

**Vehicle Research and Test Center
Moving Deformable Barrier into
2005 Ford 500 at 52.8 km/h
TRC Inc. Test Number: 050729**

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Section 1.0

Purpose and Test Procedure

Purpose

This 48/24 km/h (32.9 mph) 90° side impact test was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.).

The purpose of this test was to evaluate side impact protection in a moving deformable barrier impact test. The subject vehicle was a 2005 Ford 500 4-door.

Test Procedure

This test was conducted in accordance with VRTC instructions for a moving deformable barrier into a vehicle side impact test. Data was obtained relative to FMVSS 214, "Side Impact Protection" performed using SID-IIs (Build D) anthropomorphic test devices (dummies).

A 2005 Ford 500 4-door was impacted on the driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 52.8 km/h (32.8 mph). 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 Transportation Research Center Inc. in East Liberty, Ohio on July 29, 2005. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SID-IIs) are included in Appendix A.

The moving deformable barrier was equipped with a 214 style deformable barrier face and five (5) accelerometers to measure longitudinal, lateral, and vertical axis accelerations. The barrier's specified impact velocity range was 52.1 to 53.8 km/h.

Two restrained Side Impact Dummies (SID-IIs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the Federal Register Part 572-214 Section S8.3 and S12.3 (May 17, 2004). Both SID-IIs were certified prior to this test and were restrained by 3-point seat belts and a curtain airbag deployed from the headliner. The driver dummy was additionally restrained by a torso airbag.

Both dummies were instrumented with head, shoulder, spine, thorax, abdomen, and pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations. Both dummies were also instrumented with upper neck, shoulder, lumbar, acetabulum, iliac wing, and femur load cells to measure forces and moments, and five (5) rib and one (1) shoulder deflection potentiometers.

The 199 data channels were digitally sampled and recorded at 12,500 samples per second and processed per SAE J211 March 1995.

The crash event was recorded by one (1) real-time panning motion picture camera and ten (10) high-speed digital motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera.

The side impact test summary data are presented in Section 2.0. The summary of FMVSS 214 data are presented in Section 3.0. The occupant, camera, vehicle, and barrier measurements are presented in Section 4.0. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy verification data. Appendix D contains test equipment and instrumentation calibration information. Appendix E contains a copy of the INSIA Report on Structural Measurements.

Section 2.0

Moving Deformable Barrier Side Impact Test Summary

Test Results Summary

This moving deformable barrier side impact test was conducted by TRC Inc. on July 29, 2005.

The test vehicle, a 2005 Ford 500 4-door, was equipped with a 3.0-liter transverse engine, automatic transmission, power steering, power brakes, dual stage front airbags, side curtain airbags, and side front torso airbags. The vehicle's test weight was 1876.9 kg. The moving deformable barrier's impact speed was 52.8 km/h. The moving deformable barrier impacted 1 mm to the right of the target point (491 mm rearward of front axle).

Injury Criteria Data Summary		
	Driver	Left Rear Passenger
HIC (15 ms)	29	185
HIC (36 ms)	46	216
Lower Spine Acceleration (g)	31	42
Pelvic Force Summation (N)	2140	2925

Data Acquisition Explanations

The driver thorax rib 1 Y-axis displacement data channel, 11TRRI01LES2DSYA, recorded questionable data throughout the test.

The driver thorax rib 3 Y-axis displacement data channel, 11TRRI03LES2DSYA, recorded questionable data throughout the test.

The vehicle's left lower A-post Y-axis acceleration data channel, 11APILLO0000ACYA, exceeded full-scale at approximately 11 milliseconds.

The vehicle's left middle A-post Y-axis acceleration data channel, 11APILMI0000ACYA, exceeded full-scale at approximately 36 milliseconds.

Table 1 Crash Test Summary

Test mode:	Moving deformable barrier side impact			
Test date:	07/29/05			
Test time:	12:08			
Ambient temperature:	21° C			
Vehicle year/make/ model/body style:	2005/Ford/500/4-door			
Vehicle test weight:	1876.9 kg			
Impact angle ¹ :	270°			
Impact velocity ² :	52.8 km/h			
Maximum vehicle static crush:	173 mm			
Maximum barrier static crush:	159 mm			
Number of data channels:	199			
Number of cameras:	High-speed	10	Real-time	1
<u>Dummies:</u>	<u>Driver #020</u>		<u>Passenger #056</u>	
Type:	SID-IIs		SID-IIs	
Location:	Left front		Left rear	
Restraint:	3-pt. seat belt, side curtain airbag, side torso airbag		3-pt. seat belt, side curtain airbag	
<u>Seat track position for test:</u>				
Driver:	Full forward			
Passenger:	Fixed			
<u>Seat back position for test:</u>				
Driver:	Full up			
Passenger:	Fixed			
<u>Head restraint position for test:</u>				
Driver:	Full down			
Passenger:	Fixed			
<u>Steering column position:</u>	24.3°; middle of geometric range of travel			

¹ With respect to tow track centerline.

² Speed trap measurement ($\pm .08$ km/h accuracy)

Table 2 General Test and Vehicle Parameter Data

Vehicle year/make/ model/body style:	2005/Ford/500/4-door
VIN:	1FAHP23165G137365
Model year:	2005
Body style:	4-door
Color:	Blue
Engine data:	
Cylinders:	6
Displacement	3.0 liters
Cylinder placement:	V
Engine placement:	Transverse
Transmission data:	<u>6</u> speed, ___ manual, <u>X</u> automatic, <u>X</u> overdrive
Final drive:	<u>X</u> FWD, ___ RWD, ___ 4WD
Date vehicle received:	07/27/2005
Odometer reading:	142
Dealer's name and address:	Vehicle supplied by VRTC

Accessories:			
Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	Yes	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Other	None	Power door locks	Yes

Certification data from vehicle's label:

Vehicle manufactured by:	Ford Motor Company
Date of manufacture:	12/04
VIN:	1FAHP23165G137365
GVWR:	2177 kg (4800 lbs.)
GAWR: Front:	1145 kg (2525 lbs.)
Rear:	1065 kg (2350 lbs.)

Table 2 General Test and Vehicle Parameter Data, Continued

Tires on vehicle (mfr., line, size): Continental, Conti Touring Contact, P215/60R17

Tire pressure with maximum capacity vehicle load:

Front:	44 psi	(300 kPa)
Rear:	44 psi	(300 kPa)

Spare tire (mfr., line, size): Goodyear, Temporary, T135/90D17

Type of seats:

Front	Bucket
Rear	Split bench

Maximum width: 1930 mm

Wheelbase: 2860 mm

Location of “Recommended Tire Pressure” label:

The label was located on driver side B-pillar.

Data from vehicle’s “Recommended Tire Pressure” label:

Recommended tire size: P215/60R17

Recommended cold tire pressure:

Front:	32 psi	(220 kPa)
Rear:	32 psi	(220 kPa)

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):

Front	2
Rear	3
Total	5

Vehicle capacity weight: 430 kg

Rated cargo/luggage weight¹ 90 kg

Test vehicle attitude:

Delivered attitude:	LF	760 mm;	RF	755 mm;	LR	765 mm;	RR	755 mm
Fully loaded attitude:	LF	735 mm;	RF	745 mm;	LR	710 mm;	RR	710 mm
Pre-test attitude:	LF	732 mm;	RF	739 mm;	LR	710 mm;	RR	720 mm
Post-test attitude:	LF	784 mm;	RF	736 mm;	LR	740 mm;	RR	688 mm

¹ RCLW = VCW - (68 kg * designated seating capacity)

Table 2 General Test and Vehicle Parameter Data, Continued

Test vehicle attitude:

	Left Sill Pitch	Right Sill Pitch	Front Bumper L-R Roll	Rear Bumper L-R Roll
As Delivered:	1.0°	0.7°	0.9°	0.7°
As Tested: ¹	N/A	N/A	N/A	N/A
Fully Loaded:	0.5°	0.2°	1.2°	1.0°

Negative Pitch Angle = Vehicle front down

Negative Roll Angle = Driver side down

Weight of test vehicle as received (with maximum fluids)=UDW:

Right front	496.5 kg	Right rear	344.5 kg
Left front	512.5 kg	Left rear	327.0 kg
Total front weight	1009.0 kg	(60.0 % of total vehicle weight)	
Total rear weight	671.5 kg	(40.0 % of total vehicle weight)	
Total delivered weight	1680.5 kg		

Calculation of test vehicle's target test weight:

Total Delivered Weight (UDW) =	1680.5 kg
Rated Cargo/Luggage Weight (RCLW) =	90.0 kg
Weight of 2 SID-IIs Dummies @ 57 kg each =	114.0 kg
Target test weight =	1884.5 kg

Weight of test vehicle with required dummies and equipment:

Right front	521.6 kg	Right rear	407.6 kg
Left front	533.2 kg	Left rear	414.5 kg
Total front weight	1054.8 kg	(56.2% of total vehicle weight)	
Total rear weight	822.1 kg	(43.8% of total vehicle weight)	
Total test weight	1876.9 kg		

¹ As tested pitch and roll measurements were not collected.

Table 2 General Test and Vehicle Parameter Data, Continued

Weight of ballast secured in vehicle: None

Components removed to meet target test weight: Deck lid (3) brackets

Location of Vehicle's CG: 1253 mm rearward of front wheel centerline

Fuel System Data:

Usable fuel system capacity 71.9 liters (from owner's manual)

Actual test volume: 66.9 liters (93% of usable)

Table 3 Post-Impact Data

Test number: 050729
Test date: 07/29/05
Test time: 12:08
Test type: Moving deformable barrier left side impact
Impact angle: 270°
Ambient temperature
at impact area: 21° C
Required impact velocity range: 52.1 to 53.8 km/h

MDB impact velocity:

Primary: 52.8 km/h
Secondary: 52.8 km/h
Distance from vehicle to barrier:
Entering velocity trap: 661 mm
Exiting velocity trap: 51 mm

Location of Impact Point On Test Vehicle Side To Be Impacted:

Wheelbase = 2860 millimeters
Intended impact point is 490 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)
Actual Impact Point is 491 millimeters rearward of front axle centerline

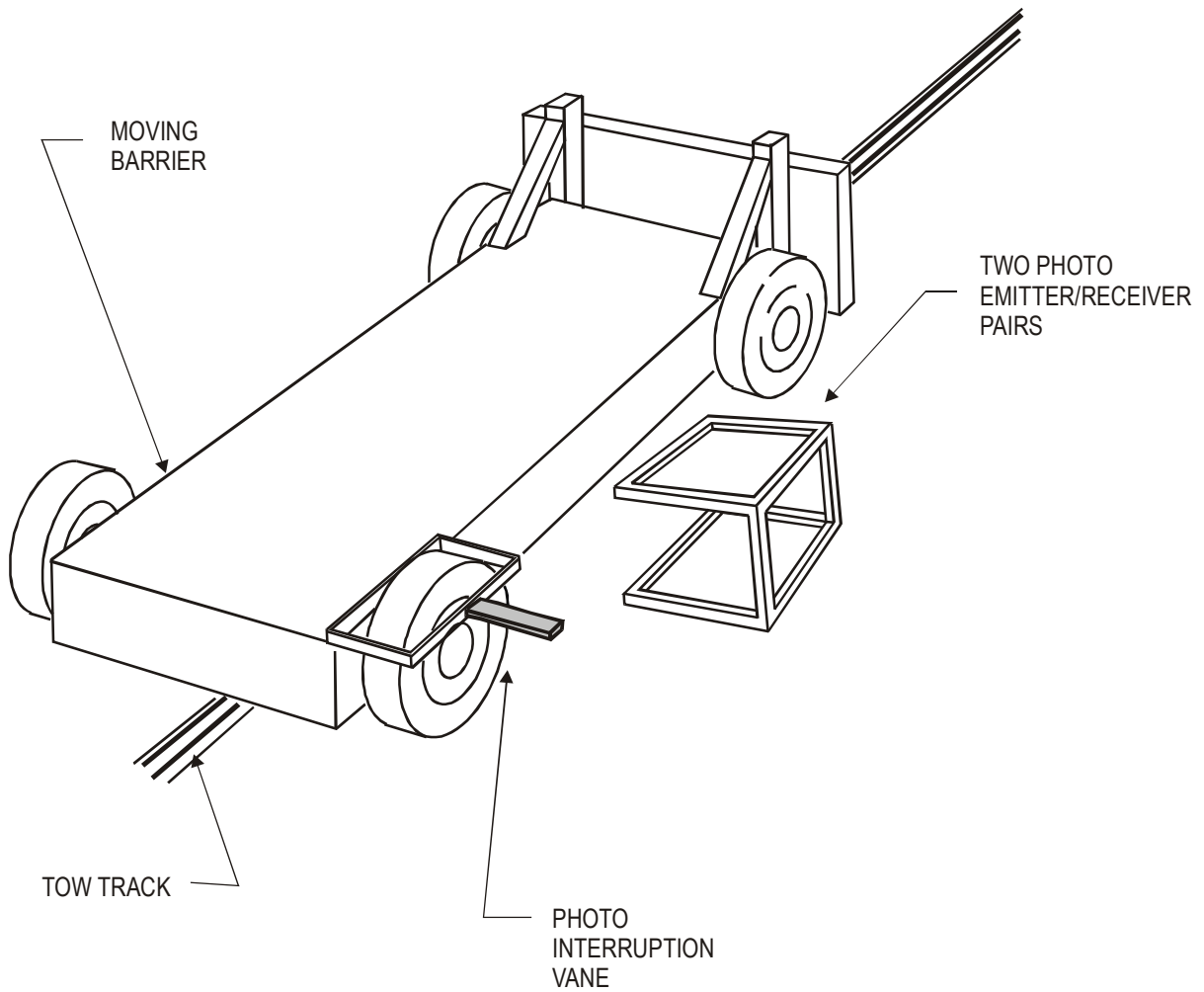
Impact Point:

Actual Impact Point is 1 mm right of nominal impact ref. line (Lateral)
Actual Impact Point is 1 mm down from nominal impact point (Vertical)

Maximum Exterior Static Crush:

1. Level 1 (240 mm above ground) = 8 mm
2. Level 2 (565 mm above ground) = 173 mm
3. Level 3 (646 mm above ground) = 163 mm
4. Level 4 (970 mm above ground) = 113 mm
5. Level 5 (1515 mm above ground) = 2 mm
Maximum Post-Test Intrusion = 173 mm

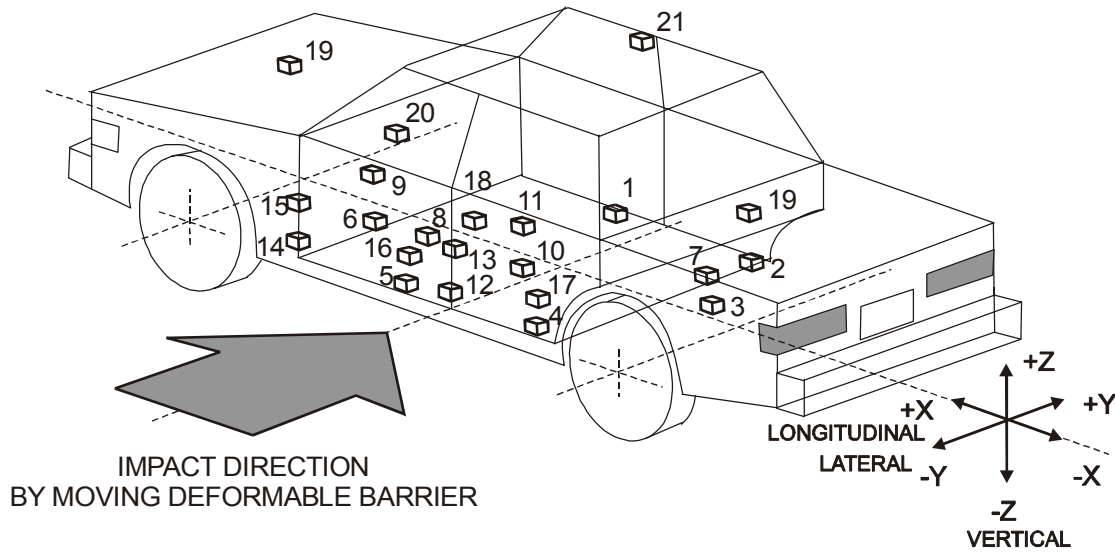
Figure 1 Impact Velocity Measurement System



The final vane clears the final emitter/receiver pair 51 millimeters before impact.

The vanes have 610-millimeter spacing.

Figure 2 Vehicle Accelerometer and String Potentiometer Placement



- 1-Right Front Side Sill
- 2-Right Side Sill at Rear Seat
- 3-Rear Floorpan above Axle
- 4-Left Side Sill at Rear Seat
- 5-Left Front Side Sill
- 6-Left Front Door Centerline
- 7-Right Rear Occupant Compartment
- 8-Left Front Door Mid-Rear
- 9-Left Front Door Upper Centerline
- 10-Left Rear Door Mid-Rear
- 11-Left Rear Door Upper Centerline

- 12-Left Side Lower B-pillar
- 13-Left Side Middle B-pillar
- 14-Left Side Lower A-pillar
- 15-Left Side Middle A-pillar
- 16-Left Side Front Seat Track at H-point
- 17-Left Rear Seat Track at H-point
- 18-Vehicle Center of Gravity
- 19-Engine Top
- 20-Firewall
- 21-Right Side Roof Rail

Table 4 Test Vehicle Accelerometer Data Summary

Accel. No.	Location		Positive Direction		Negative Direction	
			Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	Right Side Sill at Front Seat	X	4.2	57.0	-3.5	21.6
		Y	17.4	16.6	-2.2	148.6
		Z	5.7	30.9	-8.4	20.0
2	Right Side Sill At Rear Seat	X	4.1	56.9	-4.7	21.1
		Y	29.7	14.2	-5.0	21.8
		Z	4.1	32.8	-6.6	21.5
3	Rear Floorpan Above Axle	X	3.5	54.7	-4.7	24.8
		Y	22.1	14.8	-3.1	86.5
		Z	8.6	18.2	-7.6	13.0
4	Left Side Sill at Rear Seat	Y	39.4	12.4	-5.6	55.0
5	Left Side Sill at Front Seat	Y	9.4	7.6	-33.0	3.5
6	Left Front Door Centerline	Y	76.5	13.0	-145.2	5.8
7	Right Rear Occupant Compartment	Y	30.2	14.4	4.0	21.8
8	Left Front Door Mid-Rear	Y	47.3	17.4	-104.3	6.0
9	Left Front Door Upper Centerline	Y	46.2	14.6	-130.3	8.7
10	Left Rear Door Mid-Rear	Y	124.7	17.4	-42.7	13.0
11	Left Rear Door Upper Centerline	Y	99.4	7.7	-49.8	32.3
12	Left Lower B-Pillar	Y	91.8	6.2	-84.9	16.4
13	Left Middle B-Pillar	Y	72.0	4.9	-39.7	13.4
14	Left Lower A-Pillar ¹	Y	----	----	----	----
15	Left Middle A-Pillar ¹	Y	----	----	----	----
16	Left Front Seat Track	Y	44.1	13.1	-0.8	55.9
17	Left Rear Seat Track	Y	30.4	14.4	-5.1	21.3
18	Vehicle Center of Gravity	X	3.7	26.5	-13.6	17.6
		Y	27.9	18.0	-11.2	62.8
		Z	19.4	25.4	-25.3	19.9
	Resultant		34.9	19.0		

¹ See Data Acquisition Explanations.

Table 4 Test Vehicle Accelerometer Data Summary, Cont'd.

Accel. No.	Location		Positive Direction		Negative Direction	
			Max. (g)	Time (ms)	Max. (g)	Time (ms)
19	Top of Engine	X	401.8	42.2	-55.9	182.6
		Y	19.8	51.6	-10.7	110.1
20	Firewall	X	7.9	17.7	-16.5	23.7
		Y	13.5	16.6	-1.8	291.5
21	Right Roof Rail	X	2.4	60.9	-5.3	26.2
		Y	15.5	45.5	-2.3	262.6

For acceleration data sign convention see Report Sign Convention in Appendix D.

Table 5 Moving Deformable Barrier (MDB) Summary

MDB Face Manufacturer And Serial Number:

Cellbond, EH340

Position Of Impactor (MDB) On Monorail:

Crabbed 27° to the left

MDB Specifications:

Overall Width of Framework Carriage = 1251 mm

Overall Length of MDB (Incl. honeycomb impact face) = 4014 mm

Wheelbase of Framework Carriage = 2591 mm

Track of Framework Carriage (Front & Rear) = 1881 mm

C.G. Location Rearward of Front Axle = 1134 mm

MDB Weight:

Left Front = 493.2 kg Left Rear = 192.8 kg

Right Front = 275.6 kg Right Rear = 406.0 kg

Total Front = 768.8 kg Total Rear = 598.8 kg

Total MDB Weight = 1367.6 kg

Impact Angle (MDB C/L to Target Vehicle C/L) = 90 degrees

Impact Speed = 52.8 km/h

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level = 159 millimeters

2. Row B at Top of Bumper Level = 80 millimeters

3. Row C at Mid Level = 78 millimeters

4. Row D at Top of Stack Level = 125 millimeters

Instrumentation:

Number of MDB Data Channels = 5

Section 3.0

Summary of FMVSS 214 Data

Table 6 Dummy Injury Criteria Data

Driver Dummy S/N 020

Location	Positive Direction		Negative Direction	
	Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)				
Longitudinal X	2.9	136.6	-9.6	61.8
Lateral Y	13.4	82.1	-3.9	198.0
Vertical Z	17.5	56.7	-2.3	76.5
Resultant	22.1	58.9		
HIC (36 ms)	46			
Upper Neck Force (N)				
X-Axis Shear	277.4	61.9	-41.0	227.8
Y-Axis Shear	412.4	82.3	-43.2	309.9
Z-Axis Axial	555.7	59.9	-91.0	81.9
Upper Neck Moment (N-m)				
About X-Axis	7.2	49.6	-26.7	75.6
About Y-Axis	21.7	78.7	-11.1	44.2
About Z-Axis	12.0	75.7	-11.3	232.6
Shoulder Acceleration (g)				
Longitudinal X	46.3	15.9	-110.6	13.9
Lateral Y	190.3	13.9	-159.7	13.3
Vertical Z	44.8	16.1	-74.9	15.7
Resultant	220.3	13.9		
Shoulder Force (N)				
Longitudinal X	277.2	13.8	-293.2	43.4
Lateral Y	39.9	284.8	-524.1	13.0
Vertical Z	99.7	18.3	-202.9	55.0
Shoulder Displacement (mm)				
Lateral Y	10.9	50.7		
Upper Spine Acceleration (g)				
Longitudinal X	4.4	19.2	-10.9	41.6
Lateral Y	29.1	47.9	-5.9	74.2
Vertical Z	4.0	38.5	-5.5	58.7
Resultant	29.8	47.9		

Table 6 Dummy Injury Criteria Data, Cont'd.

Driver Dummy S/N 020

Location		Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Spine Rib 1 Acceleration (g)					
Longitudinal	X	4.0	65.8	-12.3	44.6
Lateral	Y	29.6	47.7	-4.5	74.6
Vertical	Z	4.0	33.4	-3.9	57.5
Resultant		30.2	47.8		
Spine Rib 2 Acceleration (g)					
Longitudinal	X	3.9	67.2	-11.0	44.6
Lateral	Y	30.5	47.8	-3.8	84.6
Vertical	Z	3.9	33.4	-4.2	57.5
Resultant		31.0	47.8		
Spine Rib 3 Acceleration (g)					
Longitudinal	X	3.6	67.8	-10.3	44.8
Lateral	Y	30.5	47.9	-3.6	85.1
Vertical	Z	3.9	33.4	-4.2	57.4
Resultant		31.0	47.9		
Lower Spine Acceleration (g)					
Longitudinal	X	3.2	64.4	-10.0	44.9
Lateral	Y	30.0	48.3	-3.5	84.1
Vertical	Z	4.1	33.4	-4.2	57.8
Resultant		30.6	48.0		
Spine Rib 5 Acceleration (g)					
Longitudinal	X	2.9	64.2	-9.9	45.0
Lateral	Y	32.2	48.7	-3.7	248.1
Vertical	Z	4.0	33.4	-4.2	57.7
Resultant		32.7	48.9		
Lumbar Moment (N-m)					
Longitudinal	X	14.2	189.9	-26.8	42.7
Lateral	Y	6.4	126.3	-23.5	49.4
Vertical	Z	7.6	118.9	-11.3	77.7

Table 6 Dummy Injury Criteria Data, Cont'd.

Driver Dummy S/N 020

Location	Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Thorax Rib 1 Acceleration (g)				
Longitudinal X	34.2	40.9	-31.5	29.4
Lateral Y	29.3	43.3	-10.9	35.1
Vertical Z	11.8	43.4	-6.4	54.2
Resultant	45.1	40.9		
Thorax Rib 1 Displacement ¹ (mm)				
Lateral Y	----	----		
Thorax Rib 2 Acceleration (g)				
Longitudinal X	27.1	41.1	-32.6	29.1
Lateral Y	34.9	42.2	-12.5	15.4
Vertical Z	12.9	51.4	-5.8	58.6
Resultant	43.2	41.8		
Thorax Rib 2 Displacement (mm)				
Lateral Y	14.1	50.9		
Thorax Rib 3 Acceleration (g)				
Longitudinal X	25.4	40.6	-30.5	28.0
Lateral Y	49.2	19.6	-33.2	16.1
Vertical Z	9.7	54.6	-7.0	71.1
Resultant	50.0	19.6		
Thorax Rib 3 Displacement ¹ (mm)				
Lateral Y	----	----		
Abdomen Rib 1 Acceleration (g)				
Longitudinal X	7.4	92.2	-24.3	49.8
Lateral Y	90.6	36.3	-22.5	16.5
Vertical Z	17.2	41.0	-6.3	61.8
Resultant	92.9	36.3		
Abdomen Rib 1 Displacement (mm)				
Lateral Y	25.2	53.5		

Table 6 Dummy Injury Criteria Data, Cont'd.

Driver Dummy S/N 020

Location	Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Abdomen Rib 2 Acceleration (g)				
Longitudinal X	7.9	43.4	-26.1	38.0
Lateral Y	75.9	36.5	-12.0	56.1
Vertical Z	7.6	35.8	-10.4	38.4
Resultant	79.3	36.6		
Abdomen Rib 2 Displacement (mm)				
Lateral Y	24.9	50.9		
Pelvis Acceleration (g)				
Longitudinal X	2.0	66.6	-11.2	41.1
Lateral Y	29.8	49.7	-5.3	71.4
Vertical Z	4.1	37.1	-5.9	59.4
Resultant	30.9	50.1		
Left Acetabulum Force (N)				
Lateral Y	1325.7	52.2	-42.5	119.0
Left Illiac Wing Force (N)				
Lateral Y	82.0	51.5	-50.7	66.6
Pelvis Force Summation (N)				
Lateral Y	2140	51.6		
Right Femur Force (N)				
X-Axis	53.7	132.5	-175.7	73.8
Y-Axis	90.3	310.0	-258.6	41.0
Z-Axis	475.2	42.5	-110.0	85.5
Right Femur Moment (N-m)				
About Longitudinal	8.1	24.0	-36.1	43.8
About Lateral	7.5	211.7	-25.1	57.0
About Vertical	11.2	156.0	-25.4	59.1

Table 6 Dummy Injury Criteria Data, Cont'd.

Driver Dummy S/N 020

Location	Positive Direction		Negative Direction	
	Max.	Time (ms)	Max.	Time (ms)
Left Femur Force (N)				
X-Axis	95.1	64.9	-55.3	42.4
Y-Axis	77.6	211.3	-517.5	71.3
Z-Axis	370.6	55.0	-37.5	116.4
Left Femur Moment (N-m)				
About Longitudinal	10.9	21.0	-93.3	53.3
About Lateral	8.3	282.6	-37.8	53.9
About Vertical	6.8	23.5	-52.2	74.8

Positive Direction:

Longitudinal: Forward

Lateral: Rightward

Vertical: Downward

Negative Direction:

Longitudinal: Rearward

Lateral: Leftward

Vertical: Upward

¹ See Data Acquisition Explanations

Table 6 Dummy Injury Criteria Data, Cont'd.

Left Rear Passenger Dummy S/N 056

Location	Positive Direction		Negative Direction	
	Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)				
Longitudinal X	7.5	267.7	-17.0	63.8
Lateral Y	46.6	60.2	-8.6	266.6
Vertical Z	9.8	243.7	-5.7	47.7
Resultant	48.8	61.7		
HIC (36 ms)	216			
Upper Neck Force (N)				
X-Axis Shear	72.7	140.8	-196.8	83.8
Y-Axis Shear	156.4	63.6	-135.7	270.8
Z-Axis Axial	327.6	244.1	-422.7	72.8
Upper Neck Moment (N-m)				
About X-Axis	26.1	49.0	-14.7	83.1
About Y-Axis	6.7	85.5	-15.1	63.8
About Z-Axis	11.3	82.6	-7.4	282.4
Shoulder Acceleration (g)				
Longitudinal X	39.0	35.1	-55.5	34.2
Lateral Y	61.4	46.1	-122.9	38.8
Vertical Z	215.6	32.8	-197.9	84.9
Resultant	218.0	32.8		
Shoulder Force (N)				
Longitudinal X	107.4	53.6	-77.7	78.6
Lateral Y	1623.4	55.3	-190.0	79.8
Vertical Z	587.2	131.0	-193.0	34.3
Shoulder Displacement (mm)				
Lateral Y	32.3	59.4		
Upper Spine Acceleration (g)				
Longitudinal X	3.9	216.3	-11.6	77.5
Lateral Y	38.2	57.6	-6.0	209.8
Vertical Z	3.6	83.7	-4.6	50.2
Resultant	38.2	57.5		

Table 6 Dummy Injury Criteria Data, Cont'd.

Left Rear Passenger Dummy S/N 056

Location		Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Spine Rib 1 Acceleration (g)					
Longitudinal	X	7.7	49.2	-9.1	77.0
Lateral	Y	38.8	56.4	-6.3	213.1
Vertical	Z	9.0	67.0	-8.5	50.2
Resultant		39.2	55.7		
Spine Rib 2 Acceleration (g)					
Longitudinal	X	6.1	49.3	-7.8	76.9
Lateral	Y	39.3	55.7	-6.0	214.2
Vertical	Z	8.9	67.0	-8.2	50.2
Resultant		39.7	55.5		
Spine Rib 3 Acceleration (g)					
Longitudinal	X	4.7	226.3	-7.2	85.4
Lateral	Y	40.4	55.4	-5.9	213.7
Vertical	Z	8.4	67.0	-8.0	50.2
Resultant		40.9	55.2		
Lower Spine Acceleration (g)					
Longitudinal	X	4.9	37.2	-7.5	85.3
Lateral	Y	41.8	55.1	-5.7	215.4
Vertical	Z	8.4	67.0	-7.9	50.2
Resultant		42.4	55.0		
Spine Rib 5 Acceleration (g)					
Longitudinal	X	4.8	37.1	-7.2	85.3
Lateral	Y	43.0	53.8	-5.3	82.2
Vertical	Z	8.2	67.0	-8.2	50.2
Resultant		43.9	53.8		
Lumbar Moment (N-m)					
Longitudinal	X	17.5	54.2	-28.3	207.3
Lateral	Y	24.6	54.8	-7.0	278.9
Vertical	Z	17.2	81.5	-16.1	223.4

Table 6 Dummy Injury Criteria Data, Cont'd.

Left Rear Passenger Dummy S/N 056

Location	Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Thorax Rib 1 Acceleration (g)				
Longitudinal X	10.1	49.0	-15.4	85.4
Lateral Y	101.3	41.4	-51.7	47.4
Vertical Z	55.8	36.6	-31.3	33.6
Resultant	101.6	41.4		
Thorax Rib 1 Displacement (mm)				
Lateral Y	31.1	59.1		
Thorax Rib 2 Acceleration (g)				
Longitudinal X	13.3	72.3	-20.3	69.9
Lateral Y	96.1	33.2	-60.0	47.1
Vertical Z	51.2	37.8	-55.8	43.9
Resultant	103.0	33.3		
Thorax Rib 2 Displacement (mm)				
Lateral Y	39.4	58.7		
Thorax Rib 3 Acceleration (g)				
Longitudinal X	20.1	41.4	-33.4	35.4
Lateral Y	169.3	33.5	-67.6	36.6
Vertical Z	37.5	39.3	-46.7	35.3
Resultant	173.2	33.5		
Thorax Rib 3 Displacement (mm)				
Lateral Y	45.1	58.1		
Abdomen Rib 1 Acceleration (g)				
Longitudinal X	18.8	42.6	-46.7	36.0
Lateral Y	234.4	34.1	-97.6	40.2
Vertical Z	14.3	37.4	-29.5	40.4
Resultant	234.5	34.0		
Abdomen Rib 1 Displacement (mm)				
Lateral Y	45.6	57.5		

Table 6 Dummy Injury Criteria Data, Cont'd.

Left Rear Passenger Dummy S/N 056

Location	Positive Direction Max. Time (ms)		Negative Direction Max. Time (ms)	
Abdomen Rib 2 Acceleration (g)				
Longitudinal X	23.6	42.2	-55.6	38.0
Lateral Y	75.8	49.0	-31.2	43.1
Vertical Z	27.4	36.2	-30.4	39.8
Resultant	91.4	38.1		
Abdomen Rib 2 Displacement (mm)				
Lateral Y	26.2	57.8		
Pelvis Acceleration (g)				
Longitudinal X	5.1	65.1	-12.9	50.0
Lateral Y	49.5	51.0	-3.2	178.2
Vertical Z	5.6	61.4	-6.0	36.6
Resultant	50.5	50.9		
Left Acetabulum Force (N)				
Lateral Y	2853.2	50.3	-13.3	247.9
Left Illiac Wing Force (N)				
Lateral Y	126.8	55.6	-162.3	66.6
Pelvis Force Summation (N)				
Lateral Y	2925	52.2		
Right Femur Force (N)				
X-Axis	78.2	63.2	-247.7	54.8
Y-Axis	669.7	53.8	-101.3	60.7
Z-Axis	724.6	54.7	-70.2	211.3
Right Femur Moment (N-m)				
About Longitudinal	41.2	62.6	-38.5	55.1
About Lateral	34.5	61.8	-8.8	173.8
About Vertical	36.4	60.2	-17.4	185.4

Table 6 Dummy Injury Criteria Data, Cont'd.

Left Rear Passenger Dummy S/N 056

Location	Positive Direction		Negative Direction	
	Max.	Time (ms)	Max.	Time (ms)
Left Femur Force (N)				
X-Axis	31.1	310.0	-263.8	56.8
Y-Axis	167.0	48.9	-514.0	54.3
Z-Axis	307.7	66.8	-1088.2	54.0
Left Femur Moment (N-m)				
About Longitudinal	34.5	54.1	-119.8	58.8
About Lateral	15.9	166.6	-29.6	46.6
About Vertical	55.2	51.1	-10.1	303.0

Positive Direction:

Longitudinal: Forward
 Lateral: Rightward
 Vertical: Downward

Negative Direction:

Longitudinal: Rearward
 Lateral: Leftward
 Vertical: Upward

Table 7 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Side curtain airbag, side torso airbag, head restraint	Side curtain airbag
Shoulder	Side torso airbag	Door panel
Abdomen	Door panel	None
Left knee	Door panel	Door panel
Right knee	None	None

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Jammed and latched	Easy
Rear	Jammed and latched	Easy

Seat movement:

	<u>Seat back failure</u>	<u>Seat shift</u>
Left Front	None	None
Left Rear	None	None

Glazing damage: None

Other notable impact effects: None

Section 4.0

Occupant, Vehicle, Camera, and Barrier Information

Table 8 Vehicle Structural Measurements^{1,2}

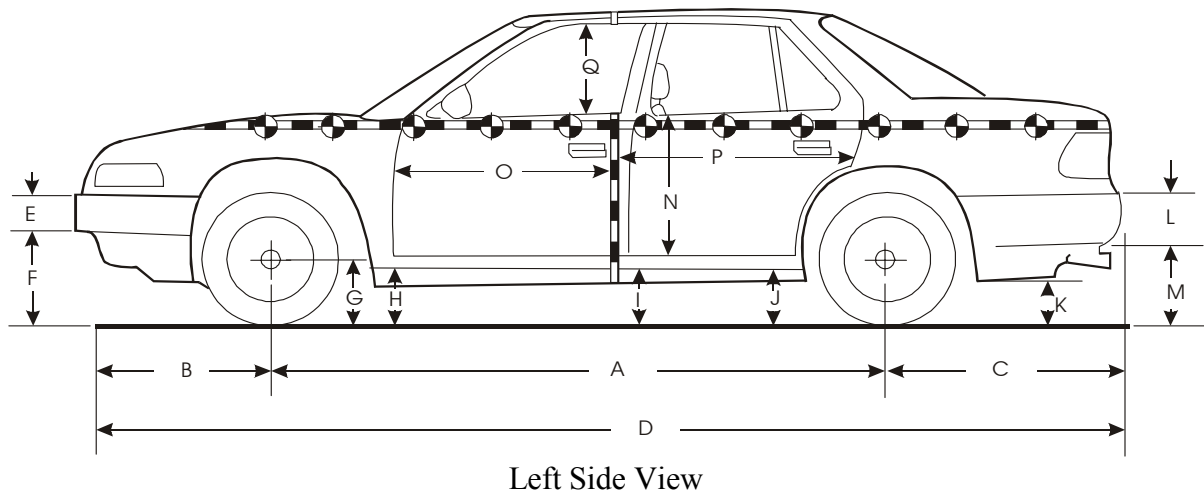
	Elements	Pre-Test
1	Total Length	5095
2	Total Width	1930
3	Bumper Top Height	545
4	Bumper Bottom Height	384
5	Longitudinal Member Top Height	536
6	Longitudinal Member Bottom Height	399
7	Distance Between Longitudinal Members	1245
7'	Longitudinal Member Width	140
8	Engine Top Height	922
9	Engine Bottom Height	177
10	Engine and Gearbox Width	790
11	Front Bumper - Engine Distance	510
12	Front Shock Absorber Fixing Height	890
13	Bonnet Leading Edge Height	805
14	Front Shock Absorber Fixing Width	1255
15	Front Bumper - Front Axle Distance	1000
16	Front Axle - A Pillar Distance	600
17	A Pillar - B Pillar Distance	1390
18	B Pillar - Rear Axle Distance	1235
19	B Pillar - C Pillar Distance	974
20	Roof Sill Bottom Height	1365
21	Roof Sill Top Height	1399
22	Floor Sill Bottom Height	320
23	Floor Sill Top Height	355

All distance measurements are in millimeters.

¹ Taken from INSIA report, “Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body”, March 1999. This report is included in Appendix E.

² The vertical measurements from the ground are adjusted based on the test vehicle’s pre-test attitude measurements.

Figure 3 Pre-Test And Post-Test Measurement Points



Note: All dimensions are in millimeters with tolerance of ± 3 mm

Code	Measurement Description	Pre-Test	Post-Test	Change
A	Wheelbase	2860	2872	-12
B	Front Axle to Front Surface of Vehicle	1000	990	10
C	Rear Axle to Rear Surface of Vehicle	1235	1211	24
D	Total Length at Centerline	5095	5085	10
E	Front Bumper Thickness	162	162	0
F	Front Bumper Bottom to Ground	419	456	-37
G	Sill Height at Front Wheel Well	318	318	0
H	Sill Height at Front Door Leading Edge	195	225	-30
I	Sill Height at "B" Pillar	195	231	-36
J1	Sill Height at Rear Wheel Well	175	189	-14
J2	Pinch Weld Height at Rear Wheel Well	200	222	-22
K	Sill Height Aft of Rear Wheel Well	232	248	-16
L	Rear Bumper Thickness	170	170	0
M	Rear Bumper Bottom to Ground	472	481	-9
N	Sill Height to Window Bottom Sill	803	730	73
O	Front Door Leading Edge to Impact CL	801	798	3
P	Rear Door Trailing Edge to Impact CL	1313	1300	13
Q	Front Window Opening	410	405	5
R	Right Side Length	4905	4886	19
S	Left Side Length	4910	4898	12
T	Vehicle Width at "B" Post	1385	1309	76

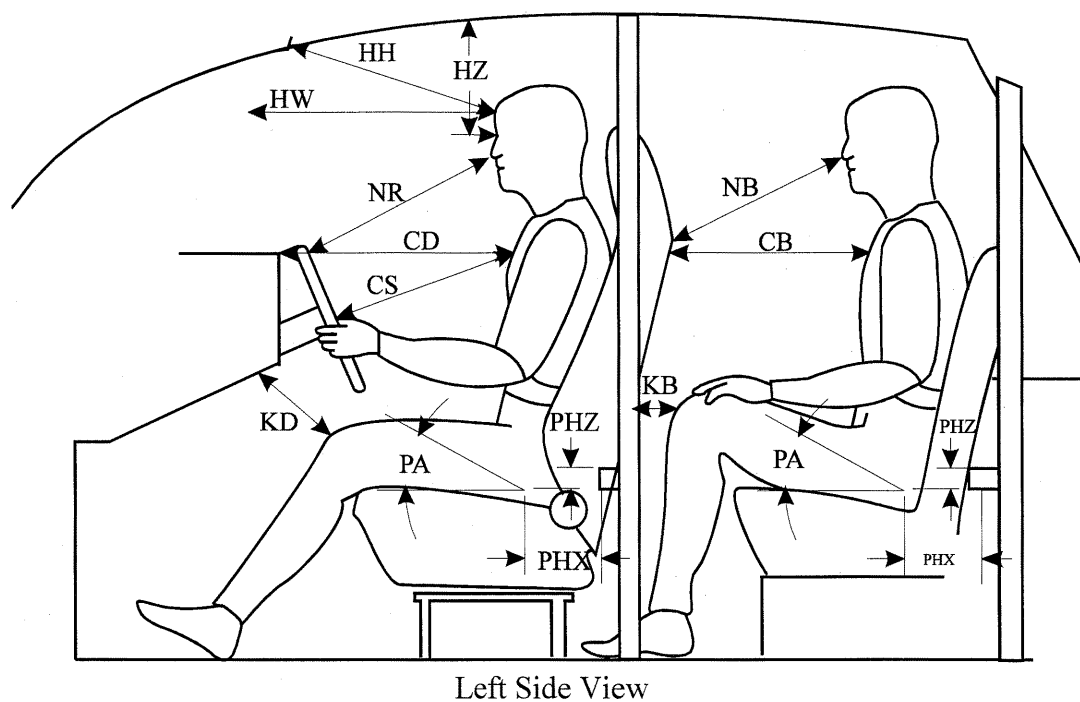
D = Length at centerline
T = Width at B-pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

S = Left Side Length

Figure 4 SID-IIs Longitudinal Clearance Dimensions

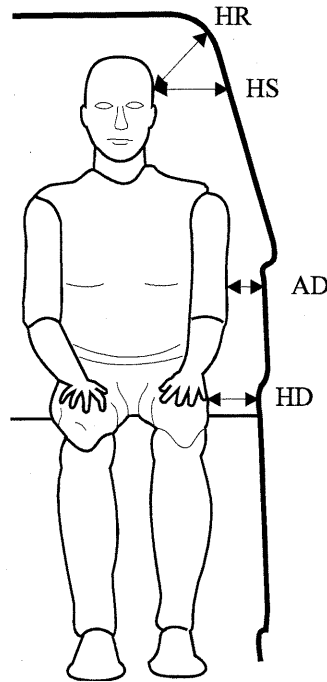


Note: All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

Measurement	Driver SID-IIs # 020	Left Rear Pass. SID-IIs # 056
HH	233	N/A
HW	540	N/A
HZ	209	N/A
NR/NB	192	943
CD/CB	582	923
CS	155	N/A
KDL(KDA°)/KBL(KBA°)	49/(17.5°)	504/(2.7°)
KDR(KDA°)/KBR(KBA°)	47/(6.8°)	497/(3.0°)
PA°	N/A	N/A
PHX	362	244
PHZ	140	276

Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

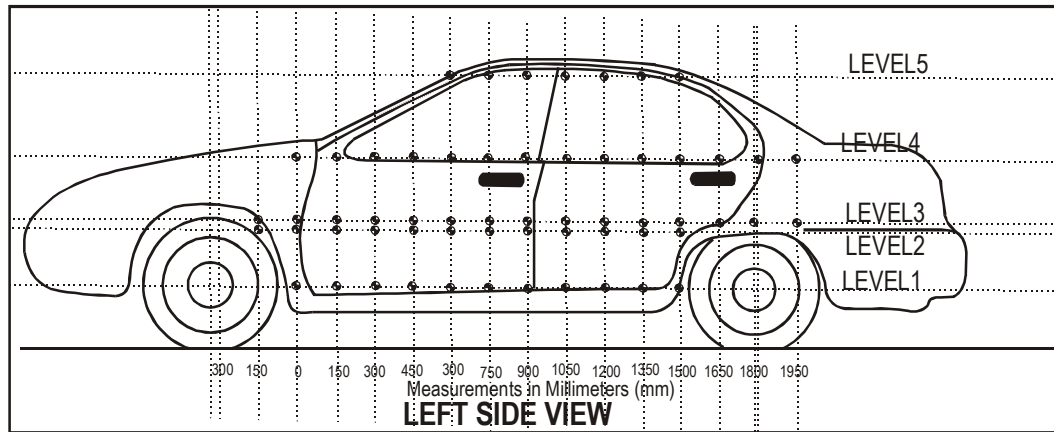
Figure 5 SID-IIs Lateral Clearance Dimensions



Note: All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

Measurement	Driver SID-IIs # 020	Left Rear Pass. SID-IIs # 056
HR	257	253
HS	391	374
AD	159	104
HD	232	160

Figure 6 Vehicle Side Measurements



Level 5 - Window Top

Level 4 - Window Sill

Level 3 - Mid-Door

Level 2 - Occupant H-Point

Level 1 - Axle Centerline Height or Sill Top Height

Measurements Are Taken When The Vehicle Is In The “As Tested” Configuration.

Measurements along the vertical 750 mm line shown above:

Level 5 @ Window Top	=	<u>1515</u>	mm
Level 4 @ Window Sill	=	<u>970</u>	mm
Level 3 @ Mid Door	=	<u>646</u>	mm
Level 2 @ Occupant H-Point	=	<u>565</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>240</u>	mm

Table 9 Vehicle Exterior Crush Profiles - All Levels

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	240	Pre	---	---	---	---	---	---	---	---	874	877	878	878	879	877
		Post	---	---	---	---	---	---	---	---	875	877	876	875	873	870
		Crush	---	---	---	---	---	---	---	---	-1	0	2	3	6	7
Level 2 H-Point	565	Pre	---	---	927	---	---	---	---	943	935	935	936	941	943	944
		Post	---	---	928	---	---	---	---	938	896	839	787	773	775	779
		Crush	---	---	-1	---	---	---	---	5	39	96	149	168	168	165
Level 3 Mid-Door	646	Pre	---	882	916	---	---	---	---	947	935	936	938	939	940	941
		Post	---	882	917	---	---	---	---	945	894	845	800	795	802	798
		Crush	---	0	-1	---	---	---	---	2	41	91	138	144	138	143
Level 4 Window Sill	970	Pre	---	---	794	812	825	838	849	857	864	872	879	885	890	894
		Post	---	---	792	810	824	838	848	858	864	865	857	851	844	836
		Crush	---	---	2	2	1	0	1	-1	0	7	22	34	46	58
Level 5 Window Top	1515	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	609
		Post	---	---	---	---	---	---	---	---	---	---	---	---	---	610
		Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	-1

All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

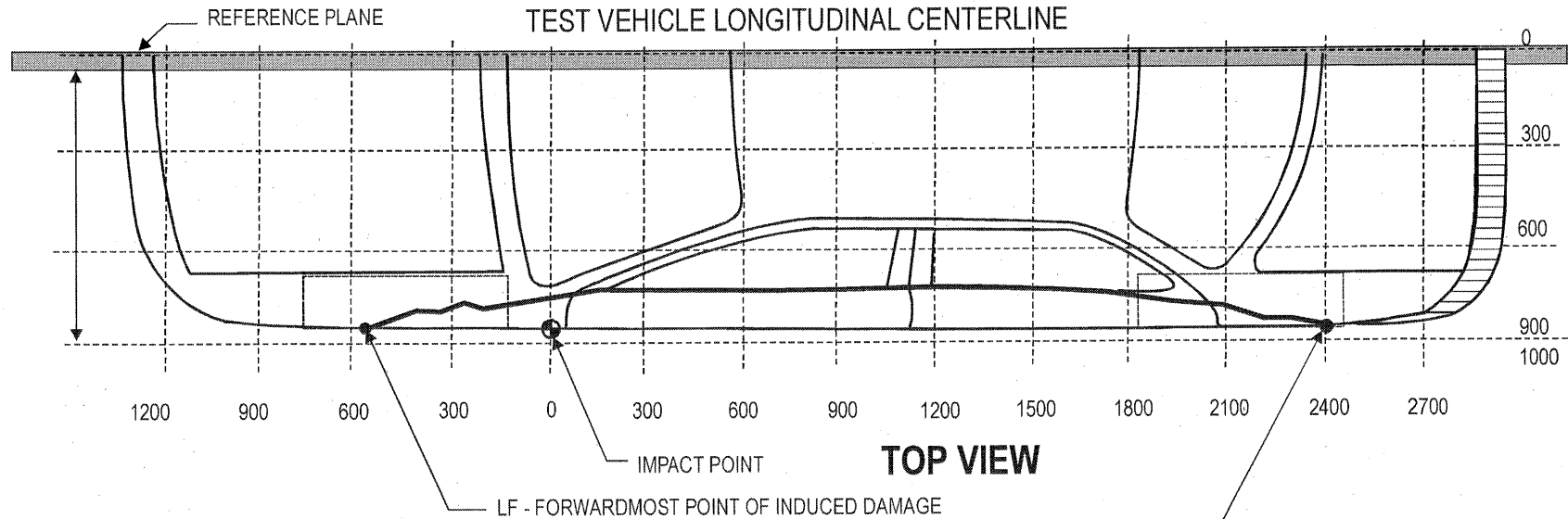
Table 9 Vehicle Exterior Crush Profiles - All Levels, Cont'd.

Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	240	Pre	878	876	876	875	875	871	871	---	---	---	---	---	---
		Post	870	868	868	870	875	877	881	---	---	---	---	---	---
		Crush	8	8	8	5	0	-6	-10	---	---	---	---	---	---
Level 2 H-Point	565	Pre	944	945	944	942	940	937	933	933	---	---	---	---	---
		Post	791	790	771	775	774	779	790	916	---	---	---	---	---
		Crush	153	155	173	167	166	158	143	17	---	---	---	---	---
Level 3 Mid-Door	646	Pre	941	942	941	939	937	934	931	933	941	---	---	---	---
		Post	778	784	788	781	783	805	821	872	952	---	---	---	---
		Crush	163	158	153	158	154	129	110	61	-11	---	---	---	---
Level 4 Window Sill	970	Pre	897	899	900	900	901	901	900	896	893	887	879	872	862
		Post	824	820	796	798	798	795	787	813	888	892	893	893	887
		Crush	73	79	104	102	103	106	113	83	5	-5	-14	-21	-25
Level 5 Window Top	1515	Pre	623	631	635	634	634	631	620	608	597	---	---	---	---
		Post	625	633	633	636	638	637	630	620	610	---	---	---	---
		Crush	-2	-2	2	-2	-4	-6	-10	-12	-13	---	---	---	---

All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

Figure 7 Vehicle Damage Profile Distances

NOTE: All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of plus or minus 0.1 mm.



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-)

Rearward of the impact point (towards rear end of vehicle) is considered positive (+)

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm)
6: LF = -150 mm (Level 3)	943	938	5
5: 300 mm (Level 2)	936	787	149
4: 750 mm (Level 2)	944	779	165
3: 1200 mm (Level 2)	944	771	173
2: 1500 mm (Level 2)	940	774	166
1: LR = 1950 mm (Level 3)	896	813	83

Full length of induced damage was 2100 mm.

Figure 8 Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

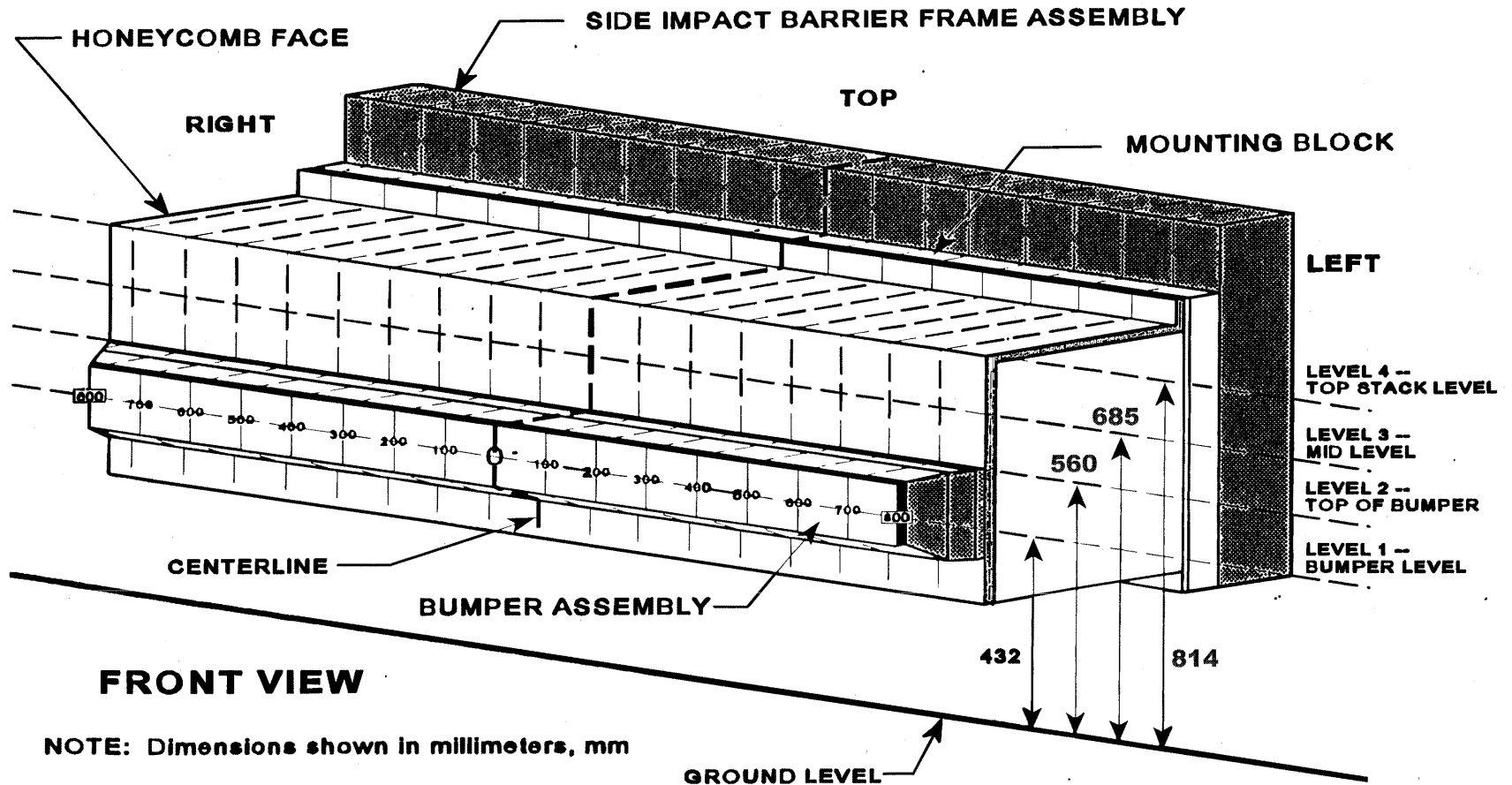


Table 10 Exterior Static Crush For Impactor Face

Location	Height At CL	Distance Right of Center (mm)									Distance Left of Center (mm)							
		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Top Stack Level - Level D	814	-56	-27	-17	-20	-24	-41	-71	-41	-44	-46	-37	-27	-33	-42	-59	-93	-125
Mid Level Level C	685	-53	-31	-22	-32	-22	-32	-55	-49	-23	-11	-10	-16	-28	-32	-37	-50	-78
Top Bumper Level-Level B	560	-73	-69	-65	-63	-59	-55	-52	-54	-48	-47	-45	-43	-43	-41	-44	-62	-80
Mid Bumper Level - Level A	432	-159	-156	-151	-143	-138	-135	-130	-127	-125	-121	-119	-117	-115	-113	-112	-130	-159

All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of ± 0.1 mm.

Table 11 Deformable Barrier Face Profiles

Deformable Barrier Face Profile

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-387	801	-49
2	-386	702	-50
3	-386	602	-50
4	-386	501	-50
5	-386	402	-50
6	-386	302	-50
7	-386	202	-50
8	-386	102	-51
9	-386	0	-51
10	-385	-99	-50
11	-385	-198	-50
12	-385	-299	-50
13	-385	-398	-50
14	-384	-499	-50
15	-384	-598	-51
16	-384	-699	-50
17	-384	-799	-50

Post-Test

Index	Xmm	Ymm	Zmm
1	-331	755	-83
2	-359	661	-84
3	-369	562	-86
4	-365	465	-88
5	-362	366	-89
6	-345	268	-91
7	-315	172	-92
8	-345	78	-89
9	-342	-22	-92
10	-339	-122	-92
11	-348	-221	-82
12	-358	-320	-72
13	-352	-421	-68
14	-342	-520	-64
15	-326	-619	-61
16	-291	-714	-60
17	-259	-808	-59

Difference

Index	Xmm	Ymm	Zmm
1	-56	46	34
2	-27	42	34
3	-17	40	36
4	-20	36	38
5	-24	36	39
6	-41	34	41
7	-71	29	42
8	-41	24	39
9	-44	21	41
10	-46	23	42
11	-37	23	32
12	-27	21	22
13	-33	22	18
14	-42	22	13
15	-59	21	11
16	-93	15	9
17	-125	10	9

Table 11 Deformable Barrier Face Profiles, Cont'd.

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-386	802	-178
19	-386	702	-179
20	-386	602	-179
21	-386	502	-179
22	-386	402	-179
23	-386	302	-179
24	-386	201	-179
25	-385	102	-178
26	-385	2	-178
27	-385	-99	-179
28	-385	-199	-179
29	-385	-299	-179
30	-385	-399	-178
31	-384	-498	-179
32	-384	-598	-179
33	-384	-699	-179
34	-384	-799	-179

Post-Test

Index	Xmm	Ymm	Zmm
18	-333	761	-204
19	-355	665	-212
20	-364	565	-214
21	-353	467	-216
22	-364	367	-218
23	-354	268	-219
24	-331	171	-220
25	-336	70	-217
26	-362	-27	-212
27	-375	-127	-208
28	-375	-227	-203
29	-369	-326	-198
30	-356	-426	-193
31	-352	-525	-189
32	-347	-625	-182
33	-334	-725	-177
34	-306	-818	-175

Difference

Index	Xmm	Ymm	Zmm
18	-53	41	26
19	-31	37	33
20	-22	37	36
21	-32	35	37
22	-22	35	39
23	-32	34	40
24	-55	31	41
25	-49	32	38
26	-23	29	34
27	-11	28	30
28	-10	28	24
29	-16	28	19
30	-28	28	15
31	-32	27	10
32	-37	27	4
33	-50	26	-2
34	-78	19	-4

Table 11 Deformable Barrier Face Profiles, Cont'd.

Deformable Barrier Face Profile Cont'd.

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-385	802	-304
36	-386	702	-304
37	-385	602	-304
38	-385	502	-305
39	-385	403	-304
40	-385	302	-304
41	-385	202	-304
42	-385	102	-304
43	-385	2	-304
44	-385	-98	-304
45	-385	-198	-304
46	-385	-297	-304
47	-385	-398	-305
48	-384	-498	-304
49	-384	-598	-305
50	-384	-698	-305
51	-383	-798	-305

Post-Test

Index	Xmm	Ymm	Zmm
35	-312	767	-314
36	-317	667	-320
37	-321	568	-322
38	-323	467	-326
39	-326	367	-325
40	-331	271	-328
41	-333	165	-333
42	-331	65	-332
43	-337	-33	-326
44	-338	-133	-321
45	-340	-233	-317
46	-341	-332	-314
47	-342	-432	-310
48	-343	-533	-306
49	-340	-633	-302
50	-321	-732	-292
51	-303	-832	-286

Difference

Index	Xmm	Ymm	Zmm
35	-73	36	11
36	-69	35	16
37	-65	35	18
38	-63	35	21
39	-59	36	22
40	-55	32	25
41	-52	37	29
42	-54	37	28
43	-48	35	22
44	-47	34	17
45	-45	34	13
46	-43	35	10
47	-43	34	5
48	-41	35	2
49	-44	35	-3
50	-62	34	-13
51	-80	34	-19

Table 11 Deformable Barrier Face Profiles, Cont'd.

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-477	795	-431
53	-488	695	-431
54	-487	595	-431
55	-487	495	-432
56	-487	396	-432
57	-487	296	-432
58	-487	195	-432
59	-487	95	-433
60	-487	-5	-433
61	-487	-105	-433
62	-487	-205	-432
63	-487	-305	-433
64	-487	-404	-433
65	-487	-504	-433
66	-486	-605	-432
67	-486	-705	-433
68	-470	-802	-433

Post-Test

Index	Xmm	Ymm	Zmm
52	-318	759	-455
53	-332	660	-458
54	-337	561	-459
55	-344	461	-459
56	-349	361	-459
57	-352	262	-458
58	-358	161	-457
59	-360	61	-456
60	-363	-39	-454
61	-366	-140	-453
62	-368	-239	-452
63	-370	-340	-451
64	-372	-439	-450
65	-374	-539	-448
66	-374	-639	-446
67	-356	-737	-438
68	-311	-826	-423

Difference

Index	Xmm	Ymm	Zmm
52	-159	36	24
53	-156	34	27
54	-151	35	27
55	-143	34	27
56	-138	35	27
57	-135	34	25
58	-130	34	25
59	-127	35	23
60	-125	34	22
61	-121	35	20
62	-119	35	20
63	-117	34	19
64	-115	35	17
65	-113	34	16
66	-112	34	14
67	-130	33	5
68	-159	24	-10

Figure 9 Deformable Barrier Face Profiles

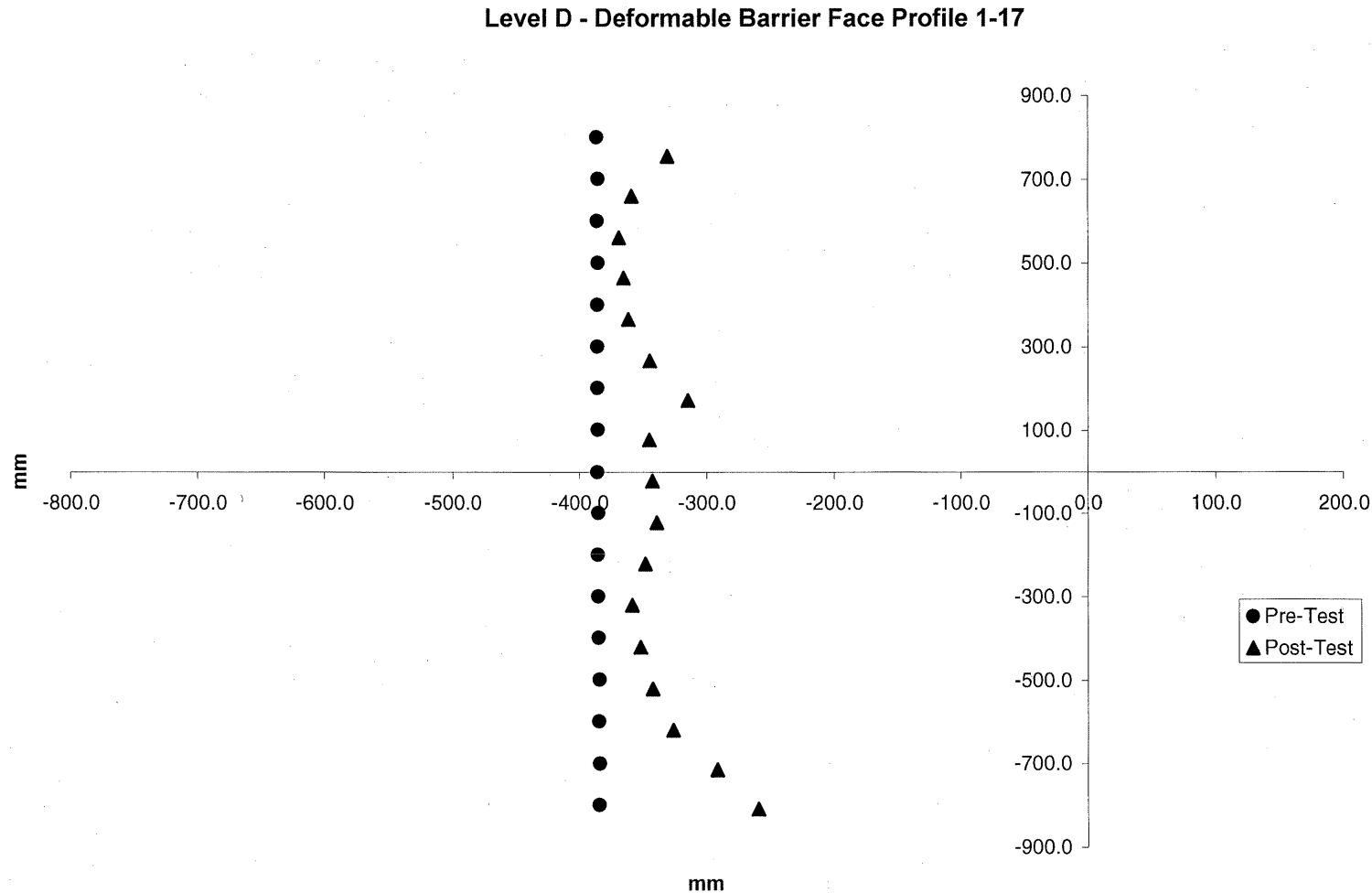


Figure 9 Deformable Barrier Face Profiles, Cont'd.

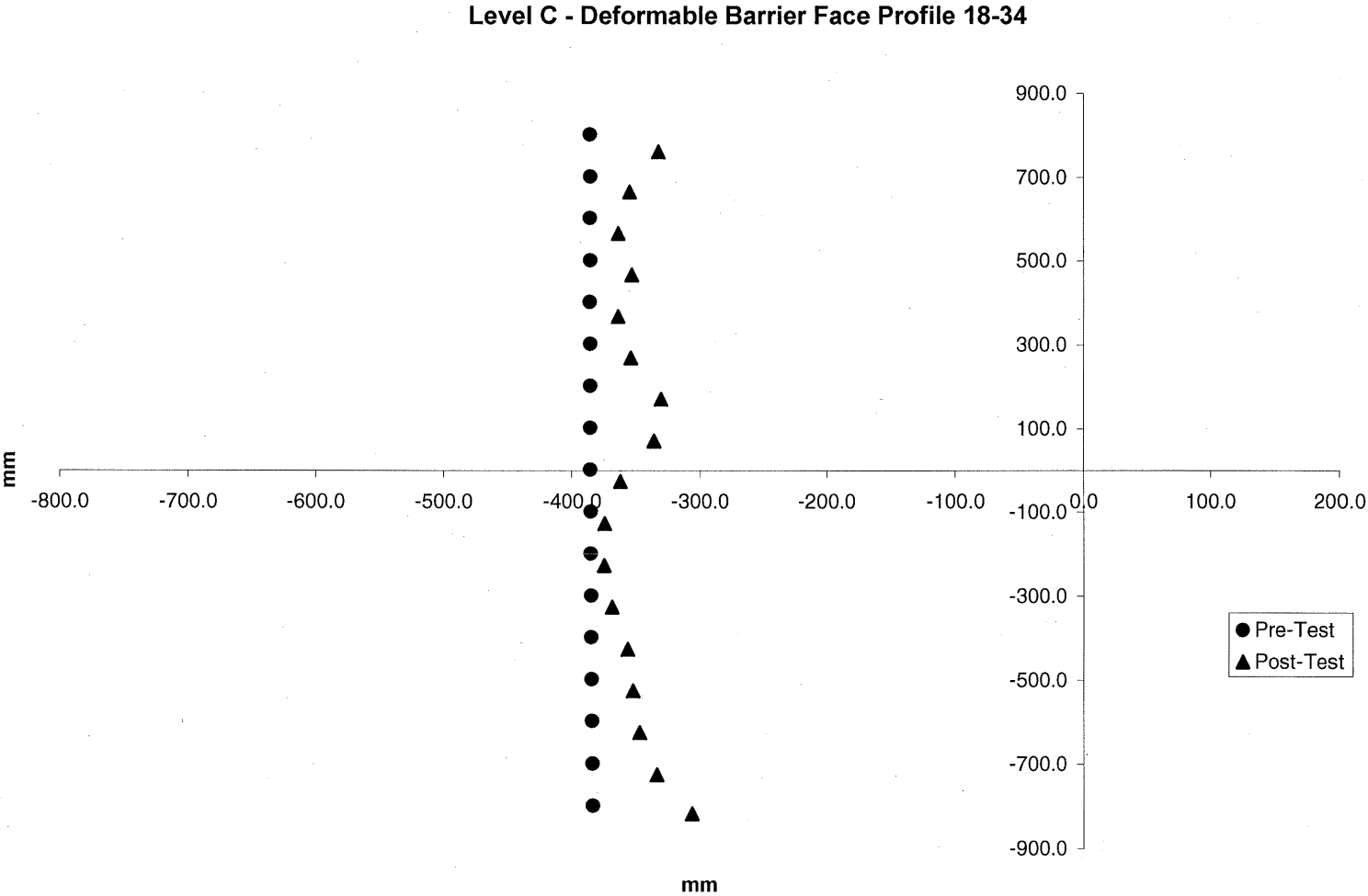


Figure 9 Deformable Barrier Face Profiles, Cont'd.

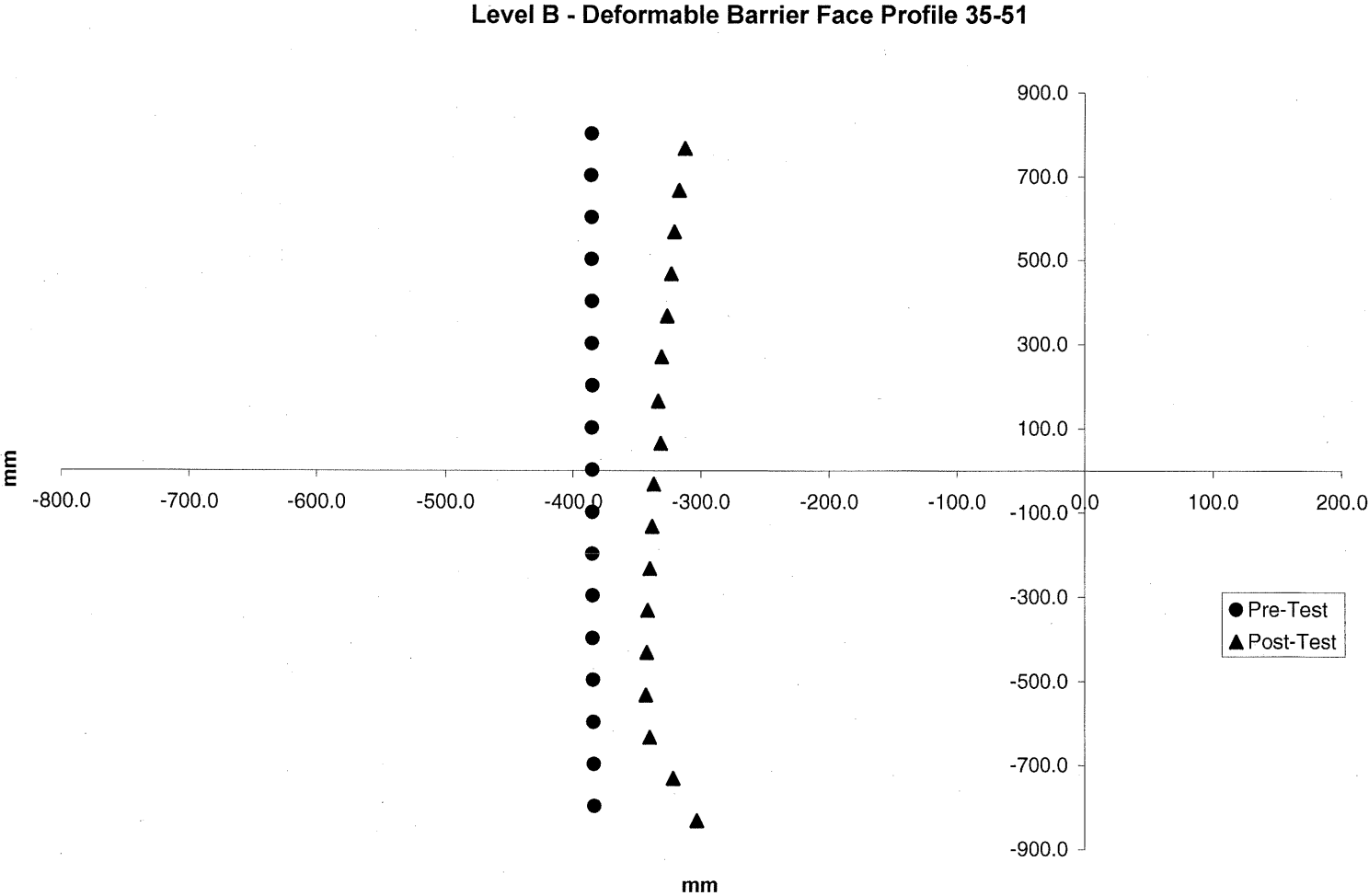


Figure 9 Deformable Barrier Face Profiles, Cont'd.

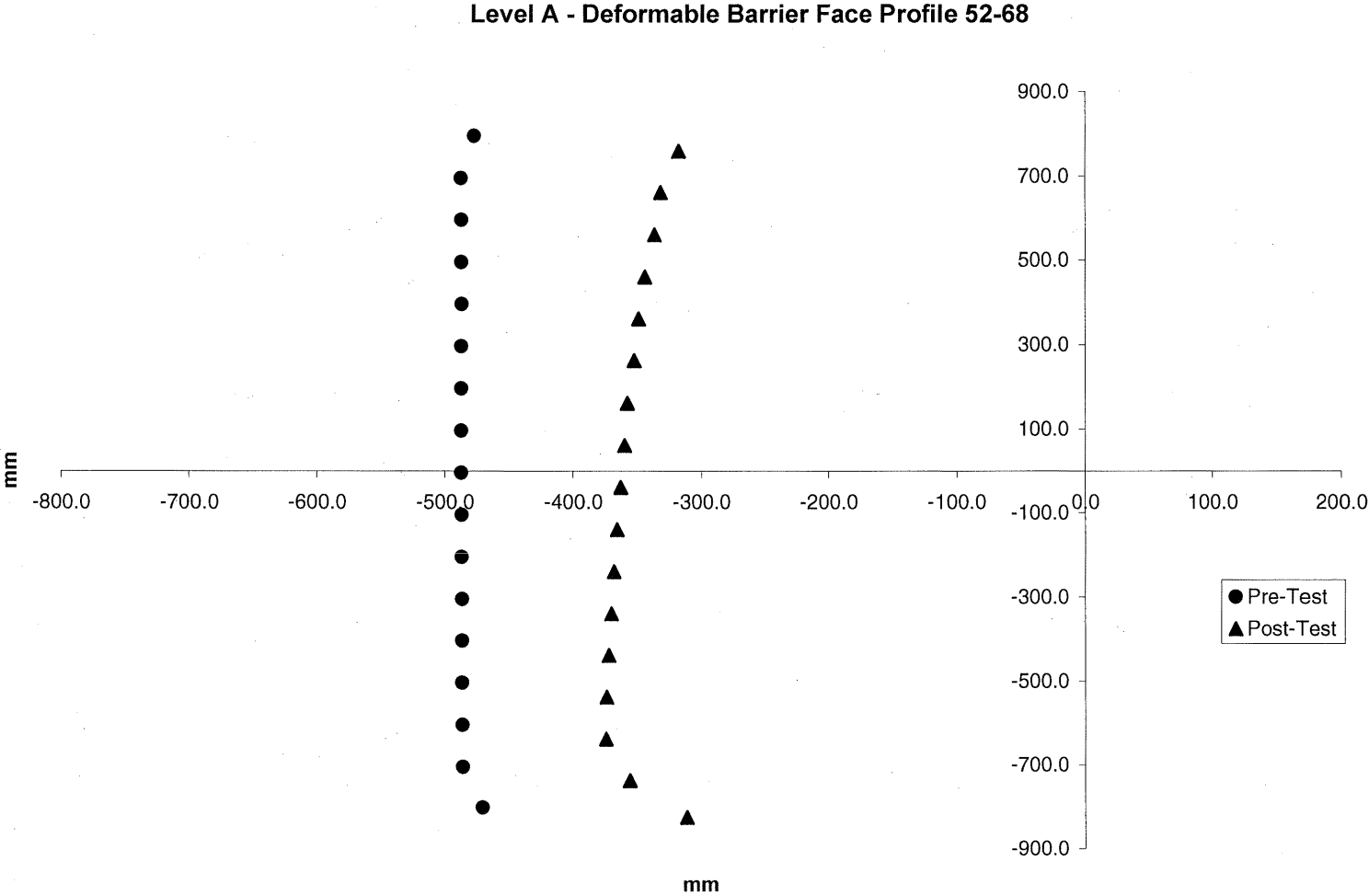
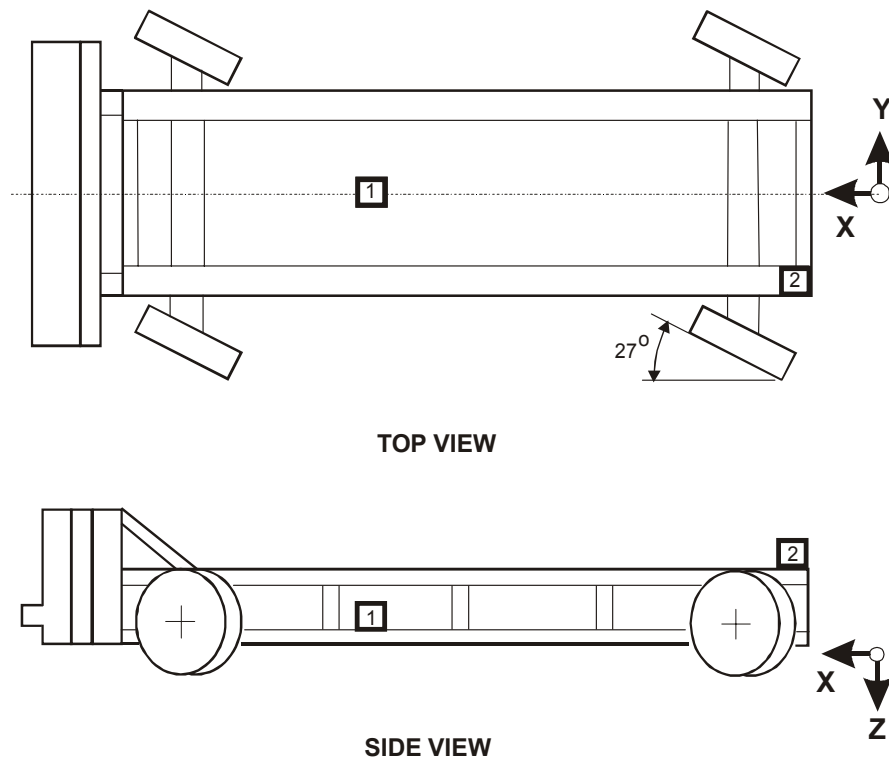


Figure 10 MDB Accelerometer Locations and Data Summary



Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	MDB Center of Gravity	1853	0	-519				
	Longitudinal X				1.7	106.8	-21.0	40.4
	Lateral Y				1.1	79.8	-6.7	39.4
	Vertical Z				7.5	15.4	-8.4	21.3
	Resultant R				22.8	40.0		
2	Rear Frame Member	411	-738	-628				
	Longitudinal X				1.9	118.4	-22.4	40.5
	Lateral Y				2.8	23.0	-2.3	59.0

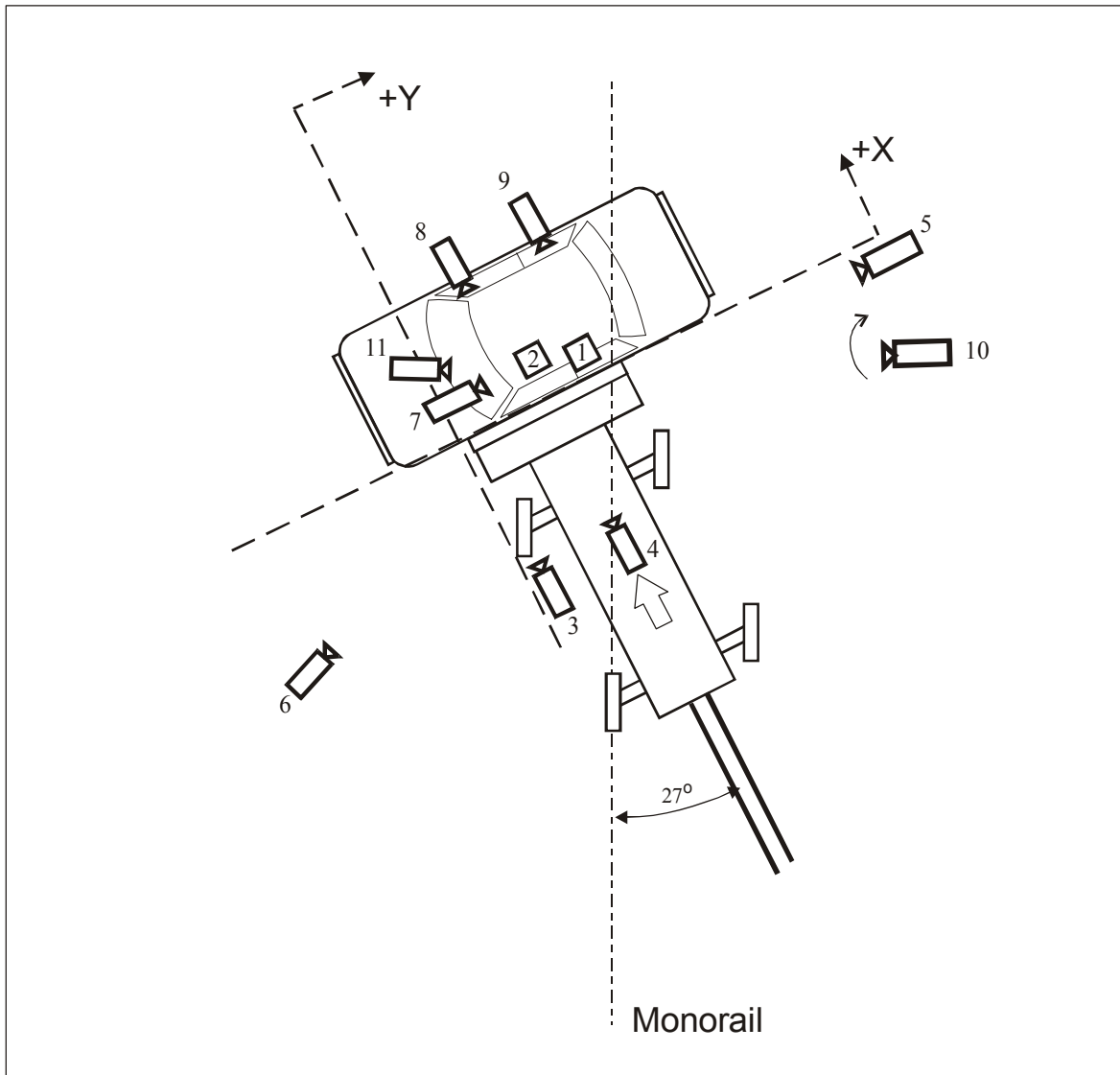
*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

All measurements accurate to within ± 3 mm.

Figure 11 Camera Positions



Impact
Area

Table 12 Camera Information

Camera Number	Location	Location, mm			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead wide	250	2150	-5750	-77.5	Zoom	1000
2	Overhead tight	370	1800	-5750	-85.5	50	1000
3	Onboard MDB left side	-1750	-40	-720	-0.5	13	1000
4	Onboard MDB center	-2480	830	-1353	-5.2	17	1000
5	Right wide	0	8750	-980	0.2	12.5	1000
6	Left quarter wide	-1050	-4790	-950	1.3	25	1000
7	Onboard vehicle front	400	-1550	-1240	4.2	25	1000
8	Onboard side front door	1660	0	-1200	8.2	12.5	1000
9	Onboard side rear door	1660	800	-1130	6.2	12.5	1000
10	Real-time Panning-Video	N/A	N/A	N/A	N/A		24
11	Onboard vehicle driver hip	1000	-1350	-1590	29.2	50	1000

+X: Forward (referenced to MDB) from impact point

+Y: Rightward (referenced to MDB) from impact point

+Z: Downward from ground level

Appendix A

Photographs



Figure A-1 Pre-Test Front View



Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View



Figure A-6 Post-Test Left Side View



Figure A-7 Pre-Test Left Rear View



Figure A-8 Post-Test Left Rear View



Figure A-9 Pre-Test Rear View



Figure A-10 Post-Test Rear View



Figure A-11 Pre-Test Right Rear View



Figure A-12 Post-Test Right Rear View



Figure A-13 Pre-Test Right Side View



Figure A-14 Post-Test Right Side View



Figure A-15 Pre-Test Right Front View



Figure A-16 Post-Test Right Front View



Figure A-17 Pre-Test Front View with MDB in Position



Figure A-18 Post-Test Front View with MDB in Position



Figure A-19 Pre-Test Rear View with MDB in Position



Figure A-20 Post-Test Rear View with MDB in Position

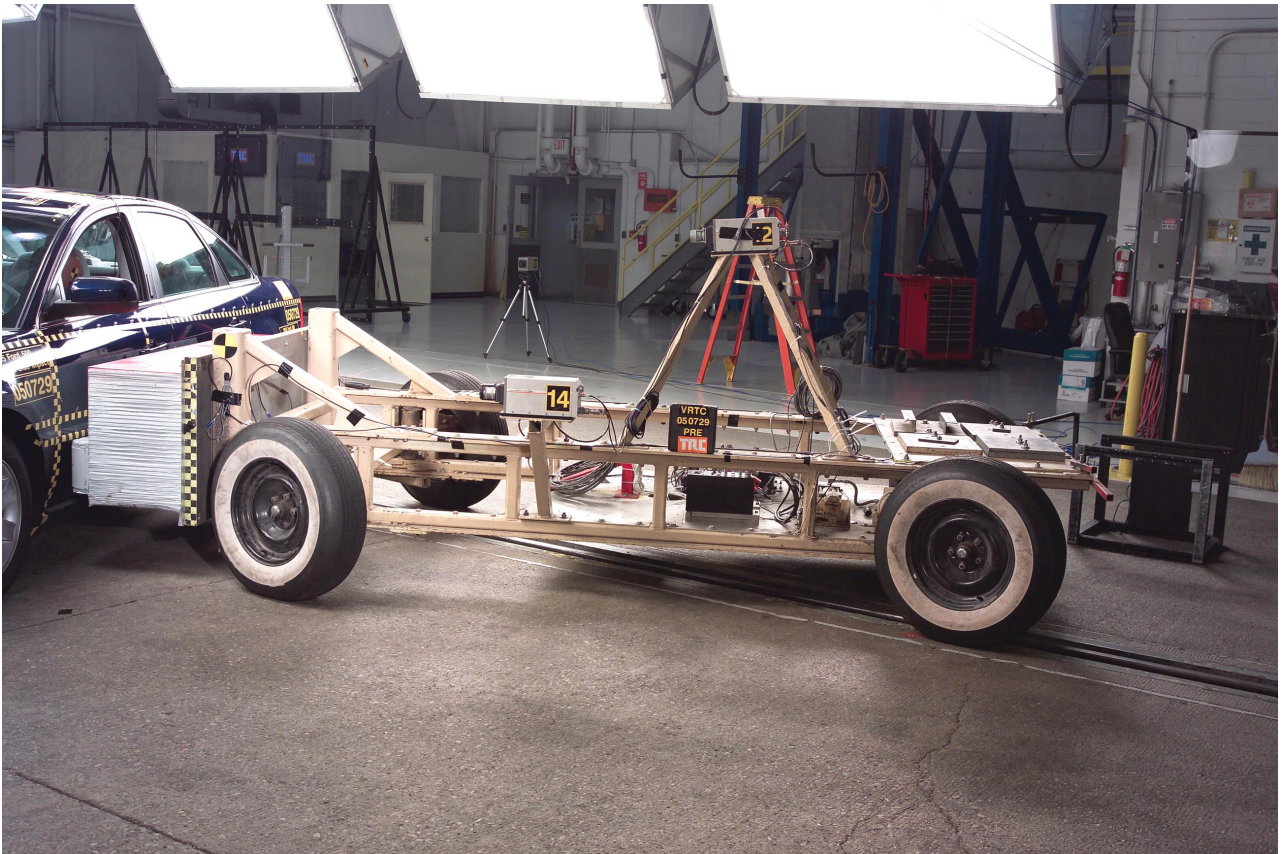


Figure A-21 Pre-Test Left Side View of MDB with Impactor Face in Position

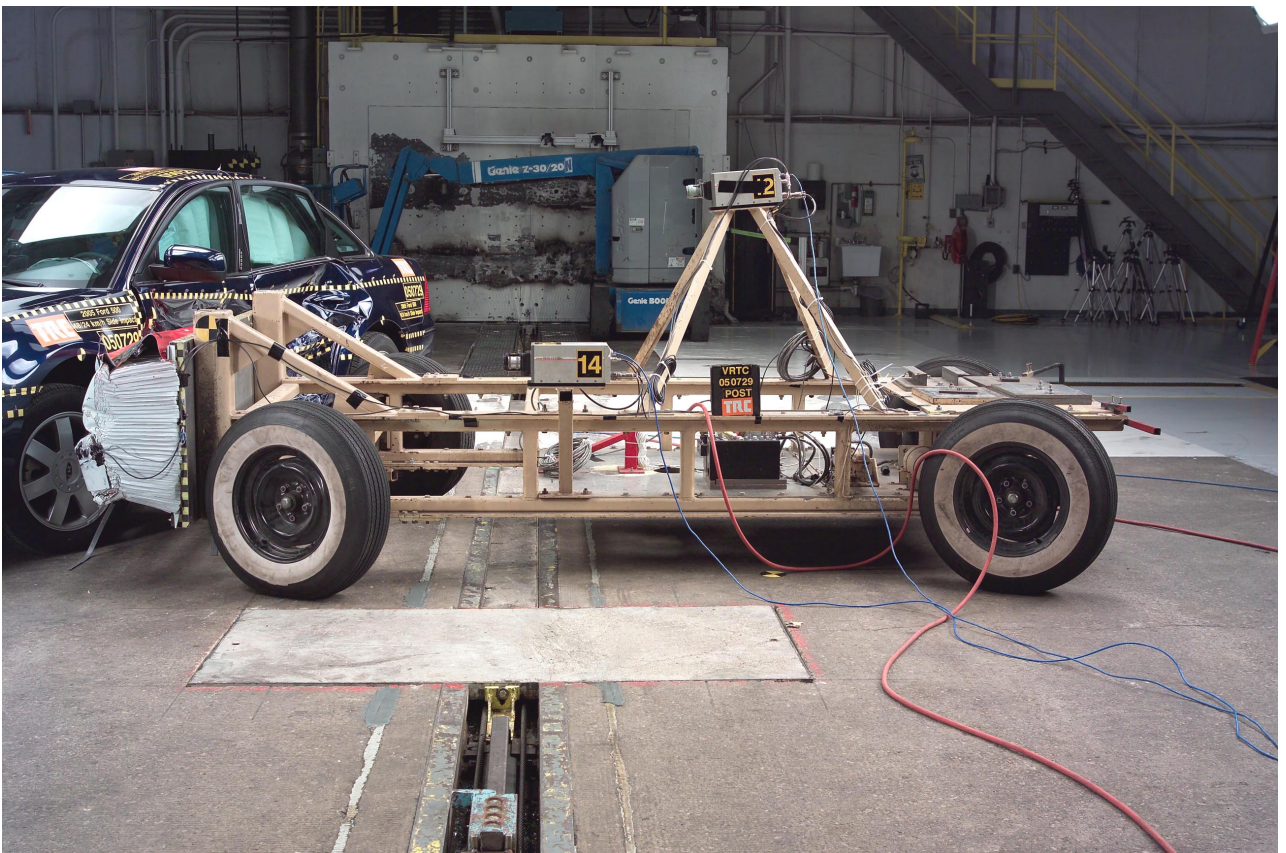


Figure A-22 Post-Test Left Side View of MDB with Impactor Face in Position



Figure A-23 Pre-Test Rear View of MDB with Impactor Face in Position



Figure A-24 Post-Test Rear View of MDB with Impactor Face in Position



Figure A-25 Pre-Test Right Side View of MDB with Impactor Face in Position

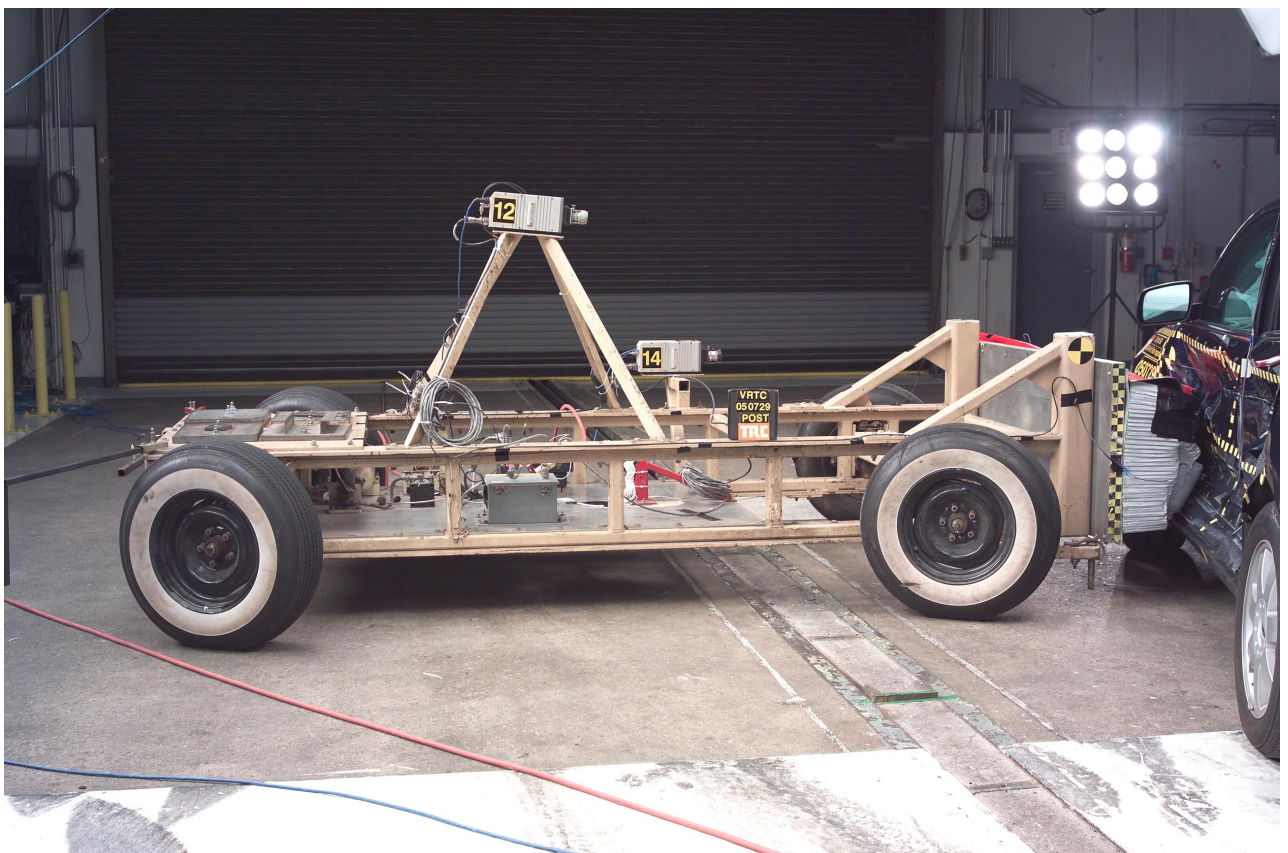


Figure A-26 Post-Test Right Side View of MDB with Impactor Face in Position



Figure A-27 Pre-Test Overhead View of MDB Aligned with Vehicle



Figure A-28 Post-Test Overhead View of MDB Aligned with Vehicle



Figure A-29 Pre-Test Frontal View of Impactor Face



Figure A-30 Post-Test Frontal View of Impactor Face

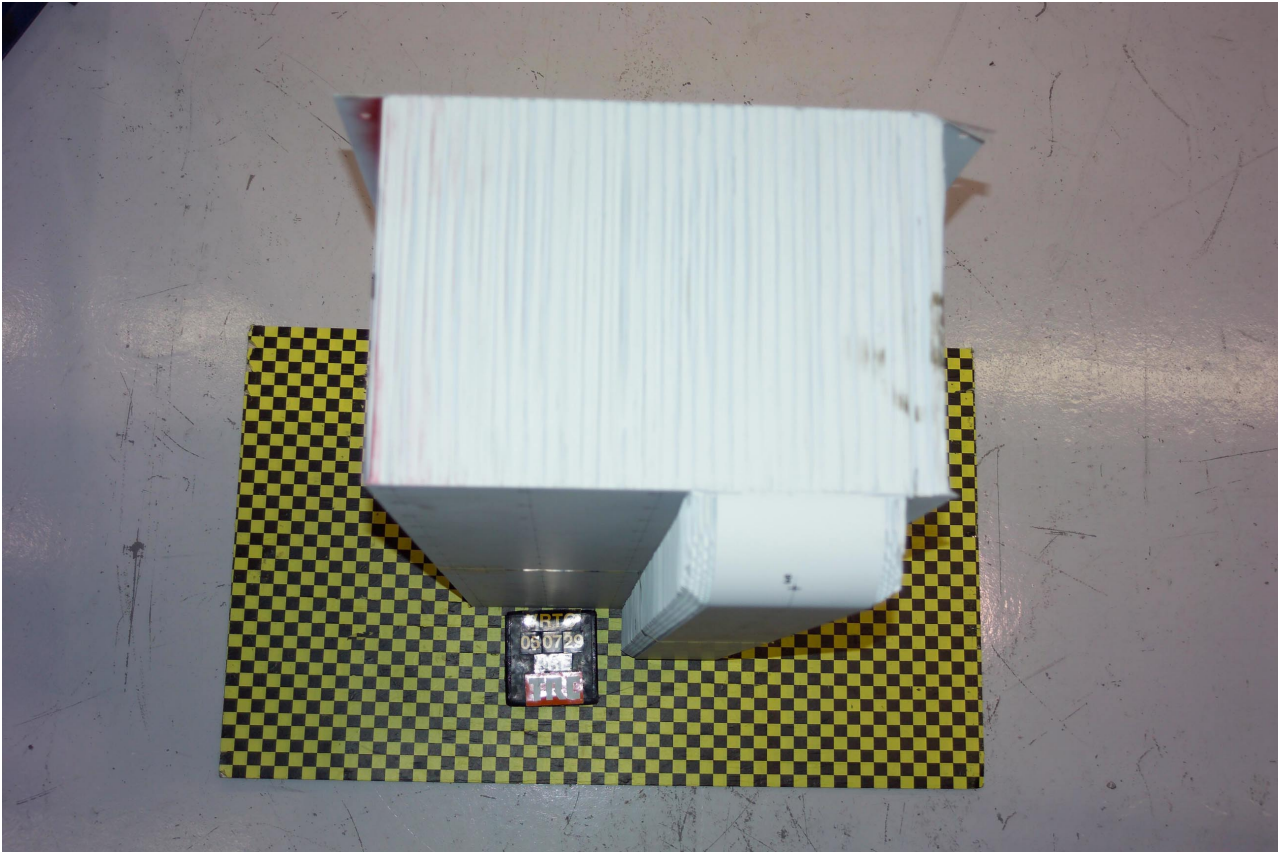


Figure A-31 Pre-Test Left Side View of Impactor Face



Figure A-32 Post-Test Left Side View of Impactor Face

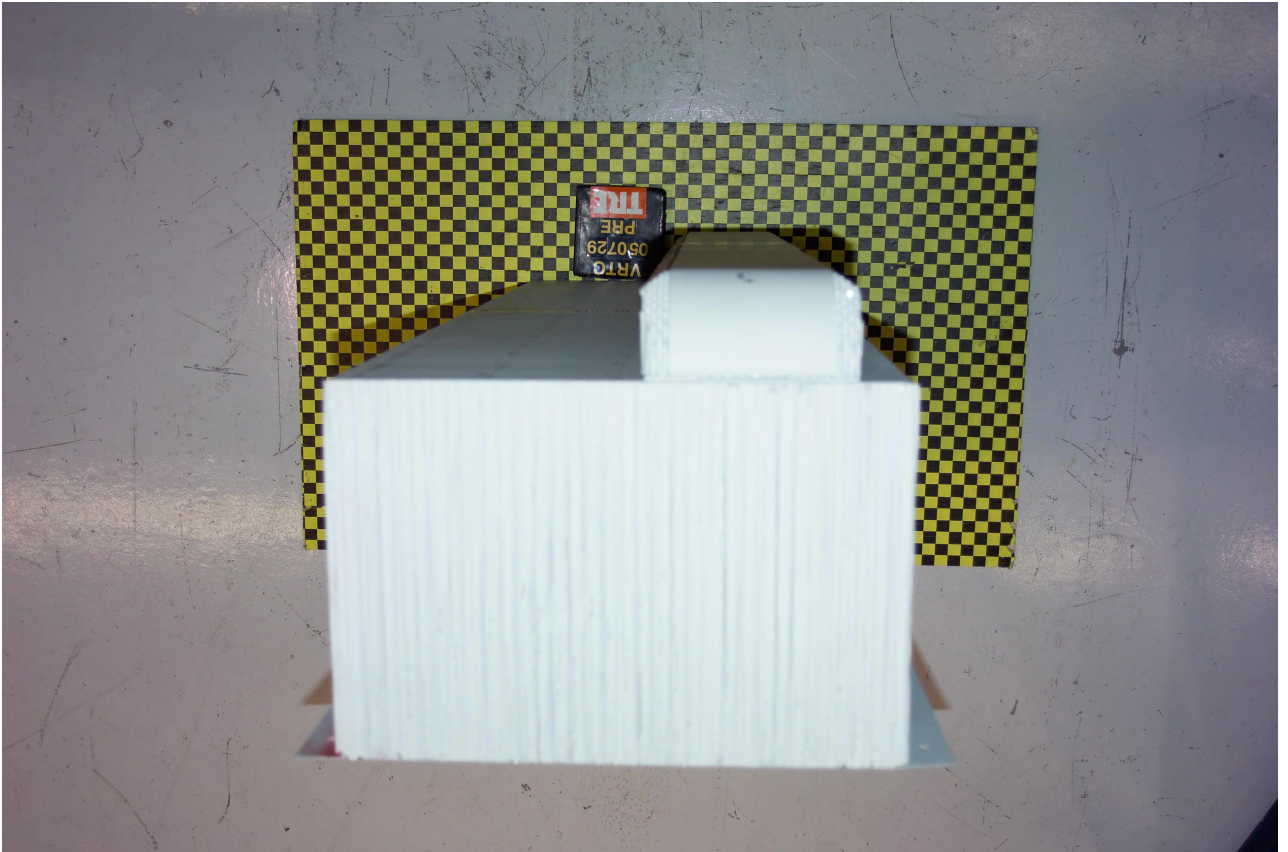


Figure A-33 Pre-Test Right Side View of Impactor Face

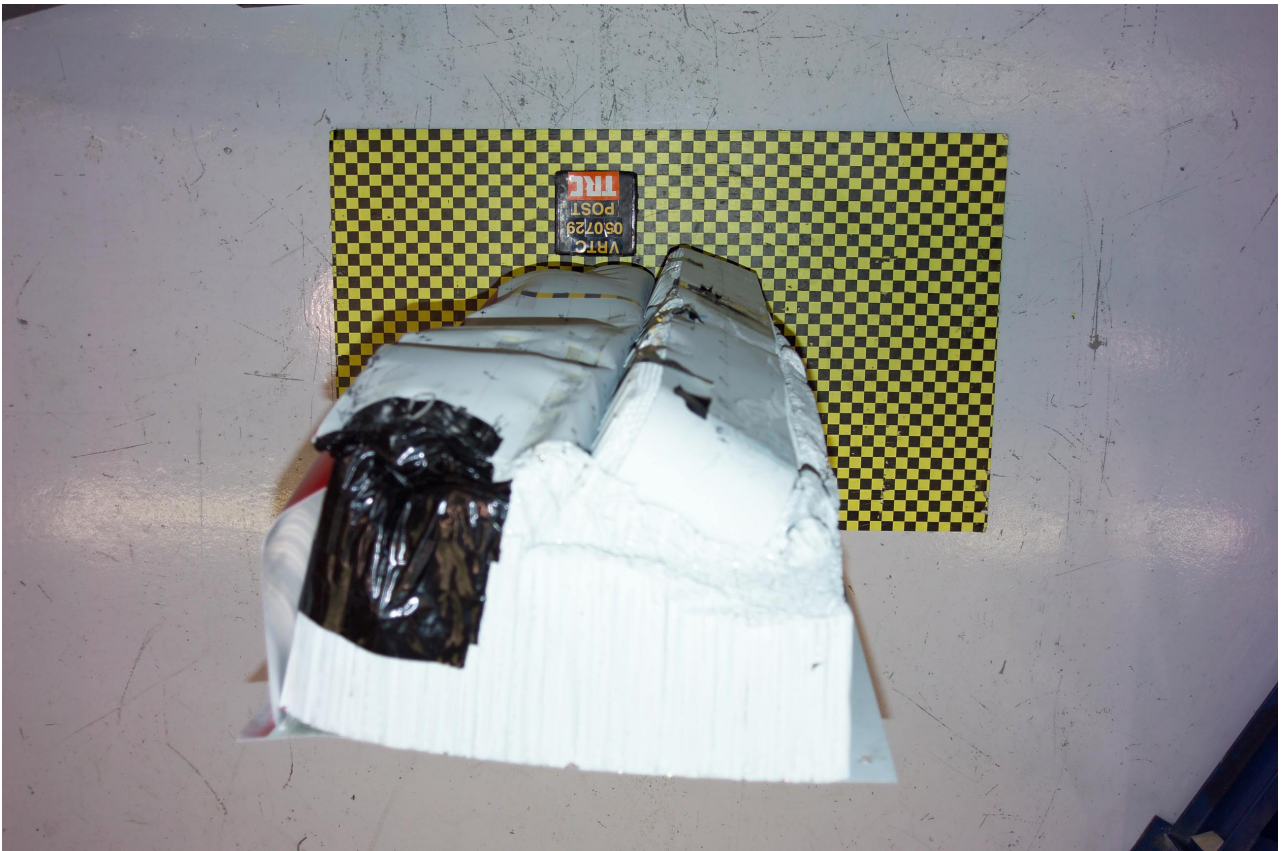


Figure A-34 Post-Test Right Side View of Impactor Face

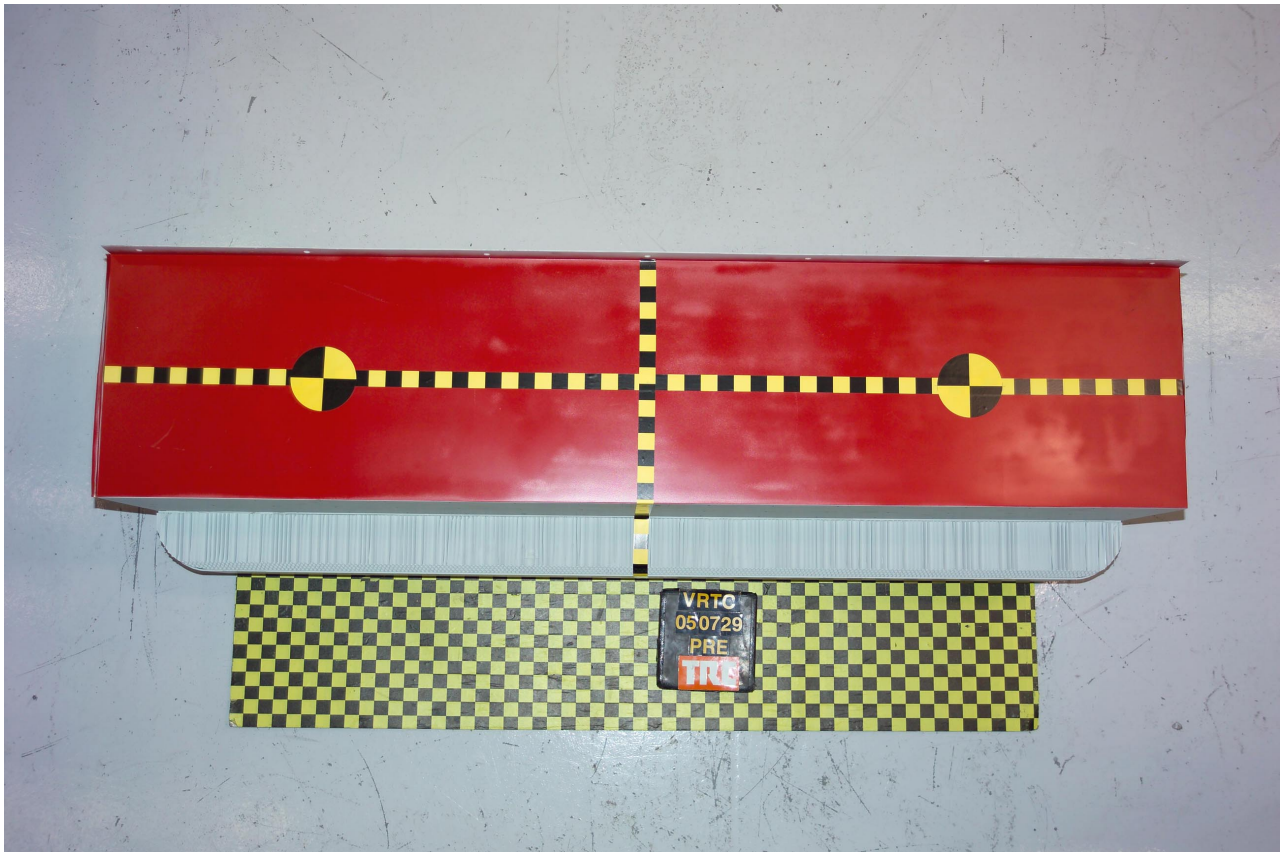


Figure A-35 Pre-Test Top View of Impactor Face

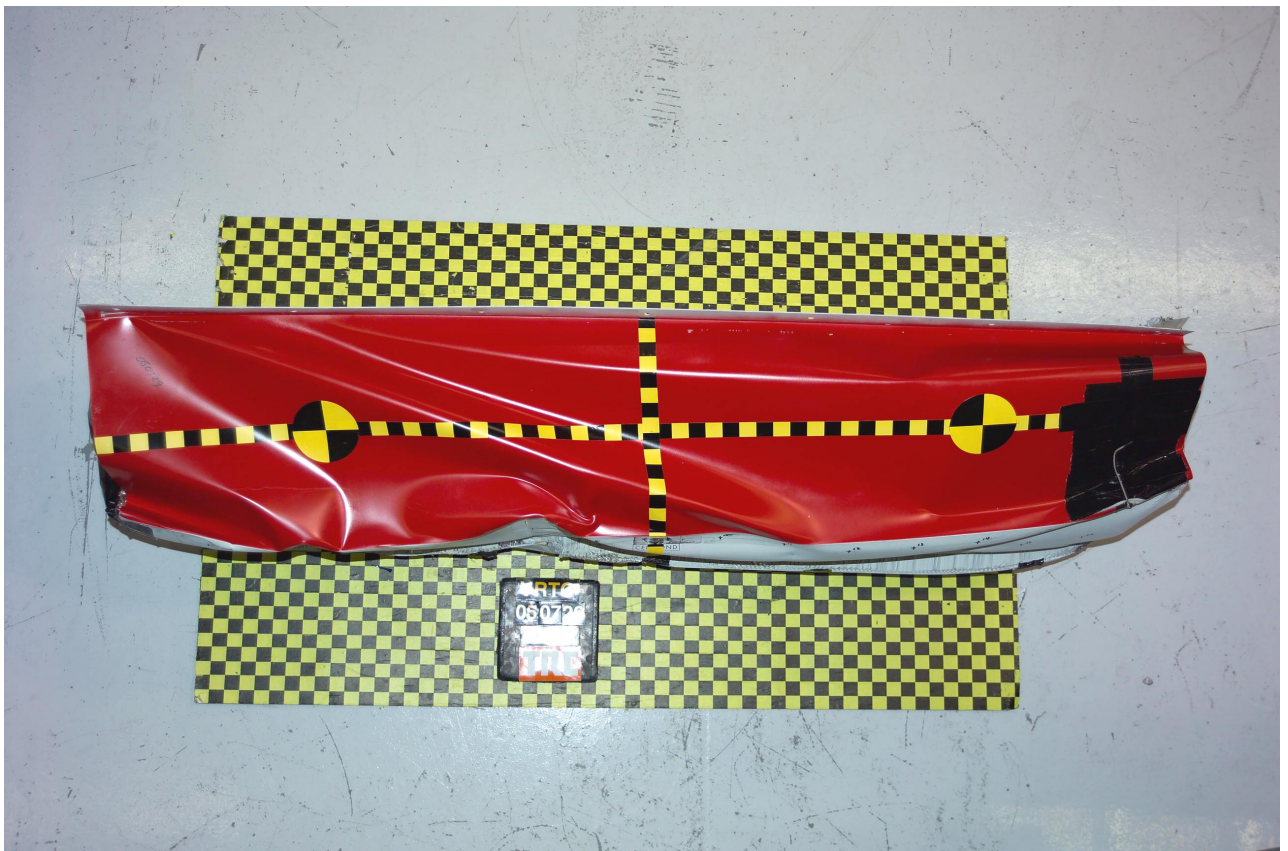


Figure A-36 Post-Test Top View of Impactor Face

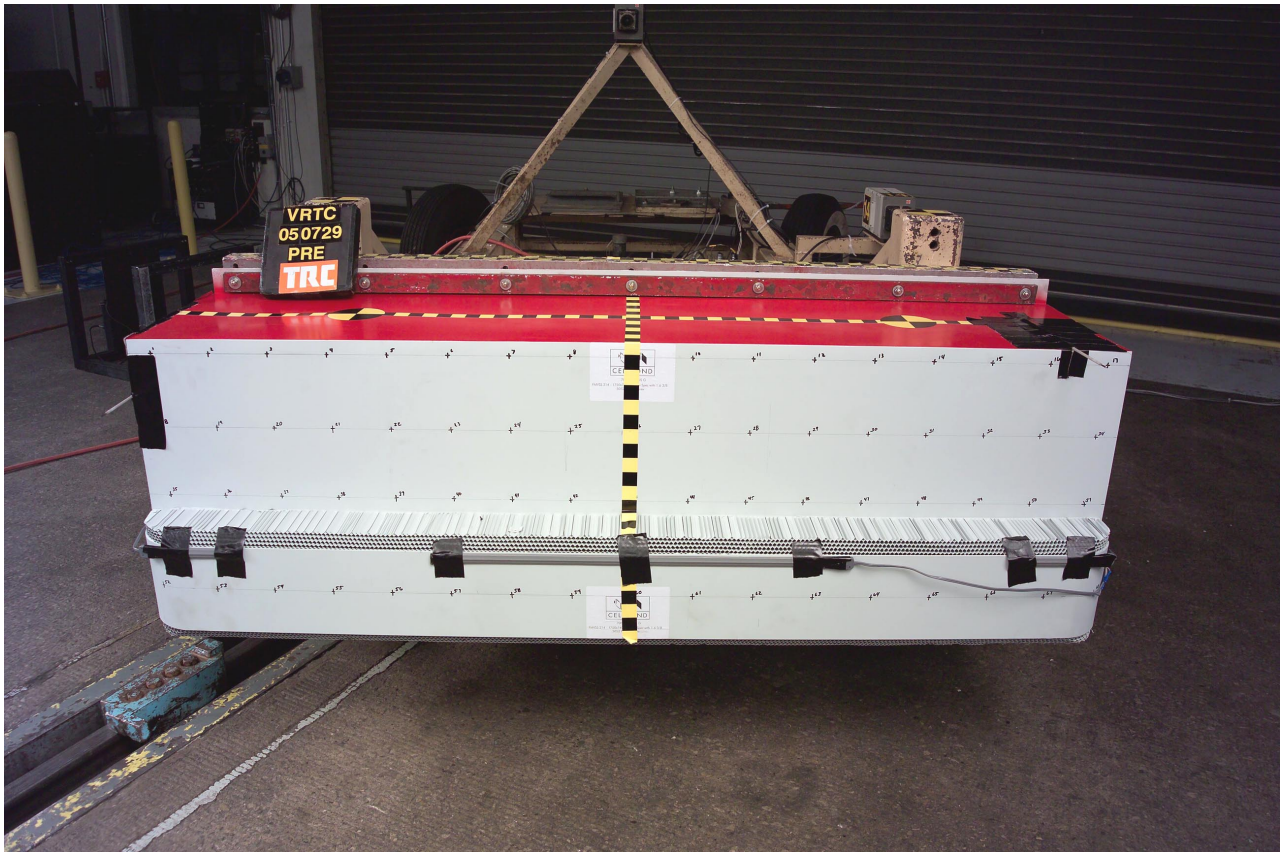


Figure A-37 Pre-Test View of MDB Showing Contact Switches in Place



Figure A-38 Post-Test View of MDB Showing Contact Switches in Place



Figure A-39 Pre-Test Primary Impact Point View



Figure A-40 Post-Test Primary Impact Point View



Figure A-41 Pre-Test Secondary Impact Point View



Figure A-42 Post-Test Secondary Impact Point View



Figure A-43 Pre-Test Fuel Filler Cap View



Figure A-44 Post-Test Fuel Filler Cap View



Figure A-45 Pre-Test Right Occupant Compartment View of Front SID-IIs



Figure A-46 Post-Test Right Occupant Compartment View of Front SID-IIs

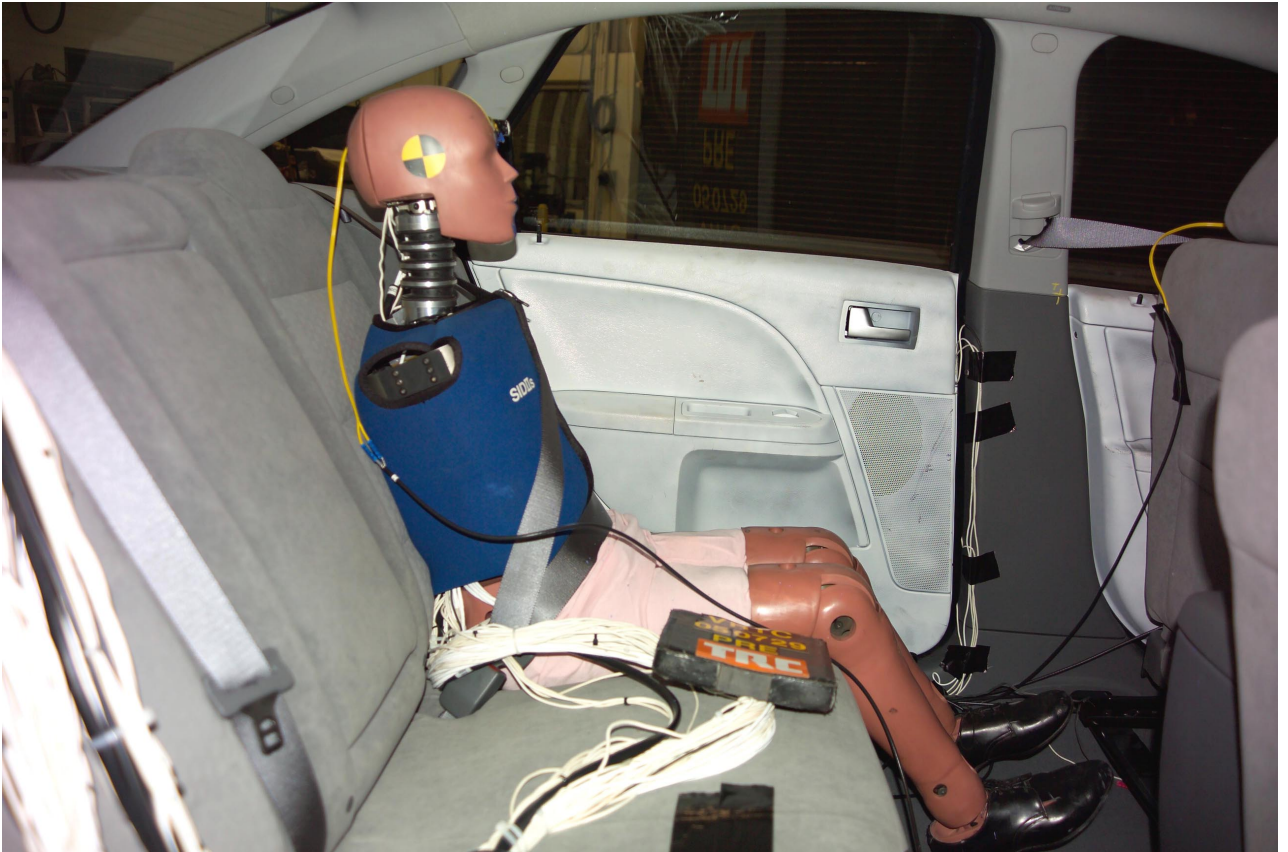


Figure A-47 Pre-Test Right Occupant Compartment View of Rear SID-IIs

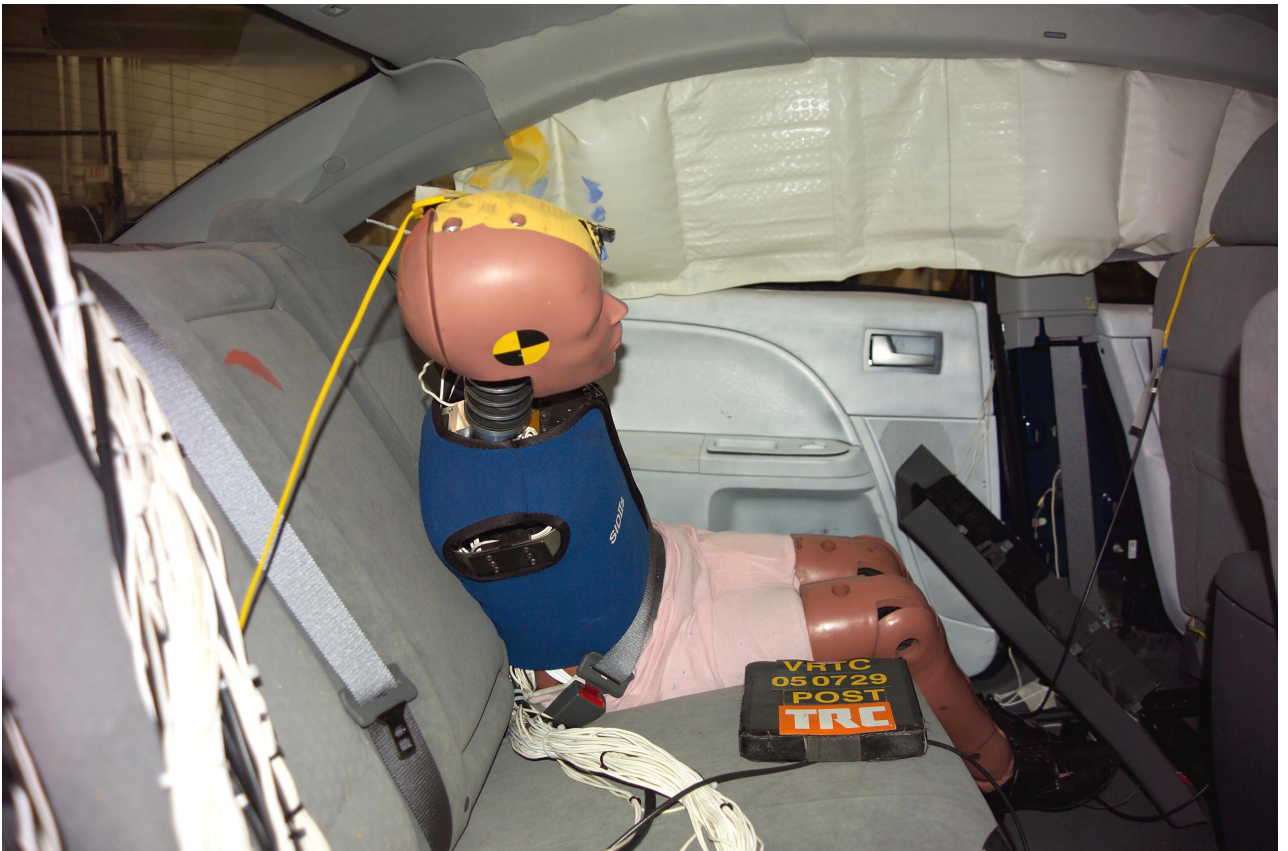


Figure A-48 Post-Test Right Occupant Compartment View of Rear SID-IIs



Figure A-49 Pre-Test Left View of Front SID-IIs - View 1



Figure A-50 Post-Test Left View of Front SID-IIs View



Figure A-51 Pre-Test Left View of Front SID-IIs - View 2

Intentionally Left Blank



Figure A-52 Pre-Test Left View of Front SID-IIs and Door Clearance



Figure A-53 Post-Test Left View of Front SID-IIs and Door Clearance



Figure A-54 Pre-Test Left View of Rear SID-IIs - View 1



Figure A-55 Post-Test Left View of Rear SID-IIs View



Figure A-56 Pre-Test Left View of Rear SID-IIs - View 2

Intentionally Left Blank



Figure A-57 Pre-Test Left View of Rear SID-II and Door Clearance



Figure A-58 Post-Test Left View of Rear SID-II and Door Clearance



Figure A-59 Pre-Test Interior of Front Door



Figure A-60 Post-Test Interior of Front Door Showing SID-II's Impact Locations



Figure A-61 Post-Test Front SID-II Contact - View 1



Figure A-62 Post-Test Front SID-II Contact - View 2



Figure A-63 Post-Test Front SID-IIs Contact - View 3

Intentionally Left Blank



Figure A-64 Pre-Test Interior of Rear Door



Figure A-65 Post-Test Interior of Rear Door Showing SID-II's Impact Locations



Figure A-66 Post-Test Rear SID-IIs Contact - View 1



Figure A-67 Post-Test Rear SID-II Contact - View 2



Figure A-68 Post-Test Rear SID-IIs Contact - View 3

Intentionally Left Blank

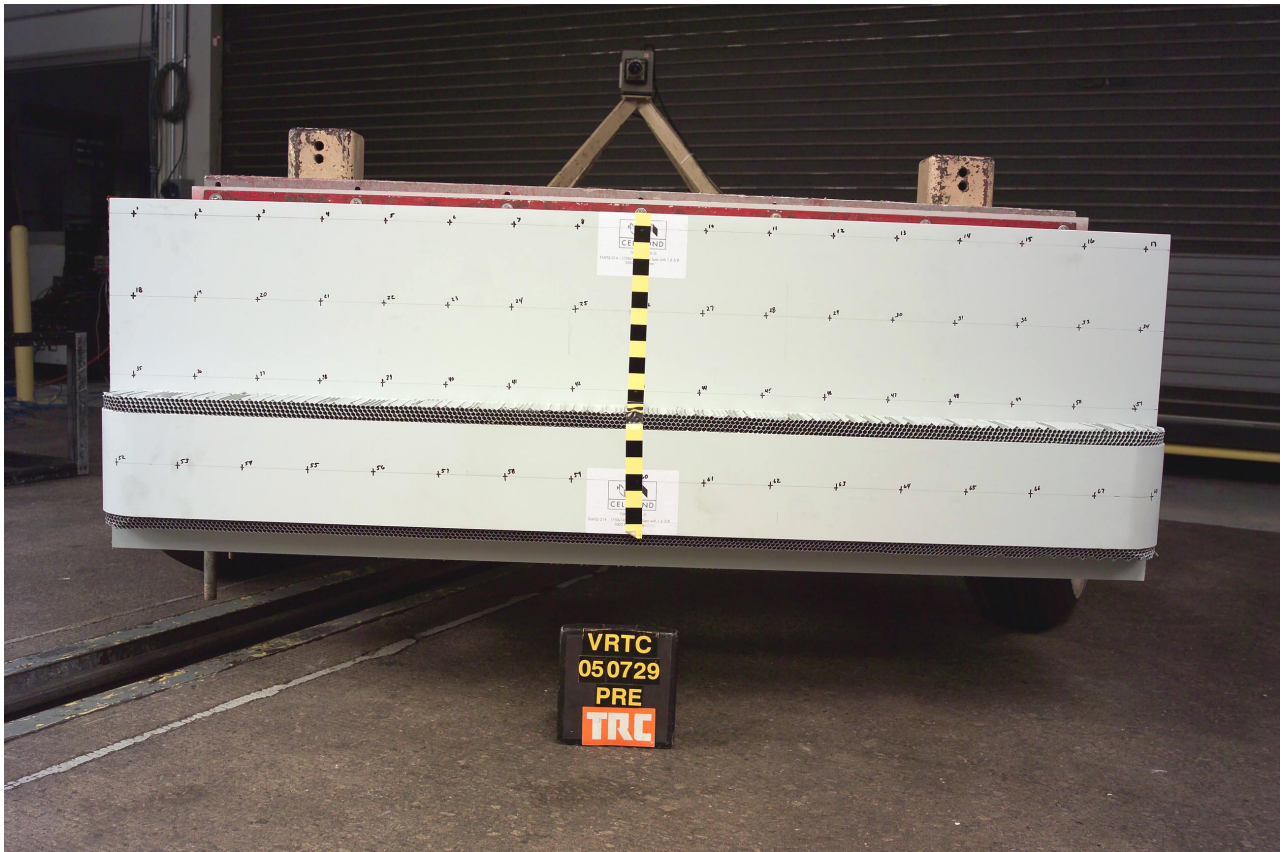


Figure A-69 Pre-Test Barrier Face Front View

Intentionally Left Blank



Figure A-70 Pre-Test Barrier Face Left Side View



Figure A-71 Post-Test Barrier Face Left Side View



Figure A-72 Pre-Test Barrier Face Right Side View



Figure A-73 Post-Test Barrier Face Right Side View

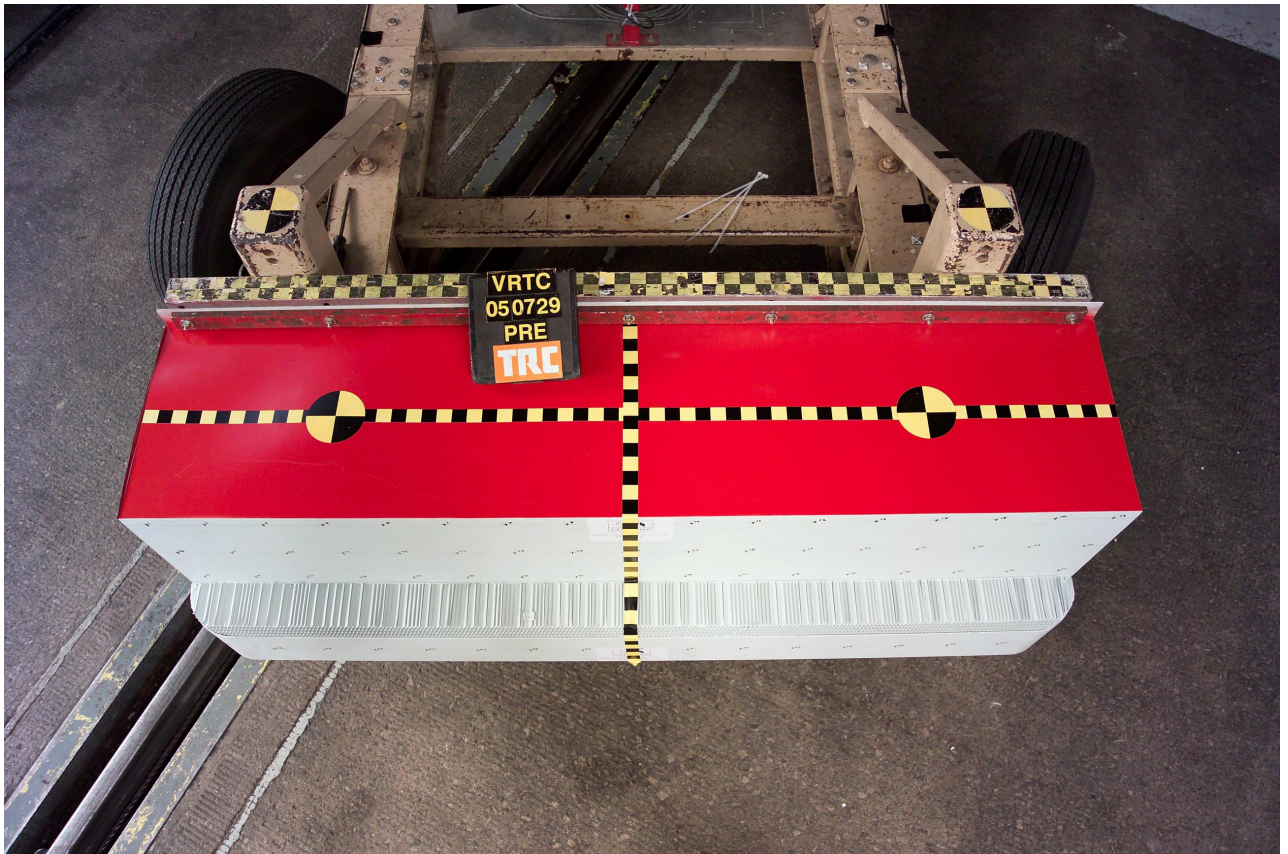


Figure A-74 Pre-Test Barrier Face Overhead View



Figure A-75 Post-Test Barrier Face Overhead View

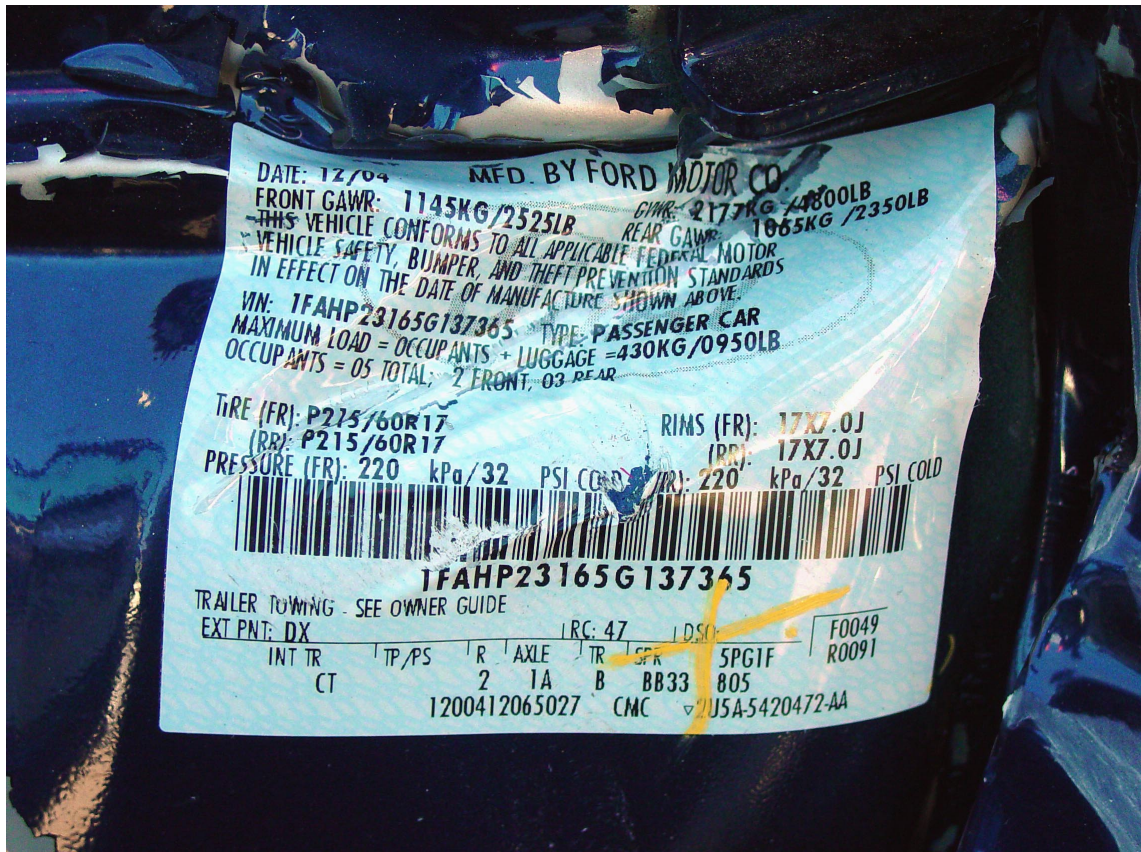


Figure A-76 Vehicle Certification Label View



Figure A-77 Vehicle Tire Load Label View

Appendix B

Data Plots



MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

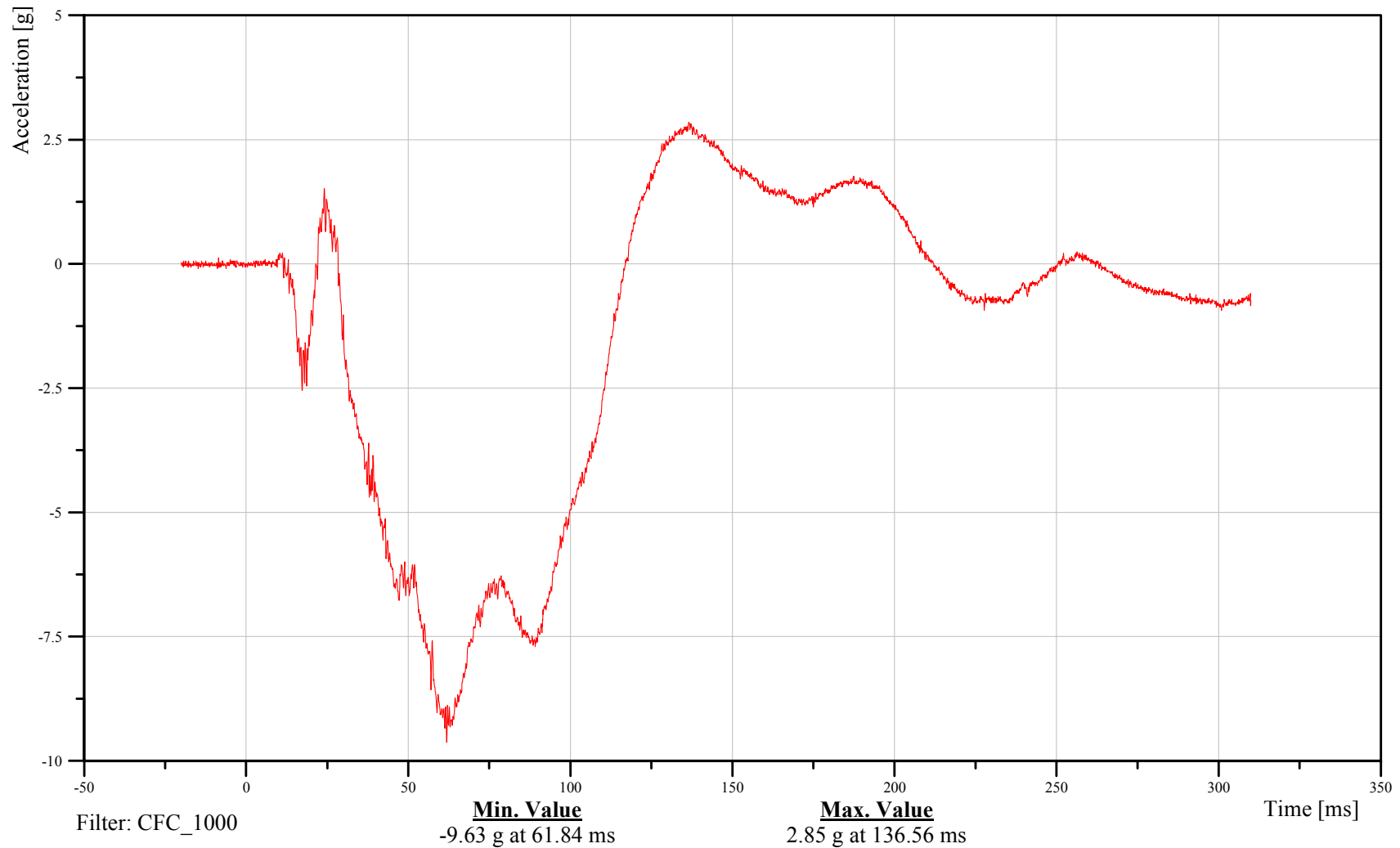
Head Accel X

Customer: VRTC

11HEADCG00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Head Accel Y

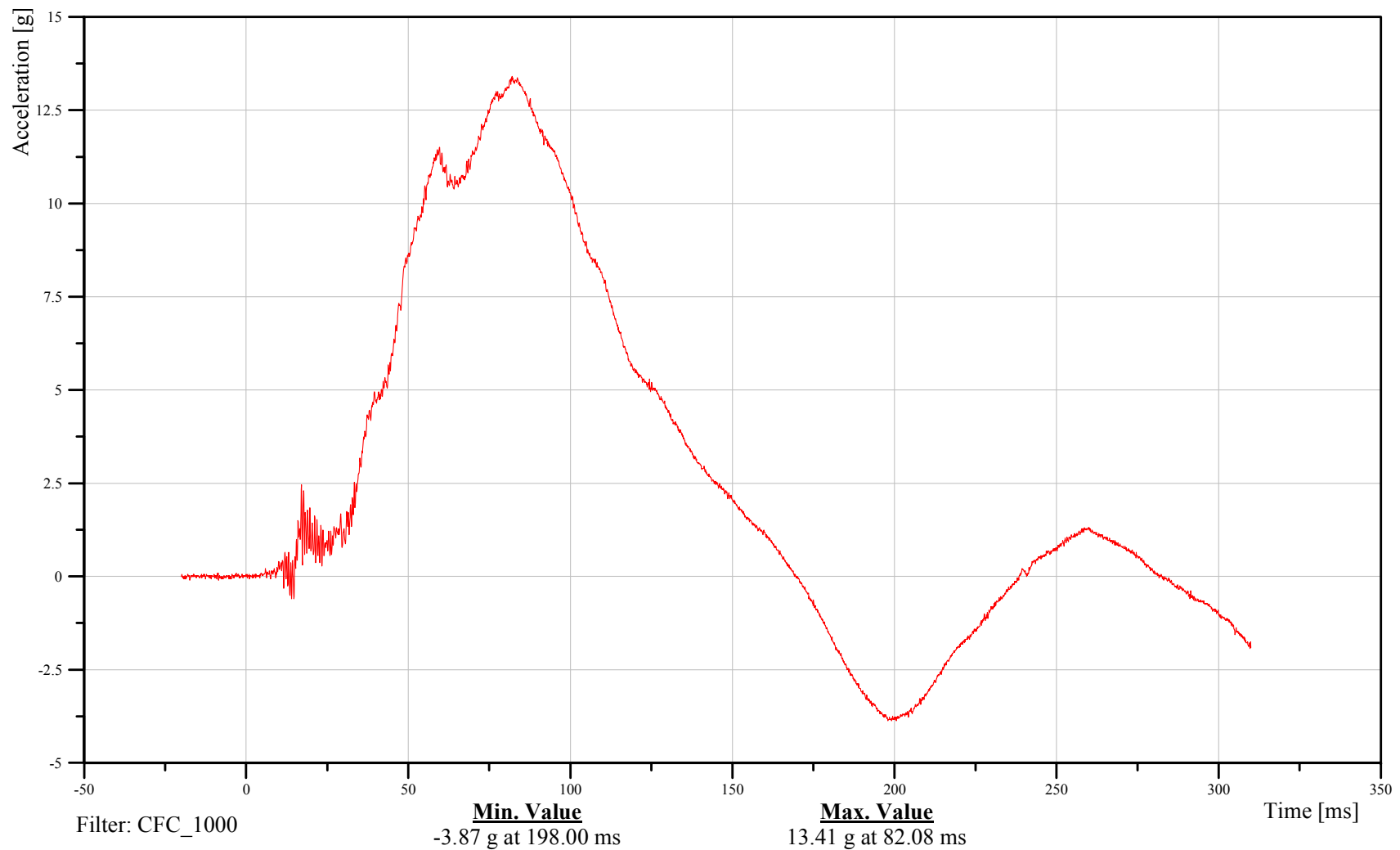
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11HEADCG00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

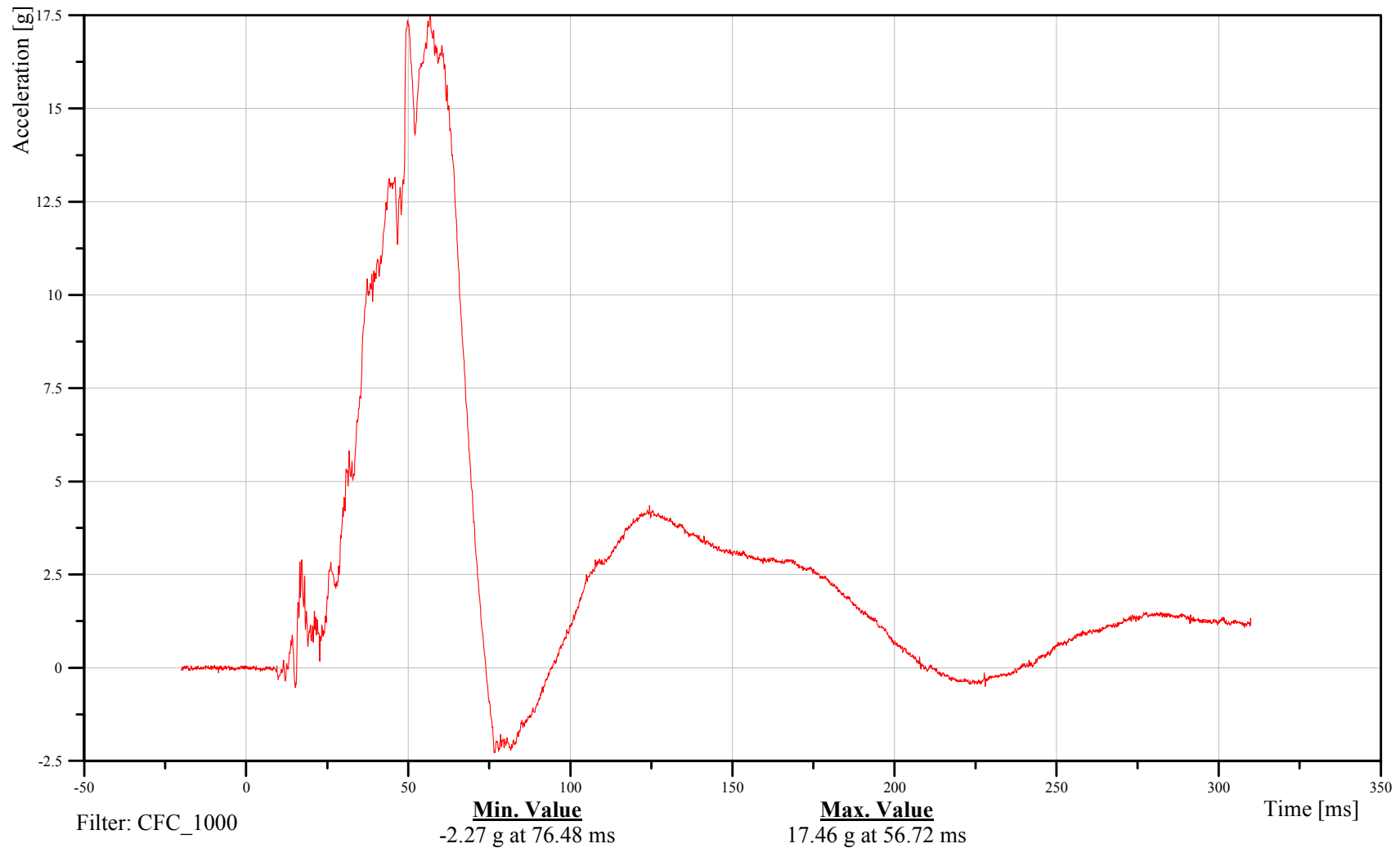
Head Accel Z

Customer: VRTC

11HEADCG00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

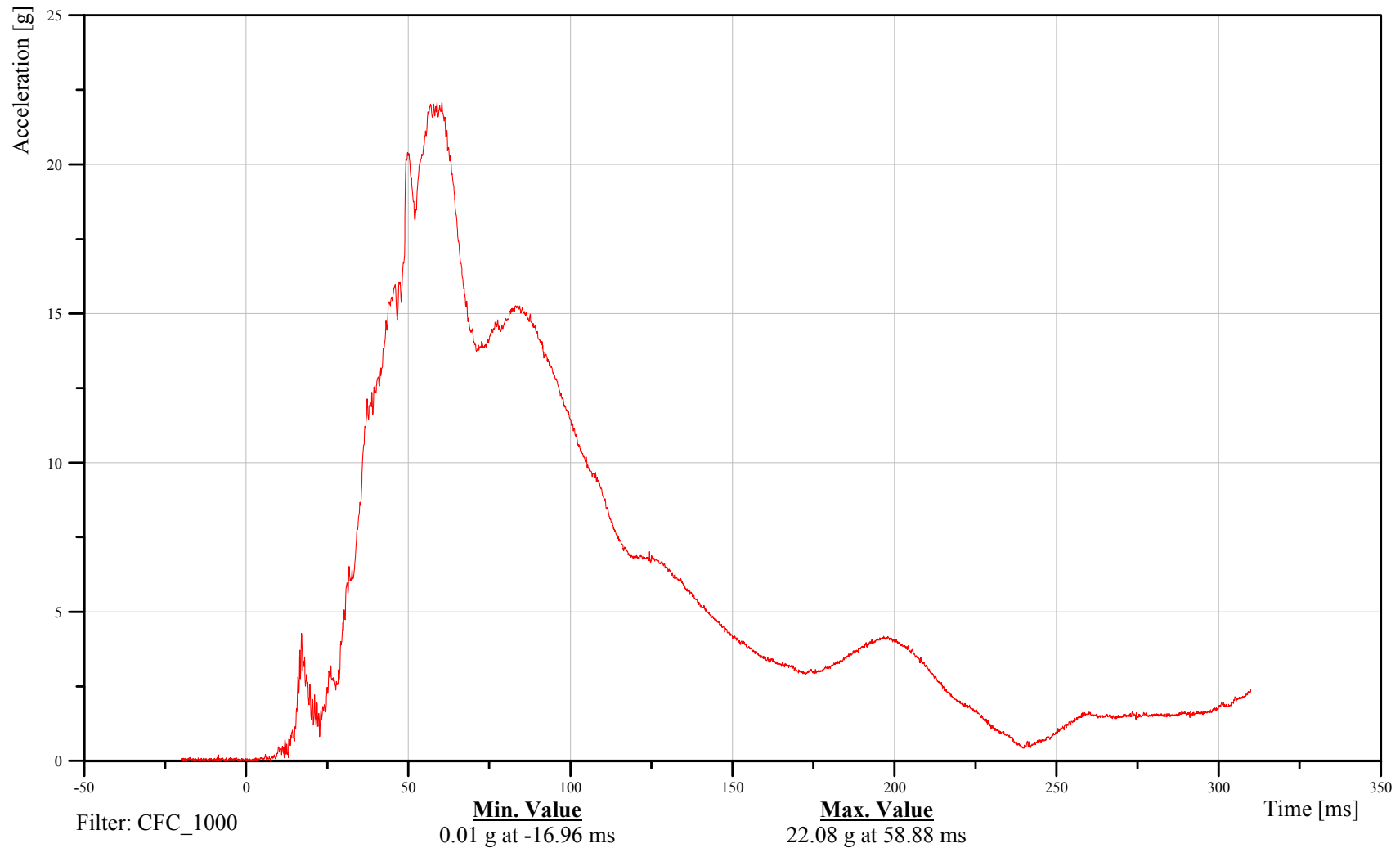
Head Accel Resultant

Customer: VRTC

11HEADCG00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

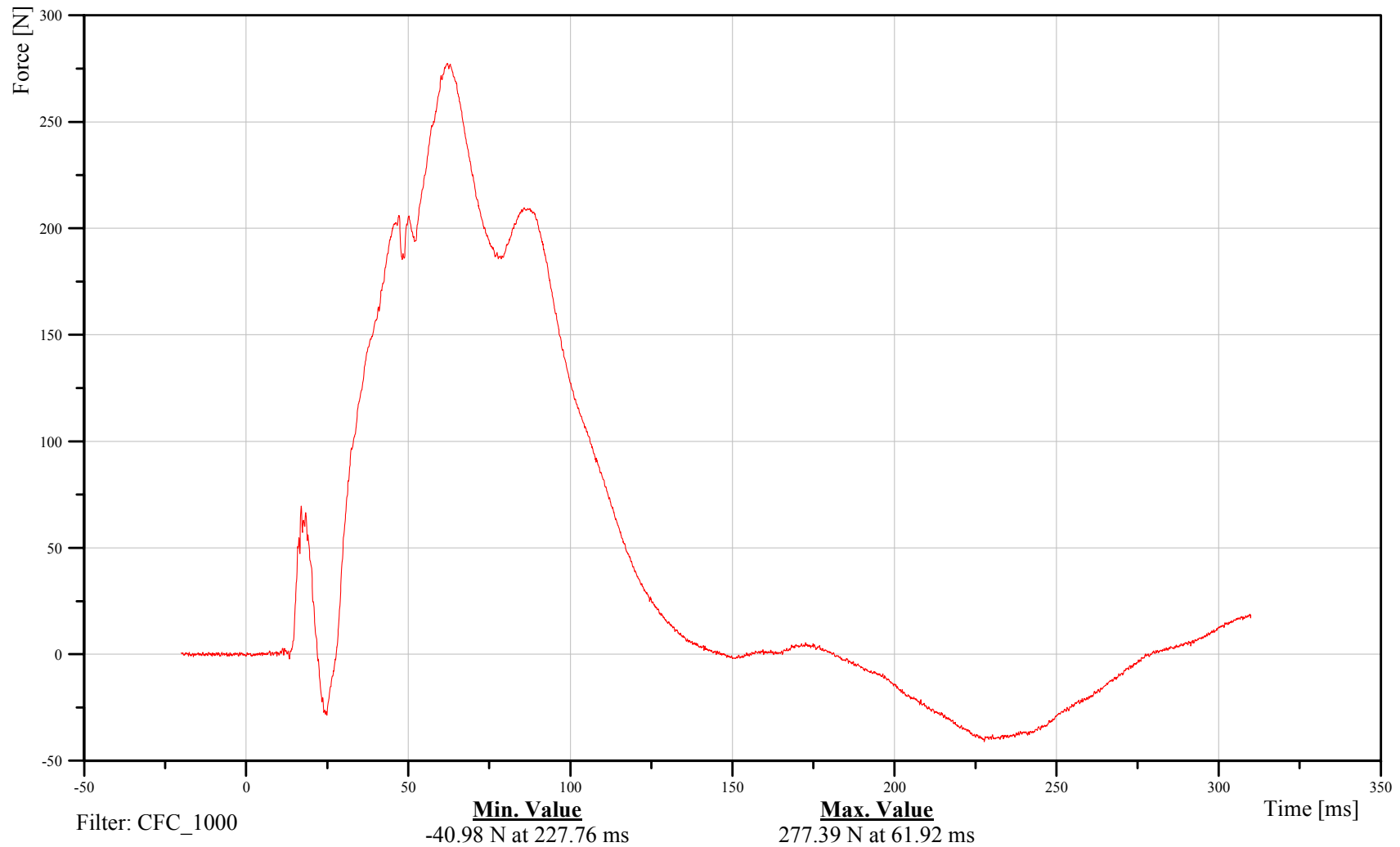
Neck Force X

Customer: VRTC

11NECKUP00S2FOXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

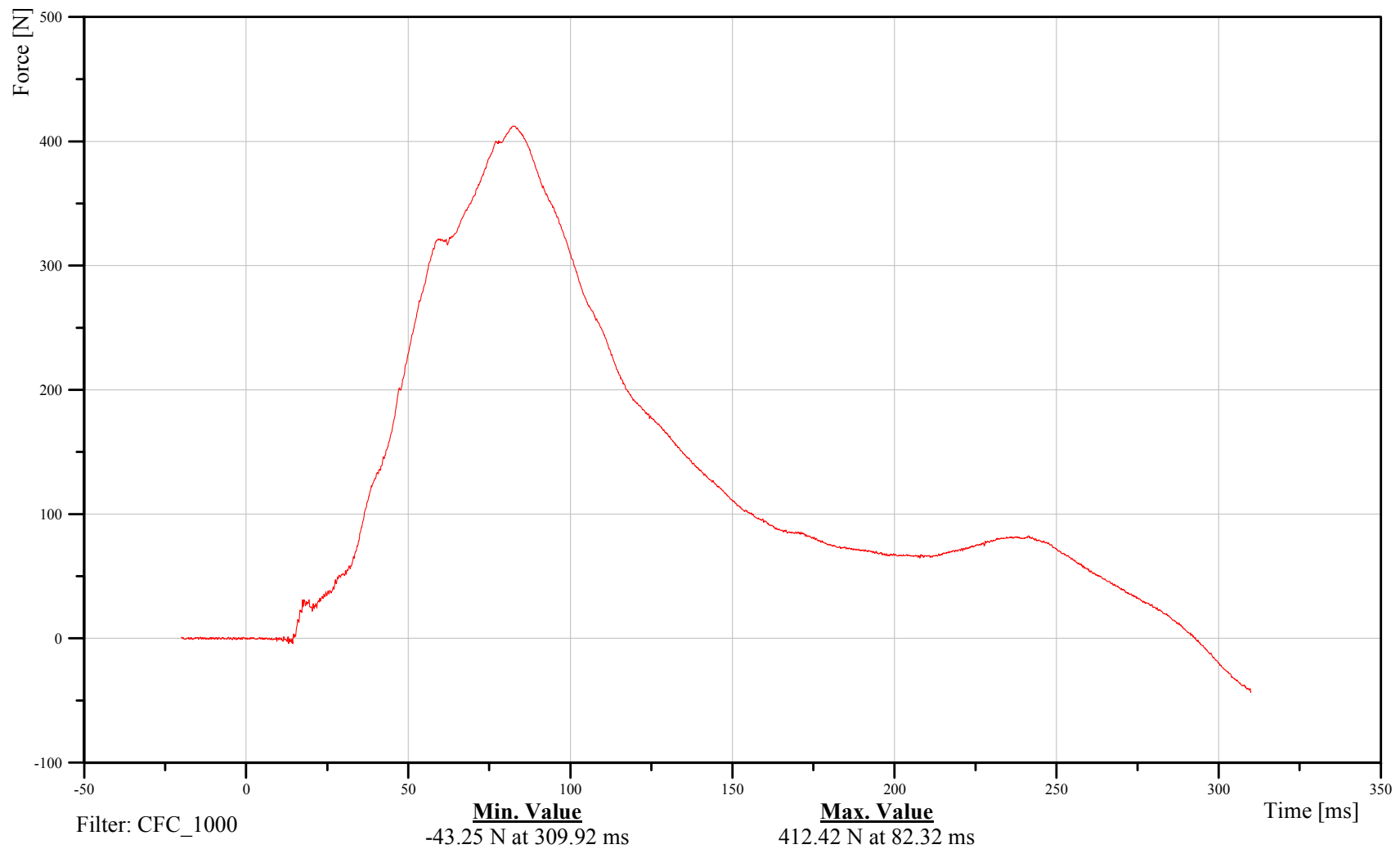
Neck Force Y

Customer: VRTC

11NECKUP00S2FOYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

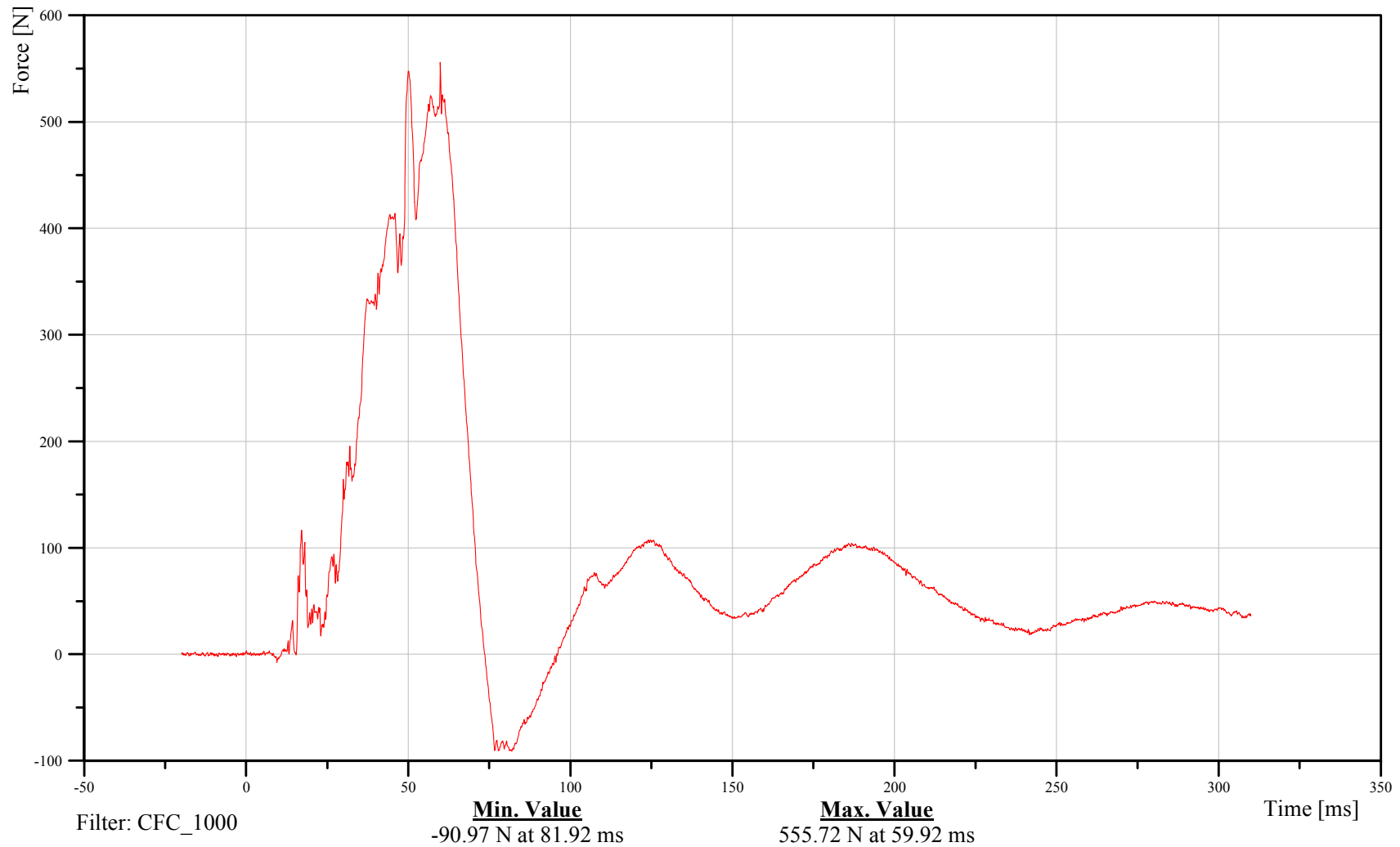
Neck Force Z

Customer: VRTC

11NECKUP00S2FOZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

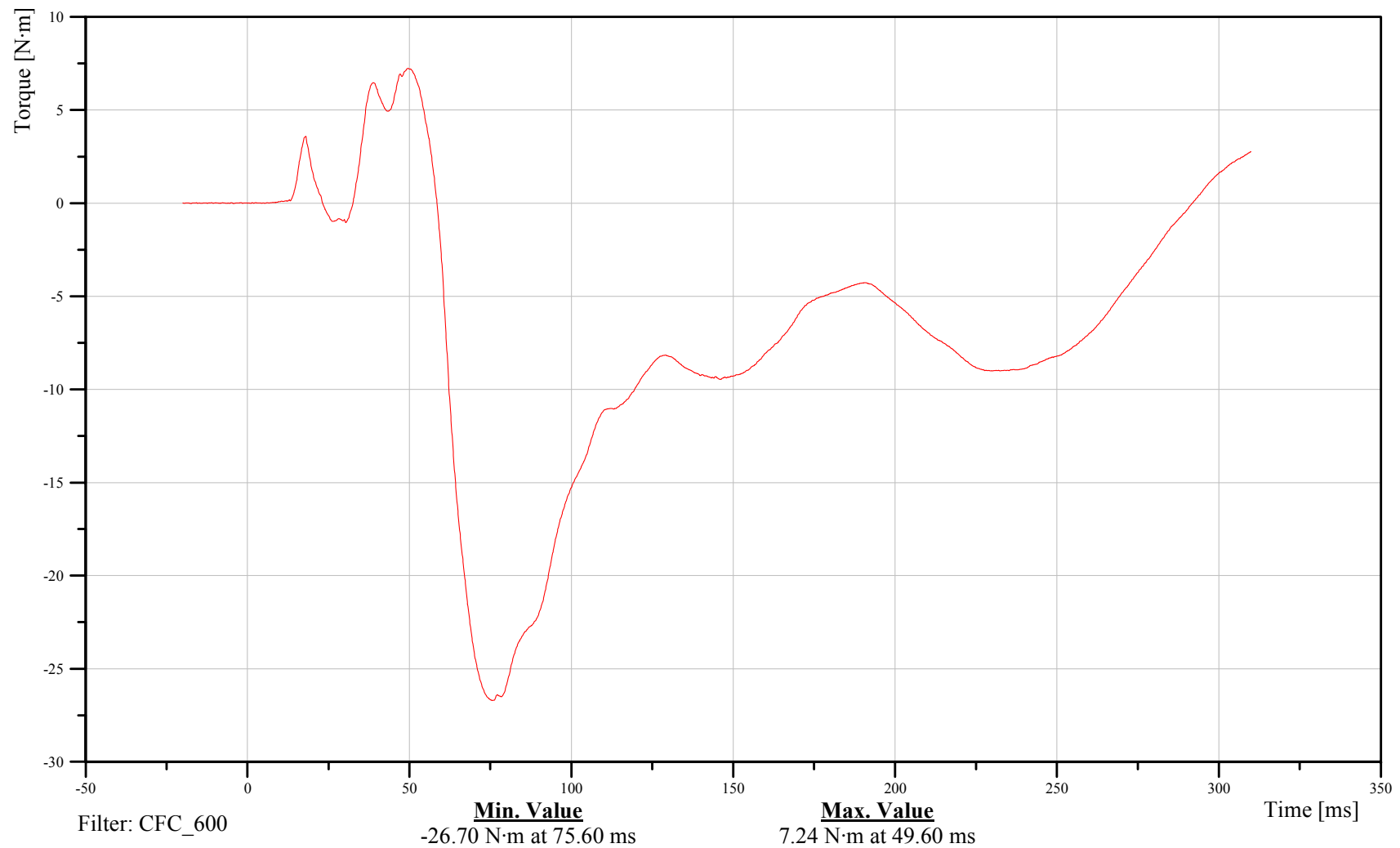
Neck Moment X

Customer: VRTC

11NECKUP00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Neck Moment Y

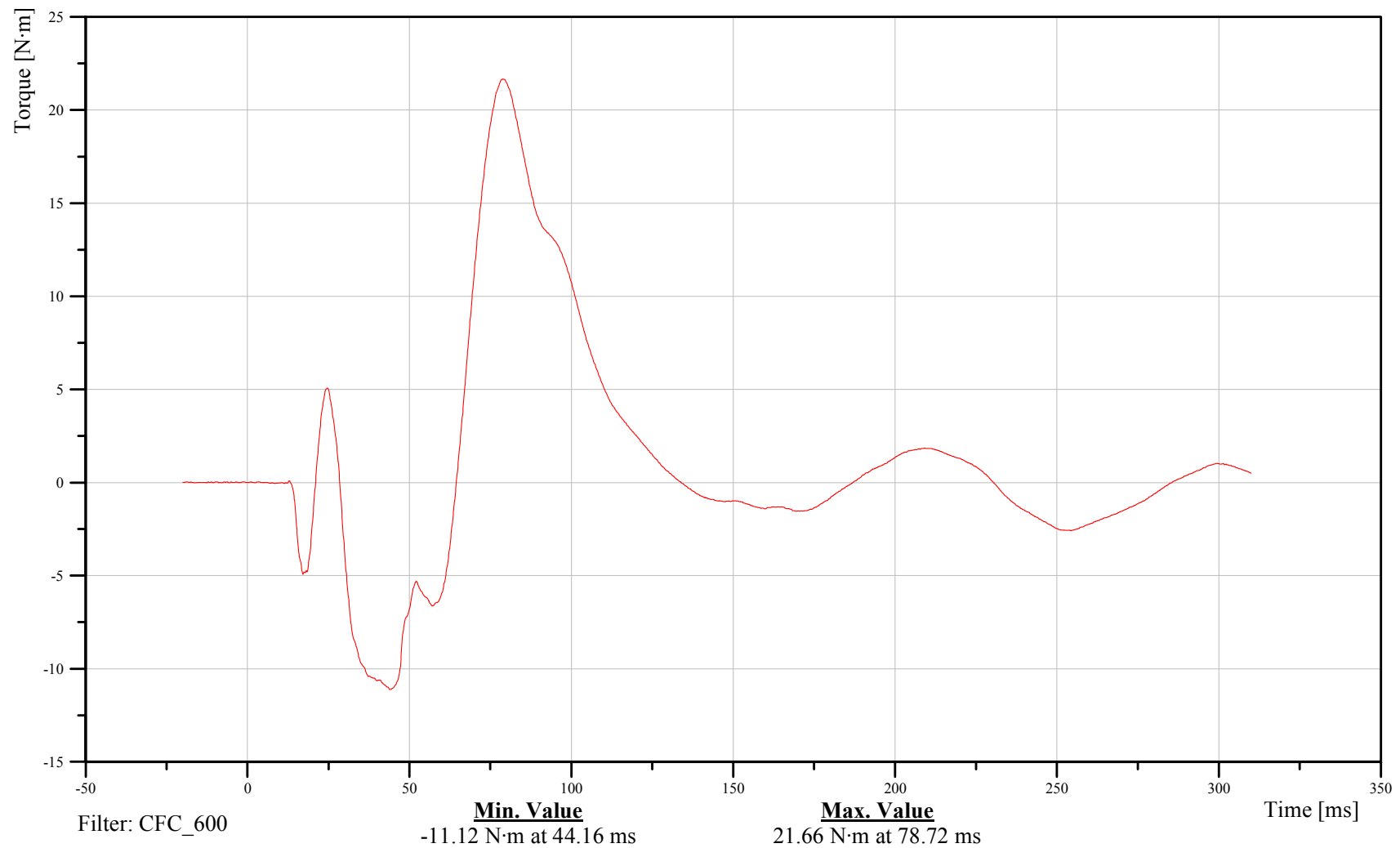
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11NECKUP00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

