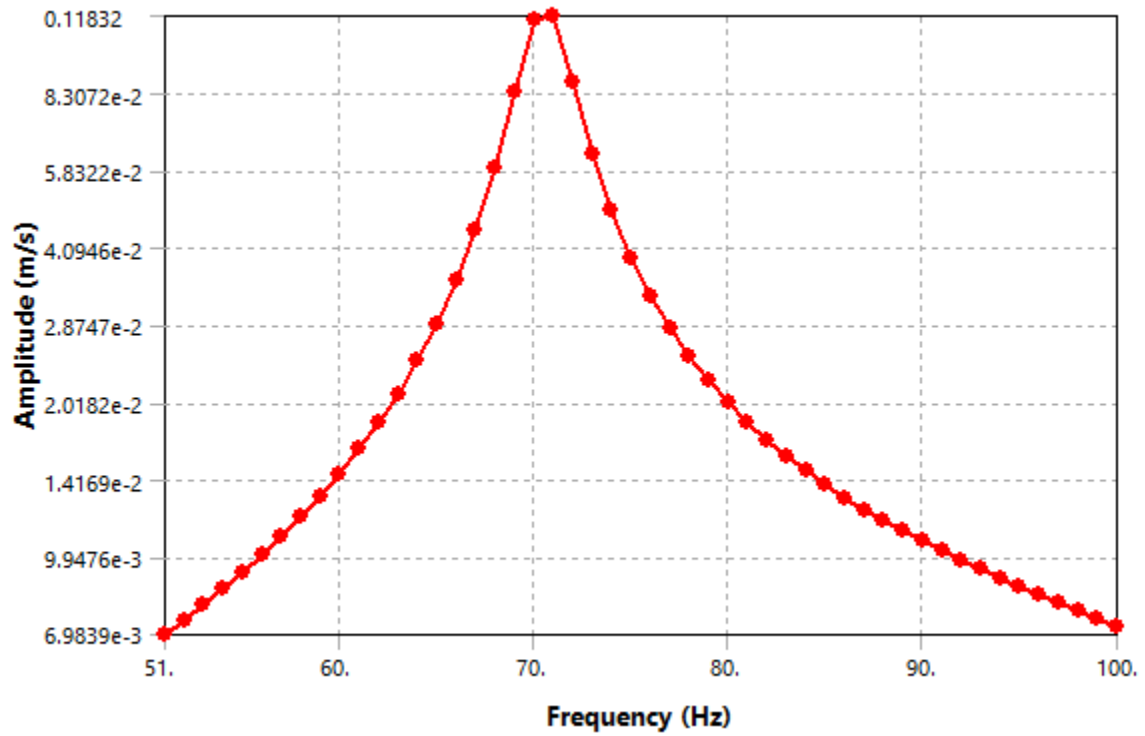


FIGURE 44

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

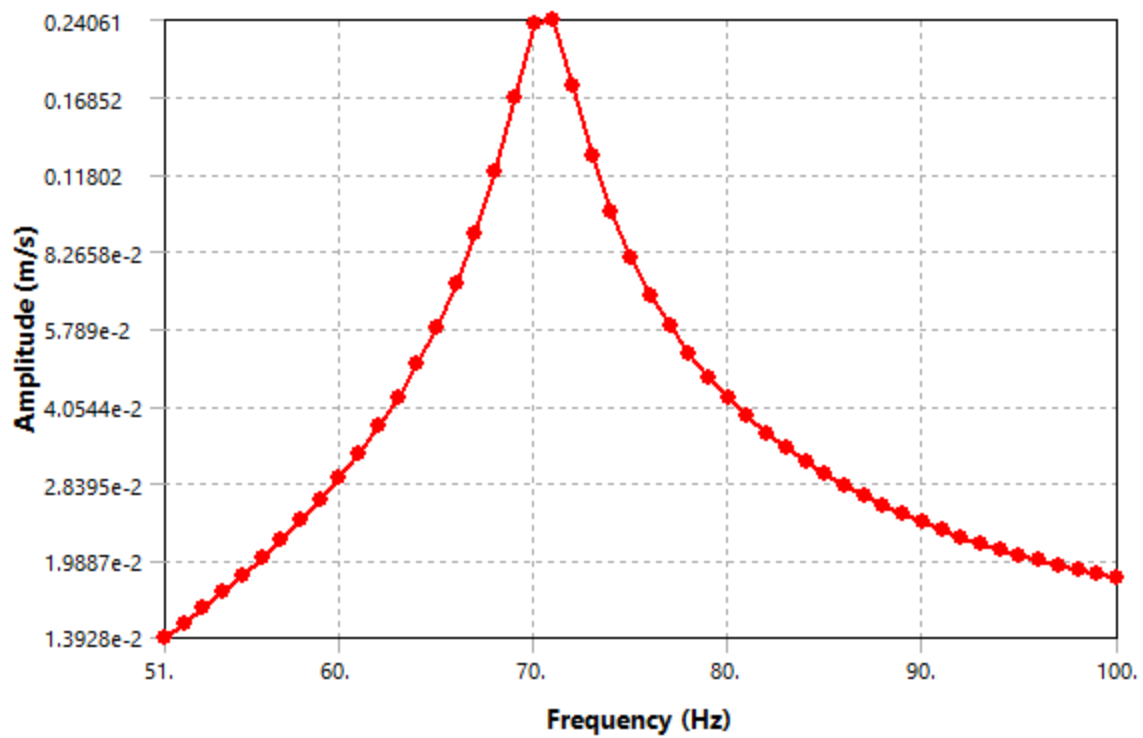


FIGURE 45
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM5z

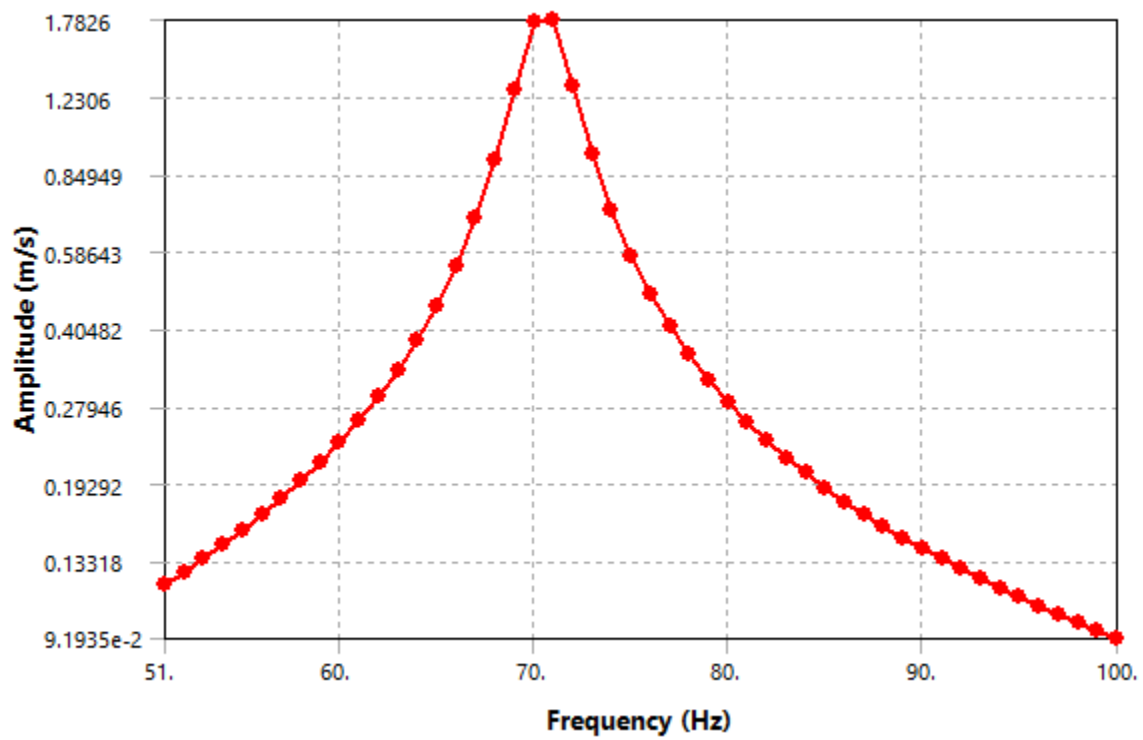


FIGURE 46

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

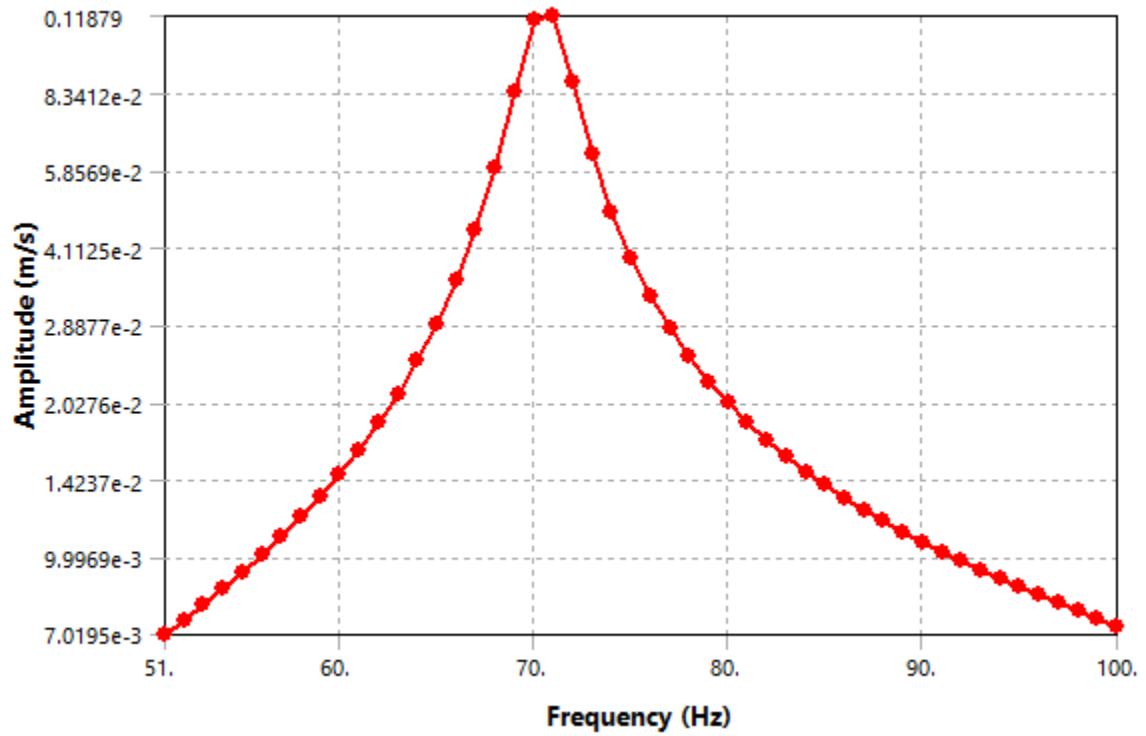


FIGURE 47

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

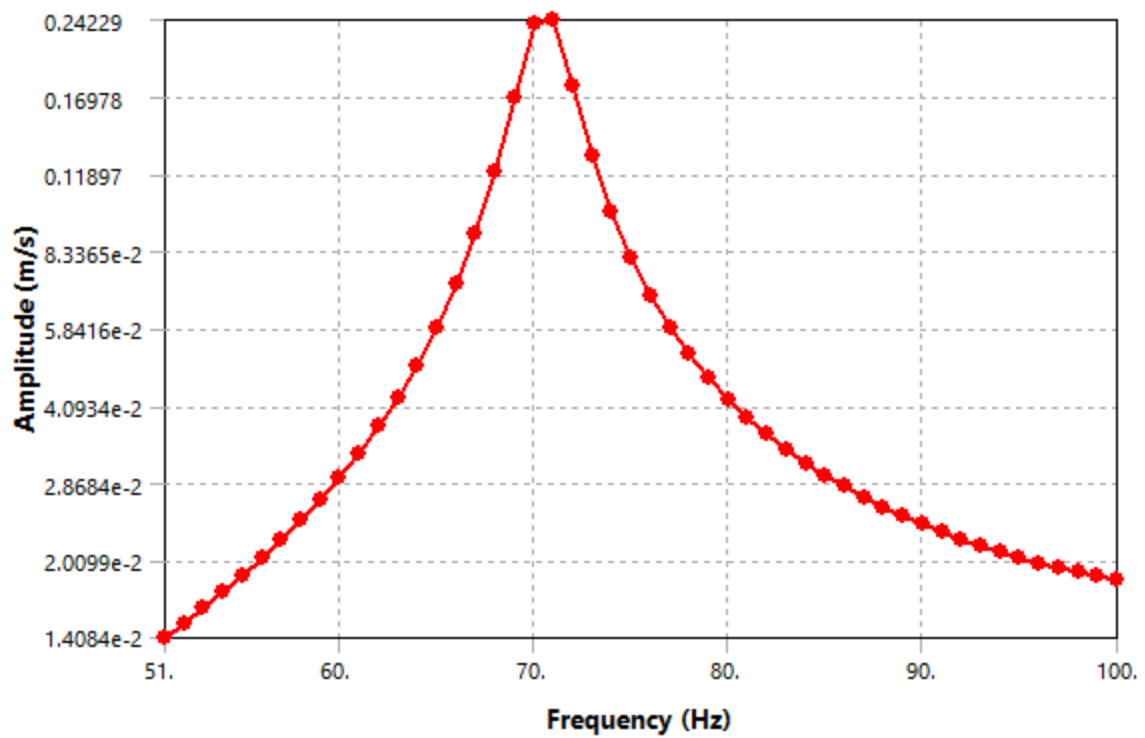


FIGURE 48
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM6z

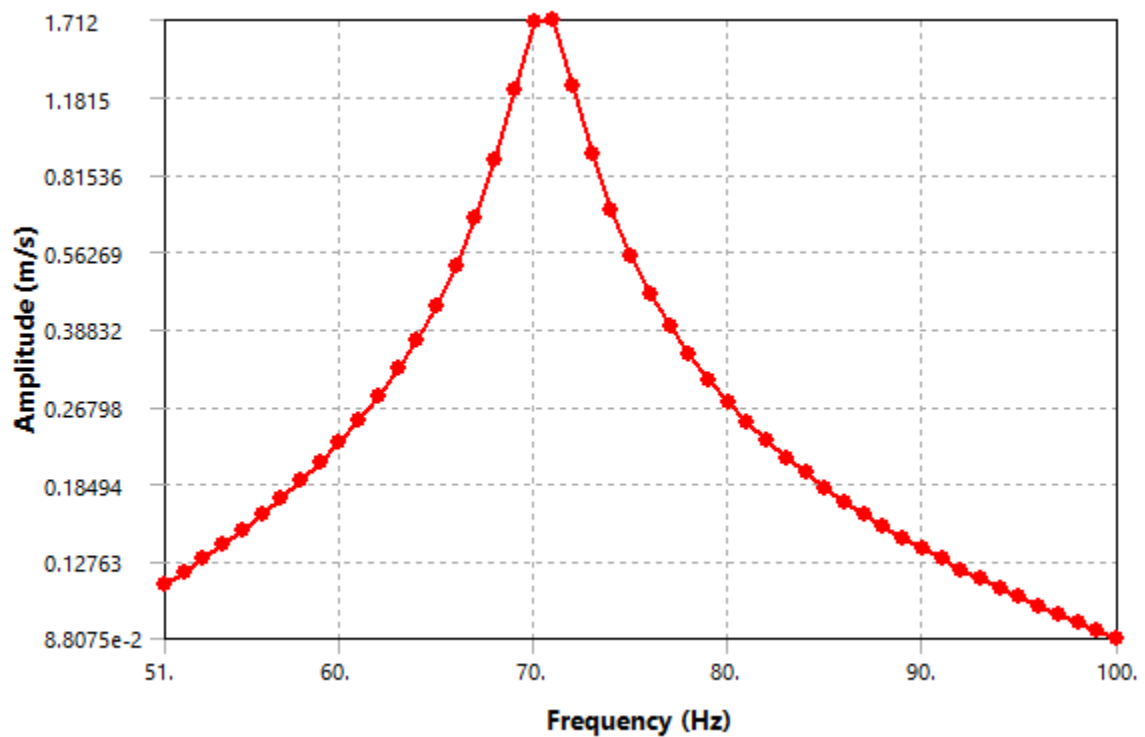


