

**Vehicle Research and Test Center
Oblique Side Pole Impact
World SID
2005 Ford 500 4-door sedan
TRC Inc. Test Number: 070809**

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**Prepared For
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Section 1.0

Purpose and Test Procedure

Purpose

This side impact test is part of the proposed FMVSS 214 Side Impact Protection. It 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 of a 2005 Ford 500 4-door sedan with the rigid pole. The test was conducted in accordance with the National Highway Traffic Safety Administration's Notice of Proposed Rulemaking (Docket No. NHTSA-2004-17694, May 17, 2004).

Section 2.0

Side Impact Test

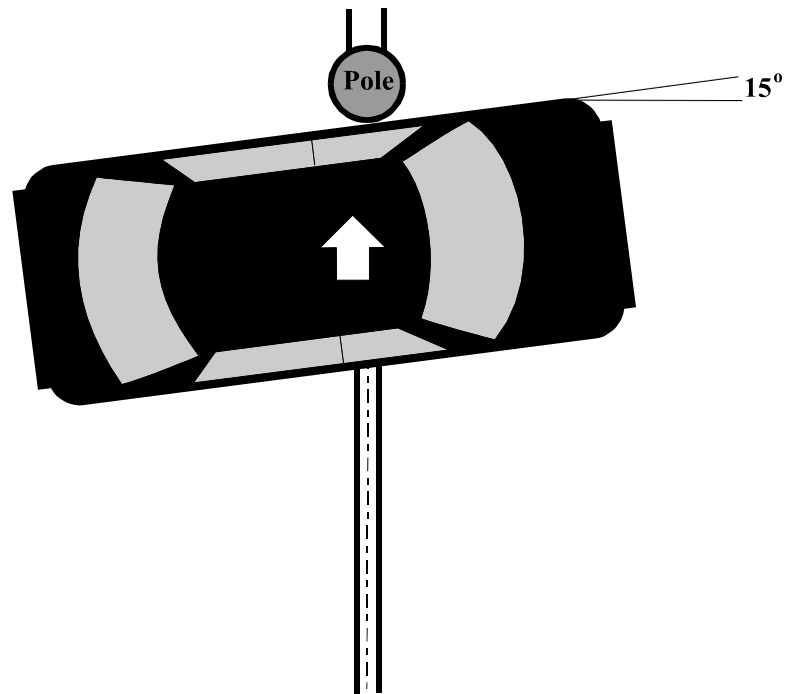
Summary of Side Impact Test

A 2005 Ford 500 4-door sedan impacted an oblique rigid pole barrier at an angle of 285°, at a velocity of 32.5 km/h (20.2 mph). The pole was aligned with the dummy's head center of gravity. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on August 9, 2007. Pre-test and post-test photographs of the test vehicle, the rigid pole barrier, and the side impact dummy (World SID) are included in Appendix A.

One restrained Side Impact Dummy (World SID) was placed in the driver (Pos. #1) designated seating position according to the instructions specified in the World SID Seating Procedure Draft 1.0. The World SID was calibrated prior to this test. The side impact test was documented by one (1) real-time camera and ten (10) high-speed digital cameras. Camera locations and other pertinent camera information are included in this report.

The World SID instrumentation is detailed in Table 4. Ninety-two (92) channels of acceleration, force, moment, and displacement data were collected for this test.

A summary of the side impact dummy (World SID) configuration and verification test data can be found in Appendix C. A total of 142 channels of data were recorded. Appendix B contains the vehicle, barrier, and dummy response data traces.



	Front World SID (#016)
HIC36 (g) CFC 1000	1607
Upper Rib Deflection (mm) CFC 180	
Rib 1	62 mm
Rib 2	45 mm
Rib 3	52 mm
Lower Rib Deflection (mm) CFC 180	
Rib 1	66 mm
Rib 2	44 mm
Lower Spine Resultant (g) CFC 180	82 g
Pubic Symph. Force (N) CFC 1000	1210 N

	2005 Ford 500
Vehicle Test Weight	1884.0 kg (4153.5 lbs)
Impact Point (Horizontal)-behind center of front axle	1313 mm
Maximum Crush	414 mm Level 3
Impact Speed	20.2 mph

Data Acquisition Explanations

There were no anomalies for this test.

Section 3

Summary of Test Results

Table 1 General Test Vehicle Parameter Data

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date: 08/09/07

TEST VEHICLE INFORMATION

Make	Ford
Model	500
Body Style	4-door sedan
VIN	1FAHP251X5G100686
Color	Black
Odometer Reading	Not Available
Transmission	5-Speed Automatic
Final Drive	Front-wheel drive
Number of Cylinders	6
Engine Displacement	3.0 L
Engine Placement	Transverse
Air Conditioning	Yes
Power Windows	Yes
Power Seats	Yes
Cruise Control	Yes
Tinted Glass	Yes
Keyless Entry	Yes

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes
Driver Side Curtain Airbag	Yes
Driver Side Torso Airbag	Yes
Rear Passenger Side/Curtain Airbag	Yes
Rear Passenger Side Torso Airbag	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Anti-lock Brakes	Yes
Traction Control	Yes
Bucket Seats	Yes
Rear Defroster	Yes
2-Door/4-door sedan	4
AM/FM Radio	Yes
CD Player	Yes
Sun Roof	Yes
Telescoping Steering Wheel/Column	No

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Co.
Date of Manufacture	07/04

GVWR (kg)	2177
GAWR Front (kg)	1145
GAWR Rear (kg)	1065

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	Split Bench	Split Bench	
Number Of Occupants	2	N/A	3	5
Capacity Wt. (VCW)				430
Cargo Wt. (RCLW) (kg)				90

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date 08/09/07

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	514.4	356.0		557.8	391.8	
Right	kg	507.4	339.2		538.6	395.8	
Ratio	%	59.5	40.5		58.2	41.8	
Totals	kg	1021.8	695.2	1717.0	1096.4	787.6	1884.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1717.0
Weight of World SID ATD	kg	77.0
Rated Cargo/Luggage Weight (RCLW)	kg	90.0
0Calculated Vehicle Target Weight (TVTW)	kg	1884.0

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	737	744	738	752	1161
As Tested	mm	745	750	720	733	1199
Fully Loaded	mm	736	744	712	728	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2867
Total Vehicle Length at Left Side	mm	4855
Total Vehicle Length at Centerline	mm	5090
Total Vehicle Length at Right Side	mm	4860
Weight of Ballast behind Passenger Seat	kg	107.5
Amount of Stoddard Solvent in Fuel Tank	liters	66.9

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Impact Reference Line From Front Axle	mm	1315
Impact Point	mm	1313
Impact Point Difference	mm	2 mm Left

¹ Wheel dollies were used for this test.

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date 08/09/07

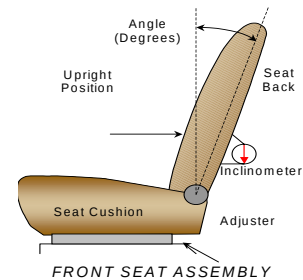
WORLD SID RIDING POSITION

The driver and passenger seat back is positioned to the manufacturer's designated angle.

Driver: Total Number of detents: N/A

Test detent (with the forward-most detent defined as 0): N/A

Driver seat back angle: The back was adjusted to 10.5° forward of vertical measured at the head restraint.

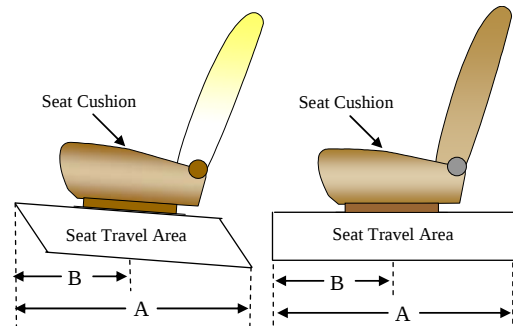


SEAT FORE/AFT POSITIONS

The total seat travel was measured from forward most position to rearmost position, irrespective of vertical seat height in those positions. The seat was set at the longitudinal mid position with vertical adjustment at the lowest position obtainable for both the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	245 mm	123 mm
Rear Seat	Fixed	Fixed



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	4	Full up
Rear Seat	N/A	N/A

Position number one is the uppermost adjustment position.

Table 1 General Test Vehicle Parameter Data, Continued

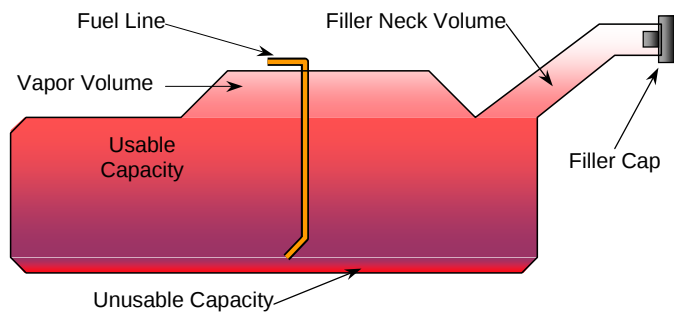
Test Vehicle: 2005 Ford 500 4-door sedan

Test Date 08/09/07

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	71.9
Usable Capacity used for FMVSS 301	71.9
Actual Amount of Solvent used	66.9

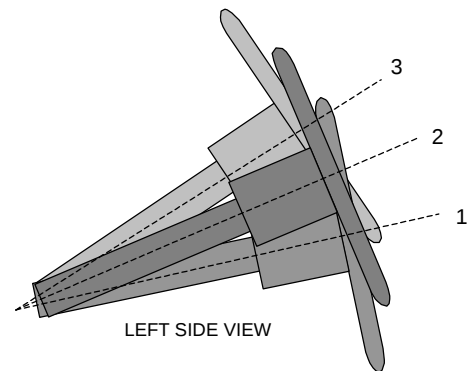
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured.



STEERING COLUMN ASSEMBLY

STEERING WHEEL/COLUMN POSITIONS

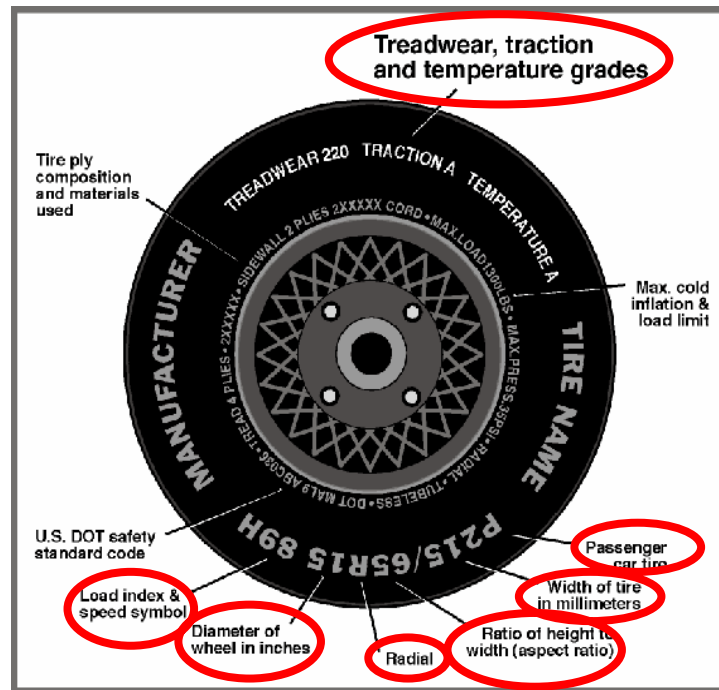
	Degrees	Fore/Aft Position, mm
Lowermost Position	N/A	N/A
Geometric Center Position	N/A	N/A
Uppermost Position	N/A	N/A

Table 2 Test Vehicle Tire Information

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date

08/09/07



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	P225/55R18	P225/55R18
Tire Size on Vehicle	P225/55R18	P225/55R18
Tire Manufacturer	Pirelli	Pirelli
Tire Name	P6	P6
Radial	R	R
Wheel Diameter	18	18
Load Index & Speed Symbol	97T	97T
Treadwear	400	400
Traction Grade	A	A
Temperature Grade	A	A

Table 3 Post-Test Observations

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date 08/09/07

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat World SID
Dummy Type / Serial No.	World SID / 016
Head Contact	Airbag, head restraint
Upper Torso Contact	Airbag
Lower Torso Contact	None
Left Knee Contact	Door panel
Right Knee Contact	None

POST TEST door OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Unlocked	Unlocked
Left Side Door Opening	Jammed & Latched	Closed & Latched
Right Side Door Opening	Closed & Latched	Closed & Latched
Seat Movement	None	None
Seat Back Failure	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Did not separate from vehicle
Sill Separation	Did not separate from vehicle
Windshield Damage	Broken
Window Damage	Broken
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 01	
	Installed	Operation
Front Airbag	Yes	No
Side Airbag	Yes	Yes
Head Airbag	Yes	N/A
Curtain Airbag	Yes	N/A
Seat Belt Pretensioner	Yes	Unknown
Seat Belt Load Limiter	No	N/A

Section 4

Occupant and Vehicle Information

Table 4 World SID Instrumentation Data

Vehicle: 2005 Ford 500 4-door sedan

Test Number: 070809

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Head Acceleration	X	11.1	173.6	86.8	59.8
	Y	250.6	59.4	13.9	156.6
	Z	79.6	59.2	21.9	62.2
	R	275.4	59.4		
Head Angular Displacement	X	24603.0	59.4	5891.2	64.7
	Y	7418.2	59.4	3424.9	62.9
	Z	2968.1	59.0	2358.3	45.9
Upper Neck Force	X	217.9	167.7	218.2	57.4
	Y	656.9	65.8	544.3	157.0
	Z	1075.4	56.1	1429.2	62.5
Upper Neck Moment	X	32.6	90.3	67.7	65.6
	Y	19.9	88.6	25.0	61.7
	Z	12.1	239.1	9.7	168.4
Lower Neck Force	X	275.1	179.4	435.2	61.4
	Y	1035.1	66.9	596.3	126.7
	Z	1405.2	56.8	1334.7	63.0
Lower Neck Moment	X	93.1	65.5	118.7	141.7
	Y	36.7	61.4	58.4	164.0
	Z	13.1	241.5	27.8	166.3
Shoulder Force	X	130.7	276.9	397.2	33.8
	Y	7.1	16.7	2438.5	52.6
	Z	640.9	36.2	58.7	107.8
Shoulder Displacement	Y	65.7	60.6	0.4	1.6
Shoulder Acceleration	X	163.0	33.7	91.5	36.0
	Y	225.3	33.3	153.7	36.2
	Z	172.8	33.7	285.5	36.1
	R	319.3	36.1		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford 500 4-door sedan

Test Number: 070809

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
T1 Acceleration	X	6.9	119.8	18.7	33.9
	Y	59.2	54.3	23.0	97.6
	Z	24.9	62.4	6.1	38.0
	R	52.7	61.4		
T4 Acceleration	X	5.7	119.8	15.7	55.8
	Y	50.0	54.2	18.9	100.4
	Z	25.6	62.5	8.5	37.9
	R	52.7	54.2		
T12 Acceleration	X	9.6	68.1	23.0	42.3
	Y	79.8	47.1	26.9	73.1
	Z	22.5	62.4	5.8	98.7
	R	82.0	47.0		
Thorax Rib 1 Displacement	Y	62.4	54.6	0.6	32.1
Thorax Rib 1 Acceleration	X	359.4	31.4	134.5	36.6
	Y	309.7	36.5	348.0	38.7
	Z	158.9	38.6	228.6	38.9
	R	376.0	31.4		
Thorax Rib 2 Displacement	Y	45.0	46.8	1.4	31.6
Thorax Rib 2 Acceleration	X	290.3	31.0	168.7	37.1
	Y	248.0	31.6	199.0	39.9
	Z	60.5	40.5	124.3	40.2
	R	321.9	31.1		
Thorax Rib 3 Displacement	Y	51.9	52.9	2.3	303.3
Thorax Rib 3 Acceleration	X	121.1	30.7	95.3	36.5
	Y	180.3	37.6	296.2	40.6
	Z	85.1	40.6	156.2	40.8
	R	298.1	40.6		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford 500 4-door sedan

Test Number: 070809

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Abdominal Rib 1 Displacement	Y	65.7	51.4	0.4	1.6
Abdominal Rib 1 Acceleration	X	137.9	39.8	128.6	42.6
	Y	298.7	35.7	276.5	39.1
	Z	167.4	39.0	271.7	39.4
	R	318.9	39.4		
Abdominal Rib 2 Displacement	Y	43.6	50.3	0.4	3.5
Abdominal Rib 2 Acceleration	X	30.3	40.9	78.2	33.7
	Y	184.8	36.4	139.1	38.6
	Z	107.6	38.6	180.8	38.9
	R	195.2	38.9		
Lumbar Force	X	408.9	108.2	311.6	37.9
	Y	718.9	44.3	475.1	81.7
	Z	1819.0	69.3	31.6	3.7
Lumbar Moment	X	21.7	131.8	27.1	89.3
	Y	13.4	36.8	20.7	107.3
	Z	11.5	41.0	0.4	203.0
Pelvis Acceleration	X	7.0	96.4	14.0	34.6
	Y	65.7	44.8	23.2	80.1
	Z	13.2	37.0	16.3	63.9
	R	66.0	44.8		
Sacro-Iliac Left Force	X	279.4	39.4	848.3	56.6
	Y	6.0	1.6	3584.3	48.5
	Z	54.0	128.2	784.1	56.8
Sacro-Iliac Left Moment	X	21.5	68.4	74.2	46.2
	Y	17.4	97.8	43.0	47.8
	Z	52.7	42.4	23.8	106.4

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford 500 4-door sedan

Test Number: 070809

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Sacro-Iliac Right Force	X	76.6	97.2	483.4	77.2
	Y	2173.5	47.3	12.1	25.7
	Z	465.9	66.6	183.8	51.4
Sacro-Iliac Right Moment	X	12.1	36.6	51.6	51.2
	Y	24.4	71.9	11.7	46.6
	Z	13.5	65.6	45.8	42.6
Pubic Force	Y	1210.0	44.9	9.3	28.2
Left Femur Force	X	818.3	49.5	7.6	5.1
	Y	24.8	27.9	1804.0	48.0
	Z	5.3	0.2	2059.6	47.3
Left Mid Femur Force	X	68.9	49.4	93.4	68.6
	Y	27.0	29.9	335.9	47.6
	Z	886.0	57.9	233.6	100.9
Left Mid Femur Moment	X	102.0	92.3	0.8	21.9
	Y	44.5	61.0	3.6	237.4
	Z	21.6	63.1	2.8	112.6
Left Knee Outboard Force	Y	190.8	88.2	27.7	40.9
Right Mid Femur Force	X	43.4	62.6	122.0	84.8
	Y	94.3	92.2	294.3	52.1
	Z	216.8	119.2	982.3	52.2
Right Mid Femur Moment	X	45.1	125.8	160.6	56.7
	Y	3.9	73.5	24.8	92.3
	Z	35.6	84.2	7.1	121.8

Positive Direction

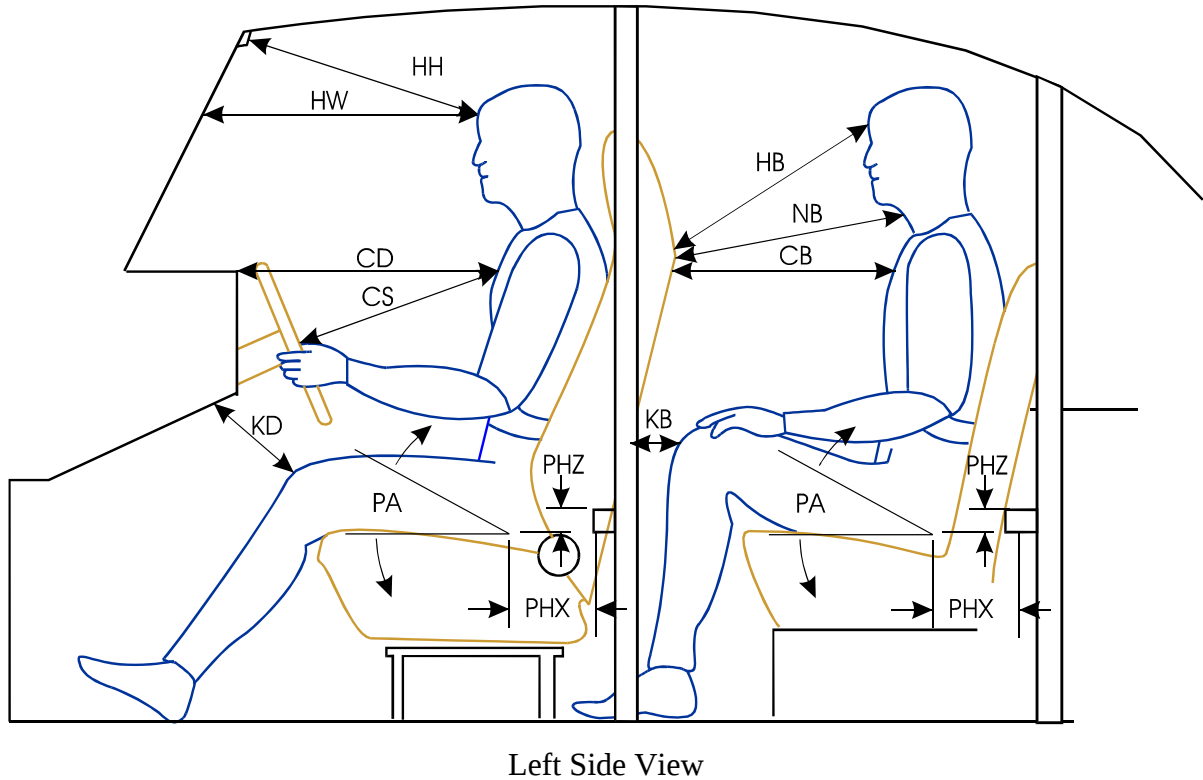
Longitudinal: Forward
 Lateral: Rightward
 Vertical: Downward

Negative Direction

Longitudinal: Rearward
 Lateral: Leftward
 Vertical: Upward

Figure 1 World SID Longitudinal Clearance Dimensions

Vehicle: 2005 Ford 500 4-door sedan



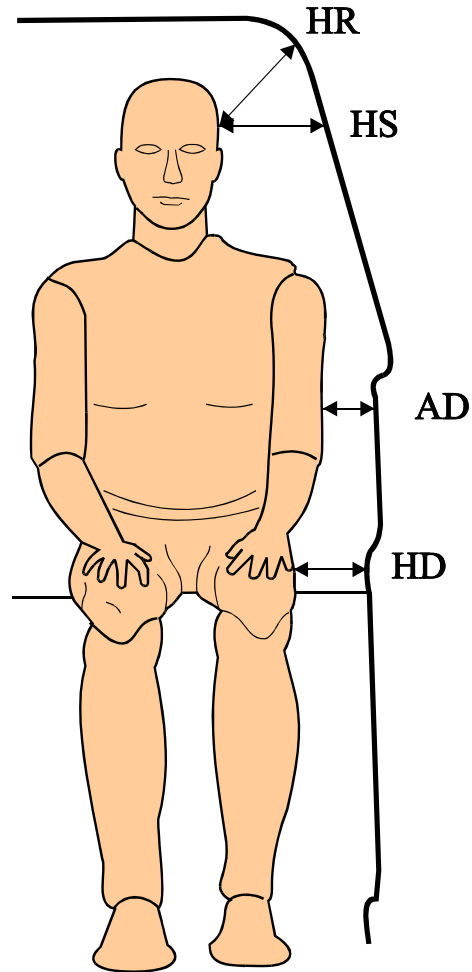
Note: All measurements are in millimeters with tolerance of ± 0.1 mm

Measurement	Driver World SID # 016
HH	345
HW	669
HZ	192
NR	442
CD	611
CS	371
KDL(KDA°)	74/(24.3°)
KDR(KDA°)	83/(32.5°)
PA°	N/A
PHX	266
PHZ	158

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

Figure 2 World SID Lateral Clearance Dimensions

Vehicle: 2005 Ford 500 4-door sedan

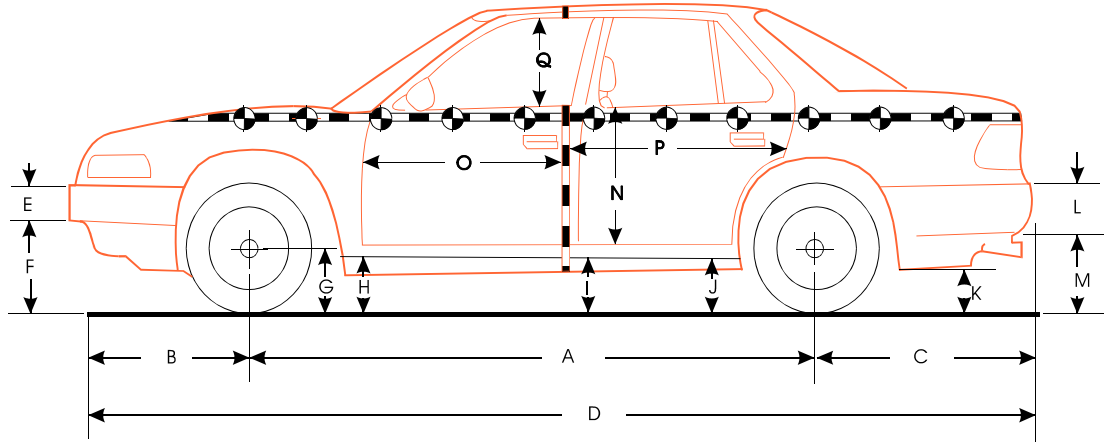


Note: All measurements are in millimeters with tolerance of ± 0.1 mm

Measurement	Driver World SID # 016	
HR	229	
HS	347	
AD	Lower: 112	Upper: 142
HD	96	

Figure 3 Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2005 Ford 500 4-door sedan



Left Side View

Note: All dimensions are in millimeters with tolerance of ± 0.1 mm

	Pre-Test (as delivered)	Pre-Test (as tested)	Post-Test (as tested)	Change
A	2867	2867	2743	124
B	1010	1010	989	21
C	1213	1213	1211	2
D	5090	5090	5049	41
E	165	165	165	0
F	403	418	346	72
G	325	350	274	76
H	300	307	234	73
I	252	242	217	25
J1	200	182	169	13
J2	268	255	259	-4
K	335	303	328	-25
L	170	170	170	0
M	521	488	525	-37
N	825	825	795	30
O	875	875	685	190
P	1265	1265	1151	114
Q	413	413	384	29
R	4860	4860	4875	-15
S	4855	4855	4839	16
T	1380	1380	1185	195

D = Length at centerline

E and L = Bumper Thickness

R = Right Side Length

S = Left Side Length

T = Width at B-pillar

J1 = To Pinch Weld

J2 = To Sill

Table 5 Vehicle Structural Measurements^{1,2}

	Elements	Pre-Test
1	Total Length	5090
2	Total Width	1890
3	Bumper Top Height	559
4	Bumper Bottom Height	391
5	Longitudinal Member Top Height	573
6	Longitudinal Member Bottom Height	439
7	Distance Between Longitudinal Members	1112
7'	Longitudinal Member Width	90
8	Engine Top Height	940
9	Engine Bottom Height	188
10	Engine and Gearbox Width	920
11	Front Bumper - Engine Distance	480
12	Front Shock Absorber Fixing Height	925
13	Bonnet Leading Edge Height	811
14	Front Shock Absorber Fixing Width	1255
15	Front Bumper - Front Axle Distance	1010
16	Front Axle - A Pillar Distance	600
17	A Pillar - B Pillar Distance	1030
18	B Pillar - Rear Axle Distance	1235
19	B Pillar - C Pillar Distance	965
20	Roof Sill Bottom Height	1392
21	Roof Sill Top Height	1450
22	Floor Sill Bottom Height	280
23	Floor Sill Top Height	360

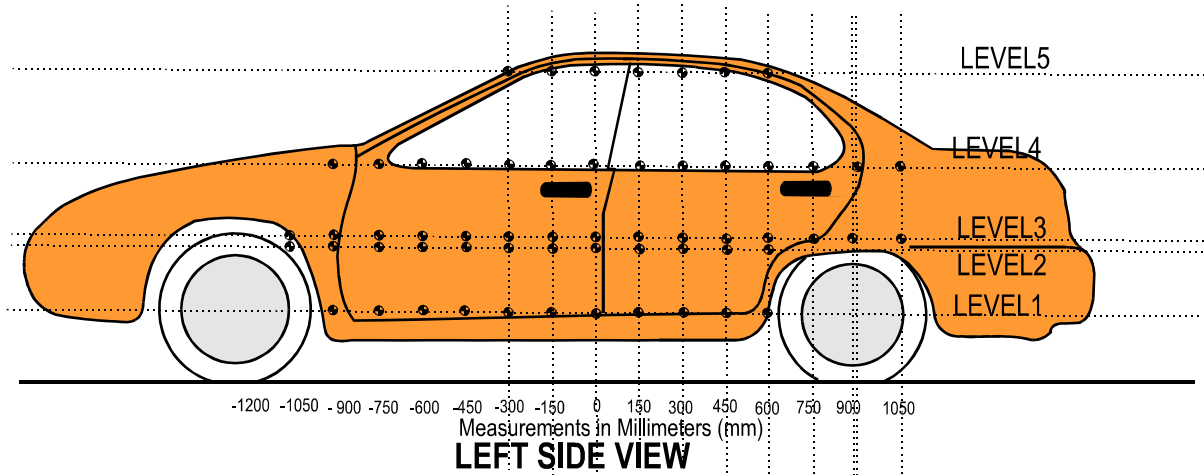
All distance measurements are in millimeters.

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 4 Vehicle Side Measurements

Vehicle: 2005 Ford 500 4-door sedan



Measurements are taken when the vehicle is in the “As Tested” configuration.

Measurements along the vertical 750 mm line shown above.

Measurements vehicle forward of the impact line are negative.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window	1500
4	Window Sill	975
3	Mid Door	630
2	Occupant H-Point	590
1	Sill Top	220

Table 6 Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Ford 500 4-door sedan

			(mm) From Impact Point													
Location	Height		-1137	-987	-837	-687	-537	-387	-237	-87	63	213	363	513	663	813
Level 1 Side Sill	220	Pre			859	856	856	860	861	862	861	859	861	859	860	856
		Post			896	842	784	727	662	582	530	626	695	748	797	839
		Crush			-37	14	72	133	199	280	331	233	166	111	63	17
Level 2 H-Point	590	Pre		945	936	937	939	940	941	942	942	942	940	938	936	934
		Post		986	966	937	856	771	683	578	533	639	765	796	829	862
		Crush		-41	-30	0	83	169	258	364	409	303	175	142	107	72
Level 3 Mid-Door	630	Pre		948	935	937	939	941	942	943	943	943	941	939	937	935
		Post		991	968	940	858	772	681	578	529	634	766	799	831	863
		Crush		-43	-33	-3	81	169	261	365	414	309	175	140	106	72
Level 4 Window Sill	975	Pre		825	854	862	870	877	885	890	893	896	898	900	899	899
		Post		883	899	889	821	743	662	574	545	644	737	775	805	835
		Crush		-58	-45	-27	49	134	223	316	348	252	161	125	94	64
Level 5 Window Top	1500	Pre			825	791	759	725	695	671	652	643	639	635	633	636
		Post			871	828	768	702	637	573	506	552	576	596	611	628
		Crush			-46	-37	-9	23	58	98	146	91	63	39	22	8

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

Note: Negative measurements are vehicle forward of the impact point.

The crush profile grid is established prior to test day based on an estimated impact point. The final distance to impact is determined after final dummy positioning. The pole is aligned with the center of gravity of the head.

Table 6 Vehicle Exterior Crush Profiles - All Levels, Continued

Vehicle: 2005 Ford 500 4-door sedan

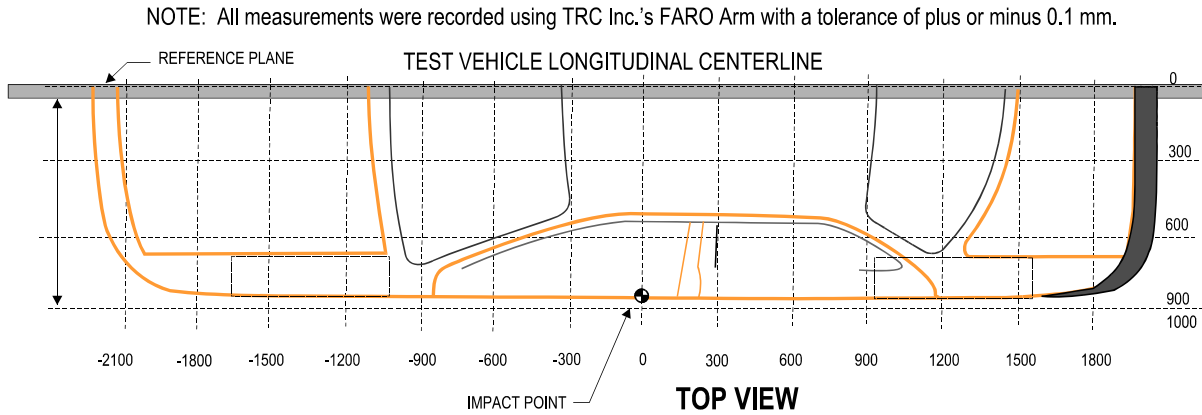
			(mm) From Impact Point												
Location	Height		963	1113	1263	1413	1563	1713	1863	2013	2163	2313	2463	2613	2763
Level 1 Side Sill	220	Pre	850	855											
		Post	874	910											
		Crush	-24	-55											
Level 2 H-Point	590	Pre	930	932											
		Post	899	943											
		Crush	31	-11											
Level 3 Mid-Door	630	Pre	932	932	941										
		Post	898	938	942										
		Crush	34	-6	-1										
Level 4 Window Sill	975	Pre	898	895	892										
		Post	864	891	915										
		Crush	34	4	-23										
Level 5 Window Top	1500	Pre	642	653	669										
		Post	644	659	676										
		Crush	-2	-6	-7										

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

Figure 5 Vehicle Damage Profile Distances

Test Vehicle: 2005 Ford 500 4-door sedan

Test Date: 08/09/07



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 (+)

DAMAGE PROFILE DISTANCES

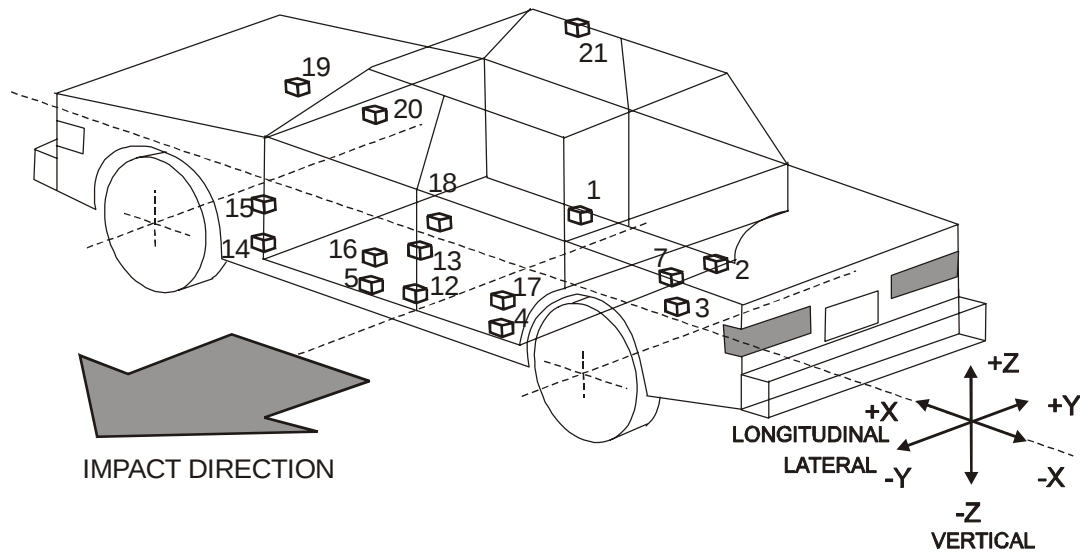
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	1113 mm	1	855	910	-55
2	813 mm	2	934	862	72
3	513 mm	2	938	796	142
4	63 mm	3	943	529	414
5	-387 mm	3	941	772	169
6	-837 mm	4	854	899	-45

Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body.

Figure 6 Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Ford 500 4-door sedan



- 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 on 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-Top of Engine
- 20-Firewall
- 21-Right Side Roof Rail

Table 7 Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Ford 500 4-door sedan

Location	Coordinates (millimeters)			Positive Direction Max. Time (g) (ms)		Negative Direction Max. Time (g) (ms)	
	X	Y	Z				
1 Right Side Sill at Front Seat	3475	670	323				
Longitudinal				1.9	54.0	5.2	30.6
Lateral				16.4	48.9	1.0	304.9
Vertical				5.6	58.5	5.6	50.5
Resultant				16.9	49.0		
2 Right Side Sill at Rear Seat	2605	685	340				
Longitudinal				1.6	177.0	4.8	31.1
Lateral				17.1	40.4	1.5	303.0
Vertical				4.7	75.1	4.9	25.9
Resultant				17.3	40.4		
3 Rear Floorpan Above Axle	1670	35	540				
Longitudinal				1.8	161.2	5.4	63.8
Lateral				13.7	68.9	2.4	301.5
Vertical				4.6	33.6	4.7	29.7
Resultant				13.9	68.9		
4 Left Side Sill at Rear Seat	2620	685	307				
Longitudinal							
Lateral				54.2	27.6	8.6	32.4
Vertical							
Resultant							
5 Left Side Sill at Front Seat	3480	660	312				
Longitudinal							
Lateral				25.4	45.5	6.4	68.3
Vertical							
Resultant							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford 500 4-door sedan

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
6 Left Front Door on Centerline	3330	795	692				
Longitudinal							
Lateral				98.1	11.8	50.0	18.6
Vertical							
Resultant							
7 Right Rear Occupant Compartment	2425	580	424				
Longitudinal							
Lateral				16.9	40.3	1.9	302.7
Vertical							
Resultant							
8 Left Front Door Mid-Rear	3010	790	692				
Longitudinal							
Lateral				112.8	20.7	41.0	15.4
Vertical							
Resultant							
9 Left Front Door Upper Centerline	3330	750	959				
Longitudinal							
Lateral				52.9	9.1	29.9	29.7
Vertical							
Resultant							
10 Left Rear Door Mid Rear	2120	795	680				
Longitudinal							
Lateral				38.0	36.5	20.9	32.0
Vertical							
Resultant							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford 500 4-door sedan

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
11 Left Rear Door Upper Centerline	2310	795	969				
Longitudinal							
Lateral				34.7	43.0	14.3	37.4
Vertical							
Resultant							
12 Left Lower B-Pillar	2810	850	895				
Longitudinal							
Lateral				62.0	21.4	21.1	14.2
Vertical							
Resultant							
13 Left Middle B-Pillar	2780	850	570				
Longitudinal							
Lateral				58.8	23.1	21.3	15.6
Vertical							
Resultant							
14 Left Lower A-Pillar	3855	850	552				
Longitudinal							
Lateral				15.6	38.9	5.1	33.9
Vertical							
Resultant							
15 Left Middle A-Pillar	3860	835	920				
Longitudinal							
Lateral				15.3	39.0	1.0	2.4
Vertical							
Resultant							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford 500 4-door sedan

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
16 Left Front Seat Track	3110	605	226				
Longitudinal							
Lateral				72.2	27.5	14.2	41.5
Vertical							
Resultant							
17 Left Rear Seat Track	2105	570	428				
Longitudinal							
Lateral				22.0	62.6	2.0	302.1
Vertical							
Resultant							
18 Vehicle CG	3197	0	661				
Longitudinal				13.6	69.3	18.4	75.8
Lateral				69.0	66.2	14.4	90.1
Vertical				35.9	82.2	26.5	62.8
Resultant				70.0	66.0		
19 Top of Engine	4760	370	829				
Longitudinal				2.3	101.5	12.9	56.0
Lateral				15.9	79.2	4.8	227.4
Vertical							
Resultant							
20 Firewall	4335	35	999				
Longitudinal				6.2	83.8	14.6	66.1
Lateral				9.8	42.2	1.0	6.0
Vertical							
Resultant							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford 500 4-door sedan

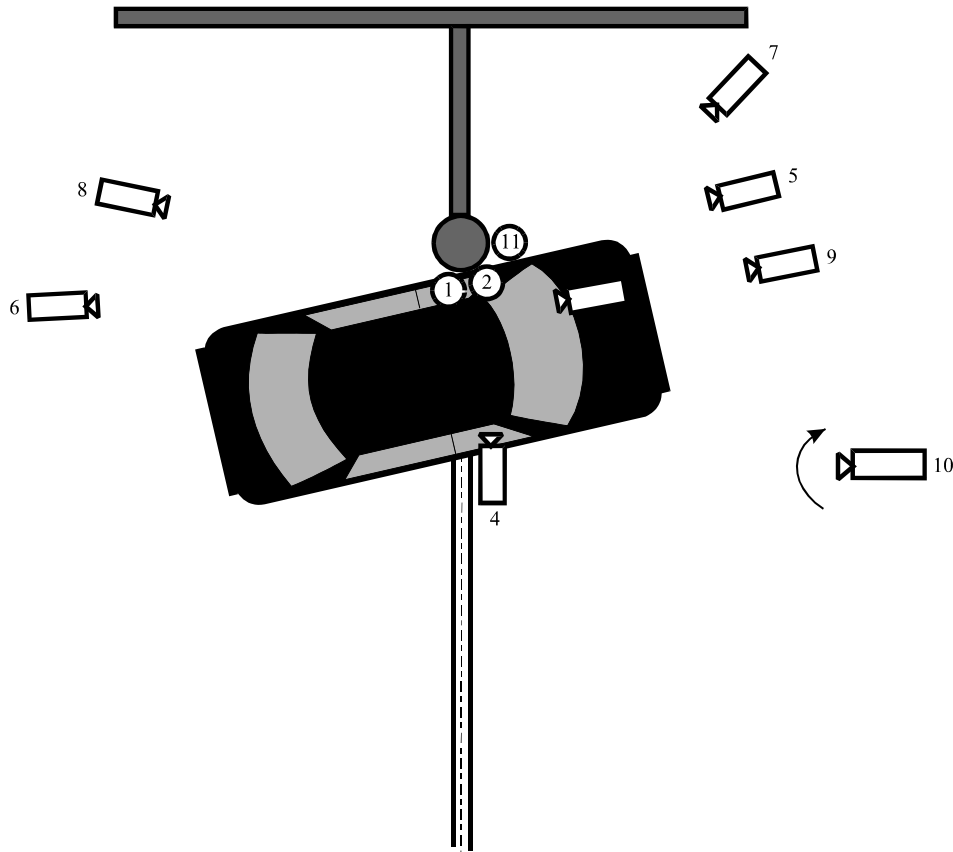
Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
21 Right Side Roof Rail	3160	620	1368				
Longitudinal				1.6	99.1	6.9	37.8
Lateral				20.1	49.9	8.0	74.1
Vertical							
Resultant							
22 Right Side Sill	3145	765	185				
Longitudinal							
Lateral				17.5	40.6	1.0	285.2
Vertical							
Resultant							
23 Rear Deck Behind Rear Axle	620	0	548				
Longitudinal				3.7	205.8	9.0	66.3
Lateral				16.8	57.8	2.6	227.4
Vertical				4.5	42.2	3.9	50.5
Resultant				17.7	66.9		

Reference: X: + Forward from rear bumper
 Y: + Rightward from vehicle centerline
 Z: + Downward from ground level

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

Figure 7 High-Speed Camera Locations and Data Summary

Vehicle: 2005 Ford 500 4-door sedan



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead Wide	0	0	-5650	90.0	12.5	1000
2	Overhead Tight	0	N/A	-5650	90.0	25	1000
3	Onboard Front - Driver	480	1550	-1380	0.6	12.5	1000
4	Onboard Side Front	1780	0	-1300	10.5	6.5	1000
5	Front Vehicle to Pole	0	4950	-1300	3.4	12.5	1000
6	Rear Vehicle to Pole	0	6060	-1360	3.0	12.5	1000
7	Left Front Angled	1450	4100	-1330	7.0	25	1000
8	Left Rear Angled	1950	4670	-1360	5.2	25	1000
9	Vehicle Front on Driver	2450	4500	-1930	9.7	50	1000
10	Panning	0	0	-3230	90.0	Zoom	30
11	Underbody	N/A	N/A	N/A	N/A	25	1000

+X: Forward (referenced to Pole) from impact point
+Y: Rightward (referenced to Pole) from impact point
+Z: Downward from ground level
Vehicle was at a 15° angle to the rigid pole.

Appendix A

Photographs



Figure A-1 Pre-Test Front View

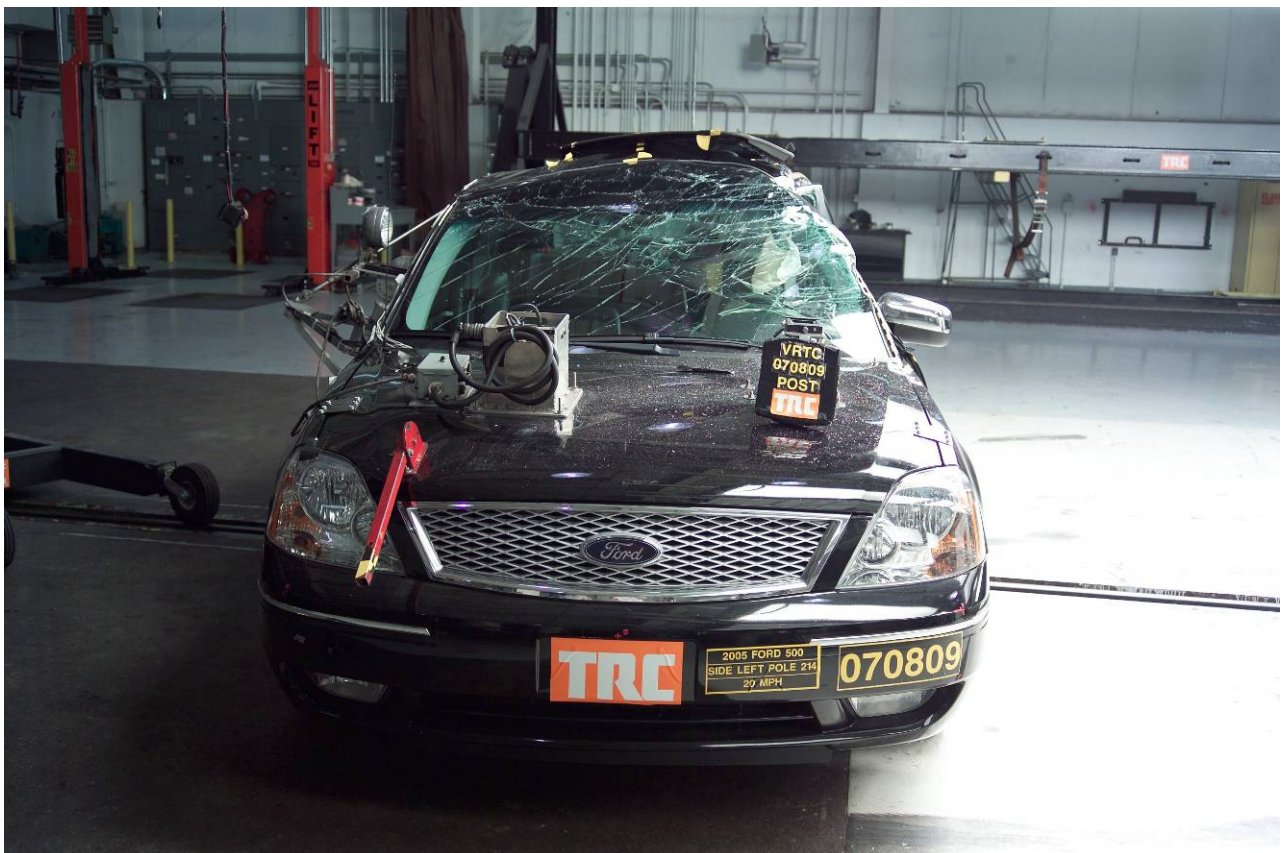


Figure A-2 Post-Test Front View



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

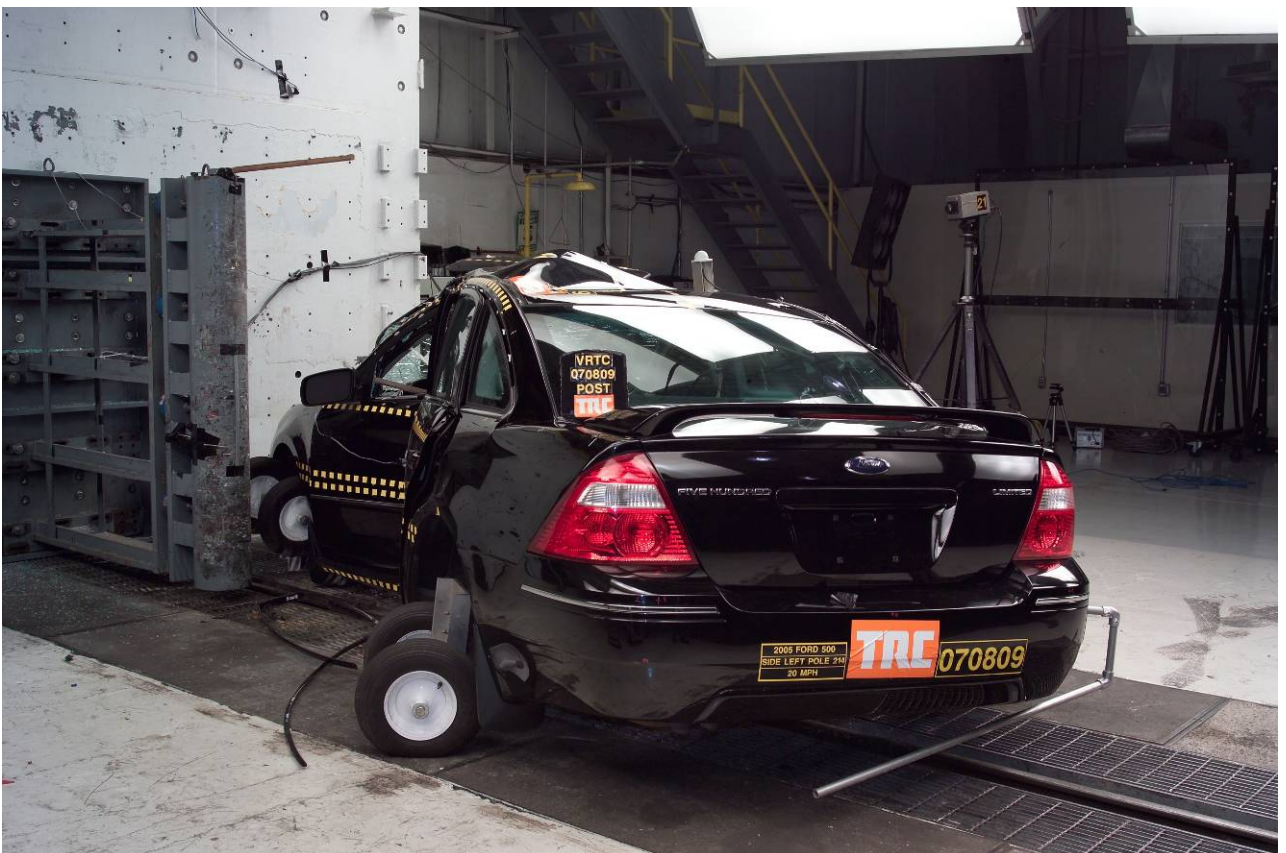


Figure A-8 Post-Test Left Rear View



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

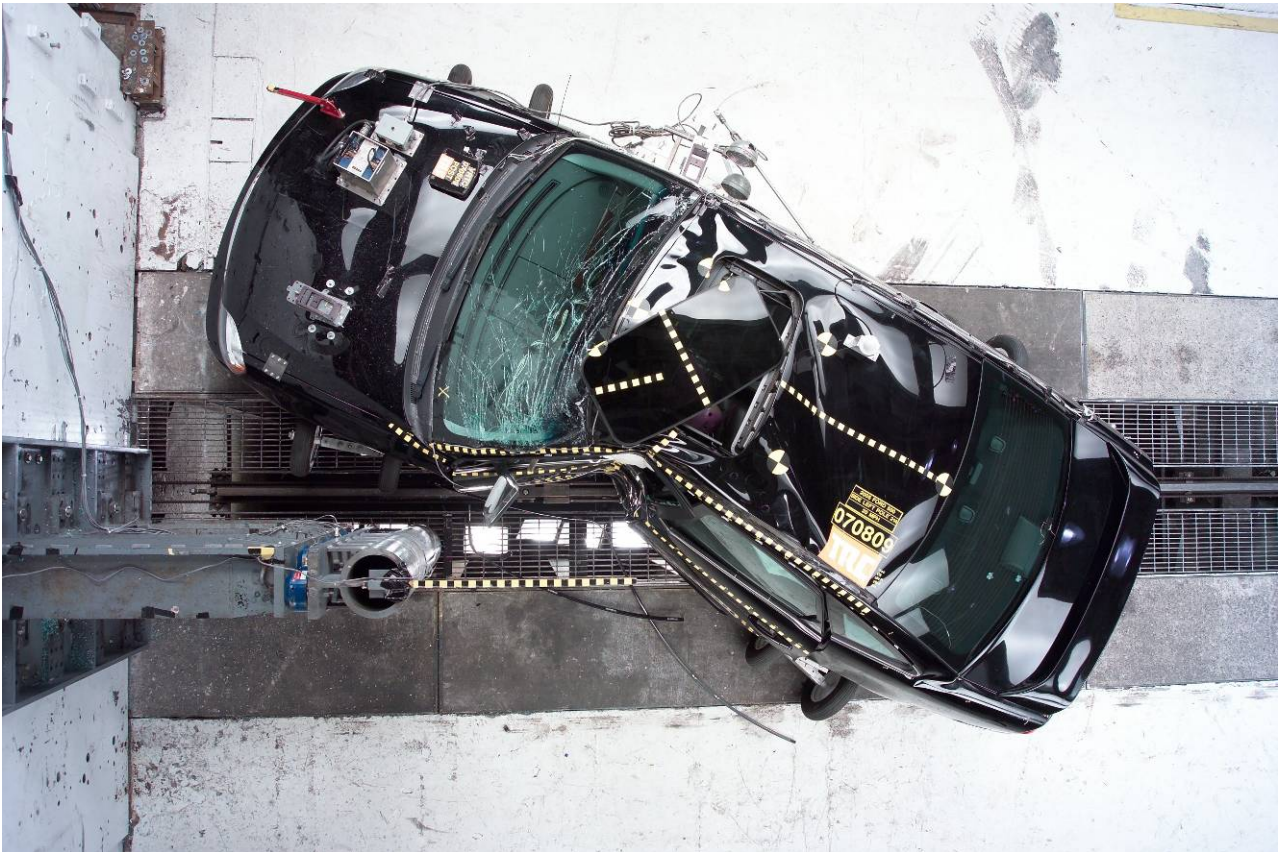


Figure A-17 Post-Test Overhead View

Intentionally Left Blank



Figure A-18 Pre-Test Impact Alignment View



Figure A-19 Post-Test Impact Alignment View



Figure A-20 Pre-Test Impact Point View



Figure A-21 Post-Test Impact Point View



Figure A-22 Pre-Test Fuel Filler Cap View

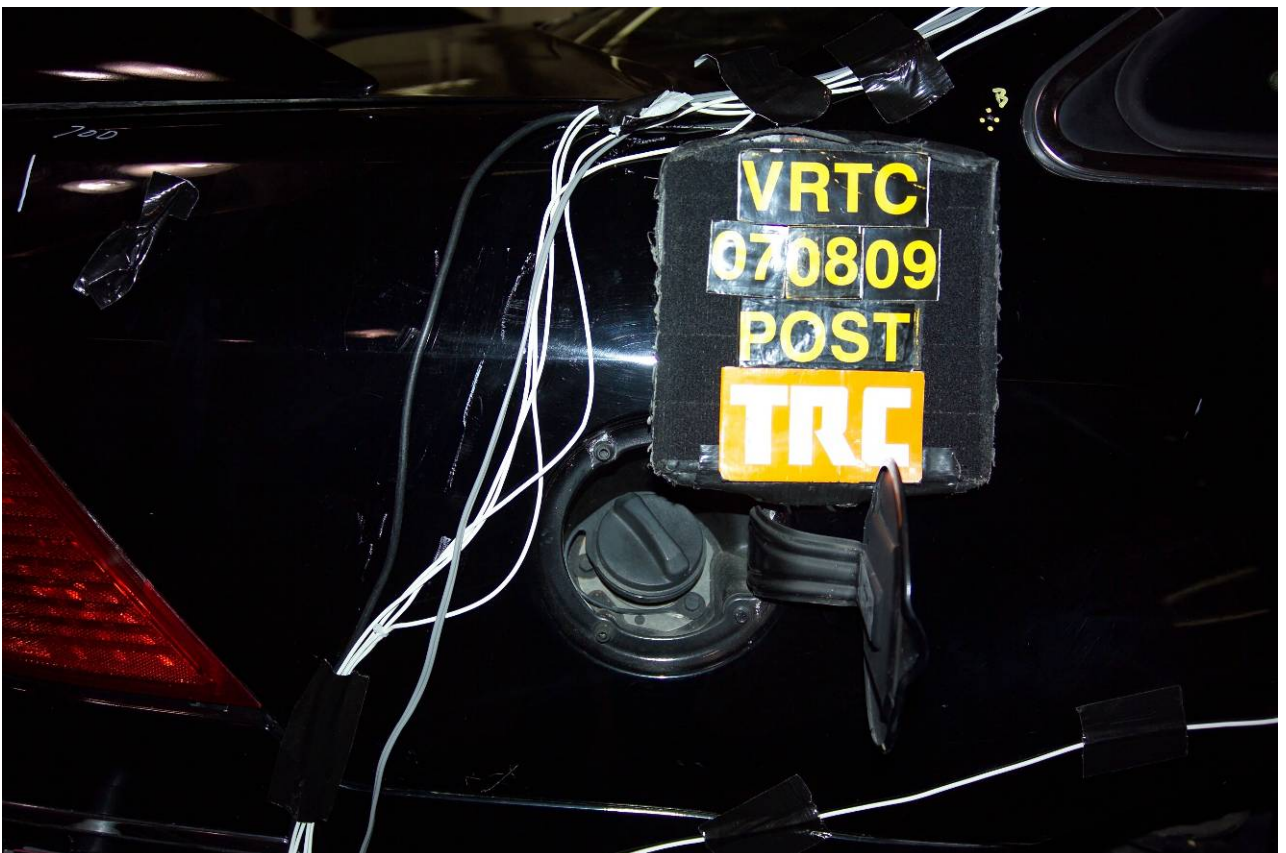


Figure A-23 Post-Test Fuel Filler Cap View

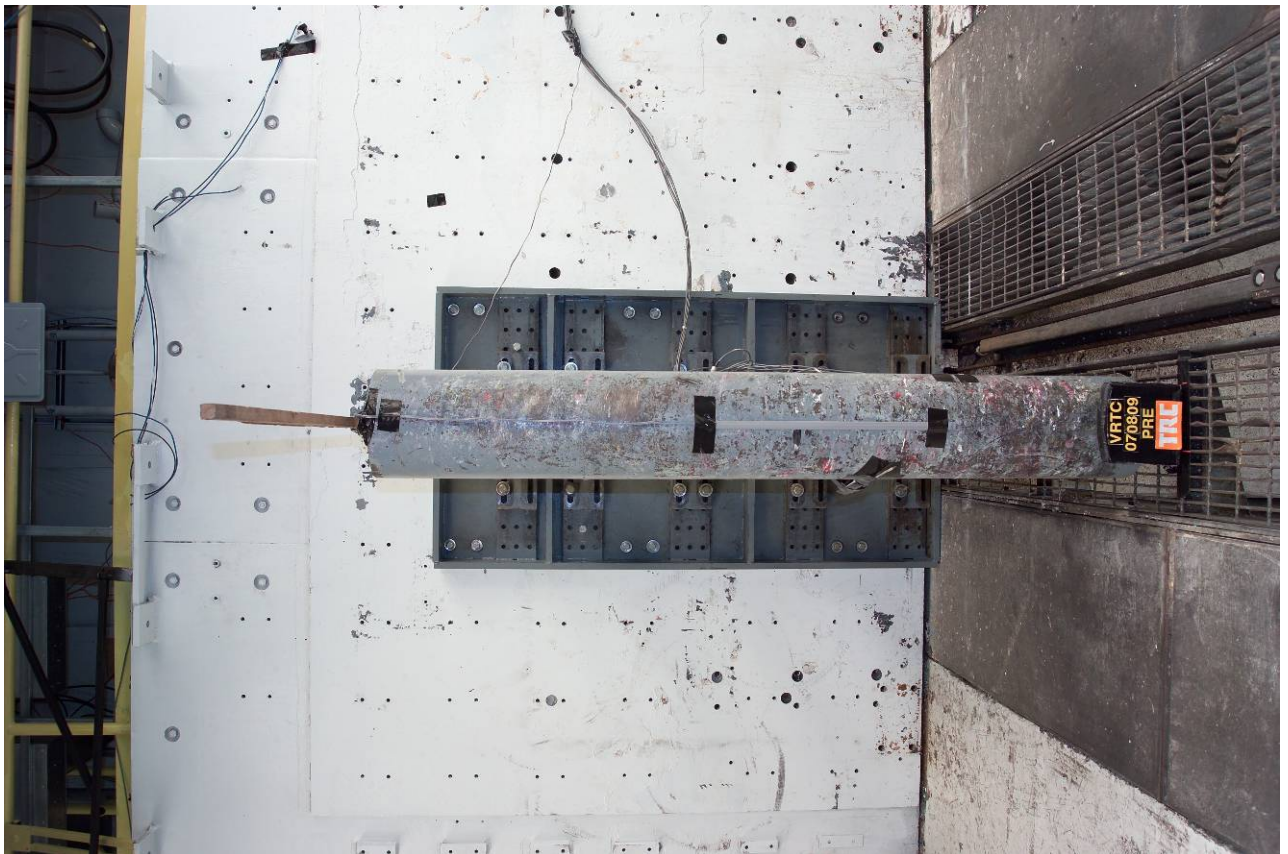


Figure A-24 Pre-Test Pole Barrier Front View

Intentionally Left Blank



Figure A-25 Pre-Test Driver Dummy Side View

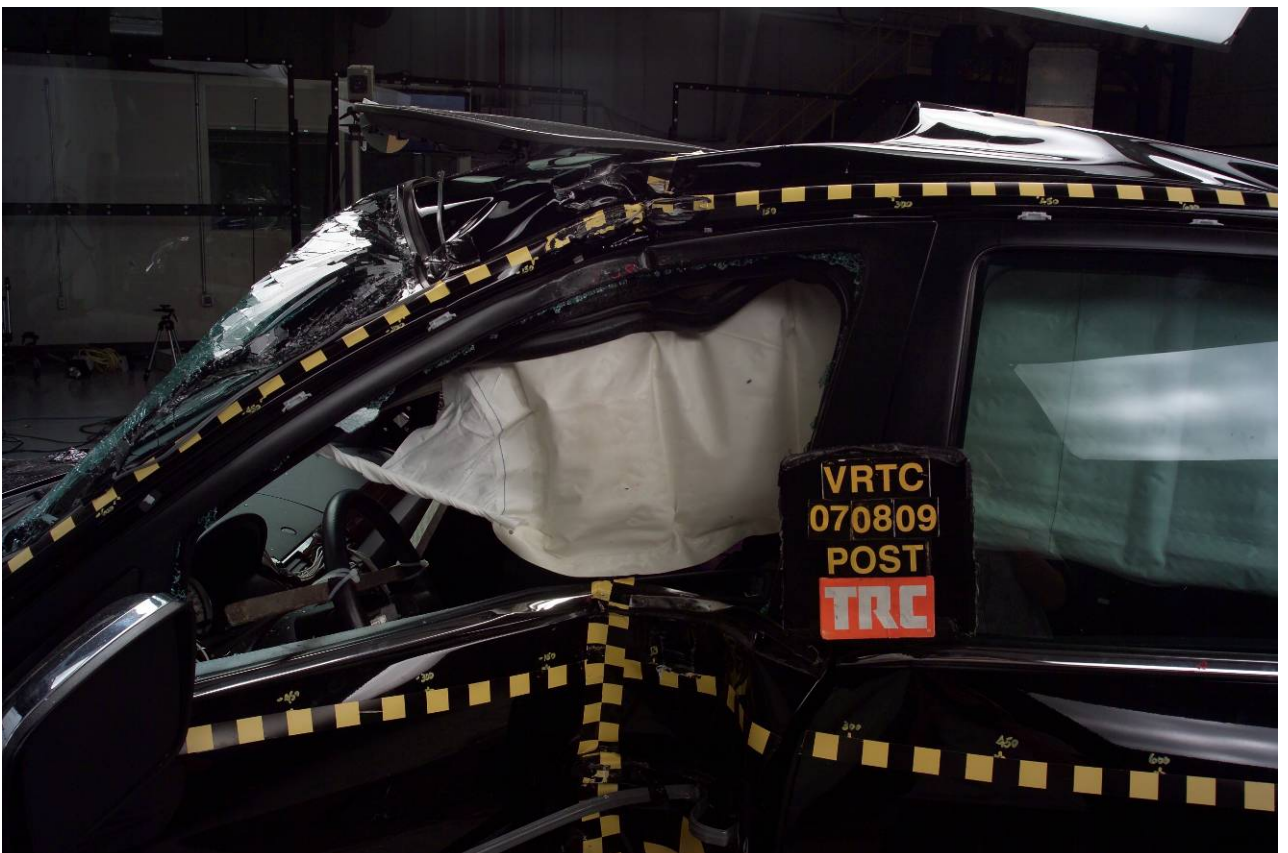


Figure A-26 Post-Test Driver Dummy Side View



Figure A-27 Pre-Test Right Side Dummy Occupant Compartment View



Figure A-28 Post-Test Right Side Dummy Occupant Compartment View



Figure A-29 Pre-Test Driver Dummy and Door Clearance View



Figure A-30 Post-Test Driver Dummy and Door Clearance View



Figure A-31 Pre-Test Driver Dummy Showing Belts, Chalking, and Contact Switches

Intentionally Left Blank



Figure A-32 Pre-Test Driver Door Panel View



Figure A-33 Post-Test Driver Door Panel View



Figure A-34 Post-Test Driver Dummy Head Contact - View 1



Figure A-35 Post-Test Driver Dummy Head Contact - View 2



Figure A-38 Pre-Test Ballast View

Intentionally Left Blank



Figure A-39 Post-Test Digital Light Trap Read-Out - View 1

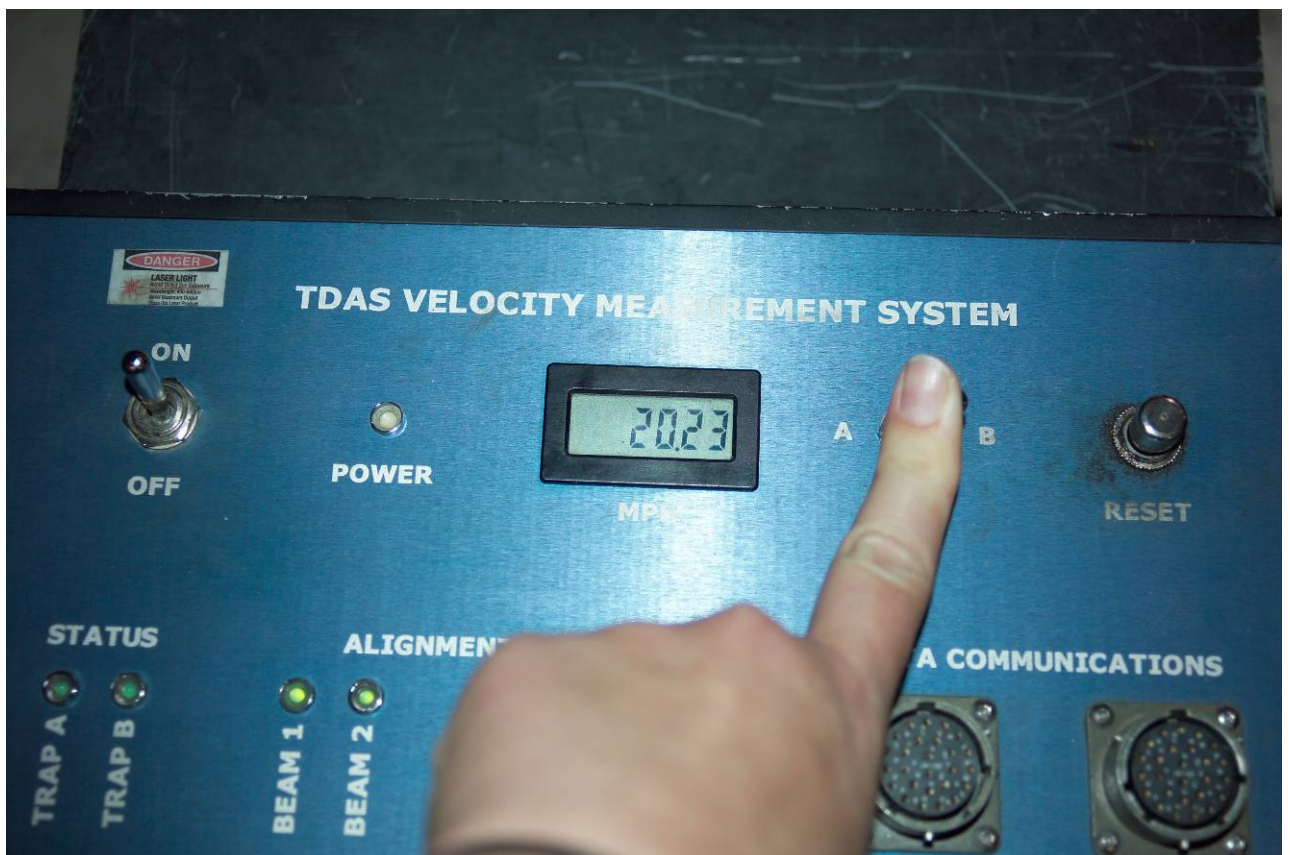


Figure A-40 Post-Test Digital Light Trap Read-Out - View 2

Appendix B

Data Plots



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

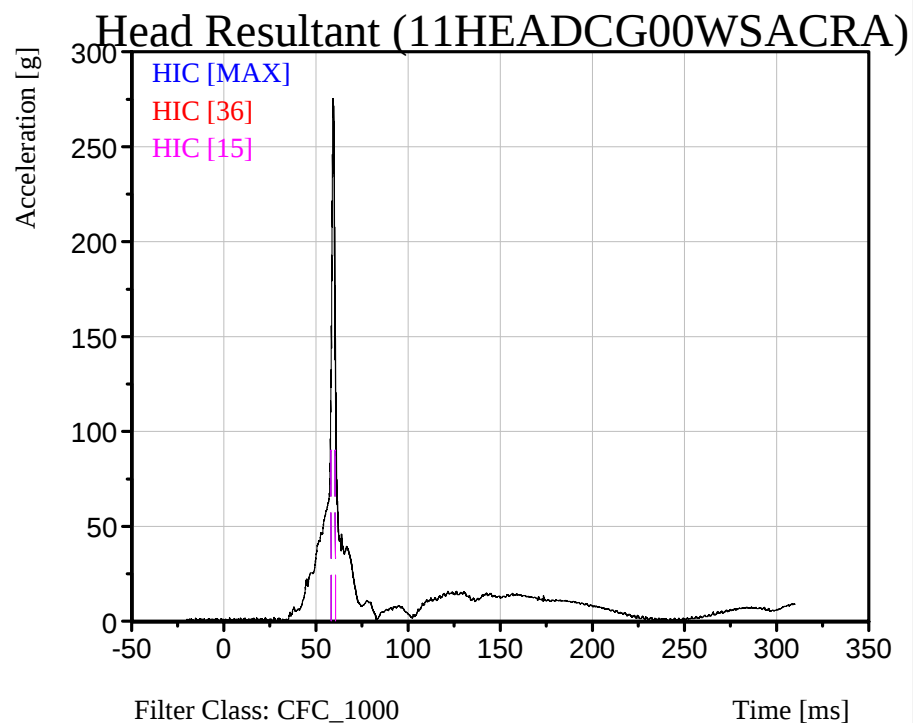
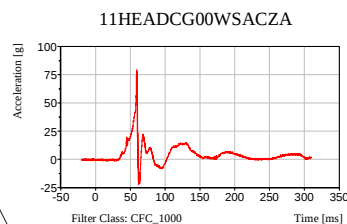
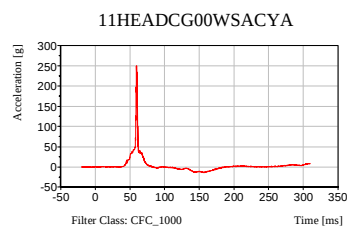
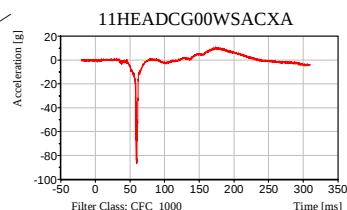
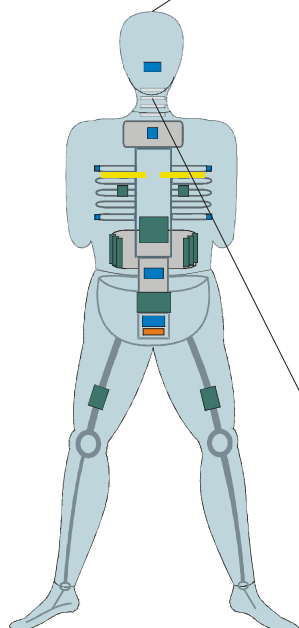
Head Injury Criterion (HIC)

Date: 8/9/2007
Time: 13:13

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 070809



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 1,606.57	58.32 ms	60.64 ms	213.97 g
HIC [36] = 1,606.57	58.32 ms	60.64 ms	213.97 g
HIC [15] = 1,606.57	58.32 ms	60.64 ms	213.97 g