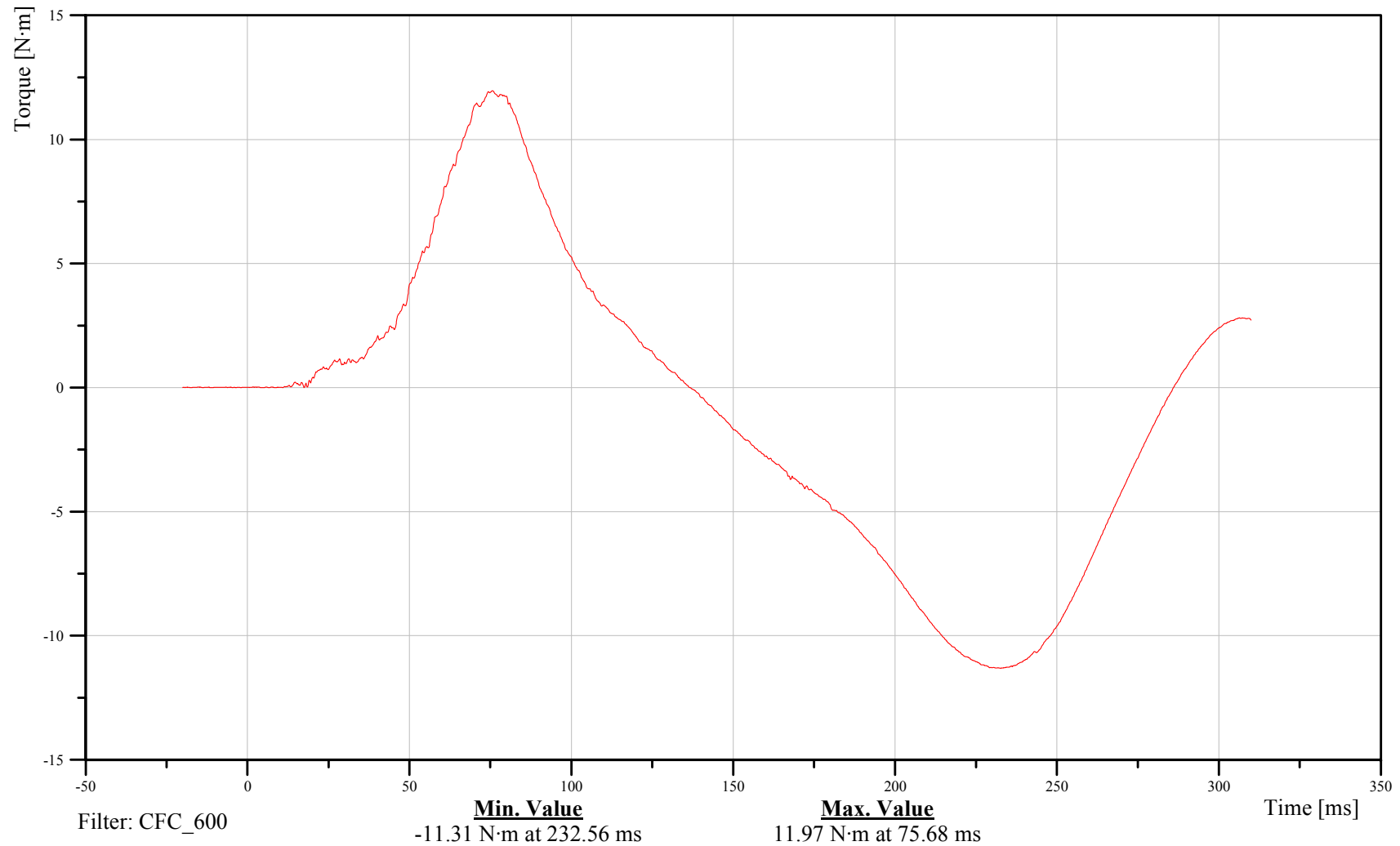
Neck Moment Z

Customer: VRTC

11NECKUP00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel X

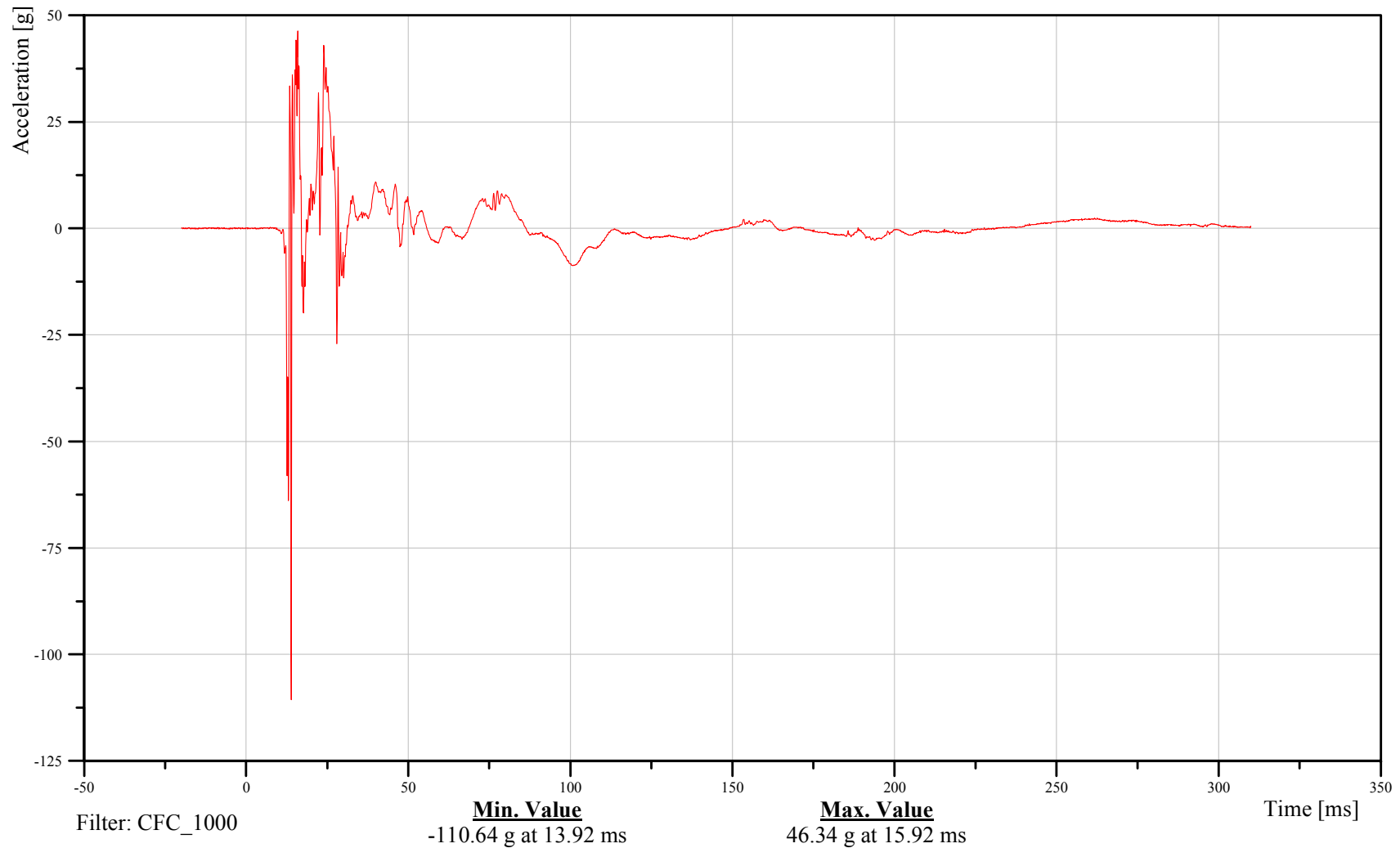
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SHLDLE00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel Y

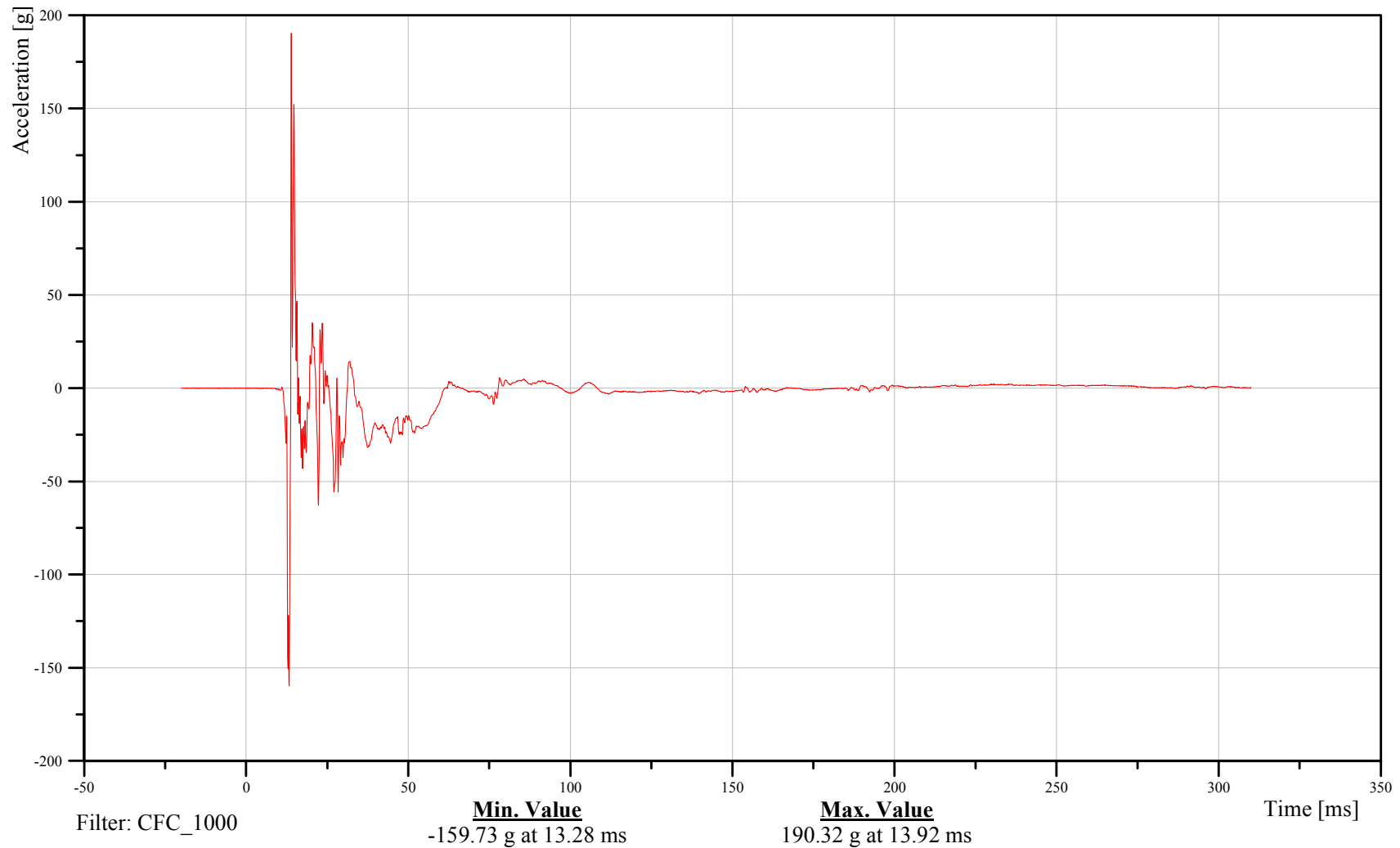
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SHLDLE00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel Z

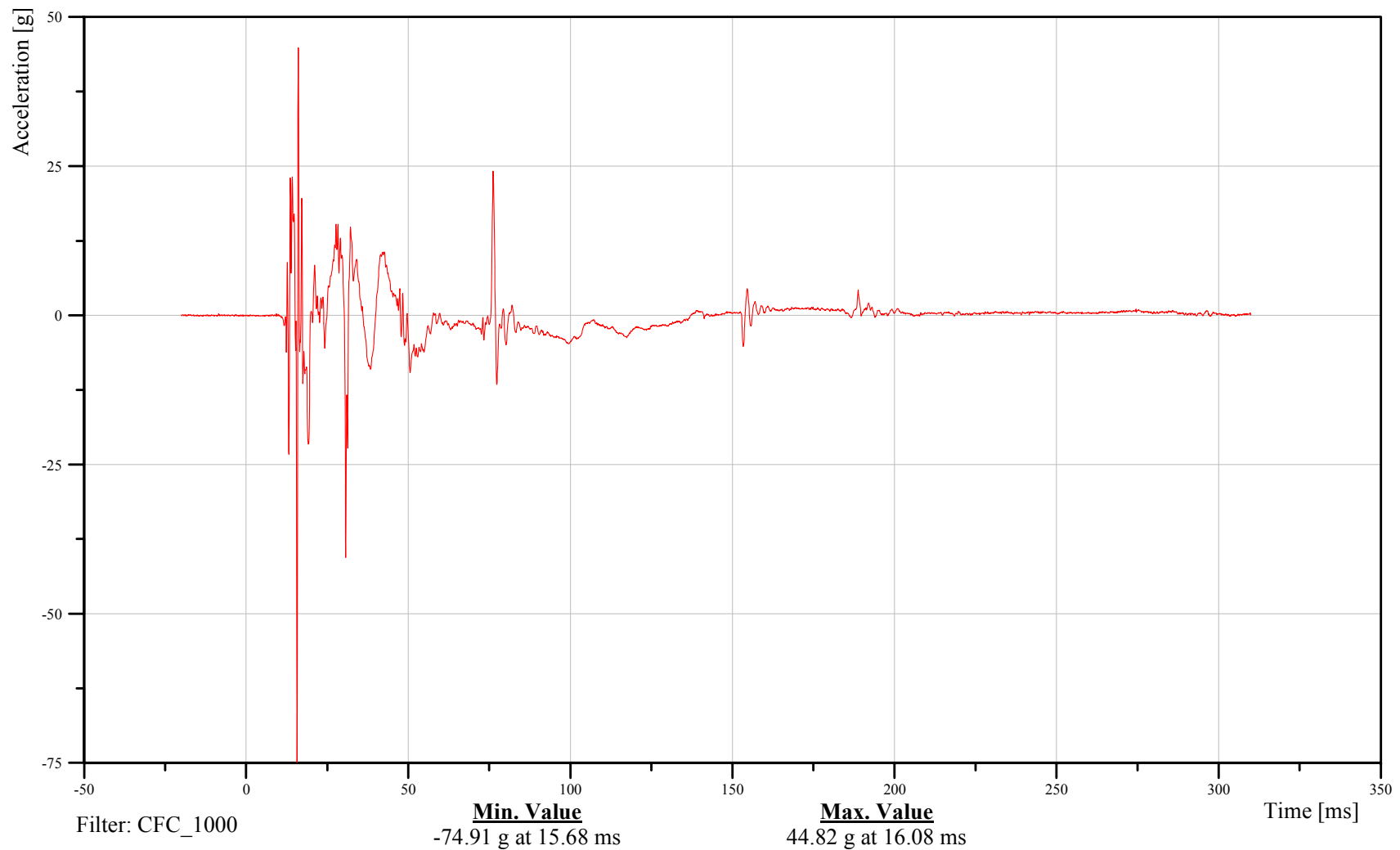
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SHLDLE00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

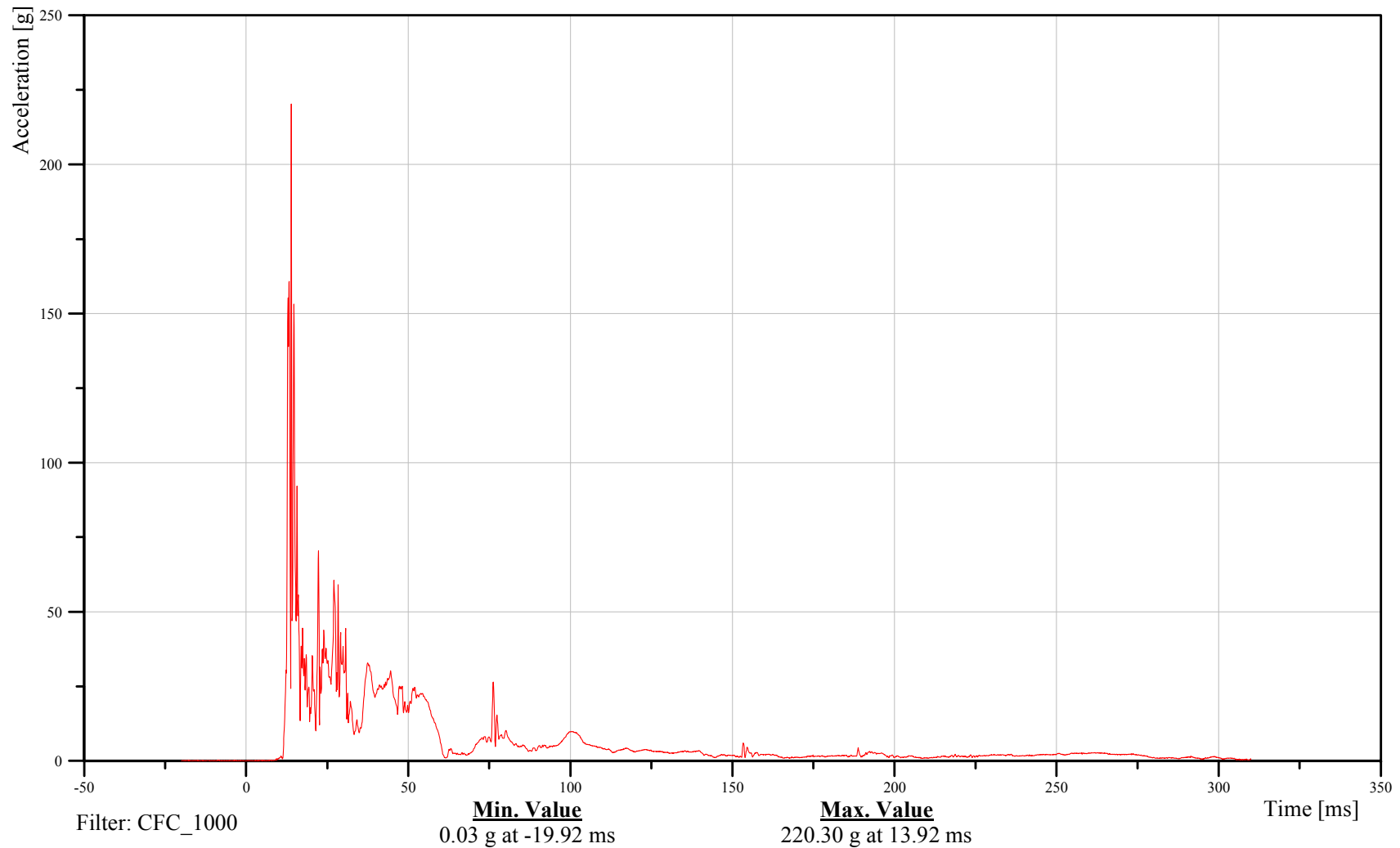
Shoulder Accel Resultant

Customer: VRTC

11SHLDLE00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

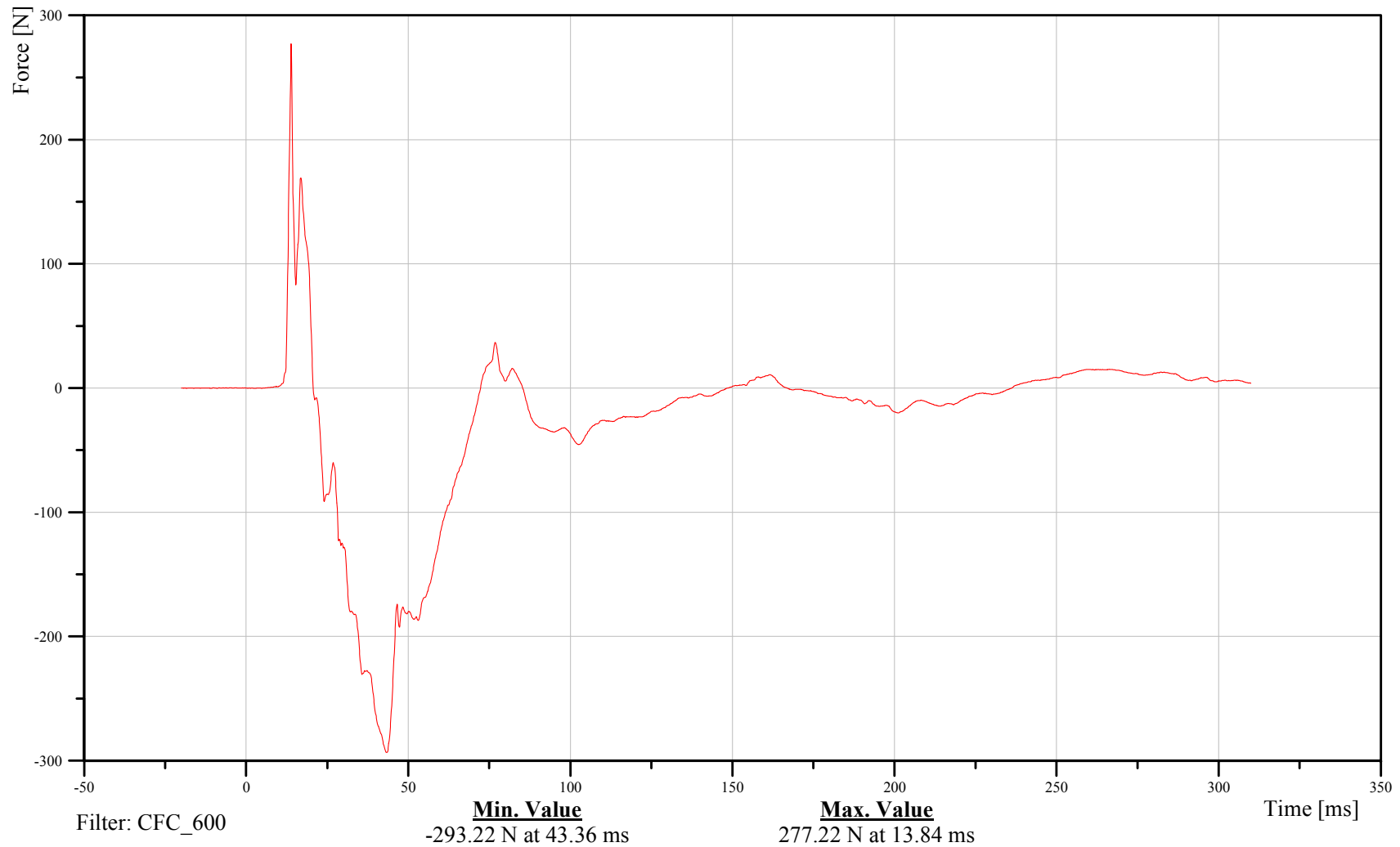
Shoulder Force X

Customer: VRTC

11SHLDLE00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Force Y

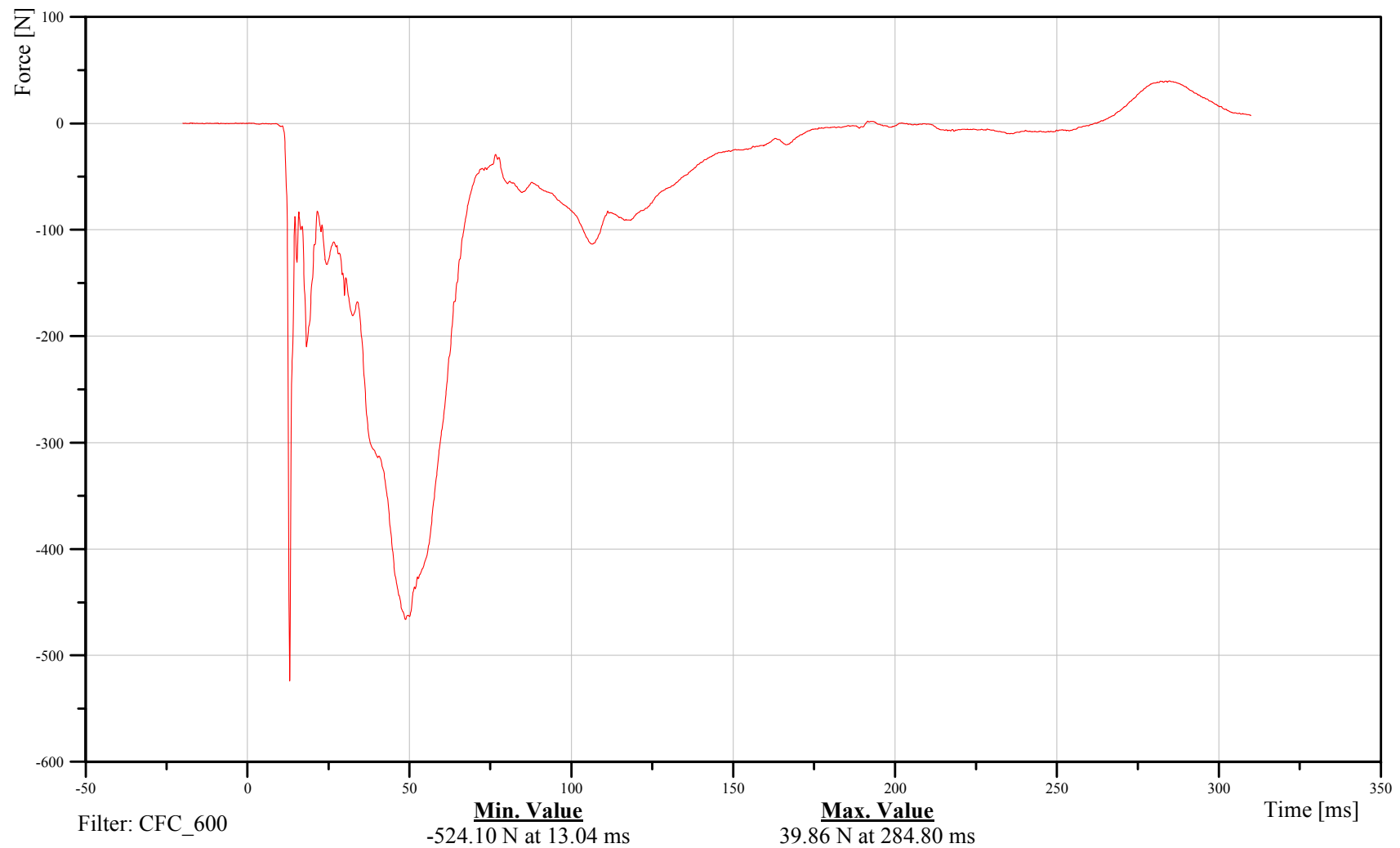
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SHLDLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

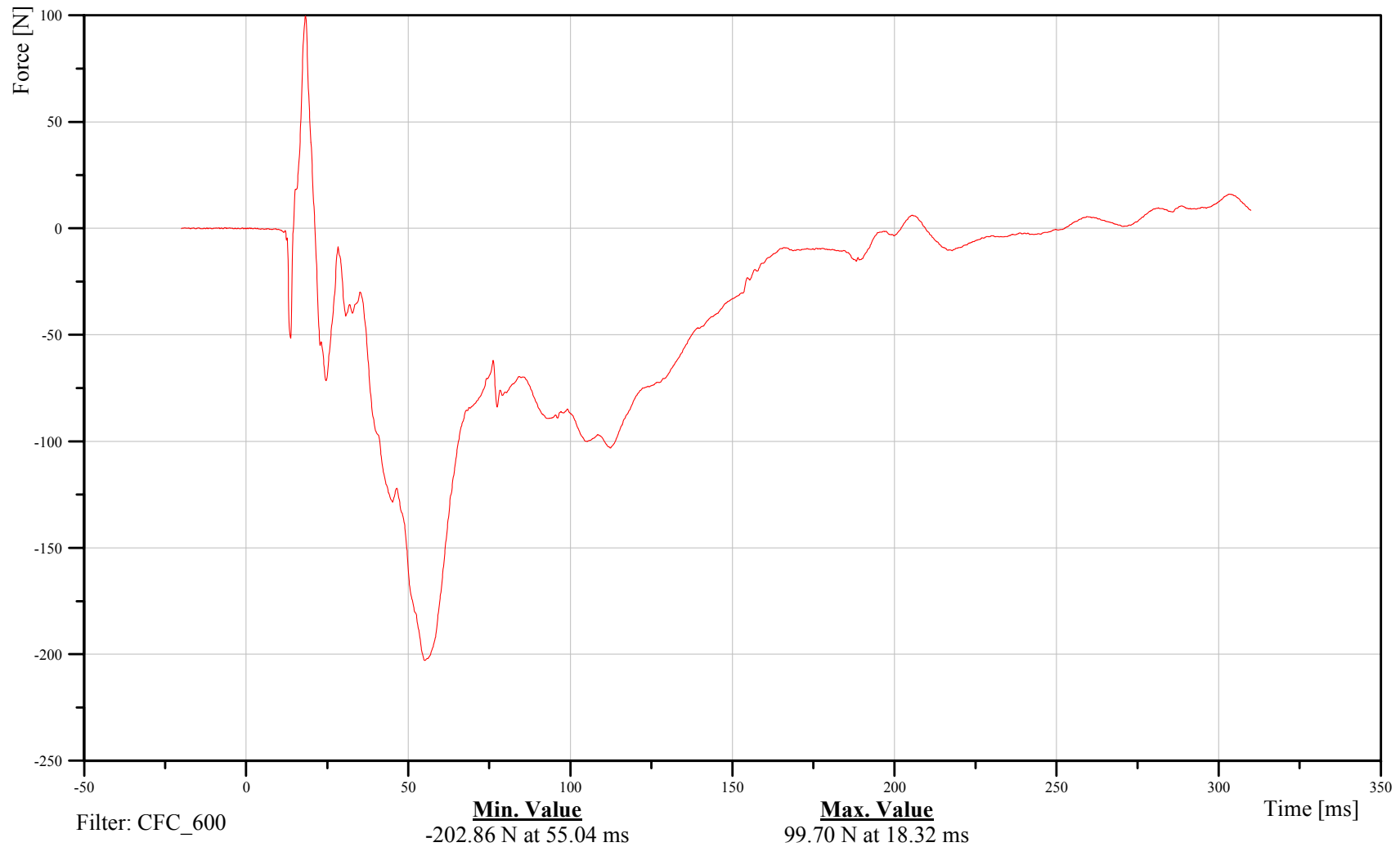
Shoulder Force Z

Customer: VRTC

11SHLDLE00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

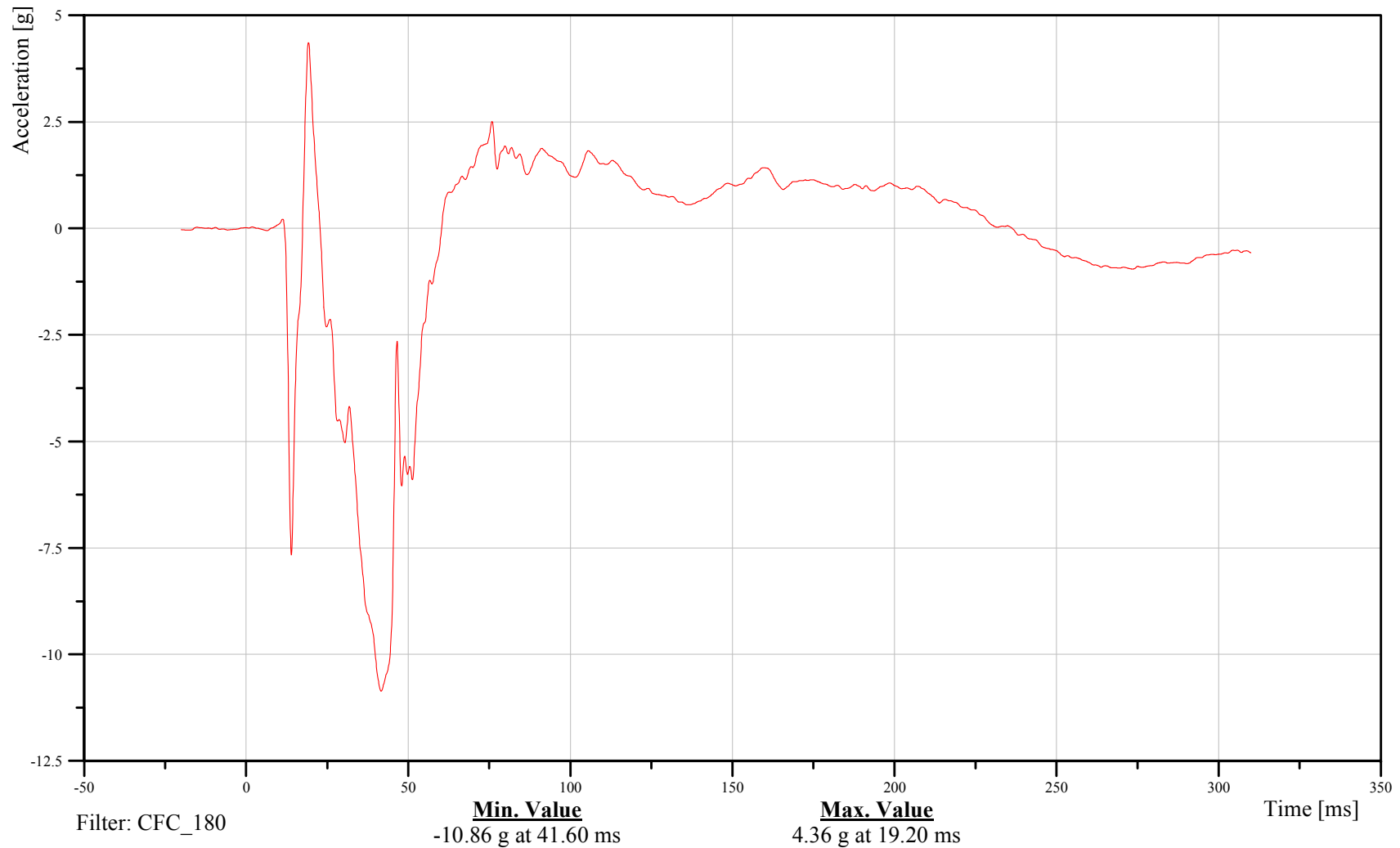
Upper Spine Accel X

Customer: VRTC

11SPIN0100S2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

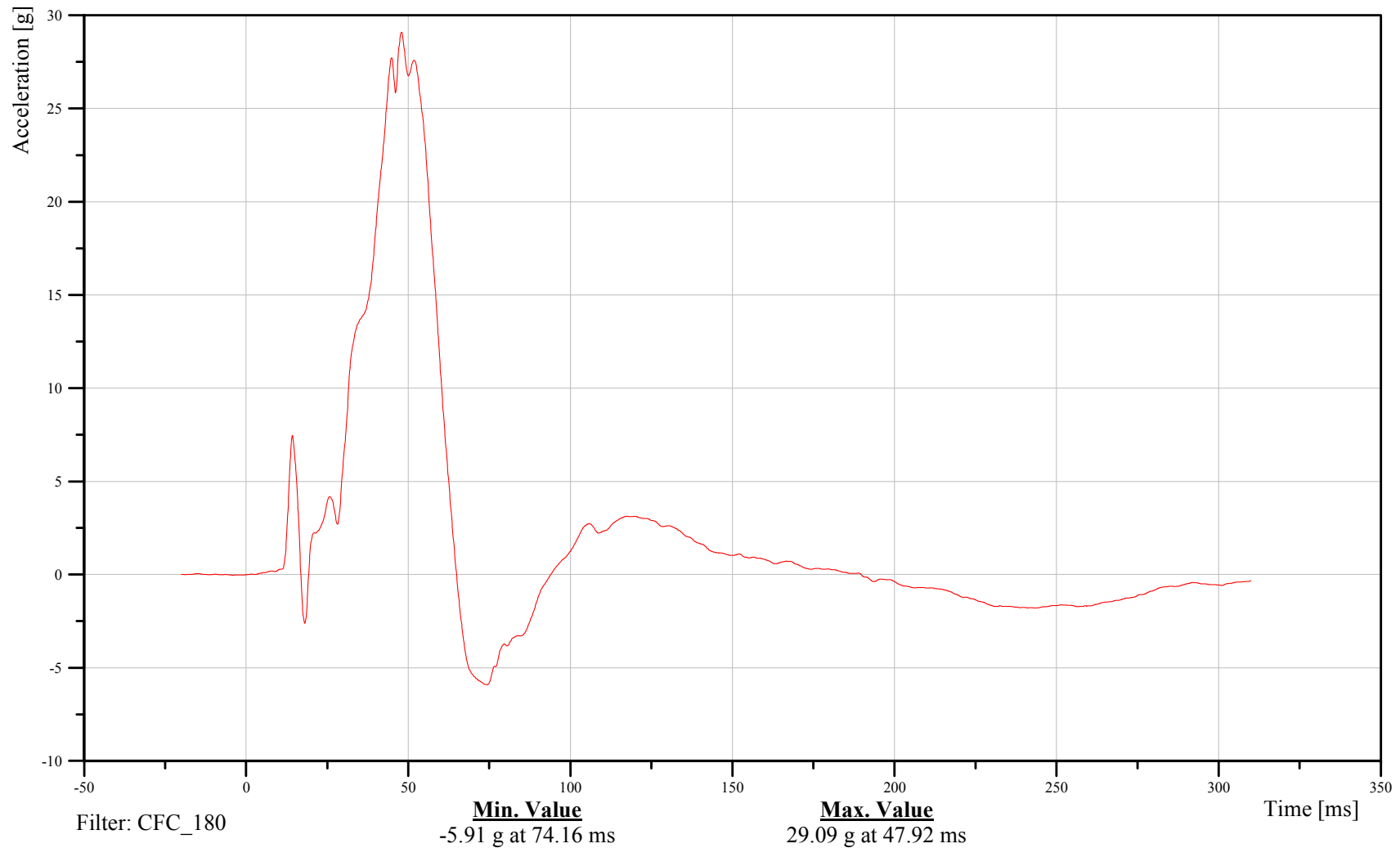
Upper Spine Accel Y

Customer: VRTC

11SPIN0100S2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Upper Spine Accel Z

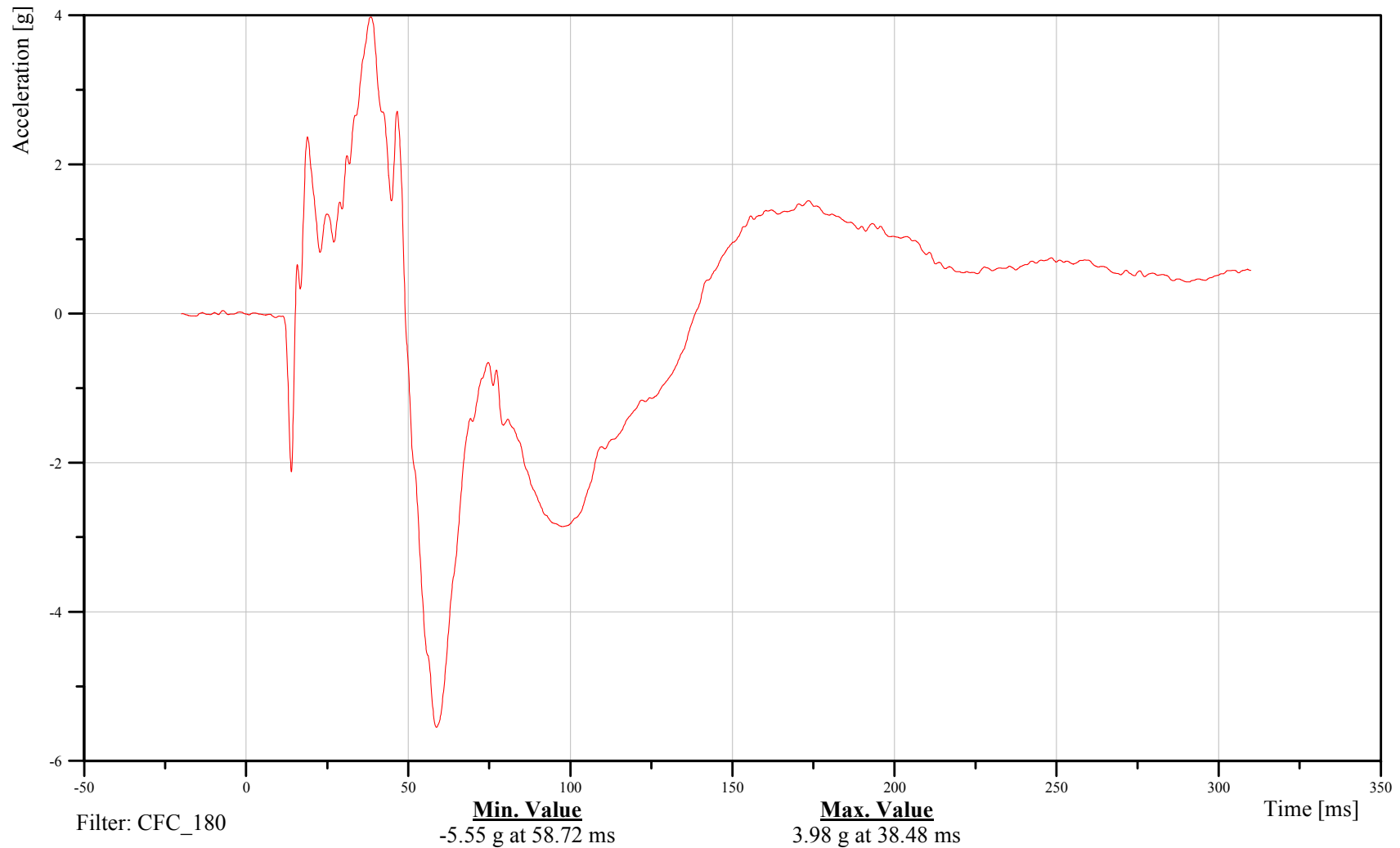
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SPIN0100S2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

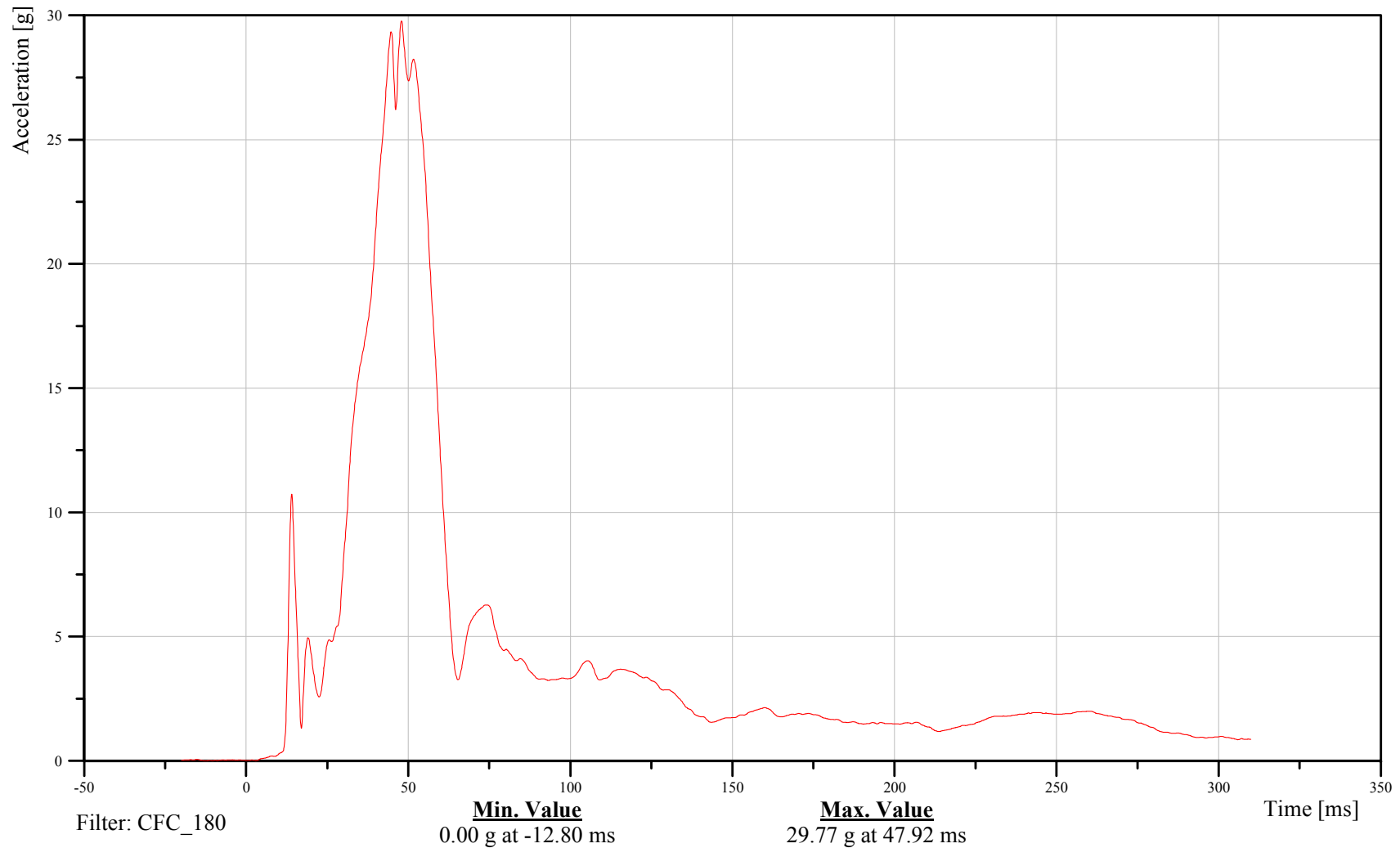
Upper Spine Resultant

Customer: VRTC

11SPIN0100S2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel X

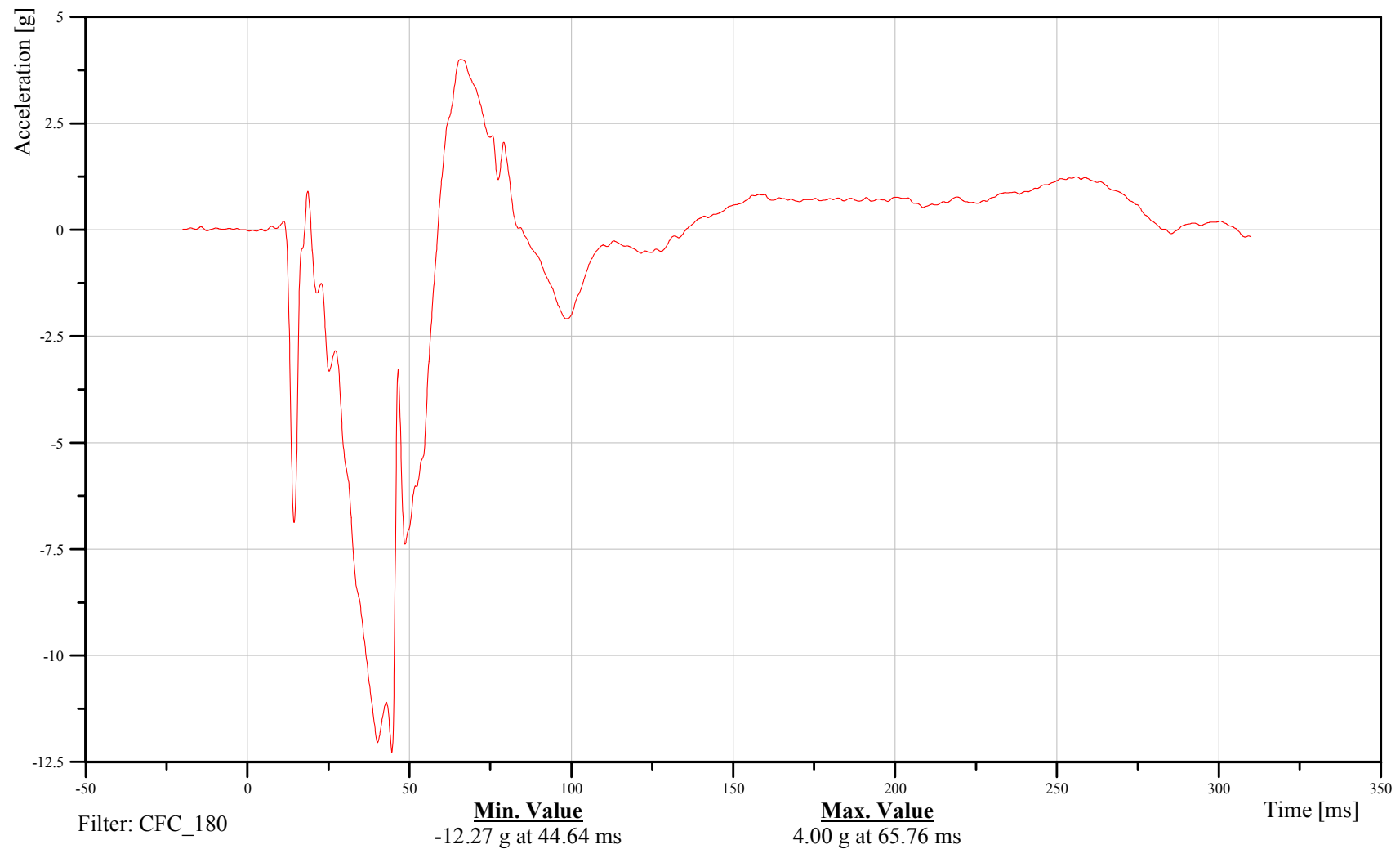
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP01RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Y

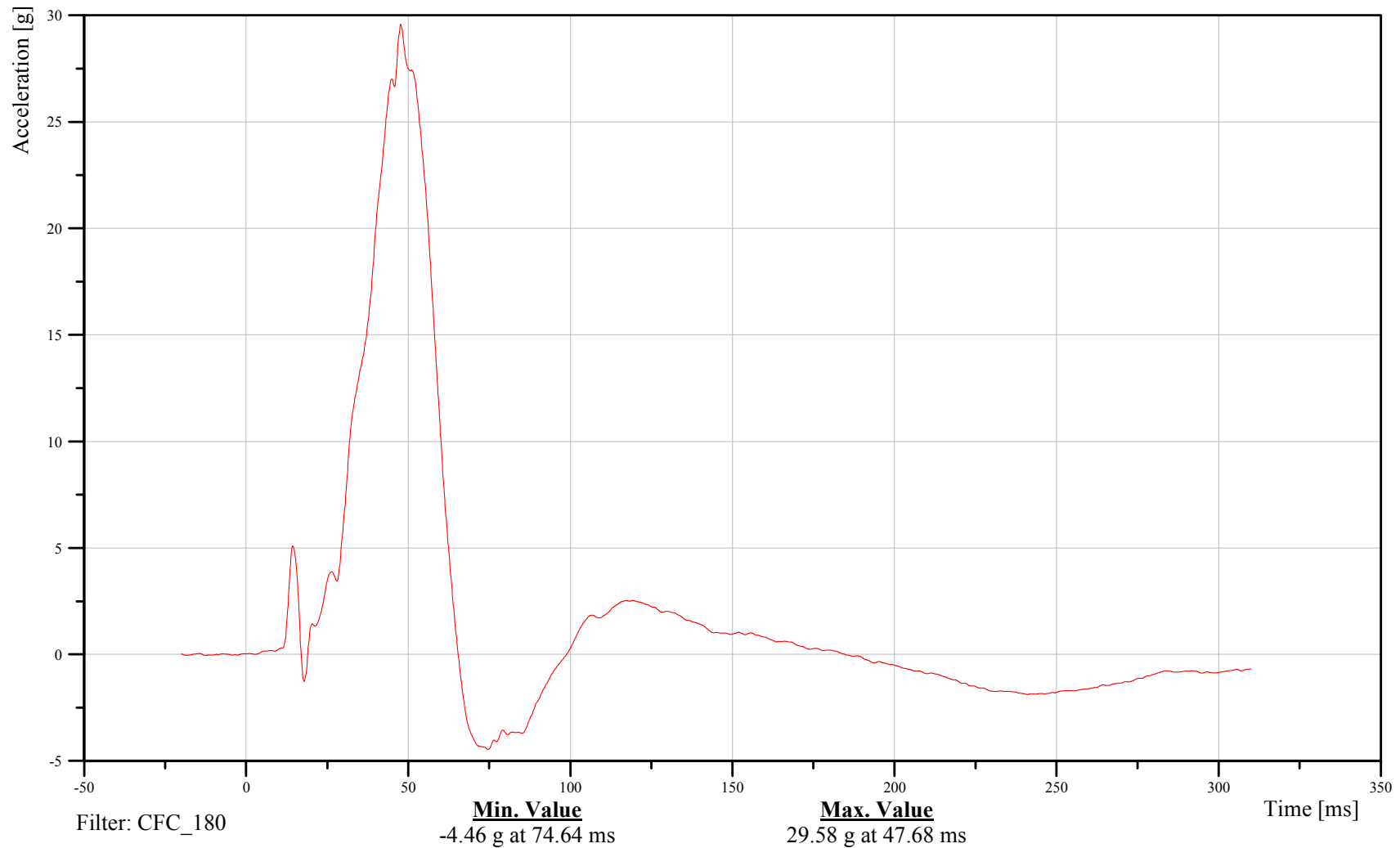
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP01RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Z

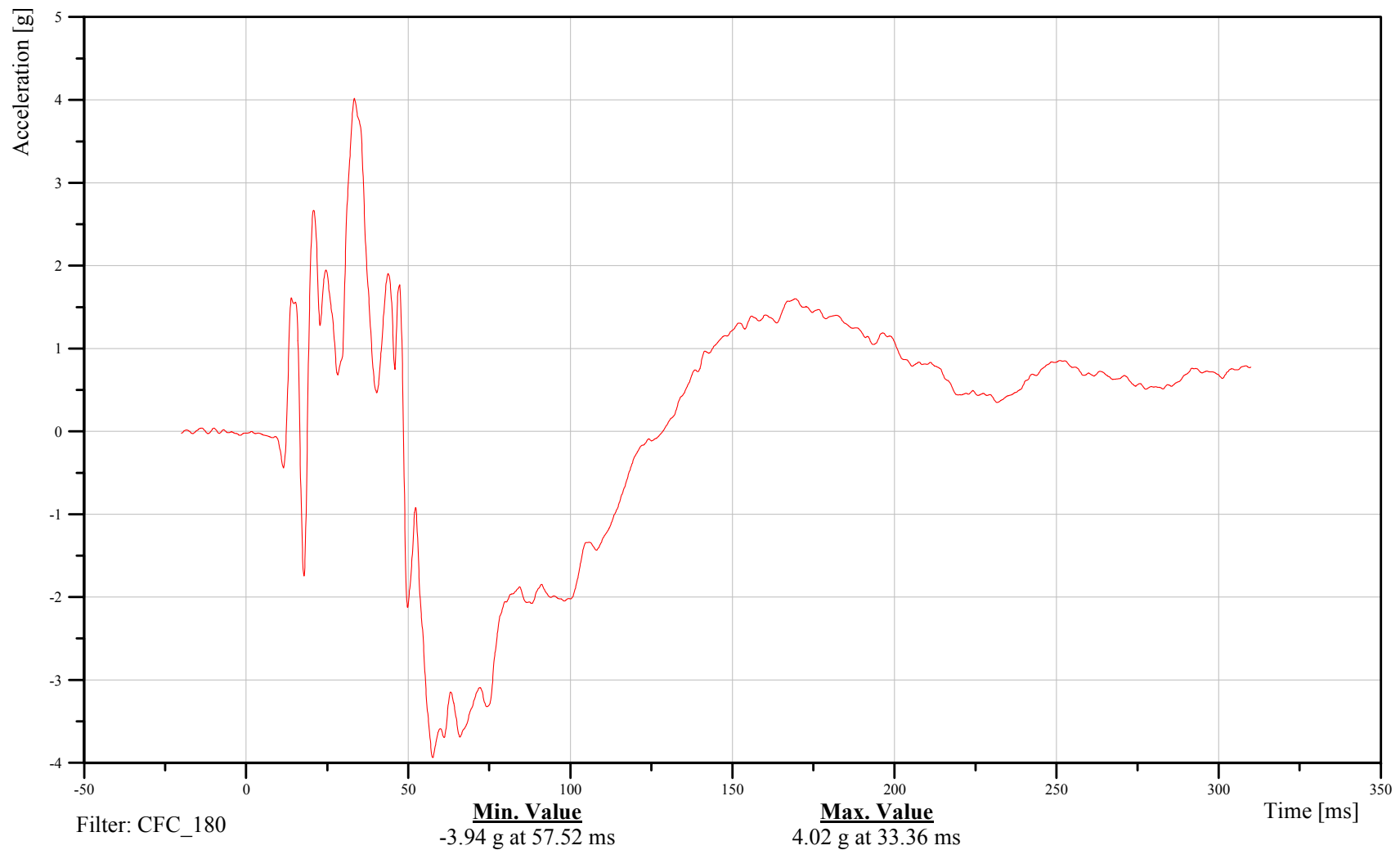
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP01RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Resultant

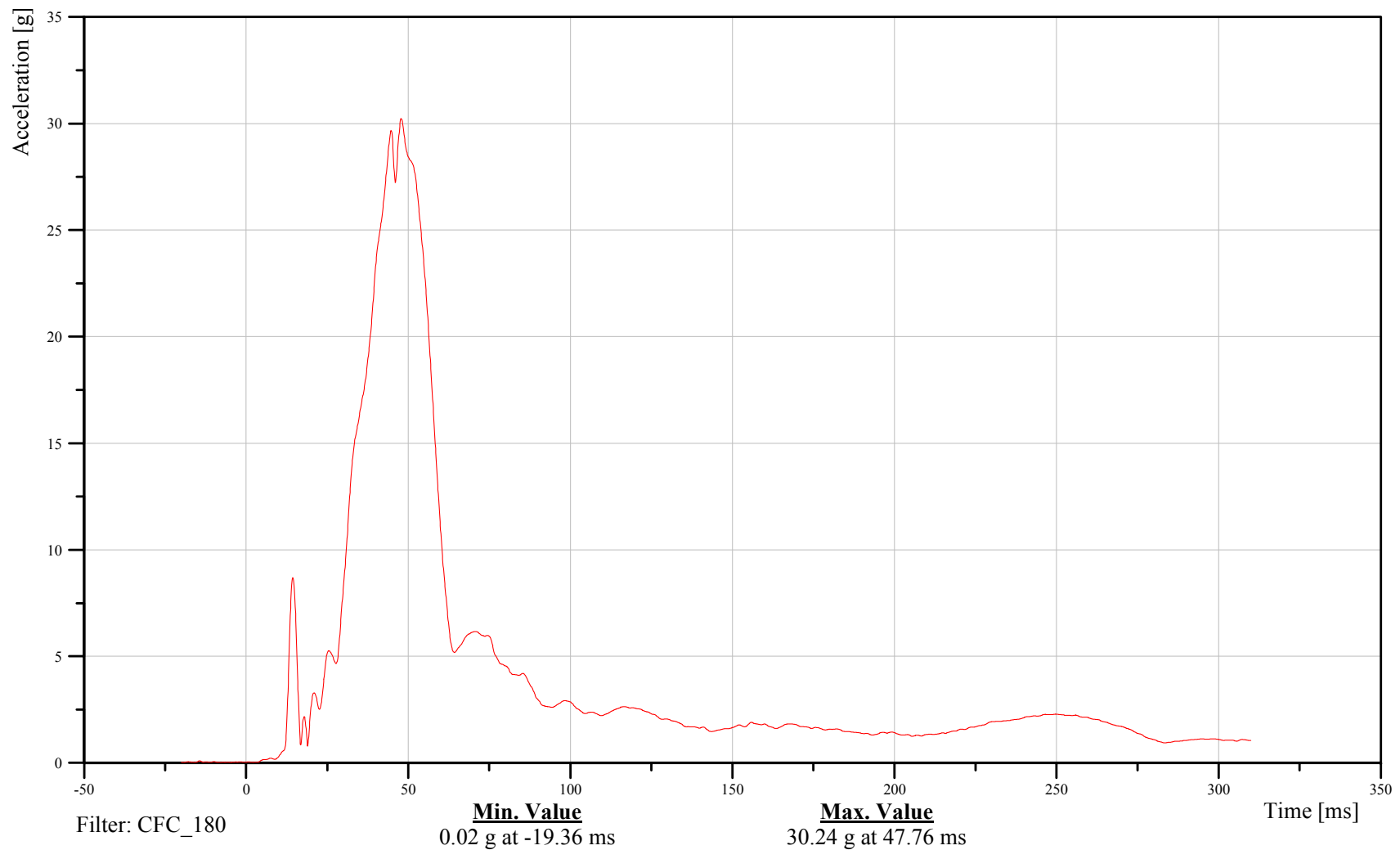
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP01RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel X

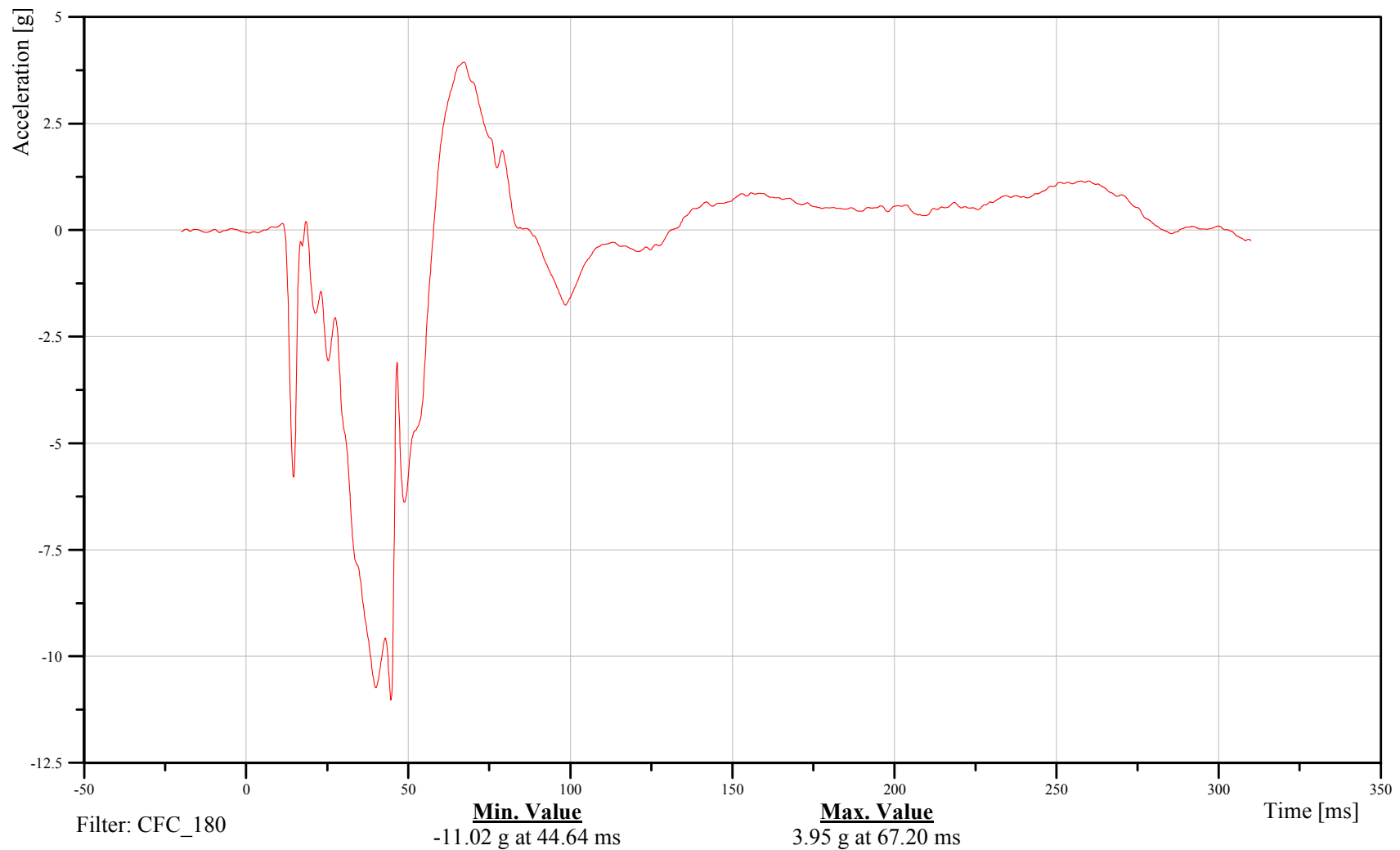
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP02RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Y

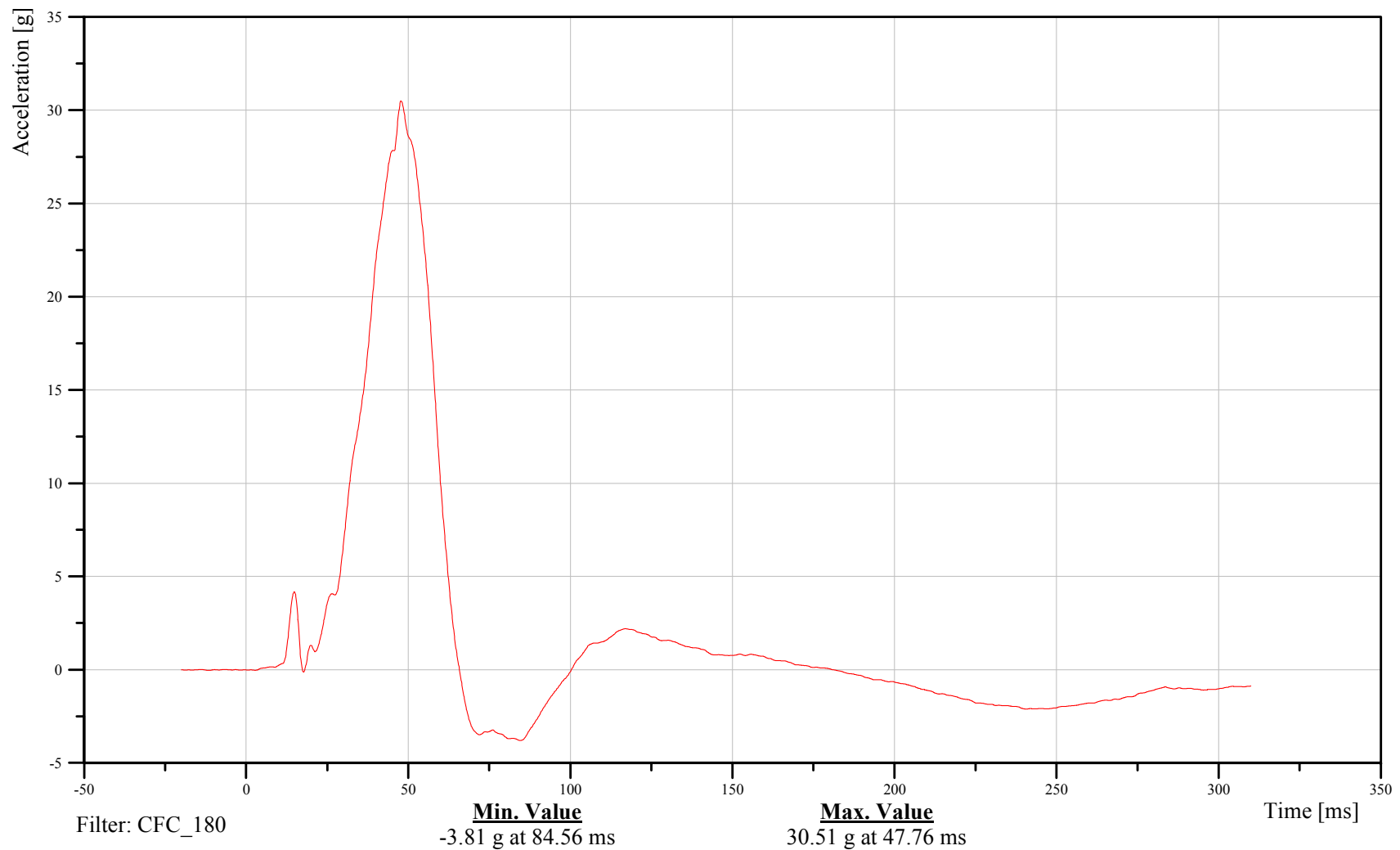
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP02RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Z

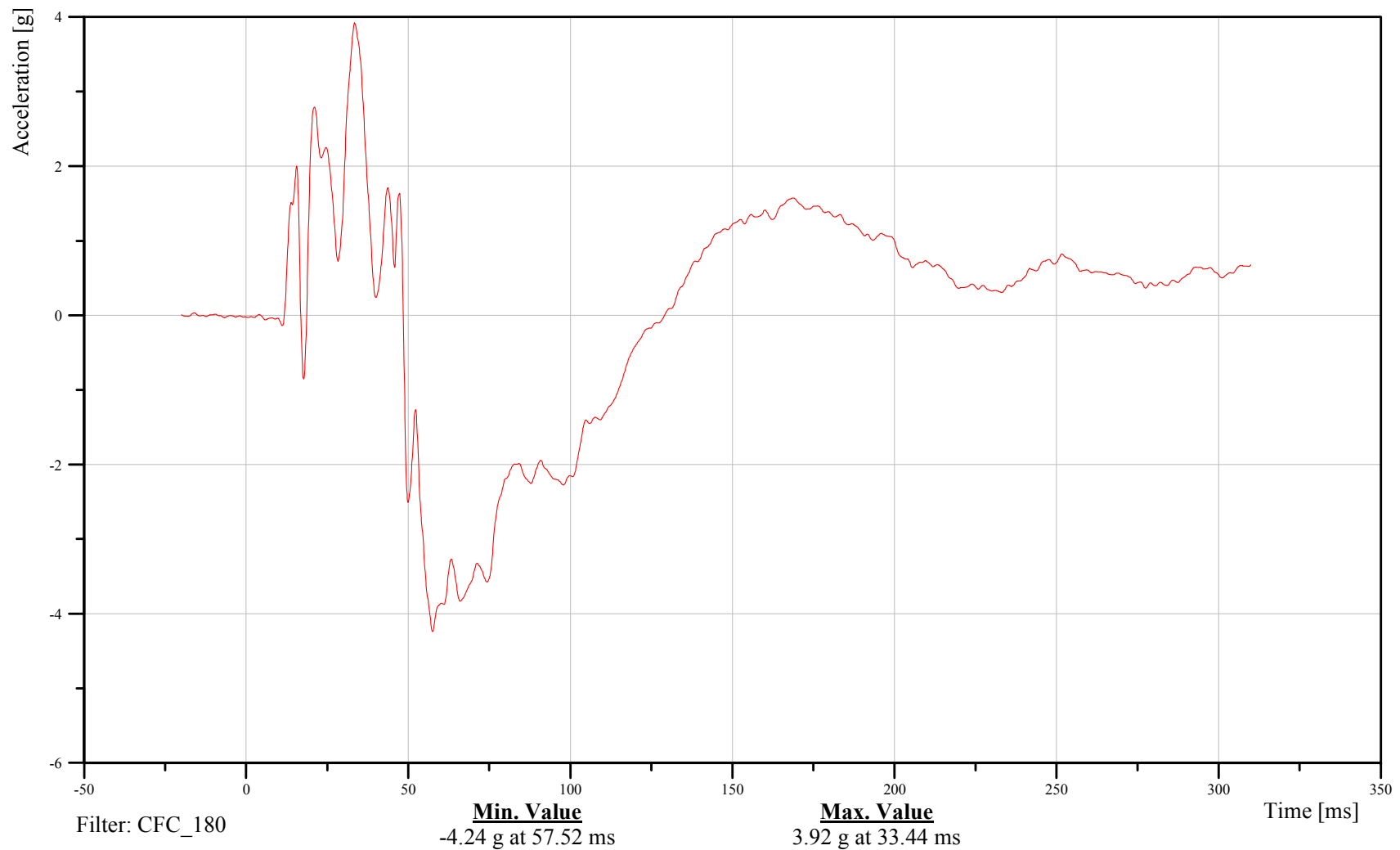
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP02RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Resultant

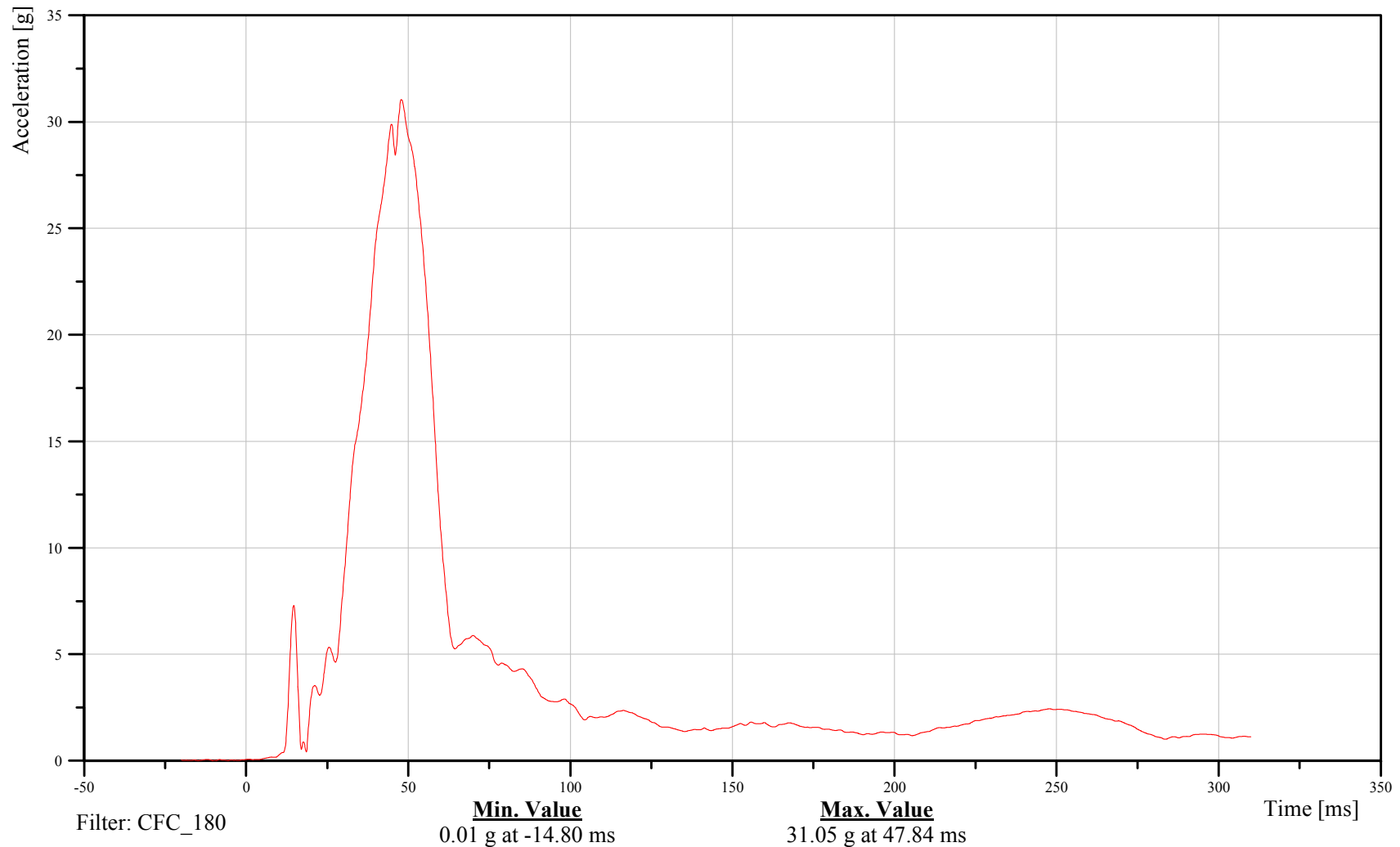
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP02RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel X

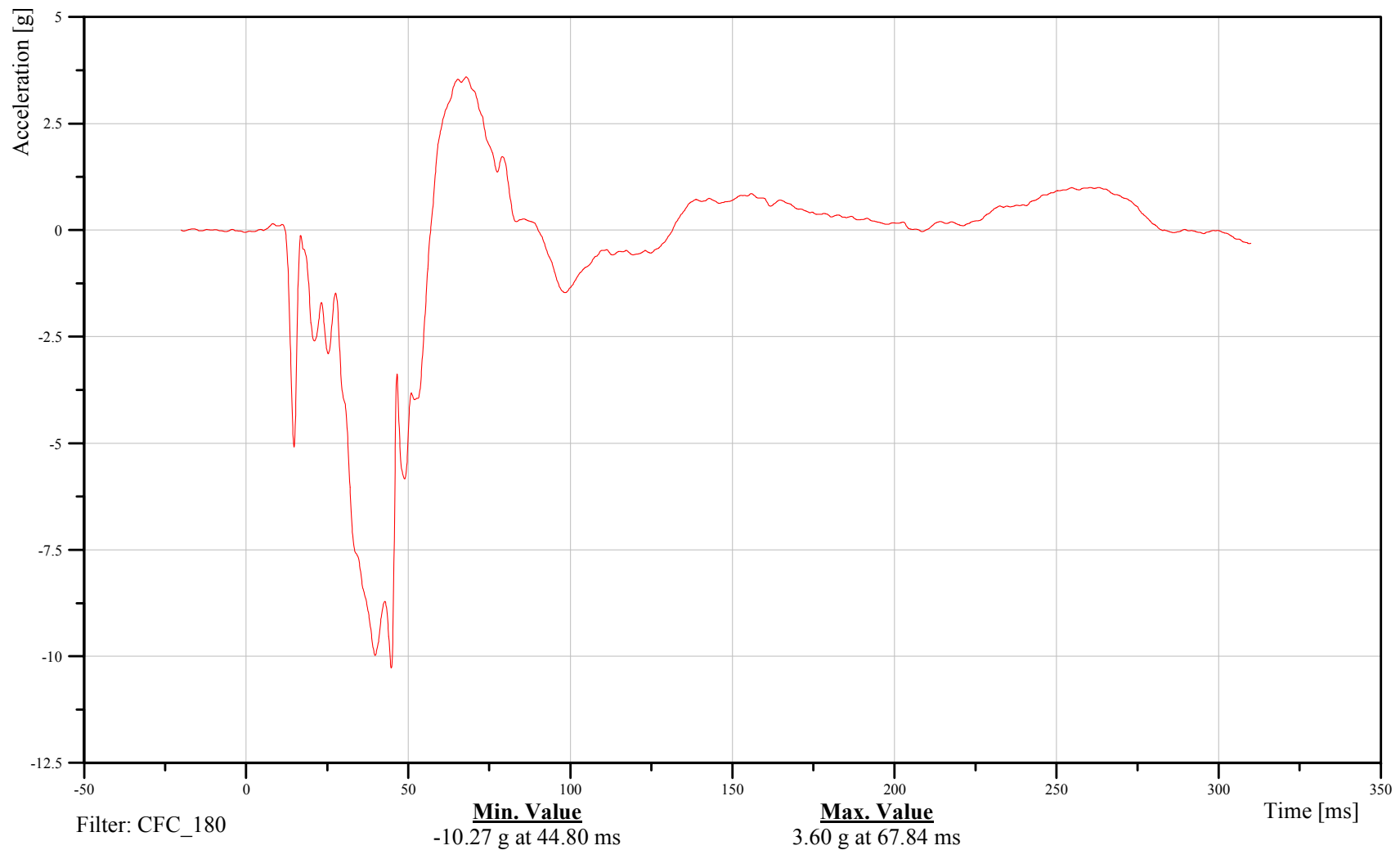
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP03RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Y

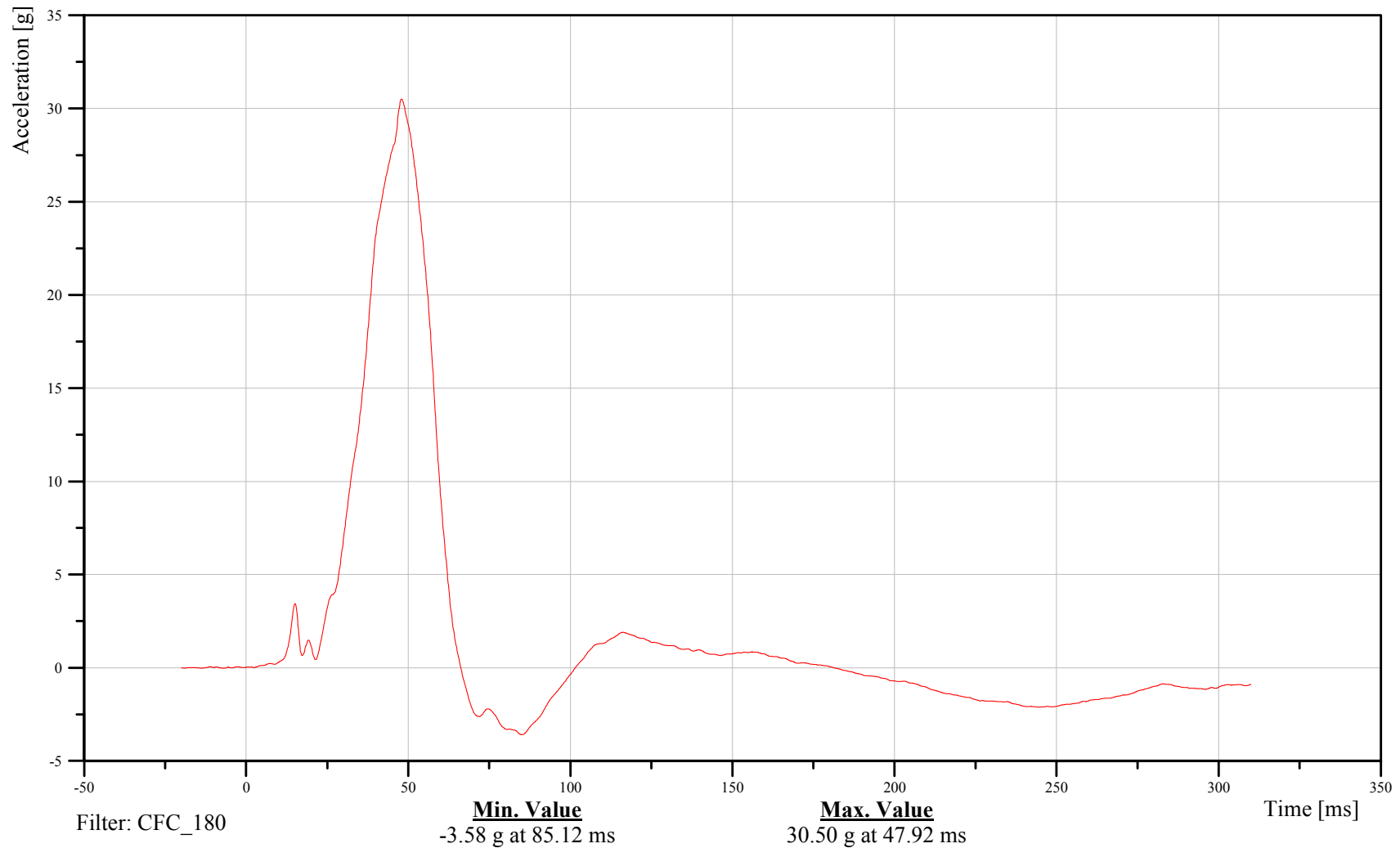
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP03RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Z

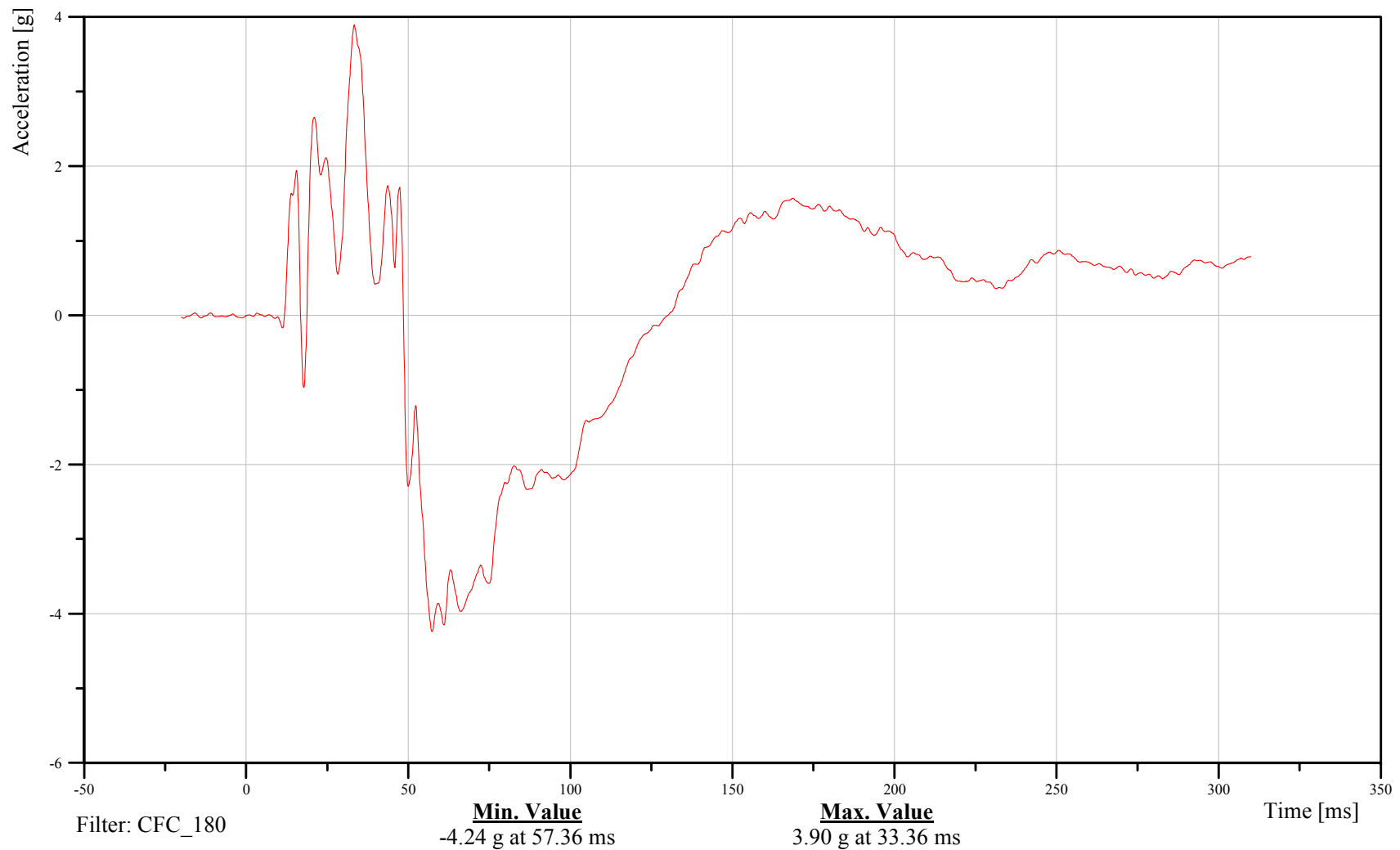
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP03RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Resultant

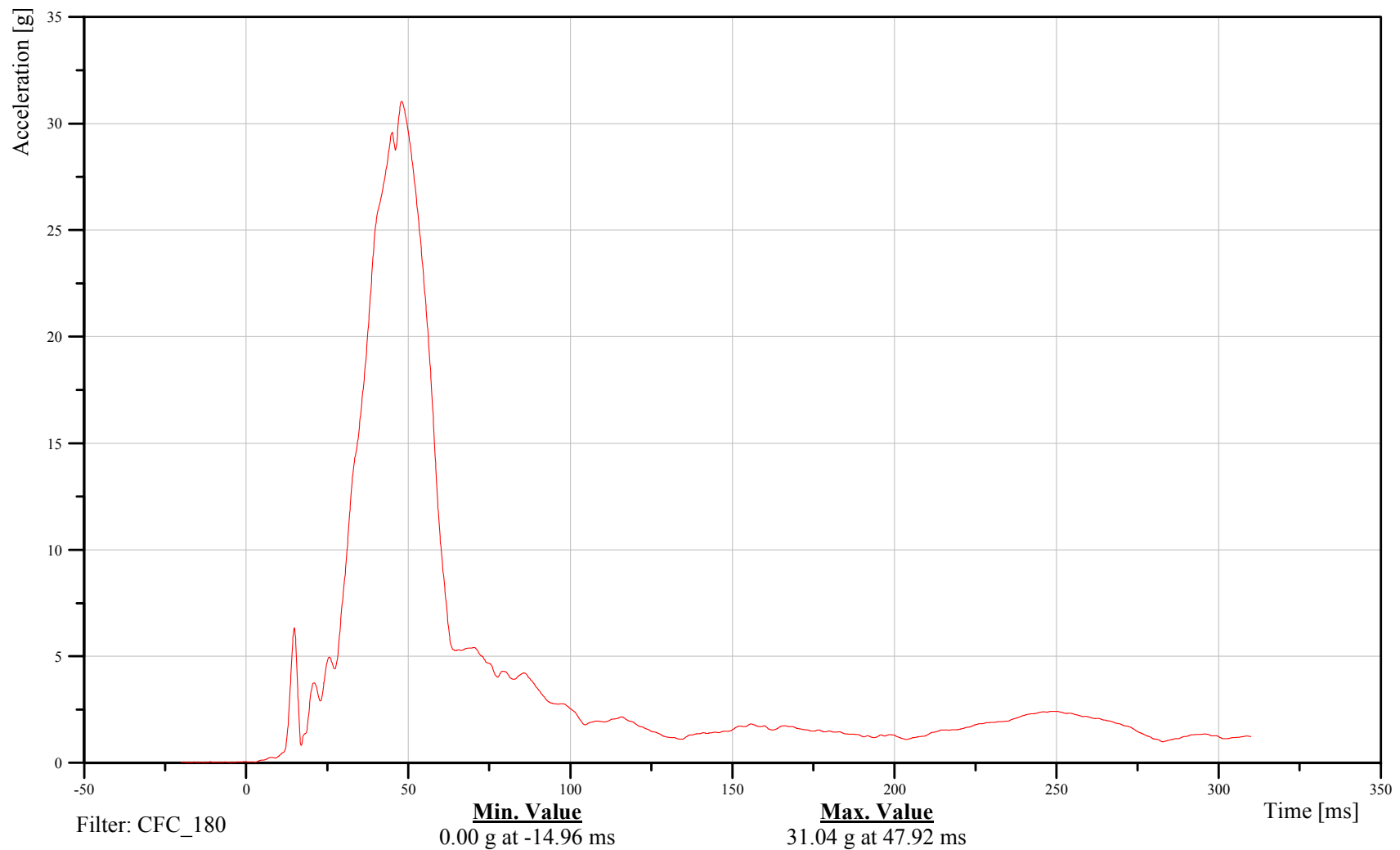
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11THSP03RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

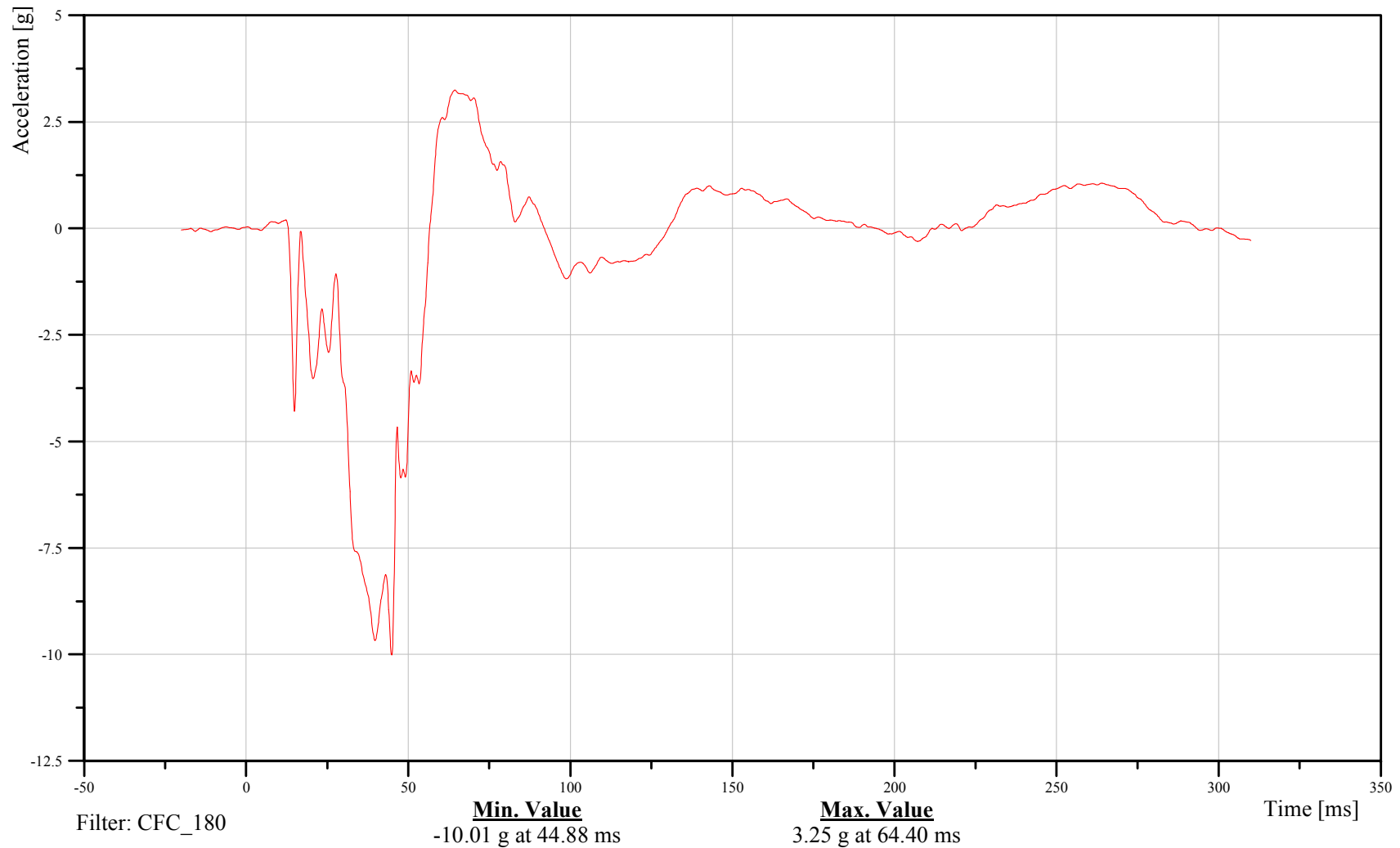
Lower Spine Accel X

Customer: VRTC

11SPIN1200S2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

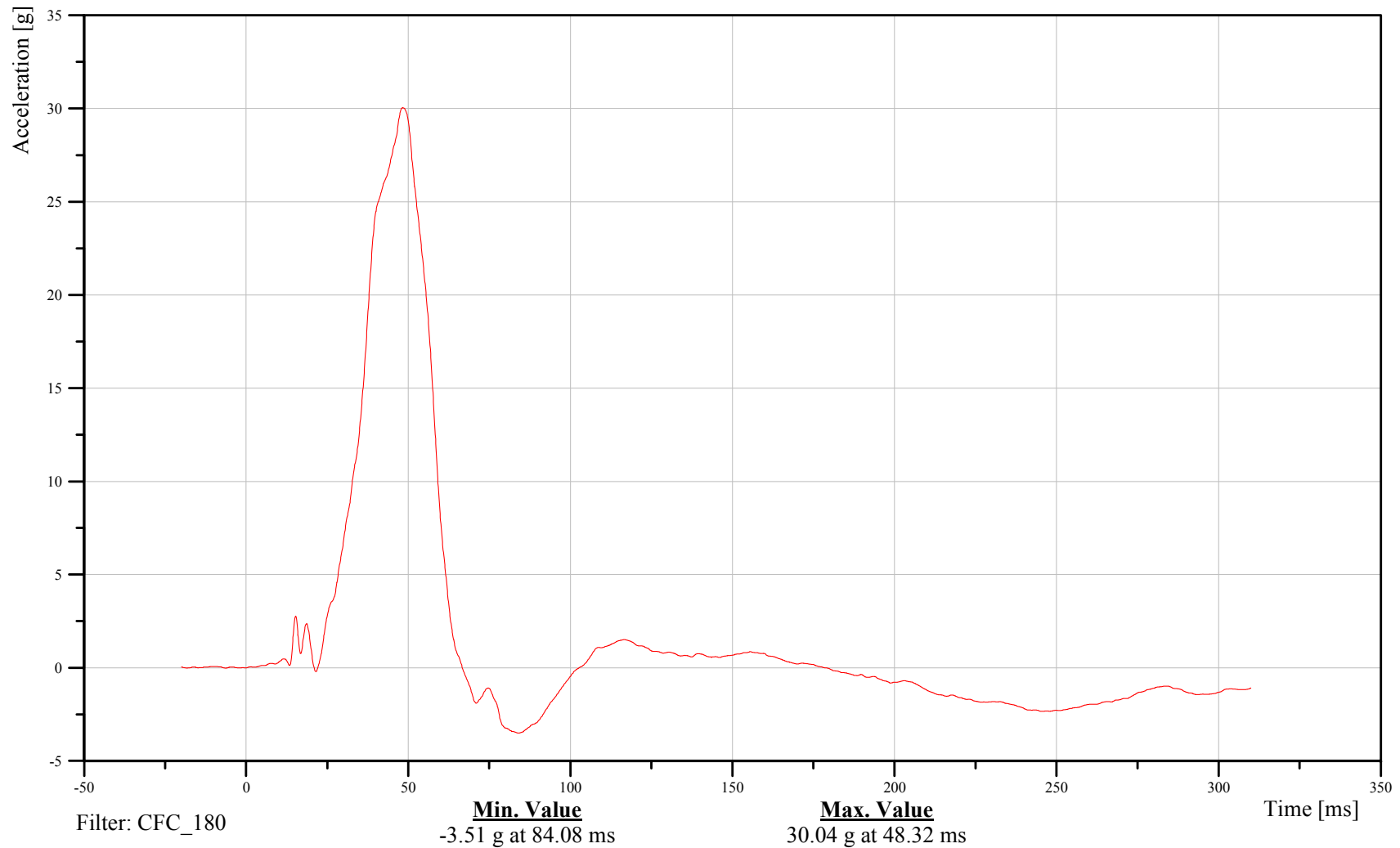
Lower Spine Accel Y

Customer: VRTC

11SPIN1200S2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

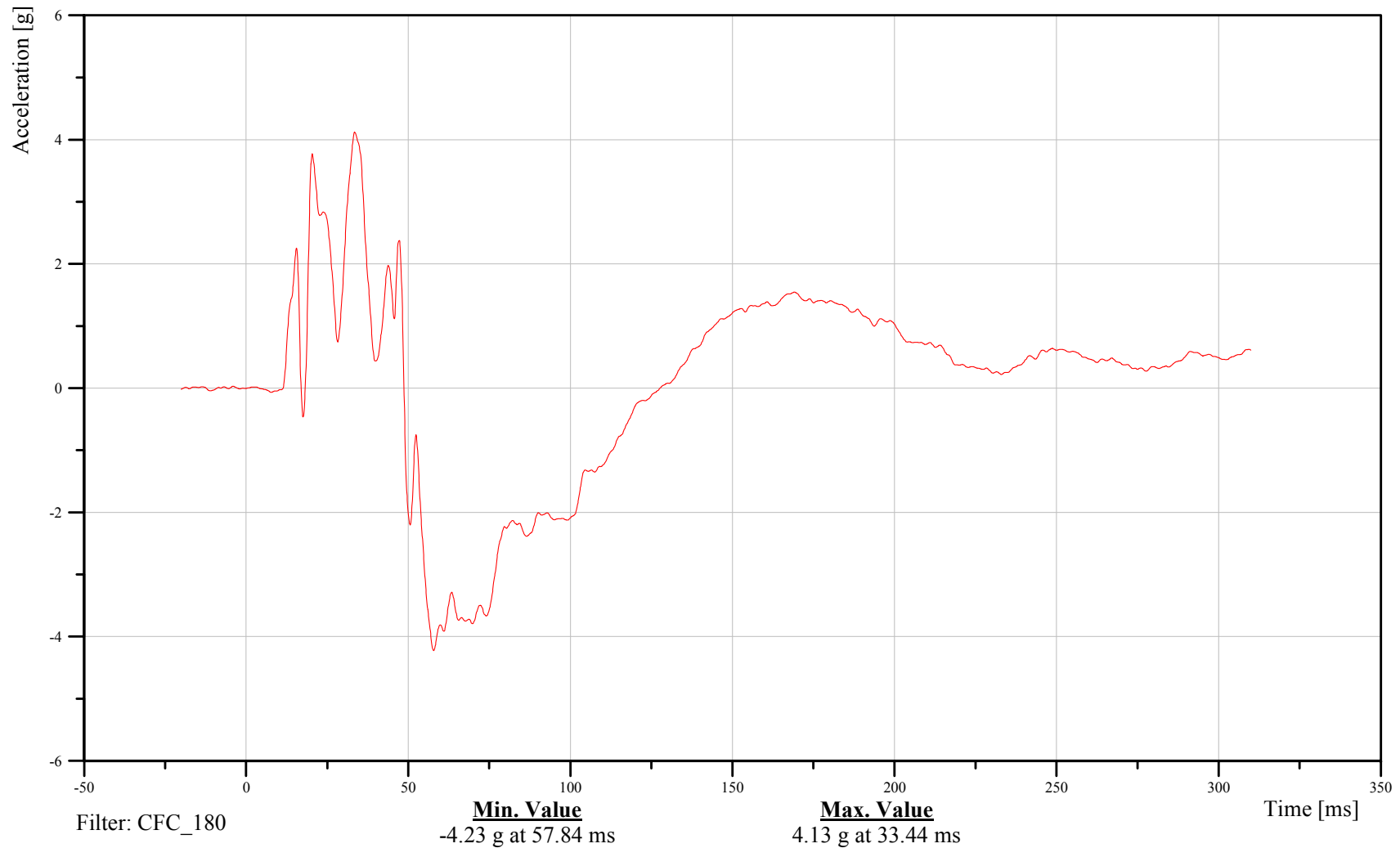
Lower Spine Accel Z

Customer: VRTC

11SPIN1200S2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

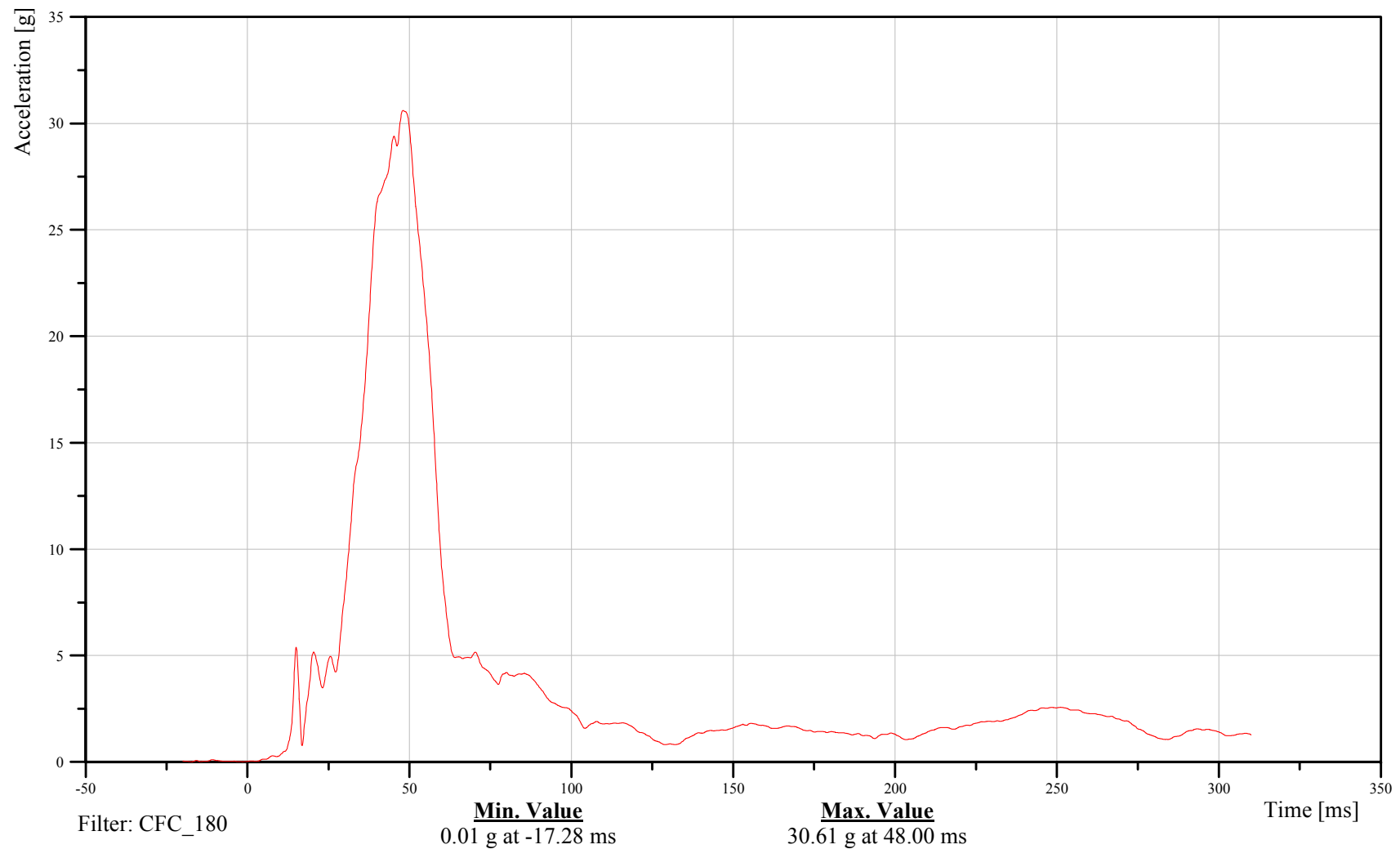
Lower Spine Accel Resultant

Customer: VRTC

11SPIN1200S2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel X

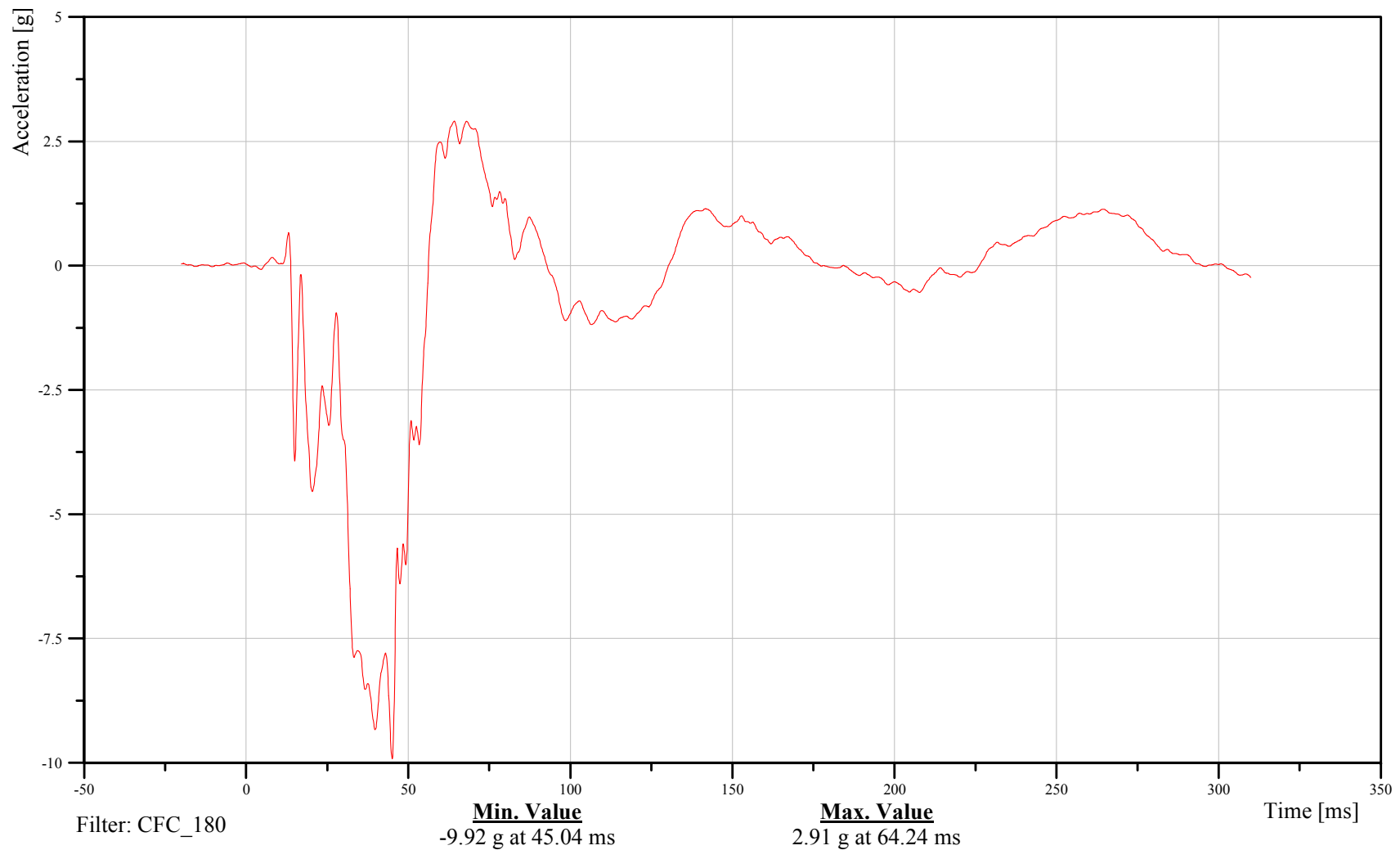
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABSP02RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Y

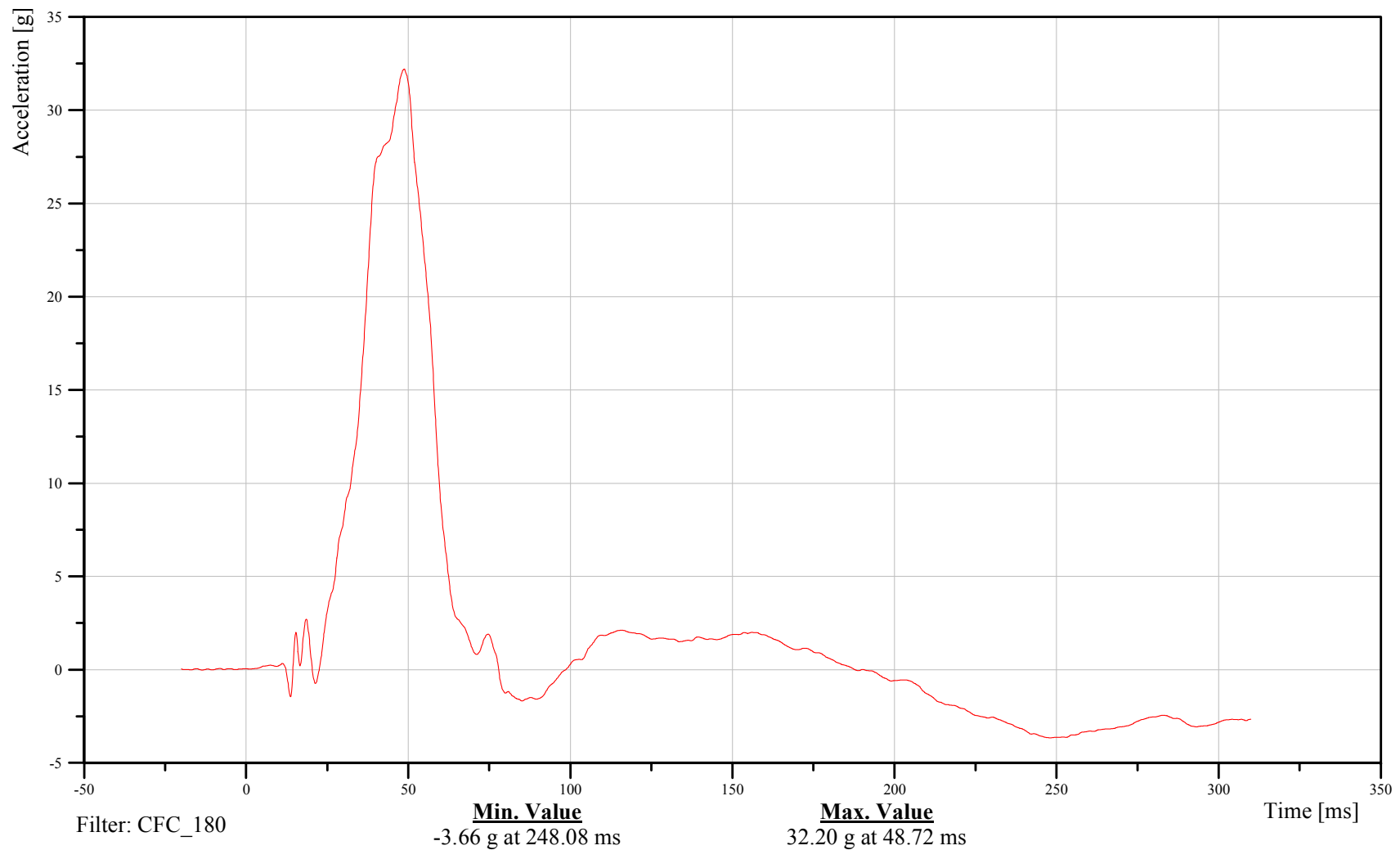
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABSP02RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Z

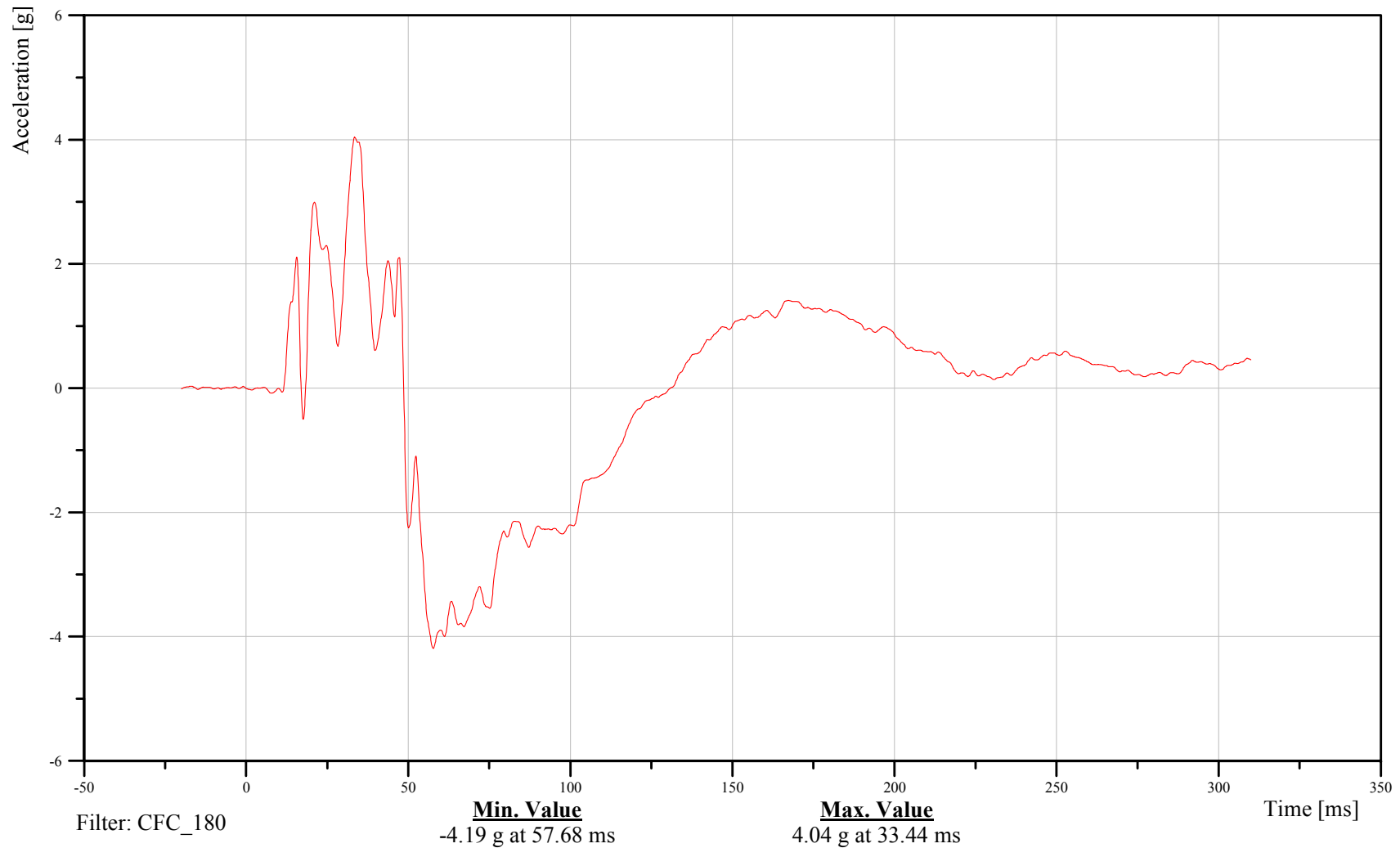
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABSP02RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Resultant

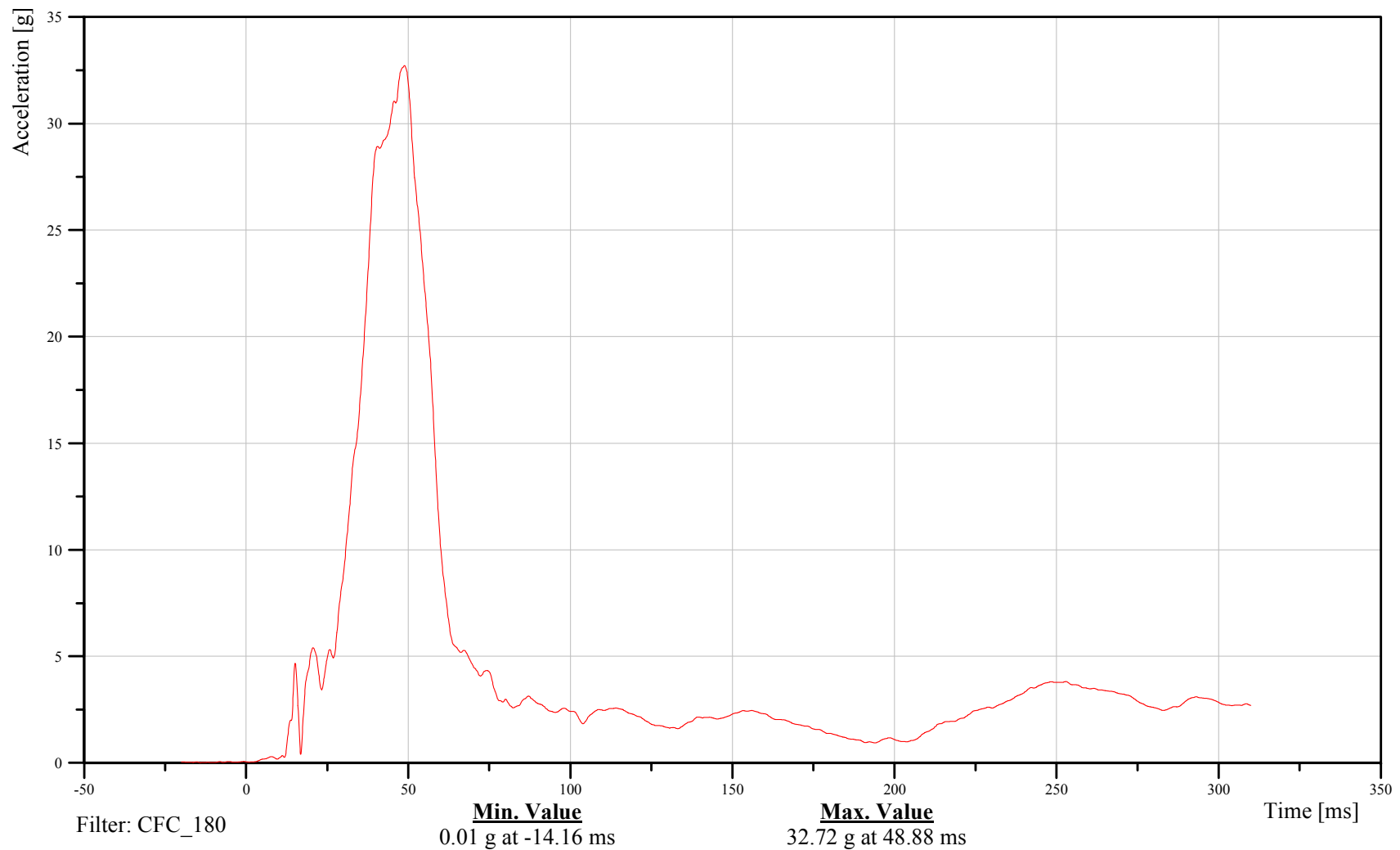
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABSP02RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Lumbar Moment X

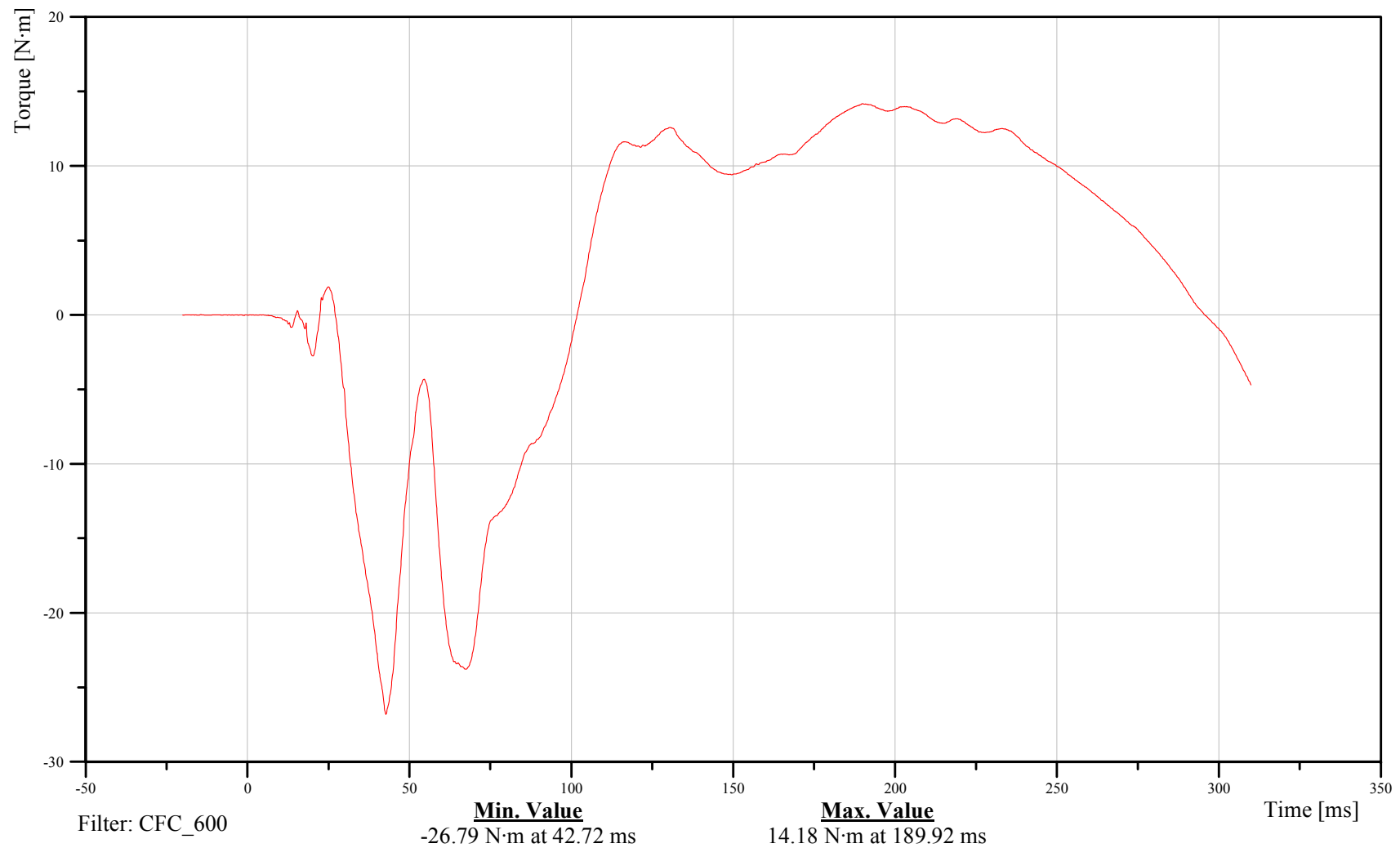
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11LUSP0000S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Lumbar Moment Y

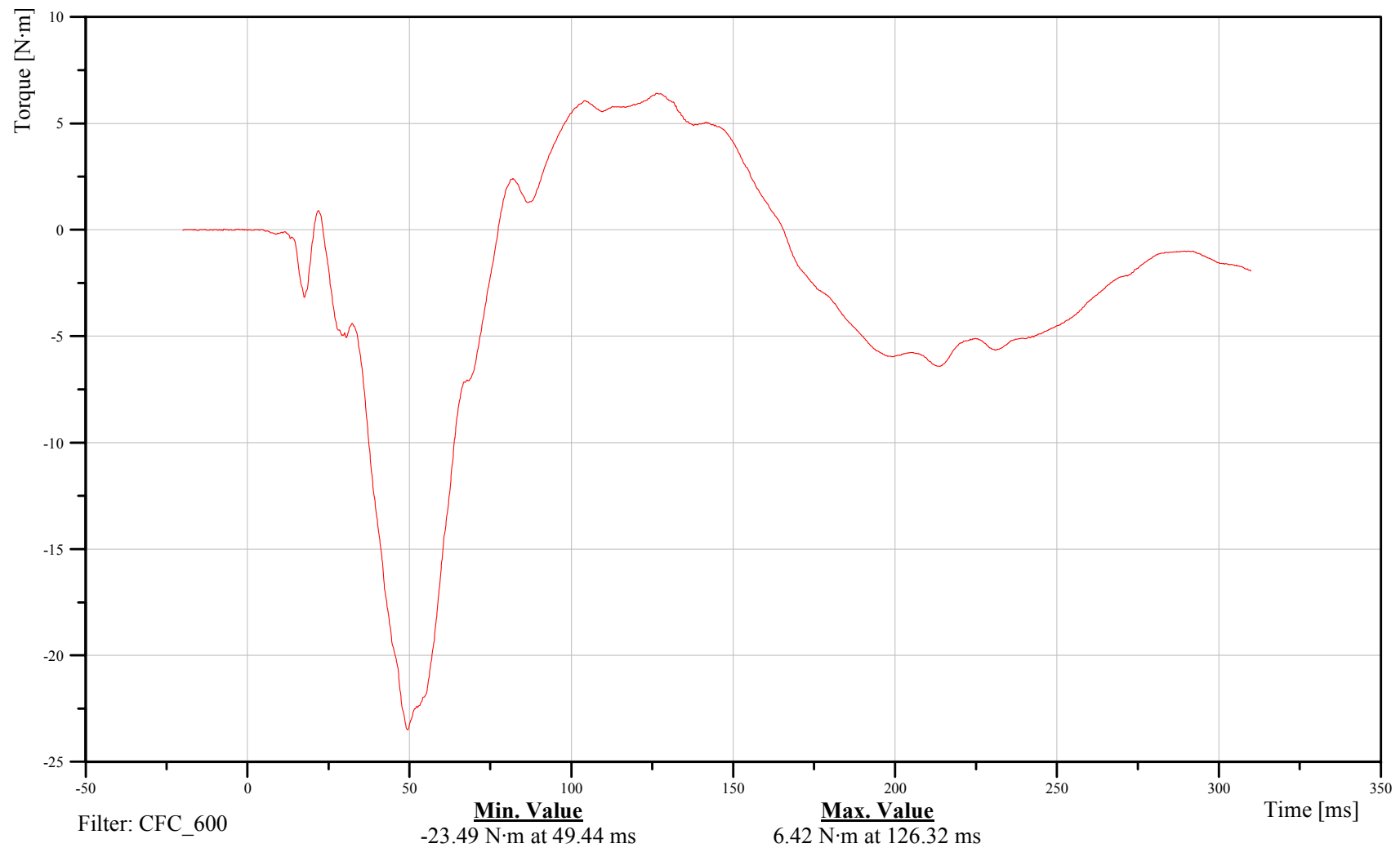
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11LUSP0000S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

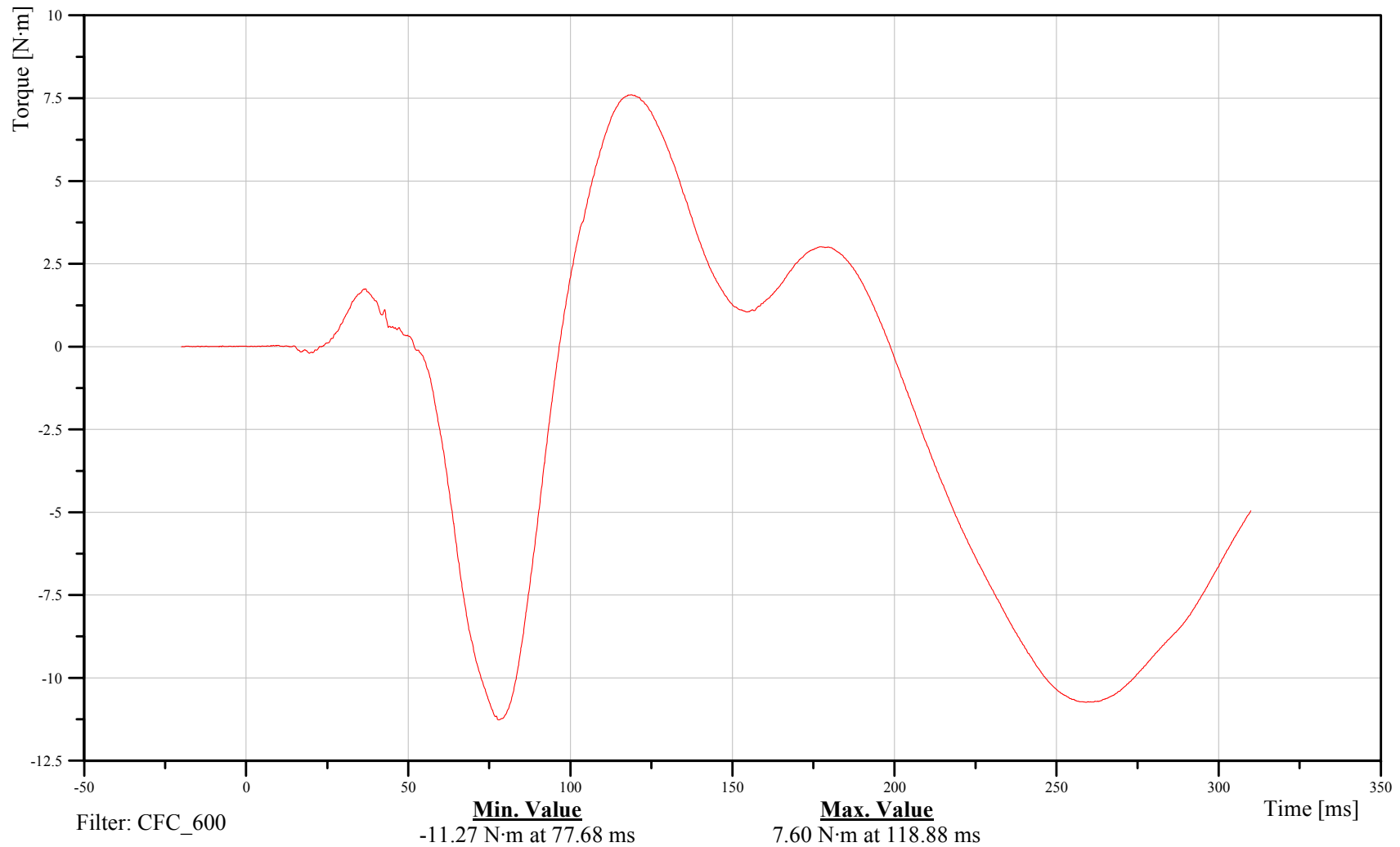
Lumbar Moment Z

Customer: VRTC

11LUSP0000S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel X

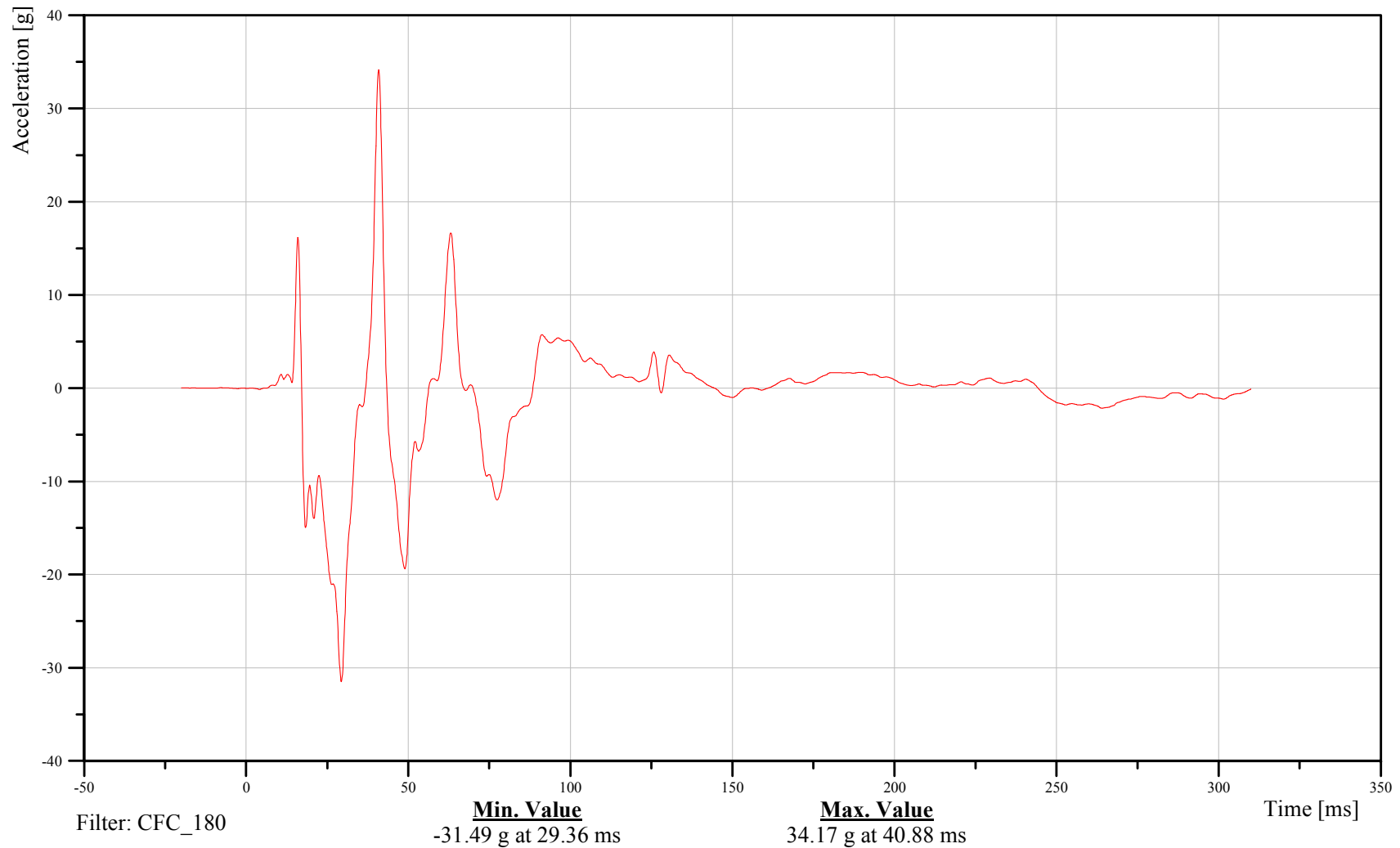
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI01LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Y

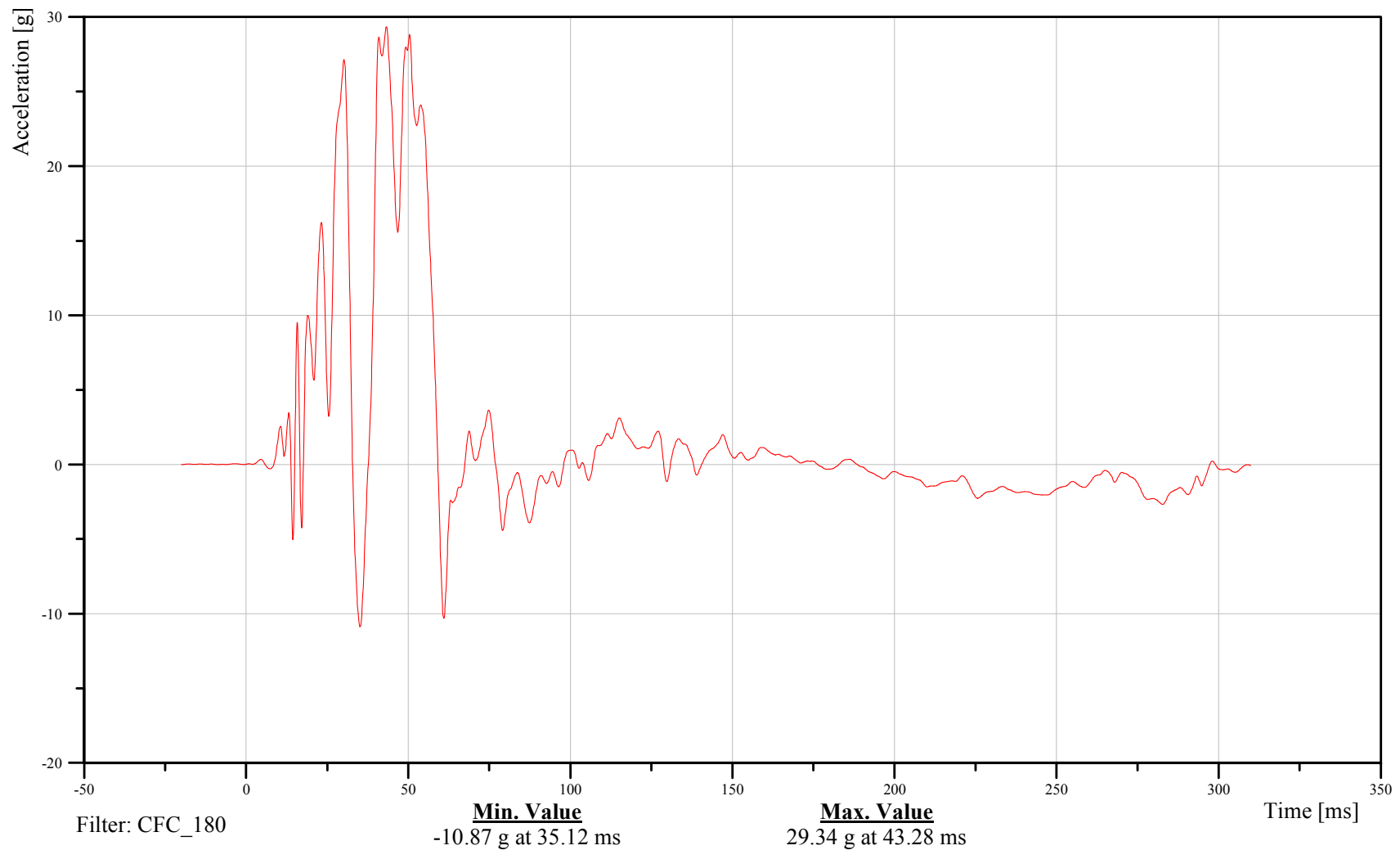
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI01LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Z

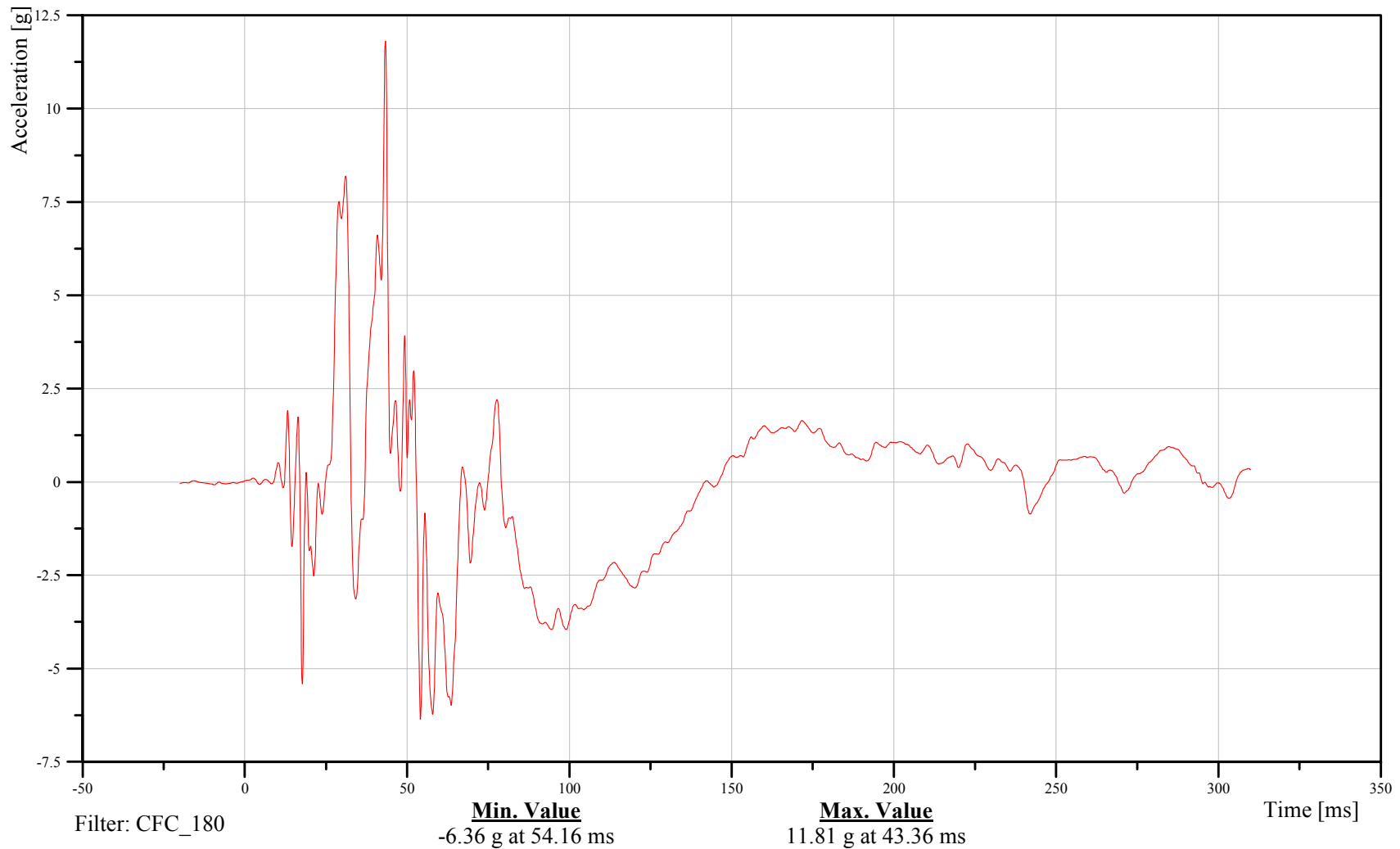
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI01LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Resultant

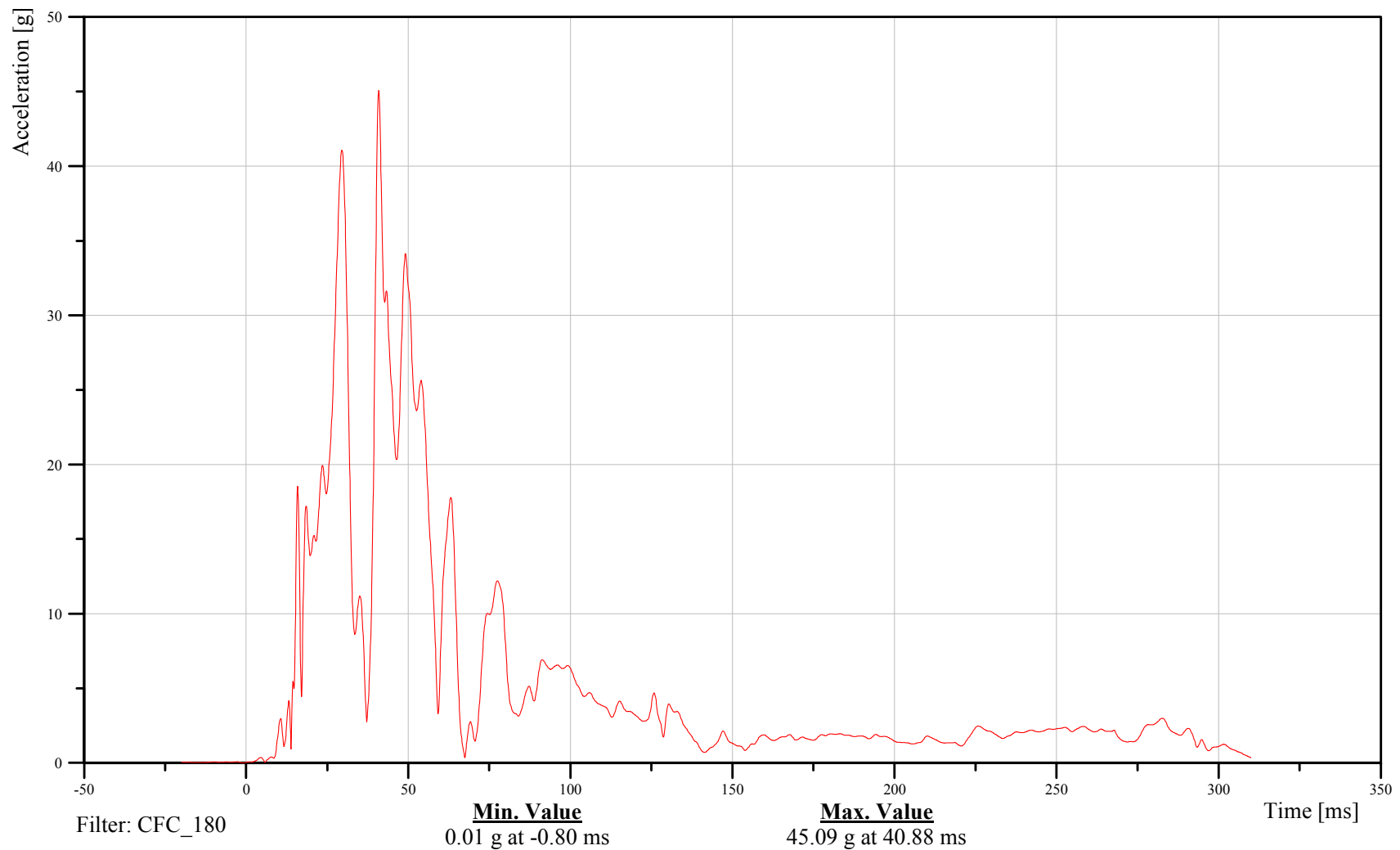
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI01LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel X

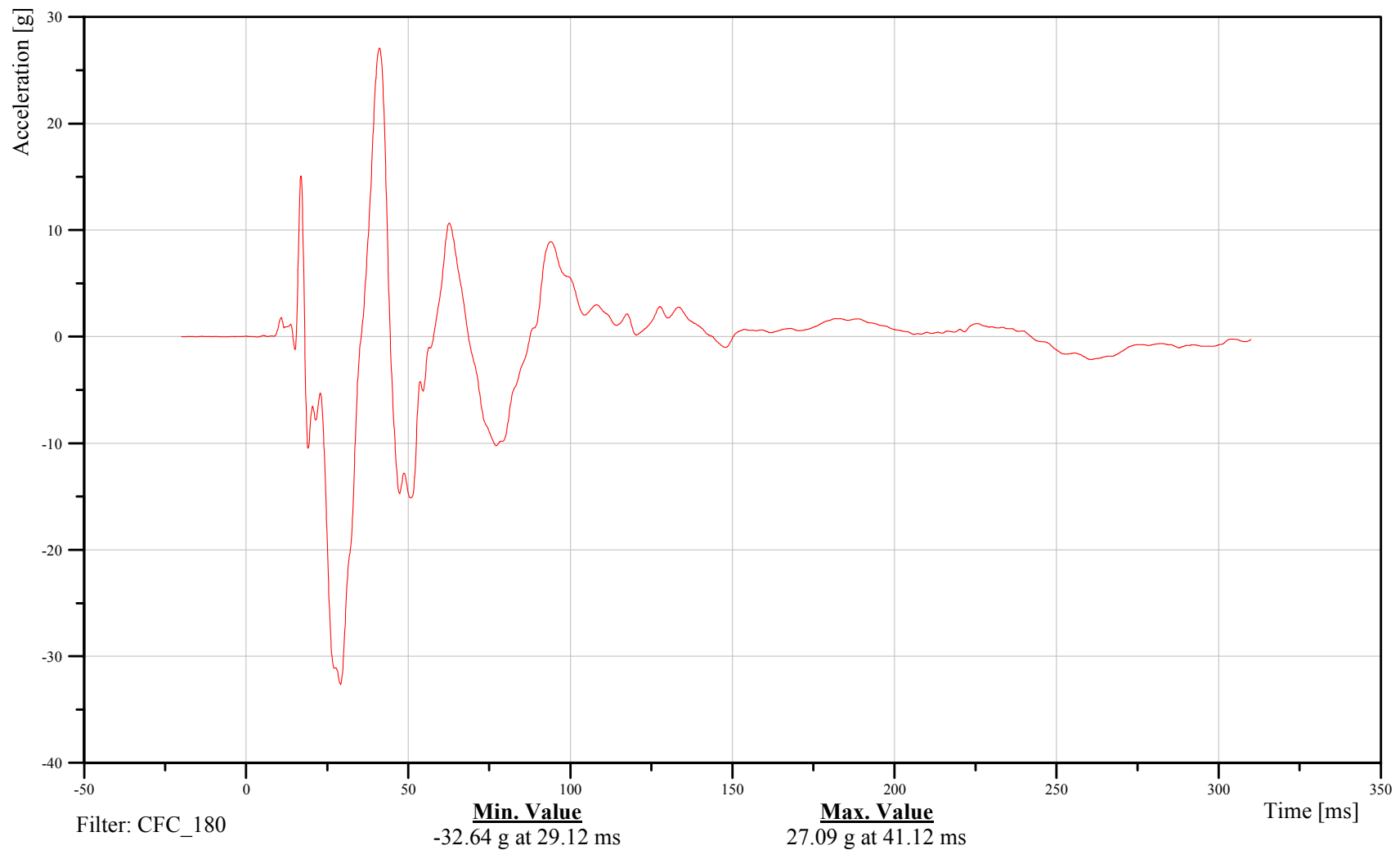
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI02LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Y

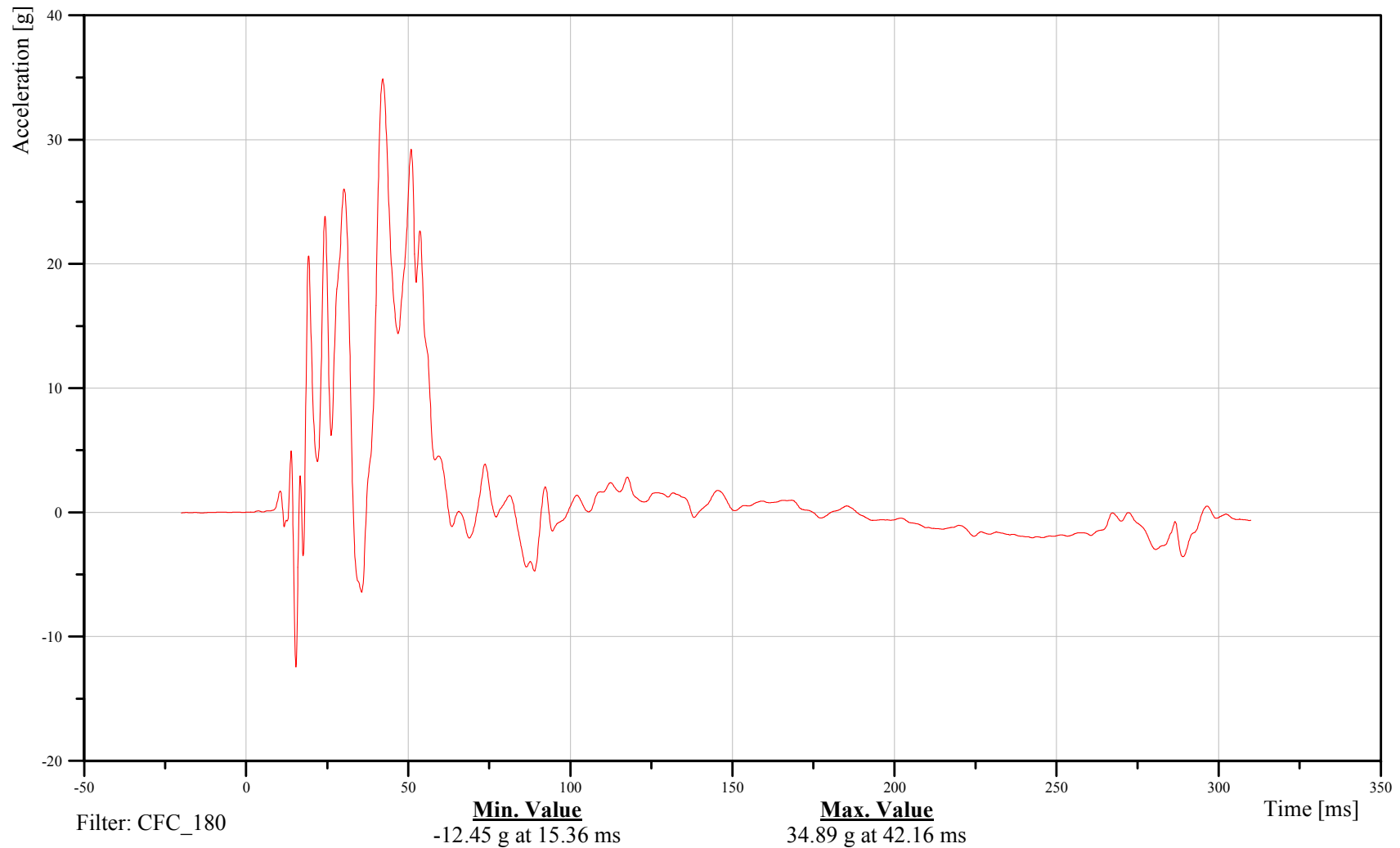
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI02LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Z

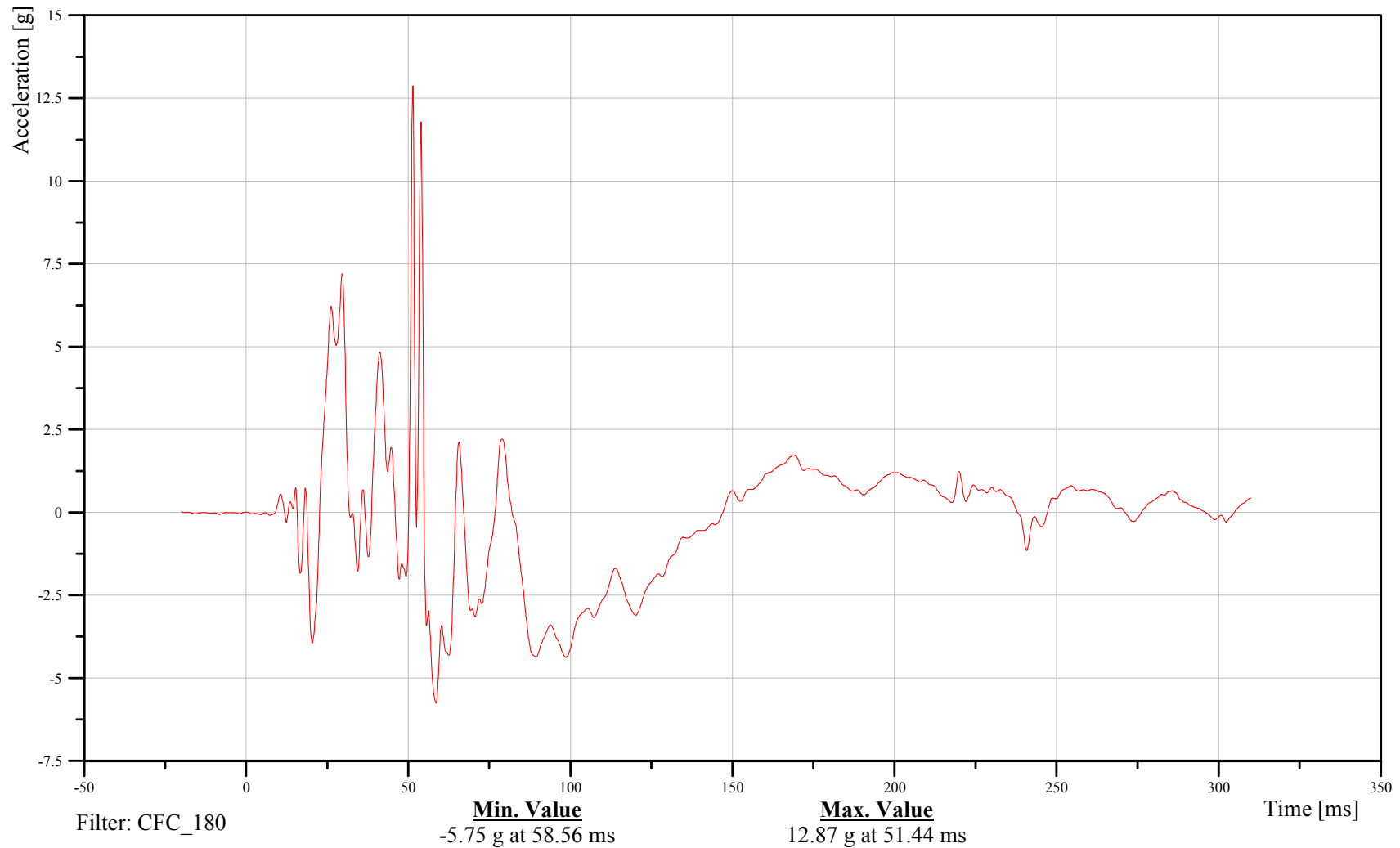
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI02LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Resultant

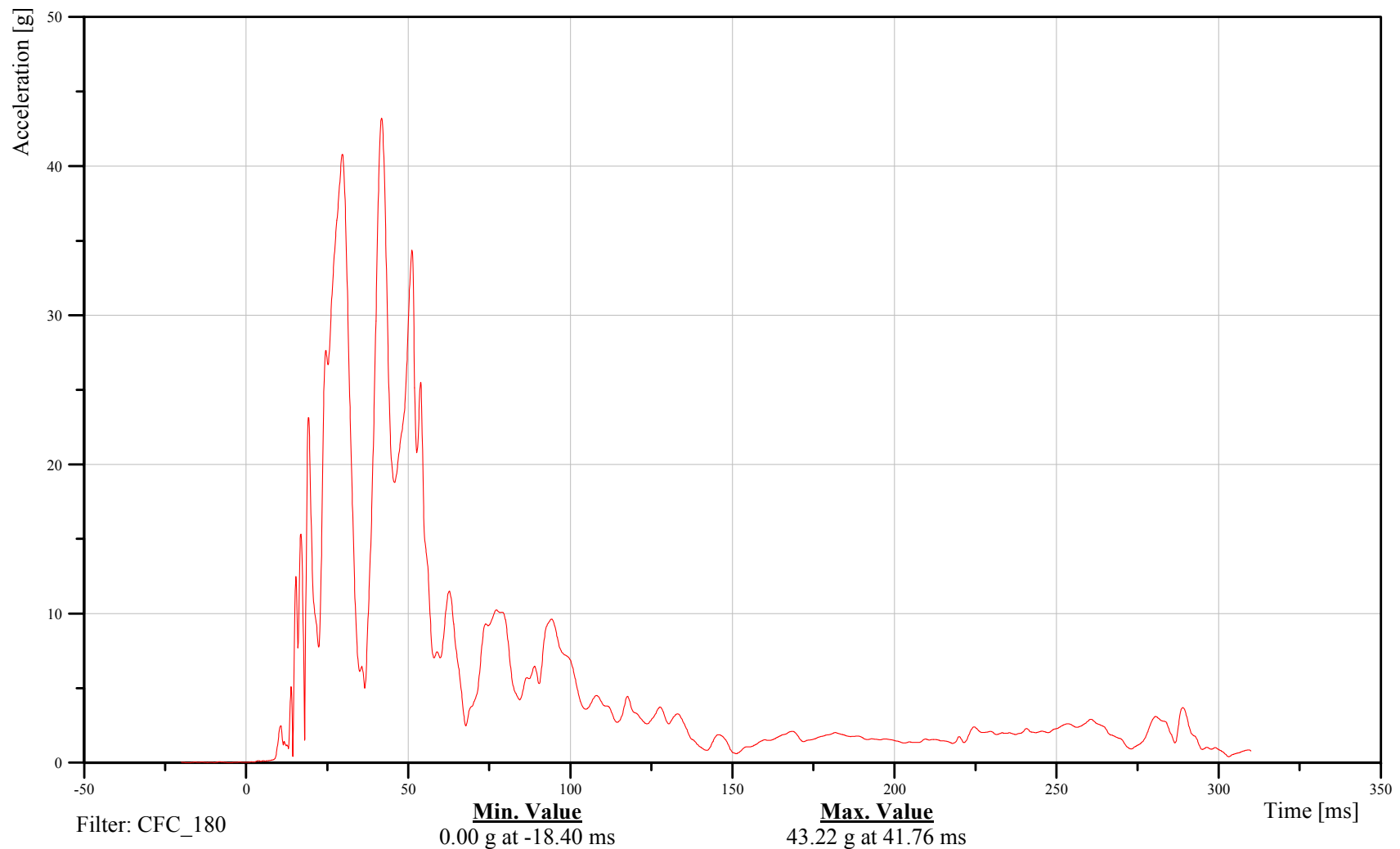
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI02LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel X

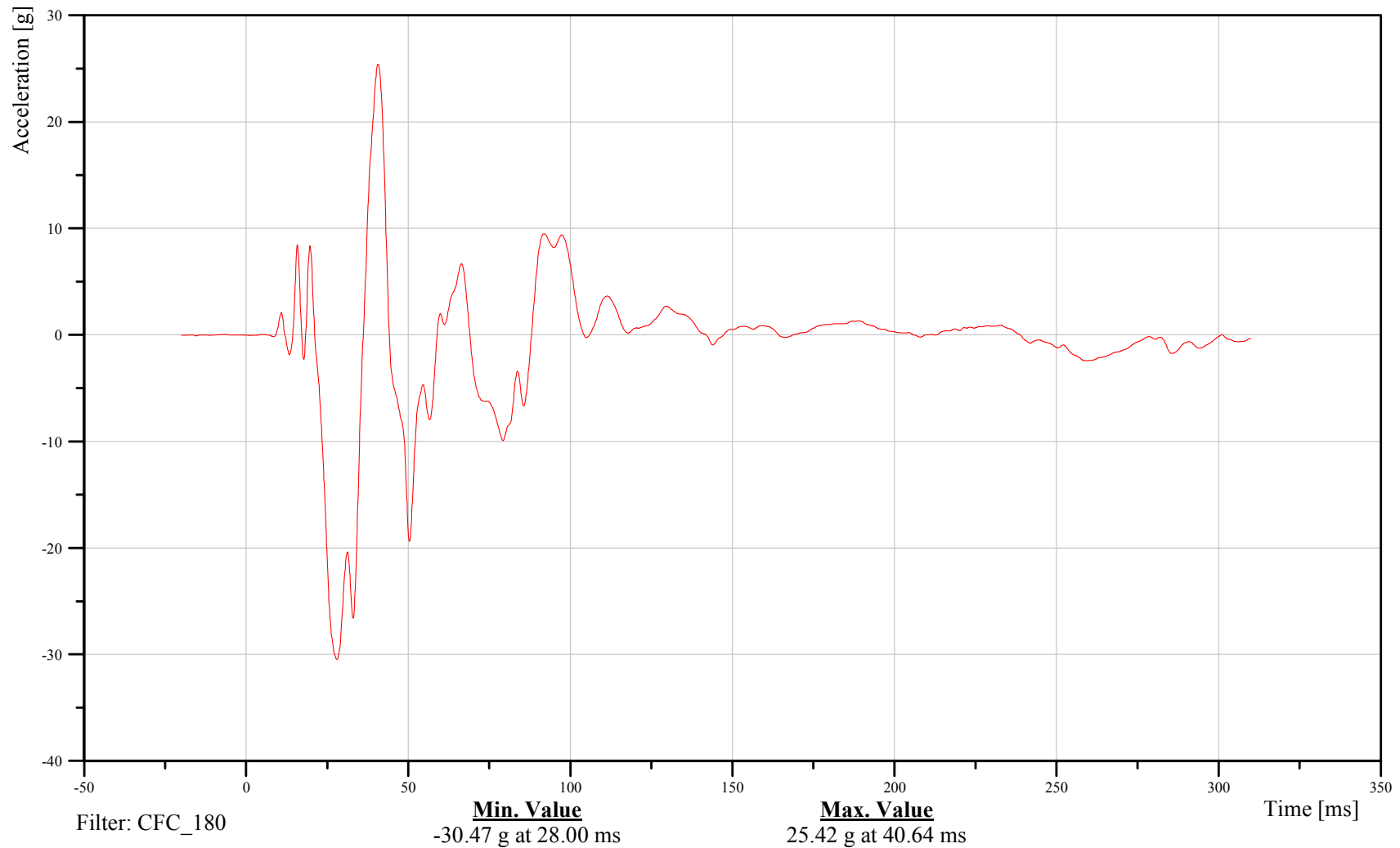
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI03LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Y

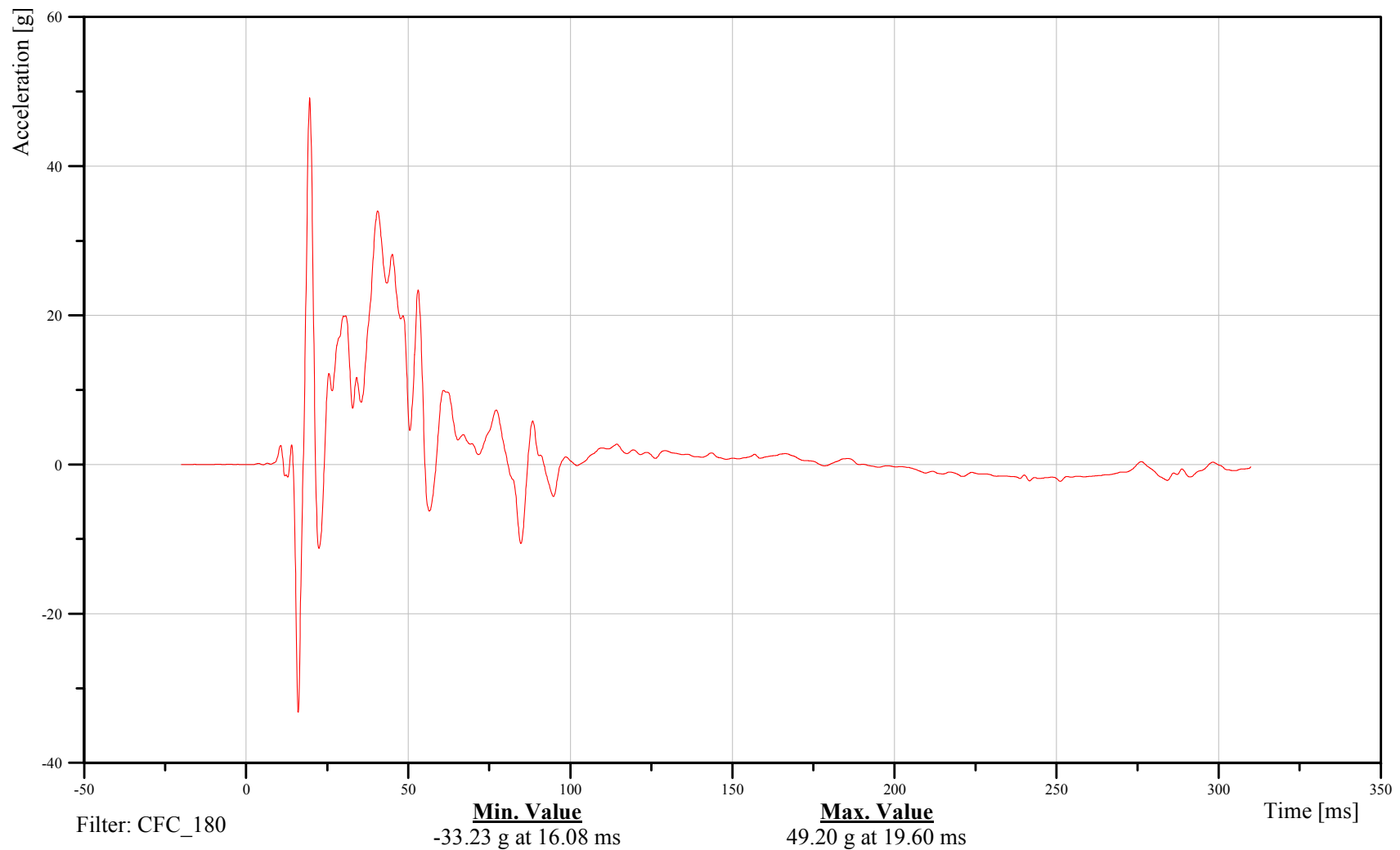
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI03LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Z

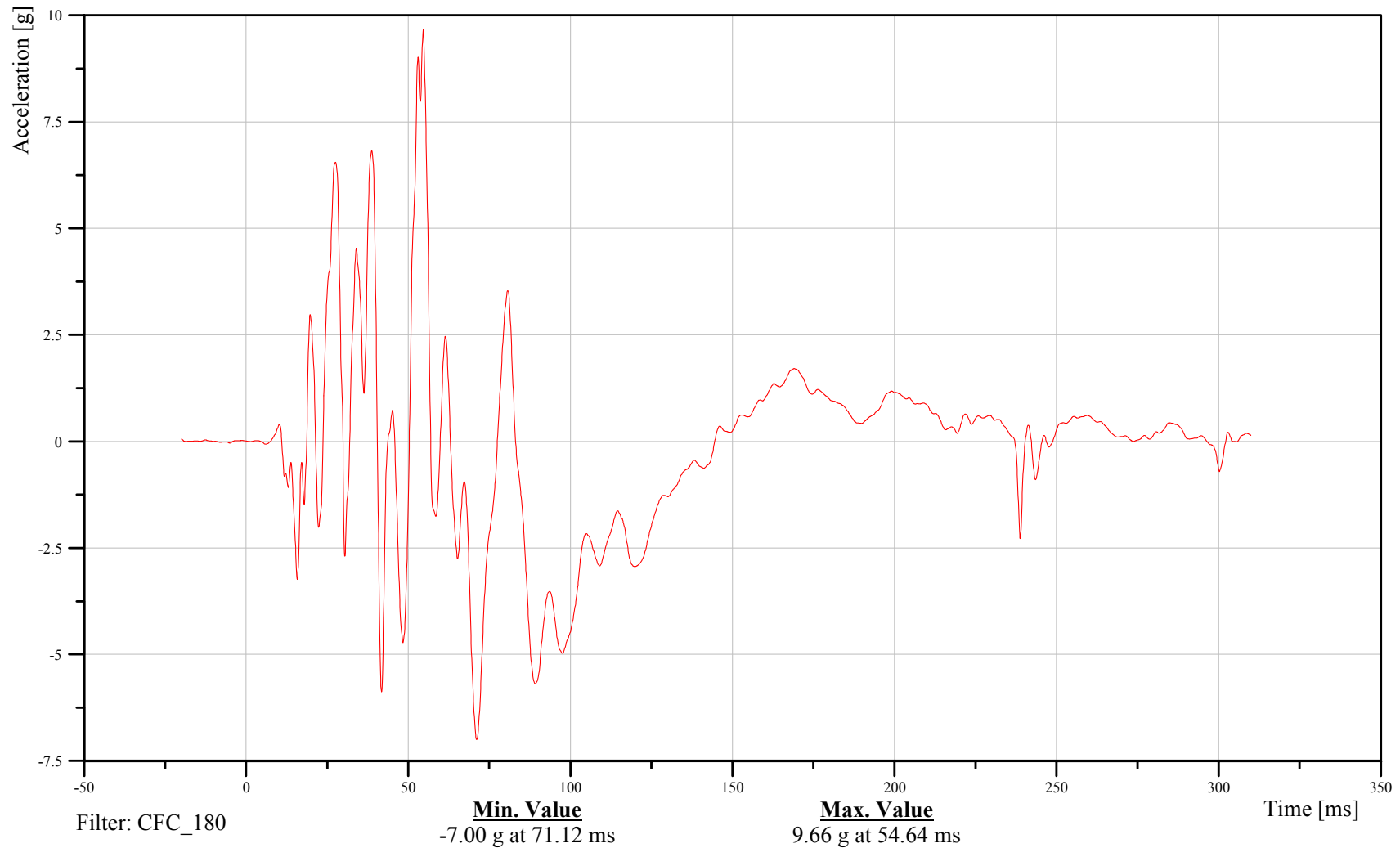
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI03LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Resultant

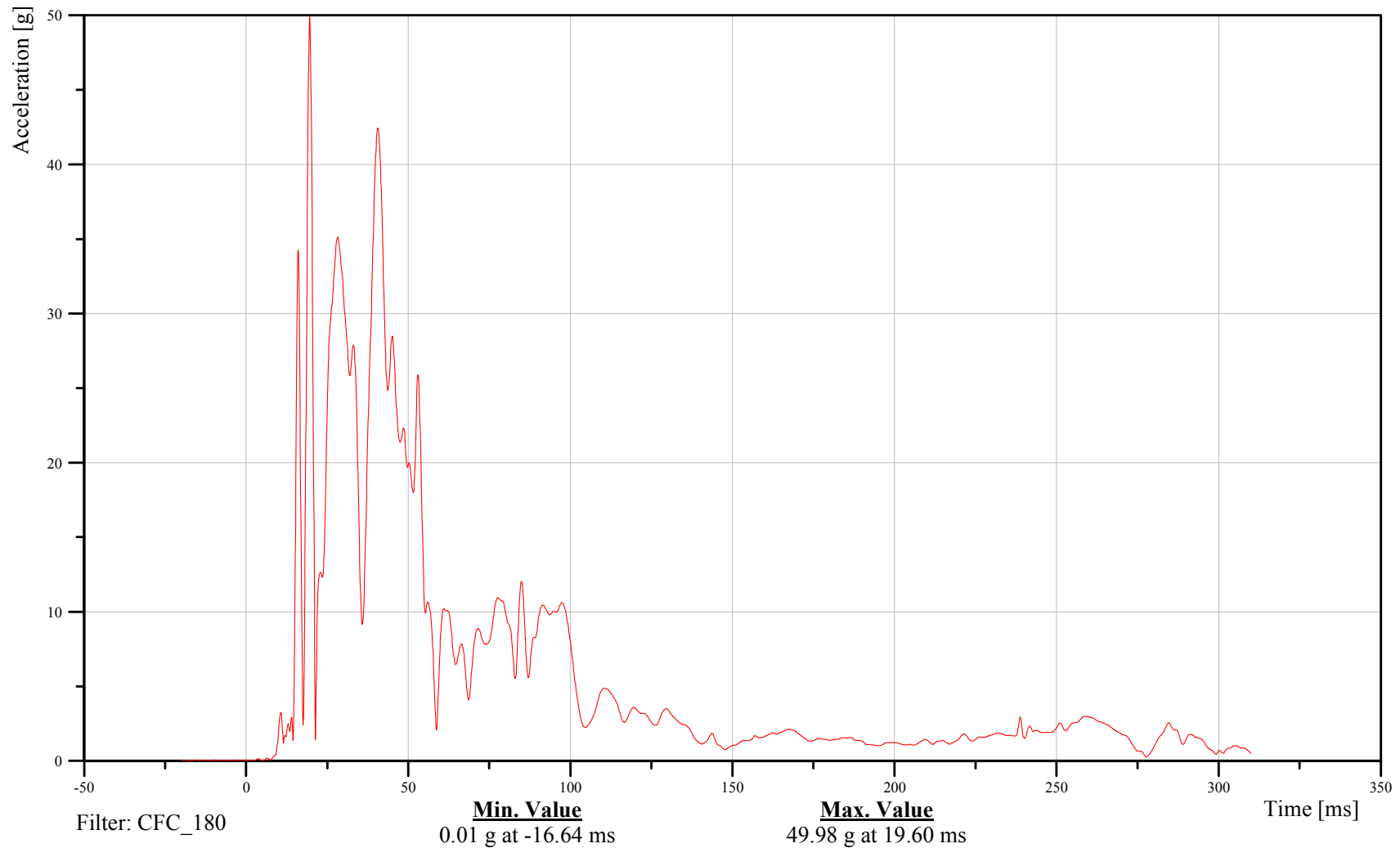
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI03LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel X