FIGURE 49

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

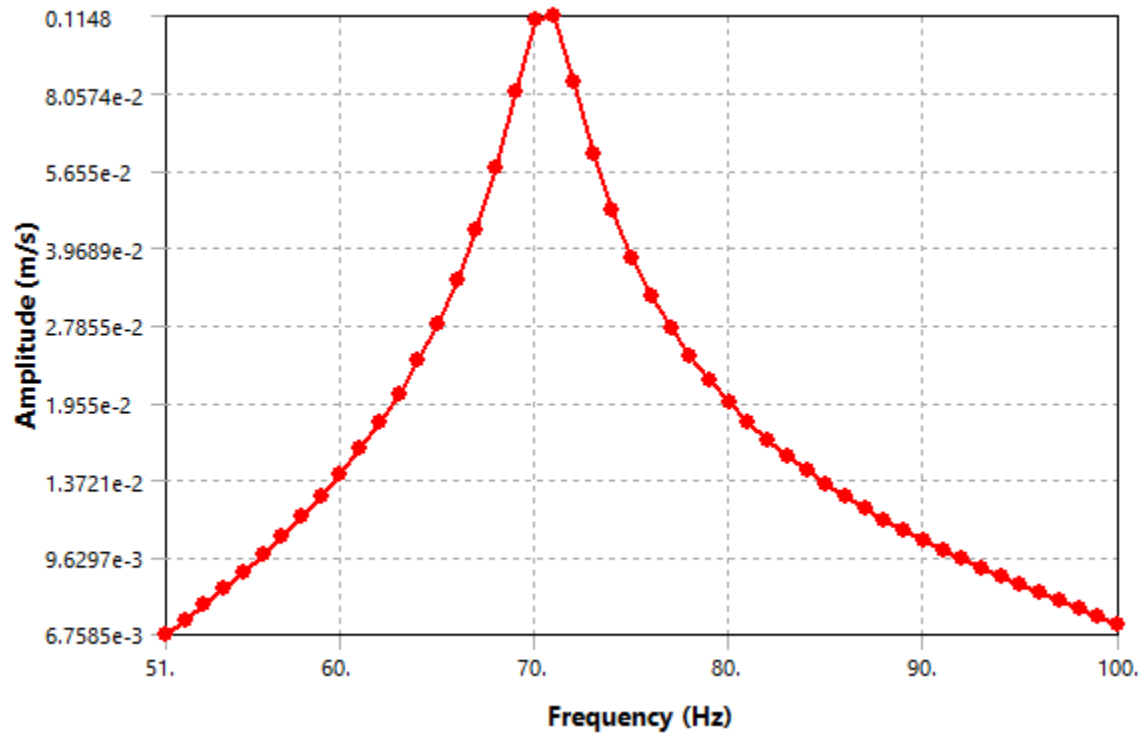


FIGURE 50

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

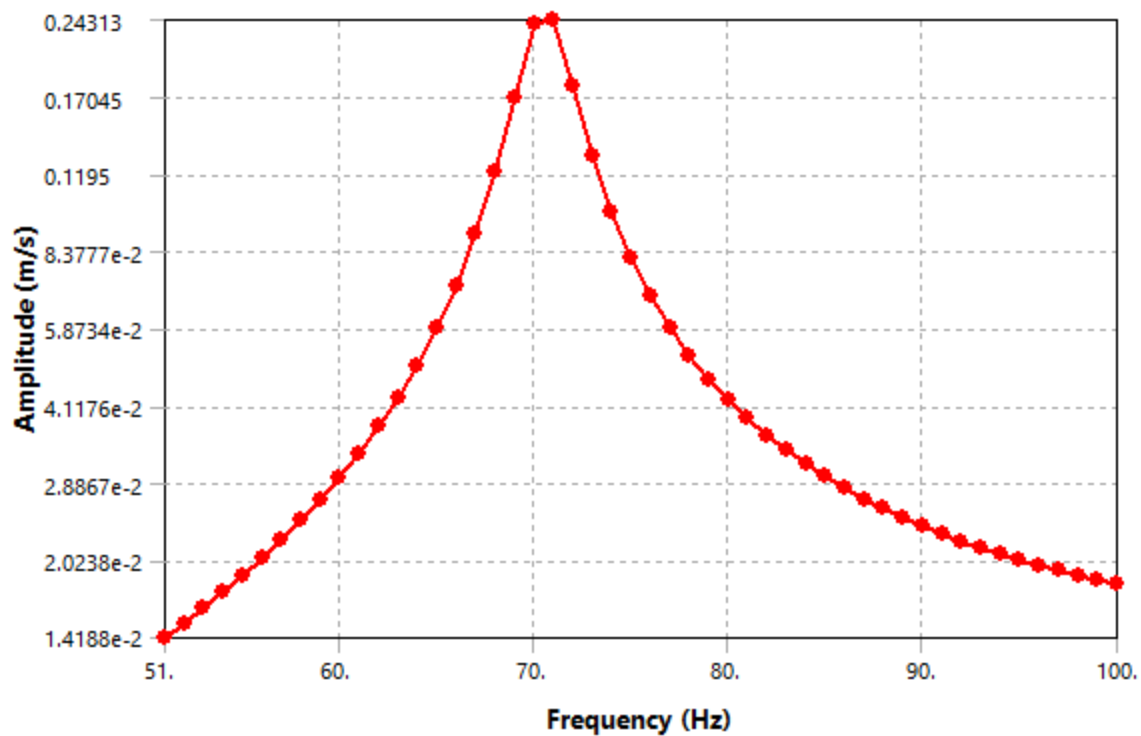


TABLE 72
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts

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				
5806 m/s	50.924 m/s ²	90.71 m/s ²	1162.8 m/s ²	36.956 m/s
71. Hz				
18.028 °	-108.67 °	-108.89 °	71.785 °	-108.67 °
503 m/s	-16.302 m/s ²	-29.367 m/s ²	363.47 m/s ²	-11.833 m/s
48916 m/s	-48.244 m/s ²	-85.824 m/s ²	1104.5 m/s ²	-35.011 m/s