Dummy:
Seating Position:
Driver

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

B-2

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

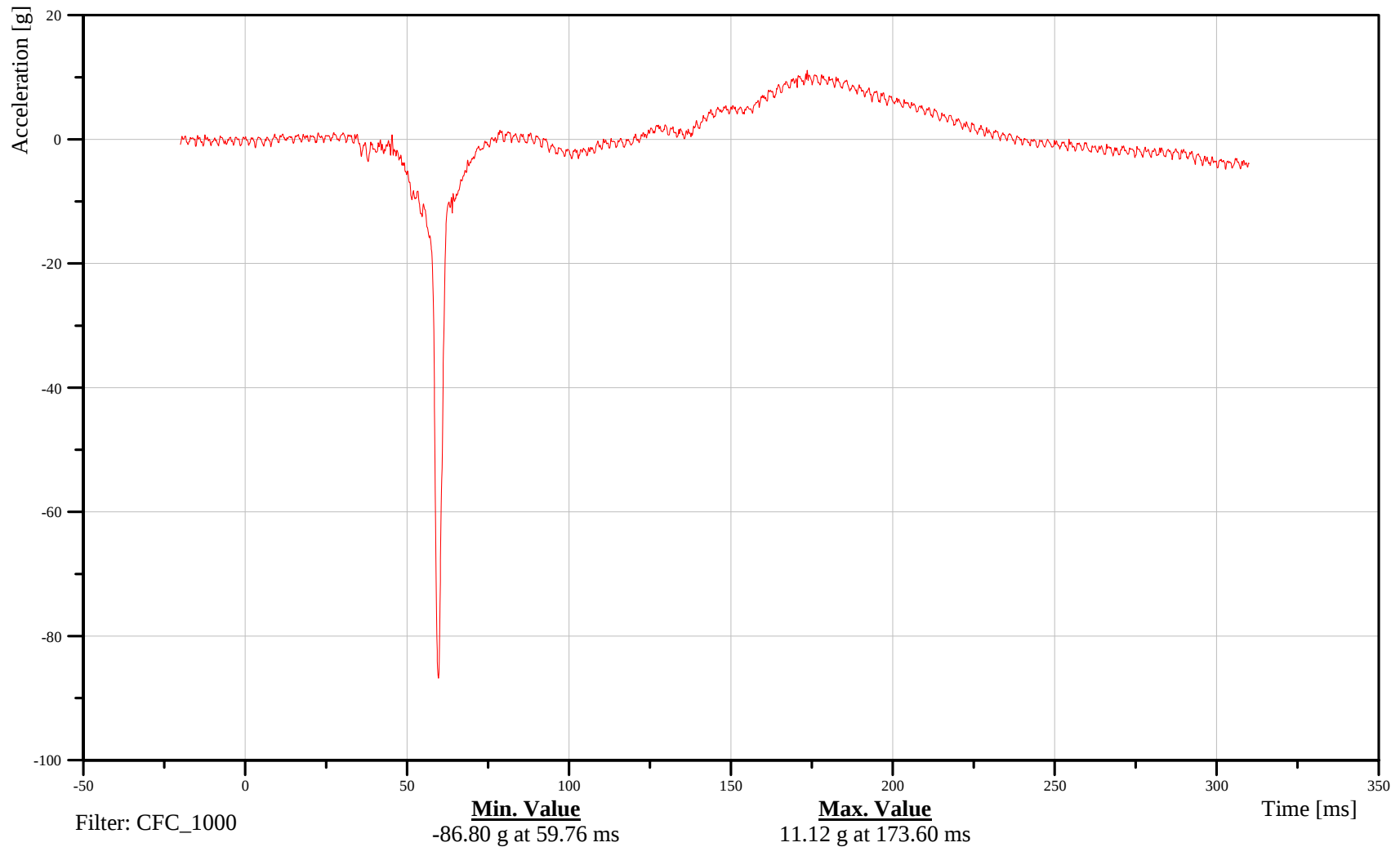
Head X-Axis Acceleration

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-3

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

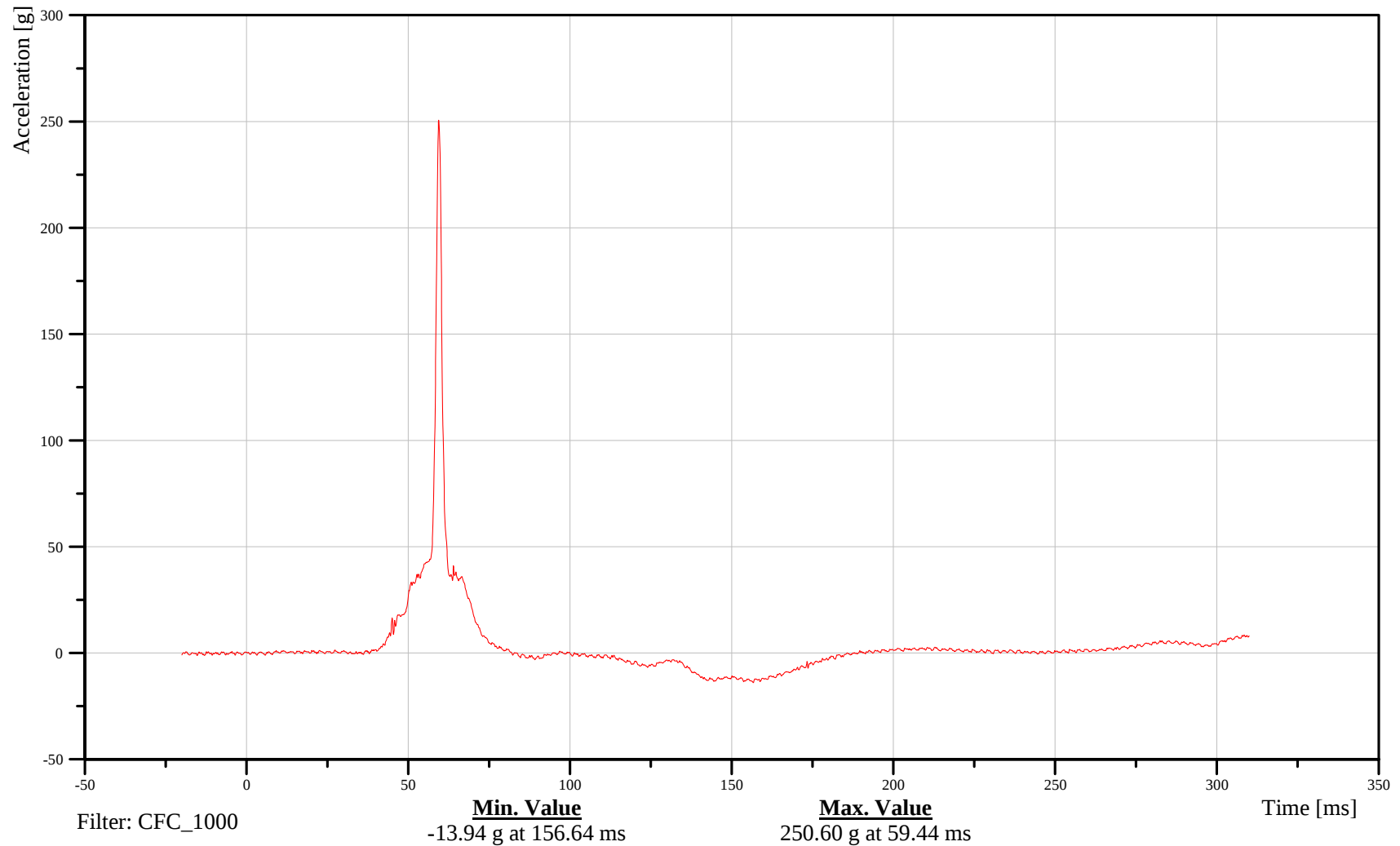
Head Y-Axis Acceleration

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-4

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

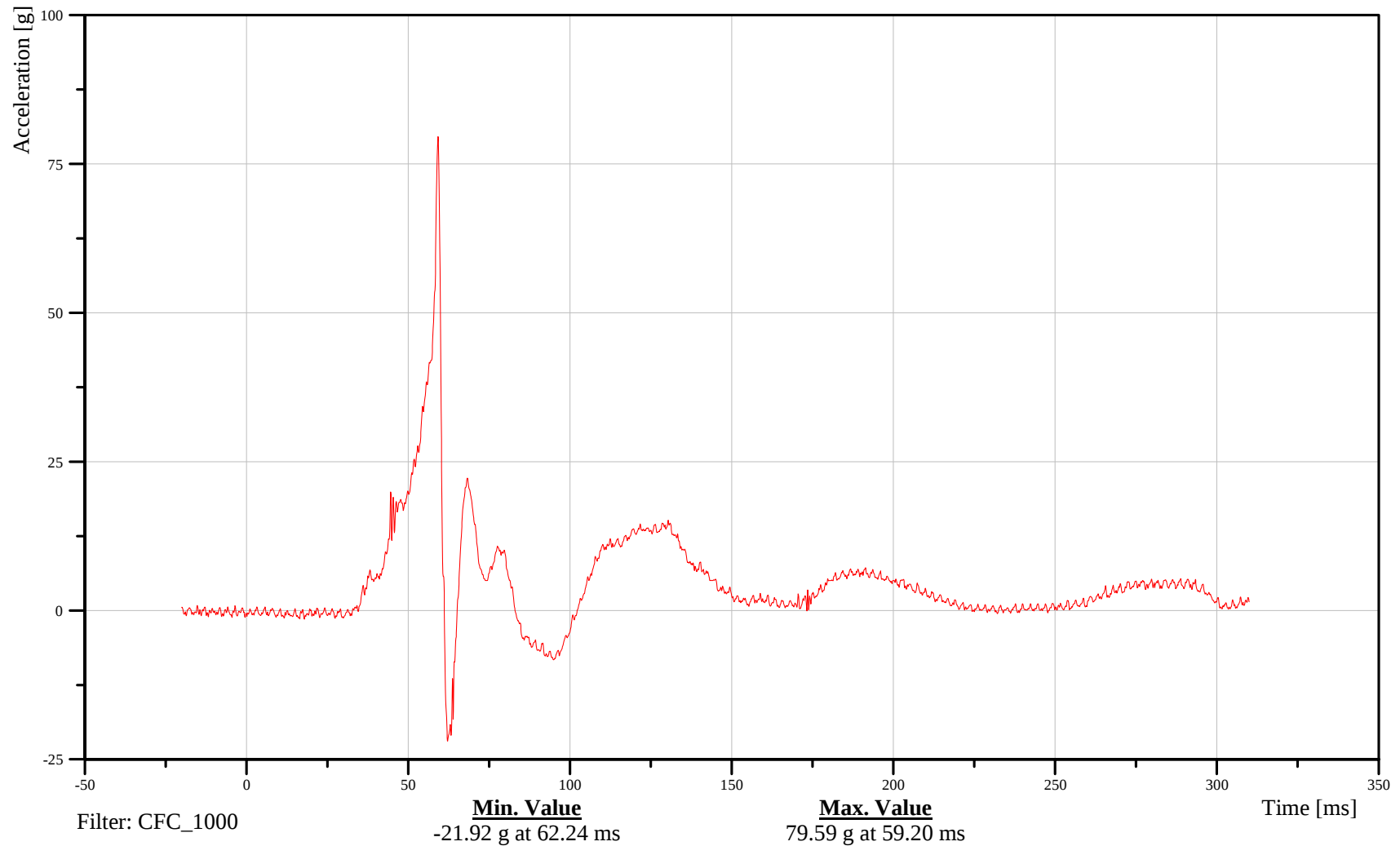
Head Z-Axis Acceleration

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-5

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

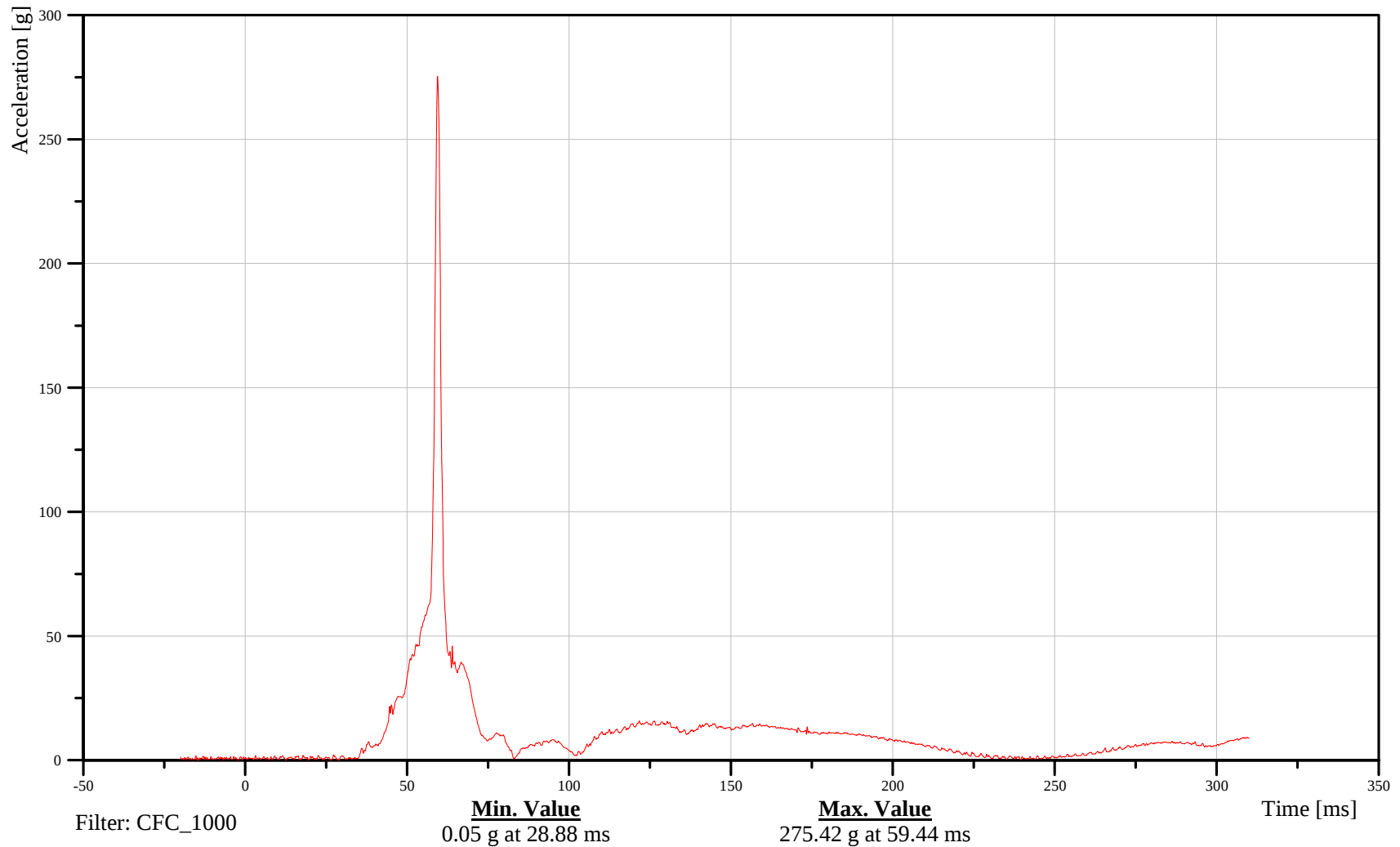
Head Resultant Acceleration

Customer: VRTC

11HEADCG00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-6

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

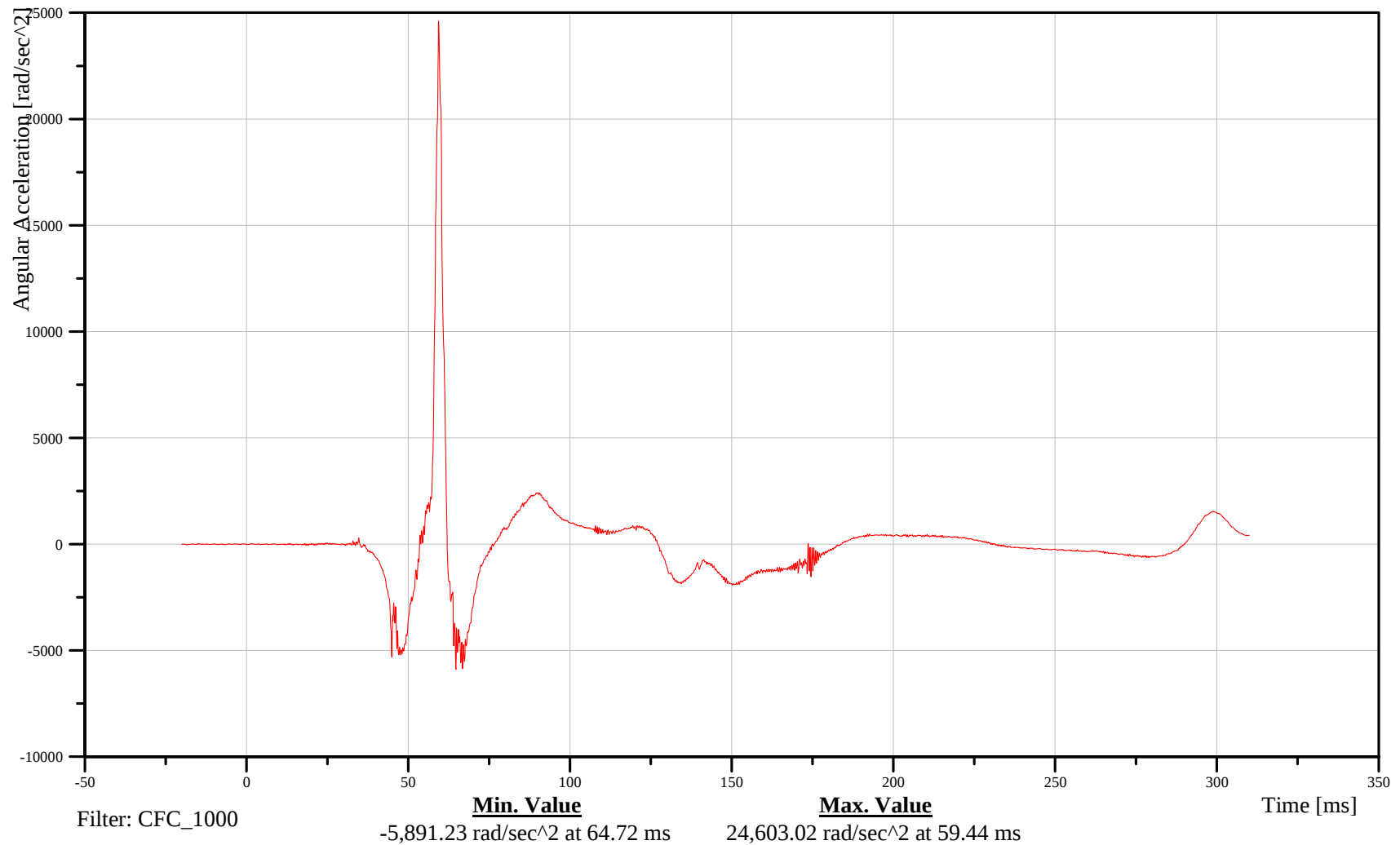
Head X-Axis Angular Displacement

Customer: VRTC

11HEADC00WSANXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-7

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

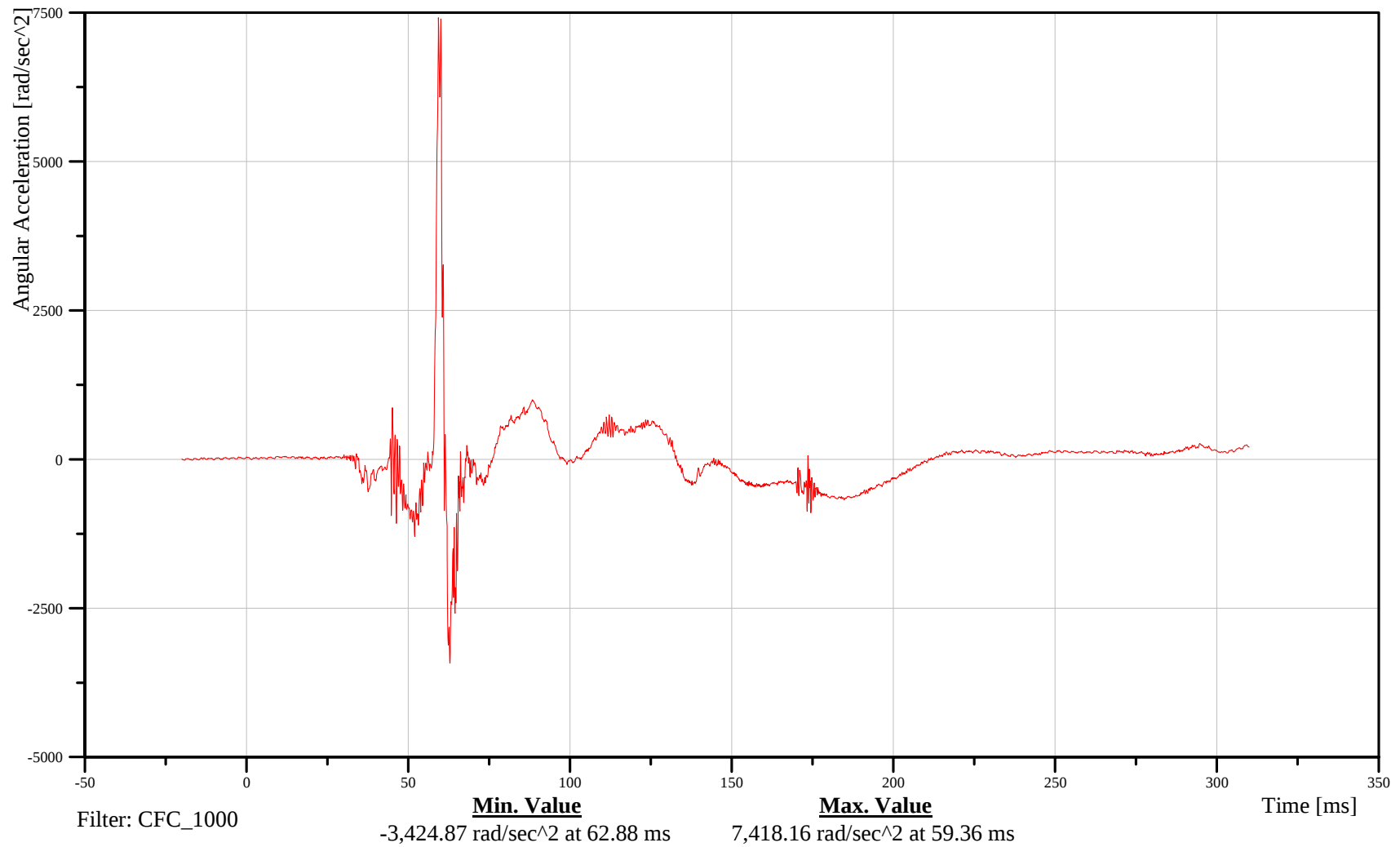
Head Y-Axis Angular Displacement

Customer: VRTC

11HEADCG00WSANYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-8

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

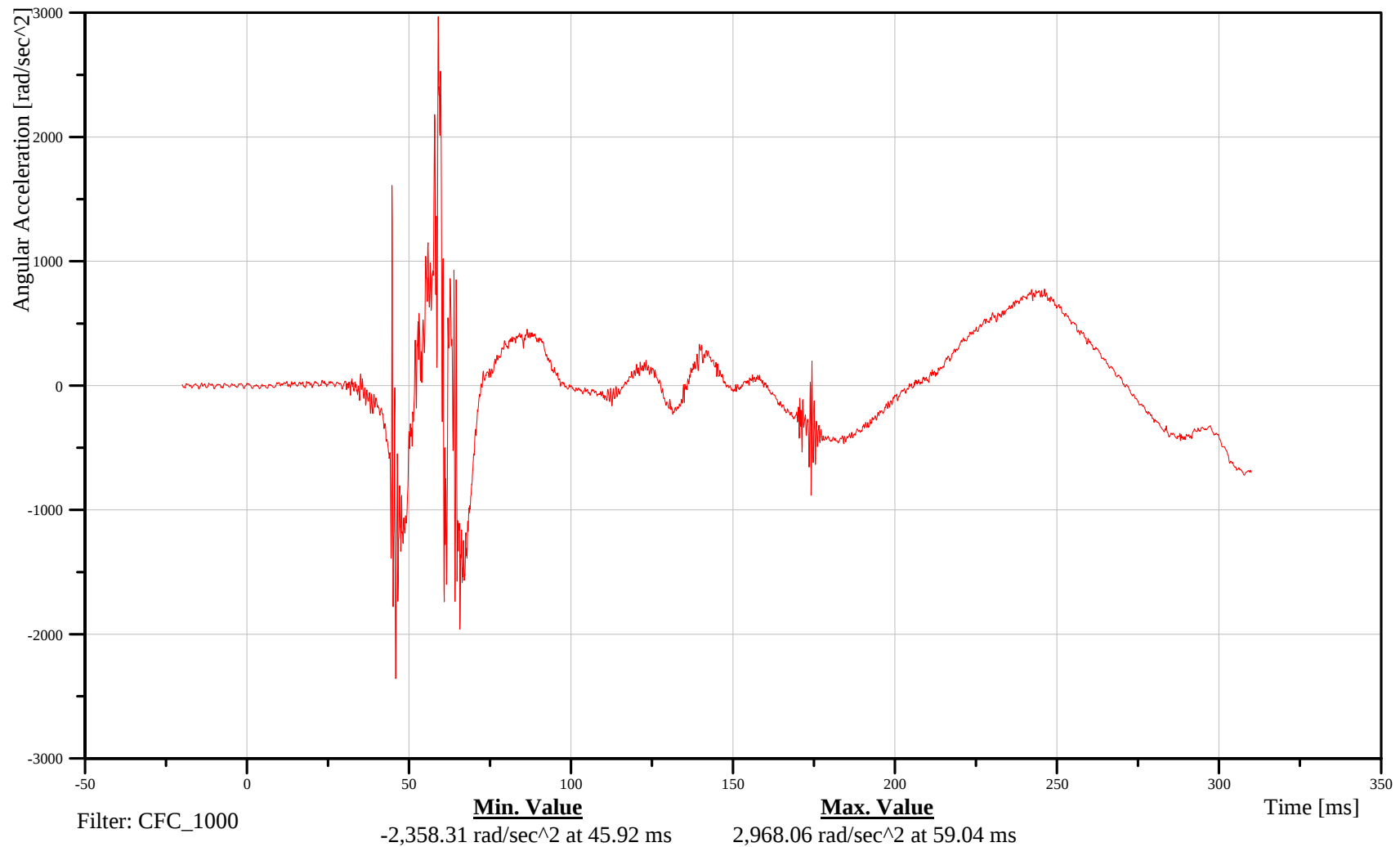
Head Z-Axis Angular Displacement

Customer: VRTC

11HEADCG00WSANZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-9

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

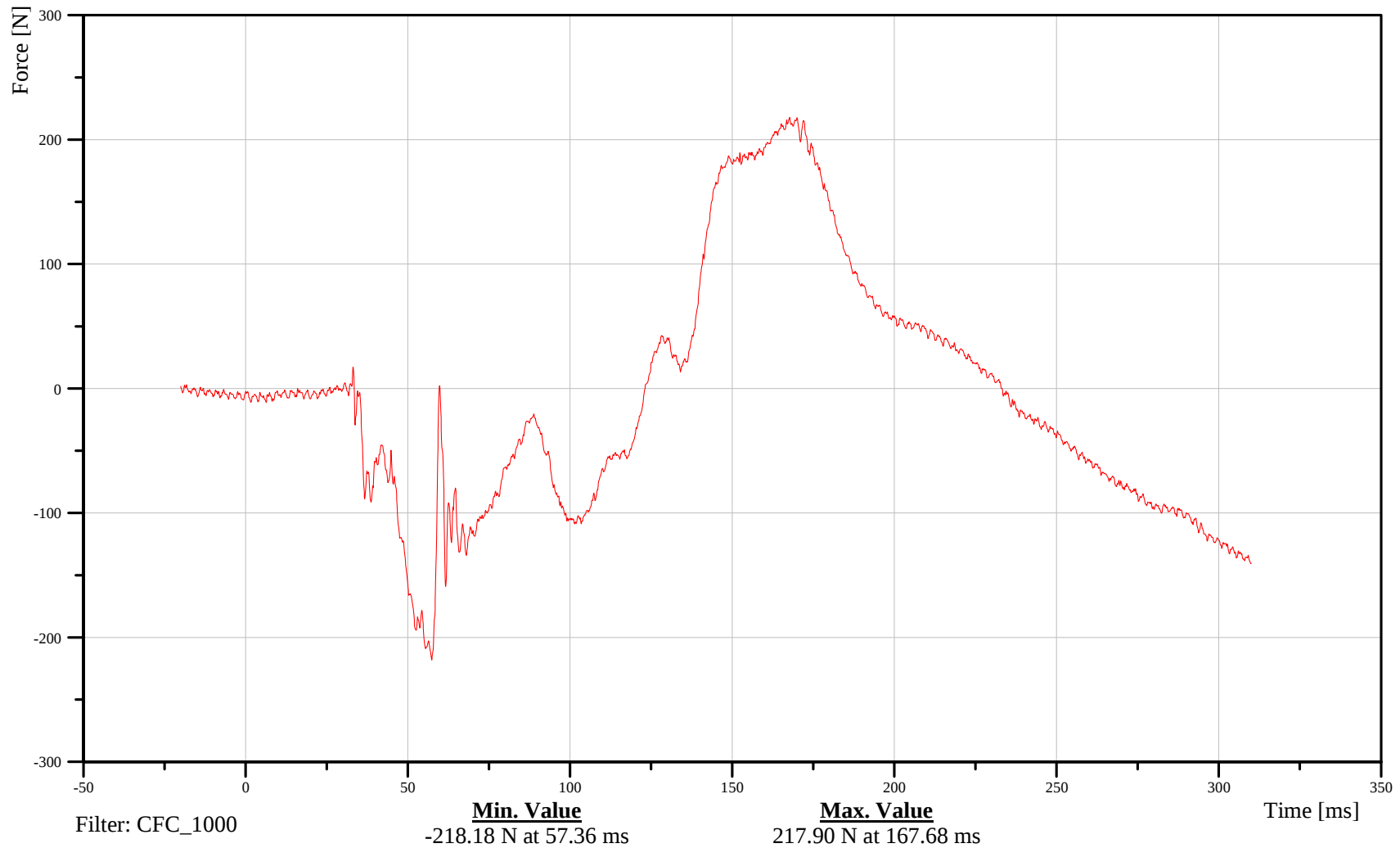
Upper Neck X-Axis Force

Customer: VRTC

11NECKUP00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-10

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

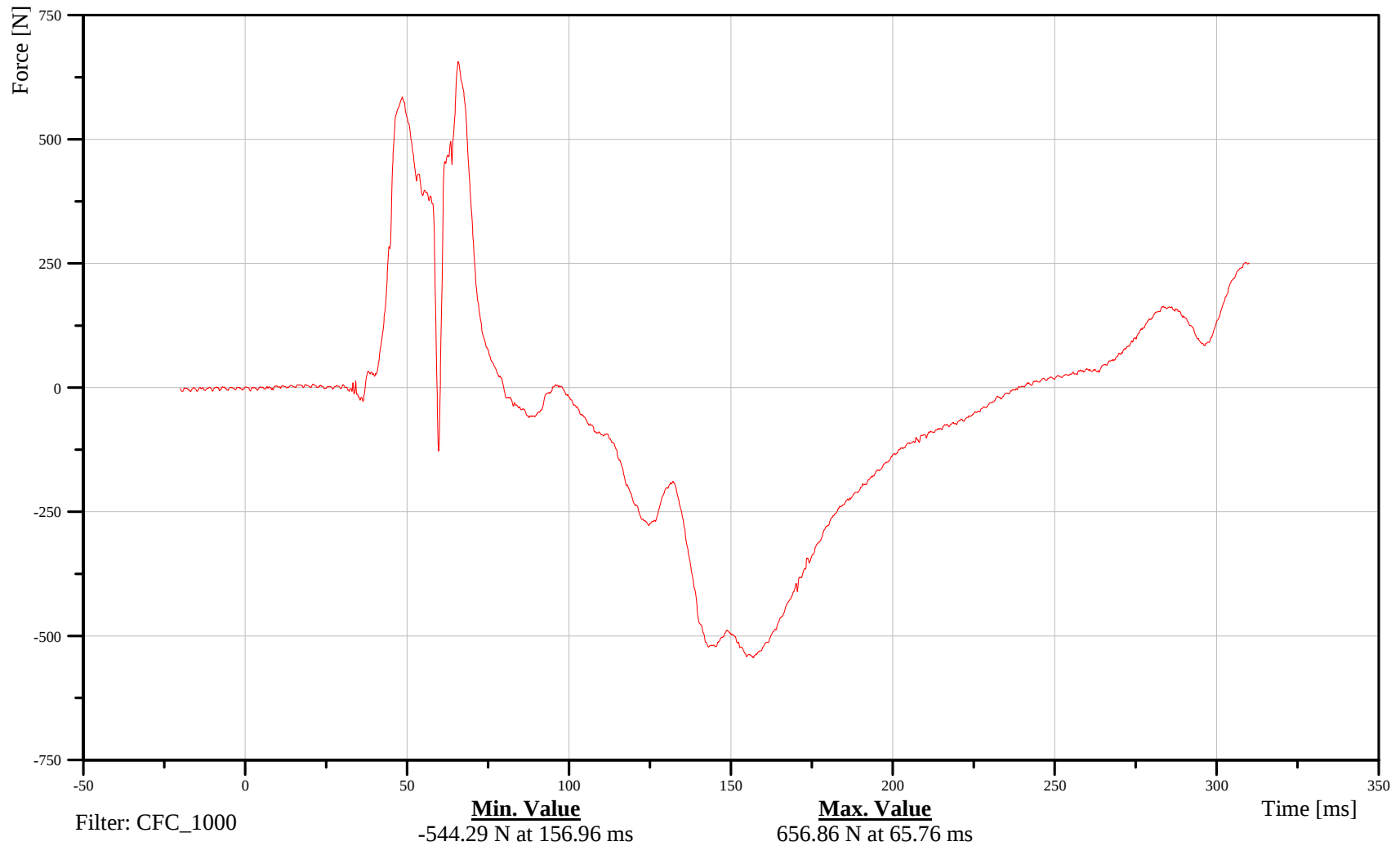
Upper Neck Y-Axis Force

Customer: VRTC

11NECKUP00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-11

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

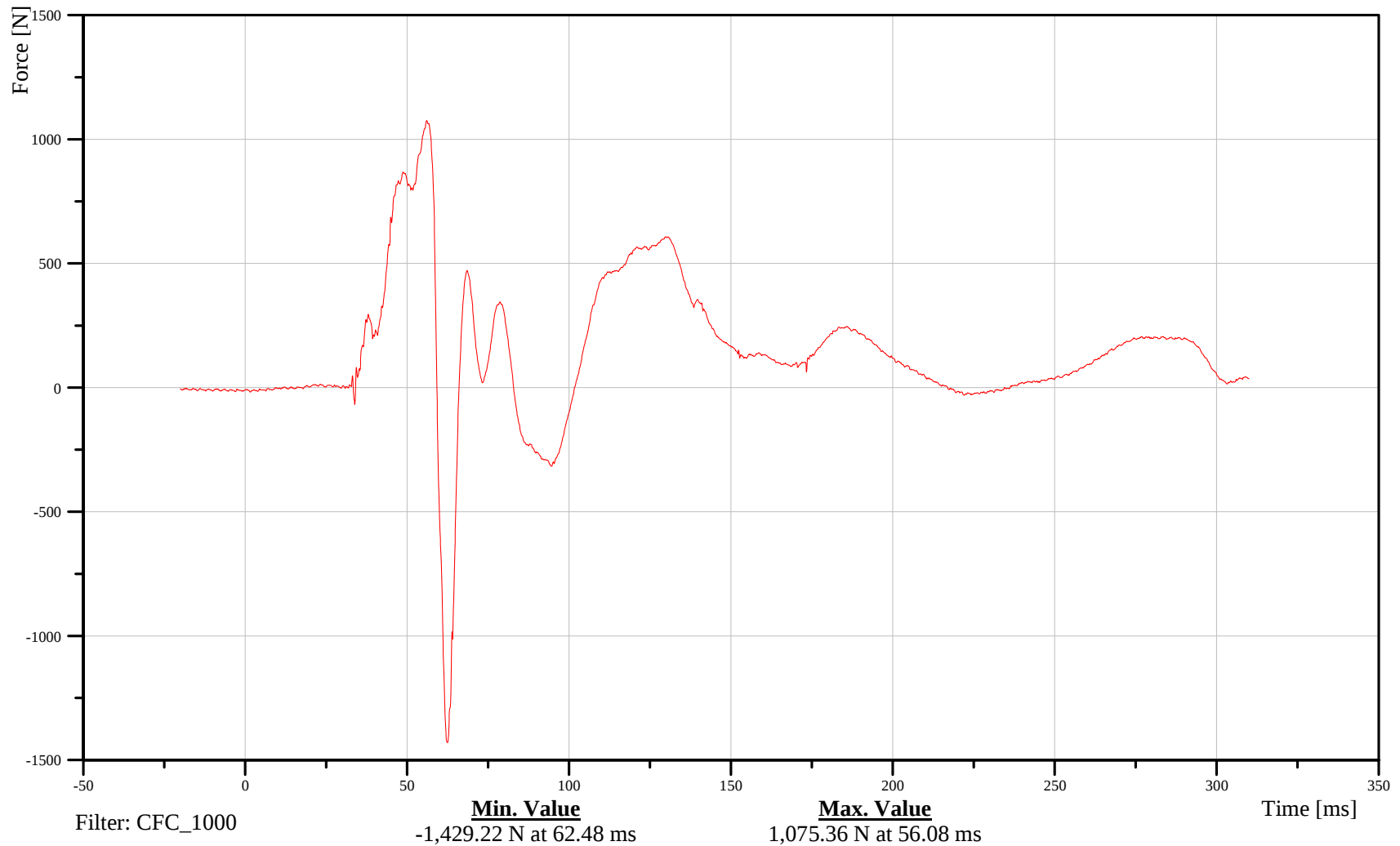
Upper Neck Z-Axis Force

Customer: VRTC

11NECKUP00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-12

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

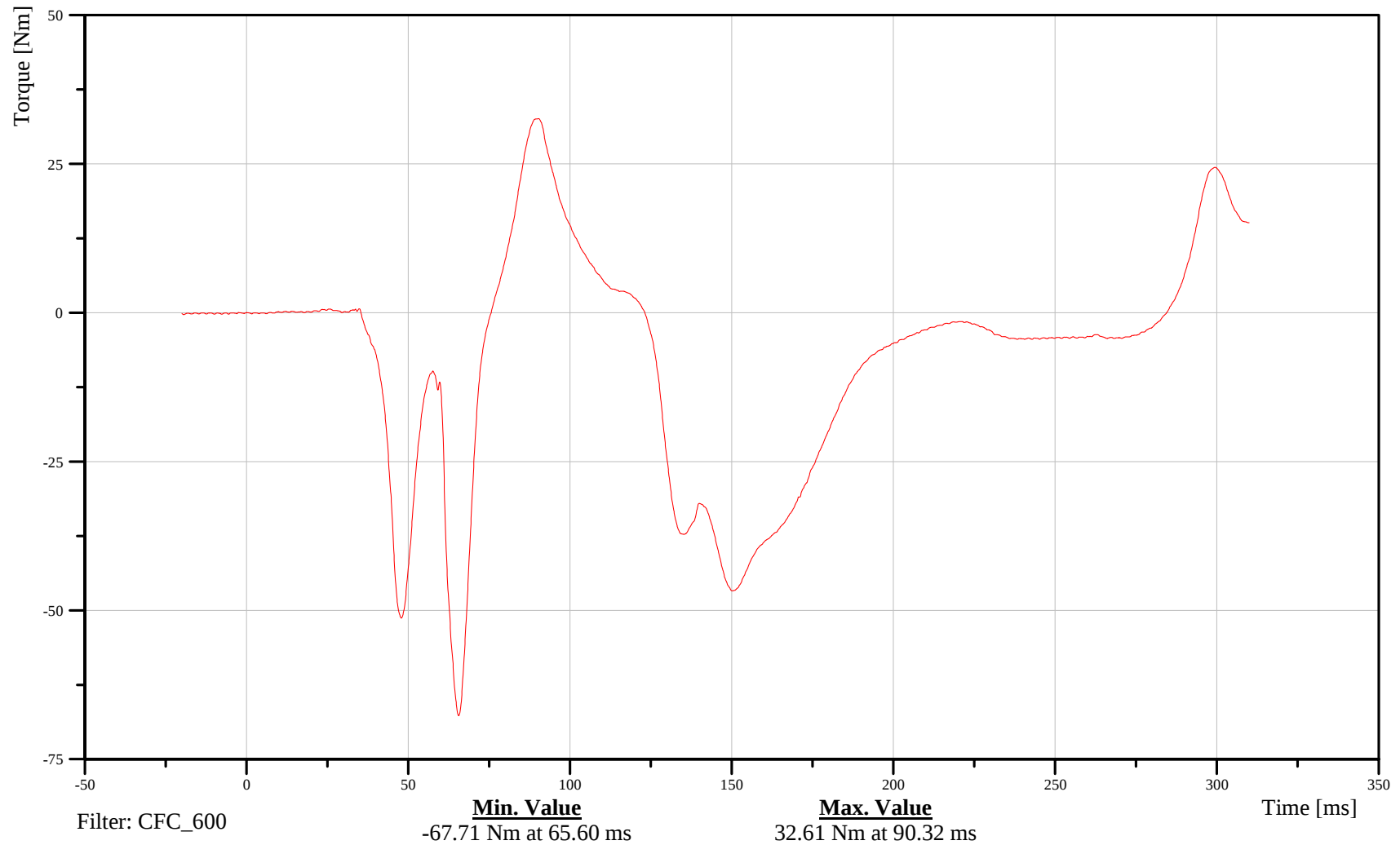
Upper Neck Moment About X Axis

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-13

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

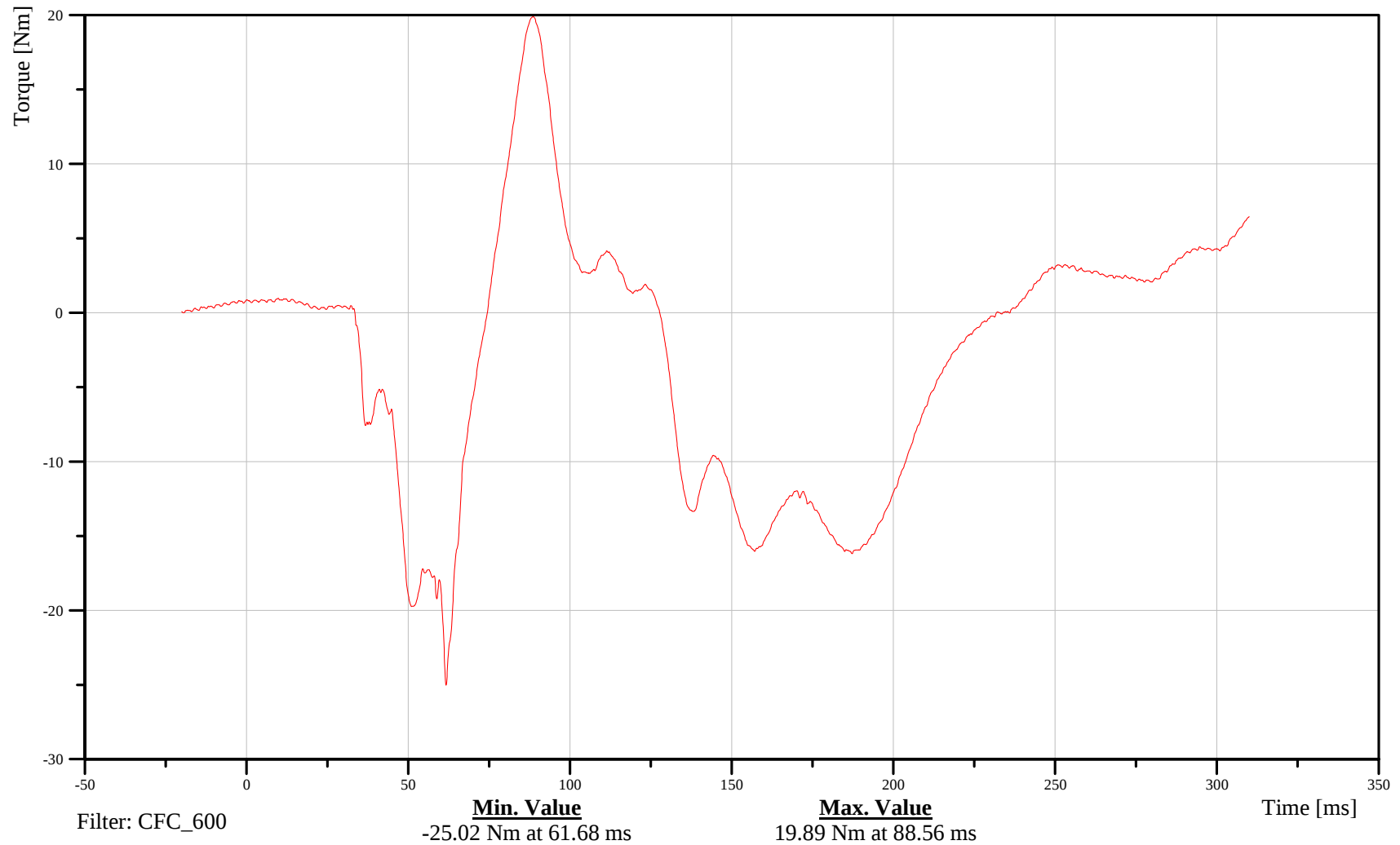
Upper Neck Moment About Y Axis

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-14

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

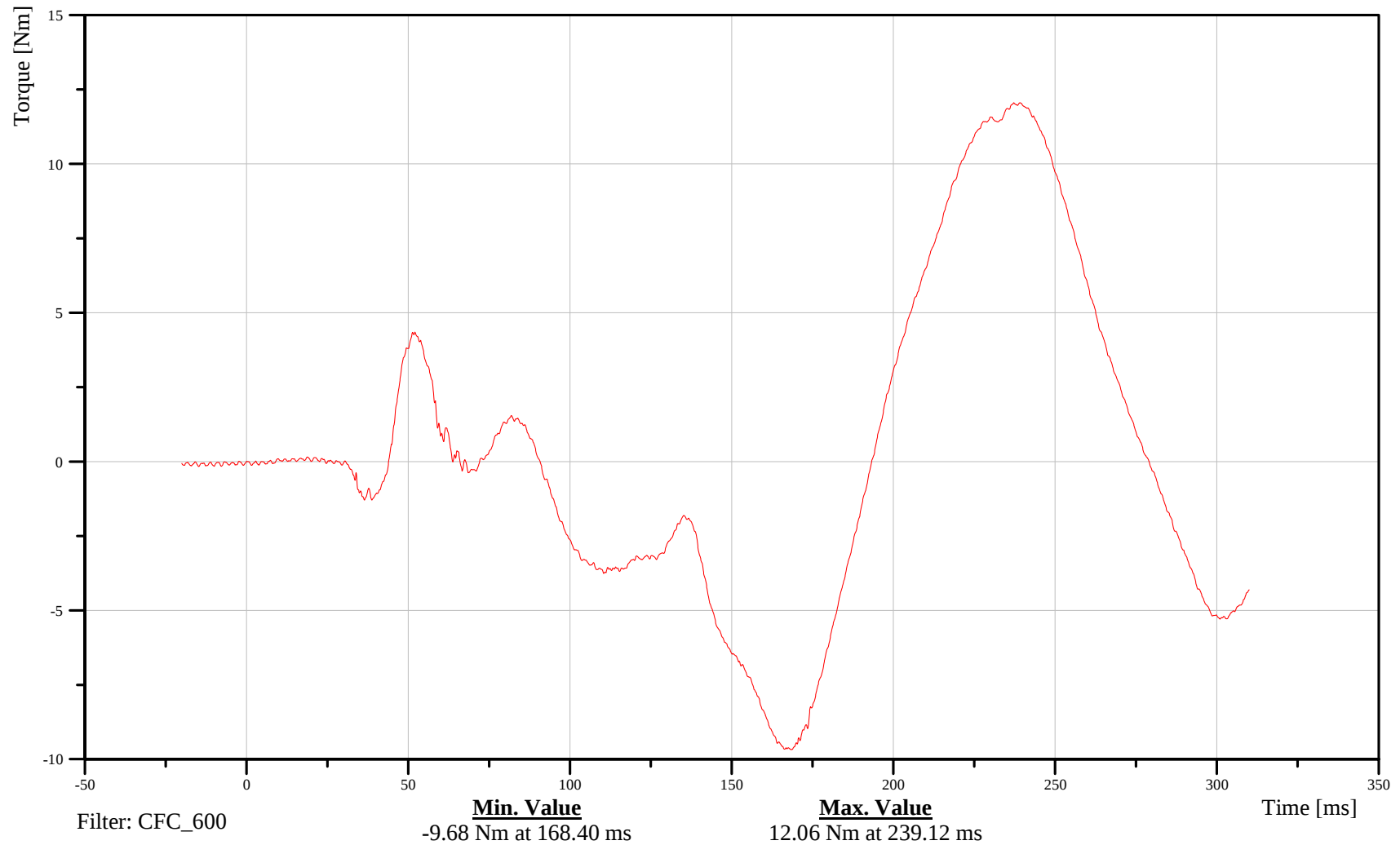
Upper Neck Moment About Z Axis

Customer: VRTC

11NECKUP00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-15

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

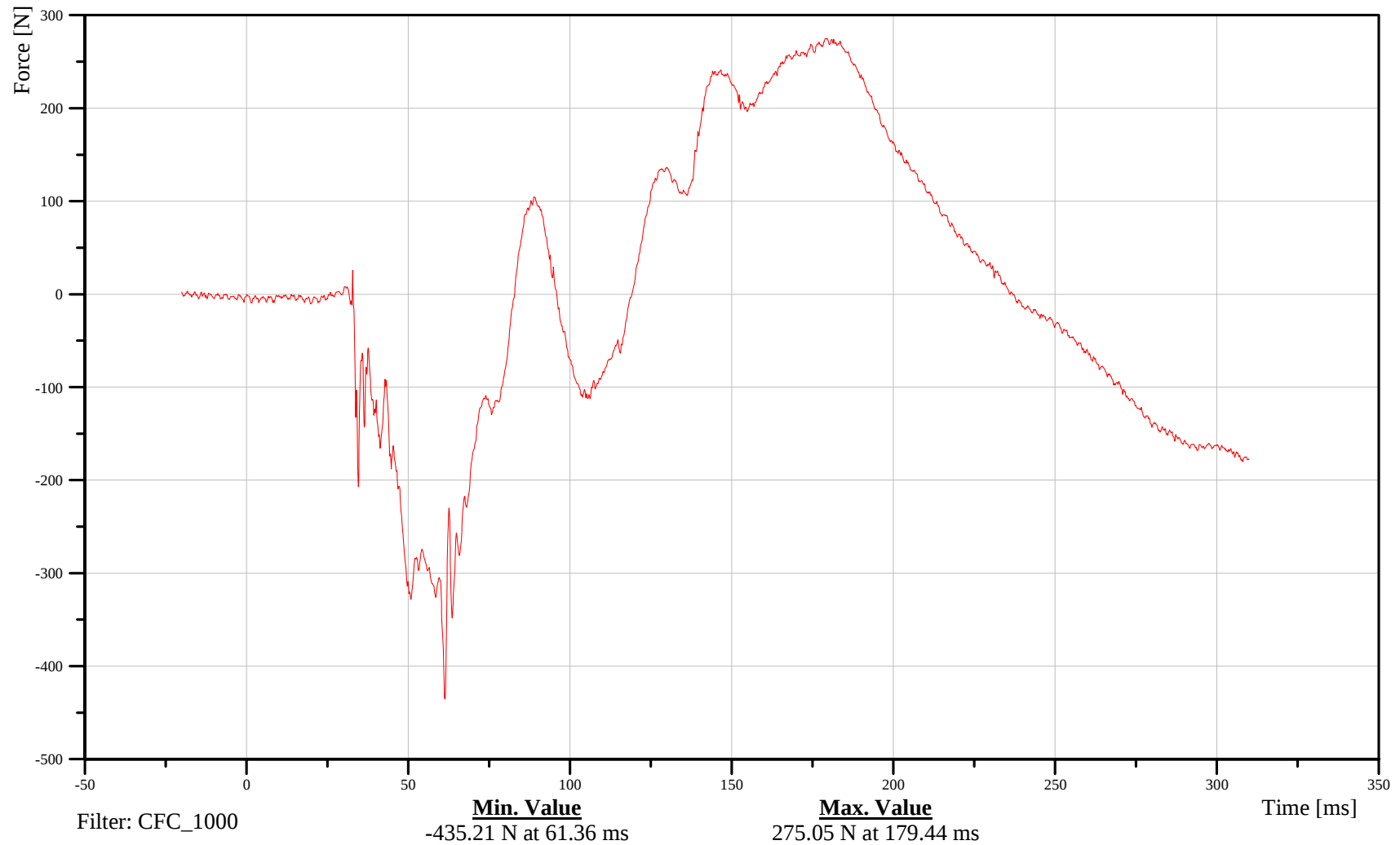
Lower Neck X-Axis Force

Customer: VRTC

11NECKLO00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-16

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

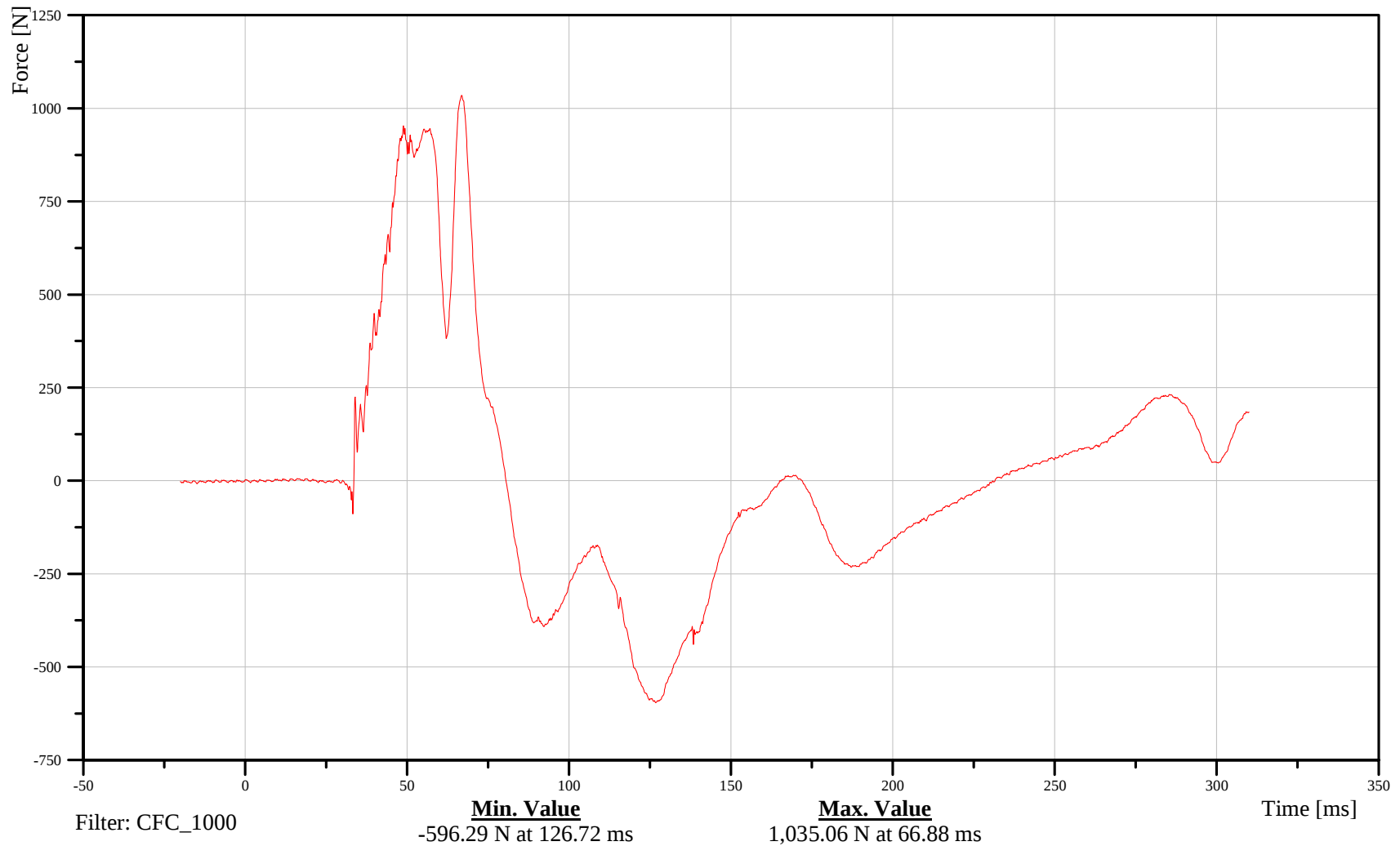
Lower Neck Y-Axis Force

Customer: VRTC

11NECKLO00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-17

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

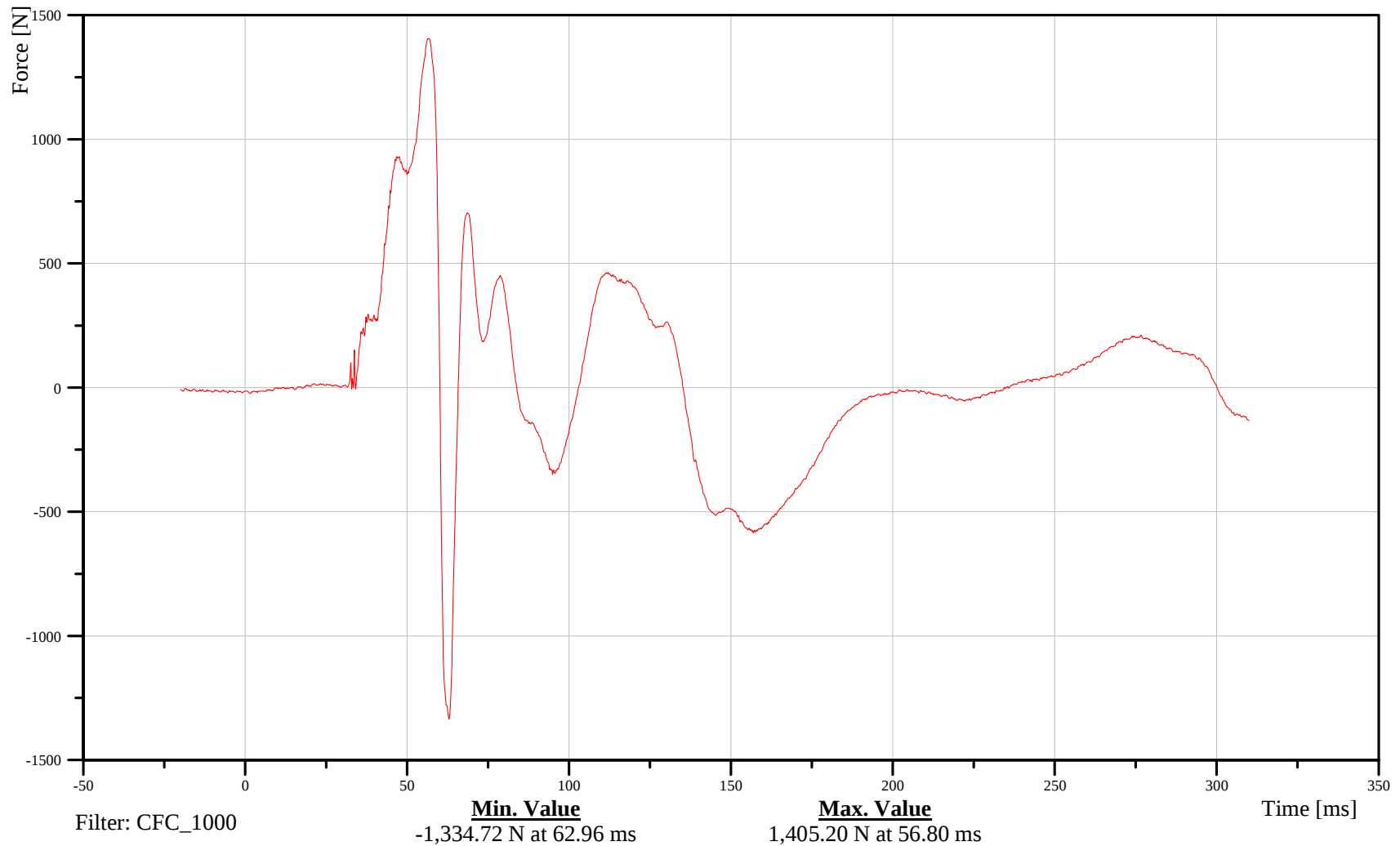
Lower Neck Z-Axis Force

Customer: VRTC

11NECKLO00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-18

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

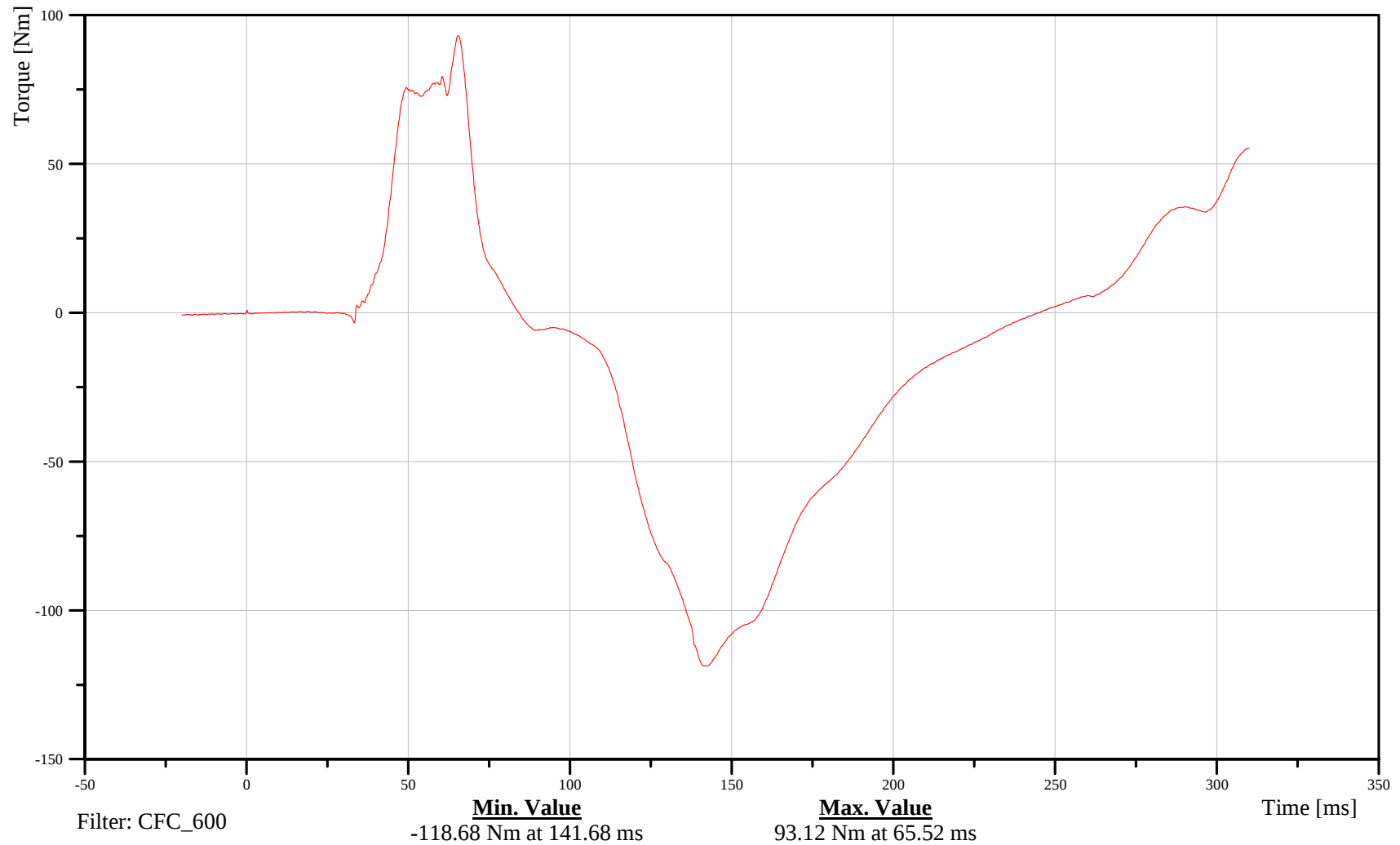
Lower Neck Moment About X Axis

Customer: VRTC

11NECKLO00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-19

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

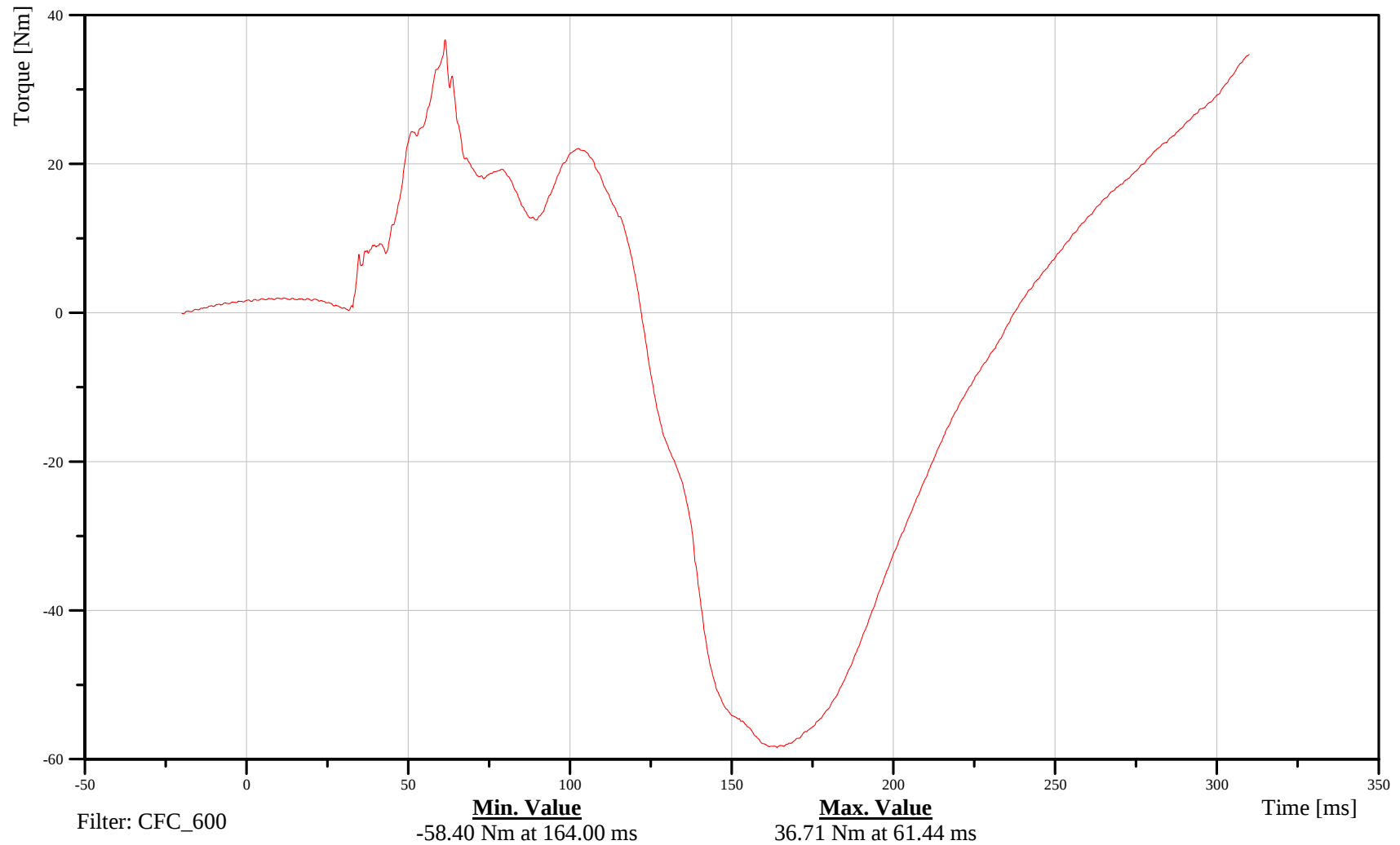
Lower Neck Moment About Y Axis

Customer: VRTC

11NECKLO00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-20

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

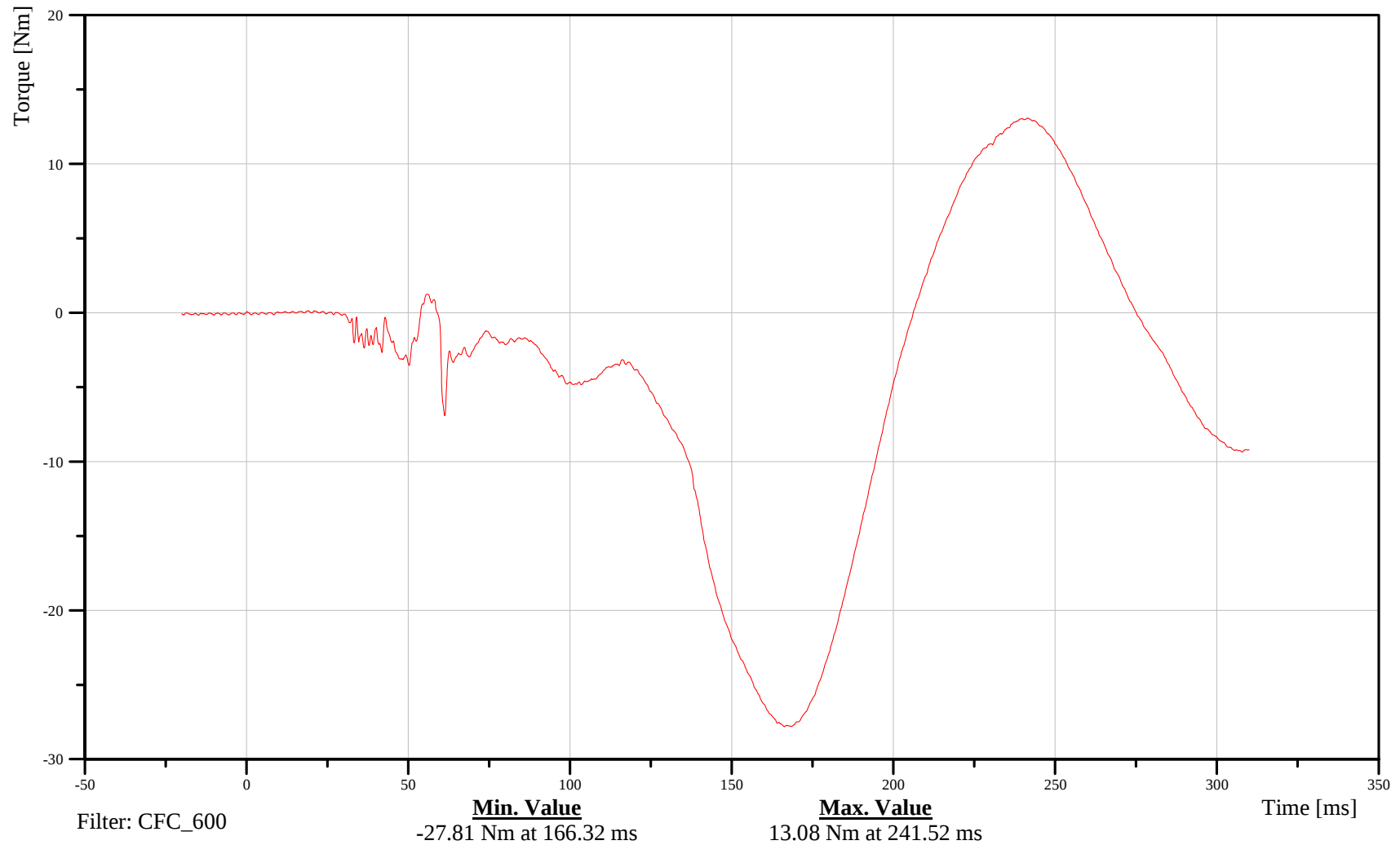
Lower Neck Moment About Z Axis

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-21

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

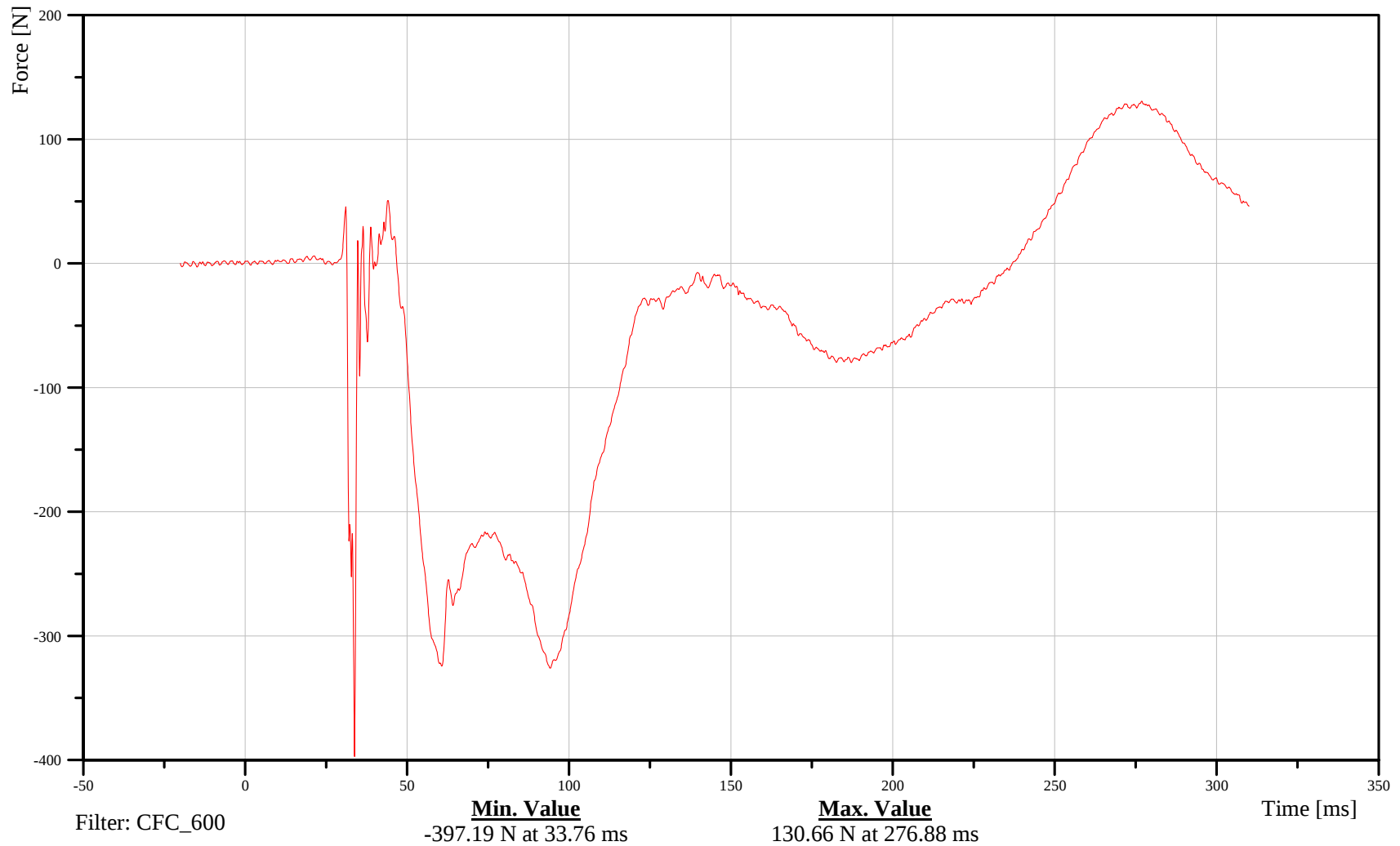
Shoulder X-Axis Force

Customer: VRTC

11SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-22

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

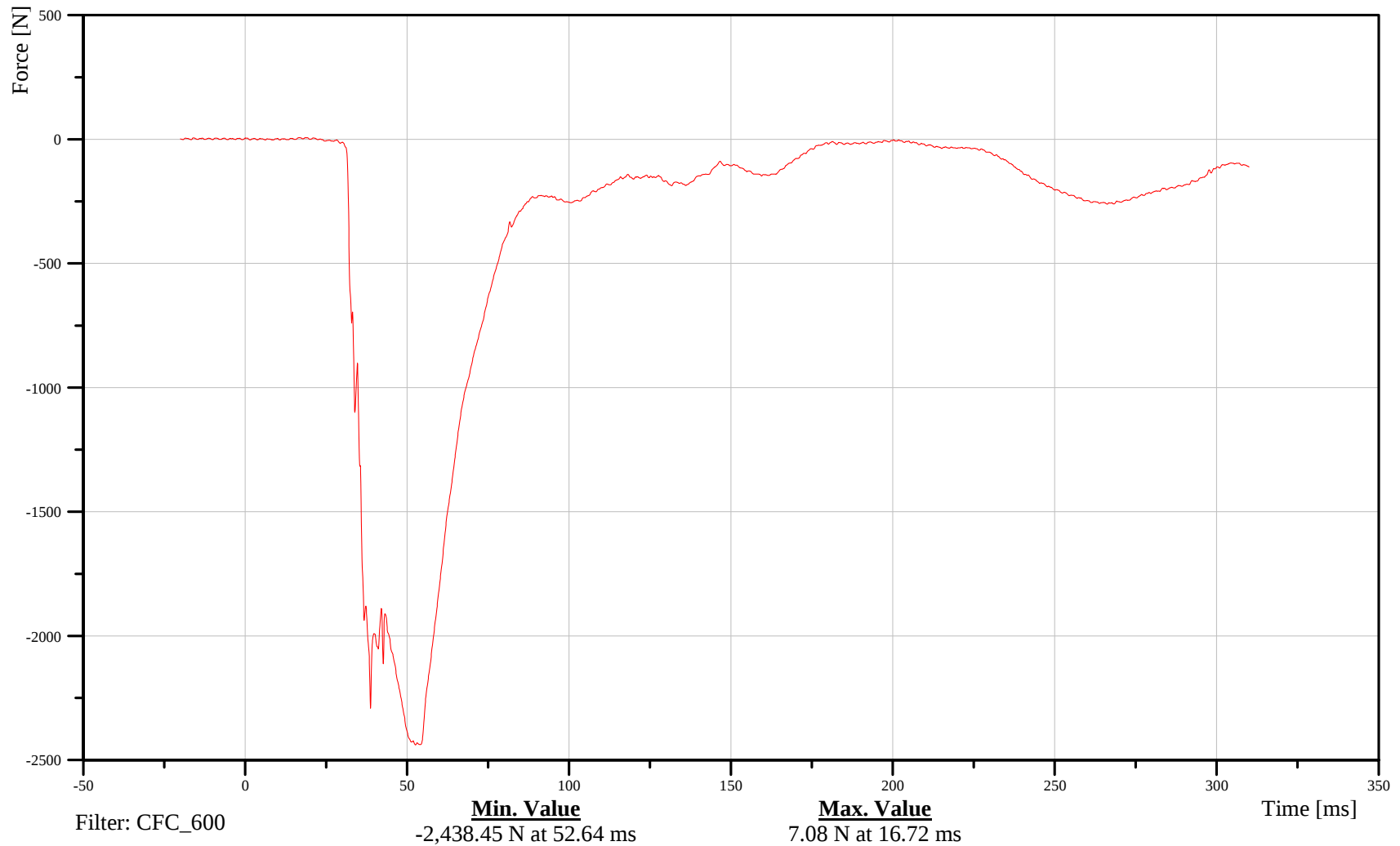
Shoulder Y-Axis Force

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-23

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

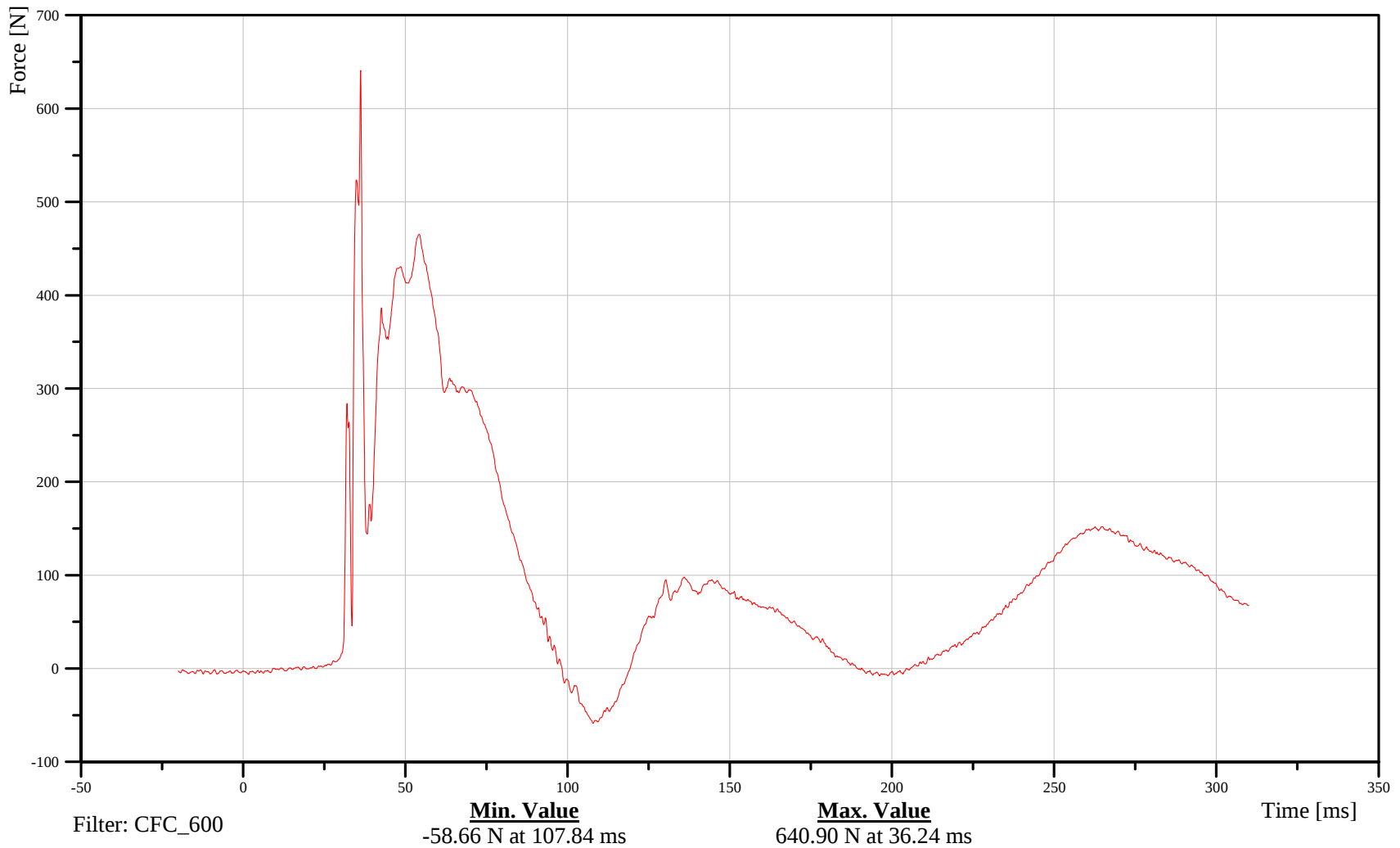
Shoulder Z-Axis Force

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-24

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

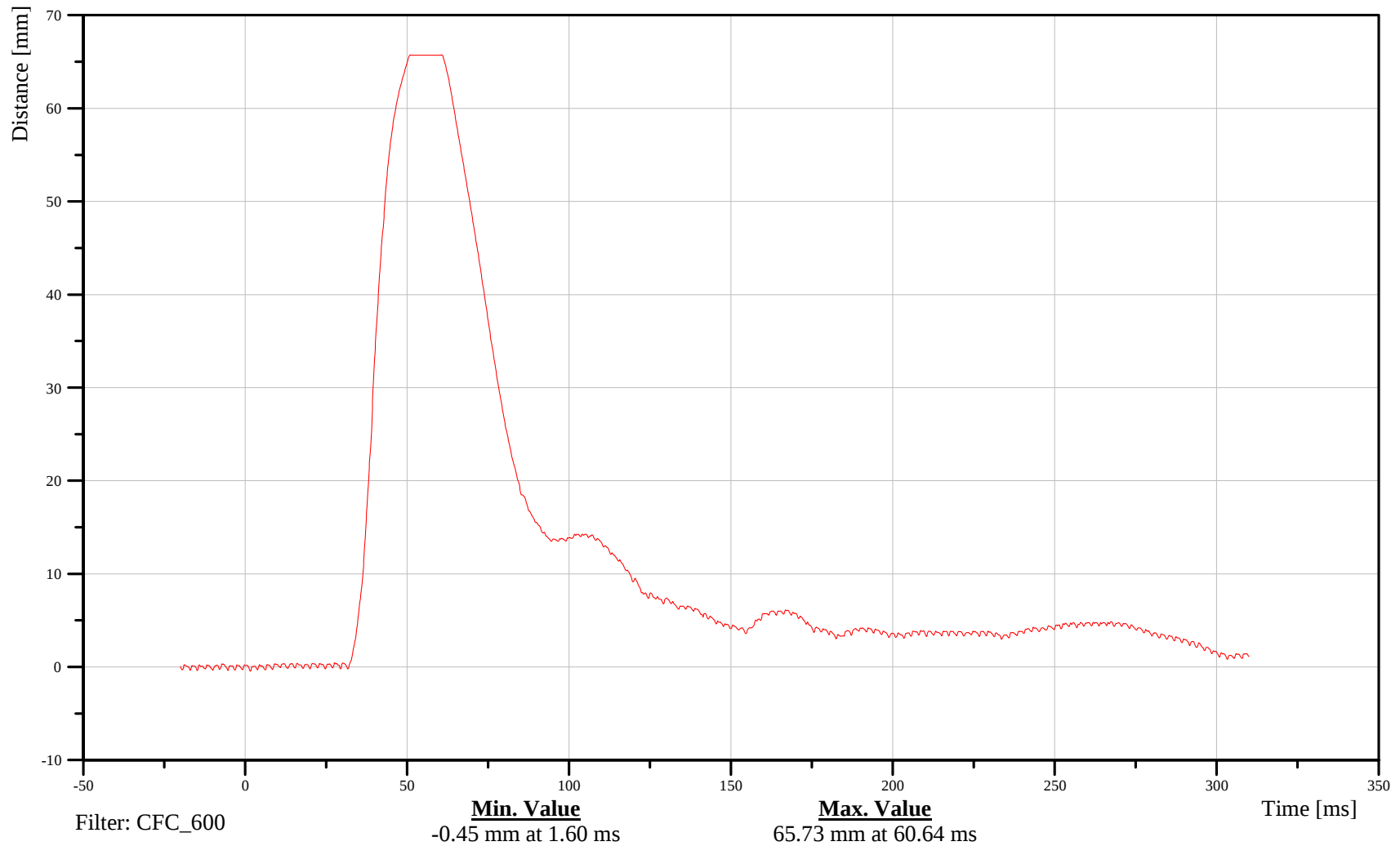
Shoulder Y-Axis Displacement

Customer: VRTC

11SHLDLE00WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-25

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

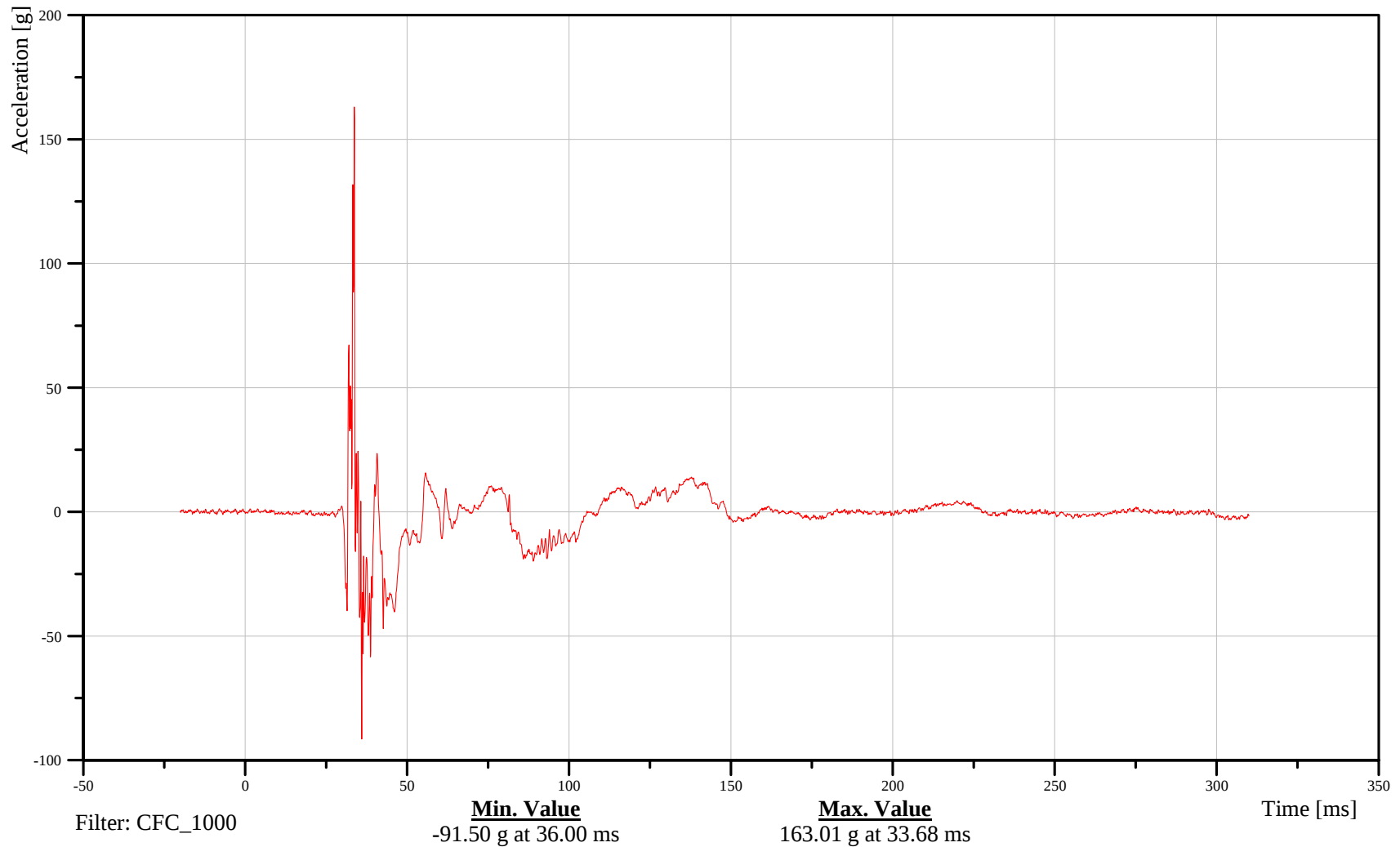
Shoulder X-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-26

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

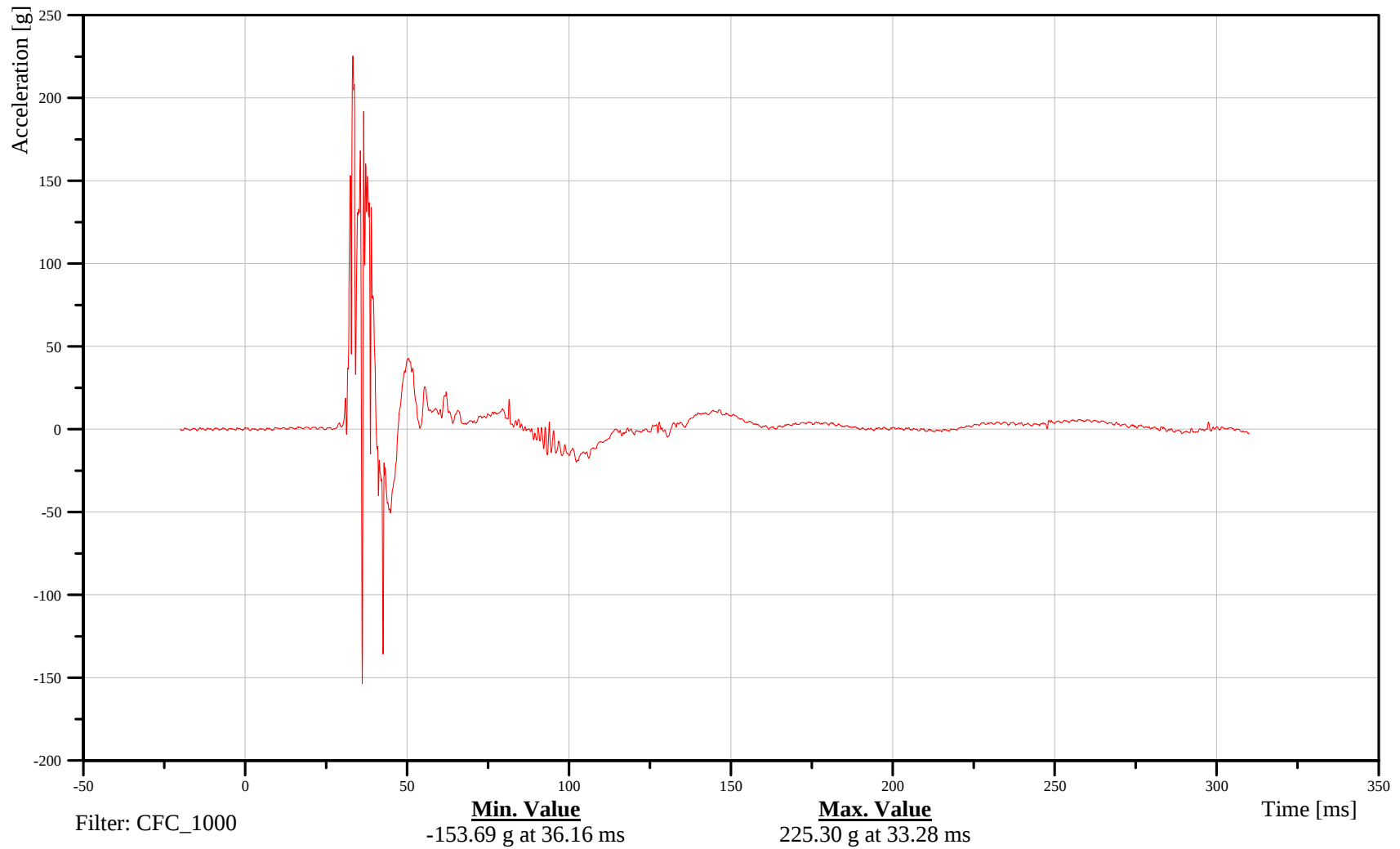
Shoulder Y-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-27

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

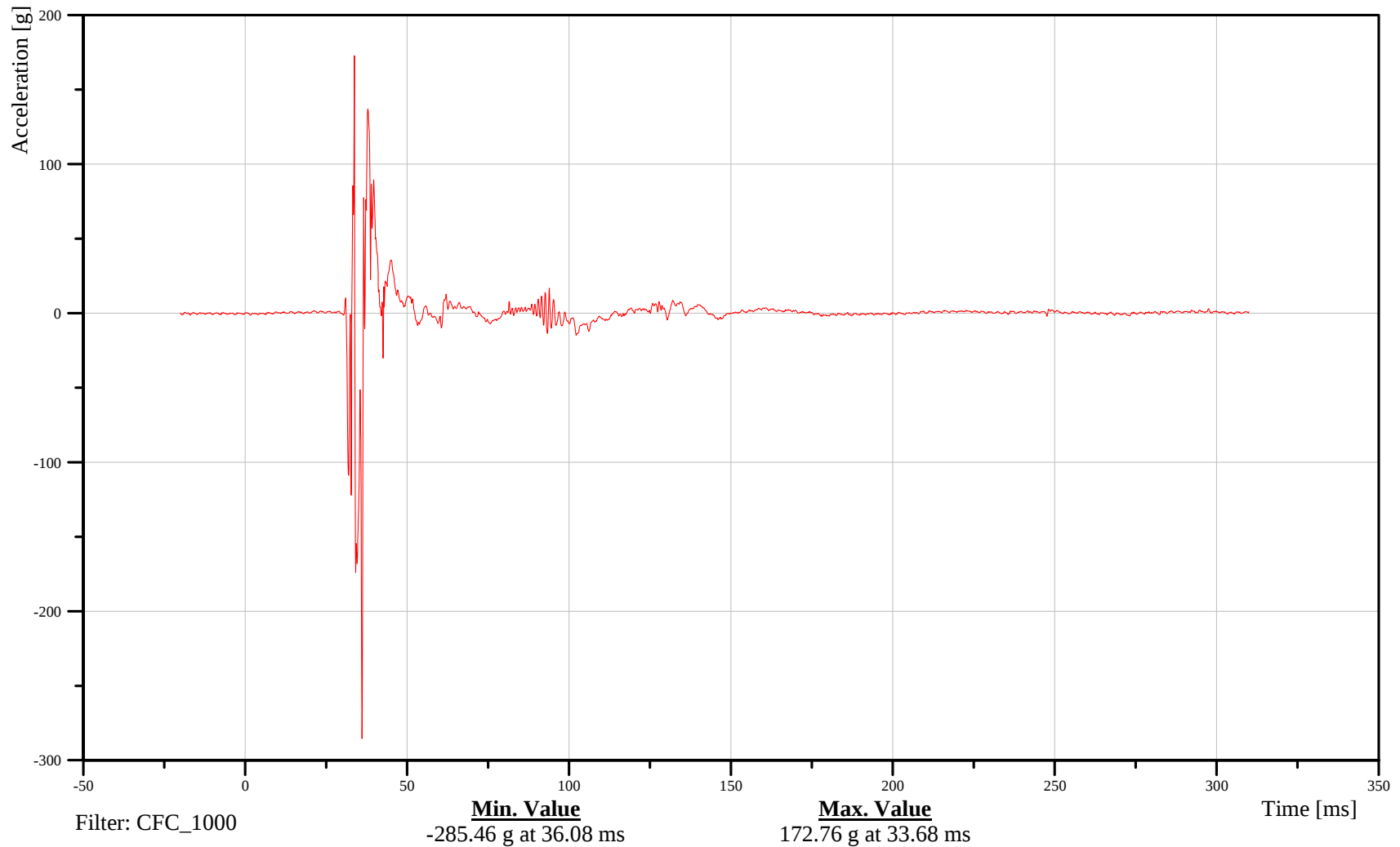
Shoulder Z-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-28