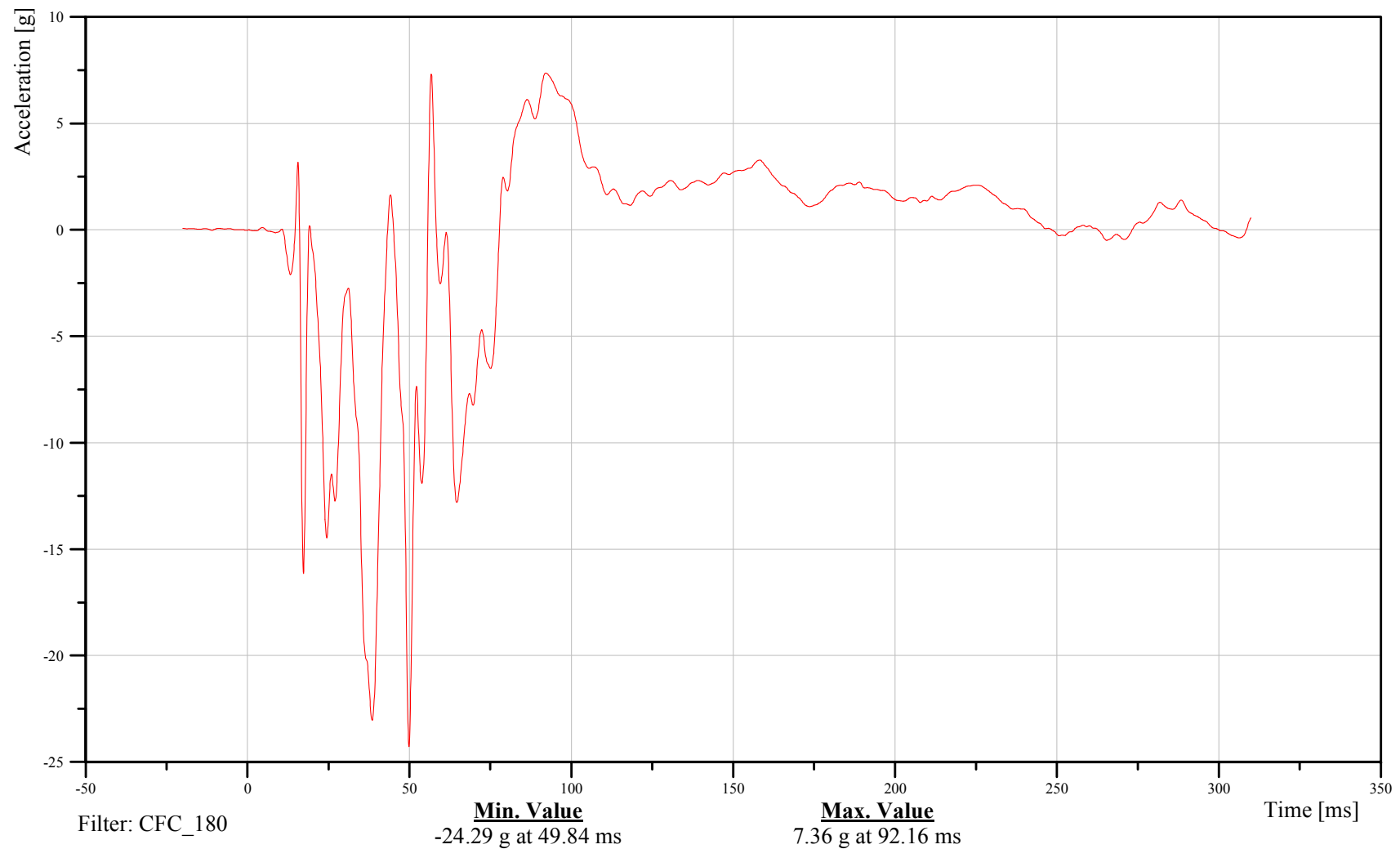
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI01LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Y

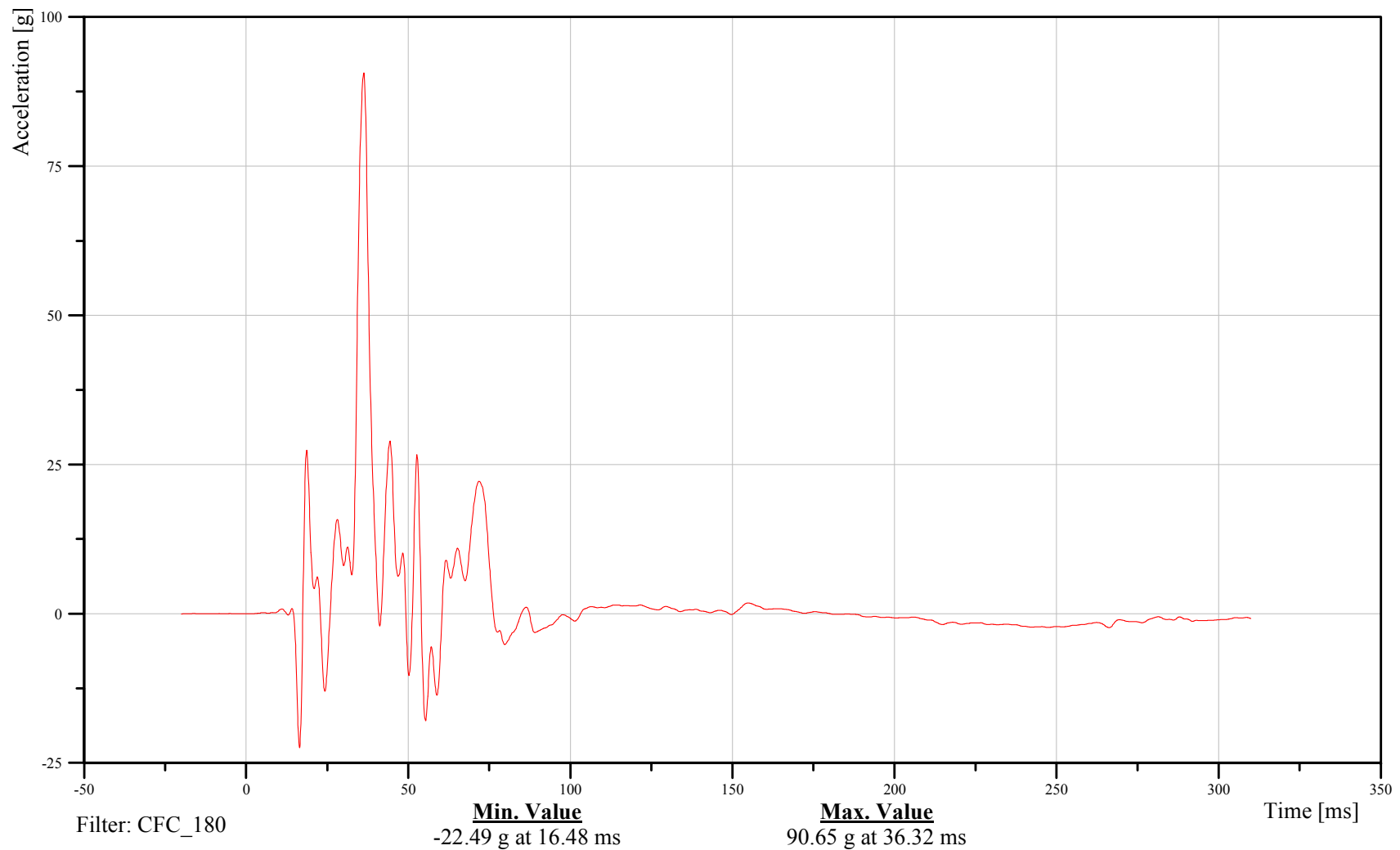
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI01LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Z

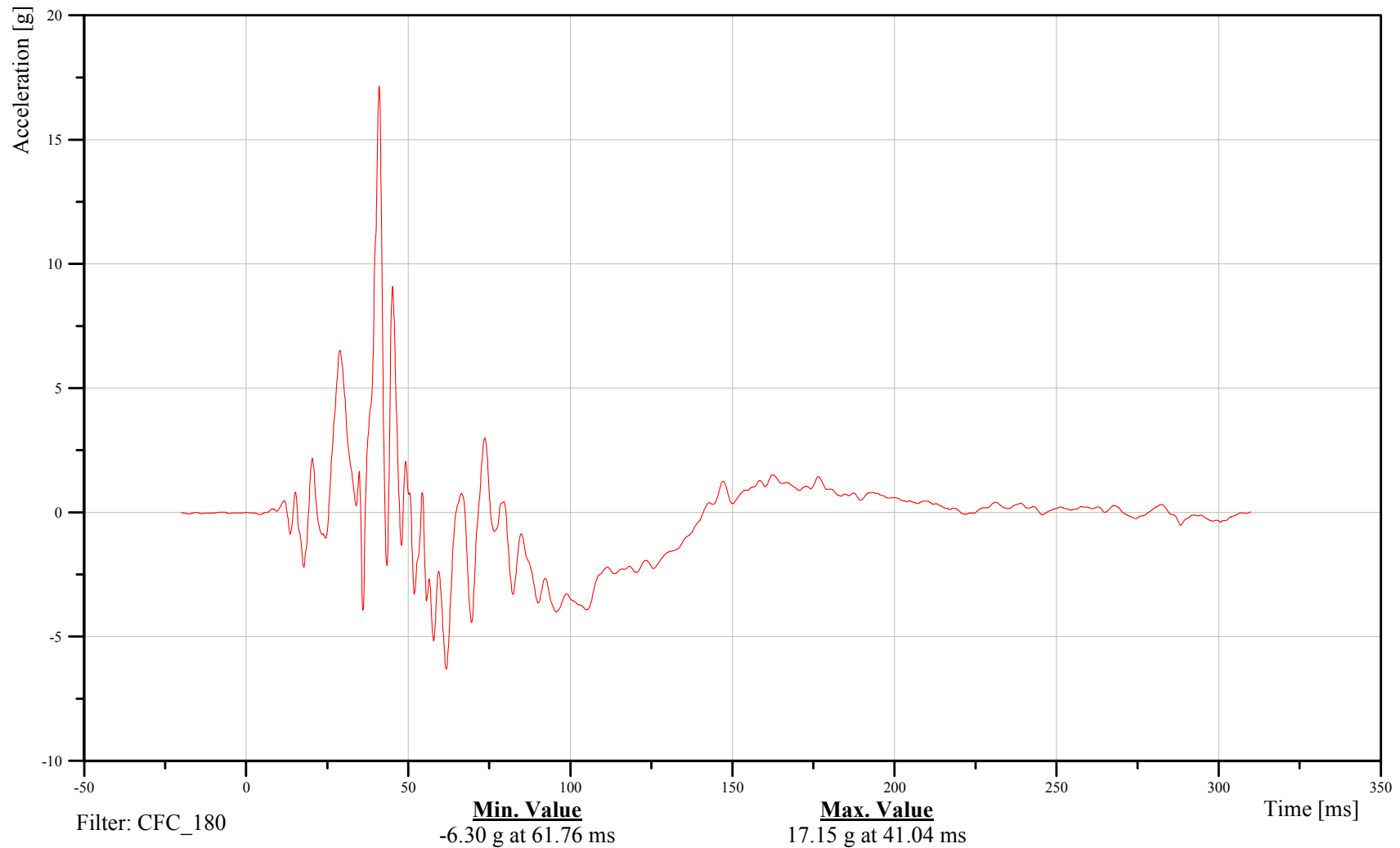
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI01LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Resultant

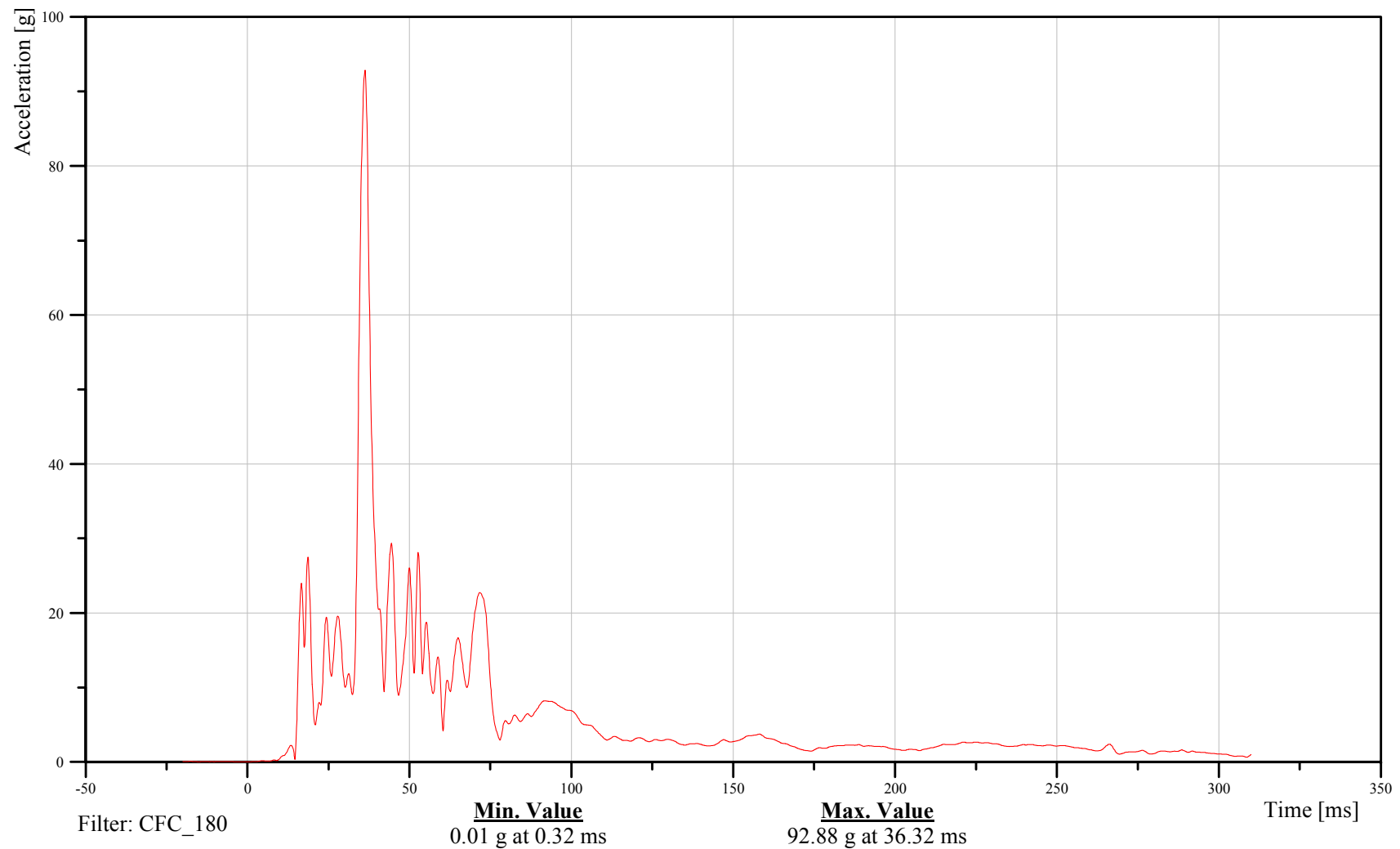
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI01LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel X

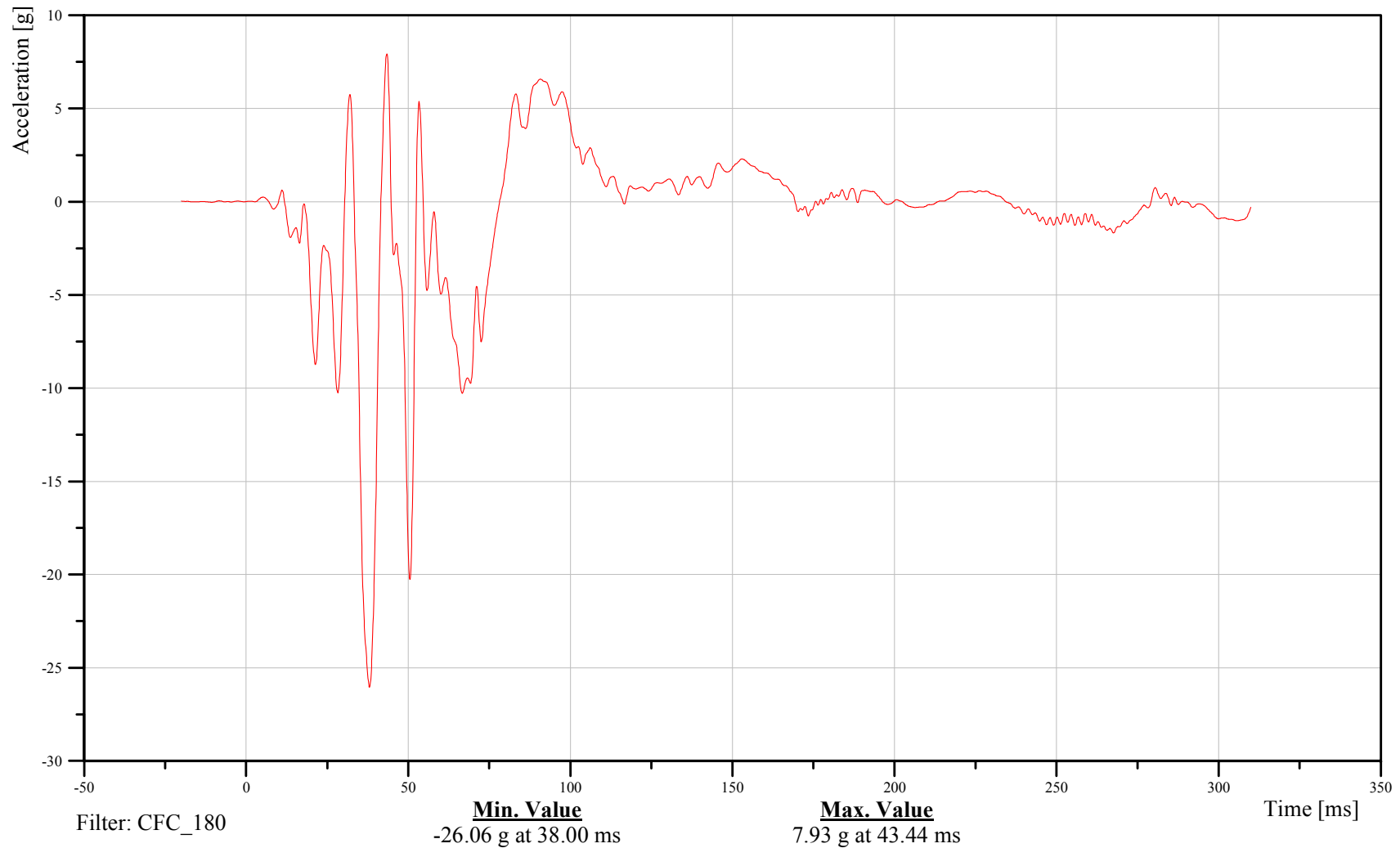
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI02LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Y

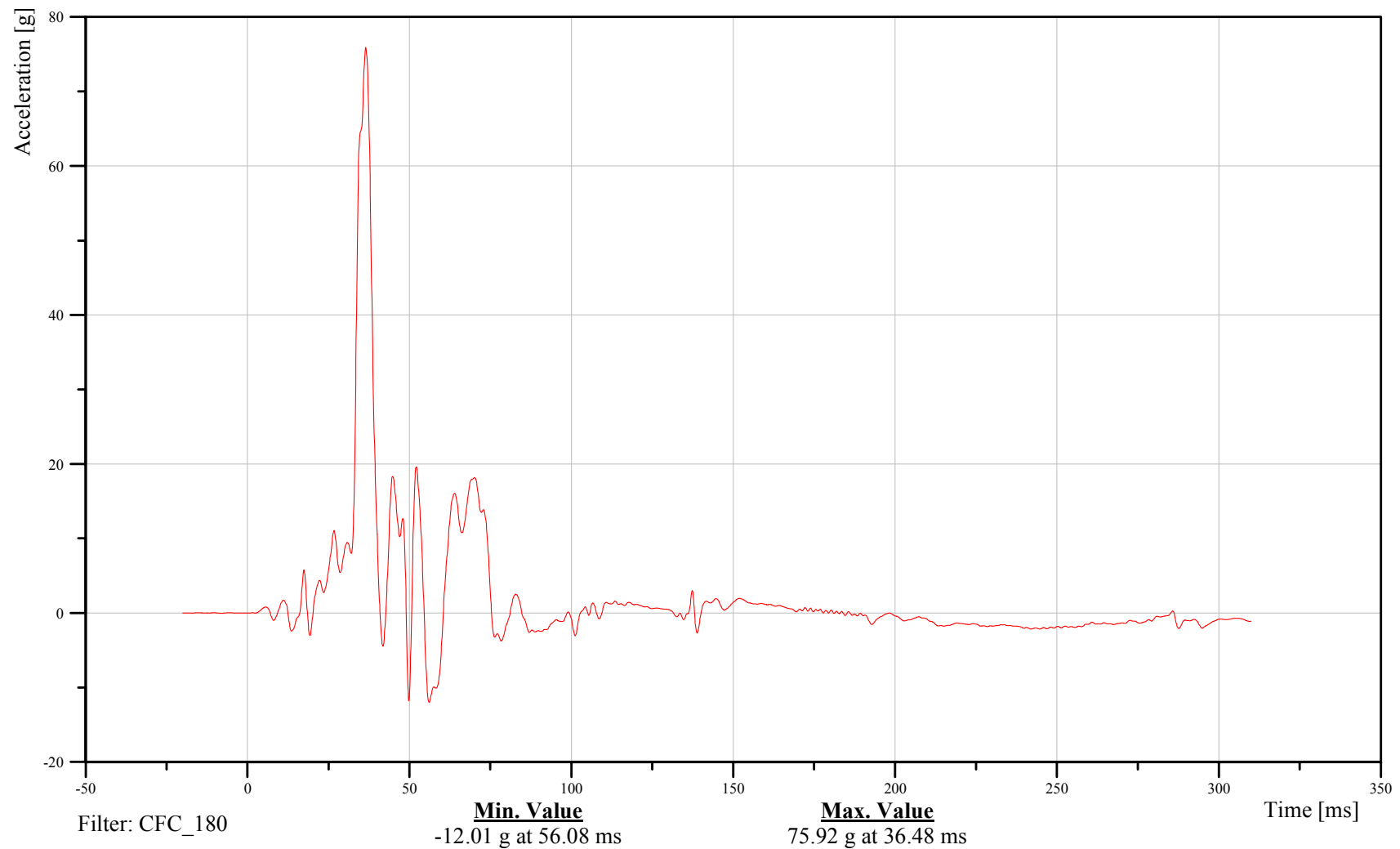
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI02LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Z

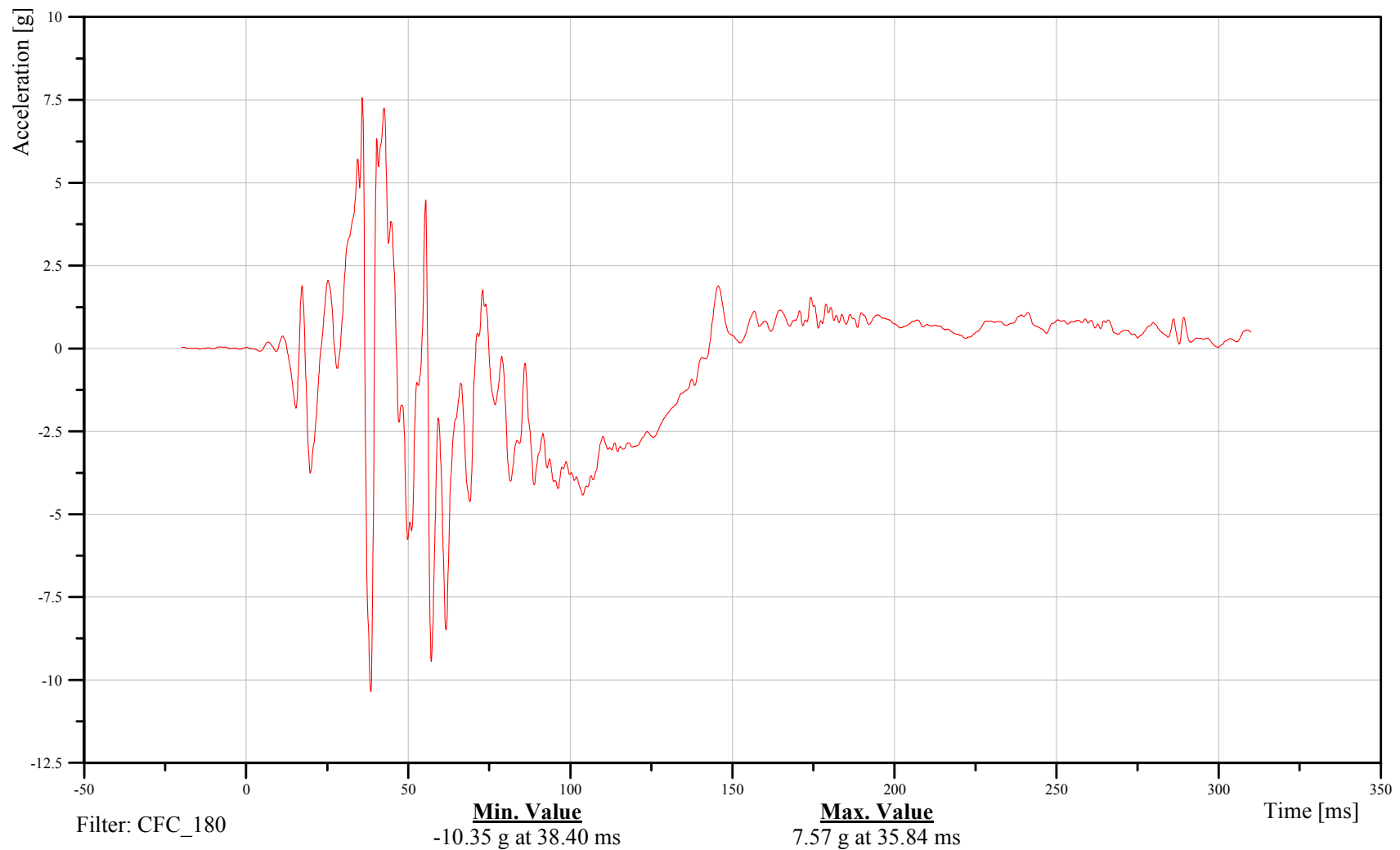
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI02LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Resultant

Date: 07/29/2005

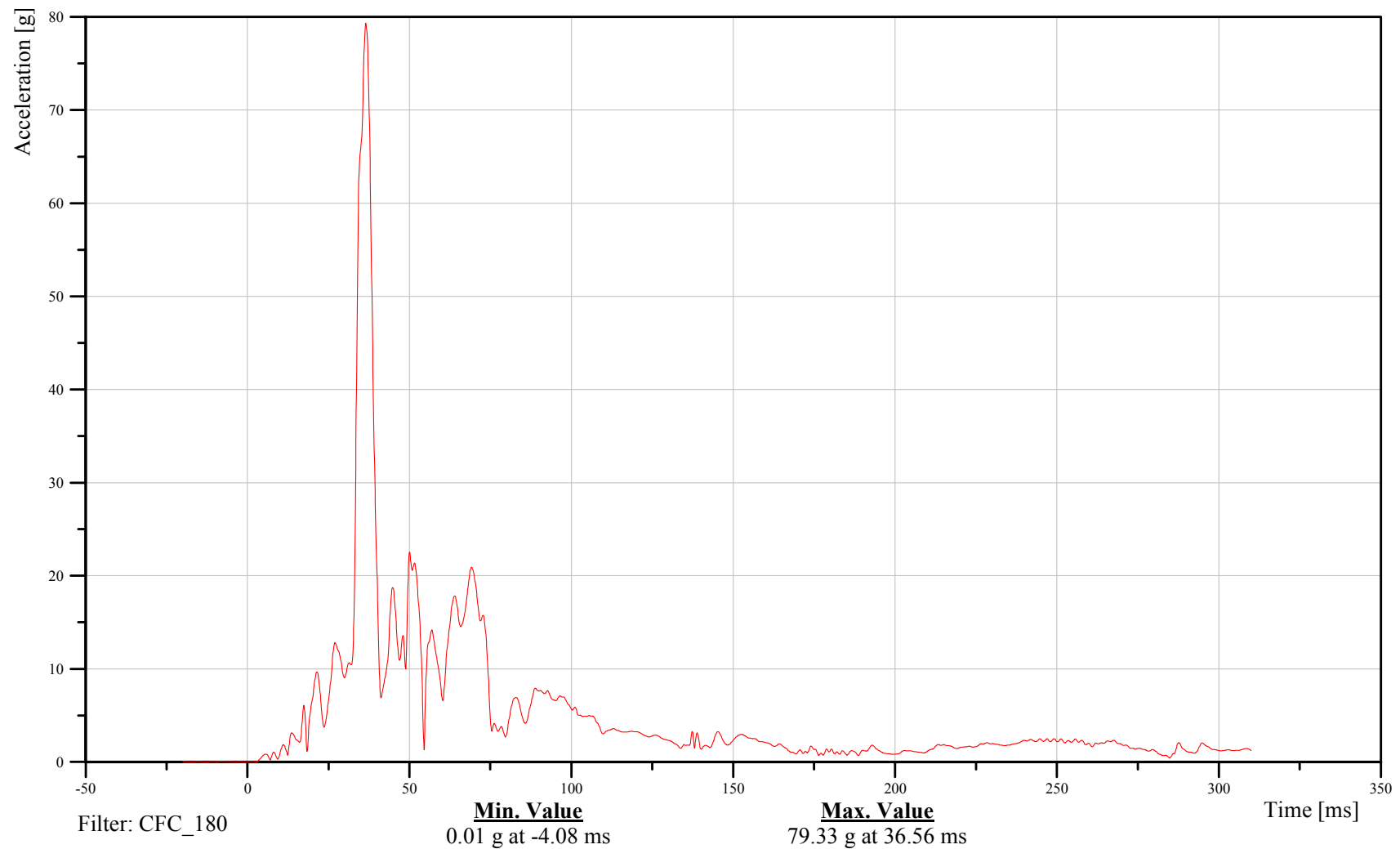
Time: 12:15

Customer: VRTC

11ABRI02LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

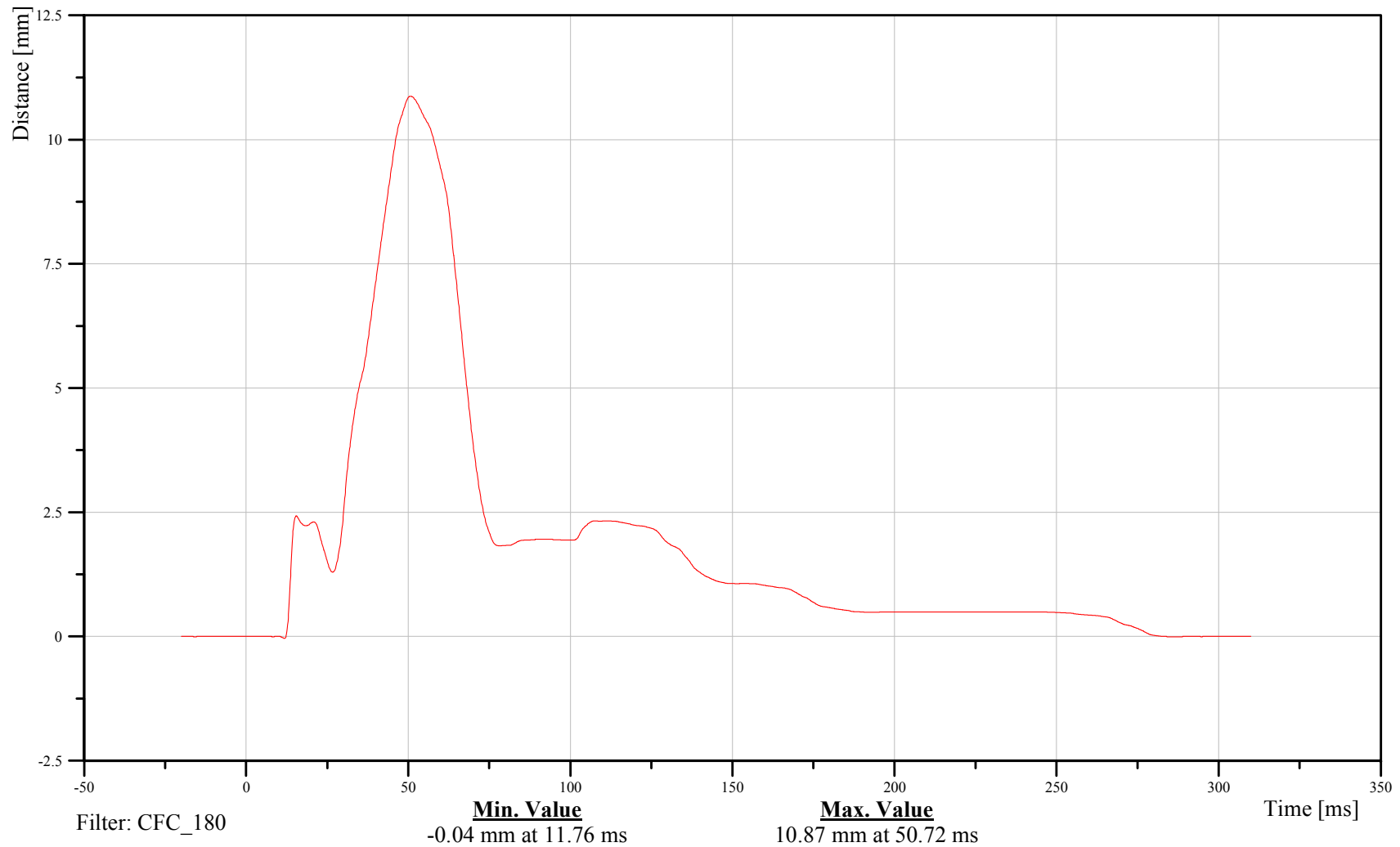
Shoulder Disp. Y

Customer: VRTC

11SHRILE00S2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Disp. Y

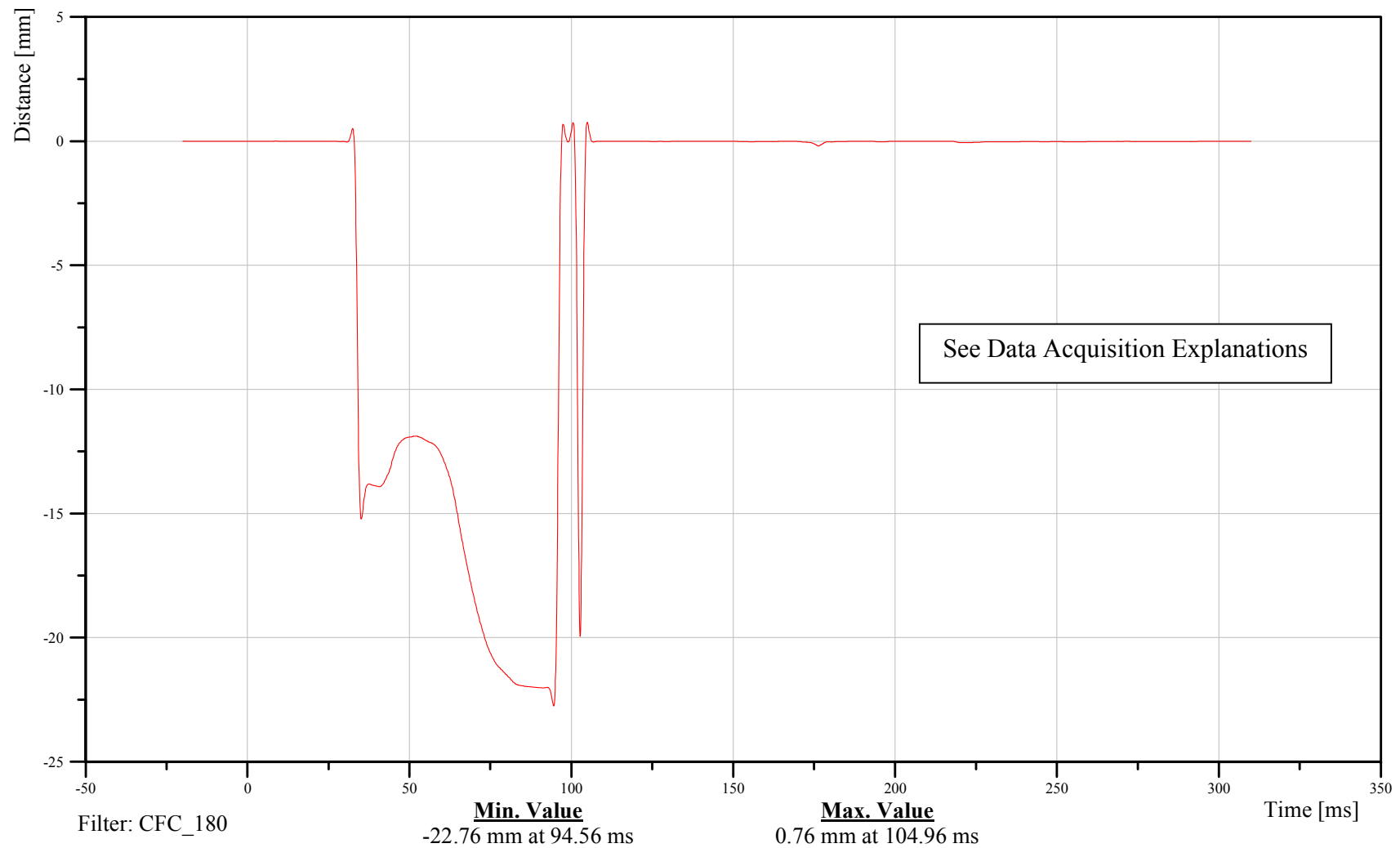
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI01LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Disp. Y

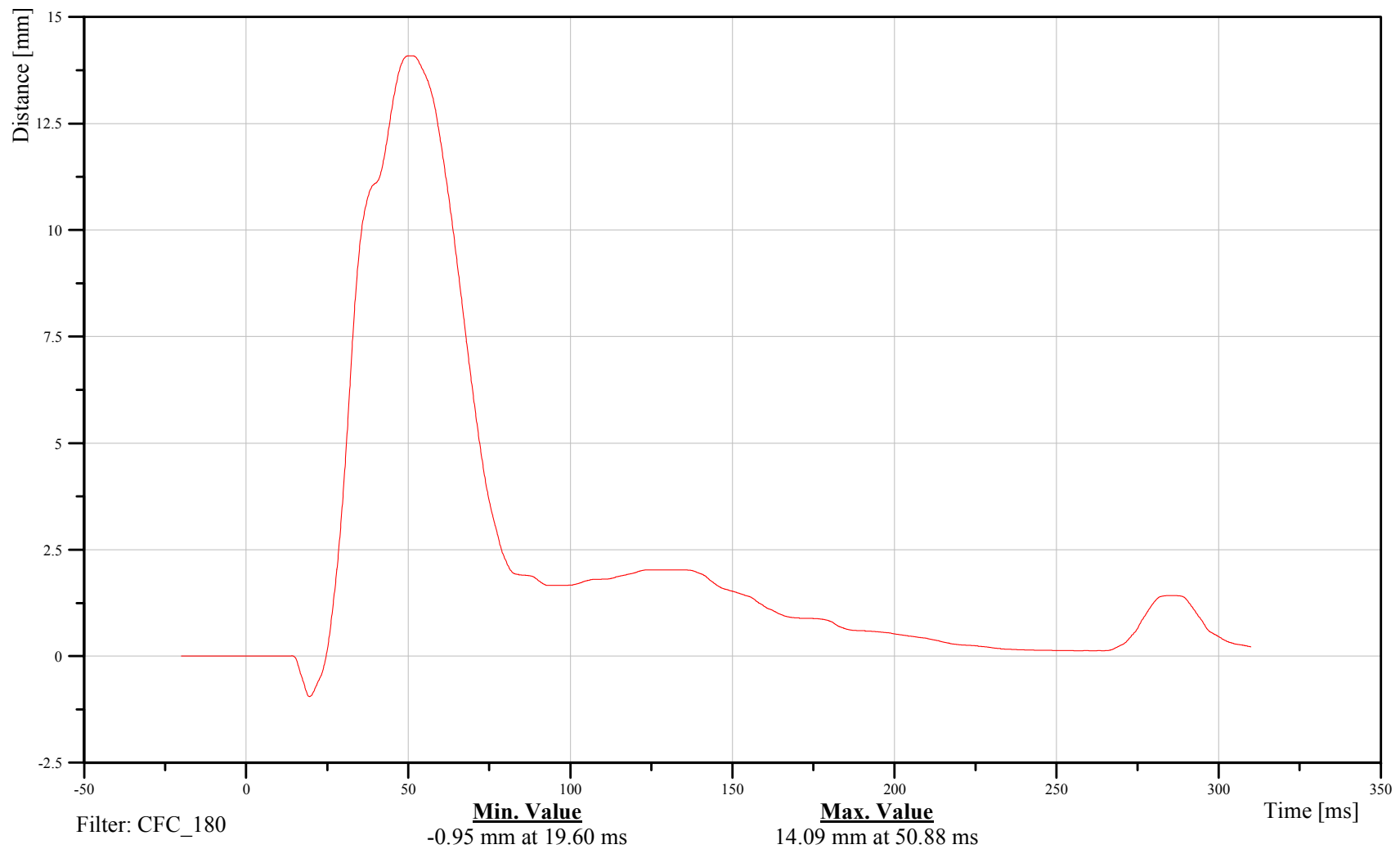
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI02LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Disp. Y

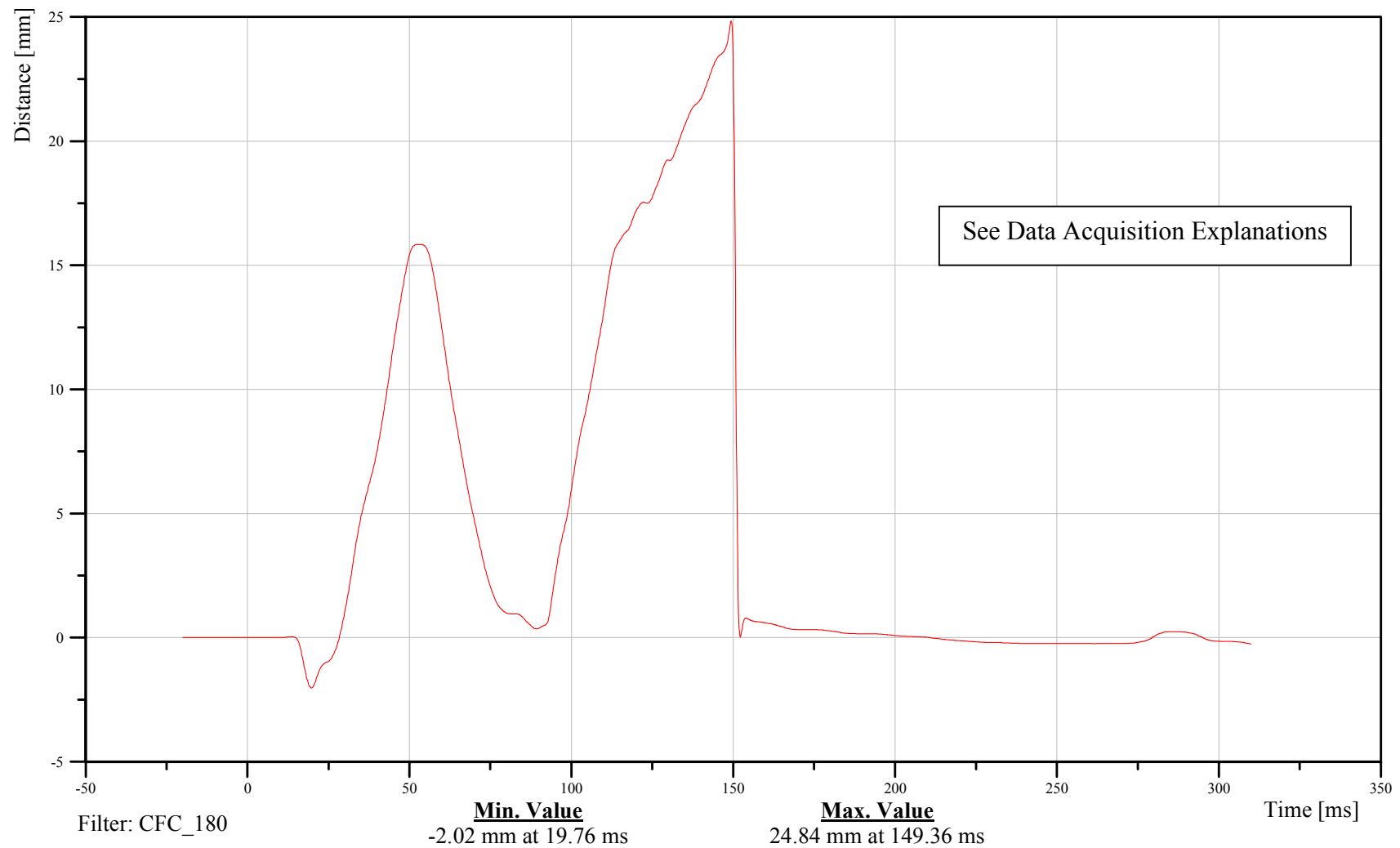
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11TRRI03LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Disp. Y

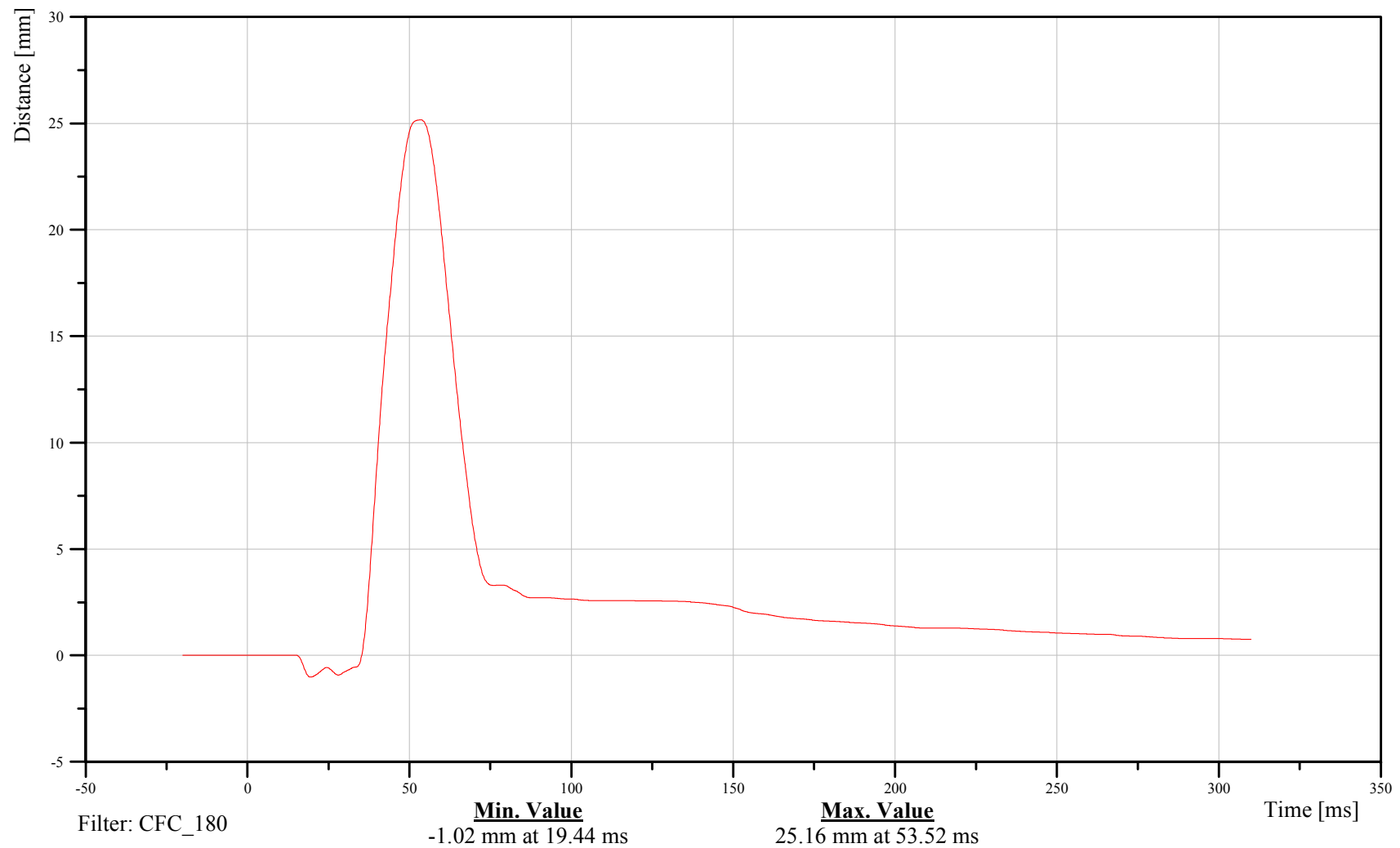
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ABRI01LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

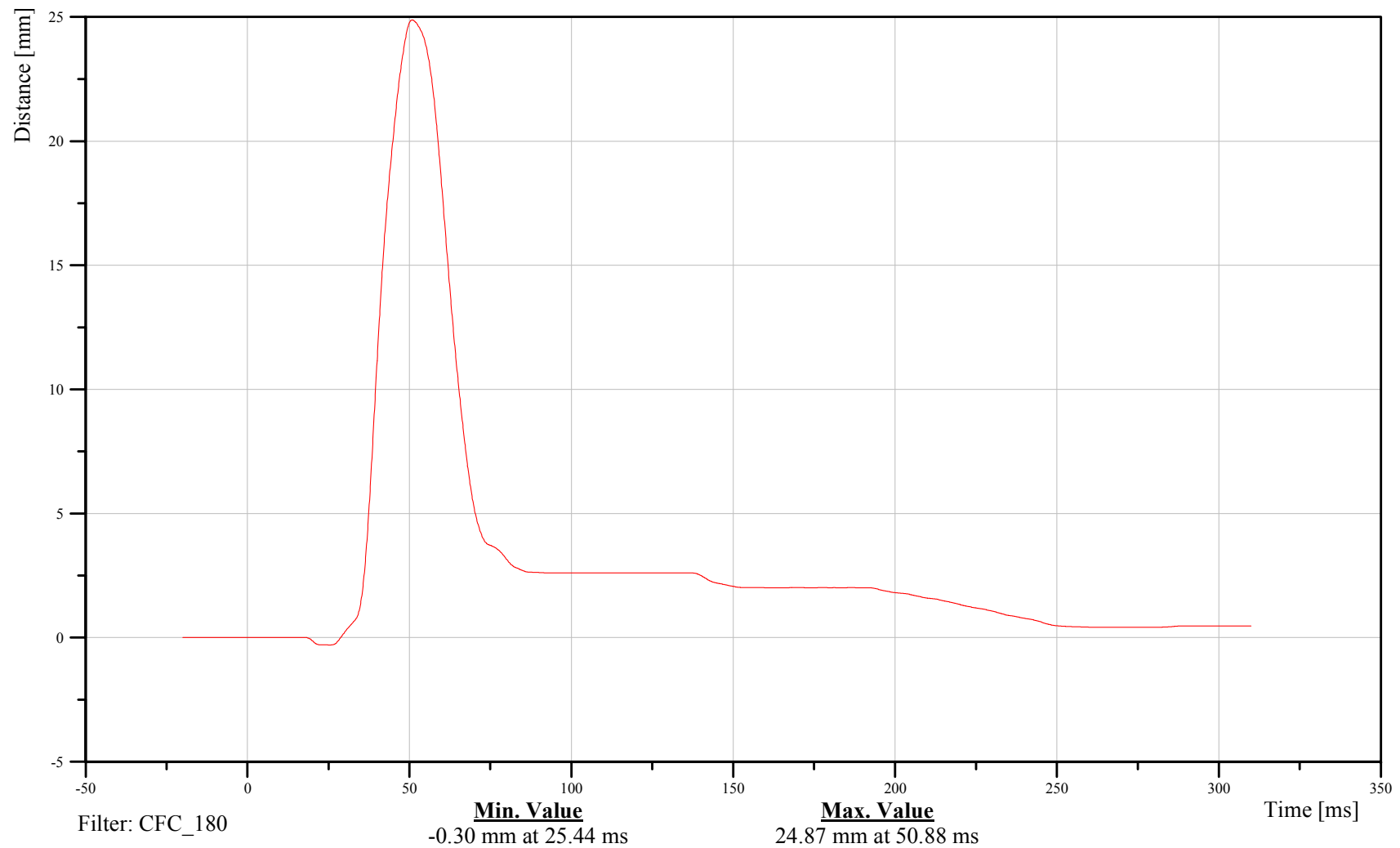
Abdomin Rib 2 Disp. Y

Customer: VRTC

11ABRI02LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel X

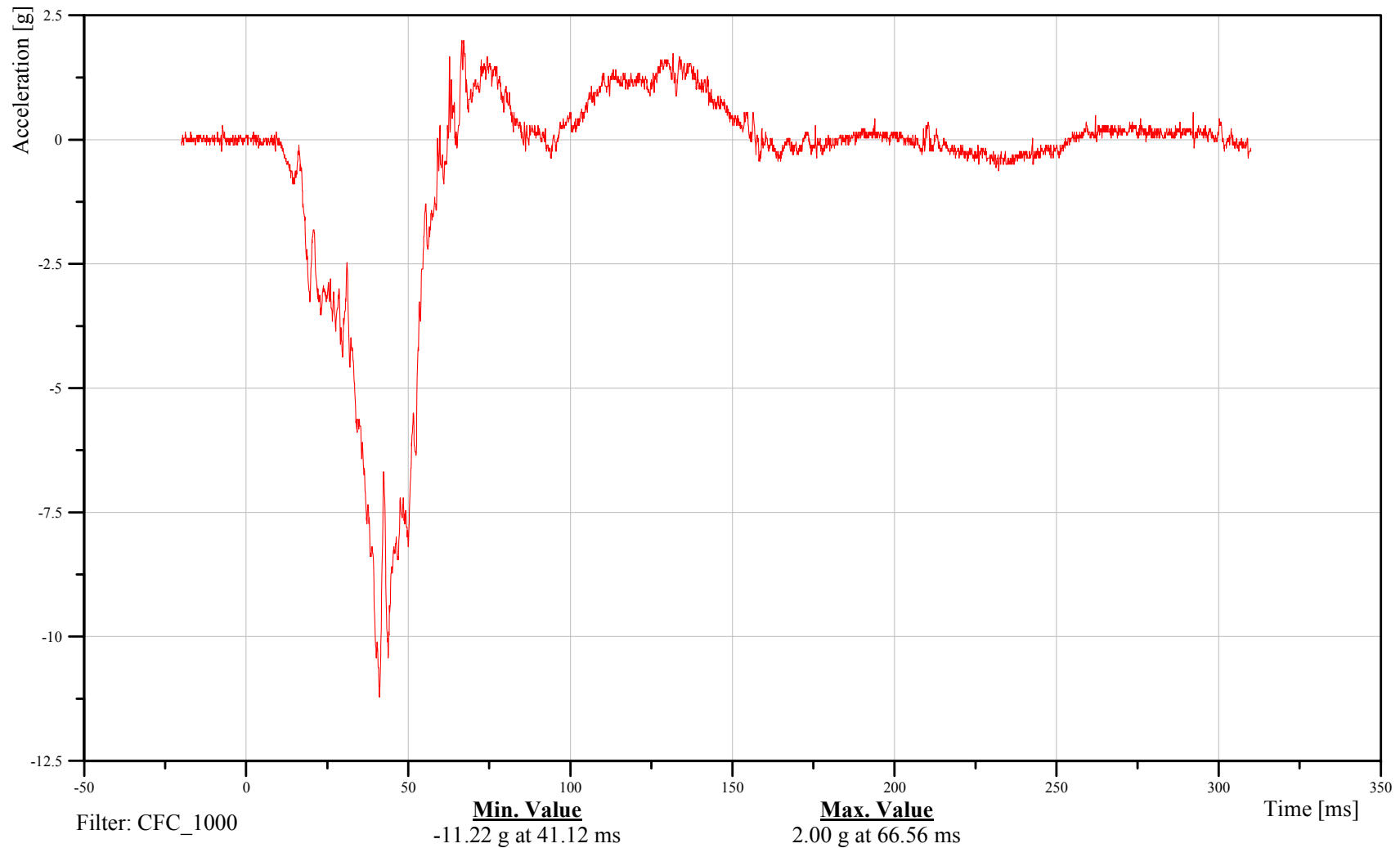
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11PELVCG00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Y

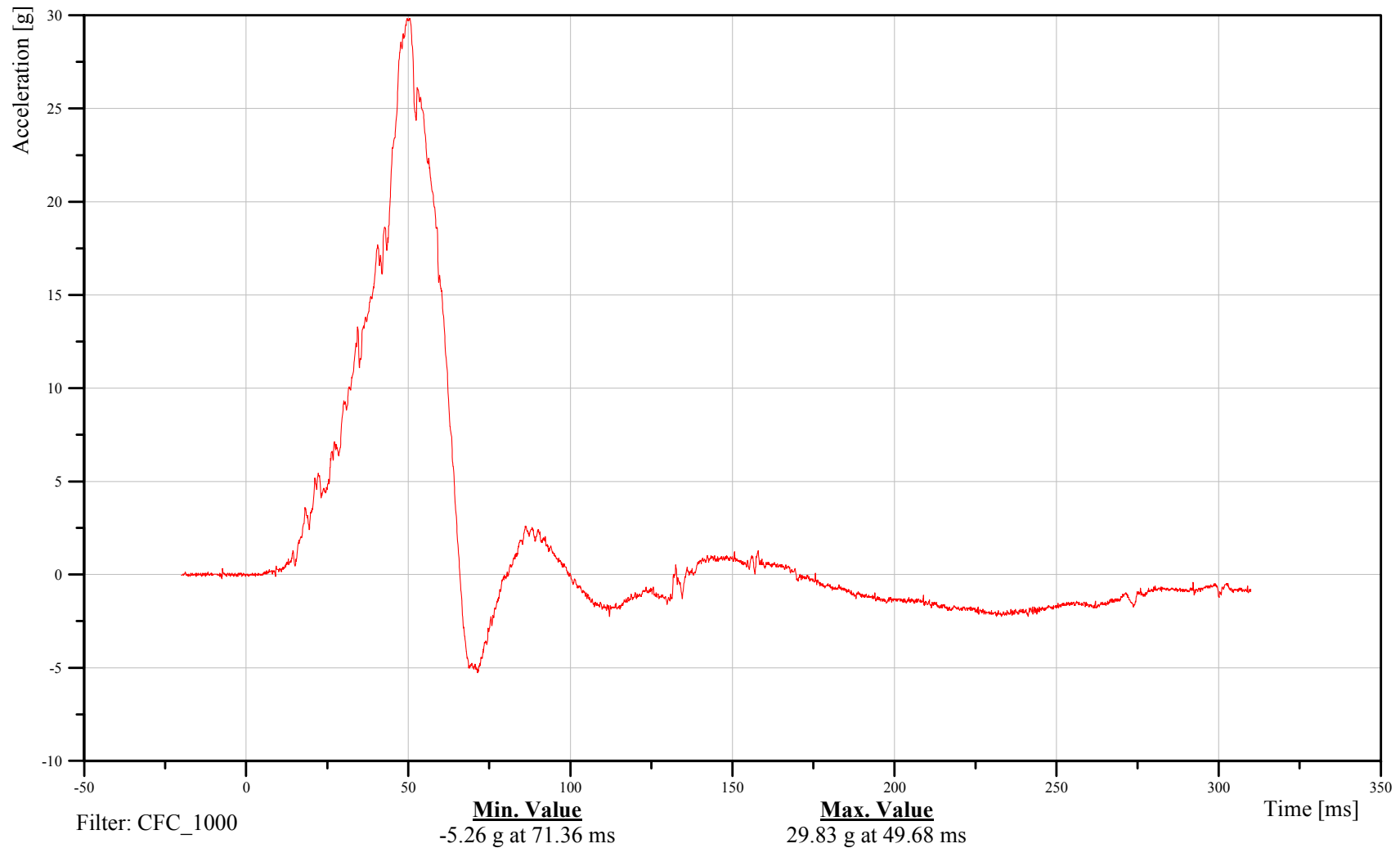
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11PELVCG00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Z

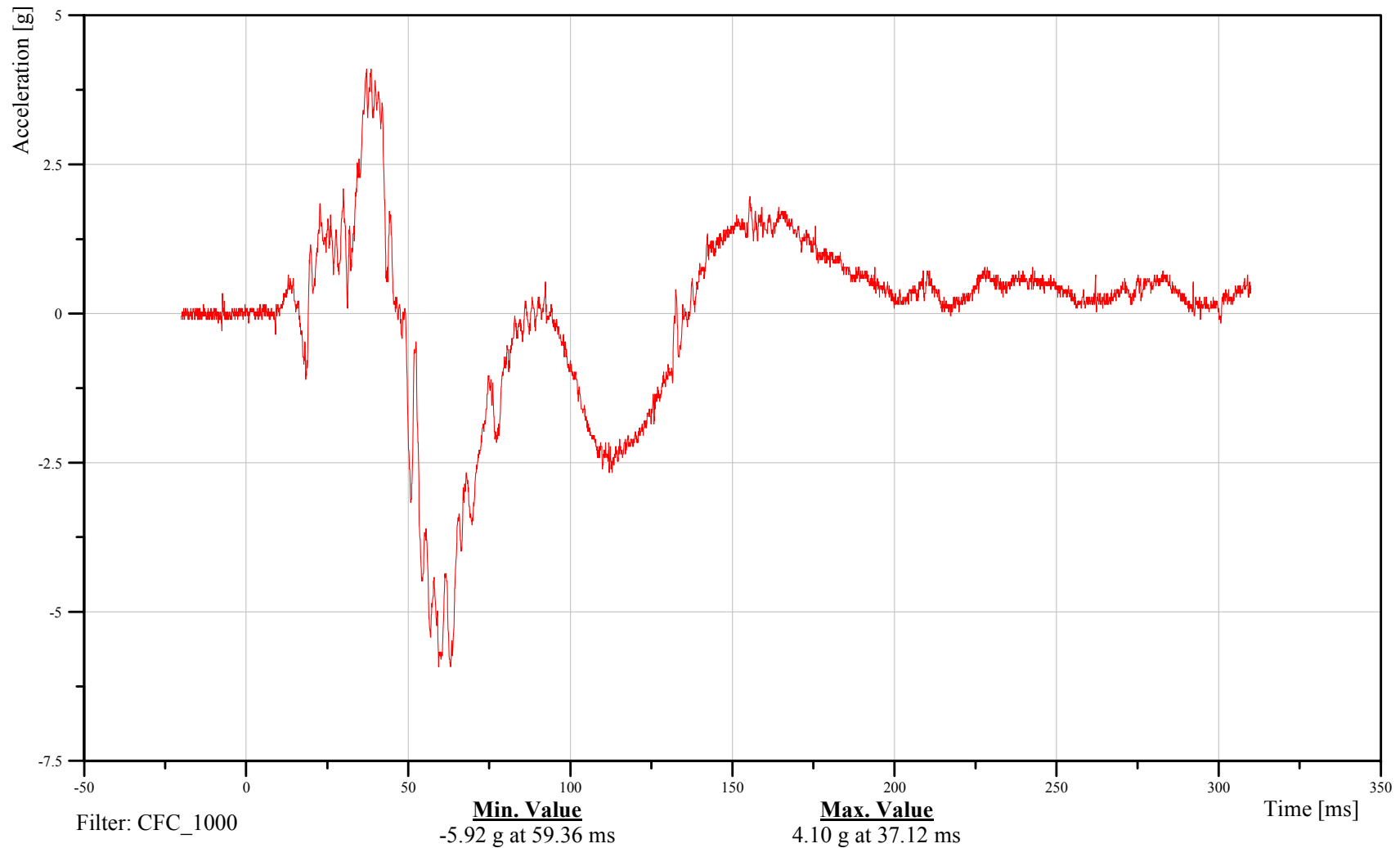
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11PELVCG00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Resultant

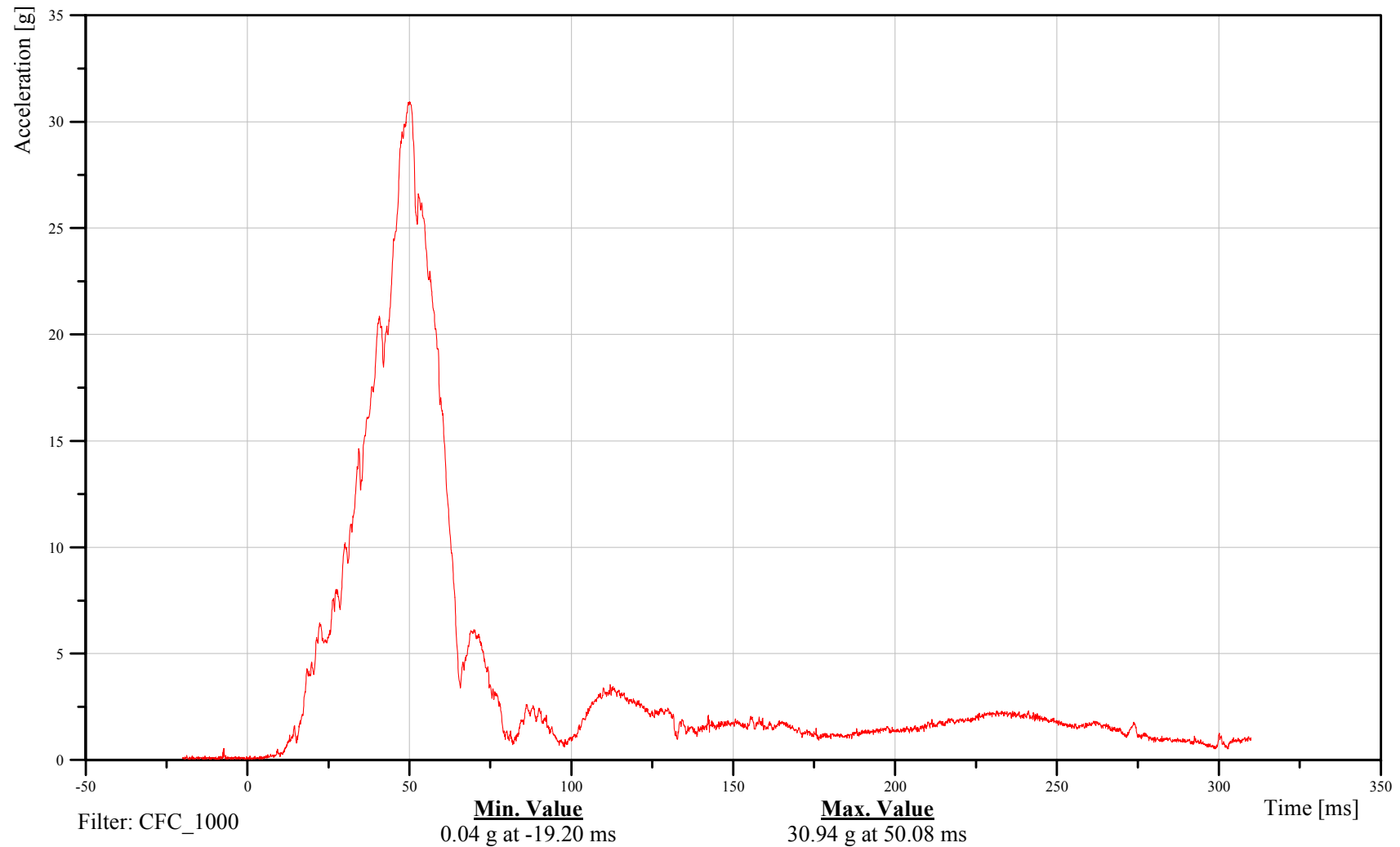
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11PELVCG00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Acetabulum Force Y

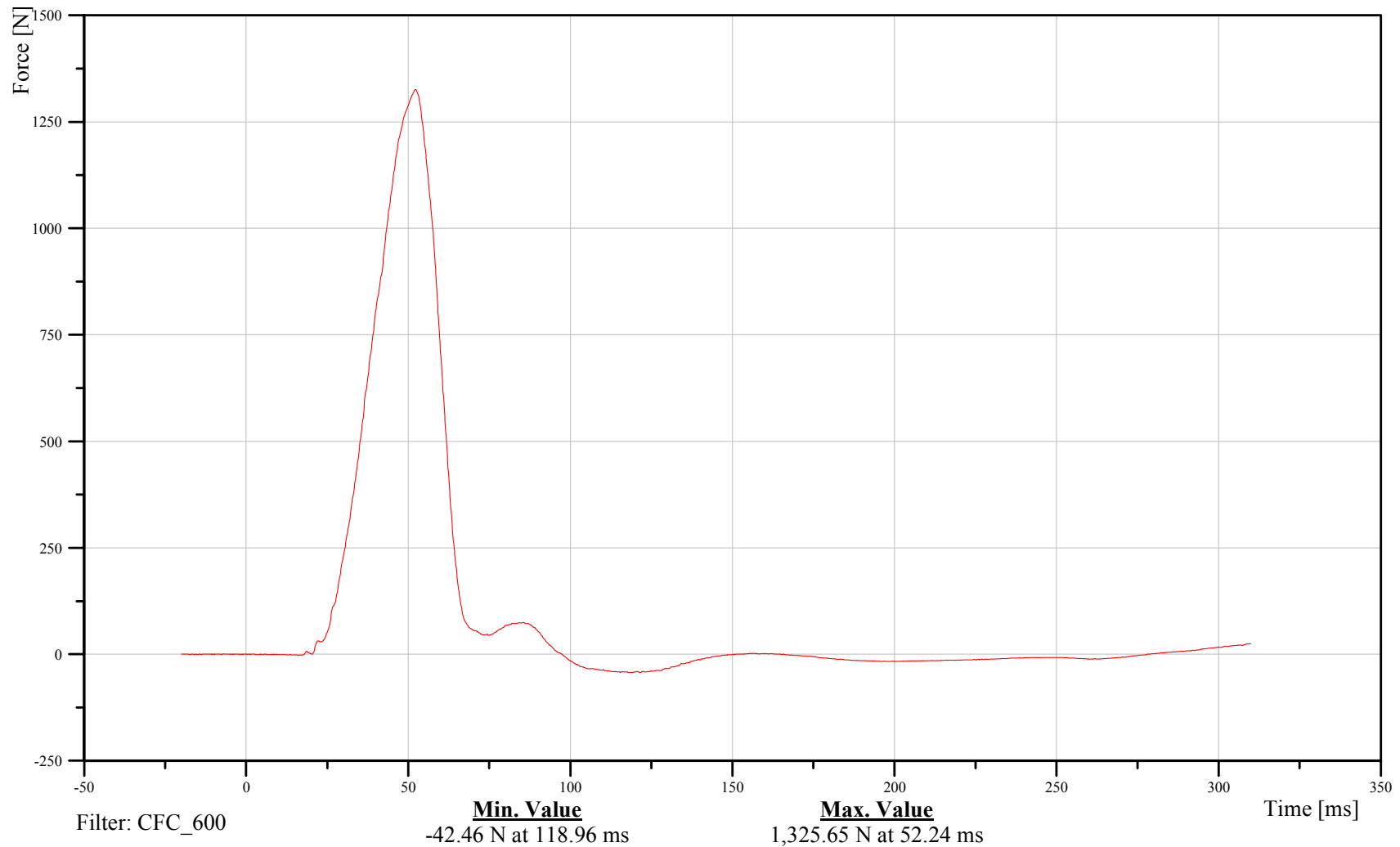
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ACTBLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Illiac Wing Force Y

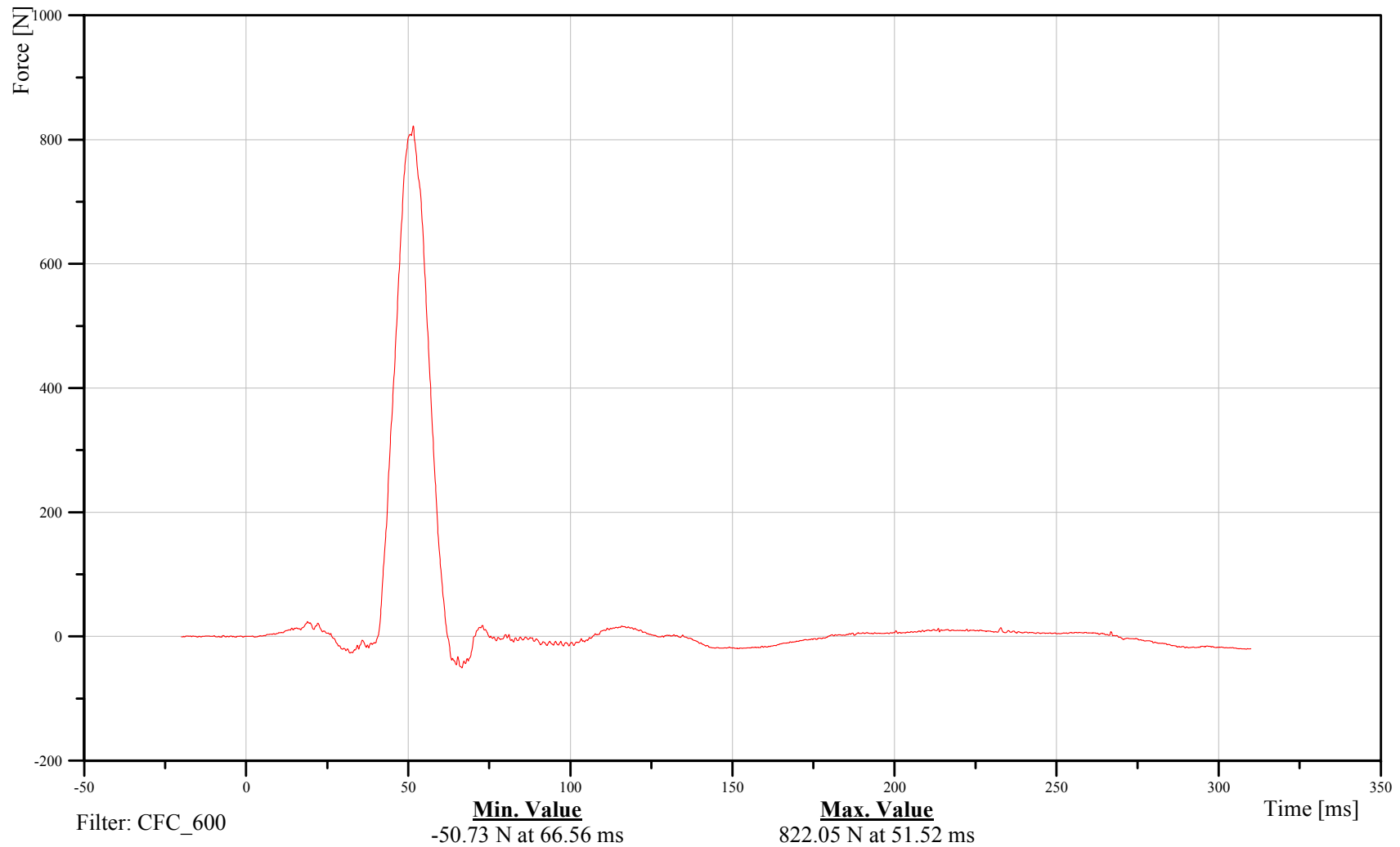
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11ILACLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

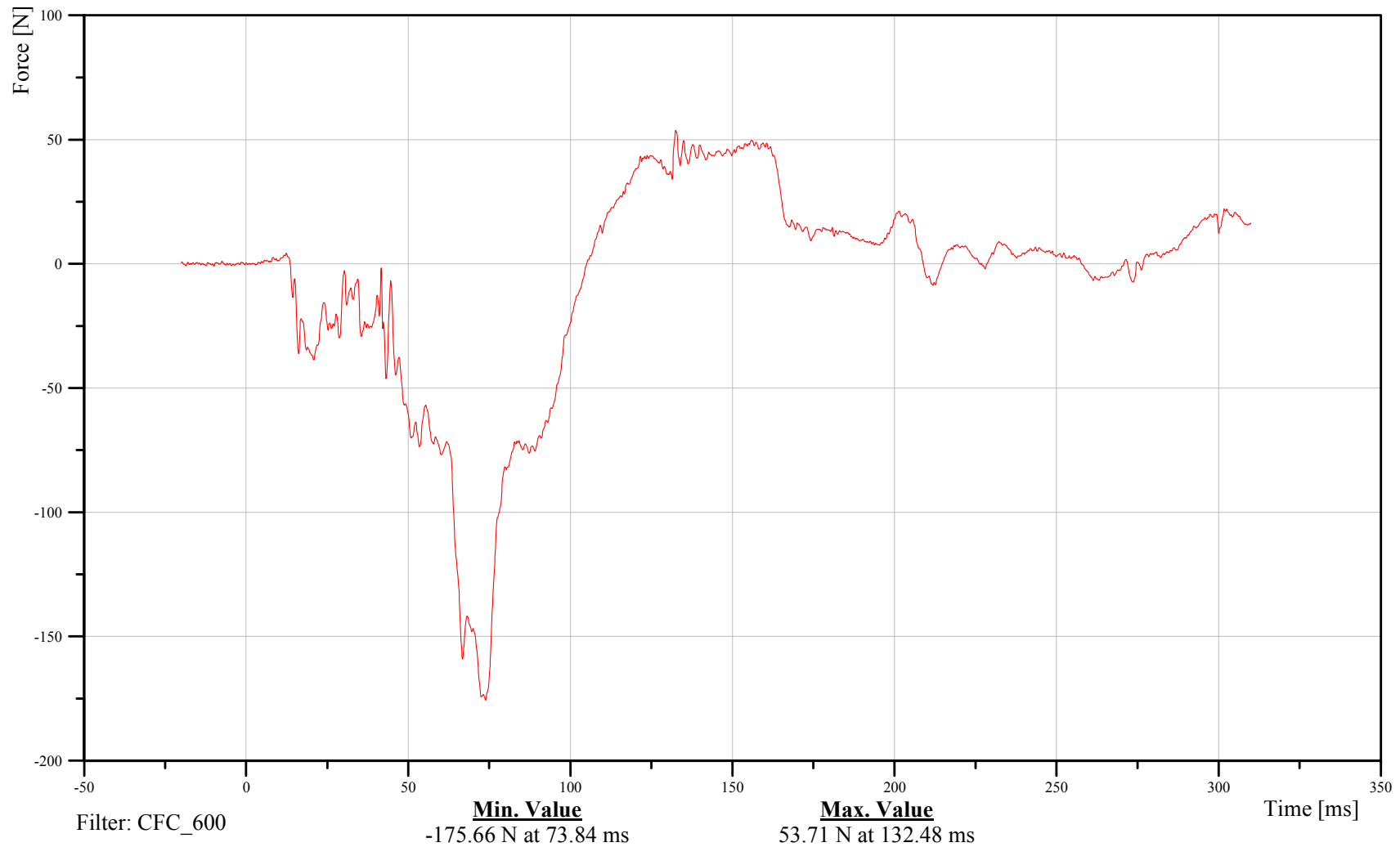
Right Femur Force X

Customer: VRTC

11FEMRRI00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Femur Force Y

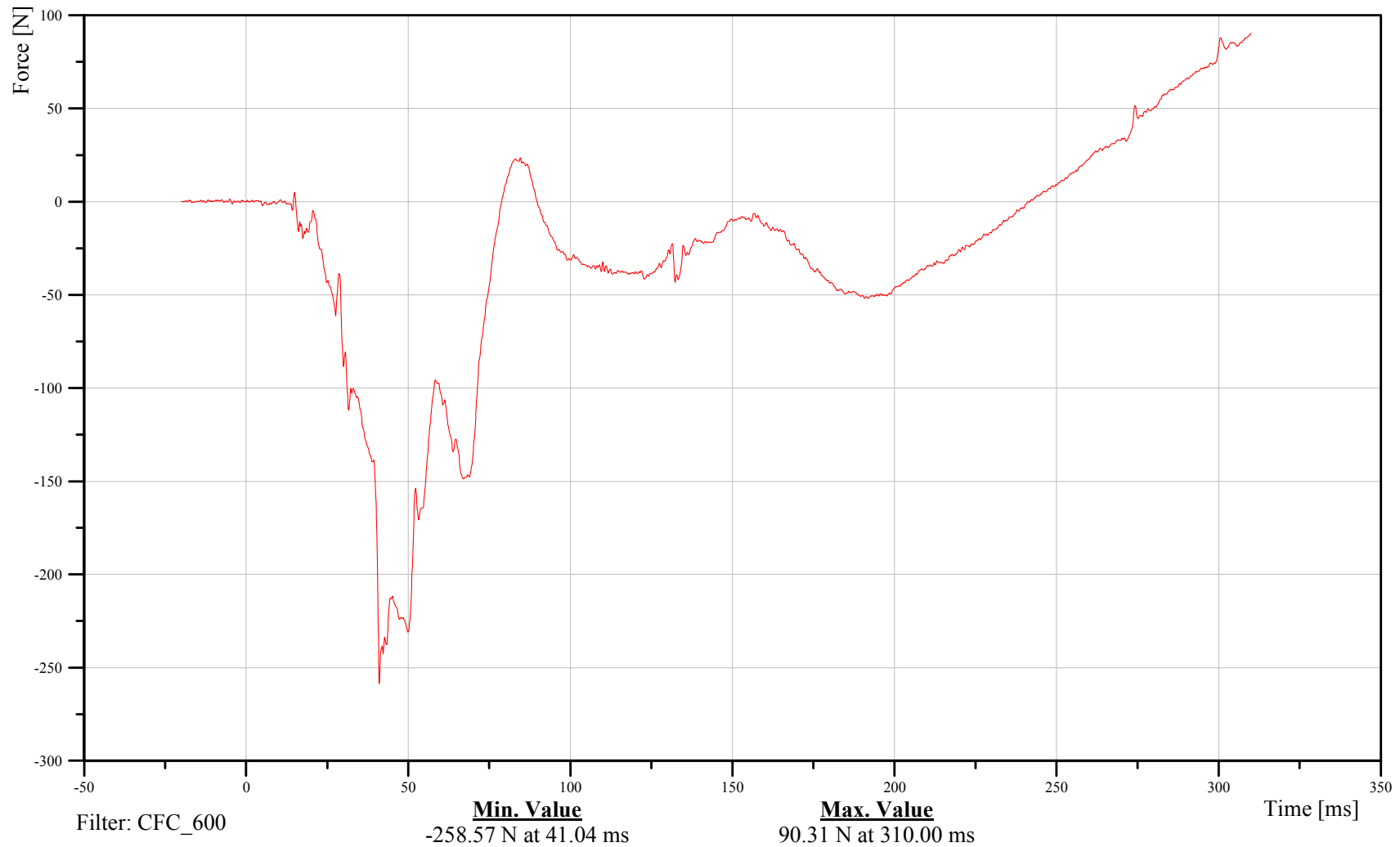
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRRI00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

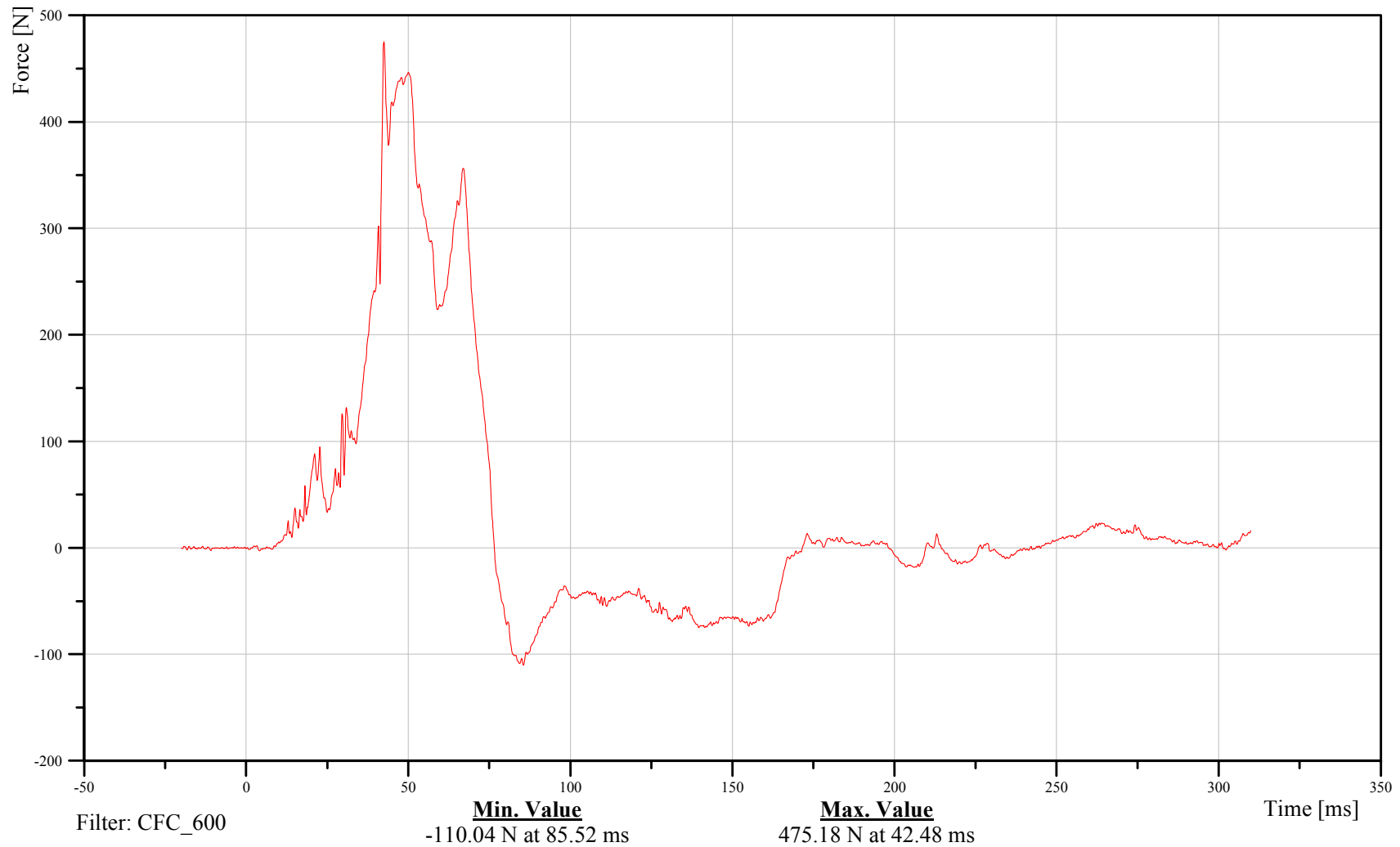
Right Femur Force Z

Customer: VRTC

11FEMRRI00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

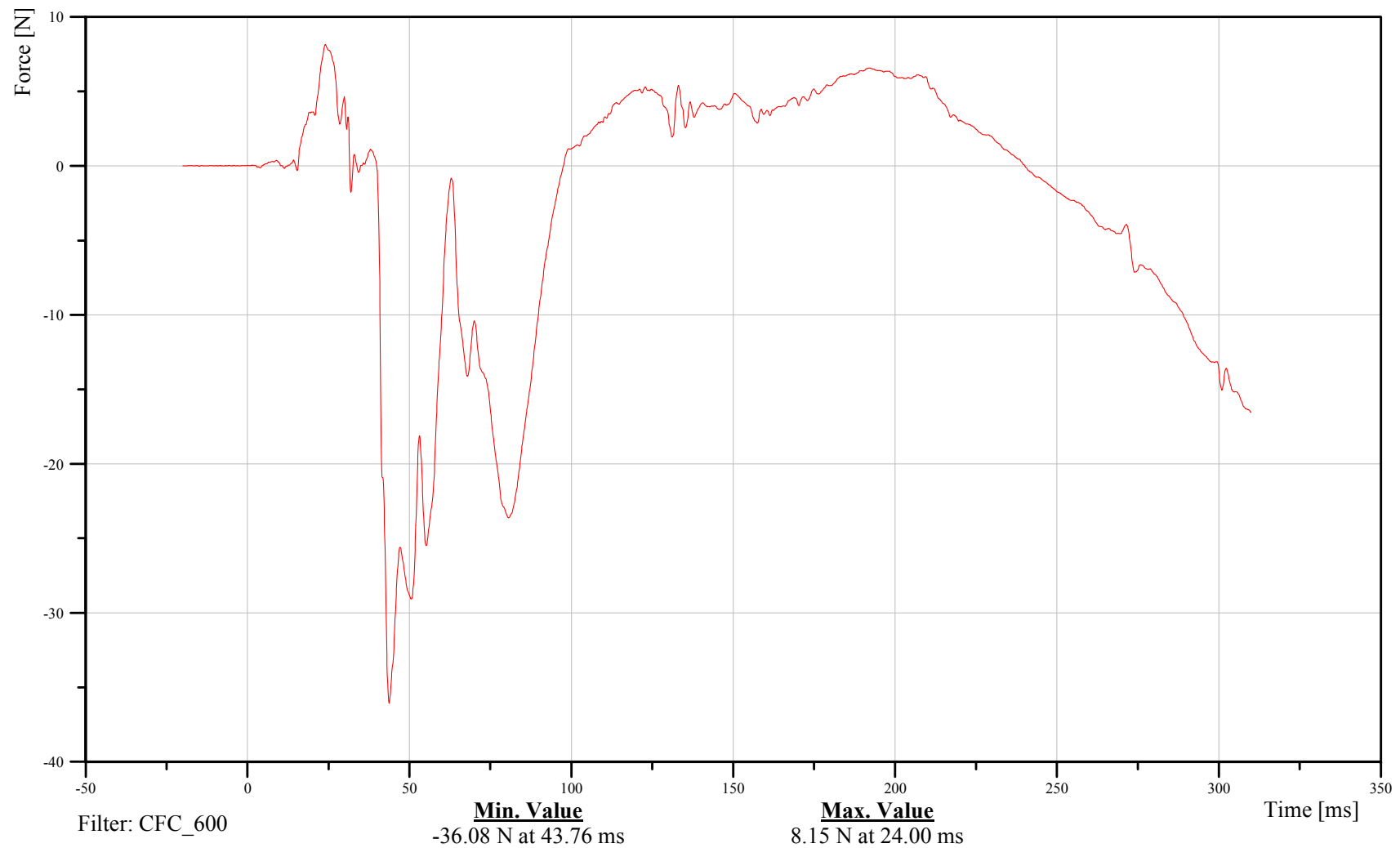
Right Femur Moment X

Customer: VRTC

11FEMRRI00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Femur Moment Y

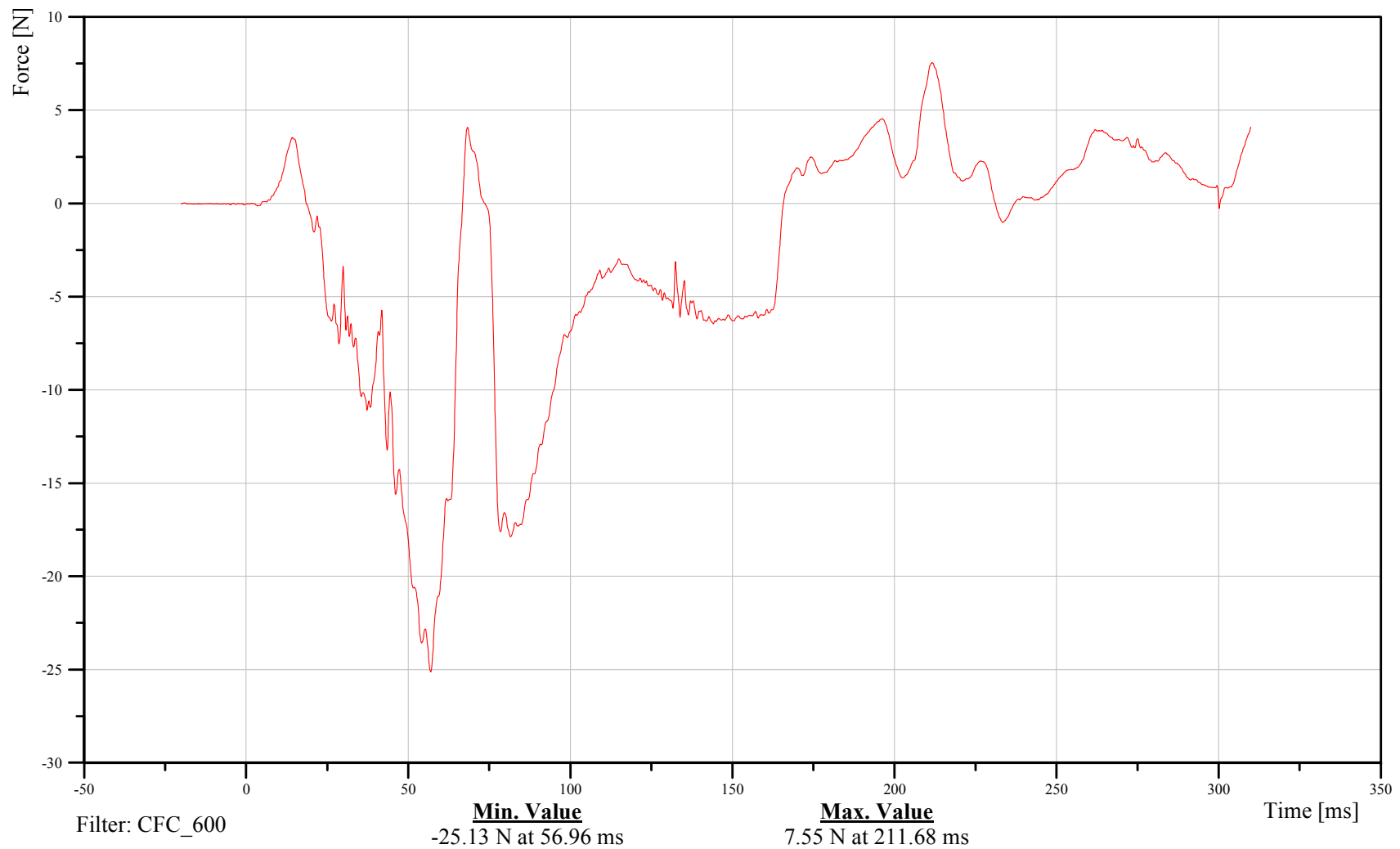
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRRI00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

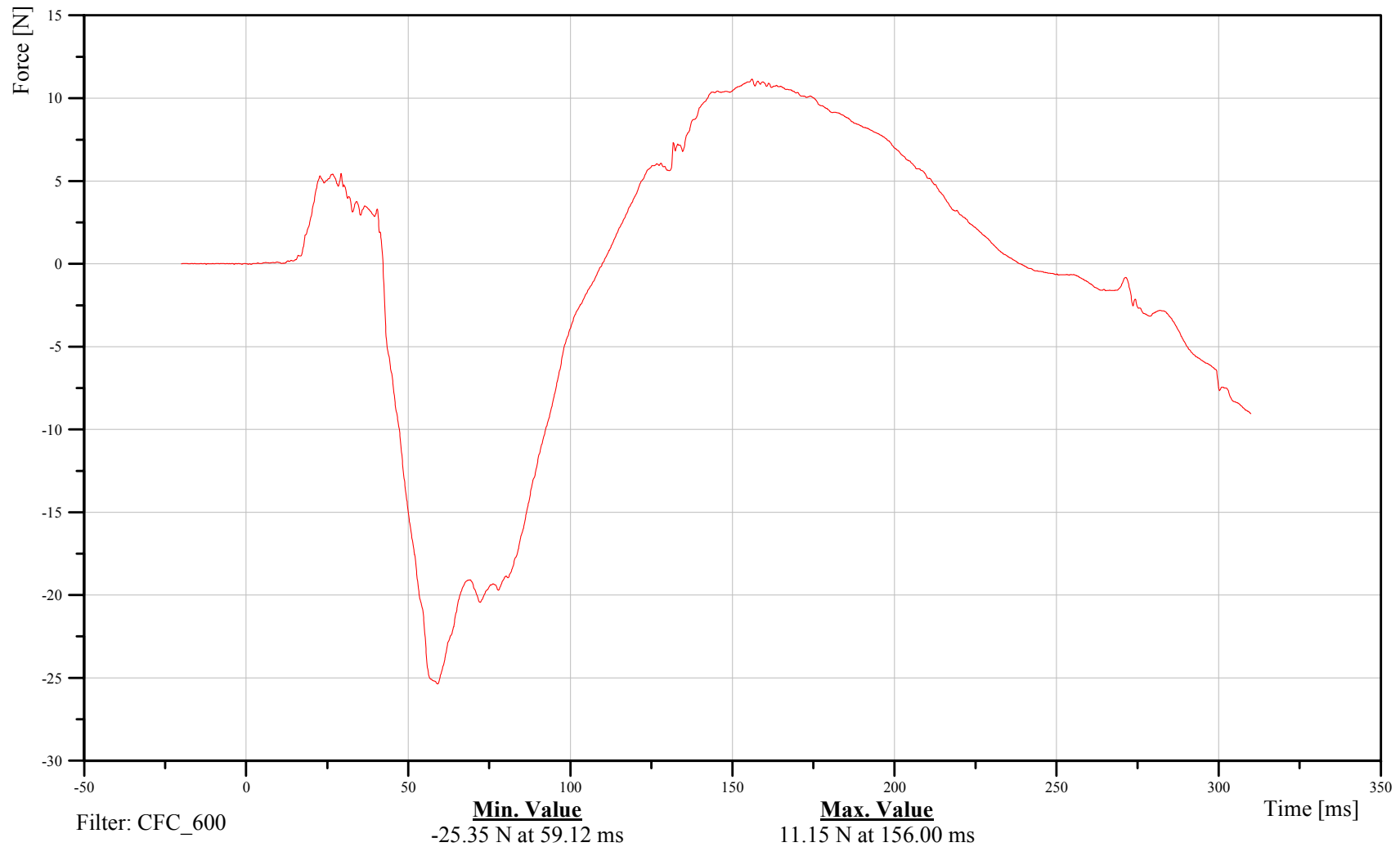
Right Femur Moment Z

Customer: VRTC

11FEMRRI00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Force X

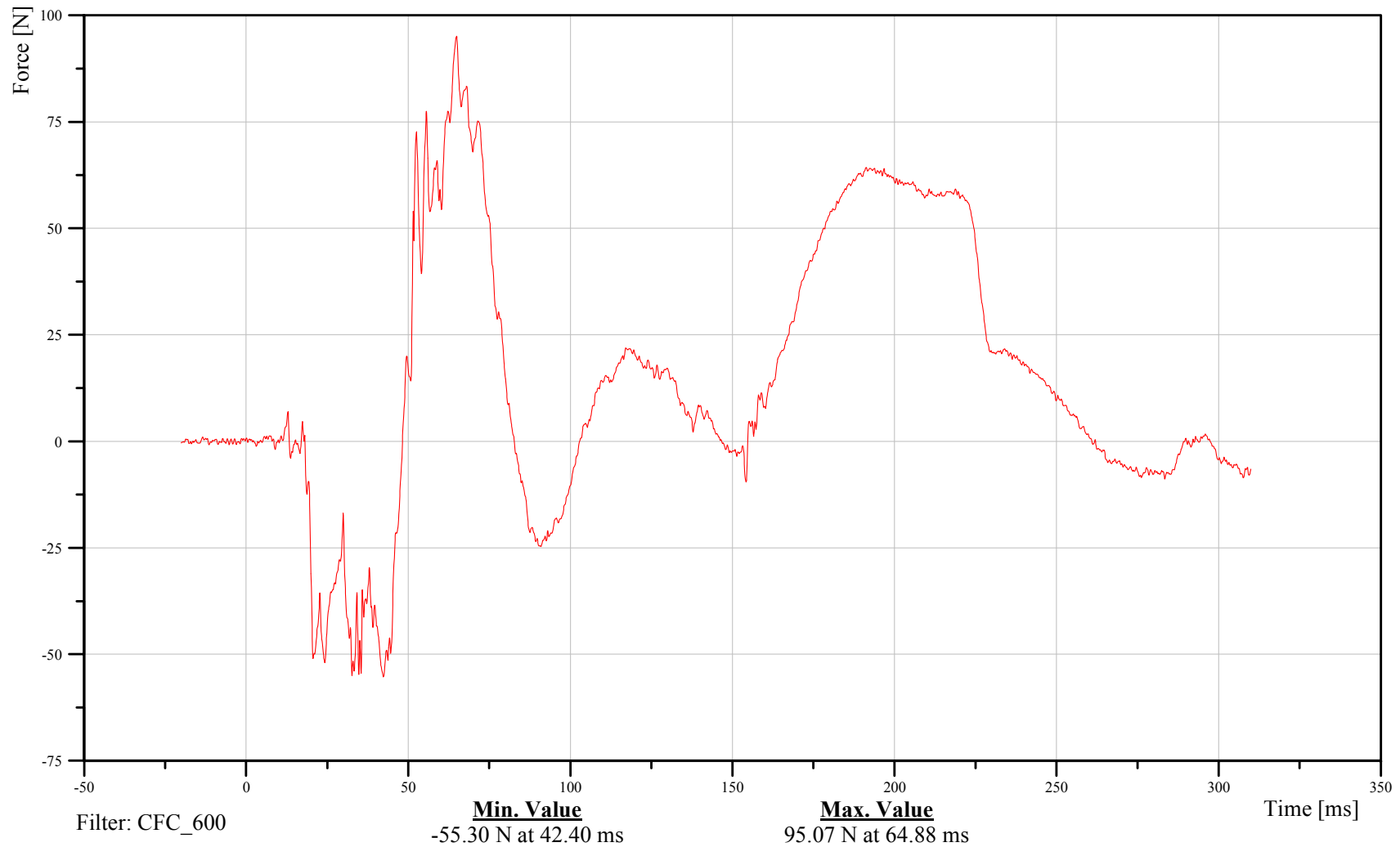
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRLE00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Force Y

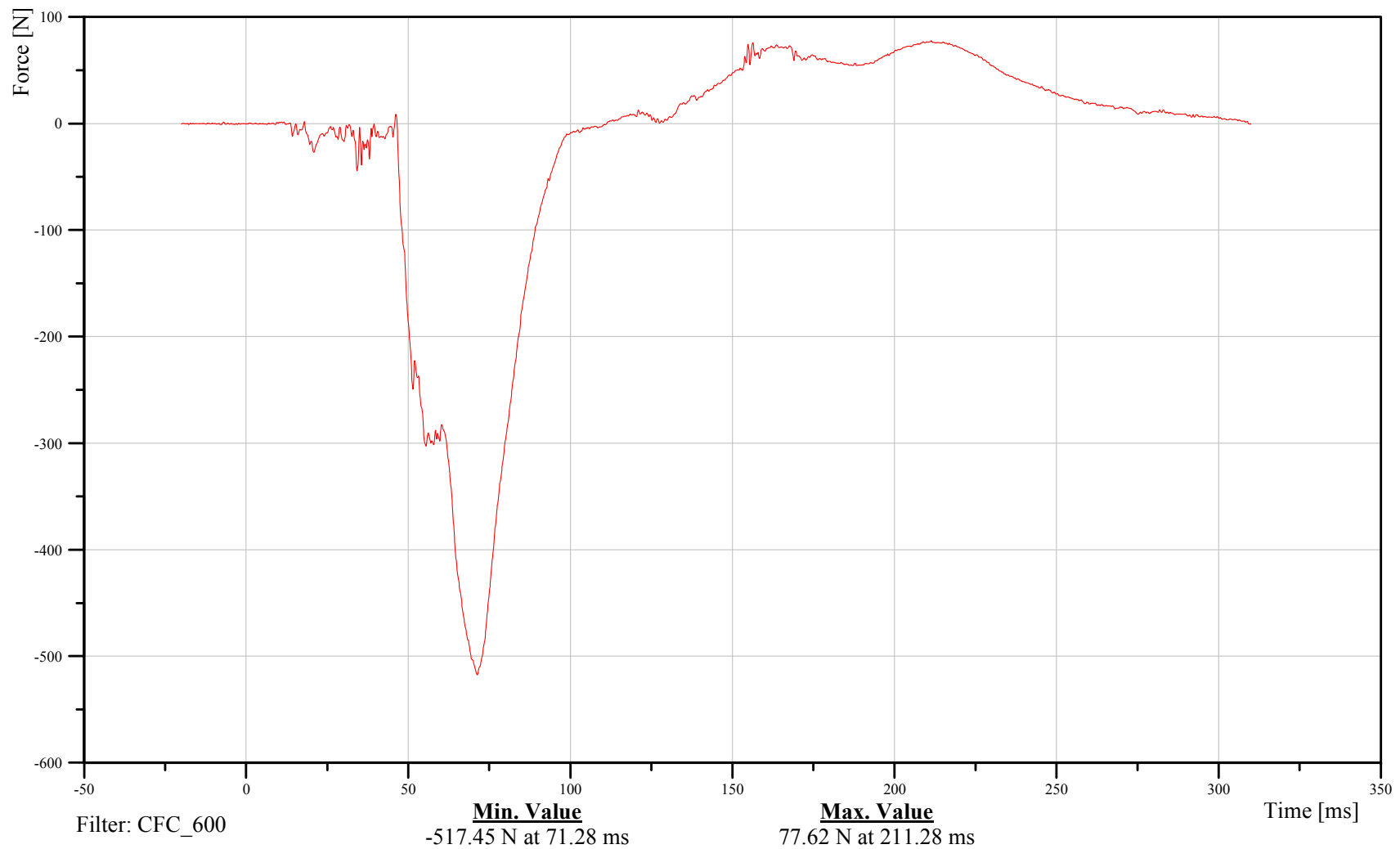
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

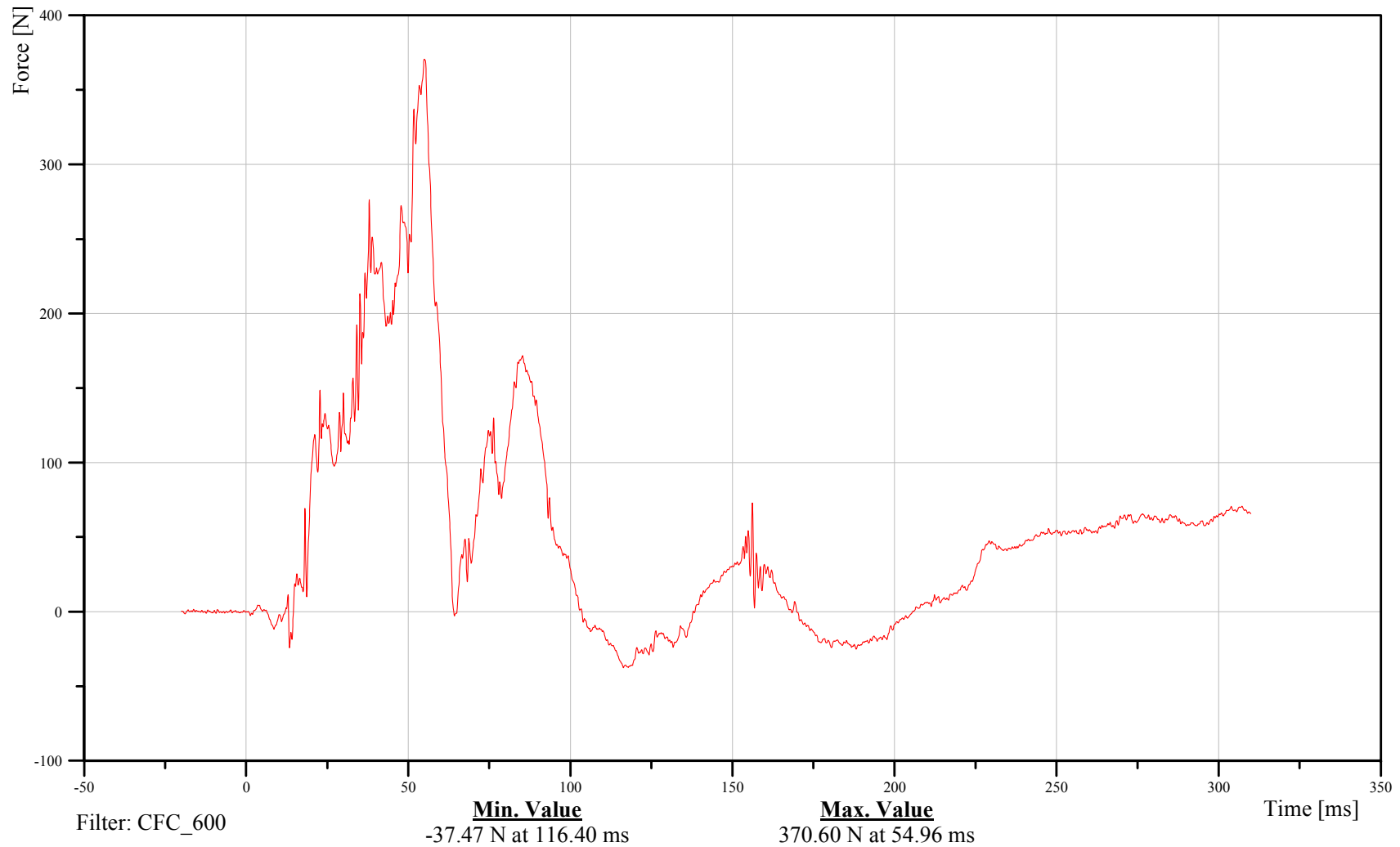
Left Femur Force Z

Customer: VRTC

11FEMRLE00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment X

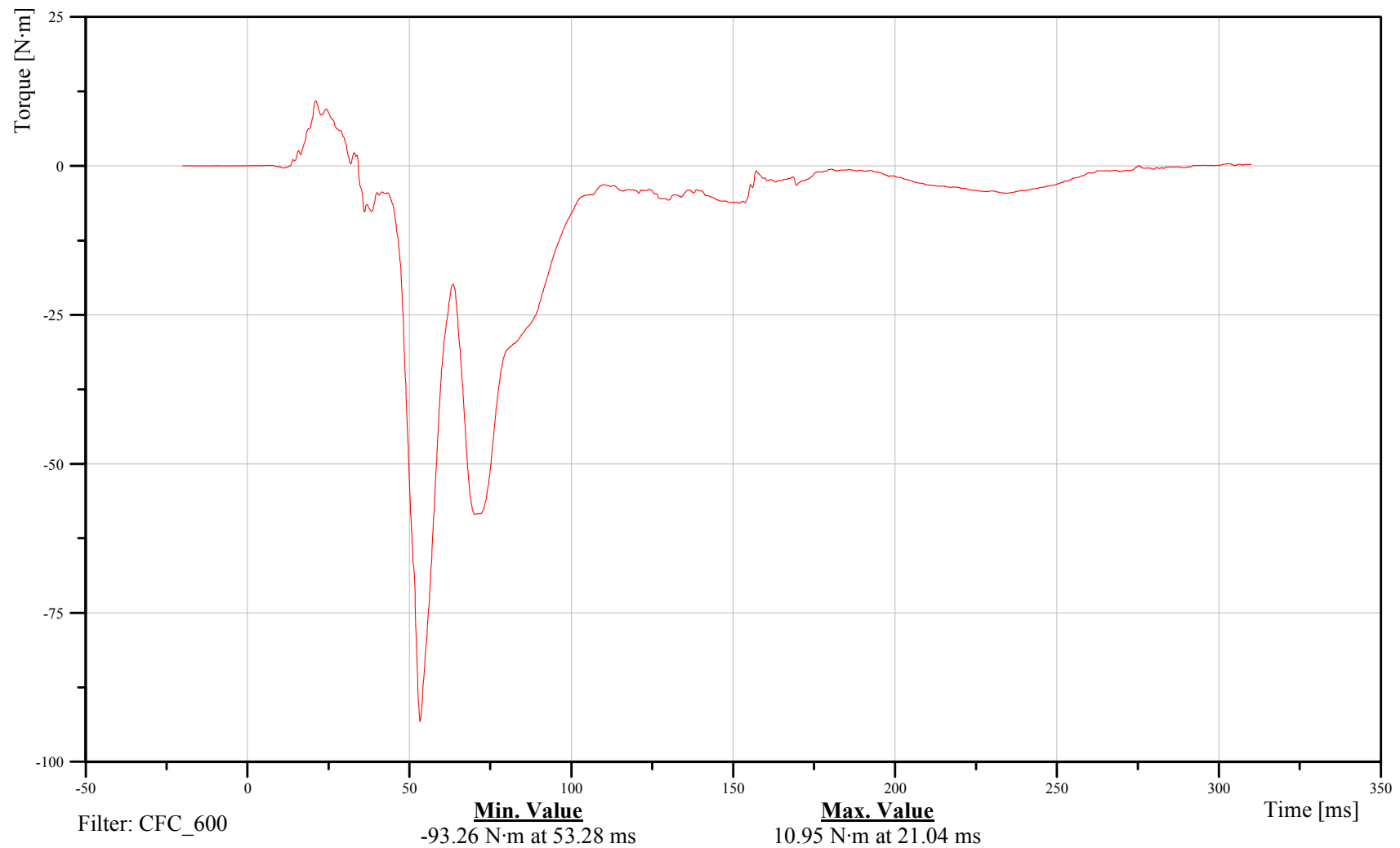
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRLE00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment Y

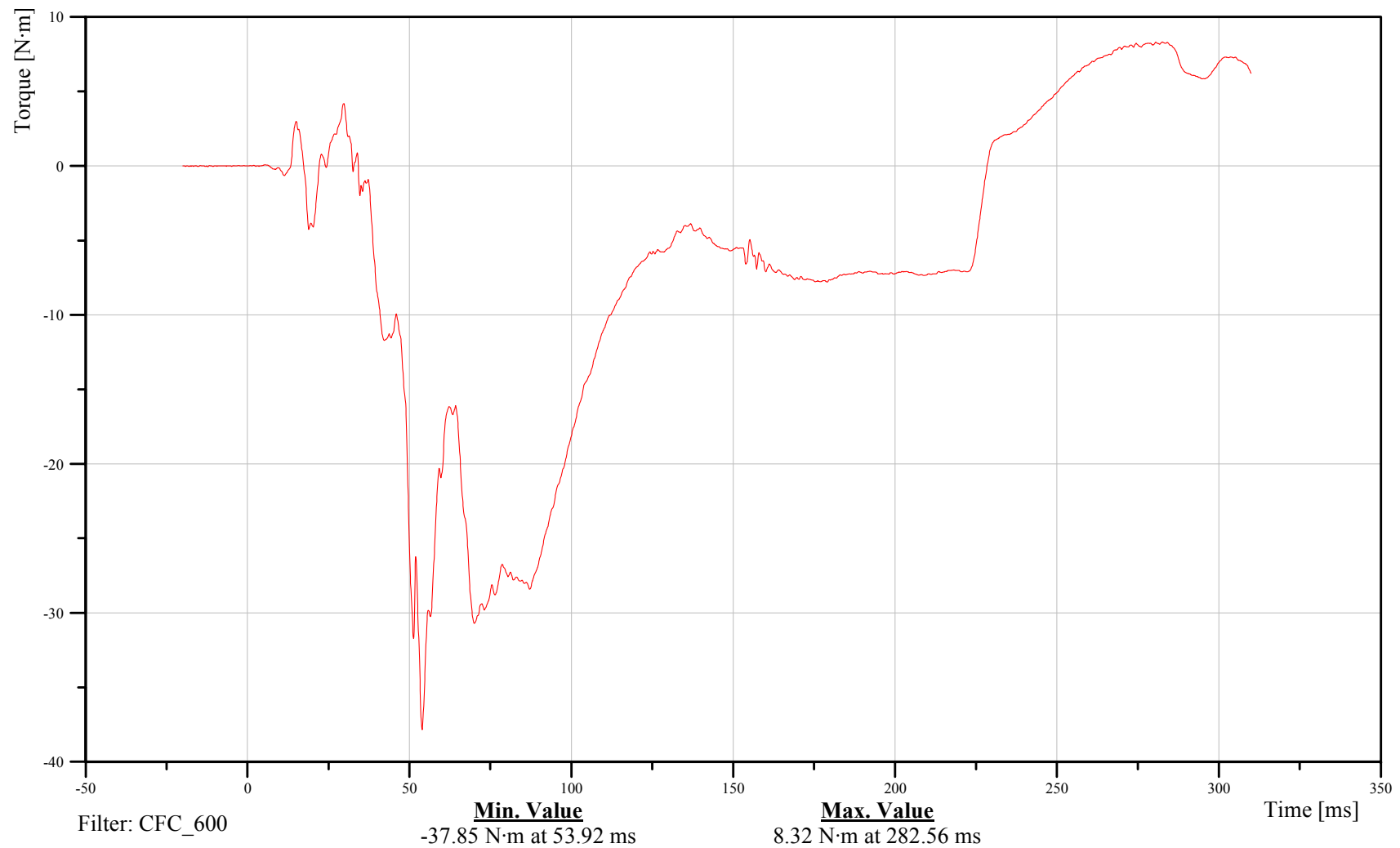
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRLE00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment Z

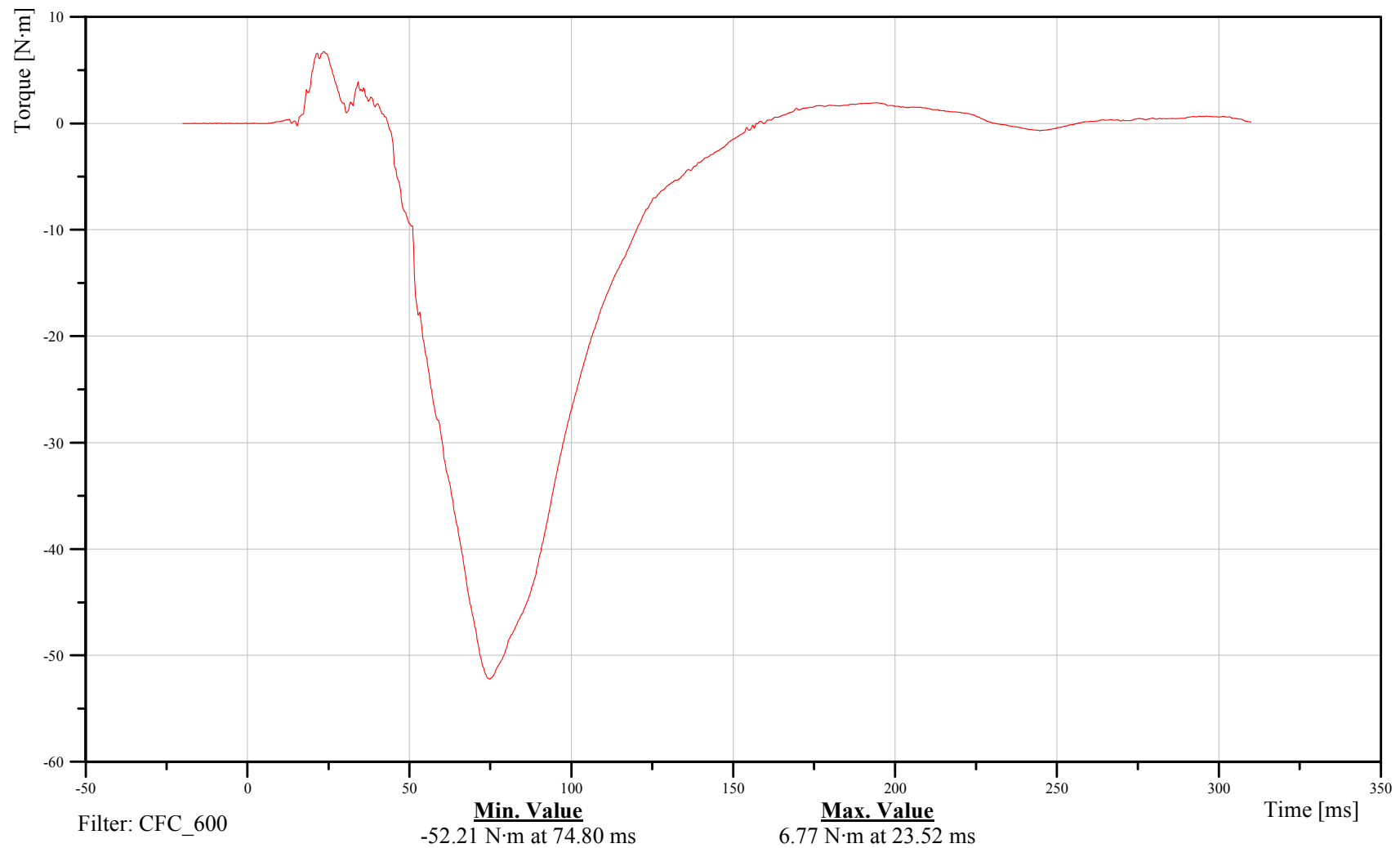
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11FEMRLE00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

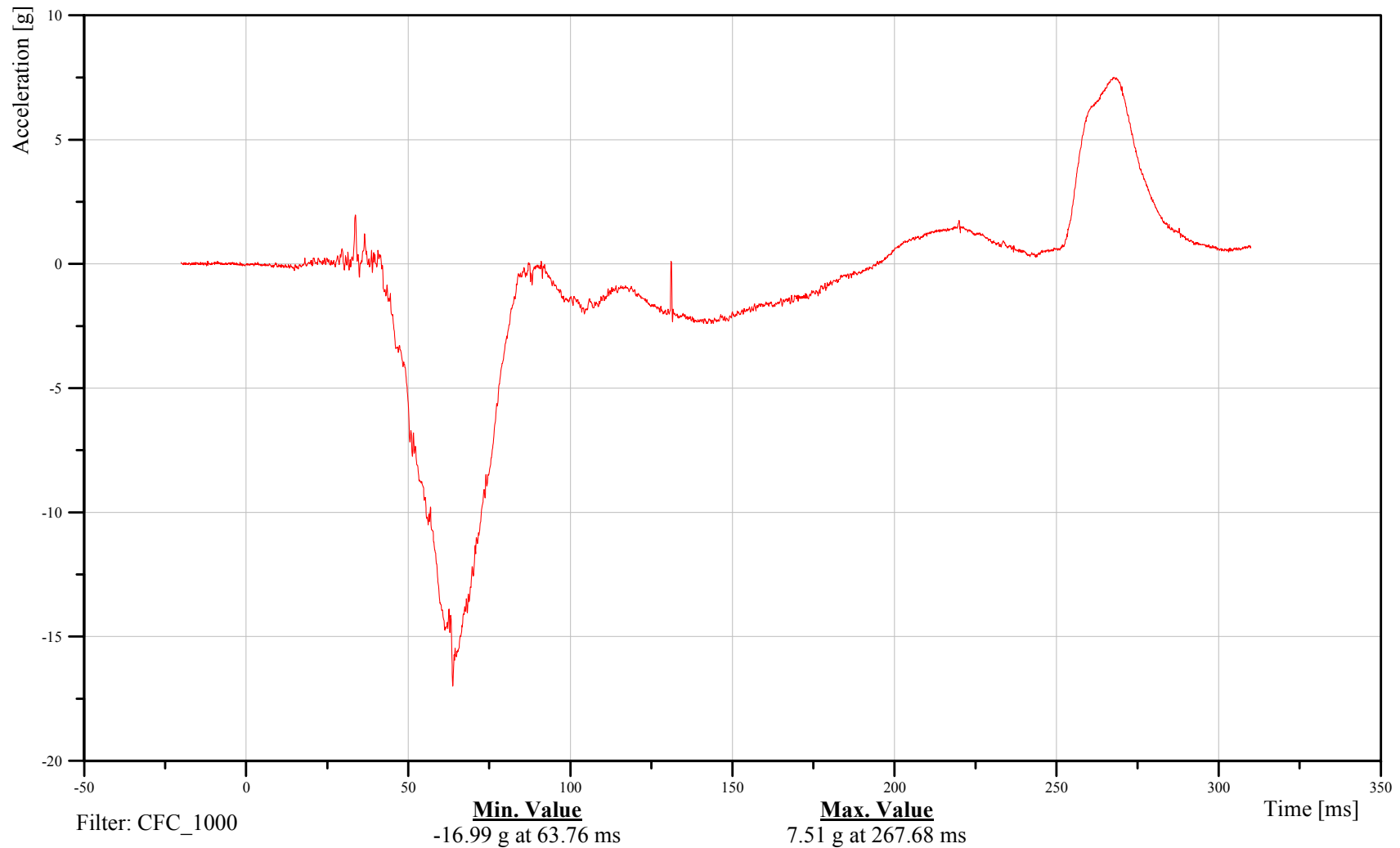
Head Accel X

Customer: VRTC

14HEADCG00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Head Accel Y

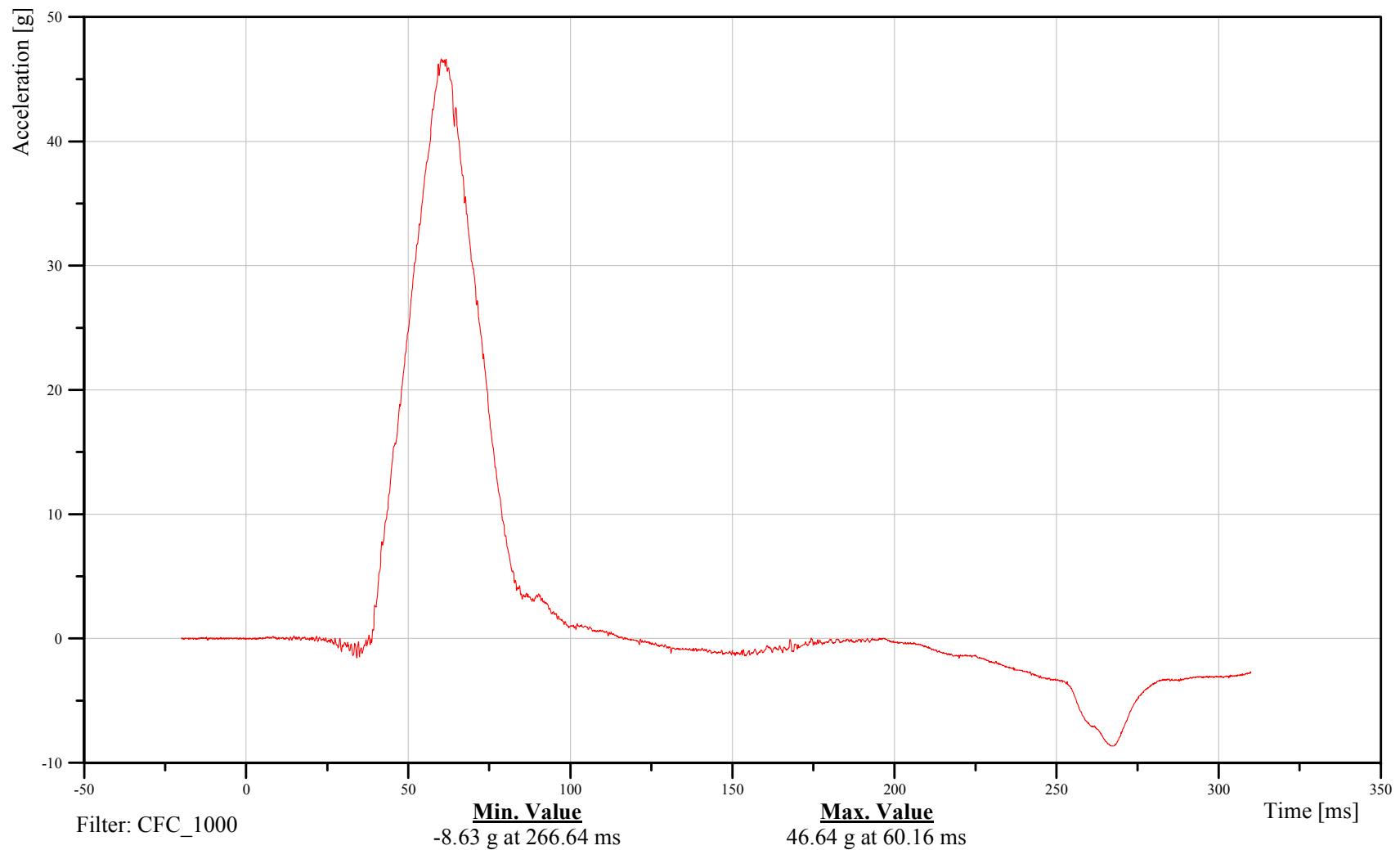
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14HEADCG00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Head Accel Z

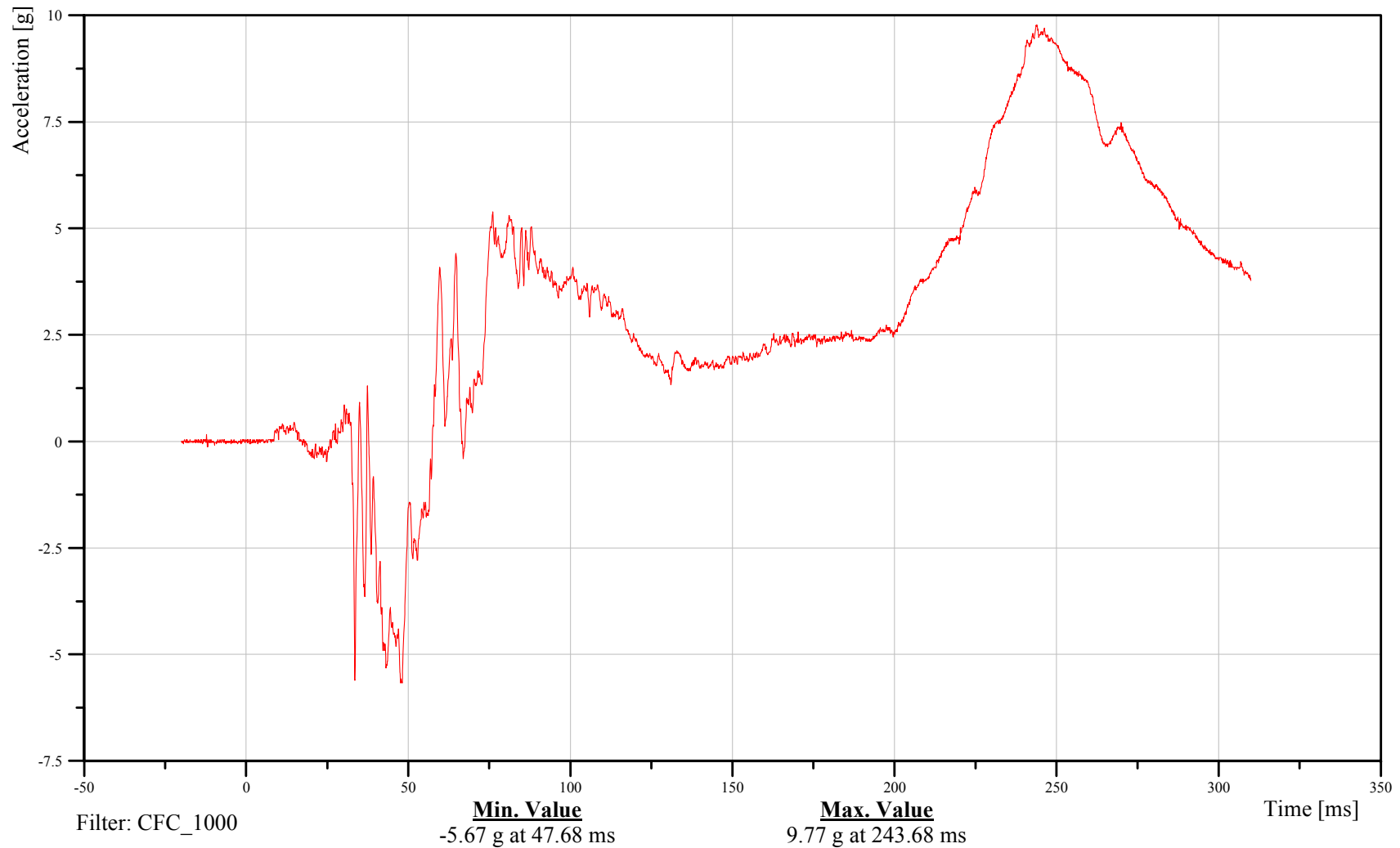
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14HEADCG00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

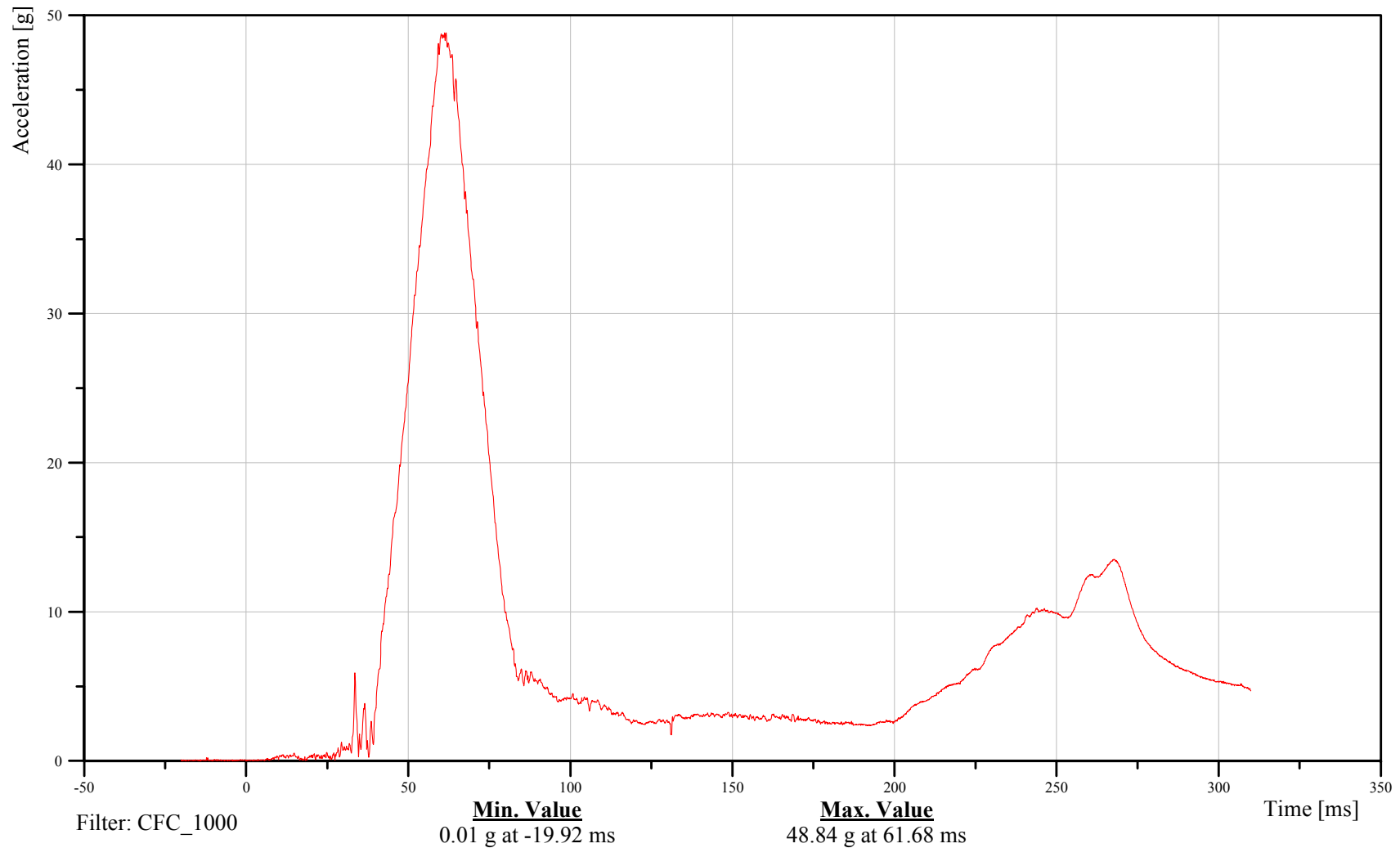
Head Accel Resultant

Customer: VRTC

14HEADCG00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

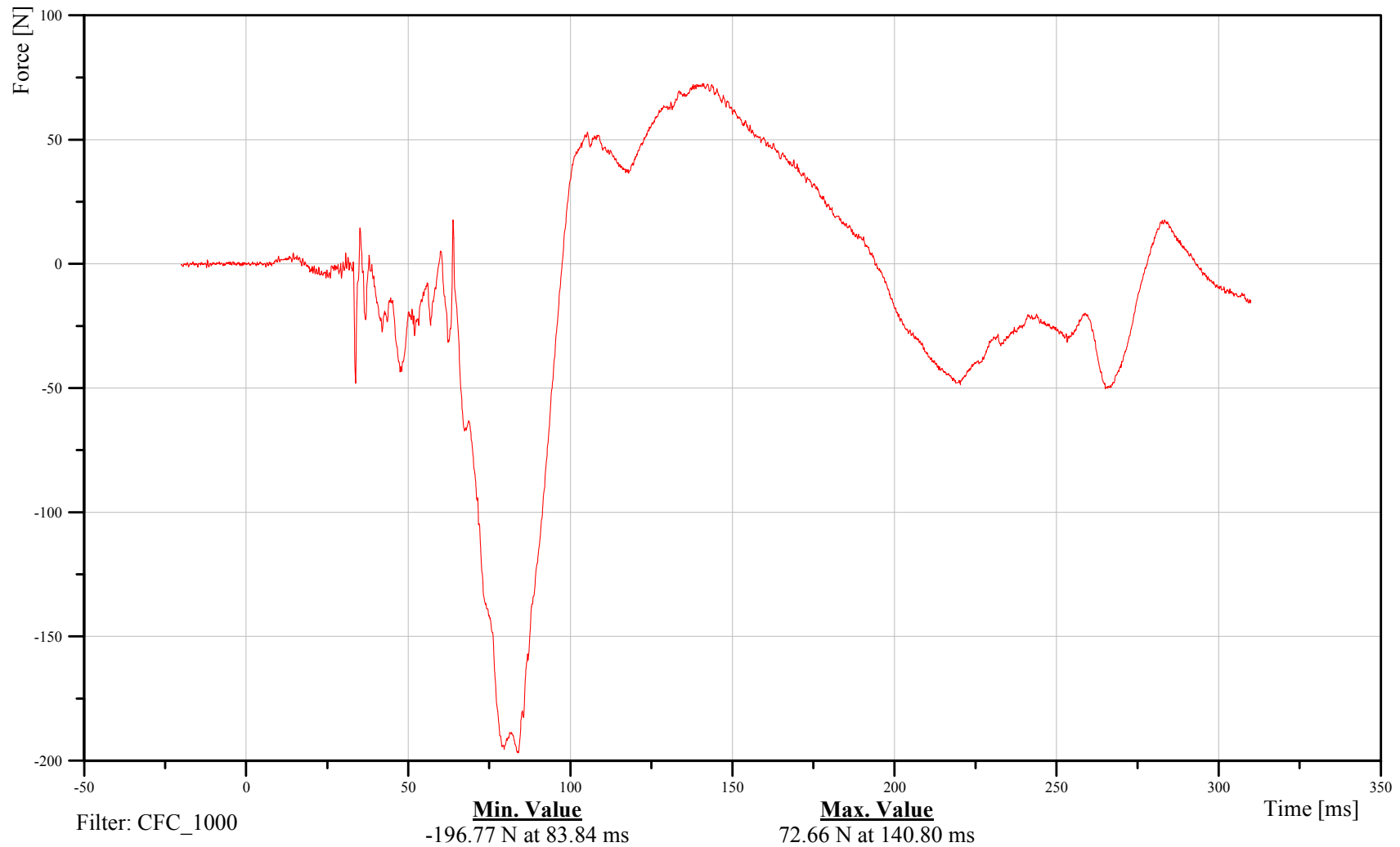
Neck Force X

Customer: VRTC

14NECKUP00S2FOXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

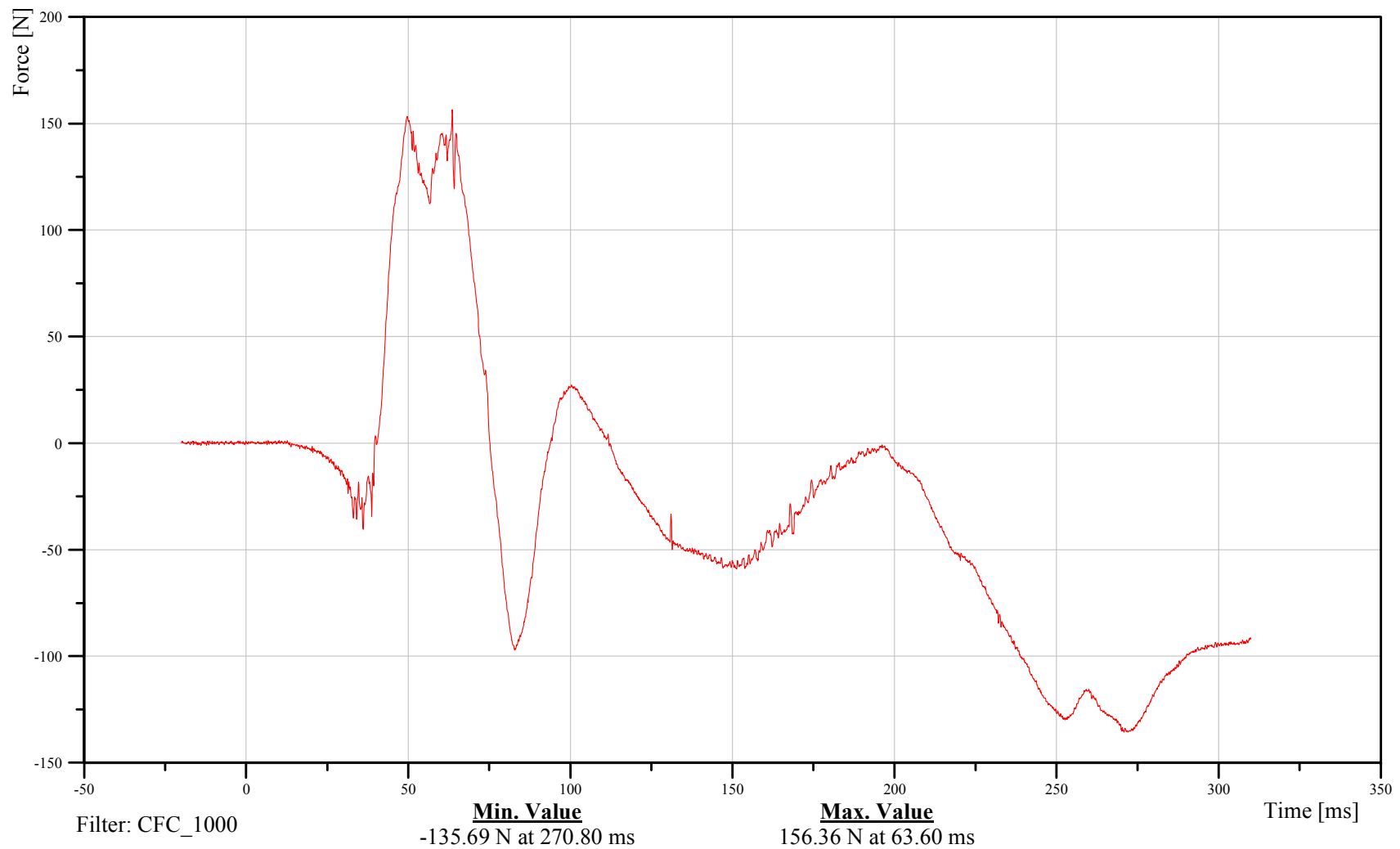
Neck Force Y

Customer: VRTC

14NECKUP00S2FOYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

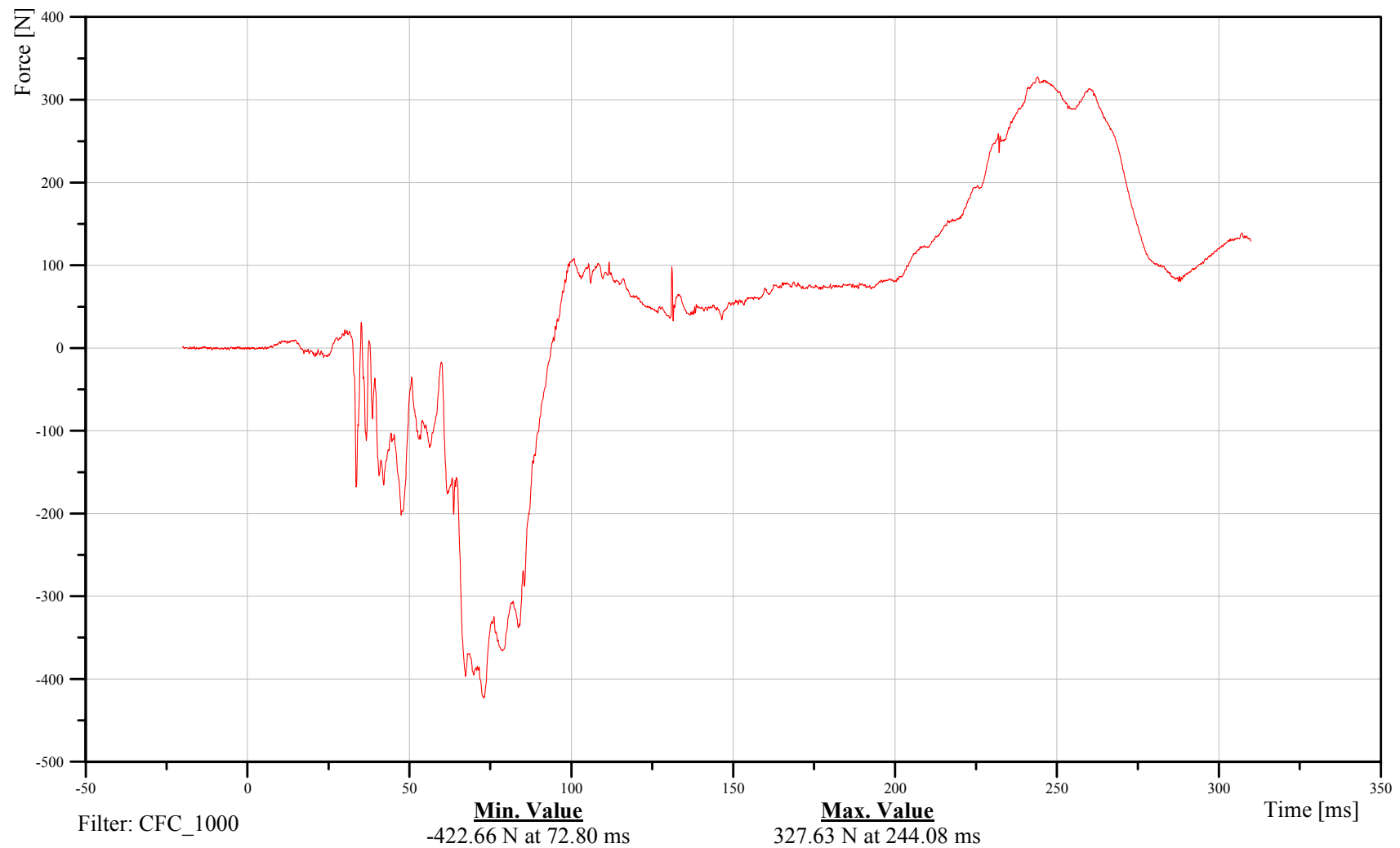
Neck Force Z

Customer: VRTC

14NECKUP00S2FOZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

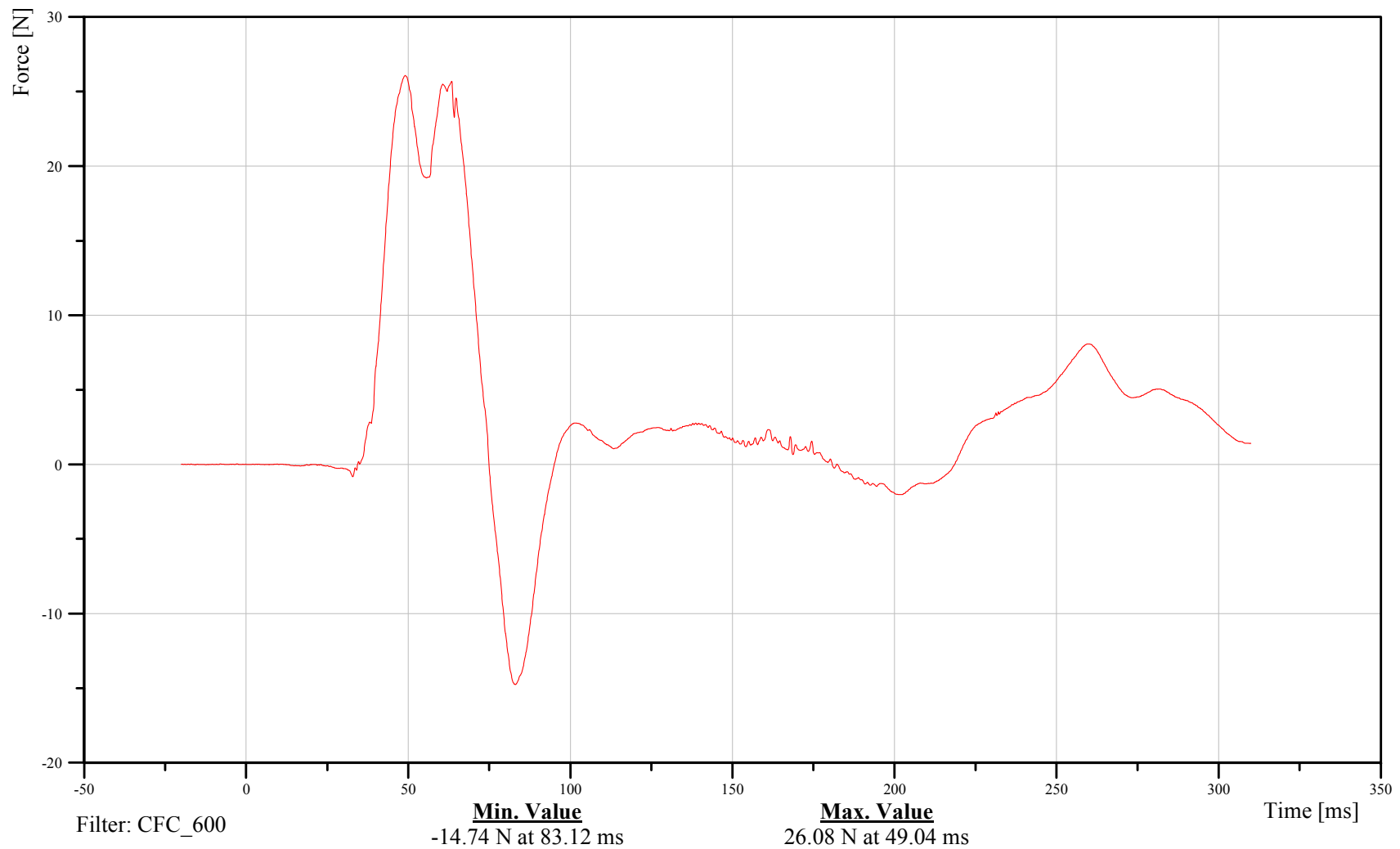
Neck Moment X

Customer: VRTC

14NECKUP00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Neck Moment Y

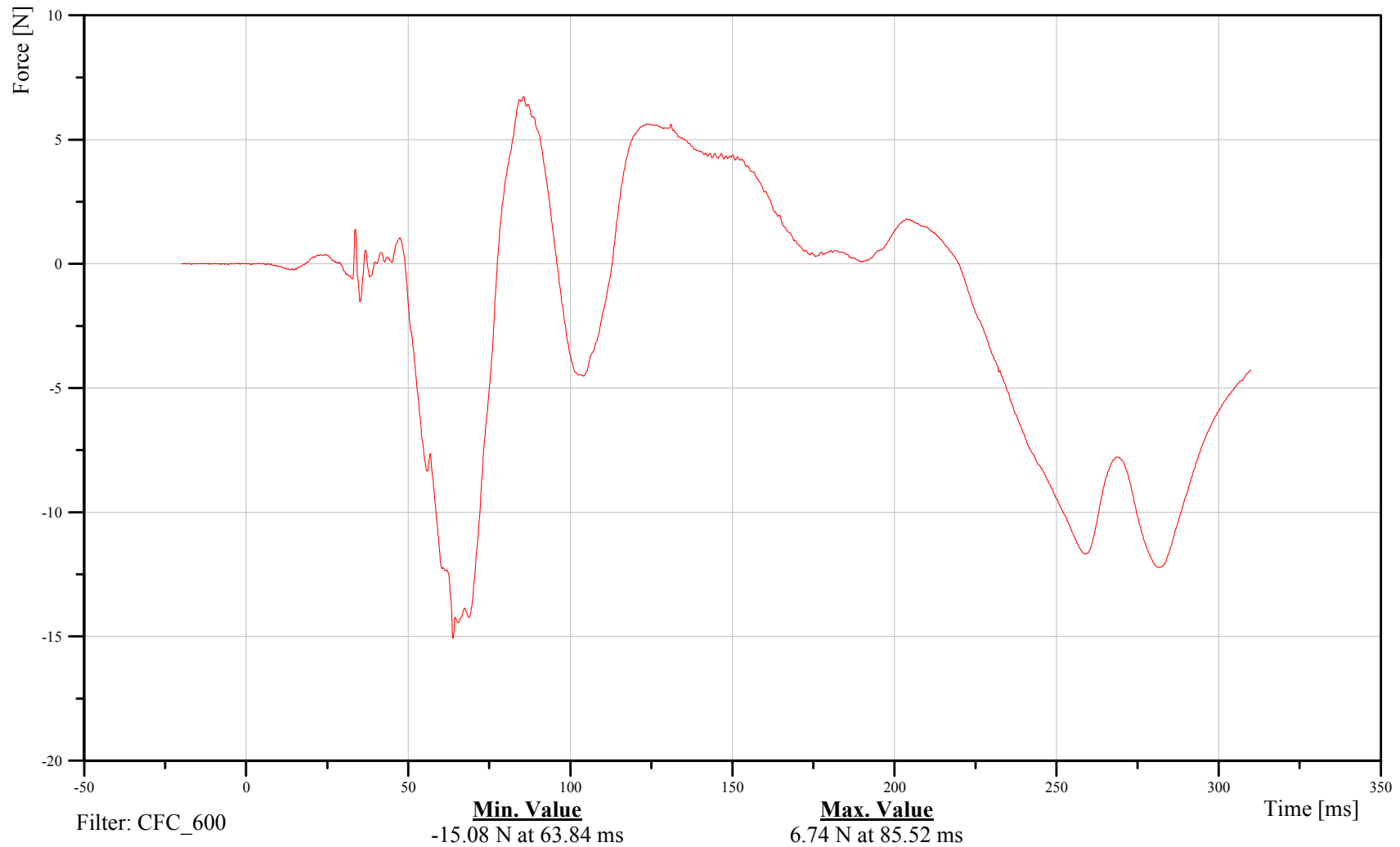
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14NECKUP00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

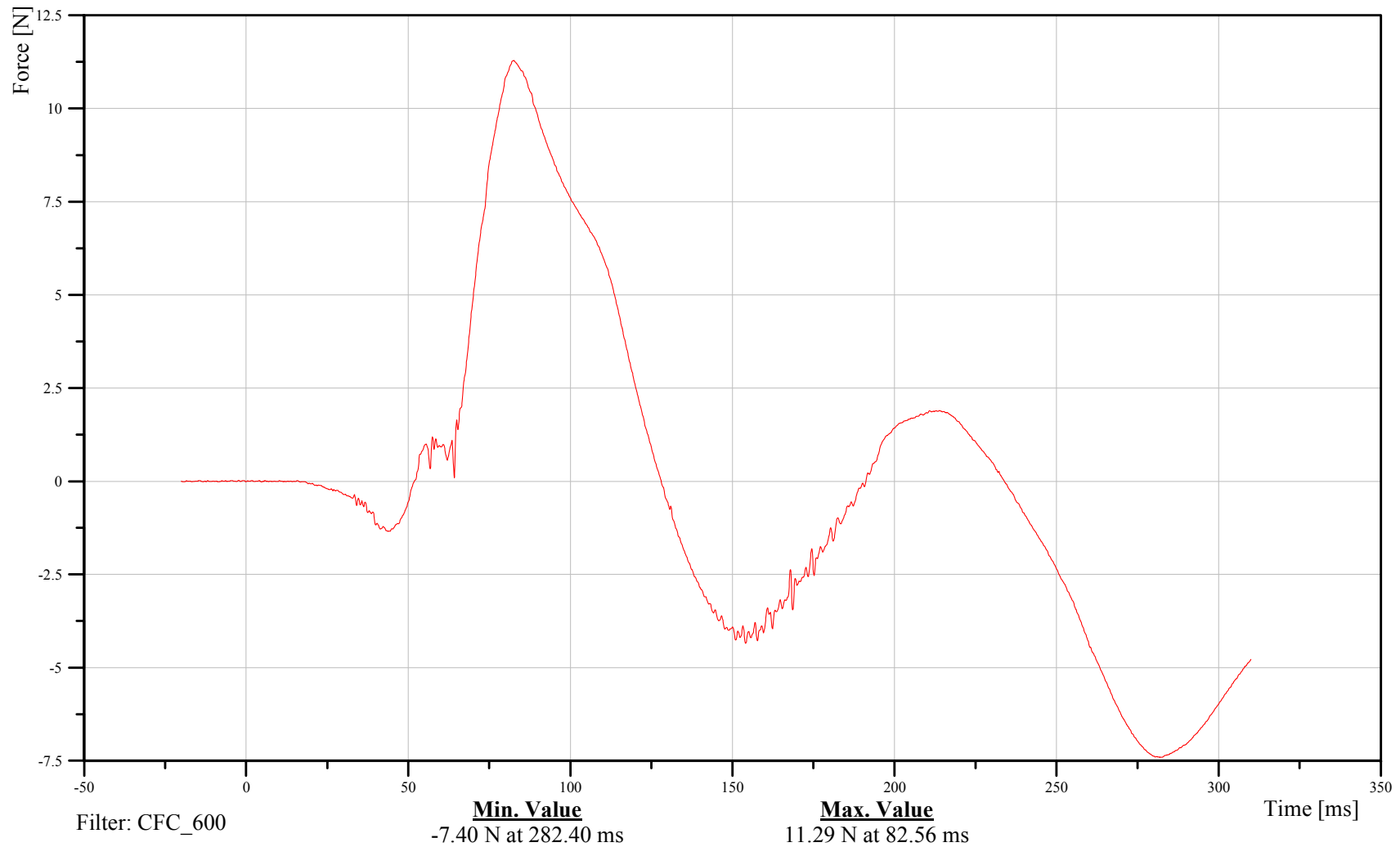
Neck Moment Z

Customer: VRTC

14NECKUP00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel X

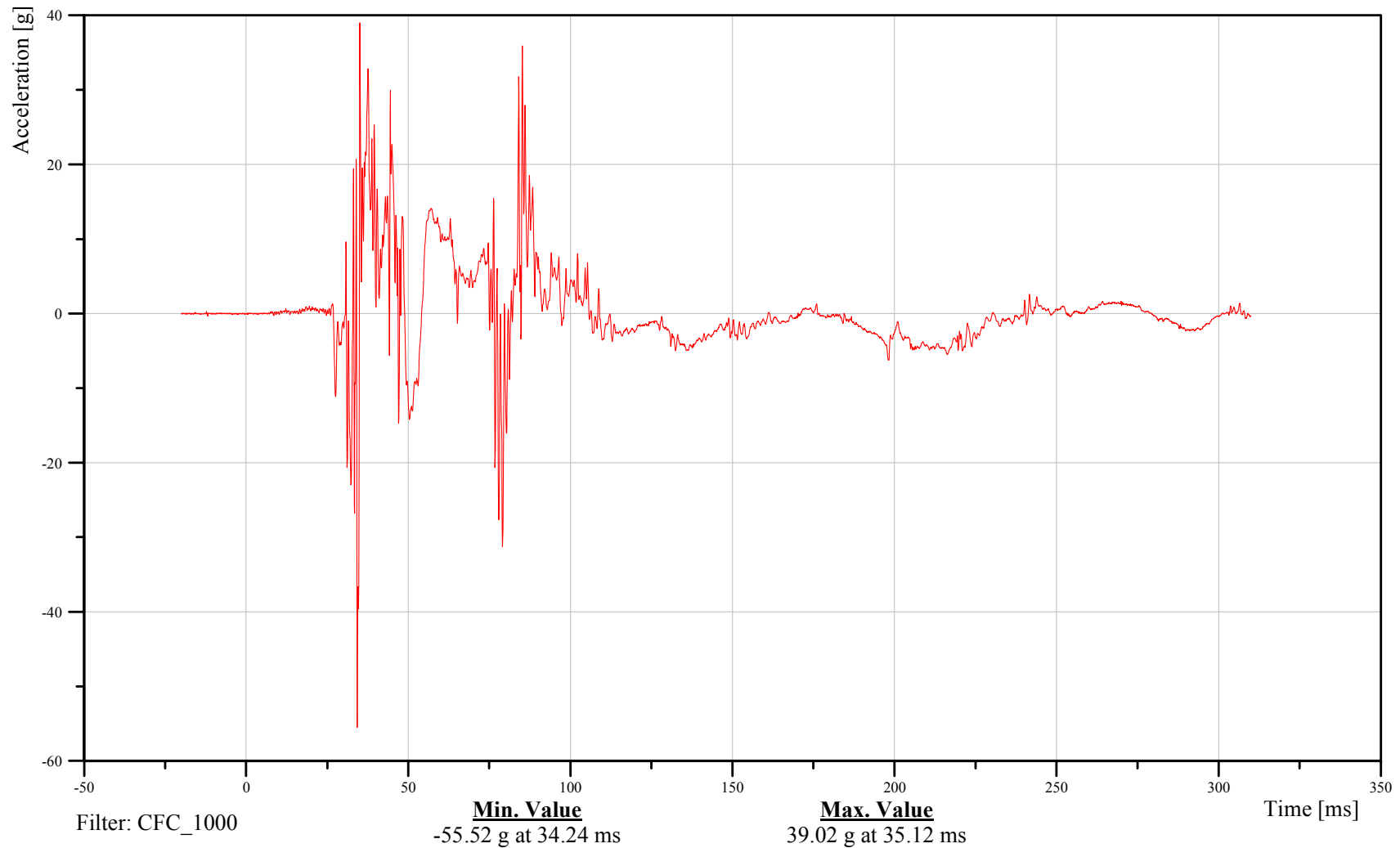
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel Y

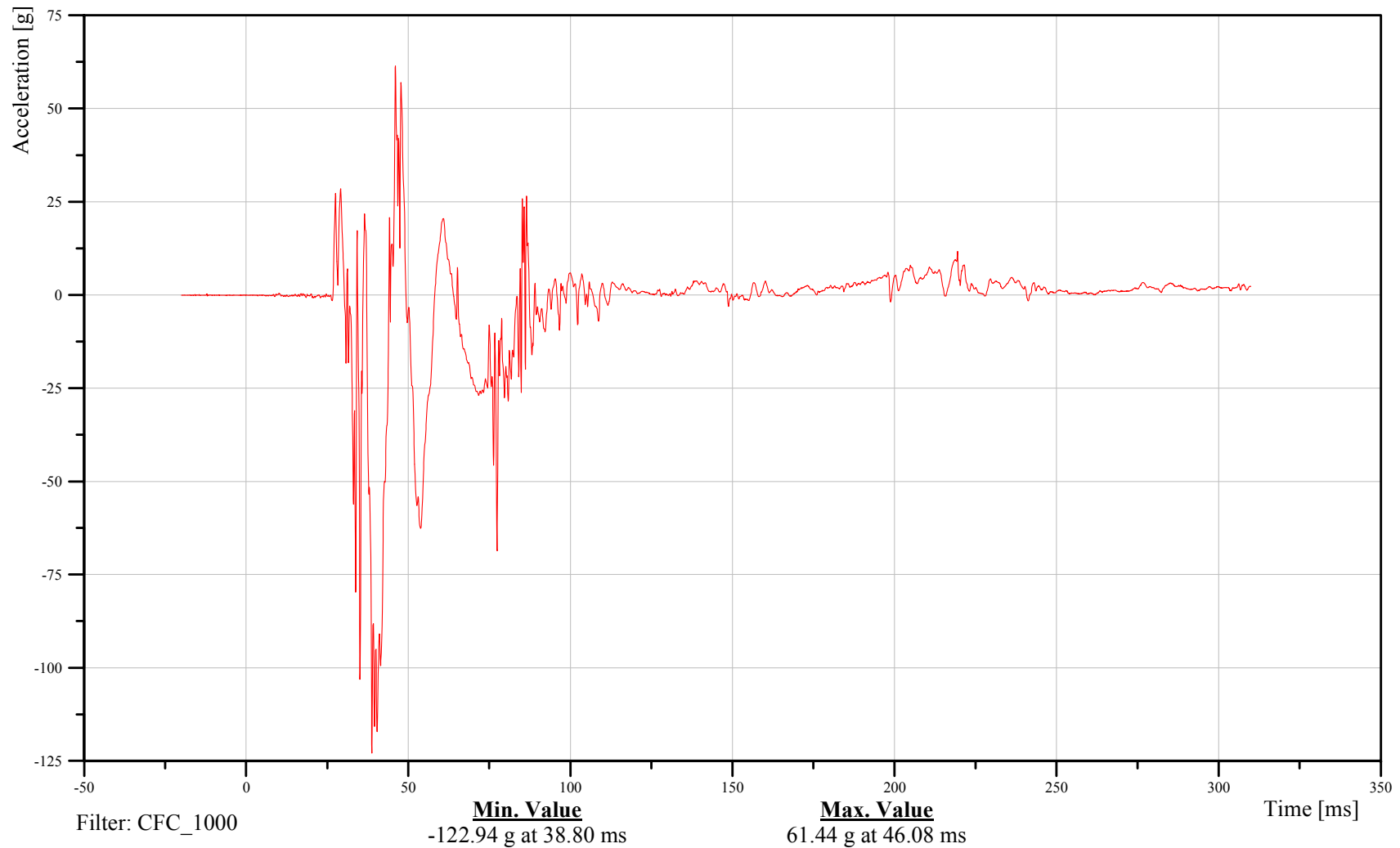
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel Z

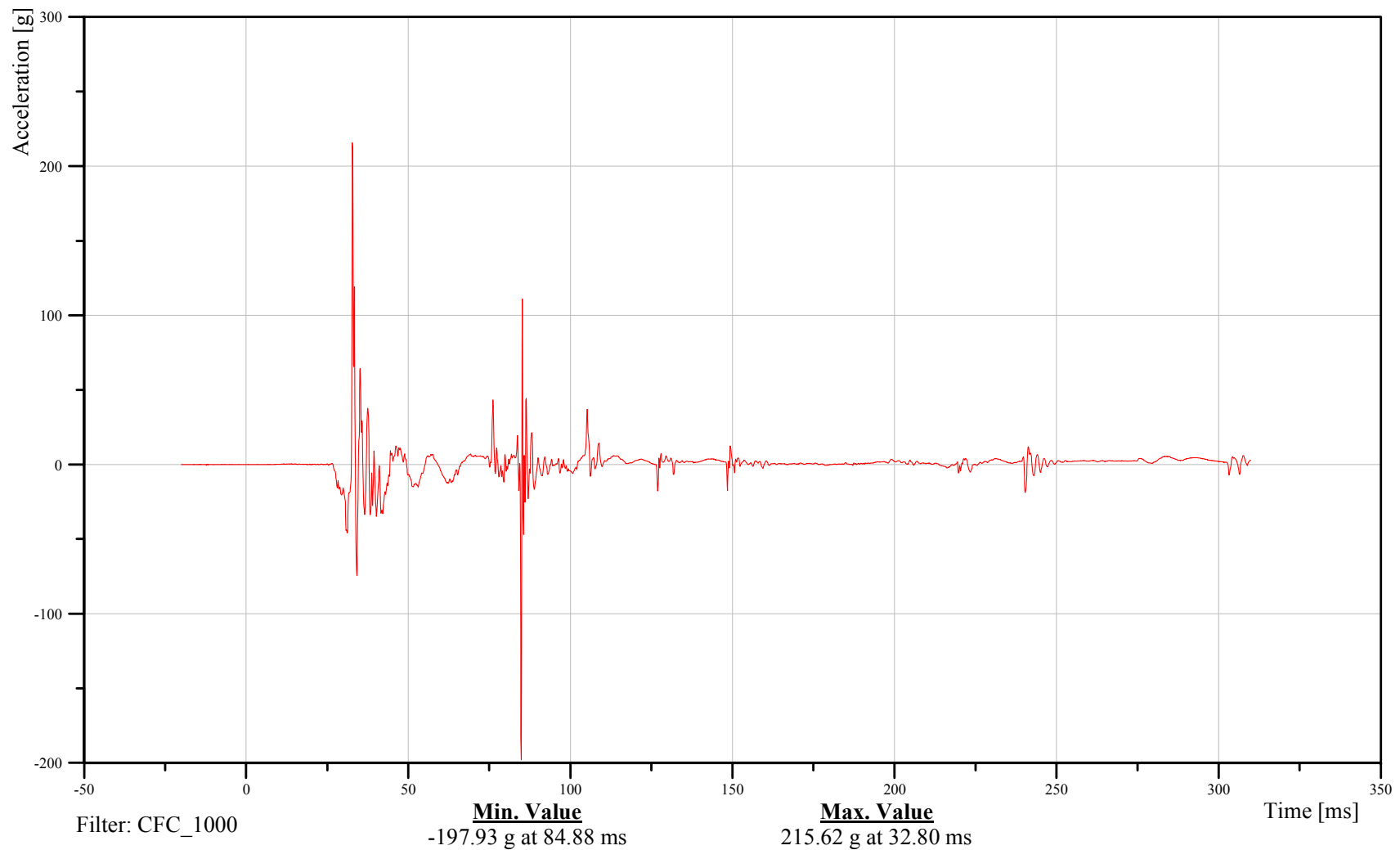
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Accel Resultant

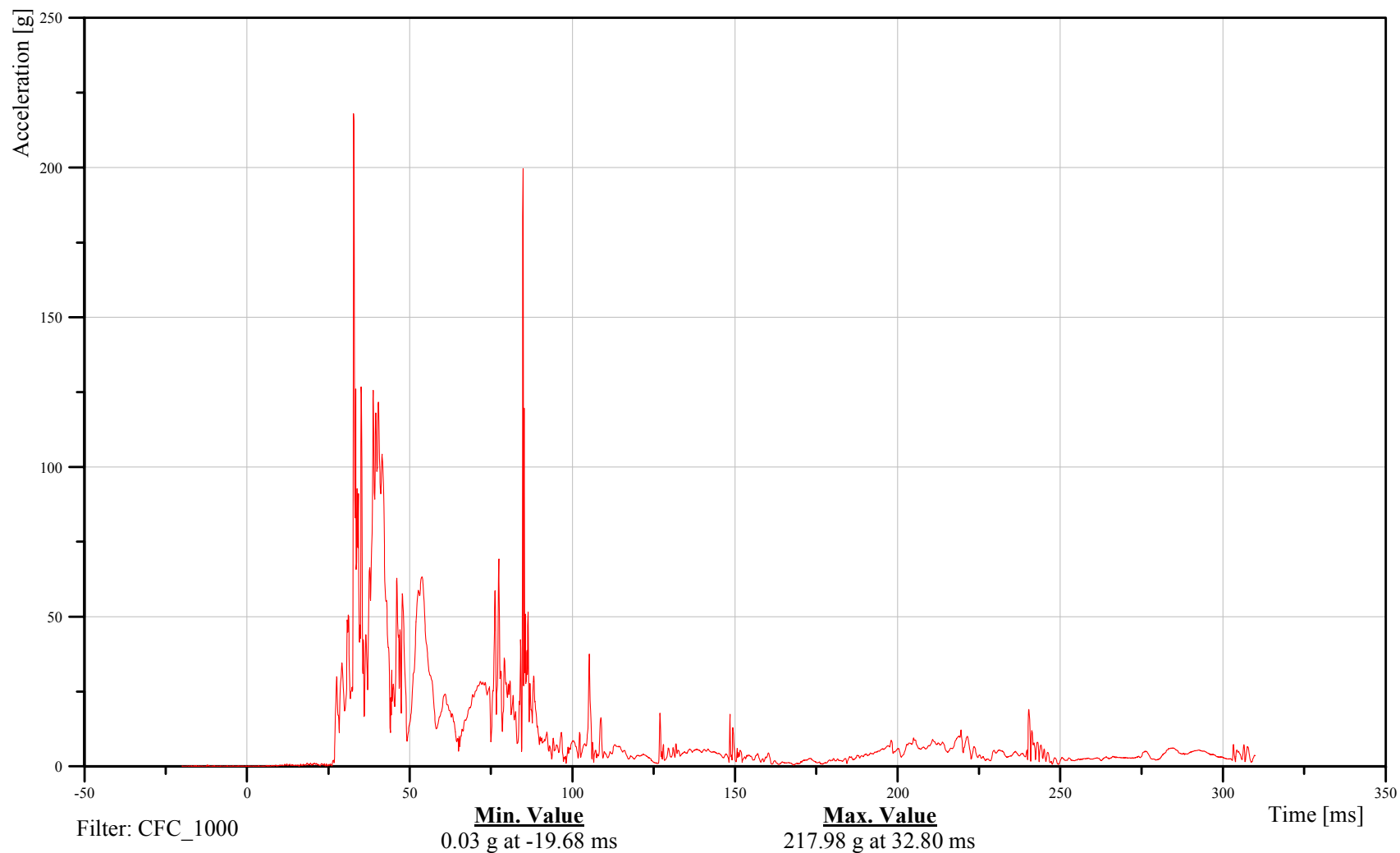
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Force X

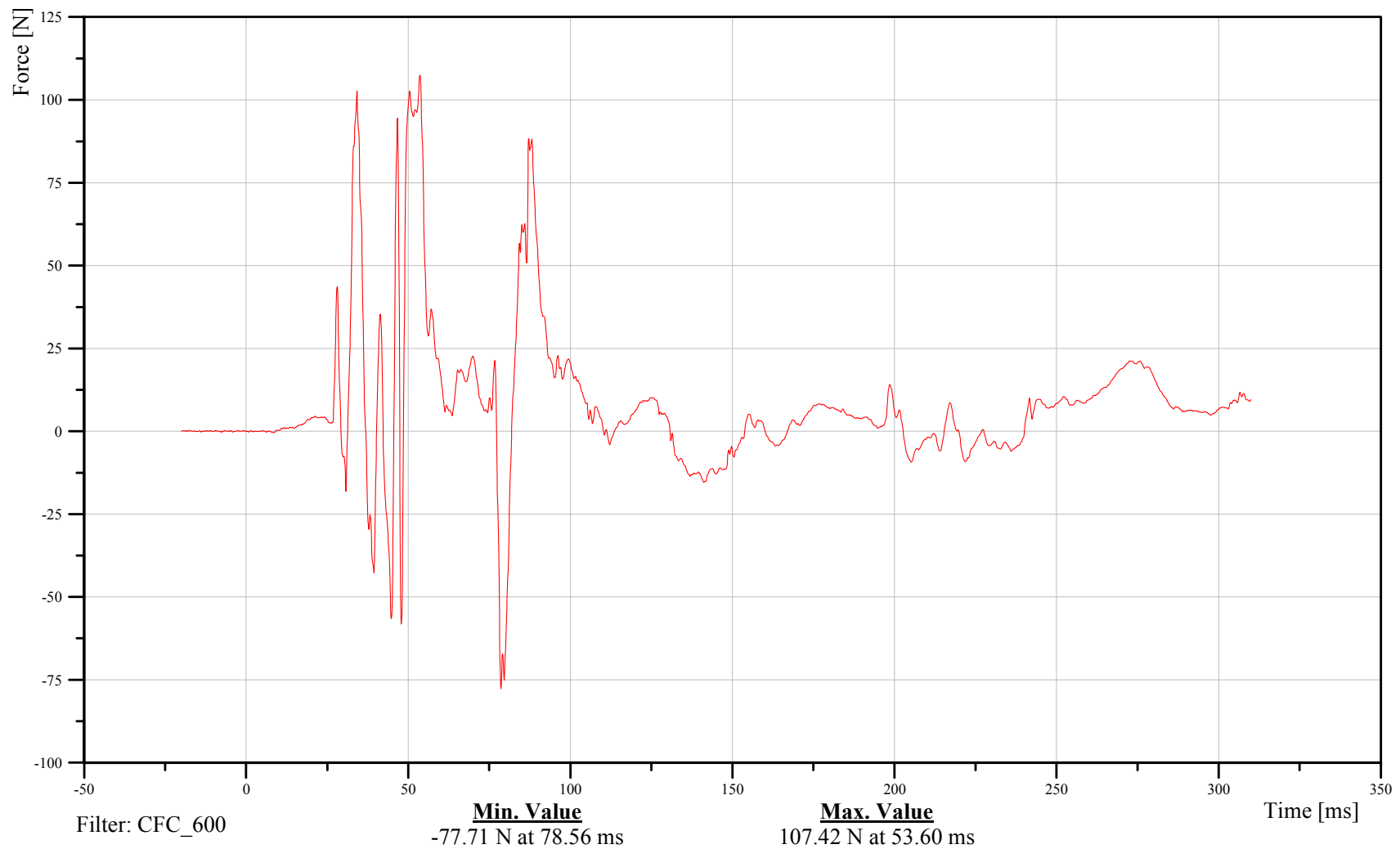
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Force Y