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

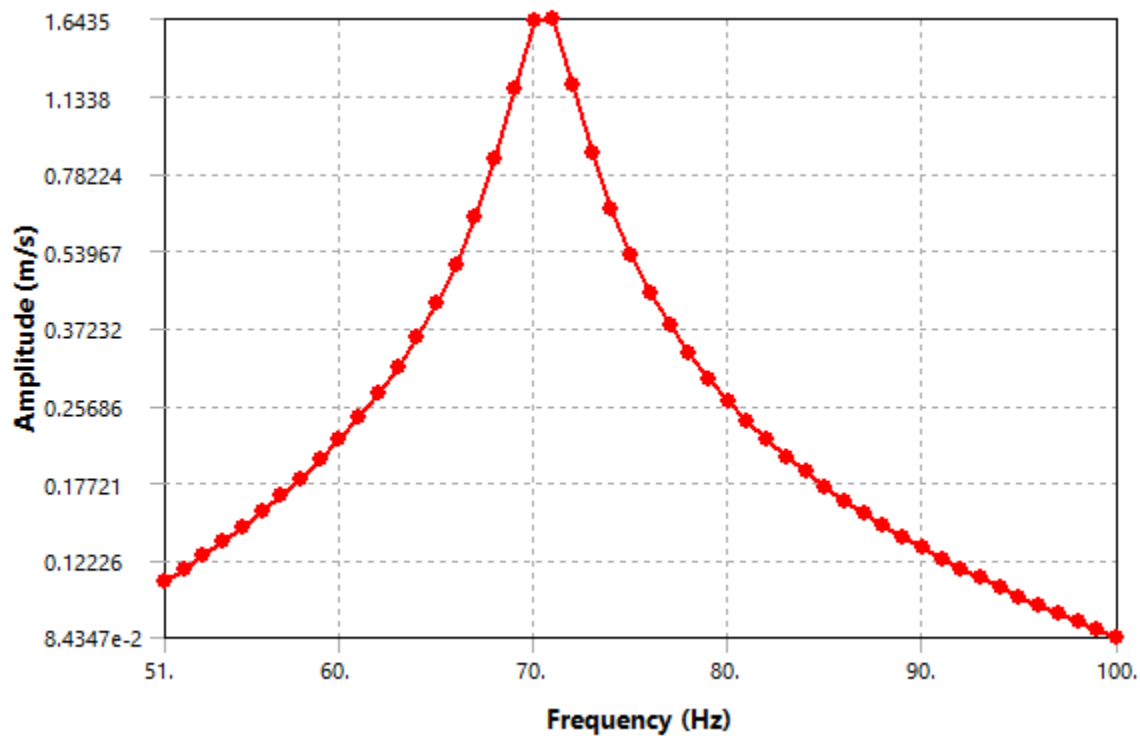


FIGURE 52

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

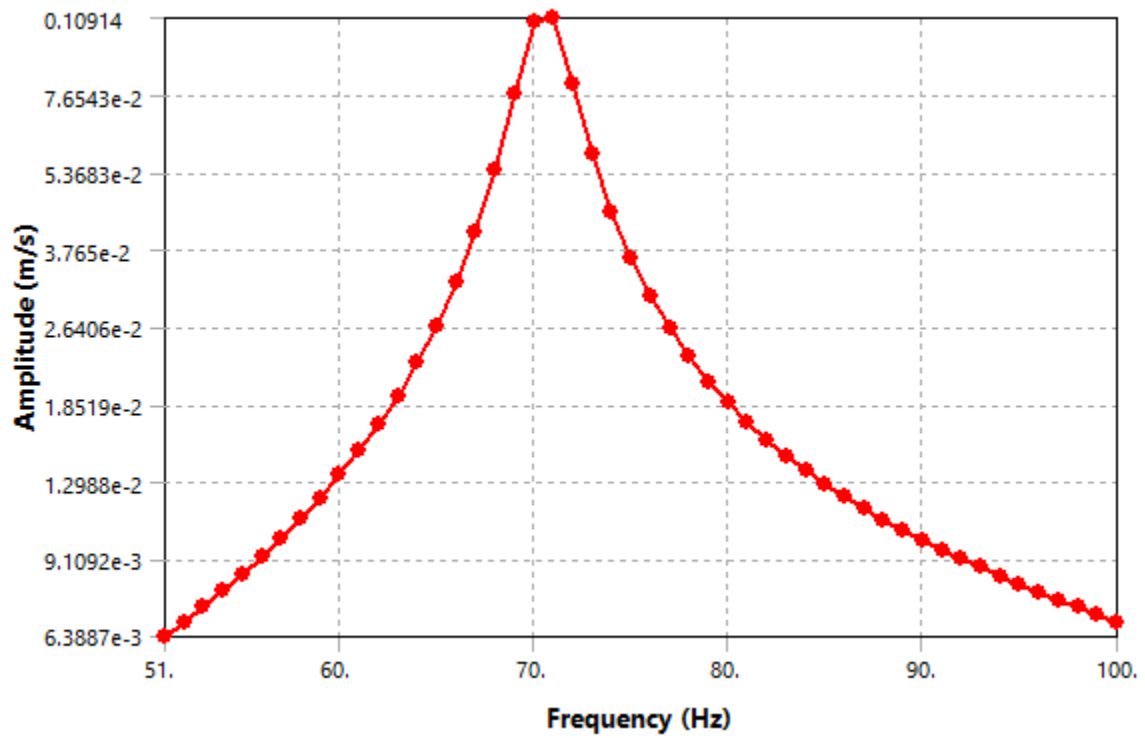


FIGURE 53

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

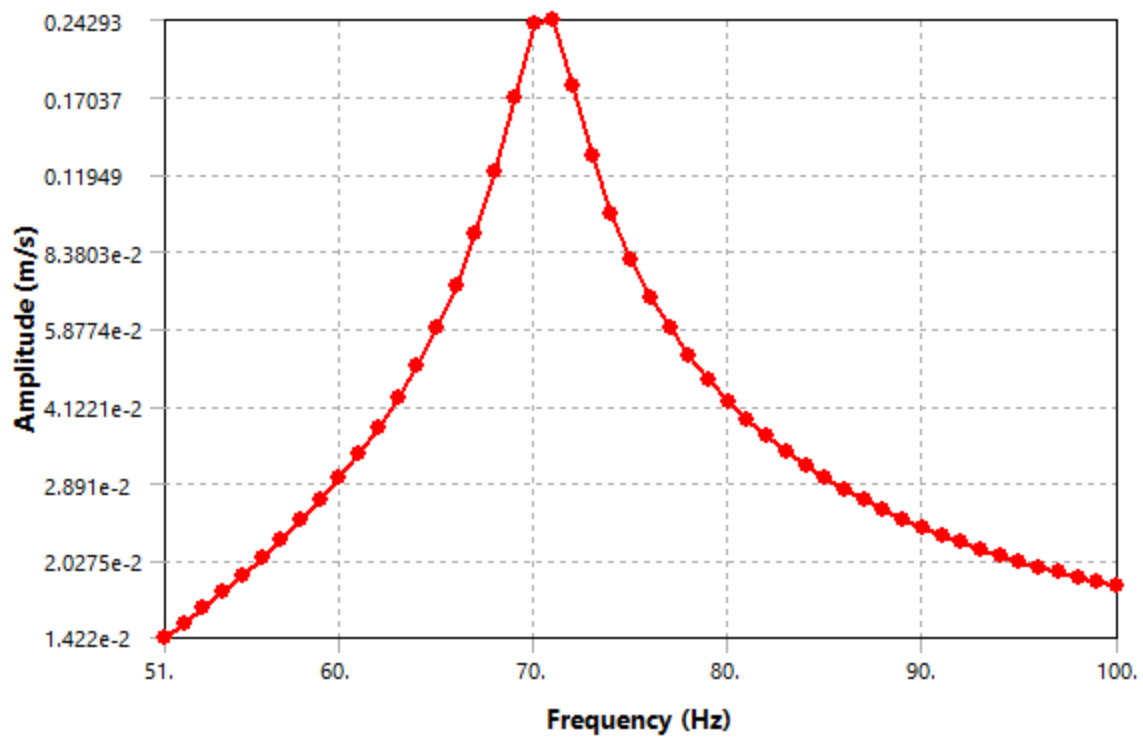


FIGURE 54
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > VelocityFrequencyResponseDIMM8z

