

REPORT NUMBER: SideNCAPPole-MGA-24-023

**NEW CAR ASSESSMENT PROGRAM (NCAP)
Side Impact Pole Test**

**GENERAL MOTORS DE MEXICO, S. DE R.L. DE C.V.
2024 Chevrolet Equinox EV 2LT 5-Door SUV
NHTSA No.: M20240111**

**MGA RESEARCH CORPORATION
5000 Warren Road
Burlington, WI 53105**



Test Date: August 1, 2024

Final Report Date: December 30, 2024

FINAL REPORT

**U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Office of Crashworthiness Standards
Mail Code: NRM-100
1200 New Jersey Ave, SE
Washington, DC 20590**

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Approval Date: December 30, 2024

FINAL REPORT ACCEPTANCE BY OCWS:

Division Chief, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

COR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

TECHNICAL REPORT DOCUMENTATION PAGE

1. Report No. SideNCAPPole-MGA-24-023	2. Government Accession No.	3. Recipient's Catalog No.																											
4. Title and Subtitle Final Report of New Car Assessment Program Side Impact Pole Testing and FMVSS No. 305 Indicant Testing of a 2024 Chevrolet Equinox EV 2LT 5-Door SUV, NHTSA No.: M20240111		5. Report Date December 30, 2024																											
7. Author(s) Ben Fischer, Program Manager		6. Performing Organization Code MGA																											
9. Performing Organization Name and Address MGA Research Corporation 5000 Warren Road Burlington, WI 53105		8. Performing Organization Report No. SideNCAPPole-MGA-24-023																											
12. Sponsoring Agency Name and Address United States Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards Mail Code: NRM-100 1200 New Jersey Ave, SE Washington, DC 20590		10. Work Unit No.																											
		11. Contract or Grant No. 693JJ920D000017																											
		13. Type of Report and Period Covered: Final Test Report August 1, 2024 to December 30, 2024																											
15. Supplementary Notes		14. Sponsoring Agency Code NRM-100																											
16. Abstract A 32.20 km/h, 75° oblique impact Side NCAP Test was conducted on the subject 2024 Chevrolet Equinox EV 2LT 5-Door SUV in accordance with the specifications of the Office of Crashworthiness Standards Side NCAP Pole Laboratory Test Procedure for the generation of consumer information on vehicle side pole crash protection. The test was conducted at the MGA Research Corporation facility in Burlington, Wisconsin on August 1, 2024. The impact velocity was 31.9 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21.6°C. The test vehicle post-test maximum crush was 164 mm at level 2. The test vehicle's performance was as follows:																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 55%;">Measurement Description</th> <th rowspan="2" style="width: 10%;">Units</th> <th colspan="2" style="width: 35%;">Driver ATD (SID-IIs)</th> </tr> <tr> <th style="width: 15%;">Threshold</th> <th style="width: 20%;">Result</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC₃₆)</td> <td></td> <td style="text-align: center;">1000</td> <td style="text-align: center;">249.292</td> </tr> <tr> <td>Resultant Lower Spine Acceleration</td> <td style="text-align: center;">g</td> <td style="text-align: center;">82</td> <td style="text-align: center;">38.192</td> </tr> <tr> <td>Total Pelvic Force (sum of acetabular and iliac forces)</td> <td style="text-align: center;">N</td> <td style="text-align: center;">5525</td> <td style="text-align: center;">3438.028</td> </tr> <tr> <td>Maximum Thoracic Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">38*</td> <td style="text-align: center;">31.293</td> </tr> <tr> <td>Maximum Abdomen Rib Deflection</td> <td style="text-align: center;">mm</td> <td style="text-align: center;">45*</td> <td style="text-align: center;">25.181</td> </tr> </tbody> </table>				Measurement Description	Units	Driver ATD (SID-IIs)		Threshold	Result	Head Injury Criteria (HIC ₃₆)		1000	249.292	Resultant Lower Spine Acceleration	g	82	38.192	Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3438.028	Maximum Thoracic Rib Deflection	mm	38*	31.293	Maximum Abdomen Rib Deflection	mm	45*	25.181
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*Proposed IARV																													
The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite door(s) did not open during the side impact event.																													
17. Key Words New Car Assessment Program (NCAP) Side Impact Pole Part 572V SID-IIs		18. Distribution Statement Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division 1200 New Jersey Ave, SE Washington, DC 20590																											
19. Security Classification of Report Unclassified	20. Security Classification of Page Unclassified	21. No. of Pages 169	22. Price																										

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SECTION 1 PURPOSE AND SUMMARY OF TEST

PURPOSE

This side pole impact test is part of the MY 2024 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under Contract No. 693JJ920D000017. The purpose of this test is to generate comparative side impact performance in a 2024 Chevrolet Equinox EV 2LT 5-Door SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Side NCAP Pole Laboratory Test Procedure, dated March 2020.

SUMMARY

A rigid pole side impact test was conducted on a 2024 Chevrolet Equinox EV 2LT 5-Door SUV. The subject vehicle was towed into the rigid pole at an angle of 75° and a velocity of 31.9 km/h. The test was conducted by MGA Research Corporation in Burlington, Wisconsin on August 1, 2024. Pre-test and post-test photographs of the test vehicle and side impact dummy (SID-IIs) are included in this report.

One Part 572V (SID-IIs) dummy was placed in the driver designated seating position according to instructions specified in the OCWS Side NCAP Pole Laboratory Test Procedure dated March 2020. Camera locations and other pertinent camera information are included in this report.

The Part 572V (SID-IIs) dummy was instrumented accordingly:

- Primary and Redundant Head CG Triaxial Accelerometers
- Head Triaxial Angular Rate Sensors
- Thorax Upper, Middle, and Lower Rib Displacement Potentiometers
- Abdomen Upper Rib and Lower Rib Displacement Potentiometers
- Lower Spine (T12) Triaxial Accelerometers
- Iliac Load Cell
- Acetabulum Load Cell

Appendix B contains the vehicle and dummy response data. Dummy configuration and performance verification data can be found in Appendix C of this report. Appendix D contains the test equipment and instrumentation calibration data.

Injury readings for the SID-IIs dummy were recorded as follows:

Measurement Description	Units	Driver ATD (SID-IIs)	
		Threshold	Result
Head Injury Criteria (HIC ₃₆)		1000	249.292
Resultant Lower Spine Acceleration	g	82	38.192
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	3438.028
Maximum Thoracic Rib Deflection	mm	38*	31.293
Maximum Abdomen Rib Deflection	mm	45*	25.181

*Proposed IARV

Supplemental restraint information is given below:

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	
Side Airbag (Other)				
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes		Yes	
Other:				

The test data can be found on the NHTSA website at www.nhtsa.gov

GENERAL COMMENTS

Primary and redundant speed trap readouts were lost. The impact velocity was determined from tow system tachometer data and validated against overhead high-speed camera view.

MGA does not endorse or certify products. The manufacturer's name appears solely for identification purposes.

SECTION 2
OCCUPANT AND VEHICLE INFORMATION / DATA SHEETS

**DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	M20240111	Traction Control System (TCS)	Yes
Model Year	2024	Auto-Leveling System	No
Make	Chevrolet	Automatic Door Locks (ADL)	Yes
Model	Equinox EV 2LT	Power Window Auto-Reverse	Yes
Body Style	5-Door SUV	Other Optional Feature	No
VIN	3GN7DLRP2RS252575	Driver Front Airbag	Yes
Body Color	Black	Driver Curtain Airbag	Yes
Odometer Reading (km/mi)	14 km / 9 mi	Driver Head/Torso Airbag	No
Engine Displacement (L)	0	Driver Torso Airbag	No
Type/No. Cylinders	Electric	Driver Torso/Pelvis Airbag	Yes
Engine Placement	0	Driver Pelvis Airbag	No
Transmission Type	Automatic	Driver Knee Airbag	Yes
Transmission Speeds	1	Rear Pass. Curtain Airbag	Yes
Overdrive	No	Rear Pass. Head/Torso Airbag	No
Final Drive	FWD	Rear Pass. Torso Airbag	No
Roof Rack	No	Rear Pass. Torso/Pelvis Airbag	No
Sunroof/T-Top	0	Rear Pass. Pelvis Airbag	No
Running Boards	No	Driver Seat Belt Pretensioner	Yes
Tilt Steering Wheel	Yes	Rear Pass. Seat Belt Pretensioner	Yes
Power Seats	Driver	Driver Load Limiter	Yes
Anti-Lock Brakes (ABS)	Yes	Rear Pass. Load Limiter	Yes
		Other Safety Restraint	N/A

Does owner's manual provide instruction to turn off automatic door locks?	No
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DATA FROM CERTIFICATION LABEL

Manufactured By	GENERAL MOTORS DE MEXICO, S. DE R.L. DE C.V.	GVWR (kg)	2749
Date of Manufacture	04/24	GAWR Front (kg)	1450
Vehicle Type	MPV	GAWR Rear (kg)	1425

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3		5	
Capacity Weight (VCW) (kg)				523	(A)
DSC x 68 kg				340	(B)
Rated Cargo and Luggage Weight (RCLW) (kg)				136	(A-B)

* Rated Cargo and Luggage Weight (RCLW) limited to maximum of 300 lbs (136 kg).

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						w/ Lever	w/ Knob
Front Seat	X					X	
Rear or Second Row				X	X		
Third Row Seat							

DATA SHEET NO. 1 (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

VEHICLE TIRE INFORMATION



Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	290	290
Recommended Tire Size	245/55R19	245/55R19
Tire Size on Vehicle	245/55R19	245/55R19
Tire Manufacturer	Michelin	Michelin
Tire Model	Primacy	Primacy
Treadwear	540	540
Traction	B	B
Temperature Grade	B	B
Tire Plies Sidewall	2 Polyester	2 Polyester
Tire Plies Body	2 Polyester, 2 Steel, 1 Polyamide	2 Polyester, 2 Steel, 1 Polyamide
Load Index/Speed Symbol	103H	103H
Tire Material	Rubber	Rubber
DOT Safety Code Left	03LCH 01BX 1324	03LCH 01BX 1324
DOT Safety Code Right	03LCH 01BX 1324	03LCH 01BX 1324

DATA SHEET NO. 1 (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

TEST PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	240	240	250	235
Tire Placard	kPa	290	290	290	290
Owner's Manual	kPa	290	290	290	290
As Tested	kPa	290	290	290	290

TEST AXLE VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	570.0	521.5		584.0	601.0		588.5	616.5	
Right	kg	595.5	491.5		607.0	568.5		594.0	567.5	
Ratio	%	53.5%	46.5%		50.5%	49.5%		50.0%	50.0%	
Totals	kg	1165.5	1013.0	2178.5	1191.0	1169.5	2360.5	1182.5	1184.0	2366.5

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total Delivered Weight (UVW)	kg	2178.5	(A)
Actual Weight of 1 P572 ATD (SID-IIs) Used	kg	52	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	136	(C)
Calculated Test Vehicle Target Weight (TVTWTW)	kg	2366.5	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)? **YES**

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement
Driver Door Sill Angle (front-to-back)*	deg	-0.3	1.1	1.4	Yes
Front Pass. Door Sill Angle (front-to-back)*	deg	-0.3	0.8	1.0	Yes
Front Bumper Angle (left-to-right)**	deg	0.4	0.4	0.4	Yes
Rear Bumper Angle (left-to-right)**	deg	0.2	0.4	0.4	Yes
Vehicle CG (Aft of Front Axle)	mm	1376	1466	1480	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	2	3	15	

* ND=Nose Down (-), NU=Nose Up (+) ** LD=Left Down (-), LU=Left Up (+)

*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements.

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTWTW

Component Description	Units	Weight
Weight of Ballast Added	kg	86
Components Removed: none	kg	

Test height adjustable suspension setting, if applicable:	Not Applicable
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DATA SHEET NO. 1 (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
Test Date: 8/1/2024

TEST SURFACE MARKINGS

	Distance from 75° Impact Location Line (mm)
Fore 25 mm Target	945
Aft 25 mm Target	943

DATA SHEET NO. 2
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the forward-most, mid-height, mid-angle position. The struck-side rear passenger's seat, rear center seat, and non-struck side rear passenger's seats should be set to the rear-most, lowest, mid-angle position.

SCRL ANGLE RANGE

Seat	SCRL (°)		
	Max	Min	Mid
Driver Seat	20.8	11.0	15.9
Front Passenger Seat	15.6	11.3	13.5
Front Center Seat			
Struck Side Rear Seat	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed

SEAT HEIGHT AND ANGLE

Seat	As-Tested SCRL Angle (Mid) (°)	As-Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rear-Most	Mid	Forward-Most
Driver Seat	15.9	33	Max	66	66	66
			Mid	33	33	33
			Min	0	0	0
Front Passenger Seat	13.5	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Front Center Seat			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Max	Fixed	Fixed	Fixed
			Mid	Fixed	Fixed	Fixed
			Min	Fixed	Fixed	Fixed

DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

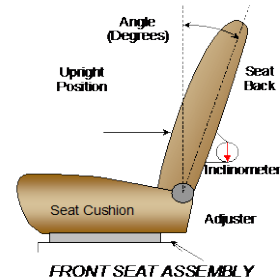
NHTSA No.: M20240111
 Test Date: 8/1/2024

SEAT FORE/AFT POSITIONS

Seat	Total Fore/Aft Travel		Test Position from Forward-Most Position	
	mm	Detents (1 st as 1)	mm	Detent (1 st as 0)
Driver Seat	259		0	
Front Passenger Seat	260	27	0	0
Front Center Seat				
Struck Side Rear Seat	Fixed		Fixed	
Non-Struck Side Rear Seat	Fixed		Fixed	
Rear Center Seat	Fixed		Fixed	

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned such that the dummy's head is level. The front center and front passenger's seat backs are positioned in a similar manner as the driver's seat back. The struck-side rear passenger seat back is positioned in accordance with the information provided by the manufacturer on S1 – Vehicle Setup Information for the 5th percentile female dummy in a Side NCAP MDB test. The rear center and non-struck side rear passenger's seat back is set to match the struck-side rear seat back.



Seat	Total Seat Back Angle Range		Test Position from Vertical	
	Degrees	Detents (1 st as 1)	Degrees	Detent (1 st as 0)
Driver Seat	54.4		-22.8	
Front Passenger Seat	66.1	36	-23.0	4
Front Center Seat				
Struck Side Rear Seat	Fixed		Fixed	
Non-Struck Side Rear Seat	Fixed		Fixed	
Rear Center Seat	Fixed		Fixed	

All seat back angles measured on outboard headrest post.

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on S1 – Vehicle Setup Information.

	Total # of Positions	Placed in Position #
Driver Seat	4	0 (Uppermost as 0)

HEAD RESTRAINT ADJUSTMENT

Head restraints are adjusted to the lowest and most full forward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	7	0 (Lowest as 0) / Fixed Fore-Aft

DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEM DATA

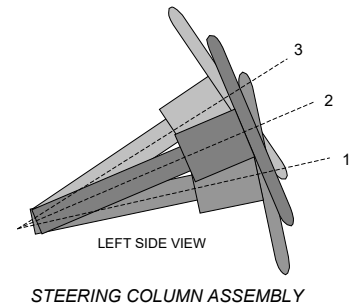
Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

STEERING COLUMN ADJUSTMENT

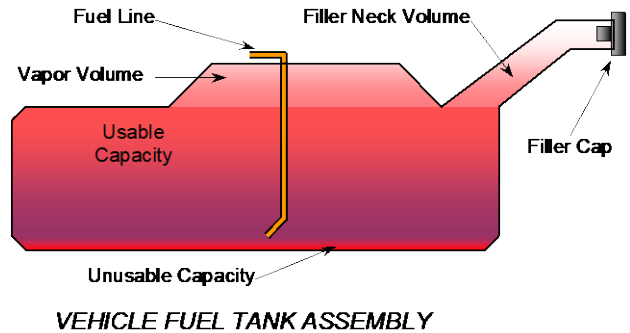
Steering wheel and column adjustments are made so that the steering wheel geometric locus is described when it moves through its full range of motion.

	Wheel Angle (°)	Fore/Aft Position (mm)
Lowermost, Position 1	70.7	
Geometric Center, Position 2	68.7	
Uppermost, Position 3	66.6	
Telescoping Steering Wheel Travel		45
Test Position	68.7	23



FUEL PUMP

Electric Vehicle.



FUEL TANK CAPACITY DATA

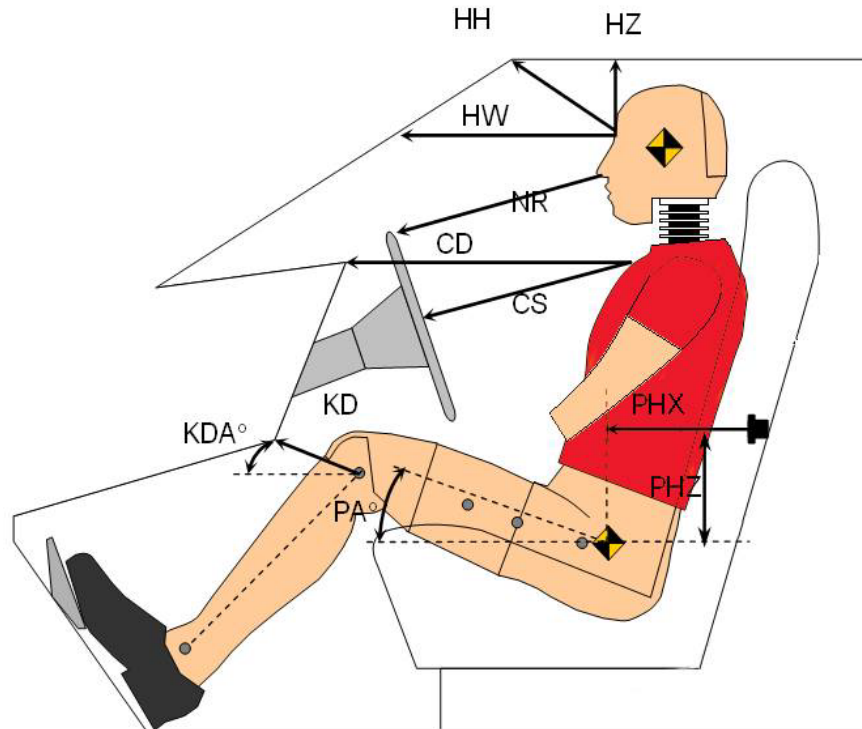
	Liters
Usable Capacity of Standard Tank (see S1 – Vehicle Setup Information)	
Usable Capacity of Optional Tank (see S1 – Vehicle Setup Information)	
Usable Capacity of Standard Tank as Specified in Owner’s Manual	
Usable Capacity of Optional Tank as Specified in Owner’s Manual	
93% of Usable Capacity	
Actual Amount of Solvent Used	
1/3 of Usable Capacity	

Is the actual amount of solvent used in the test equal to 93% \pm 1% of the Usable Capacity stated in S1 – Vehicle Setup Information? **N/A**

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
Test Date: 8/1/2024



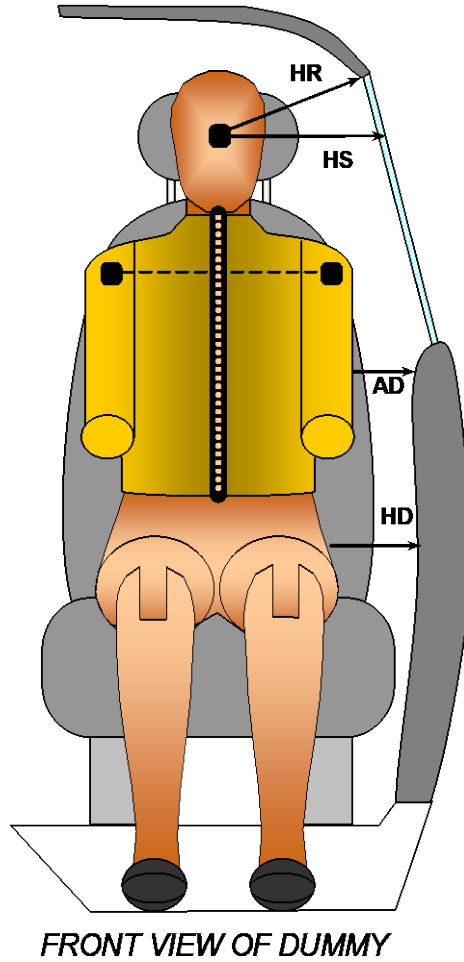
LEFT SIDE VIEW

Code	Measurement Description	Driver	
		Length (mm)	Angle (°)
HH	Head to Header	275	
HW	Head to Windshield	710	
HZ	Head to Roof Liner	182	
NR	Nose to Rim/Seat Back	225	
CD	Chest to Dashboard/Seat Back	469	
CS	Chest to Steering Wheel	180	
KDL / KDAL	Left Knee to Dash/Seat Back	131	36.8
KDR / KDAL	Right Knee to Dash/Seat Back	111	20.6
PAX	Pelvic Tilt Angle X		21.6
PAY	Pelvic Tilt Angle Y		-0.4
PHX	Hip Point to Striker (X-Axis)	354	
PHZ	Hip Point to Striker (Z-Axis)	124	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
Test Date: 8/1/2024

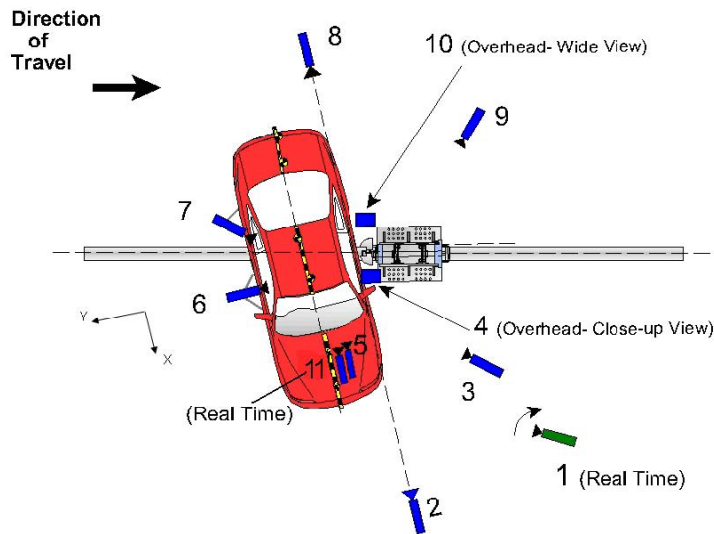


Code	Measurement Description	Driver
		Length (mm)
HR	Head to Side Header	234
HS	Head to Side Window	376
AD	Arm to Door	179
HD	Hip Point to Door	215

**DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024



Reference: (from Point of Impact for X and Y; from Ground for Z):
 +X = Forward of Impact, + Y = Right of Impact, +Z = Down

No.	Camera View	Coordinates* (mm)			Lens (mm)	Frame Rate (fps)
		X	Y	Z		
1	Real-Time Pan View					30
2	Front Ground Level	6640	-40	-1470	24	1000
3	Impact Side 45° Forward	4580	-2060	-1440	12	1000
4	Overhead Closeup	0	0	-6700	85	1000
5	Onboard – Driver Front				16	1000
6	Onboard – Driver Side				8	1000
7	Onboard – Driver Rear				8	1000
8	Rear Ground Level	-7240	-190	-1470	24	1000
9	Impact Side 45° Rearward	-2670	-4000	-1510	12	1000
10	Overhead Wide View	340	800	-6540	12	1000
11	Real-Time Dummy Front View					30

*All measurements accurate to ±6 mm

Note: Vehicle was positioned at a 75° angle to the rigid pole.

Explain why camera(s) did not operate as intended: None

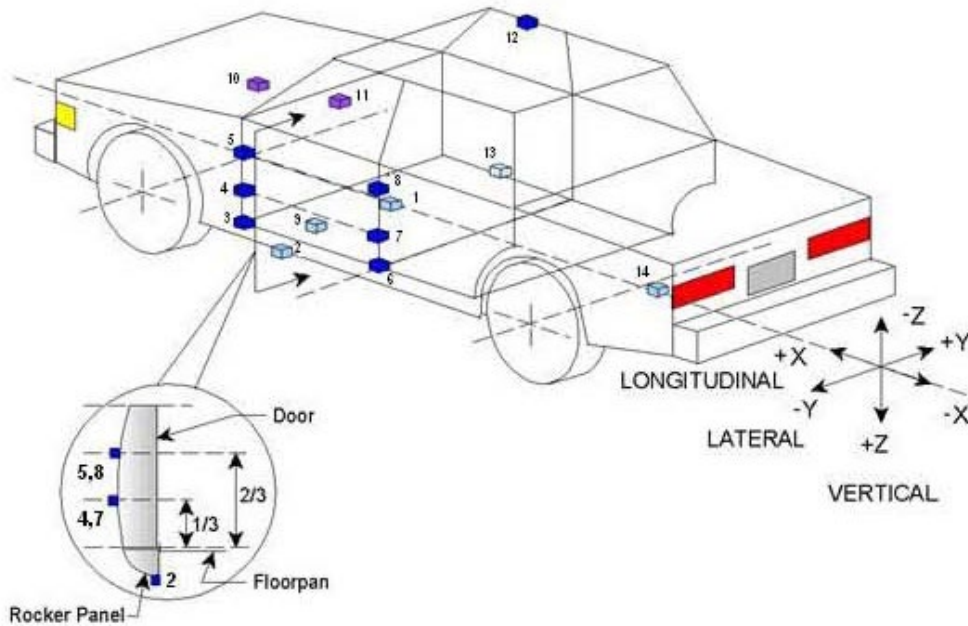
INSTRUMENTATION

	Number of Channels
Driver Dummy	19
Vehicle Structure	16
Pole Load Cells	8
Total	43

DATA SHEET NO. 6
TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
Test Date: 8/1/2024



TEST VEHICLE ACCELEROMETER LOCATIONS

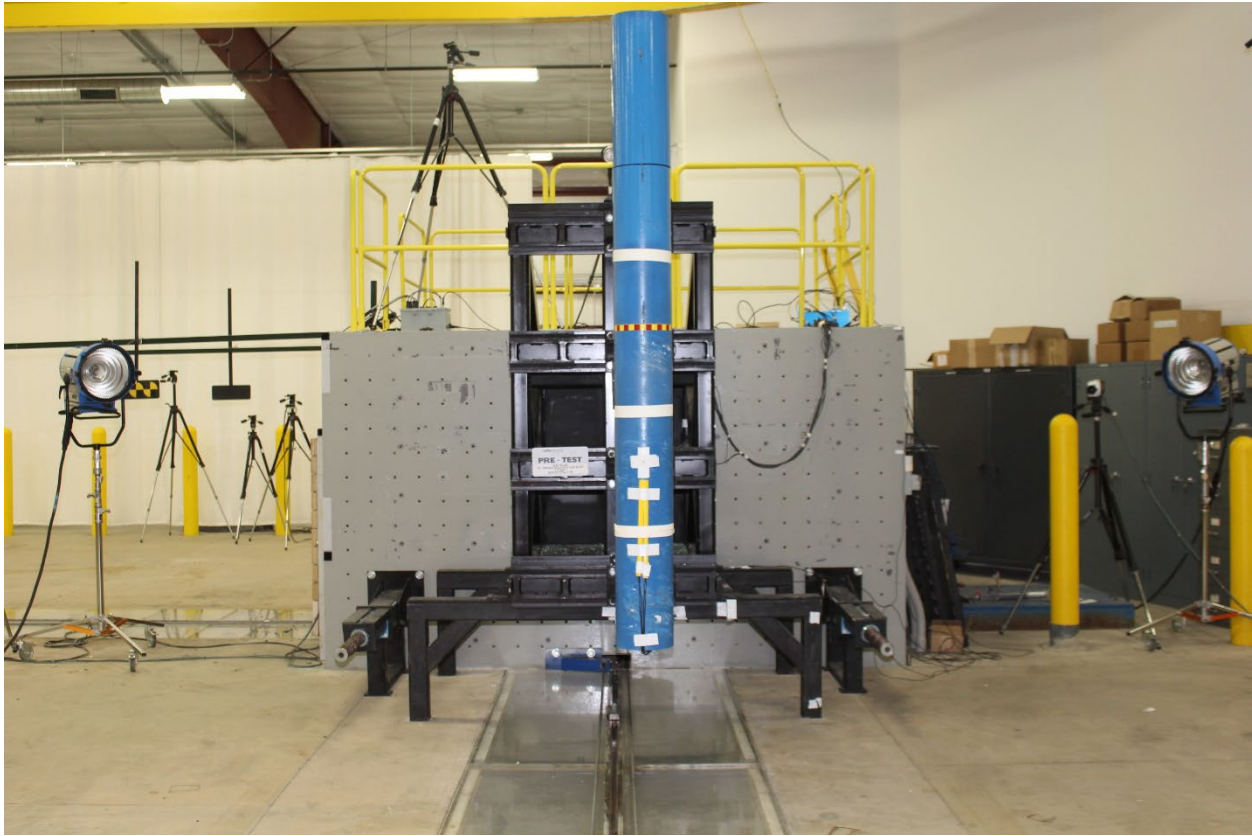
No.	ID	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2270	-2	-167
2	Left Floor Sill	3177	-764	-226
3	A Pillar Sill	3402	-758	-234
4	A Pillar Low	3339	-871	-596
5	A Pillar Mid	3352	-856	-847
6	B Pillar Sill	2226	-787	-230
7	B Pillar Low			
8	B Pillar Mid			
9	Driver Seat Track	2377	-423	-389
10	Engine Top	4199	-9	-815
11	Firewall	3881	-37	-952
12	Right Roof	2210	426	-1580
13	Right Sill	3166	764	-226
14	Rear Floorpan	981	0	-564

Reference: X – Test Vehicle Rear Bumper (+forward)
Y – Test Vehicle Centerline (+ to right)
Z – Ground Plane (+ down)

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024



254 mm Diameter Rigid Pole

Load Cell Locations	
ID	Height from Test Surface (mm)
1	182
2	470
3	698
4	986
5	1212
6	1641
7	1854
8	2053

**DATA SHEET NO. 8
POST-TEST OBSERVATIONS**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Driver Dummy (SID-IIs)
Face	Curtain Airbag
Top of Head	Curtain Airbag
Left Side of Head	Curtain Airbag
Back of Head	Curtain Airbag, Headrest
Left Shoulder	Side Torso/Pelvis Airbag, Seatback
Upper Torso	Side Torso/Pelvis Airbag, Seatback
Lower Torso	Side Torso/Pelvis Airbag, Seatback
Left Hip	Side Torso/Pelvis Airbag, Seat Cushion
Left Knee	None

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)					

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	No	No	No	No
Seat Disengagement from Floor Pan	No	No	No	No
Seat Back Movement from Initial Position	No	No	No	No
Seat Back Collapse	No	No	No	No

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Separation
Sill Separation	No Separation
Windshield Damage	Cracked
Side Window Damage	LF window broken
Other Notable Effects	None

**DATA SHEET NO. 8 (CONTINUED)
POST-TEST OBSERVATIONS**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Frontal Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Curtain Airbag	Yes	Yes	Yes	Yes
Side Torso/Pelvis Airbag	Yes	Yes	No	
Side Airbag (Other)				
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes		Yes	
Other:				

SPEED, ANGLE AT IMPACT, AND IMPACT POINT LOCATION DATA

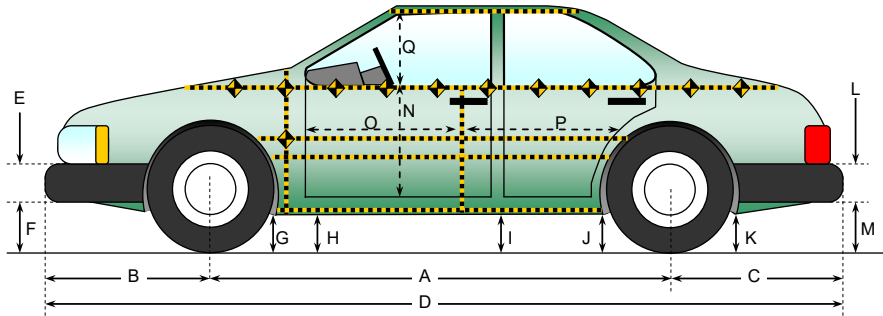
Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1236
Actual Impact Point (Aft of Front Axle)	mm		1247
Horizontal Offset (+forward / -rearward)	mm	+/- 38 of Intended Impact Point	-11
Angle Between Vehicle's Longitudinal Centerline and Line of Forward Motion	degrees	75 +/- 3	75.4
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	N/A
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	N/A

Primary and redundant speed trap readouts were lost. The impact velocity of 31.9 km/h was determined from tow system tachometer data and validated against overhead high-speed camera view.

**DATA SHEET NO. 9
TEST VEHICLE PROFILE MEASUREMENTS**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
Test Date: 8/1/2024



All measurements in (mm) with tolerance of ± 3 mm

LEFT SIDE VIEW

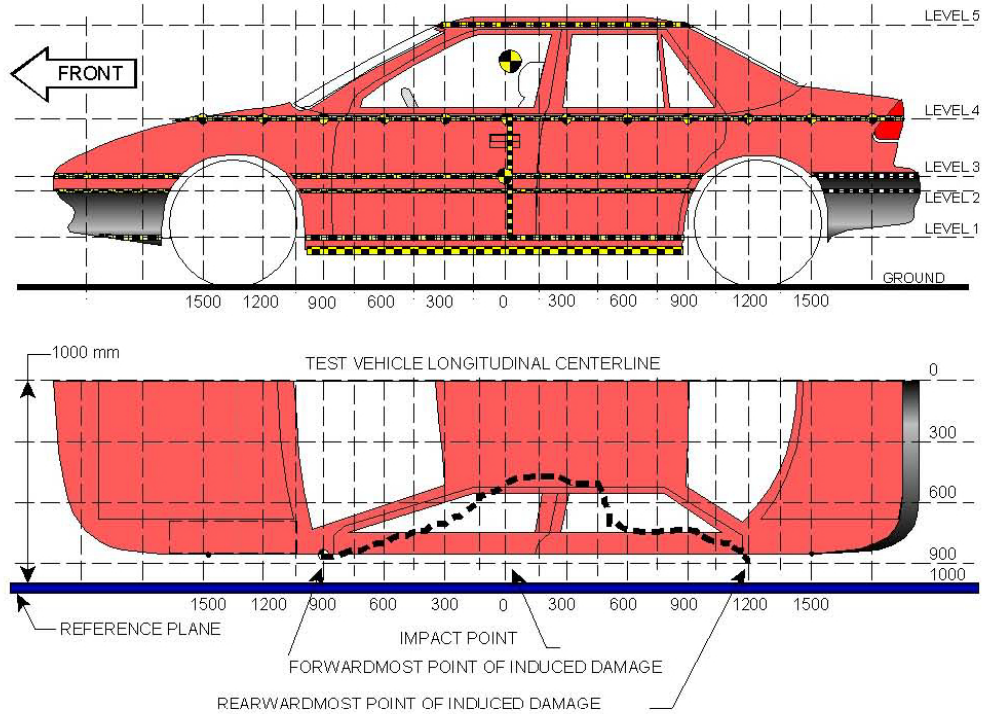
VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	2958	2946	-12
B	Front Axle to FSOV	908	922	14
C	Rear Axle to RSOV	974	967	-7
D	Total Vehicle Length at Centerline	4840	4835	-5
E	Front Bumper Thickness	122	121	-1
F	Front Bumper Bottom to Ground	468	474	6
G	Sill Height at Front Wheel Well	217	204	-13
H	Sill Height at Front Door Leading Edge	225	206	-19
I	Sill Height at B-Pillar	221	199	-22
J1	Sill Height at Rear Wheel Well	218	210	-8
J2	Pinch Weld Height at Rear Wheel Well	221	207	-14
K	Sill Height Aft of Rear Wheel Well	251	241	-10
L	Rear Bumper Thickness	119	122	3
M	Rear Bumper Bottom to Ground	441	427	-14
N	Sill Height to Bottom of Front Window Sill	648	672	24
O	Front Door Leading Edge to Impact CL	689	661	-28
P	Rear Door Trailing Edge to Impact CL	1303	1293	-10
Q	Front Window Opening	364	347	-17
R	Right Side Length	4302	4301	-1
S	Left Side Length	4305	4291	-14
T	Vehicle Width at B-Pillars	1868	1878	10
U	Front Wheel Track Width	1610		
V	Rear Wheel Track Width	1609		

DATA SHEET NO. 10
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024



NOTE: The measurements are taken along the vertical impact reference line.
 Vehicle measurements forward of the vertical impact reference line are negative.

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	491	113	75
2	Occupant H-Point	665	164	75
3	Mid Door	687	163	75
4	Window Sill	1066	134	75
5	Window Top	1526	23	0

DATA SHEET NO. 10 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

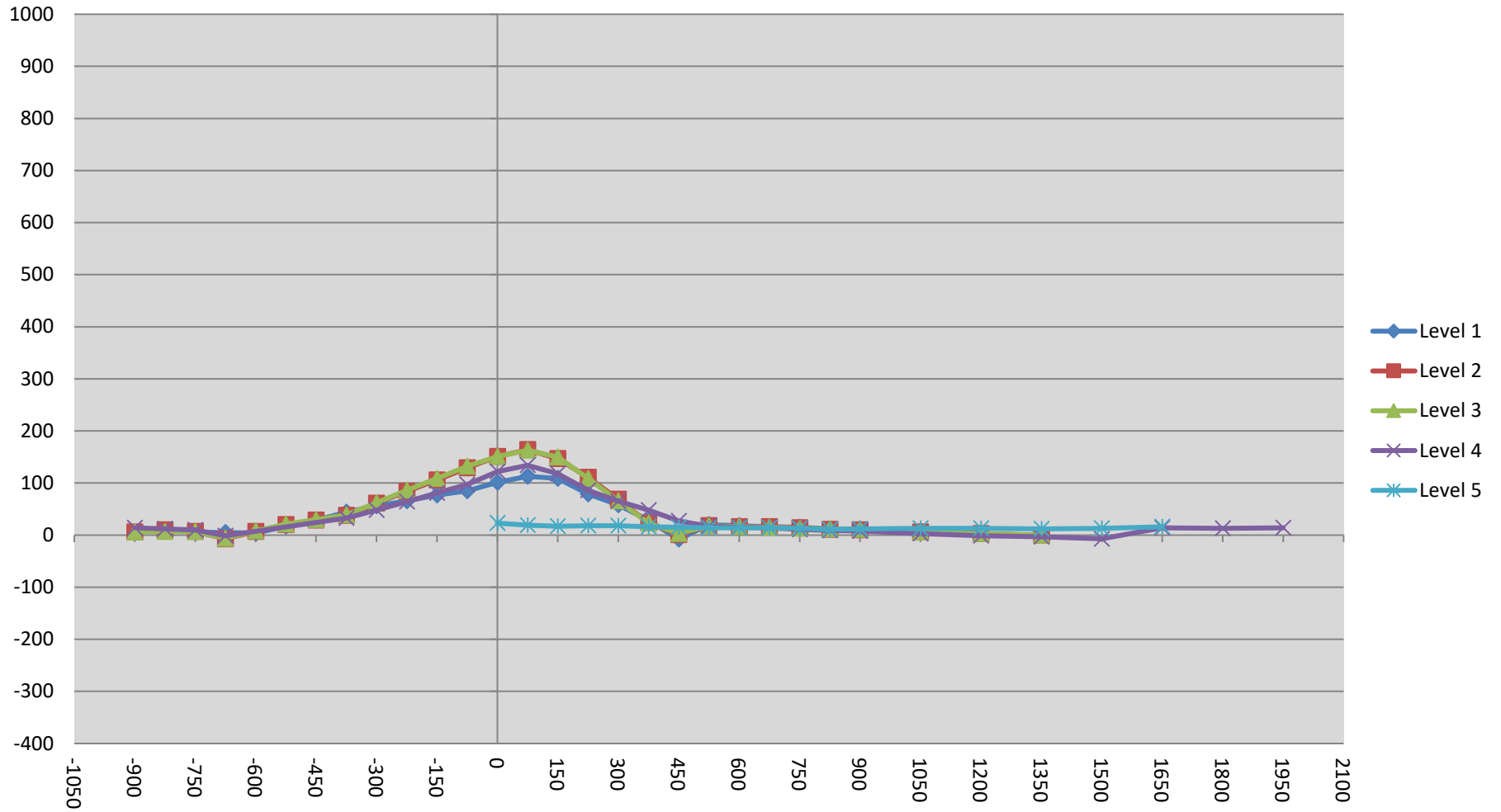
Pre-test measurements are taken when the vehicle is in the “As Tested” weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point.

	Pre-Test					Post-Test					Exterior Crush				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-2700															
-2550															
-2400															
-2250															
-2100															
-1950															
-1800															
-1650															
-1500															
-1350															
-1200															
-1050															
-900		953	953	843			947	947	829			6	6	14	
-825		951	951	846			941	944	834			10	7	12	
-750	936	948	948	850		930	941	941	840		6	7	7	10	
-675	935	943	943	852		930	950	949	853		5	-7	-6	-1	
-600	931	939	939			927	932	931			4	7	8		
-525	926	936	936			909	916	915			17	20	21		
-450	920	935	934			891	906	904			29	29	30		
-375	917	934	933	861		873	896	894	828		44	38	39	33	
-300	916	935	933	865		860	874	871	817		56	61	62	48	
-225	916	936	934	866		850	852	848	802		66	84	86	64	
-150	917	936	934	867		840	830	825	786		77	106	109	81	
-75	917	937	935	869		832	808	803	772		85	129	132	97	
0	918	937	935	871	630	817	786	784	749	607	101	151	151	122	23
75	915	938	935	871	633	802	774	772	737	614	113	164	163	134	19
150	916	939	936	872	635	807	792	786	754	618	109	147	150	118	17
225	916	938	935	873	637	837	827	826	787	619	79	111	109	86	18
300	916	938	935	874	637	858	869	869	809	619	58	69	66	65	18
375	915	938	935	873	636	887	915	912	825	620	28	23	23	48	16
450	915	938	934	874	636	923	937	931	847	621	-8	1	3	27	15
525	913	936	933	873	636	893	918	915	856	622	20	18	18	17	14
600	910	935	931	872	636	892	919	915	857	622	18	16	16	15	14
675	909	934	930	869	634	893	918	915	855	620	16	16	15	14	14
750	909	932	928	867	633	894	918	915	856	620	15	14	13	11	13
825	908	930	927	865	632	896	919	915	856	621	12	11	12	9	11
900	910	929	927	864	629	898	919	916	856	617	12	10	11	8	12
1050	928	932	931	860	623	921	926	925	857	610	7	6	6	3	13
1200	937	942	942	867	614	933	939	939	868	601	4	3	3	-1	13
1350		949	949	876	600		949	949	879	588		0	0	-3	12
1500				883	582				890	569				-7	13
1650				885	551				871	535				14	16
1800				879					866					13	
1950				867					853					14	
2100															
2250															
2400															
2550															
2700															

DATA SHEET NO. 10 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

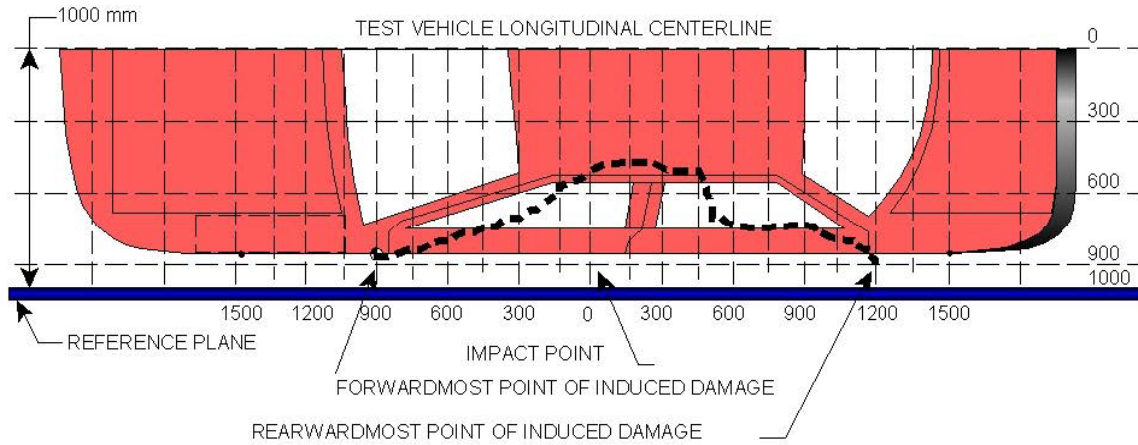
NHTSA No.: M20240111
 Test Date: 8/1/2024



DATA SHEET NO. 10 (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024



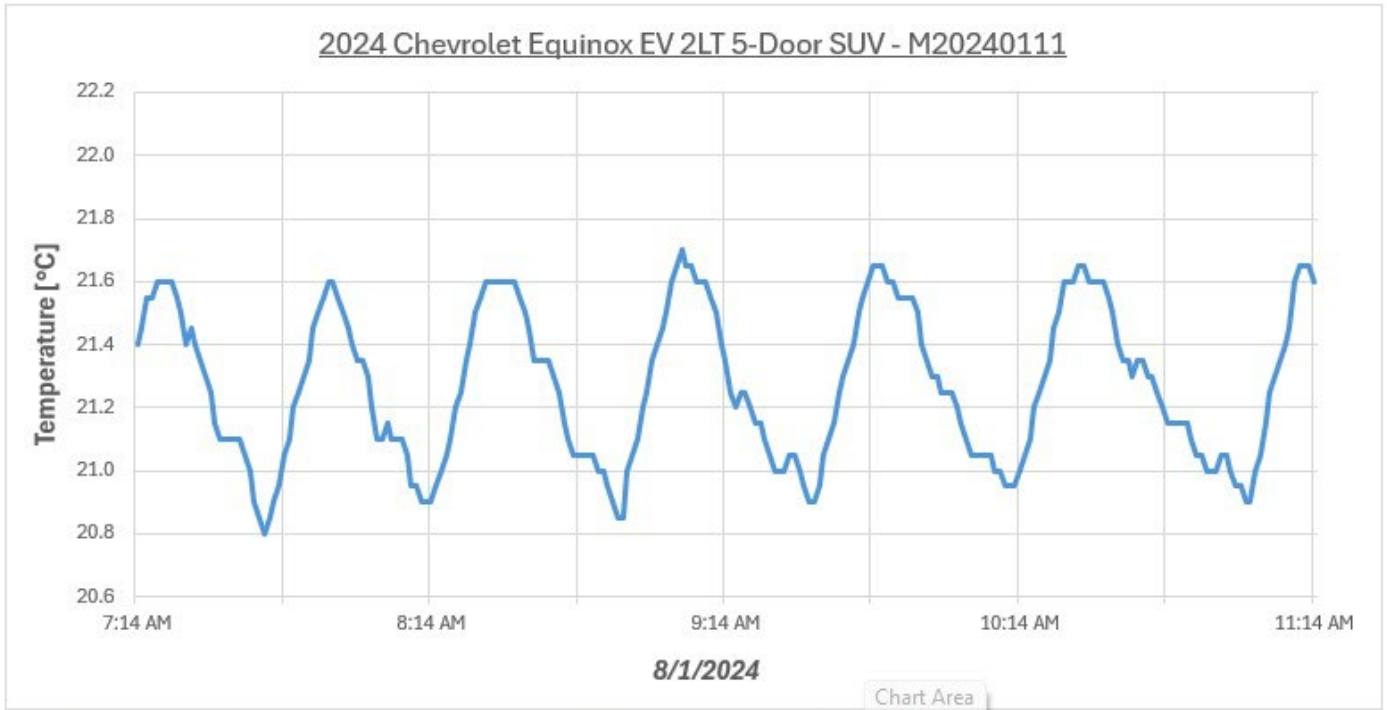
VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance from Impact Point (mm)	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	450	3	69	66	3
2	263	3	153	65	88
3	30	3	218	65	153
4	-218	3	148	66	82
5	-455	3	94	66	28
6	-675	3	51	57	-6

DATA SHEET NO. 12
DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024



Serial #	Description	Maximum	Average	Minimum	Units
W2922089	VSC South Hall - Temp (3018)	21.70	21.27	20.80	°C

DATA SHEET NO. 305-1
GENERAL TEST AND VEHICLE PARAMETER DATA
FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

ELECTRIC VEHICLE PROPULSION SYSTEM

	Units	Observations and Conclusions
Type of Electric Vehicle		All-Electric Vehicle
Propulsion Battery Type		High Voltage Li-ion Propulsion Battery Pack
Nominal Voltage	V	335
Physical Location of Automatic Propulsion Battery Disconnect		Internal to the Propulsion Battery Pack
Auxiliary Battery Type		AGM 12V battery, Underhood Left-hand Side

PROPULSION BATTERY SYSTEM DATA

	Units	Observations and Conclusions
Electrolyte Fluid Type		Newtonian Fluid
Electrolyte Fluid Specific Gravity	g/L	1.203
Electrolyte Fluid Kinematic Viscosity	cSt	3.9235x10 ⁻⁶
Electrolyte Fluid Color		Transparent
Propulsion Battery Coolant Type, Color, Specific Gravity (if applicable)		DEX COOL Premix 50/50 Coolant, Orange
Location of Battery Modules		Inside Passenger Compartment
		X Outside Passenger Compartment
		The high-voltage battery is located on the underside of the vehicle.

PROPULSION BATTERY STATE OF CHARGE

<i>For all battery types:</i>	
Voltage range corresponding to useable energy of the battery:	
Minimum State of Charge	
Maximum State of Charge	335 V
95% of Maximum State of Charge	318 V
Test Voltage - No less than 95% of maximum State of Charge	330.1 V
<i>For batteries that are rechargeable ONLY by an energy source on the vehicle:</i>	
Voltage range corresponding to useable energy of the battery:	
Minimum State of Charge	
Maximum State of Charge	
Test Voltage – Maximum practicable State of Charge within Normal Operating Range	

**DATA SHEET NO. 305-2
PRE-IMPACT DATA
FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

VEHICLE CHASSIS GROUND POINT(S) LOCATION(S)

Details of Vehicle Chassis Ground Point(s) & Location(s)	Stud near battery front.
--	--------------------------

PROPULSION BATTERY SYSTEM

Details of Electric Energy Storage/Conversion System Test Points	Front right hand side harness at battery
Additional Comments	None

DATA SHEET NO. 305-3
PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS
FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

VOLTMETER INFORMATION

	Units	Observations and Conclusions
Make		Fluke
Model		177
Serial Number		61660495
Internal Impedance Value	MΩ	> 10 MΩ < 100 pF
Resolution	V	0.001
Last Calibration Date		2/14/2024

PROPULSION BATTERY VOLTAGE

Measurement shall be made with Energy Storage/Conversion System connected to the vehicle propulsion system, and the vehicle in the “ready-to-drive” (propulsion system energized) position.
NOTE: If voltage measurement is not at the voltage or within the normal operating voltage range specified by the manufacturer, the battery must be charged.

Vb	V	330.1
----	---	-------

ELECTRIC ISOLATION MEASUREMENTS
PROPULSION BATTERY TO VEHICLE CHASSIS

Vehicle chassis point(s) determined and supplied to contractor by COR.
--

V1	V	99.8
V2	V	207.6

PROPULSION BATTERY TO VEHICLE CHASSIS ACROSS RESISTOR

The known resistance Ro (in ohms) should be approximately 500 times the normal operating voltage of the vehicle (in volts) per SAE J1766.

Ro	Ω	226,100
----	---	---------

V1' Pre-Impact	V	24.1
V2' Pre-Impact	V	49.3

DATA SHEET NO. 305-3 (CONTINUED)
PRE-IMPACT ELECTRICAL ISOLATION MEASUREMENTS AND CALCULATIONS
FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero Volts".
 This "zero voltage" condition is considered as being compliant.

$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$		
Ri1 Pre-Impact	Ω	2,187,523
$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$		
Ri2 Pre-Impact	Ω	1,075,006
Ri = The lesser of Ri1 and Ri2		
Ri Pre-Impact	Ω	1,075,006
$R_i / V_b = \text{Electrical Isolation Value} / \text{Nominal Battery Voltage}$		
Ri / Vb Pre-Impact	Ω	3,257

NOTE: The minimum Electrical Isolation Value is 500 Ω/V.