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

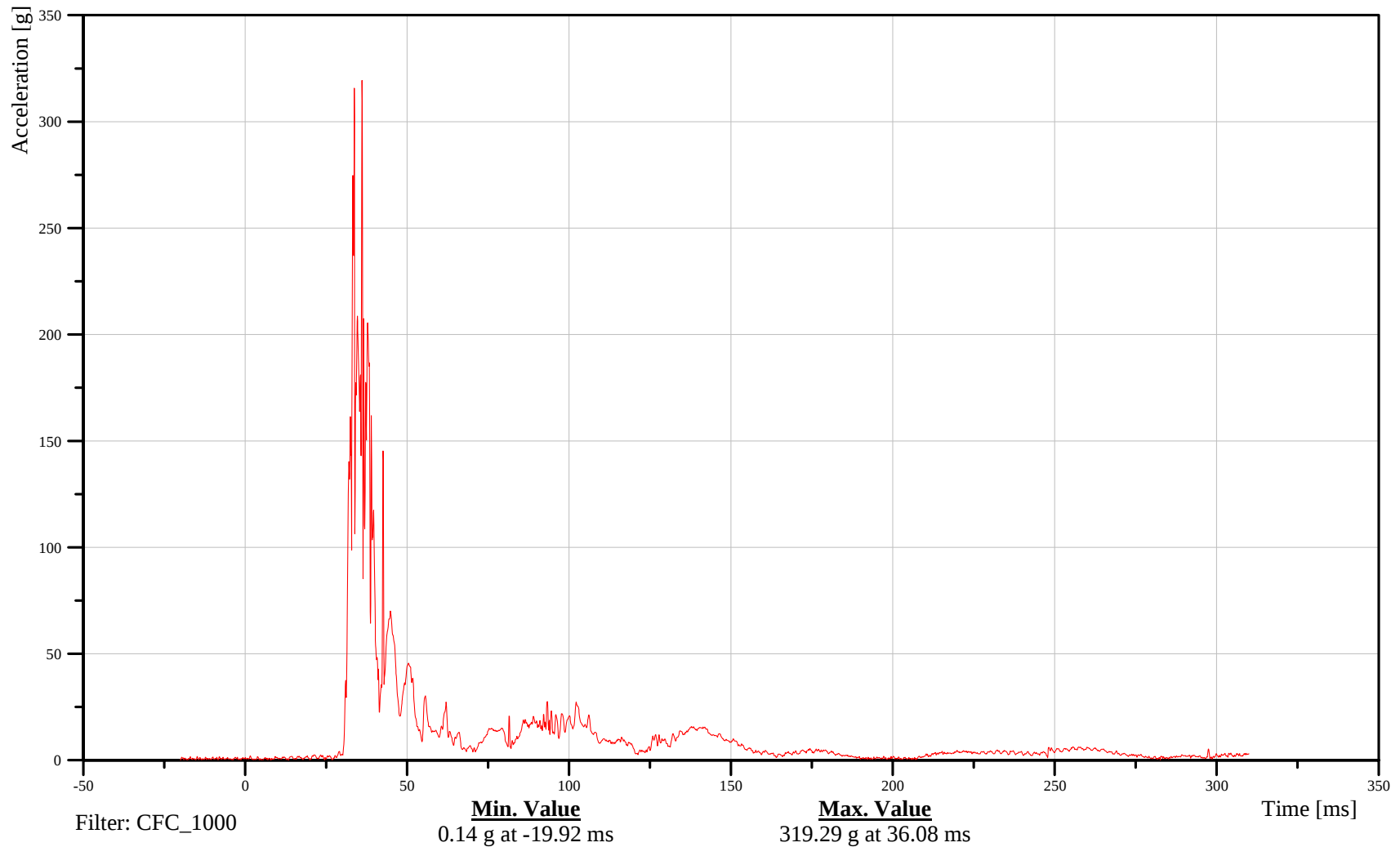
Shoulder Resultant Acceleration

Customer: VRTC

11SHLDLE00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-29

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

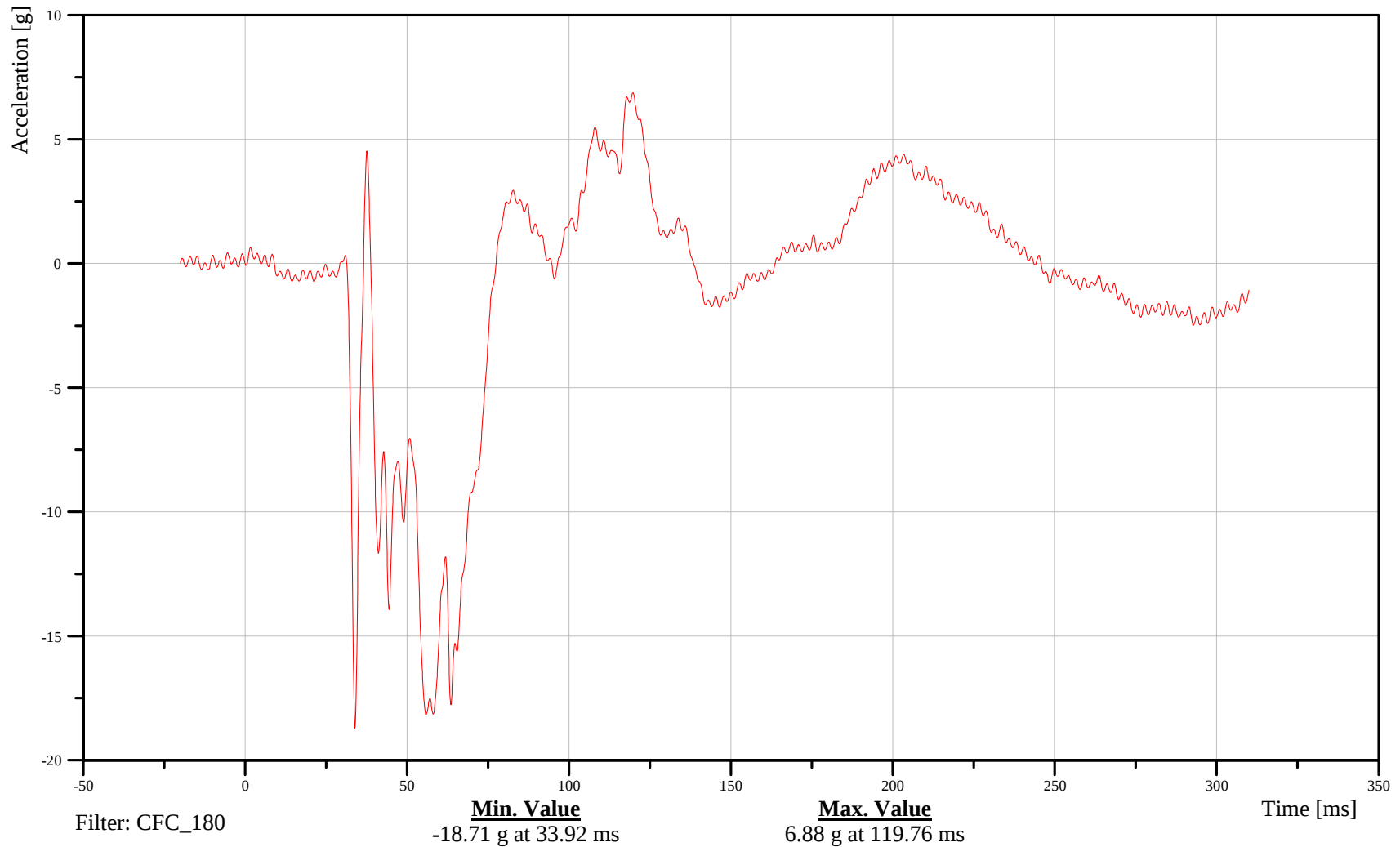
T1 X-Axis Acceleration

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-30

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

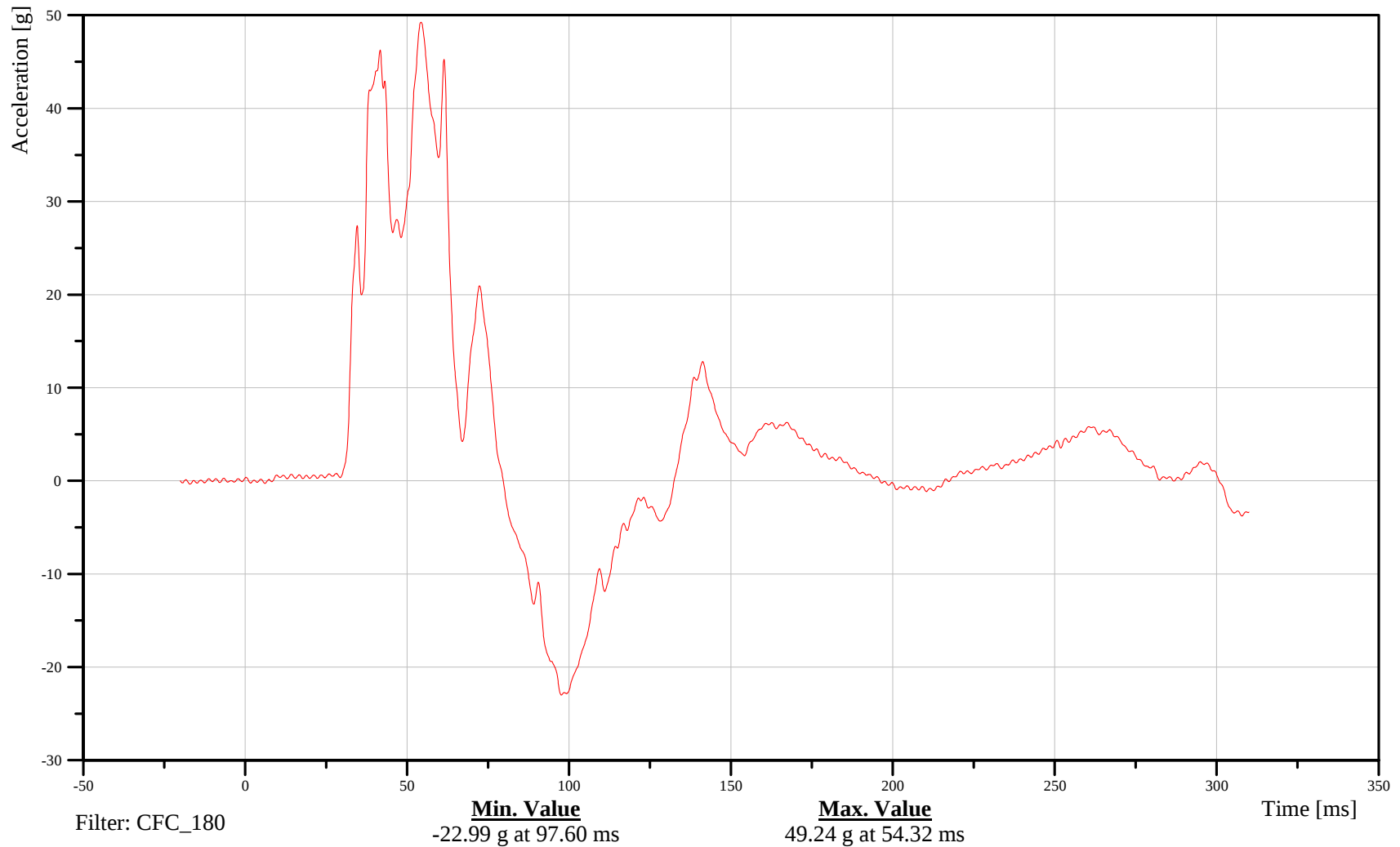
T1 Y-Axis Acceleration

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-31

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

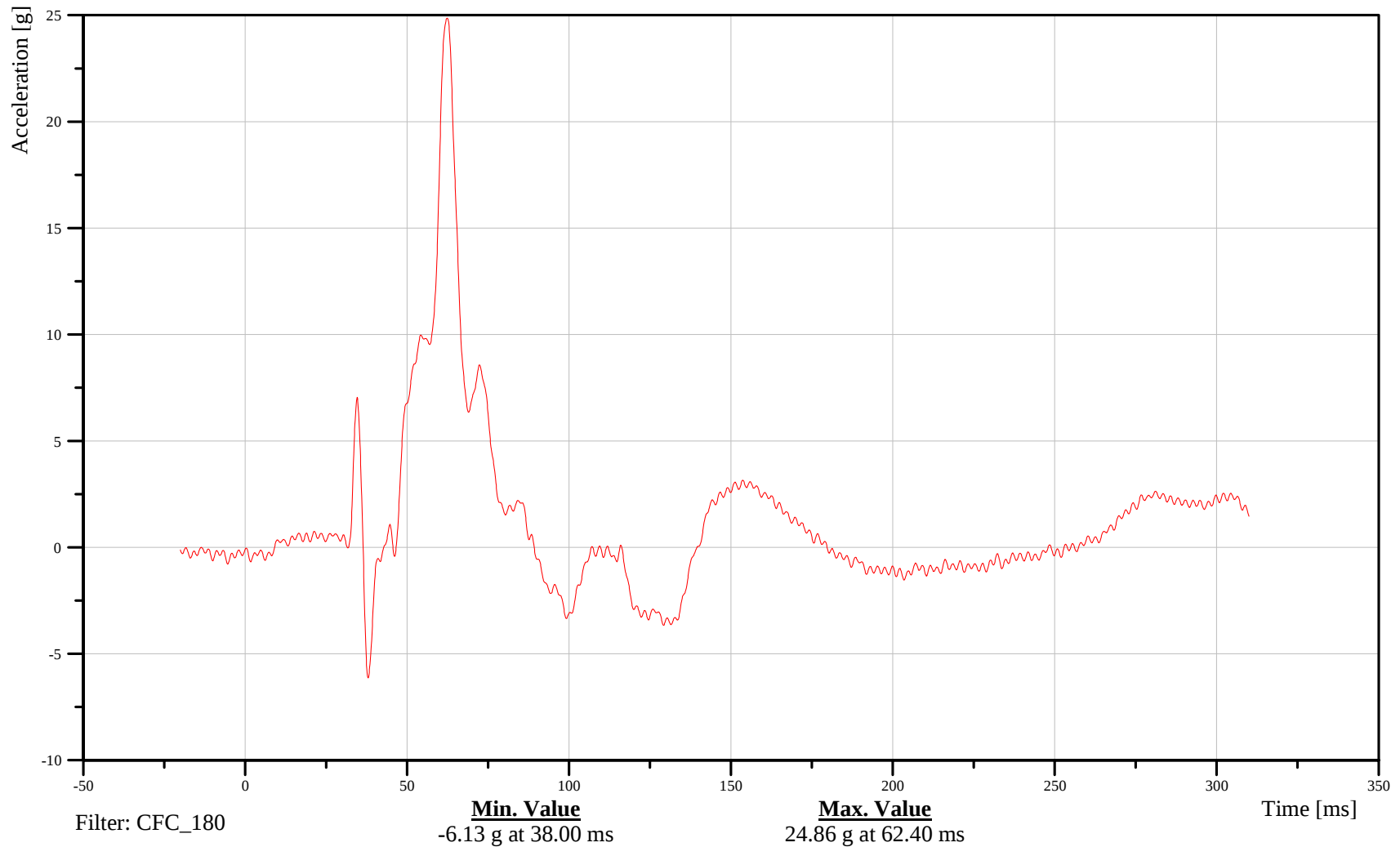
T1 Z-Axis Acceleration

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-32

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

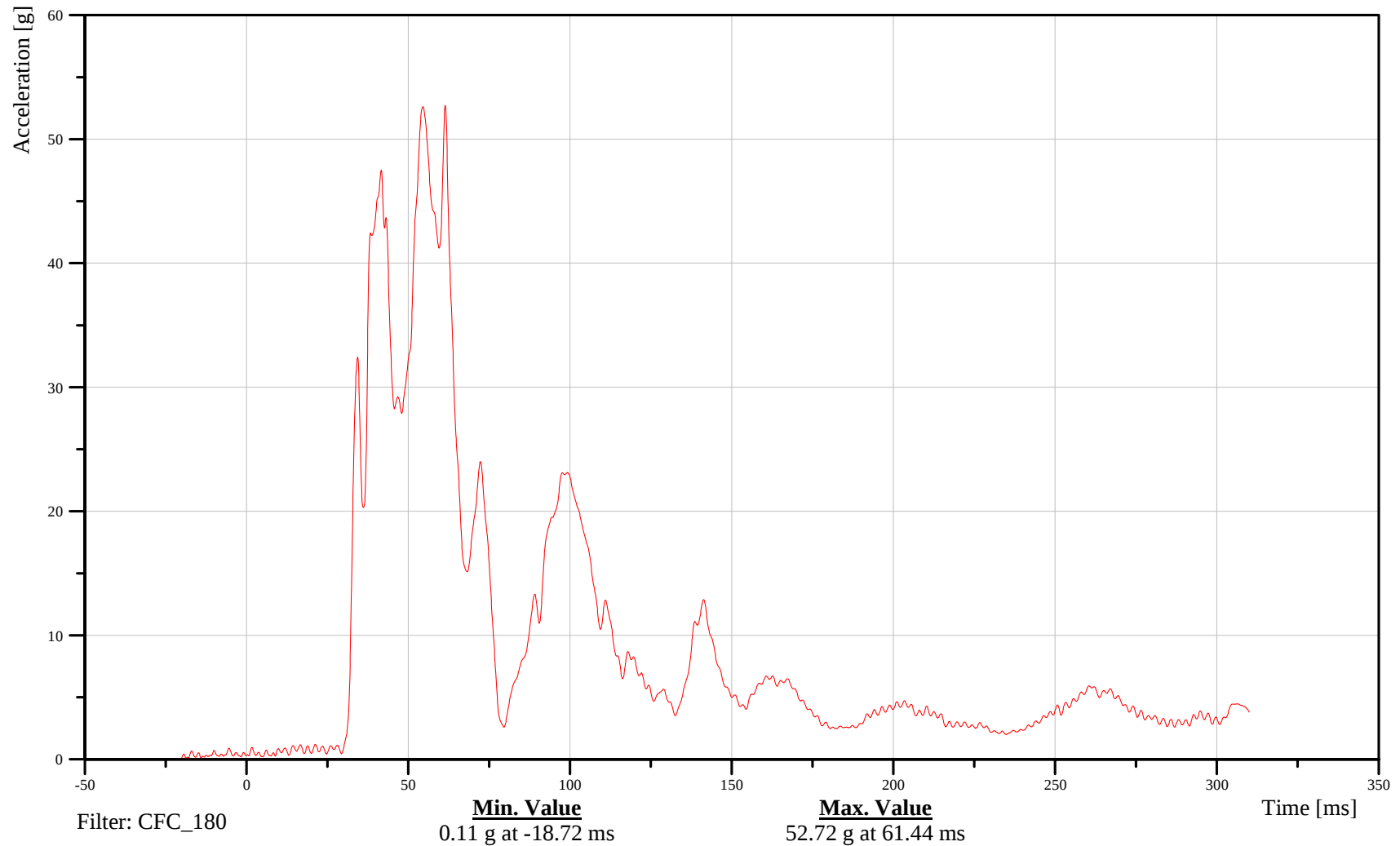
T1 Resultant Acceleration

Customer: VRTC

11THSP0100WSACRC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-33

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

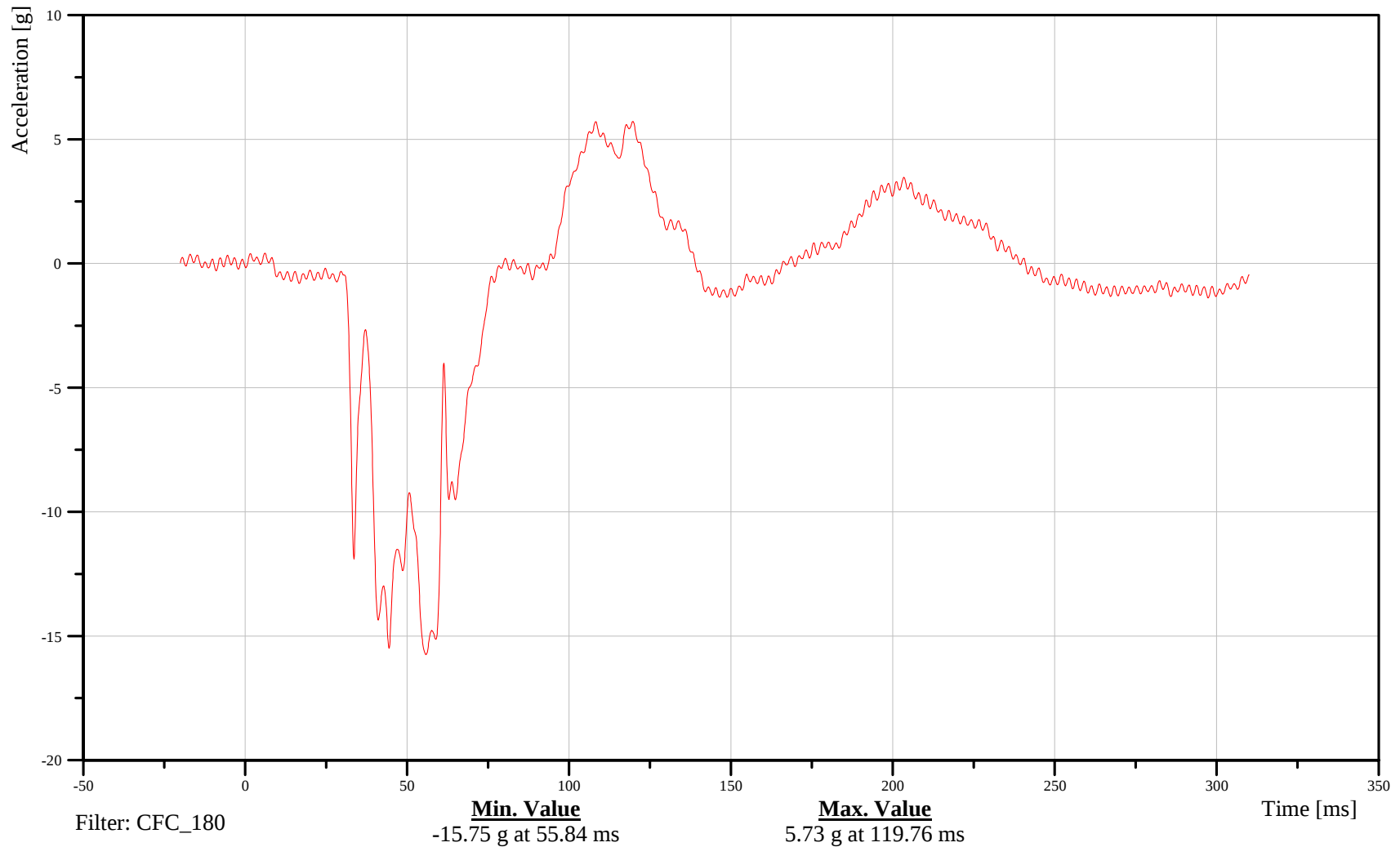
T4 X-Axis Acceleration

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-34

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

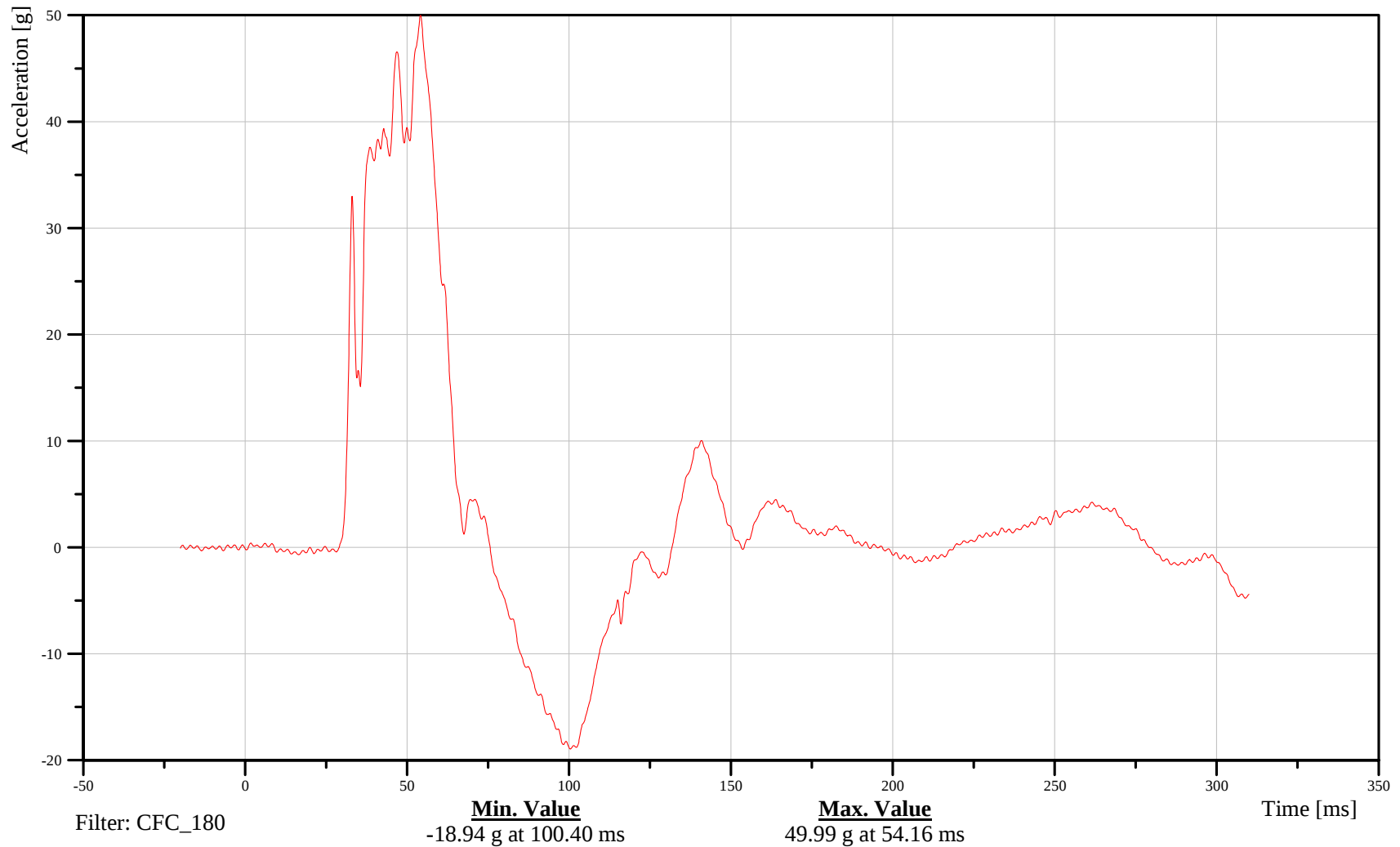
T4 Y-Axis Acceleration

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-35

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

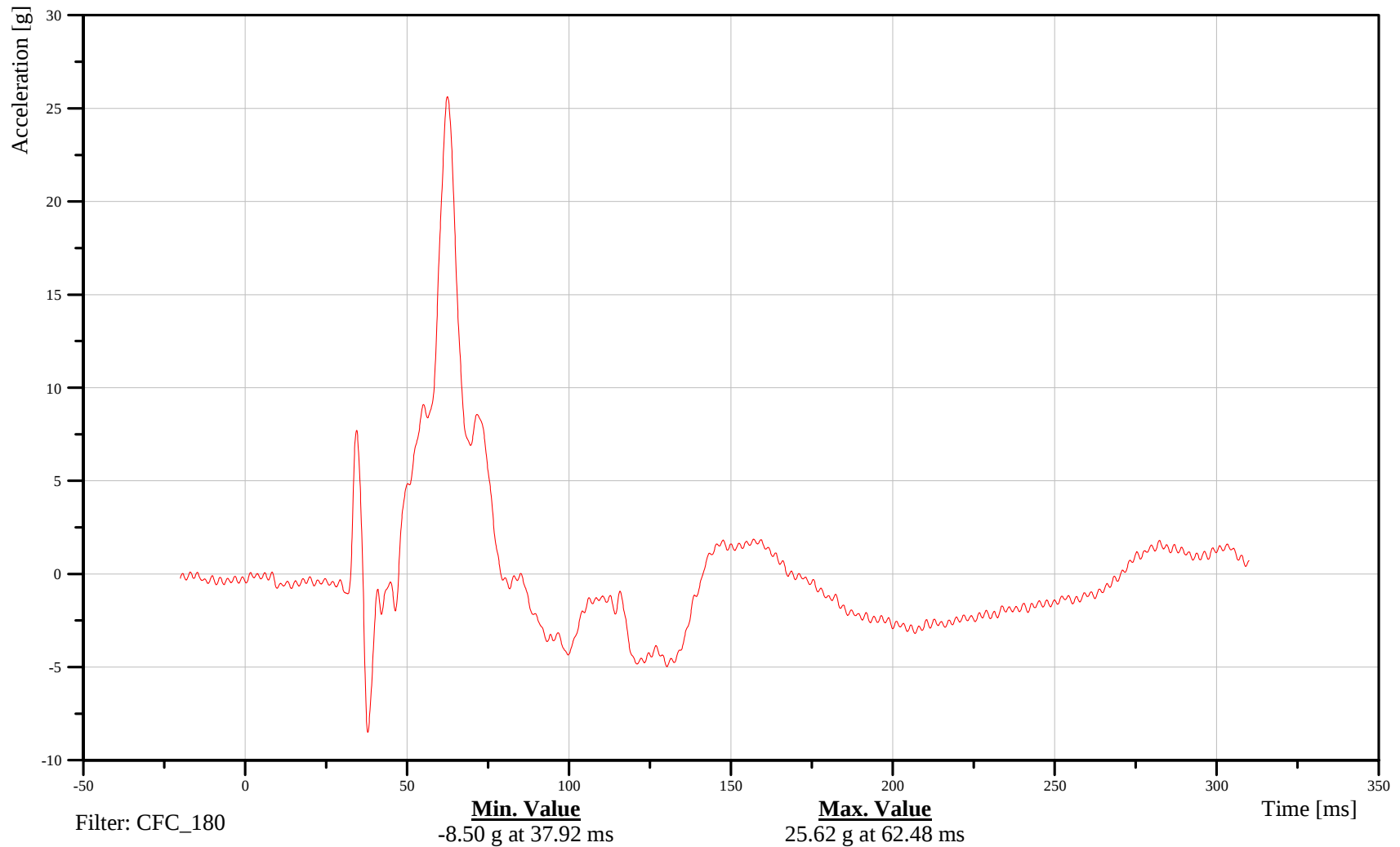
T4 Z-Axis Acceleration

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-36

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

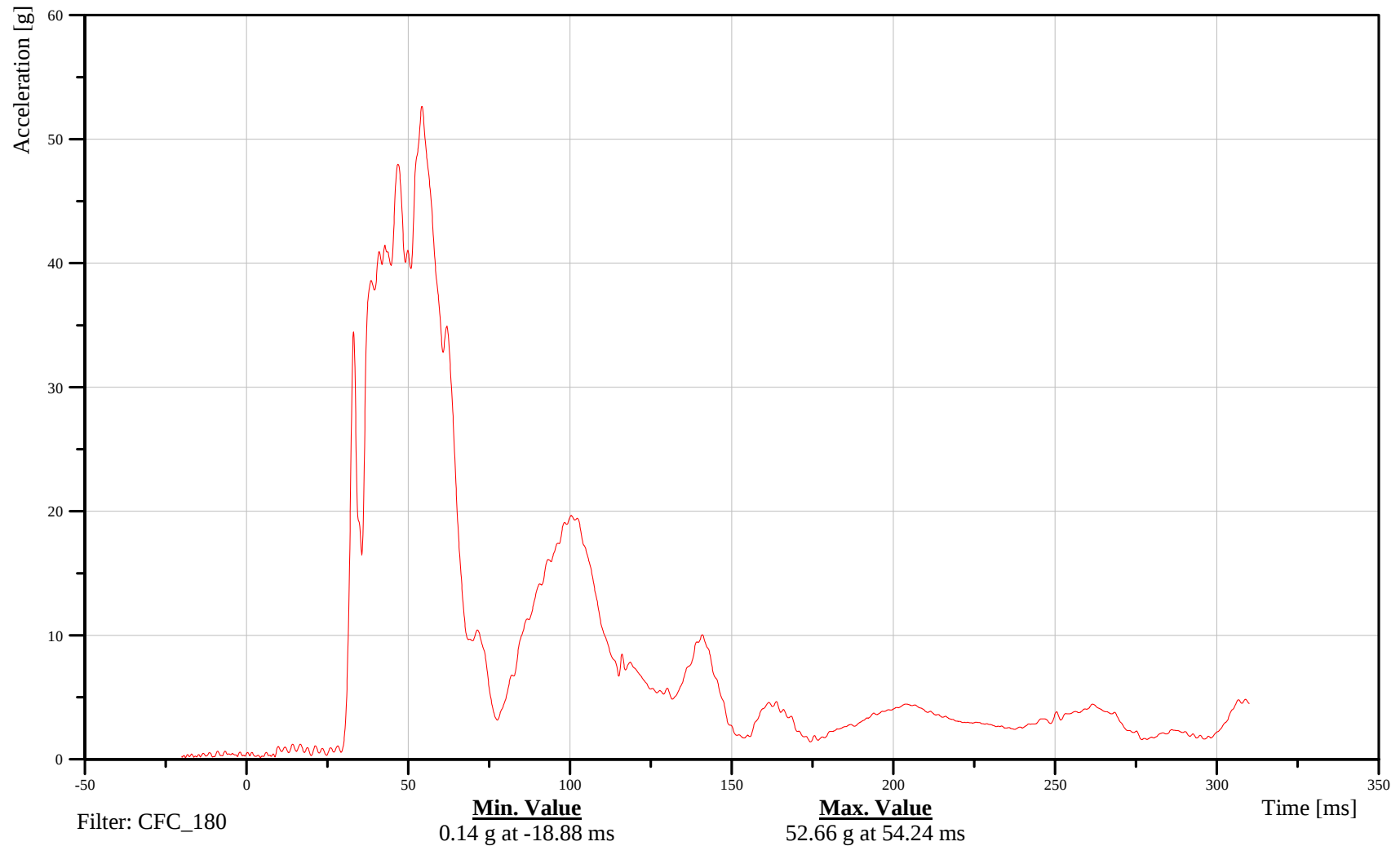
T4 Resultant Acceleration

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-37

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

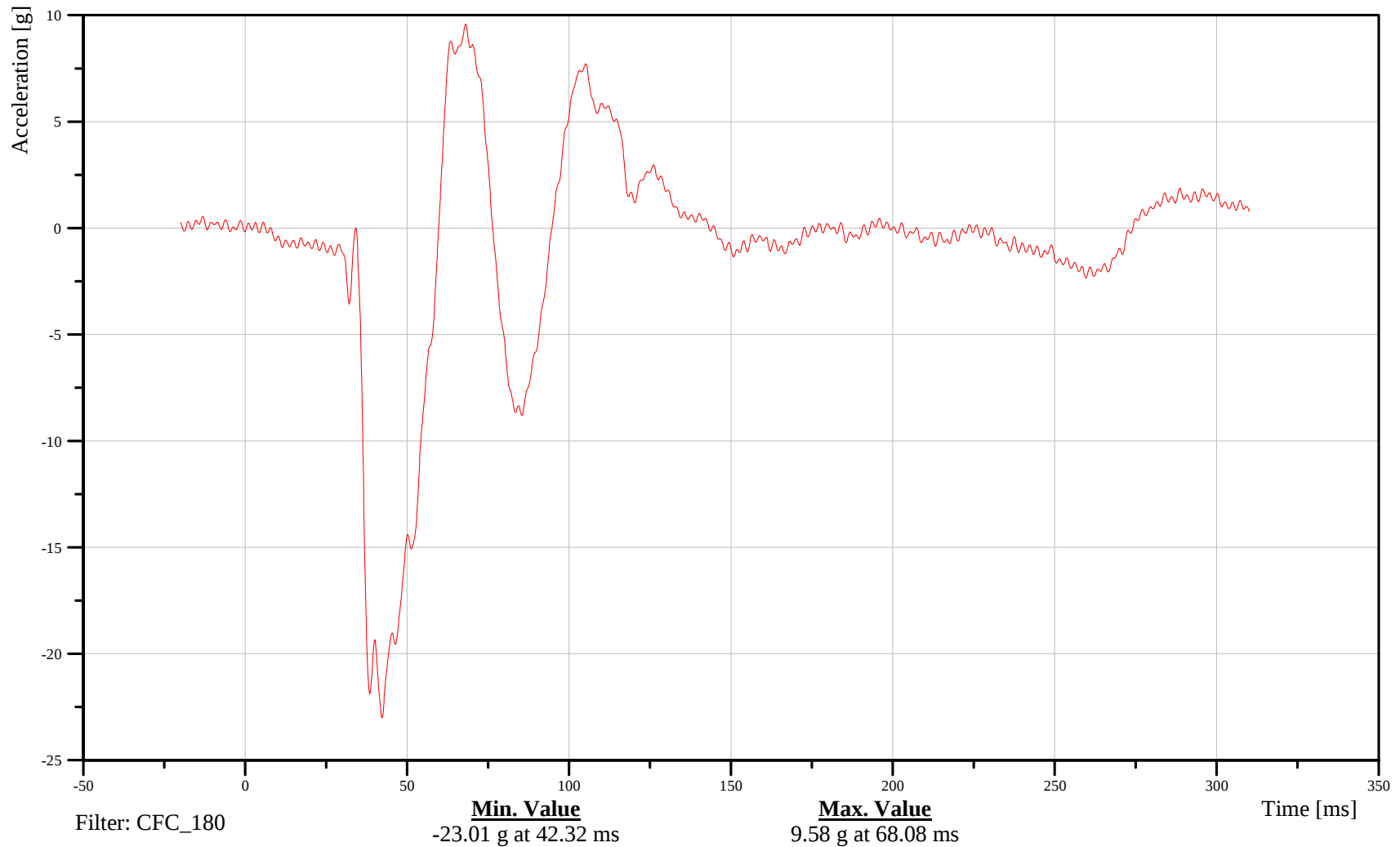
T12 X-Axis Acceleration

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-38

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

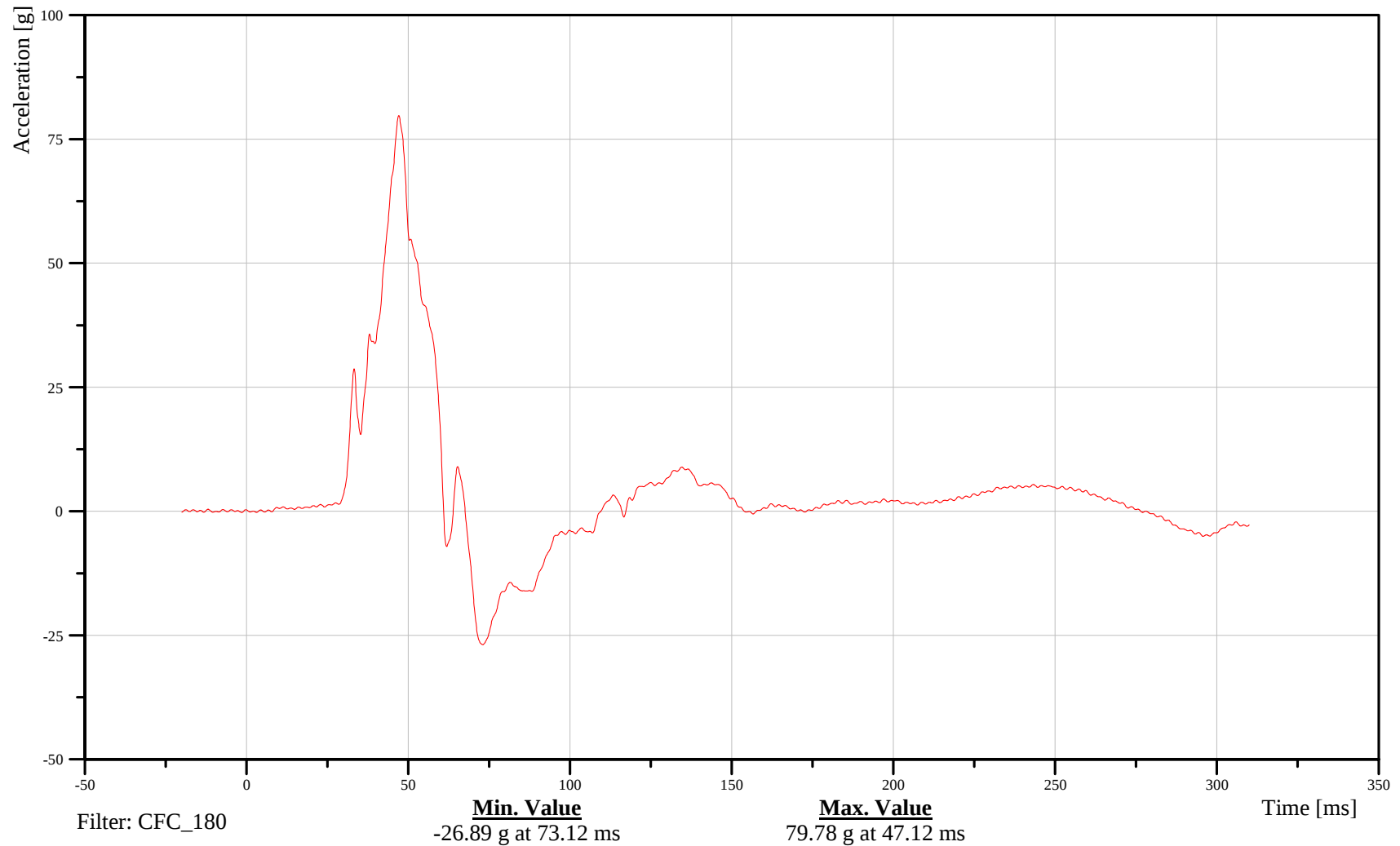
T12 Y-Axis Acceleration

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-39

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

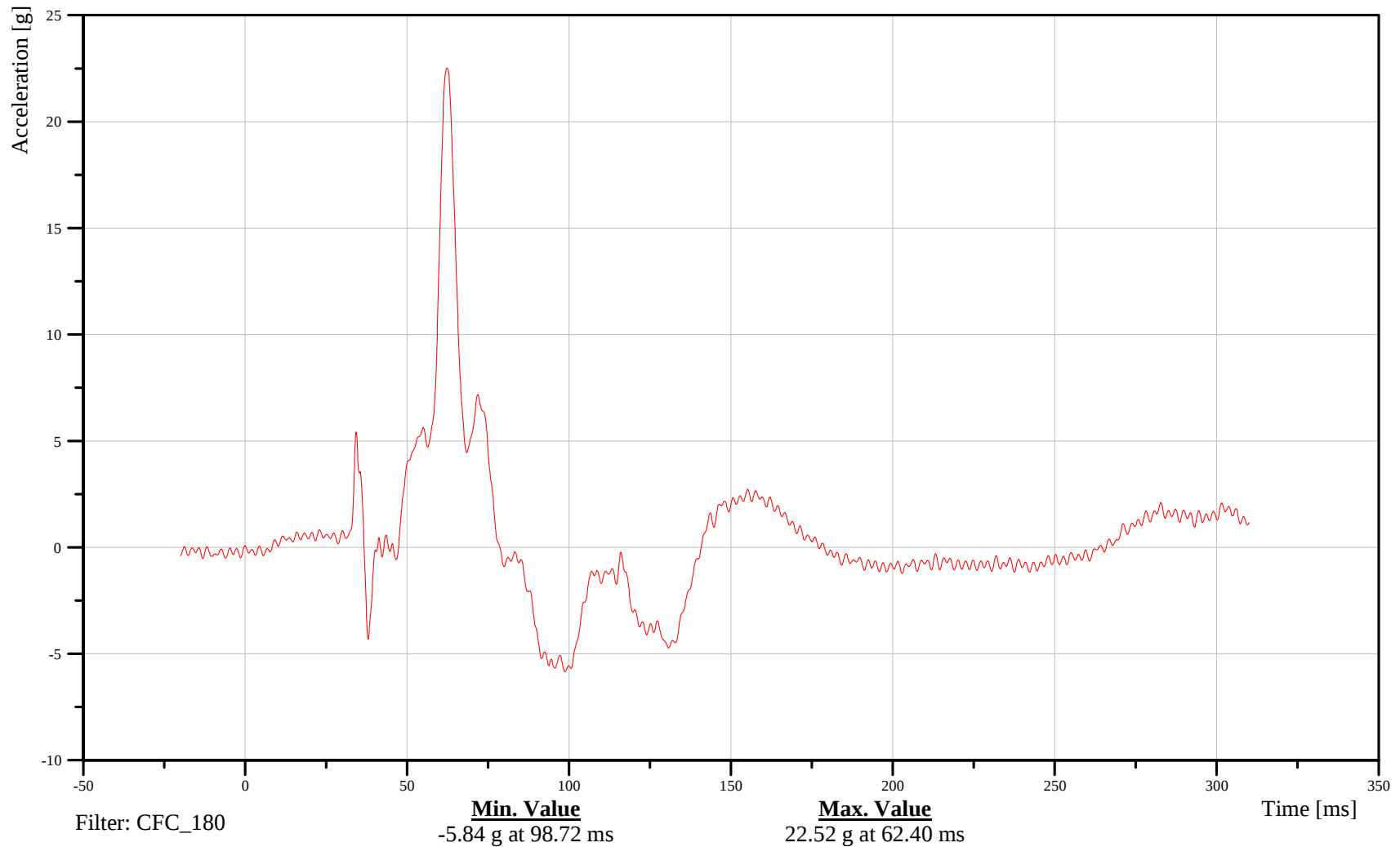
T12 Z-Axis Acceleration

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-40

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

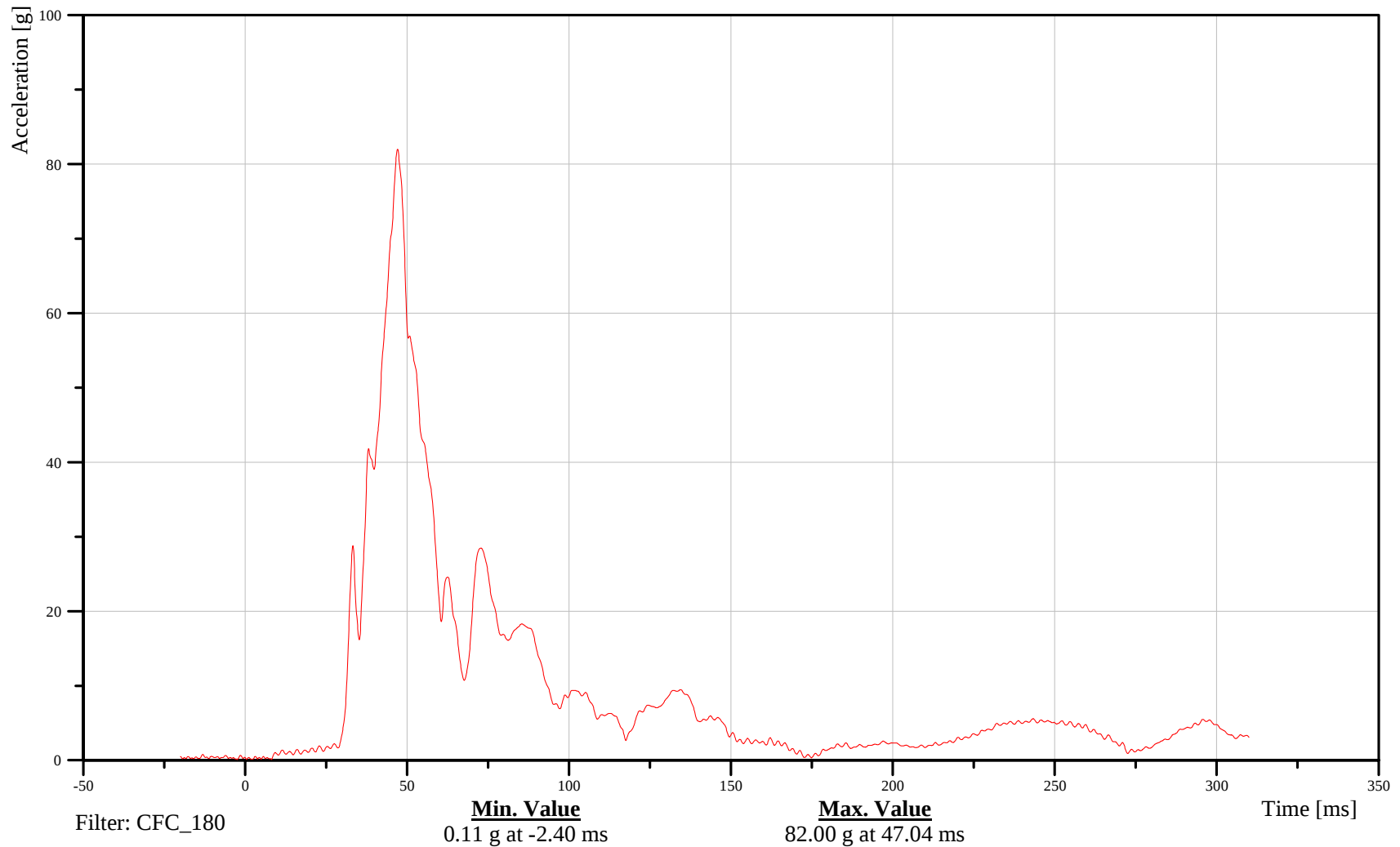
T12 Resultant Acceleration

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-41

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

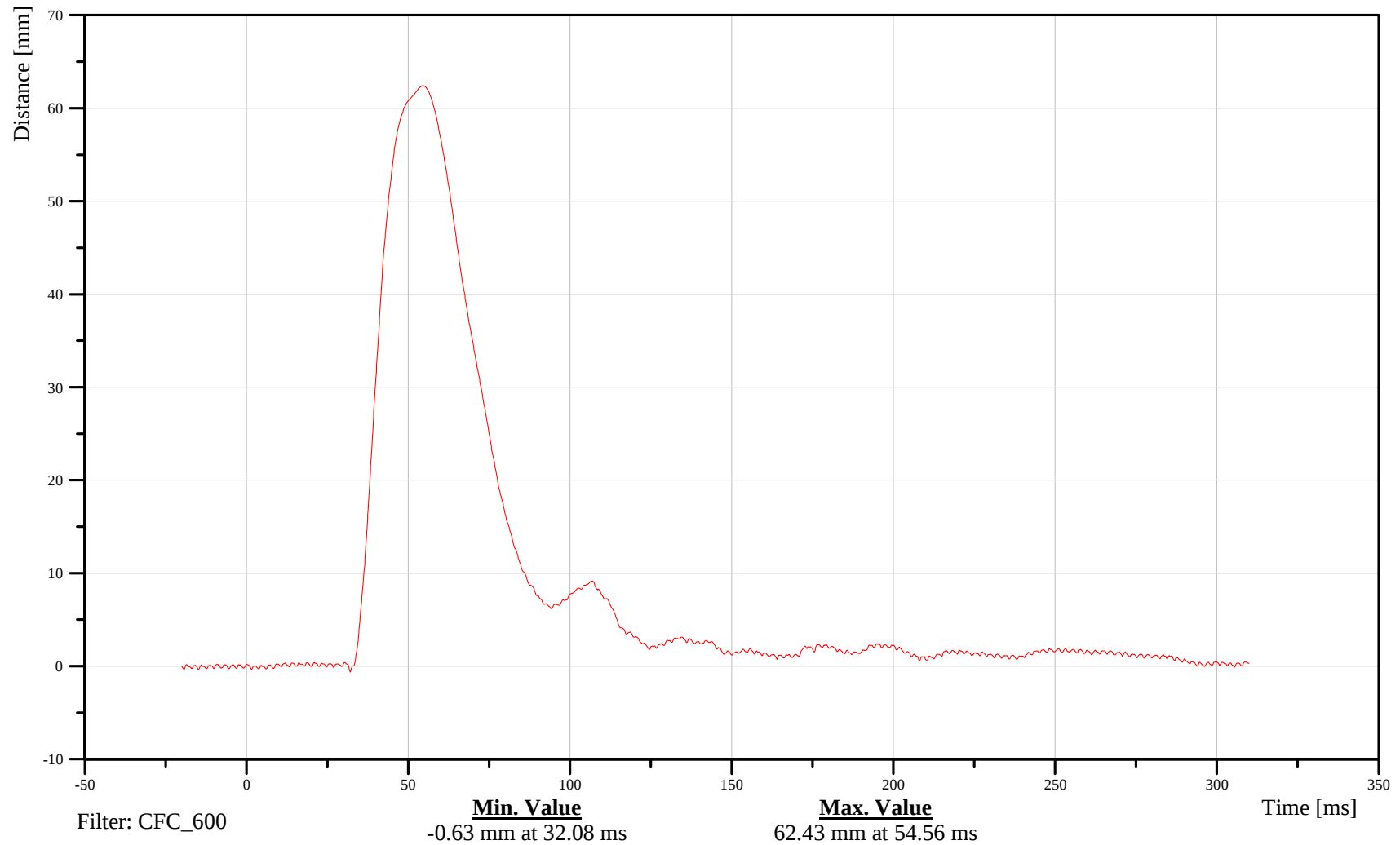
Thorax Rib 1 Y-Axis Displacement

Customer: VRTC

11TRRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-42

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

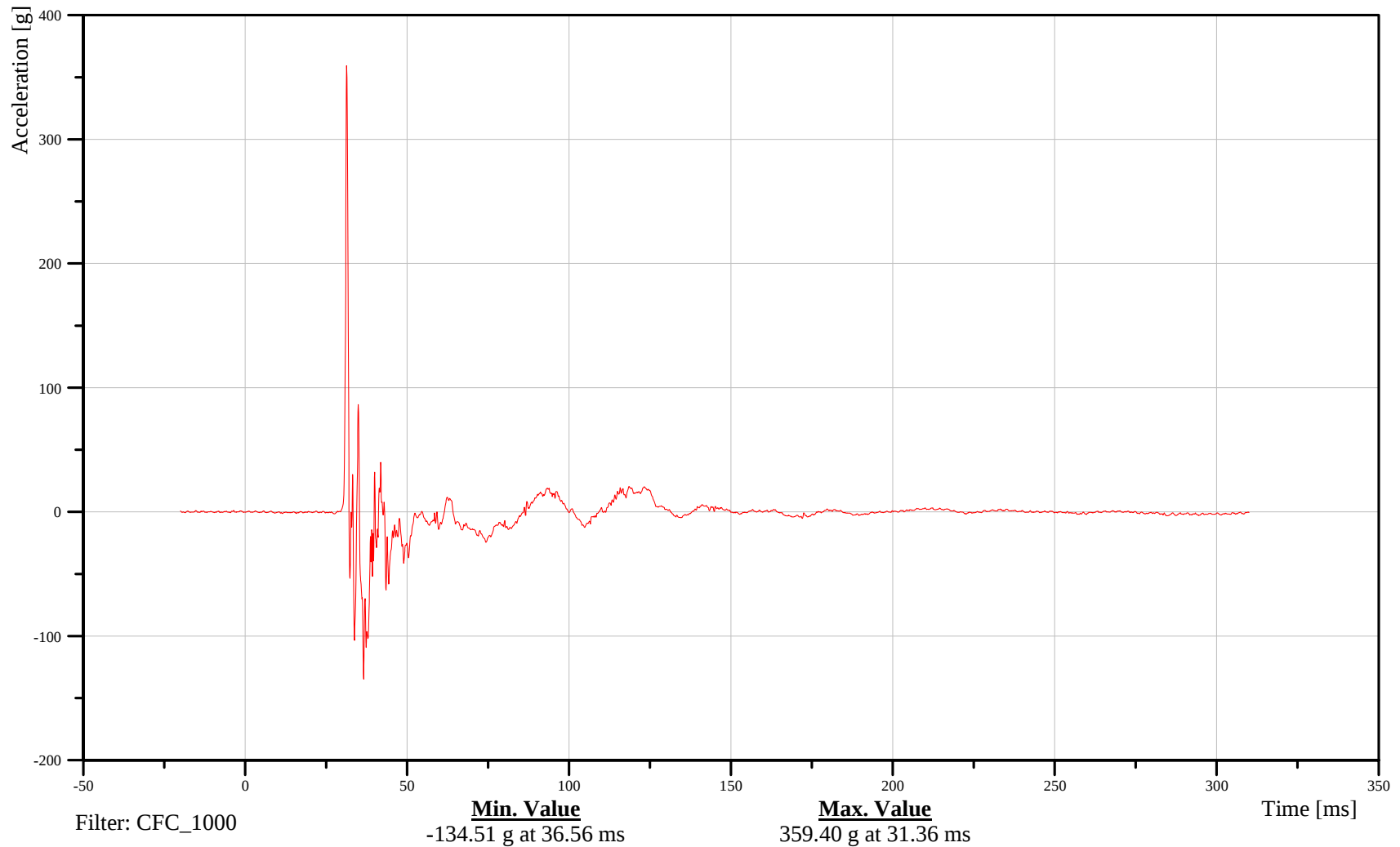
Thorax Rib 1 X-Axis Acceleration

Customer: VRTC

11TRRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-43

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

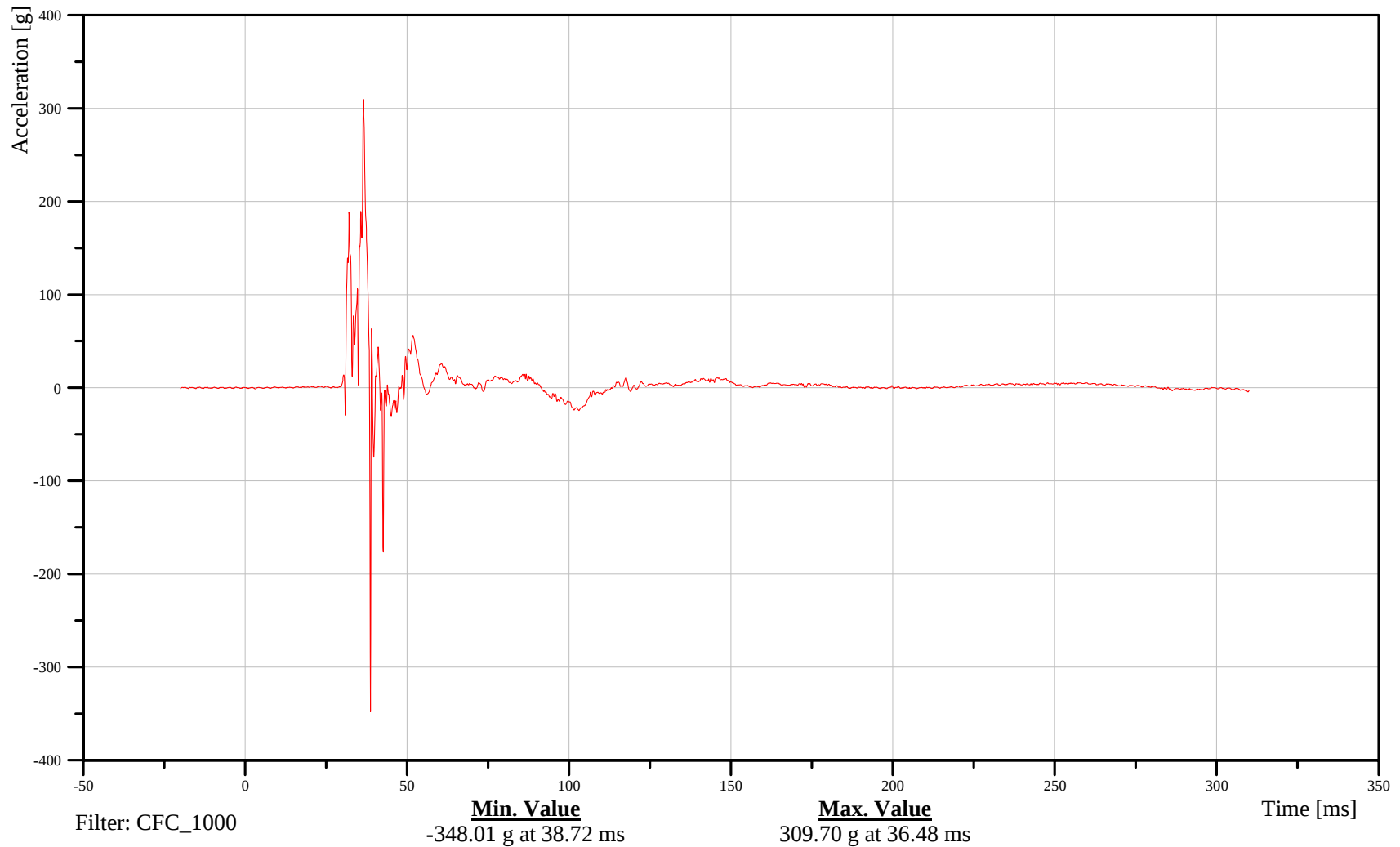
Thorax Rib 1 Y-Axis Acceleration

Customer: VRTC

11TRRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-44

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

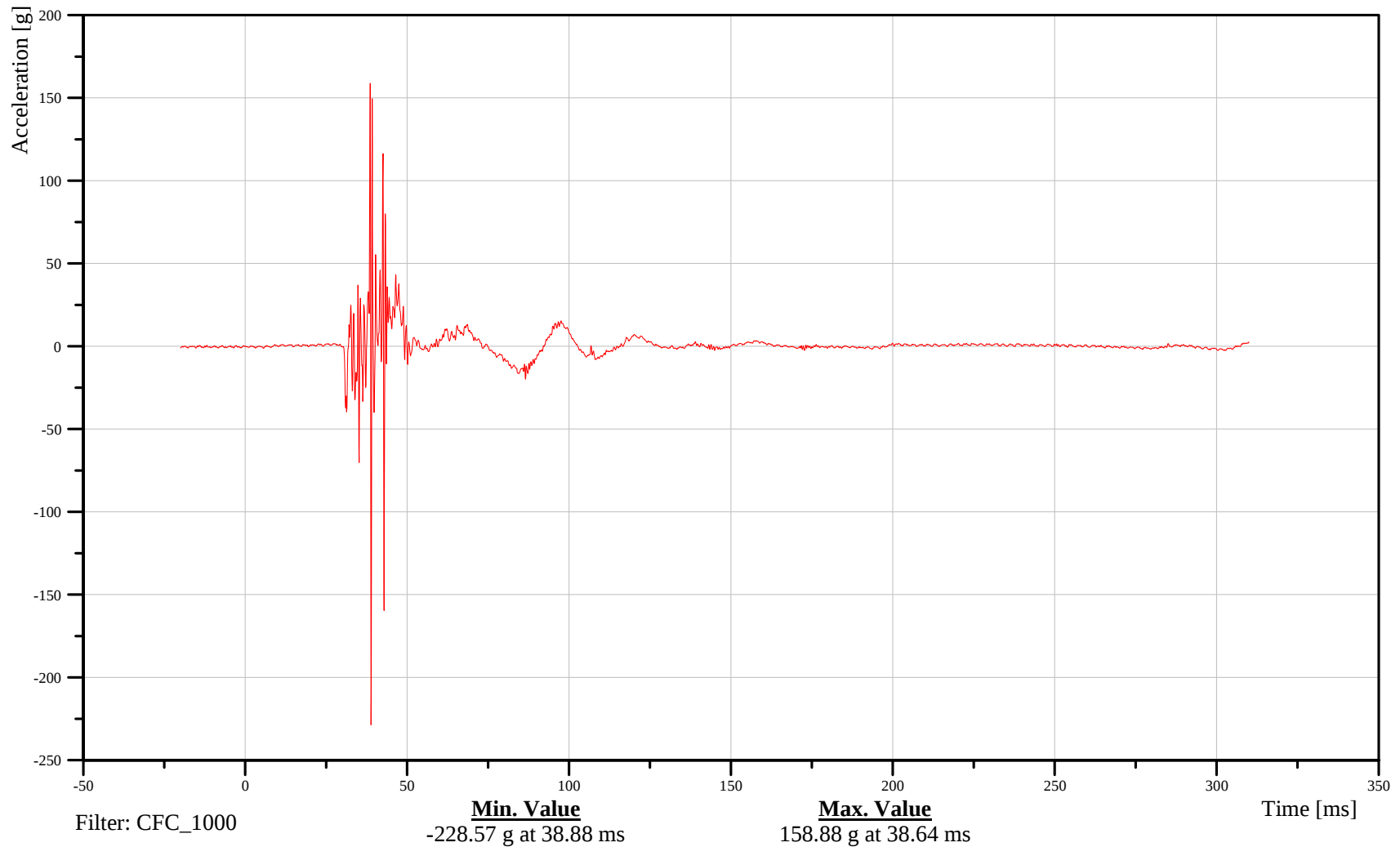
Thorax Rib 1 Z-Axis Acceleration

Customer: VRTC

11TRRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-45

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

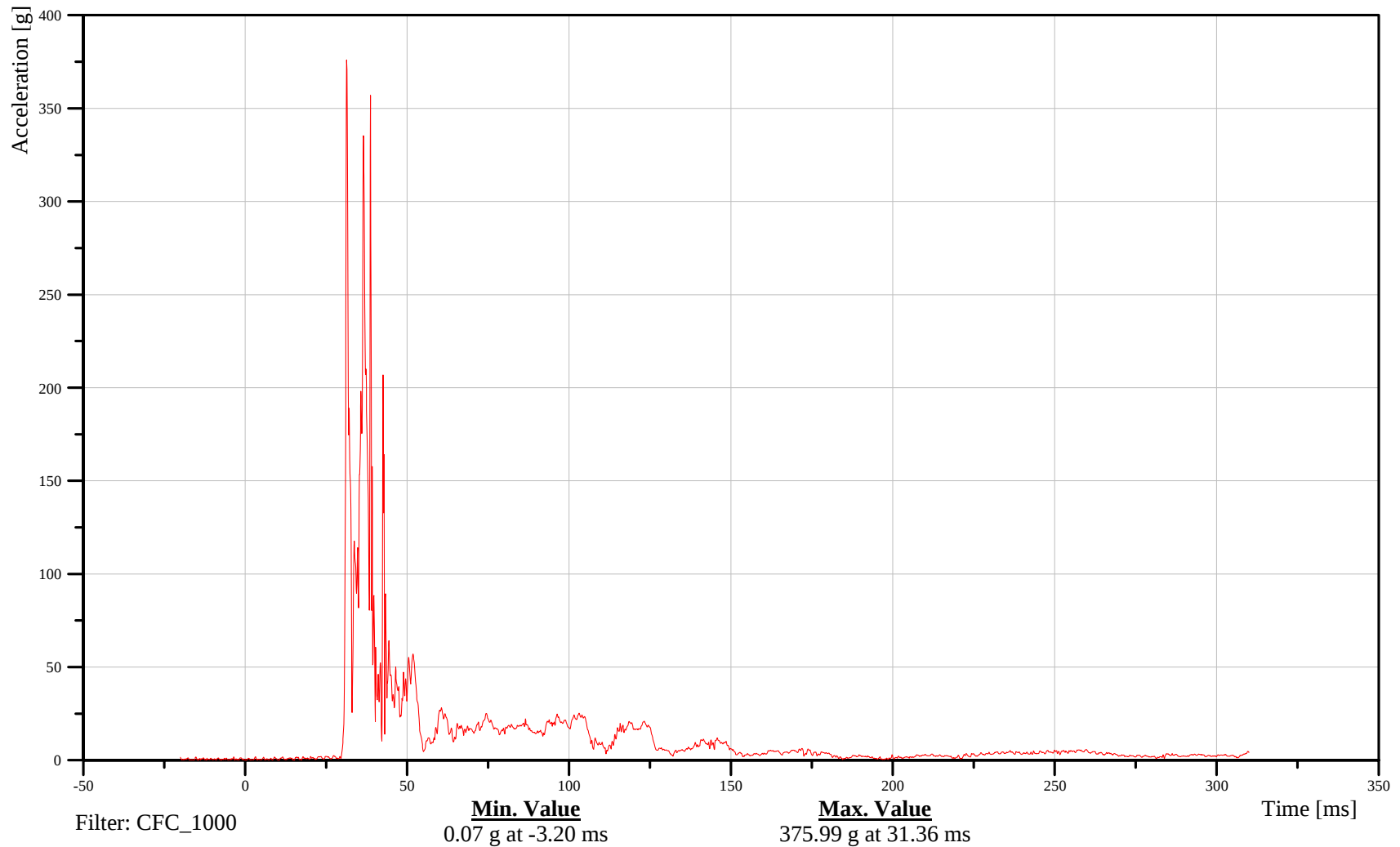
Thorax Rib 1 Resultant Acceleration

Customer: VRTC

11TRRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-46

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

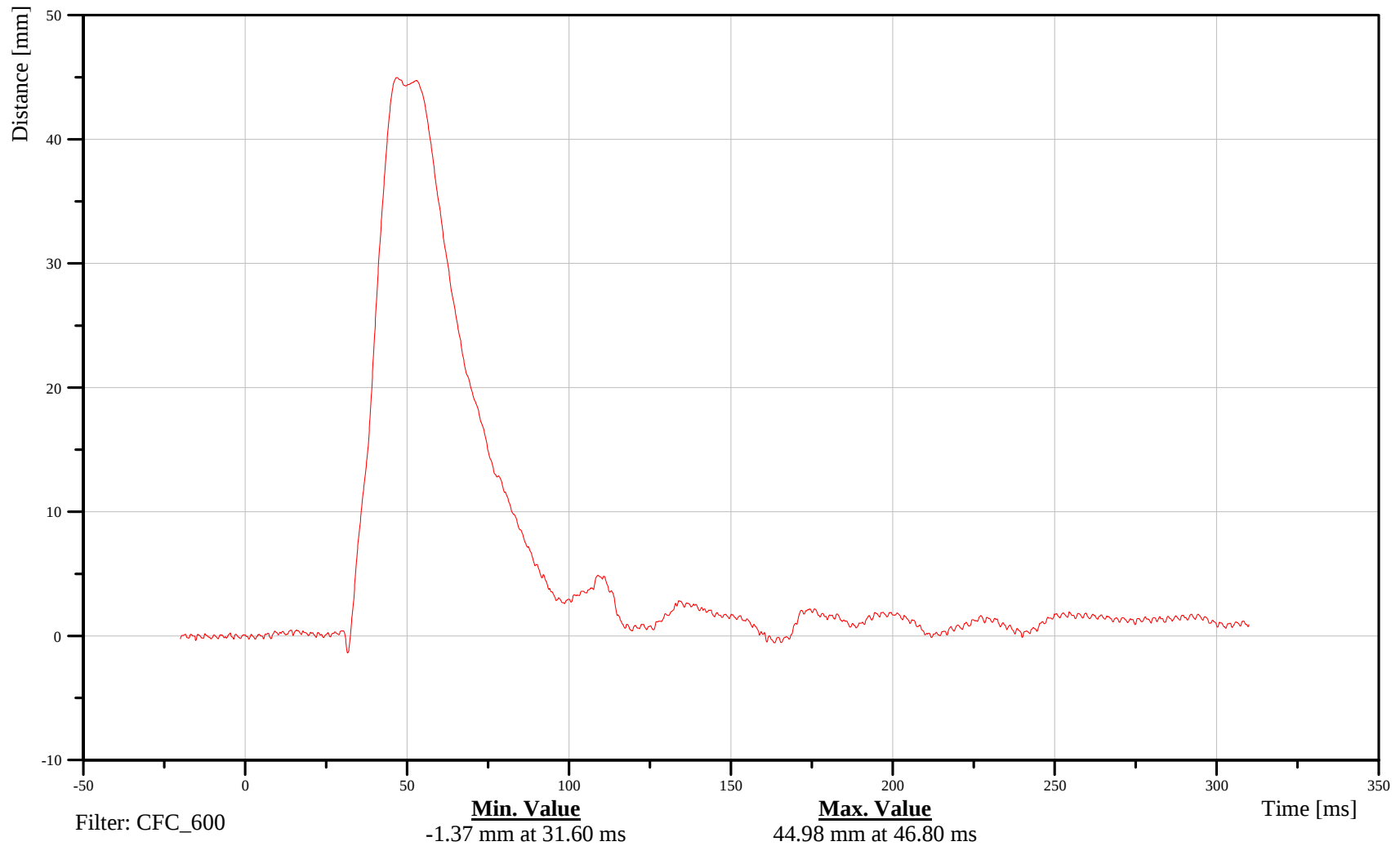
Thorax Rib 2 Y-Axis Displacement

Customer: VRTC

11TRRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-47

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

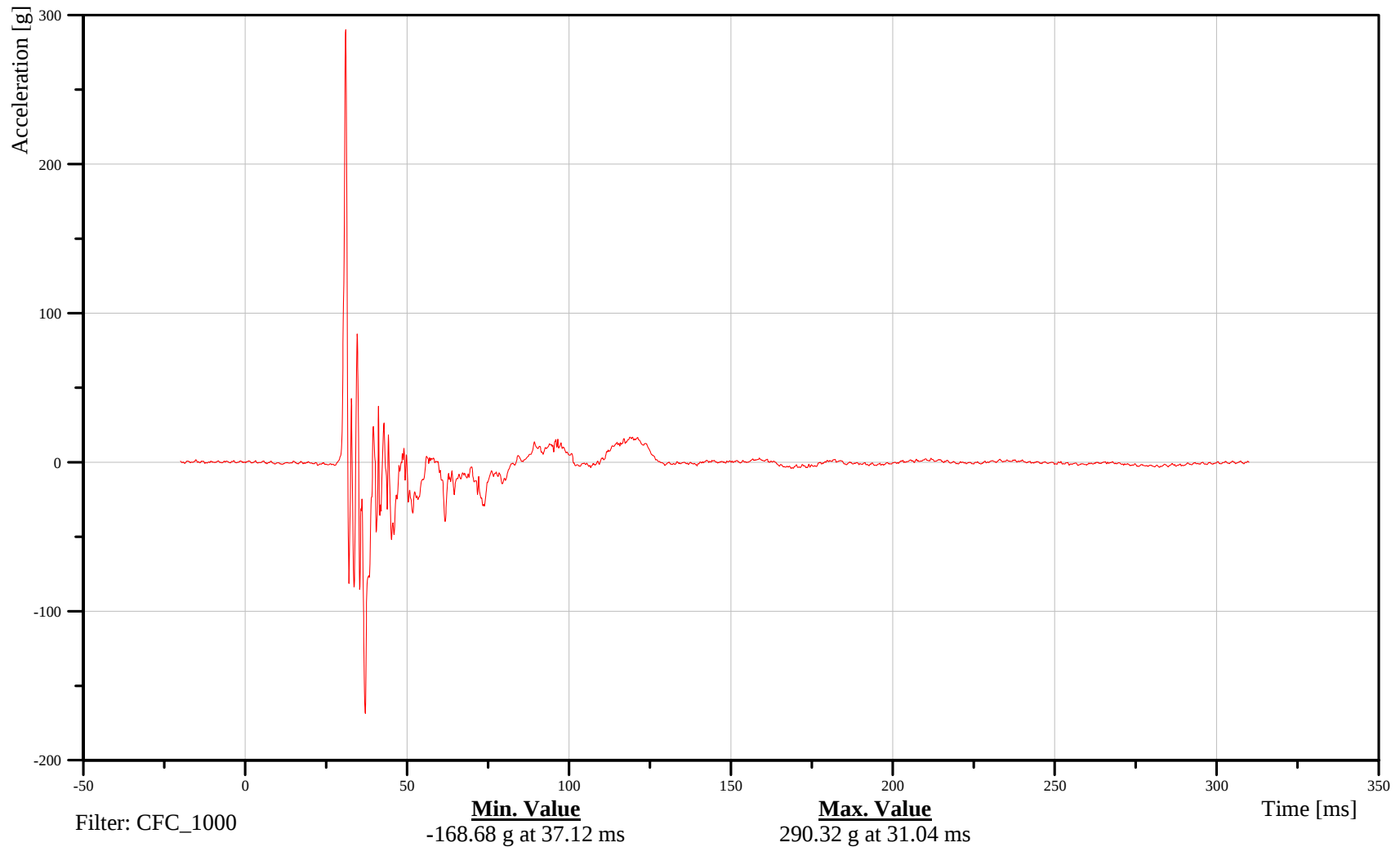
Thorax Rib 2 X-Axis Acceleration

Customer: VRTC

11TRRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-48

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

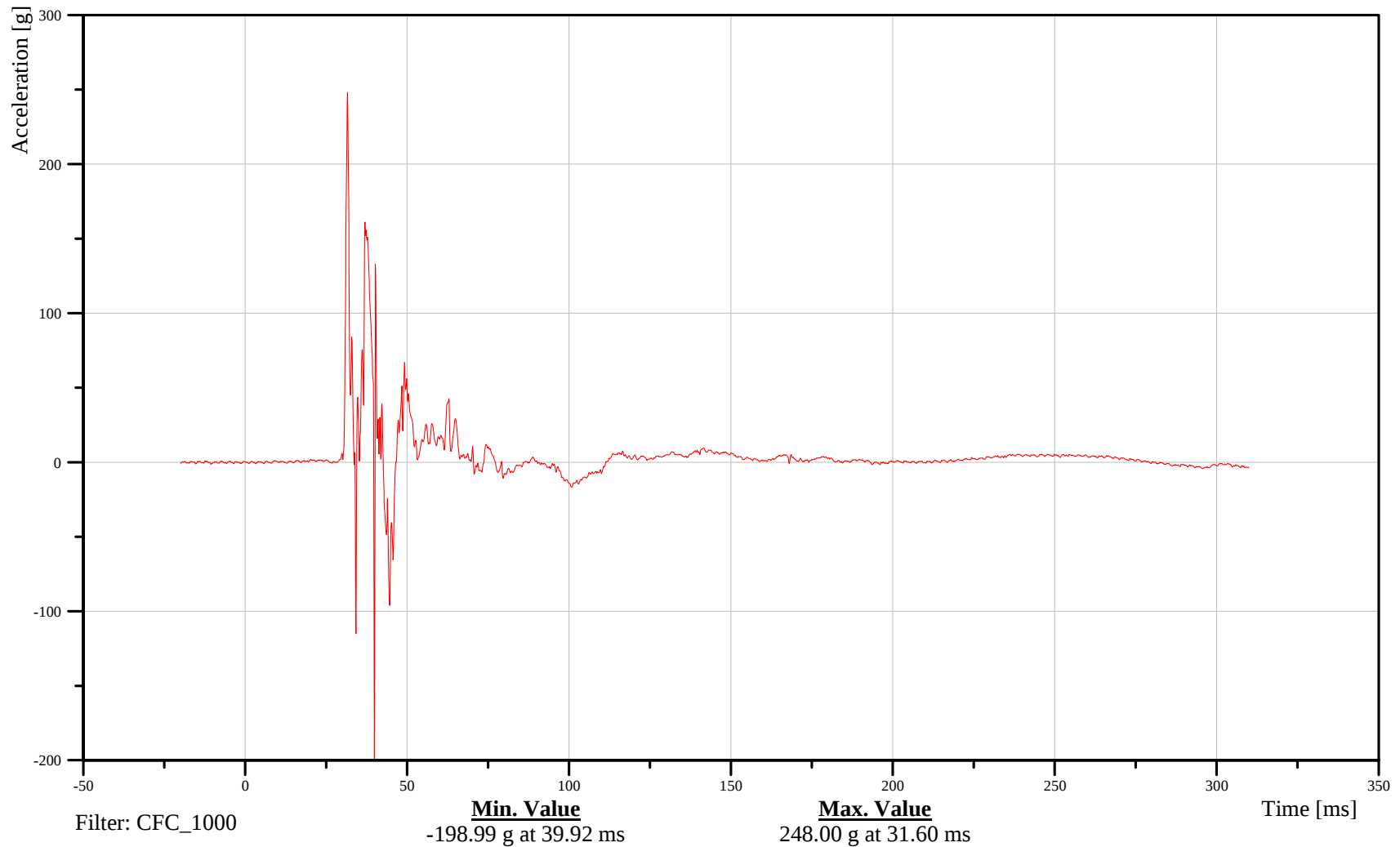
Thorax Rib 2 Y-Axis Acceleration

Customer: VRTC

11TRRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-49

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

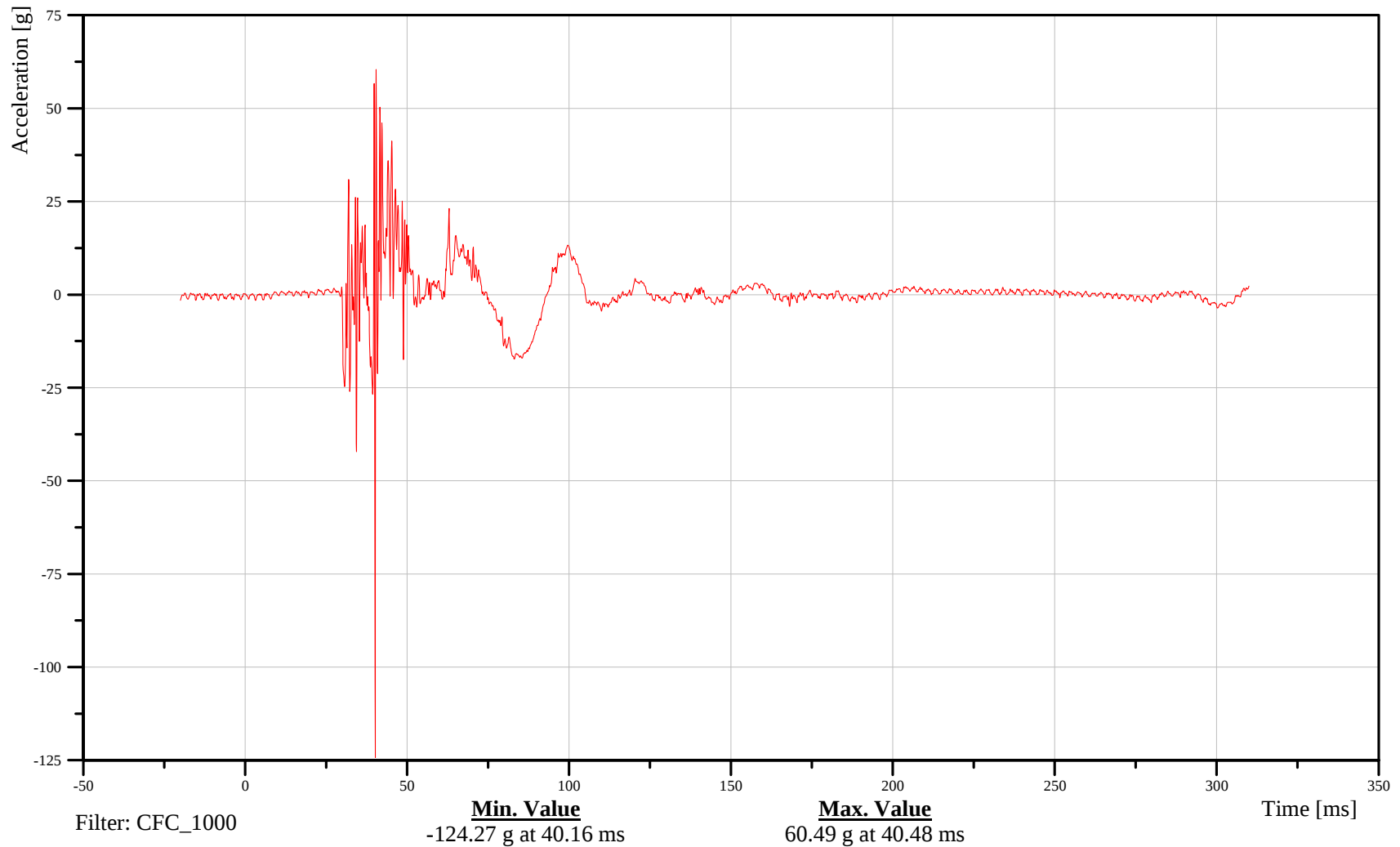
Thorax Rib 2 Z-Axis Acceleration

Customer: VRTC

11TRRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-50

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

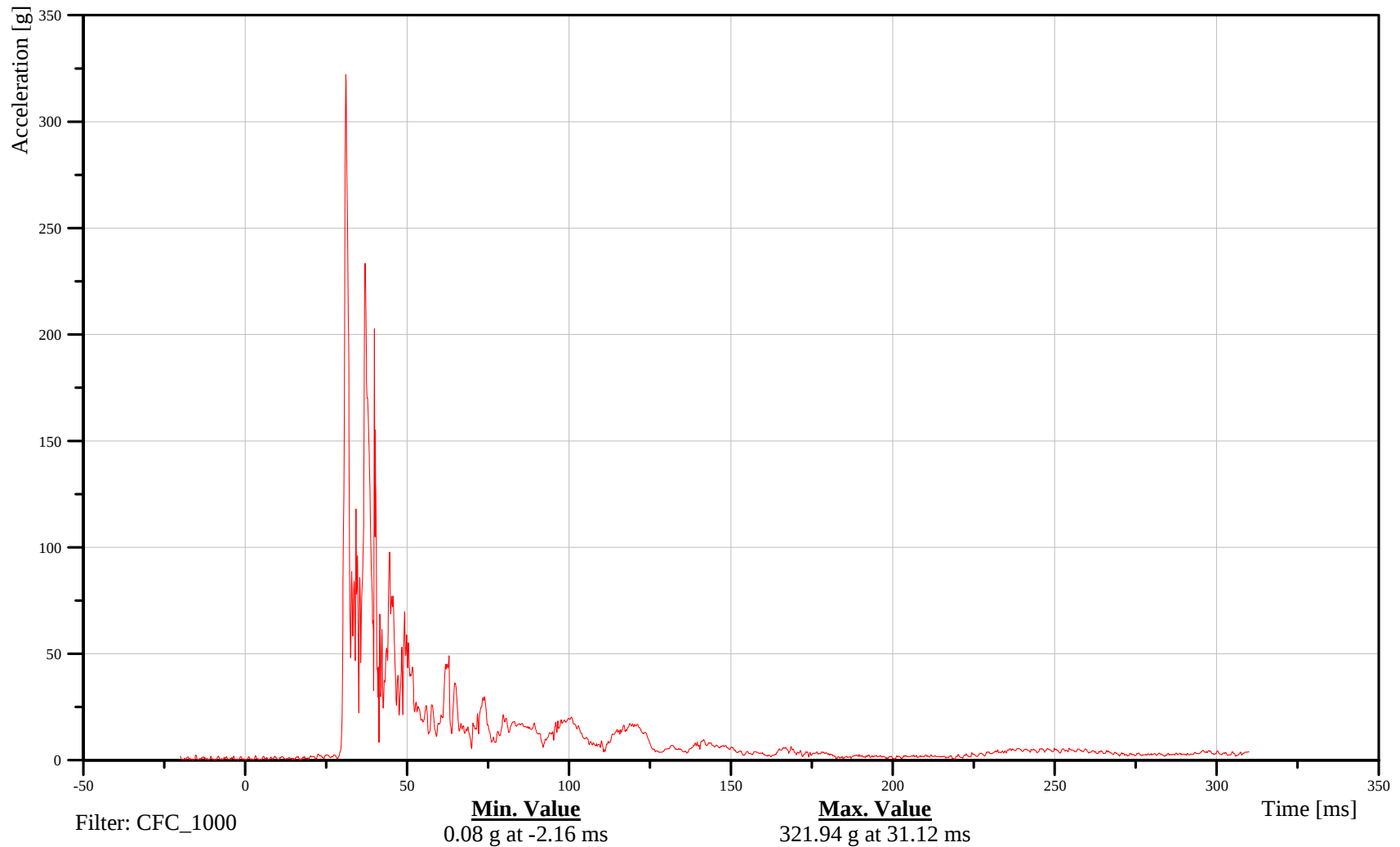
Thorax Rib 2 Resultant Acceleration

Customer: VRTC

11TRRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-51

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

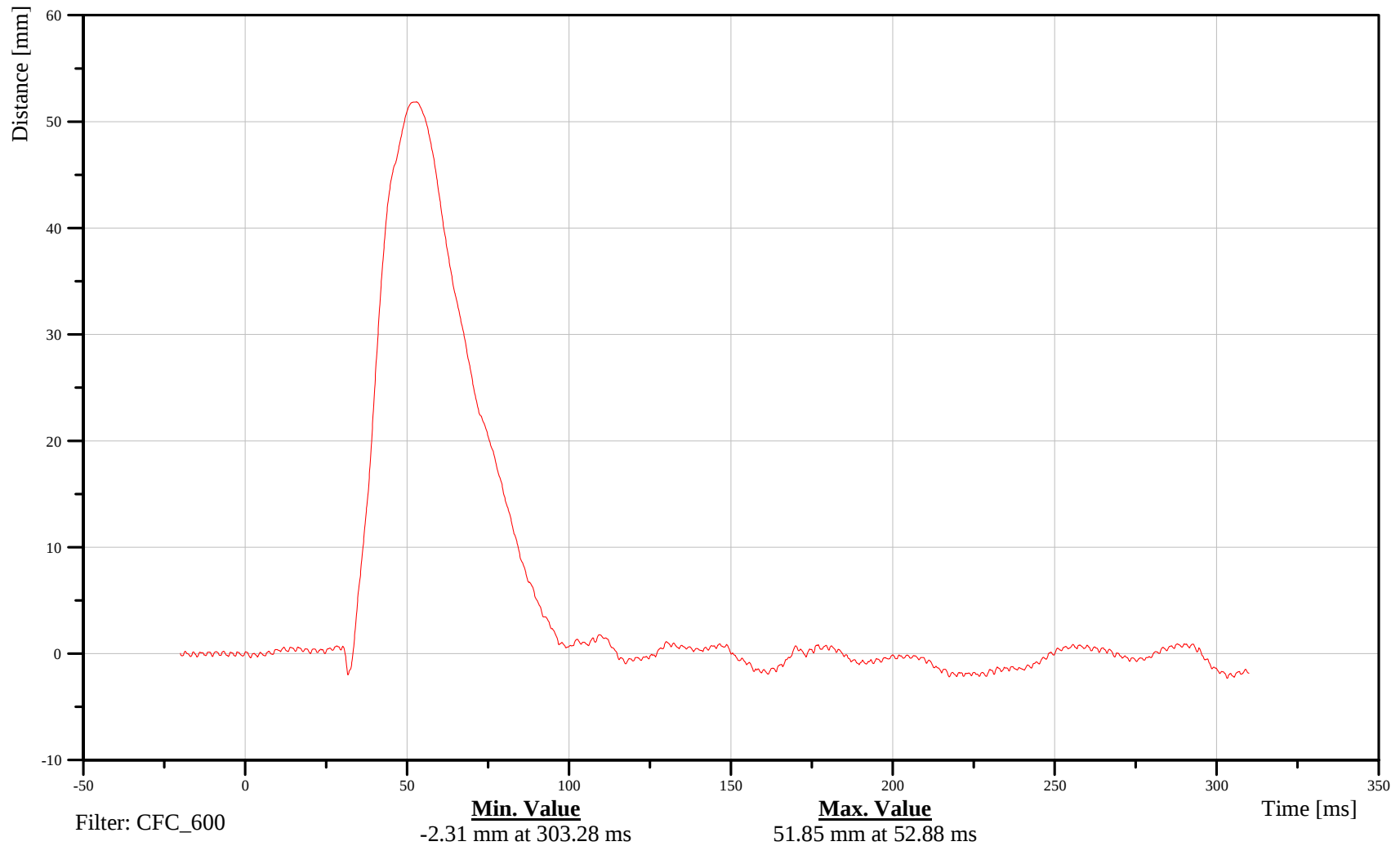
Thorax Rib 3 Y-Axis Displacement

Customer: VRTC

11TRRILE03WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-52

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

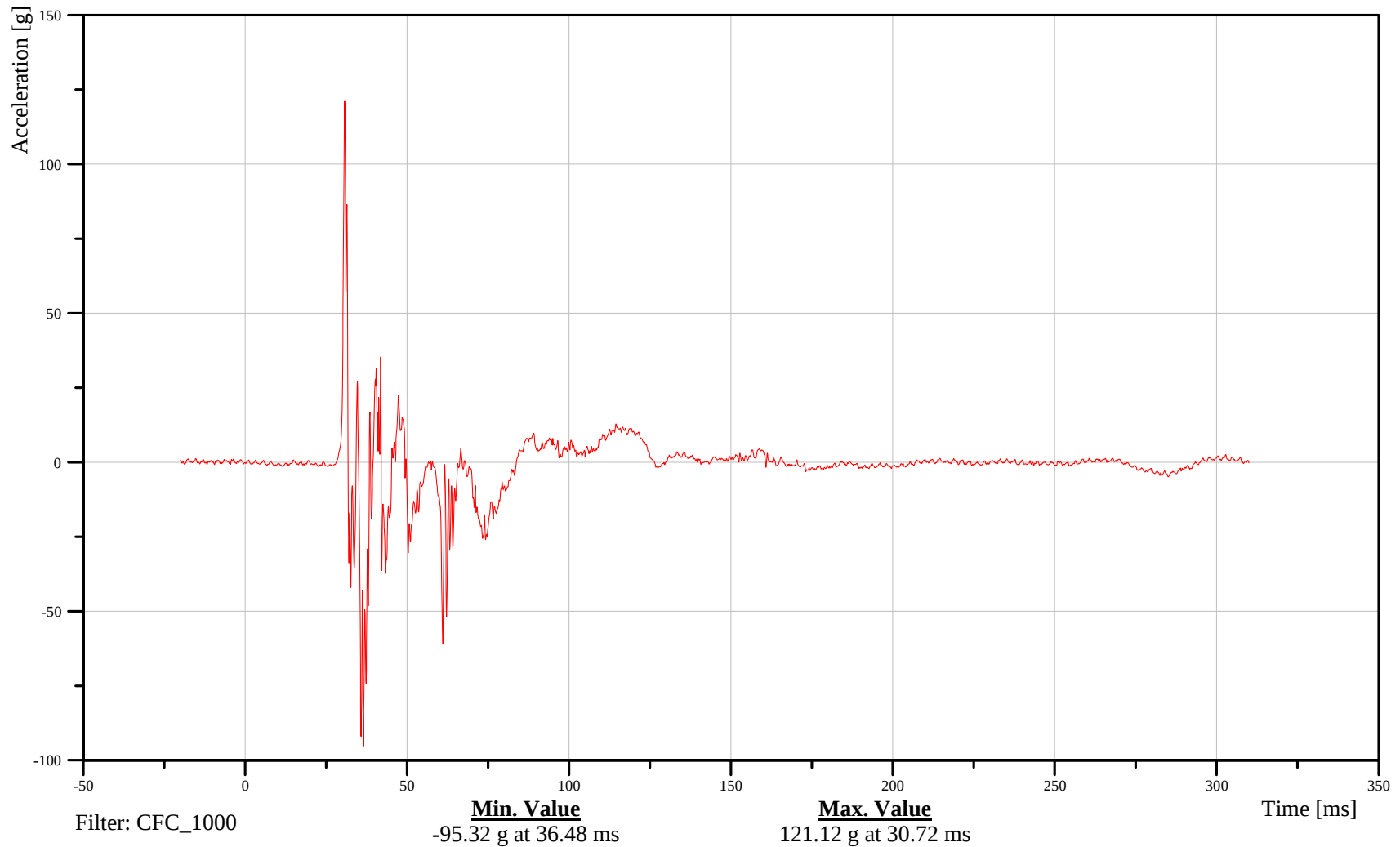
Thorax Rib 3 X-Axis Acceleration

Customer: VRTC

11TRRILE03WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-53

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

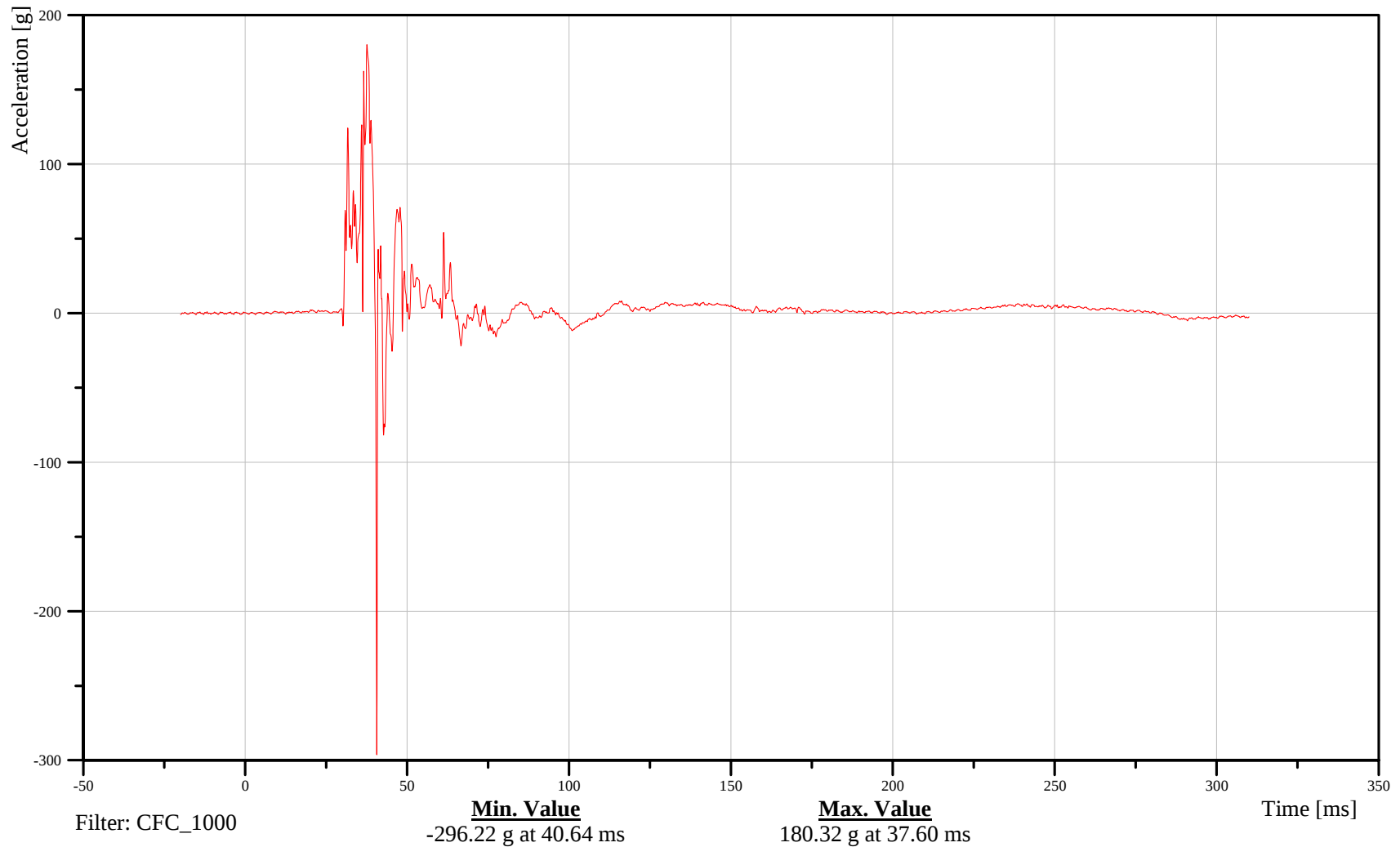
Thorax Rib 3 Y-Axis Acceleration

Customer: VRTC

11TRRILE03WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-54

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

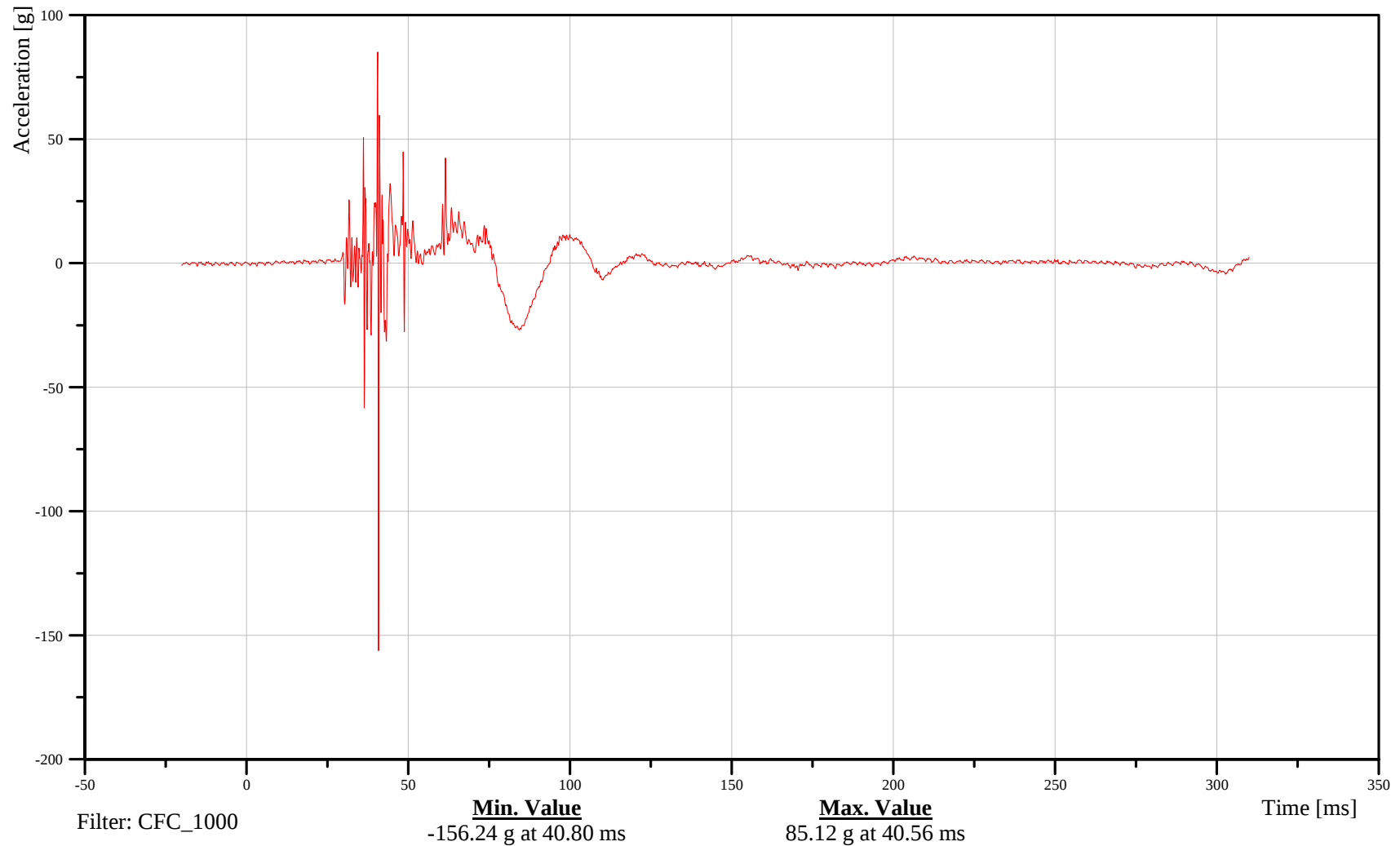
Thorax Rib 3 Z-Axis Acceleration

Customer: VRTC

11TRRILE03WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-55