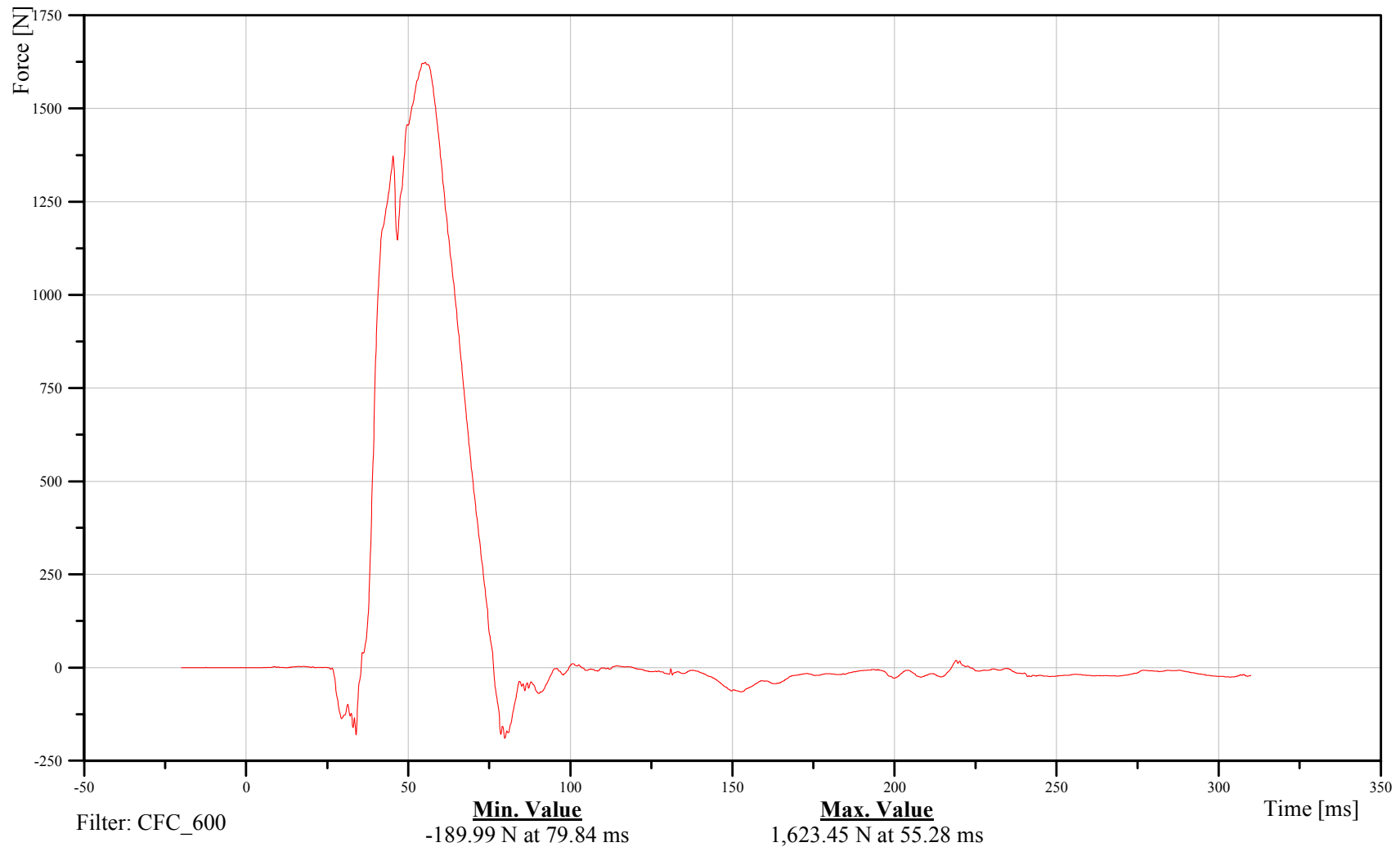
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHLDLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

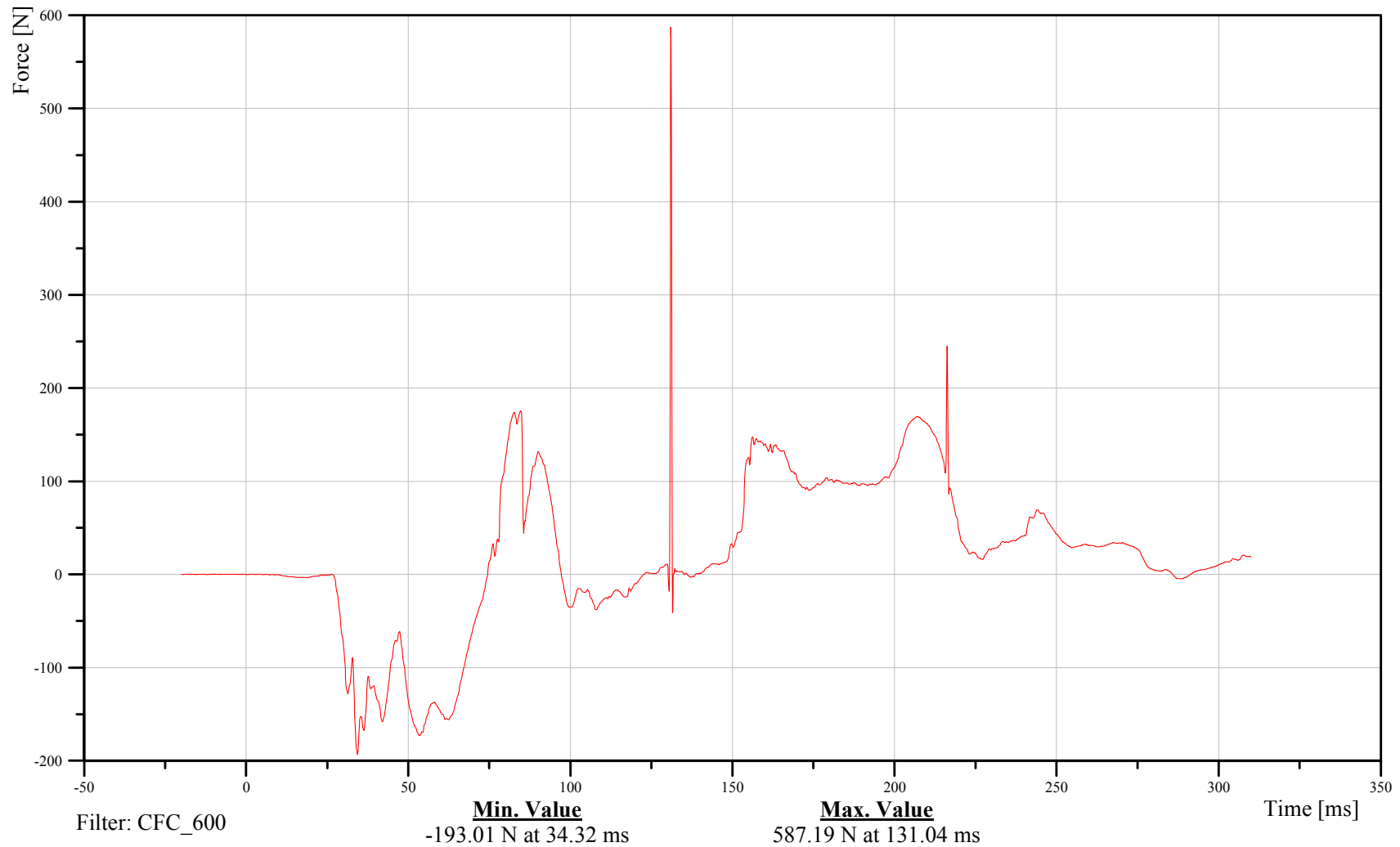
Shoulder Force Z

Customer: VRTC

14SHLDLE00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

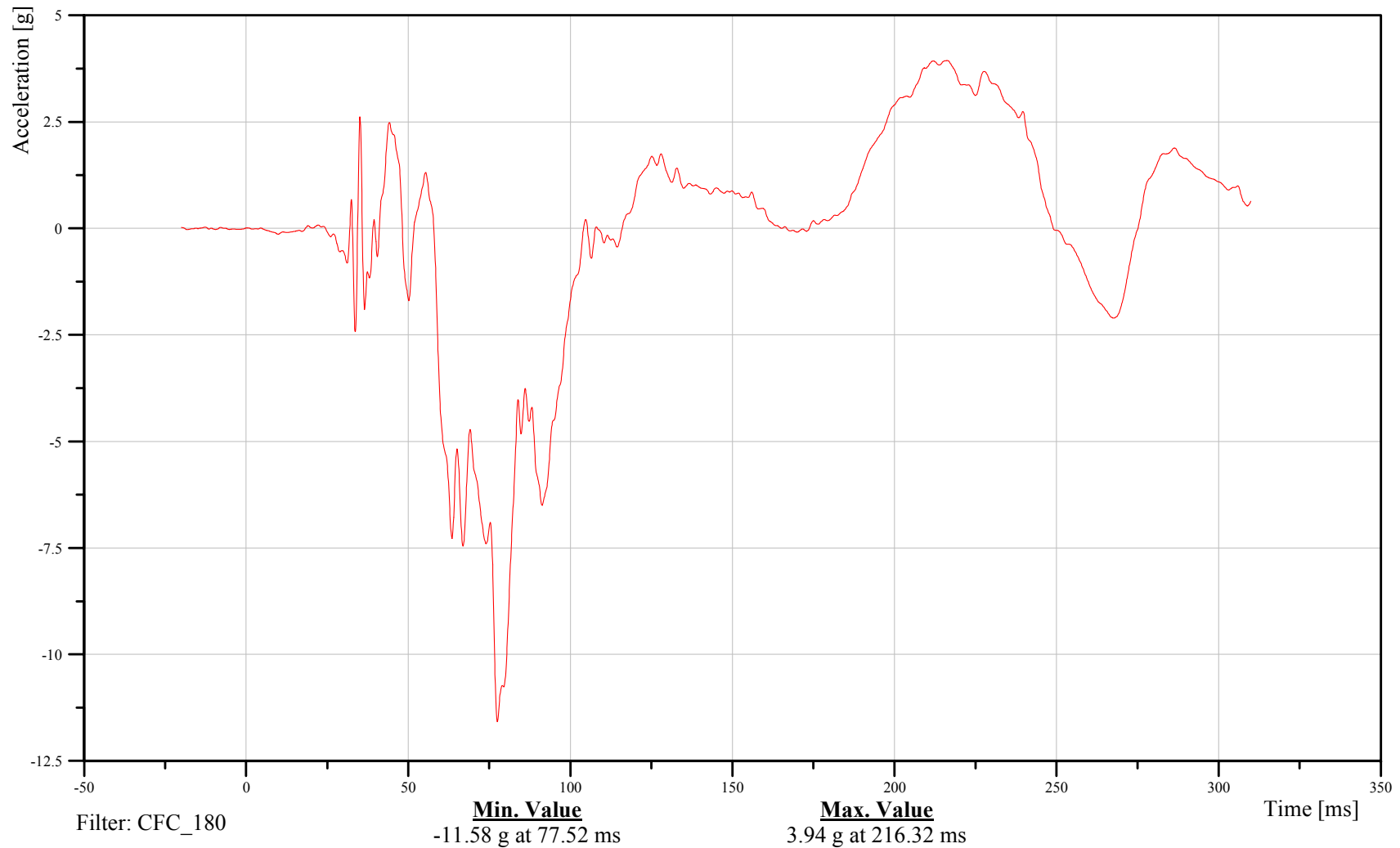
Upper Spine Accel X

Customer: VRTC

14SPIN0100S2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

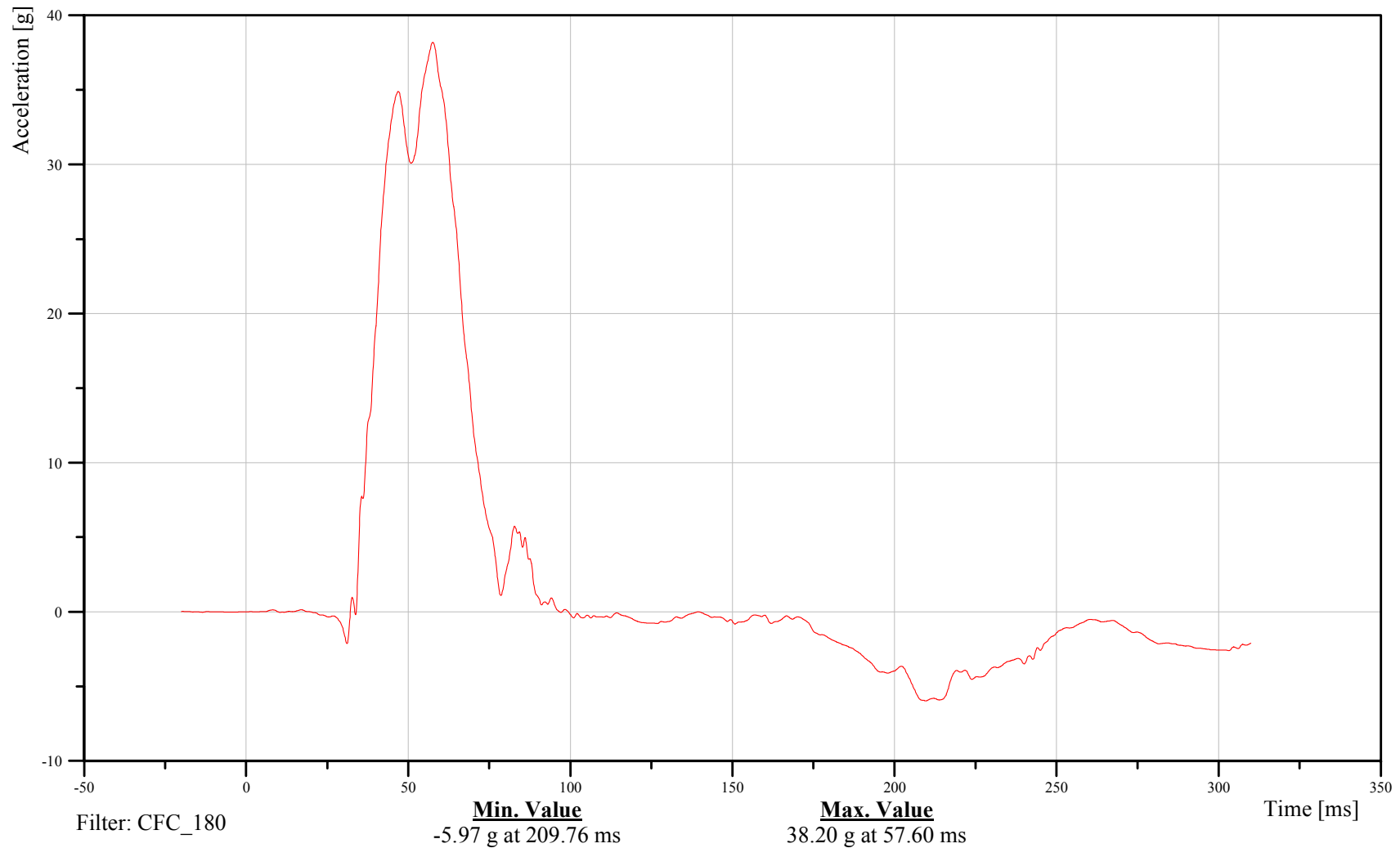
Upper Spine Accel Y

Customer: VRTC

14SPIN0100S2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

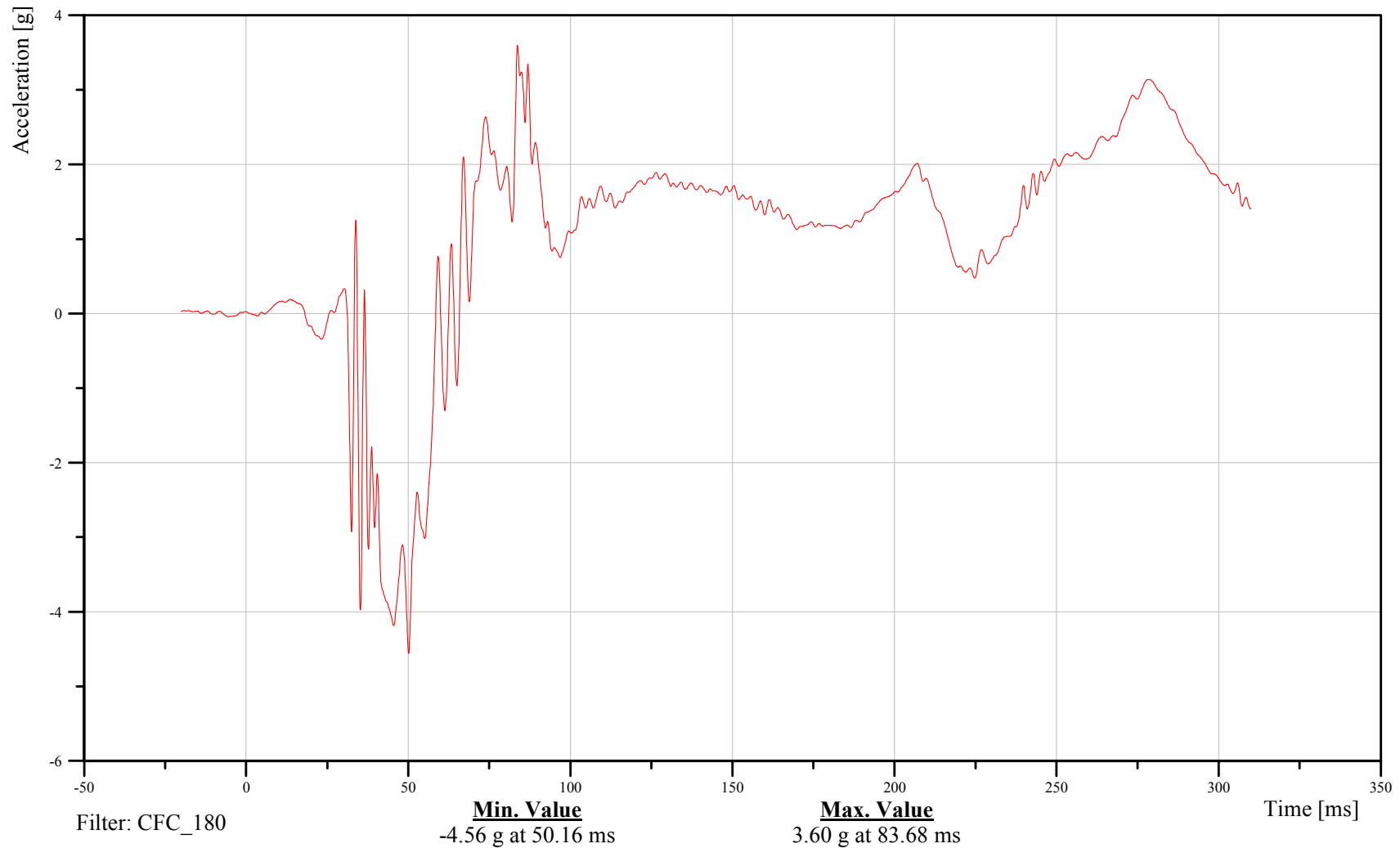
Upper Spine Accel Z

Customer: VRTC

14SPIN0100S2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

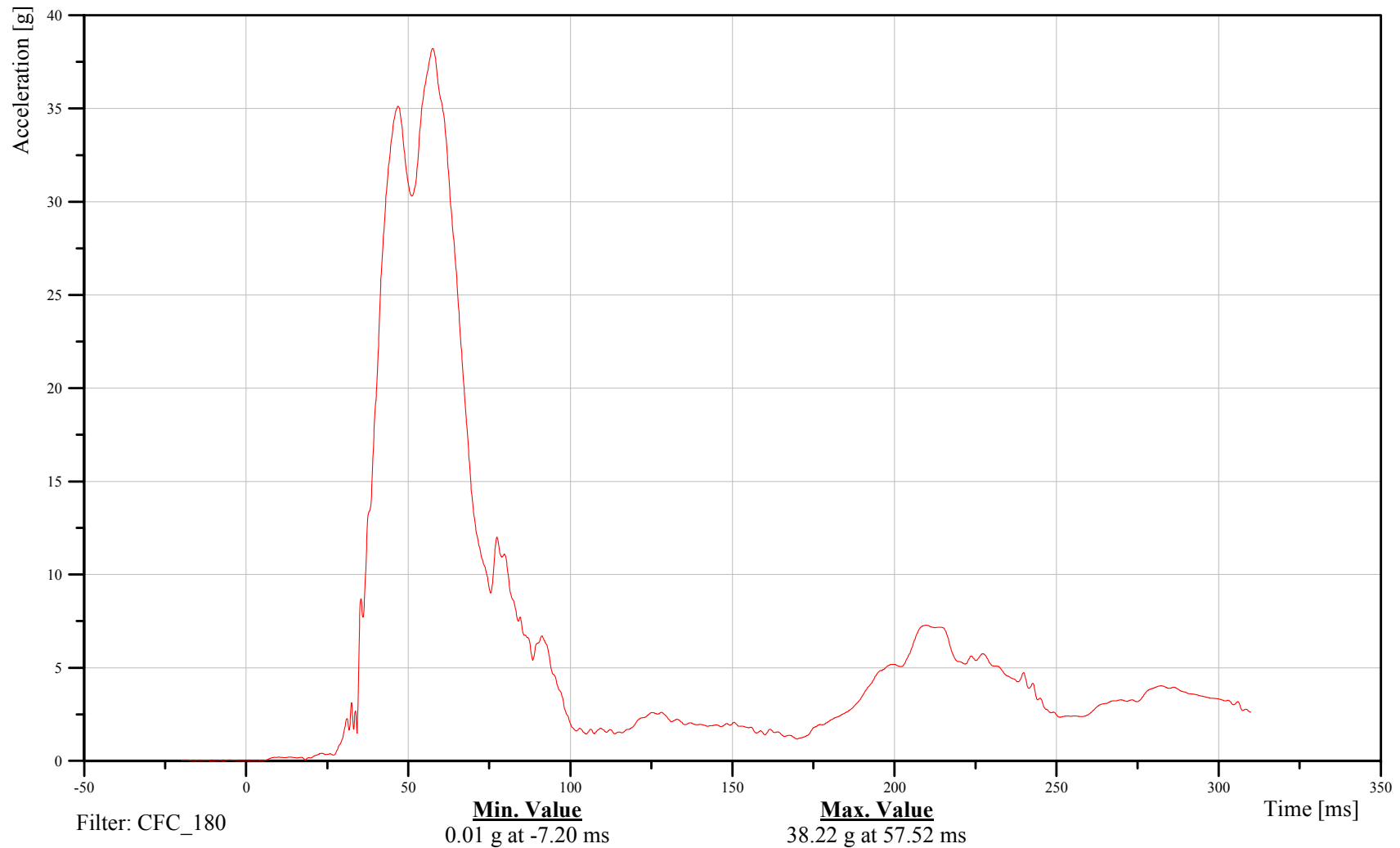
Upper Spine Resultant

Customer: VRTC

14SPIN0100S2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel X

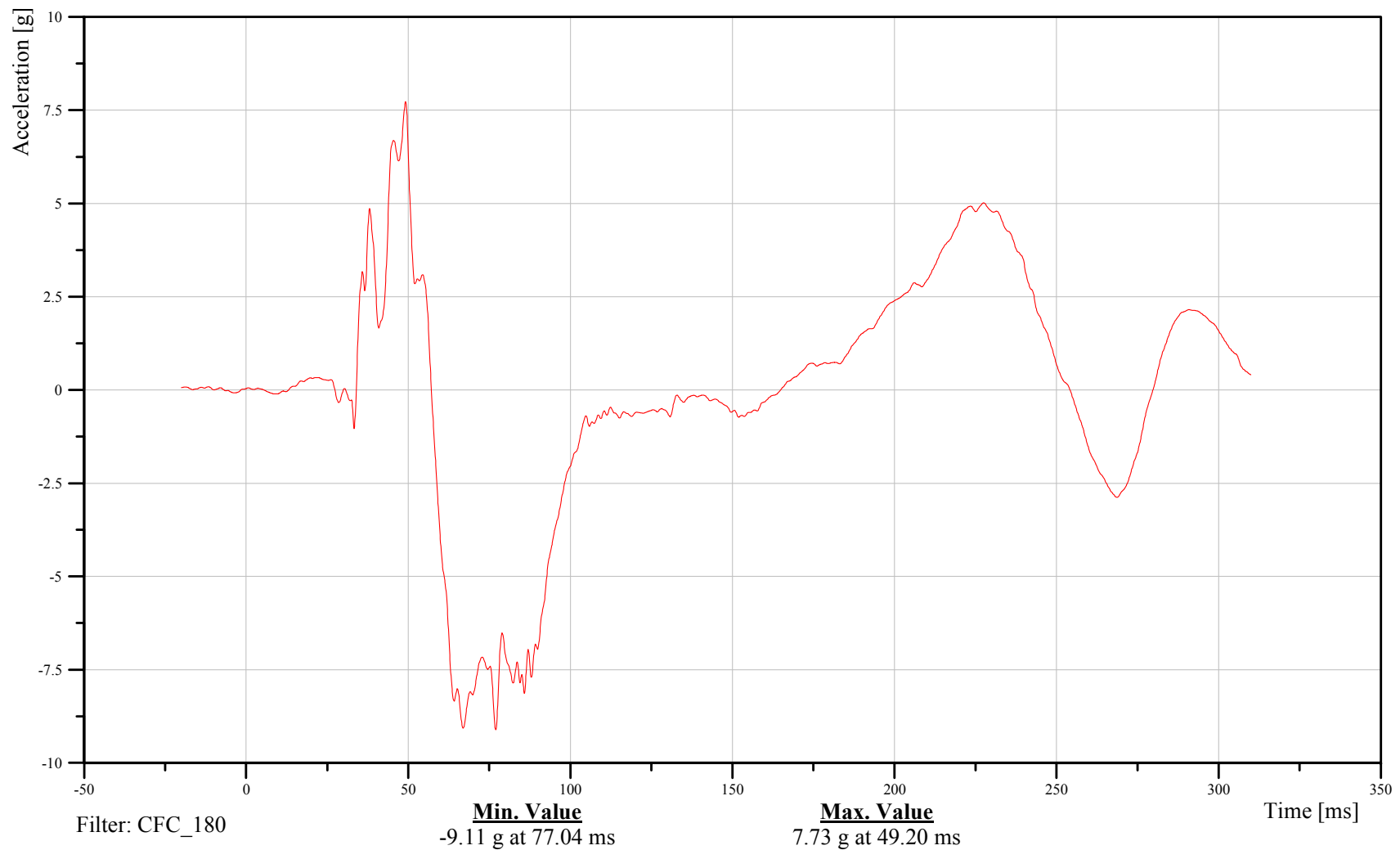
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP01RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Y

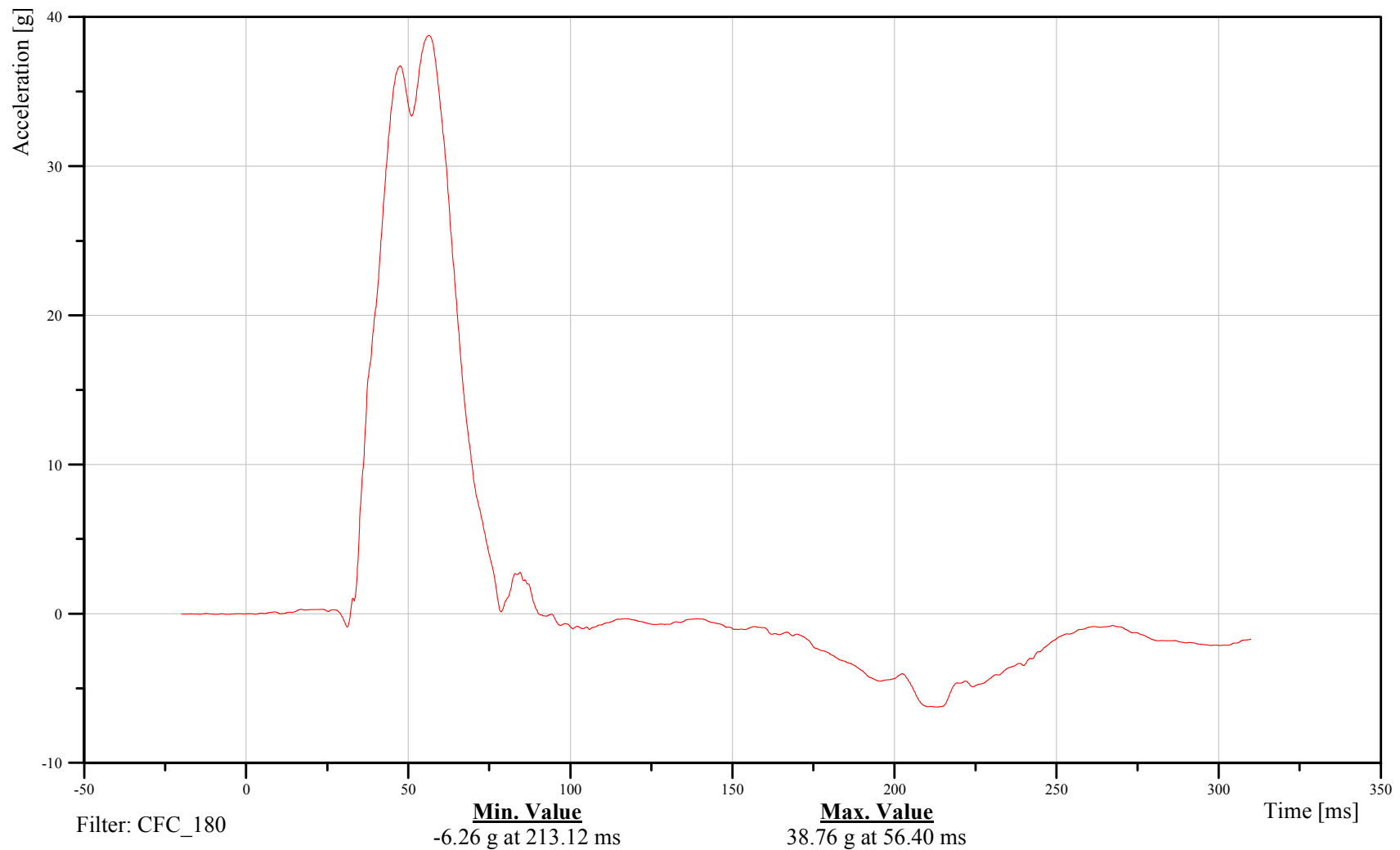
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP01RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Z

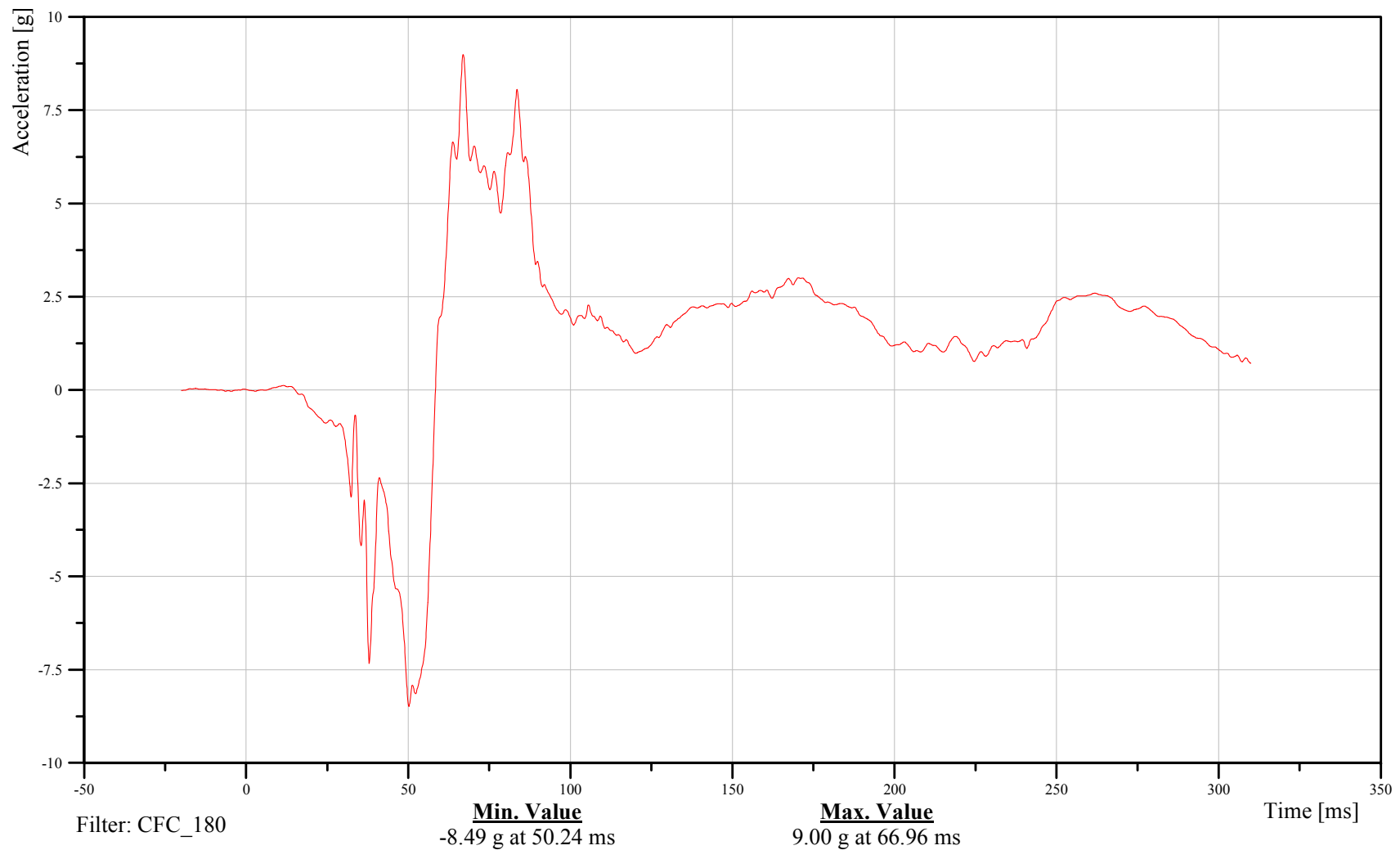
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP01RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 1 Accel Resultant

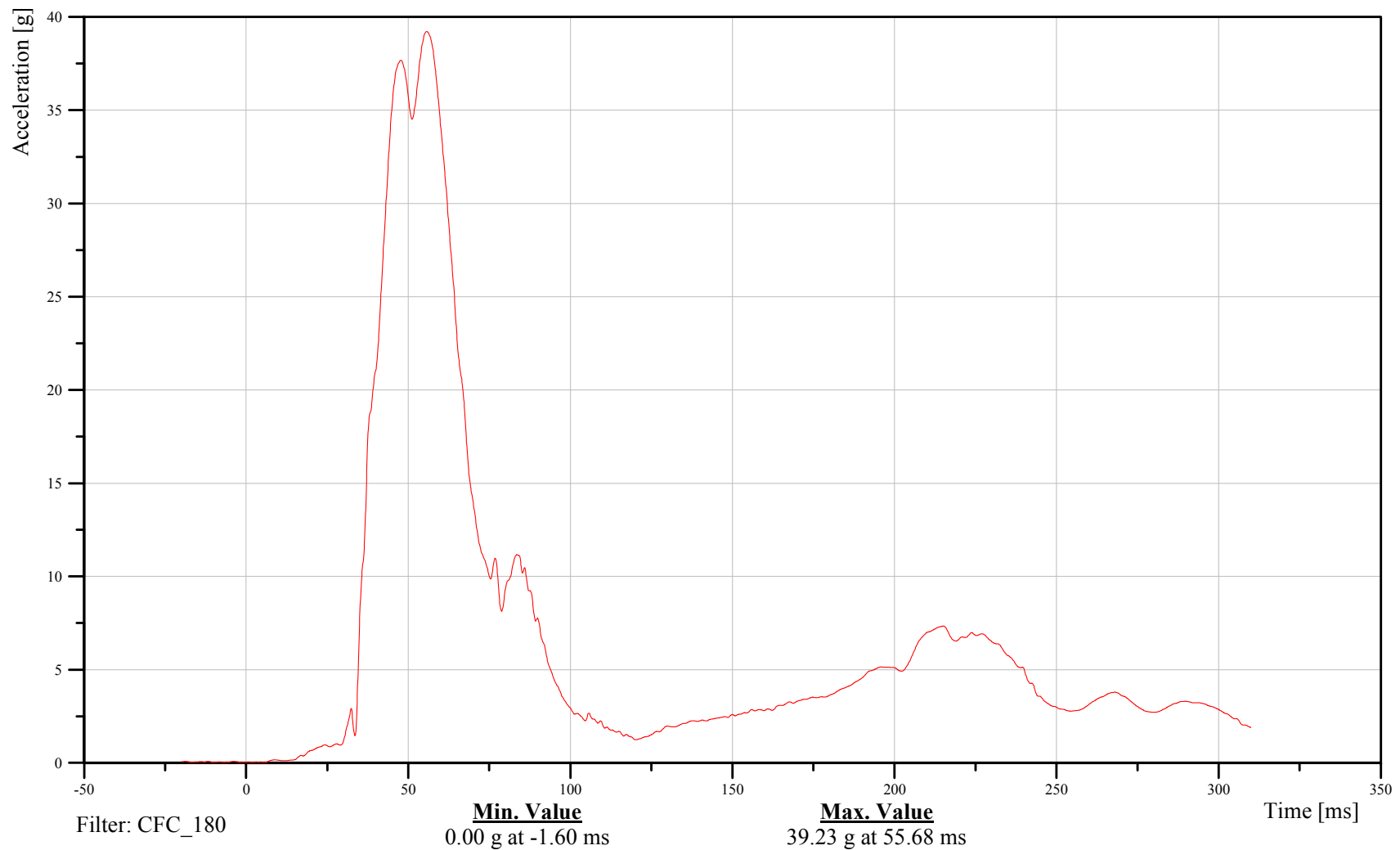
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP01RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel X

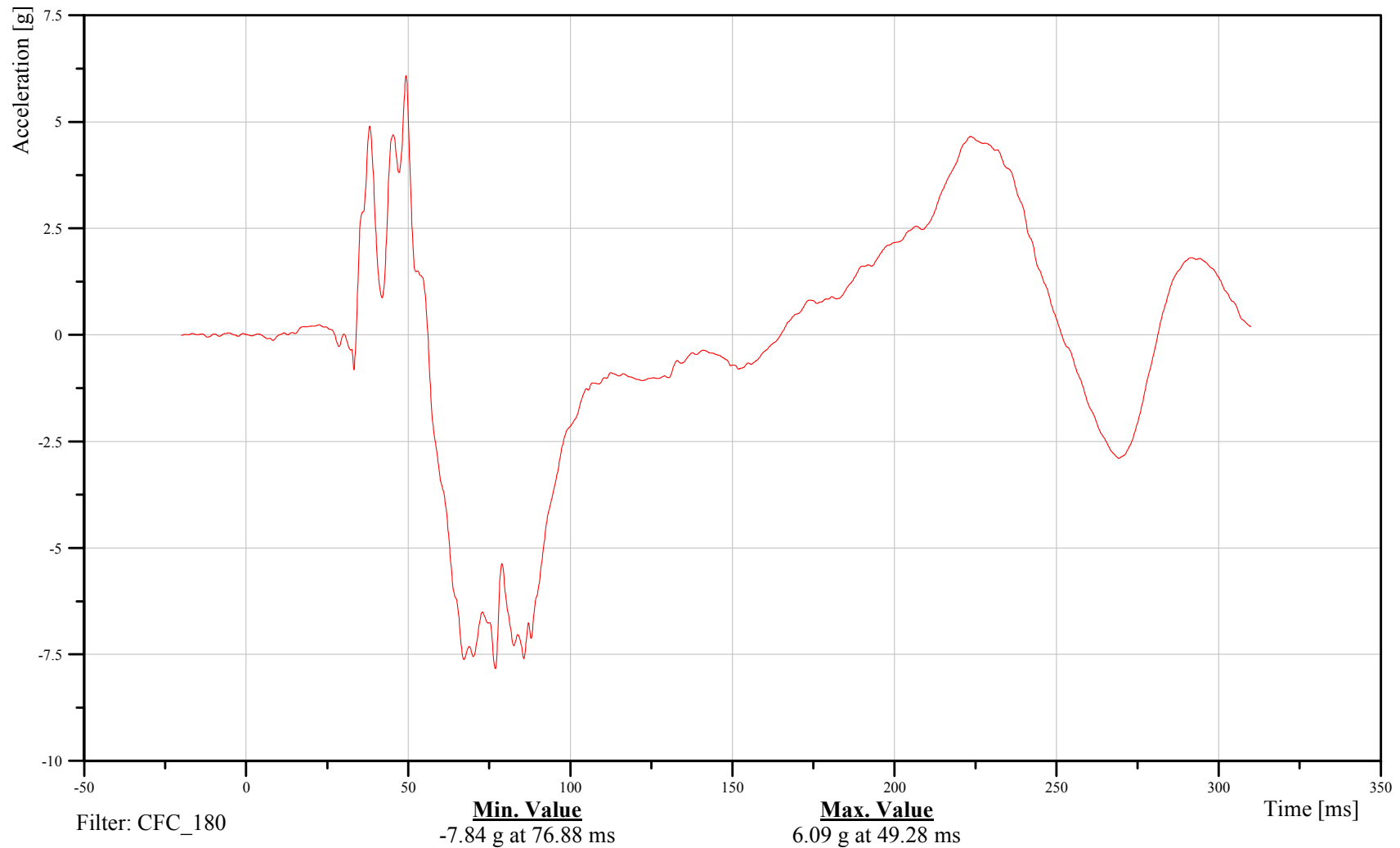
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP02RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Y

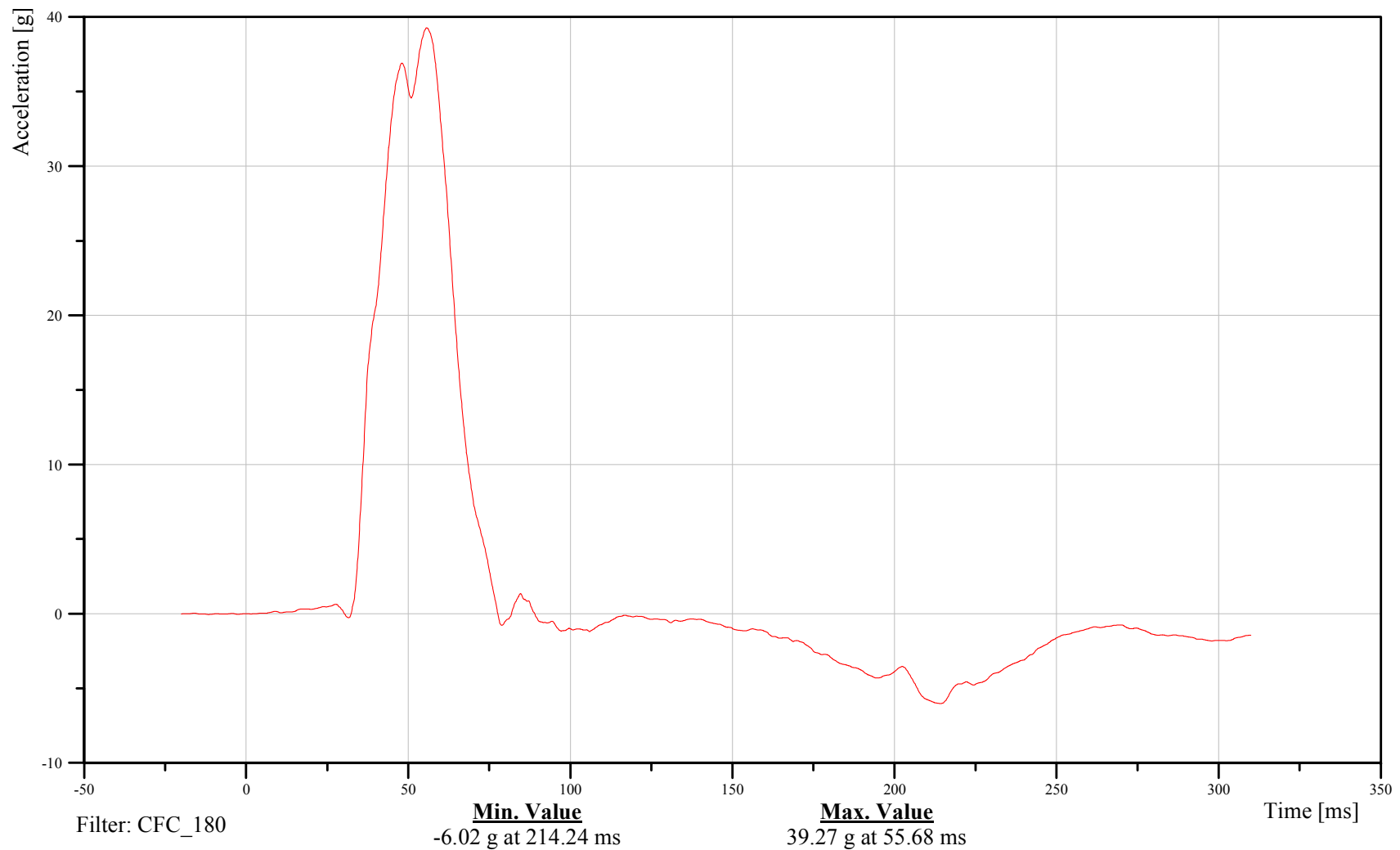
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP02RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Z

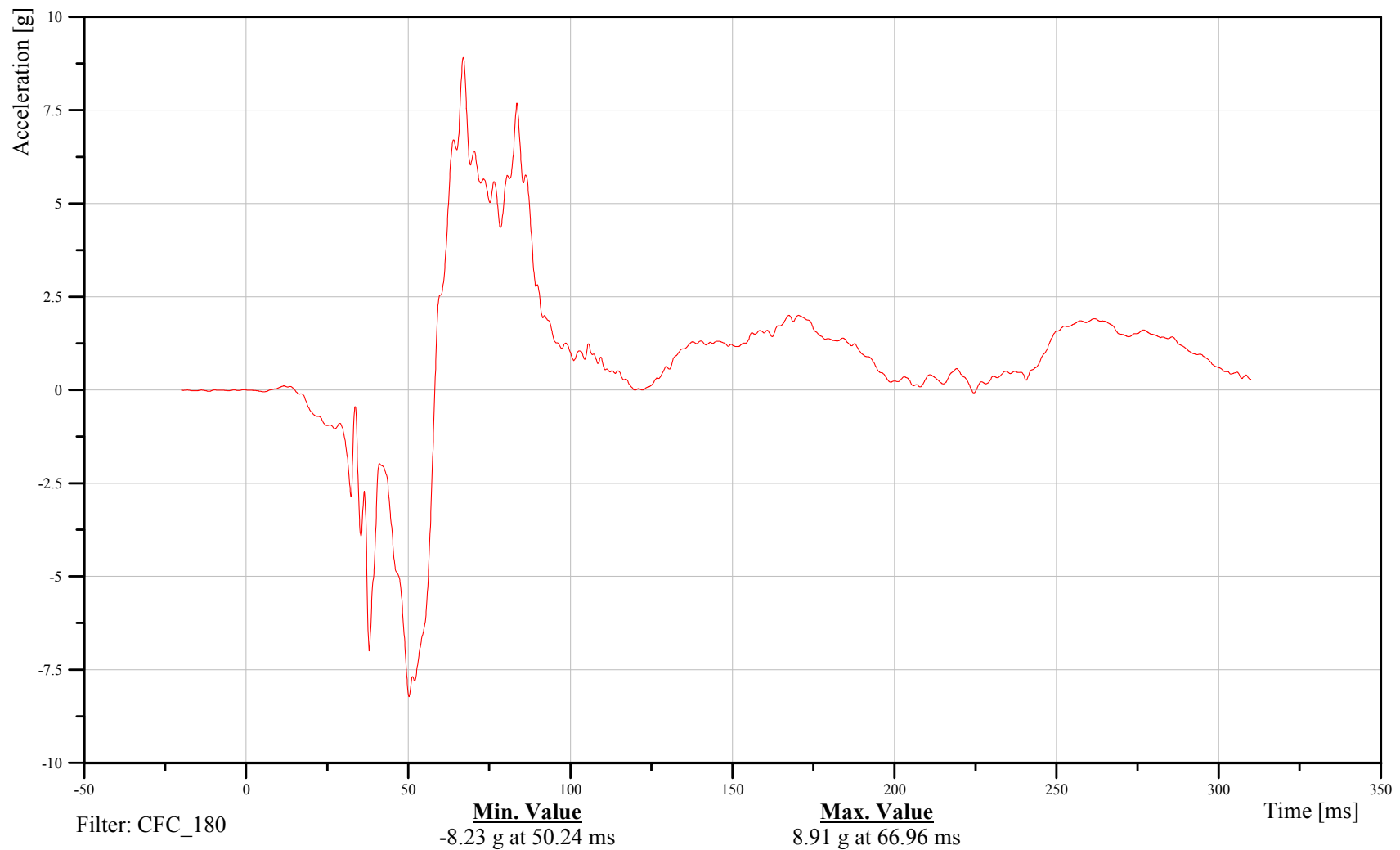
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP02RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 2 Accel Resultant

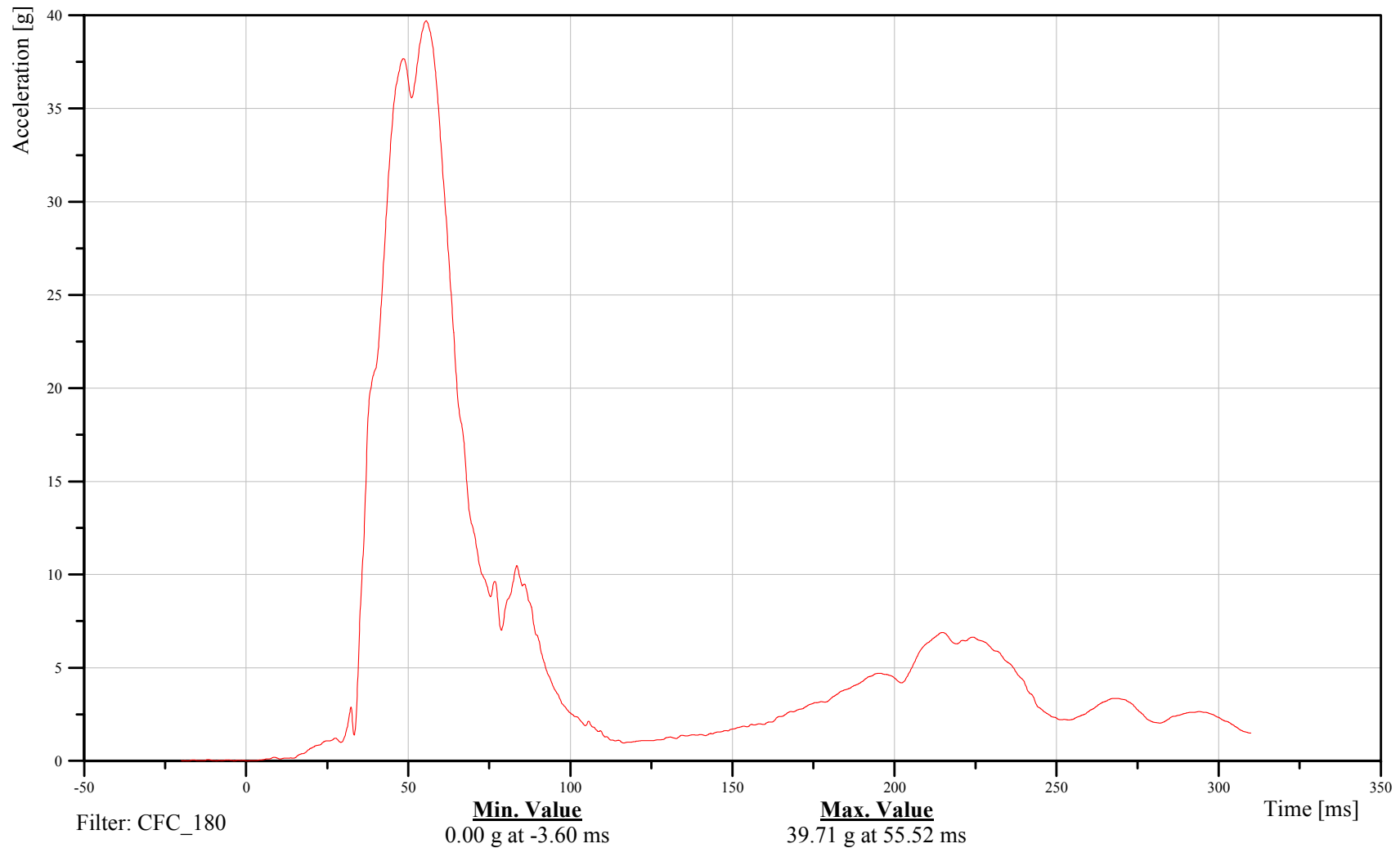
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP02RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel X

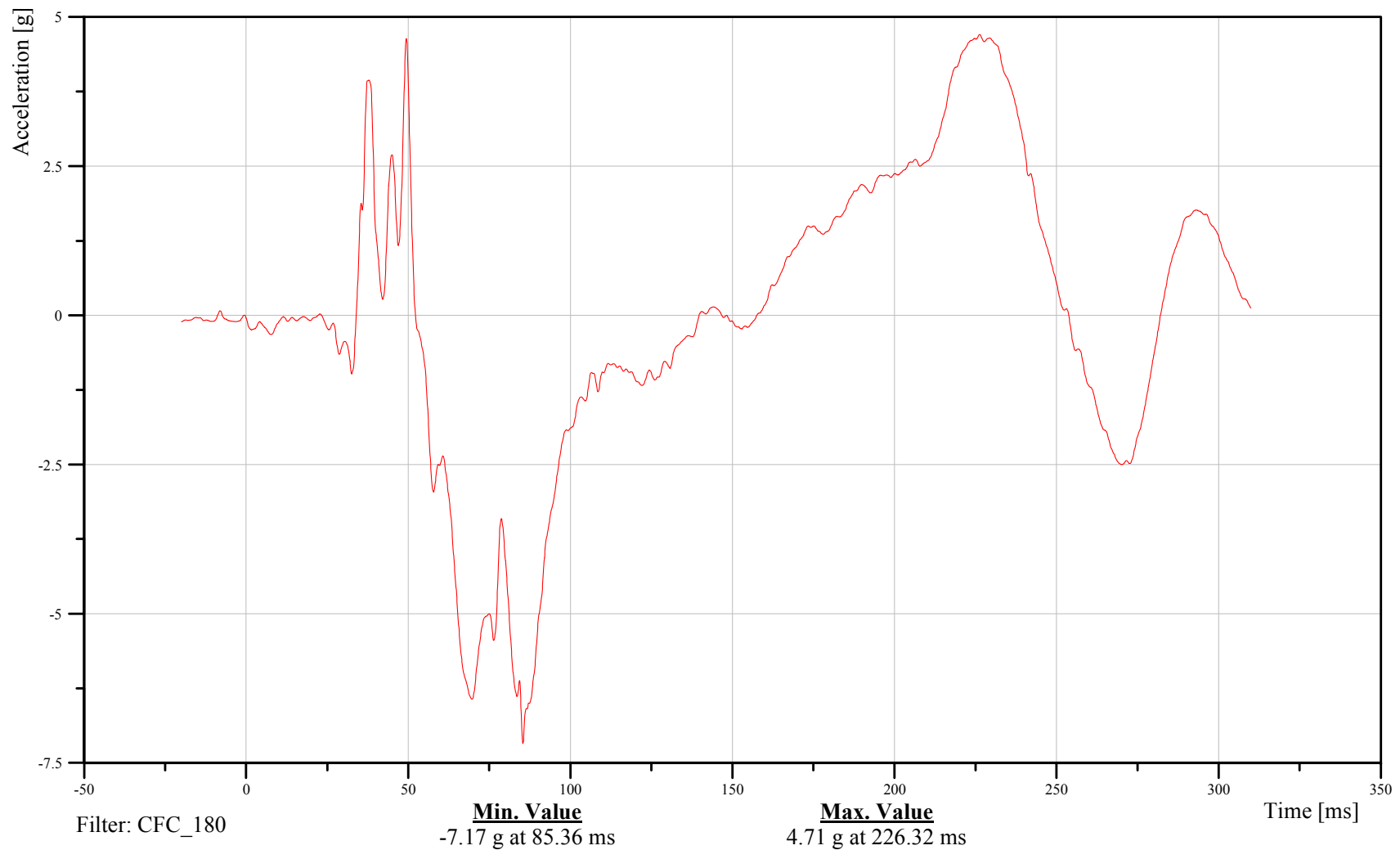
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP03RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Y

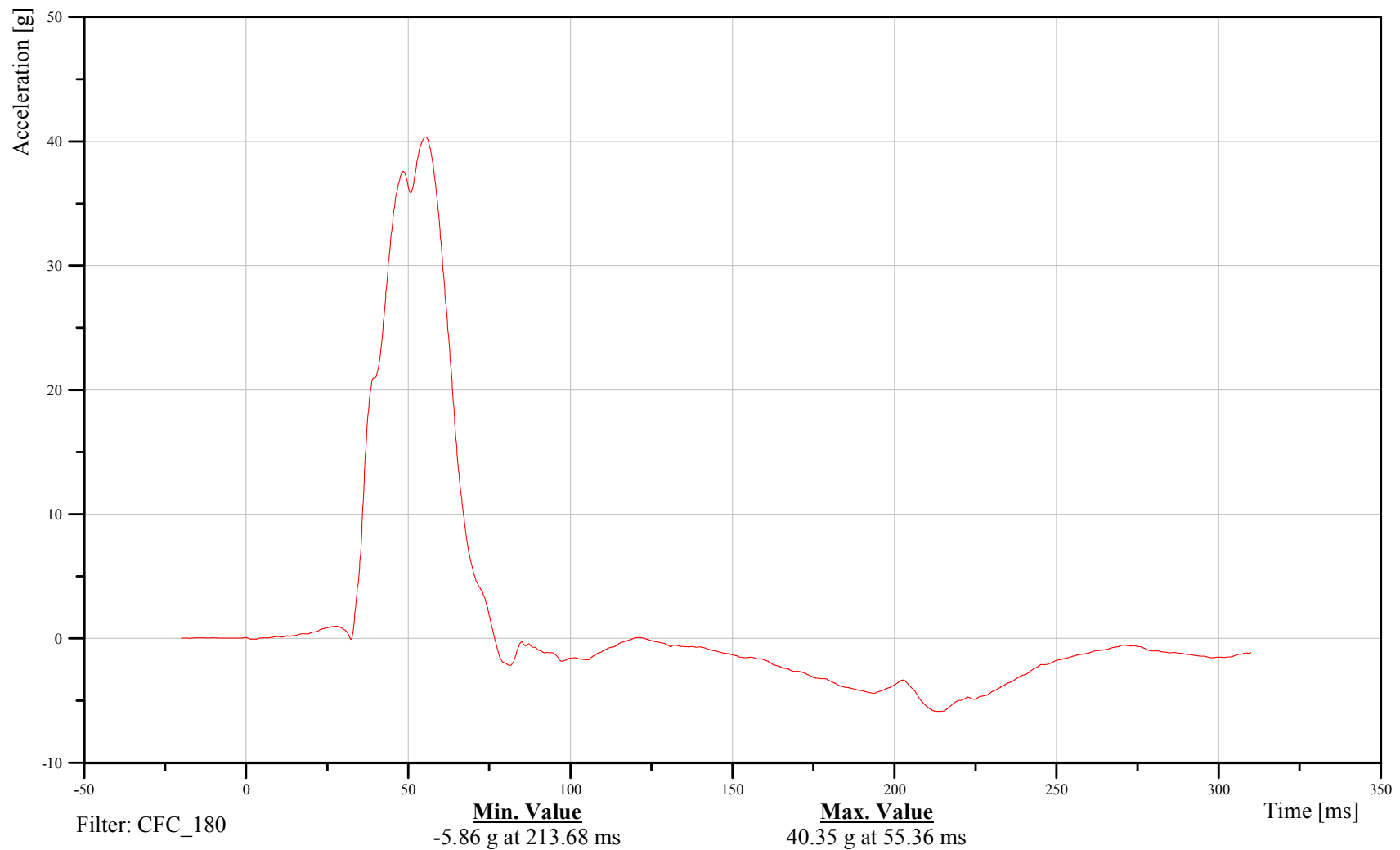
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP03RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Z

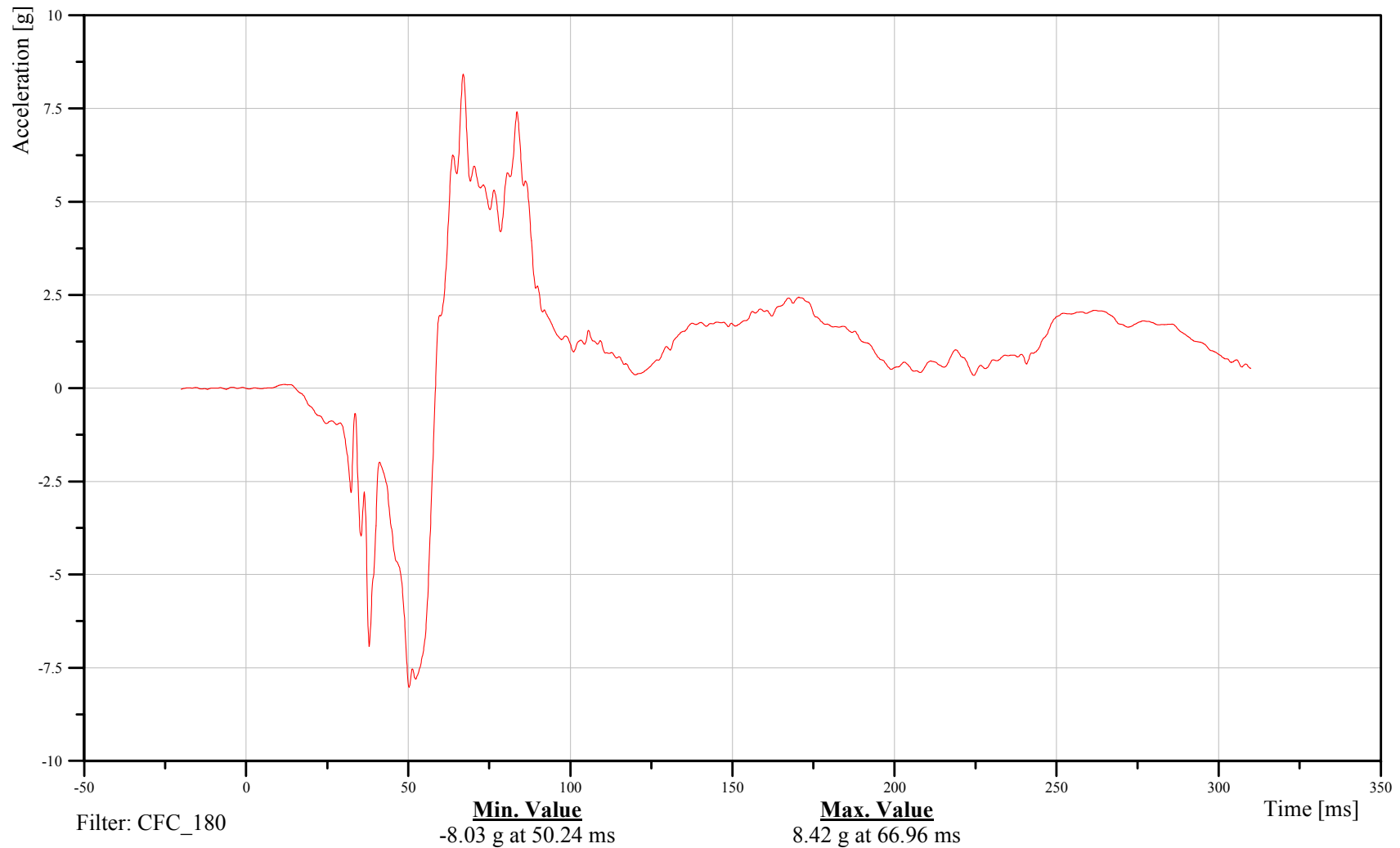
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP03RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 3 Accel Resultant

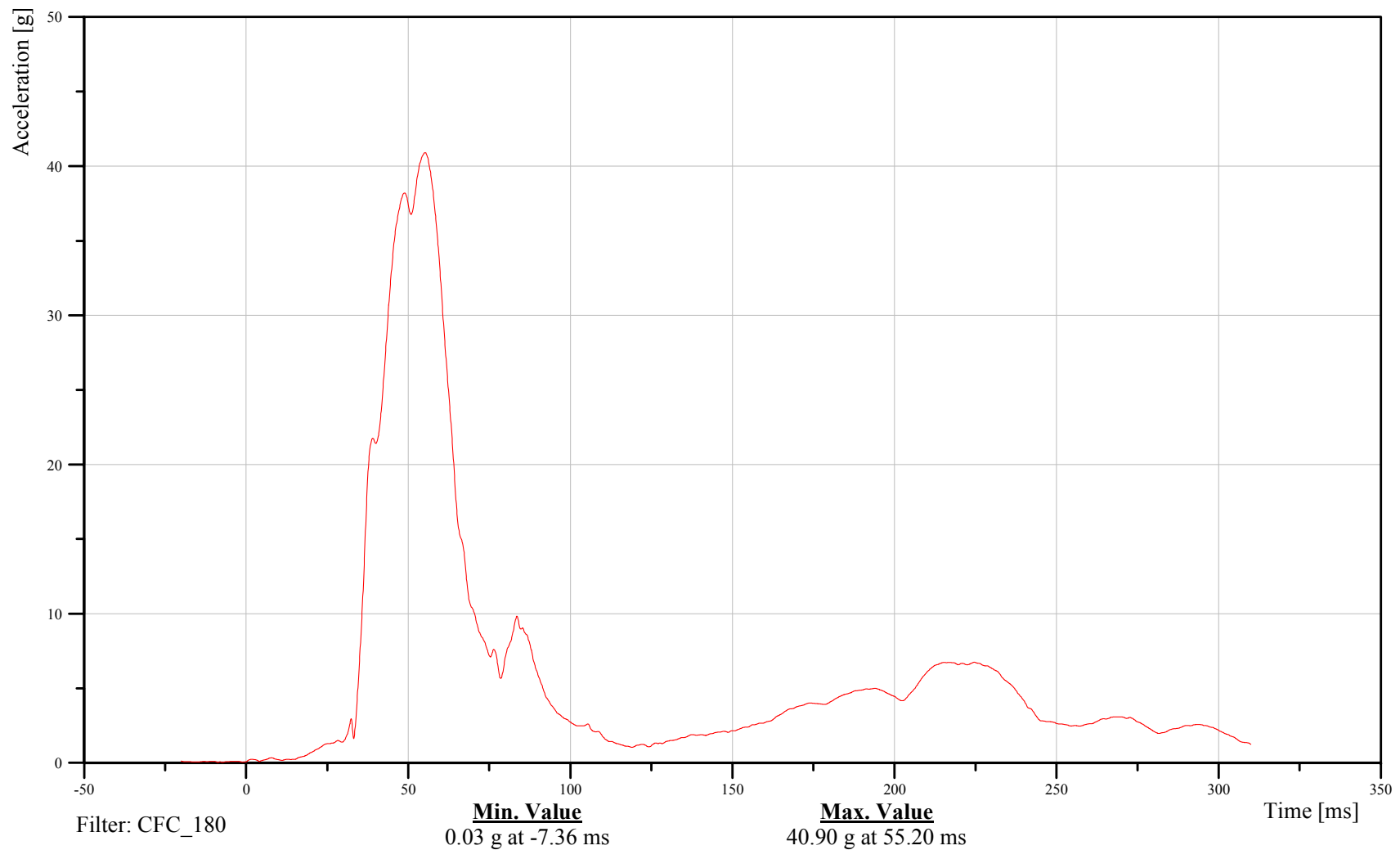
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14THSP03RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

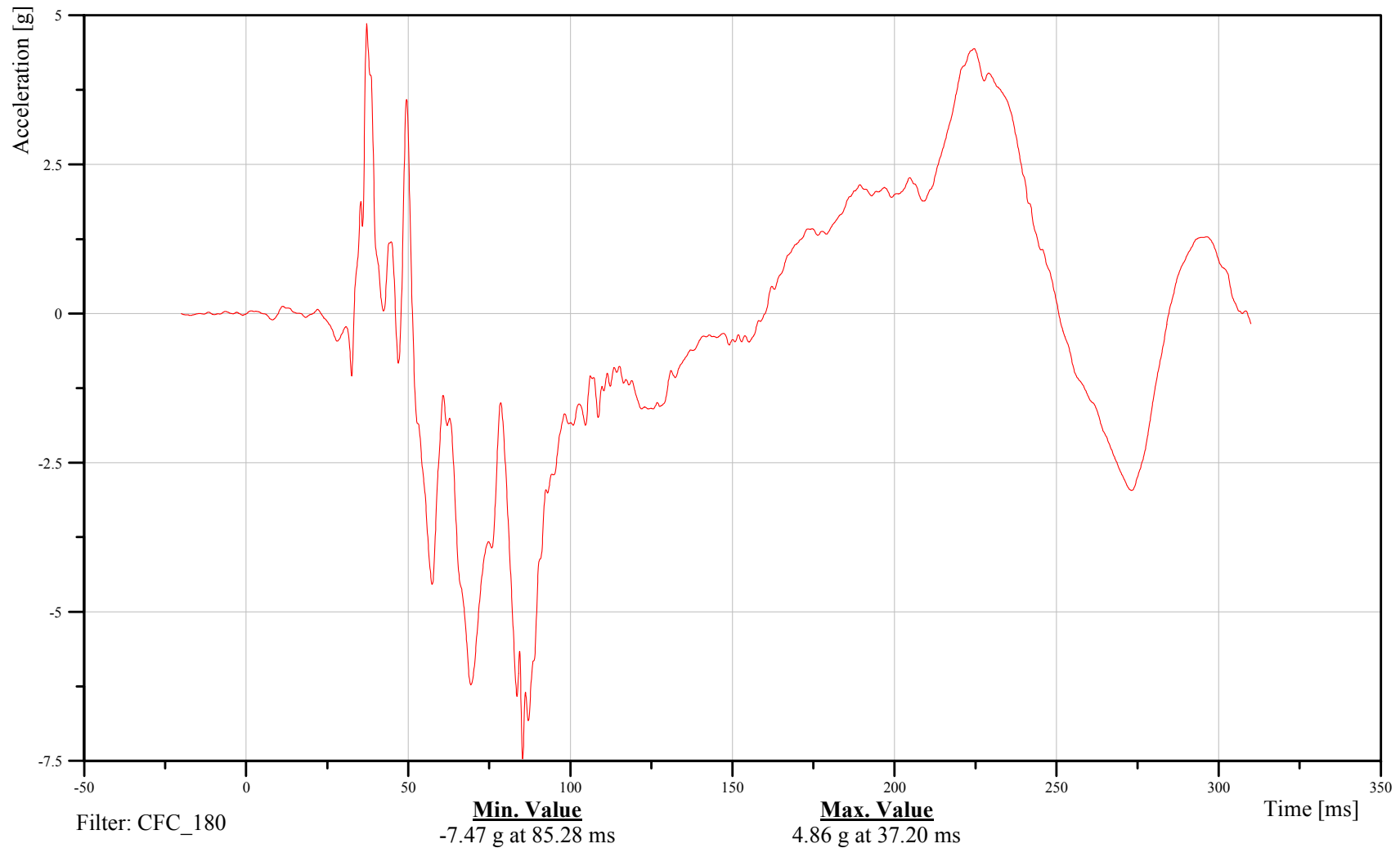
Lower Spine Accel X

Customer: VRTC

14SPIN1200S2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

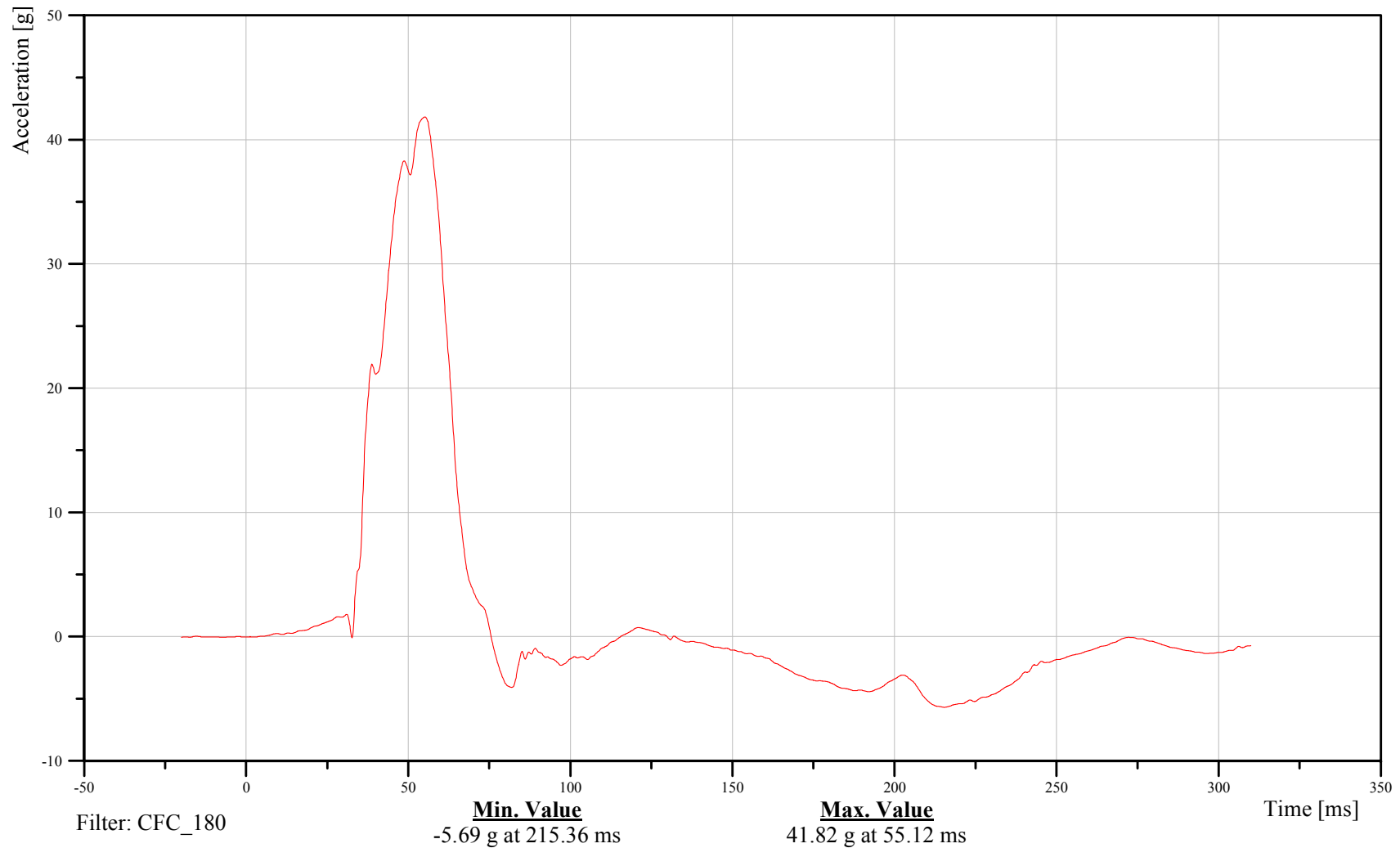
Lower Spine Accel Y

Customer: VRTC

14SPIN1200S2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Lower Spine Accel Z

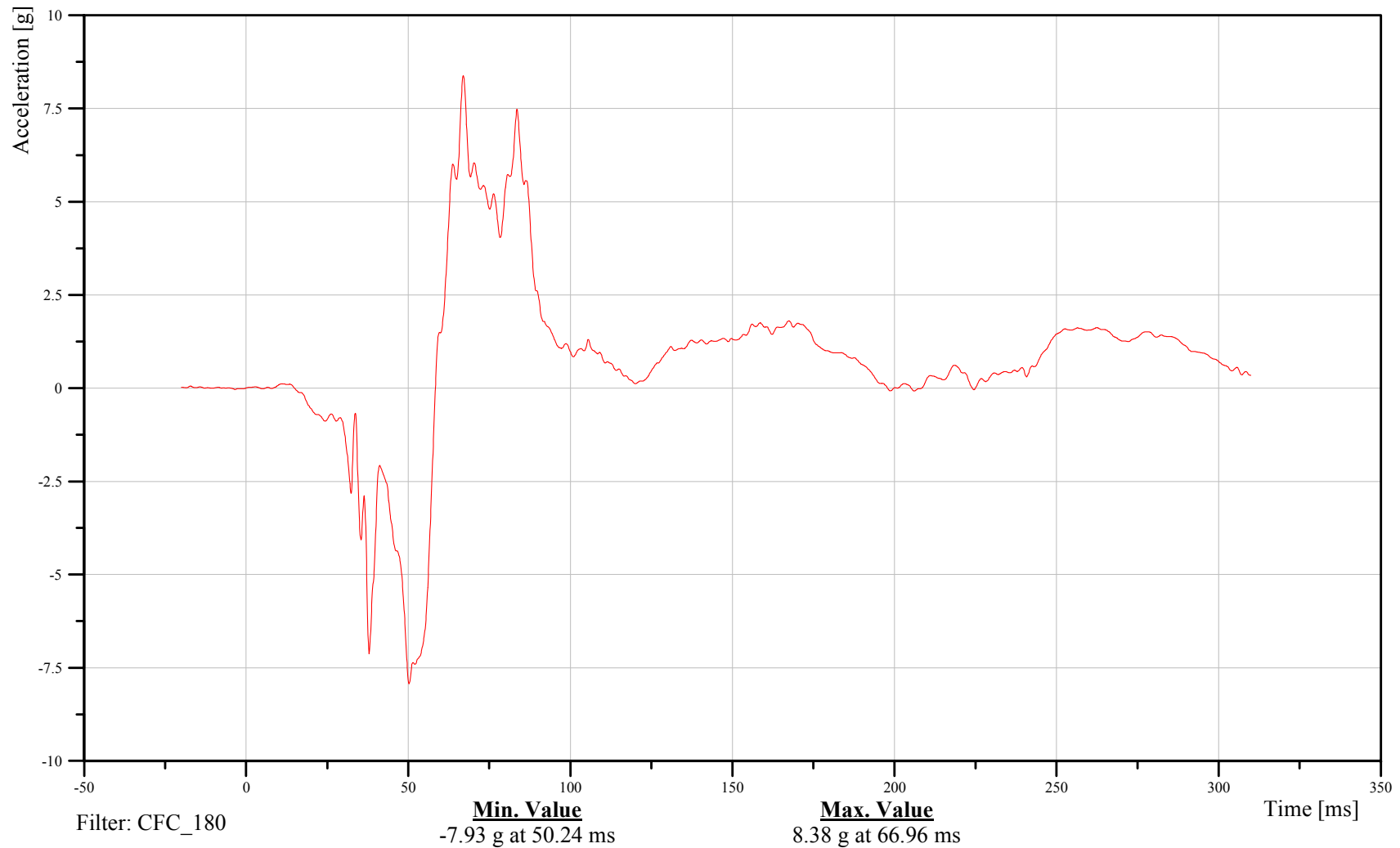
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SPIN1200S2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

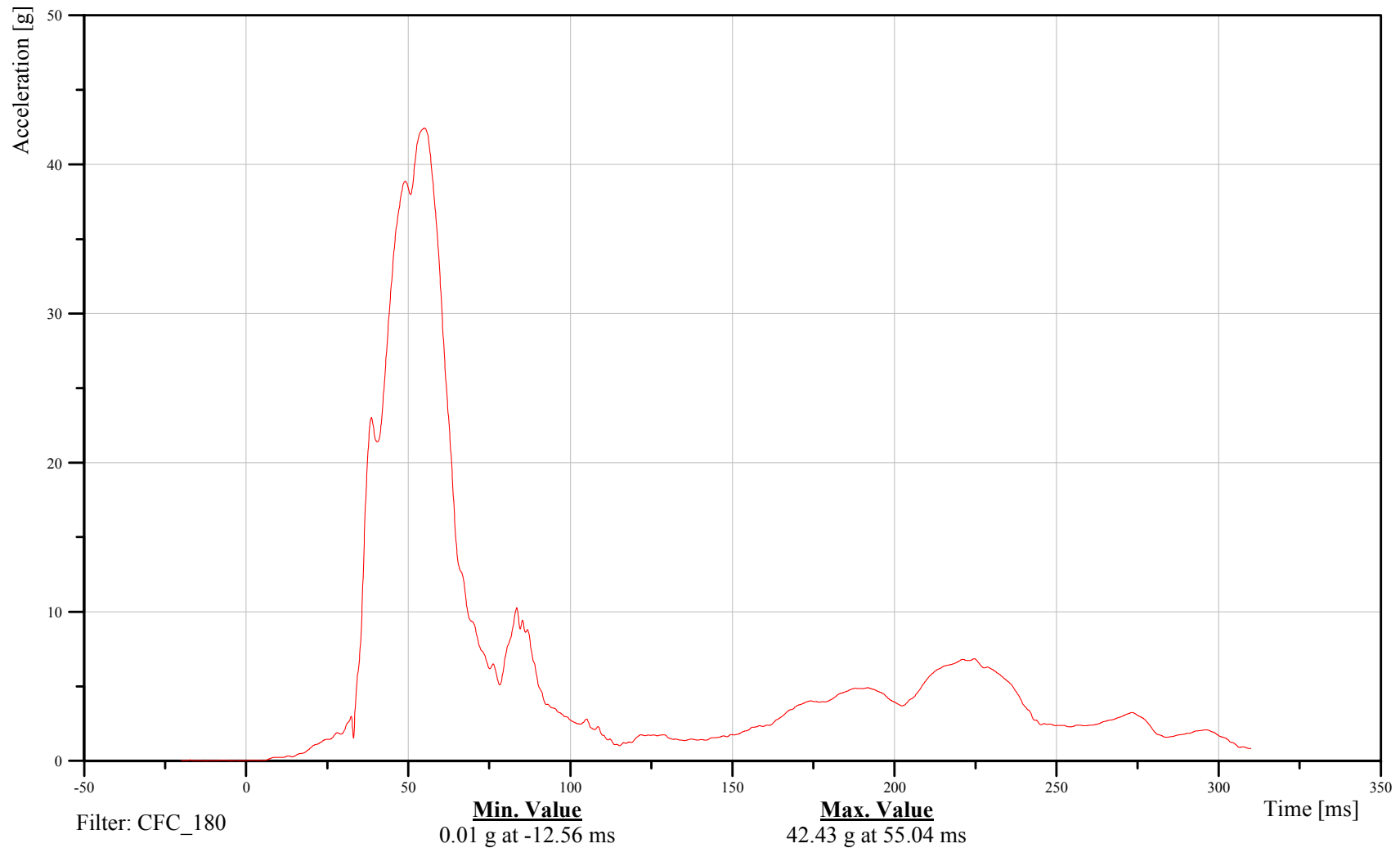
Lower Spine Accel Resultant

Customer: VRTC

14SPIN1200S2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel X

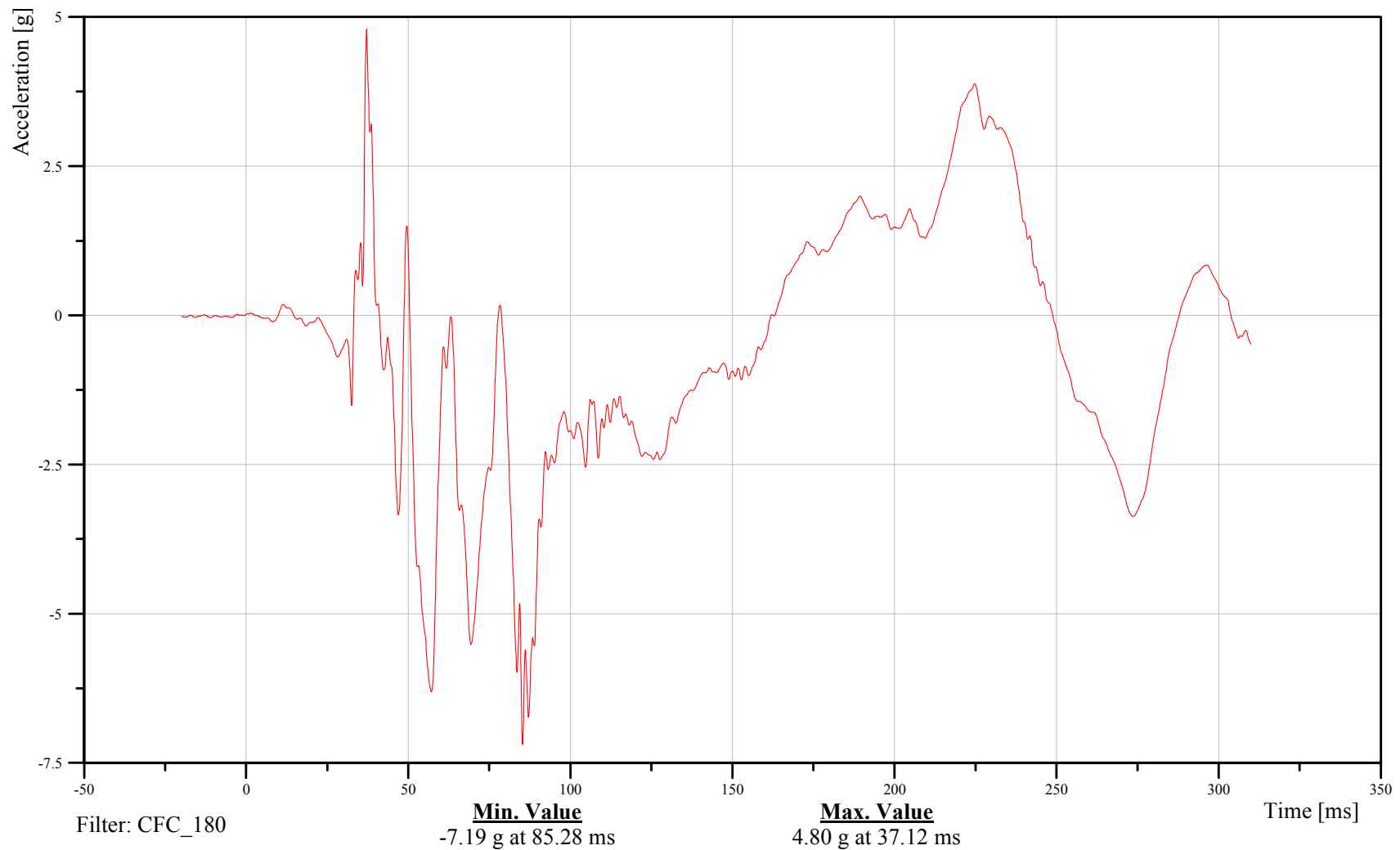
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABSP02RIS2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Y

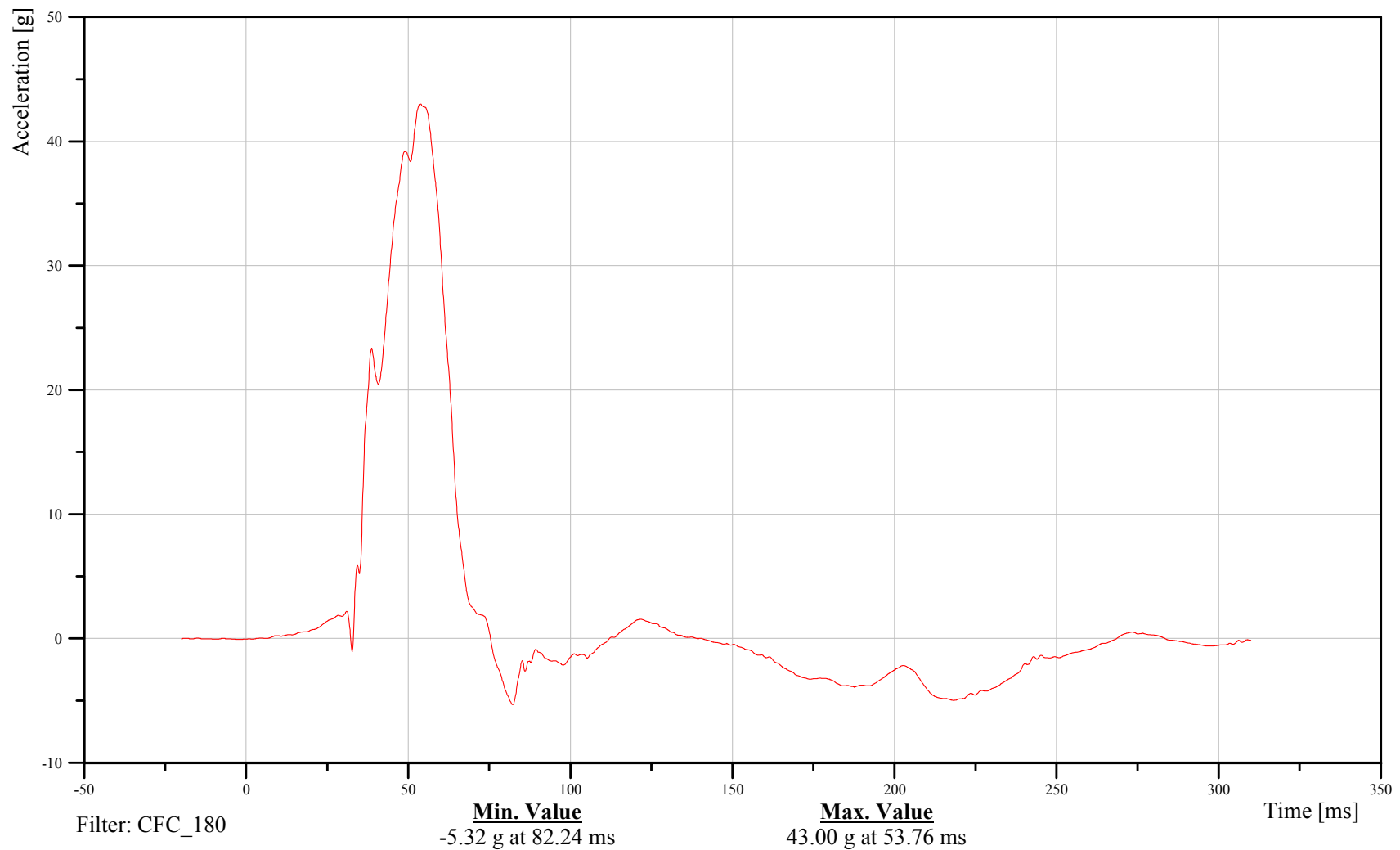
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABSP02RIS2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Z

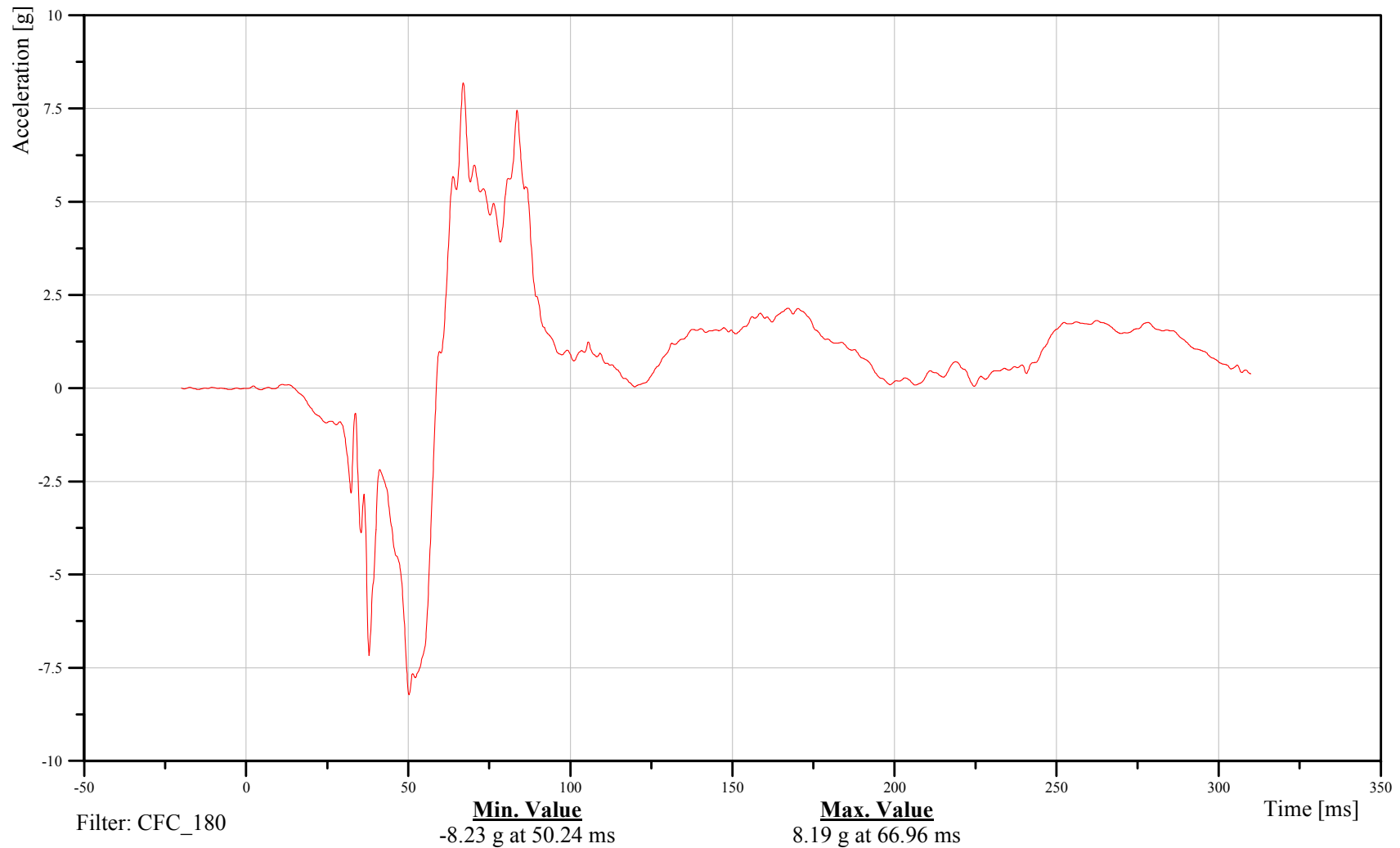
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABSP02RIS2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Spine Rib 5 Accel Resultant

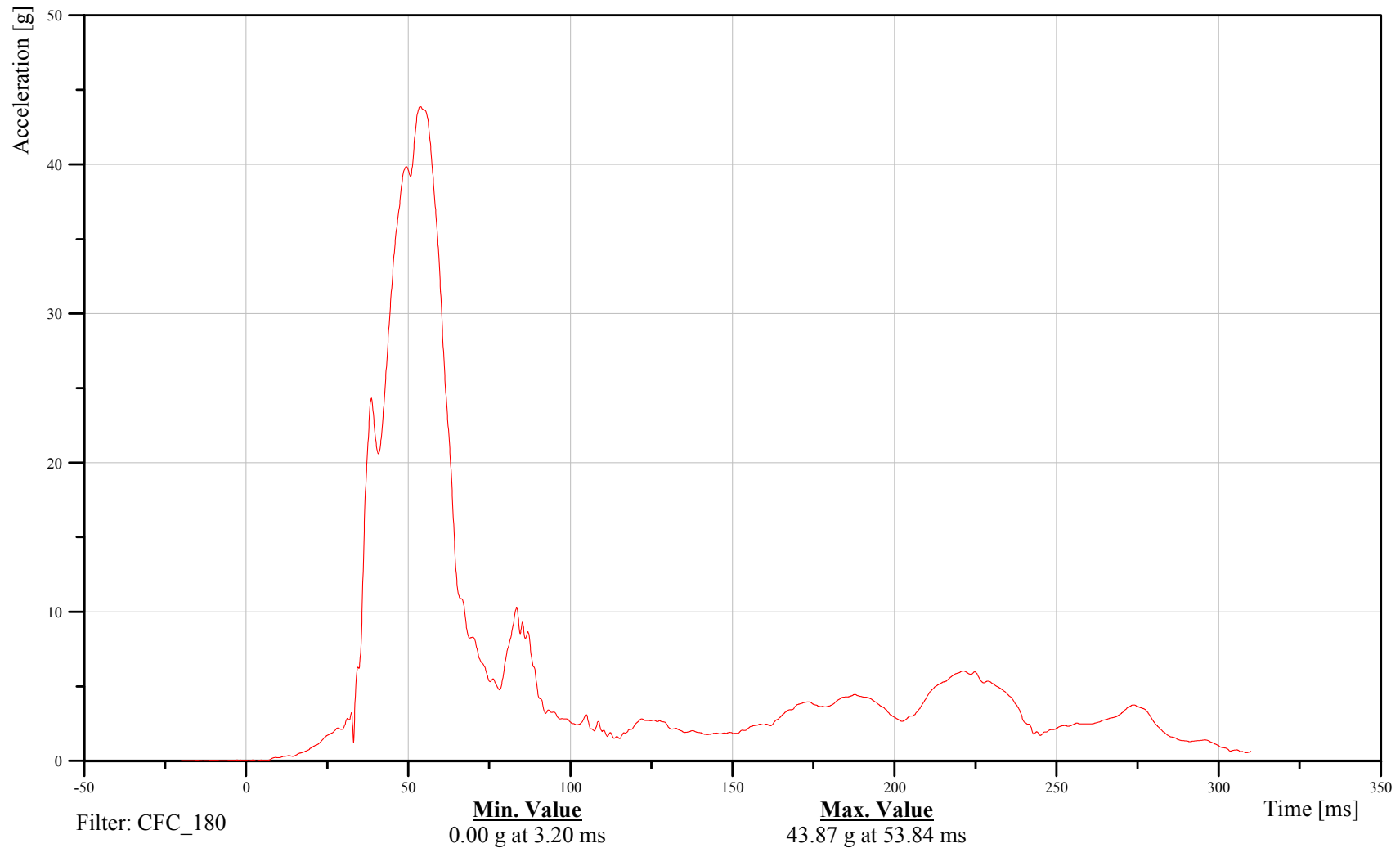
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABSP02RIS2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

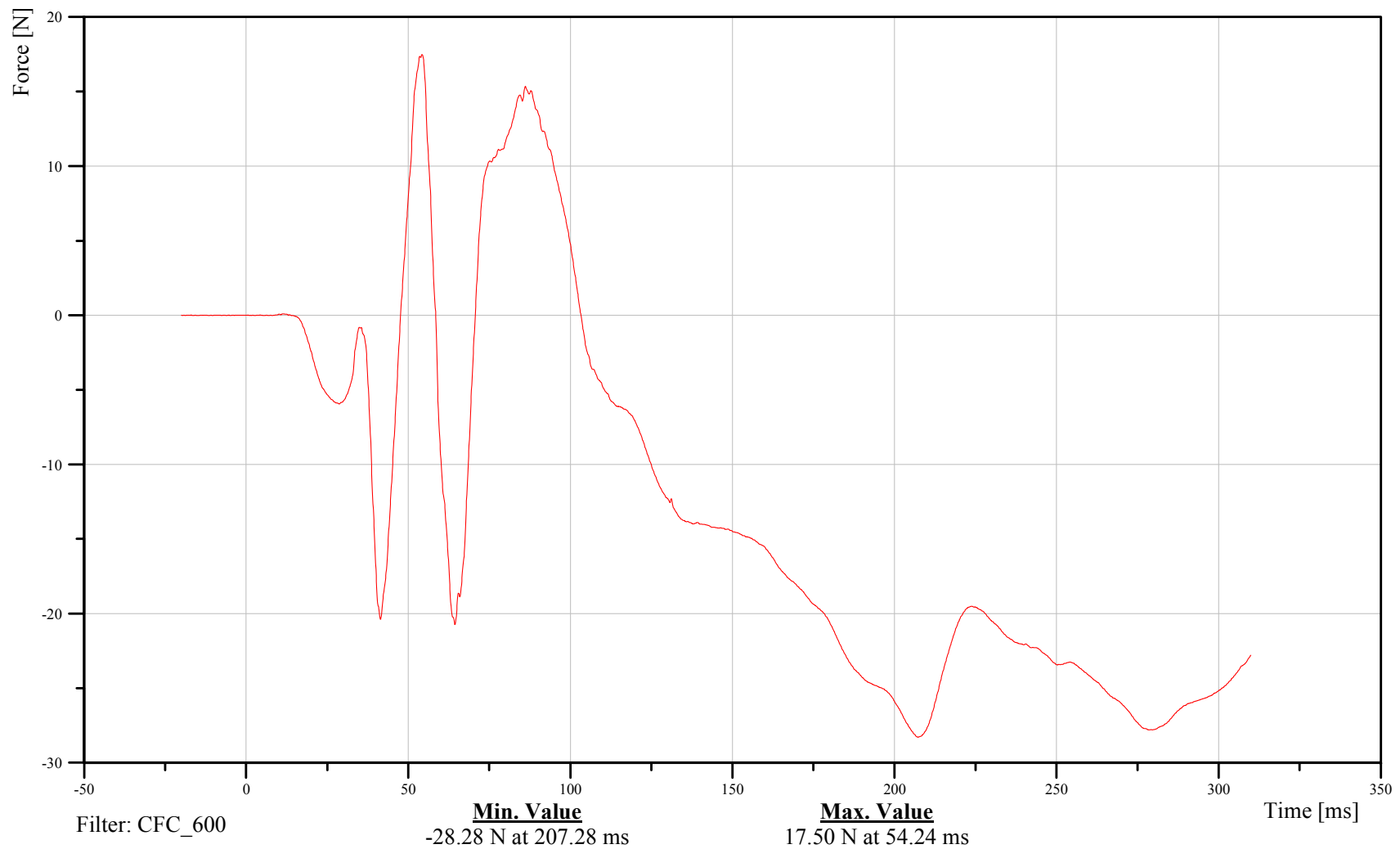
Lumbar Moment X

Customer: VRTC

14LUSP0000S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

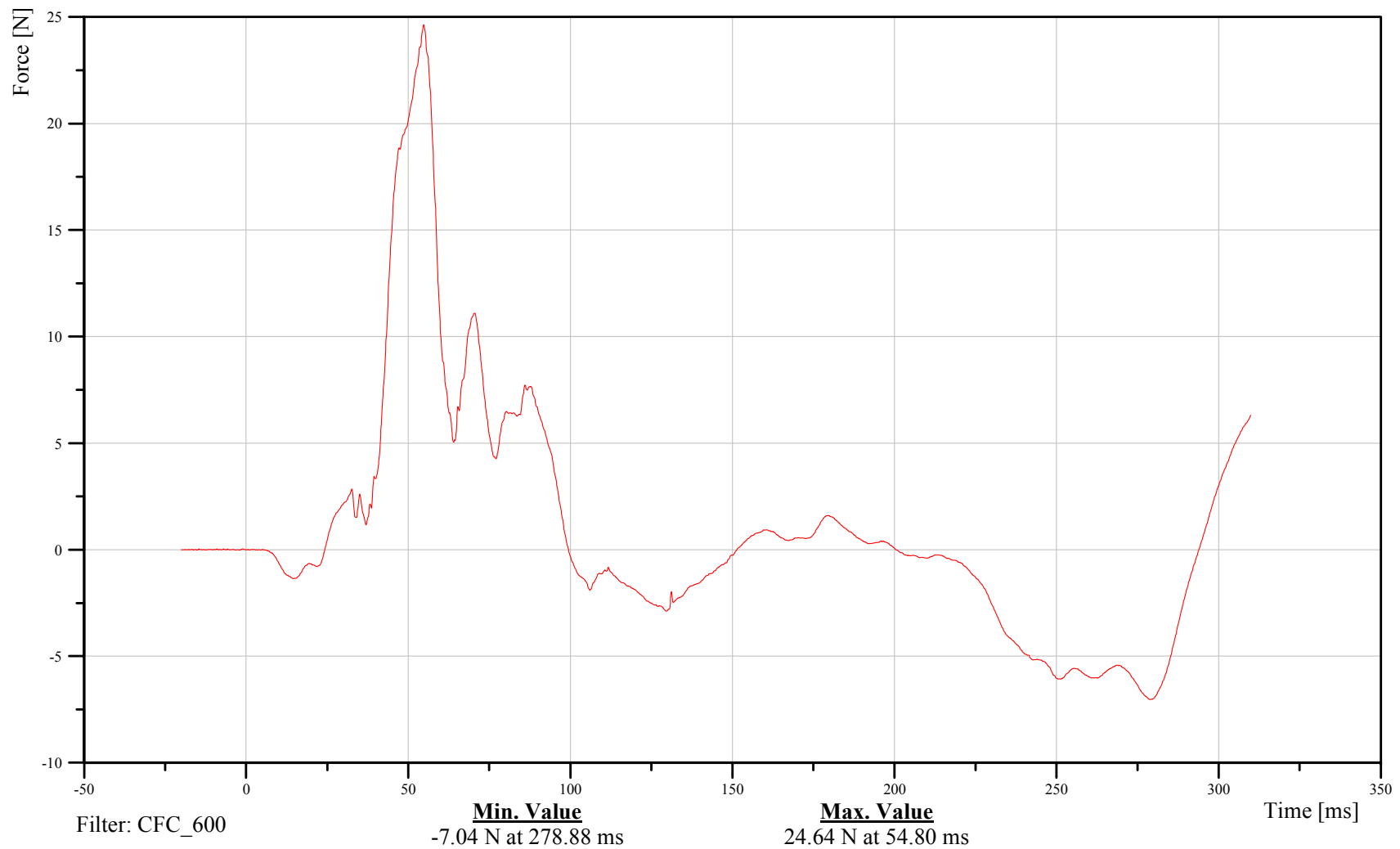
Lumbar Moment Y

Customer: VRTC

14LUSP0000S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

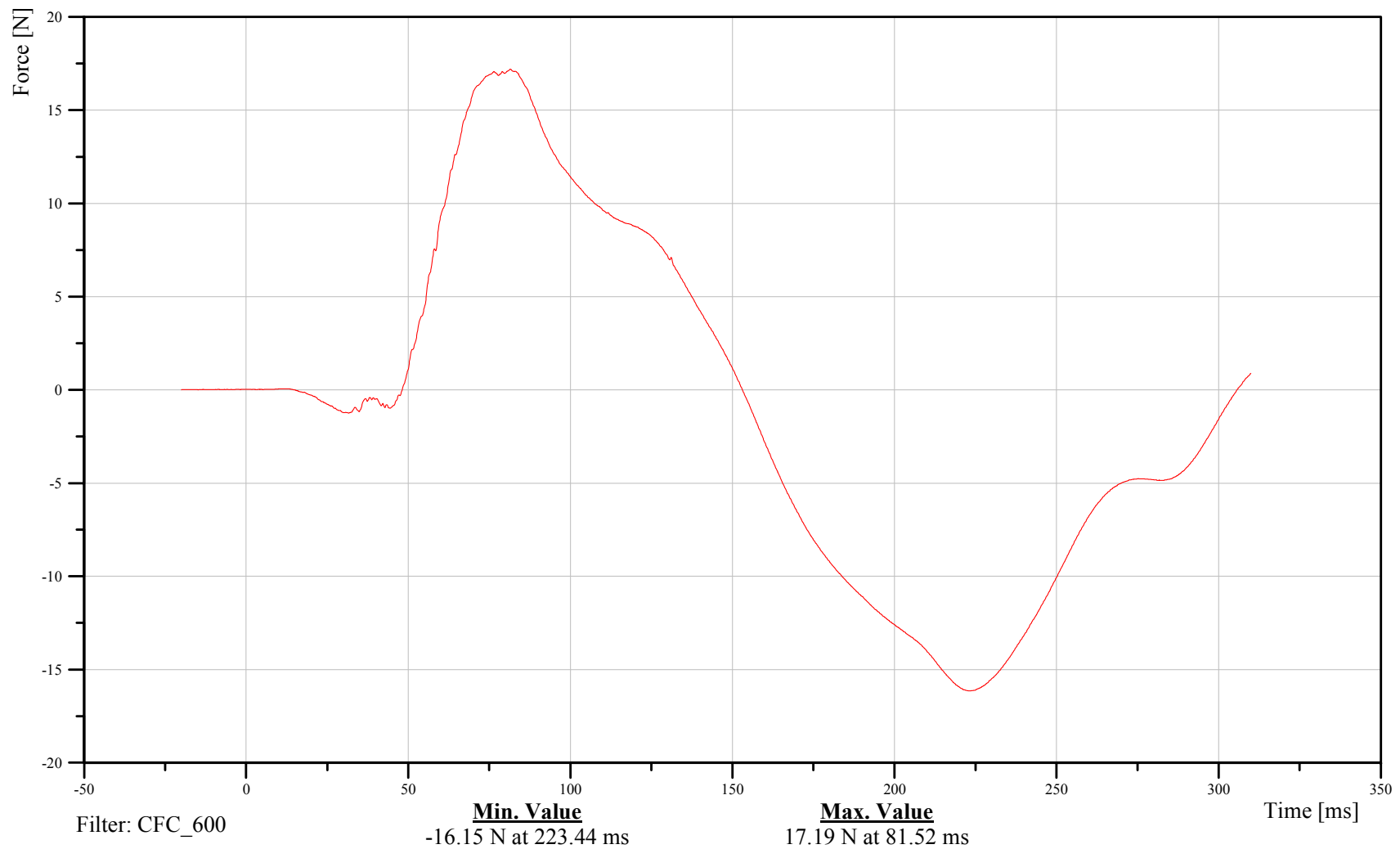
Lumbar Moment Z

Customer: VRTC

14LUSP0000S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel X

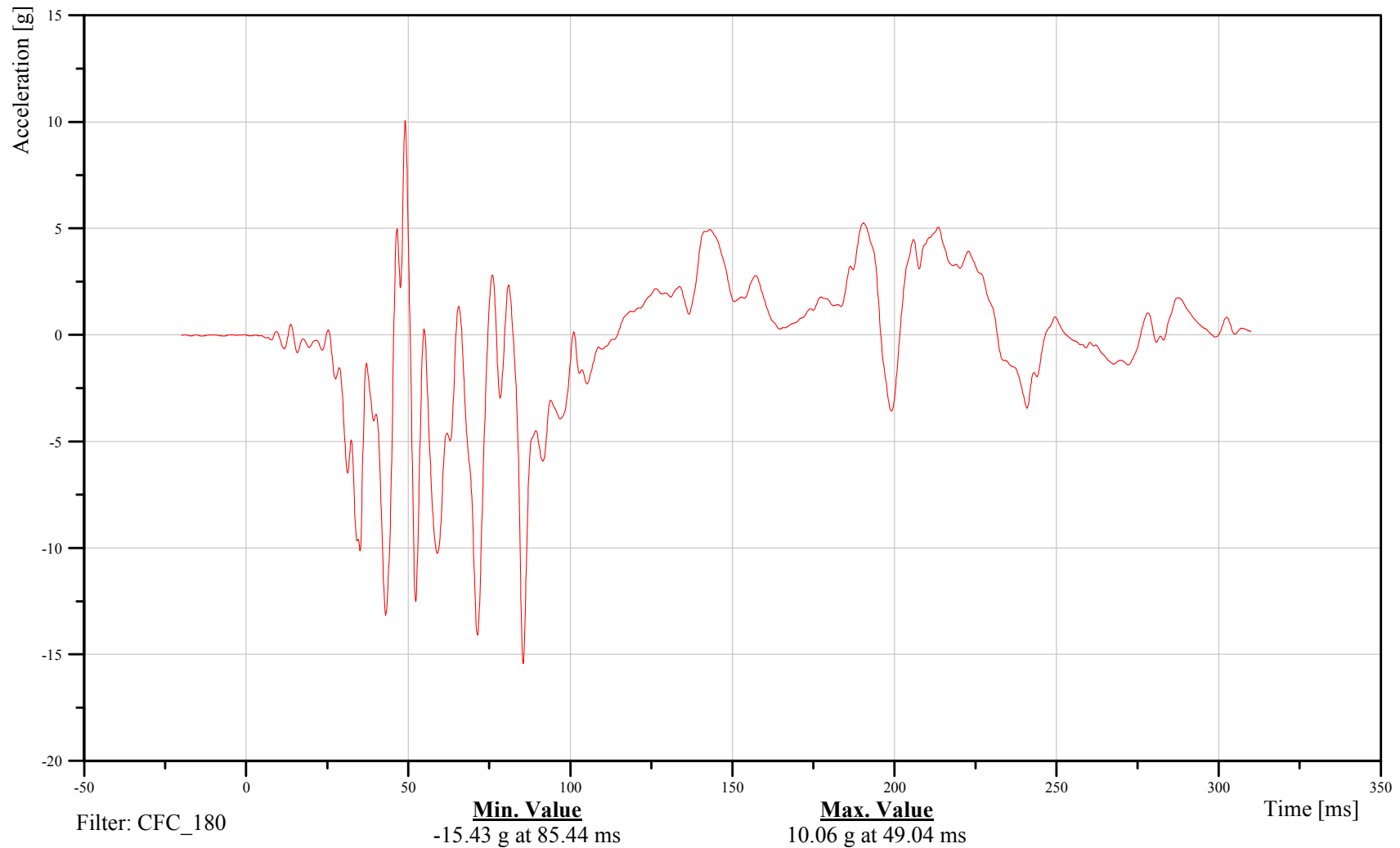
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI01LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Y

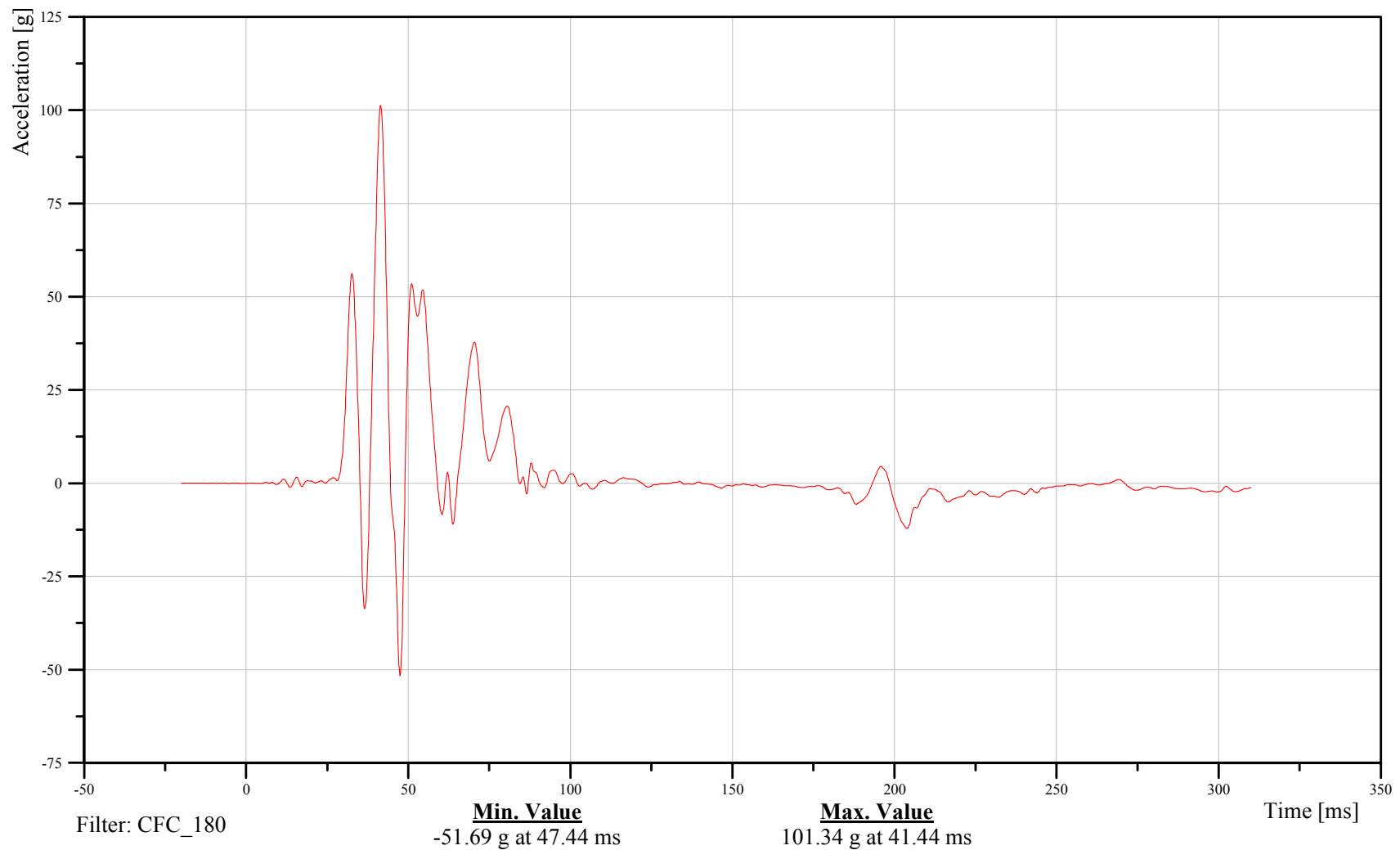
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI01LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Z

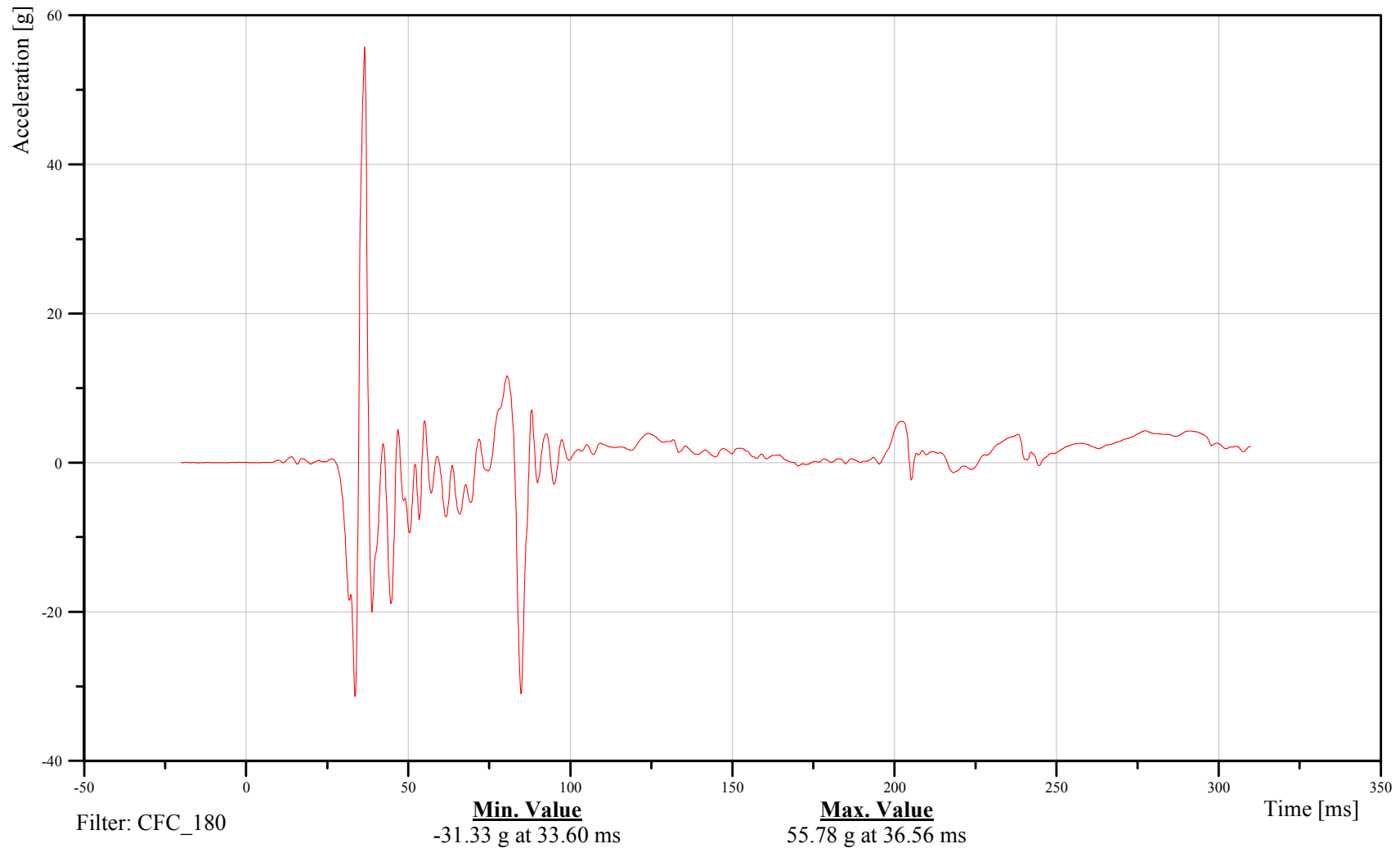
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI01LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Accel Resultant

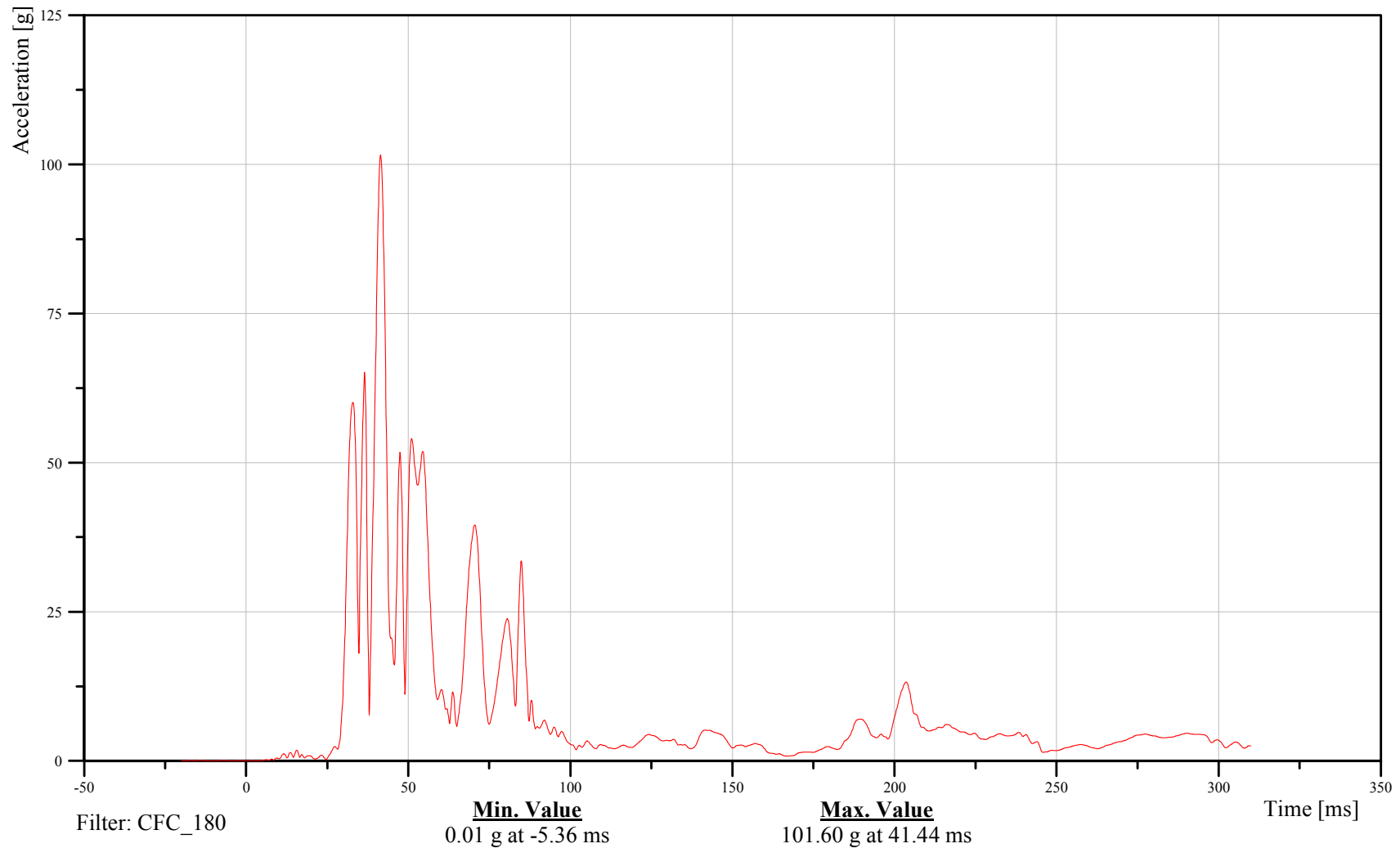
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI01LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel X

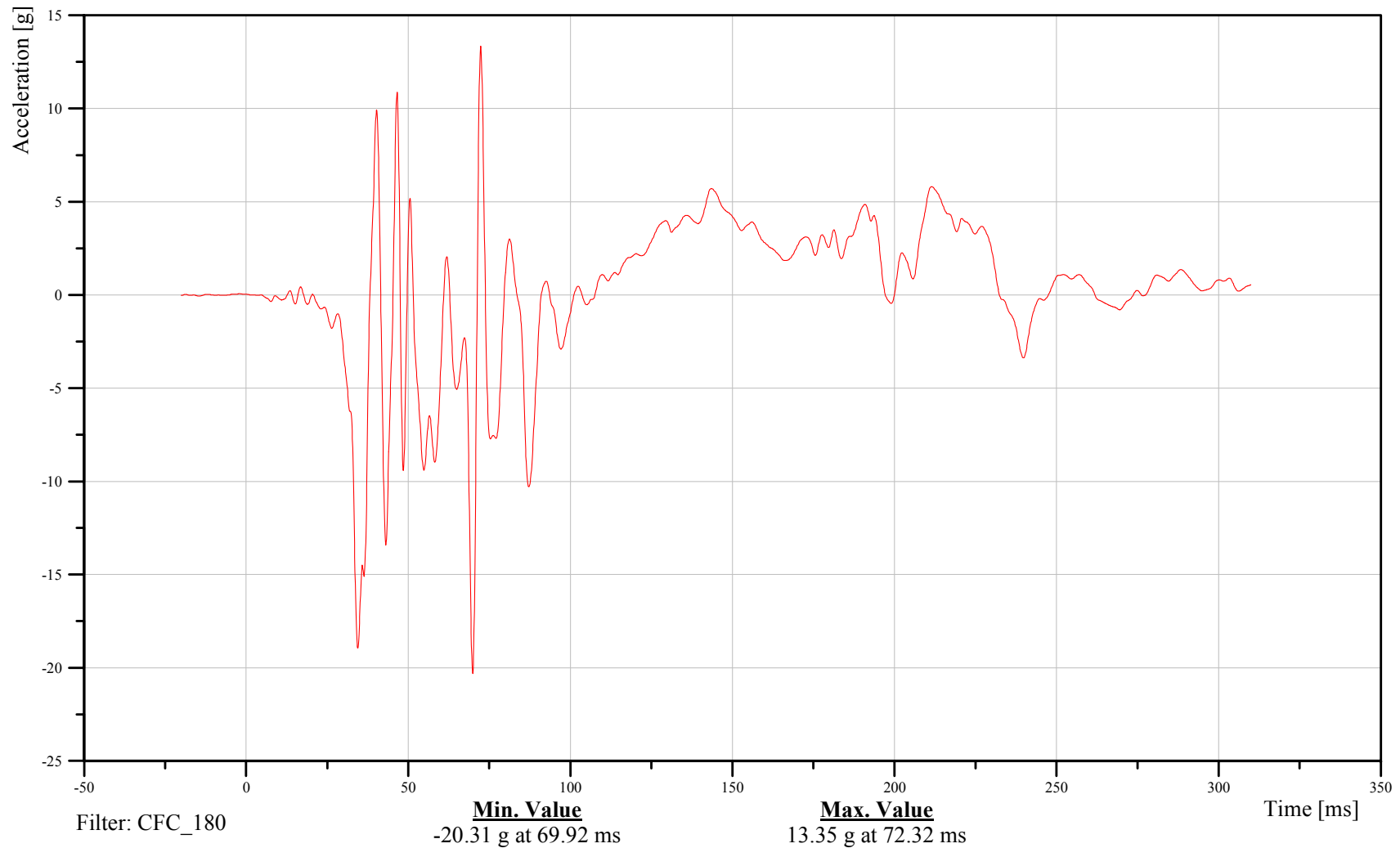
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI02LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Y

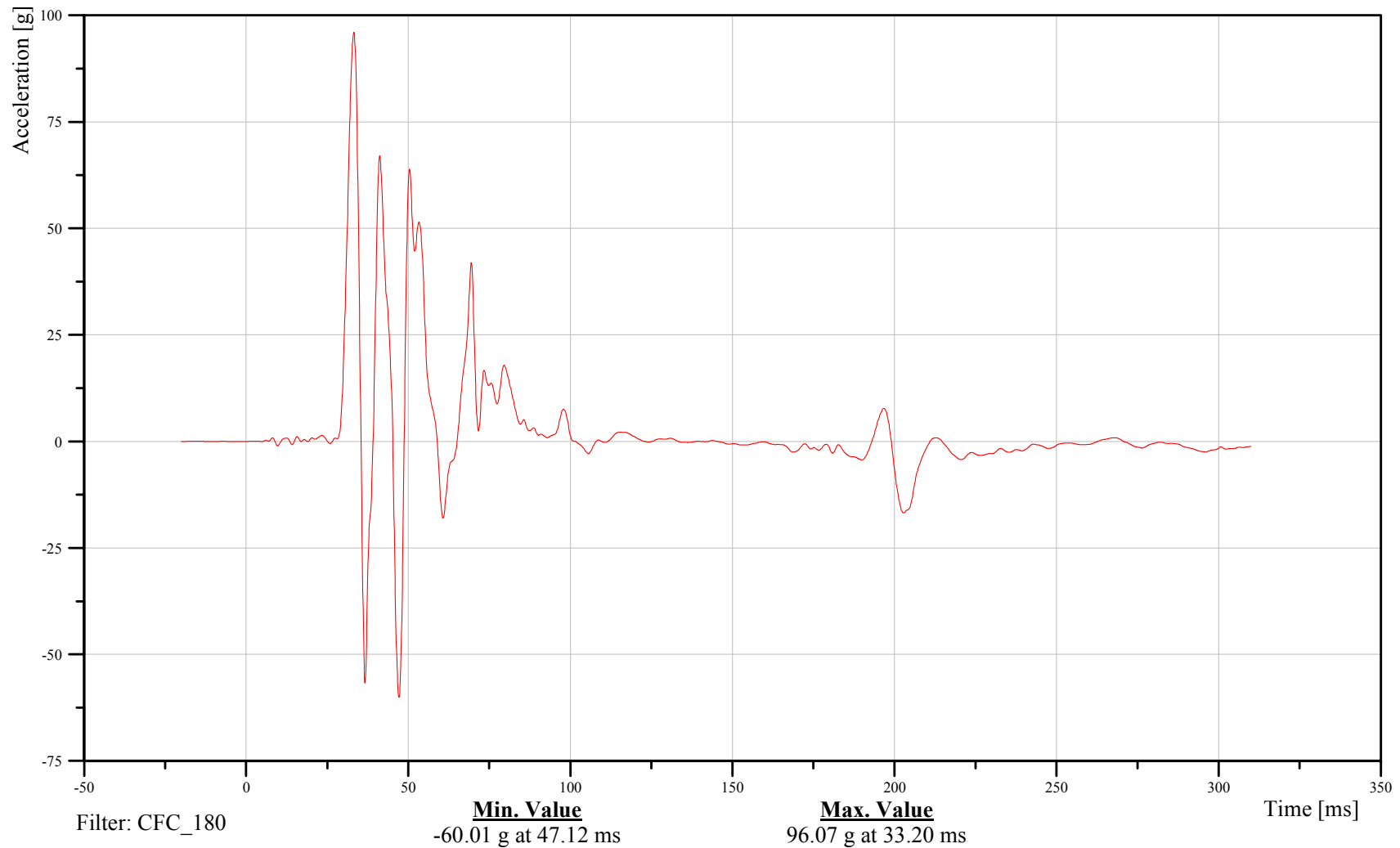
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI02LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Z

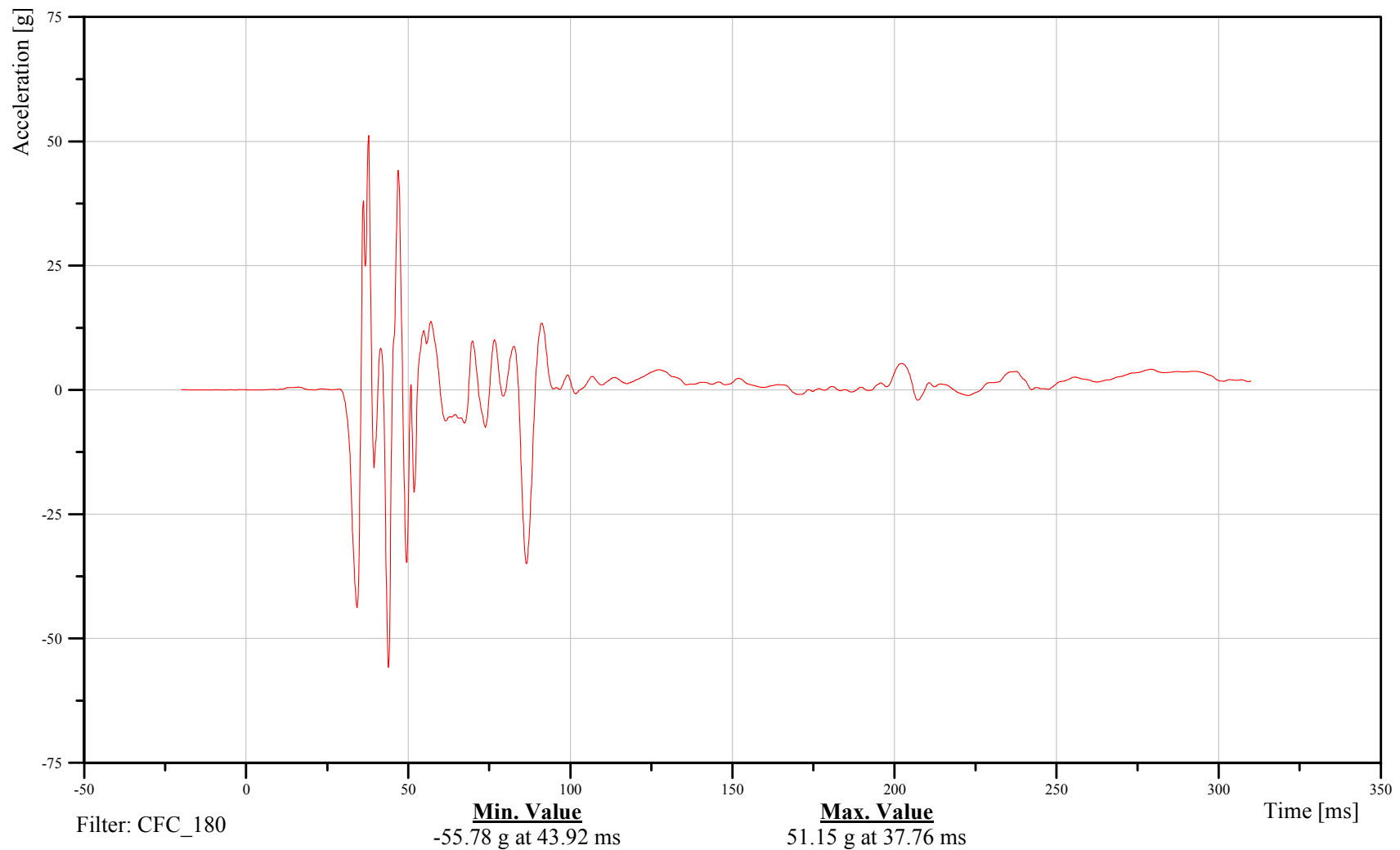
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI02LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Accel Resultant

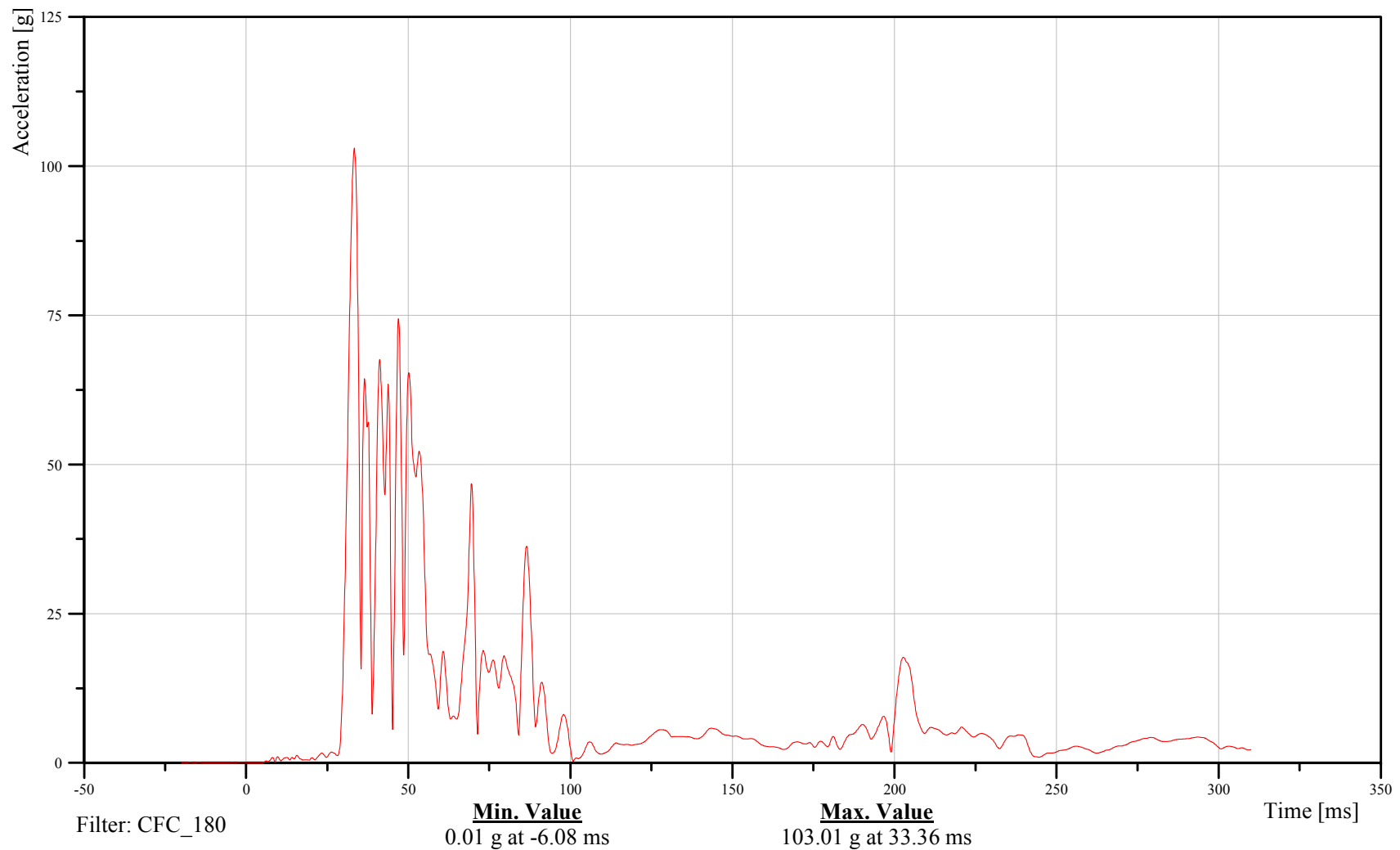
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI02LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel X

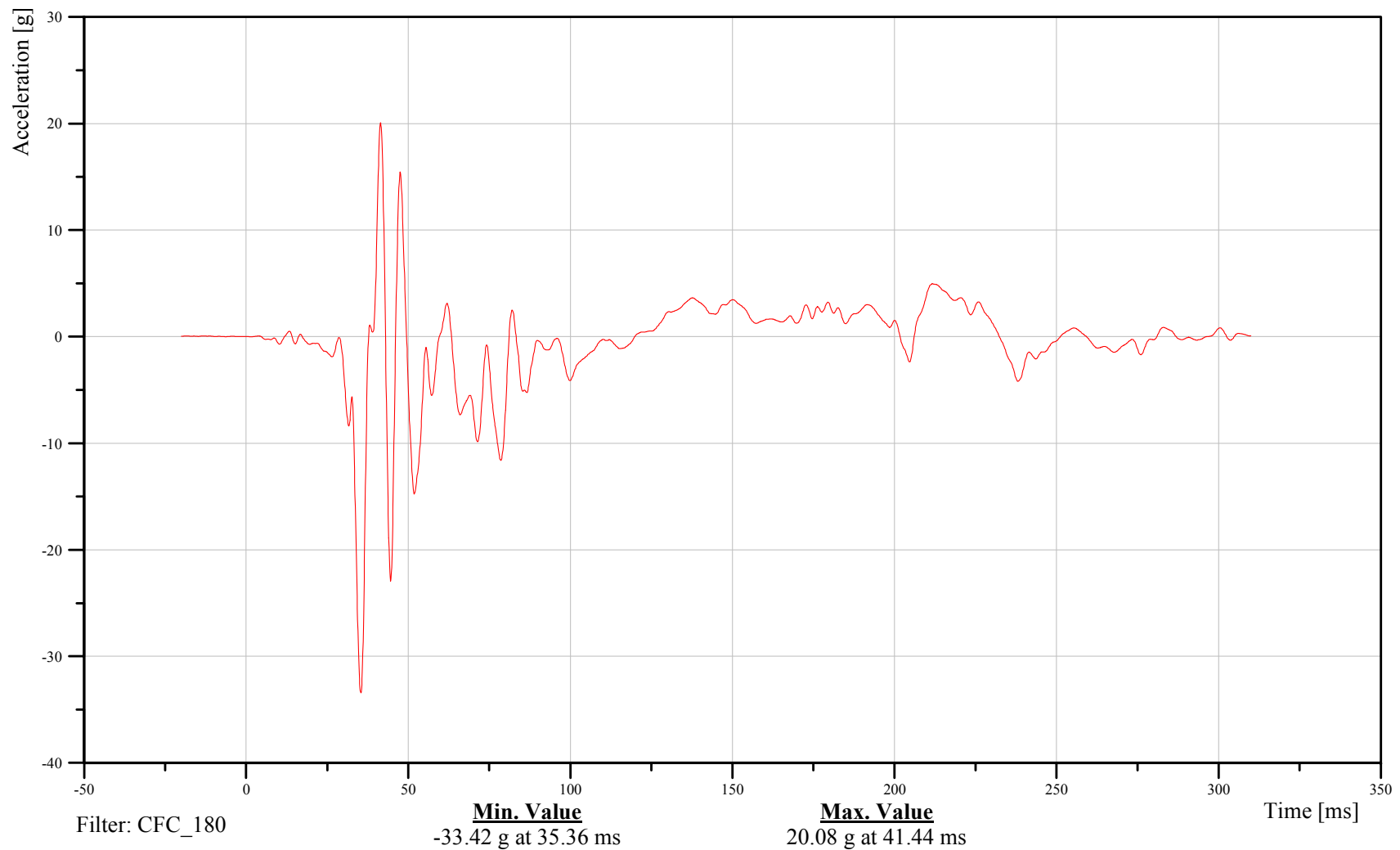
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI03LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Y

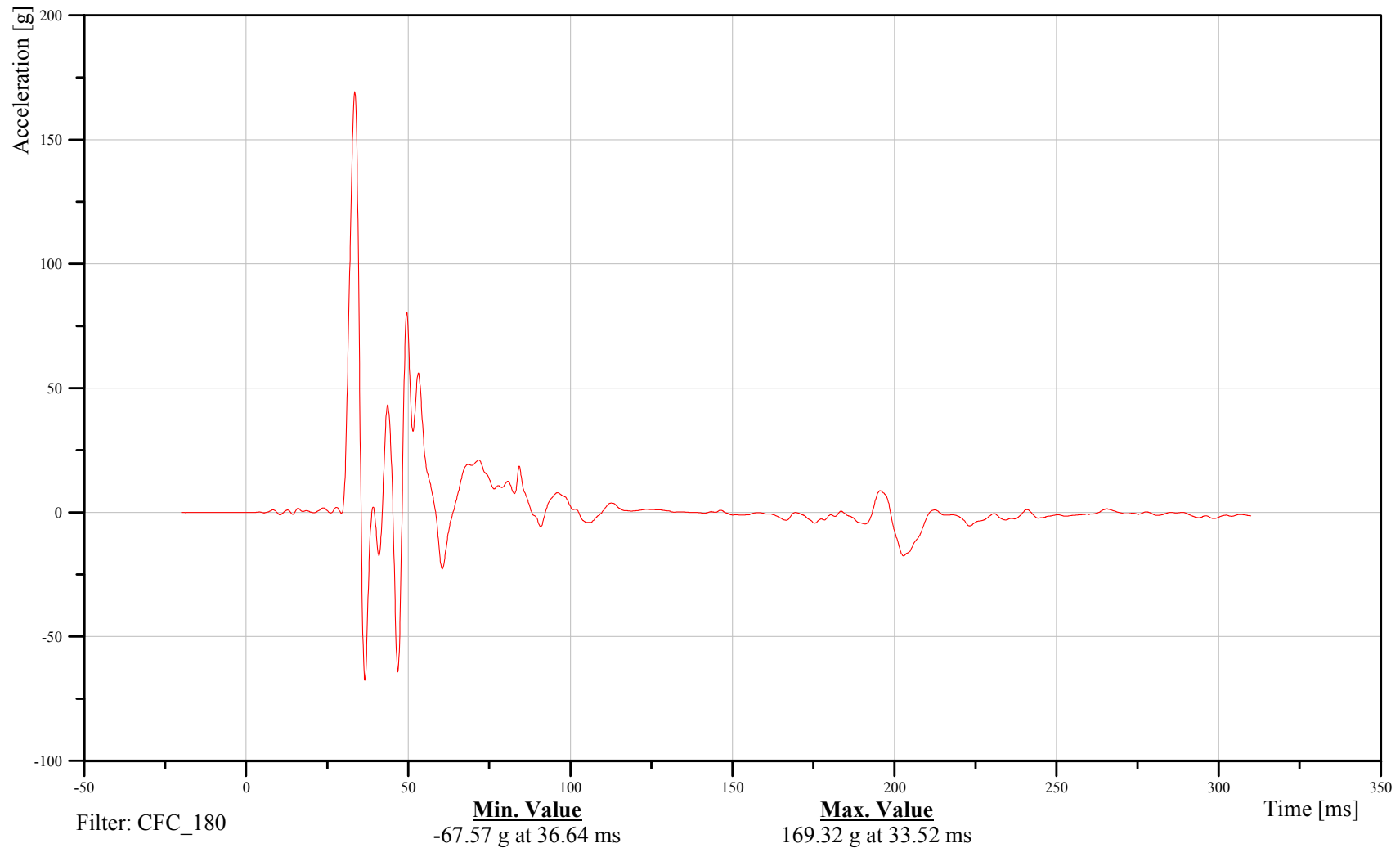
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI03LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Z

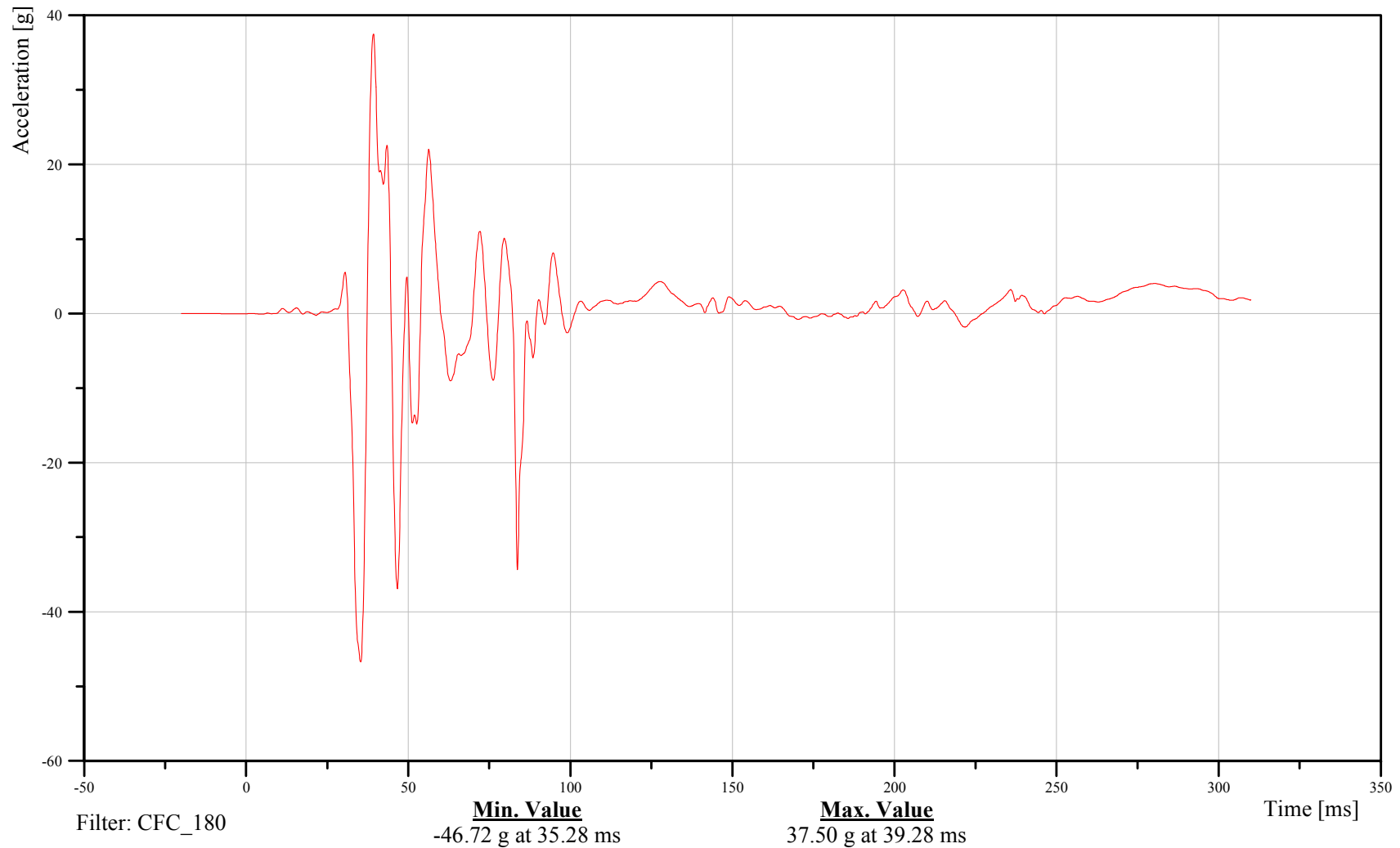
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI03LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Accel Resultant

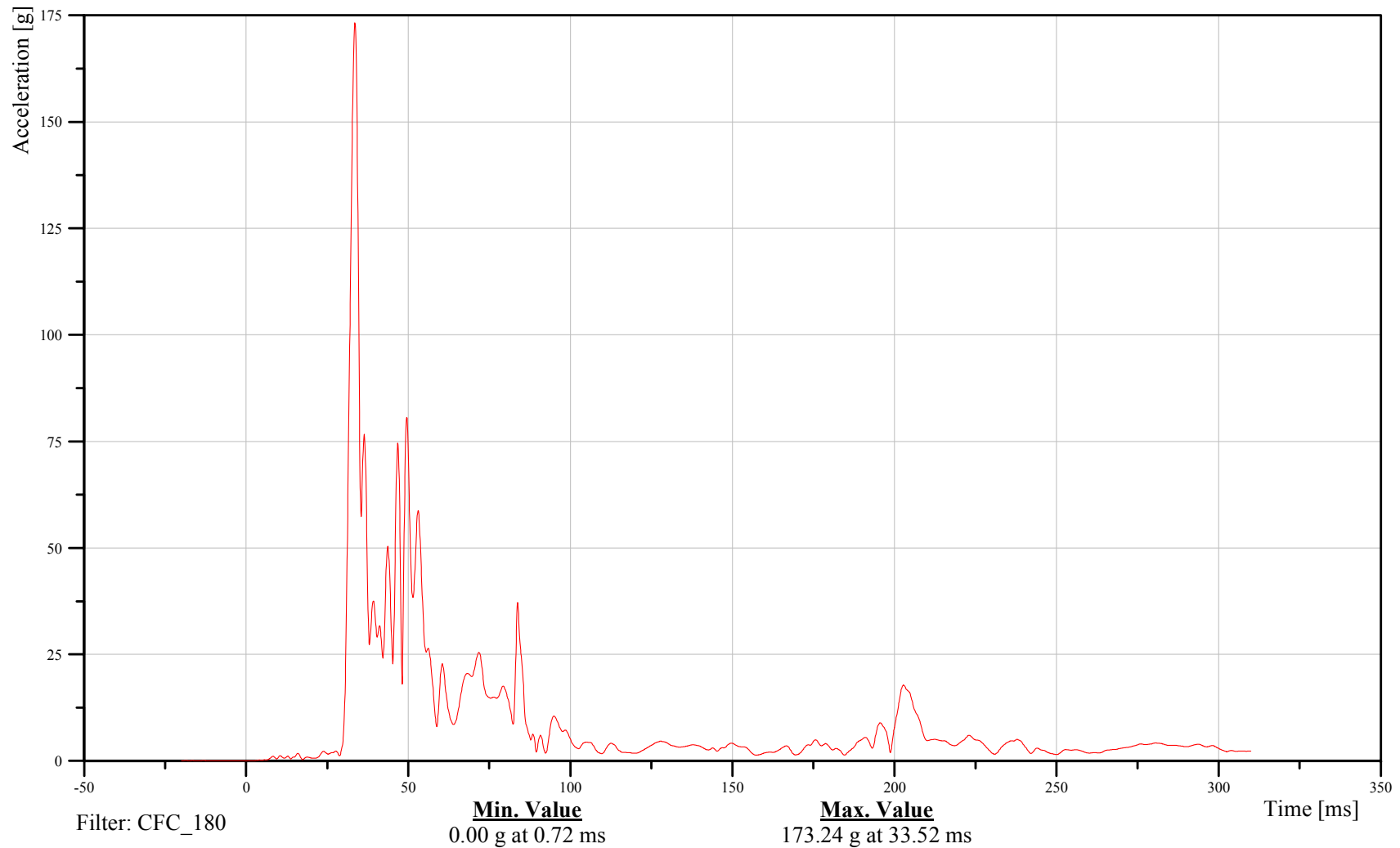
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI03LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel X

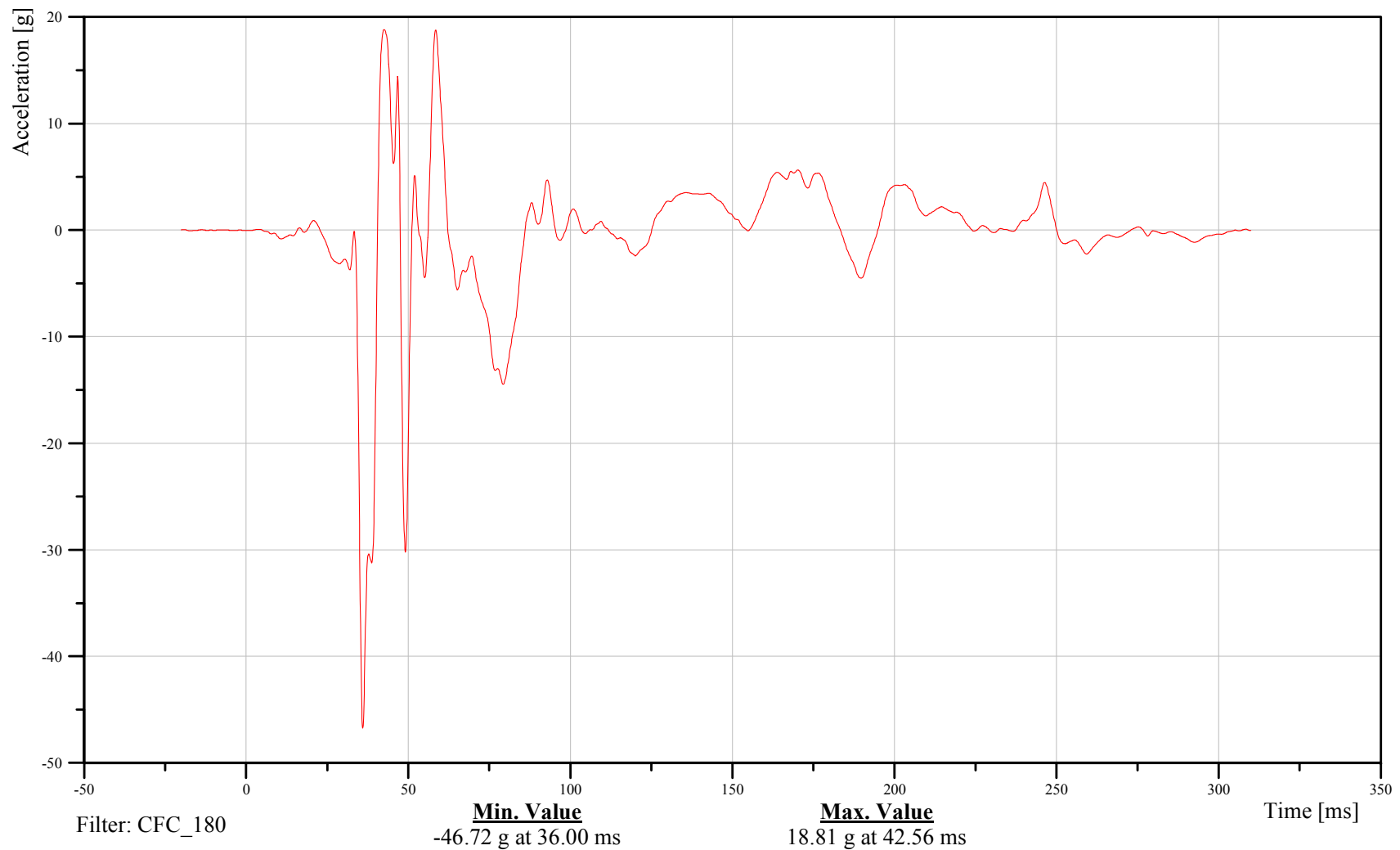
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI01LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Y

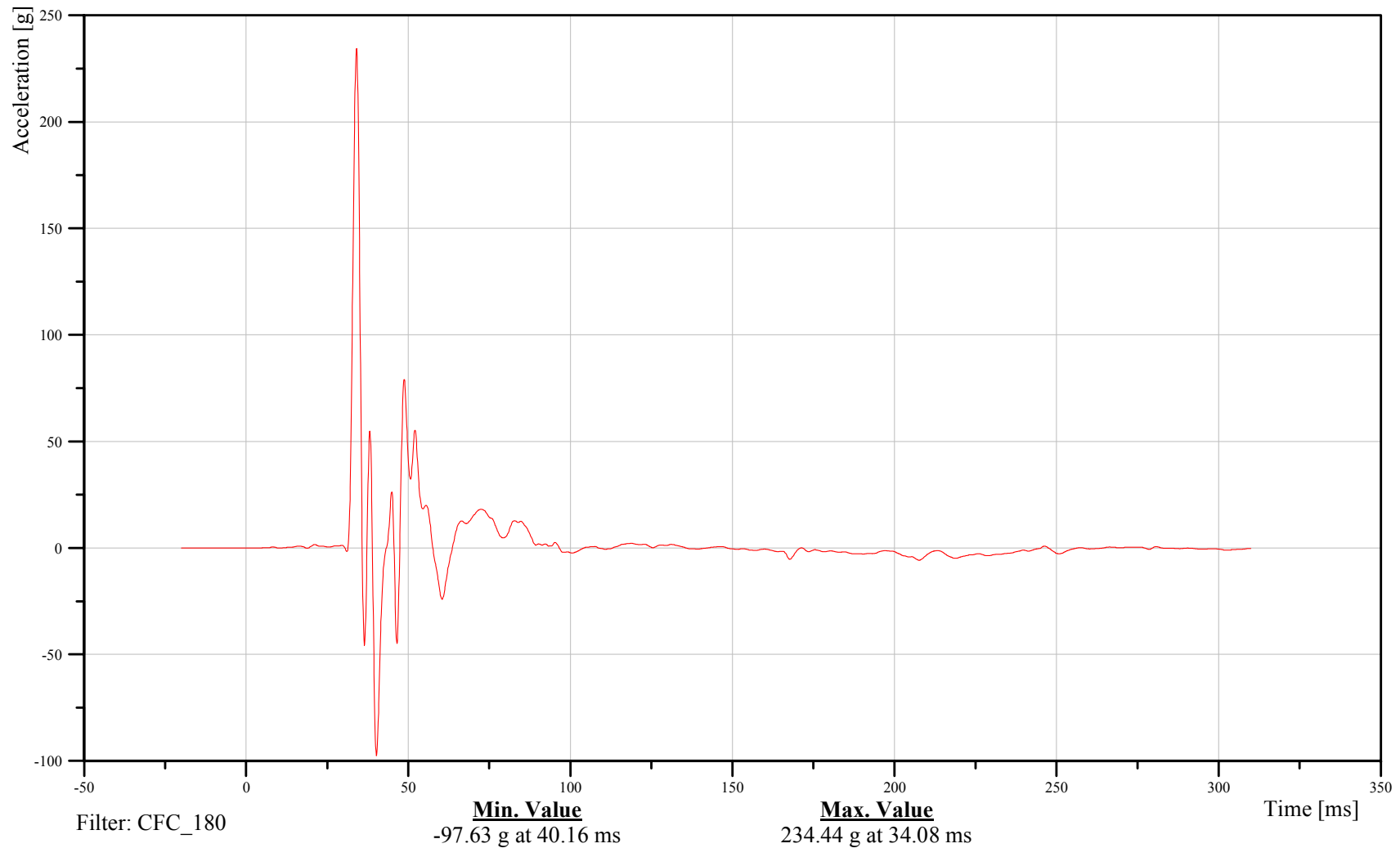
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI01LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Z

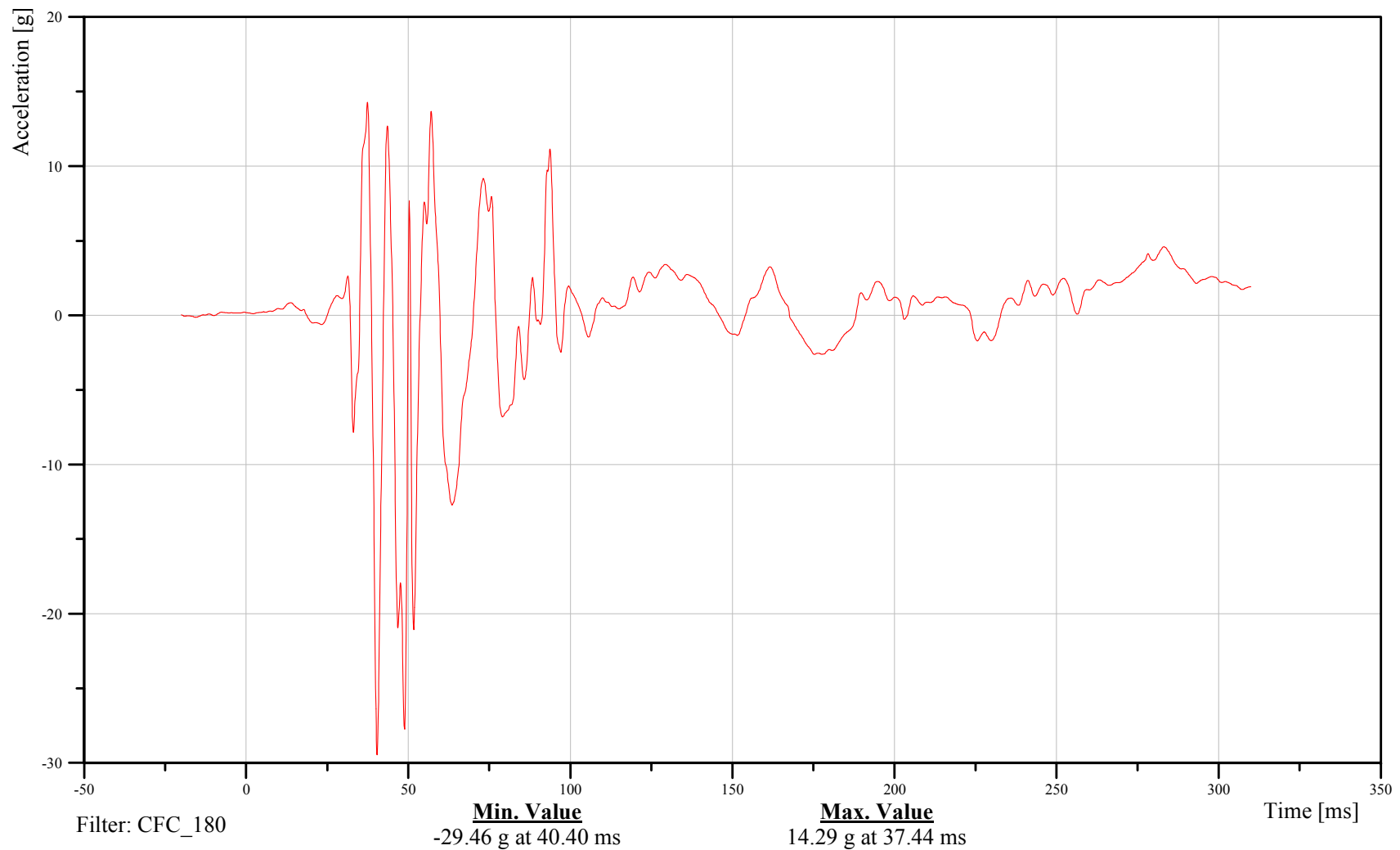
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI01LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 1 Accel Resultant

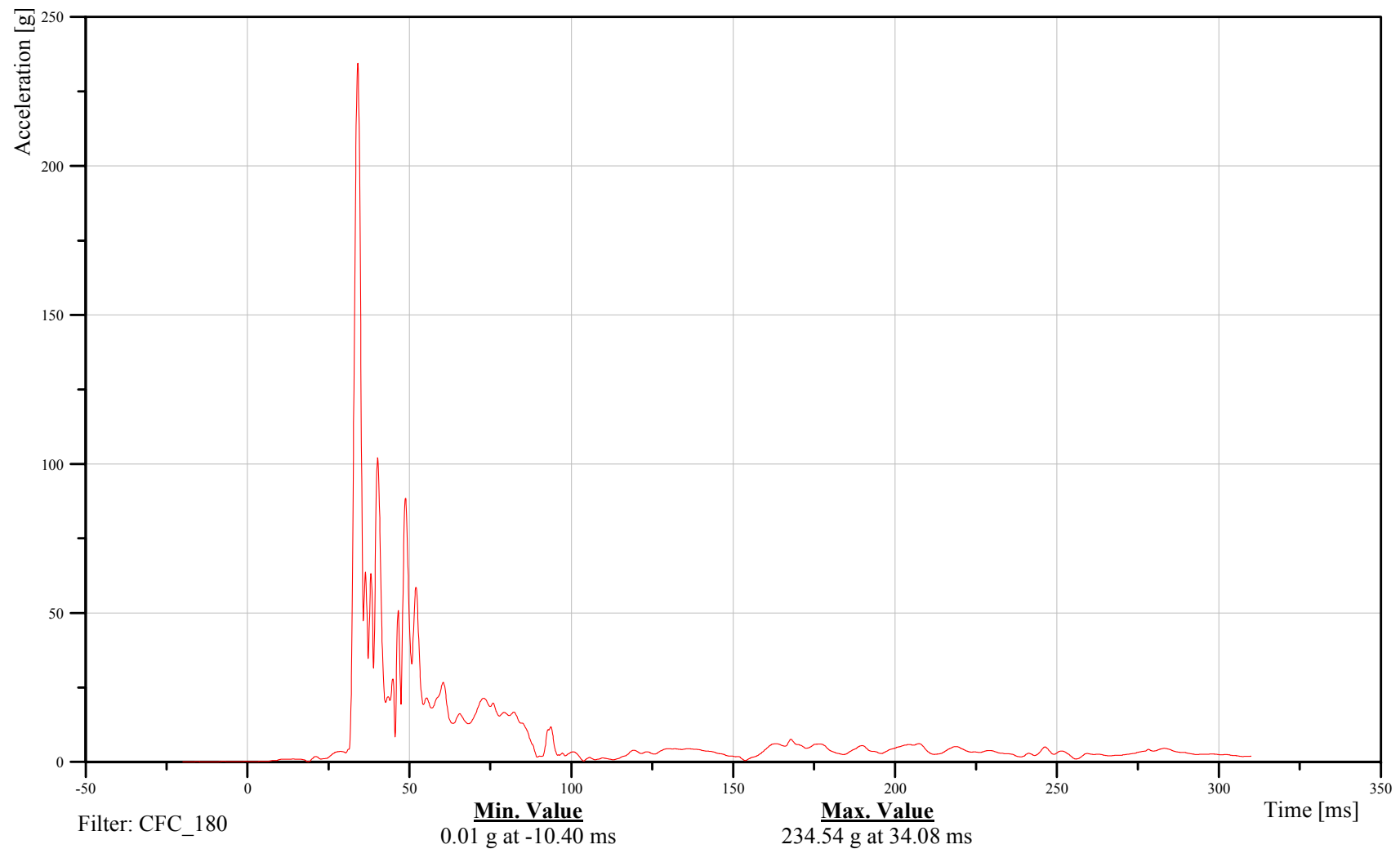
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI01LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel X

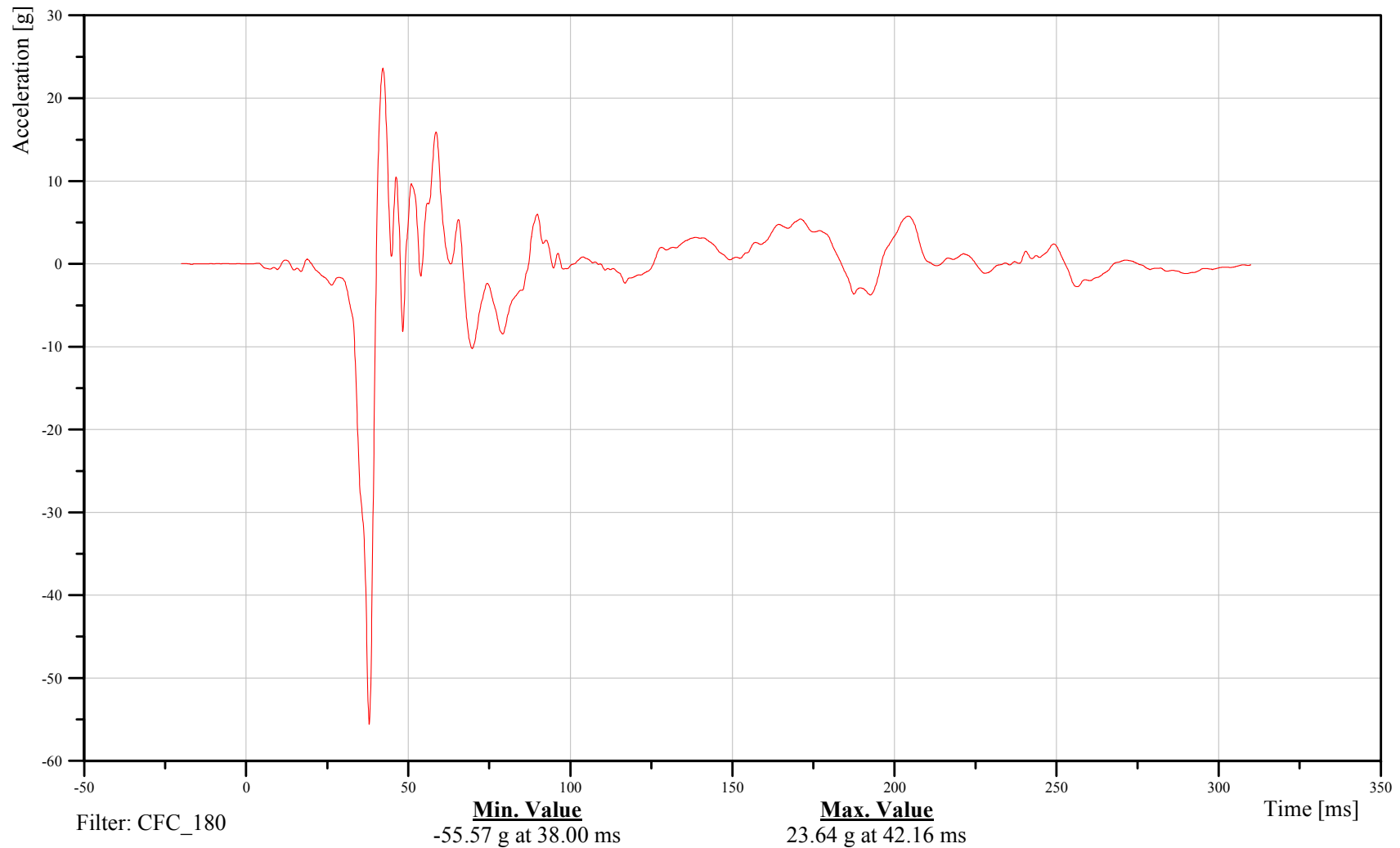
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI02LES2ACXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Y