	Yes	No (Fail)
Is the measured Electrical Isolation Value ≥ 500 Ω/V?	X	
Additional Comments	None	

**DATA SHEET NO. 305-4
POST-IMPACT DATA
FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

VOLTMETER INFORMATION

	Units	Observations and Conclusions
Make		Fluke
Model		177
Serial Number		61660495
Internal Impedance Value	MΩ	> 10 MΩ < 100 pF
Resolution	V	0.001
Last Calibration Date		2/14/2024

ELECTRICAL ISOLATION MEASUREMENTS

Vb Post-Impact	V	4.65					
V1 Post-Impact	V	0.16	Impact Time	2	Minutes	4	Seconds
V2 Post-Impact	V	4.41		2	Minutes	14	Seconds
V1' Post-Impact	V	0.02		2	Minutes	29	Seconds
V2' Post-Impact	V	0.75		2	Minutes	22	Seconds

DATA SHEET NO. 305-4 (CONTINUED)
POST-IMPACT DATA
FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero Volts".
 This "zero voltage" condition is considered as being compliant.

$R_{i1} = R_o (1 + V_2/V_1) [(V_1 - V_1')/V_1']$							
Ri1 Post-Impact	Ω	45,205,869	Impact Time	2	Minutes	29	Seconds
$R_{i2} = R_o (1 + V_1/V_2) [(V_2 - V_2')/V_2']$							
Ri2 Post-Impact	Ω	1,143,399	Impact Time	2	Minutes	22	Seconds
Ri = The lesser of Ri1 and Ri2							
Ri Post-Impact	Ω	1,143,399	Impact Time	2	Minutes	22	Seconds
$R_i / V_b = \text{Electrical Isolation Value} / \text{Nominal Battery Voltage}$							
Ri / Vb Post-Impact	Ω	245,892	Impact Time	2	Minutes	22	Seconds

NOTE: The minimum Electrical Isolation Value is 500 Ω/V.

	Yes	No (Fail)
Is the measured Electrical Isolation Value ≥ 500 Ω/V?	X	
Additional Comments	None	

**DATA SHEET NO. 305-4 (CONTINUED)
POST-IMPACT DATA
FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

PROPULSION BATTERY SYSTEM COMPONENTS

Describe any Propulsion Battery Module movement within the passenger compartment [Supply photographs as appropriate]:
Not Applicable

	Yes (Fail)	No
Has the Propulsion Battery Module moved within the passenger compartment?		X

Describe intrusion of an outside Propulsion Battery Component into the passenger compartment [Supply photographs as appropriate]:
No Intrusion

	Yes (Fail)	No
Has an outside Propulsion Battery Component intruded into the passenger compartment?		X

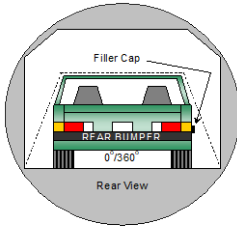
	Yes (Fail)	No
Is the Propulsion Battery Electrolyte Spillage visible in the passenger compartment?		X

**DATA SHEET NO. 305-5
 STATIC ROLLOVER TEST DATA
 FOR INDICANT FMVSS NO. 305 TESTING**

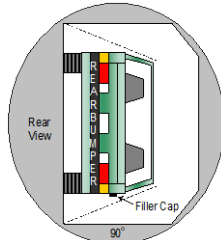
Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

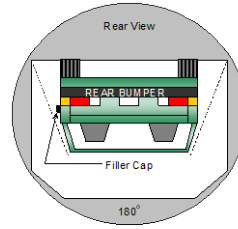
PROPULSION BATTERY SYSTEM COMPONENTS



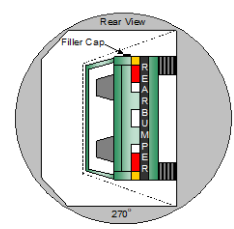
0°/360°



90°



180°



270°

PROPULSION BATTERY ELECTROLYTE COLLECTION TIME PERIOD

Test Phase	Rotation Time (spec. 1-3 min)				FMVSS 301 Hold Time		Total Time				Next Whole Minute Interval	
	1	min	50	sec	5	min	6	min	50	sec	7	min
0° - 90°	1	min	50	sec	5	min	6	min	50	sec	7	min
90° - 180°	1	min	51	sec	5	min	6	min	51	sec	7	min
180° - 270°	1	min	46	sec	5	min	6	min	46	sec	7	min
270° - 360°	1	min	50	sec	5	min	6	min	50	sec	7	min

TEST VEHICLE PROPULSION BATTERY ELECTROLYTE SPILLAGE

NOTE: The maximum allowable Propulsion Battery Electrolyte Spillage is 5.0 Liters.

Test Phase	Propulsion Battery Electrolyte Spillage (L)	Spillage Location
0° to 90°	0	Not Applicable
90° to 180°	0	Not Applicable
180° to 270°	0	Not Applicable
270° to 360°	0	Not Applicable
Total Spillage	0	

	Yes (Fail)	No
Is the total Propulsion Battery Electrolyte Spillage greater than 5.0 Liters?		X
Is the Propulsion Battery Electrolyte Spillage visible in the passenger compartment?		X

**DATA SHEET NO. 305-5 (CONTINUED)
 STATIC ROLLOVER TEST DATA
 FOR INDICANT FMVSS NO. 305 TESTING**

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

VOLTMETER INFORMATION

	Units	Observations and Conclusions
Make		Fluke
Model		177
Serial Number		61660495
Internal Impedance Value	MΩ	> 10 MΩ < 100 pF
Resolution	V	0.001
Last Calibration Date		2/14/2024

ELECTRICAL ISOLATION MEASUREMENTS

Vb Post-Impact	V	0.00
----------------	---	------

Record V1, V2, V1', V2' voltage measurements at the start of each successive increment of 90°, 180°, 270°, and 360° of the static rollover test.

	Voltage	Units	Test Phase	Time			
V1	0.00	V	0°				
	2.31		90°	2	min	45	sec
	0.00		180°	3		17	
	0.00		270°	2		52	
	0.00		360°	2		19	
V2	0.00	V	0°				
	2.28		90°	2	min	52	sec
	0.00		180°	3		21	
	0.00		270°	2		55	
	0.00		360°	2		22	
V1'	0.00	V	0°				
	0.00		90°	3	min	6	sec
	0.00		180°	3		34	
	0.00		270°	3		10	
	0.00		360°	2		32	
V2'	0.00	V	0°				
	0.00		90°	2	min	59	sec
	0.00		180°	3		25	
	0.00		270°	3		0	
	0.00		360°	2		26	

DATA SHEET NO. 305-5 (CONTINUED)
STATIC ROLLOVER TEST DATA
FOR INDICANT FMVSS NO. 305 TESTING

Test Vehicle: 2024 Chevrolet Equinox EV 2LT 5-Door SUV
 Test Program: NCAP Side Pole Impact Test

NHTSA No.: M20240111
 Test Date: 8/1/2024

ELECTRICAL ISOLATION CALCULATIONS

NOTE: If measured voltage is zero and results in a division by zero, record "Zero Volts".
 This "zero voltage" condition is considered as being compliant.

	Voltage	Units	Test Phase	Time		
$Ri1 = Ro (1 + V2/V1) [(V1-V1')/V1']$						
Ri1	Zero Volts	Ω	0°		min	
	Zero Volts		90°	3		6
	Zero Volts		180°	3		34
	Zero Volts		270°	3		10
	Zero Volts		360°	2		32
$Ri2 = Ro (1 + V1/V2) [(V2-V2')/V2']$						
Ri2	Zero Volts	Ω	0°		min	
	Zero Volts		90°	2		59
	Zero Volts		180°	3		25
	Zero Volts		270°	3		0
	Zero Volts		360°	2		26
$Ri = \text{The lesser of } Ri1 \text{ and } Ri2$						
Ri	Zero Volts	Ω	0°		min	
	Zero Volts		90°	2		59
	Zero Volts		180°	3		25
	Zero Volts		270°	3		0
	Zero Volts		360°	2		26
$Ri / Vb = \text{Electrical Isolation Value} / \text{Nominal Battery Voltage}$						
Ri / Vb	Zero Volts	Ω/V	0°		min	
	Zero Volts		90°	2		59
	Zero Volts		180°	3		25
	Zero Volts		270°	3		0
	Zero Volts		360°	2		26

NOTE: The minimum Electrical Isolation Value is 500 Ω/V.

	Yes	No (Fail)
Is the measured Electrical Isolation Value ≥ 500 Ω/V?	X	
Additional Comments	None	

**APPENDIX A
PHOTOGRAPHS**

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Photo No. 001 - As Delivered Right Front Three-Quarter View of Test Vehicle



Photo No. 002 - As Delivered Left Rear Three-Quarter View of Test Vehicle

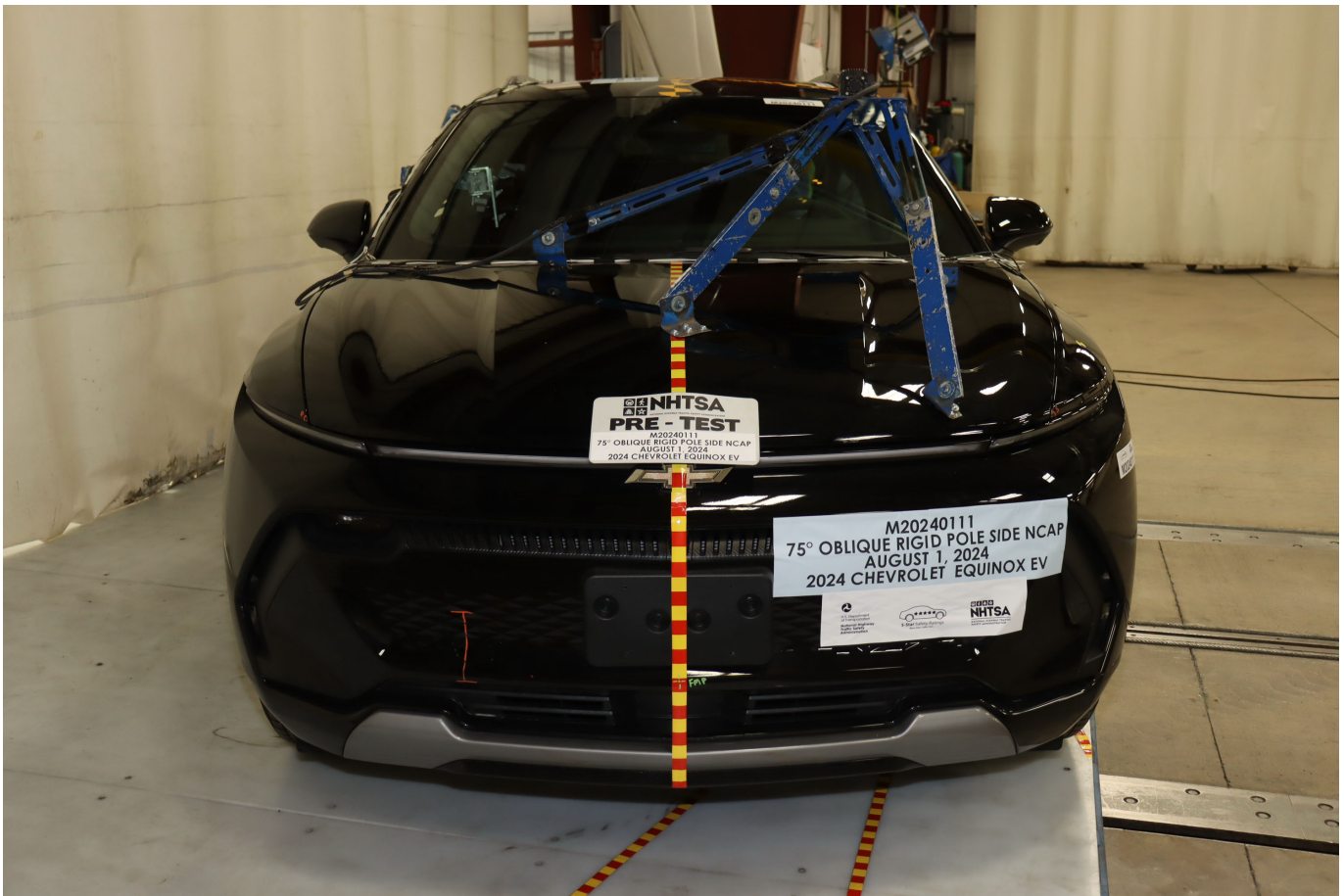


Photo No. 003 - Pre-Test Frontal View of Test Vehicle



Photo No. 004 - Post-Test Frontal View of Test Vehicle

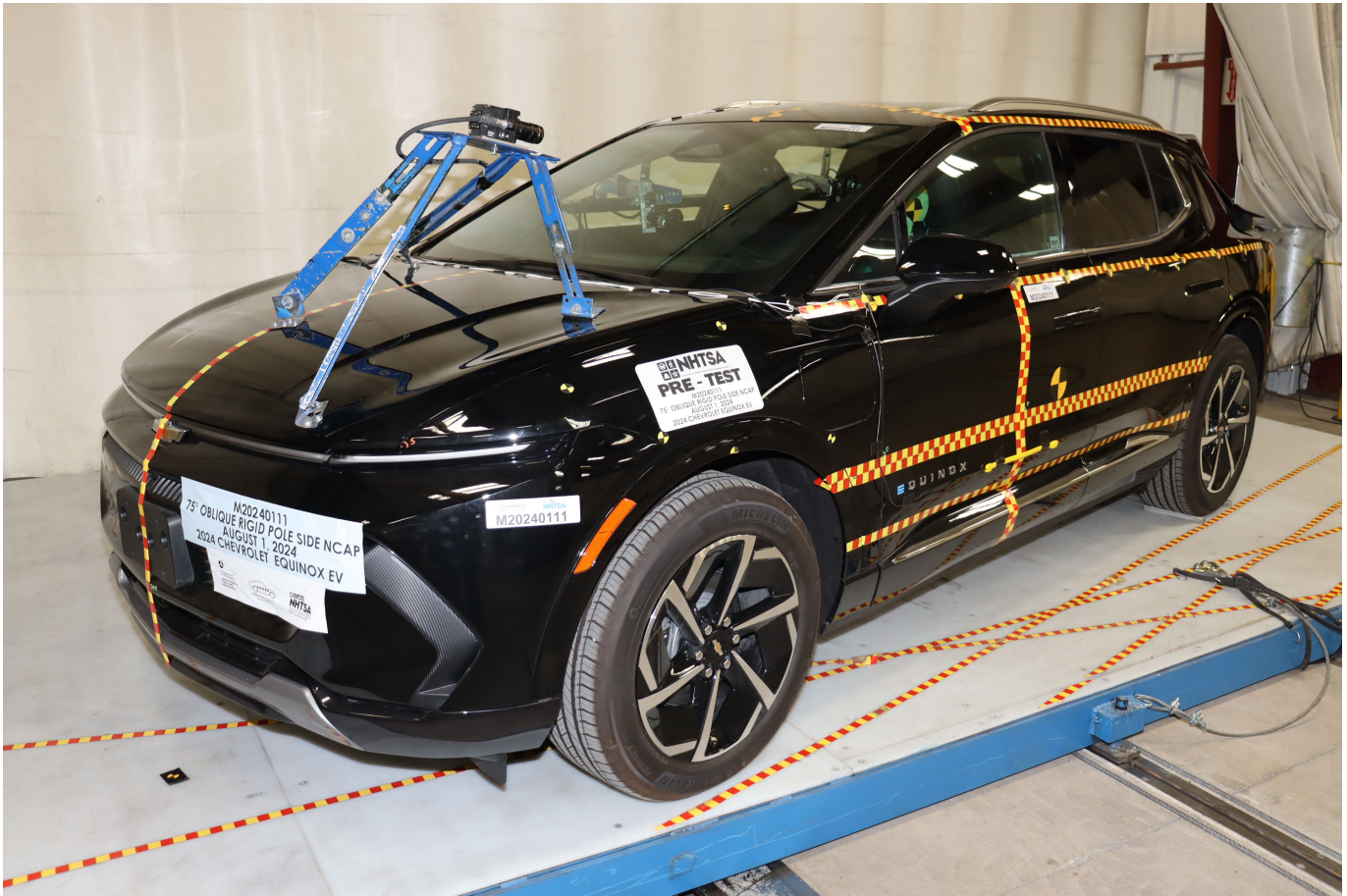


Photo No. 005 - Pre-Test Left Front Three-Quarter View of Test Vehicle



Photo No. 006 - Post-Test Left Front Three-Quarter View of Test Vehicle



Photo No. 007 - Pre-Test Left Side View of Test Vehicle



Photo No. 008 - Post-Test Left Side View of Test Vehicle



Photo No. 009 - Pre-Test Left Rear Three-Quarter View of Test Vehicle



Photo No. 010 - Post-Test Left Rear Three-Quarter View of Test Vehicle



Photo No. 011 - Pre-Test Rear View of Test Vehicle



Photo No. 012 - Post-Test Rear View of Test Vehicle



Photo No. 013 - Pre-Test Right Side View of Test Vehicle



Photo No. 014 - Post-Test Right Side View of Test Vehicle

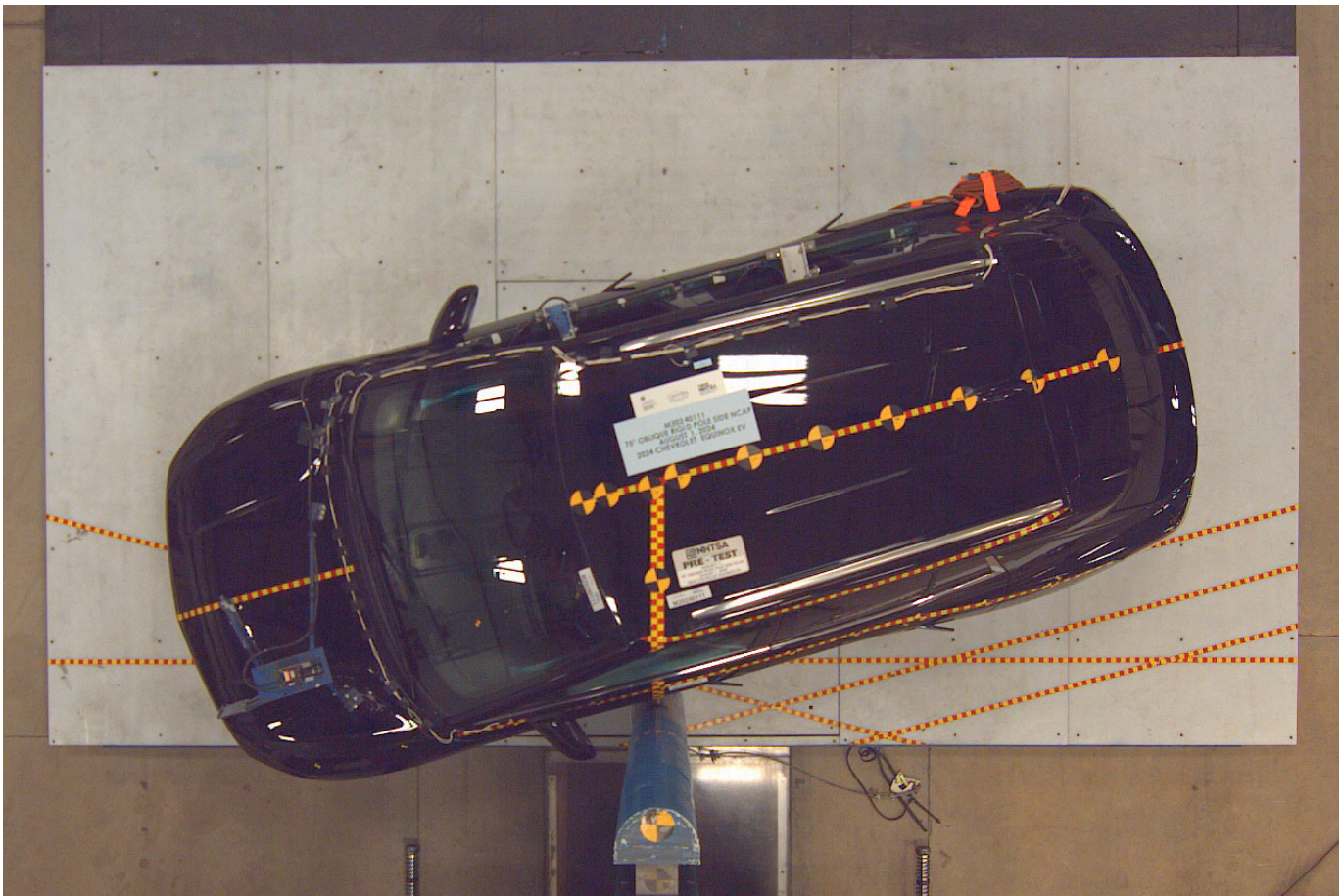


Photo No. 015 - Pre-Test Overhead View of Test Area



Photo No. 016 - Post-Test Overhead View of Test Area



Photo No. 017 - Pre-Test Left Side View of Pole Positioned Against Side of Vehicle



Photo No. 018 - Pre-Test Right Side View of Pole Positioned Against Side of Vehicle



Photo No. 019 - Pre-Test Close-Up View of Impact Point Target



Photo No. 020 - Post-Test Close-Up View of Impact Point Target Showing Impact Location



Photo No. 021 - Pre-Test Front Close-Up View of Dummy Head and Chest



Photo No. 022 - Post-Test Front Close-Up View of Dummy



Photo No. 023 - Pre-Test Left Side View of Dummy Showing Belt and Chalking



Photo No. 024 - Pre-Test Left Side View of Dummy Shoulder and Door Top View



Photo No. 025 - Post-Test Left Side View of Dummy Shoulder and Door Top View



Photo No. 026 - Pre-Test Front View of Seat Back Prior to Dummy Positioning



Photo No. 027 - Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint



Photo No. 028 - Pre-Test Front View of Seat Pan Prior to Dummy Positioning



Photo No. 029 - Pre-Test Overhead View of Dummy Thighs on Seat Pan



Photo No. 030 - Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket



Photo No. 031 - Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level



Photo No. 032 - Pre-Test Placement of Dummy's Feet



Photo No. 033 - Pre-Test View of Belt Anchorage for Dummy



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Photo No. 036 - Pre-Test View of Parking Brake



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Photo No. 040 - Pre-Test Dummy and Door Clearance View



Photo No. 041 - Post-Test Dummy and Door Clearance View



Photo No. 042 - Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Photo No. 043 - Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment



Photo No. 044 - Pre-Test Inner Door Panel View



Photo No. 045 - Post-Test Inner Door Panel View Showing Dummy Contact Location



Photo No. 046 - Post-Test Dummy Close-Up Head Contact with Vehicle Interior View



Photo No. 047 - Post-Test Dummy Close-Up Head Contact with Side Air Bag View



Photo No. 048 - Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View



Photo No. 049 - Post-Test Dummy Close-Up Torso Contact with Side Air Bag View



Photo No. 050 - Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View



Photo No. 051 - Post-Test Dummy Close-Up Pelvis Contact with Side Air Bag View

PHOTOGRAPH NOT APPLICABLE

Photo No. 052 - Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View



Photo No. 053 - Post-Test Right Side View of Dummy and Rear Seat of Occupant Compartment

PHOTOGRAPH NOT APPLICABLE

Photo No. 054 - Post-Test Inner Rear Passenger Torso Air Bag Deployment View

PHOTOGRAPH NOT APPLICABLE

Photo No. 055 - Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

PHOTOGRAPH NOT APPLICABLE

Photo No. 056 - Post-Test View of Fuel Filler Cap or Fuel Filler Neck



Photo No. 057 - Close-Up View of Vehicle's Certification Label

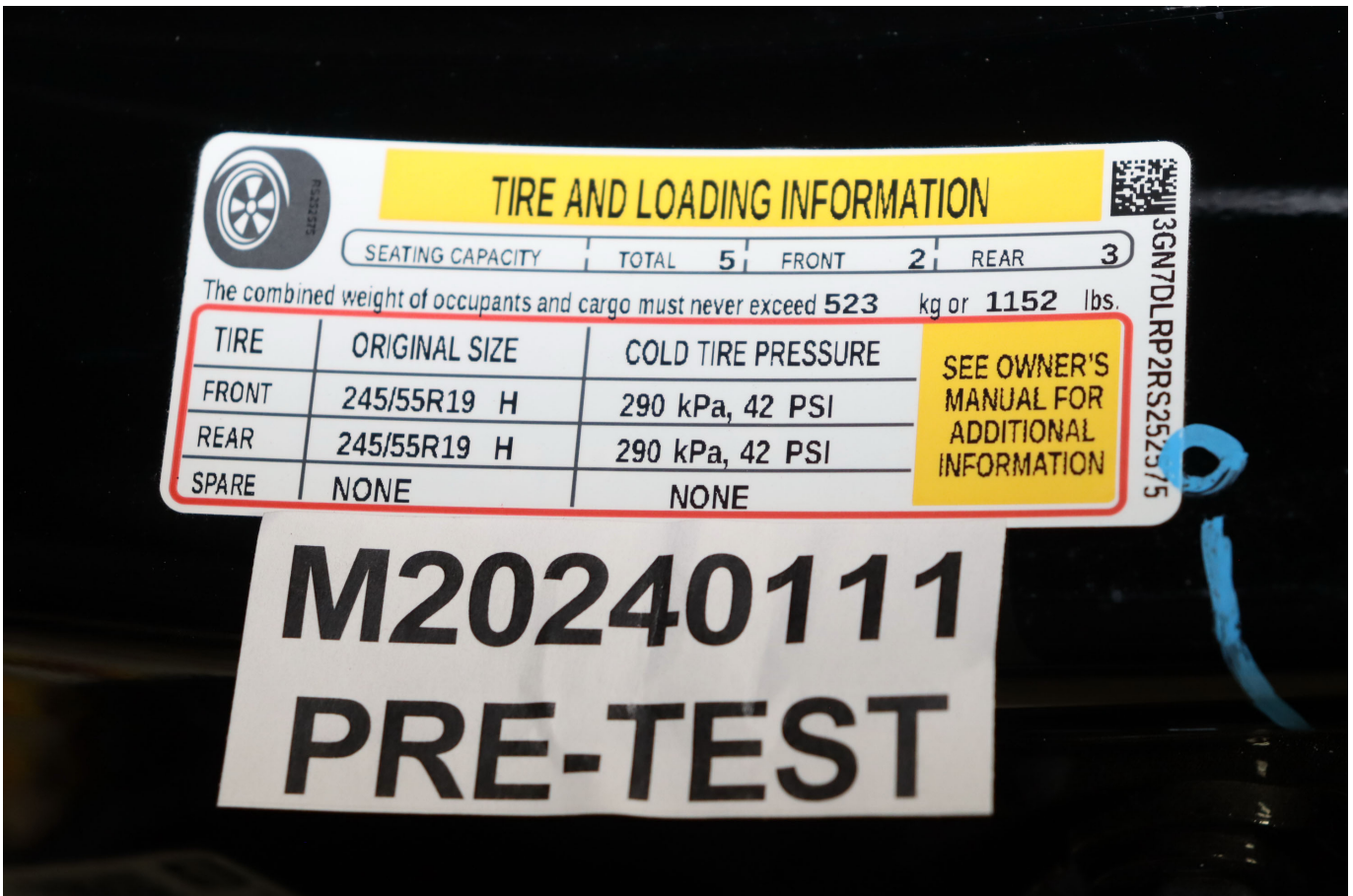


Photo No. 058 - Close-Up View of Vehicle's Tire Information Placard or Label



Photo No. 059 - Pre-Test Pole Barrier Front View



Photo No. 060 - Post-Test Pole Barrier Front View



Photo No. 061 - Pre-Test Pole Barrier Side View



Photo No. 062 - Post-Test Pole Barrier Side View

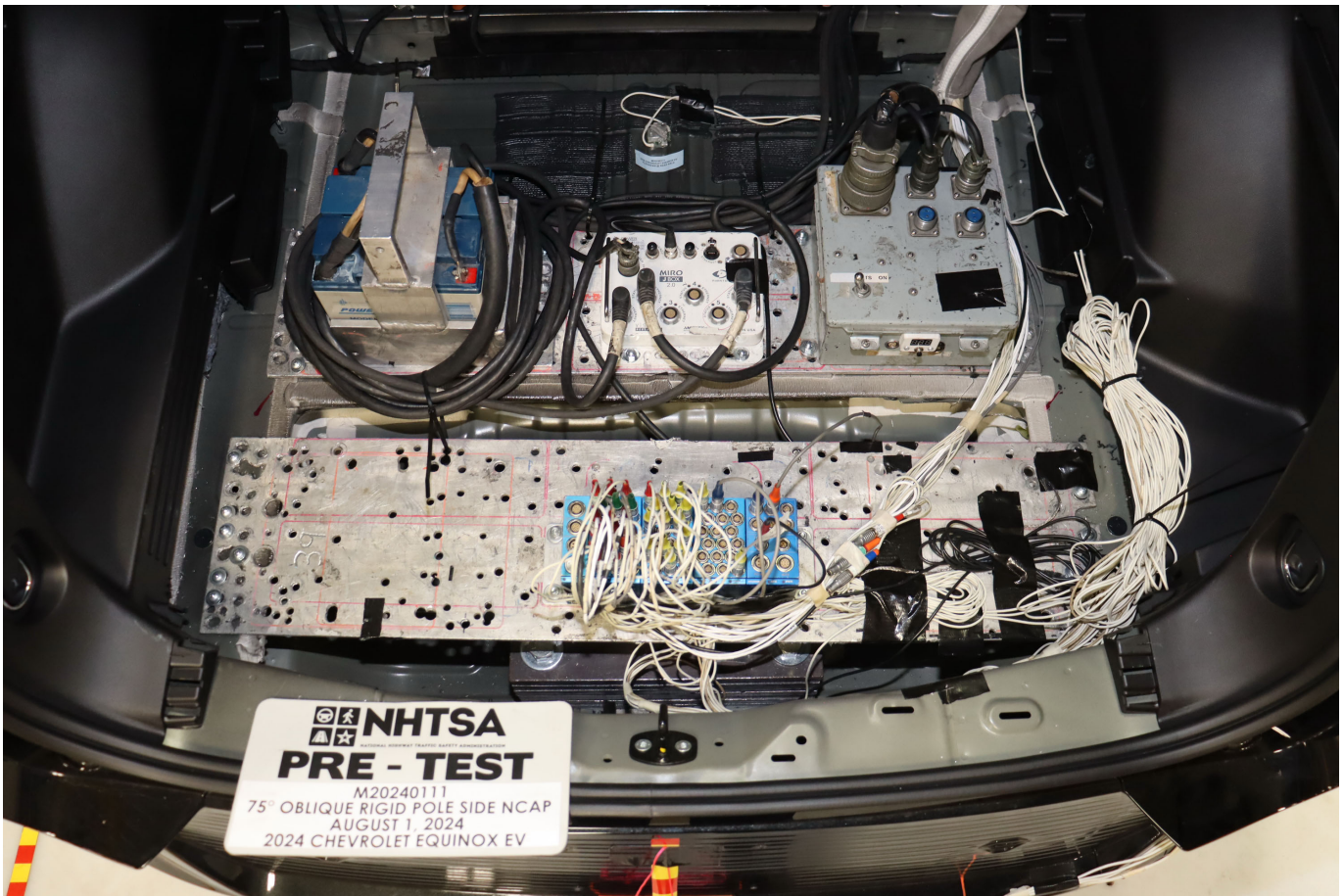


Photo No. 063 - Pre-Test Ballast View



Photo No. 064 - Post-Test Primary and Redundant Speed Trap Read-Out

PHOTOGRAPH NOT APPLICABLE

Photo No. 065 - FMVSS Photo No. 301 Static Rollover 0 Degrees

PHOTOGRAPH NOT APPLICABLE

Photo No. 066 - FMVSS Photo No. 301 Static Rollover 90 Degrees

PHOTOGRAPH NOT APPLICABLE

Photo No. 067 - FMVSS Photo No. 301 Static Rollover 180 Degrees

PHOTOGRAPH NOT APPLICABLE

Photo No. 068 - FMVSS Photo No. 301 Static Rollover 270 Degrees

PHOTOGRAPH NOT APPLICABLE

Photo No. 069 - FMVSS Photo No. 301 Static Rollover 360 Degrees



Photo No. 070 - Impact Event



STANDARD EQUIPMENT

ITEMS FEATURED BELOW ARE INCLUDED AT NO EXTRA CHARGE IN THE STANDARD VEHICLE PRICE SHOWN

OWNER BENEFITS

- 3 YEAR/ 36,000 MILE * BUMPER-TO-BUMPER LIMITED WARRANTY
- 8 YEAR/100,000 MILE * ELECTRIC VEHICLE PROPULSION BATTERY WARRANTY
- COURTESY TRANSPORTATION & ROADSIDE ASSISTANCE TOWING
- 5 YEAR/60,000 MILE * ALL OTHER ROADSIDE SERVICES
- FIRST MAINTENANCE VISIT
- *WHICHEVER COMES FIRST SEE CHEVROLET.COM OR DEALER FOR TERMS, DETAILS & LIMITS

PERFORMANCE & MECHANICAL

- 19" WHEELS
- ULTIUM PROPULSION BATTERY, 85KWH BATTERY RATED ENERGY,

150KW DC FAST CHARGE CAPABLE

- 11.5KW AC CHARGING
- DUAL LEVEL CHARGE CORD
- TRAILERING WIRING PROVISIONS
- ONE PEDAL DRIVING

CONNECTIVITY & TECHNOLOGY

- 17.7" DIAGONAL LCD DISPLAY
- GOOGLE BUILT-IN AND ROUTE PLANNING COMPATIBILITY
- DRIVER INFORMATION CENTER
- 11" DIAGONAL DIGITAL DISPLAY
- 8 YEARS REMOTE ACCESS AND CONNECTIVITY; ONSTAR AND WI-FI DATA CAPABLE. SEE ONSTAR.COM FOR TERMS.
- REMOTE START
- SIRIUSXM AUDIO WITH SXM TRIAL SUBSCRIPTION
- USB PORTS & POWER OUTLETS

INTERIOR

- EXOTIC SEATING SURFACES
- DRIVER 8-WAY POWER SEAT

WITH 4-WAY LUMBAR

- PASSENGER 6-WAY MANUAL SEATS
- HEATED FRONT ROW SEATS
- REAR 60/40-SPLIT SEATS
- REAR CENTER ARMREST & HEADREST
- REAR SEAT REMINDER
- FRONT VISORS WITH ILLUMINATED VANITY MIRRORS
- AUTO DIMMING INSIDE REARVIEW MIRROR
- HEATED, WRAPPED, ROUND BOTTOM STEERING WHEEL
- MULTICOLOR AMBIENT LIGHTING

EXTERIOR

- AUTOTENSENSE POWER LIFTGATE
- LED HEAD AND TAIL LAMPS
- CENTER LIT HEADLAMP BAR
- APPROACH, WALK-AWAY, & CHARGE INDICATION LIGHTING
- FLUSH DOOR HANDLES
- OUTSIDE HEATED MIRRORS

- DRIVER WINDOW EXPRESS UP/DOWN
- LUGGAGE CARRIER - ROOF RAIL

SAFETY & SECURITY

- ENHANCED AUTOMATIC EMERGENCY BRAKING
- FORWARD COLLISION ALERT
- FRONT PEDESTRIAN AND BICYCLIST BRAKING
- FOLLOWING DISTANCE INDICATOR
- INTELLIBEAM-AUTO HIGH BEAM
- SAFETY ALERT SEAT
- REAR CROSS TRAFFIC BRAKING
- BLIND ZONE STEERING ASSIST
- REVERSE AUTOMATIC BRAKING
- INTERSECTION AUTOMATIC EMERGENCY BRAKING
- ADAPTIVE CRUISE CONTROL
- SIDE BICYCLIST ALERT
- HD SURROUND VISION

MANUFACTURER'S SUGGESTED RETAIL PRICE

STANDARD VEHICLE PRICE \$41,900.00

Visit us at www.chevy.com

OPTIONS & PRICING

OPTIONS INSTALLED BY THE MANUFACTURER (MAY REPLACE STANDARD EQUIPMENT SHOWN)

TOTAL OPTIONS	\$0.00
TOTAL VEHICLE & OPTIONS	\$41,900.00
DESTINATION CHARGE	1,395.00

TOTAL VEHICLE PRICE* \$43,295.00

EPA DOT Fuel Economy and Environment Electric Vehicle

Fuel Economy EQUINOX EV FWD
Small SUVs range from 14 to 118 MPGe. The best vehicle rates 140 MPGe.

108 MPGe
combined city/hwy
city 117 highway 99
31 kW-hrs per 100 miles

You save \$6,250
in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost \$700

Fuel Economy & Greenhouse Gas Rating (tailpipe only) **10** Best
Smog Rating (tailpipe only) **10** Best

This vehicle emits 0 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Does not include emissions from generating electricity; learn more at fuelconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 28 MPG and costs \$9,750 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at \$0.15 per kW-hr. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fuelconomy.gov
Calculate personalized estimates and compare vehicles

Smartphone QR Code

GOVERNMENT 5-STAR SAFETY RATINGS

This vehicle has not been rated by the government for overall vehicle score, frontal crash, side crash or rollover risk.

Source: National Highway Traffic Safety Administration (NHTSA)
www.safercar.gov or 1-888-327-4236

OnStar
Equipped with the safety and security of OnStar.
Visit onstar.com for details.
onstar.com/privacy

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE:
U.S./CANADIAN PARTS CONTENT: 62%
MAJOR SOURCES OF FOREIGN PARTS CONTENT: CN 18%

NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

FOR THIS VEHICLE:
FINAL ASSEMBLY POINT: RAMOS ARIZPE, CZ MEXICO
COUNTRY OF ORIGIN: ENGINE (MOTOR): MEXICO TRANSMISSION (ELECTRIC DRIVE UNIT): MEXICO

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GM/BL_PRCO_0043 - 10/23/2023

ORDER NO 0K0C0Z SALES CODE E
SALES MODEL CODE 1MB48
DEALER NO 14505
FINAL ASSEMBLY: RAMOS ARIZPE, CZ MEXICO
VIN 3GN7DLRP2RS252575
DEALER TO WHOM DELIVERED:
SPORT CHEVROLET COMPANY, LLC
3101 AUTOMOBILE BLVD
SILVER SPRING, MD 20904-4999

AM
2CC3598082

Photo No. 071 - Monroney Label

Seats and Restraints 31

Seats and Restraints

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Securing Child Restraints (With the Seat Belt in the Front Seat) 73

Head Restraints
The vehicle's front seats have adjustable head restraints in the outboard seating positions.

Warning
With head restraints that are not installed and adjusted properly, there is a greater chance that occupants will suffer a neck/spinal injury in a crash. Do not drive until the head restraints for all occupants are installed and adjusted properly.

32 Seats and Restraints

Adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head. This position reduces the chance of a neck injury in a crash.

Front Seats

The height of the head restraint can be adjusted.
To raise or lower the head restraint, press the button located on the side of the head restraint and pull up or push the head restraint down, and release the button. Pull and push on the head restraint after the button is released to make sure that it is locked in place.
The front seat outboard head restraints are not removable.

Rear Seats
Rear Head Restraint Adjustment
The vehicle's rear seat has adjustable head restraints in the outboard seating positions. The height of the head restraint can be adjusted. Pull the head restraint up to raise it. Try to move the head restraint to make sure that it is locked in place.

The vehicle's rear seat has an adjustable headrest in the center seating position that can be adjusted the same way as the outboard head restraints.
Always adjust the head restraint so that the top of the restraint is at the same height as the top of the occupant's head.
The rear head restraints are not removable.

Photo No. 072 - Head Restraint Use and Adjustment Information from Vehicle Owner's Manual



Photo No. 073 - Post-Test View of Shattered Vehicle Inner Door Panel



Photo No. 305-01 - Auxiliary Power Module Warning Label

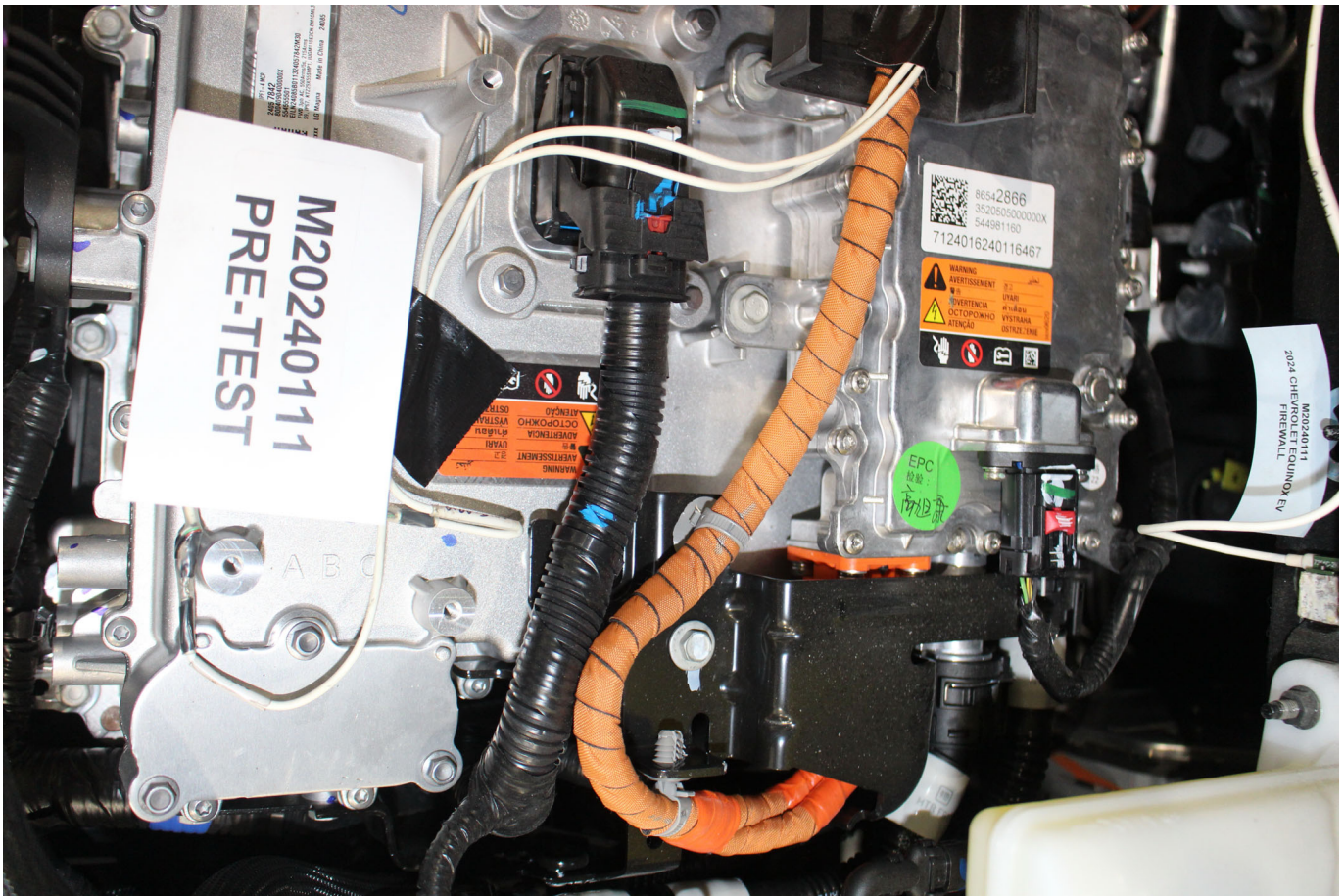


Photo No. 305-02 - Power Inverter Warning Label



Photo No. 305-03 - First Responder Warning Label



Photo No. 305-04 - First Responder Warning Location

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-05 - Other Vehicle Label(s) Related to Electrical Propulsion System

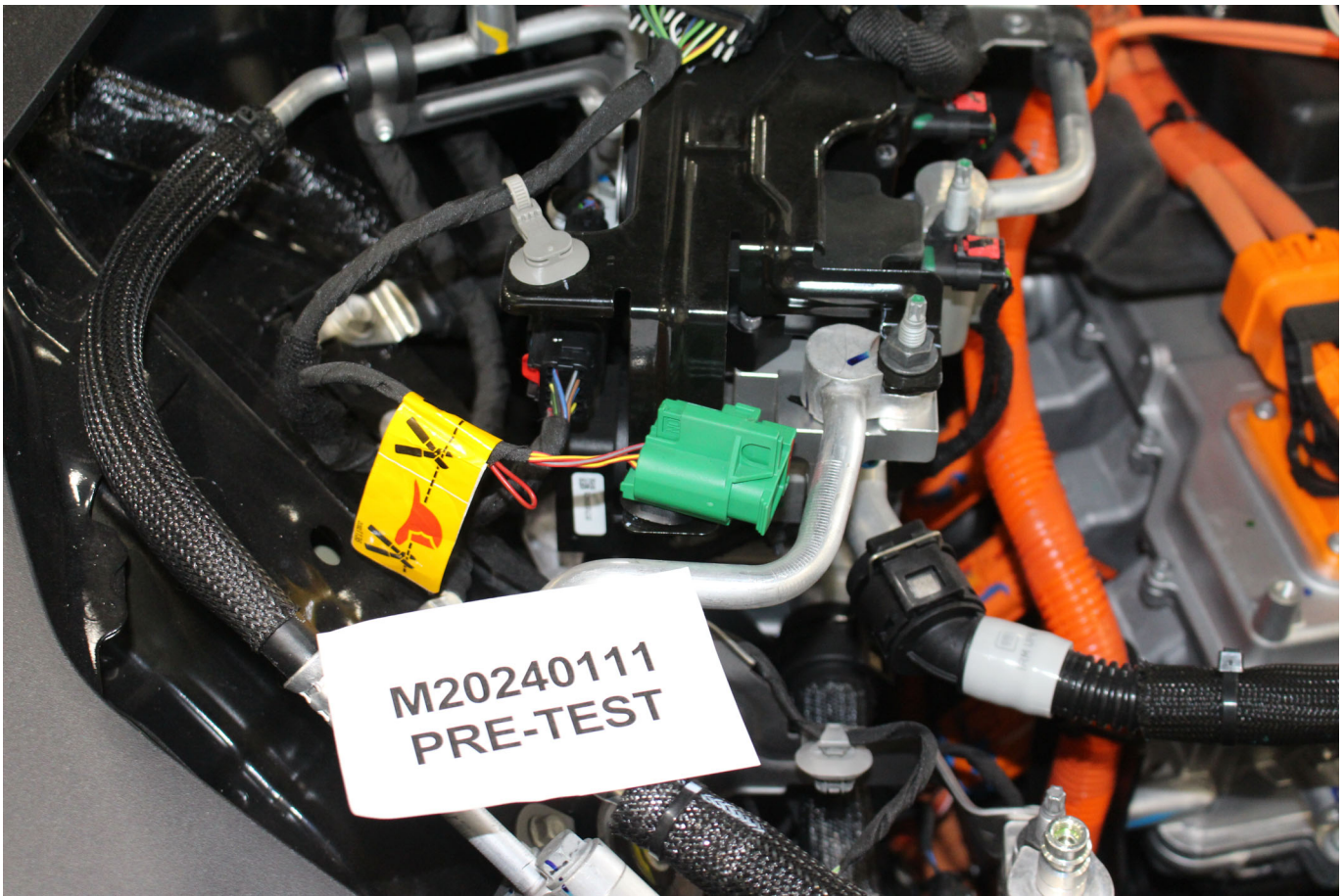


Photo No. 305-06 - Manual High Voltage Service Disconnect in Place



Photo No. 305-07 - Manual High Voltage Service Disconnect Removed

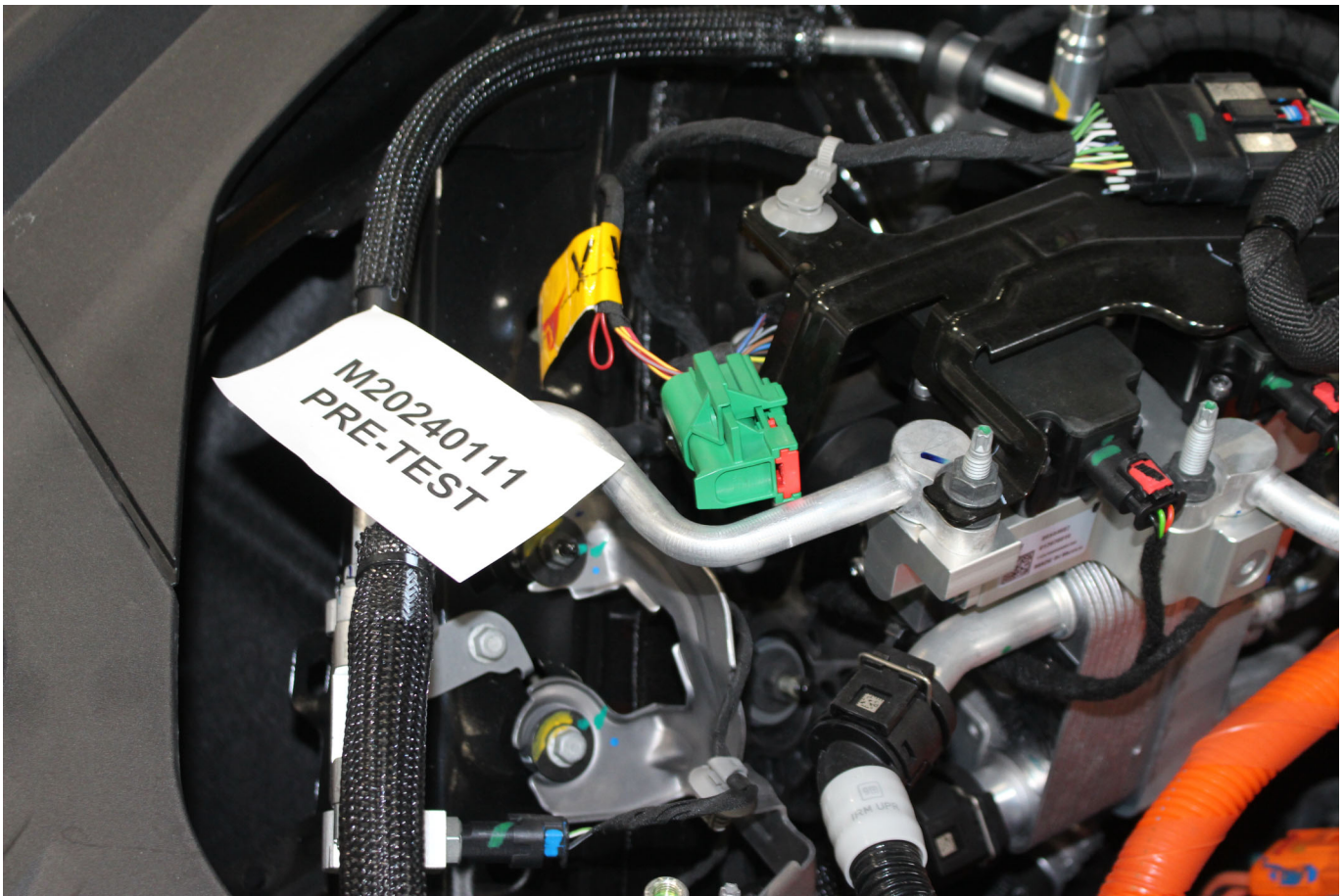


Photo No. 305-08 - Manual High Voltage Service Disconnect Removed

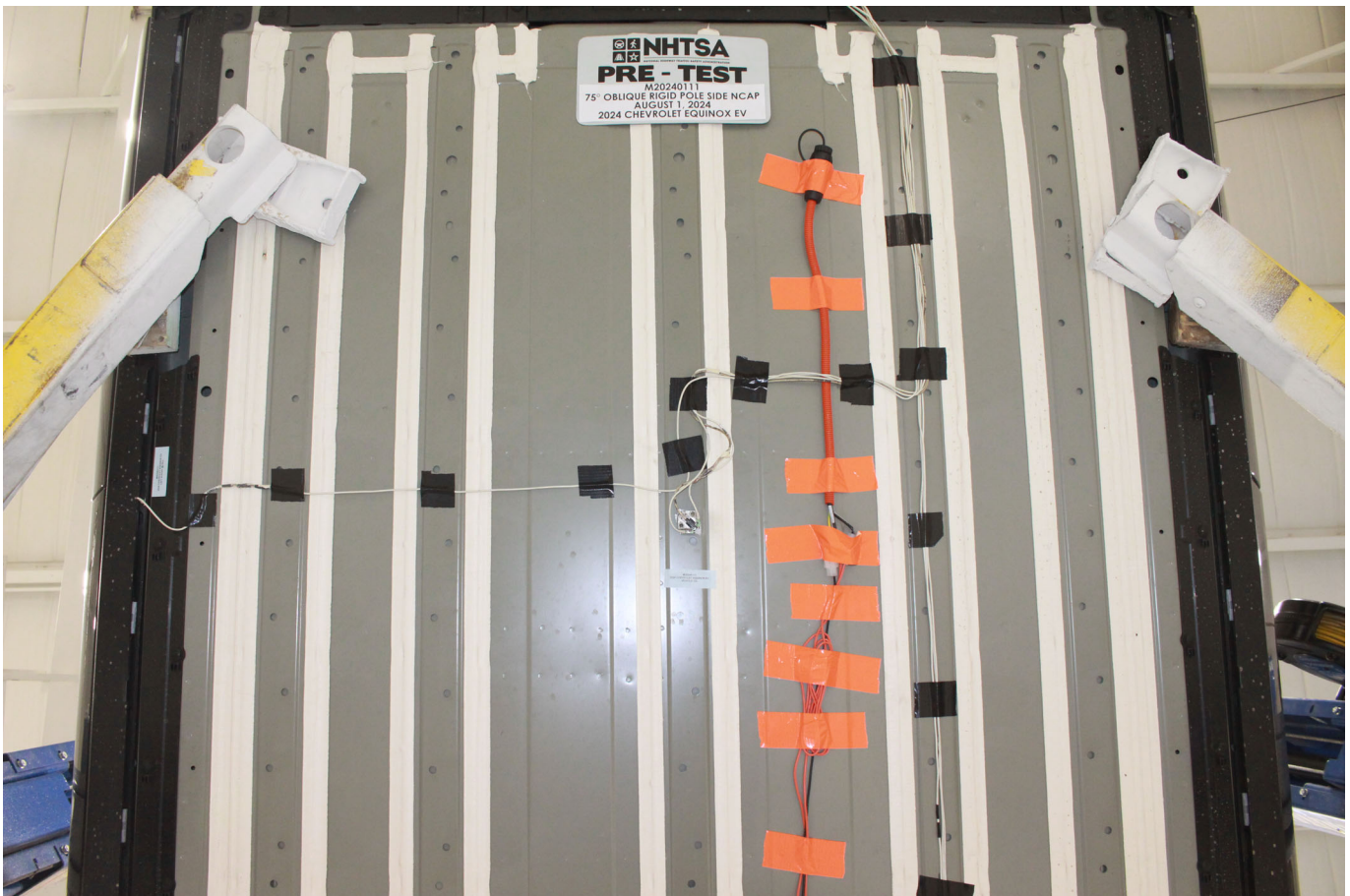


Photo No. 305-09 - Pre-Impact View of Propulsion Battery

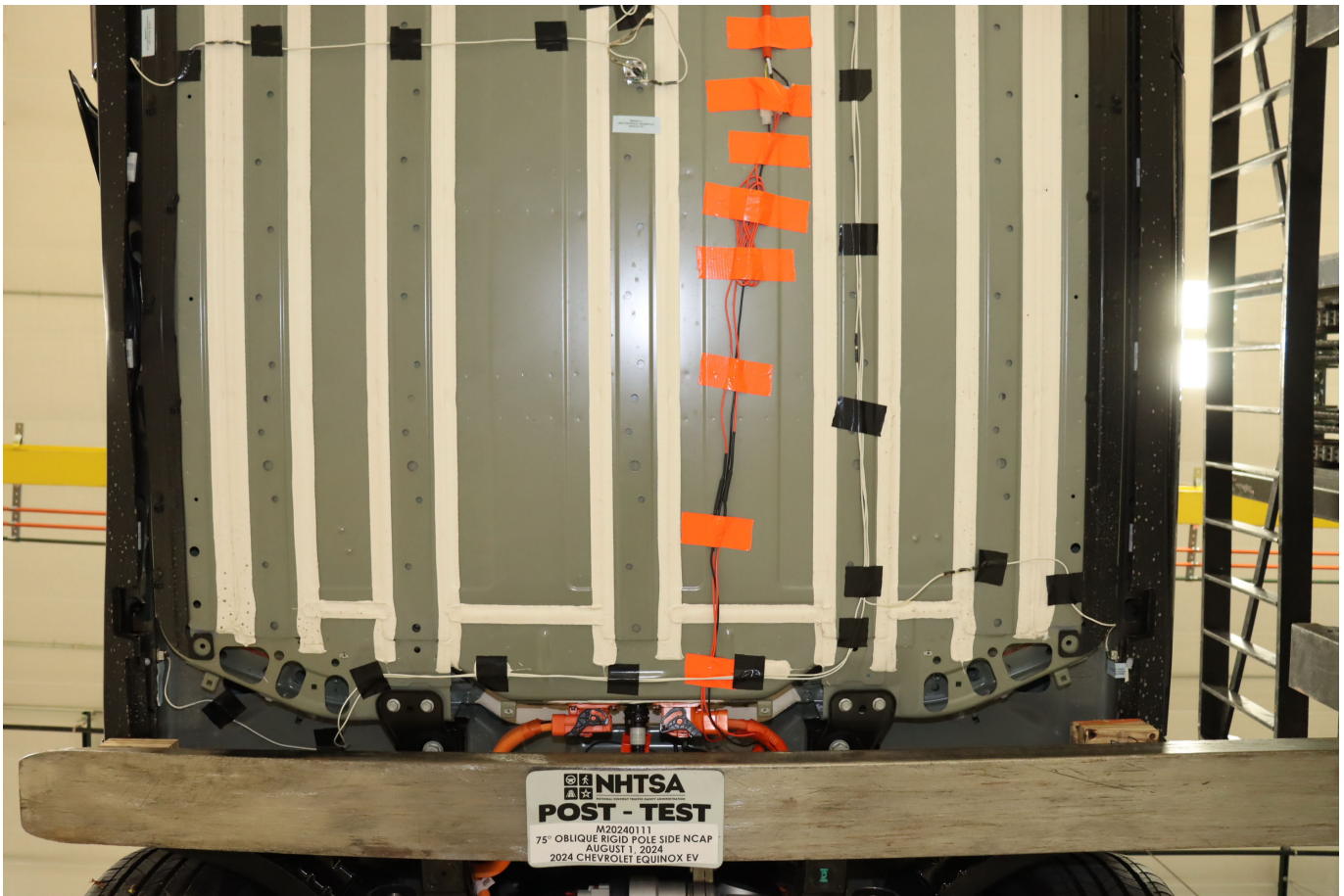


Photo No. 305-10 - Post-Impact Front View of Propulsion Battery



Photo No. 305-11 - Post-Impact Rear View of Propulsion Battery

PHOTOGRAPH NOT AVAILABLE

Photo No. 305-12 - Pre-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

PHOTOGRAPH NOT AVAILABLE

Photo No. 305-13 - Post-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

PHOTOGRAPH NOT AVAILABLE

Photo No. 305-14 - Pre-Impact View of Propulsion Battery Module(s)