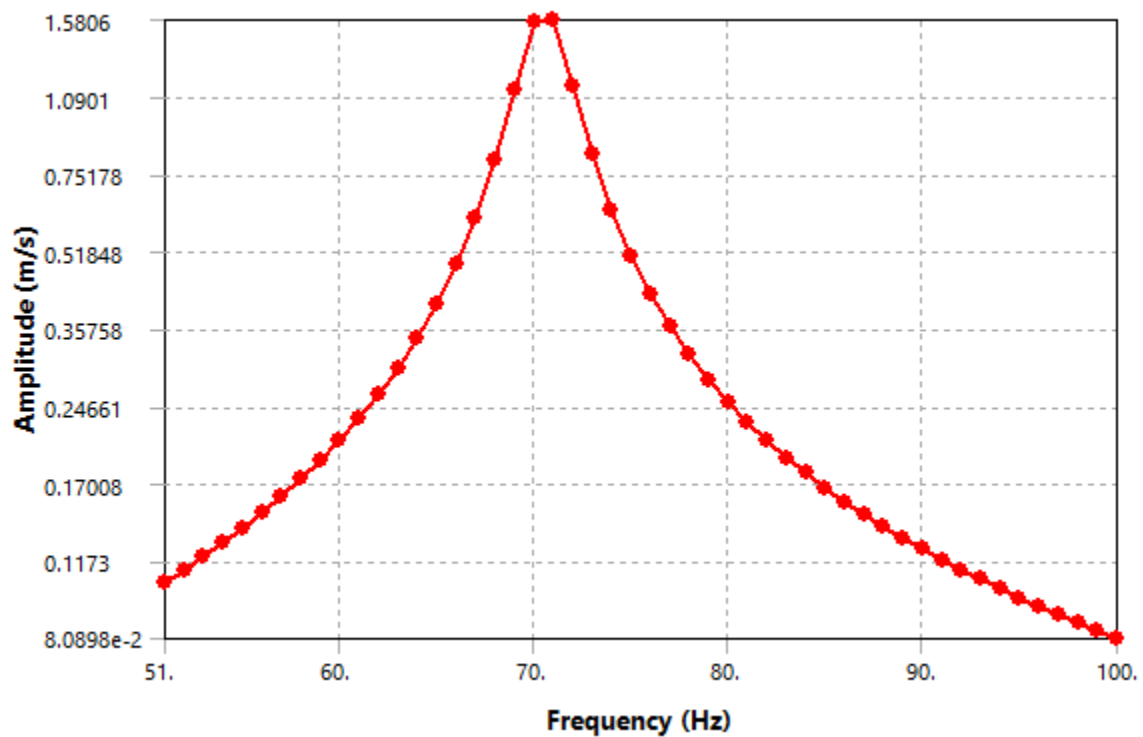


FIGURE 55
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM2x

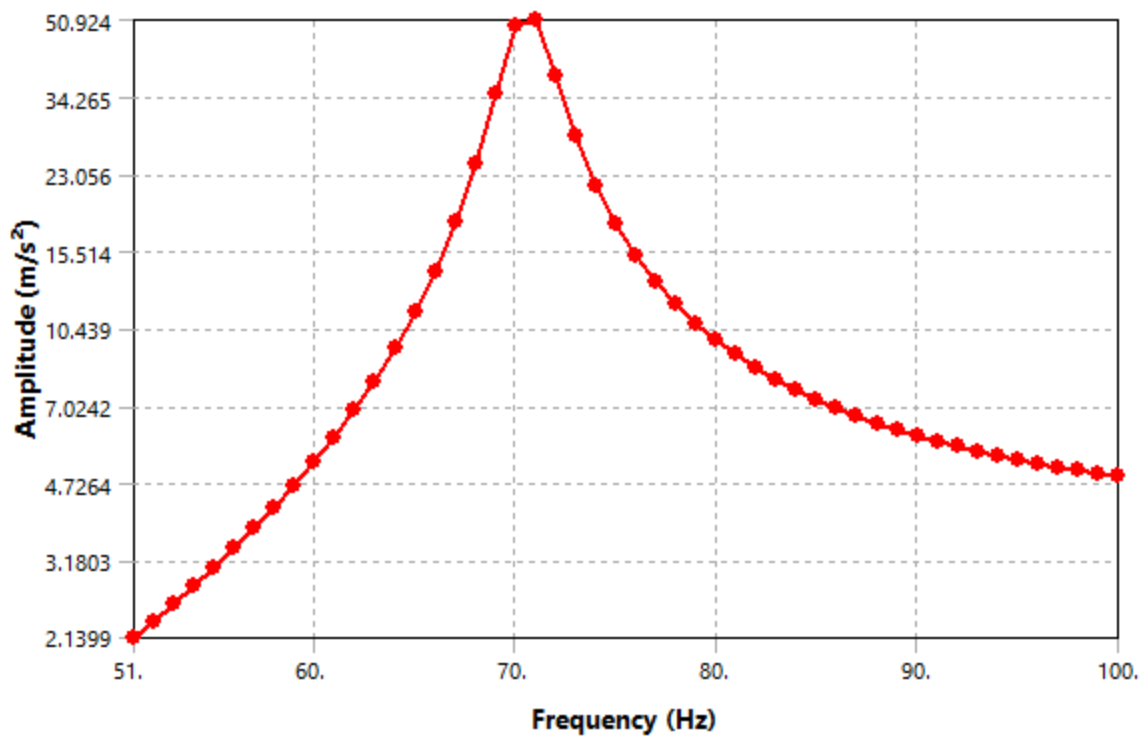


FIGURE 56
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM2y

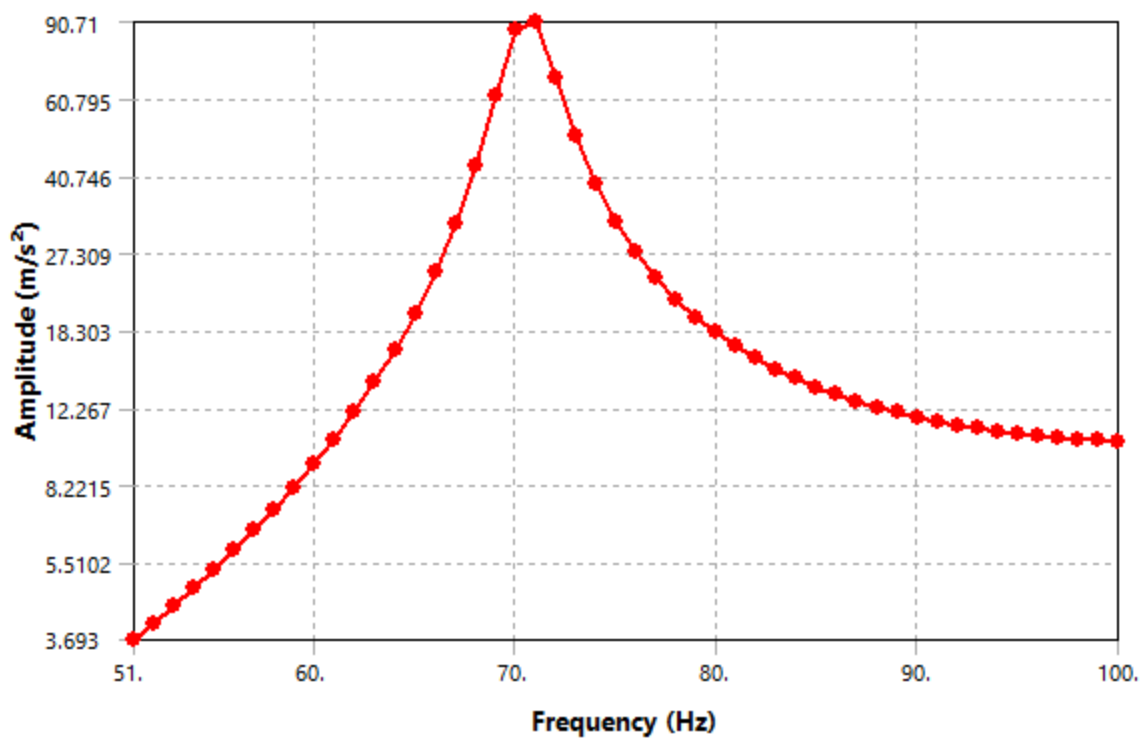


FIGURE 57
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM2z

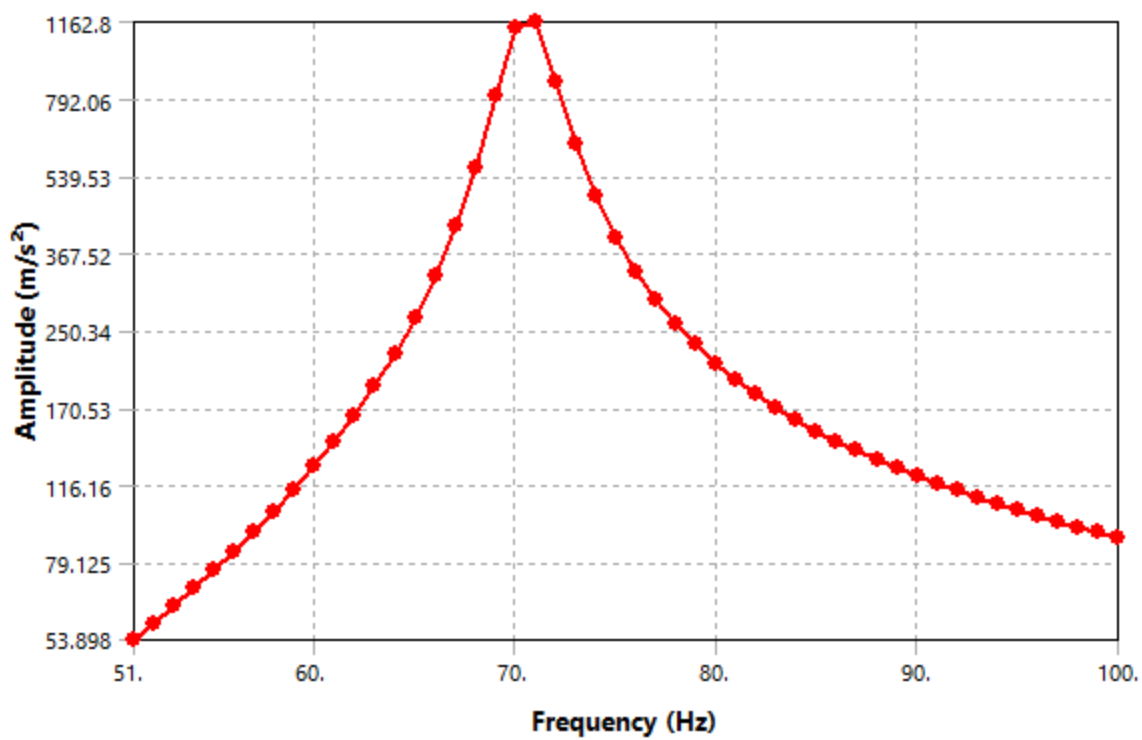


FIGURE 58
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM3x

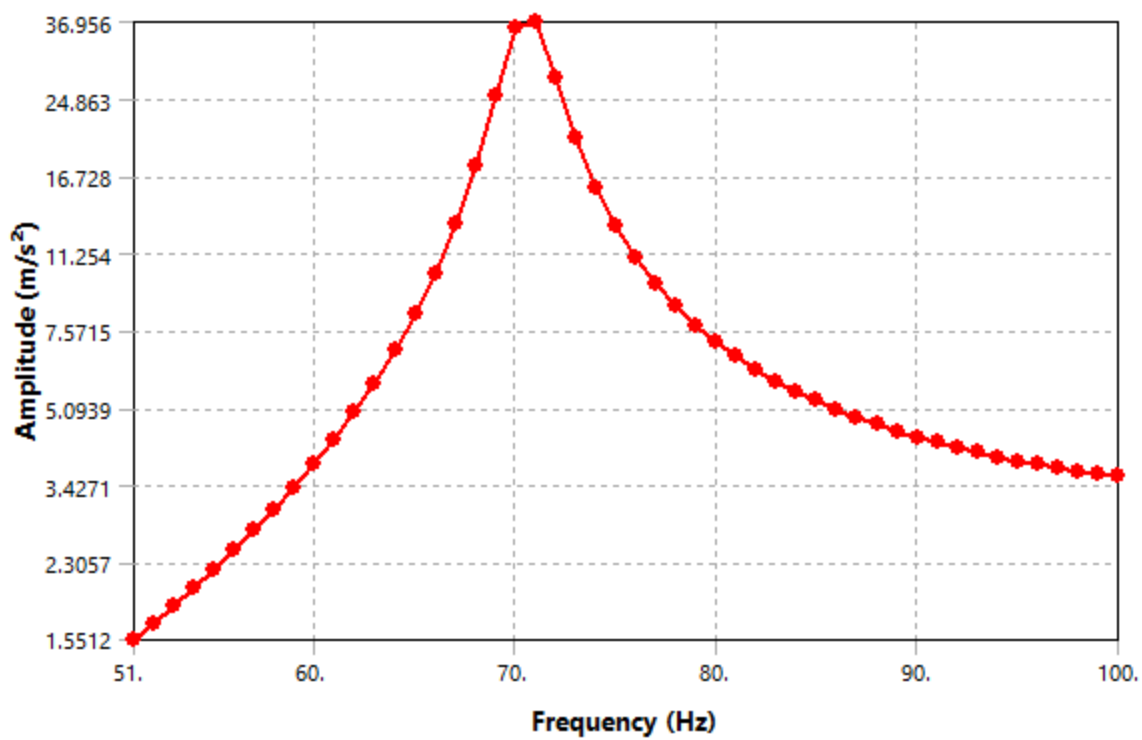


FIGURE 59
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM3y

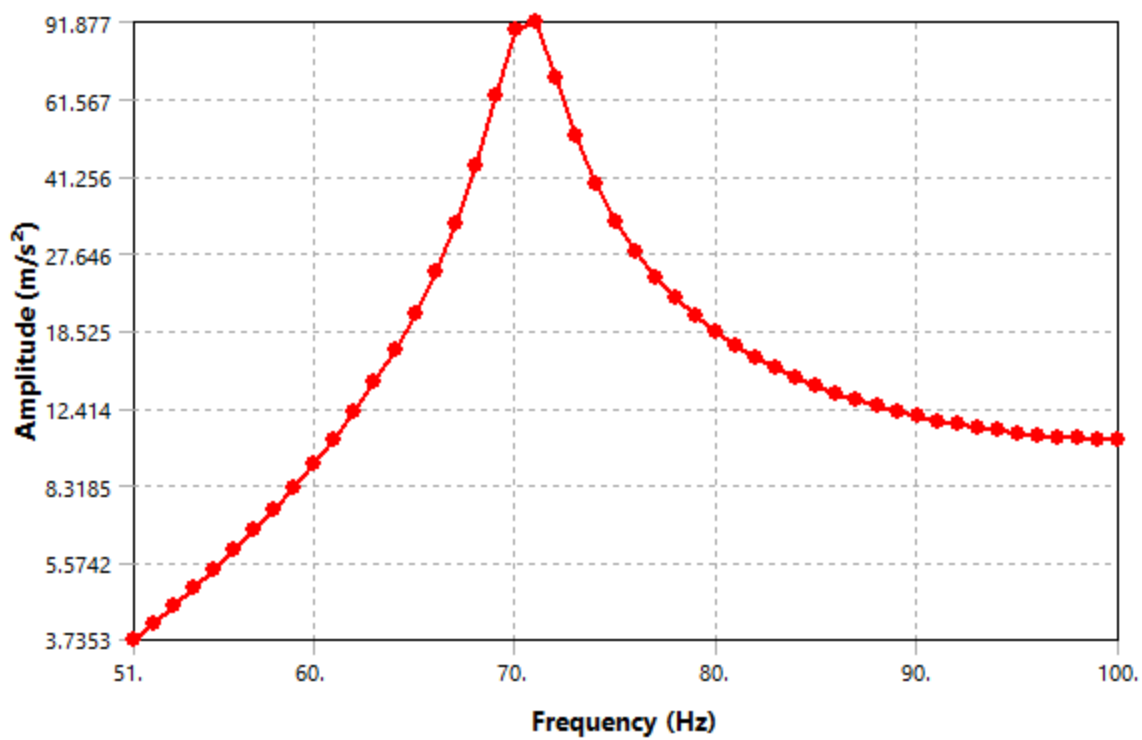


FIGURE 60
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM3z

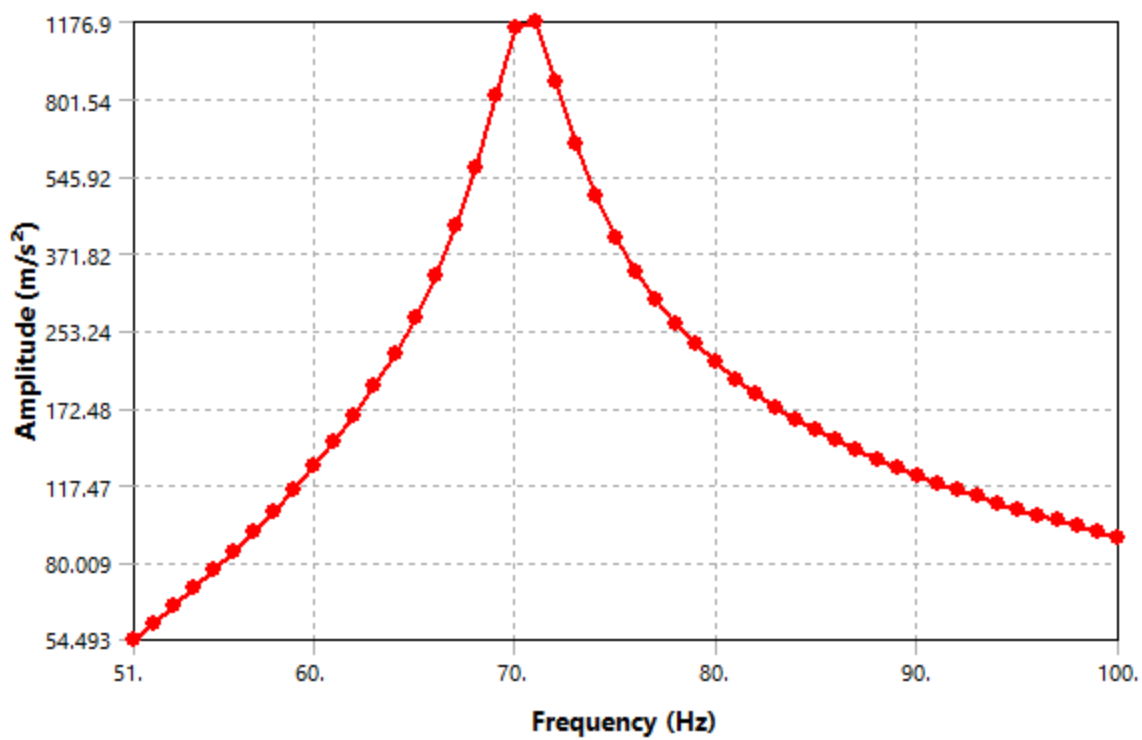


FIGURE 61
