REPORT NUMBER: SINCAP-CAL-25-007

NEW CAR ASSESSMENT PROGRAM (NCAP)
MOVING DEFORMABLE BARRIER SIDE IMPACT TEST

KIA Georgia, INC.
2025 KIA EV6
5 Door SUV

NHTSA No: O20254201

PREPARED BY:
CALSPAN CORPORATION
P.O. BOX 400
BUFFALO, NEW YORK 14225

June 5, 2026

FINAL REPORT

PREPARED FOR:
U. S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NRM-110
1200 NEW JERSEY AVE SE
WASHINGTON, D.C. 20590

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number 693JJ920D000016.

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Date: June 5, 2026

Approved by: Vanessa Hansen
Vanessa Hansen, Operations Manager
Date: June 5, 2026

FINAL REPORT ACCEPTANCE BY OCWS:

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

Date: _____

_____
COTR, New Car Assessment Program
NHTSA, Office of Crashworthiness Standards

Date: _____

TECHNICAL REPORT DOCUMENTATION PAGE

1. *Report No.*	*2. Government Accession No.*	*3. Recipient's Catalog No.*
SINCAP-CAL-25-007		

4. Title and Subtitle	*5. Report Date*
Final Report of New Car Assessment Program Side Impact MDB Testing & FMVSS 305 Indicant Testing of a 2025 KIA EV6 5 Door SUV NHTSA No.: O20254201	June 5, 2026
	6. Performing Organization Code CAL
7. Author(s) Alexander Rudniski, Test Engineer Vanessa Hansen, Operations Manager	*8. Performing Organization Report No.* CAL-DOT-2025-007
9. Performing Organization Name and Address Calspan Corporation Transportation Test Operations P.O. Box 400 Buffalo, New York 14225	*10. Work Unit No.*
	11. Contract or Grant No. 693JJ920D000016
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Crashworthiness Standards (NRM-110) 1200 New Jersey Ave., SE Washington, D.C. 20590	*13. Type of Report and Period Covered:* Final Test Report August 11, 2025 - June 5, 2026
	14. Sponsoring Agency Code NRM-110

15. Supplementary Notes

16. Abstract

A 55/28, (61.90kph / 38.5 mph), 90° Moving Deformable Barrier NCAP Side Impact Test was conducted on the subject 2025 KIA EV6 5 Door SUV in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at Calspan Corporation's Transportation Test Operations facility in Buffalo, New York on August 11, 2025.

The impact velocity of the Moving Deformable Barrier (MDB) was 62.02 km/h, and the ambient temperature at the struck (driver's) side of the target vehicle was 21°C. The target vehicle's maximum post-test static crush was 212 mm located at level 3. The test vehicle's occupant performance data is as follows:

Measurement Description	Driver ATD (ES-2re)		
	Units	IARV	Result
Head Injury Criteria (HIC36)		1000	50.708
Maximum Thorax Rib Deflection	mm	44	17.640
Total Abdominal Force	N	2500	524.605
Pubic Symphysis Force	N	6000	1219.378
Lower Spine (T12) Resultant Acceleration	G	82*	23.475

Measurement Description	Passenger ATD (SID-IIs)		
	Units	IARV	Result
Head Injury Criteria (HIC36)		1000	77.720
Maximum Thorax Rib Deflection	mm	38*	9.815
Lower Spine (T12) Resultant Acceleration	G	82	36.574
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1105.025
Maximum Abdominal Rib Deflection	mm	45*	7.676

**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 doors did not open during the side impact event.

17. Key Words	*18. Distribution Statement*
New Car Assessment Program (NCAP) Side Impact MDB ES-2re SID-IIs	Copies of this report are available from: National Highway Traffic Safety Administration Technical Information Services Division, NPO-411 1200 New Jersey Ave. SE Washington, D.C. 20590

19. Security Class. (of this report)	*20. Security Class. (of this page)*	*21. No. of Pages*	*22. Price*
UNCLASSIFIED	UNCLASSIFIED	222	

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SECTION 1

TEST PURPOSE AND PROCEDURE

This moving deformable barrier side impact test is part of the MY 2025 New Car Assessment Program Side Impact Test Program, sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract number 693JJ920D000016. The purpose of this test is to generate comparative side impact performance in a 2025 KIA EV6 5 Door SUV. The side impact test was conducted in accordance with the Office of Crashworthiness Standard's Laboratory Test Procedure dated March 2020.

SECTION 2

SUMMARY OF TEST RESULTS

A 2025 KIA EV6 5 Door SUV was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 62.02 km/h. The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Calspan Corporation's Transportation Test Operations Center in Buffalo, New York on August 11, 2025. Pre-test and post-test photographs of the test vehicle, the MDB and the dummies (ES-2re and SID-IIs) are included in this report.

Dummies were placed in the driver and left rear designated seating positions according to instructions specified in the OCWS Side Impact Laboratory Test Procedure, dated March 2020. The side impact event was documented by 9 high-speed and 2 real-time cameras. Camera locations are included in this report.

The Dummies were instrumented in the following manner:

DRIVER ATD (ES-2re)
Primary and redundant head CG tri-axial accelerometers
Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers
Abdomen forward, middle, and rear y-axis load cells
Lower spine (T12) tri-axial accelerometers
Pubic symphysis y-axis load cell

PASSENGER ATD (SID-IIs)
Primary and redundant head CG tri-axial accelerometers
Chest upper rib, middle rib, and lower rib y-axis displacement potentiometers
Abdomen upper rib and lower rib y-axis displacement potentiometers
Lower spine (T12) tri-axial accelerometers
Acetabulum and iliac wing y-axis load cells

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 of this report contains the test equipment and instrumentation calibration data.

DUMMY INJURY VALUES

Measurement Description	Driver ATD (ES-2re)		
	Units	IARV	Result
Head Injury Criteria (HIC36)		1000	50.708
Maximum Thorax Rib Deflection	mm	44	17.640
Total Abdominal Force	N	2500	524.605
Pubic Symphysis Force	N	6000	1219.378
Lower Spine (T12) Resultant Acceleration	G	82*	23.475

Measurement Description	Passenger ATD (SID-IIs)		
	Units	IARV	Result
Head Injury Criteria (HIC36)		1000	77.720
Maximum Thorax Rib Deflection	mm	38*	9.815
Lower Spine (T12) Resultant Acceleration	G	82	36.574
Total Pelvic Force (sum of acetabular and iliac forces)	N	5525	1105.025
Maximum Abdominal Rib Deflection	mm	45*	7.676

*Proposed IARV

SUPPLEMENTAL RESTRAINT INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 1		Left Rear (Passenger) Occupant Location 4	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Airbag 1 - Curtain	Yes	Yes	Yes	Yes
Side Airbag 2 - Torso/Pelvis Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other				

GENERAL COMMENTS:

1. P1 serial number – F033
2. P4 serial number – DG8012

Data Anomalies:

The following channel was questionable for:

- No Questionable Channels

SECTION 3

OCCUPANT AND VEHICLE INFORMATION

This section contains information reporting for the following Data Sheets:

Data Sheet No. 1 - General Test and Vehicle Parameter Data

Data Sheet No. 2 - Seat, Seat Belt, Steering Wheel Adjustment and Fuel Systems Data

Data Sheet No. 3 - Dummy Longitudinal Clearance Dimensions

Data Sheet No. 4 - Dummy Lateral Clearance Dimensions

Data Sheet No. 5 - Camera and Instrumentation Data

Data Sheet No. 6 - Test Vehicle Accelerometer Locations

Data Sheet No. 7- MDB Accelerometer Locations

Data Sheet No. 8 - Post-Test Observations

Data Sheet No. 9 - MDB Summary of Results

Data Sheet No. 10 - Test Vehicle Profile Measurements

Data Sheet No. 11 - Test Vehicle Exterior Crush Measurements

Data Sheet No. 12 - MDB Exterior Static Crush Measurements

Data Sheet No. 13 - Vehicle and MDB Damage Profile Distances

Data Sheet No. 14 - FMVSS No. 301 Static Rollover Results

Data Sheet No. 15 - Dummy / Vehicle Temperature and Humidity Stabilization Data

Data Sheet No. 305-1 - General Test and Parameter Data for Indicant FMVSS No. 305 Testing

Data Sheet No. 305-2 - Pre-Impact Data for Indicant FMVSS No. 305 Testing

Data Sheet No. 305-3 - Pre-Impact Electrical Isolation Measurements and Calculations for Indicant FMVSS No. 305 Testing

Data Sheet No. 305-4 - Post-Impact Data for Indicant FMVSS No. 305 Testing

Data Sheet No. 305-5 - Static Rollover Test Data for Indicant FMVSS No. 305 Testing

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2025 KIA EV6 5 Door SUV
NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test
Test Date: 08/11/2025

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	O20254201
Model Year	2025
Make	KIA
Model	EV6
Body Style	SUV
VIN	5XYC34JA7SG004112
Body Color	Wolf Gray
Odometer Reading (km/mi)	104 mi
Engine Displacement (L)	N/A
Type / No. Cylinders	N/A
Engine Placement	Electric Vehicle
Transmission Type	Automatic
Transmission Speeds	Direct Drive
Overdrive	Yes
Final Drive	Rear Wheel Drive
Roof Rack	No
Sunroof / T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	Yes
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks (ADL)	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	N/A
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso / Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	Yes
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head / Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso / Pelvis Airbag	Yes
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	Yes
Driver Load Limiter	Yes
Rear Pass. Load Limiter	Yes
Other Safety Restraint	N/A

Does owner's manual provide instructions to turn off automatic door locks? No

DATA FROM CERTIFICATION LABEL

Manufactured By	KIA Georgia, INC.
Date of Manufacture	APR/07/25
Vehicle Type	MPV

GVWR (KG)	2475
GAWR Front (KG)	1280
GAWR Rear (KG)	1440

VEHICLE SEATING AND WEIGHT CAPACITY DATA

Measured Parameter	Front	Rear	Third	Total	
Designated Seating Capacity (DSC)	2	3	N/A	5	
Vehicle Capacity Weight (VCW) (kg)				375	(A)
DSC x 68.0 kg				340	(B)
Cargo Weight (RCLW) (kg)				35	(A-B)

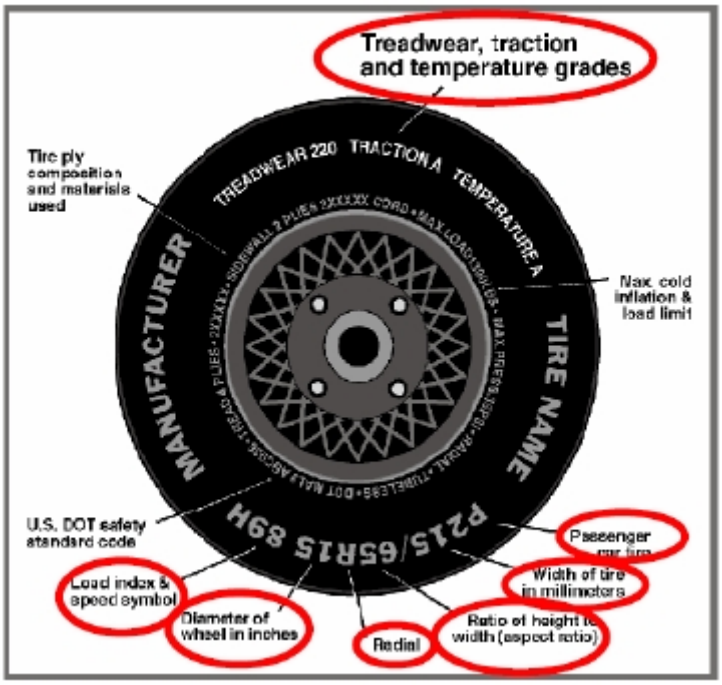
VEHICLE SEAT TYPE

Seating Location	Type Of Seat Pan				Type Of Seat Back		
	Bucket	Bench	Split Bench	Contour	Fixed	Adjustable	
						W/ Lever	W/ Knob
Front	X						X
Rear or Second Row Seat			X			X	
Third Row Seat	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

Collected for year, make, model, & VIN, all items circled in red, tire manufacturer and tire name



VEHICLE TIRE INFORMATION

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold Pressure (kPa)	250	250
Recommended Tire Size	235/55R19	235/55R19
Tire Size on Vehicle	235/55R19	235/55R19
Tire Manufacturer	NEXEN	NEXEN
Tire Model	NFera Supreme S	NFera Supreme S
Treadwear	560	560
Traction	A	A
Temperature Grades	A	A
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	101H	101H
Tire Material	Rubber	Rubber
DOT Safety Code Left	1UAL3JKKH5024	1UAL3JKKH5124
DOT Safety Code Right	1UAL3JKKH5024	1UAL3JKKH5124

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

Test Vehicle: 2025 KIA EV6 5 Door SUV | NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test | Test Date: 08/11/2025

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	225	225	227	227
Tire Placard	kPa	250	250	250	250
Owner's Manual	kPa	250	250	250	250
As Tested	kPa	250	250	250	250

MDB TIRE SPECIFICATIONS

	Units	Requirements	LF	RF	LR	RR
Tire Size		P205/75R15	P205/75R15	P205/75R15	P205/75R15	P205/75R15
Tire Pressure	kPa	200 ± 21	207	207	207	207

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front	Rear	Total	Front	Rear	Total	Front	Rear	Total
Left	kg	468	529		510	587		509	598	
Right	kg	441	537		472	563		455	574	
Ratio	%	46.0	54.0		46.0	54.0		45.1	54.9	
Totals	kg	909	1066	1975	982	1150	2132	964	1172	2136

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	1975	(A)
Sum of Actual Weight of 1 ES2re and 1 P572 ATD (SID-IIs)	kg	127	(B)
Rated Cargo / Luggage Weight (RCLW)	kg	35	(C)
Calculated Vehicle Target Weight (TVTW)	kg	2137	(A+B+C)

Does the measured As Test Vehicle Weight lie within the required weight range

(i.e. Calculated Test Vehicle Target Weight – 4.5 kg to – 9 kg)? [X] **Yes** [ ] **No**

TEST VEHICLE ATTITUDES AND CG

Measurement Description	Units	Fully Loaded	As Tested	Meets Rqmt***
LF	mm	863	864	Yes
RF	mm	870	865	Yes
RR	mm	893	894	Yes
LR	mm	887	894	Yes
Vehicle CG (Aft of Front Axle)	mm	1593	1566	
Vehicle CG (Left (+) / Right (-) from Longitudinal Centerline)	mm	30	24	

****The "As Tested" vehicle attitude measurements must be equal to or within ± 10mm of the "Fully Loaded" vehicle attitude measurements at each wheel well. Indicate "Yes" or "No" for "Meets Requirements".*

Test height adjustable suspension setting, if applicable: N/A

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Rear Bumper Fascia & Beam	17
Truck carpeting & Plastics	22
Right side mirror	2
Right rear door panel	3
Frunk Storage	6
Right tail light	4
Ballast / Equipment Added	0

TEST SURFACE MARKINGS

	Distance from 63° Impact Location Line (mm)
Fore 25 mm target	908
Aft 25 mm target	907
Pre-Impact Angle Line	232

Parallel Track Target	X Location (mm)	Y Location (mm)
A	0	0
B	2955	1555
C	2955	3355
D	0	3000

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

SEAT POSITIONING

The driver's seat, front center seat (if applicable), and right front passenger's seat should be set to the mid-track, lowest, 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	21.4	13.0	17.2
Front Passenger Seat	16.5	13.1	14.8
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)		
				Rearmost	Mid-Fore / Aft	Forward-Most
Driver Seat	17.2	9	Max	71	77	83
			Mid	37	43	49
			Min	3	9	15
Front Passenger Seat	14.8	17.5	Max	-	-	-
			Mid	-	-	-
			Min	12	17.5	23
Front Center Seat*			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max			
			Mid			
			Min			
Non-Struck Side Rear Seat	Fixed	Fixed	Max			
			Mid			
			Min			
Rear Center Seat*	Fixed	Fixed	Max			
			Mid			
			Min			

**If applicable*

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

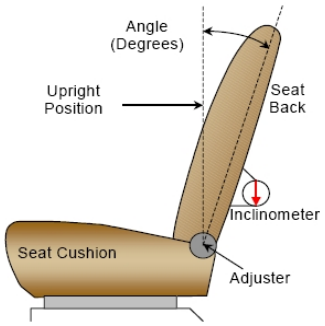
SEAT FORE / AFT POSITION

Seat	Total Fore / Aft Travel		Test Position from Forwardmost Position	
	mm	Detents*	mm	Detents*
Driver Seat	260	Power	130	Power
Front Passenger Seat	240	25 (0-24)	120	12
Front Center Seat				
Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Non-Struck Side Rear Seat	Fixed	Fixed	Fixed	Fixed
Rear Center Seat	Fixed	Fixed	Fixed	Fixed

**if applicable*

SEAT BACK ANGLE ADJUSTMENT

The driver's seat back is positioned to the manufacturer's designated design angle. 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 seat back is positioned such that the dummy's head is level. The rear center and non-struck side rear outboard seat backs are positioned in a similar manner as the struck-side rear seat back.



FRONT SEAT ASSEMBLY

Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degrees	Detents*
Driver Seat w/ Seated Dummy	64.5	Power	2.25	Power
Front Passenger Seat	60.2	31 (0-30)	1.6	8
Front Center Seat*				
Struck Side Rear Seat w/ Seated Dummy	22.6	12 (0-11)	6.95	0
Non-Struck Side Rear Seat	22.6	12 (0-11)	6.95	0
Rear Center Seat*	22.6	12 (0-11)	6.95	0

**if applicable*

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted in accordance with the information provided by the manufacturer on Form No. 1. For this test zero is defined as the uppermost position.

Seat	Total # of Positions	Placed in Position #
Driver Seat	4 (0-3)	0
Rear Seat	Fixed	Fixed

HEAD RESTRAINT ADJUSTMENT

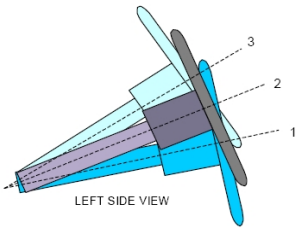
The driver's head restraint is adjusted to the highest and most full forward in-use position. The struck-side rear passenger's head restraint is adjusted to the lowest and most full forward in-use position.

Seat	Total # of Positions	Placed in Position #
Driver Seat	3 (0-2)	Uppermost
Rear Seat	2 (0-1)	Lowermost

STEERING COLUMN ADJUSTMENT

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

	Degrees	Fore / Aft Position (mm)
Lowermost - Position No. 1	22.3	
Geometric center - Position No. 2	24.65	
Uppermost - Position No. 3	27.0	
Telescoping Steering Wheel Travel		62.5
Test Position	24.65	31

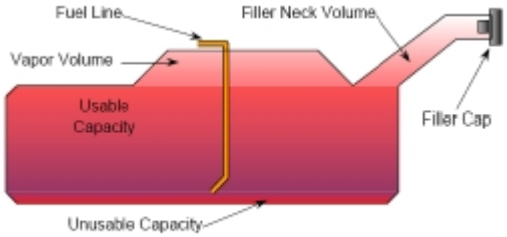


STEERING COLUMN ASSEMBLY

FUEL PUMP

Describe the fuel pump type, details about how it operates, and the location of the fuel filler neck

The vehicle is an electric vehicle. The charge port is on the left rear bumper of the vehicle.



VEHICLE FUEL TANK ASSEMBLY

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

FUEL TANK CAPACITY

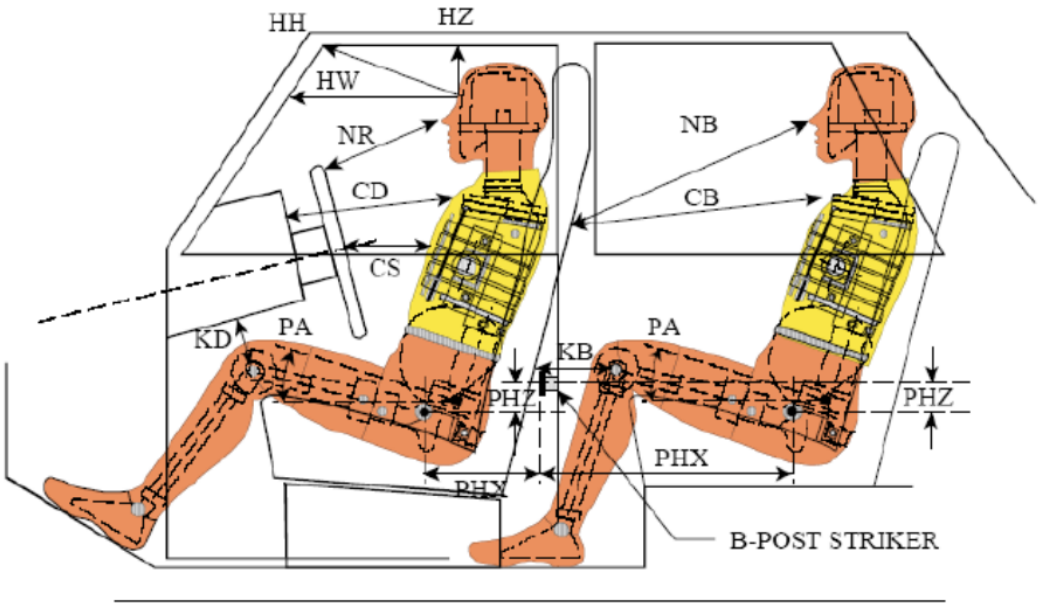
Description	Liters
Usable Capacity of “Standard Tank” (see Form No. 1)	
Usable Capacity of “Optional Tank” (see Form No. 1)	
Usable Capacity of “Standard Tank” (see Owner’s Manual)	
Usable Capacity of “Optional Tank” (see Owner’s Manual)	
93% of Usable Capacity	
Actual Amount of Solvent Used in Test	Electric Vehicle
1/3 of Usable Capacity	

Is the Actual Amount of Solvent Used in the test equal to 93% ±1% of the Usable Capacity stated in Form No. 1? [ ] **Yes** [ ] **No** [X] **N/A**

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

DUMMY LONGITUDINAL CLEARANCE DIMENSION INFORMATION



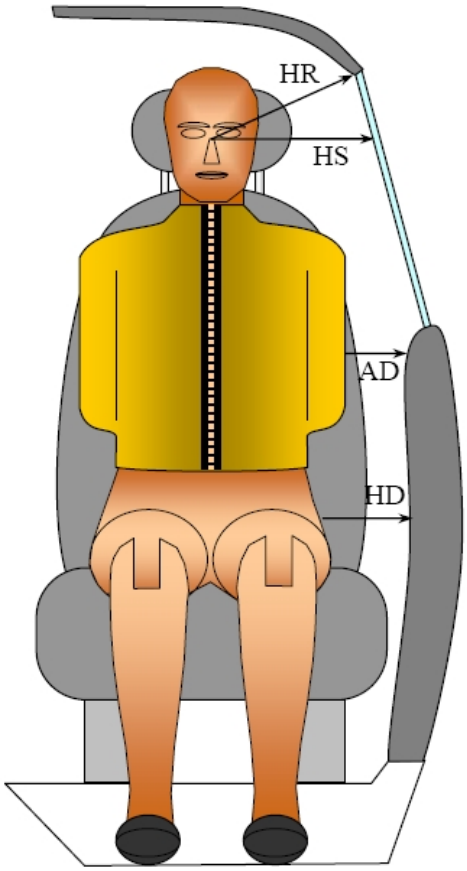
LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN. REAR DUMMY PHX & PHZ MEASUREMENTS FOR A 4-DOOR VEHICLE WOULD USE THE C-POST STRIKER AS A REFERENCE POINT

Driver Code	Pass. Code	Description	Driver (Serial No. F033)		Left Rear Passenger (Serial No. DG8012)	
			Length (mm)	Angle (°)	Length (mm)	Angle (°)
HH		Header to Header	335			
HW		Header to Windshield	631			
HZ	HZ	Head to Roof Liner	156		279	
NR	NB	Nose to Rim/Seat Back	400		569	
CD	CB	Chest to Dash/Seat Back	630		601	
CS		Chest to Steering Wheel	357			
KD(L)/KDA(L)°	KB(L)/KBA(L)°	Left Knee to Dash/Seat Back	224	24.2	340	4.6
KD(R)/KDA(R)°	KB(R)/KBA(R)°	Right Knee to Dash/Seat Back	209	26.7	344	3.5
PAX°	PAX°	Pelvic Tilt Angle X		24.7		26.0
	PAY°	Pelvic Tilt Angle Y				0.2
PHX	PHX	Hip Point to Striker (X-Axis)	203		228	
PHZ	PHZ	Hip Point to Striker (Z-Axis)	209		184	

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



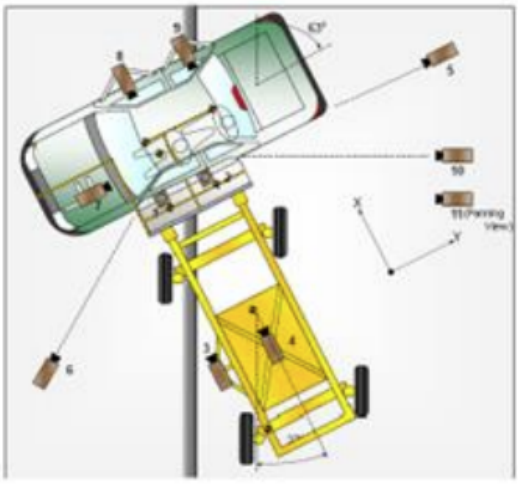
FRONT VIEW OF DUMMY

DUMMY LATERAL CLEARANCE DIMENSION INFORMATION

Code	Measurement Description	Units	Driver (Serial No. F033)	Left Rear Passenger (Serial No. DG8012)
HR	Head to Side Header	mm	193	245
HS	Head to Side Window	mm	326	360
AD	Arm to Door	mm	115	170
HD	Hip Point to Door	mm	151	170

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2025 KIA EV6 5 Door SUV
NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test
Test Date: 08/11/2025



CAMERA LOCATIONS AND DATA

No.	Camera View	Location (mm)			Lens (mm)	Speed (fps)
		X	Y	Z		
1	Overhead Overall	0	-215	-9220	12.5	1000
2	Overhead Close-up	0	0	-9220	28	1000
3	Left Impact Point (MDB)	-1470	0	-847	25	1000
4	Side Overall (MDB)	-1140	878	-1587	8	1000
5	Rear	558	7721	-1358	28	1000
6	Left Front	-3393	-5634	-1522	24	1000
7	Driver Front (OB)				25	1000
8	Driver Side (OB)				12.5	1000
9	Passenger Side (OB)				12.5	1000
10	Real-time Left Rear				Zoom	60
11	Real-time In Run				Zoom	60

Notes: *Reference: Impact Point projected to Ground*
+X = To Front of MDB, +Y = To Right of MDB, +Z = Down
** All measurements accurate to ± 6 mm.*

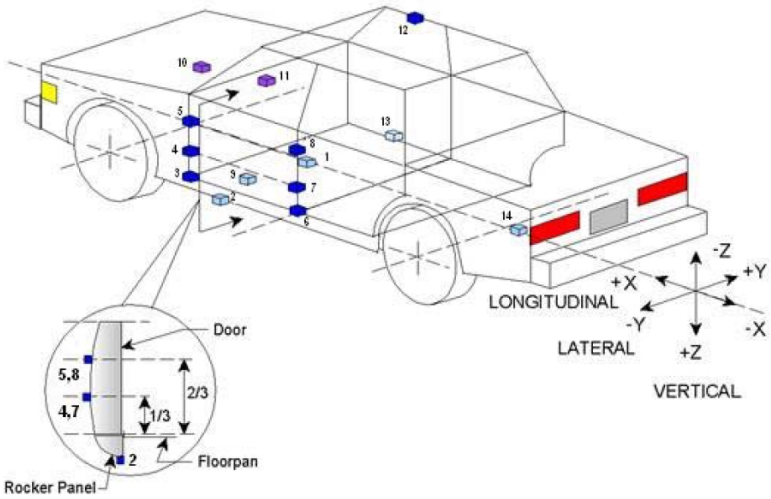
If applicable, explain why camera(s) did not operate as intended: All cameras operated as intended.

INSTRUMENTATION

Description	Number of Channels
Driver Dummy Channels	16
Passenger Dummy Channels	16
Vehicle Structure Accelerometers	23
MDB Accelerometers	7
Total	62

DATA SHEET NO. 6
TEST VEHICLE ACCELEROMETER LOCATIONS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



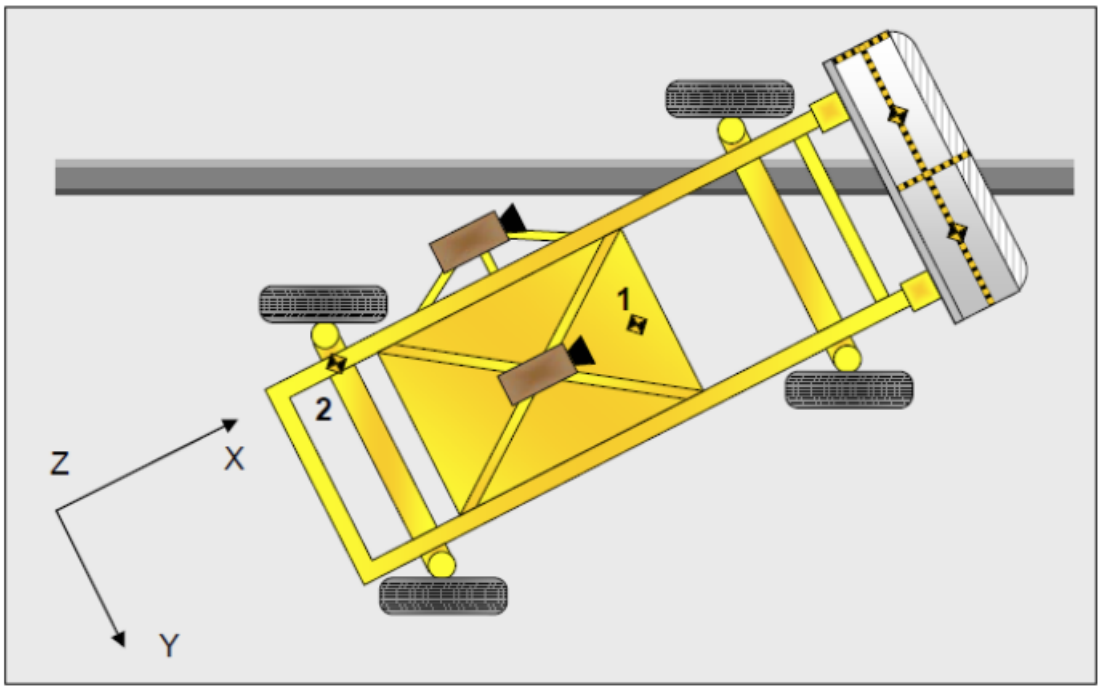
TEST VEHICLE ACCELEROMETER LOCATIONS

No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	Vehicle CG	2519	52	59
2	Right Sill at Front Seat	2839	669	344
3	Right Sill at Rear Seat	1876	663	348
4	Left Sill at Front Door	2833	-663	345
5	Left Sill at Rear Door	1921	-660	352
6	A-Post Lower	3278	-640	98
7	A-Post Middle	3281	-644	-326
8	B-Post Lower	2141	-659	-15
9	B-Post Middle	2086	-656	-291
10	Front Seat Track	2526	-566	358
11	Rear Seat Structure	1786	-554	314
12	Rt. Rear Occ. Compartment	2073	383	399
13	Engine Block	3883	-38	149
14	Rear Above Axle	826	11	142

Reference: X – Rear surface of vehicle (+ forward)
Y – Vehicle centerline (+ to right)
Z – Ground plane (+ down)

DATA SHEET NO. 7
MDB ACCELEROMETER LOCATIONS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



MDB ACCELEROMETER LOCATIONS

No.	Accelerometer Location	Coordinates (mm)		
		X	Y	Z
1	MDB CG	1859	0	-330
2	MDB Rear	386	-660	-660

Reference: *X – Face of MDB (+forward)*
Y – MDB centerline (+ to right)
Z – Ground plane (+down)

Width between left and right contact switches (mm): 1500

DATA SHEET NO. 8
POST-TEST OBSERVATIONS

Test Vehicle: 2025 KIA EV6 5 Door SUV | NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test | Test Date: 08/11/2025

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat Dummy (ES-2re)	Rear Seat Dummy (SID-IIs)
Face	None	Curtain Airbag
Top of Head	Curtain Airbag & Side Header	Curtain Airbag
Left Side of Head	Curtain Airbag	Curtain Airbag
Back of Head	Curtain Airbag, Side Header & Headrest	Curtain Airbag & Headrest
Left Shoulder	Curtain Airbag, Torso/Pelvis Airbag	Seatback & Torso/Pelvis Airbag
Upper Torso	Seatback & Torso/Pelvis Airbag	Seatback & Torso/Pelvis Airbag
Lower Torso	Seatback & Torso/Pelvis Airbag	Seatback & Torso/Pelvis Airbag
Left Hip	Seat Pan & Torso/Pelvis Airbag	Seat Pan & Torso/Pelvis Airbag
Left Knee	Door Trim	Door Trim

POST-TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other*
	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, Width of Opening at Striker (mm)	0	0	0	0	0

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	B-Pillar & C-Pillar Buckled
Sill Separation	None
Windshield Damage	None
Side Window Damage	Driver window cracked throughout
Other Notable Effects	None

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

Test Vehicle: 2025 KIA EV6 5 Door SUV NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test Test Date: 08/11/2025

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Struck Side Driver		Struck Side Rear Passenger	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	No		
Knee Airbag	Yes	No		
Side Airbag 1 - Curtain	Yes	Yes	Yes	Yes
Side Airbag 2 - Torso/Pelvis Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	Yes	Yes	Yes
Seat Belt Load Limiter	Yes	Yes	Yes	Yes
Other				

IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vehicle Wheel Base	mm		2903
Vertical Impact Reference Line (Aft of Front Axle - Intended Impact Point)	mm		508
Actual Impact Point (Aft of Frontal Axle)	mm		510
Horizontal Offset (+ forward / - rearward)	mm	+/- 50 of Intended Impact Point	-2
Vertical Offset (+ down / - up)	mm	+/- 20 of Intended Impact Point	+7

DATA SHEET NO. 9
MDB SUMMARY OF RESULTS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

MDB SPECIFICATIONS

Measurement Description	Length (mm)
Overall Width of Framework Carriage	1250
Overall Length Including Honeycomb Frame	4120
Wheelbase of Framework Carriage	2591
CG Location of Front Axle	1122

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	396	291.5	687.5
Right	kg	377.5	301	678.5
Ratio	%	56.6	43.4	100
Totals	kg	773.5	592.5	1366

SPEED AND ANGLE AT IMPACT DATA

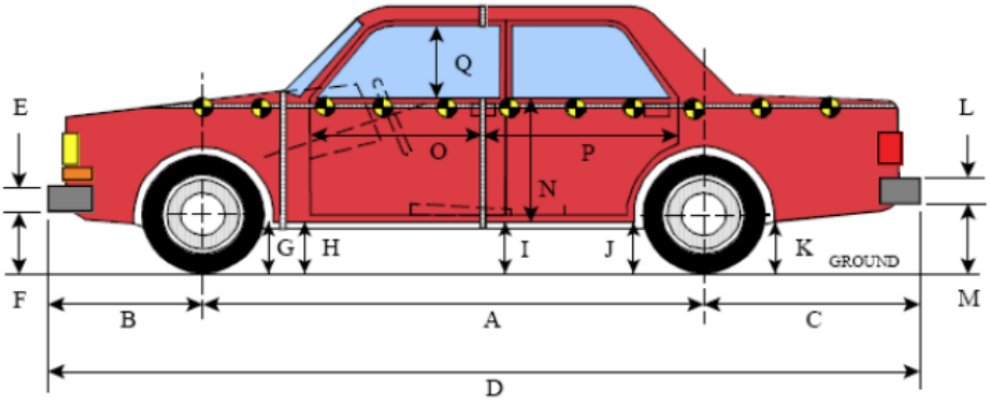
Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.10 to 62.70	62.02
Trap No. 2 Velocity (Redundant)	km/h	61.10 to 62.70	62.01
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	90.0
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	63.0
MDB Crabbed angle to MDB Forward Line of Motion	degrees	26.0 to 28.0	27.0

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Vertical Location			From Centerline		Maximum Crush (mm)
Row	Description	Height (mm)	Distance (mm)	Direction	
A	Center of Bumper	432	800	Right	294
B	Top of Bumper	533	800	Right	178
C	Mid-Level	686	800	Right	176
D	Top of Stack	813	800	Right	145

DATA SHEET NO. 10
TEST VEHICLE PROFILE MEASUREMENTS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



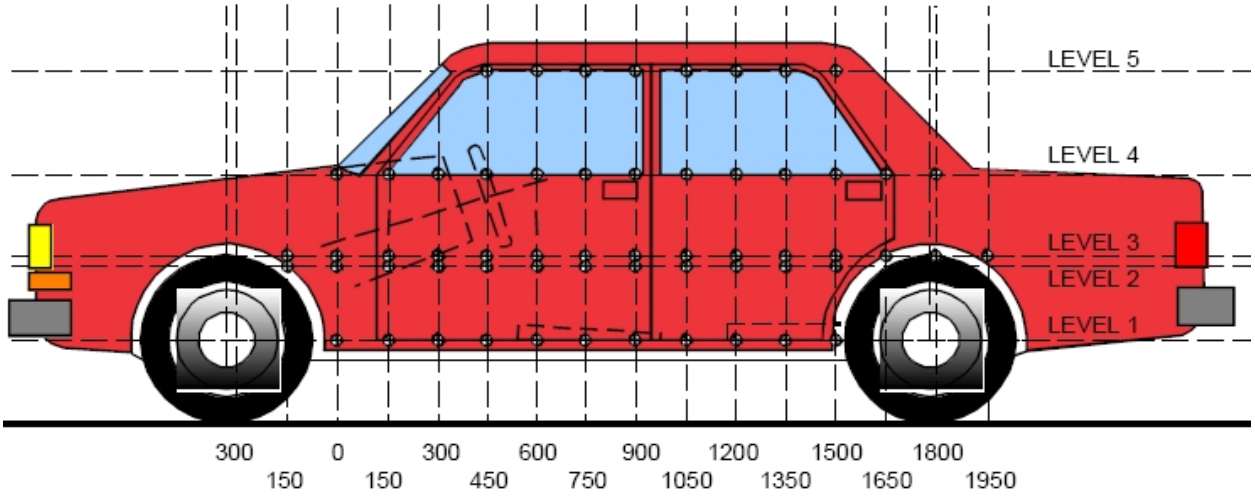
LEFT SIDE VIEW
All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code.	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	2903	2903	0
B	Front Axle to FSOV	842	842	0
C	Rear Axle to RSOV	945	945	0
D2	Total Length at Centerline	4691	4690	-1
E	Front Bumper Thickness	130	130	0
F	Front Bumper Bottom to Ground	465	473	8
G	Sill Height at Front Wheel Well	182	180	-2
H	Sill Height at Front Door Leading Edge	187	182	-5
I	Sill Height at B Pillar	197	188	-9
J1	Sill Height at Rear Wheel Well	196	190	-6
J2	Pinch Weld Height at Rear Wheel Well	194	189	-5
K	Sill Height Aft of Rear Wheel Well	237	232	-5
L	Rear Bumper Thickness	75	75	0
M	Rear Bumper Bottom to Ground	455	460	5
N	Sill Height to Bottom of Front Window Sill	849	831	-18
O	Front Door Leading Edge to Impact CL	768	760	-8
P	Rear Door Trailing Edge to Impact CL	1427	1391	-36
Q	Front Window Opening	380	376	-4
R	Right Side Length	4597	4597	0
S	Left Side Length	4595	4594	-1
T	Vehicle Width at B-Pillars	1859	1719	-140
U	Front Wheel Track Width	1627	1623	-4
V	Rear Wheel Track Width	1637	1636	-1

DATA SHEET NO.11
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



LEFT SIDE VIEW

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Units	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	mm	366	95	450
2	Occupant H-Point	mm	588	199	300
3	Mid-Door	mm	676	212	450
4	Window Sill	mm	1013	50	1350
5	Window Top	mm	1449	11	1350

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

DATA SHEET NO.11 … (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2025 KIA EV6 5 Door SUV NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test Test Date: 08/11/2025

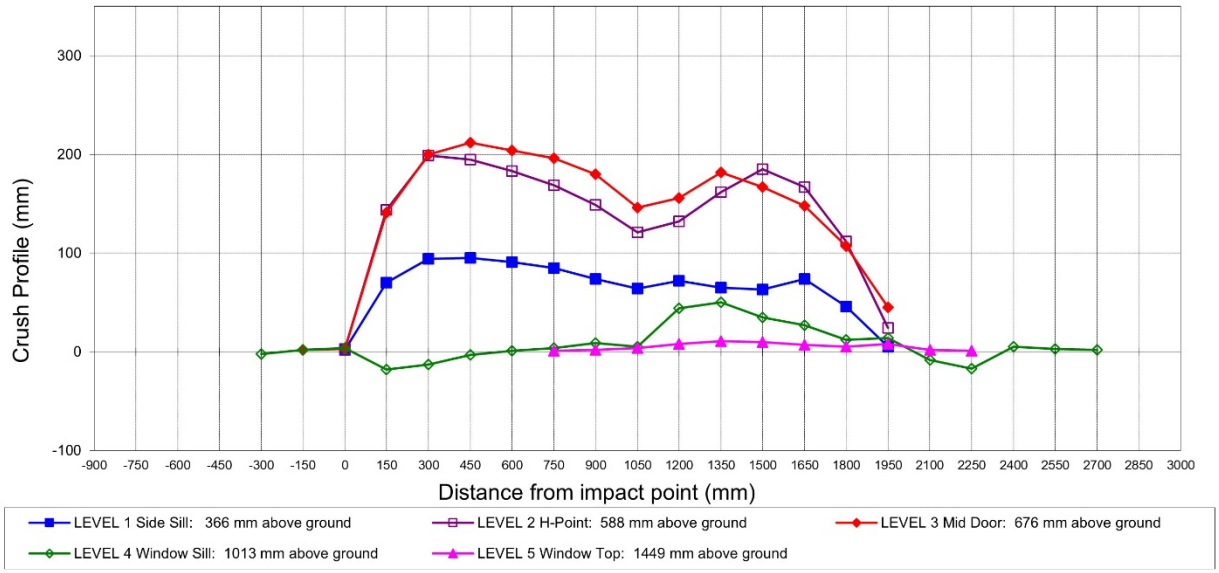
EXTERIOR CRUSH MEASUREMENTS AT EACH LEVEL

	Pre-Test					Post-Test					Crush				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600															
-450															
-300				767					769					-2	
-150			934	790				932	788				2	2	
0	908	927	927	805		906	924	925	801		2	3	2	4	
150	893	921	924	812		823	777	783	830		70	144	141	-18	
300	887	923	927	818		793	724	727	831		94	199	200	-13	
450	886	926	930	823		791	731	718	826		95	195	212	-3	
600	884	927	932	829		793	744	728	828		91	183	204	1	
750	879	927	932	833	593	794	758	736	829	592	85	169	196	4	1
900	874	927	932	836	627	800	778	752	827	625	74	149	180	9	2
1050	868	925	930	838	626	804	804	784	833	622	64	121	146	5	4
1200	875	922	928	839	625	803	790	772	795	617	72	132	156	44	8
1350	881	918	924	839	622	816	756	742	789	611	65	162	182	50	11
1500	887	915	920	837	617	824	730	753	802	607	63	185	167	35	10
1650	903	915	920	837	611	829	748	772	810	604	74	167	148	27	7
1800	909	921	924	838	602	863	809	817	826	597	46	112	107	12	5
1950	913	926	935	848	591	908	902	890	834	583	5	24	45	14	8
2100				868	577				876	575				-8	2
2250				887	552				904	551				-17	1
2400				891					886					5	
2550				883					880					3	
2700				864					862					2	
2850															
3000															

NOTE: *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 test based on an estimated impact point.

DATA SHEET NO.11 … (CONTINUED)
TEST VEHICLE EXTERIOR CRUSH MEASUREMENTS

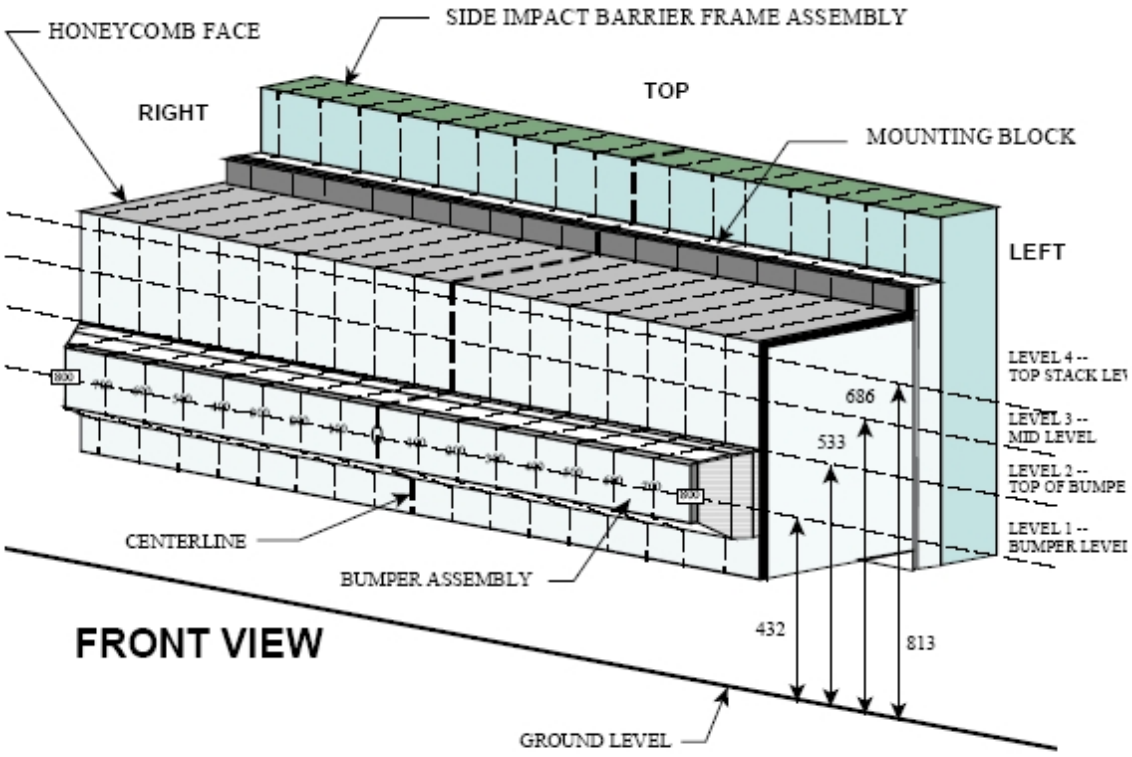
Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



Vehicle Exterior Crush Measurements - Visual Representation

DATA SHEET NO.12
MDB EXTERIOR STATIC CRUSH MEASUREMENTS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



NOTE: Dimensions are shown in millimeters, mm

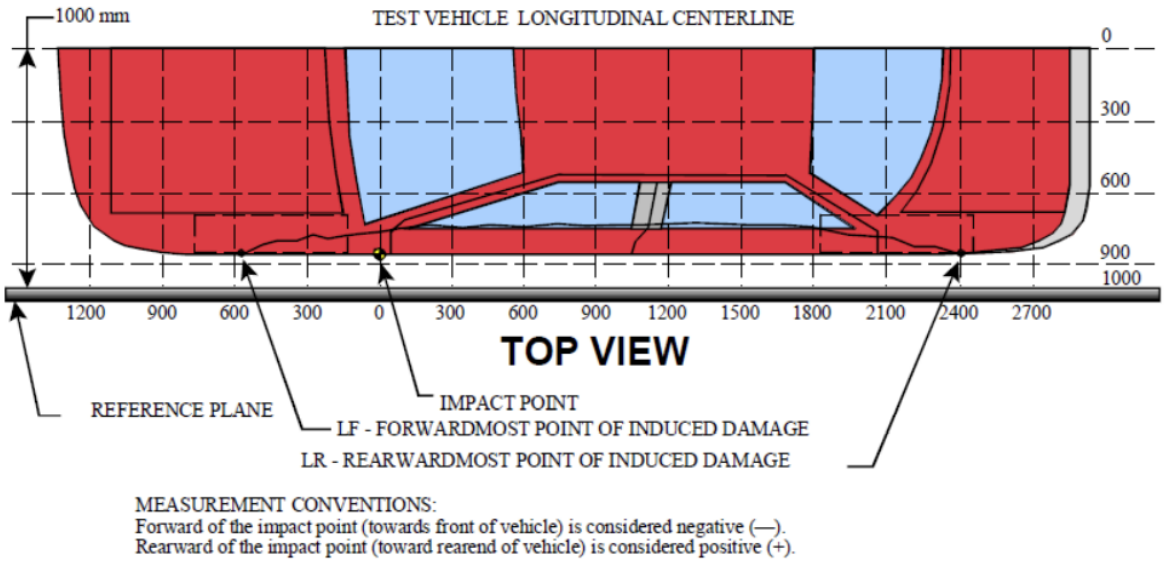
DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	294	286	282	278	274	272	263	257	250	242	235	230	225	219	214	216	228
2	178	174	169	165	160	161	153	156	142	129	120	115	112	107	106	109	126
3	176	138	108	101	105	121	134	126	106	88	74	62	56	58	65	79	114
4	145	112	96	92	102	126	140	141	108	101	93	84	78	66	75	87	108

DATA SHEET NO.13
VEHICLE AND MDB DAMAGE PROFILE DISTANCES

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

For guidance regarding damage profile distance measurements, please refer to the latest version of the *NHTSA Test Reference Guide, Volume 1: Vehicle Tests.*



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (—).
Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

VEHICLE DAMAGE PROFILE DISTANCES

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	-150	3	68	66	2
2	270	3	262	74	188
3	690	3	267	68	199
4	1110	3	221	71	150
5	1530	3	243	80	163
6	1950	3	110	65	45

MDB DAMAGE PROFILE DISTANCES

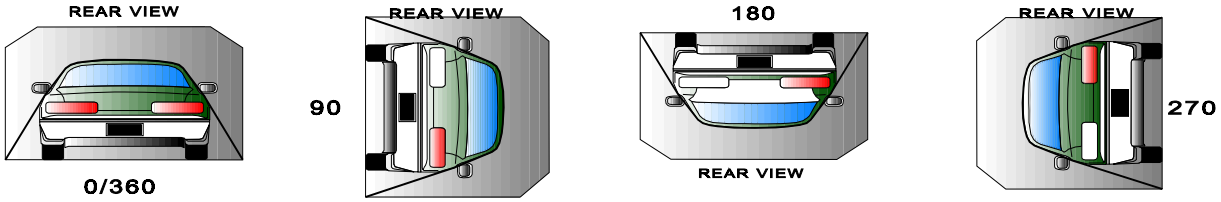
DPD	Distance From Center of MDB (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	800 mm left of center	1	277	505	-228
2	480 mm left of center	1	294	514	-220
3	160 mm left of center	1	276	514	-238
4	160 mm right of center	1	253	513	-261
5	480 mm right of center	1	236	513	-277
6	800 mm right of center	1	207	501	-294

DATA SHEET NO.14
FMVSS NO.301 STATIC ROLLOVER RESULTS

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025
Test Time:	10:37 AM	Temperature:	21.0 °C

A. From impact until vehicle motion ceases: _____ oz
(Maximum allowable is 1 oz.)
B. For the 5-minute period after motion ceases: _____ oz
(Maximum allowable is 5 oz.)
C. For the following 25 minutes: _____ oz
(Maximum allowable is 1 oz.)

D. Spillage Detail: Electric Vehicle



ROLLOVER SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°			
90° to 180°			
180° to 270°			
270° to 360°			

FMVSS 301 SPILLAGE TABLE

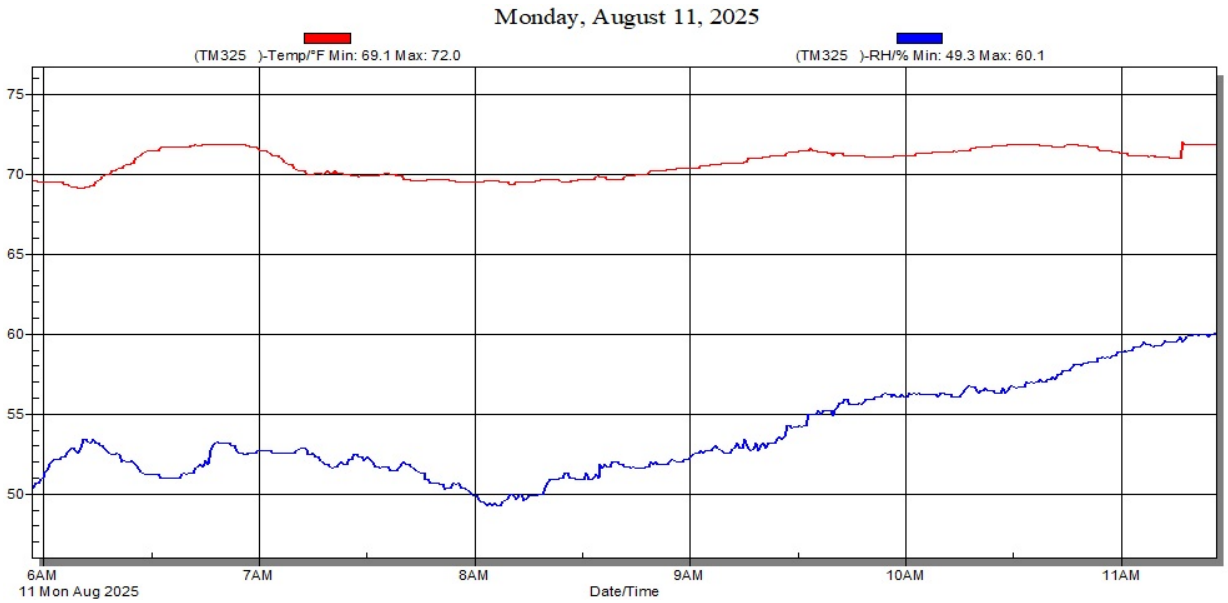
Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°				
90° to 180°				
180° to 270°				
270° to 360°				

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	Spillage Location
0° to 90°	
90° to 180°	
180° to 270°	
270° to 360°	

DATA SHEET NO. 15
DUMMY / VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025



Temperature and Humidity Stabilization Chart/Data for Dummies and Test Vehicle

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

Test Vehicle: 2025 KIA EV6 5 Door SUV NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test Test Date: 08/11/2025

ELECTRIC VEHICLE PROPULSION SYSTEM

Measured Parameter	Value
Type of Electric Vehicle (Electric/Gas-Electric Hybrid/Fuel Cell-Electric Hybrid)	Electric
Propulsion Battery Type	Lithium-Ion
Nominal Voltage (Volts)	697
Is this Vehicle equipped with an Automatic Propulsion Battery Disconnect?	Yes
Physical Location of Automatic Propulsion Battery Disconnect, if applicable	Inside Battery
Auxiliary Battery Type	Lead-Acid

PROPULSION BATTERY SYSTEM DATA (COTR SUPPLIED)

Measured Parameter	Value
Electrolyte Fluid Type	LiPF6 salt, Carbonate Solvent
Electrolyte Fluid Specific Gravity	1.21 g/cm3
Electrolyte Fluid Kinematic Viscosity (centistokes)	3.87 cP @ 25˚C
Electrolyte Fluid Color	Transparent & Pale Yellow
Propulsion Battery Coolant Type, Color and Specific Gravity (if applicable)	Water-Cooled, Pink
Location of Battery Modules (Inside or Outside of Passenger Compartment?)	Outside

PROPULSION BATTERY STATE OF CHARGE

Measured Parameter	Units	Value
For all battery types: Voltage Range corresponding to **useable energy** of the battery:		
Minimum State of Charge	V	480
Maximum State of Charge	V	826
95% of Maximum	V	784.7
Test Voltage *	V	792
For batteries that are rechargeable ONLY by an energy source on the vehicle: Voltage range corresponding to **useable energy** of the battery:		
Minimum State of Charge	V	
Maximum State of Charge	V	
95% of Maximum	V	
Test Voltage *	V	

* *For all battery types-No less than 95% of Maximum Operating Voltage; for batteries that are rechargeable ONLY by an energy source on the vehicle-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:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

VEHICLE CHASSIS GROUND PT(S) LOCATION(S) & PROPULSION BATTERY SYSTEM

Measured Parameter	Value
Details of Vehicle Chassis Ground Points & Locations	Attached to vehicle chassis underbody
Details of Propulsion Battery Components	Battery located outside passenger compartment

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

VOLTMETER INFORMATION

Measured Parameter	Units	Value
Make & Model		Fluke 1587
Serial No.		49210189
Internal Impedance Value	MΩ	10
Resolution	V	0.001
Last Calibration Date		04/22/2025

NOTES:

- *The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10 M Ω*
- *An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.*

PROPULSION BATTERY VOLTAGE, RESISTANCE & ELECTRICAL ISOLATION MEASUREMENTS & CALCULATIONS

Measured Parameter	Symbol	Units	Value
Normal operating voltage range specified by the manufacturer	V_b	V	480-826
Propulsion Battery Voltage: (ready to drive position)	V_b	V	792.0
Propulsion Battery to Vehicle Chassis	V_1	V	561.2
Propulsion Battery to Vehicle Chassis	V_2	V	530.9
Propulsion Battery to Vehicle Chassis Across Known Resistor	R_o	Ω	405,000
Propulsion Battery to Vehicle Chassis with R_o installed	V_1'	V	127.0
Propulsion Battery to Vehicle Chassis with R_o installed	V_2'	V	125.0
$R_{i1}= R_o*(1+V_2/V_1)*[(V_1-V_1')/V_1']$	R_{i1}	Ω	2,694,548
$R_{i2}= R_o*(1+V_1/V_2)*[(V_2-V_2')/V_2']$	R_{i2}	Ω	2,705,289
Lesser value of R_{i1} and R_{i2}	R_i	Ω	2,694,548
Electrical Isolation Value (Minimum E.I. Value is 500 Ω/V)	R_i/V_b	Ω/V	3,402

Is the Electrical Isolation Value ≥ 500 Ω/V (Yes/No)? [X] Yes [ ] No (Fail)

NOTES:

- *The measurement shall be made with the propulsion battery connected to the vehicle propulsion system, and the vehicle in the "ready-to-drive" (propulsion motor(s) activated) position.*
- *If the voltage measurement is not at the voltage or within the normal operating voltage range specified by the manufacturer, the battery must be charged.*
- *The known resistance Ro (in Ohms) should be approximately 500 times the nominal operating voltage of the vehicle (in volts) per SAE J1766*
- *If measured voltage is zero and results in a division by zero, record "Zero Volts." This "zero voltage" condition is considered as being compliant*

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

Test Vehicle:	2025 KIA EV6 5 Door SUV	NHTSA No.:	O20254201
Test Program:	NCAP Side MDB Impact Test	Test Date:	08/11/2025

VOLTMETER INFORMATION

Measured Parameter	Units	Value
Make & Model		Fluke 1587
Serial No.		49210189
Internal Impedance Value	MΩ	10
Resolution	V	0.001
Last Calibration Date		04/22/2025

NOTES:

- *The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10 M Ω*
- *An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.*

ELECTRICAL ISOLATION MEASUREMENTS & IMPACT CALCULATIONS

Parameter	Value	Units		Value		Value	
V_b =	5.5	V	Time:	1	Minutes	20	Seconds
V_1 =	7.7	V	Time:	1	Minutes	27	Seconds
V_2 =	10.5	V	Time:	1	Minutes	32	Seconds
R_o =	405,000	Ω					
V_1' =	0.1	V	Time:	1	Minutes	38	Seconds
V_2' =	0.1	V	Time:	1	Minutes	44	Seconds
R_{i1} =	72,752,727	Ω	Time:	1	Minutes	38	Seconds
R_{i2} =	73,008,000	Ω	Time:	1	Minutes	44	Seconds
R_i =	72,752,727	Ω/V	Time:	1	Minutes	38	Seconds
R_i/V_b =	13,227,769	Ω/V	Time:	1	Minutes	38	Seconds

Is the Electrical Isolation Value ≥ 500 Ω/V (Yes/No)?	X	Yes		No (Fail)

NOTES:

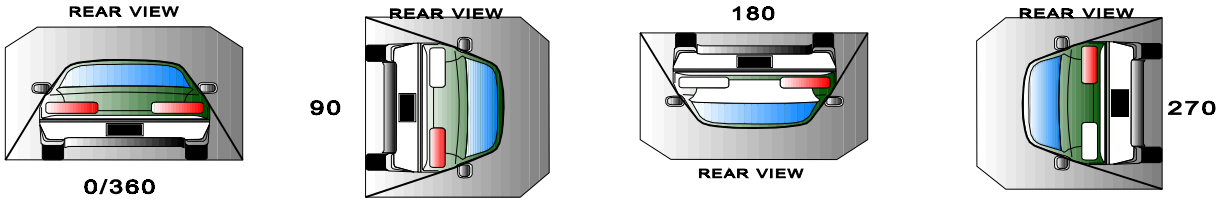
- *$R_{i1} = R_o*(1+V_2/V_1)*[(V_1-V_1')/V_1']$, $R_{i2} = R_o*(1+V_1/V_2)*[(V_2-V_2')/V_2']$, R_i = Lesser value of R_{i1} and R_{i2}*
- *If measured voltage is zero and results in a division by zero, record "Zero Volts." This "zero voltage" condition is considered as being compliant*
- *Minimum Electrical Isolation Value is 500 Ω/V*

PROPULSION BATTERY SYSTEM COMPONENTS

Measured Parameter	Comments	Passed	Failed
Propulsion Battery Module movement within the passenger compartment	None	X	
Intrusion of an outside Propulsion Battery Component into the passenger compartment	None	X	
Is propulsion battery electrolyte spillage visible in the passenger compartment?	None	X	

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

Test Vehicle: 2025 KIA EV6 5 Door SUV | NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test | Test Date: 08/11/2025



Rear View

DETERMINATION OF PROPULSION BATTERY ELECTROLYTE COLLECTION TIME PERIOD

Rollover Stage	Rotation Time (spec. 1 -3 min)		FMVSS 301 Hold Time	Total Time		Next Whole Minute Interval
	Minutes	Seconds	Minutes	Minutes	Seconds	Minutes
0° to 90°	1	7	5	6	7	7
90° to 180°	1	8	5	6	8	7
180° to 270°	1	4	5	6	4	7
270° to 360°	1	12	5	6	12	7

ACTUAL TEST VEHICLE PROPULSION BATTERY ELECTROLYTE SPILLAGE

Rollover Stage	Propulsion Battery Electrolyte Spillage	Units	Spillage Location
0° to 90°	0	Liters	None
90° to 180°	0	Liters	None
180° to 270°	0	Liters	None
270° to 360°	0	Liters	None
Total Spillage	0	Liters	None

** FMVSS 305 Requirements: Maximum allowable propulsion battery electrolyte spillage is **5.0 Liters***

Is the total spillage of propulsion battery electrolyte greater than 5.0 Liters? [ ] Yes (Fail) [X] No

Is propulsion battery electrolyte spillage visible in the passenger compartment? [ ] Yes (Fail) [X] No

VOLTMETER INFORMATION

Measured Parameter	Units	Value
Make & Model		Fluke 1587
Serial No.		49210189
Internal Impedance Value	MΩ	10
Resolution	V	0.001
Last Calibration Date		04/22/2025

NOTES:

- *The voltmeter used in this test shall measure DC values and have an internal impedance of at least 10 M Ω*
- *An oscilloscope meeting the above requirements may need to be used to adequately measure voltage in some vehicles.*

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

Test Vehicle: 2025 KIA EV6 5 Door SUV NHTSA No.: O20254201
Test Program: NCAP Side MDB Impact Test Test Date: 08/11/2025

ELECTRICAL ISOLATION MEASUREMENTS & CALCULATIONS

Parameter	Rollover Stage	Value	Units	R_o=200,000 Ω	Minutes	Seconds
V_b =	90°	5.4	V	Time:	3	19
	180°	5.4	V		11	54
	270°	5.4	V		15	58
	360°	5.4	V		22	7
V_1 =	90°	2.0	V	Time:	3	38
	180°	1.5	V		12	11
	270°	1.9	V		16	18
	360°	1.9	V		22	25
V_2 =	90°	1.9	V	Time:	3	59
	180°	2.8	V		12	24
	270°	2.2	V		16	30
	360°	2.1	V		22	40
V_1' =	90°	0.2	V	Time:	4	9
	180°	0.2	V		12	33
	270°	0.2	V		16	39
	360°	0.2	V		22	46
V_2' =	90°	0.2	V	Time:	4	23
	180°	0.4	V		12	43
	270°	0.2	V		16	50
	360°	0.2	V		22	53
R_{i1} =	90°	7,107,750	Ω	Time:	4	9
	180°	7,546,500	Ω		12	33
	270°	7,428,553	Ω		16	39
	360°	7,247,368	Ω		22	46
R_{i2} =	90°	7,066,184	Ω	Time:	4	23
	180°	3,731,786	Ω		12	43
	270°	7,547,727	Ω		16	50
	360°	7,328,571	Ω		22	53
R_i =	90°	7,066,184	Ω/V	Time:	4	23
	180°	3,731,786	Ω/V		12	43
	270°	7,428,553	Ω/V		16	39
	360°	7,247,368	Ω/V		22	46
R_i/V_b =	90°	1,308,553	Ω/V	Time:	4	23
	180°	691,071	Ω/V		12	43
	270°	1,375,658	Ω/V		16	39
	360°	1,342,105	Ω/V		22	46

Is the Electrical Isolation Value ≥ 500 Ω/V (Yes/No)? [X] Yes [ ] No (Fail)

APPENDIX A

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Figure A-1: As Delivered Right Front ¾ View of Test Vehicle



Figure A-2: As Delivered Left Rear ¾ View of Test Vehicle



Figure A-3: Pre-Test Frontal View of Test Vehicle



Figure A-4: Post-Test Frontal View of Test Vehicle



Figure A-5: Pre-Test Left Front ¾ View of Test Vehicle

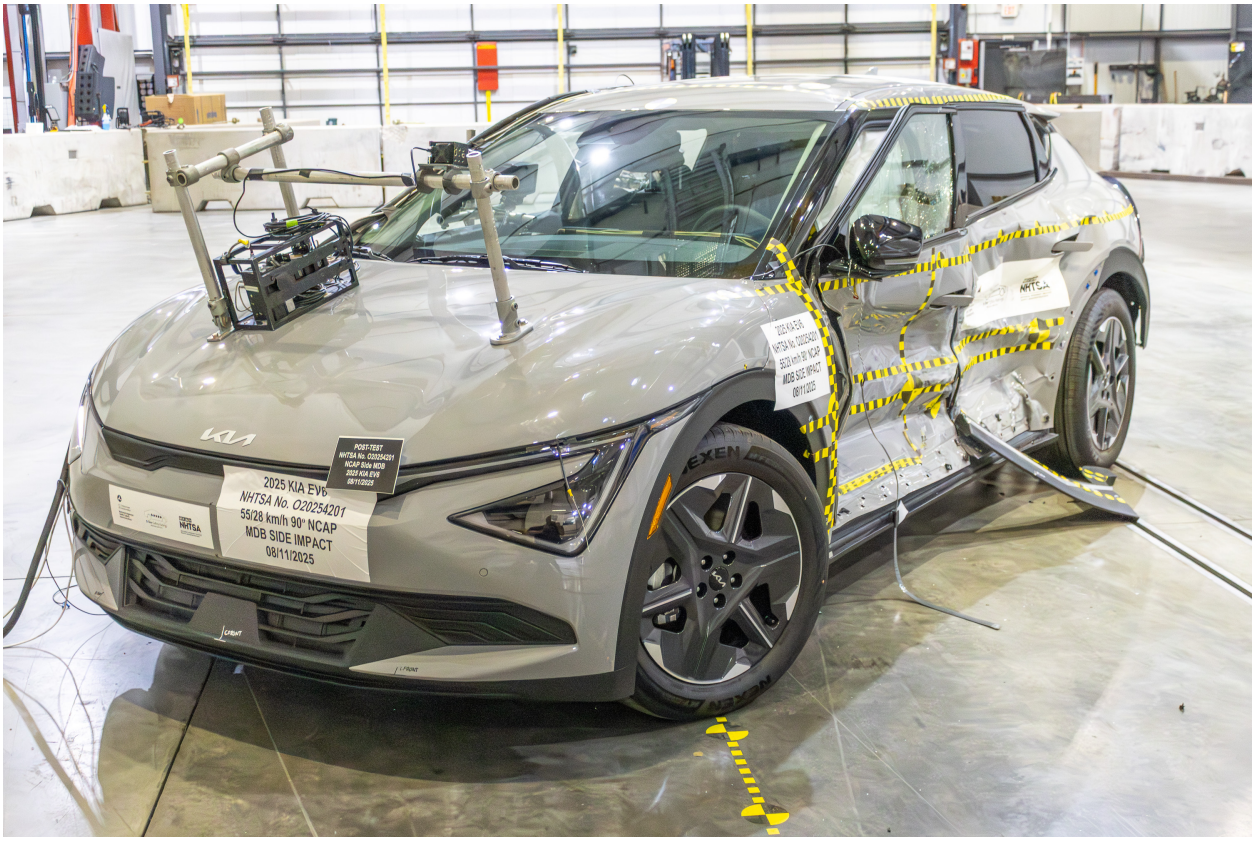


Figure A-6: Post-Test Left Front ¾ View of Test Vehicle



Figure A-7: Pre-Test Left Side View of Test Vehicle



Figure A-8: Post-Test Left Side View of Test Vehicle



Figure A-9: Pre-Test Left Rear ¾ View of Test Vehicle



Figure A-10: Post-Test Left Rear ¾ View of Test Vehicle



Figure A-11: Pre-Test Rear View of Test Vehicle



Figure A-12: Post-Test Rear Side View of Test Vehicle



Figure A-13: Pre-Test Right Side View of Test Vehicle



Figure A-14: Post-Test Right Side View of Test Vehicle

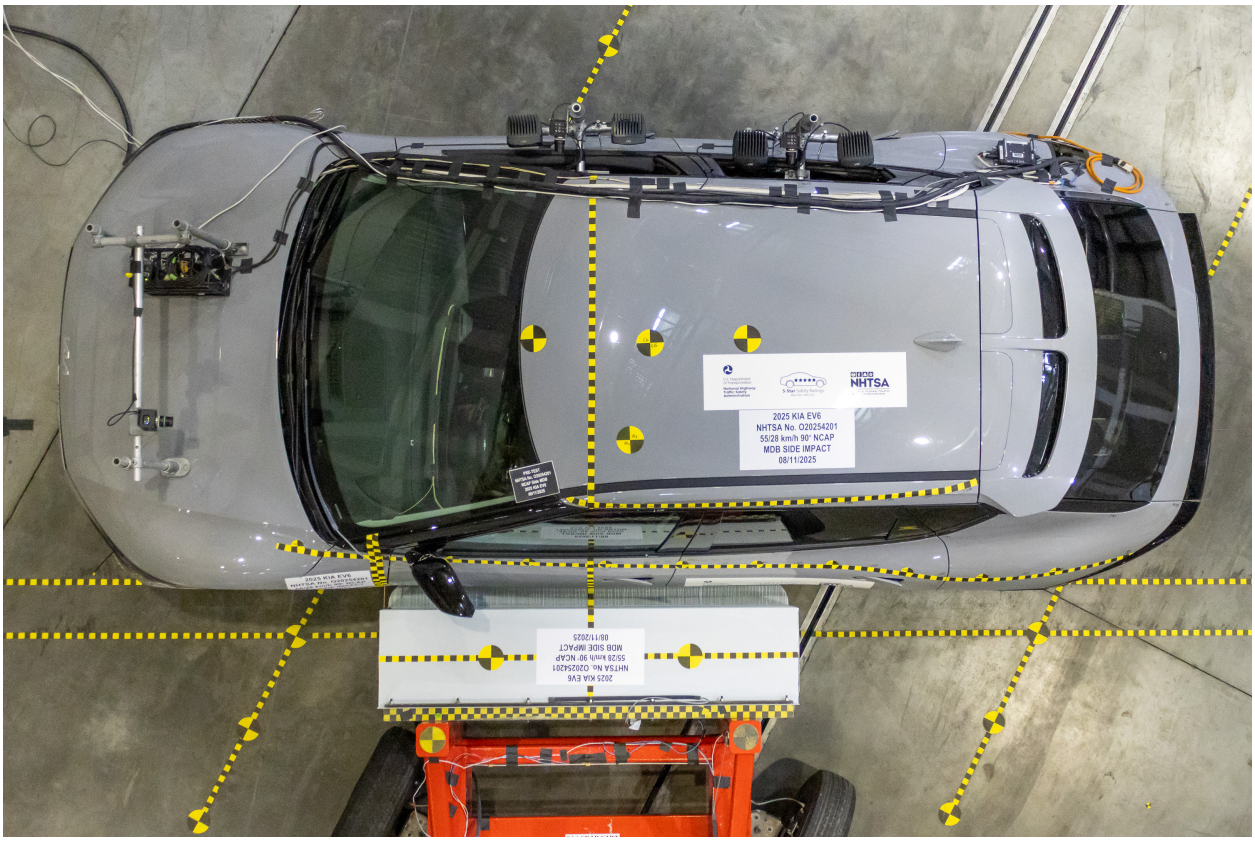


Figure A-15: Pre-Test Overhead View of Test Area



Figure A-16: Post-Test Overhead View of Test Area

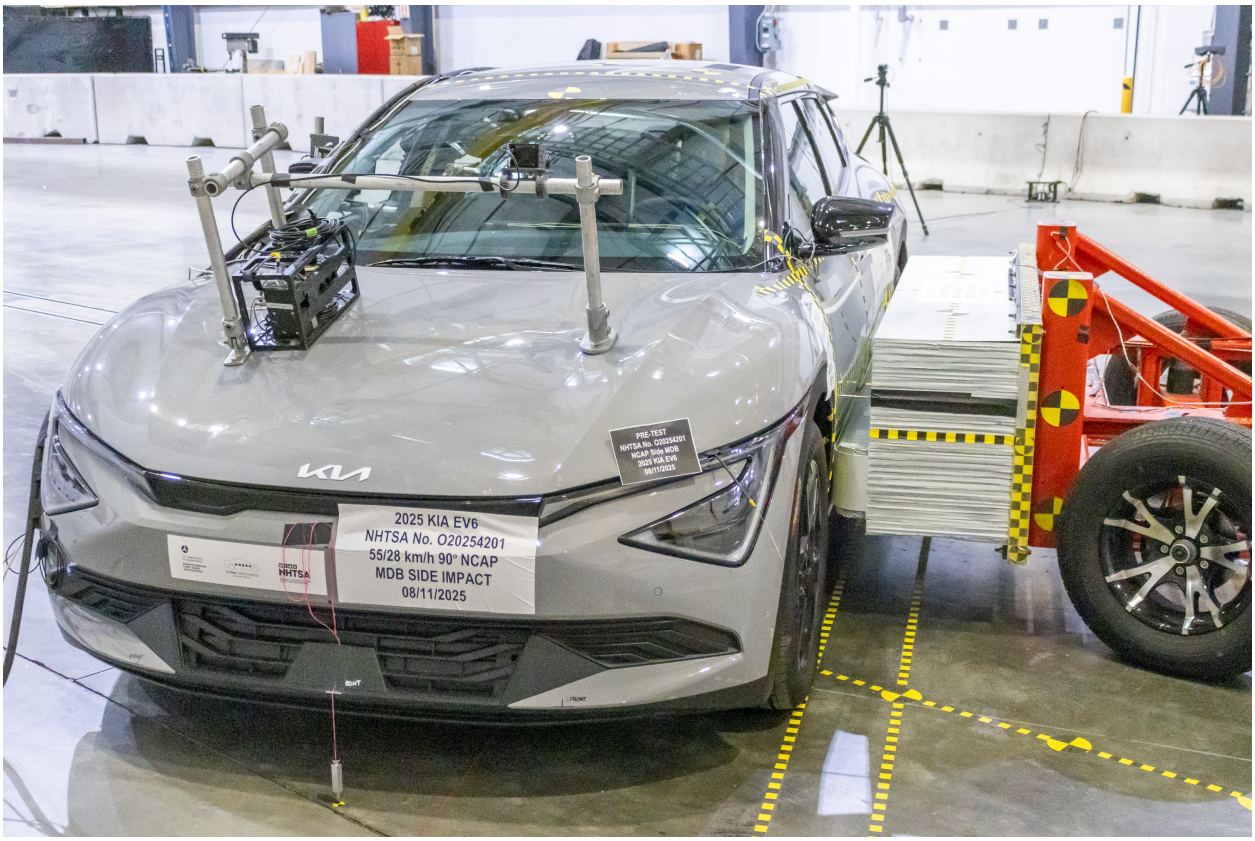


Figure A-17: Pre-Test Left Side View of MDB Positioned Against Side of Test Vehicle



Figure A-18: Pre-Test Right Side View of MDB Positioned Against Side of Test Vehicle



Figure A-19: Pre-Test Close-Up View of Impact Point Target



Figure A-20: Post-Test Close-Up View of Impact Point Target

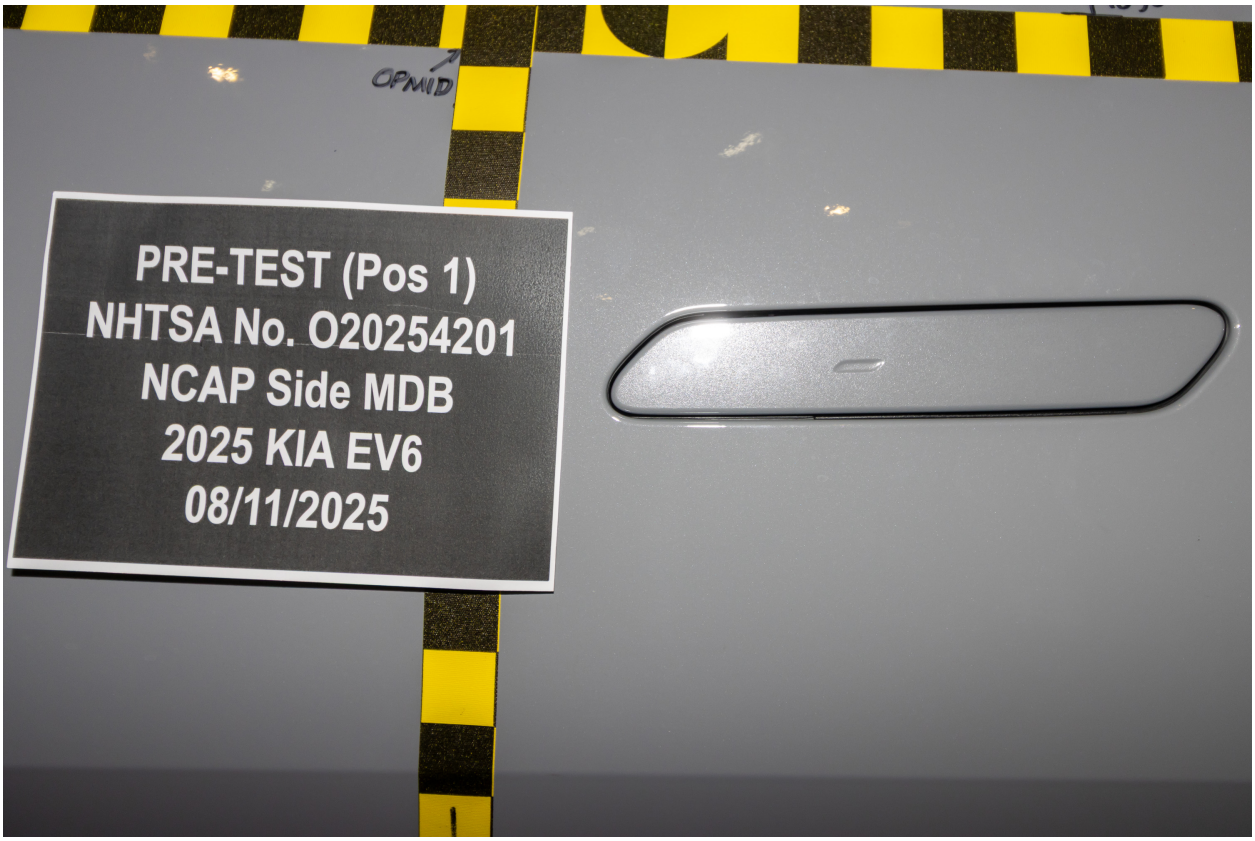


Figure A-21: Pre-Test Left Front Door Latch Close-Up

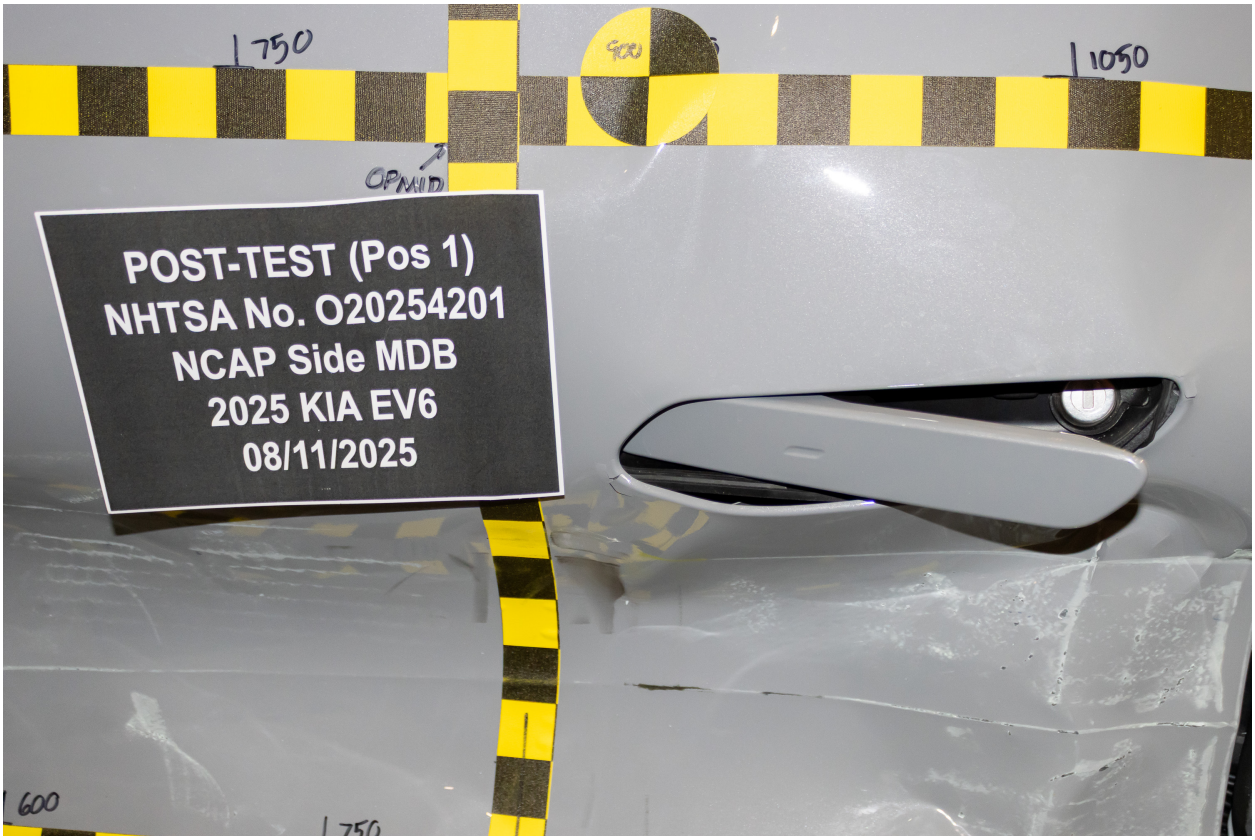


Figure A-22: Post-Test Left Front Door Latch Close-Up

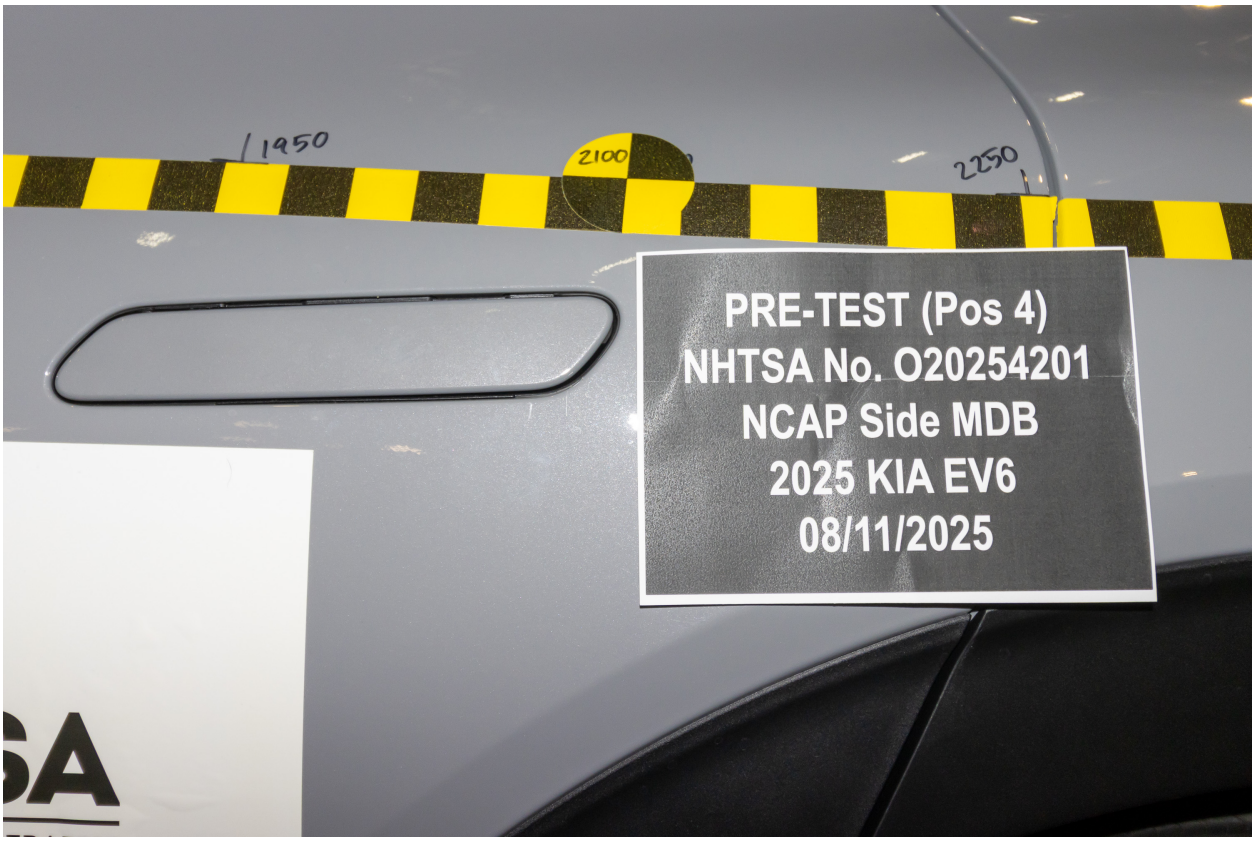


Figure A-23: Pre-Test Left Rear Door Latch Close-Up

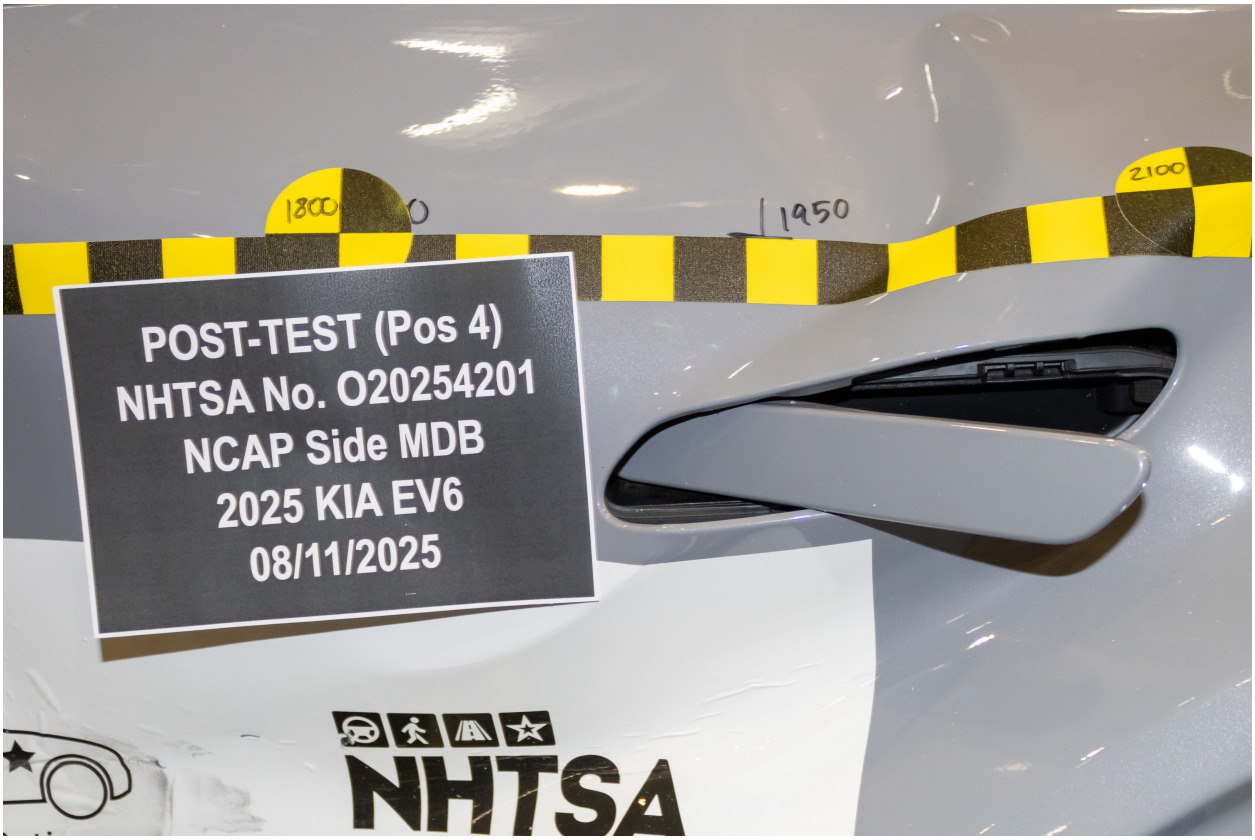


Figure A-24: Post-Test Left Rear Door Latch Close-Up



Figure A-25: Pre-Test Front Close-up View of Driver Dummy



Figure A-26: Post-Test Front Close-up View of Driver Dummy



Figure A-27: Pre-Test Left Side View of Driver Dummy Showing Belt and Chalking



Figure A-28: Pre-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-29: Post-Test Left Side View of Driver Dummy Shoulder and Door Top View



Figure A-30: Pre-Test Frontal View of Driver Seat Back Prior to Dummy Positioning



Figure A-31: Pre-Test Frontal View of Driver Dummy Head and Shoulders in Relation to Head Restraint