PHOTOGRAPH NOT AVAILABLE

Photo No. 305-15 - Post-Impact View of Propulsion Battery Module(s)

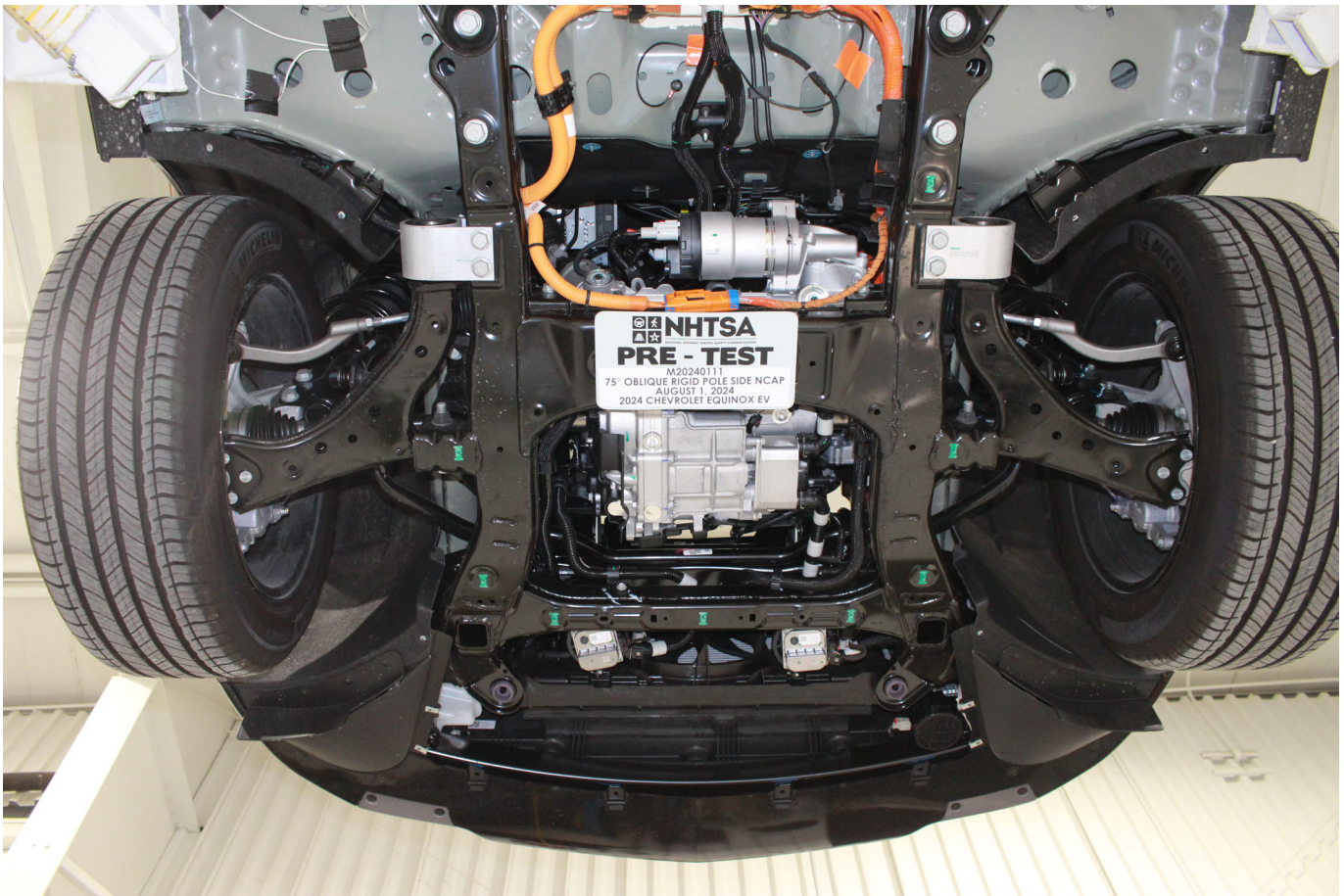


Photo No. 305-16 - Pre-Impact View of Electric Propulsion Drive

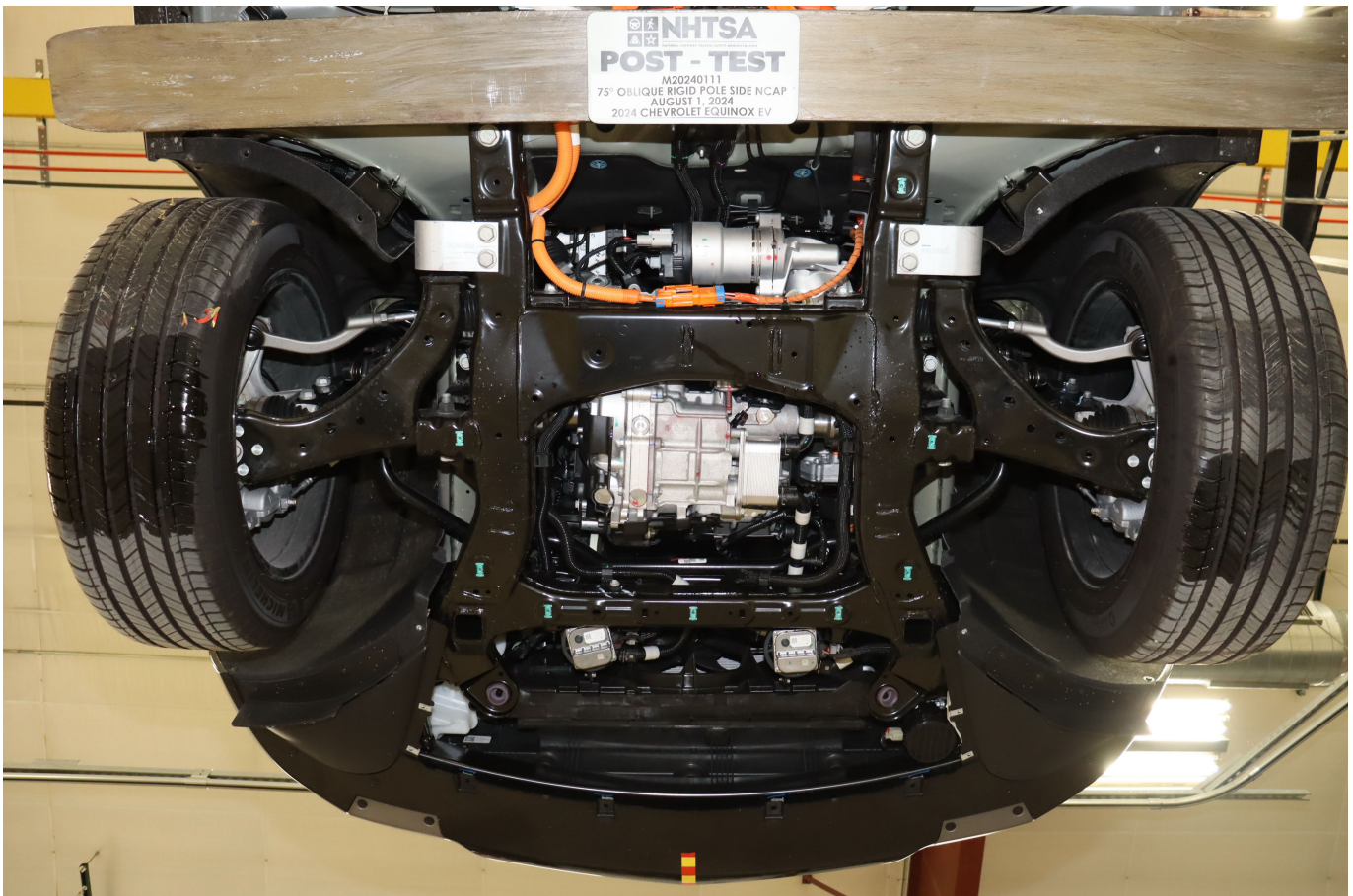


Photo No. 305-17 - Post-Impact View of Electric Propulsion Drive

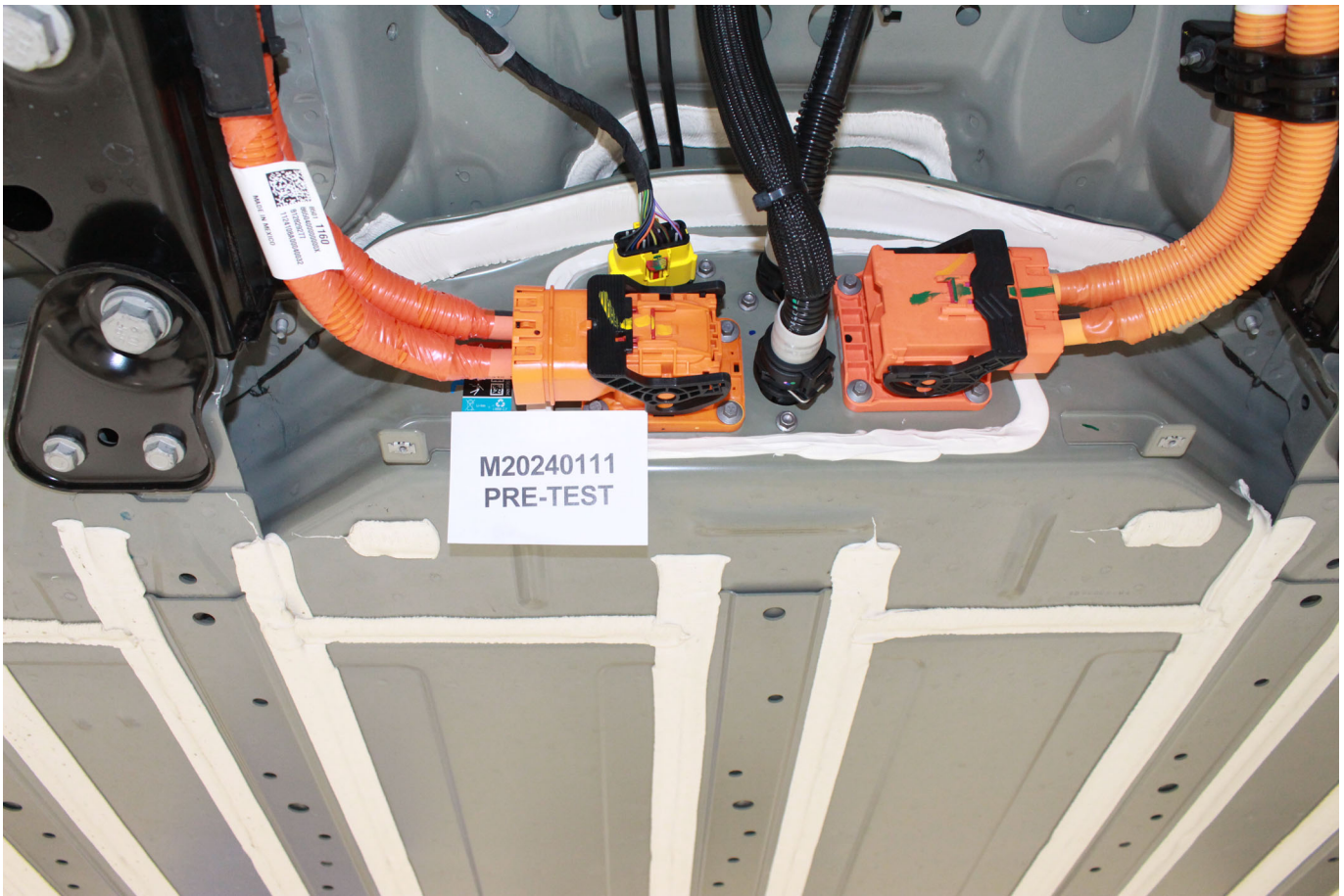


Photo No. 305-18 - Pre-Impact View of High Voltage Interconnect(s)

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-19 - Pre-Impact View Propulsion Battery Venting System(s)

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-20 - Pre-Impact View of Other Visible Electric Propulsion Components



Photo No. 305-21 - Pre-Impact View of Ground Lead Attached



Photo No. 305-22 - Pre-Impact View of High Voltage Leads Attached



Photo No. 305-23 - Pre-Impact Close-Up View of High Voltage Leads Attached



Photo No. 305-24 - Pre-Impact View of Installed Test Interface Port



Photo No. 305-25 - Post-Impact View of Installed Test Interface Port



Photo No. 305-26 - Pre-Impact View of Other Test Devices



Photo No. 305-27 - Post-Impact View of Other Test Devices



Photo No. 305-28 - FMVSS No. 305 Static Rollover at 90 Degrees



Photo No. 305-29 - FMVSS No. 305 Static Rollover at 180 Degrees



Photo No. 305-30 - FMVSS No. 305 Static Rollover at 270 Degrees



Photo No. 305-31 - FMVSS No. 305 Static Rollover at 360 Degrees



Photo No. 305-32 - Pre-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery



Photo No. 305-33 - Post-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-34 - Post-Impact Propulsion Battery System Mounting and-or Intrusion Failure(s)

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-35 - Post-Impact View of Battery Component Intrusion

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-36 - Post-Impact View of Battery Module Movement or Retention Loss

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-37 - Post-Impact View of Propulsion Battery Electrolyte Spillage Location

PHOTOGRAPH NOT APPLICABLE

Photo No. 305-38 - Post-Test View of Propulsion Battery Electrolyte Spillage Location

APPENDIX B
DUMMY RESPONSE DATA PLOTS

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Driver Dummy Instrumentation Plots

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Figure No. 1.	Driver Head CG Acceleration (X) vs. Time	B-1
Figure No. 2.	Driver Head CG Acceleration (Y) vs. Time	B-1
Figure No. 3.	Driver Head CG Acceleration (Z) vs. Time	B-1
Figure No. 4.	Driver Head CG Resultant Acceleration (X) vs. Time	B-1
Figure No. 5.	Driver Lower Spine T12 Acceleration (X) vs. Time	B-2
Figure No. 6.	Driver Lower Spine T12 Acceleration (Y) vs. Time	B-2
Figure No. 7.	Driver Lower Spine T12 Acceleration (Z) vs. Time	B-2
Figure No. 8.	Driver Lower Spine T12 Resultant Acceleration vs. Time	B-2
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Figure No. 11.	Driver Total Pelvis Force on Impact Side (Y) vs. Time	B-3

The following additional data for this test can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.nhtsa.gov

Additional Driver Dummy Instrumentation Data

Driver Head CG Redundant Acceleration (X) vs. Time
Driver Head CG Redundant Acceleration (Y) vs. Time
Driver Head CG Redundant Acceleration (Z) vs. Time
Driver Head Angular Velocity X (Deg/Sec) vs. Time
Driver Head Angular Velocity Y (Deg/Sec) vs. Time
Driver Head Angular Velocity Z (Deg/Sec) vs. Time
Driver Upper Thorax Rib Deflection (Y)
Driver Middle Thorax Rib Deflection (Y)
Driver Lower Thorax Rib Deflection (Y)
Driver Upper Abdomen Rib Deflection (Y)
Driver Lower Abdomen Rib Deflection (Y)

Vehicle Instrumentation Data

Vehicle Center of Gravity Acceleration (X)

Vehicle Center of Gravity Acceleration (Y)

Vehicle Center of Gravity Acceleration (Z)

Left Floor Sill Acceleration (Y)

Left A-Pillar Sill Acceleration (Y)

Left Lower A-Pillar Acceleration (Y)

Left Mid A-Pillar Acceleration (Y)

Left B-Pillar Sill Acceleration (Y)

Left Lower B-Pillar Acceleration (Y)

Left Mid B-Pillar Acceleration (Y)

Driver Seat Track at Dummy Hip Point Acceleration (Y)

Engine Top Acceleration (X)

Engine Top Acceleration (Y)

Firewall Center Acceleration (Y)

Right Roof at Vertical Impact Reference Line Acceleration (Y)

Right Sill at Vertical Impact Reference Line Acceleration (Y)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (X)

Rear Floorpan Behind Rear Axle at Centerline Acceleration (Y)

Pole Instrumentation Data

Load Cell Pole Barrier #1 Force (Y)

Load Cell Pole Barrier #2 Force (Y)

Load Cell Pole Barrier #3 Force (Y)

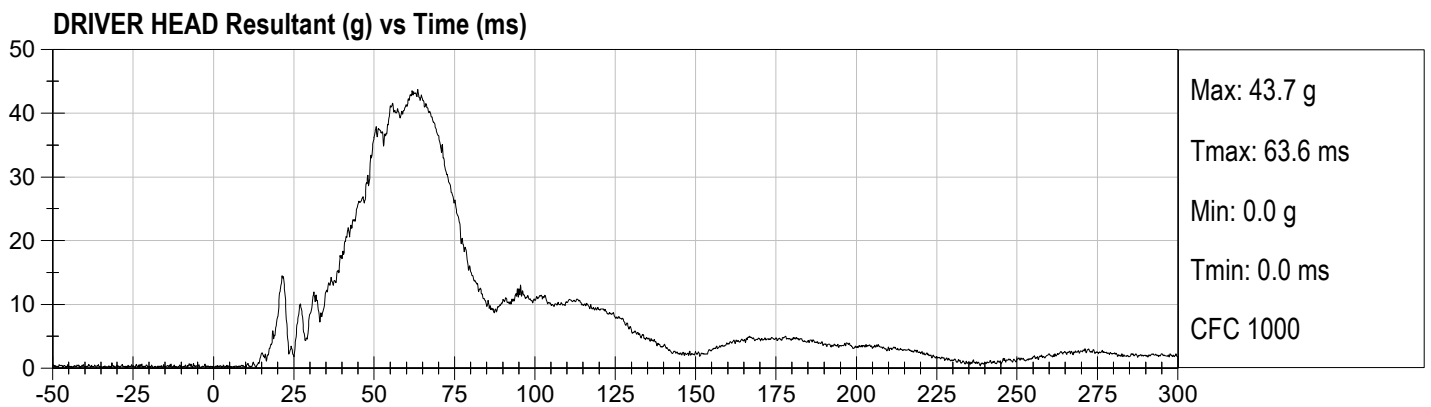
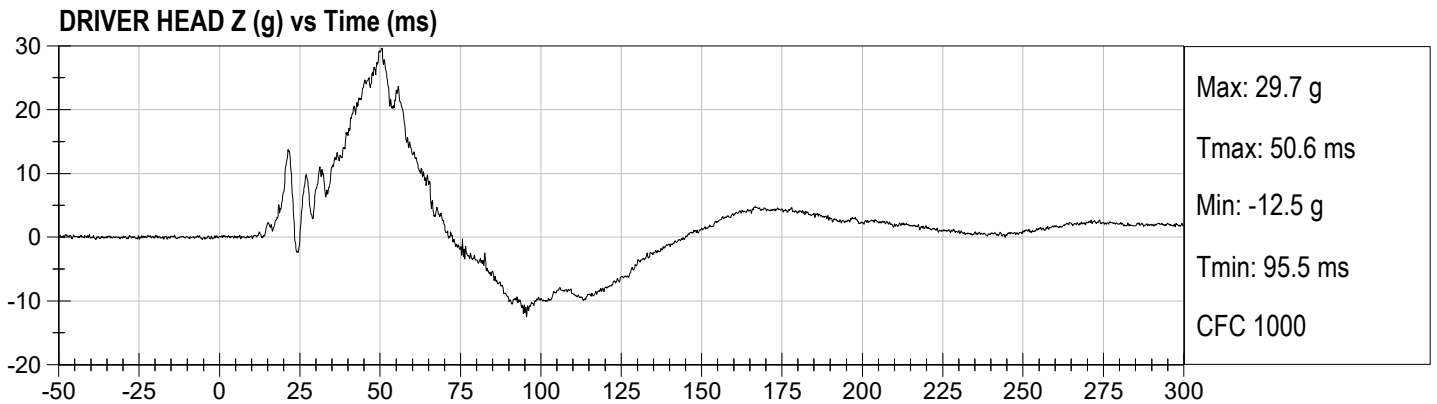
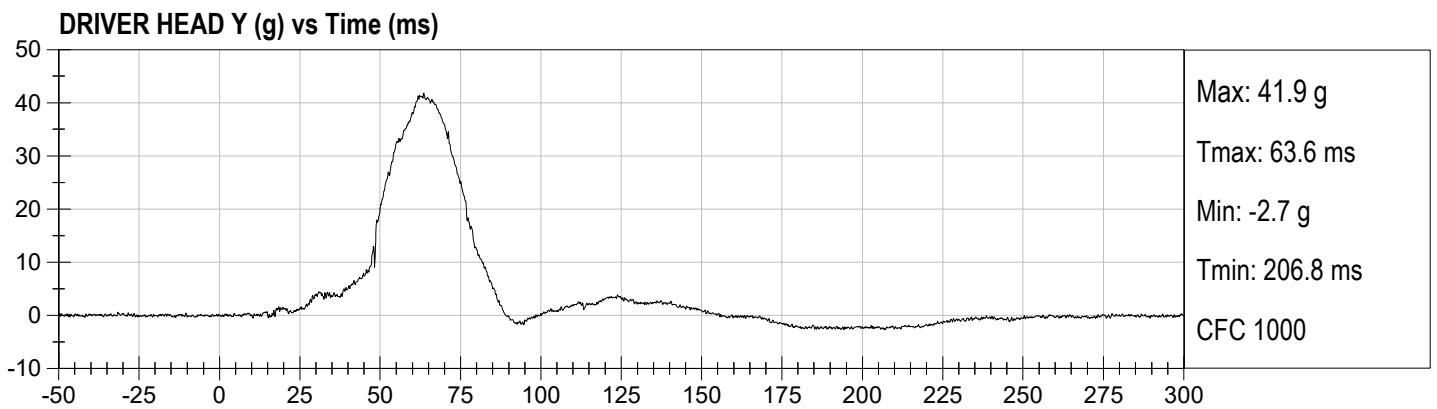
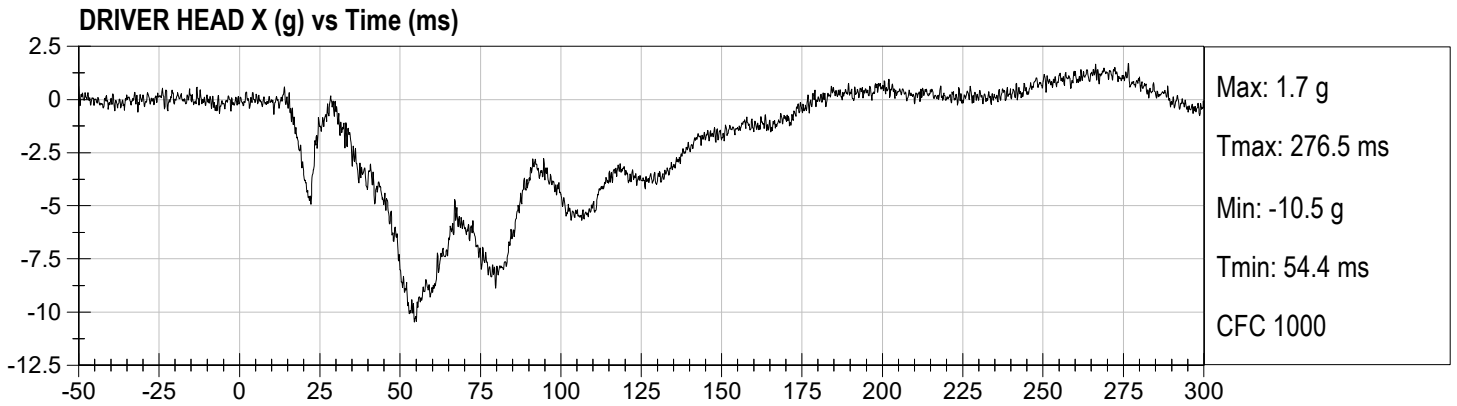
Load Cell Pole Barrier #4 Force (Y)

Load Cell Pole Barrier #5 Force (Y)

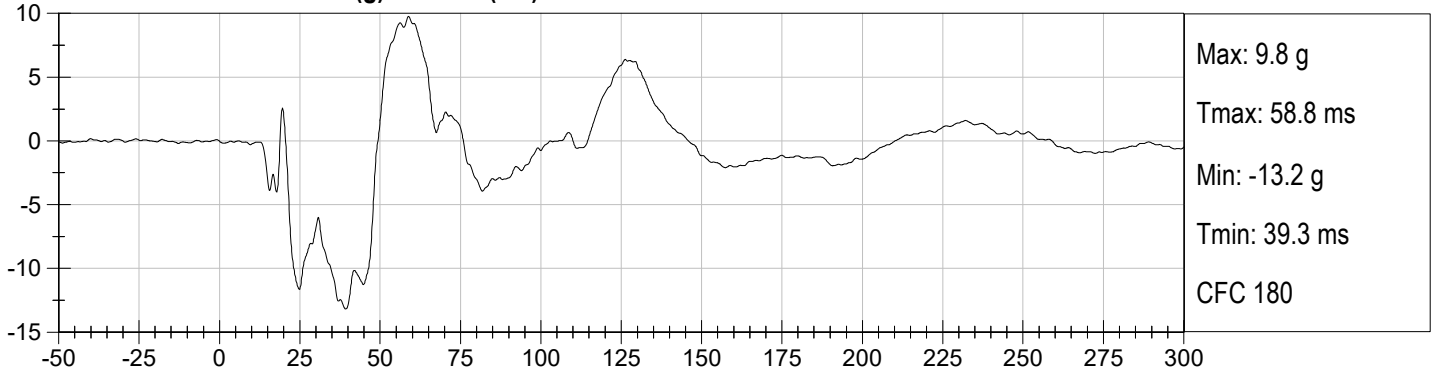
Load Cell Pole Barrier #6 Force (Y)

Load Cell Pole Barrier #7 Force (Y)

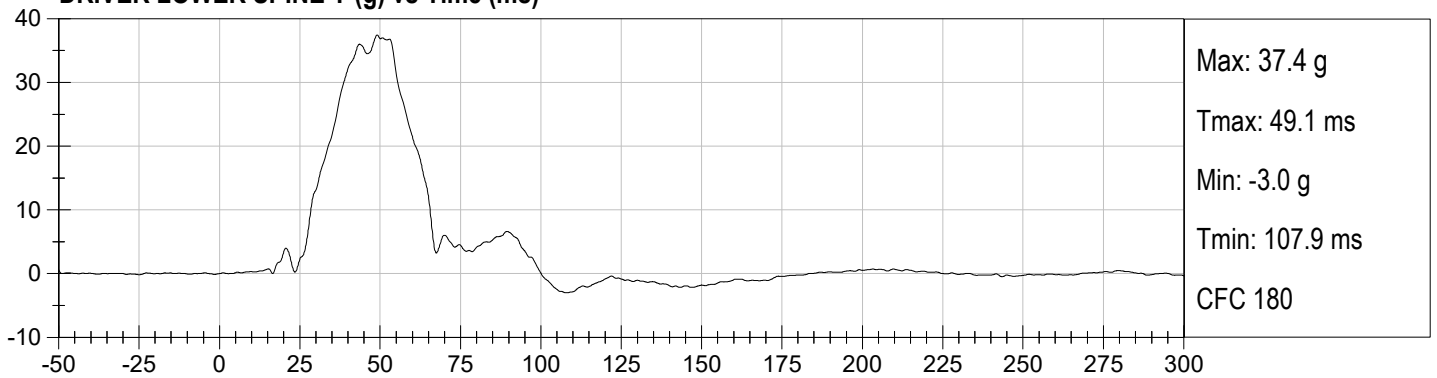
Load Cell Pole Barrier #8 Force (Y)



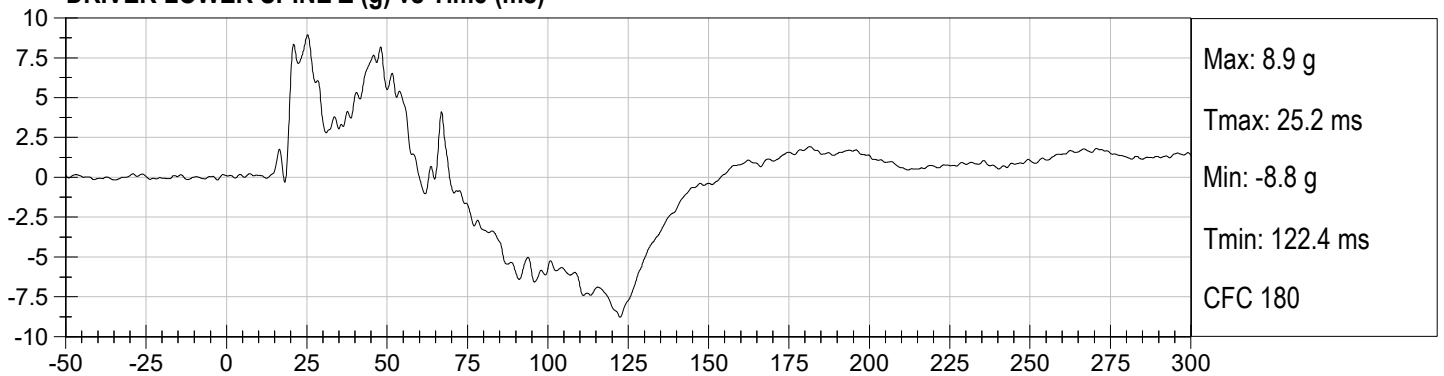
DRIVER LOWER SPINE X (g) vs Time (ms)



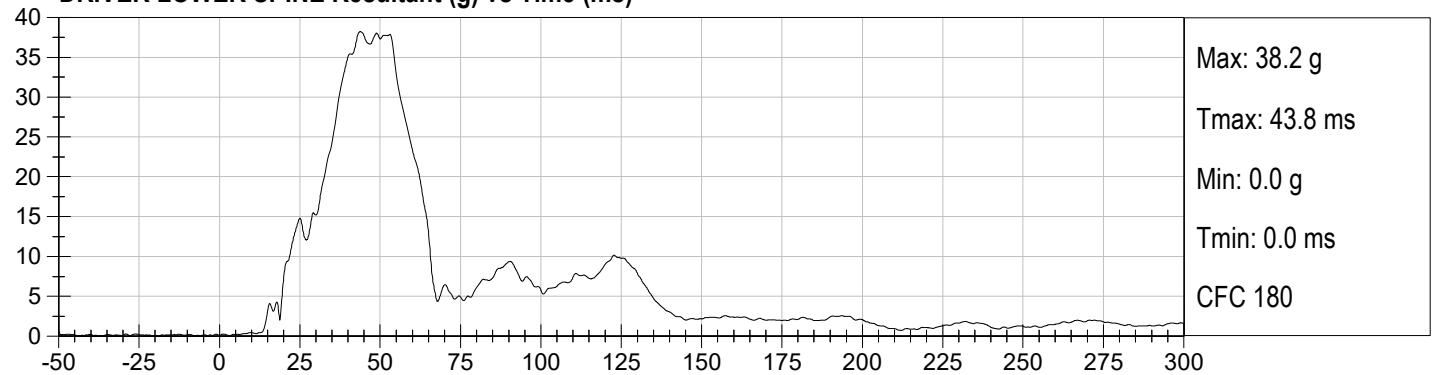
DRIVER LOWER SPINE Y (g) vs Time (ms)



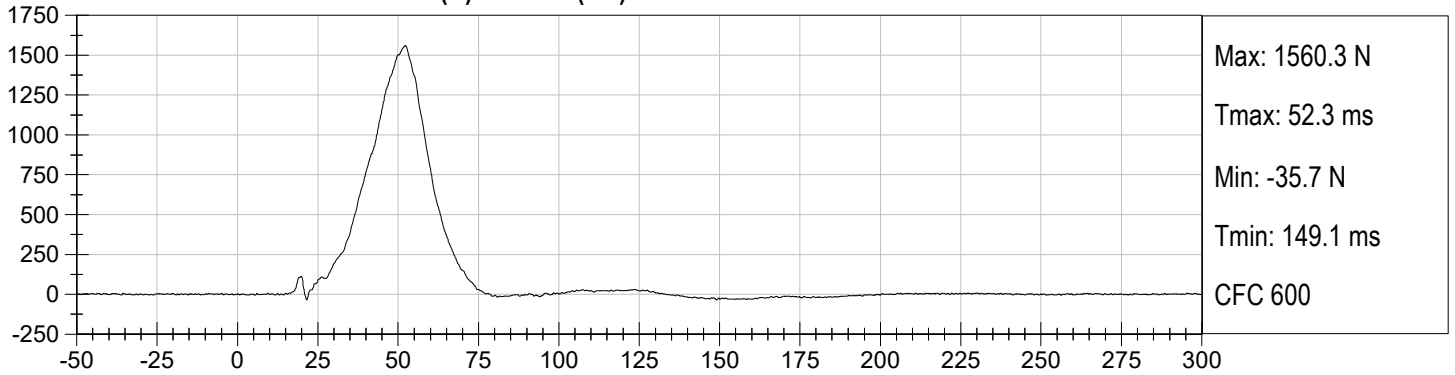
DRIVER LOWER SPINE Z (g) vs Time (ms)



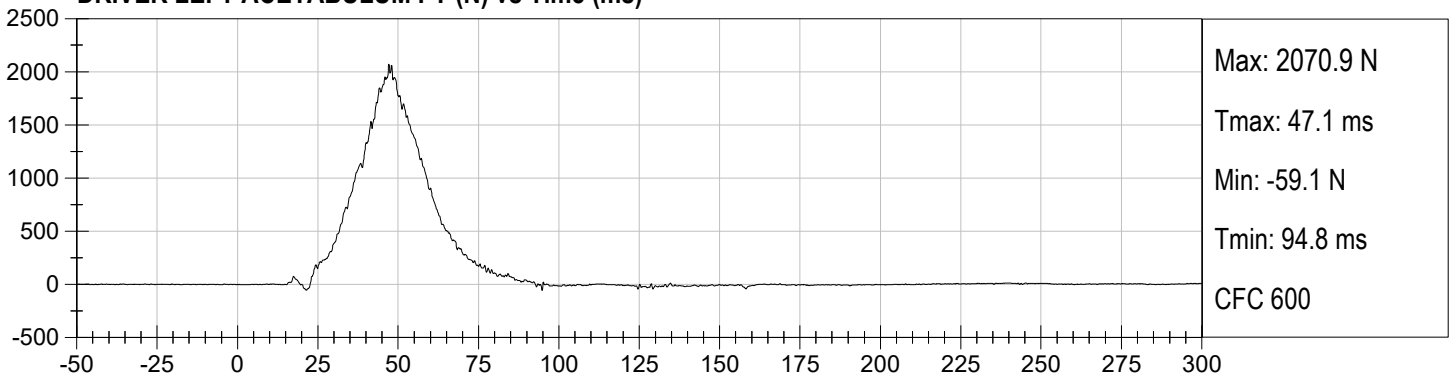
DRIVER LOWER SPINE Resultant (g) vs Time (ms)



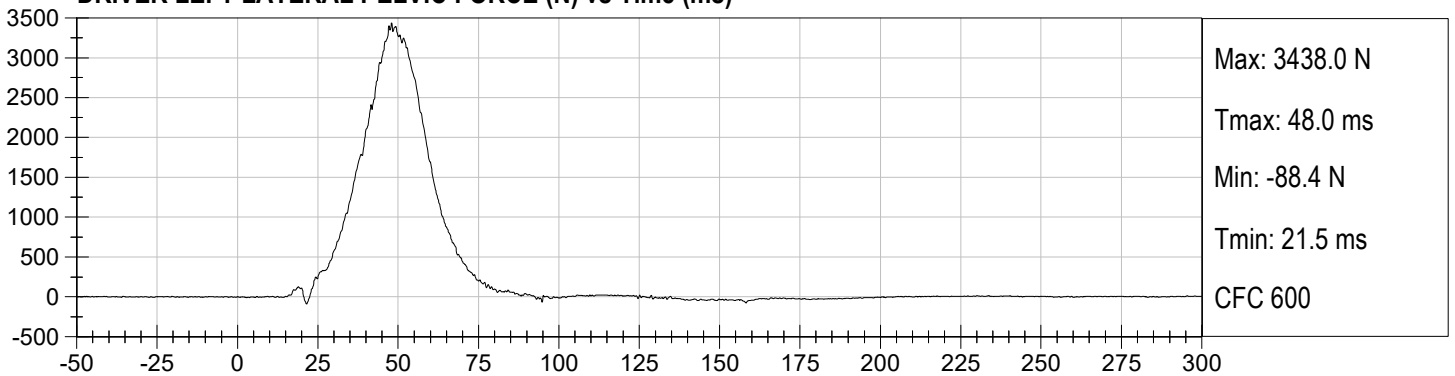
DRIVER LEFT ILIUM CREST FY (N) vs Time (ms)



DRIVER LEFT ACETABULUM FY (N) vs Time (ms)



DRIVER LEFT LATERAL PELVIC FORCE (N) vs Time (ms)



APPENDIX C
DUMMY QUALIFICATION AND PERFORMANCE VERIFICATION

QUALIFICATION TEST RESULTS

PRE-TEST

SID-IIS 5TH PERCENTILE FEMALE - DRIVER ATD

SID-IIsD External Measurements
SN: 306

No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	785	Pass
B	Shoulder Pivot Height	437 - 453	449	Pass
C	H-point Height	79 - 89	86	Pass
D	H-point from Seatback	141 - 151	147	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	120	Pass
G	Head Breadth	140 - 148	141	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	182	Pass
J	Head Circumference	541 - 551	550	Pass
K	Buttock to Knee Length	514 - 540	538	Pass
L	Popliteal Height	343 - 369	349	Pass
M	Knee Pivot to Floor Height	392 - 409	394	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	198	Pass
P	Foot Length	216 - 232	222	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	317	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	483	Pass
V	Shoulder Width	341 - 357	351	Pass
W	Foot Width	78 - 94	82	Pass
Y	Chest Circumference w/ jacket	851 - 881	863	Pass
Z	Waist Circumference	761 - 791	782	Pass

MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-IIs BUILD LEVEL D DUMMY

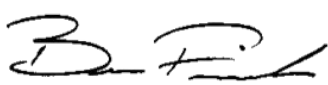
ATD Serial No: 306

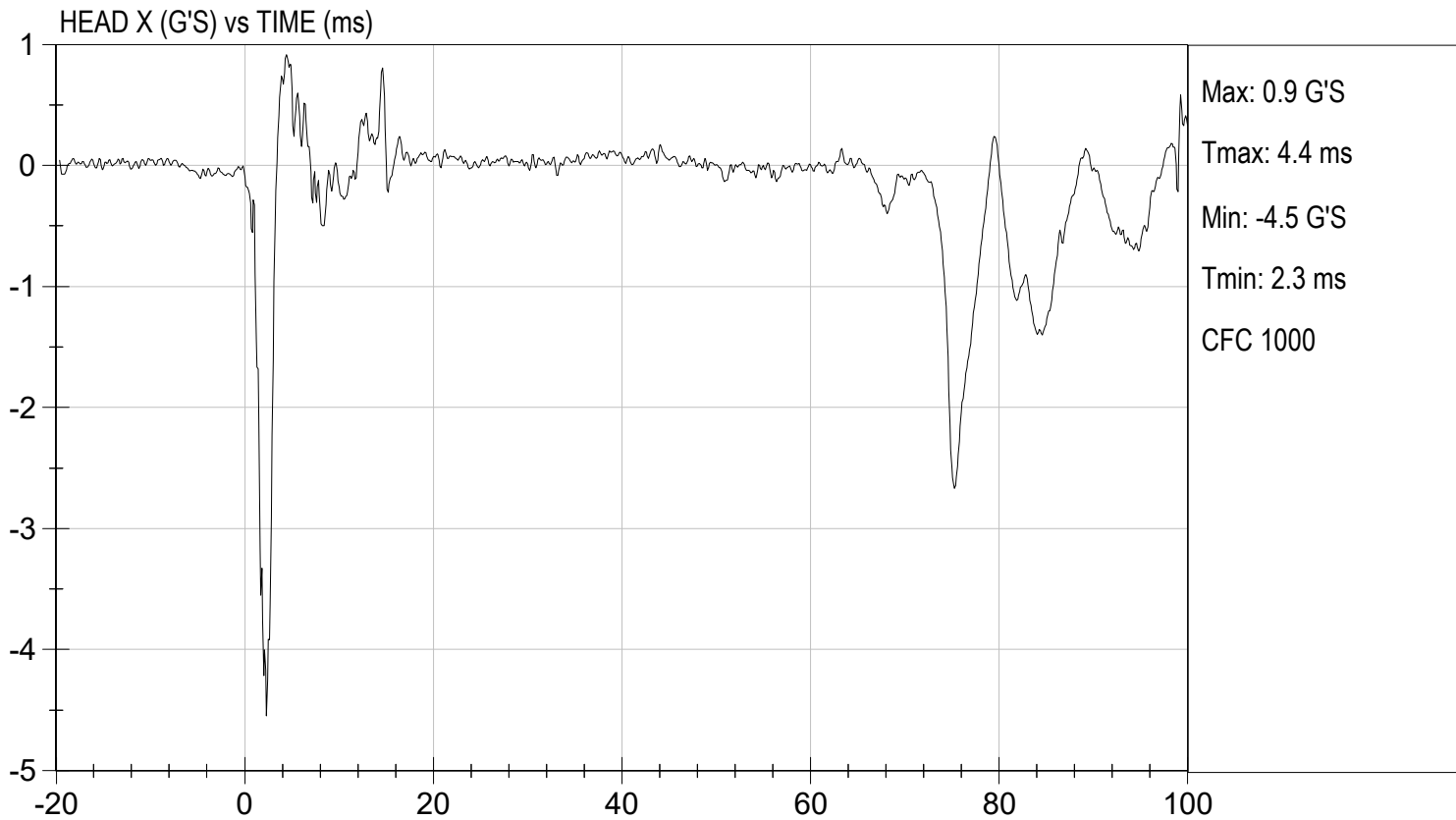
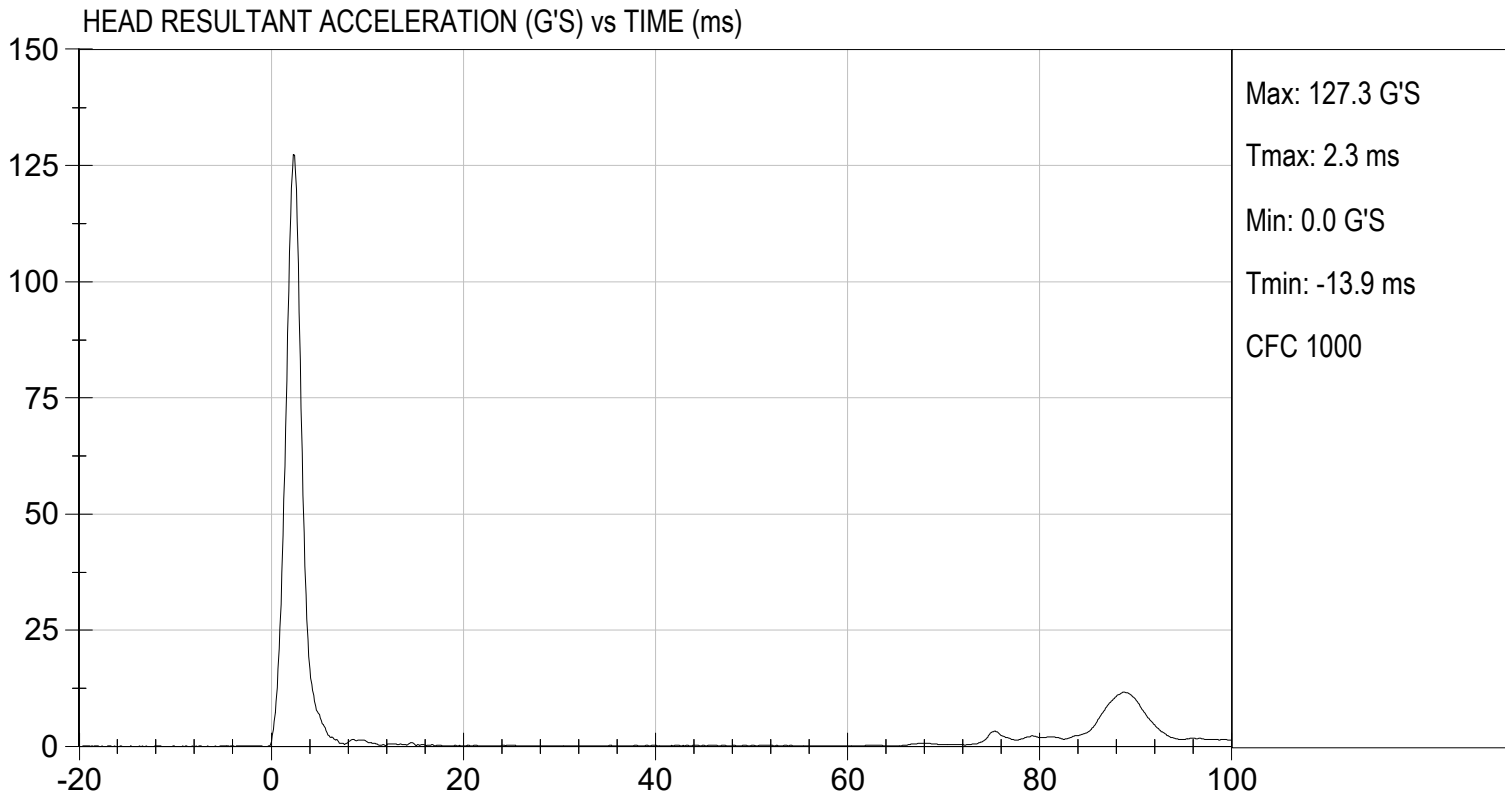
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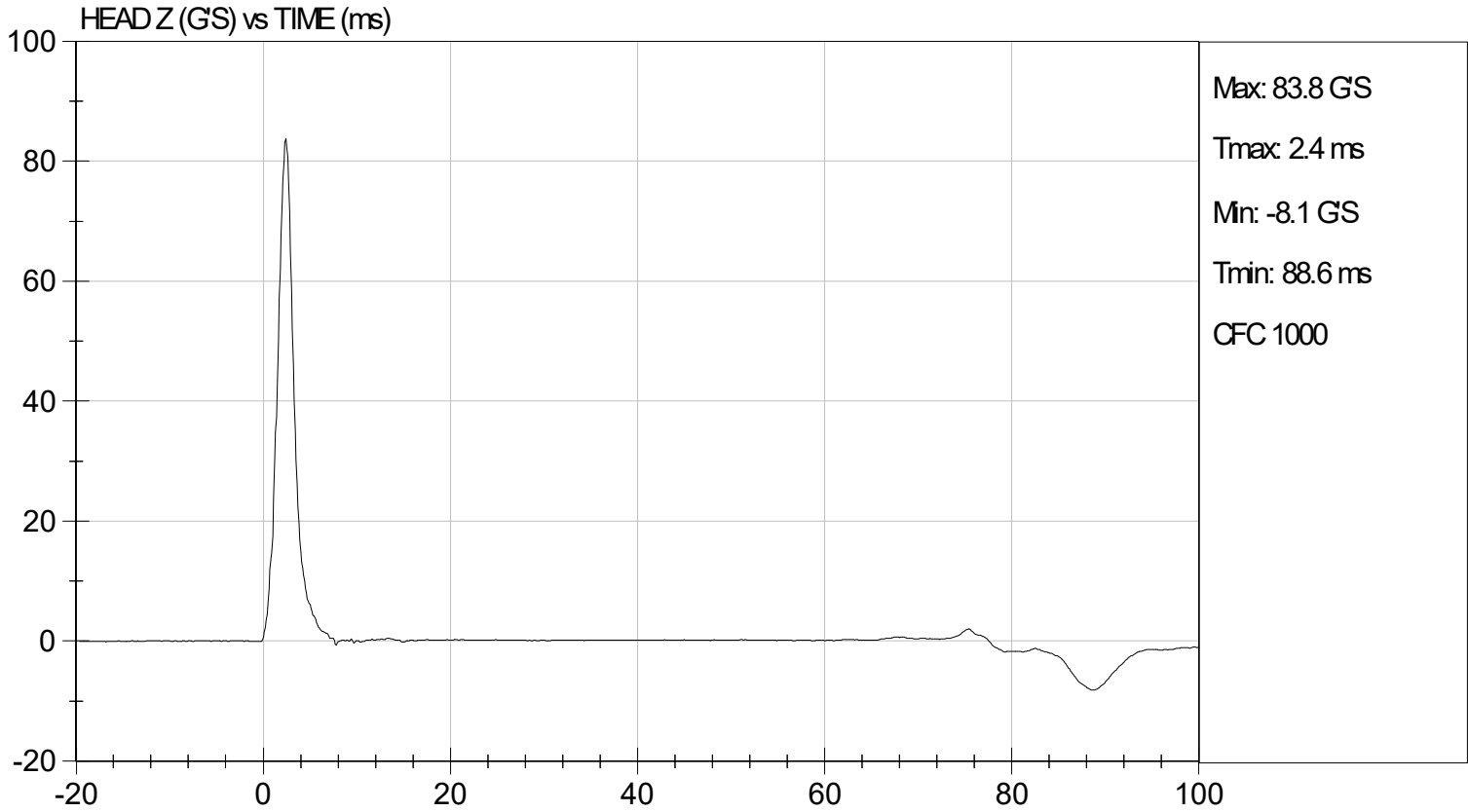
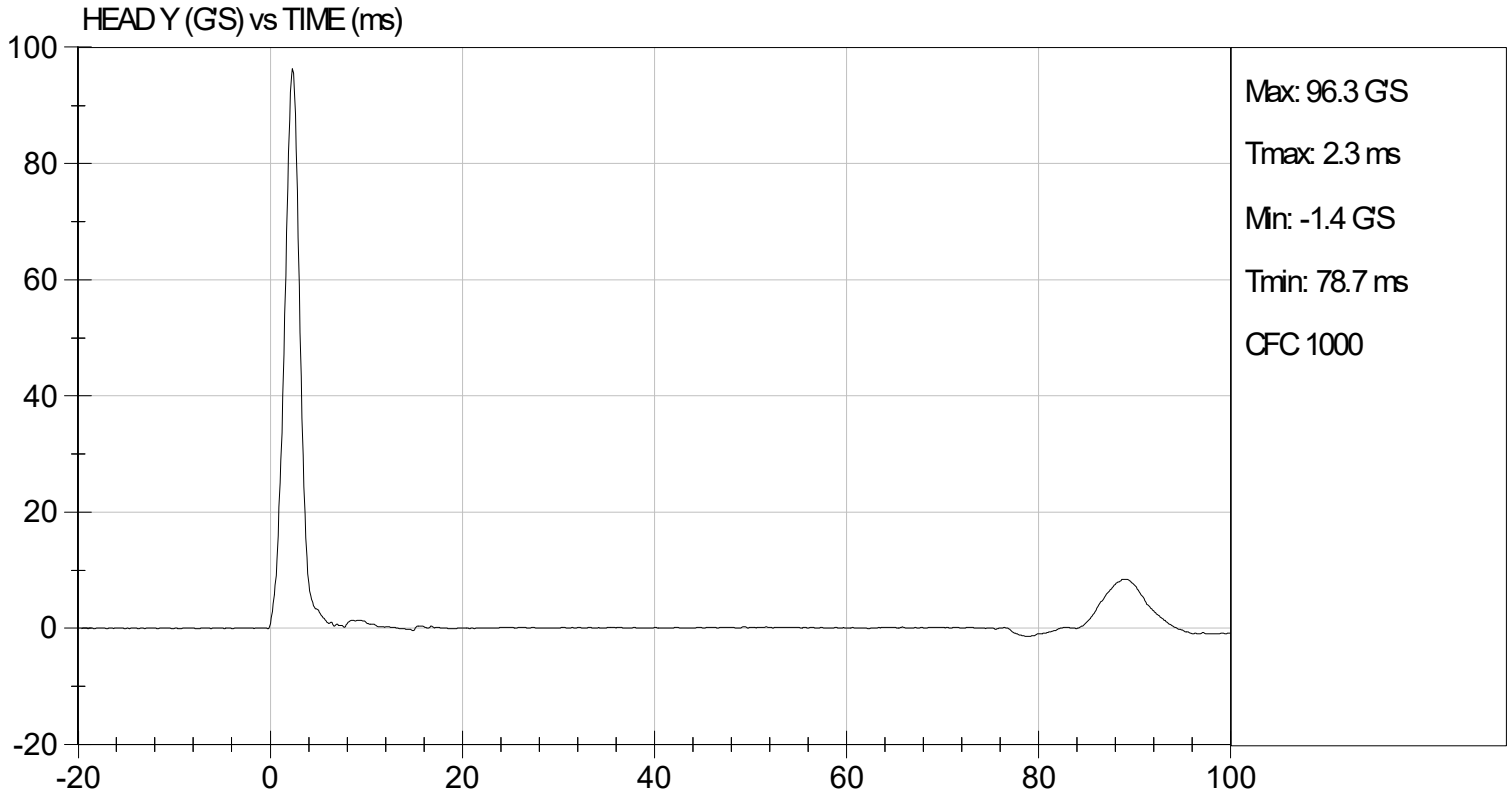
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	43	Pass
Peak Resultant Acceleration	G's	115 to 137	127	Pass
Peak Longitudinal Acceleration	G's	+/- 15	-4.5	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass


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 Test Date


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LATERAL NECK PENDULUM TEST
SID-Its BUILD LEVEL D DUMMY


ATD Serial No: 306

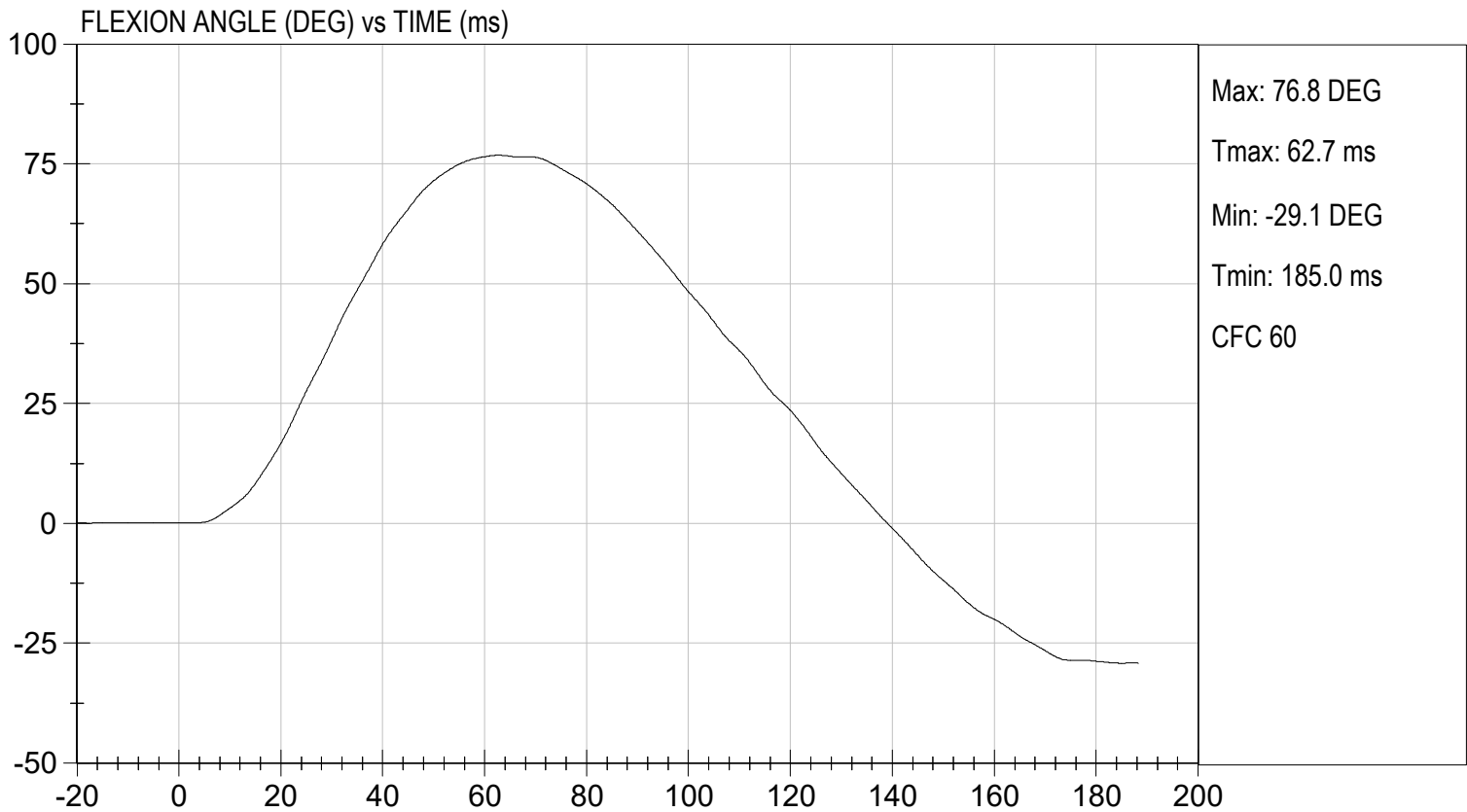
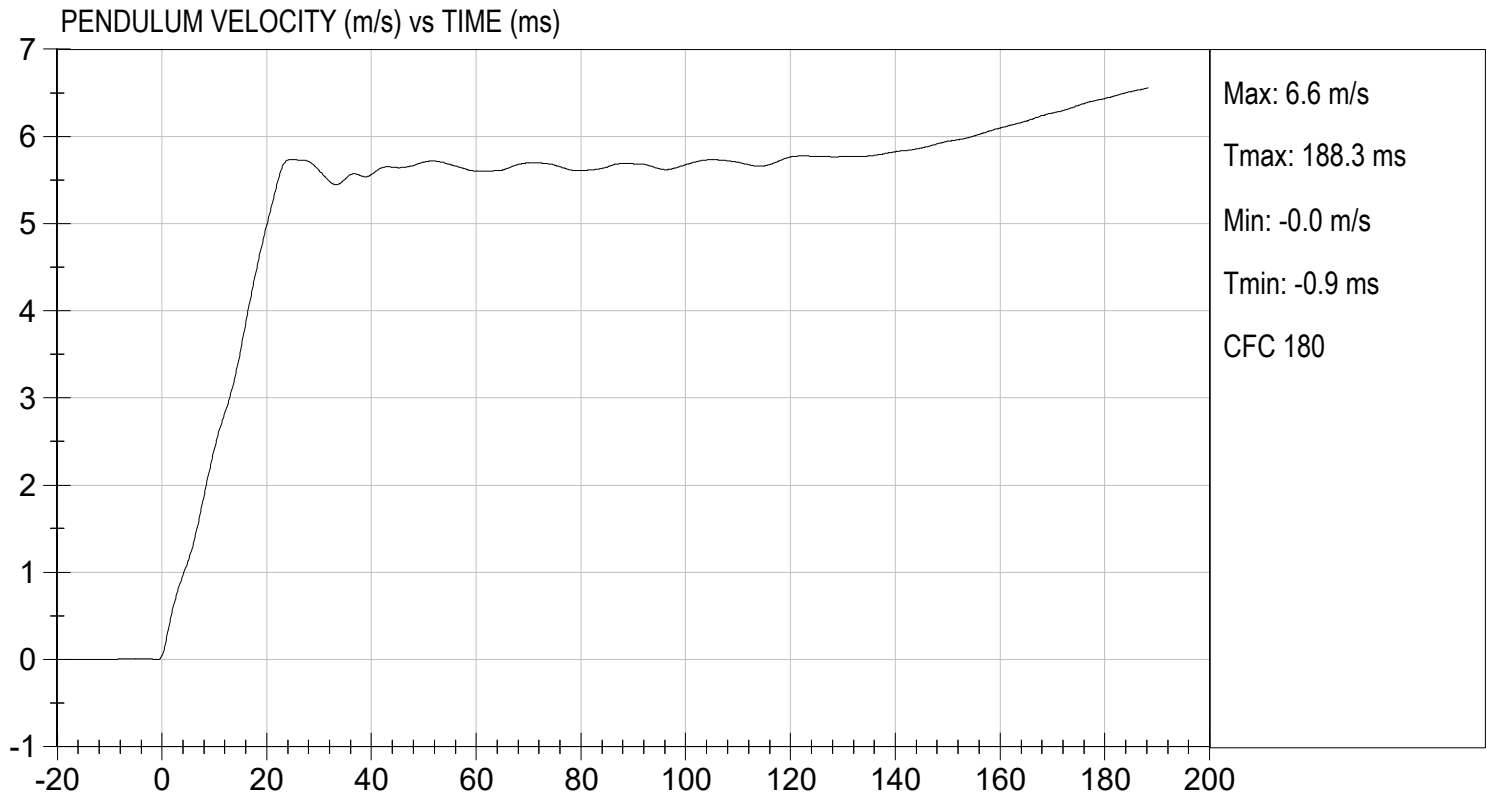
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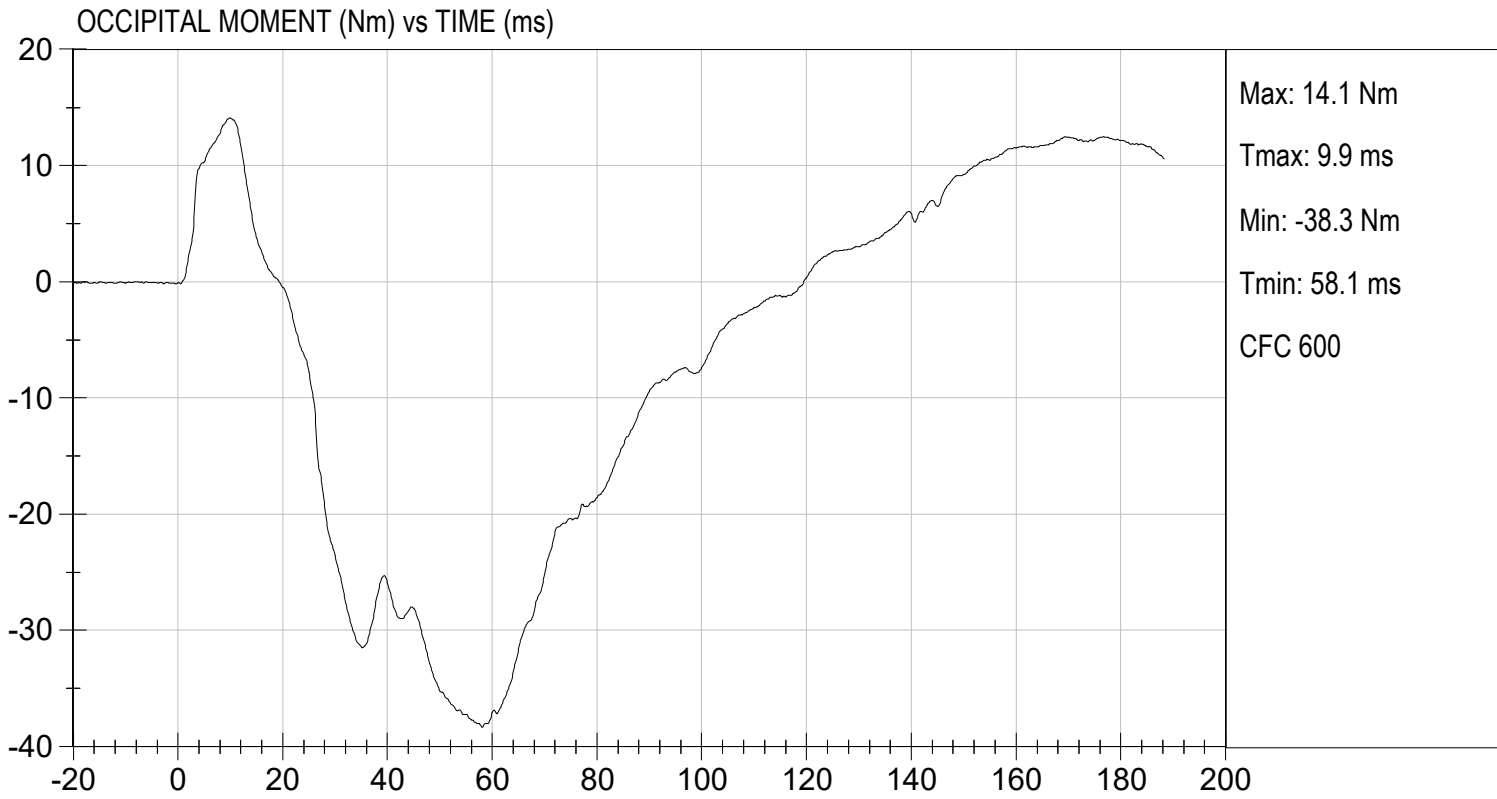
Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.5	Pass	
Humidity	%	10 to 70	45	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.53	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.41	Pass
	15 ms	m/s	3.30 to 4.10	3.55	Pass
	20 ms	m/s	4.40 to 5.40	4.98	Pass
	25 ms	m/s	5.40 to 6.10	5.73	Pass
	25-100 ms	m/s	5.50 to 6.20	5.73	Pass
Maximum D-Plane Rotation	deg	71 to 81	77	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	63	Pass	
Maximum Occipital Condyle Moment	Nm	-44 to -36	-38	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	120	Pass	
Overall Test Results				Pass	


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SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

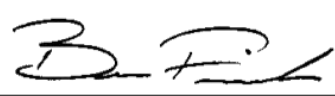
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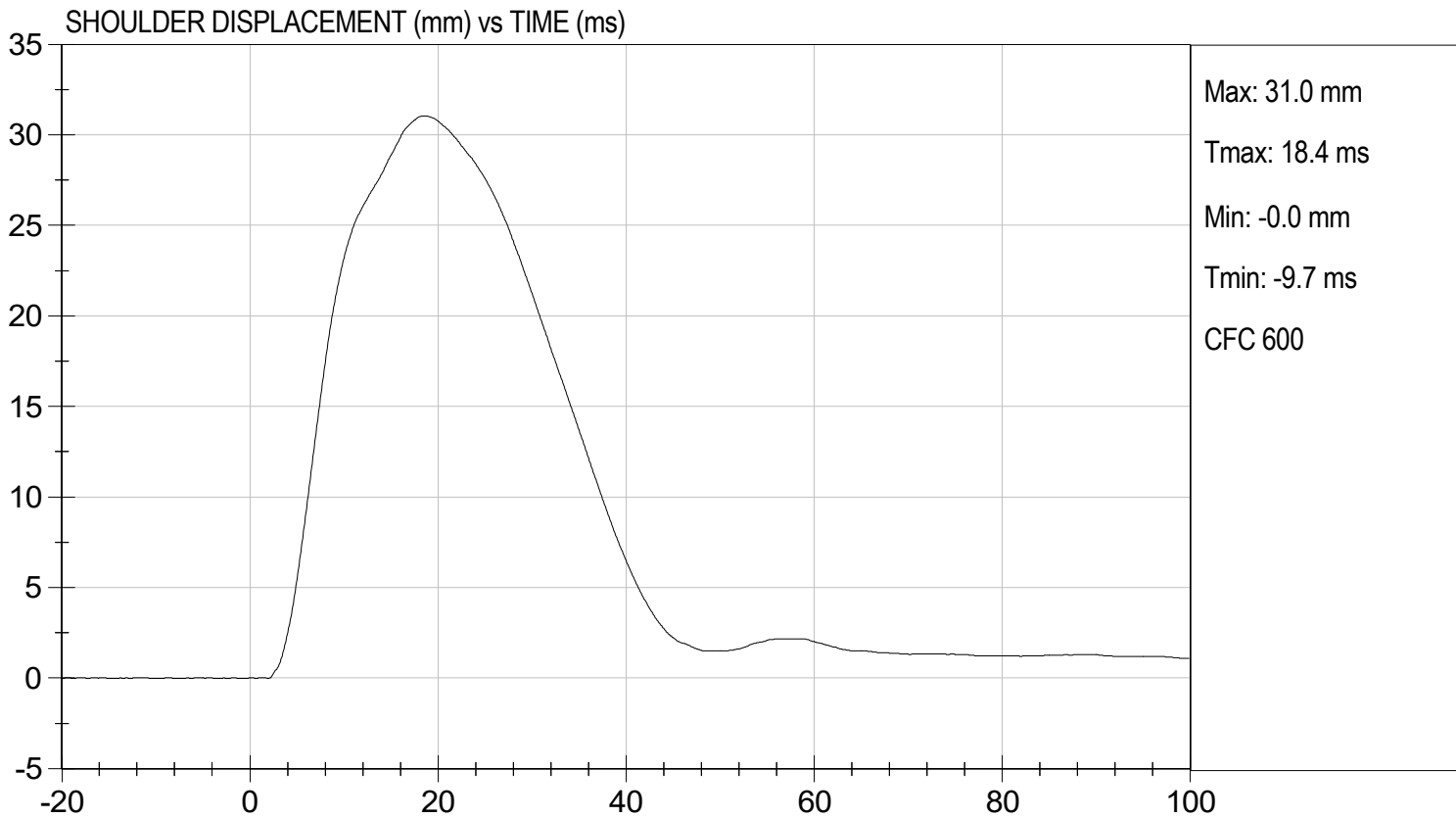
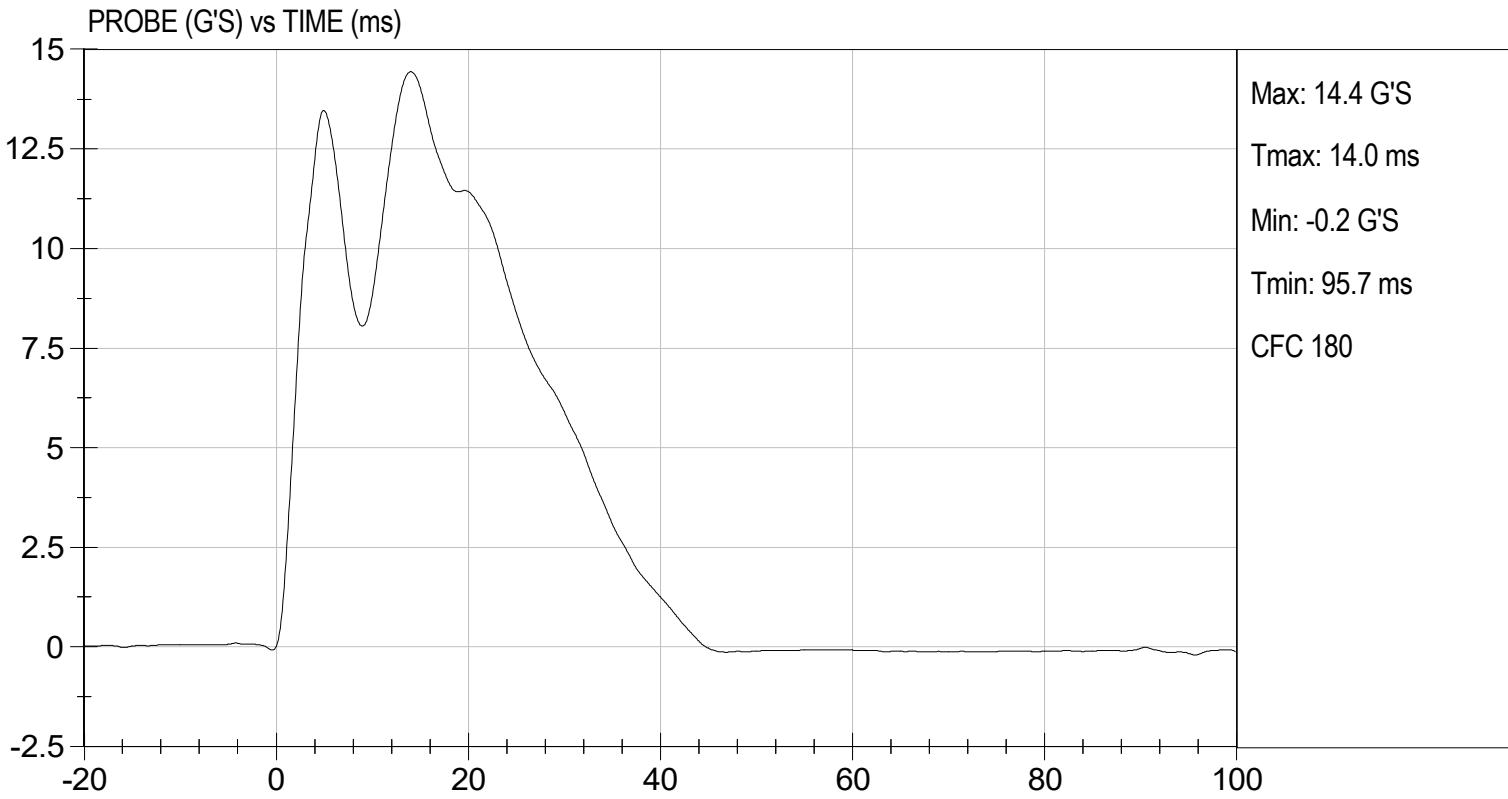
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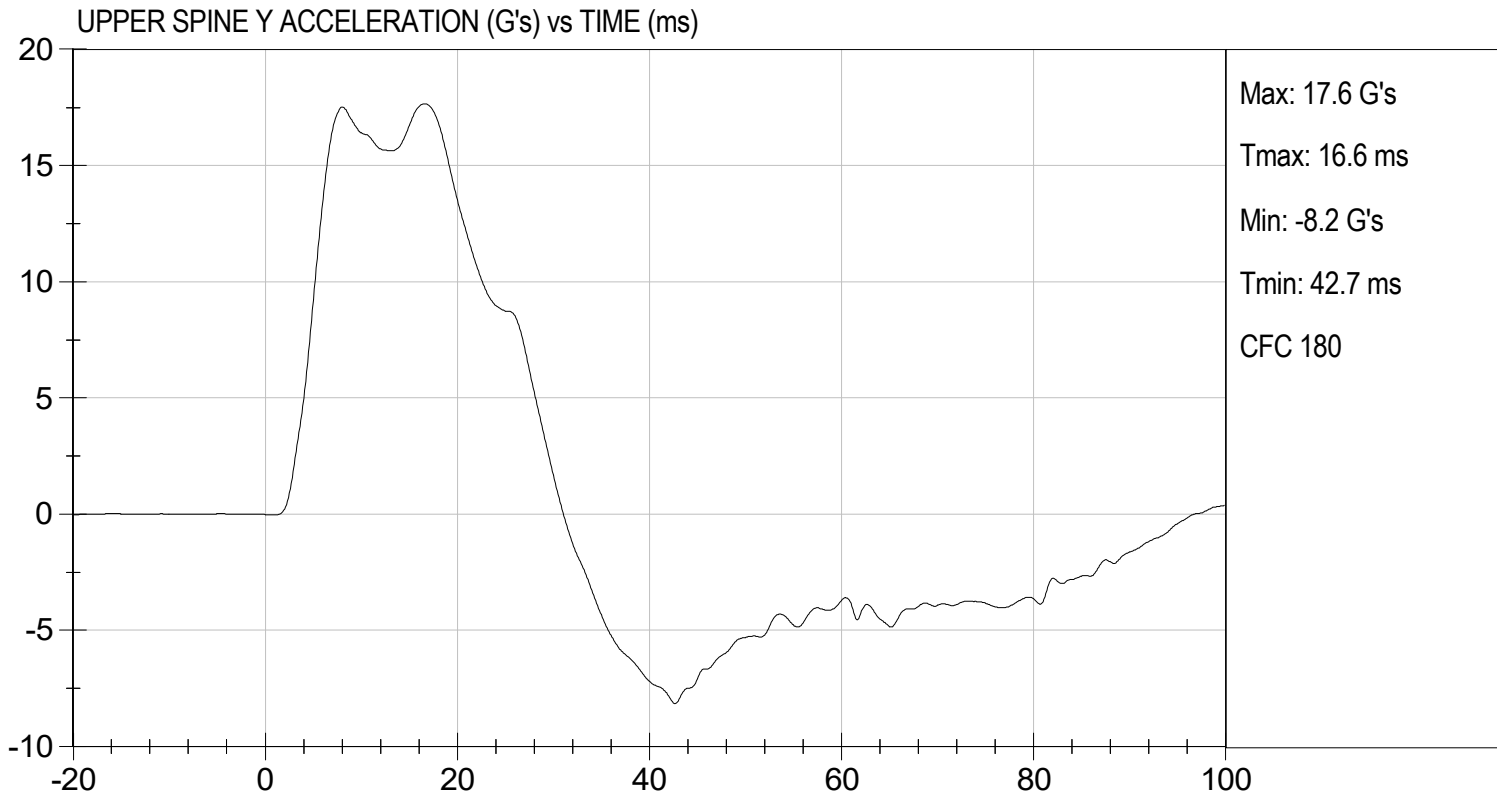
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.3	Pass
Laboratory Relative Humidity	%	10 to 70	44	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	13 to 18	14	Pass
Shoulder Displacement	mm	28 to 37	31	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass


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**MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-Its BUILD LEVEL D DUMMY**

ATD Serial No: 306

Test I.D: D241814

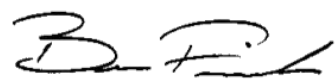
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	44	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	32	Pass
Shoulder Displacement	mm	31 to 40	37	Pass
Upper Rib Displacement	mm	25 to 32	29	Pass
Middle Rib Displacement	mm	30 to 36	33	Pass
Lower Rib Displacement	mm	32 to 38	34	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	35	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass



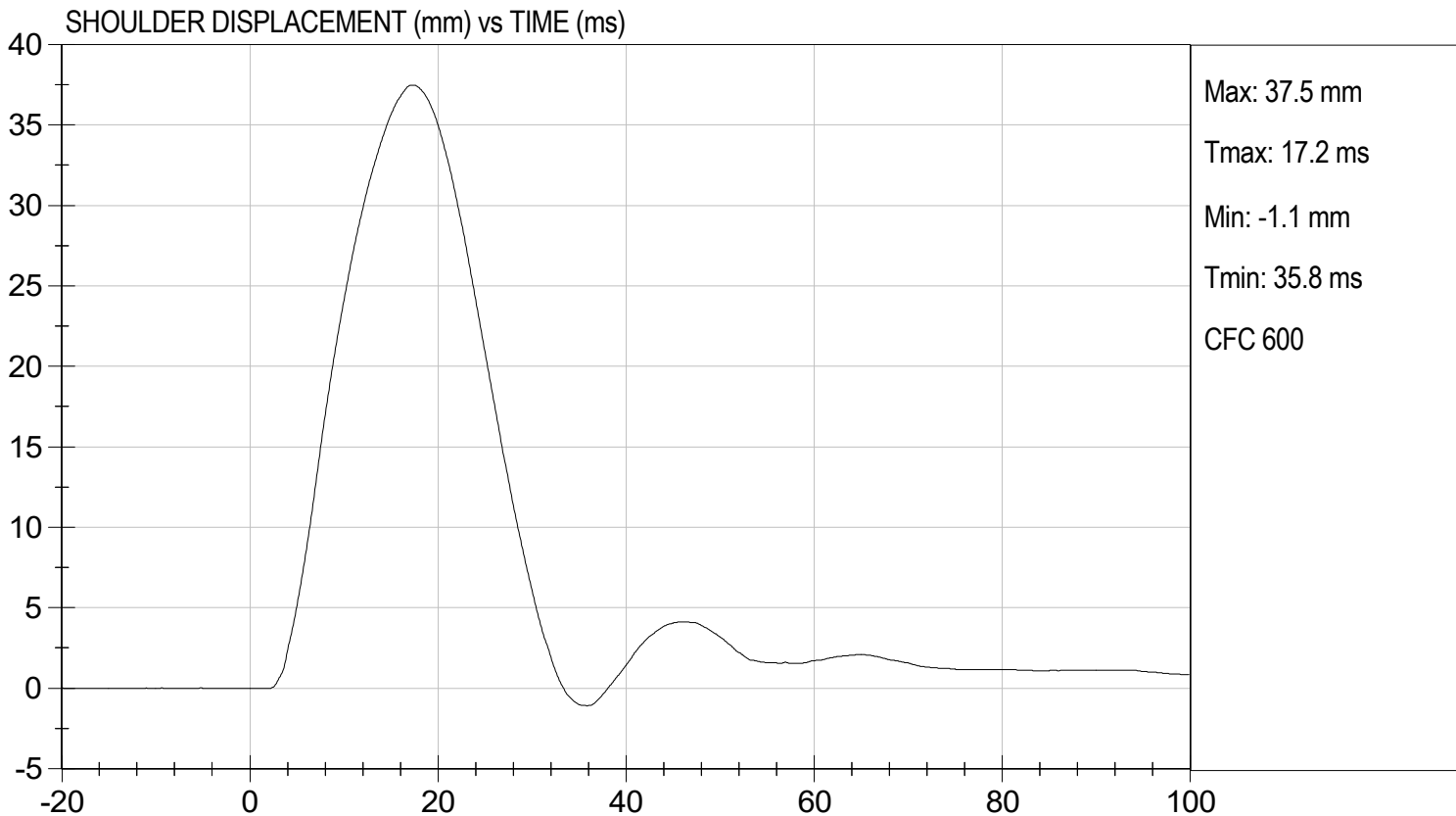
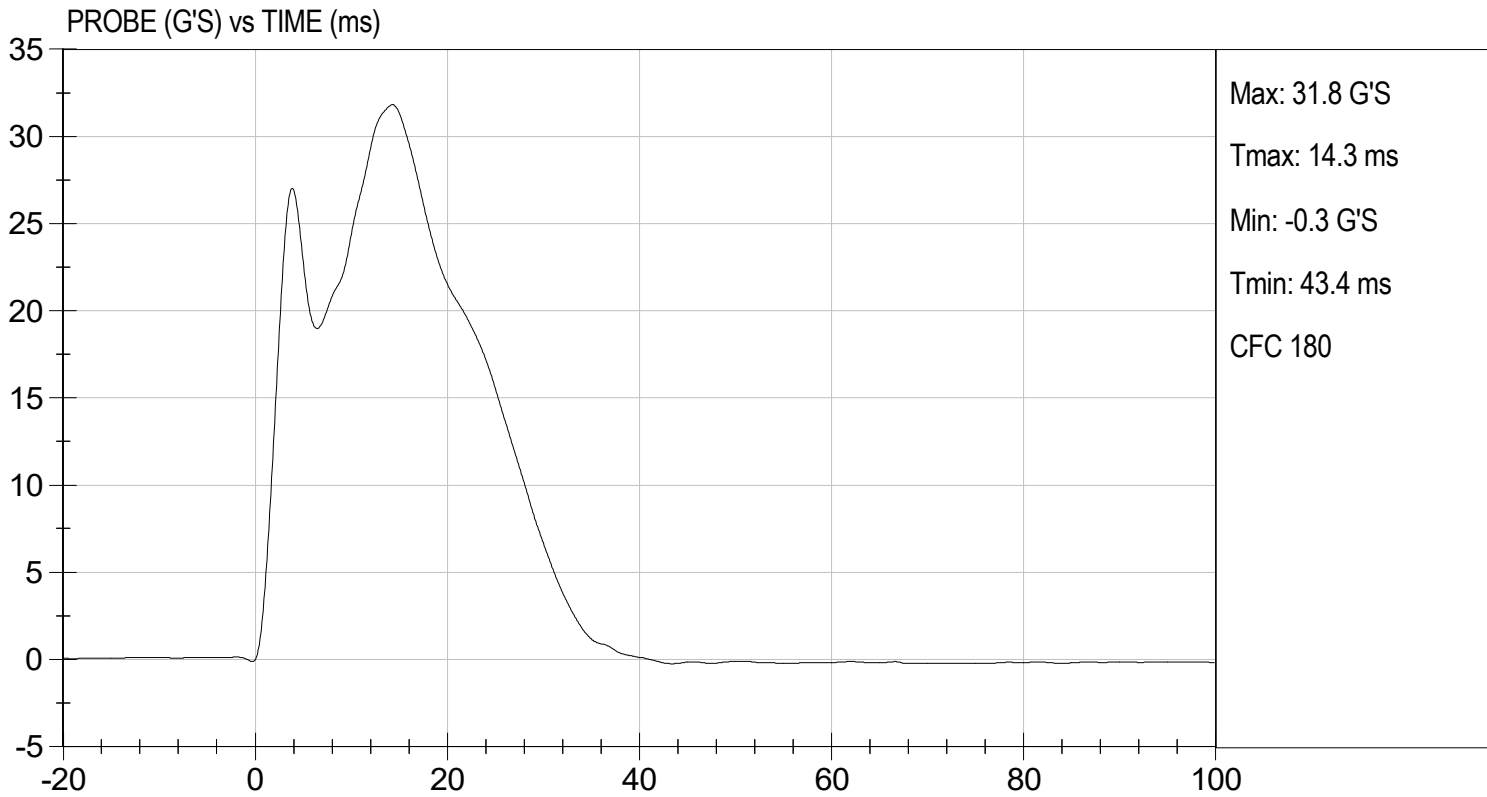
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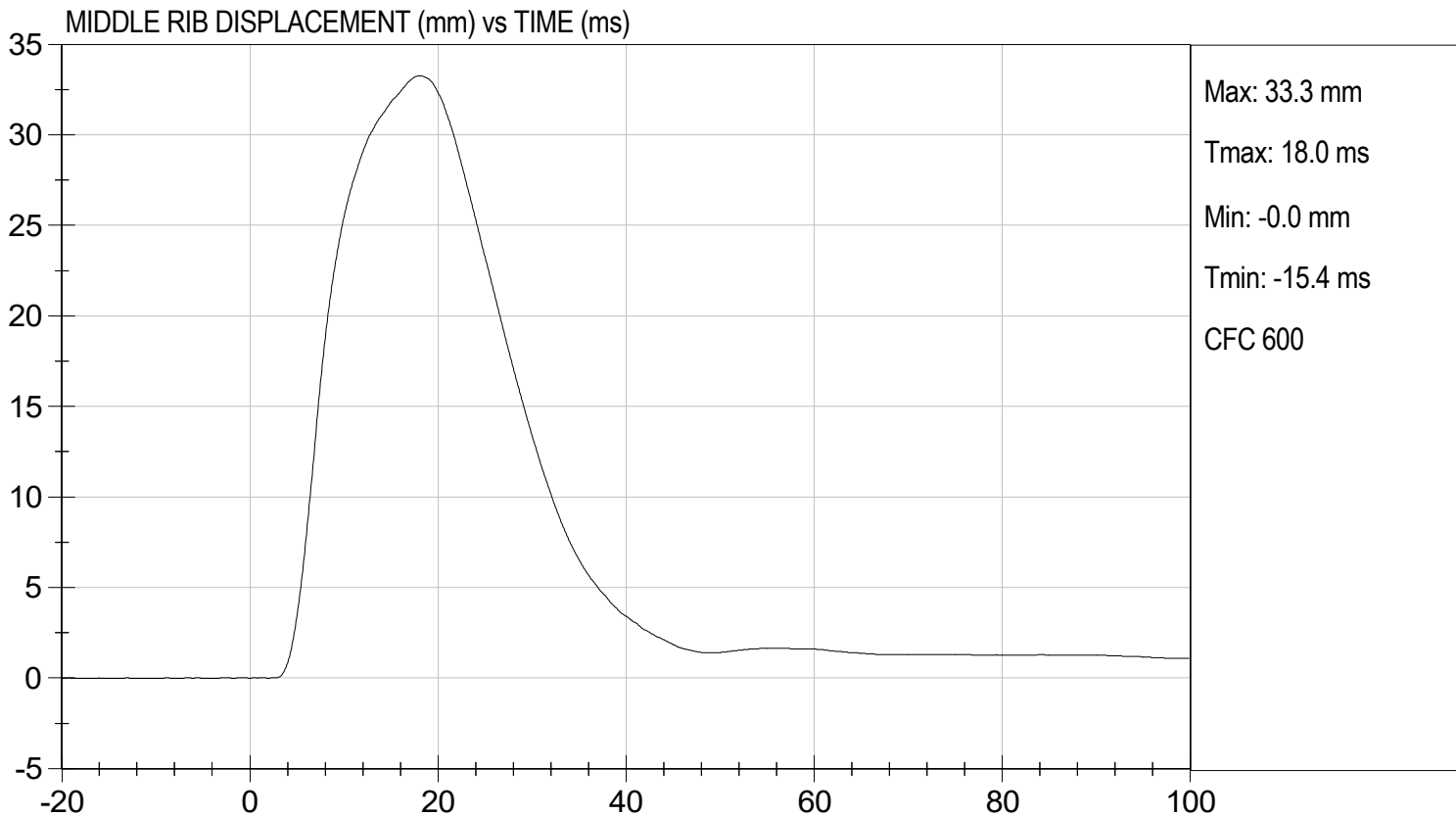
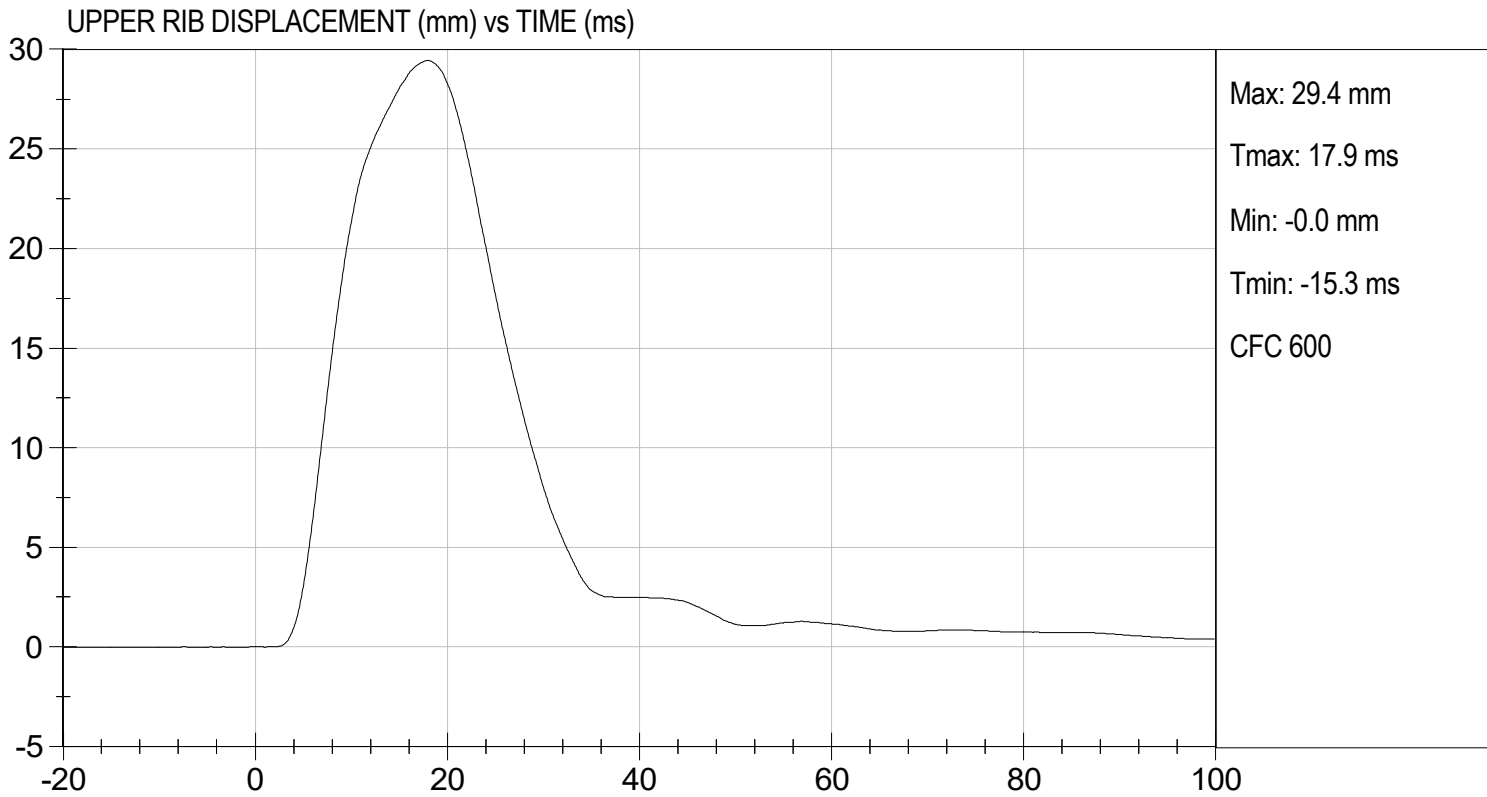
07/18/2024