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM4x

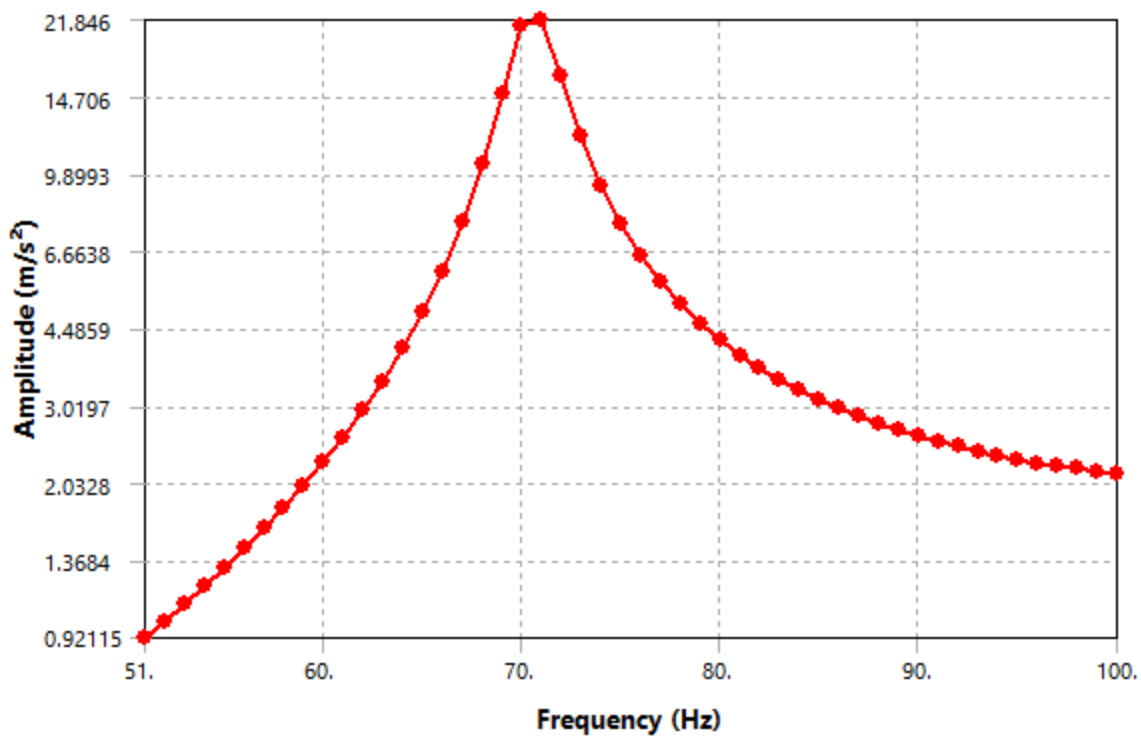


TABLE 73
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) > Result Charts

AccelerationFrequencyResponseDIMM5y	AccelerationFrequencyResponseDIMM5z	AccelerationFrequencyResponseDIMM6x	AccelerationFrequencyResponseDIMM6y	AccelerationFrequencyResponseDIMM6z
Solved				
Scope				
Geometry Selection				
1 Body				
Use Average				
Definition				
Directional Acceleration				
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				
107.34 m/s ²	795.23 m/s ²	52.994 m/s ²	108.09 m/s ²	763.75
71. Hz				
-108.78 °	71.937 °	71.398 °	-108.76 °	71.94
-34.558 m/s ²	246.57 m/s ²	16.904 m/s ²	-34.761 m/s ²	236.67
-101.62 m/s ²	756.04 m/s ²	50.226 m/s ²	-102.34 m/s ²	726.16