Figure A-32: Pre-Test Frontal View of Driver Seat Pan Prior to Dummy Positioning



Figure A-33: Pre-Test Overhead View of Driver Dummy Thighs on Seat Pan



Figure A-34: Pre-Test Placement of Driver Dummy's Feet



Figure A-35: Pre-Test View of Belt Anchorage for Driver Dummy



Figure A-36: Pre-Test Left Side View of Steering Wheel



Figure A-37: View of Disengaged Parking Brake



Figure A-38: Pre-Test View of Parking Brake



Figure A-39: Pre-Test Close-Up Left Side View of Driver Seat Track

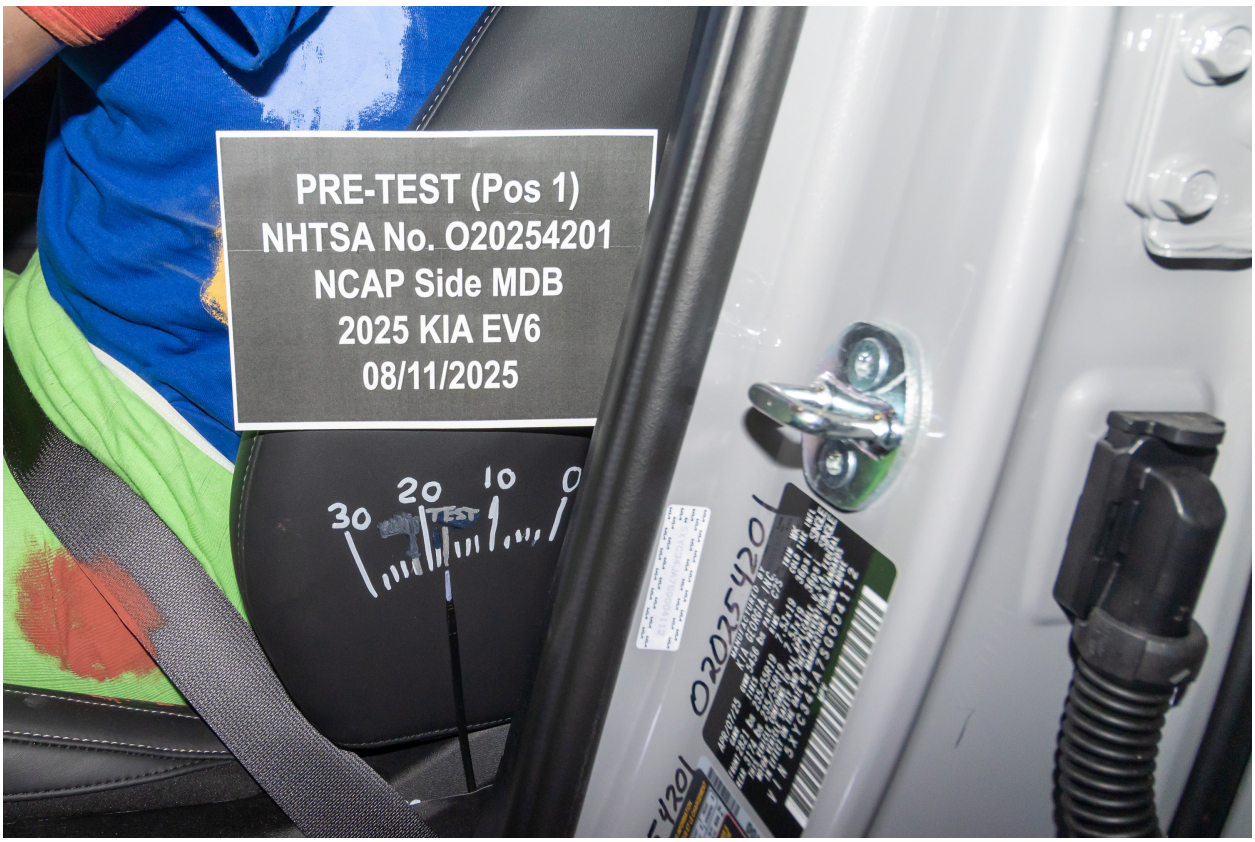


Figure A-40: Pre-Test Close-Up Left Side View of Driver Seat Back



Figure A-41: Pre-Test Close-Up View of Driver Seat Back or Head Restraint



Figure A-42: Pre-Test Driver Dummy and Door Clearance View



Figure A-43: Post-Test Driver Dummy and Door Clearance View



Figure A-44: Pre-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Figure A-45: Post-Test Right Side View of Driver Dummy and Front Seat of Occupant Compartment



Figure A-46: Pre-Test Driver Inner Door Panel View



Figure A-47: Post-Test Driver Inner Door Panel View



Figure A-48: Post-Test Driver Dummy Close-Up Head Contact with Vehicle View



Figure A-49: Post-Test Driver Dummy Close-Up Head Contact with Side Air Bag View



Figure A-50: Post-Test Driver Dummy Close-Up Torso Contact with Vehicle Interior View



Figure A-51: Post-Test Driver Dummy Close-Up Torso Contact with Side Air Bag View



Figure A-52: Post-Test Driver Dummy Close-Up Pelvis Contact View



Figure A-53: Post-Test Driver Dummy Close-Up Pelvis Contact with Side Air Bag View



Figure A-54: Post-Test Driver Dummy Close-Up Knee Contact View



Figure A-55: Pre-Test Left Side View of Rear Passenger Dummy Showing Belt and Chalking



Figure A-56: Pre-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Figure A-57: Post-Test Left Side View of Rear Passenger Dummy Shoulder and Door Top View



Figure A-58: Pre-Test Frontal View of Rear Passenger Seat Back Prior to Dummy Positioning

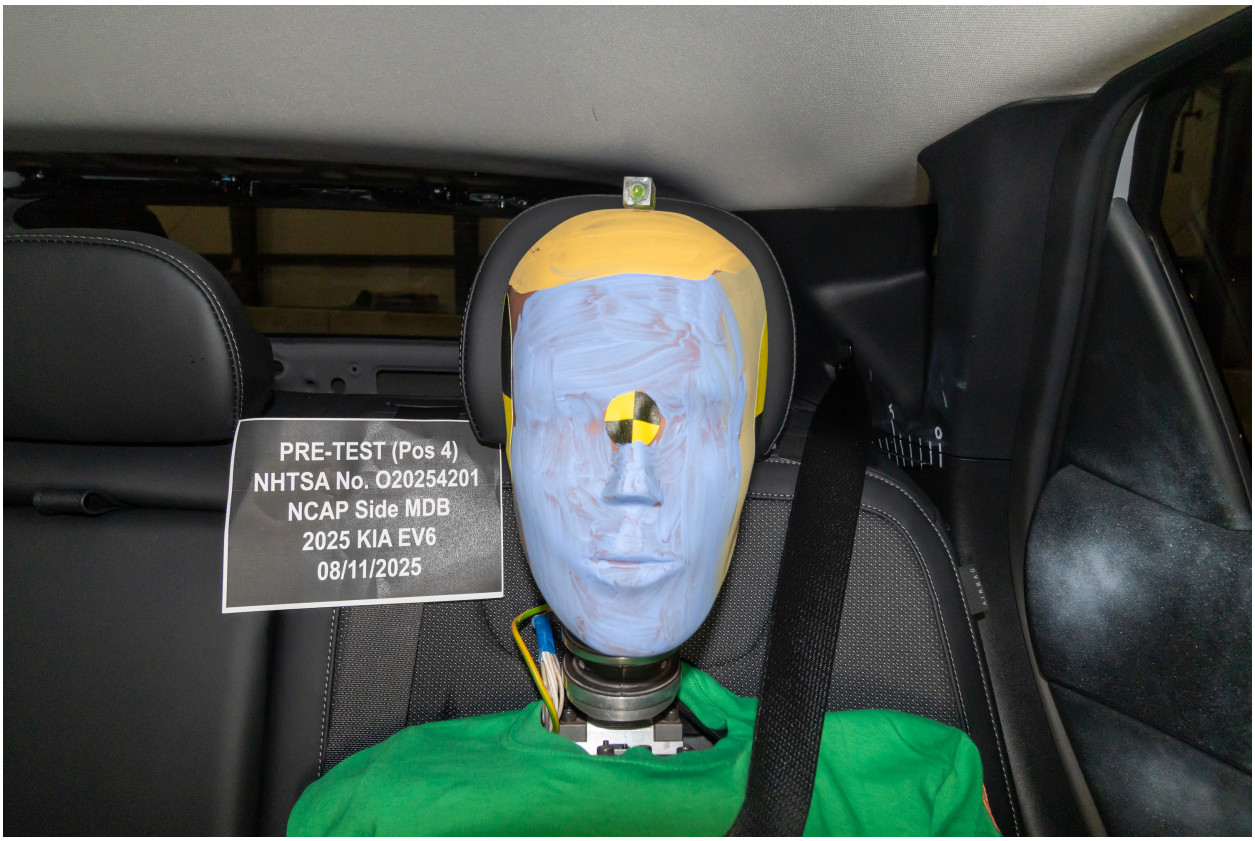


Figure A-59: Pre-Test Frontal View of Rear Passenger Dummy Head and Shoulders in Relation to Head Restraint



Figure A-60: Pre-Test Overhead View of Rear Passenger Seat Pan Prior to Dummy Positioning



Figure A-61: Pre-Test Overhead View of Rear Passenger Dummy Thighs on Seat Pan



Figure A-62: Pre-Test View of Rear Passenger Dummy's Neck Showing Position of Adjustable Neck Bracket



Figure A-63: Pre-Test View of Rear Passenger Dummy's Head Showing Dummy's Head is Level



Figure A-64: Pre-Test Placement of Rear Passenger Dummy's Feet



Figure A-65: Pre-Test View of Belt Anchorage for Rear Passenger Dummy



Figure A-66: Pre-Test Close-Up Left Side View of Rear Passenger Seat Track



Figure A-67: Pre-Test Close-Up Left Side View of Rear Passenger Seat Back



Figure A-68: Pre-Test Close-Up View of Rear Passenger Seat Back or Head Restraint



Figure A-69: Pre-Test Rear Passenger Dummy and Door Clearance View

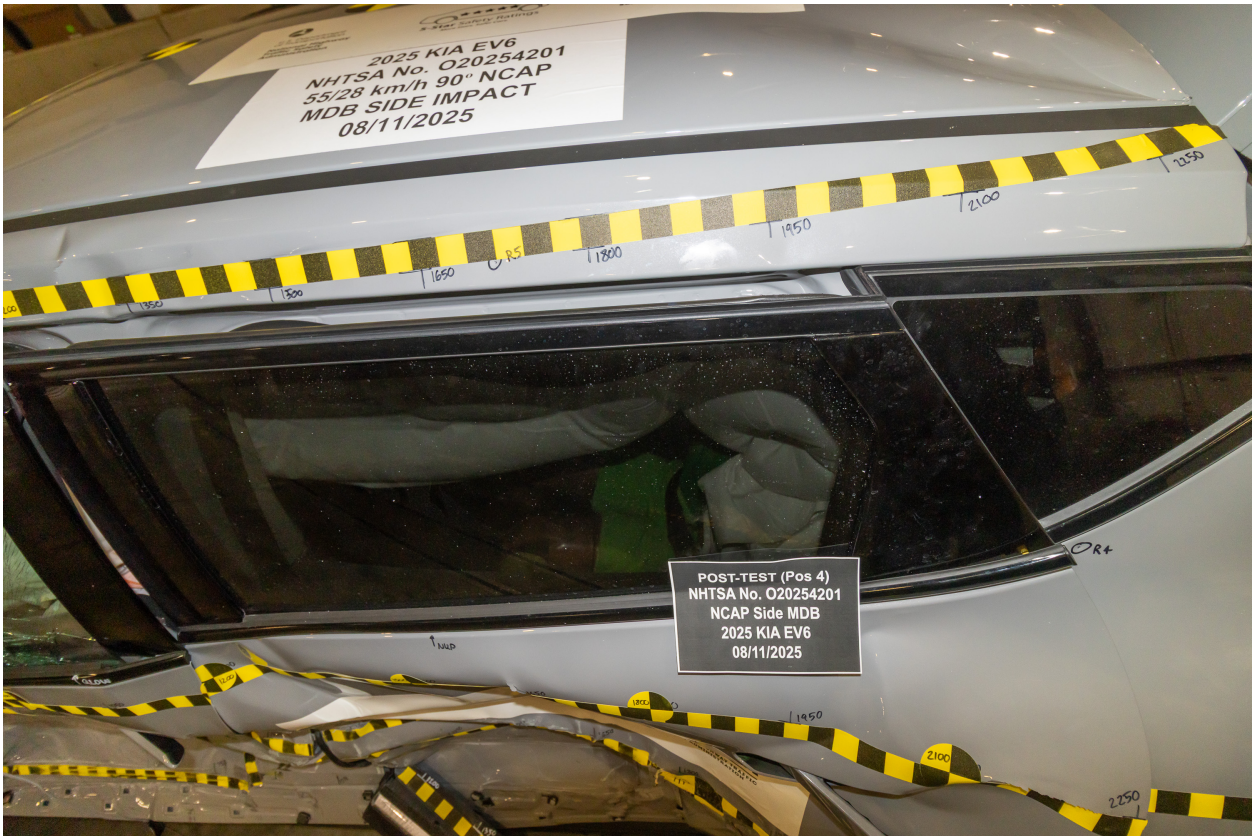


Figure A-70: Post-Test Rear Passenger Dummy and Door Clearance View



Figure A-71: Pre-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Figure A-72: Post-Test Right Side View of Rear Passenger Dummy and Rear Seat Occupant Compartment



Figure A-73: Pre-Test Rear Passenger Inner Door Panel View



Figure A-74: Post-Test Rear Passenger Inner Door Panel View Showing Rear Passenger Dummy Contact Locations



Figure A-75: Post-Test Rear Passenger Dummy Close-Up Head Contact with Vehicle View



Figure A-76: Post-Test Rear Passenger Dummy Close-Up Head Contact with Side Air Bag View



Figure A-77: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Vehicle Interior View



Figure A-78: Post-Test Rear Passenger Dummy Close-Up Torso Contact with Side Air Bag View



Figure A-79: Post-Test Rear Passenger Dummy Close-Up Pelvis Contact View



Figure A-80: Post-Test Rear Passenger Dummy Close-Up Pelvis Contact with Side Air Bag View



Figure A-81: Post-Test Rear Passenger Dummy Close-Up Knee Contact View



Figure A-82: Pre-Test Charging Port



Figure A-83: Post-Test Charging Port

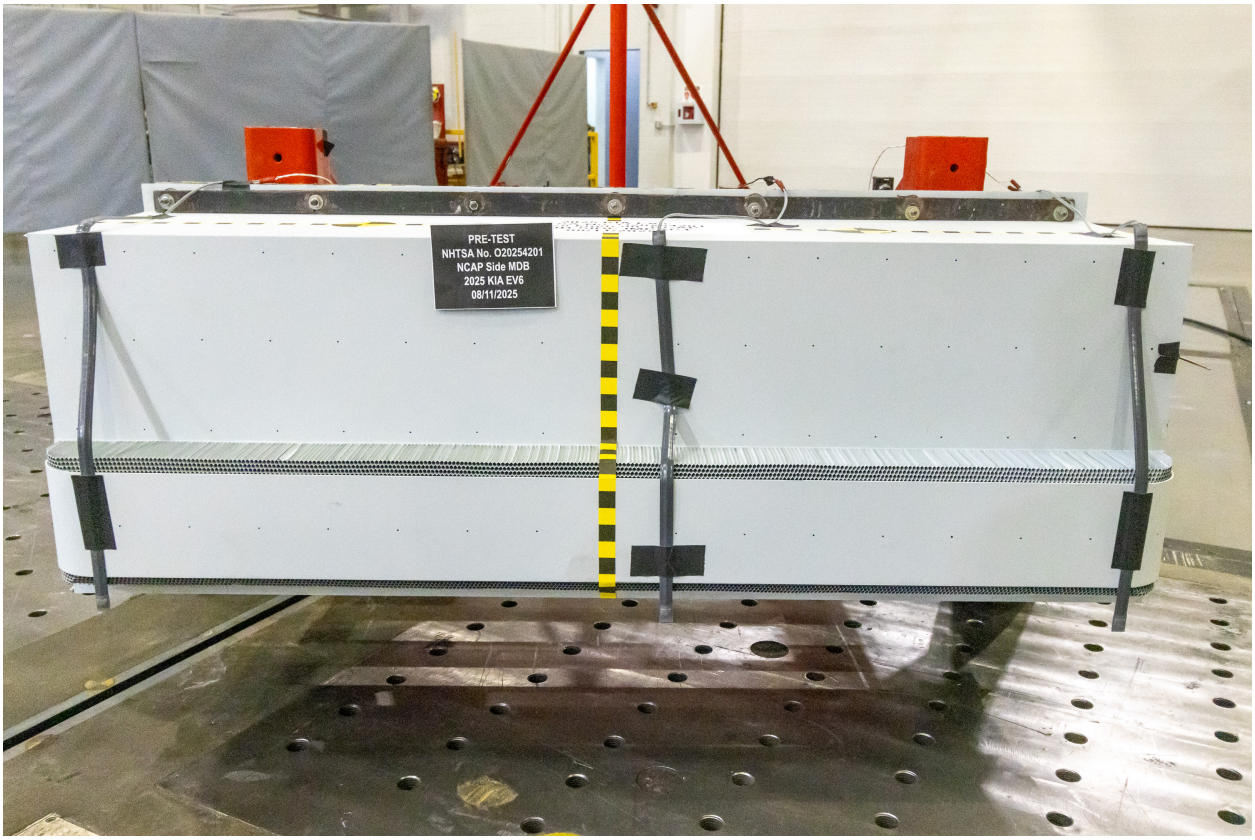


Figure A-84: Pre-Test Front View of MDB Impactor Face



Figure A-85: Post-Test Front View of MDB Impactor Face

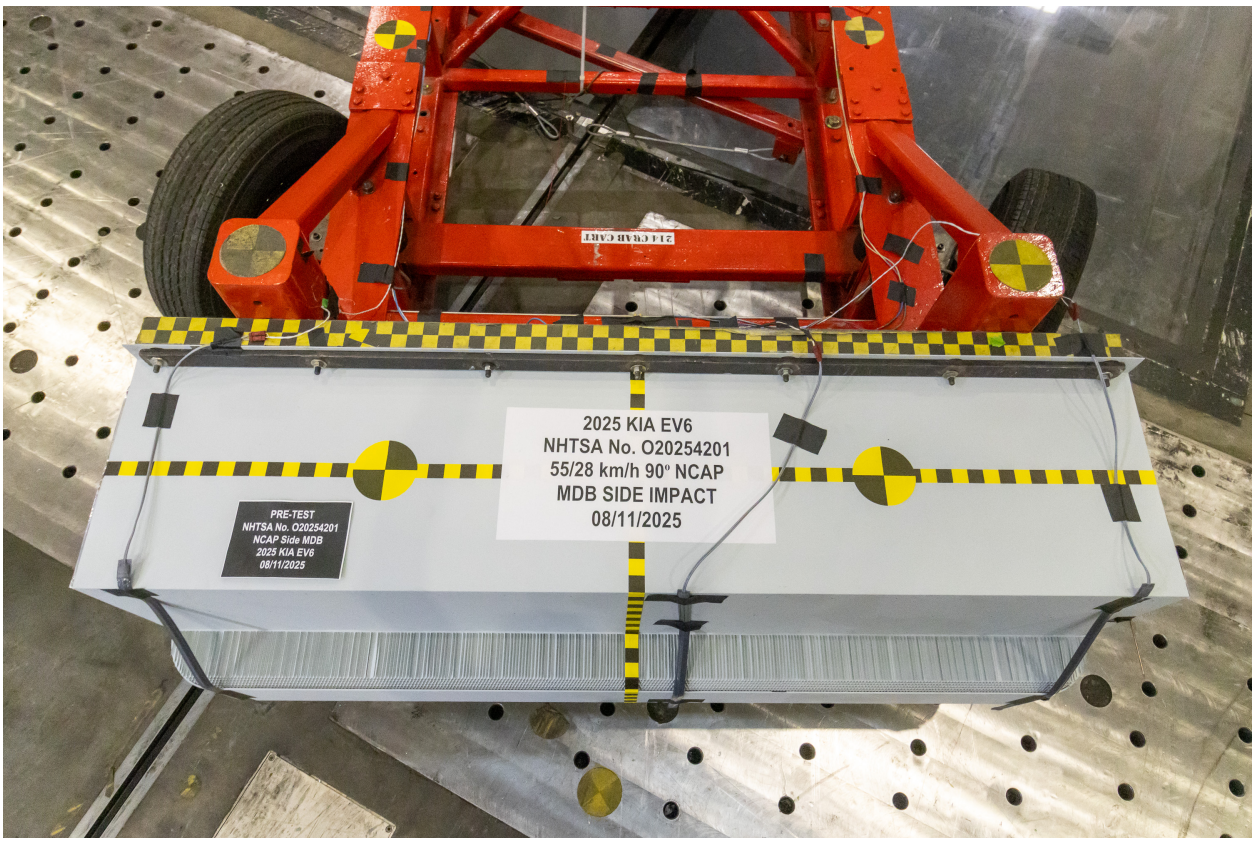


Figure A-86: Pre-Test Top View of MDB Impactor Face

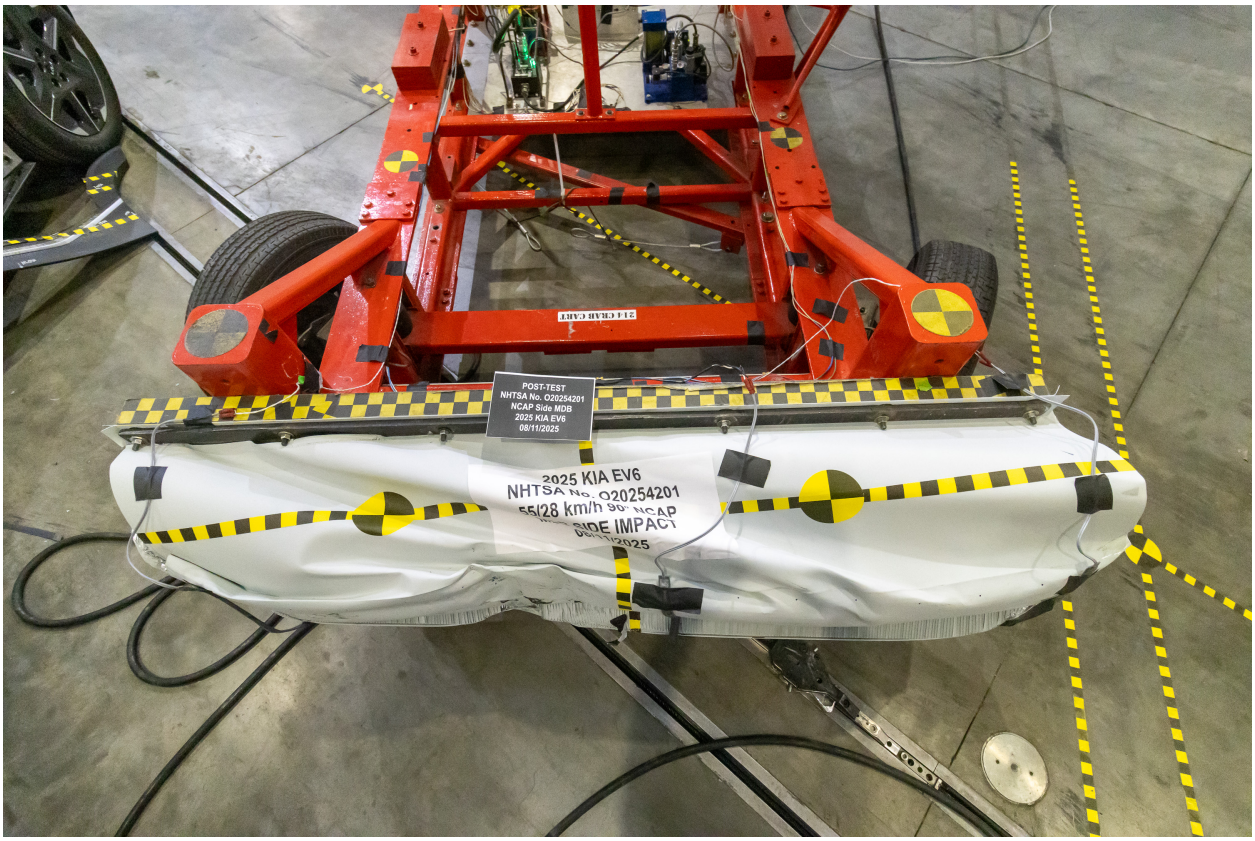


Figure A-87: Post-Test Top View of MDB Impactor Face



Figure A-88: Pre-Test Left Side View of MDB Impactor Face



Figure A-89: Post-Test Left Side View of MDB Impactor Face



Figure A-90: Pre-Test Right Side View of MDB Impactor Face



Figure A-91: Post-Test Right Side View of MDB Impactor Face



Figure A-92: Close-Up View of Vehicle's Certification Label



Figure A-93: Close-Up View of Vehicle's Tire Information Placard or Label

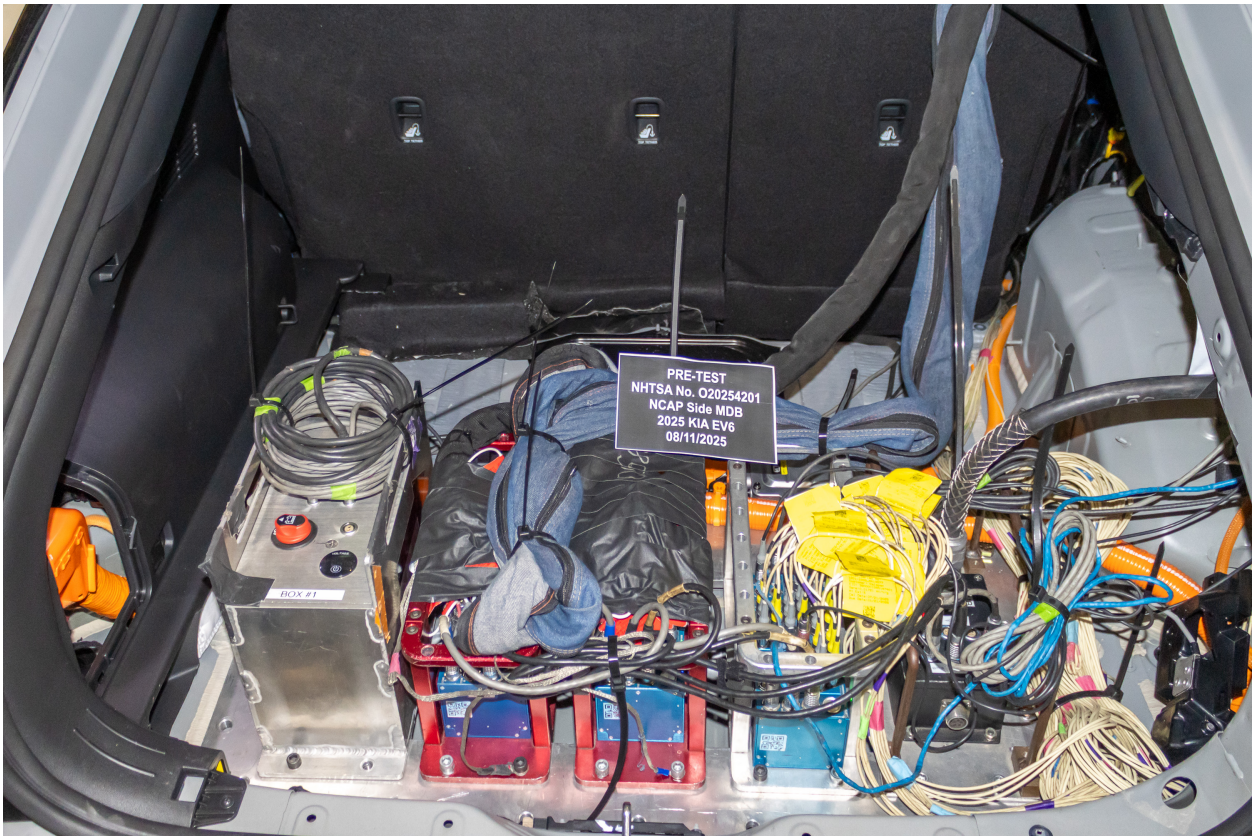


Figure A-94: Pre-Test Ballast View



Figure A-95: Post-Test Primary and Redundant Speed Trap Read-Out



Figure A-96: FMVSS No. 301 Static Rollover 0 Degrees

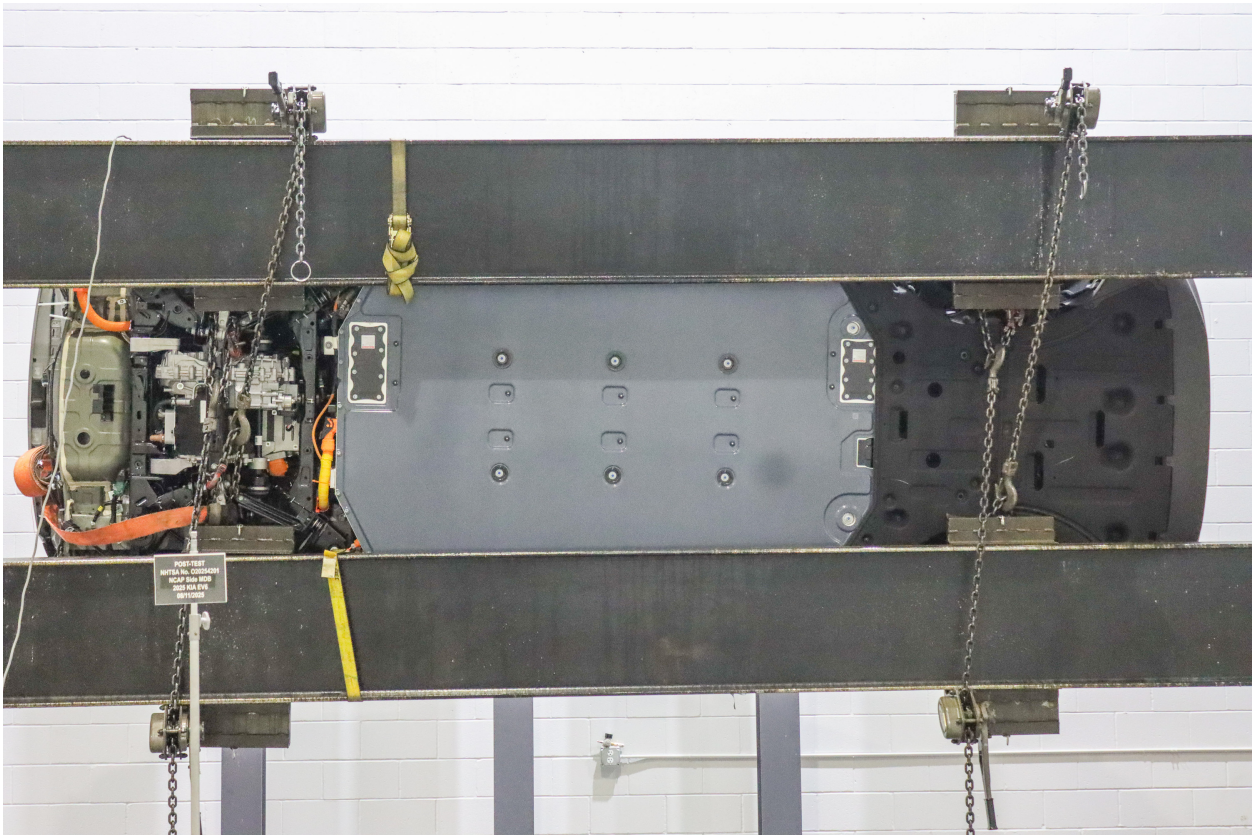


Figure A-97: FMVSS No. 301 Static Rollover 90 Degrees

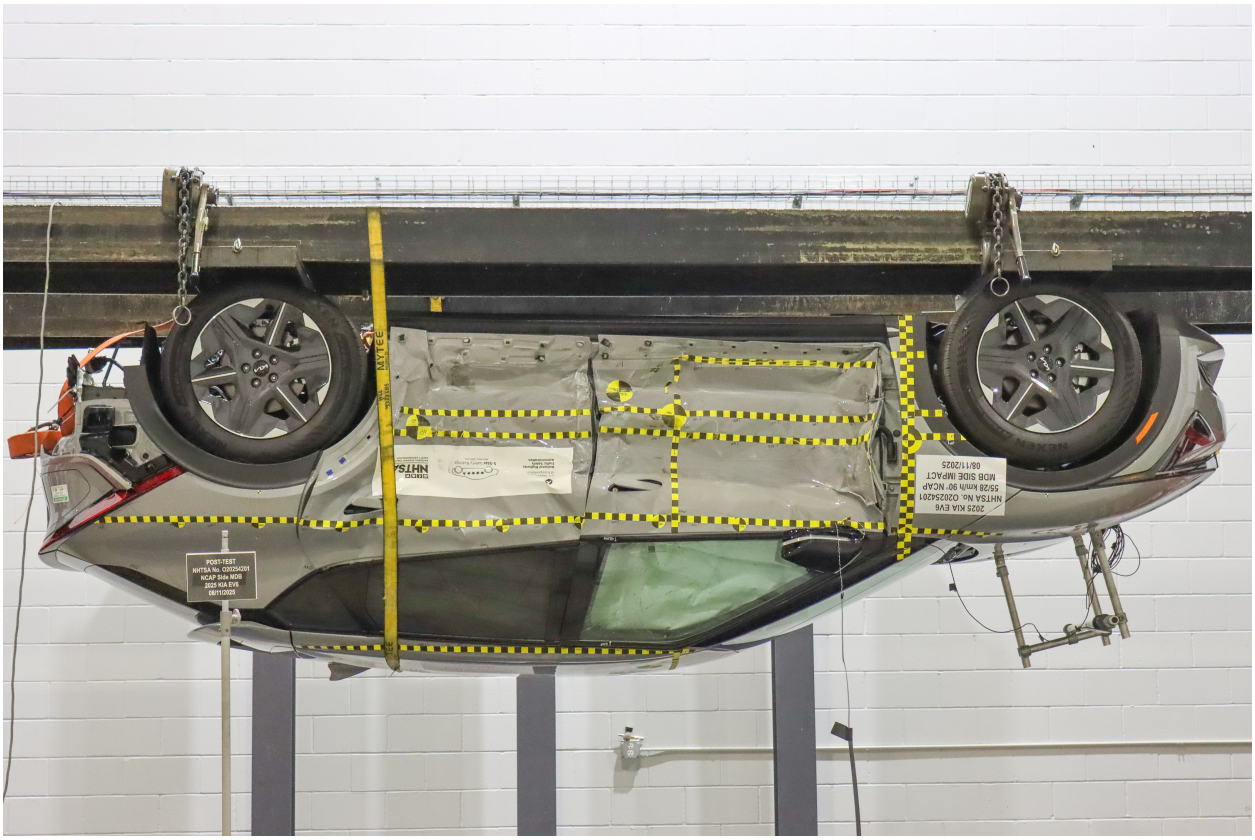


Figure A-98: FMVSS No. 301 Static Rollover 180 Degrees



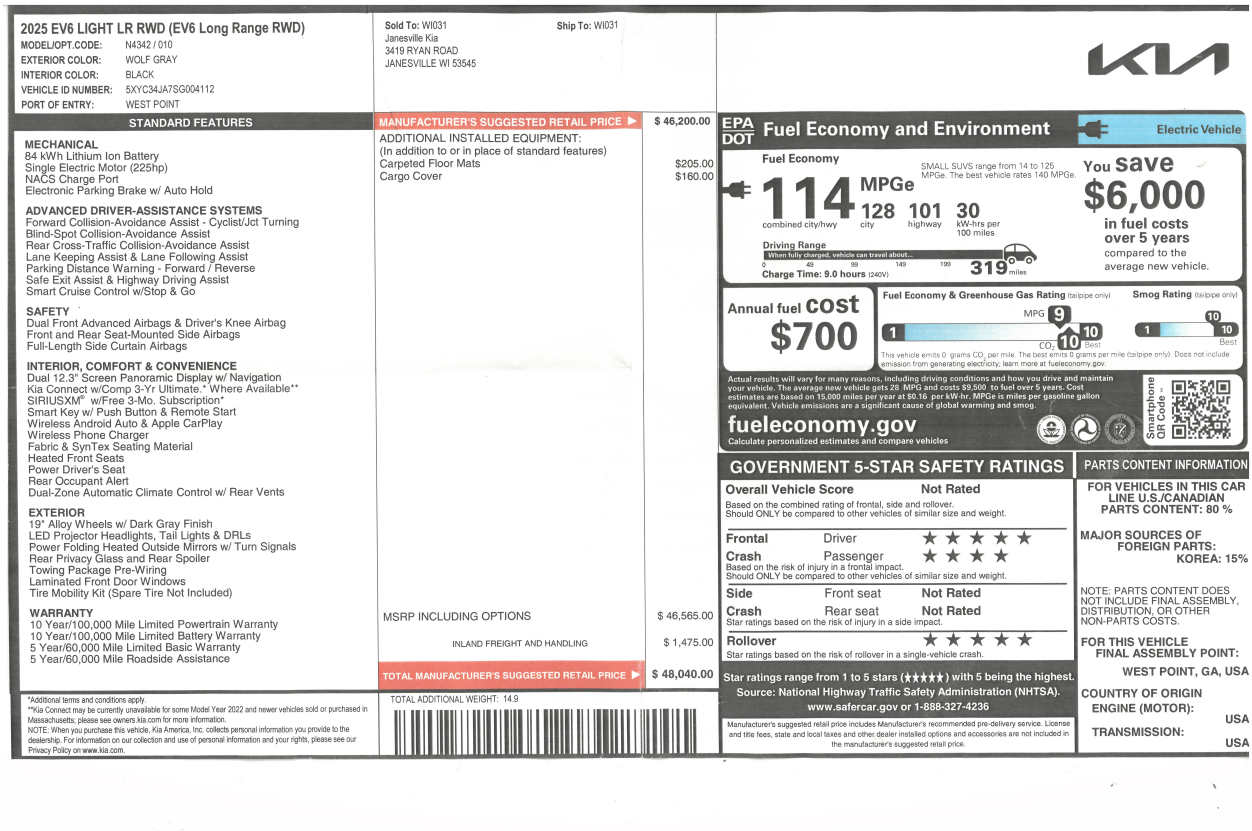
Figure A-99: FMVSS No. 301 Static Rollover 270 Degrees



Figure A-100: FMVSS No. 301 Static Rollover 360 Degrees



Figure A-101: Impact Event



2025 EV6 LIGHT LR RWD (EV6 Long Range RWD)

MODEL/OPT.CODE: N4342 / 010
EXTERIOR COLOR: WOLF GRAY
INTERIOR COLOR: BLACK
VEHICLE ID NUMBER: 5XYC34JA7SG004112
PORT OF ENTRY: WEST POINT

Sold To: WI031 Janesville Kia 3419 RYAN ROAD JANESVILLE WI 53545

Ship To: WI031

STANDARD FEATURES

MECHANICAL
84 kWh Lithium Ion Battery
Single Electric Motor (225hp)
NACS Charge Port
Electronic Parking Brake w/ Auto Hold

ADVANCED DRIVER-ASSISTANCE SYSTEMS
Forward Collision-Avoidance Assist - Cyclist/Jct Turning
Blind-Spot Collision-Avoidance Assist
Rear Cross-Traffic Collision-Avoidance Assist
Lane Keeping Assist & Lane Following Assist
Parking Distance Warning - Forward / Reverse
Safe Exit Assist & Highway Driving Assist
Smart Cruise Control w/Stop & Go

SAFETY
Dual Front Advanced Airbags & Driver's Knee Airbag
Front and Rear Seat-Mounted Side Airbags
Full-Length Side Curtain Airbags

INTERIOR, COMFORT & CONVENIENCE
Dual 12.3" Screen Panoramic Display w/ Navigation
Kia Connect w/Comp 3-Yr Ultimate.* Where Available**
SIRIUSXM® w/Free 3-Mo. Subscription*
Smart Key w/ Push Button & Remote Start
Wireless Android Auto & Apple CarPlay
Wireless Phone Charger
Fabric & SynTex Seating Material
Heated Front Seats
Power Driver's Seat
Rear Occupant Alert
Dual-Zone Automatic Climate Control w/ Rear Vents

EXTERIOR
19" Alloy Wheels w/ Dark Gray Finish
LED Projector Headlights, Tail Lights & DRLs
Power Folding Heated Outside Mirrors w/ Turn Signals
Rear Privacy Glass and Rear Spoiler
Towing Package Pre-Wiring
Laminated Front Door Windows
Tire Mobility Kit (Spare Tire Not Included)

WARRANTY
10 Year/100,000 Mile Limited Powertrain Warranty
10 Year/100,000 Mile Limited Battery Warranty
5 Year/60,000 Mile Limited Basic Warranty
5 Year/60,000 Mile Roadside Assistance

*Additional terms and conditions apply.
**Kia Connect may be currently unavailable for some Model Year 2022 and newer vehicles sold or purchased in Massachusetts; please see owners.kia.com for more information.
NOTE: When you purchase this vehicle, Kia America, Inc. collects personal information you provide to the dealership. For information on our collection and use of personal information and your rights, please see our Privacy Policy on www.kia.com.

MANUFACTURER'S SUGGESTED RETAIL PRICE ▶	$ 46,200.00
ADDITIONAL INSTALLED EQUIPMENT: (In addition to or in place of standard features)	
Carpeted Floor Mats	$205.00
Cargo Cover	$160.00
MSRP INCLUDING OPTIONS	$ 46,565.00
INLAND FREIGHT AND HANDLING	$ 1,475.00
TOTAL MANUFACTURER'S SUGGESTED RETAIL PRICE ▶	$ 48,040.00

TOTAL ADDITIONAL WEIGHT: 14.9

EPA DOT Fuel Economy and Environment — Electric Vehicle

Fuel Economy
114 MPGe combined city/hwy
128 city | 101 highway | 30 kW-hrs per 100 miles
SMALL SUVS range from 14 to 125 MPGe. The best vehicle rates 140 MPGe.
You save $6,000 in fuel costs over 5 years compared to the average new vehicle.

Driving Range
When fully charged, vehicle can travel about...
0 | 49 | 99 | 149 | 199 | 319 miles
Charge Time: 9.0 hours (240V)

Annual fuel cost $700

Fuel Economy & Greenhouse Gas Rating (tailpipe only)
MPG 9 | CO2 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 emission from generating electricity; learn more at fueleconomy.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 $9,500 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at $0.16 per kW-hr. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of global warming and smog.

fueleconomy.gov
Calculate personalized estimates and compare vehicles
Smartphone QR Code

GOVERNMENT 5-STAR SAFETY RATINGS

Overall Vehicle Score: Not Rated
Based on the combined rating of frontal, side and rollover.
Should ONLY be compared to other vehicles of similar size and weight.

Frontal Crash — Driver ★★★★★ | Passenger ★★★★★
Based on the risk of injury in a frontal impact.
Should ONLY be compared to other vehicles of similar size and weight.

Side Crash — Front seat: Not Rated | Rear seat: Not Rated
Star ratings based on the risk of injury in a side impact.

Rollover ★★★★★
Star ratings based on the risk of rollover in a single-vehicle crash.

Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest.
Source: National Highway Traffic Safety Administration (NHTSA).
www.safercar.gov or 1-888-327-4236

Manufacturer's suggested retail price includes Manufacturer's recommended pre-delivery service. License and title fees, state and local taxes and other dealer installed options and accessories are not included in the manufacturer's suggested retail price.

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CAR LINE U.S./CANADIAN PARTS CONTENT: 80 %

MAJOR SOURCES OF FOREIGN PARTS: KOREA: 15%

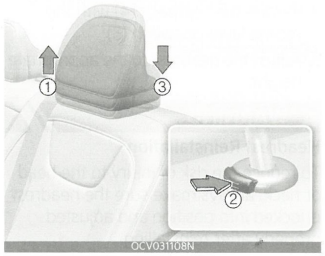
NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS.

FOR THIS VEHICLE FINAL ASSEMBLY POINT: WEST POINT, GA, USA

COUNTRY OF ORIGIN
ENGINE (MOTOR): USA
TRANSMISSION: USA

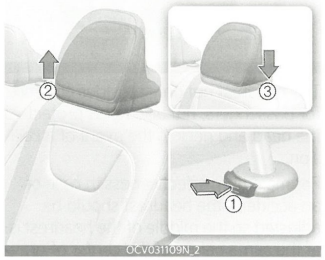
Figure A-102: Monroney Label

Adjusting the height up and down



- To raise the headrest, pull it up to the desired position (1).
- To lower the headrest, push and hold the release button (2) on the headrest support and lower the headrest to the desired position (3).

Removal and reinstallation



- To remove the headrest, raise it as far as it can go and press the release button (1) while pulling the headrest upward (2).
- To reinstall the headrest, put the headrest poles (3) into the holes while pressing the release button (1).
- Then adjust it to the appropriate height and ensure that it locks in position.

⚠ WARNING

Headrest Reinstallation

To reduce the risk of injury to the head or neck, always make sure the headrest is locked into position and adjusted properly after reinstalling.

Armrest

To use the armrest, pull it forward from the seatback.



- Slide the cover outwards to use the cup holder.
- Slide the cover inwards to use the storage area.

Figure A-104: Left Rear Passenger Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

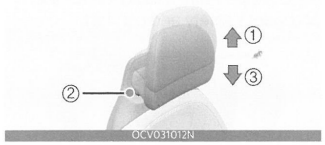
Figure A-103: Driver Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

- Do not adjust the headrest height while the vehicle is in motion. Driver may lose control of the vehicle.

⚠ CAUTION

Excessive pulling or pushing may damage the headrest.

Adjusting the height up and down



- Pull it up to the desired position (1).
- To lower the headrest, push and hold the release button (2) on the headrest support.
- Lower the headrest to the desired position (3).

Adjusting the headrest forward and backward



Operation

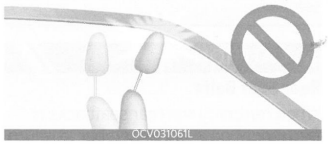
- Pull the headrest fully forward and release it.

✻ INFORMATION

The headrest may be adjusted forward to 3 different positions by pulling the headrest forward.

✻ NOTICE

If you fold the seatback towards the front with the headrest and seat cushion raised, the headrest may come in contact with the sun visor or other parts of the vehicle.

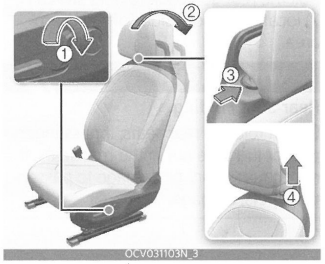


Removing headrest

Type A



Type B



To remove the headrest:



Figure 305-1: Auxiliary Power Module Warning Label

Photo Not Applicable

Figure 305-2: Power Inverter Warning Label



Figure 305-3 First Responder Warning Label

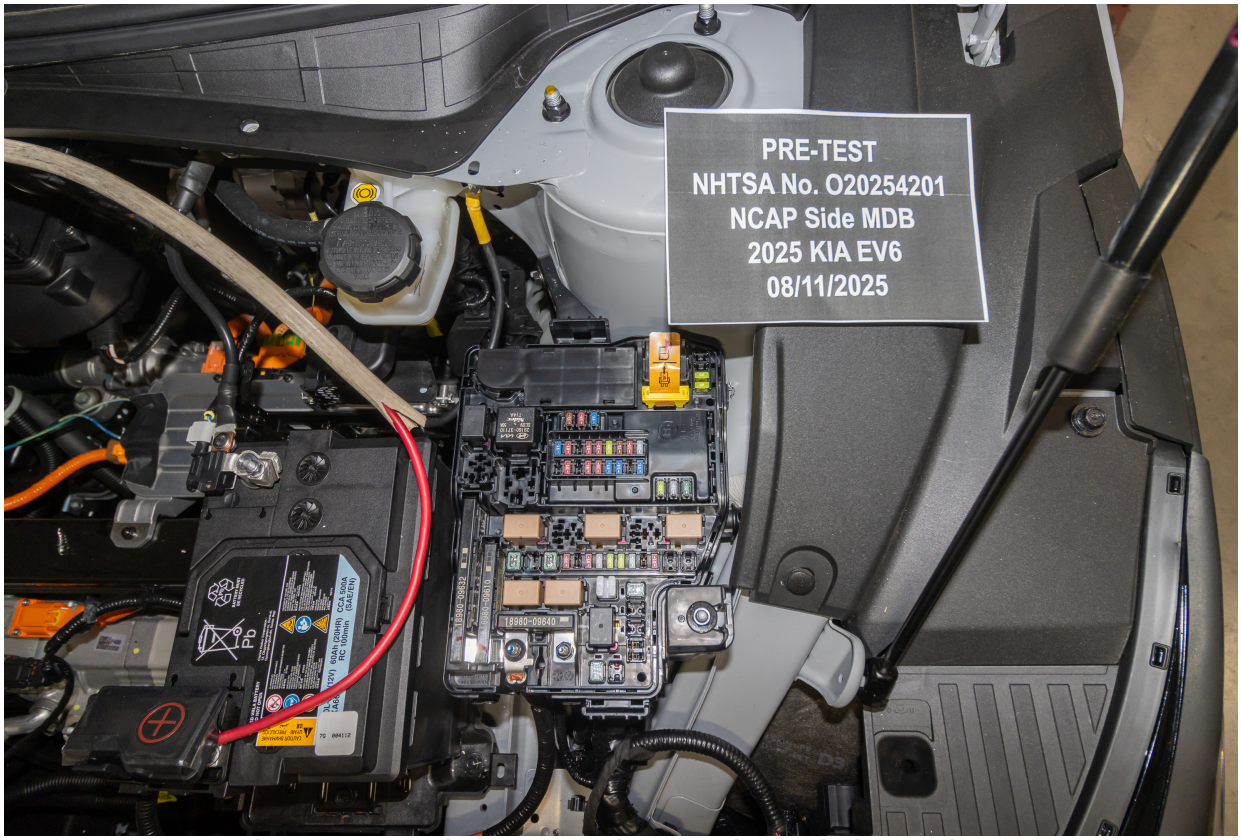


Figure 305-4: First Responder Warning Label Location

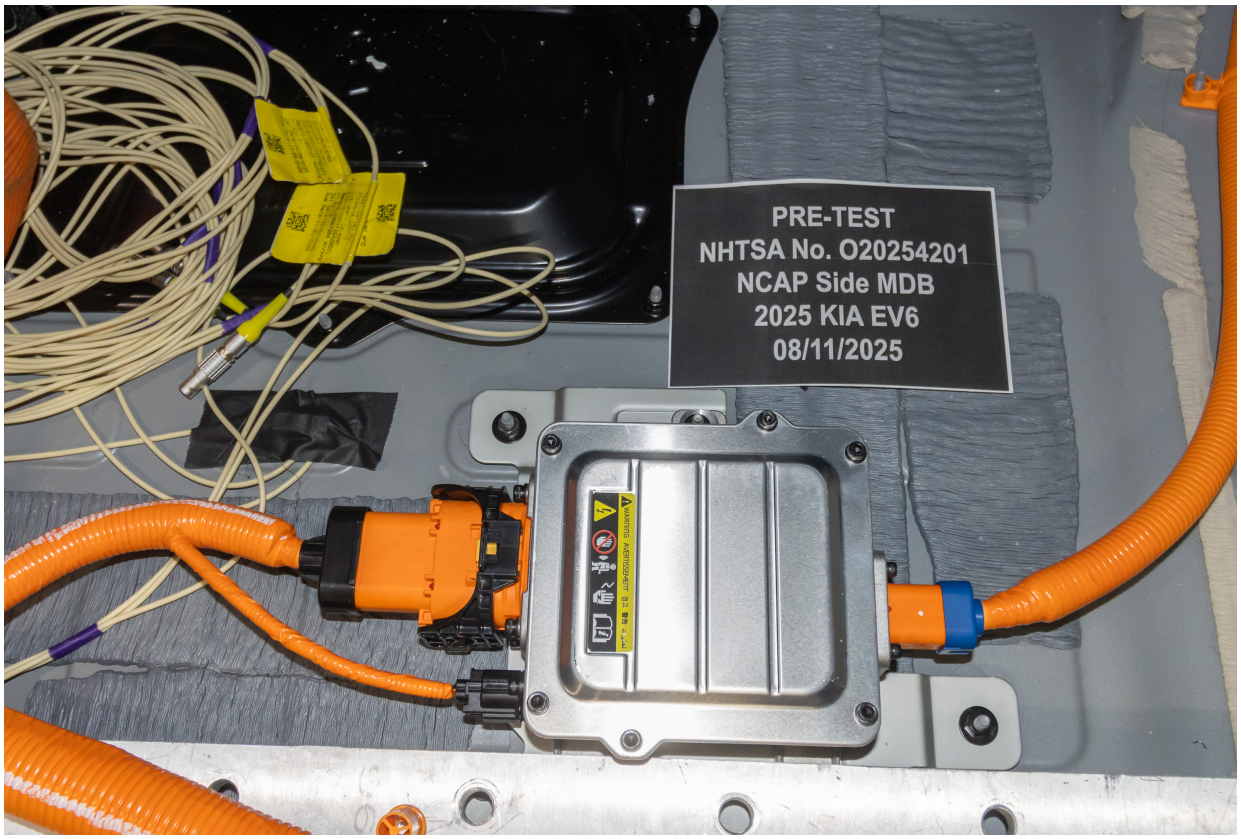


Figure 305-5: Other Vehicle Label(s) Related to Electrical Propulsion System



Figure 305-6: Manual High Voltage Service Disconnect in Place

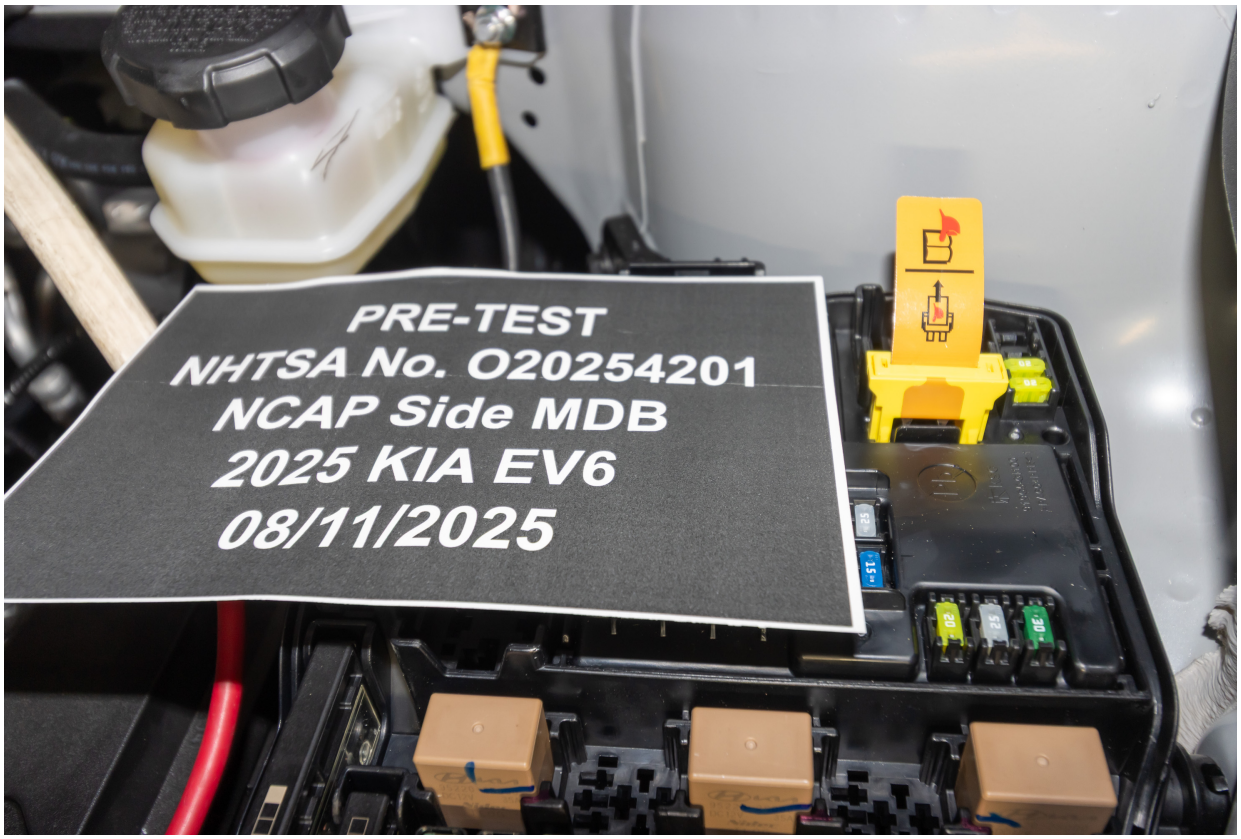


Figure 305-7: Manual High Voltage Service Disconnect Removed (Plug)

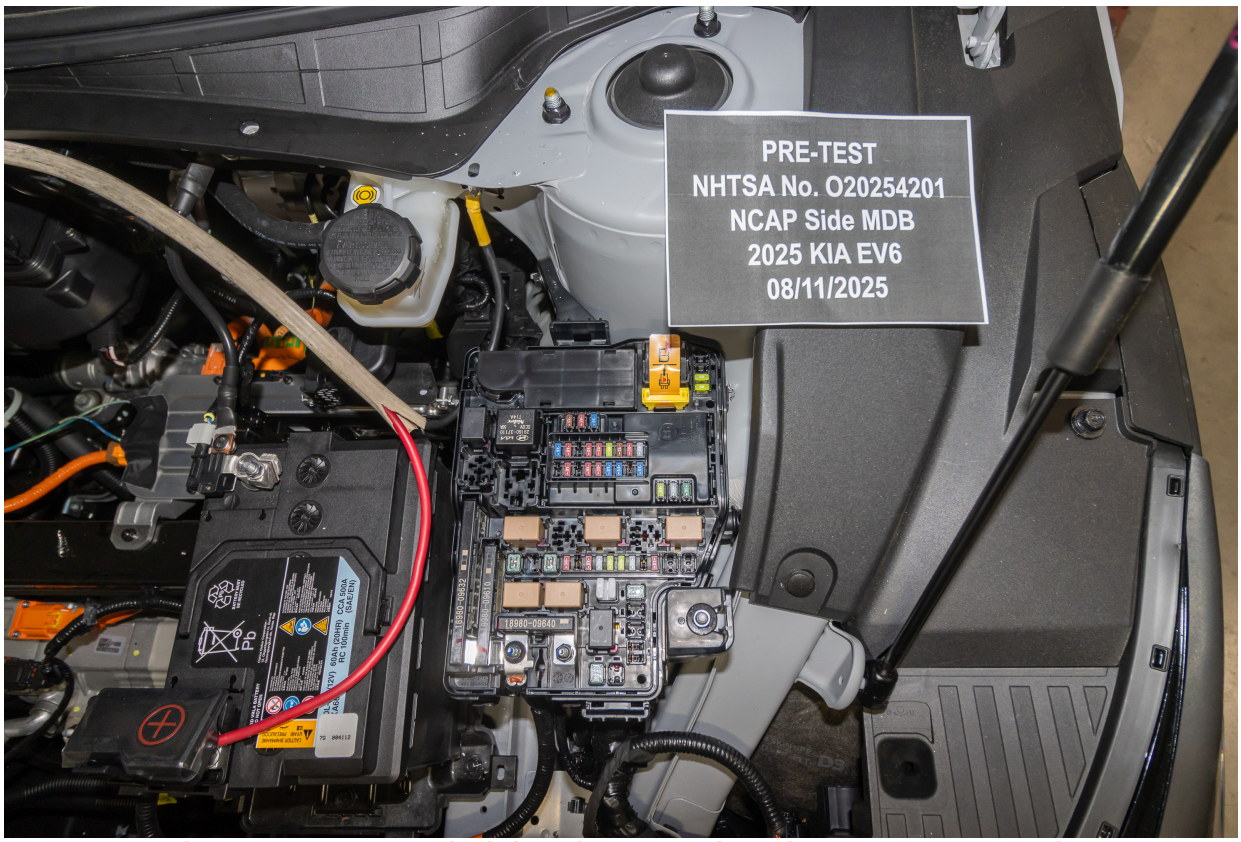


Figure 305-8: Manual High Voltage Service Disconnect Removed (Location where removed)

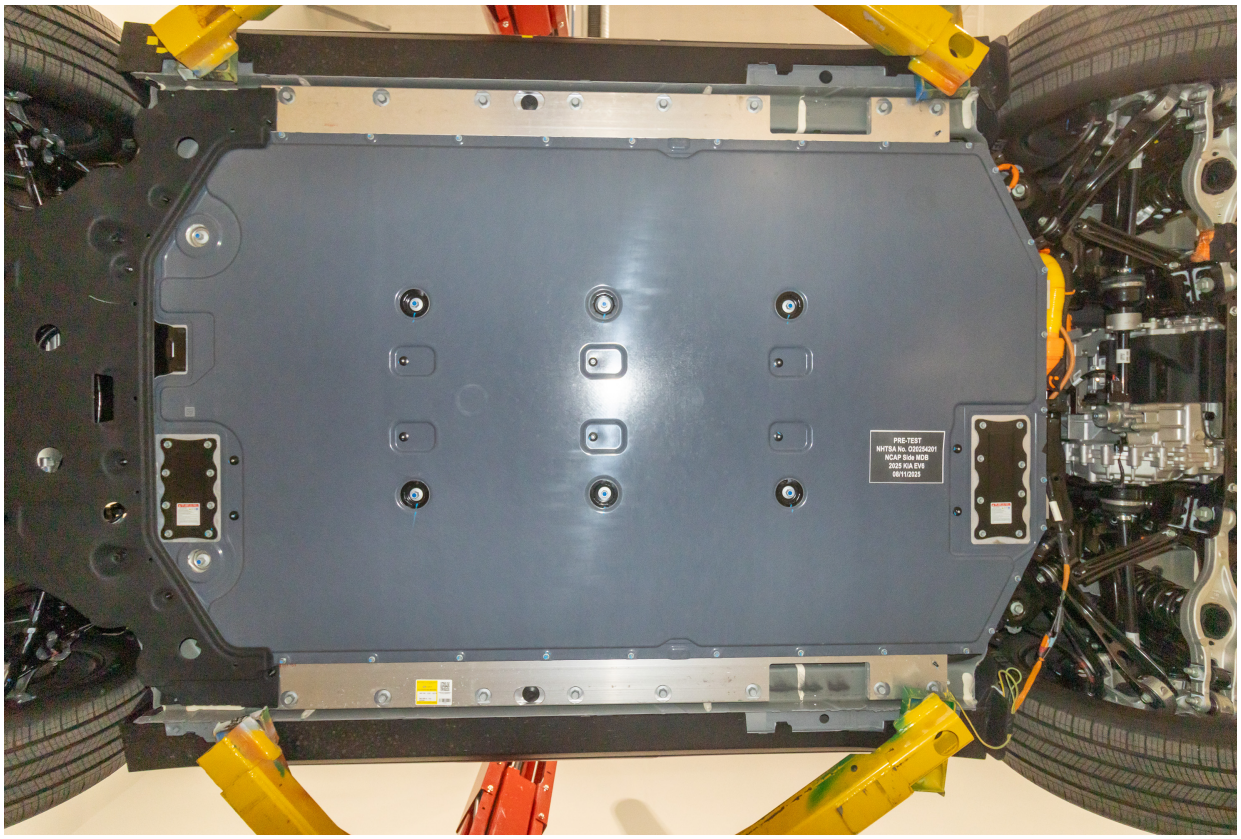


Figure 305-9: Pre-Impact View of Propulsion Battery



Figure 305-10: Post-Impact Front View of Propulsion Battery



Figure 305-11: Post-Impact Rear View of Propulsion Battery (if any part of it is visible)

Photo Not Applicable

Figure 305-12: Pre-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

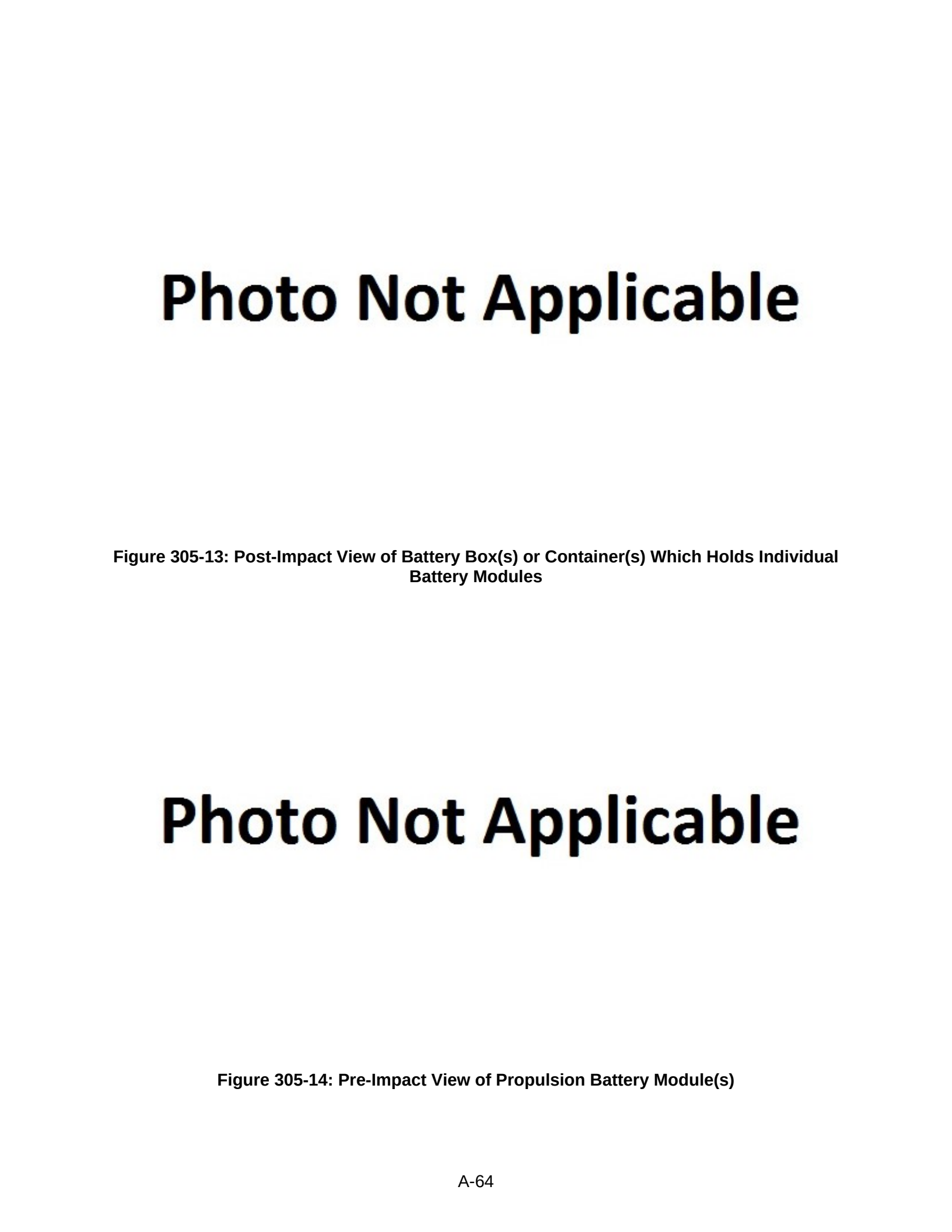


Figure 305-13: Post-Impact View of Battery Box(s) or Container(s) Which Holds Individual Battery Modules

Figure 305-14: Pre-Impact View of Propulsion Battery Module(s)

Photo Not Applicable

Figure 305-15: Post-Impact View of Propulsion Battery Module(s)

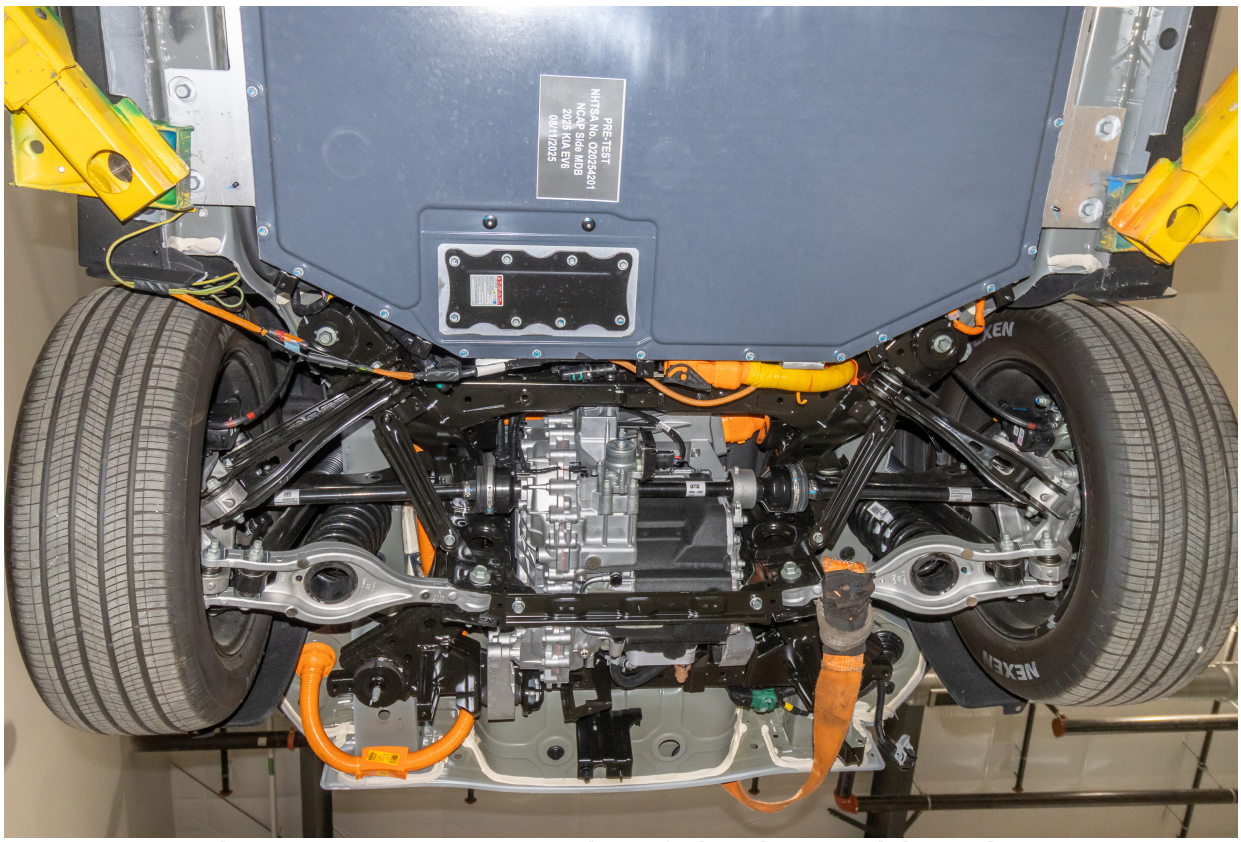


Figure 305-16: Pre-Impact View of Electric Propulsion Drive

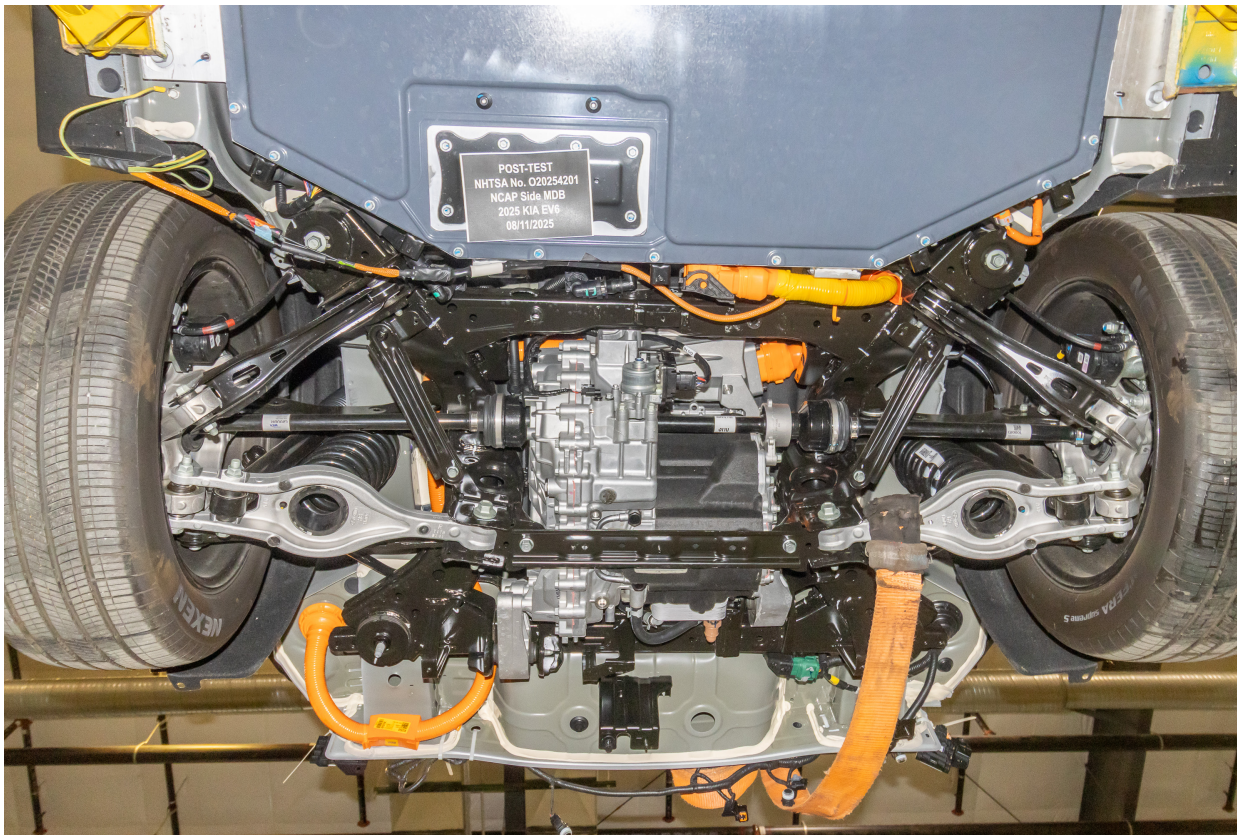


Figure 305-17: Post-Impact View of Electric Propulsion Drive



Figure 305-18: Pre-Impact View of High Voltage Interconnect(s)

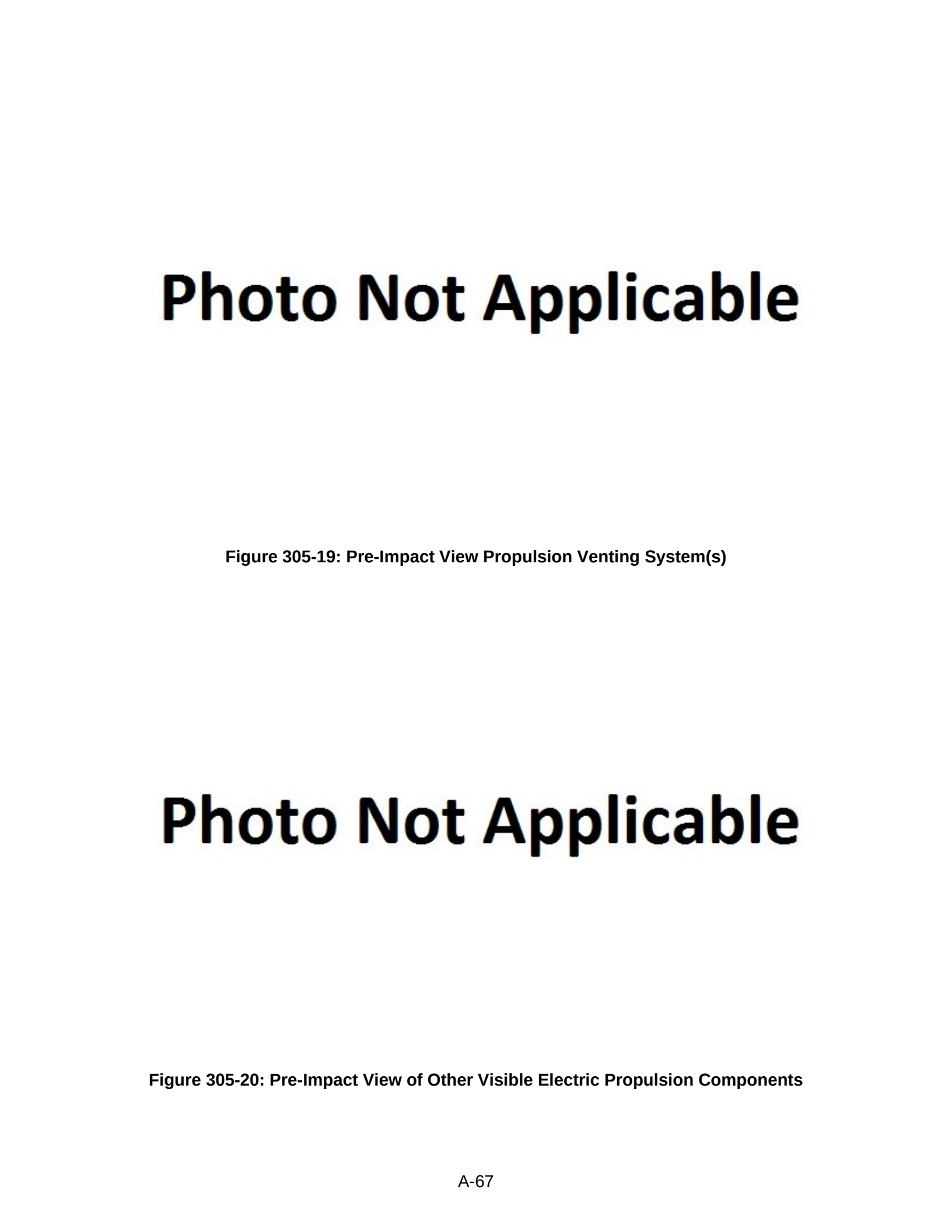


Figure 305-19: Pre-Impact View Propulsion Venting System(s)

Figure 305-20: Pre-Impact View of Other Visible Electric Propulsion Components



Figure 305-21: Pre-Impact View of Ground Lead Attached



Figure 305-22: Pre-Impact View of High Voltage Leads Attached



Figure 305-23: Pre-Impact Close-Up View of High Voltage Leads Attached

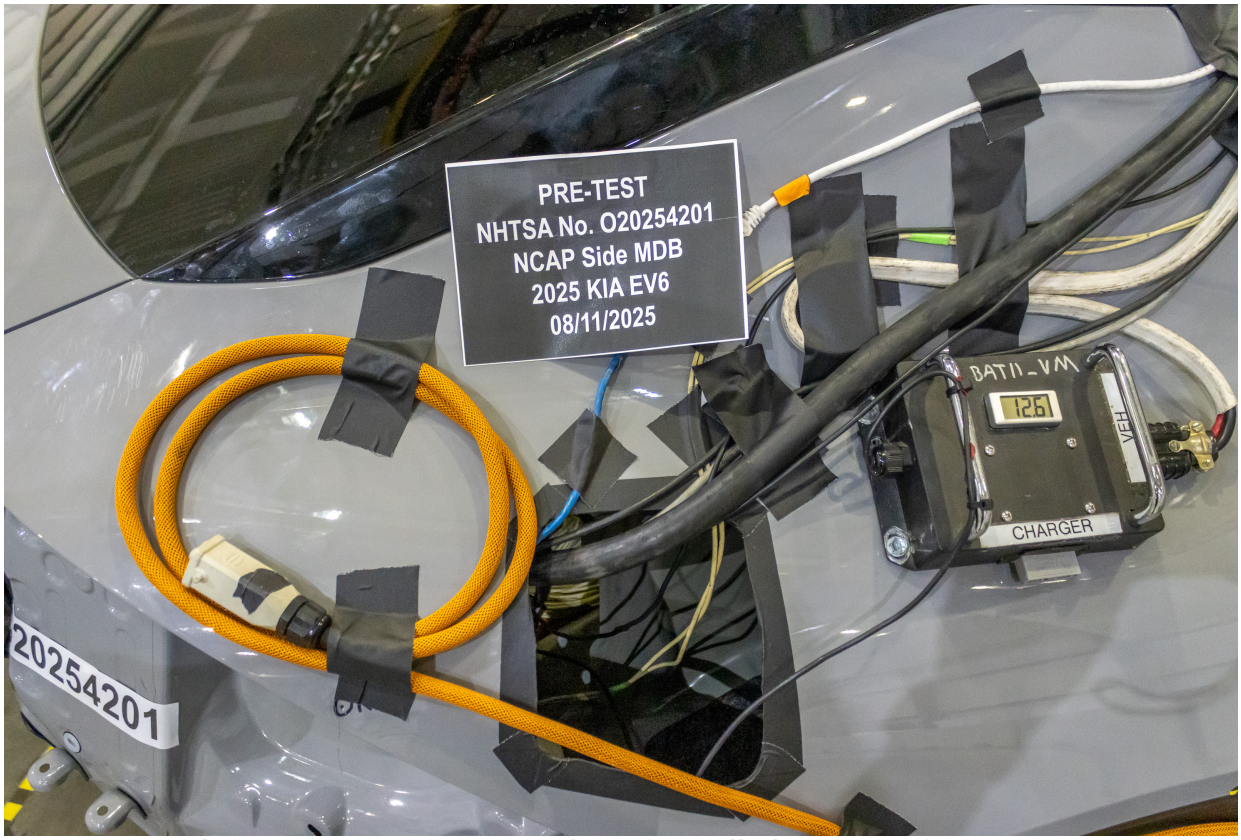


Figure 305-24: Pre-Impact View of Installed Test Interface Port

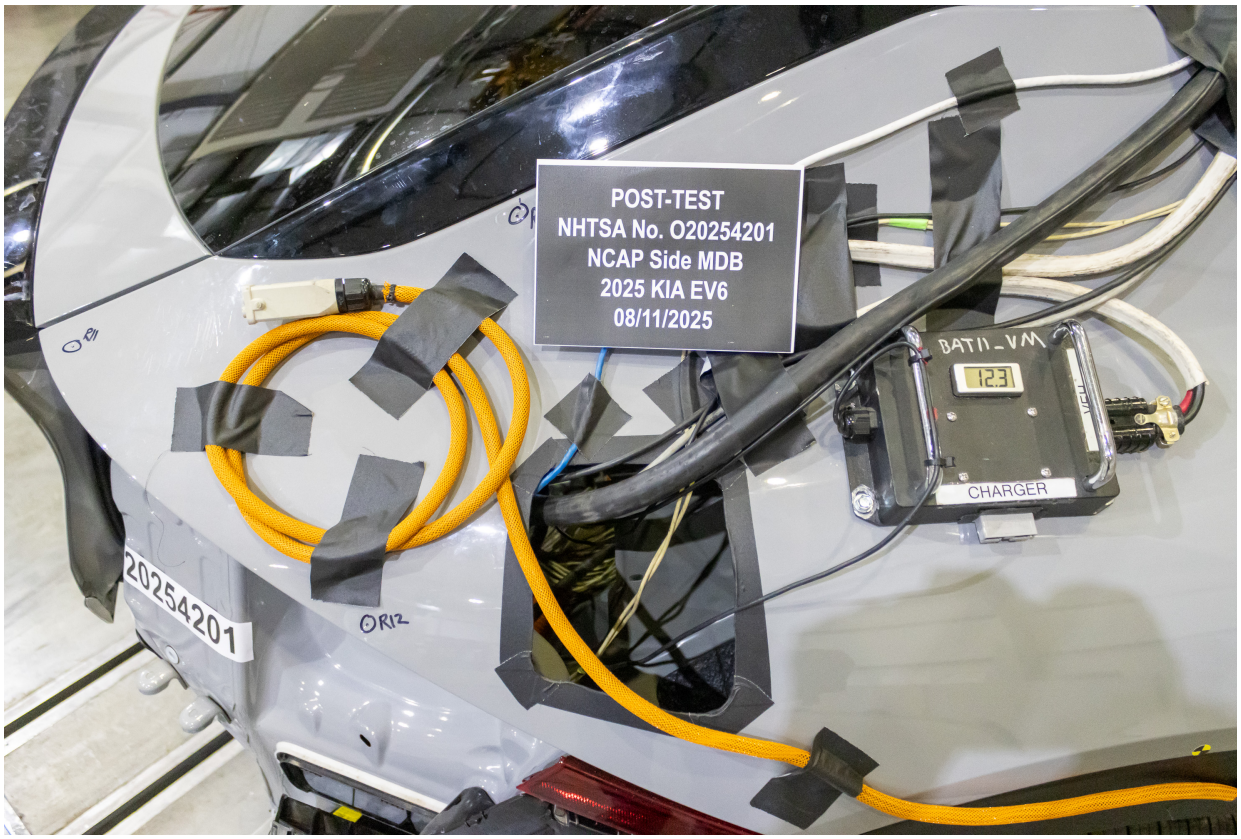


Figure 305-25: Post-Impact View of Installed Test Interface Port

Photo Not Applicable

Figure 305-26: Pre-Impact View of Other Test Devices

Photo Not Applicable

Figure 305-27: Post-Impact View of Other Test Devices

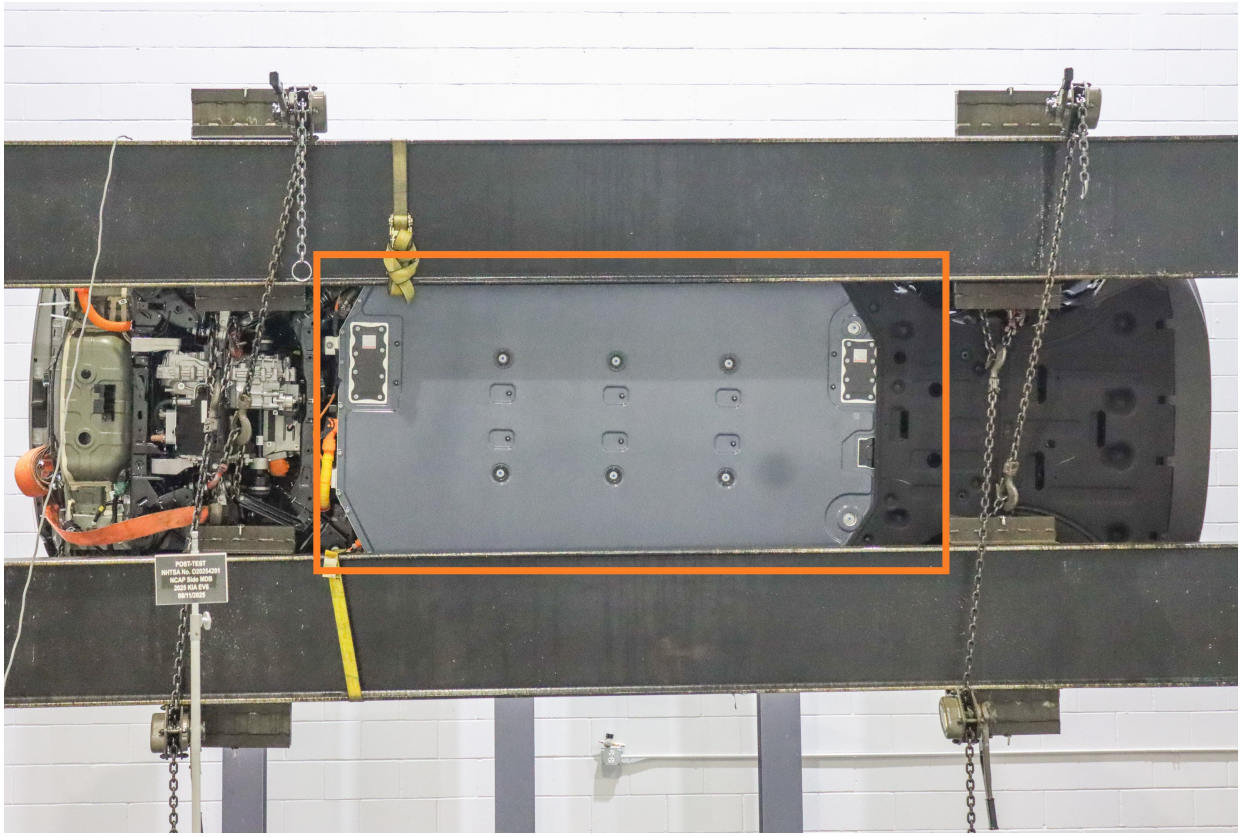


Figure 305-28: FMVSS No. 305 Static Rollover 90 Degrees

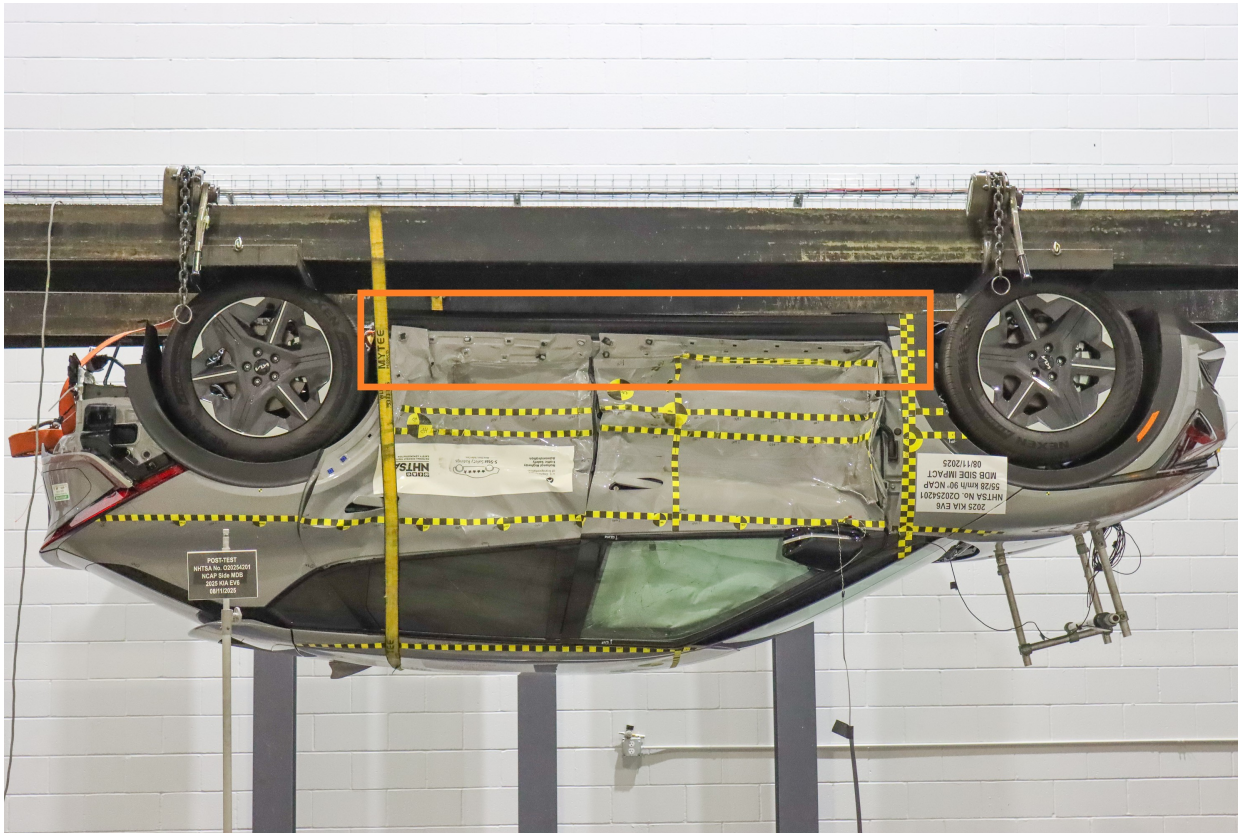


Figure 305-29: FMVSS No. 305 Static Rollover 180 Degrees



Figure 305-30: FMVSS No. 305 Static Rollover 270 Degrees



Figure 305-31: FMVSS No. 305 Static Rollover 360 Degrees



Figure 305-32: Pre-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery



Figure 305-33: Post-Impact View of the Vehicle Passenger Compartment Adjacent to Propulsion Battery