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

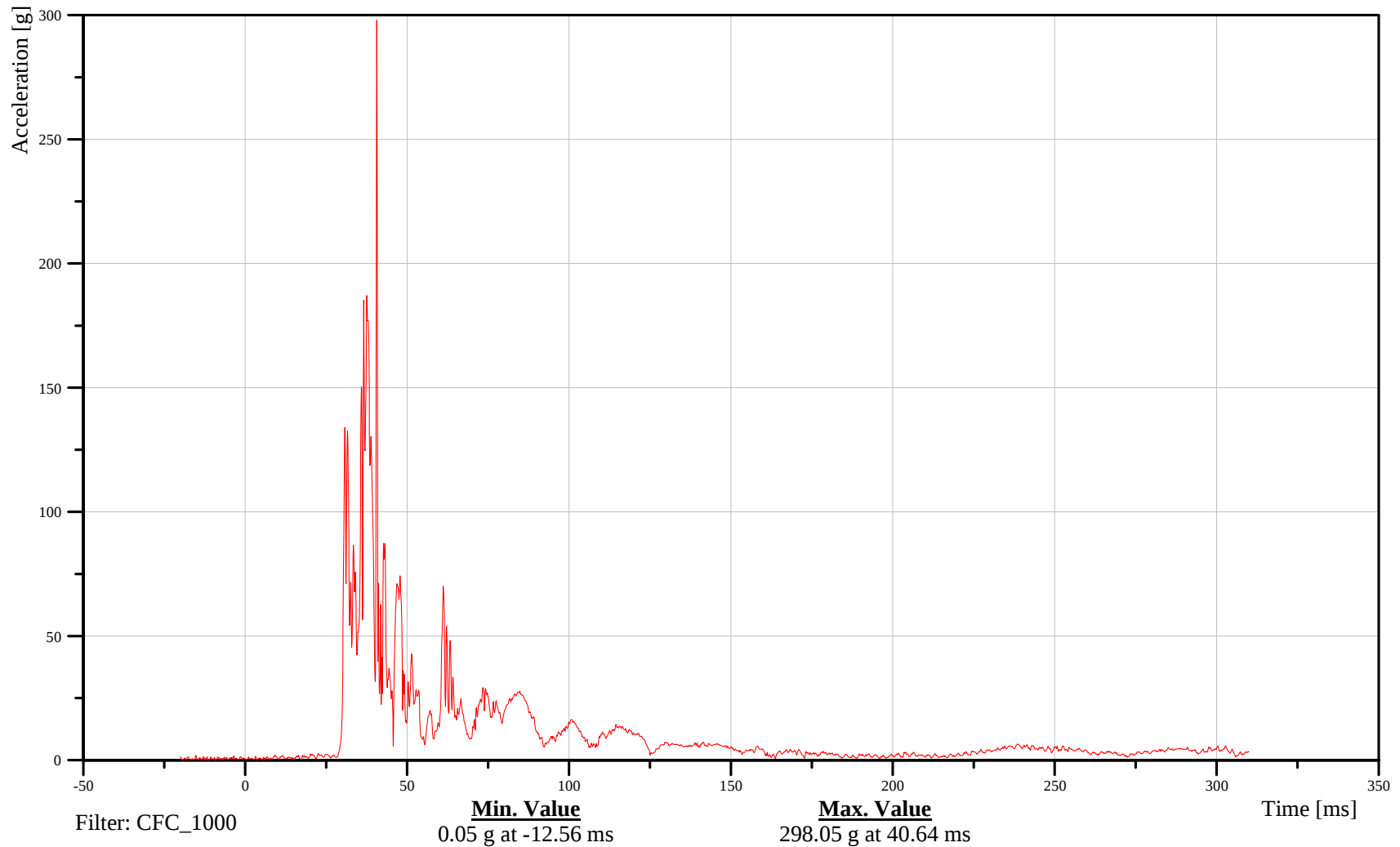
Thorax Rib 3 Resultant Acceleration

Customer: VRTC

11TRRILE03WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-56

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

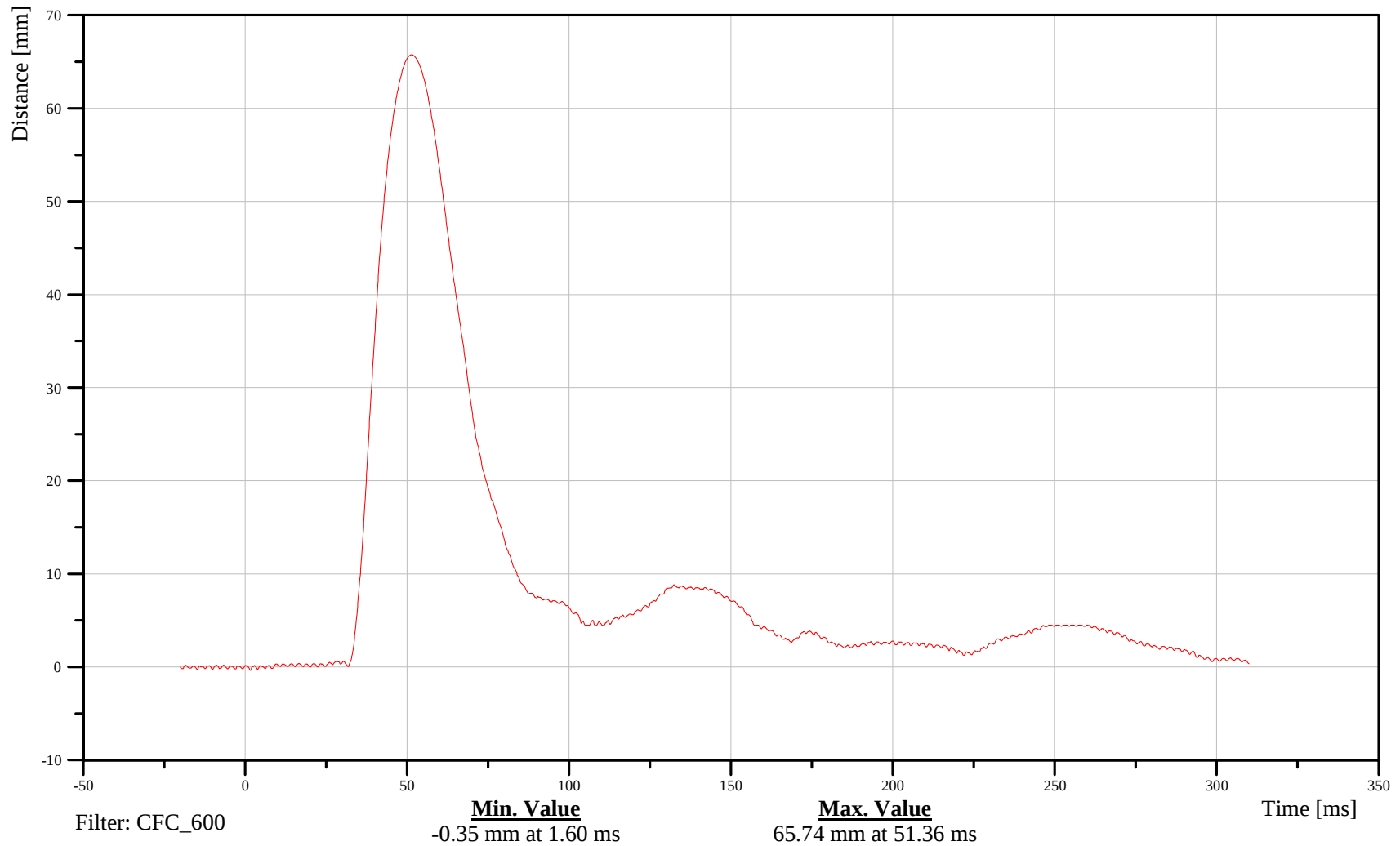
Abdominal Rib 1 Y-Axis Displacement

Customer: VRTC

11ABRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-57

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

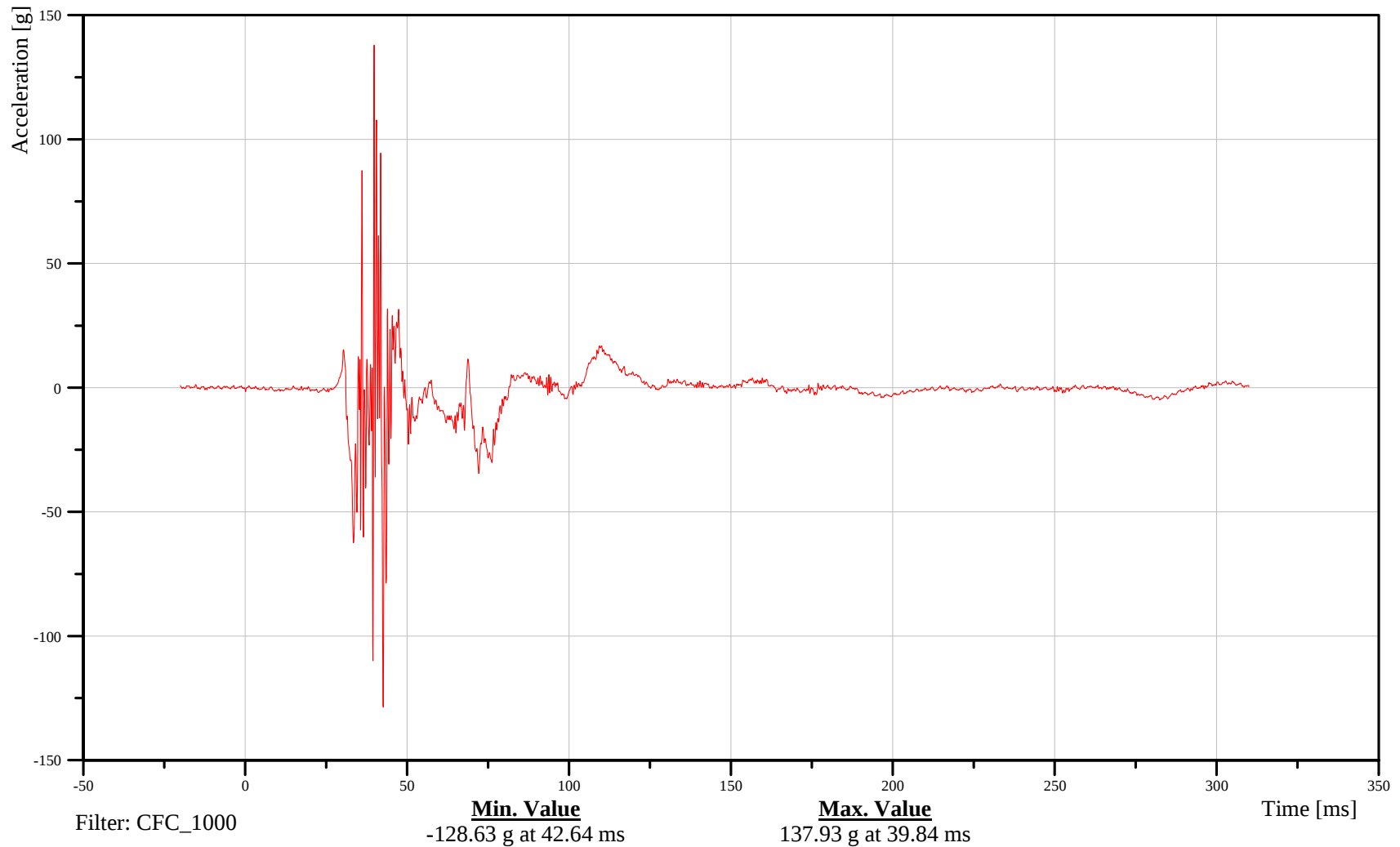
Abdominal Rib 1 X-Axis Acceleration

Customer: VRTC

11ABRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-58

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

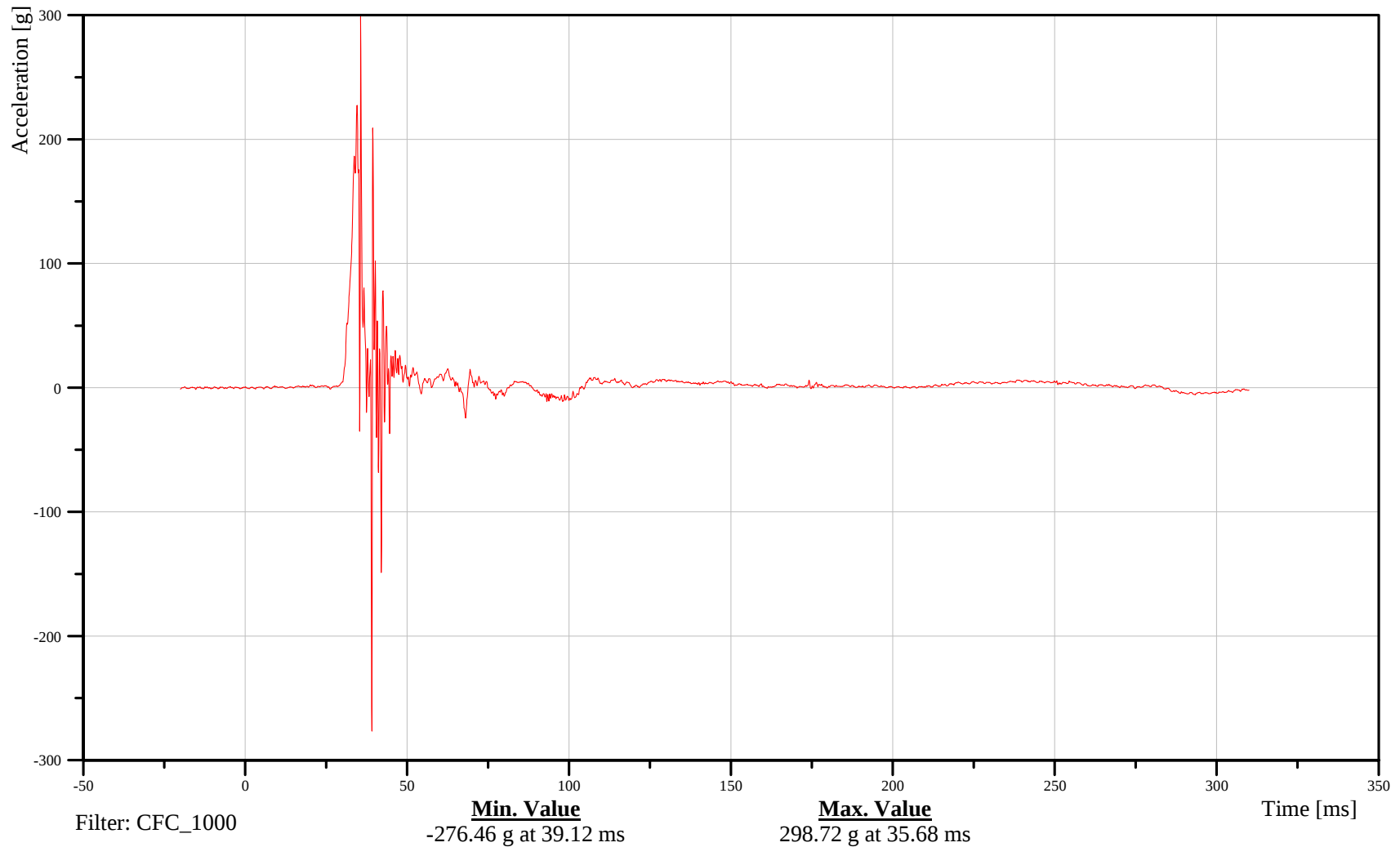
Abdominal Rib 1 Y-Axis Acceleration

Customer: VRTC

11ABRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-59

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

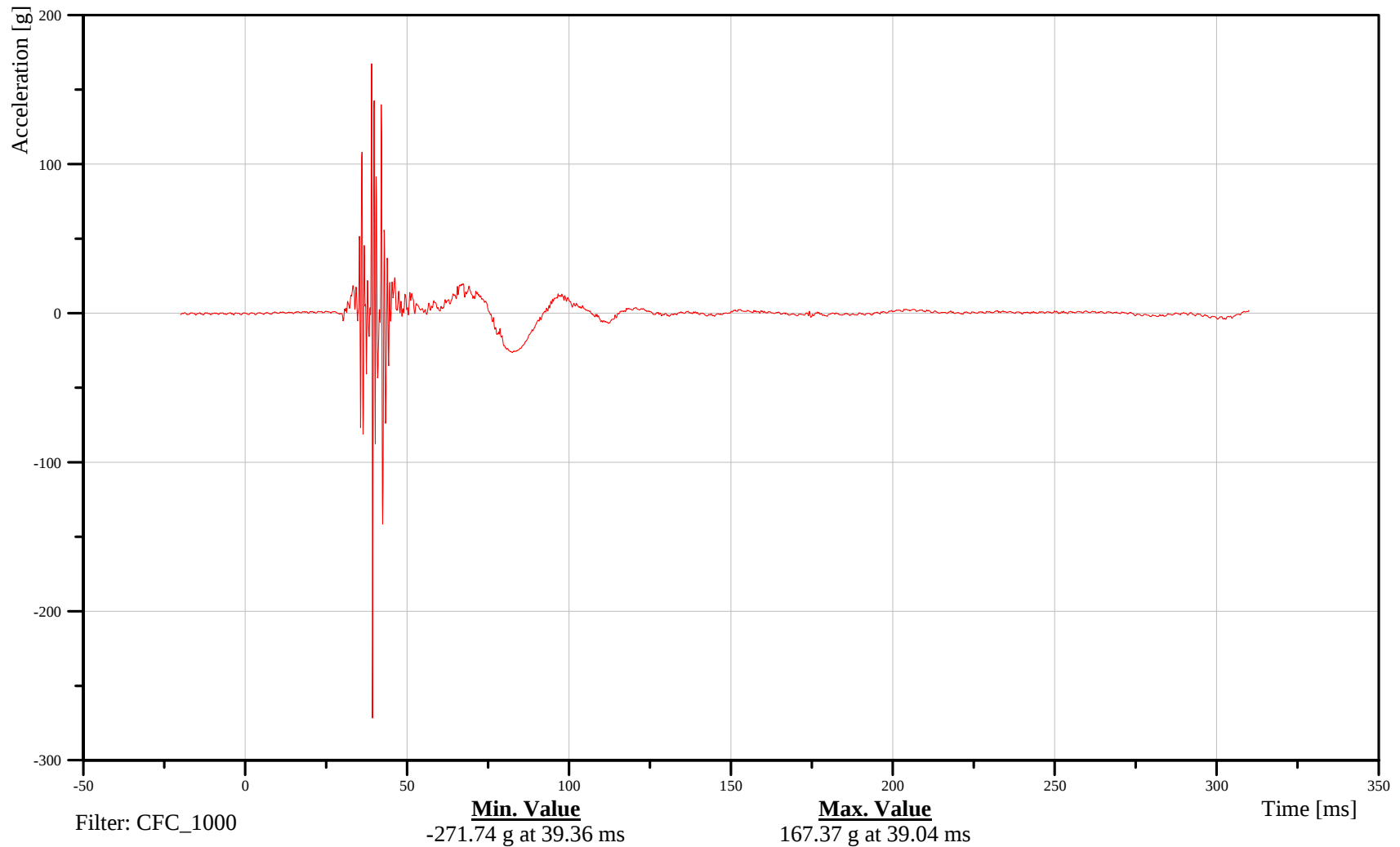
Abdominal Rib 1 Z-Axis Acceleration

Customer: VRTC

11ABRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-60

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

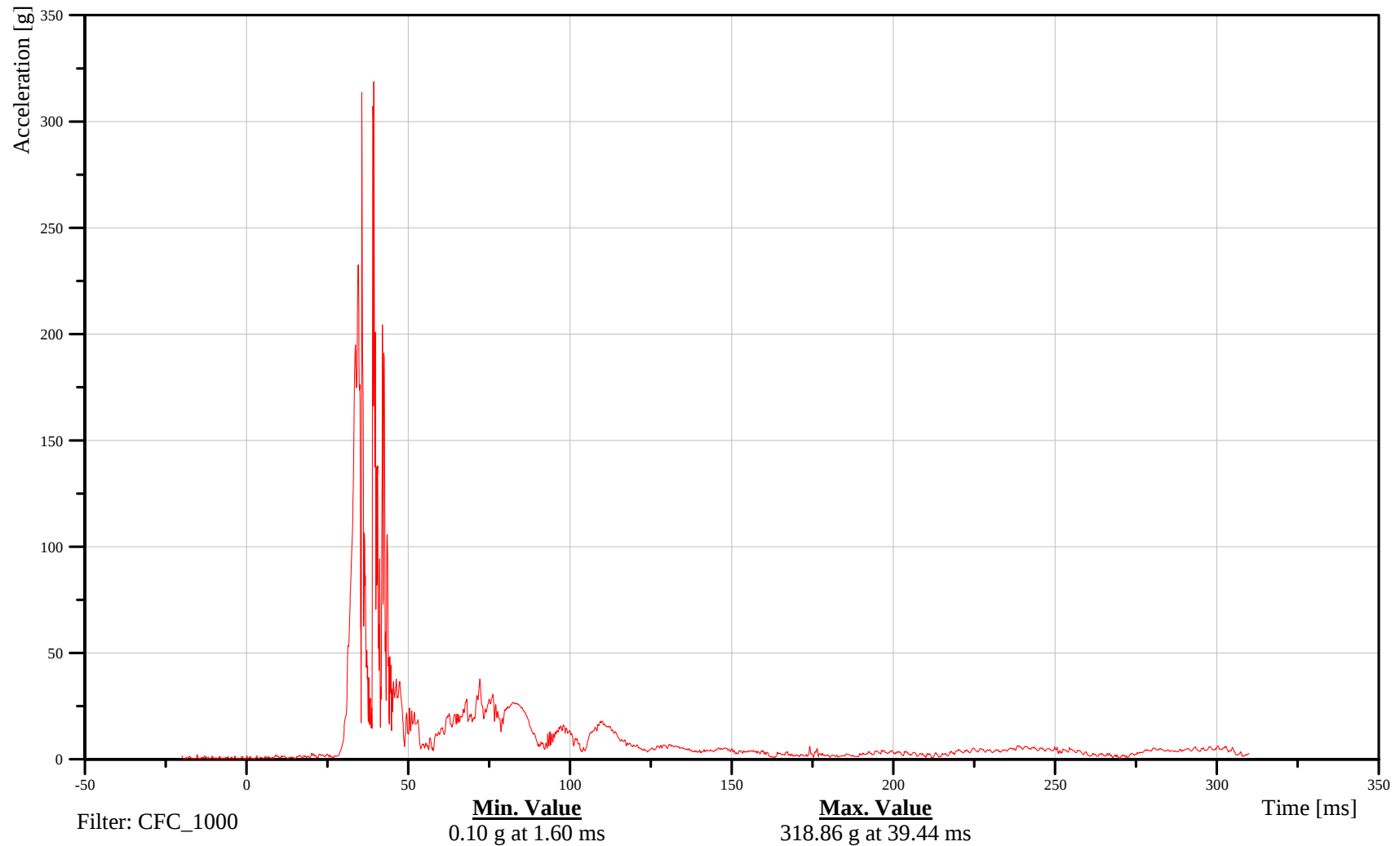
Abdominal Rib 1 Resultant Acceleration

Customer: VRTC

11ABRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-61

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

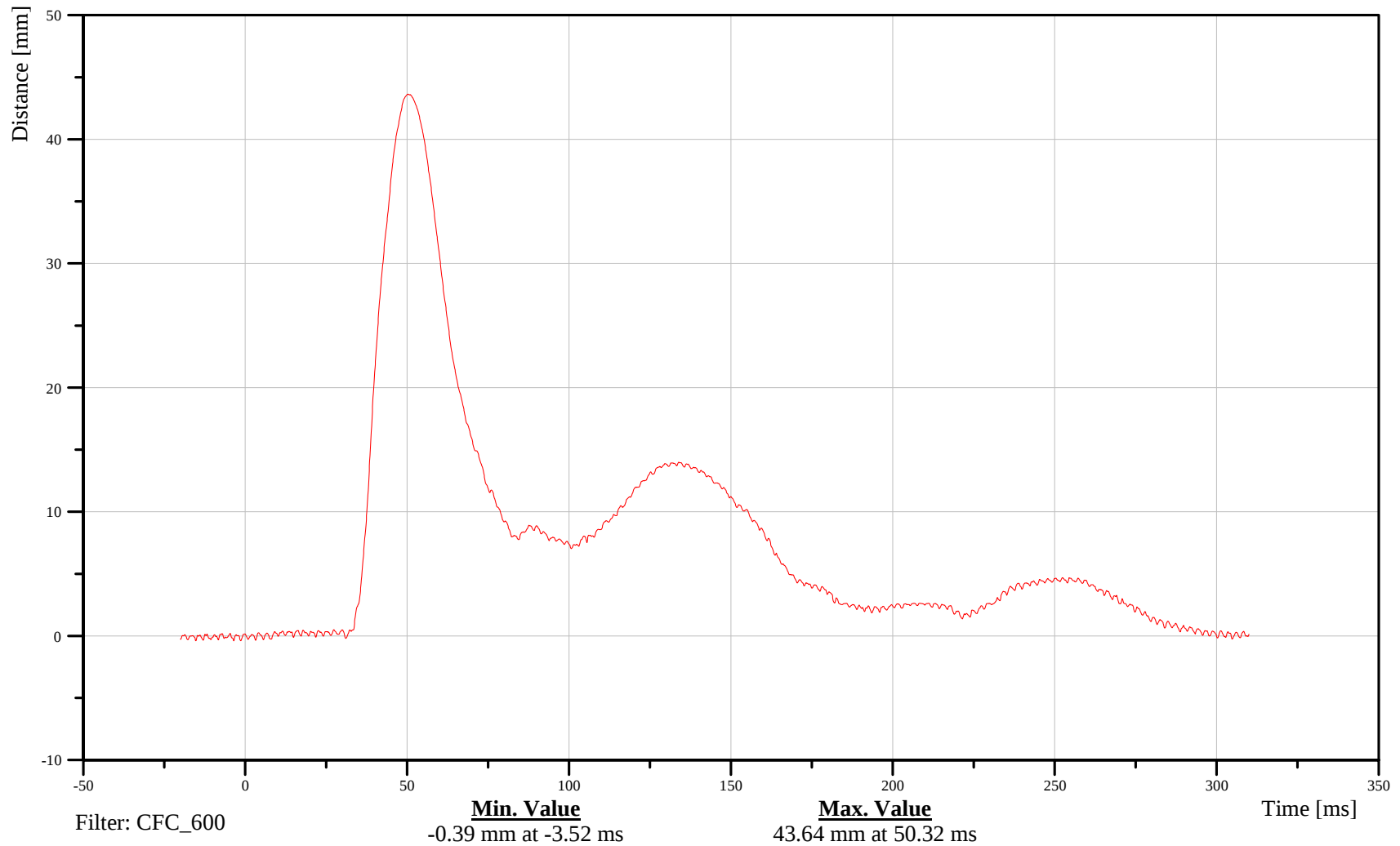
Abdominal Rib 2 Y-Axis Displacement

Customer: VRTC

11ABRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-62

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

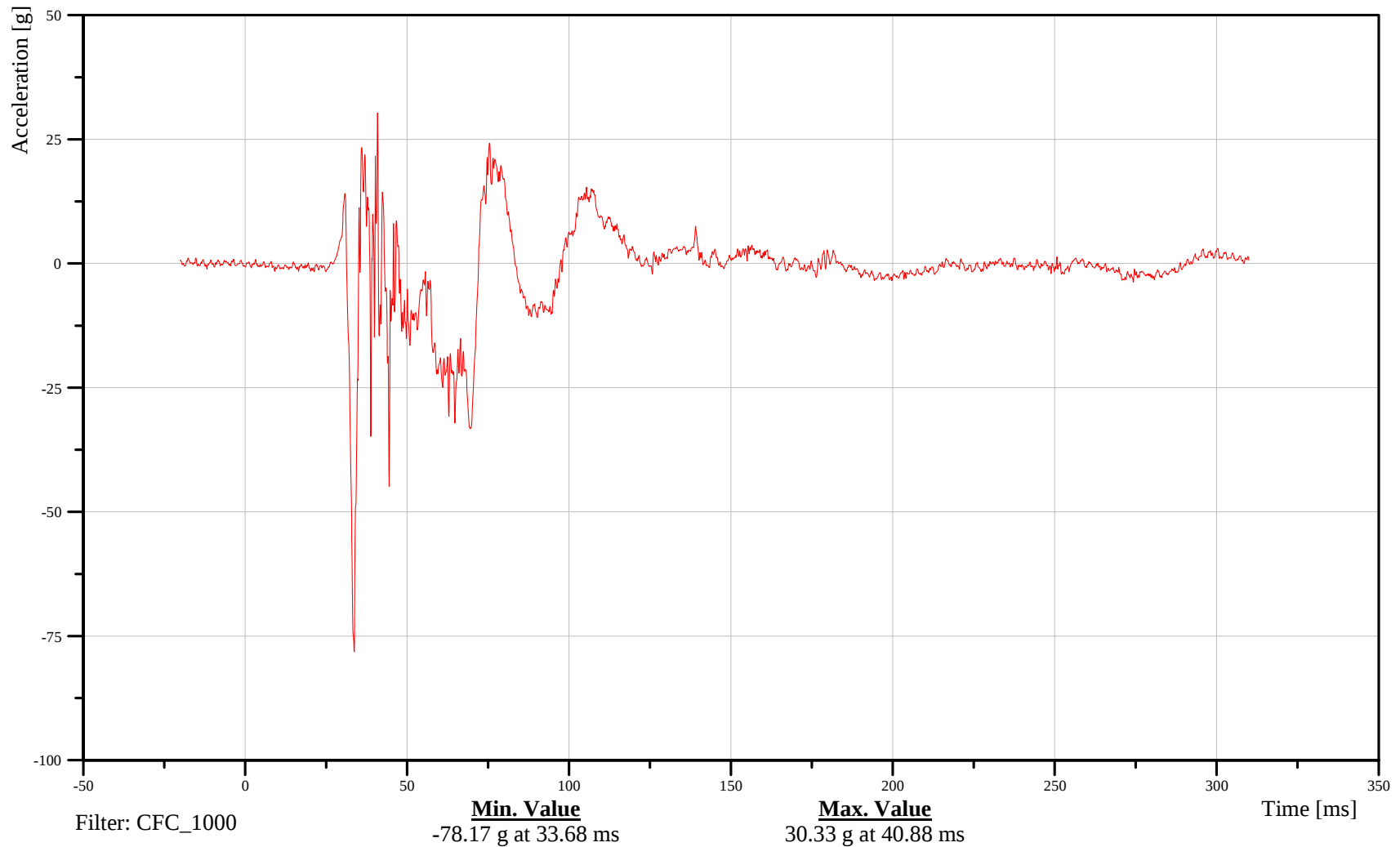
Abdominal Rib 2 X-Axis Acceleration

Customer: VRTC

11ABRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-63

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

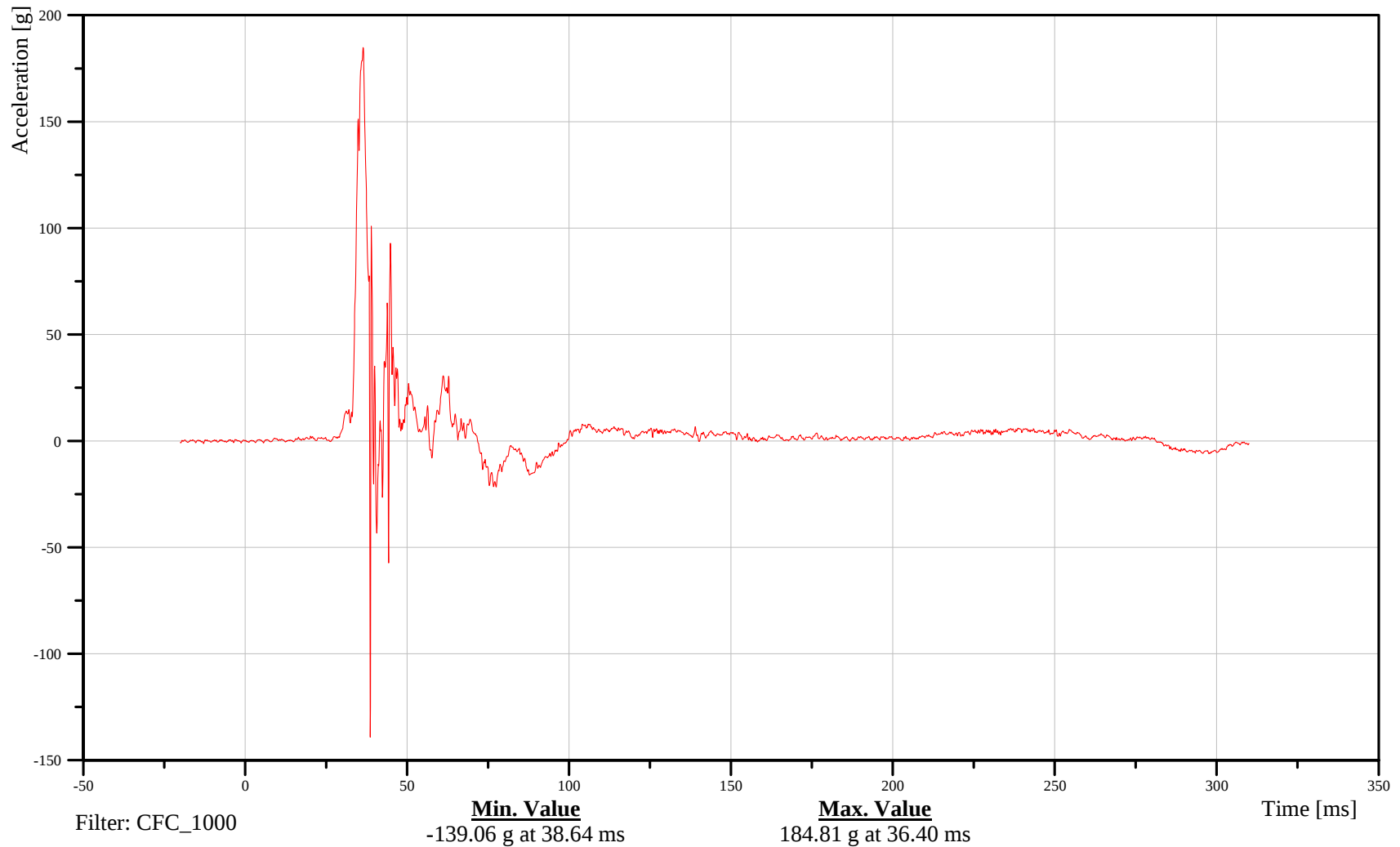
Abdominal Rib 2 Y-Axis Acceleration

Customer: VRTC

11ABRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-64

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

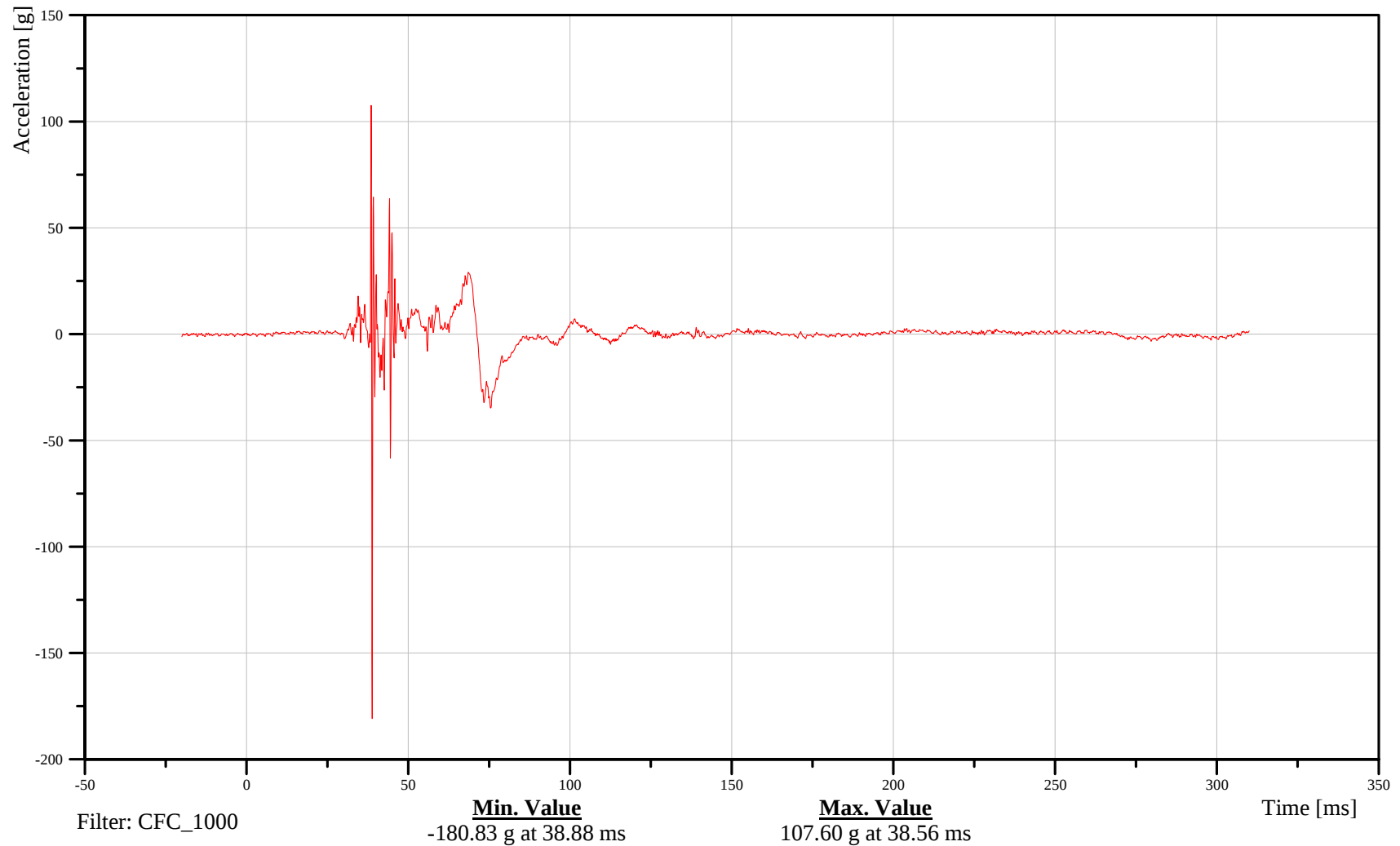
Abdominal Rib 2 Z-Axis Acceleration

Customer: VRTC

11ABRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-65

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

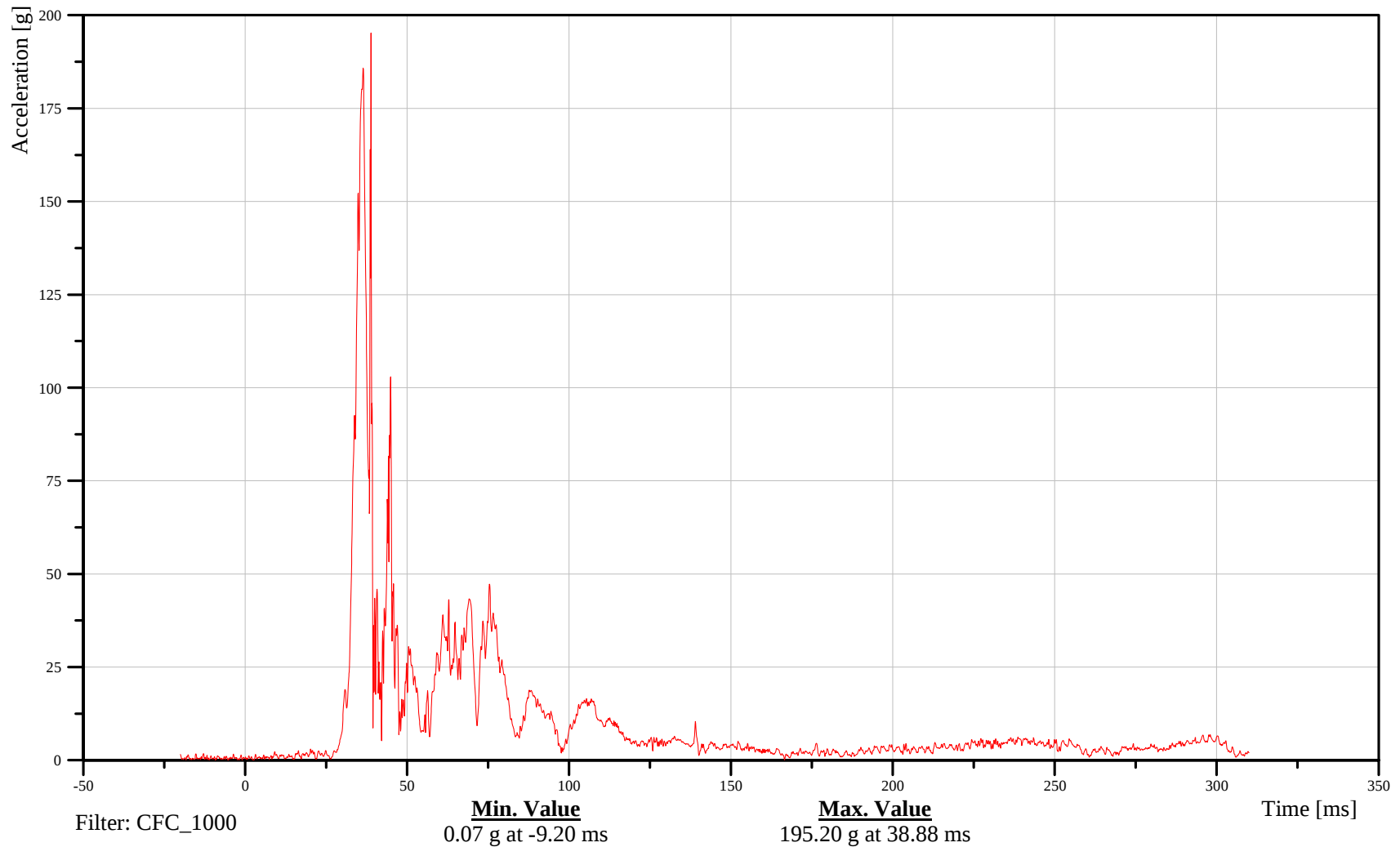
Abdominal Rib 2 Resultant Acceleration

Customer: VRTC

11ABRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-66

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

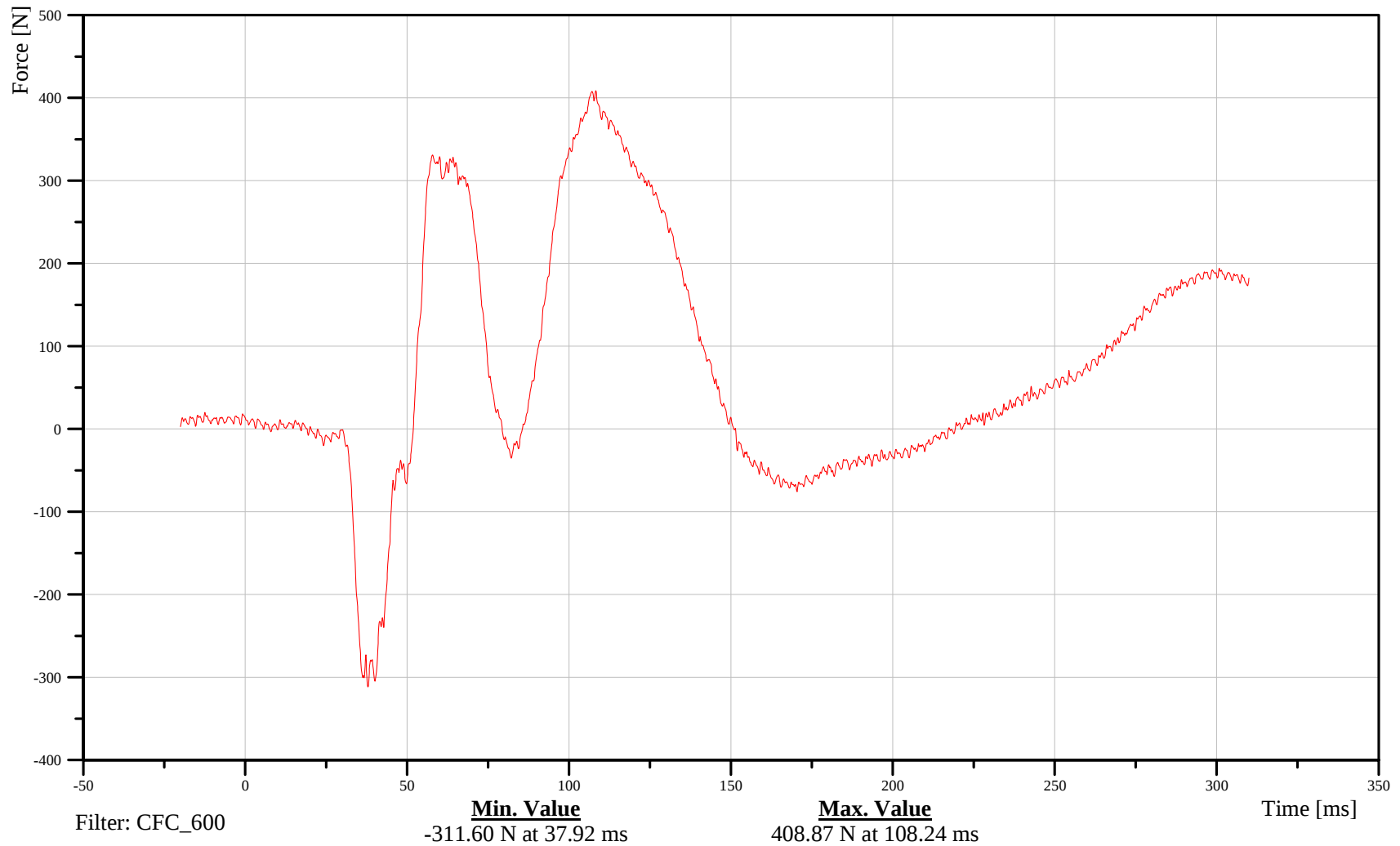
Lumbar X-Axis Force

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-67

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

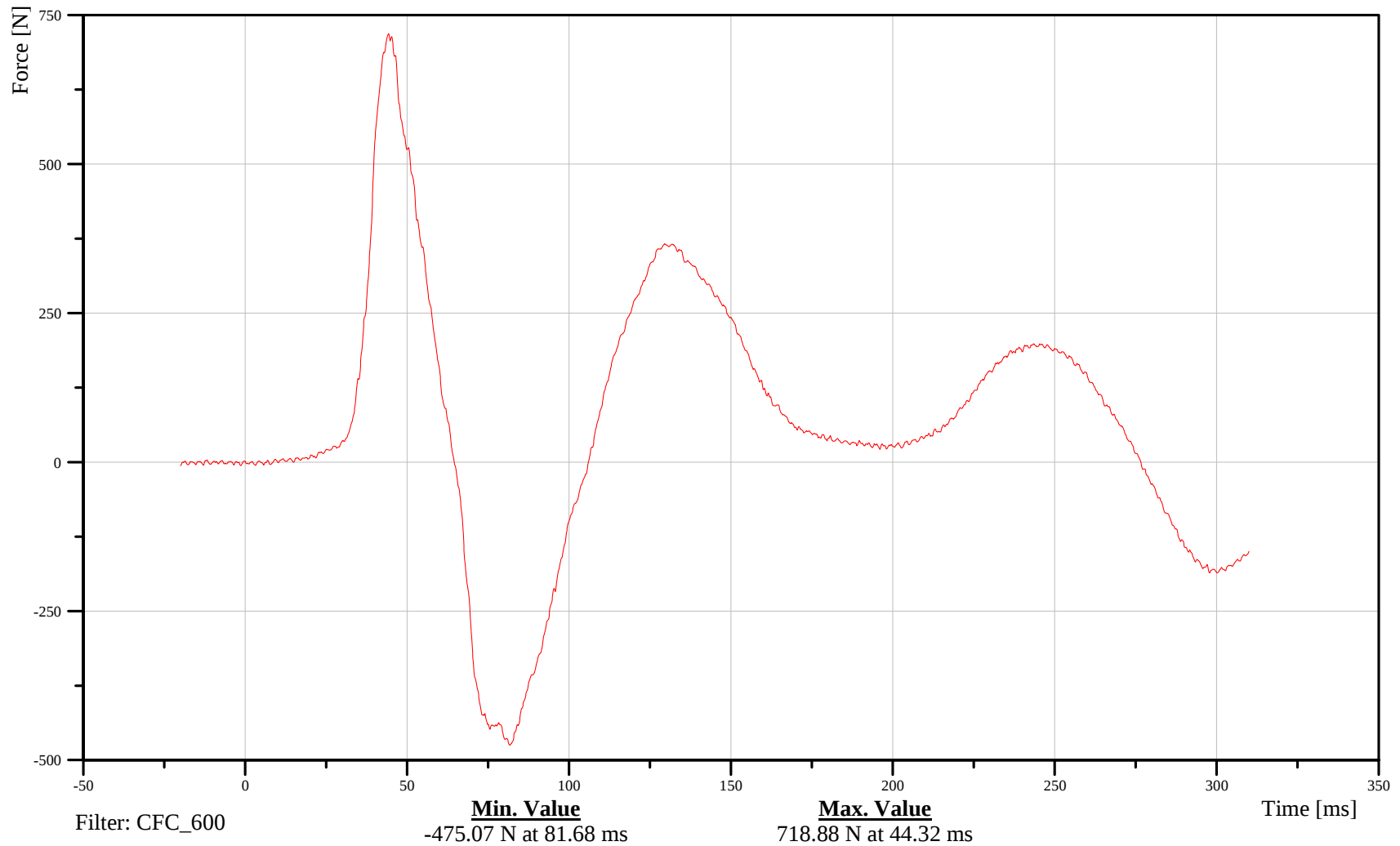
Lumbar Y-Axis Force

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-68

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

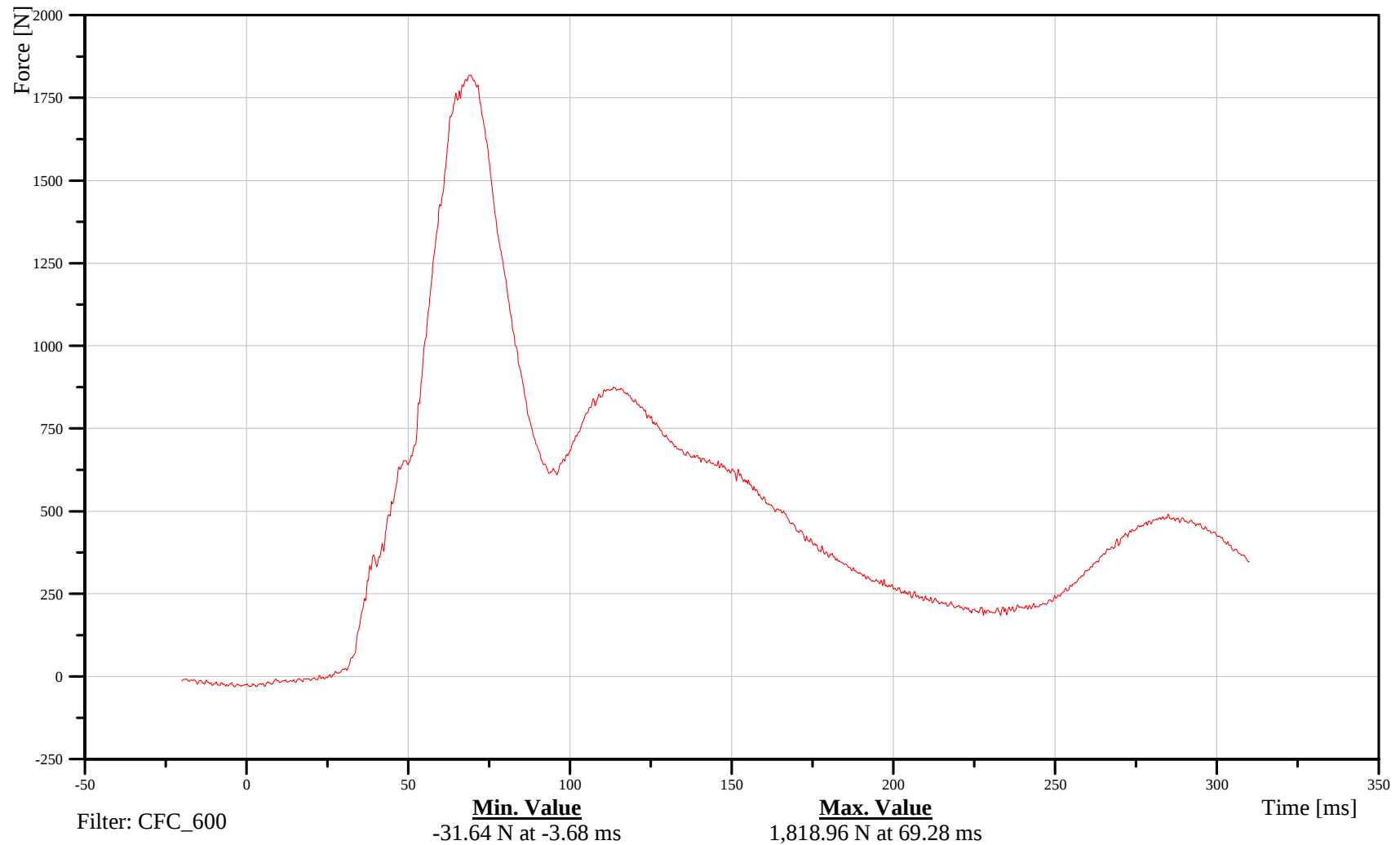
Lumbar Z-Axis Force

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-69

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

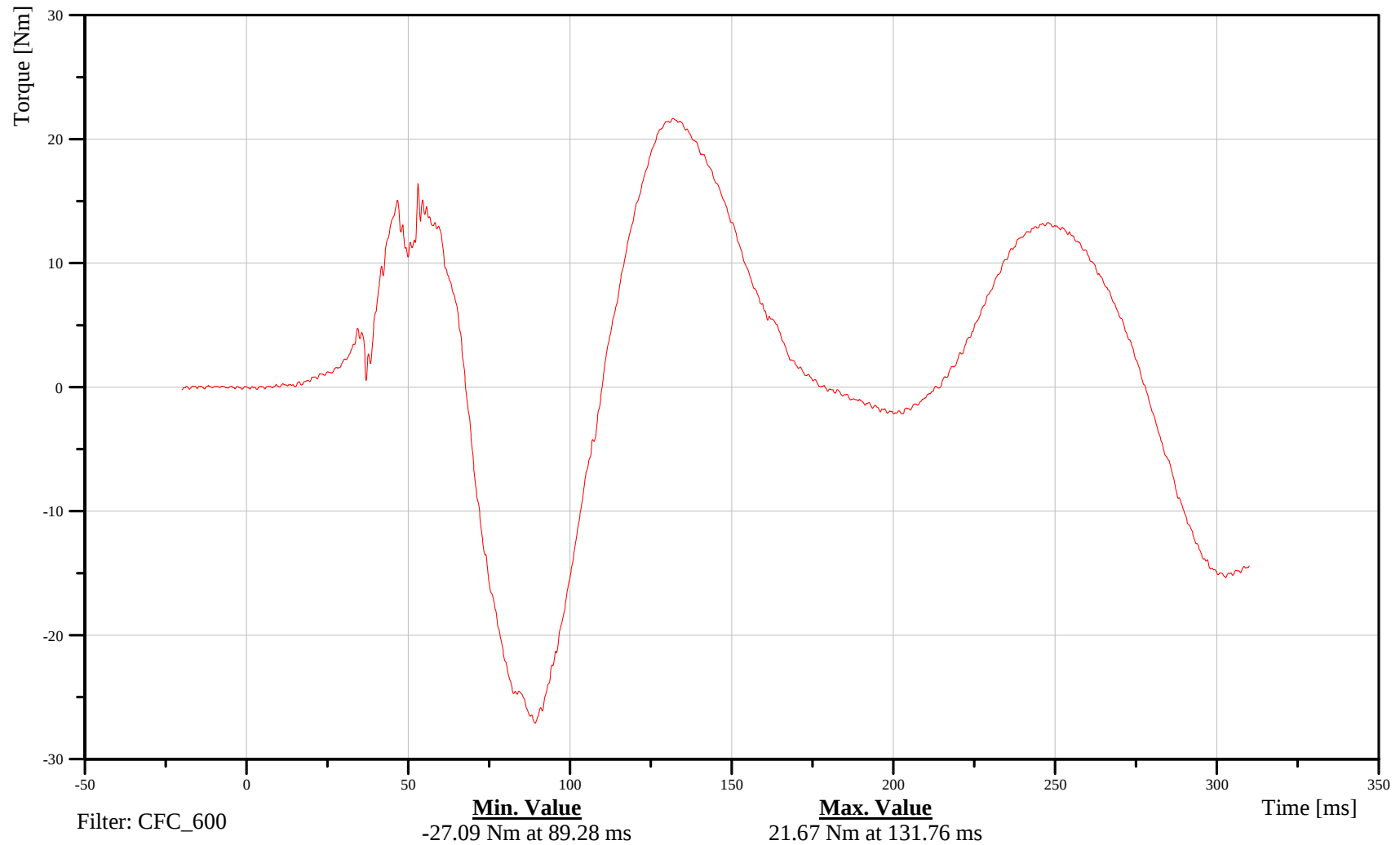
Lumbar Moment About X Axis

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-70

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

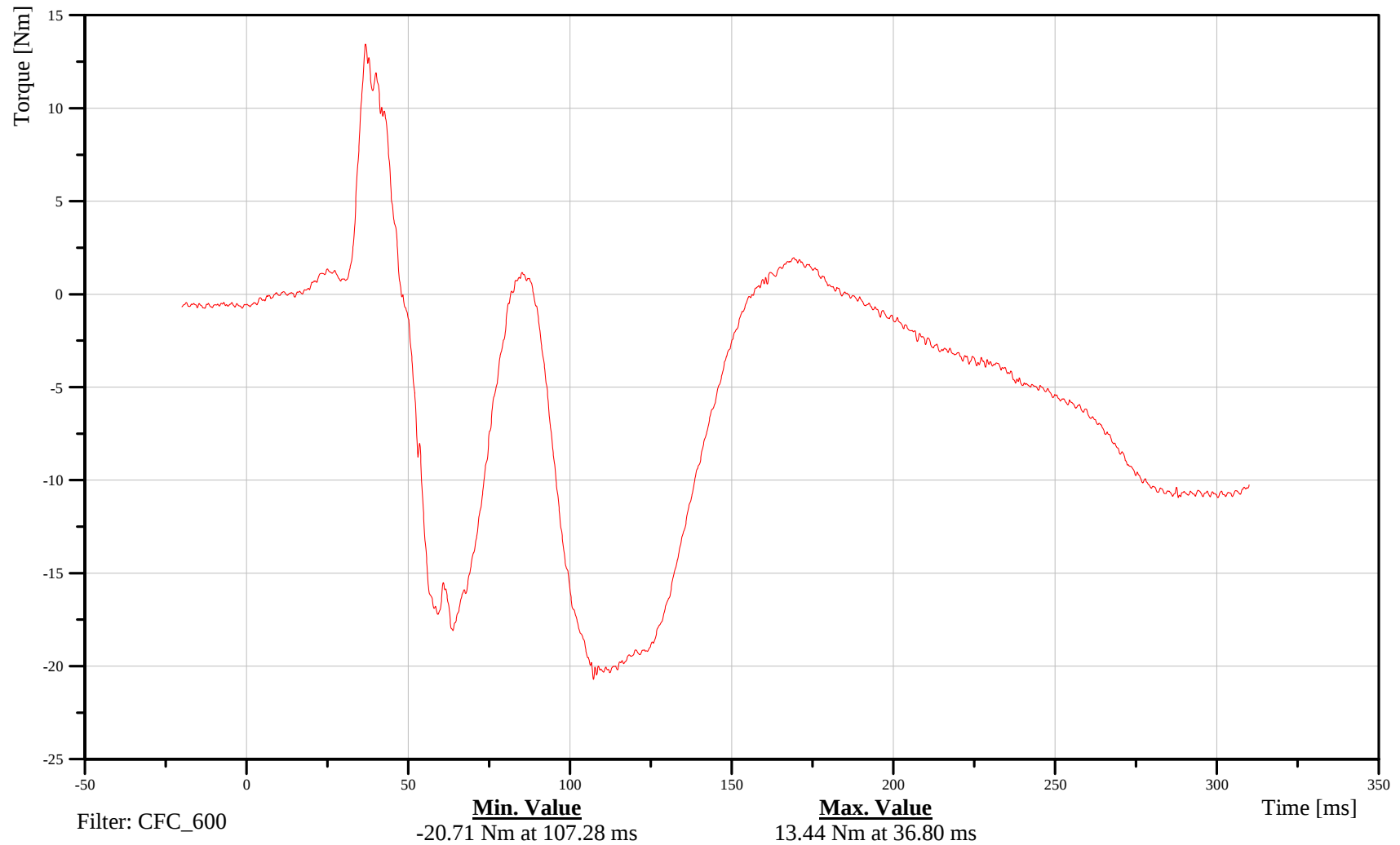
Lumbar Moment About Y Axis

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-71

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

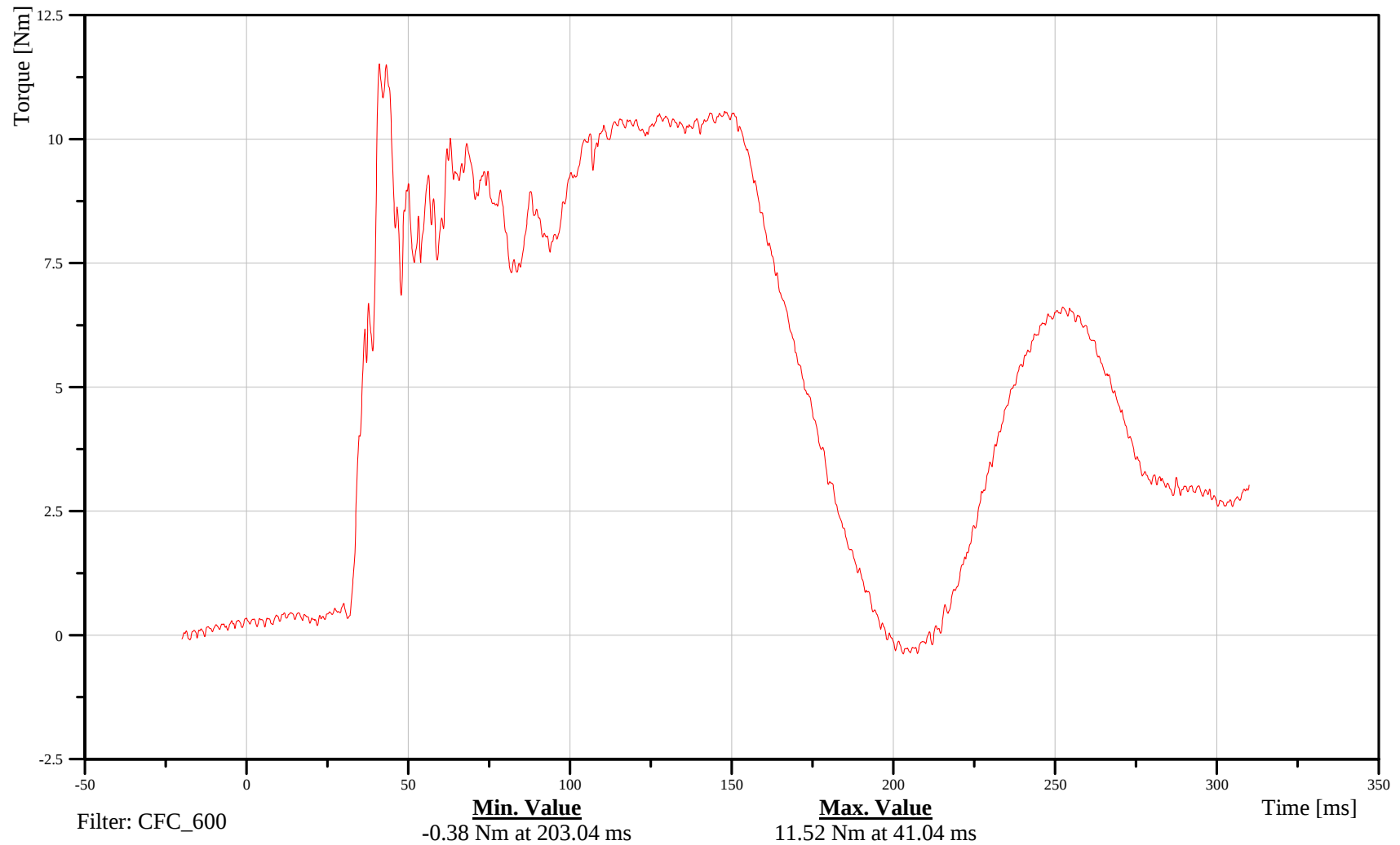
Lumbar Moment About Z Axis

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-72

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

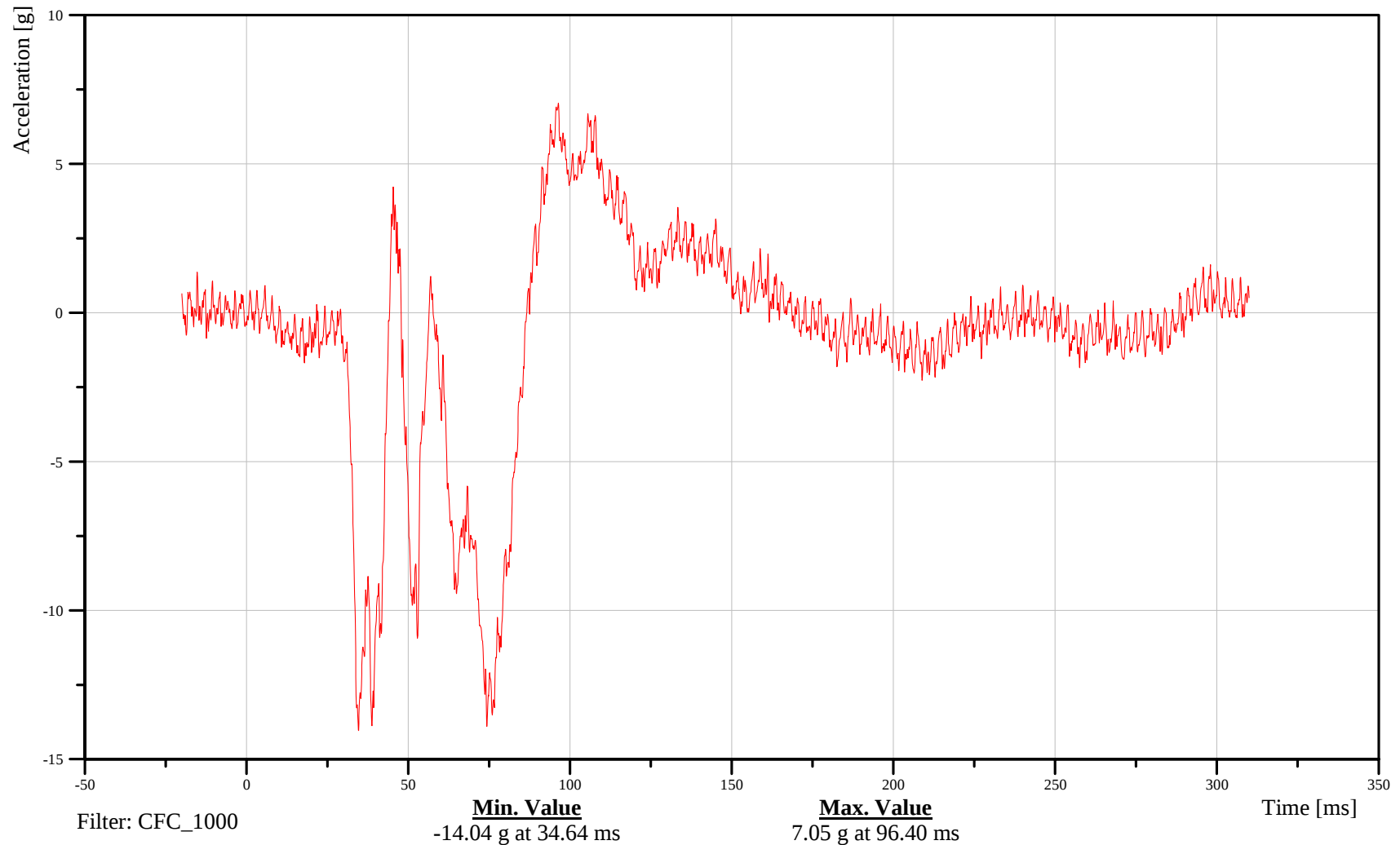
Pelvis X-Axis Acceleration

Customer: VRTC

11PELVCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-73

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

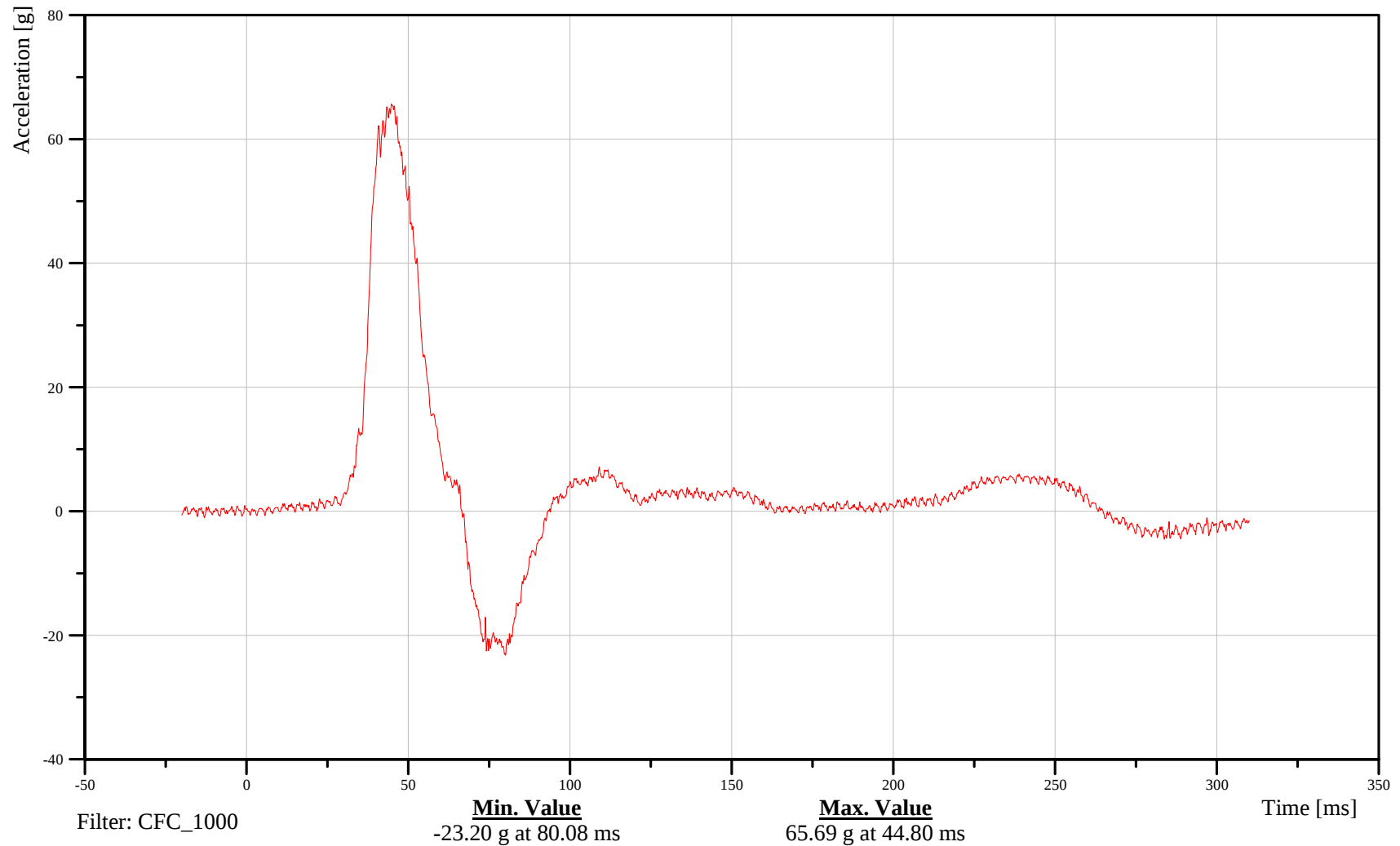
Pelvis Y-Axis Acceleration

Customer: VRTC

11PELVCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-74

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

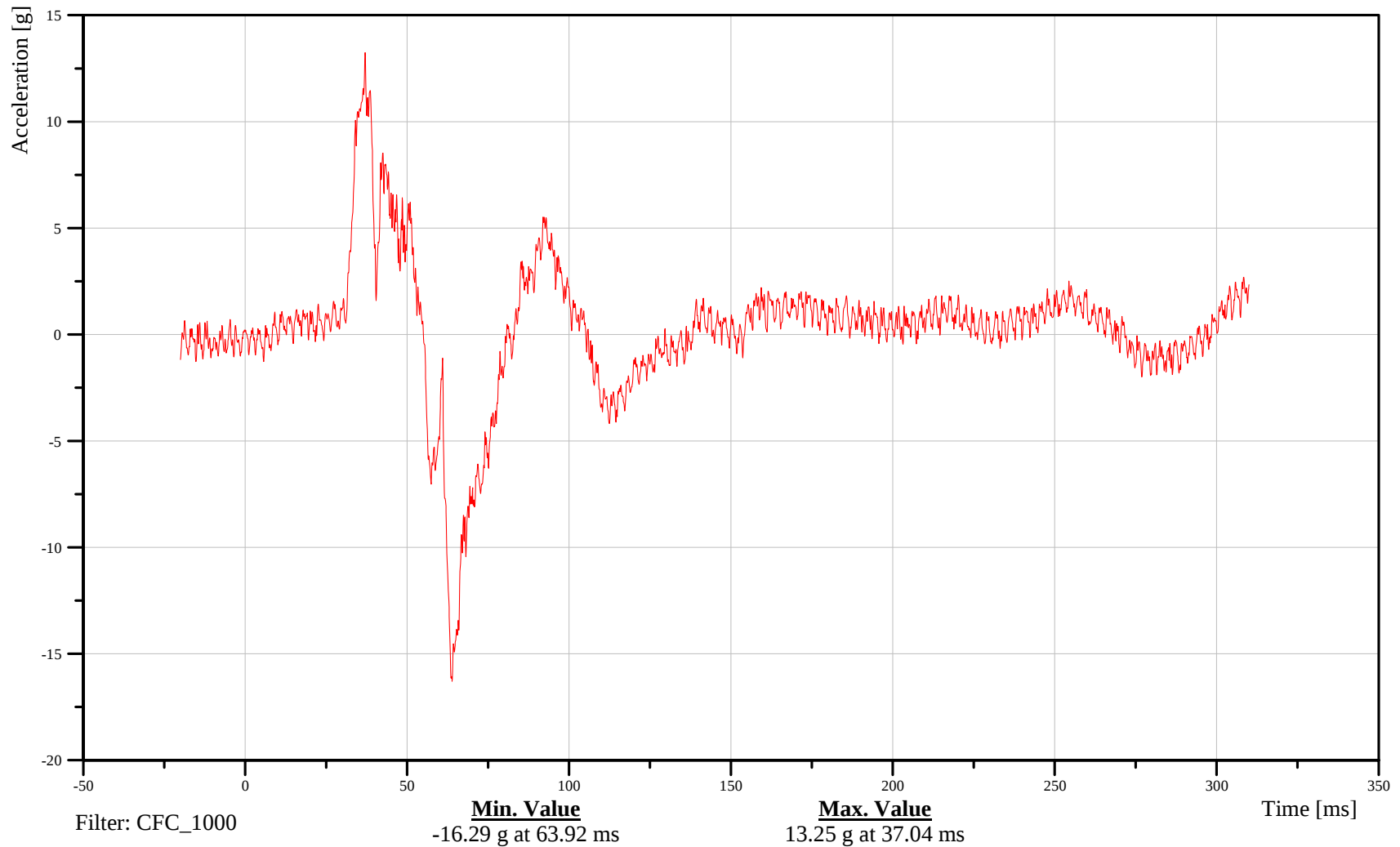
Pelvis Z-Axis Acceleration

Customer: VRTC

11PELVCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-75

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

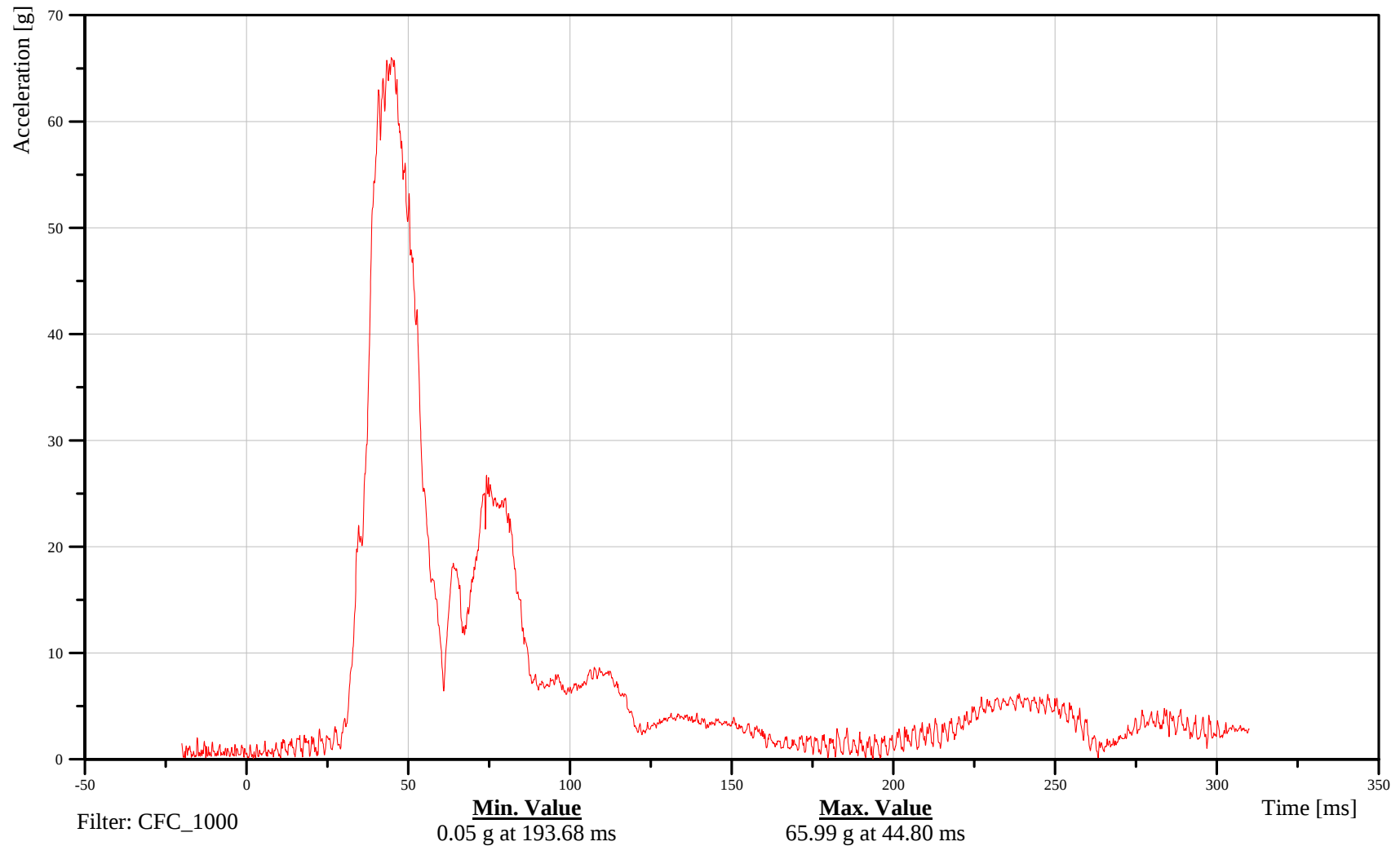
Pelvis Resultant Acceleration

Customer: VRTC

11PELVCG00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-76

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

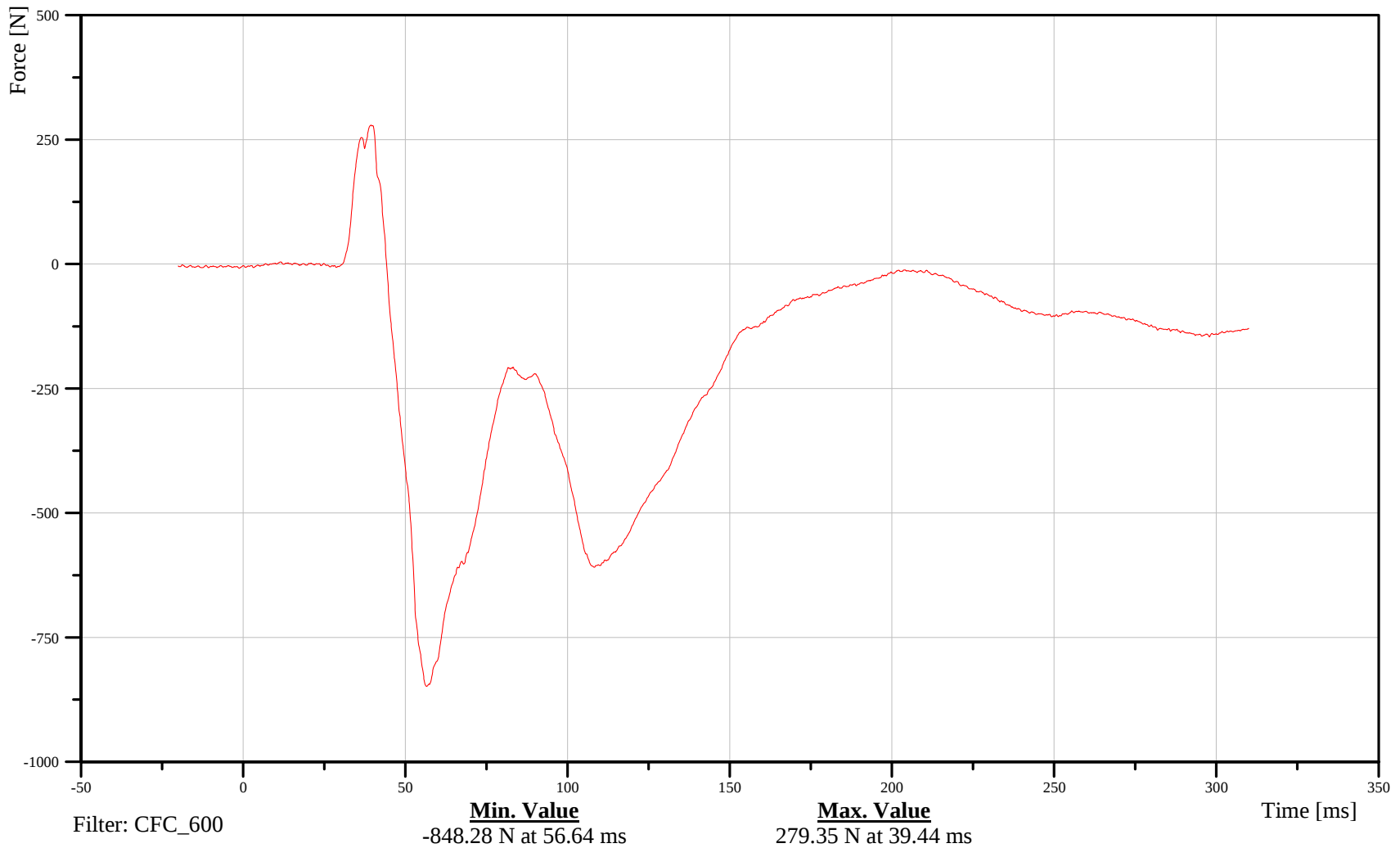
Sacro-Iliac Left X-Axis Force

Customer: VRTC

11SACRLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-77

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

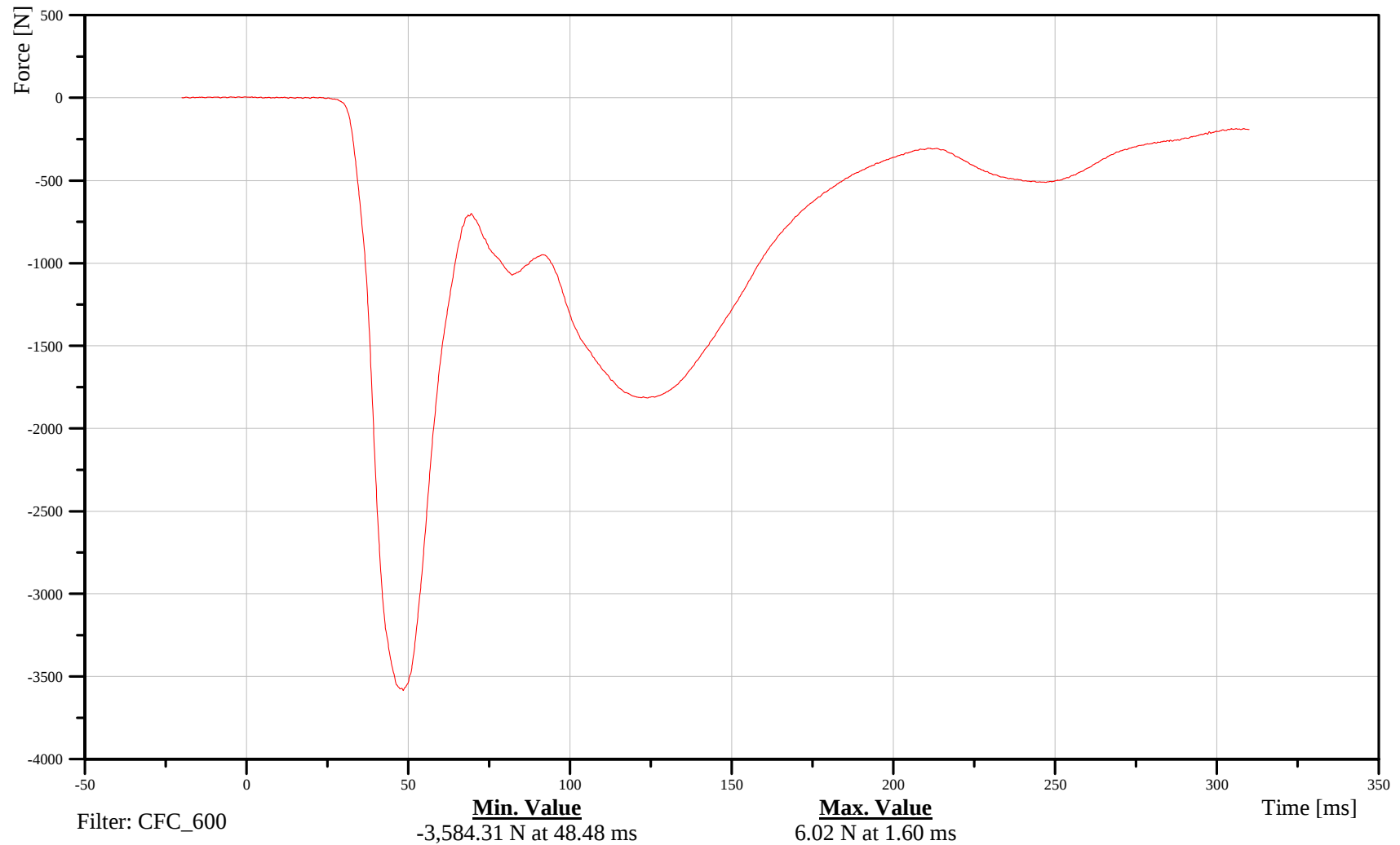
Sacro-Iliac Left Y-Axis Force

Customer: VRTC

11SACRLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-78

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

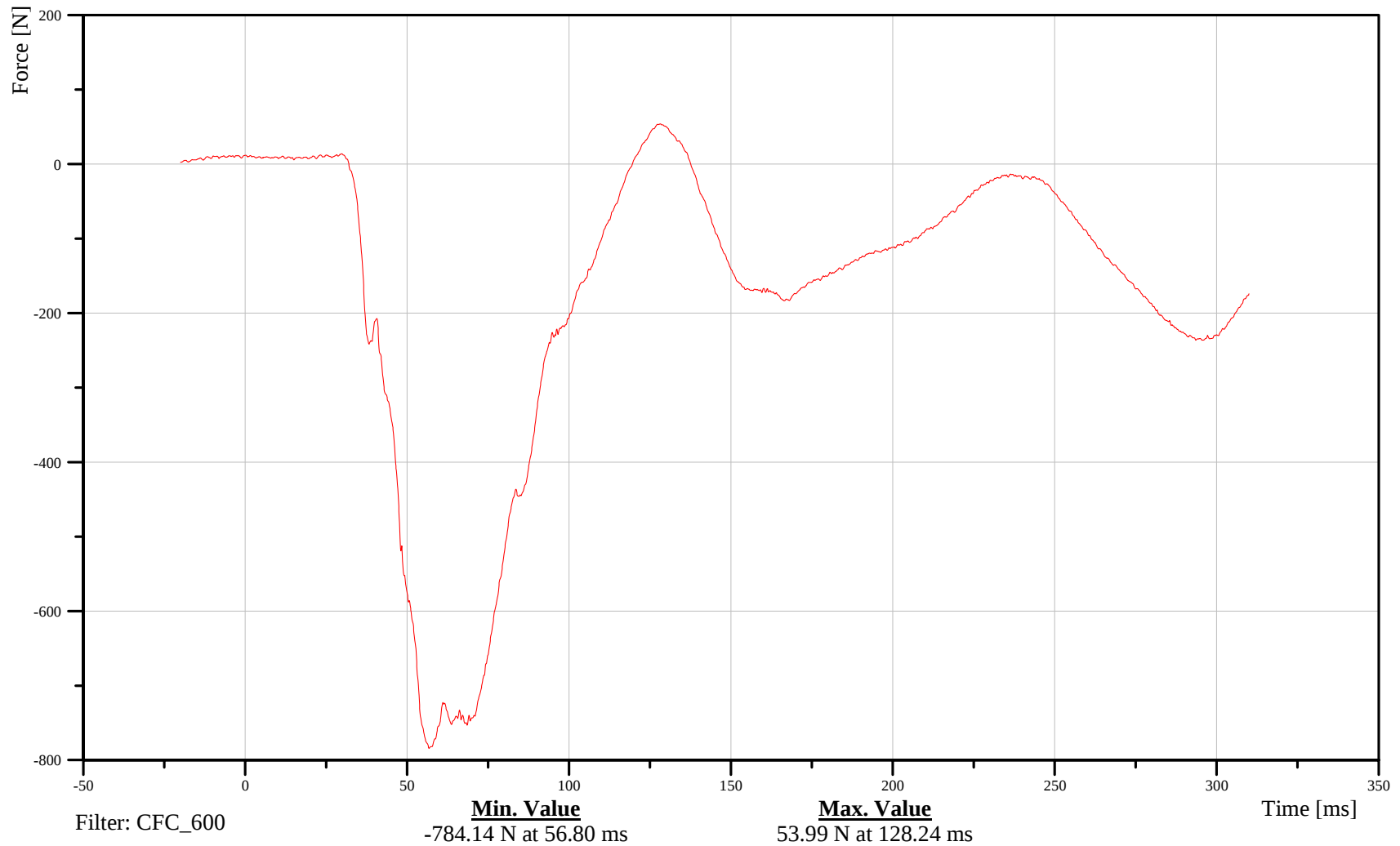
Sacro-Iliac Left Z-Axis Force

Customer: VRTC

11SACRLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-79

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

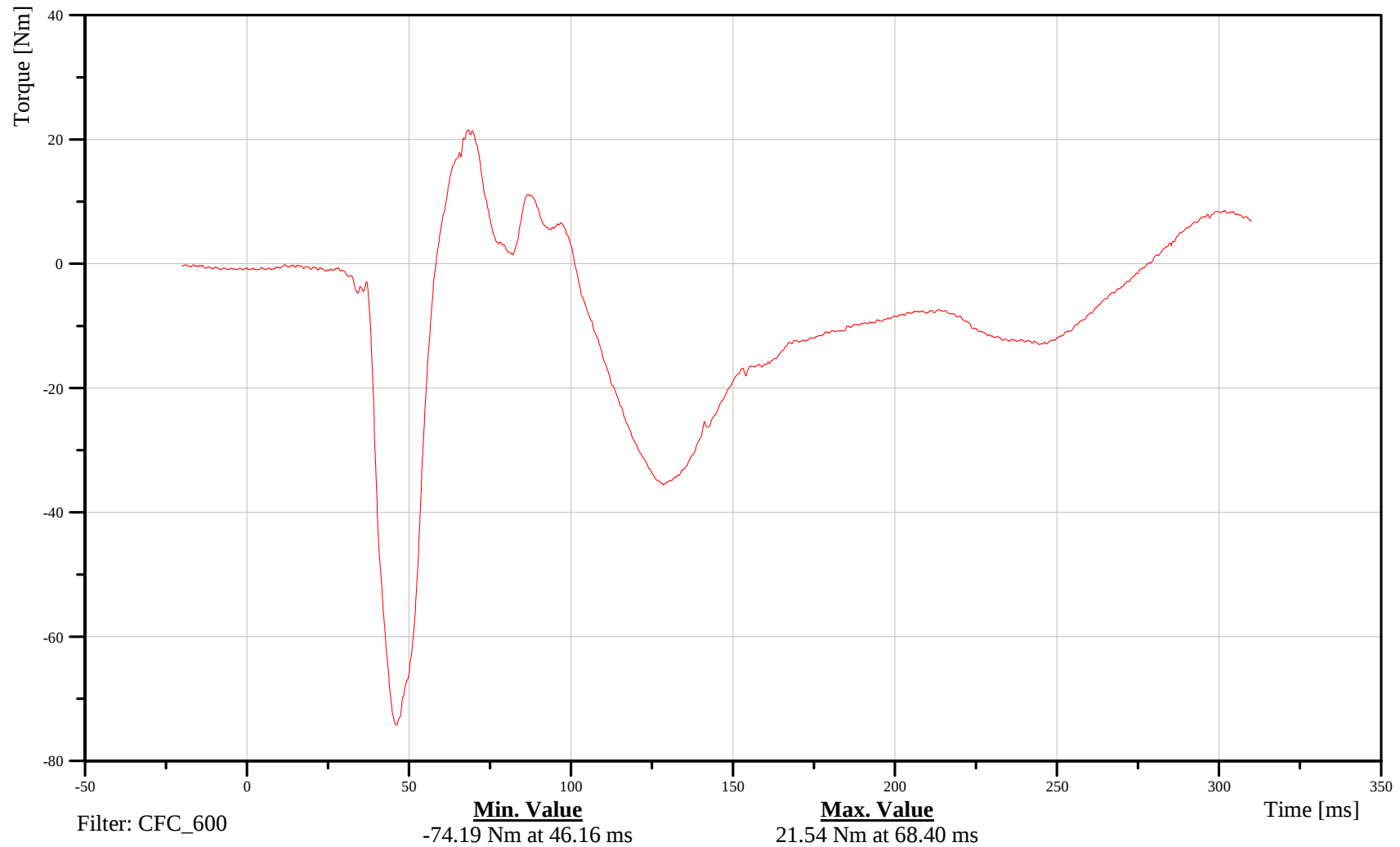
Sacro-Iliac Left Moment About X Axis

Customer: VRTC

11SACRLE00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-80

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

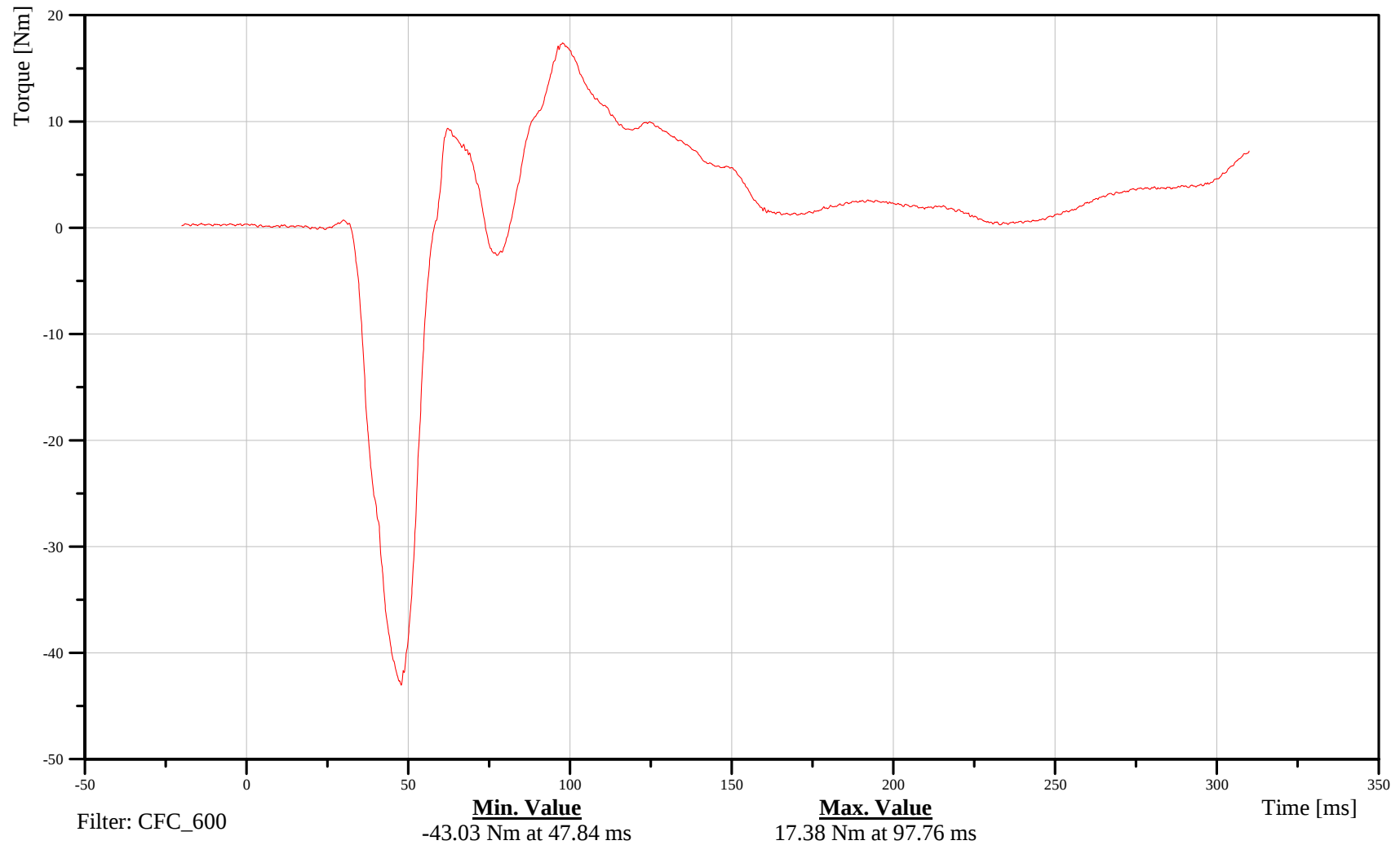
Sacro-Iliac Left Moment About Y Axis

Customer: VRTC

11SACRLE00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-81

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Sacro-Iliac Left Moment About Z Axis