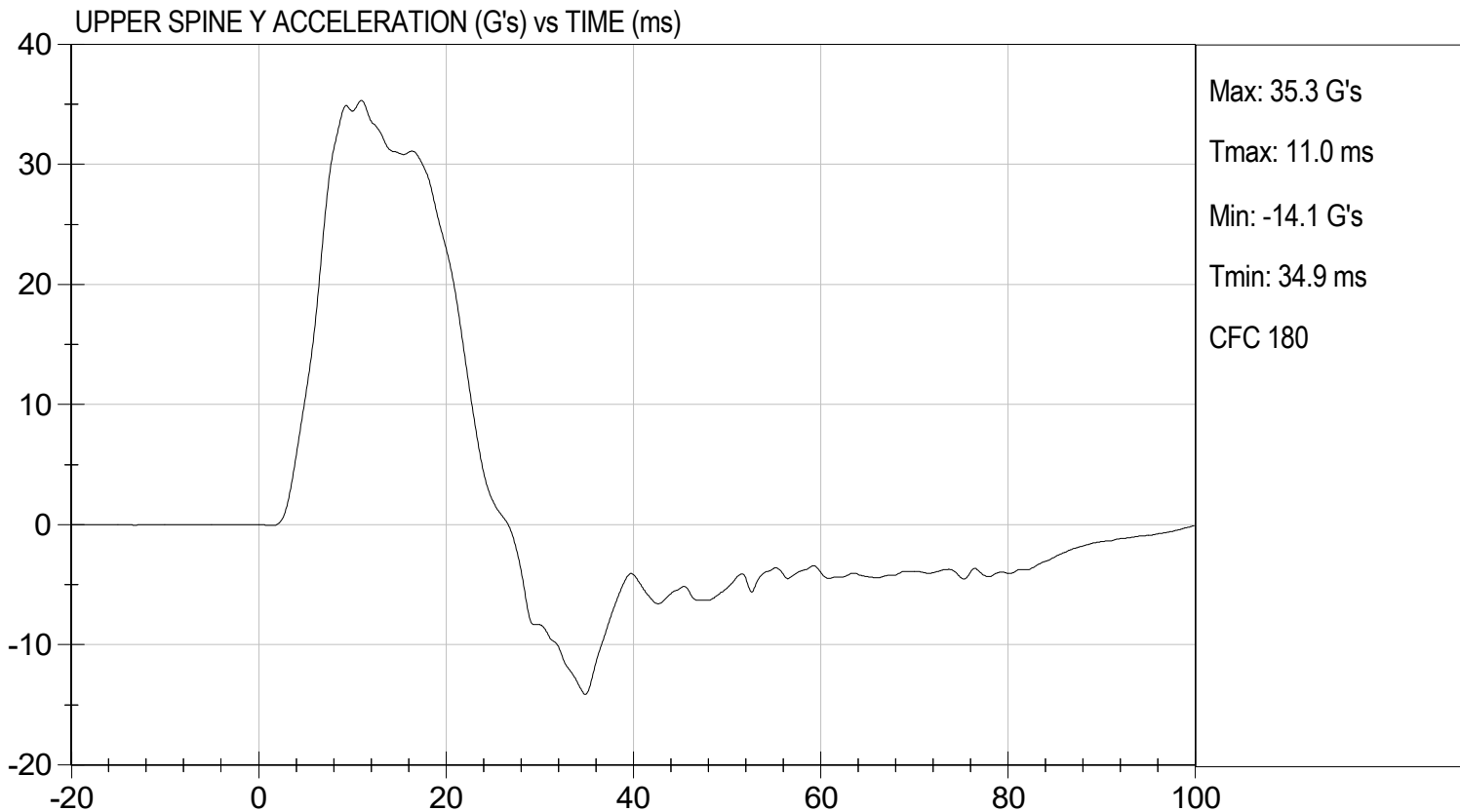
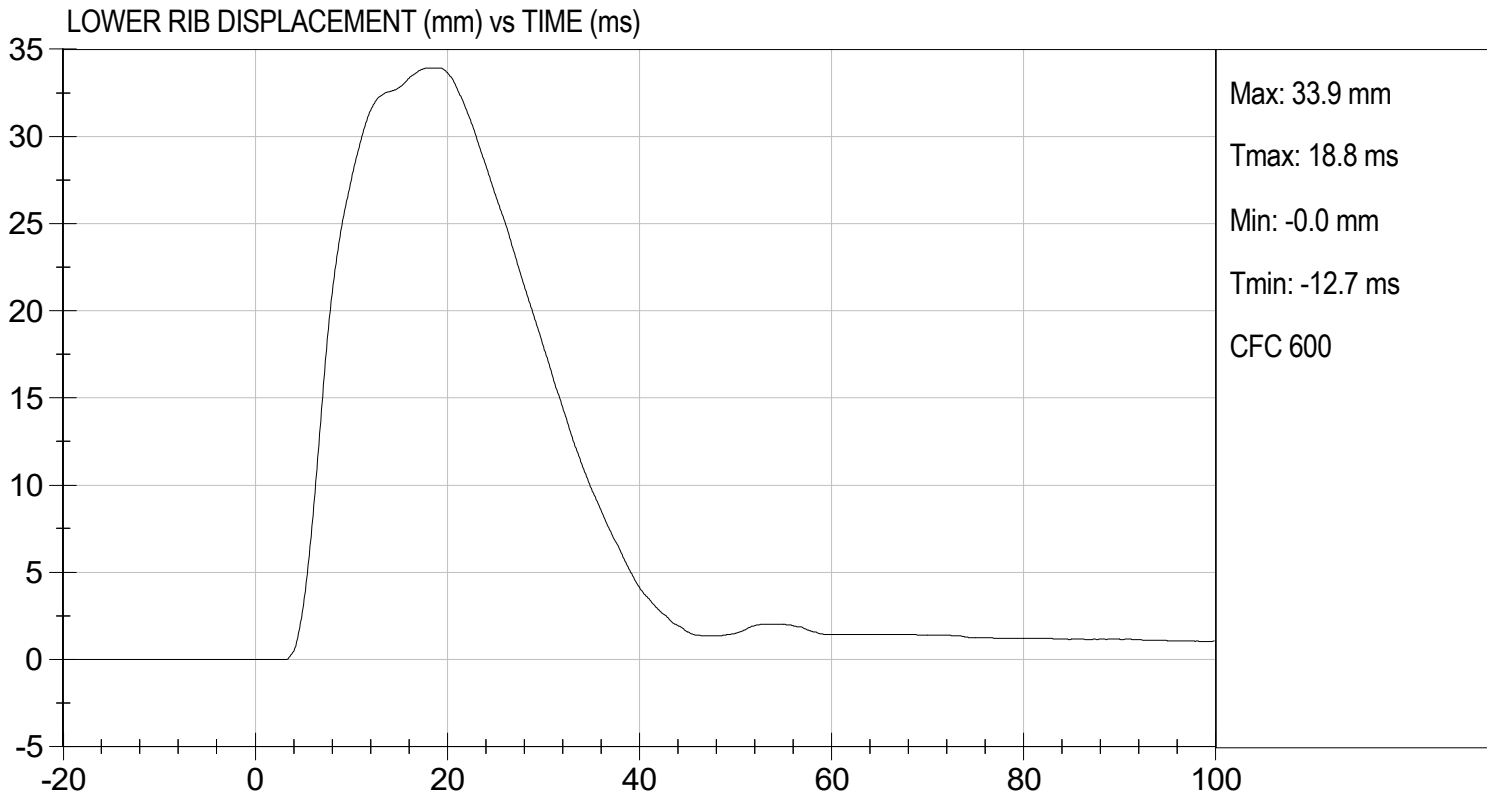
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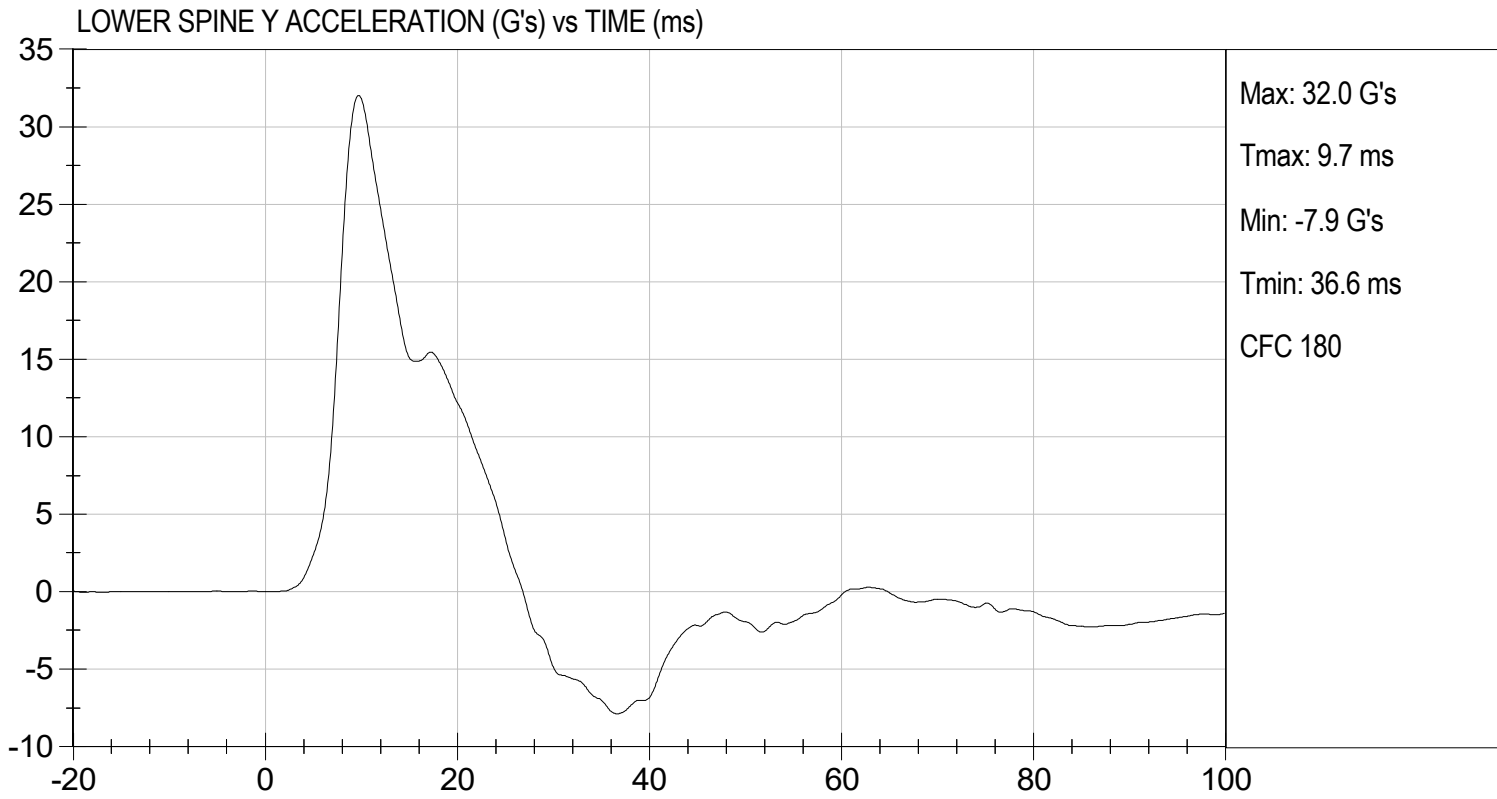


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THORAX (WITHOUT ARM) IMPACT TEST
SID-Its BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D241815

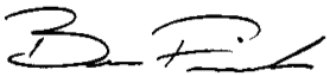
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	4.20 to 4.40	4.21	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	39	Pass
Middle Rib Displacement	mm	39 to 45	44	Pass
Lower Rib Displacement	mm	35 to 43	39	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass



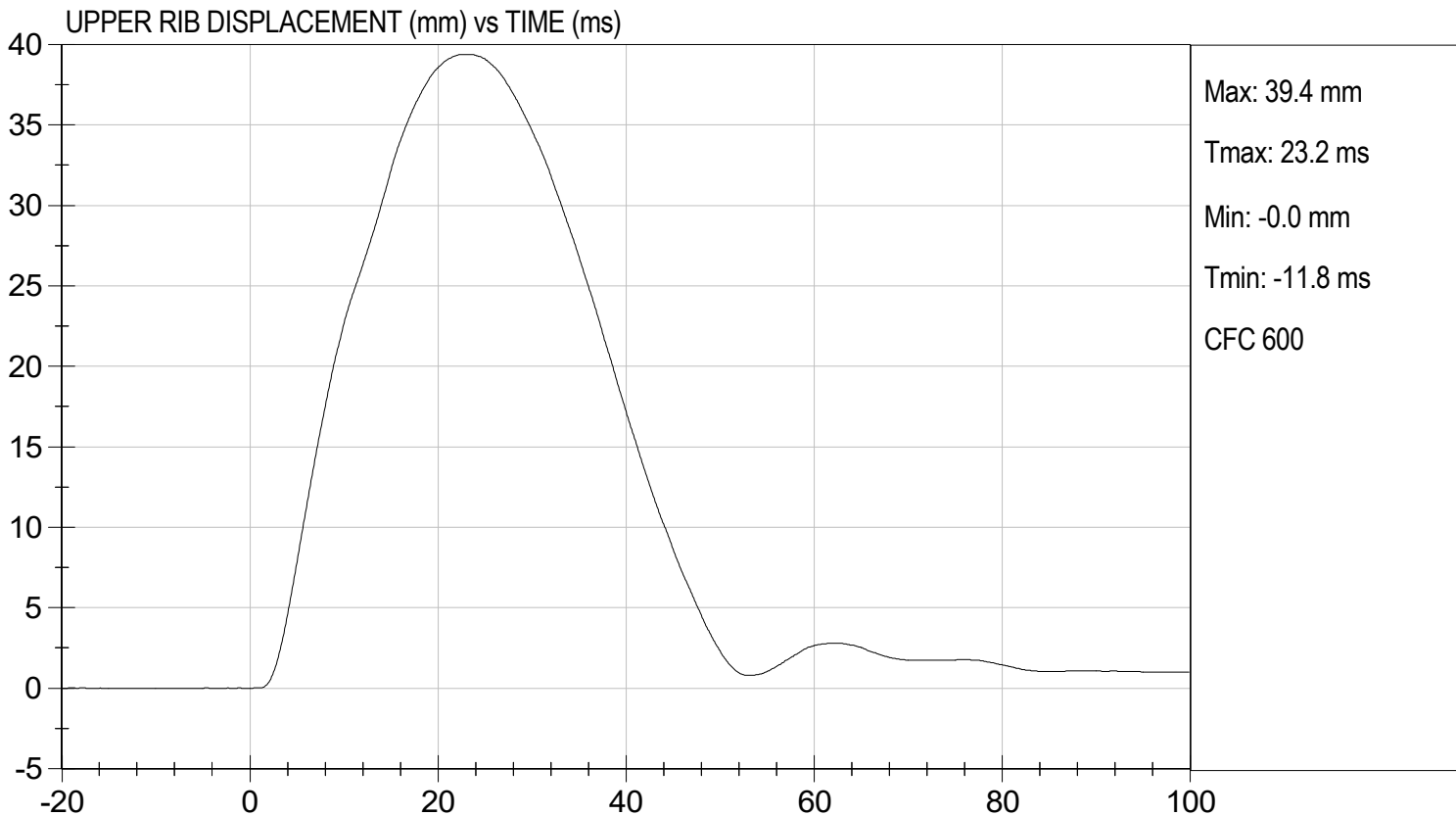
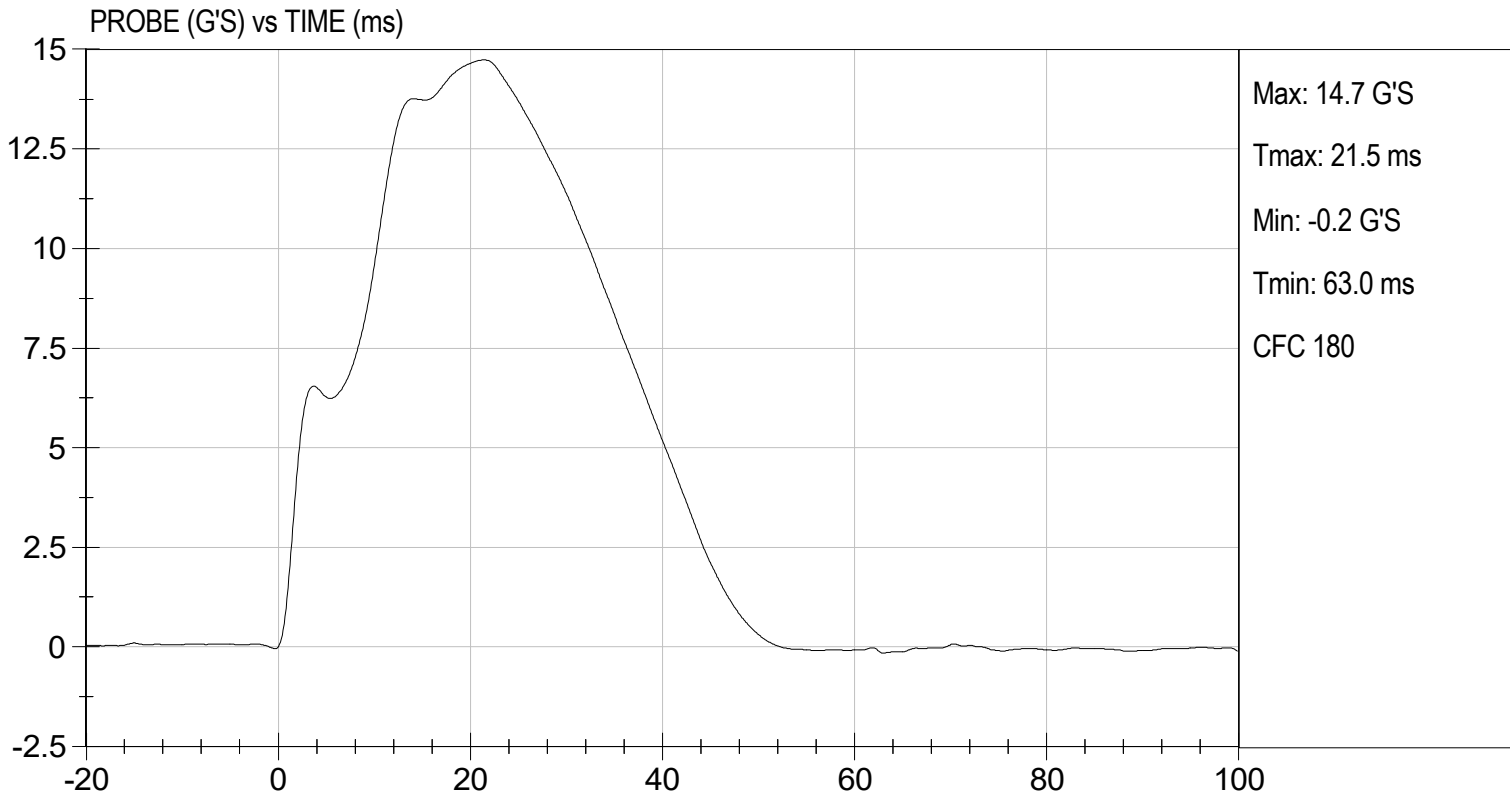
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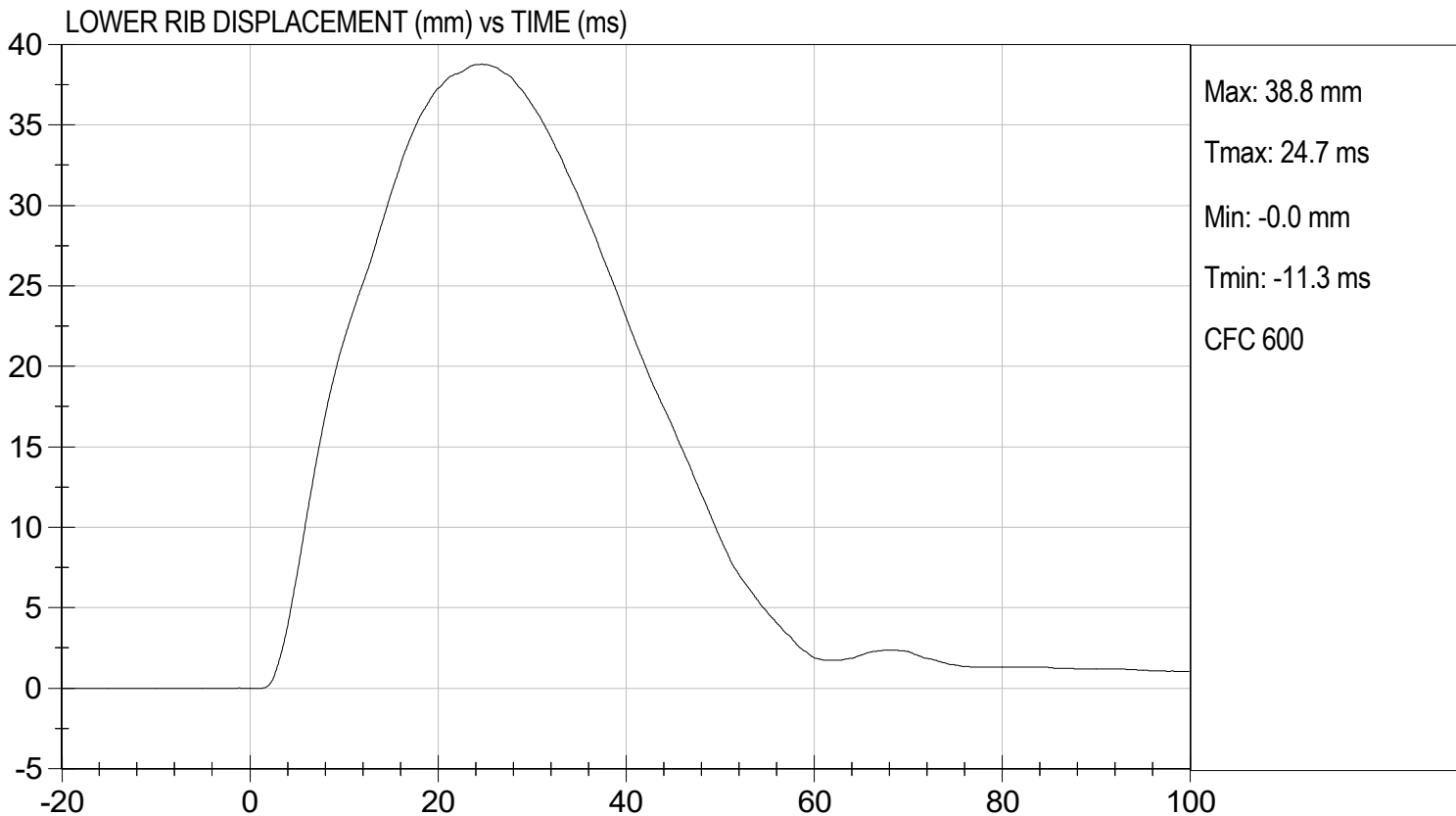
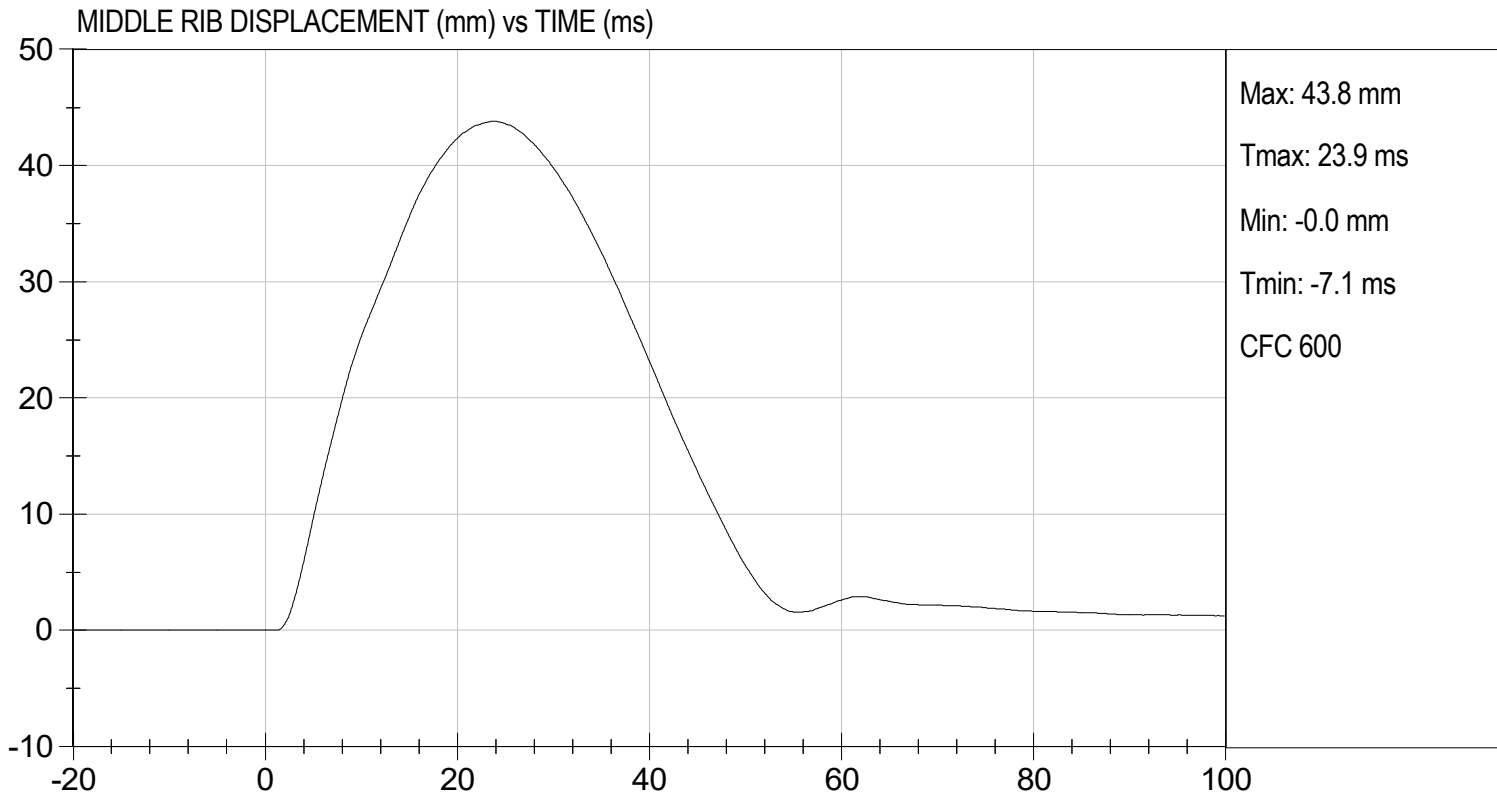
07/18/2024

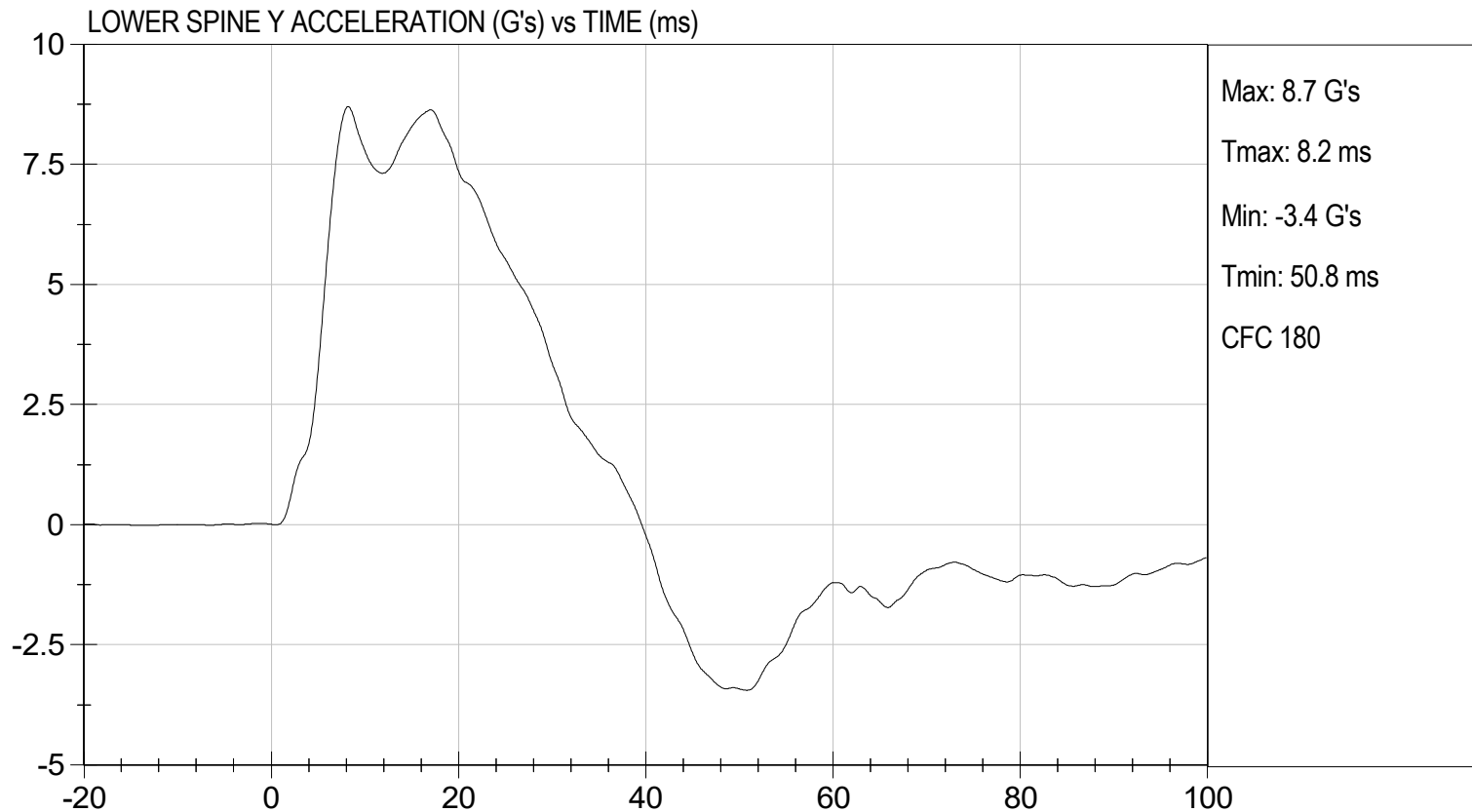
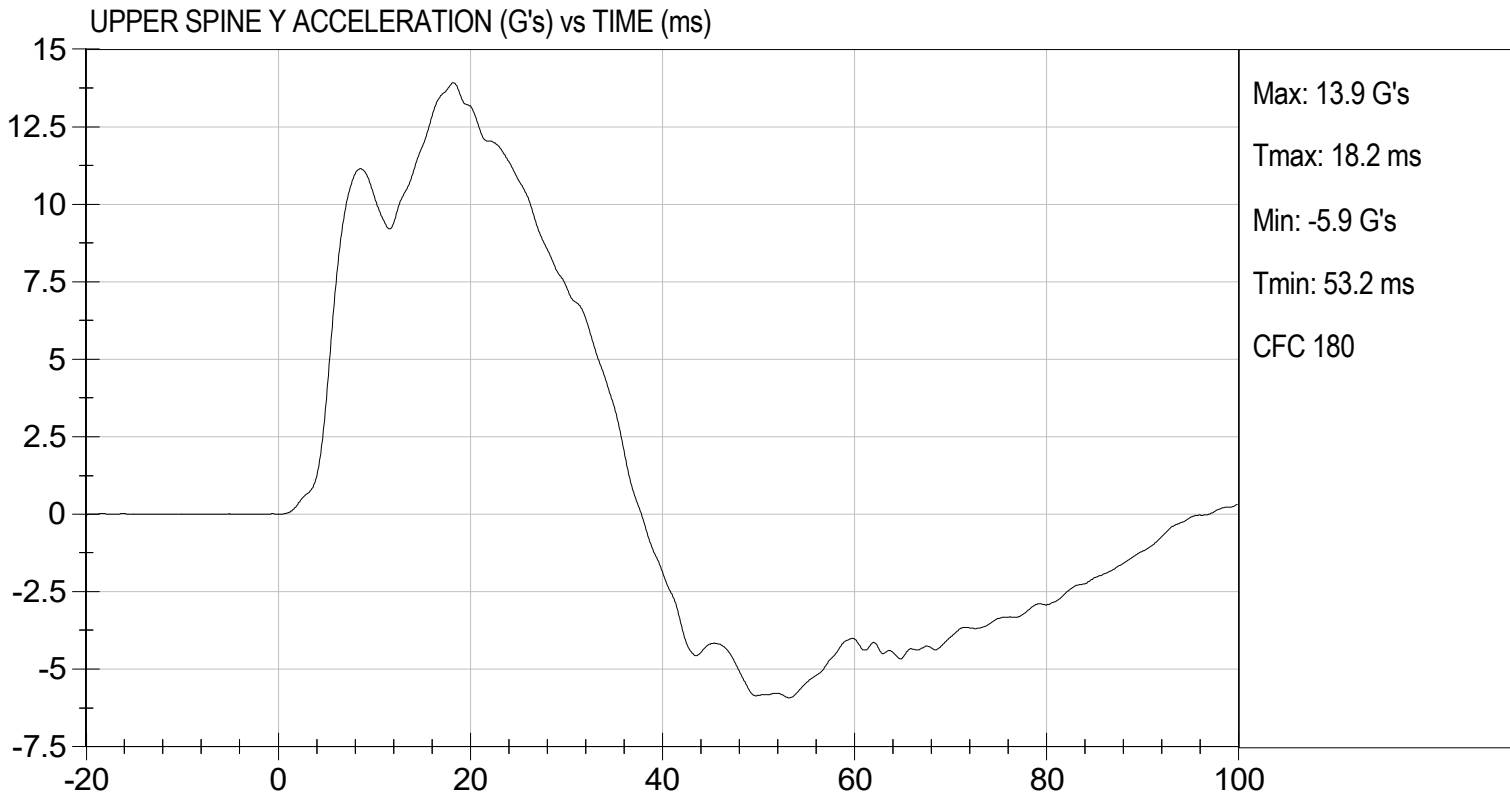
 Test Date



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MGA RESEARCH CORPORATION

ABDOMINAL IMPACT TEST

SID-IIs BUILD LEVEL D DUMMY

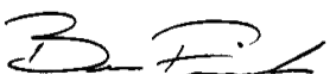
ATD Serial No: 306

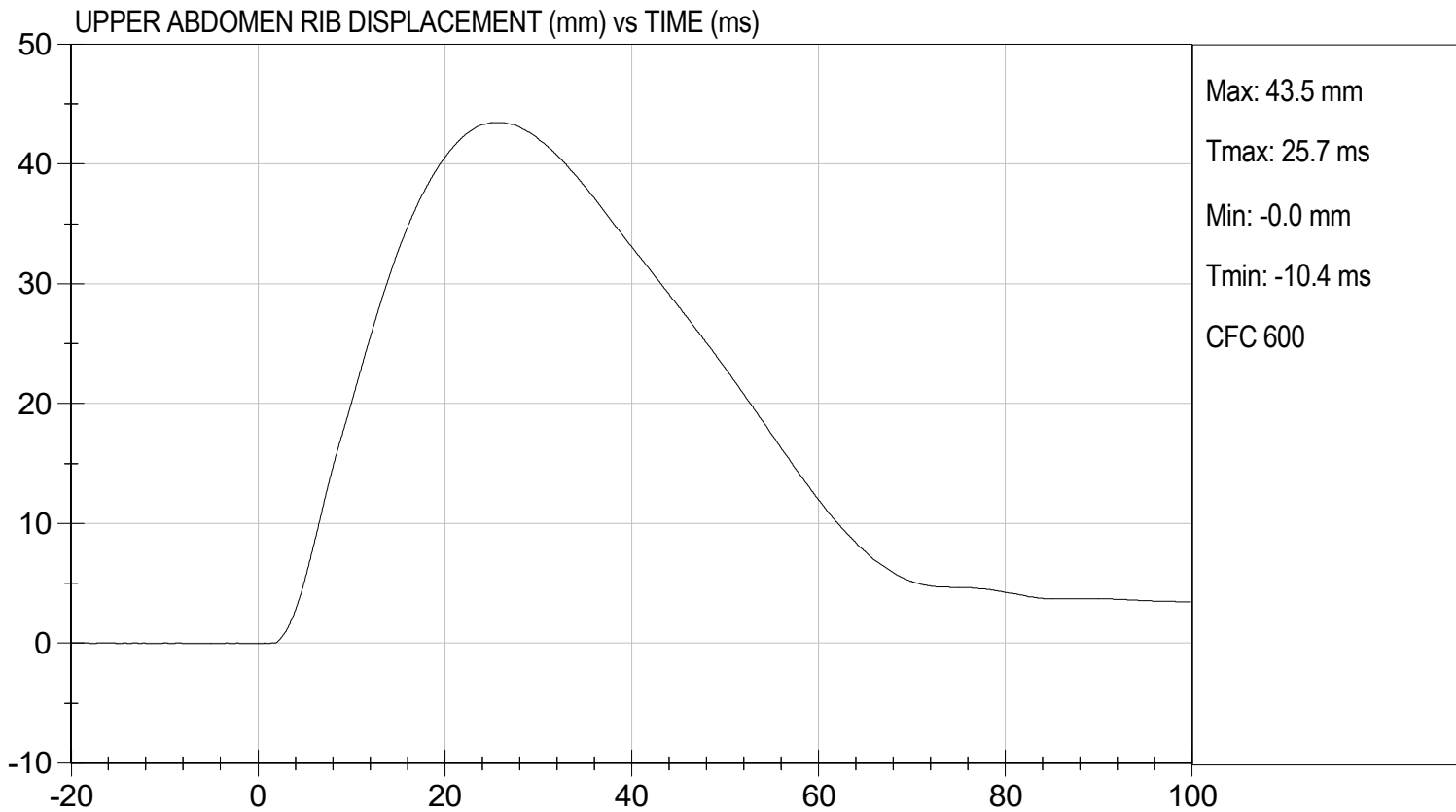
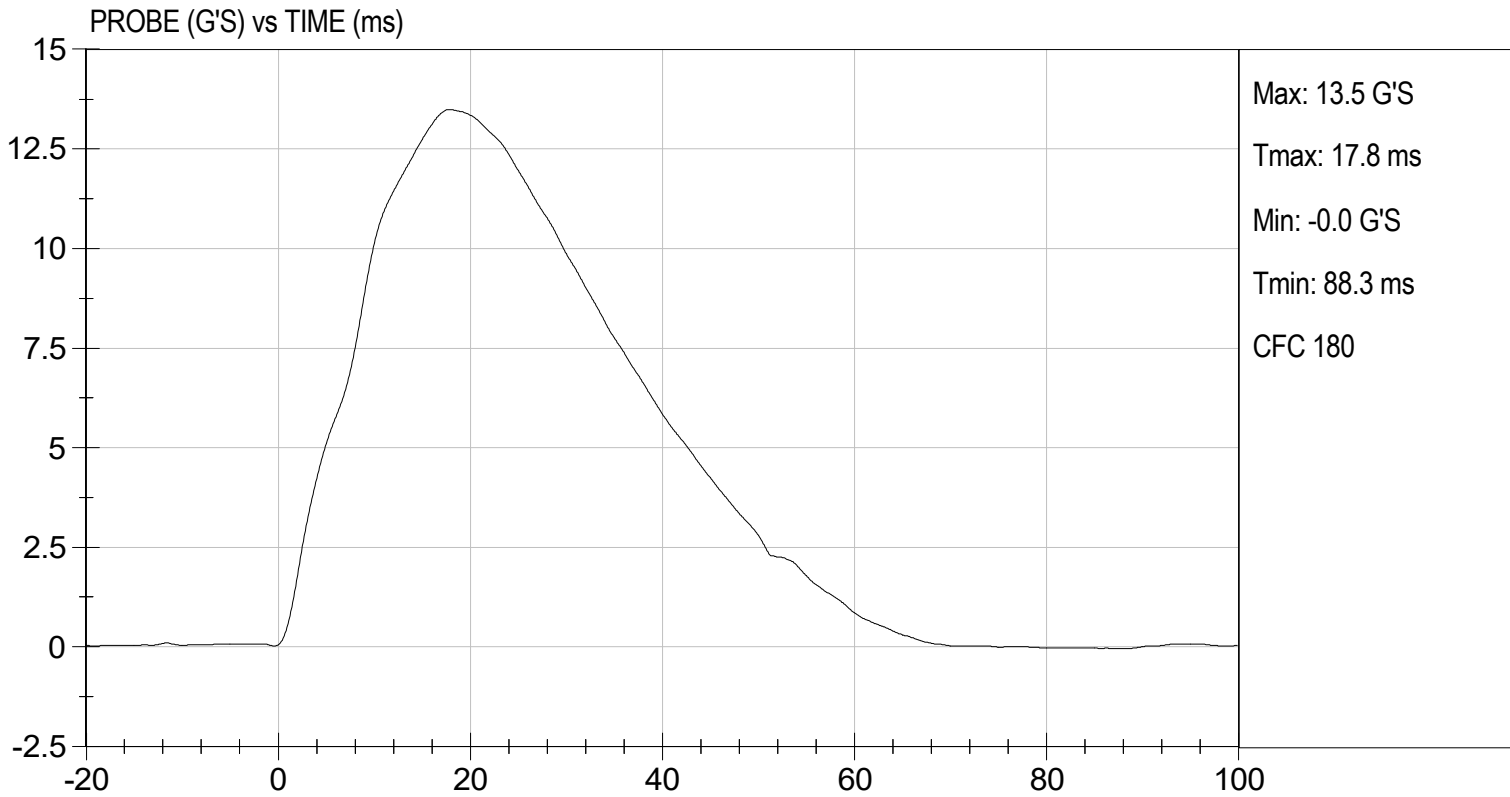
Test I.D: D241816

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	44	Pass
Impact Velocity	m/s	4.20 to 4.40	4.30	Pass
Maximum Probe Acceleration	G's	12 to 16	13	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	43	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	39	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass


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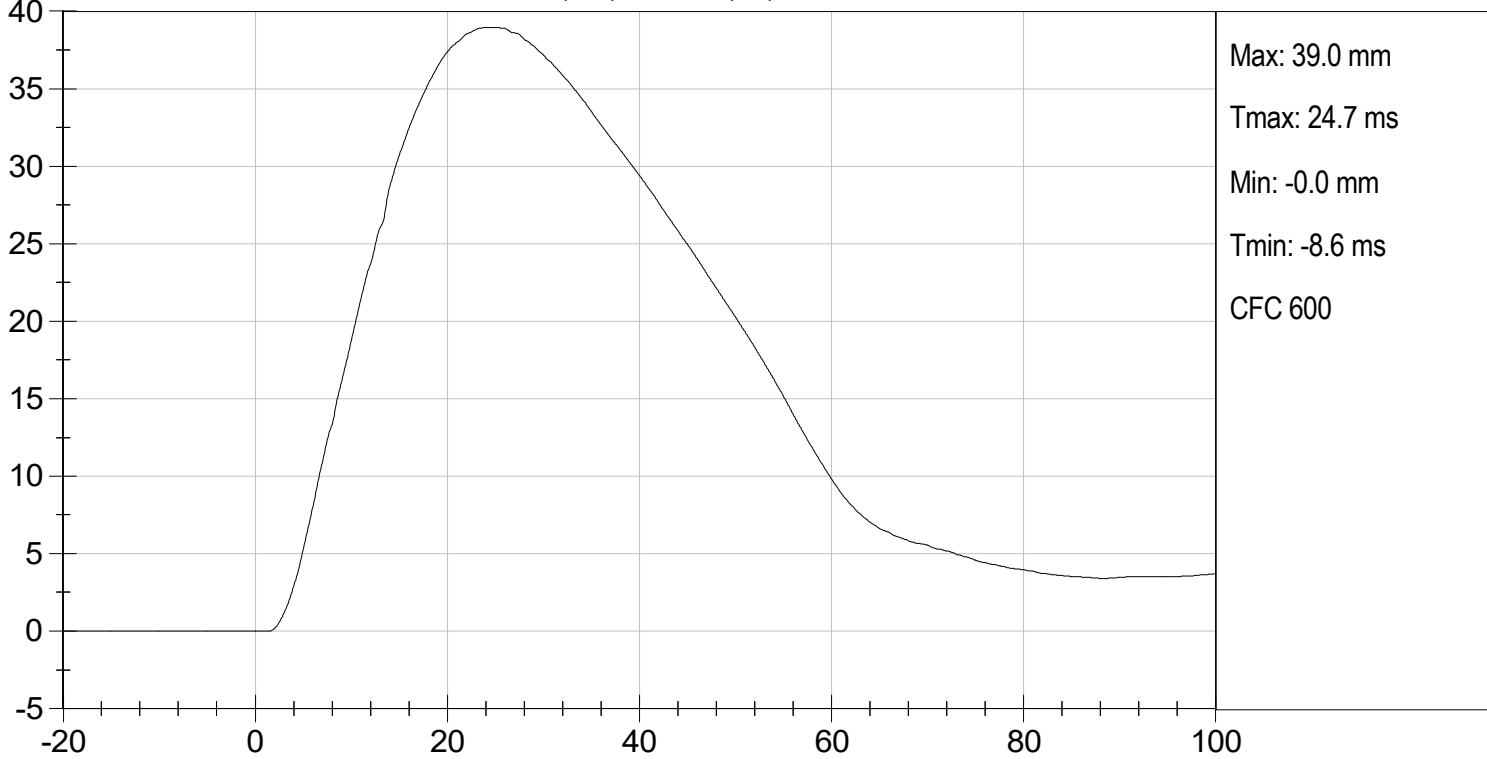
07/18/2024
Test Date


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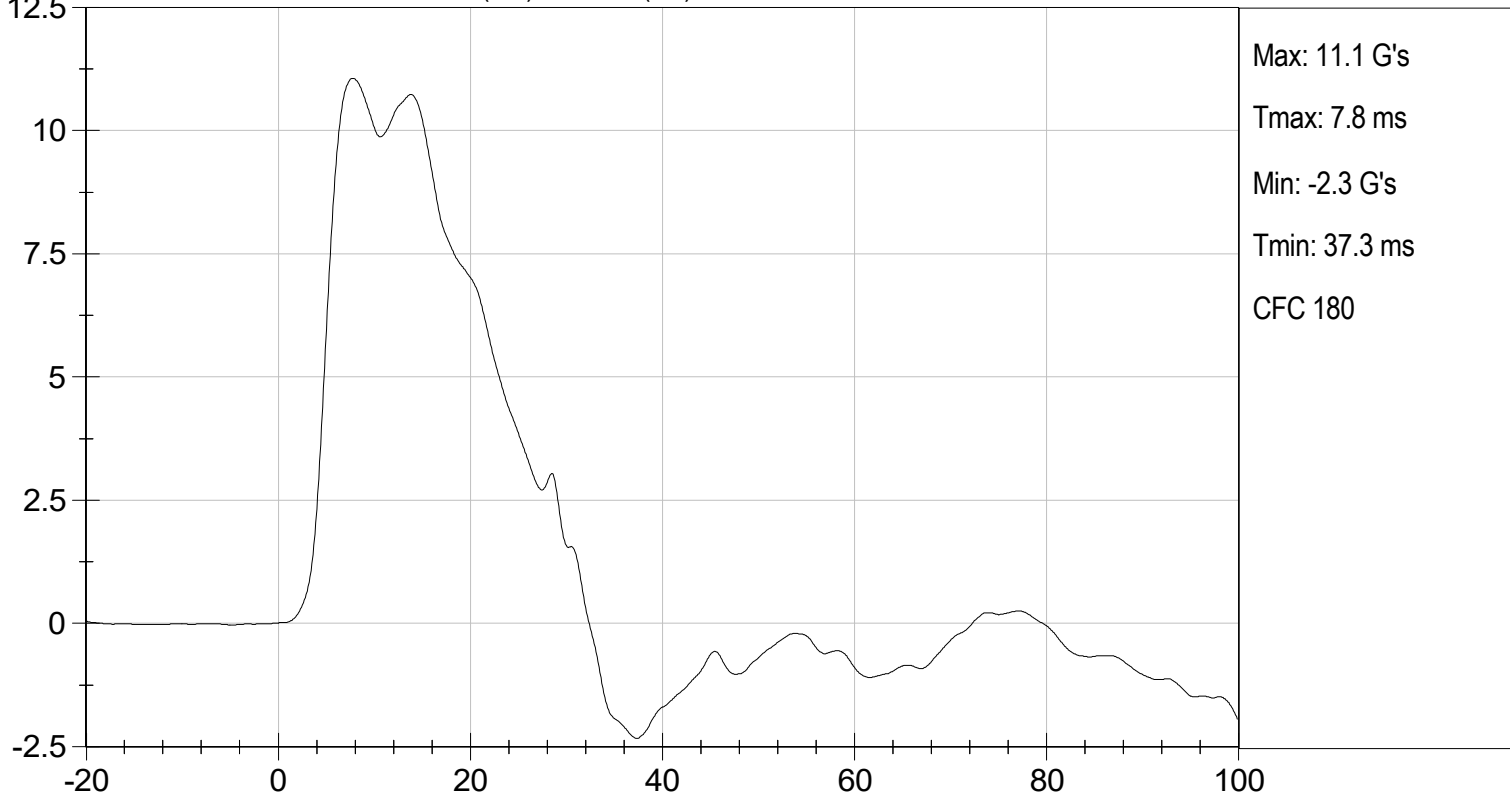




LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)




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PELVIS IMPACT TEST
SID-Its BUILD LEVEL D DUMMY

ATD Serial No: 306

Test I.D: D241817

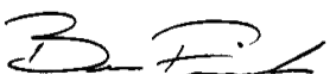
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	42	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	44	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	39.1	Pass
Peak Acetabulum Force	N	3600 to 4300	4,125	Pass
Overall Test Results				Pass



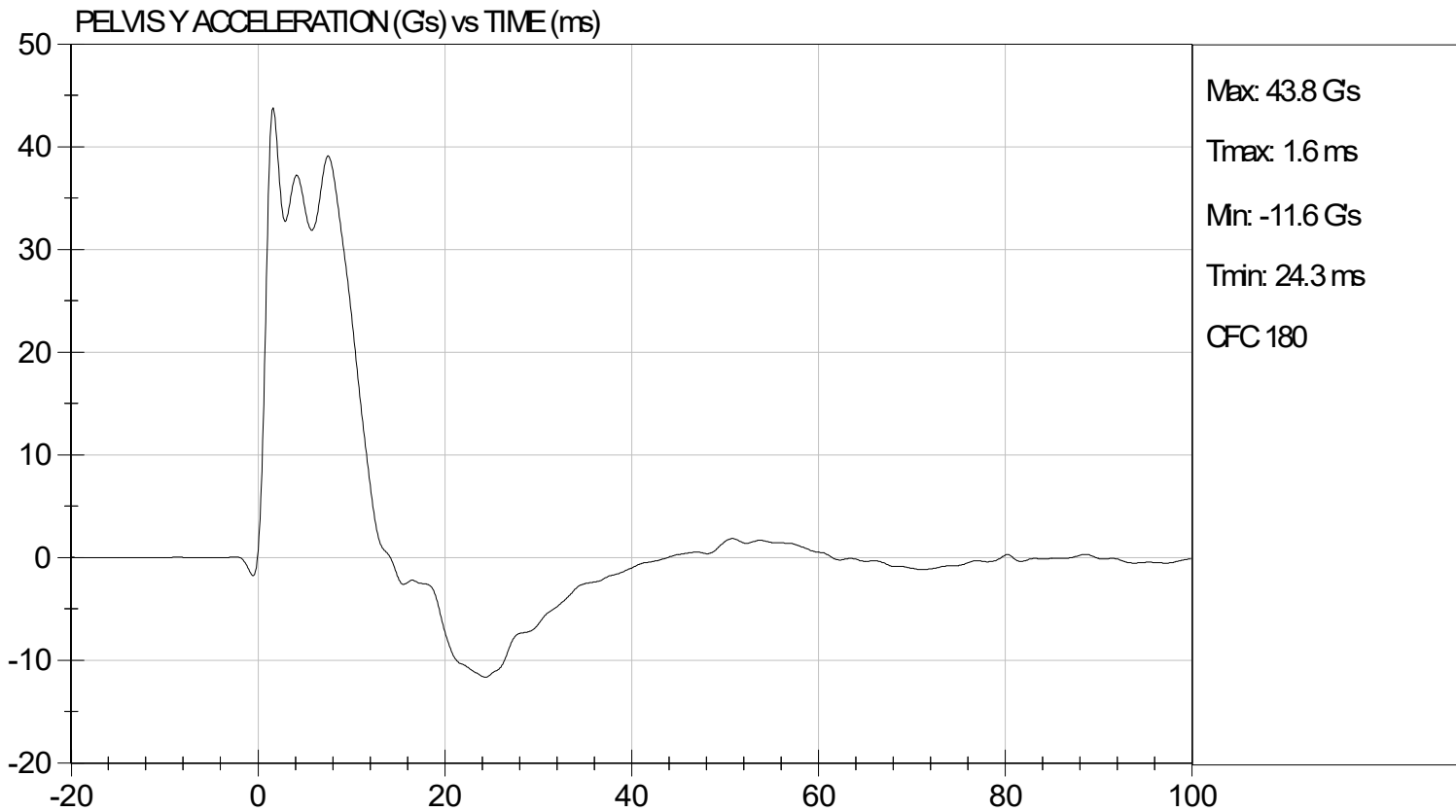
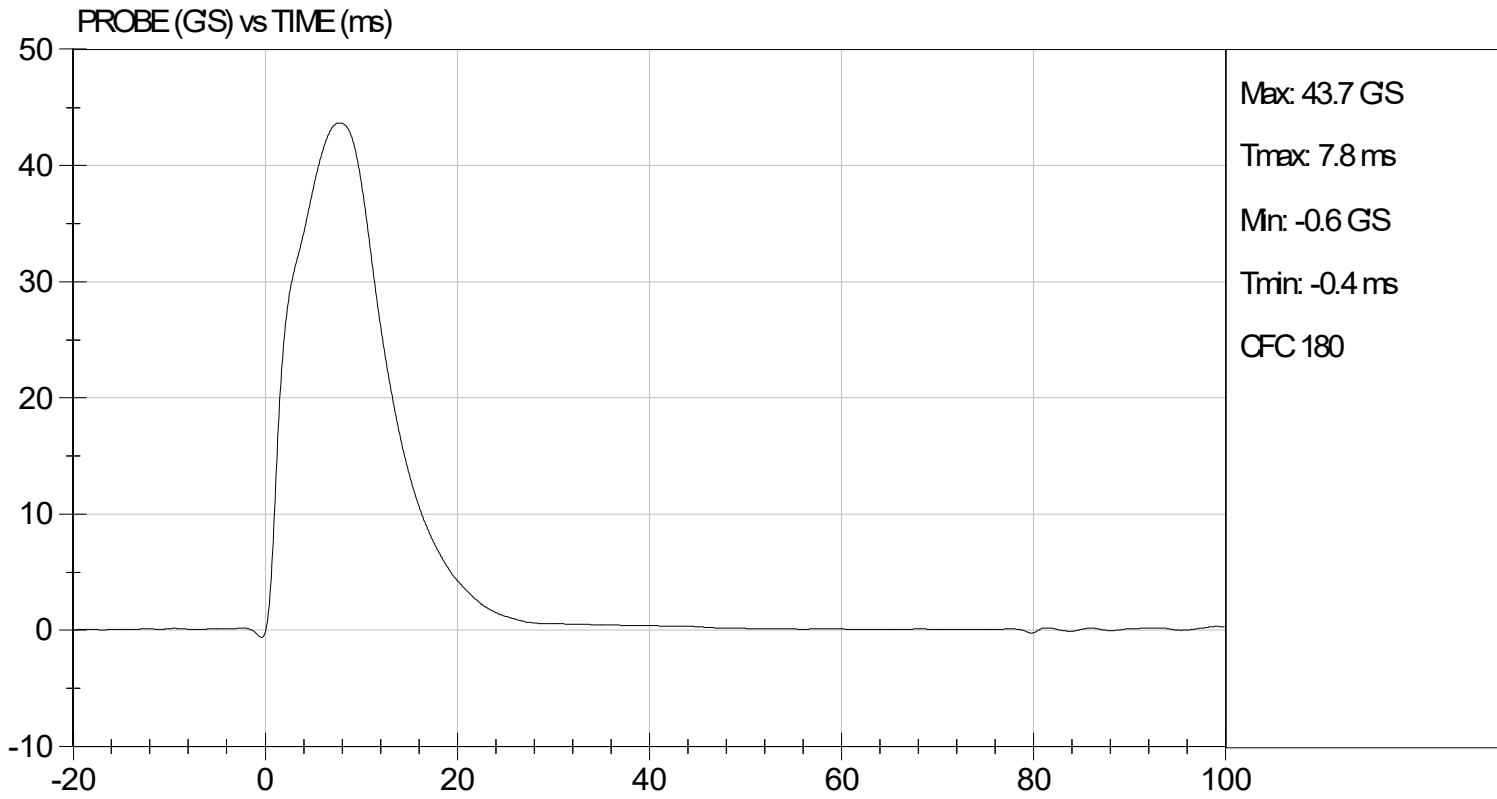
 Laboratory Technician