Photo Not Applicable

Figure 305-34: Post-Impact Propulsion Battery System Mounting and-or Intrusion Failure(s)

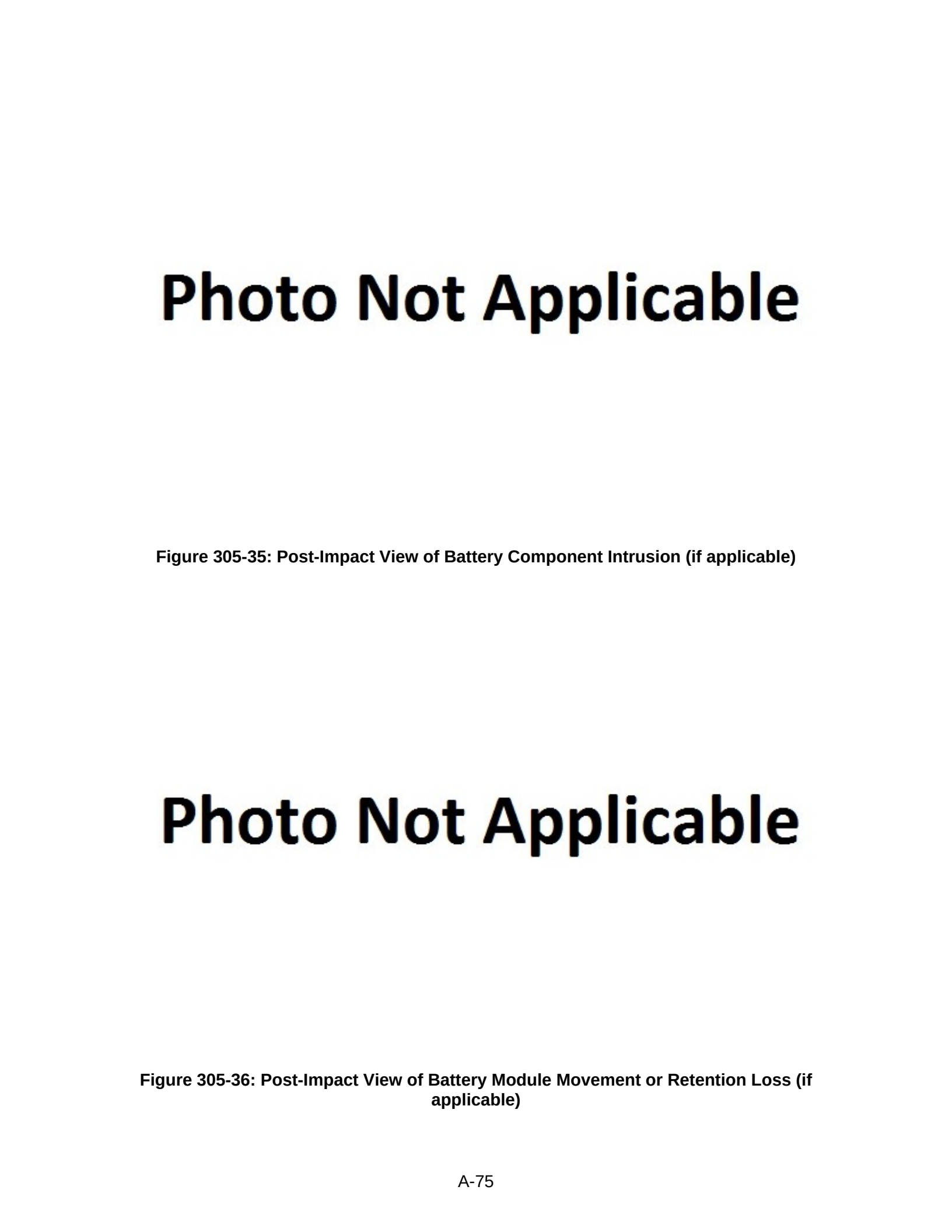


Figure 305-35: Post-Impact View of Battery Component Intrusion (if applicable)

Figure 305-36: Post-Impact View of Battery Module Movement or Retention Loss (if applicable)



Figure 305-37: Post-Impact View of Propulsion Battery Electrolyte Spillage Location (Prior to static roll)

Figure 305-38: Post-Impact View of Propulsion Battery Electrolyte Spillage Location (After static roll)

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

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Driver Dummy Instrumentation Plots

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The following additional dummy and vehicle response data can be obtained from the Research and Development section of the NHTSA website. The website can be found at www.NHTSA.gov

Additional Driver & Passenger Dummy Instrumentation Data

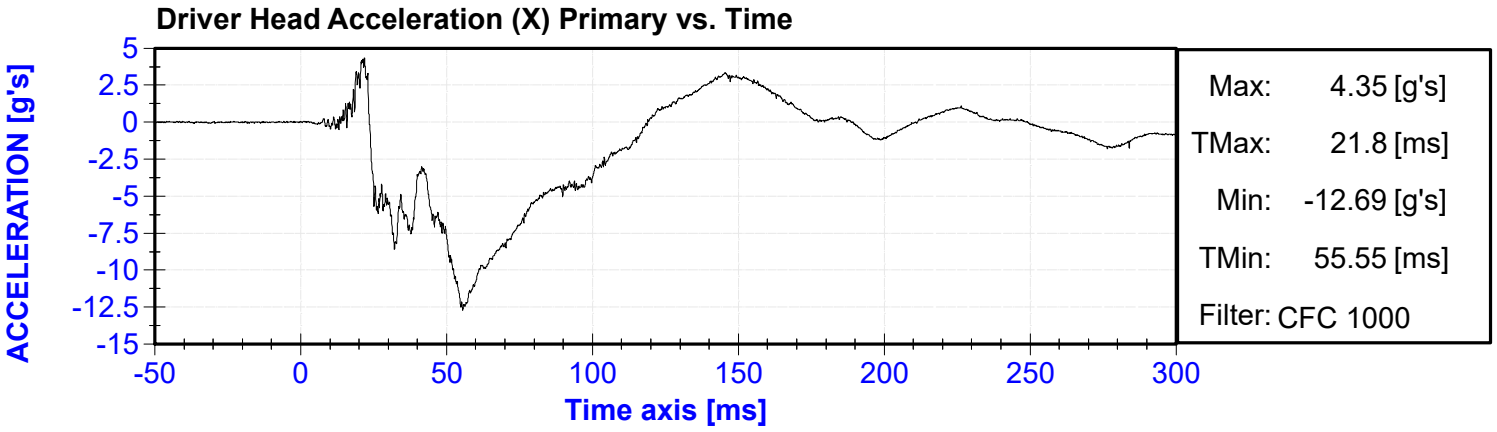
Driver Lower Spine T12 Acceleration (X)
Driver Lower Spine T12 Acceleration (Y)
Driver Lower Spine T12 Acceleration (Z)
Passenger Upper Thorax Rib Deflection (Y)
Passenger Middle Thorax Rib Deflection (Y)
Passenger Lower Thorax Rib Deflection (Y)
Passenger Upper Abdomen Rib Deflection (Y)
Passenger Lower Abdomen Rib Deflection (Y)
Driver Head Acceleration Redundant (X)
Driver Head Acceleration Redundant (Y)
Driver Head Acceleration Redundant (Z)
Passenger Head Acceleration Redundant (X)
Passenger Head Acceleration Redundant (Y)
Passenger Head Acceleration Redundant (Z)

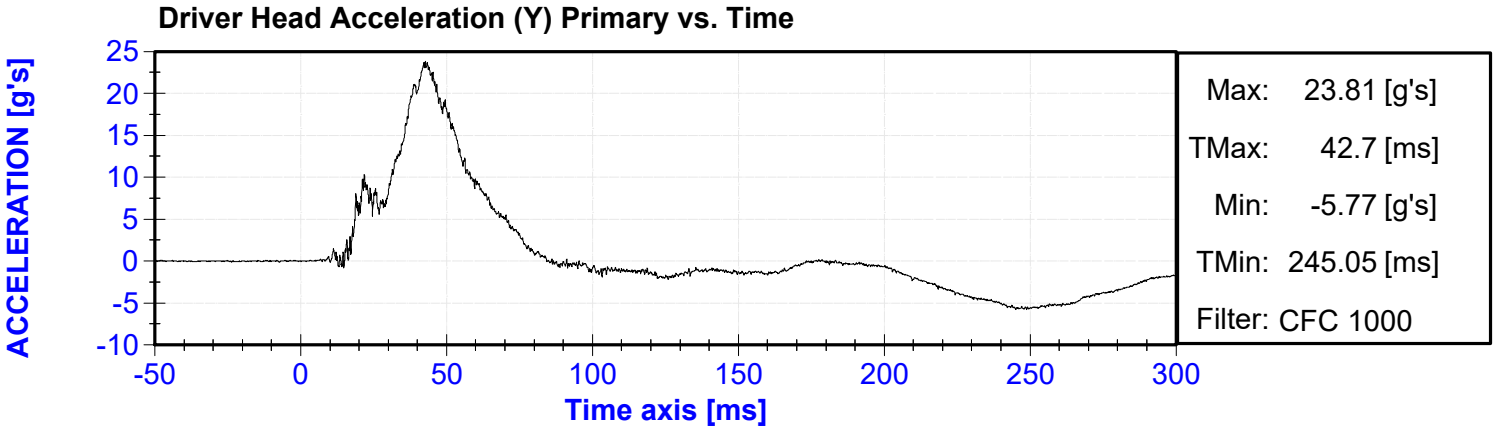
Vehicle Instrumentation Data

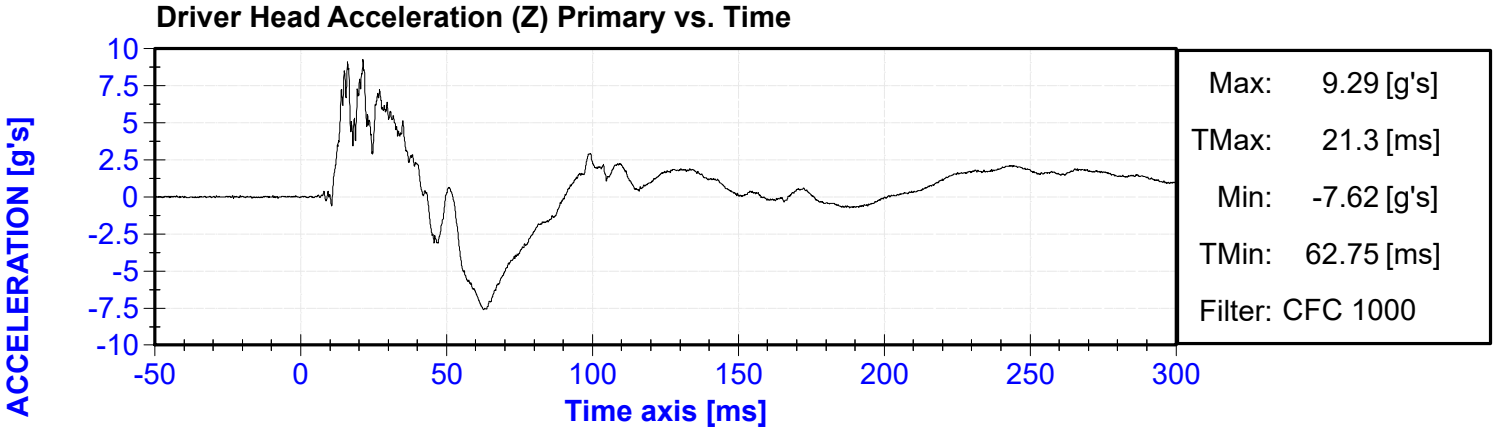
Vehicle Center of Gravity Acceleration (X)
Vehicle Center of Gravity Acceleration (Y)
Vehicle Center of Gravity Acceleration (Z)
Right Side Sill at Front Seat Acceleration (X)
Right Side Sill at Front Seat Acceleration (Y)
Right Side Sill at Front Seat Acceleration (Z)
Right Side Sill at Rear Seat Acceleration (X)
Right Side Sill at Rear Seat Acceleration (Y)
Right Side Sill at Rear Seat Acceleration (Z)
Left Side Sill at Front Seat Acceleration (Y)
Left Side Sill at Rear Seat Acceleration (Y)
Lower A-Post Acceleration (Y)
Middle A-Post Acceleration (Y)
Lower B-Post Acceleration (Y)
Middle B-Post Acceleration (Y)
Front Seat Track Acceleration (Y)
Rear Seat Structure Acceleration (Y)
Right Rear Occupant Compartment Acceleration (Y)
Engine Block (X)
Engine Block (Y)
Rear Floorpan Above Axle Acceleration (X)
Rear Floorpan Above Axle Acceleration (Y)
Rear Floorpan Above Axle Acceleration (Z)

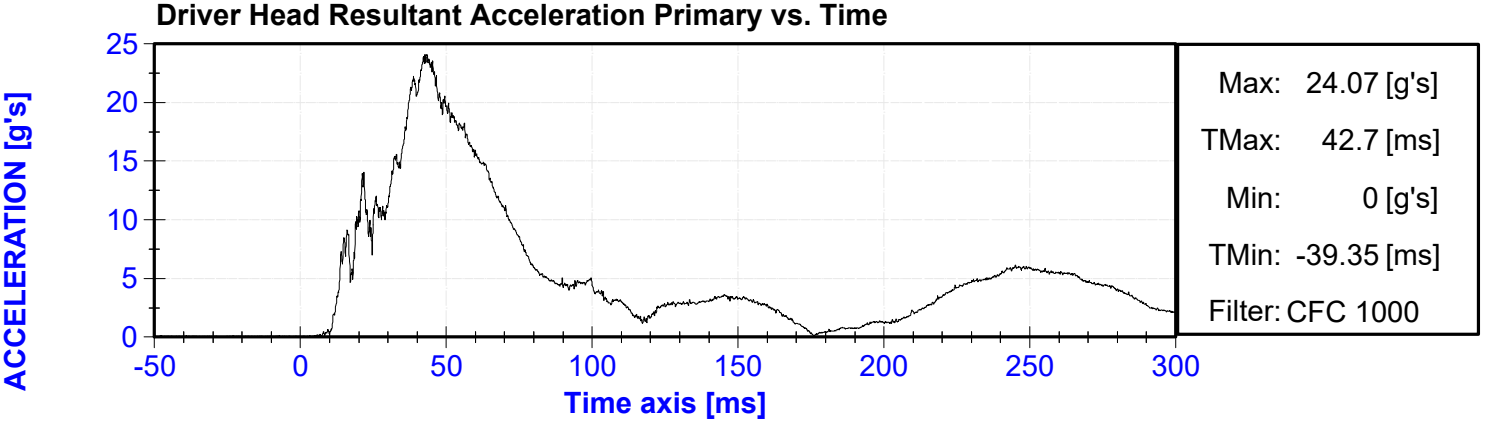
MDB Instrumentation Data

MDB Center of Gravity Acceleration (X)
MDB Center of Gravity Acceleration (Y)
MDB Center of Gravity Acceleration (Z)
MDB Rear Acceleration (X)
MDB Rear Acceleration (Y)
Left MDB Contact Switch
Right MDB Contact Switch

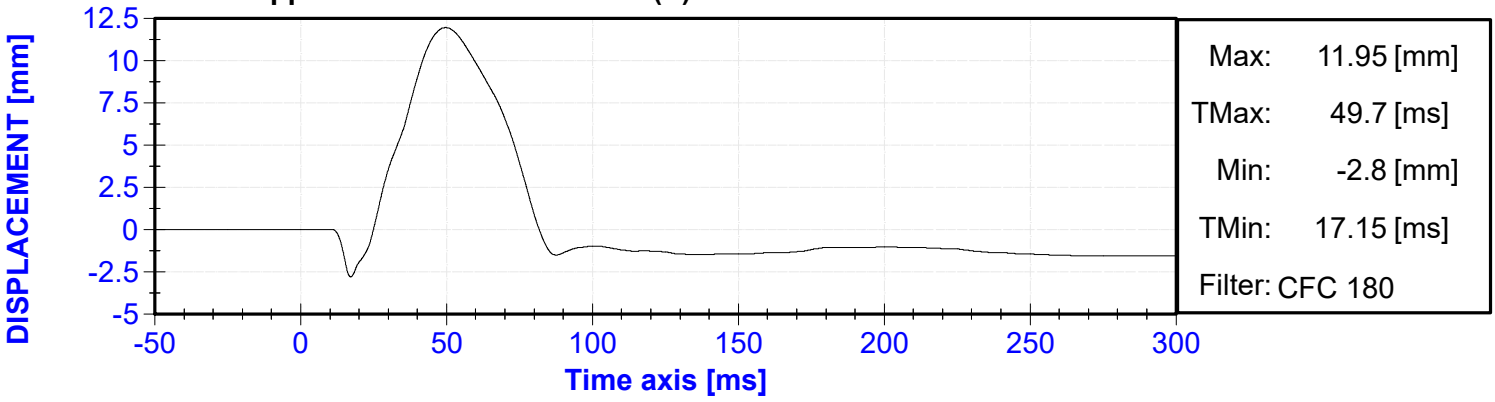

Driver Head Acceleration (X) Primary vs. Time
ACCELERATION [g's]
Time axis [ms]
Max: 4.35 [g's]
TMax: 21.8 [ms]
Min: -12.69 [g's]
TMin: 55.55 [ms]
Filter: CFC 1000


Driver Head Acceleration (Y) Primary vs. Time
ACCELERATION [g's]
Time axis [ms]
Max: 23.81 [g's]
TMax: 42.7 [ms]
Min: -5.77 [g's]
TMin: 245.05 [ms]
Filter: CFC 1000

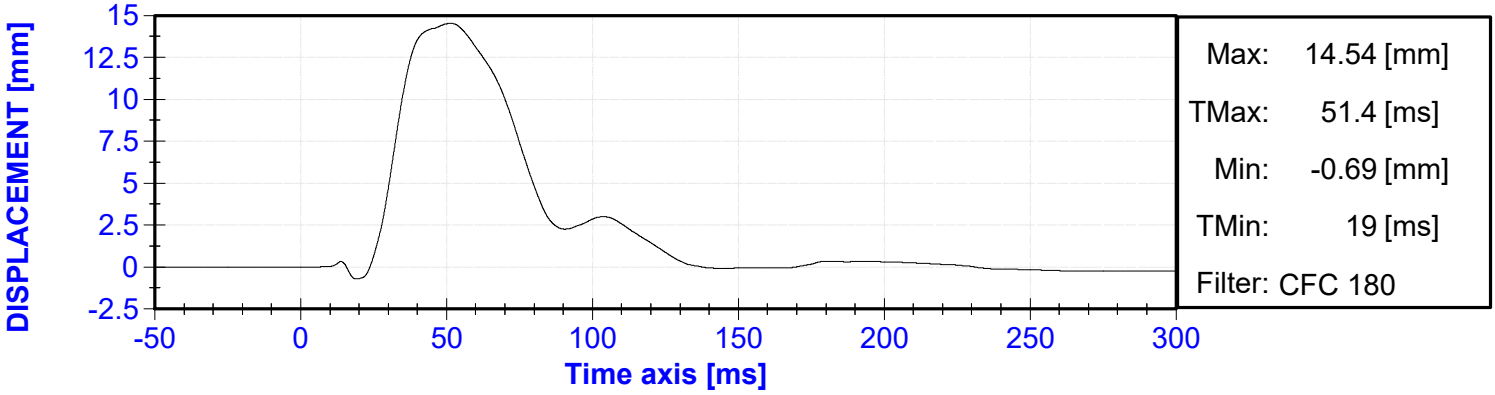

Driver Head Acceleration (Z) Primary vs. Time
ACCELERATION [g's]
Time axis [ms]
Max: 9.29 [g's]
TMax: 21.3 [ms]
Min: -7.62 [g's]
TMin: 62.75 [ms]
Filter: CFC 1000


Driver Head Resultant Acceleration Primary vs. Time
ACCELERATION [g's]
Time axis [ms]
Max: 24.07 [g's]
TMax: 42.7 [ms]
Min: 0 [g's]
TMin: -39.35 [ms]
Filter: CFC 1000

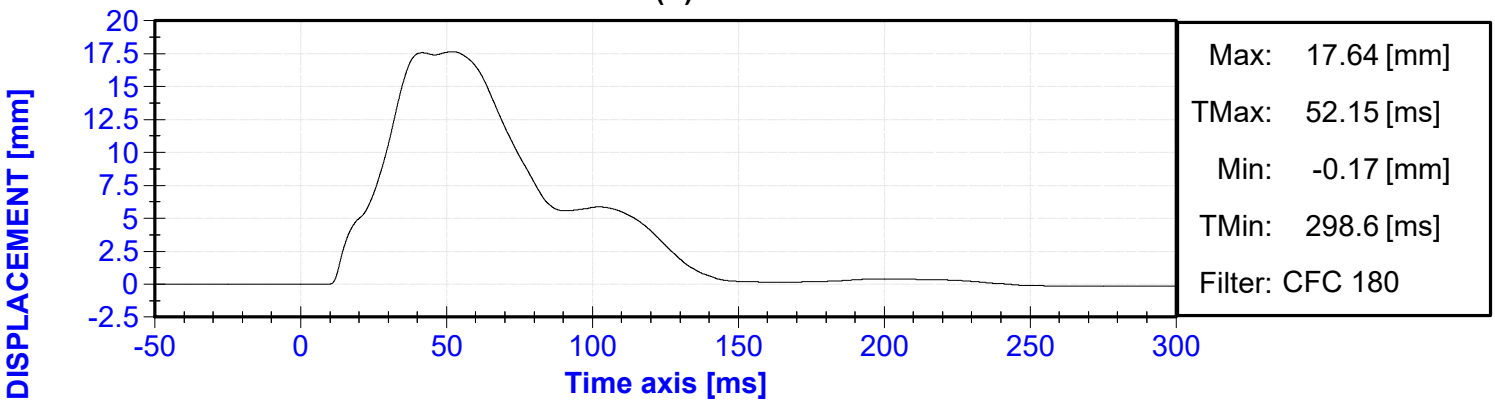
Driver Upper Thorax Rib Deflection (Y) vs. Time



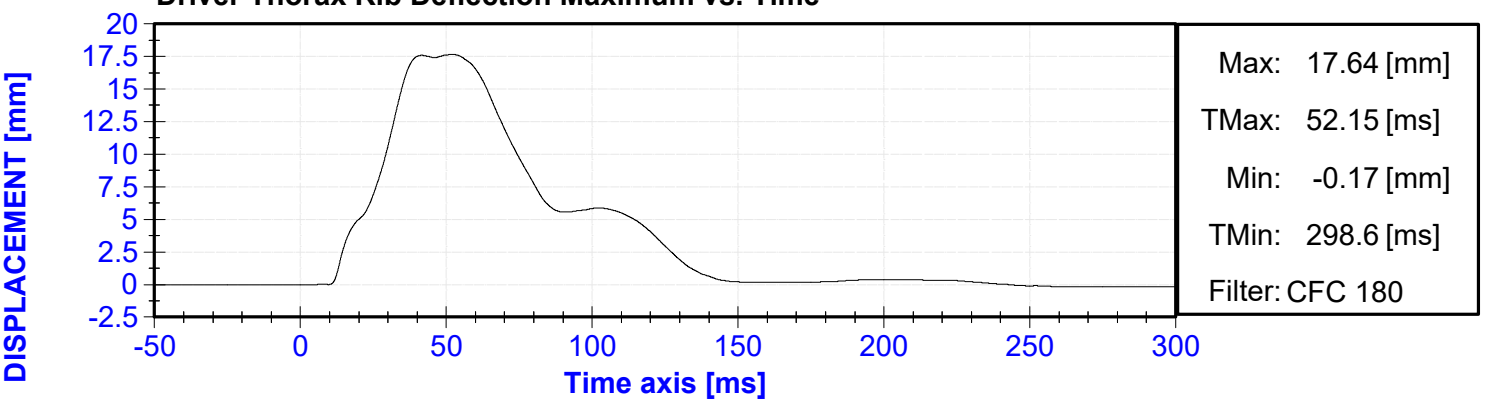
Driver Middle Thorax Rib Deflection (Y) vs. Time

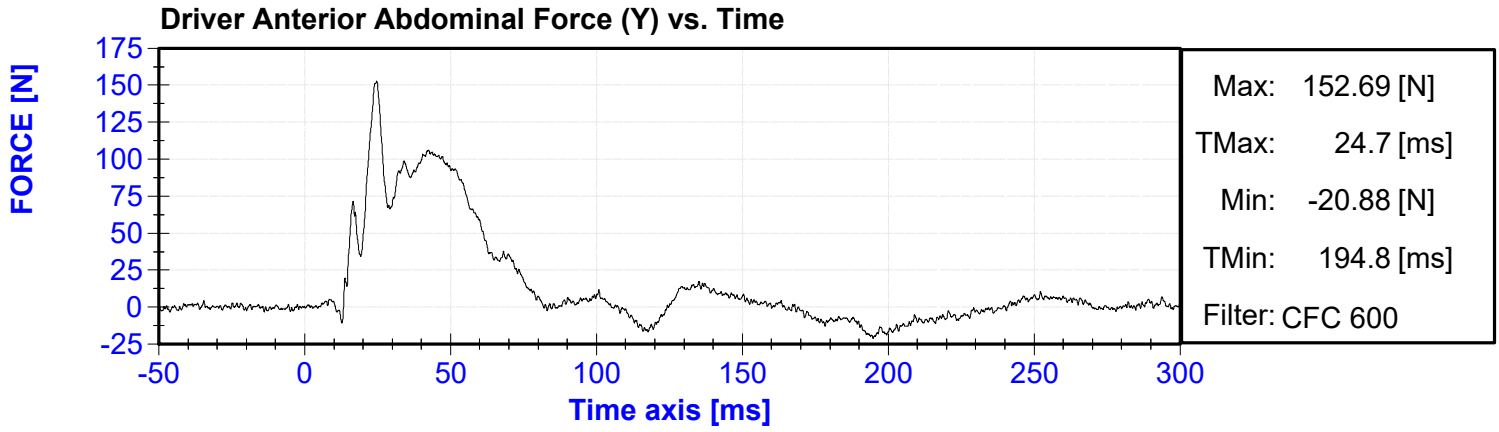


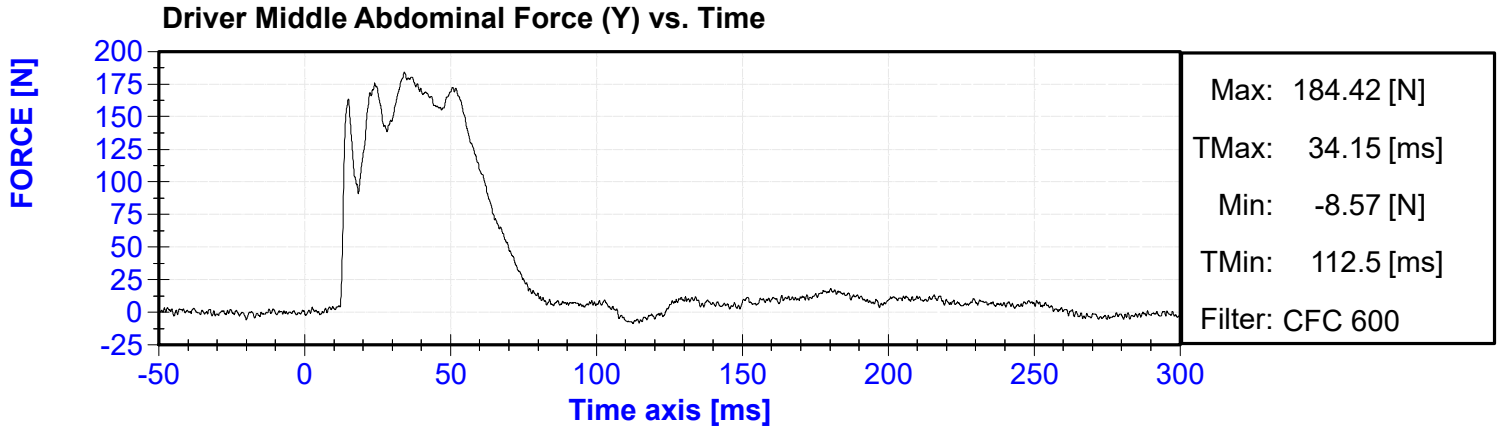
Driver Lower Thorax Rib Deflection (Y) vs. Time

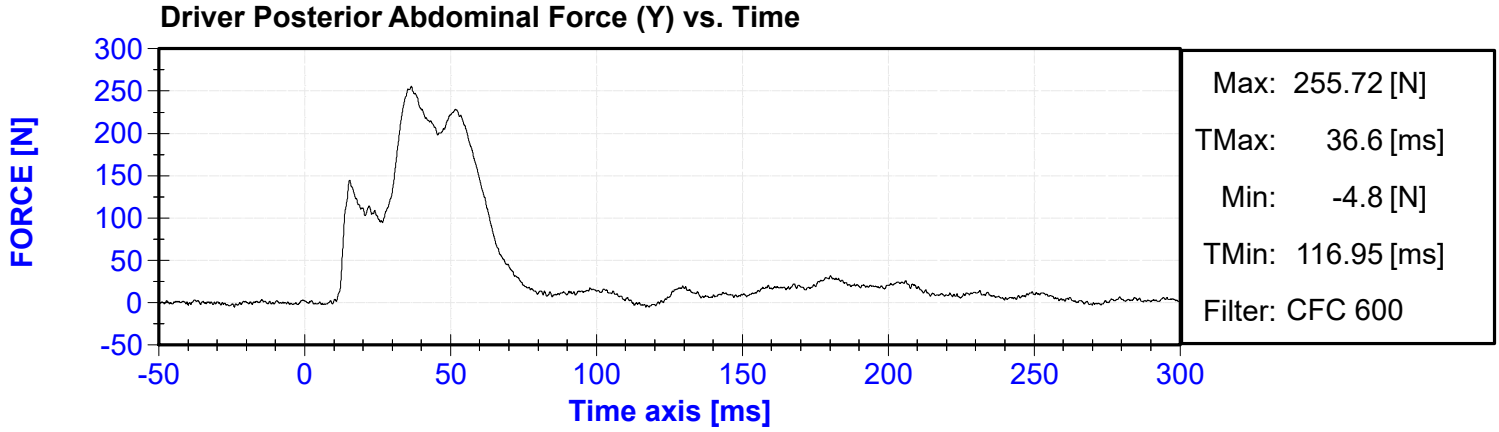


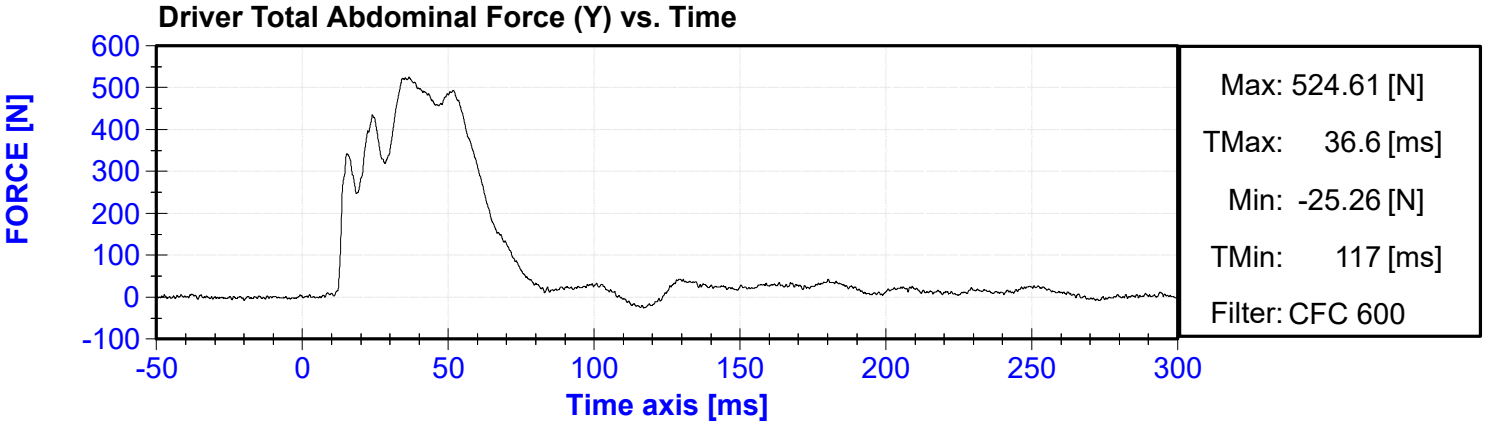
Driver Thorax Rib Deflection Maximum vs. Time

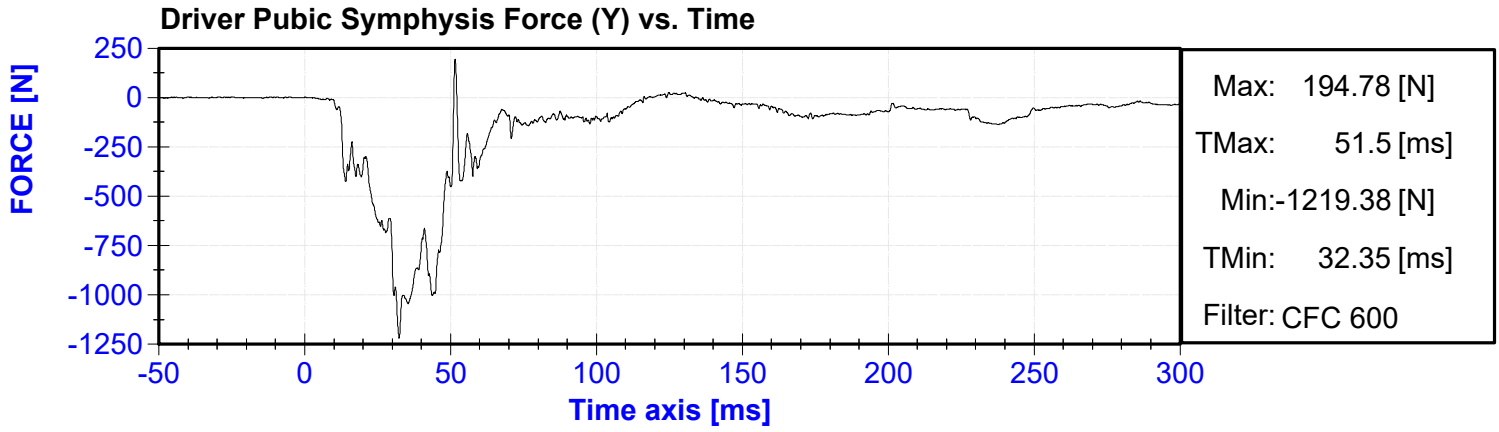


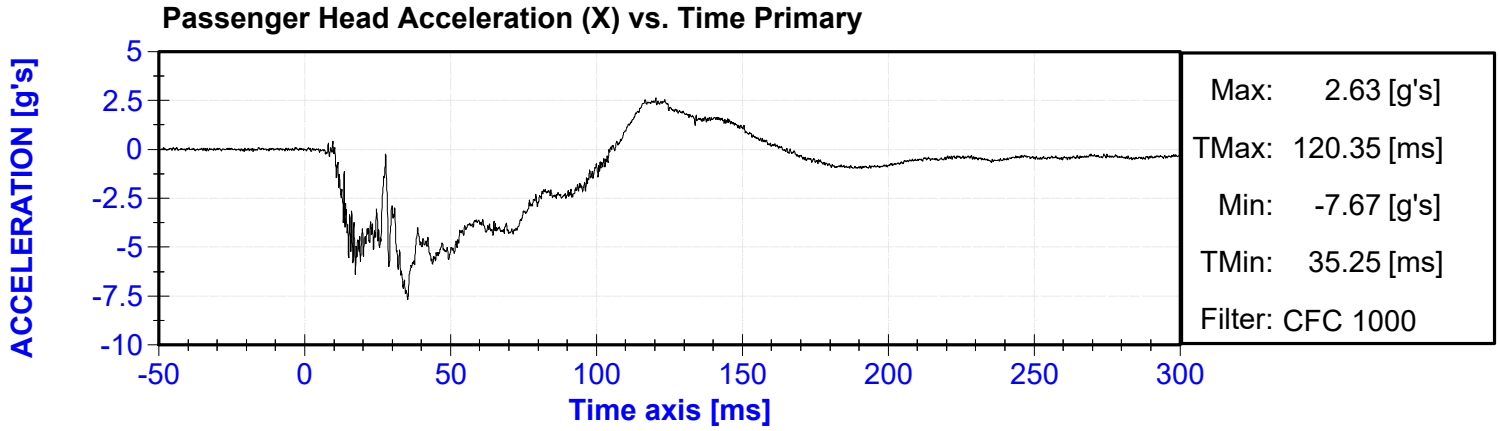

Driver Anterior Abdominal Force (Y) vs. Time
FORCE [N]
175
150
125
100
75
50
25
0
-25
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 152.69 [N]
TMax: 24.7 [ms]
Min: -20.88 [N]
TMin: 194.8 [ms]
Filter: CFC 600

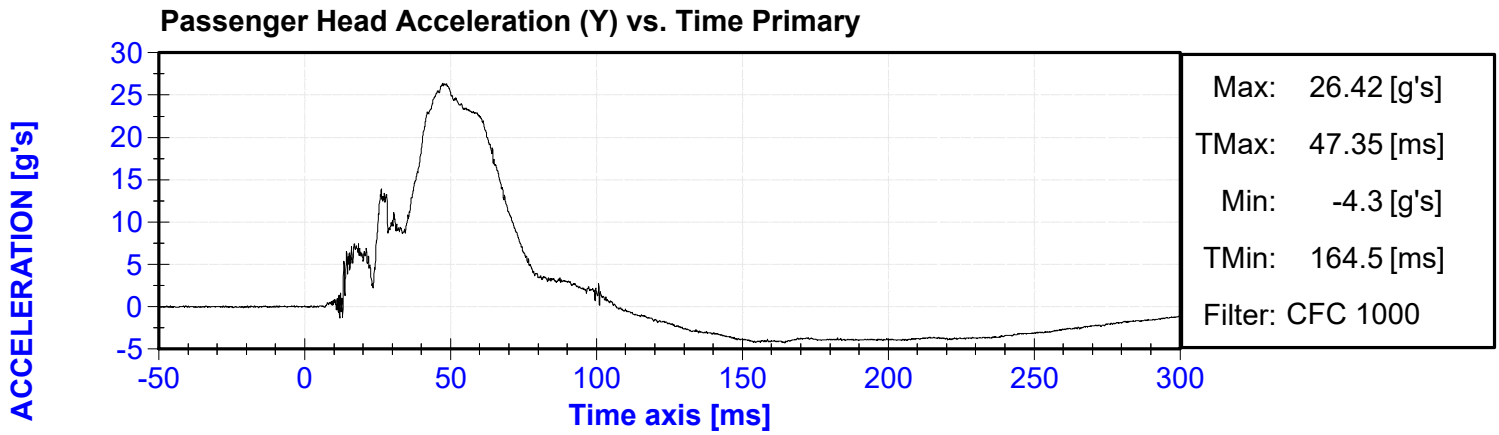

Driver Middle Abdominal Force (Y) vs. Time
FORCE [N]
200
175
150
125
100
75
50
25
0
-25
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 184.42 [N]
TMax: 34.15 [ms]
Min: -8.57 [N]
TMin: 112.5 [ms]
Filter: CFC 600

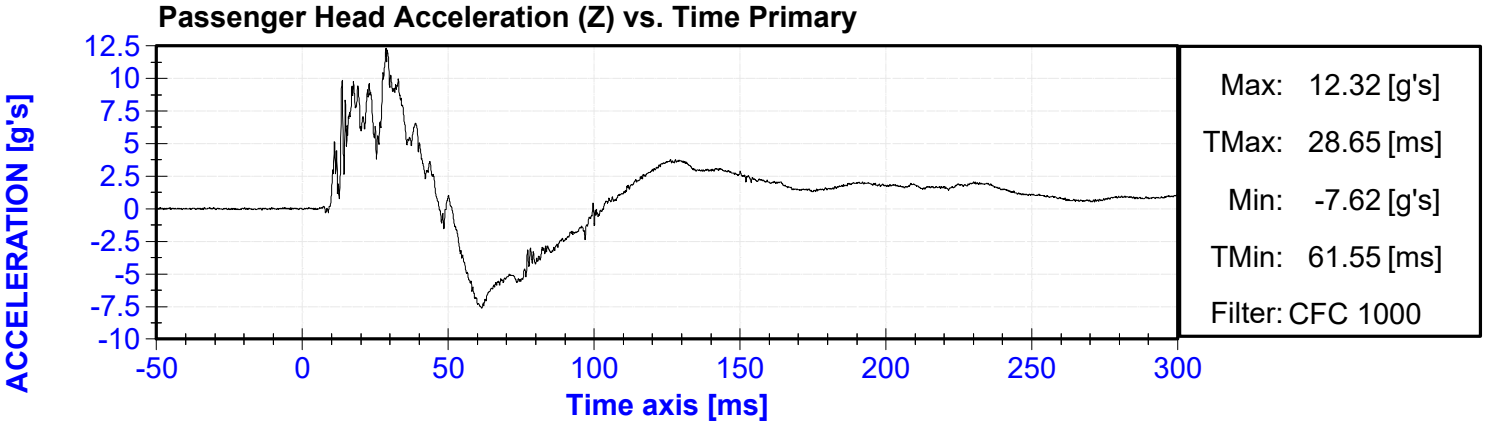

Driver Posterior Abdominal Force (Y) vs. Time
FORCE [N]
300
250
200
150
100
50
0
-50
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 255.72 [N]
TMax: 36.6 [ms]
Min: -4.8 [N]
TMin: 116.95 [ms]
Filter: CFC 600


Driver Total Abdominal Force (Y) vs. Time
FORCE [N]
600
500
400
300
200
100
0
-100
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 524.61 [N]
TMax: 36.6 [ms]
Min: -25.26 [N]
TMin: 117 [ms]
Filter: CFC 600

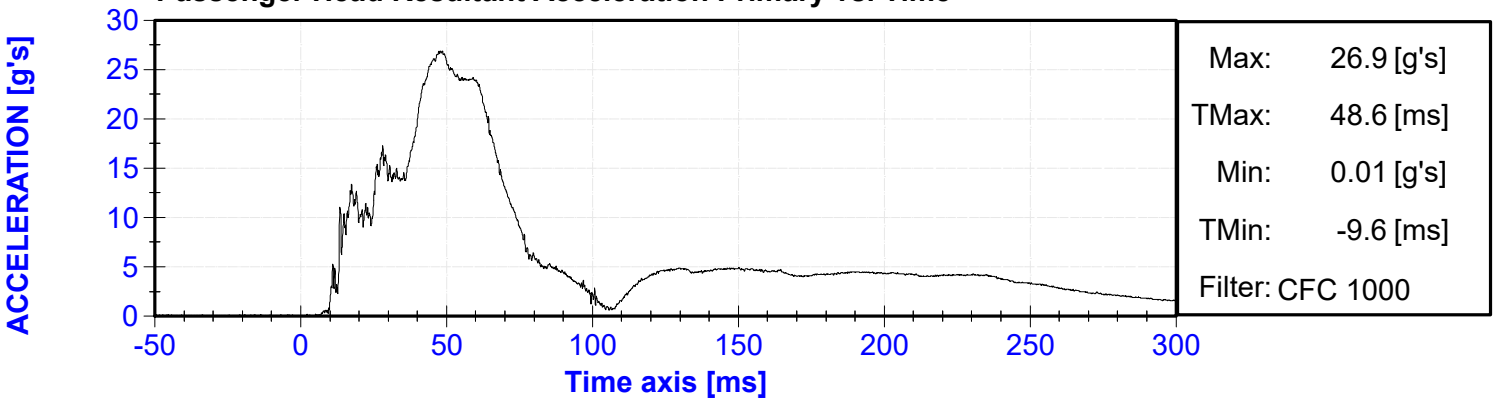

Driver Pubic Symphysis Force (Y) vs. Time
FORCE [N]
250
0
-250
-500
-750
-1000
-1250
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 194.78 [N]
TMax: 51.5 [ms]
Min:-1219.38 [N]
TMin: 32.35 [ms]
Filter: CFC 600


Passenger Head Acceleration (X) vs. Time Primary
ACCELERATION [g's]
5
2.5
0
-2.5
-5
-7.5
-10
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 2.63 [g's]
TMax: 120.35 [ms]
Min: -7.67 [g's]
TMin: 35.25 [ms]
Filter: CFC 1000

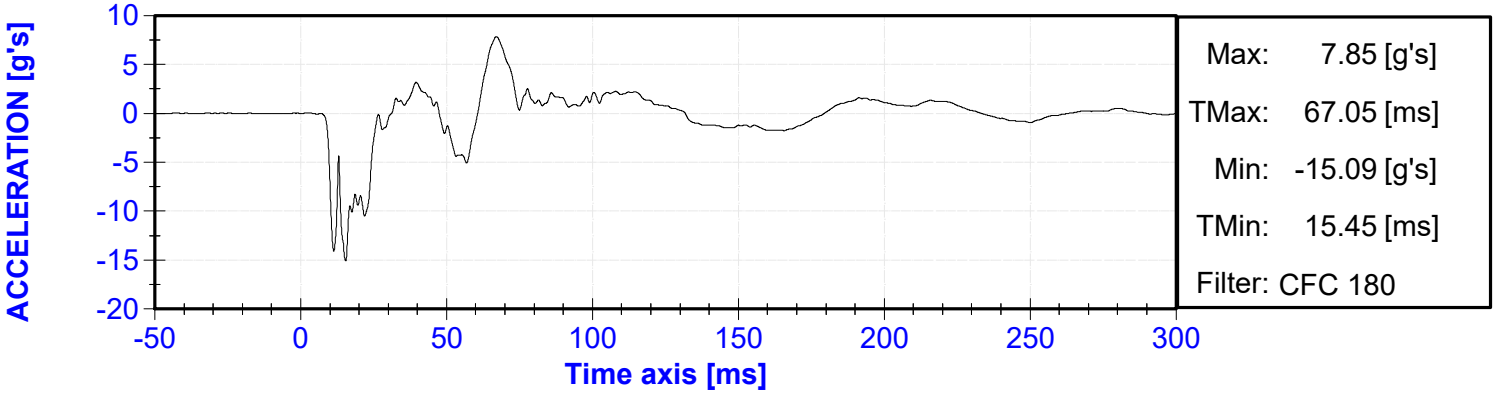

Passenger Head Acceleration (Y) vs. Time Primary
ACCELERATION [g's]
30
25
20
15
10
5
0
-5
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 26.42 [g's]
TMax: 47.35 [ms]
Min: -4.3 [g's]
TMin: 164.5 [ms]
Filter: CFC 1000


Passenger Head Acceleration (Z) vs. Time Primary
ACCELERATION [g's]
12.5
10
7.5
5
2.5
0
-2.5
-5
-7.5
-10
-50
0
50
100
150
200
250
300
Time axis [ms]
Max: 12.32 [g's]
TMax: 28.65 [ms]
Min: -7.62 [g's]
TMin: 61.55 [ms]
Filter: CFC 1000

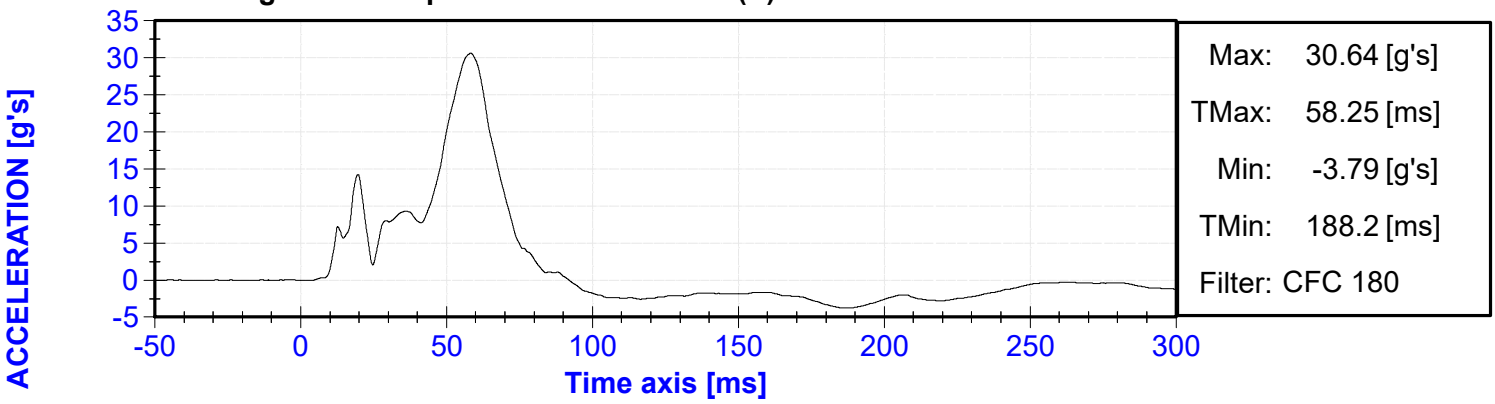
Passenger Head Resultant Acceleration Primary vs. Time



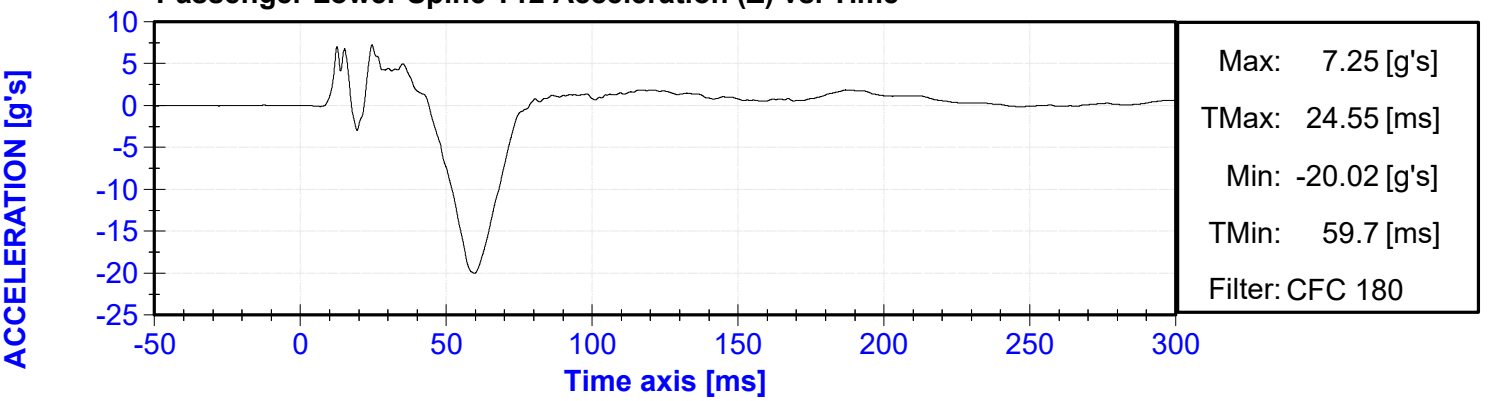
Passenger Lower Spine T12 Acceleration (X) vs. Time



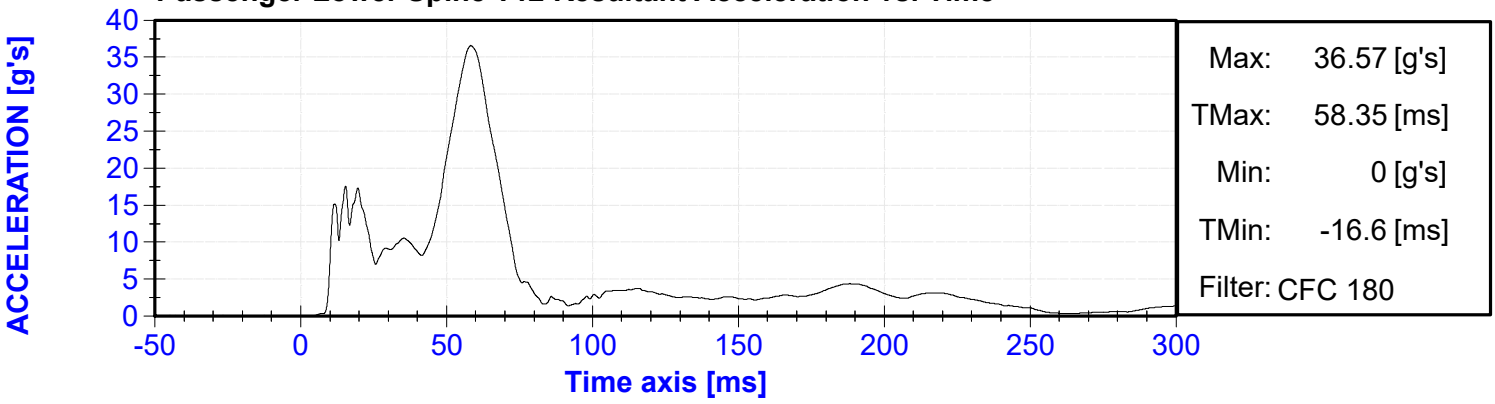
Passenger Lower Spine T12 Acceleration (Y) vs. Time



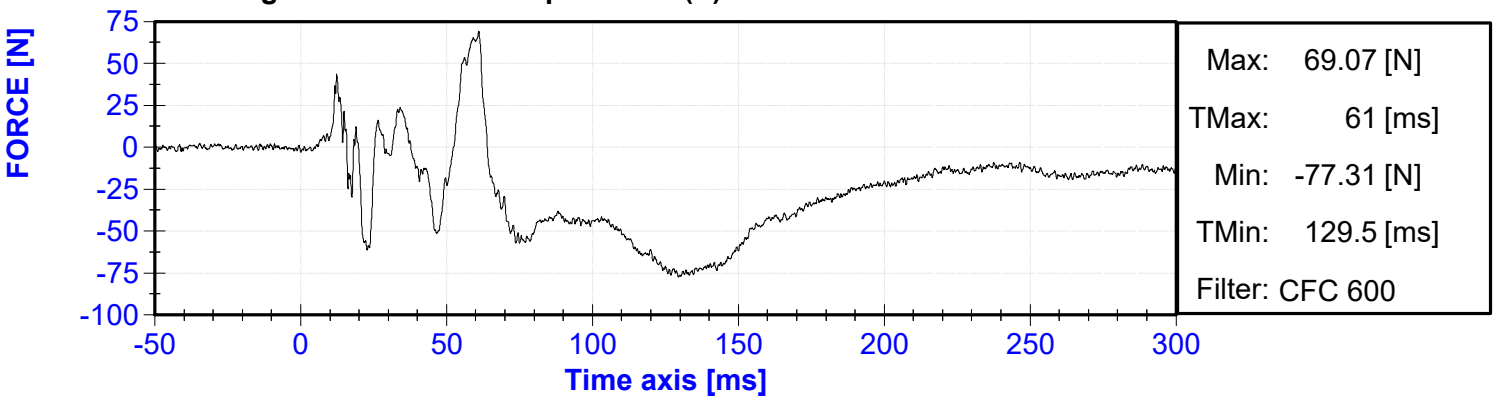
Passenger Lower Spine T12 Acceleration (Z) vs. Time



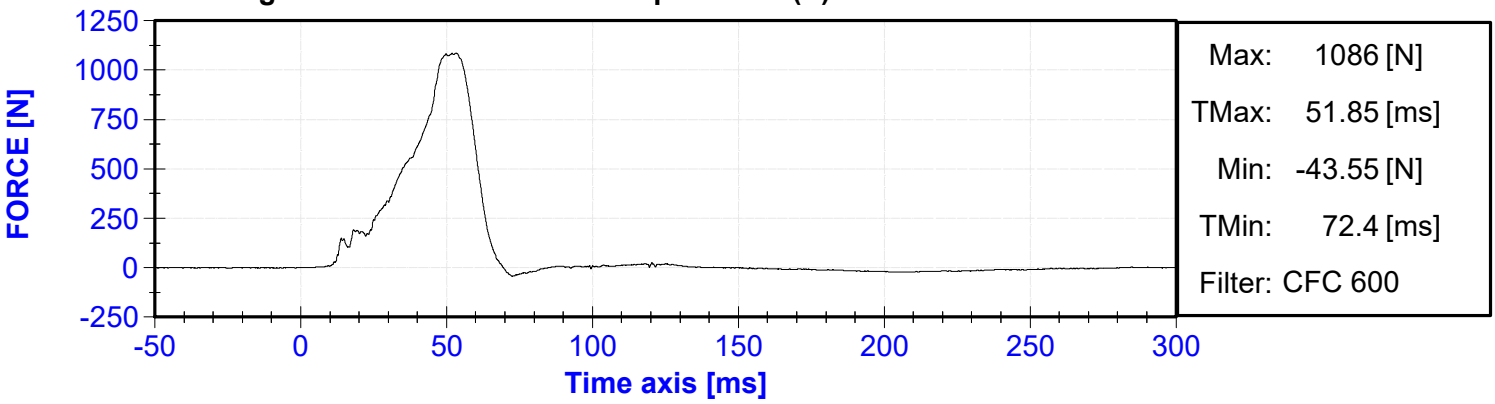
Passenger Lower Spine T12 Resultant Acceleration vs. Time



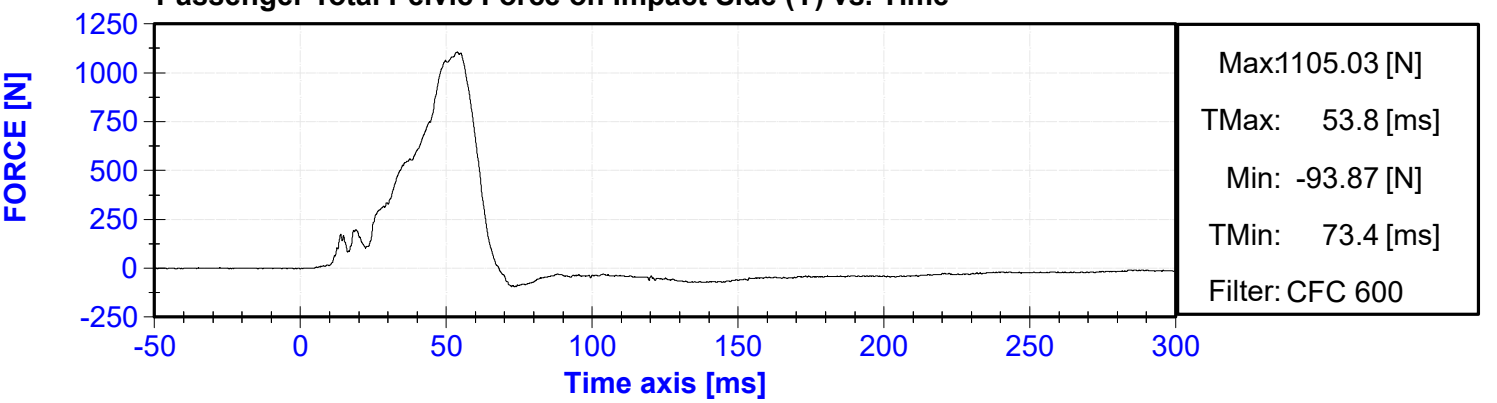
Passenger Iliac Force on Impact Side (Y) vs. Time



Passenger Acetabulum Force on Impact Side (Y) vs. Time



Passenger Total Pelvic Force on Impact Side (Y) vs. Time



APPENDIX C

DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

CALIBRATION TEST RESULTS

PRE-TEST

EUROSID 2 (ES-2RE) MALE – DRIVER ATD

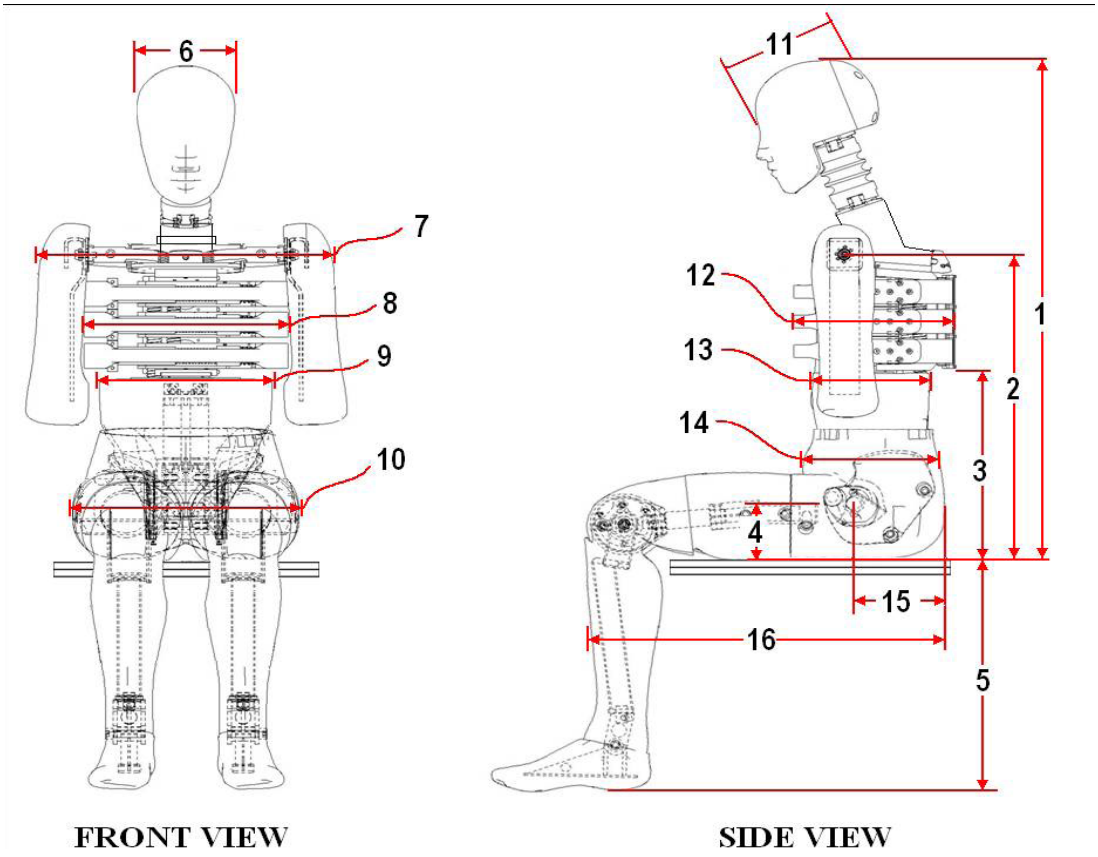
SERIAL NO:F033

(CONFIGURED FOR LEFT SIDE IMPACT)

External Measurements - EuroSID-2re

Technician: J. Rios Date: 07/29/2025

Dummy Serial Number: F033



FRONT VIEW SIDE VIEW

Dim. No.	Description	Specification (mm)		Result (mm)	Pass/Fail
1	Sitting Height	900	918	913	Pass
2	Seat to Shoulder Joint	558	572	563	Pass
3	Seat to Lower Face of Thoracic Spine Box	346	356	352	Pass
4	Seat to Hip Joint (center of bolt)	97	103	102	Pass
5	Sole to Seat, Sitting	333	451	414	Pass
6	Head Width	152	158	155	Pass
7	Shoulder/Arm Width	461	479	471	Pass
8	Thorax Width	322	332	327	Pass
9	Abdomen Width	273	287	282	Pass
10	Pelvis Lap Width	359	373	364	Pass
11	Head Depth	196	206	200	Pass
12	Thorax Depth	262	272	267	Pass
13	Abdomen Depth	194	204	198	Pass
14	Pelvis Depth	235	245	240	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150	160	153	Pass
16	Back of Buttocks to Front Knee	597	615	604	Pass

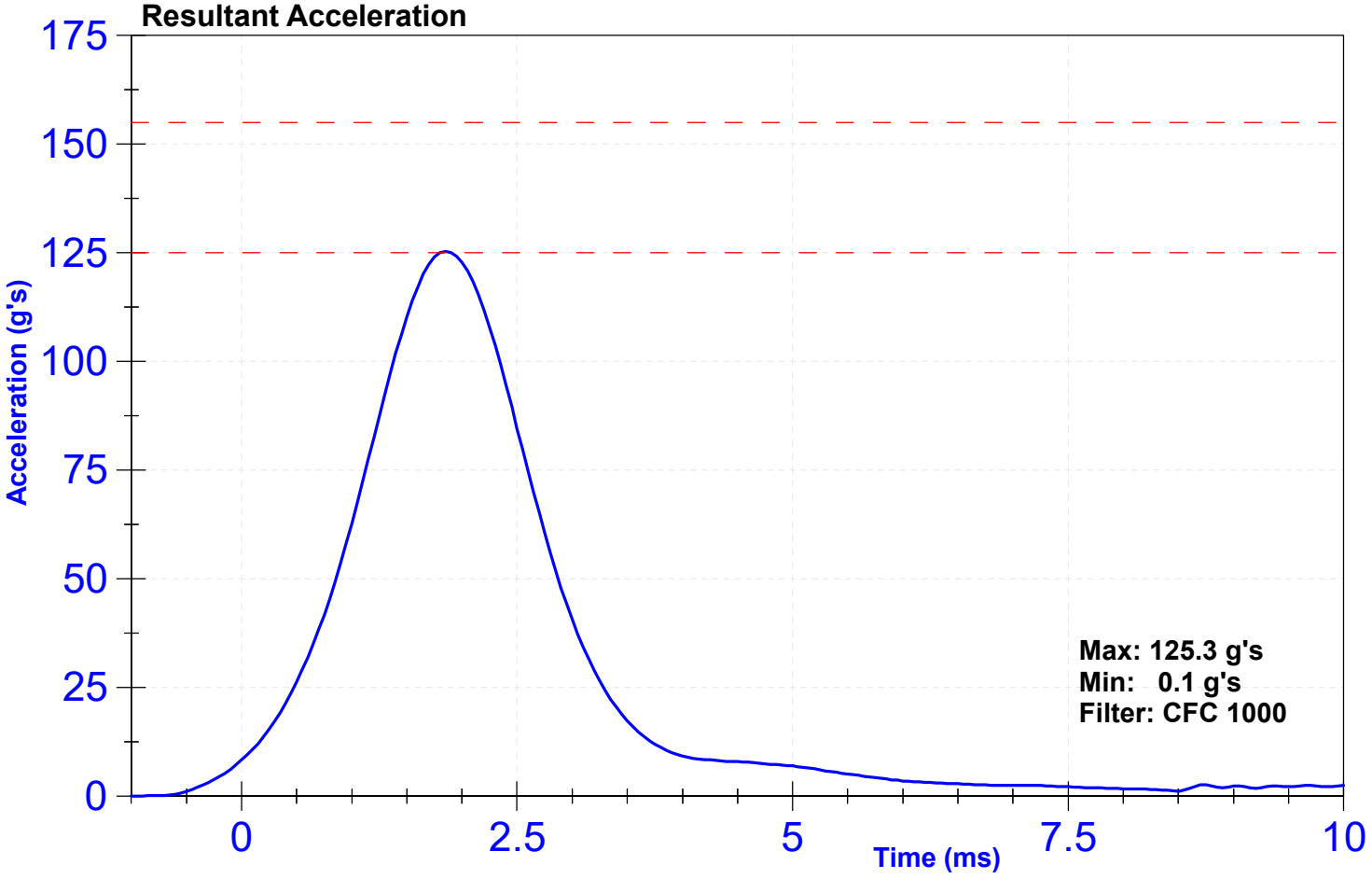
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

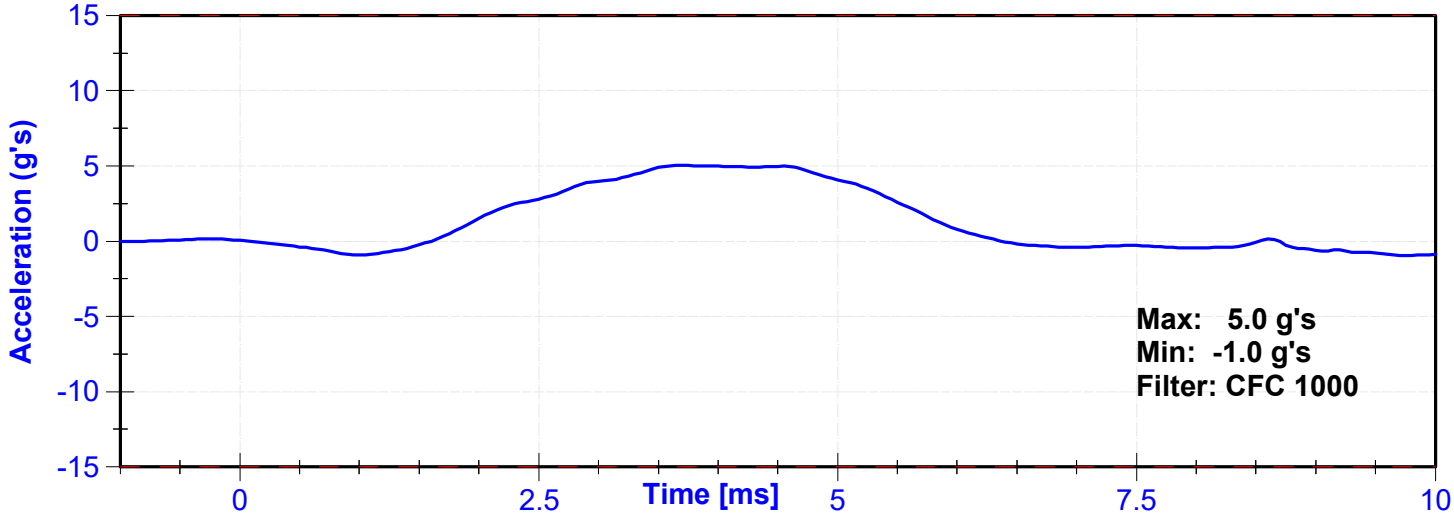
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	54	Pass
Resultant Acceleration	125	155	g's	125.3	Pass
Oscillation	0	15	%	2.71	Pass
Fore-Aft Acceleration	-15	15	g's	5.0	Pass

Transducer Calibrations

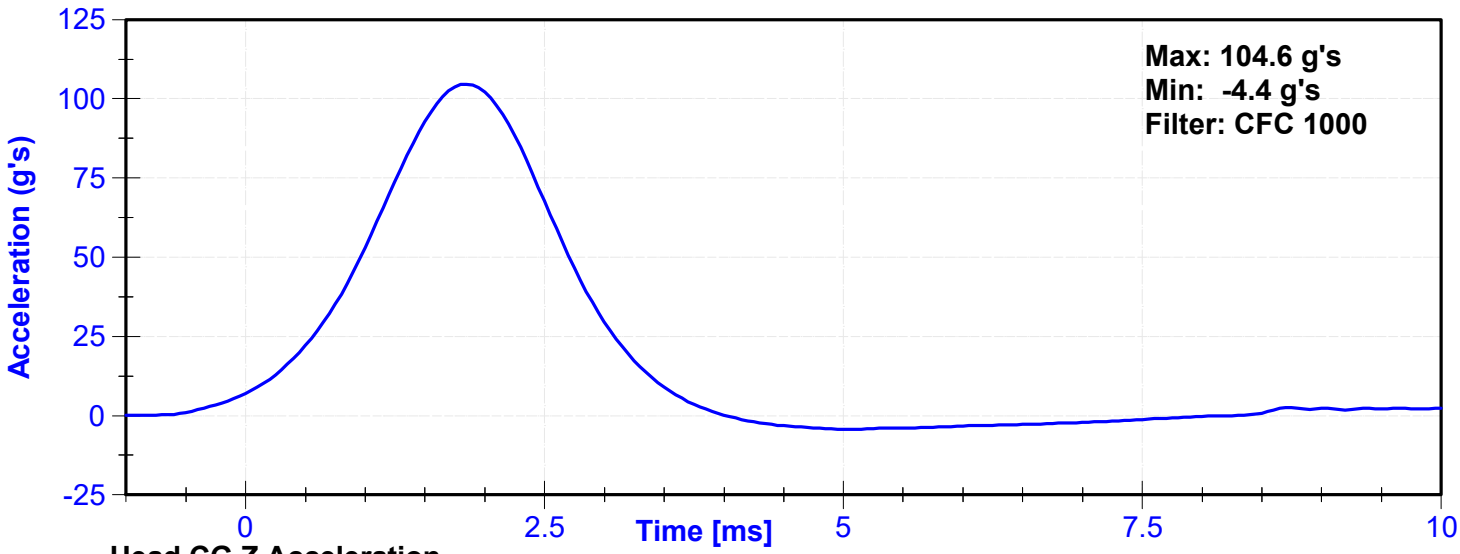
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P63861	7/1/2025	12/28/2025
Y Accelerometer	Endevco	P49216	7/1/2025	12/28/2025
Z Accelerometer	Endevco	P51303	7/1/2025	12/28/2025



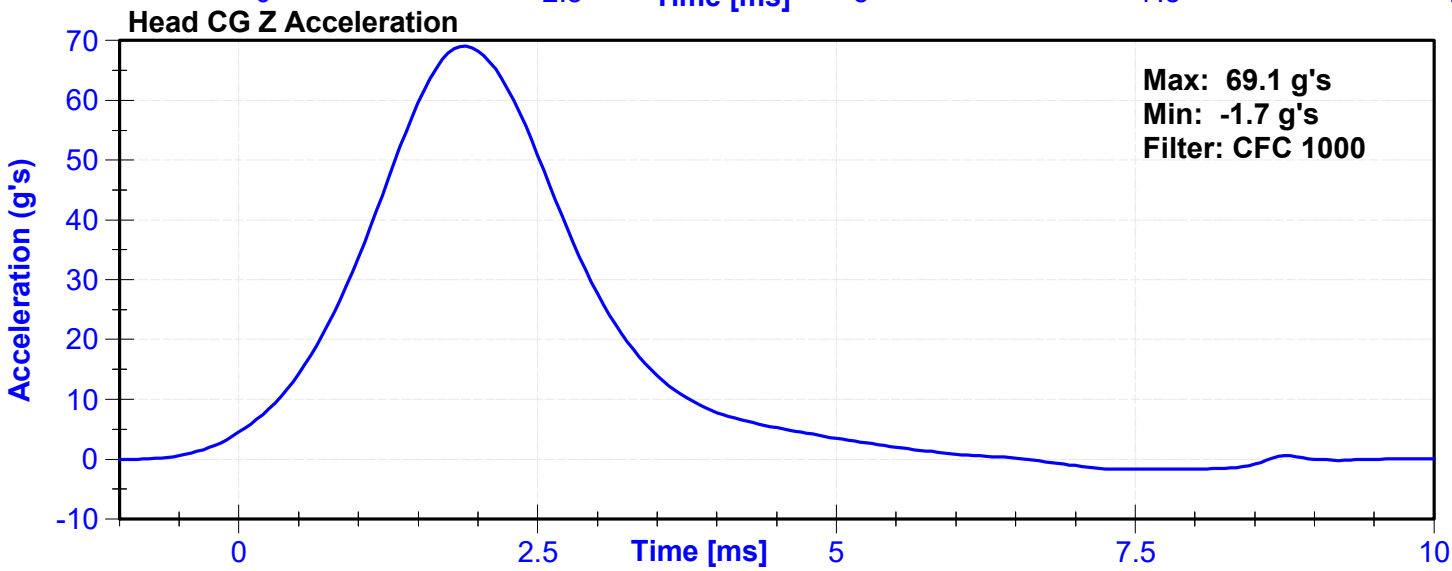
Head CG X Acceleration



Head CG Y Acceleration



Head CG Z Acceleration



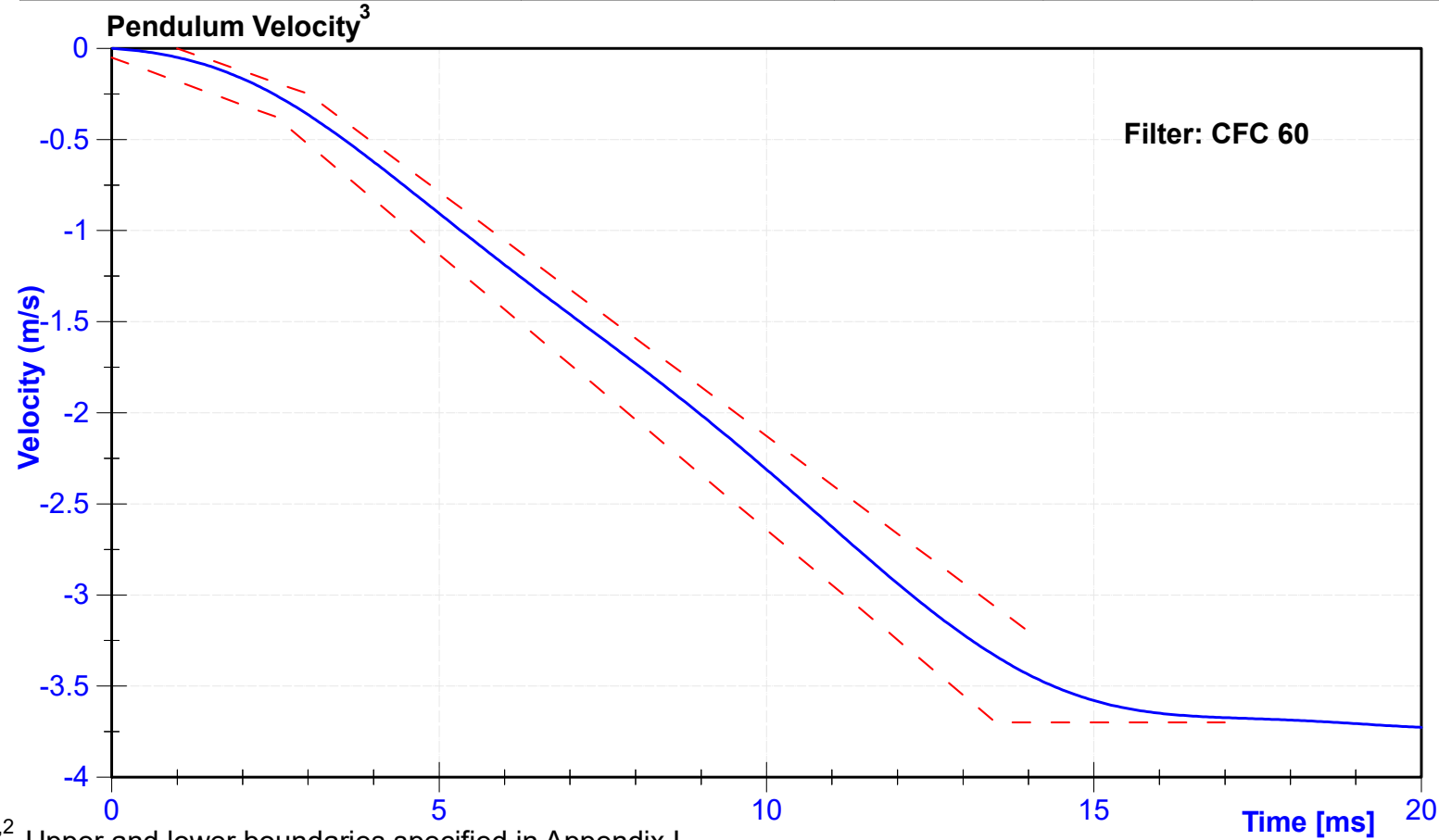
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

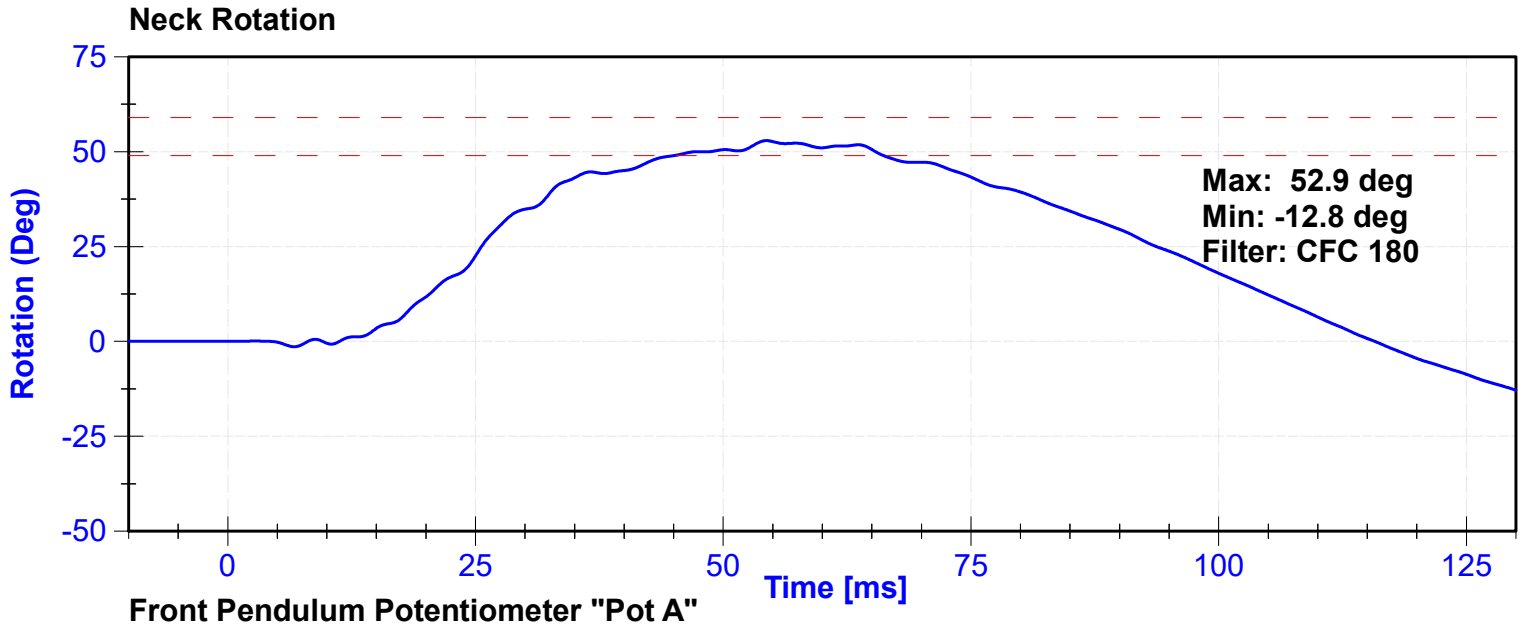
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	55	Pass
Velocity	3.3	3.5	m/s	3.47	Pass
Lateral Neck Rotation	49	59	deg	52.9	Pass
Time at Maximum Rotation	54	66	ms	54.4	Pass
Time of Rotation Decay from Maximum	53	88	ms	61.4	Pass
Pendulum Velocity Overall Corridor	Lower Boundary[1]	Upper Boundary[2]	m/s	See Plot[3]	Pass

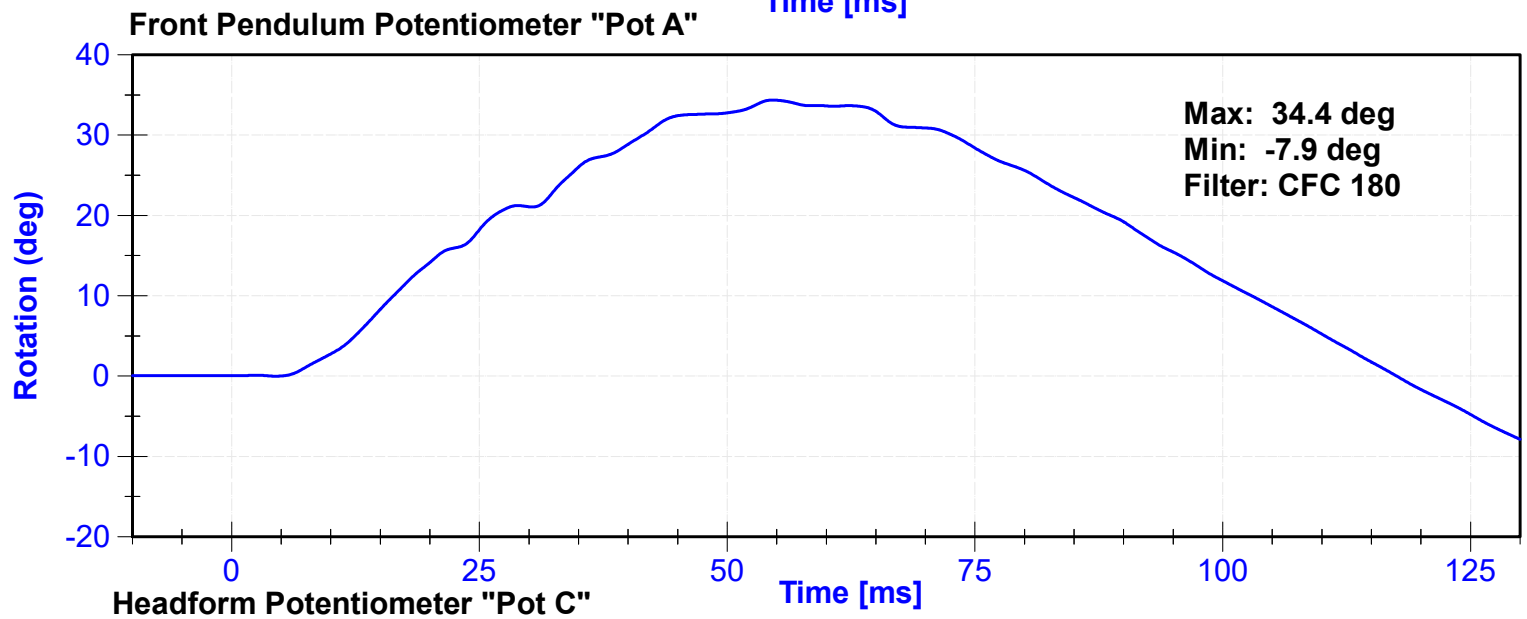
Transducer Calibrations

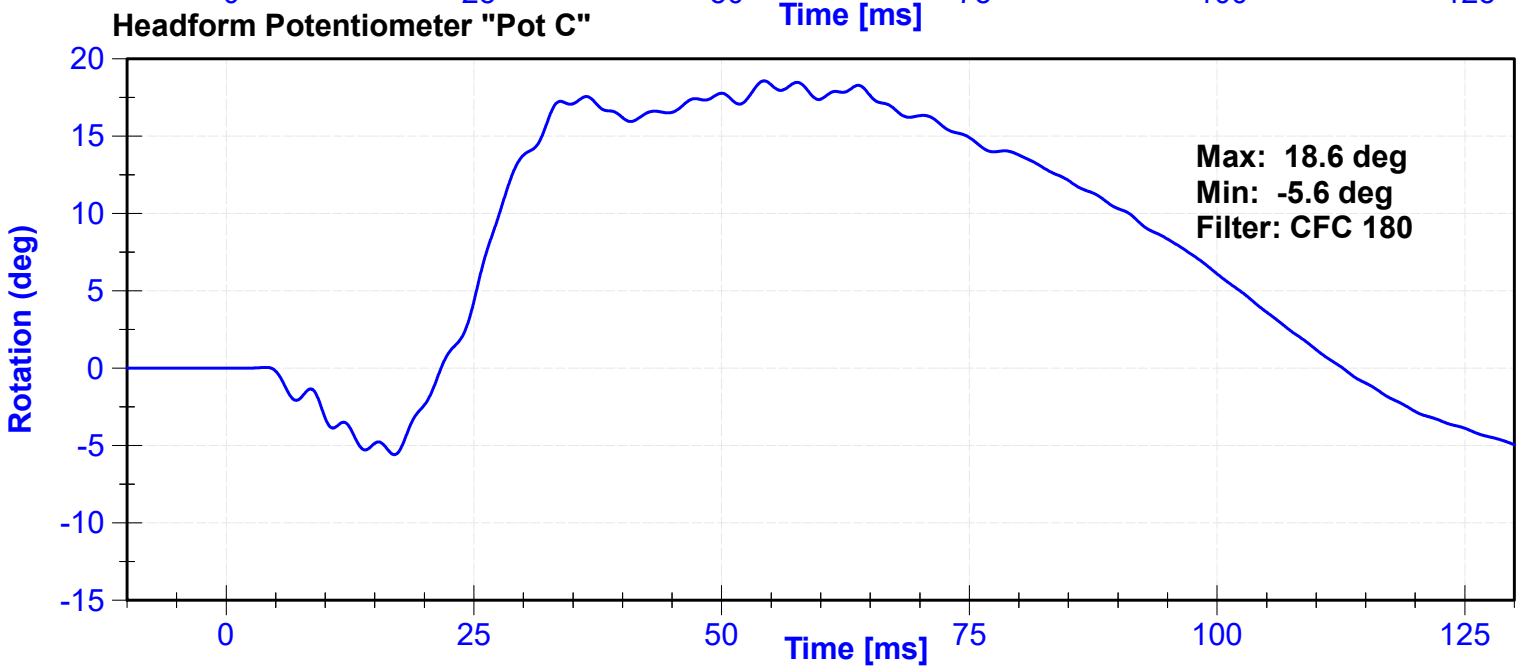
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/17/2024	10/17/2025
Front Pendulum Potentiometer	Sfernice	2247	9/13/2024	9/13/2025
Headform Potentiometer	Sfernice	095	9/13/2024	9/13/2025



[1,2] Upper and lower boundaries specified in Appendix I


Neck Rotation
Rotation (Deg)
Time [ms]
Max: 52.9 deg
Min: -12.8 deg
Filter: CFC 180


Front Pendulum Potentiometer "Pot A"
Rotation (deg)
Time [ms]
Max: 34.4 deg
Min: -7.9 deg
Filter: CFC 180


Headform Potentiometer "Pot C"
Rotation (deg)
Time [ms]
Max: 18.6 deg
Min: -5.6 deg
Filter: CFC 180

Appendix I

[2] Upper Boundary Corridor		[1] Lower Boundary Corridor	
Time (ms)	Velocity (m/s)	Time (ms)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.0	-0.25	2.5	-0.375
14.0	-3.20	13.5	-3.7
		17.0	-3.7