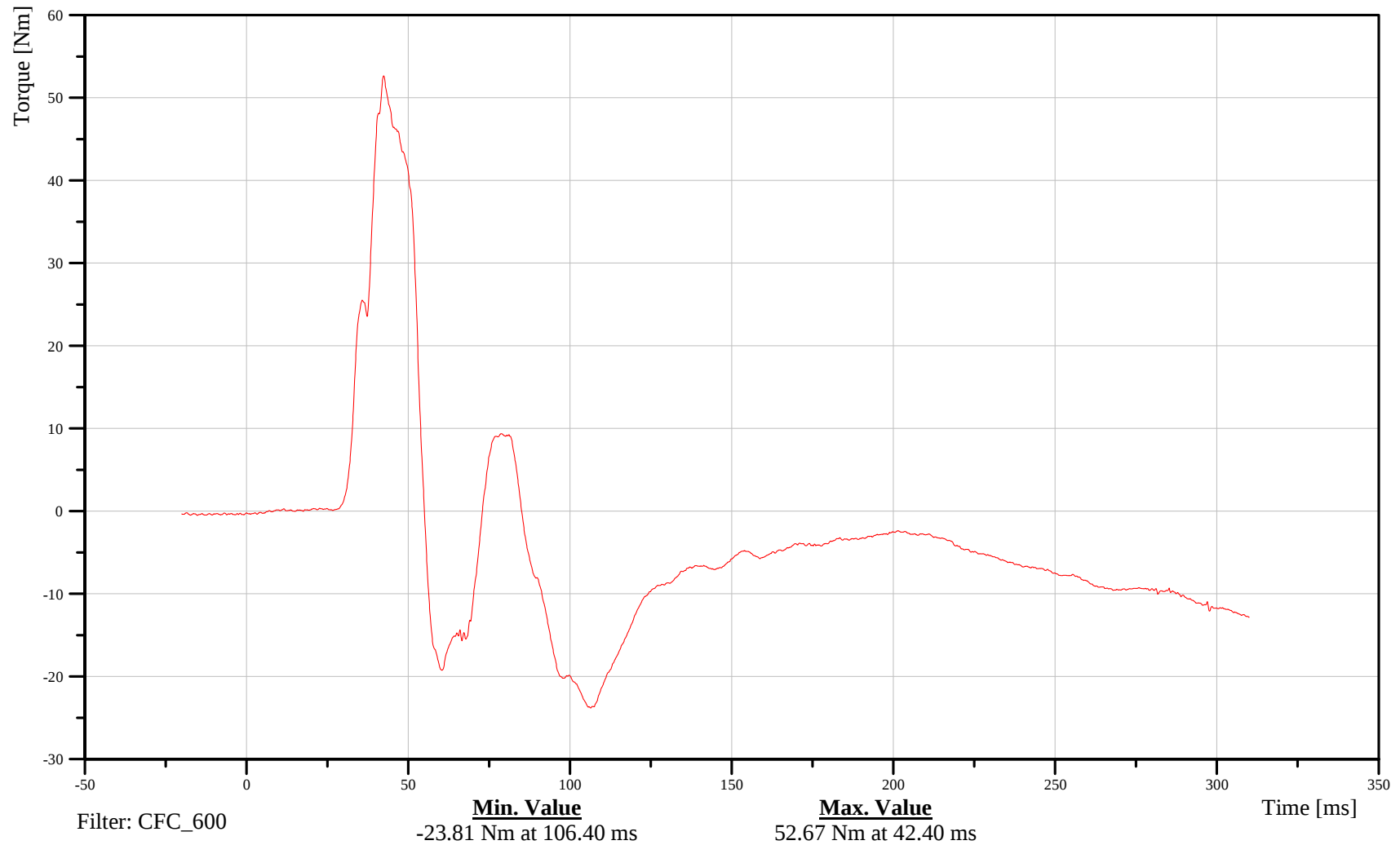
Date: 8/9/2007
Time: 13:13

Customer: VRTC

11SACRLE00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-82

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

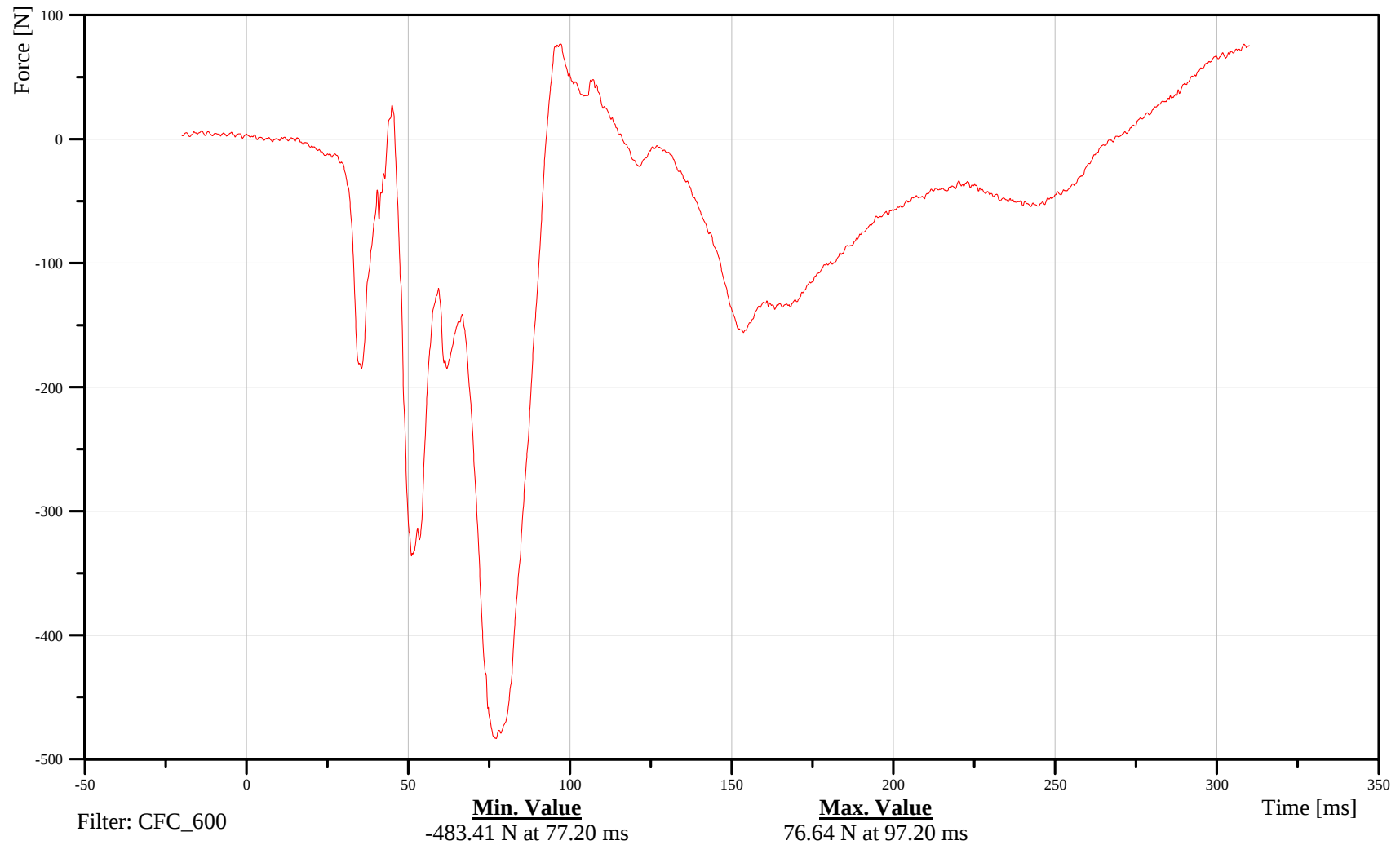
Sacro-Iliac Right X-Axis Force

Customer: VRTC

11SACRRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-83

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

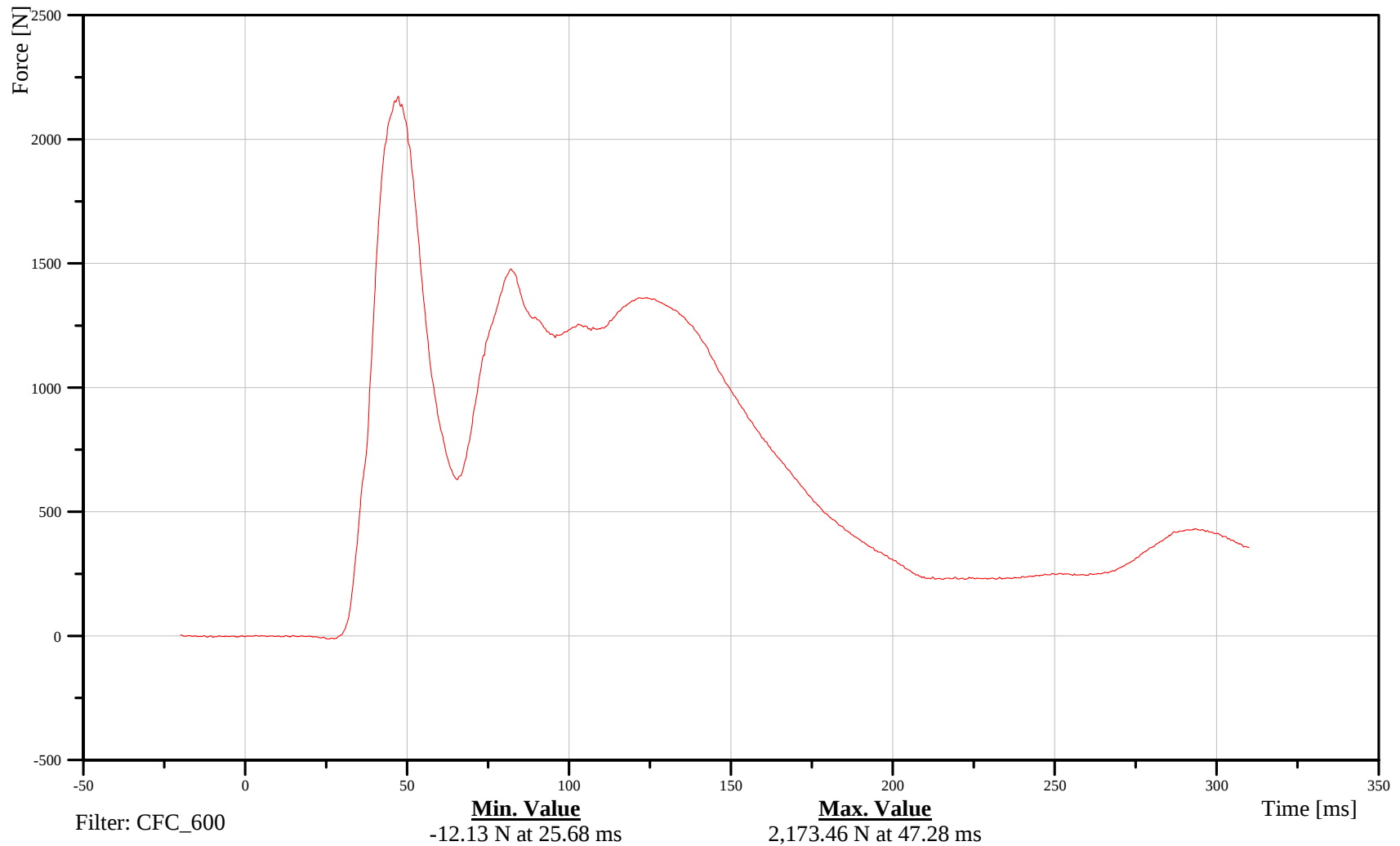
Sacro-Iliac Right Y-Axis Force

Customer: VRTC

11SACRRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-84

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

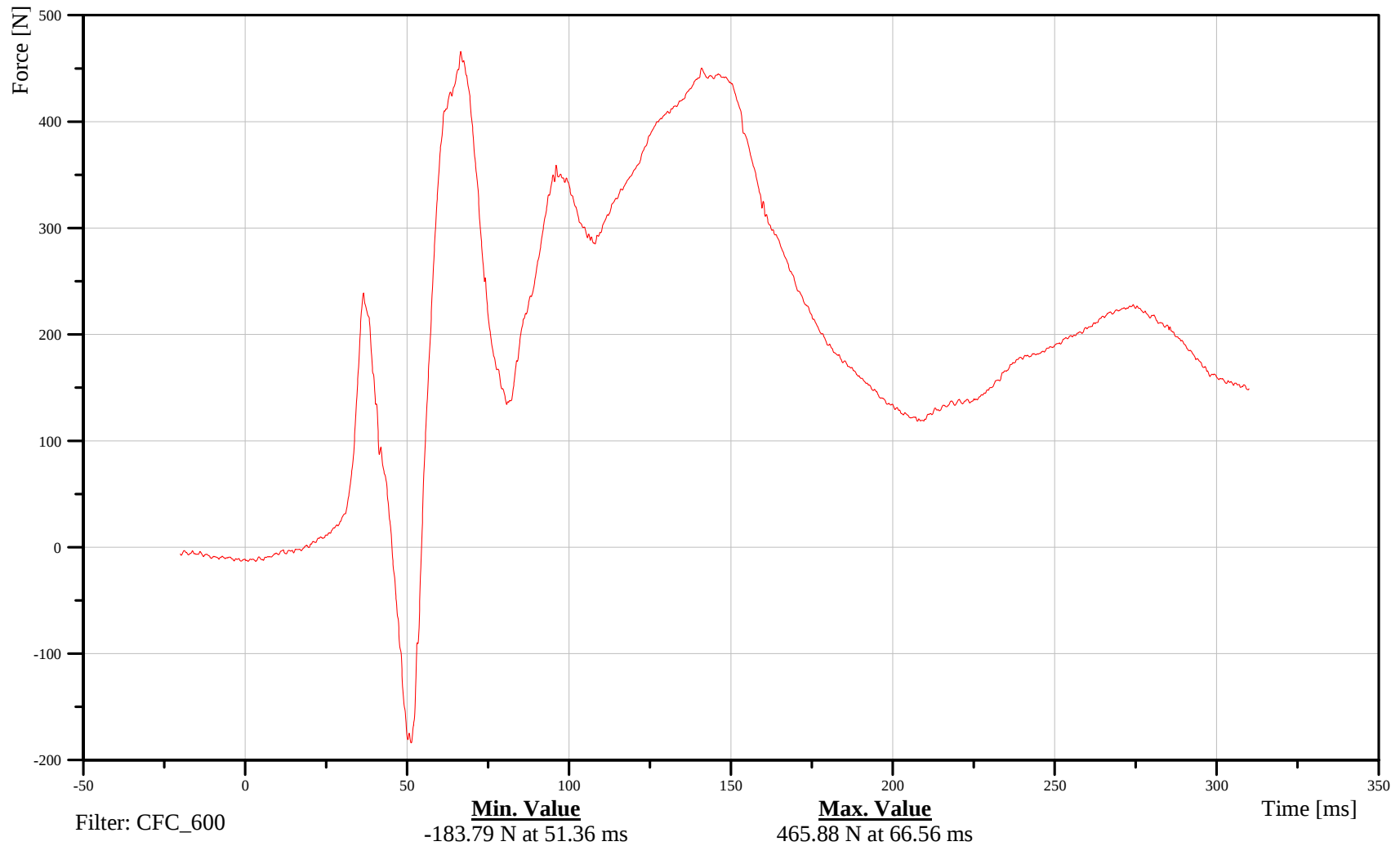
Sacro-Iliac Right Z-Axis Force

Customer: VRTC

11SACRRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-85

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

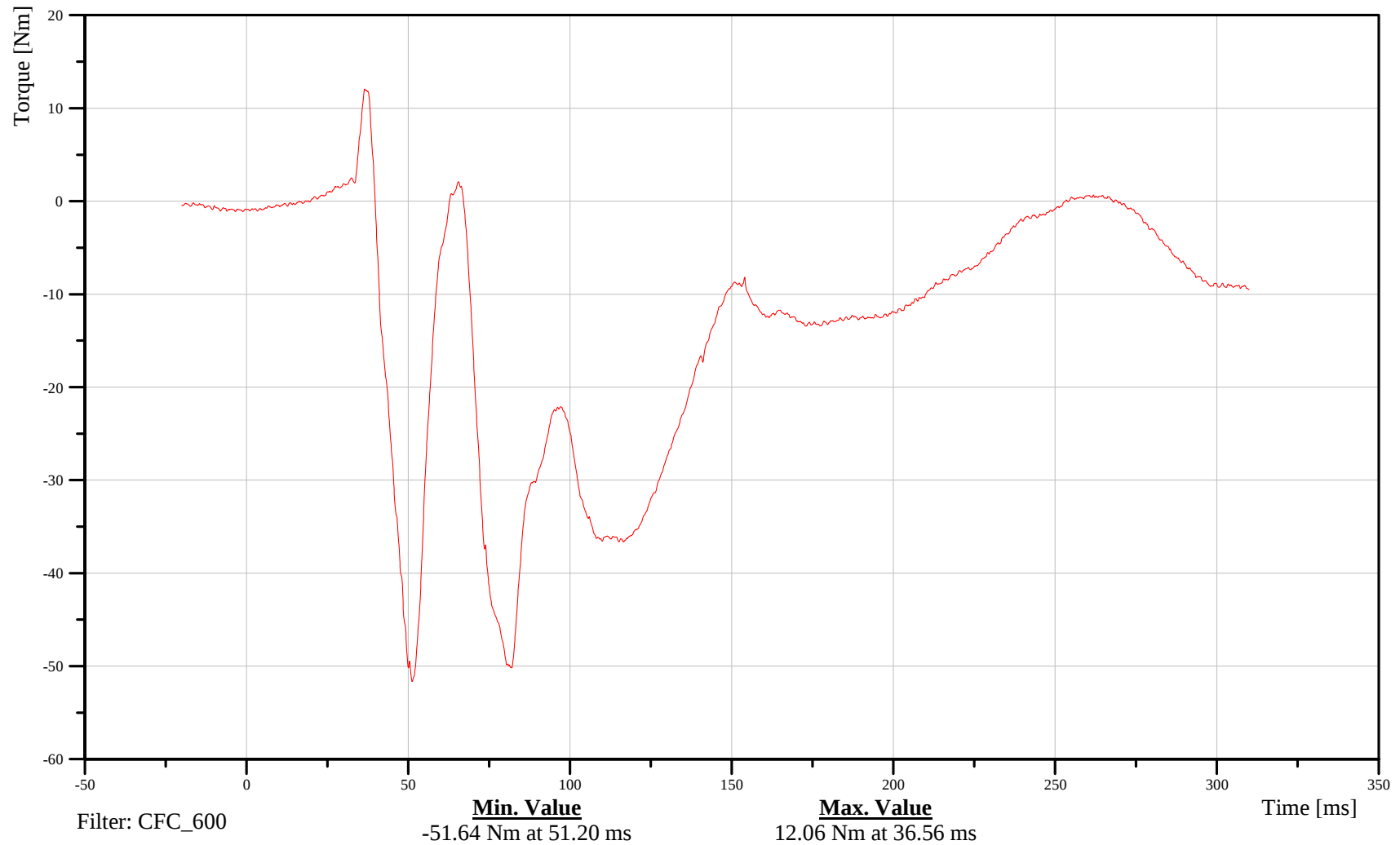
Sacro-Iliac Right Moment About X Axis

Customer: VRTC

11SACRRI00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-86

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

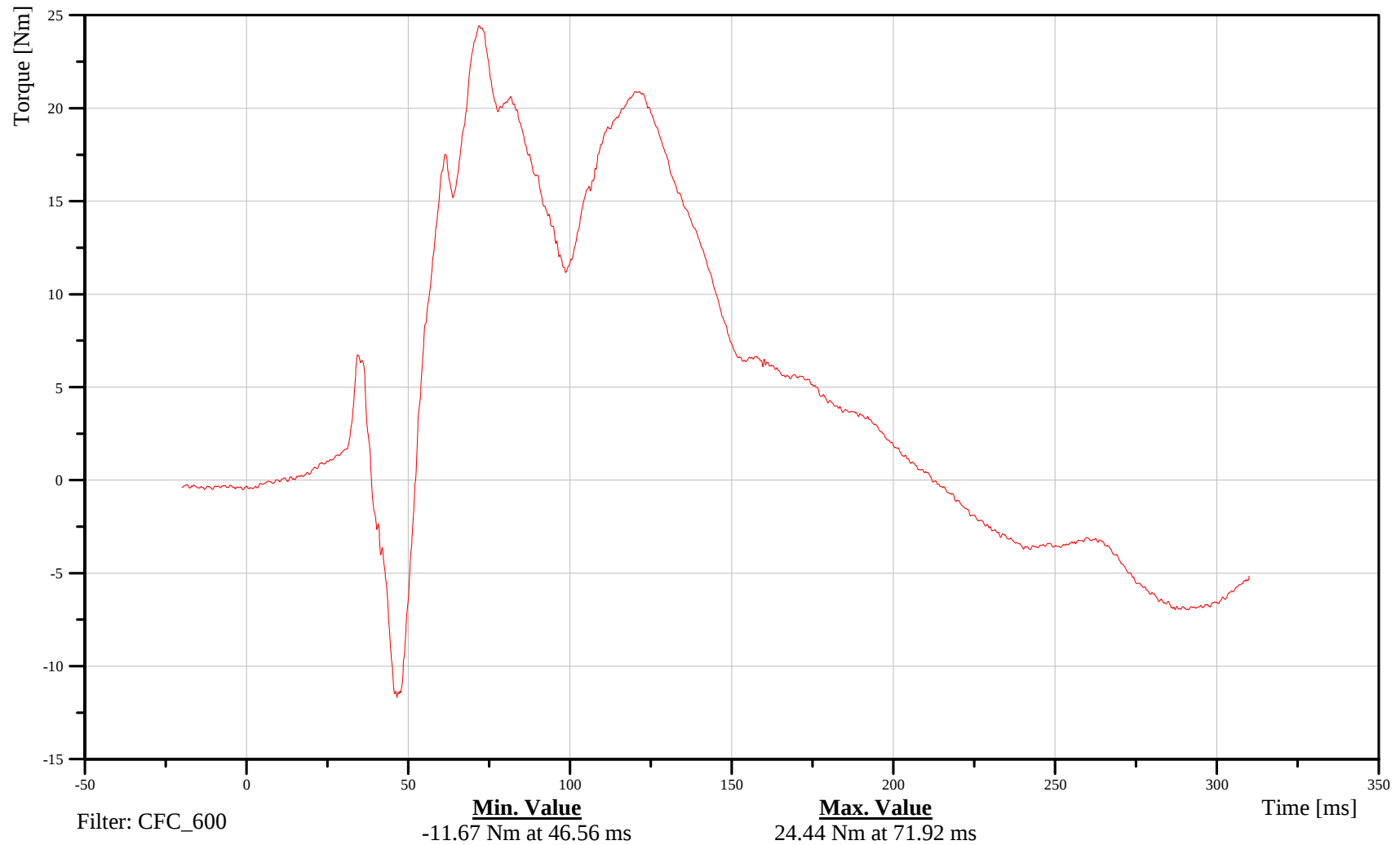
Sacro-Iliac Right Moment About Y Axis

Customer: VRTC

11SACRRI00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-87

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

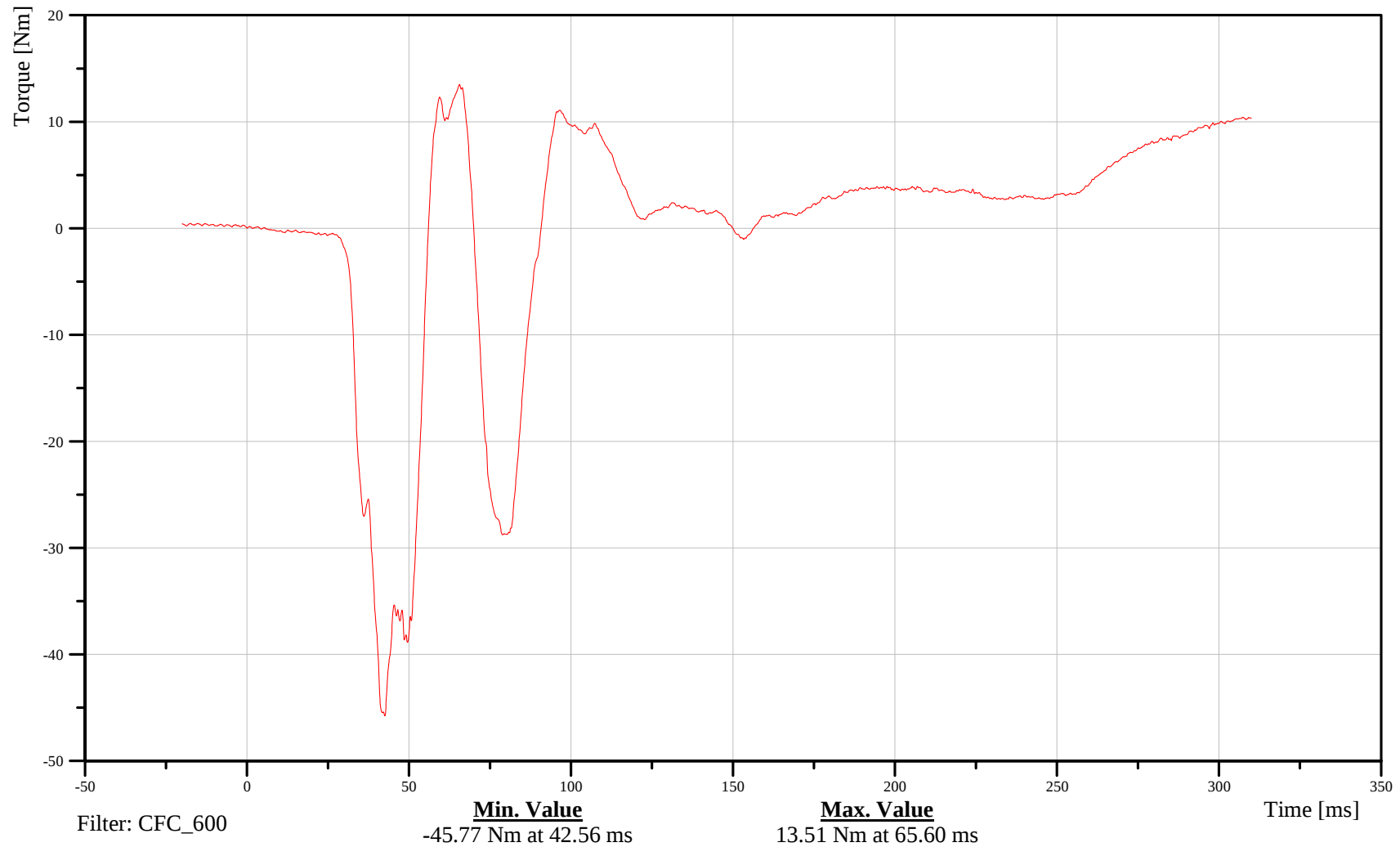
Sacro-Iliac Right Moment About Z Axis

Customer: VRTC

11SACRRI00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-88

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

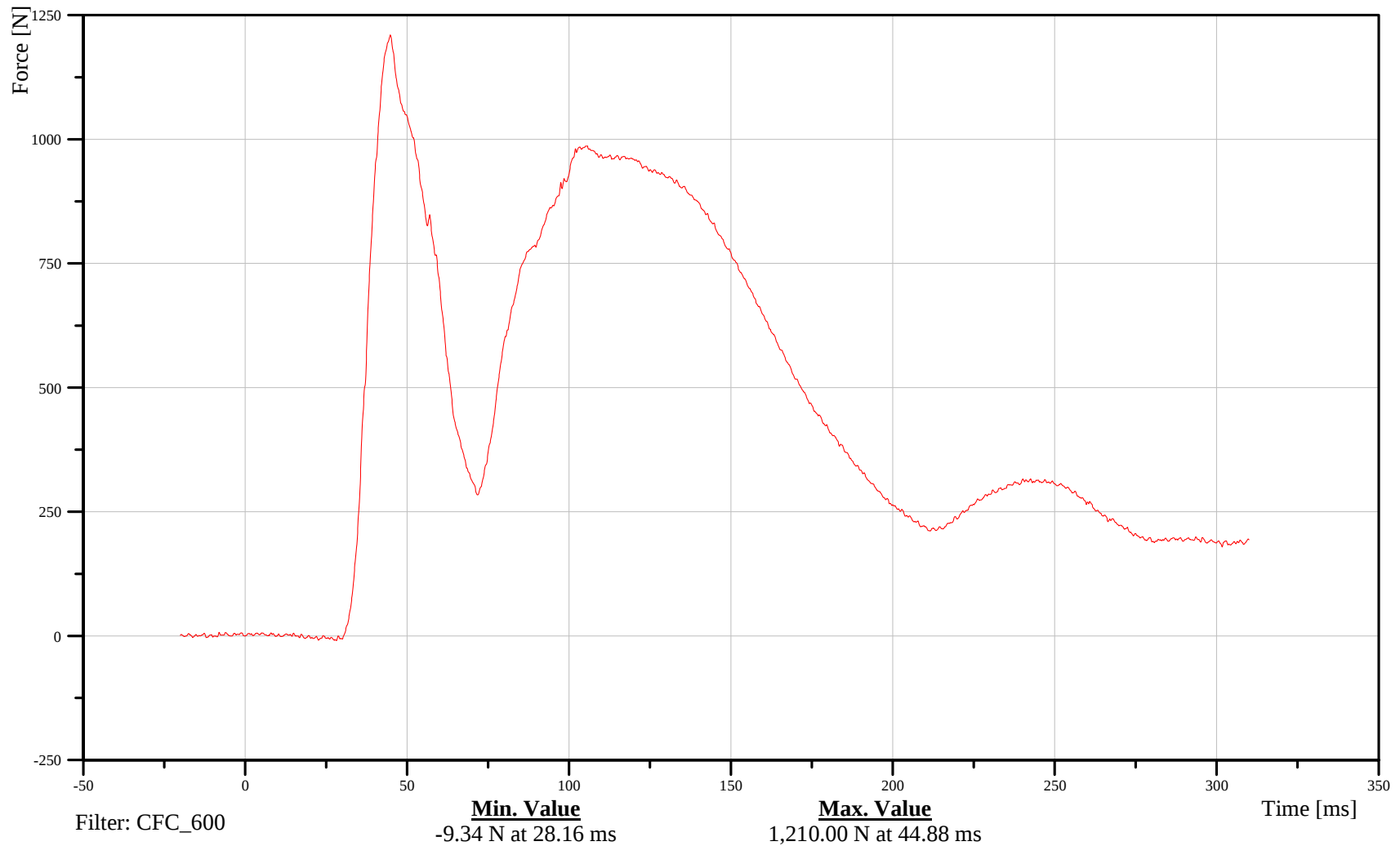
Pubic Y-Axis Force

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-89

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

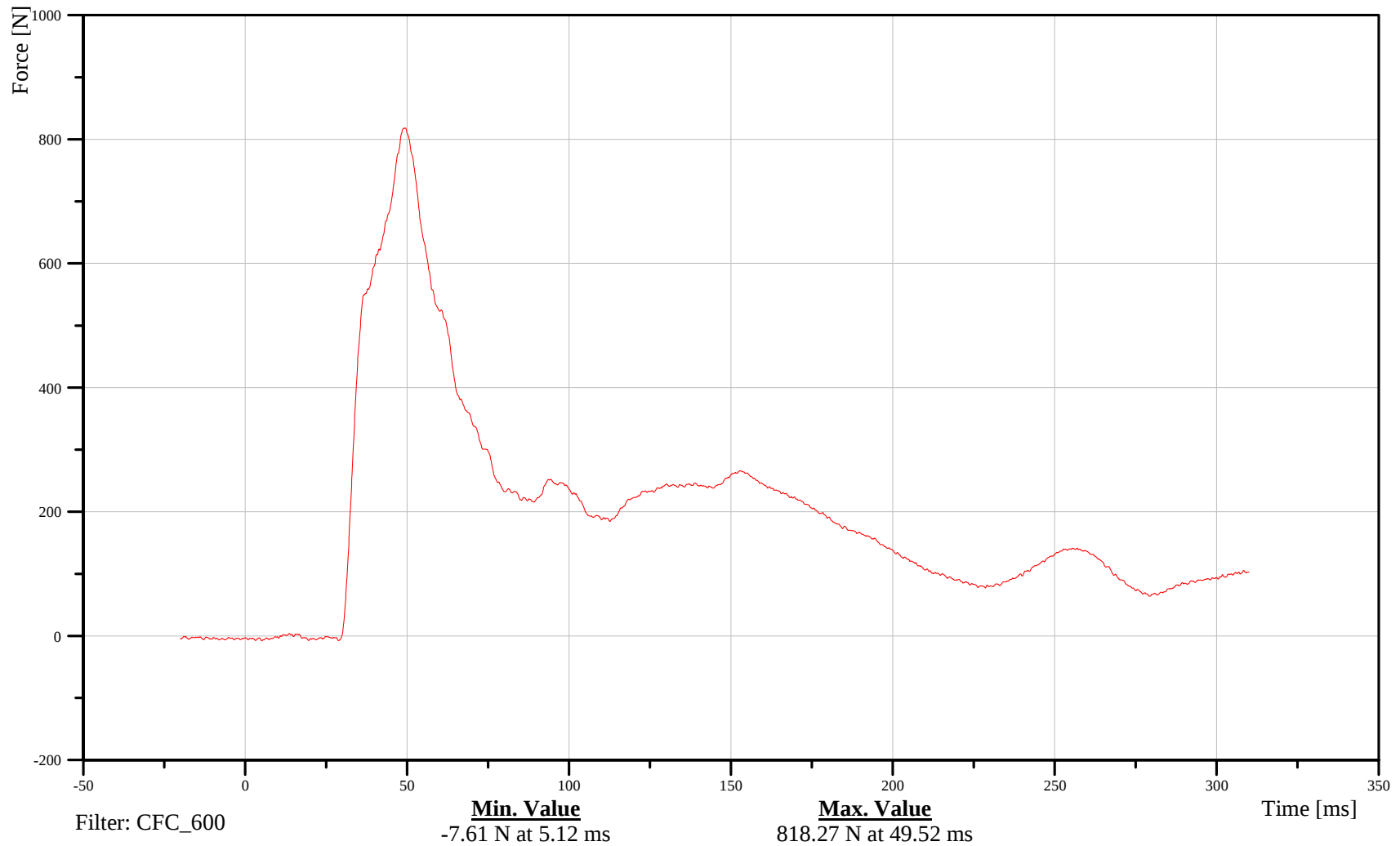
Left Femur X-Axis Force

Customer: VRTC

11FEMRLL00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-90

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

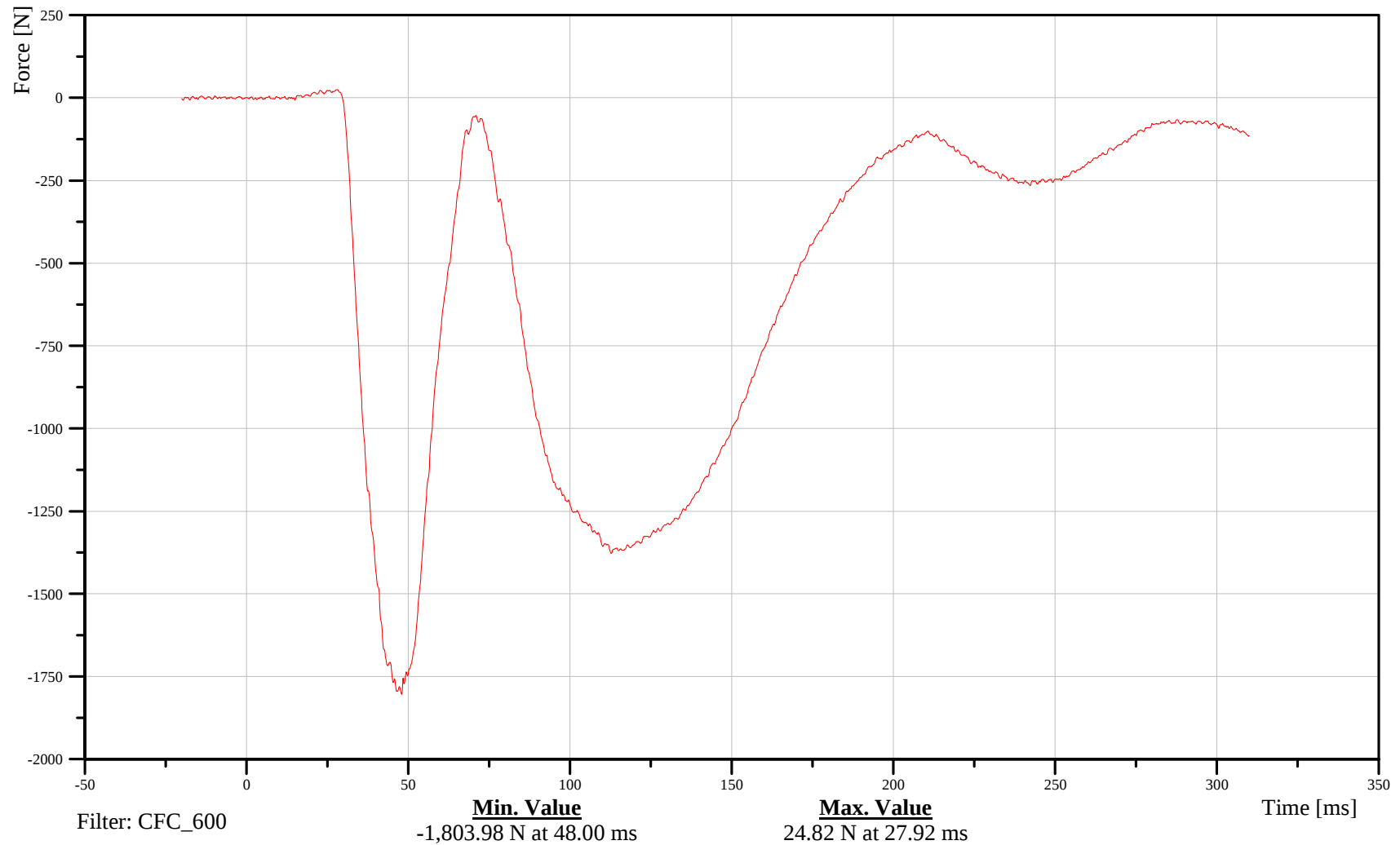
Left Femur Y-Axis Force

Customer: VRTC

11FEMRLL00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-91

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

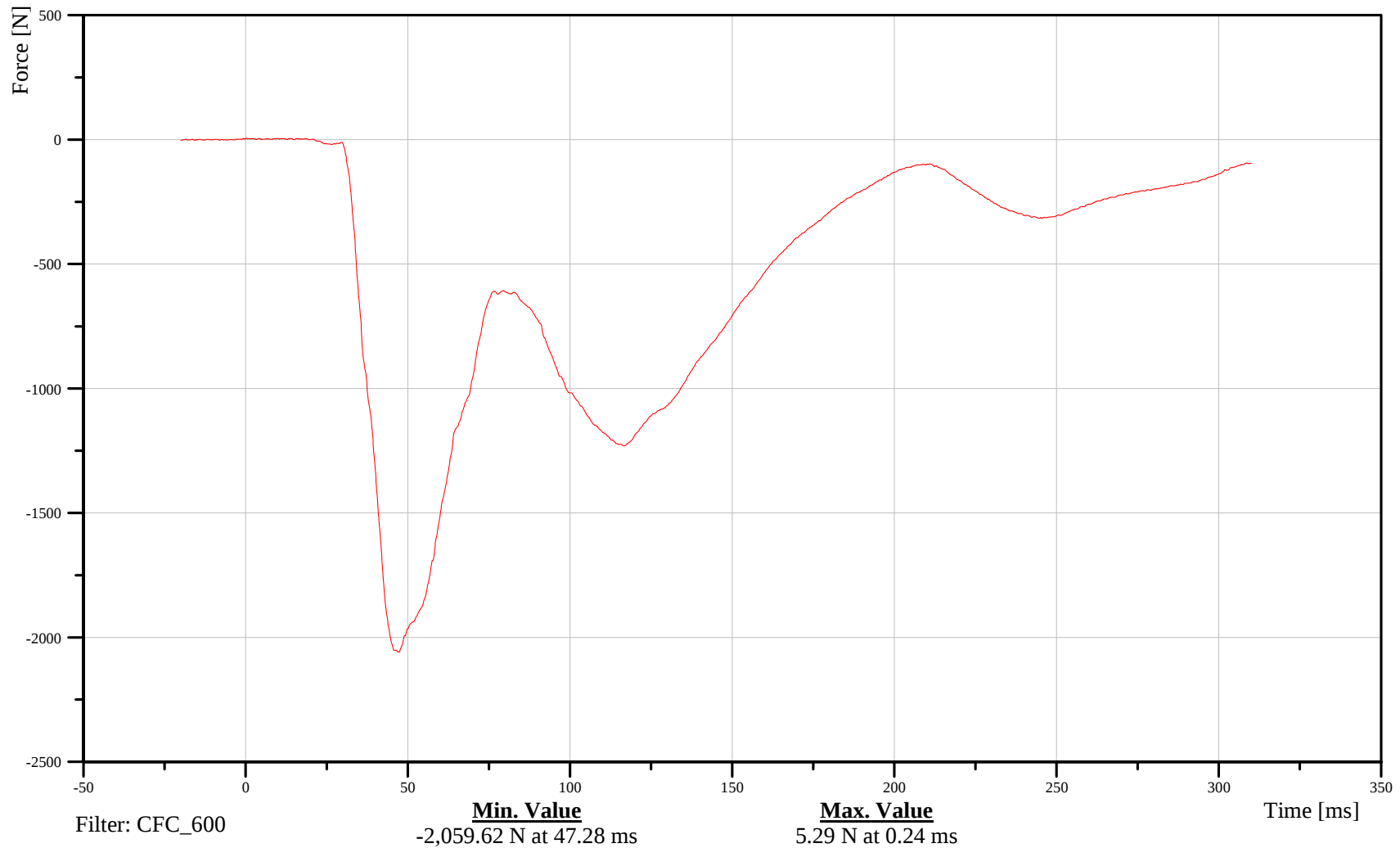
Left Femur Z-Axis Force

Customer: VRTC

11FEMRLL00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-92

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

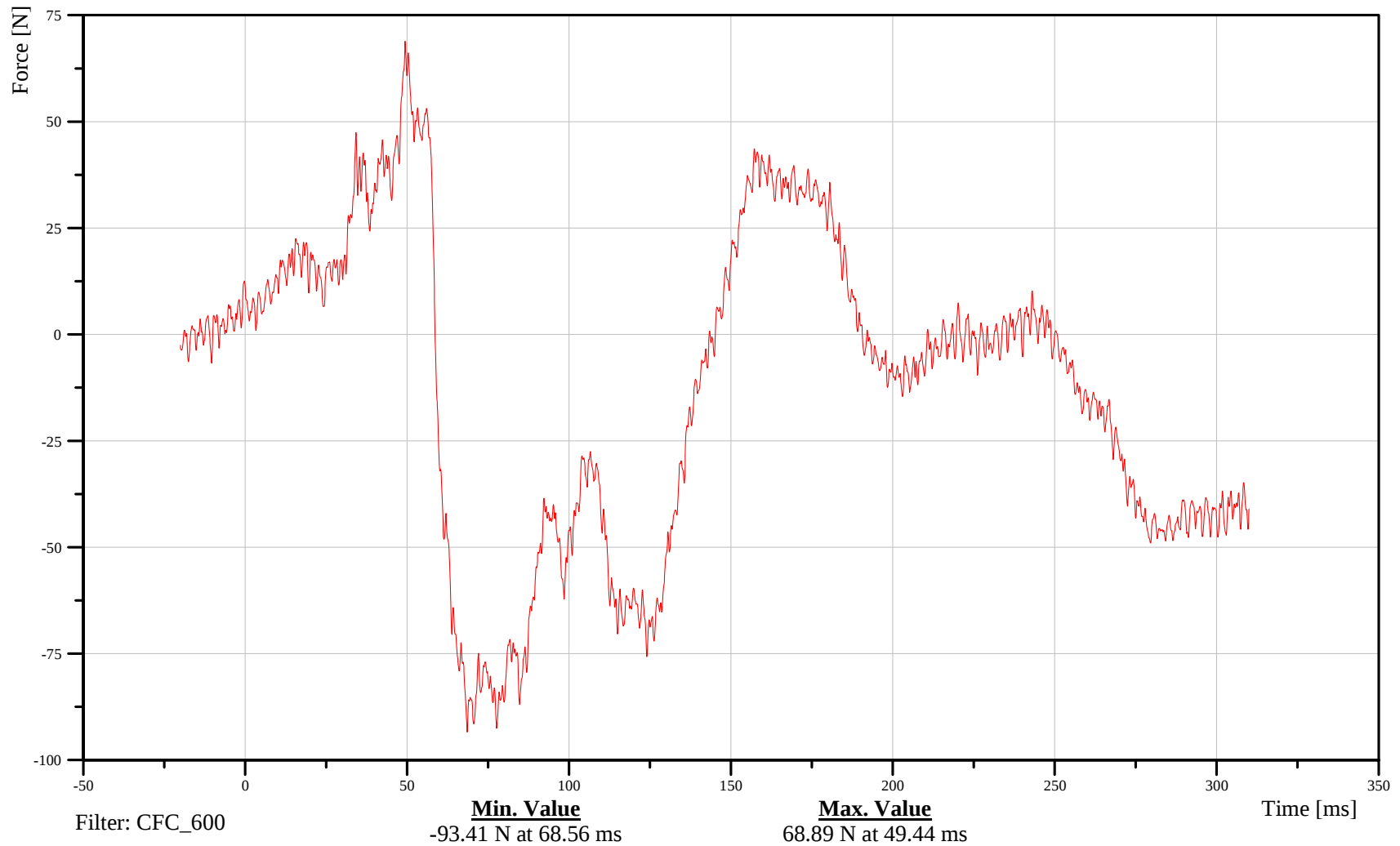
Left Mid Femur X-Axis Force

Customer: VRTC

11FEMRLEMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-93

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

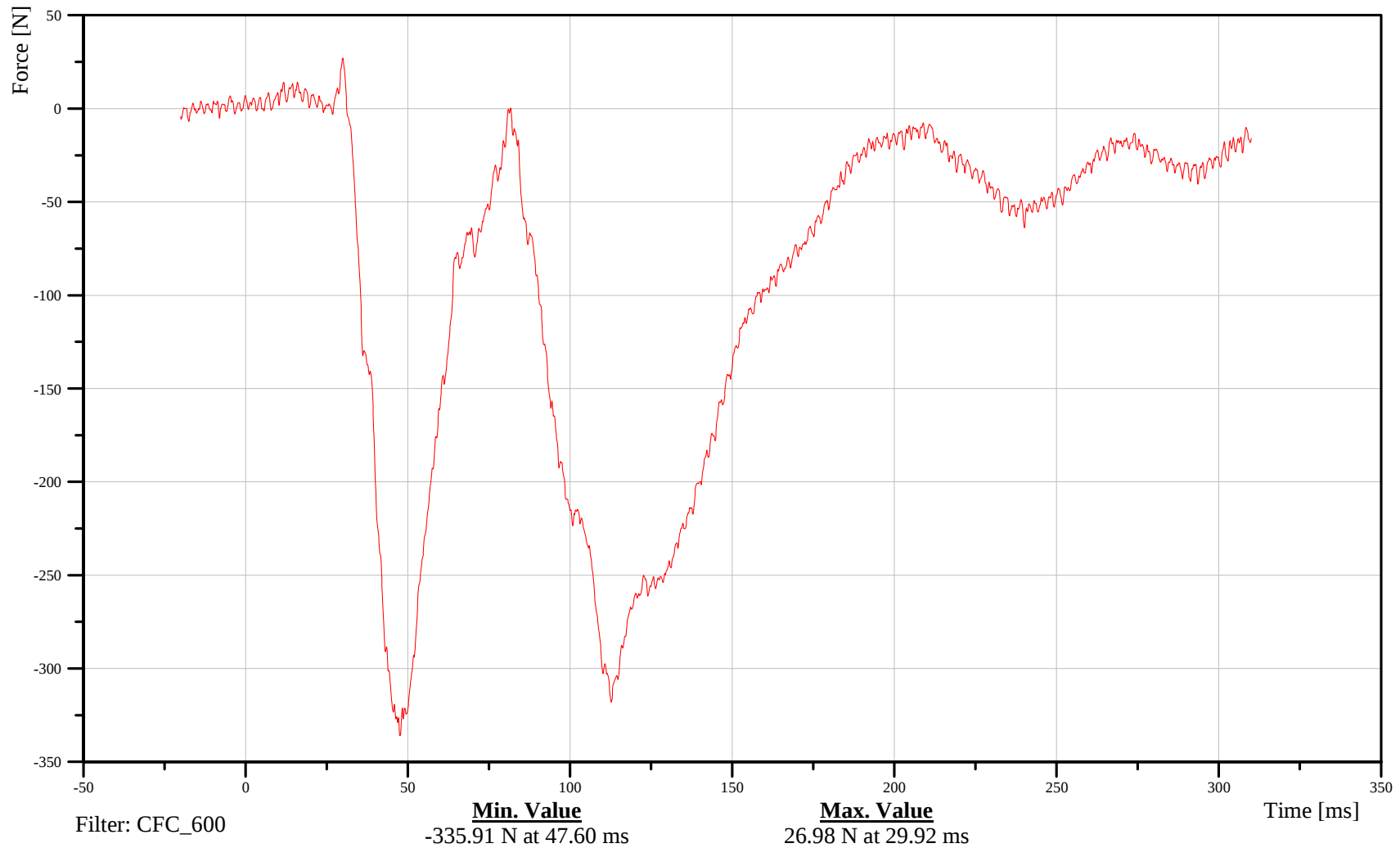
Left Mid Femur Y-Axis Force

Customer: VRTC

11FEMRLEMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-94

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

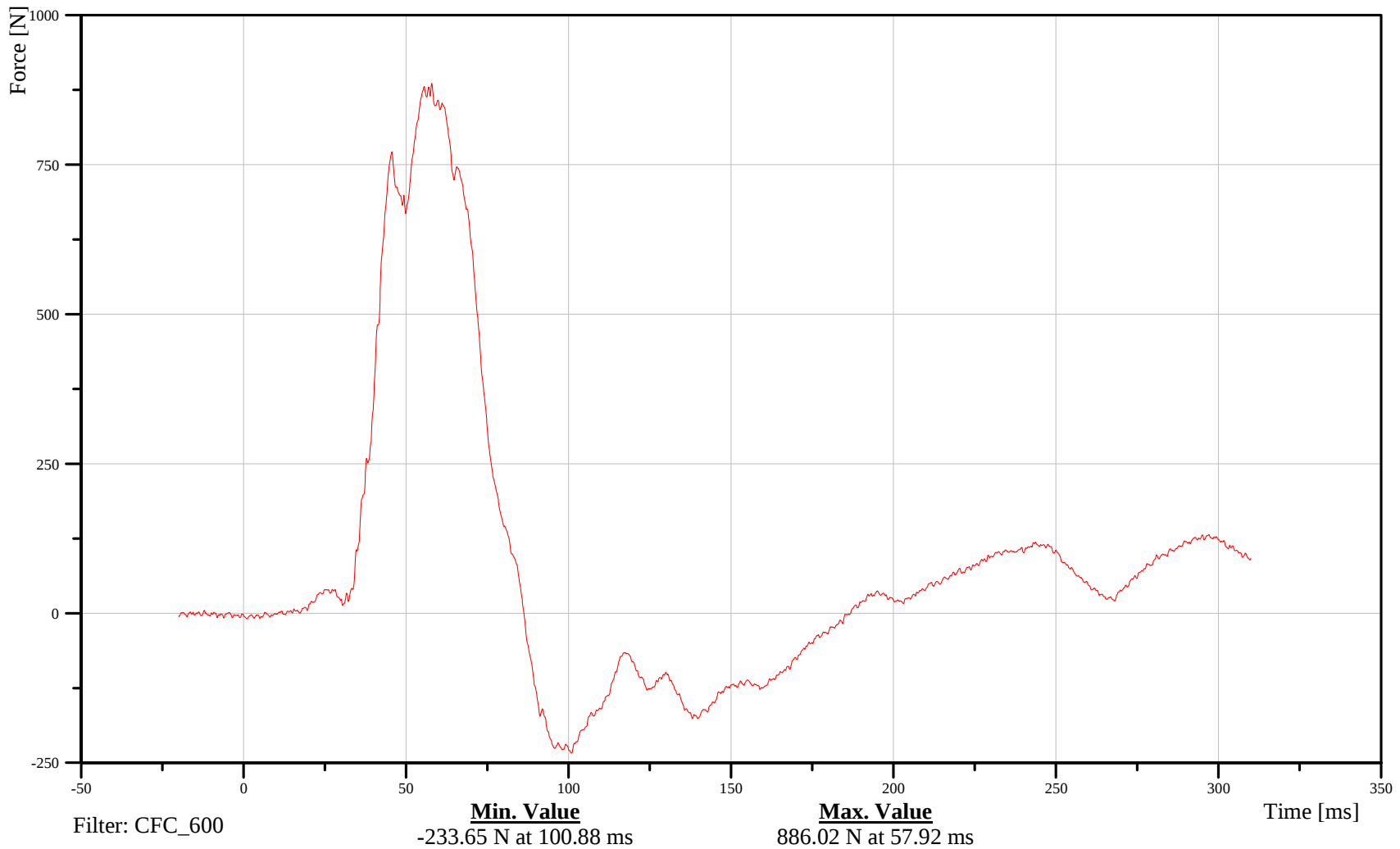
Left Mid Femur Z-Axis Force

Customer: VRTC

11FEMRLEMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-95

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

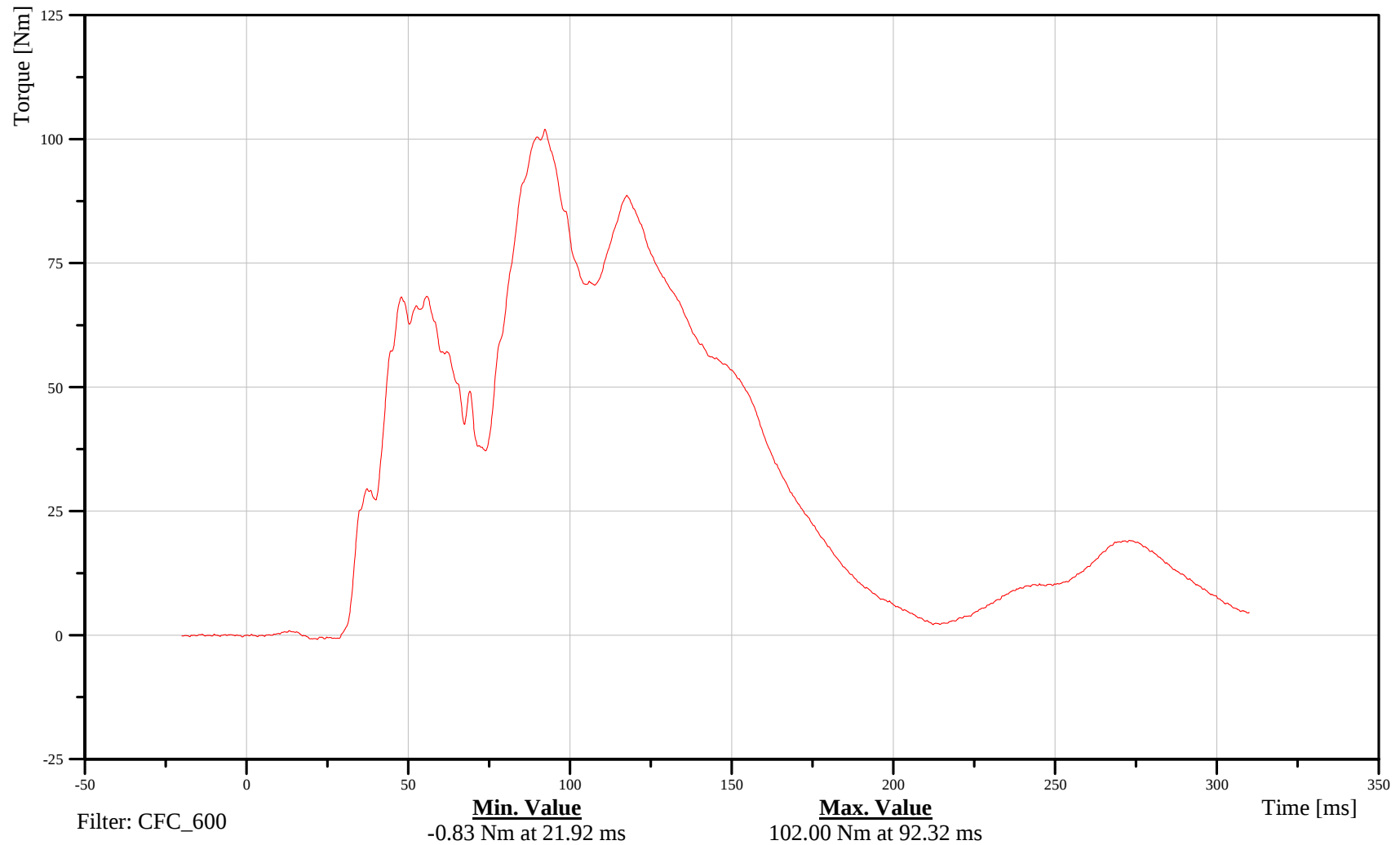
Left Mid Femur Moment About X Axis

Customer: VRTC

11FEMRLEMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-96

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

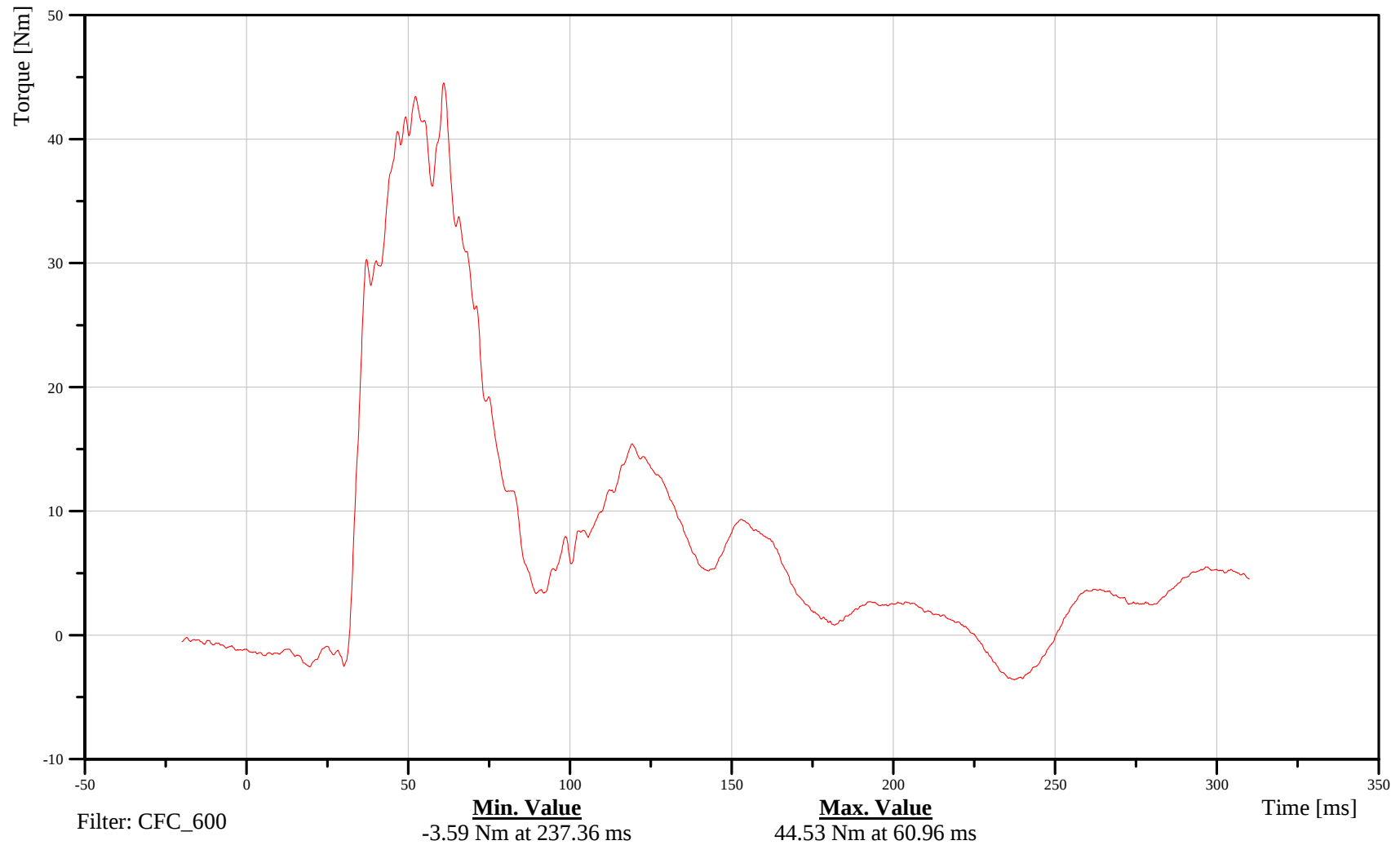
Left Mid Femur Moment About Y Axis

Customer: VRTC

11FEMRLEMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-97

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

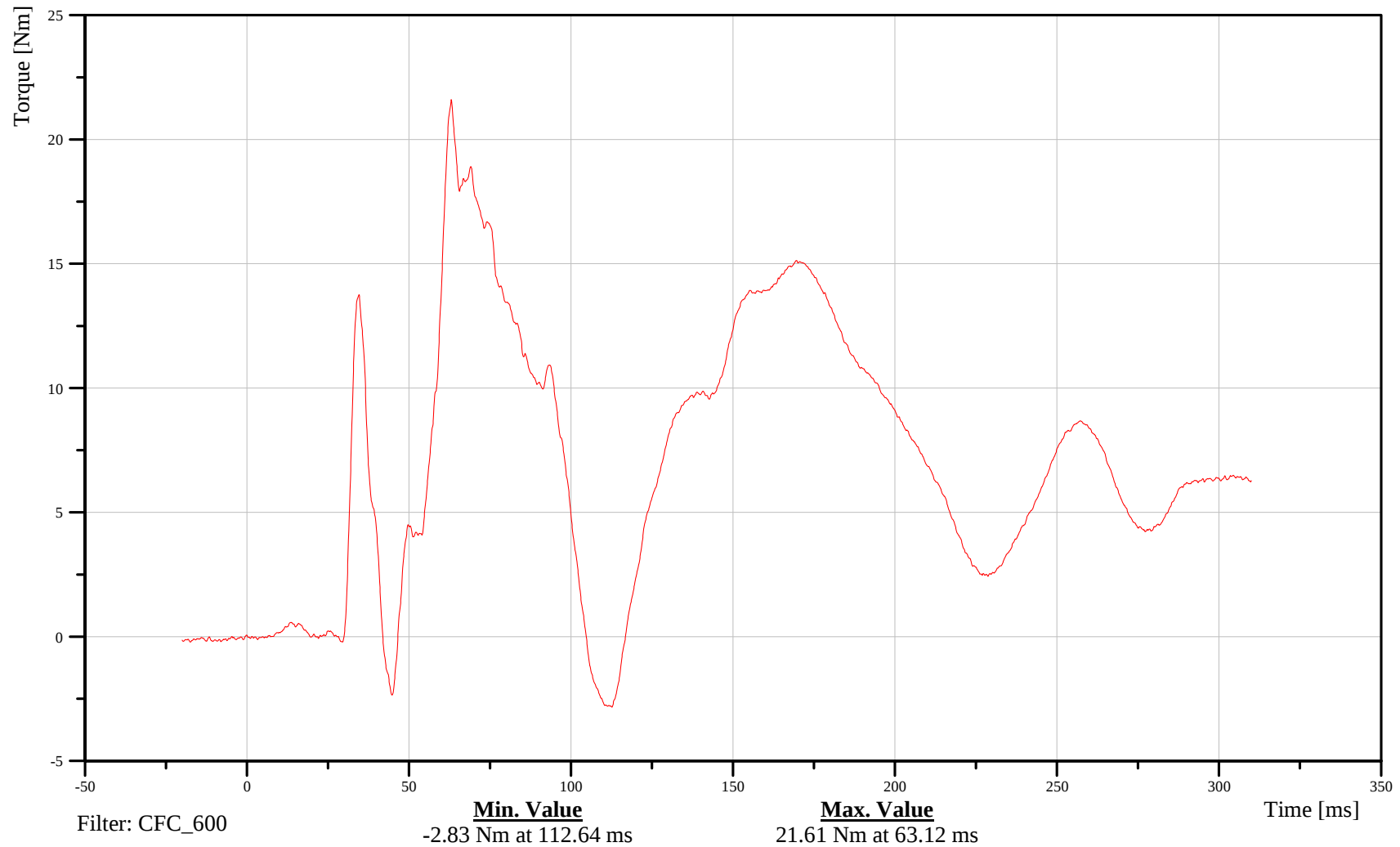
Left Mid Femur Moment About Z Axis

Customer: VRTC

11FEMRLEMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-98

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

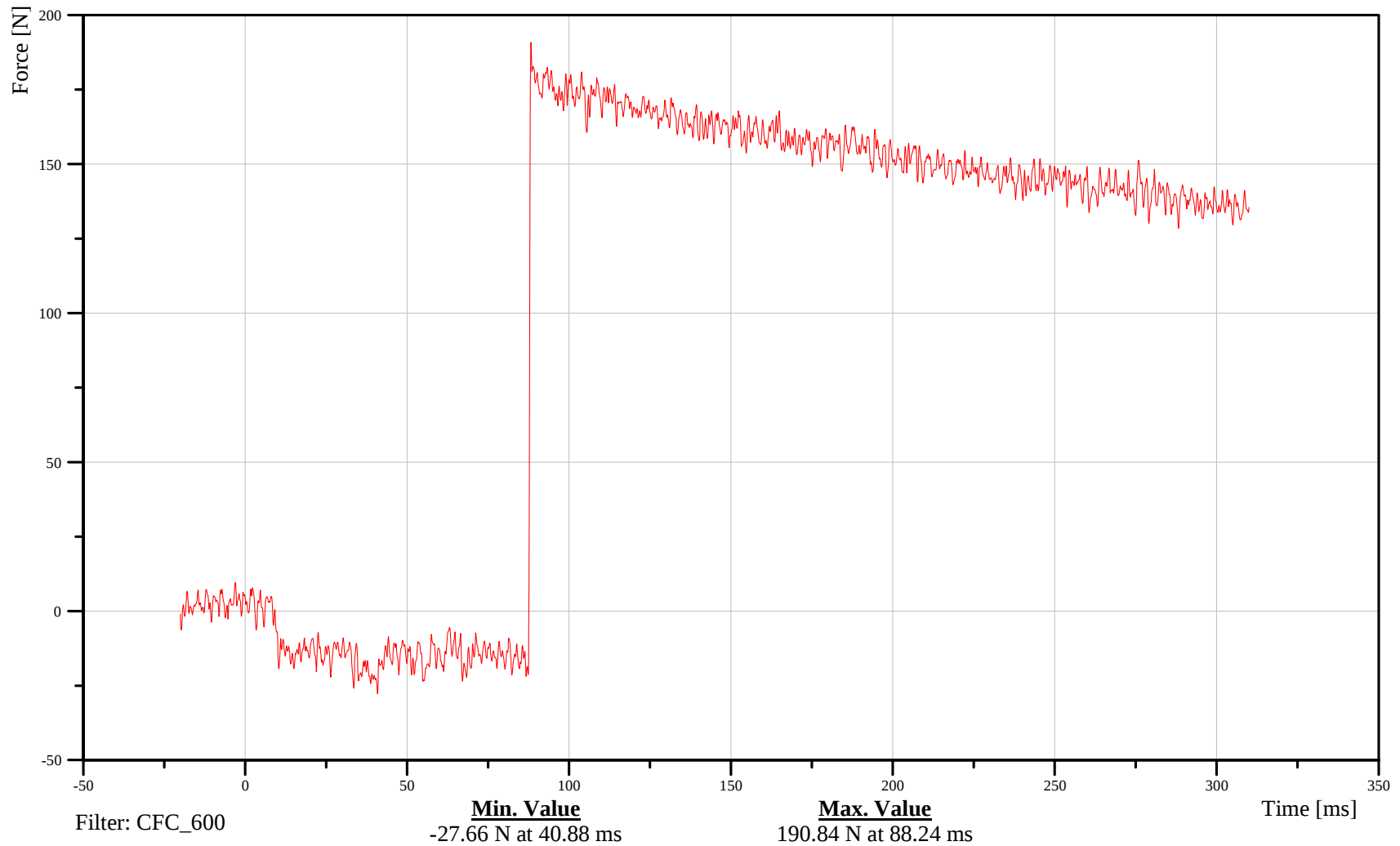
Left Knee Inboard Y-Axis Force

Customer: VRTC

11KNEELEOUWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-99

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

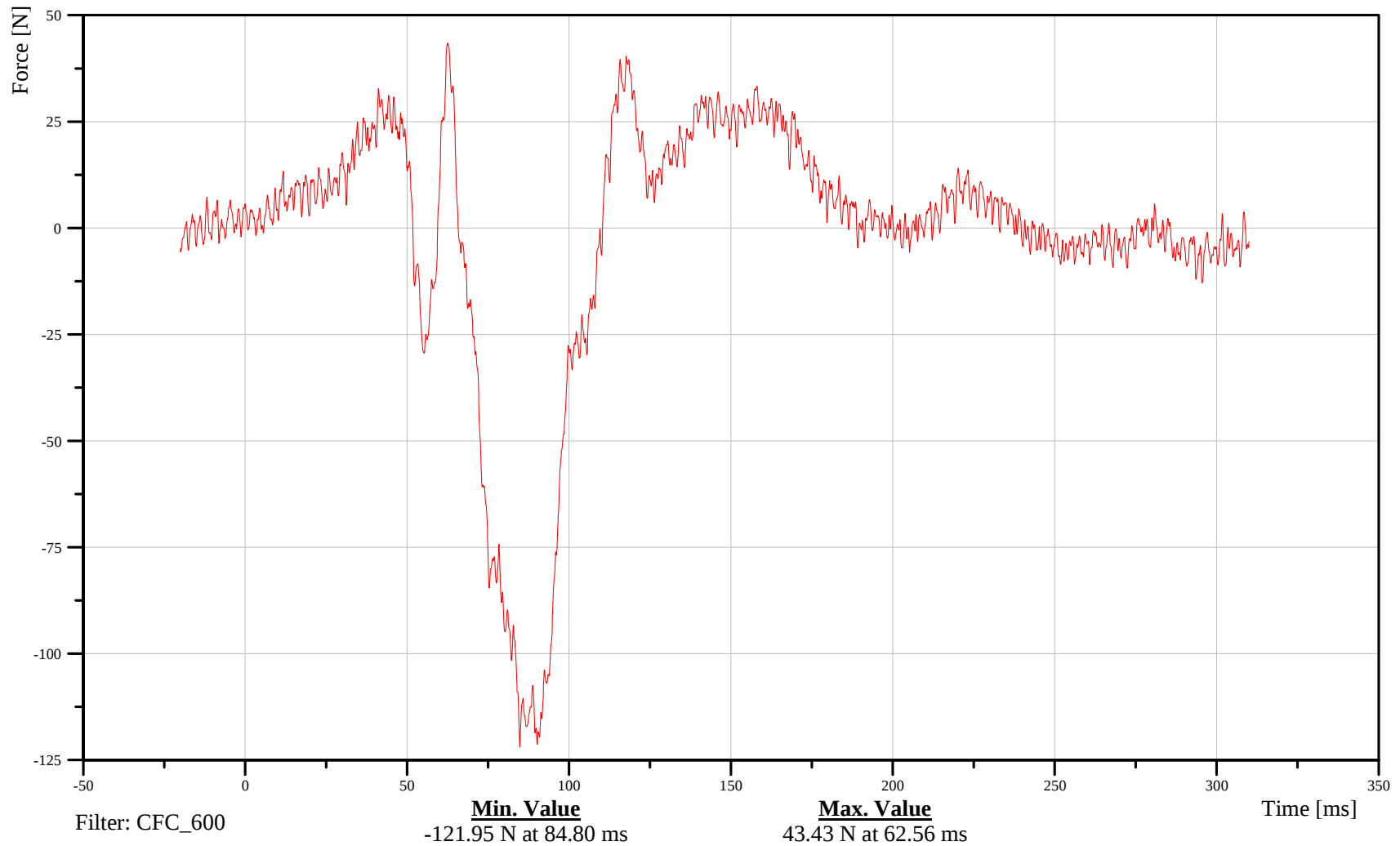
Right Mid Femur X-Axis Force

Customer: VRTC

11FEMRRIMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-100

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

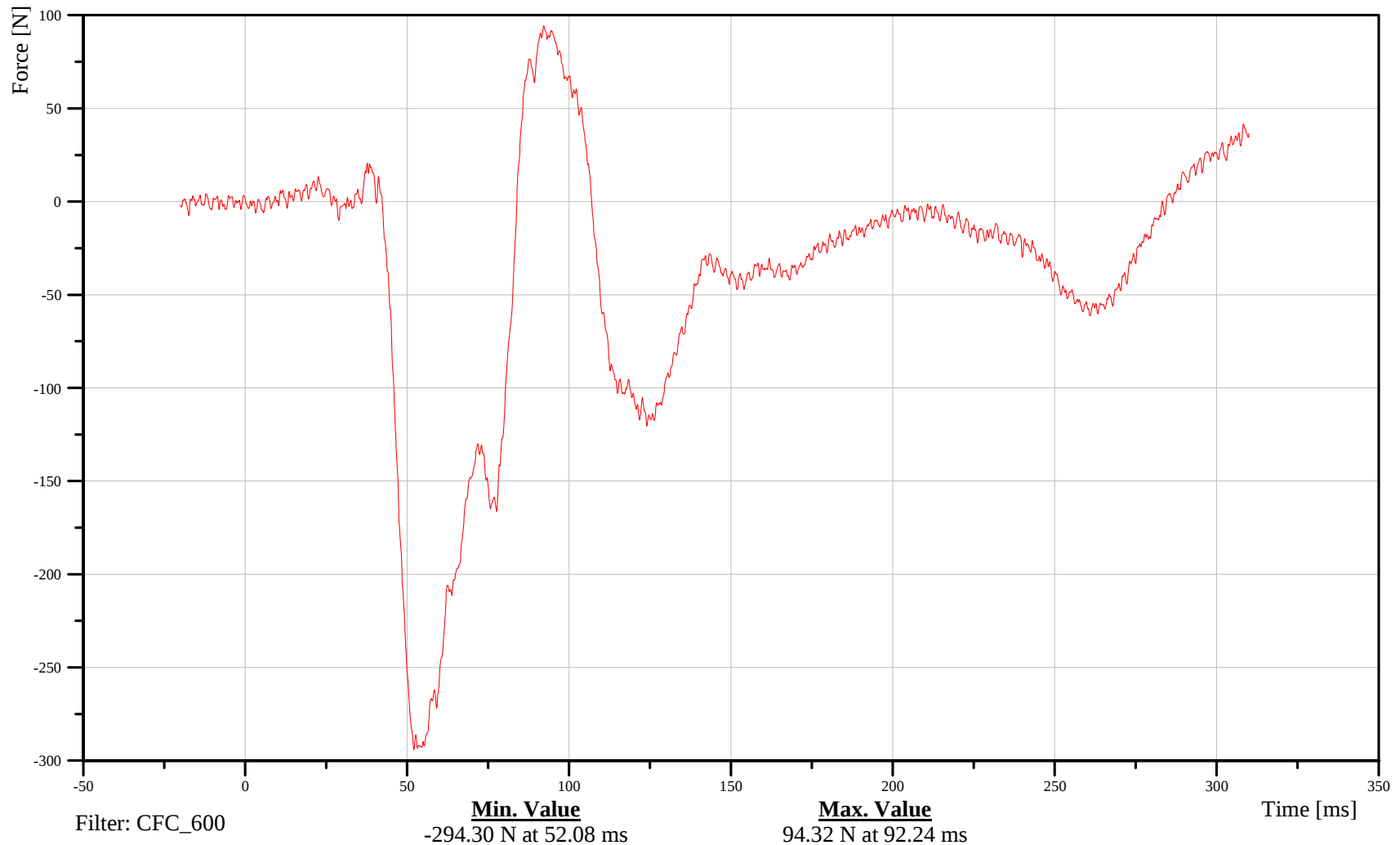
Right Mid Femur Y-Axis Force

Customer: VRTC

11FEMRRIMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-101

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

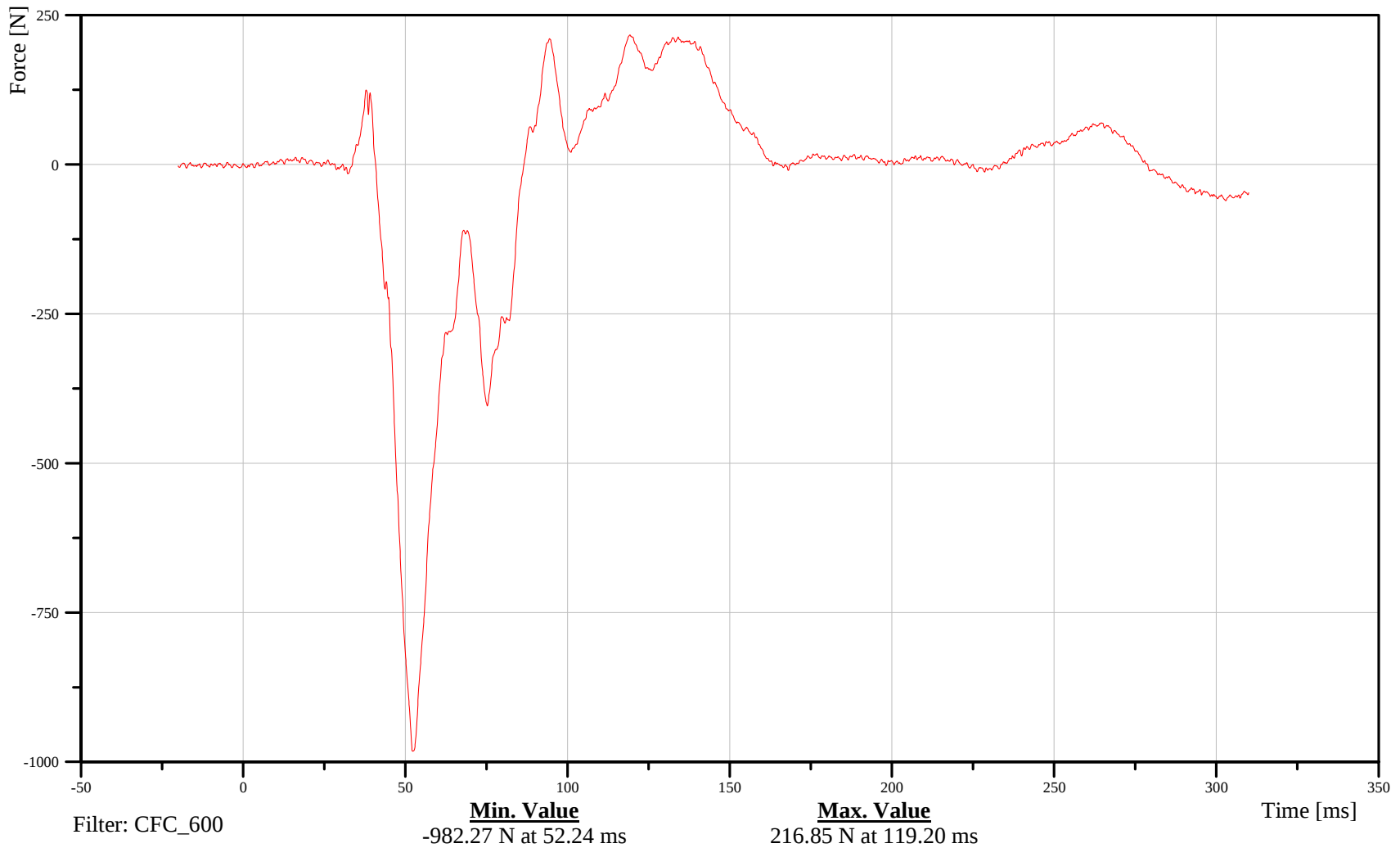
Right Mid Femur Z-Axis Force

Customer: VRTC

11FEMRRIMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-102

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

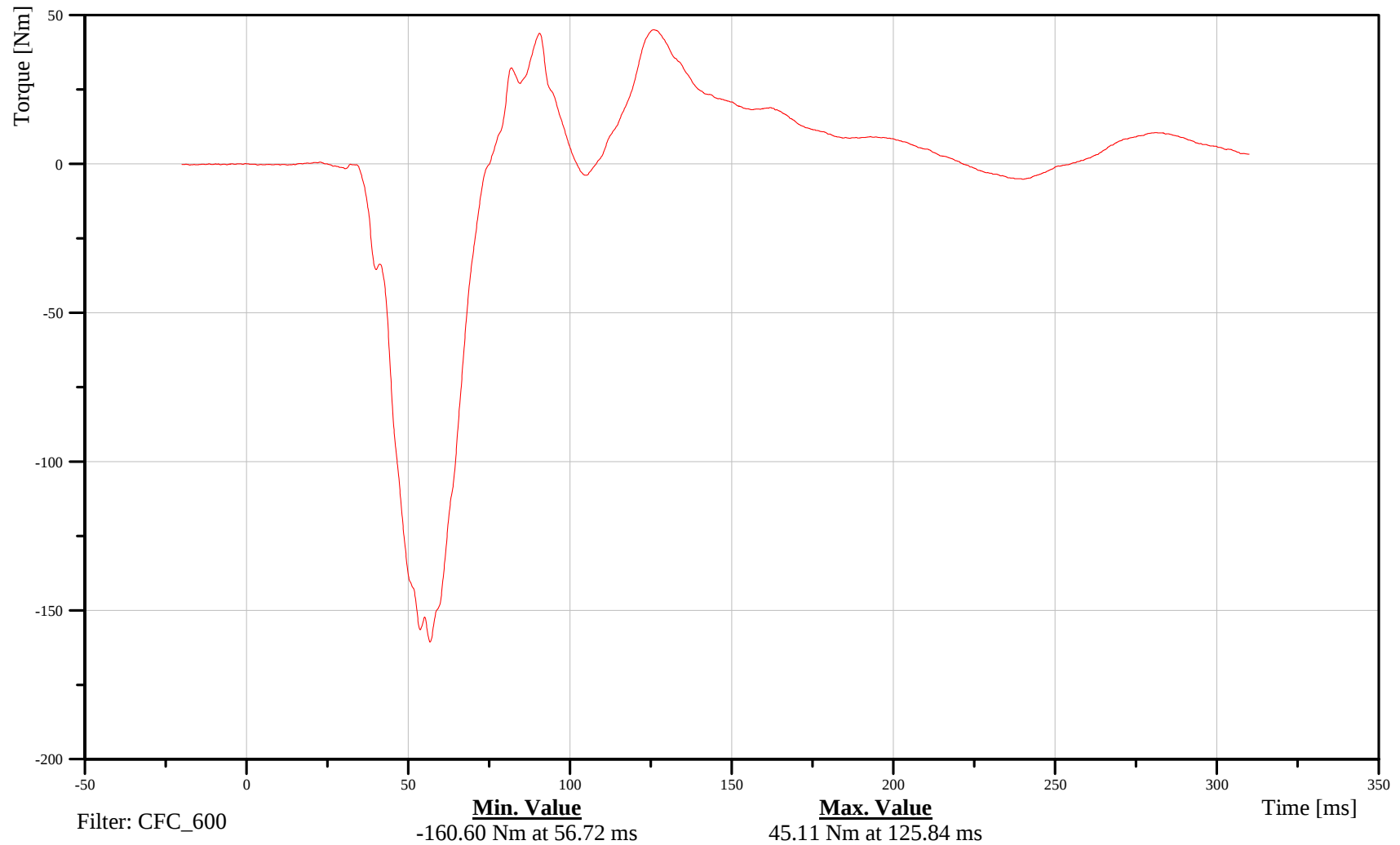
Right Mid Femur Moment About X Axis

Customer: VRTC

11FEMRRIMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-103

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

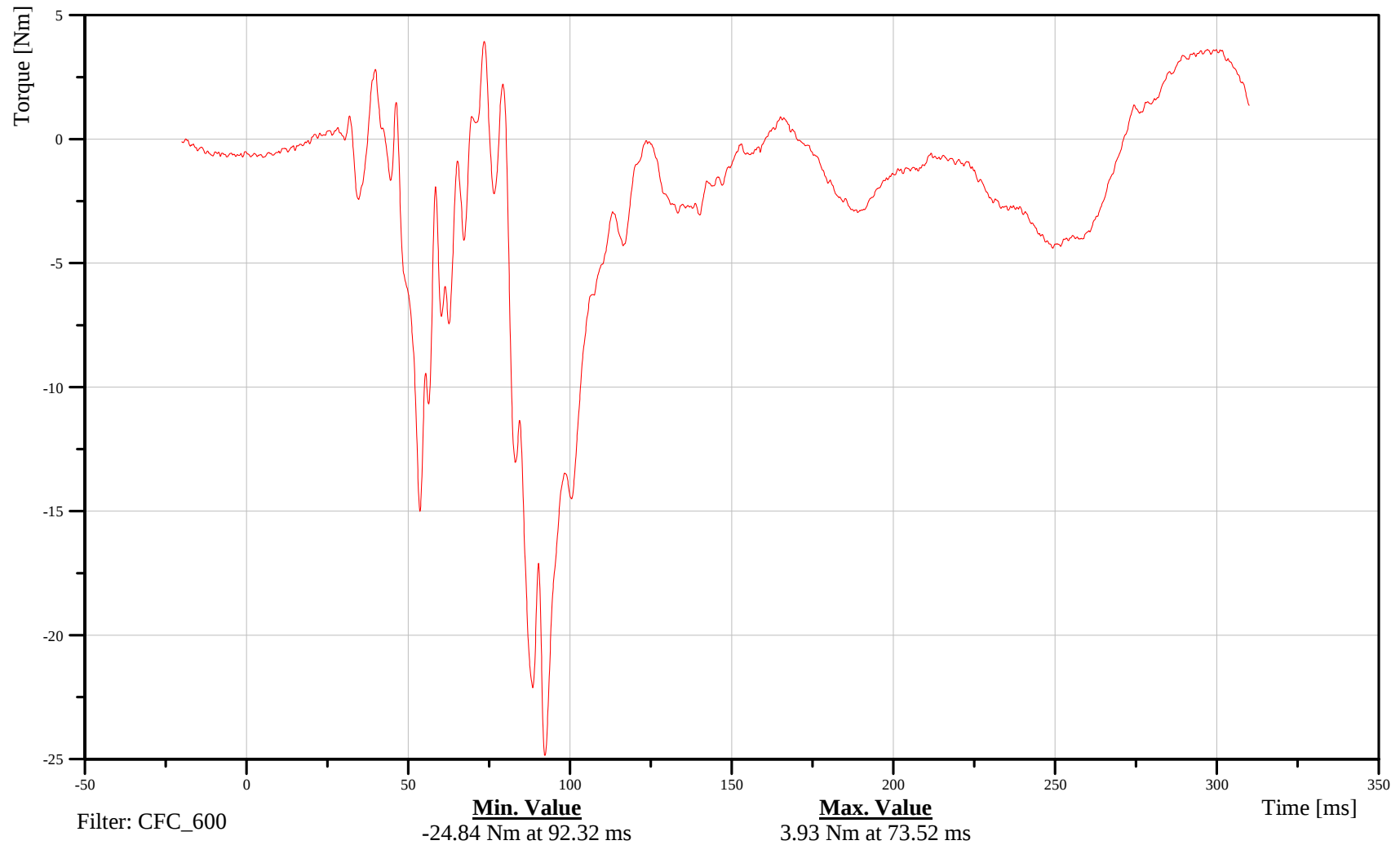
Right Mid Femur Moment About Y Axis

Customer: VRTC

11FEMRRIMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-104

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

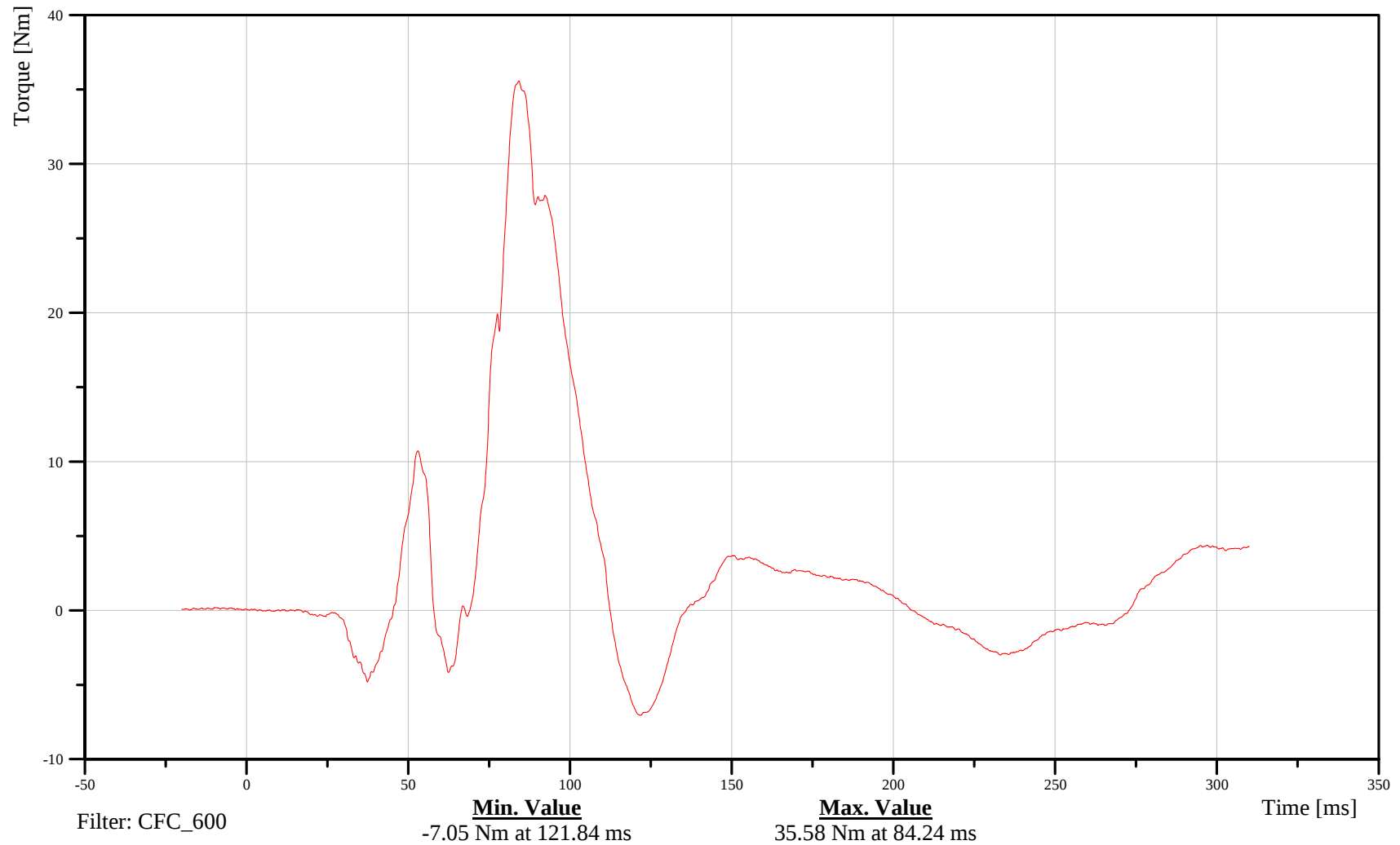
Right Mid Femur Moment About Z Axis

Customer: VRTC

11FEMRRIMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 070809



B-105

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

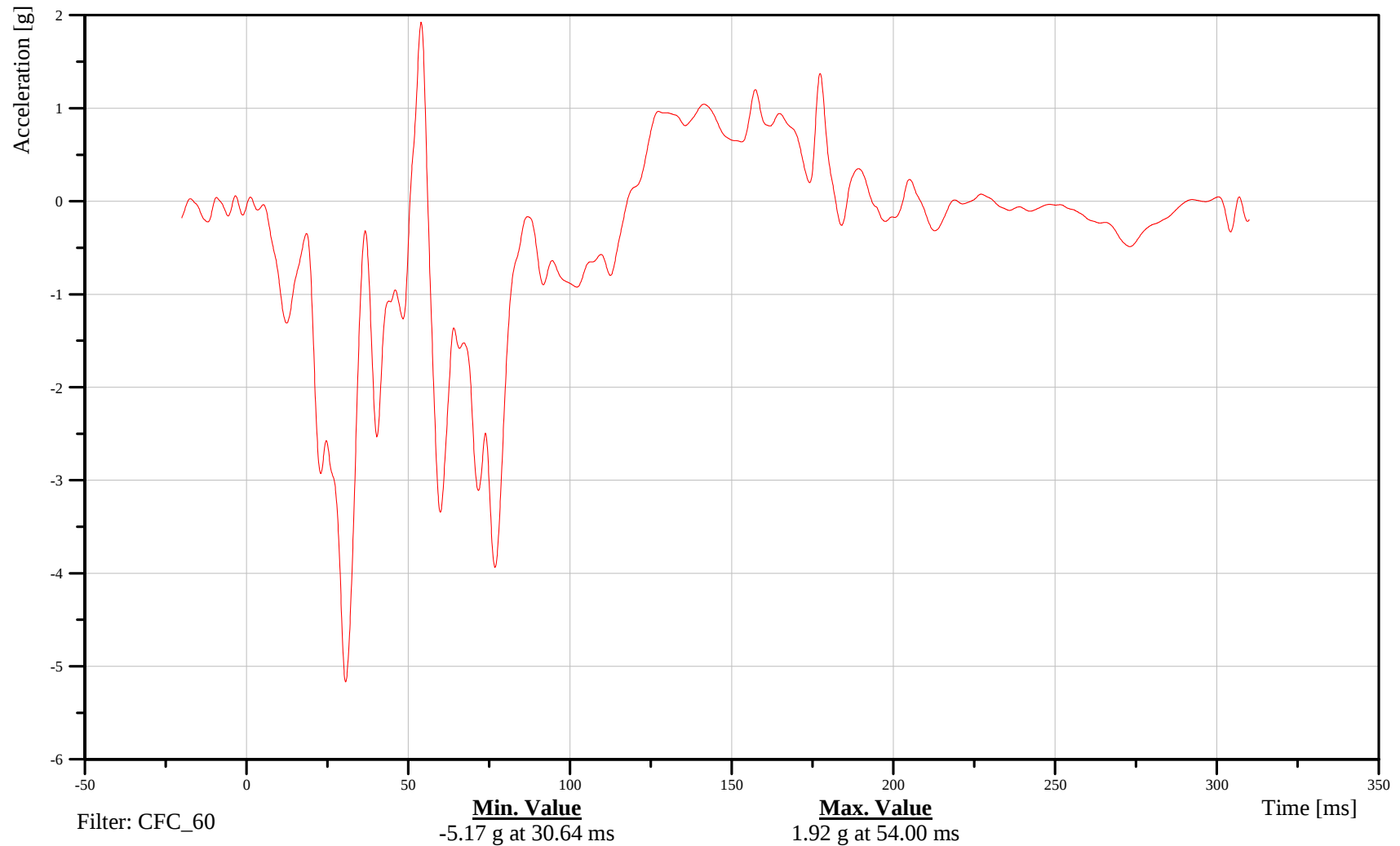
Right Side Sill at Front Seat X-Axis Acceleration

Customer: VRTC

16SILBFR0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-106

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

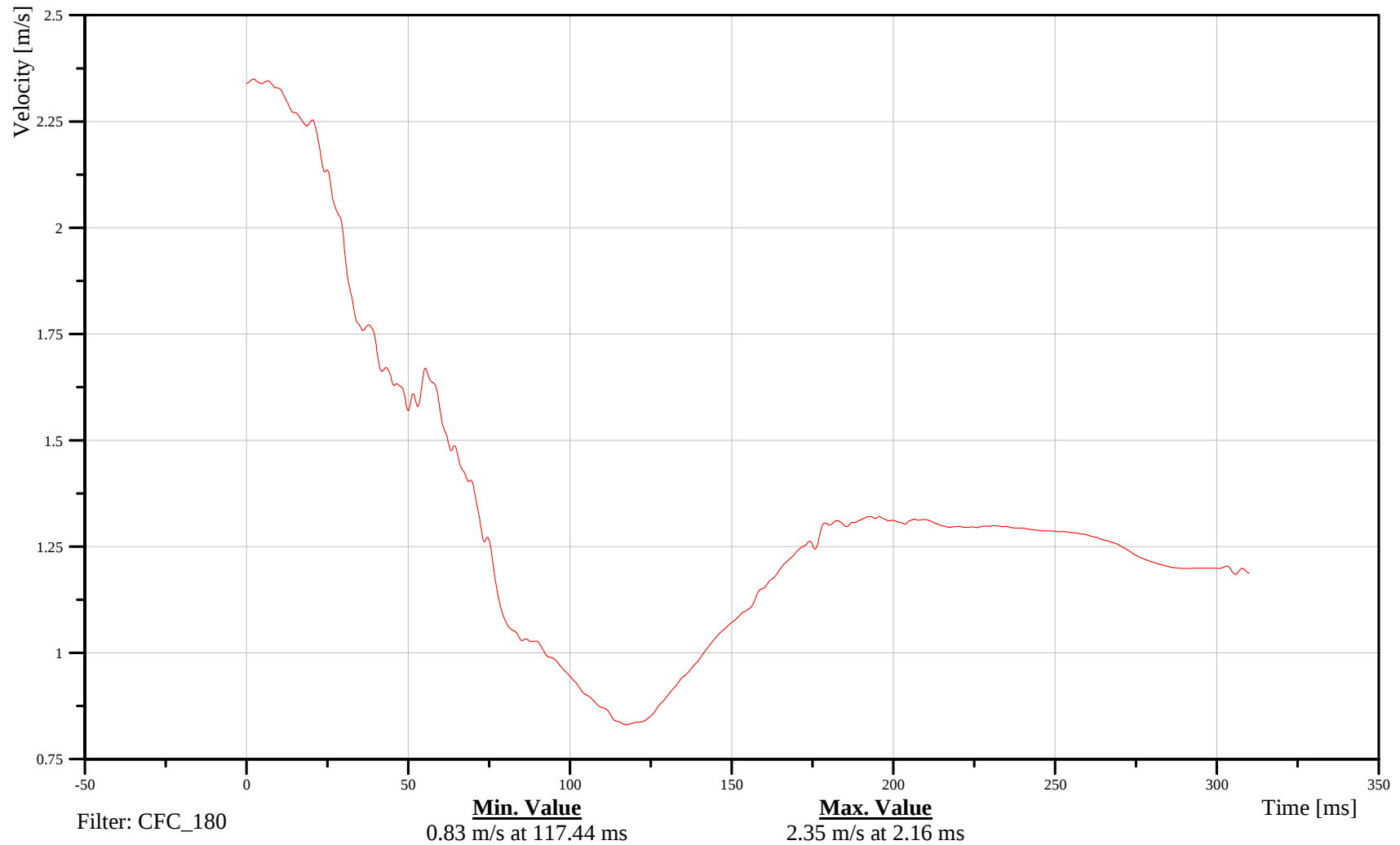
Right Side Sill at Front Seat X-Axis Velocity

Customer: VRTC

16SILBFR0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-107

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

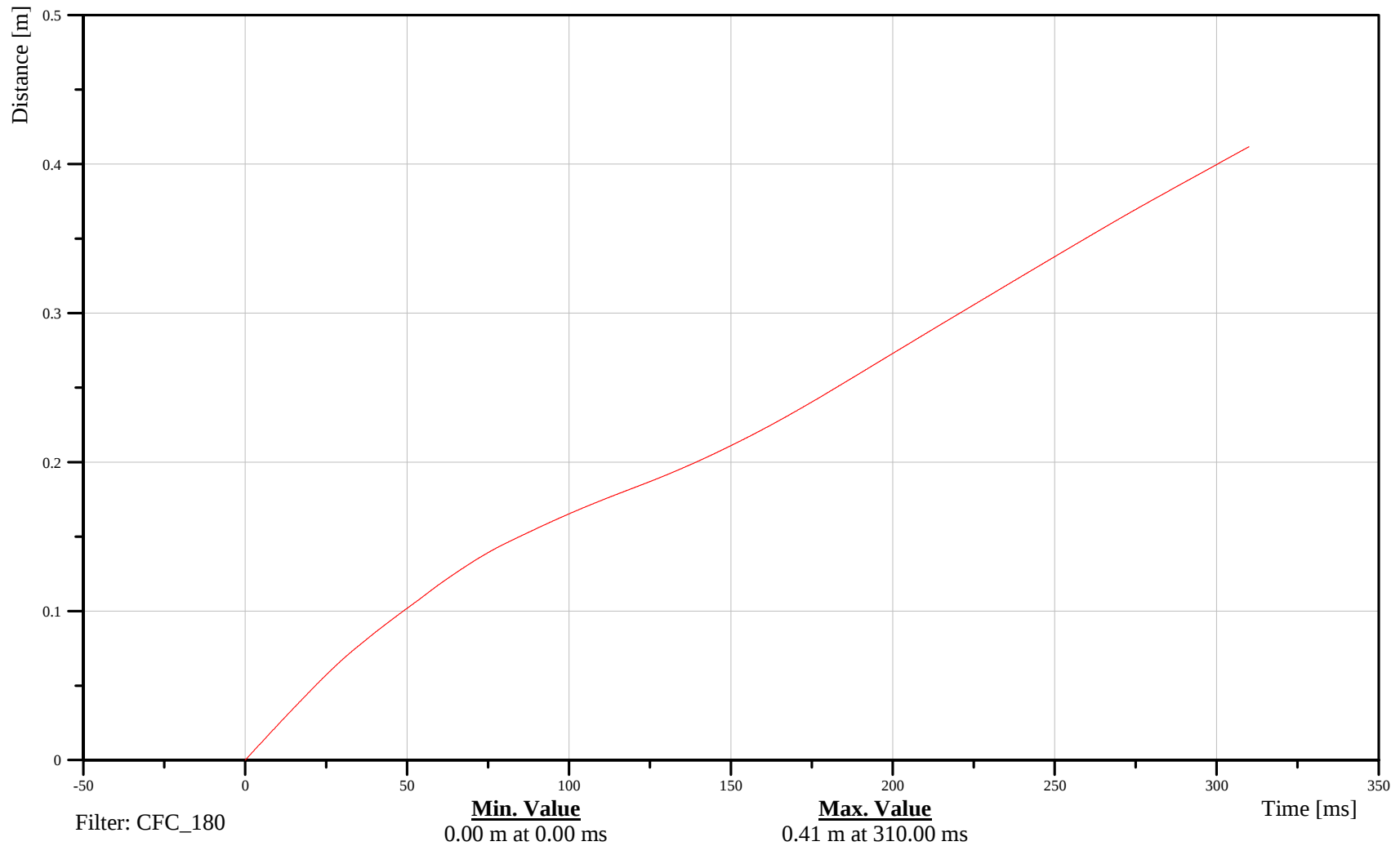
Right Side Sill at Front Seat X-Axis Displacement

Customer: VRTC

16SILBFR0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-108

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

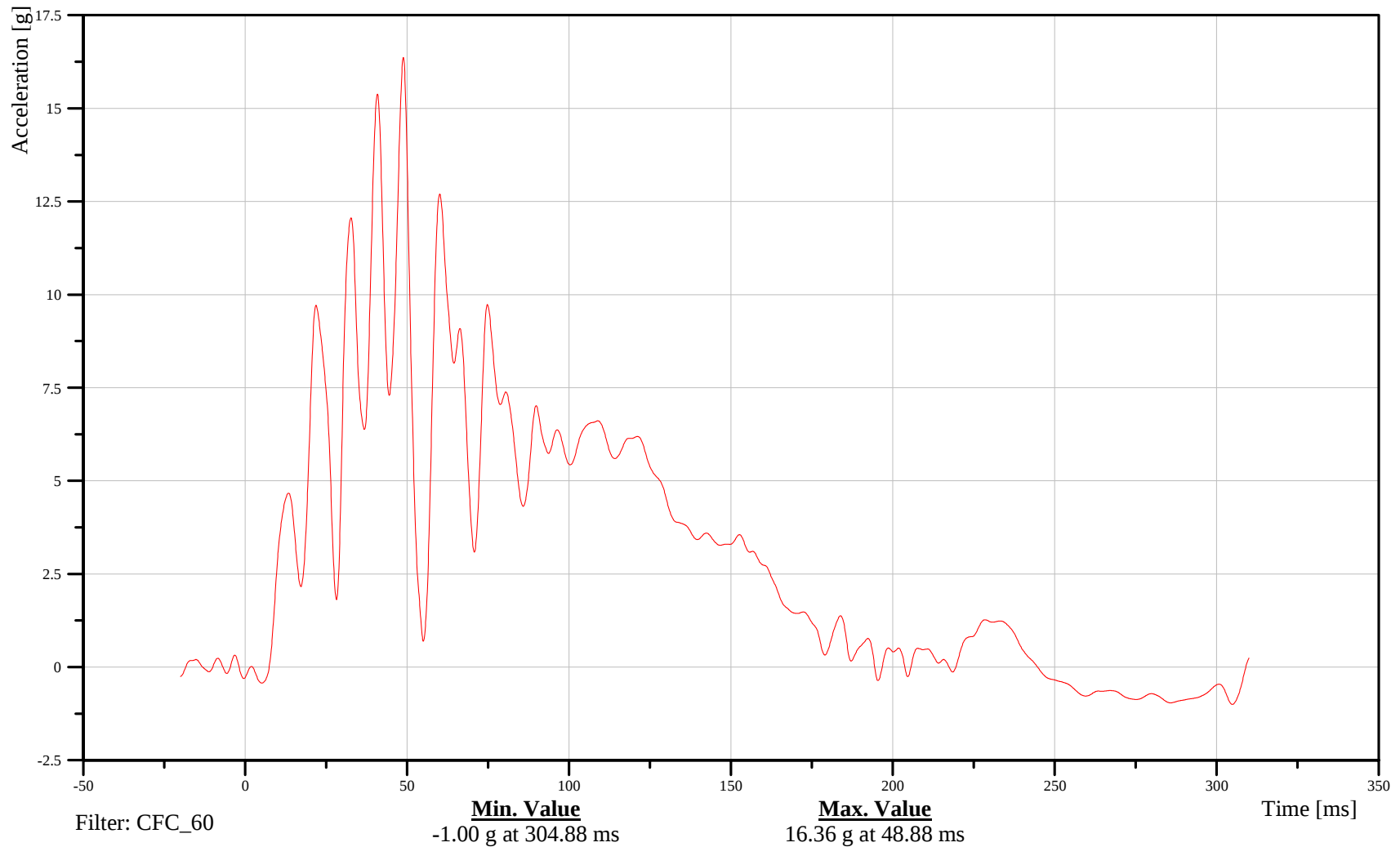
Right Side Sill at Front Seat Y-Axis Acceleration

Customer: VRTC

16SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-109

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

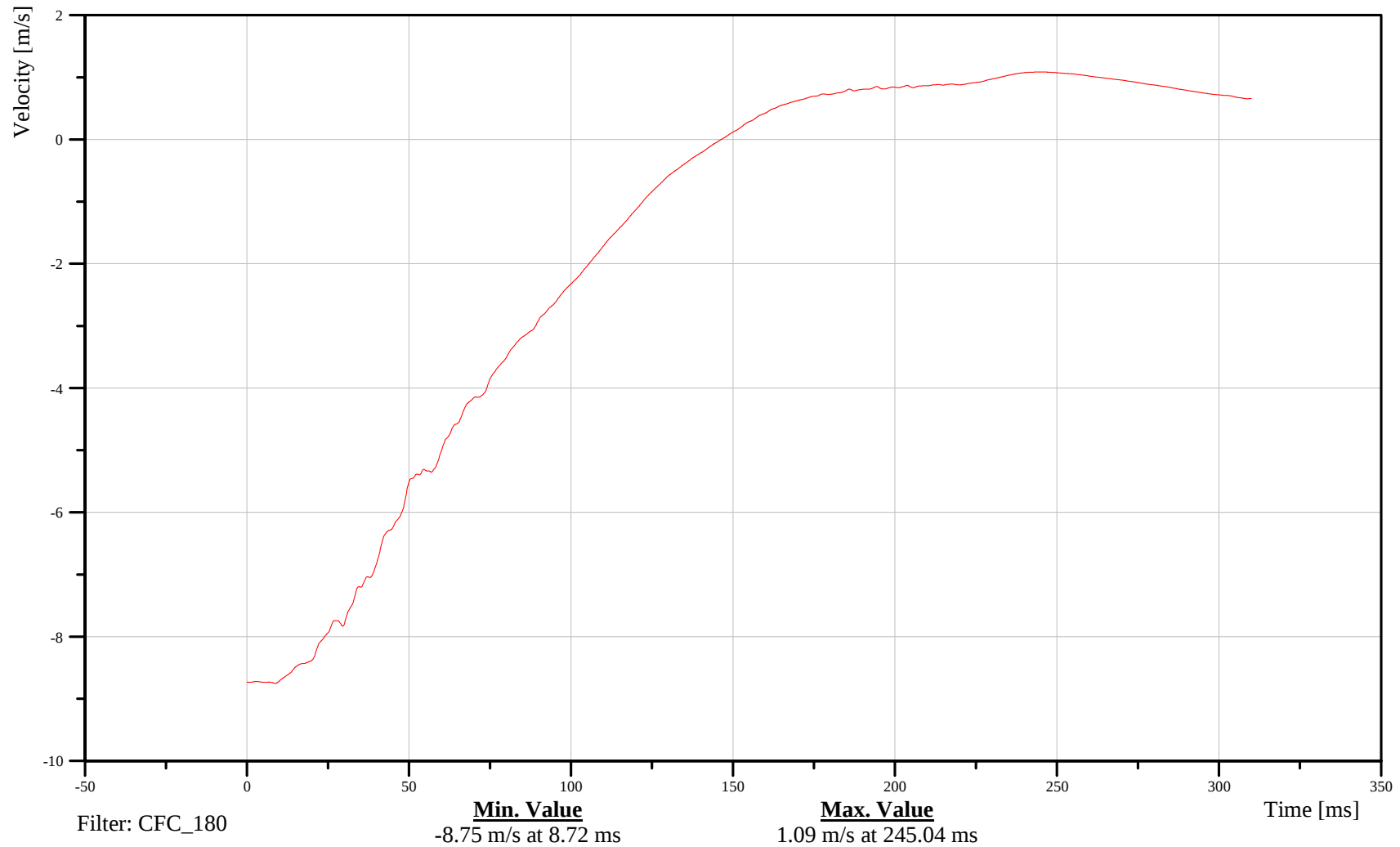
Right Side Sill at Front Seat Y-Axis Velocity

Customer: VRTC

16SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-110

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

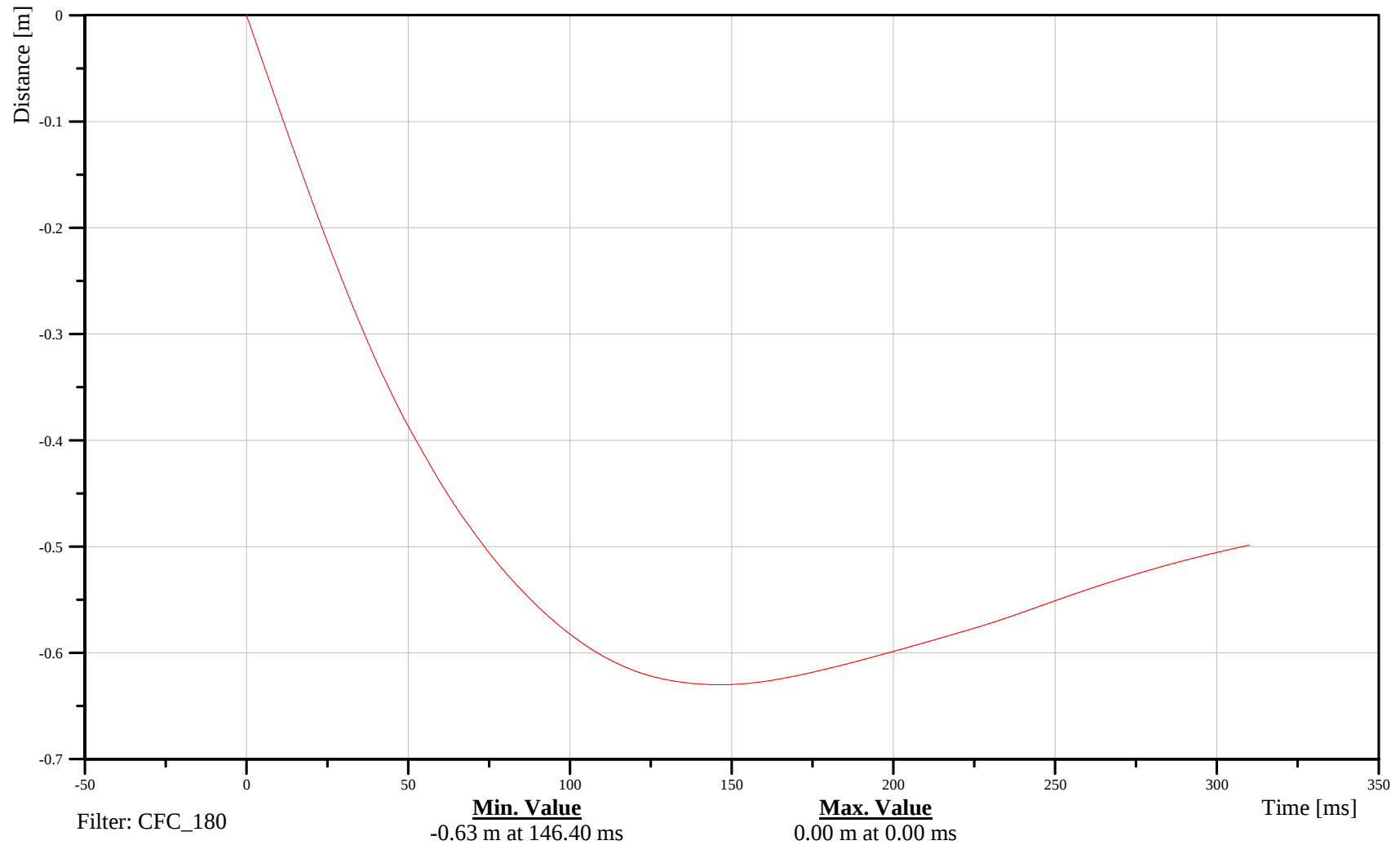
Right Side Sill at Front Seat Y-Axis Displacement

Customer: VRTC

16SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-111

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

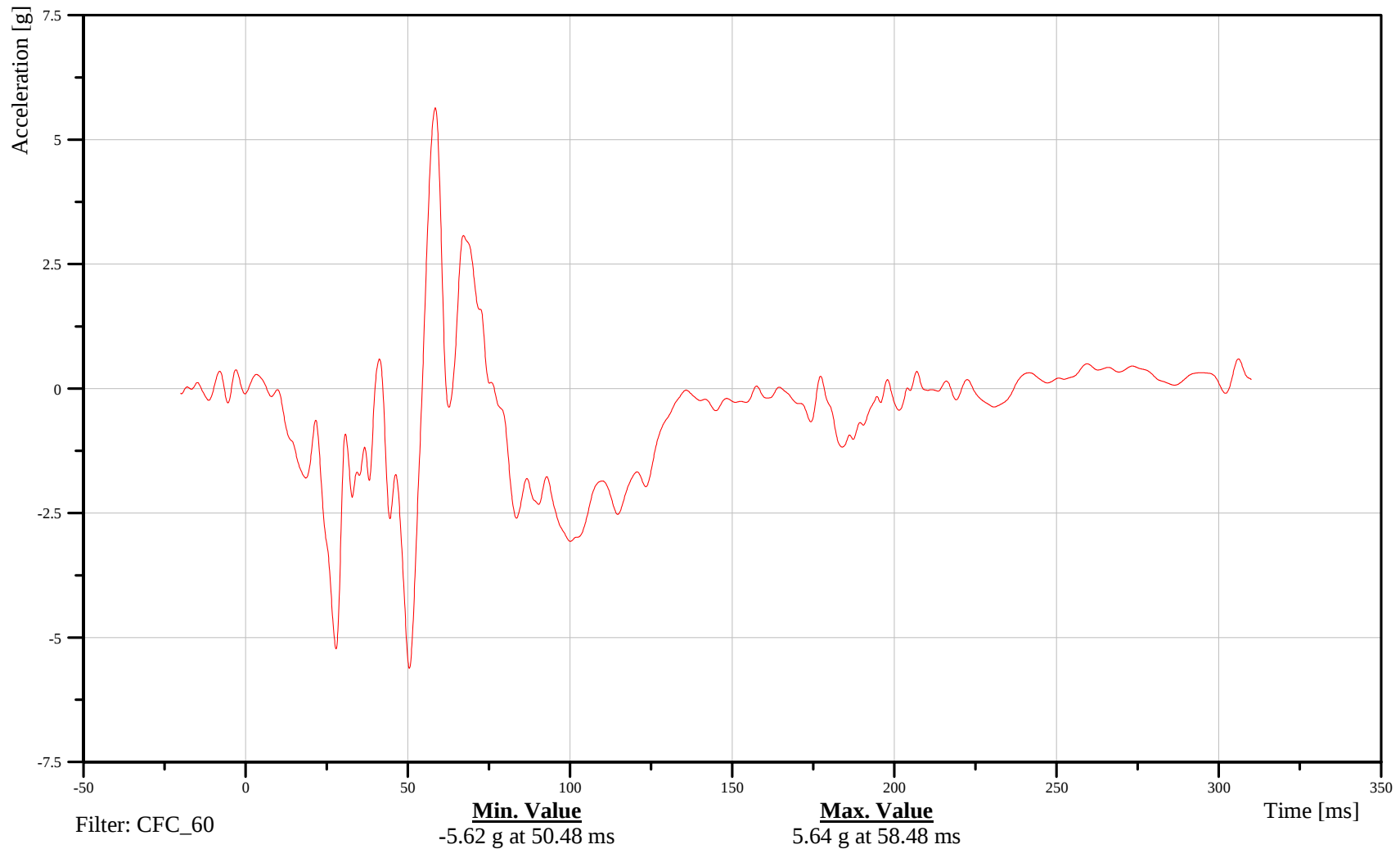
Right Side Sill at Front Seat Z-Axis Acceleration

Customer: VRTC

16SILBFR0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-112

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

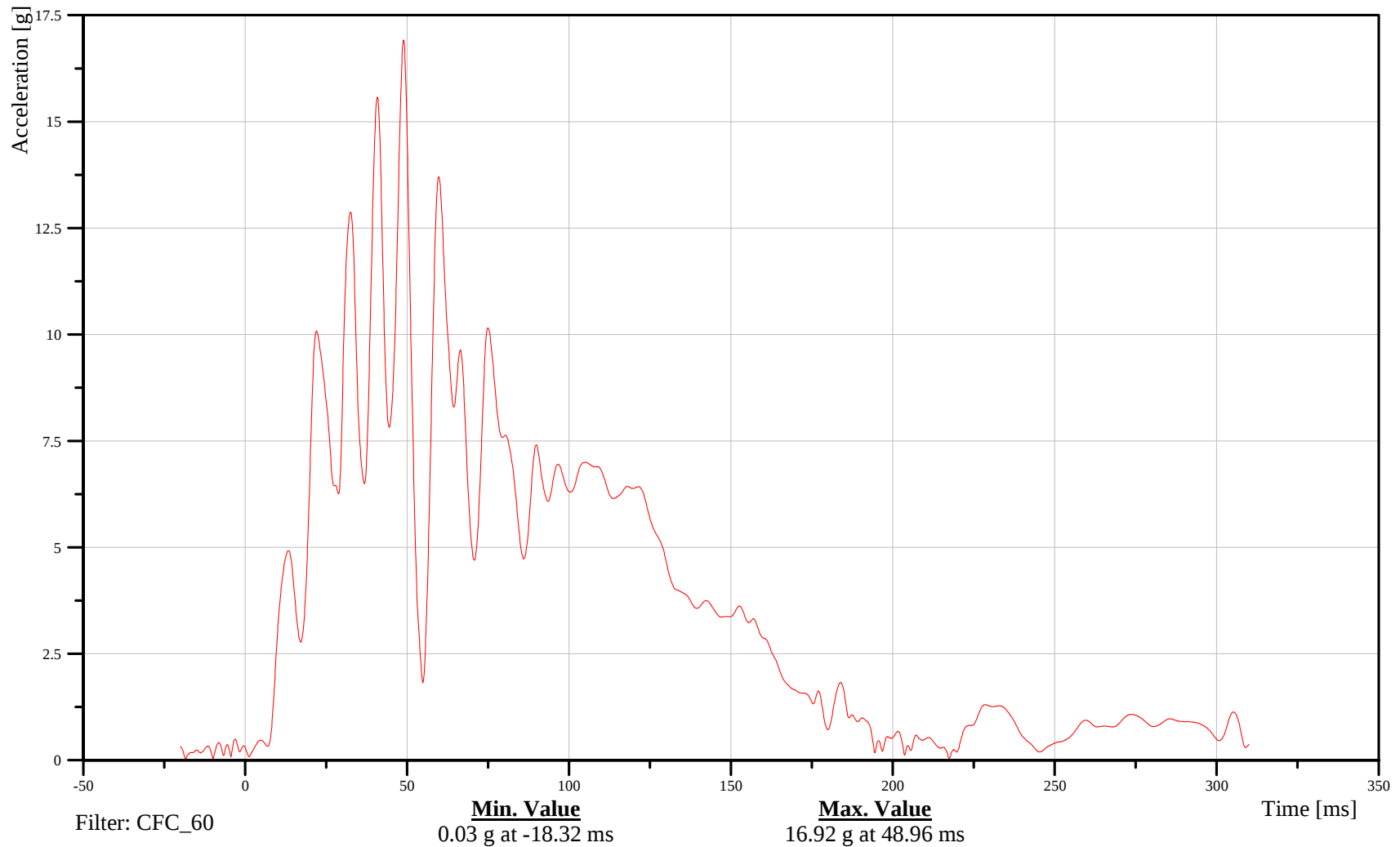
Right Side Sill at Front Seat Resultant Acceleration