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

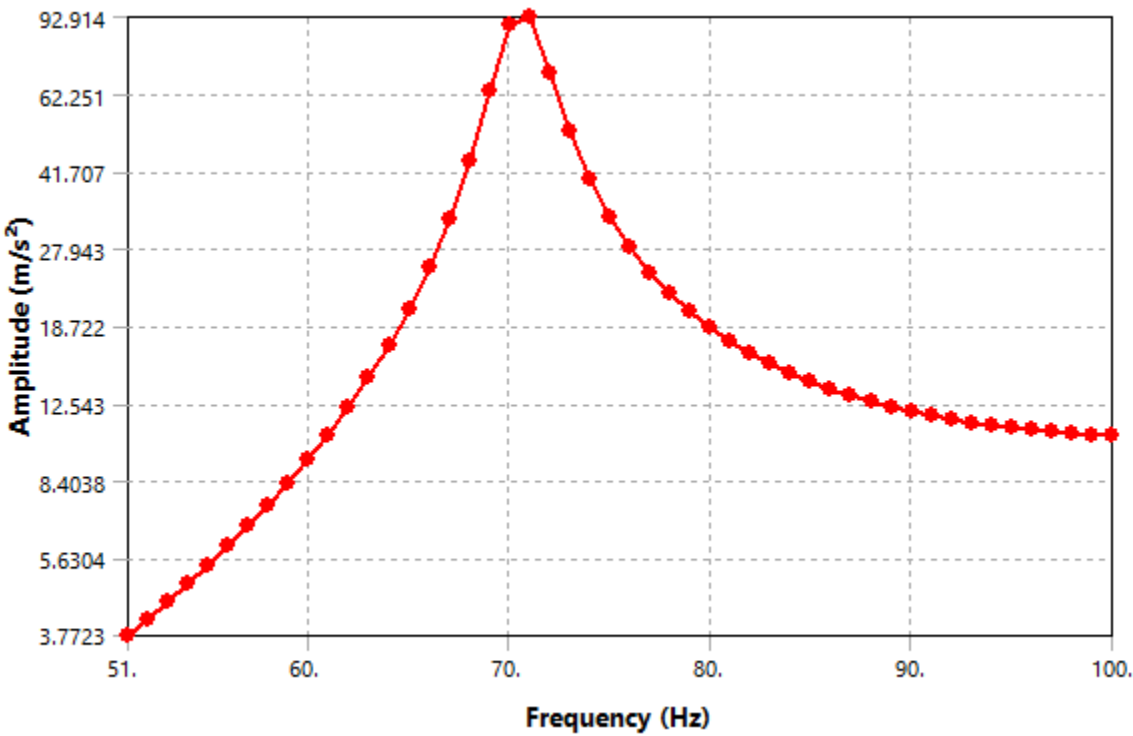


FIGURE 63
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM4z

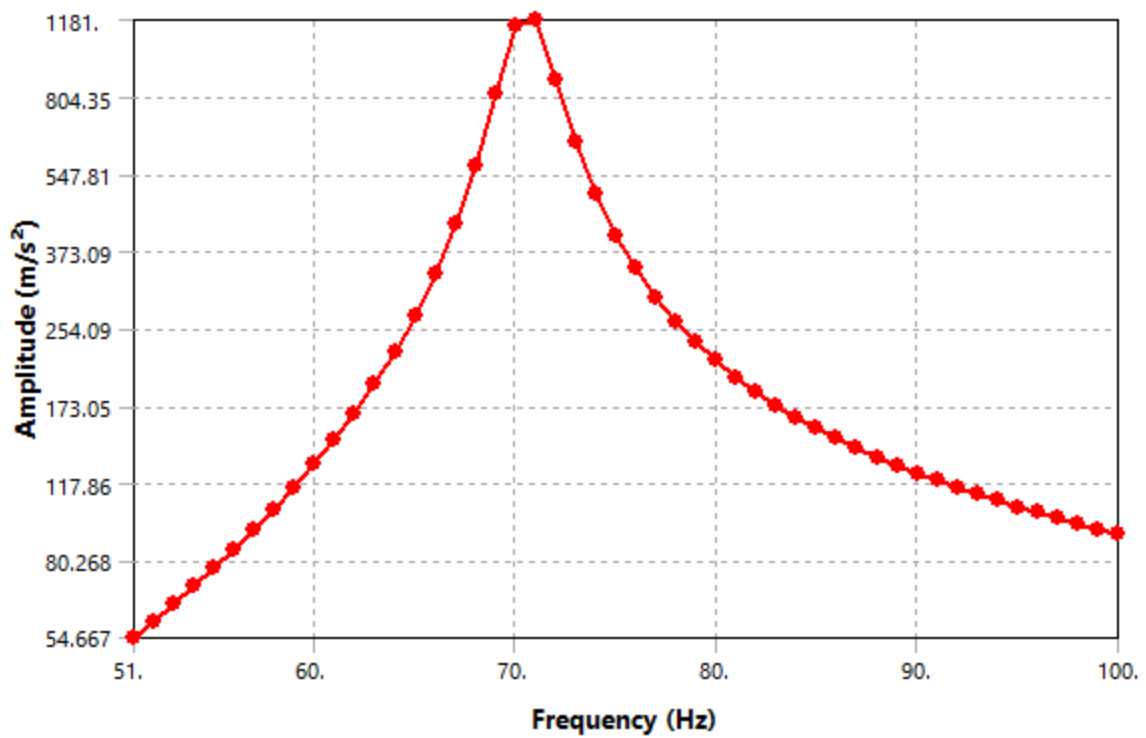


FIGURE 64
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM5x

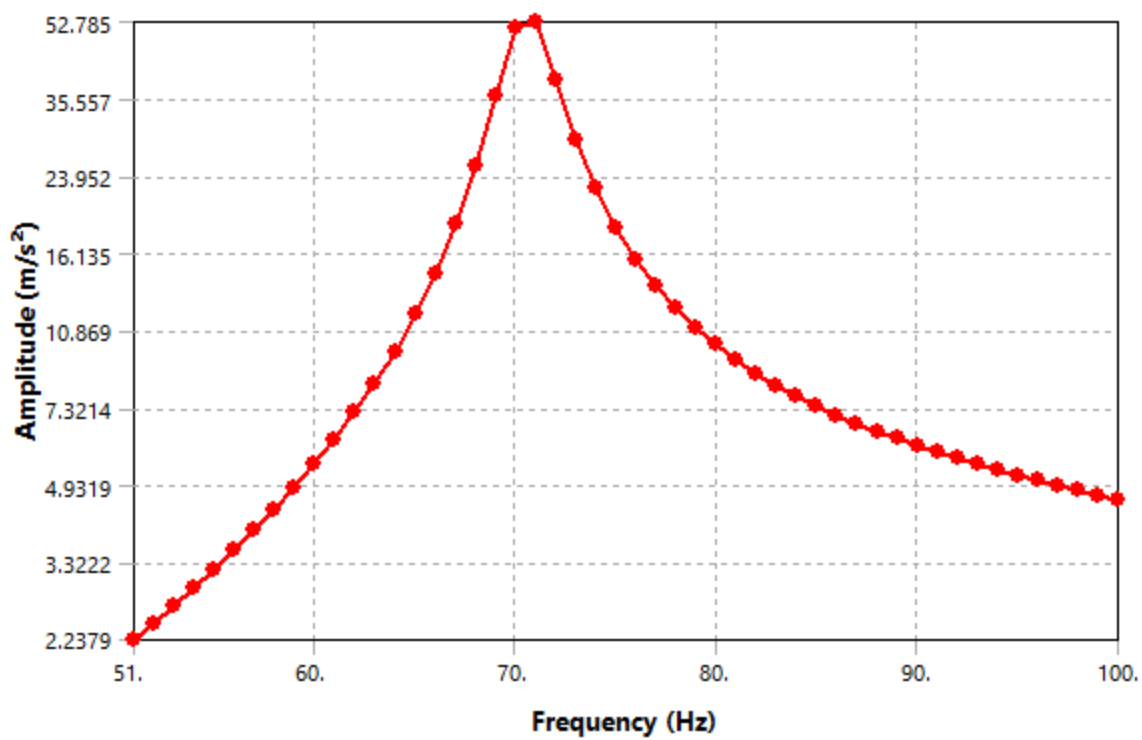


FIGURE 65
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM5y

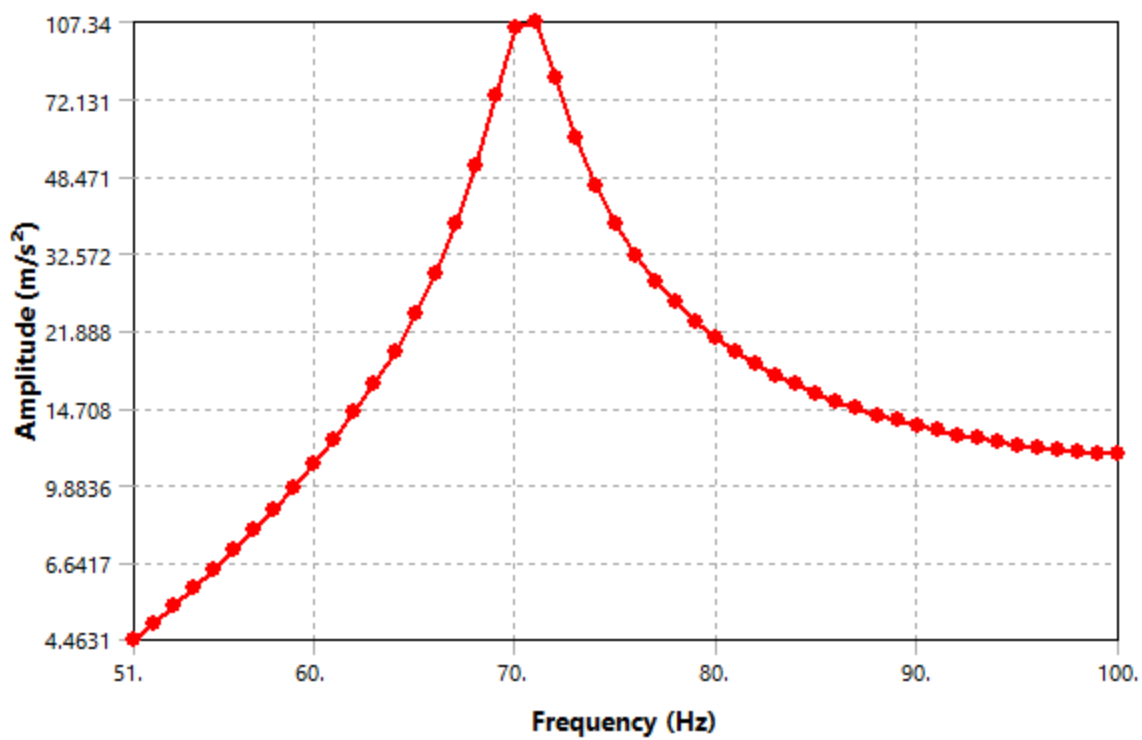


FIGURE 66
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM5z

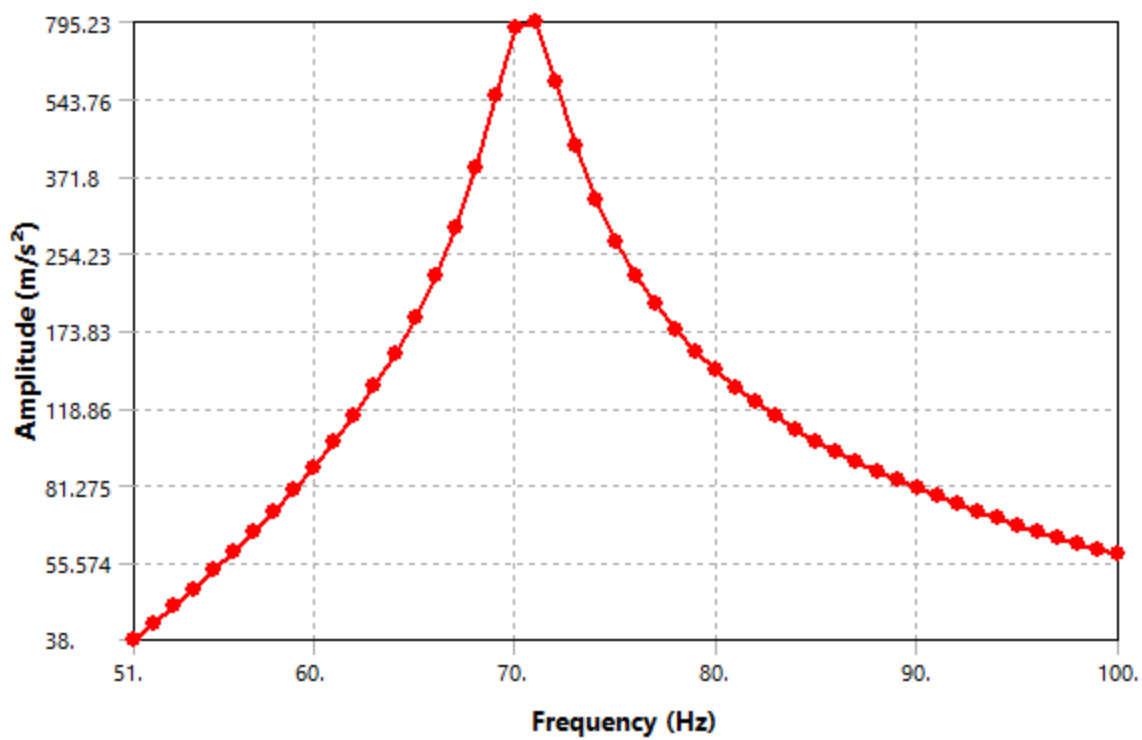


FIGURE 67
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM6x

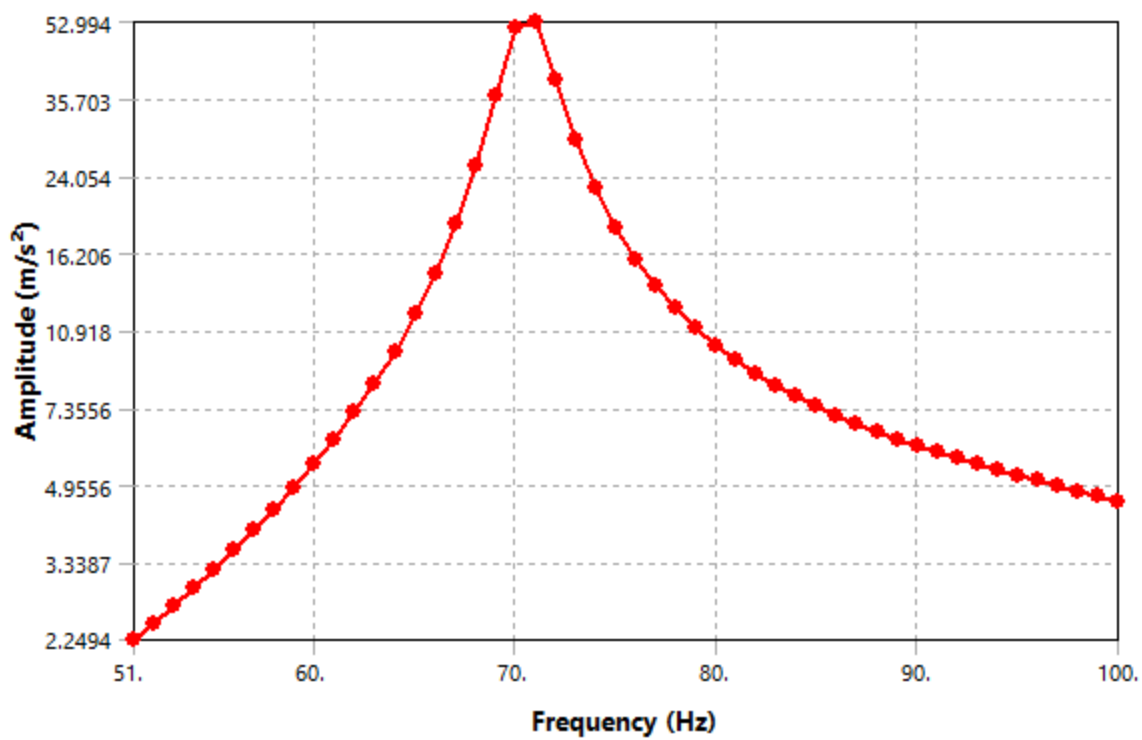


FIGURE 68
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM6y

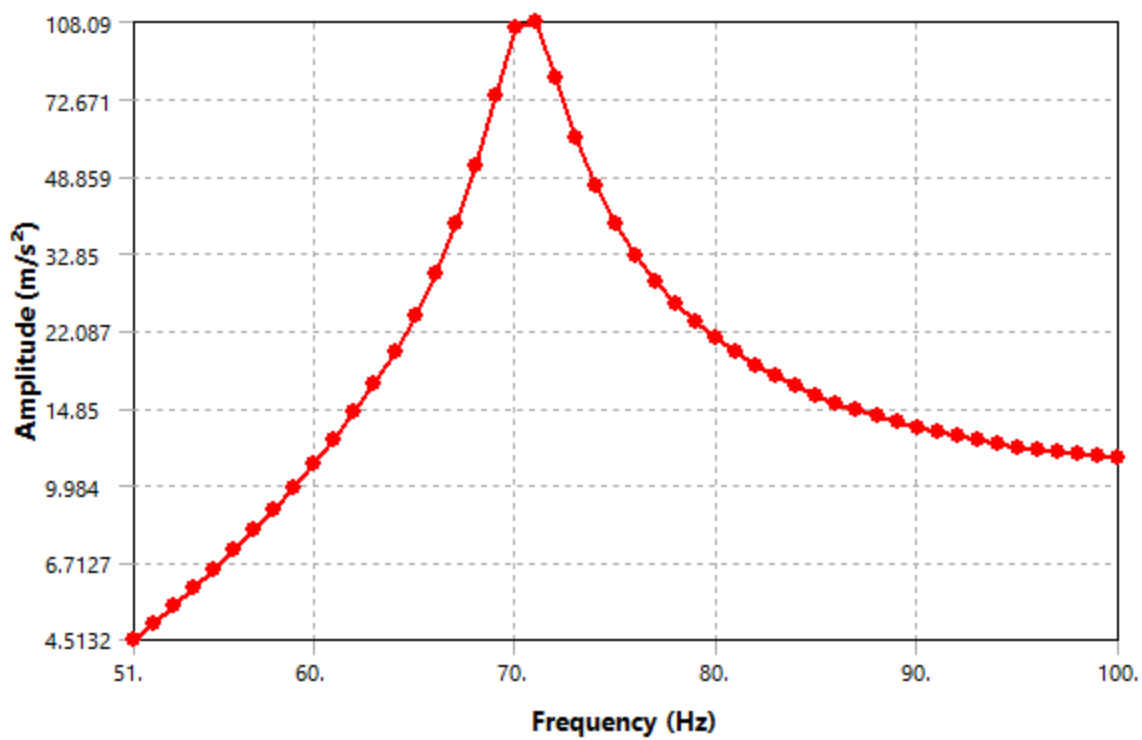


FIGURE 69
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM6z