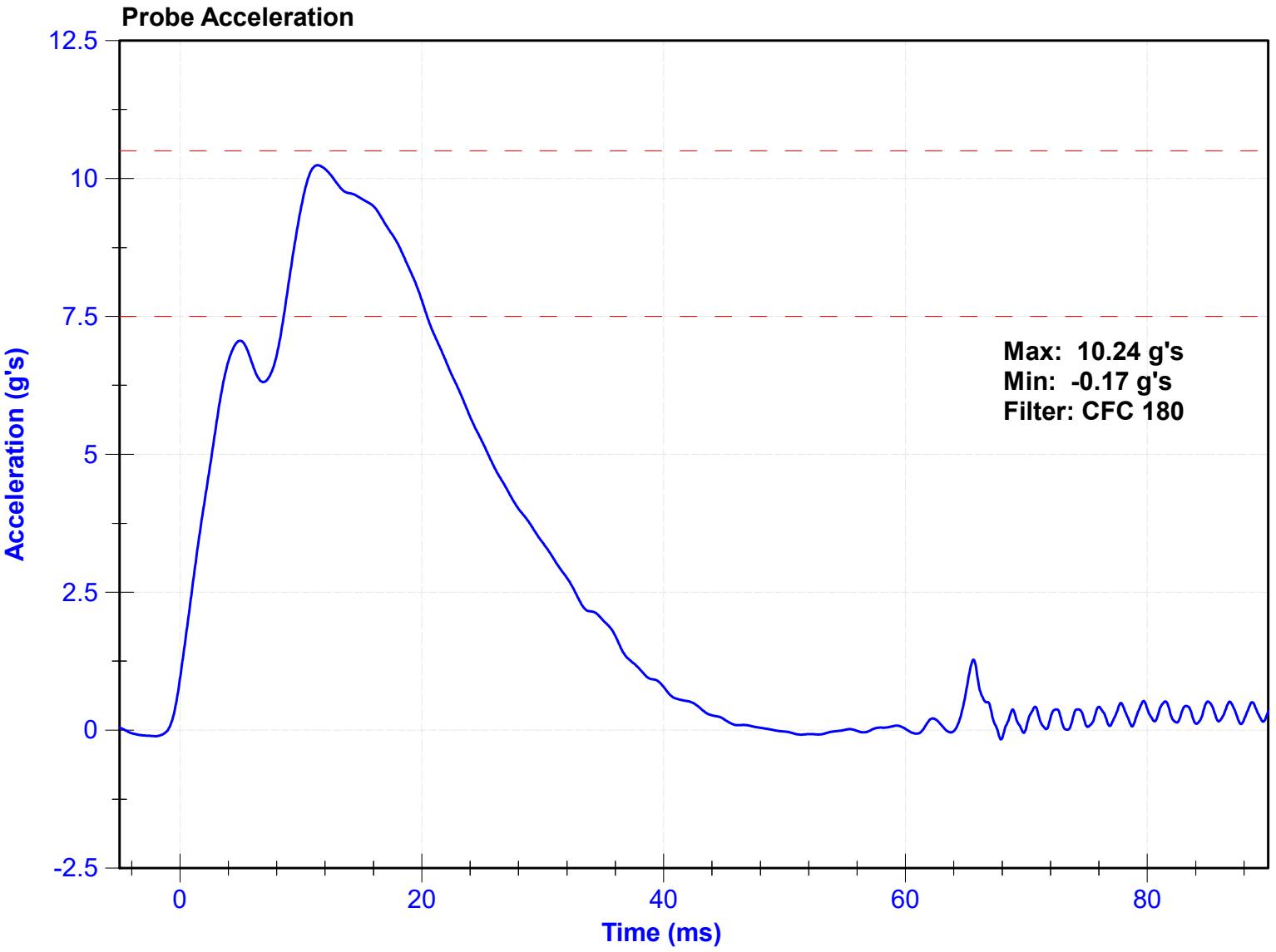
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	55	Pass
Velocity	4.2	4.4	m/s	4.27	Pass
Probe Acceleration	7.5	10.5	g's	10.24	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025



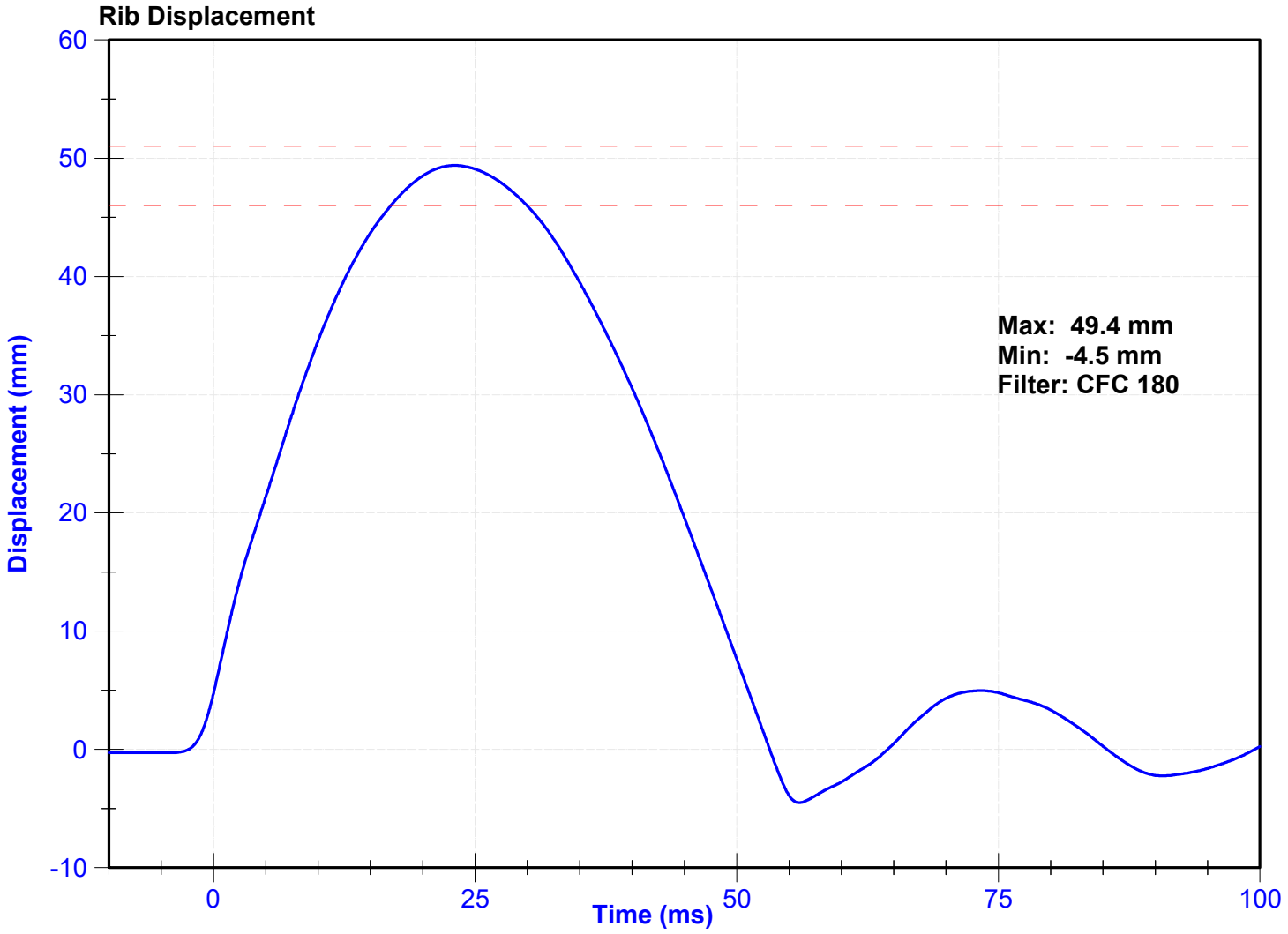
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	49.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer		179GFE		



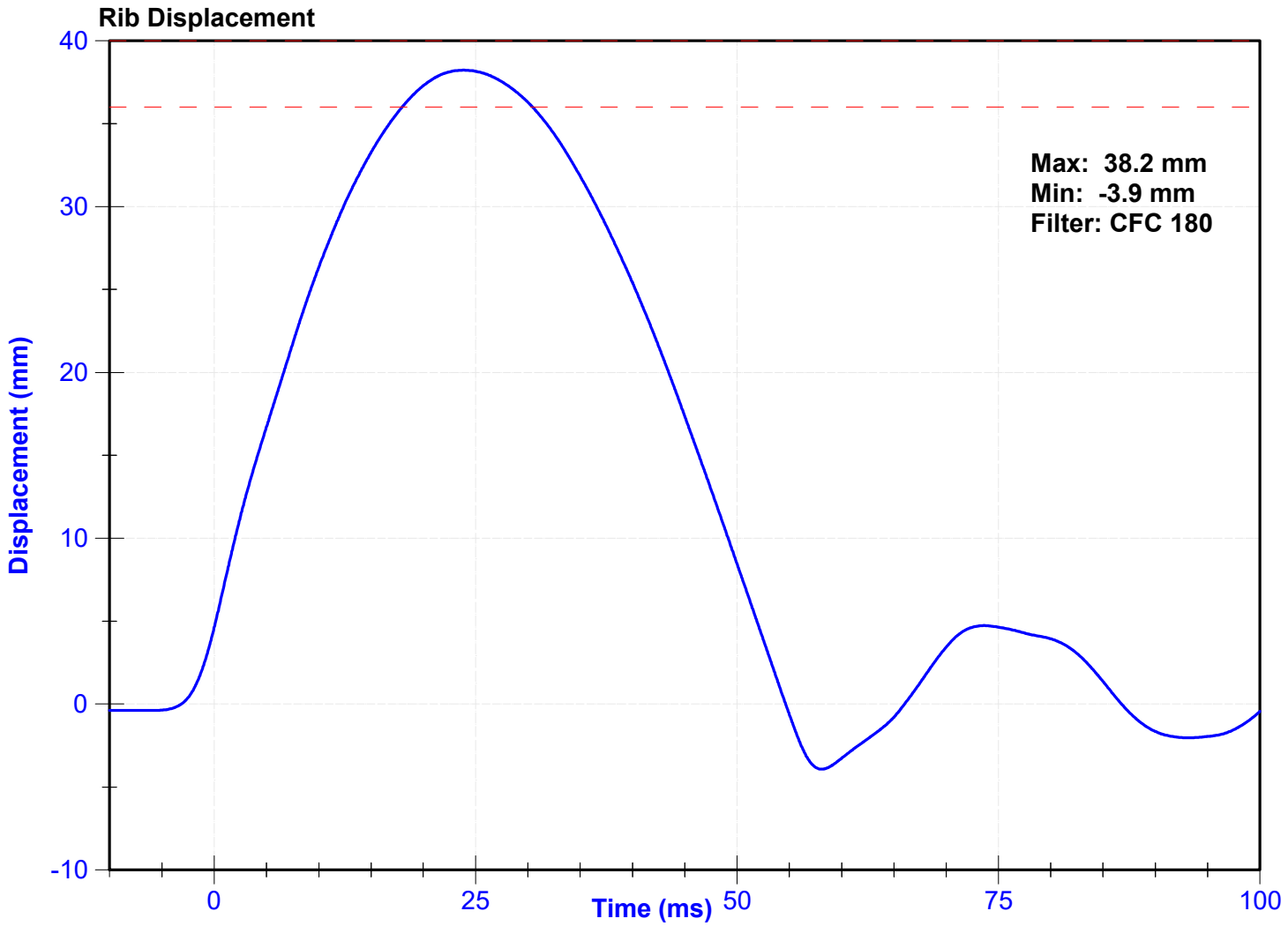
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	38.2	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	179GFE	7/1/2025	12/30/2025



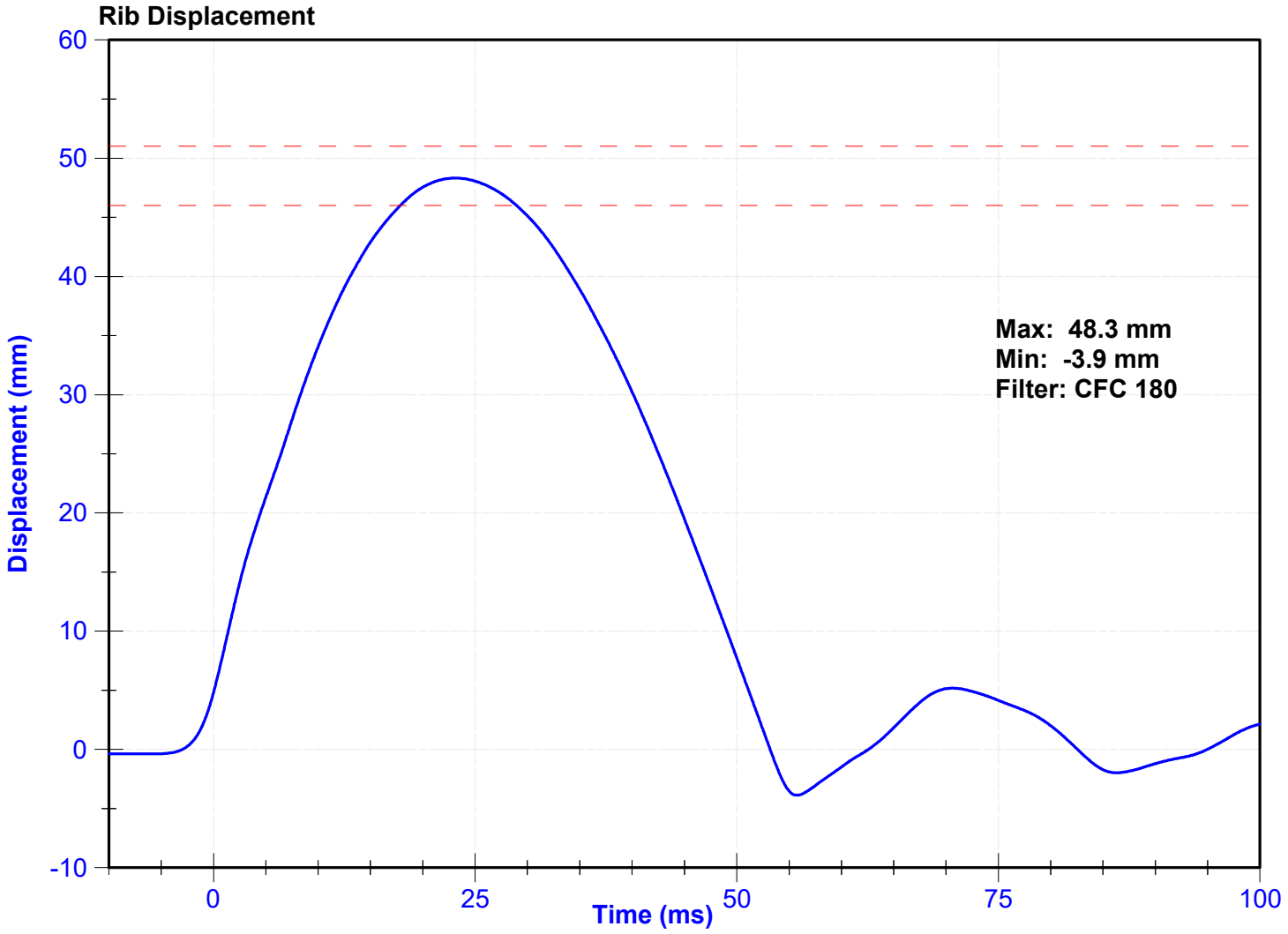
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	48.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025



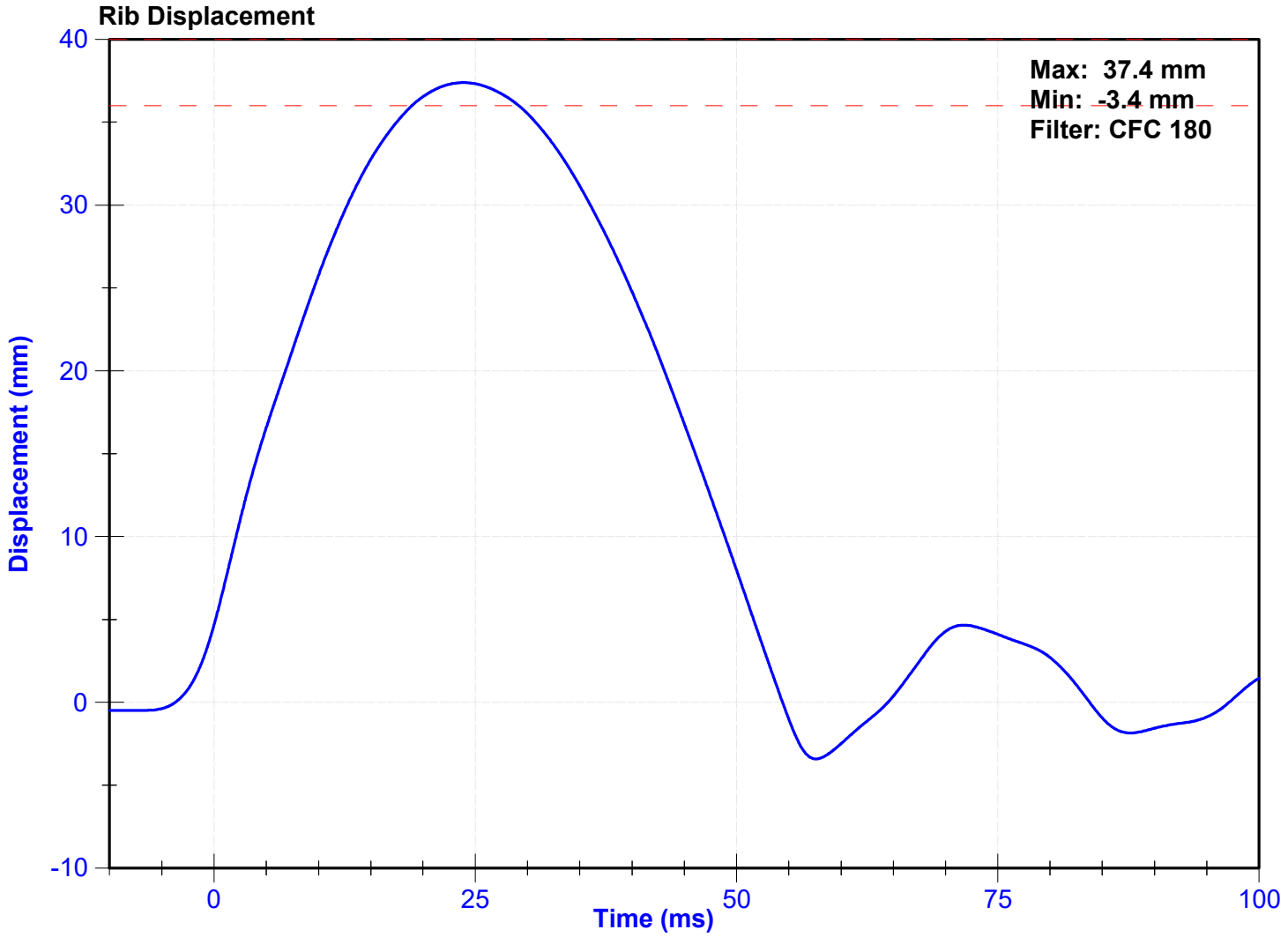
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	37.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025



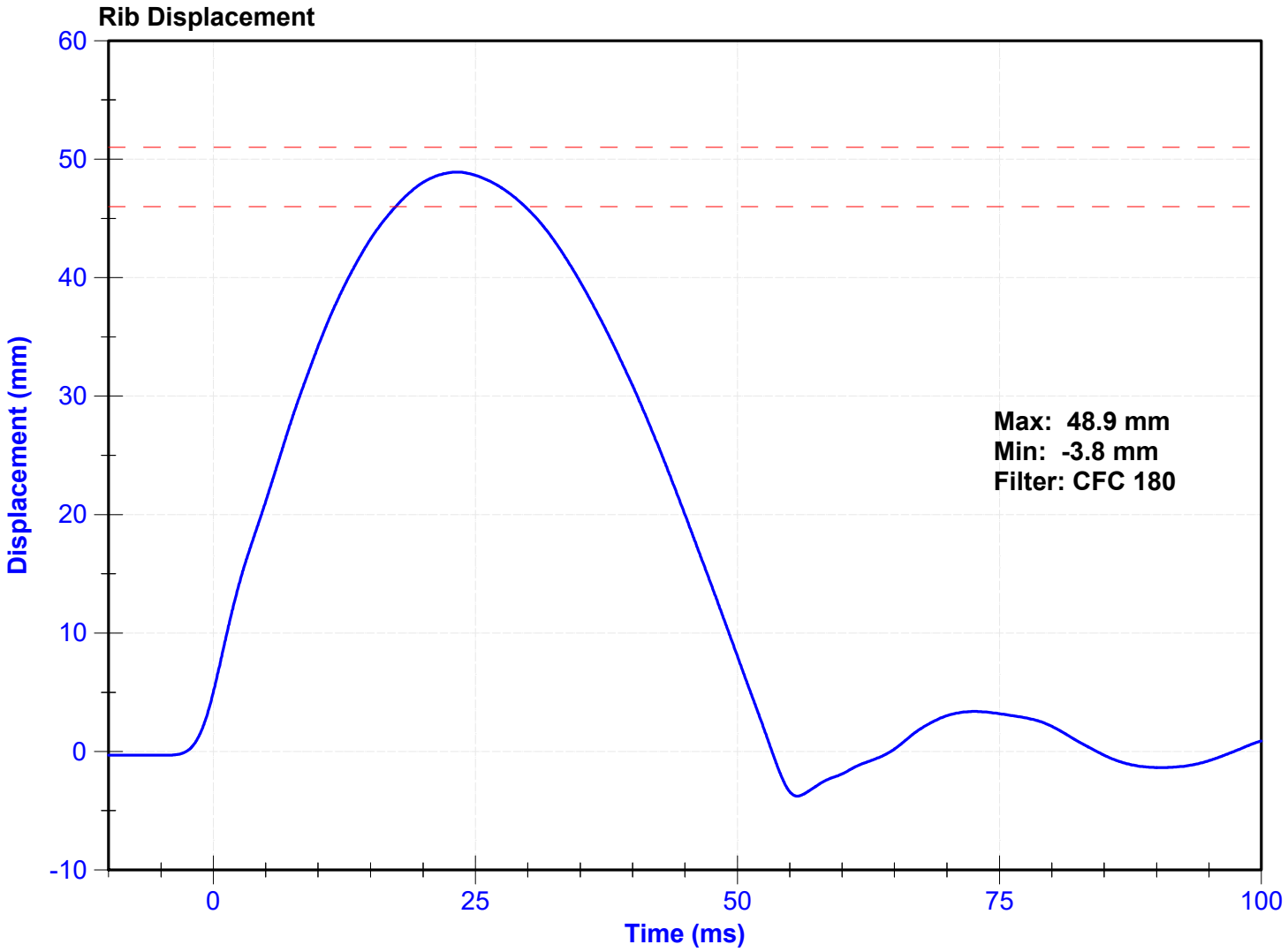
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.4	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	48.9	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025



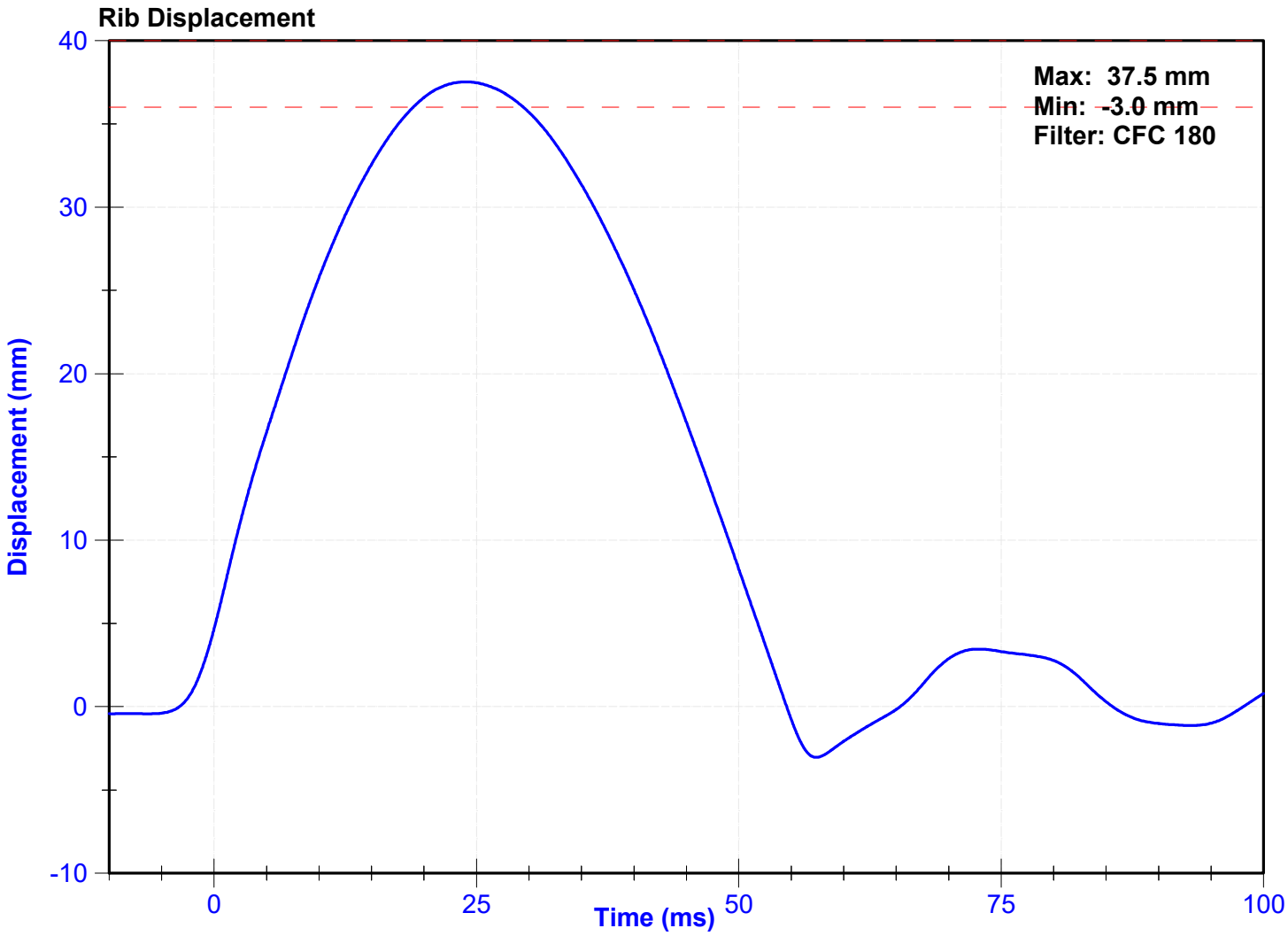
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.4	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	37.5	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025



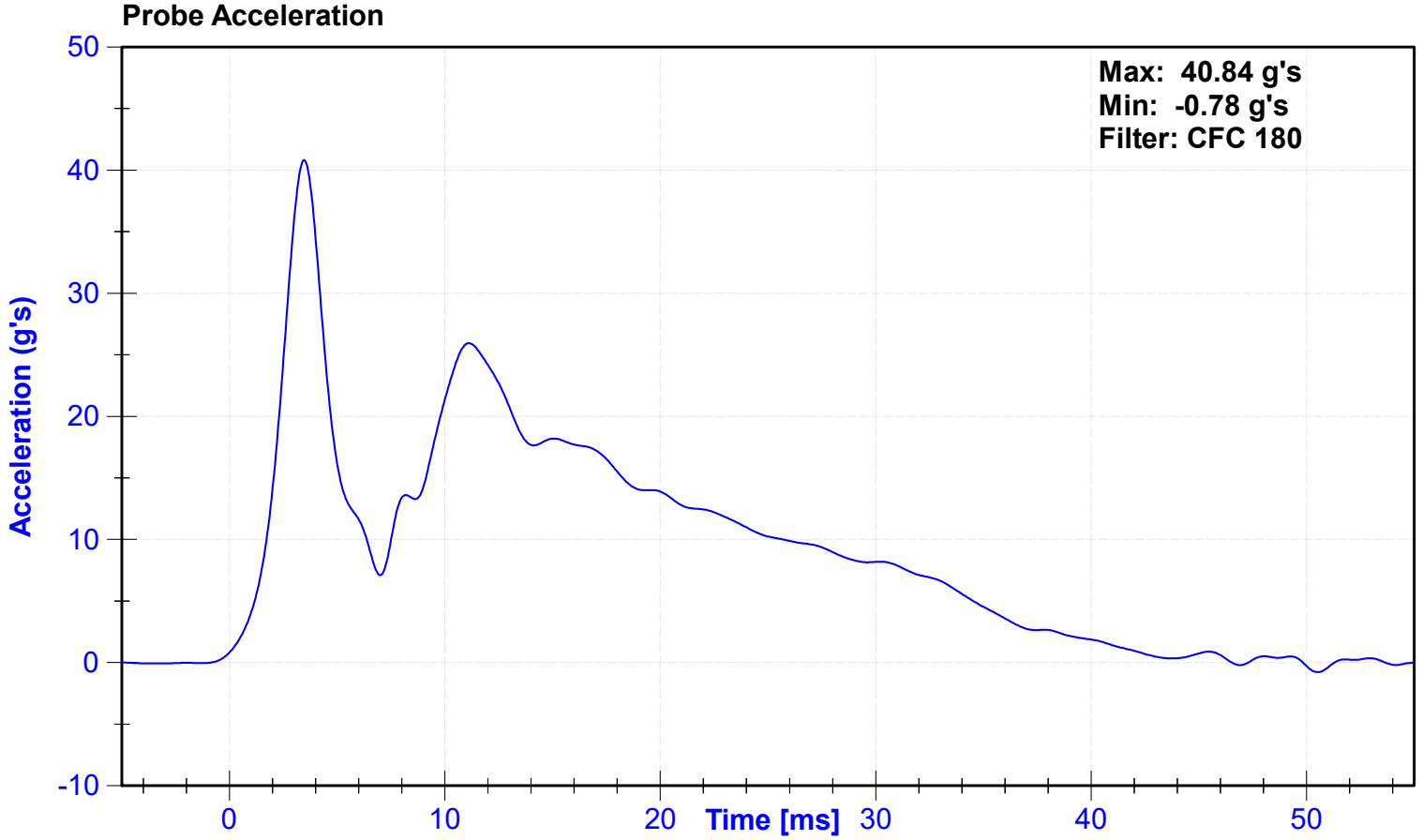
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

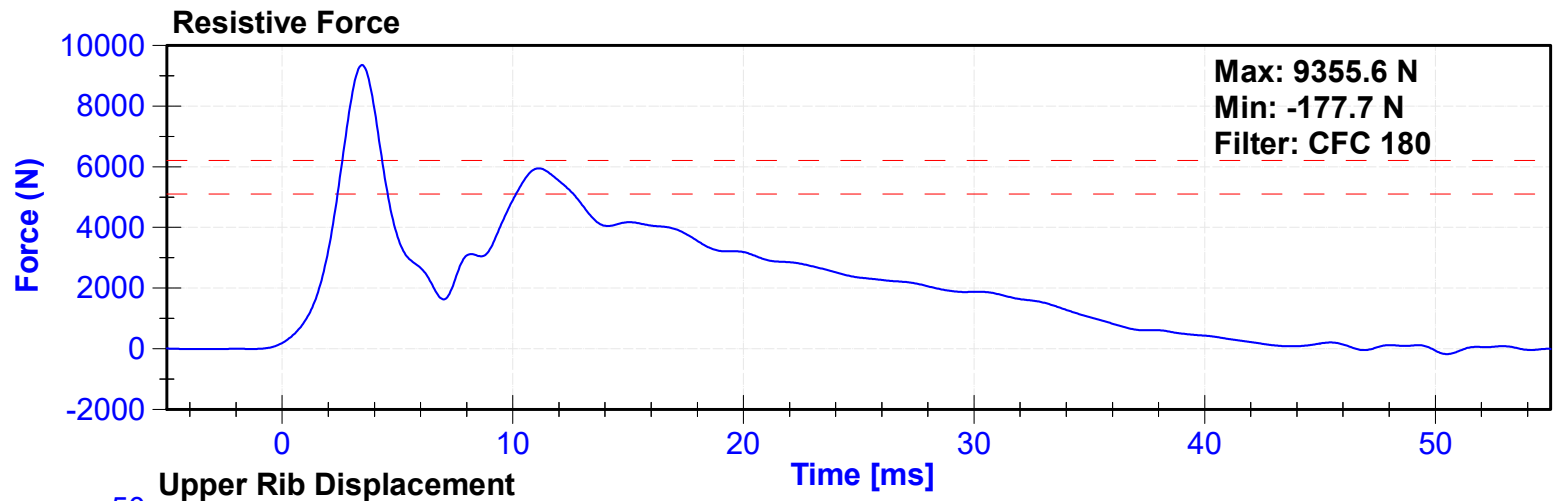
Results

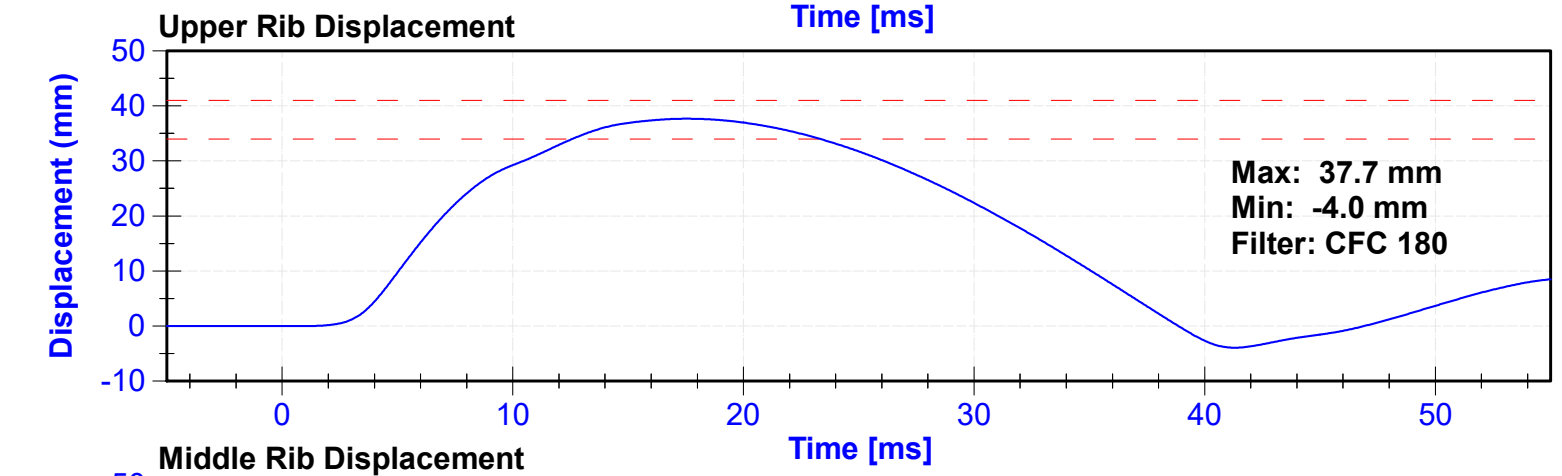
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	52	Pass
Velocity	5.4	5.6	m/s	5.51	Pass
Resistive Force after 6ms	5100	6200	N	5945.6	Pass
Upper Thorax Rib Deflection	34	41	mm	37.7	Pass
Mid Thorax Rib Deflection	37	45	mm	41.0	Pass
Lower Thorax Rib Deflection	37	44	mm	40.8	Pass

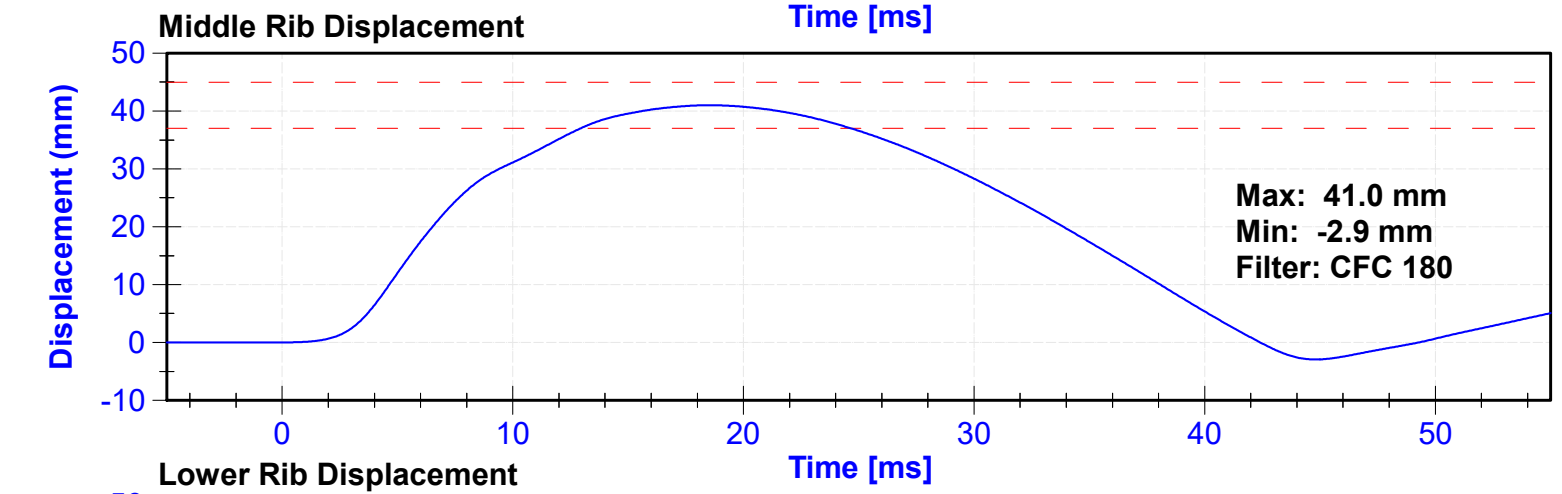
Transducer Calibrations

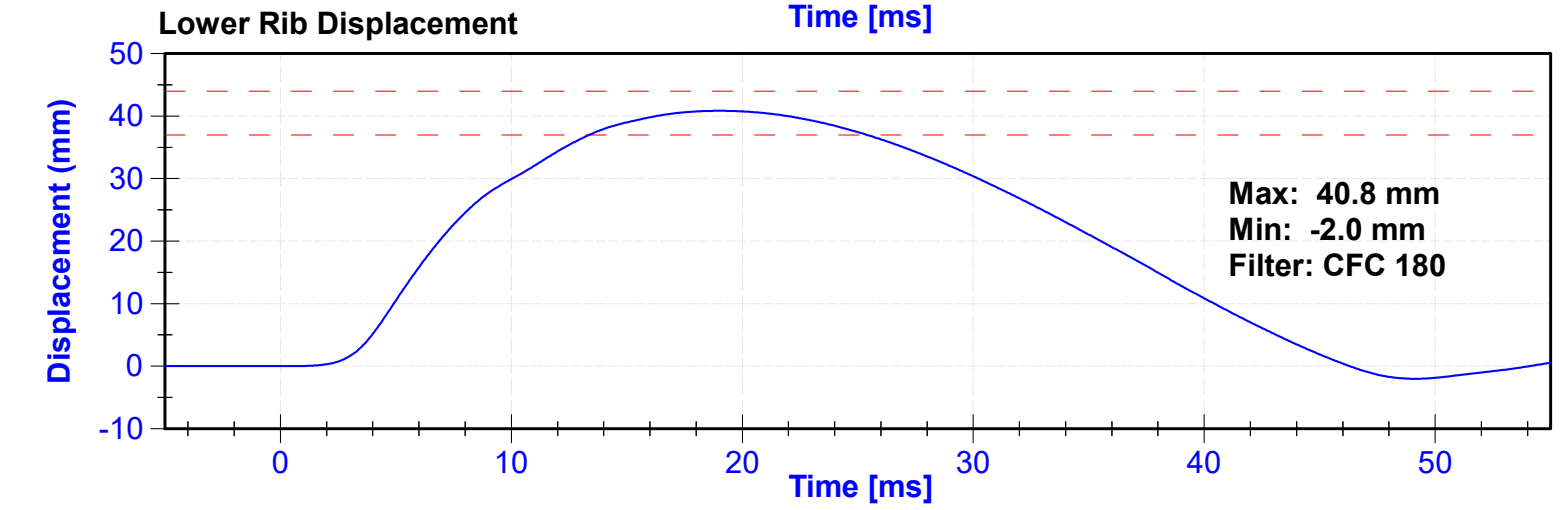
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Thorax Rib Potentiometer	Honeywell	179GFE	7/1/2025	12/30/2025
Middle Thorax Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025
Lower Thorax Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025




Resistive Force
Max: 9355.6 N
Min: -177.7 N
Filter: CFC 180
Force (N)
Time [ms]


Upper Rib Displacement
Max: 37.7 mm
Min: -4.0 mm
Filter: CFC 180
Displacement (mm)
Time [ms]


Middle Rib Displacement
Max: 41.0 mm
Min: -2.9 mm
Filter: CFC 180
Displacement (mm)
Time [ms]


Lower Rib Displacement
Max: 40.8 mm
Min: -2.0 mm
Filter: CFC 180
Displacement (mm)
Time [ms]

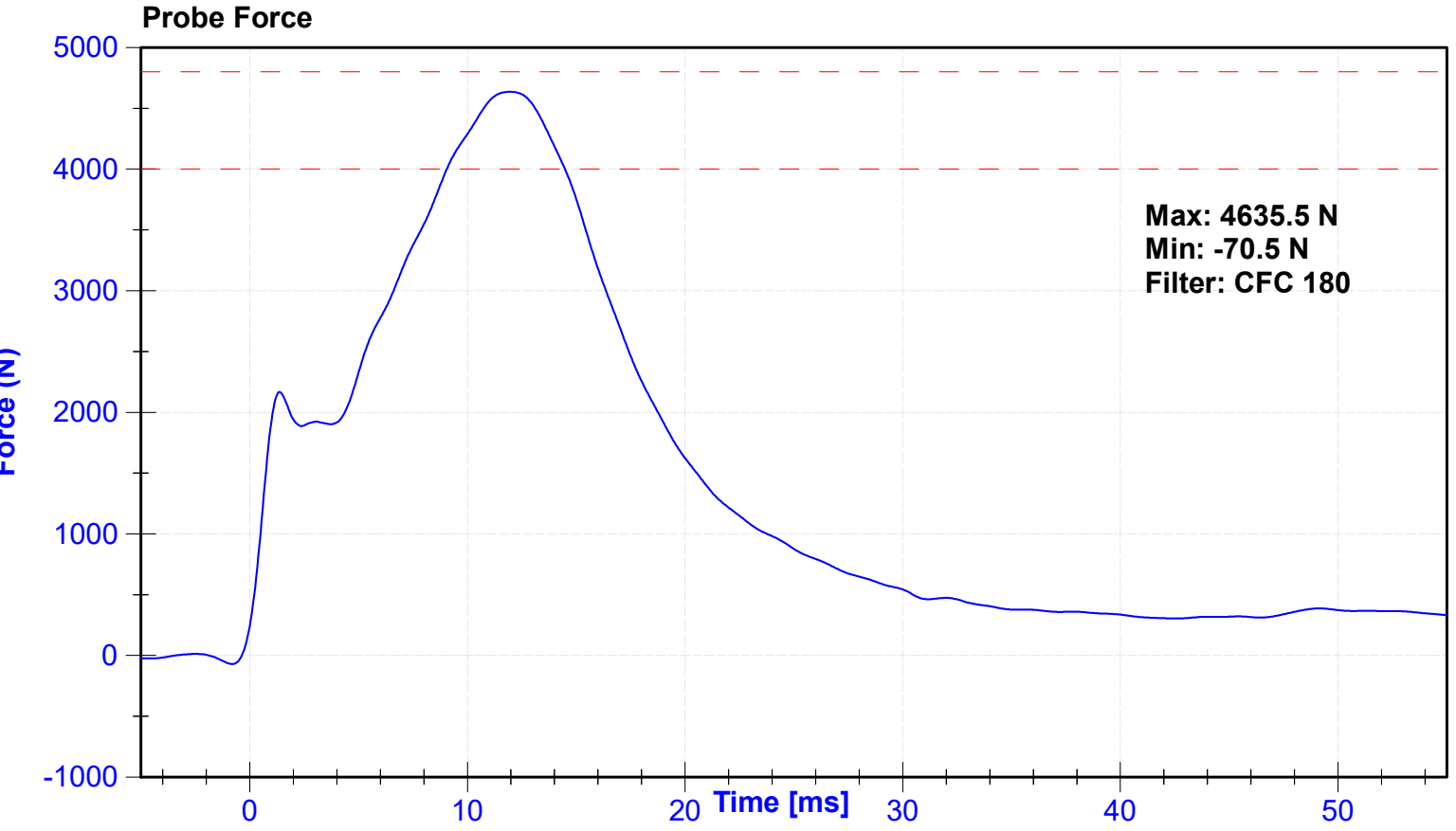
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

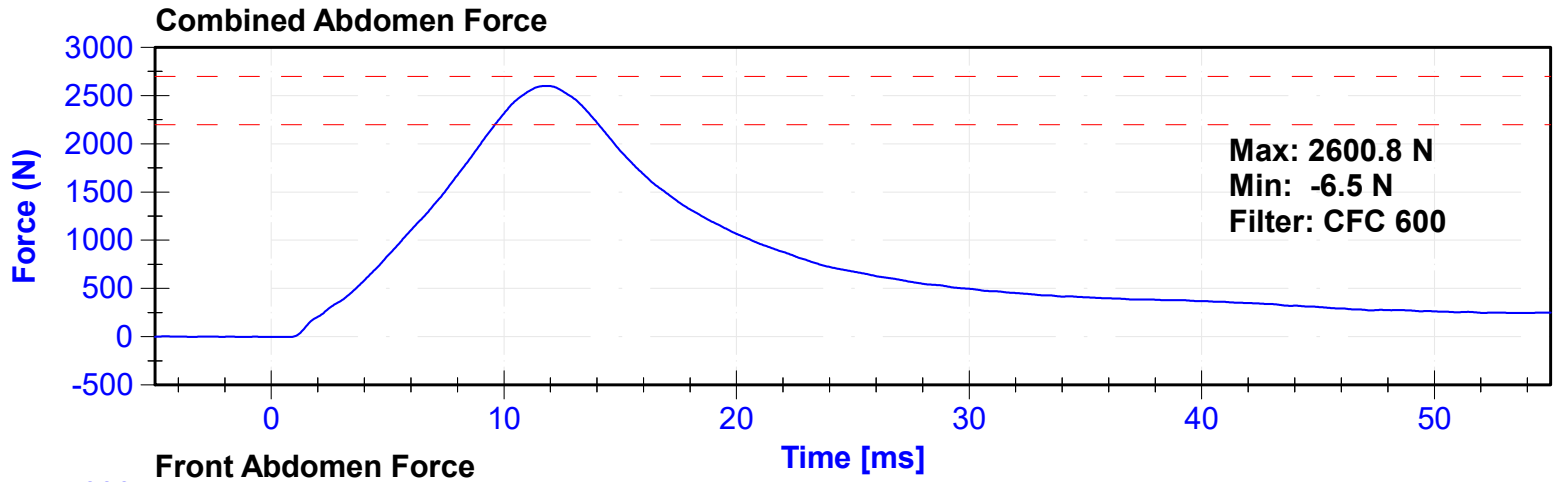
Results

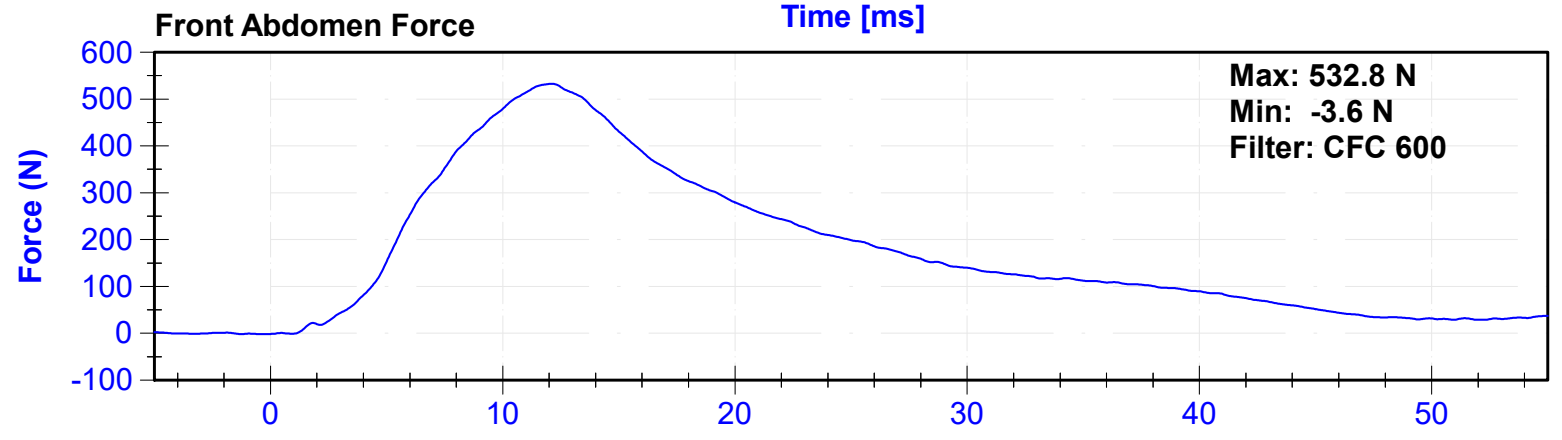
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	52	Pass
Velocity	3.9	4.1	m/s	4.01	Pass
Combined Abdomen Force	2200	2700	N	2600.8	Pass
Time at Peak Abdomen Force	10.0	12.3	ms	11.80	Pass
Resistive Probe Force	4000	4800	N	4635.5	Pass
Time at Peak Resistive Force	10.6	13.0	ms	11.95	Pass

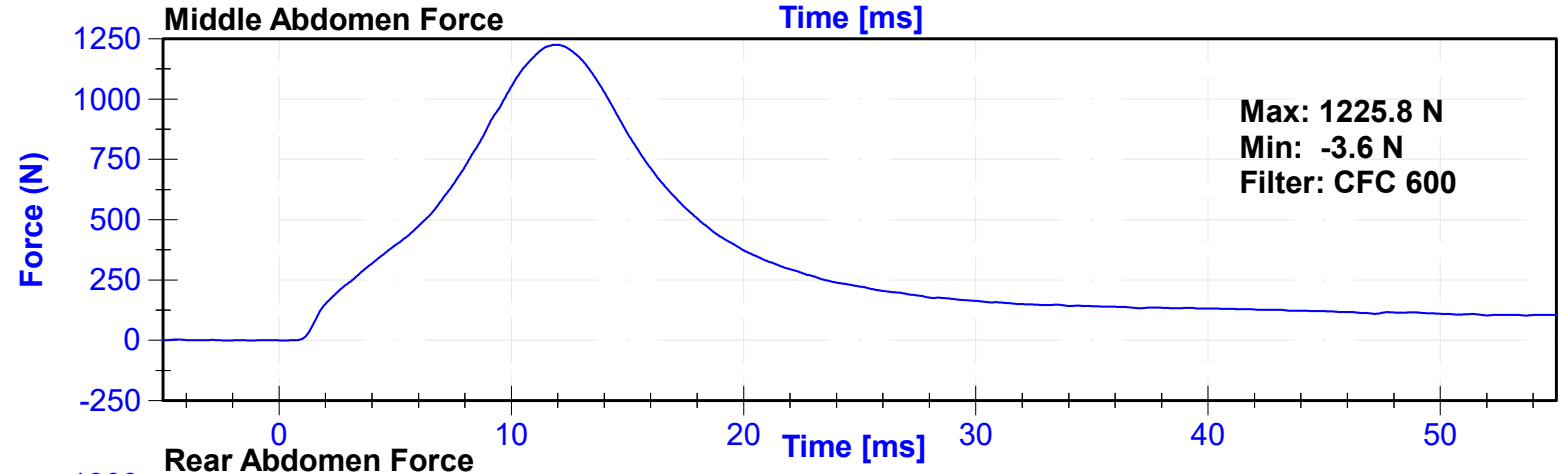
Transducer Calibrations

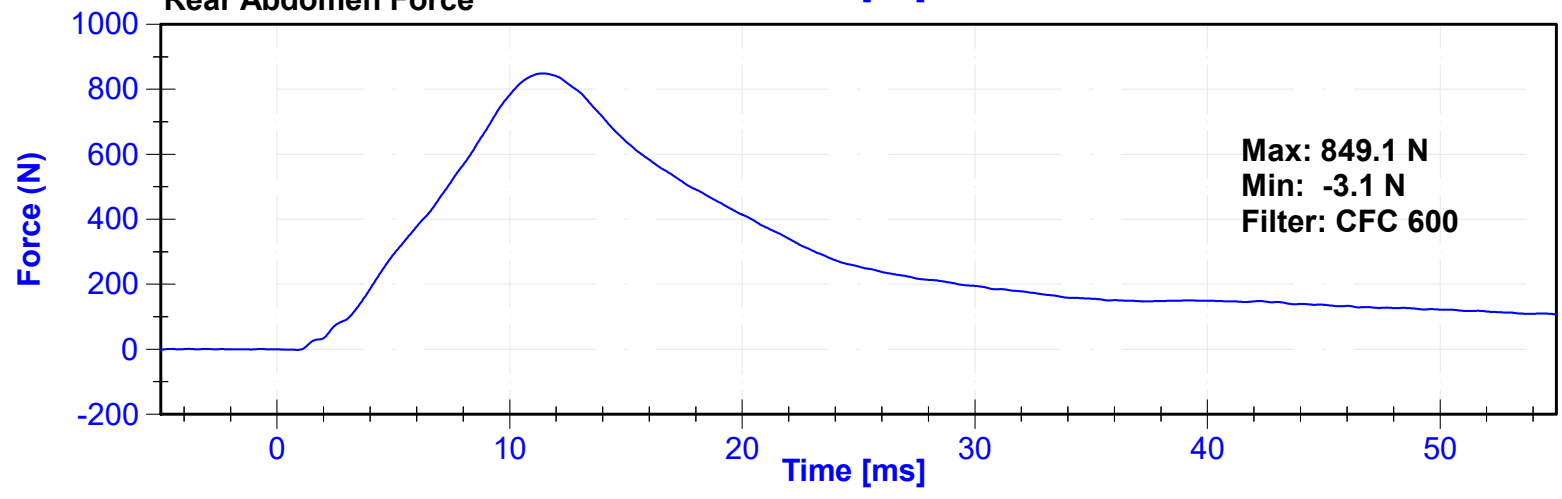
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Front Abdomen Load Cell	Denton	1523	10/28/2024	10/28/2025
Middle Abdomen Load Cell	Denton	1524	10/28/2024	10/28/2025
Rear Abdomen Load Cell	Denton	1530	10/28/2024	10/28/2025




Combined Abdomen Force
Force (N)
Time [ms]
Max: 2600.8 N
Min: -6.5 N
Filter: CFC 600


Front Abdomen Force
Force (N)
Time [ms]
Max: 532.8 N
Min: -3.6 N
Filter: CFC 600


Middle Abdomen Force
Force (N)
Time [ms]
Max: 1225.8 N
Min: -3.6 N
Filter: CFC 600


Rear Abdomen Force
Force (N)
Time [ms]
Max: 849.1 N
Min: -3.1 N
Filter: CFC 600

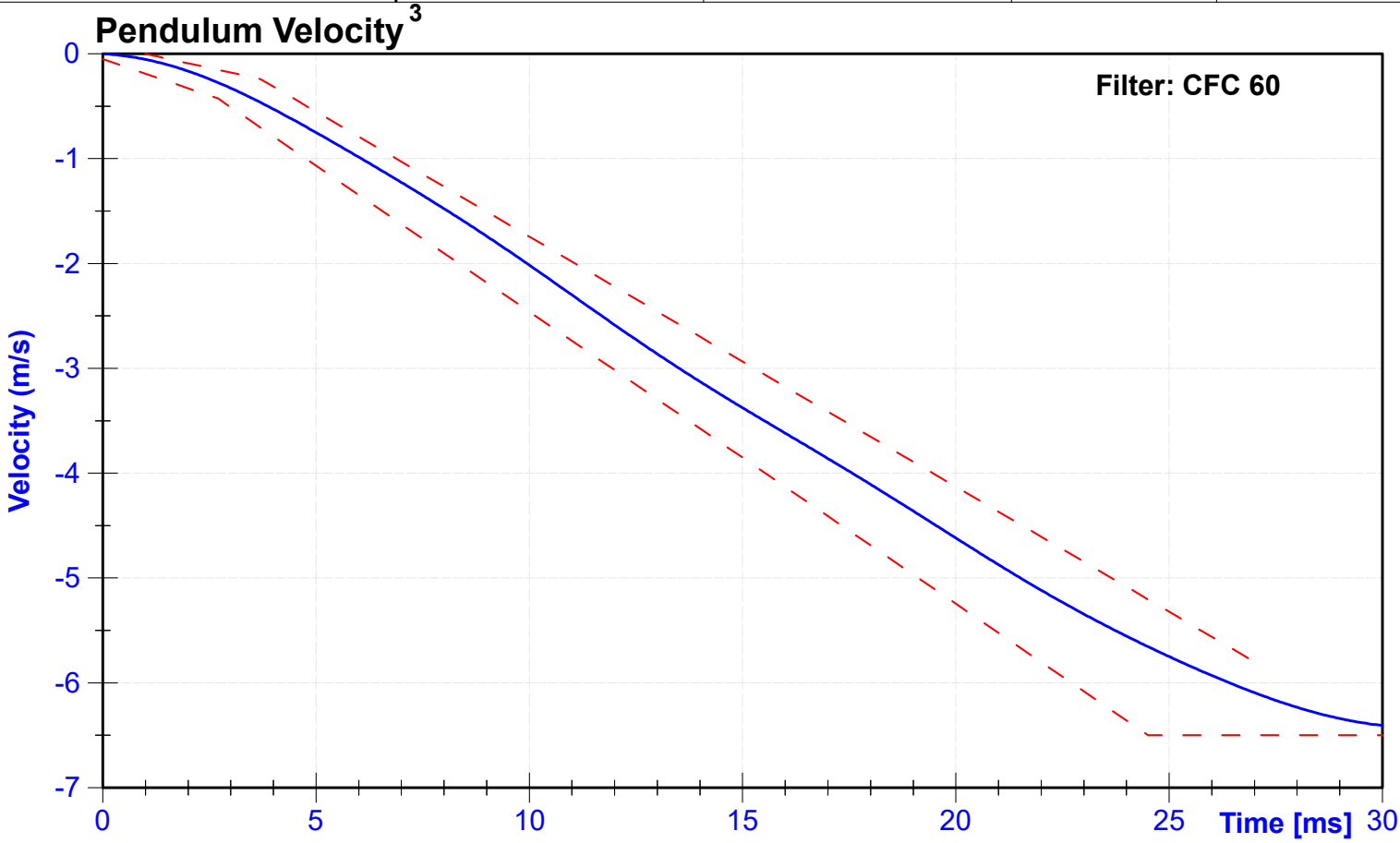
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

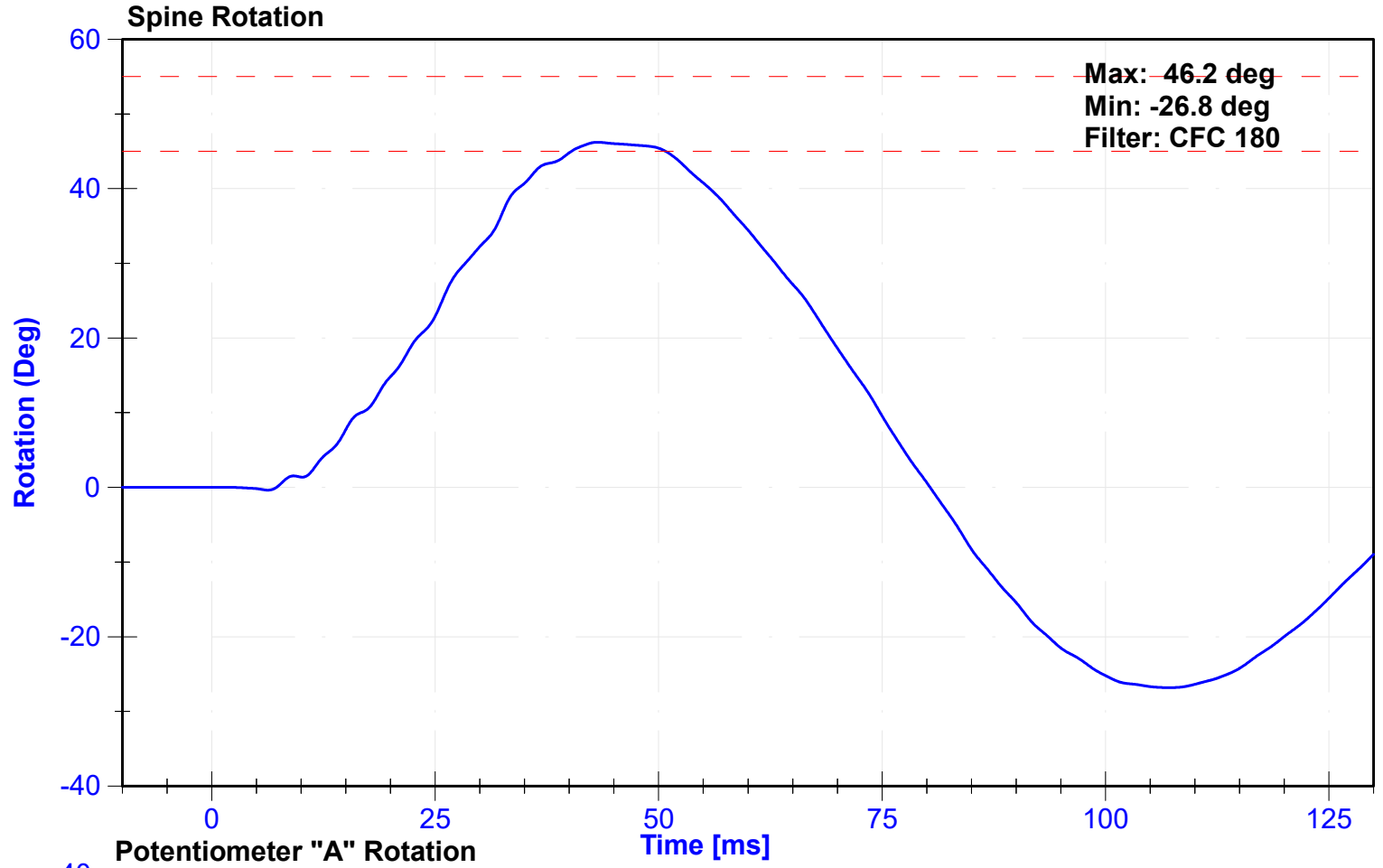
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	55	Pass
Velocity	5.95	6.15	m/s	6.117	Pass
Lateral Spine Rotation	45	55	deg	46.2	Pass
Time at Maximum Rotation	39	53	ms	43.1	Pass
Time of Decay to Zero Degrees	37	57	ms	37.2	Pass
Pendulum Velocity Overall Corridor	Lower Boundary[1]	Upper Boundary[2]	m/s	See Plot[3]	Pass

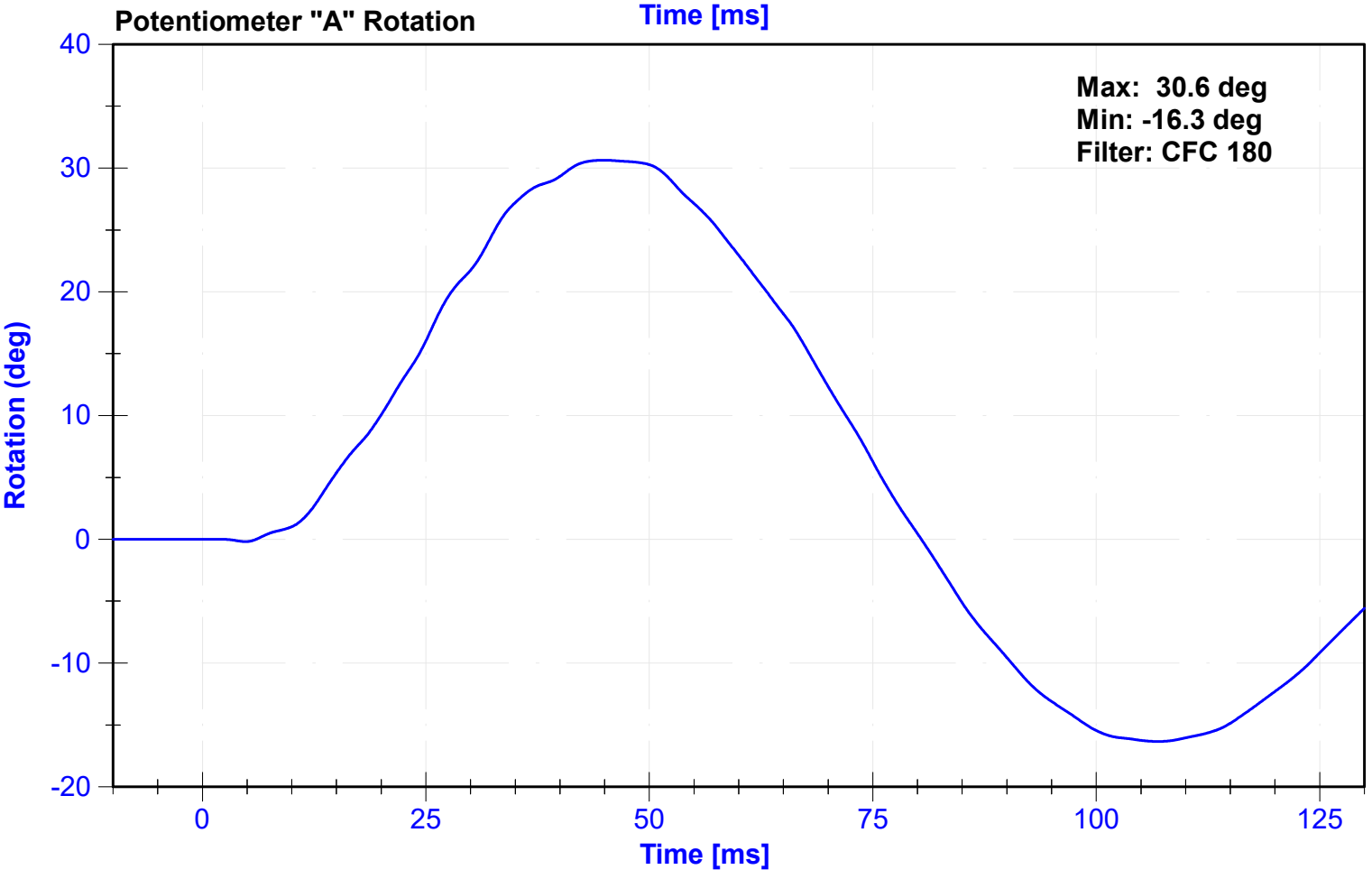
Transducer Calibrations

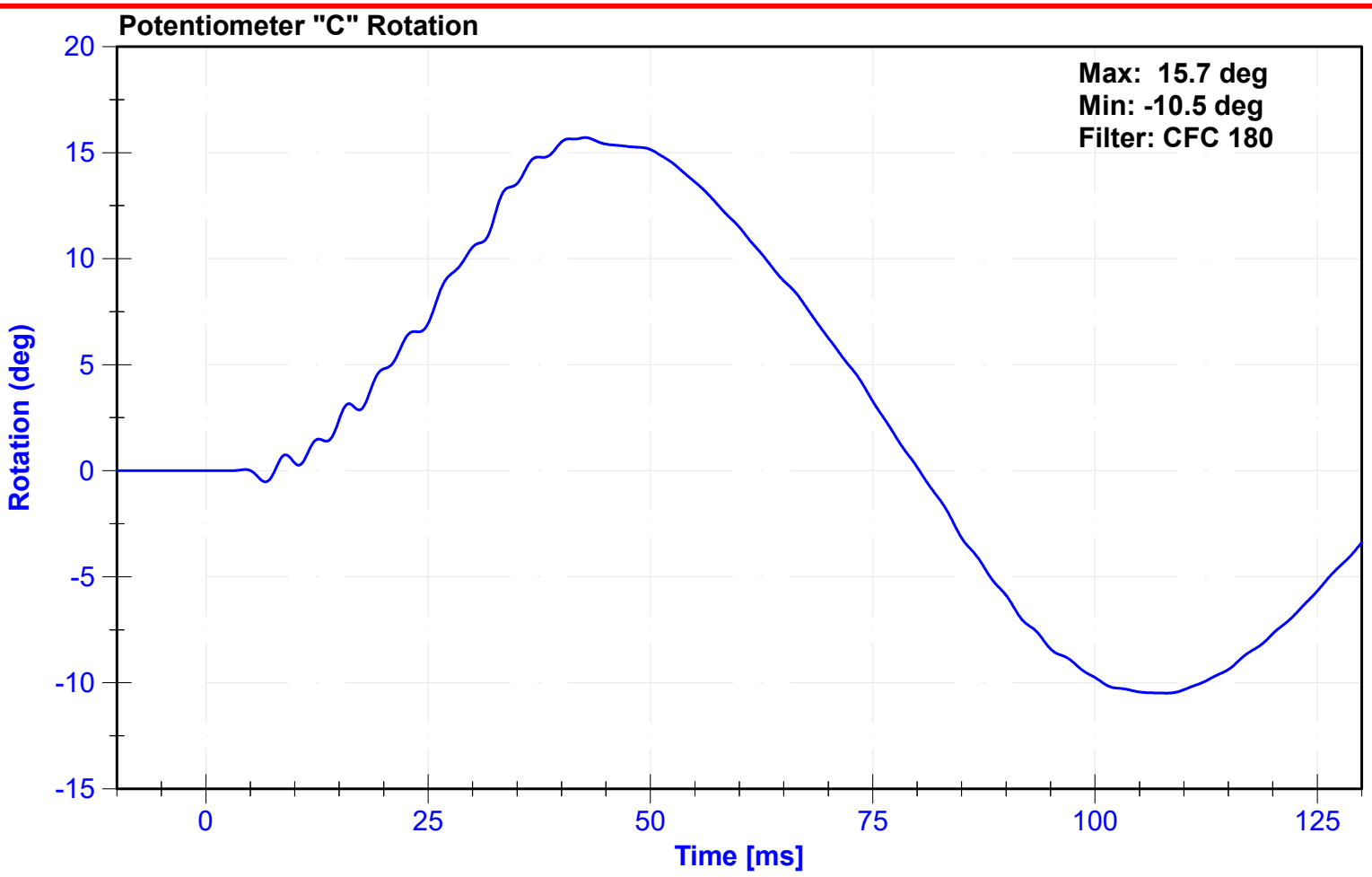
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/17/2024	10/17/2025
Pendulum "A" Potentiometer	Sfernice	2247	9/13/2024	9/13/2025
Condyle "B" Potentiometer	Sfernice	095	9/13/2024	9/13/2025



[1,2] Upper and lower boundaries specified in Appendix I


Spine Rotation
Max: 46.2 deg
Min: -26.8 deg
Filter: CFC 180
Rotation (Deg)
60
40
20
0
-20
-40
0
25
50
75
100
125
Time [ms]


Potentiometer "A" Rotation
Max: 30.6 deg
Min: -16.3 deg
Filter: CFC 180
Rotation (deg)
40
30
20
10
0
-10
-20
0
25
50
75
100
125
Time [ms]



Appendix I

[2] Upper Boundary Corridor		[1] Lower Boundary Corridor	
Time (ms)	Velocity (m/s)	Time (ms)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.7	-0.24	2.7	-0.425
27.0	-5.80	24.5	-6.5
		30.0	-6.5

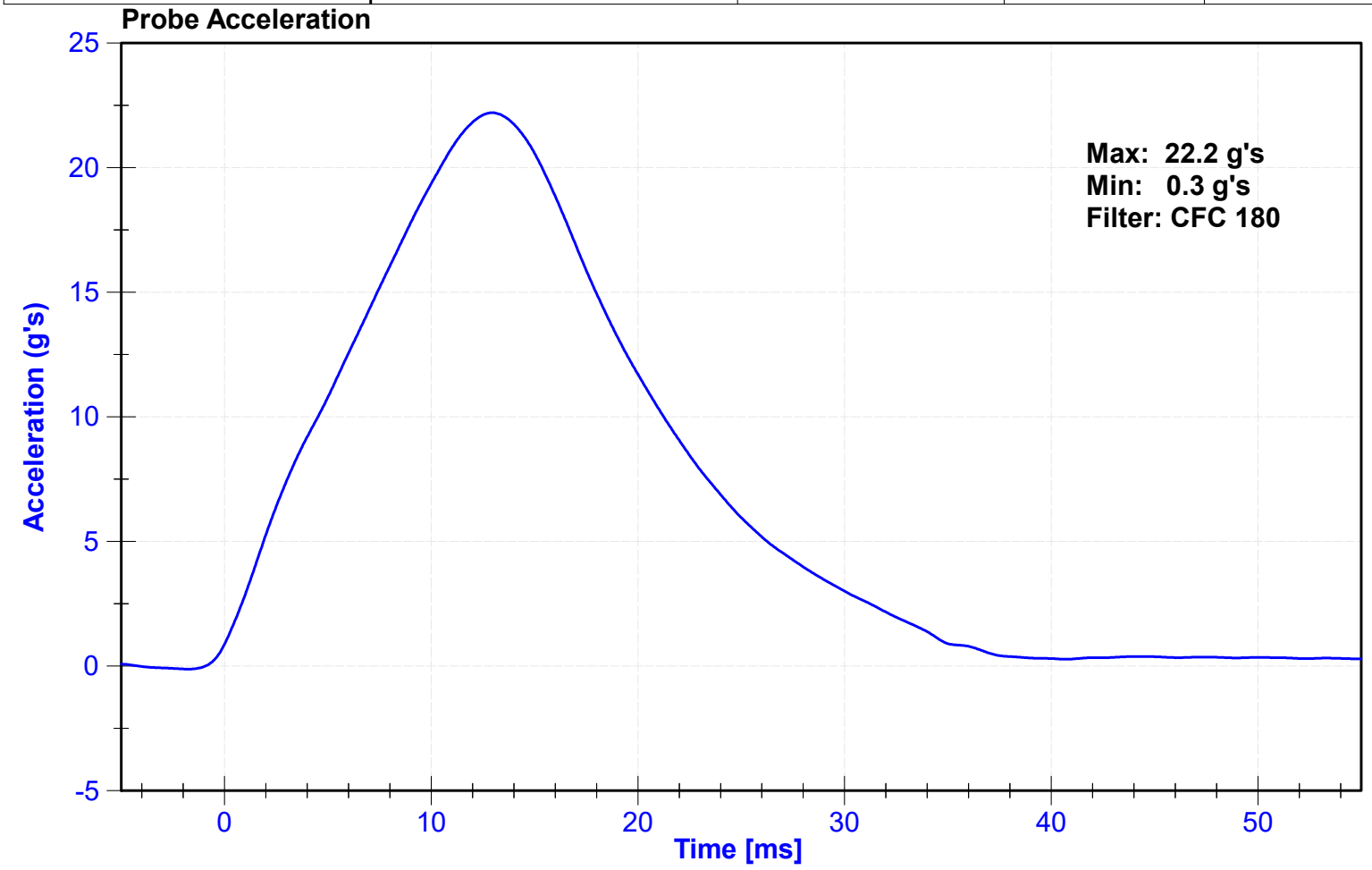
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

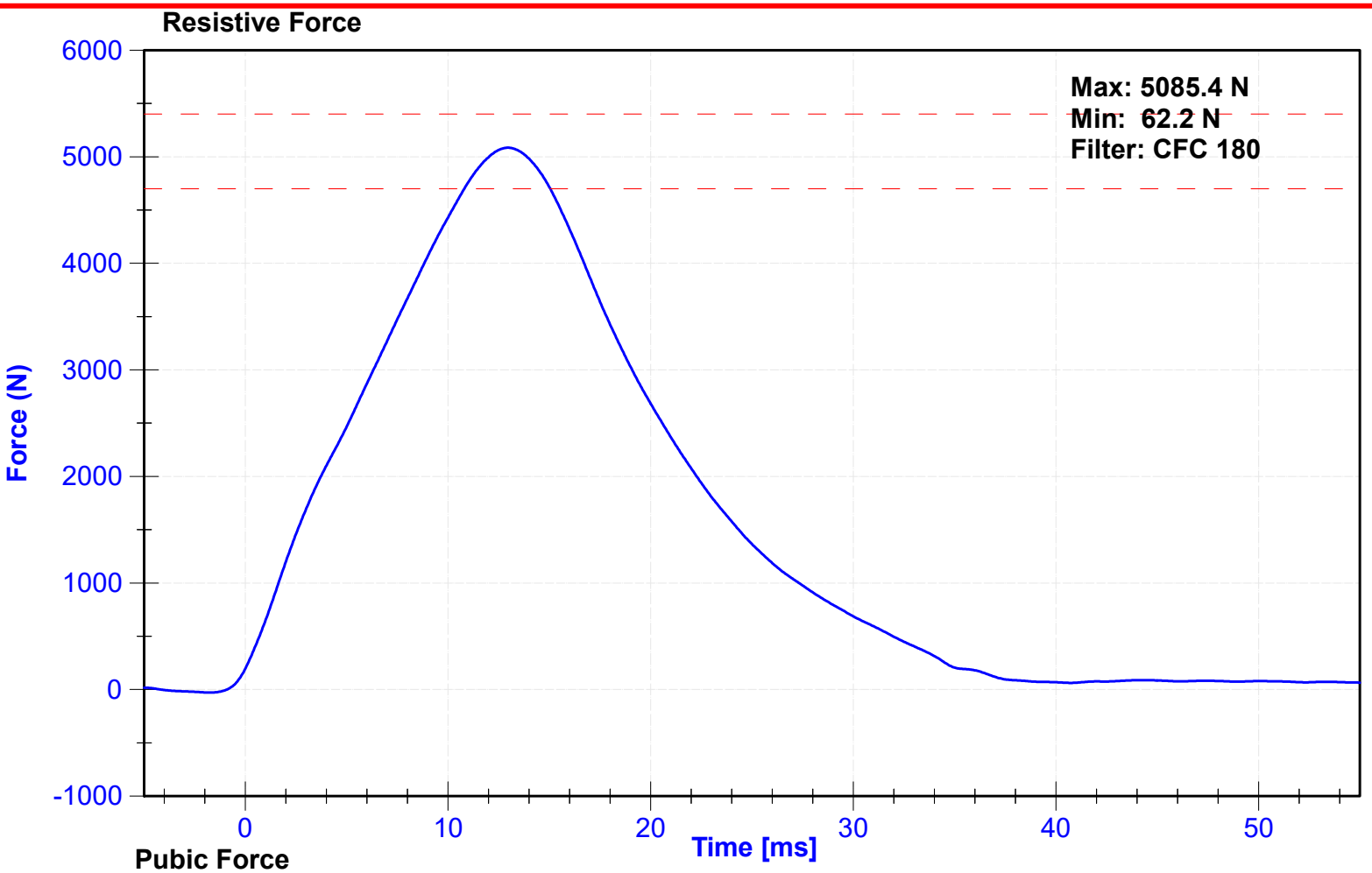
Results

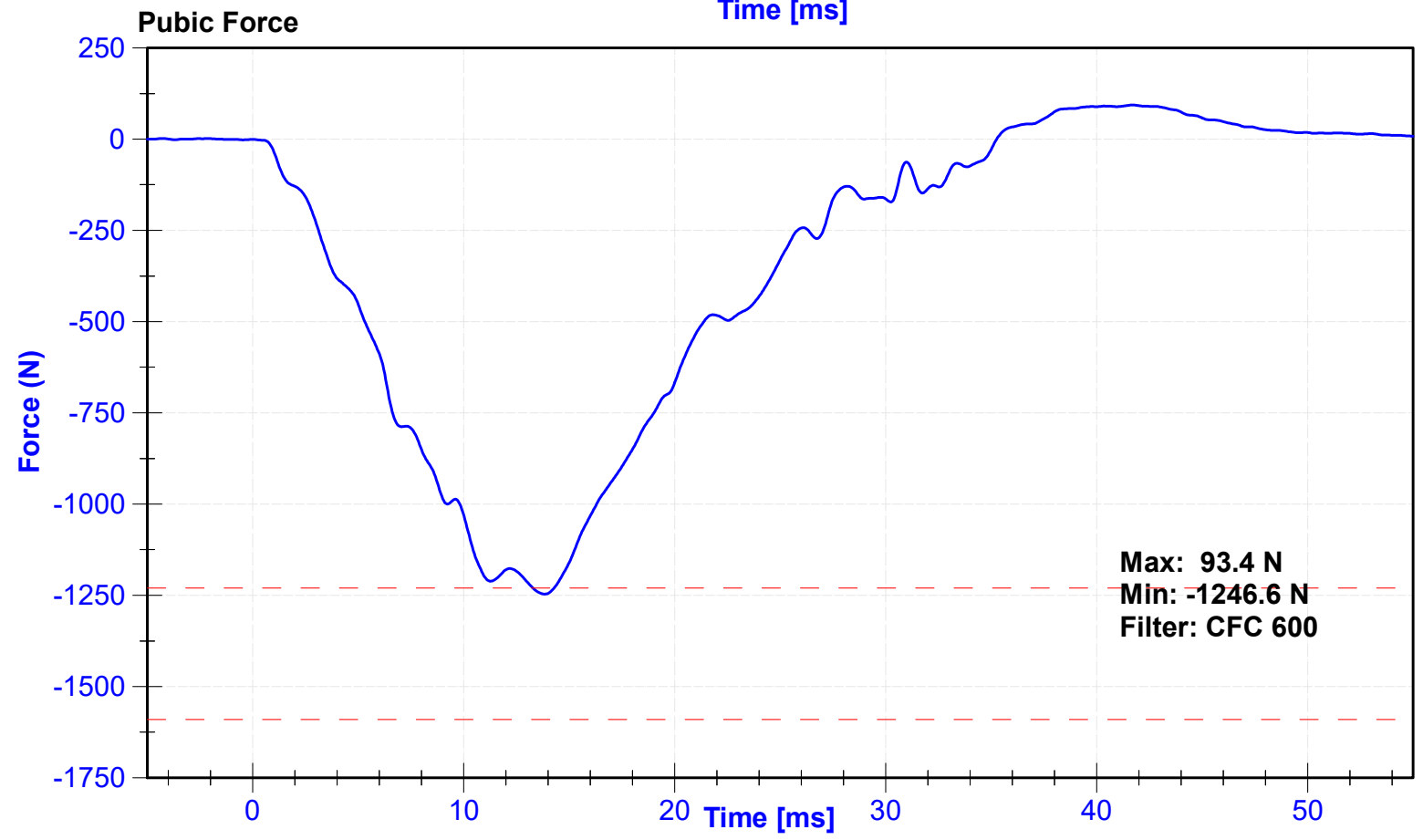
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	52	Pass
Velocity	4.2	4.4	m/s	4.30	Pass
Resistive Force	4700	5400	N	5085.4	Pass
Time at Peak Resistive Force	11.8	16.1	ms	12.95	Pass
Pubic Force	-1590	-1230	N	-1246.6	Pass
Time at Peak Pubic Force	12.2	17.0	ms	13.85	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pubic Load Cell	Denton	458-FY	10/28/2024	10/28/2025




Resistive Force
Max: 5085.4 N
Min: 62.2 N
Filter: CFC 180
Force (N)
6000
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]


Pubic Force
Max: 93.4 N
Min: -1246.6 N
Filter: CFC 600
Force (N)
250
0
-250
-500
-750
-1000
-1250
-1500
-1750
0
10
20
30
40
50
Time [ms]

CALIBRATION TEST RESULTS

PRE-TEST

SID-IIS 5TH PERCENTILE FEMALE – PASSENGER ATD

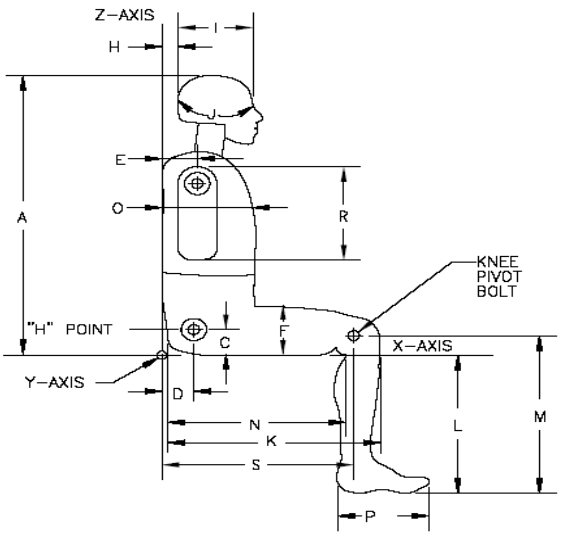
SERIAL NO:DG8012

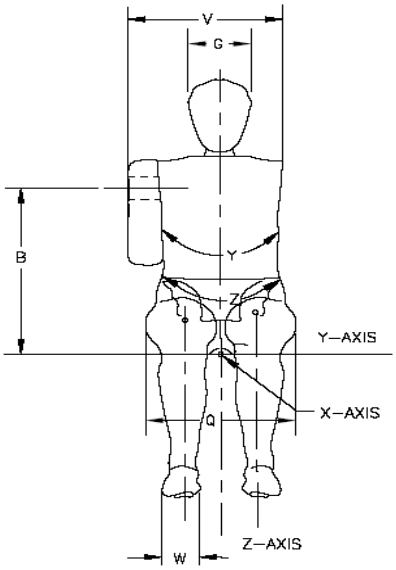
(CONFIGURED FOR LEFT SIDE IMPACT)

External Measurements - SID-IIs

Technician: J. Rios Date: 07/28/2025

Dummy Serial Number: DG8012





Symbol	Description	Specification (mm)		Result (mm)	Pass/Fail
A	Sitting Height	772	788	780	Pass
B	Shoulder Pivot Height	437	453	448	Pass
C	H-point Height	79	89	88	Pass
D	H-point from seatback	141	151	146	Pass
E	Shoulder Pivot from Backline	97	107	102	Pass
F	Thigh Clearance	119	135	123	Pass
G	Head Breadth	140	148	143	Pass
H	Head Back from Backline	40	46	43	Pass
I	Head Depth	178	188	187	Pass
J	Head Circumference	541	551	549	Pass
K	Buttock to Knee Length	514	540	523	Pass
L	Popliteal Height	343	369	353	Pass
M	Knee Pivot to floor height	392	409	400	Pass
N	Buttock Popliteal Length	416	442	428	Pass
O	Chest Depth w/o jacket	195	211	202	Pass
P	Foot Length	216	232	223	Pass
Q	Hip Breadth (w/pelvic plugs)	313	323	319	Pass
R	Arm Length	249	259	255	Pass
S	Knee Joint to seatback	477	493	485	Pass
V	Shoulder Width	341	357	349	Pass
W	Foot Width	78	94	85	Pass
Y	Chest Circumference w/jacket	851	881	869	Pass
Z	Waist Circumference	761	791	781	Pass

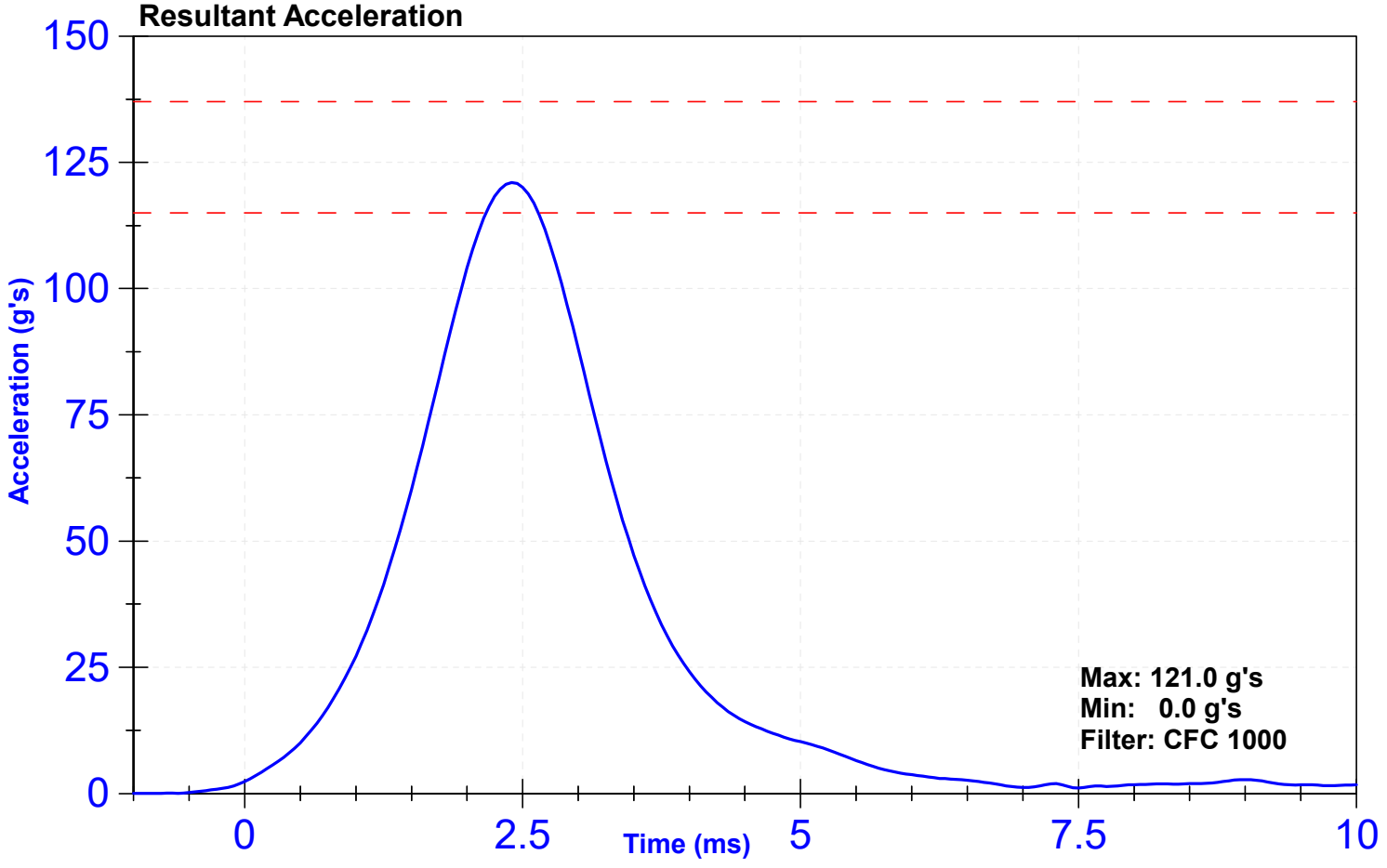
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