Customer: VRTC

16SILBFR0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-113

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

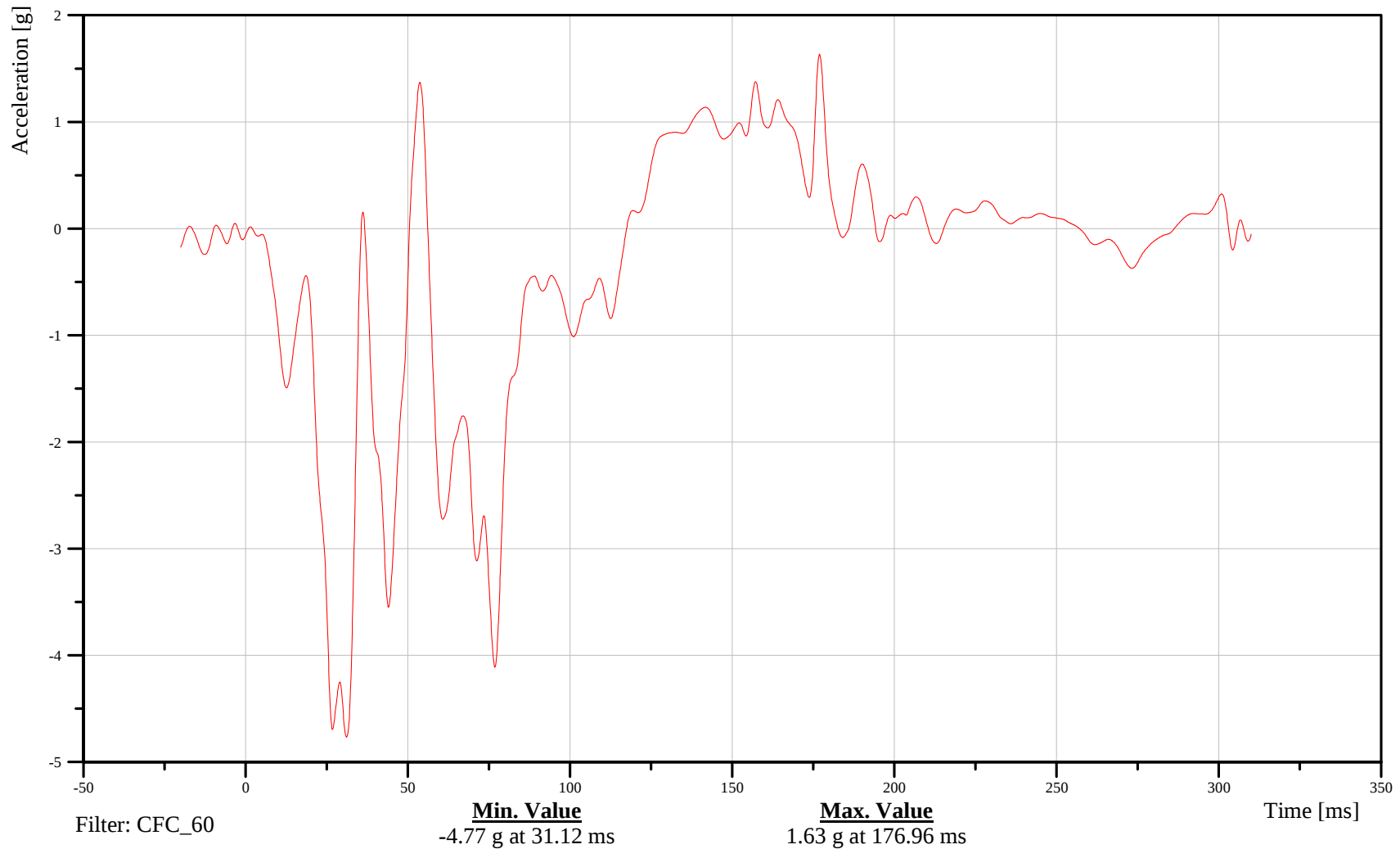
Right Side Sill at Rear Seat X-Axis Acceleration

Customer: VRTC

16SILBRE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-114

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

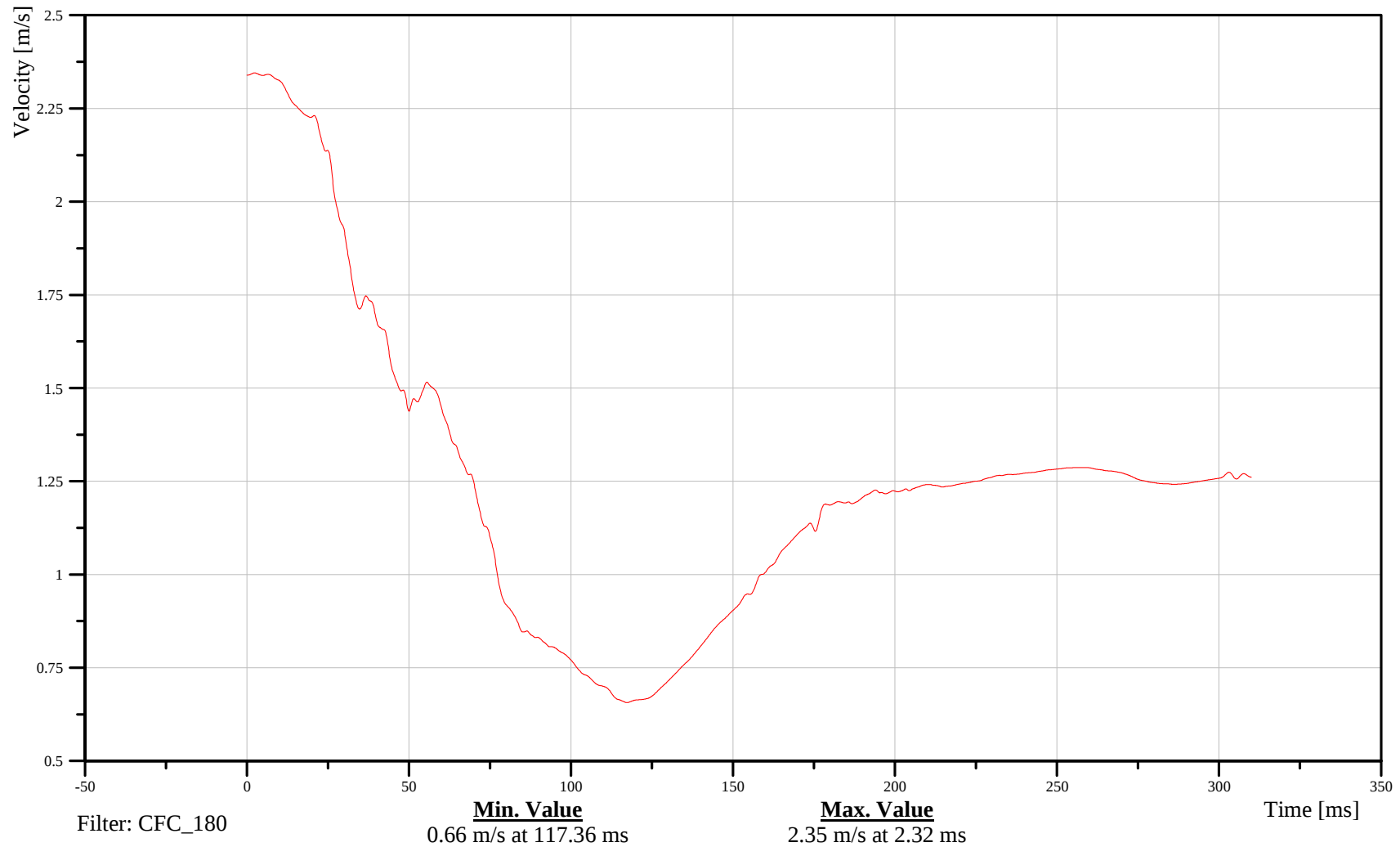
Right Side Sill at Rear Seat X-Axis Velocity

Customer: VRTC

16SILBRE0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-115

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

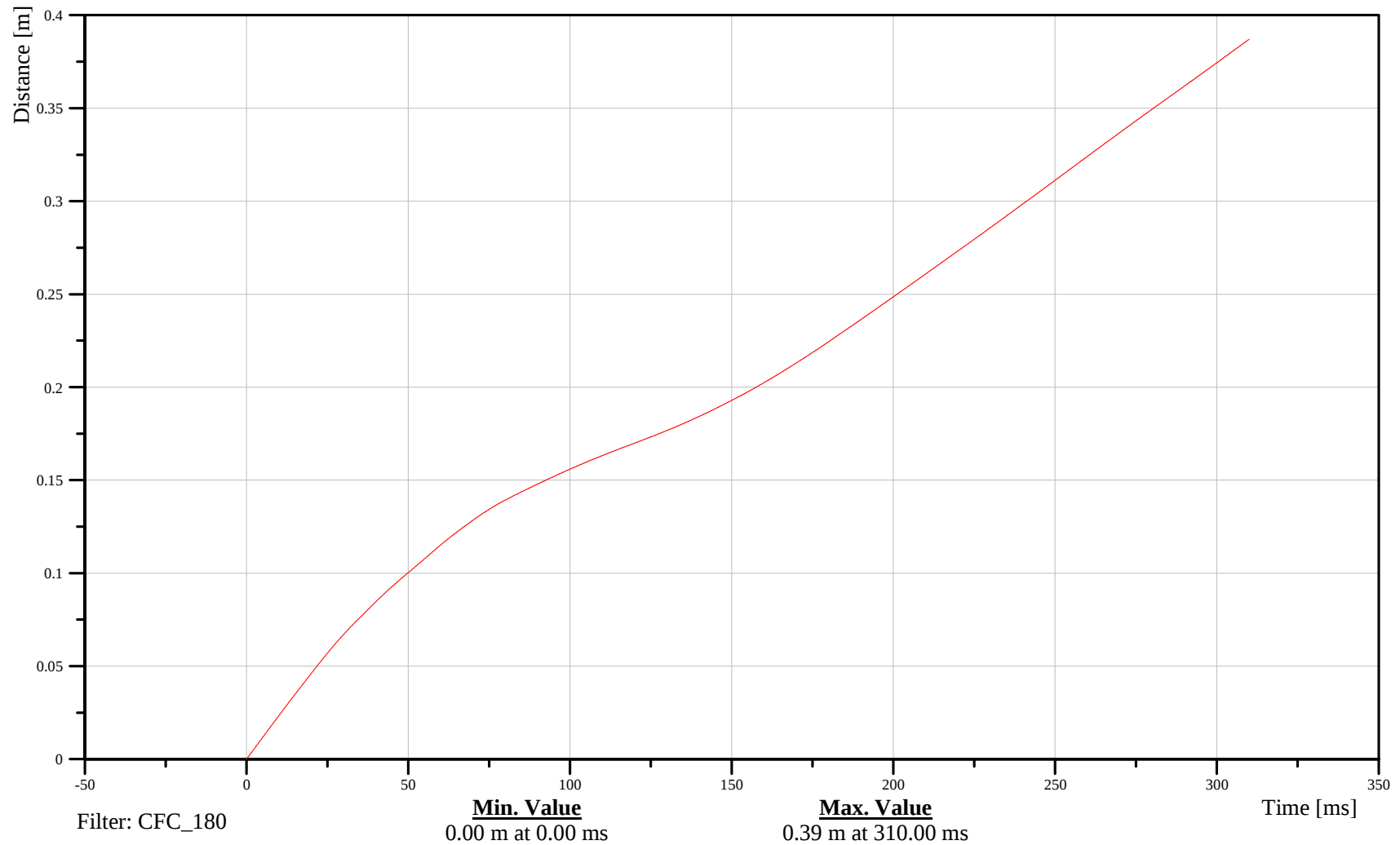
Right Side Sill at Rear Seat X-Axis Displacement

Customer: VRTC

16SILBRE0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-116

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

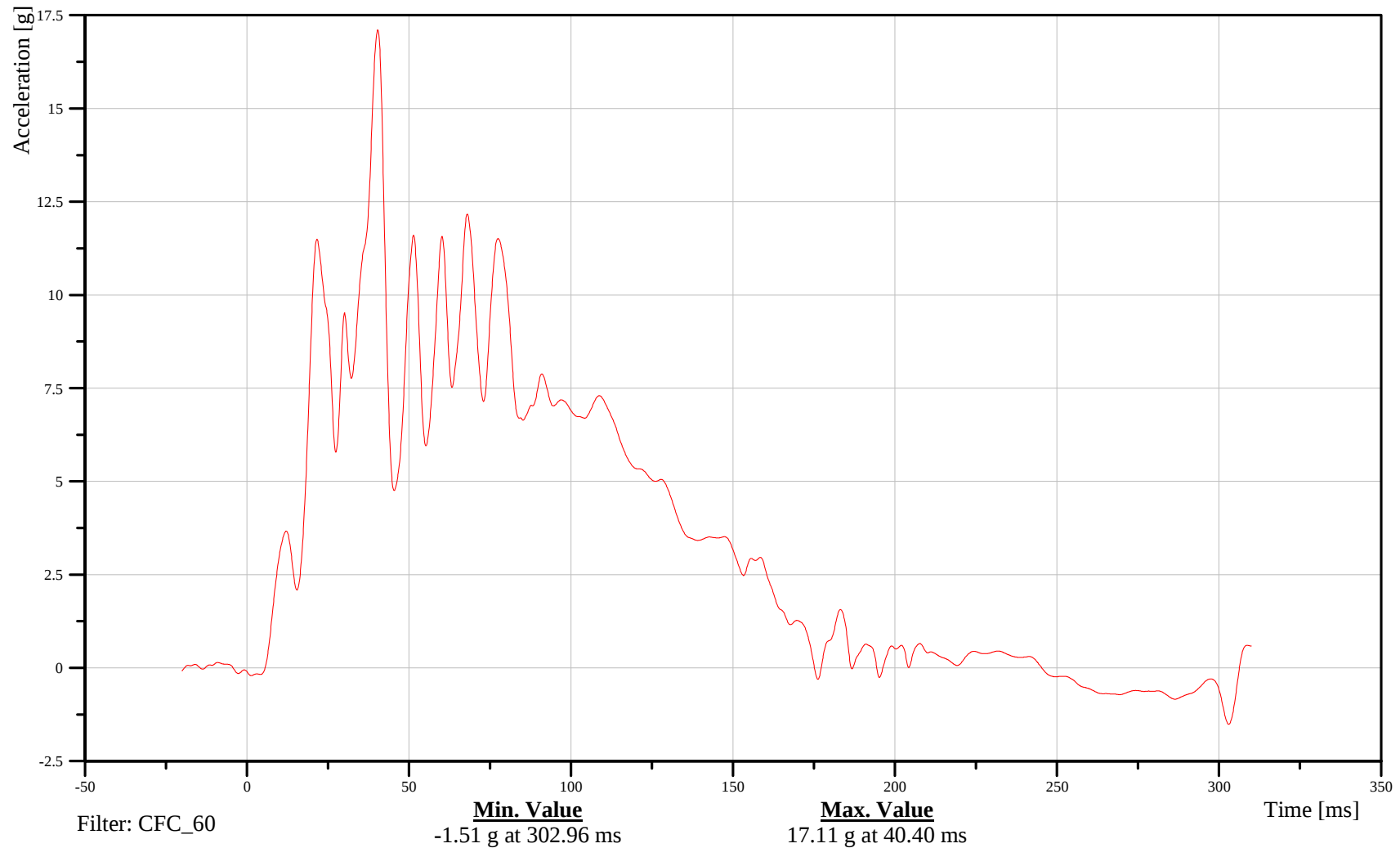
Right Side Sill at Rear Seat Y-Axis Acceleration

Customer: VRTC

16SILBRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-117

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

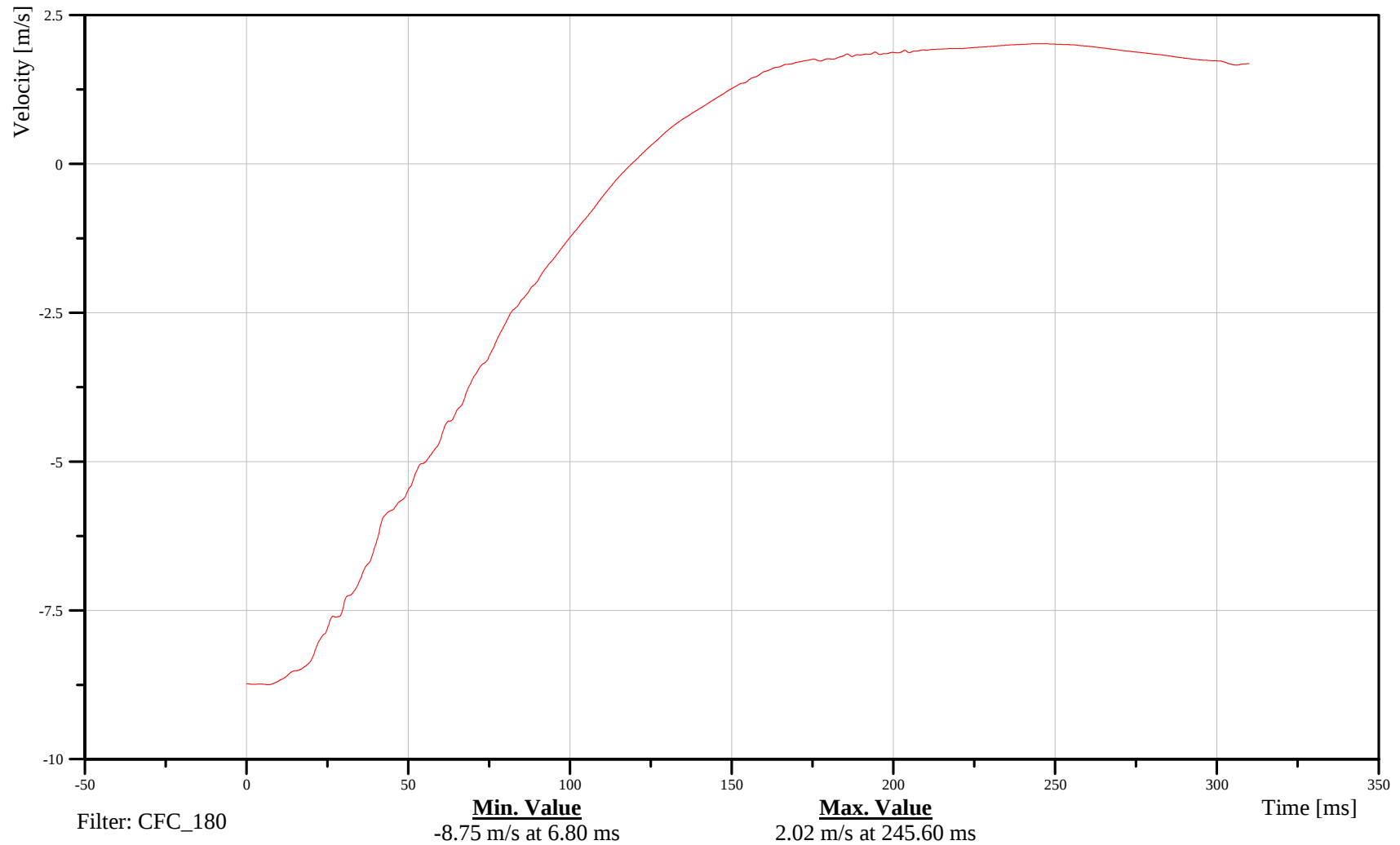
Right Side Sill at Rear Seat Y-Axis Velocity

Customer: VRTC

16SILBRE0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-118

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

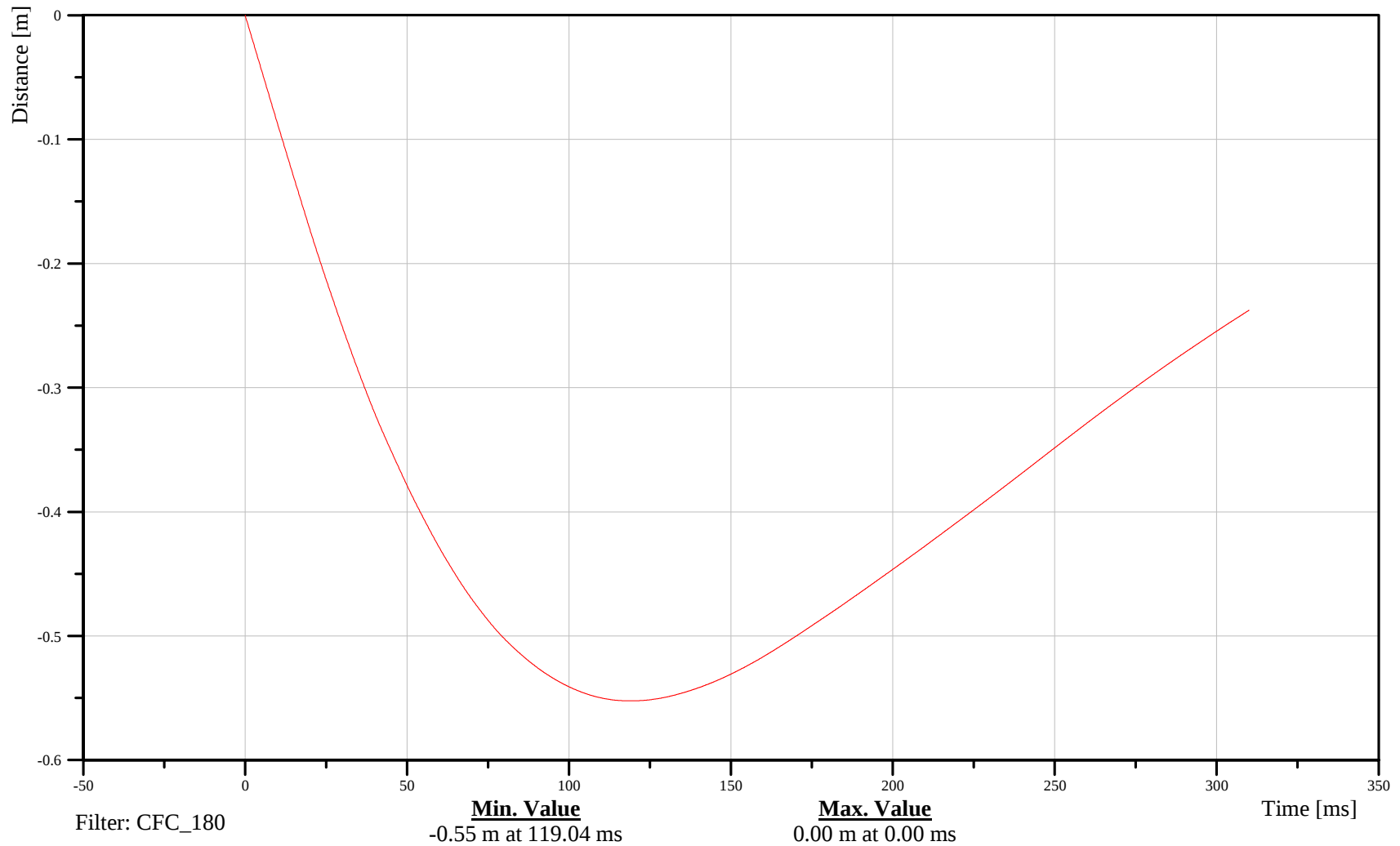
Right Side Sill at Rear Seat Y-Axis Displacement

Customer: VRTC

16SILBRE0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-119

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

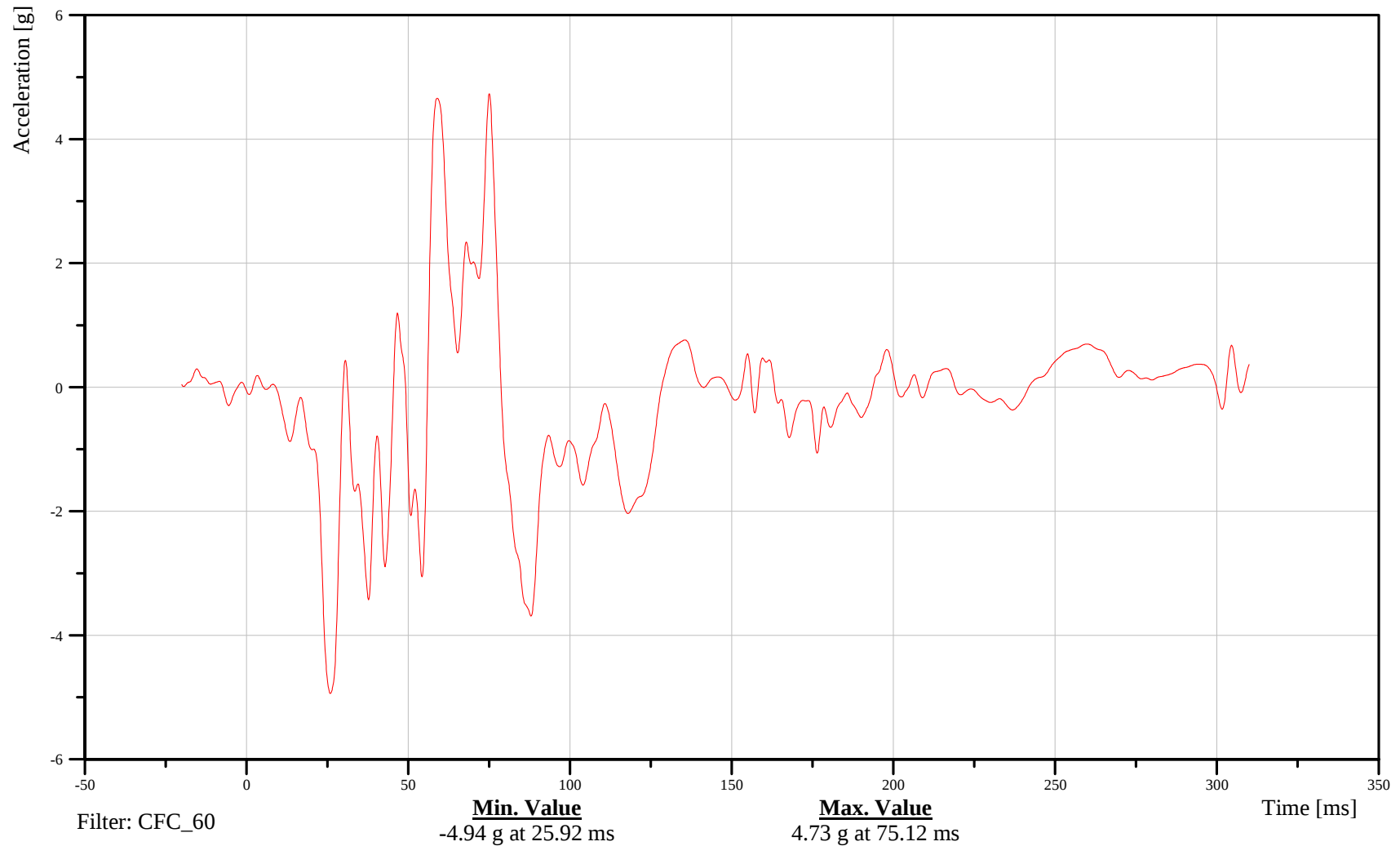
Right Side Sill at Rear Seat Z-Axis Acceleration

Customer: VRTC

16SILBRE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-120

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

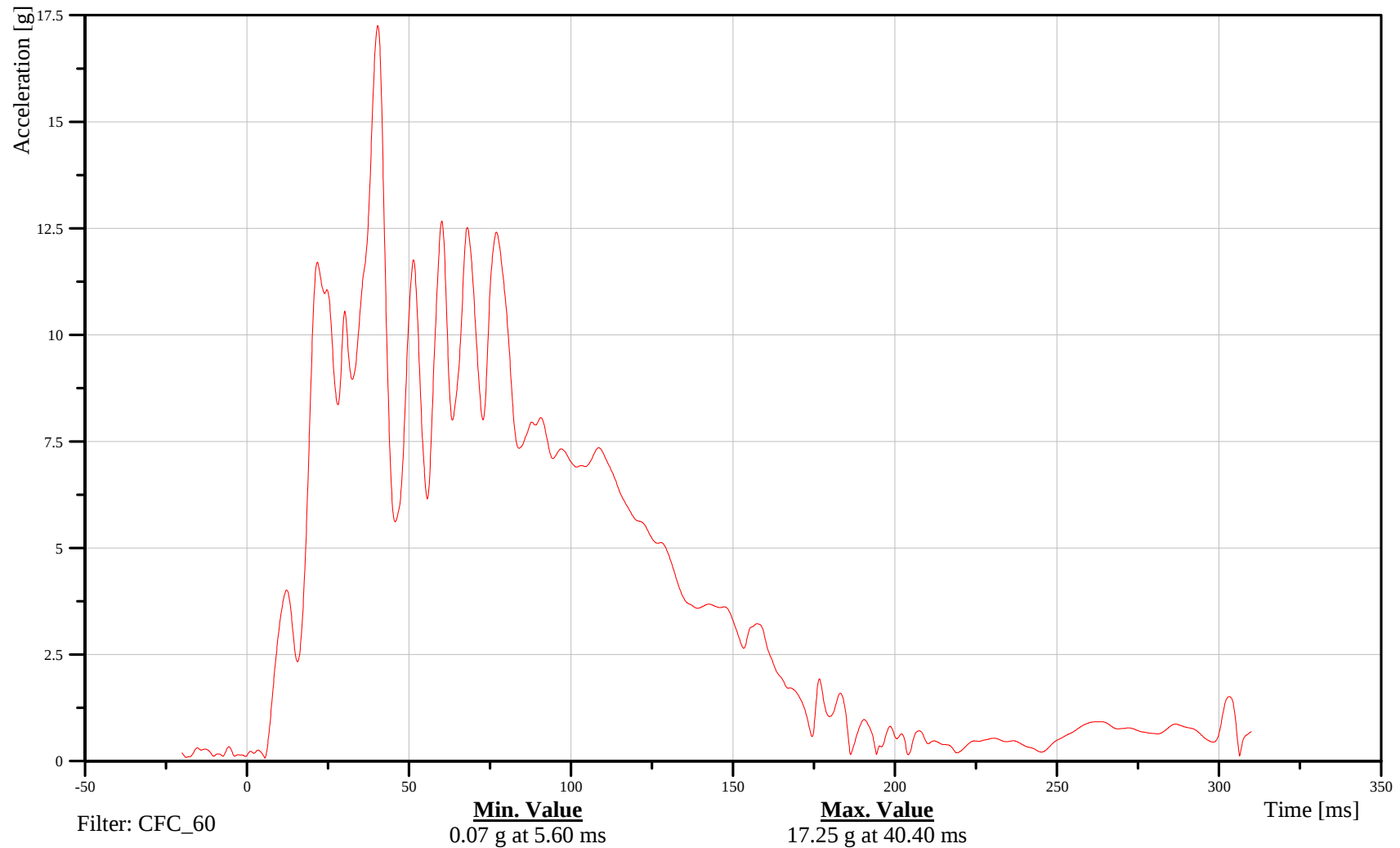
Right Side Sill at Rear Seat Resultant Acceleration

Customer: VRTC

16SILBRE0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-121

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

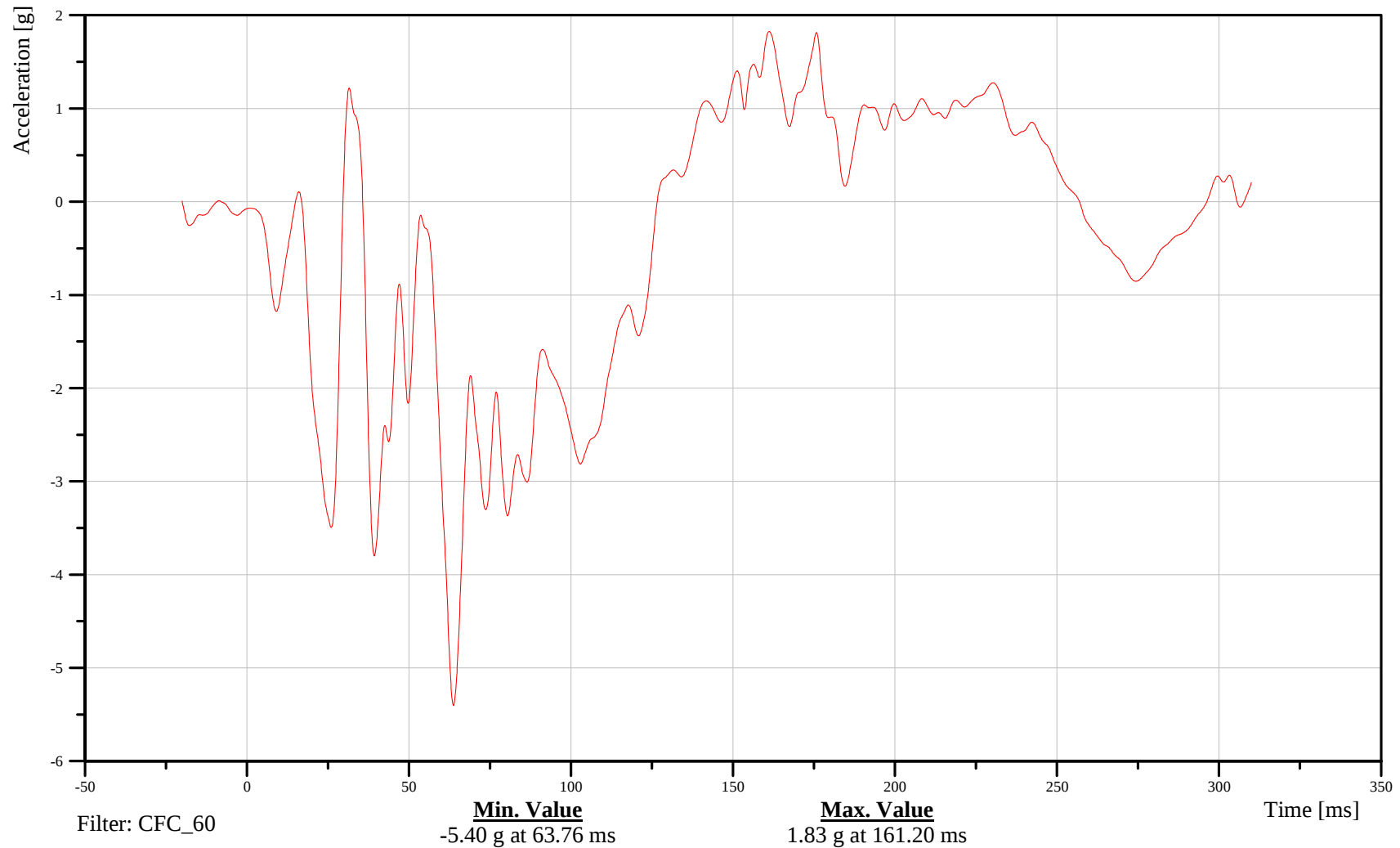
Rear Floorpan Above Axle X-Axis Acceleration

Customer: VRTC

18FORA000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-122

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

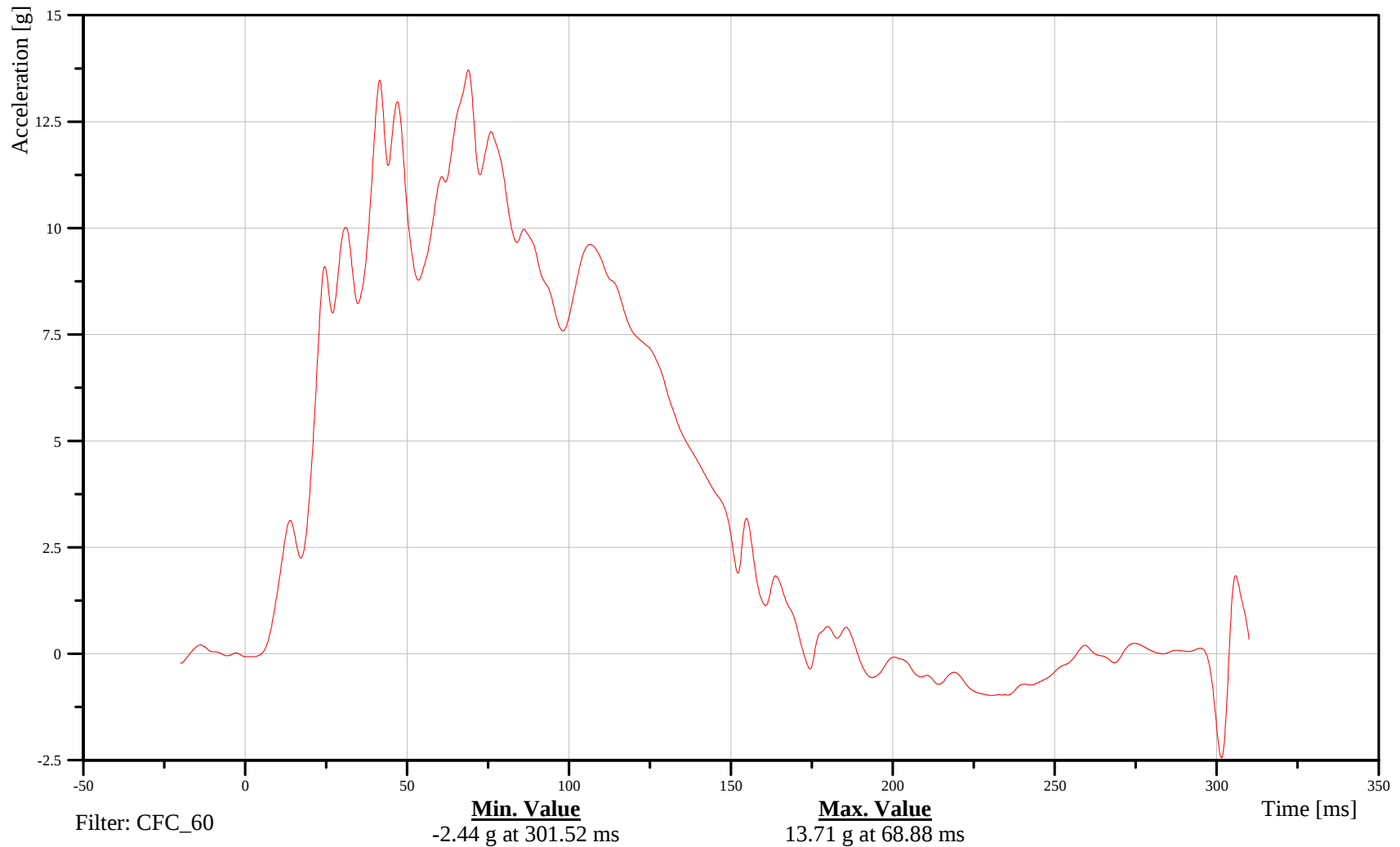
Rear Floorpan Above Axle Y-Axis Acceleration

Customer: VRTC

18FORA000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-123

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

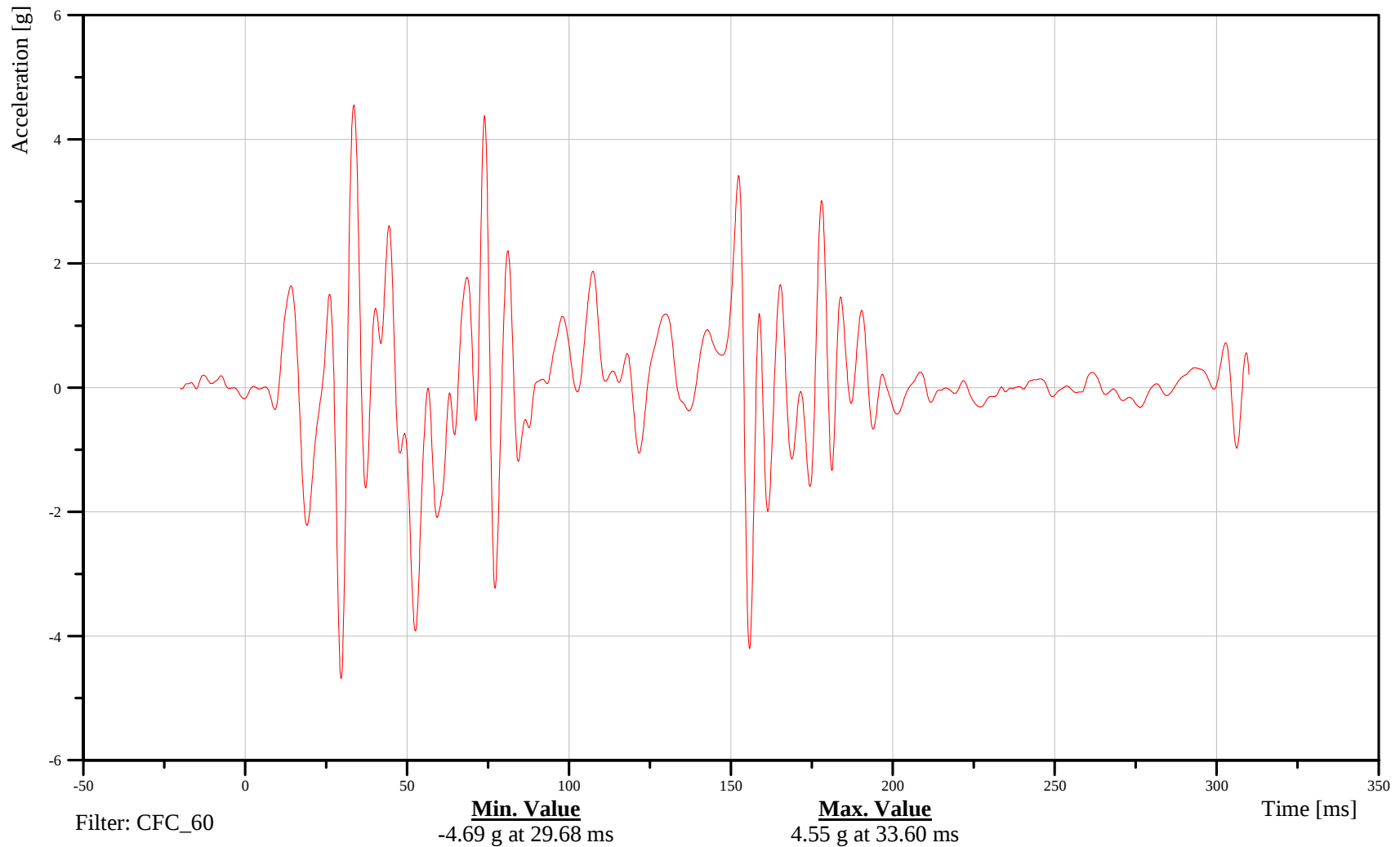
Rear Floorpan Above Axle Z-Axis Acceleration

Customer: VRTC

18FORA000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-124

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

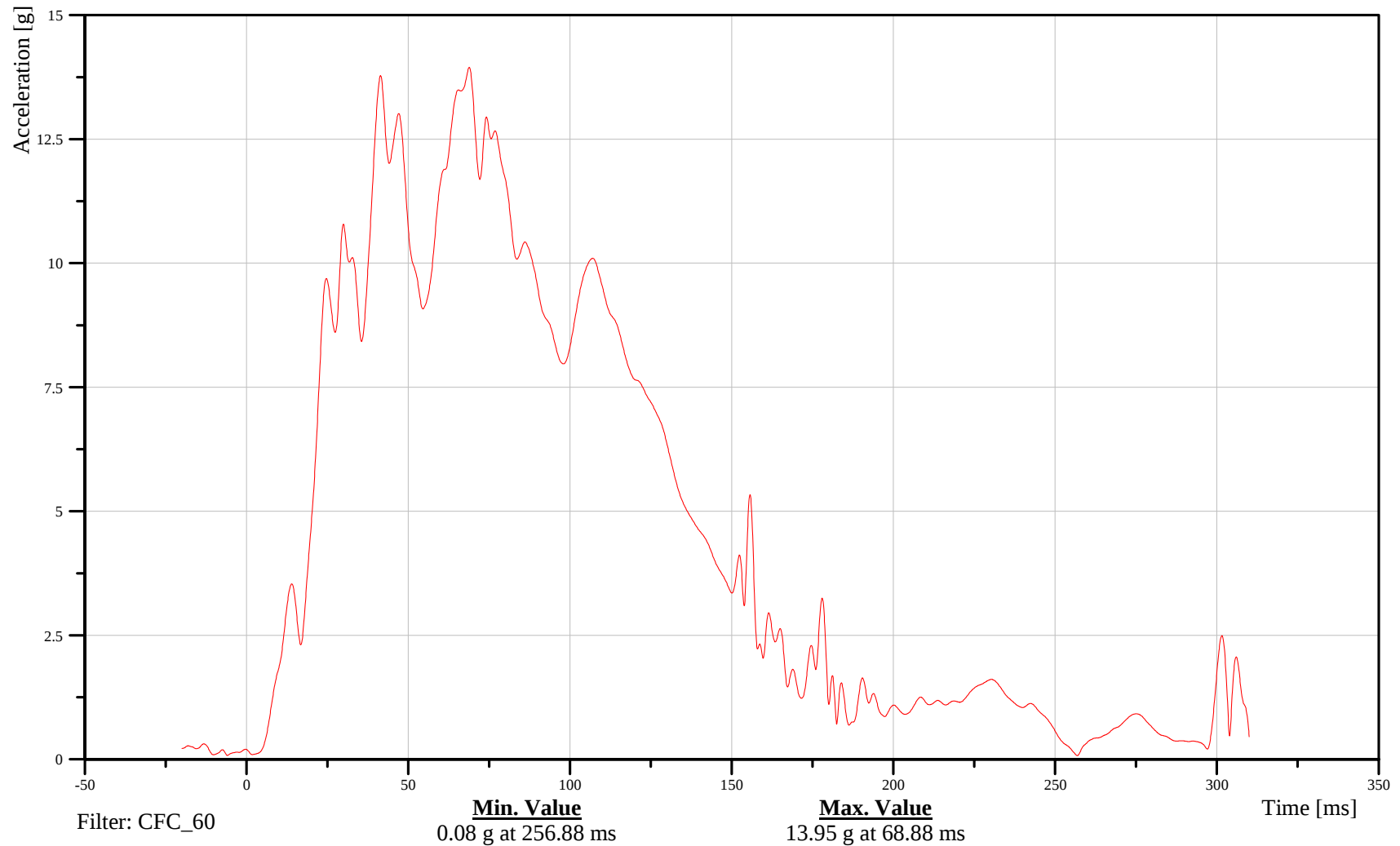
Rear Floorpan Above Axle Resultant Acceleration

Customer: VRTC

18FORA000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-125

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

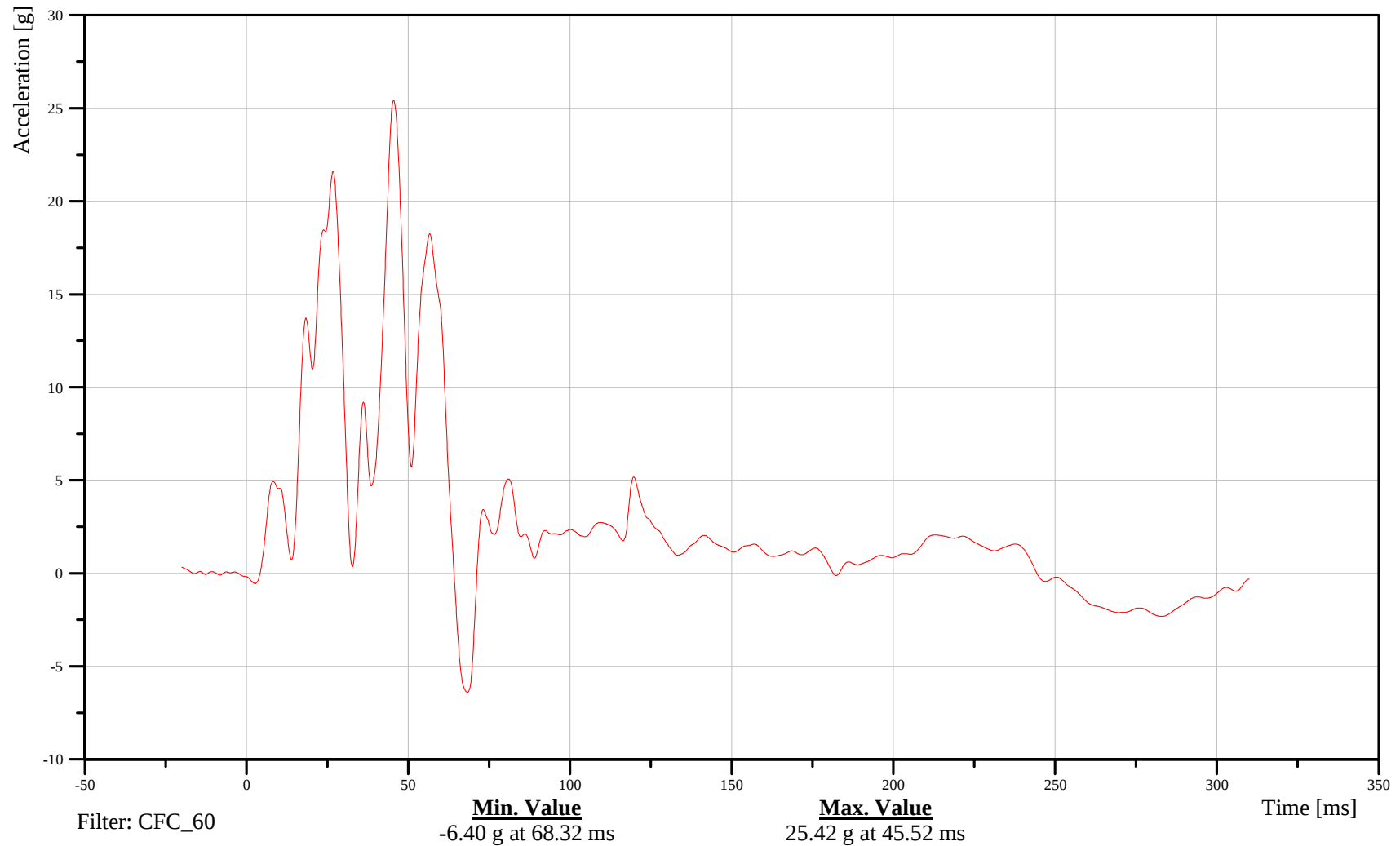
Left Side Sill at Front Seat Y-Axis Acceleration

Customer: VRTC

14SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-126

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

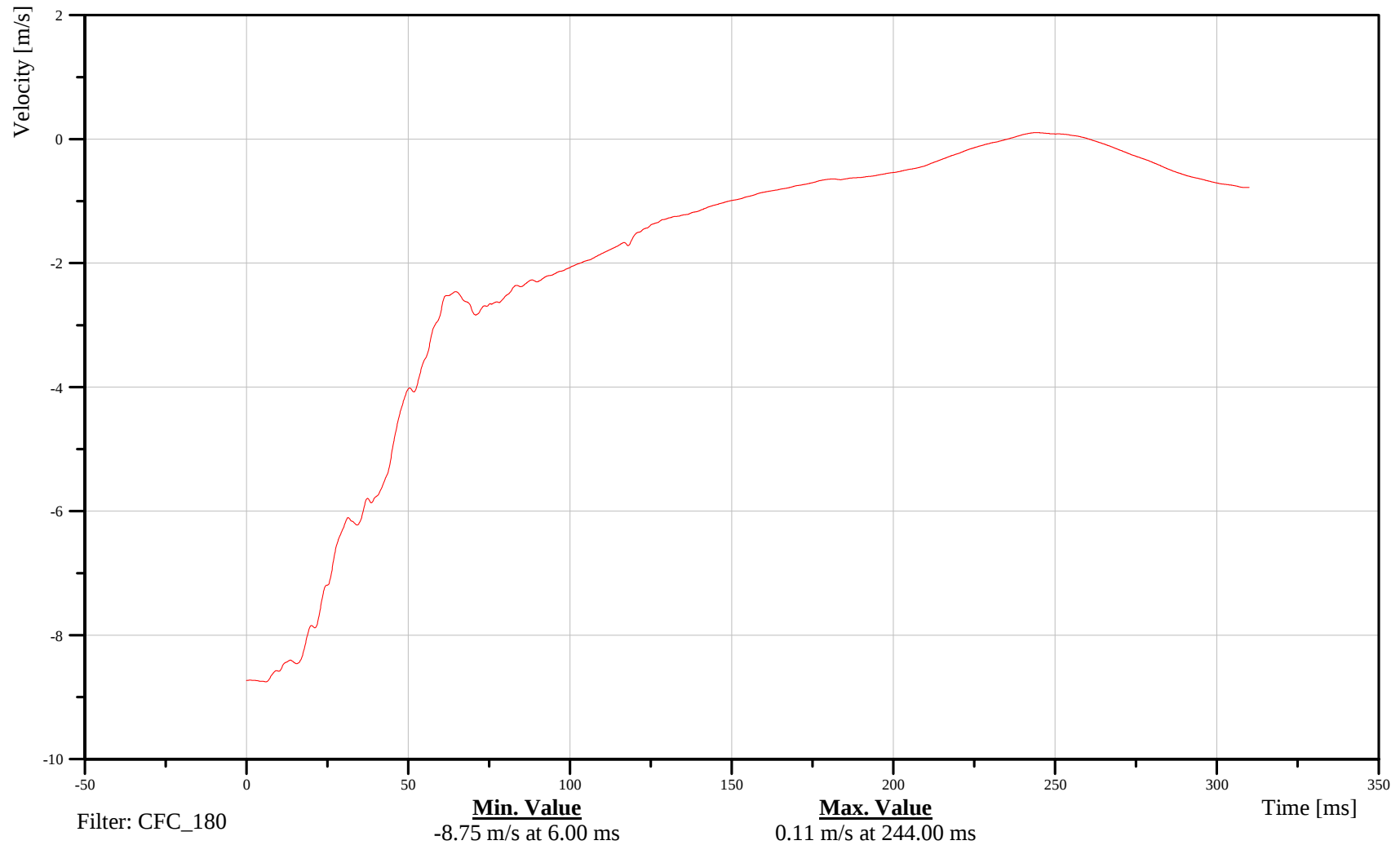
Left Side Sill at Front Seat Y-Axis Velocity

Customer: VRTC

14SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-127

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

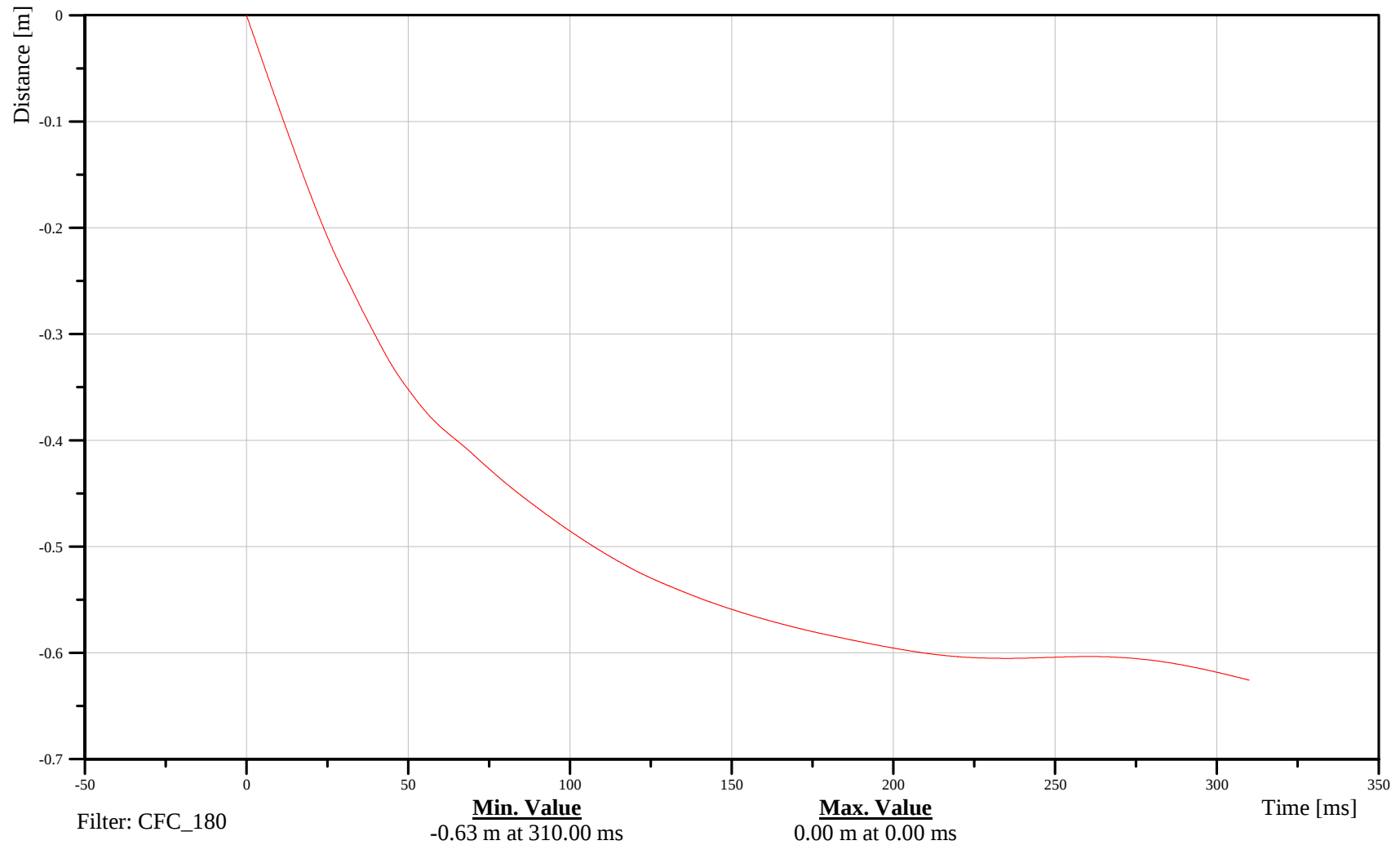
Left Side Sill at Front Seat Y-Axis Displacement

Customer: VRTC

14SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-128

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

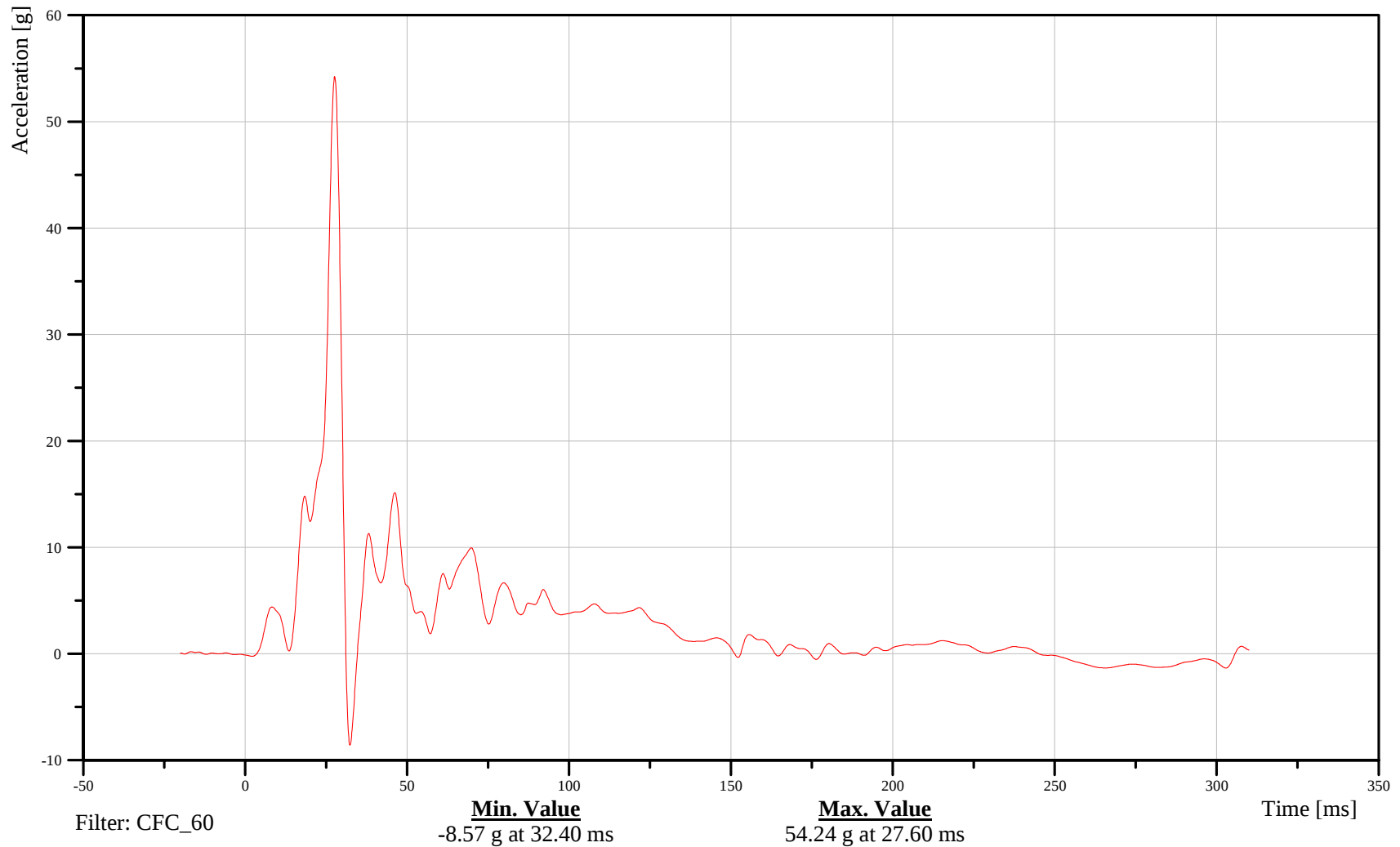
Left Side Sill at Rear Seat Y-Axis Acceleration

Customer: VRTC

14SILBRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-129

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

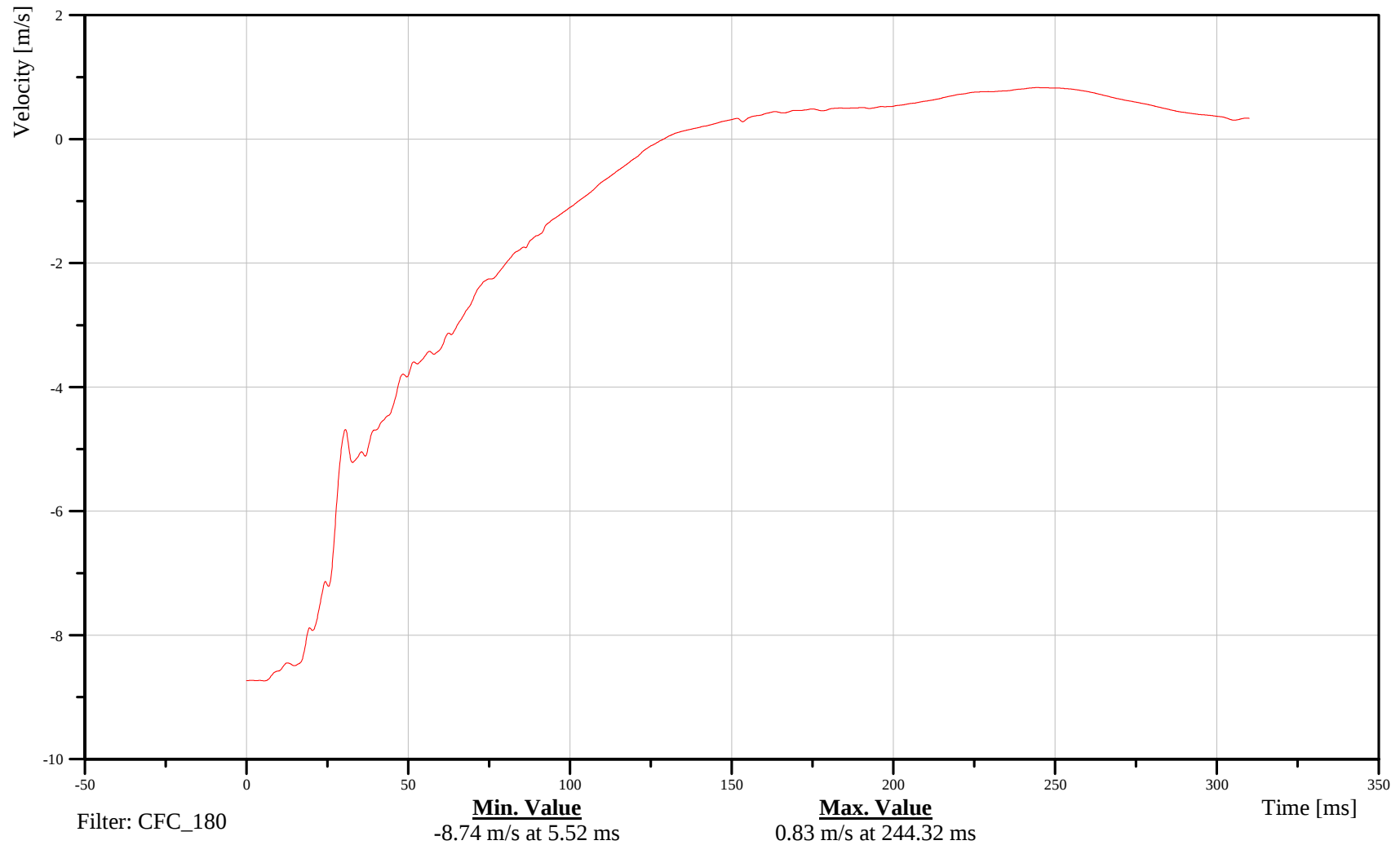
Left Side Sill at Rear Seat Y-Axis Velocity

Customer: VRTC

14SILBRE0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-130

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

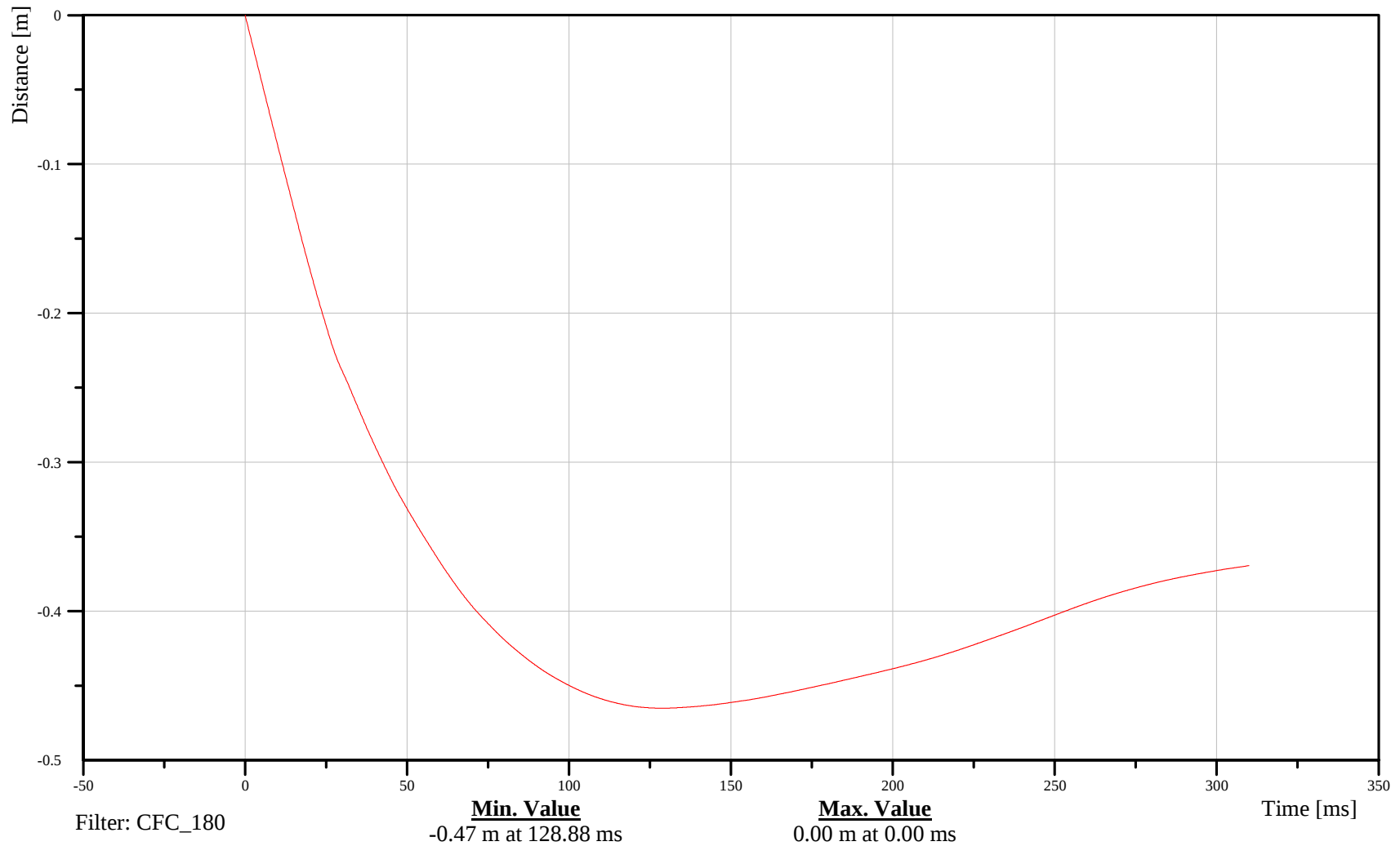
Left Side Sill at Rear Seat Y-Axis Displacement

Customer: VRTC

14SILBRE0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 070809



B-131

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

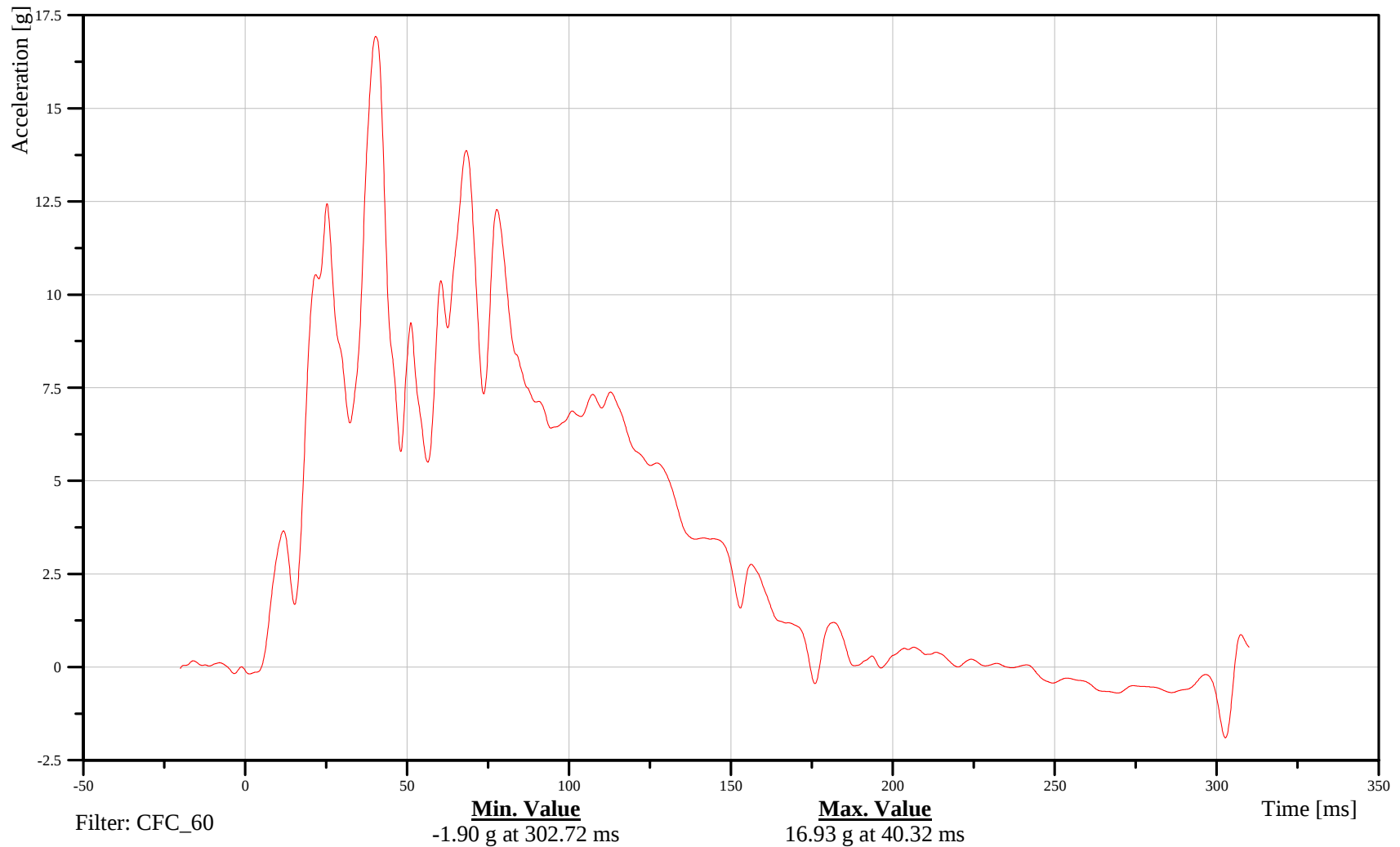
Right Rear Occupant Compartment Y-Axis Acceleration

Customer: VRTC

16VEHCRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-132

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

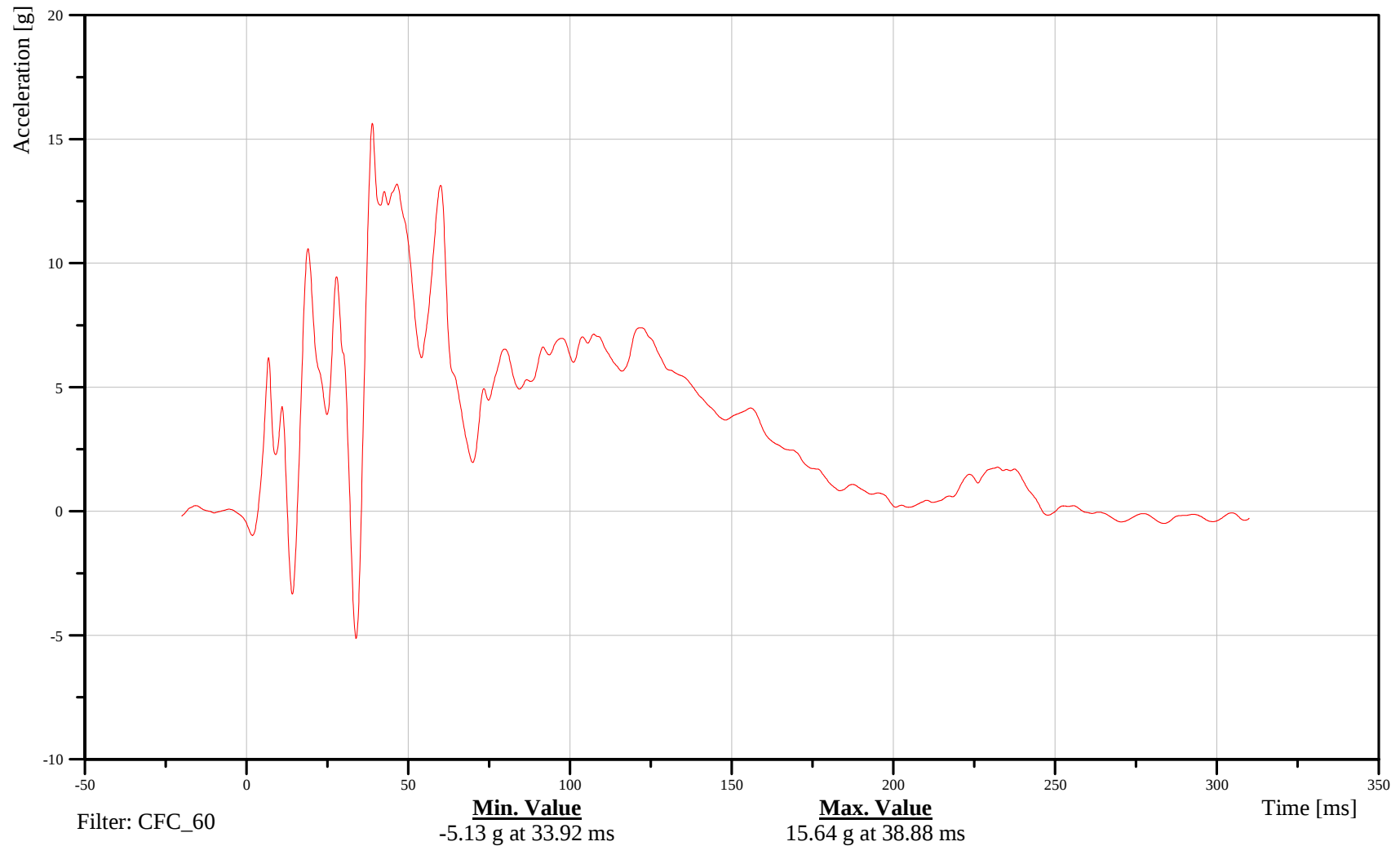
Left Lower A-Post Y-Axis Acceleration

Customer: VRTC

11APILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-133

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

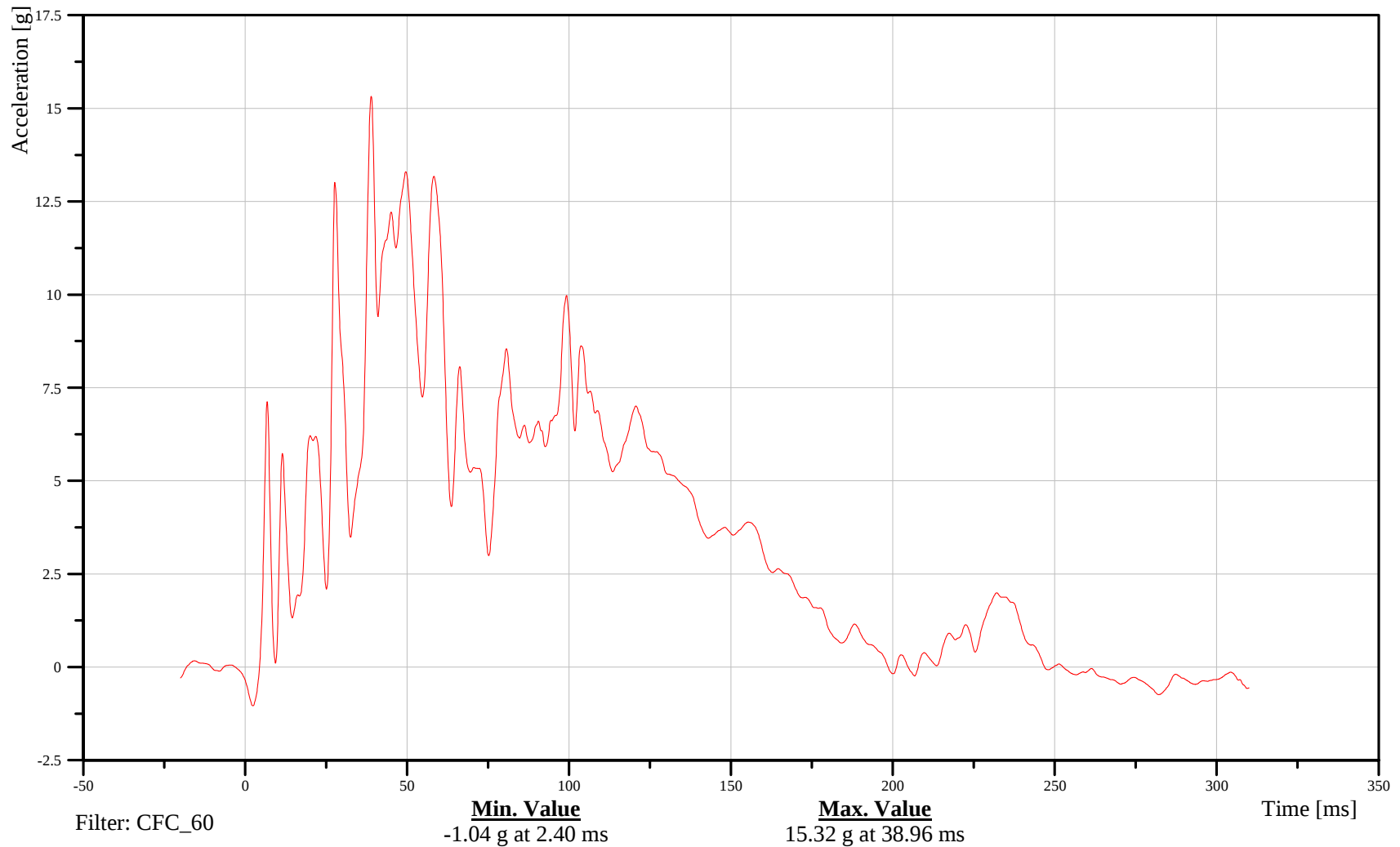
Left Mid A-Post Y-Axis Acceleration

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-134

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

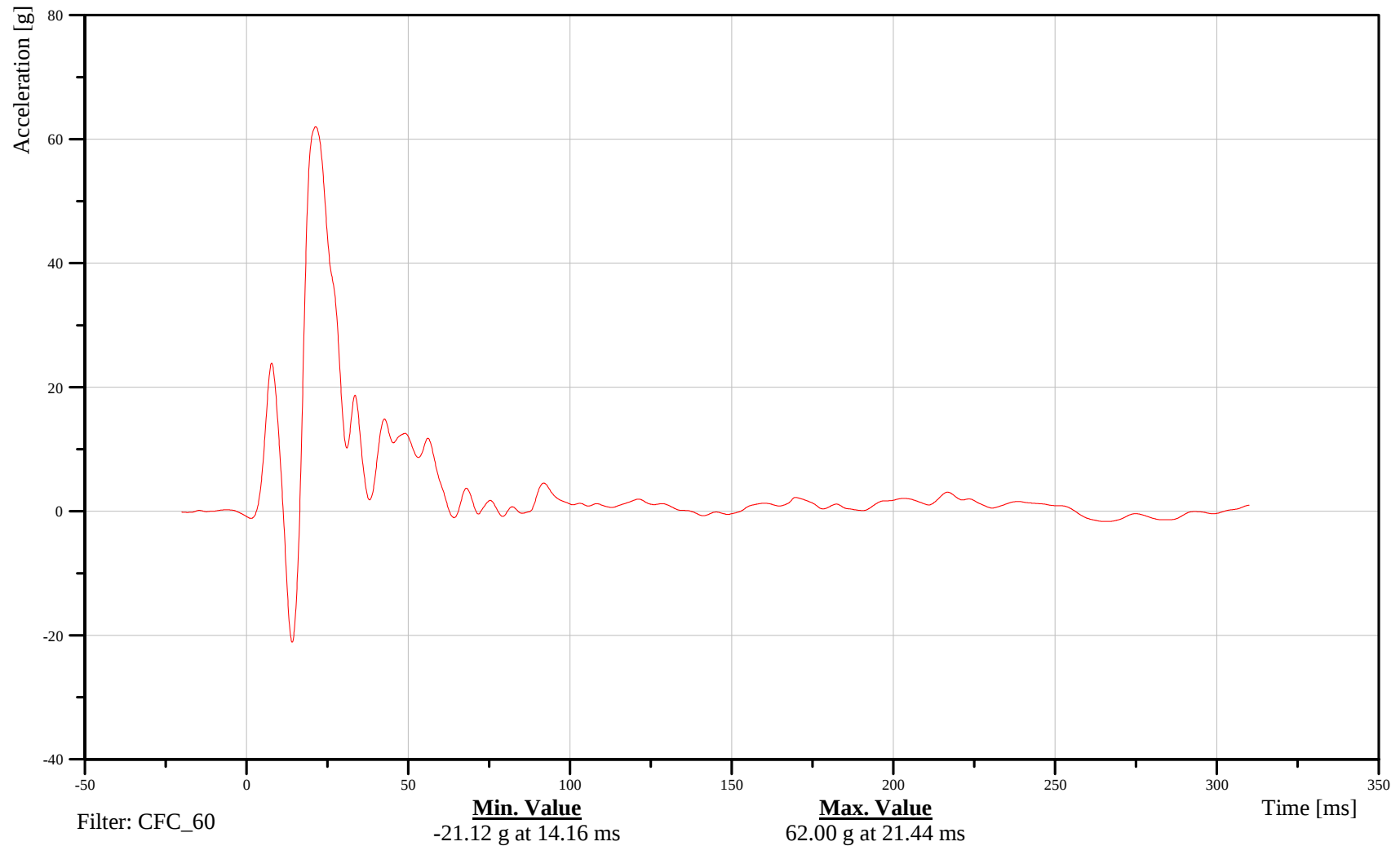
Left Lower B-Post Y-Axis Acceleration

Customer: VRTC

14BPILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-135

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

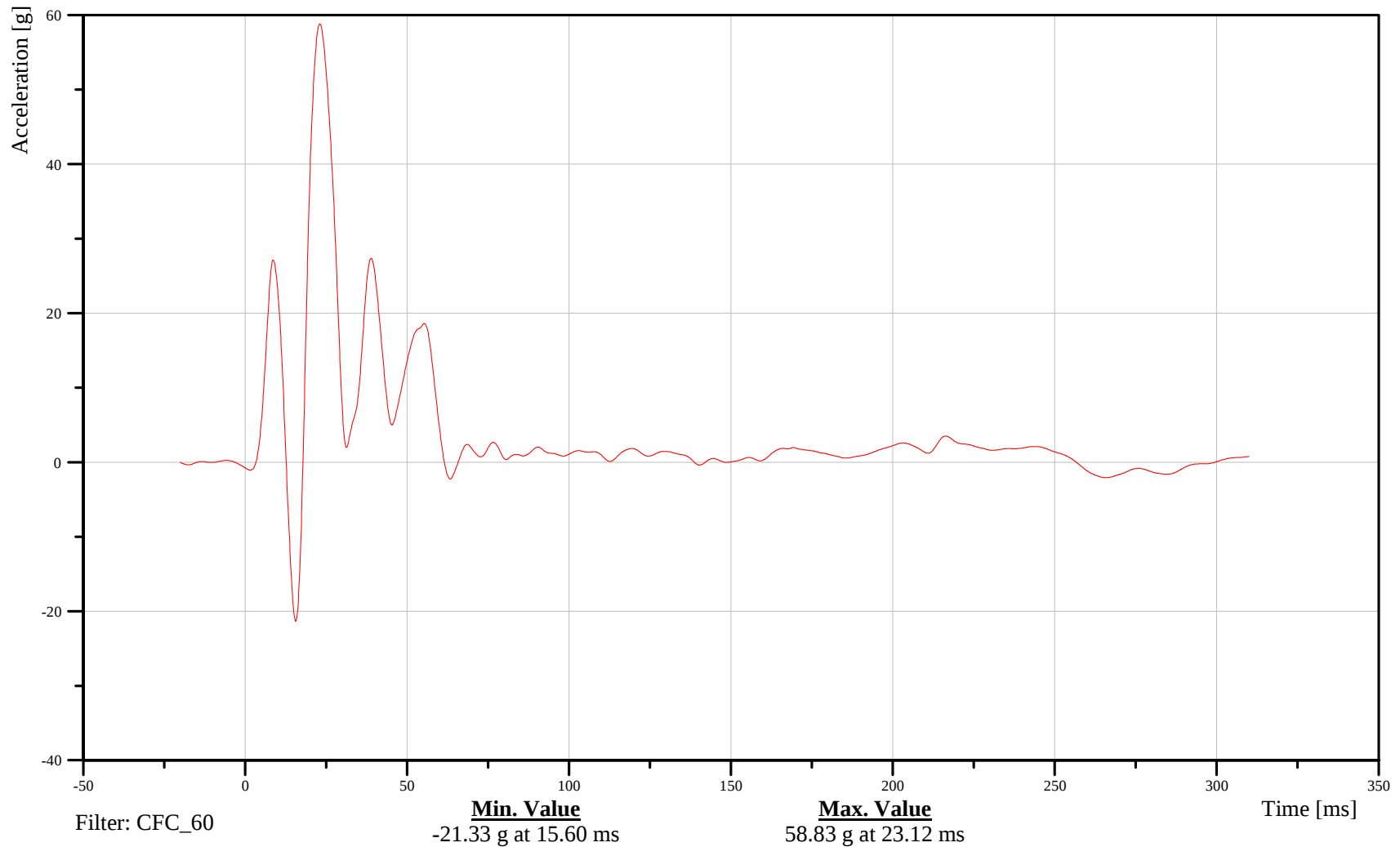
Left Mid B-Post Y-Axis Acceleration

Customer: VRTC

14BPILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-136

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

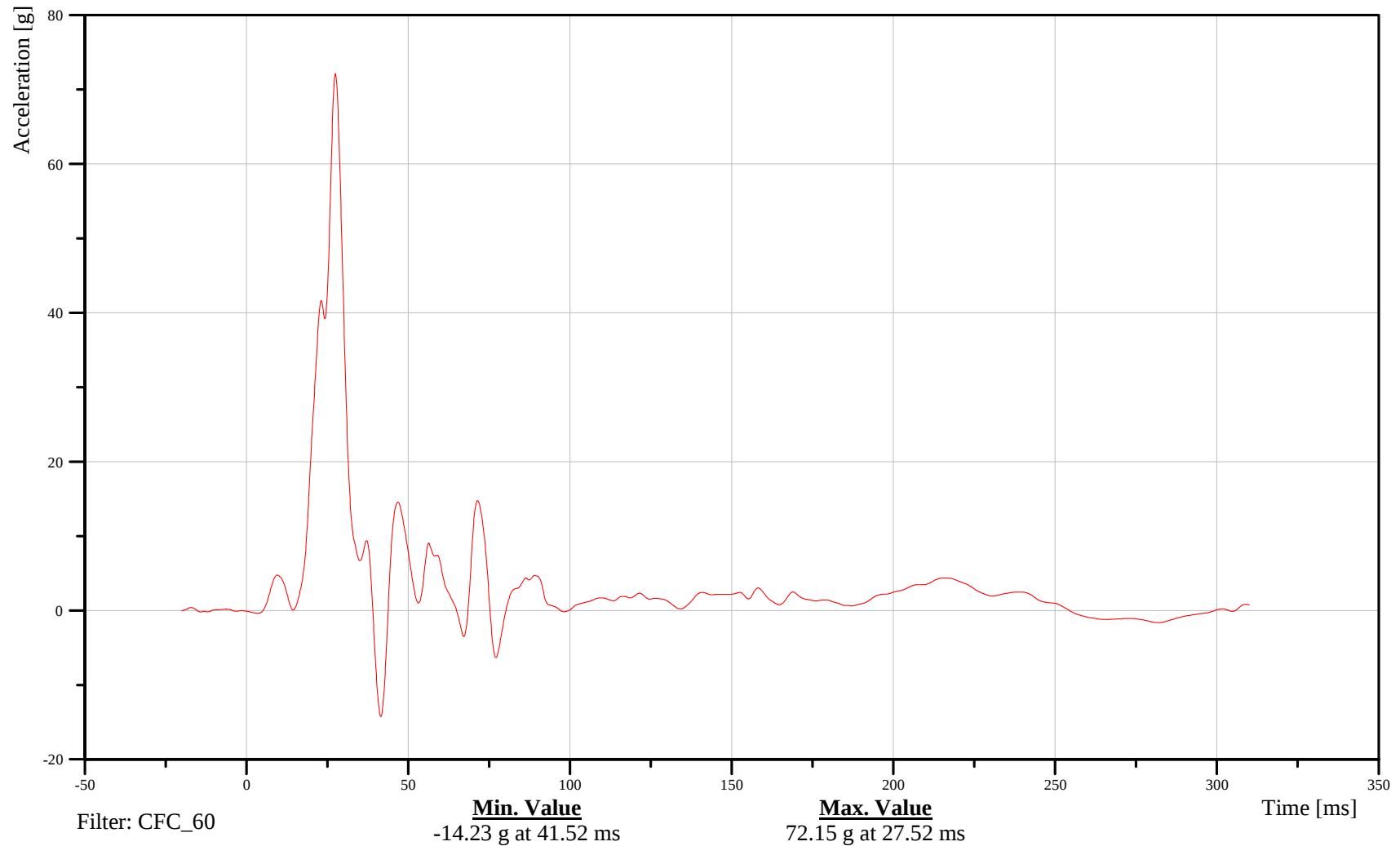
Left Front Seat Track Y-Axis Acceleration

Customer: VRTC

11SETRFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-137

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

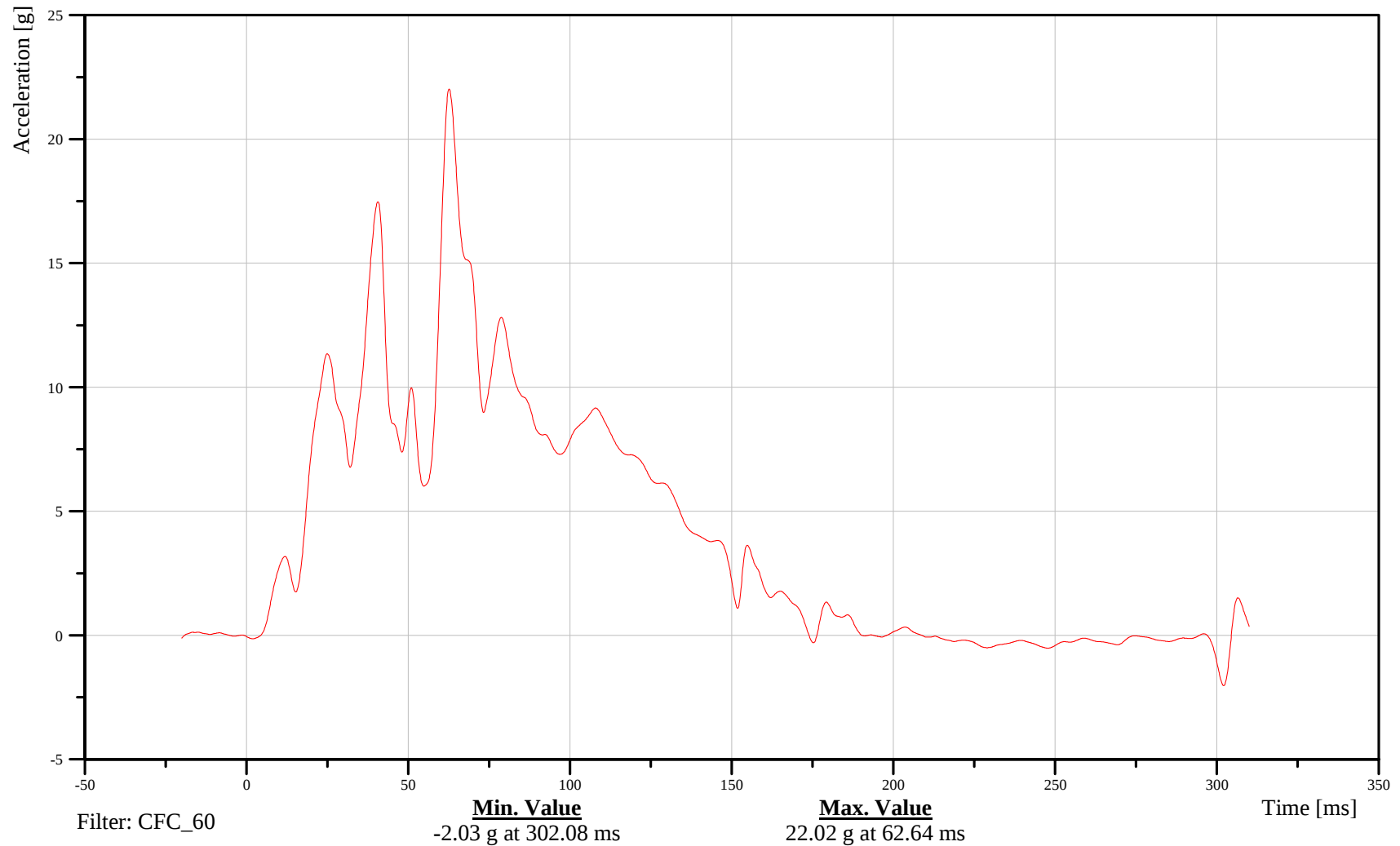
Left Rear Seat Track Y-Axis Acceleration

Customer: VRTC

14SETRLERE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-138

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

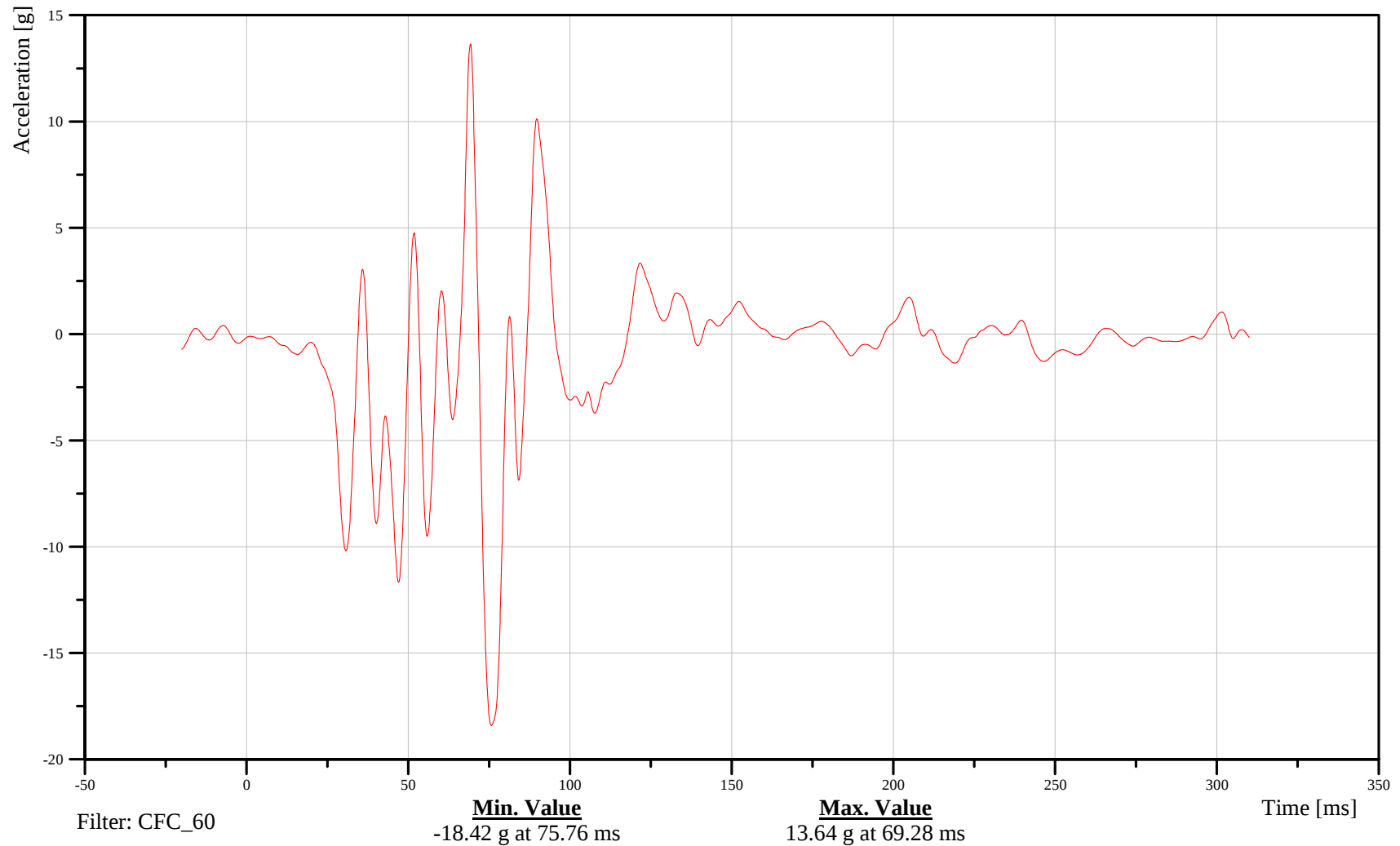
Vehicle Center of Gravity X-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-139