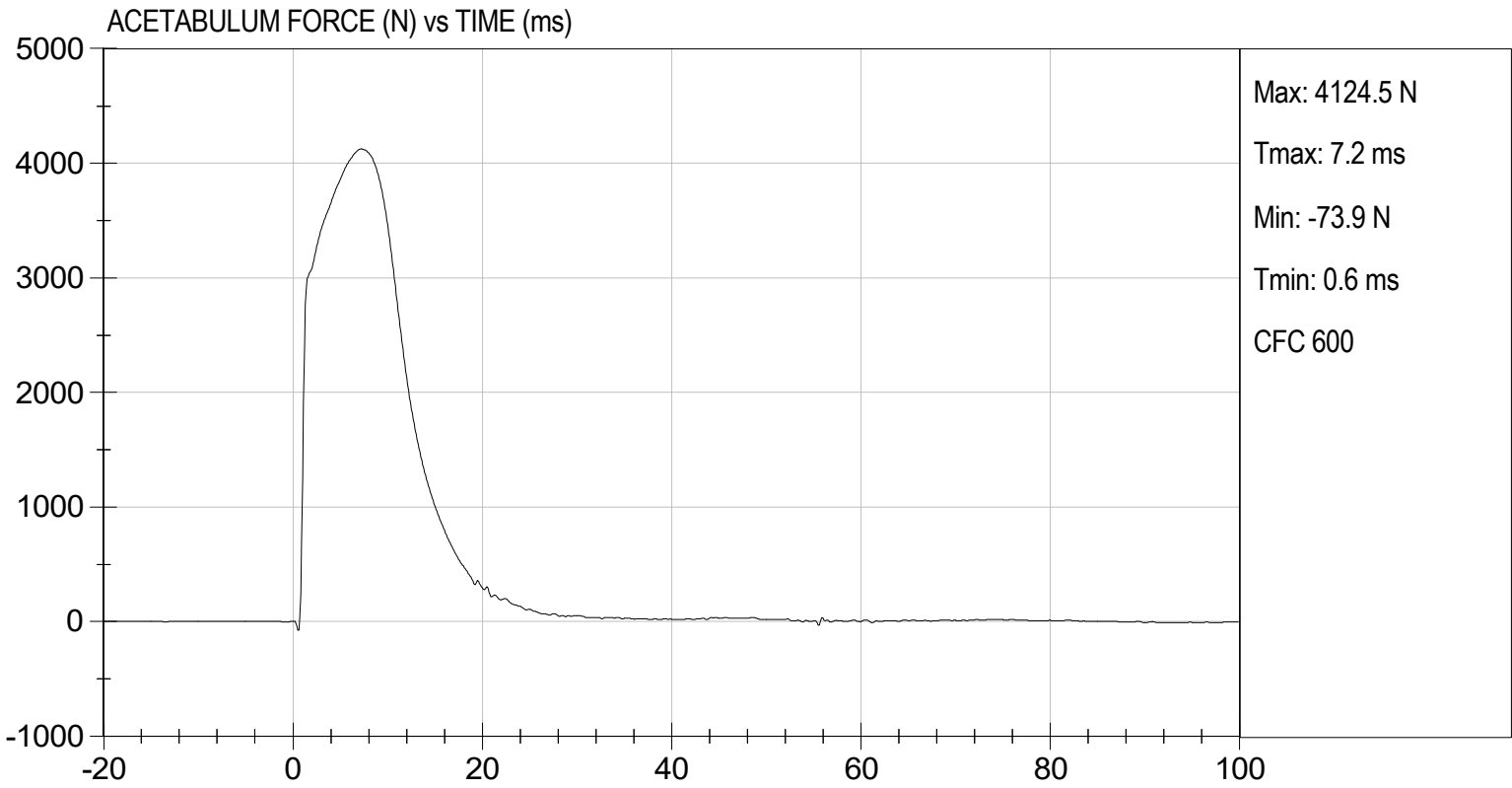
07/18/2024

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MGA RESEARCH CORPORATION
ILIAC IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

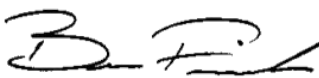
ATD Serial No: 306

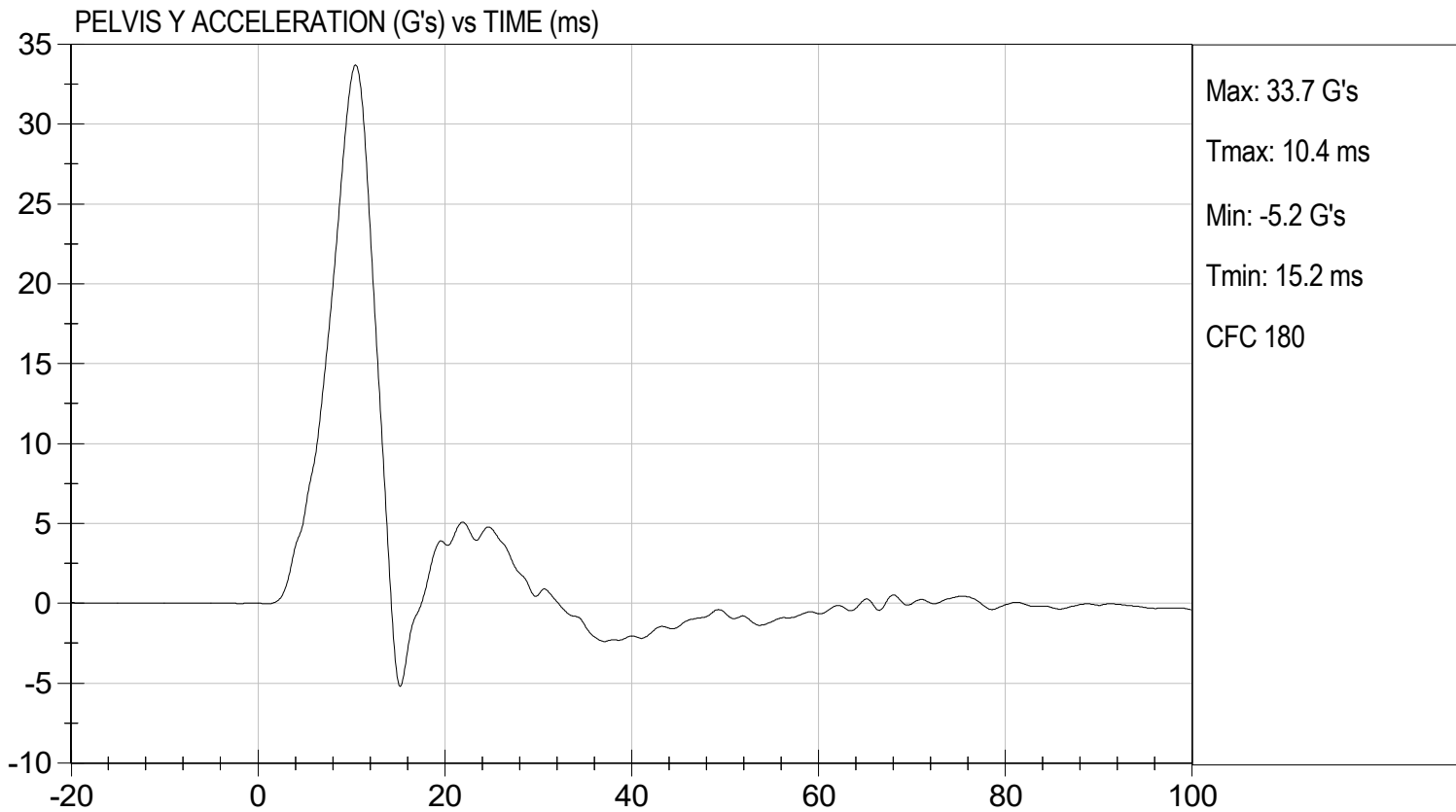
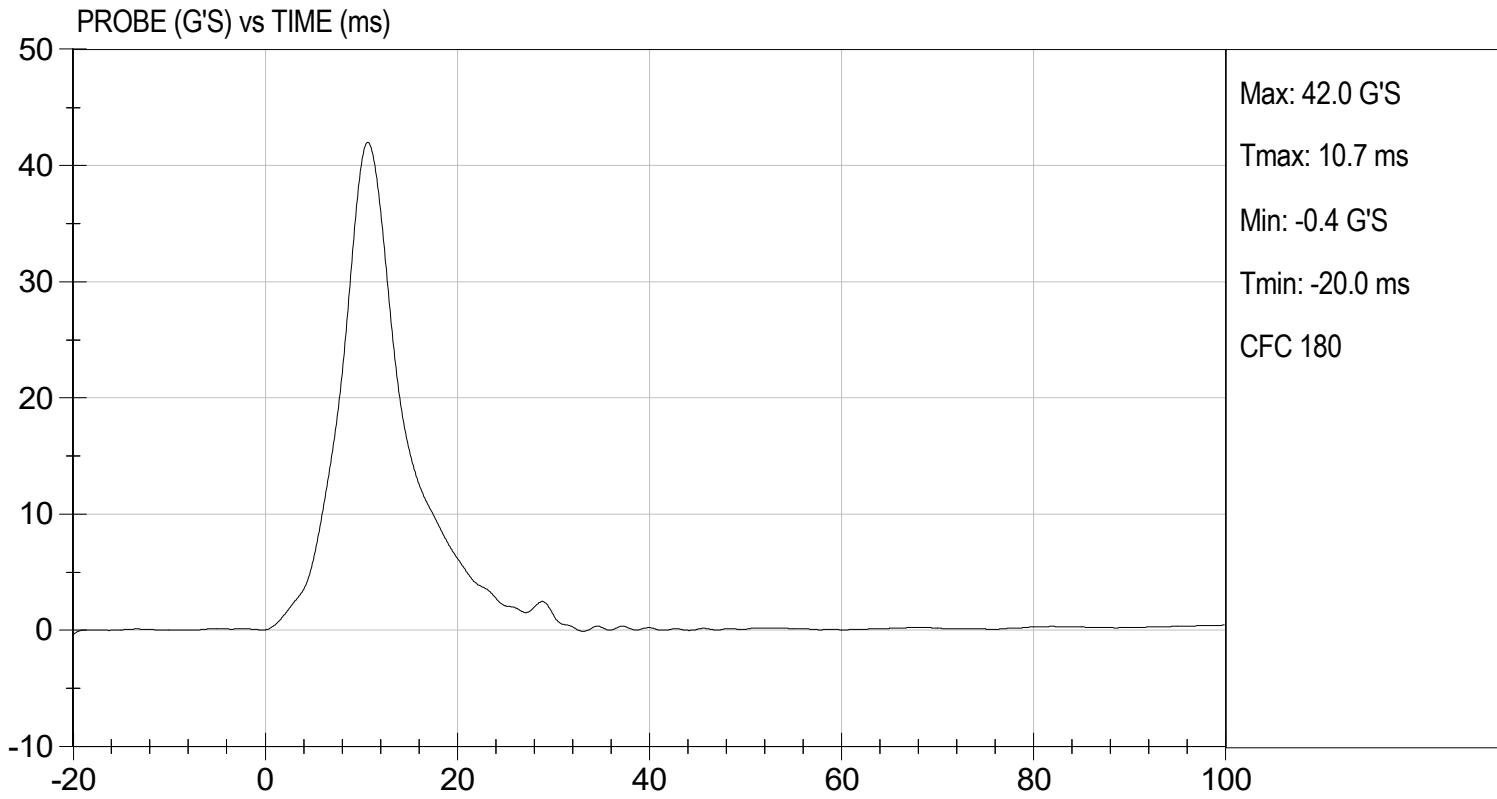
Test I.D: D241818

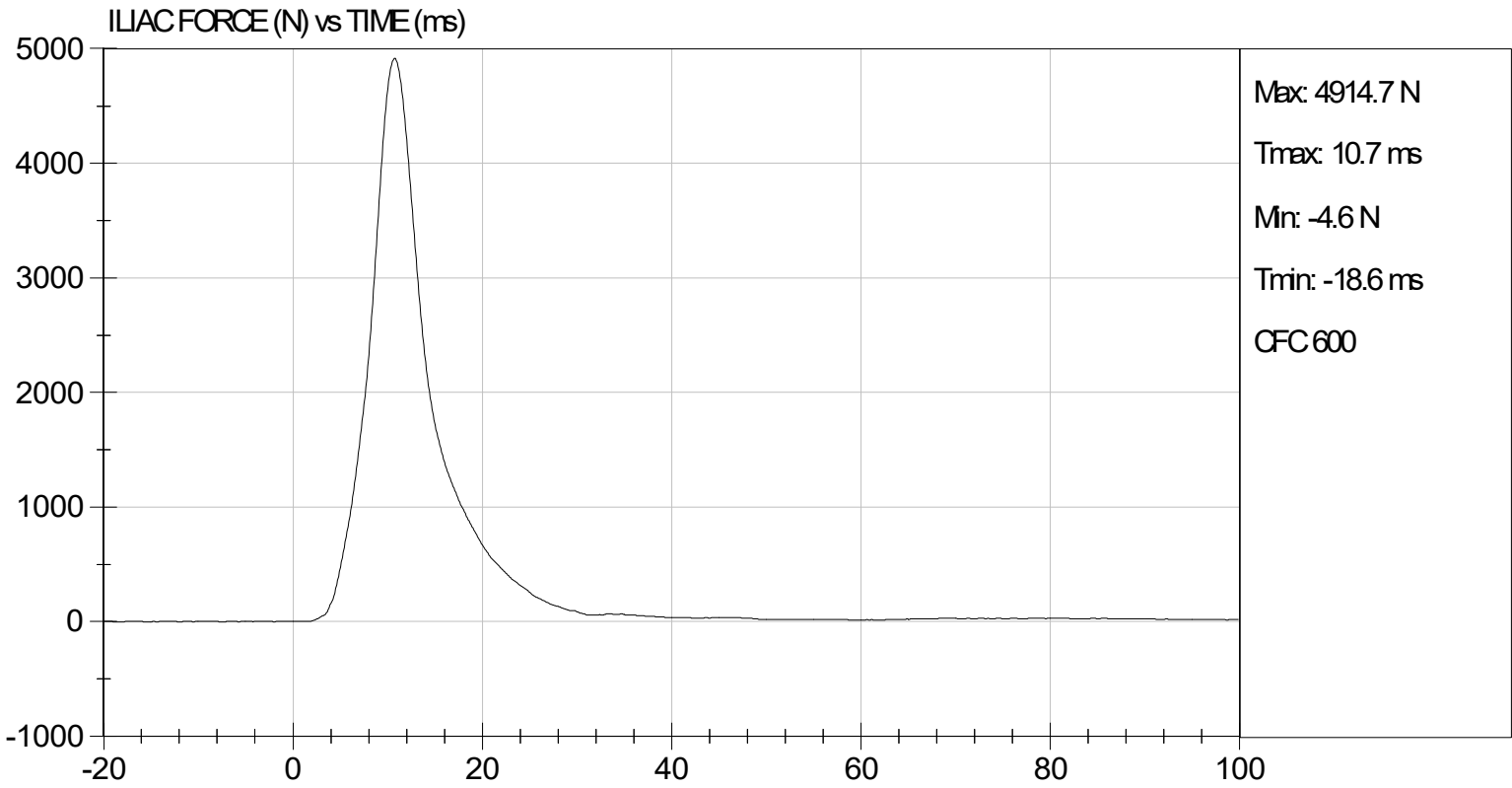
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	43	Pass
Impact Velocity	m/s	4.20 to 4.40	4.27	Pass
Maximum Probe Acceleration	G's	36 to 45	42	Pass
Pelvis Y Acceleration	G's	28 to 39	34	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,915	Pass
Overall Test Results				Pass


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07/18/2024
 Test Date


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QUALIFICATION TEST RESULTS

POST-TEST

SID-IIS 5TH PERCENTILE FEMALE - DRIVER ATD

SID-IIsD External Measurements
SN: 306

No.	Name	Spec. (mm)	Result	Pass/Fail
A	Sitting Height	772 - 788	785	Pass
B	Shoulder Pivot Height	437 - 453	449	Pass
C	H-point Height	79 - 89	86	Pass
D	H-point from Seatback	141 - 151	147	Pass
E	Shoulder Pivot from Backline	97 - 107	99	Pass
F	Thigh Clearance	119 -135	120	Pass
G	Head Breadth	140 - 148	141	Pass
H	Head Back from Backline	40 - 46	45	Pass
I	Head Depth	178 - 188	182	Pass
J	Head Circumference	541 - 551	550	Pass
K	Buttock to Knee Length	514 - 540	538	Pass
L	Popliteal Height	343 - 369	349	Pass
M	Knee Pivot to Floor Height	392 - 409	394	Pass
N	Buttock Popliteal Length	416 - 442	435	Pass
O	Chest Depth w/o Jacket	195 - 211	198	Pass
P	Foot Length	216 - 232	222	Pass
Q	Hip Breadth (w/ pelvic plugs)	313 - 323	317	Pass
R	Arm Length	249 - 259	250	Pass
S	Knee Joint to Seatback	477 - 493	483	Pass
V	Shoulder Width	341 - 357	351	Pass
W	Foot Width	78 - 94	82	Pass
Y	Chest Circumference w/ jacket	851 - 881	863	Pass
Z	Waist Circumference	761 - 791	782	Pass

MGA RESEARCH CORPORATION
HEAD DROP TEST
SID-IIs BUILD LEVEL D DUMMY

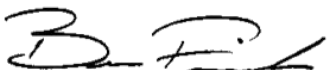
ATD Serial No: 306

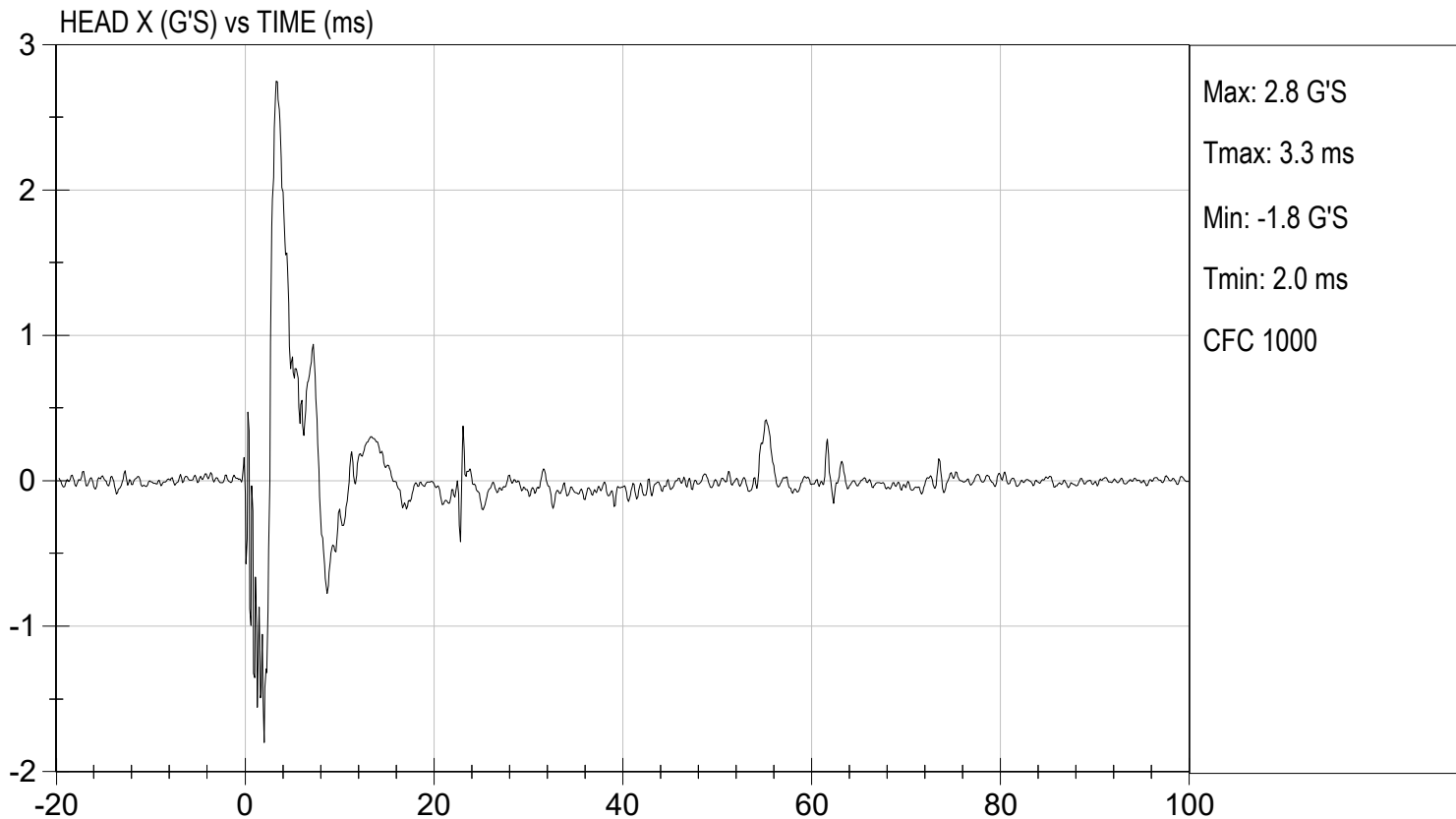
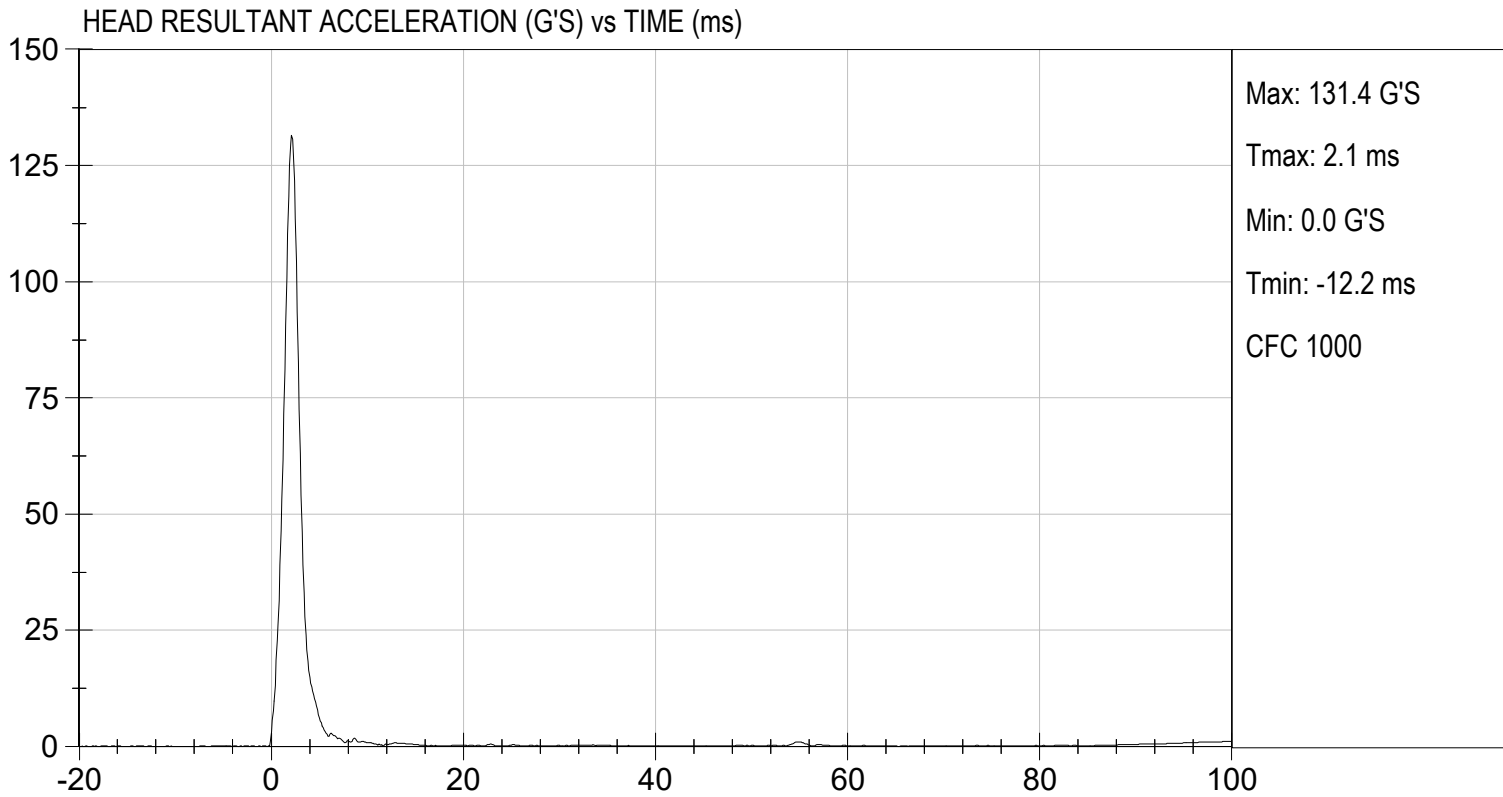
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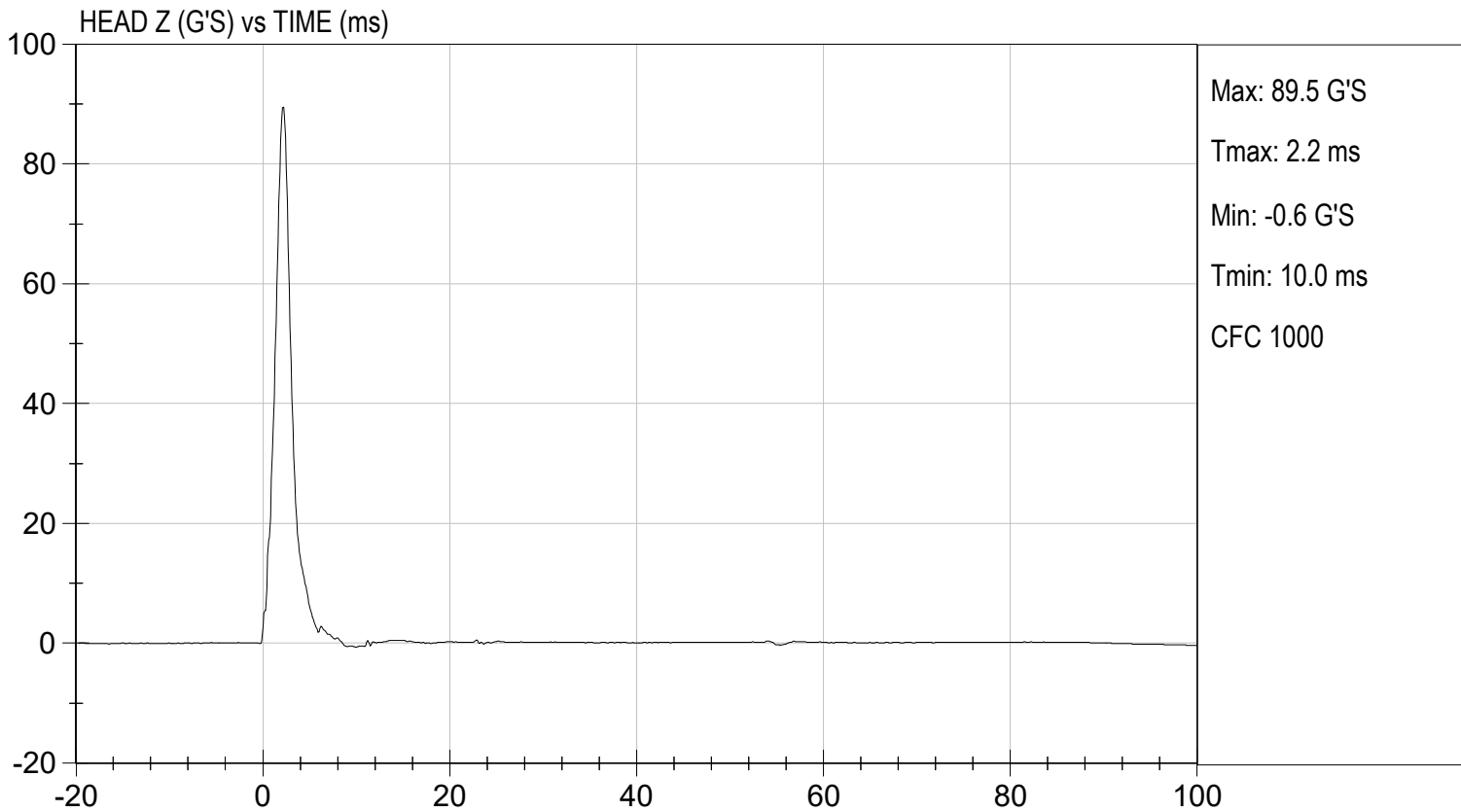
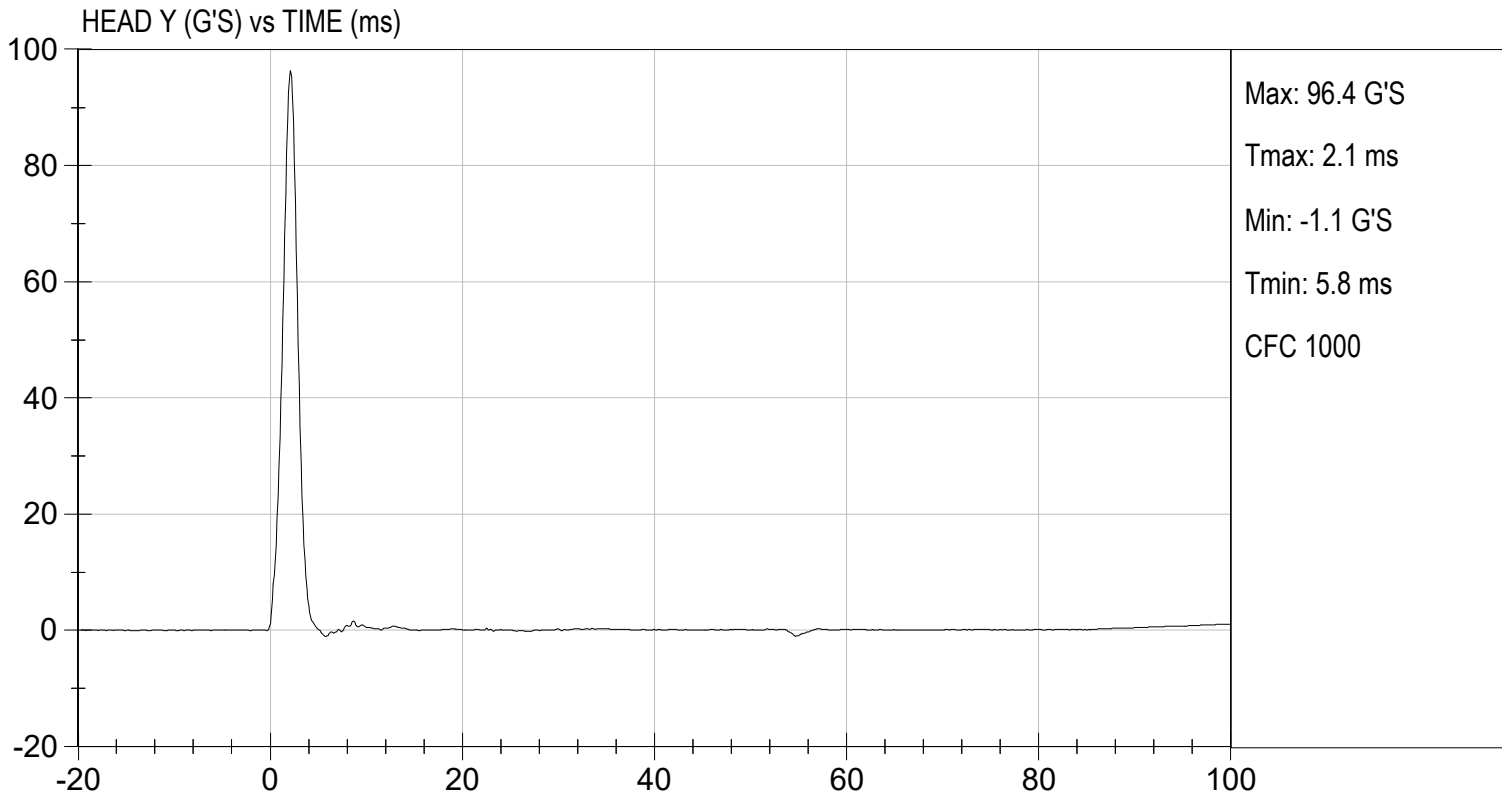
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.4	Pass
Laboratory Relative Humidity	%	10 to 70	45	Pass
Peak Resultant Acceleration	G's	115 to 137	131	Pass
Peak Longitudinal Acceleration	G's	+/- 15	2.8	Pass
Unimodal	N/A	Yes	Yes	Pass
Oscillations	N/A	<15%	Yes	Pass
Overall Test Results				Pass


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08/02/2024
 Test Date


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LATERAL NECK PENDULUM TEST
SID-Its BUILD LEVEL D DUMMY

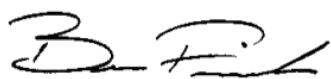
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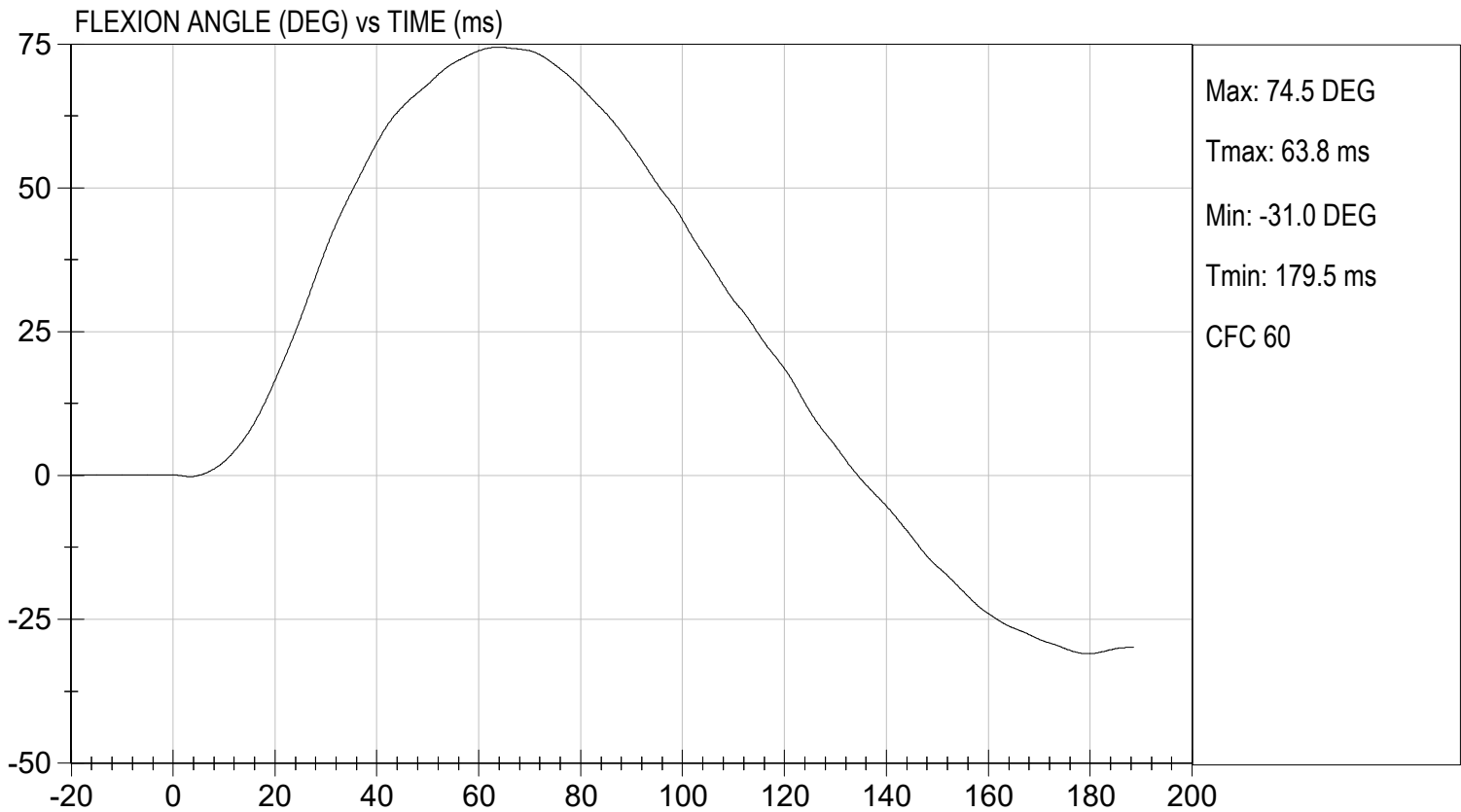
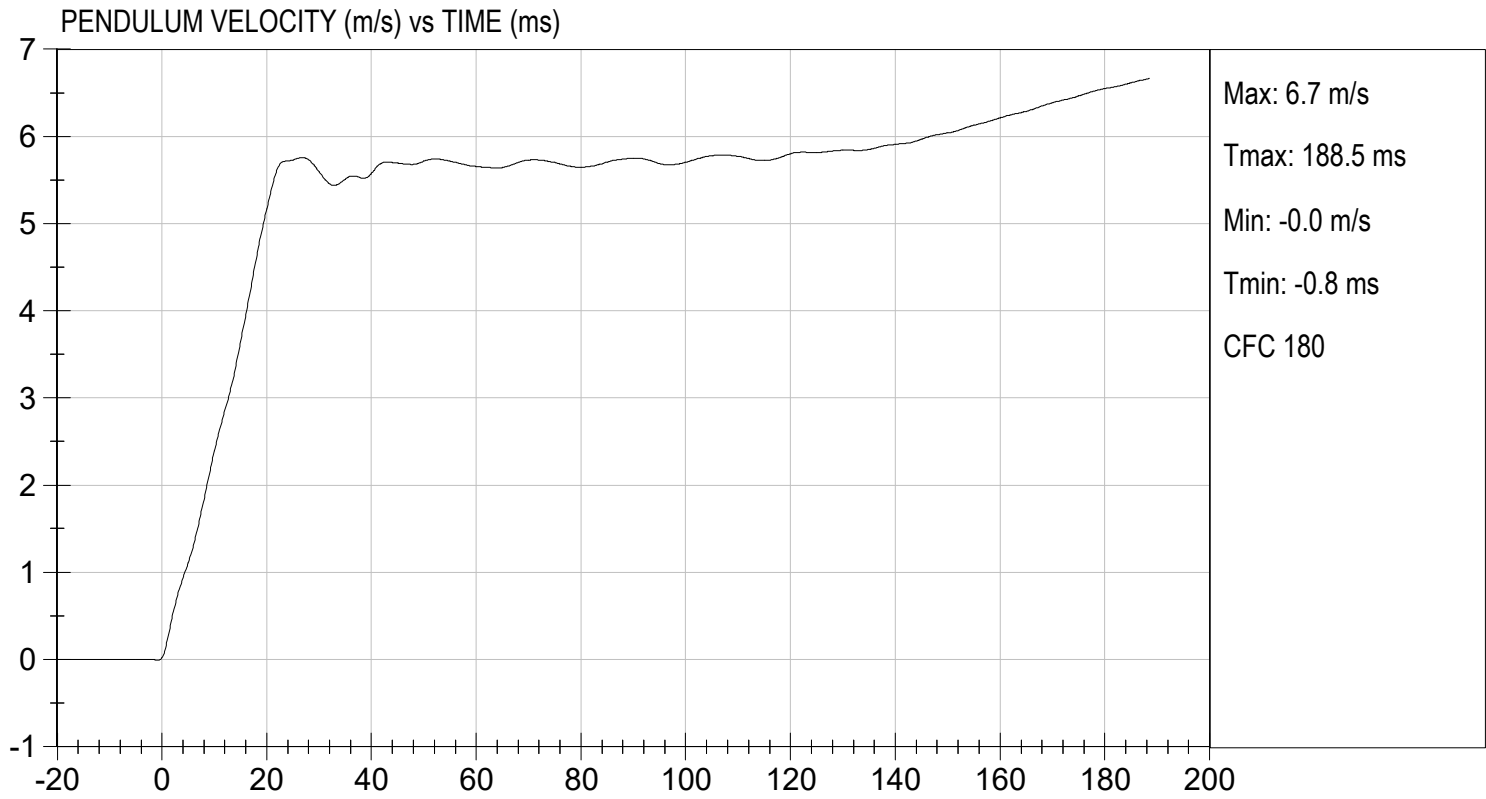
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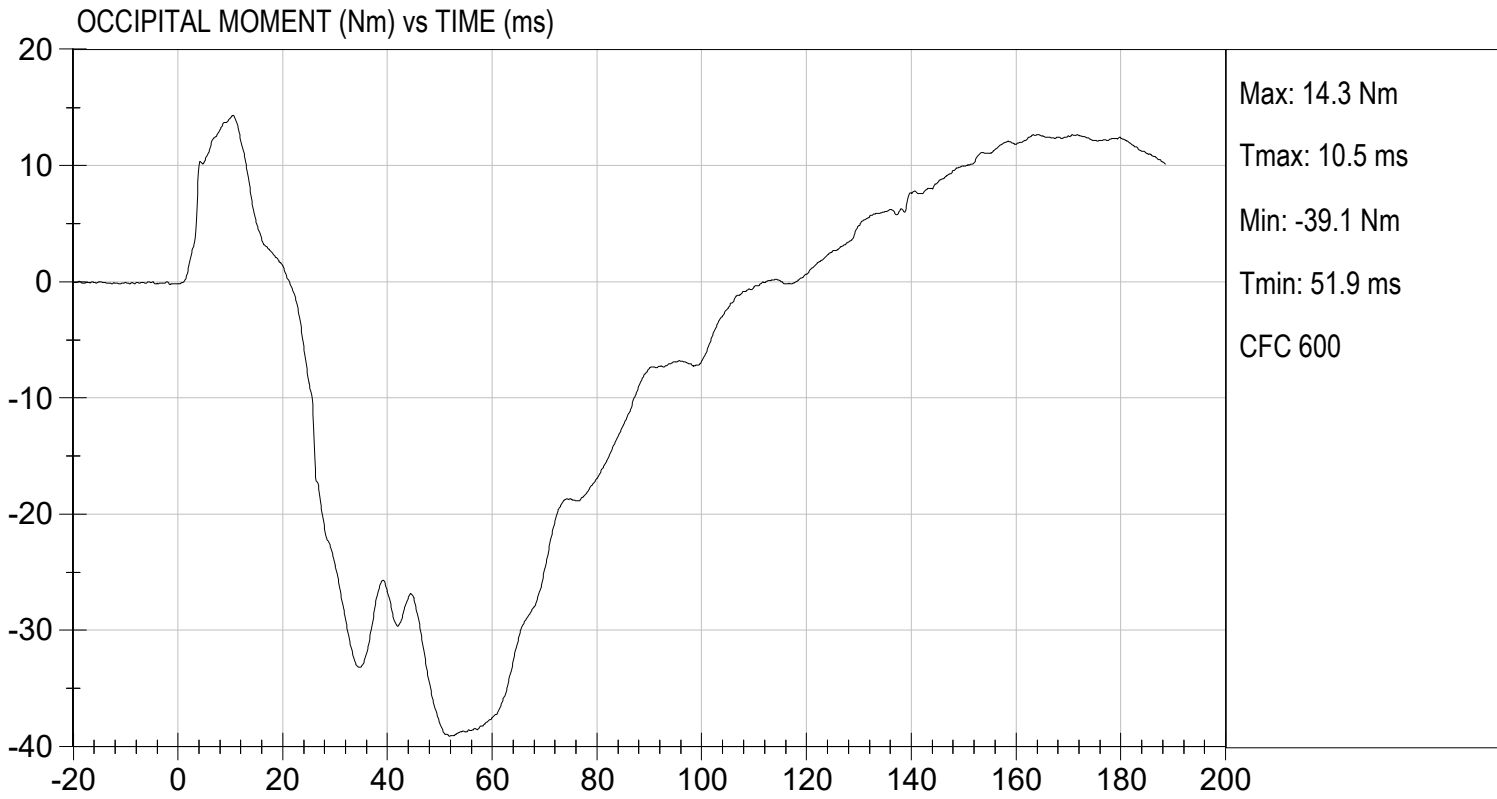
Tested Parameter	Units	Specification	Result	Pass/Fail	
Temperature	deg C	20.6 to 22.2	21.2	Pass	
Humidity	%	10 to 70	45	Pass	
Impact Velocity	m/s	5.51 to 5.63	5.58	Pass	
Pendulum Velocity	10 ms	m/s	2.20 to 2.80	2.39	Pass
	15 ms	m/s	3.30 to 4.10	3.65	Pass
	20 ms	m/s	4.40 to 5.40	5.17	Pass
	25 ms	m/s	5.40 to 6.10	5.73	Pass
	25-100 ms	m/s	5.50 to 6.20	5.76	Pass
Maximum D-Plane Rotation	deg	71 to 81	74	Pass	
Time of Maximum D-Plane Rotation	ms	50 to 70	64	Pass	
Maximum Occipital Condyle Moment	Nm	-44 to -36	-39	Pass	
Time of Moment Decay to 0 Nm	ms	102 to 126	112	Pass	
Overall Test Results				Pass	


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08/02/2024
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MGA RESEARCH CORPORATION
SHOULDER IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

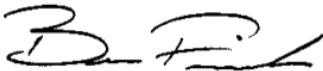
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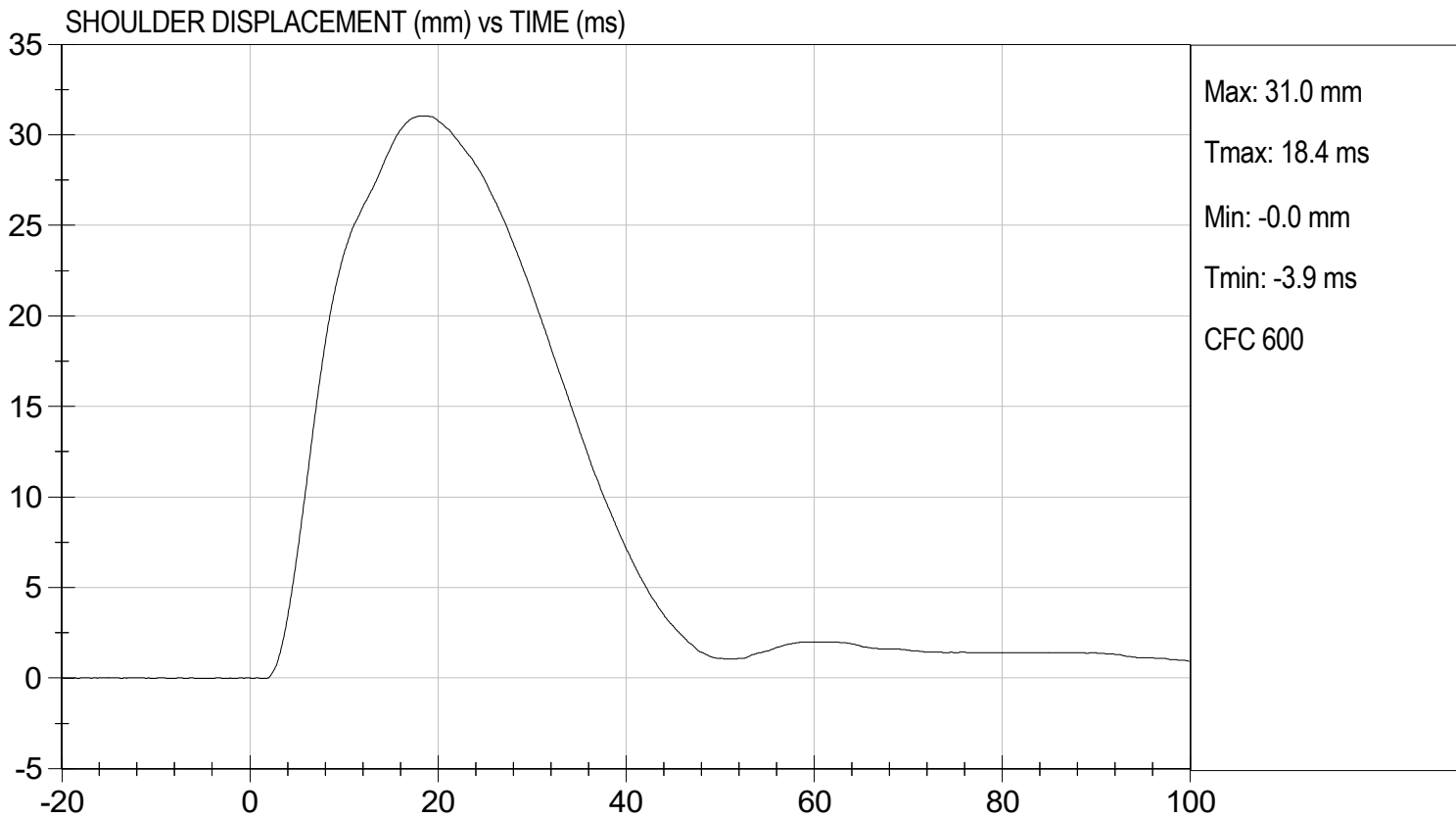
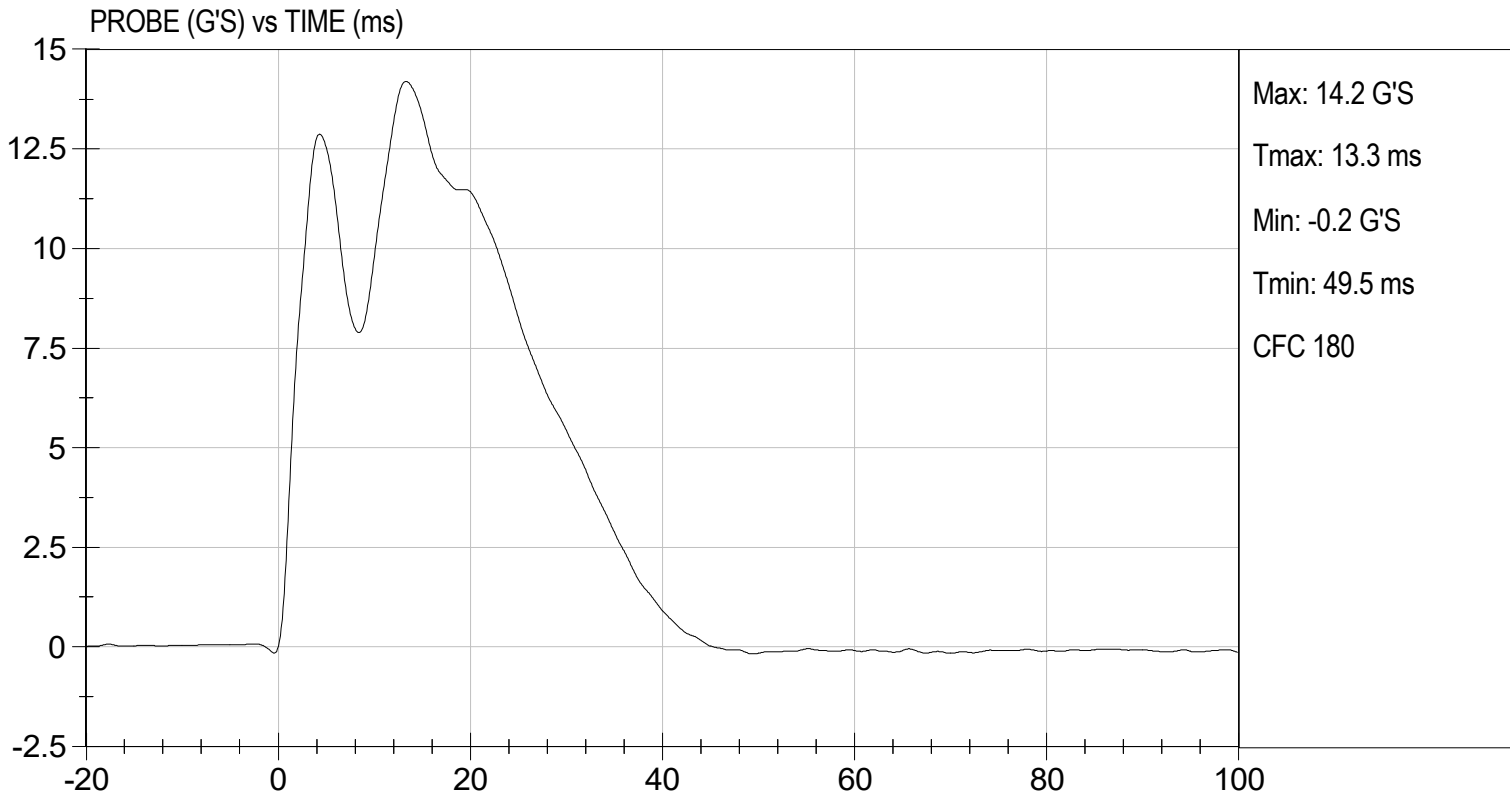
Test ID: D241973