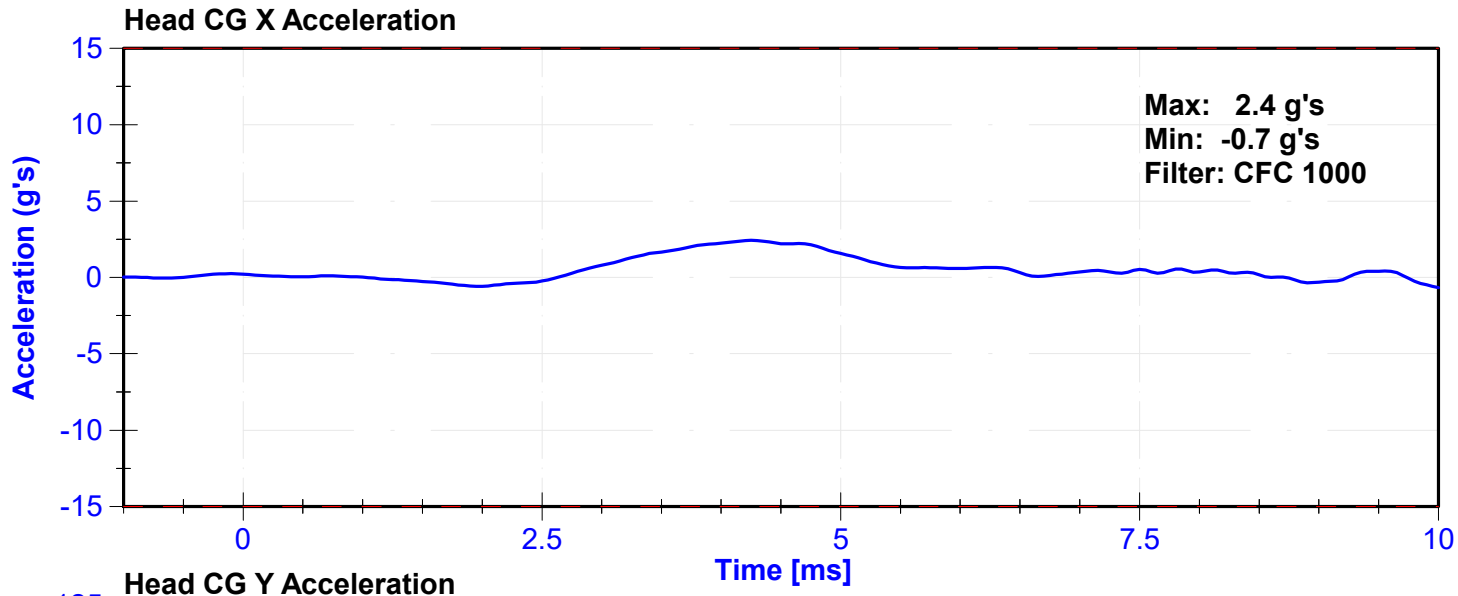
Results

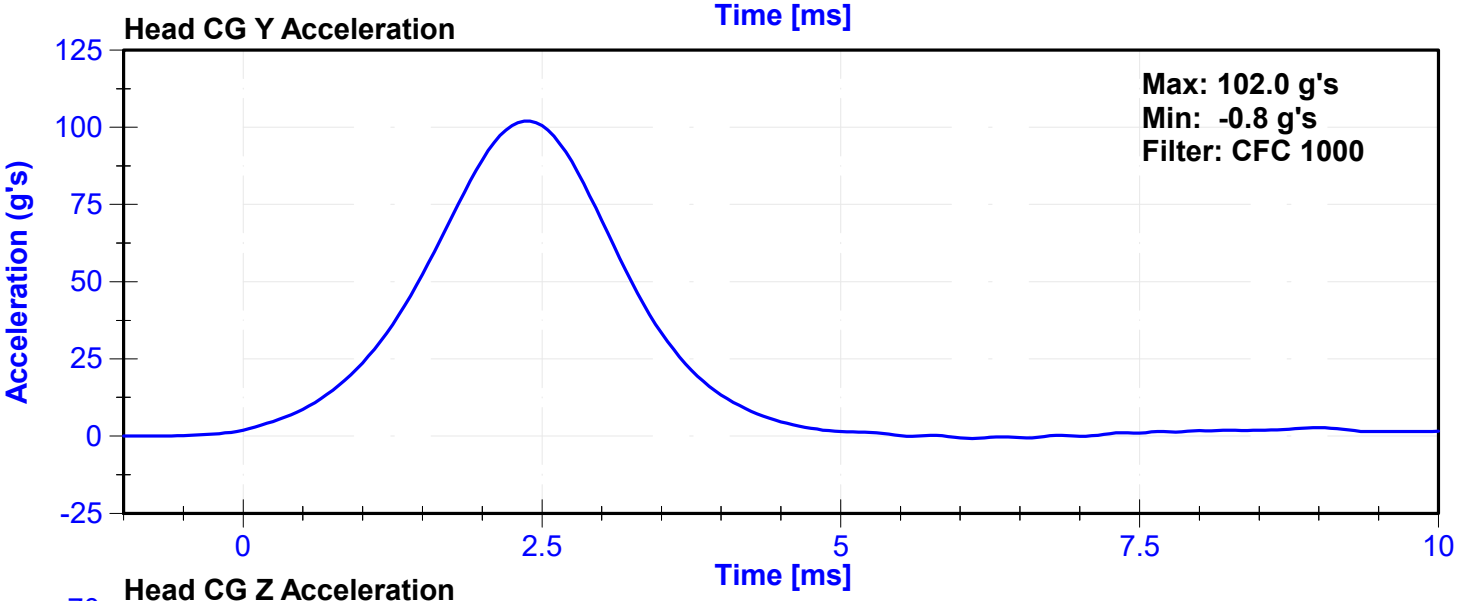
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.5	Pass
Humidity	10	70	%	64	Pass
Resultant Acceleration	115	137	g's	121.0	Pass
Oscillation	0	15	%	2.2	Pass
Fore-Aft Acceleration	-15	15	g's	2.4	Pass

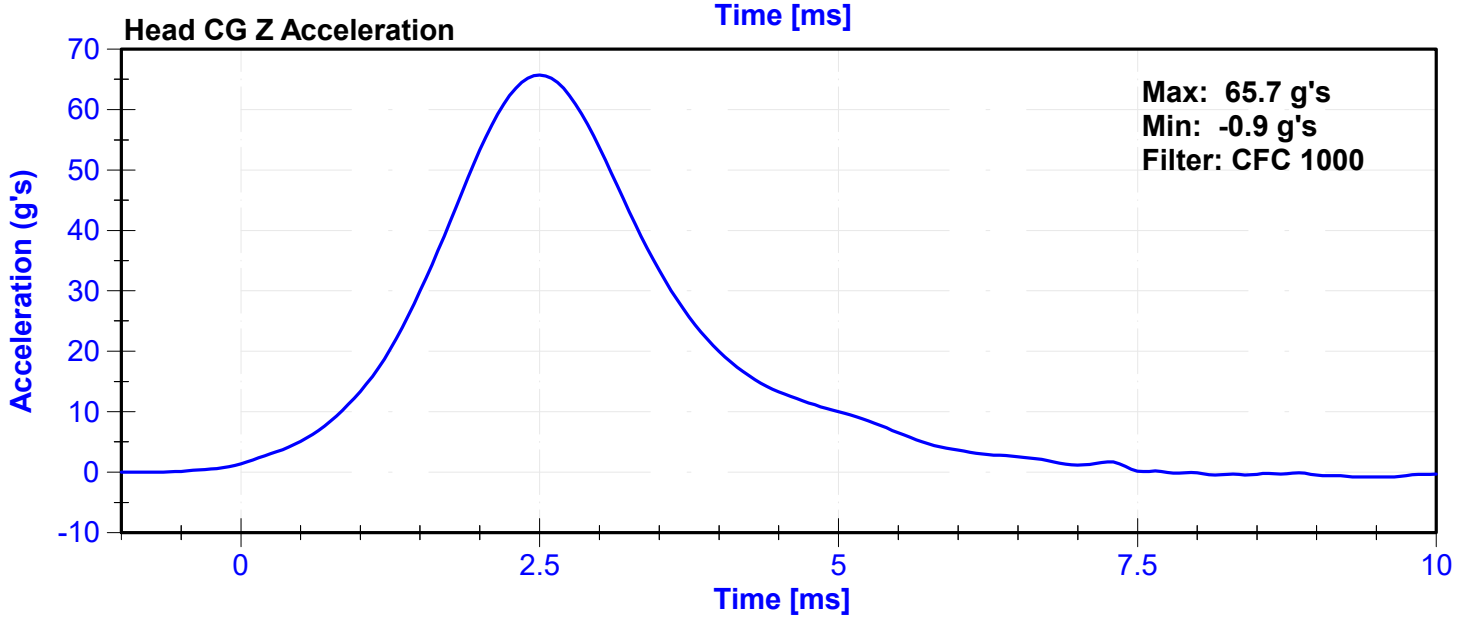
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibratio Date	Calibratio Due Date
X Accelerometer	Endevco	T21184	7/2/2025	12/29/2025
Y Accelerometer	Endevco	T31030	7/2/2025	12/29/2025
Z Accelerometer	Endevco	P83319	7/2/2025	12/29/2025




Head CG X Acceleration
Max: 2.4 g's
Min: -0.7 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]


Head CG Y Acceleration
Max: 102.0 g's
Min: -0.8 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]


Head CG Z Acceleration
Max: 65.7 g's
Min: -0.9 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]

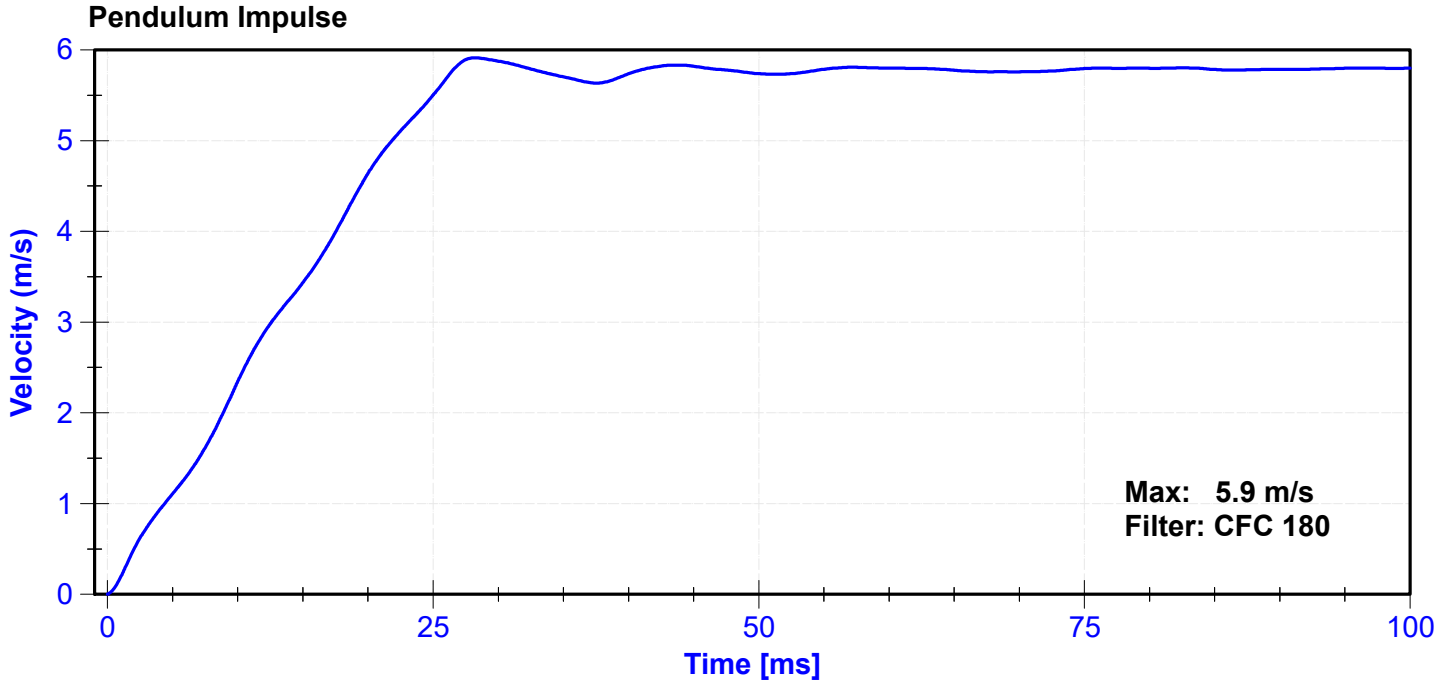
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

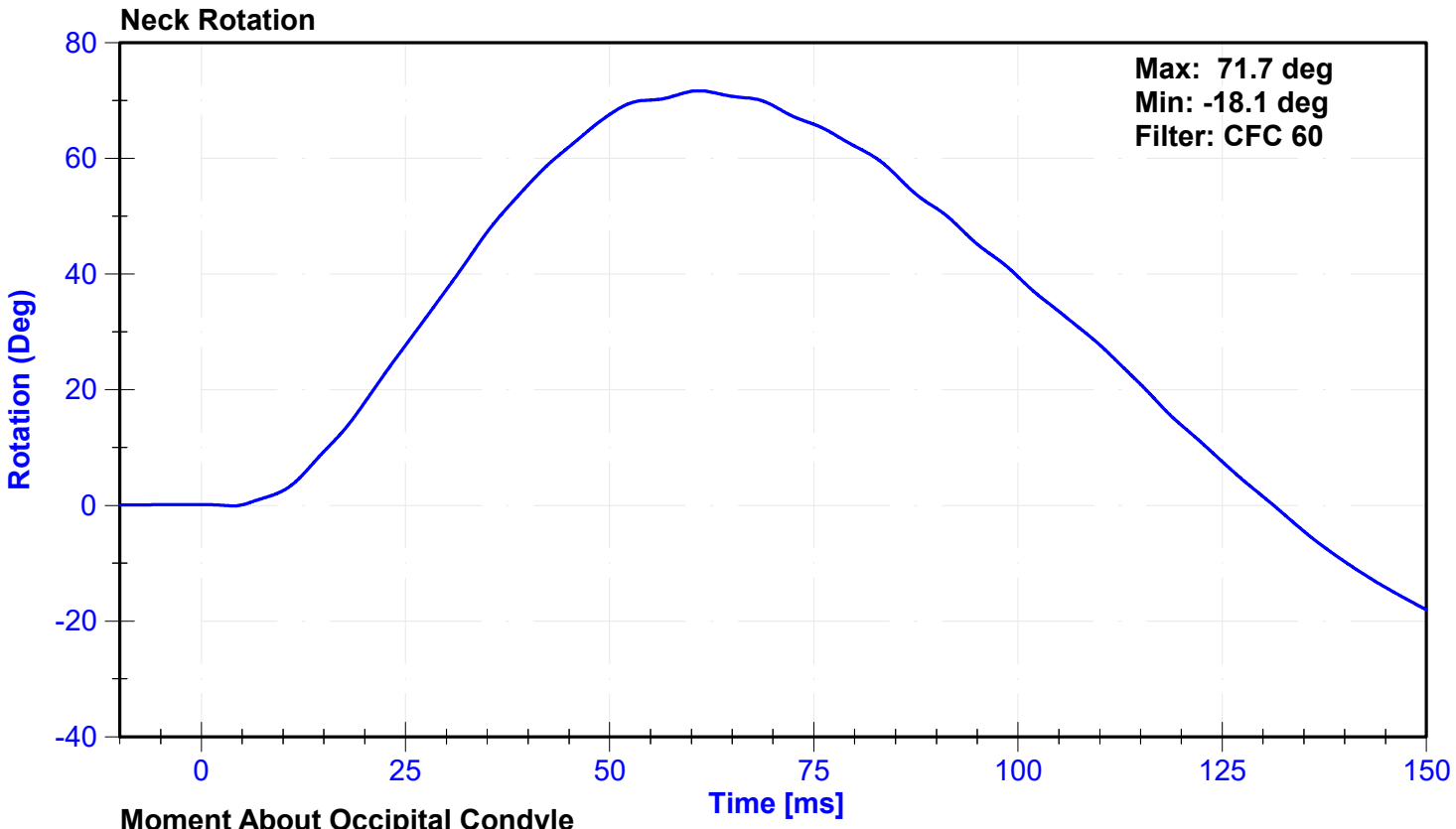
Results

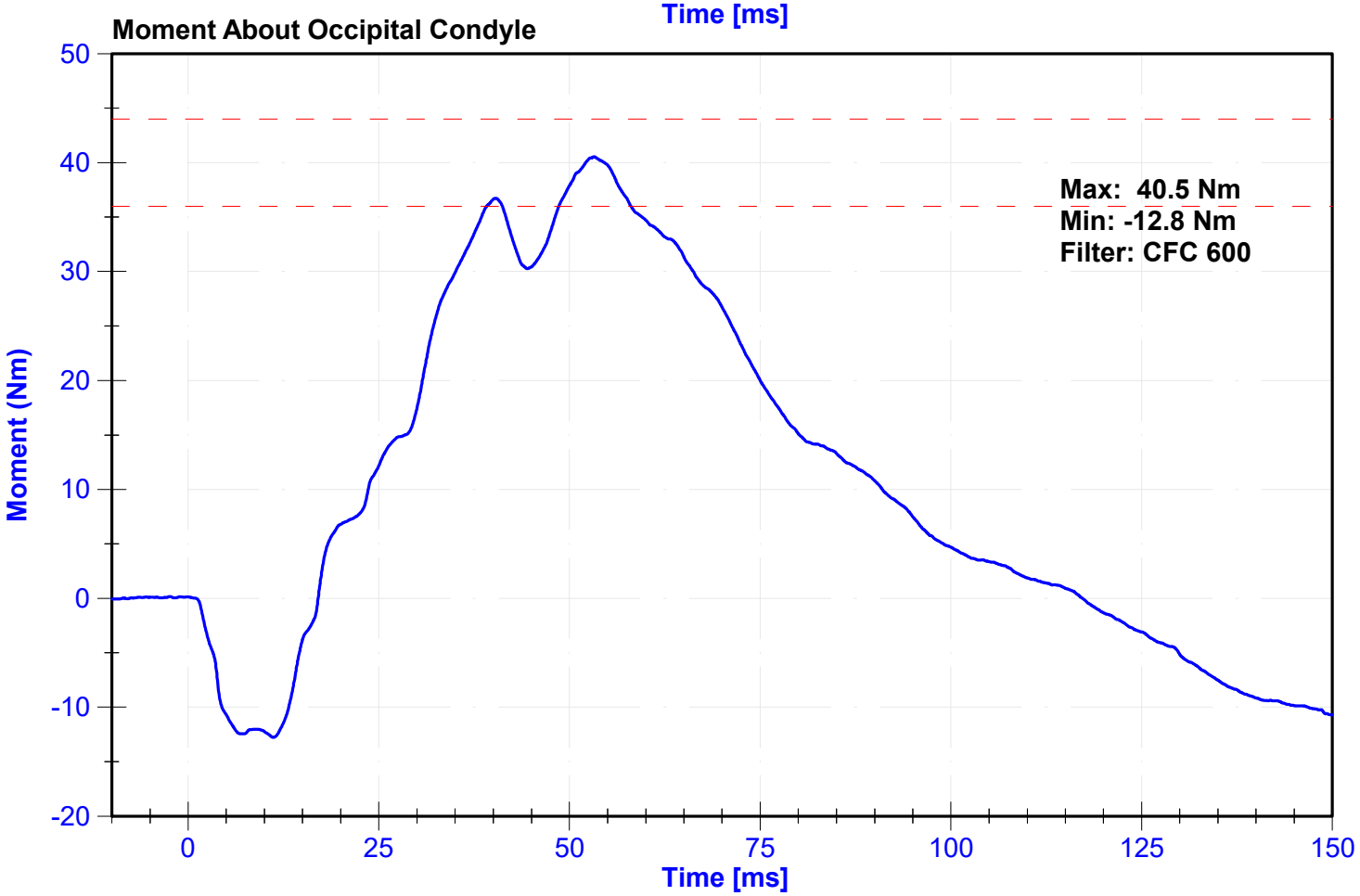
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.5	Pass
Humidity	10	70	%	65	Pass
Velocity	5.51	5.63	m/s	5.580	Pass
Pendulum Impulse at 10ms	2.2	2.8	m/s	2.35	Pass
Pendulum Impulse at 15ms	3.3	4.1	m/s	3.44	Pass
Pendulum Impulse at 20ms	4.4	5.4	m/s	4.64	Pass
Pendulum Impulse at 25ms	5.4	6.1	m/s	5.50	Pass
Pendulum Impulse from 25 to 100ms	5.5	6.2	m/s	5.91	Pass
Neck Rotation	71	81	deg	71.7	Pass
Time at Maximum Rotation	50	70	ms	60.9	Pass
Moment about the OC	36	44	Nm	40.5	Pass
Moment Decay to 0 Nm	102	126	ms	117.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	7231C-750	11/1/2024	11/1/2025
Pendulum Potentiometer	Servo	4961	9/23/2024	9/23/2025
Condyle Potentiometer	Servo	DS185	9/23/2024	9/23/2025
Upper Neck Load Cell	Kistler	M555A6CFM_1935H01698-F4Y	4/17/2025	4/17/2026




Neck Rotation
Max: 71.7 deg
Min: -18.1 deg
Filter: CFC 60
Rotation (Deg)
80
60
40
20
0
-20
-40
0
25
50
75
100
125
150
Time [ms]


Moment About Occipital Condyle
Max: 40.5 Nm
Min: -12.8 Nm
Filter: CFC 600
Moment (Nm)
50
40
30
20
10
0
-10
-20
0
25
50
75
100
125
150
Time [ms]

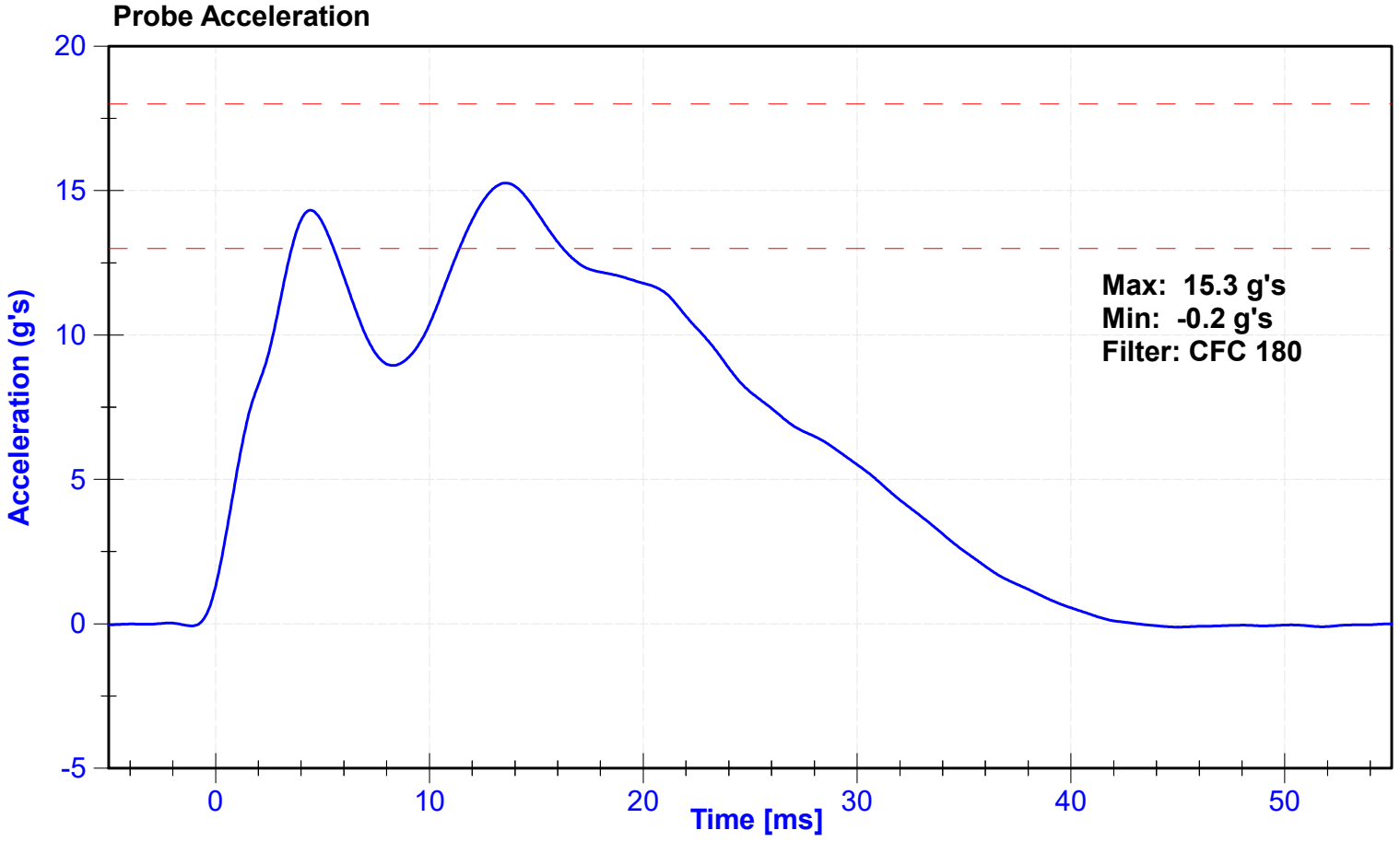
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

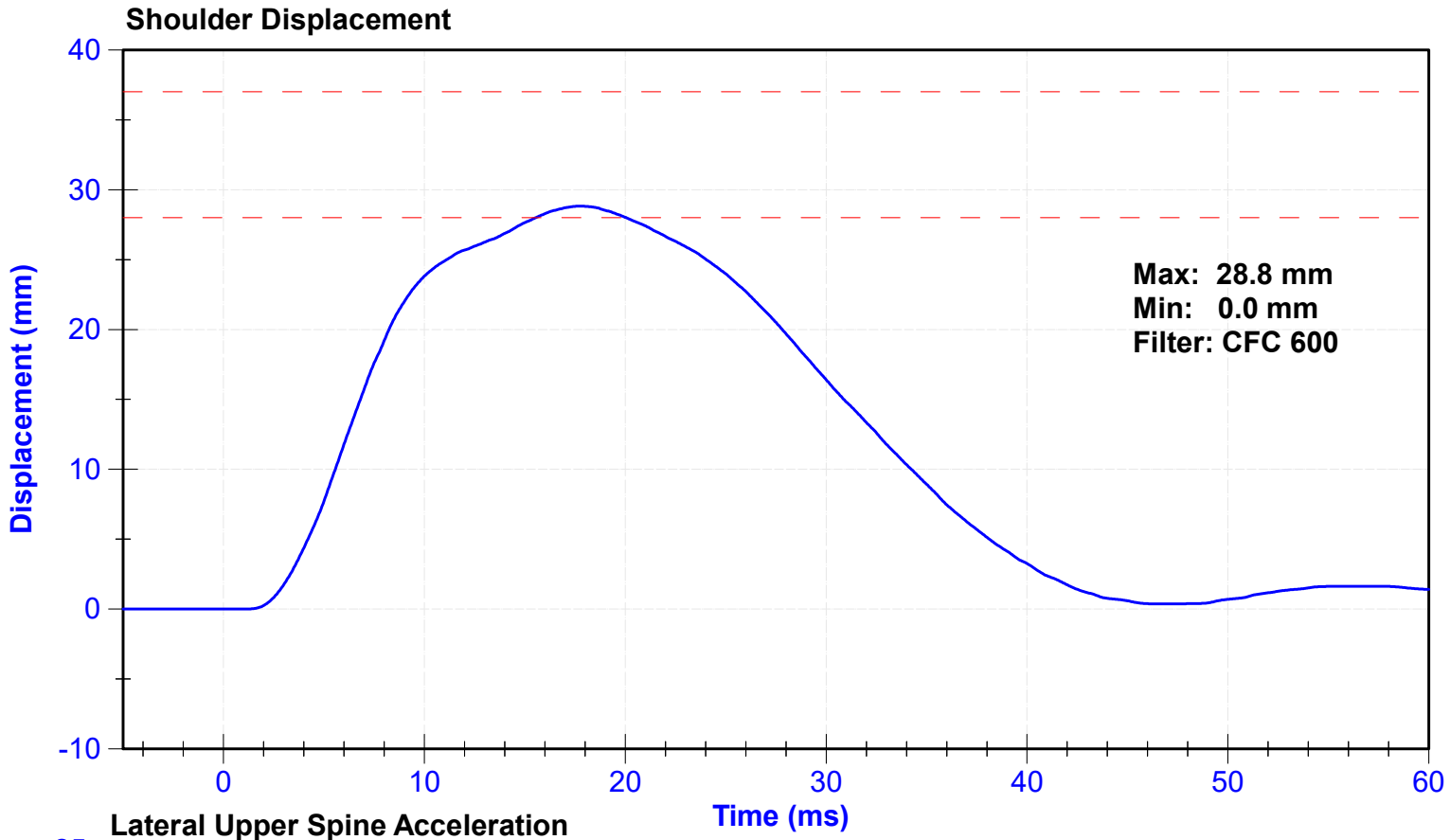
Results

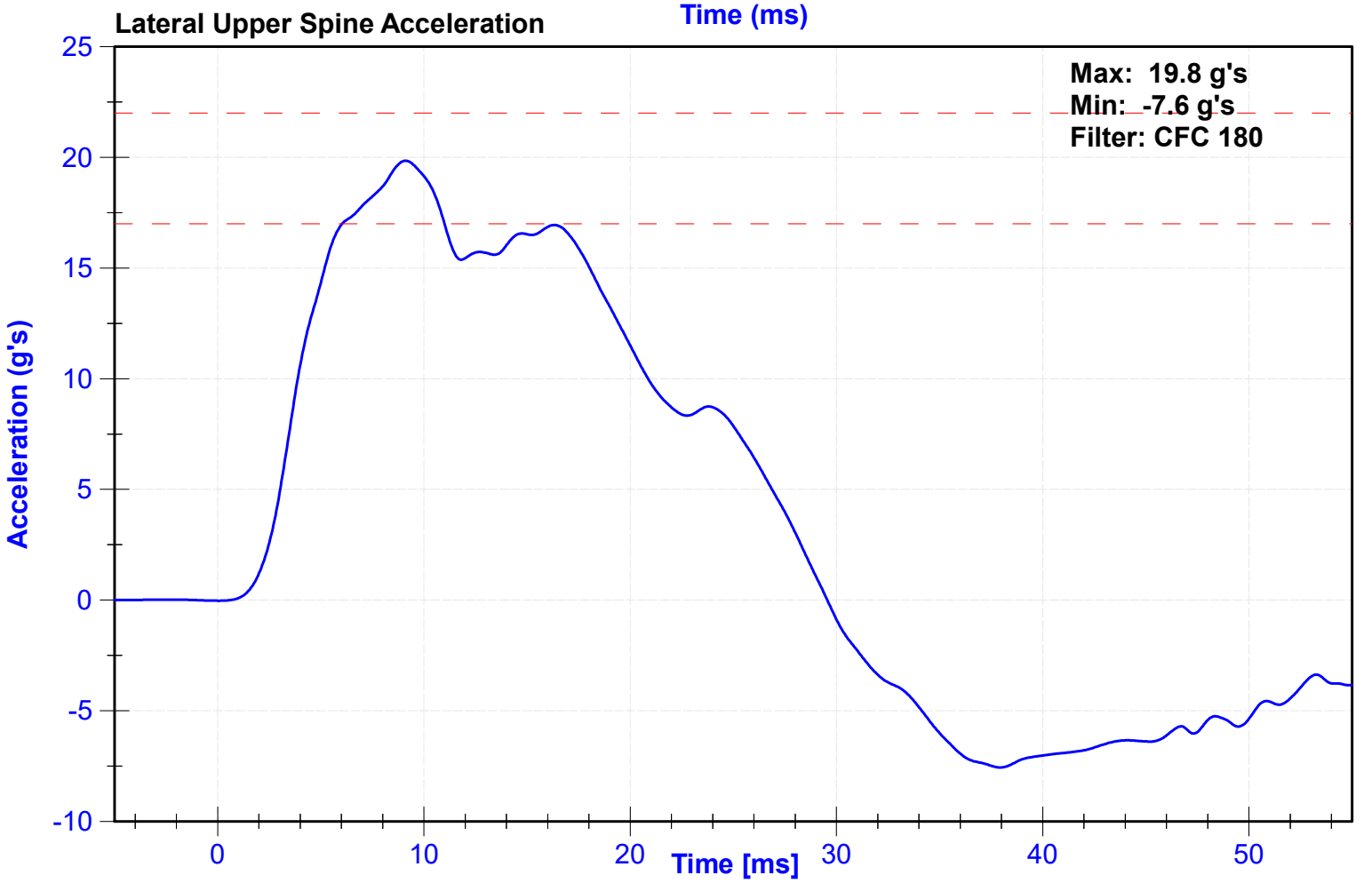
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	4.2	4.4	m/s	4.27	Pass
Probe Acceleration	13	18	g's	15.3	Pass
Shoulder Deflection	28	37	mm	28.8	Pass
Lateral Upper Spine Acceleration	17	22	g's	19.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Shoulder Potentiometer	Servo	1274GFE	7/8/2025	1/6/2026
Upper Spine Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025




Shoulder Displacement
Displacement (mm)
Time (ms)
Max: 28.8 mm
Min: 0.0 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 19.8 g's
Min: -7.6 g's
Filter: CFC 180

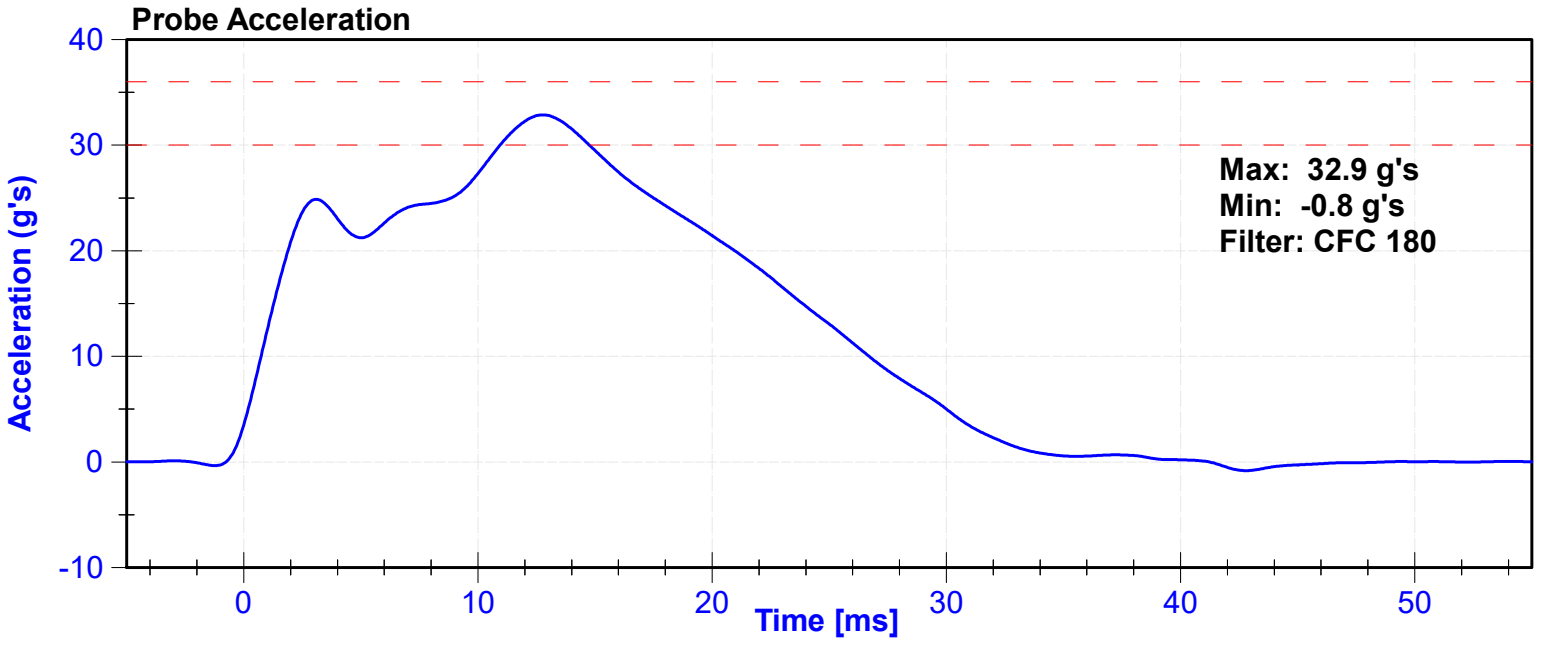
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

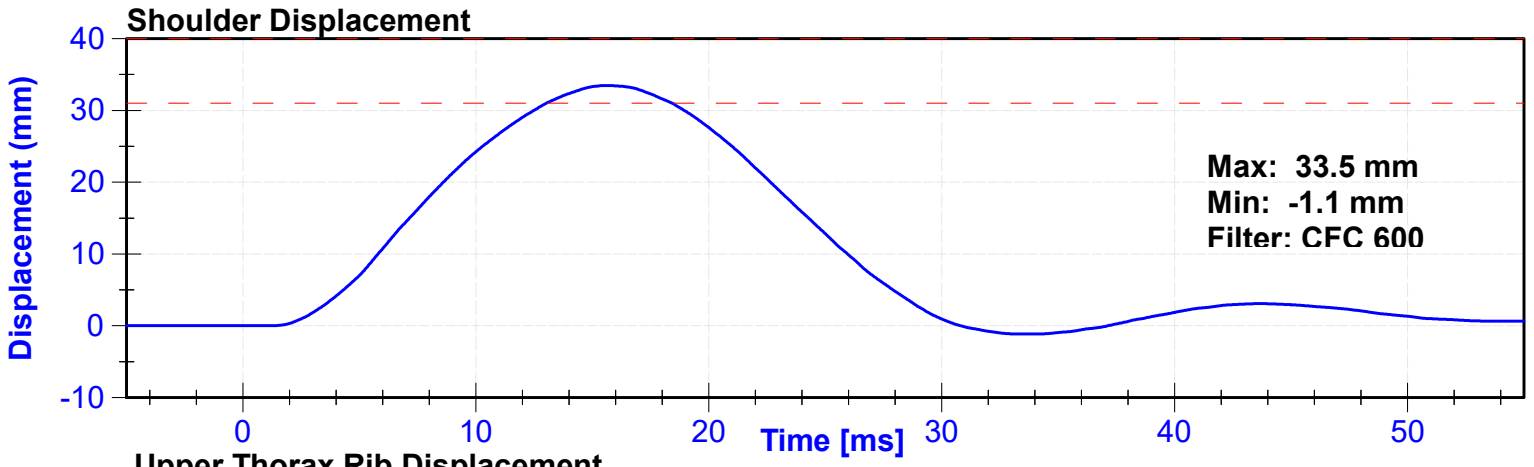
Results

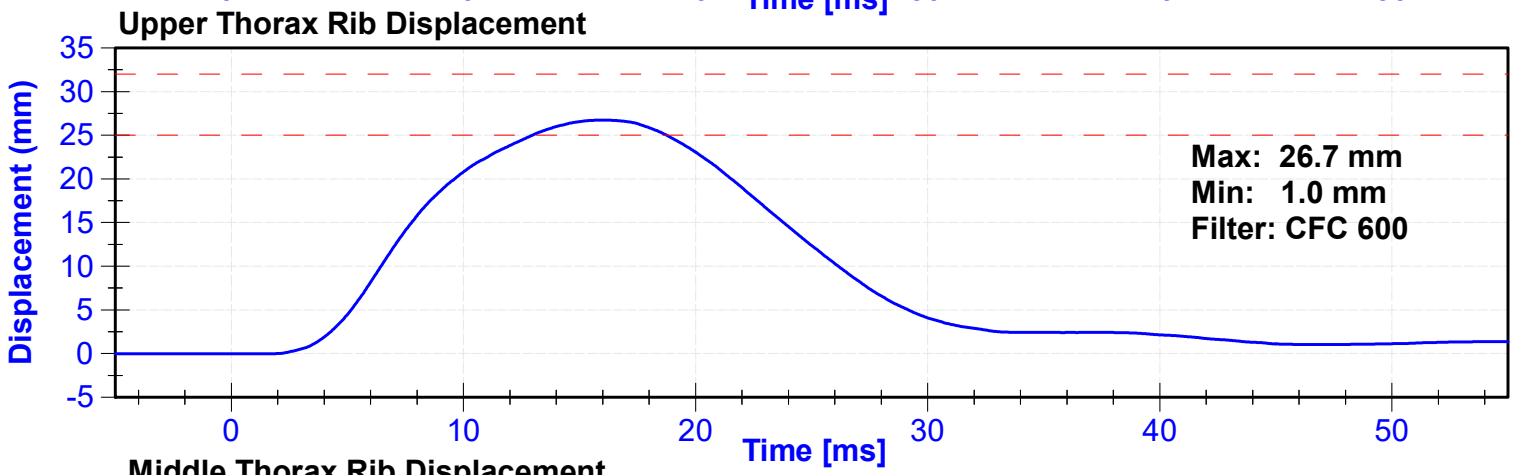
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	6.6	6.8	m/s	6.66	Pass
Probe Acceleration after 5 ms	30	36	g's	32.9	Pass
Lateral Upper Spine Acceleration	34	43	g's	37.9	Pass
Lateral Lower Spine Acceleration	29	37	g's	31.4	Pass
Shoulder Deflection	31	40	mm	33.5	Pass
Upper Thorax Rib Deflection	25	32	mm	26.7	Pass
Mid Thorax Rib Deflection	30	36	mm	32.2	Pass
Lower Thorax Rib Deflection	32	38	mm	35.9	Pass

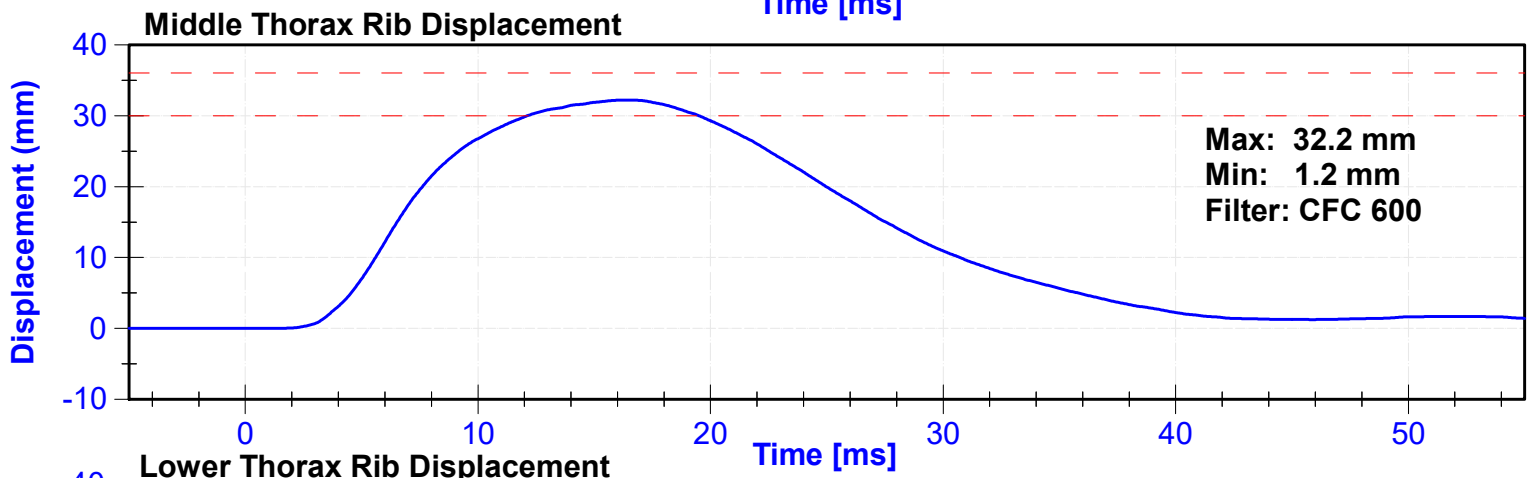
Transducer Calibrations

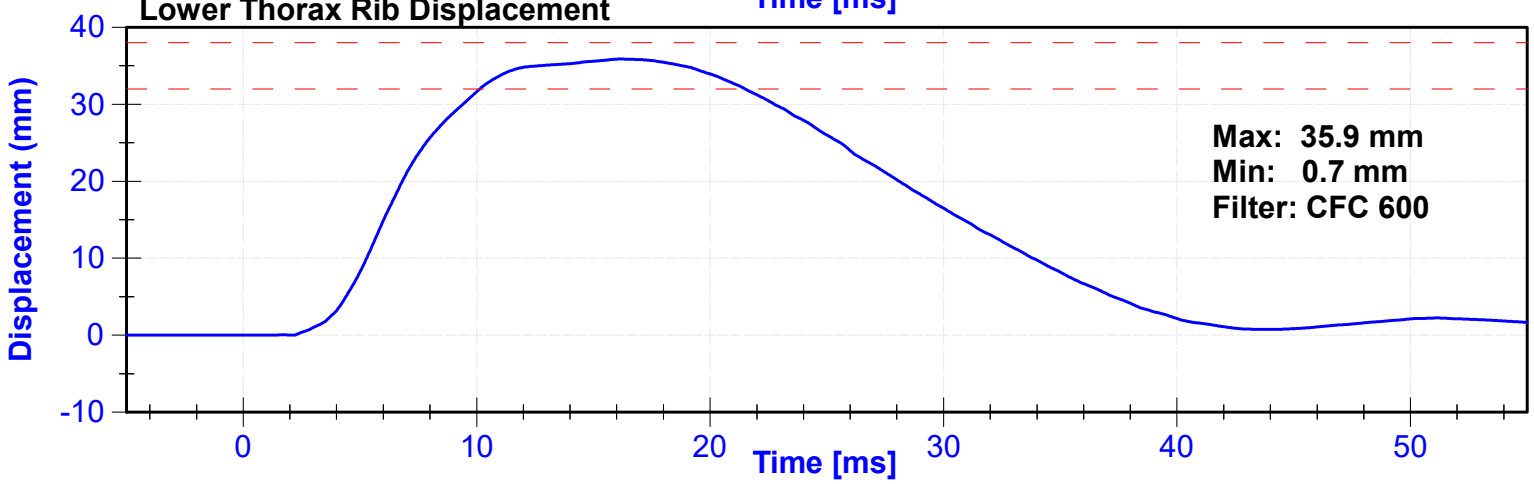
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Spine T1 Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025
Upper Spine T12 Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Shoulder Potentiometer	Servo	1274GFE	7/8/2025	1/6/2026
Upper Thorax Rib Potentiometer	Servo	1199GFE	7/8/2025	1/6/2026
Middle Thorax Rib Potentiometer	Servo	1246GFE	7/8/2025	1/6/2026
Lower Thorax Rib Potentiometer	Servo	011GFE	7/8/2025	1/6/2026

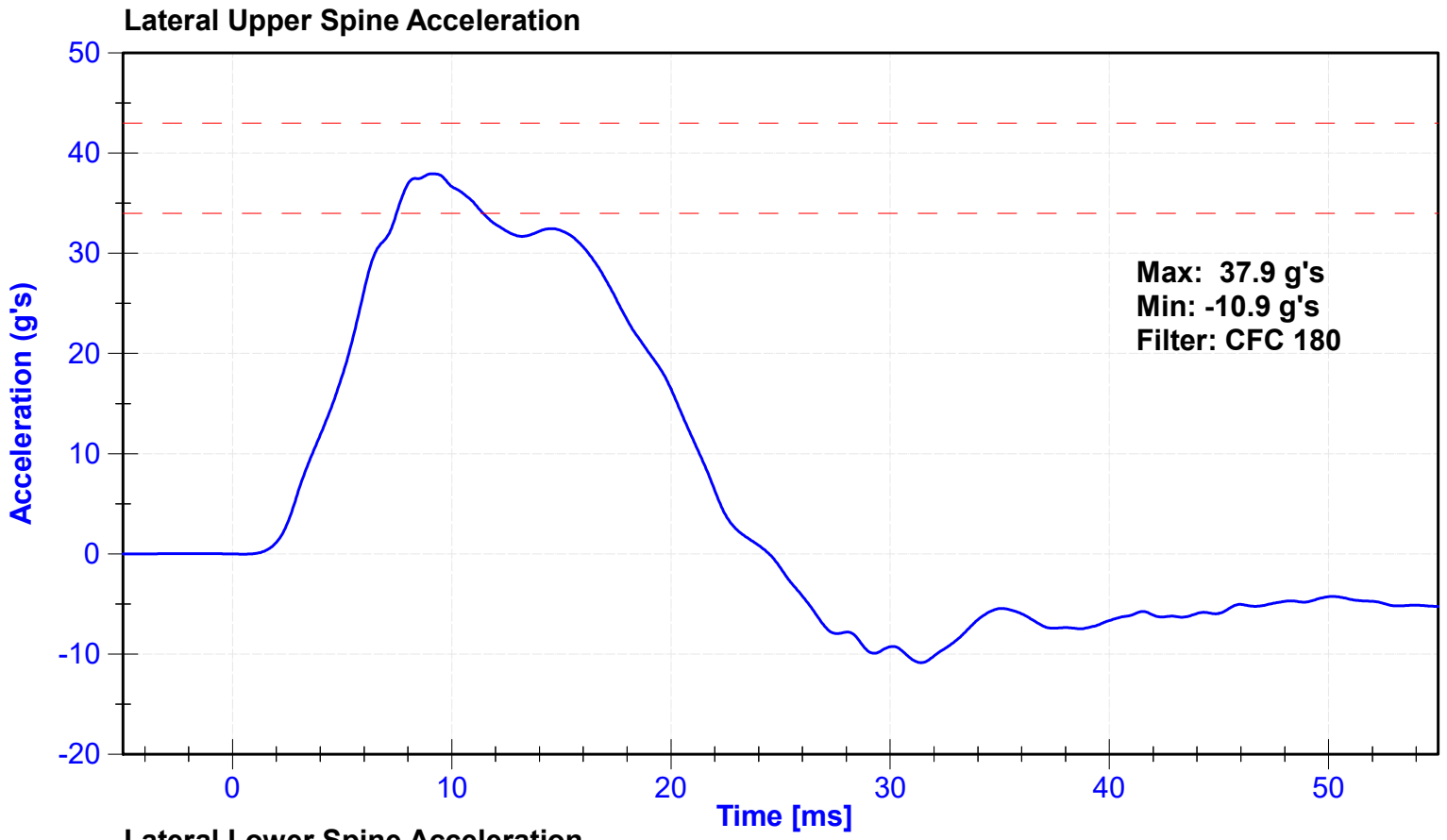


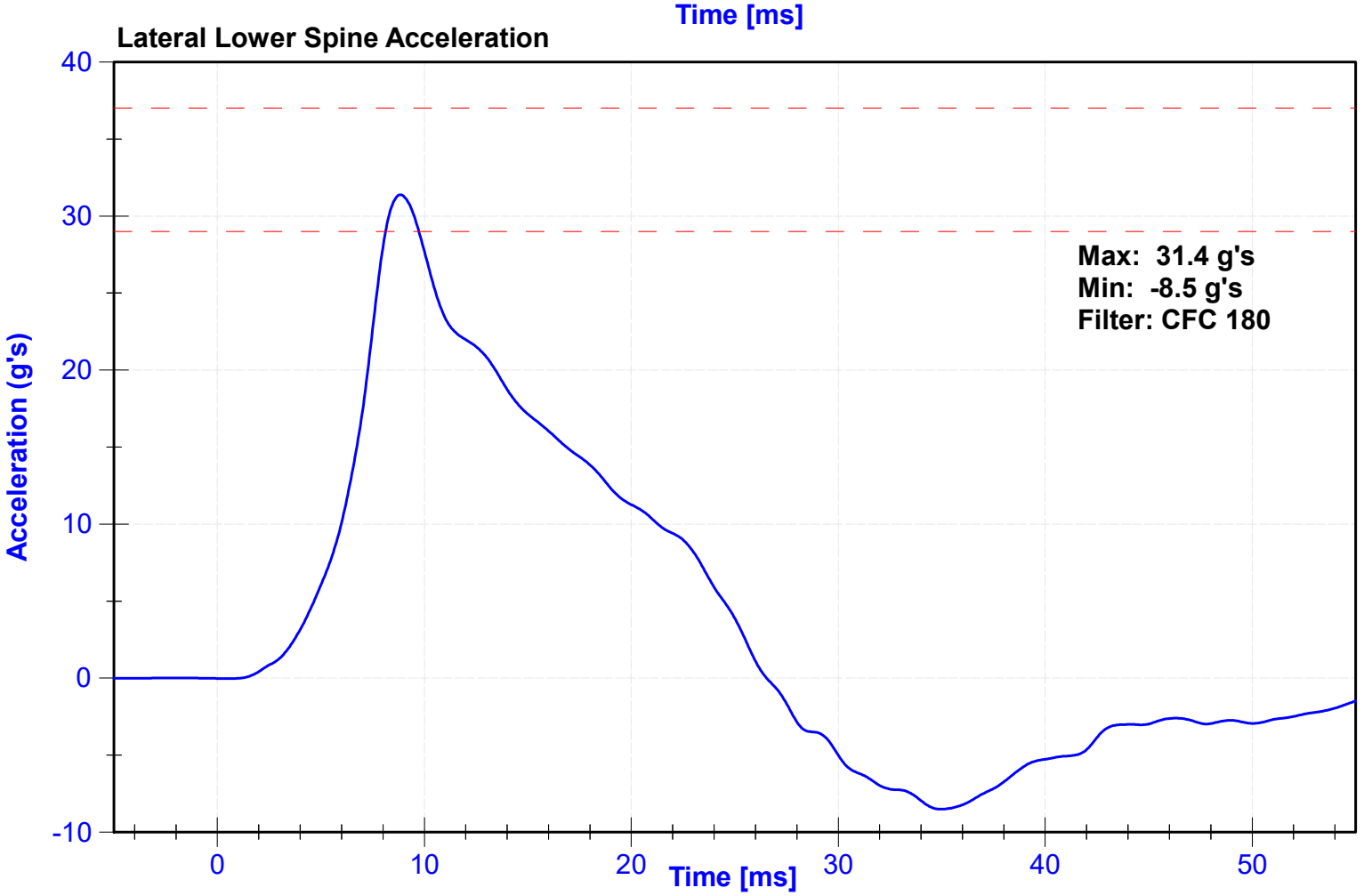

Shoulder Displacement
Displacement (mm)
Time [ms]
Max: 33.5 mm
Min: -1.1 mm
Filter: CFC 600


Upper Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 26.7 mm
Min: 1.0 mm
Filter: CFC 600


Middle Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 32.2 mm
Min: 1.2 mm
Filter: CFC 600


Lower Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 35.9 mm
Min: 0.7 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 37.9 g's
Min: -10.9 g's
Filter: CFC 180


Lateral Lower Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 31.4 g's
Min: -8.5 g's
Filter: CFC 180

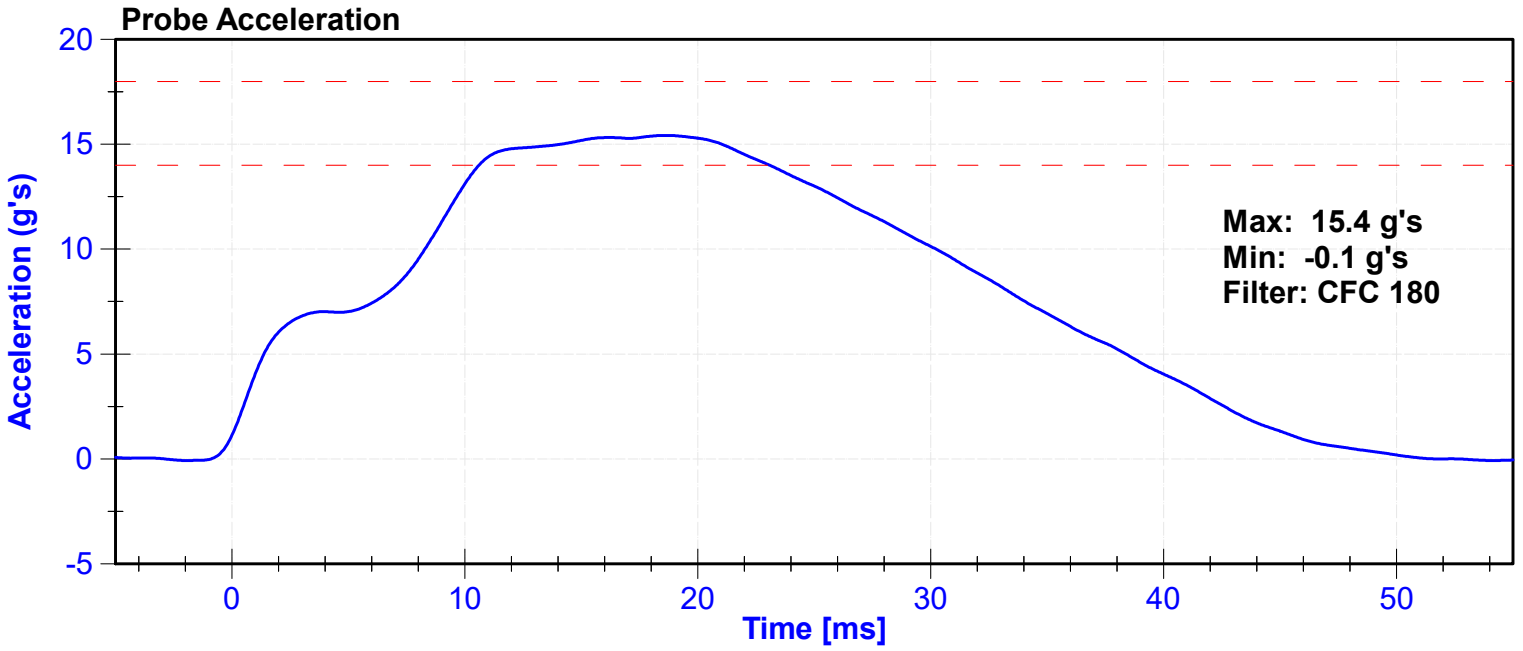
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

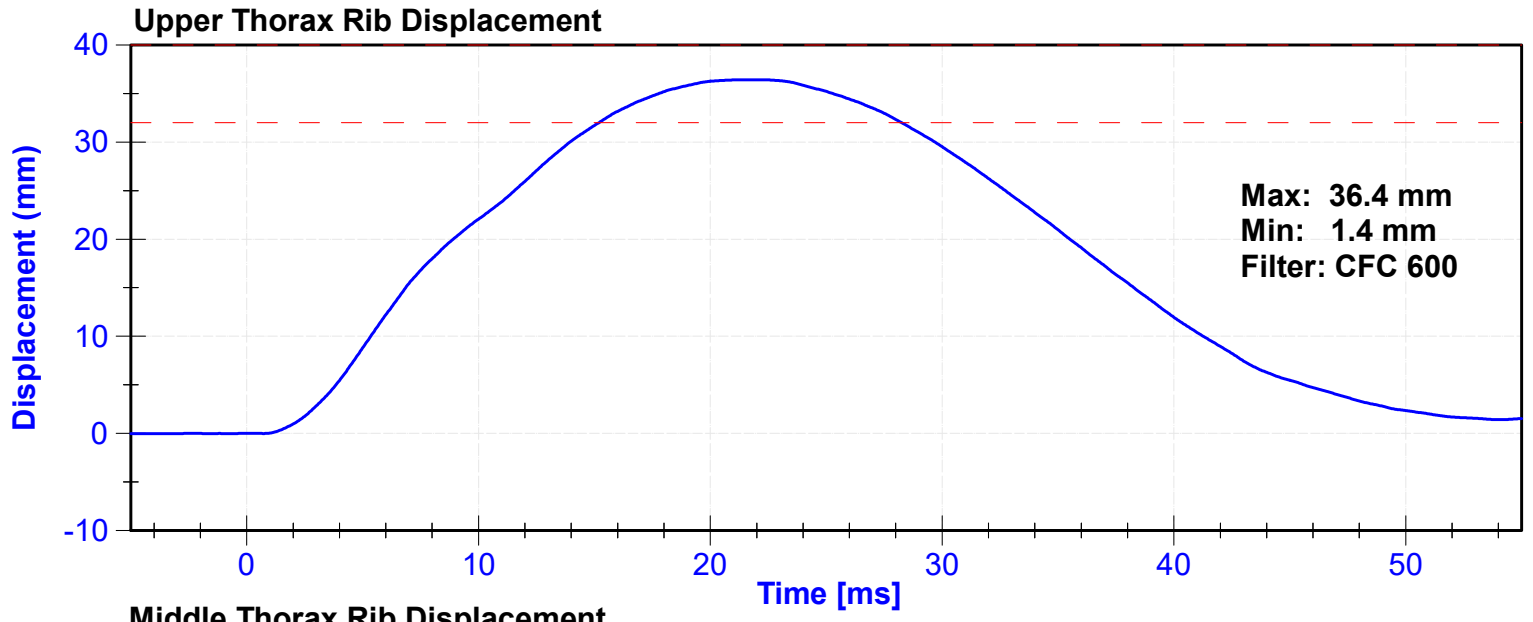
Results

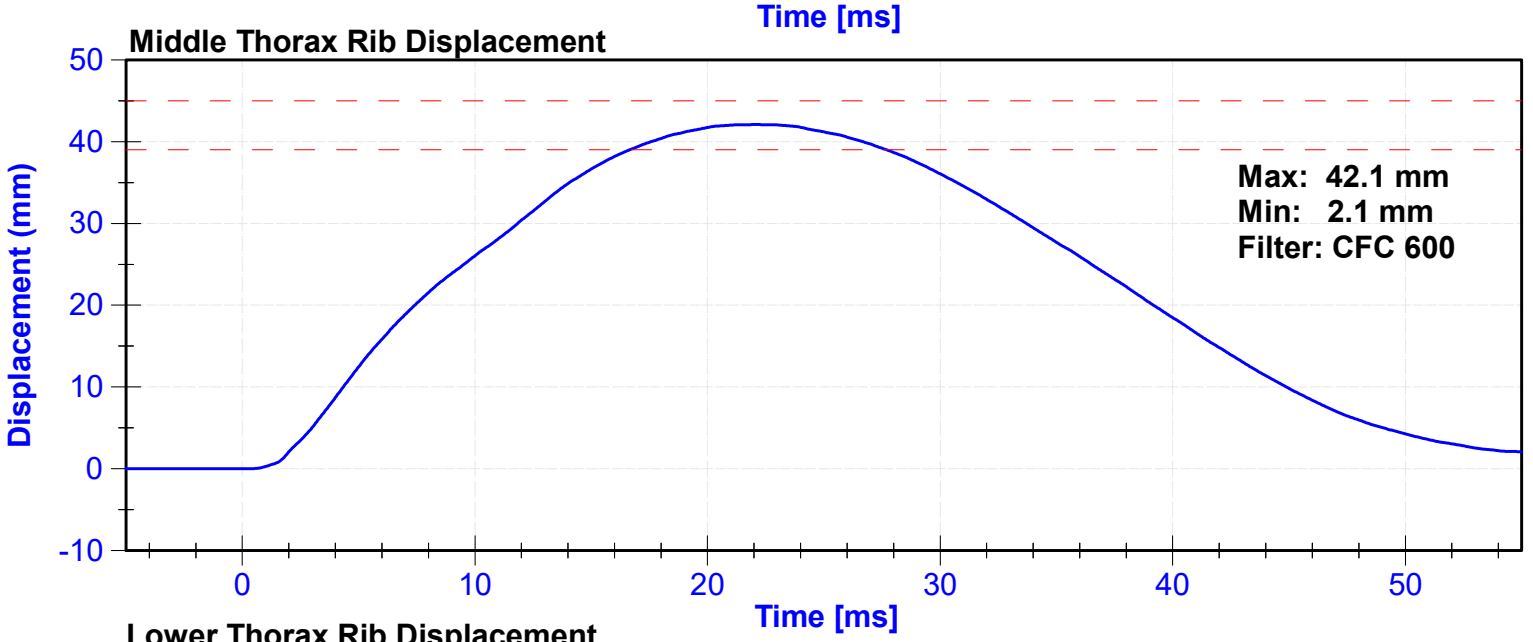
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	4.2	4.4	m/s	4.20	Pass
Probe Acceleration	14	18	g's	15.4	Pass
Lateral Upper Spine Acceleration	13	17	g's	14.0	Pass
Lateral Lower Spine Acceleration	7	11	g's	8.9	Pass
Upper Thorax Rib Deflection	32	40	mm	36.4	Pass
Middle Thorax Rib Deflection	39	45	mm	42.1	Pass
Lower Thorax Rib Deflection	35	43	mm	40.5	Pass

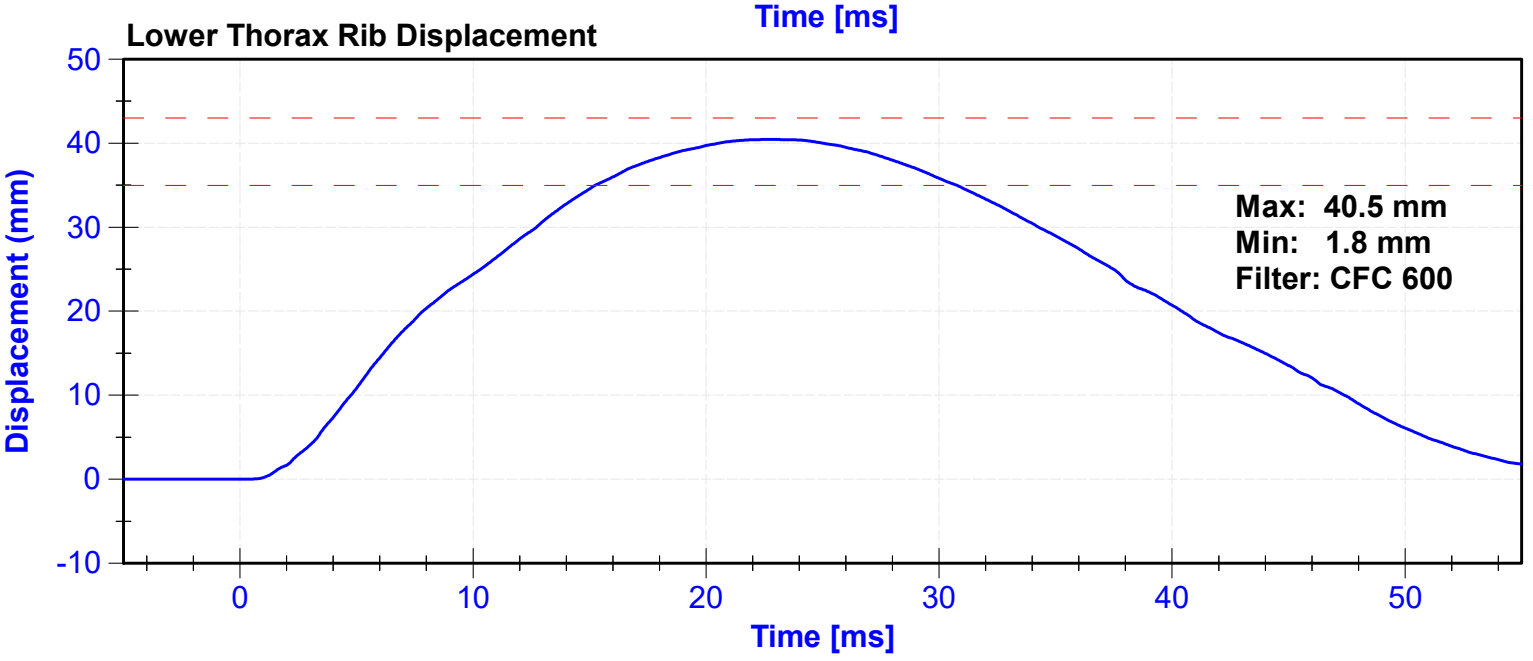
Transducer Calibrations

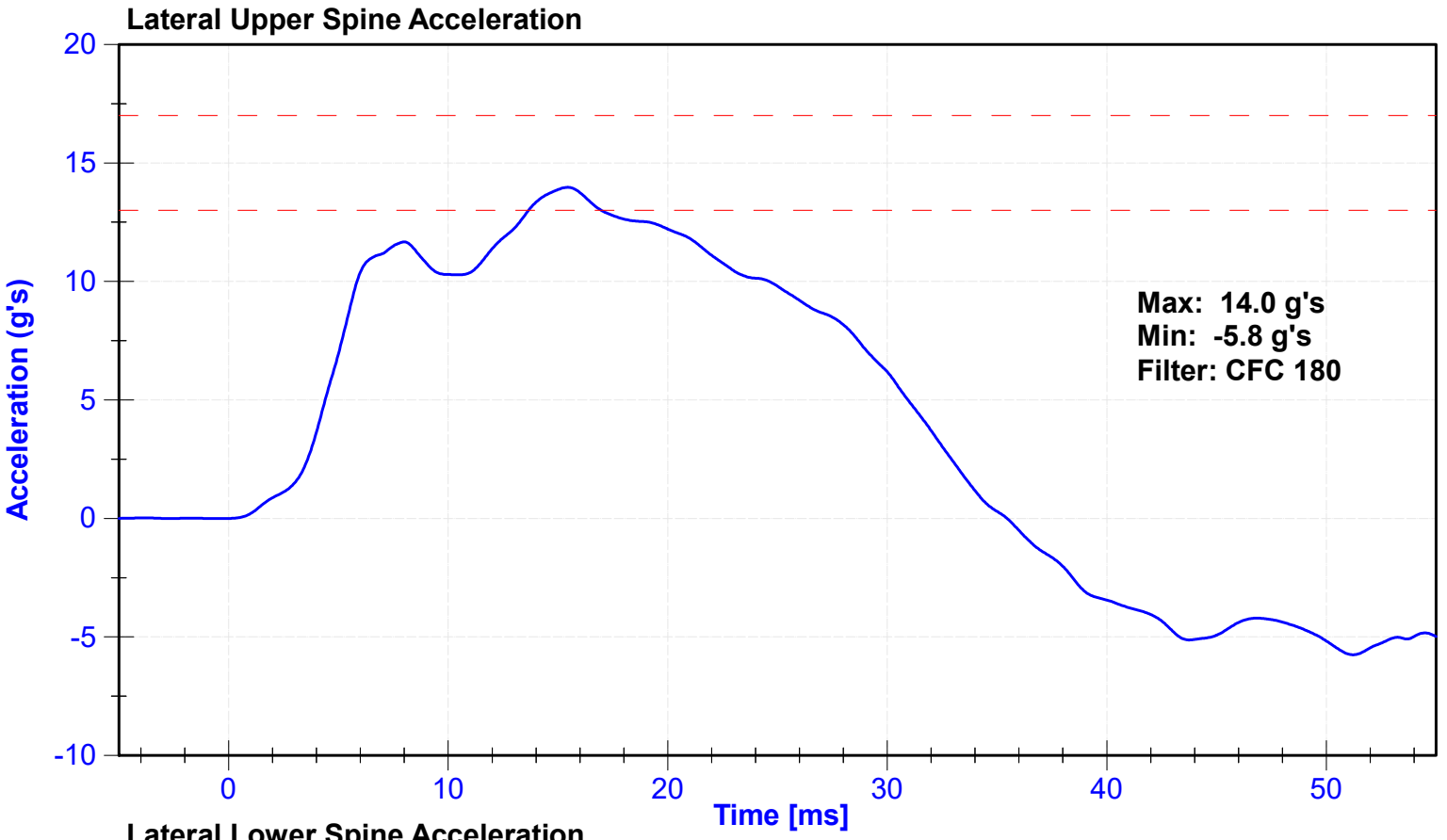
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Spine Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025
Lower Spine Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Upper Thorax Rib Potentiometer	Servo	1199GFE	7/8/2025	1/6/2026
Middle Thorax Rib Potentiometer	Servo	1246GFE	7/8/2025	1/6/2026
Lower Thorax Rib Potentiometer	Servo	011GFE	7/8/2025	1/6/2026

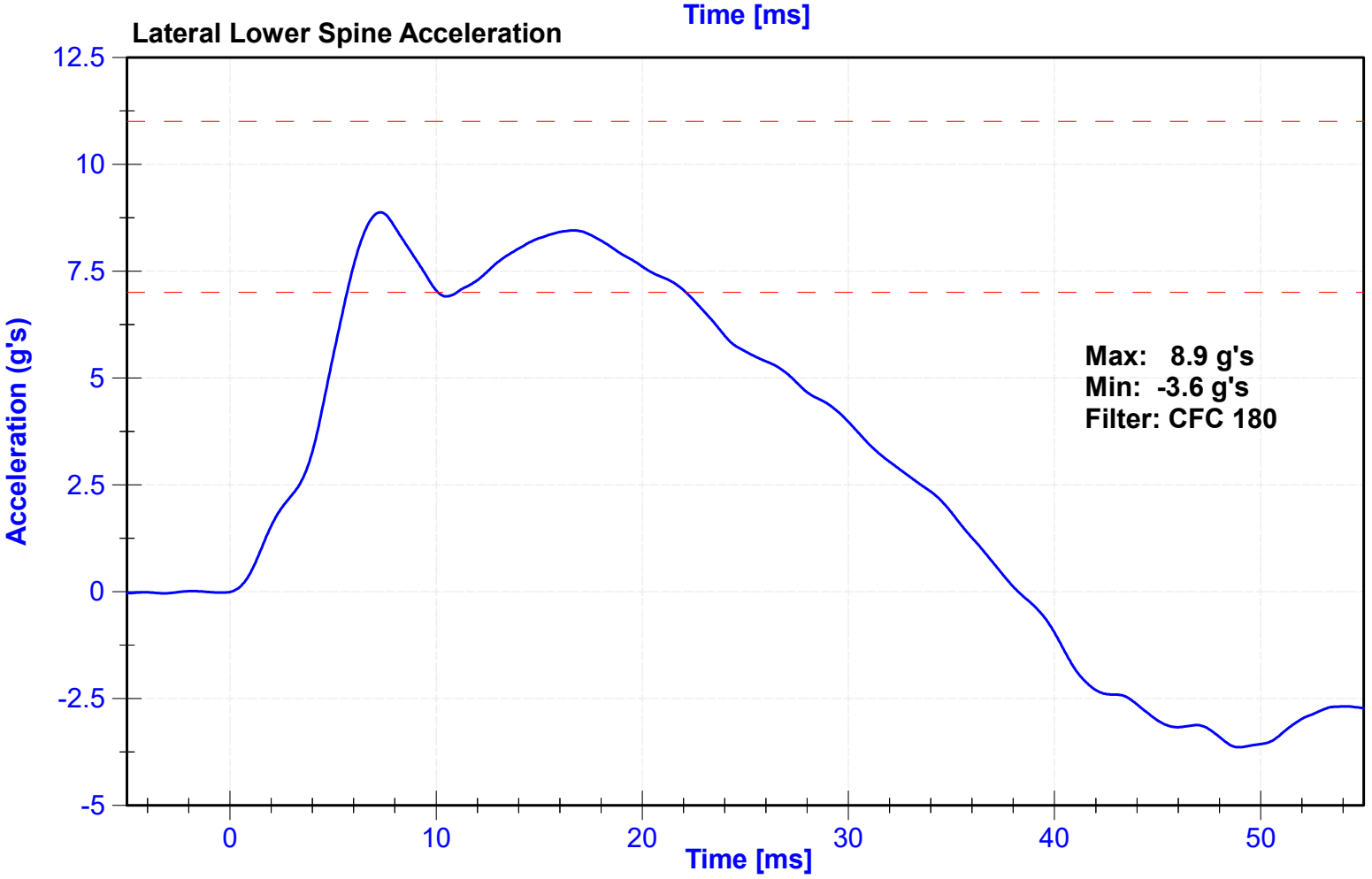



Upper Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 36.4 mm
Min: 1.4 mm
Filter: CFC 600


Middle Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 42.1 mm
Min: 2.1 mm
Filter: CFC 600


Lower Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 40.5 mm
Min: 1.8 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 14.0 g's
Min: -5.8 g's
Filter: CFC 180


Lateral Lower Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 8.9 g's
Min: -3.6 g's
Filter: CFC 180

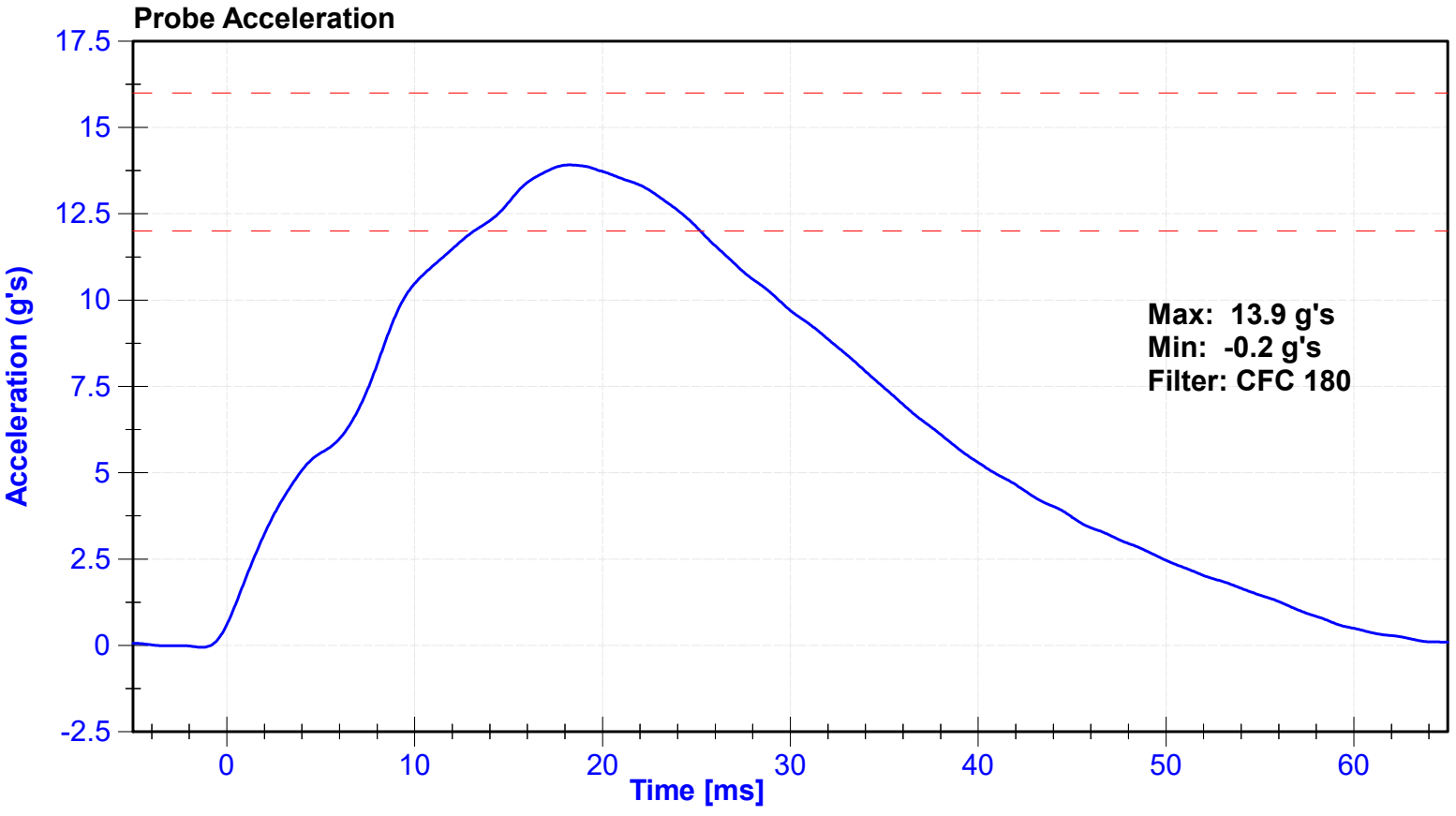
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

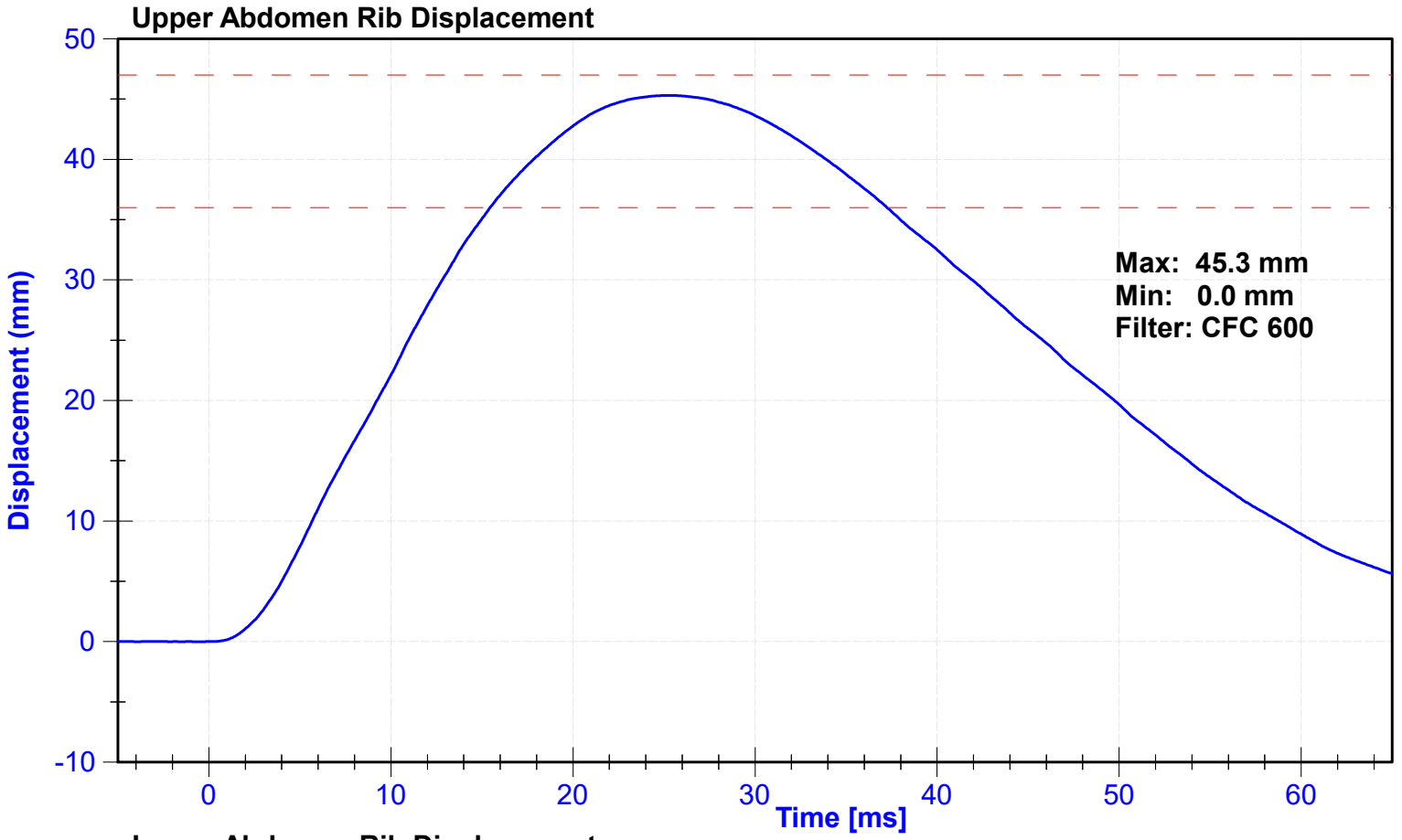
Results

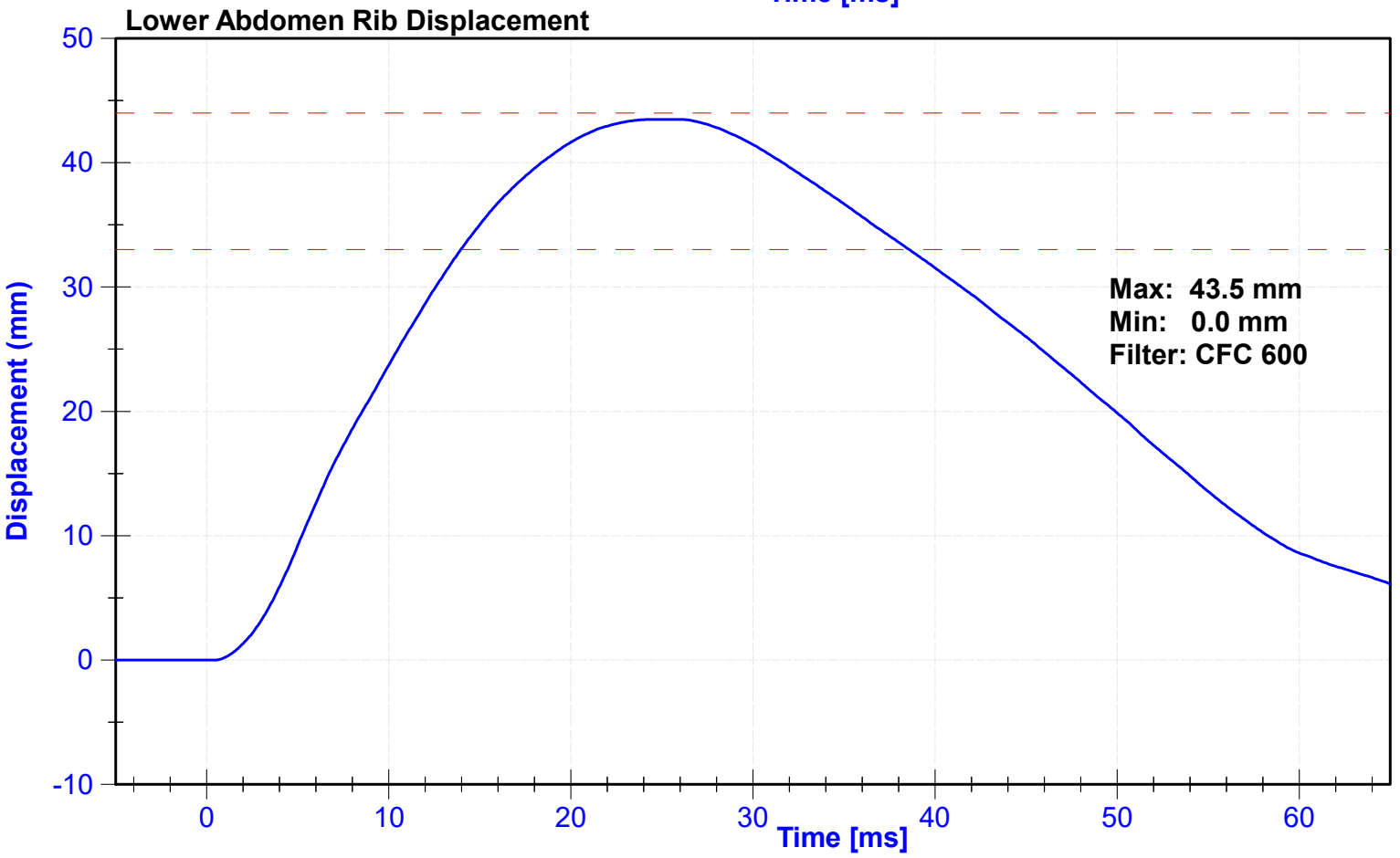
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	4.2	4.4	m/s	4.22	Pass
Probe Acceleration	12	16	g's	13.9	Pass
Lateral Lower Spine Acceleration	9	14	g's	10.7	Pass
Upper Abdomen Rib Deflection	36	47	mm	45.3	Pass
Lower Abdomen Rib Deflection	33	44	mm	43.5	Pass

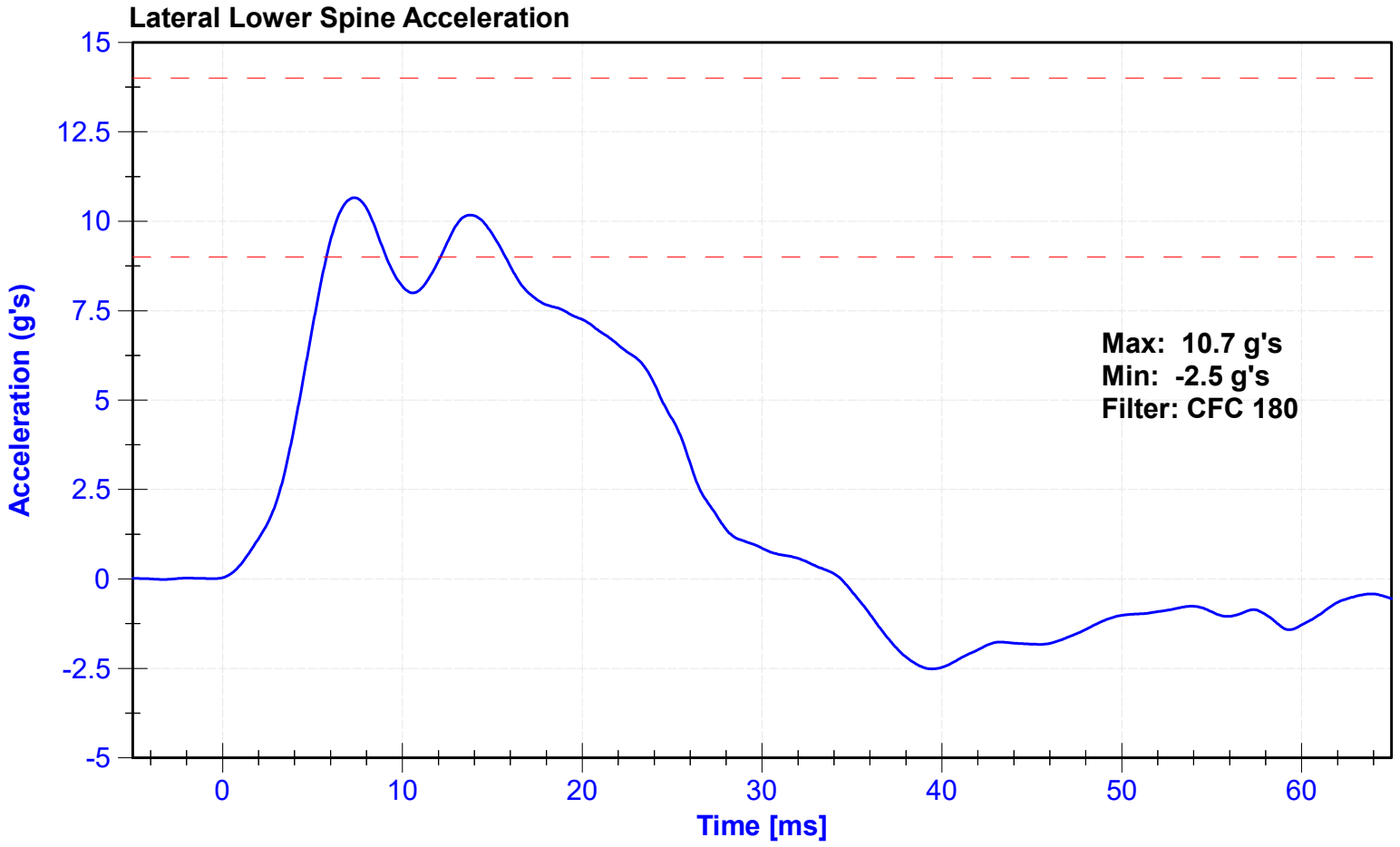
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Lower Spine Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Upper Abdomen Rib Potentiometer	Servo	008GFE	7/8/2025	1/6/2026
Lower Abdomen Rib Potentiometer	Servo	046GFE	7/8/2025	1/6/2026




Upper Abdomen Rib Displacement
Displacement (mm)
50
40
30
20
10
0
-10
0
10
20
30
40
50
60
Time [ms]
Max: 45.3 mm
Min: 0.0 mm
Filter: CFC 600


Lower Abdomen Rib Displacement
Displacement (mm)
50
40
30
20
10
0
-10
0
10
20
30
40
50
60
Time [ms]
Max: 43.5 mm
Min: 0.0 mm
Filter: CFC 600


Lateral Lower Spine Acceleration
Acceleration (g's)
15
12.5
10
7.5
5
2.5
0
-2.5
-5
0
10
20
30
40
50
60
Time [ms]
Max: 10.7 g's
Min: -2.5 g's
Filter: CFC 180