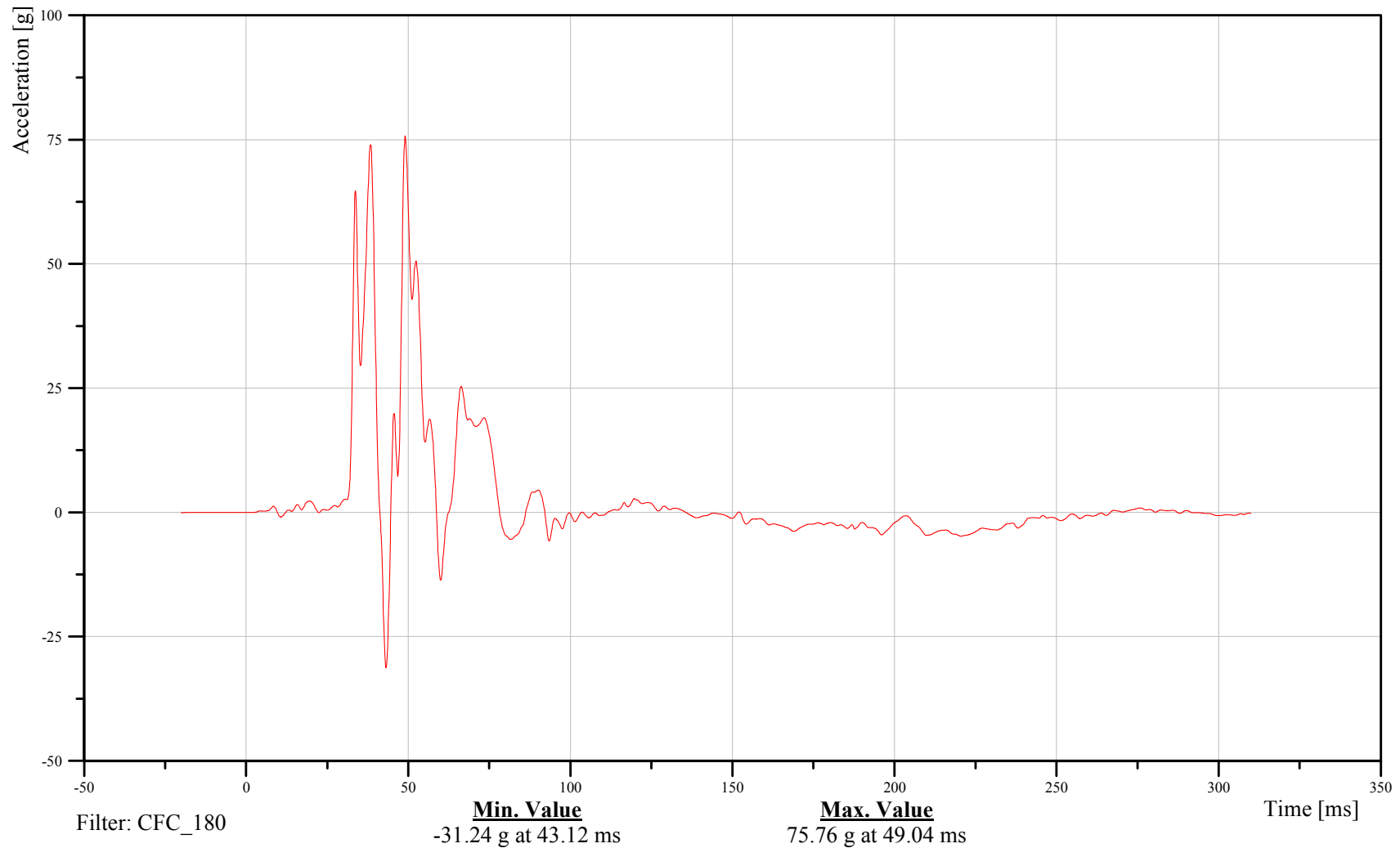
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI02LES2ACYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Z

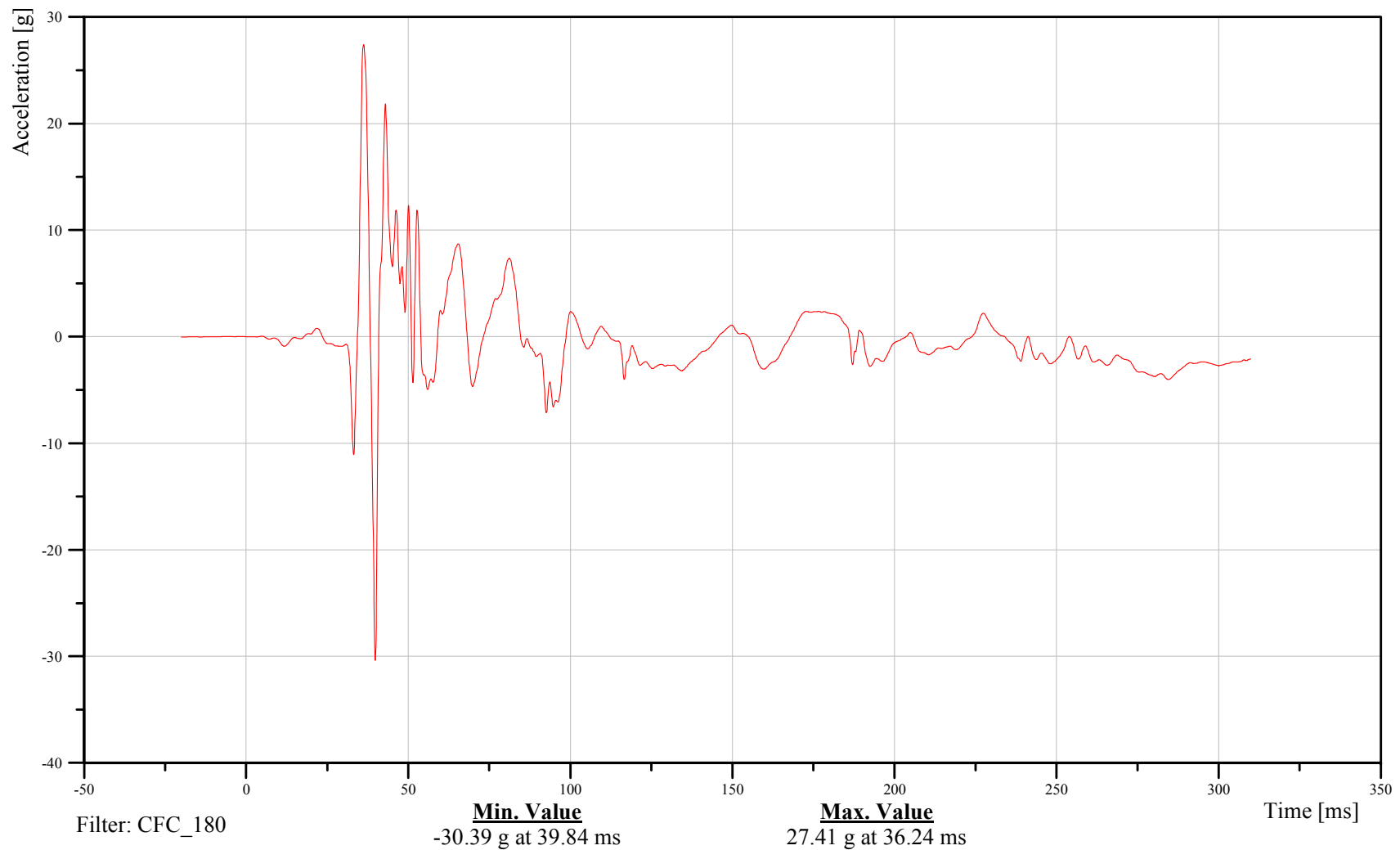
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI02LES2ACZC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Abdomin Rib 2 Accel Resultant

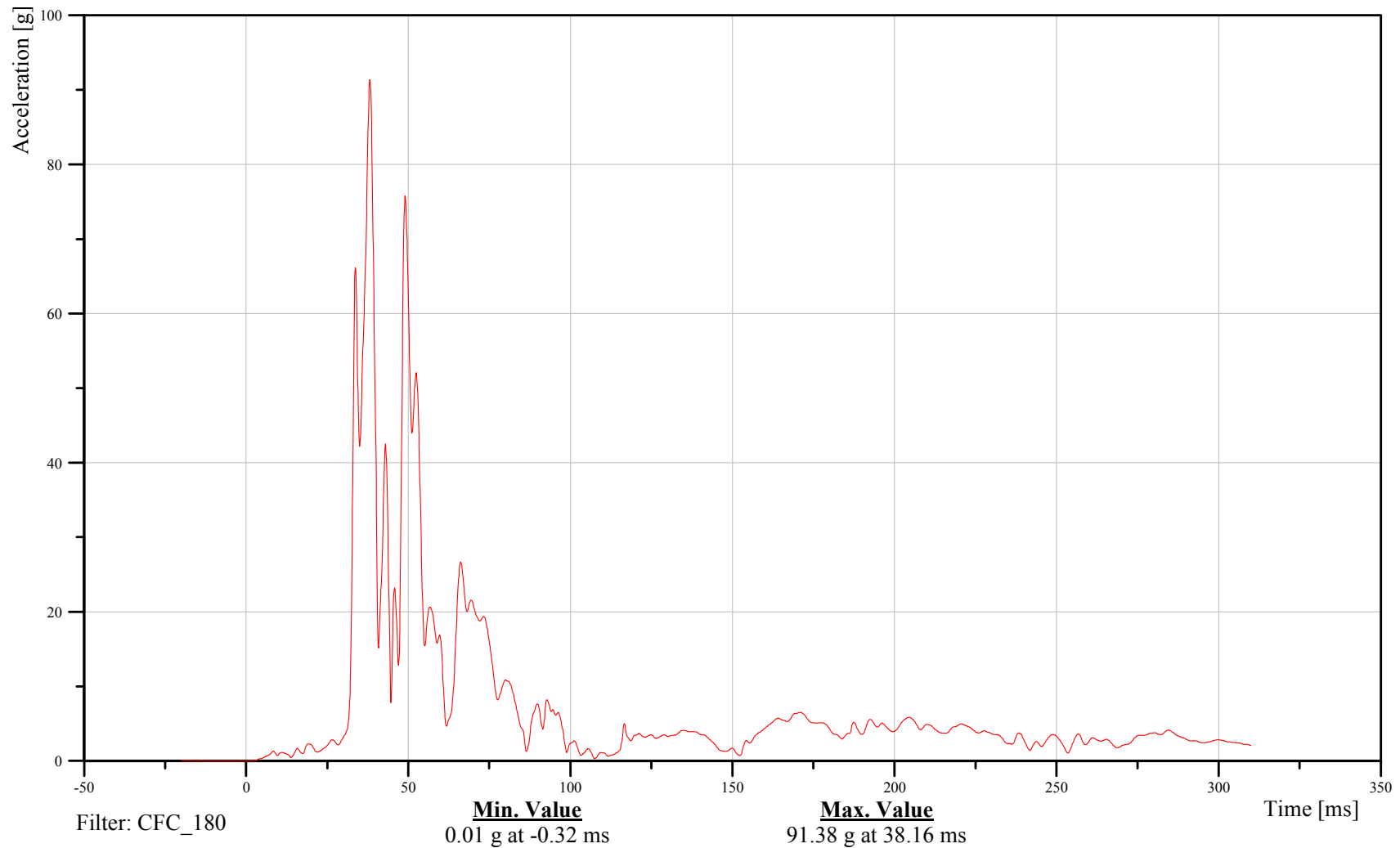
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ABRI02LES2ACRC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Shoulder Disp. Y

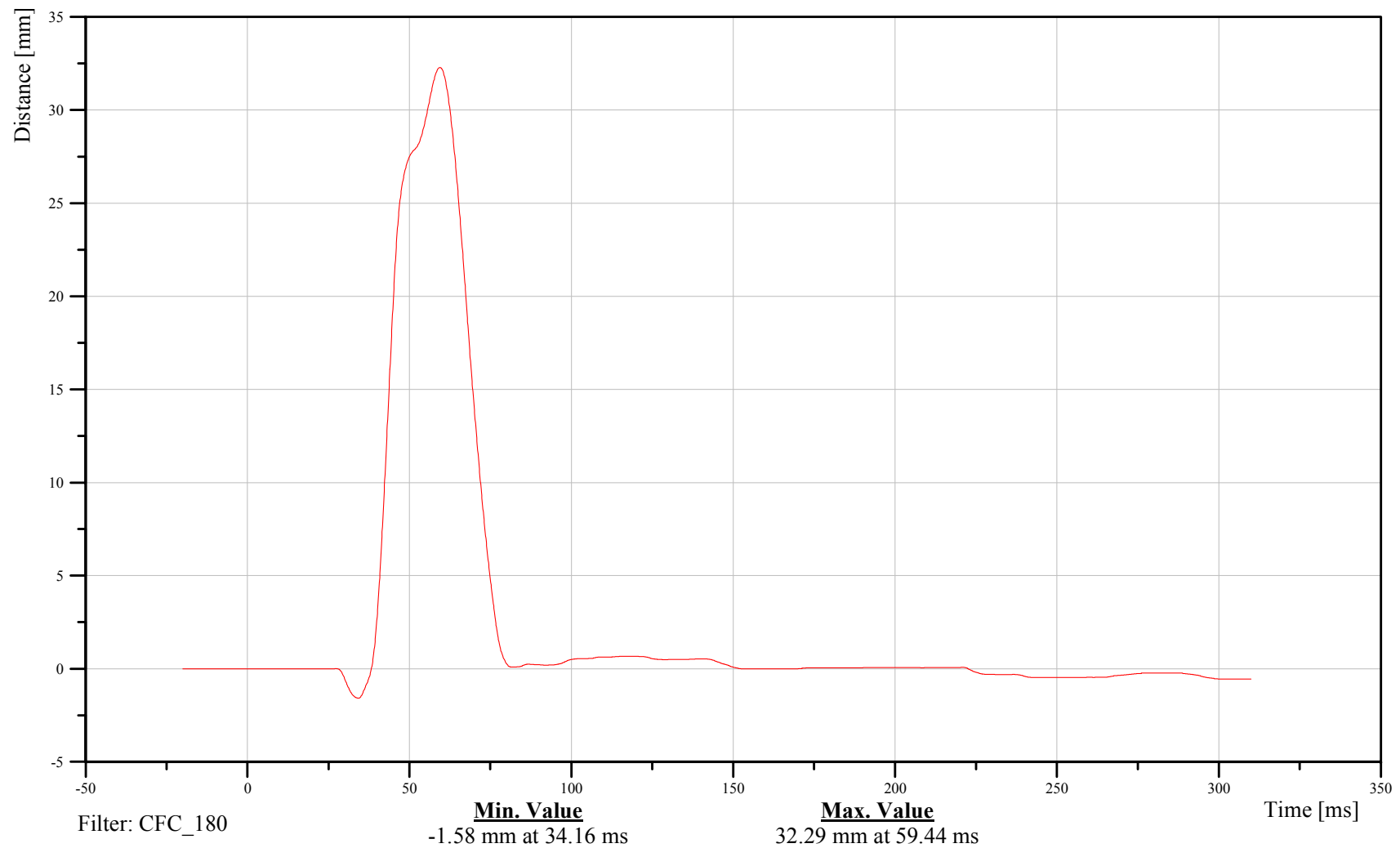
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SHRILE00S2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 1 Disp. Y

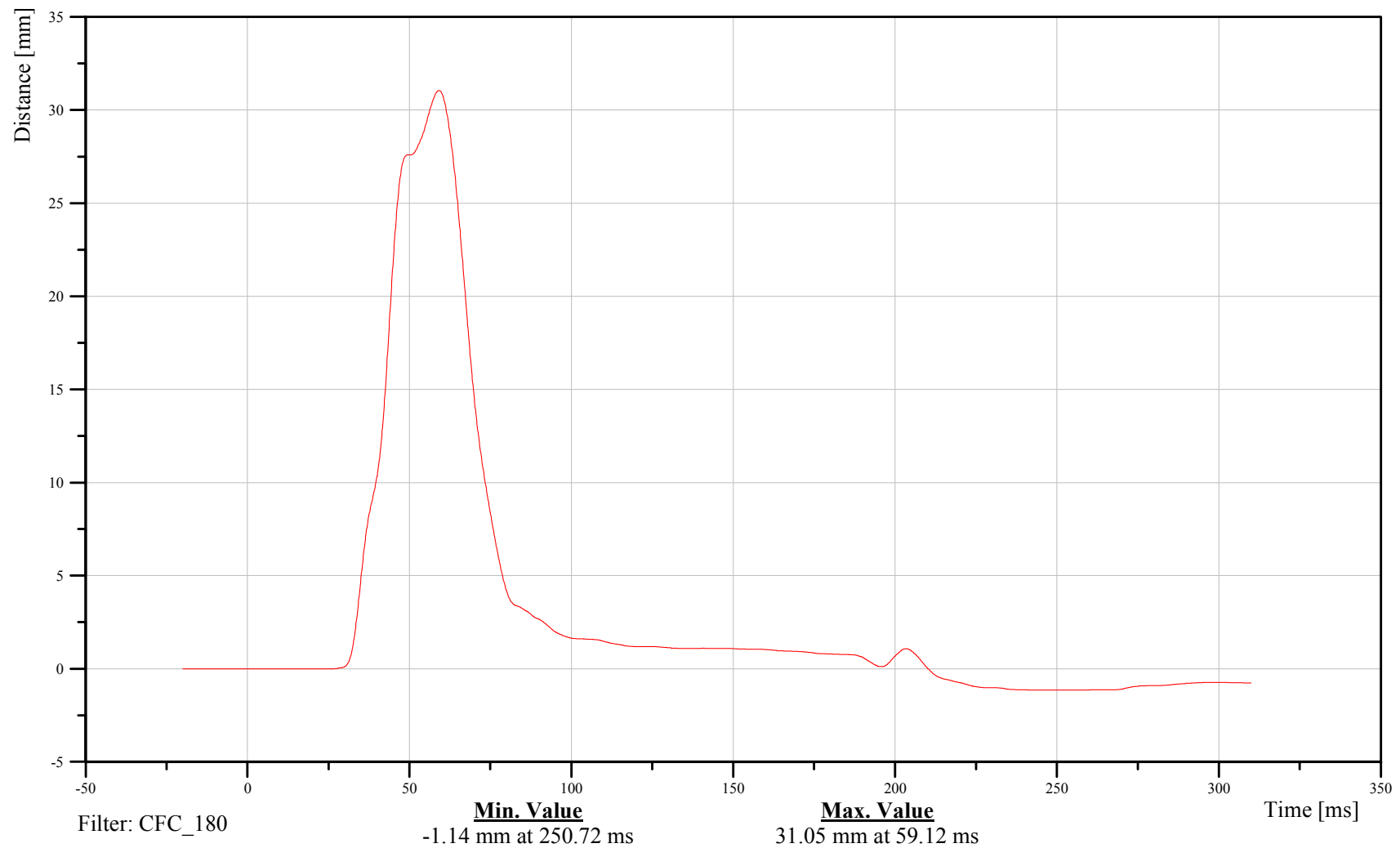
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI01LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 2 Disp. Y

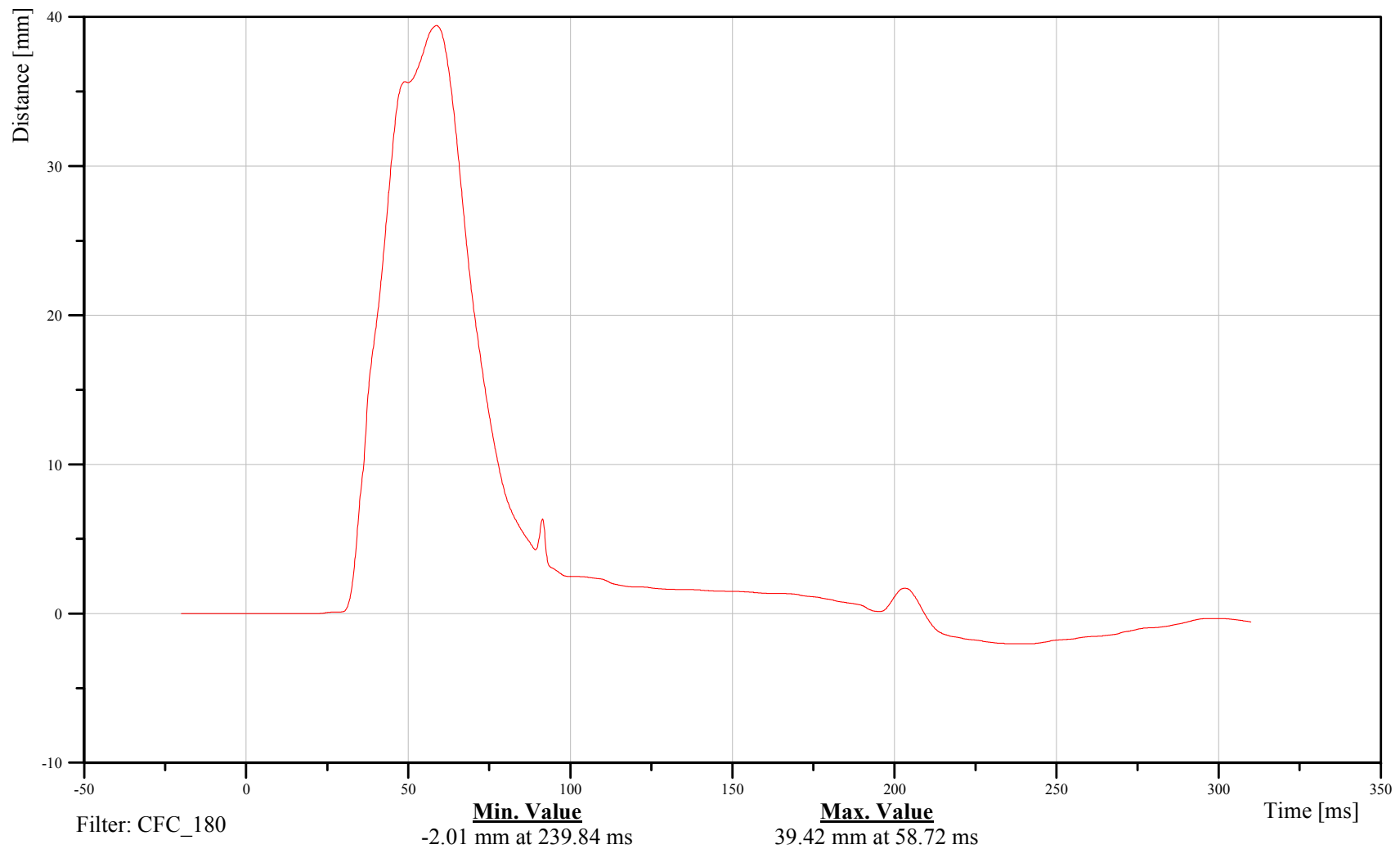
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI02LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Thorax Rib 3 Disp. Y

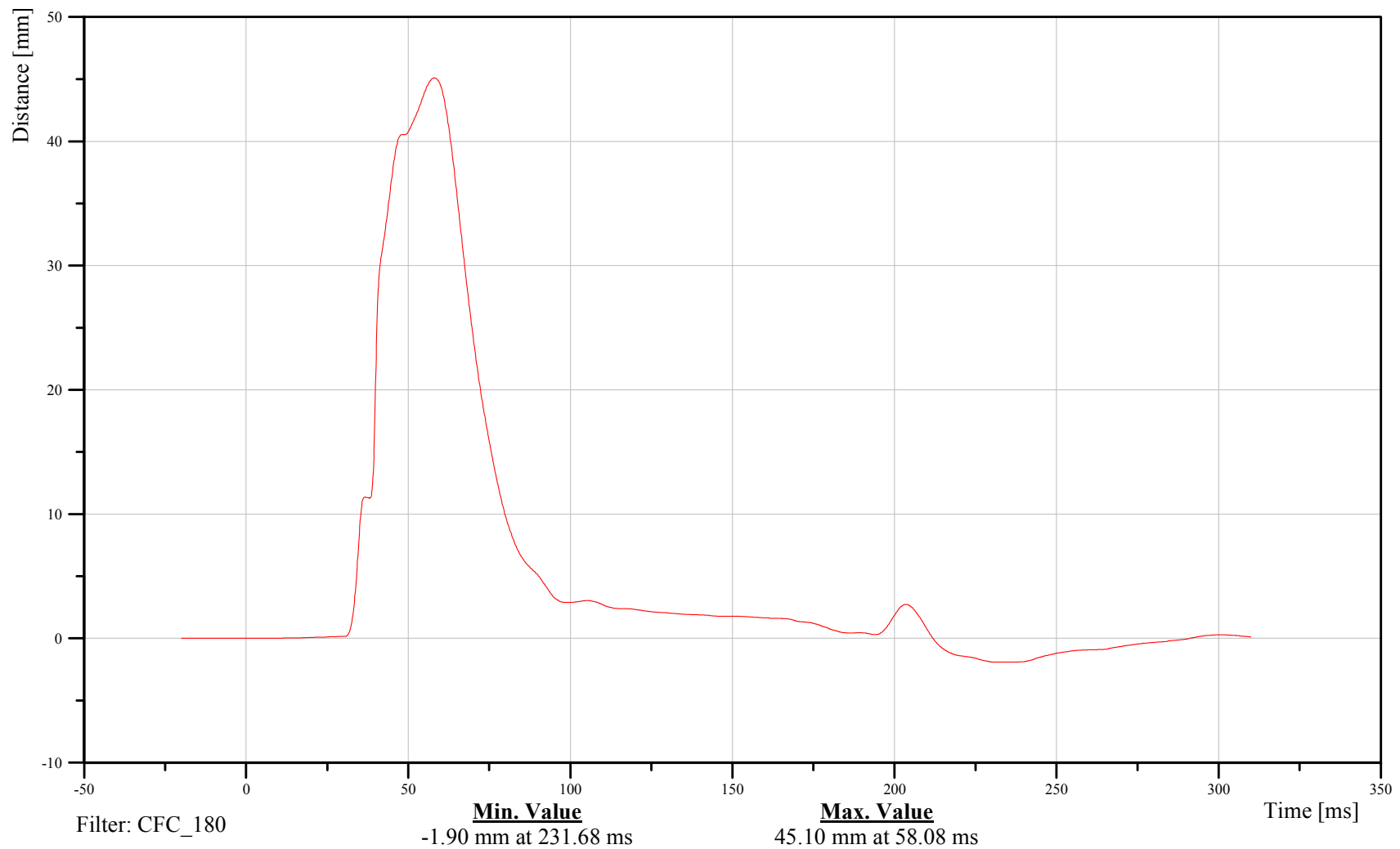
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14TRRI03LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

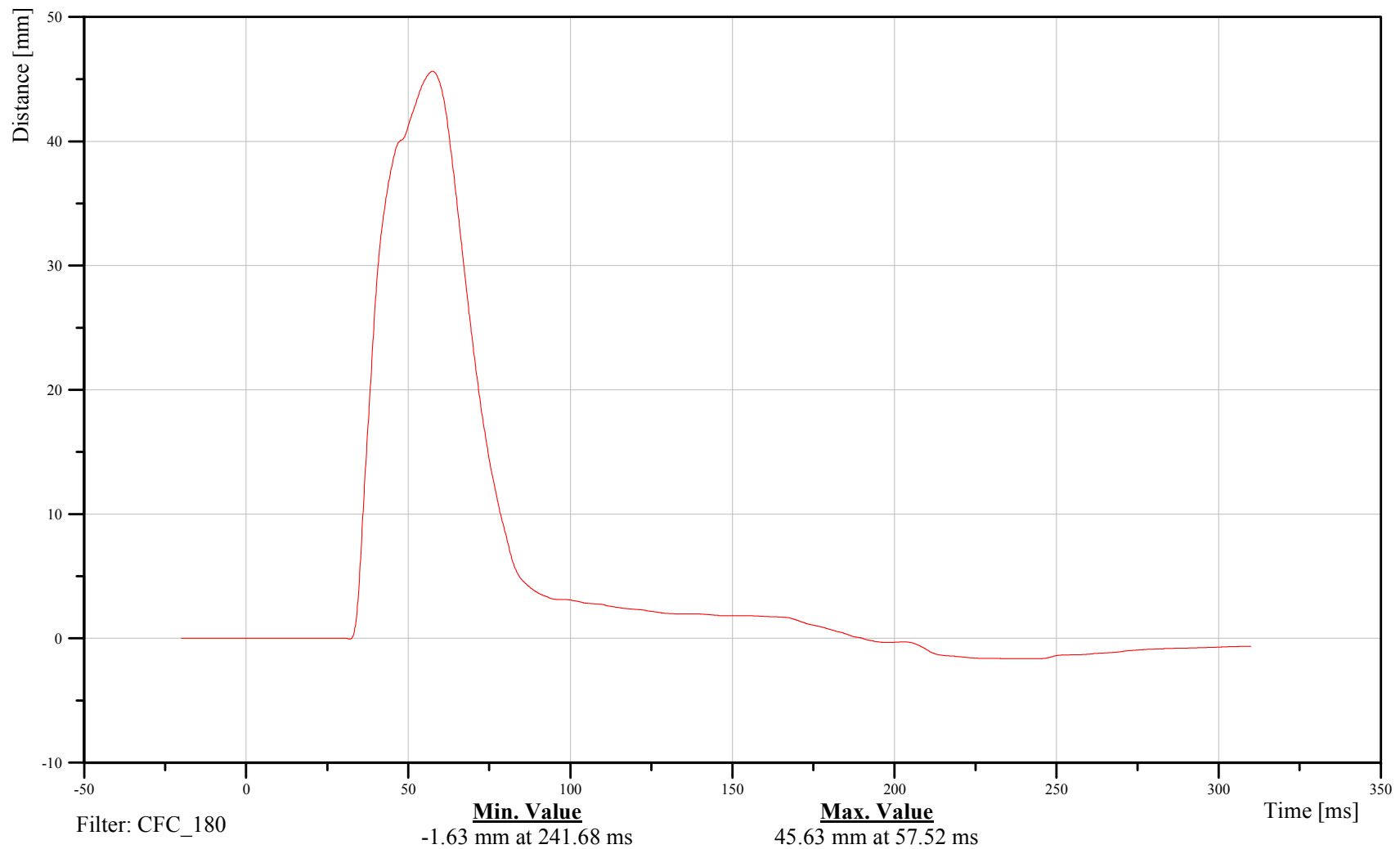
Abdomin Rib 1 Disp. Y

Customer: VRTC

14ABRI01LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

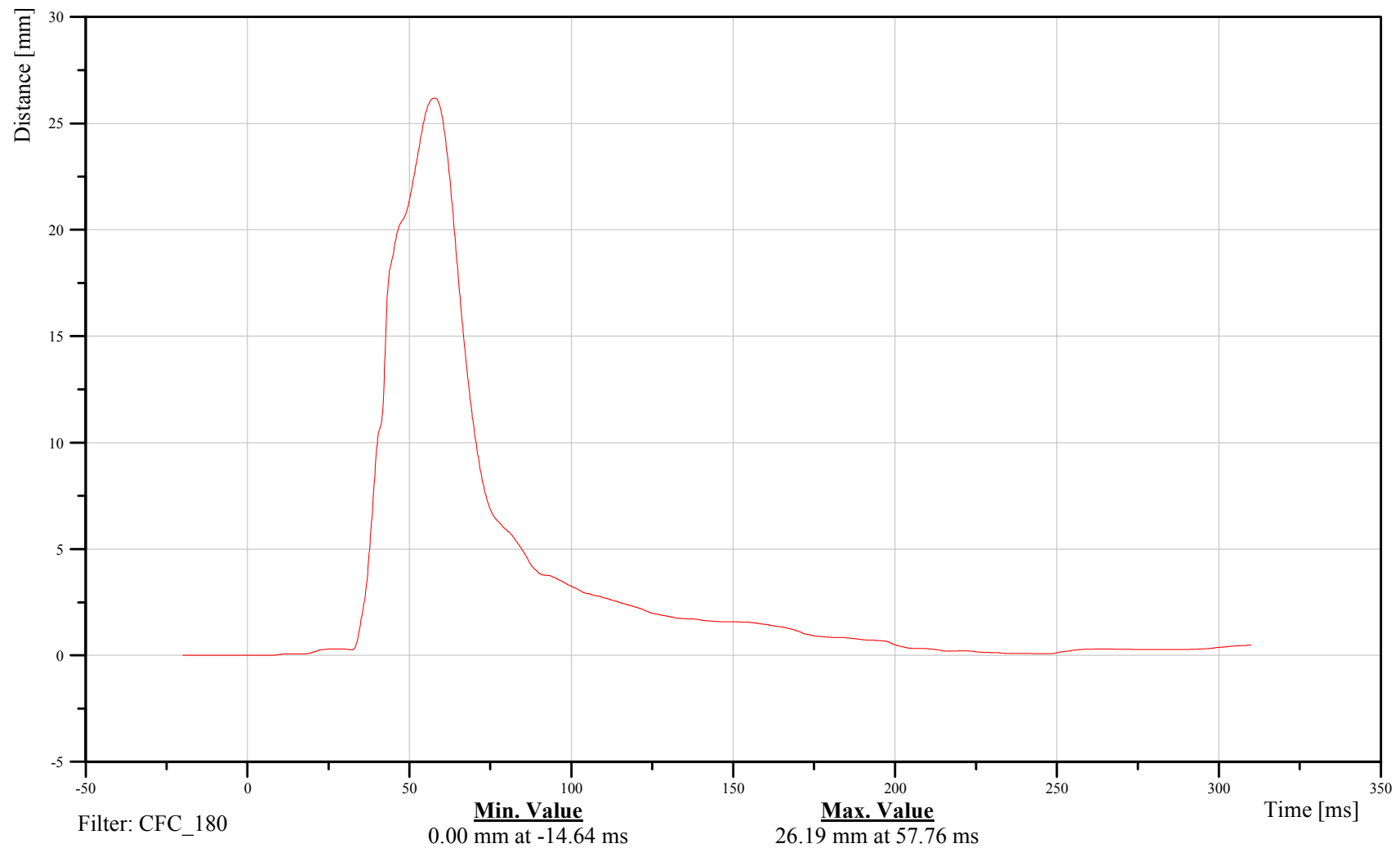
Abdomin Rib 2 Disp. Y

Customer: VRTC

14ABRI02LES2DSYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel X

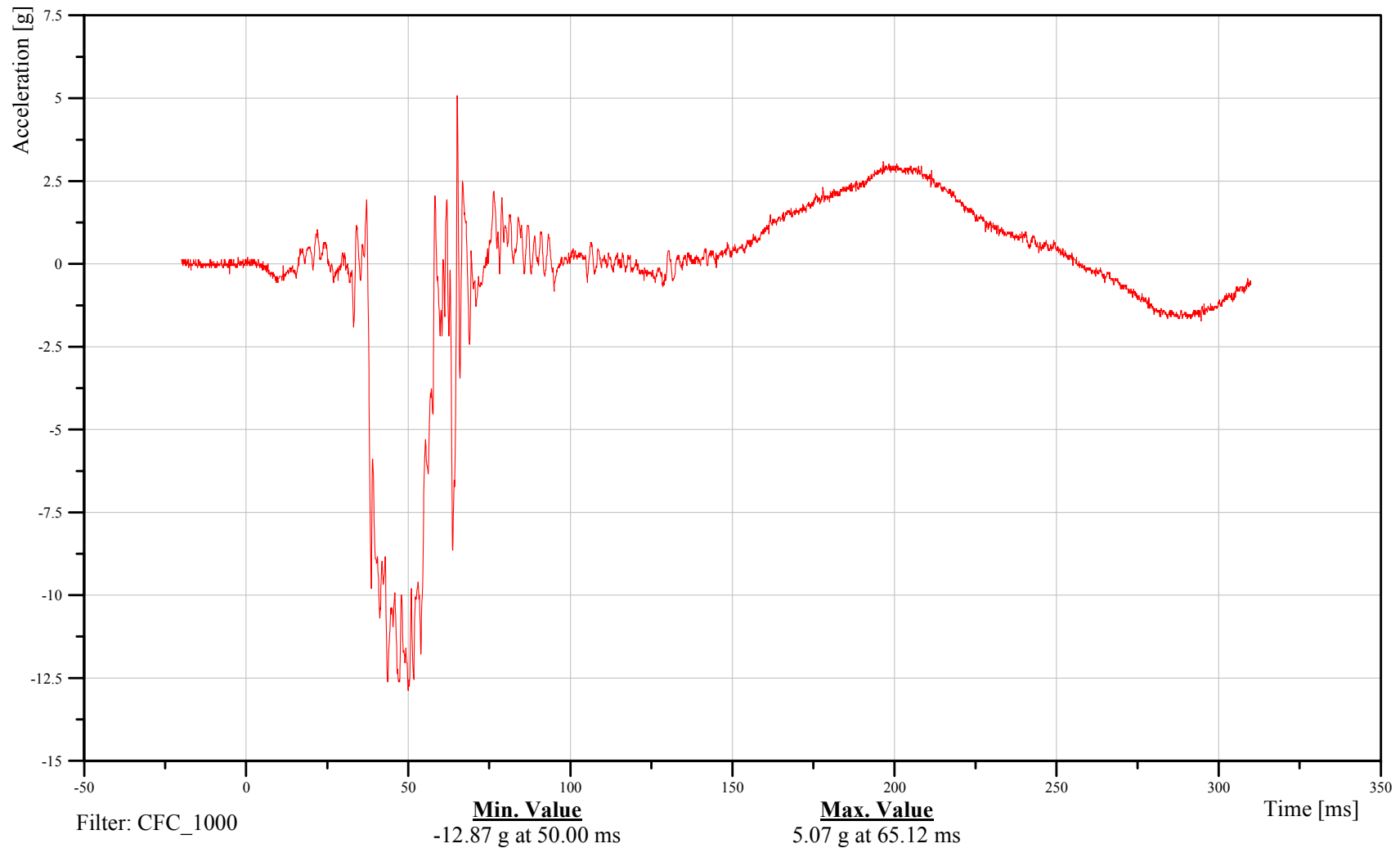
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14PELVCG00S2ACXA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Y

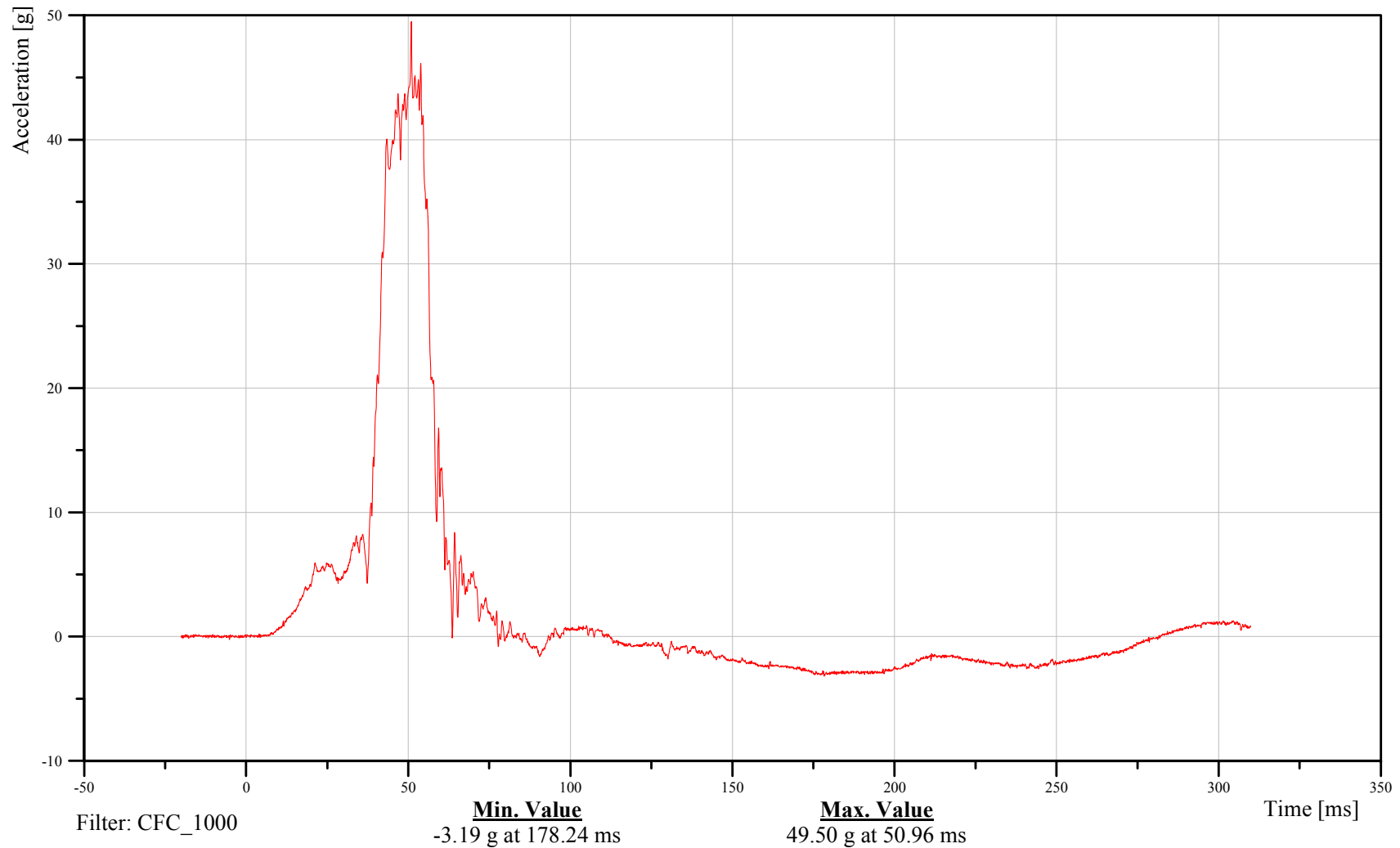
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14PELVCG00S2ACYA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Z

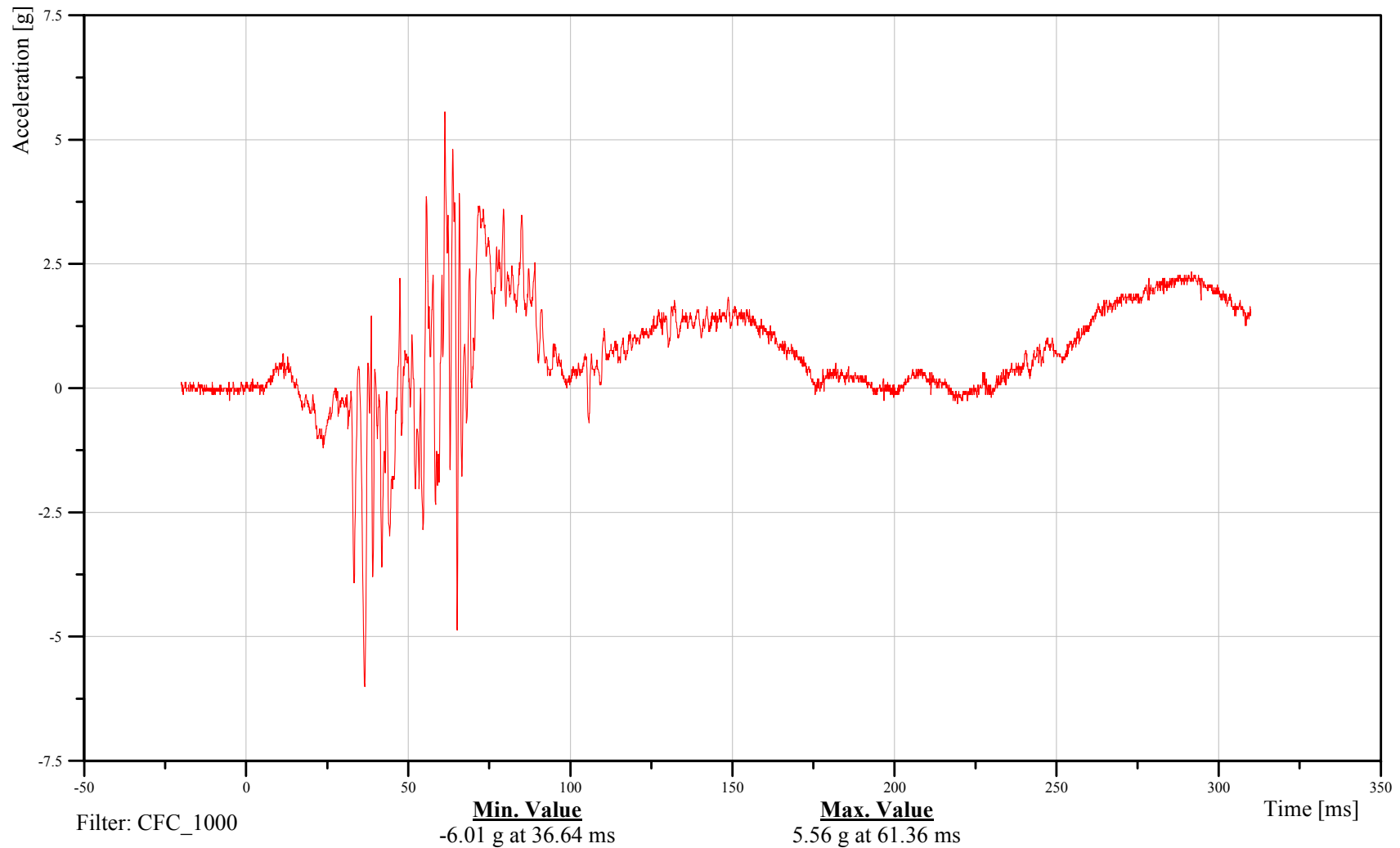
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14PELVCG00S2ACZA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Pelvis Accel Resultant

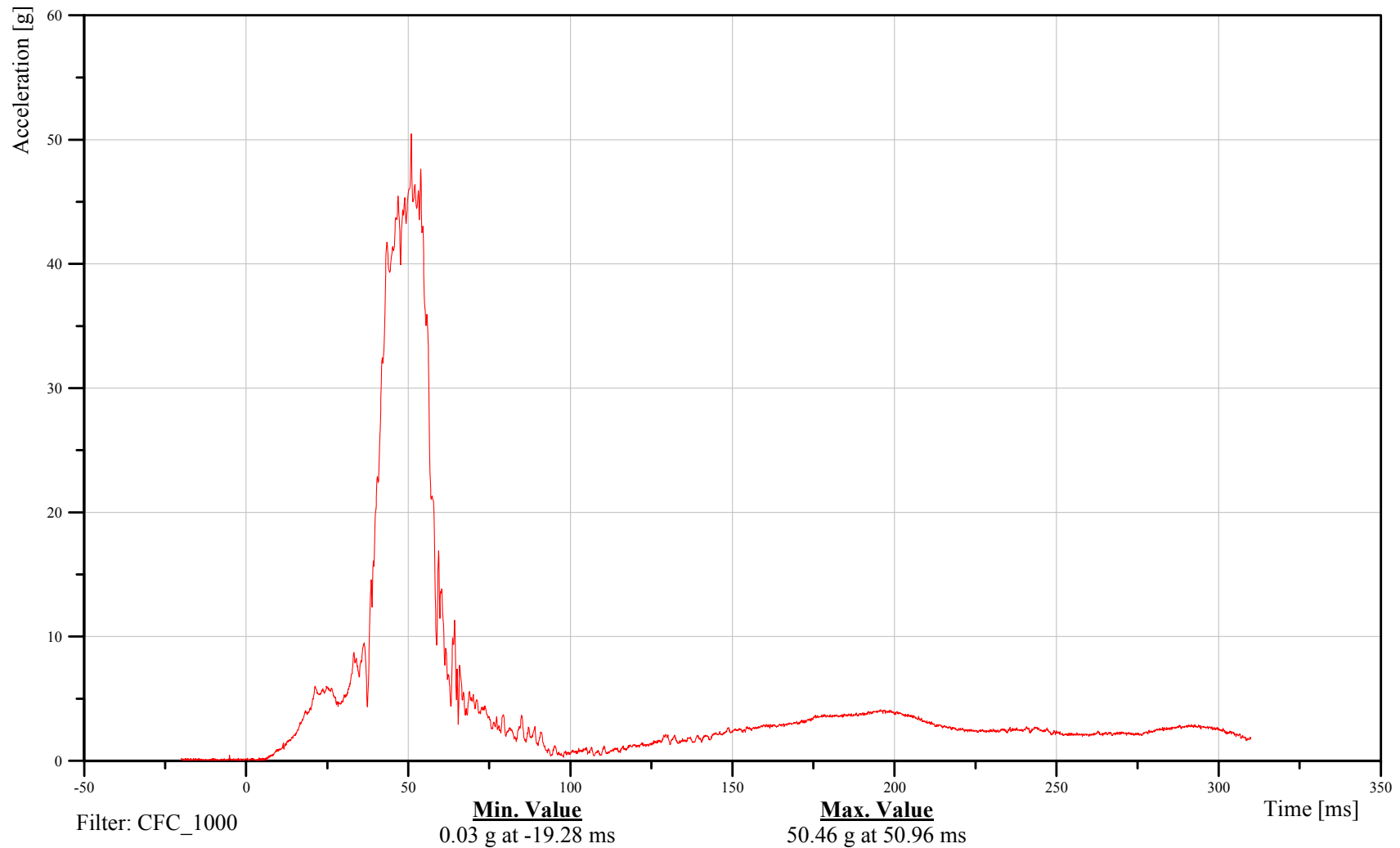
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14PELVCG00S2ACRA

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Acetabulum Force Y

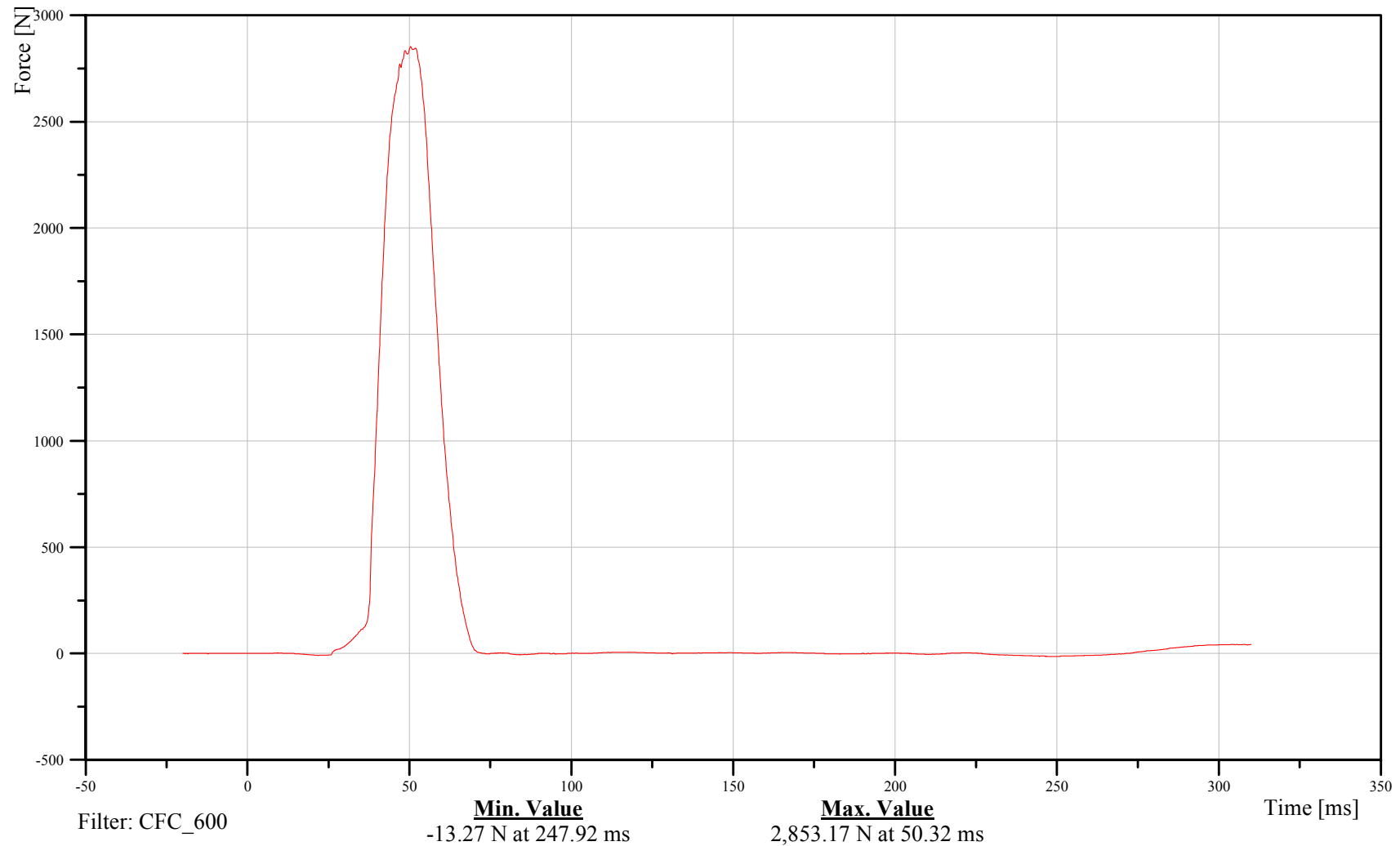
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ACTBLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Illiac Wing Force Y

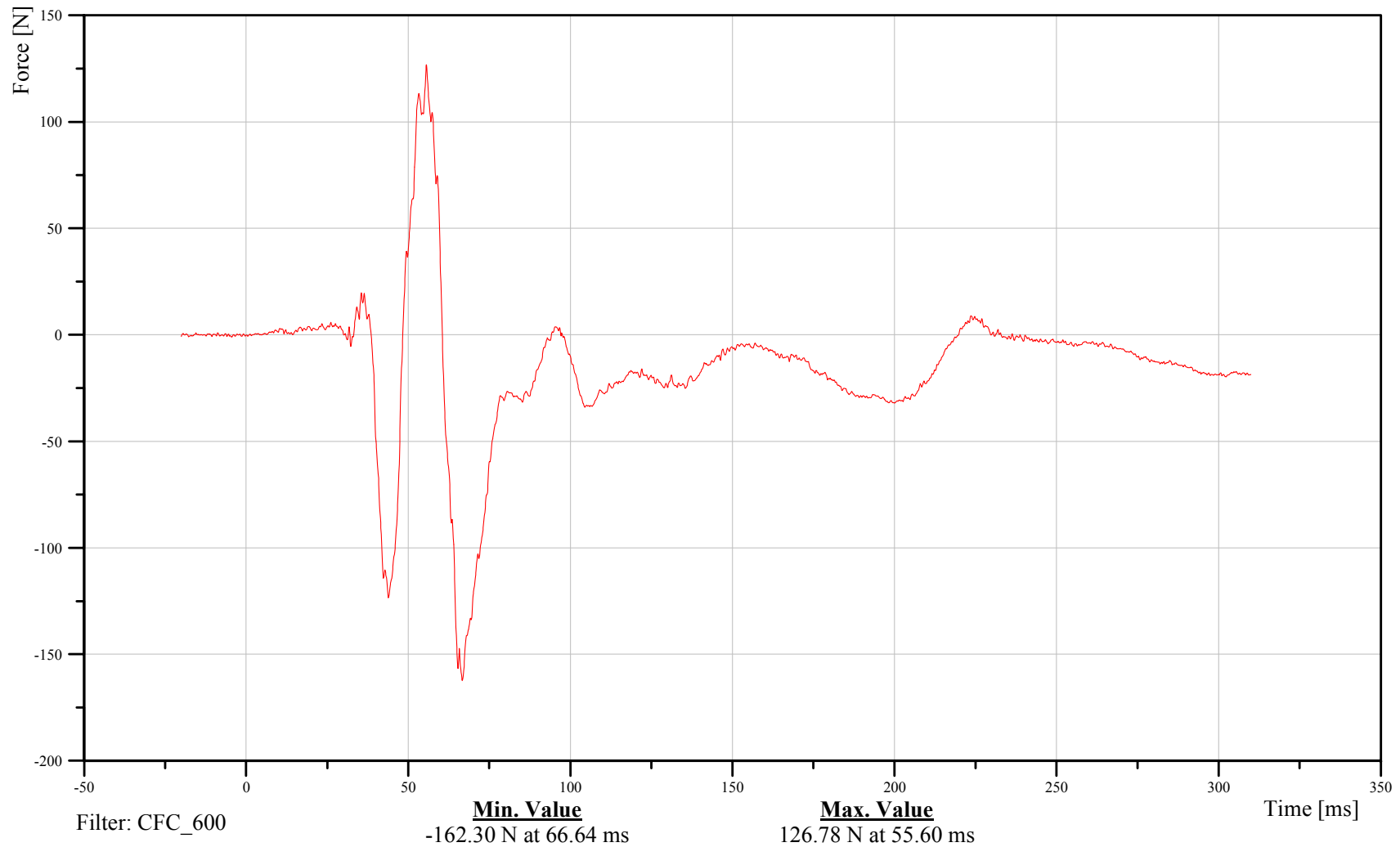
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14ILACLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

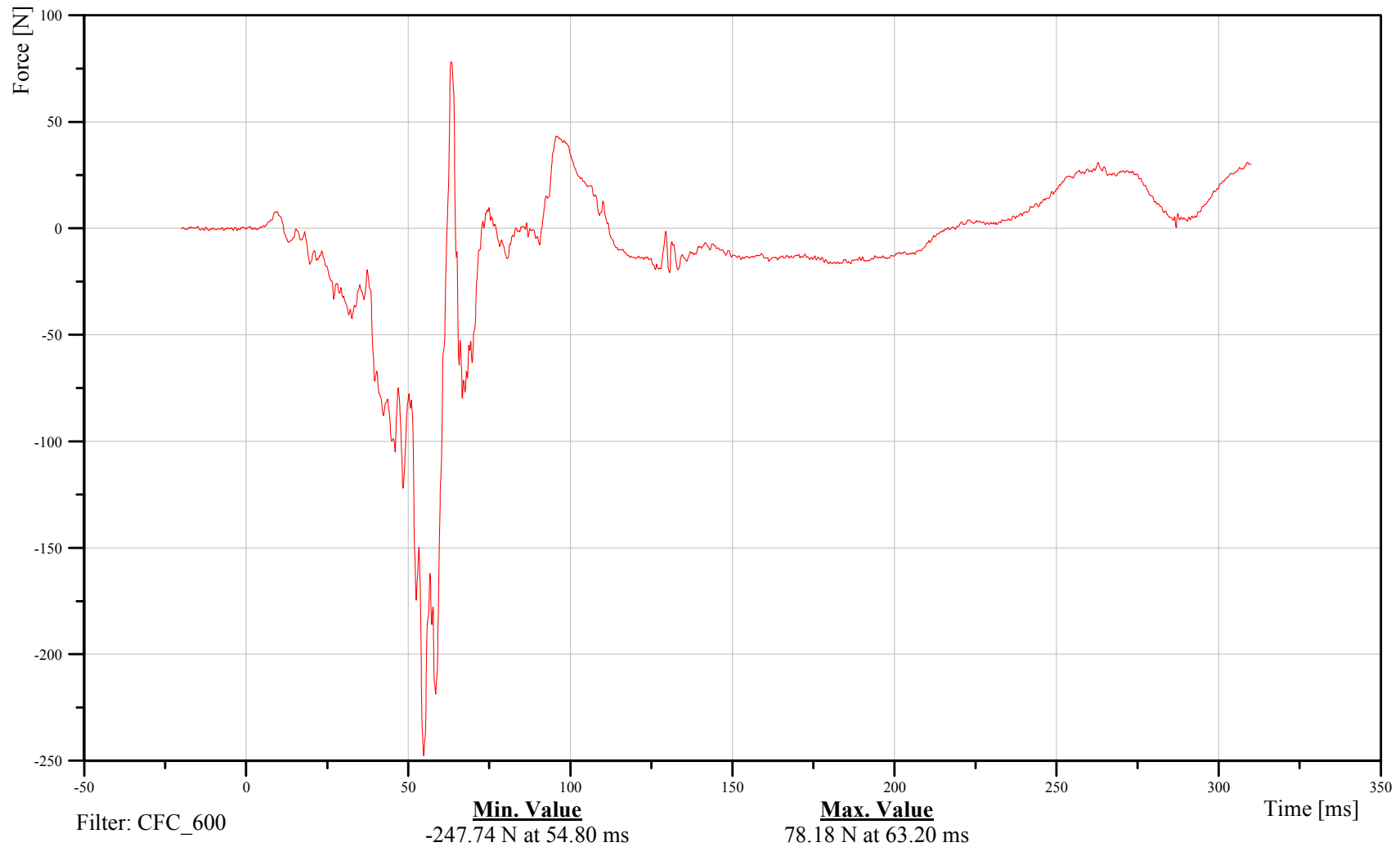
Right Femur Force X

Customer: VRTC

14FEMRRI00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

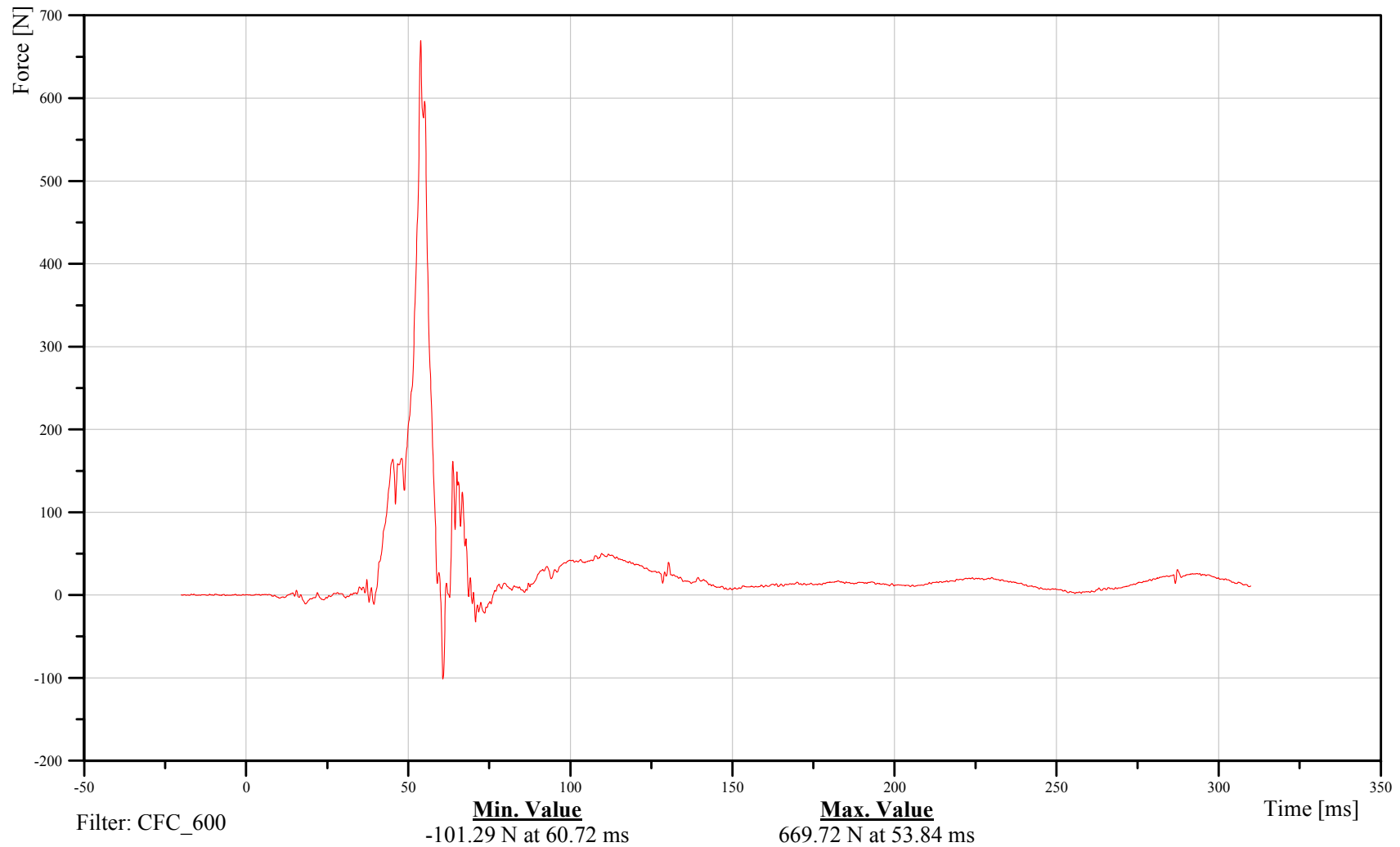
Right Femur Force Y

Customer: VRTC

14FEMRRI00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

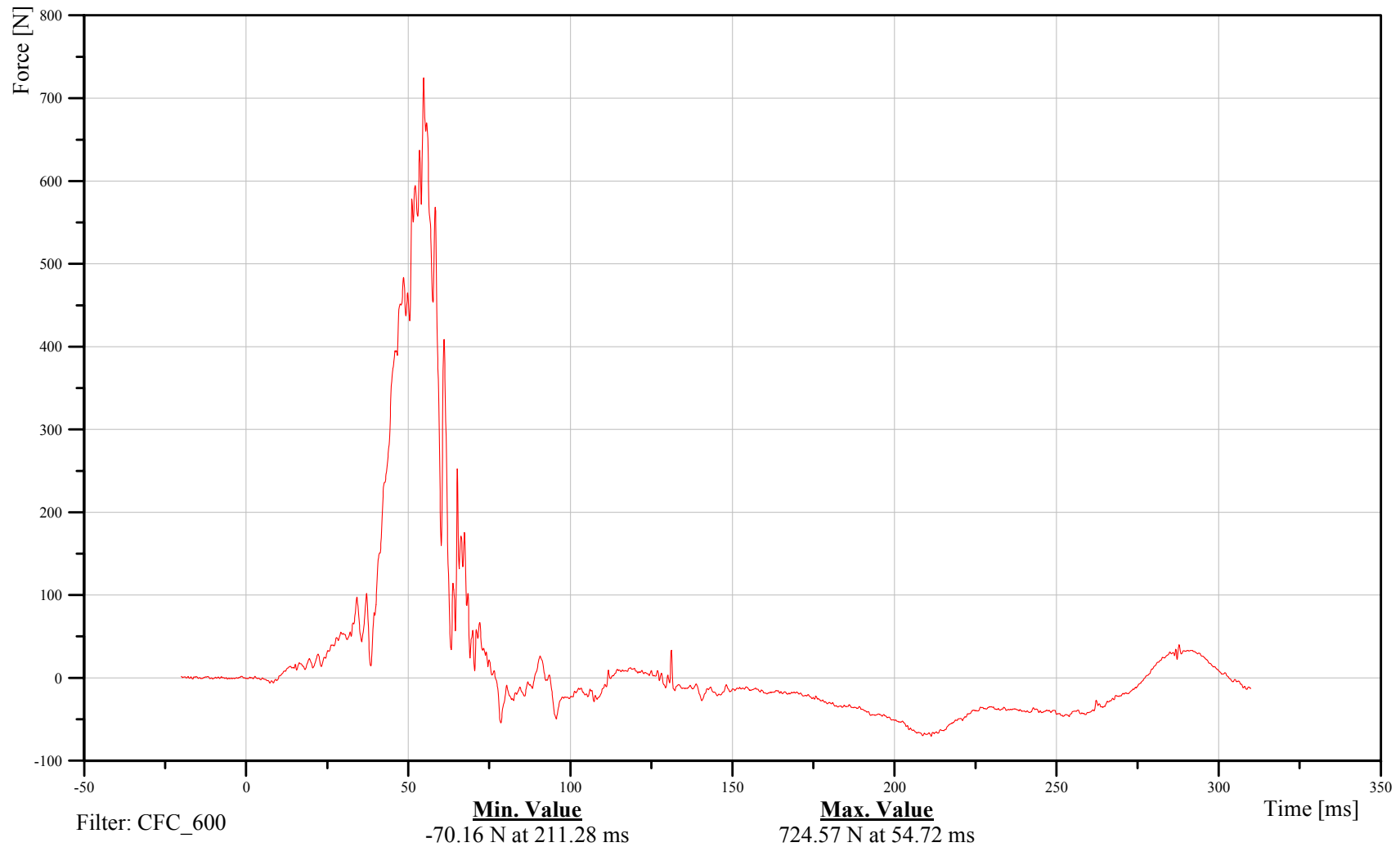
Right Femur Force Z

Customer: VRTC

14FEMRRI00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Femur Moment X

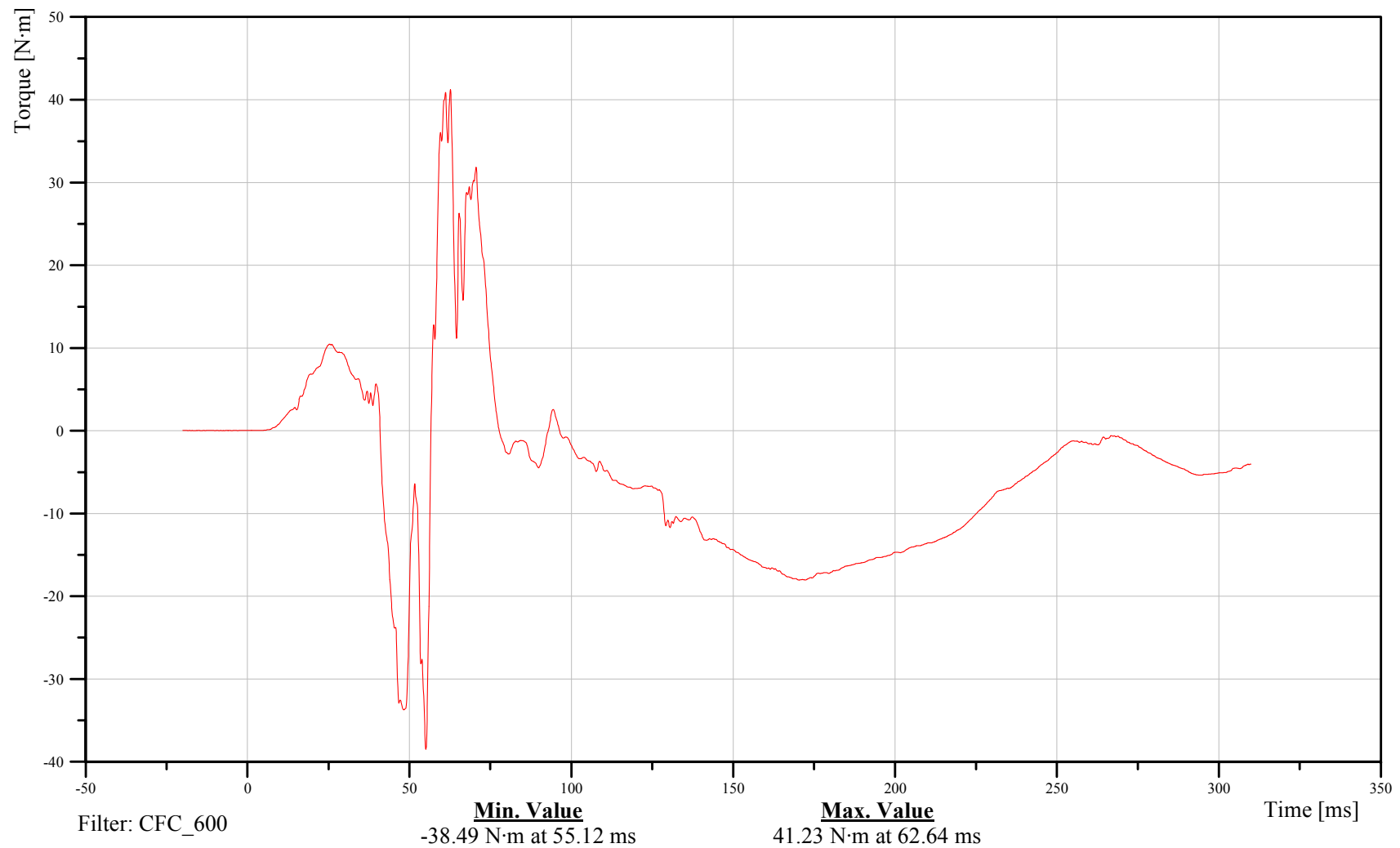
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRRI00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

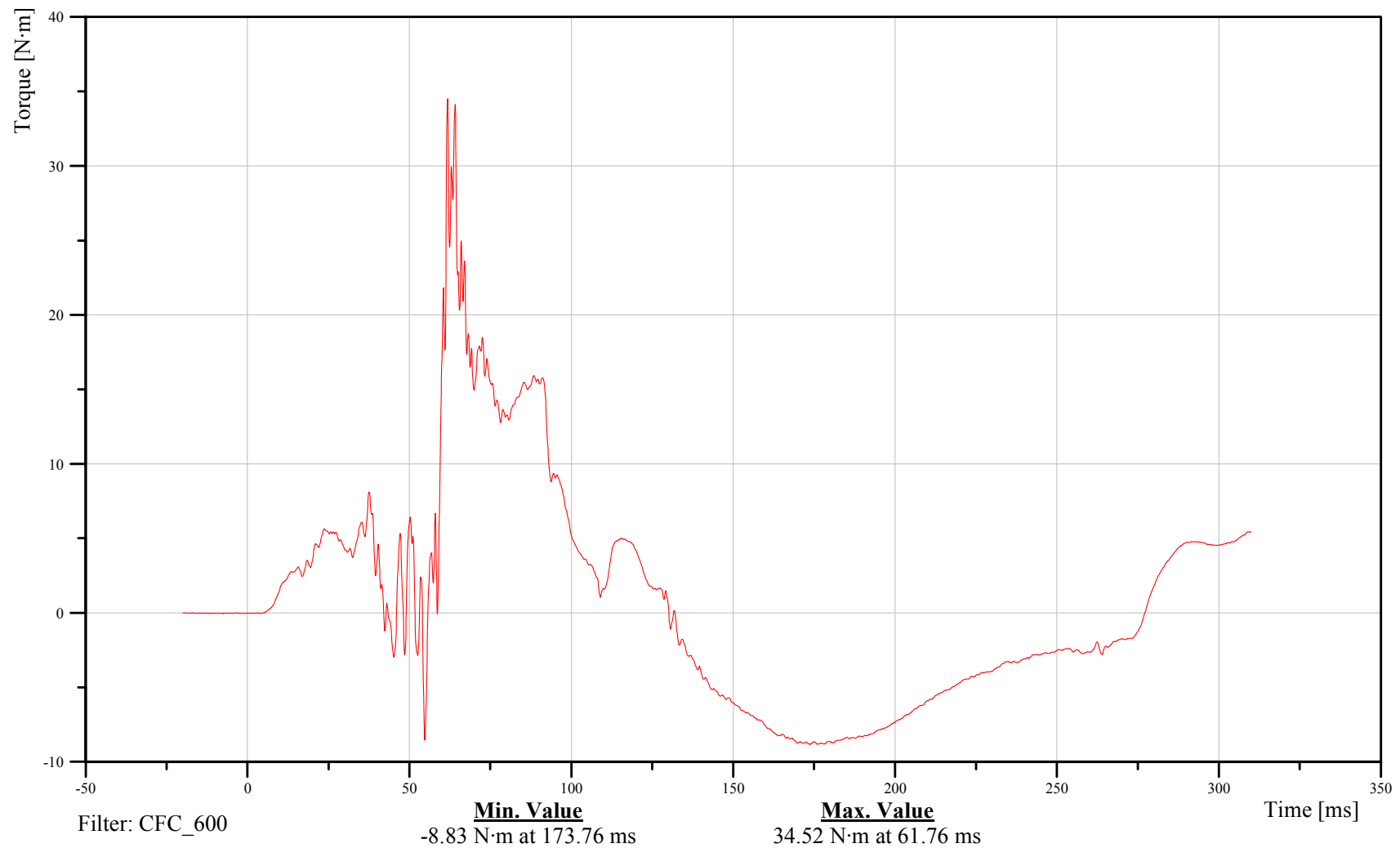
Right Femur Moment Y

Customer: VRTC

14FEMRRI00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

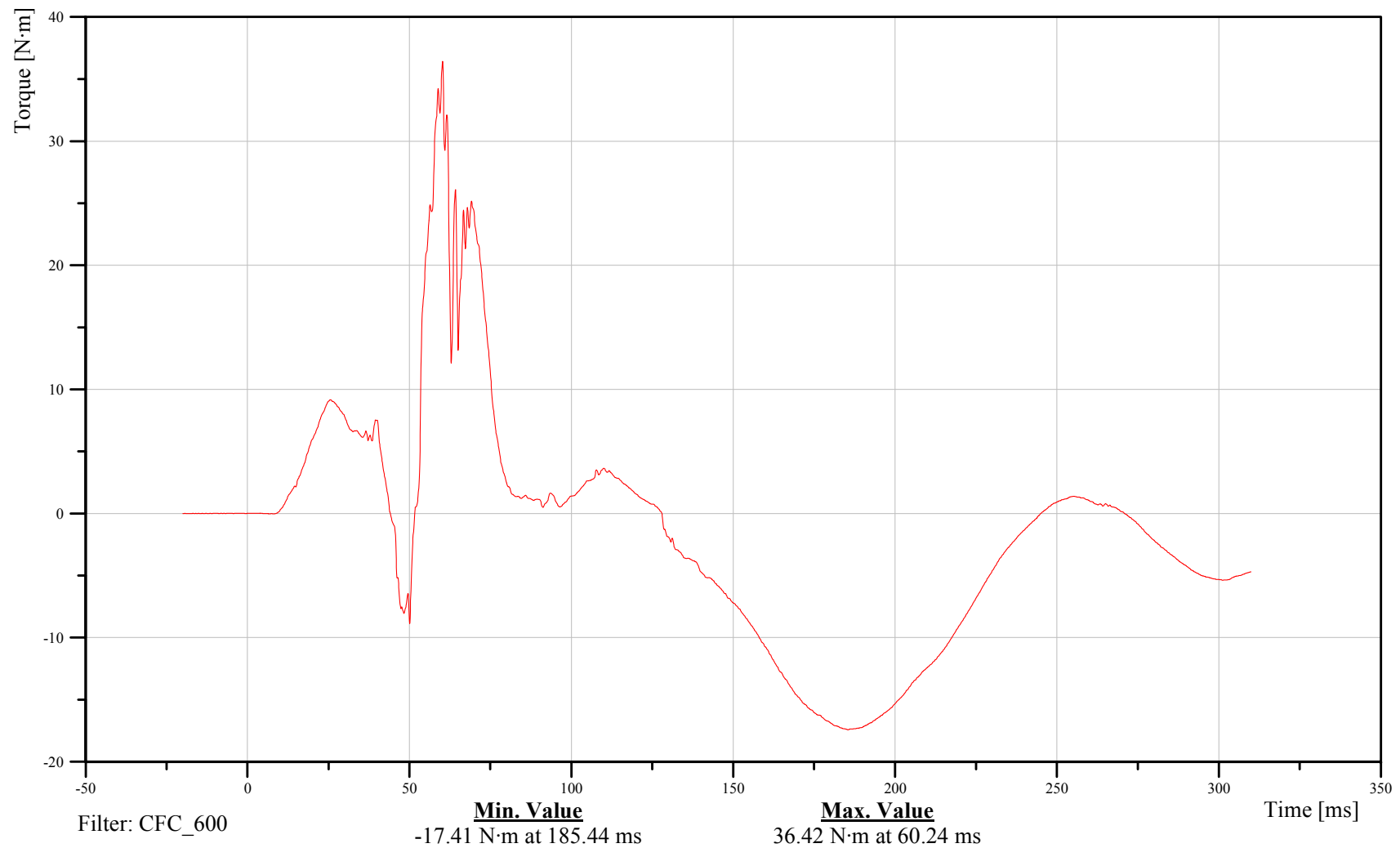
Right Femur Moment Z

Customer: VRTC

14FEMRRI00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Force X

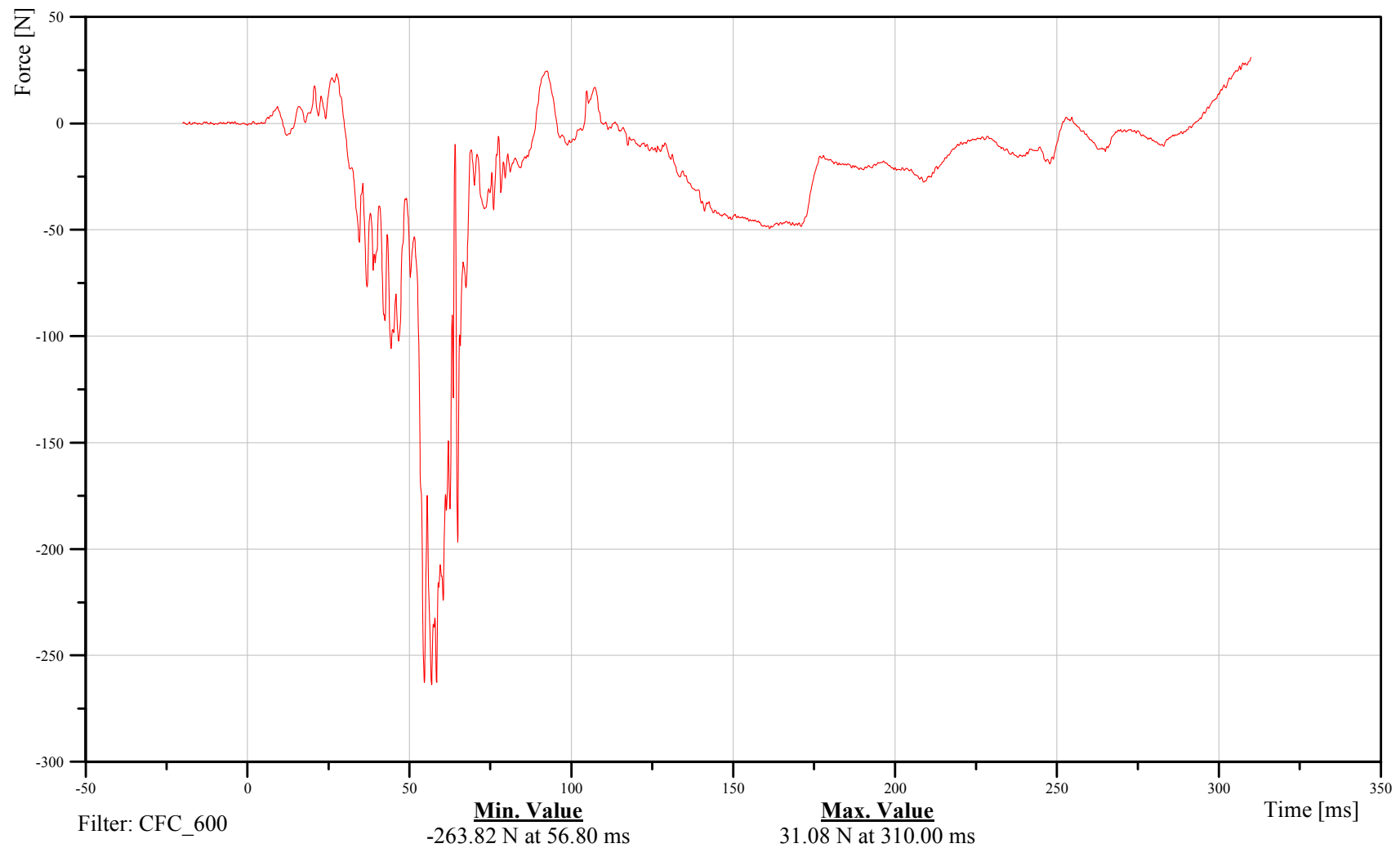
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2FOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Force Y

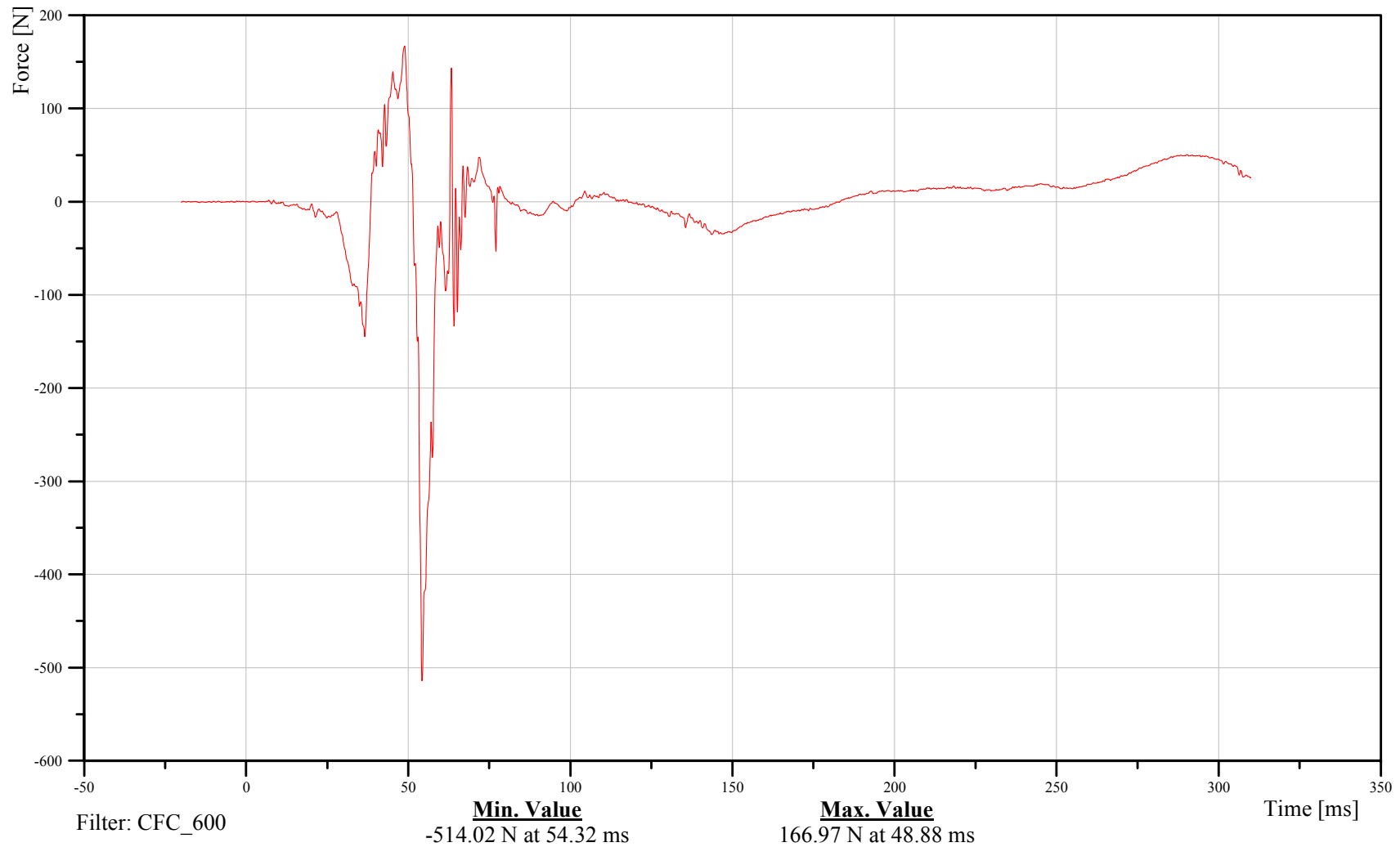
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2FOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Force Z

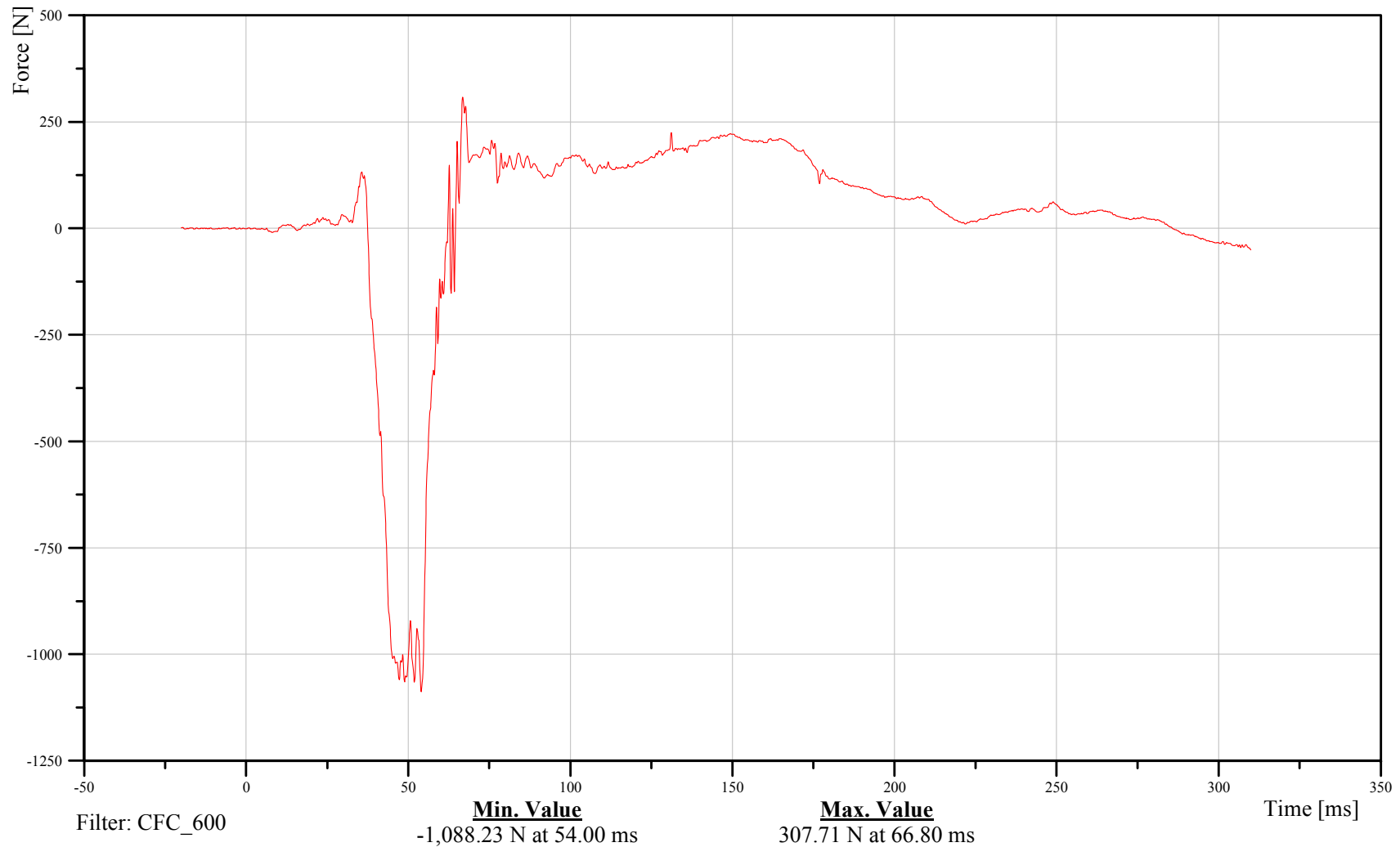
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2FOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment X

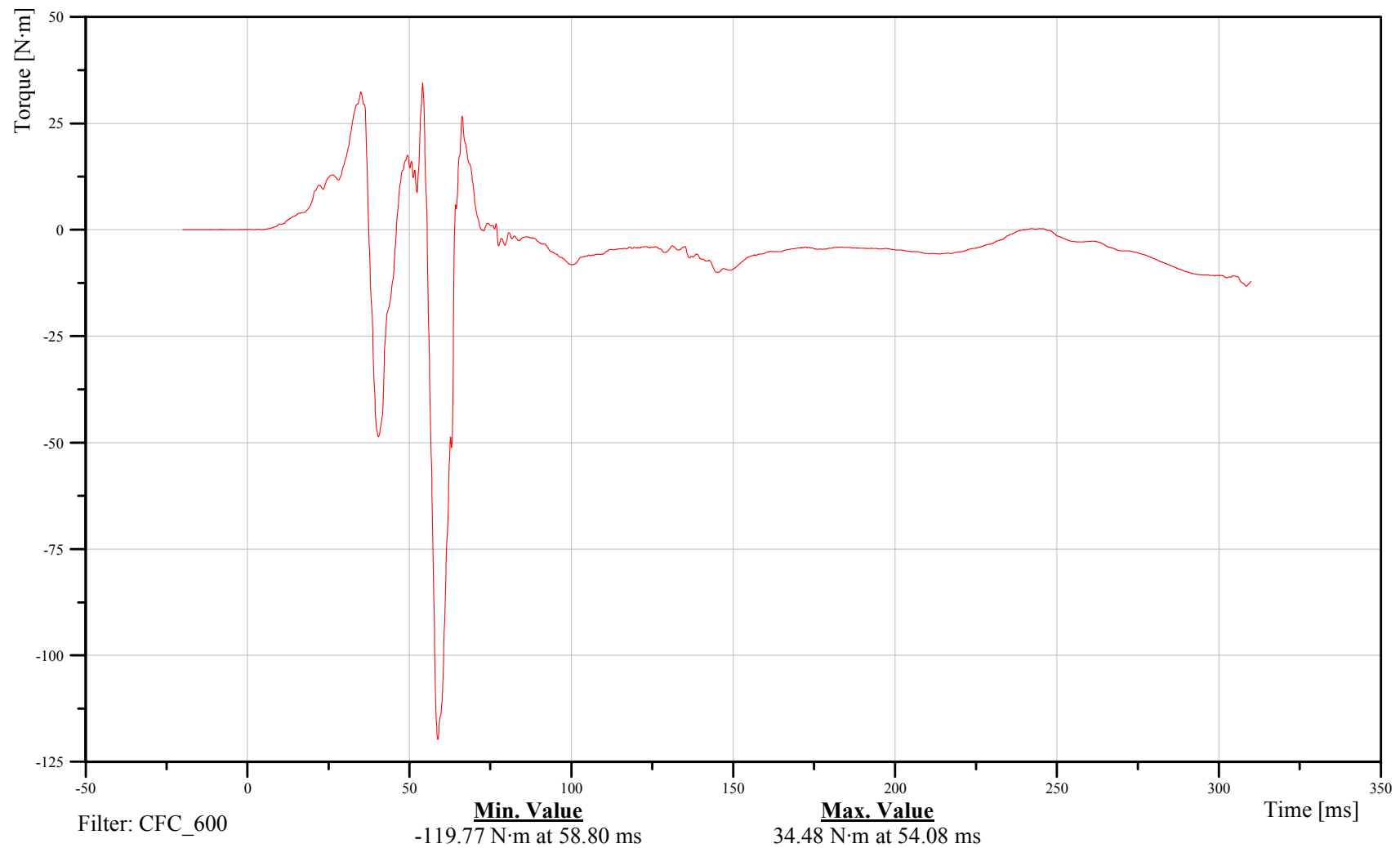
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2MOXB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment Y

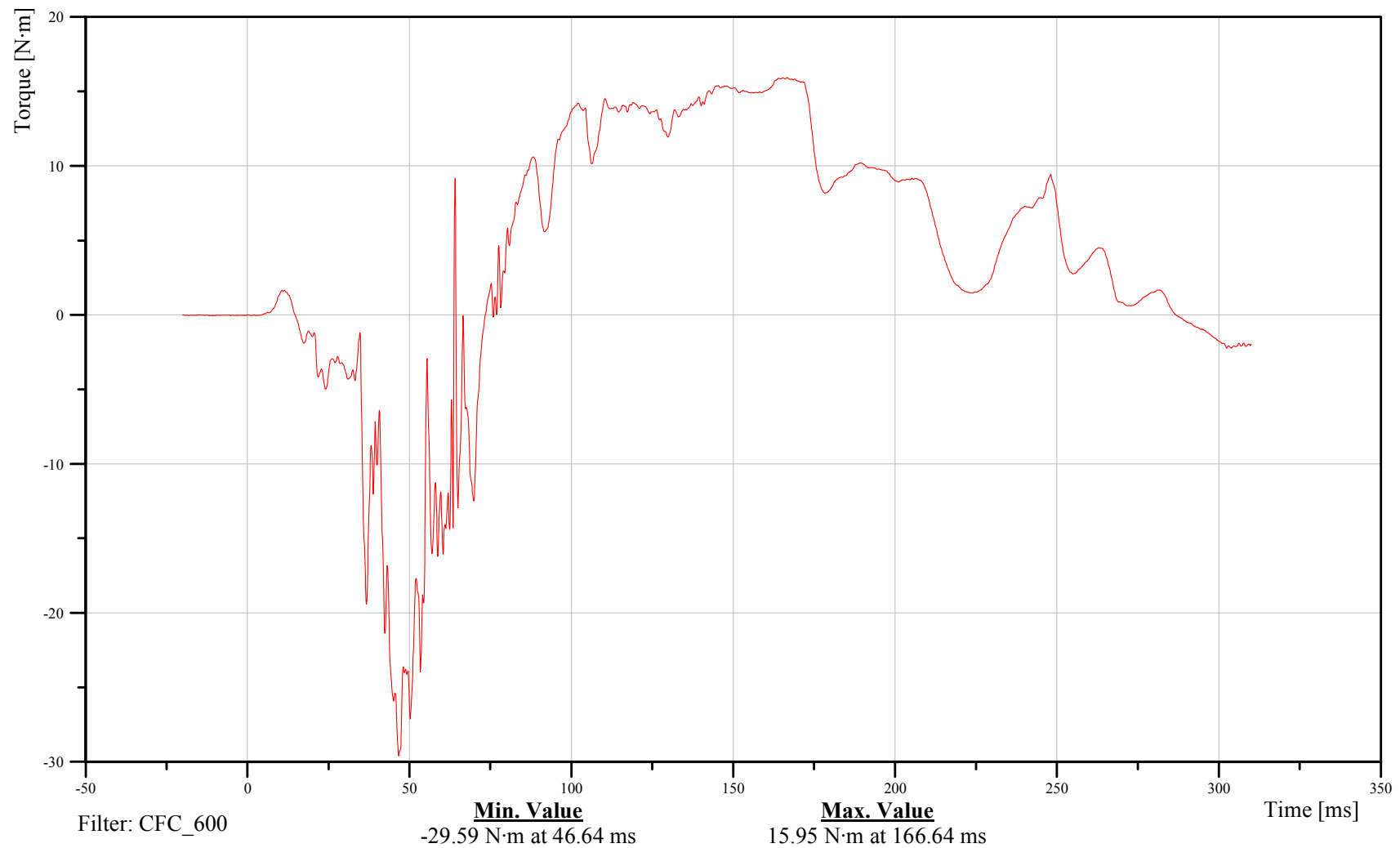
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2MOYB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Femur Moment Z

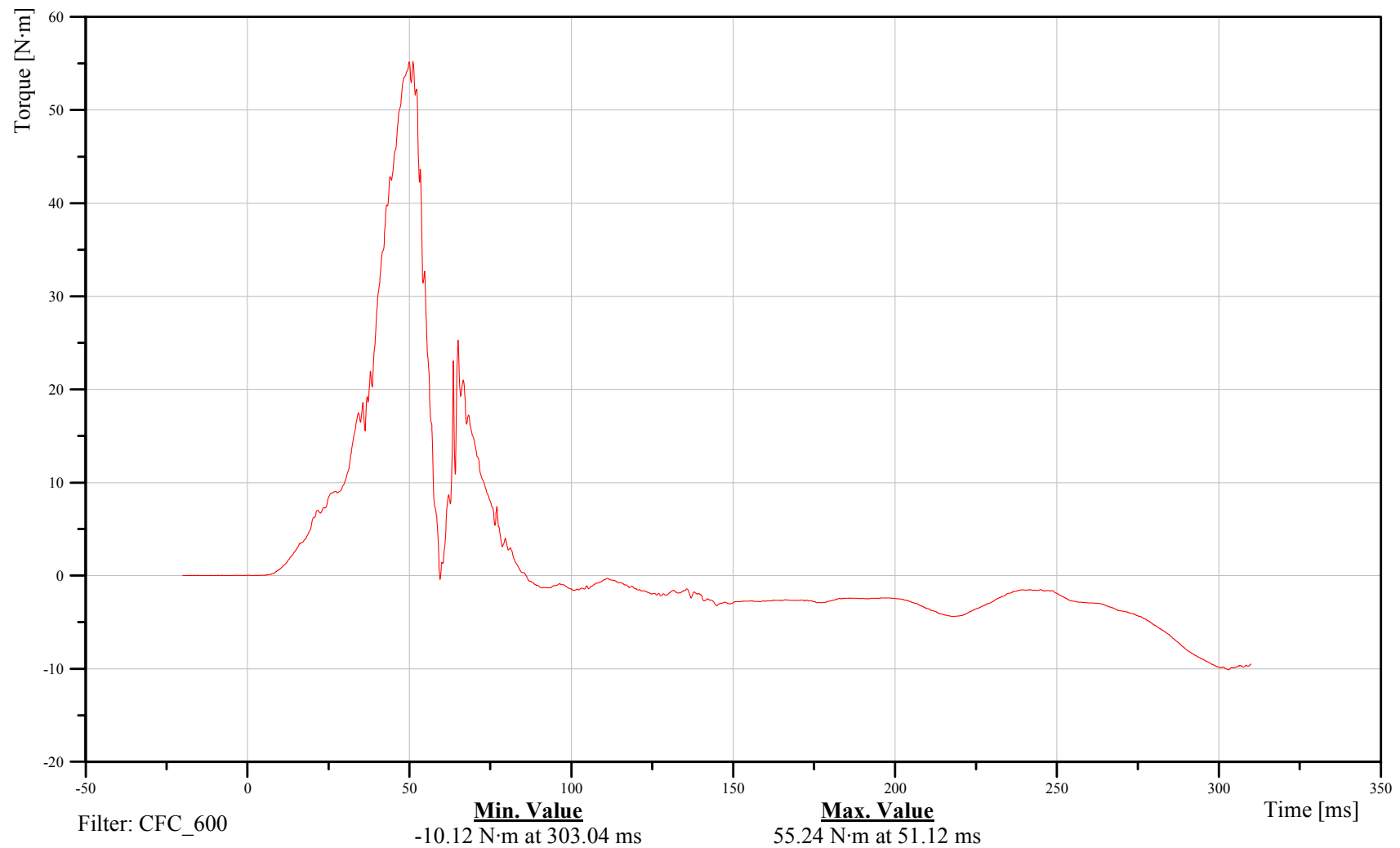
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14FEMRLE00S2MOZB

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Front Seat X-Axis Acceleration

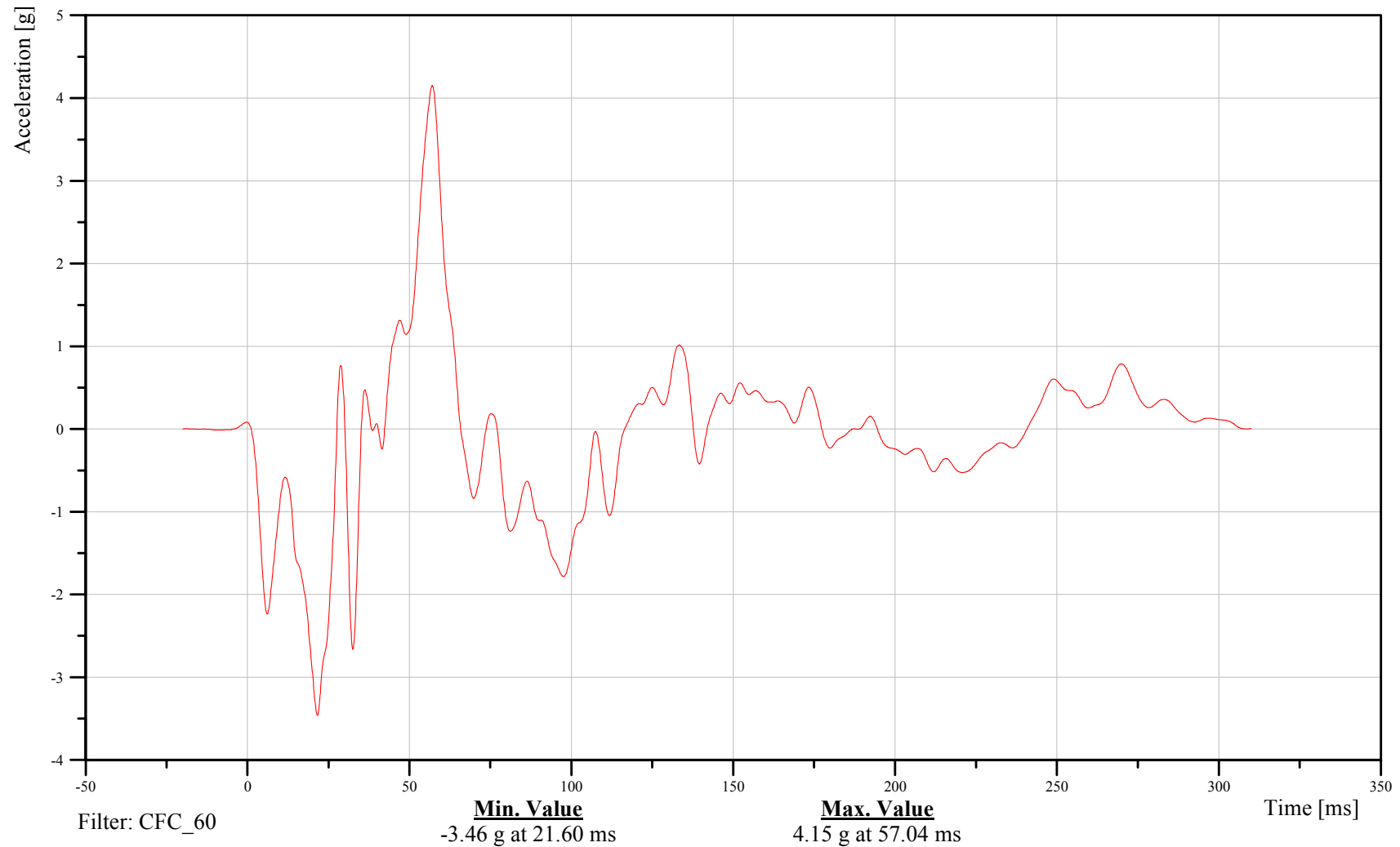
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBFR0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Front Seat Y-Axis Acceleration

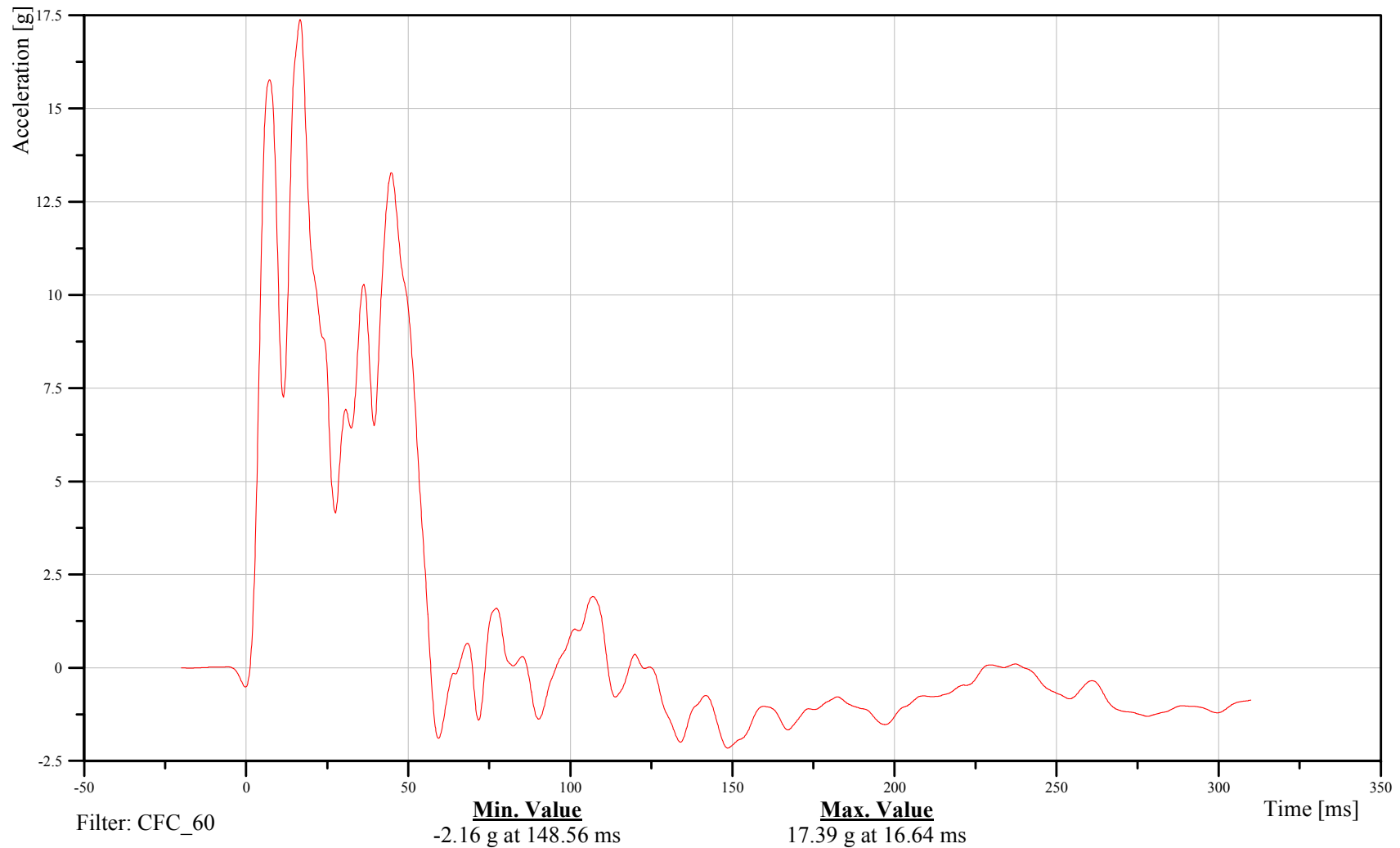
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Front Seat Y-Axis Velocity

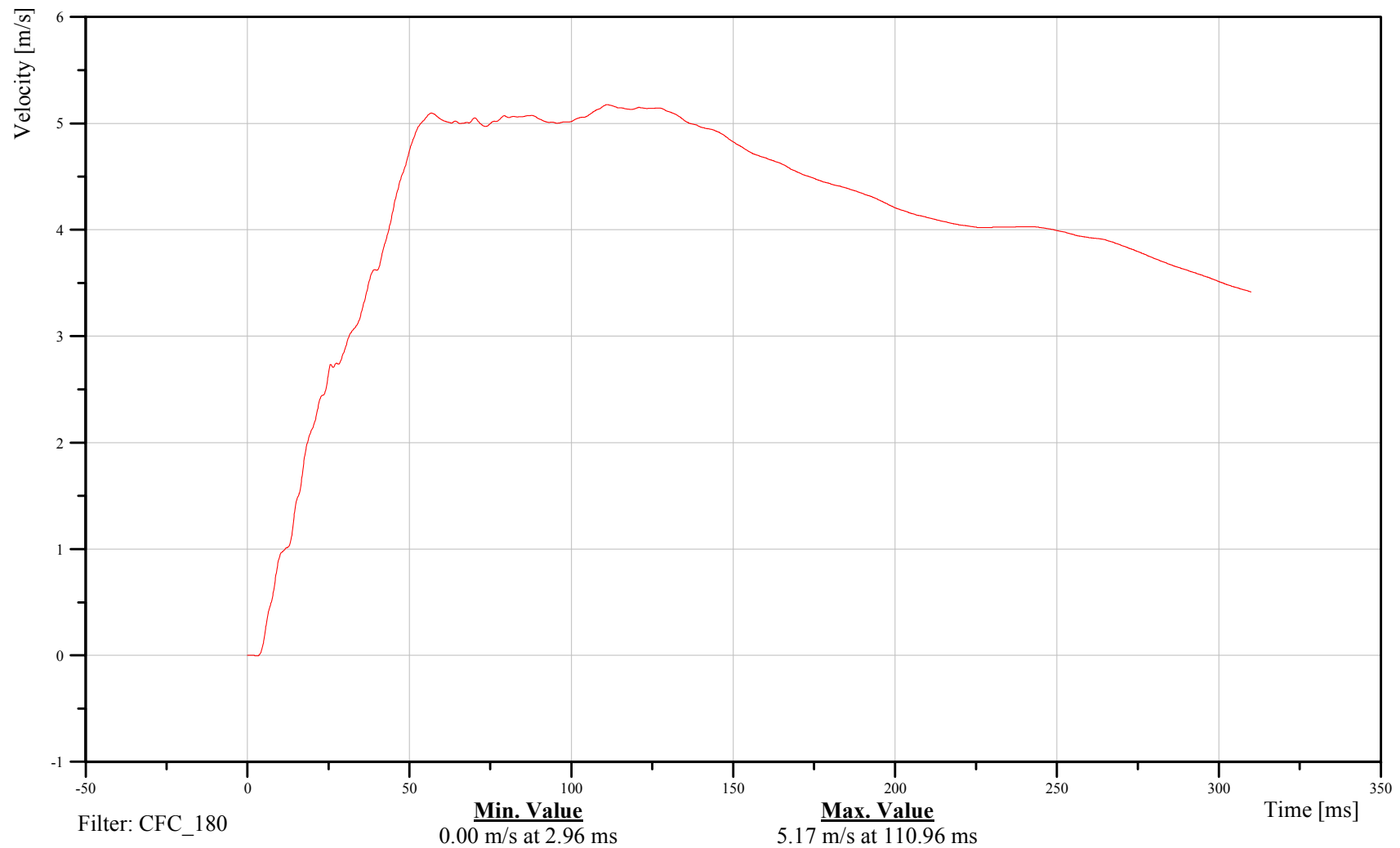
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Front Seat Y-Axis Displacement

Date: 07/29/2005

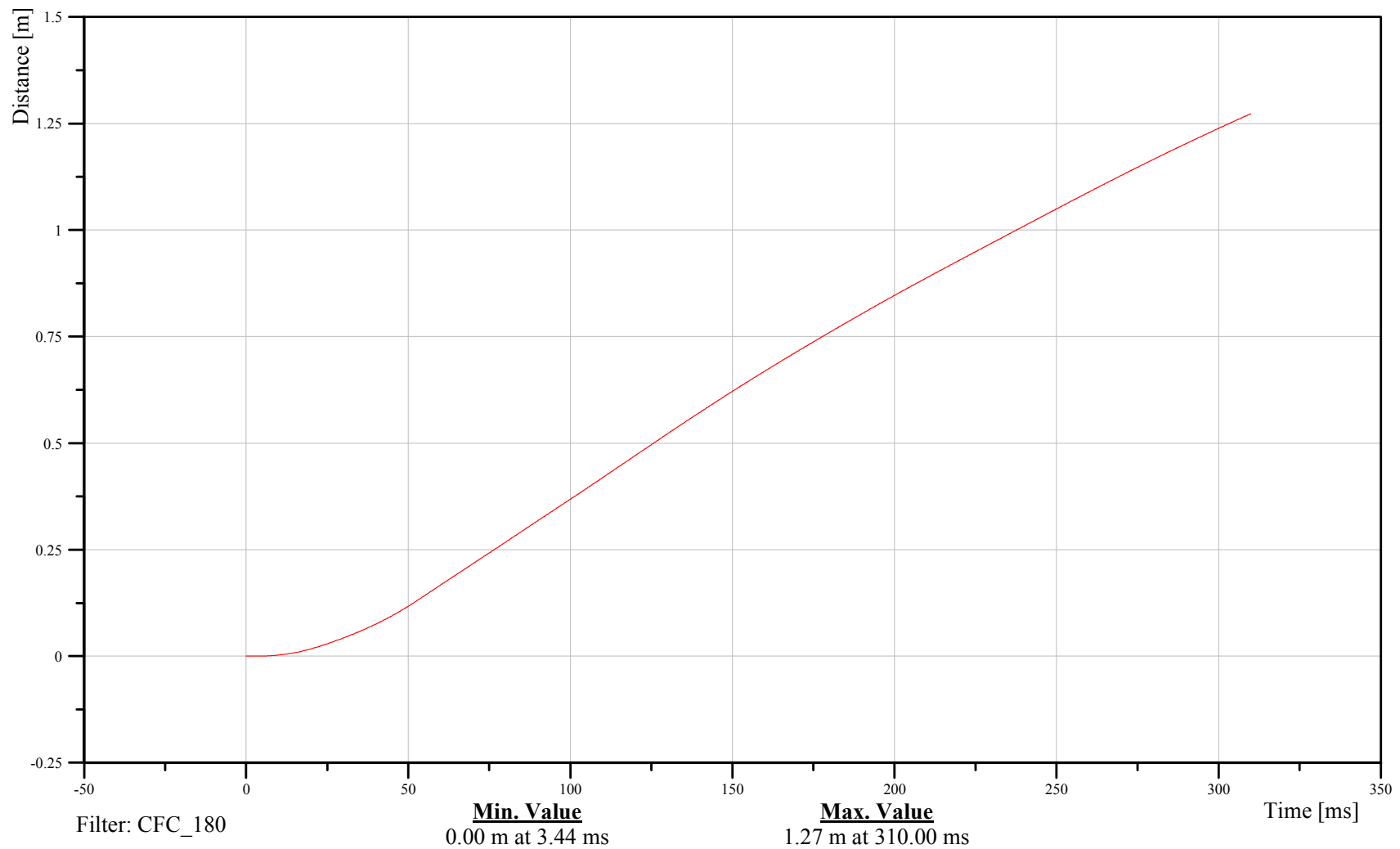
Time: 12:15

Customer: VRTC

16SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Front Seat Z-Axis Acceleration

Date: 07/29/2005

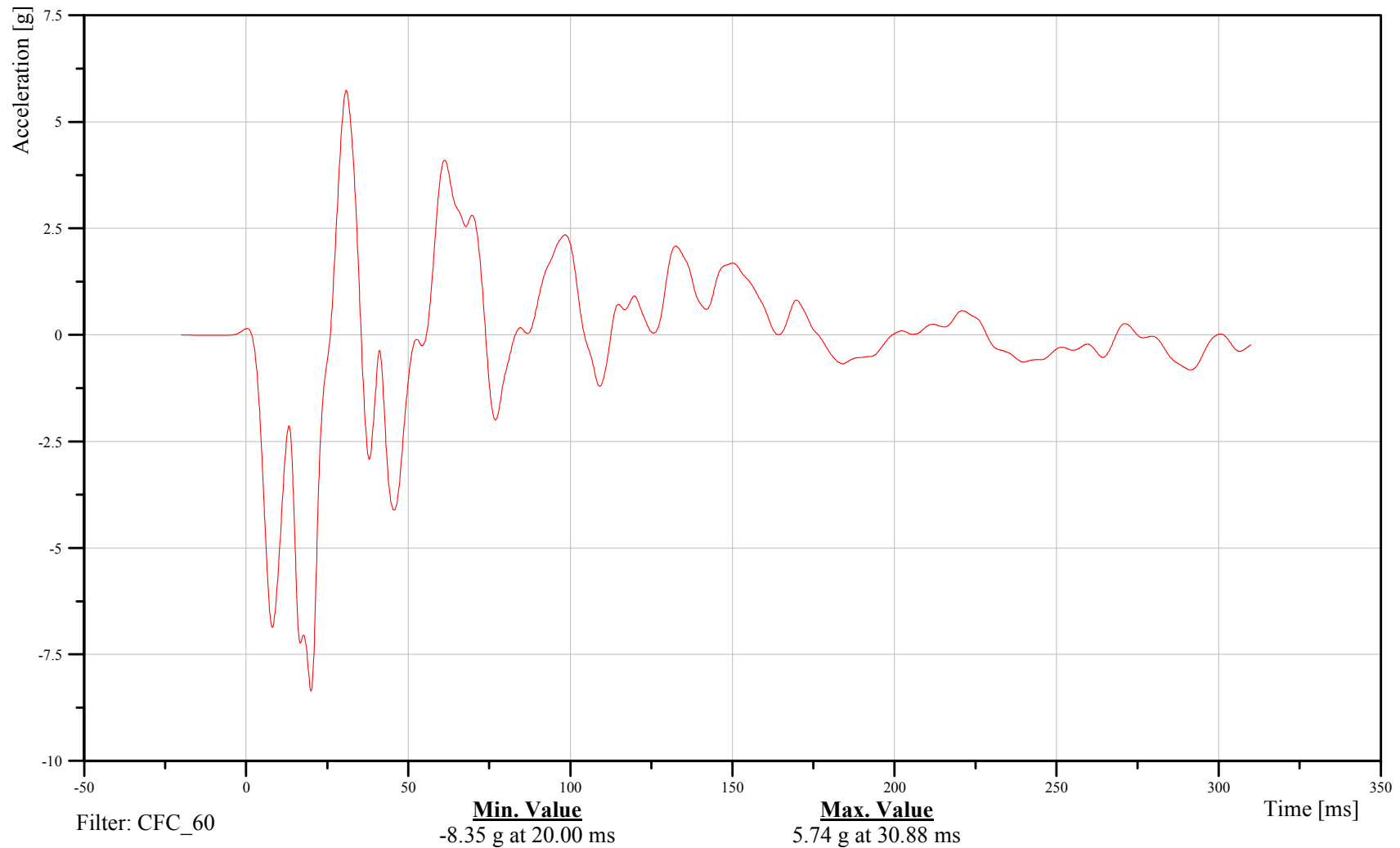
Time: 12:15

Customer: VRTC

16SILBFR0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

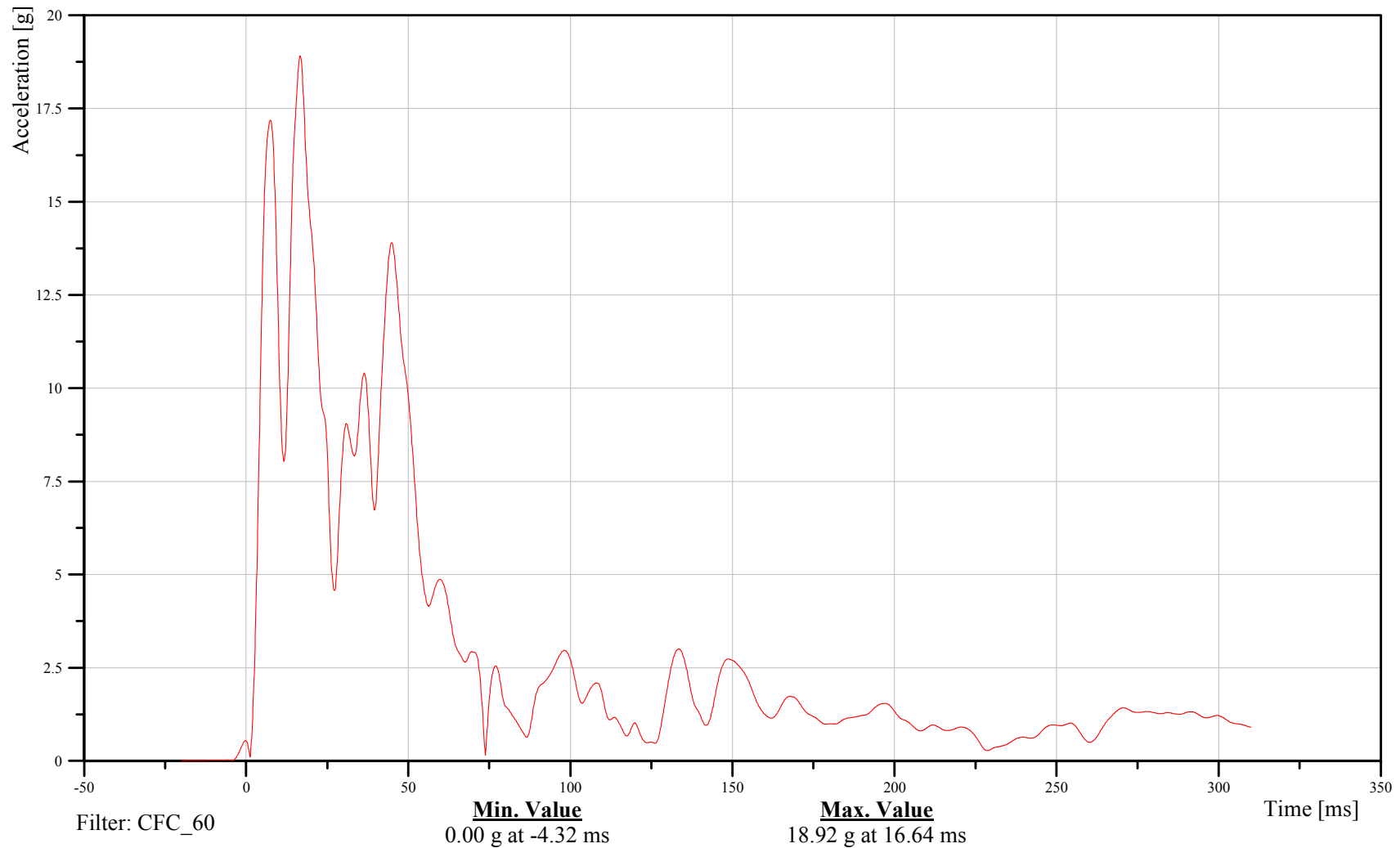
Right Side Sill at Front Seat Resultant Acceleration

Customer: VRTC

16SILBFR0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat X-Axis Acceleration

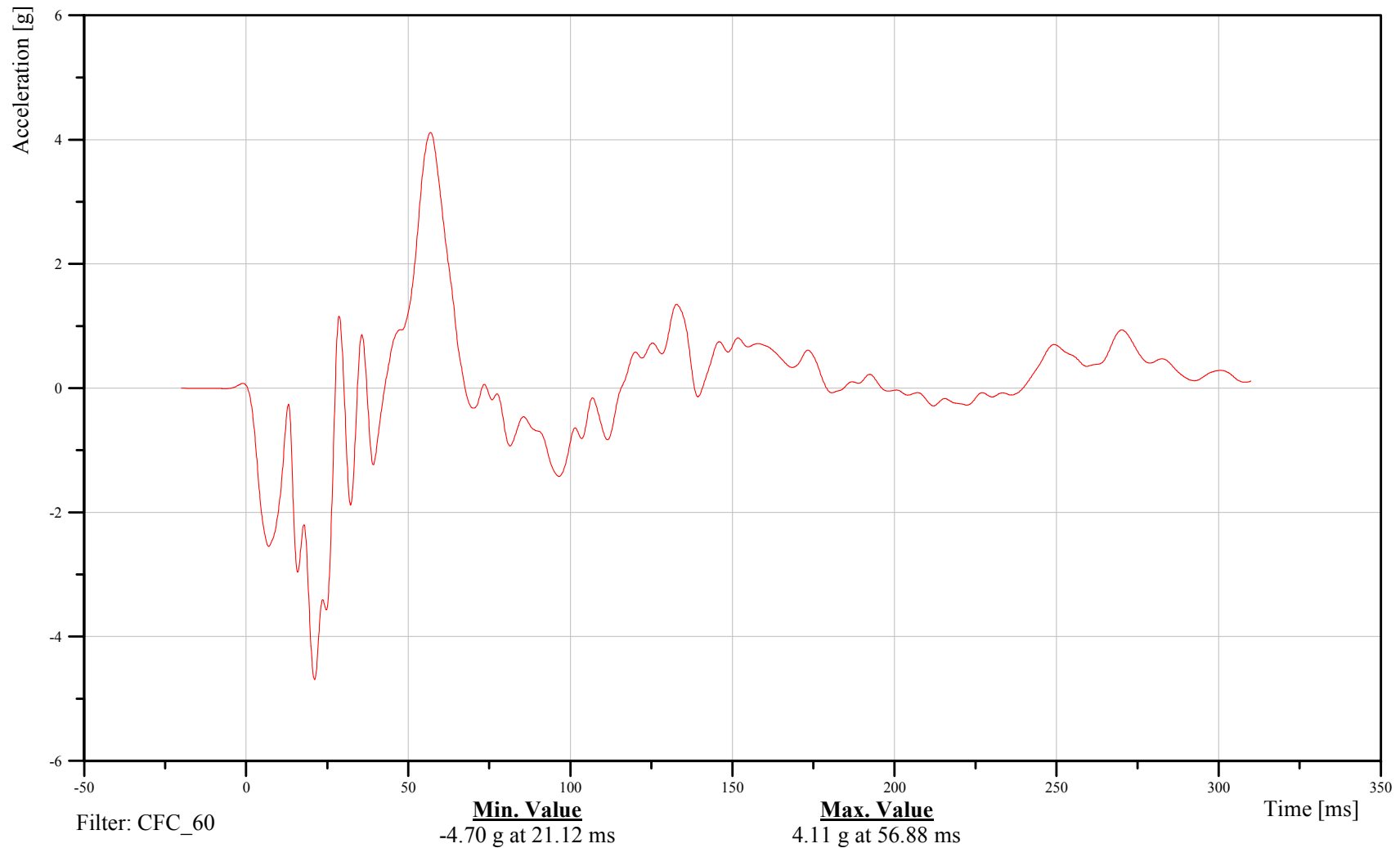
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBRE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat Y-Axis Acceleration

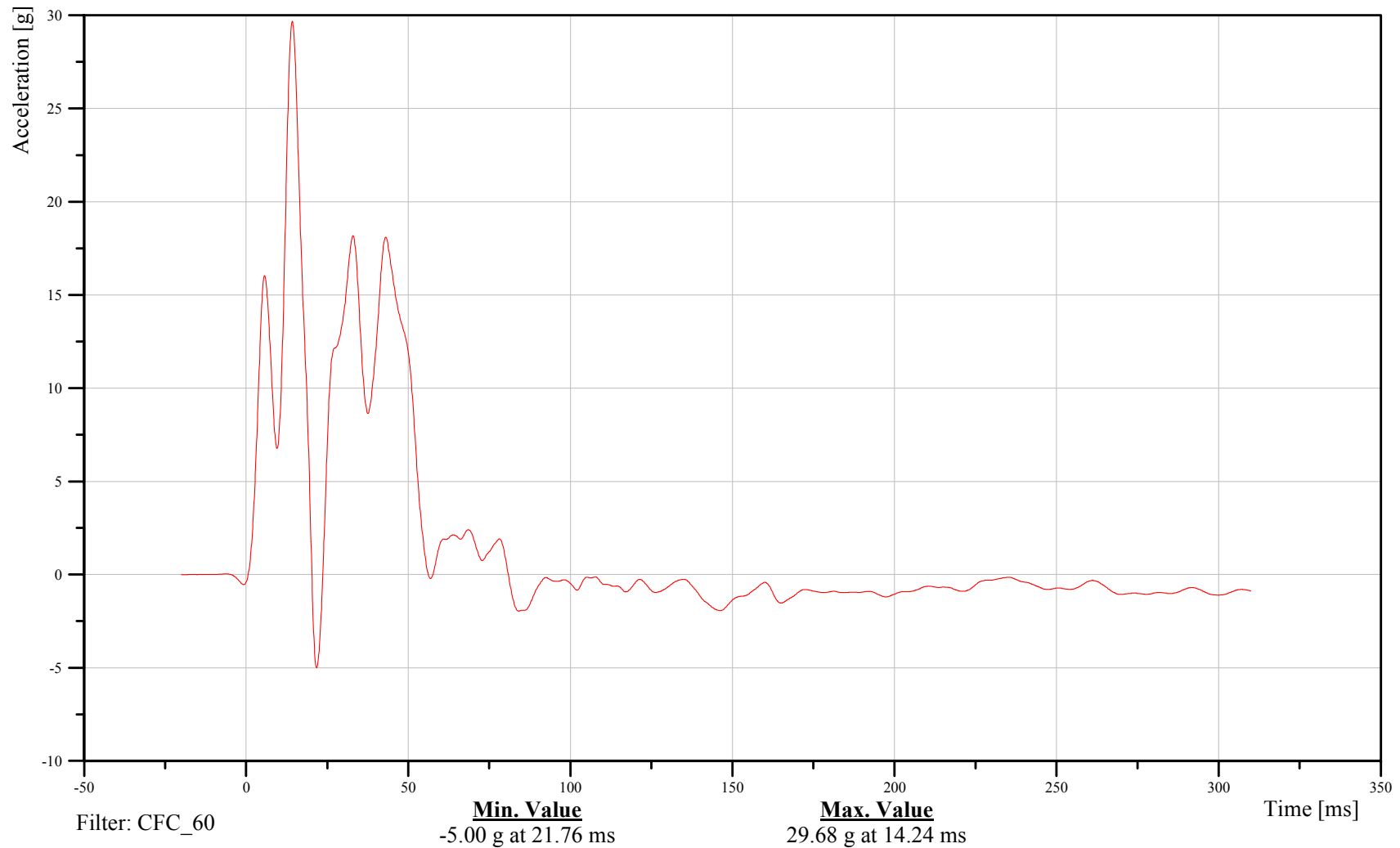
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat Y-Axis Velocity

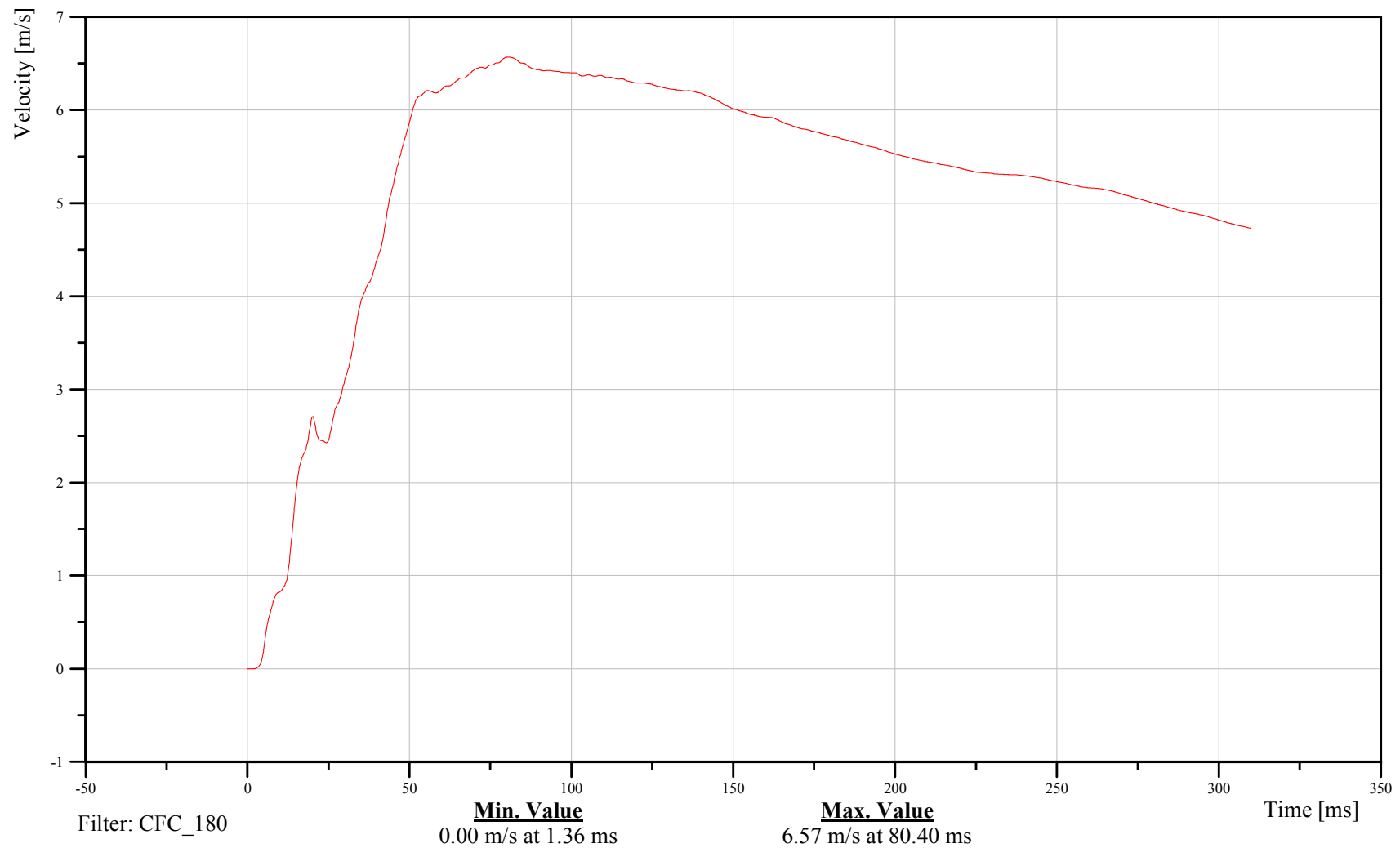
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBRE0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat Y-Axis Displacement

Date: 07/29/2005

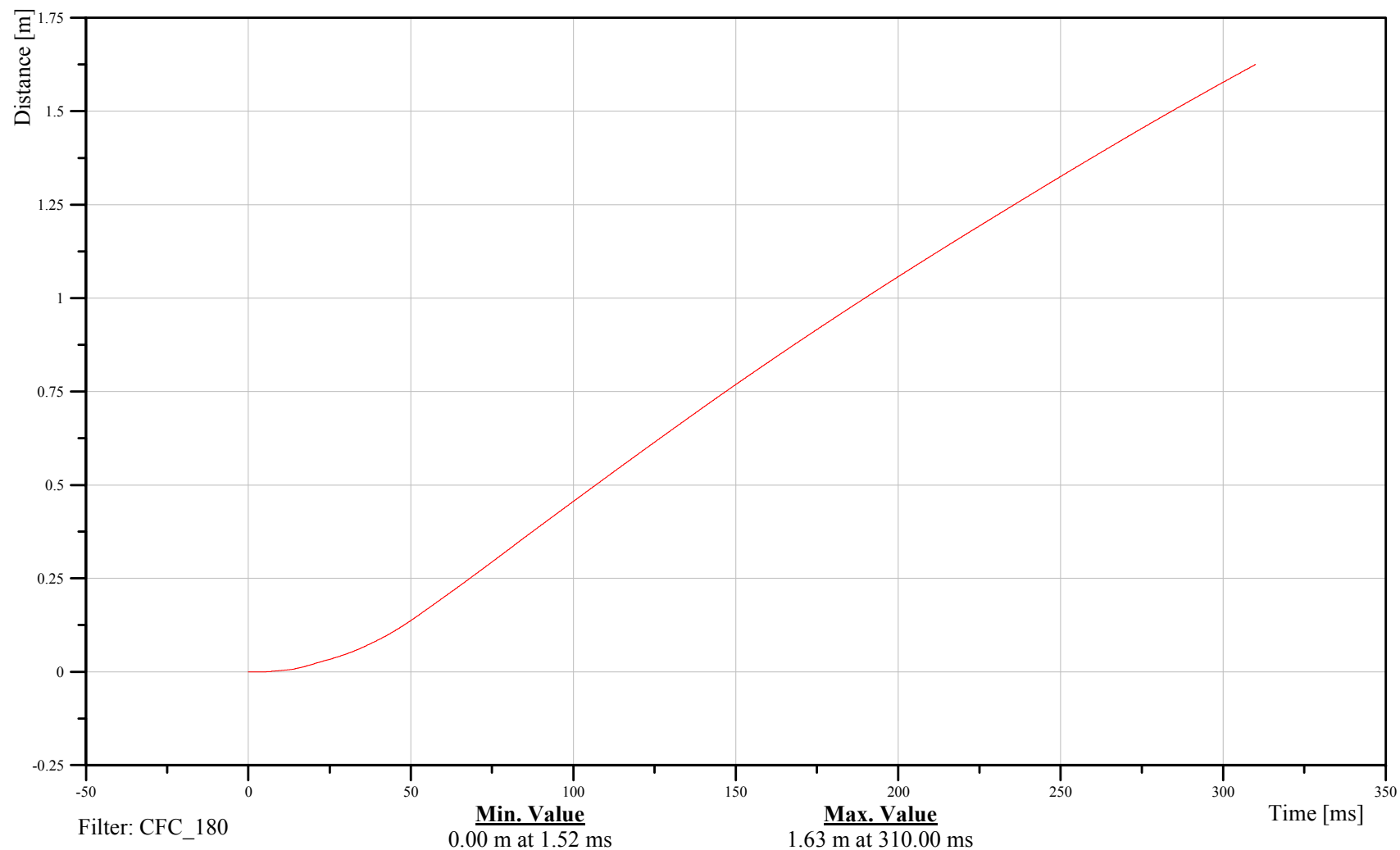
Time: 12:15

Customer: VRTC

16SILBRE0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat Z-Axis Acceleration

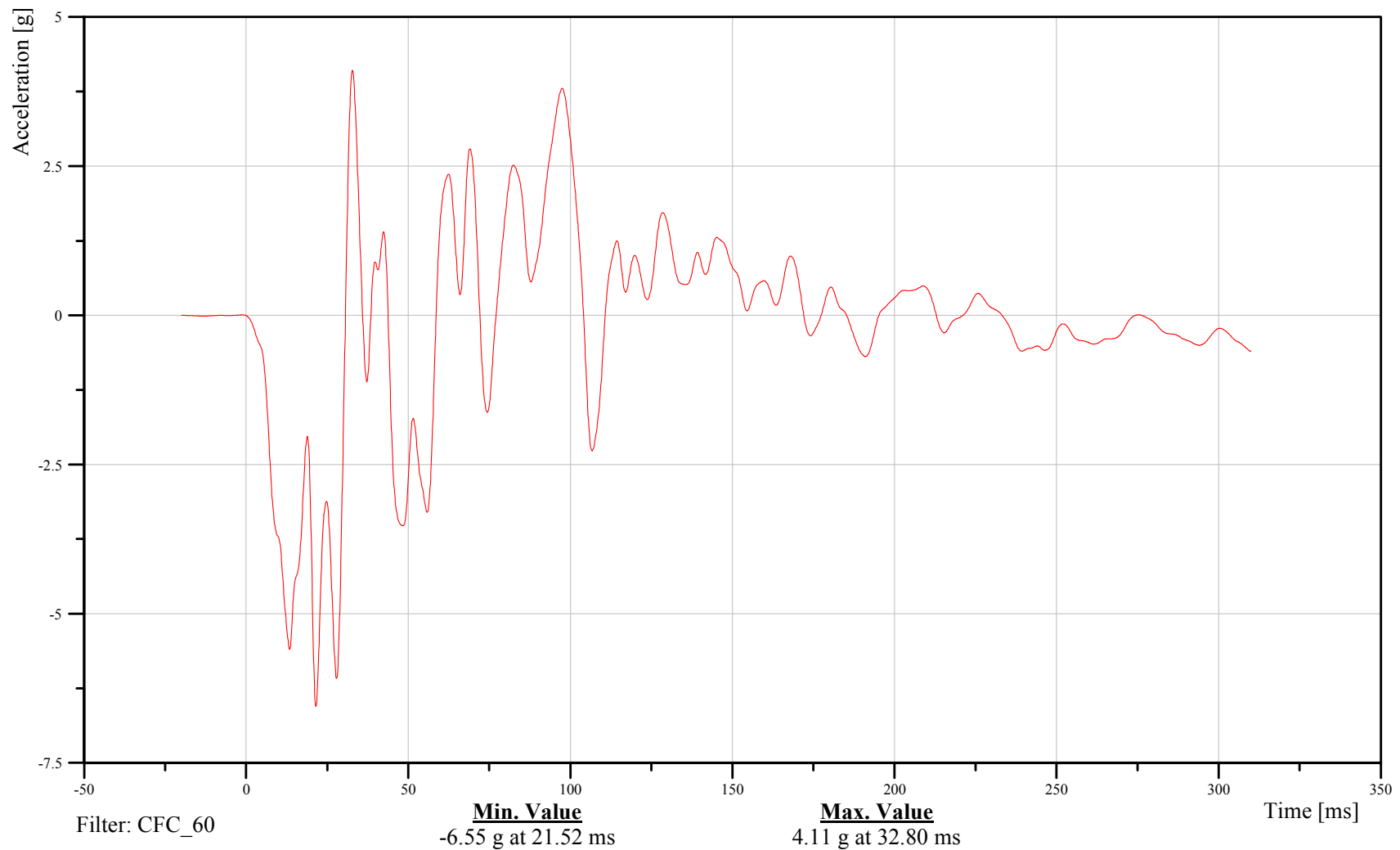
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBRE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Right Side Sill at Rear Seat Resultant Acceleration

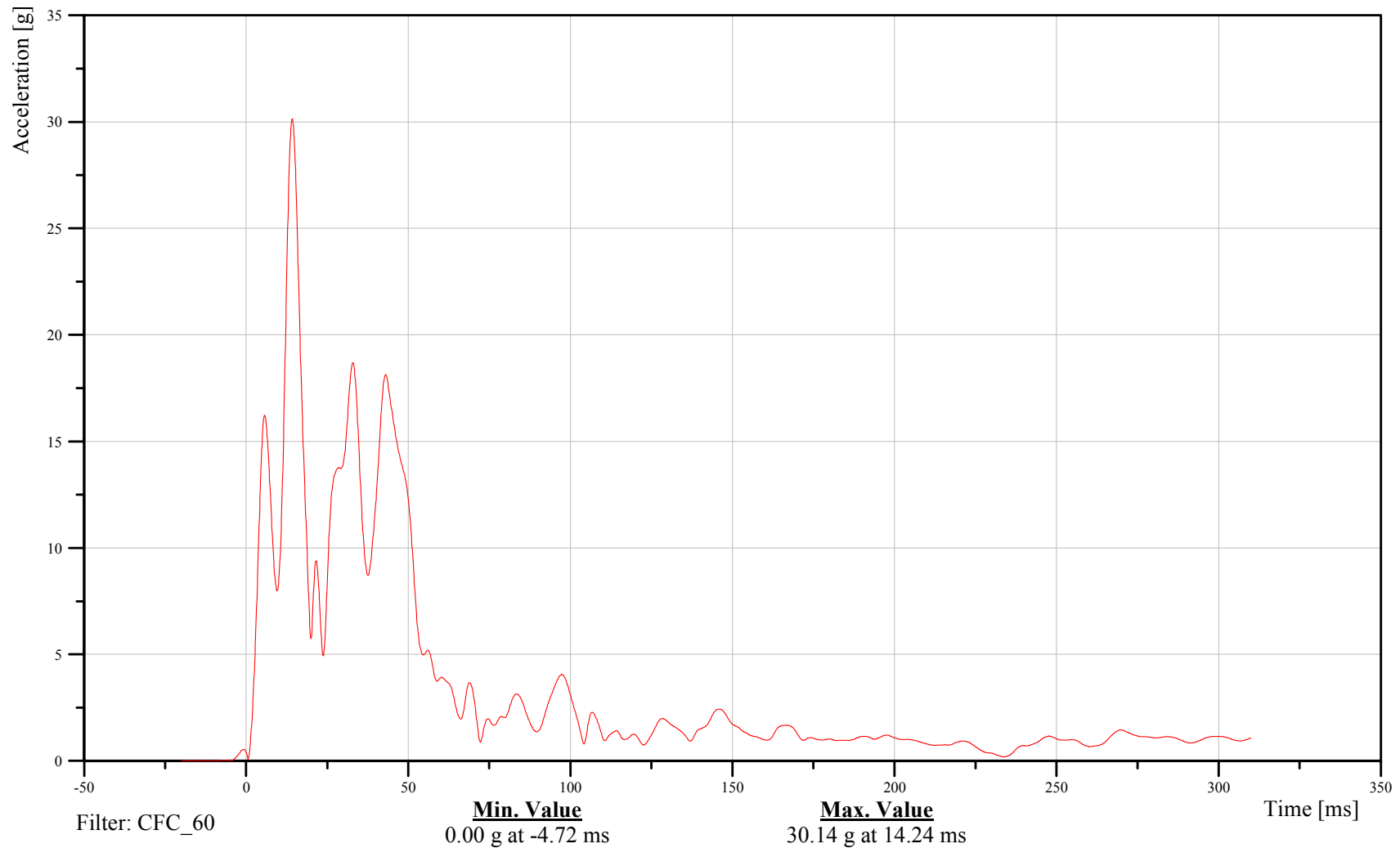
Date: 07/29/2005
Time: 12:15

Customer: VRTC

16SILBRE0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Rear Floorpan Above Axle X-Axis Acceleration

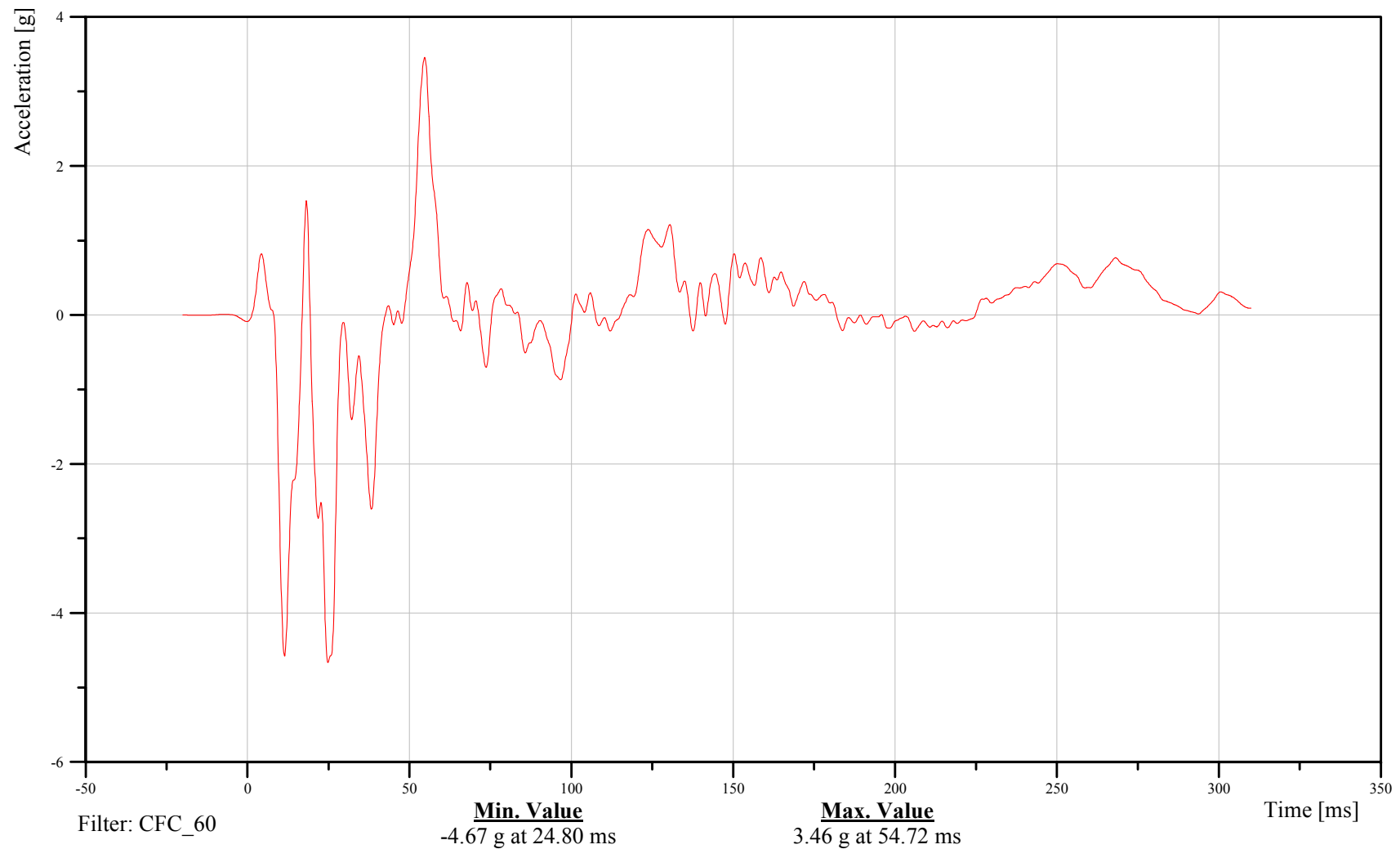
Date: 07/29/2005
Time: 12:15

Customer: VRTC

18FORA000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Rear Floorpan Above Axle Y-Axis Acceleration

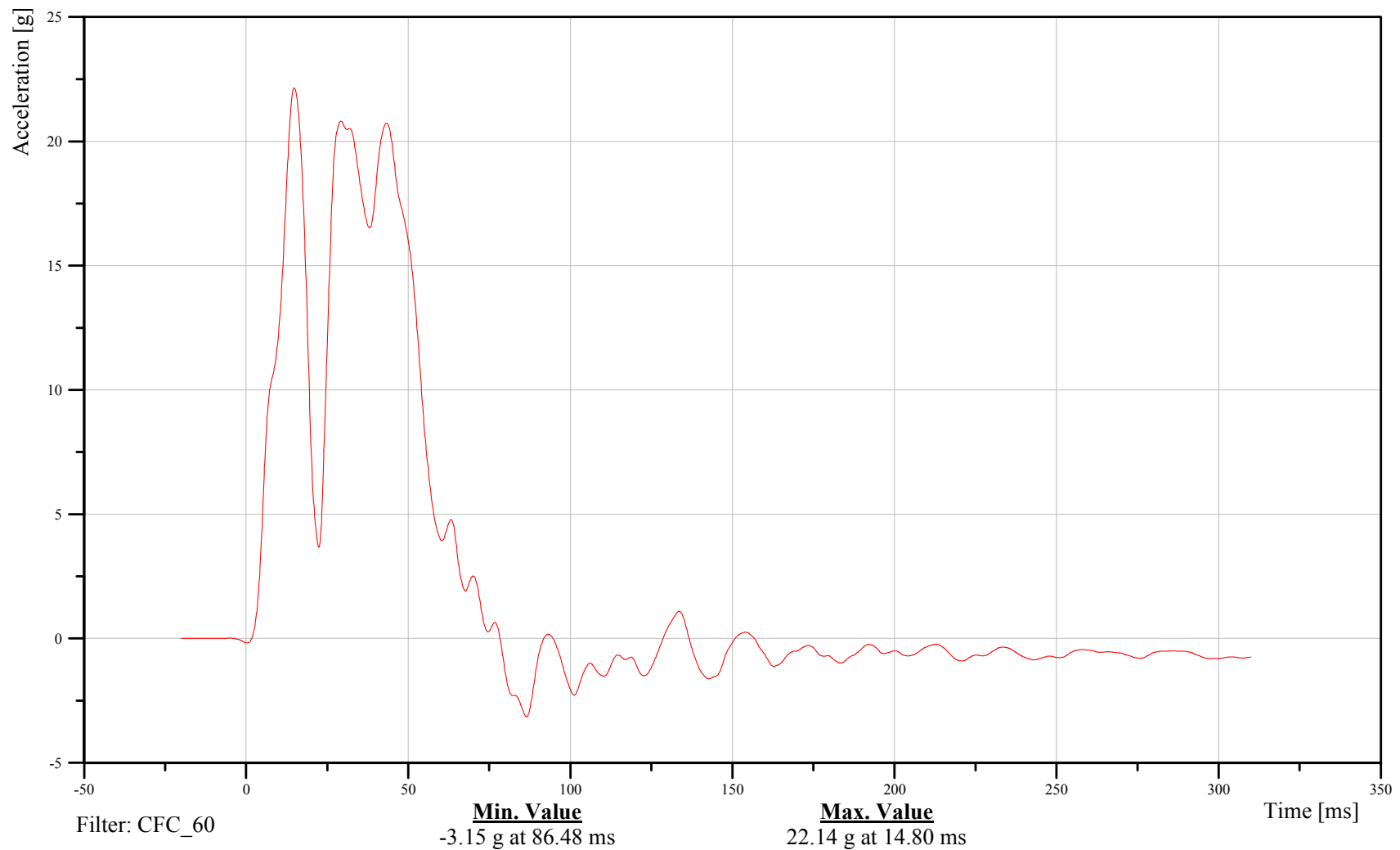
Date: 07/29/2005
Time: 12:15

Customer: VRTC

18FORA000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Rear Floorpan Above Axle Z-Axis Acceleration

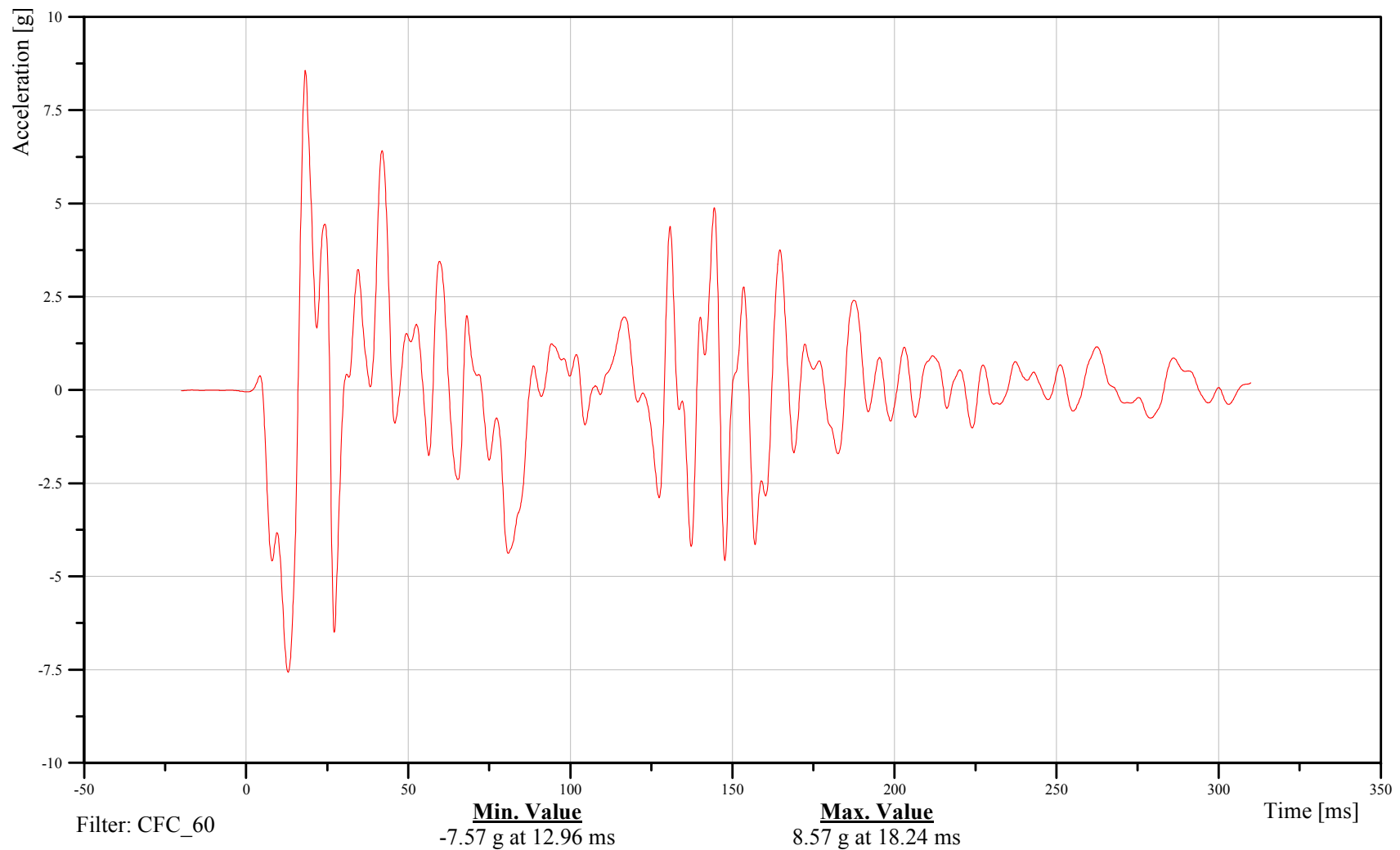
Date: 07/29/2005
Time: 12:15

Customer: VRTC

18FORA000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

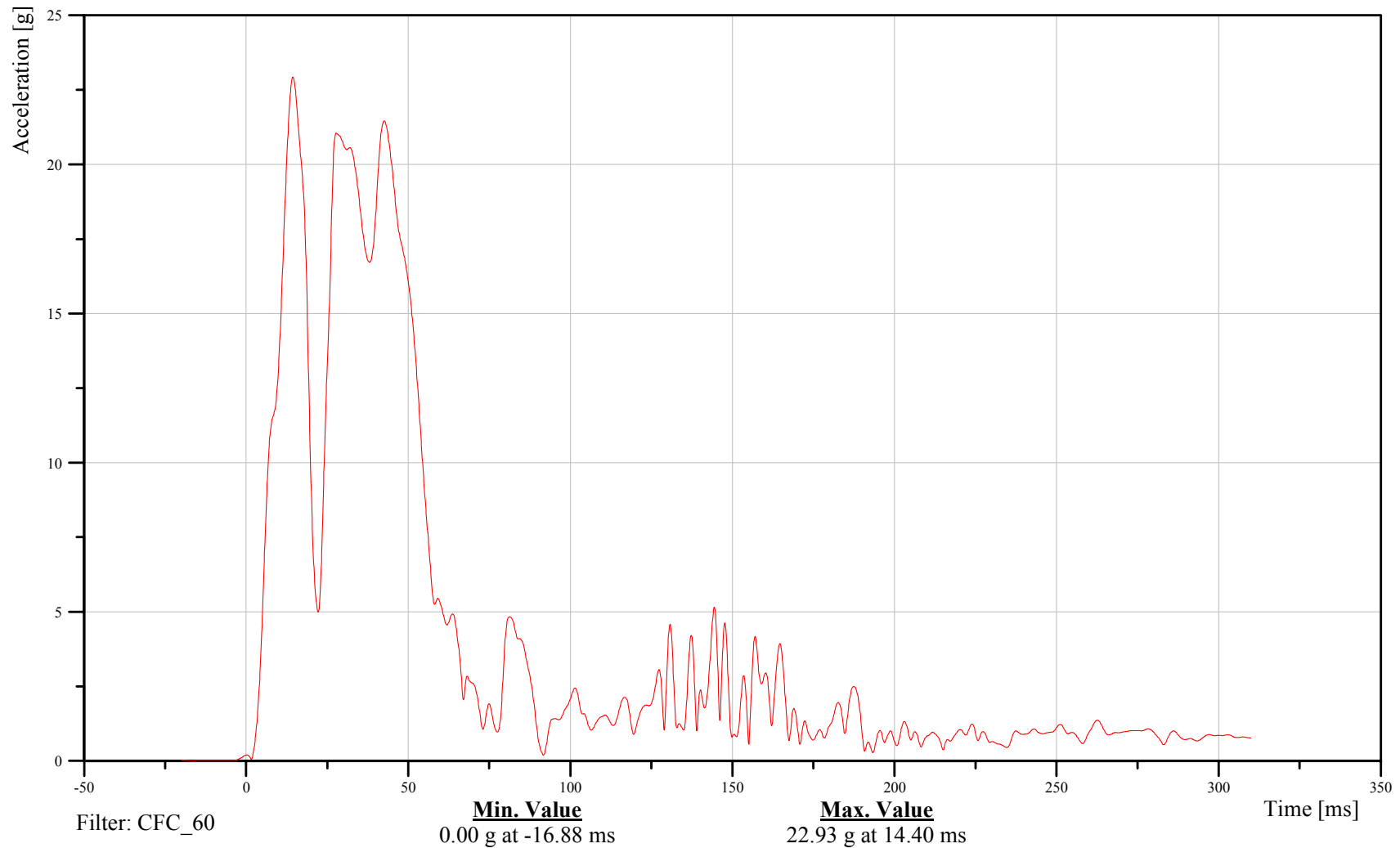
Rear Floorpan Above Axle Resultant Acceleration

Customer: VRTC

18FORA000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Side Sill at Rear Seat Y-Axis Acceleration

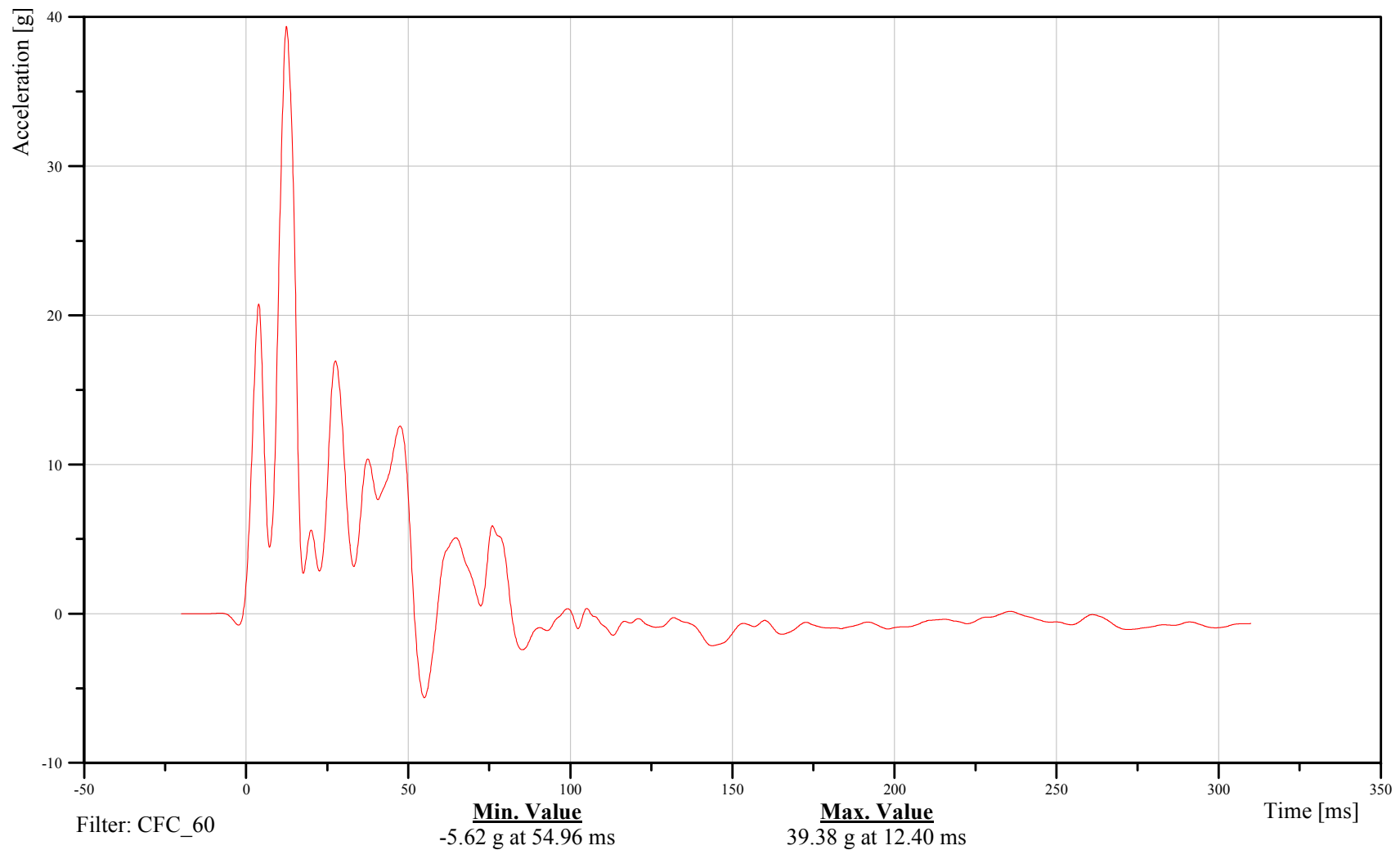
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SILBRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Side Sill at Front Seat Y-Axis Acceleration

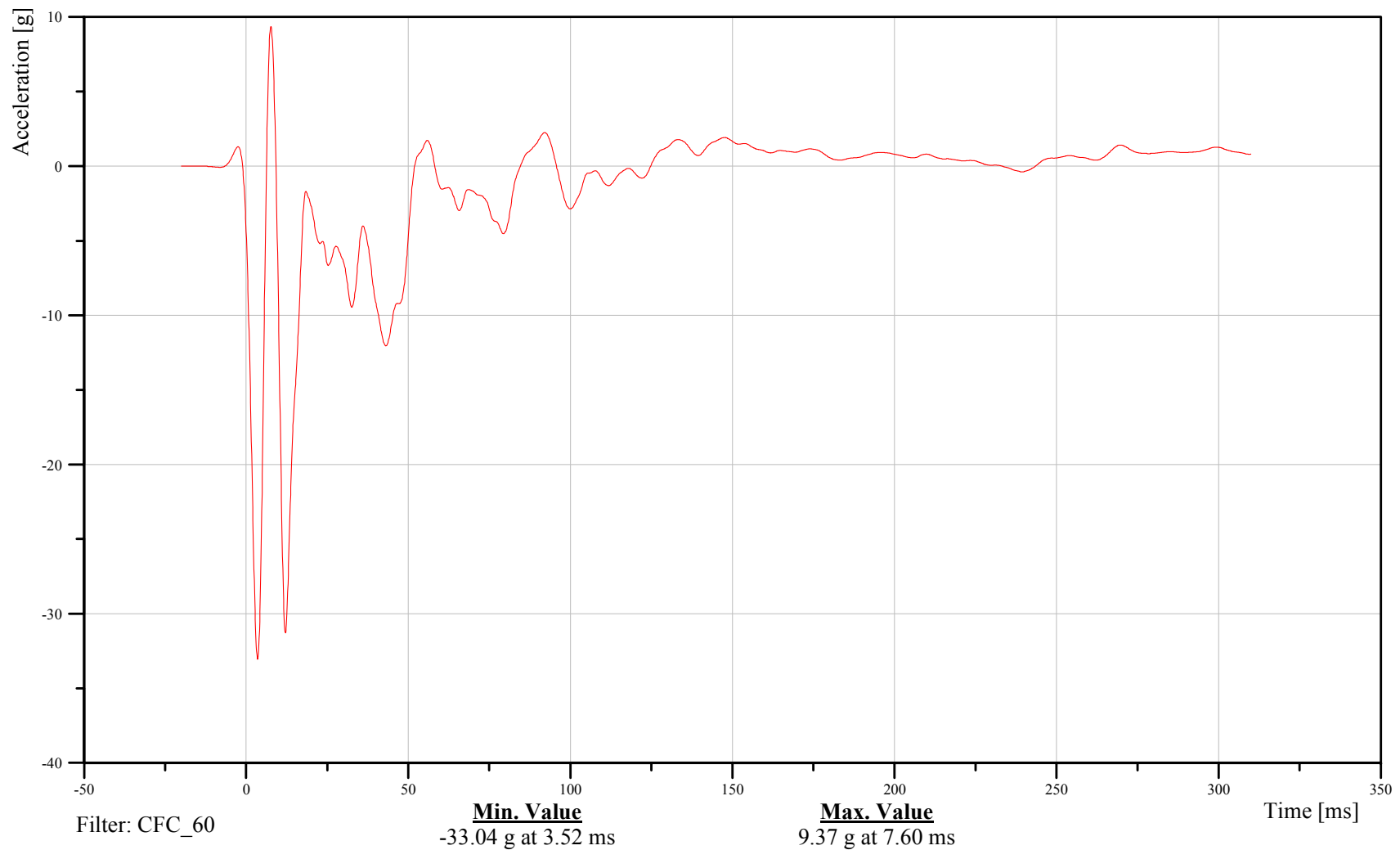
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Right Rear Occupant Compartment Y-Axis Acceleration

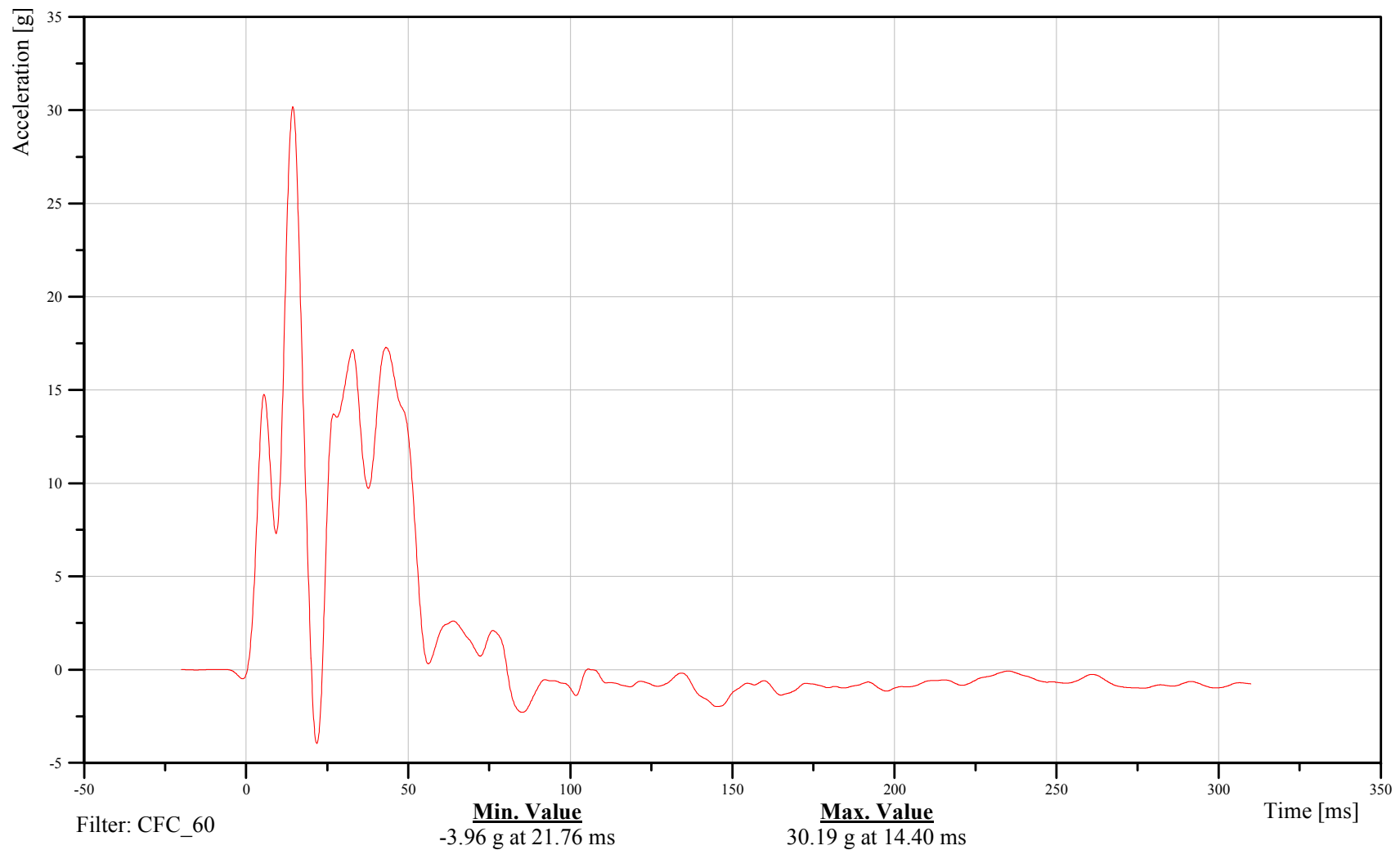
Time: 12:15

Customer: VRTC

16VEHCRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Lower B-Post Y-Axis Acceleration