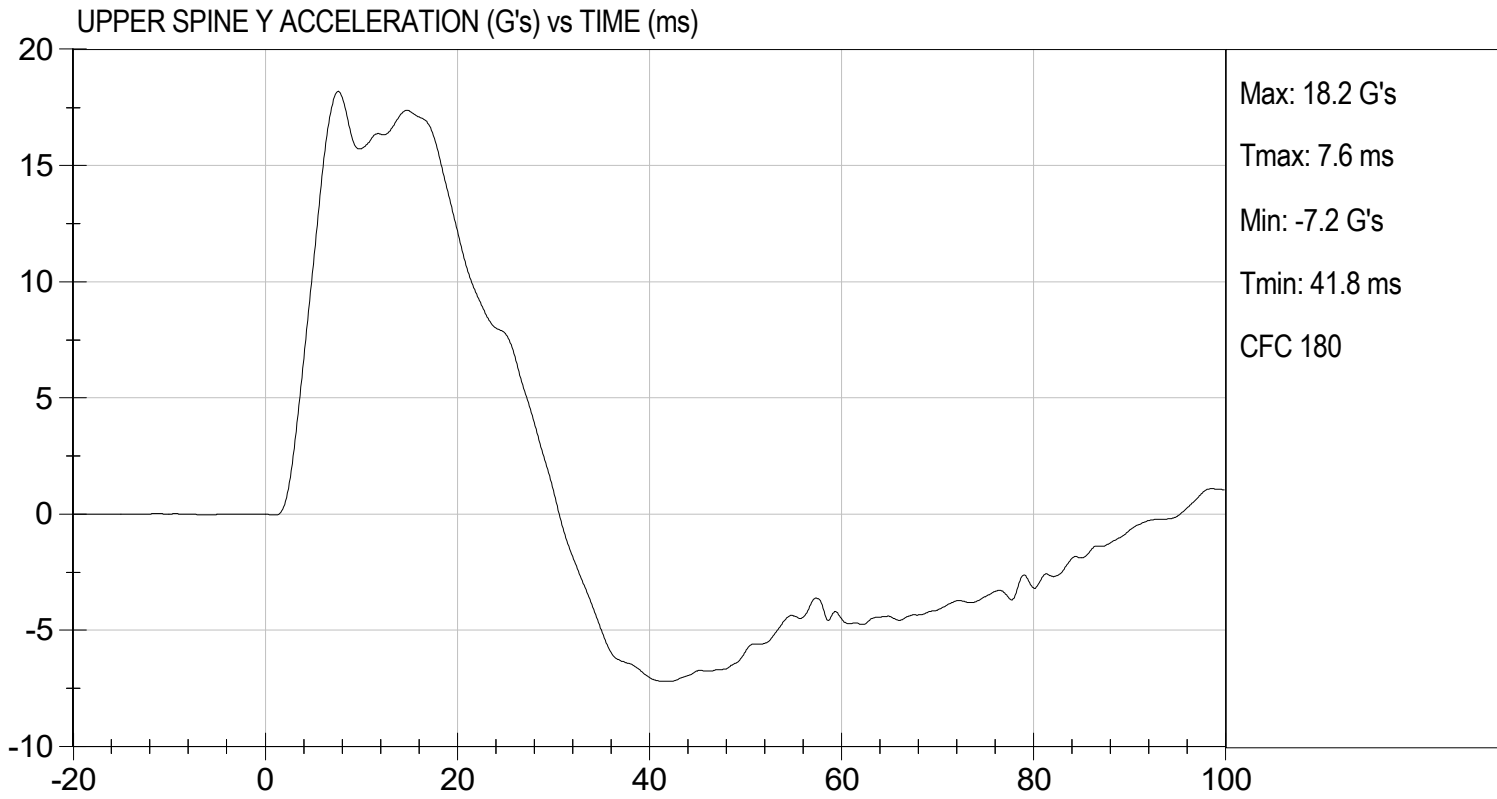
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	deg C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	49	Pass
Impact Velocity	m/s	4.20 to 4.40	4.20	Pass
Maximum Probe Acceleration	G's	13 to 18	14	Pass
Shoulder Displacement	mm	28 to 37	31	Pass
Upper Spine (T1) Y Acceleration	G's	17 to 22	18	Pass
Overall Test Results				Pass


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08/02/2024
 Test Date


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**MGA RESEARCH CORPORATION
THORAX (WITH ARM) IMPACT TEST
SID-Its BUILD LEVEL D DUMMY**

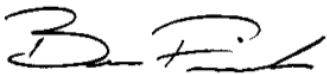
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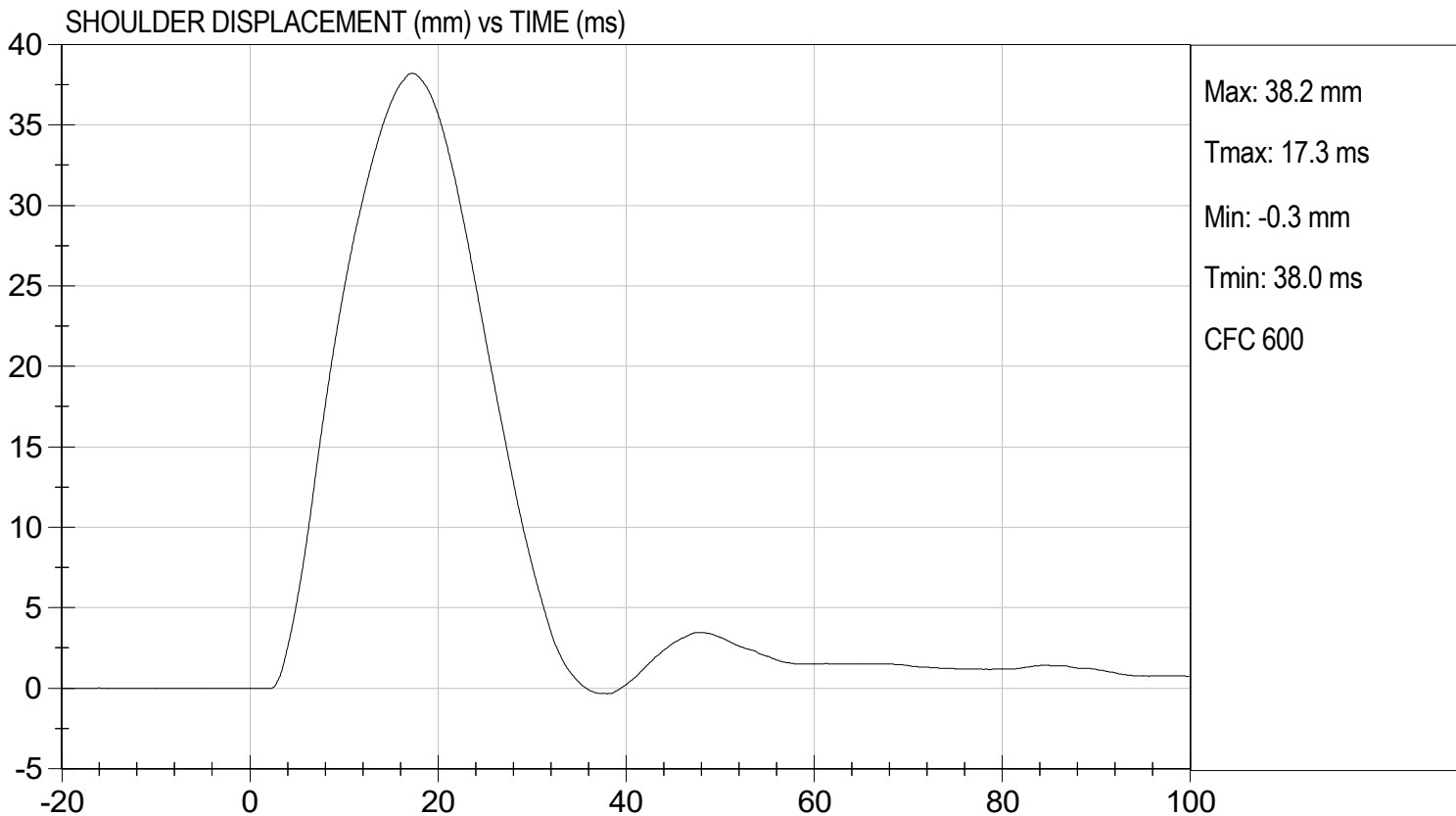
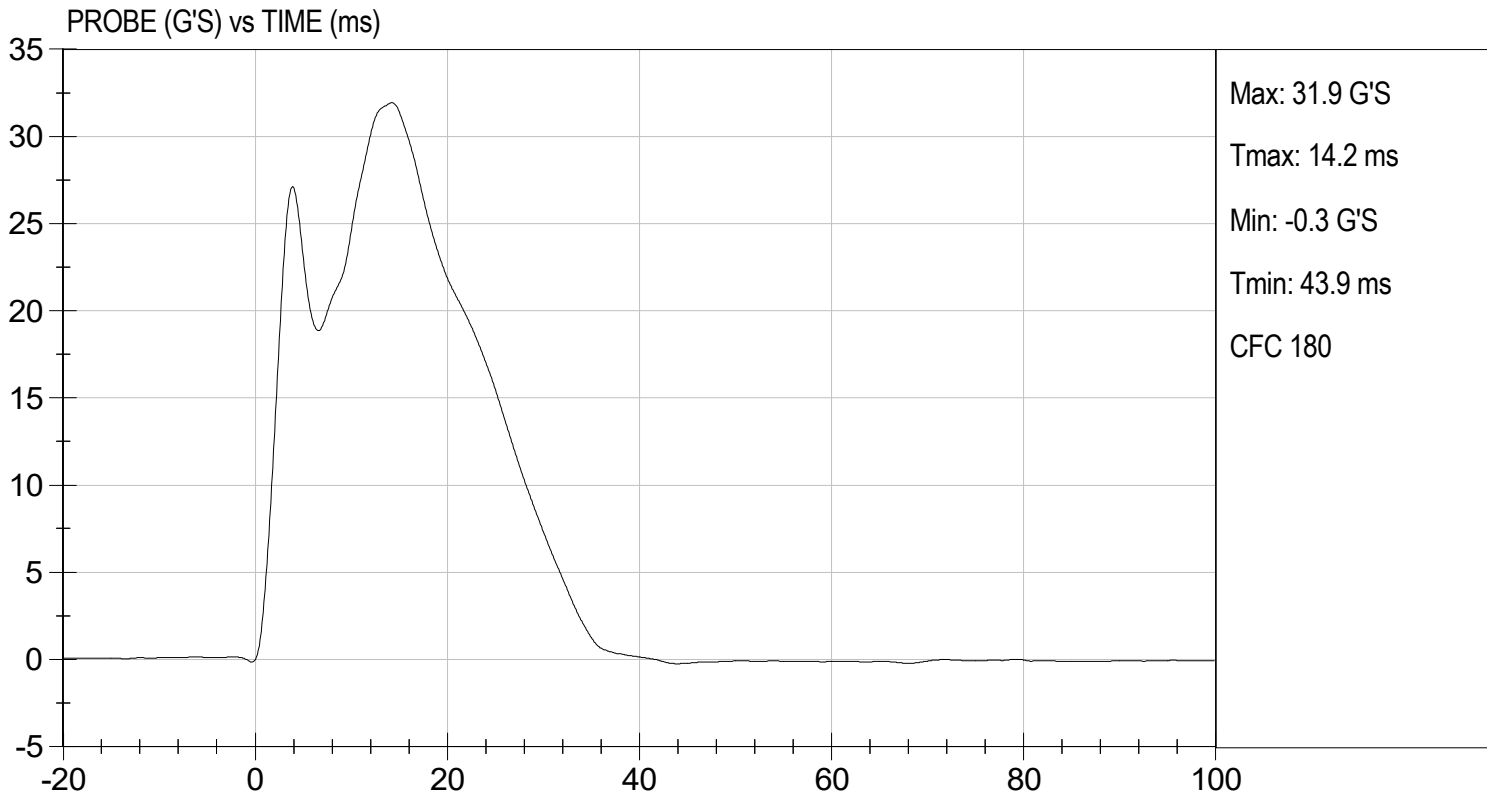
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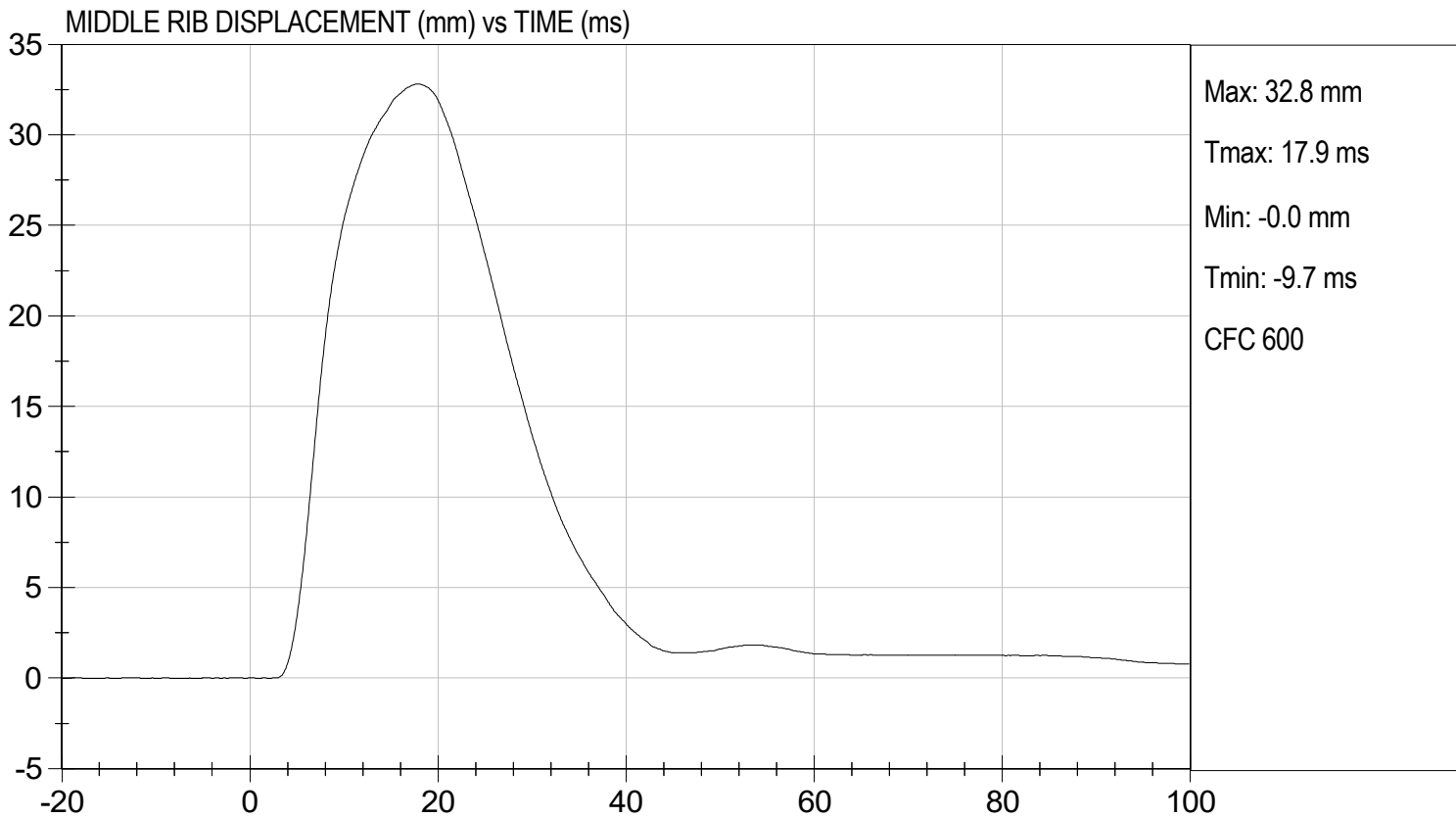
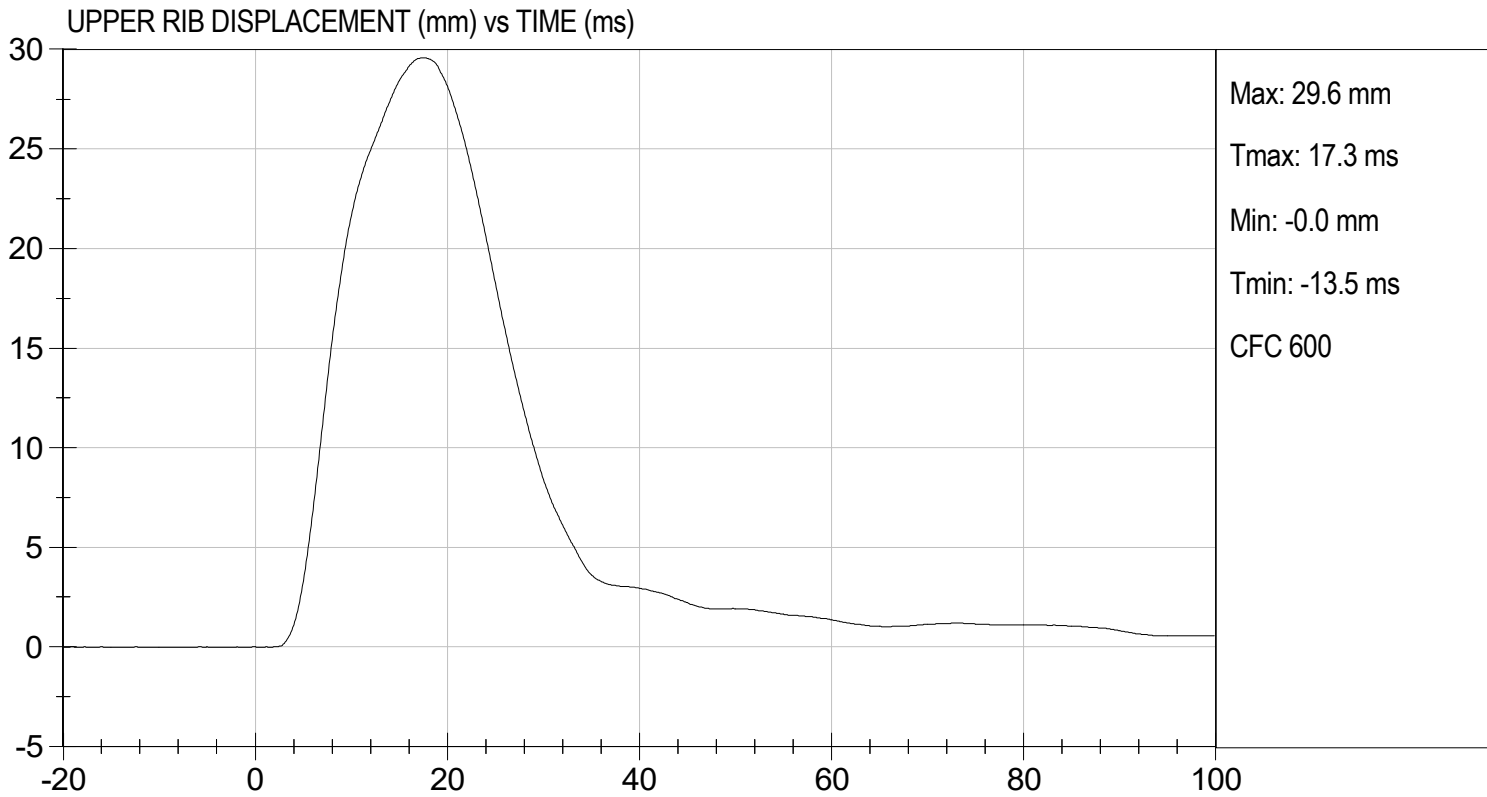
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.4	Pass
Humidity	%	10 to 70	50	Pass
Impact Velocity	m/s	6.60 to 6.80	6.77	Pass
Maximum Probe Acceleration	G's	30 to 36	32	Pass
Shoulder Displacement	mm	31 to 40	38	Pass
Upper Rib Displacement	mm	25 to 32	30	Pass
Middle Rib Displacement	mm	30 to 36	33	Pass
Lower Rib Displacement	mm	32 to 38	33	Pass
Upper Spine (T1) Y Acceleration	G's	34 to 43	35	Pass
Lower Spine (T12) Y Acceleration	G's	29 to 37	32	Pass
Overall Test Results				Pass


Laboratory Technician

08/02/2024
Test Date

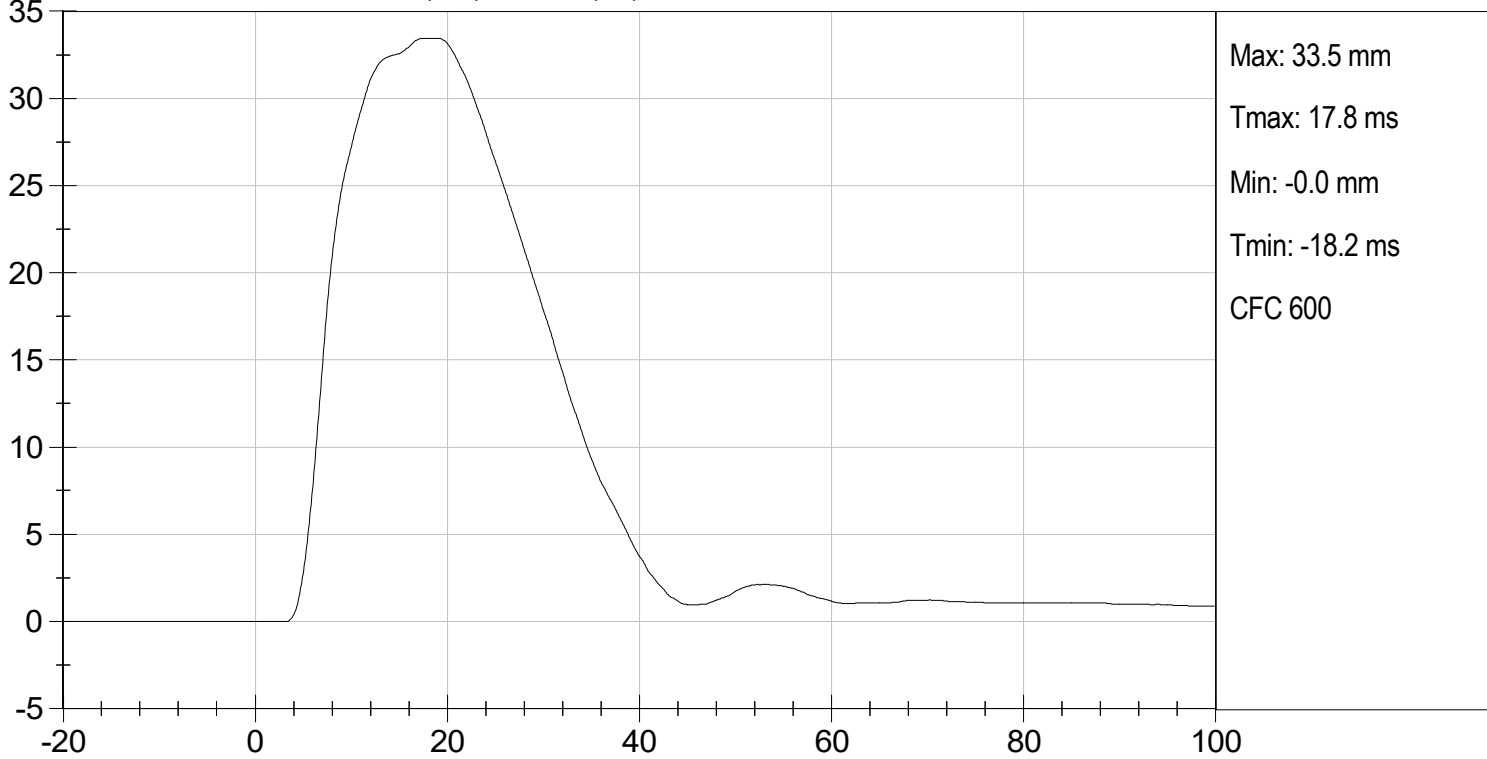

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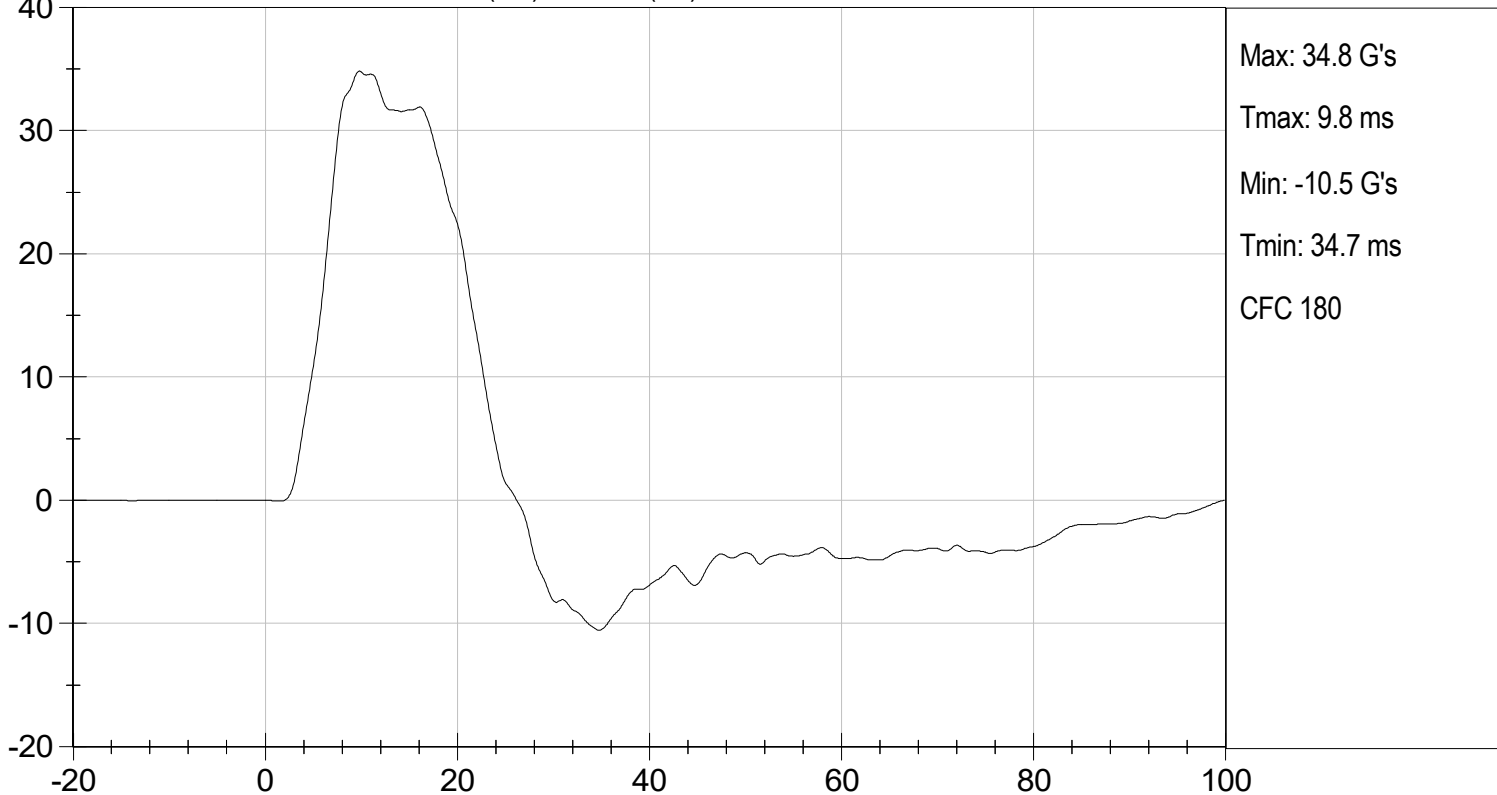


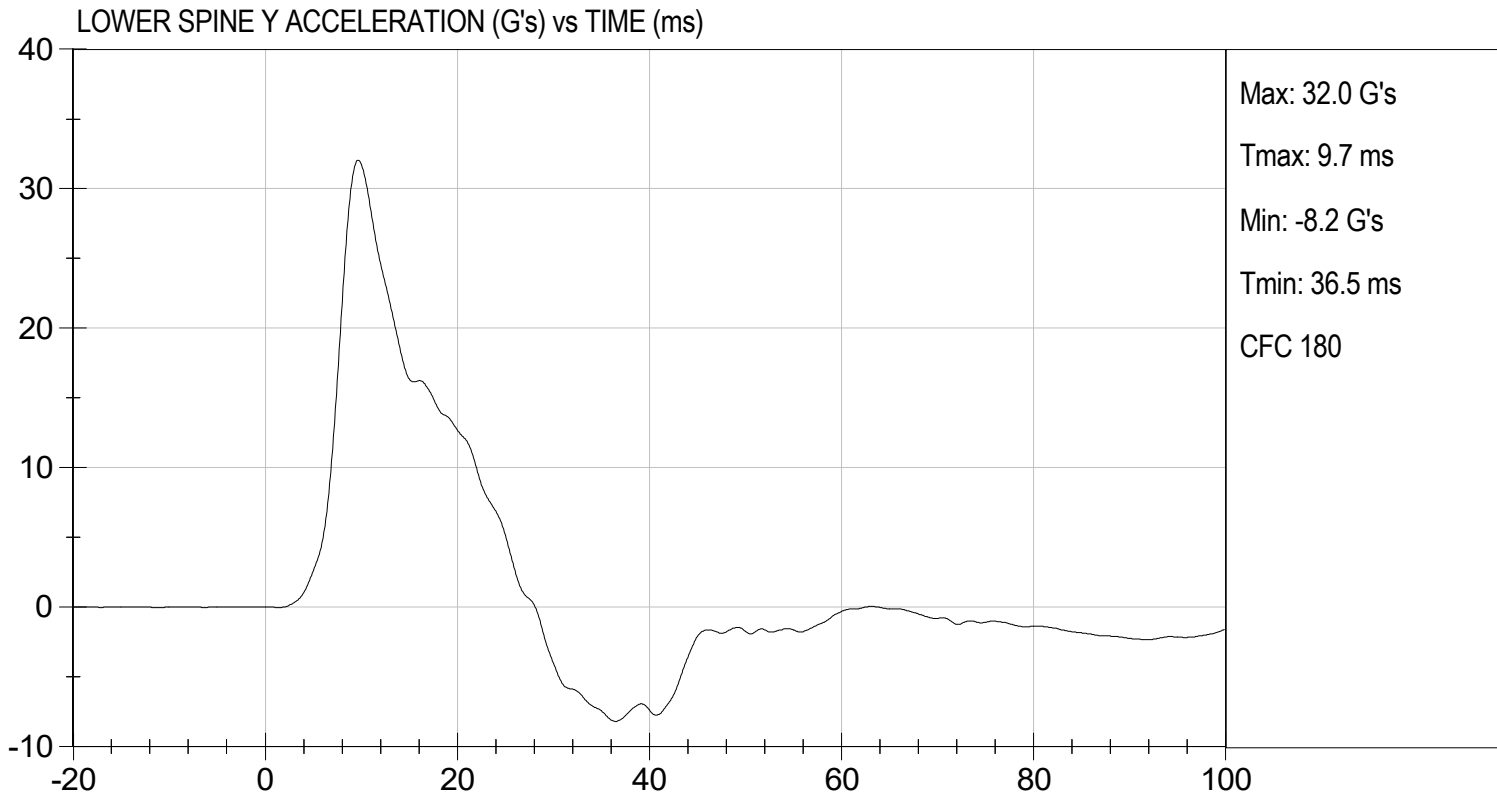


LOWER RIB DISPLACEMENT (mm) vs TIME (ms)



UPPER SPINE Y ACCELERATION (G's) vs TIME (ms)





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THORAX (WITHOUT ARM) IMPACT TEST
SID-Its BUILD LEVEL D DUMMY

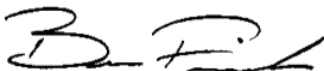
ATD Serial No: 306

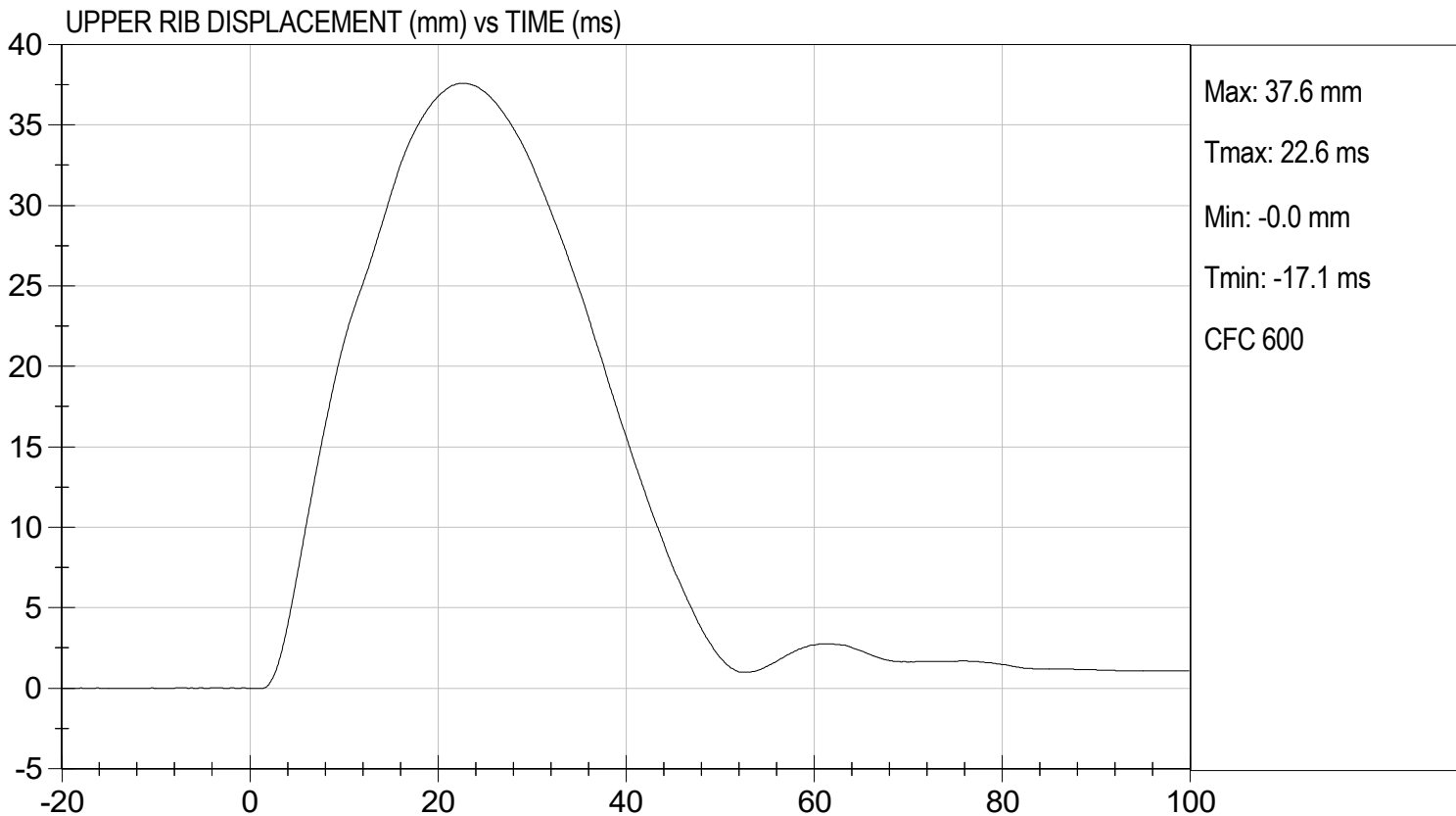
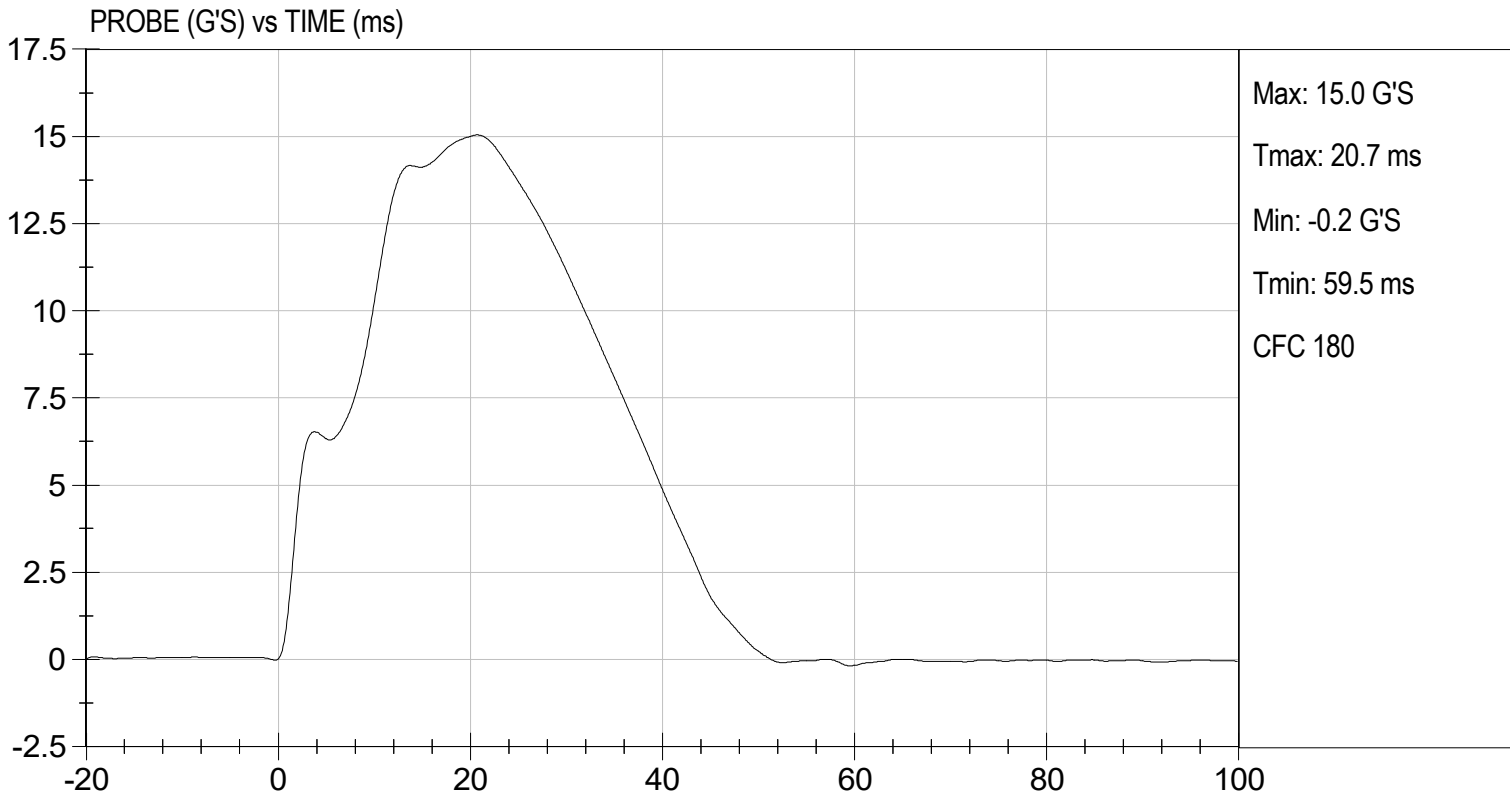
Test I.D: D241975

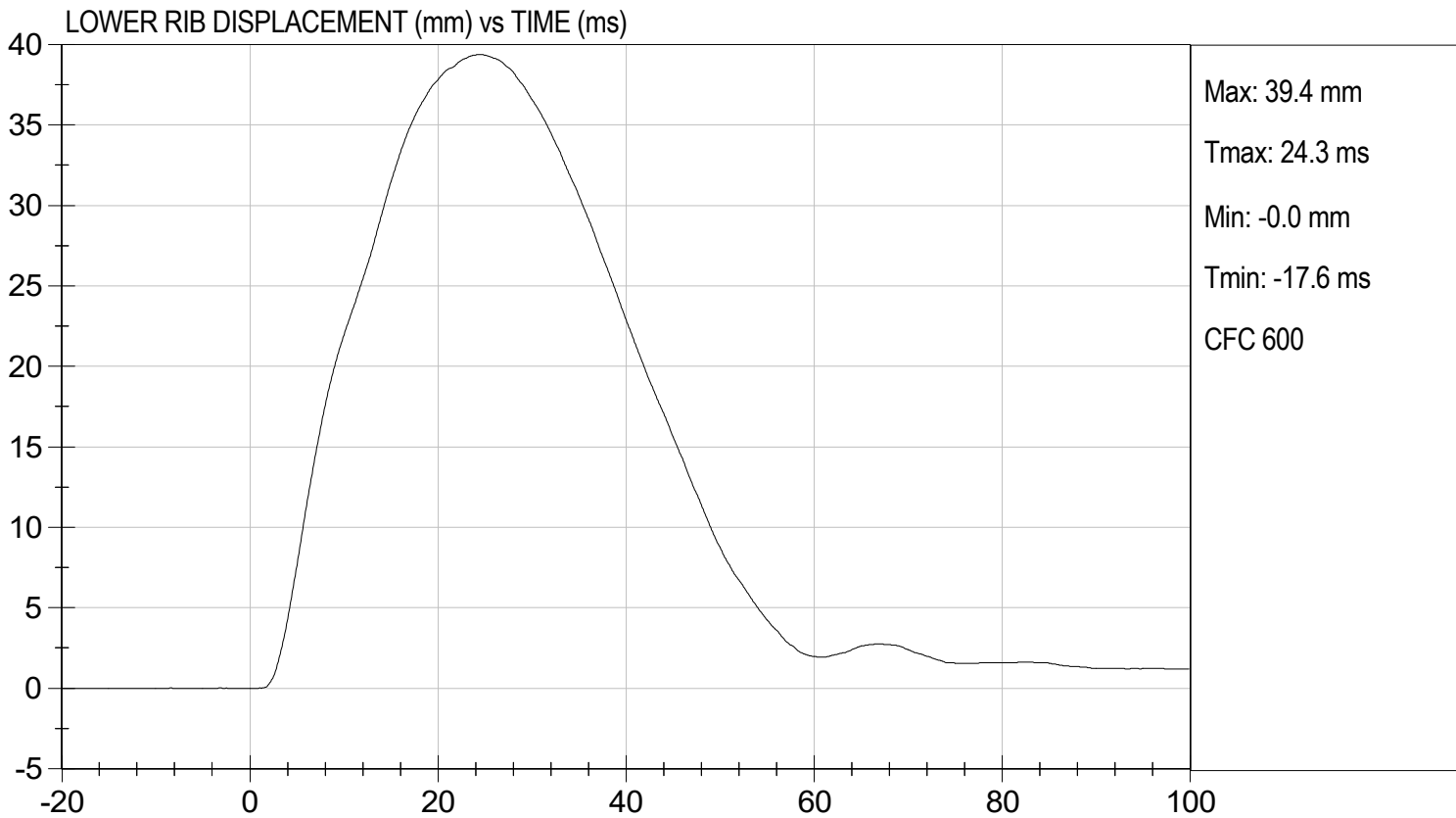
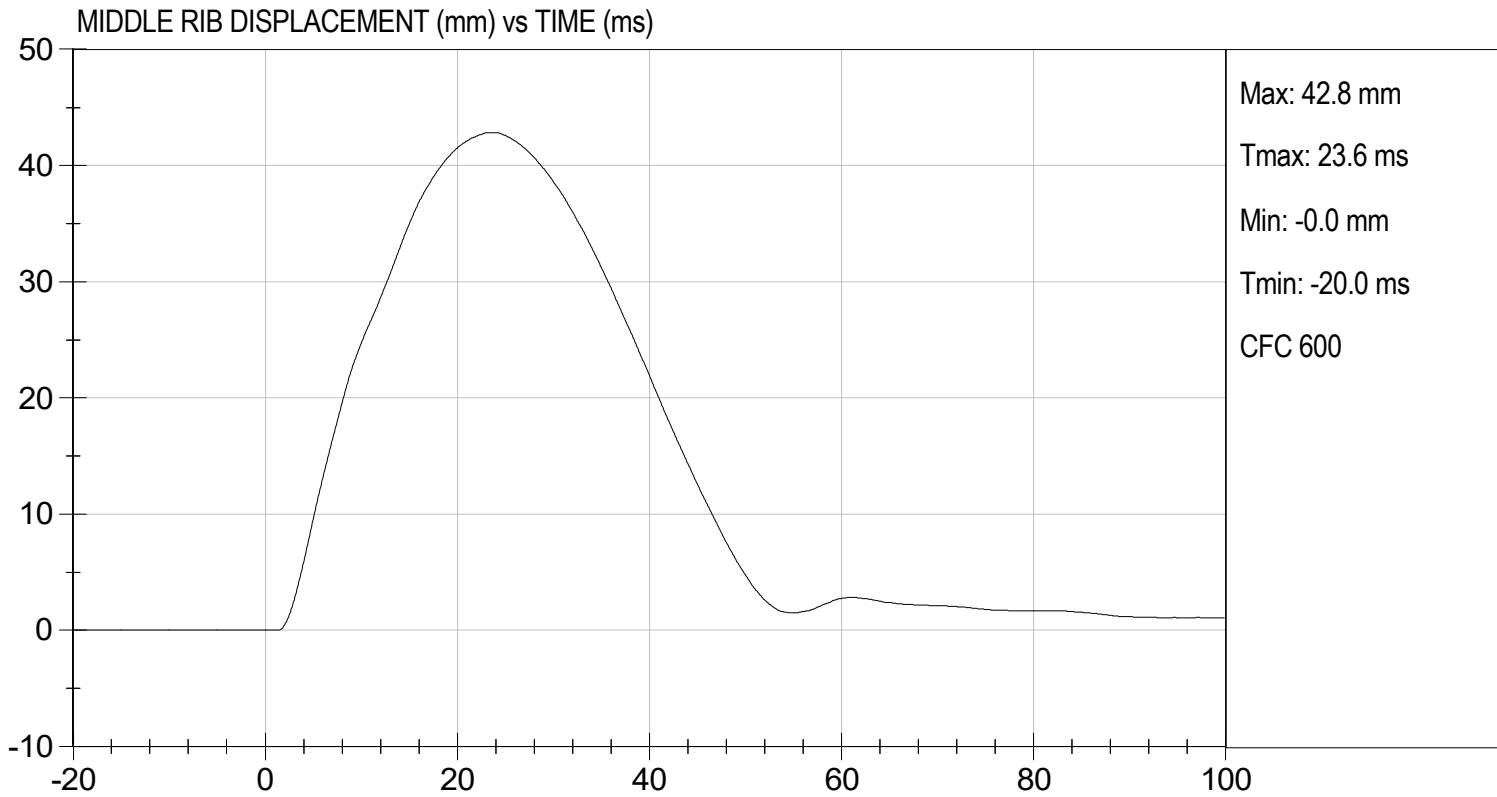
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	49	Pass
Impact Velocity	m/s	4.20 to 4.40	4.20	Pass
Maximum Probe Acceleration	G's	14 to 18	15	Pass
Upper Rib Displacement	mm	32 to 40	38	Pass
Middle Rib Displacement	mm	39 to 45	43	Pass
Lower Rib Displacement	mm	35 to 43	39	Pass
Upper Spine (T1) Y Acceleration	G's	13 to 17	14	Pass
Lower Spine (T12) Y Acceleration	G's	7 to 11	9	Pass
Overall Test Results				Pass

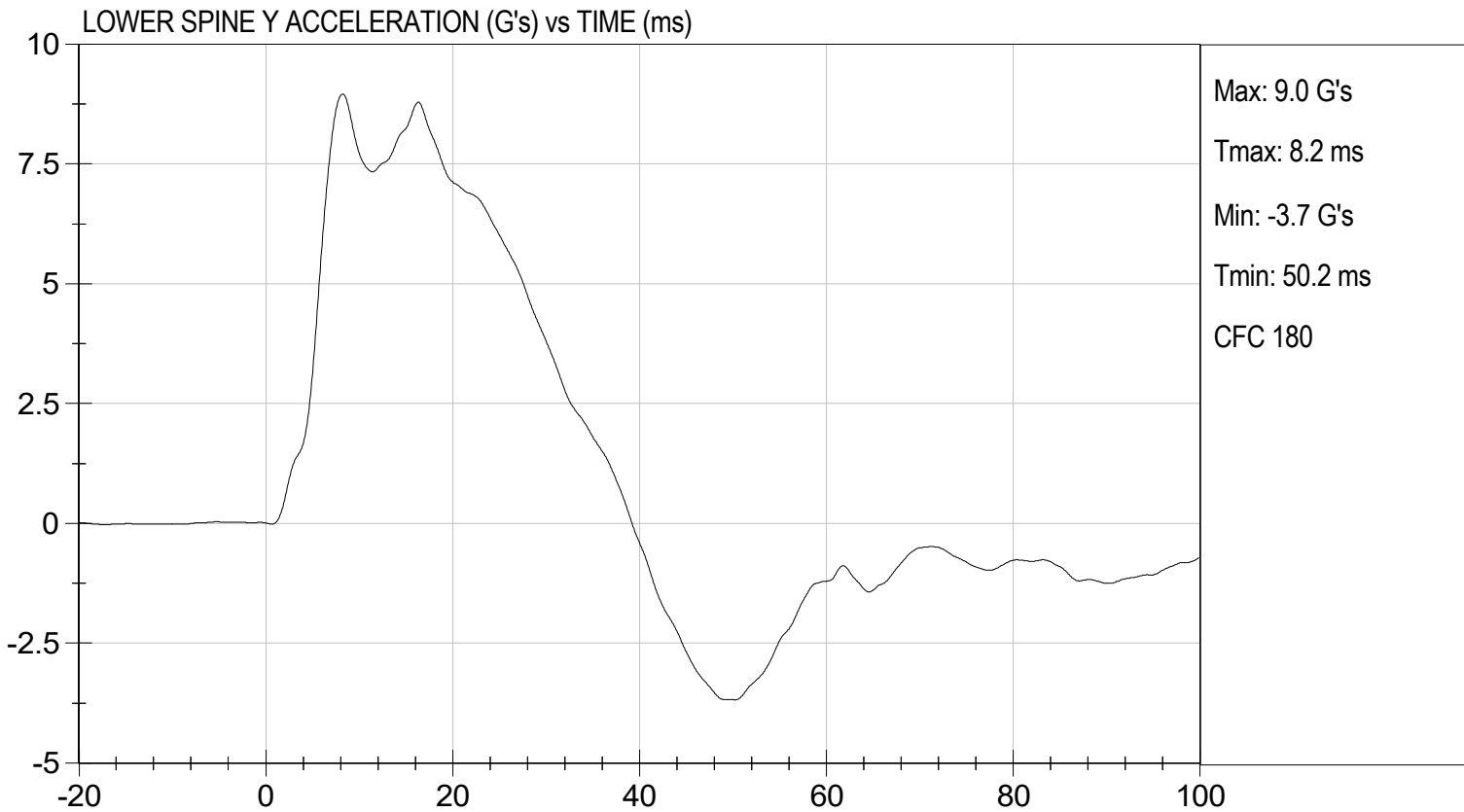
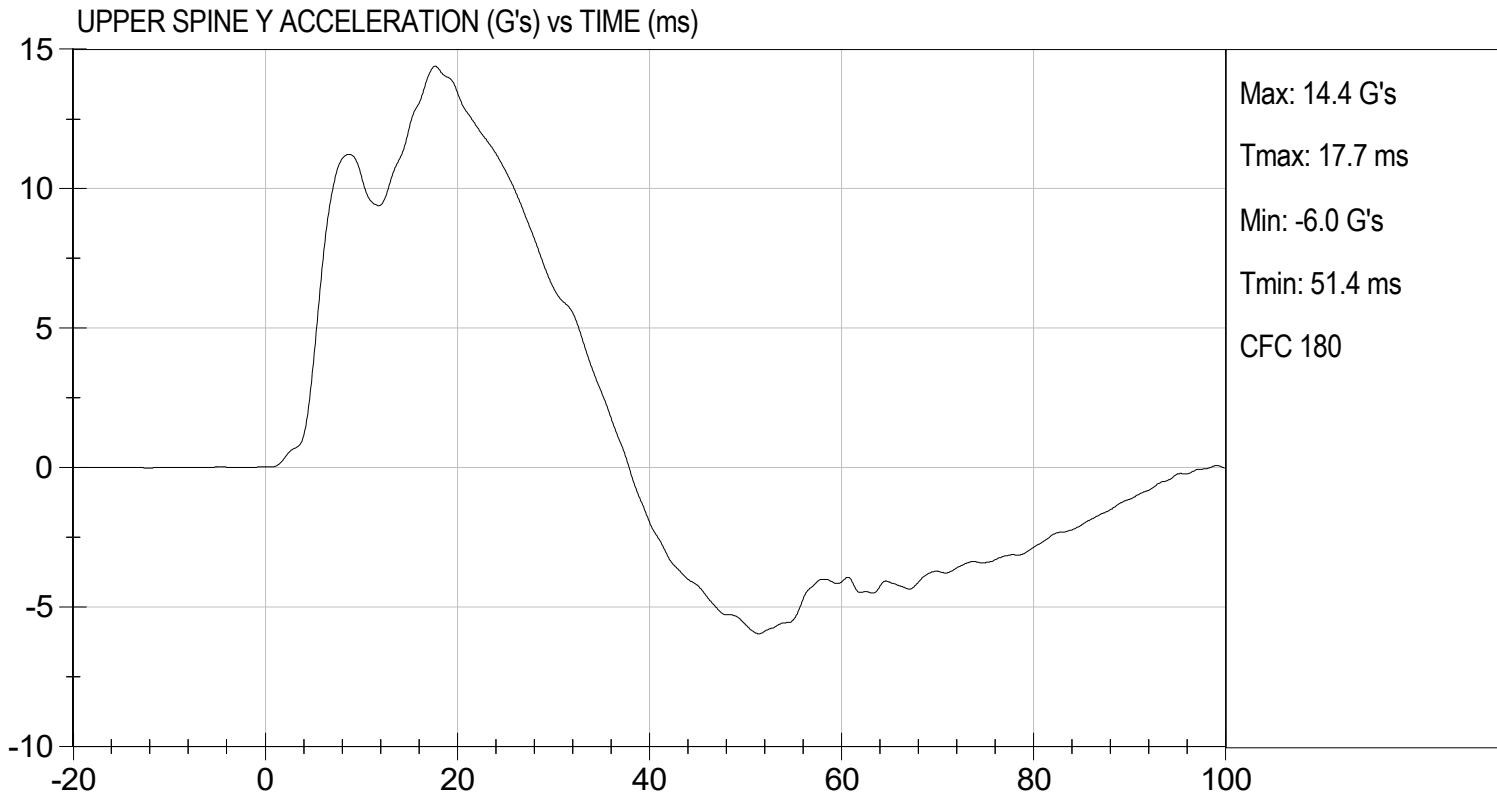