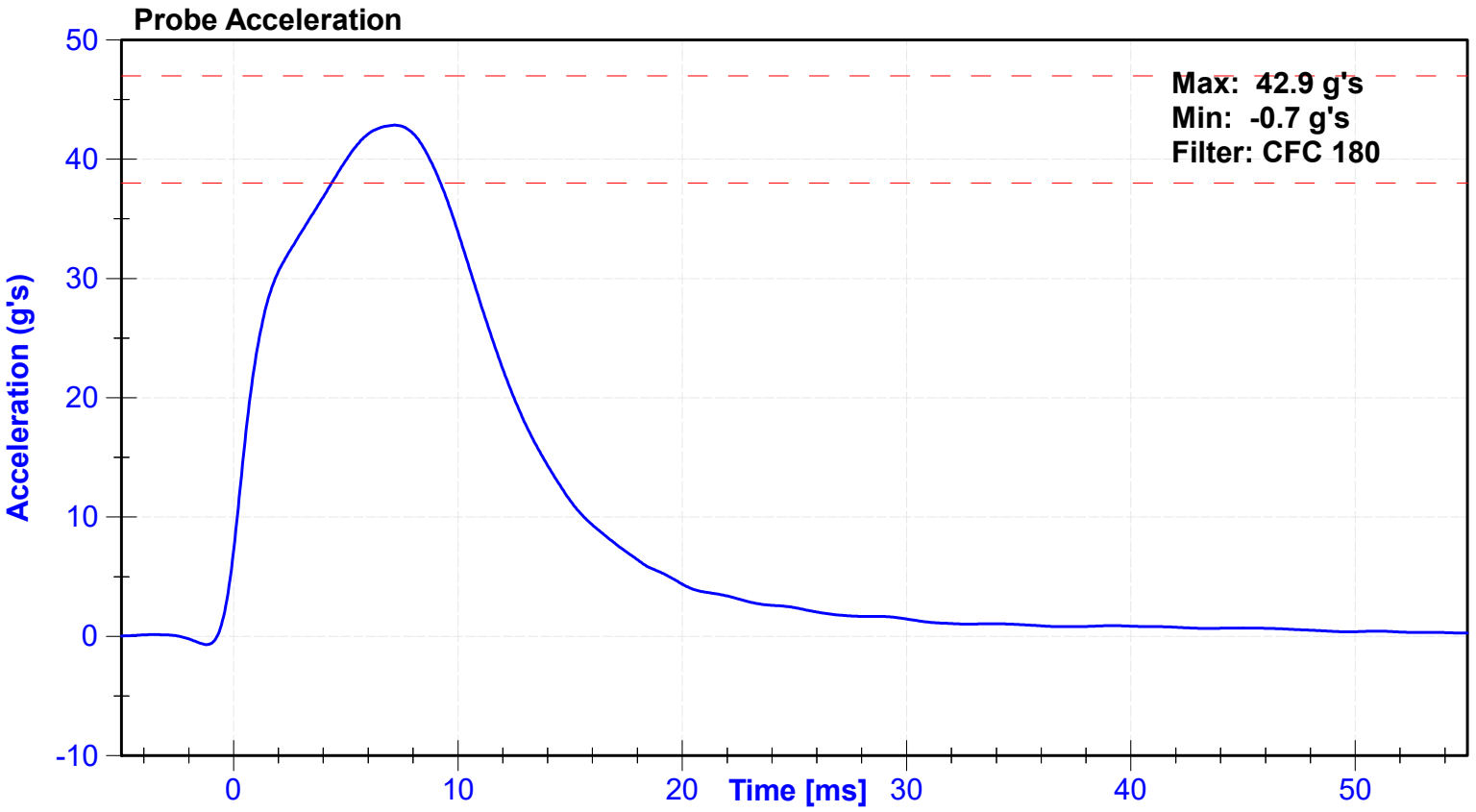
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

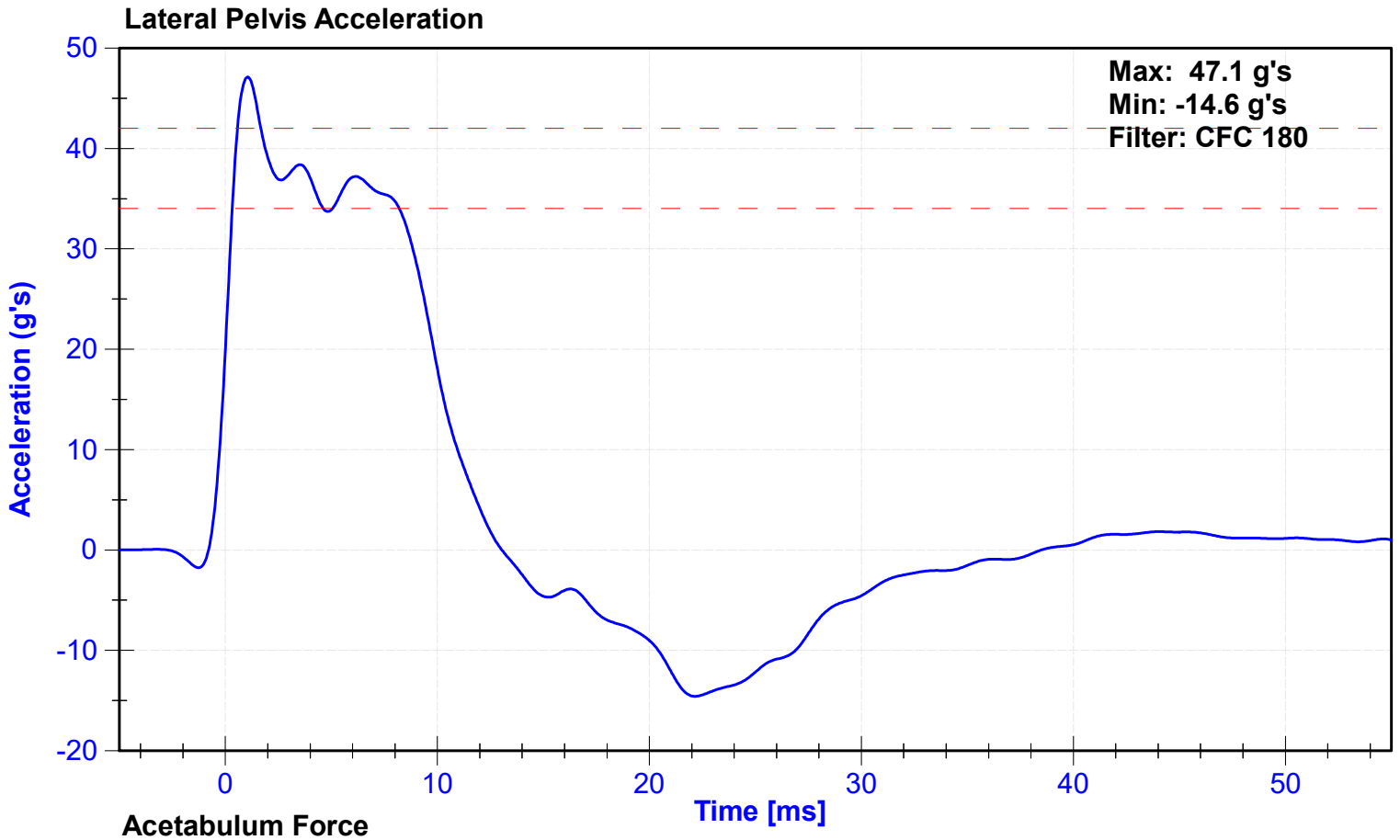
Results

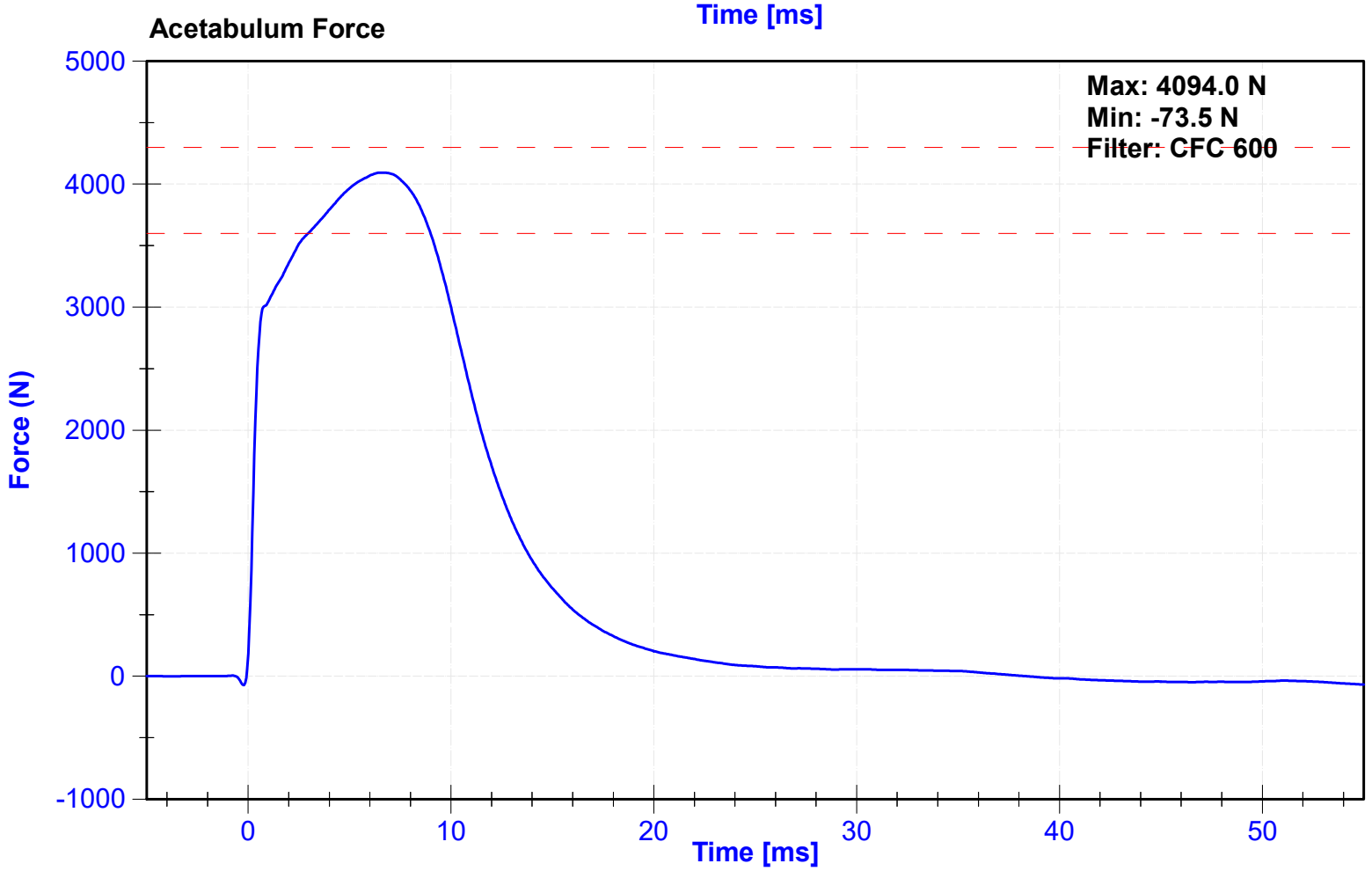
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	6.6	6.8	m/s	6.70	Pass
Probe Acceleration	38	47	g's	42.9	Pass
Lateral Pelvis Acceleration after 6ms	34	42	g's	37.2	Pass
Acetabulum Force	3600	4300	N	4094.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pelvis Y Accelerometer	Endevco	T20860	7/2/2025	12/29/2025
Acetabulum Load Cell	Denton	270-FY	9/16/2024	9/16/2025
Certification Plug	SACO			N/A
Crash Test Plug	SACO			N/A




Lateral Pelvis Acceleration
Max: 47.1 g's
Min: -14.6 g's
Filter: CFC 180
Acceleration (g's)
50
40
30
20
10
0
-10
-20
0
10
20
30
40
50
Time [ms]


Acetabulum Force
Max: 4094.0 N
Min: -73.5 N
Filter: CFC 600
Force (N)
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]

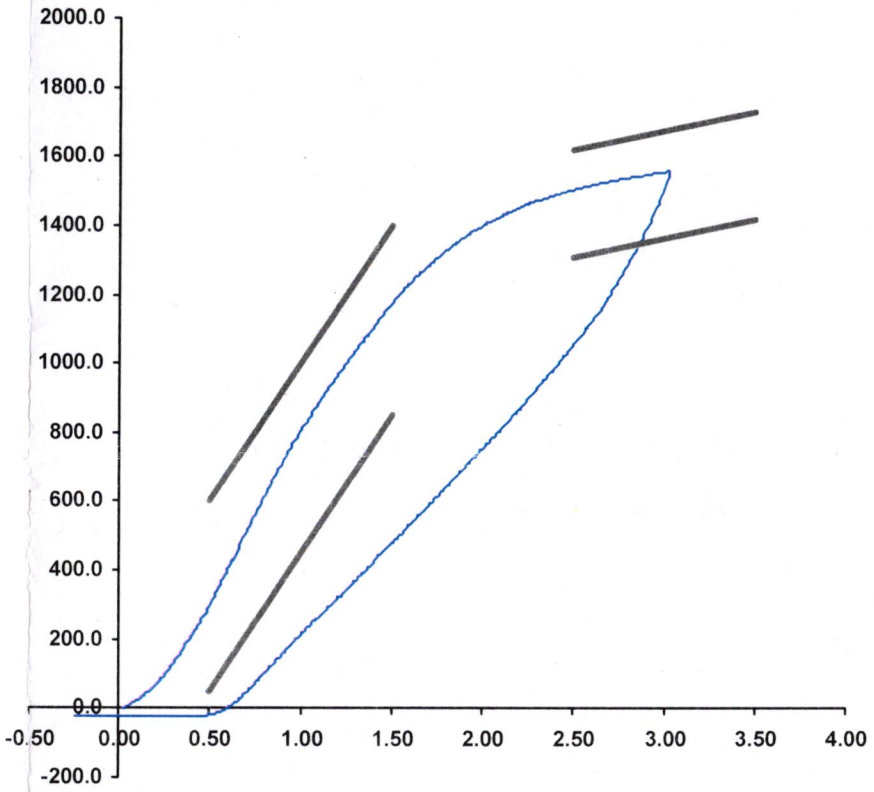
SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 16918
Test Number 23765
Report Number 23822
Test Date 8/2/2022 3:08:11 PM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	311	50	600
Force @ 1.5 mm (N)	1,180	850	1,400
Force @ 2.5 mm (N)	1,507	1,306	1,618
Force @ 3.0 mm (N)	1,558	1,361	1,673

Force (-N) vs Extension (-mm)



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:
Cert DG8012 7.28.25

Operator

Part Number 180-4450

Template No 107 02-Aug-22
SACO Research

By : DC Date : 8/2/22

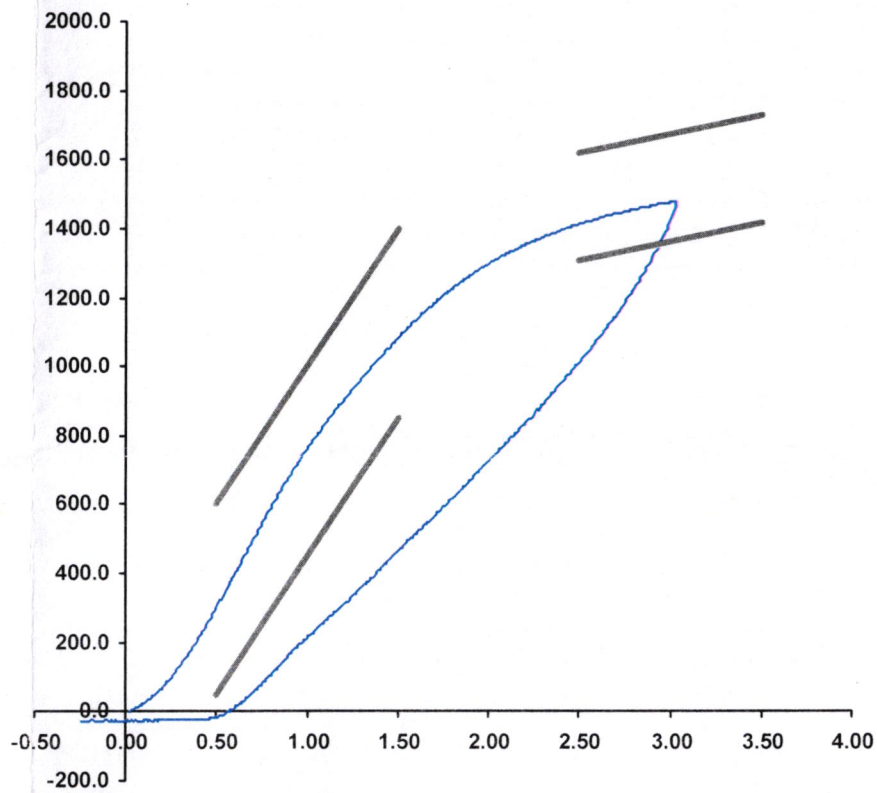
SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 16942
Test Number 23789
Report Number 23846
Test Date 8/3/2022 10:52:09 AM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	304	50	600
Force @ 1.5 mm (N)	1,087	850	1,400
Force @ 2.5 mm (N)	1,417	1,306	1,618
Force @ 3.0 mm (N)	1,479	1,361	1,673

Force (-N) vs Extension (-mm)



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:
Impact DG8012 7.28.25

Operator

Part Number 180-4450

Template No 107 03-Aug-22
SACO Research

By : DC Date : 8/3/22

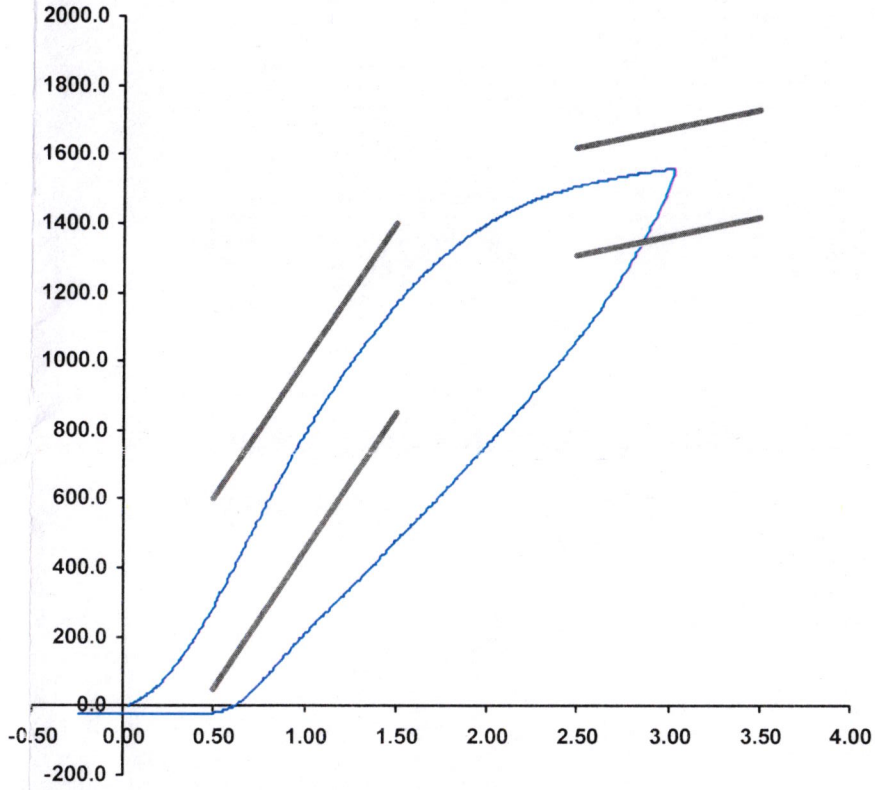
SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 16944
Test Number 23791
Report Number 23848
Test Date 8/3/2022 10:55:10 AM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	291	50	600
Force @ 1.5 mm (N)	1,173	850	1,400
Force @ 2.5 mm (N)	1,511	1,306	1,618
Force @ 3.0 mm (N)	1,560	1,361	1,673

Force (-N) vs Extension (-mm)



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:
Non-Impact D68012 7.28.25

Operator

Part Number 180-4450

Template No 107 03-Aug-22
SACO Research

By : DC Date : 8/3/22

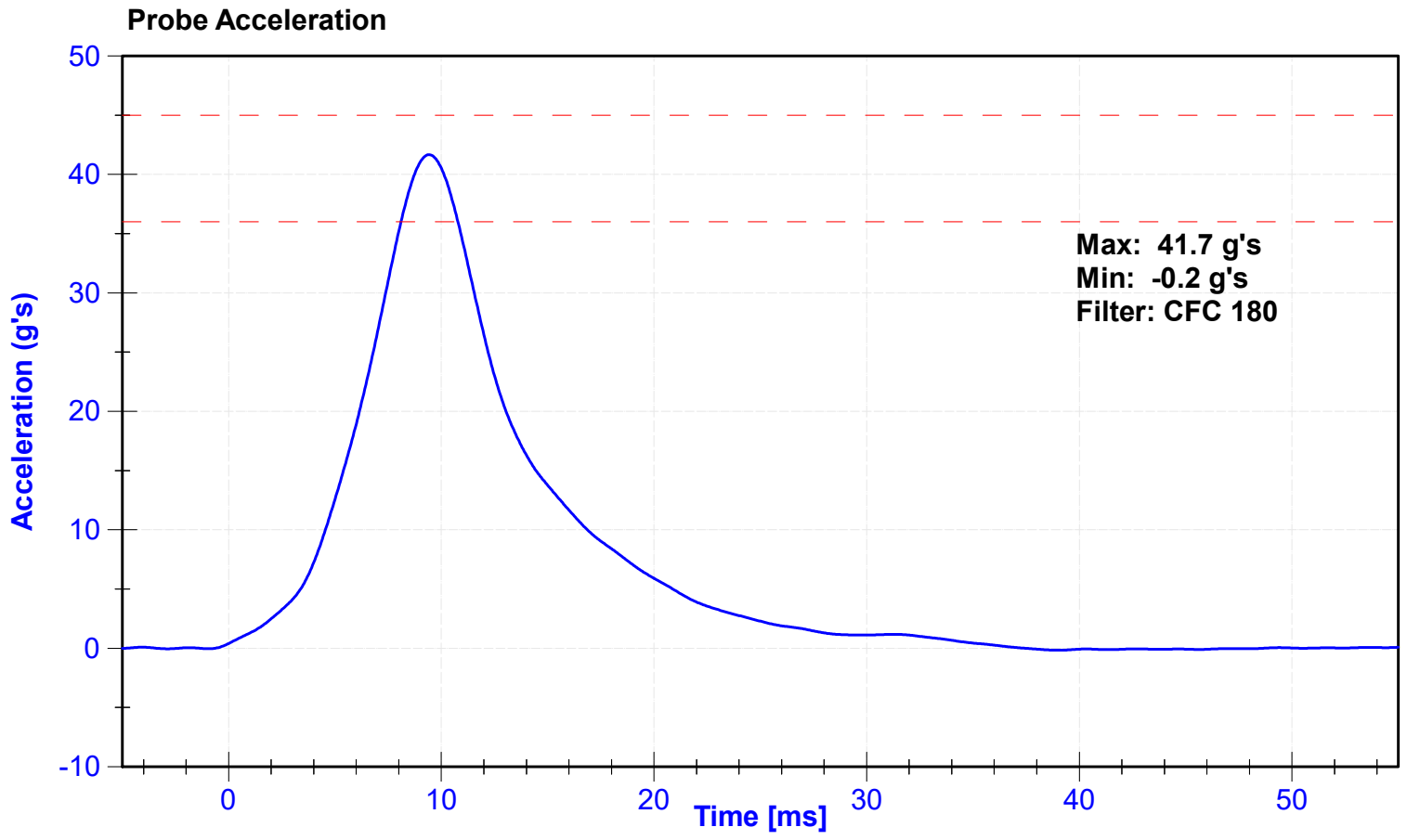
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

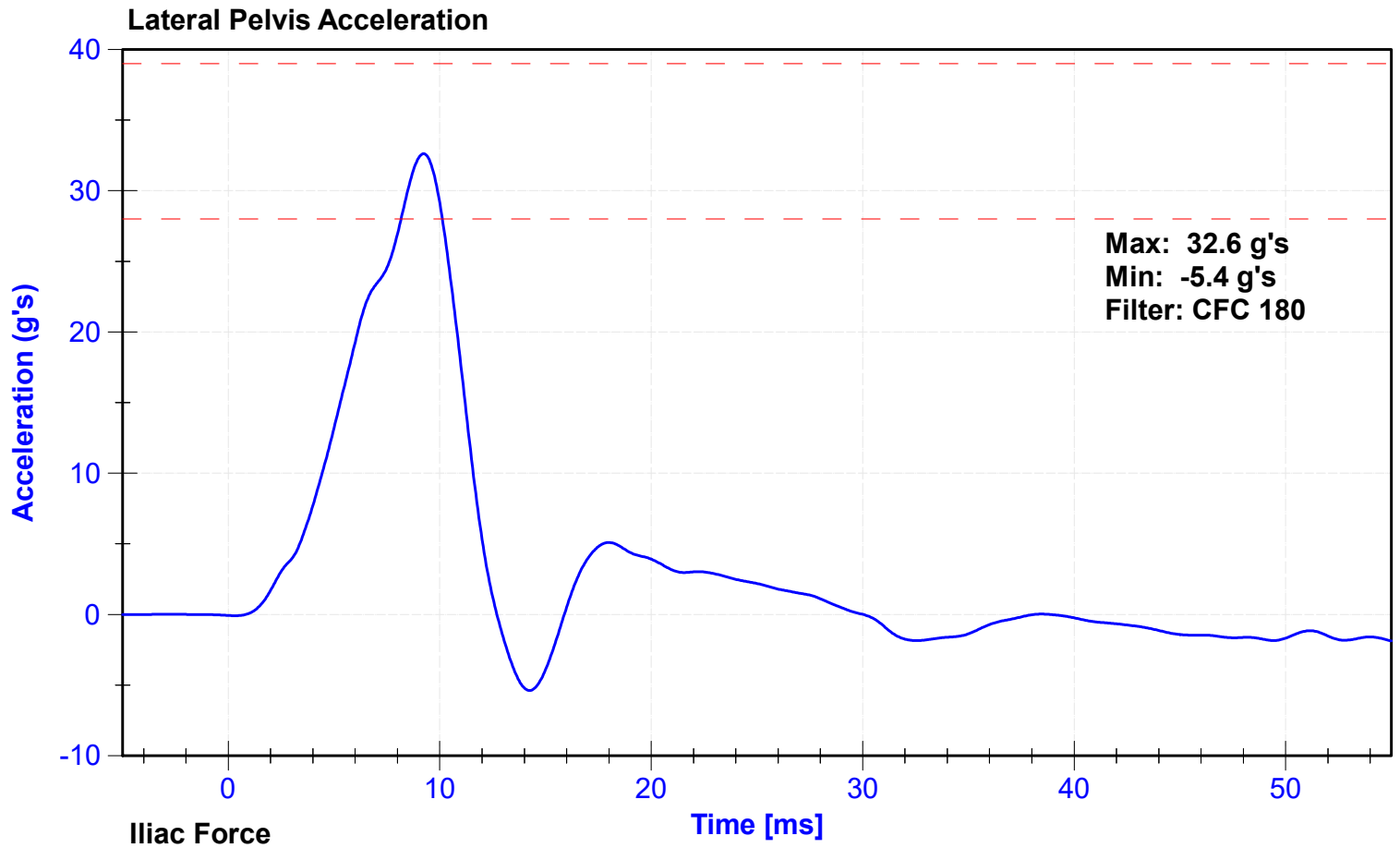
Results

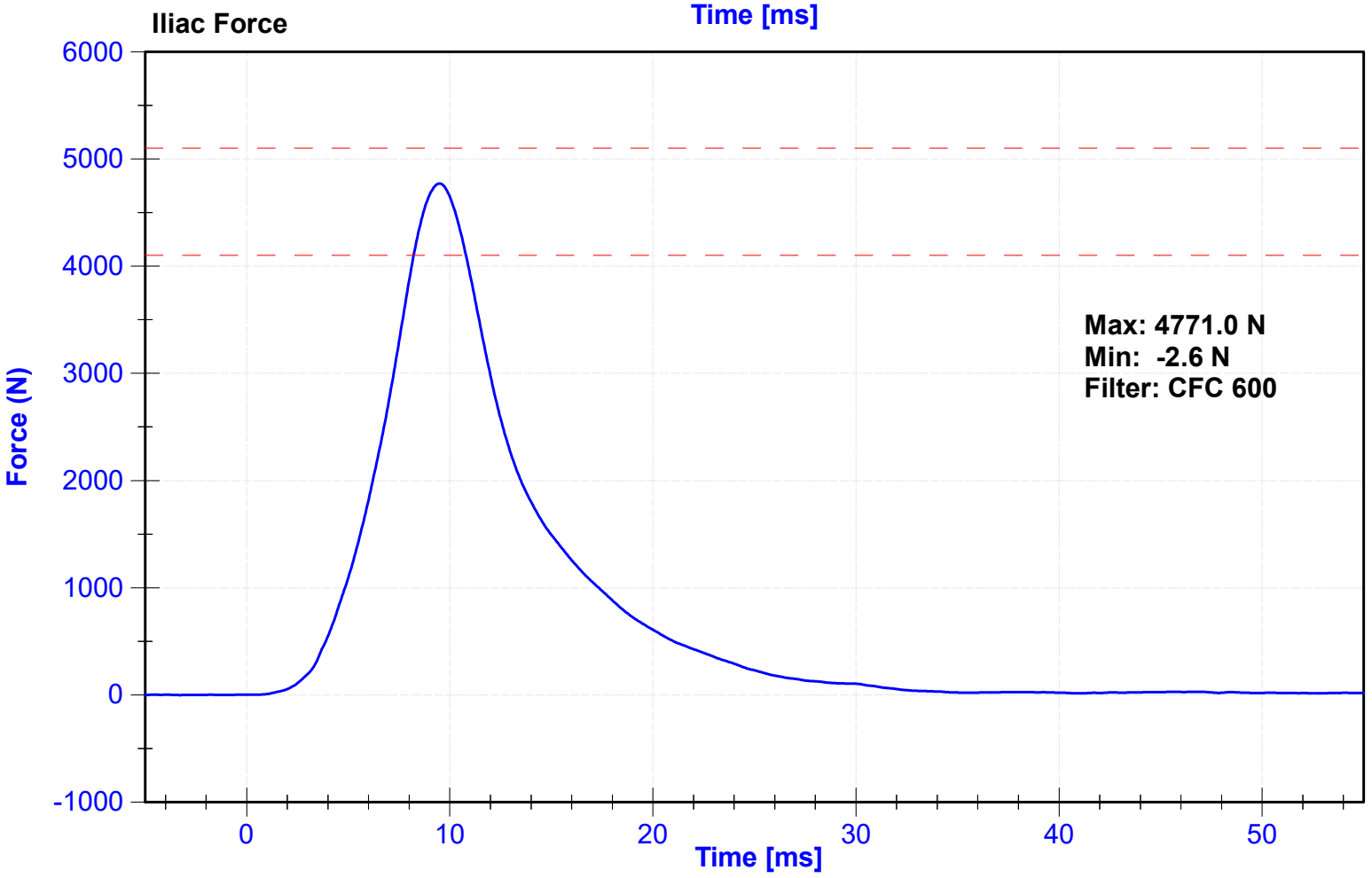
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.2	Pass
Humidity	10	70	%	56	Pass
Velocity	4.2	4.4	m/s	4.21	Pass
Probe Acceleration	36	45	g's	41.7	Pass
Lateral Pelvis Acceleration	28	39	g's	32.6	Pass
Iliac Force	4100	5100	N	4771.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pelvis Y Accelerometer	Endevco	T20860	7/2/2025	12/29/2025
Iliac Load Cell	Denton	321	9/16/2024	9/16/2025




Lateral Pelvis Acceleration
Acceleration (g's)
40
30
20
10
0
-10
0
10
20
30
40
50
Time [ms]
Max: 32.6 g's
Min: -5.4 g's
Filter: CFC 180


Iliac Force
Force (N)
6000
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]
Max: 4771.0 N
Min: -2.6 N
Filter: CFC 600

CALIBRATION TEST RESULTS

POST-TEST

EUROSID 2 (ES-2RE) MALE – DRIVER ATD

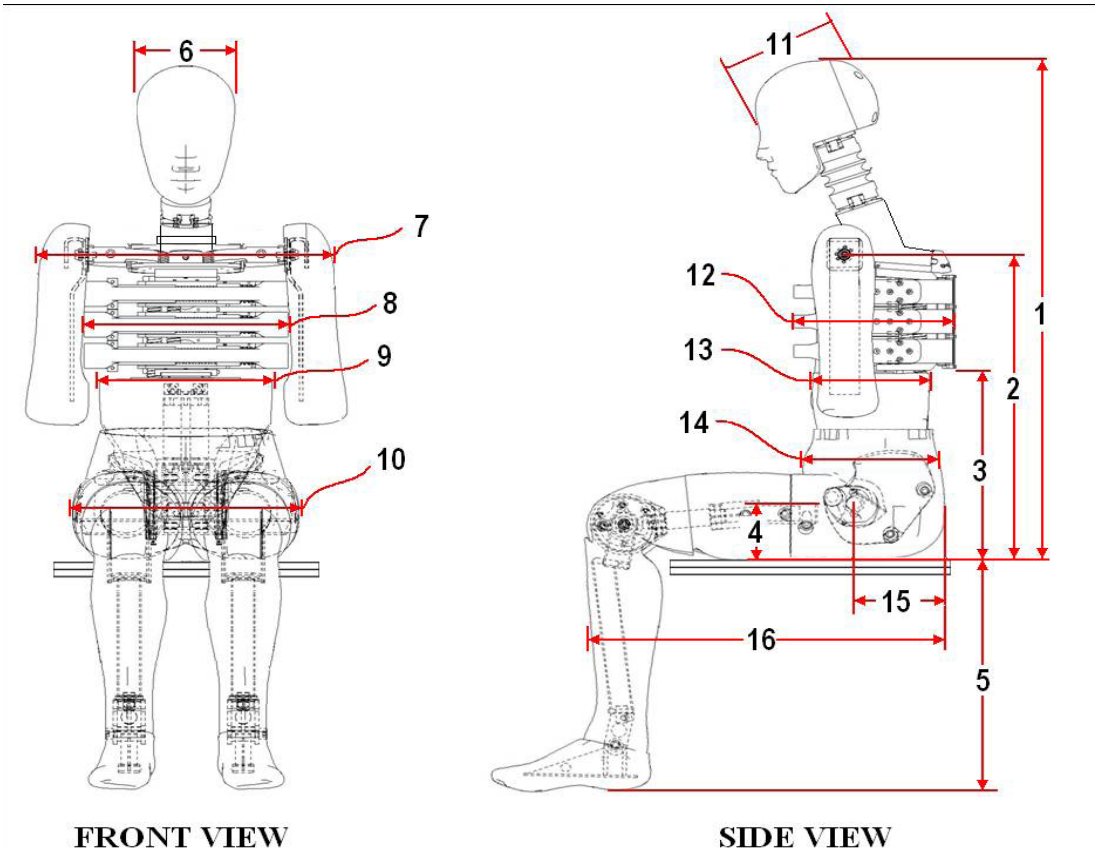
SERIAL NO:F033

(CONFIGURED FOR LEFT SIDE It

External Measurements - EuroSID-2re

Technician: J. Rios Date: 8/14/2025

Dummy Serial Number: F033



FRONT VIEW SIDE VIEW

Dim. No.	Description	Specification (mm)		Result (mm)	Pass/Fail
1	Sitting Height	900	918	912	Pass
2	Seat to Shoulder Joint	558	572	562	Pass
3	Seat to Lower Face of Thoracic Spine Box	346	356	354	Pass
4	Seat to Hip Joint (center of bolt)	97	103	100	Pass
5	Sole to Seat, Sitting	333	451	387	Pass
6	Head Width	152	158	155	Pass
7	Shoulder/Arm Width	461	479	468	Pass
8	Thorax Width	322	332	328	Pass
9	Abdomen Width	273	287	284	Pass
10	Pelvis Lap Width	359	373	365	Pass
11	Head Depth	196	206	202	Pass
12	Thorax Depth	262	272	267	Pass
13	Abdomen Depth	194	204	198	Pass
14	Pelvis Depth	235	245	240	Pass
15	Back of Buttocks to Hip Joint (center of bolt)	150	160	153	Pass
16	Back of Buttocks to Front Knee	597	615	602	Pass

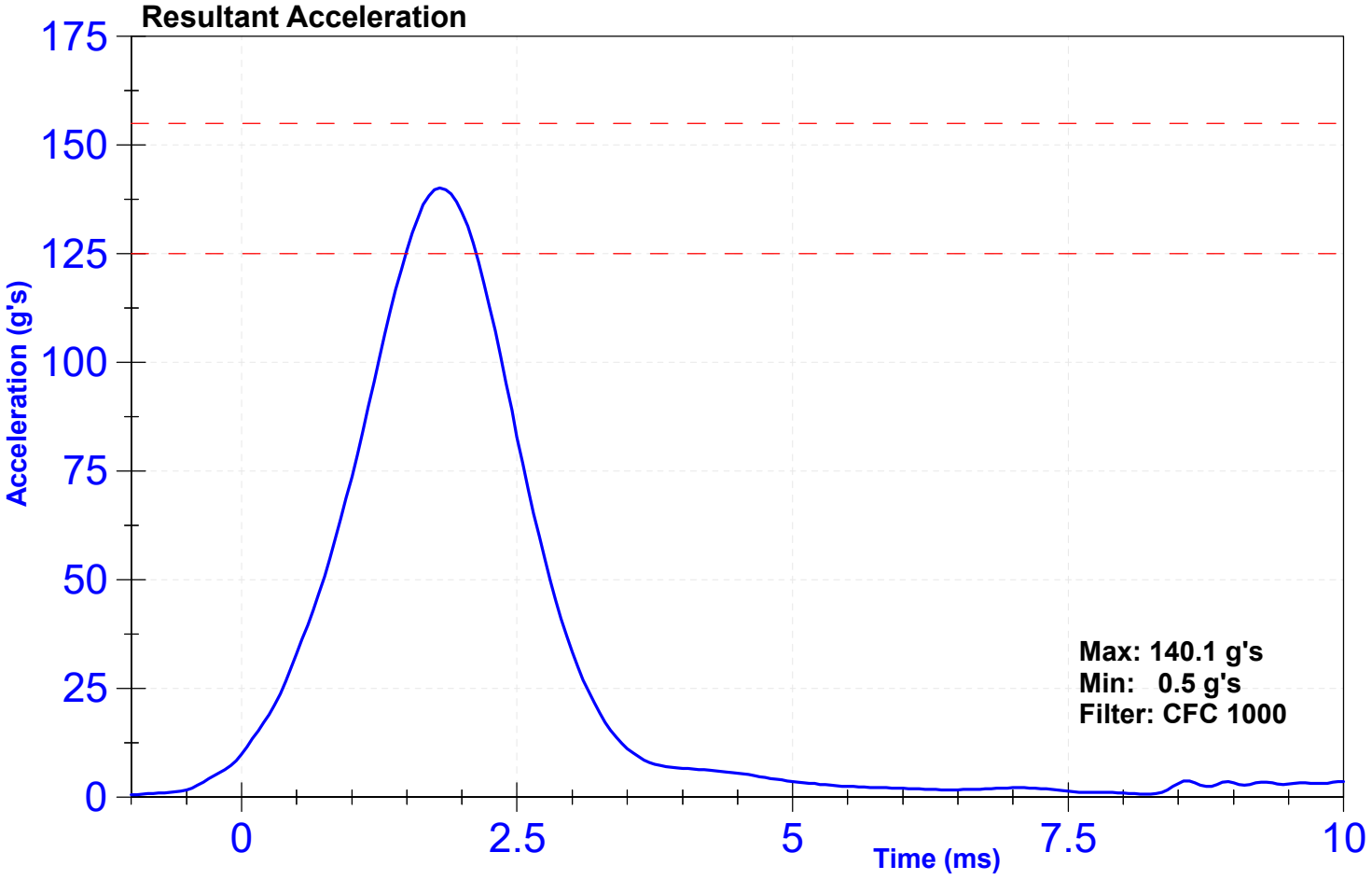
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

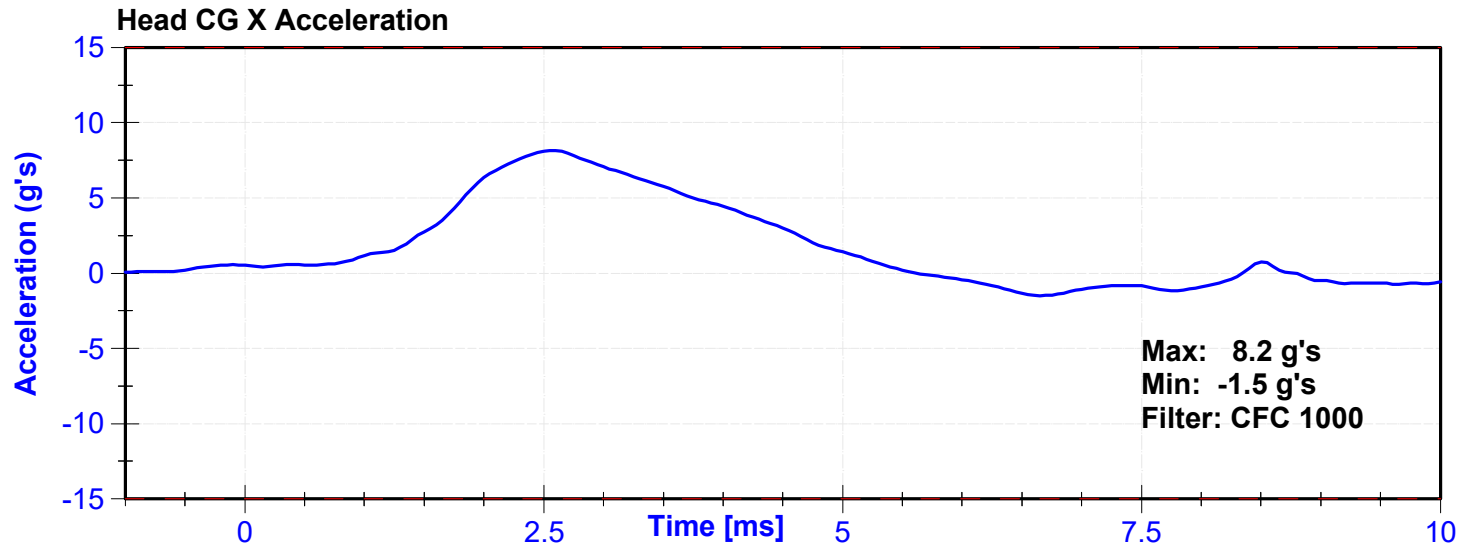
Results

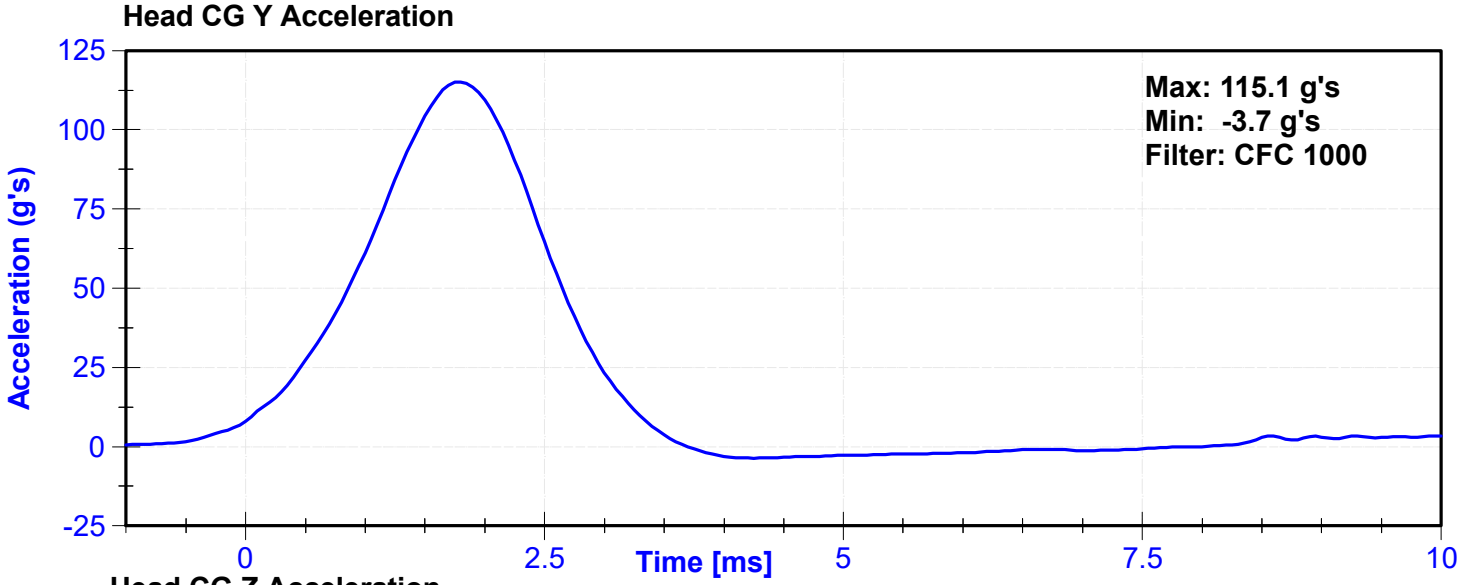
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.5	Pass
Humidity	10	70	%	57	Pass
Resultant Acceleration	125	155	g's	140.1	Pass
Oscillation	0	15	%	2.63	Pass
Fore-Aft Acceleration	-15	15	g's	8.2	Pass

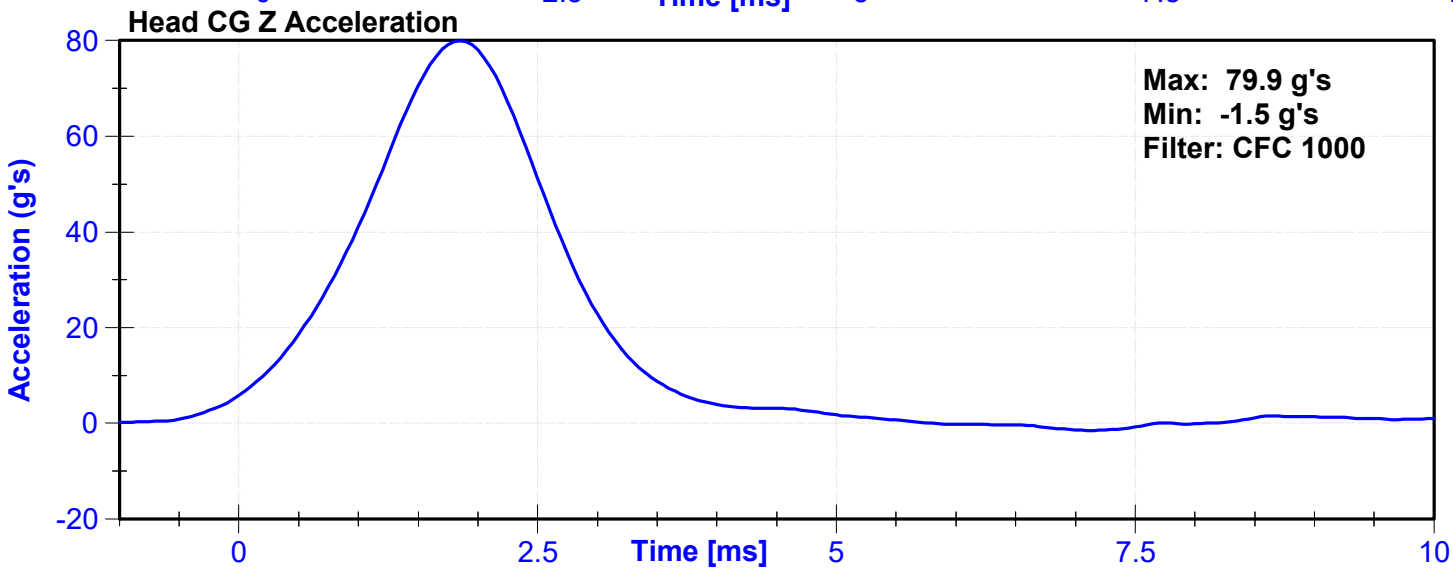
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
X Accelerometer	Endevco	P63861	7/1/2025	12/28/2025
Y Accelerometer	Endevco	P49216	7/1/2025	12/28/2025
Z Accelerometer	Endevco	P51303	7/1/2025	12/28/2025




Head CG X Acceleration
Acceleration (g's)
15
10
5
0
-5
-10
-15
0
2.5
5
7.5
10
Time [ms]
Max: 8.2 g's
Min: -1.5 g's
Filter: CFC 1000


Head CG Y Acceleration
Acceleration (g's)
125
100
75
50
25
0
-25
0
2.5
5
7.5
10
Time [ms]
Max: 115.1 g's
Min: -3.7 g's
Filter: CFC 1000


Head CG Z Acceleration
Acceleration (g's)
80
60
40
20
0
-20
0
2.5
5
7.5
10
Time [ms]
Max: 79.9 g's
Min: -1.5 g's
Filter: CFC 1000

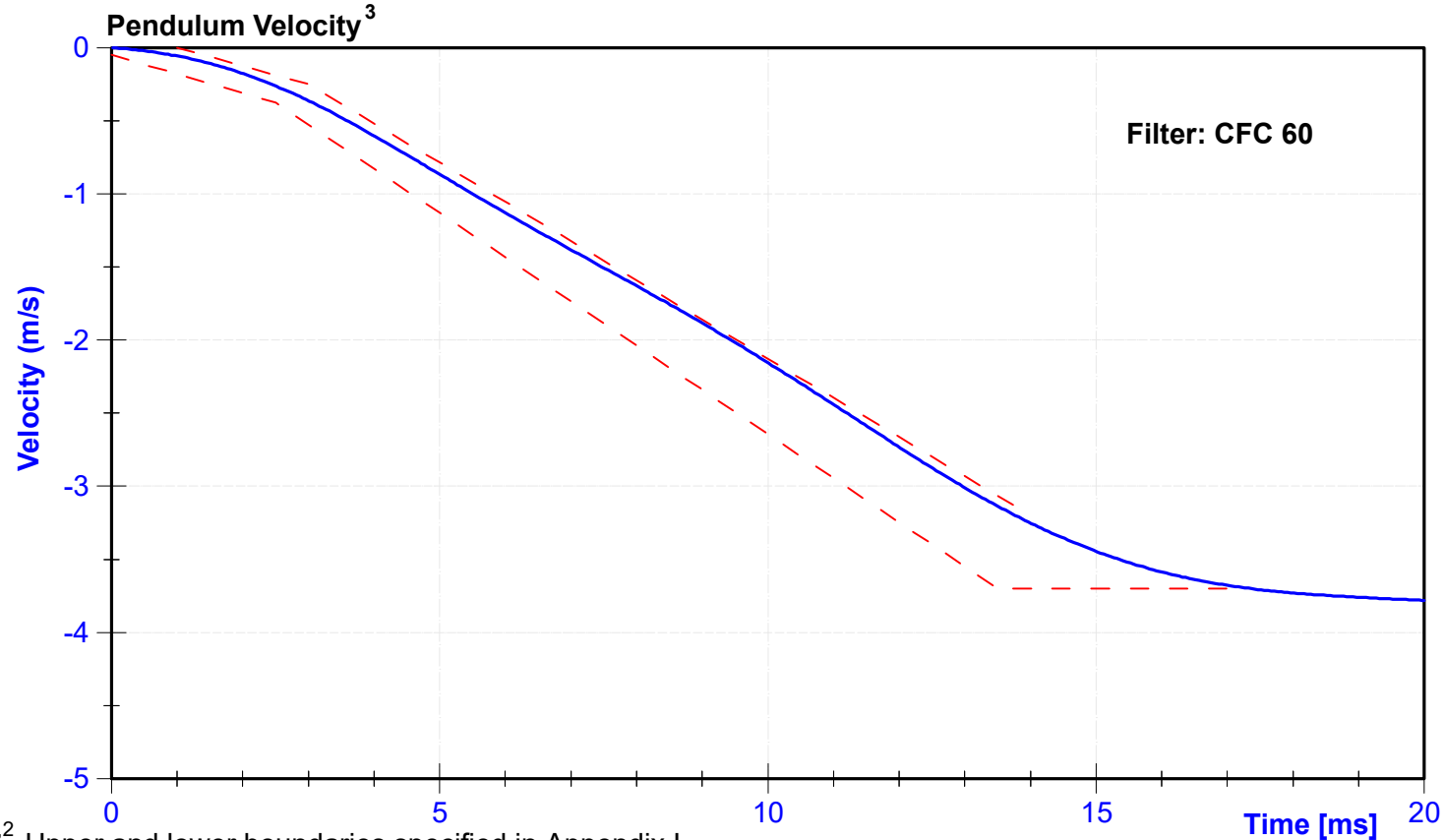
ATD Manufacturer	Denton	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

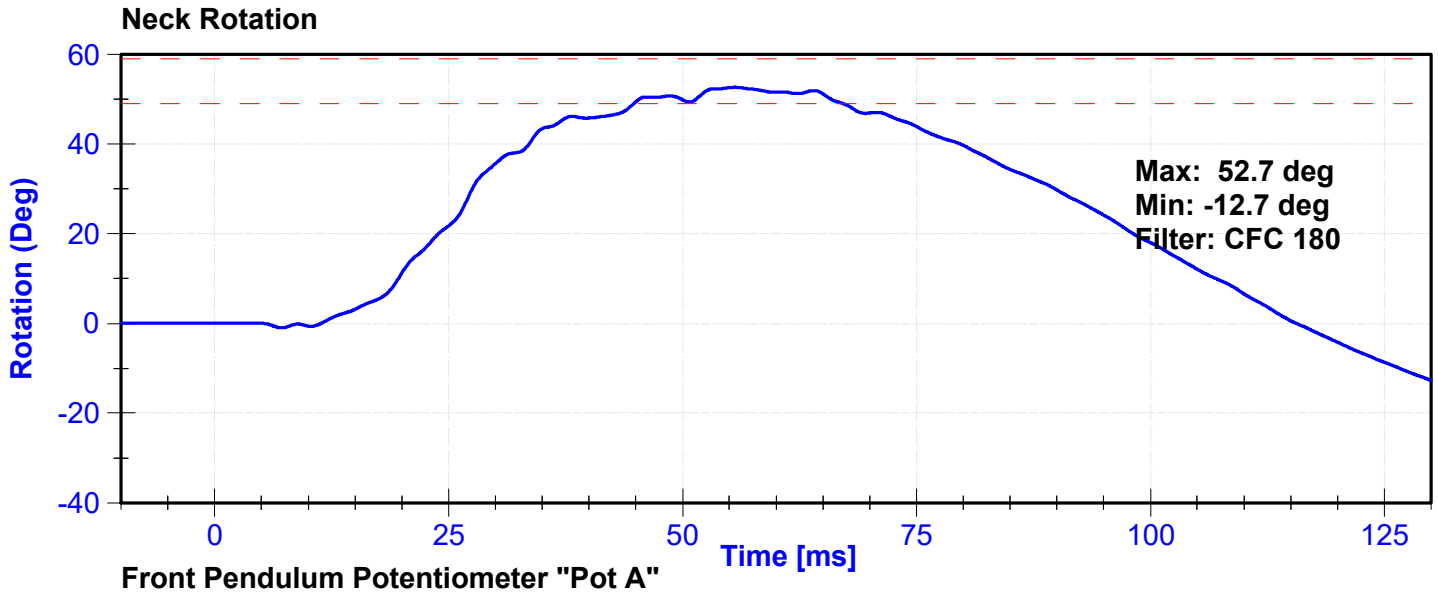
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	55	Pass
Velocity	3.3	3.5	m/s	3.46	Pass
Lateral Neck Rotation	49	59	deg	52.7	Pass
Time at Maximum Rotation	54	66	ms	55.6	Pass
Time of Rotation Decay from Maximum	53	88	ms	60.1	Pass
Pendulum Velocity Overall Corridor	Lower Boundary[1]	Upper Boundary[2]	m/s	See Plot[3]	Pass

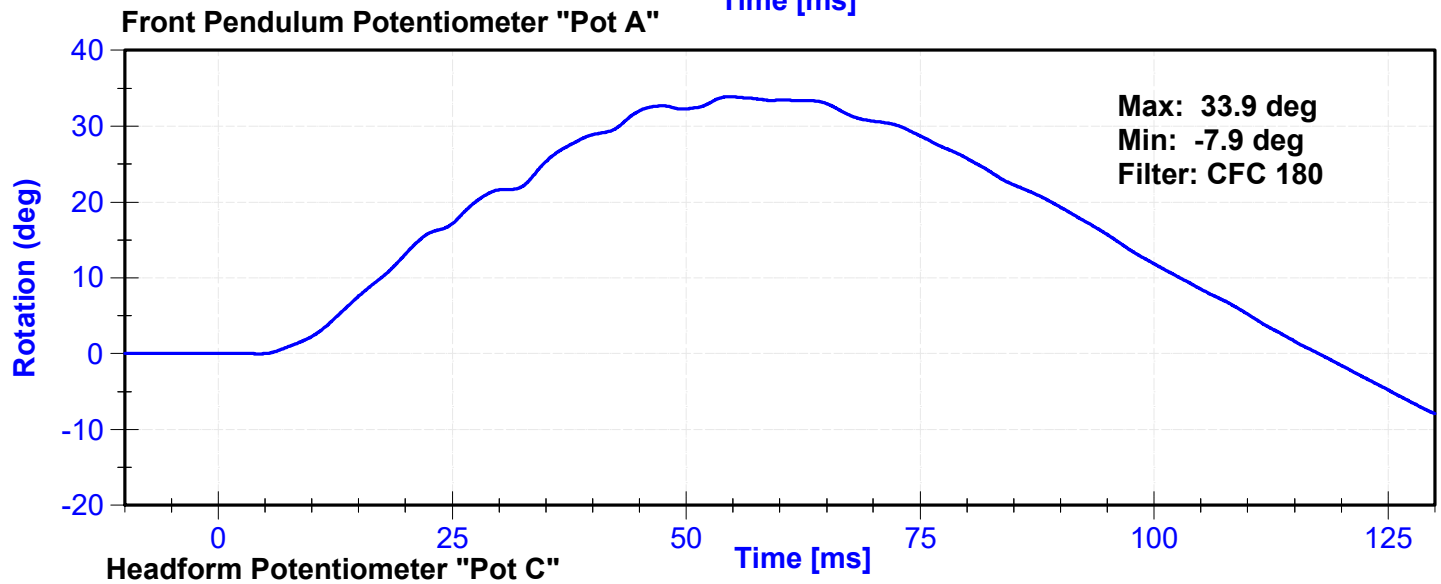
Transducer Calibrations

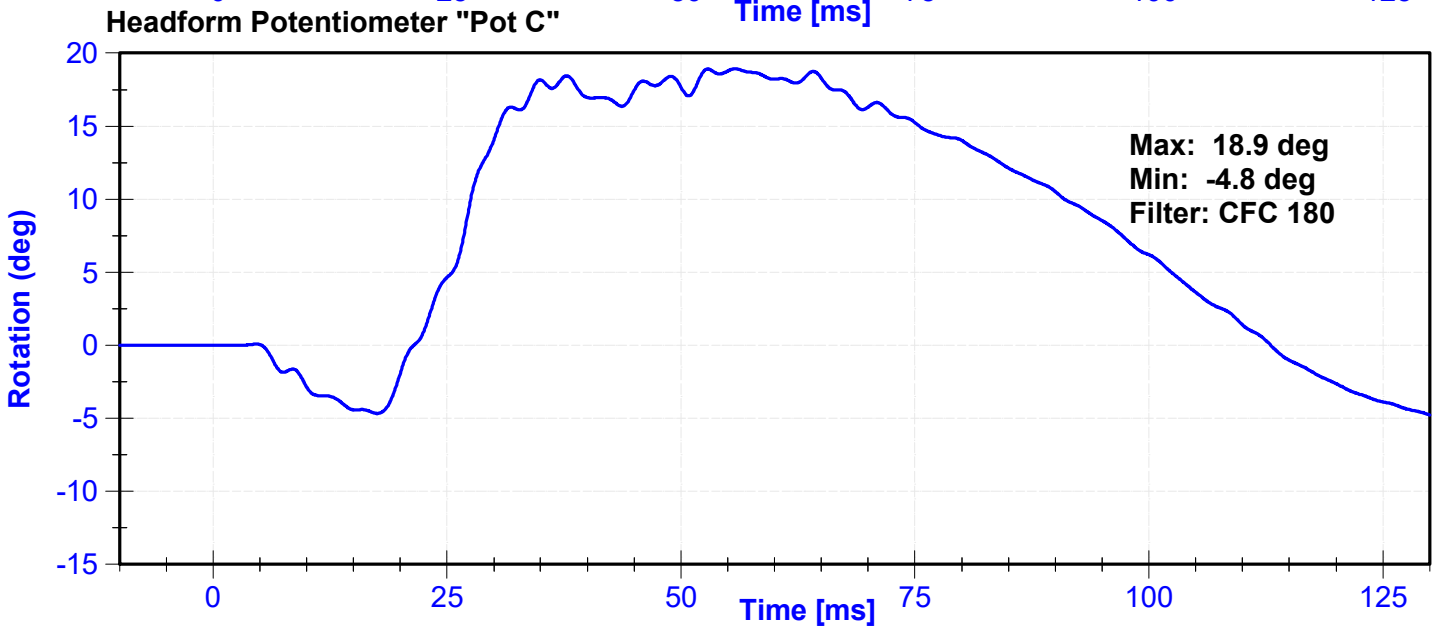
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/17/2024	10/17/2025
Front Pendulum Potentiometer	Sfernice	2247	9/13/2024	9/13/2025
Headform Potentiometer	Sfernice	095	9/13/2024	9/13/2025



[1,2] Upper and lower boundaries specified in Appendix I


Neck Rotation
Rotation (Deg)
60
40
20
0
-20
-40
0
25
50
75
100
125
Time [ms]
Max: 52.7 deg
Min: -12.7 deg
Filter: CFC 180


Front Pendulum Potentiometer "Pot A"
Rotation (deg)
40
30
20
10
0
-10
-20
0
25
50
75
100
125
Time [ms]
Max: 33.9 deg
Min: -7.9 deg
Filter: CFC 180


Headform Potentiometer "Pot C"
Rotation (deg)
20
15
10
5
0
-5
-10
-15
0
25
50
75
100
125
Time [ms]
Max: 18.9 deg
Min: -4.8 deg
Filter: CFC 180

Appendix I

[2] Upper Boundary Corridor		[1] Lower Boundary Corridor	
Time (ms)	Velocity (m/s)	Time (ms)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.0	-0.25	2.5	-0.375
14.0	-3.20	13.5	-3.7
		17.0	-3.7

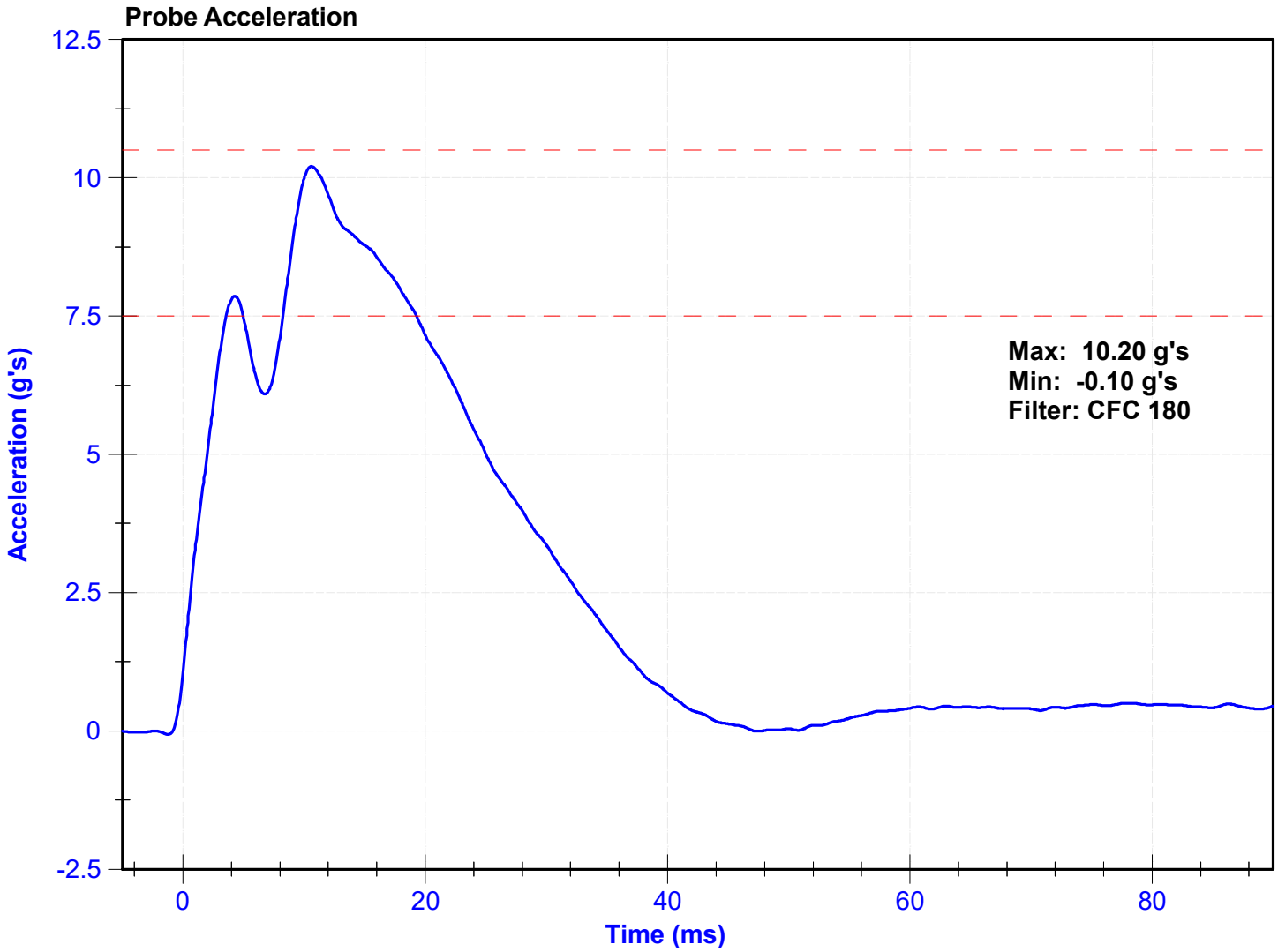
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	55	Pass
Velocity	4.2	4.4	m/s	4.28	Pass
Probe Acceleration	7.5	10.5	g's	10.20	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025



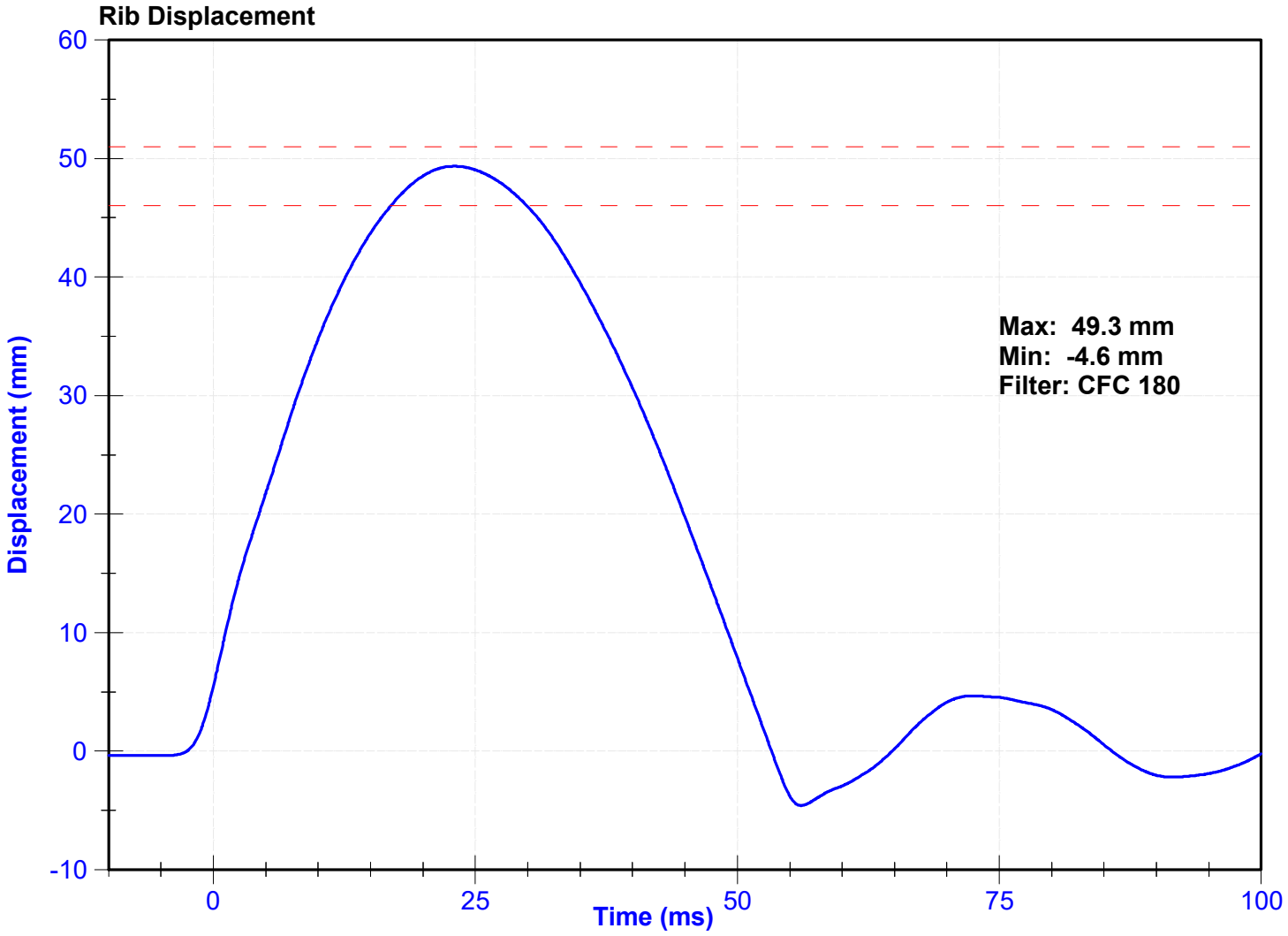
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	49.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	179GFE	7/1/2025	12/30/2025



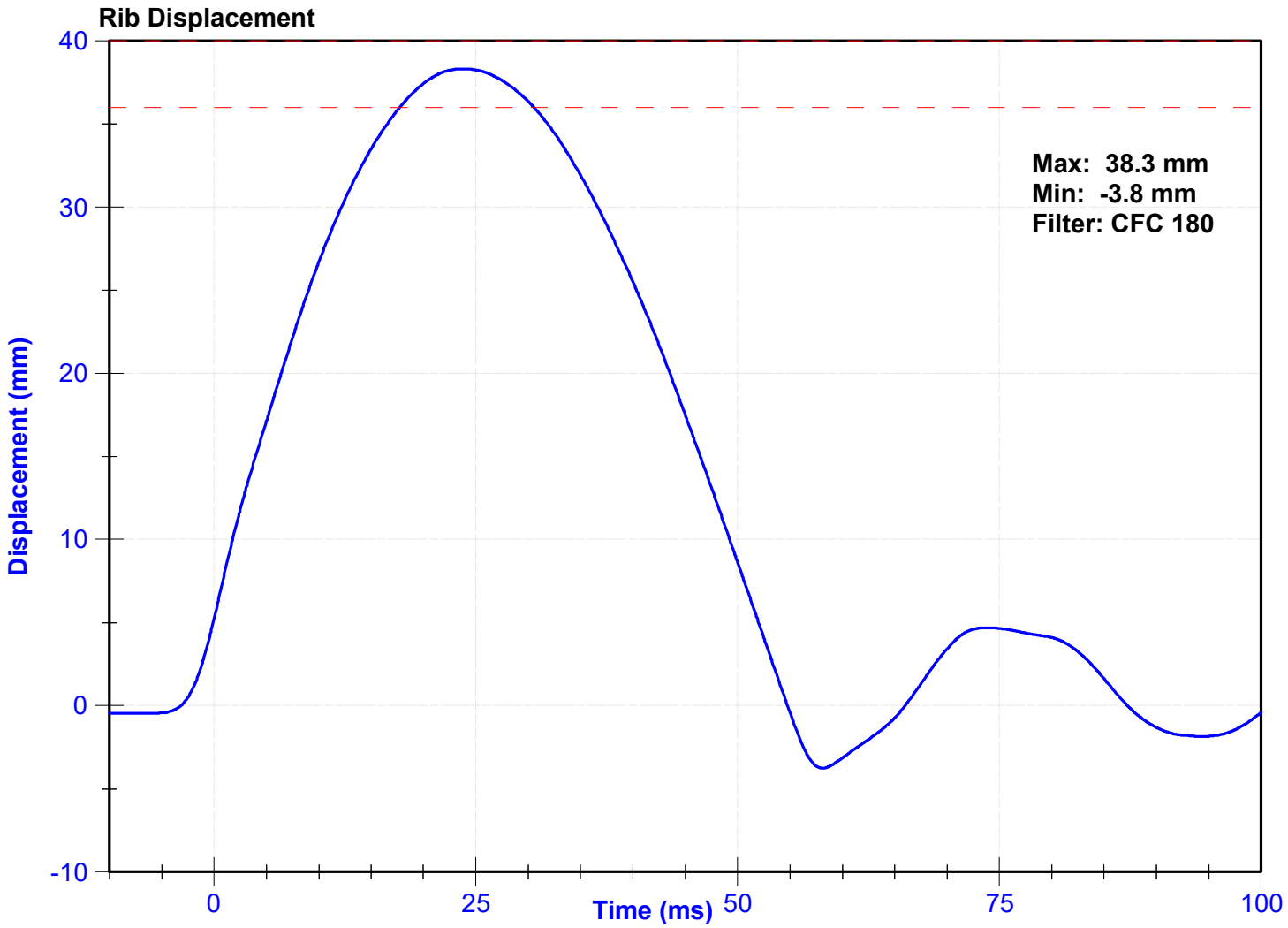
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	38.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	179GFE	7/1/2025	12/30/2025



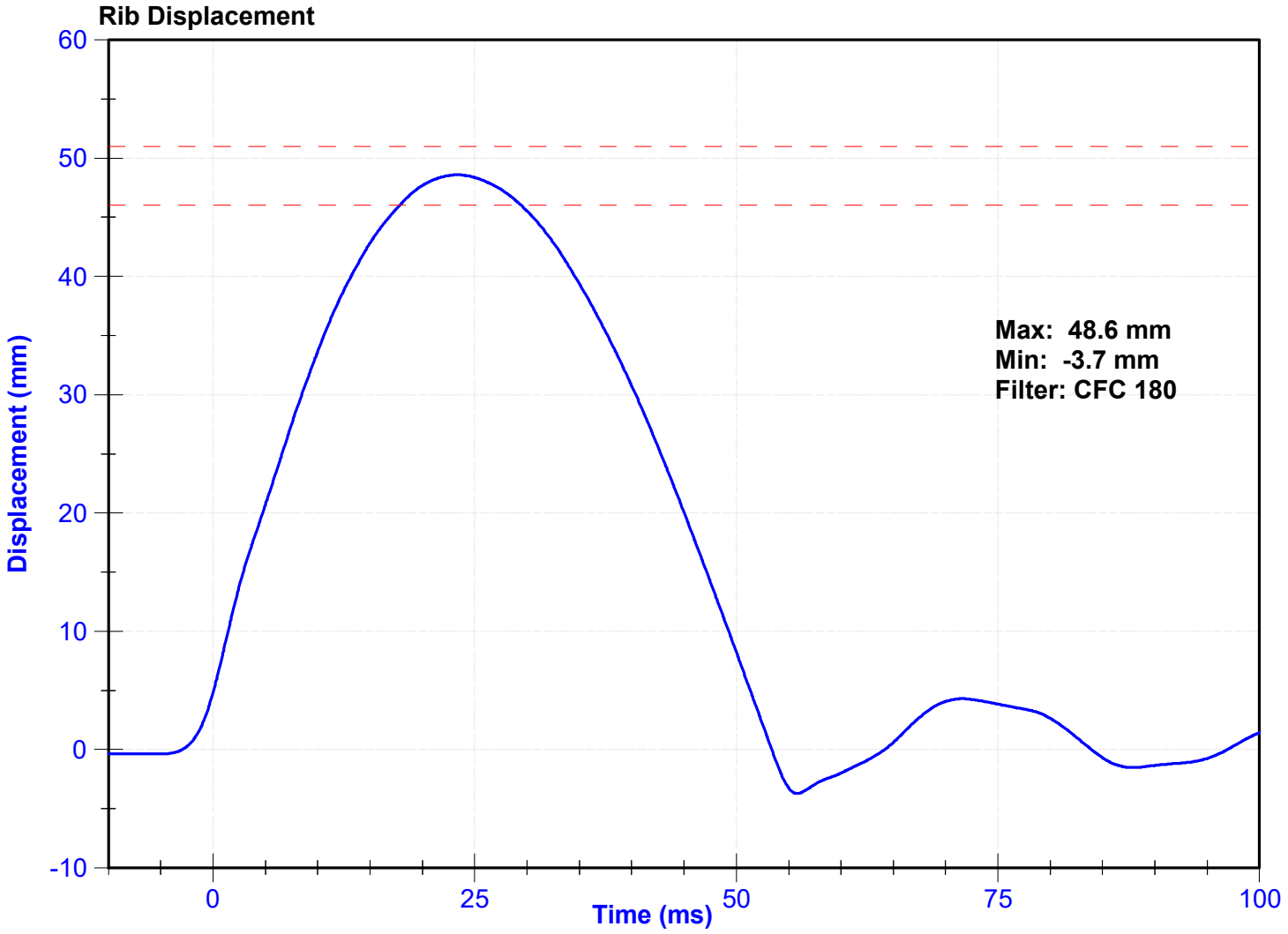
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	48.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025



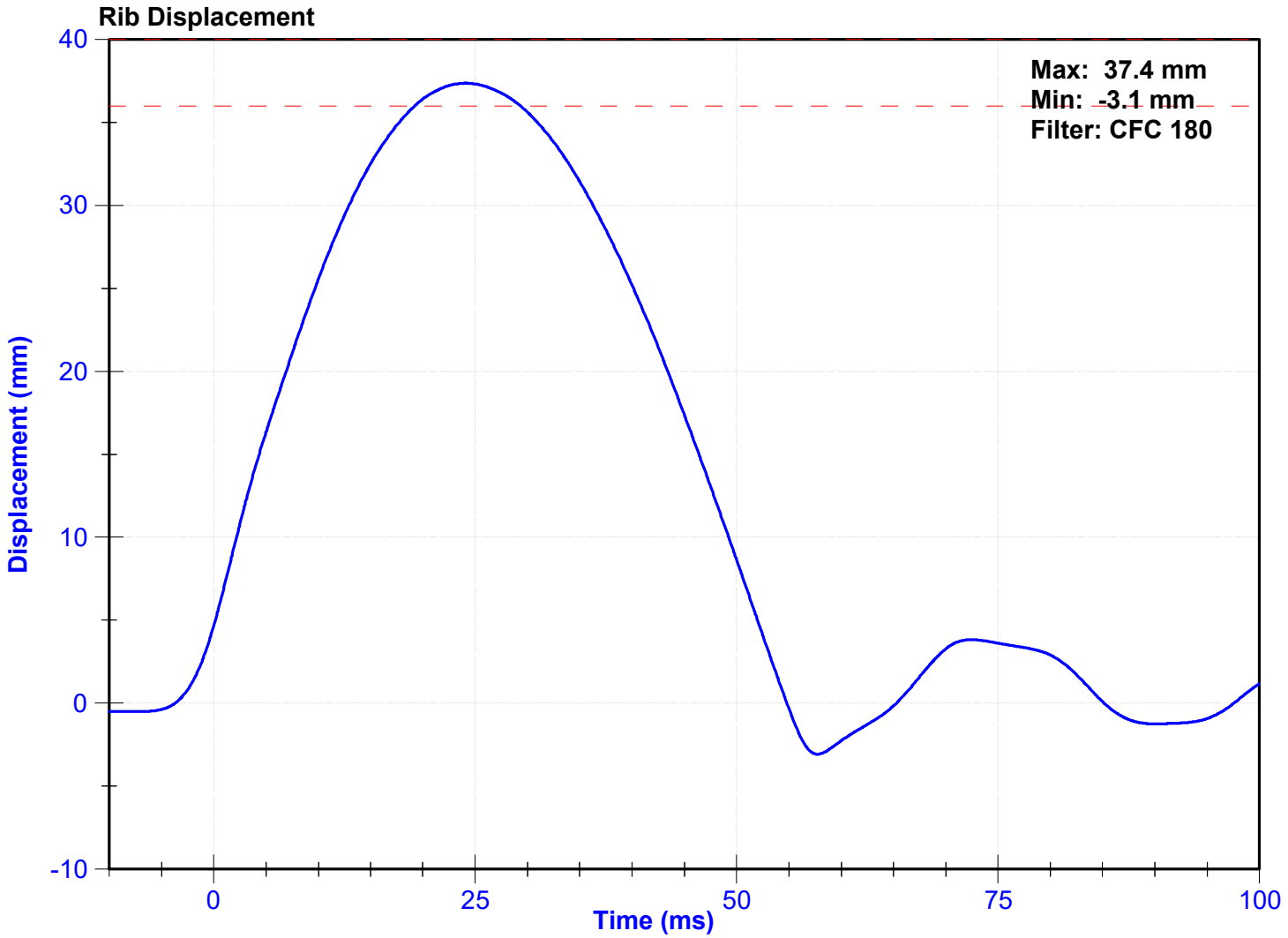
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	37.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025



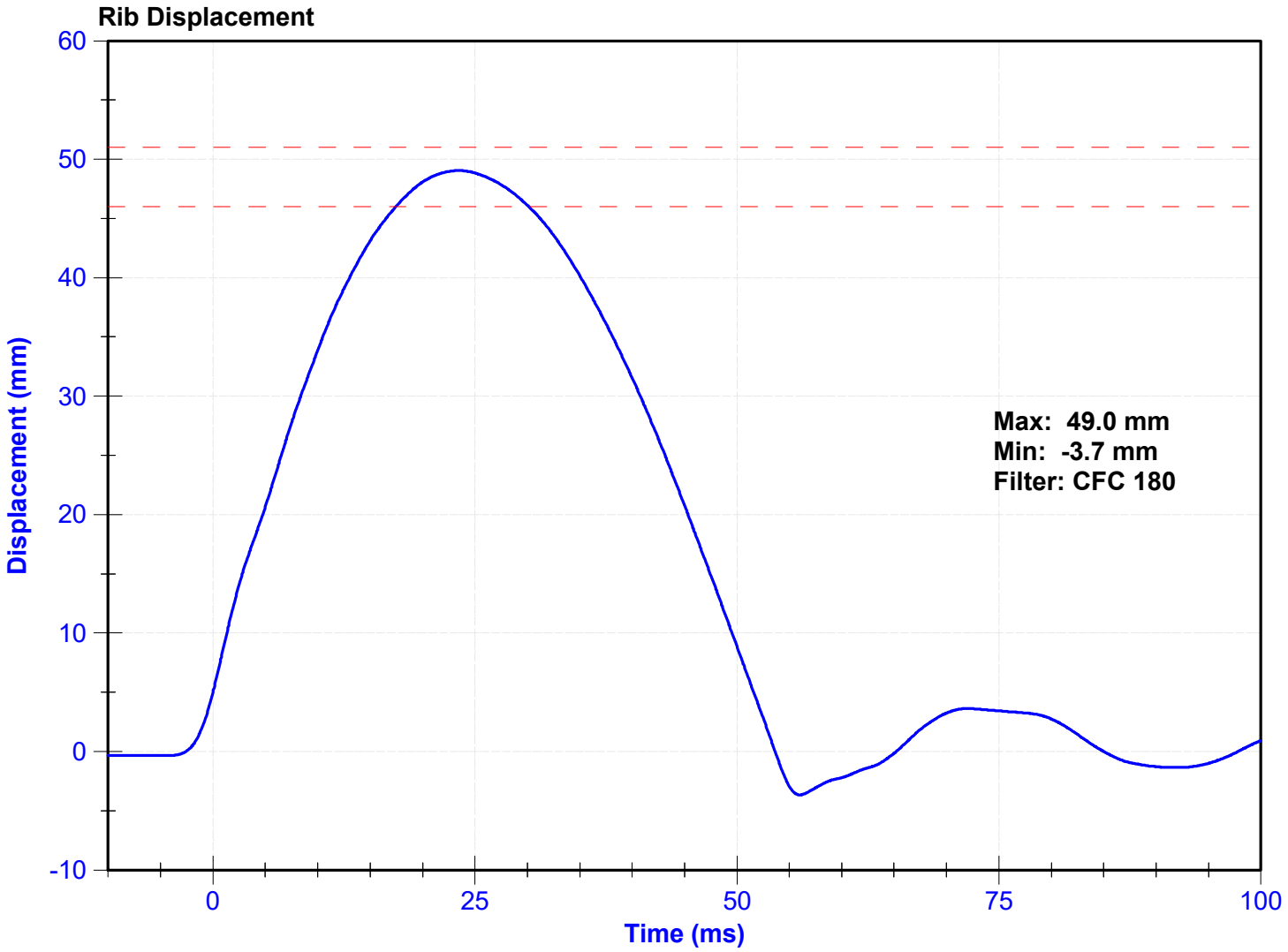
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	46	51	mm	49.0	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025



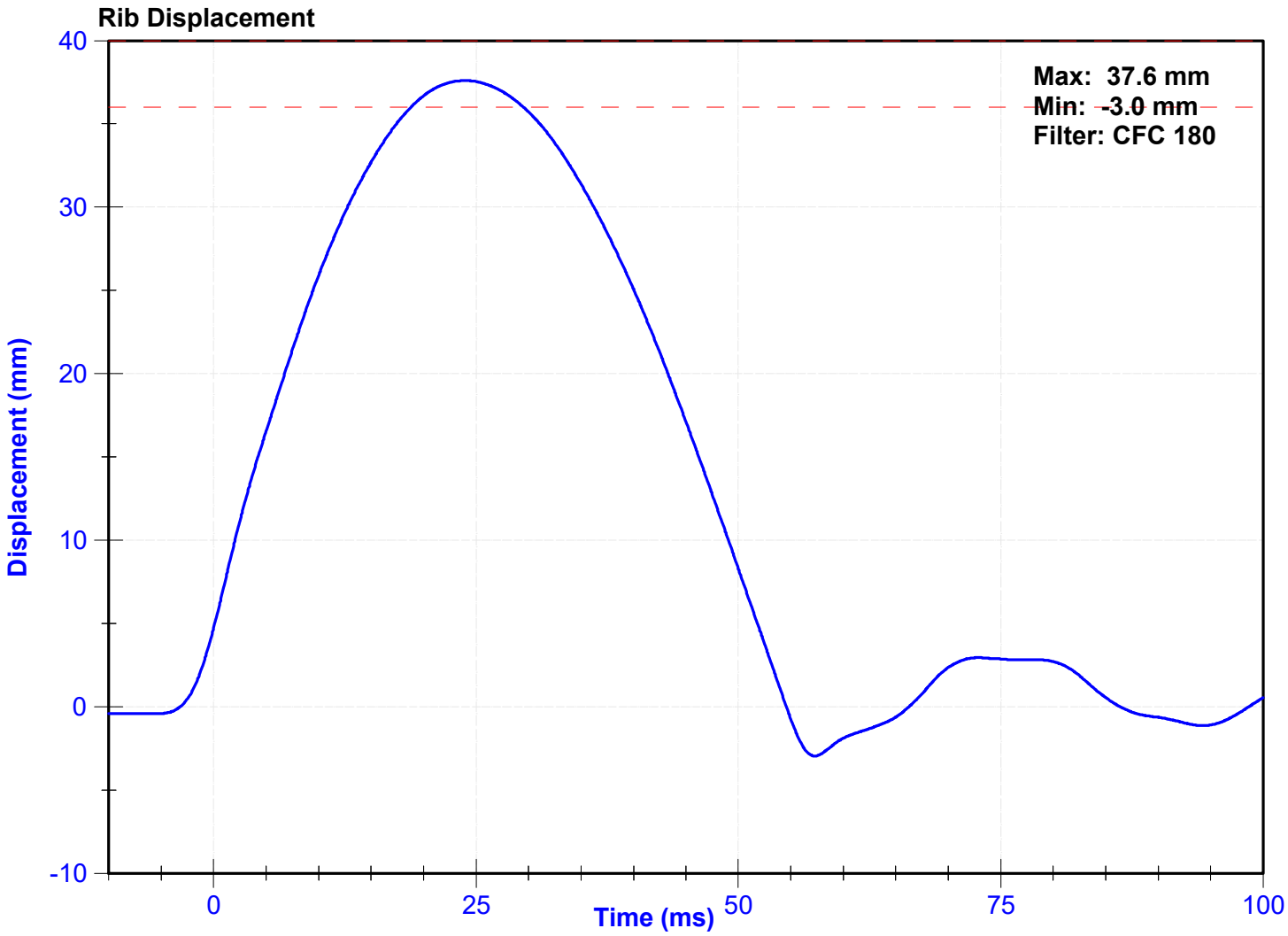
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	65	Pass
Rib Displacement	36	40	mm	37.6	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025



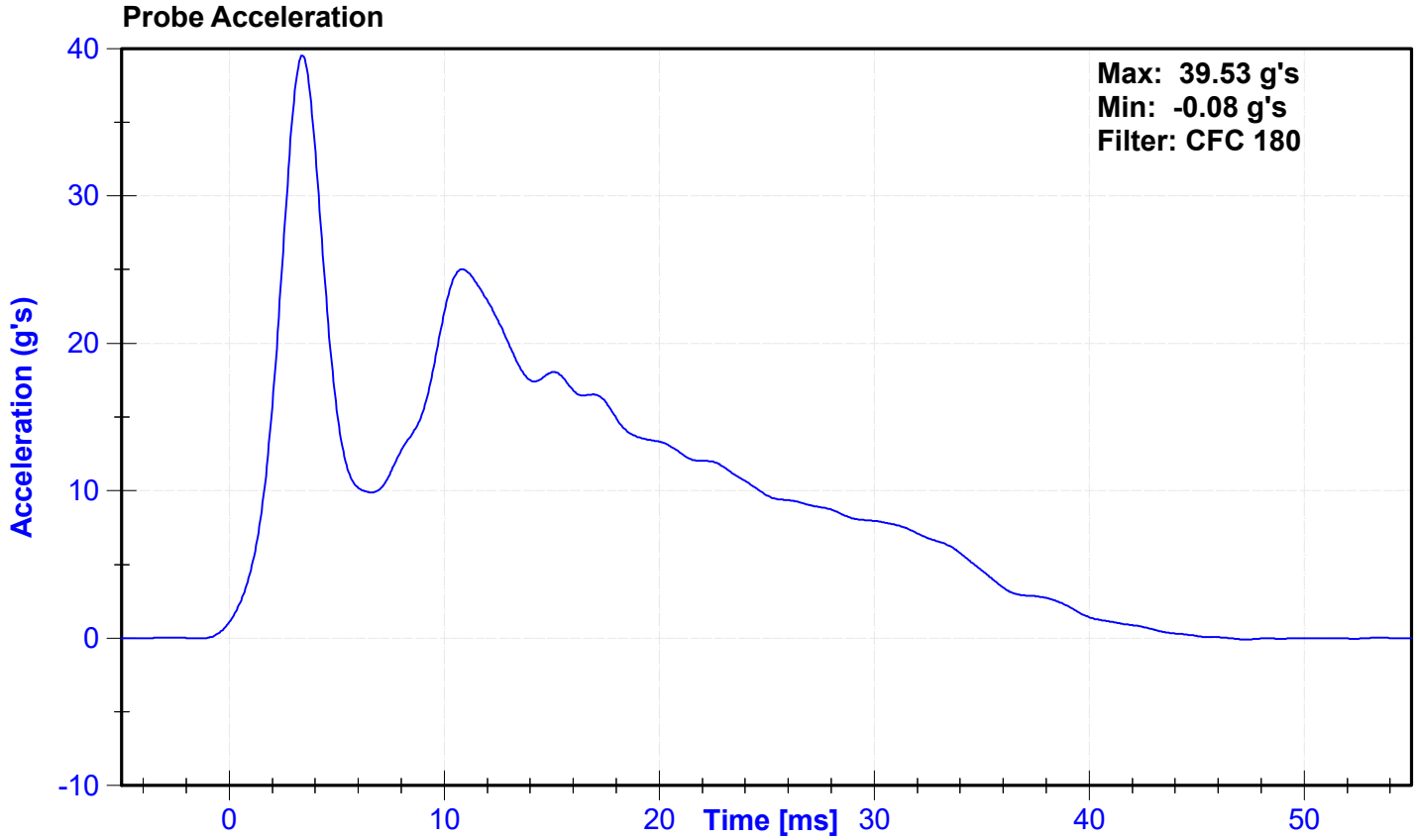
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