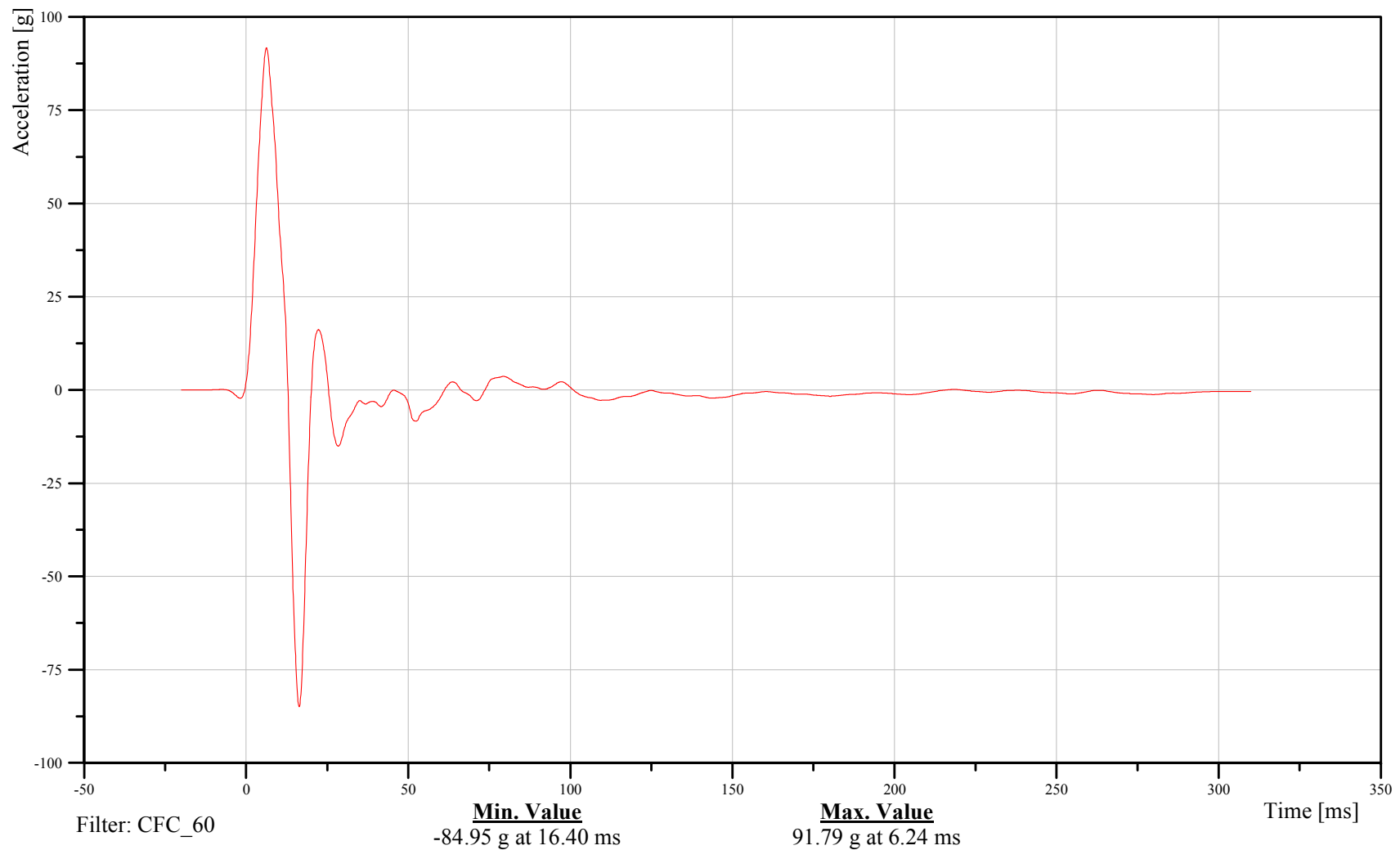
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14BPILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Middle B-Post Y-Axis Acceleration

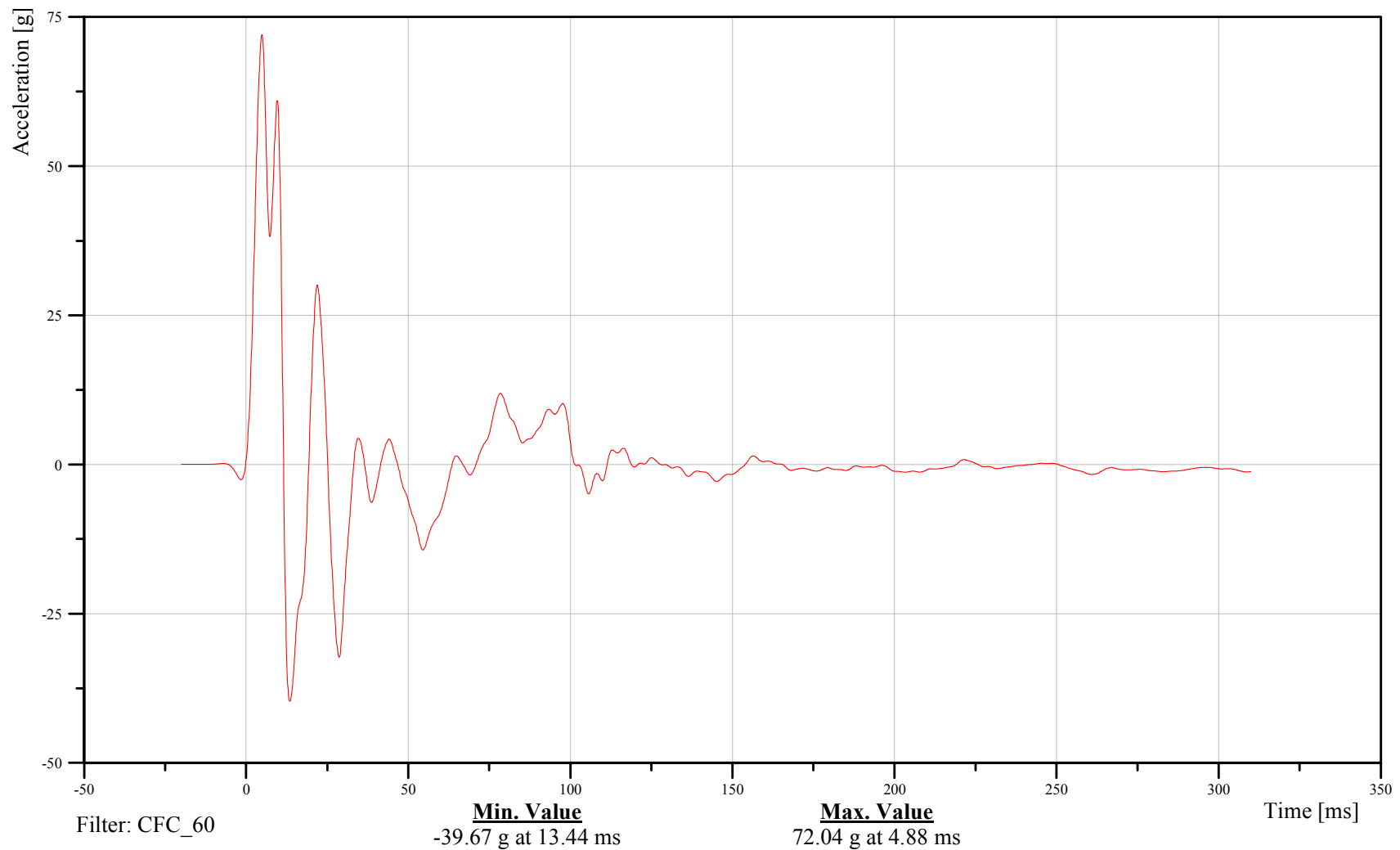
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14BPILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Lower A-Post Y-Axis Acceleration

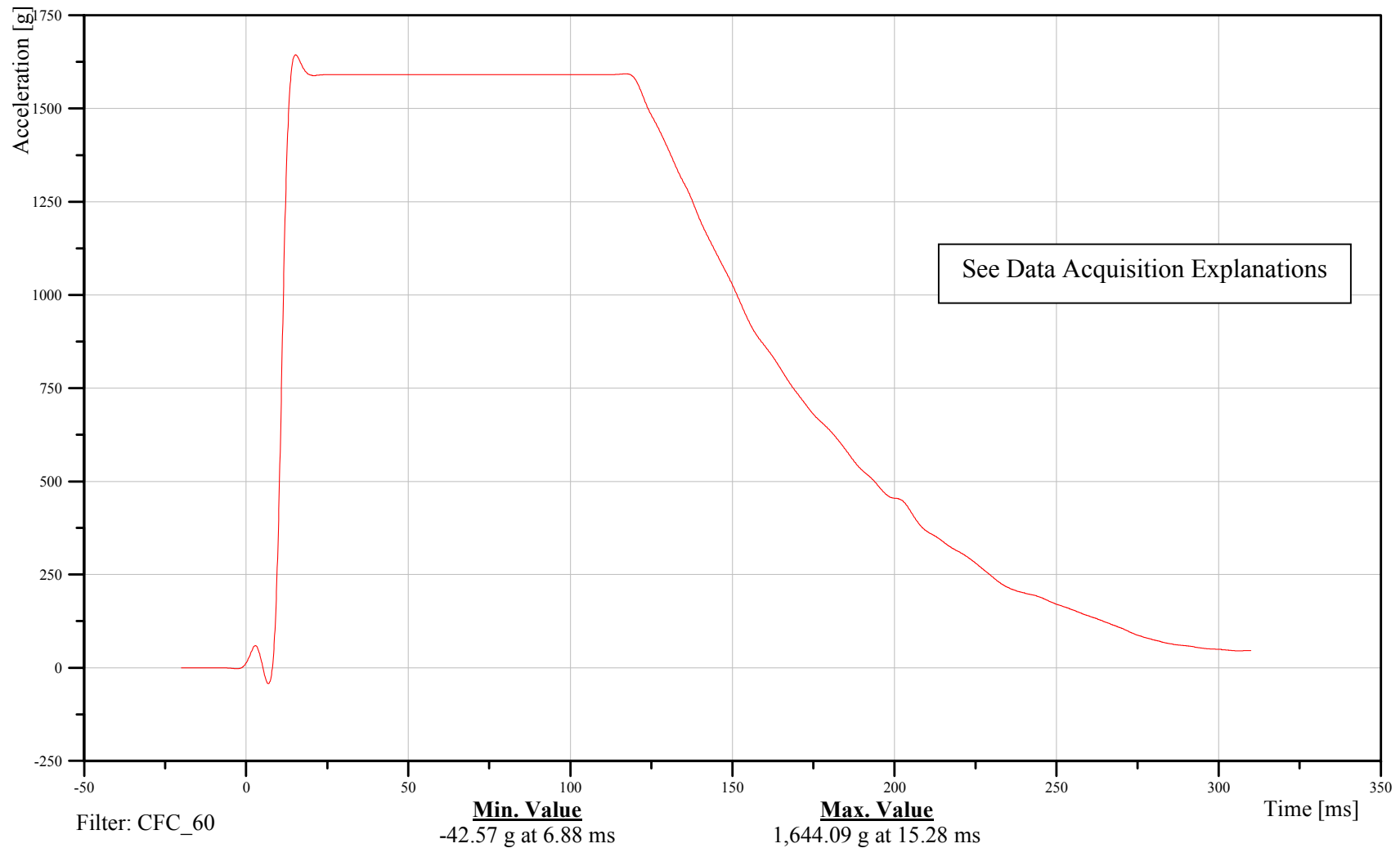
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11APILO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Middle A-Post Y-Axis Acceleration

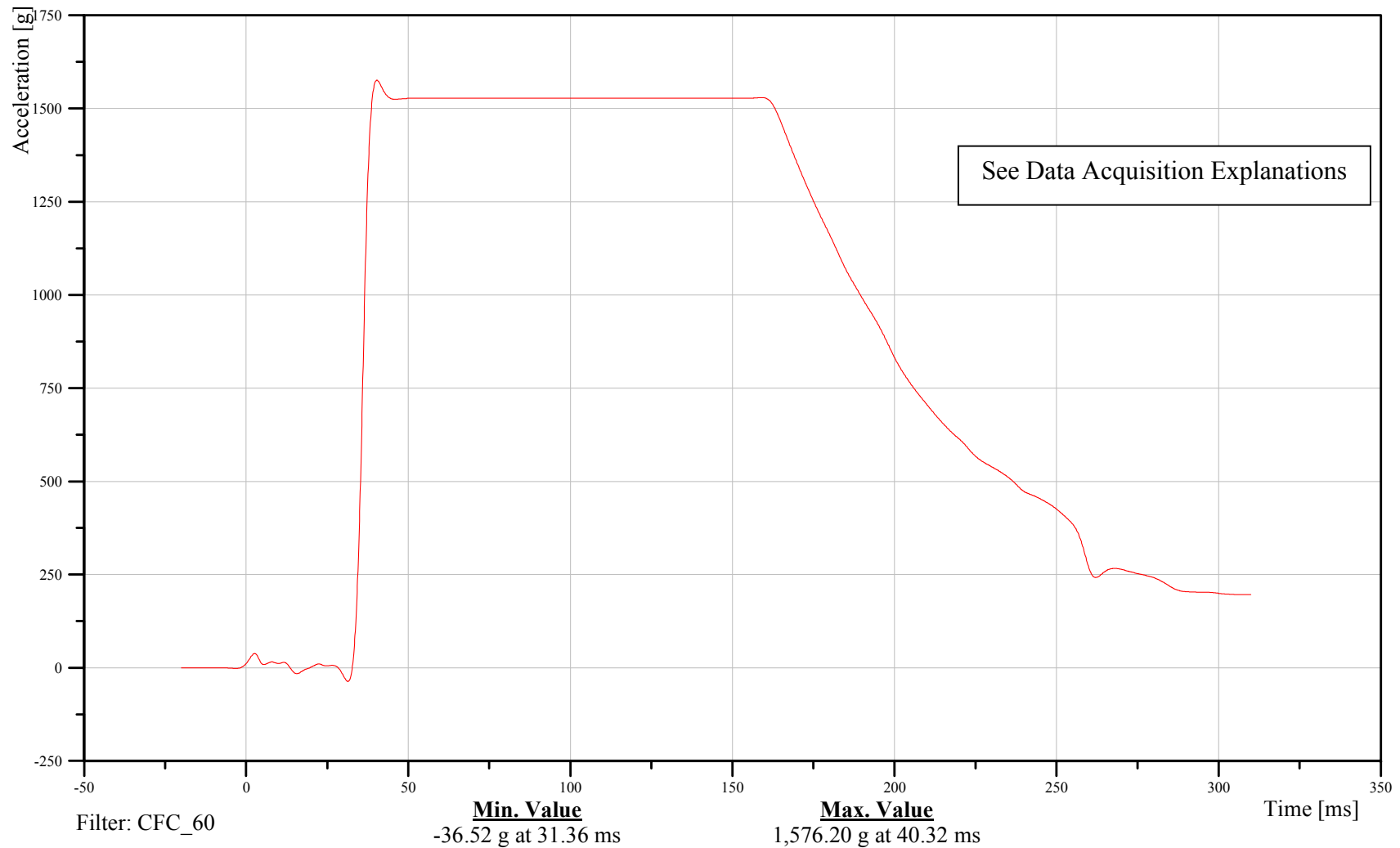
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Front Seat Track Y-Axis Acceleration

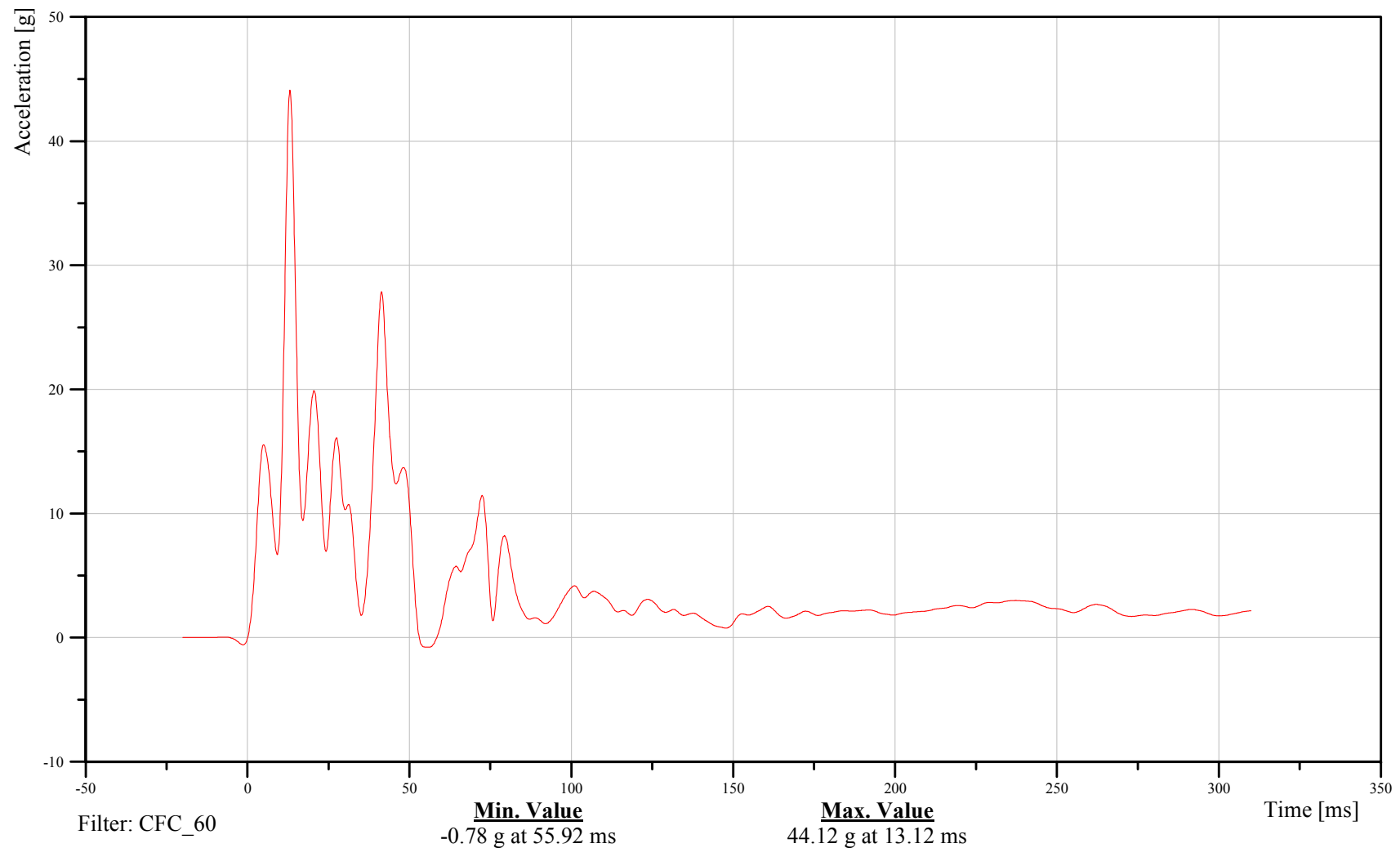
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SETRFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Rear Seat Track Y-Axis Acceleration

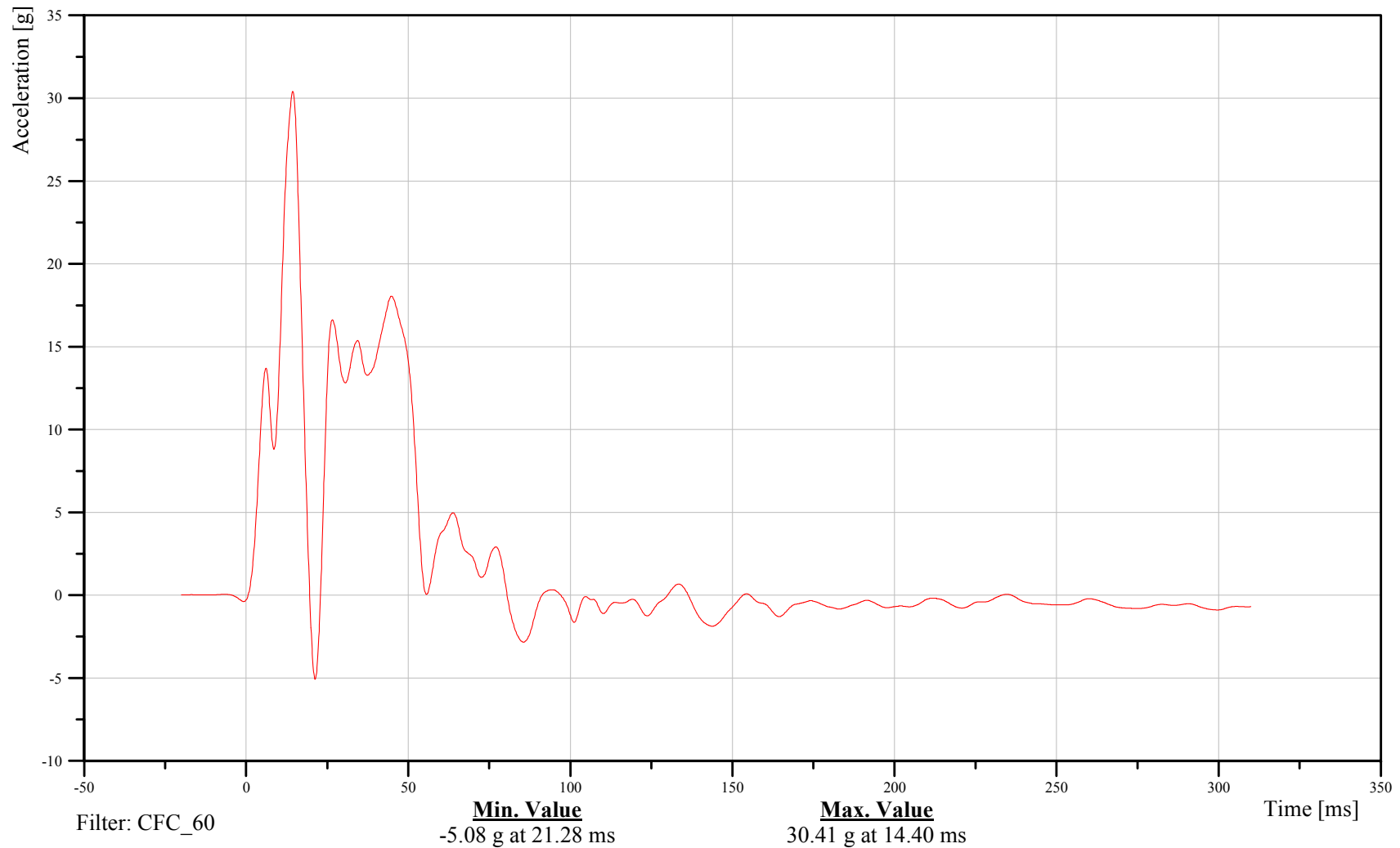
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14SETRLERE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Vehicle Center of Gravity X-Axis Acceleration

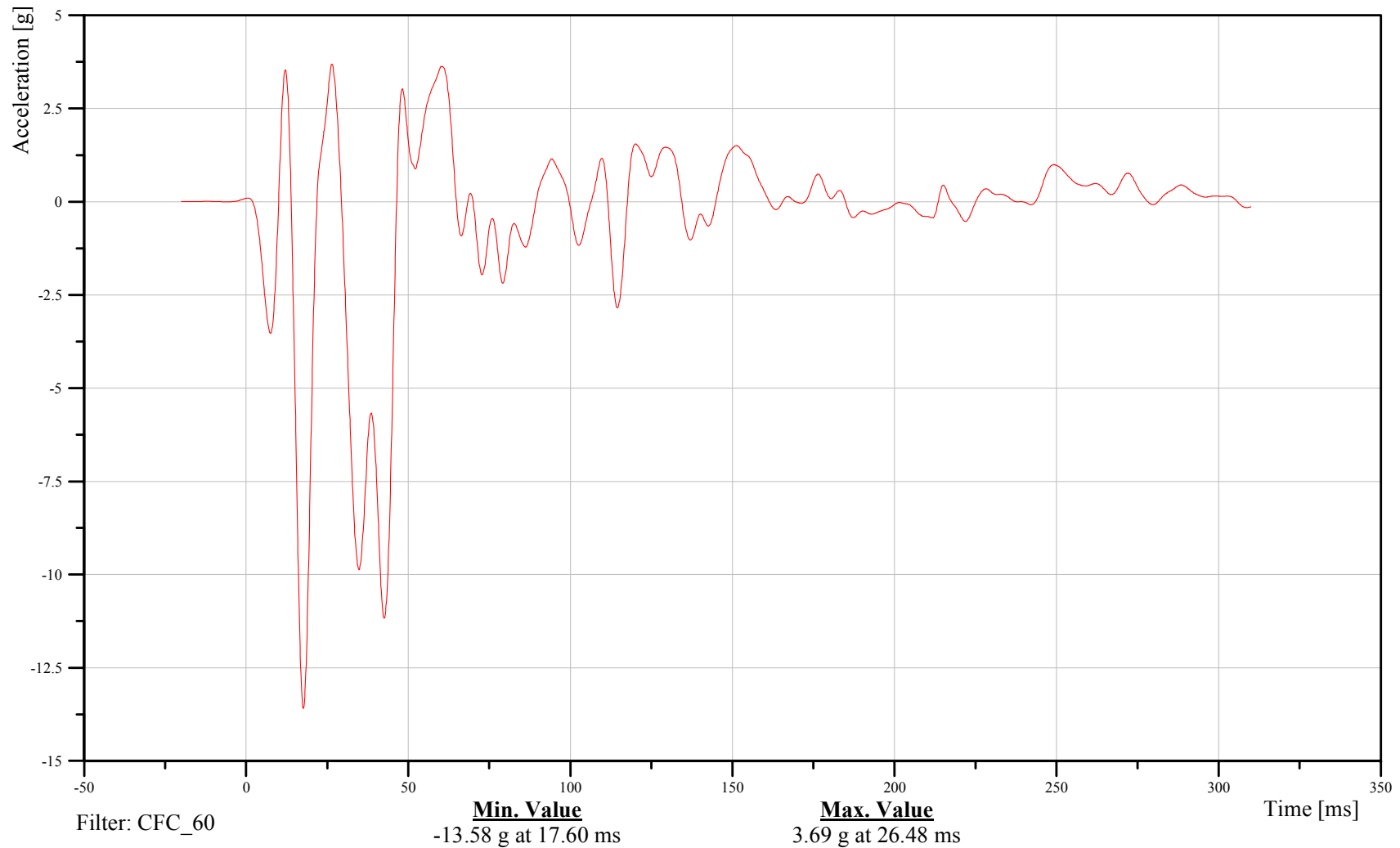
Date: 07/29/2005
Time: 12:15

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Vehicle Center of Gravity Y-Axis Acceleration

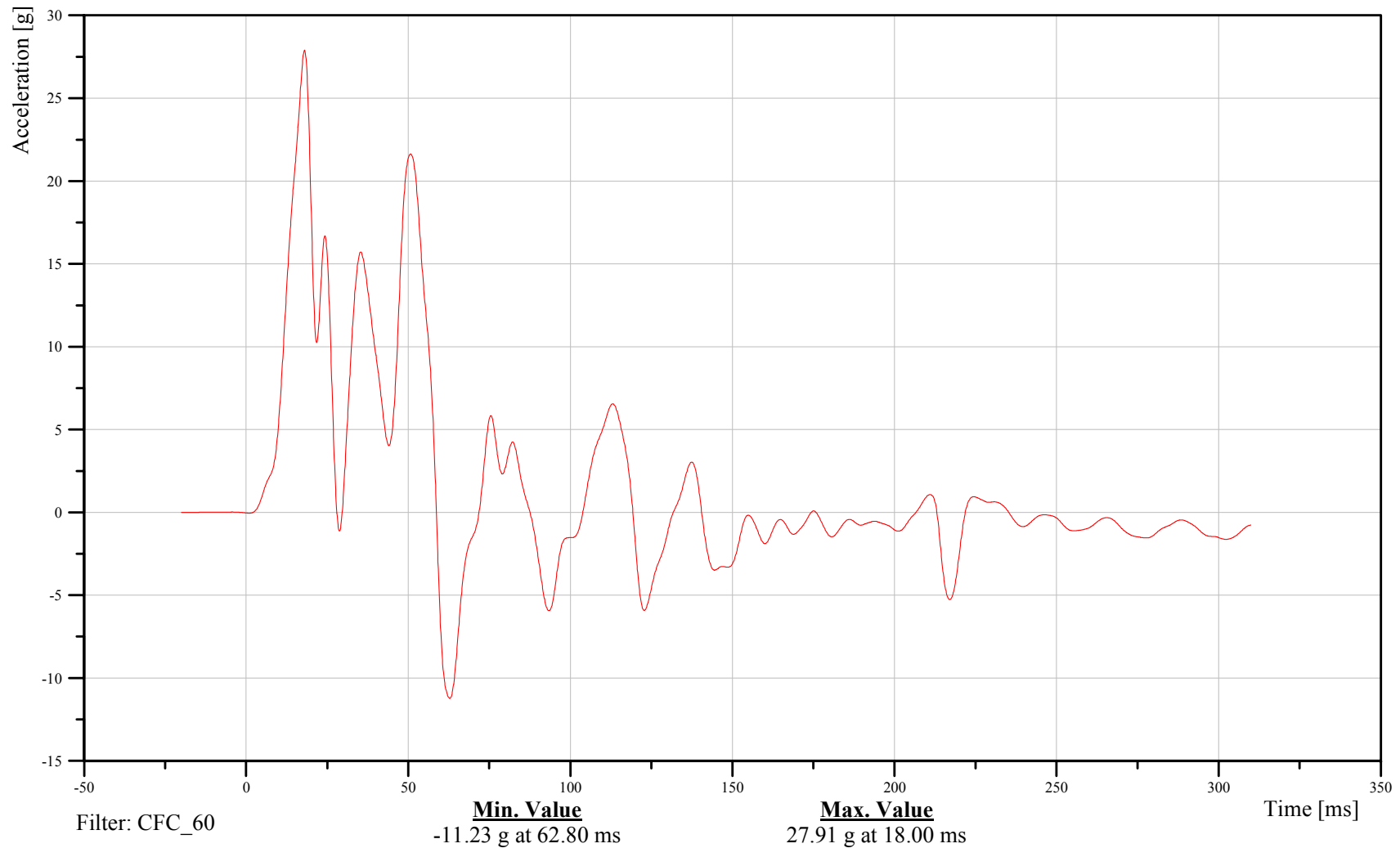
Date: 07/29/2005
Time: 12:15

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Vehicle Center of Gravity Z-Axis Acceleration

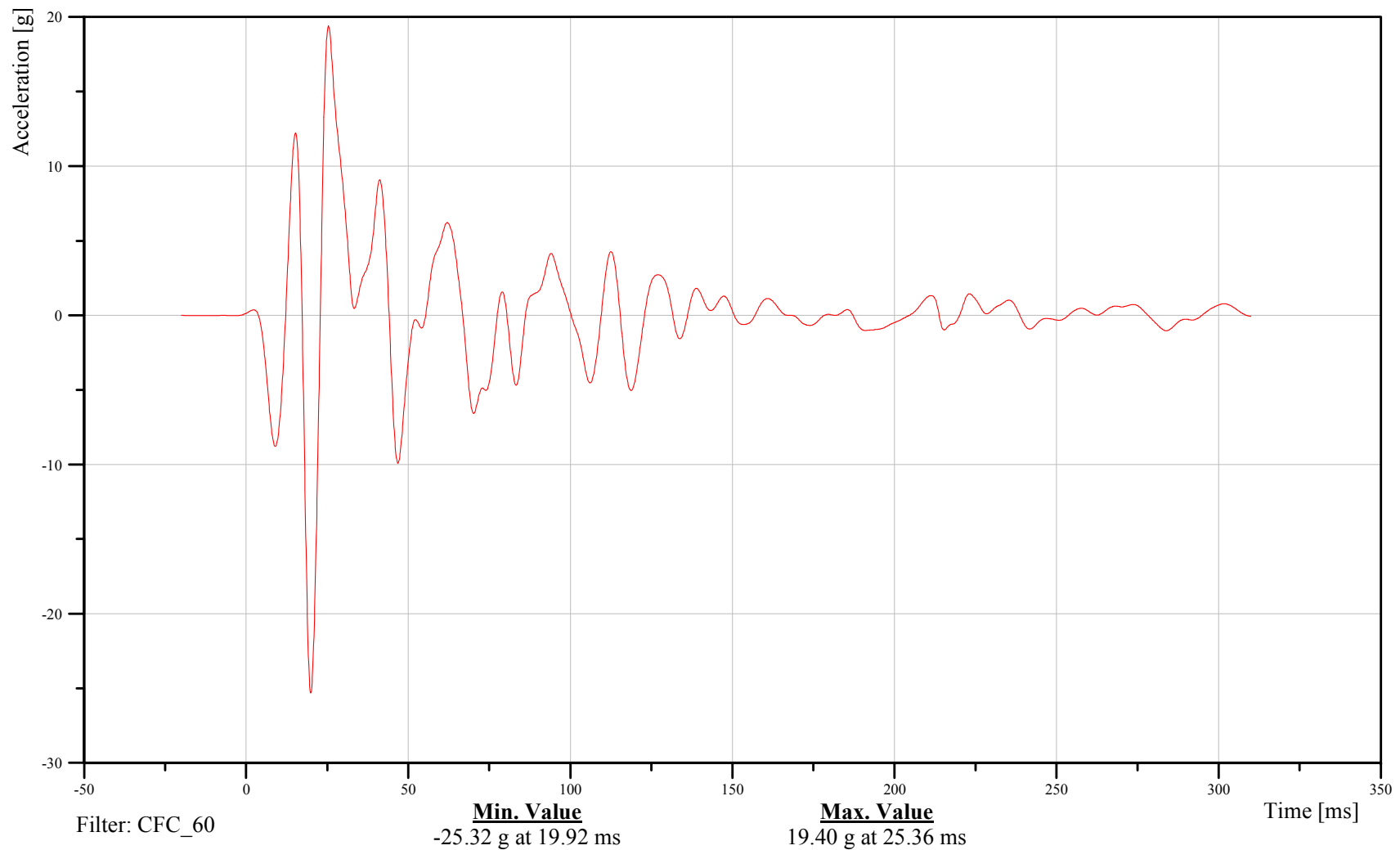
Date: 07/29/2005
Time: 12:15

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Vehicle Center of Gravity Resultant Acceleration

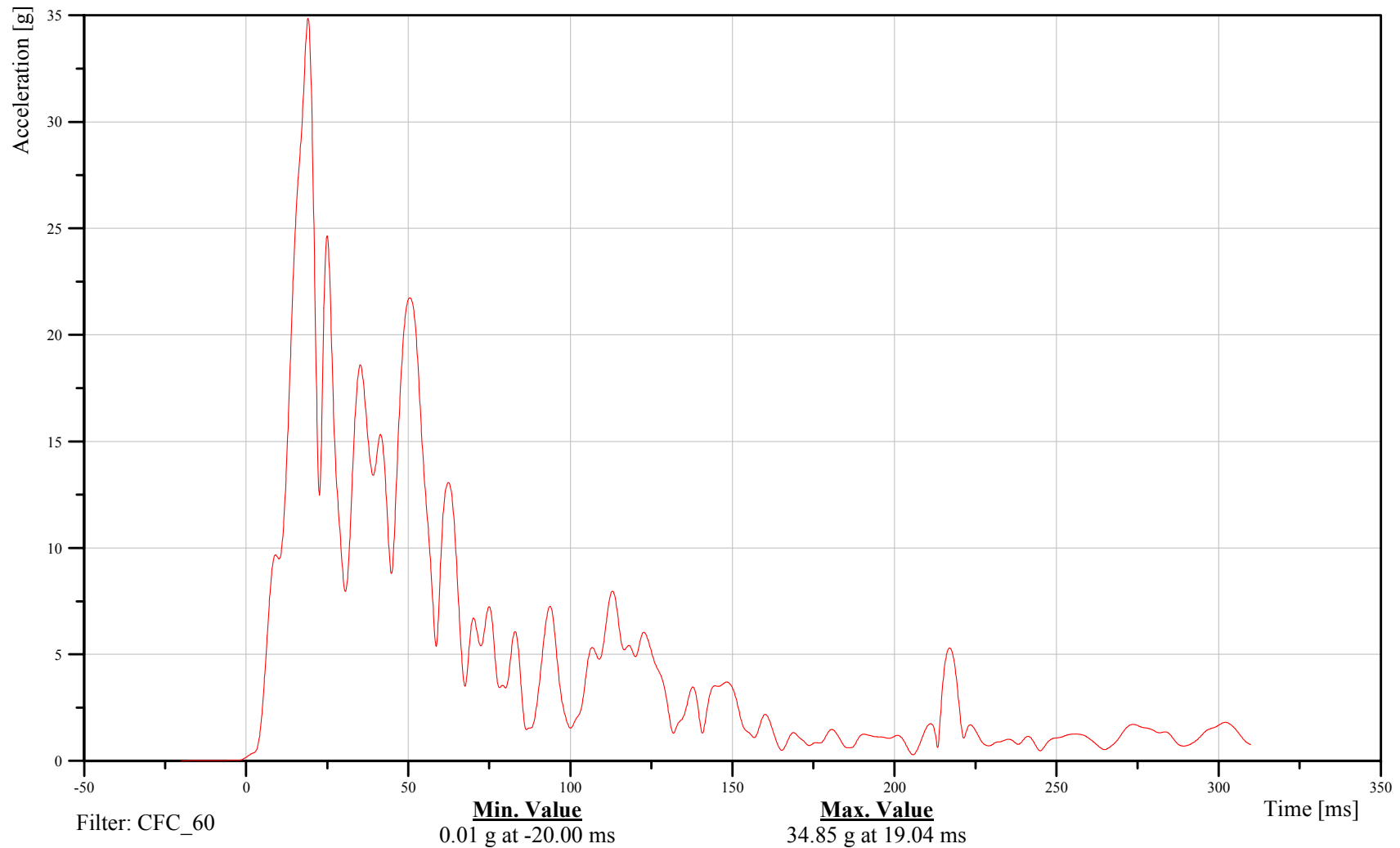
Date: 07/29/2005
Time: 12:15

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

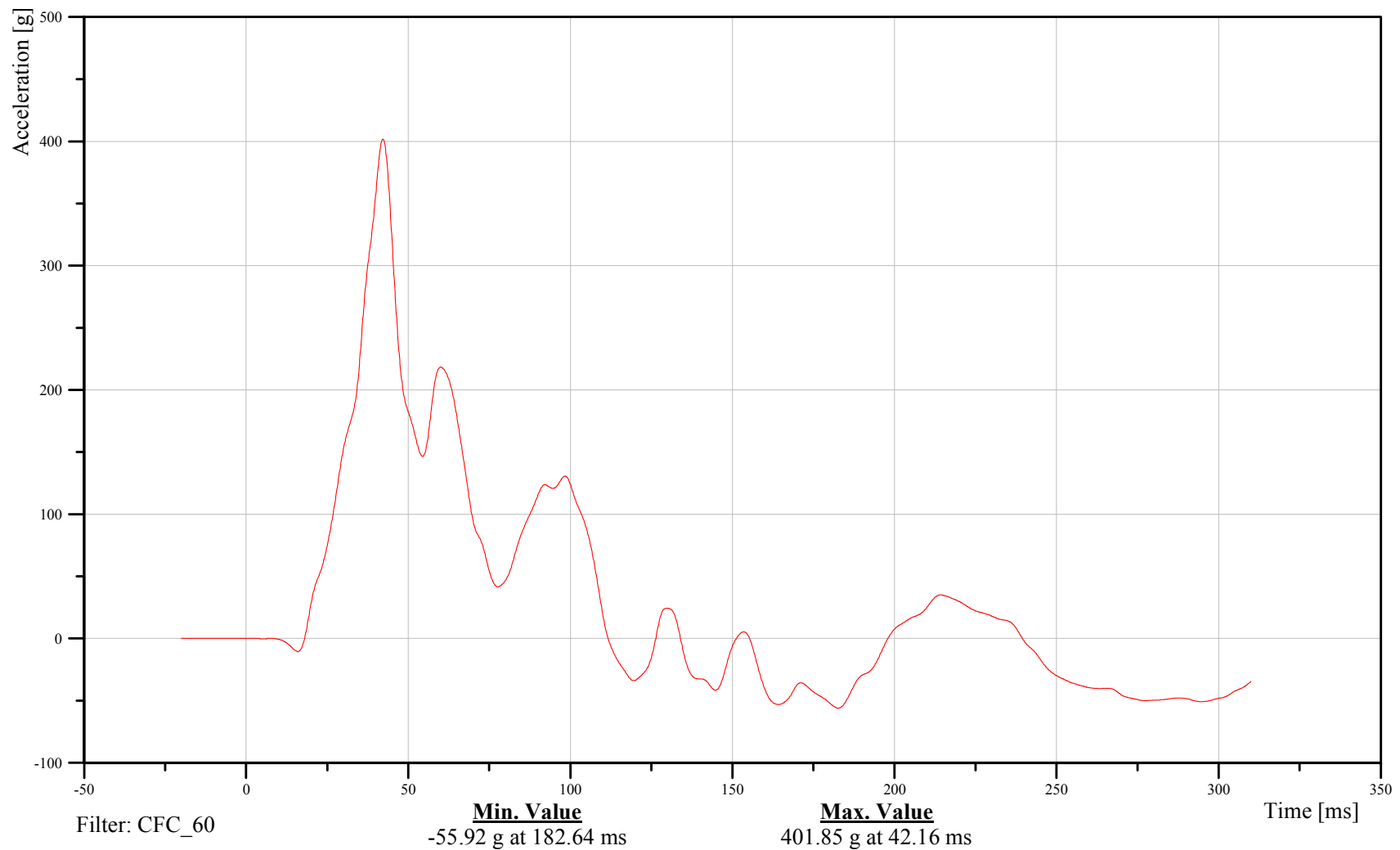
Top of Engine X-Axis Acceleration

Customer: VRTC

12ENG000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Top of Engine Y-Axis Acceleration

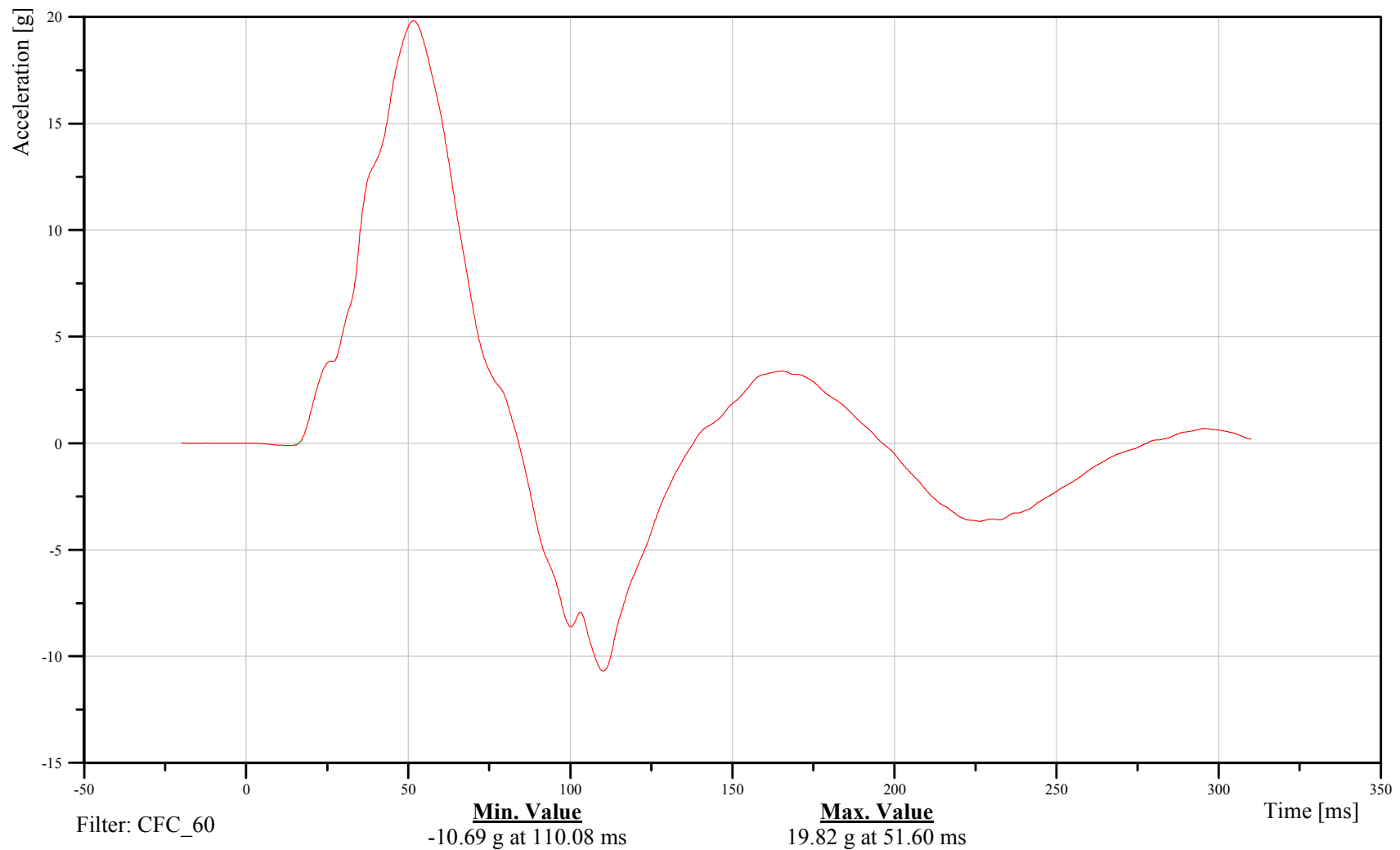
Date: 07/29/2005
Time: 12:15

Customer: VRTC

12ENG000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Firewall X-Axis Acceleration

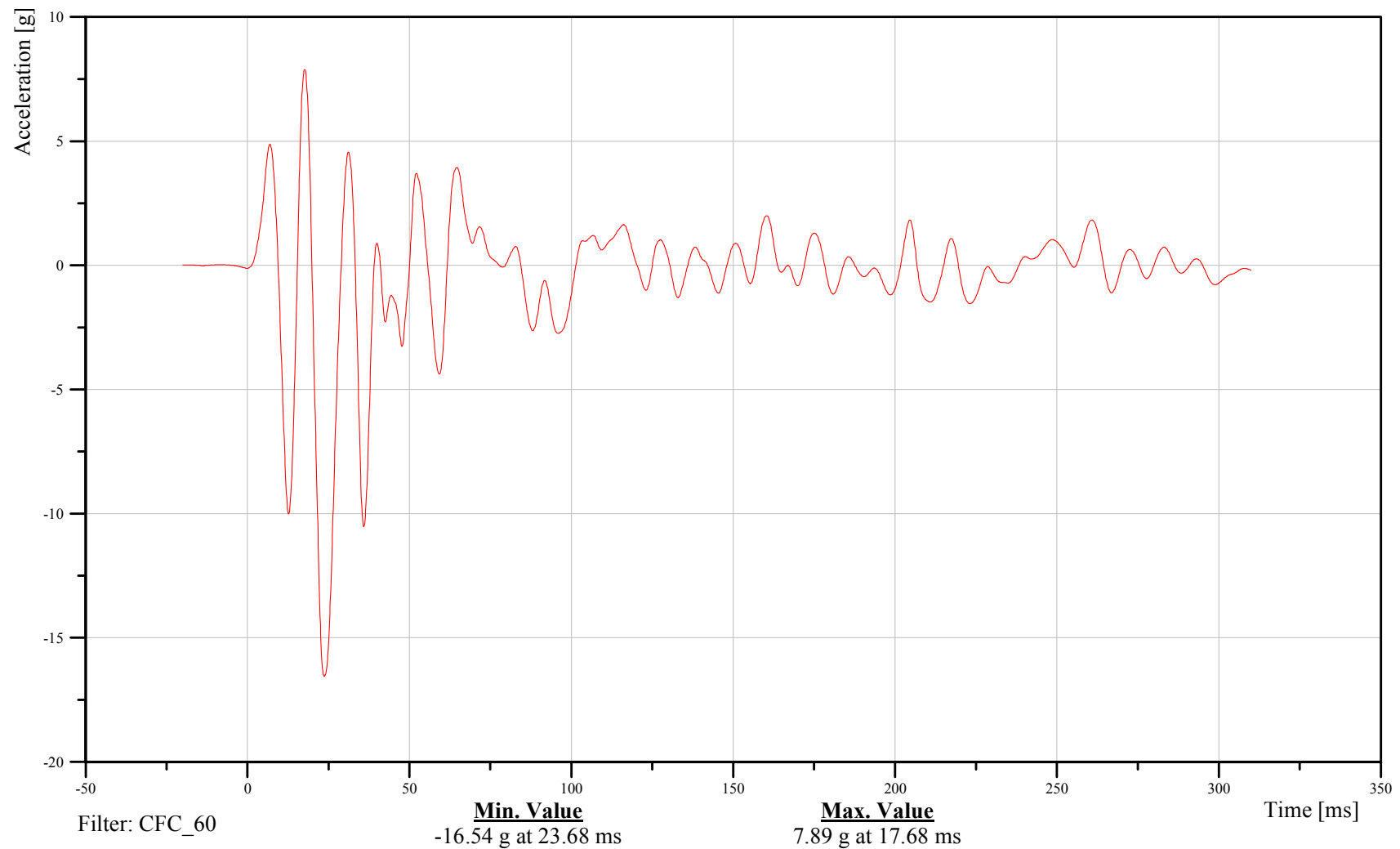
Date: 07/29/2005
Time: 12:15

Customer: VRTC

12VEHC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Firewall Y-Axis Acceleration

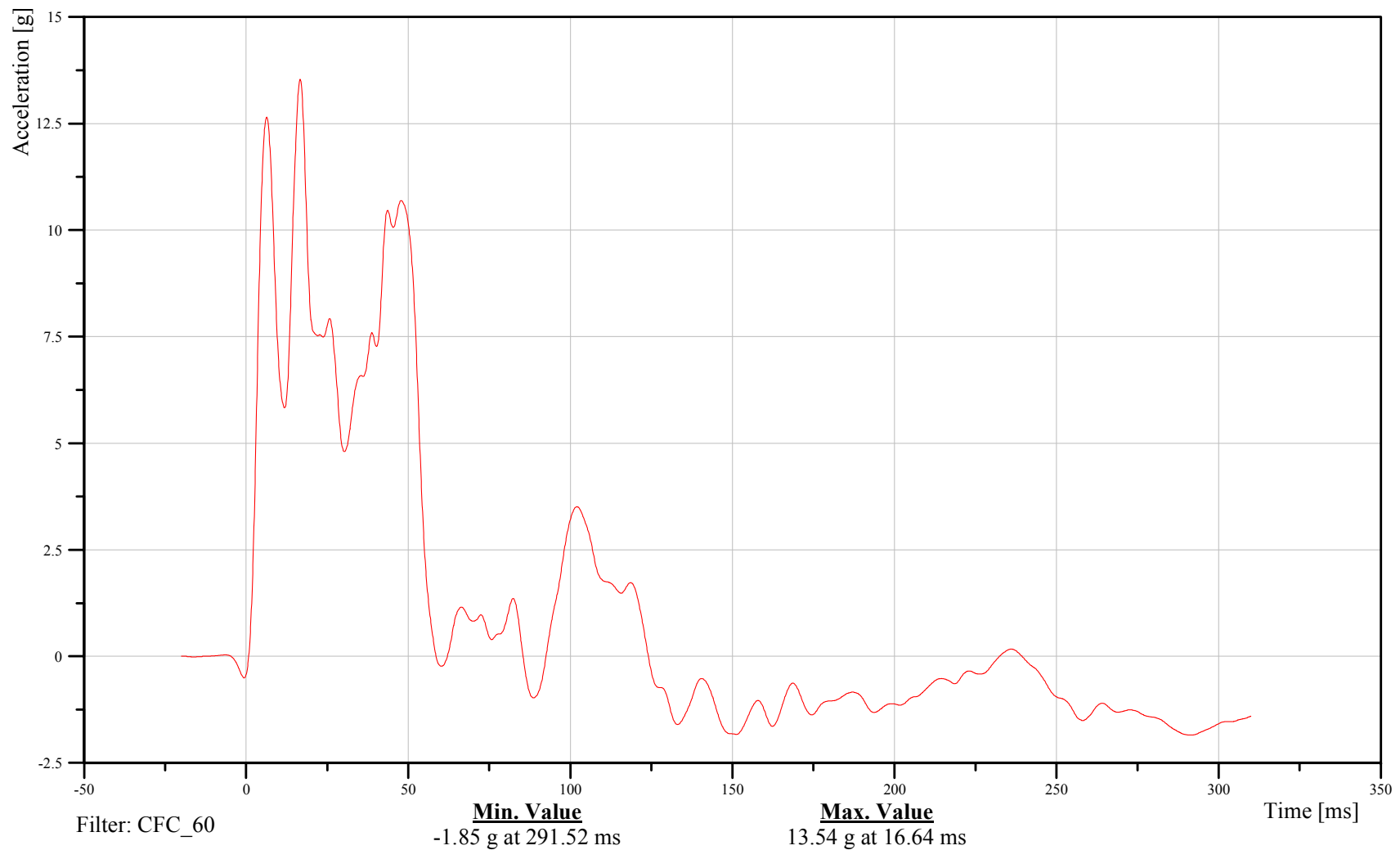
Date: 07/29/2005
Time: 12:15

Customer: VRTC

12VEHC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

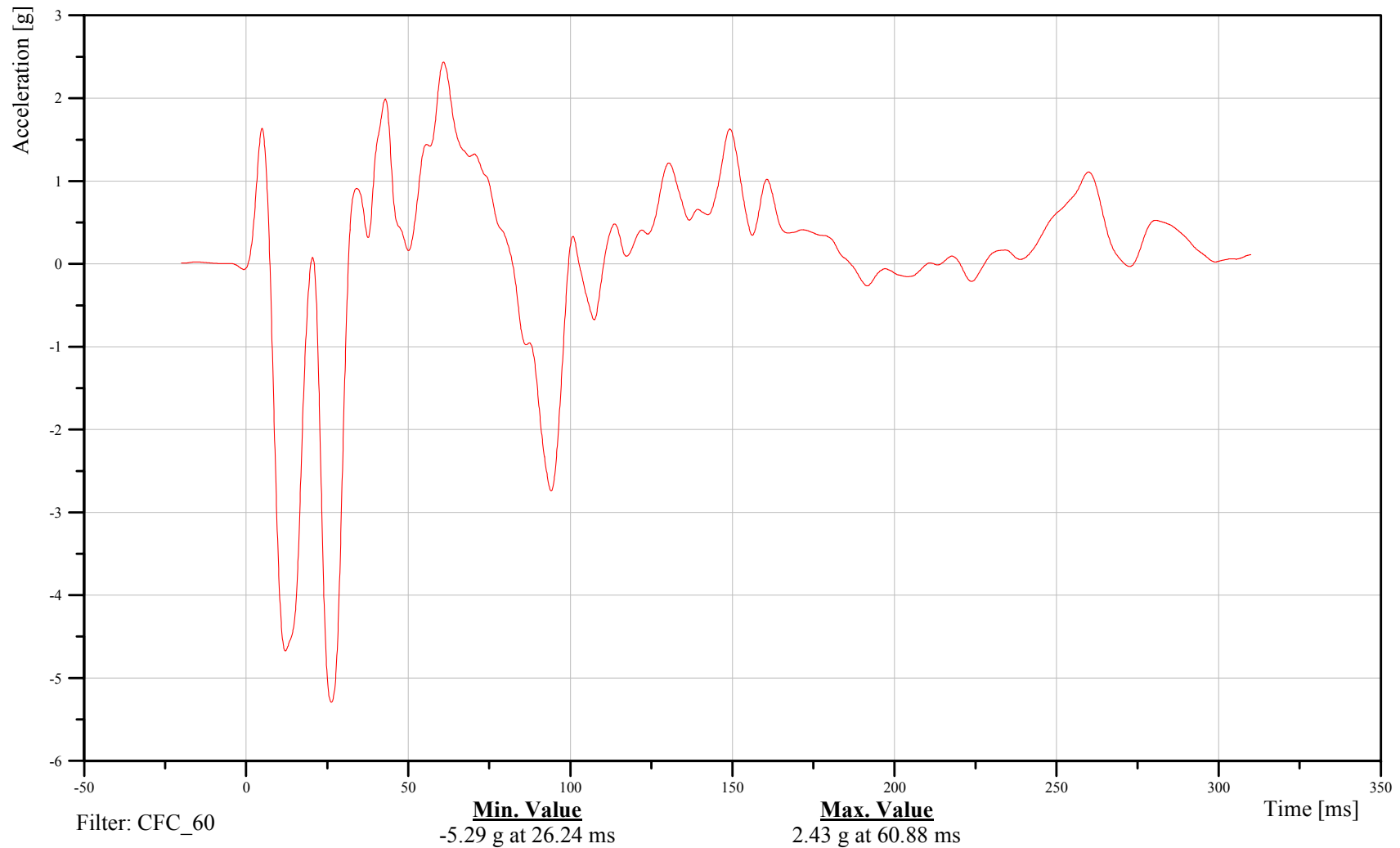
Right Roof Rail X-Axis Acceleration

Customer: VRTC

13ROFR000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

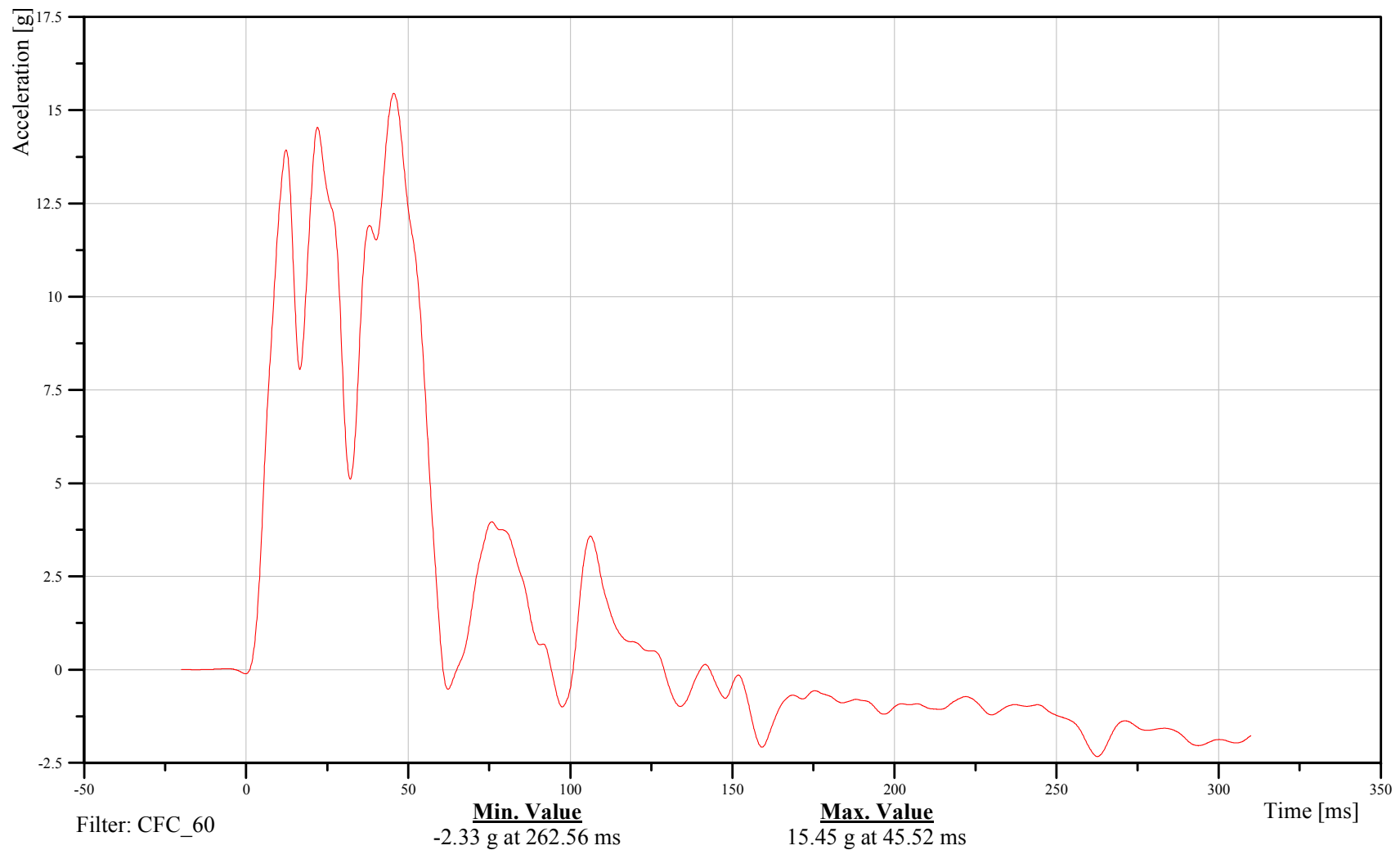
Right Roof Rail Y-Axis Acceleration

Customer: VRTC

13ROFR000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Front Door Centerline Y-Axis Acceleration

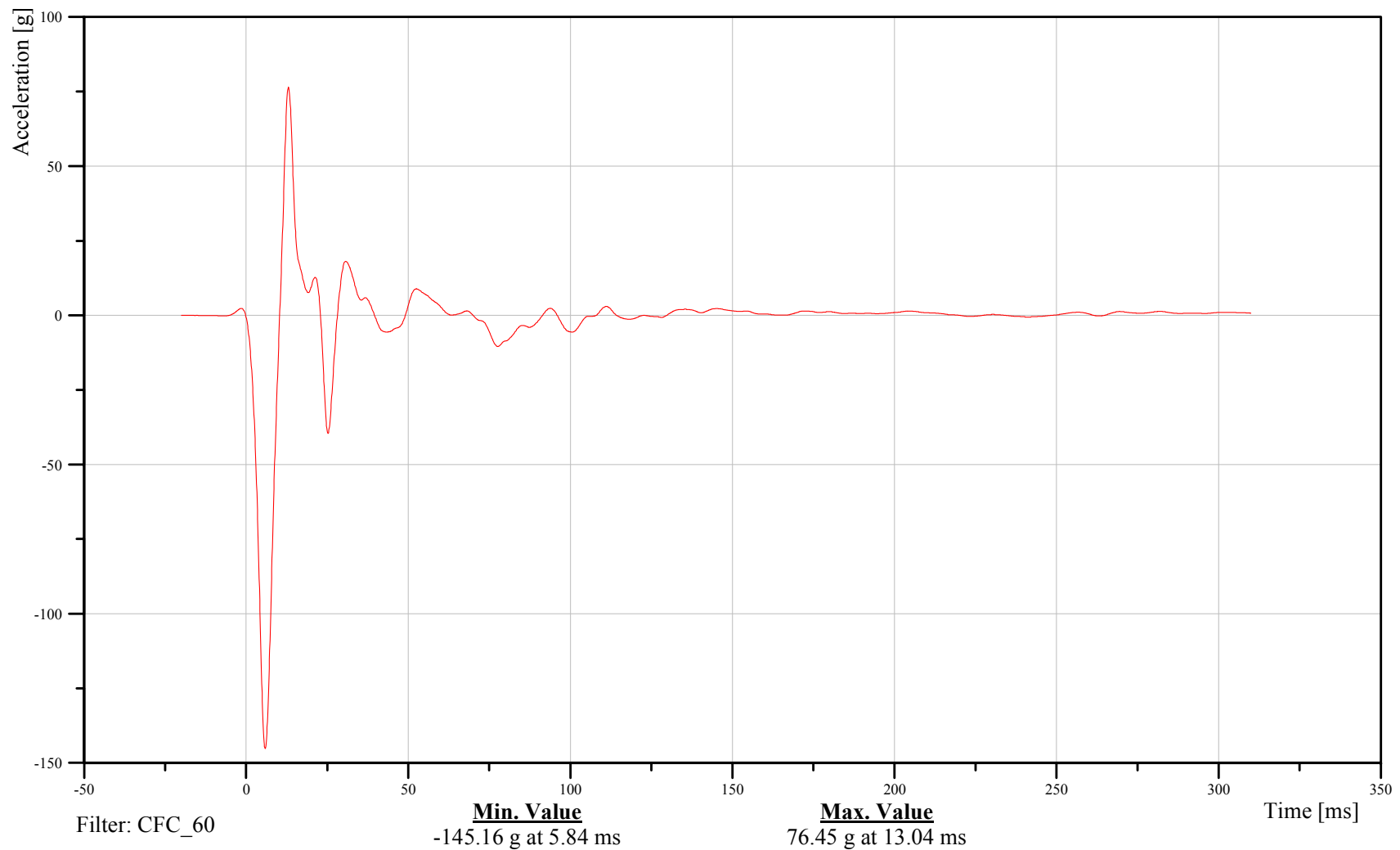
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11DOOR000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Front Door Mid-Rear Y-Axis Acceleration

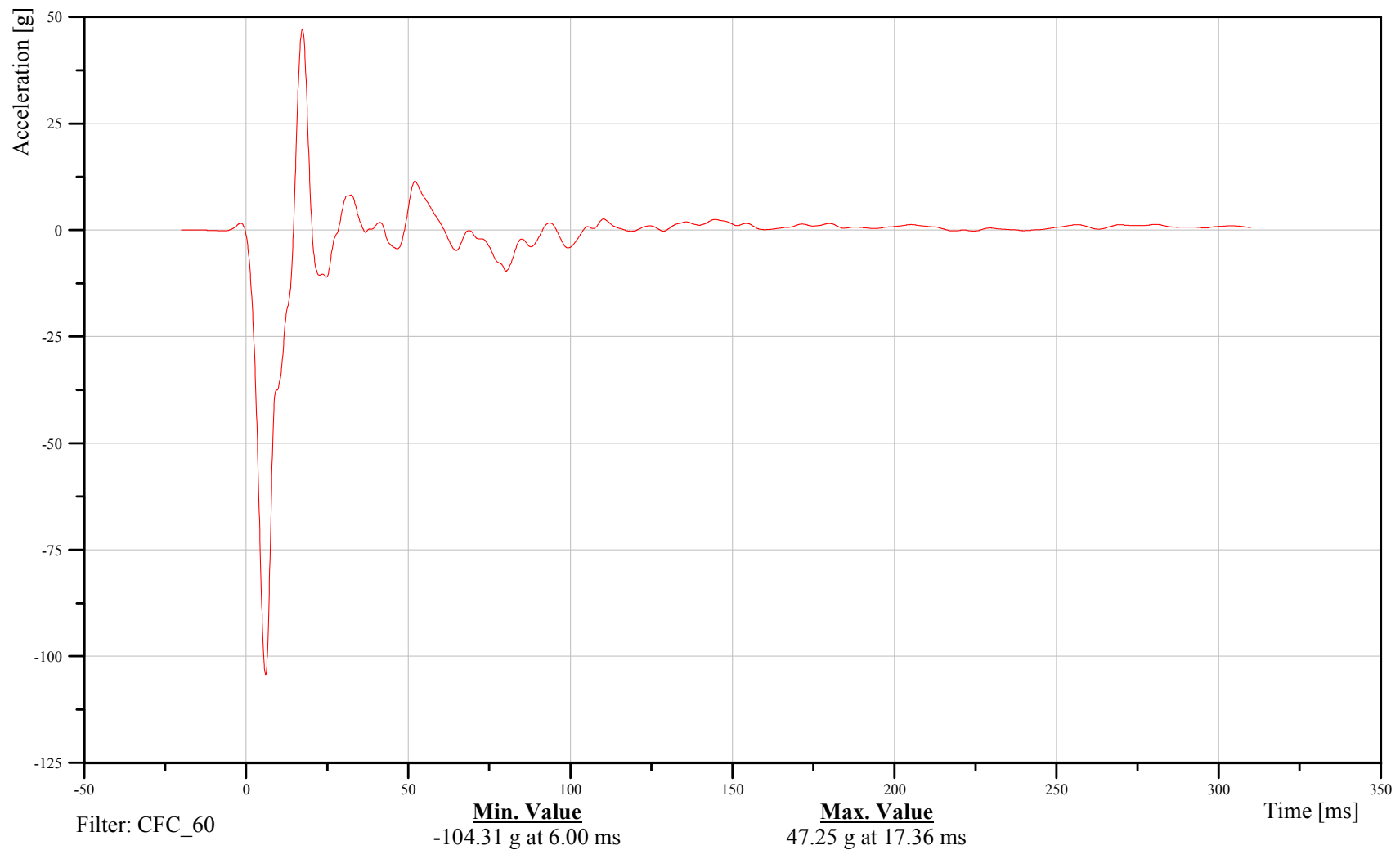
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Front Door Upper Centerline Y-Axis Acceleration

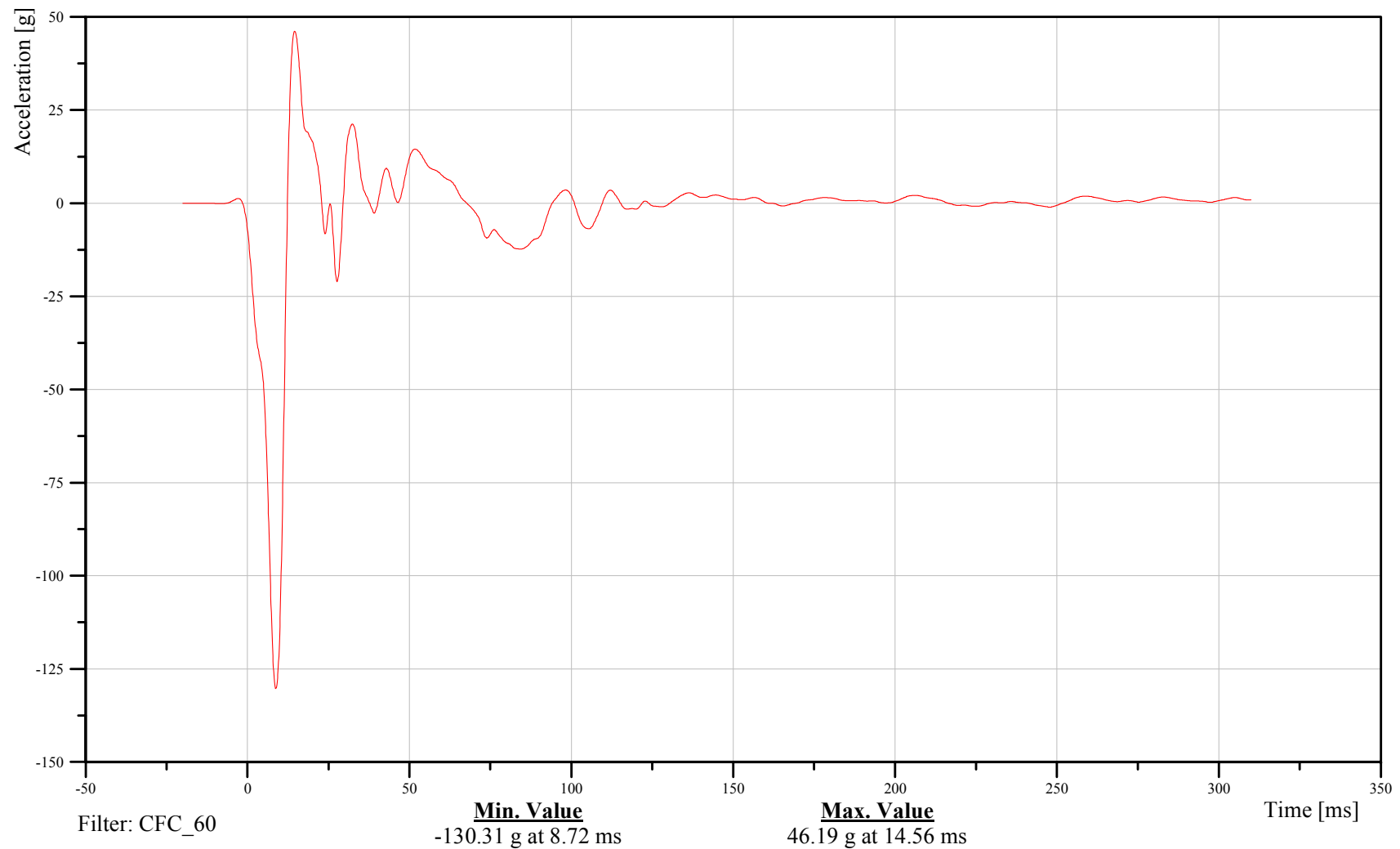
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11DOOR000003ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Left Rear Door Mid-Rear Y-Axis Acceleration

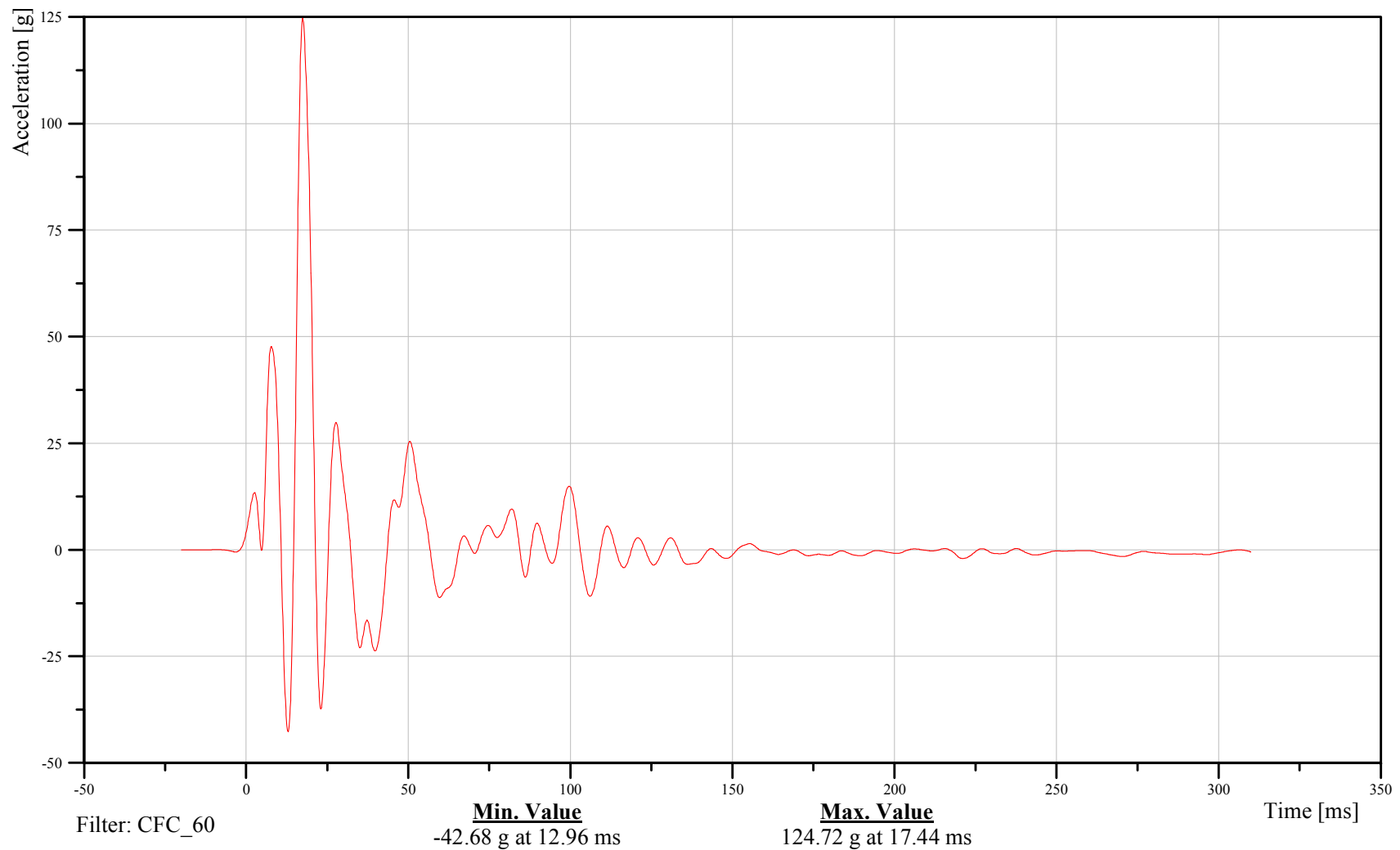
Date: 07/29/2005
Time: 12:15

Customer: VRTC

14DOOR000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

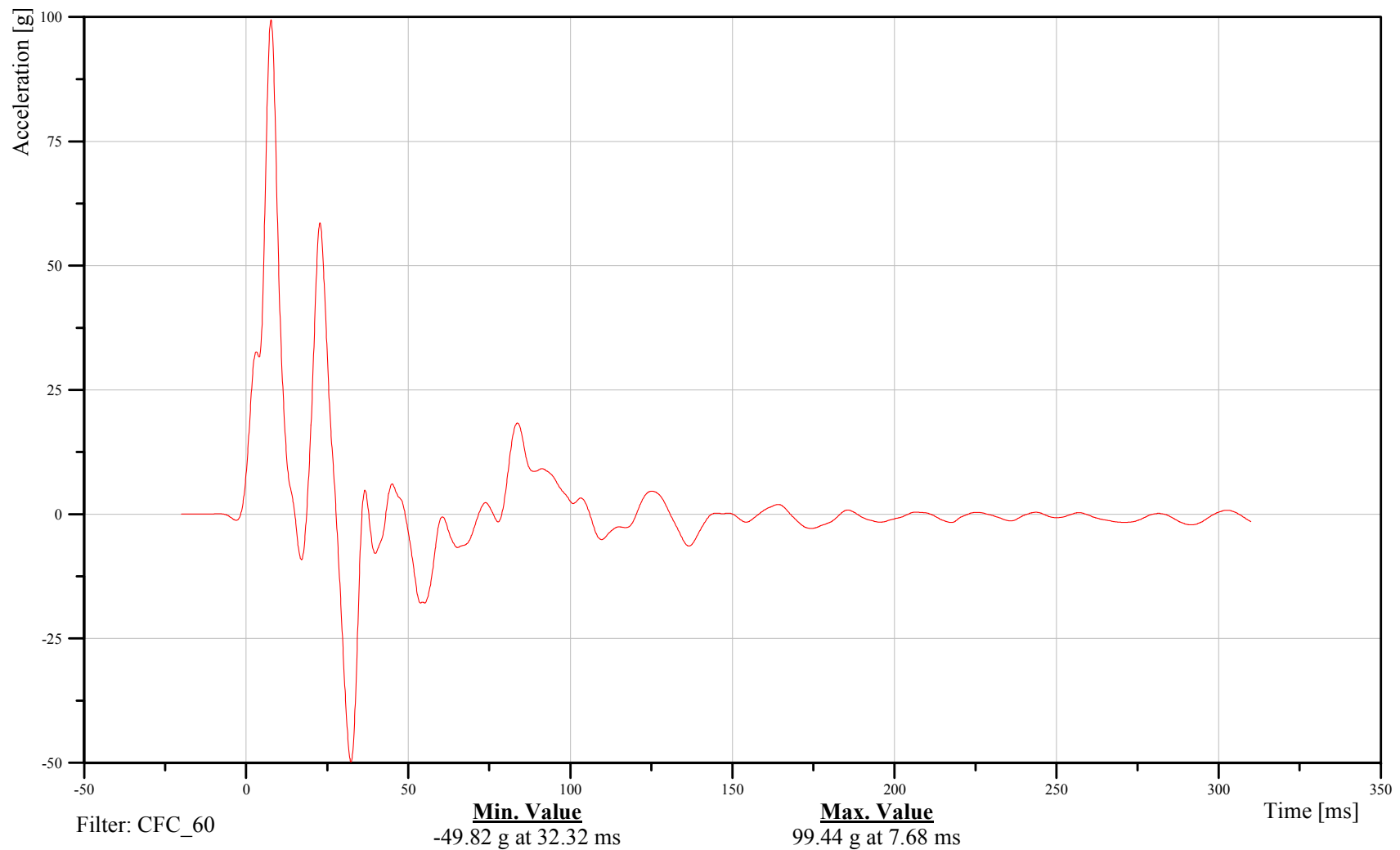
Left Rear Door Upper Centerline Y-Axis Acceleration

Customer: VRTC

14DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Side Torso Airbag Fire

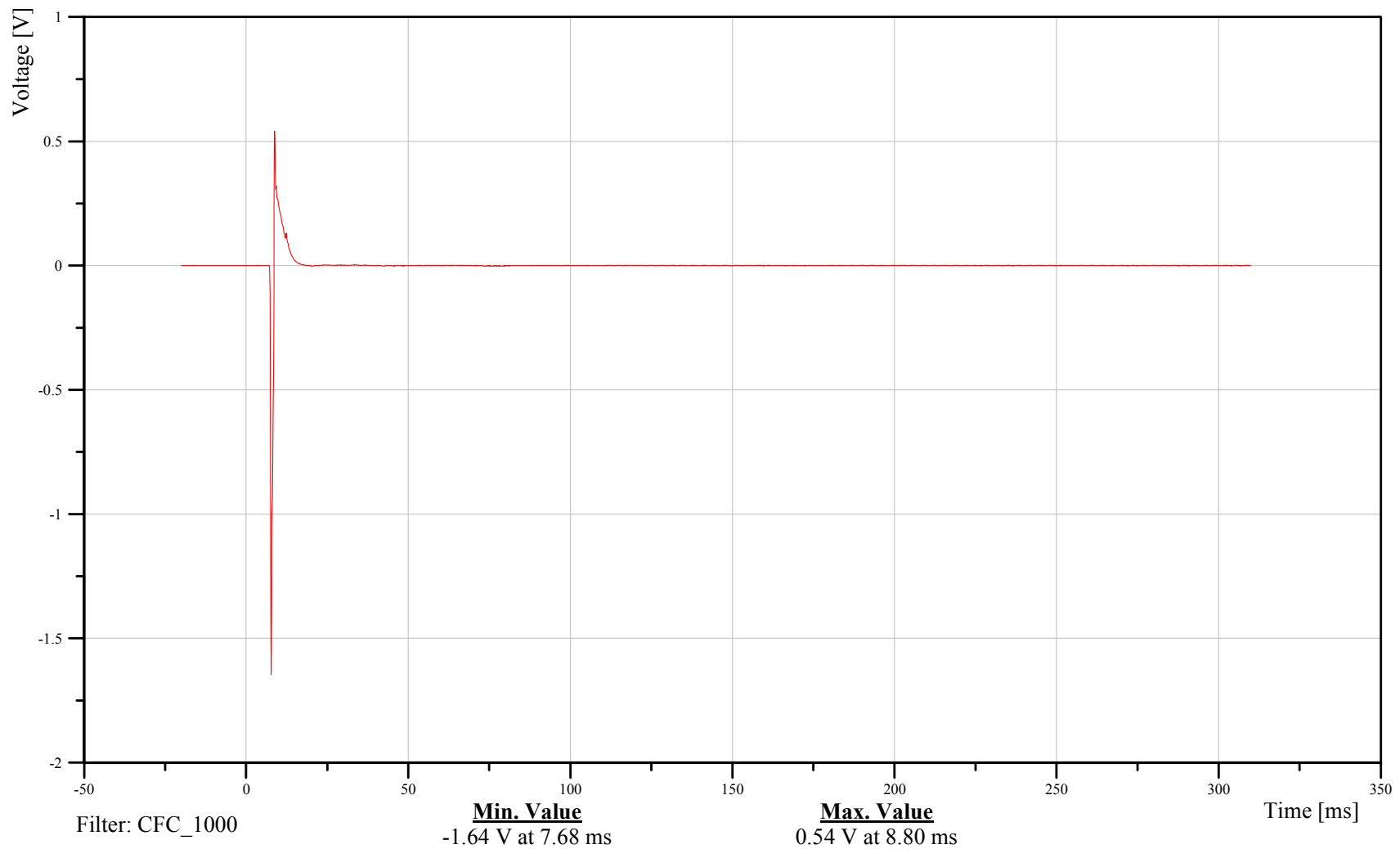
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SENS000001V00A

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Side Curtain Airbag Fire

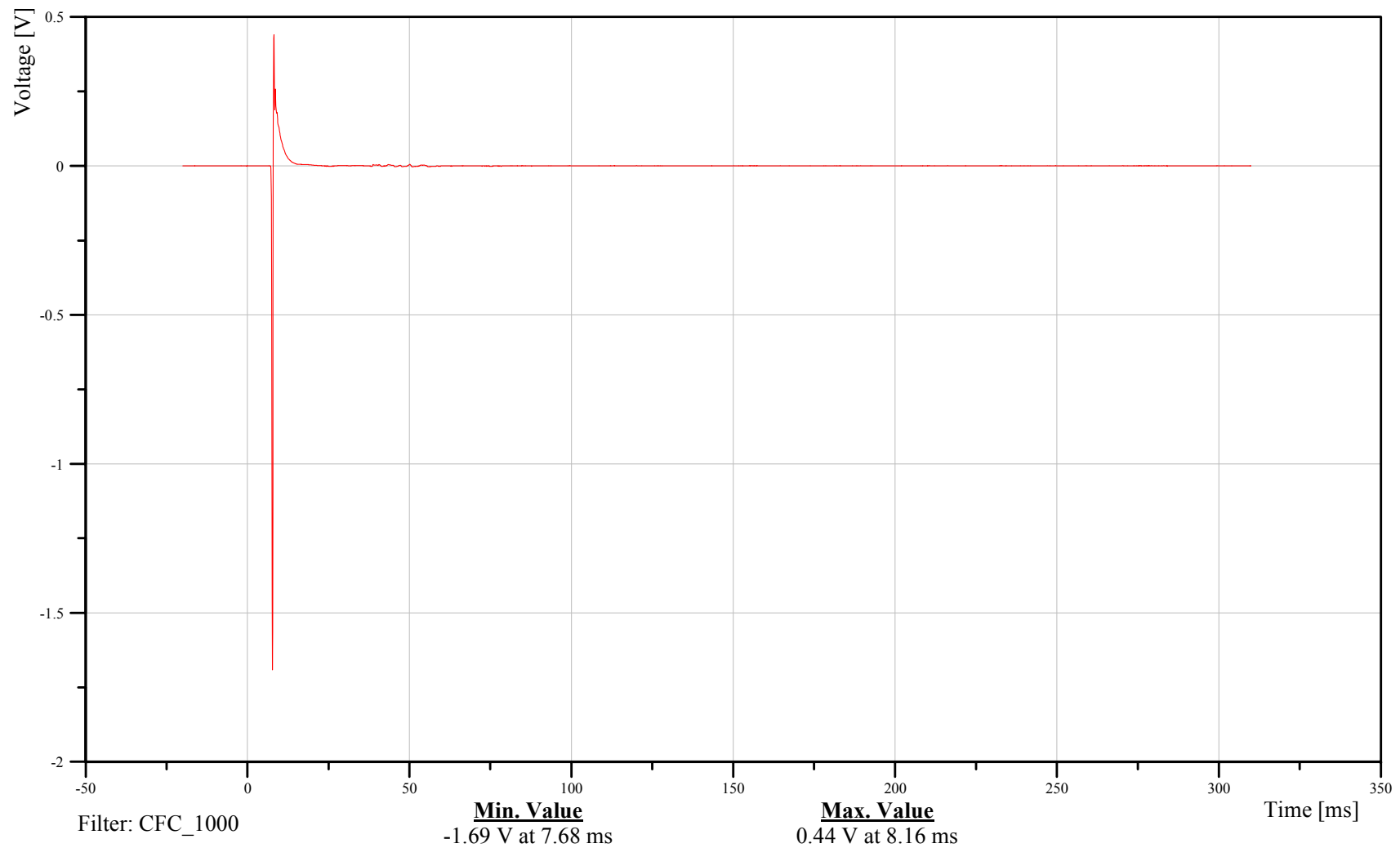
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Non-Struck Side Torso Airbag Fire (disable bag)

Date: 07/29/2005

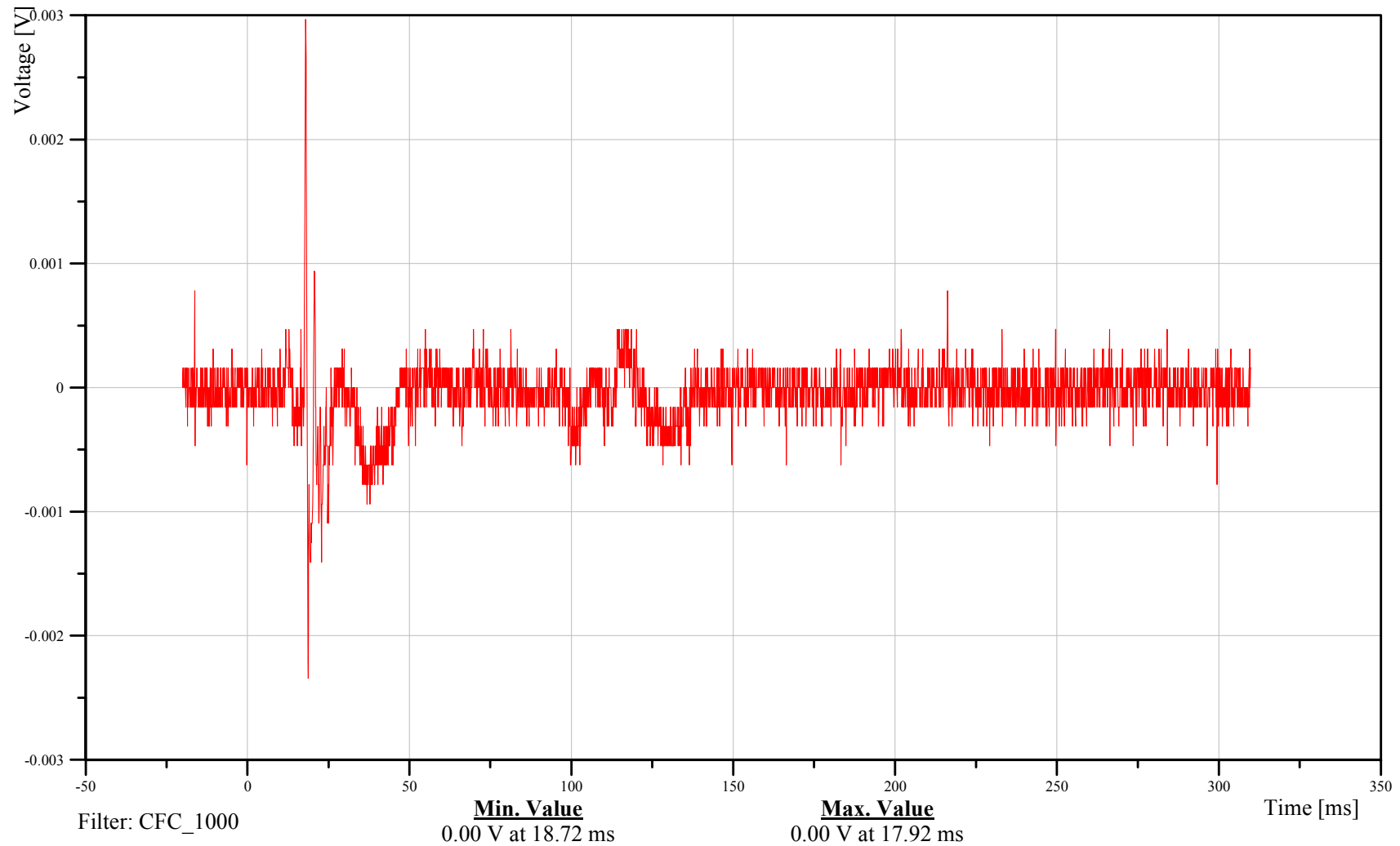
Time: 12:15

Customer: VRTC

13SENS000001VO0A

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Non-Struck Side Curtain Airbag Fire (disable bag)

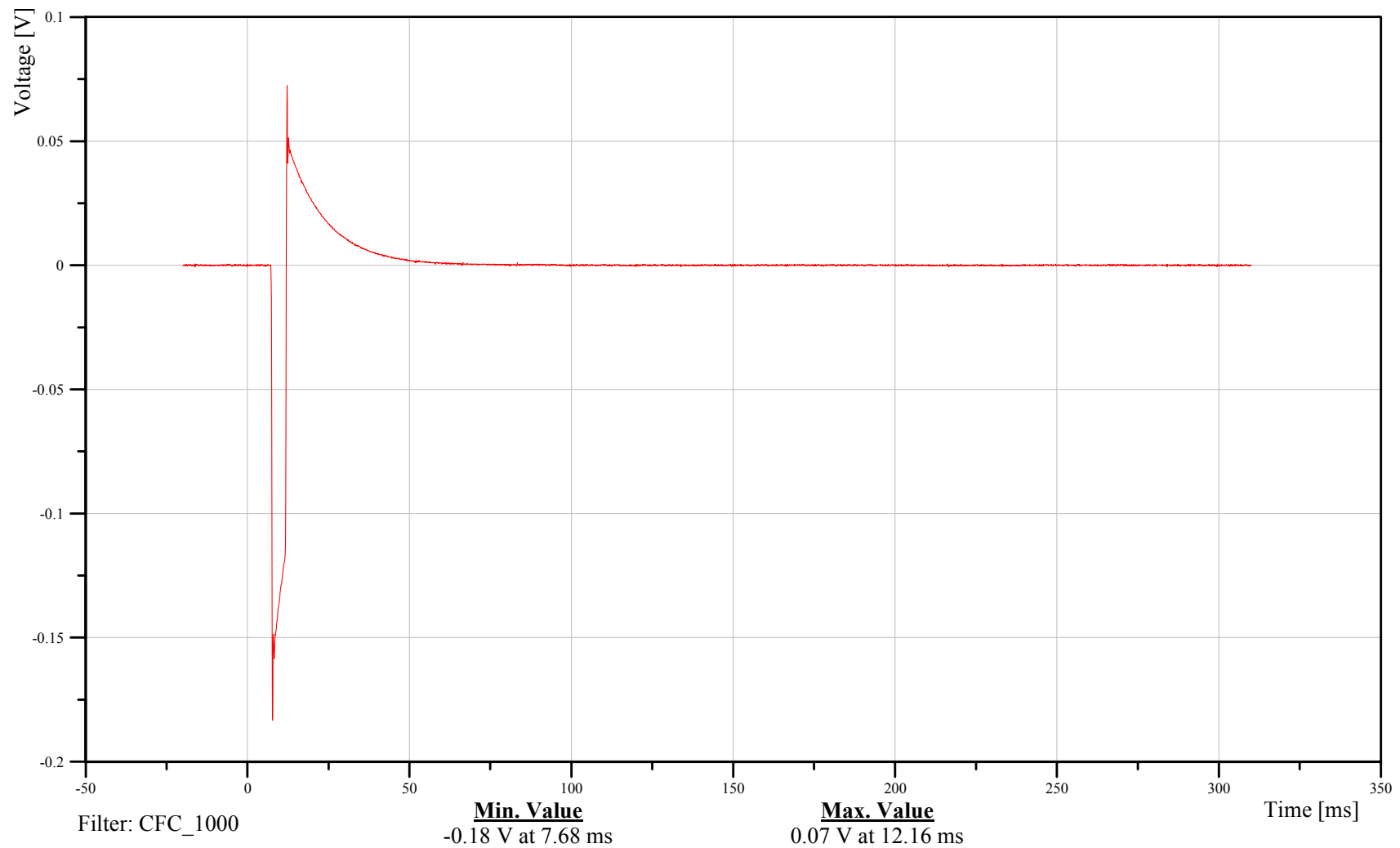
Date: 07/29/2005
Time: 12:15

Customer: VRTC

13SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Head Contact

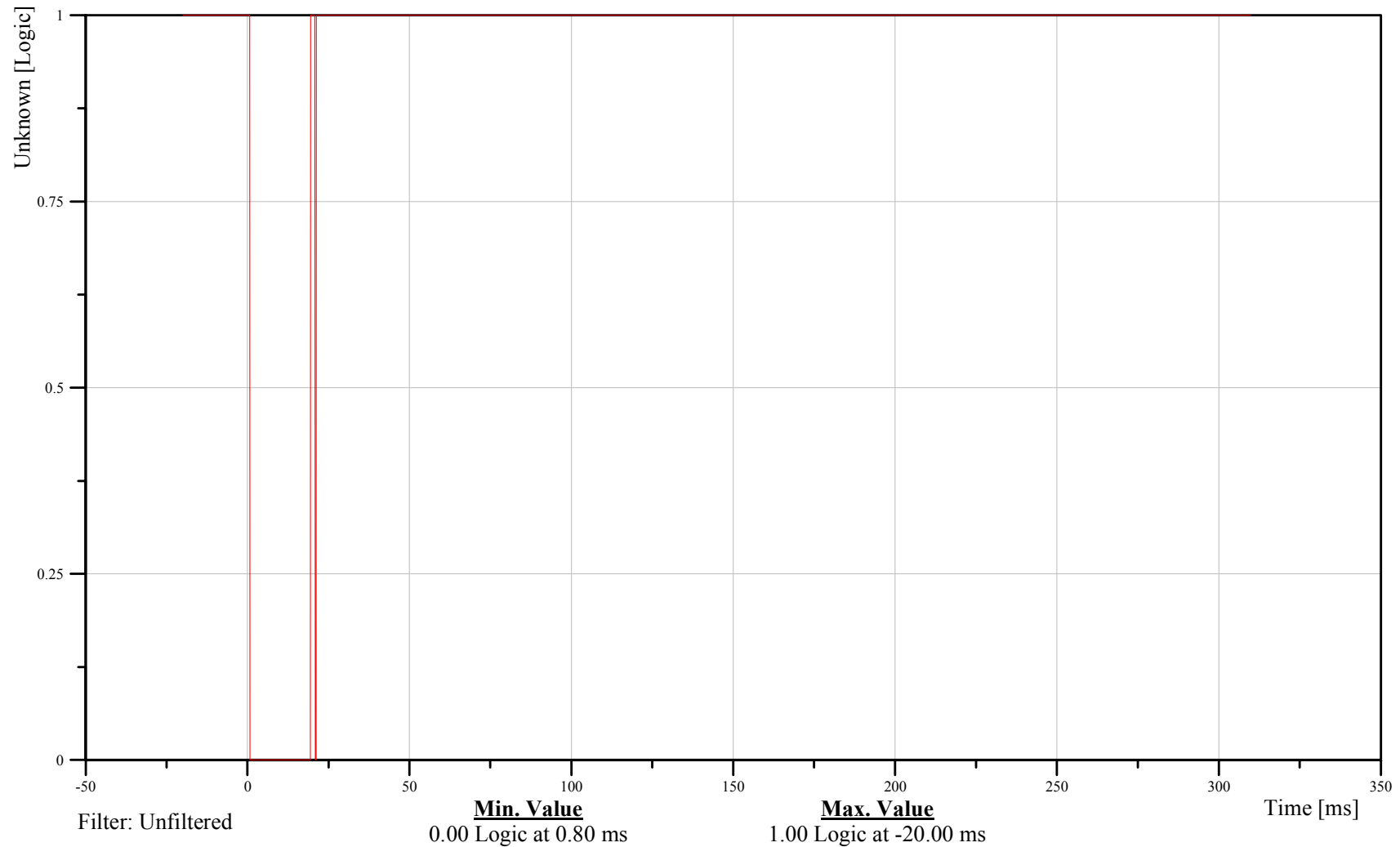
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11CONT000001EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Shoulder Contact

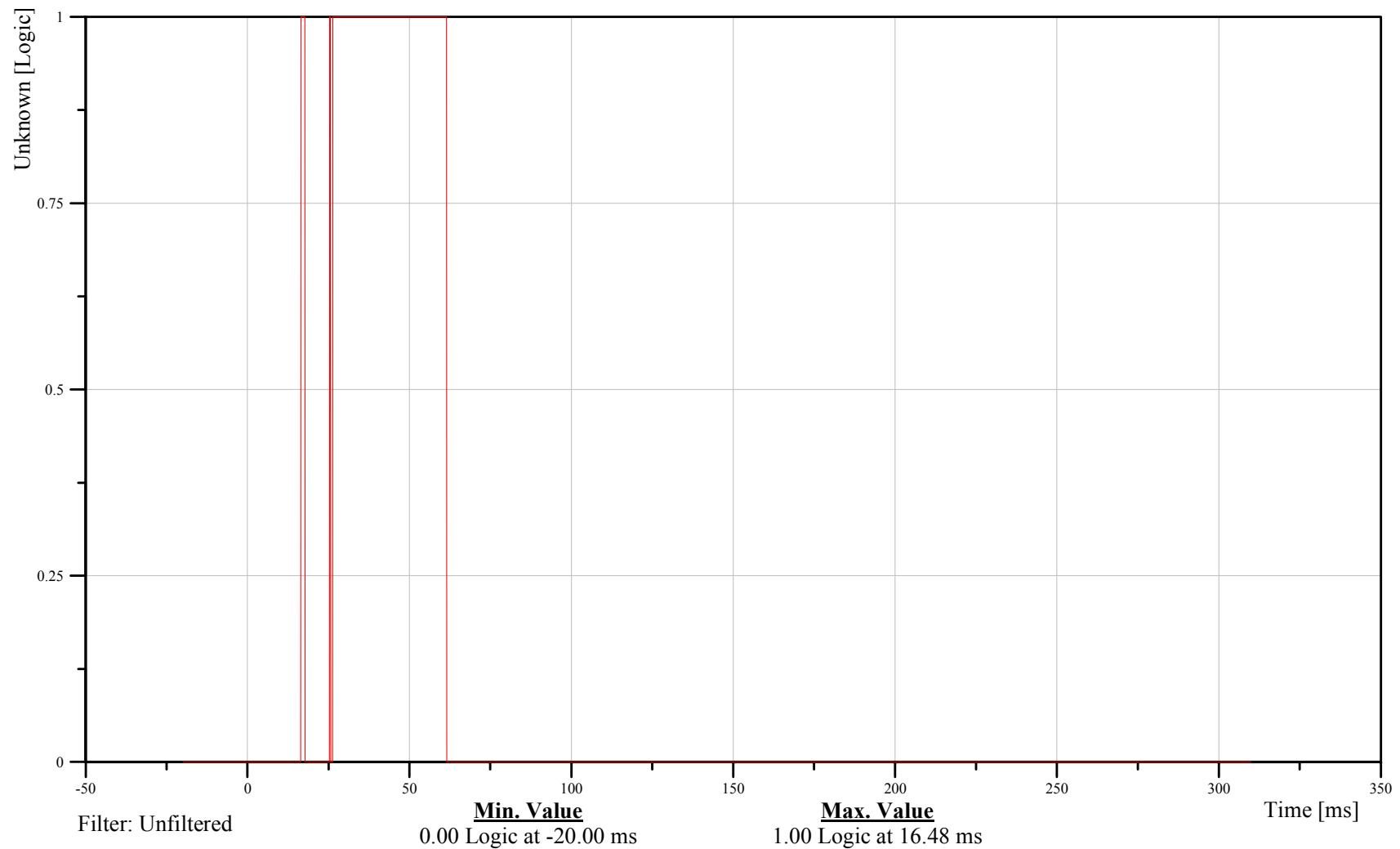
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11CONT000002EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Torso Contact

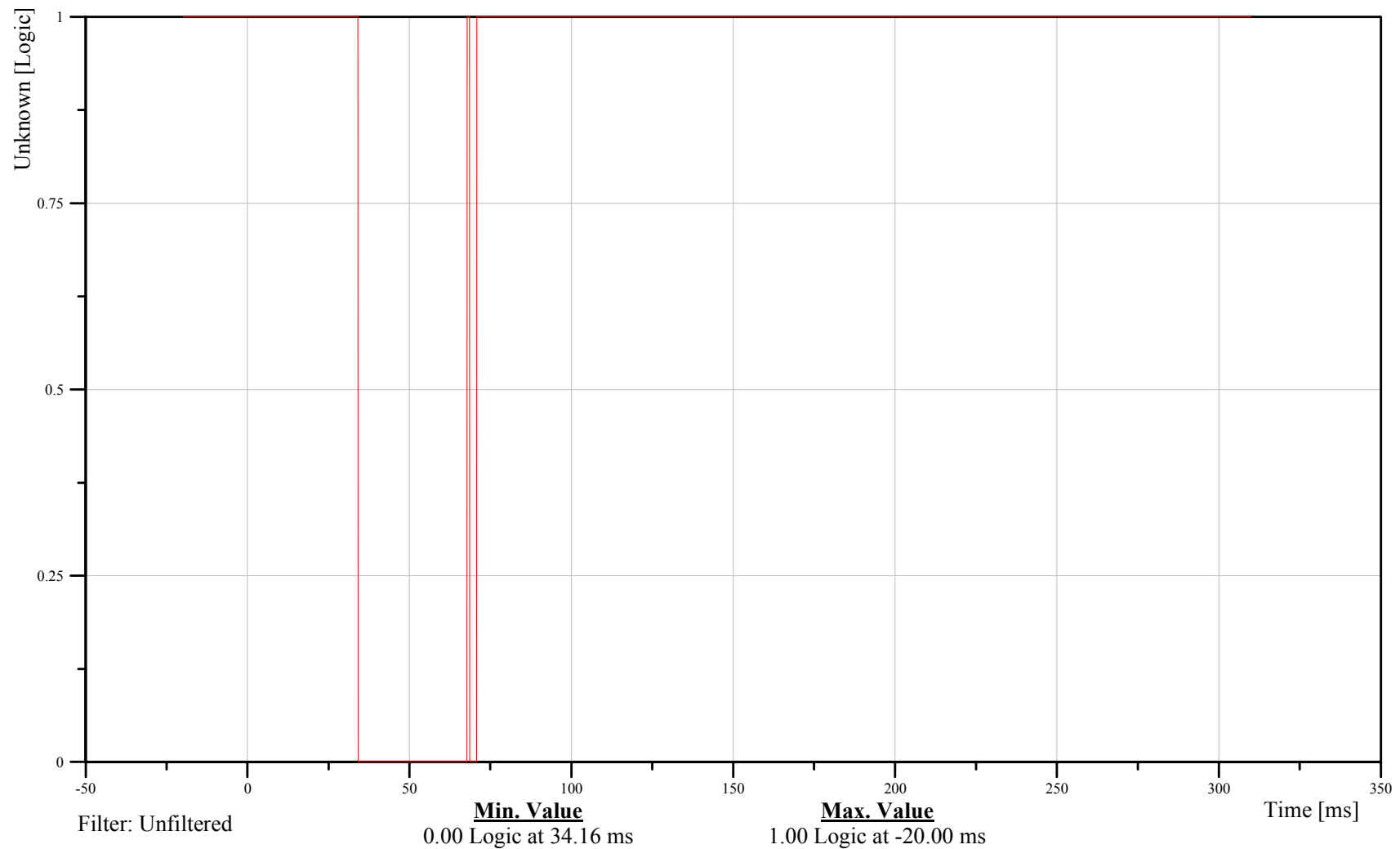
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11CONT000003EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Leg Contact

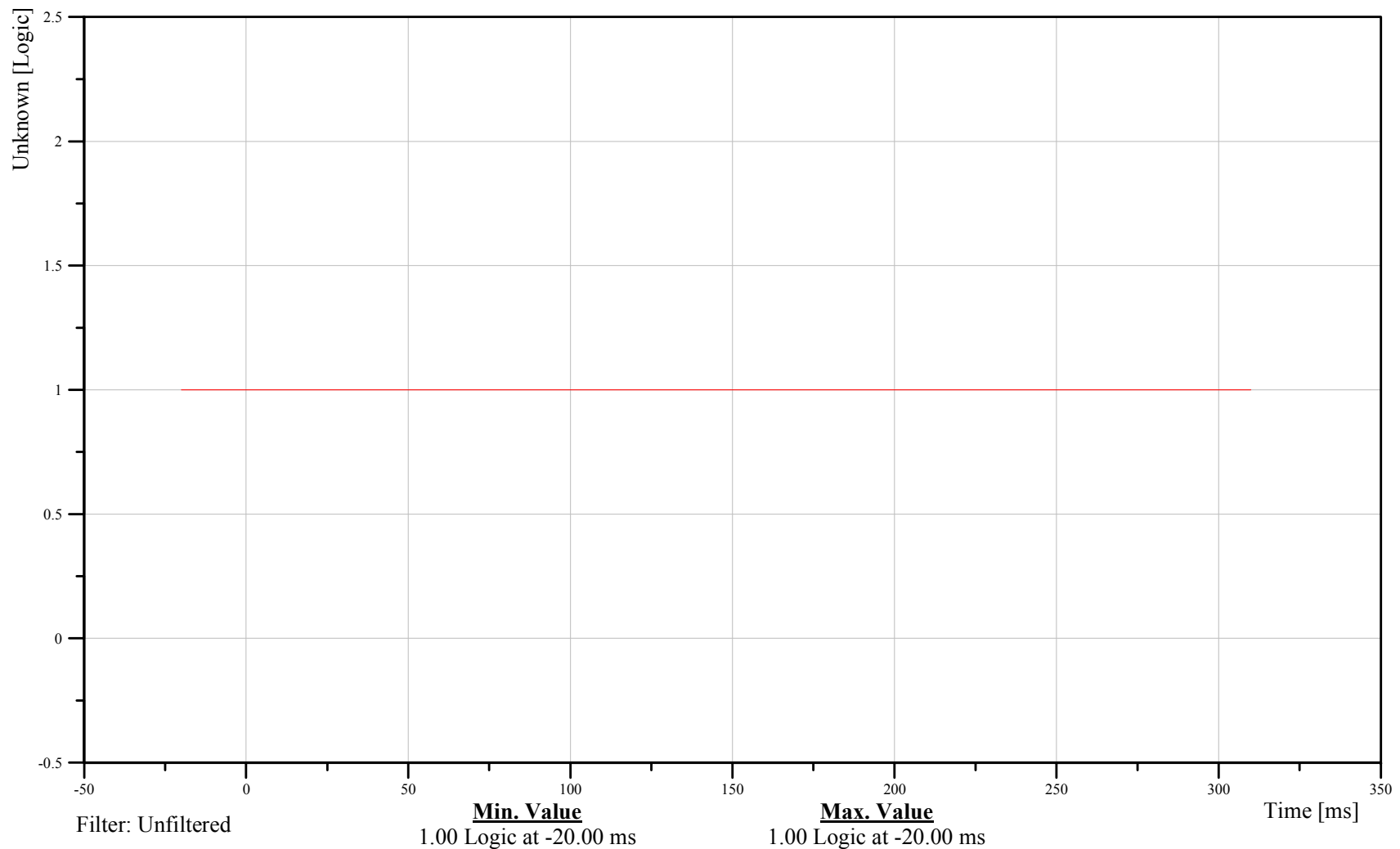
Date: 07/29/2005
Time: 12:15

Customer: VRTC

11CONT000004EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Head Contact

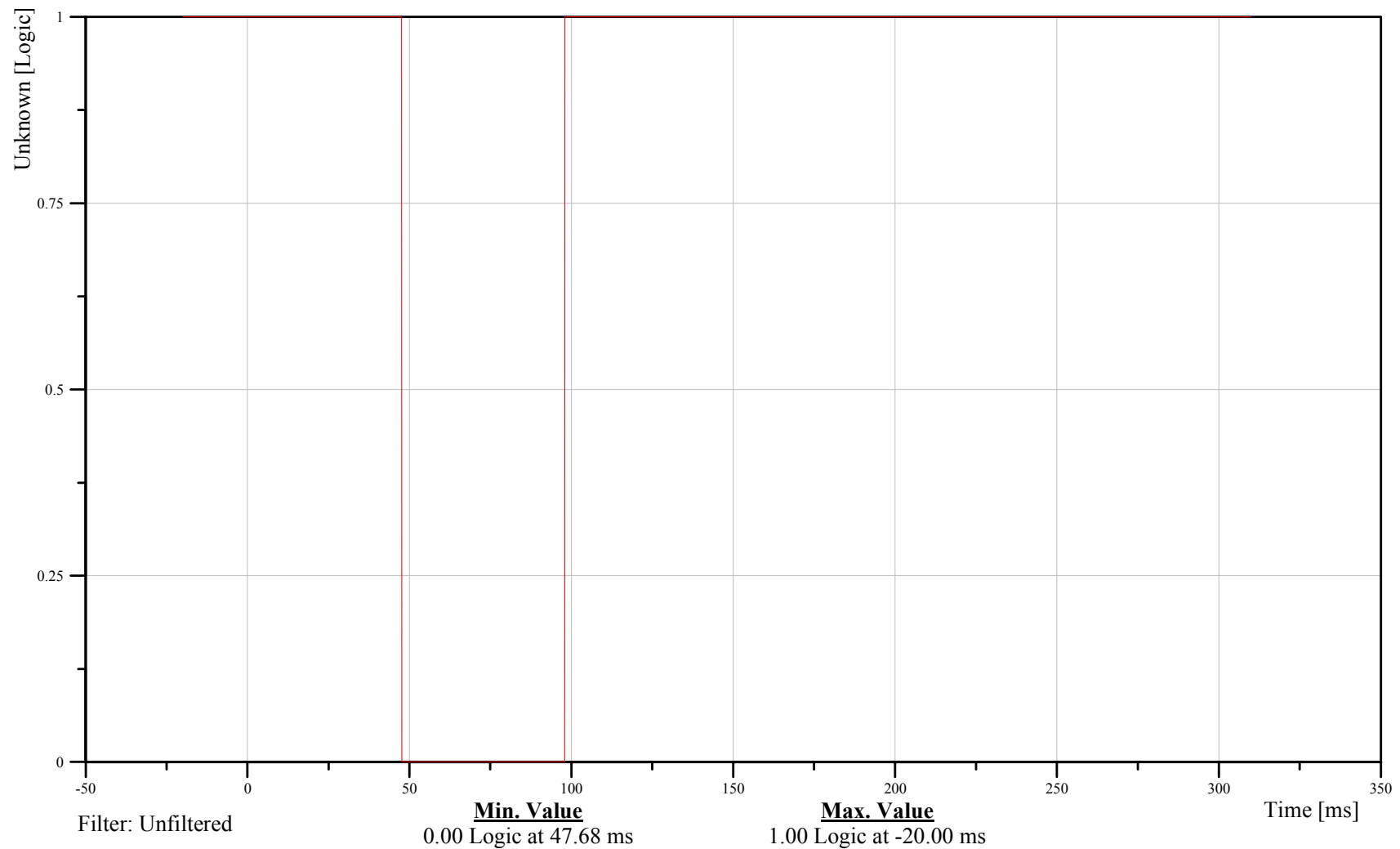
Date: 07/29/2005
Time: 12:15

Customer: VRTC

13CONT000001EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

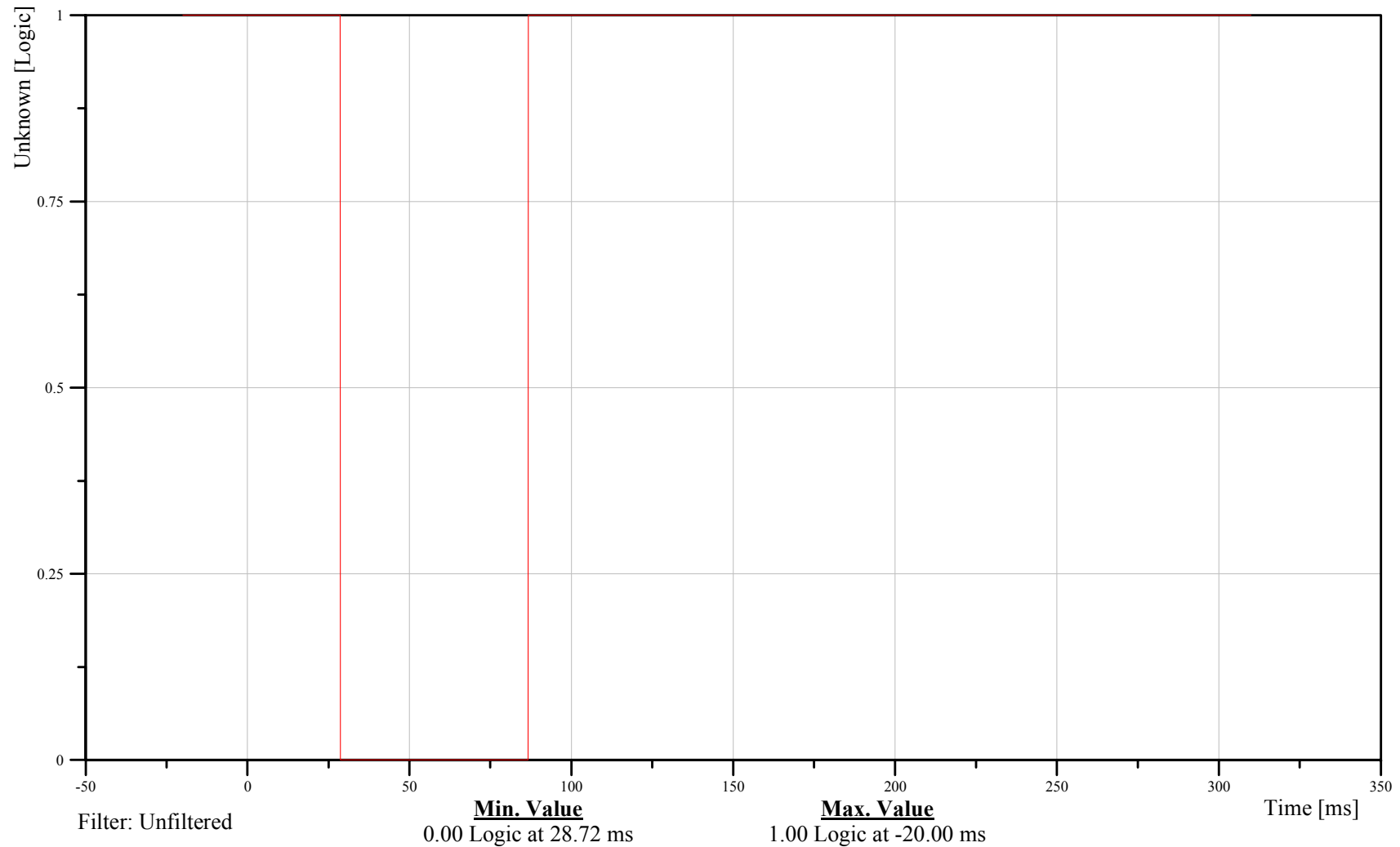
Dummy Shoulder Contact

Customer: VRTC

13CONT000002EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

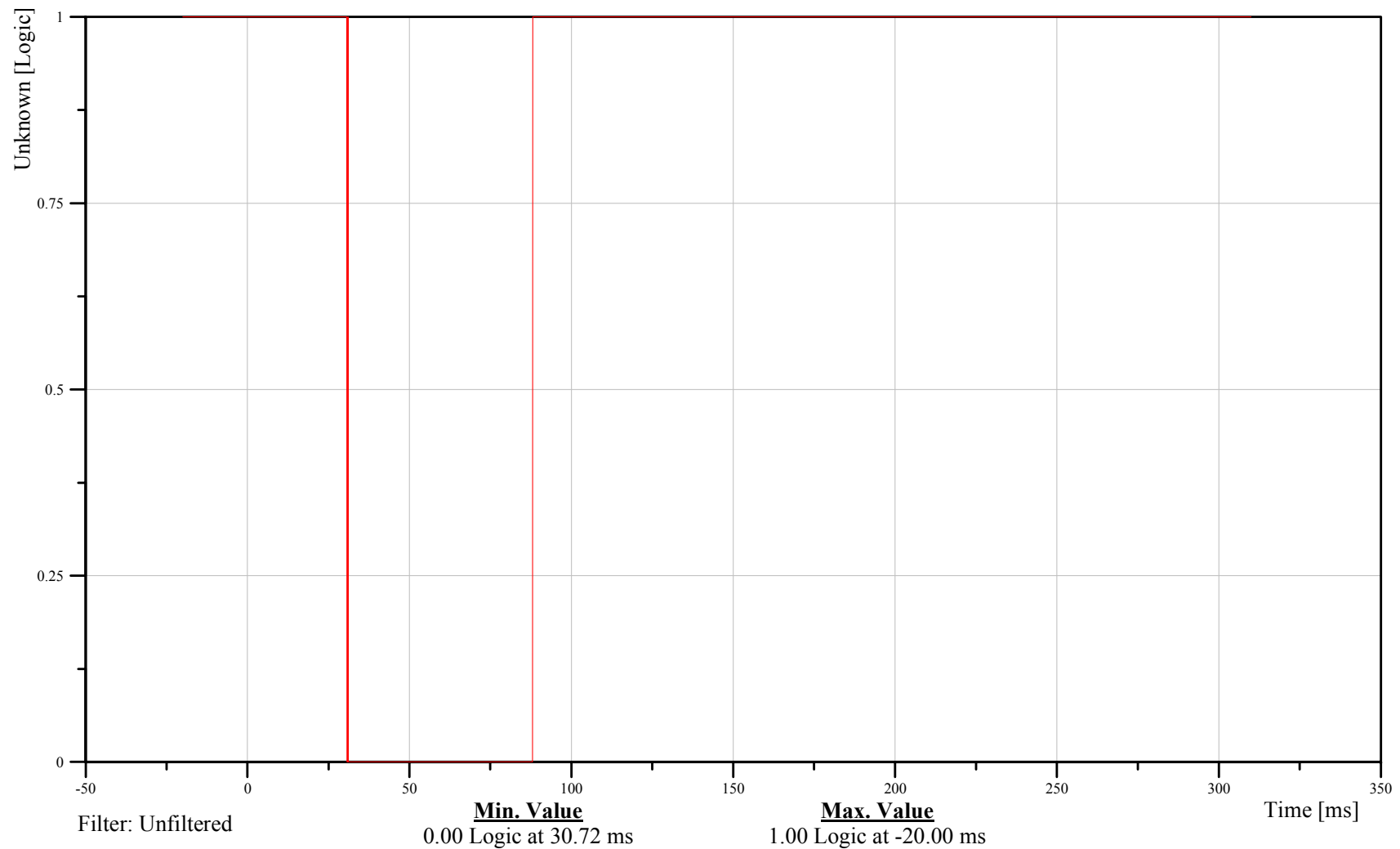
Dummy Torso Contact

Customer: VRTC

13CONT000003EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Dummy Leg Contact

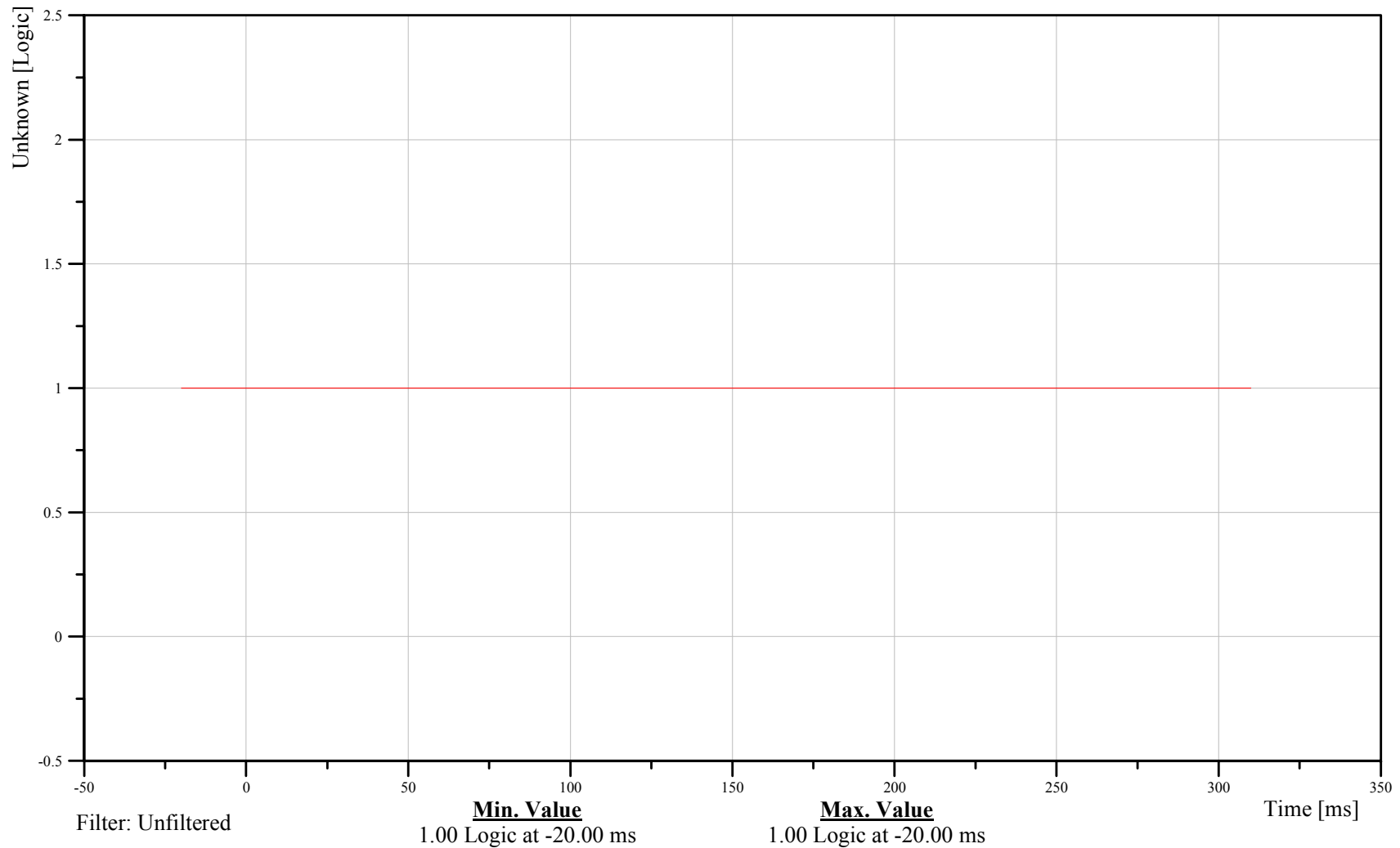
Date: 07/29/2005
Time: 12:15

Customer: VRTC

13CONT000004EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

MDB Center of Gravity X-Axis Acceleration

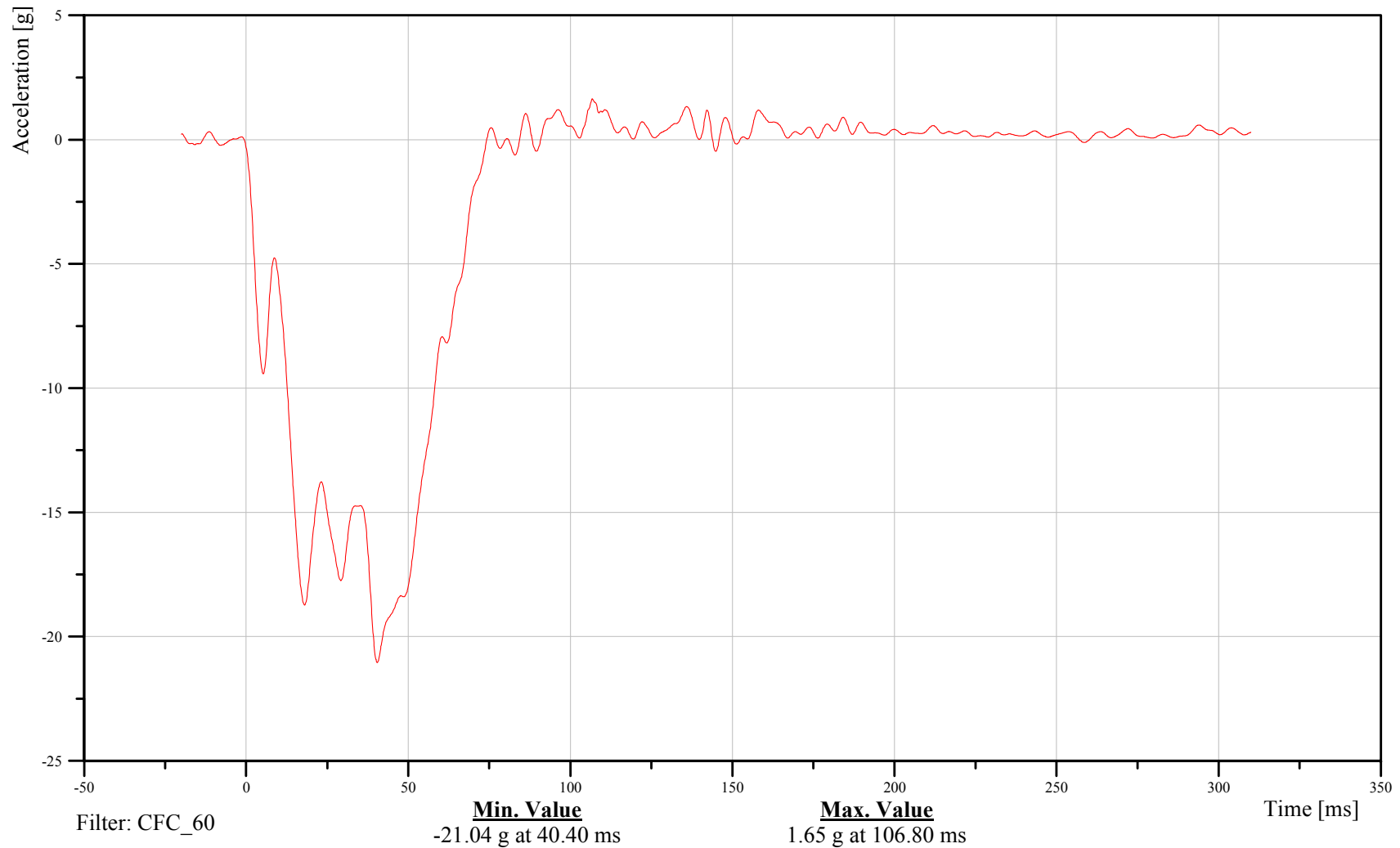
Date: 07/29/2005
Time: 12:15

Customer: VRTC

M0VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

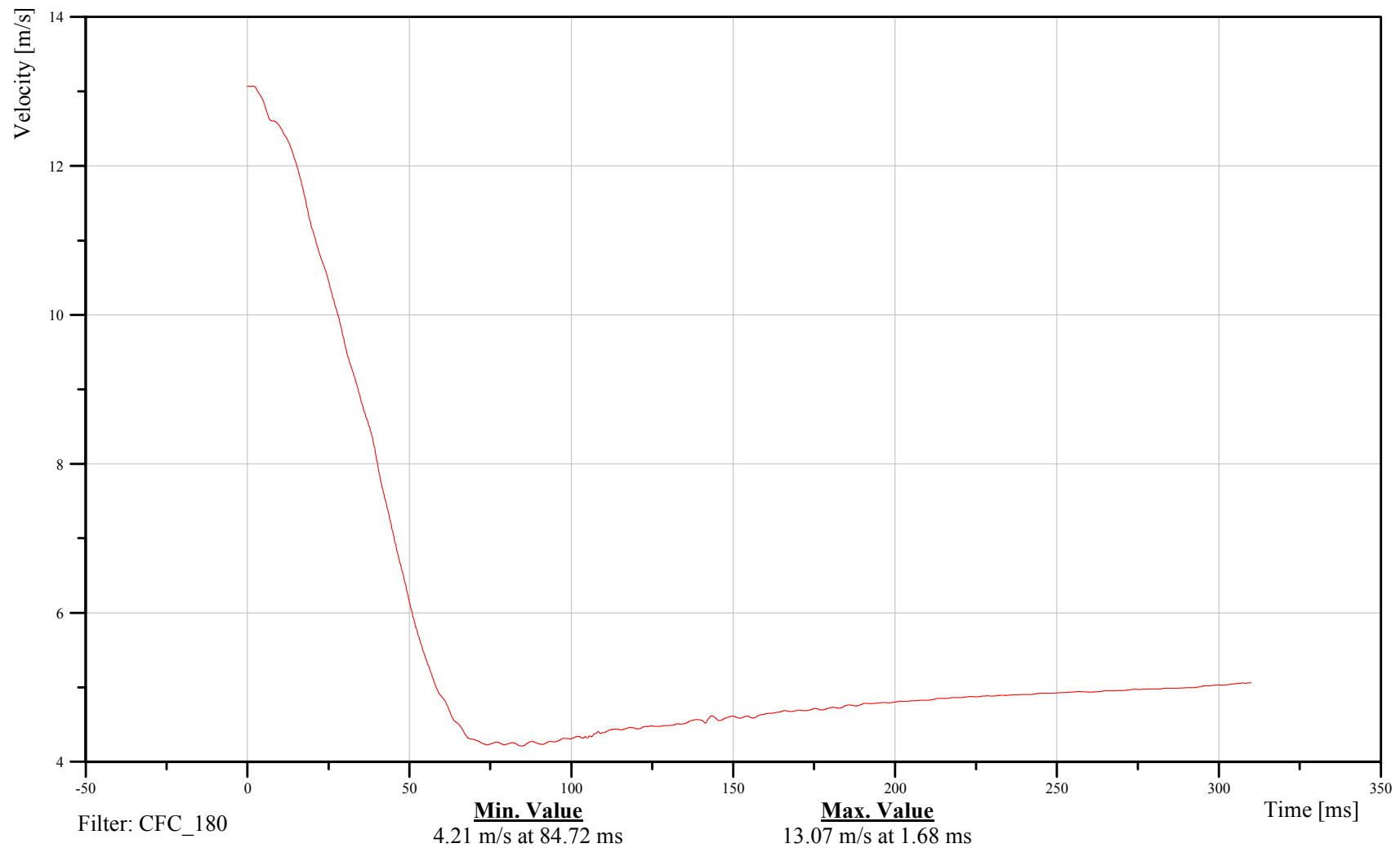
MDB Center of Gravity X-Axis Velocity

Customer: VRTC

M0VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

MDB Center of Gravity Y-Axis Acceleration

Date: 07/29/2005

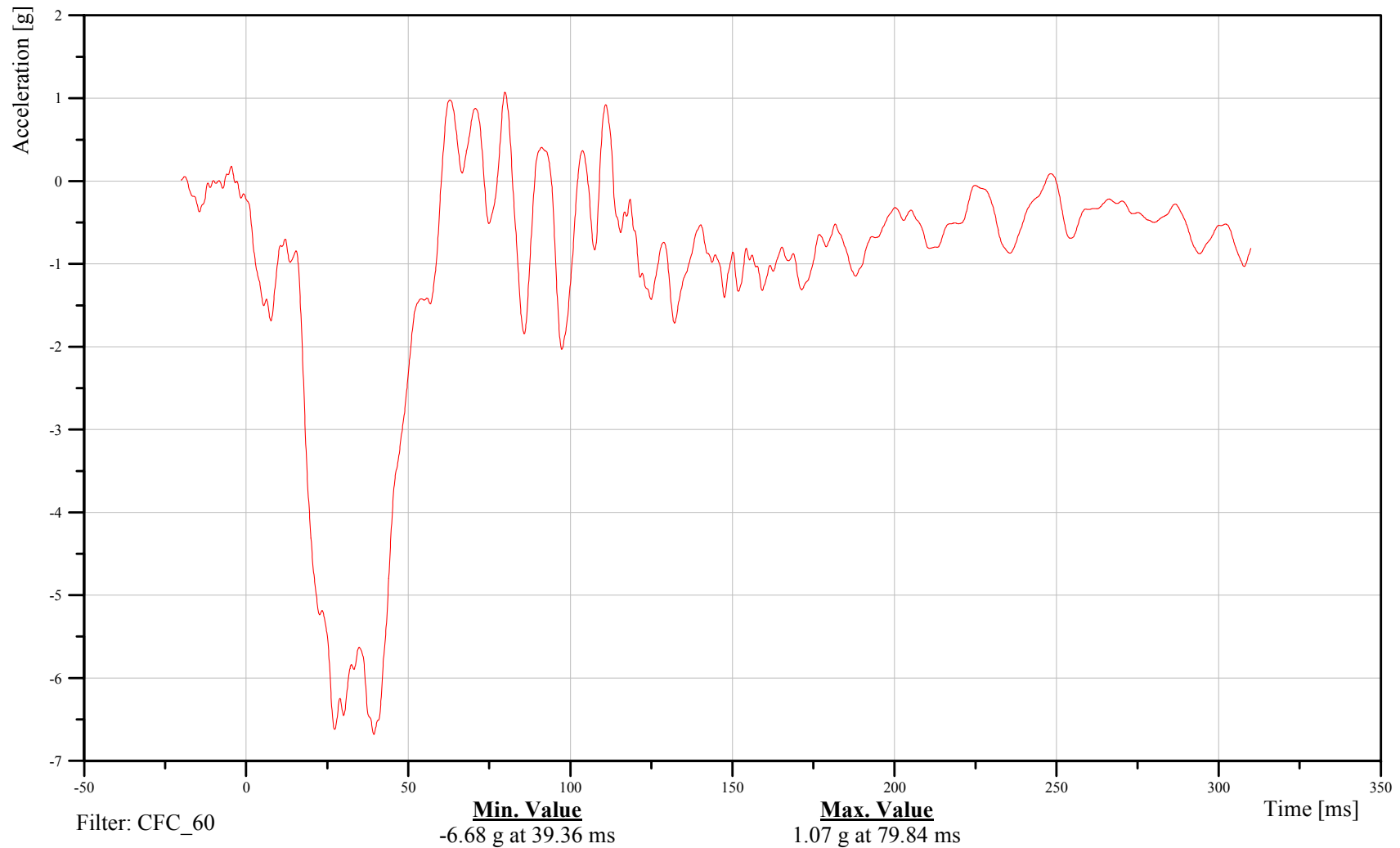
Time: 12:15

Customer: VRTC

M0VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

MDB Center of Gravity Y-Axis Velocity

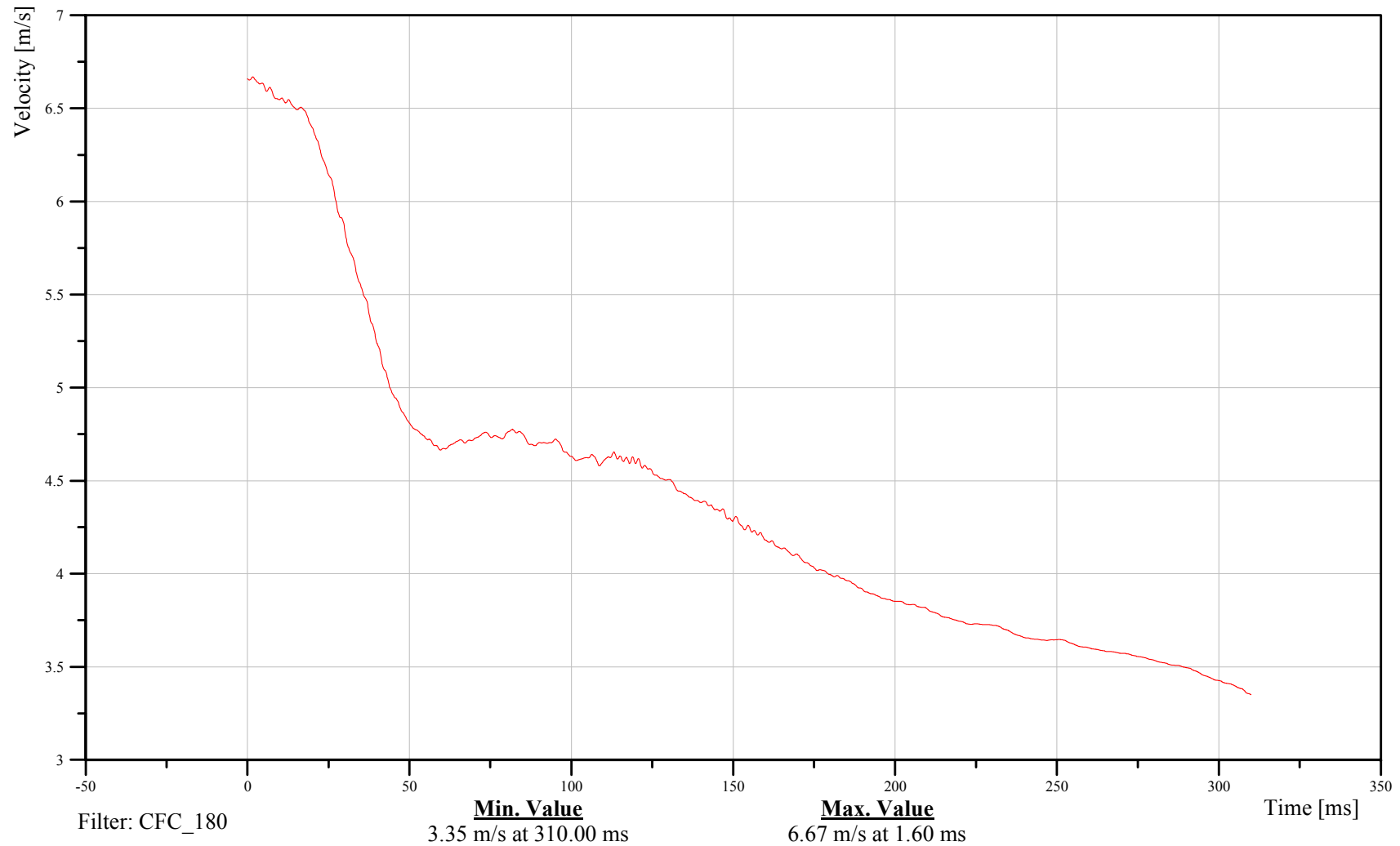
Date: 07/29/2005
Time: 12:15

Customer: VRTC

M0VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

MDB Center of Gravity Z-Axis Acceleration

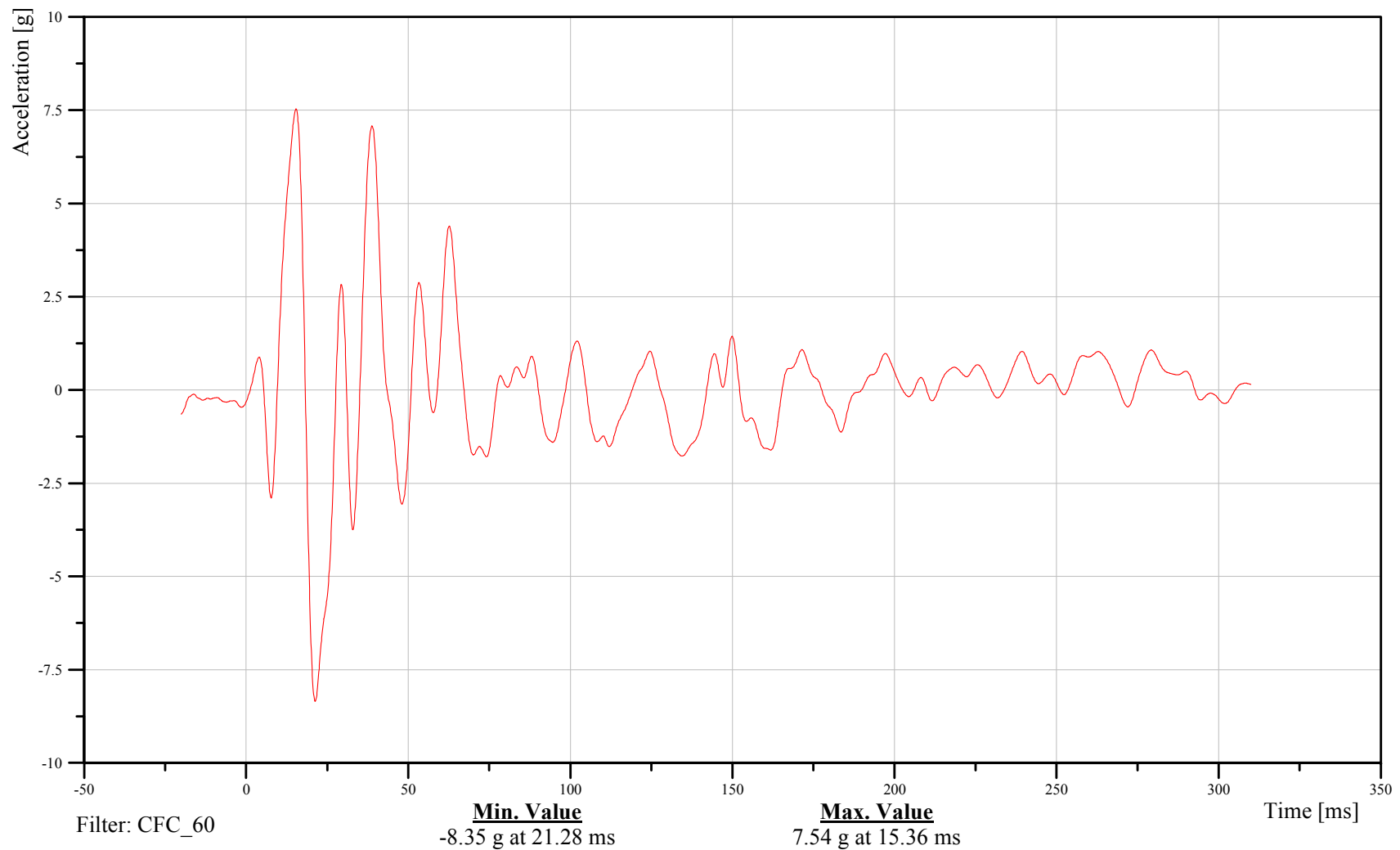
Date: 07/29/2005
Time: 12:15

Customer: VRTC

M0VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

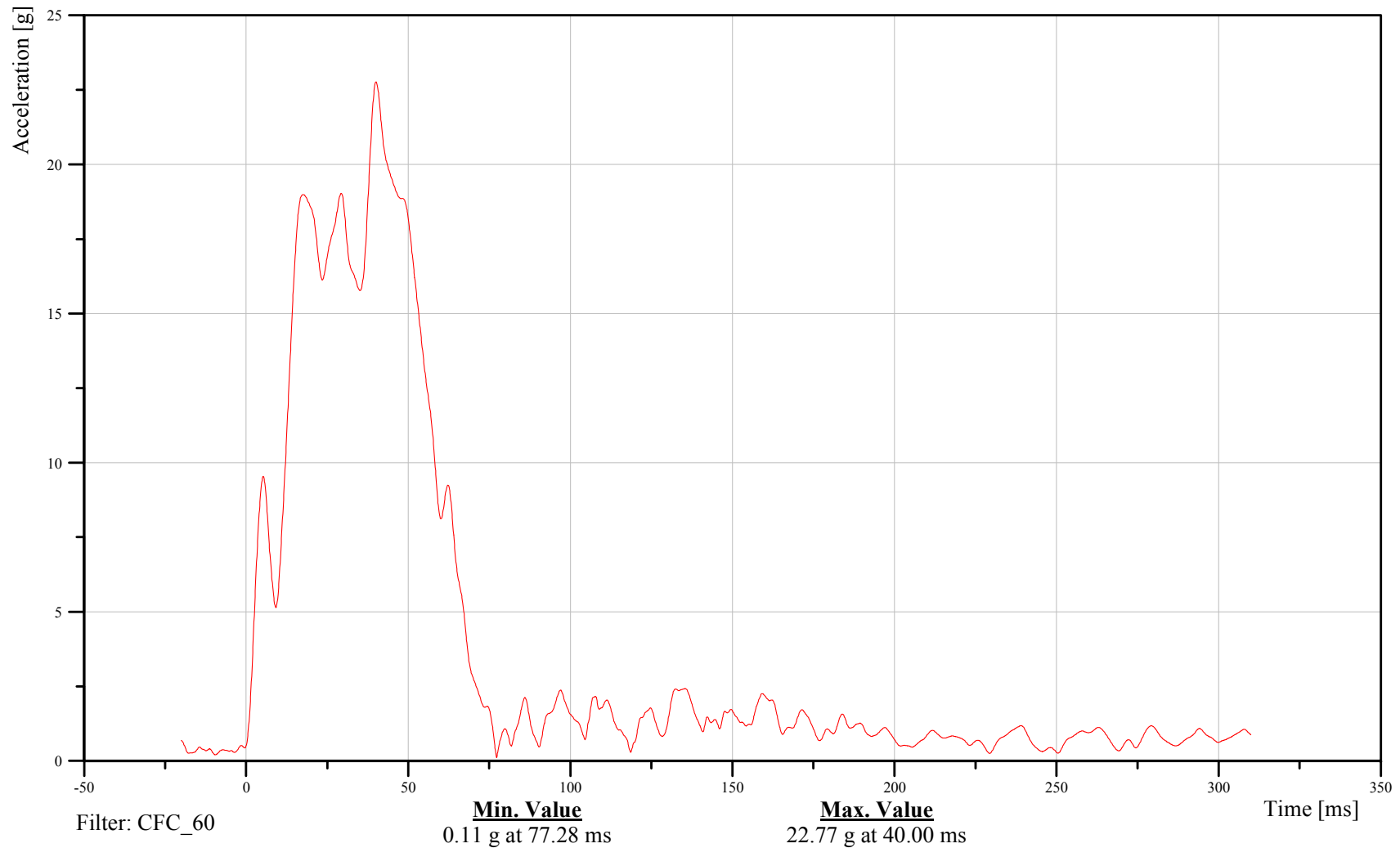
MDB Center of Gravity Resultant Acceleration

Customer: VRTC

M0VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

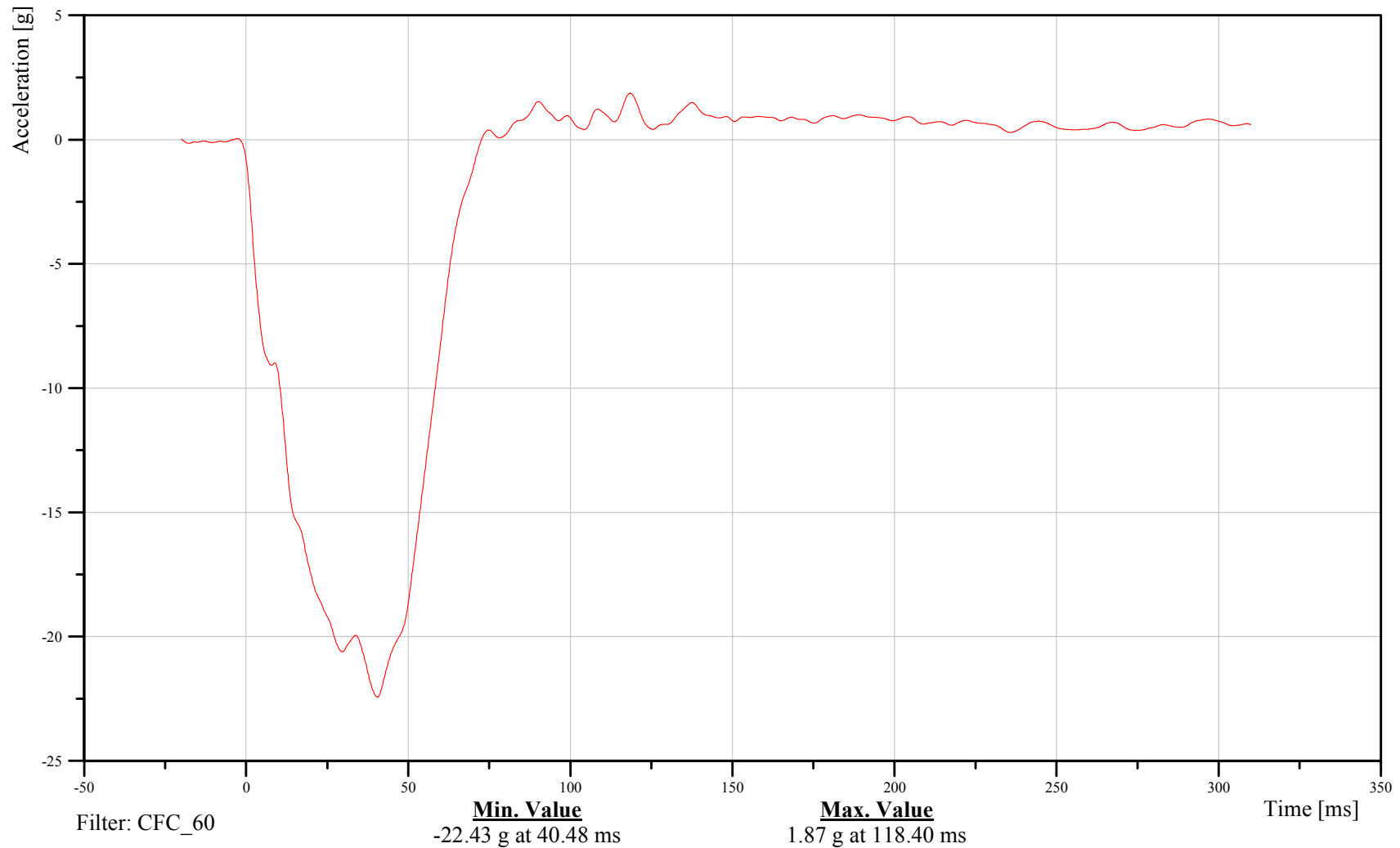
MDB Left Rear X-Axis Acceleration

Customer: VRTC

M7FRAM000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

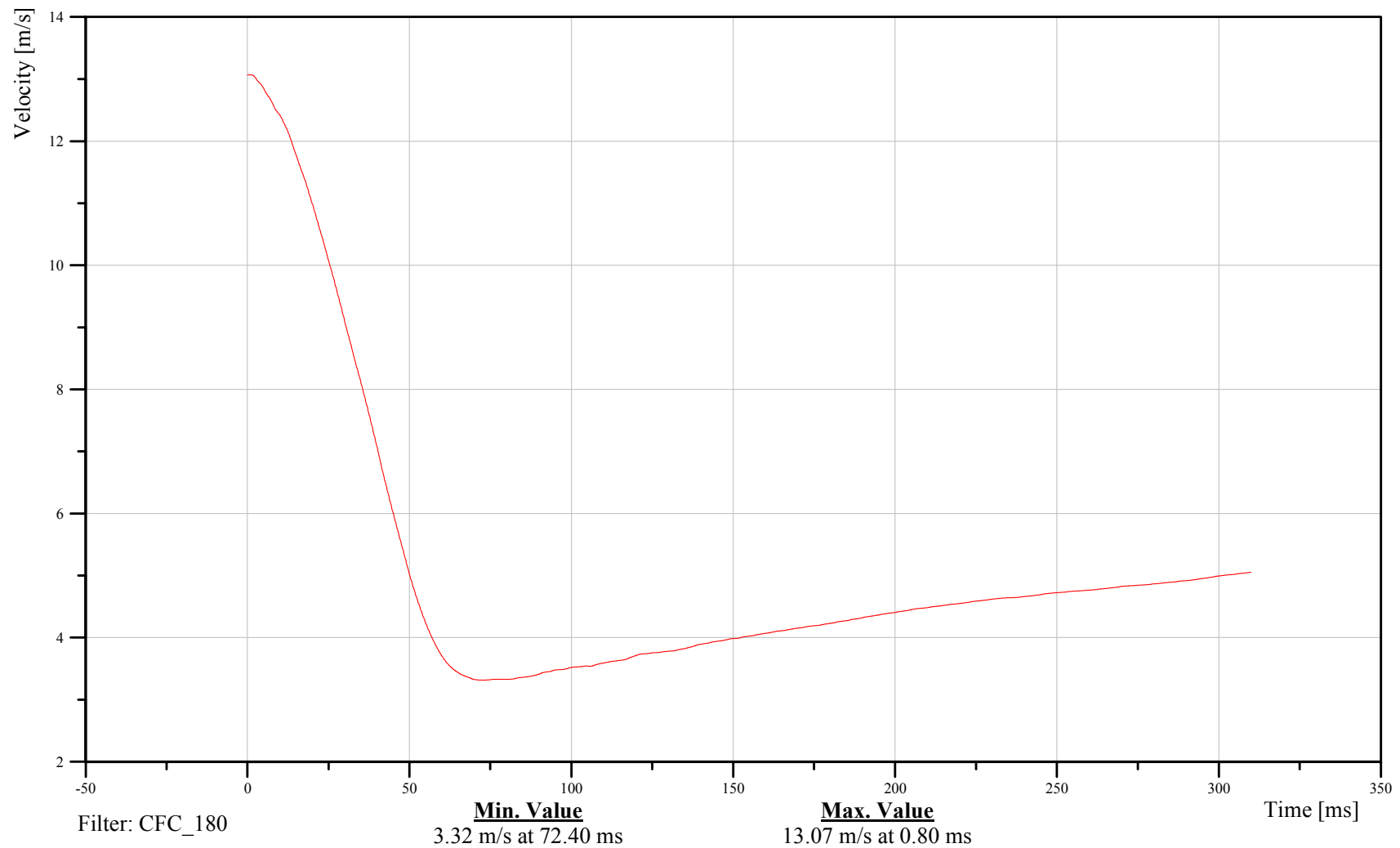
MDB Left Rear X-Axis Velocity

Customer: VRTC

M7FRAM000000VEXC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

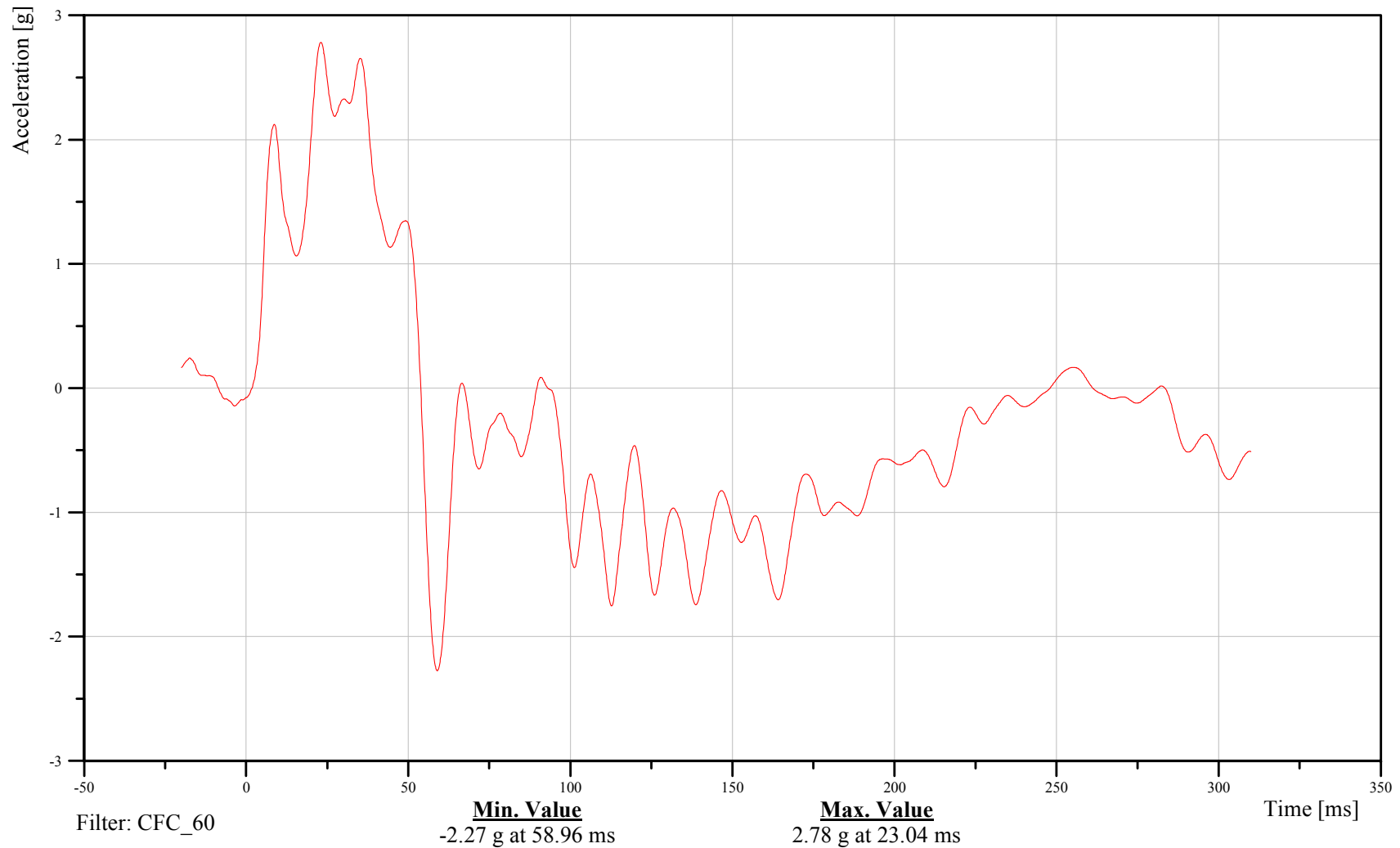
MDB Left Rear Y-Axis Acceleration

Customer: VRTC

M7FRAM000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

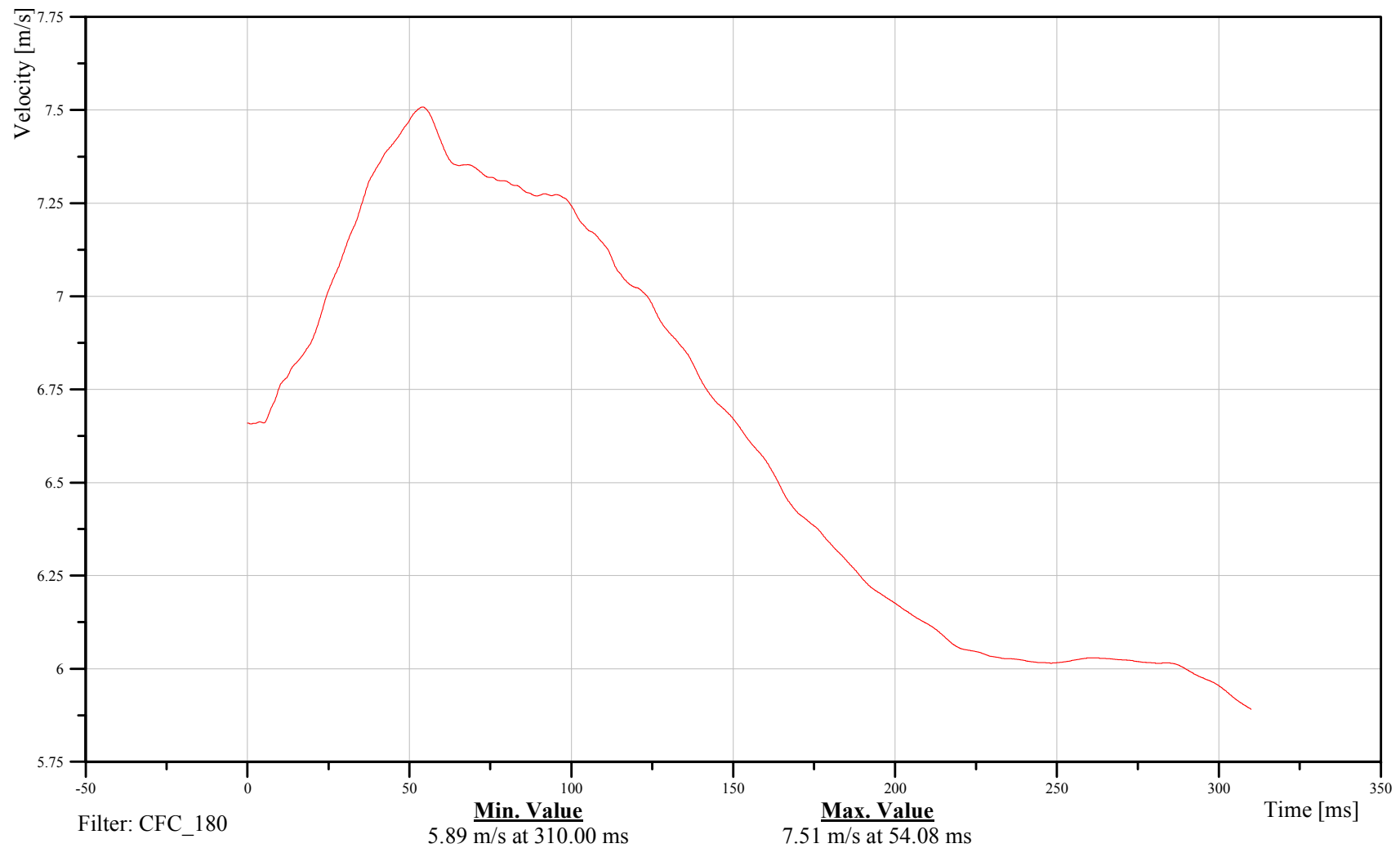
MDB Left Rear Y-Axis Velocity

Customer: VRTC

M7FRAM000000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

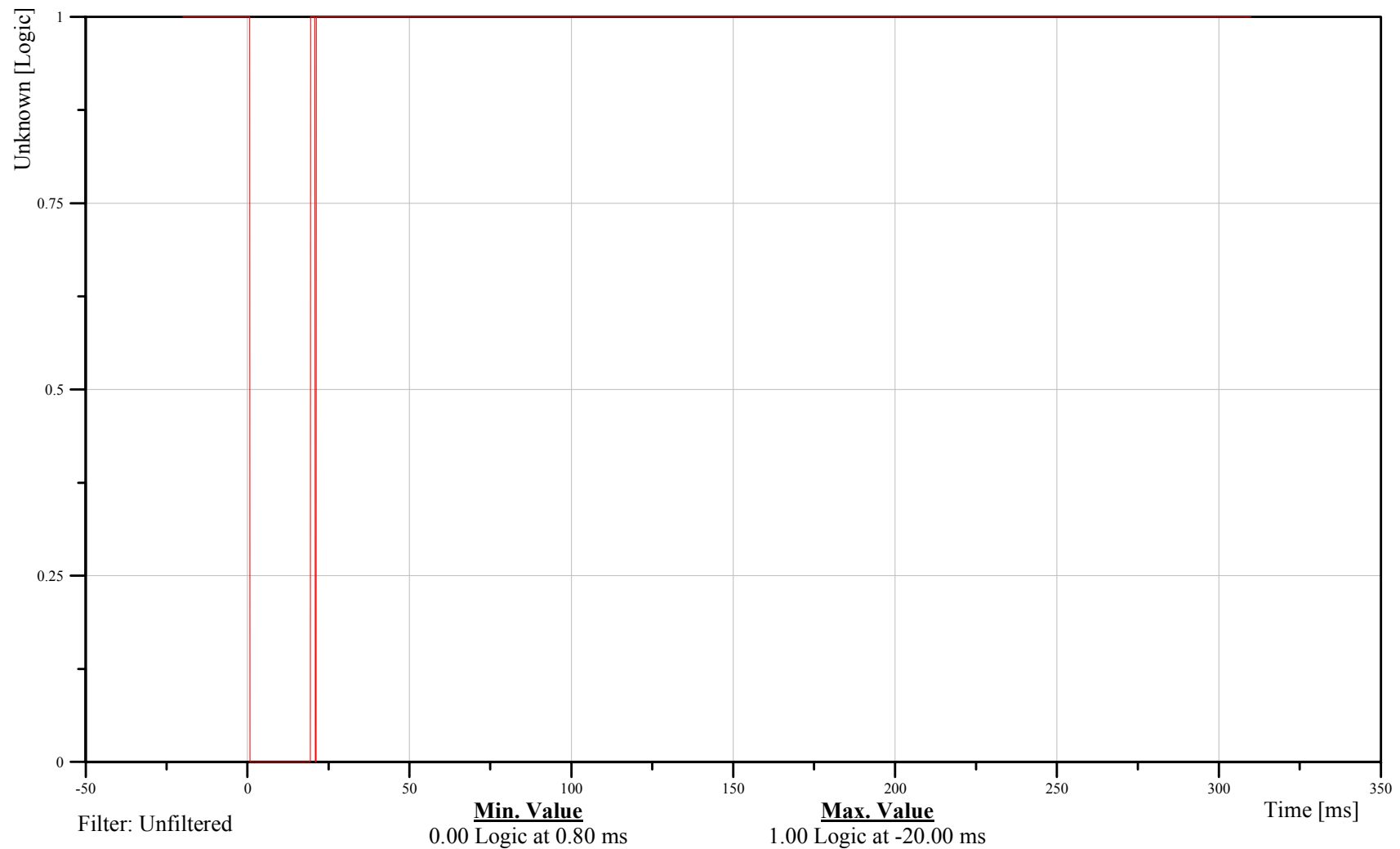
MDB Right Side Contact Switch

Customer: VRTC

M3CONT000000EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005
Time: 12:15

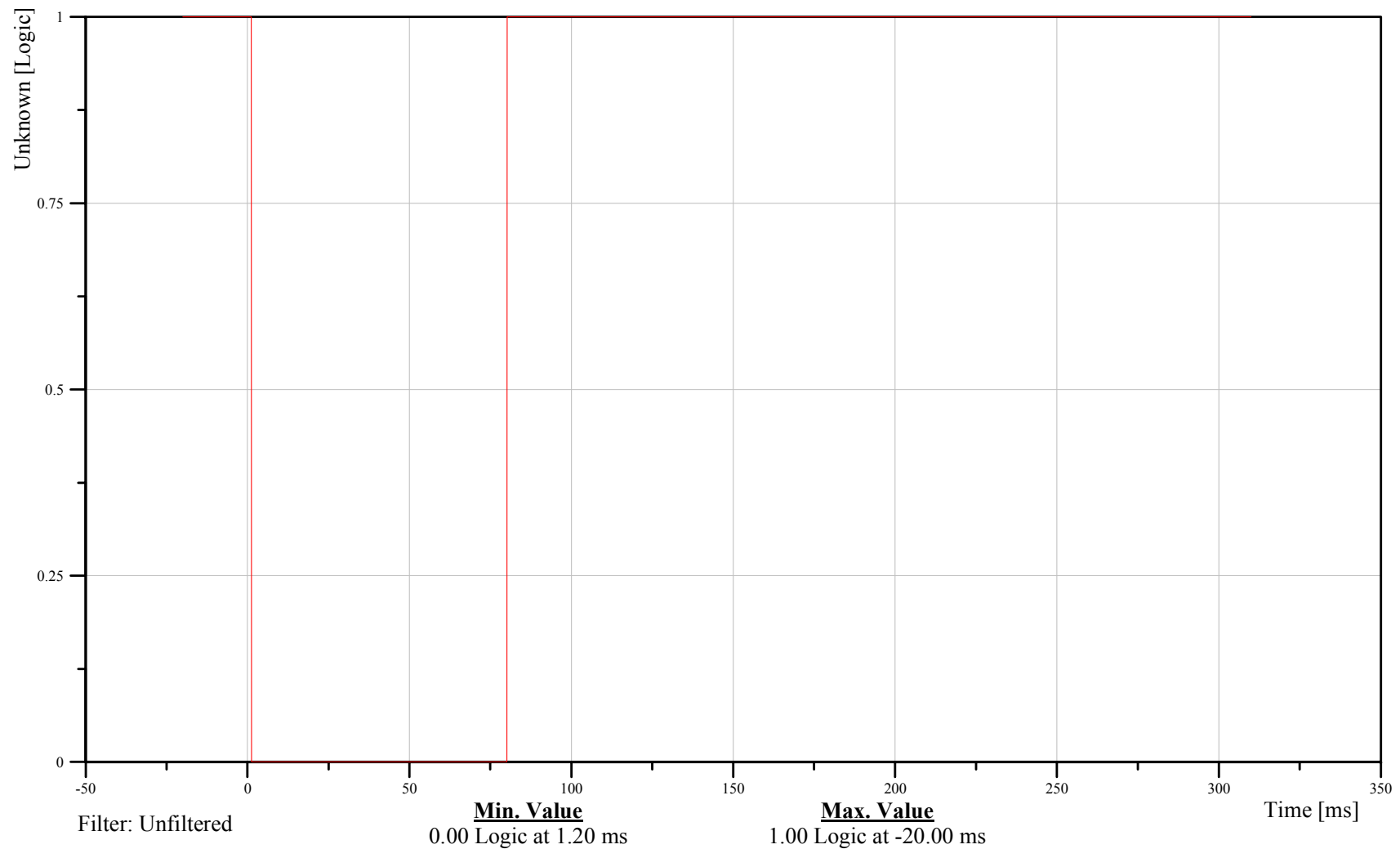
MDB Left Side Contact Switch

Customer: VRTC

M1CONT000000EV00

TRC Inc. Test Lab: CTF

Test Number: 050729





MDB into Left Side of 2005 Ford 500 at 52.9 kph

Head Injury Criterion (HIC)

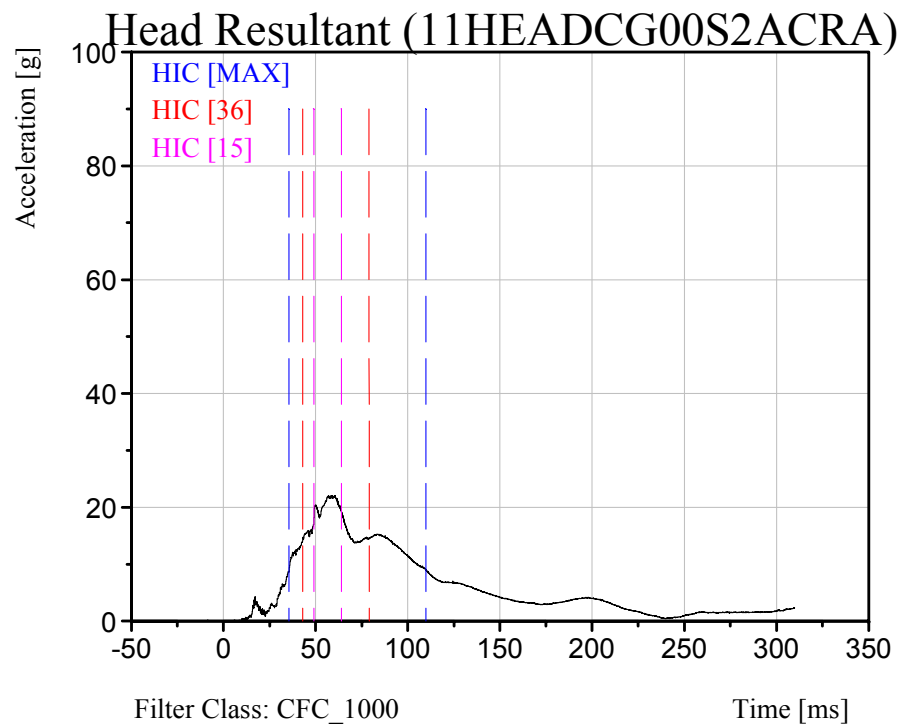
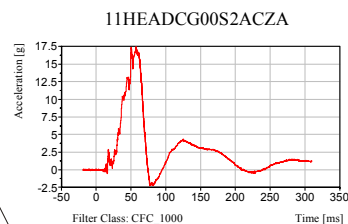
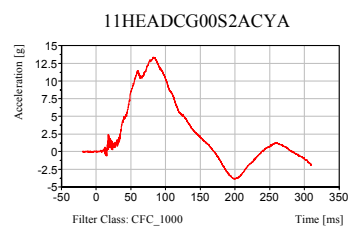
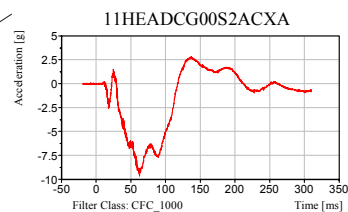
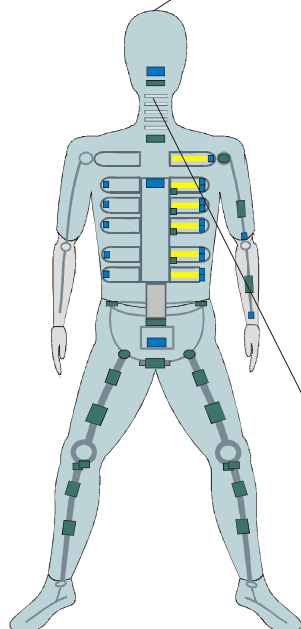
Date: 07/29/2005

Time: 12:15

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 050729



Dummy:SID IIs
Seating Position:
Driver

	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 64.29	35.52 ms	109.84 ms	14.95 g
HIC [36] = 45.79	43.04 ms	79.04 ms	17.44 g
HIC [15] = 29.08	49.04 ms	64.08 ms	20.62 g

HIC Source Code: SAE J2052 ISO/TC22/SC12/WG3 N 282 (Issued 1990-03-16) 102



MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

Pelvis(LE) Summation

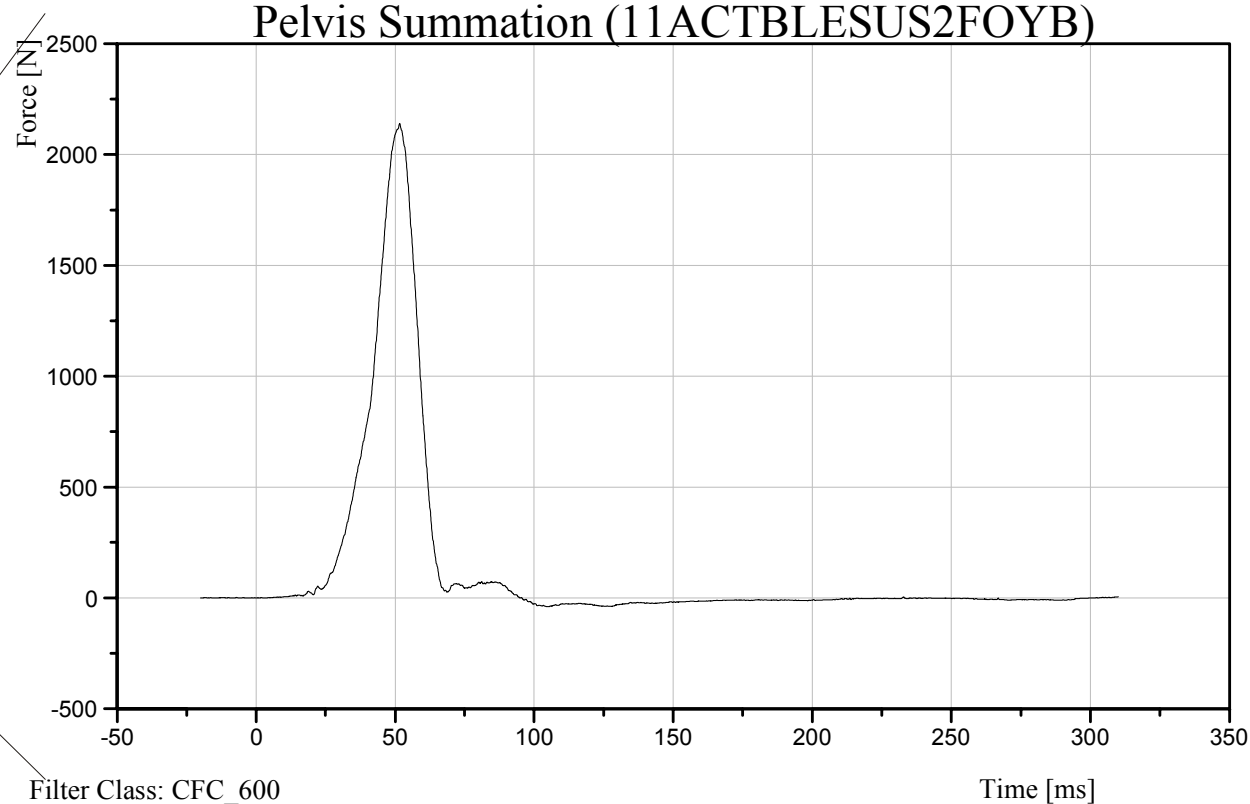
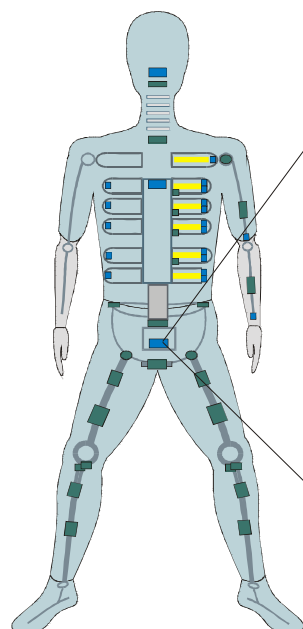
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 050729

Test Orientation = Side

Pelvis Summation (11ACTBLESUS2FOYB)



Dummy:SID IIs
Seating Position:
Driver

[Max.] 2,140.09 N at 51.60 ms

[Min.] -39.86 N at 105.44 ms

Pelvis Summation Source Code : Summation of Channels 11ILACLE00S2FOYB,11ACTBLE00S2FOYB



MDB into Left Side of 2005 Ford 500 at 52.9 kph

Head Injury Criterion (HIC)

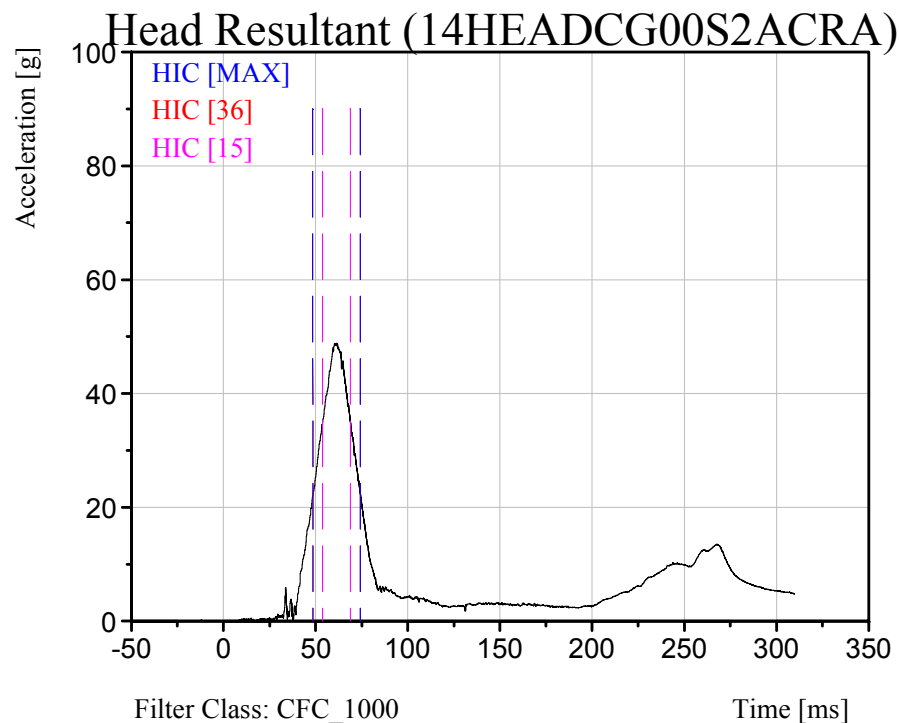
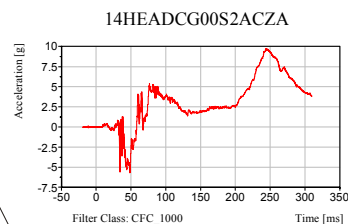
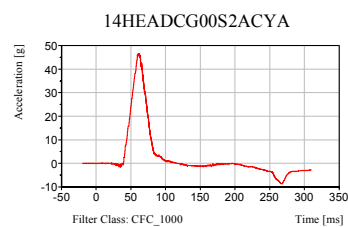
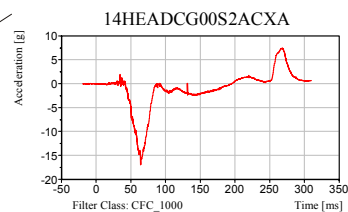
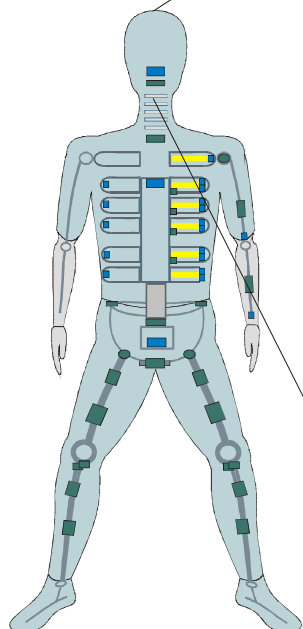
Date: 07/29/2005

Time: 12:15

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 050729



Dummy:SID IIs
Seating Position:
Left Rear Passenger

	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 216.49	48.56 ms	74.32 ms	37.09 g
HIC [36] = 216.49	48.56 ms	74.32 ms	37.09 g
HIC [15] = 184.56	53.84 ms	68.88 ms	43.16 g

HIC Source Code: SAE J2052 ISO/TC22/SC12/WG3 N 282 (Issued 1990-03-16) 102



MDB into Left Side of 2005 Ford 500 at 52.9 kph

Date: 07/29/2005

Time: 12:15

Pelvis(LE) Summation

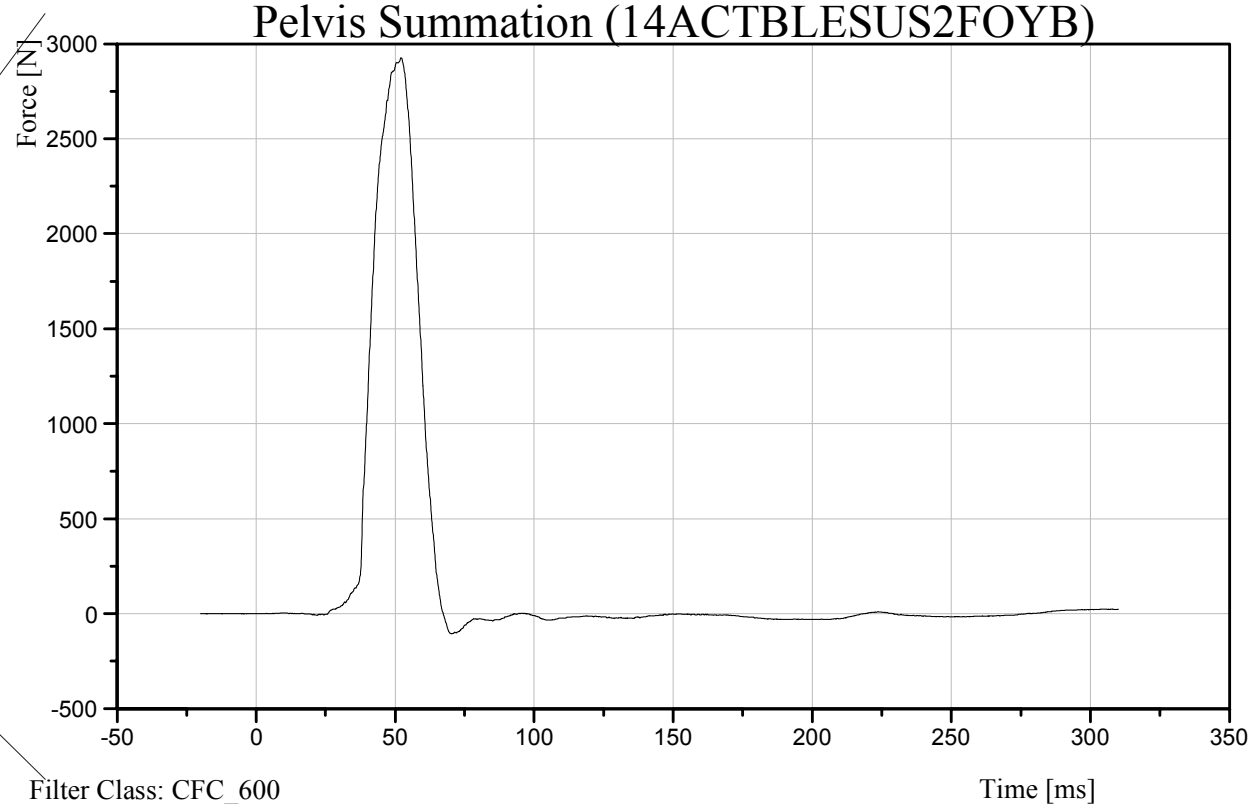
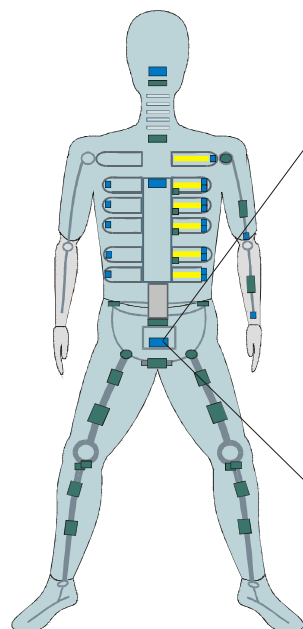
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 050729

Test Orientation = Side

Pelvis Summation (14ACTBLE00S2FOYB)



Dummy:SID IIs
Seating Position:
Left Rear Passenger

[Max.] 2,925.23 N at 52.16 ms

[Min.] -105.15 N at 70.24 ms

Pelvis Summation Source Code : Summation of Channels 14ILACLE00S2FOYB,14ACTBLE00S2FOYB

Appendix C

Dummy Configuration and Performance Verification Data

Pre-Test Dummy Configuration and Performance Verification Data

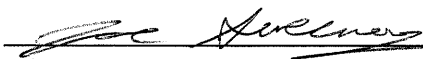
Driver Dummy S/N: 020

Tested per draft procedures and specifications provided by VRTC

Transportation Research Center Inc.
SIDIIs Dummy - Build Level D
External Dimensions
Serial No. 020 Calibration No. 07
Date: 22-Jul-05

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	779.0 - 795.0	781	Yes
B	Shoulder Pivot Height	437.0 - 453.0	441	Yes
C	H-Point Height	81.0 - 91.0	83	Yes
D	H-Point from Backline	141.0 - 151.0	142	Yes
E	Shoulder Pivot from Backline	104.0 - 114.0	107	Yes
F	Thigh Clearance	119.0 - 135.0	127	Yes
G	Head Breadth	140.0 - 148.0	143	Yes
H	Head Back from Backline	40.0 - 46.0	43	Yes
I	Head Depth	178.0 - 188.0	181	Yes
J	Head Circumference	541.0 - 551.0	543	Yes
K	Buttock to Knee Length	514.0 - 540.0	531	Yes
L	Popliteal Height	348.0 - 374.0	351	Yes
M	Knee to Floor Height	393.0 - 409.0	403	Yes
N	Buttock Popliteal Length	416.0 - 442.0	425	Yes
O	Chest Depth without Jacket	195.0 - 211.0	200	Yes
P	Foot Length (right)	218.0 - 234.0	224	Yes
P	Foot Length (left)	218.0 234.0	215	No
Q	Hip Breadth	313.0 - 323.0	318	Yes
R	Arm Length	249.0 - 259.0	251	Yes
S	Knee to Seat Back	477.0 - 493.0	481	Yes
V	Shoulder Width	337.0 - 353.0	346	Yes
W	Foot Width (right)	78.0 - 94.0	85	Yes
W	Foot Width (left)	78.0 94.0	81	Yes
Y	Chest Circumference with Jacket	861.0 - 891.0	872	Yes
Z	Waist Circumference	757.0 - 787.0	764	Yes

Technician



Approved





Transportation Research Center Inc.