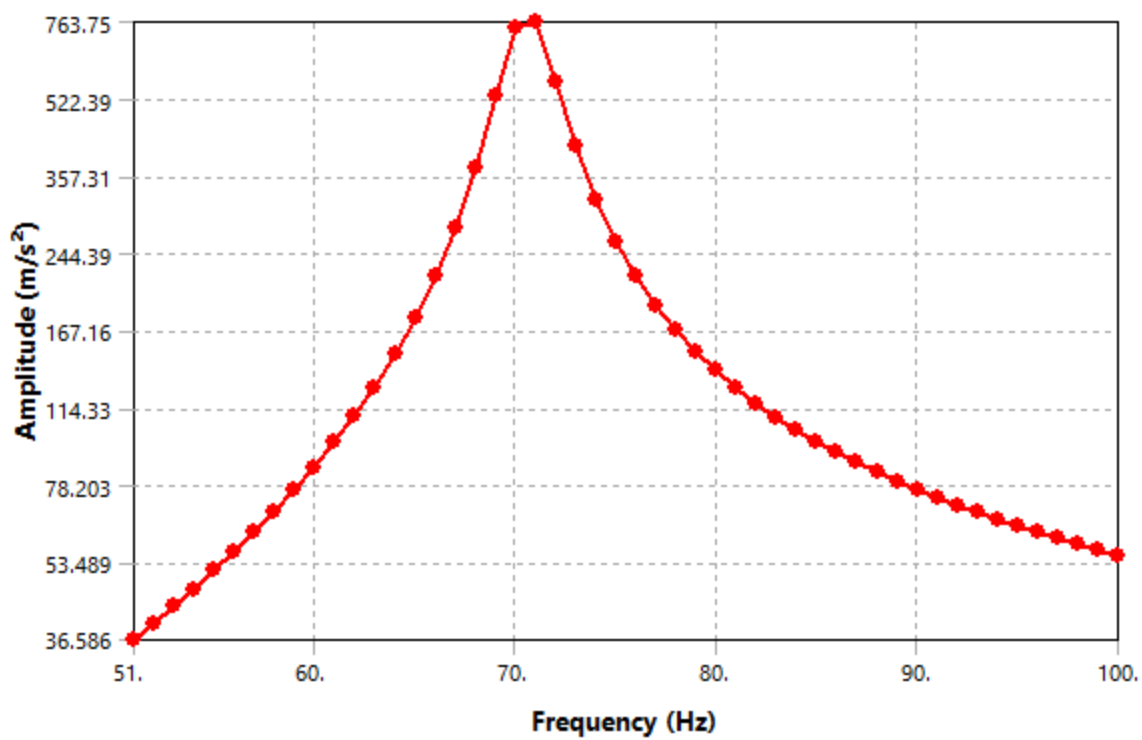


FIGURE 70
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM7x

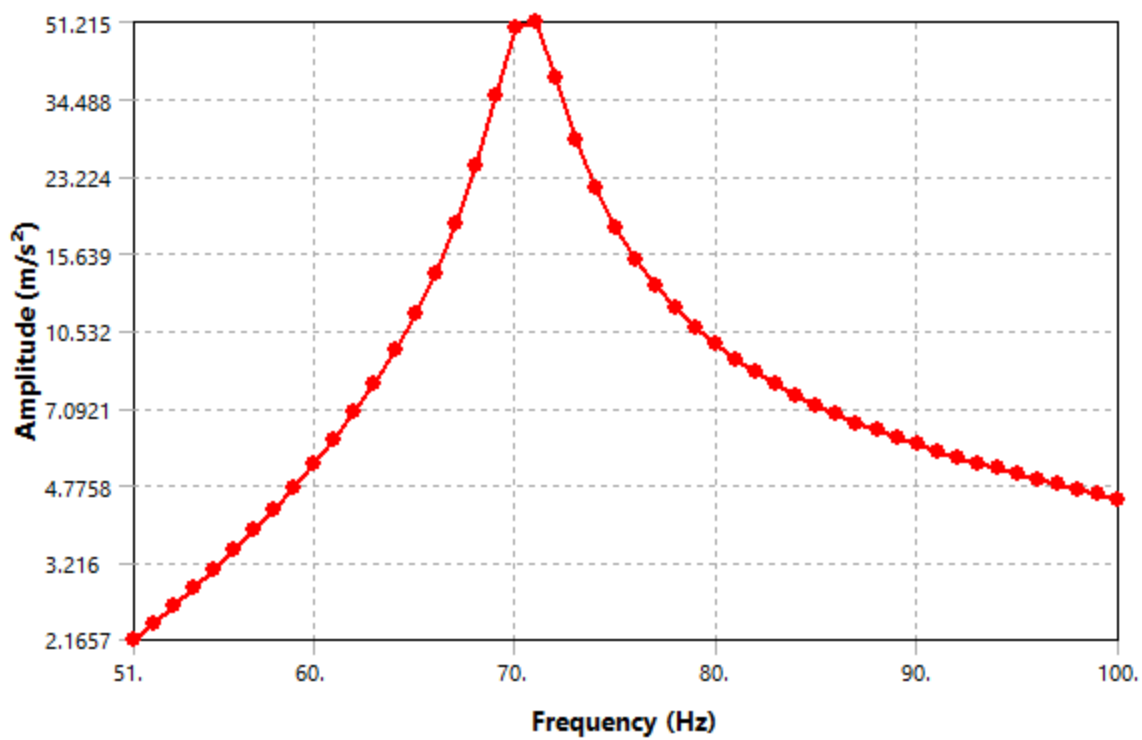


FIGURE 71
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM7y

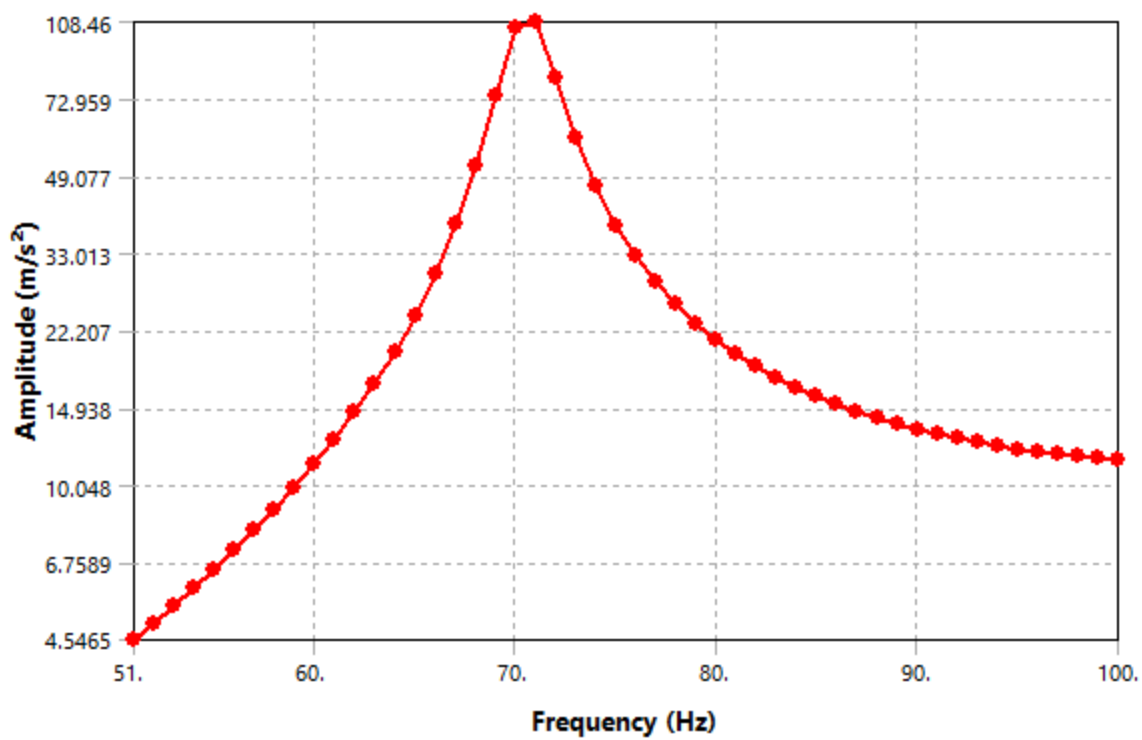


FIGURE 72
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM7z

Log Y

Results			
108.37 m/s ²	705.1 m/s ²	2.4465e-004 m	5.445
71. Hz			
-108.73 °	71.972 °	-108.64 °	71
-34.792 m/s ²	218.22 m/s ²	-7.82e-005 m	1.748
-102.63 m/s ²	670.48 m/s ²	-2.3181e-004 m	5.157

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

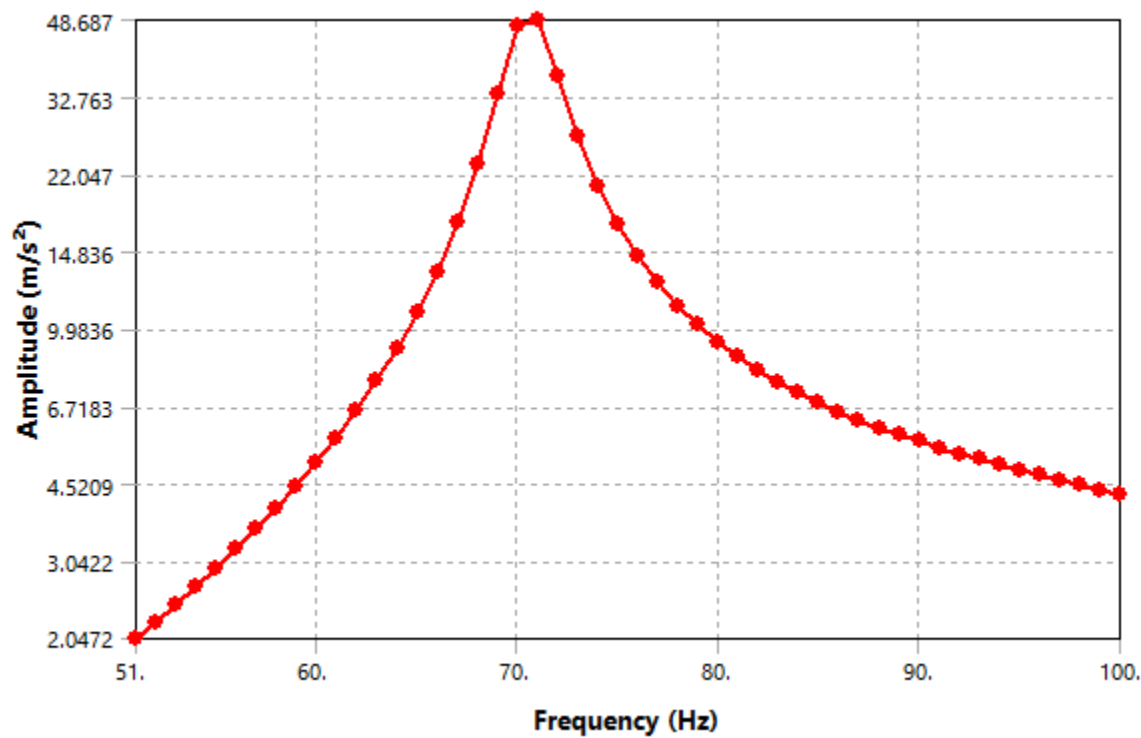


FIGURE 74
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM8y

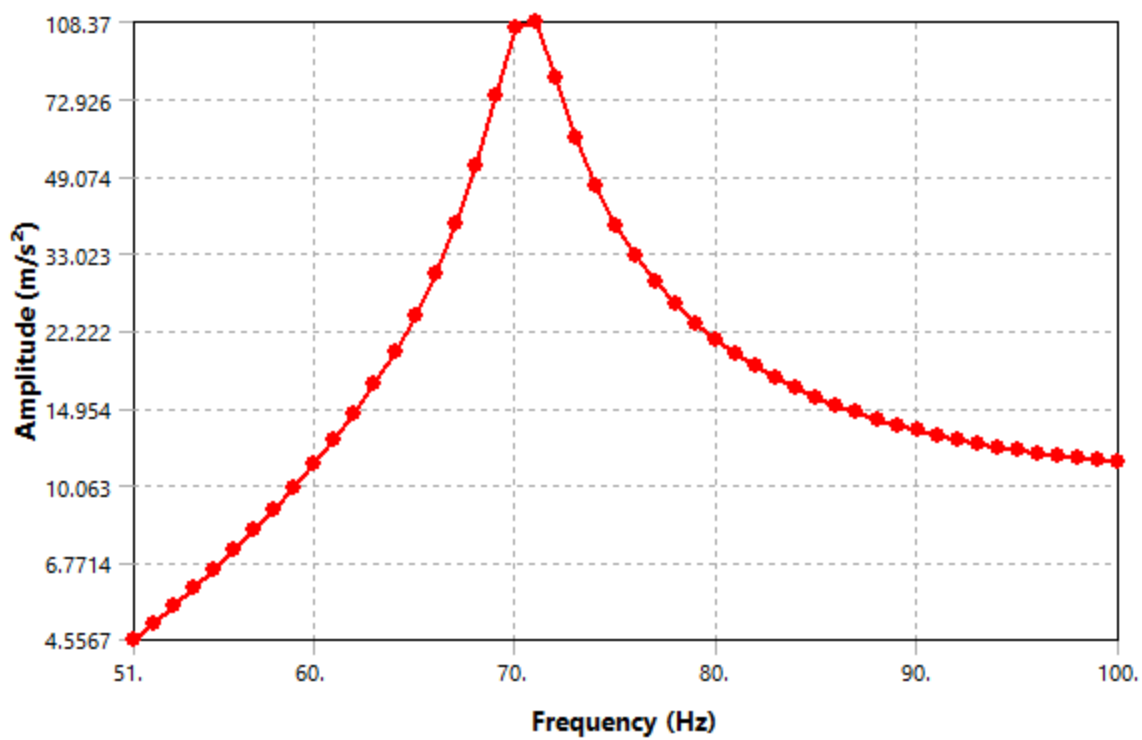


FIGURE 75
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
AccelerationFrequencyResponseDIMM8z