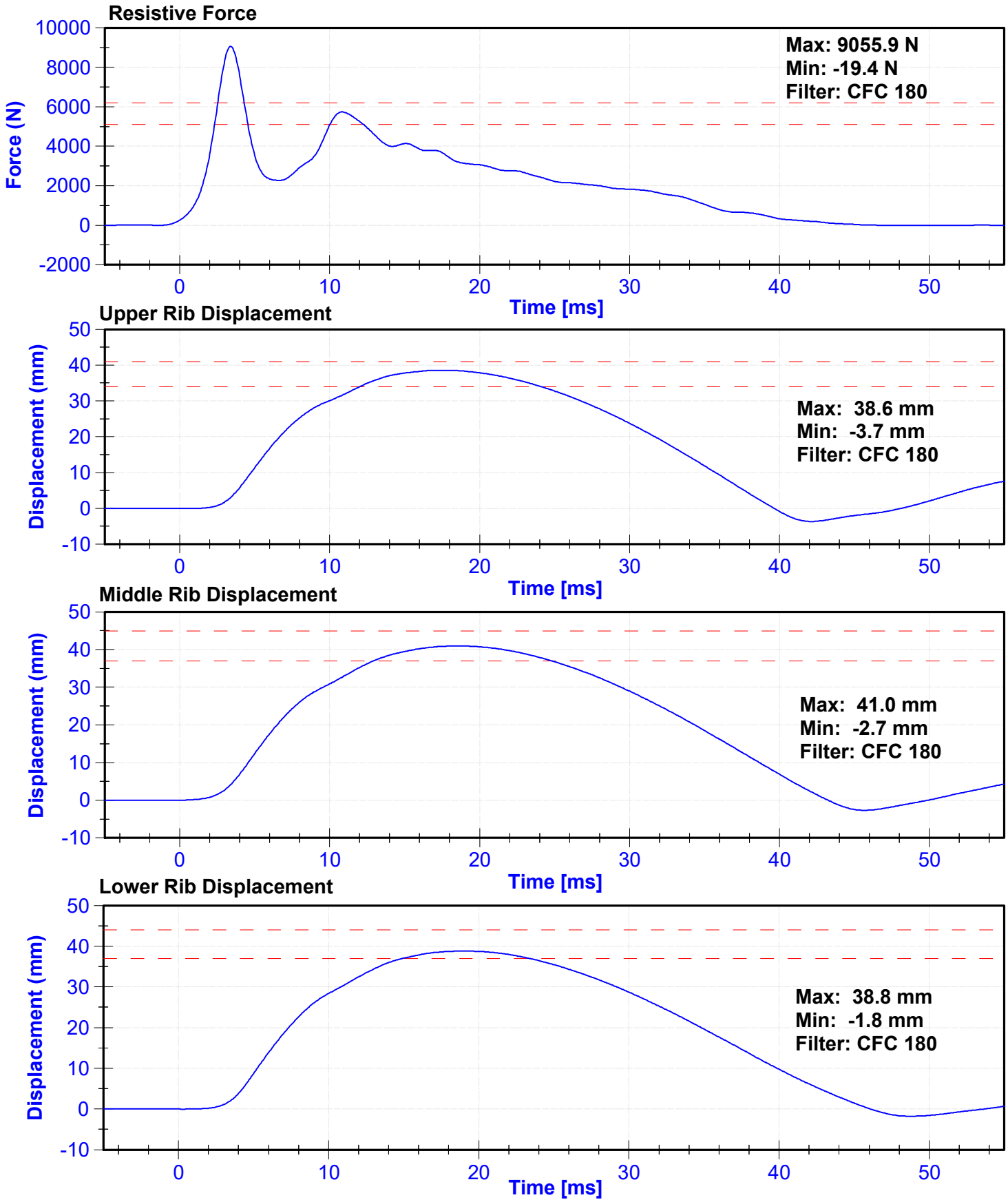
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	55	Pass
Velocity	5.4	5.6	m/s	5.53	Pass
Resistive Force after 6ms	5100	6200	N	5733.3	Pass
Upper Thorax Rib Deflection	34	41	mm	38.6	Pass
Mid Thorax Rib Deflection	37	45	mm	41.0	Pass
Lower Thorax Rib Deflection	37	44	mm	38.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Thorax Rib Potentiometer	Honeywell	179GFE	7/1/2025	12/30/2025
Middle Thorax Rib Potentiometer	Honeywell	185GFE	7/1/2025	12/30/2025
Lower Thorax Rib Potentiometer	Honeywell	184GFE	7/1/2025	12/30/2025




Resistive Force
Force (N)
Max: 9055.9 N
Min: -19.4 N
Filter: CFC 180
Time [ms]
Upper Rib Displacement
Displacement (mm)
Max: 38.6 mm
Min: -3.7 mm
Filter: CFC 180
Time [ms]
Middle Rib Displacement
Displacement (mm)
Max: 41.0 mm
Min: -2.7 mm
Filter: CFC 180
Time [ms]
Lower Rib Displacement
Displacement (mm)
Max: 38.8 mm
Min: -1.8 mm
Filter: CFC 180
Time [ms]

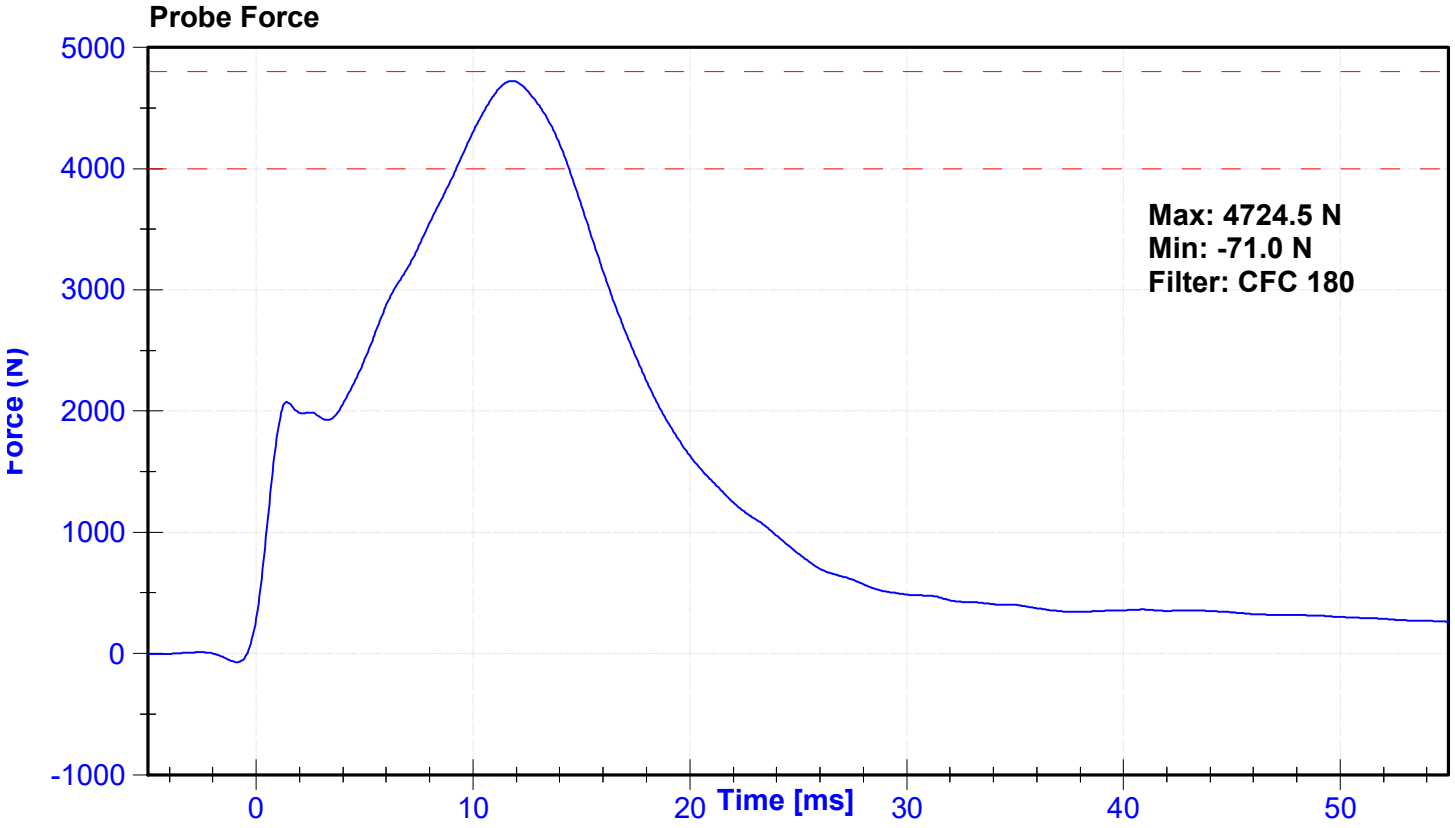
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

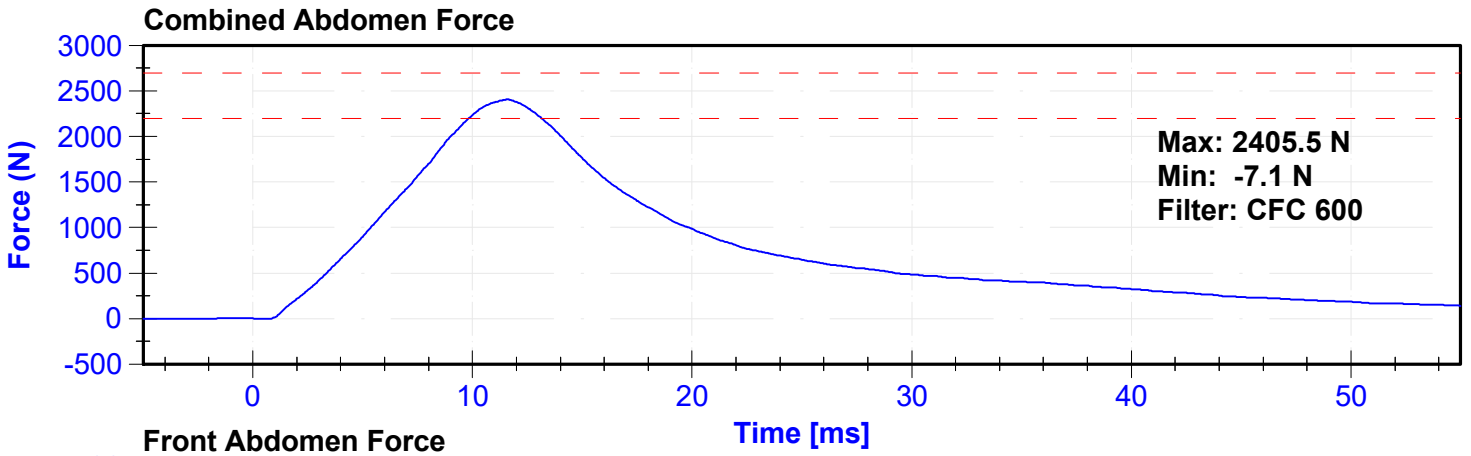
Results

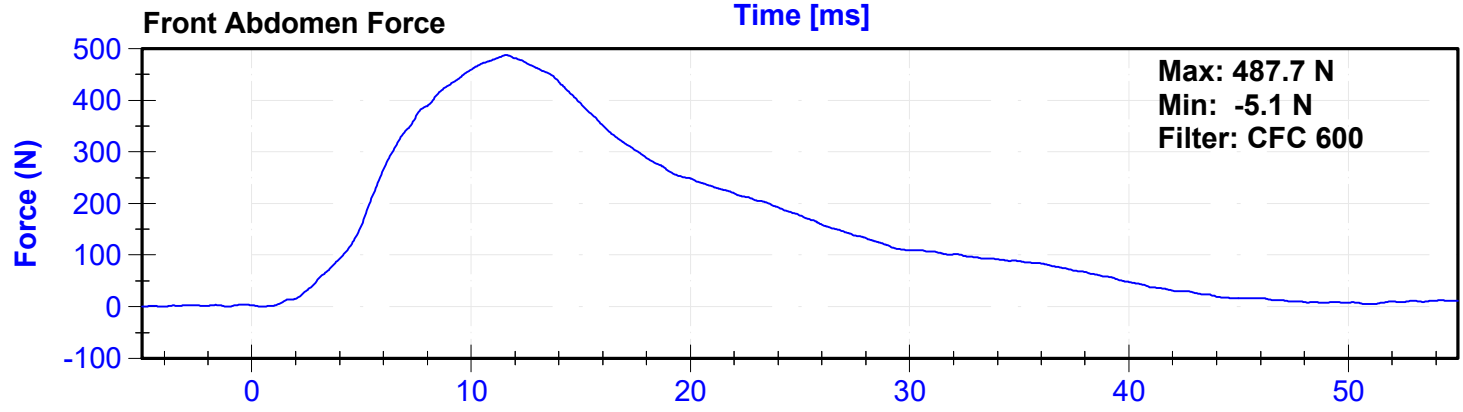
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	55	Pass
Velocity	3.9	4.1	m/s	4.02	Pass
Combined Abdomen Force	2200	2700	N	2405.5	Pass
Time at Peak Abdomen Force	10.0	12.3	ms	11.60	Pass
Resistive Probe Force	4000	4800	N	4724.5	Pass
Time at Peak Resistive Force	10.6	13.0	ms	11.80	Pass

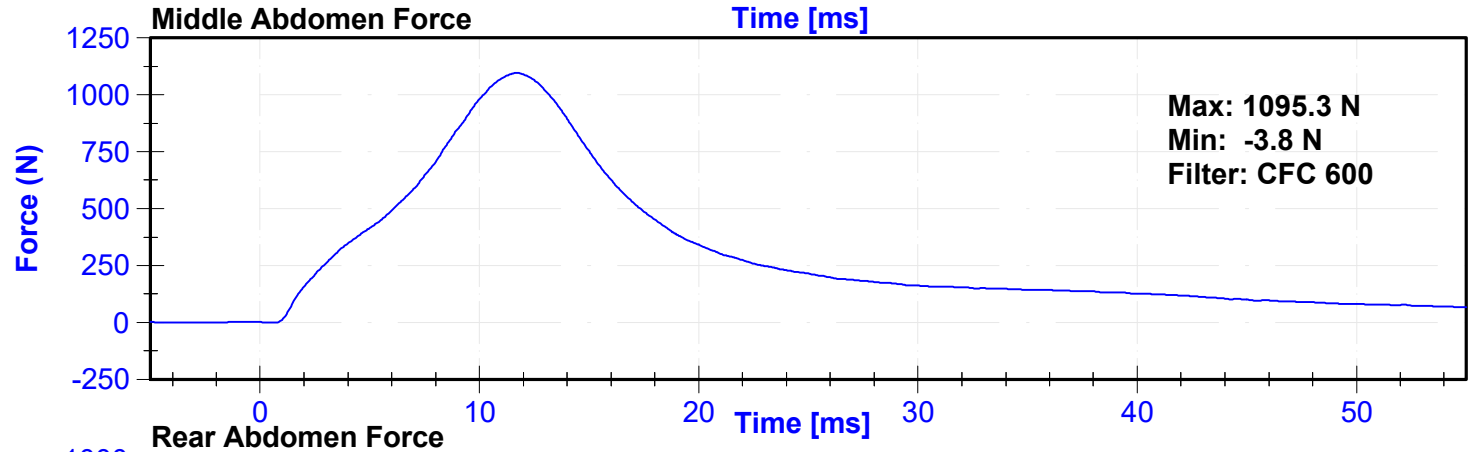
Transducer Calibrations

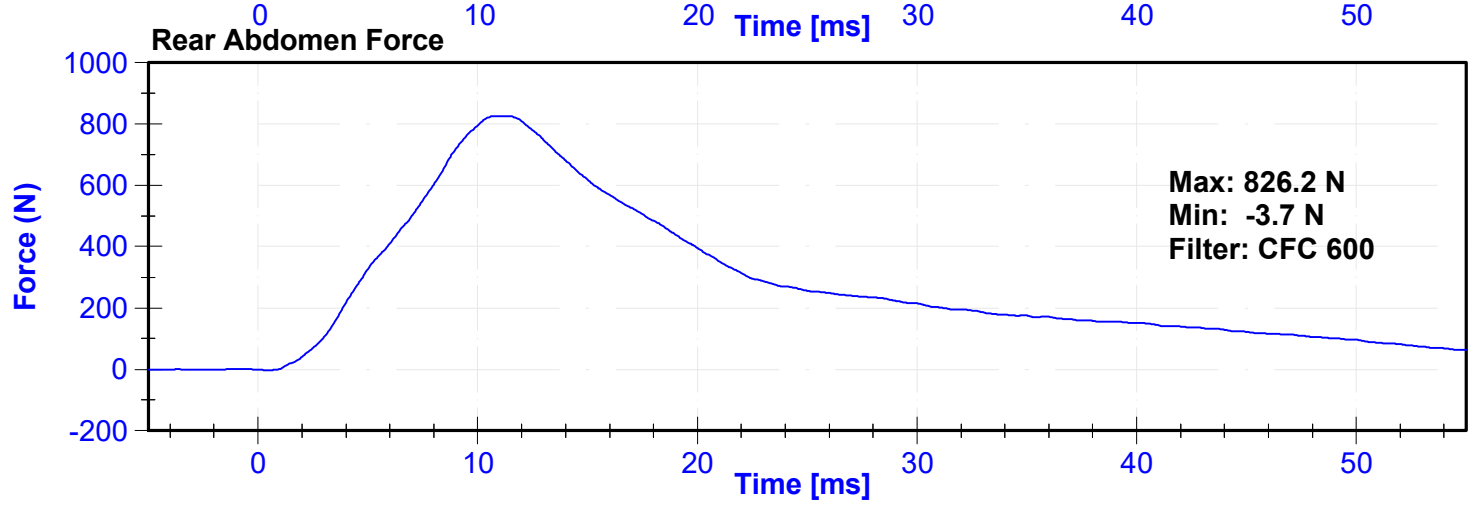
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Front Abdomen Load Cell	Denton	1523	10/28/2024	10/28/2025
Middle Abdomen Load Cell	Denton	1524	10/28/2024	10/28/2025
Rear Abdomen Load Cell	Denton	1530	10/28/2024	10/28/2025




Combined Abdomen Force
Force (N)
3000
2500
2000
1500
1000
500
0
-500
0
10
20
30
40
50
Time [ms]
Max: 2405.5 N
Min: -7.1 N
Filter: CFC 600


Front Abdomen Force
Force (N)
500
400
300
200
100
0
-100
0
10
20
30
40
50
Time [ms]
Max: 487.7 N
Min: -5.1 N
Filter: CFC 600


Middle Abdomen Force
Force (N)
1250
1000
750
500
250
0
-250
0
10
20
30
40
50
Time [ms]
Max: 1095.3 N
Min: -3.8 N
Filter: CFC 600


Rear Abdomen Force
Force (N)
1000
800
600
400
200
0
-200
0
10
20
30
40
50
Time [ms]
Max: 826.2 N
Min: -3.7 N
Filter: CFC 600

ATD Manufacturer	Denton	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

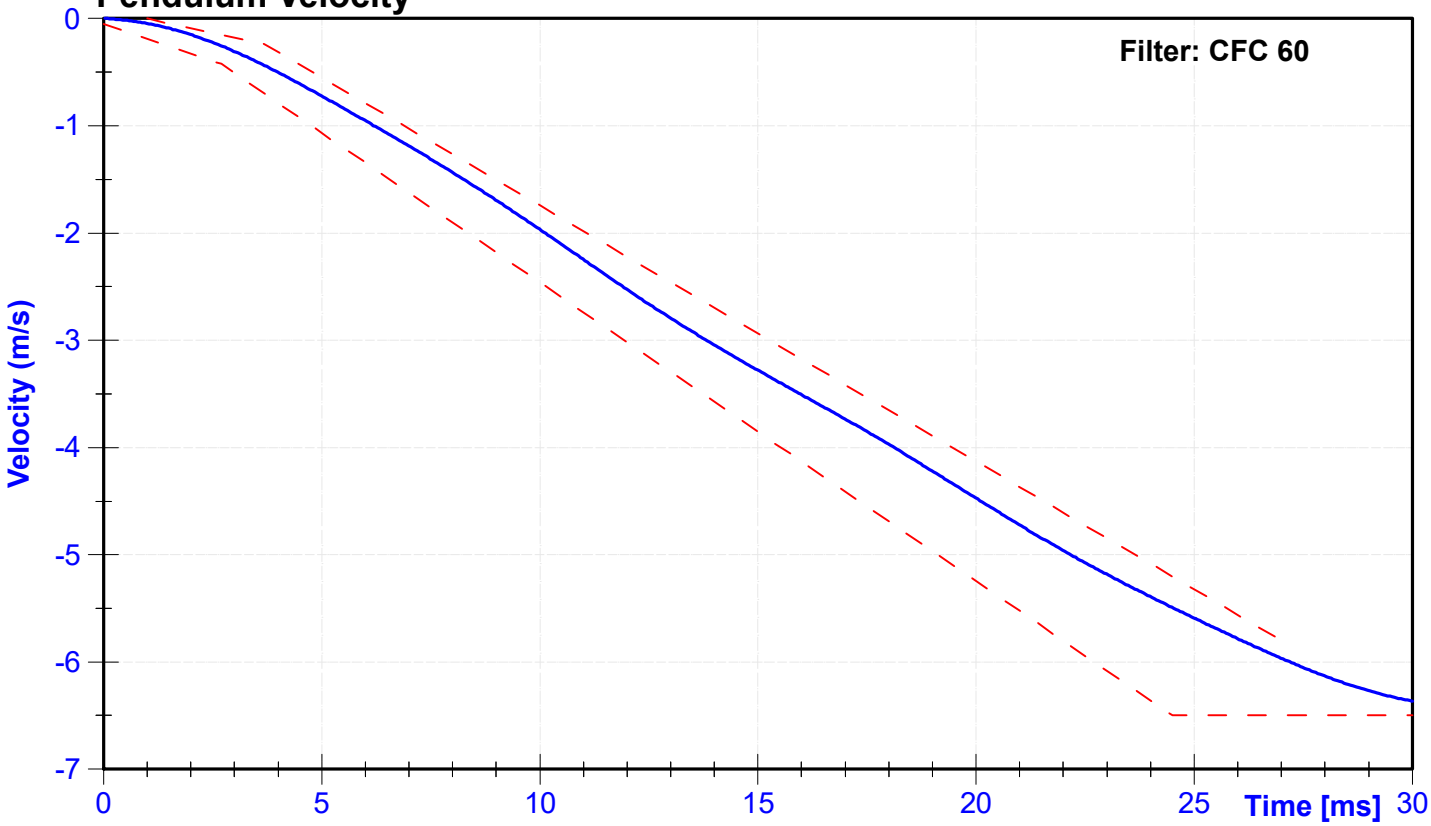
Results

Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	55	Pass
Velocity	5.95	6.15	m/s	6.117	Pass
Lateral Spine Rotation	45	55	deg	49.2	Pass
Time at Maximum Rotation	39	53	ms	44.2	Pass
Time of Decay to Zero Degrees	37	57	ms	39.5	Pass
Pendulum Velocity Overall Corridor	Lower Boundary[1]	Upper Boundary[2]	m/s	See Plot[3]	Pass

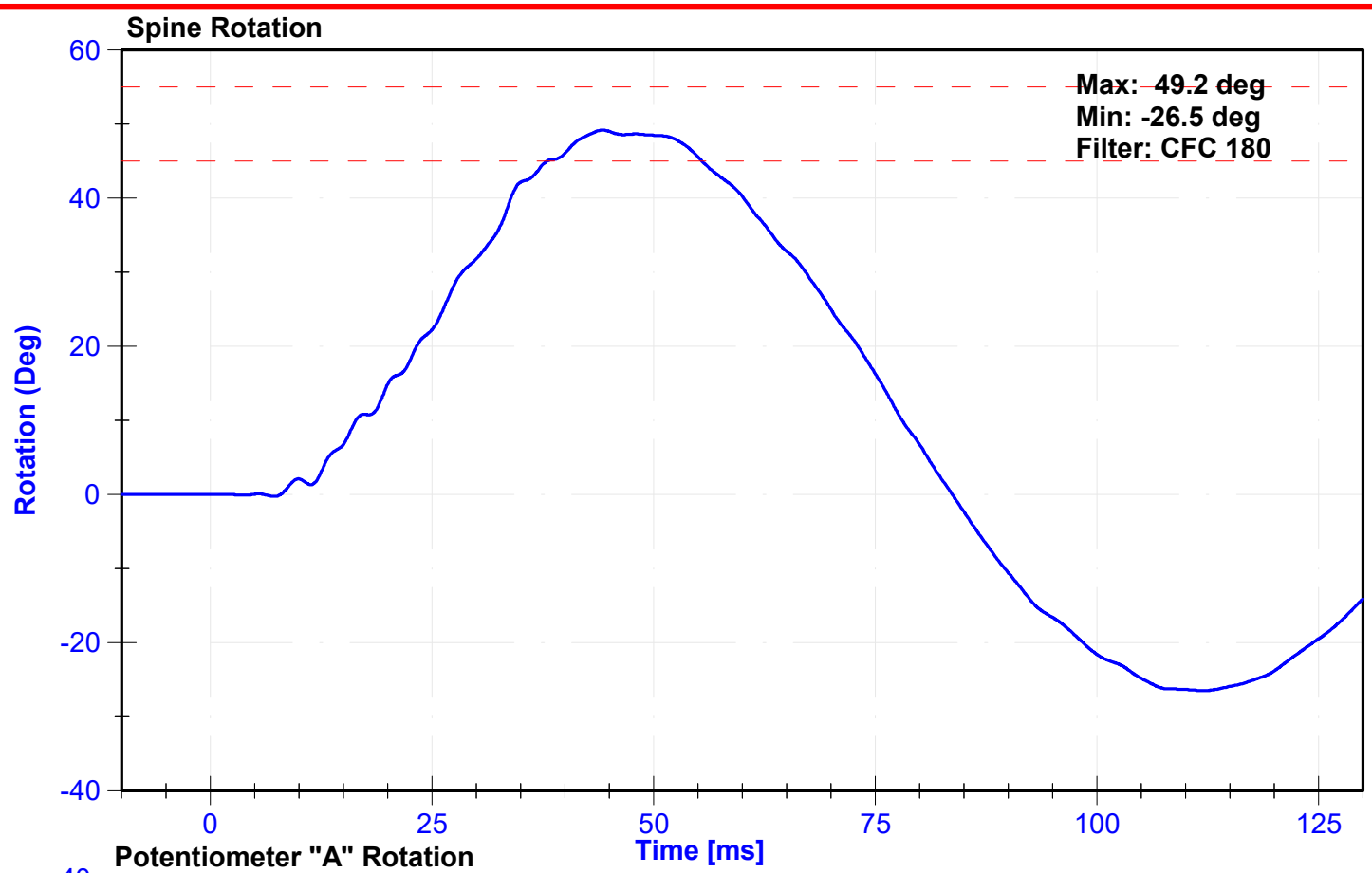
Transducer Calibrations

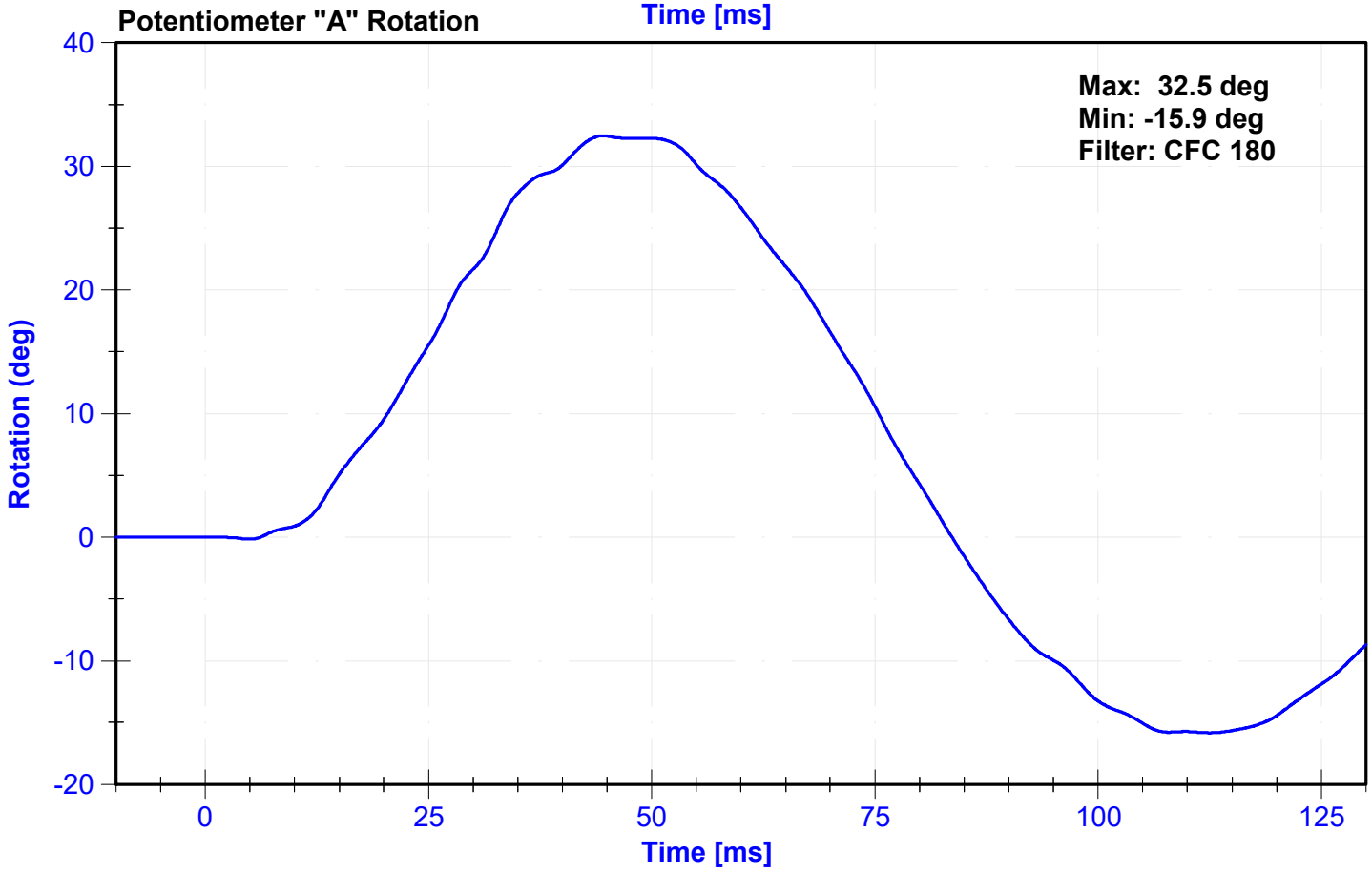
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	C16646	10/17/2024	10/17/2025
Pendulum "A" Potentiometer	Sfernice	2247	9/13/2024	9/13/2025
Condyle "B" Potentiometer	Sfernice	095	9/13/2024	9/13/2025

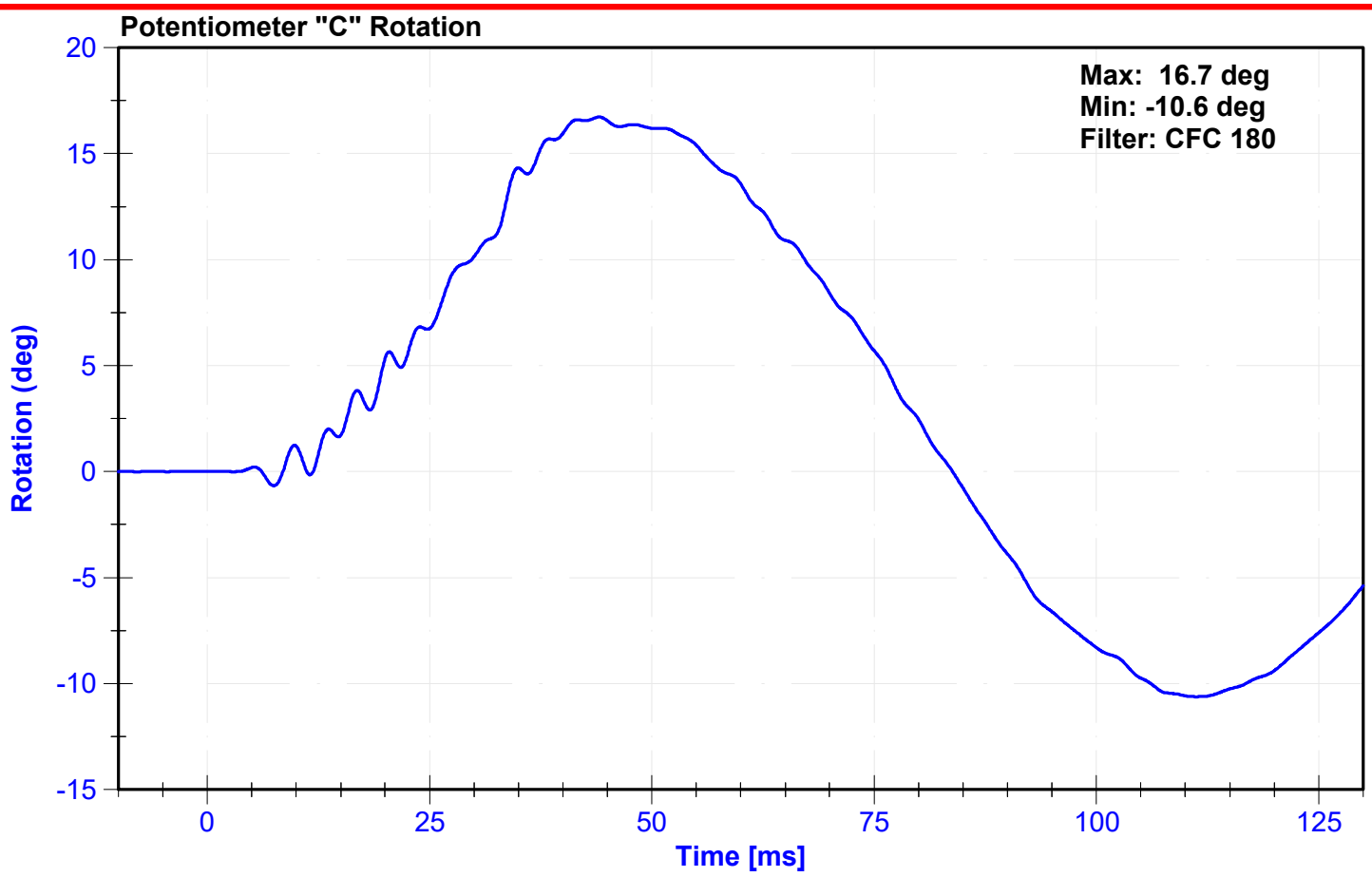
Pendulum Velocity[3]



[1,2] Upper and lower boundaries specified in Appendix I


Spine Rotation
Max: 49.2 deg
Min: -26.5 deg
Filter: CFC 180
Rotation (Deg)
60
40
20
0
-20
-40
0
25
50
75
100
125
Time [ms]


Potentiometer "A" Rotation
Max: 32.5 deg
Min: -15.9 deg
Filter: CFC 180
Rotation (deg)
40
30
20
10
0
-10
-20
0
25
50
75
100
125
Time [ms]



Appendix I

[2] Upper Boundary Corridor		[1] Lower Boundary Corridor	
Time (ms)	Velocity (m/s)	Time (ms)	Velocity (m/s)
1.0	0.00	0.0	-0.05
3.7	-0.24	2.7	-0.425
27.0	-5.80	24.5	-6.5
		30.0	-6.5

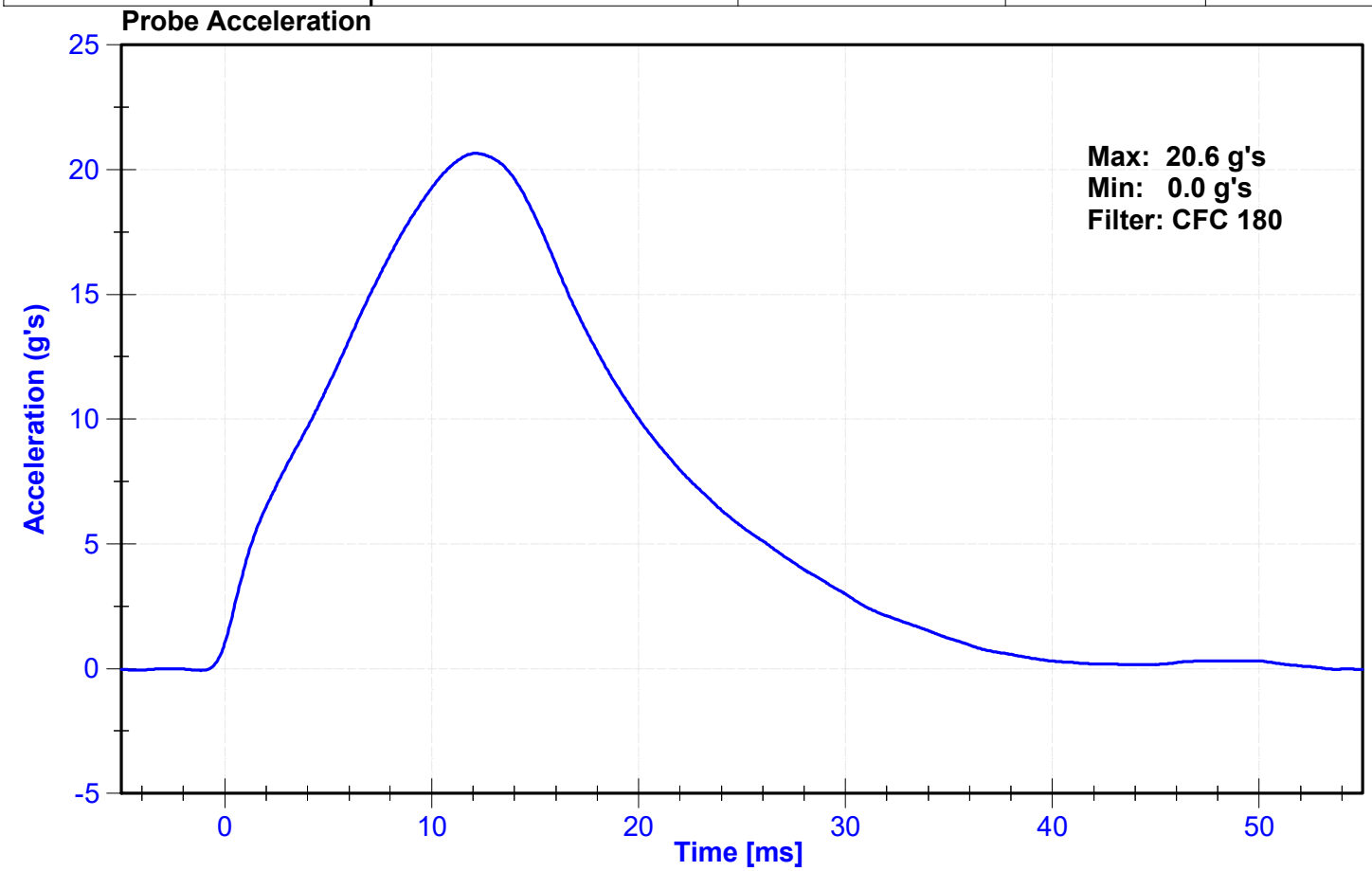
ATD Manufacturer	FTSS	Test Technician	J. Rios
ATD Serial Number	F033	Laboratory Supervisor	J. Kinderman

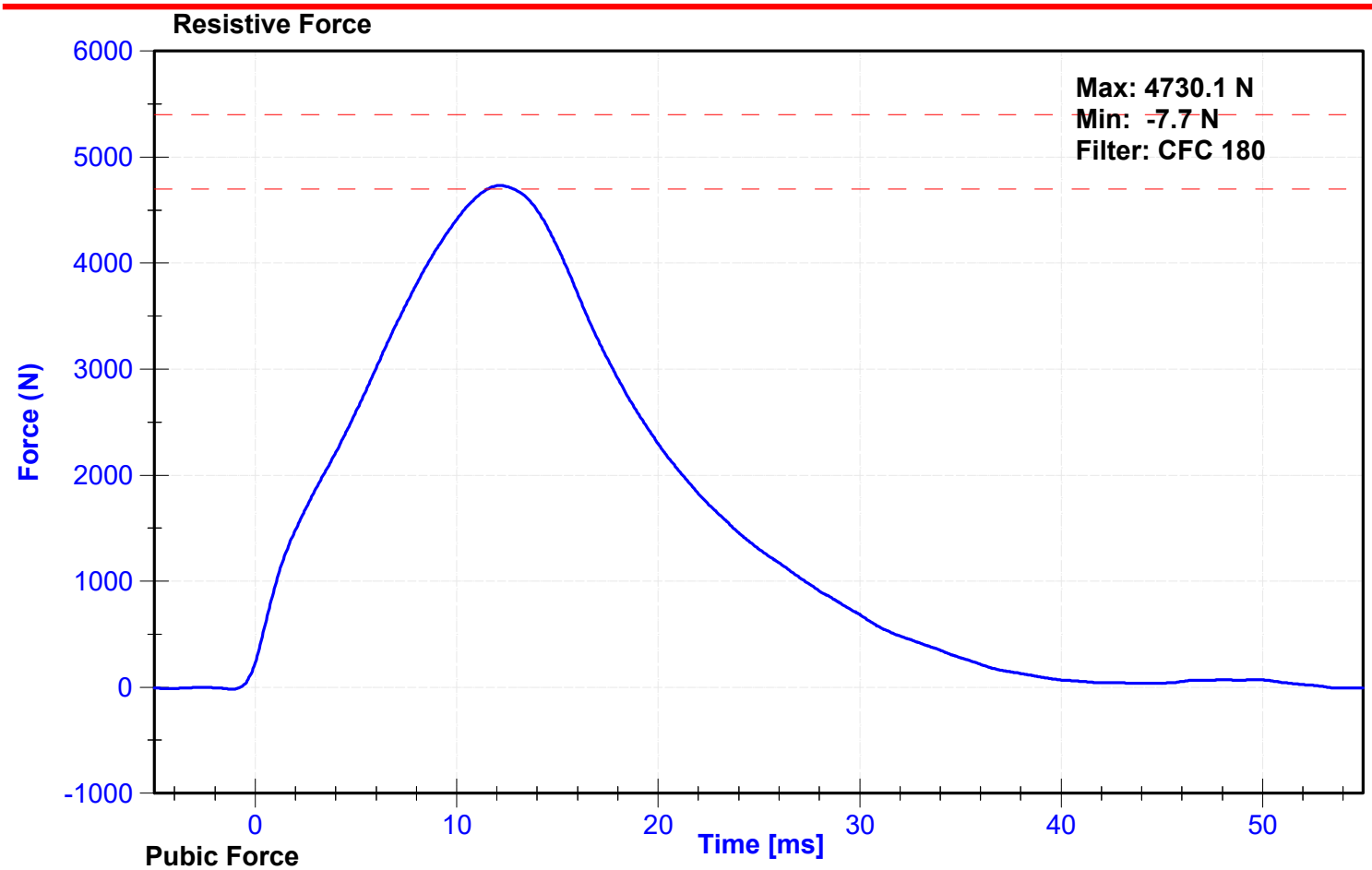
Results

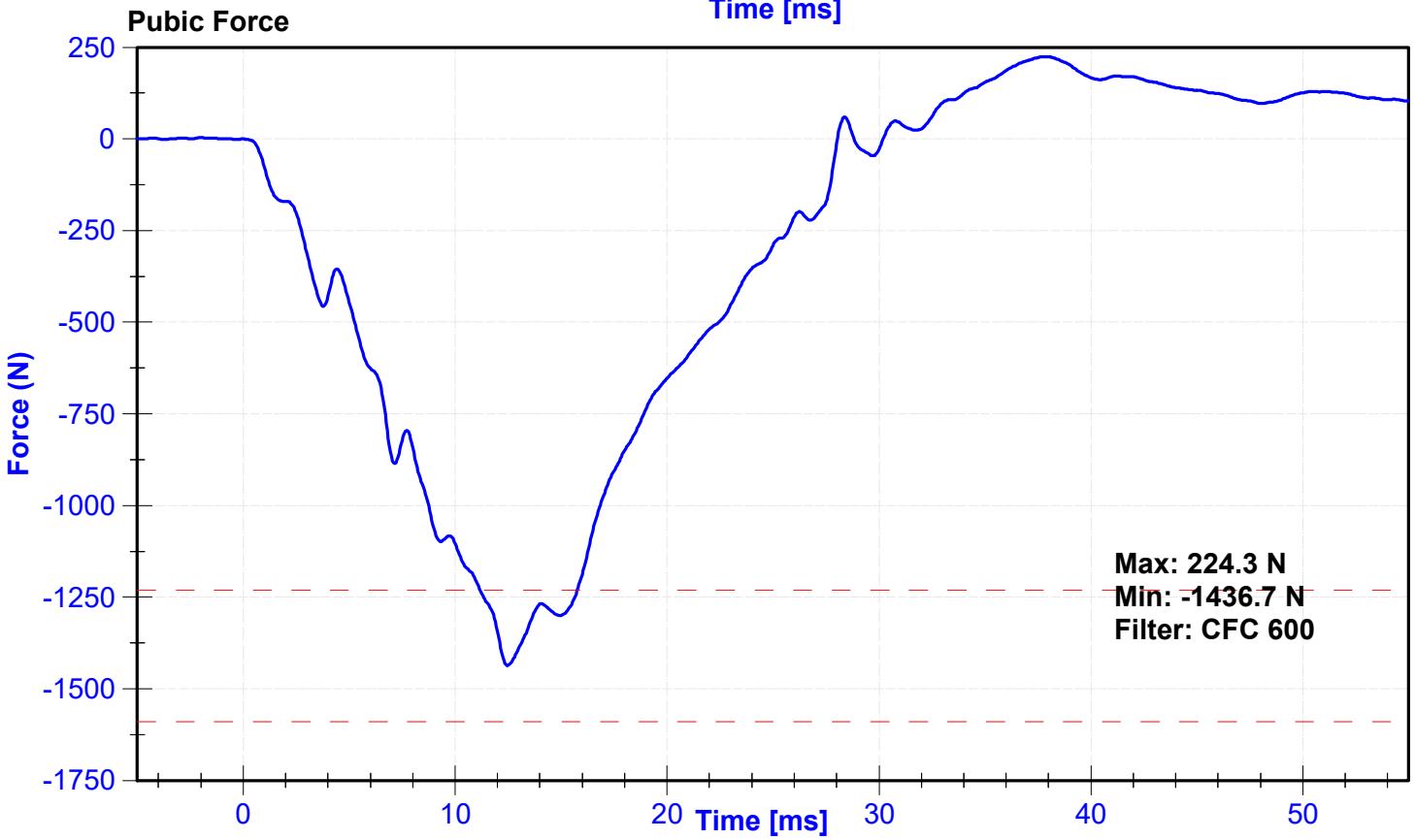
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	22.1	Pass
Humidity	10	70	%	55	Pass
Velocity	4.2	4.4	m/s	4.28	Pass
Resistive Force	4700	5400	N	4730.1	Pass
Time at Peak Resistive Force	11.8	16.1	ms	12.10	Pass
Pubic Force	-1590	-1230	N	-1436.7	Pass
Time at Peak Pubic Force	12.2	17.0	ms	12.45	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pubic Load Cell	Denton	458-FY	10/28/2024	10/28/2025




Resistive Force
Max: 4730.1 N
Min: -7.7 N
Filter: CFC 180
Force (N)
6000
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]


Pubic Force
Max: 224.3 N
Min: -1436.7 N
Filter: CFC 600
Force (N)
250
0
-250
-500
-750
-1000
-1250
-1500
-1750
0
10
20
30
40
50
Time [ms]

CALIBRATION TEST RESULTS

POST-TEST

SID-IIS 5TH PERCENTILE FEMALE – PASSENGER ATD

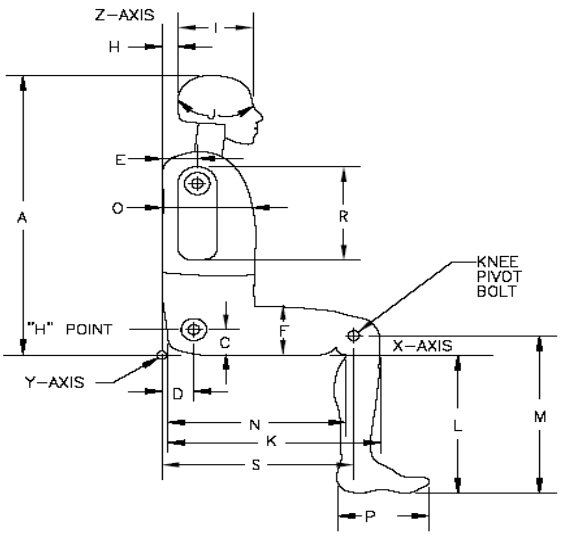
SERIAL NO:DG8012

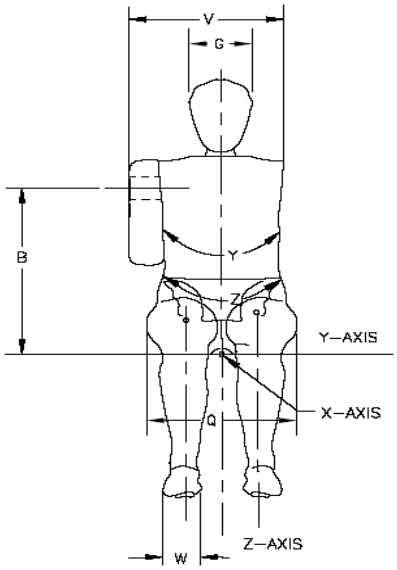
(CONFIGURED FOR LEFT SIDE IMPACT)

External Measurements - SID-IIs

Technician: J. Rios Date: 8/14/2025

Dummy Serial Number: DG8012





Symbol	Description	Specification (mm)		Result (mm)	Pass/Fail
A	Sitting Height	772	788	783	Pass
B	Shoulder Pivot Height	437	453	446	Pass
C	H-point Height	79	89	85	Pass
D	H-point from seatback	141	151	149	Pass
E	Shoulder Pivot from Backline	97	107	102	Pass
F	Thigh Clearance	119	135	122	Pass
G	Head Breadth	140	148	145	Pass
H	Head Back from Backline	40	46	44	Pass
I	Head Depth	178	188	182	Pass
J	Head Circumference	541	551	549	Pass
K	Buttock to Knee Length	514	540	525	Pass
L	Popliteal Height	343	369	355	Pass
M	Knee Pivot to floor height	392	409	402	Pass
N	Buttock Popliteal Length	416	442	427	Pass
O	Chest Depth w/o jacket	195	211	205	Pass
P	Foot Length	216	232	226	Pass
Q	Hip Breadth (w/pelvic plugs)	313	323	315	Pass
R	Arm Length	249	259	256	Pass
S	Knee Joint to seatback	477	493	484	Pass
V	Shoulder Width	341	357	352	Pass
W	Foot Width	78	94	87	Pass
Y	Chest Circumference w/jacket	851	881	868	Pass
Z	Waist Circumference	761	791	778	Pass

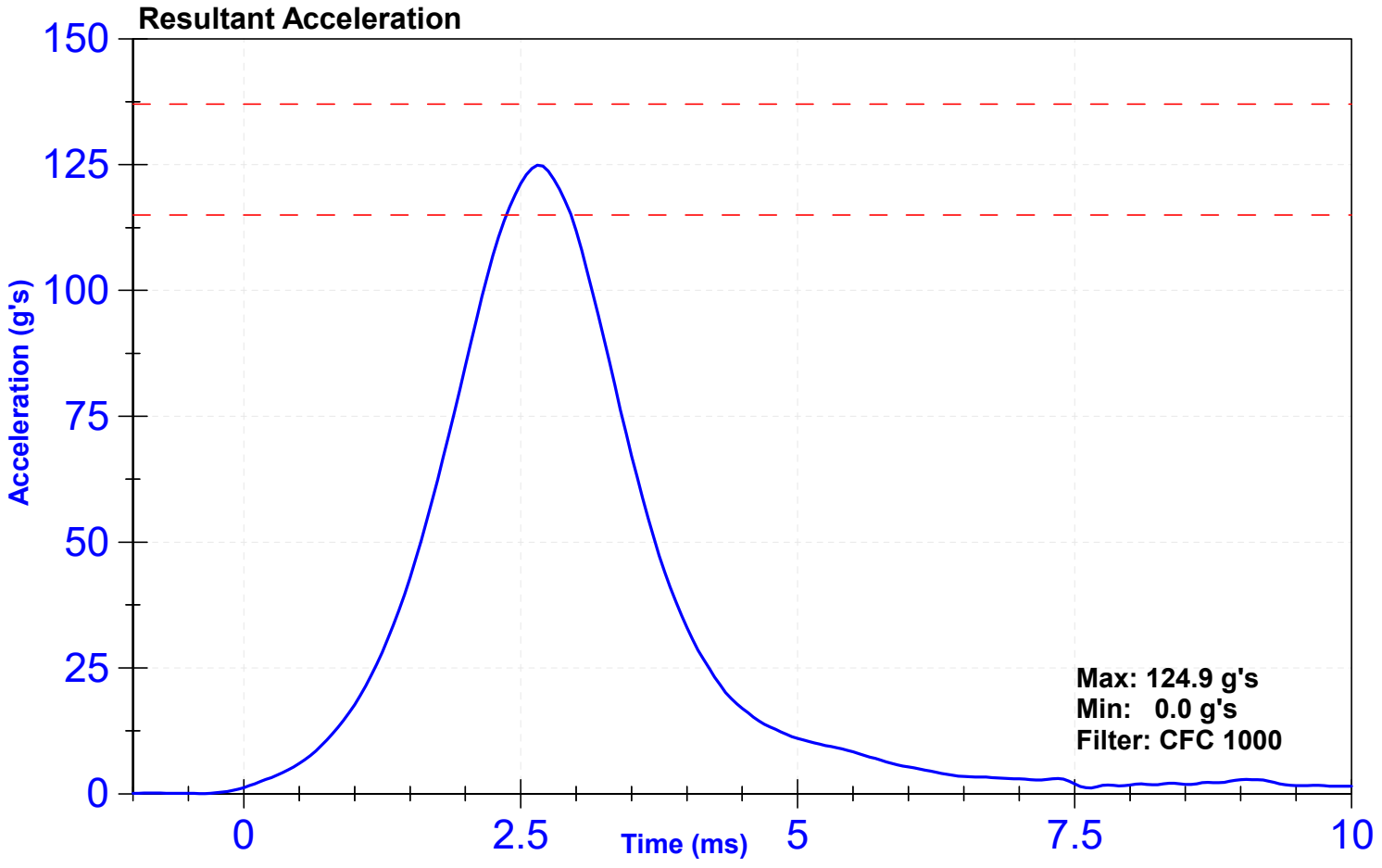
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

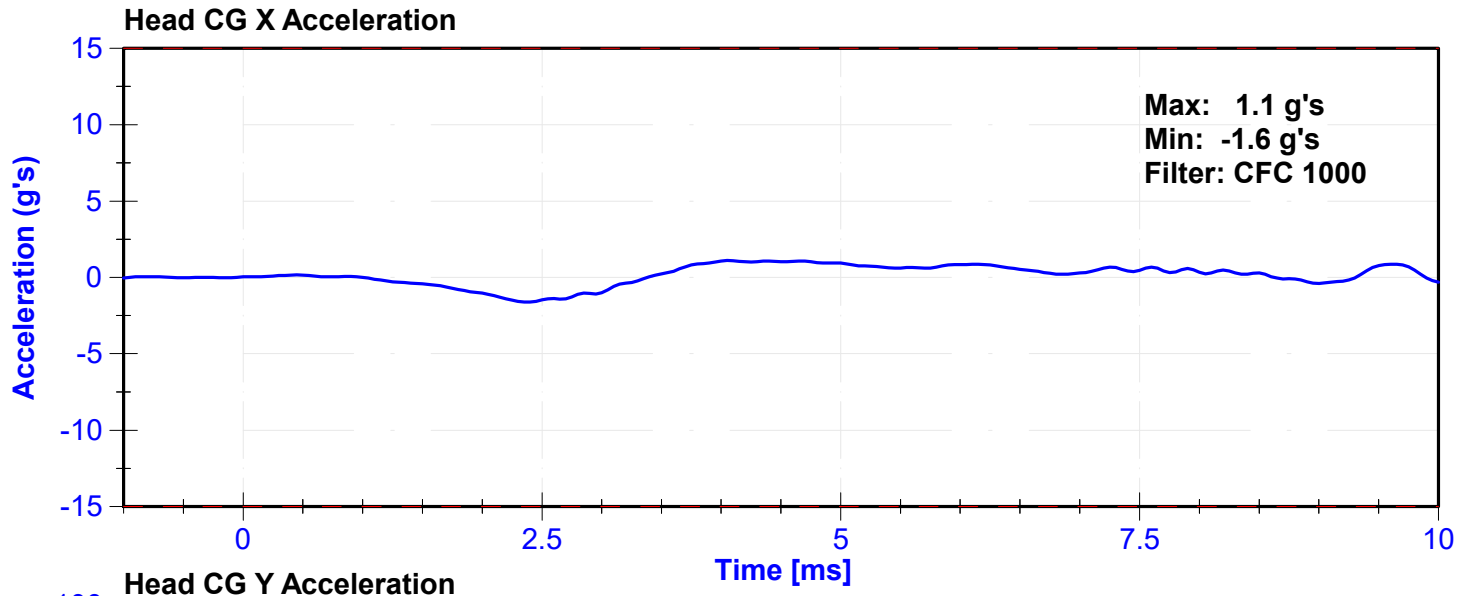
Results

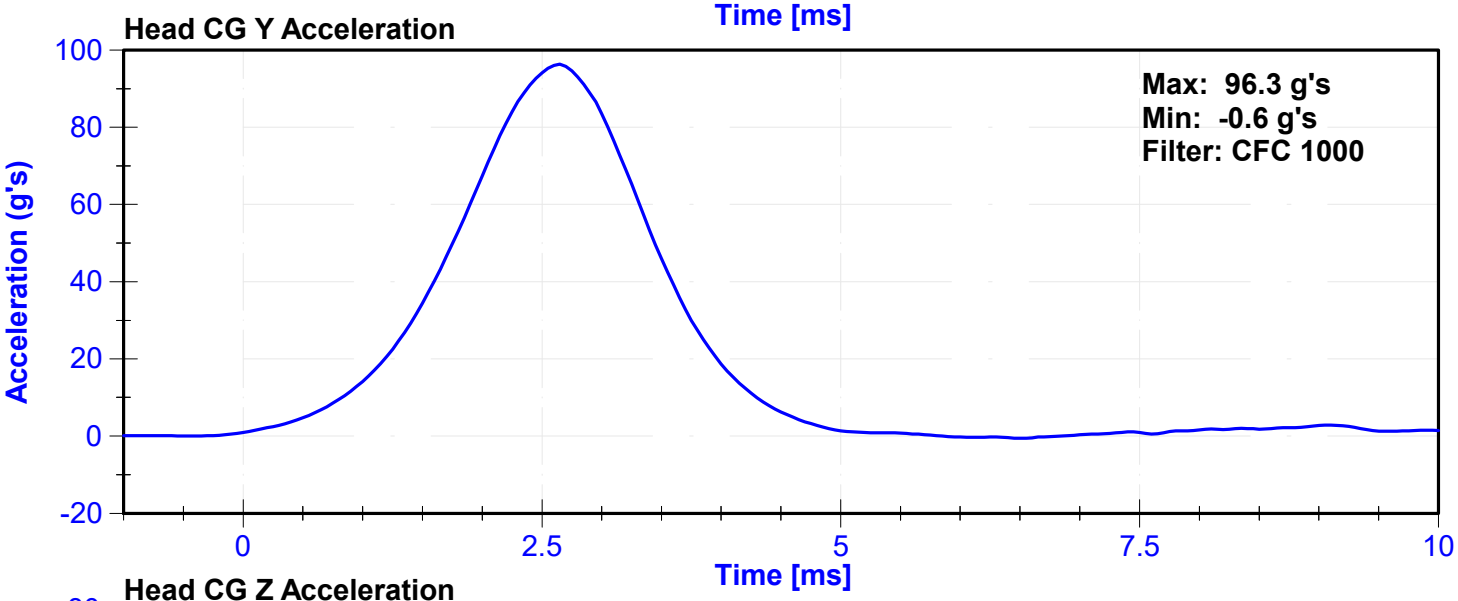
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.6	Pass
Humidity	10	70	%	55	Pass
Resultant Acceleration	115	137	g's	124.9	Pass
Oscillation	0	15	%	2.6	Pass
Fore-Aft Acceleration	-15	15	g's	-1.6	Pass

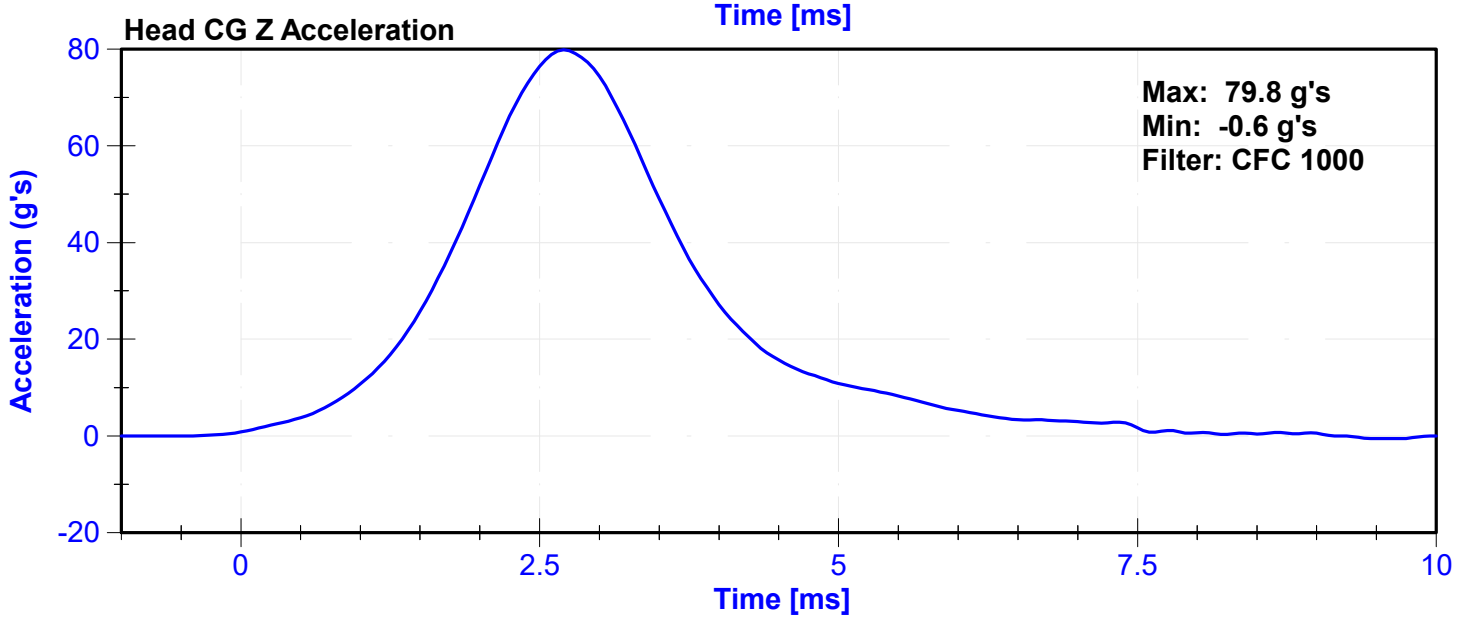
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibratio Date	Calibratio Due Date
X Accelerometer	Endevco	T21184	7/2/2025	12/29/2025
Y Accelerometer	Endevco	T31030	7/2/2025	12/29/2025
Z Accelerometer	Endevco	P83319	7/2/2025	12/29/2025




Head CG X Acceleration
Max: 1.1 g's
Min: -1.6 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]


Head CG Y Acceleration
Max: 96.3 g's
Min: -0.6 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]


Head CG Z Acceleration
Max: 79.8 g's
Min: -0.6 g's
Filter: CFC 1000
Acceleration (g's)
Time [ms]

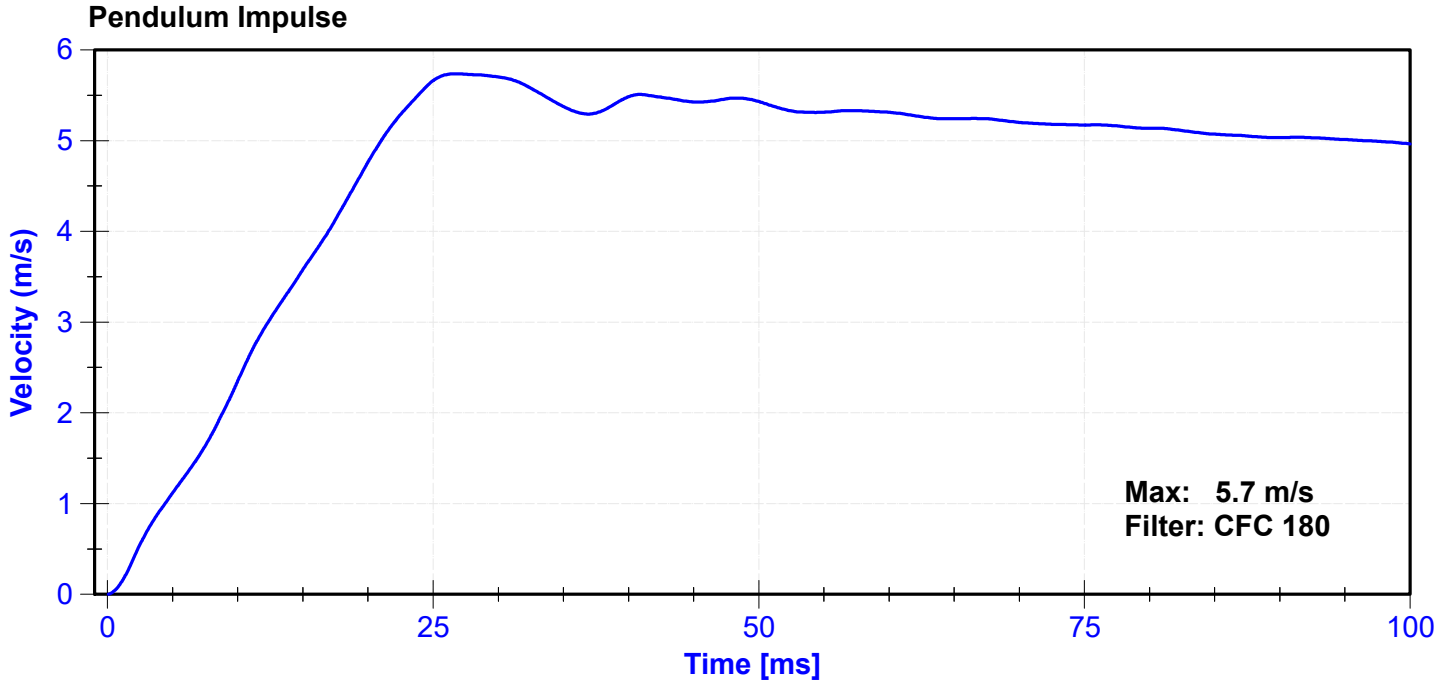
ATD Manufacturer	FTSS	Test Technician	K. Konieczny
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

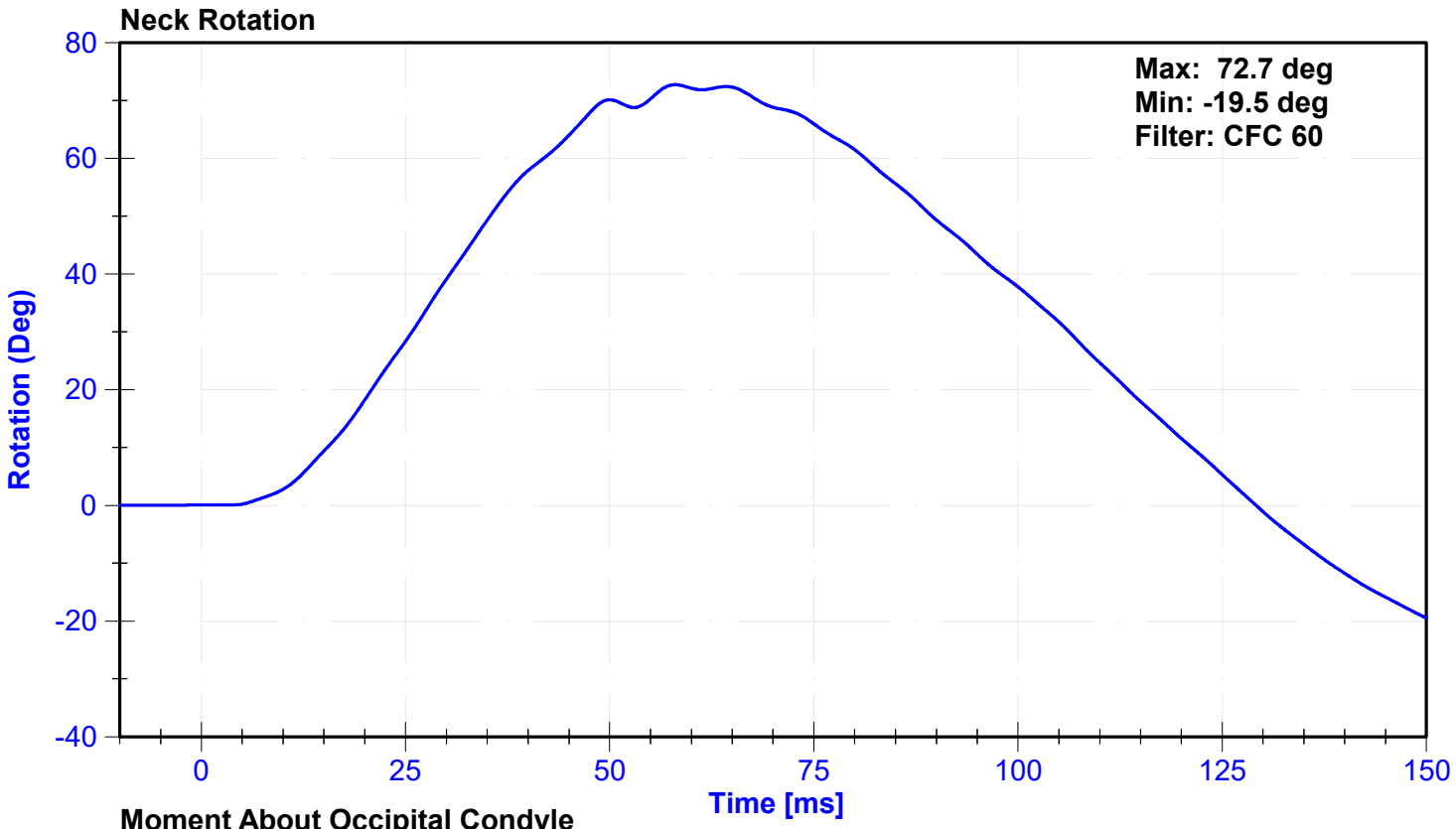
Results

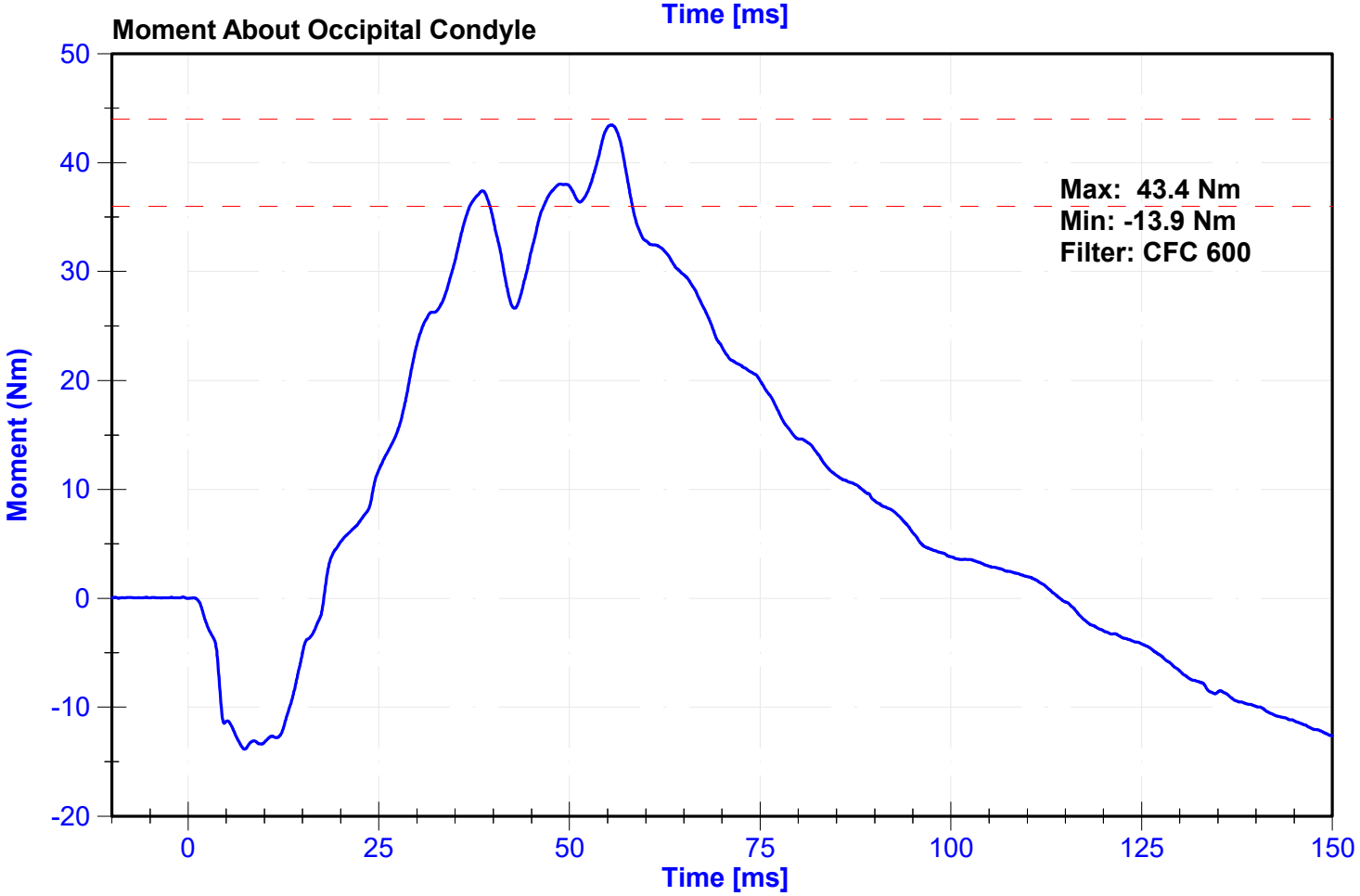
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.5	Pass
Humidity	10	70	%	65	Pass
Velocity	5.51	5.63	m/s	5.514	Pass
Pendulum Impulse at 10ms	2.2	2.8	m/s	2.35	Pass
Pendulum Impulse at 15ms	3.3	4.1	m/s	3.58	Pass
Pendulum Impulse at 20ms	4.4	5.4	m/s	4.76	Pass
Pendulum Impulse at 25ms	5.4	6.1	m/s	5.66	Pass
Pendulum Impulse from 25 to 100ms	5.5	6.2	m/s	5.73	Pass
Neck Rotation	71	81	deg	72.7	Pass
Time at Maximum Rotation	50	70	ms	58.0	Pass
Moment about the OC	36	44	Nm	43.4	Pass
Moment Decay to 0 Nm	102	126	ms	114.3	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	7231C-750	10/17/2024	10/17/2025
Pendulum Potentiometer	Servo	4961	9/23/2024	9/23/2025
Condyle Potentiometer	Servo	DS185	9/23/2024	9/23/2025
Upper Neck Load Cell	Denton	1716ATF_2184-FY	7/8/2025	7/8/2026




Neck Rotation
Max: 72.7 deg
Min: -19.5 deg
Filter: CFC 60
Rotation (Deg)
80
60
40
20
0
-20
-40
0
25
50
75
100
125
150
Time [ms]


Moment About Occipital Condyle
Max: 43.4 Nm
Min: -13.9 Nm
Filter: CFC 600
Moment (Nm)
50
40
30
20
10
0
-10
-20
0
25
50
75
100
125
150
Time [ms]

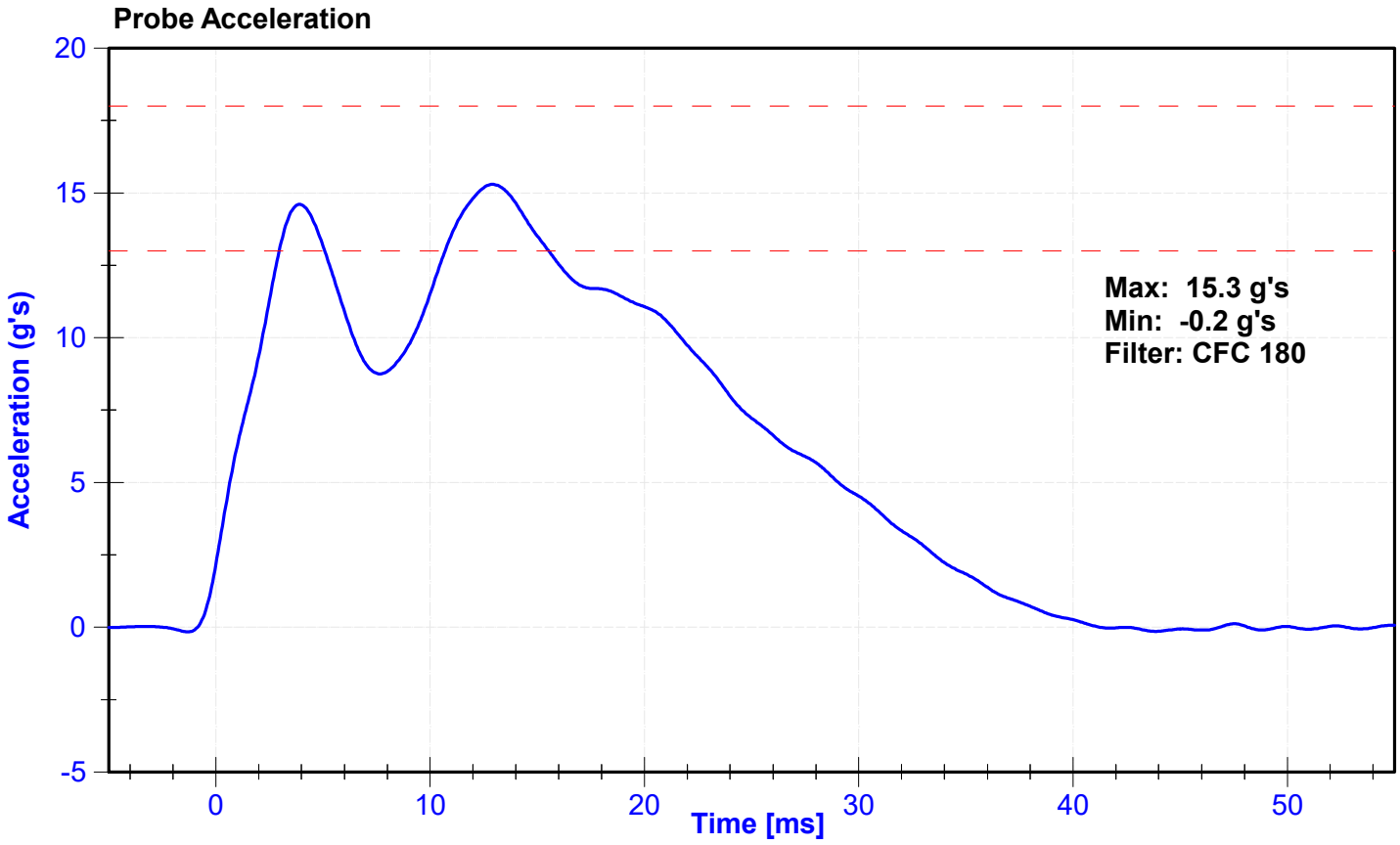
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

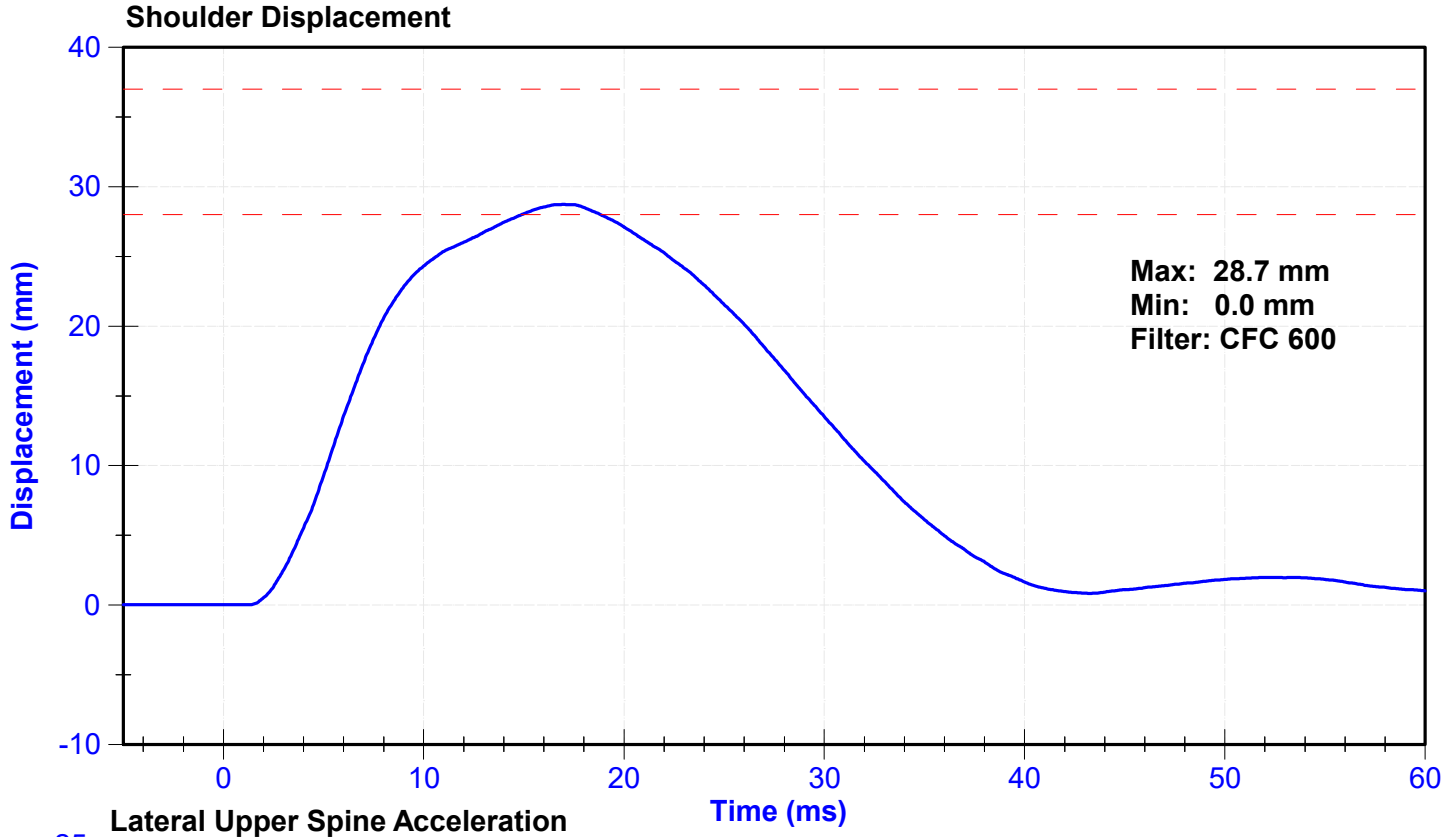
Results

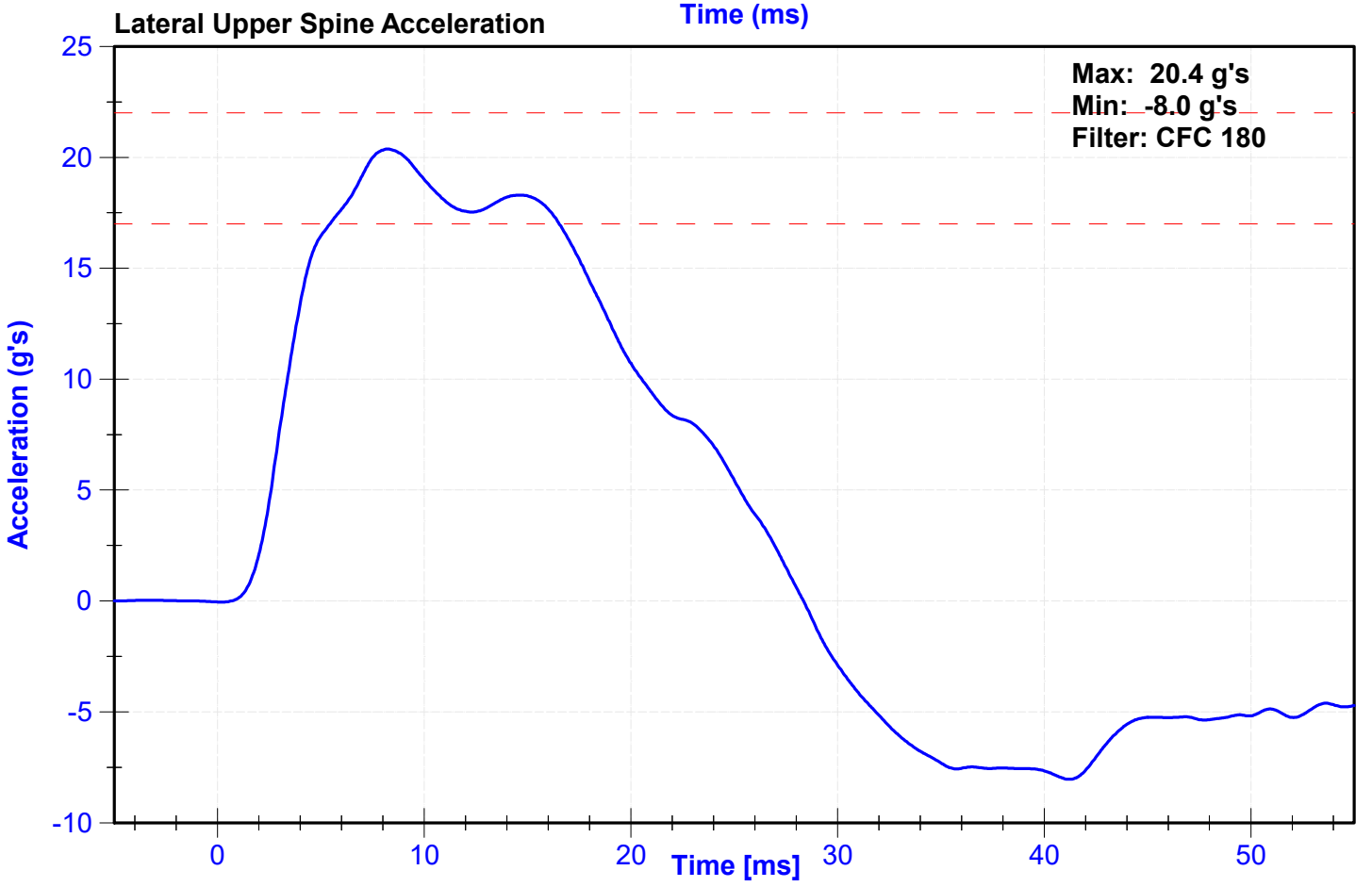
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	4.2	4.4	m/s	4.28	Pass
Probe Acceleration	13	18	g's	15.3	Pass
Shoulder Deflection	28	37	mm	28.7	Pass
Lateral Upper Spine Acceleration	17	22	g's	20.4	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Shoulder Potentiometer	Servo	1274GFE	7/8/2025	1/6/2026
Upper Spine Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025




Shoulder Displacement
Displacement (mm)
Time (ms)
Max: 28.7 mm
Min: 0.0 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 20.4 g's
Min: -8.0 g's
Filter: CFC 180

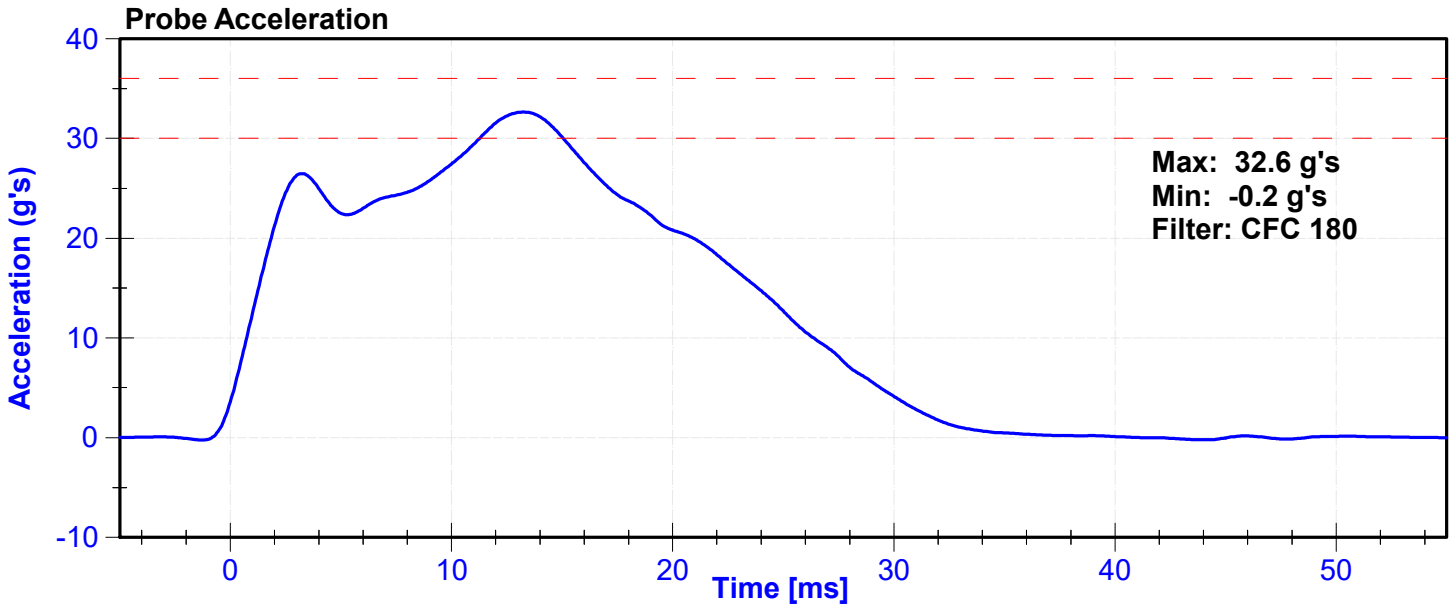
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