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08/02/2024
 Test Date


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MGA RESEARCH CORPORATION
ABDOMINAL IMPACT TEST
SID-IIs BUILD LEVEL D DUMMY

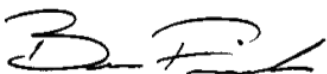
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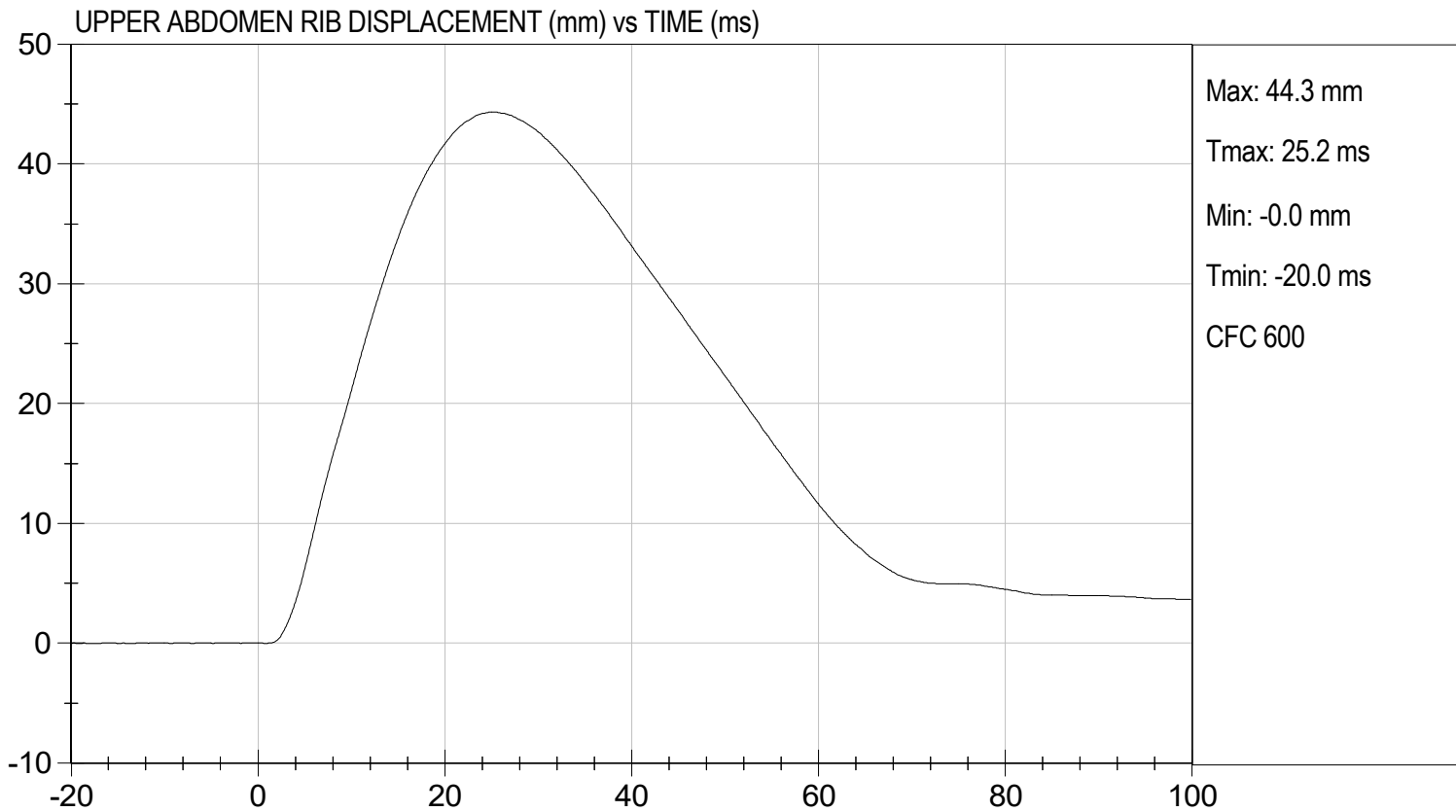
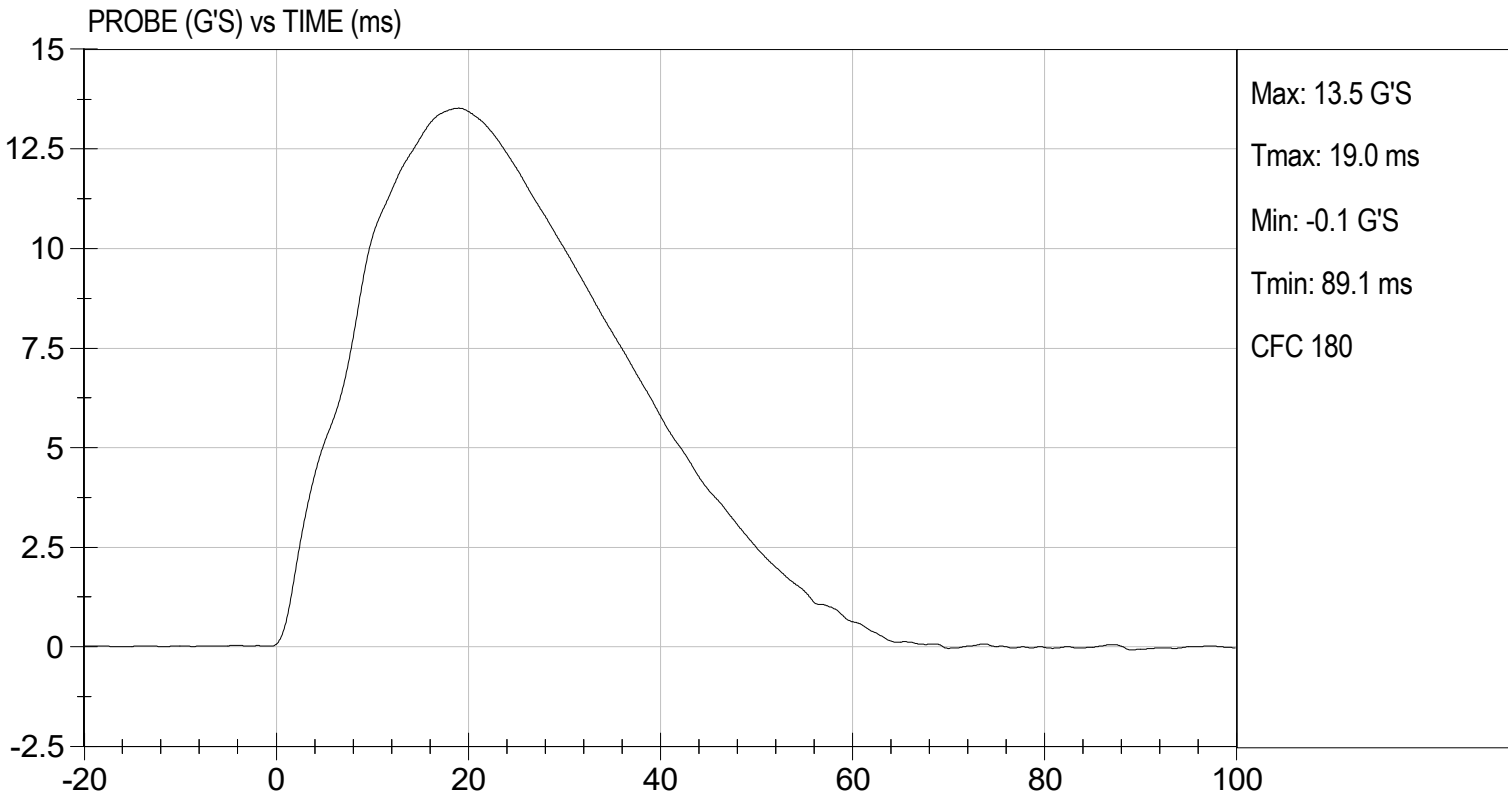
Test I.D: D241976

Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.4	Pass
Humidity	%	10 to 70	50	Pass
Impact Velocity	m/s	4.20 to 4.40	4.34	Pass
Maximum Probe Acceleration	G's	12 to 16	14	Pass
Upper Abdomen Rib Displacement	mm	36 to 47	44	Pass
Lower Abdomen Rib Displacement	mm	33 to 44	38	Pass
Lower Spine (T12) Y Acceleration	G's	9 to 14	11	Pass
Overall Test Results				Pass


 Laboratory Technician

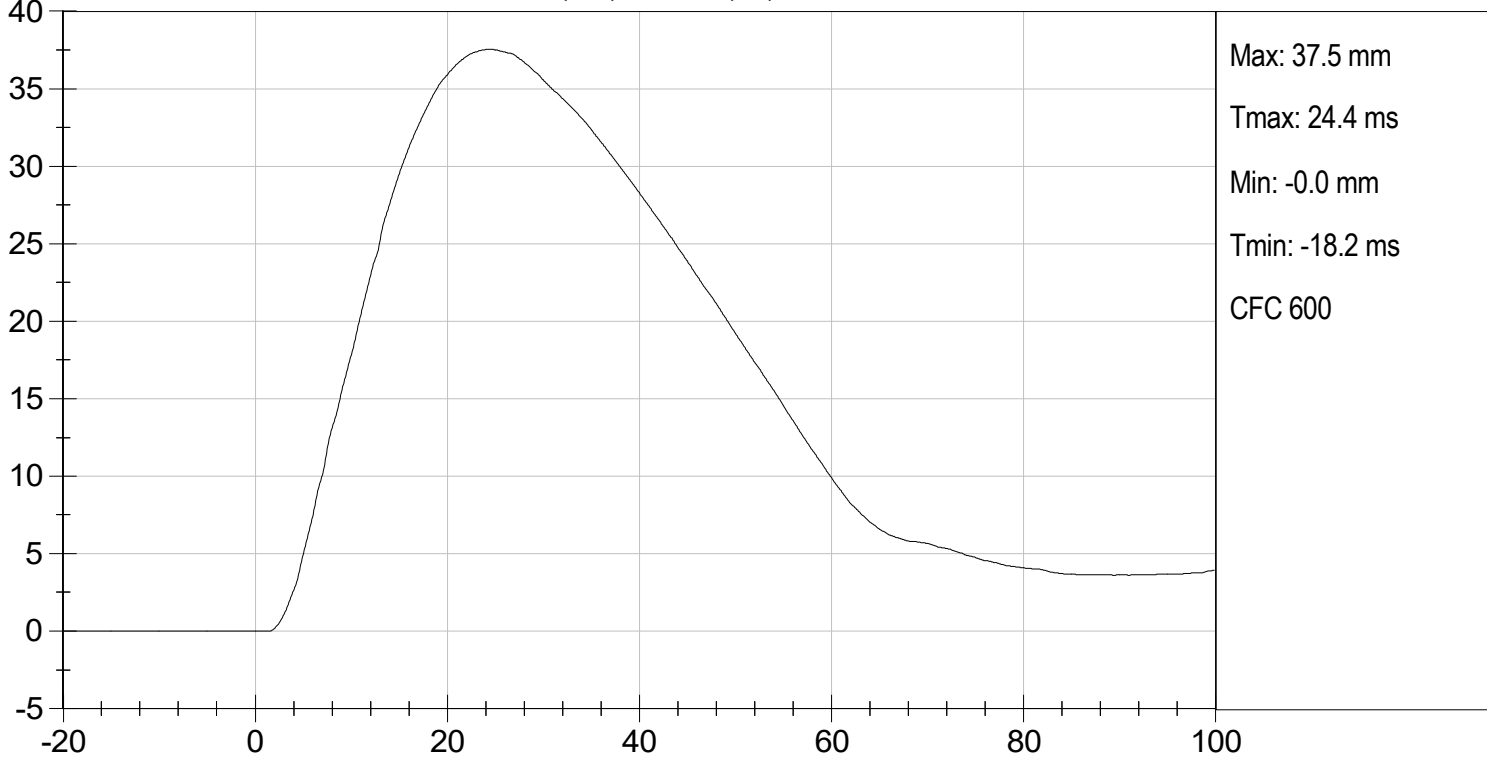
08/02/2024
 Test Date


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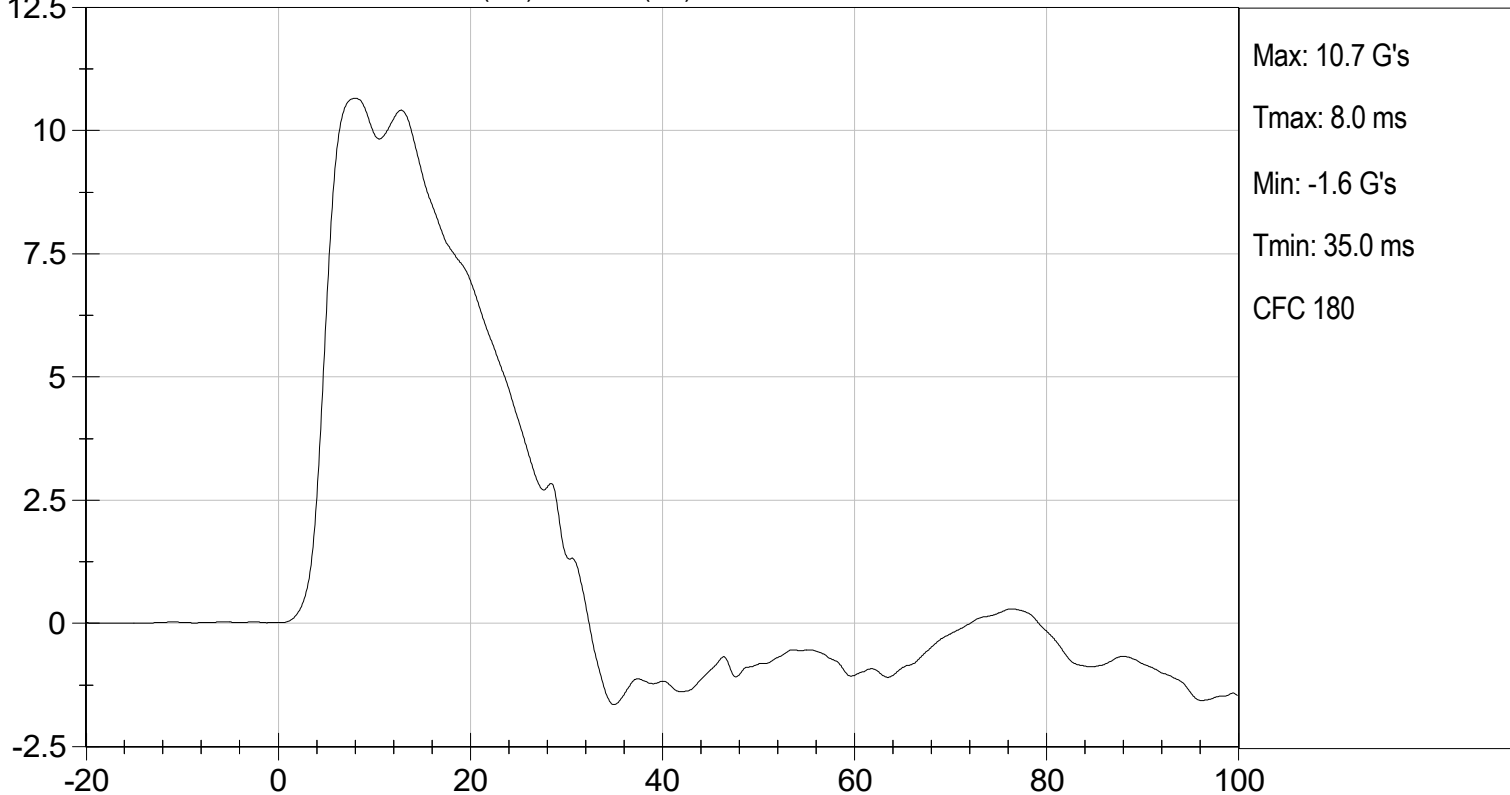




LOWER ABDOMEN RIB DISPLACEMENT (mm) vs TIME (ms)



LOWER SPINE ACCELERATION (G's) vs TIME (ms)



MGA RESEARCH CORPORATION
PELVIS IMPACT TEST
SID-Its BUILD LEVEL D DUMMY

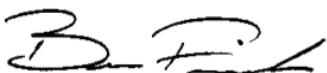
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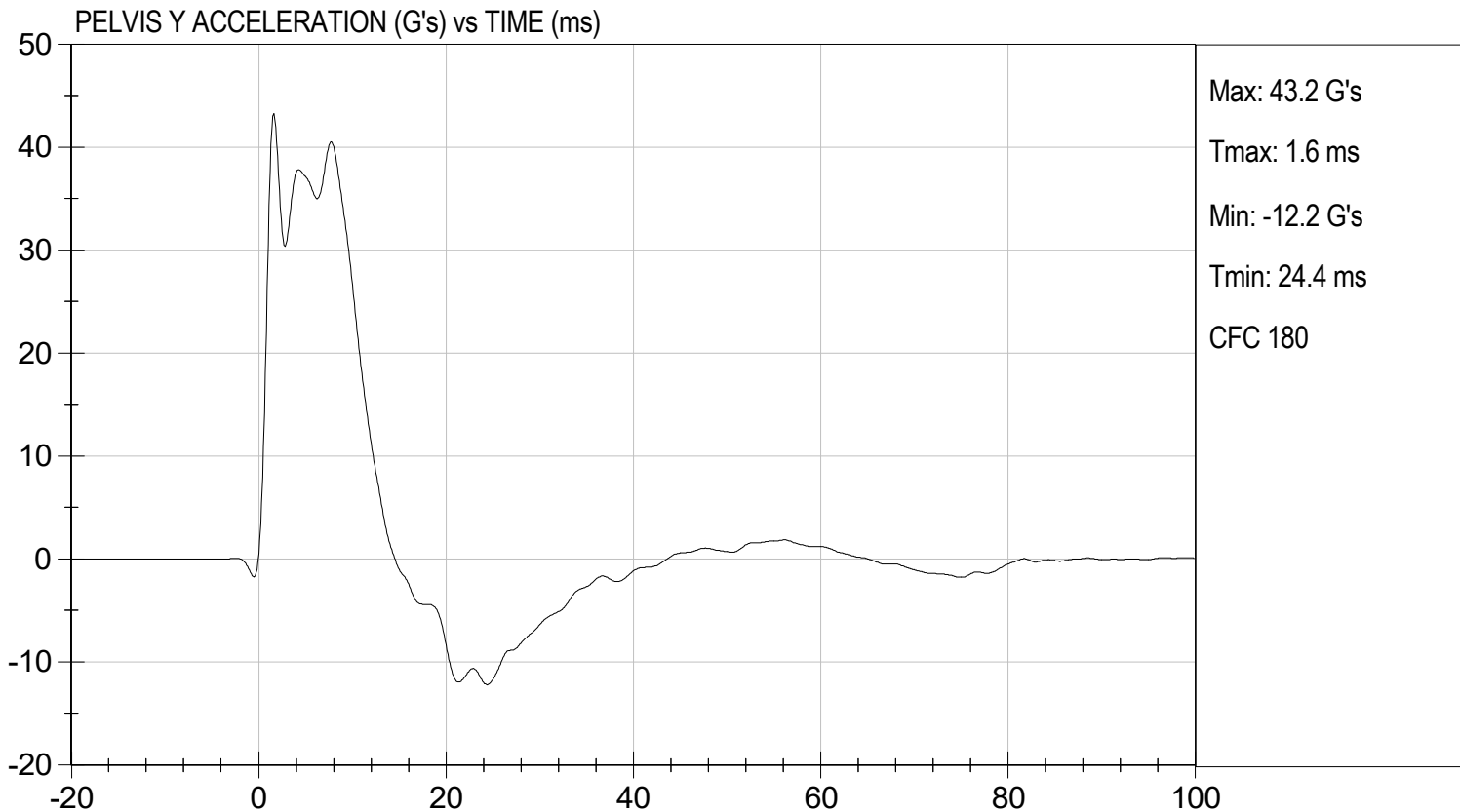
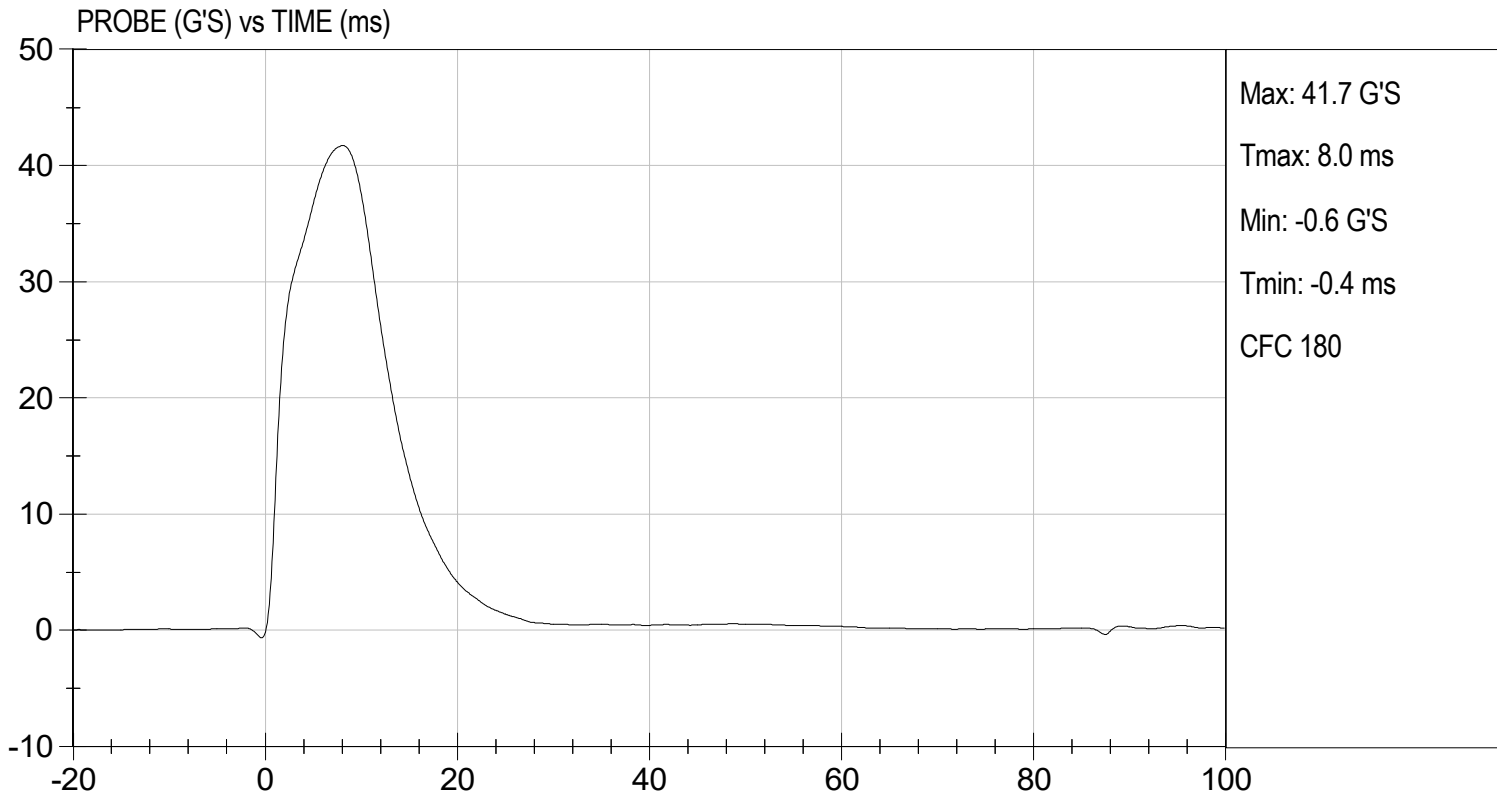
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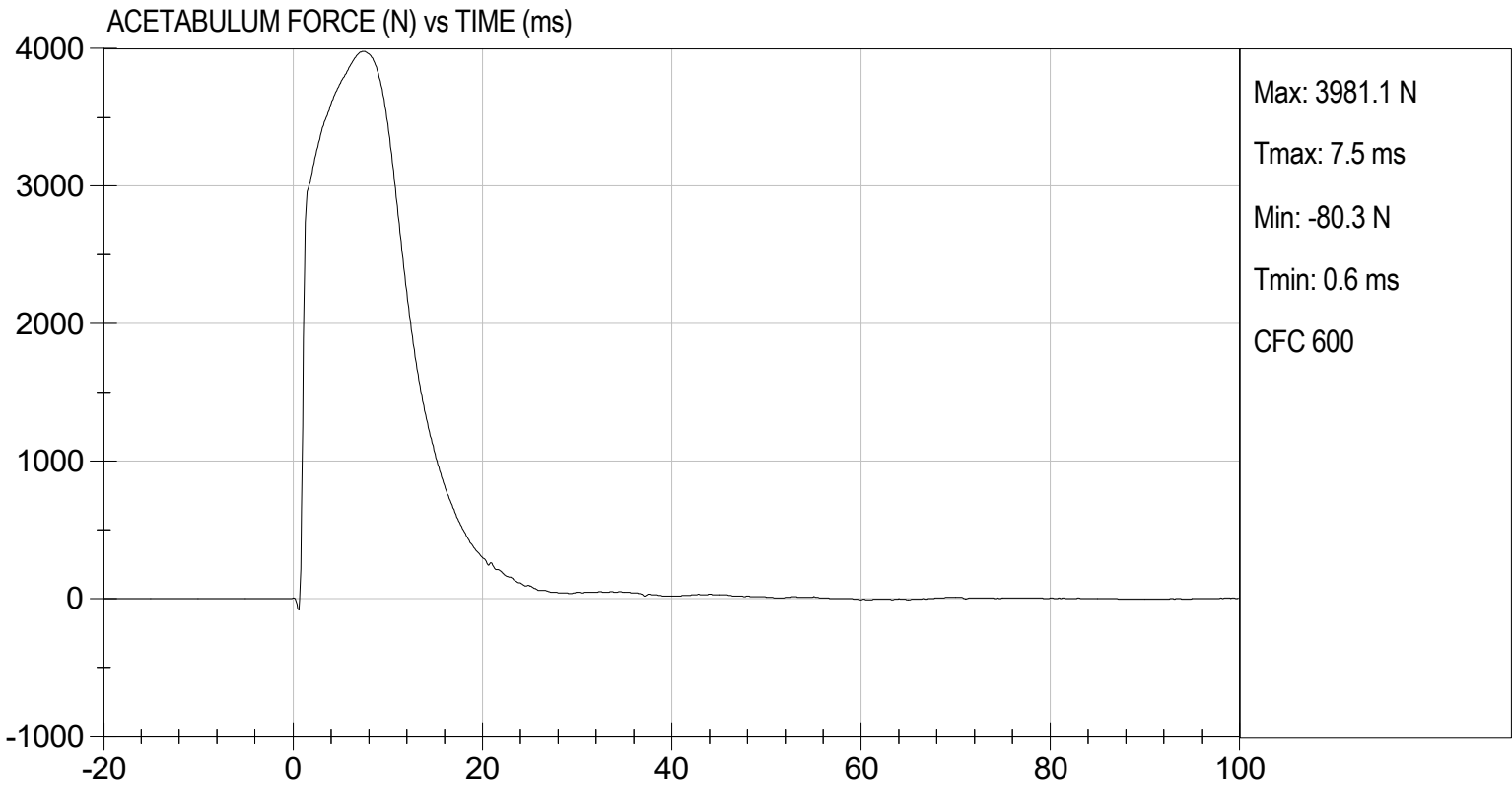
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.3	Pass
Humidity	%	10 to 70	47	Pass
Impact Velocity	m/s	6.60 to 6.80	6.68	Pass
Maximum Probe Acceleration	G's	38 to 47	42	Pass
Pelvis Y Acceleration After 6 ms	G's	34 to 42	40.5	Pass
Peak Acetabulum Force	N	3600 to 4300	3,981	Pass
Overall Test Results				Pass


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08/02/2024
 Test Date


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MGA RESEARCH CORPORATION
ILIAC IMPACT TEST
SID-ILs BUILD LEVEL D DUMMY

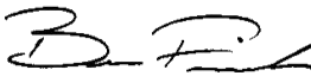
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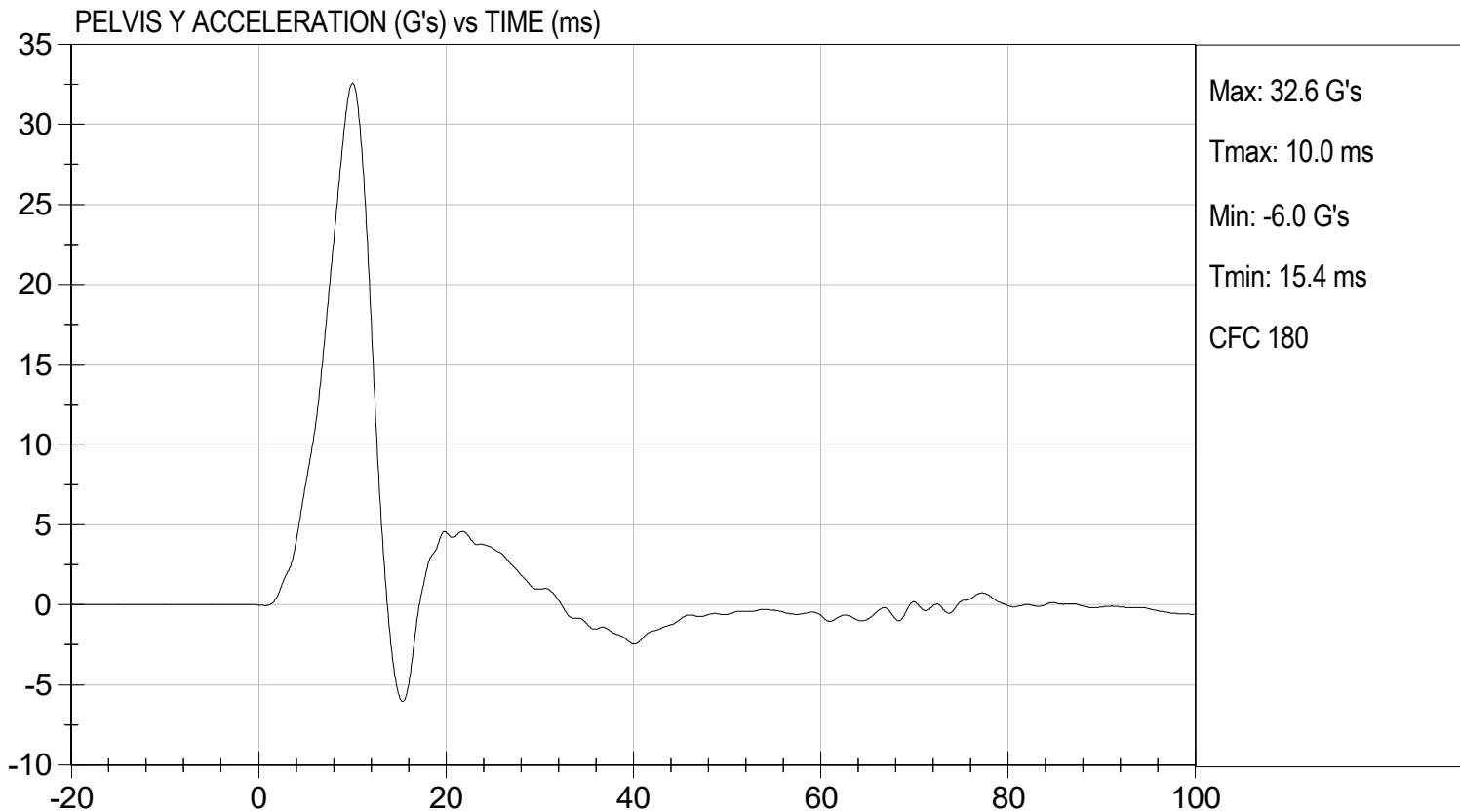
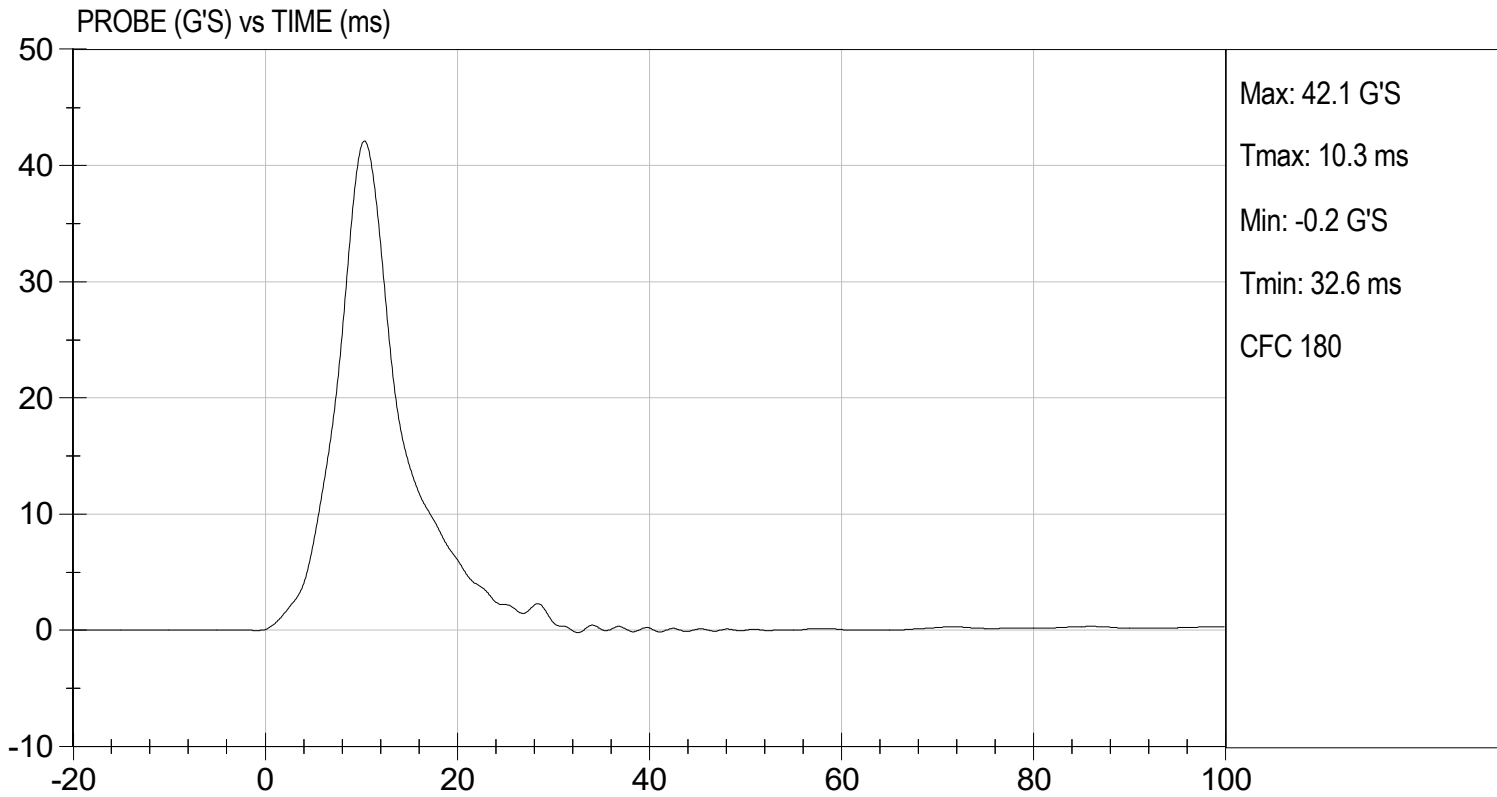
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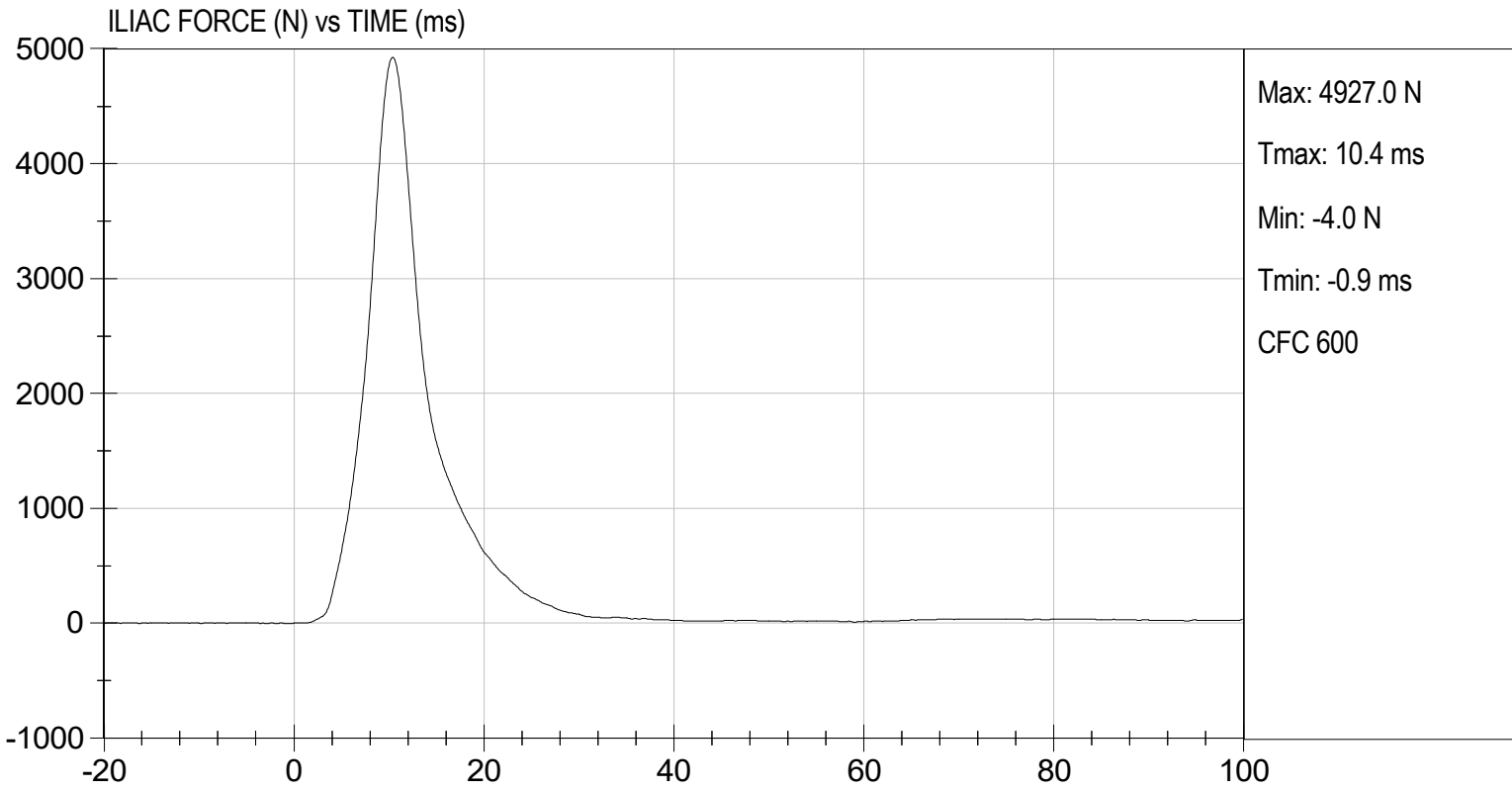
Tested Parameter	Units	Specification	Result	Pass/Fail
Temperature	deg C	20.6 to 22.2	21.2	Pass
Humidity	%	10 to 70	49	Pass
Impact Velocity	m/s	4.20 to 4.40	4.23	Pass
Maximum Probe Acceleration	G's	36 to 45	42	Pass
Pelvis Y Acceleration	G's	28 to 39	33	Pass
Peak Pelvis Iliac Force	N	4100 to 5100	4,927	Pass
Overall Test Results				Pass


 Laboratory Technician

08/02/2024
 Test Date


 Approved By







SID-IIs Pelvis Plug Certification Test

Plug S/N 16472

Test Number 23041

Report Number 23099

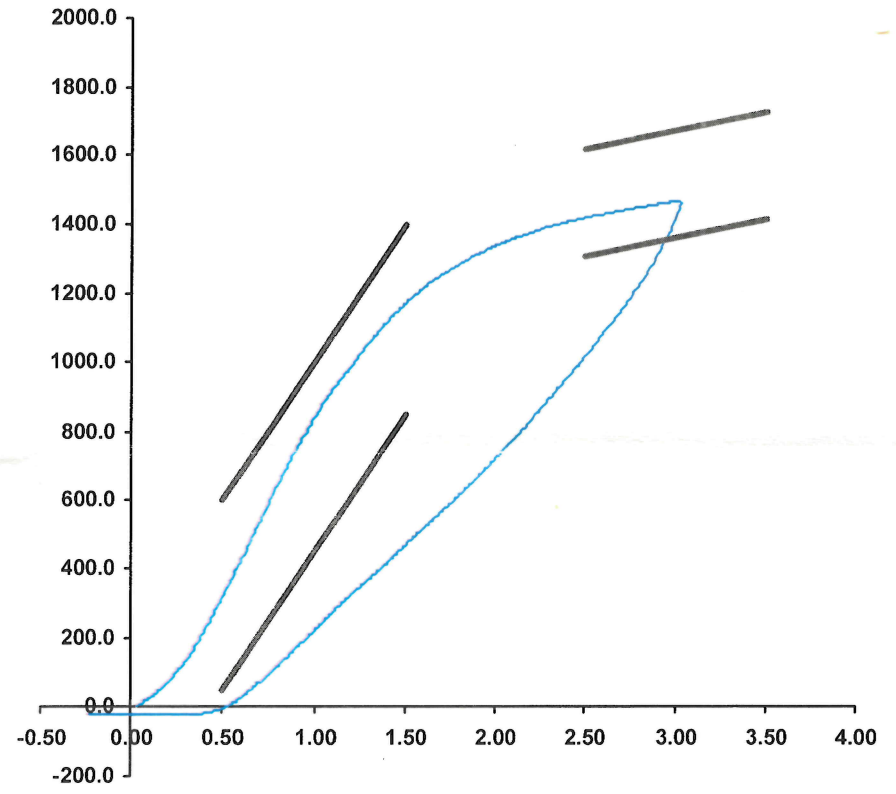
Test Date 5/23/2022 1:24:38 PM

	<u>Test Results</u>	<u>Spec Min</u>	<u>Spec Max</u>
Force @ 0.5 mm (N)	325	50	600
Force @ 1.5 mm (N)	1,170	850	1,400
Force @ 2.5 mm (N)	1,421	1,306	1,618
Force @ 3.0 mm (N)	1,469	1,361	1,673

Testing Machine STM-20 5965542
 Load Cell S/N (FI360947), Units (LBS) 1000
 Crosshead Speed (mm / min) or Rate 12.7
 Extension or Position Measured by XHD_100 (XHD100)

Notes:

Force (-N) vs Extension (-mm)



Operator

Part Number 180-4450

Template No 107

23-May-22

SACO Research

By : DC Date : 5/23/2022



SID-IIs Pelvis Plug Certification Test

Plug S/N 16434

Test Number 23003

Report Number 23061

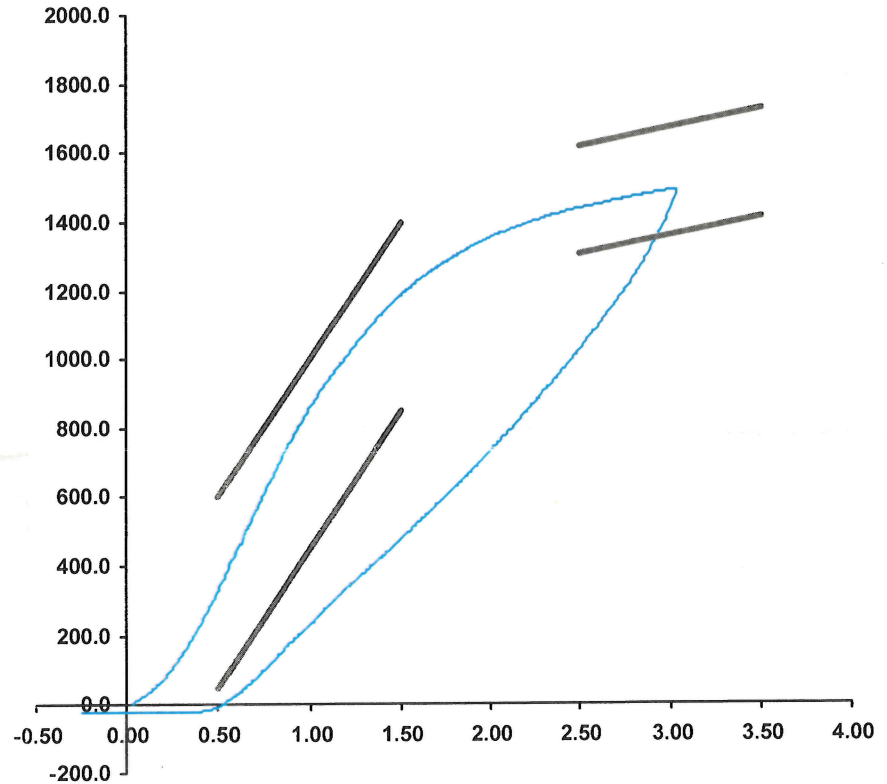
Test Date 5/23/2022 11:24:07 AM

	<u>Test Results</u>	<u>Spec Min</u>	<u>Spec Max</u>
Force @ 0.5 mm (N)	333	50	600
Force @ 1.5 mm (N)	1,188	850	1,400
Force @ 2.5 mm (N)	1,441	1,306	1,618
Force @ 3.0 mm (N)	1,492	1,361	1,673

Testing Machine STM-20 5965542
 Load Cell S/N (FI360947), Units (LBS) 1000
 Crosshead Speed (mm / min) or Rate 12.7
 Extension or Position Measured by XHD_100 (XHD100)

Notes:

Force (-N) vs Extension (-mm)



Operator

Part Number 180-4450

Template No 107

23-May-22

SACO Research

By :

DC

Date :

5/23/2022

APPENDIX D
TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION

Table 1 – Dummy Instrumentation

			SID-IIs S/N 306			
			Serial Number	Manufacturer	Calibration Date	
Head CG Accelerometers			X	P79003	Endevco	06/10/2024
			Y	P79445	Endevco	06/10/2024
			Z	P79724	Endevco	06/10/2024
			Xr	P84999	Endevco	06/10/2024
			Yr	P85000	Endevco	06/10/2024
			Zr	P85001	Endevco	06/10/2024
Head Angular Rate Sensors			X	ARS7442	DTS	11/17/2023
			Y	ARS7475	DTS	11/17/2023
			Z	ARS7516	DTS	11/17/2023
Displacement Potentiometers	Thoracic Rib	Upper	Y	G033	FTSS	06/10/2024
		Middle	Y	G2403	Servo	06/10/2024
		Lower	Y	G1270	FTSS	06/10/2024
	Abdominal Rib	Upper	Y	G032	FTSS	06/10/2024
		Lower	Y	MJ5171	Medius	06/10/2024
Lower Spine Accelerometers (T12)			X	P96332	Endevco	06/10/2024
			Y	P96335	Endevco	06/10/2024
			Z	P96341	Endevco	06/10/2024
Acetabulum Load Cell			Y	ACG259	Denton	08/17/2023
Iliac Wing Load Cell			Y	IWG286	Denton	08/17/2023
Pelvis Plug (struck side)				16472	SACO	05/23/2022
Pelvis Plug (non-struck side)				16434	SACO	05/23/2022

Table 2 – Vehicle Instrumentation

		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	T39236	Endevco	07/30/2024
Vehicle Center of Gravity	Y	T39069	Endevco	06/21/2024
Vehicle Center of Gravity	Z	A391147	MSI	05/28/2024
Left Floor Sill	Y	T42843	Endevco	06/26/2024
A-Pillar Sill	Y	T40103	Endevco	06/25/2024
A-Pillar Low	Y	T41125	Endevco	05/07/2024
A-Pillar Mid	Y	T33470	Endevco	03/04/2024
B-Pillar Sill	Y	T39093	Endevco	07/01/2024
B-Pillar Low	Y			
B-Pillar Mid	Y			
Driver Seat	Y	T37936	Endevco	06/04/2024
Engine Top	X	T39233	Endevco	07/19/2024
Engine Top	Y	T39938	Endevco	07/19/2024
Firewall	Y	T42826	Endevco	06/14/2024
Right Roof	Y	A391141	MSI	03/22/2024
Right Floor Sill	Y	T37949	Endevco	07/01/2024
Rear Floorpan	X	T39091	Endevco	06/21/2024
Rear Floorpan	Y	T39228	Endevco	06/21/2024

Table 3 – Pole Instrumentation

	Serial Number	Manufacturer	Calibration Date
Load Cell 1	DG6277	FTSS	07/30/2018
Load Cell 2	DG6278	FTSS	07/30/2018
Load Cell 3	DG6279	FTSS	07/30/2018
Load Cell 4	DG6280	FTSS	07/30/2018
Load Cell 5	DG6281	FTSS	07/30/2018
Load Cell 6	DG6283	FTSS	07/30/2018
Load Cell 7	DG6284	FTSS	07/30/2018
Load Cell 8	DG6582	FTSS	07/30/2018