Left Head Test

SID-IIIs Serial No. 020 Calibration No. 07 - 1

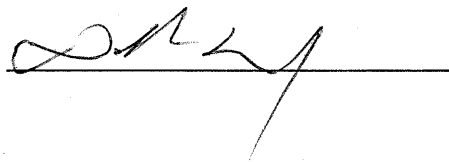
Test Date 07/14/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Peak Resultant Acceleration	125 - 145 g	122.4 g	No
Peak Longitudinal Acceleration	15 g Max	-4.2 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

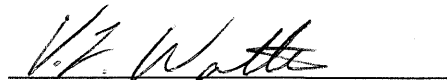
Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 13:05:18 231

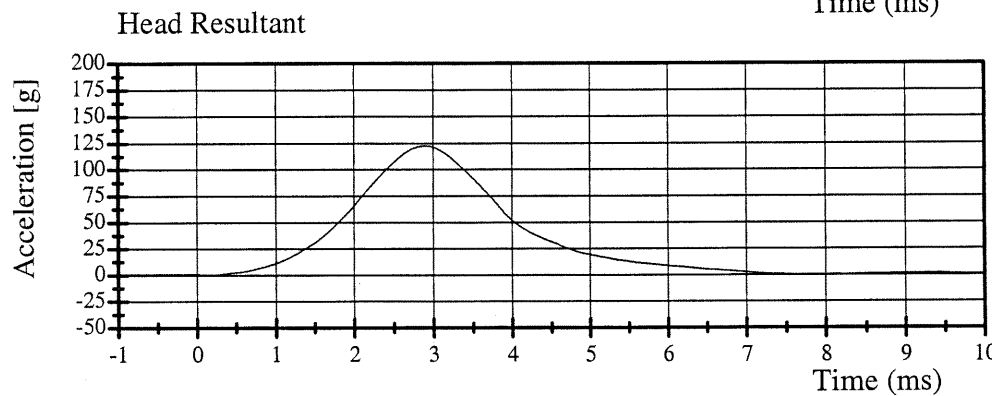
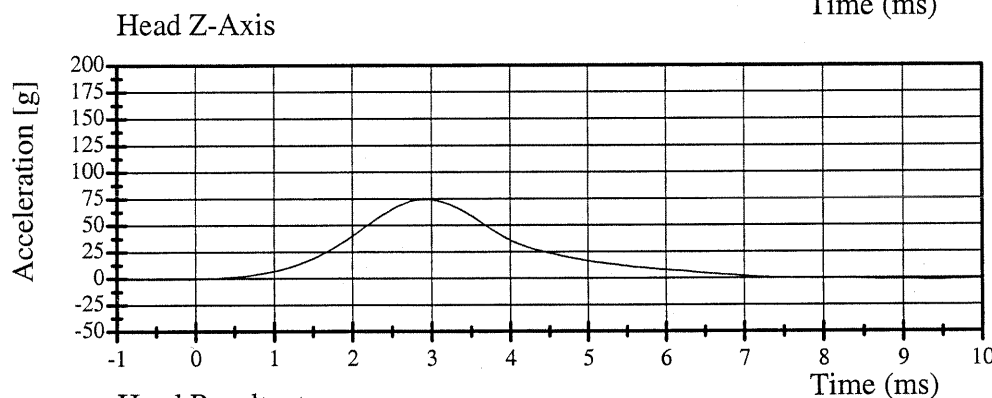
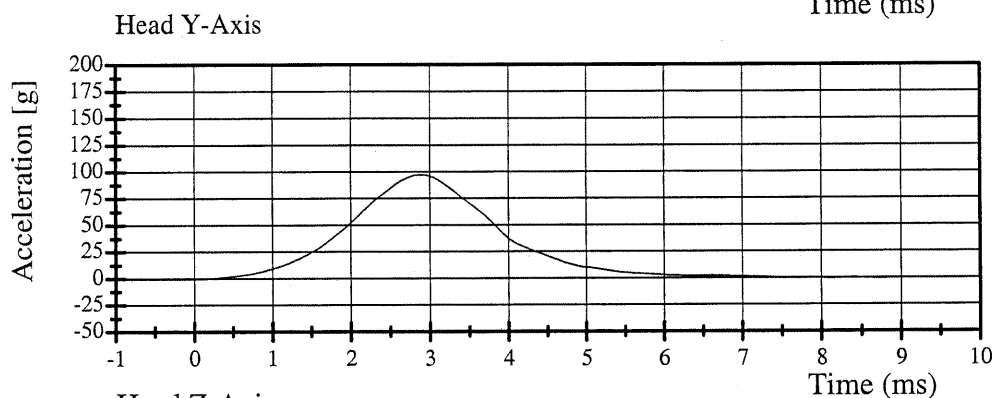
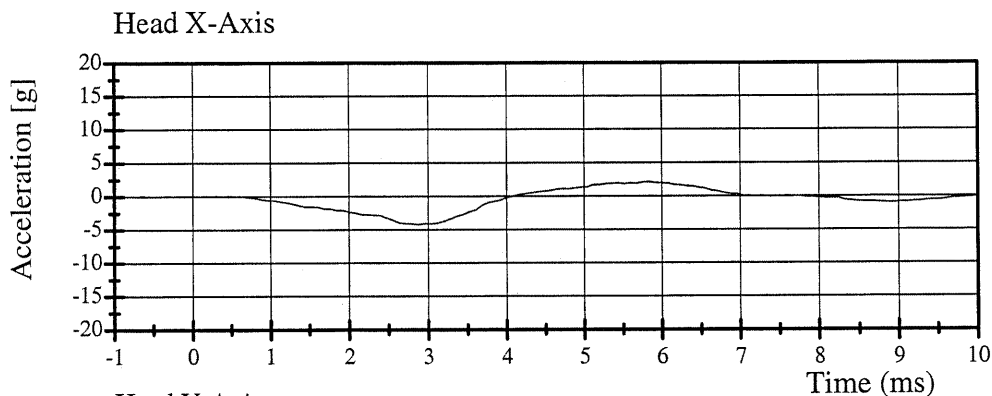


Transportation Research Center Inc.

Head Test

SID-IIIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/14/2005



08.07.2005 13:05:19 231



Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 020 Calibration No. 07 - 4

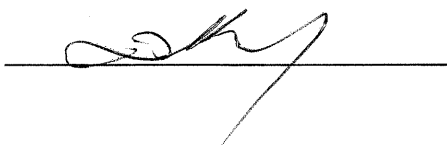
Test Date 07/15/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impact Velocity	5.51 - 5.63 m/s	5.60 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.20 - 2.80 m/s	2.57 m/s	Yes
15 ms	3.40 - 4.10 m/s	3.73 m/s	Yes
20 ms	4.50 - 5.40 m/s	5.00 m/s	Yes
25 ms	5.50 - 6.10 m/s	5.97 m/s	Yes
25 - 100 ms	5.20 - 6.20 m/s	5.70 - 6.02 m/s	Yes
Peak D Plane Rotation	74 - 79 °	73.5 °	No
Time of Peak D-Plane Rotation	50 - 70 °	61.7 °	Yes
Peak Moment About Occipital Condyles during Rotation Interval	40.0 - 45.0 N·m	0 N·m	No
Time of Moment Decay To 0 N·m	113 - 123 ms	115.8 ms	Yes

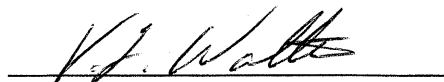
Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 14:18:48 670



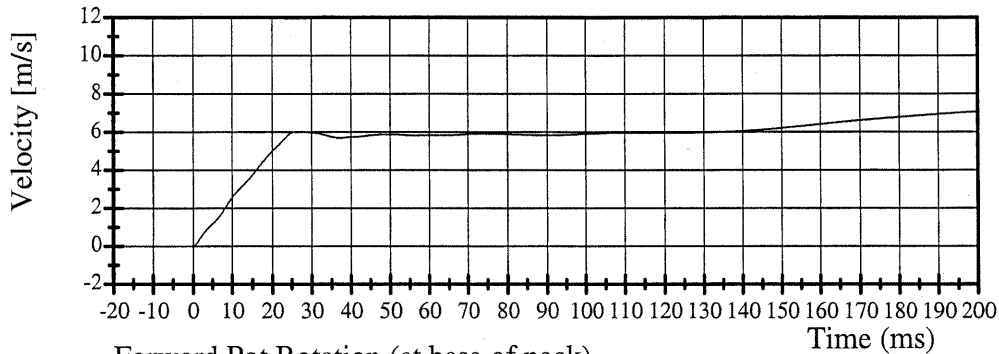
Transportation Research Center Inc.

Left Lateral Neck Test

SID-II's Serial No. 020 Calibration No. 07 - 4

Test Date 07/15/2005

Integrated Pendulum Velocity

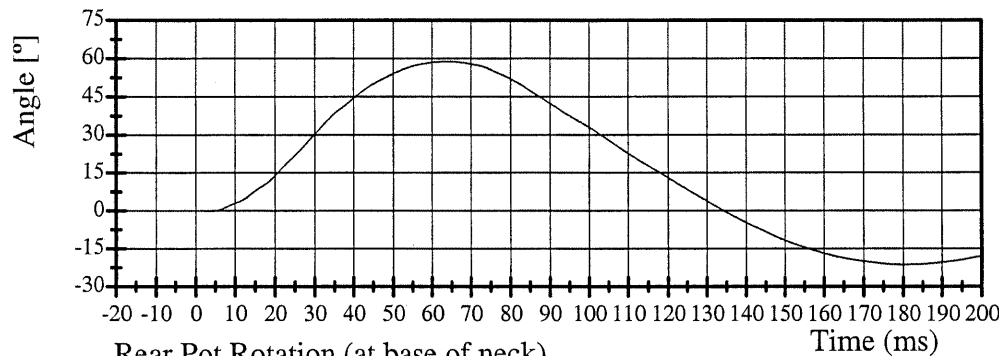


Filter Class: 180

Max: 7.2 m/s at 221.6 ms

Min: -0.0 m/s at -0.6 ms

Forward Pot Rotation (at base of neck)

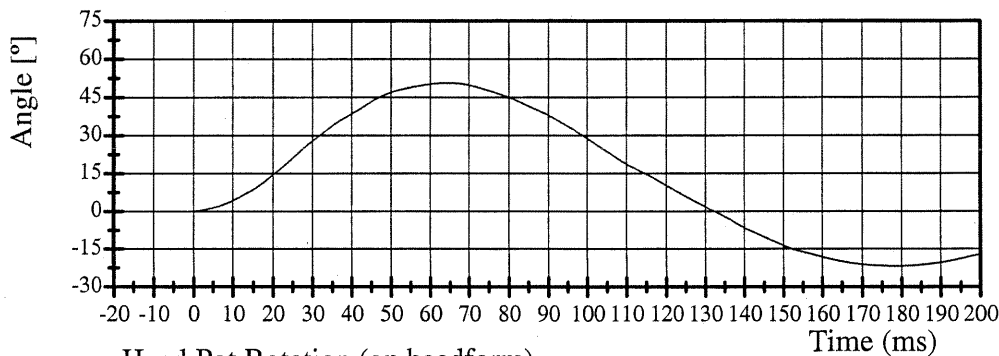


Filter Class: 60

Max: 58.8° at 63.9 ms

Min: -21.2° at 180.2 ms

Rear Pot Rotation (at base of neck)

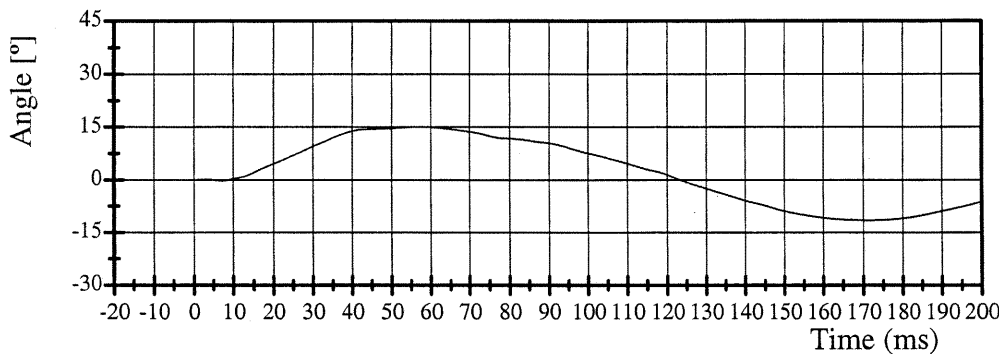


Filter Class: 60

Max: 50.7° at 64.2 ms

Min: -21.7° at 178.6 ms

Head Pot Rotation (on headform)



Filter Class: 60

Max: 15.1° at 57.9 ms

Min: -11.5° at 171.2 ms

08.07.2005 14:19:56 670



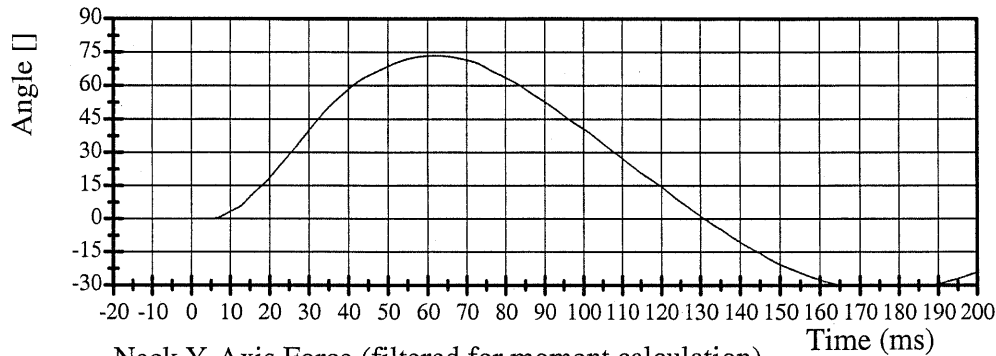
Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 020 Calibration No. 07 - 4

Test Date 07/15/2005

D-Plane Rotation (forward pot + head pot)

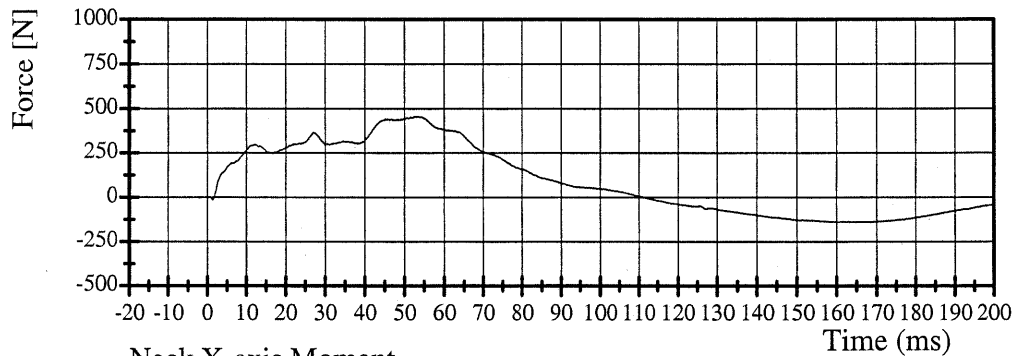


Filter Class: CFC 60

Max: 73.5 ° at 61.7 ms

Min: -32.4 ° at 177.3 ms

Neck Y-Axis Force (filtered for moment calculation)

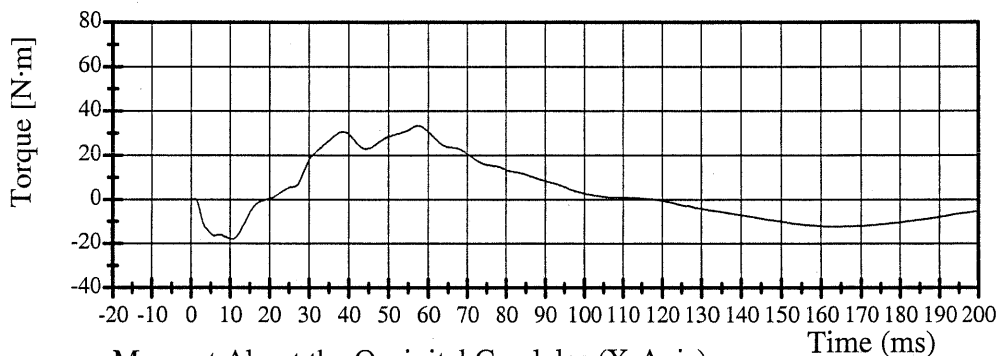


Filter Class: CFC 600

Max: 455 N at 52.6 ms

Min: -140 N at 166.6 ms

Neck X-axis Moment

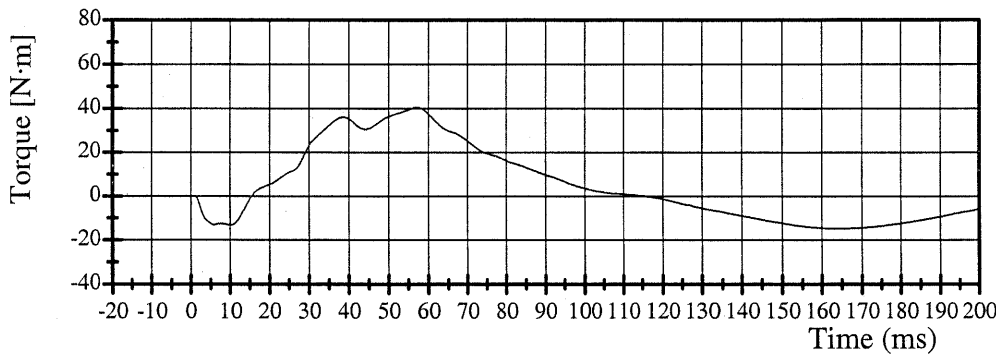


Filter Class: CFC 600

Max: 33.4 N·m at 57.6 ms

Min: -18.0 N·m at 10.6 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 40.5 N·m at 57.2 ms

Min: -14.8 N·m at 163.9 ms

08.07.2005 14:19:21 670



Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 020 Calibration No. 07 - 1

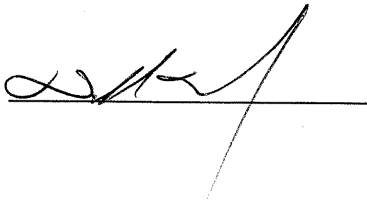
Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.3 C	Yes
Relative Humidity	10 - 70 %	58 %	Yes
Pendulum Velocity	4.41 - 4.59 m/sec	4.47 m/sec	Yes
Probe Force	1600 - 2400 N	2274 N	Yes
Deflection	27 - 39 mm	33.7 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



07.16.2005 09:28:13 578



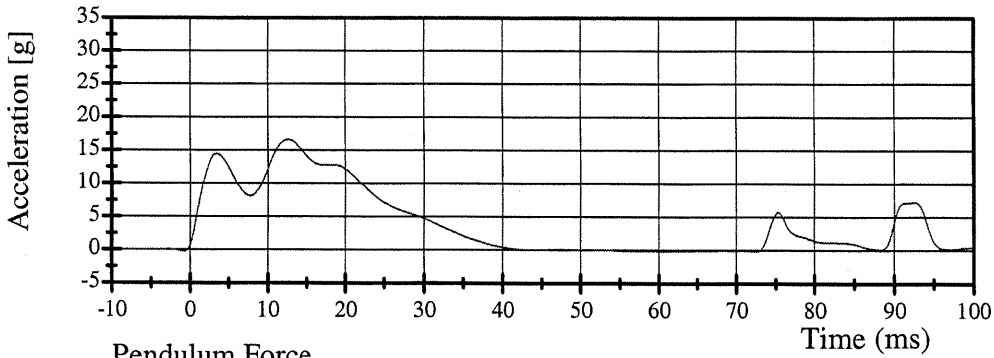
Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Pendulum Deceleration

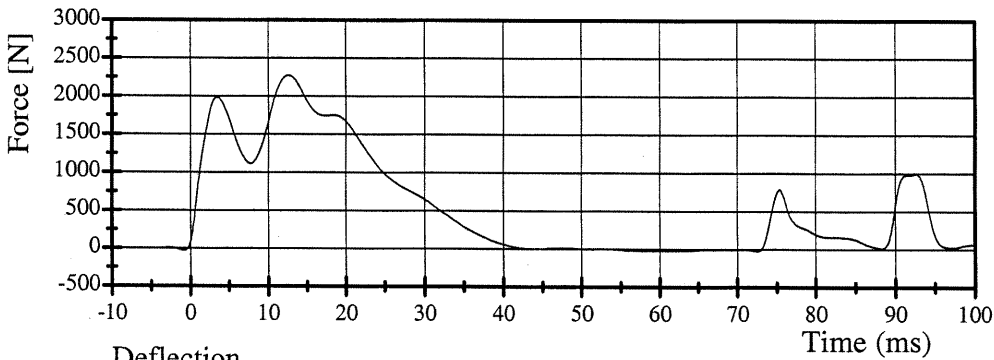


Filter Class: CFC 180

Max: 16.8 g at 12.7 ms

Min: -0.7 g at 97.7 ms

Pendulum Force

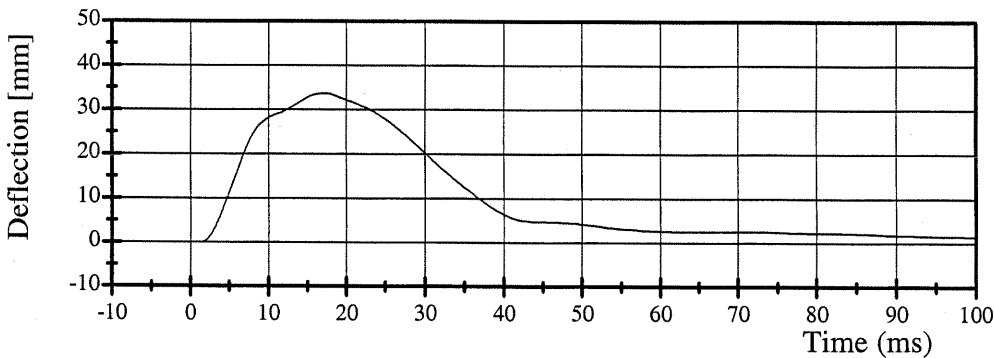


Filter Class: CFC 180

Max: 2274 N at 12.6 ms

Min: -28 N at -0.8 ms

Deflection



Filter Class: CFC 600

Max: 33.7 mm at 17.4 ms

Min: -0.0 mm at 1.4 ms

Transportation Research Center Inc.

Left Thorax with Arm Test

SID-IIs Serial No. 020 Calibration No. 07 - 2

Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.72 m/sec	Yes
Pendulum Force	4100 - 4700 N	4679 N	Yes
Upper Spine Peak Acceleration	34 - 48 g	37.3 g	Yes
Lower Spine Peak Acceleration	30 - 38 g	31.6 g	Yes
Upper Rib Peak Deflection	23 - 35 mm	28.0 mm	Yes
Mid Rib Peak Deflection	29 - 44 mm	32.5 mm	Yes
Lower Rib Peak Deflection	33 - 40 mm	36.5 mm	Yes
Shoulder Peak Deflectioin	30 - 42 mm	33.7 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



08.07.2005 15:41:36 382



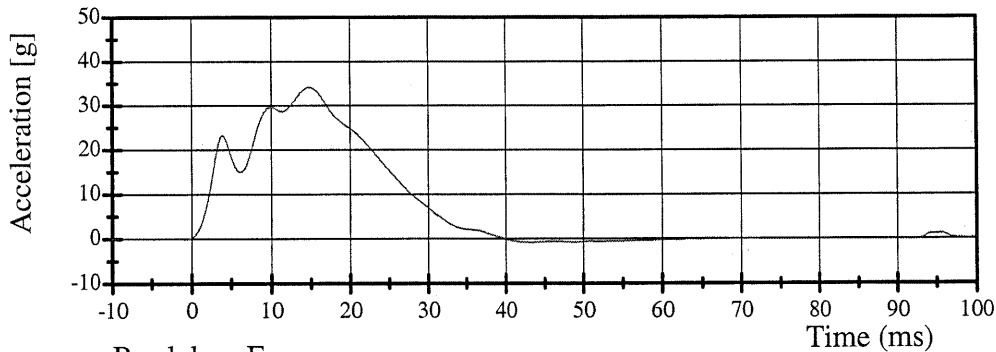
Transportation Research Center Inc.

Left Thorax with Arm Test

SID-II's Serial No. 020 Calibration No. 07 - 2

Test Date 07/16/2005

Pendulum Deceleration

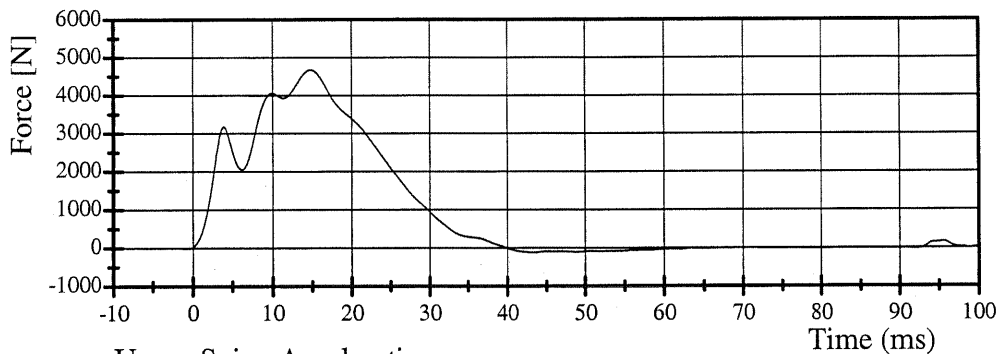


Filter Class: CFC 180

Max: 34.2 g at 14.8 ms

Min: -0.8 g at 43.3 ms

Pendulum Force

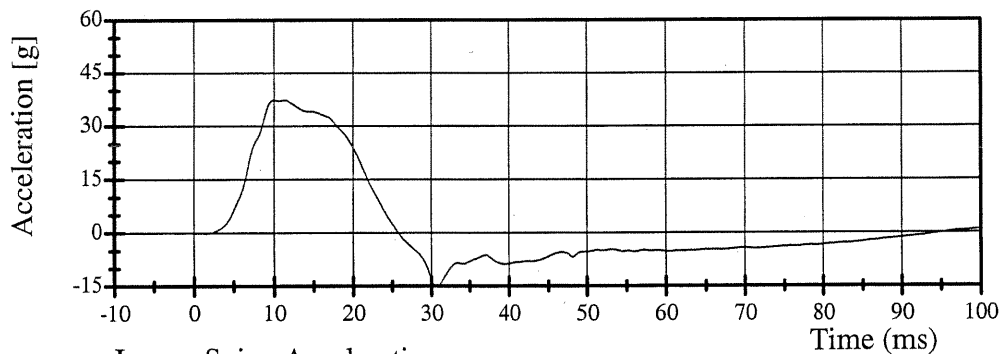


Filter Class: CFC 180

Max: 4679 N at 14.8 ms

Min: -116 N at 43.3 ms

Upper Spine Acceleration

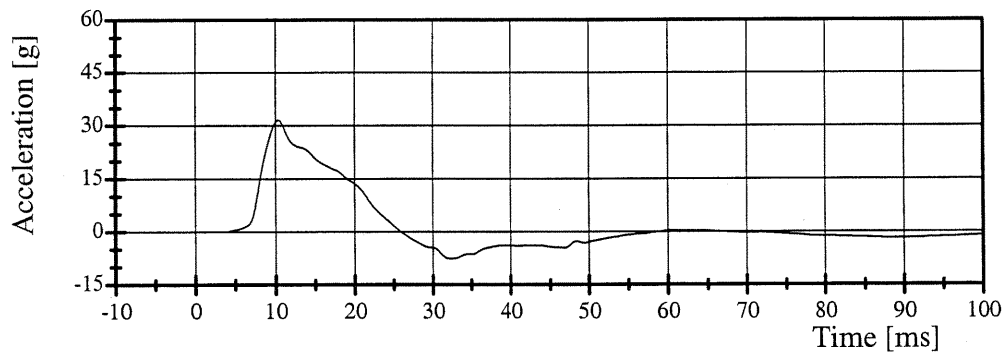


Filter Class: CFC 180

Max: 37.3 g at 11.3 ms

Min: -15.2 g at 30.6 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 31.6 g at 10.3 ms

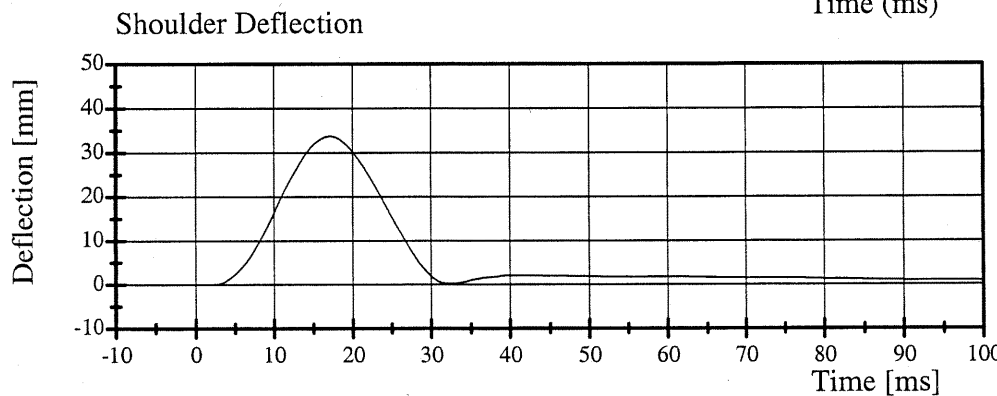
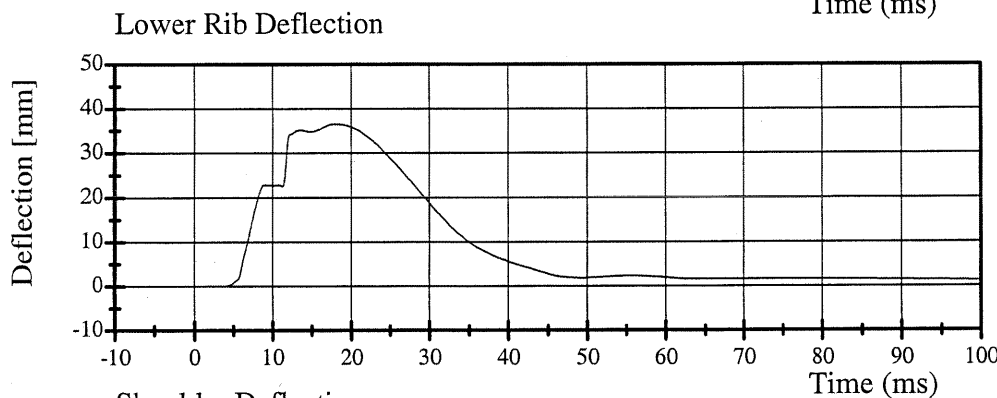
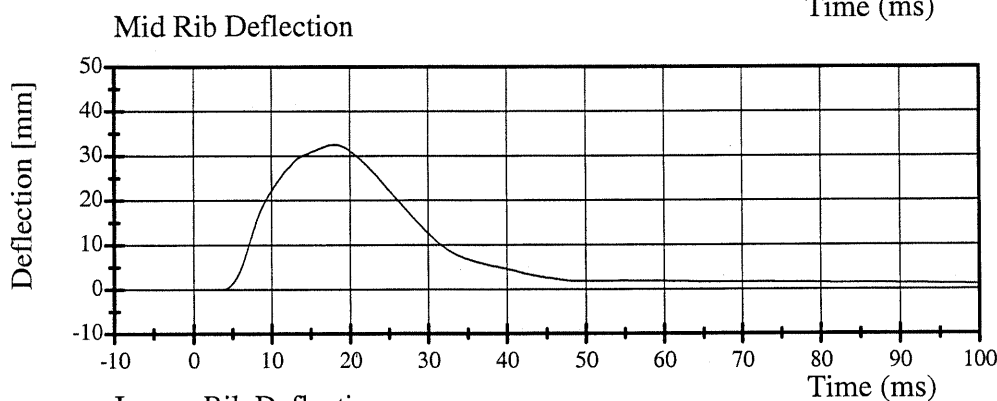
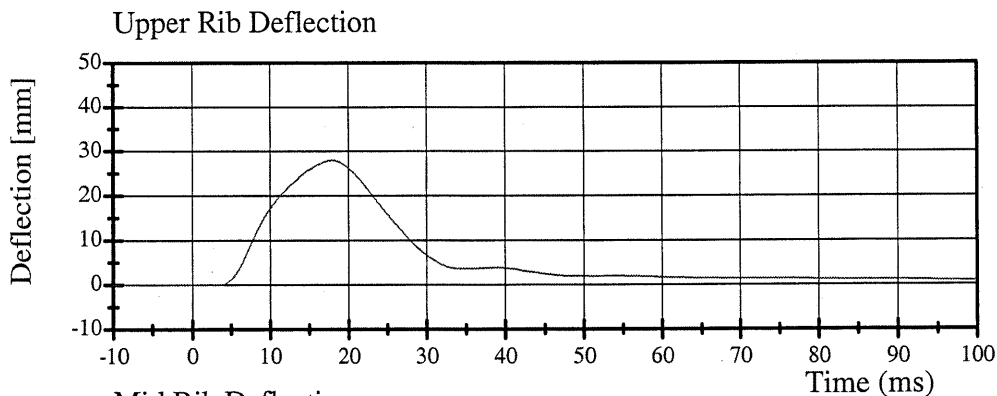
Min: -7.6 g at 32.3 ms

Transportation Research Center Inc.

Left Thorax with Arm Test

SID-IIIs Serial No. 020 Calibration No. 07 - 2

Test Date 07/16/2005



08.07.2005 15:41:37 382



Transportation Research Center Inc.

Left Thorax No Arm Test

SID-IIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.5 C	Yes
Relative Humidity	10 - 70 %	58 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.31 m/sec	Yes
Pendulum Force	1800 - 2300 N	2294 N	Yes
Upper Spine Peak Acceleration	13 - 18 g	15.8 g	Yes
Lower Spine Peak Acceleration	8 - 13 g	9.2 g	Yes
Upper Rib Peak Deflection	32 - 41 mm	34.4 mm	Yes
Mid Rib Peak Deflection	40 - 51 mm	41.0 mm	Yes
Lower Rib Peak Deflection	34 - 47 mm	40.6 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



08.07.2005 15:51:44 617



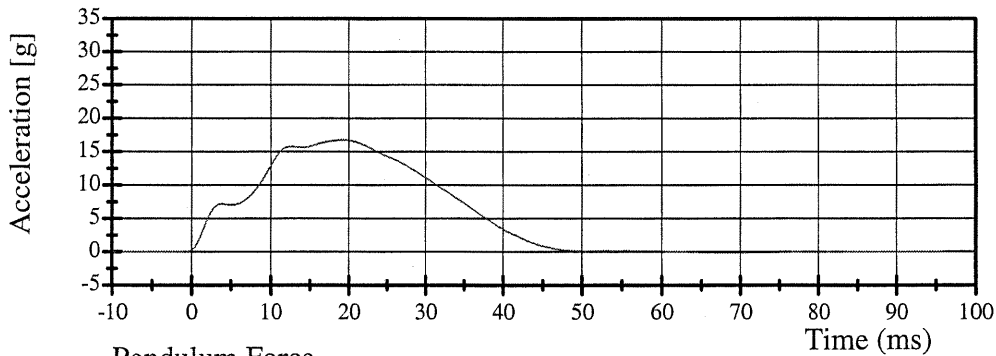
Transportation Research Center Inc.

Left Thorax No Arm Test

SID-IIIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Pendulum Deceleration

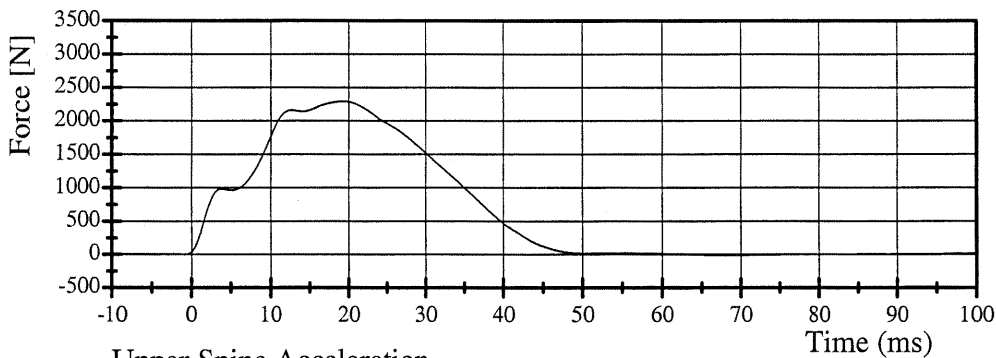


Filter Class: CFC 180

Max: 16.7 g at 19.4 ms

Min: -0.1 g at 69.5 ms

Pendulum Force

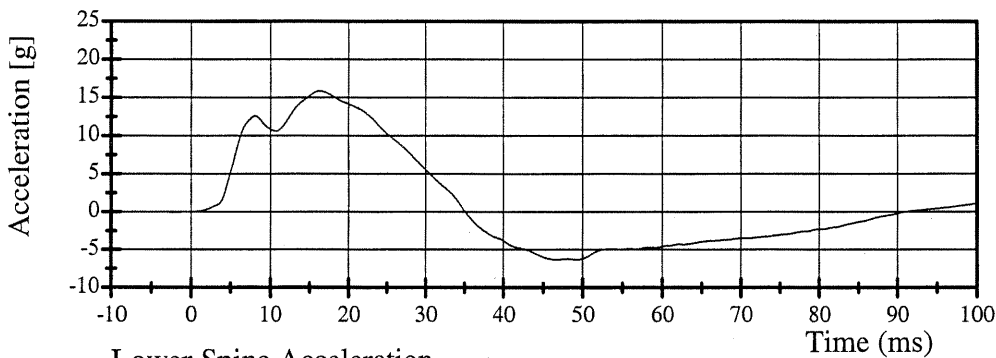


Filter Class: CFC 180

Max: 2294 N at 19.4 ms

Min: -16 N at 69.5 ms

Upper Spine Acceleration

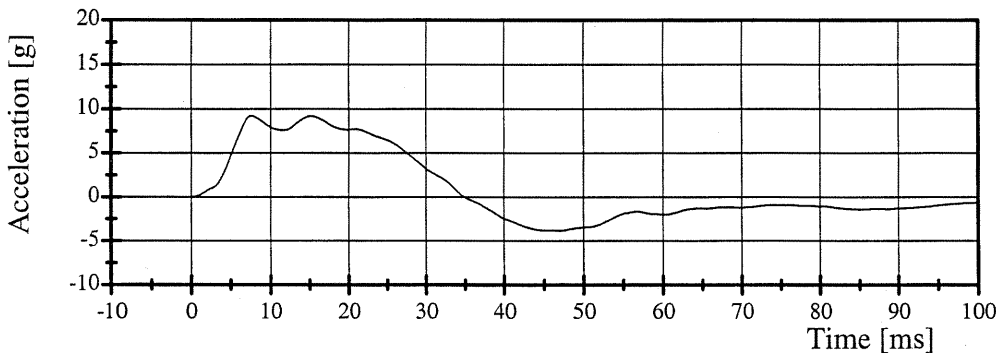


Filter Class: CFC 180

Max: 15.8 g at 16.2 ms

Min: -6.3 g at 49.4 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 9.2 g at 7.6 ms

Min: -3.8 g at 47.0 ms

08.07.2005 15:51:44 617



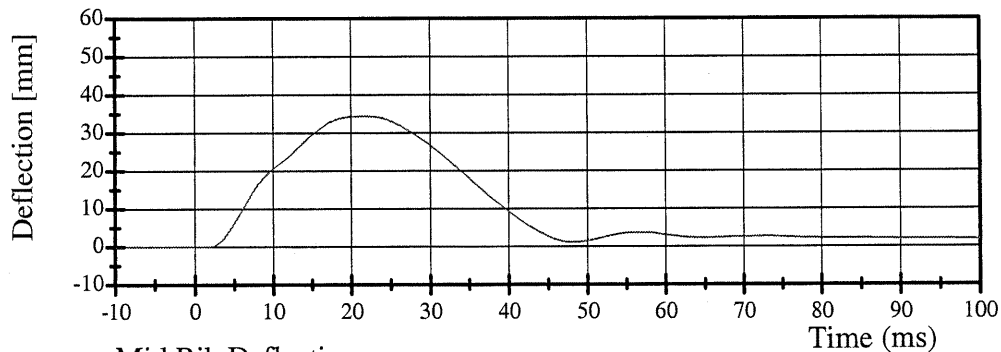
Transportation Research Center Inc.

Left Thorax No Arm Test

SID-IIIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Upper Rib Deflection

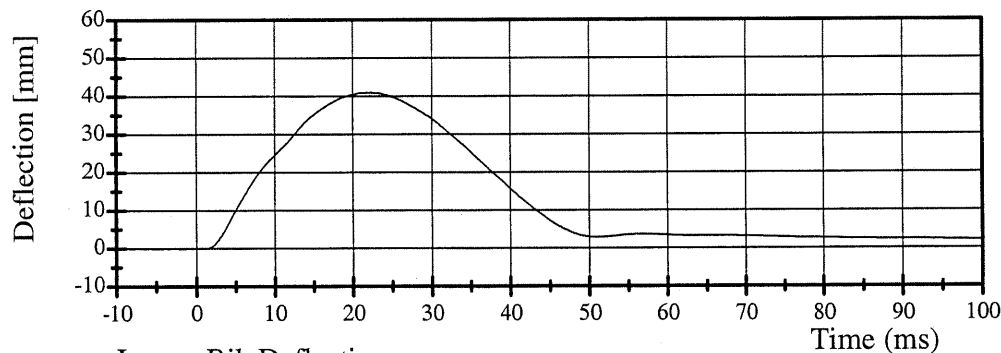


Filter Class: CFC 600

Max: 34.4 mm at 21.3 ms

Min: -0.0 mm at -43.0 ms

Mid Rib Deflection

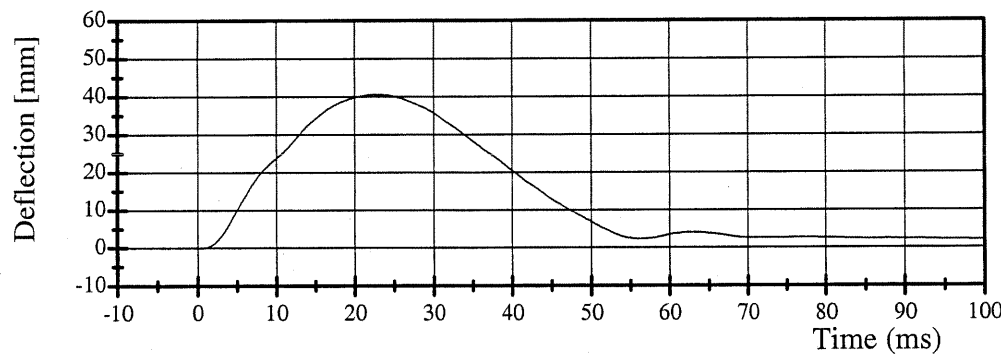


Filter Class: CFC 600

Max: 41.0 mm at 22.1 ms

Min: -0.0 mm at 1.0 ms

Lower Rib Deflection



Filter Class: CFC 600

Max: 40.6 mm at 23.0 ms

Min: -0.0 mm at 0.6 ms

Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 020 Calibration No. 07 - 6

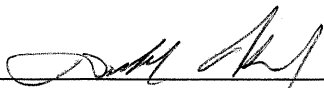
Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.1 C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.38 m/sec	Yes
Pendulum Force	1300 - 1900 N	2007 N	No
Upper Spine Peak Acceleration	5 - 9 g	6.9 g	Yes
Lower Spine Peak Acceleration	9 - 13 g	12.1 g	Yes
Upper Abdomen Rib Peak Deflection	44 - 55 mm	40.2 mm	No
Lower Abdomen Rib Peak Deflection	44 - 56 mm	40.0 mm	No

Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:10:49 637

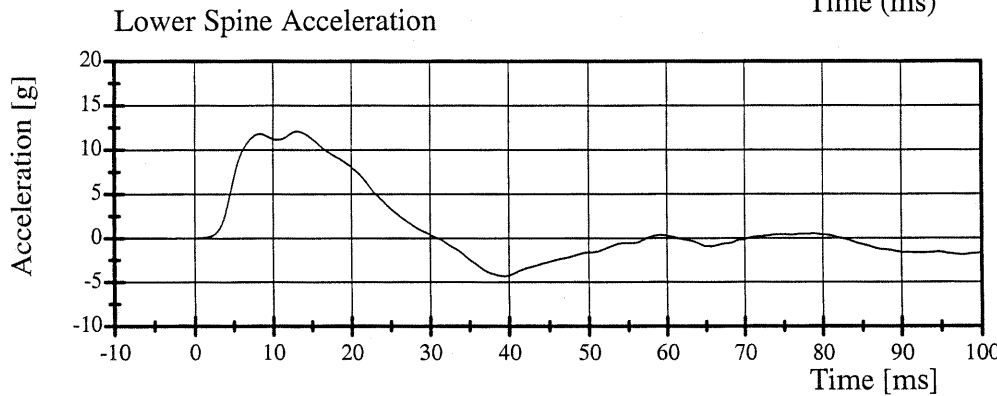
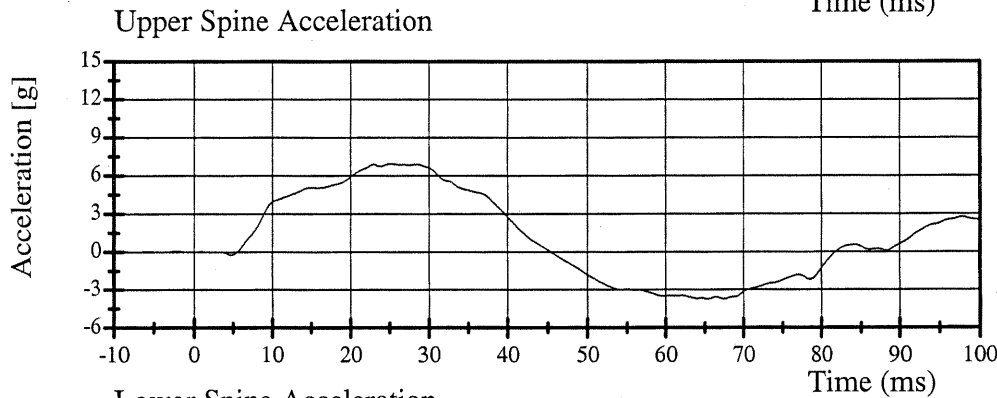
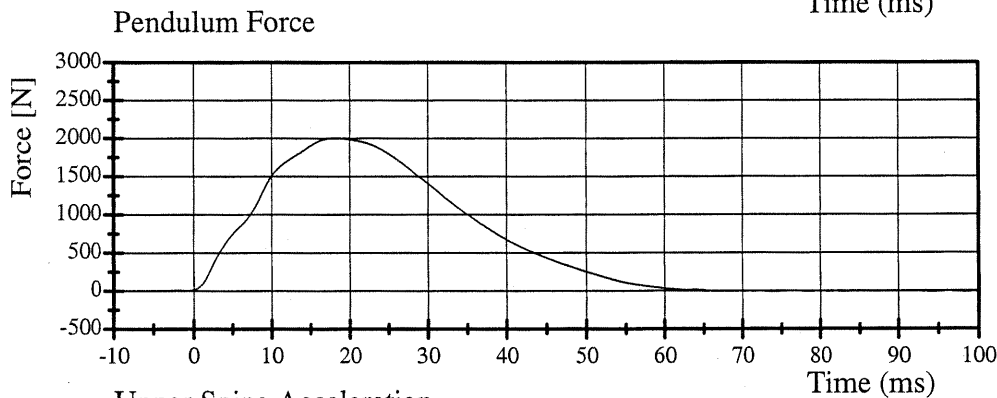
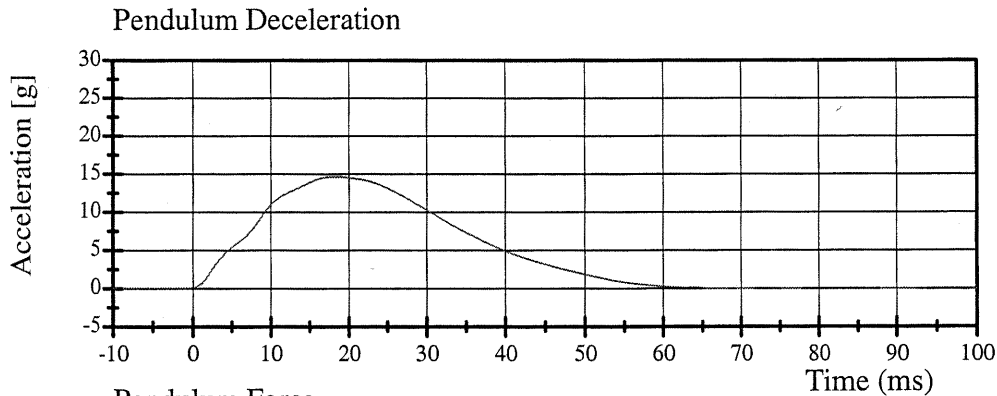


Transportation Research Center Inc.

Left Abdomen Test

SID-IIIs Serial No. 020 Calibration No. 07 - 6

Test Date 07/16/2005



08.07.2005 17:10:50 637

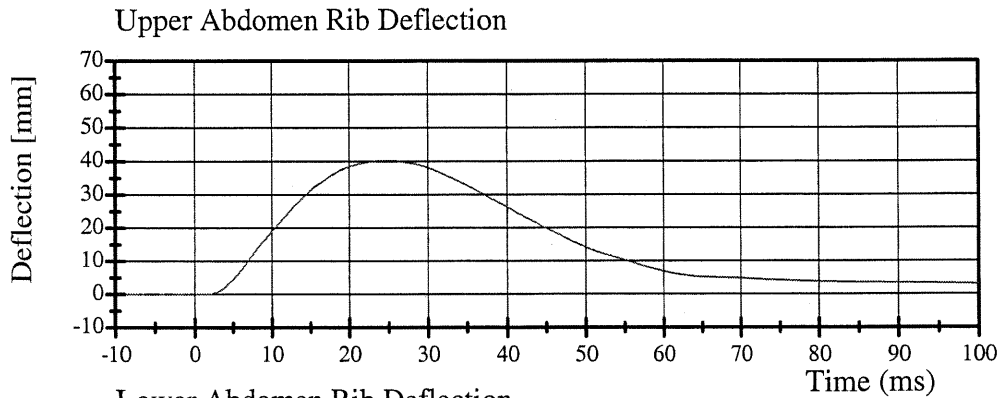


Transportation Research Center Inc.

Left Abdomen Test

SID-II's Serial No. 020 Calibration No. 07 - 6

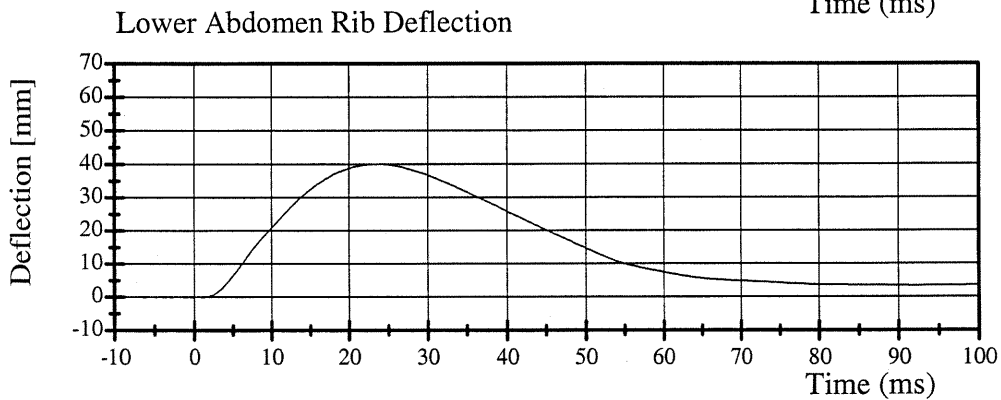
Test Date 07/16/2005



Filter Class: CFC 600

Max: 40.2 mm at 24.7 ms

Min: -0.0 mm at -37.8 ms



Filter Class: CFC 600

Max: 40.0 mm at 23.7 ms

Min: -0.0 mm at 1.3 ms

08.07.2005 17:10:51 637



Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.5 C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.61 m/sec	Yes
Pendulum Acceleration	40 - 48 g	40.6 g	Yes
Pelvis Peak Acceleration	40 - 48 g	46.6 g	Yes
Peak Acetabulum Force	3803 - 4505 g	3803 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.07.2005 16:48:28 392



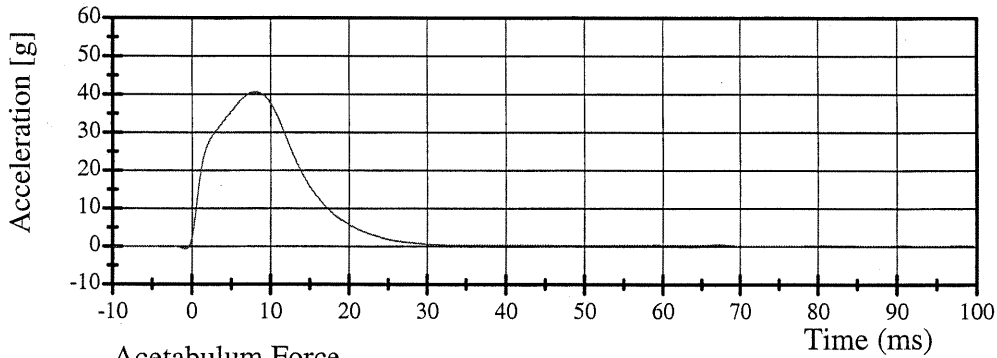
Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 020 Calibration No. 07 - 1

Test Date 07/16/2005

Pendulum Deceleration

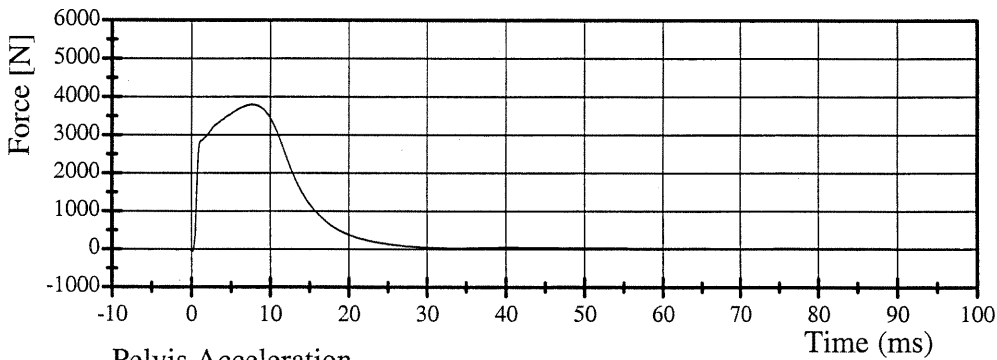


Filter Class: CFC 180

Max: 40.6 g at 8.0 ms

Min: -0.6 g at -0.8 ms

Acetabulum Force

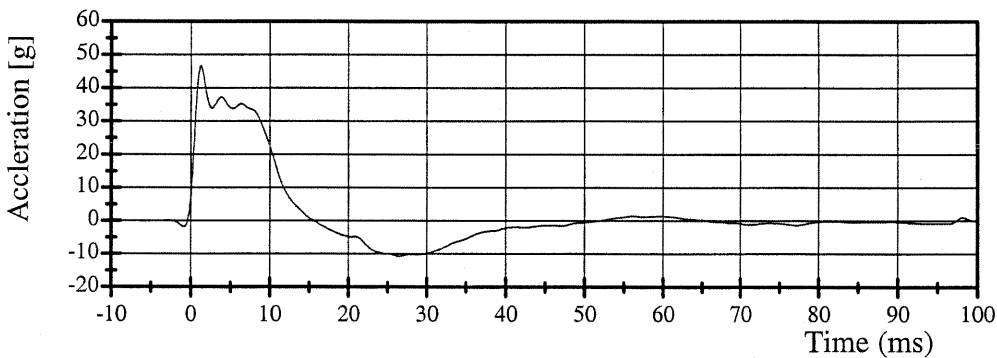


Filter Class: CFC 600

Max: 3803 N at 7.7 ms

Min: -55 N at 0.2 ms

Pelvis Acceleration



Filter Class: CFC 180

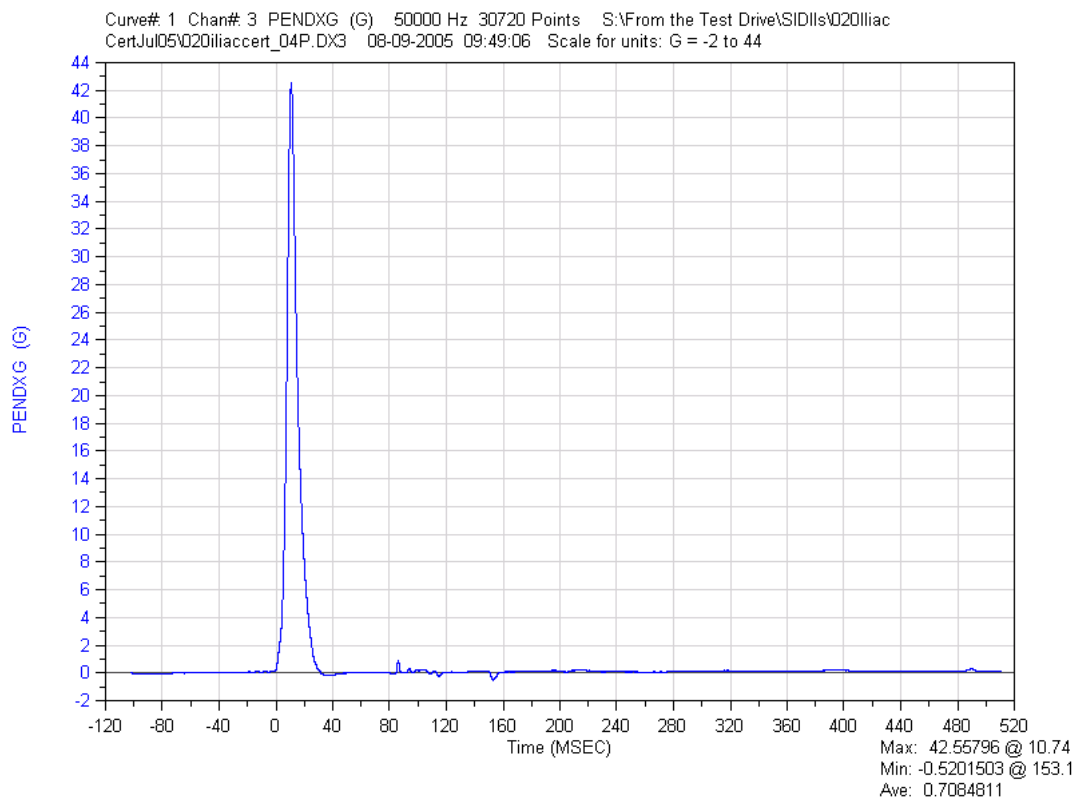
Max: 46.6 g at 1.3 ms

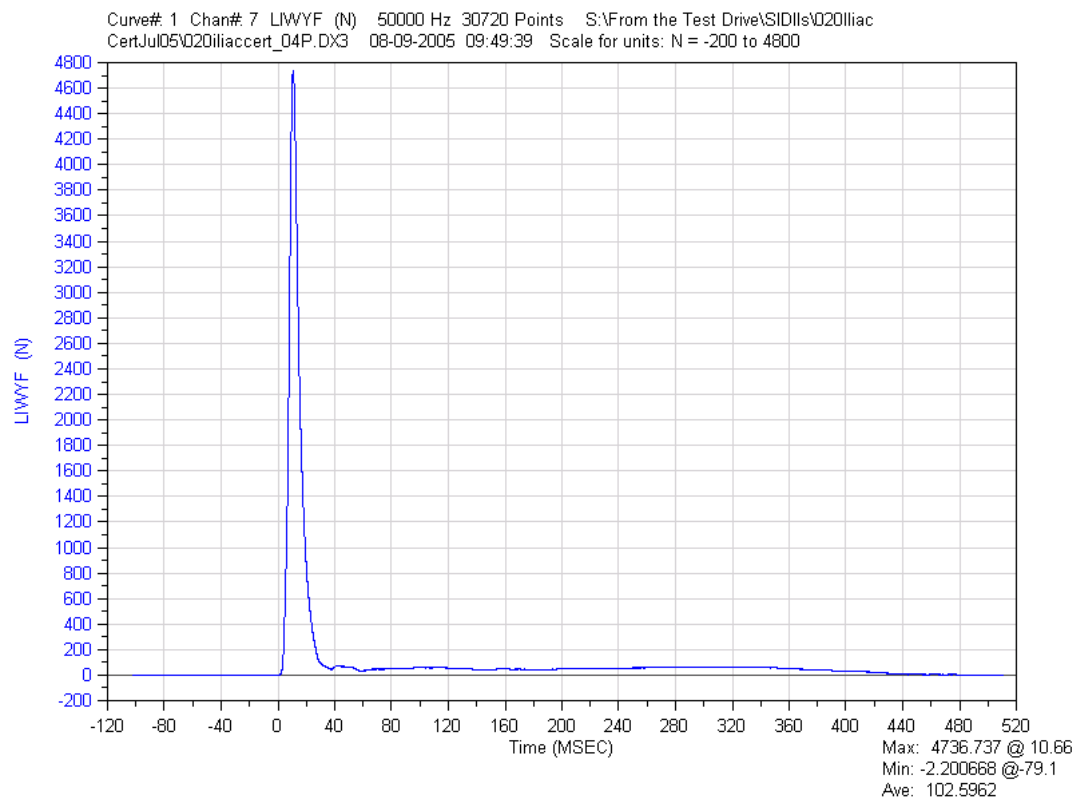
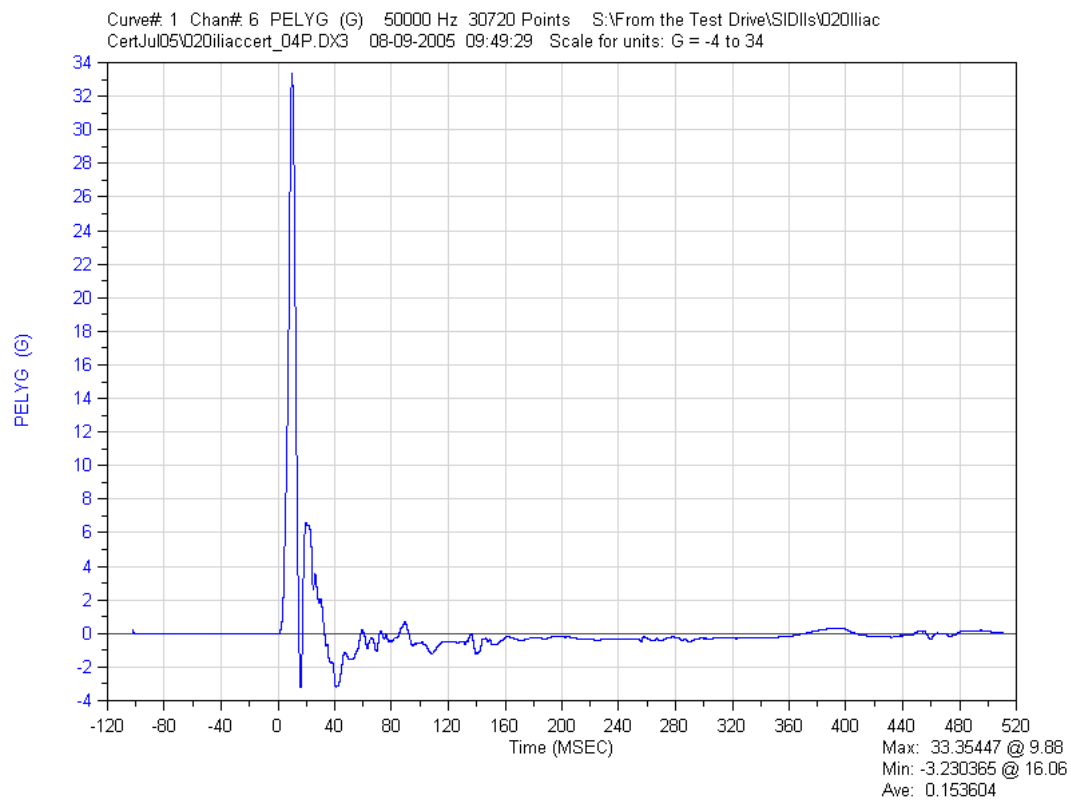
Min: -10.7 g at 26.5 ms

Test Parameter/Specification

Test Number	020iliaccert_04
Dummy S/N	020
Test Performer	VRTC
Date of Calibration	7/14/2005
Temperature (20.6 - 22.2 °C)	20
Relative Humidity (10 - 70 %)	50
Probe Velocity (4.2 - 4.4 m/s)	4.372
Maximum Probe Acceleration (41 - 47 g)	42.558
Maximum Pelvis Y Acceleration (32 - 40 g)	33.354
Maximum Iliac Force (4841 - 5491 N)	4736.737

Test Results





Pre-Test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 056

Tested per draft procedures and specifications provided by VRTC

Transportation Research Center Inc.
SIDIIs Dummy - Build Level D
External Dimensions
Serial No. 056 Calibration No. 01
Date: 22-Jul-05

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Sitting Height	779.0 - 795.0	782	Yes
B	Shoulder Pivot Height	437.0 - 453.0	440	Yes
C	H-Point Height	81.0 - 91.0	84	Yes
D	H-Point from Backline	141.0 - 151.0	145	Yes
E	Shoulder Pivot from Backline	104.0 - 114.0	108	Yes
F	Thigh Clearance	119.0 - 135.0	125	Yes
G	Head Breadth	140.0 - 148.0	145	Yes
H	Head Back from Backline	40.0 - 46.0	43	Yes
I	Head Depth	178.0 - 188.0	184	Yes
J	Head Circumference	541.0 - 551.0	546	Yes
K	Buttock to Knee Length	514.0 - 540.0	537	Yes
L	Popliteal Height	348.0 - 374.0	354	Yes
M	Knee to Floor Height	393.0 - 409.0	404	Yes
N	Buttock Popliteal Length	416.0 - 442.0	432	Yes
O	Chest Depth without Jacket	195.0 - 211.0	202	Yes
P	Foot Length	218.0 - 234.0	223	Yes
Q	Hip Breadth	313.0 - 323.0	320	Yes
R	Arm Length	249.0 - 259.0	252	Yes
S	Knee to Seat Back	477.0 - 493.0	480	Yes
V	Shoulder Width	337.0 - 353.0	347	Yes
W	Foot Width	78.0 - 94.0	87	Yes
Y	Chest Circumference with Jacket	861.0 - 891.0	866	Yes
Z	Waist Circumference	757.0 - 787.0	774	Yes

Technician

Approved







Revised 3/19/3003

Transportation Research Center Inc.

Left Head Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

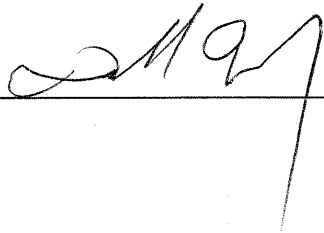
Test Date 07/14/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Peak Resultant Acceleration	125 - 145 g	121.3 g	No
Peak Longitudinal Acceleration	15 g Max	-3.8 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:40:07 231

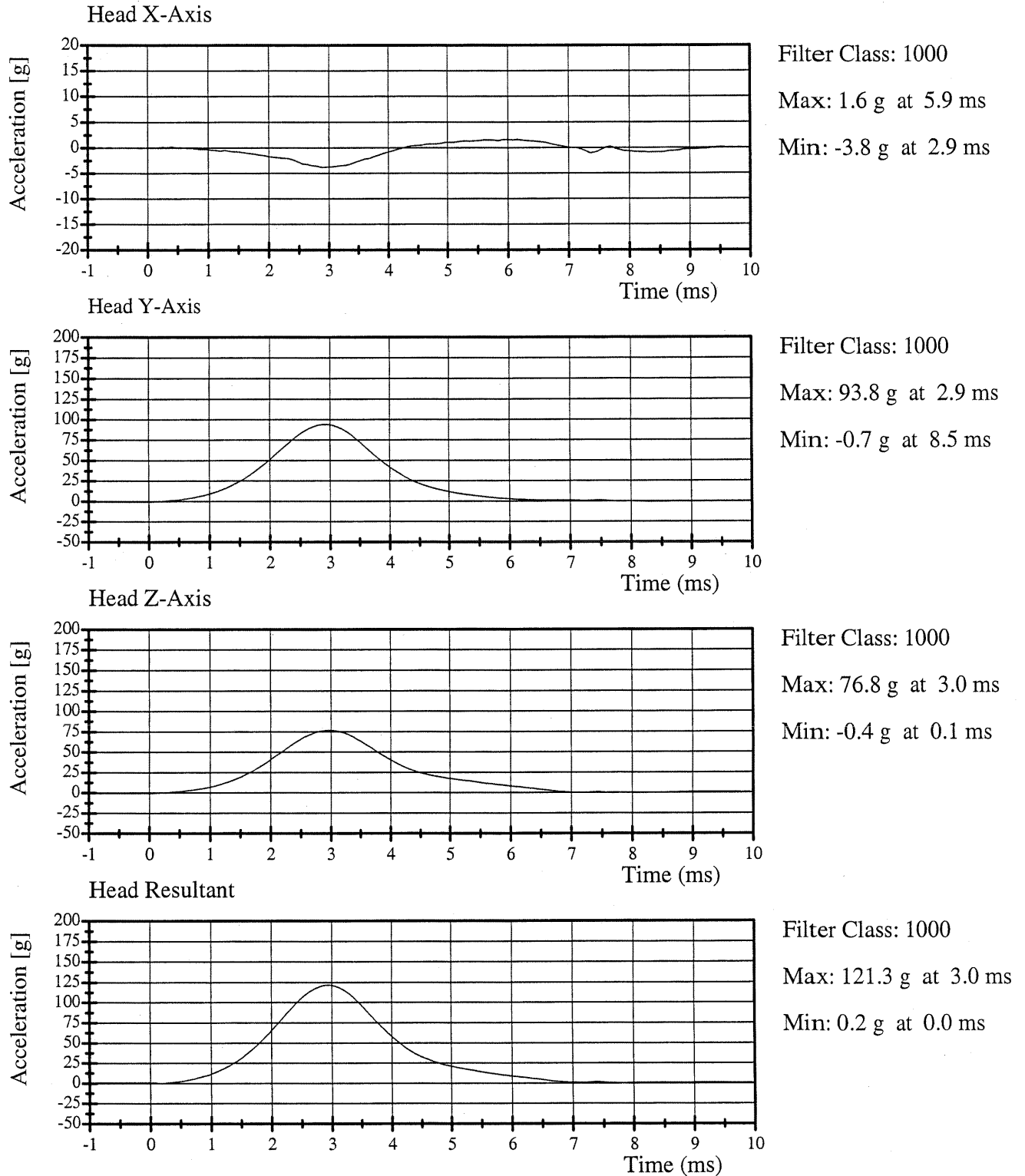


Transportation Research Center Inc.

Head Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/14/2005



08.07.2005 17:40:08 231



Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 056 Calibration No. 01 - 4

Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impact Velocity	5.51 - 5.63 m/s	5.60 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.20 - 2.80 m/s	2.65 m/s	Yes
15 ms	3.40 - 4.10 m/s	3.75 m/s	Yes
20 ms	4.50 - 5.40 m/s	5.00 m/s	Yes
25 ms	5.50 - 6.10 m/s	5.98 m/s	Yes
25 - 100 ms	5.20 - 6.20 m/s	5.70 - 6.03 m/s	Yes
Peak D Plane Rotation	74 - 79 °	74.2 °	Yes
Time of Peak D-Plane Rotation	50 - 70 °	61.0 °	Yes
Peak Moment About Occipital Condyles during Rotation Interval	40.0 - 45.0 N·m	39.3 N·m	No
Time of Moment Decay To 0 N·m	113 - 123 ms	117.4 ms	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:33:42 673

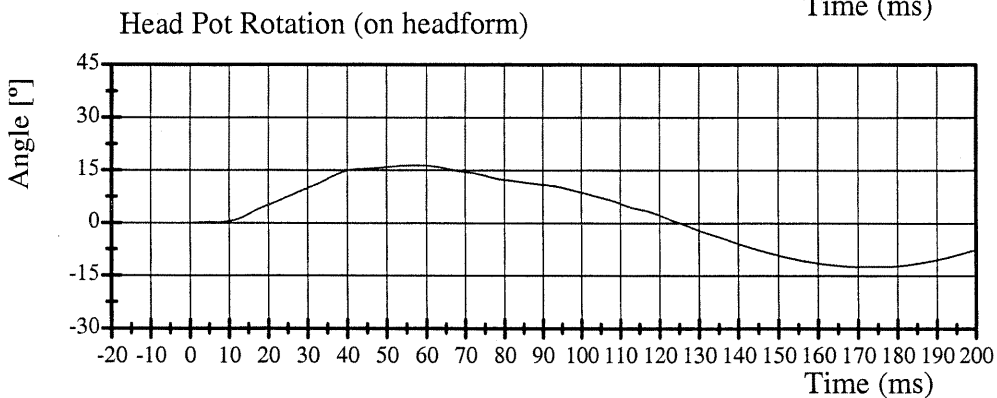
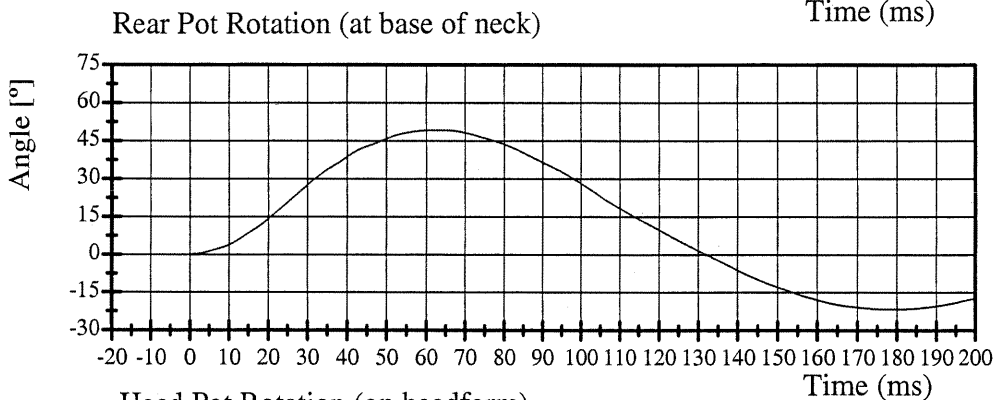
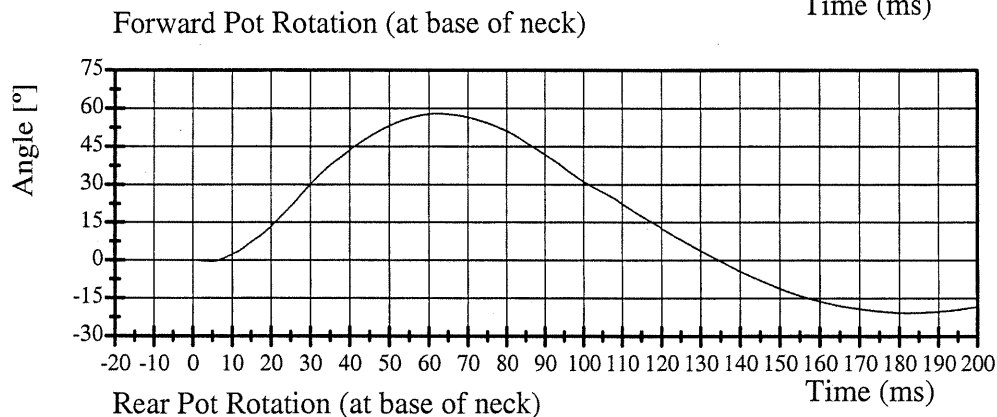
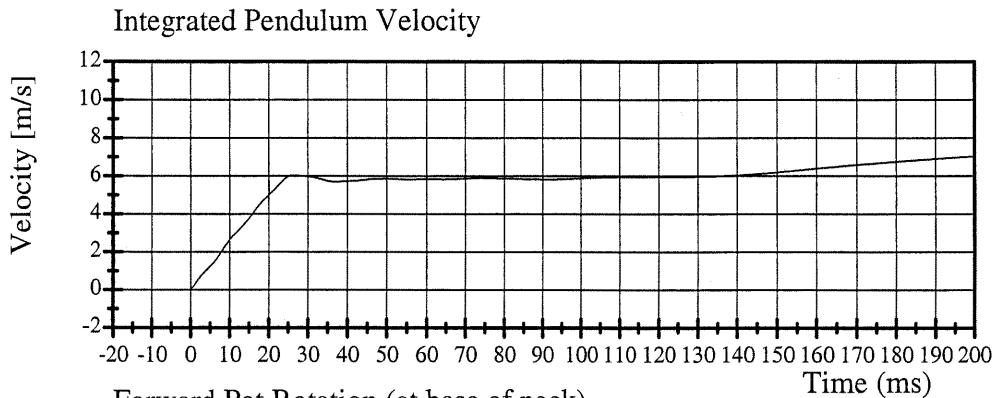


Transportation Research Center Inc.

Left Lateral Neck Test

SID-II's Serial No. 056 Calibration No. 01 - 4

Test Date 07/16/2005



08.07.2005 17:30:39 673



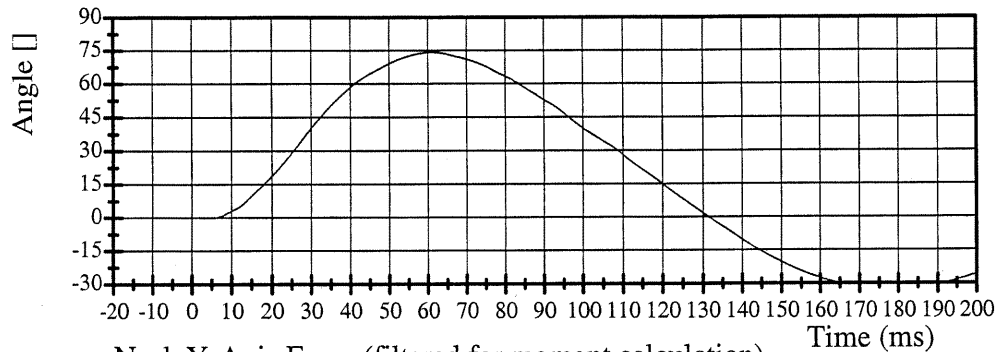
Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 056 Calibration No. 01 - 4

Test Date 07/16/2005

D-Plane Rotation (forward pot + head pot)

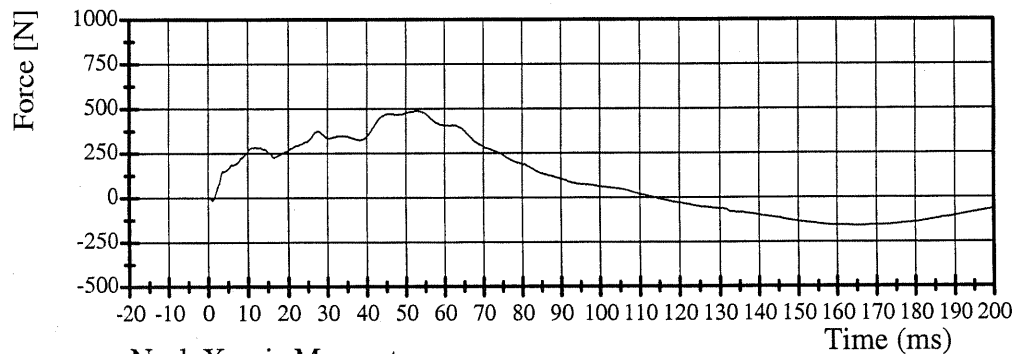


Filter Class: CFC 60

Max: 74.2 ° at 61.0 ms

Min: -32.9 ° at 179.4 ms

Neck Y-Axis Force (filtered for moment calculation)

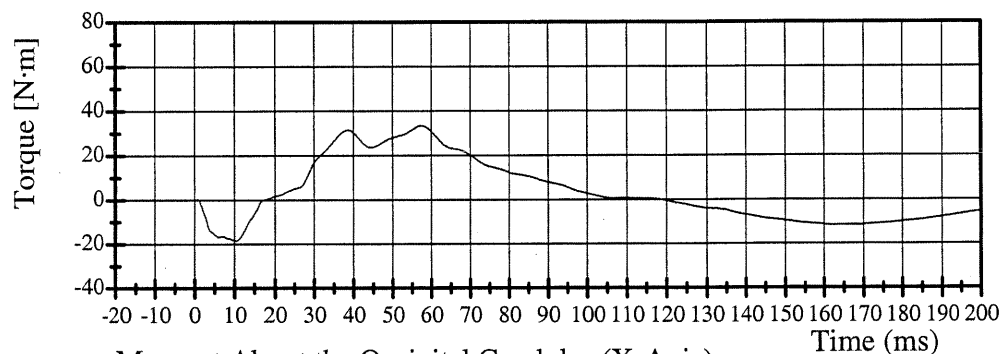


Filter Class: CFC 600

Max: 488 N at 53.0 ms

Min: -160 N at 164.9 ms

Neck X-axis Moment

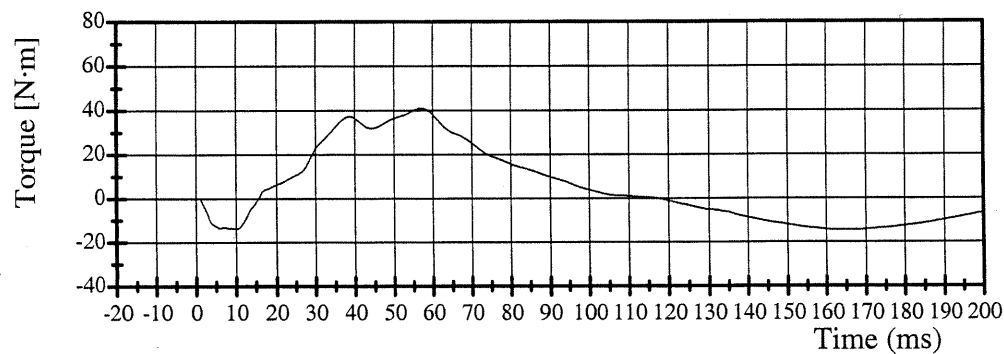


Filter Class: CFC 600

Max: 33.4 N·m at 57.5 ms

Min: -18.5 N·m at 10.5 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 41.0 N·m at 57.3 ms

Min: -14.5 N·m at 162.7 ms

08.07.2005 17:30:40 673



Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/16/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.5 C	Yes
Relative Humidity	10 - 70 %	60 %	Yes
Pendulum Velocity	4.41 - 4.59 m/sec	4.46 m/sec	Yes
Probe Force	1600 - 2400 N	2493 N	No
Deflection	27 - 39 mm	29.7 mm	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:45:23 561



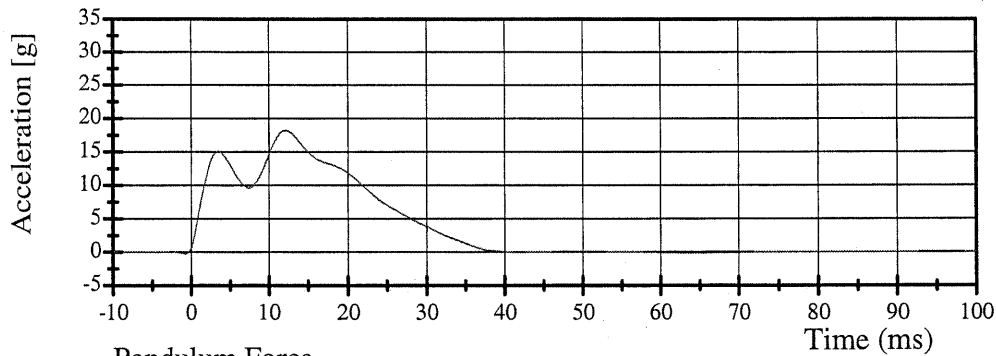
Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/16/2005

Pendulum Deceleration

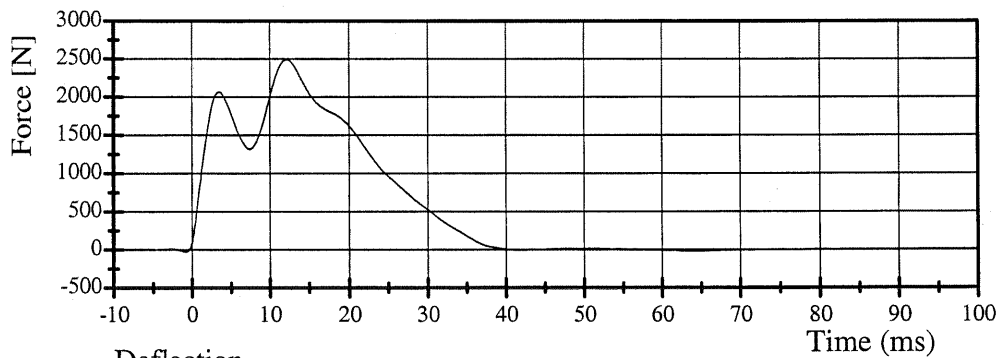


Filter Class: CFC 180

Max: 18.4 g at 12.2 ms

Min: -0.2 g at 63.0 ms

Pendulum Force

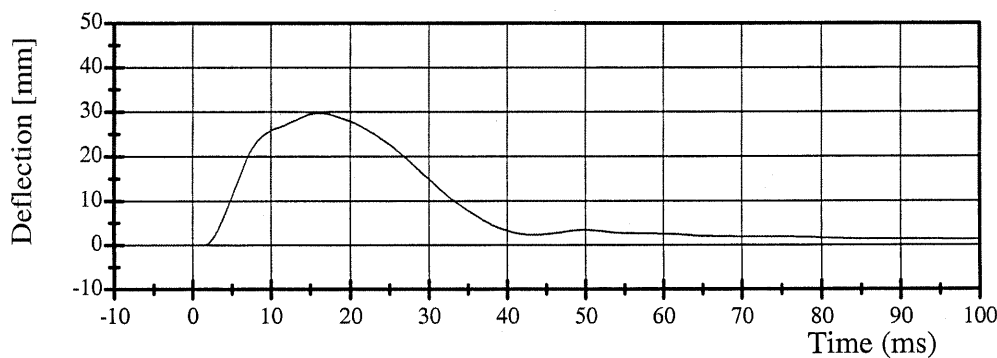


Filter Class: CFC 180

Max: 2493 N at 12.2 ms

Min: -27 N at -0.8 ms

Deflection



Filter Class: CFC 600

Max: 29.7 mm at 16.2 ms

Min: -0.0 mm at 1.4 ms

Transportation Research Center Inc.

Left Thorax with Arm Test

SID-IIIs Serial No. 056 Calibration No. 01 - 2

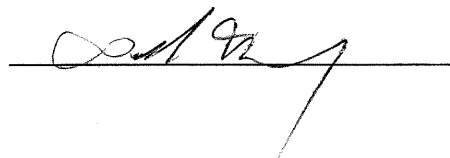
Test Date 07/15/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.72 m/sec	Yes
Pendulum Force	4100 - 4700 N	4673 N	Yes
Upper Spine Peak Acceleration	34 - 48 g	36.7 g	Yes
Lower Spine Peak Acceleration	30 - 38 g	32.1 g	Yes
Upper Rib Peak Deflection	23 - 35 mm	26.6 mm	Yes
Mid Rib Peak Deflection	29 - 44 mm	32.4 mm	Yes
Lower Rib Peak Deflection	33 - 40 mm	35.6 mm	Yes
Shoulder Peak Deflectioin	30 - 42 mm	28.7 mm	No

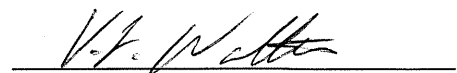
Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:51:24 319

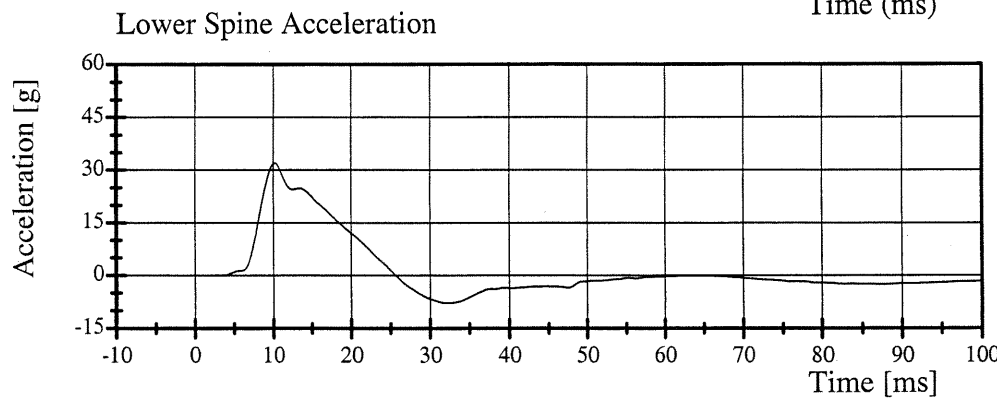
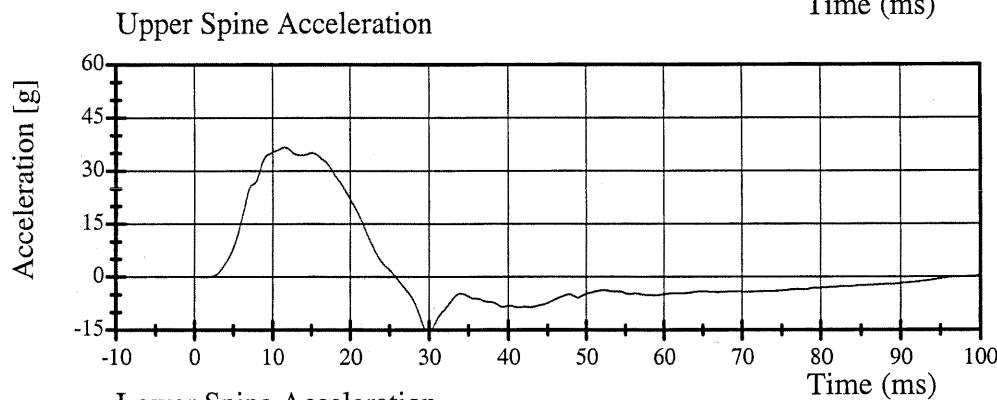
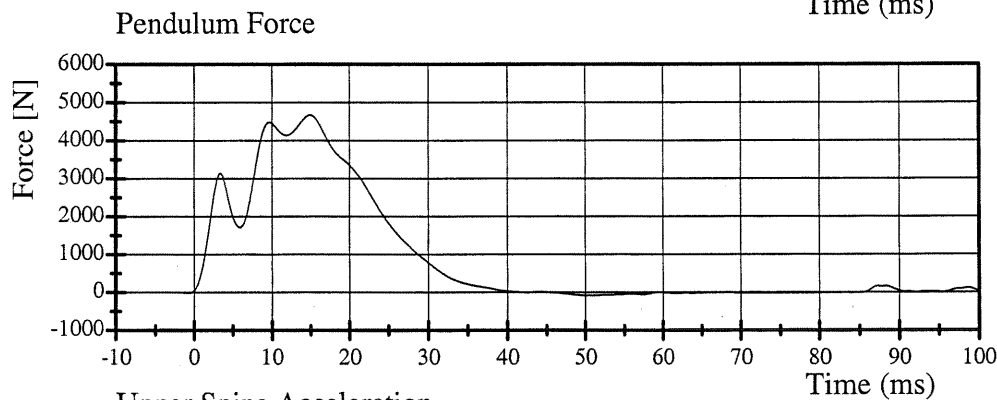
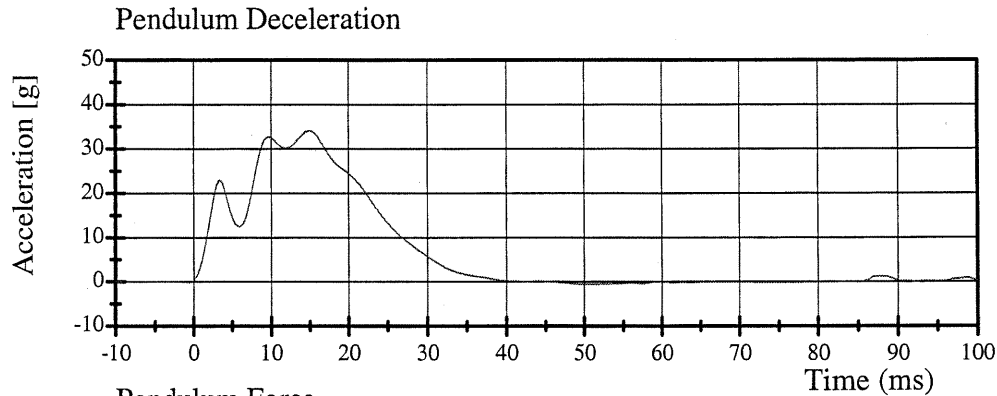


Transportation Research Center Inc.

Left Thorax with Arm Test

SID-II's Serial No. 056 Calibration No. 01 - 2

Test Date 07/15/2005



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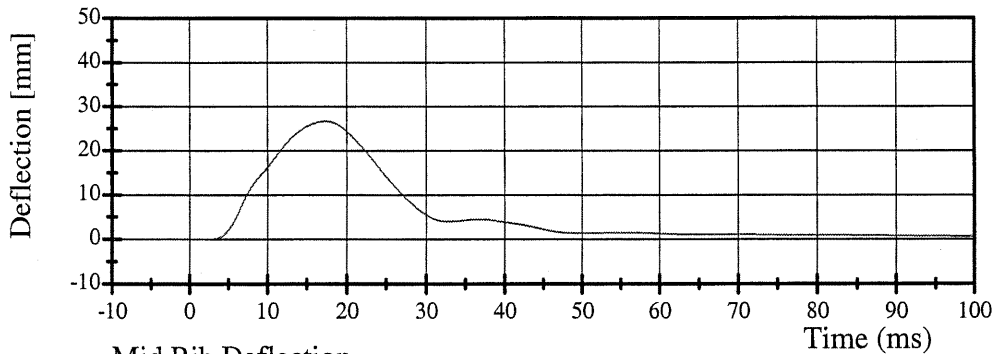
Transportation Research Center Inc.

Left Thorax with Arm Test

SID-IIIs Serial No. 056 Calibration No. 01 - 2

Test Date 07/15/2005

Upper Rib Deflection

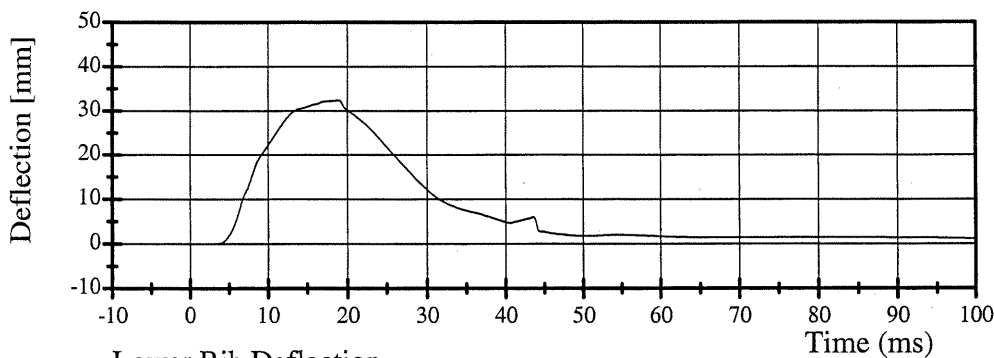


Filter Class: CFC 600

Max: 26.6 mm at 17.4 ms

Min: -0.0 mm at -0.7 ms

Mid Rib Deflection

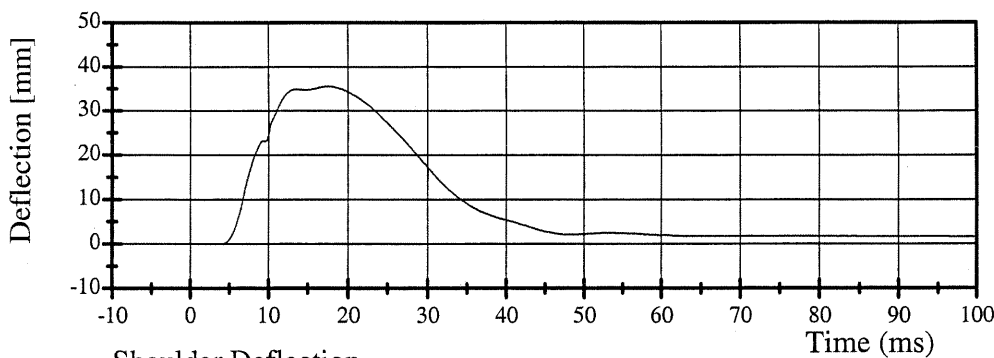


Filter Class: CFC 600

Max: 32.4 mm at 18.9 ms

Min: -0.0 mm at -0.7 ms

Lower Rib Deflection

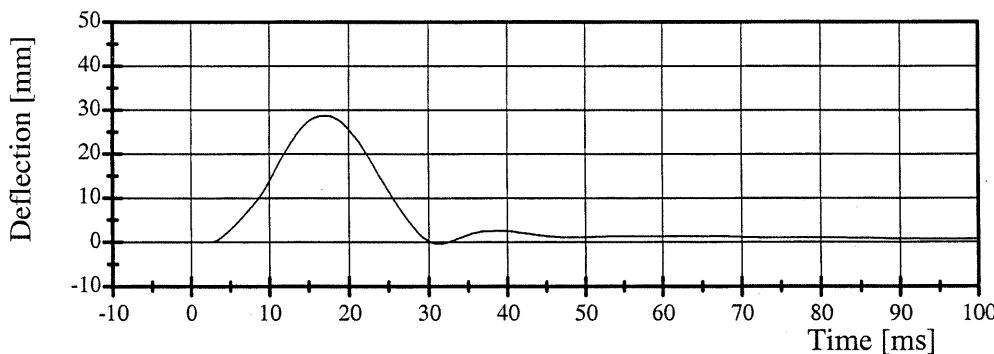


Filter Class: CFC 600

Max: 35.6 mm at 17.5 ms

Min: -0.0 mm at 4.0 ms

Shoulder Deflection



Filter Class: CFC 600

Max: 28.7 mm at 17.0 ms

Min: -0.3 mm at 31.3 ms

Transportation Research Center Inc.

Left Thorax No Arm Test

SID-II's Serial No. 056 Calibration No. 01 - 1

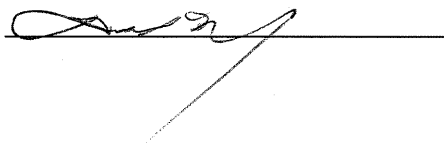
Test Date 07/15/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.4 C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.31 m/sec	Yes
Pendulum Force	1800 - 2300 N	2277 N	Yes
Upper Spine Peak Acceleration	13 - 18 g	15.4 g	Yes
Lower Spine Peak Acceleration	8 - 13 g	10.2 g	Yes
Upper Rib Peak Deflection	32 - 41 mm	35.8 mm	Yes
Mid Rib Peak Deflection	40 - 51 mm	41.3 mm	Yes
Lower Rib Peak Deflection	34 - 47 mm	38.9 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



08.07.2005 17:52:39 611



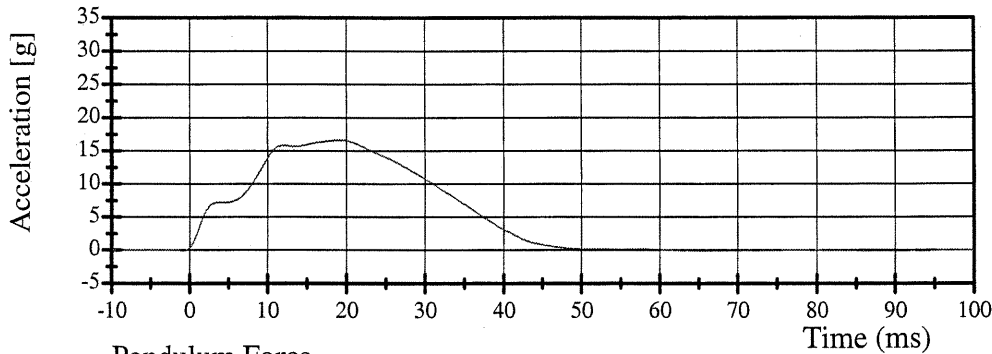
Transportation Research Center Inc.

Left Thorax No Arm Test

SID-IIIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/15/2005

Pendulum Deceleration

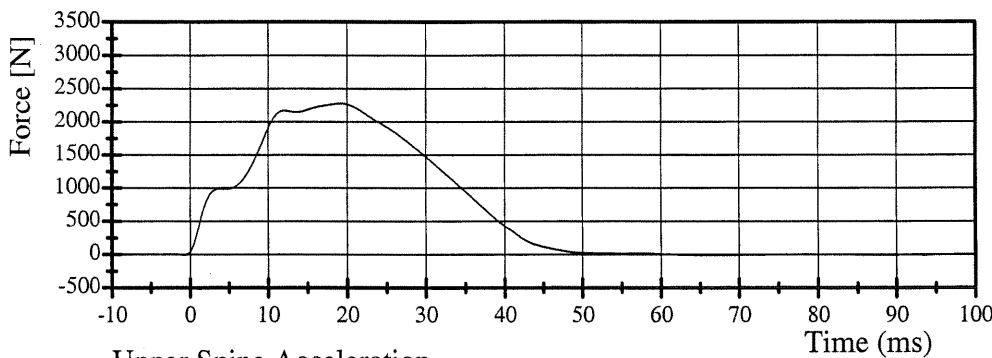


Filter Class: CFC 180

Max: 16.6 g at 19.2 ms

Min: -0.1 g at 69.4 ms

Pendulum Force

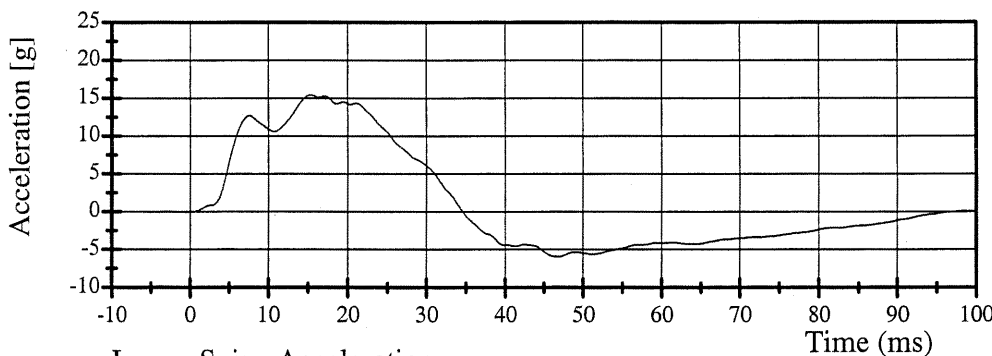


Filter Class: CFC 180

Max: 2277 N at 19.2 ms

Min: -10 N at 69.4 ms

Upper Spine Acceleration

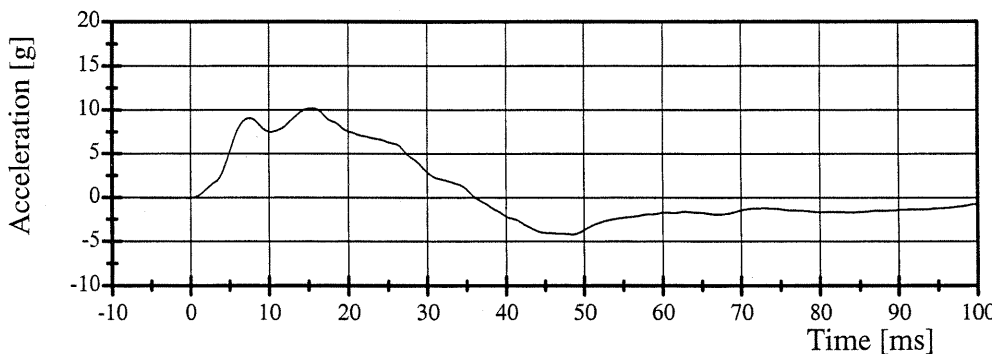


Filter Class: CFC 180

Max: 15.4 g at 15.4 ms

Min: -5.9 g at 46.6 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 10.2 g at 15.5 ms

Min: -4.2 g at 48.6 ms

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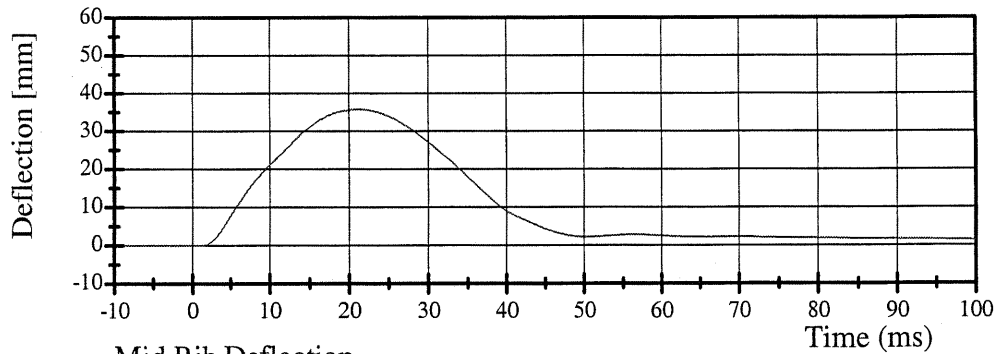
Transportation Research Center Inc.

Left Thorax No Arm Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/15/2005

Upper Rib Deflection

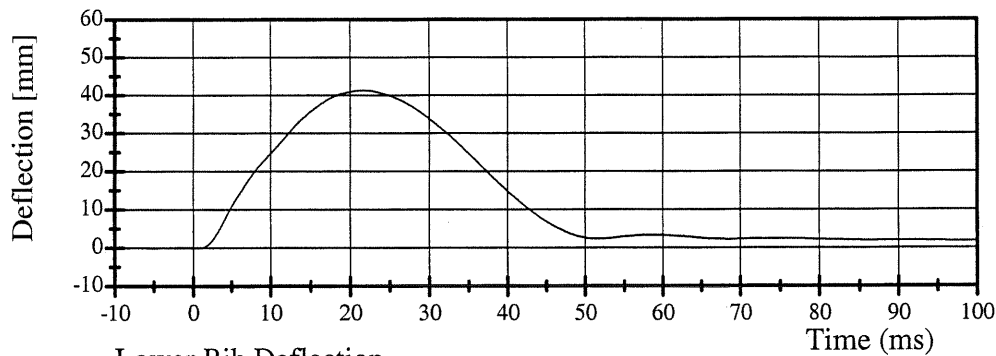


Filter Class: CFC 600

Max: 35.8 mm at 21.2 ms

Min: -0.0 mm at -23.8 ms

Mid Rib Deflection

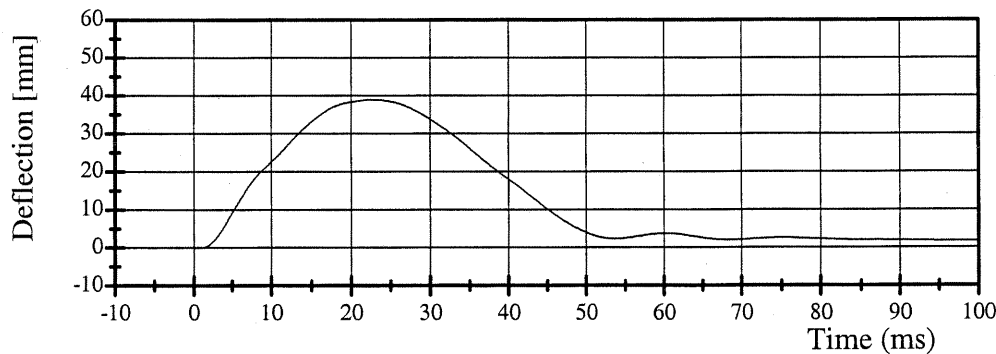


Filter Class: CFC 600

Max: 41.3 mm at 22.0 ms

Min: -0.0 mm at -37.8 ms

Lower Rib Deflection



Filter Class: CFC 600

Max: 38.9 mm at 22.6 ms

Min: -0.0 mm at -38.0 ms

Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

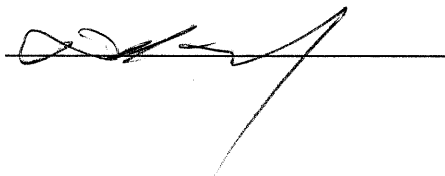
Test Date 07/15/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.38 m/sec	Yes
Pendulum Force	1300 - 1900 N	2028 N	No
Upper Spine Peak Acceleration	5 - 9 g	7.5 g	Yes
Lower Spine Peak Acceleration	9 - 13 g	11.9 g	Yes
Upper Abdomen Rib Peak Deflection	44 - 55 mm	44.5 mm	Yes
Lower Abdomen Rib Peak Deflection	44 - 56 mm	41.3 mm	No

Test does not meet specifications.

Comments:

Technician



Approved



08.07.2005 17:58:23 607



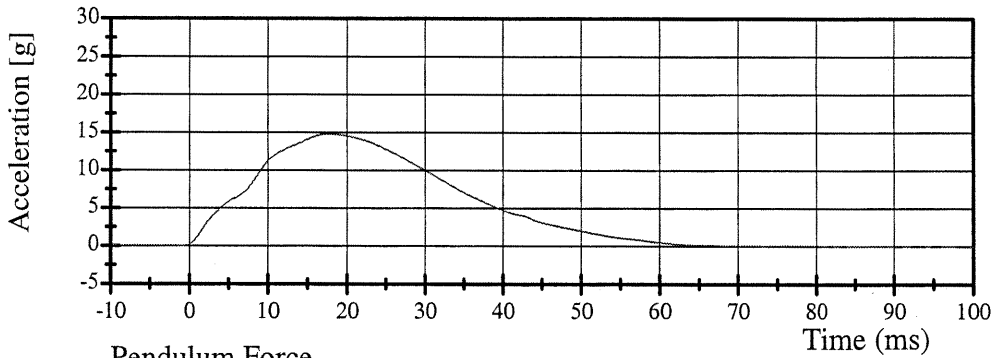
Transportation Research Center Inc.

Left Abdomen Test

SID-II's Serial No. 056 Calibration No. 01 - 1

Test Date 07/15/2005

Pendulum Deceleration

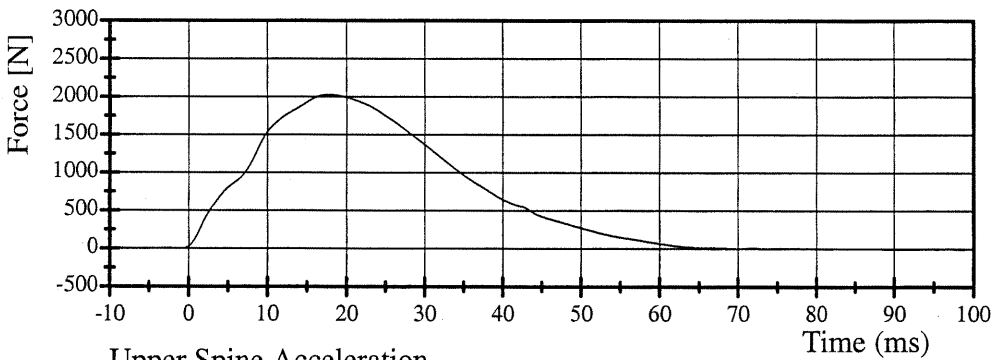


Filter Class: CFC 180

Max: 14.8 g at 17.8 ms

Min: -0.0 g at 98.5 ms

Pendulum Force

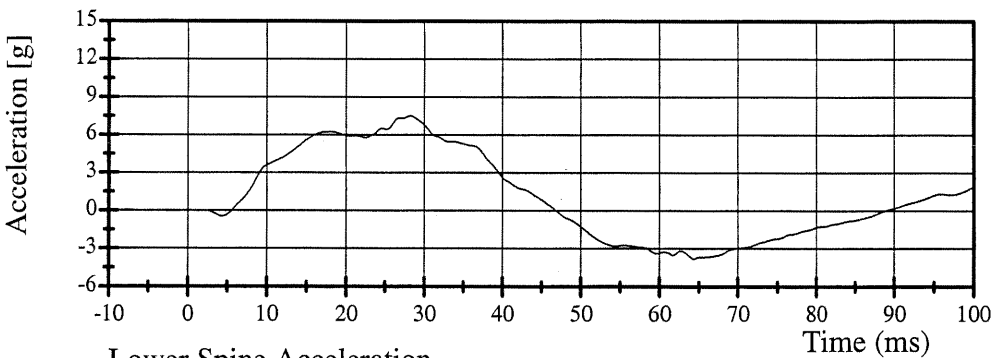


Filter Class: CFC 180

Max: 2028 N at 17.8 ms

Min: -6 N at 98.5 ms

Upper Spine Acceleration

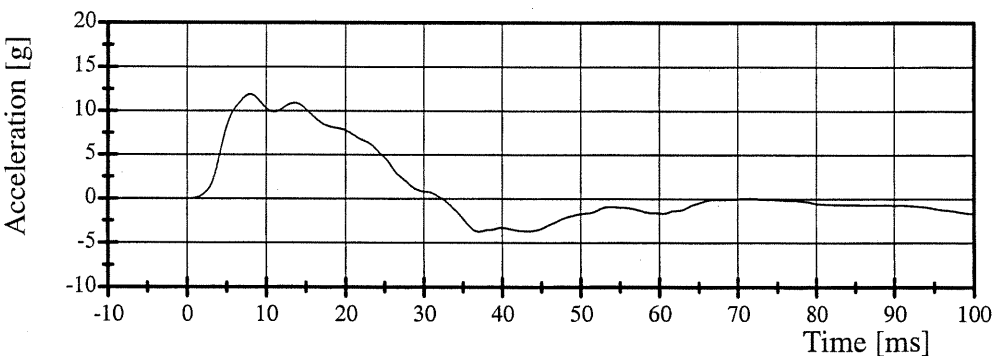


Filter Class: CFC 180

Max: 7.5 g at 28.2 ms

Min: -3.8 g at 64.3 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 11.9 g at 8.0 ms

Min: -3.7 g at 37.0 ms

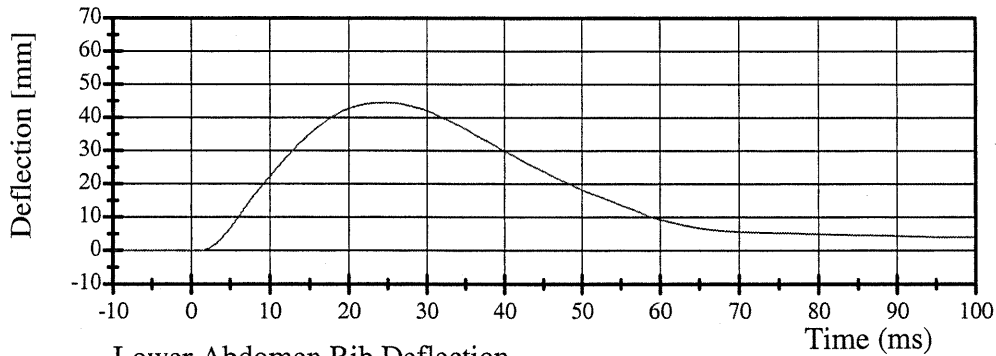
Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/15/2005

Upper Abdomen Rib Deflection

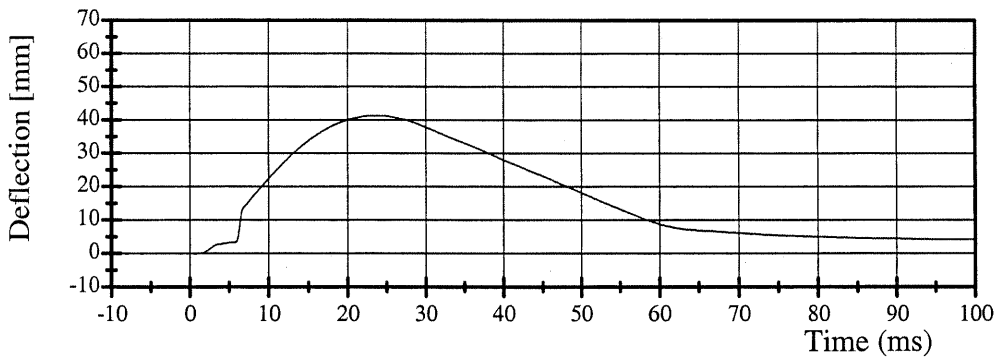


Filter Class: CFC 600

Max: 44.5 mm at 24.6 ms

Min: -0.0 mm at -28.4 ms

Lower Abdomen Rib Deflection



Filter Class: CFC 600

Max: 41.3 mm at 23.8 ms

Min: -0.0 mm at 0.8 ms

Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

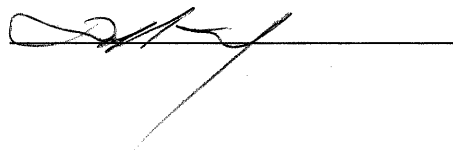
Test Date 07/15/05

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.5 C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.61 m/sec	Yes
Pendulum Acceleration	40 - 48 g	40.9 g	Yes
Pelvis Peak Acceleration	40 - 48 g	41.6 g	Yes
Peak Acetabulum Force	3803 - 4505 g	3972 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.07.2005 18:00:58 391



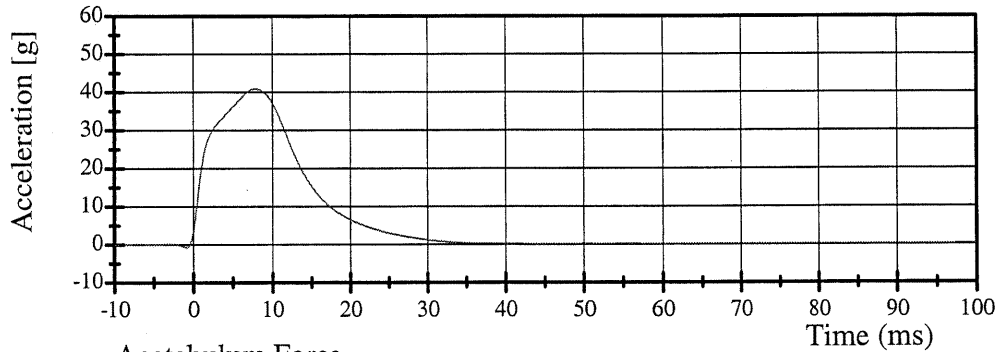
Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 056 Calibration No. 01 - 1

Test Date 07/15/05

Pendulum Deceleration

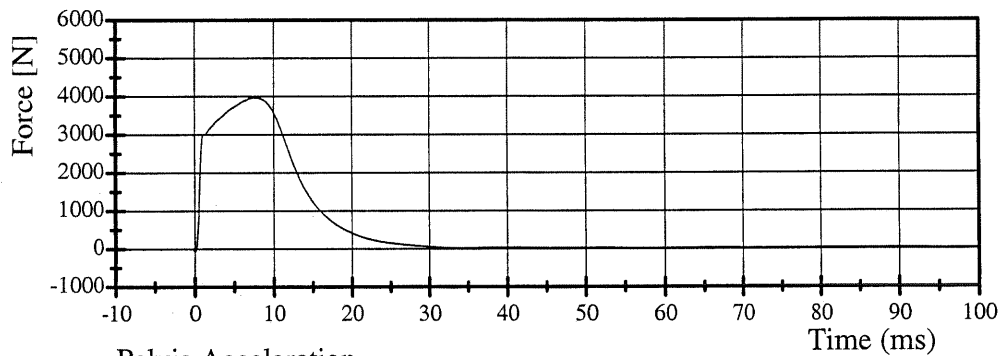


Filter Class: CFC 180

Max: 40.9 g at 7.8 ms

Min: -0.7 g at -0.9 ms

Acetabulum Force

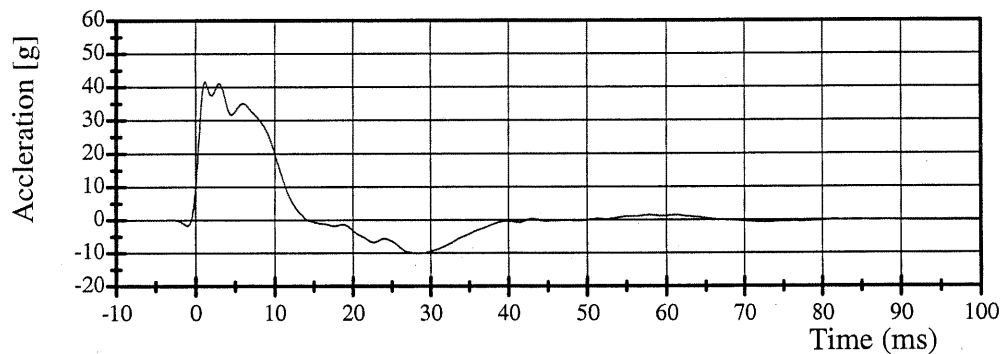


Filter Class: CFC 600

Max: 3972 N at 7.7 ms

Min: -54 N at 0.1 ms

Pelvis Acceleration



Filter Class: CFC 180

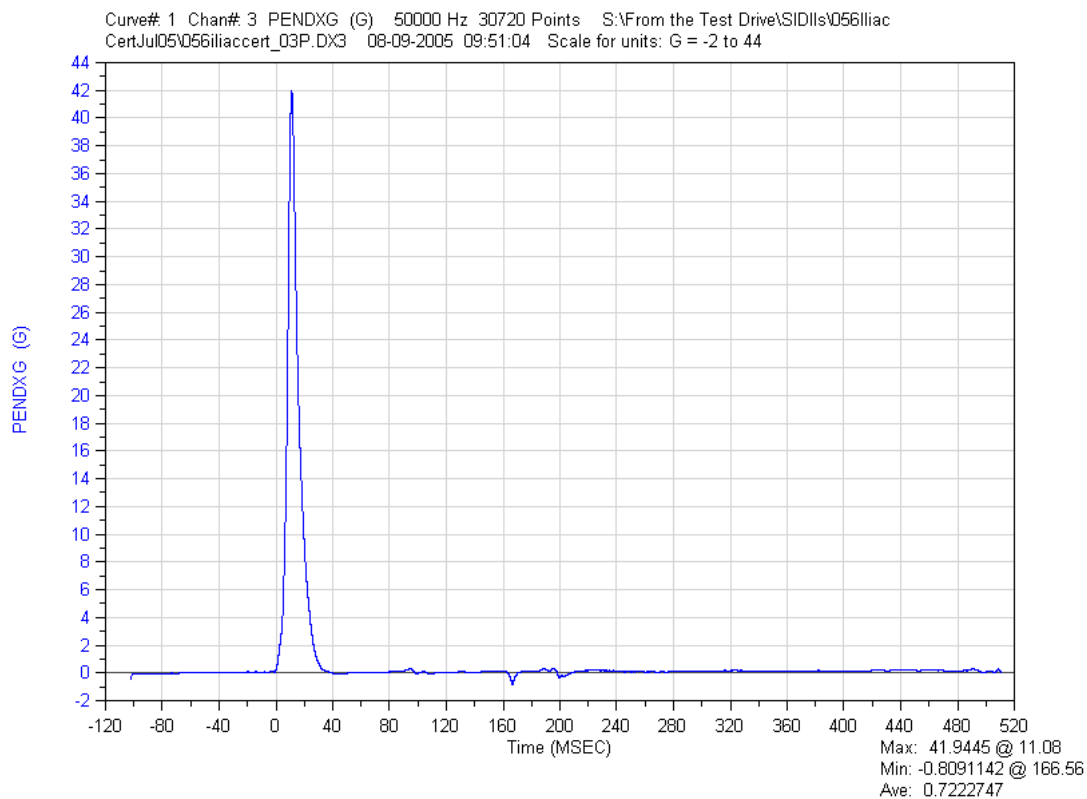
Max: 41.6 g at 1.1 ms

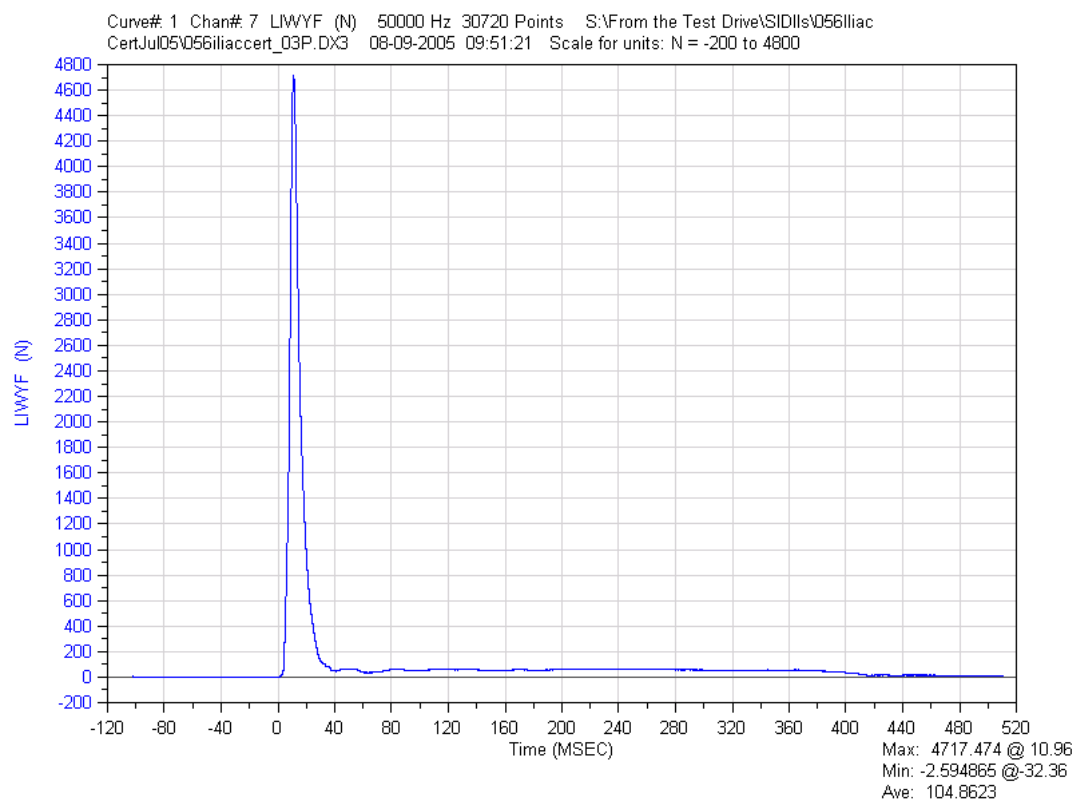
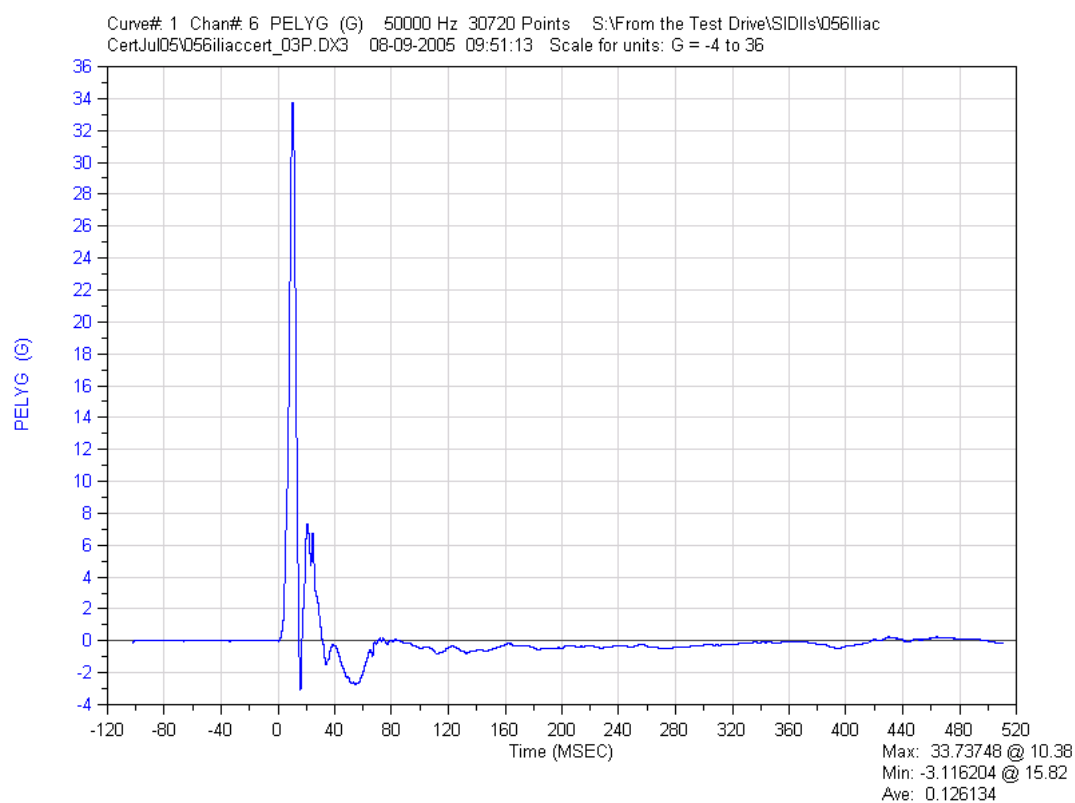
Min: -10.0 g at 28.4 ms

Test Parameter/Specification

Test Number	056iliaccert_03
Dummy S/N	056
Test Performer	VRTC
Date of Calibration	7/13/2005
Temperature (20.6 - 22.2 °C)	20
Relative Humidity (10 - 70 %)	49
Probe Velocity (4.2 - 4.4 m/s)	4.425
Maximum Probe Acceleration (41 - 47 g)	41.945
Maximum Pelvis Y Acceleration (32 - 40 g)	33.737
Maximum Iliac Force (4841 - 5491 N)	4717.474

Test Results





Post-Test Dummy Configuration and Performance Verification Data

Driver Dummy S/N: 020

Tested per draft procedures and specifications provided by VRTC

Transportation Research Center Inc.

Left Head Drop Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Peak Resultant Acceleration	125 - 145 g	130.2 g	Yes
Peak Longitudinal Acceleration	15 g Max	-2.5 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved



08.11.2005 10:34:29 231

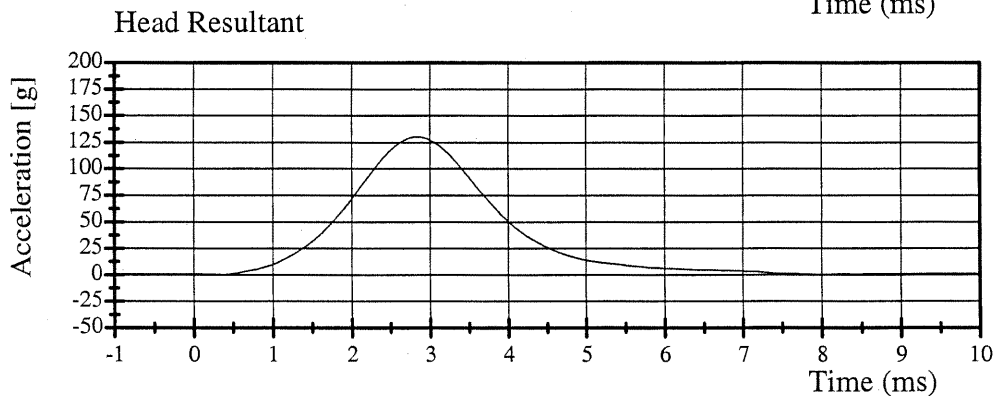
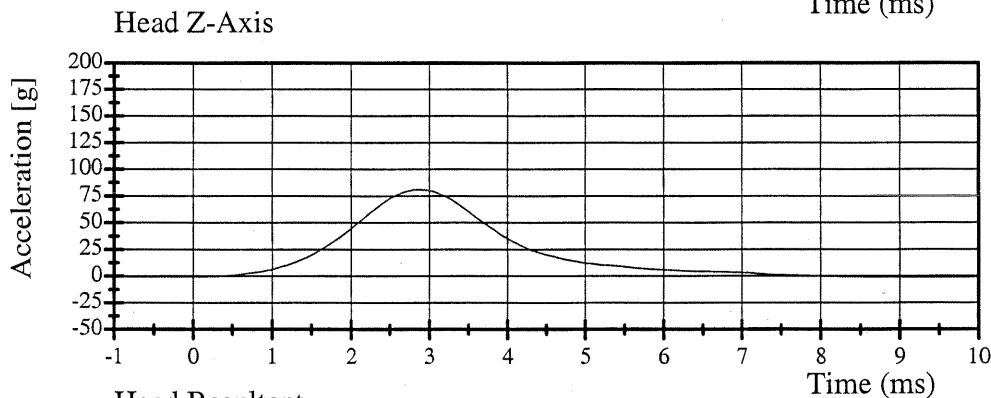
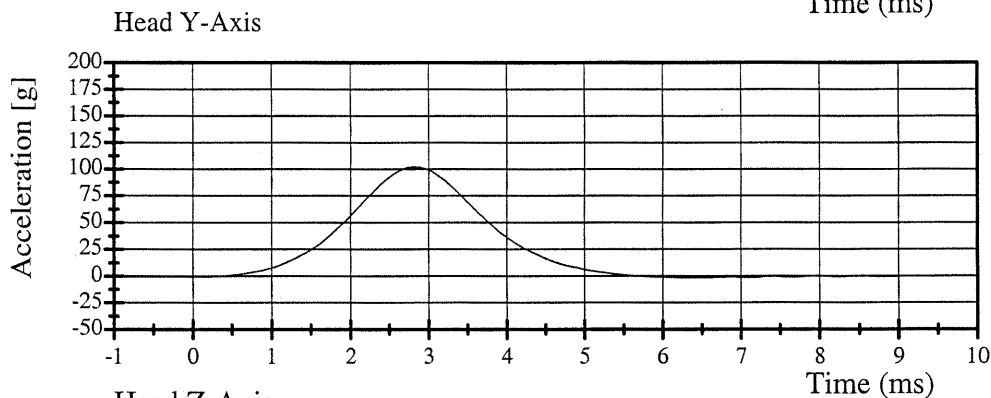
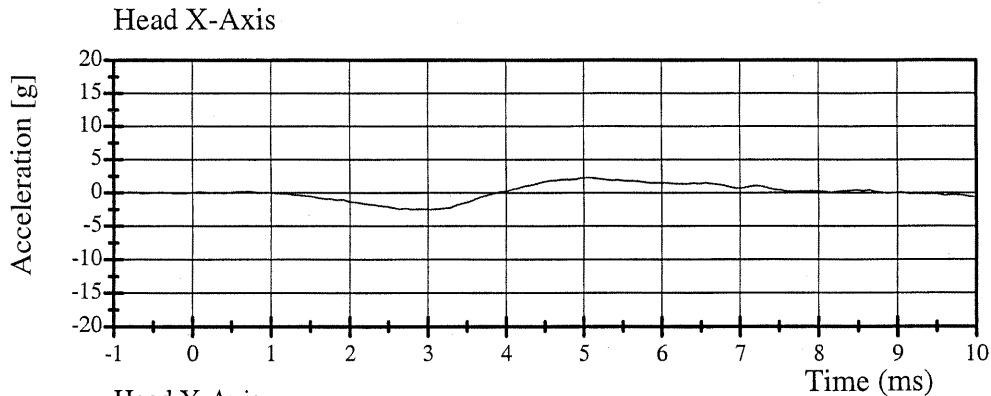


Transportation Research Center Inc.

Head Drop Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005



08.11.2005 10:34:30 231



Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

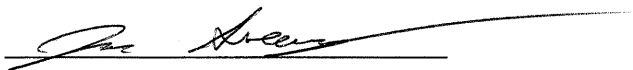
Test Date 08/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impact Velocity	5.51 - 5.63 m/s	5.58 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.20 - 2.80 m/s	2.52 m/s	Yes
15 ms	3.40 - 4.10 m/s	3.64 m/s	Yes
20 ms	4.50 - 5.40 m/s	4.92 m/s	Yes
25 ms	5.50 - 6.10 m/s	5.94 m/s	Yes
25 - 100 ms	5.20 - 6.20 m/s	5.70 - 6.01 m/s	Yes
Peak D Plane Rotation	74 - 79 °	71.8 °	No
Time of Peak D-Plane Rotation	50 - 70 °	59.2 °	Yes
Peak Moment About Occipital Condyles during Rotation Interval	40.0 - 45.0 N·m	0 N·m	No
Time of Moment Decay To 0 N·m	113 - 123 ms	111.6 ms	No

Test does not meet specifications.

Comments:

Technician



Approved



08.11.2005 10:37:46 669



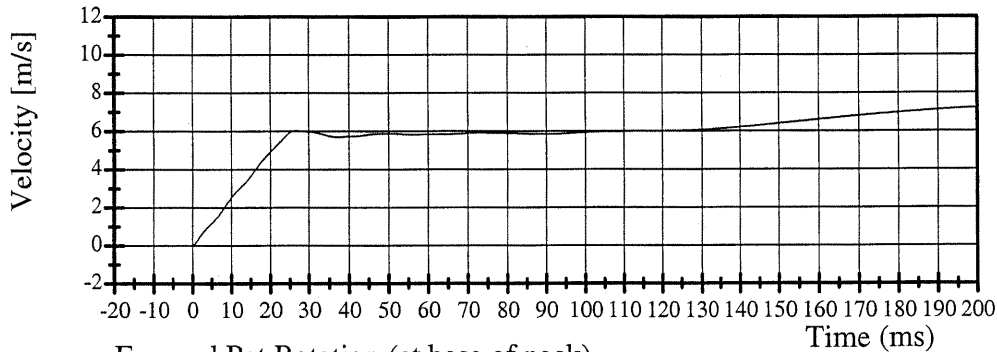
Transportation Research Center Inc.

Left Lateral Neck Test

SID-II's Serial No. 020 Calibration No. 08 - 1

Test Date 08/01/2005

Integrated Pendulum Velocity

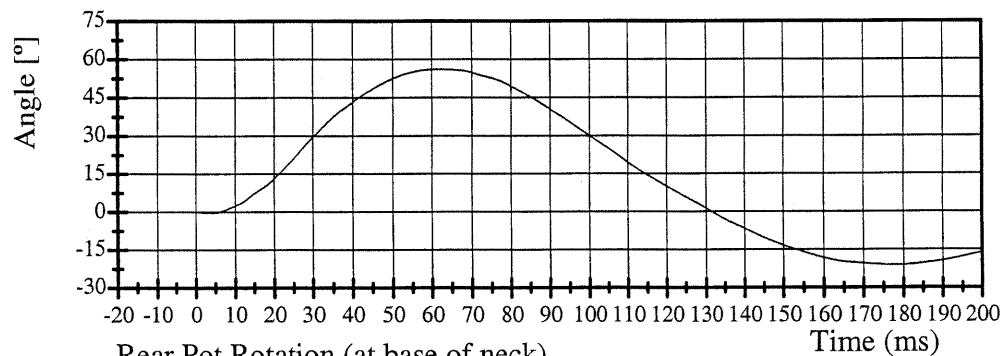


Filter Class: 180

Max: 7.3 m/s at 217.5 ms

Min: -0.0 m/s at -0.6 ms

Forward Pot Rotation (at base of neck)

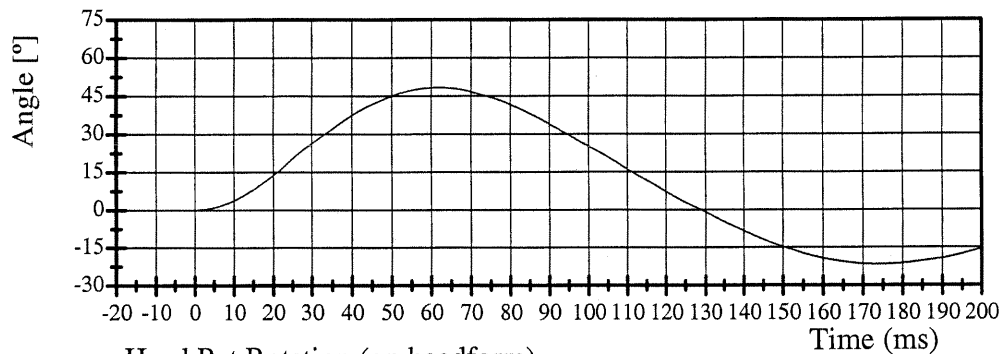


Filter Class: 60

Max: 56.1 ° at 61.8 ms

Min: -21.0 ° at 178.1 ms

Rear Pot Rotation (at base of neck)

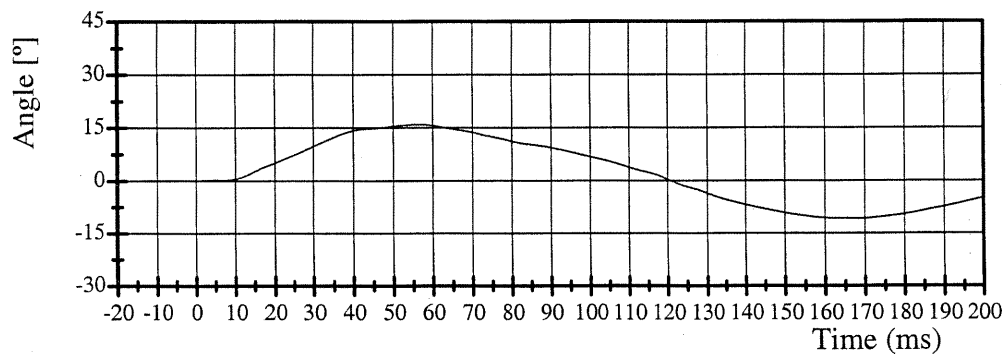


Filter Class: 60

Max: 48.3 ° at 62.0 ms

Min: -21.7 ° at 174.2 ms

Head Pot Rotation (on headform)



Filter Class: 60

Max: 16.0 ° at 56.6 ms

Min: -10.8 ° at 168.0 ms

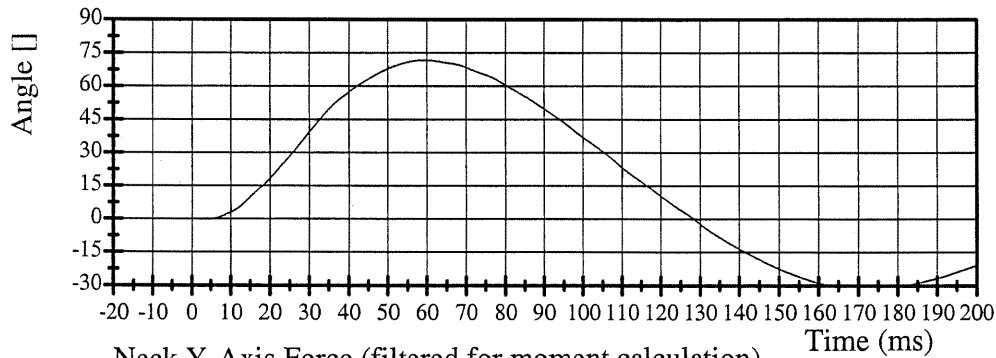
Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/01/2005

D-Plane Rotation (forward pot + head pot)

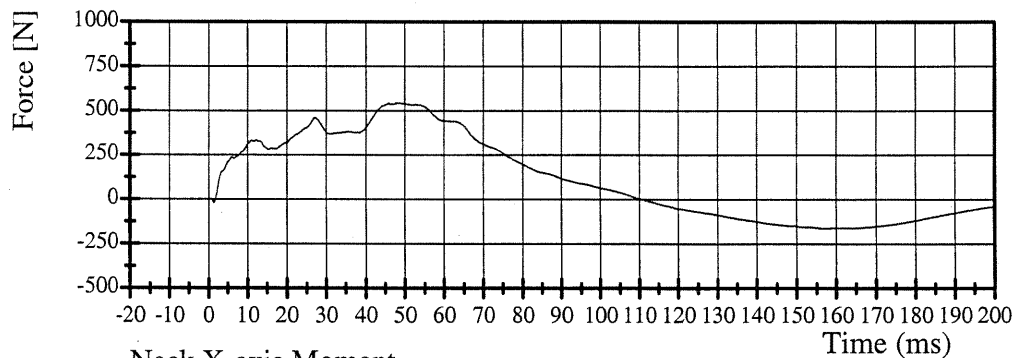


Filter Class: CFC 60

Max: 71.8° at 59.2 ms

Min: -31.2° at 173.3 ms

Neck Y-Axis Force (filtered for moment calculation)

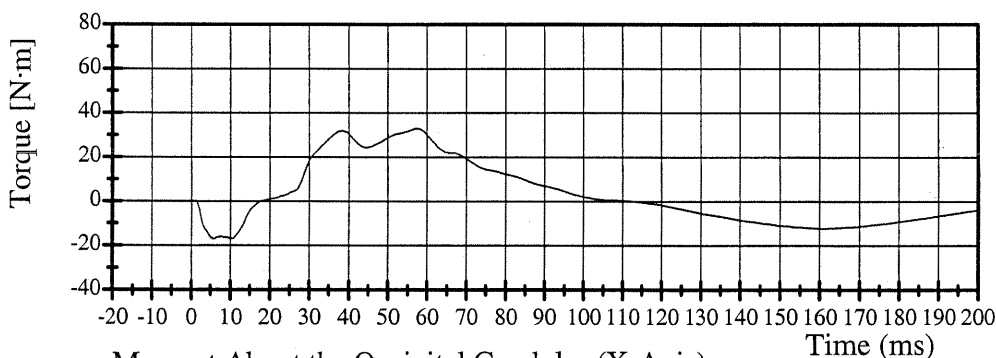


Filter Class: CFC 600

Max: 543 N at 48.1 ms

Min: -164 N at 157.4 ms

Neck X-axis Moment

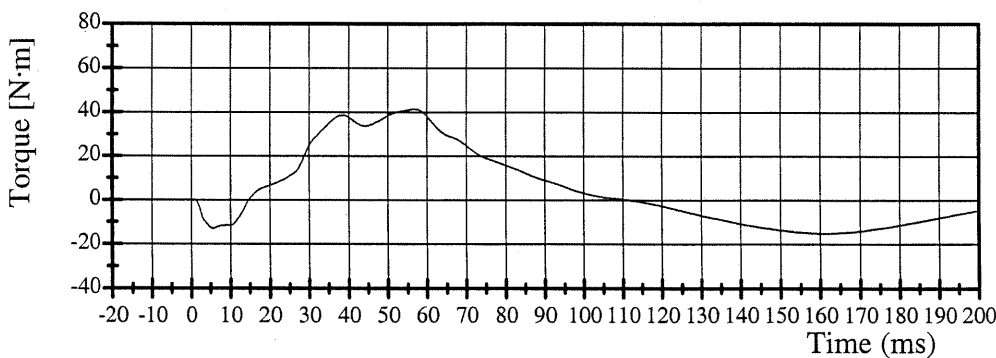


Filter Class: CFC 600

Max: 32.9 N·m at 57.3 ms

Min: -17.1 N·m at 5.8 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 41.5 N·m at 57.0 ms

Min: -15.1 N·m at 161.4 ms

08.11.2005 10:37:48 669



Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.4 C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	4.41 - 4.59 m/sec	4.43 m/sec	Yes
Probe Force	1600 - 2400 N	2242 N	Yes
Deflection	27 - 39 mm	34.0 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



08.02.2005 14:39:47 645



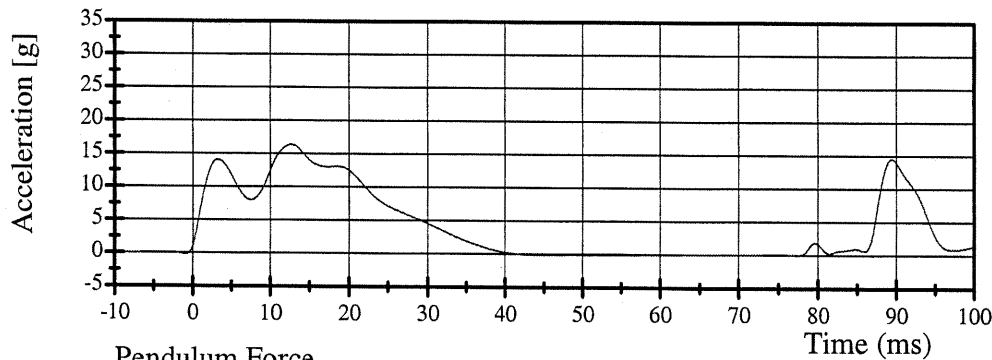
Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005

Pendulum Deceleration

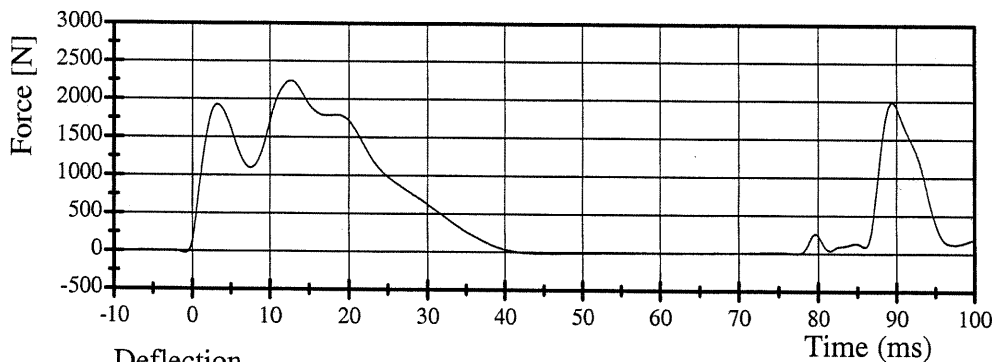


Filter Class: CFC 180

Max: 16.5 g at 12.5 ms

Min: -0.5 g at 121.8 ms

Pendulum Force

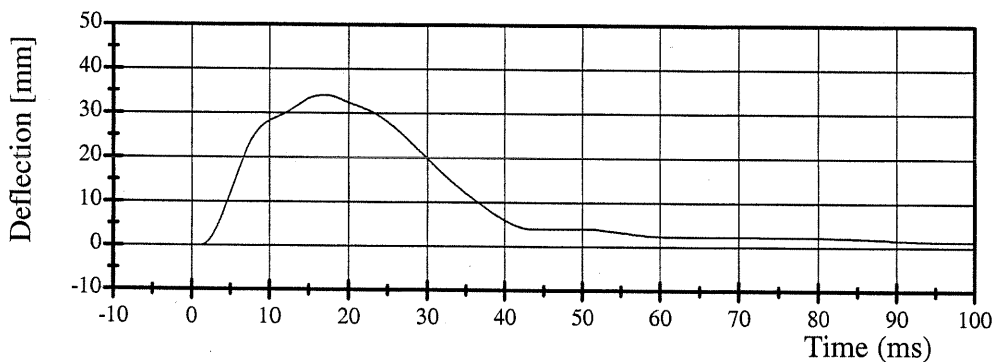


Filter Class: CFC 180

Max: 2242 N at 12.6 ms

Min: -41 N at 121.8 ms

Deflection



Filter Class: CFC 600

Max: 34.0 mm at 17.0 ms

Min: -0.0 mm at 1.1 ms

08.02.2005 14:39:48 645



Transportation Research Center Inc.

Left Thorax With Arm Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.3 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.72 m/sec	Yes
Pendulum Force	4100 - 4700 N	4859 N	No
Upper Spine Peak Acceleration	34 - 48 g	40.2 g	Yes
Lower Spine Peak Acceleration	30 - 38 g	32.8 g	Yes
Upper Rib Peak Deflection	23 - 35 mm	28.7 mm	Yes
Mid Rib Peak Deflection	29 - 44 mm	31.9 mm	Yes
Lower Rib Peak Deflection	33 - 40 mm	35.0 mm	Yes
Shoulder Peak Deflectioin	30 - 42 mm	34.7 mm	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.11.2005 14:13:21 392

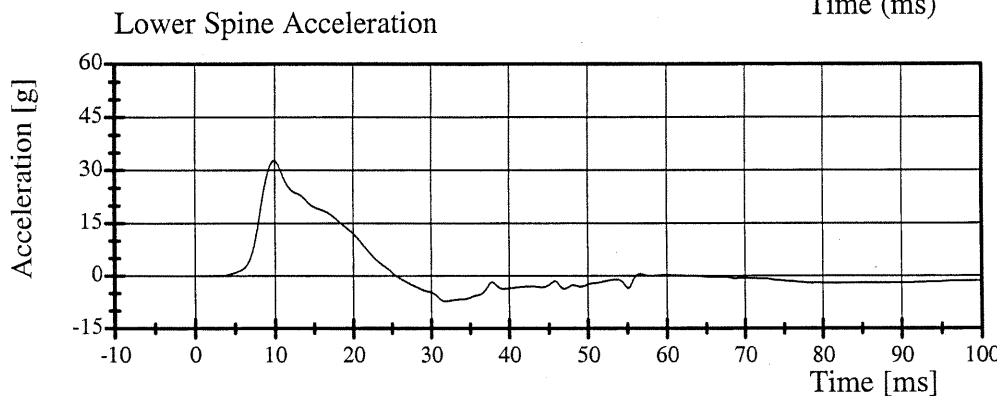
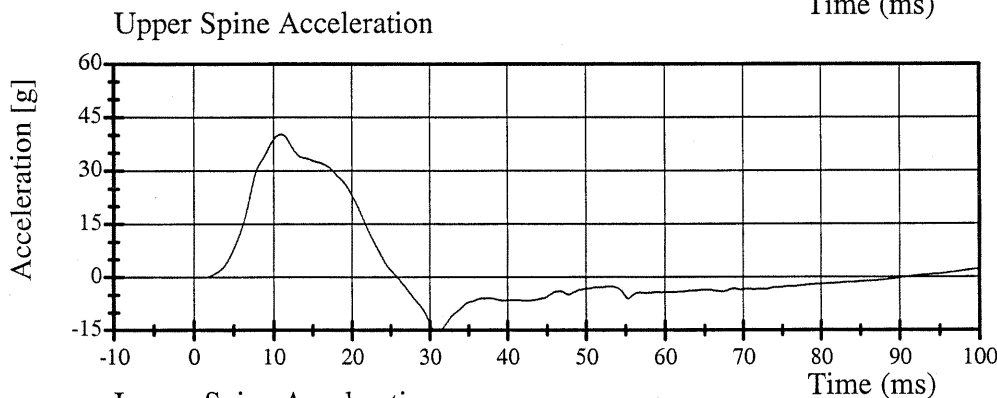
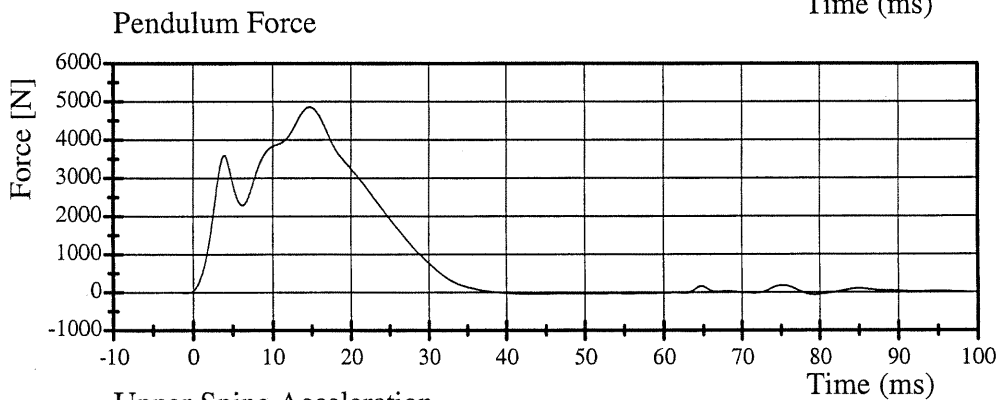
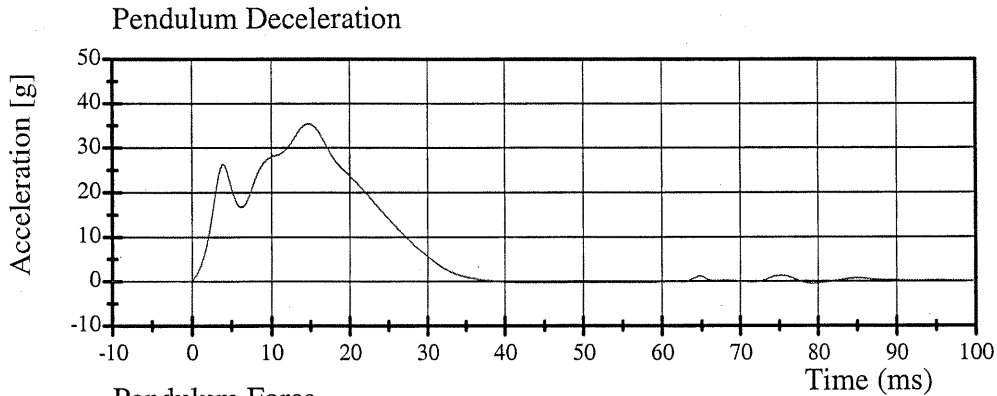


Transportation Research Center Inc.