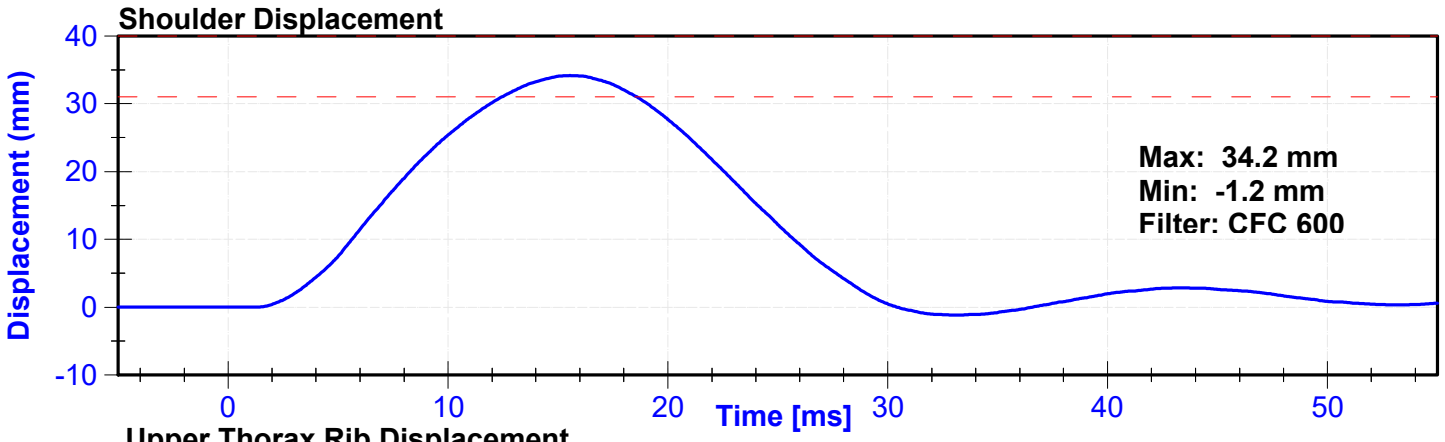
Results

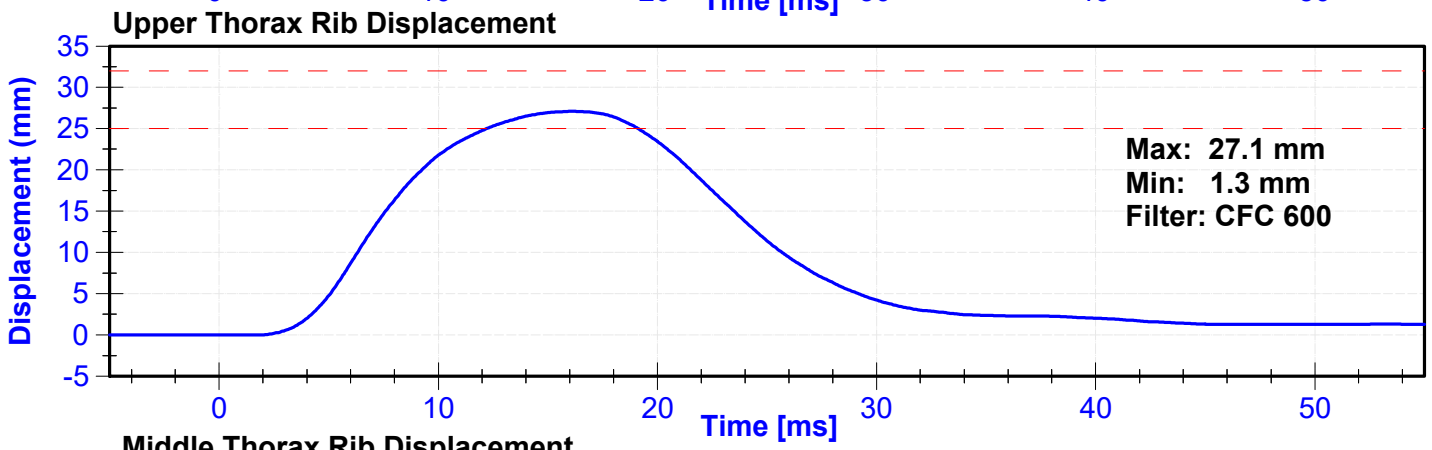
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	6.6	6.8	m/s	6.71	Pass
Probe Acceleration after 5 ms	30	36	g's	32.6	Pass
Lateral Upper Spine Acceleration	34	43	g's	38.6	Pass
Lateral Lower Spine Acceleration	29	37	g's	33.2	Pass
Shoulder Deflection	31	40	mm	34.2	Pass
Upper Thorax Rib Deflection	25	32	mm	27.1	Pass
Mid Thorax Rib Deflection	30	36	mm	32.2	Pass
Lower Thorax Rib Deflection	32	38	mm	35.5	Pass

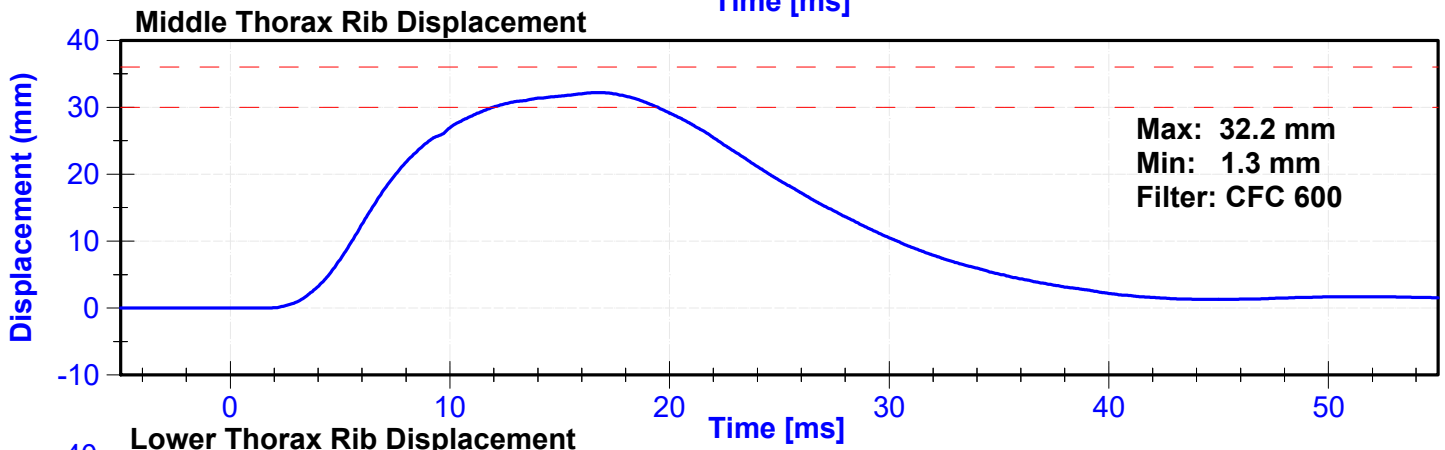
Transducer Calibrations

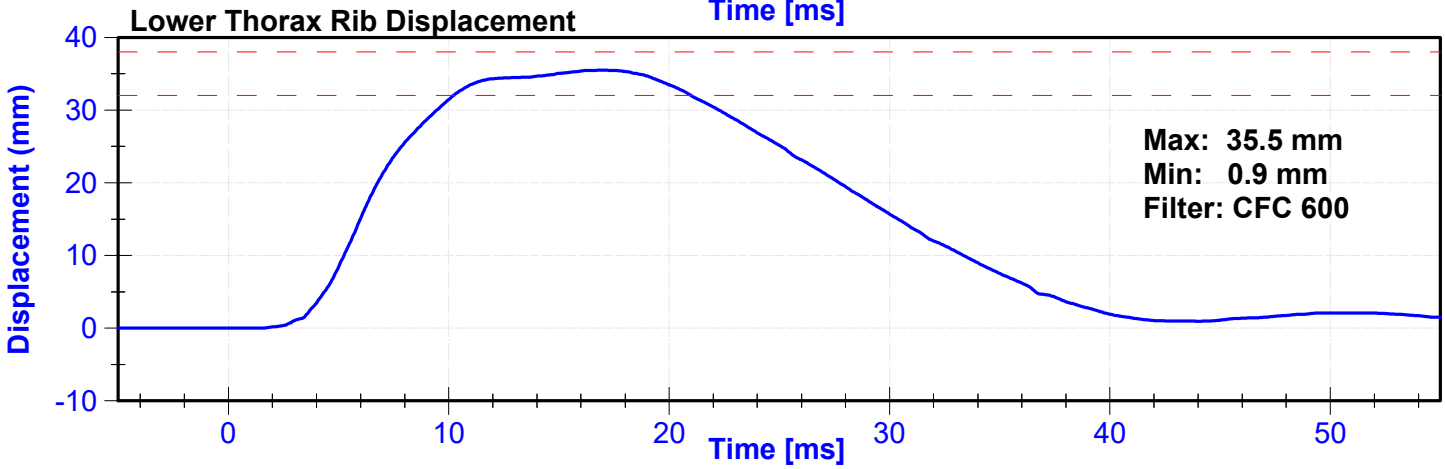
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Spine T1 Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025
Upper Spine T12 Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Shoulder Potentiometer	Servo	1274GFE	7/8/2025	1/6/2026
Upper Thorax Rib Potentiometer	Servo	1199GFE	7/8/2025	1/6/2026
Middle Thorax Rib Potentiometer	Servo	1246GFE	7/8/2025	1/6/2026
Lower Thorax Rib Potentiometer	Servo	011GFE	7/8/2025	1/6/2026

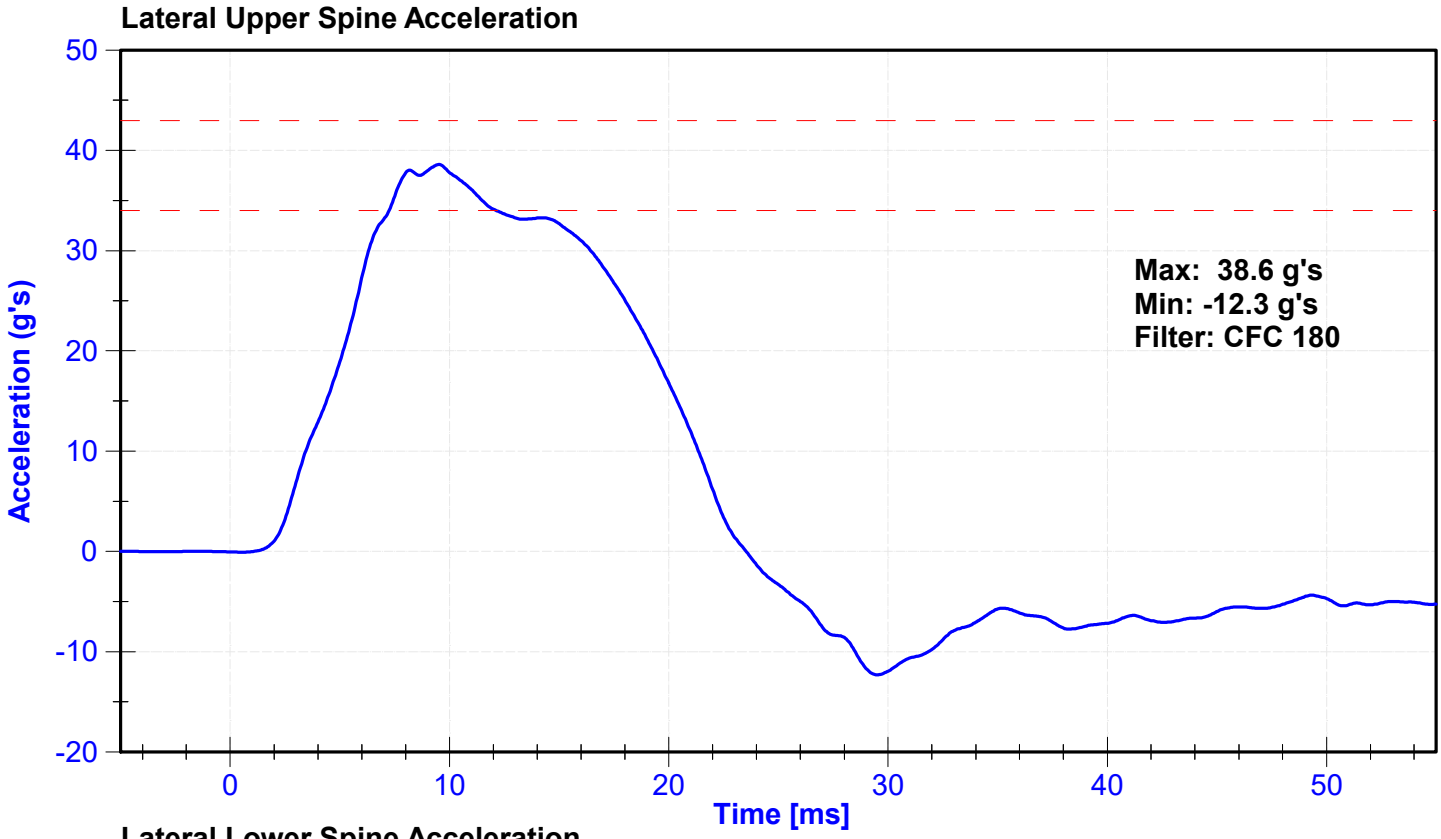


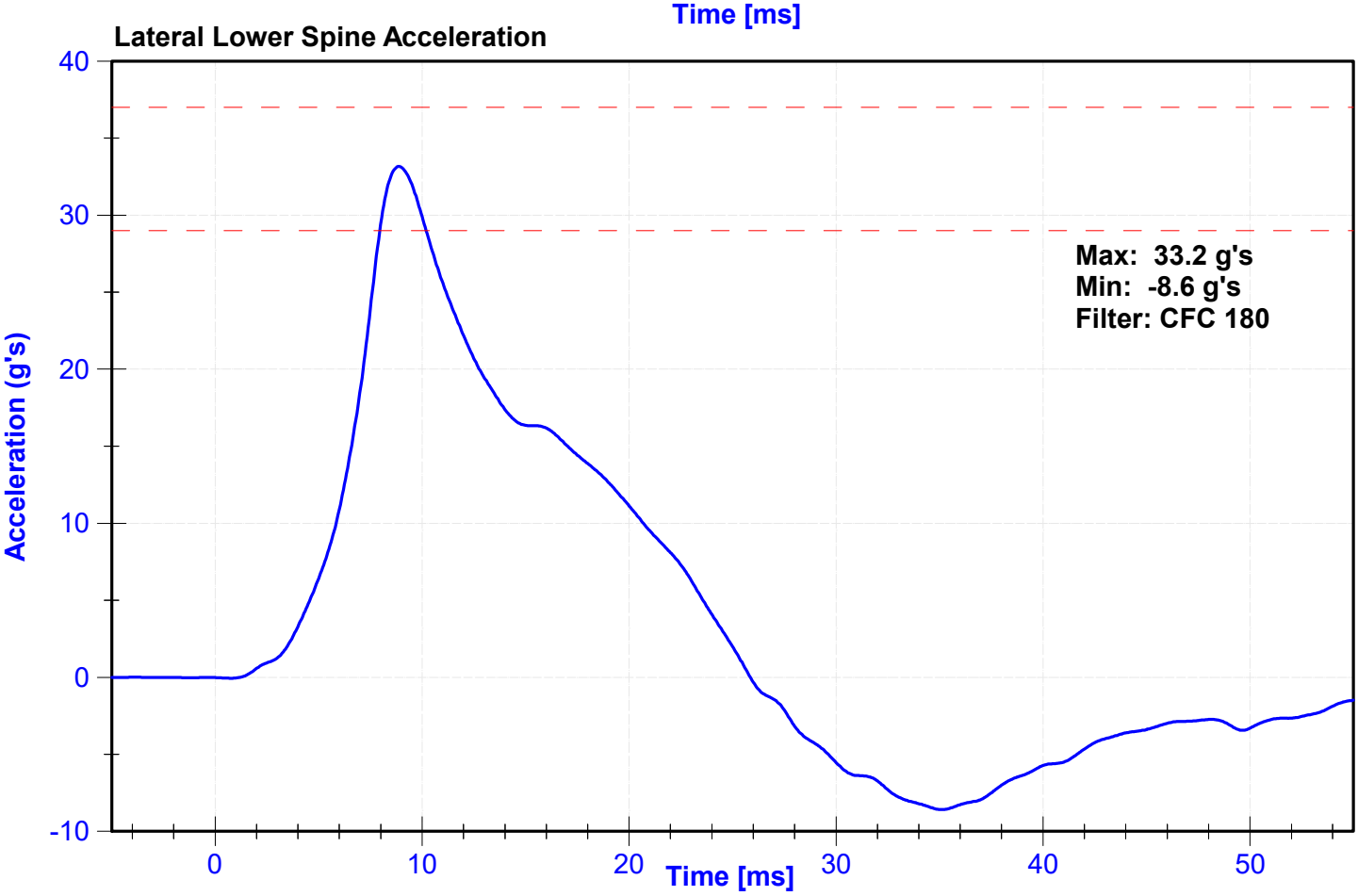

Shoulder Displacement
Displacement (mm)
Time [ms]
Max: 34.2 mm
Min: -1.2 mm
Filter: CFC 600


Upper Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 27.1 mm
Min: 1.3 mm
Filter: CFC 600


Middle Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 32.2 mm
Min: 1.3 mm
Filter: CFC 600


Lower Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 35.5 mm
Min: 0.9 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 38.6 g's
Min: -12.3 g's
Filter: CFC 180


Lateral Lower Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 33.2 g's
Min: -8.6 g's
Filter: CFC 180

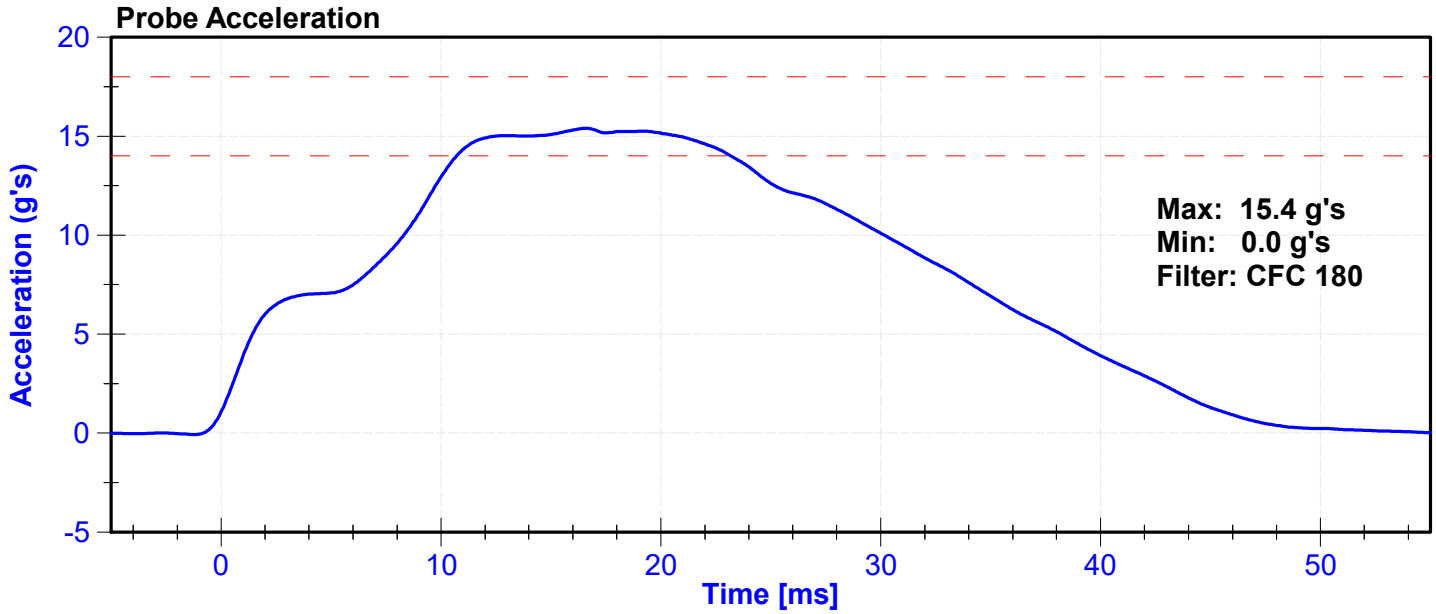
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

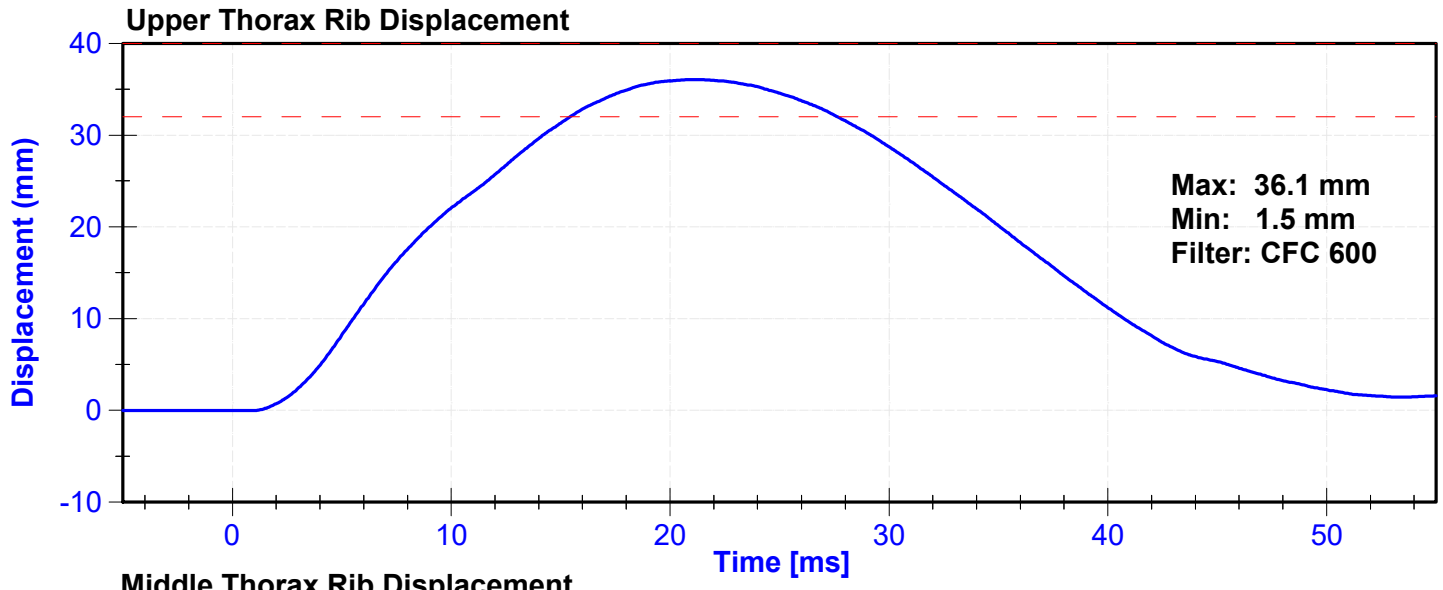
Results

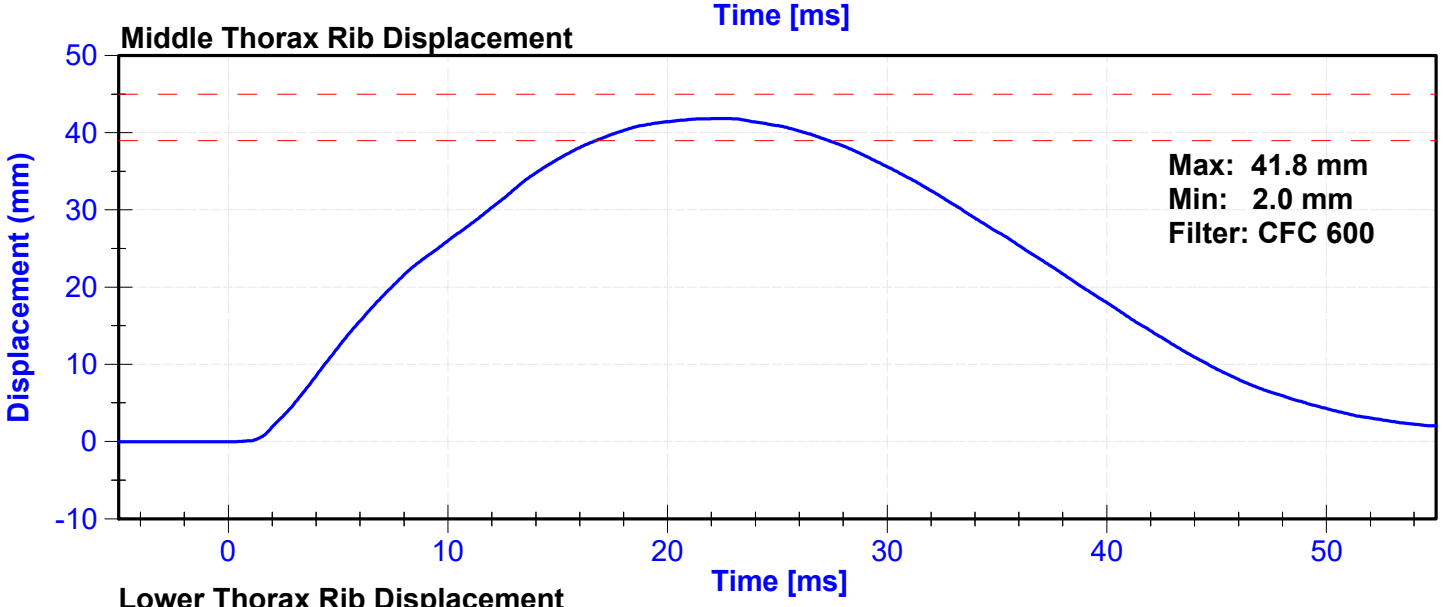
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	4.2	4.4	m/s	4.28	Pass
Probe Acceleration	14	18	g's	15.4	Pass
Lateral Upper Spine Acceleration	13	17	g's	14.3	Pass
Lateral Lower Spine Acceleration	7	11	g's	9.1	Pass
Upper Thorax Rib Deflection	32	40	mm	36.1	Pass
Middle Thorax Rib Deflection	39	45	mm	41.8	Pass
Lower Thorax Rib Deflection	35	43	mm	40.8	Pass

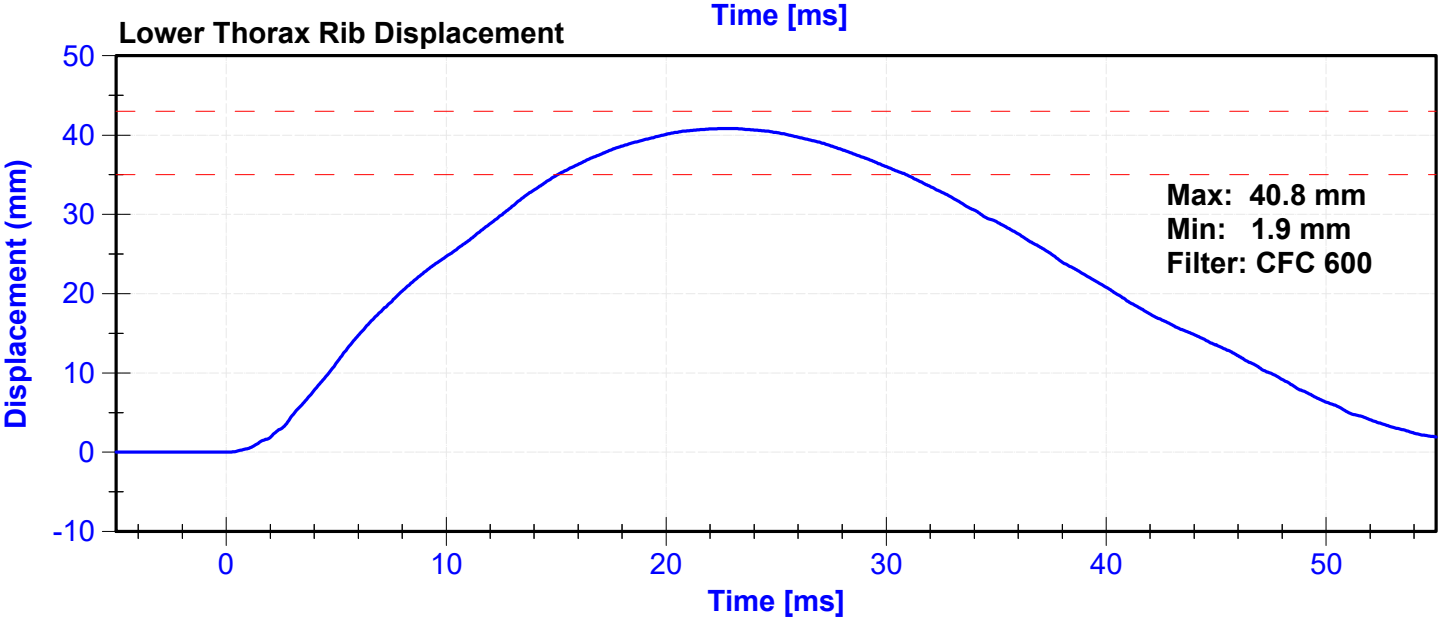
Transducer Calibrations

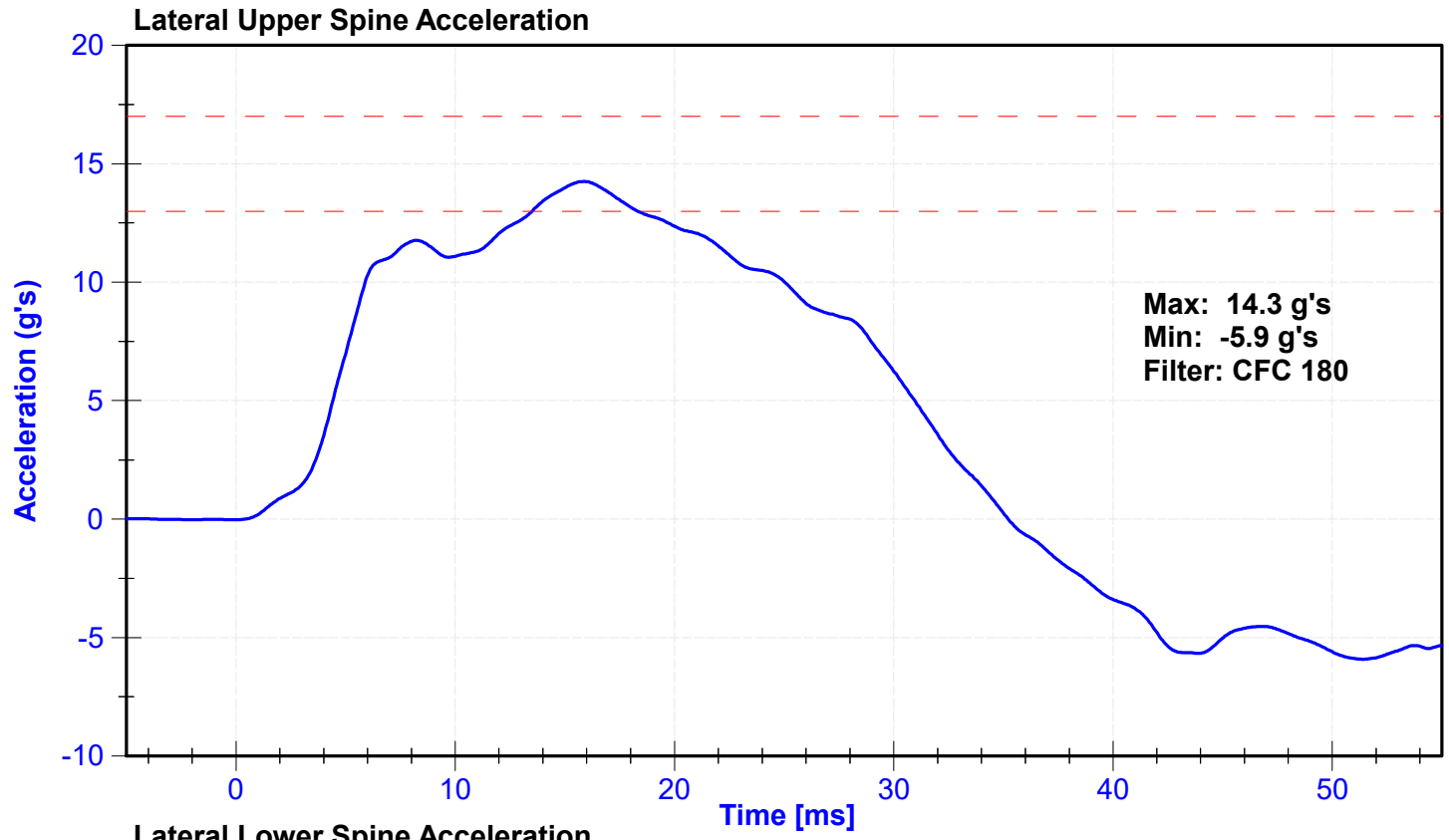
Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Upper Spine Y Accelerometer	Endevco	P64148	7/2/2025	12/29/2025
Lower Spine Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Upper Thorax Rib Potentiometer	Servo	1199GFE	7/8/2025	1/6/2026
Middle Thorax Rib Potentiometer	Servo	1246GFE	7/8/2025	1/6/2026
Lower Thorax Rib Potentiometer	Servo	011GFE	7/8/2025	1/6/2026

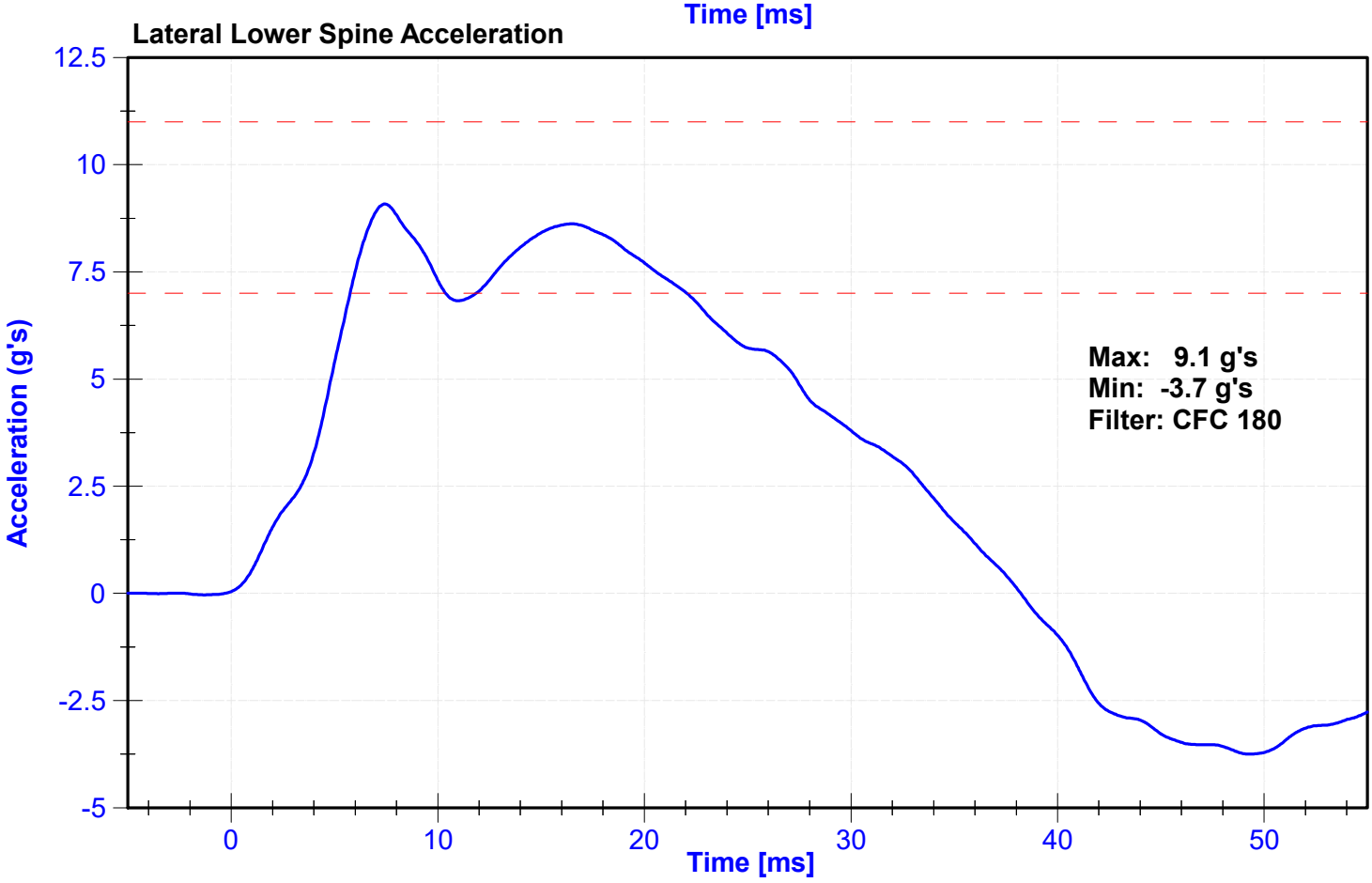



Upper Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 36.1 mm
Min: 1.5 mm
Filter: CFC 600


Middle Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 41.8 mm
Min: 2.0 mm
Filter: CFC 600


Lower Thorax Rib Displacement
Displacement (mm)
Time [ms]
Max: 40.8 mm
Min: 1.9 mm
Filter: CFC 600


Lateral Upper Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 14.3 g's
Min: -5.9 g's
Filter: CFC 180


Lateral Lower Spine Acceleration
Acceleration (g's)
Time [ms]
Max: 9.1 g's
Min: -3.7 g's
Filter: CFC 180

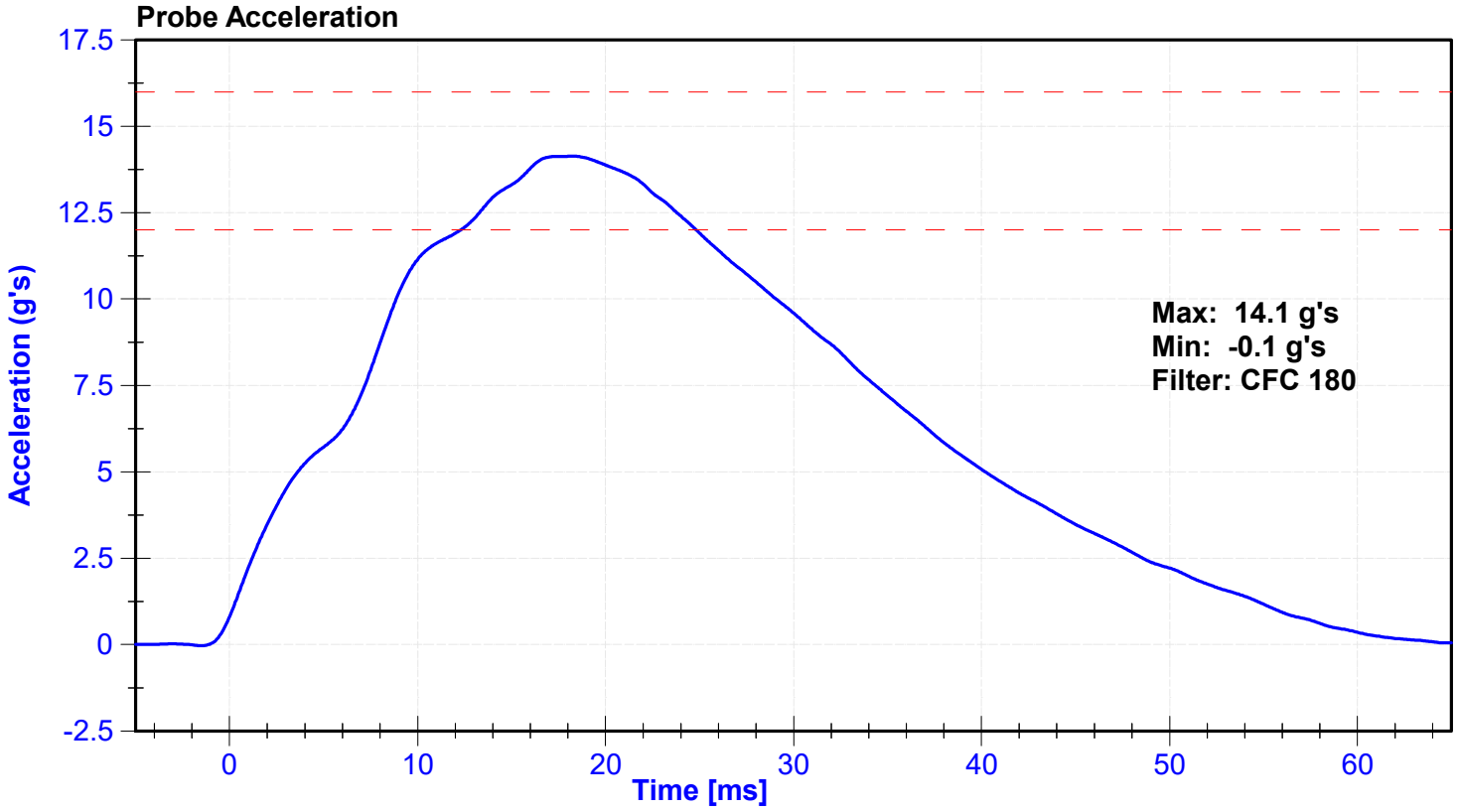
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

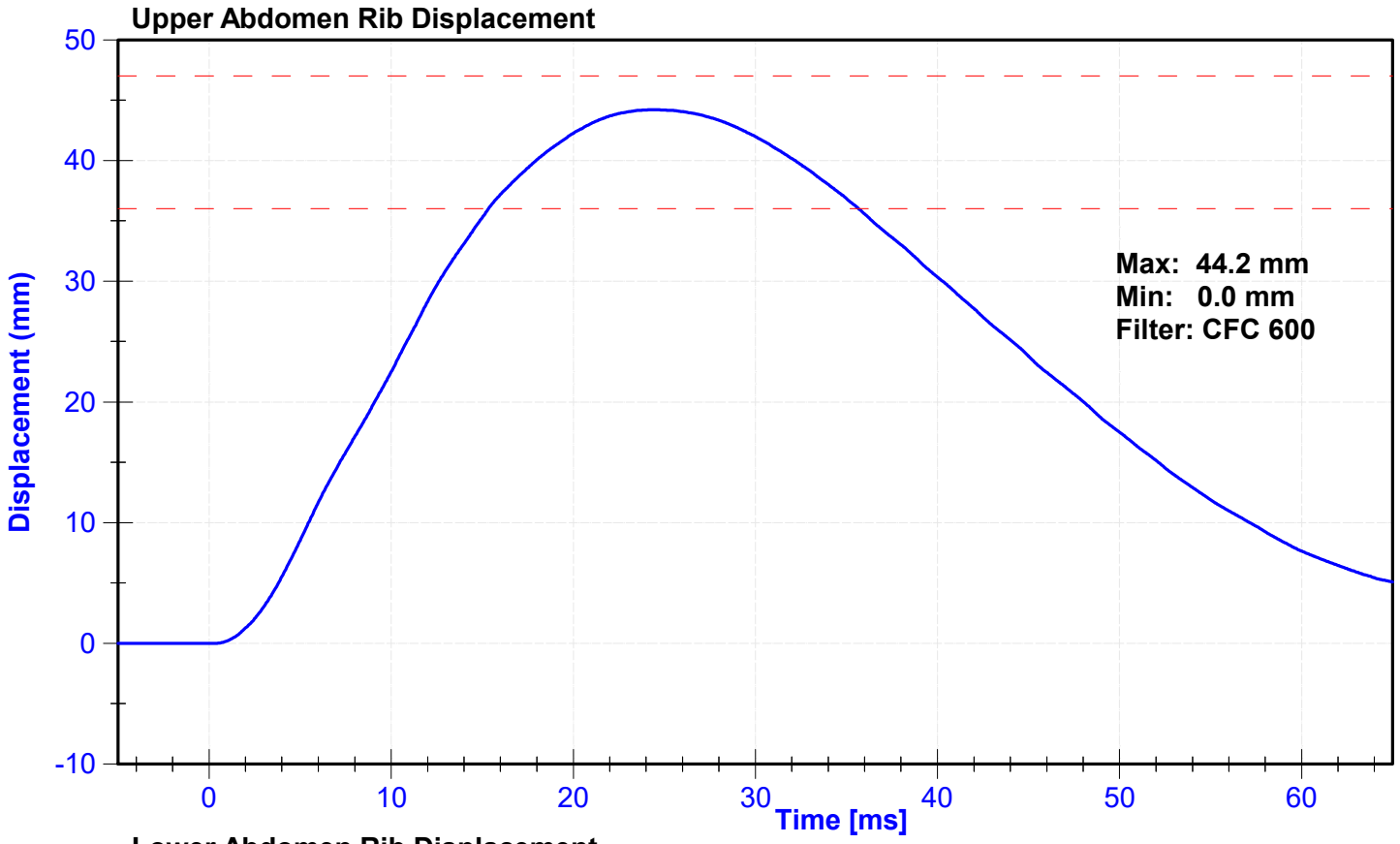
Results

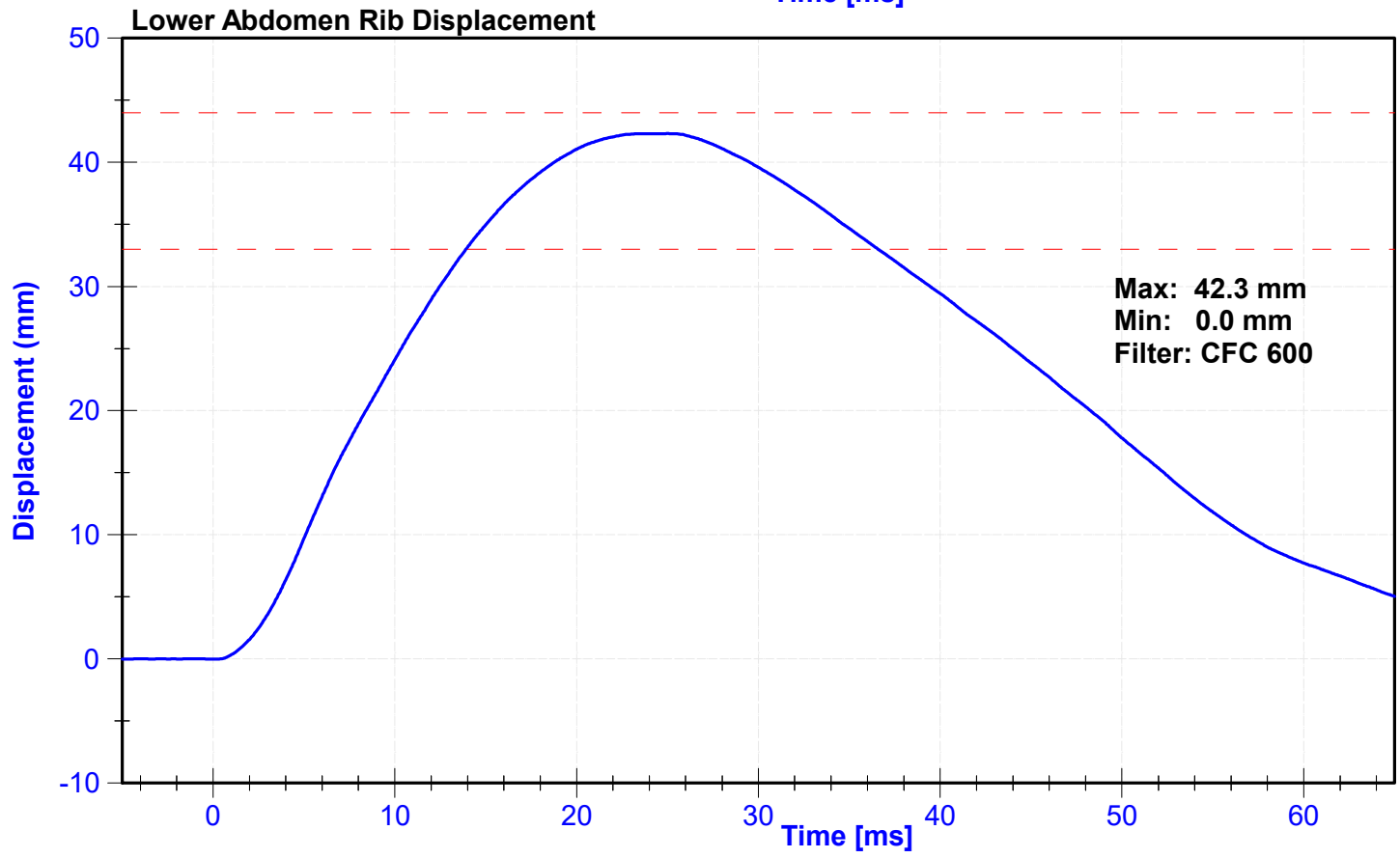
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	4.2	4.4	m/s	4.28	Pass
Probe Acceleration	12	16	g's	14.1	Pass
Lateral Lower Spine Acceleration	9	14	g's	10.7	Pass
Upper Abdomen Rib Deflection	36	47	mm	44.2	Pass
Lower Abdomen Rib Deflection	33	44	mm	42.3	Pass

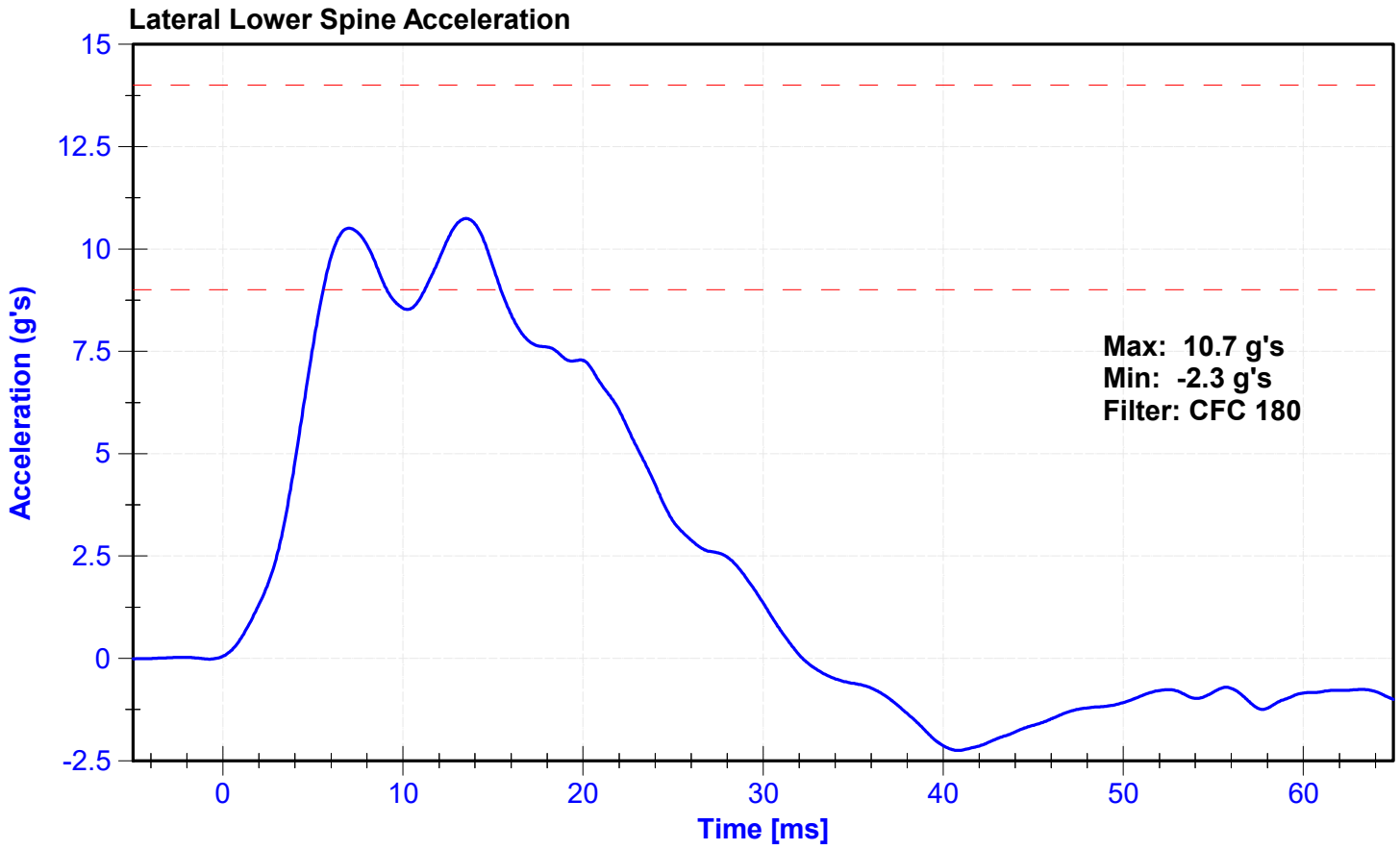
Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Probe Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Lower Spine Y Accelerometer	Endevco	P58883	7/2/2025	12/29/2025
Upper Abdomen Rib Potentiometer	Servo	008GFE	7/8/2025	1/6/2026
Lower Abdomen Rib Potentiometer	Servo	046GFE	7/8/2025	1/6/2026




Upper Abdomen Rib Displacement
Displacement (mm)
Time [ms]
Max: 44.2 mm
Min: 0.0 mm
Filter: CFC 600


Lower Abdomen Rib Displacement
Displacement (mm)
Time [ms]
Max: 42.3 mm
Min: 0.0 mm
Filter: CFC 600


Lateral Lower Spine Acceleration
Acceleration (g's)
15
12.5
10
7.5
5
2.5
0
-2.5
0
10
20
30
40
50
60
Time [ms]
Max: 10.7 g's
Min: -2.3 g's
Filter: CFC 180

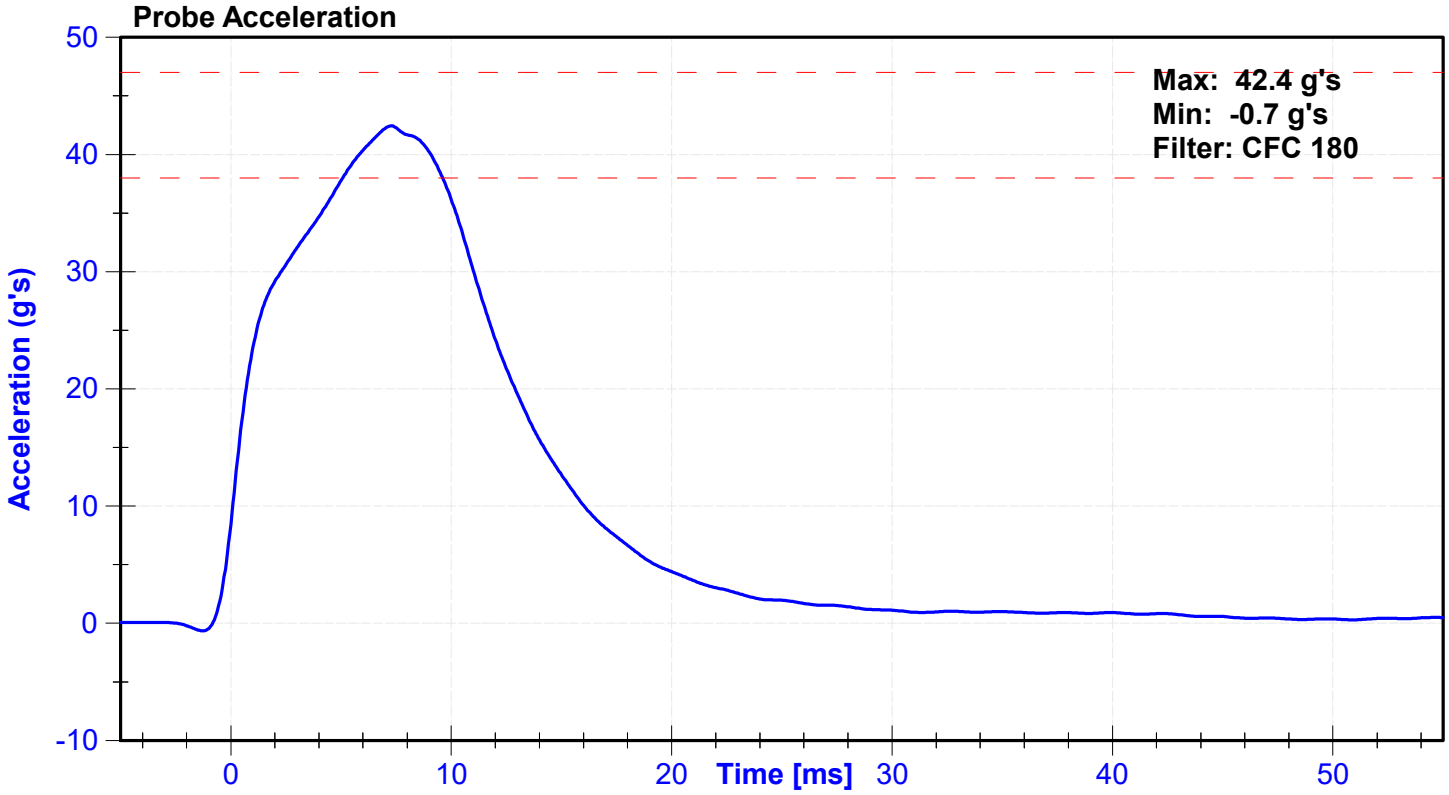
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

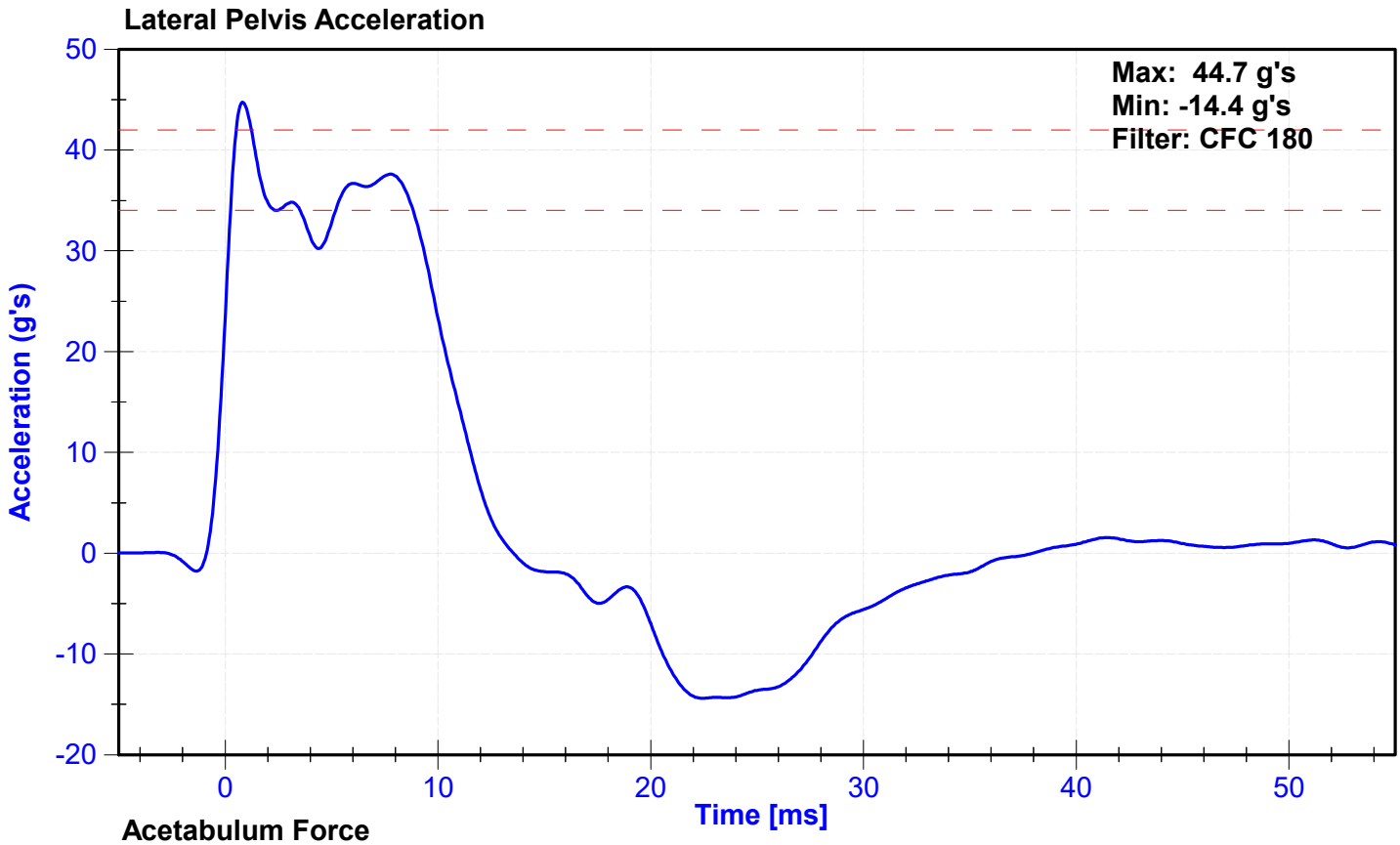
Results

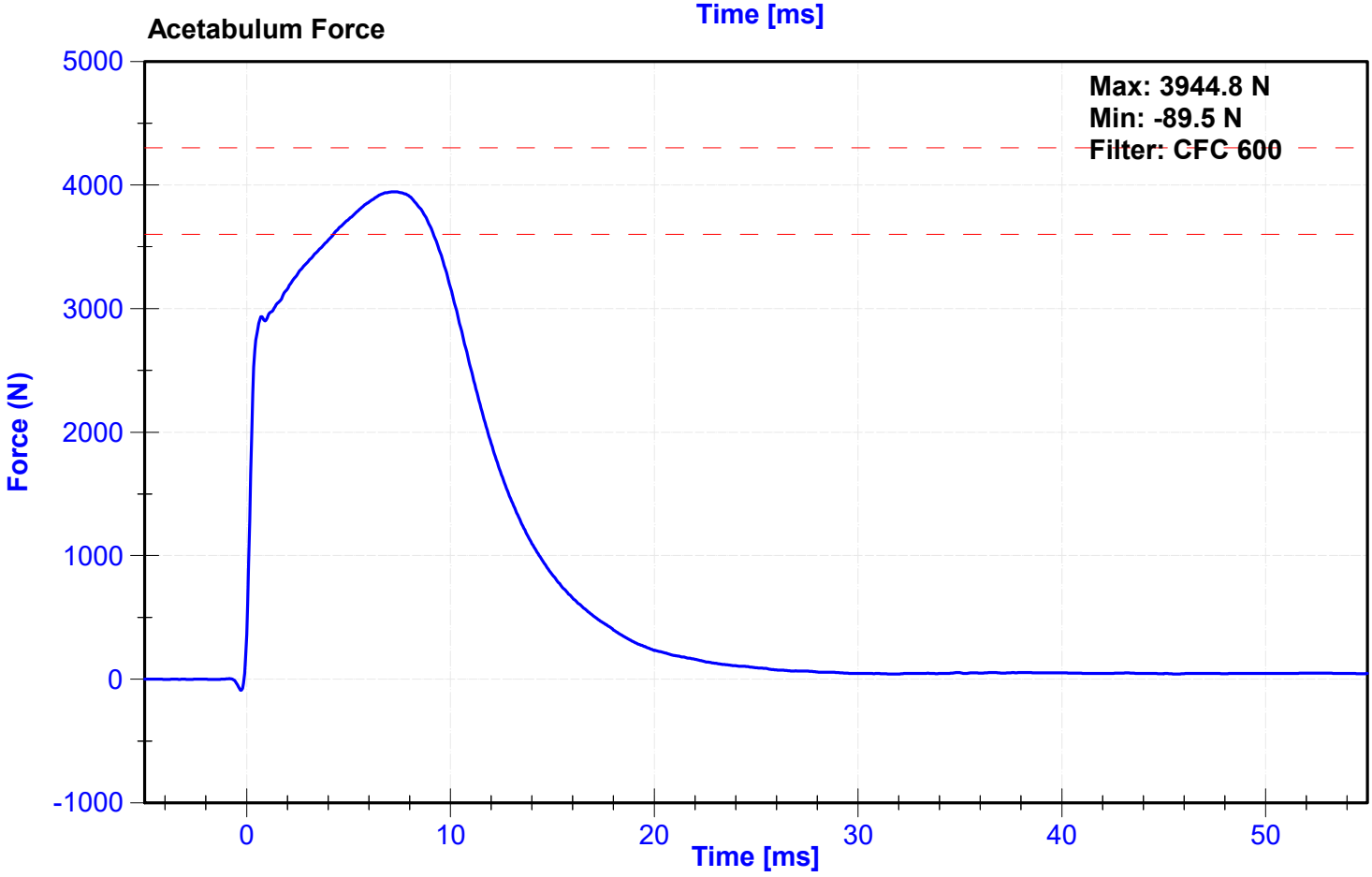
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	6.6	6.8	m/s	6.69	Pass
Probe Acceleration	38	47	g's	42.4	Pass
Lateral Pelvis Acceleration after 6ms	34	42	g's	37.6	Pass
Acetabulum Force	3600	4300	N	3944.8	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pelvis Y Accelerometer	Endevco	T20860	7/2/2025	12/29/2025
Acetabulum Load Cell	Denton	270-FY	9/16/2024	9/16/2025
Certification Plug	SACO			N/A
Crash Test Plug	SACO			N/A




Lateral Pelvis Acceleration
Max: 44.7 g's
Min: -14.4 g's
Filter: CFC 180
Acceleration (g's)
50
40
30
20
10
0
-10
-20
0
10
20
30
40
50
Time [ms]


Acetabulum Force
Max: 3944.8 N
Min: -89.5 N
Filter: CFC 600
Force (N)
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]

SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 17031
Test Number 23929
Report Number 23986
Test Date 8/19/2022 12:49:30 PM

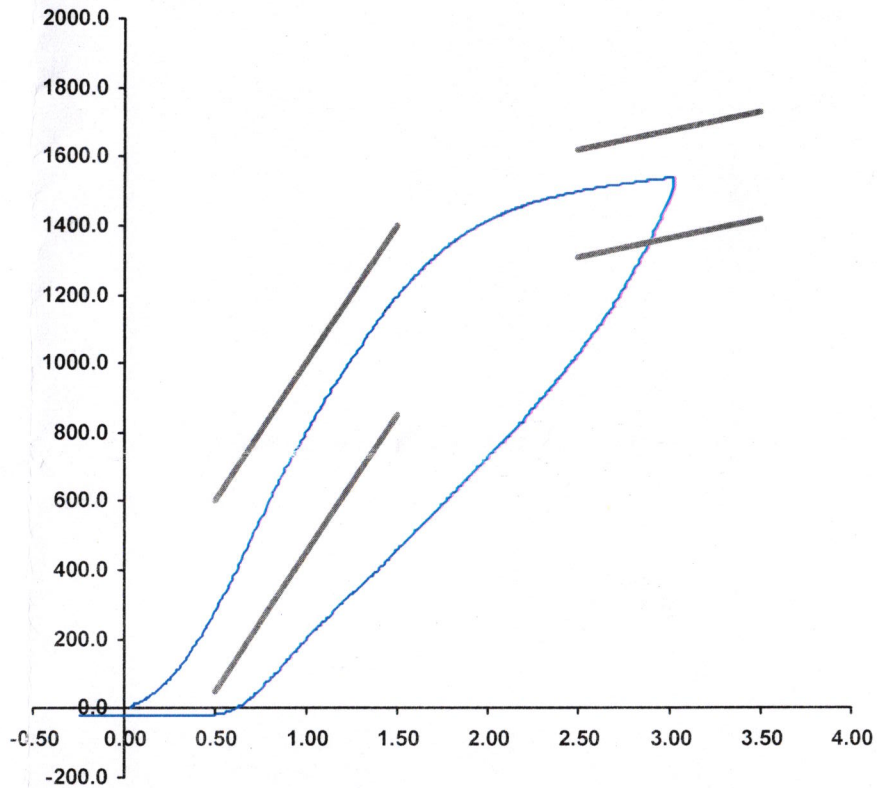
	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	287	50	600
Force @ 1.5 mm (N)	1,199	850	1,400
Force @ 2.5 mm (N)	1,498	1,306	1,618
Force @ 3.0 mm (N)	1,537	1,361	1,673

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:
Impact DG8012 8.14.25

Force (-N) vs Extension (-mm)



Operator

Part Number 180-4450

Template No 107 19-Aug-22
SACO Research

By : DC Date : 8/19/22

SACO Research 41735 Elm St, #401 Murrieta, CA 92562 Tel 310-694-2082 FAX

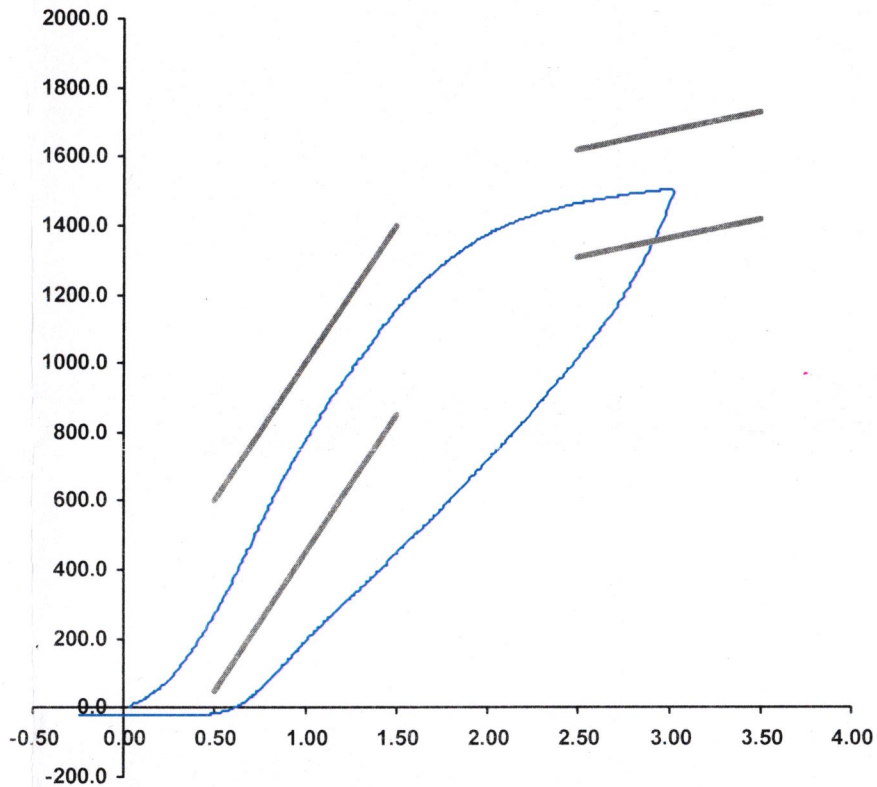
SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 17032
Test Number 23930
Report Number 23987
Test Date 8/21/2022 8:45:30 AM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	278	50	600
Force @ 1.5 mm (N)	1,156	850	1,400
Force @ 2.5 mm (N)	1,464	1,306	1,618
Force @ 3.0 mm (N)	1,503	1,361	1,673

Force (-N) vs Extension (-mm)



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:
Non-Impact D0801Z 8.14.25

Operator

Part Number 180-4450

Template No 107 21-Aug-22
SACO Research

By : DC Date : 8/21/22

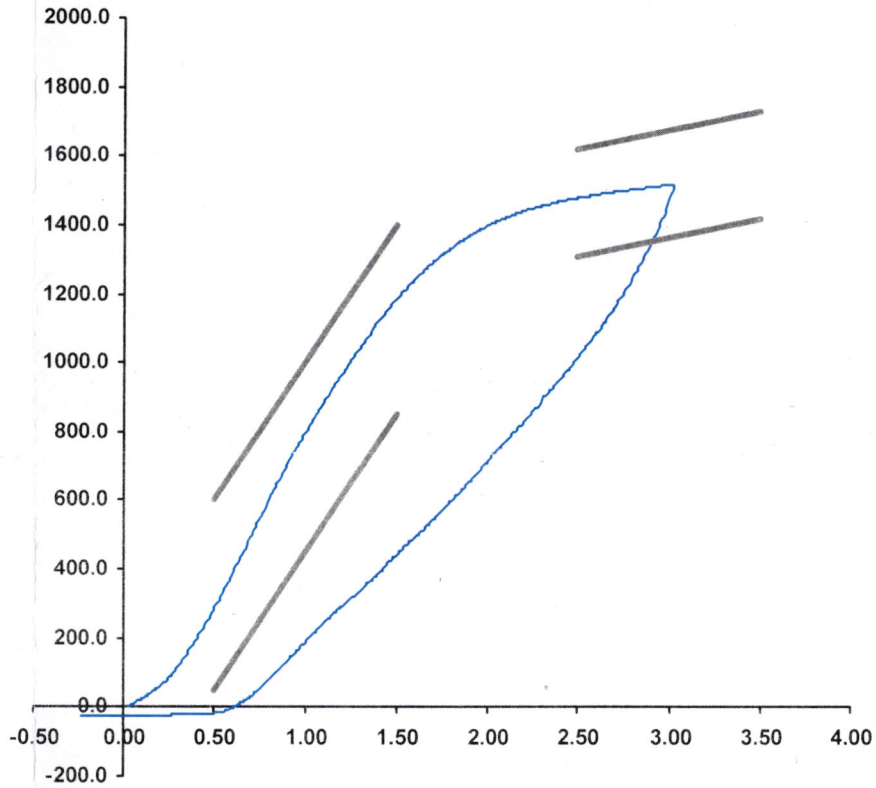
SACO RESEARCH

SID-IIs Pelvis Plug Certification Test

Plug S/N 17033
Test Number 23931
Report Number 23988
Test Date 8/21/2022 8:46:32 AM

	Test Results	Spec Min	Spec Max
Force @ 0.5 mm (N)	290	50	600
Force @ 1.5 mm (N)	1,194	850	1,400
Force @ 2.5 mm (N)	1,478	1,306	1,618
Force @ 3.0 mm (N)	1,514	1,361	1,673

Force (-N) vs Extension (-mm)



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:
Cert DG8012 8.14.25

Operator

Part Number 180-4450

Template No 107 21-Aug-22
SACO Research

By : DC Date : 8/21/22

SACO Research 41735 Elm St, #401 Murrieta, CA 92562 Tel 310-694-2082 FAX

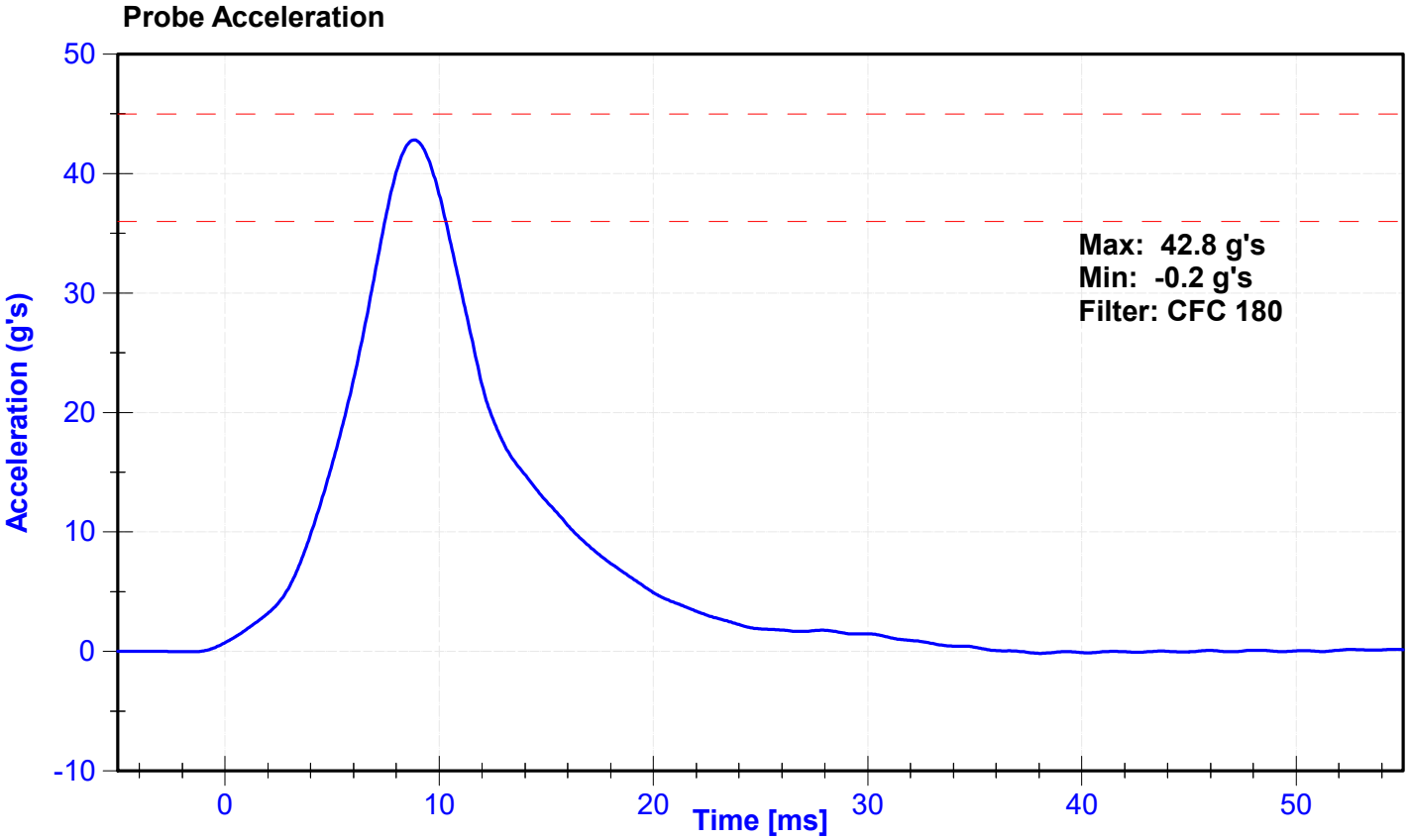
ATD Manufacturer	FTSS	Test Technician	Z. Nyhart
ATD Serial Number	DG8012	Laboratory Supervisor	J. Kinderman

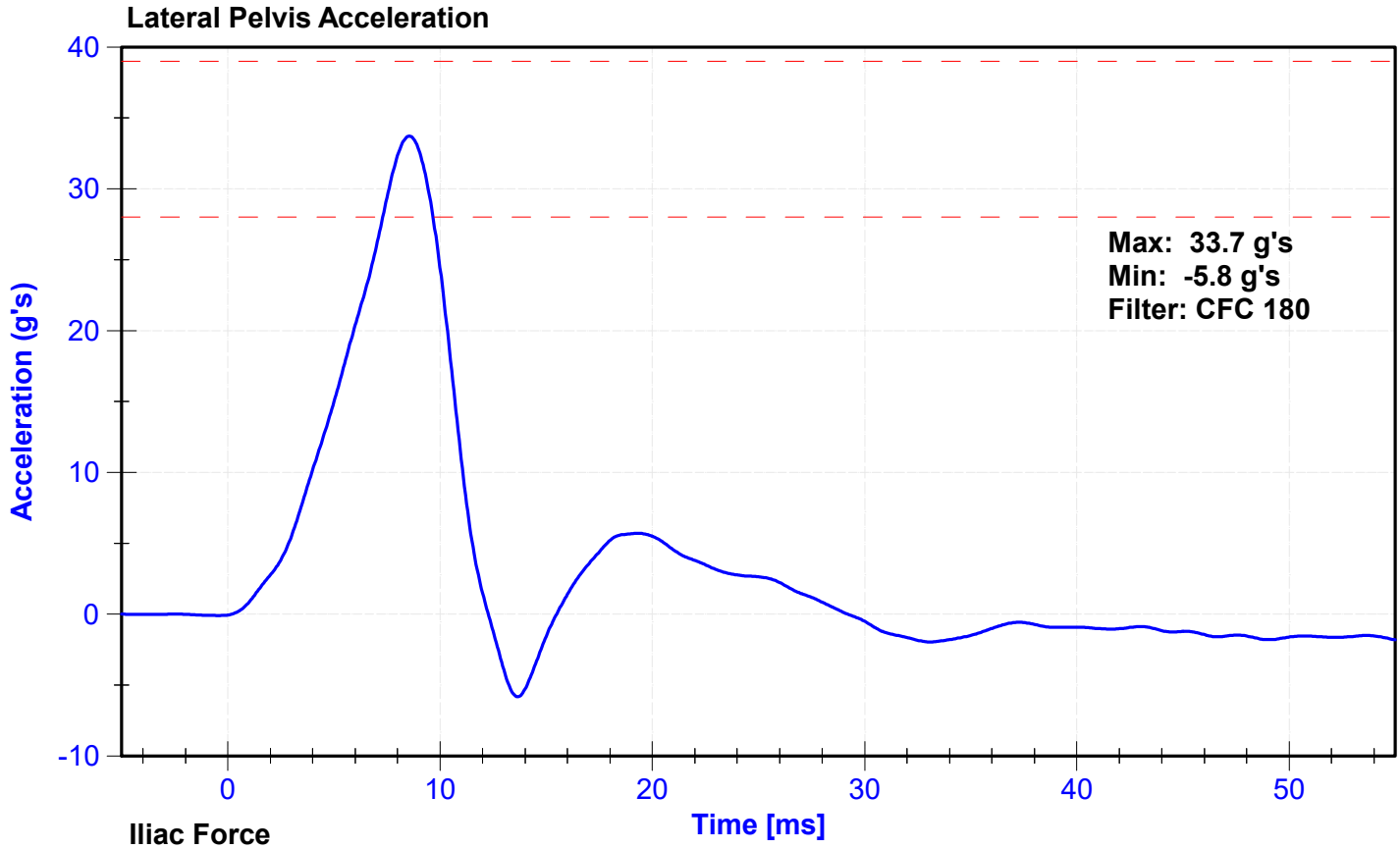
Results

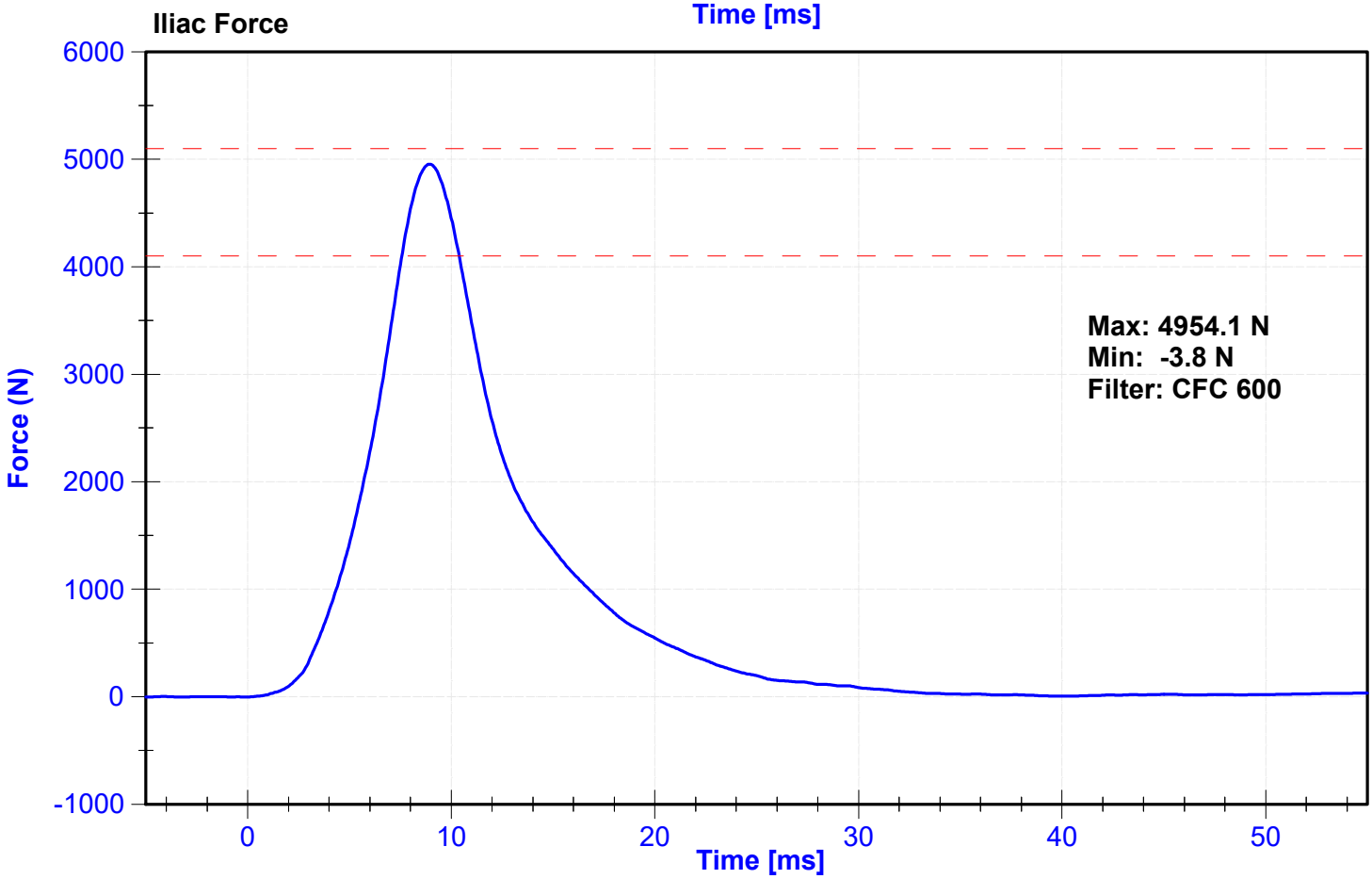
Test Parameter	Minimum Specification	Maximum Specification	Unit	Result	Pass/Fail
Temperature	20.6	22.2	ºC	21.9	Pass
Humidity	10	70	%	52	Pass
Velocity	4.2	4.4	m/s	4.27	Pass
Probe Acceleration	36	45	g's	42.8	Pass
Lateral Pelvis Acceleration	28	39	g's	33.7	Pass
Iliac Force	4100	5100	N	4954.1	Pass

Transducer Calibrations

Channel	Manufacturer	Serial Number	Calibration Date	Calibration Due Date
Pendulum Accelerometer	Endevco	18566	5/7/2025	11/3/2025
Pelvis Y Accelerometer	Endevco	T20860	7/2/2025	12/29/2025
Iliac Load Cell	Denton	321	9/16/2024	9/16/2025




Lateral Pelvis Acceleration
Acceleration (g's)
40
30
20
10
0
-10
0
10
20
30
40
50
Time [ms]
Max: 33.7 g's
Min: -5.8 g's
Filter: CFC 180


Iliac Force
Force (N)
6000
5000
4000
3000
2000
1000
0
-1000
0
10
20
30
40
50
Time [ms]
Max: 4954.1 N
Min: -3.8 N
Filter: CFC 600

APPENDIX D

TEST EQUIPMENT AND INSTRUMENTATION CALIBRATION DATA

TABLE 1 – Dummy Instrumentation (ES-2re)

			ES-2re S/N F033		
			Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers	Primary	X	P63861	Endevco	07/01/2025
		Y	P49216	Endevco	07/01/2025
		Z	P51303	Endevco	07/01/2025
	Redundant	X	P58868	Endevco	07/01/2025
		Y	P59020	Endevco	07/01/2025
		Z	P52132	Endevco	07/01/2025
Thorax Rib Displacement Potentiometers	Upper	Y	179GFE	Honeywell	07/01/2025
	Middle	Y	185GFE	Honeywell	07/01/2025
	Lower	Y	184GFE	Honeywell	07/01/2025
Abdomen Load Cells	Forward	Y	1523	Denton	10/28/2024
	Middle	Y	1524	Denton	10/28/2024
	Rear	Y	1530	Denton	10/28/2024
Lower Spine Accelerometers (T12)		X	T21166	Endevco	07/16/2025
		Y	T31029	Endevco	07/01/2025
		Z	P52033	Endevco	07/01/2025
Pubic Symphysis Load Cell		Y	458-FY	Denton	10/28/2024

TABLE 2 – Dummy Instrumentation (SID-IIs)

				SID-IIs S/N DG8012		
				Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers		Primary	X	T21184	Endevco	07/02/2025
			Y	T31030	Endevco	07/02/2025
			Z	P83319	Endevco	07/02/2025
		Redundant	X	T21354	Endevco	07/02/2025
			Y	P12566	Endevco	07/02/2025
			Z	P83322	Endevco	07/02/2025
Displacement Potentiometers	Thoracic Rib	Upper	Y	1199GFE	Servo	07/08/2025
		Middle	Y	1246GFE	Servo	07/08/2025
		Lower	Y	011GFE	Servo	07/08/2025
	Abdominal Rib	Upper	Y	008GFE	Servo	07/08/2025
		Lower	Y	046GFE	Servo	07/08/2025
Lower Spine Accelerometers (T12)			X	P71272	Endevco	07/02/2025
			Y	P58883	Endevco	07/02/2025
			Z	T30065	Endevco	07/02/2025
Acetabulum Load Cell			Y	270-FY	Denton	09/16/2024
Iliac Wing Load Cell			Y	321	Denton	09/16/2024
Pelvis Plug (struck side)				16721	SACO	07/22/2022
Pelvis Plug (non-struck side)				16695	SACO	07/22/2022

TABLE 3 – Vehicle Instrumentation

Vehicle Instrumentation			Serial Number	Manufacturer	Calibration Date
1	Vehicle Center of Gravity	X	A405546	Measurement Specialties	05/15/2025
	Vehicle Center of Gravity	Y	A413593	Measurement Specialties	05/15/2025
	Vehicle Center of Gravity	Z	A413602	Measurement Specialties	05/15/2025
2	Right Sill at Front Seat	X	A301868	Measurement Specialties	05/16/2025
	Right Sill at Front Seat	Y	A372873	Measurement Specialties	05/12/2025
	Right Sill at Front Seat	Z	A431213	Measurement Specialties	05/12/2025
3	Right Sill at Rear Seat	X	A274256	Measurement Specialties	04/17/2025
	Right Sill at Rear Seat	Y	A335455	Measurement Specialties	04/17/2025
	Right Sill at Rear Seat	Z	A372849	Measurement Specialties	04/17/2025
4	Left Sill at Front Door	Y	A335463	Measurement Specialties	07/10/2025
5	Left Sill at Rear Door	Y	A398284	Measurement Specialties	12/18/2024
6	Left A-Post Lower	Y	G23703	Endevco	06/30/2025
7	Left A-Post Middle	Y	G22389	Endevco	06/30/2025
8	Left B-Post Lower	Y	G27014	Endevco	06/16/2025
9	Left B-Post Middle	Y	G22431	Endevco	06/24/2025
10	Front Seat Track	Y	A280002	Measurement Specialties	07/15/2025
11	Rear Seat Track or Structure	Y	G23832	Endevco	05/19/2025
12	Right Rear Occ. Compartment	Y	G27033	Endevco	06/17/2025
13	Engine Block	X	A400729	Measurement Specialties	07/21/2025
	Engine Block	Y	A413577	Measurement Specialties	07/21/2025
14	Rear Floorpan Above Axle	X	G26763	Endevco	04/28/2025
	Rear Floorpan Above Axle	Y	G26773	Endevco	04/28/2025
	Rear Floorpan Above Axle	Z	G26784	Endevco	04/28/2025

TABLE 4 – MDB Instrumentation

MDB Instrumentation		Serial Number	Manufacturer	Calibration Date
MDB Center of Gravity	X	A413590	Measurement Specialties	06/23/2025
MDB Center of Gravity	Y	G24322	Endevco	06/23/2025
MDB Center of Gravity	Z	G25374	Endevco	12/14/2024
Left Frame at Rear Axle Centerline	X	A374247	Measurement Specialties	06/20/2025
Left Frame at Rear Axle Centerline	Y	G25272	Endevco	06/23/2025