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

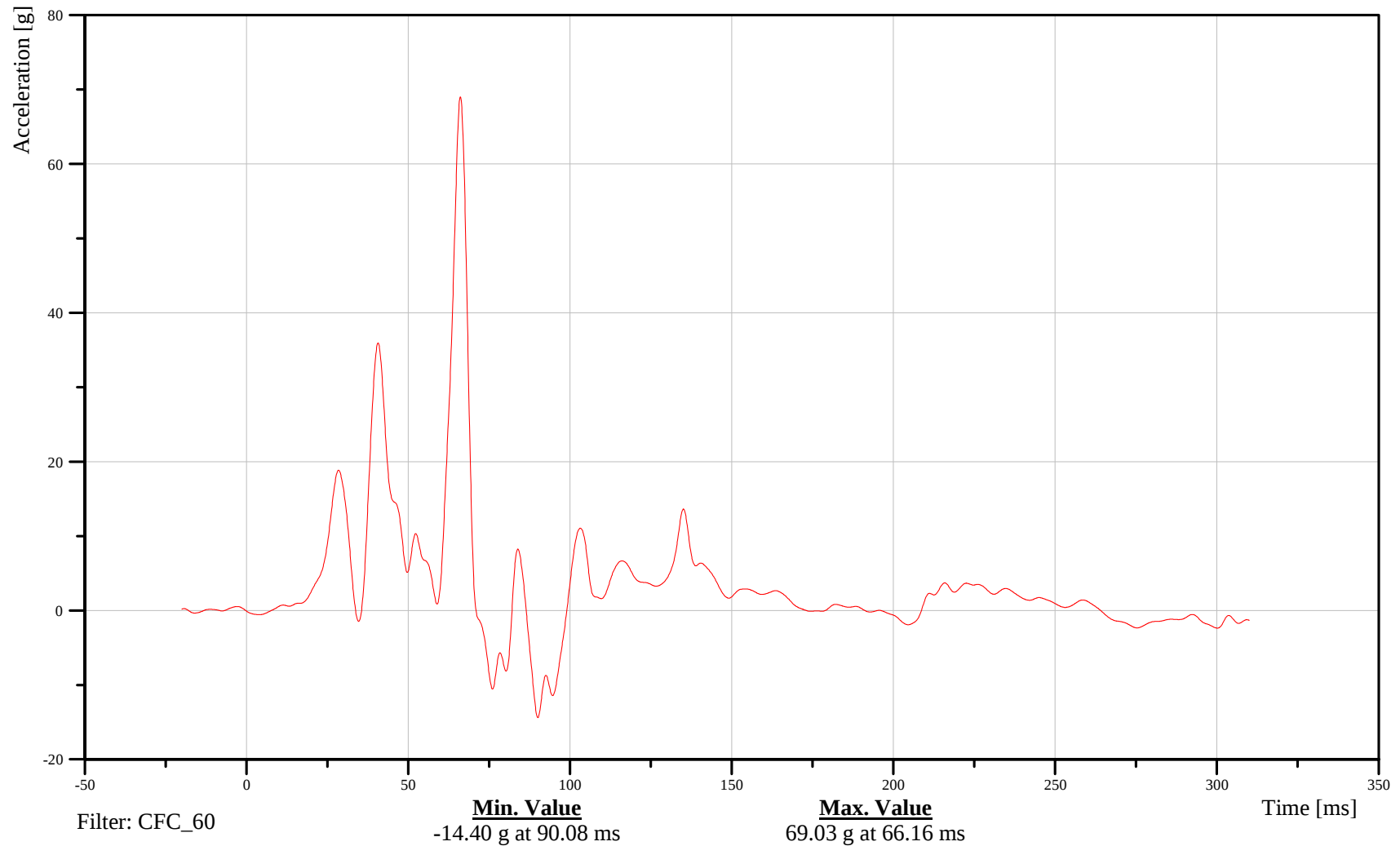
Vehicle Center of Gravity Y-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-140

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

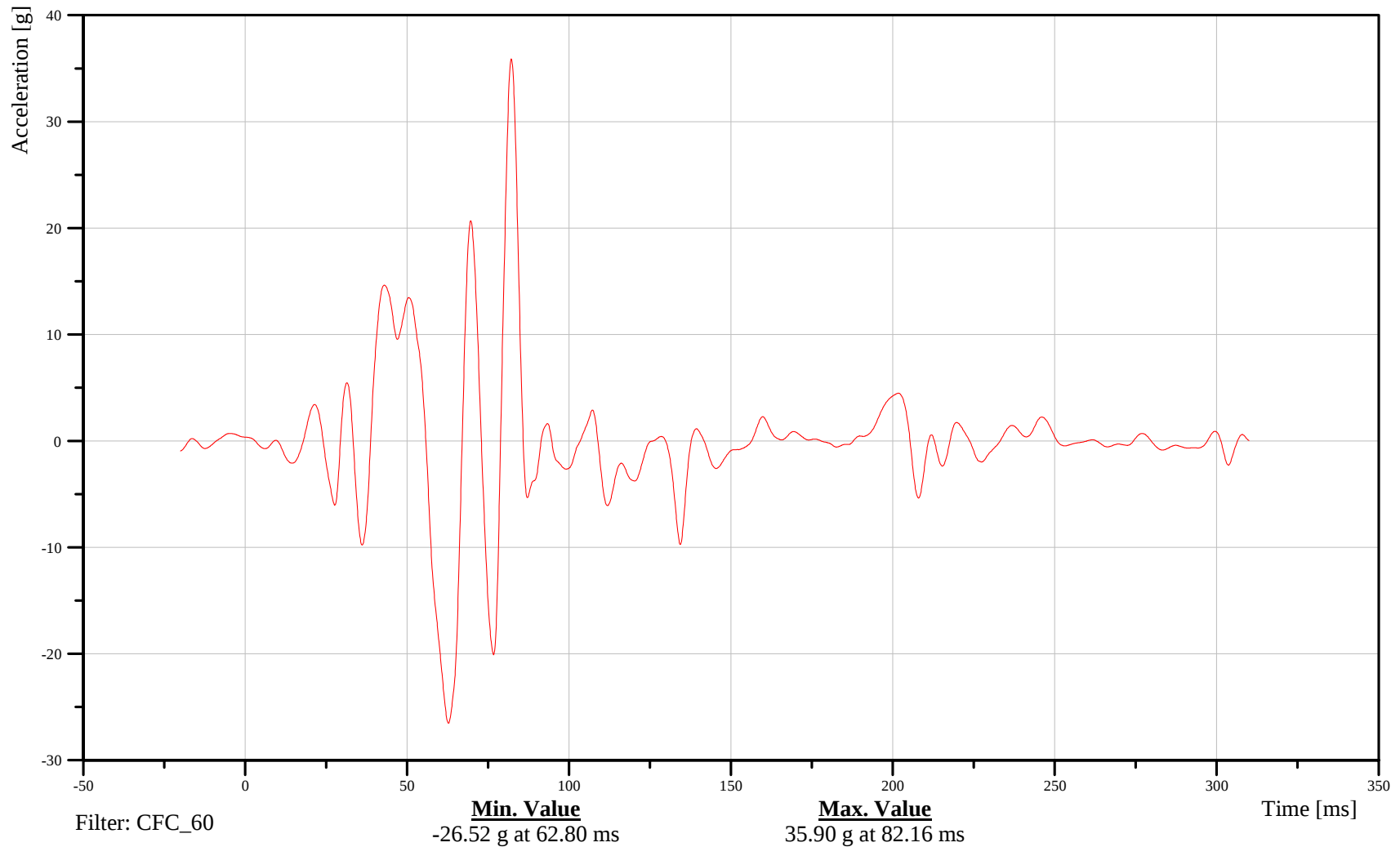
Vehicle Center of Gravity Z-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-141

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

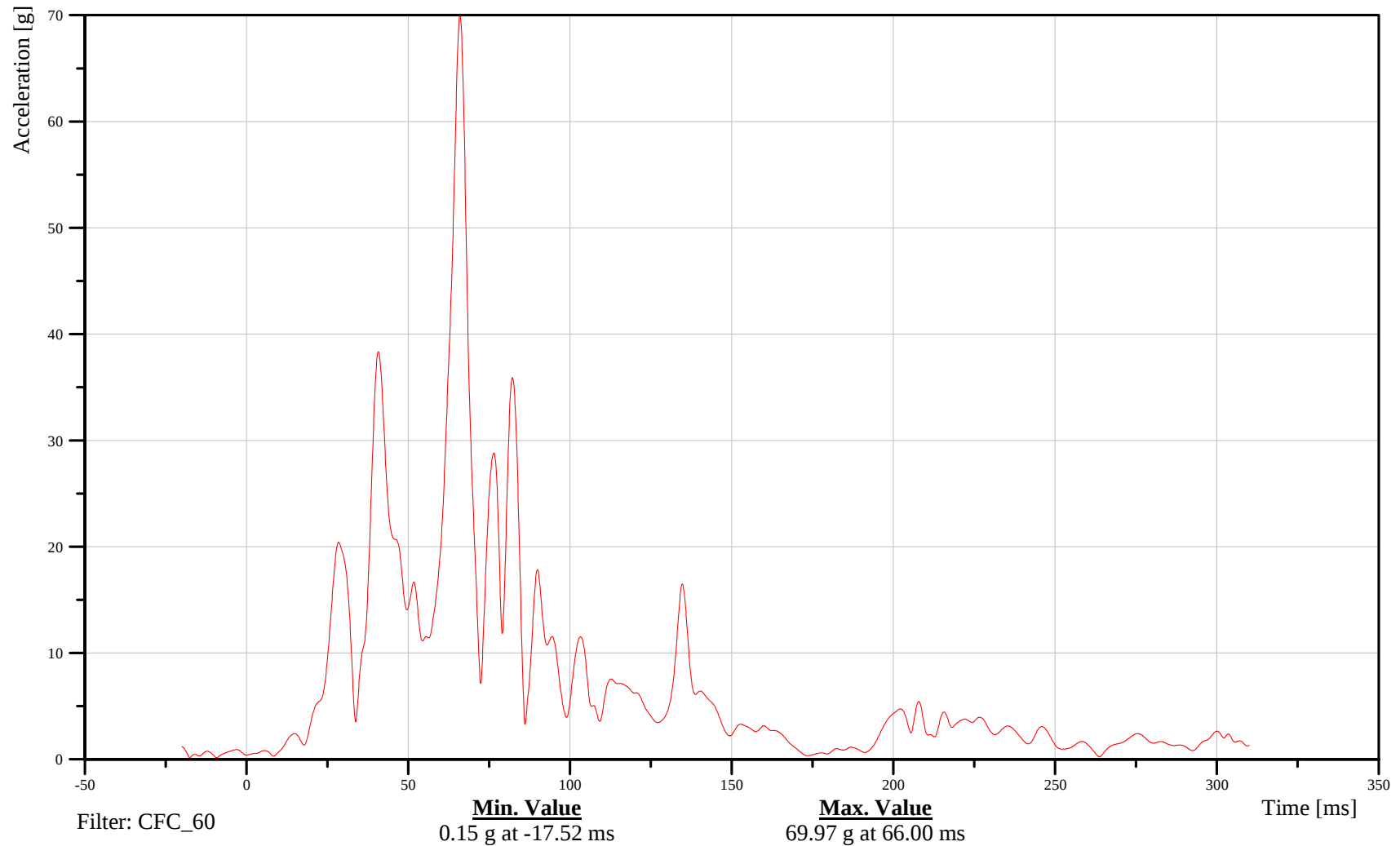
Vehicle Center of Gravity Resultant Acceleration

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-142

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph
Vehicle Front Door Centerline 430 mm Above Ground Y-Axis Acceleration

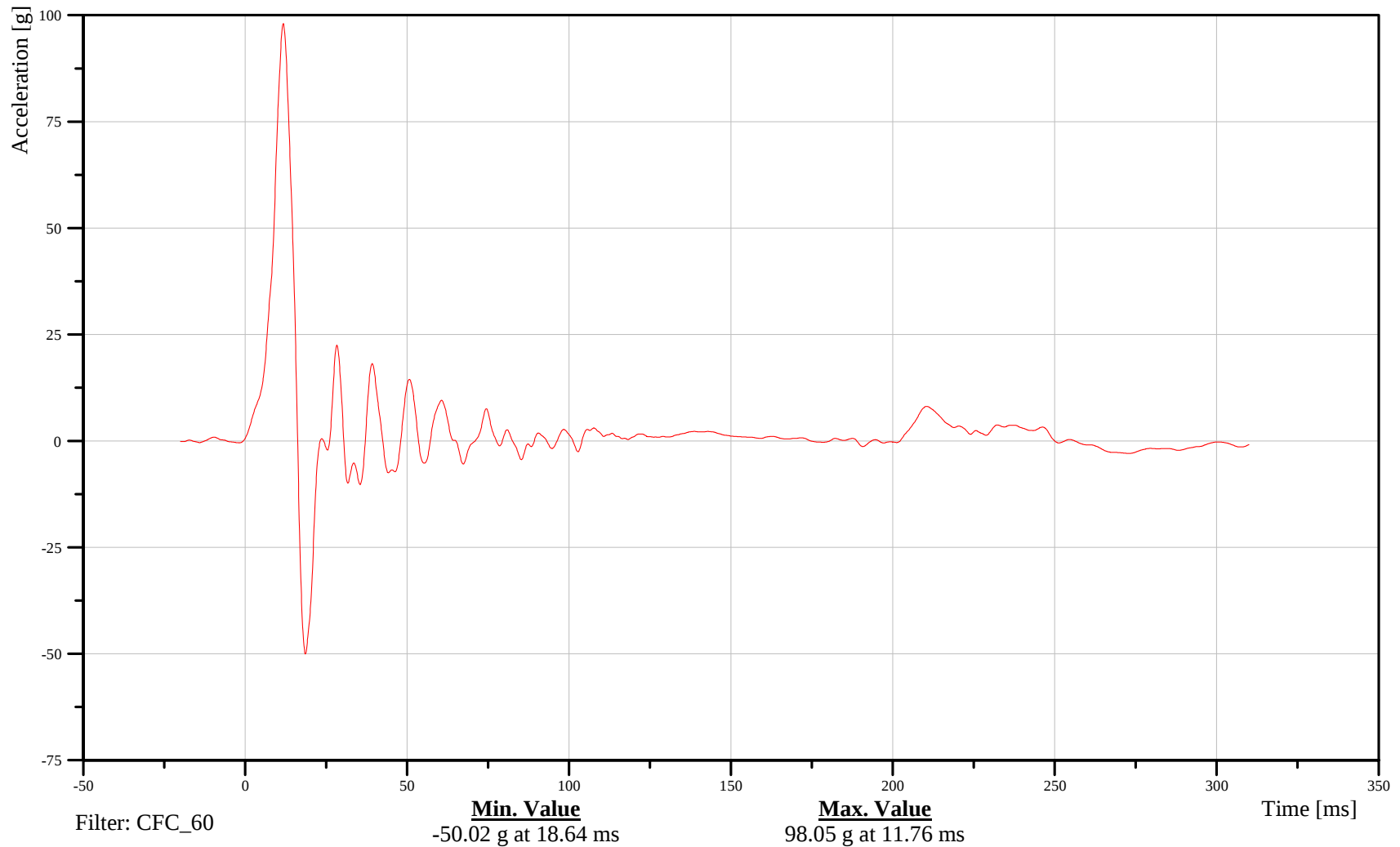
Date: 8/9/2007
Time: 13:13

Customer: VRTC

14DOOR000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-143

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

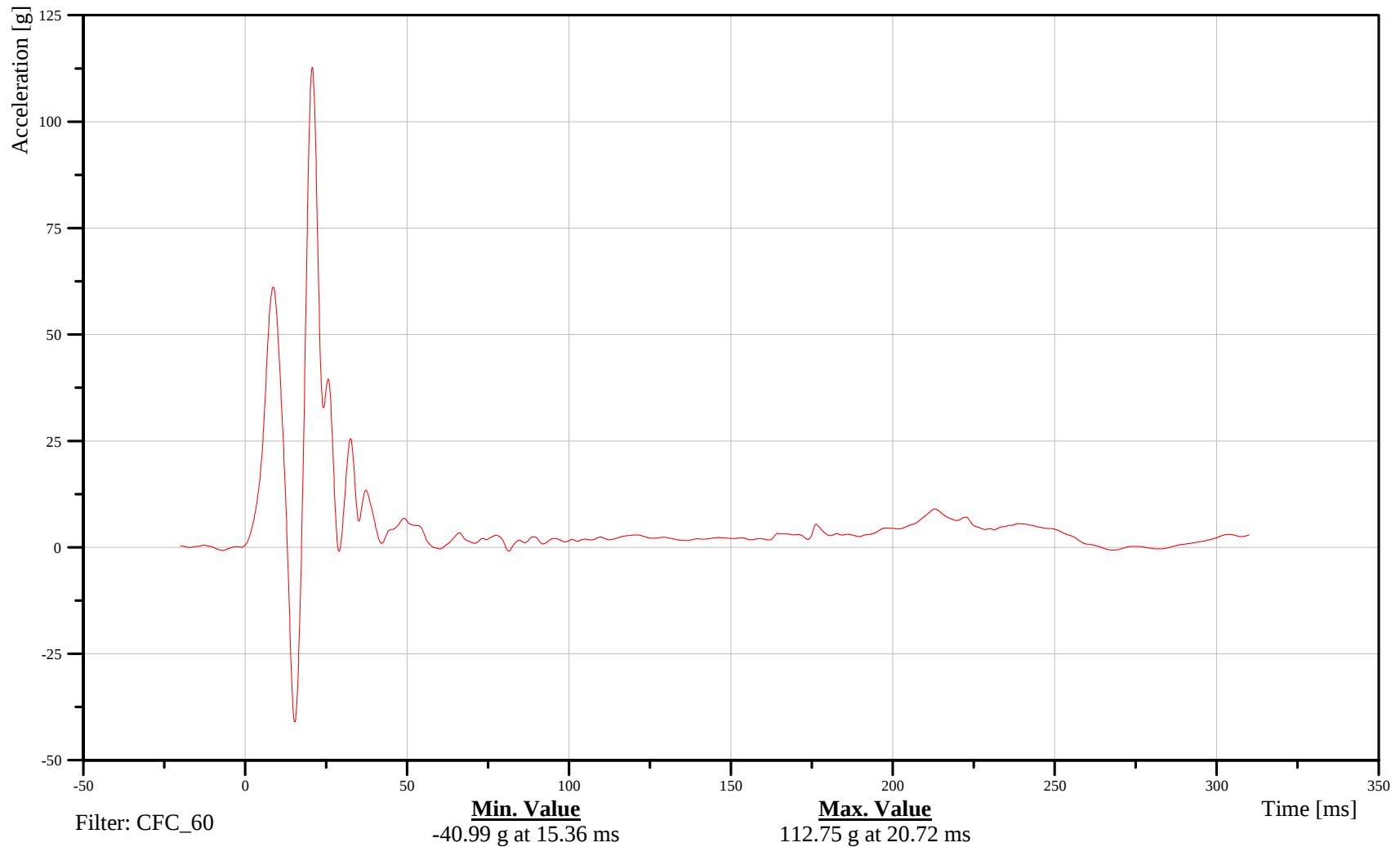
Vehicle Front Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration

Customer: VRTC

14DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-144

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph
Vehicle Front Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration

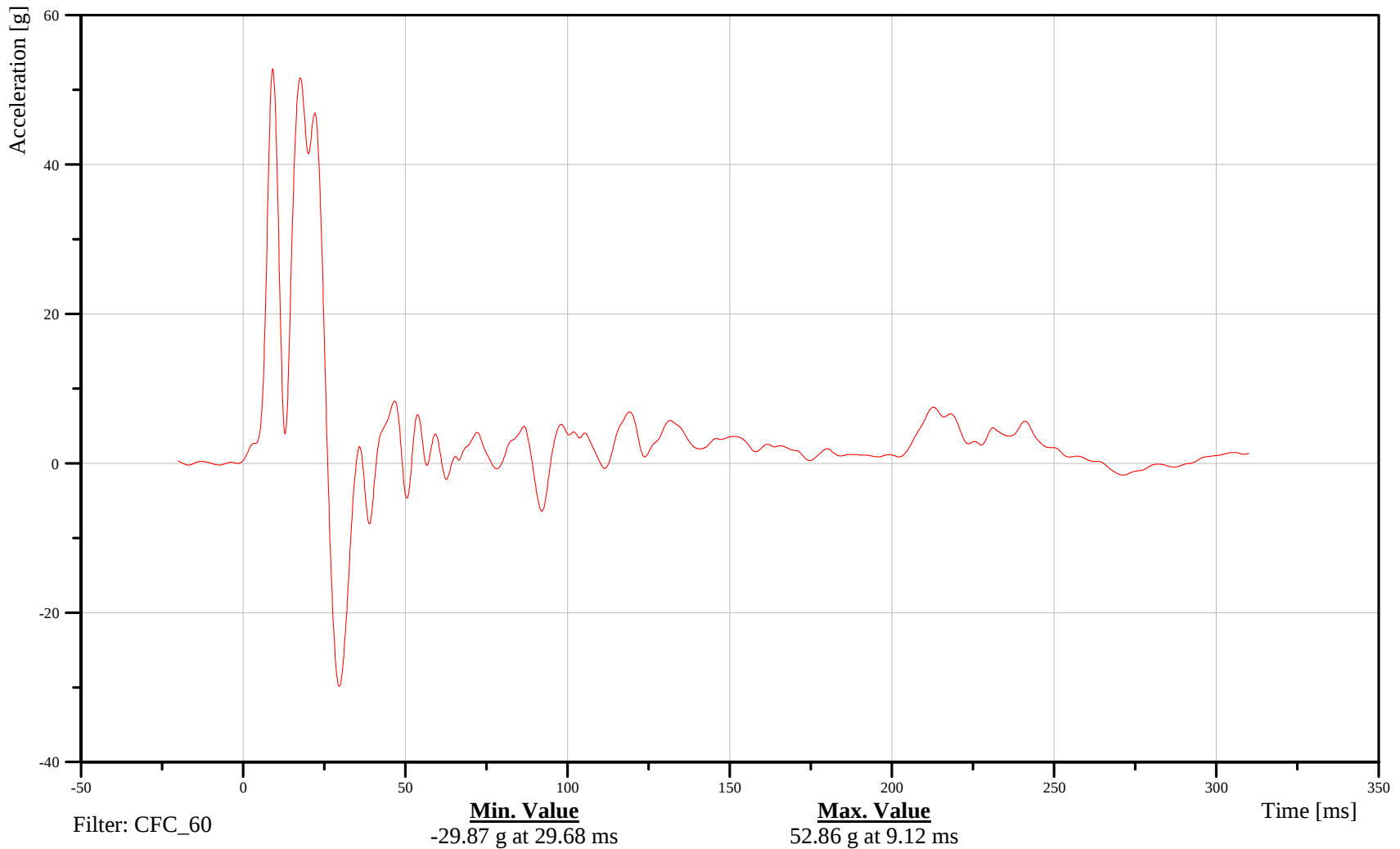
Date: 8/9/2007
Time: 13:13

Customer: VRTC

14DOOR000003ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-145

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

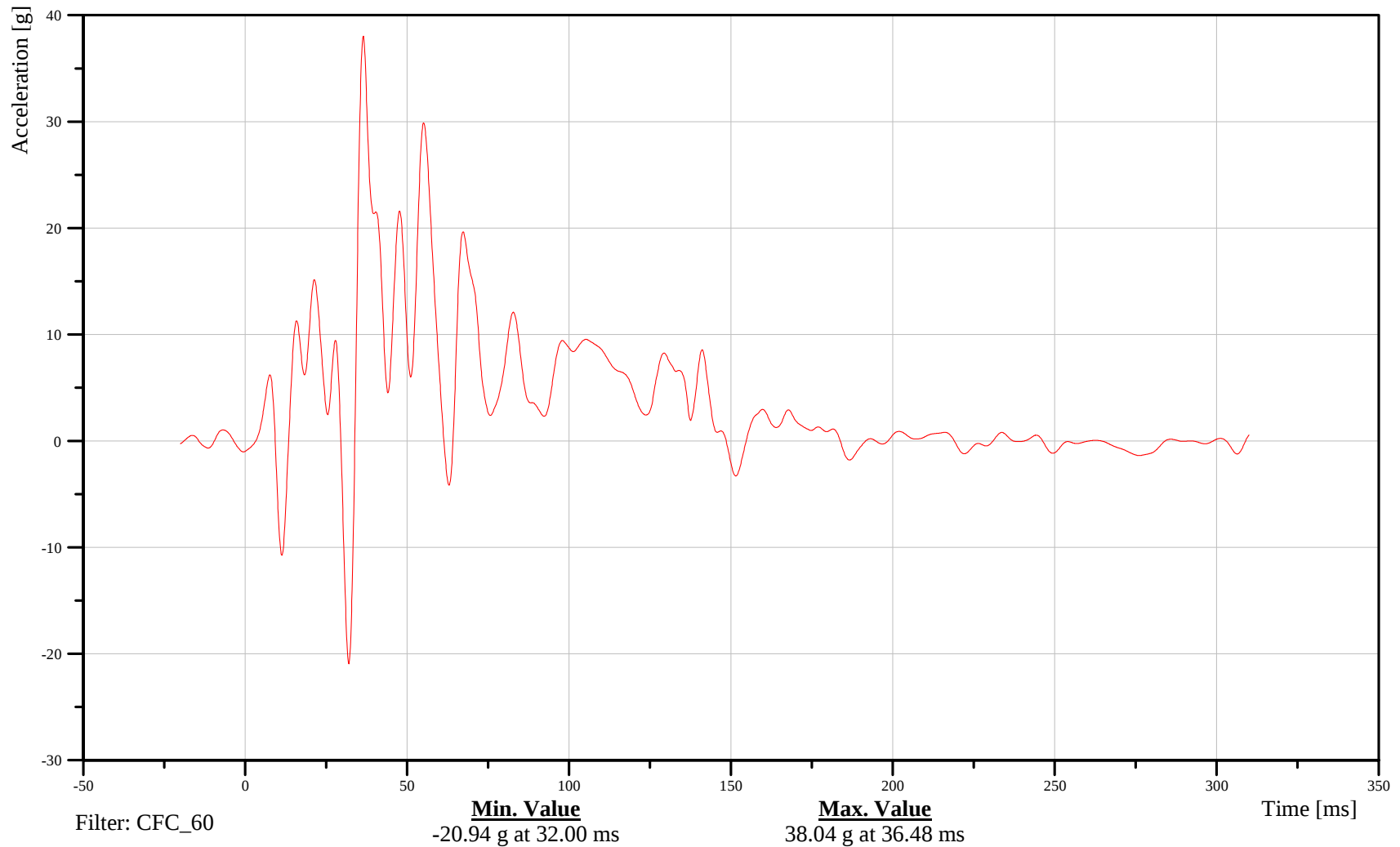
Vehicle Rear Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration

Customer: VRTC

16DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-146

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph
Vehicle Rear Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration

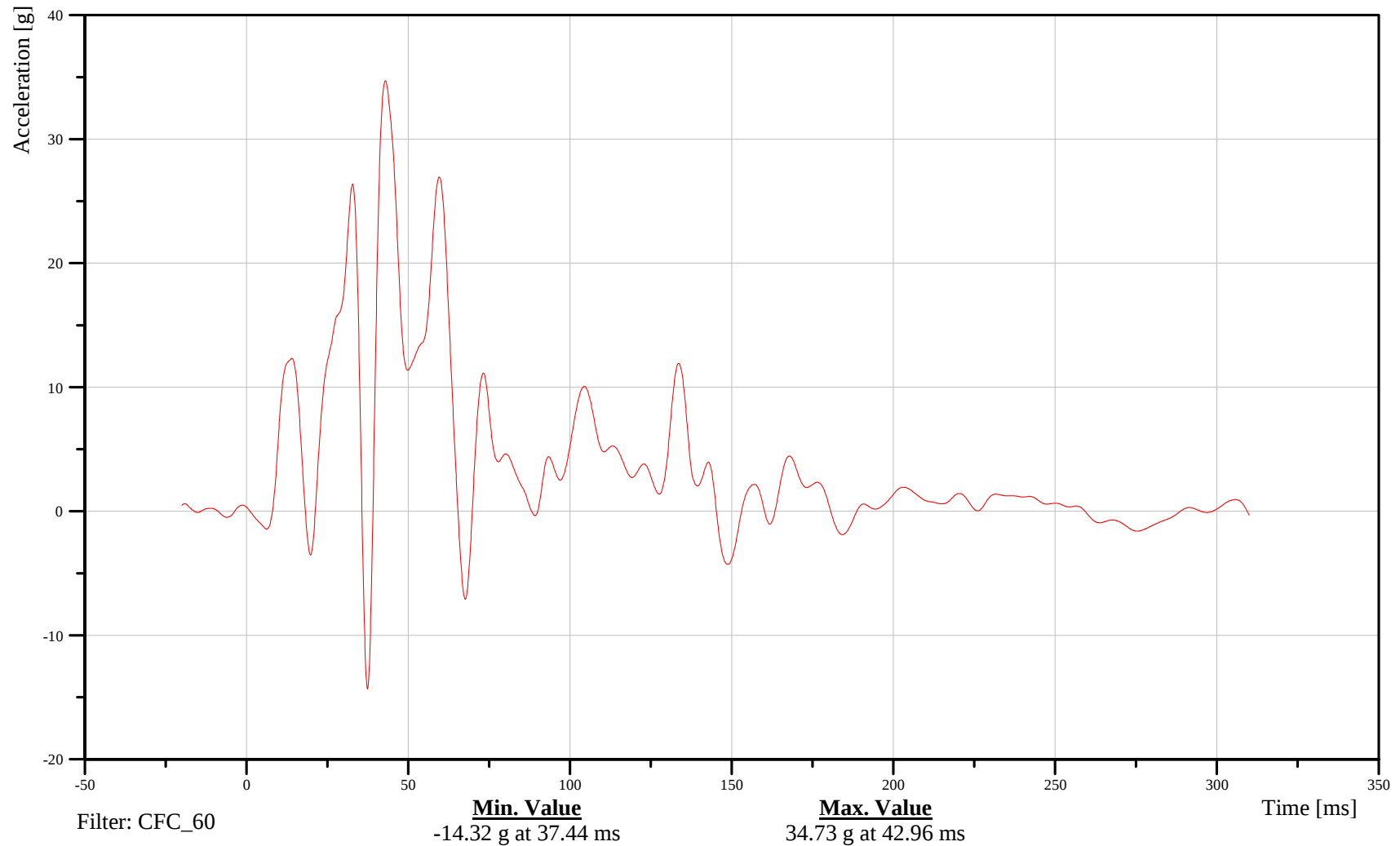
Date: 8/9/2007
Time: 13:13

Customer: VRTC

16DOOR000003ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-147

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

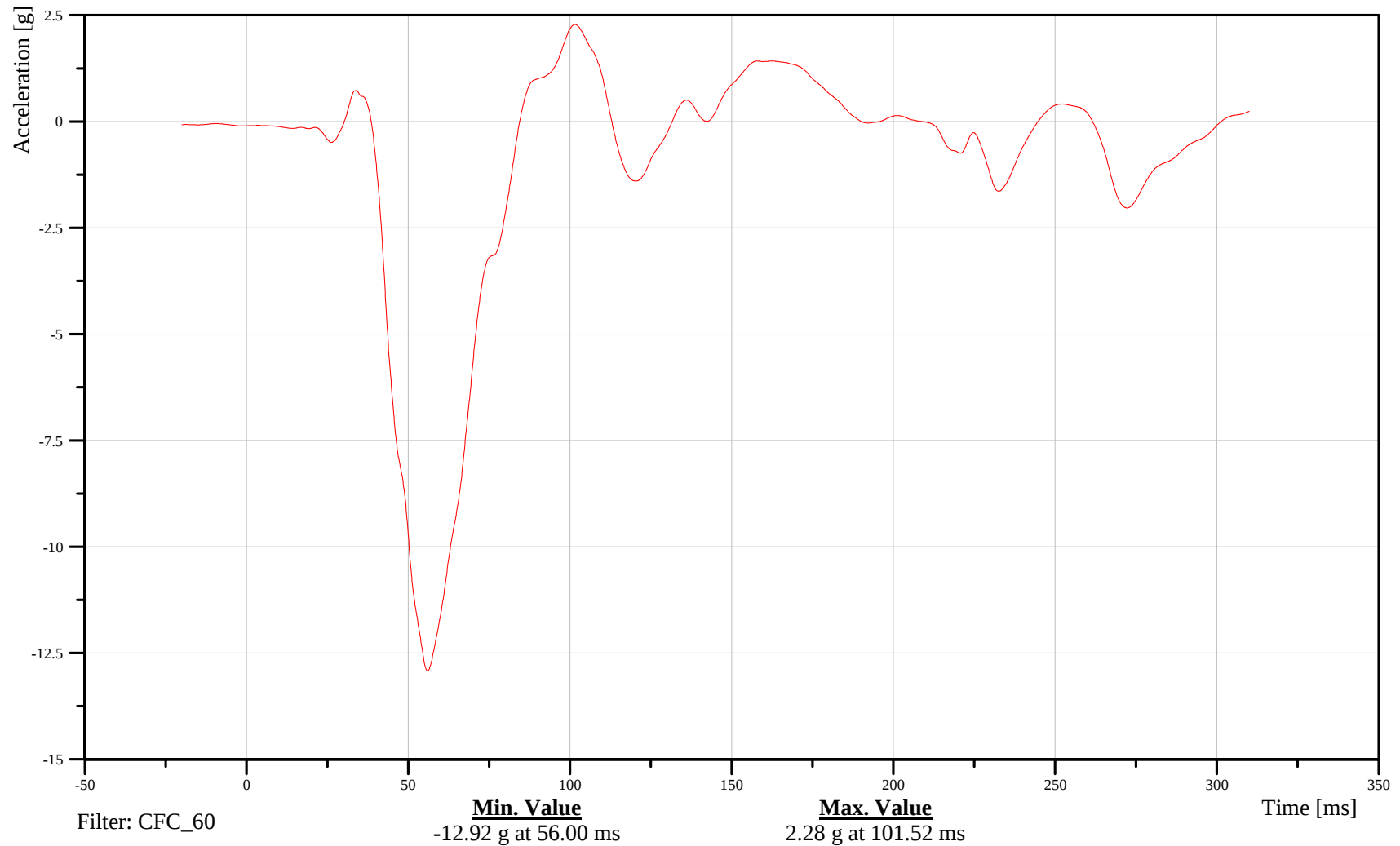
Top of Engine X-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-148

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

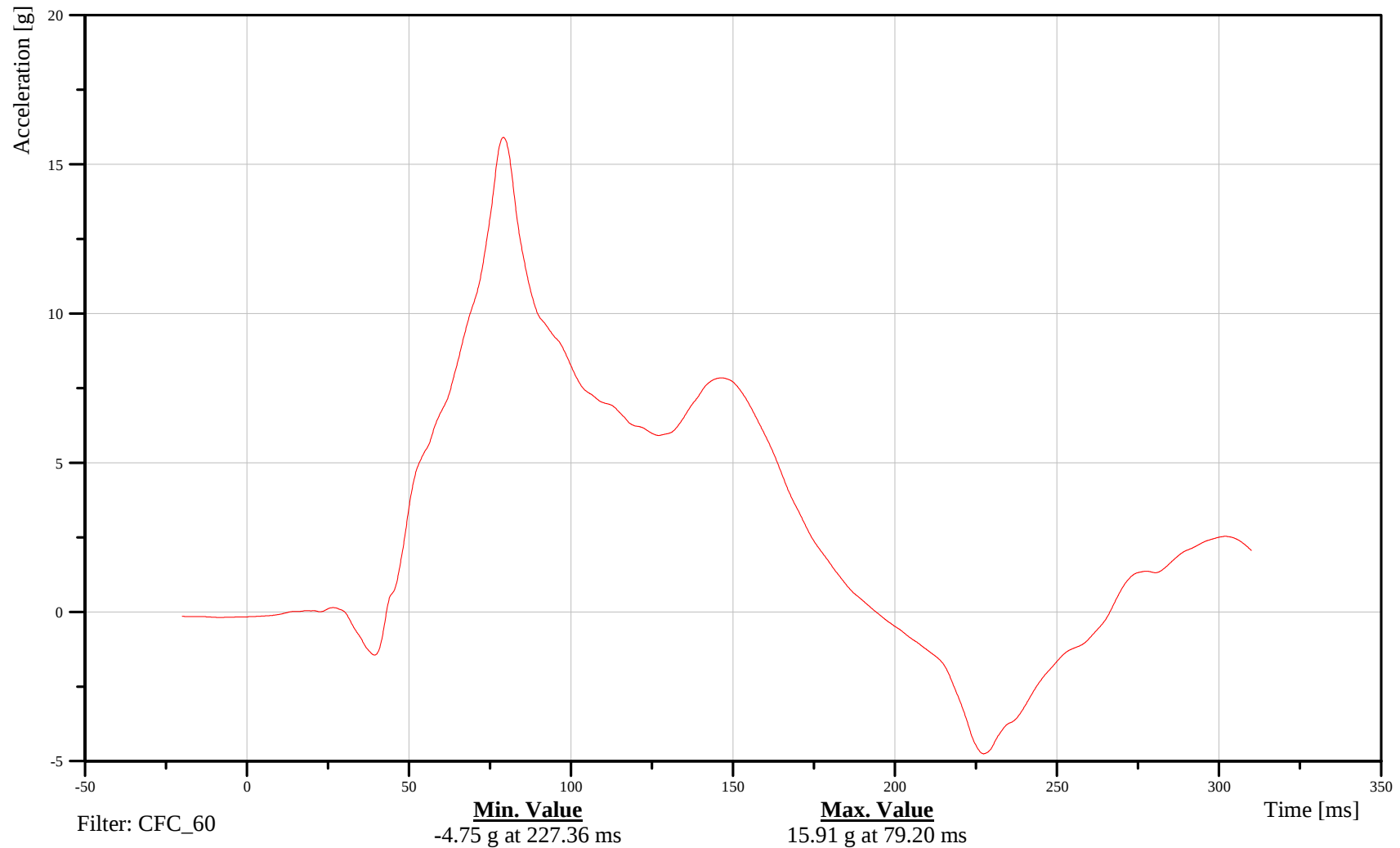
Top of Engine Y-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-149

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

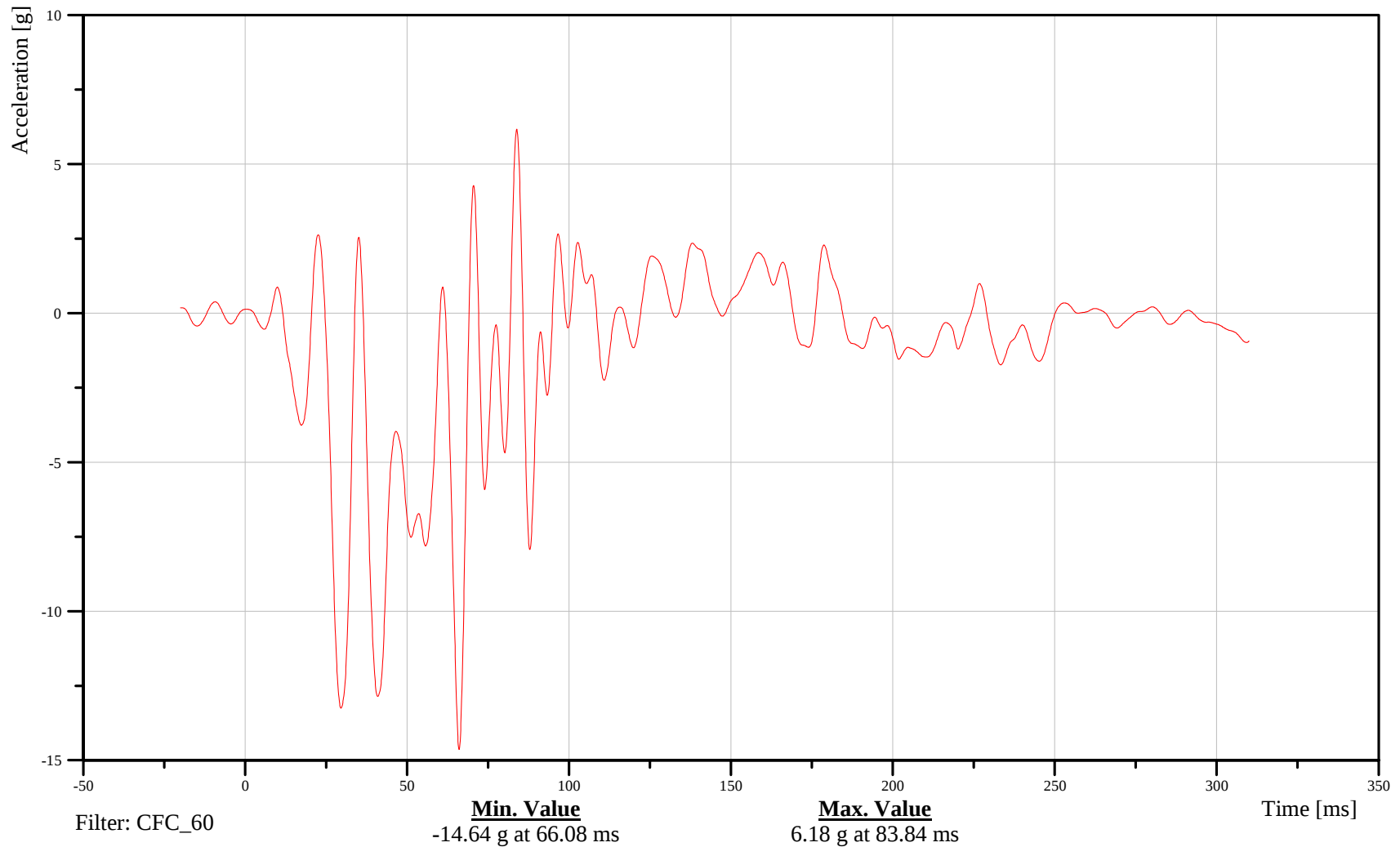
Firewall X-Axis Acceleration

Customer: VRTC

12VEHC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-150

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

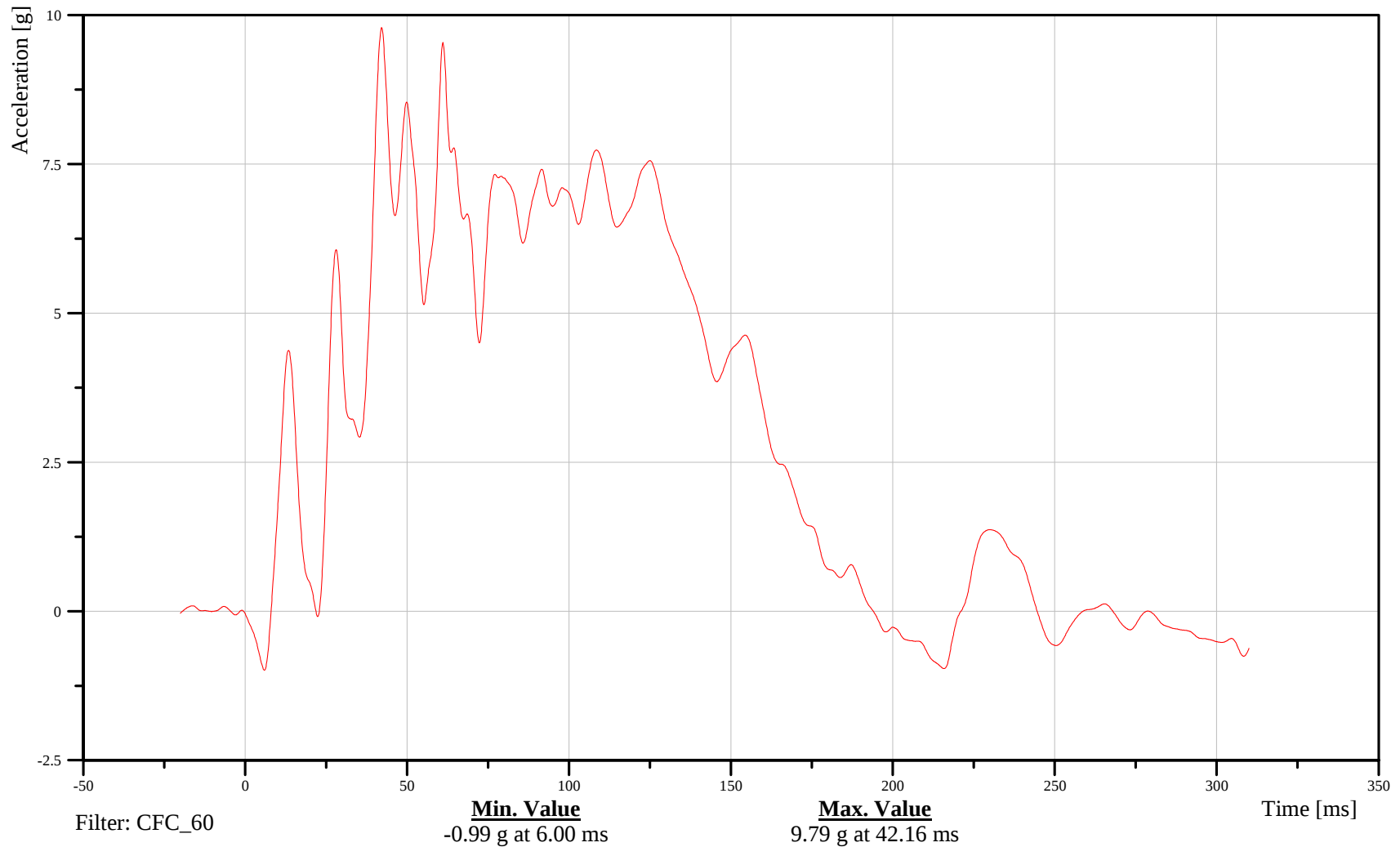
Firewall Y-Axis Acceleration

Customer: VRTC

12VEHC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-151

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

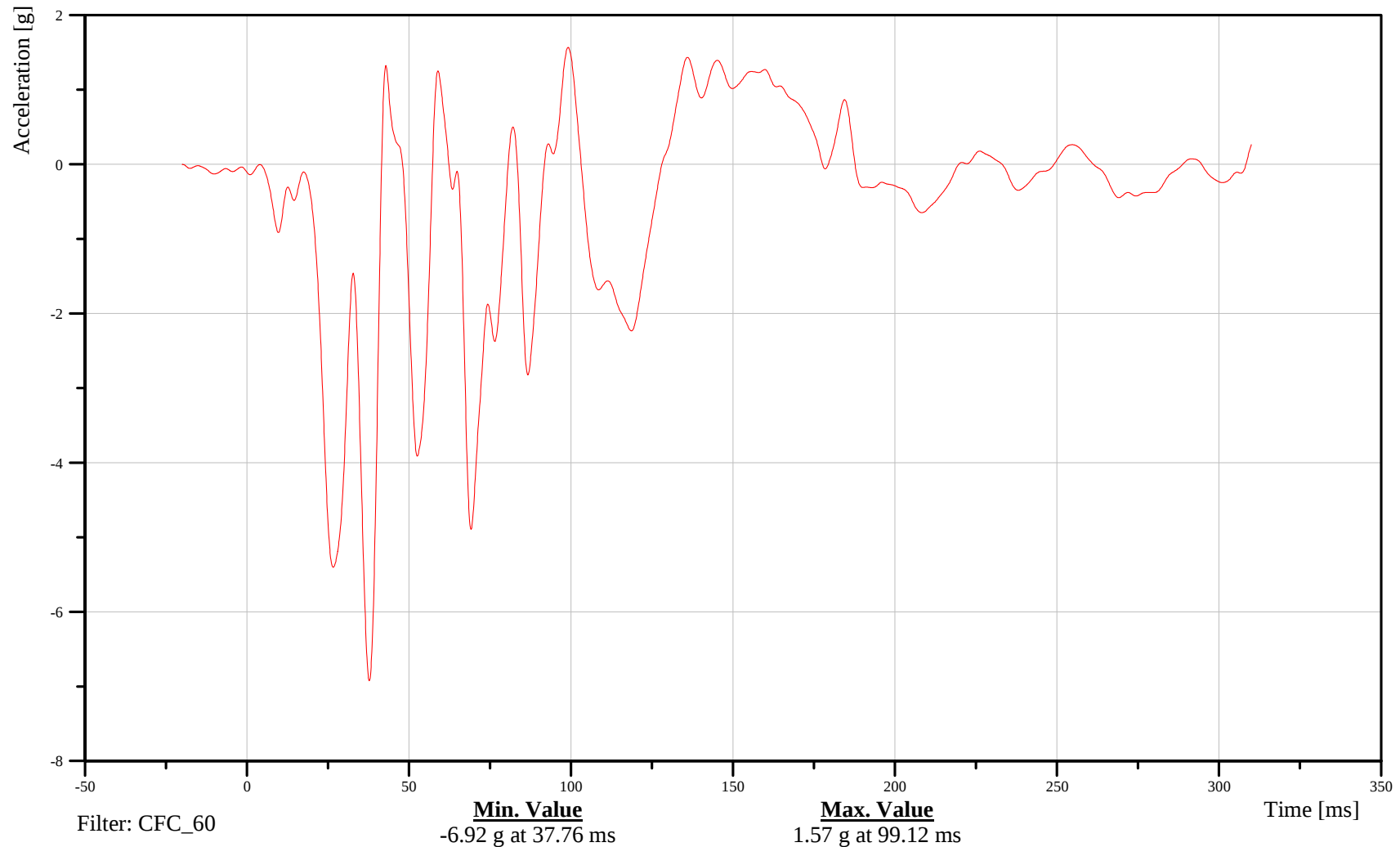
Right Side Roof Rail (in line with impact point) X-Axis Acceleration

Customer: VRTC

13ROOF000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-152

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

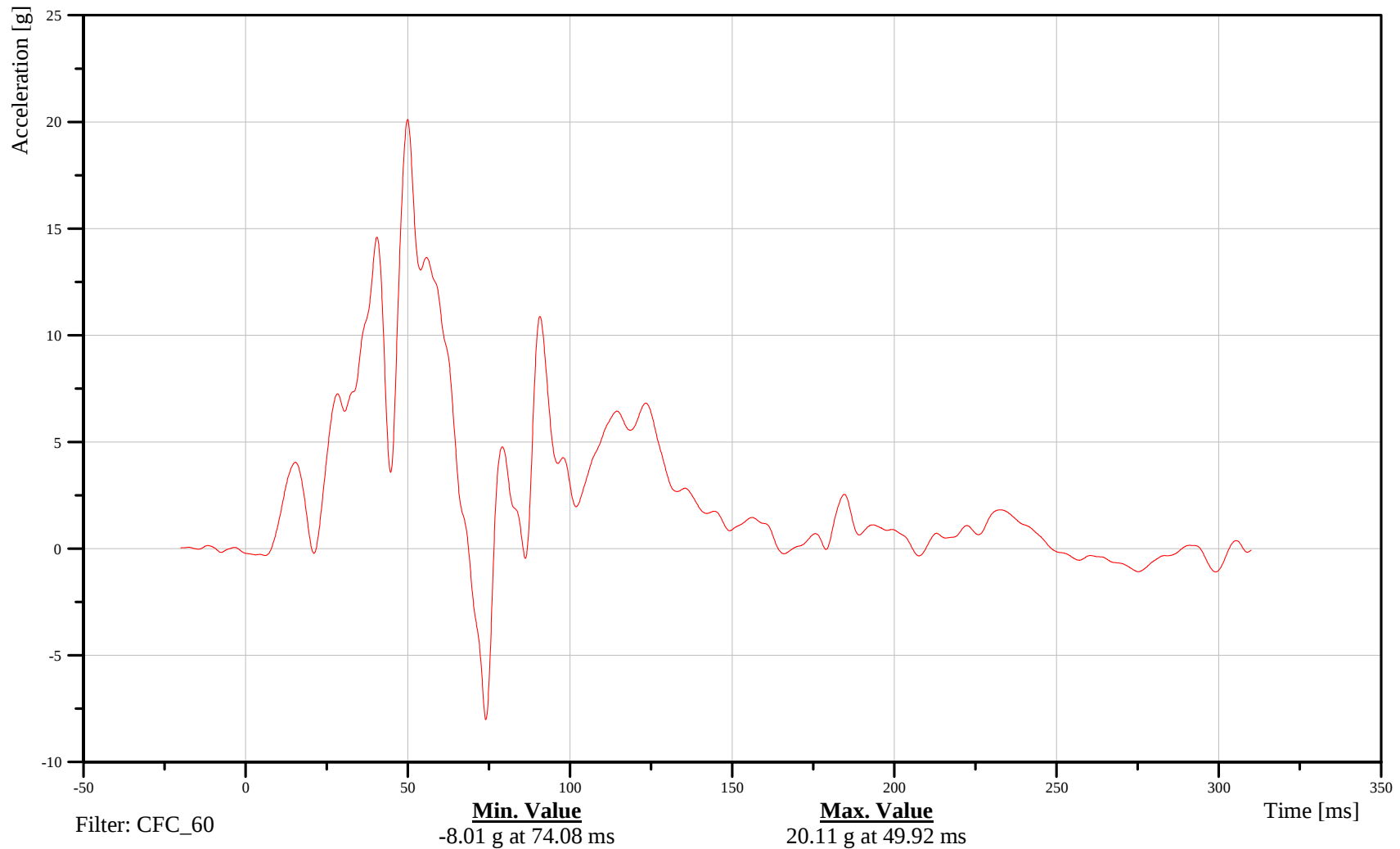
Right Side Roof Rail (in line with impact point) Y-Axis Acceleration

Customer: VRTC

13ROOF000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-153

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

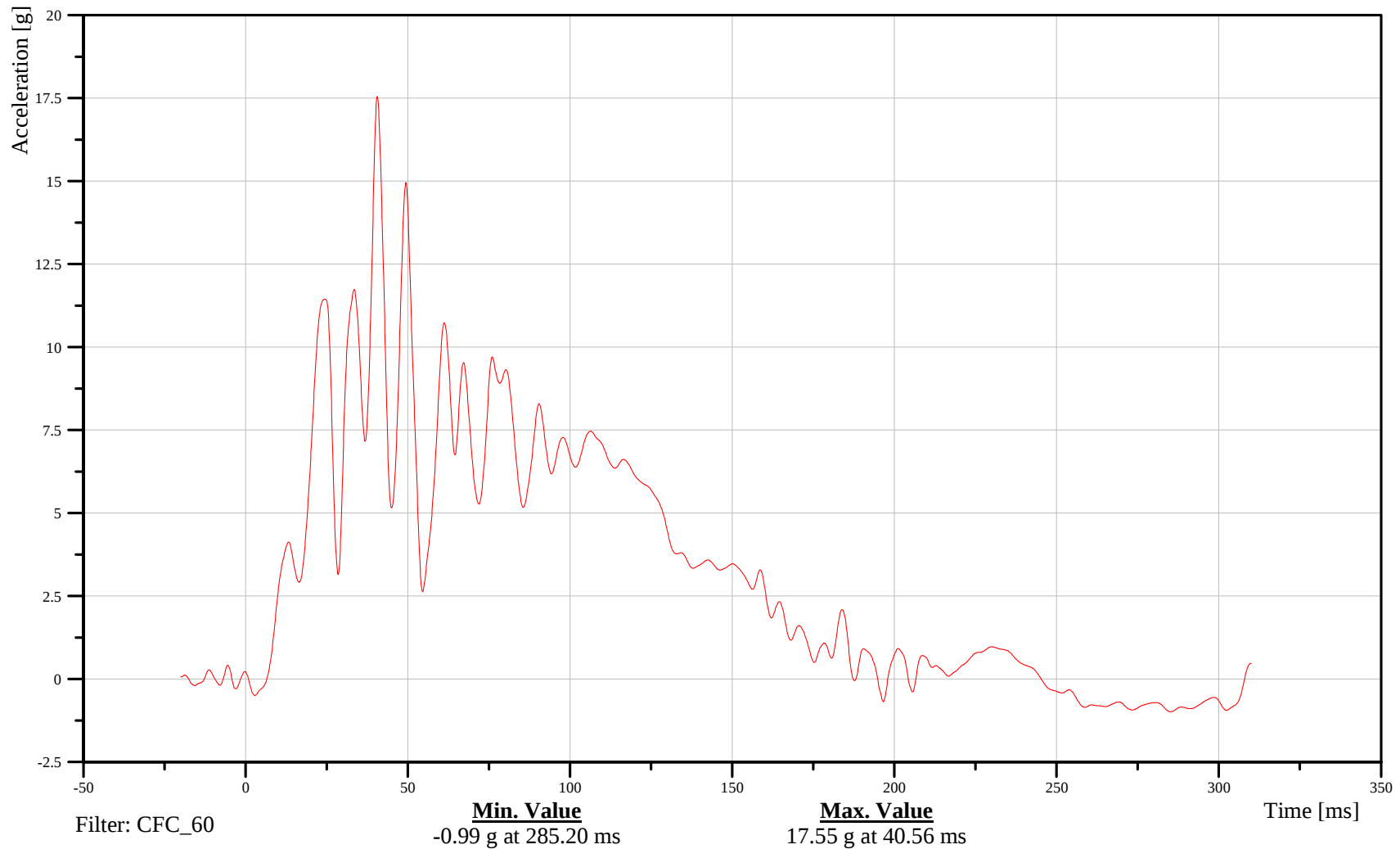
Right Side Sill (in-line with impact location) Y-Axis Acceleration

Customer: VRTC

13SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-154

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

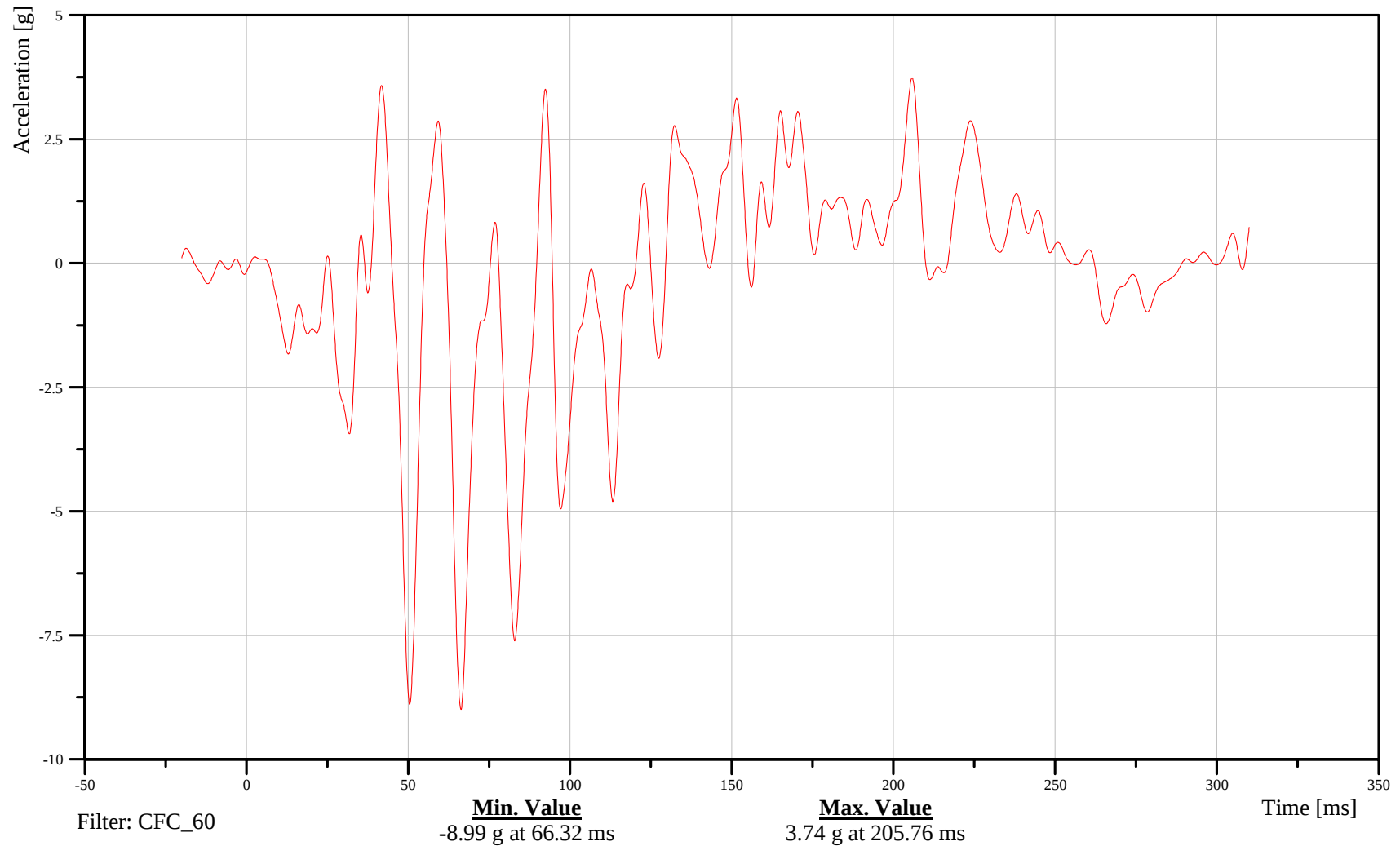
Rear Deck Behind Rear Axle X-Axis Acceleration

Customer: VRTC

18DECK000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-155

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

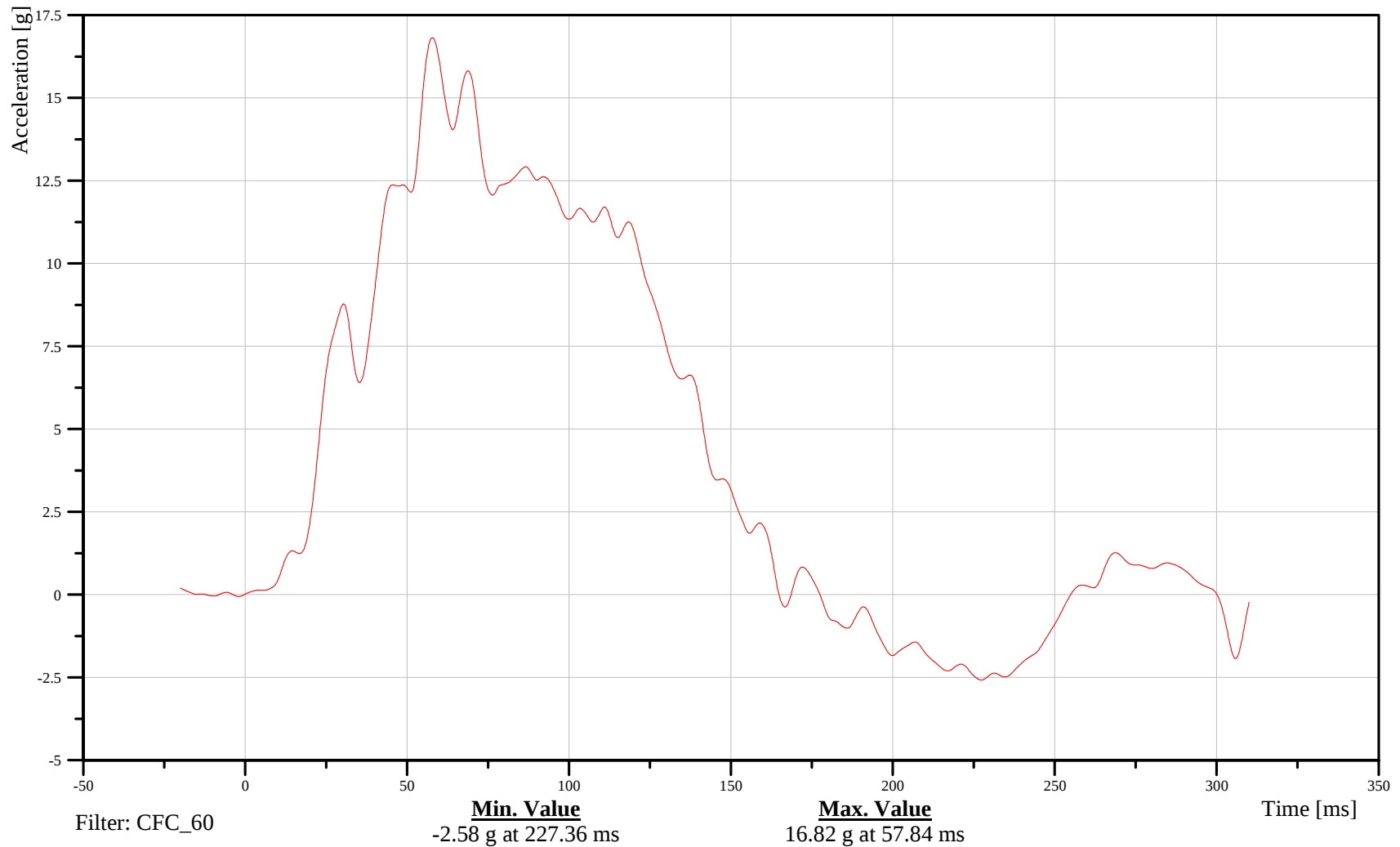
Rear Deck Behind Rear Axle Y-Axis Acceleration

Customer: VRTC

18DECK000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-156

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

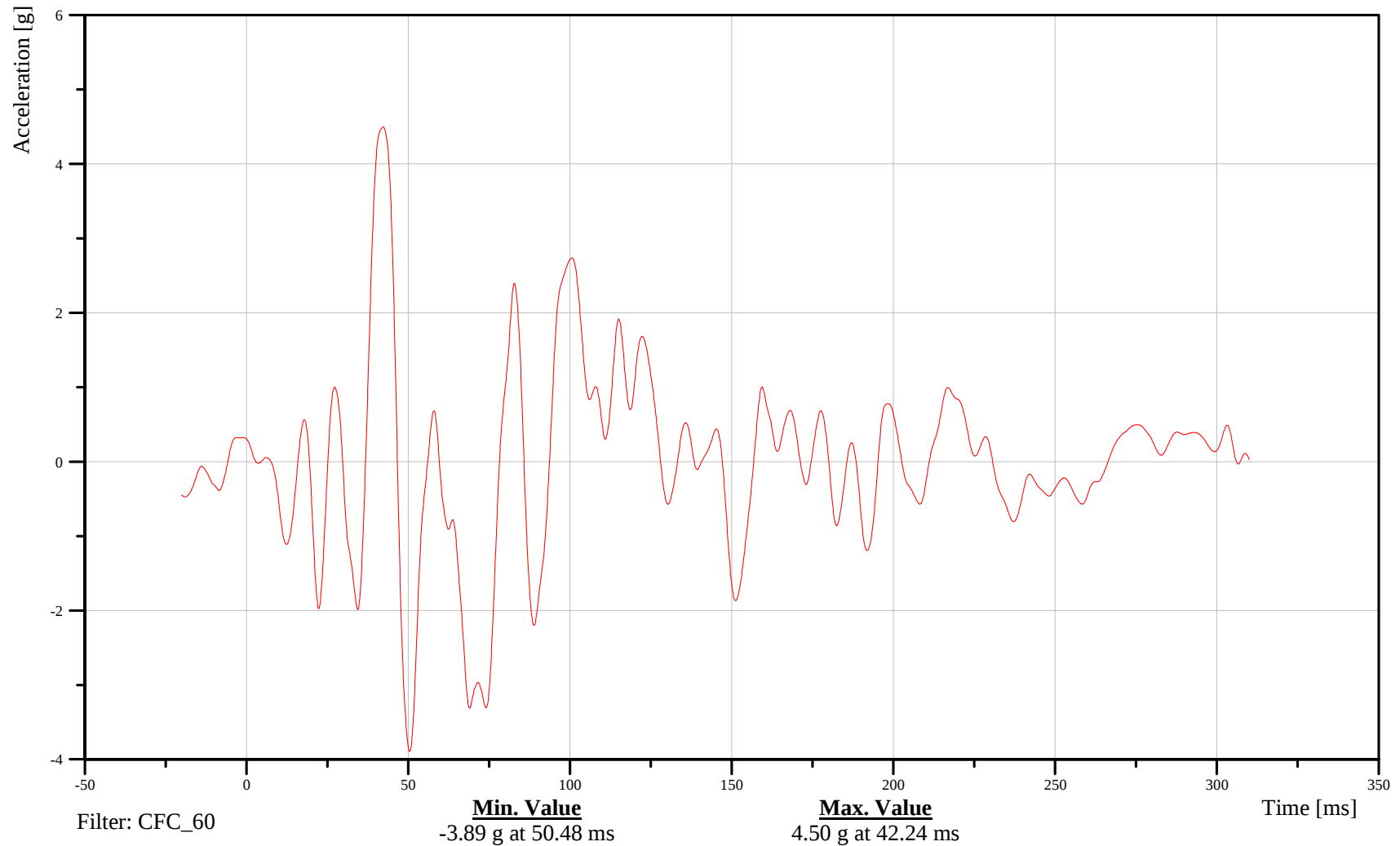
Rear Deck Behind Rear Axle Z-Axis Acceleration

Customer: VRTC

18DECK000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-157

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

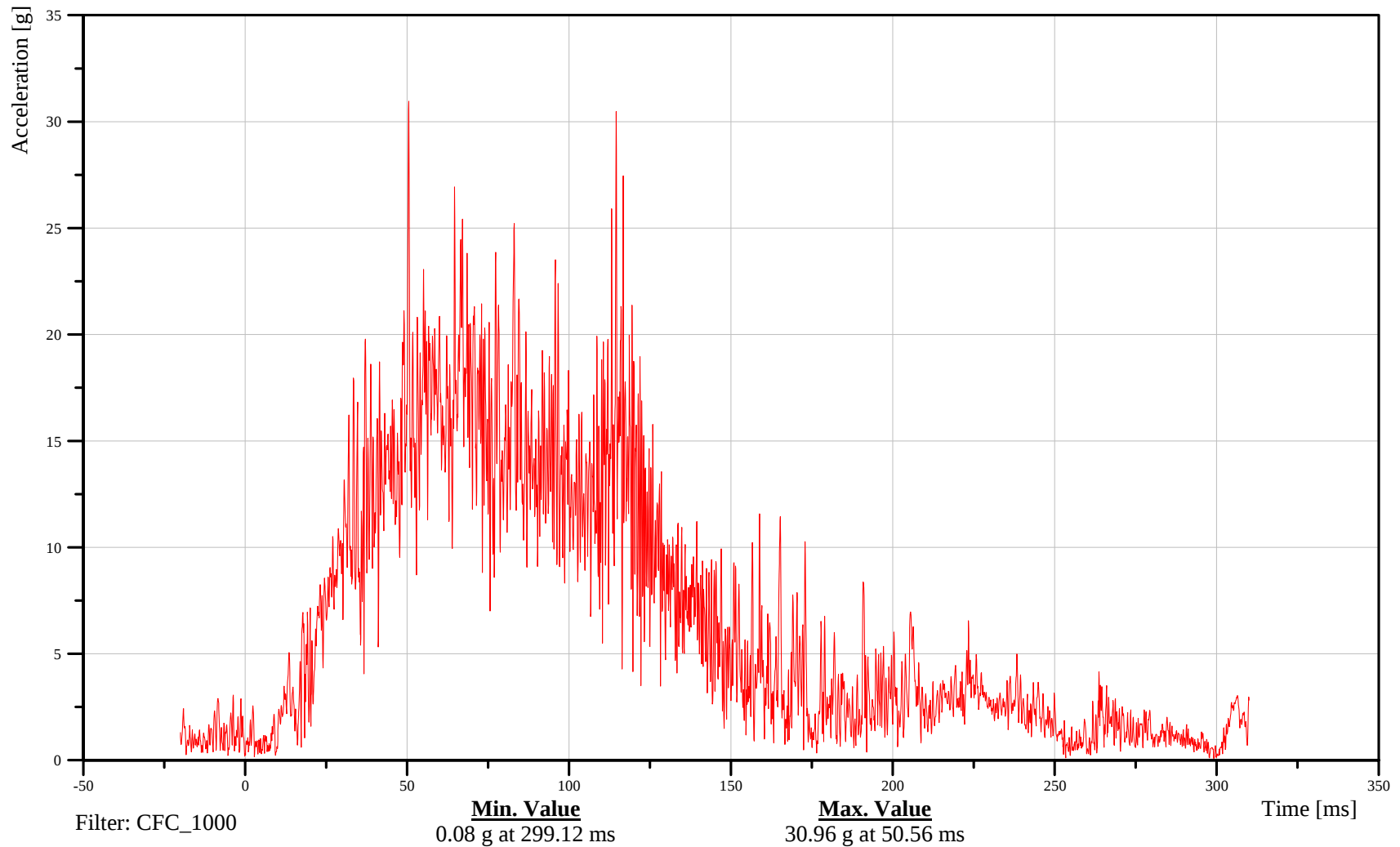
Rear Deck Behind Rear Axle Resultant Acceleration