Left Thorax With Arm Test

SID-II's Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005



08.11.2005 14:13:22 392

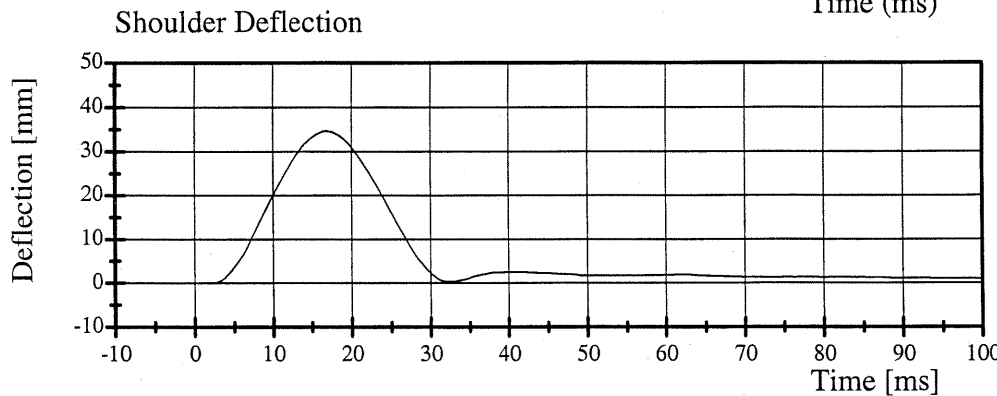
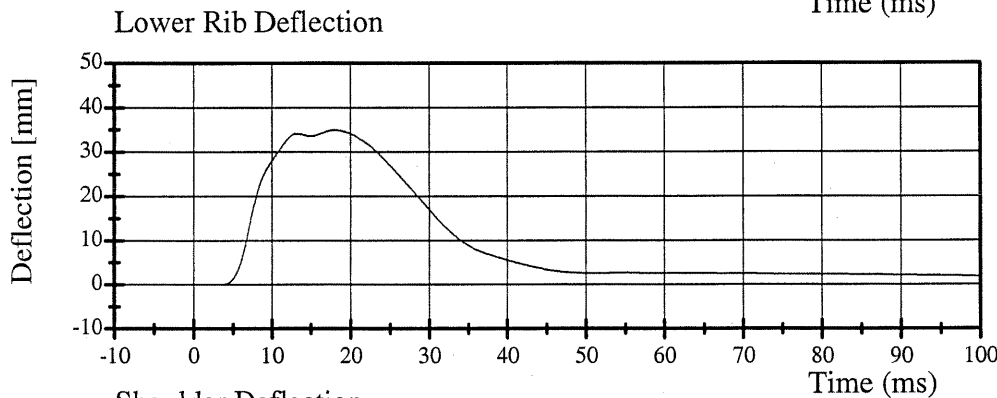
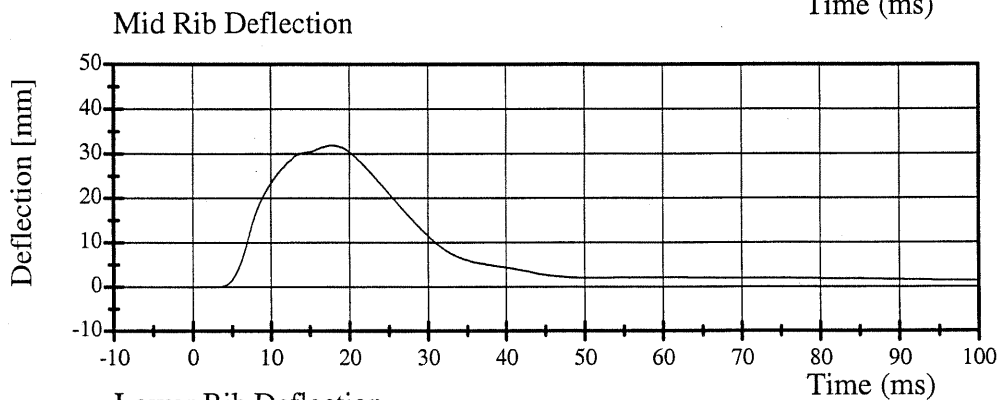
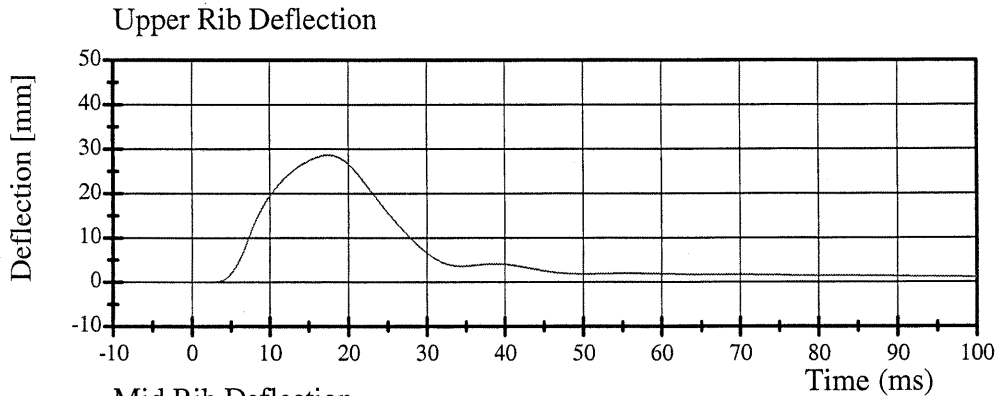


Transportation Research Center Inc.

Left Thorax With Arm Test

SID-II's Serial No. 020 Calibration No. 08 - 1

Test Date 08/02/2005



08.11.2005 14:13:23 392



Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.3 C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.29 m/sec	Yes
Pendulum Force	1800 - 2300 N	2276 N	Yes
Upper Spine Peak Acceleration	13 - 18 g	15.7 g	Yes
Lower Spine Peak Acceleration	8 - 13 g	9.2 g	Yes
Upper Rib Peak Deflection	32 - 41 mm	36.8 mm	Yes
Mid Rib Peak Deflection	40 - 51 mm	41.5 mm	Yes
Lower Rib Peak Deflection	34 - 47 mm	40.1 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



08.11.2005 14:14:39 594



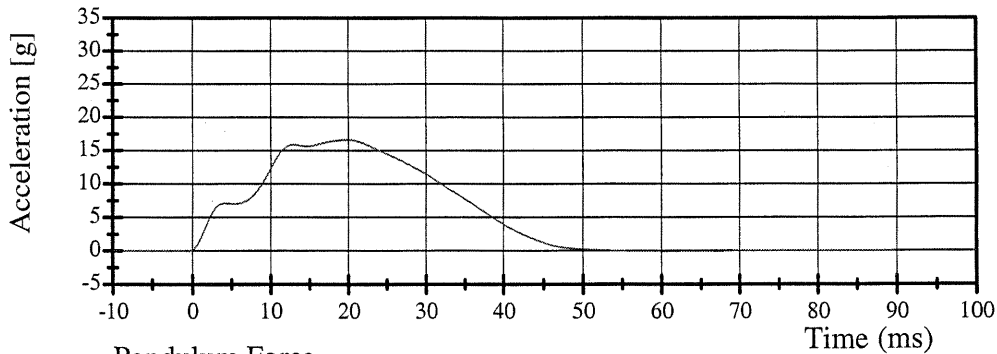
Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Pendulum Deceleration

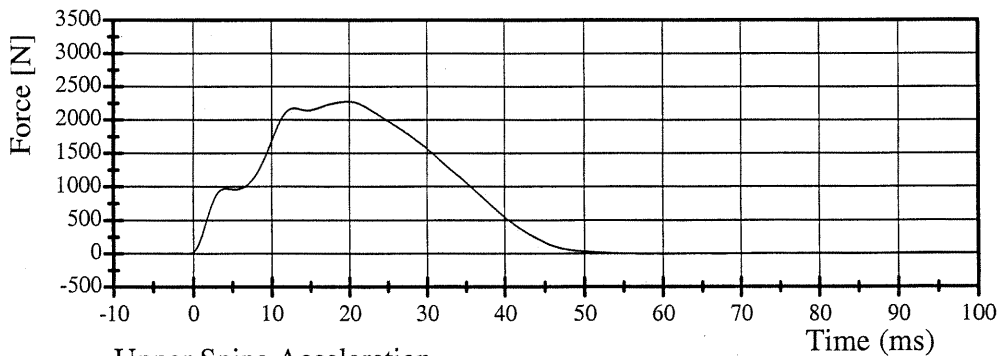


Filter Class: CFC 180

Max: 16.6 g at 19.8 ms

Min: -0.0 g at -47.4 ms

Pendulum Force

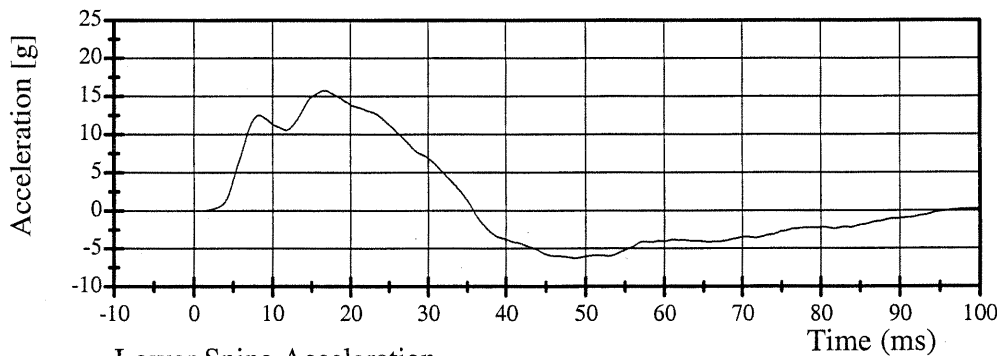


Filter Class: CFC 180

Max: 2276 N at 19.8 ms

Min: -6 N at -47.4 ms

Upper Spine Acceleration

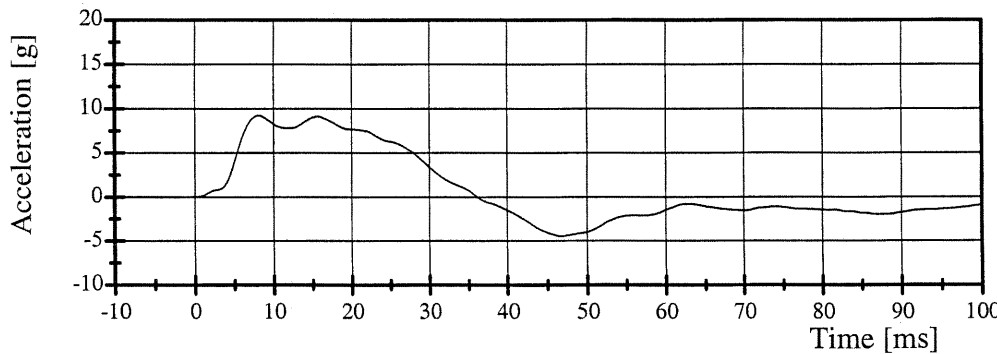


Filter Class: CFC 180

Max: 15.7 g at 16.6 ms

Min: -6.3 g at 48.6 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 9.2 g at 8.2 ms

Min: -4.5 g at 46.8 ms

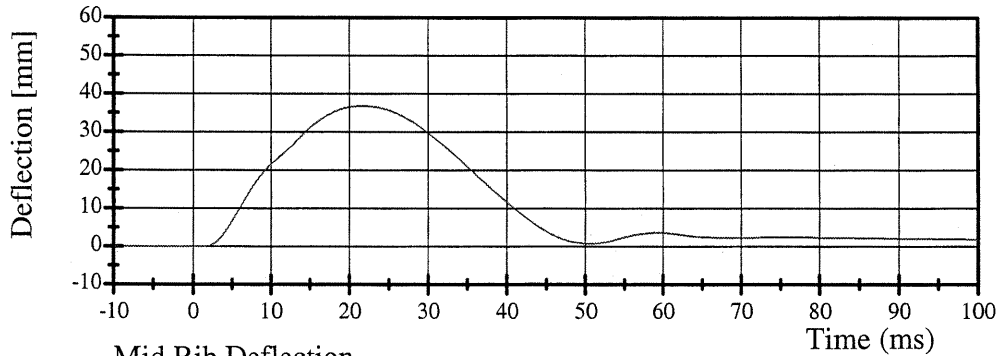
Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Upper Rib Deflection

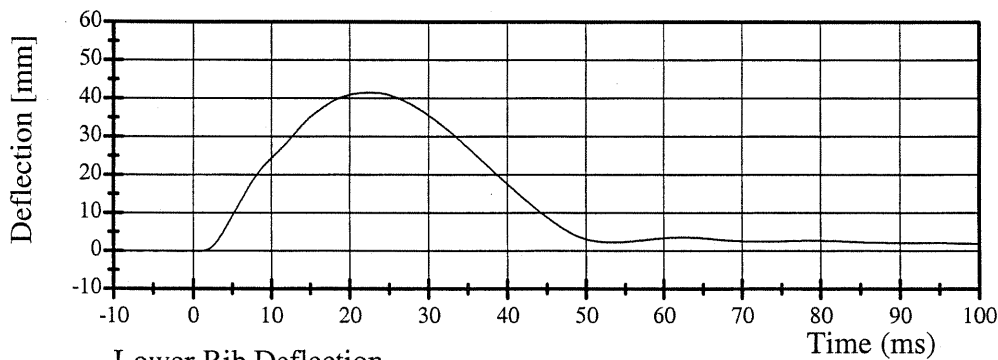


Filter Class: CFC 600

Max: 36.8 mm at 21.7 ms

Min: -0.0 mm at -9.3 ms

Mid Rib Deflection

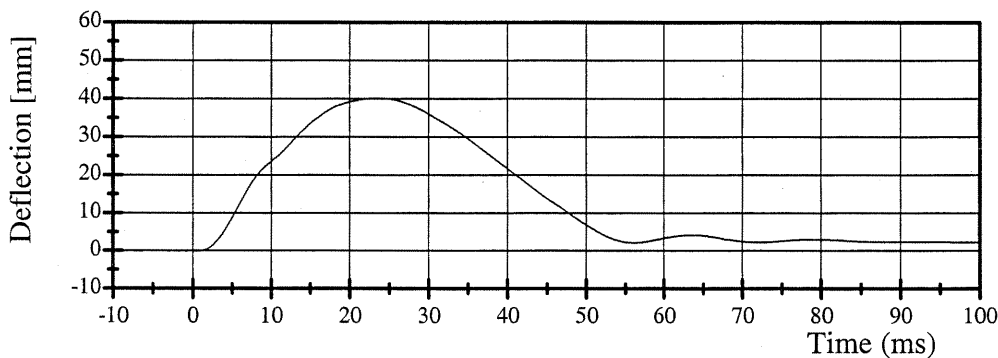


Filter Class: CFC 600

Max: 41.5 mm at 22.5 ms

Min: -0.0 mm at -24.7 ms

Lower Rib Deflection



Filter Class: CFC 600

Max: 40.1 mm at 23.4 ms

Min: -0.0 mm at -9.3 ms

Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.5 C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.38 m/sec	Yes
Pendulum Force	1300 - 1900 N	2110 N	No
Upper Spine Peak Acceleration	5 - 9 g	7.2 g	Yes
Lower Spine Peak Acceleration	9 - 13 g	11.7 g	Yes
Upper Abdomen Rib Peak Deflection	44 - 55 mm	39.9 mm	No
Lower Abdomen Rib Peak Deflection	44 - 56 mm	40.9 mm	No

Test does not meet specifications.

Comments:

Technician



Approved



08.11.2005 14:16:51 633



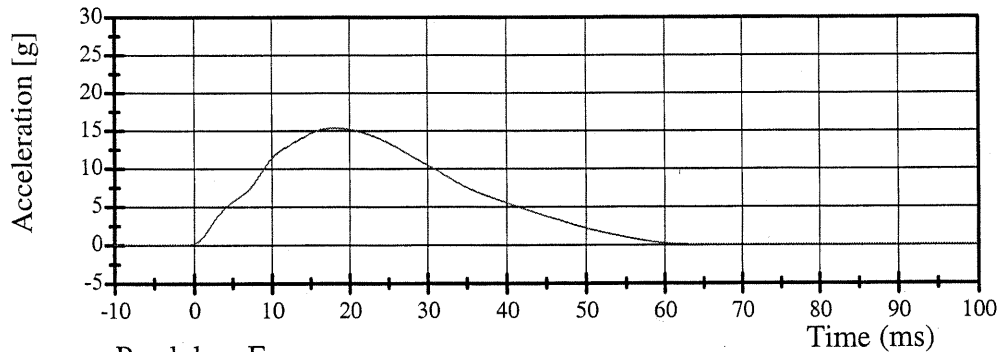
Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Pendulum Deceleration

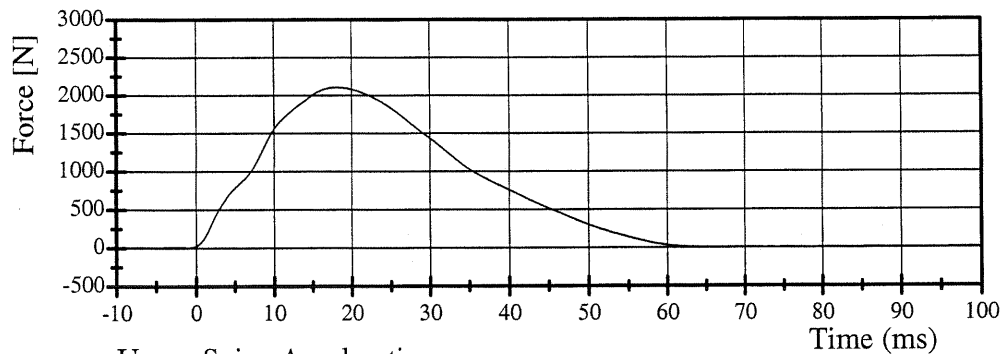


Filter Class: CFC 180

Max: 15.4 g at 18.0 ms

Min: -0.7 g at 120.9 ms

Pendulum Force

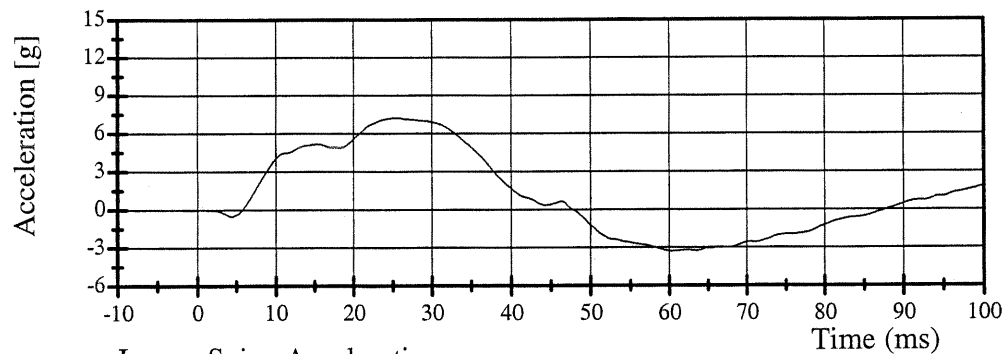


Filter Class: CFC 180

Max: 2110 N at 18.0 ms

Min: -99 N at 120.9 ms

Upper Spine Acceleration

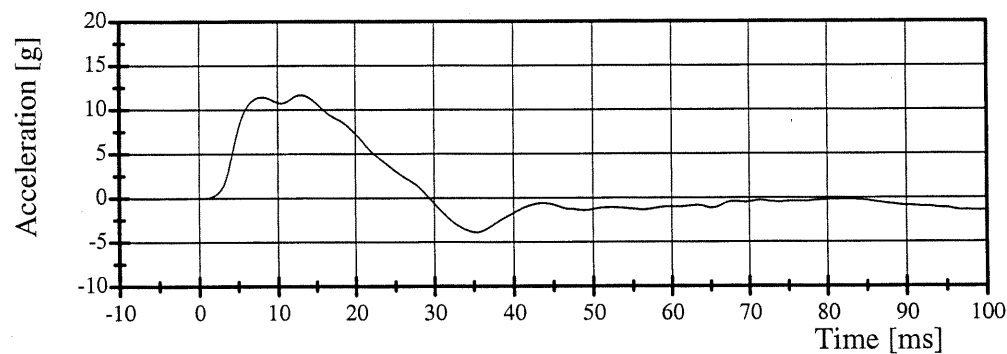


Filter Class: CFC 180

Max: 7.2 g at 25.4 ms

Min: -3.3 g at 60.2 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 11.7 g at 13.0 ms

Min: -3.9 g at 35.4 ms

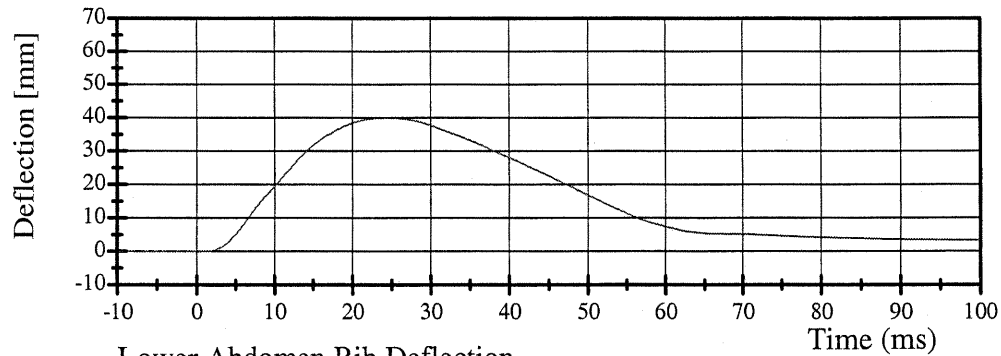
Transportation Research Center Inc.

Left Abdomen Test

SID-IIIs Serial No. 020 Calibration No. 08 - 1

Test Date 08/03/2005

Upper Abdomen Rib Deflection

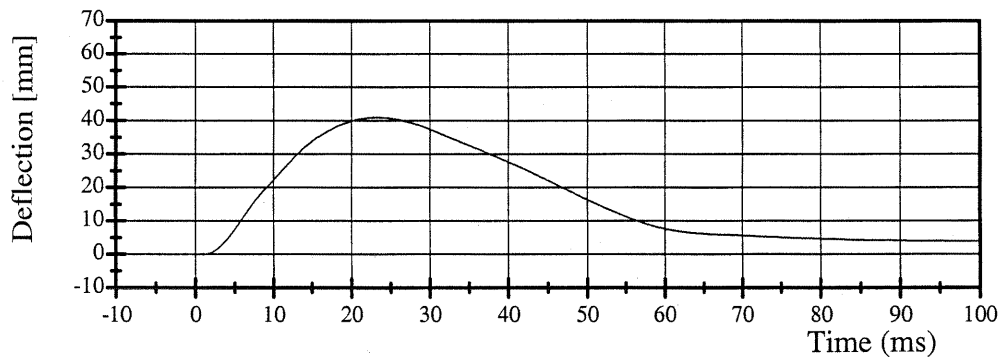


Filter Class: CFC 600

Max: 39.9 mm at 24.3 ms

Min: -0.0 mm at -40.6 ms

Lower Abdomen Rib Deflection



Filter Class: CFC 600

Max: 40.9 mm at 23.4 ms

Min: -0.0 mm at 1.0 ms

Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 020 Calibration No. 08 - 2

Test Date 08/03/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.6 C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.65 m/sec	Yes
Pendulum Acceleration	40 - 48 g	41.7 g	Yes
Pelvis Peak Acceleration	40 - 48 g	43.9 g	Yes
Peak Acetabulum Force	3803 - 4505 g	3951 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.11.2005 14:23:38 425



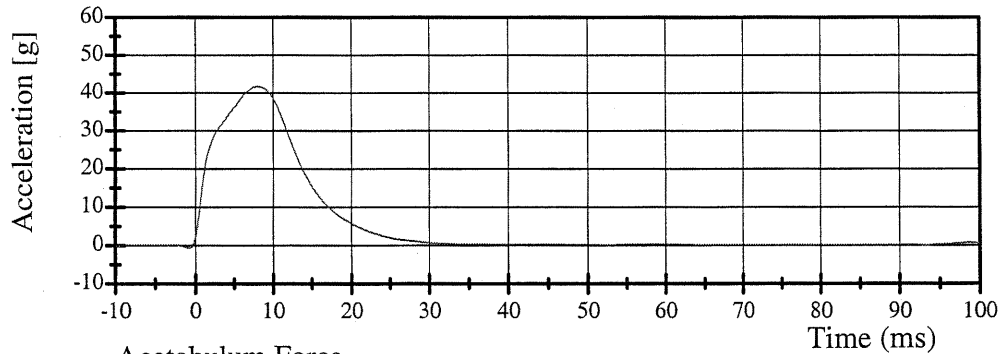
Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 020 Calibration No. 08 - 2

Test Date 08/03/2005

Pendulum Deceleration

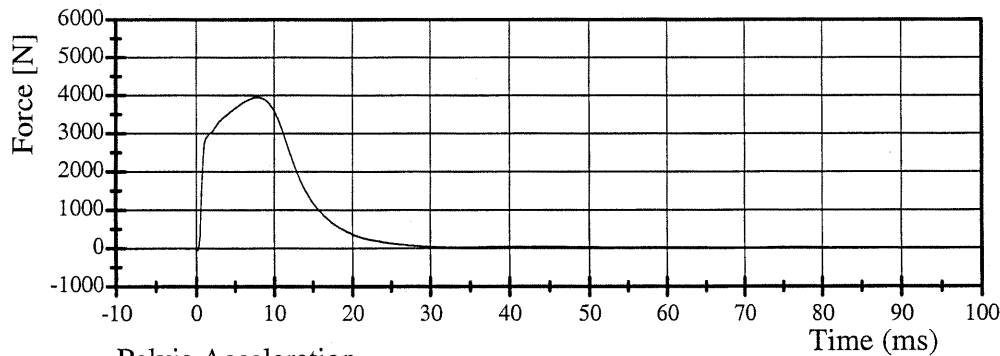


Filter Class: CFC 180

Max: 41.7 g at 8.0 ms

Min: -0.6 g at -0.8 ms

Acetabulum Force

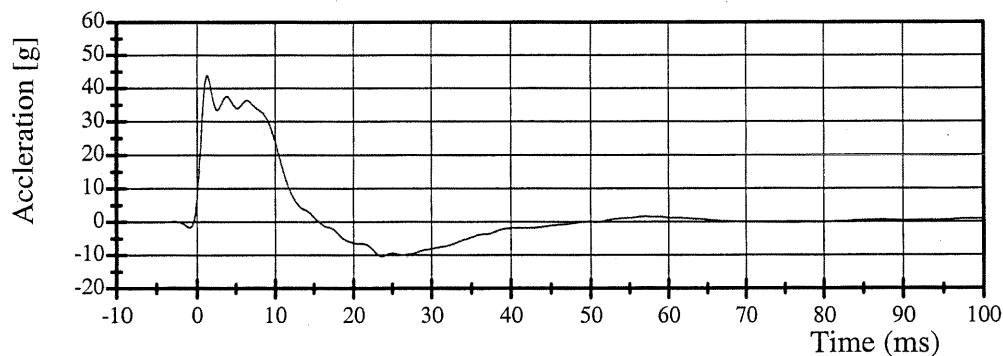


Filter Class: CFC 600

Max: 3951 N at 7.8 ms

Min: -54 N at 0.2 ms

Pelvis Acceleration



Filter Class: CFC 180

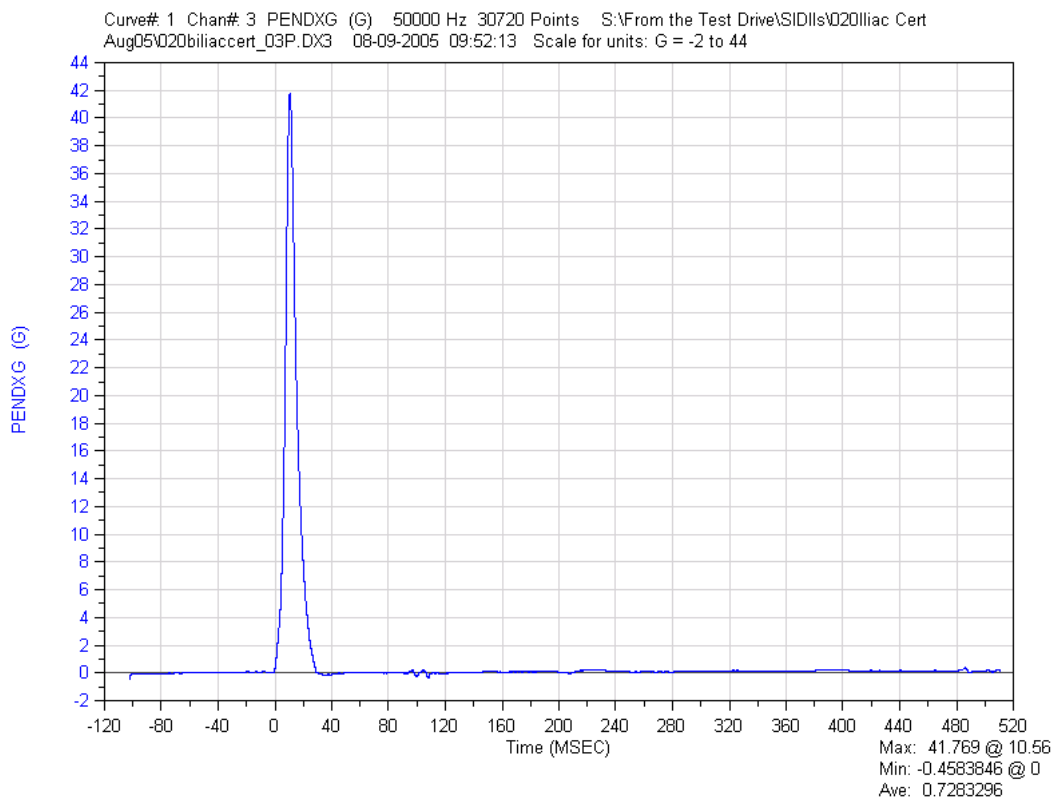
Max: 43.9 g at 1.3 ms

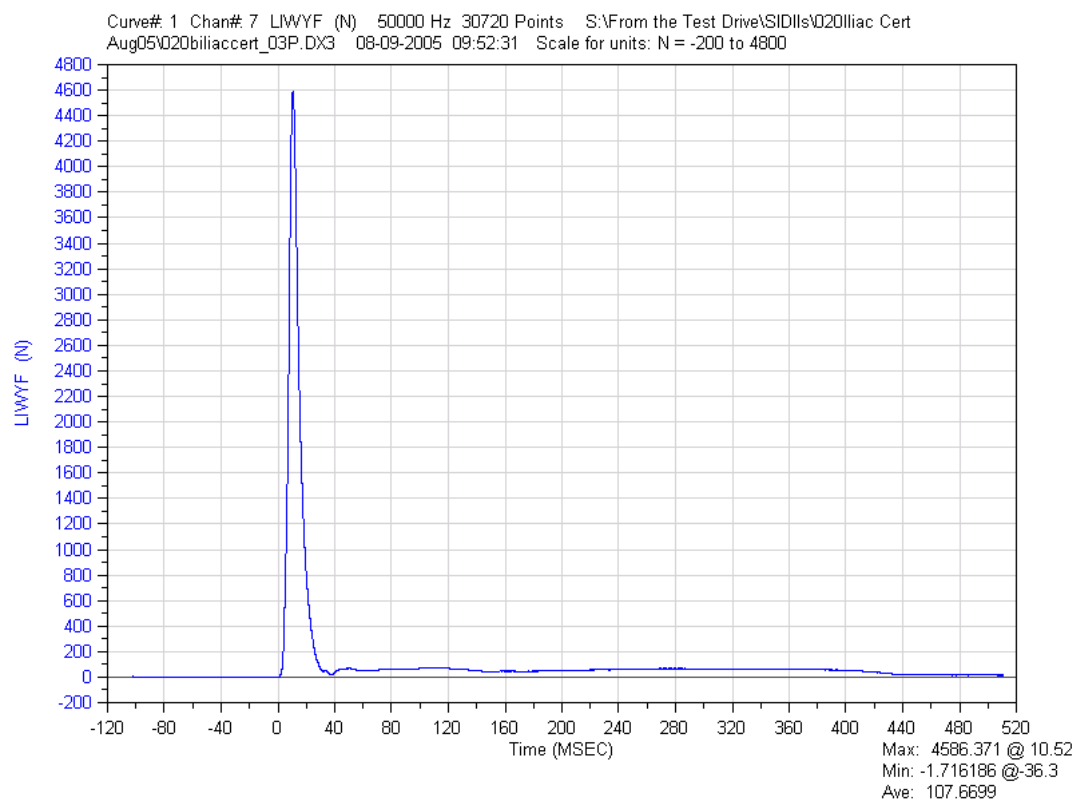
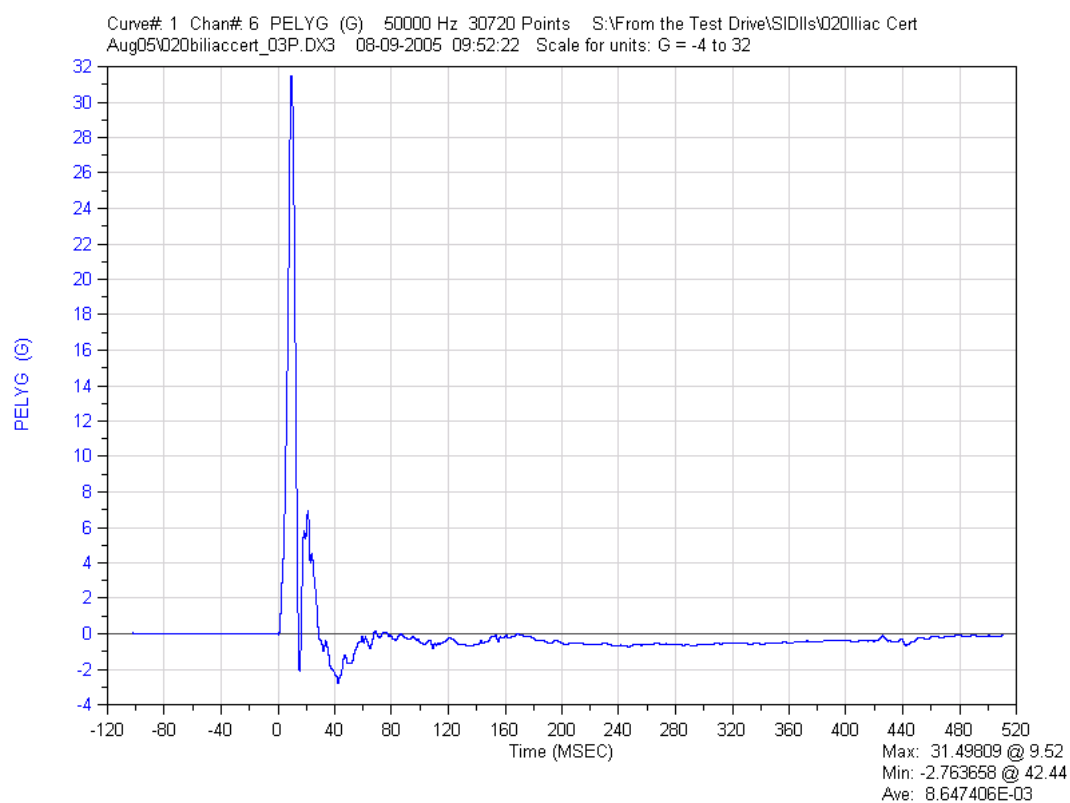
Min: -10.3 g at 23.7 ms

Test Parameter/Specification

Test Number	020biliaccert_03
Dummy S/N	020
Test Performer	VRTC
Date of Calibration	8/4/2005
Temperature (20.6 - 22.2 °C)	20.6
Relative Humidity (10 - 70 %)	50
Probe Velocity (4.2 - 4.4 m/s)	4.364
Maximum Probe Acceleration (41 - 47 g)	41.769
Maximum Pelvis Y Acceleration (32 - 40 g)	31.498
Maximum Iliac Force (4841 - 5491 N)	4586.371

Test Results





Post-Test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 056

Tested per draft procedures and specifications provided by VRTC

Transportation Research Center Inc.

Left Head Drop Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Peak Resultant Acceleration	125 - 145 g	122.8 g	No
Peak Longitudinal Acceleration	15 g Max	-3.5 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

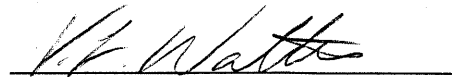
Test does not meet specifications.

Comments:

Technician



Approved



08.08.2005 13:16:12 230



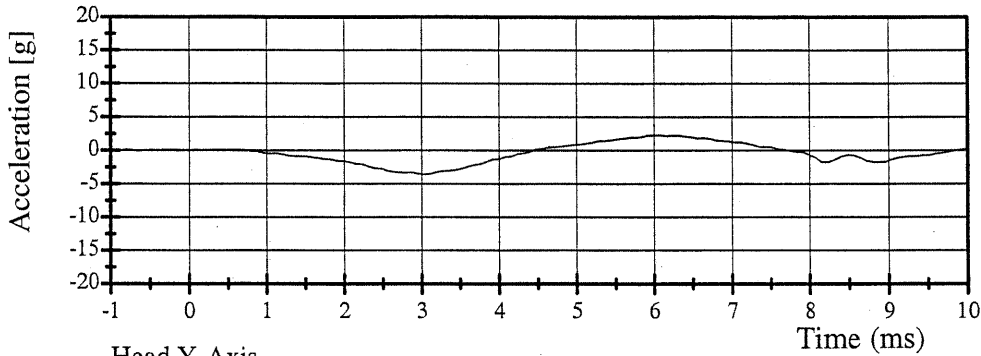
Transportation Research Center Inc.

Head Drop Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Head X-Axis

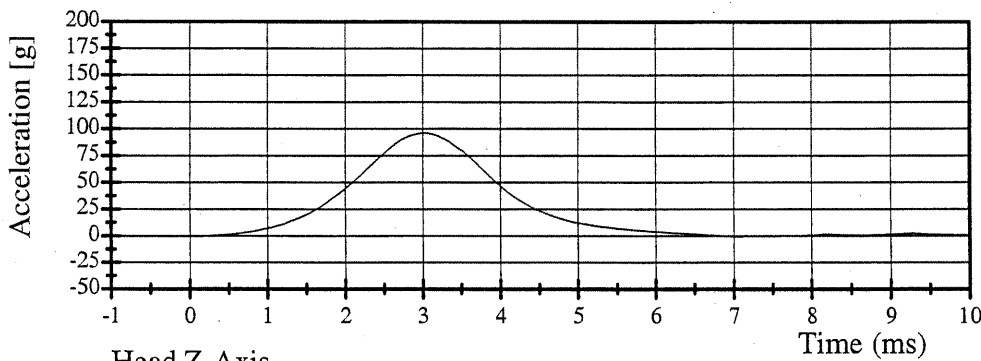


Filter Class: 1000

Max: 2.3 g at 6.1 ms

Min: -3.5 g at 3.0 ms

Head Y-Axis

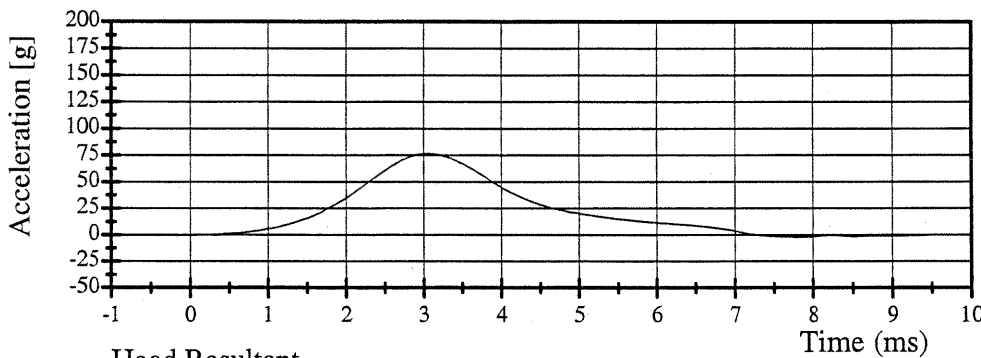


Filter Class: 1000

Max: 96.0 g at 3.0 ms

Min: -0.9 g at 7.0 ms

Head Z-Axis

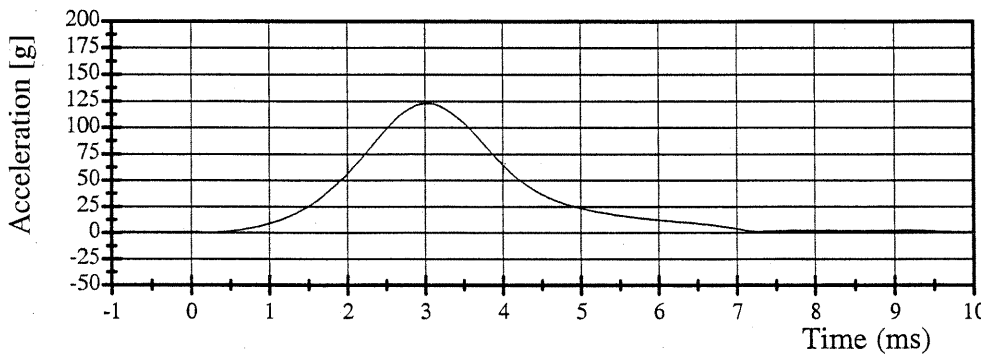


Filter Class: 1000

Max: 76.5 g at 3.0 ms

Min: -2.2 g at 7.8 ms

Head Resultant



Filter Class: 1000

Max: 122.8 g at 3.0 ms

Min: 0.3 g at 0.0 ms

08.08.2005 13:16:13 230



Transportation Research Center Inc.

Left Lateral Neck Test

SID-II's Serial No. 056 Calibration No. 02 - 01

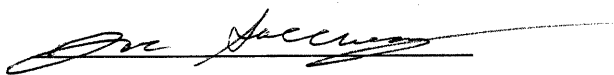
Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impact Velocity	5.51 - 5.63 m/s	5.58 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.20 - 2.80 m/s	2.67 m/s	Yes
15 ms	3.40 - 4.10 m/s	3.76 m/s	Yes
20 ms	4.50 - 5.40 m/s	4.98 m/s	Yes
25 ms	5.50 - 6.10 m/s	5.95 m/s	Yes
25 - 100 ms	5.20 - 6.20 m/s	5.69 - 6.02 m/s	Yes
Peak D Plane Rotation	74 - 79 °	74.8 °	Yes
Time of Peak D-Plane Rotation	50 - 70 °	60.4 °	Yes
Peak Moment About Occipital Condyles during Rotation Interval	40.0 - 45.0 N·m	42.1 N·m	Yes
Time of Moment Decay To 0 N·m	113 - 123 ms	114.9 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



08.08.2005 13:22:08 674



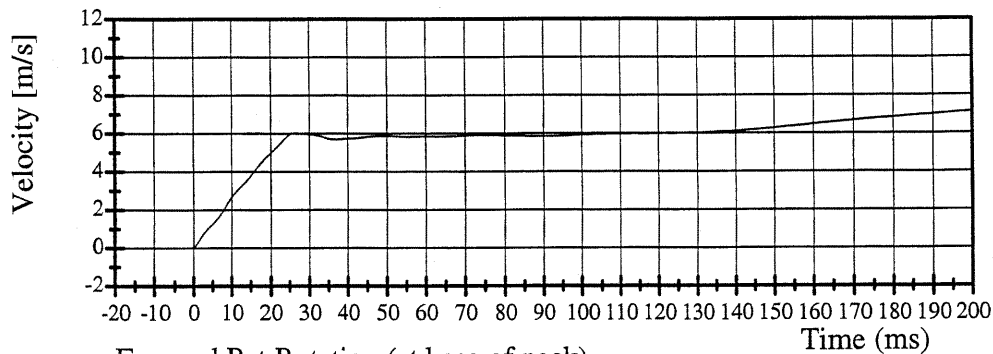
Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIIs Serial No. 056 Calibration No. 02 - 01

Test Date 08/02/2005

Integrated Pendulum Velocity

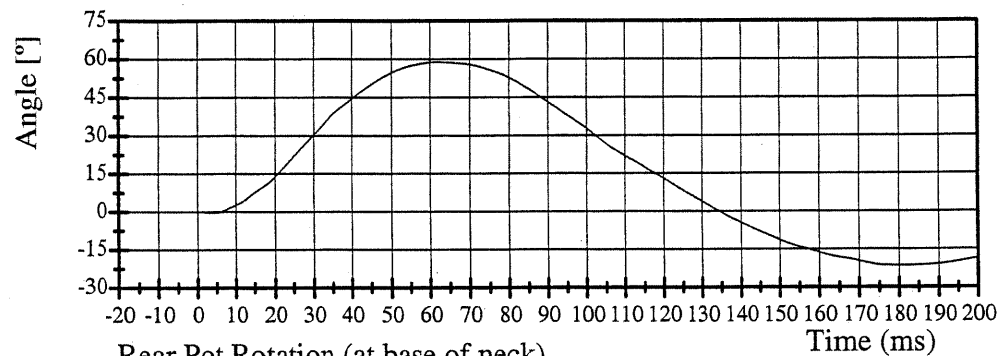


Filter Class: 180

Max: 7.3 m/s at 227.9 ms

Min: -0.0 m/s at -0.7 ms

Forward Pot Rotation (at base of neck)

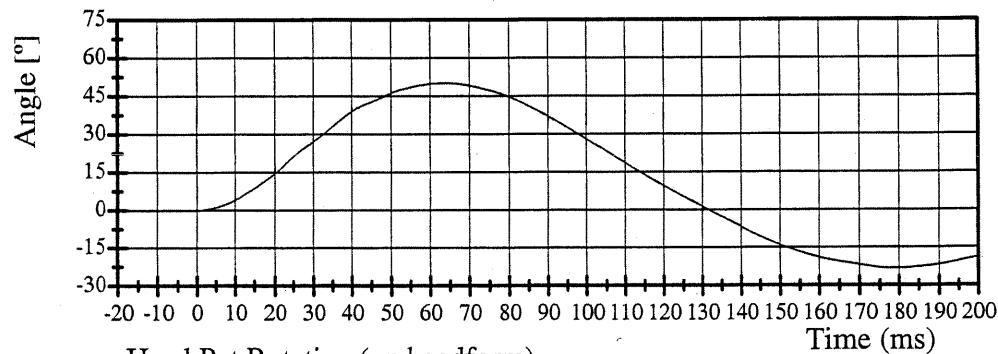


Filter Class: 60

Max: 58.8 ° at 61.9 ms

Min: -21.4 ° at 181.8 ms

Rear Pot Rotation (at base of neck)

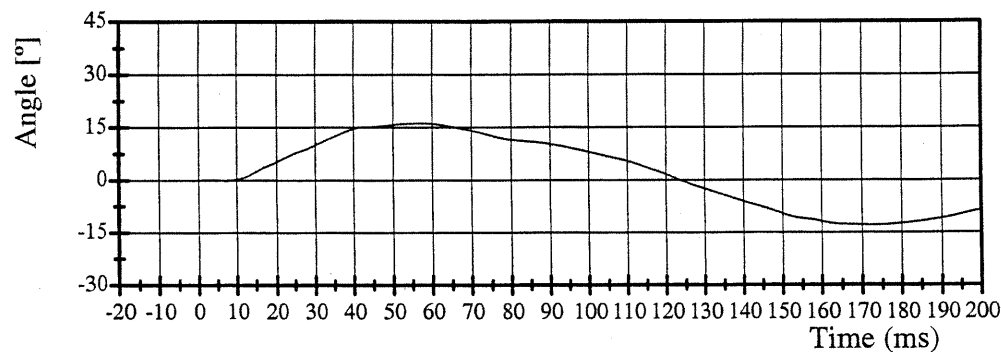


Filter Class: 60

Max: 50.1 ° at 63.9 ms

Min: -23.2 ° at 178.4 ms

Head Pot Rotation (on headform)



Filter Class: 60

Max: 16.3 ° at 57.4 ms

Min: -12.9 ° at 172.9 ms

08.08.2005 13:19:01 674



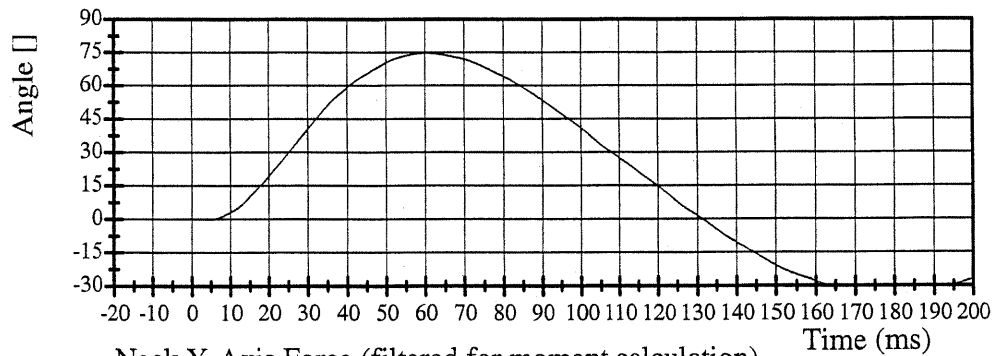
Transportation Research Center Inc.

Left Lateral Neck Test

SID-IIs Serial No. 056 Calibration No. 02 - 01

Test Date 08/02/2005

D-Plane Rotation (forward pot + head pot)

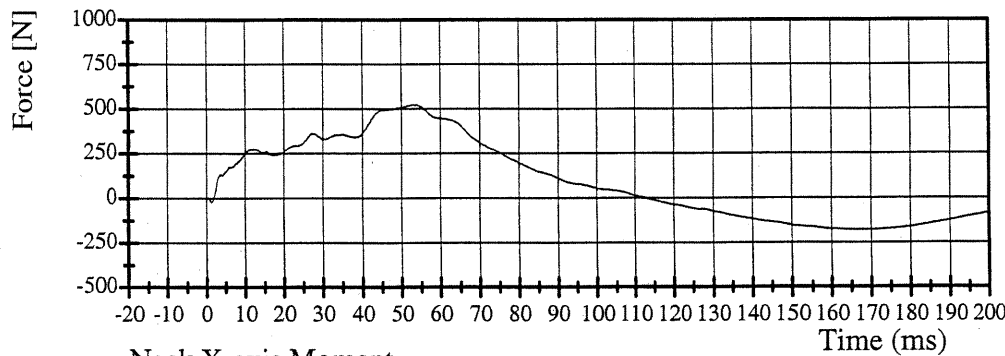


Filter Class: CFC 60

Max: 74.8 ° at 60.4 ms

Min: -34.1 ° at 176.1 ms

Neck Y-Axis Force (filtered for moment calculation)

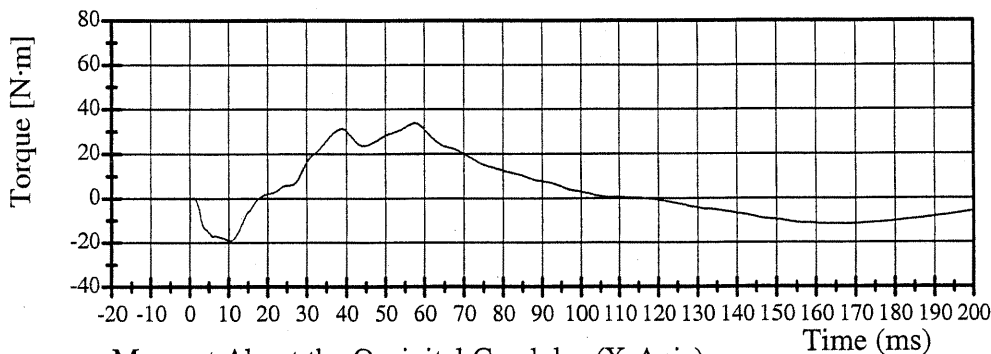


Filter Class: CFC 600

Max: 522 N at 53.8 ms

Min: -179 N at 166.2 ms

Neck X-axis Moment

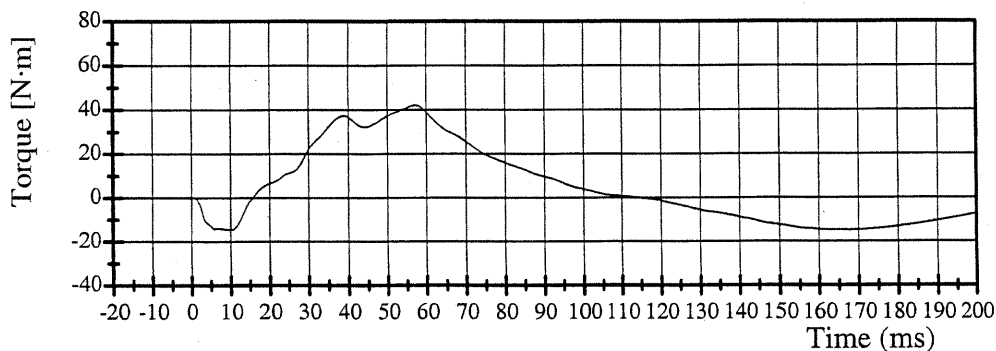


Filter Class: CFC 600

Max: 33.8 N·m at 57.4 ms

Min: -19.1 N·m at 10.3 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 42.1 N·m at 57.2 ms

Min: -14.8 N·m at 167.9 ms

08.08.2005 13:19:02 674



Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	4.41 - 4.59 m/sec	4.47 m/sec	Yes
Probe Force	1600 - 2400 N	2232 N	Yes
Deflection	27 - 39 mm	35.8 mm	Yes

Test meets specifications.

Comments:

Technician

Joe Anderson

Approved

V. H. Watts

08.08.2005 13:25:06 568



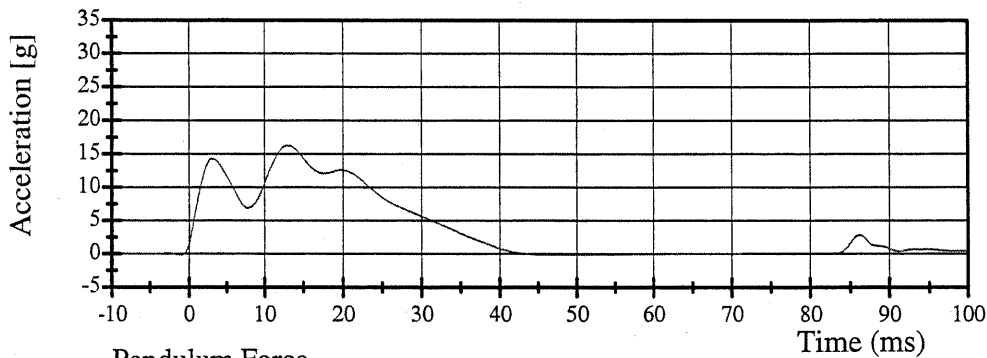
Transportation Research Center Inc.

Left Shoulder Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Pendulum Deceleration

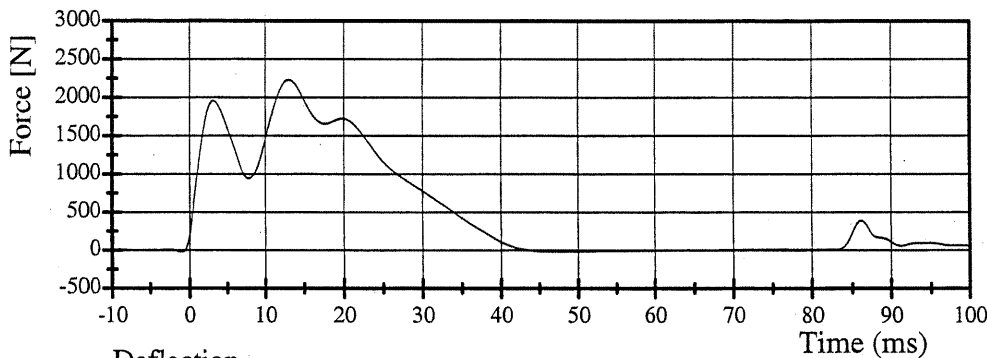


Filter Class: CFC 180

Max: 16.6 g at 13.1 ms

Min: -0.2 g at 46.9 ms

Pendulum Force

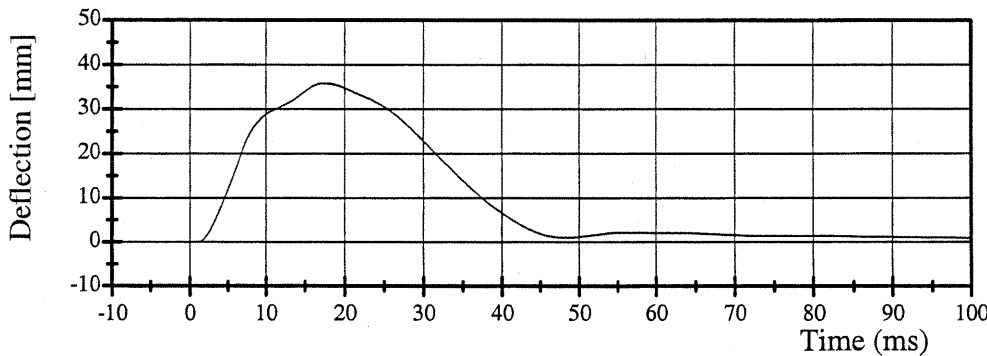


Filter Class: CFC 180

Max: 2232 N at 13.0 ms

Min: -21 N at -1.0 ms

Deflection



Filter Class: CFC 600

Max: 35.8 mm at 17.5 ms

Min: -0.0 mm at 1.1 ms

08.08.2005 13:25:06 568



Transportation Research Center Inc.

Left Thorax With Arm Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.4 C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.72 m/sec	Yes
Pendulum Force	4100 - 4700 N	4708 N	No
Upper Spine Peak Acceleration	34 - 48 g	36.0 g	Yes
Lower Spine Peak Acceleration	30 - 38 g	32.8 g	Yes
Upper Rib Peak Deflection	23 - 35 mm	28.1 mm	Yes
Mid Rib Peak Deflection	29 - 44 mm	32.7 mm	Yes
Lower Rib Peak Deflection	33 - 40 mm	35.6 mm	Yes
Shoulder Peak Deflectioin	30 - 42 mm	35.4 mm	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.08.2005 13:31:29 405



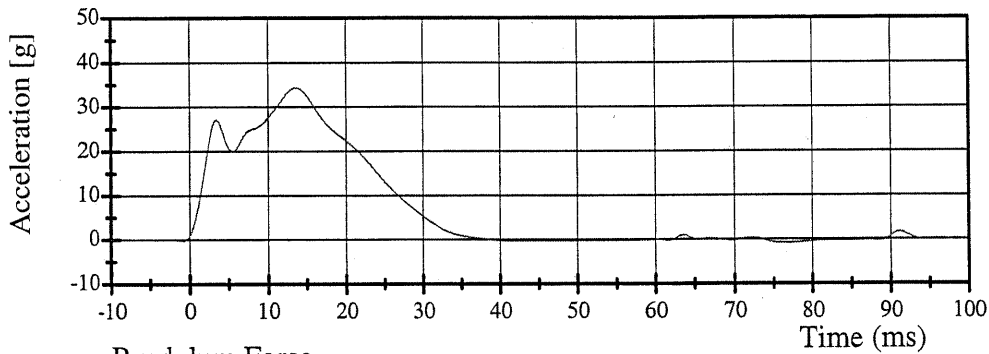
Transportation Research Center Inc.

Left Thorax With Arm Test

SID-IIs Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Pendulum Deceleration

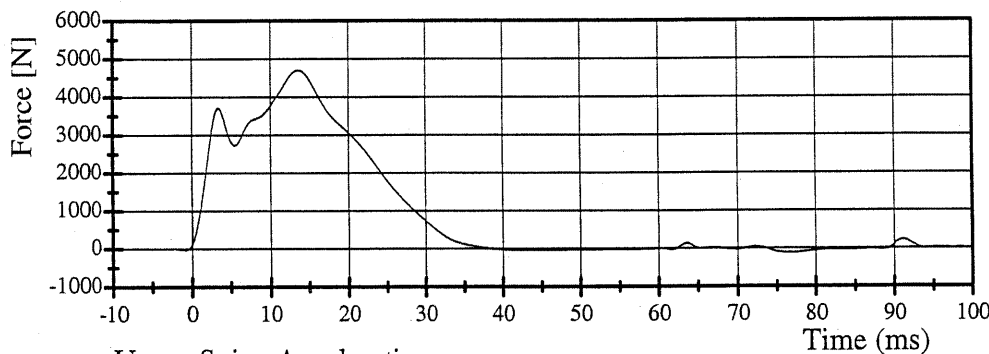


Filter Class: CFC 180

Max: 34.4 g at 13.7 ms

Min: -0.8 g at 77.0 ms

Pendulum Force

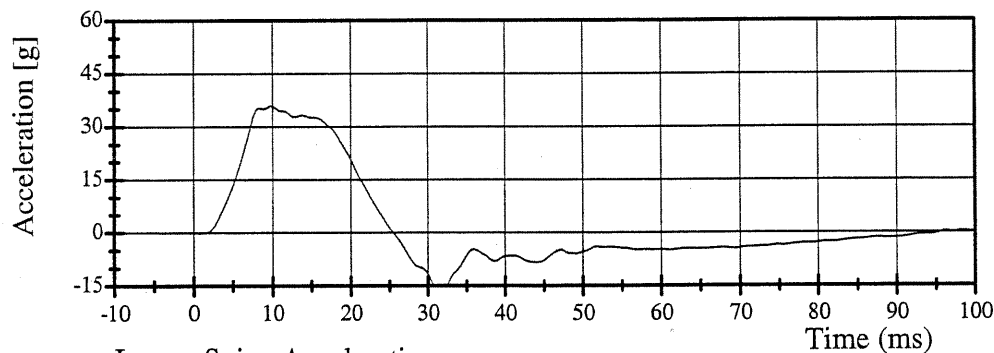


Filter Class: CFC 180

Max: 4708 N at 13.7 ms

Min: -115 N at 77.0 ms

Upper Spine Acceleration

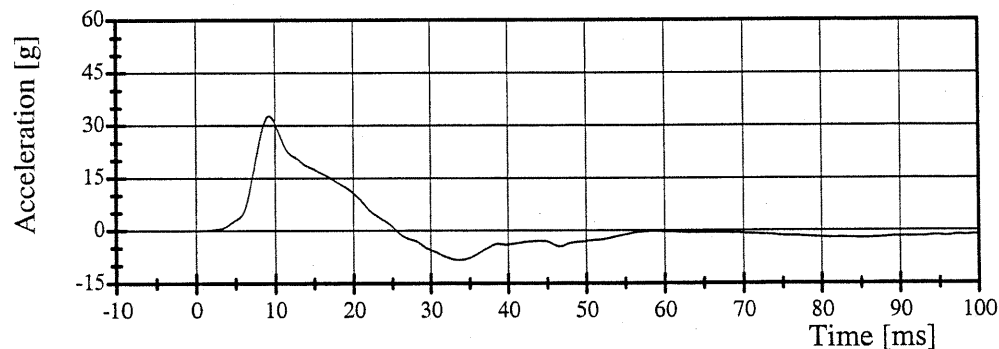


Filter Class: CFC 180

Max: 36.0 g at 9.8 ms

Min: -19.0 g at 31.6 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 32.8 g at 9.3 ms

Min: -8.4 g at 33.6 ms

08.08.2005 13:31:30 405



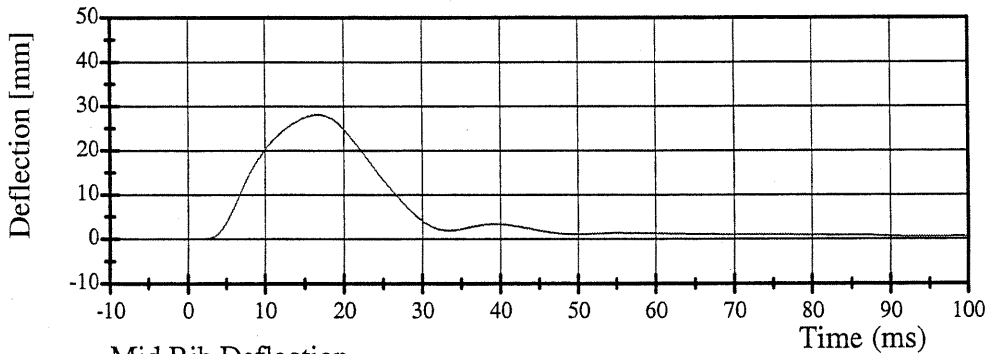
Transportation Research Center Inc.

Left Thorax With Arm Test

SID-II's Serial No. 056 Calibration No. 02 - 1

Test Date 08/02/2005

Upper Rib Deflection

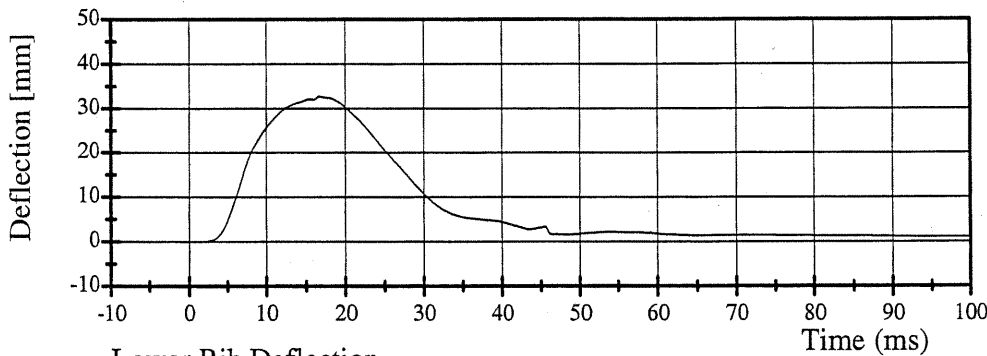


Filter Class: CFC 600

Max: 28.1 mm at 16.7 ms

Min: -0.0 mm at -3.4 ms

Mid Rib Deflection

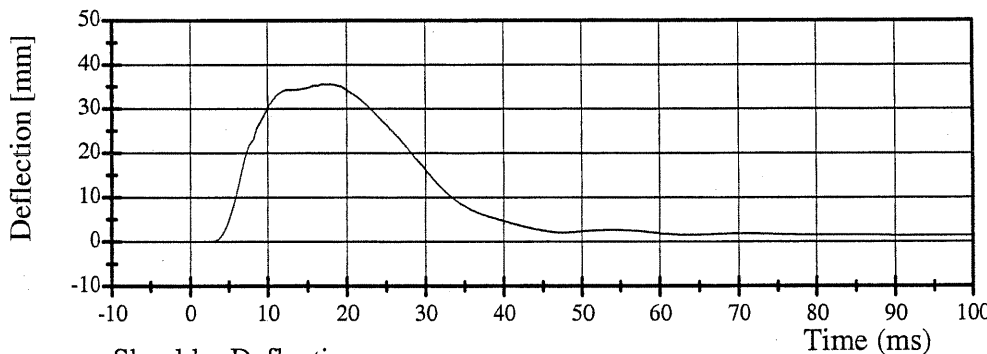


Filter Class: CFC 600

Max: 32.7 mm at 16.6 ms

Min: -0.0 mm at -17.0 ms

Lower Rib Deflection

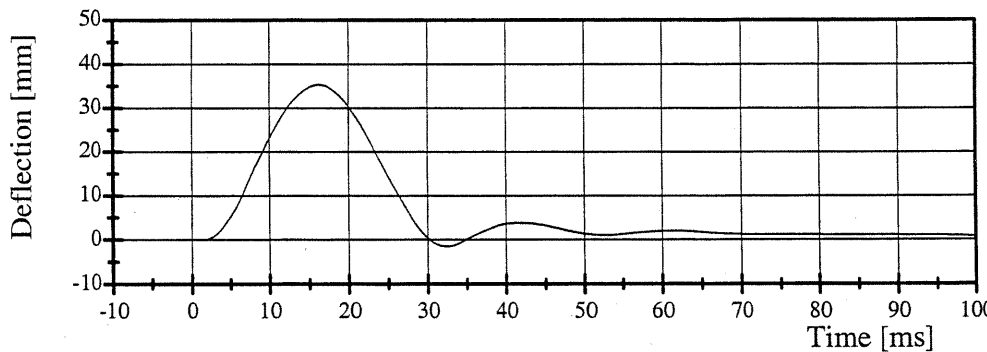


Filter Class: CFC 600

Max: 35.6 mm at 16.9 ms

Min: -0.0 mm at 2.6 ms

Shoulder Deflection



Filter Class: CFC 600

Max: 35.4 mm at 16.2 ms

Min: -1.5 mm at 32.5 ms

08.08.2005 13:31:30 405



Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIs Serial No. 056 Calibration No. 02 - 2

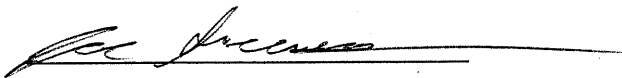
Test Date 08/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.3 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.31 m/sec	Yes
Pendulum Force	1800 - 2300 N	2304 N	No
Upper Spine Peak Acceleration	13 - 18 g	15.4 g	Yes
Lower Spine Peak Acceleration	8 - 13 g	10.1 g	Yes
Upper Rib Peak Deflection	32 - 41 mm	34.2 mm	Yes
Mid Rib Peak Deflection	40 - 51 mm	41.2 mm	Yes
Lower Rib Peak Deflection	34 - 47 mm	40.2 mm	Yes

Test does not meet specifications.

Comments:

Technician



Approved



08.08.2005 13:42:29 567



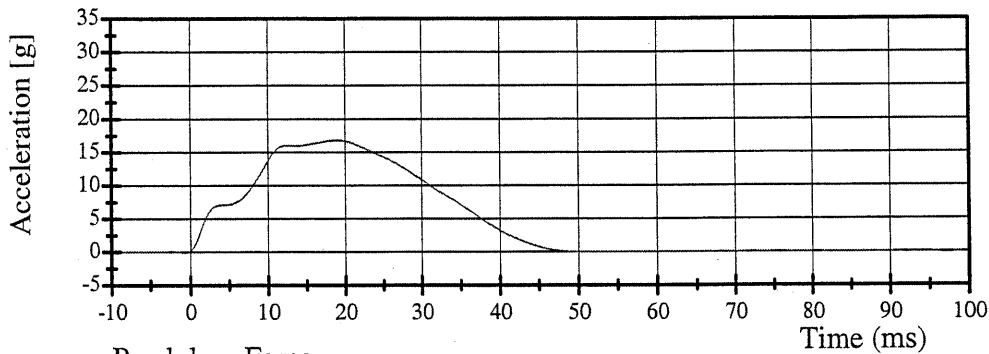
Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIs Serial No. 056 Calibration No. 02 - 2

Test Date 08/01/2005

Pendulum Deceleration

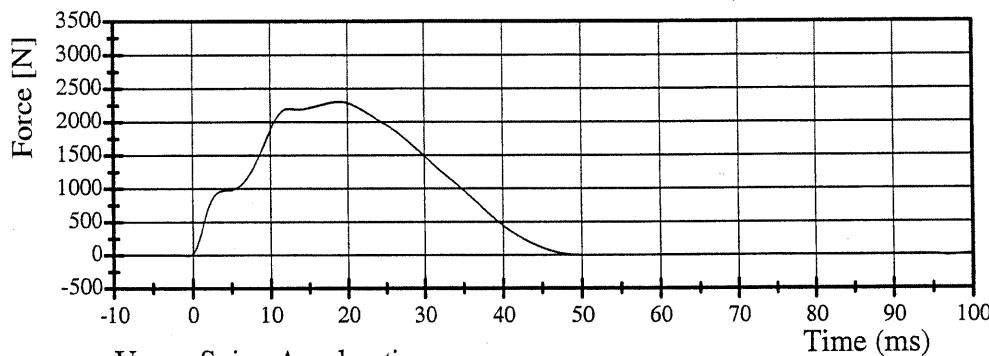


Filter Class: CFC 180

Max: 16.8 g at 19.0 ms

Min: -0.3 g at 115.4 ms

Pendulum Force

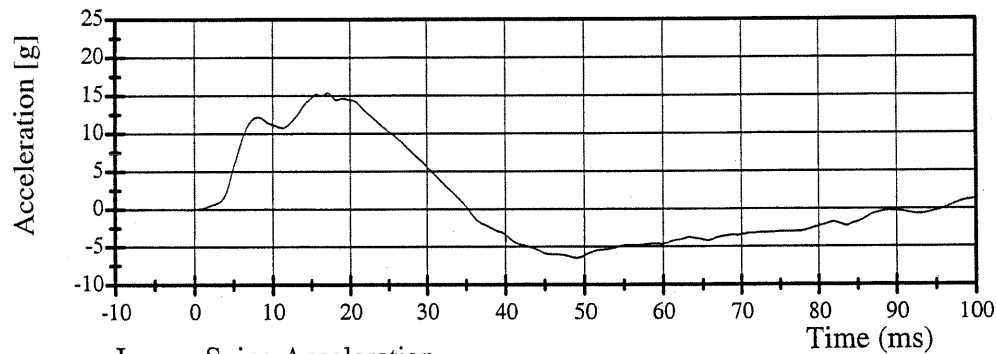


Filter Class: CFC 180

Max: 2304 N at 19.0 ms

Min: -35 N at 115.4 ms

Upper Spine Acceleration

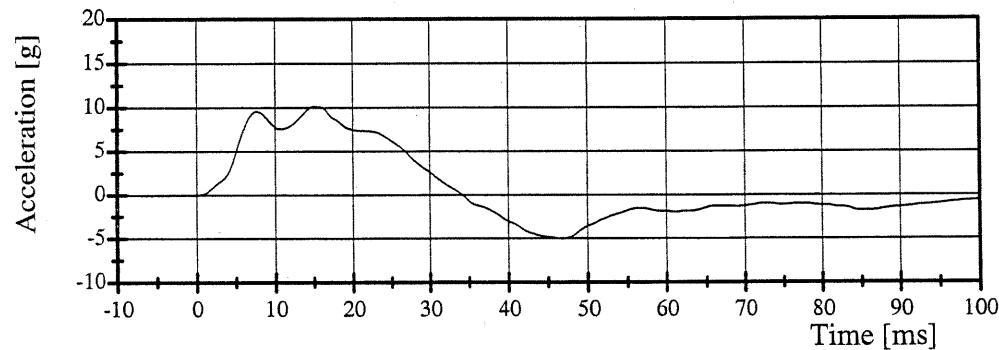


Filter Class: CFC 180

Max: 15.4 g at 17.2 ms

Min: -6.4 g at 49.0 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 10.1 g at 15.0 ms

Min: -5.0 g at 46.8 ms

08.08.2005 13:42:30 567



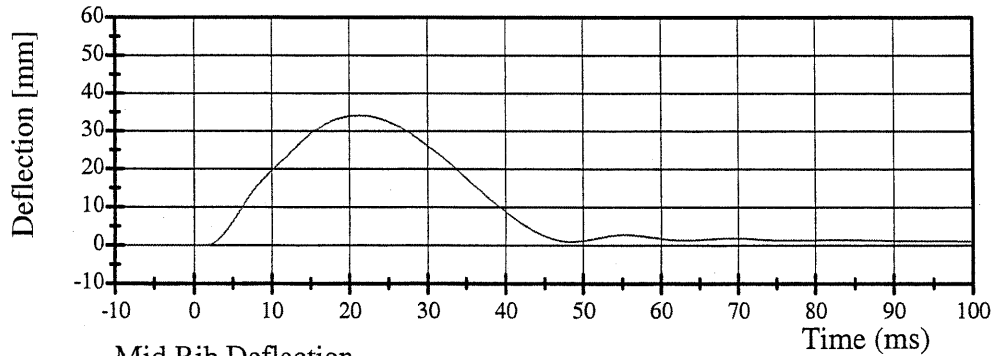
Transportation Research Center Inc.

Left Thorax Without Arm Test

SID-IIIs Serial No. 056 Calibration No. 02 - 2

Test Date 08/01/2005

Upper Rib Deflection

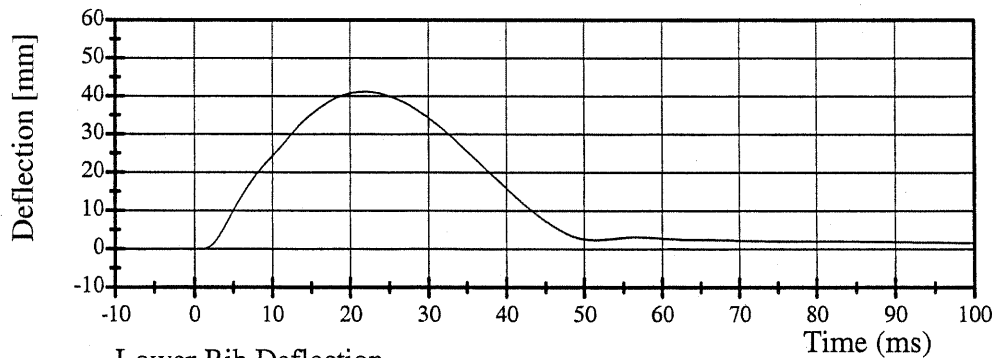


Filter Class: CFC 600

Max: 34.2 mm at 21.3 ms

Min: -0.0 mm at 1.4 ms

Mid Rib Deflection

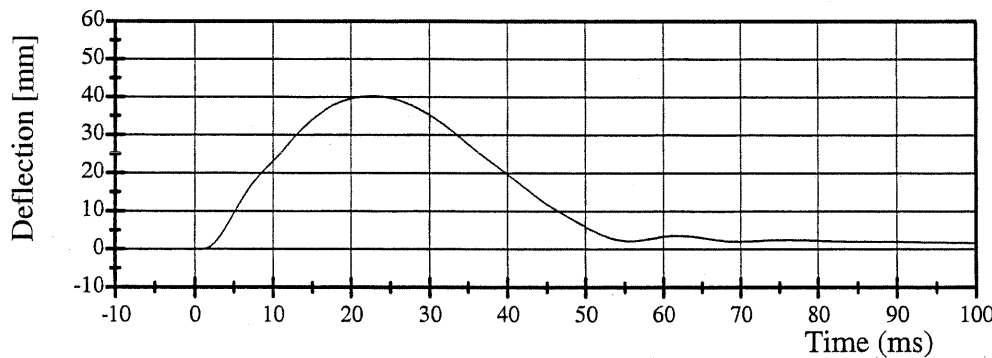


Filter Class: CFC 600

Max: 41.2 mm at 22.1 ms

Min: -0.0 mm at 1.0 ms

Lower Rib Deflection



Filter Class: CFC 600

Max: 40.2 mm at 23.0 ms

Min: -0.0 mm at 0.9 ms

Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 056 Calibration No. 02 - 02

Test Date 08/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	4.20 - 4.40 m/sec	4.38 m/sec	Yes
Pendulum Force	1300 - 1900 N	2104 N	No
Upper Spine Peak Acceleration	5 - 9 g	7.4 g	Yes
Lower Spine Peak Acceleration	9 - 13 g	11.8 g	Yes
Upper Abdomen Rib Peak Deflection	44 - 55 mm	43.5 mm	No
Lower Abdomen Rib Peak Deflection	44 - 56 mm	41.1 mm	No

Test does not meet specifications.

Comments:

Technician



Approved



08.08.2005 13:48:58 592



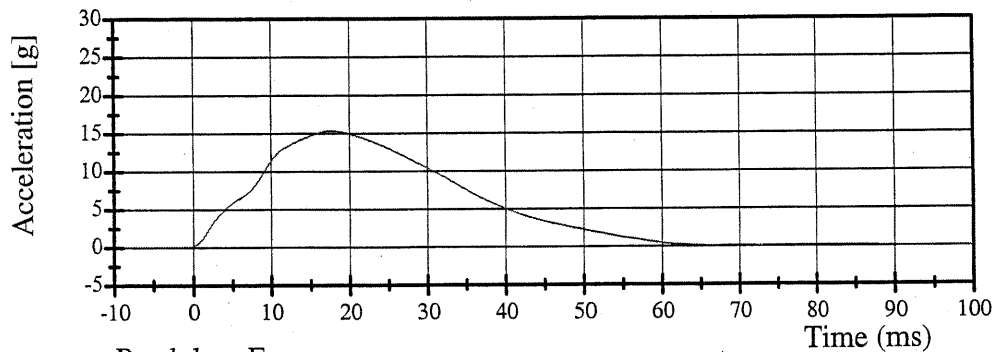
Transportation Research Center Inc.

Left Abdomen Test

SID-II's Serial No. 056 Calibration No. 02 - 02

Test Date 08/01/2005

Pendulum Deceleration

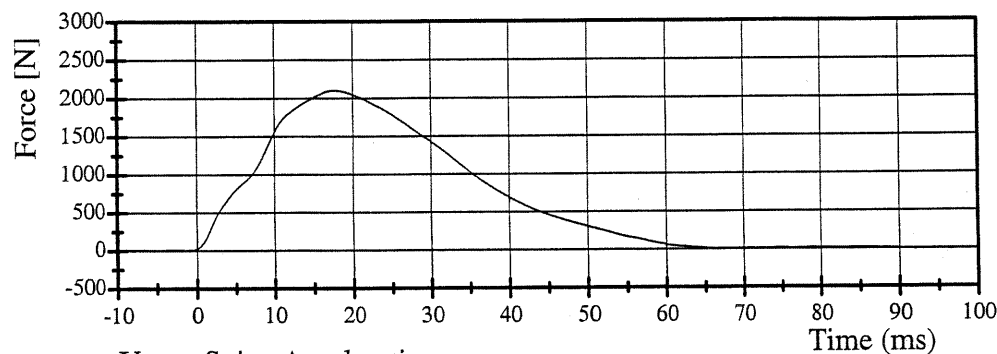


Filter Class: CFC 180

Max: 15.4 g at 17.7 ms

Min: -0.3 g at 138.8 ms

Pendulum Force

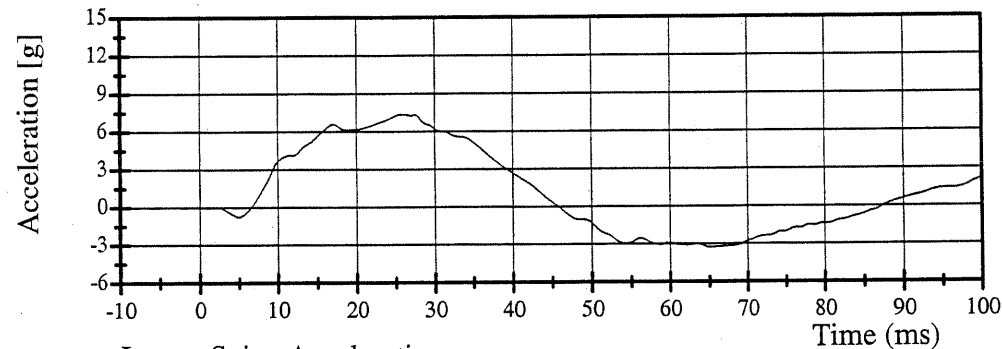


Filter Class: CFC 180

Max: 2104 N at 17.7 ms

Min: -35 N at 138.8 ms

Upper Spine Acceleration

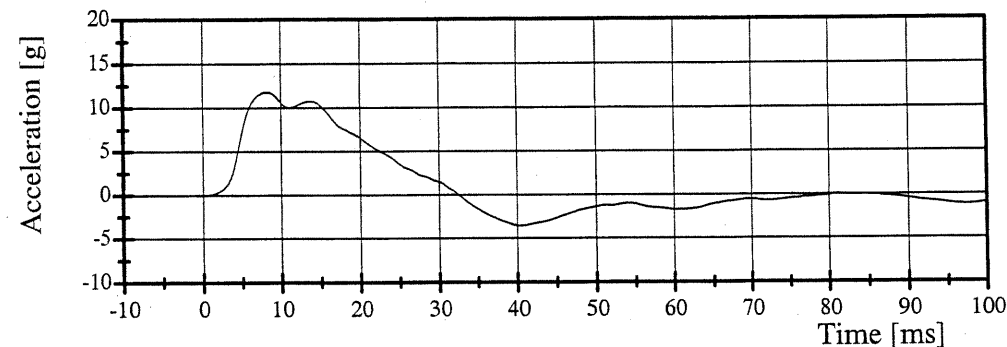


Filter Class: CFC 180

Max: 7.4 g at 26.0 ms

Min: -3.3 g at 65.0 ms

Lower Spine Acceleration



Filter Class: CFC 180

Max: 11.8 g at 8.2 ms

Min: -3.6 g at 40.4 ms

08.08.2005 13:48:58 592



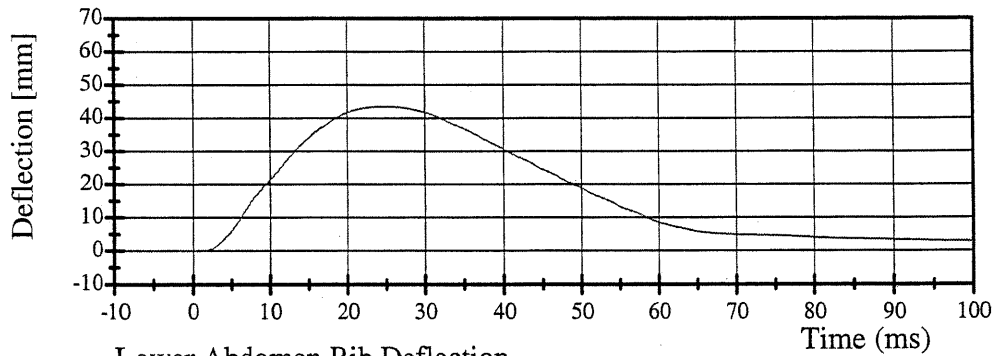
Transportation Research Center Inc.

Left Abdomen Test

SID-IIs Serial No. 056 Calibration No. 02 - 02

Test Date 08/01/2005

Upper Abdomen Rib Deflection

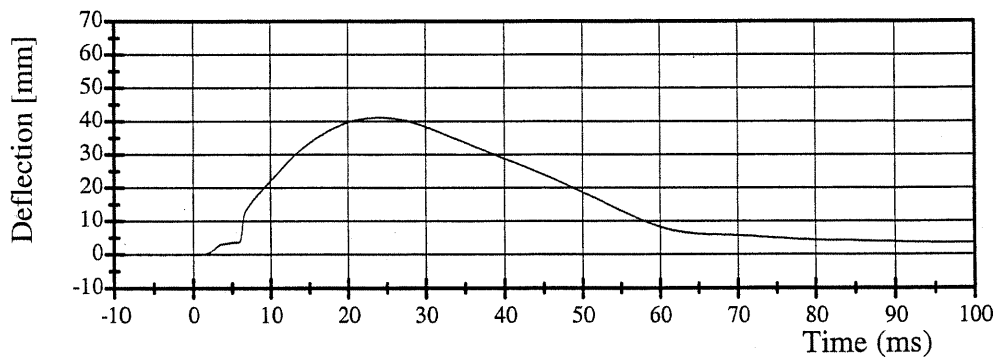


Filter Class: CFC 600

Max: 43.5 mm at 24.9 ms

Min: -0.0 mm at -45.4 ms

Lower Abdomen Rib Deflection



Filter Class: CFC 600

Max: 41.1 mm at 24.1 ms

Min: -0.0 mm at -37.0 ms

08.08.2005 13:48:59 592



Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 056 Calibration No. 02 - 2

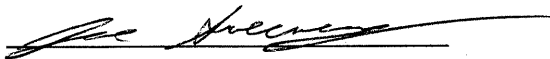
Test Date 08/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 C	21.2 C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	6.60 - 6.80 m/sec	6.65 m/sec	Yes
Pendulum Acceleration	40 - 48 g	40.3 g	Yes
Pelvis Peak Acceleration	40 - 48 g	43.3 g	Yes
Peak Acetabulum Force	3803 - 4505 g	3987 N	Yes

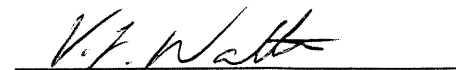
Test meets specifications.

Comments:

Technician



Approved



08.08.2005 14:56:49 418



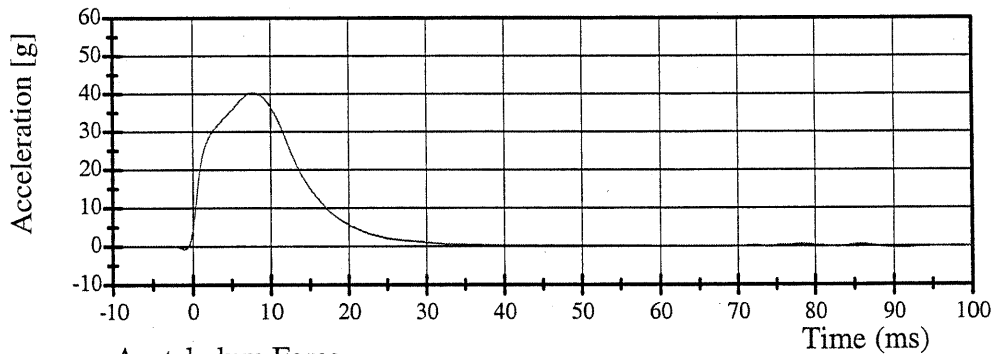
Transportation Research Center Inc.

Left Pelvis Test

SID-IIs Serial No. 056 Calibration No. 02 - 2

Test Date 08/02/2005

Pendulum Deceleration

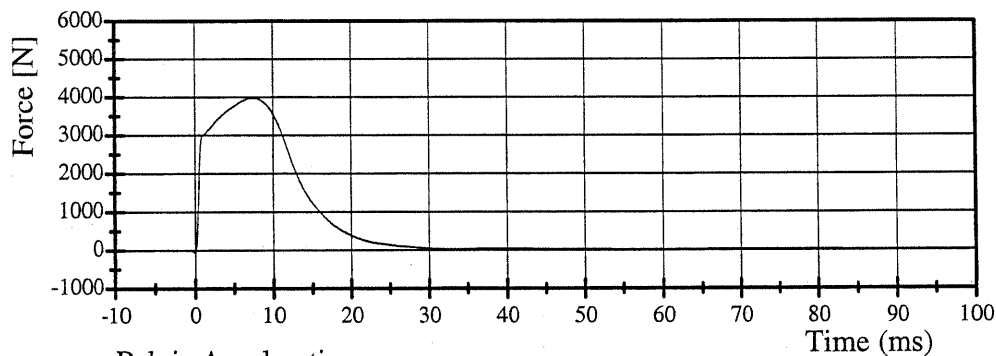


Filter Class: CFC 180

Max: 40.3 g at 7.8 ms

Min: -0.7 g at -1.0 ms

Acetabulum Force

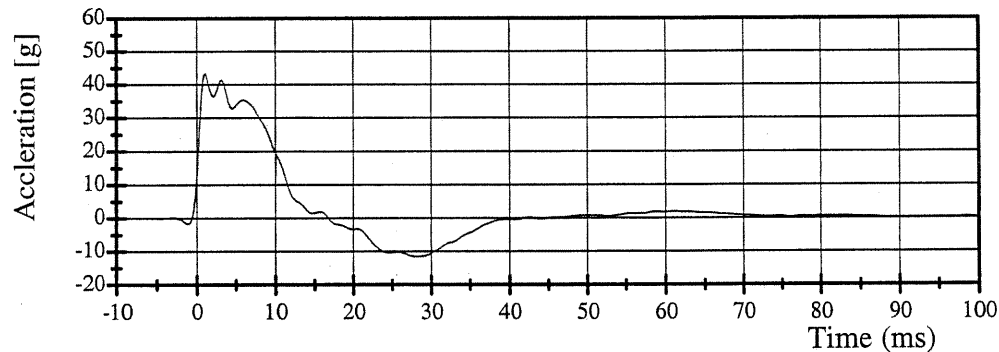


Filter Class: CFC 600

Max: 3987 N at 7.6 ms

Min: -64 N at 0.0 ms

Pelvis Acceleration



Filter Class: CFC 180

Max: 43.3 g at 1.0 ms

Min: -11.5 g at 28.2 ms

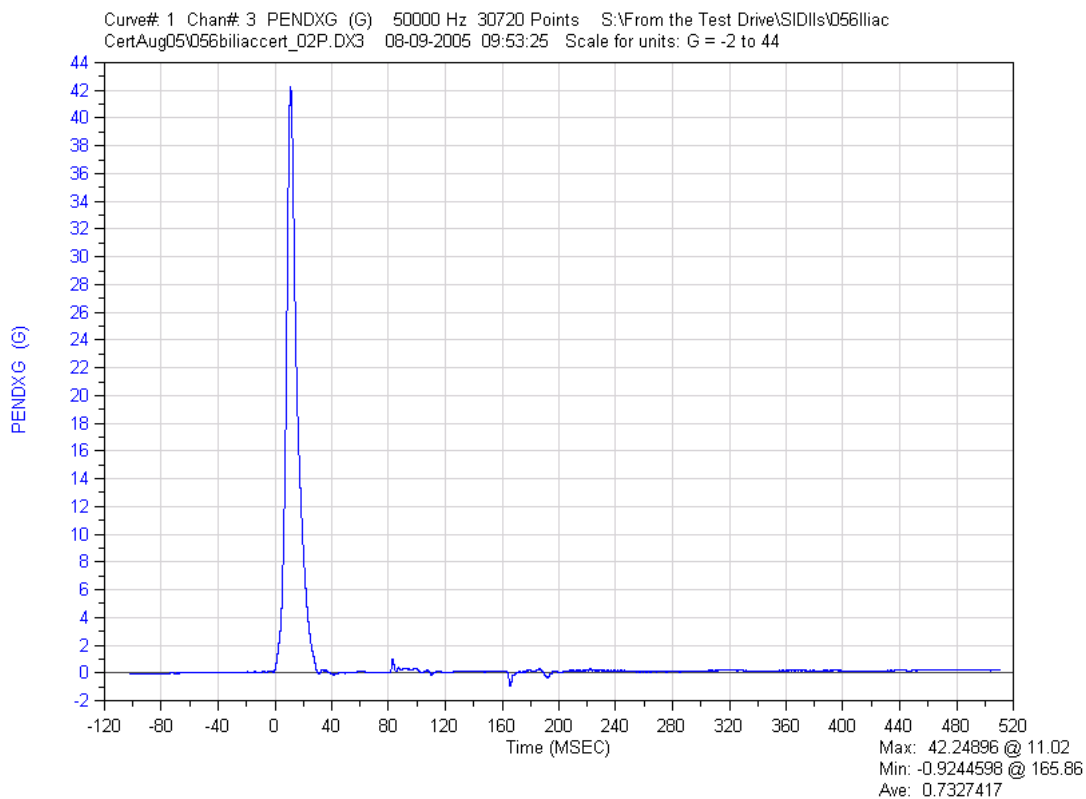
08.08.2005 14:56:50 418

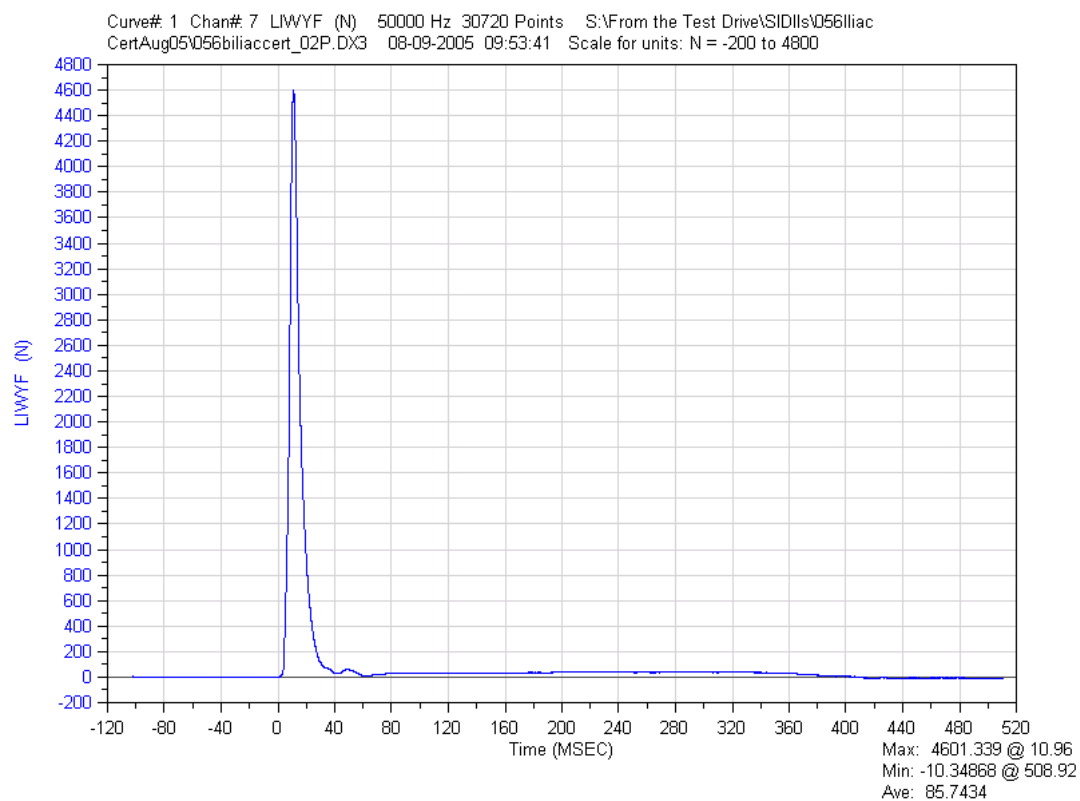
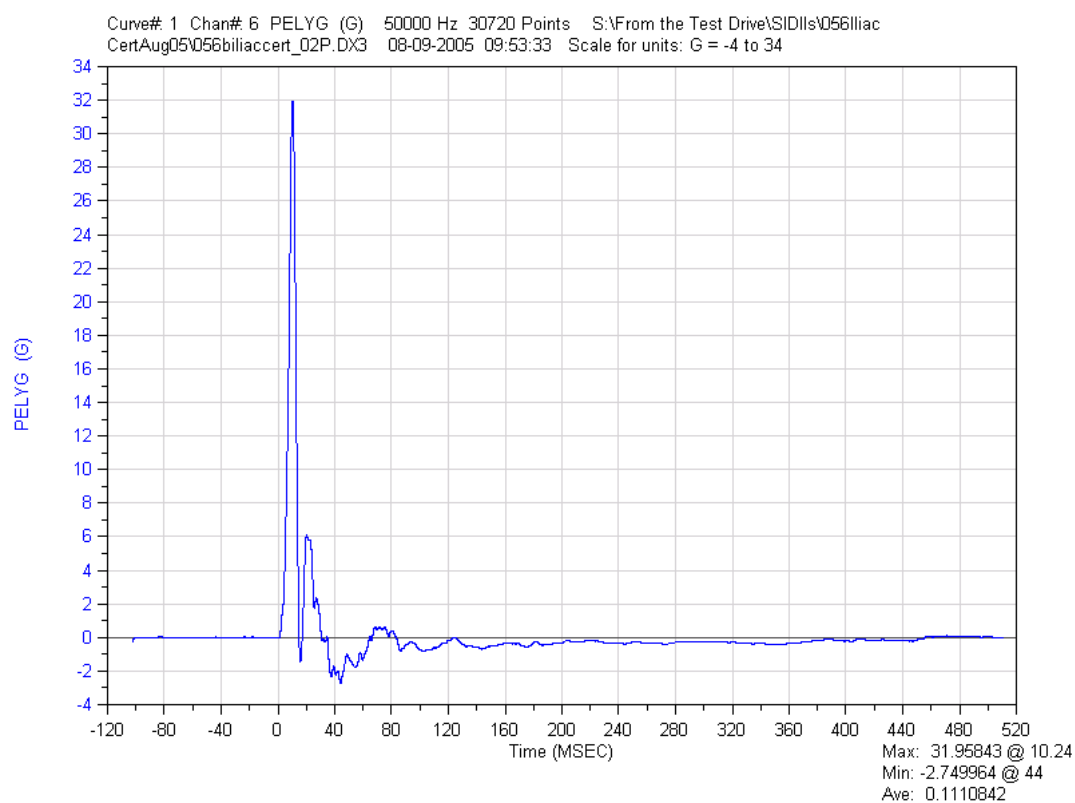


Test Parameter/Specification

Test Number	056biliaccert_02
Dummy S/N	056
Test Performer	VRTC
Date of Calibration	8/2/2005
Temperature (20.6 - 22.2 °C)	21.1
Relative Humidity (10 - 70 %)	47
Probe Velocity (4.2 - 4.4 m/s)	4.379
Maximum Probe Acceleration (41 - 47 g)	42.249
Maximum Pelvis Y Acceleration (32 - 40 g)	31.958
Maximum Iliac Force (4841 - 5491 N)	4601.339

Test Results





Appendix D

Miscellaneous Test Information

Sign Convention
SAE J211 MAR95

Accelerometers:

+X: Forward
+Y: Rightward
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward
+Chest lateral deflection: Rightward
+Seat belt displacement: Outward
+Seat belt extension: Elongation
+Knee slider displacement: Distance between femur and tibia
increased (in relation to a seated
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion
Right foot-inversion
+About the Y-axis: Left/right foot-dorsiflexion
+About the Z-axis: Left foot-internal
Right foot-external

Load cells:

+Femur force: Tension
+Seat belt force: Tension
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward
+Y force: Head pushed leftward
+Z force: Head pulled upward (tension on neck)
+X moment: Left ear rotating toward left shoulder
+Y moment: Chin rotating toward chest
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward
+Y force: Ankle rightward, knee leftward
+Z force: Tension
+X moment: Bottom of tibia moving leftward
+Y moment: Bottom of tibia moving rearward

Sign Convention, Continued
SAE J211 MAR95

<u>Lumbar load cells:</u>	+X force:	Chest rearward, pelvis forward
	+Y force:	Chest leftward, pelvis rightward
	+Z force:	Chest upward, pelvis downward
	+X moment:	Left shoulder toward left hip
	+Y moment:	Sternum toward front of legs
	+Z moment:	Right shoulder forward, left shoulder rearward

Frequency Response Classes
Used for 050729 Test

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Integration for velocity or displacement	180
Anthropomorphic Test Device	
Head accelerations	1000
Upper neck force	1000
Upper neck moment	600
Shoulder accelerations	1000
Shoulder force	600
Shoulder displacement	180
Spine acceleration	180
Rib Y-axis acceleration	180
Rib displacement	180
Lumbar moment	600
Pelvis acceleration	1000
Iliac wing force	600
Acetabulum force	600
Femur force	600
Femur moment	600

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

Channel Report Test Number 050729

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Assembly
1	Trig D1	10ZERO000000EV00	EVENT		1 Logic	
2	02I02I24-N07	11HEADCG00S2ACXA	Head Accel X	1000	g	1-020 SIDIIs FTSS.001
3	04J04I20-Z24	11HEADCG00S2ACYA	Head Accel Y	1000	g	1-020 SIDIIs FTSS.002
4	04J04I08-F24	11HEADCG00S2ACZA	Head Accel Z	1000	g	1-020 SIDIIs FTSS.003
5	IF-205-286-FX	11NECKUP00S2FOXA	Neck Force X	8896	N	1-020 SIDIIs FTSS.004
6	IF-205-286-FY	11NECKUP00S2FOYA	Neck Force Y	8896	N	1-020 SIDIIs FTSS.005
7	IF-205-286-FZ	11NECKUP00S2FOZA	Neck Force Z	13344	N	1-020 SIDIIs FTSS.006
8	IF-205-286-MX	11NECKUP00S2MOXA	Neck Moment X	282	N-m	1-020 SIDIIs FTSS.007
9	IF-205-286-MY	11NECKUP00S2MOYA	Neck Moment Y	282	N-m	1-020 SIDIIs FTSS.008
10	IF-205-286-MZ	11NECKUP00S2MOZA	Neck Moment Z	282	N-m	1-020 SIDIIs FTSS.009
11	01G18-F05	11SHLDLE00S2ACXA	Shoulder Accel X	2000	g	1-020 SIDIIs FTSS.016
12	04J04I20-Z06	11SHLDLE00S2ACYA	Shoulder Accel Y	2000	g	1-020 SIDIIs FTSS.017
13	03E03E18-F18	11SHLDLE00S2ACZA	Shoulder Accel Z	2000	g	1-020 SIDIIs FTSS.018
14	IF-344-110-FX	11SHLDLE00S2FOXA	Shoulder Force X	4448	N	1-020 SIDIIs FTSS.013
15	IF-344-110-FY	11SHLDLE00S2FOYA	Shoulder Force Y	4448	N	1-020 SIDIIs FTSS.014
16	IF-344-110-FZ	11SHLDLE00S2FOZA	Shoulder Force Z	4448	N	1-020 SIDIIs FTSS.015
17	3860-020SHD	11SHRILE00S2DSYA	Shoulder Disp. Y	75	mm	1-020 SIDIIs FTSS.019
18	03E03E18-F09	11SPIN0100S2ACXA	Upper Spine Accel X	2000	g	1-020 SIDIIs FTSS.010
19	04J04I01-R24	11SPIN0100S2ACYA	Upper Spine Accel Y	2000	g	1-020 SIDIIs FTSS.011
20	02I02I05-F04	11SPIN0100S2ACZA	Upper Spine Accel Z	2000	g	1-020 SIDIIs FTSS.012
21	04J04I07-Z15	11THSP01RIS2ACXA	Spine Rib 1 Accel X	2000	g	1-020 SIDIIs FTSS.020
22	04J04I20-A17	11THSP01RIS2ACYA	Spine Rib 1 Accel Y	2000	g	1-020 SIDIIs FTSS.021
23	03F03E29-N17	11THSP01RIS2ACZA	Spine Rib 1 Accel Z	2000	g	1-020 SIDIIs FTSS.022
24	03F03F09-N03	11THSP02RIS2ACXA	Spine Rib 2 Accel X	2000	g	1-020 SIDIIs FTSS.023
25	03E03E20-N14	11THSP02RIS2ACYA	Spine Rib 2 Accel Y	2000	g	1-020 SIDIIs FTSS.024
26	03E03E20-N12	11THSP02RIS2ACZA	Spine Rib 2 Accel Z	2000	g	1-020 SIDIIs FTSS.025
27	01H02-N07	11THSP03RIS2ACXA	Spine Rib 3 Accel X	2000	g	1-020 SIDIIs FTSS.026
28	00L20-A14	11THSP03RIS2ACYA	Spine Rib 3 Accel Y	2000	g	1-020 SIDIIs FTSS.027
29	03F03E29-N10	11THSP03RIS2ACZA	Spine Rib 3 Accel Z	2000	g	1-020 SIDIIs FTSS.028
30	01J02-F22	11SPIN1200S2ACXA	Lower Spine Accel X	2000	g	1-020 SIDIIs FTSS.029
31	B02A09-F04	11SPIN1200S2ACYA	Lower Spine Accel Y	2000	g	1-020 SIDIIs FTSS.030
32	01G25-N16	11SPIN1200S2ACZA	Lower Spine Accel Z	2000	g	1-020 SIDIIs FTSS.031
33	01G18-F13	11ABSP02RIS2ACXA	Spine Rib 5 Accel X	2000	g	1-020 SIDIIs FTSS.032
34	00L13-F37	11ABSP02RIS2ACYA	Spine Rib 5 Accel Y	2000	g	1-020 SIDIIs FTSS.033
35	01J02-F07	11ABSP02RIS2ACZA	Spine Rib 5 Accel Z	2000	g	1-020 SIDIIs FTSS.034
36	IF-414-107-MX	11LUSP0000S2MOXA	Lumbar Moment X	451	N-m	1-020 SIDIIs FTSS.058
37	IF-414-107-MY	11LUSP0000S2MOYA	Lumbar Moment Y	451	N-m	1-020 SIDIIs FTSS.059
38	IF-414-107-MZ	11LUSP0000S2MOZA	Lumbar Moment Z	226	N-m	1-020 SIDIIs FTSS.060
39	02I02I05-F24	11TRRI01LES2ACXA	Thorax Rib 1 Accel X	2000	g	1-020 SIDIIs FTSS.035
40	04J04I01-R11	11TRRI01LES2ACYA	Thorax Rib 1 Accel Y	2000	g	1-020 SIDIIs FTSS.036
41	98H10-F03	11TRRI01LES2ACZA	Thorax Rib 1 Accel Z	2000	g	1-020 SIDIIs FTSS.037

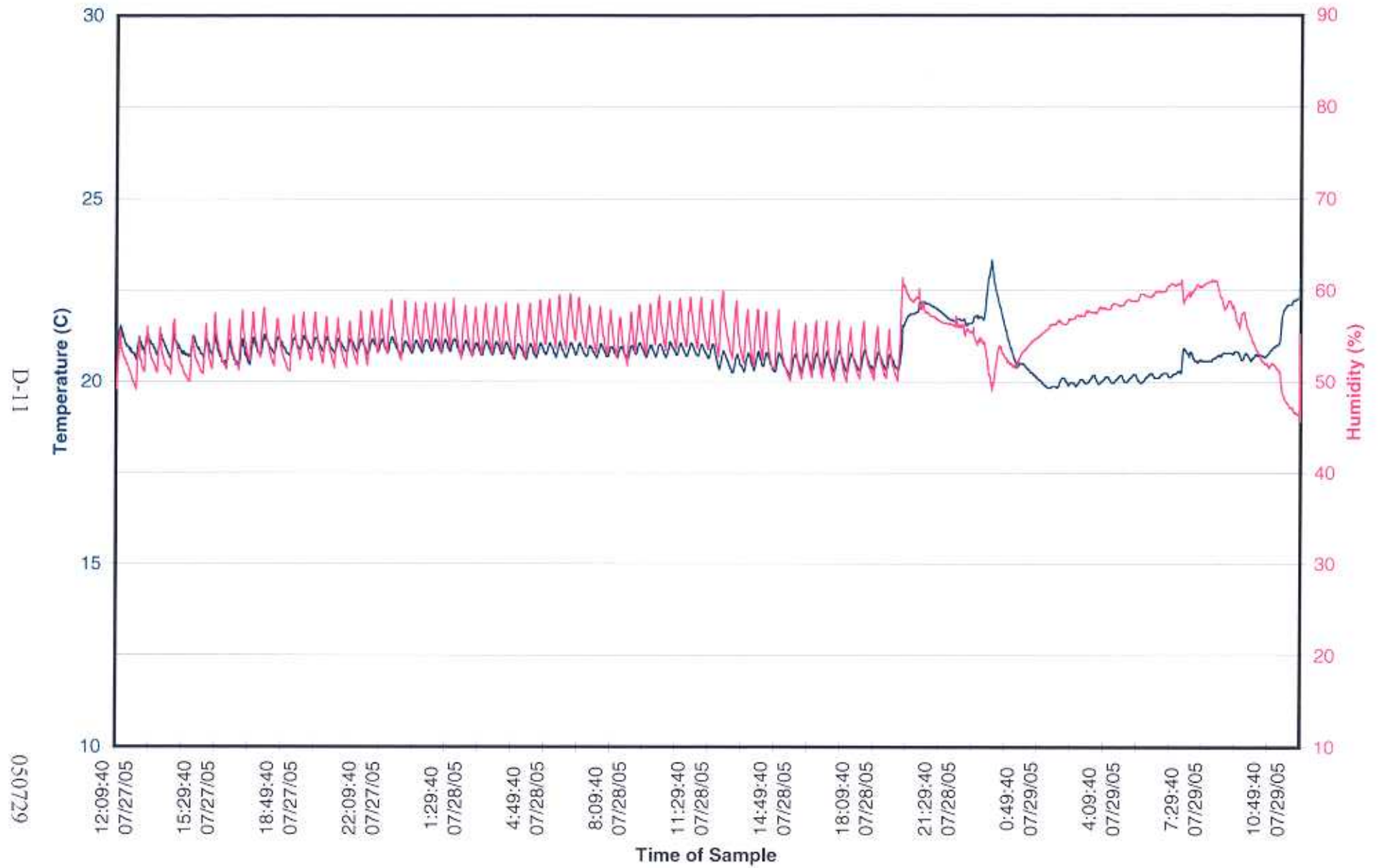
42	03E03E21-M09	11TRRI02LES2ACXA	Thorax Rib 2 Accel X	2000 g	1-020 SIDIIIs FTSS.038
43	01G18-F03	11TRRI02LES2ACYA	Thorax Rib 2 Accel Y	2000 g	1-020 SIDIIIs FTSS.039
44	03E03E20-N13	11TRRI02LES2ACZA	Thorax Rib 2 Accel Z	2000 g	1-020 SIDIIIs FTSS.040
45	04J04I01-R09	11TRRI03LES2ACXA	Thorax Rib 3 Accel X	2000 g	1-020 SIDIIIs FTSS.041
46	98H13-F11	11TRRI03LES2ACYA	Thorax Rib 3 Accel Y	2000 g	1-020 SIDIIIs FTSS.042
47	03D03D09-N02	11TRRI03LES2ACZA	Thorax Rib 3 Accel Z	2000 g	1-020 SIDIIIs FTSS.043
48	02A16-A15	11ABRI01LES2ACXA	Abdomen Rib 1 Accel X	2000 g	1-020 SIDIIIs FTSS.044
49	99H12-F26	11ABRI01LES2ACYA	Abdomen Rib 1 Accel Y	2000 g	1-020 SIDIIIs FTSS.045
50	02I02I05-F22	11ABRI01LES2ACZA	Abdomen Rib 1 Accel Z	2000 g	1-020 SIDIIIs FTSS.046
51	04J04I10-H10	11ABRI02LES2ACXA	Abdomen Rib 2 Accel X	2000 g	1-020 SIDIIIs FTSS.047
52	04J04I20-Z18	11ABRI02LES2ACYA	Abdomen Rib 2 Accel Y	2000 g	1-020 SIDIIIs FTSS.048
53	02I02I05-F09	11ABRI02LES2ACZA	Abdomen Rib 2 Accel Z	2000 g	1-020 SIDIIIs FTSS.049
54	3861-020RB1	11TRRI01LES2DSYA	Thorax Rib 1 Disp. Y	75 mm	1-020 SIDIIIs FTSS.050
55	3861-020RB2	11TRRI02LES2DSYA	Thorax Rib 2 Disp. Y	75 mm	1-020 SIDIIIs FTSS.051
56	3861-020RB3	11TRRI03LES2DSYA	Thorax Rib 3 Disp. Y	75 mm	1-020 SIDIIIs FTSS.052
57	3861-020RB4	11ABRI01LES2DSYA	Abdomen Rib 1 Disp. Y	75 mm	1-020 SIDIIIs FTSS.053
58	3861-020RB5	11ABRI02LES2DSYA	Abdomen Rib 2 Disp. Y	75 mm	1-020 SIDIIIs FTSS.054
59	01J02-F16	11PELVCG00S2ACXA	Pelvis Accel X	2000 g	1-020 SIDIIIs FTSS.061
60	03E03E18-F03	11PELVCG00S2ACYA	Pelvis Accel Y	2000 g	1-020 SIDIIIs FTSS.062
61	03F03E29-N13	11PELVCG00S2ACZA	Pelvis Accel Z	2000 g	1-020 SIDIIIs FTSS.063
62	IF-520-115-FY	11ACTBLE00S2FOYA	Left Acetabulum Force Y	8896 N	1-020 SIDIIIs FTSS.064
63	IF-507-112-FY	11ILACLE00S2FOYA	Left Iliac Wing Force Y	13344 N	1-020 SIDIIIs FTSS.065
64	IF-625-107-FX	11FEMRLE00S2FOXA	Left Femur Force X	13344 N	1-020 SIDIIIs FTSS.066
65	IF-625-107-FY	11FEMRLE00S2FOYA	Left Femur Force Y	13344 N	1-020 SIDIIIs FTSS.067
66	IF-625-107-FZ	11FEMRLE00S2FOZA	Left Femur Force Z	22240 N	1-020 SIDIIIs FTSS.068
67	IF-625-107-MX	11FEMRLE00S2MOXA	Left Femur Moment X	339 N-m	1-020 SIDIIIs FTSS.069
68	IF-625-107-MY	11FEMRLE00S2MOYA	Left Femur Moment Y	339 N-m	1-020 SIDIIIs FTSS.070
69	IF-625-107-MZ	11FEMRLE00S2MOZA	Left Femur Moment Z	339 N-m	1-020 SIDIIIs FTSS.071
70	IF-625-142-FX	11FEMRRI00S2FOXA	Right Femur Force X	13344 N	1-020 SIDIIIs FTSS.072
71	IF-625-142-FY	11FEMRRI00S2FOYA	Right Femur Force Y	13344 N	1-020 SIDIIIs FTSS.073
72	IF-625-142-FZ	11FEMRRI00S2FOZA	Right Femur Force Z	22240 N	1-020 SIDIIIs FTSS.074
73	IF-625-142-MX	11FEMRRI00S2MOXA	Right Femur Moment X	339 N	1-020 SIDIIIs FTSS.075
74	IF-625-142-MY	11FEMRRI00S2MOYA	Right Femur Moment Y	339 N	1-020 SIDIIIs FTSS.076
75	IF-625-142-MZ	11FEMRRI00S2MOZA	Right Femur Moment Z	339 N	1-020 SIDIIIs FTSS.077
76	03F03E29-N04	14HEADCG00S2ACXA	Head Accel X	1000 g	4-056 SIDIIIs FTSS.001
77	01G18-F08	14HEADCG00S2ACYA	Head Accel Y	1000 g	4-056 SIDIIIs FTSS.002
78	03E03E18-F21	14HEADCG00S2ACZA	Head Accel Z	1000 g	4-056 SIDIIIs FTSS.003
79	IF-205-283-FX	14NECKUP00S2FOXA	Neck Force X	8896 N	4-056 SIDIIIs FTSS.004
80	IF-205-283-FY	14NECKUP00S2FOYA	Neck Force Y	8896 N	4-056 SIDIIIs FTSS.005
81	IF-205-283-FZ	14NECKUP00S2FOZA	Neck Force Z	13344 N	4-056 SIDIIIs FTSS.006
82	IF-205-283-MX	14NECKUP00S2MOXA	Neck Moment X	282 N	4-056 SIDIIIs FTSS.007
83	IF-205-283-MY	14NECKUP00S2MOYA	Neck Moment Y	282 N	4-056 SIDIIIs FTSS.008
84	IF-205-283-MZ	14NECKUP00S2MOZA	Neck Moment Z	282 N	4-056 SIDIIIs FTSS.009

85	03E03E20-N05	14SHLDLE00S2ACXA	Shoulder Accel X	2000 g	4-056 SIDIIIs FTSS.016
86	03D03D16-F13	14SHLDLE00S2ACYA	Shoulder Accel Y	2000 g	4-056 SIDIIIs FTSS.017
87	02I02I05-F07	14SHLDLE00S2ACZA	Shoulder Accel Z	2000 g	4-056 SIDIIIs FTSS.018
88	3167-142-FX	14SHLDLE00S2FOXA	Shoulder Force X	4448 N	4-056 SIDIIIs FTSS.013
89	3167-142-FY	14SHLDLE00S2FOYA	Shoulder Force Y	4448 N	4-056 SIDIIIs FTSS.014
90	3167-142-FZ	14SHLDLE00S2FOZA	Shoulder Force Z	4448 N	4-056 SIDIIIs FTSS.015
91	180-3860-056SHLD	14SHRILE00S2DSYA	Shoulder Disp. Y	75 mm	4-056 SIDIIIs FTSS.019
92	P17846	14SPIN0100S2ACXA	Upper Spine Accel X	2000 g	4-056 SIDIIIs FTSS.010
93	00L13-F71	14SPIN0100S2ACYA	Upper Spine Accel Y	2000 g	4-056 SIDIIIs FTSS.011
94	02I02I05-F14	14SPIN0100S2ACZA	Upper Spine Accel Z	2000 g	4-056 SIDIIIs FTSS.012
95	03F03E29-N21	14THSP01RIS2ACXA	Spine Rib 1 Accel X	2000 g	4-056 SIDIIIs FTSS.020
96	04J04I01-R04	14THSP01RIS2ACYA	Spine Rib 1 Accel Y	2000 g	4-056 SIDIIIs FTSS.021
97	04J04I20-Z05	14THSP01RIS2ACZA	Spine Rib 1 Accel Z	2000 g	4-056 SIDIIIs FTSS.022
98	03D03D16-F18	14THSP02RIS2ACXA	Spine Rib 2 Accel X	2000 g	4-056 SIDIIIs FTSS.023
99	01G18-F15	14THSP02RIS2ACYA	Spine Rib 2 Accel Y	2000 g	4-056 SIDIIIs FTSS.024
100	01G18-F12	14THSP02RIS2ACZA	Spine Rib 2 Accel Z	2000 g	4-056 SIDIIIs FTSS.025
101	04J04I20-Z14	14THSP03RIS2ACXA	Spine Rib 3 Accel X	2000 g	4-056 SIDIIIs FTSS.026
102	03D03D09-N10	14THSP03RIS2ACYA	Spine Rib 3 Accel Y	2000 g	4-056 SIDIIIs FTSS.027
103	03F03F09-N17	14THSP03RIS2ACZA	Spine Rib 3 Accel Z	2000 g	4-056 SIDIIIs FTSS.028
104	04J04I01-R18	14SPIN1200S2ACXA	Lower Spine Accel X	2000 g	4-056 SIDIIIs FTSS.029
105	03E03D30-N04	14SPIN1200S2ACYA	Lower Spine Accel Y	2000 g	4-056 SIDIIIs FTSS.030
106	04J04I01-R10	14SPIN1200S2ACZA	Lower Spine Accel Z	2000 g	4-056 SIDIIIs FTSS.031
107	04J04I08-F25	14ABSP02RIS2ACXA	Spine Rib 5 Accel X	2000 g	4-056 SIDIIIs FTSS.032
108	00L13-F04	14ABSP02RIS2ACYA	Spine Rib 5 Accel Y	2000 g	4-056 SIDIIIs FTSS.033
109	04J04I20-Z08	14ABSP02RIS2ACZA	Spine Rib 5 Accel Z	2000 g	4-056 SIDIIIs FTSS.034
110	IF-414-101-MX	14LUSP0000S2MOXA	Lumbar Moment X	451 N	4-056 SIDIIIs FTSS.058
111	IF-414-101-MY	14LUSP0000S2MOYA	Lumbar Moment Y	451 N	4-056 SIDIIIs FTSS.059
112	IF-414-101-MZ	14LUSP0000S2MOZA	Lumbar Moment Z	226 N	4-056 SIDIIIs FTSS.060
113	02I02I10-N22	14TRRI01LES2ACXA	Thorax Rib 1 Accel X	2000 g	4-056 SIDIIIs FTSS.035
114	99H12-F11	14TRRI01LES2ACYA	Thorax Rib 1 Accel Y	2000 g	4-056 SIDIIIs FTSS.036
115	03E03E20-N04	14TRRI01LES2ACZA	Thorax Rib 1 Accel Z	2000 g	4-056 SIDIIIs FTSS.037
116	02A16-A07	14TRRI02LES2ACXA	Thorax Rib 2 Accel X	2000 g	4-056 SIDIIIs FTSS.038
117	02I02I05-F23	14TRRI02LES2ACYA	Thorax Rib 2 Accel Y	2000 g	4-056 SIDIIIs FTSS.039
118	02A16-A10	14TRRI02LES2ACZA	Thorax Rib 2 Accel Z	2000 g	4-056 SIDIIIs FTSS.040
119	04J04I07-Z16	14TRRI03LES2ACXA	Thorax Rib 3 Accel X	2000 g	4-056 SIDIIIs FTSS.041
120	04J04I01-R06	14TRRI03LES2ACYA	Thorax Rib 3 Accel Y	2000 g	4-056 SIDIIIs FTSS.042
121	04J04I01-R13	14TRRI03LES2ACZA	Thorax Rib 3 Accel Z	2000 g	4-056 SIDIIIs FTSS.043
122	03D03D16-F04	14ABRI01LES2ACXA	Abdomen Rib 1 Accel X	2000 g	4-056 SIDIIIs FTSS.044
123	03D03D09-N07	14ABRI01LES2ACYA	Abdomen Rib 1 Accel Y	2000 g	4-056 SIDIIIs FTSS.045
124	04J04I20-Z23	14ABRI01LES2ACZA	Abdomen Rib 1 Accel Z	2000 g	4-056 SIDIIIs FTSS.046
125	99H12-F20	14ABRI02LES2ACXA	Abdomen Rib 2 Accel X	2000 g	4-056 SIDIIIs FTSS.047
126	99H12-F24	14ABRI02LES2ACYA	Abdomen Rib 2 Accel Y	2000 g	4-056 SIDIIIs FTSS.048
127	03E03E21-M19	14ABRI02LES2ACZA	Abdomen Rib 2 Accel Z	2000 g	4-056 SIDIIIs FTSS.049

128	180-3860-056RIB1	14TRRI01LES2DSYA	Thorax Rib 1 Disp. Y	75 mm	4-056 SIDIIs FTSS.050
129	180-3860-056RIB2	14TRRI02LES2DSYA	Thorax Rib 2 Disp. Y	75 mm	4-056 SIDIIs FTSS.051
130	180-3860-056RIB3	14TRRI03LES2DSYA	Thorax Rib 3 Disp. Y	75 mm	4-056 SIDIIs FTSS.052
131	180-3860-056RIB4	14ABRI01LES2DSYA	Abdomen Rib 1 Disp. Y	75 mm	4-056 SIDIIs FTSS.053
132	180-3860-056RIB5	14ABRI02LES2DSYA	Abdomen Rib 2 Disp. Y	75 mm	4-056 SIDIIs FTSS.054
133	01G25-N14	14PELVCG00S2ACXA	Pelvis Accel X	2000 g	4-056 SIDIIs FTSS.061
134	01G25-N05	14PELVCG00S2ACYA	Pelvis Accel Y	2000 g	4-056 SIDIIs FTSS.062
135	03E03E18-F05	14PELVCG00S2ACZA	Pelvis Accel Z	2000 g	4-056 SIDIIs FTSS.063
136	IF-520-102-FY	14ACTBLE00S2FOYA	Left Acetabulum Force Y	8896 N	4-056 SIDIIs FTSS.064
137	IF-507-101-FY	14ILACLE00S2FOYA	Left Iliac Wing Force Y	13344 N	4-056 SIDIIs FTSS.065
138	IF-625-110-FX	14FEMRLE00S2FOXA	Left Femur Force X	13344 N	4-056 SIDIIs FTSS.066
139	IF-625-110-FY	14FEMRLE00S2FOYA	Left Femur Force Y	13344 N	4-056 SIDIIs FTSS.067
140	IF-625-110-FZ	14FEMRLE00S2FOZA	Left Femur Force Z	22240 N	4-056 SIDIIs FTSS.068
141	IF-625-110-MX	14FEMRLE00S2MOXA	Left Femur Moment X	339 N·m	4-056 SIDIIs FTSS.069
142	IF-625-110-MY	14FEMRLE00S2MOYA	Left Femur Moment Y	339 N·m	4-056 SIDIIs FTSS.070
143	IF-625-110-MZ	14FEMRLE00S2MOZA	Left Femur Moment Z	339 N·m	4-056 SIDIIs FTSS.071
144	IF-625-111-FX	14FEMRRI00S2FOXA	Right Femur Force X	13344 N	4-056 SIDIIs FTSS.072
145	IF-625-111-FY	14FEMRRI00S2FOYA	Right Femur Force Y	13344 N	4-056 SIDIIs FTSS.073
146	IF-625-111-FZ	14FEMRRI00S2FOZA	Right Femur Force Z	22240 N	4-056 SIDIIs FTSS.074
147	IF-625-111-MX	14FEMRRI00S2MOXA	Right Femur Moment X	339 N·m	4-056 SIDIIs FTSS.075
148	IF-625-111-MY	14FEMRRI00S2MOYA	Right Femur Moment Y	339 N·m	4-056 SIDIIs FTSS.076
149	IF-625-111-MZ	14FEMRRI00S2MOZA	Right Femur Moment Z	339 N·m	4-056 SIDIIs FTSS.077
150	P47510	16SILBFR0000ACXA	Right Side Sill at Front Seat X-axis Acceleration	400 g	
151	P46502	16SILBFR0000ACYA	Right Side Sill at Front Seat Y-axis Acceleration	1000 g	
152	P46470	16SILBFR0000ACZA	Right Side Sill at Front Seat Z-axis Acceleration	400 g	
153	P47505	16SILBRE0000ACXA	Right Side Sill at Rear Seat X-axis Acceleration	400 g	
154	P47324	16SILBRE0000ACYA	Right Side Sill at Rear Seat Y-axis Acceleration	1000 g	
155	P47496	16SILBRE0000ACZA	Right Side Sill at Rear Seat Z-axis Acceleration	400 g	
156	P46013	18FORA000000ACXA	Rear Floorpan Above Axle X-axis Acceleration	1000 g	
157	P42130	18FORA000000ACYA	Rear Floorpan Above Axle Y-axis Acceleration	1000 g	
158	P45713	18FORA000000ACZA	Rear Floorpan Above Axle Z-axis Acceleration	1000 g	
159	P29195	14SILBRE0000ACYA	Left Side Sill at Rear Seat Y-axis Acceleration	1000 g	
160	P44291	14SILBFR0000ACYA	Left Side Sill at Front Seat Y-axis Acceleration	1000 g	
161	P33575	16VEHCRE0000ACYA	Right Rear Occupant Compartment Y-axis Accel	1500 g	
162	P44306	14BPILLO0000ACYA	Left Lower B-Post Y-axis Accel	1500 g	
163	P39842	14BPILMI0000ACYA	Left Middle B-Post Y-axis Accel	1500 g	
164	P47475	11APILLO0000ACYA	Left Lower A-Post Y-axis Accel	1500 g	
165	P39875	11APILMI0000ACYA	Left Middle A-Post Y-axis Accel	1500 g	
166	P42139	11SETTRFR0000ACYA	Left Front Seat Track Y-axis Acceleration	1500 g	
167	P38078	14SETRLERE00ACYA	Left Rear Seat Track Y-axis Acceleration	1500 g	
168	P39840	10VEHCCG0000ACXA	Vehicle Center of Gravity X-axis Acceleration	1000 g	
169	P41564	10VEHCCG0000ACYA	Vehicle Center of Gravity Y-axis Acceleration	1000 g	
170	P39974	10VEHCCG0000ACZA	Vehicle Center of Gravity Z-axis Acceleration	1000 g	

171 P47320	12ENGN000000ACXA	Top of Engine X-axis Acceleration	1000 g
172 P46048	12ENGN000000ACYA	Top of Engine Y-axis Acceleration	1000 g
173 P46497	12VEHC000000ACXA	Firewall X-axis Acceleration	1000 g
174 P46485	12VEHC000000ACYA	Firewall Y-axis Acceleration	1000 g
175 P46503	13ROFR000000ACXA	Right Roof Rail X-axis Acceleration	1000 g
176 P47509	13ROFR000000ACYA	Right Roof Rail Y-axis Acceleration	1000 g
177 P46053	11DOOR000001ACYA	Left Front Door centerline 430 mm above ground Y-axis accel (NHTSA #6)	1000 g
178 P45686	11DOOR000002ACYA	Left Front Door mid-rear 430 mm above ground Y-axis accel (NHTSA #8)	1000 g
179 P46066	11DOOR000003ACYA	Left Front Door upper centerline 685 mm above ground Y-axis accel (NHTSA #9)	1000 g
180 P40166	14DOOR000001ACYA	Left Rear Door mid-rear 685 mm above ground Y-axis accel (NHTSA #10)	1000 g
181 P47326	14DOOR000002ACYA	Left Rear Door upper centerline 685 mm above ground Y-axis accel (NHTSA #11)	1000 g
182 ABFire1	11SENS000001VO0A	Side torso Airbag fire	5 V
183 ABFire2	11SENS000002VO0A	Side curtain airbag fire	5 V
184 ABFire3	13SENS000001VO0A	Non-struck Side torso Airbag fire (disable bag)	5 V
185 ABFire4	13SENS000002VO0A	Non-struck Side curtain airbag fire (disable bag)	5 V
186 P46504	M0VEHCCG00000ACXA	MDB Center of Gravity X-axis Acceleration	600 g
187 P46468	M0VEHCCG00000ACYA	MDB Center of Gravity Y-axis Acceleration	600 g
188 P47491	M0VEHCCG00000ACZA	MDB Center of Gravity Z-axis Acceleration	600 g
189 P39982	M7FRAM000000ACXA	MDB Left Rear X-axis Acceleration (on left frame over axle)	600 g
190 P39845	M7FRAM000000ACYA	MDB Left Rear Y-axis Acceleration (on left frame over axle)	600 g
191 Bit.00	M3CONT000000EV00	MDB Right Side Contact Switch	1 Logic
192 Bit.01	M1CONT000000EV00	MDB Left Side Contact Switch	1 Logic
193 Bit.00	11CONT000001EV00	Driver Dummy head contact	1 Logic
194 Bit.01	11CONT000002EV00	Driver Dummy shoulder contact	1 Logic
195 Bit.02	11CONT000003EV00	Driver Dummy torso contact	1 Logic
196 Bit.03	11CONT000004EV00	Driver Dummy leg contact	1 Logic
197 Bit.04	13CONT000001EV00	LR Pass Dummy head contact	1 Logic
198 Bit.05	13CONT000002EV00	LR Pass Dummy shoulder contact	1 Logic
199 Bit.06	13CONT000003EV00	LR Pass Dummy torso contact	1 Logic
200 Bit.07	13CONT000004EV00	LR Pass Dummy leg contact	1 Logic

LEFT SIDE IMPACT OF 2005 FORD 500 / 050729





CERTIFICATE OF CONFORMITY

Certificate No. 19995
Serial No. EH 340

Cellbond Composites Ltd
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF
United Kingdom

Product Description	FMVSS 214 - 1750x740x550mm Spec with 1.6 3/8 5052 Painted Grey
Cellbond Part No.	70NHTSASIUS G

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email
sales@cellbond.com
website
www.cellbond.com

	Test Results	GR No.	Blk No.
1	27012-19	P144787A00	N/A
2	26938-45	P131911-01	N/A

Declaration.

The above moving deformable barrier has been manufactured in accordance with the provisions of FMVSS 214.

Additional Information...

company registration
England 1944904

registered office
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF

Cellbond Offices
United Kingdom
Germany
United States of America





NHTSA DEFORMABLE SIDE IMPACT BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS

MAIN BLOCK
Core: 1.6 3/8 5052

Required Crush Strength
42.5 PSI to 47.5 PSI

Test No: 27012-19

GR No: P144787A00
Block No: N/A

	Crush Strength (PSI)			RESULT
	0.25 to 0.38 inch	0.38 to 0.52 inch	0.52 to 0.65 inch	
Sample* 1	44.455	44.653	44.637	PASS
Sample 2	43.608	43.010	43.916	PASS
Sample 3	44.265	44.296	45.028	PASS
Sample 4	43.270	43.687	44.283	PASS
Sample 5	45.614	46.000	45.768	PASS
Sample 6	45.001	44.565	44.663	PASS
Sample 7	45.019	45.990	45.295	PASS
Sample 8	43.732	44.167	44.142	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

RESULT: PASSED

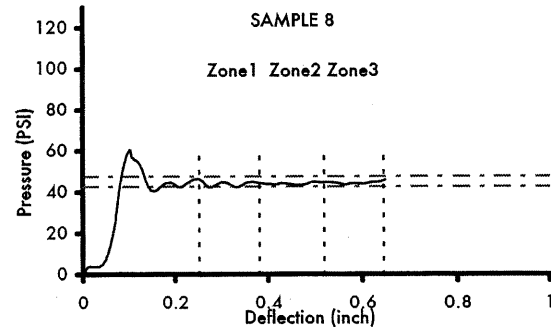
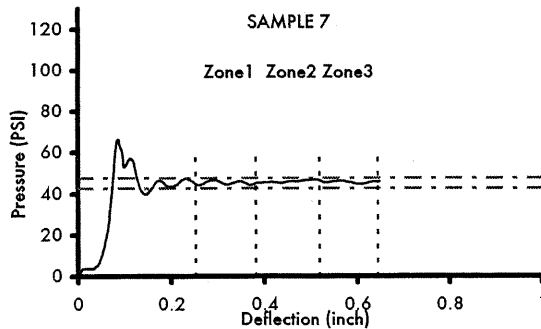
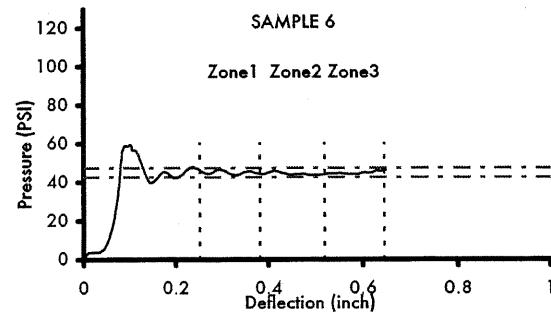
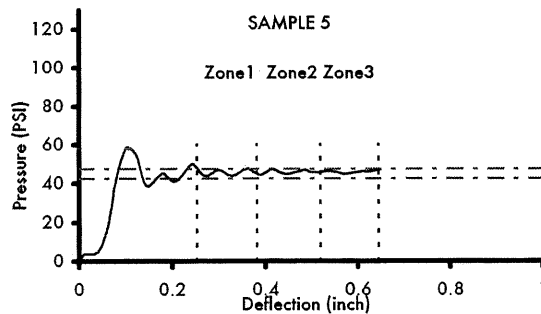
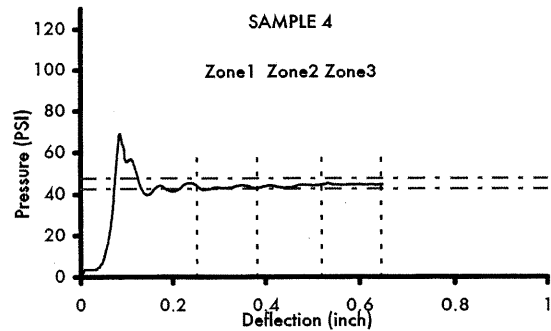
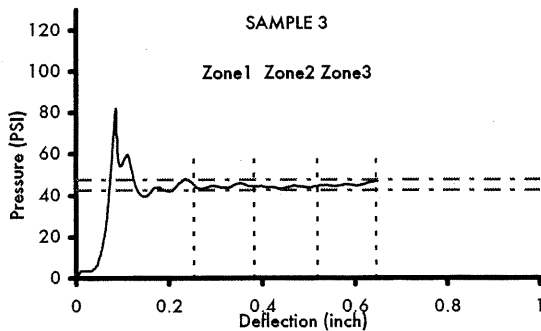
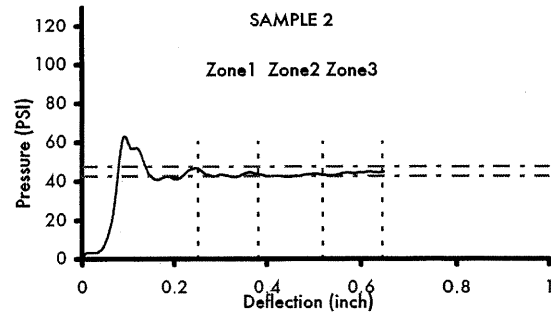
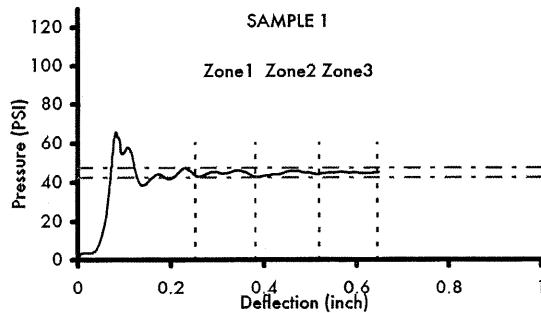
NHTSA DEFORMABLE SIDE IMPACT BARRIER MAIN BLOCK

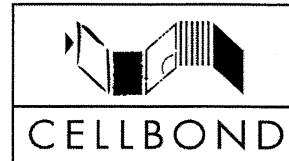
Honeycomb Type: 1.6 3/8 5052
Higher Acceptable Crush Strength Limit: 47.5 PSI
Lower Acceptable Crush Strength Limit: 42.5 PSI

Section 1: 0.25 - 0.38 inch
Section 2: 0.38 - 0.52 inch
Section 3: 0.52 - 0.65 inch
Speed: 0.25 inch/min
Block No: N/A

Test No: 27012-19

GR No: P144787A00





NHTSA DEFORMABLE SIDE IMPACT BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS

BUMPER

Core: 5.2 1/4 3003

Required Crush Strength
230 PSI to 260 PSI

Test No: 26938-45

GR No: P131911-01

Block No: N/A

	Crush Strength (PSI)			RESULT
	0.25 to 0.38	0.38 to 0.52	0.52 to 0.65	
Sample* 1	253.65	250.73	249.94	PASS
Sample 2	254.15	257.02	254.84	PASS
Sample 3	258.36	258.90	257.66	PASS
Sample 4	256.46	253.19	255.54	PASS
Sample 5	258.77	255.99	253.10	PASS
Sample 6	253.66	256.18	252.31	PASS
Sample 7	254.32	255.06	251.31	PASS
Sample 8	255.55	253.47	253.21	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

RESULT: PASSED

NHTSA DEFORMABLE SIDE IMPACT BARRIER
BUMPER

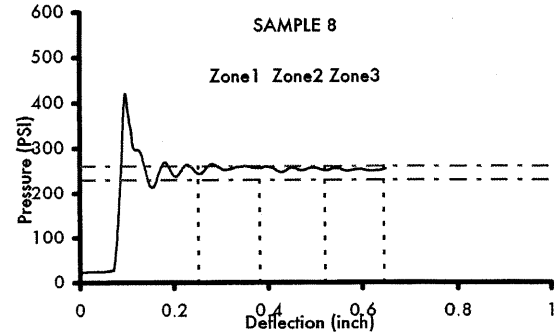
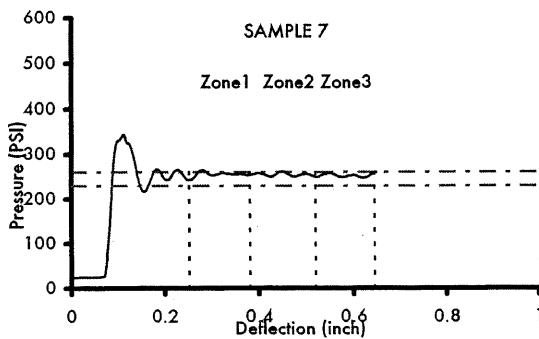
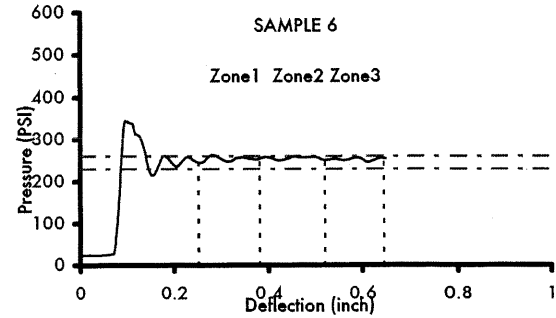
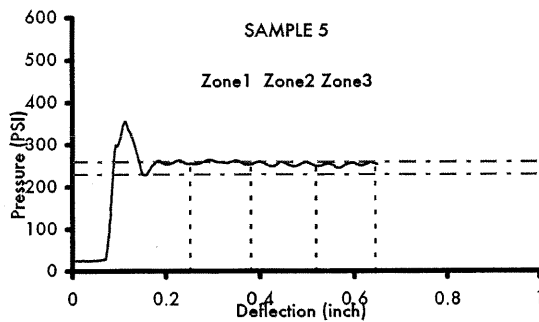
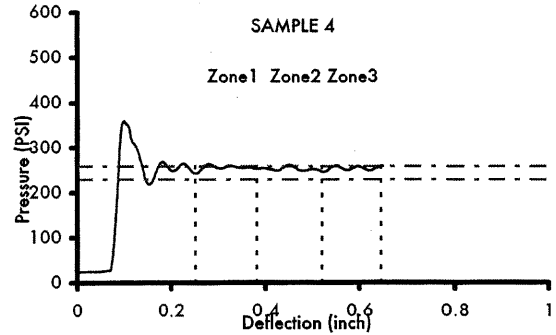
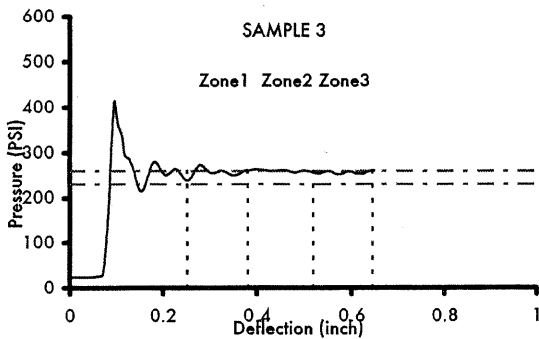
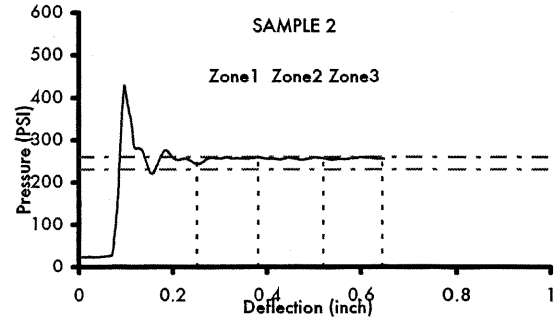
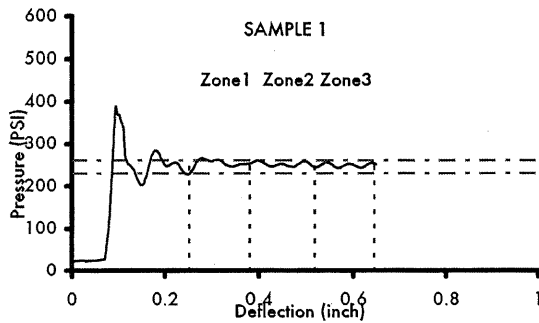
Honeycomb Type: 5.2 1/4 3003
Higher Acceptable Crush Strength Limit: 260 PSI
Lower Acceptable Crush Strength Limit: 230 PSI

Section 1: 0.25 - 0.38 inch
Section 2: 0.38 - 0.52 inch
Section 3: 0.52 - 0.65 inch
Speed: 0.25 inch/min

Test No: 26938-45

GR No: P131911-01

Block No: N/A



Appendix E

INSIA Report on Structural Measurements



STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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March, 1999

REPORT DOCUMENTATION PAGE**Title:**

STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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28031 – Madrid – Spain

Supplementary notes:

Under contract to:

THE EUROPEAN COMMUNITY

Project: “Improvement of Crash Compatibility between Cars”

Contract N°: RO – 97 – SC.1064

Abstract:

The main aim of this working package -*Structural Survey of Cars*- is the reduction of incompatibilities, both structural and geometric, between passenger vehicles and their potential collision partners. The understanding of these incompatibilities needs a previous step for the knowledge of the existing car fleet.

Firstly, it is necessary to select the main resistant elements in the car body. These elements have to be chosen from the point of view of the sort of collision that we want to study, that is to say, frontal and side impacts.

Detailed measurements have been taken from exterior and interior elements, spread to a total number of 74 models selected from the main vehicle manufacturers at Spain. All of them are being sold this year. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars will be defined.

This report shows the methodology followed to get these measurements.

Subject terms:

Crash compatibility, geometric compatibility, resistant elements, measure methodology

Date:

March, 1999

1.- METHODOLOGY.

Detailed measurements have been taken from exterior and interior elements. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars have been defined. These elements are presented in the following figures, and have been divided in two main groups according to the vehicle zones studied in this project.

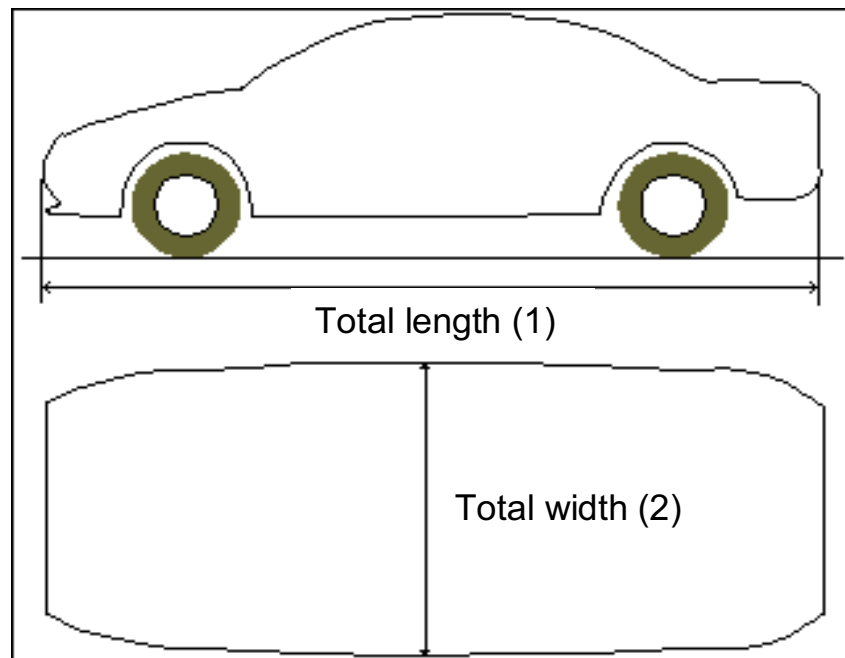


Figure 1.- Definition of the main resistant elements. General dimensions.

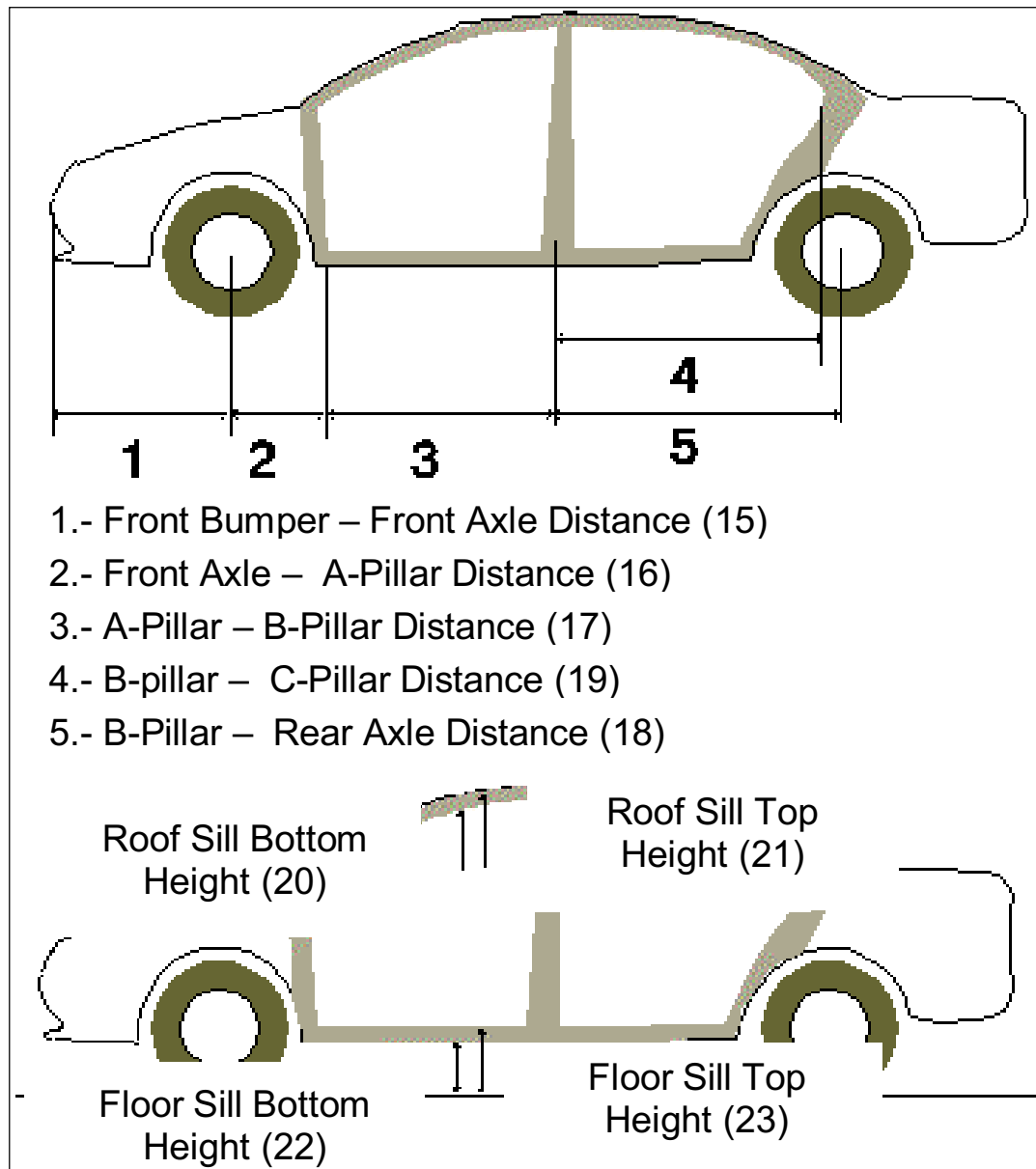


Figure 2.- Definition of the main resistant elements. Side elements.

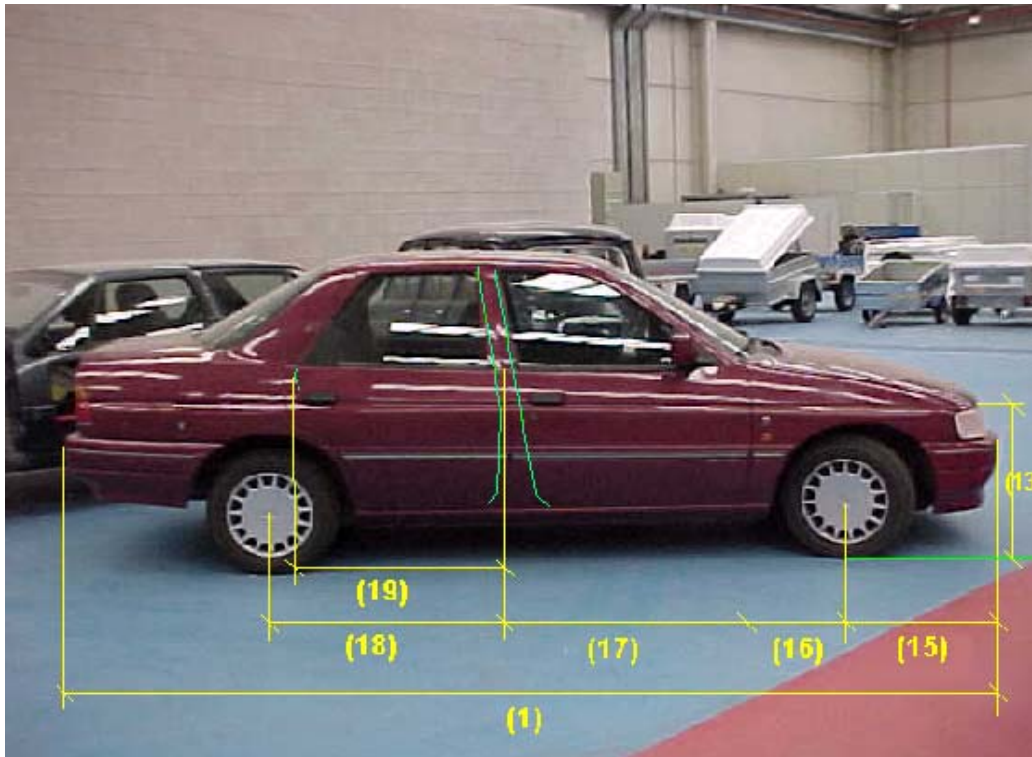


Figure 3.-
Measurements of
the side resistant
elements (outer).

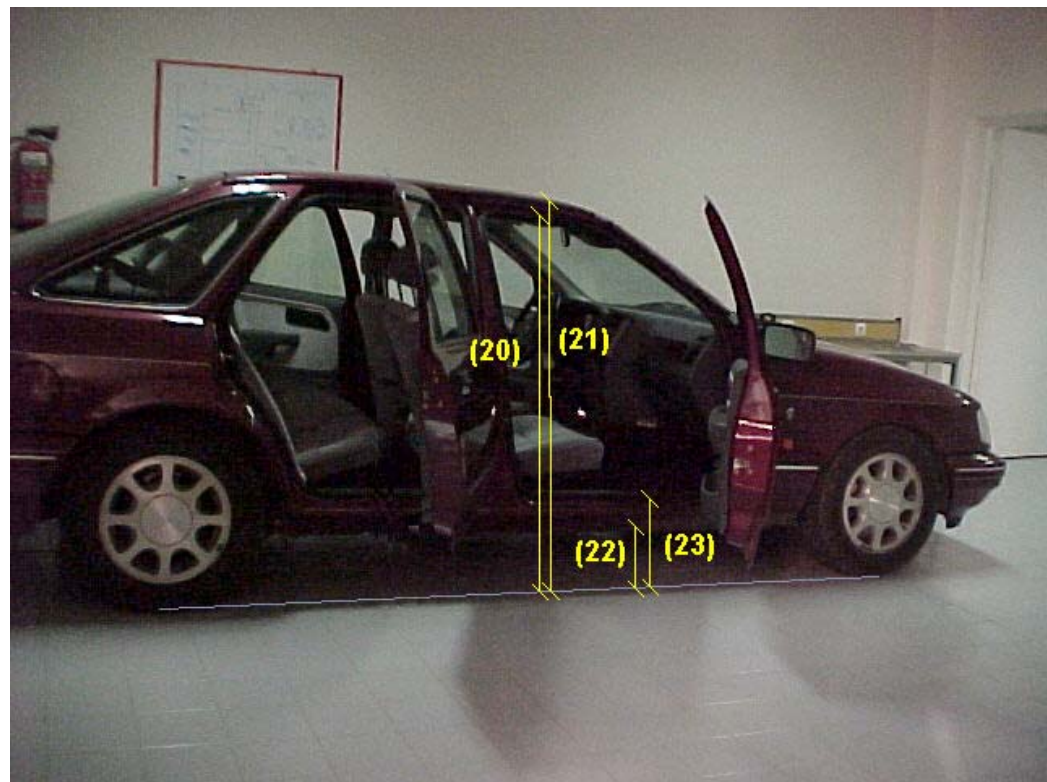


Figure 4.- Measurements
of the side resistant
elements (inner).

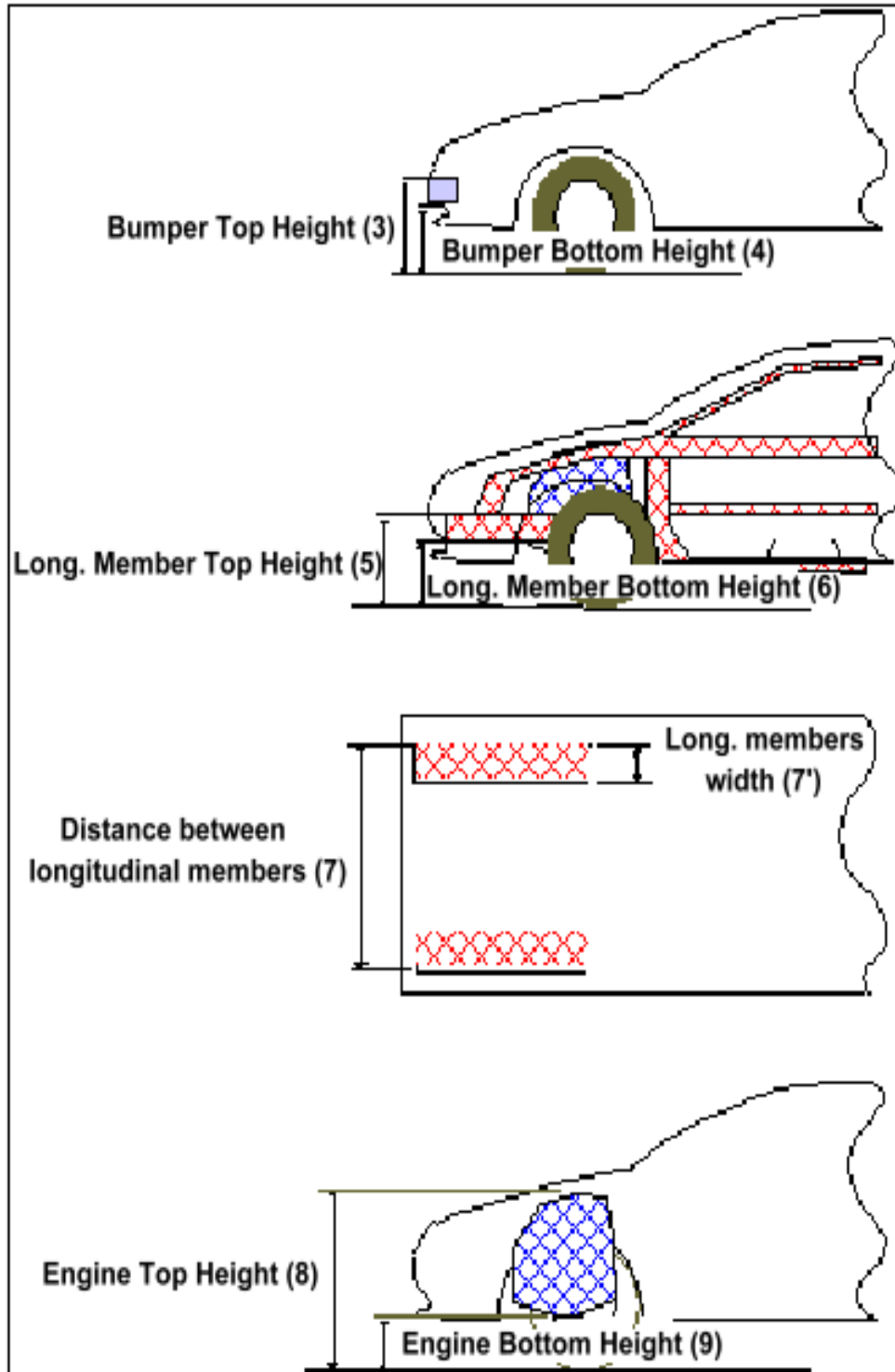


Figure 5.- Definition of the main resistant elements. Front elements.

Figure 6.-
Measurements of the
main resistant elements.
Front elements 1.

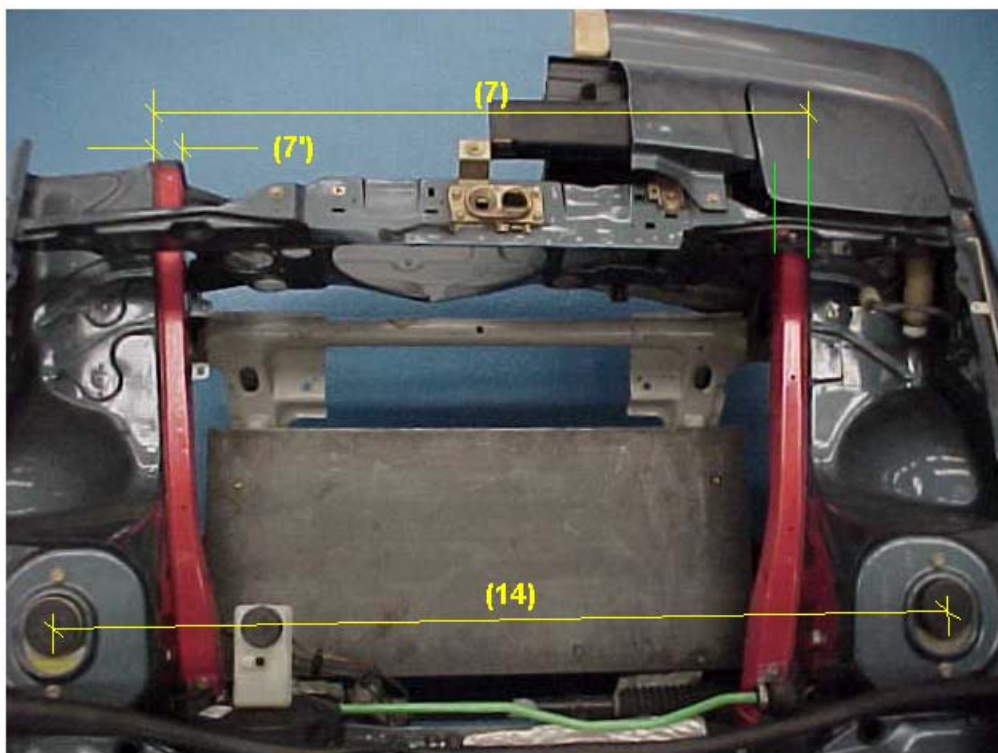
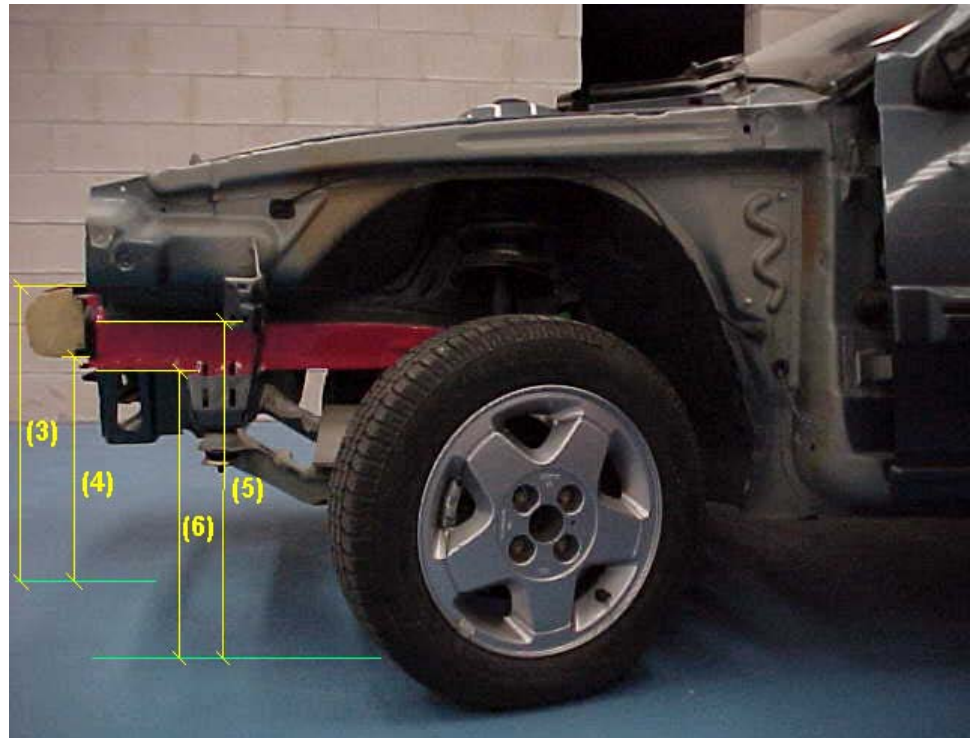


Figure 7.-
Measurements
of the main
resistant
elements. Front
elements 2.

Figure 8.-
Measurements of
the main resistant
elements. Front
elements 3.

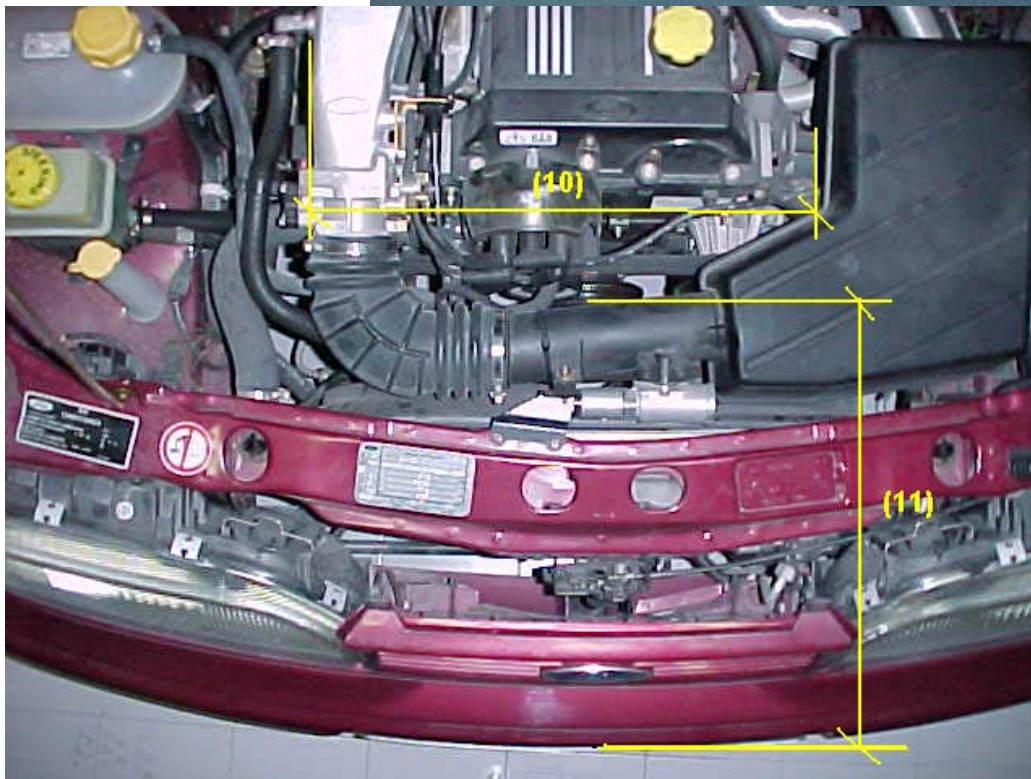
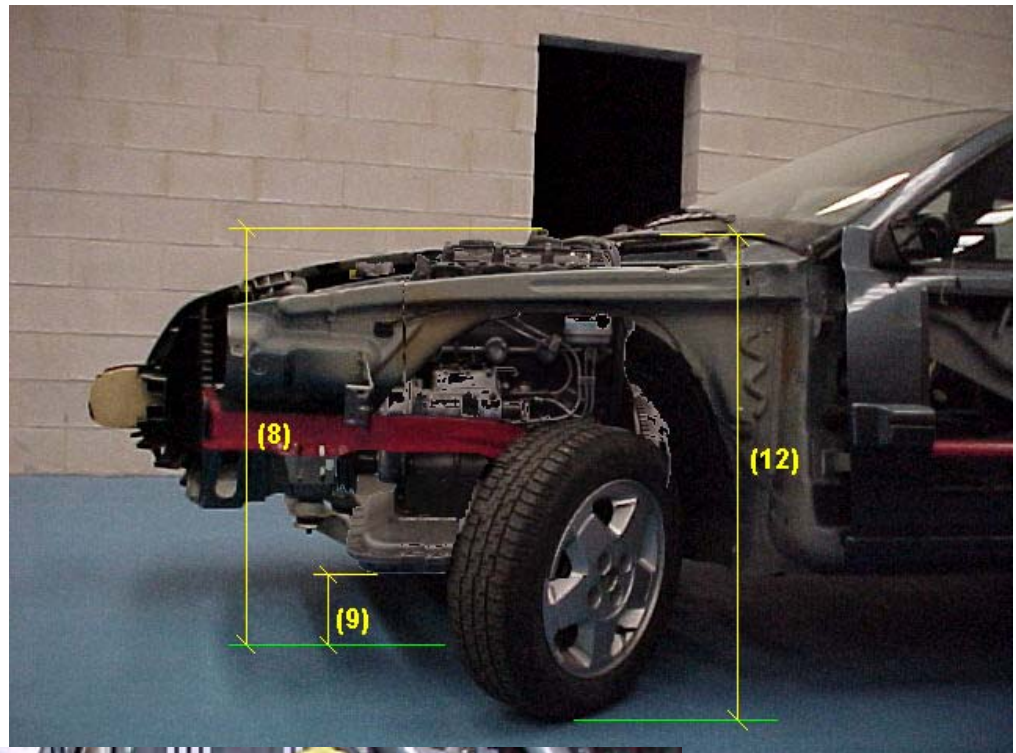


Figure 9.-
Definition of
the main
resistant
elements. Front
elements
(Longitudinal
engine).



The procedure considered to measure these elements is described as follows, where it is indicated the location of these ones in the Excel Sheet (SURVEY.XLS) into brackets:

FRONT ELEMENTS

- **Total Length –(1)- (Side & Front Sheets - C column):** distance between the point in the front bumper further on and the point in the rear bumper further back.
- **Weight (Side & Front Sheets - D column):** mass, including an average driver weight (70 kg), and the fuel tank mass (at half-capacity).
- **Total Width –(2)- (Side & Front Sheets - E column):** distance between the outer side points in a transverse plane of the vehicle (middle plane between the front and rear axles).
- **Bumper bottom height –(4)- (Front Sheet G column):** distance between the ground and the lowest point on the front bumper, being a resistant member (aerodynamic elements under the front bumper are not considered).
- **Bumper top height –(3)- (Front Sheet H column):** distance between the ground and the highest point on the front bumper, being a resistant member (aerodynamic elements are not considered).
- **Longitudinal member top height –(5)- (Front Sheet I column):** distance between the ground and the highest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint (when accessible).
- **Longitudinal member bottom height –(6)- (Front Sheet J column):** distance between the ground and the lowest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint.
- **Distance between longitudinal members (Front Sheet K column):** transverse distance between extreme points in longitudinal members, measured approximately in the front bumper-longitudinal member joint.

Depending on the accessibility of these members, the extreme points are the inner points (I) or the outer points (O).

- **Longitudinal member width -7'- (Front Sheet L column):** width of one of the longitudinal members, measured approximately in the front bumper-longitudinal member joint.



- **Engine top height (8) (Front Sheet N column):** distance between the ground and the highest point on the engine that can be a resistant member in case of accident (usually, the highest point on the head, or the highest point of the inlet or exhaust manifolds).
- **Engine bottom height (9) (Front Sheet M column):** distance between the ground and the lowest point on the engine (usually, the lowest point on the crankcase).
- **Engine and Gearbox width (10) (Front Sheet O & P columns):**
 - *Transverse configuration engine:* distance between extreme points in the gearbox-cylinder block unit or others resistant members attached to the cylinder block unit, i.e. fan belts (from a front point of view).
 - *Longitudinal configuration engine:* distance between extreme points in the cylinder block unit (from a front point of view).
- **Front bumper - Engine distance (11) (Front Sheet Q column):** distance between the point in the front bumper further on and the point in the engine further on that is a resistant element, i.e. the further on point of the exhaust manifold placed in the front of the engine.
- **Front shock absorber fixing width (14) (Front Sheet R column):** transverse distance between the front shock absorber - body car joints.
- **Front shock absorber fixing height (12) (Front Sheet S column):** distance between the ground and the front shock absorber-body car joint.
- **Bonnet leading edge height (Front Sheet T column):** distance between the ground and the bonnet edge further on.

SIDE ELEMENTS

- **Front bumper - Front axle distance (15) (Side Sheet G column):** distance between the point in the front bumper further on and the middle point in the front tyre-road contact patch.
- **Front axle - A Pillar distance (16) (Side Sheet H column):** distance between the middle point in the front tyre-road contact patch and the point in the A-pillar further back.
- **A Pillar - B Pillar distance (17) (Side Sheet I column):** distance between the point in the A-pillar further back and the middle point in the B-pillar.
- **B Pillar - C Pillar distance (19) (Side Sheet J column):** distance between the middle point in the B-pillar and the point in the C-pillar further back (only 4/5-door vehicles).
- **B Pillar - Rear axle distance (18) (Side Sheet K column):** distance between the middle point in the B-pillar and the middle point in the rear tyre-road contact patch.
- **Roof sill bottom height (20) (Side Sheet L column):** distance between the ground and the lowest point on the roof sill, measured in the front door middle point.
- **Roof sill top height (21) (Side Sheet M column):** distance between the ground and the highest point on the roof sill (usually located in the sill-roof joint), measured in the front door middle point.
- **Floor sill bottom height (22) (Side Sheet N column):** distance between the ground and the lowest point on the floor sill, measured in the front door middle point.
- **Floor sill top height (23) (Side Sheet O column):** distance between the ground and the highest point on the floor sill, measured in the front door middle point.

NOTE

- N/A: dimension not available.