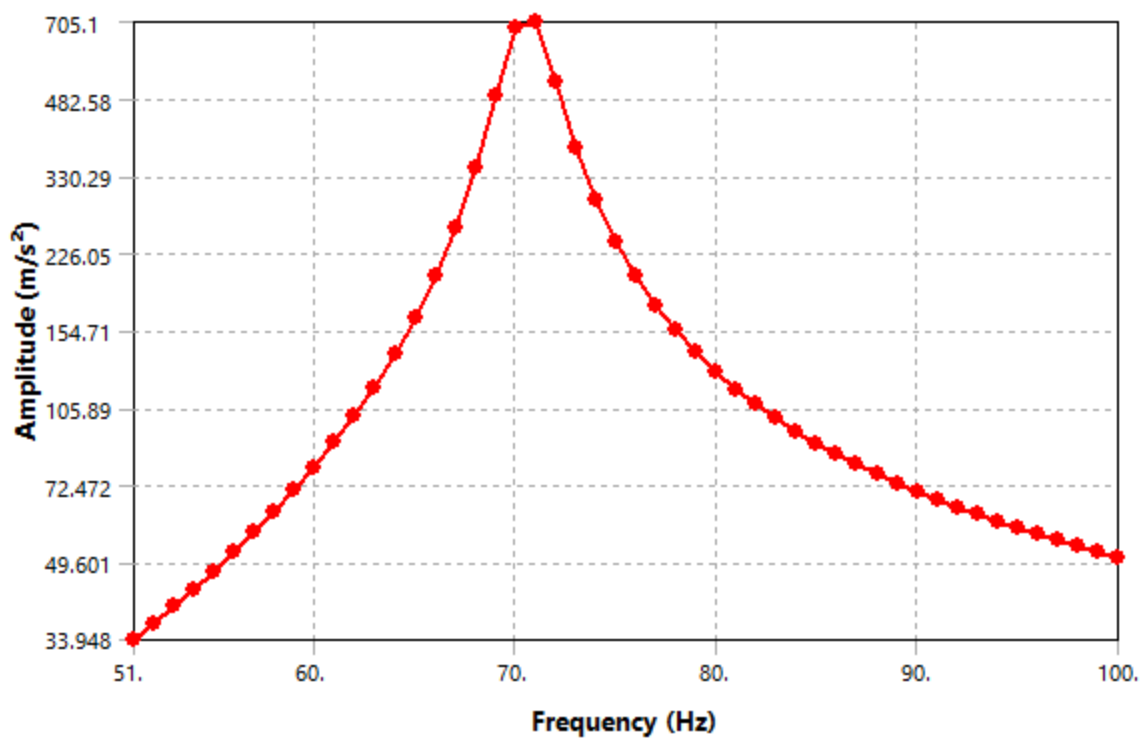


FIGURE 76
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM8x

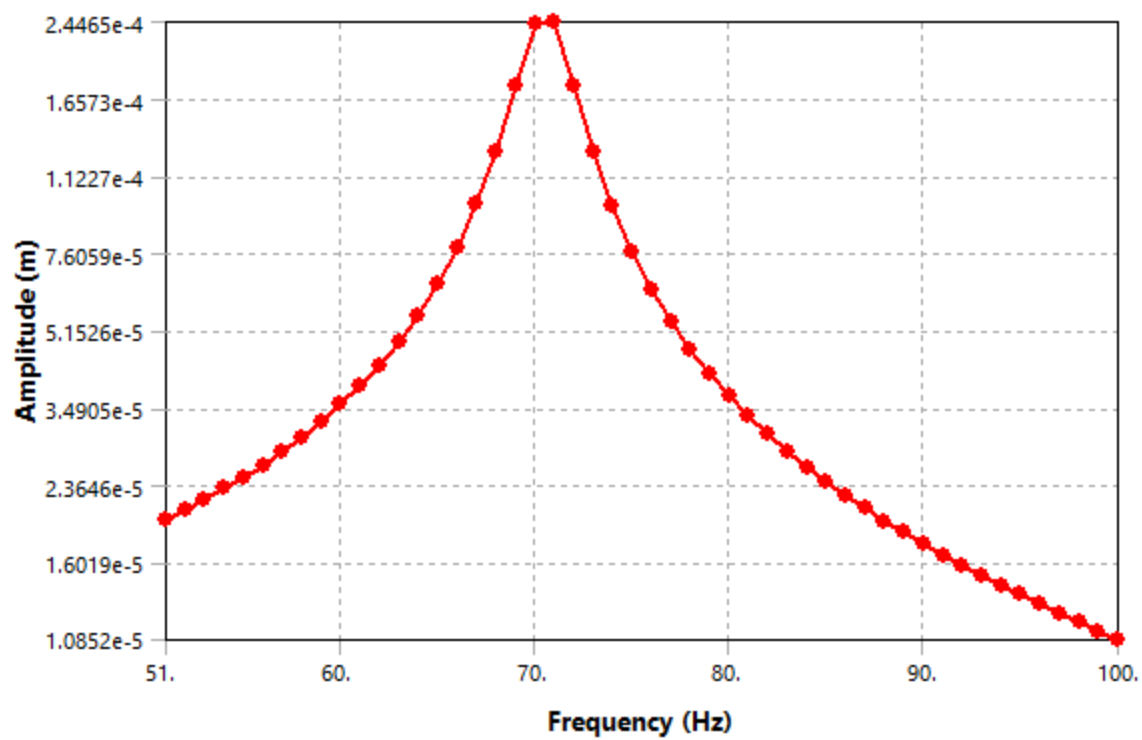


FIGURE 77
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM8y

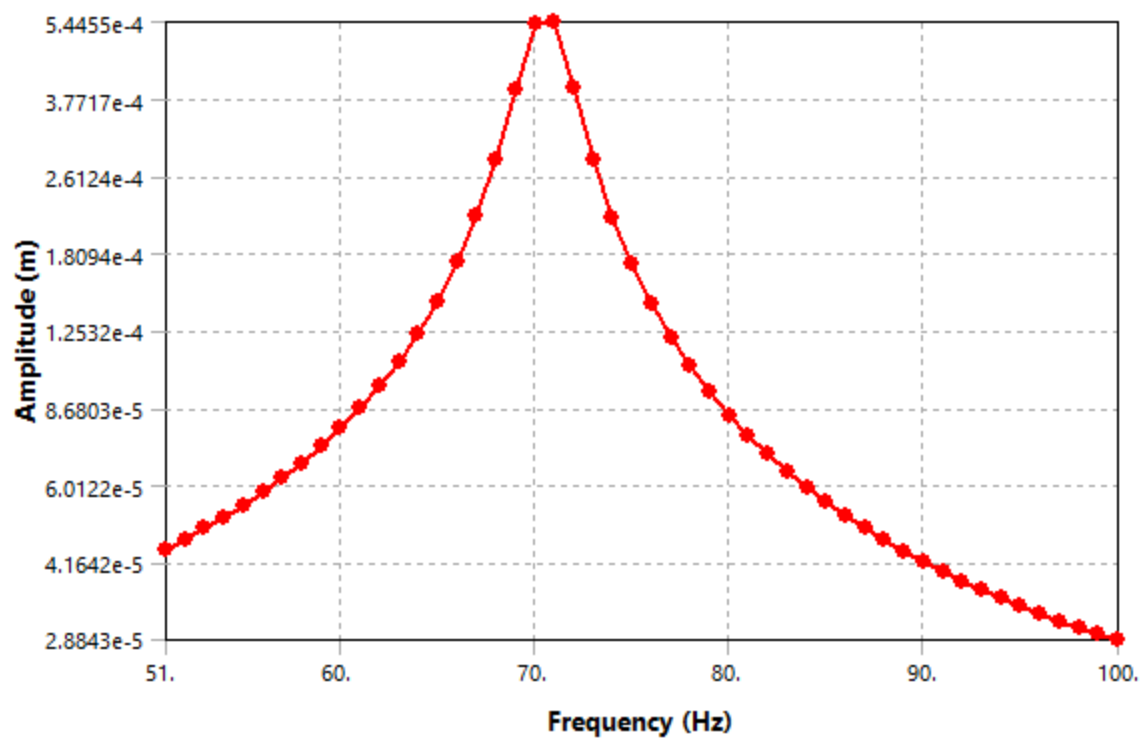
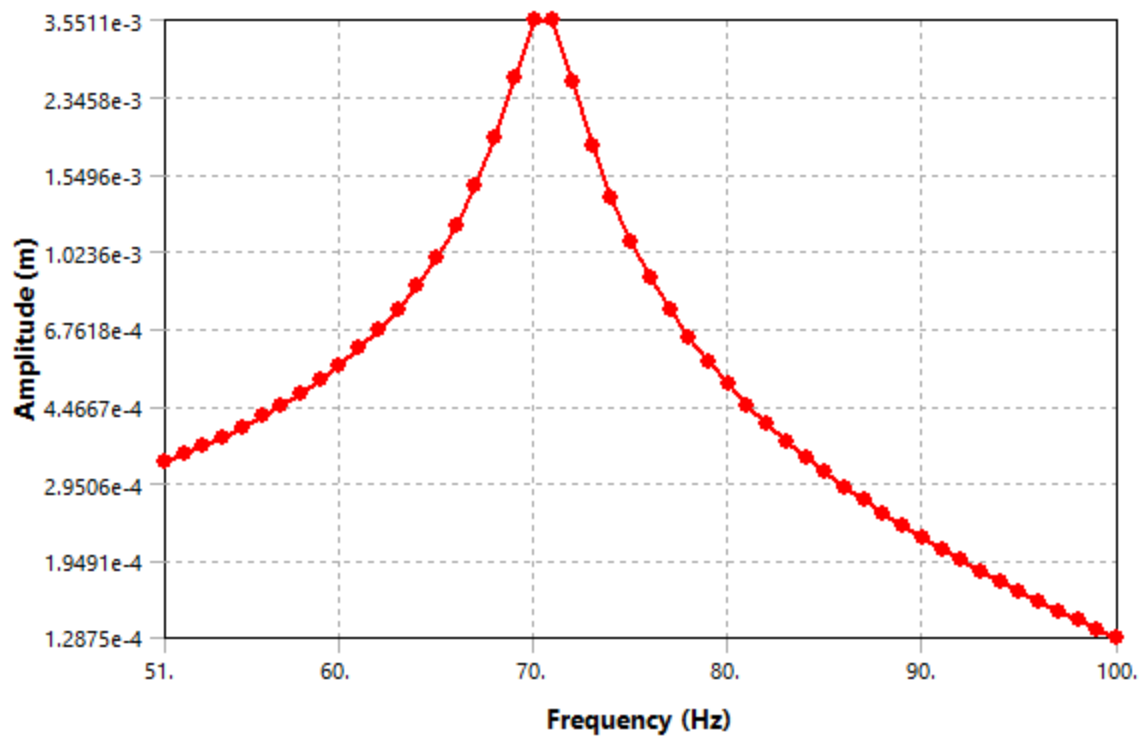


FIGURE 78
Model (A4, B4) > Harmonic Response (B5) > Solution (B6) >
DeformationFrequencyResponseDIMM8z



Material Data

Steel

TABLE 75
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 76
Steel > Density

Density kg m ⁻³
7870

TABLE 77
Steel > Isotropic Secant Coefficient of Thermal Expansion

Coefficient of Thermal Expansion C ⁻¹
Zero-Thermal-Strain Reference Temperature C
22

TABLE 78
Steel > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 79
Steel > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
4.2e+008

TABLE 80
Steel > Specific Heat Constant Pressure

Specific Heat J kg ⁻¹ C ⁻¹
486

TABLE 81
Steel > Isotropic Thermal Conductivity

Thermal Conductivity W m ⁻¹ C ⁻¹
51.9

Aluminum 6061-T6; 6061-T651

TABLE 82
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 83
Aluminum 6061-T6; 6061-T651 > Density

Density kg m ⁻³
2700

TABLE 84
Aluminum 6061-T6; 6061-T651 > Isotropic Secant Coefficient of Thermal Expansion

Coefficient of Thermal Expansion C ⁻¹
Zero-Thermal-Strain Reference Temperature C
22

TABLE 85
Aluminum 6061-T6; 6061-T651 > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 86
Aluminum 6061-T6; 6061-T651 > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
3.103e+008

TABLE 87
Aluminum 6061-T6; 6061-T651 > Specific Heat Constant Pressure

Specific Heat J kg ⁻¹ C ⁻¹
896

TABLE 88
Aluminum 6061-T6; 6061-T651 > Isotropic Thermal Conductivity

Thermal Conductivity W m ⁻¹ C ⁻¹
167.2

Structural Steel

TABLE 89
Structural Steel > Constants

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

TABLE 90
Structural Steel > Color

Red	Green	Blue
132	139	179

TABLE 91
Structural Steel > Compressive Ultimate Strength

Compressive Ultimate Strength Pa
0

TABLE 92
Structural Steel > Compressive Yield Strength

Compressive Yield Strength Pa
2.5e+008

TABLE 93
Structural Steel > Tensile Yield Strength

Tensile Yield Strength Pa
2.5e+008

TABLE 94
Structural Steel > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
4.6e+008

TABLE 95
Structural Steel > Isotropic Secant Coefficient of Thermal Expansion

Zero-Thermal-Strain Reference Temperature C
22

TABLE 96
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 97
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 98
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 99
Structural Steel > Isotropic Relative Permeability

Relative Permeability
10000

Nylon

TABLE 100
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 101
Nylon > Density

Density kg m ⁻³
1160

TABLE 102
Nylon > Isotropic Secant Coefficient of Thermal Expansion

Coefficient of Thermal Expansion C ⁻¹
Zero-Thermal-Strain Reference Temperature C
22

TABLE 103
Nylon > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 104
Nylon > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
7.e+007

TABLE 105
Nylon > Specific Heat Constant Pressure

Specific Heat J kg ⁻¹ C ⁻¹
950

TABLE 106
Nylon > Isotropic Thermal Conductivity

Thermal Conductivity W m ⁻¹ C ⁻¹
0.285

Aluminum Scaled

TABLE 107
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 108
Aluminum Scaled > Density

Density kg m ⁻³
1000

TABLE 109
Aluminum Scaled > Isotropic Secant Coefficient of Thermal Expansion

Coefficient of Thermal Expansion C ⁻¹
Zero-Thermal-Strain Reference Temperature C
22

TABLE 110
Aluminum Scaled > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 111
Aluminum Scaled > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
3.103e+008

TABLE 112
Aluminum Scaled > Specific Heat Constant Pressure

Specific Heat J kg ⁻¹ C ⁻¹
896

TABLE 113
Aluminum Scaled > Isotropic Thermal Conductivity

Thermal Conductivity W m ⁻¹ C ⁻¹
167.2

LCP

TABLE 114
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 115
LCP > Density

Density kg m ⁻³
1760

TABLE 116
LCP > Isotropic Secant Coefficient of Thermal Expansion

Coefficient of Thermal Expansion C ⁻¹
Zero-Thermal-Strain Reference Temperature C
22

TABLE 117
LCP > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 118
LCP > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
1.17e+008

TABLE 119
LCP > Specific Heat Constant Pressure

Specific Heat J kg ⁻¹ C ⁻¹
1850

TABLE 120
LCP > Isotropic Thermal Conductivity

Thermal Conductivity W m ⁻¹ C ⁻¹
0.18

Glass Epoxy Composite

TABLE 121
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 122
Glass Epoxy Composite > Density

Density kg m ⁻³
7300

TABLE 123
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 124
Glass Epoxy Composite > Tensile Yield Strength

Tensile Yield Strength Pa

TABLE 125
Glass Epoxy Composite > Tensile Ultimate Strength

Tensile Ultimate Strength Pa
3.19e+008

TABLE 126
Glass Epoxy Composite > Specific Heat Constant Pressure

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

TABLE 127
Glass Epoxy Composite > Isotropic Thermal Conductivity

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