Customer: VRTC

18DECK000000ACRA

TRC Inc. Test Lab: CTF

Test Number: 070809



B-158

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

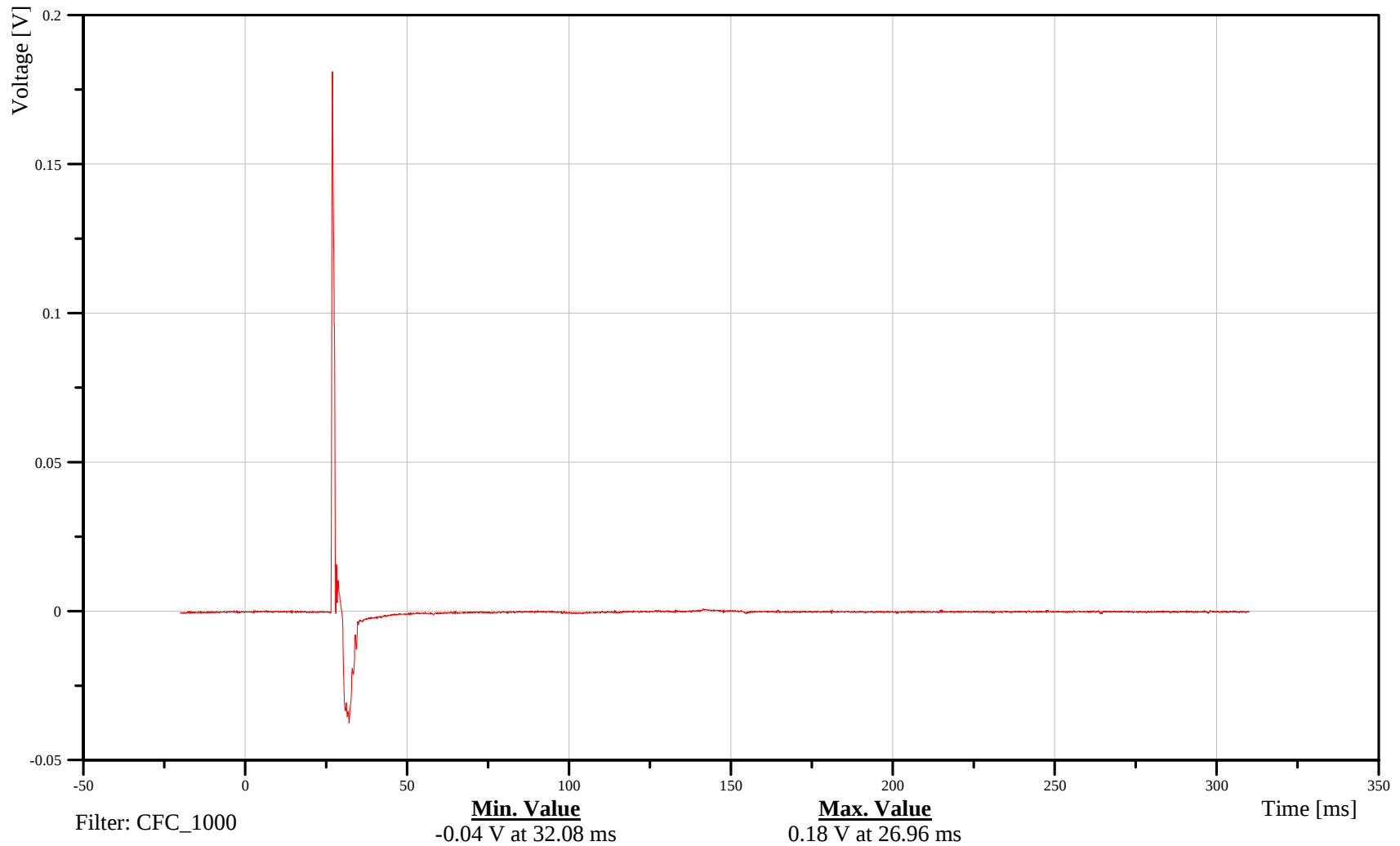
Driver Side Airbag Inductor

Customer: VRTC

11AIRBMILE00EV0A

TRC Inc. Test Lab: CTF

Test Number: 070809



B-159

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

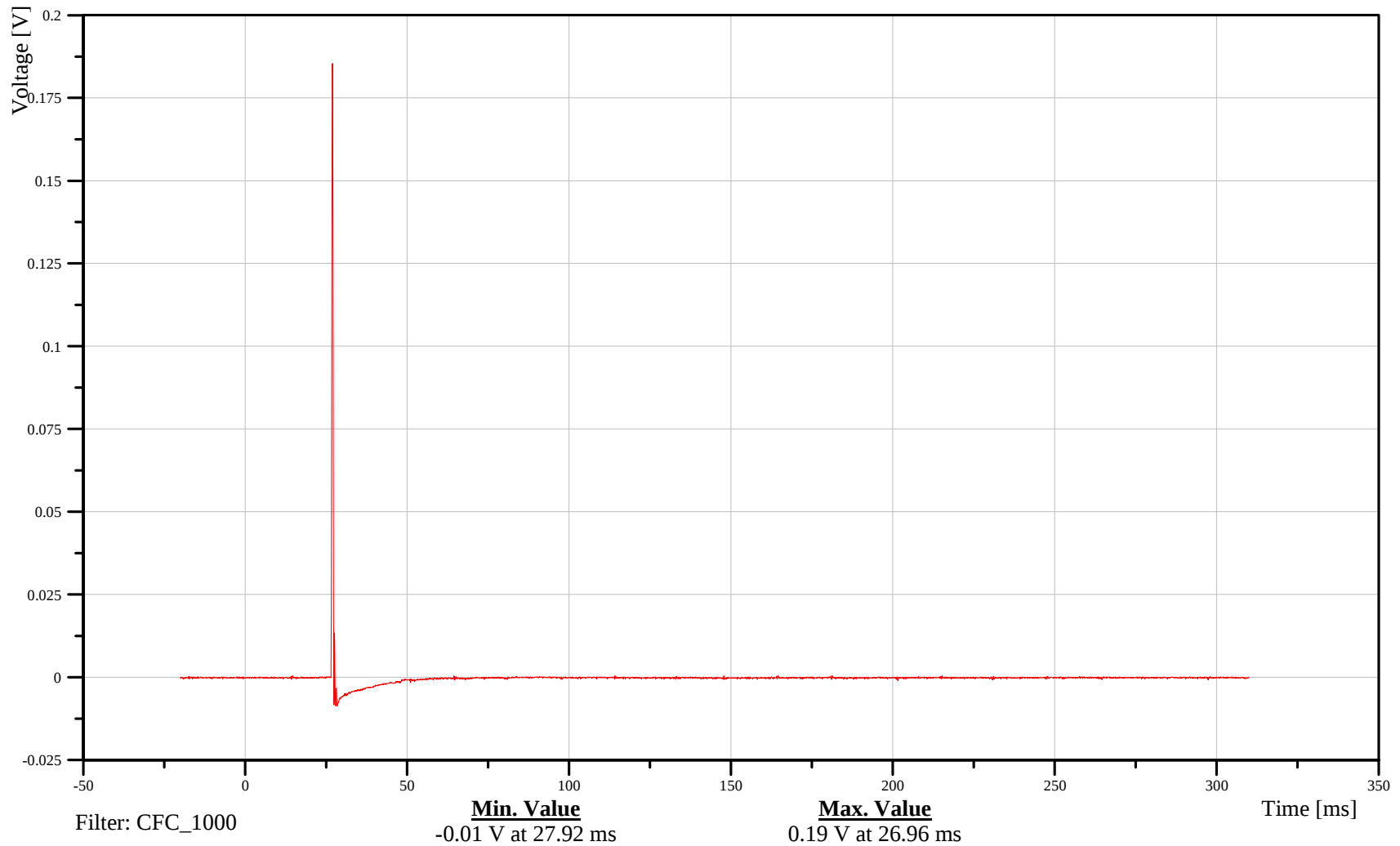
Driver Side Curtain Inductor

Customer: VRTC

11AIRBTPL00EV0A

TRC Inc. Test Lab: CTF

Test Number: 070809



B-160

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

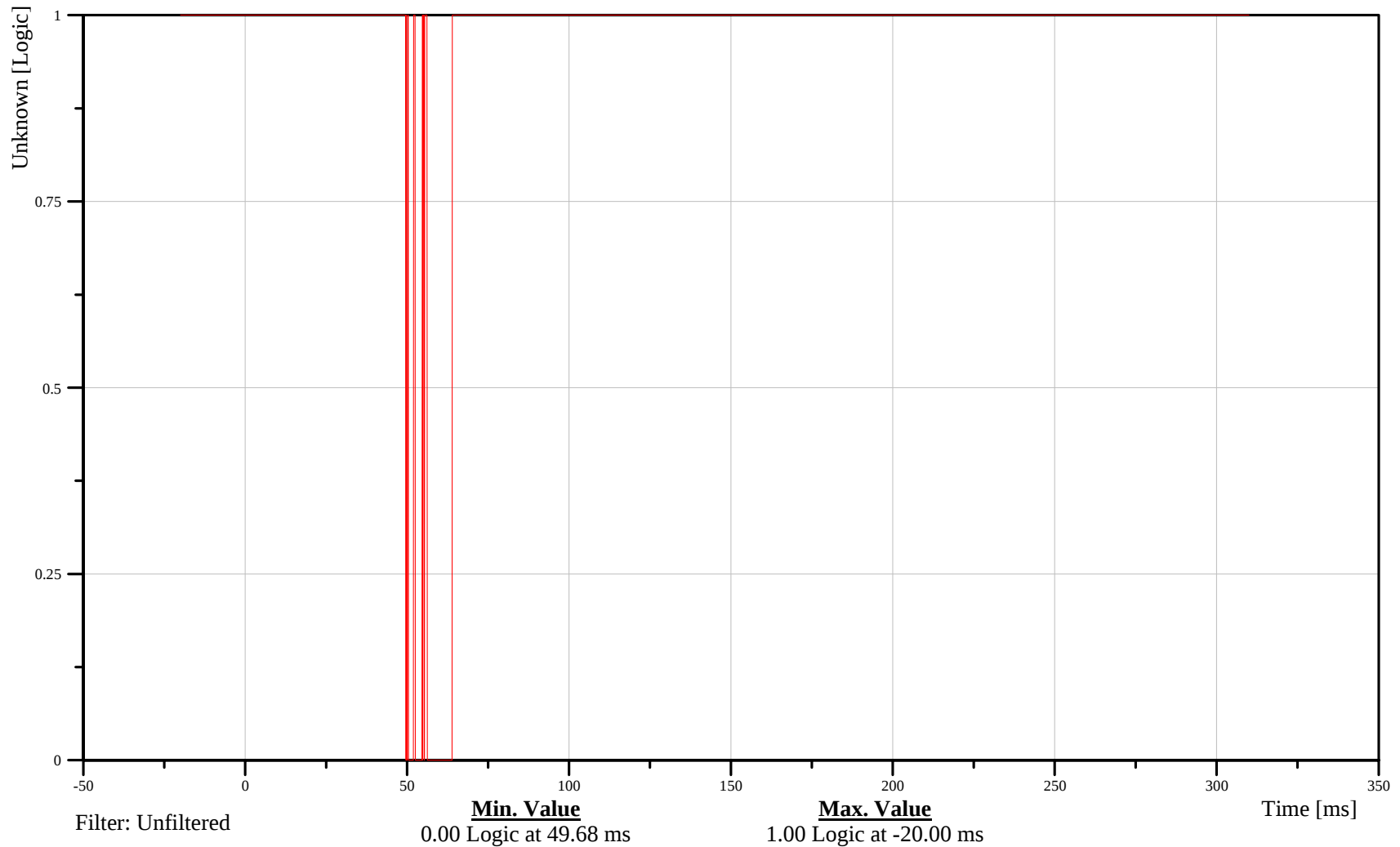
Head Contact Switch

Customer: VRTC

11CONT000001VO00

TRC Inc. Test Lab: CTF

Test Number: 070809



B-161

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

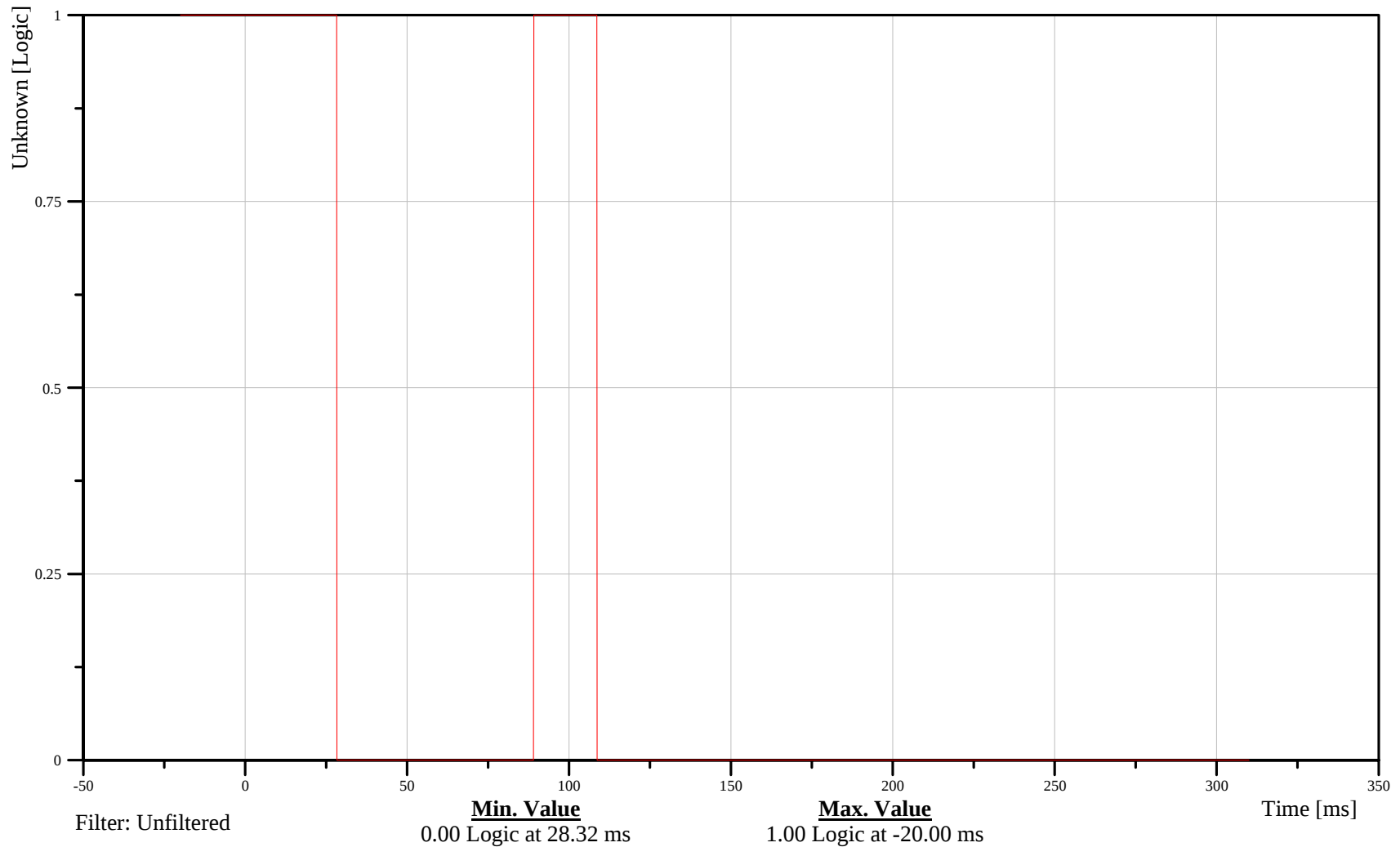
Shoulder Contact Switch

Customer: VRTC

11CONT000002VO00

TRC Inc. Test Lab: CTF

Test Number: 070809



B-162

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

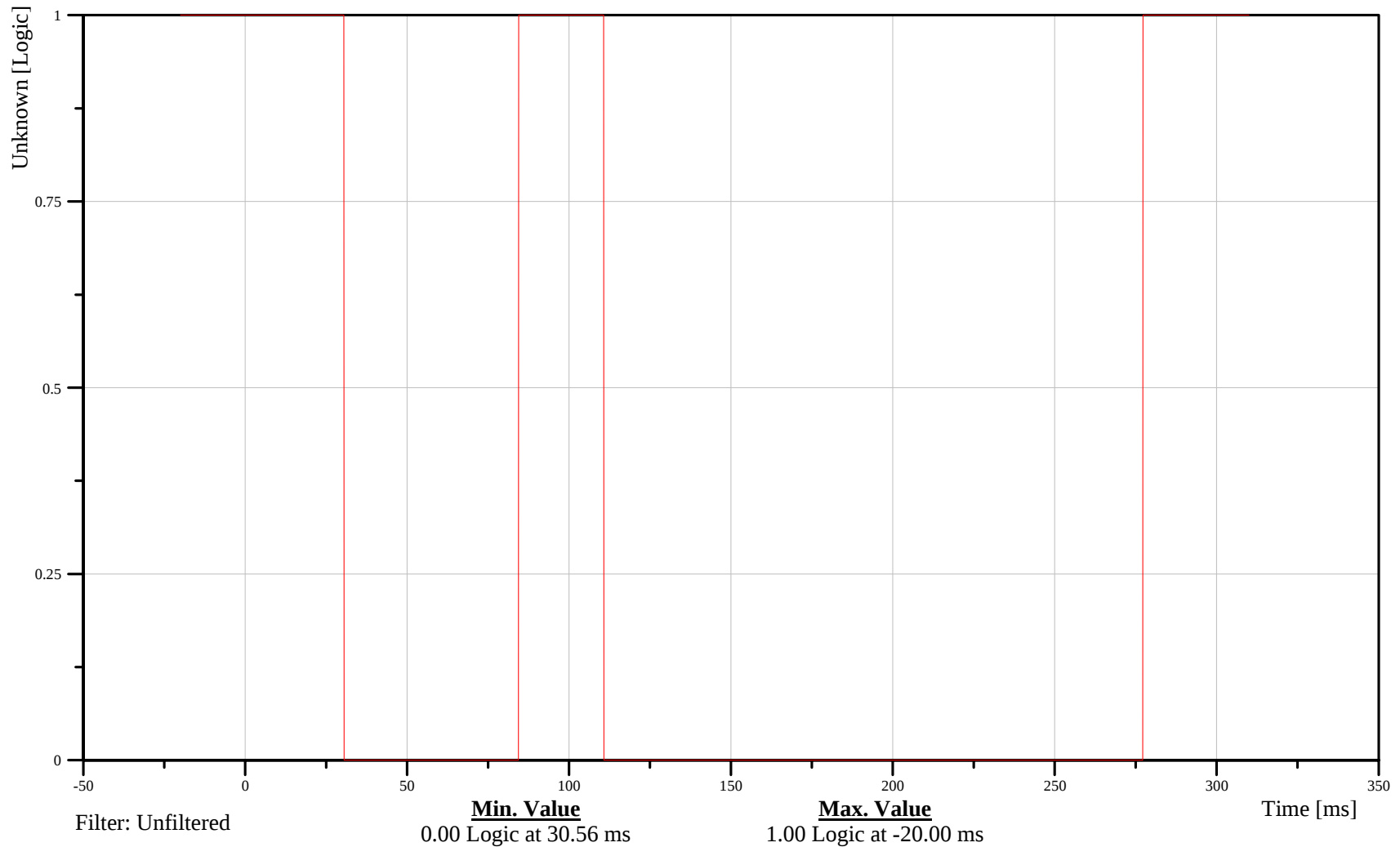
Torso Contact Switch

Customer: VRTC

11CONT000003VO00

TRC Inc. Test Lab: CTF

Test Number: 070809



B-163

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

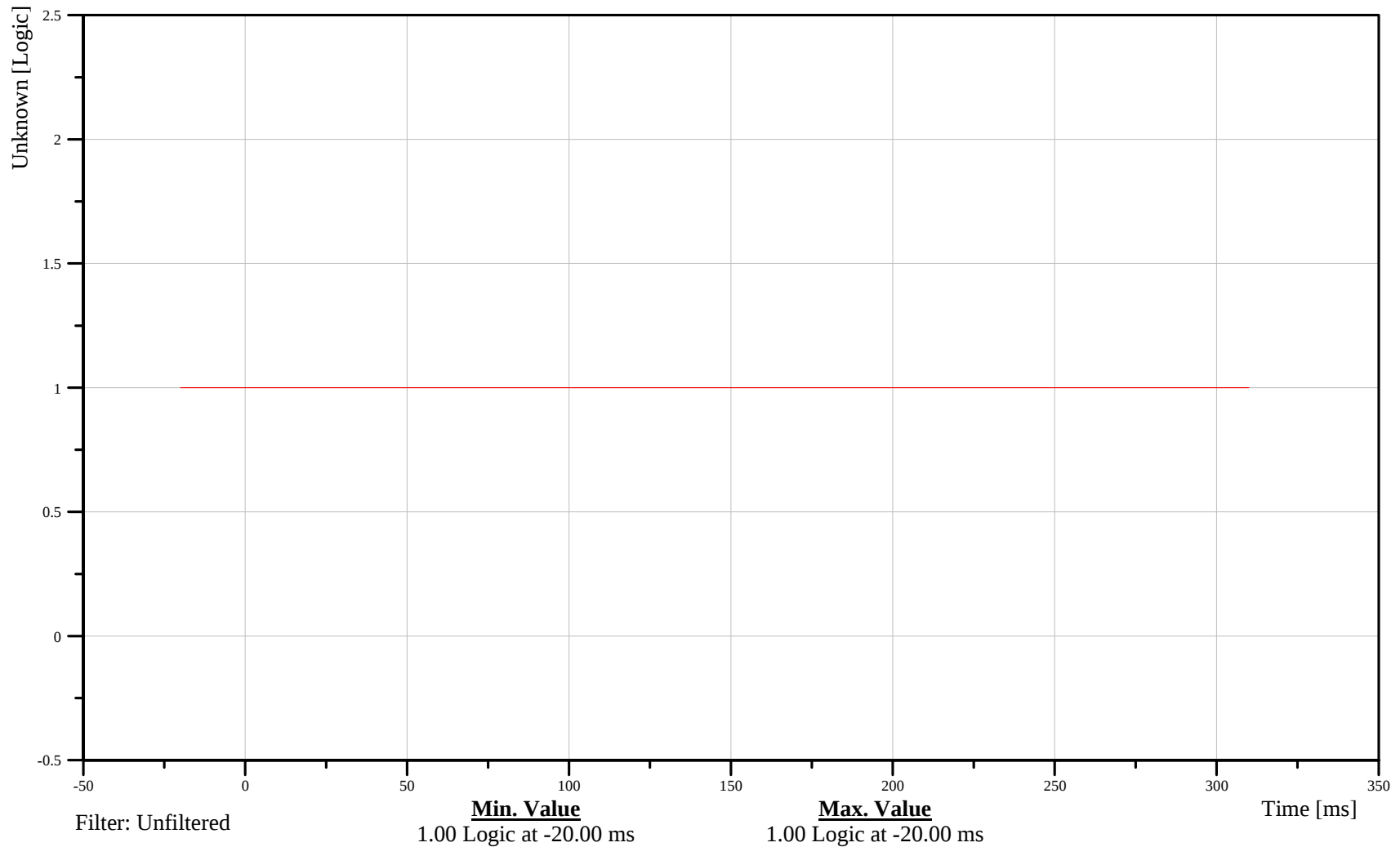
Left Contact Switch

Customer: VRTC

11CONT000004VO00

TRC Inc. Test Lab: CTF

Test Number: 070809



B-164

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

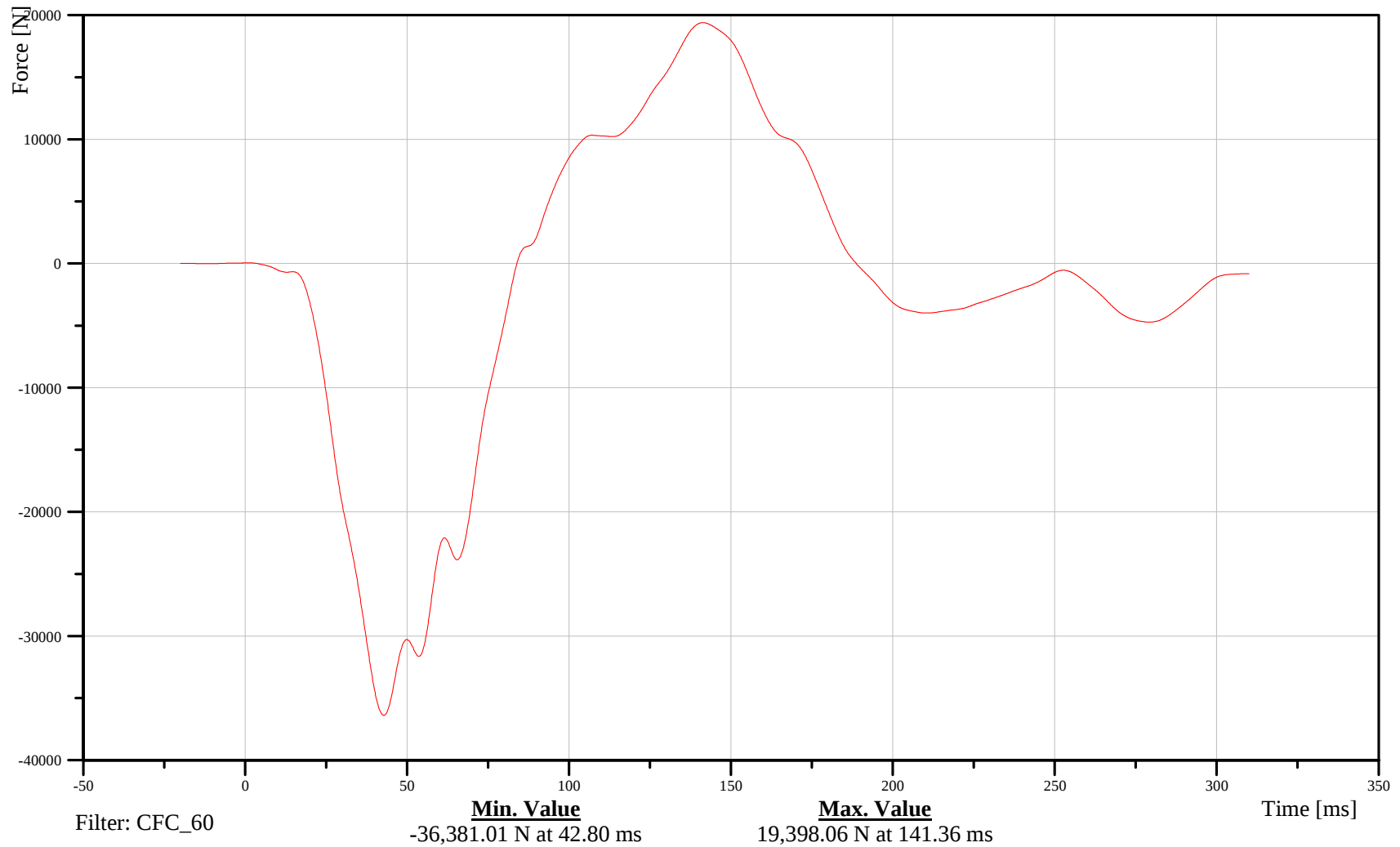
Pole Load Cell 1

Customer: VRTC

K0FBAR010000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-165

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

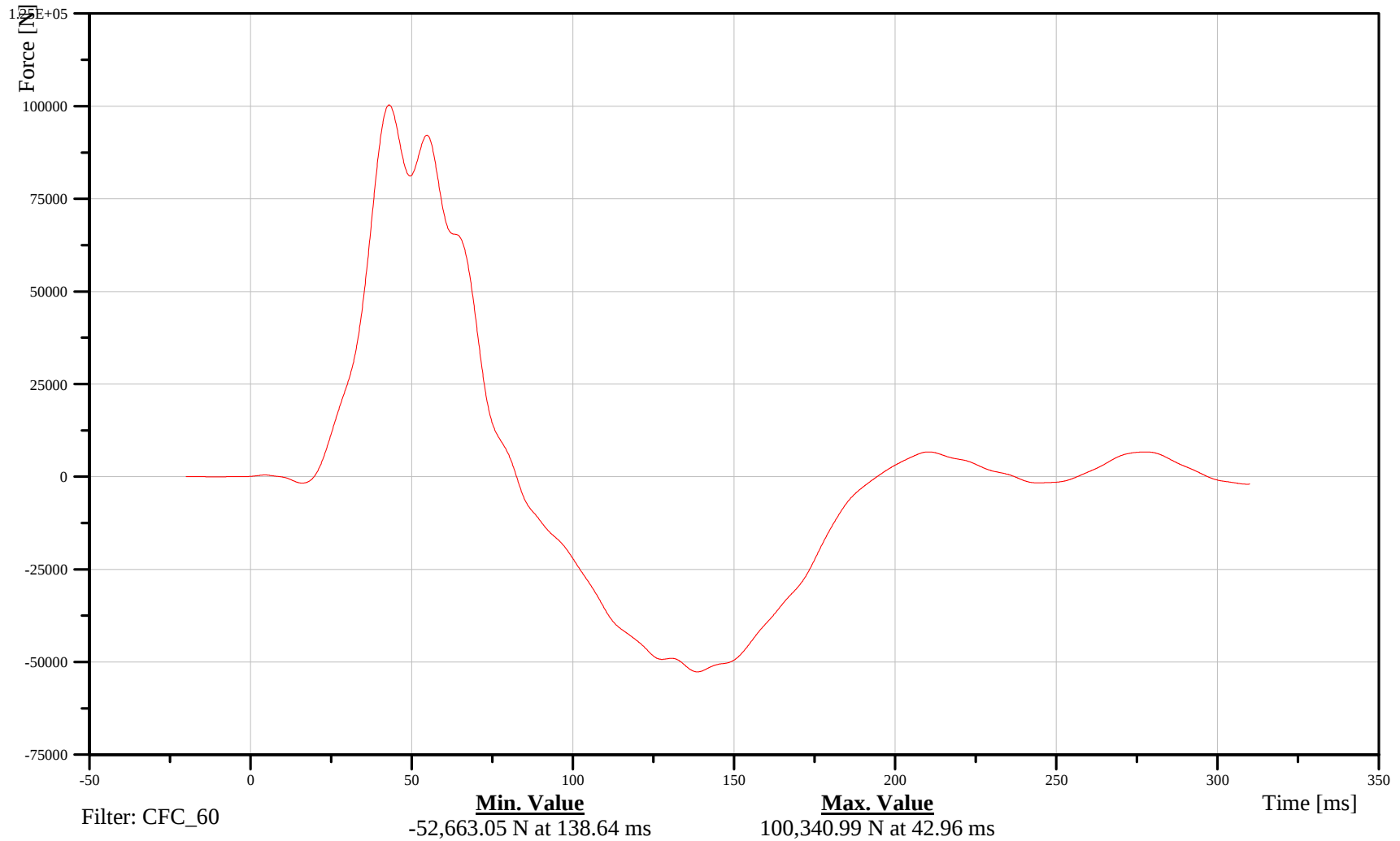
Pole Load Cell 2

Customer: VRTC

K0FBAR020000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-166

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

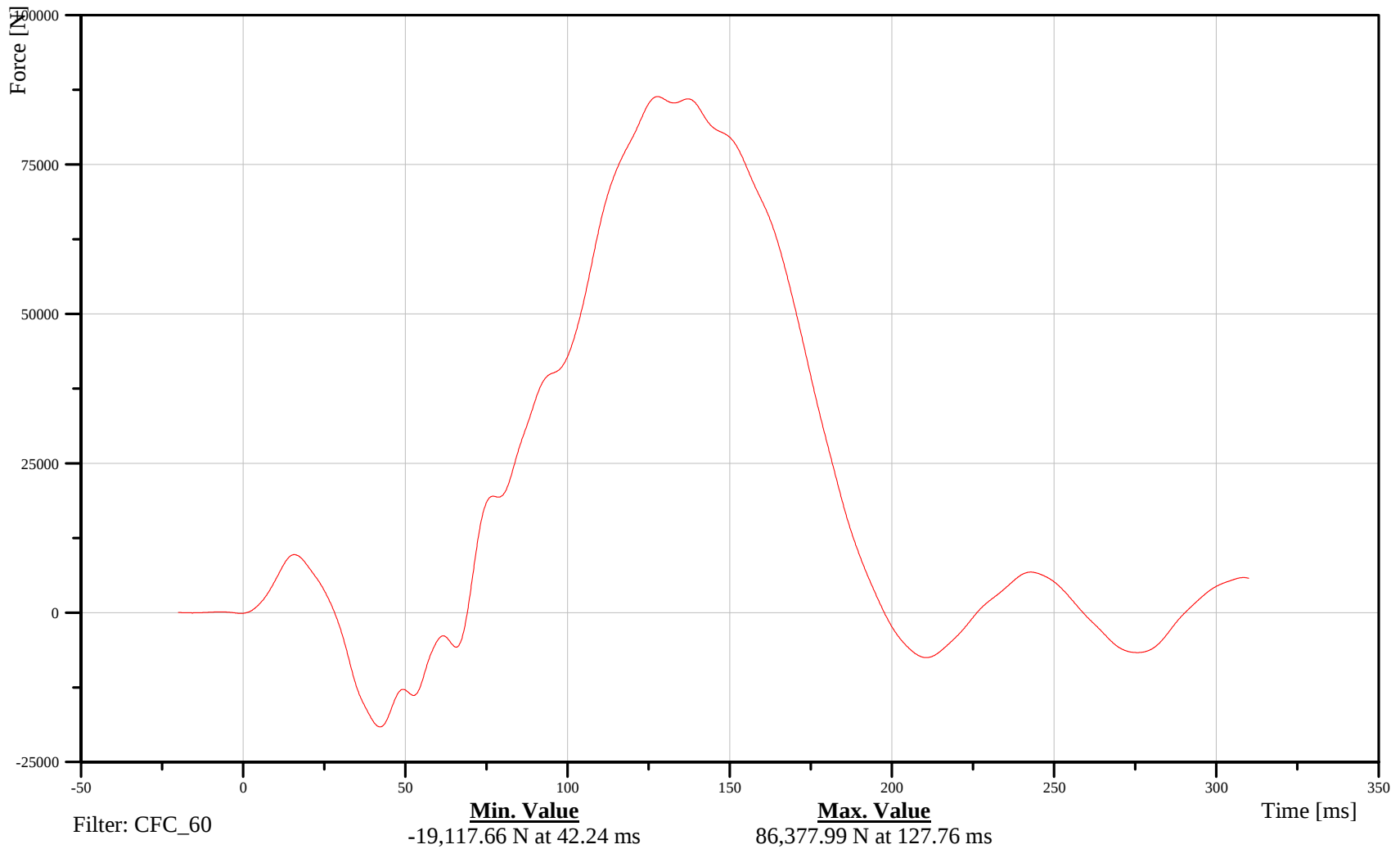
Pole Load Cell 3

Customer: VRTC

K0FBAR030000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-167

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

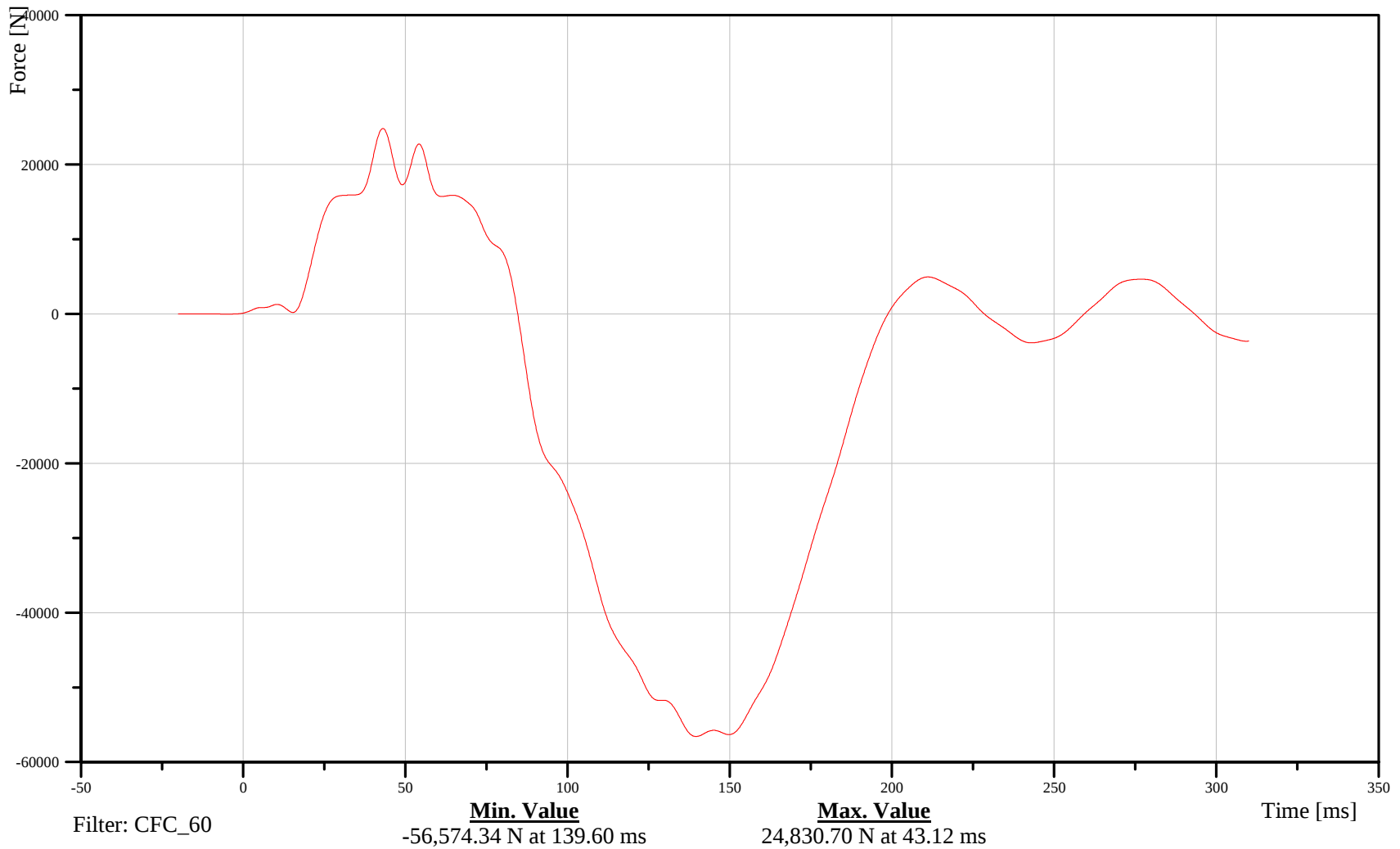
Pole Load Cell 4

Customer: VRTC

K0FBAR040000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-168

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

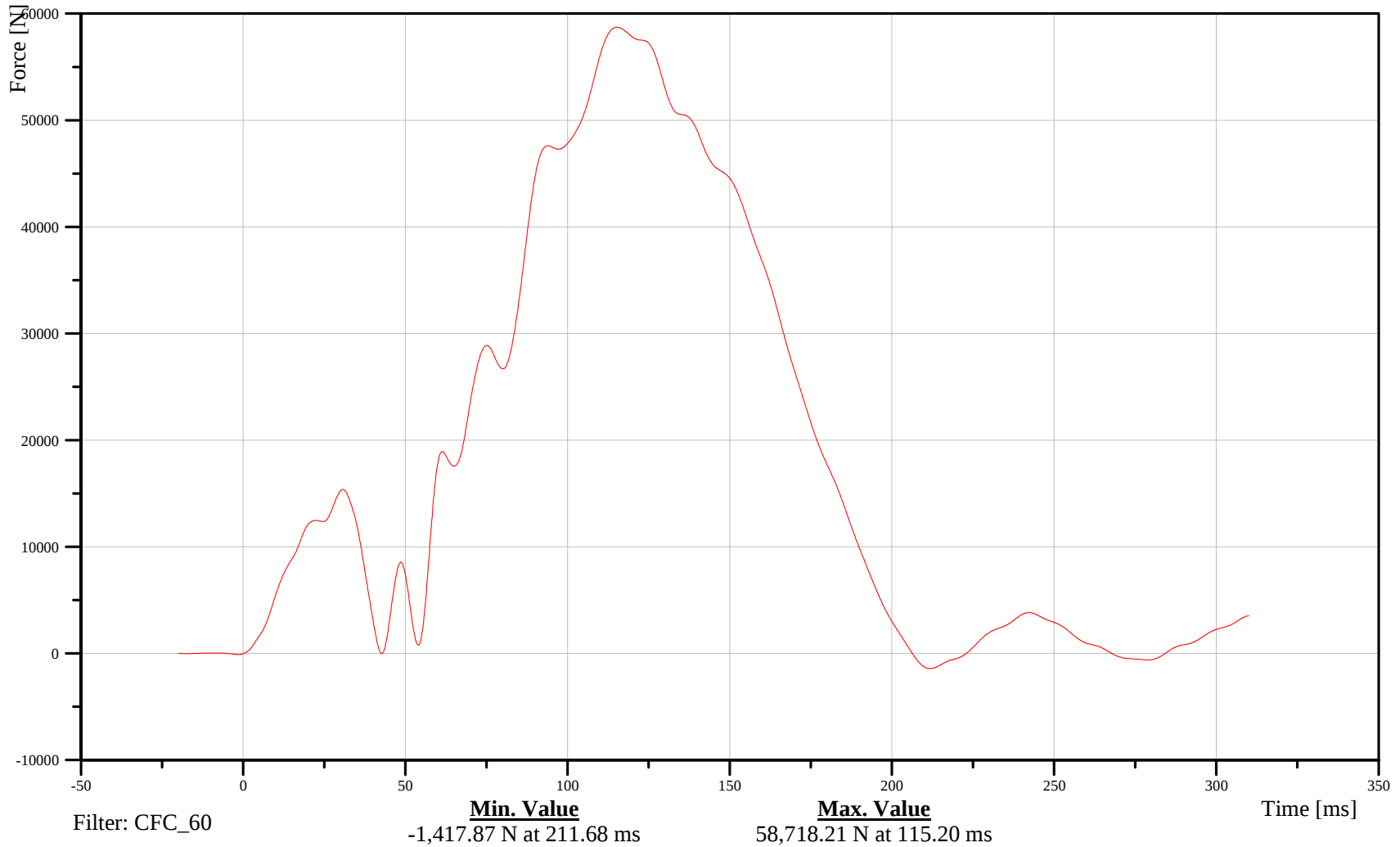
Pole Load Cell 5

Customer: VRTC

K0FBAR050000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-169

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Pole Load Cell 6

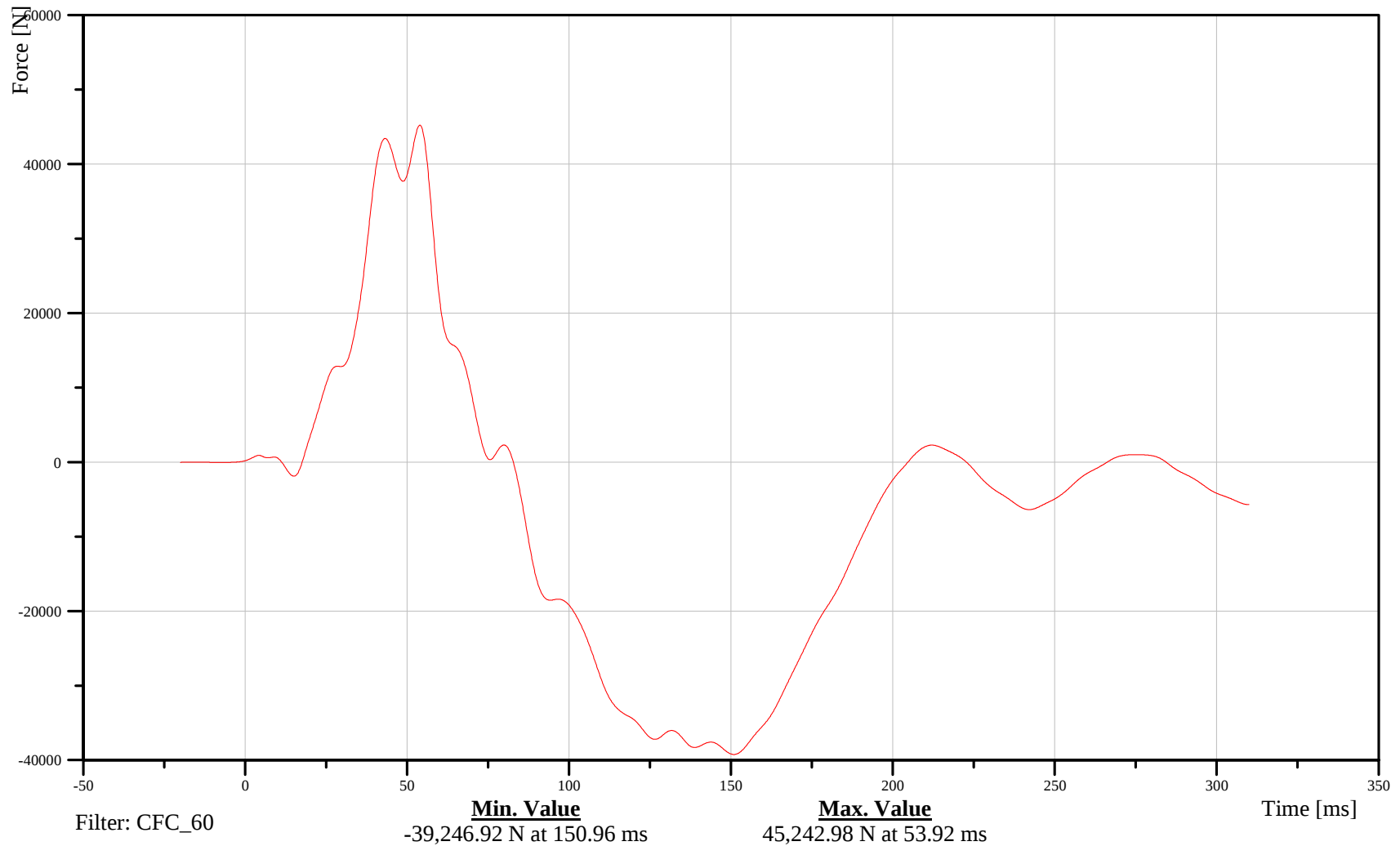
Date: 8/9/2007
Time: 13:13

Customer: VRTC

K0FBAR060000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-170

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

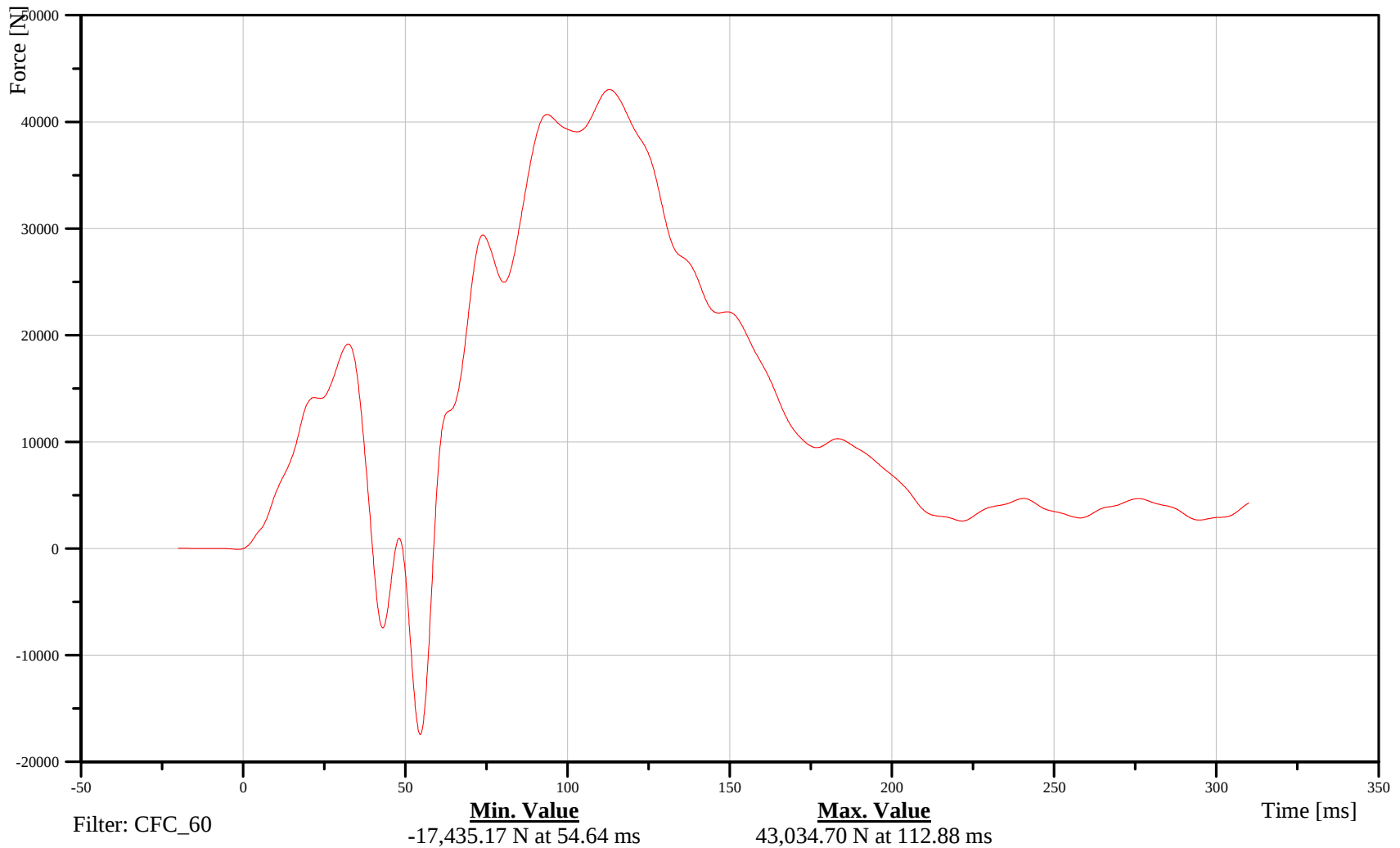
Pole Load Cell 7

Customer: VRTC

K0FBAR070000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-171

070809



2005 Ford 500 Left Side FMVSS 214 Pole Impact 32 kph

Date: 8/9/2007
Time: 13:13

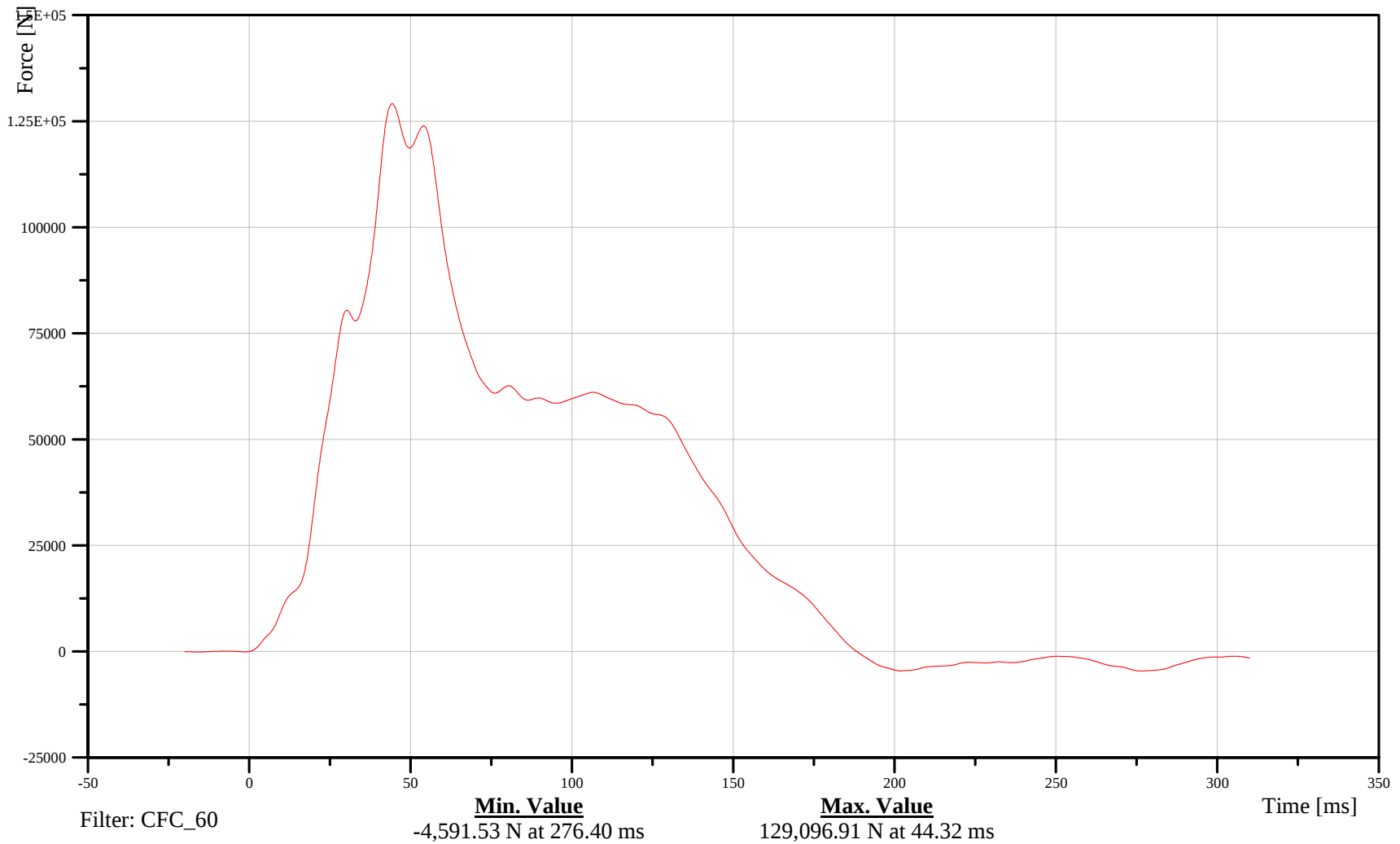
Pole Load Cell 8

Customer: VRTC

K0FBAR080000FOXD

TRC Inc. Test Lab: CTF

Test Number: 070809



B-172

070809

Appendix C

World SID Configuration and Performance Verification Data

Calibration Test Results

Pre-Test

World SID: 016

Configured for Left Side Impact

Transportation Research Center Inc.

Front

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

Test Date: 7/19/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	58 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	228.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-5.3 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved



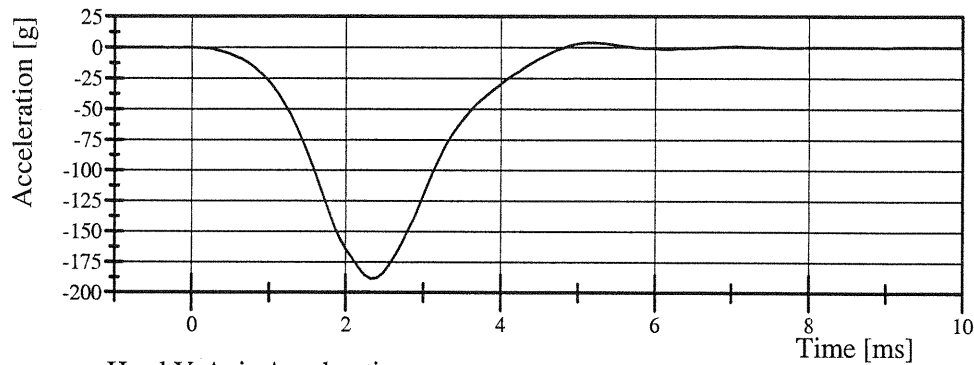
Transportation Research Center Inc.

Front

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

Test Date: 7/19/2007

Head X-Axis Acceleration

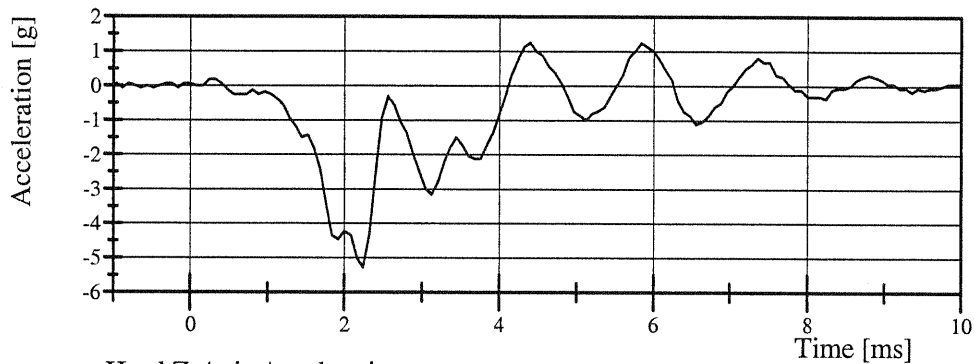


Filter Class: CFC_1000

Max: 3.9 g at 5.1 ms

Min: -188.7 g at 2.3 ms

Head Y-Axis Acceleration

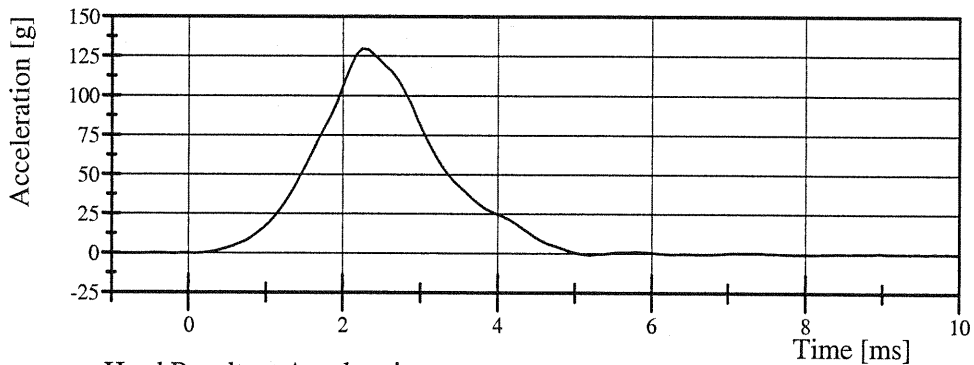


Filter Class: CFC_1000

Max: 1.2 g at 4.4 ms

Min: -5.3 g at 2.2 ms

Head Z-Axis Acceleration

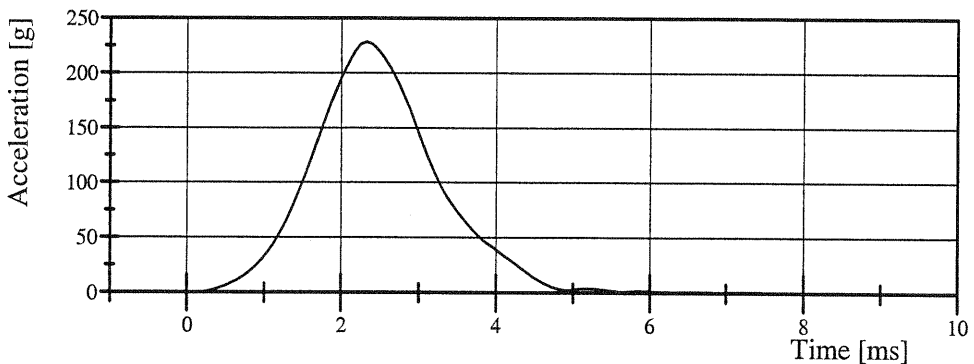


Filter Class: CFC_1000

Max: 129.7 g at 2.2 ms

Min: -0.9 g at 5.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 228.9 g at 2.3 ms

Min: 0.0 g at -0.6 ms

Transportation Research Center Inc.

Right Lateral

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/19/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	112.7 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	3.6 g	Yes
Is Head Resultant Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Charles W. Beale

Approved

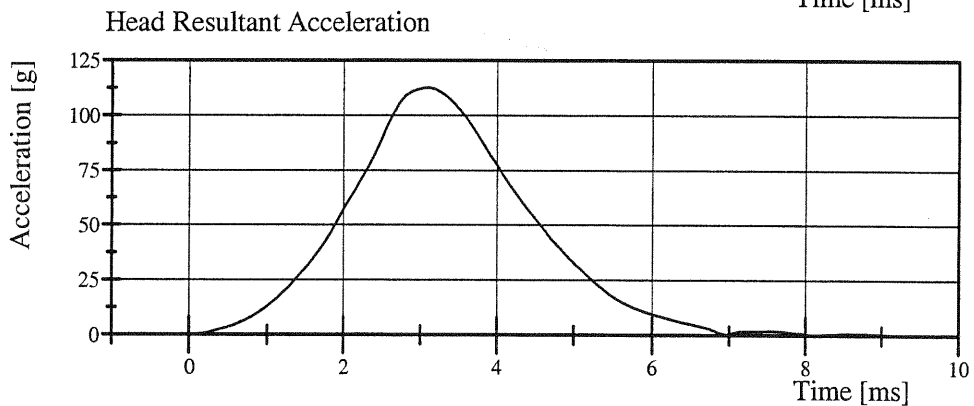
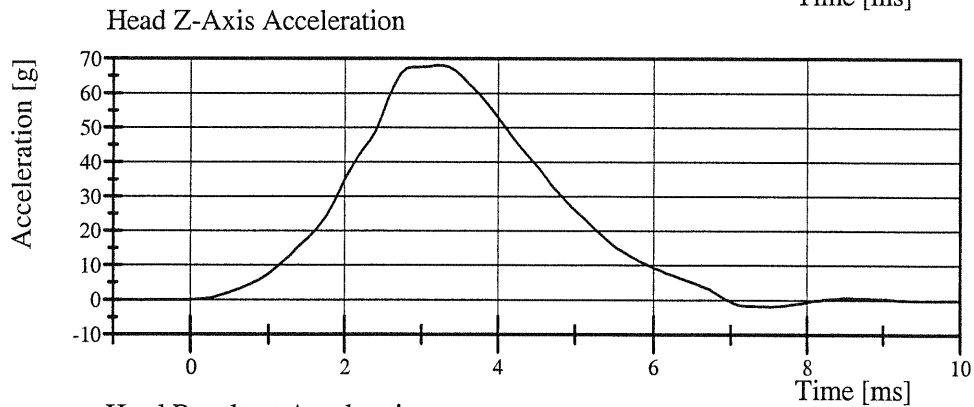
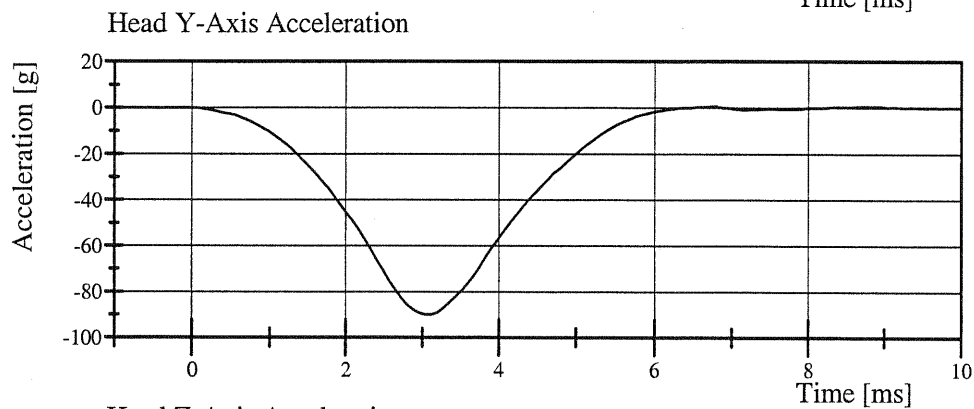
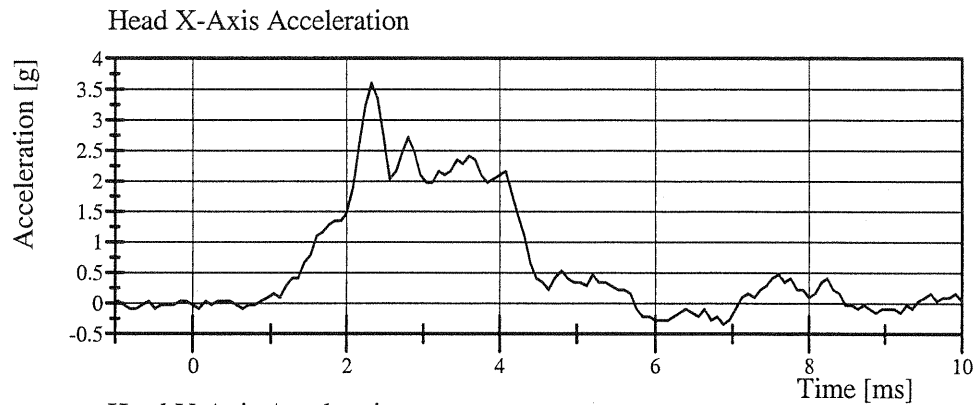
Ron Stoner

Transportation Research Center Inc.

Right Lateral

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/19/2007



Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

Test Date: 7/20/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.32 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.900 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.799 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.752 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-54.7 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	65.8 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	58.9 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	71 - 87 ms	79.0 ms	Yes
Maximum Forward Pot Rotation			
Peak	(-32) - (-39) °	-35.6 °	Yes
Time of Peak	56 - 68 ms	59.2 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-32.1 °	Yes
Time of Peak	56 - 68 ms	60.0 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ron Stoner

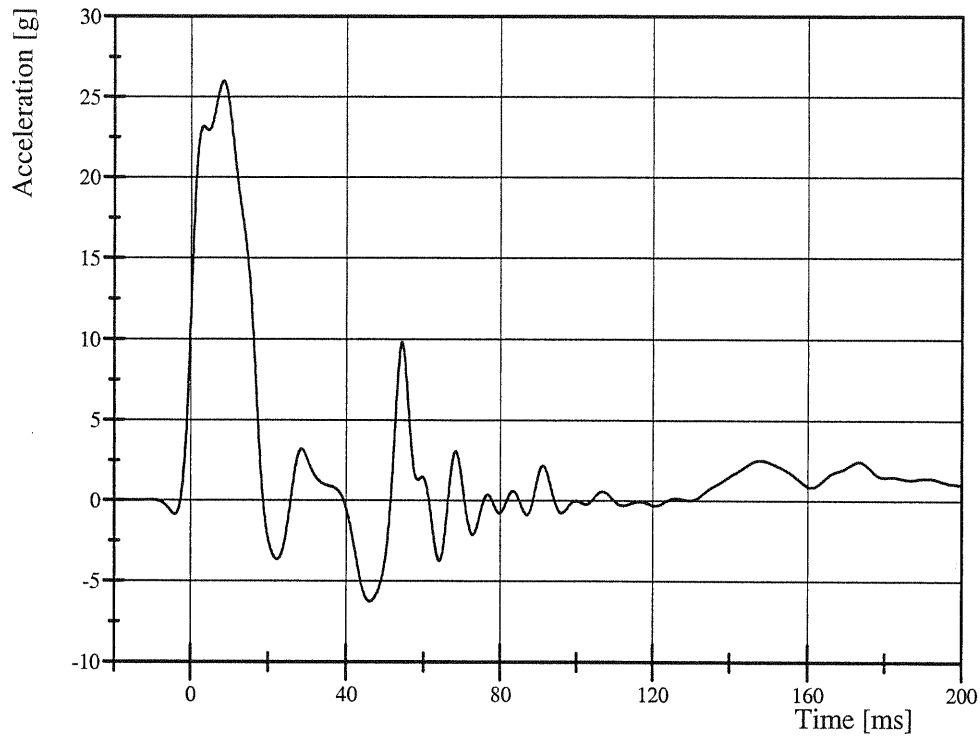
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

Test Date: 7/20/2007

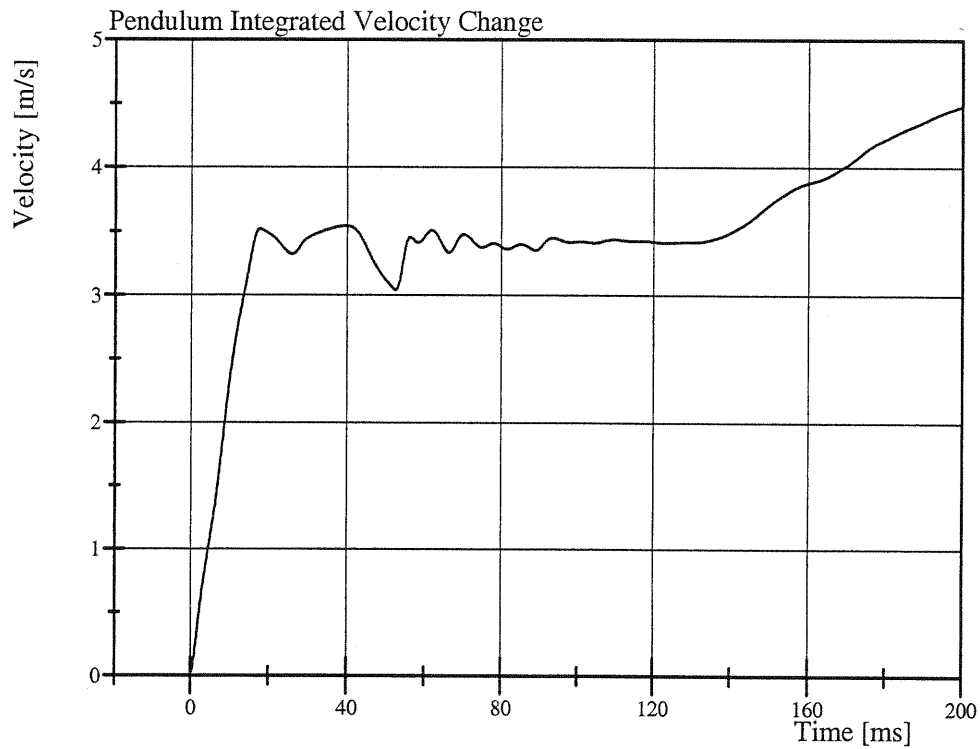
Pendulum Acceleration



Filter Class: CFC_60

Max: 26.0 g at 8.4 ms

Min: -6.2 g at 46.1 ms



Filter Class: CFC_180

Max: 4.5 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

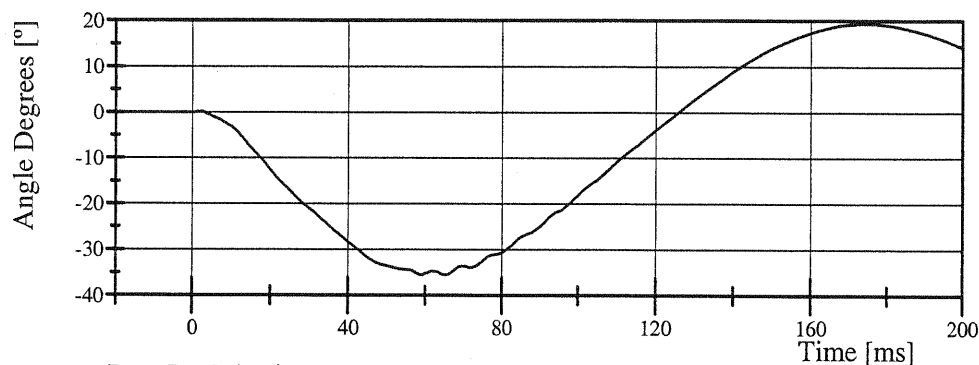
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

Test Date: 7/20/2007

Forward Pot Rotation at Base of Pendulum

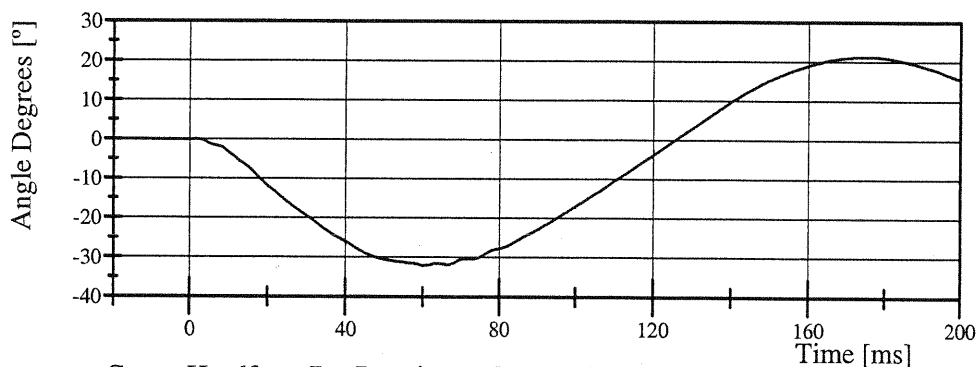


Filter Class: CFC_1000

Max: 19.4 ° at 175.0 ms

Min: -35.6 ° at 59.2 ms

Rear Pot Rotation at Base of Pendulum

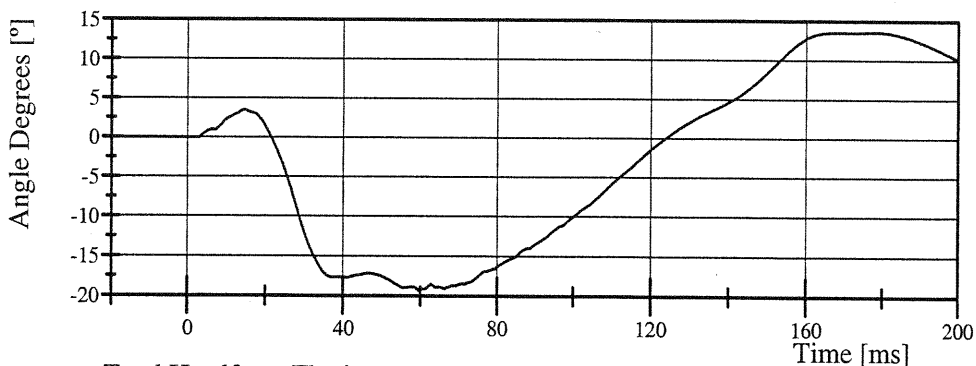


Filter Class: CFC_1000

Max: 21.3 ° at 173.5 ms

Min: -32.1 ° at 60.0 ms

Center Headform Pot Rotation at Center of Gravity

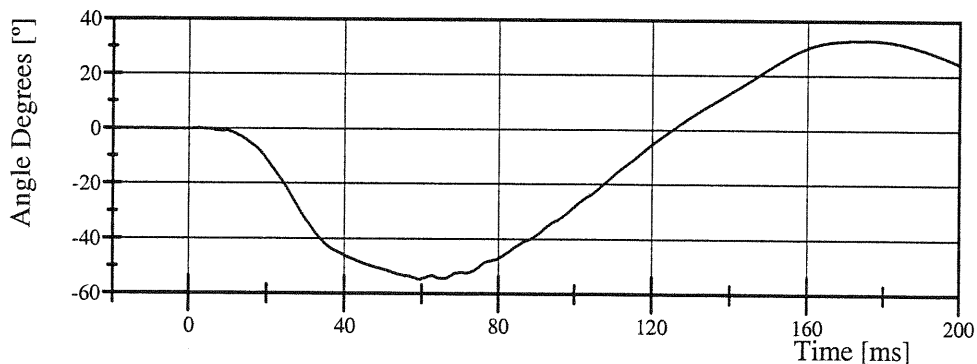


Filter Class: CFC_1000

Max: 13.6 ° at 177.0 ms

Min: -19.3 ° at 59.6 ms

Total Headform Flexion



Filter Class: CFC_1000

Max: 33.0 ° at 175.5 ms

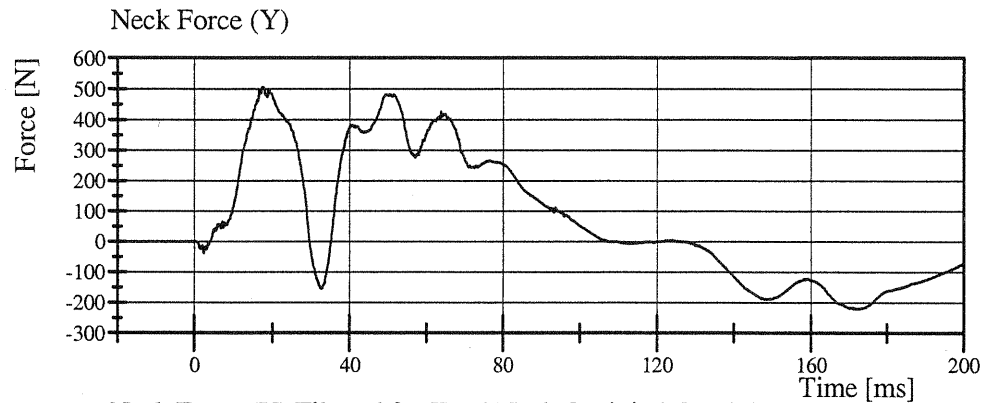
Min: -54.7 ° at 59.4 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-2

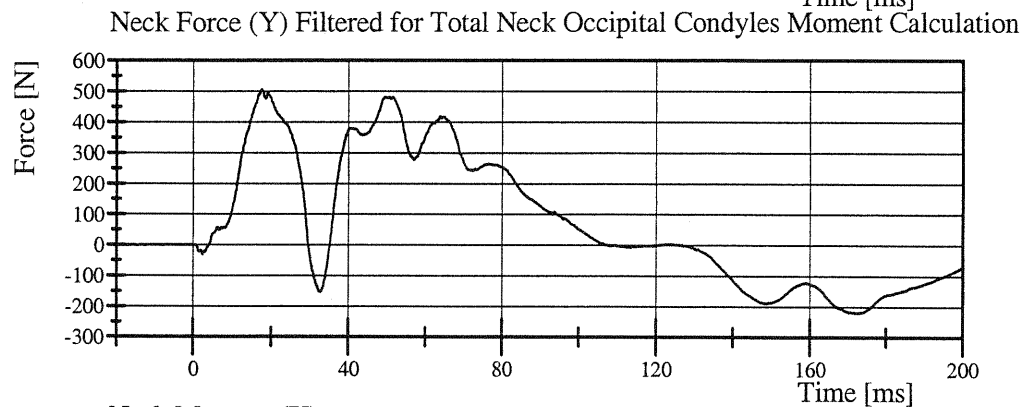
Test Date: 7/20/2007



Filter Class: CFC_1000

Max: 505.5 N at 17.3 ms

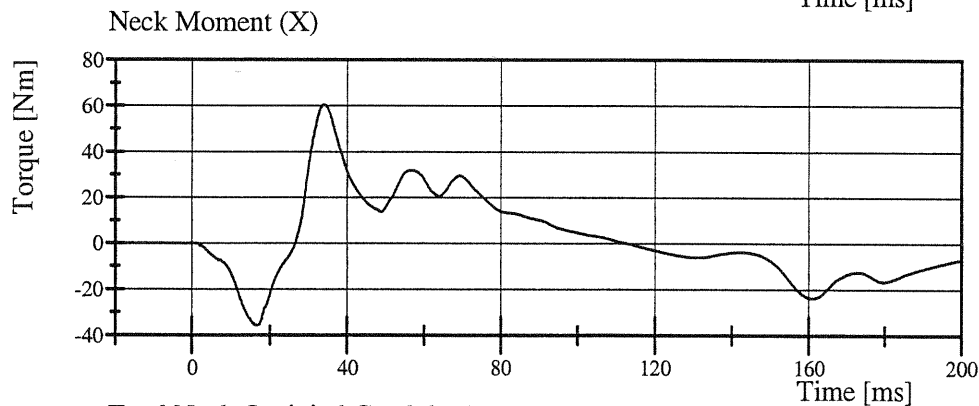
Min: -220.6 N at 172.8 ms



Filter Class: CFC_600

Max: 506.1 N at 17.4 ms

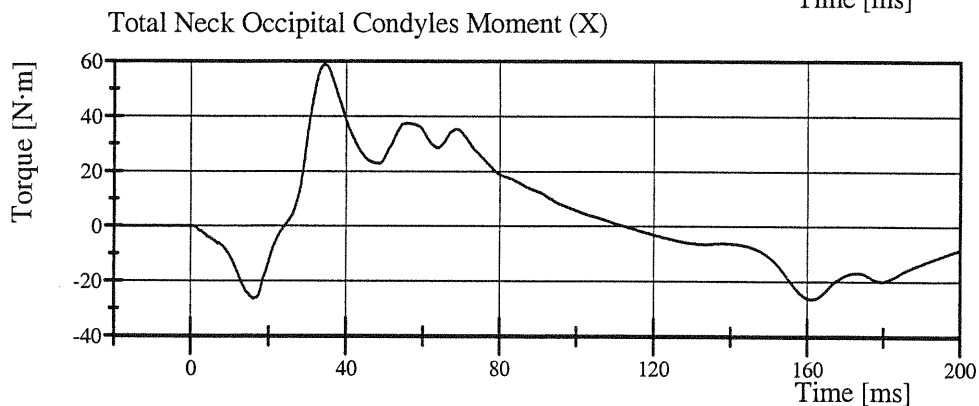
Min: -220.2 N at 172.7 ms



Filter Class: CFC_600

Max: 60.5 Nm at 33.8 ms

Min: -35.6 Nm at 16.7 ms



Filter Class: CFC_600

Max: 58.9 N·m at 34.4 ms

Min: -26.5 N·m at 16.2 ms

Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

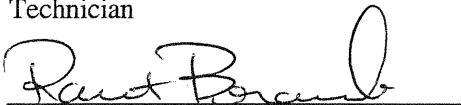
Test Date: 7/24/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.29 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,918.4 N	Yes
Shoulder Displacement	35 - 44 mm	42.8 mm	Yes

Test meets specifications.

Comments:

Technician



Approved



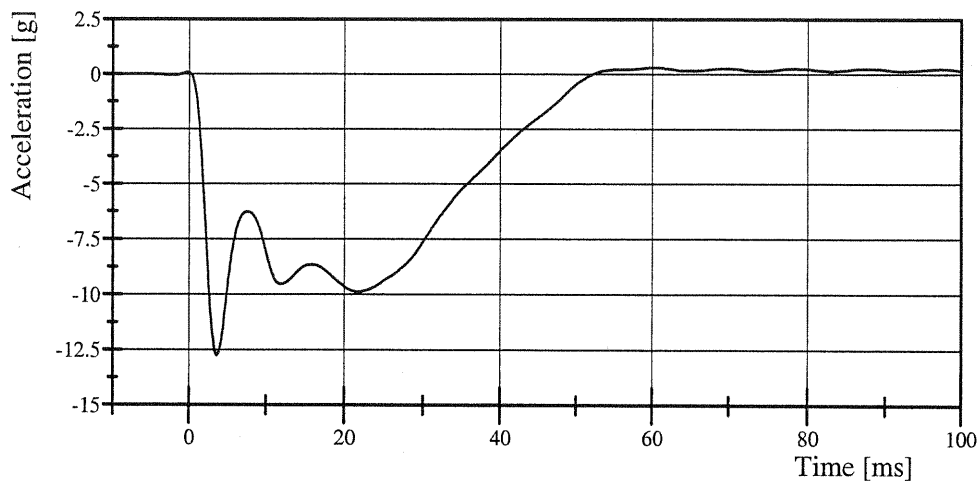
Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/24/2007

Impactor Acceleration

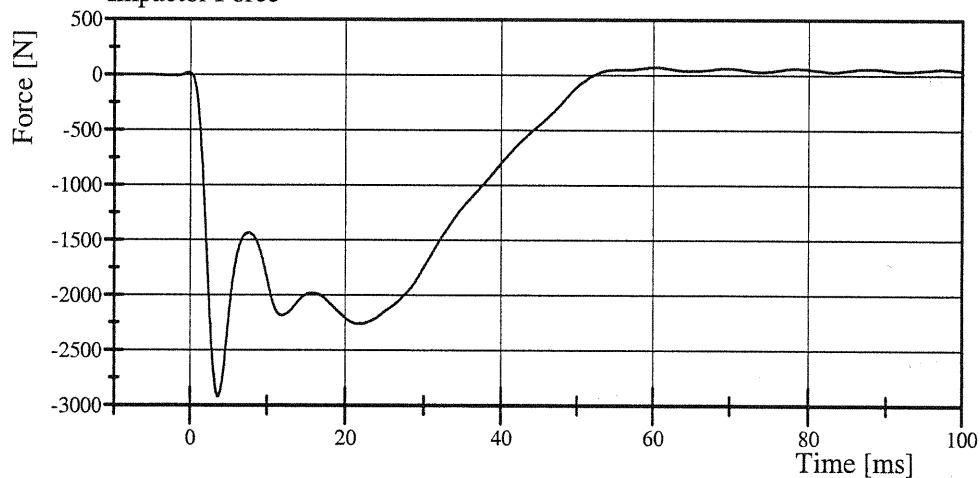


Filter Class: CFC_180

Max: 0.3 g at 60.4 ms

Min: -12.7 g at 3.6 ms

Impactor Force

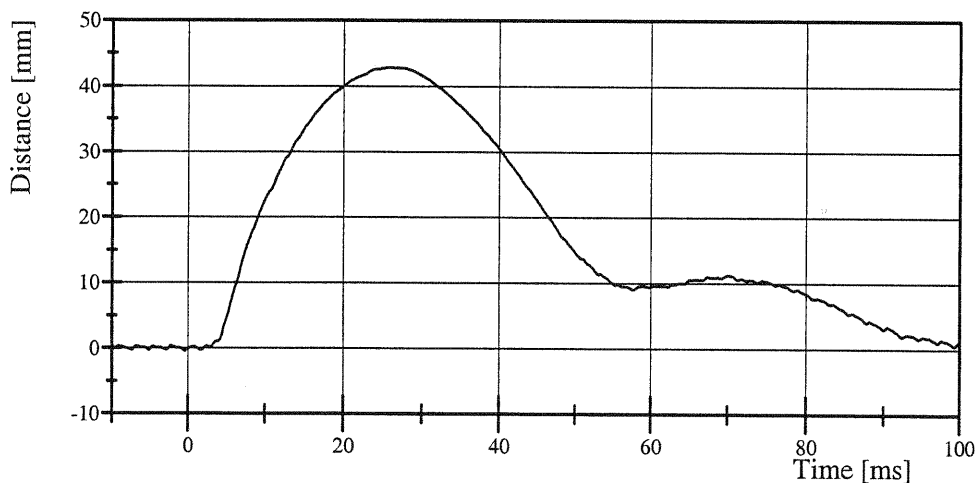


Filter Class: CFC_180

Max: 72.4 N at 60.4 ms

Min: -2,918.4 N at 3.6 ms

Shoulder Displacement



Filter Class: CFC_600

Max: 42.8 mm at 25.7 ms

Min: -0.4 mm at -0.4 ms

Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/24/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.29 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,830.9 N	Yes
Upper Abdominal Rib Displacement	33 - 41 mm	37.1 mm	Yes
Lower Abdominal Rib Displacement	31 - 39 mm	32.9 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.1 g	Yes

Test meets specifications.

Comments:

Technician



Approved

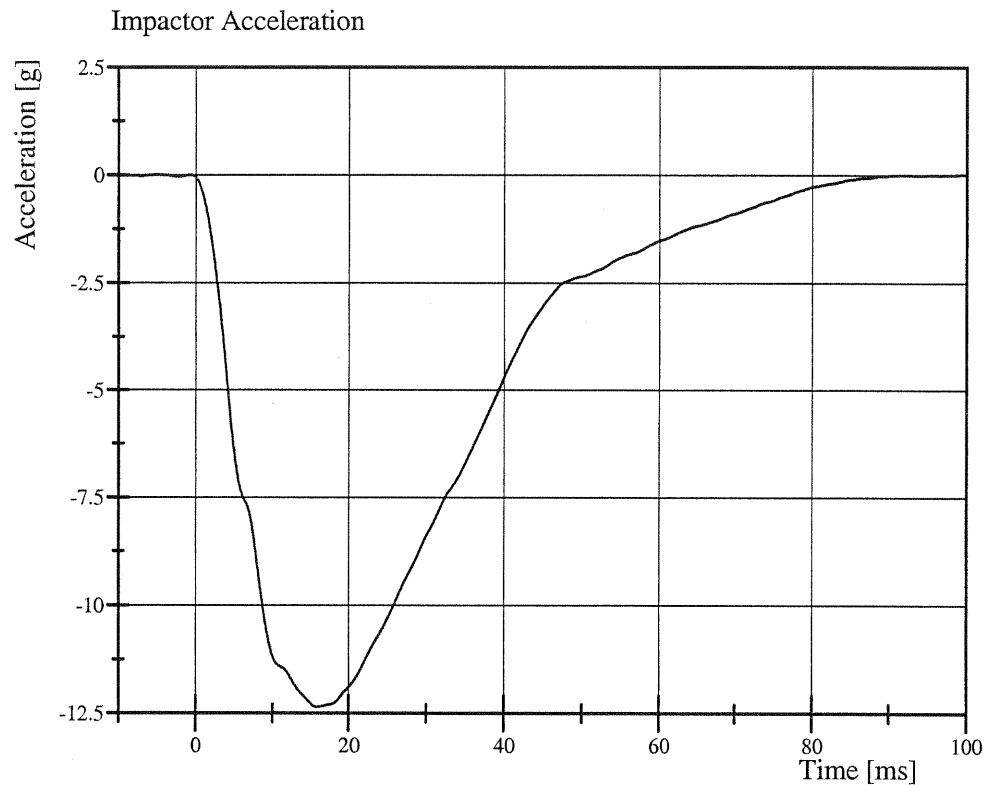


Transportation Research Center Inc.

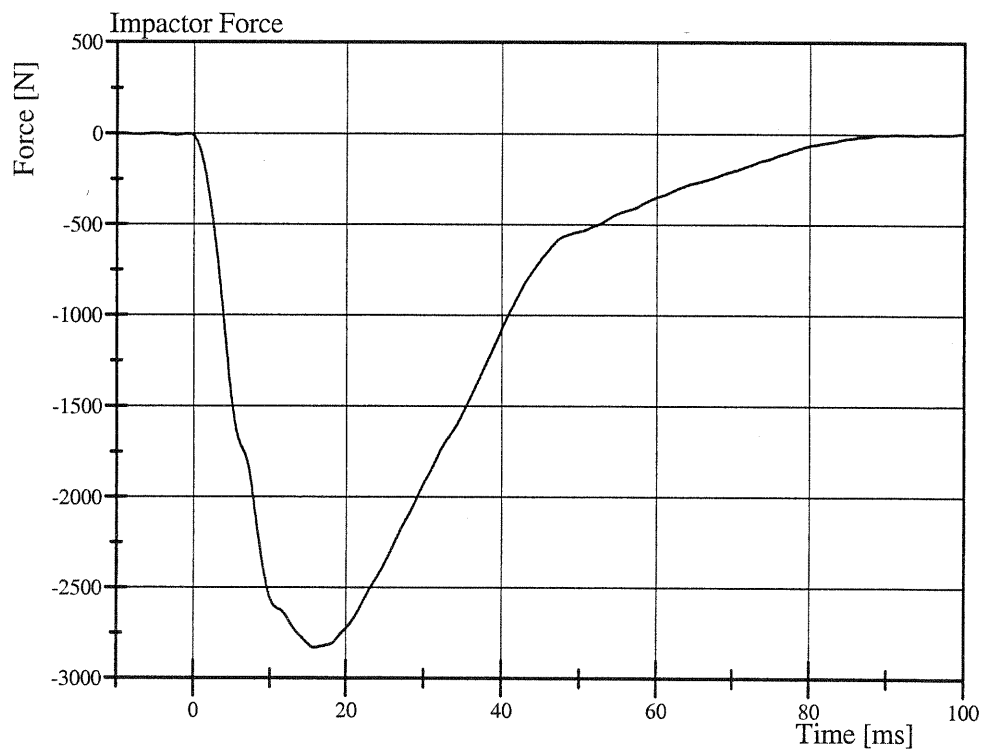
Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/24/2007



Filter Class: CFC_180
Max: 0.0 g at 99.7 ms
Min: -12.4 g at 15.8 ms



Filter Class: CFC_180
Max: 3.7 N at 99.7 ms
Min: -2,830.9 N at 15.8 ms

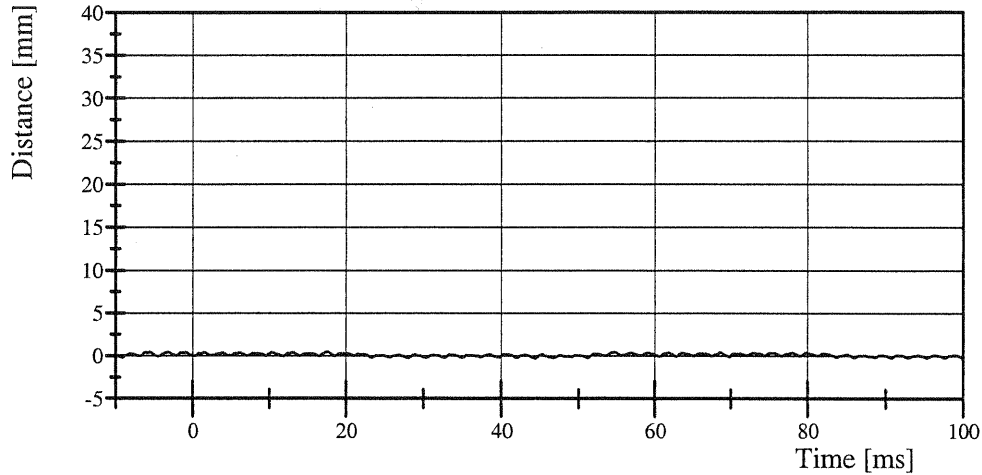
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

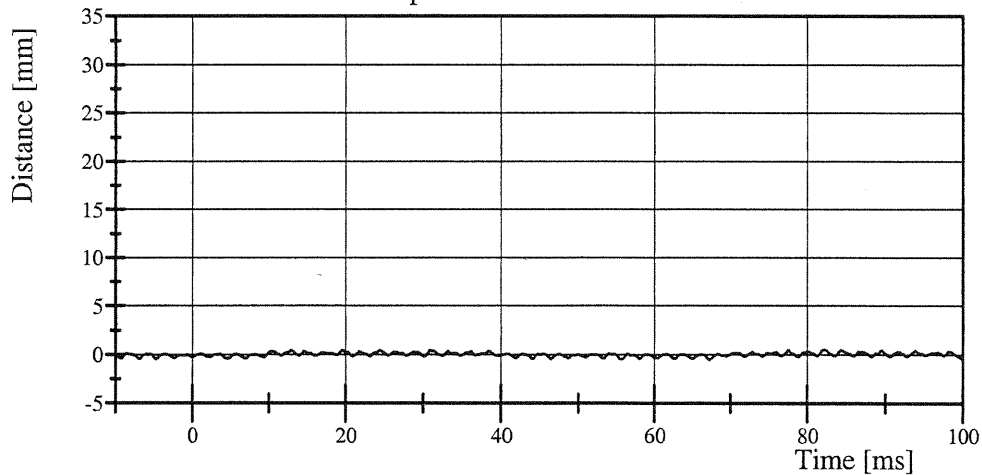
Test Date: 7/24/2007

Upper Abdominal Rib Displacement



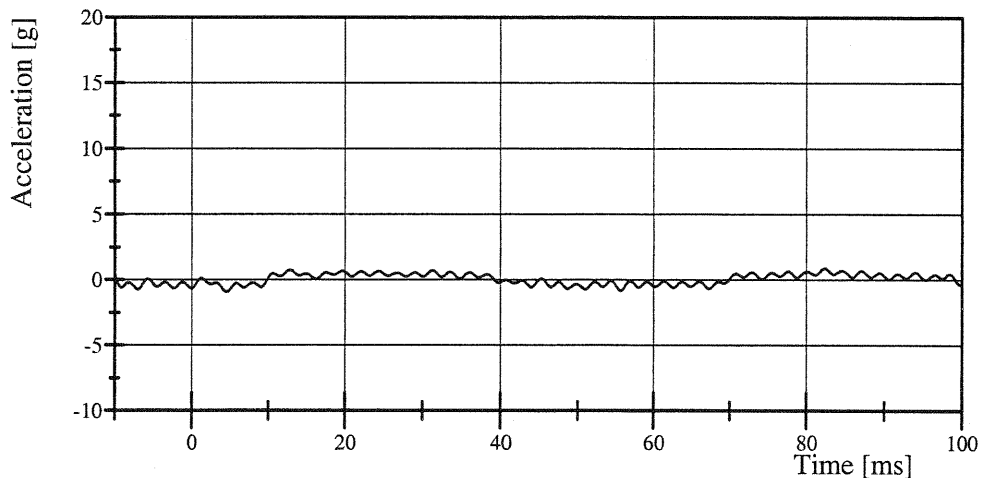
Filter Class: CFC_600
Max: 37.1 mm at 0.0 ms
Min: -0.4 mm at 0.0 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 32.9 mm at 0.0 ms
Min: -0.5 mm at 67.3 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 16.1 g at 0.0 ms
Min: -6.7 g at 0.0 ms

Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/24/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.69 m/s	Yes
Impactor Force	(-6,300) - (-7,800) N	-7,282.3 N	Yes
Pelvis Lateral Acceleration	41 - 51 g	42.1 g	Yes
Lower Spine Lateral Acceleration	10 - 14 g	13.1 g	Yes

Test meets specifications.

Comments:

Technician



Approved

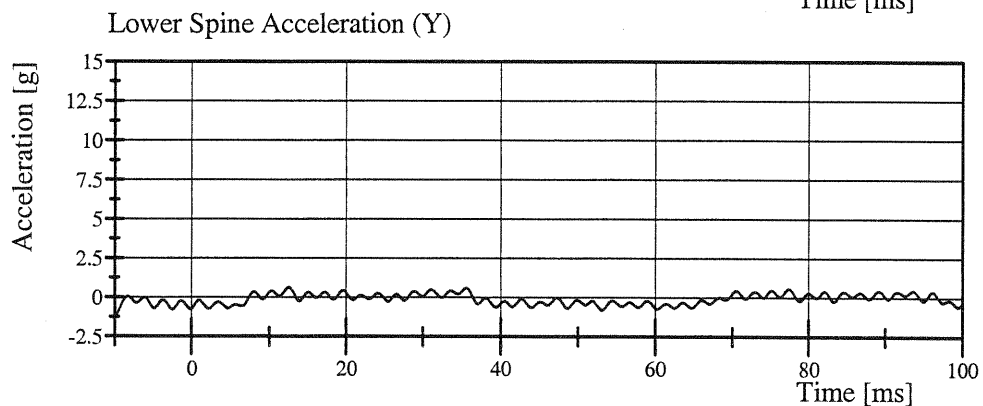
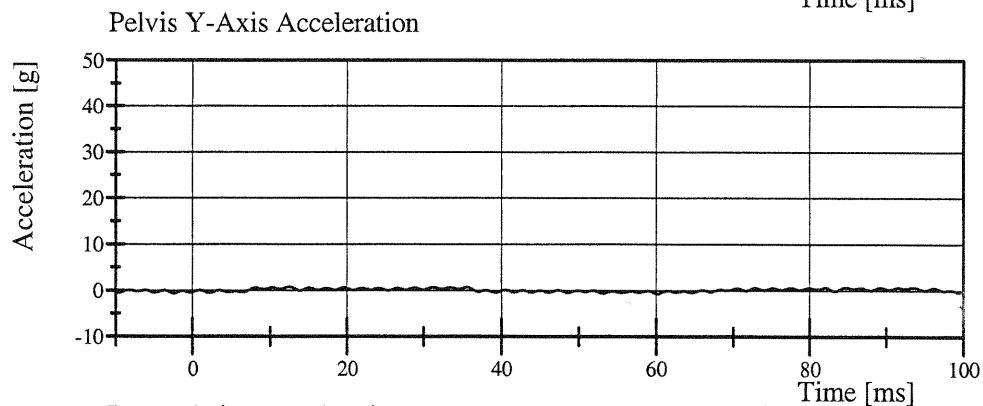
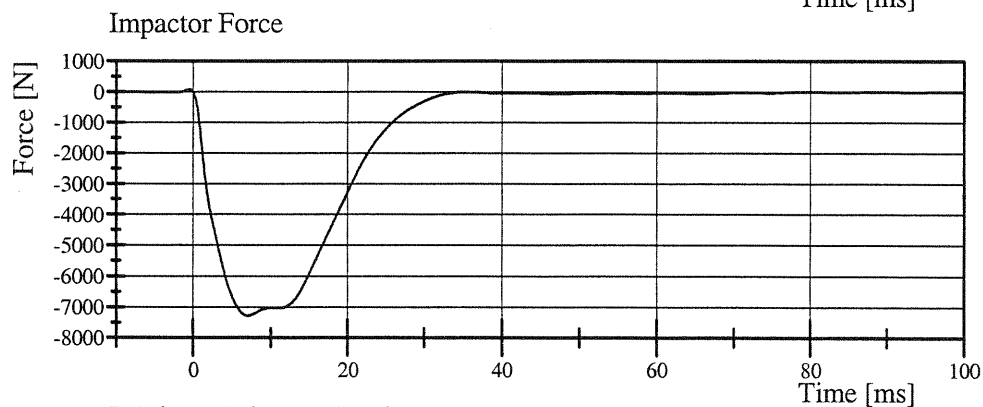
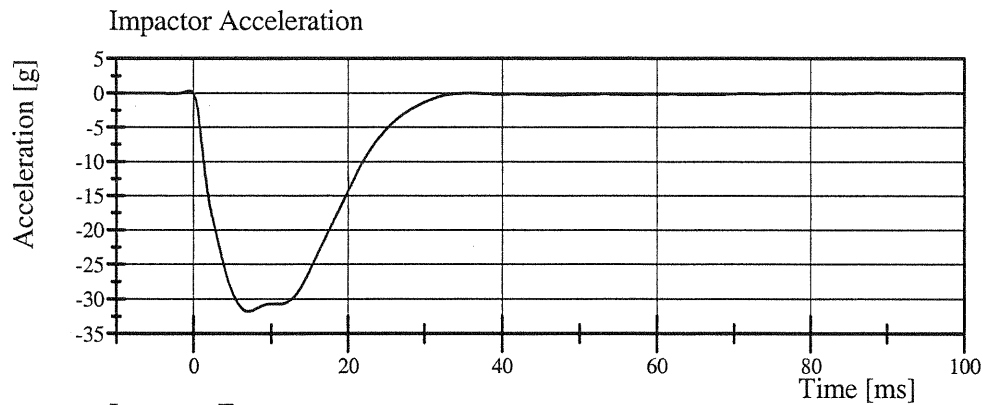


Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 016 Certification No. 2-1

Test Date: 7/24/2007



Calibration Test Results

Post-Test

World SID: 016

Configured for Left Side Impact

Transportation Research Center Inc.

Front Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	230.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	12.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Raul Berardo

Approved

Ron Stoner

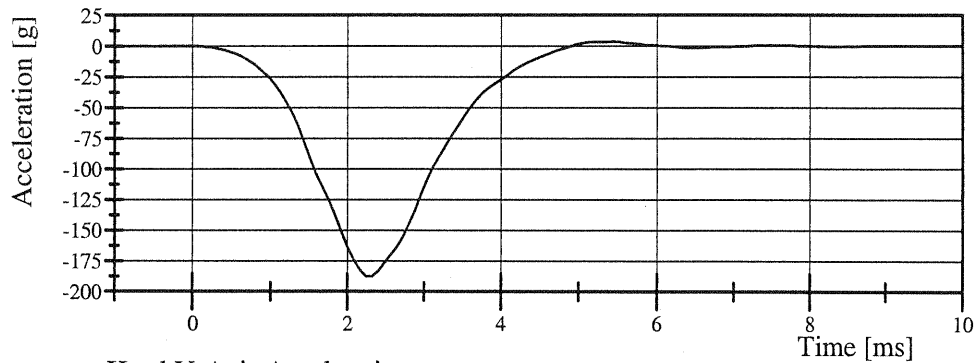
Transportation Research Center Inc.

Front Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Head X-Axis Acceleration

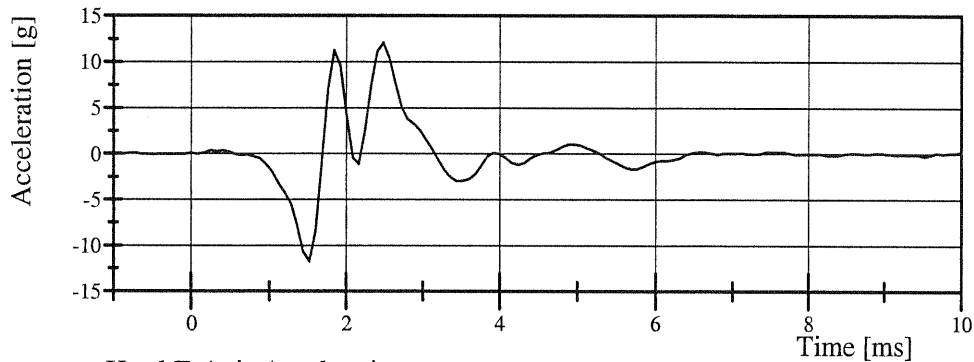


Filter Class: CFC_1000

Max: 3.5 g at 5.4 ms

Min: -187.6 g at 2.3 ms

Head Y-Axis Acceleration

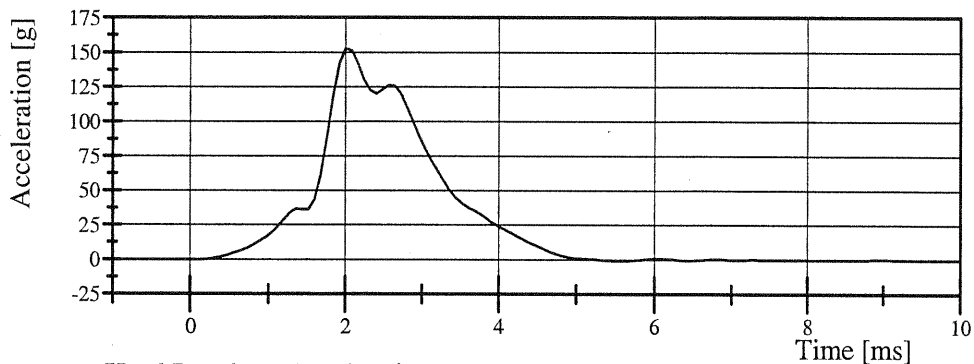


Filter Class: CFC_1000

Max: 12.1 g at 2.5 ms

Min: -11.8 g at 1.5 ms

Head Z-Axis Acceleration

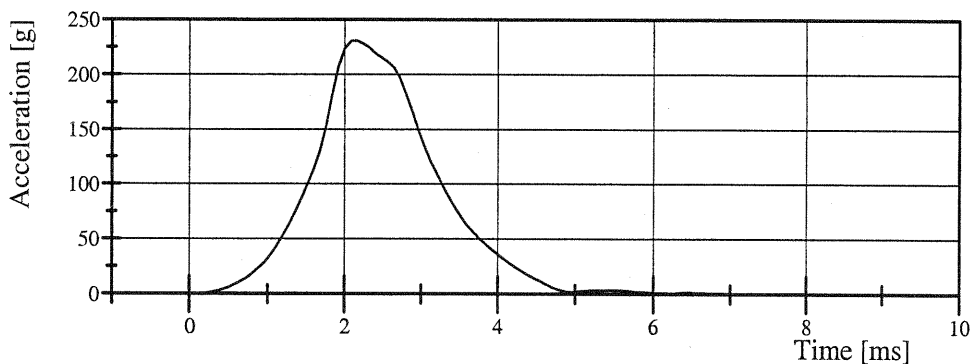


Filter Class: CFC_1000

Max: 153.0 g at 2.0 ms

Min: -1.0 g at 5.5 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 230.9 g at 2.2 ms

Min: 0.0 g at -0.6 ms

Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	116.5 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-9.0 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Rant Brand

Approved

Ron Storer

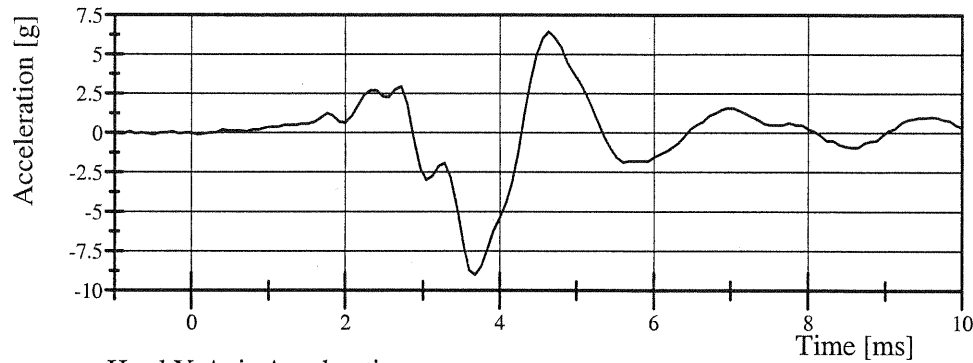
Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Head X-Axis Acceleration

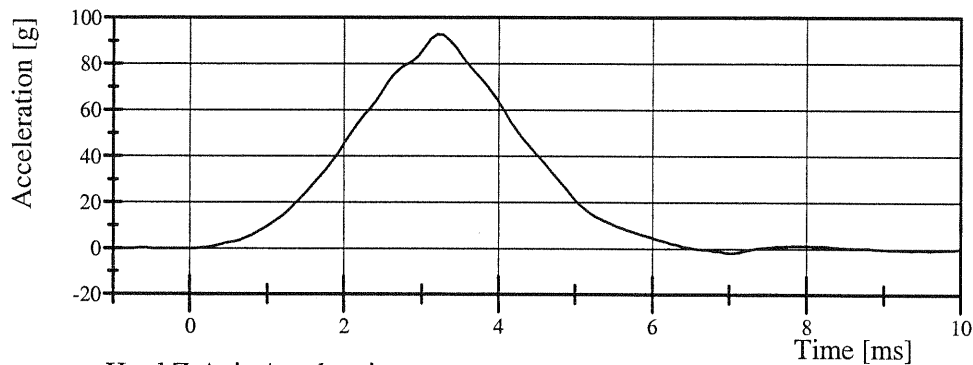


Filter Class: CFC_1000

Max: 6.5 g at 4.6 ms

Min: -9.0 g at 3.7 ms

Head Y-Axis Acceleration

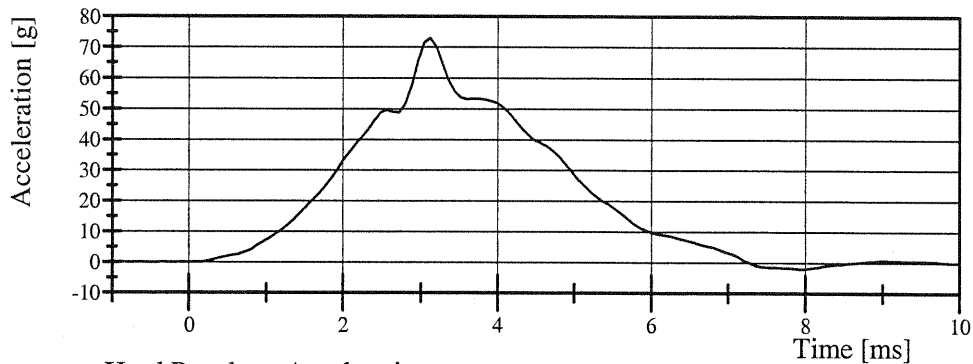


Filter Class: CFC_1000

Max: 92.7 g at 3.2 ms

Min: -1.9 g at 7.0 ms

Head Z-Axis Acceleration

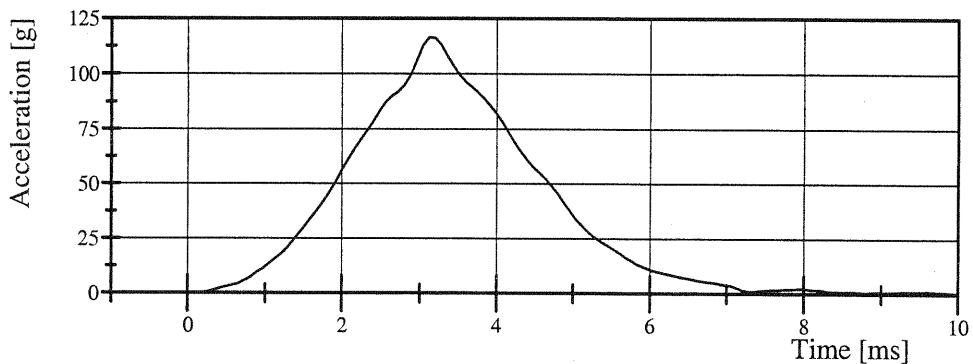


Filter Class: CFC_1000

Max: 73.0 g at 3.1 ms

Min: -2.0 g at 7.9 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 116.5 g at 3.1 ms

Min: 0.0 g at -0.4 ms

Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	110.9 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	5.5 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Dont Baal

Approved

Ron Stoner

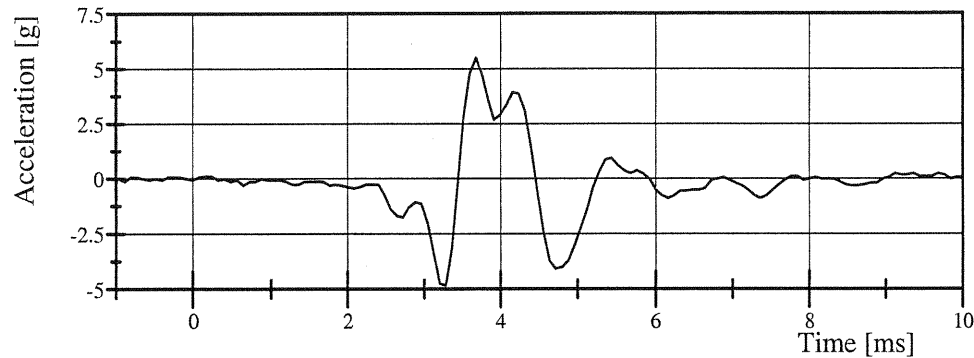
Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Head X-Axis Acceleration

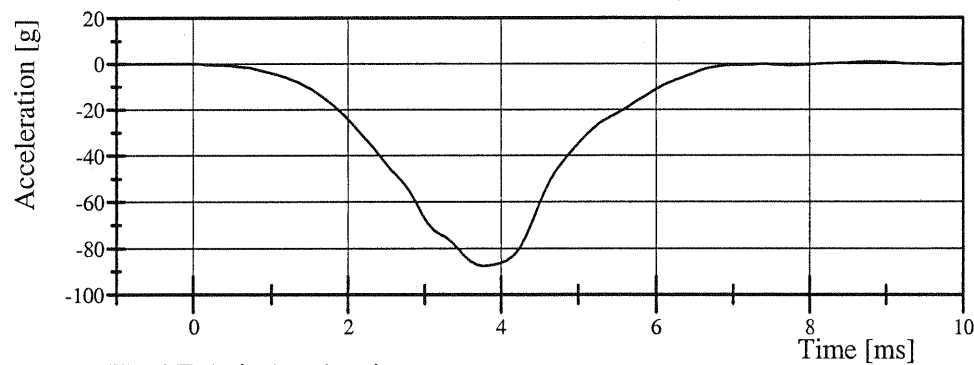


Filter Class: CFC_1000

Max: 5.5 g at 3.7 ms

Min: -4.8 g at 3.3 ms

Head Y-Axis Acceleration

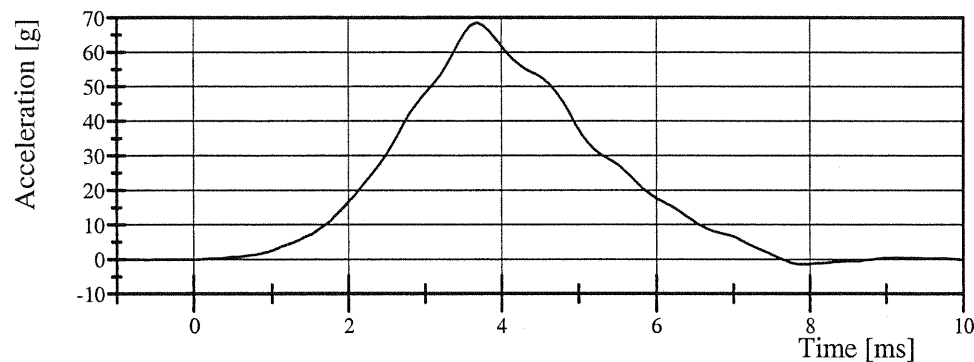


Filter Class: CFC_1000

Max: 0.8 g at 8.7 ms

Min: -87.7 g at 3.8 ms

Head Z-Axis Acceleration

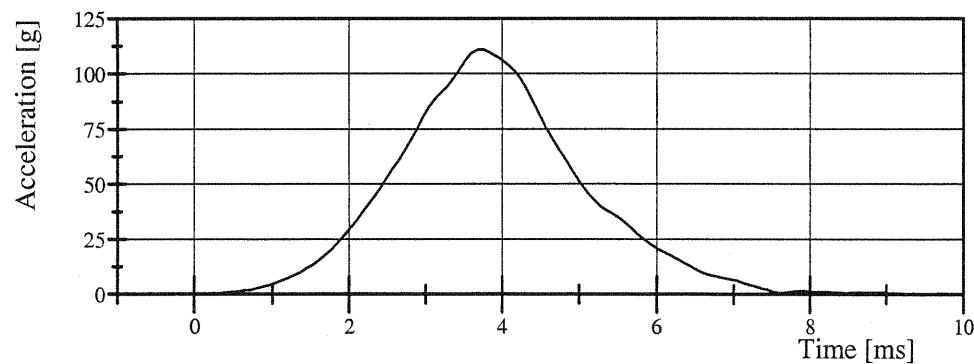


Filter Class: CFC_1000

Max: 68.5 g at 3.7 ms

Min: -1.4 g at 7.9 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 110.9 g at 3.8 ms

Min: 0.0 g at -1.0 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-3

Test Date: 8/15/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.34 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.833 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.656 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.572 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-54.8 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	65.4 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	57.7 N·m	Yes
Total Neck Occipital Condyles Moment			
Decay Time to 0 N·m	71 - 87 ms	79.0 ms	Yes
Maximum Forward Pot Rotation			
Peak	(-32) - (-39) °	-35.4 °	Yes
Time of Peak	56 - 68 ms	59.0 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-32.1 °	Yes
Time of Peak	56 - 68 ms	64.7 ms	Yes

Test meets specifications.

Comments:

Technician

Rout Borawski

Approved

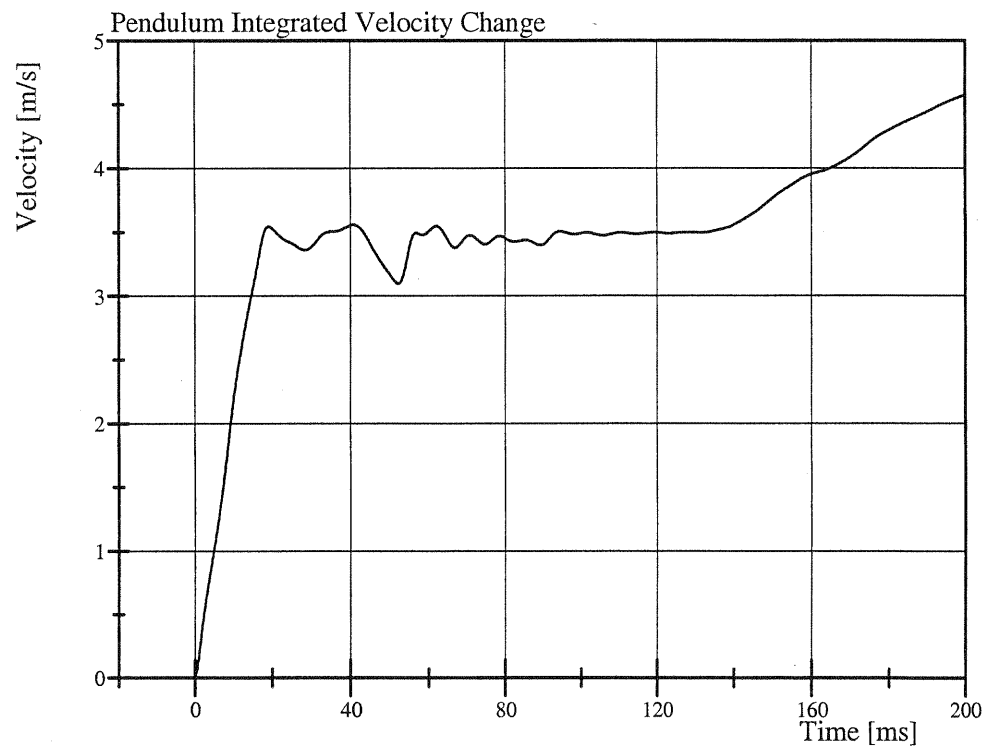
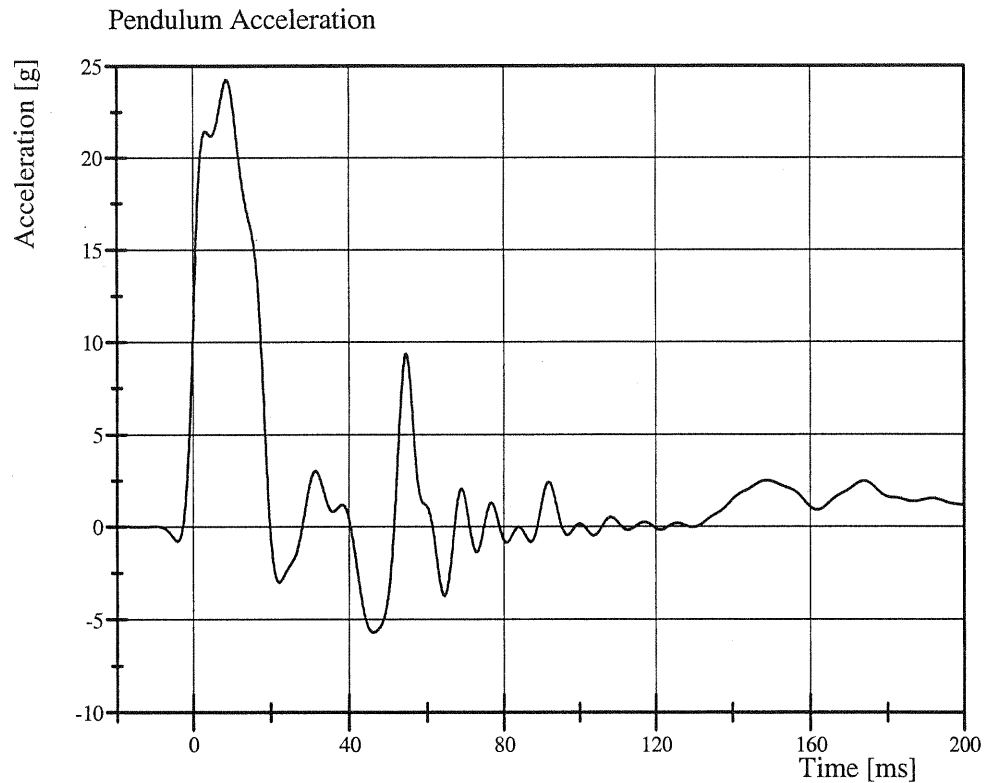
Ron Storer

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-3

Test Date: 8/15/2007



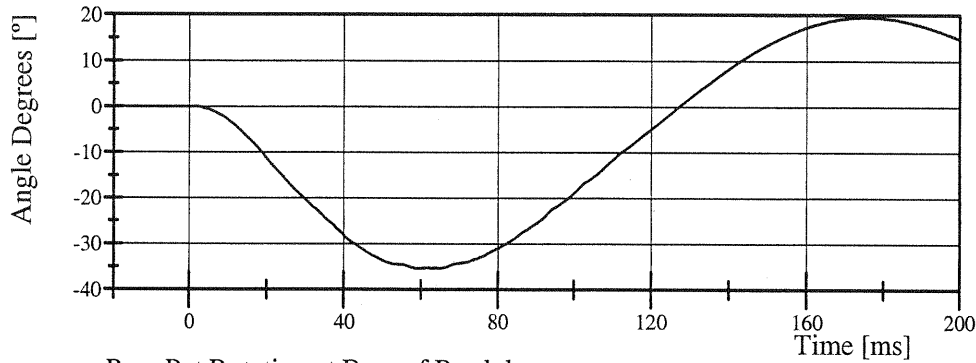
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-3

Test Date: 8/15/2007

Forward Pot Rotation at Base of Pendulum

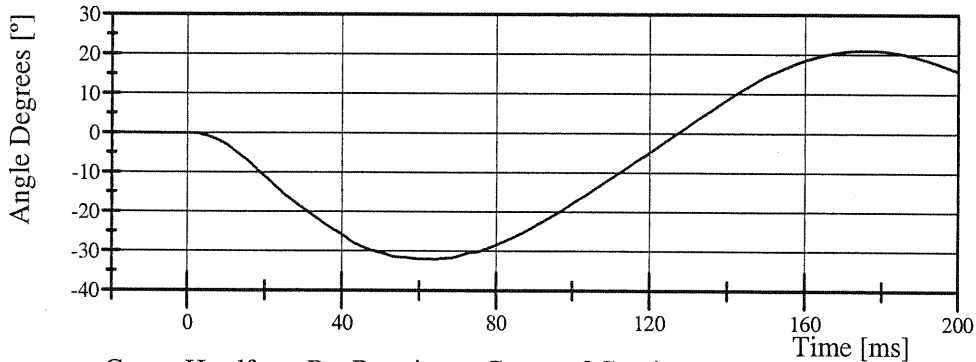


Filter Class: CFC_1000

Max: 19.5 ° at 174.2 ms

Min: -35.4 ° at 59.0 ms

Rear Pot Rotation at Base of Pendulum

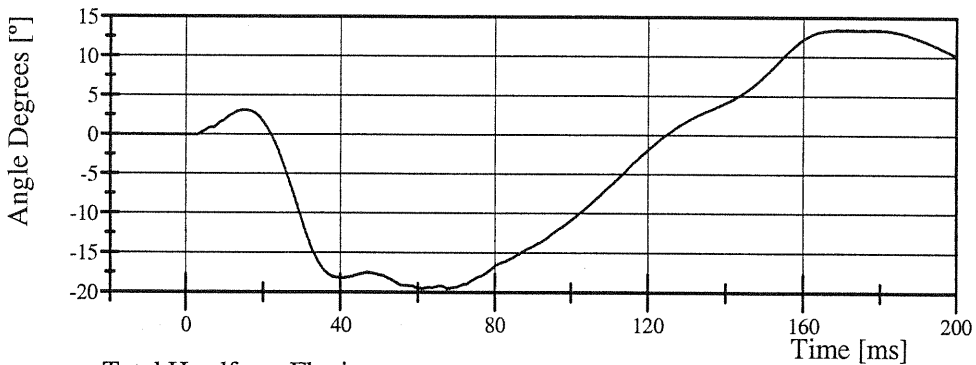


Filter Class: CFC_1000

Max: 21.1 ° at 174.8 ms

Min: -32.1 ° at 64.7 ms

Center Headform Pot Rotation at Center of Gravity

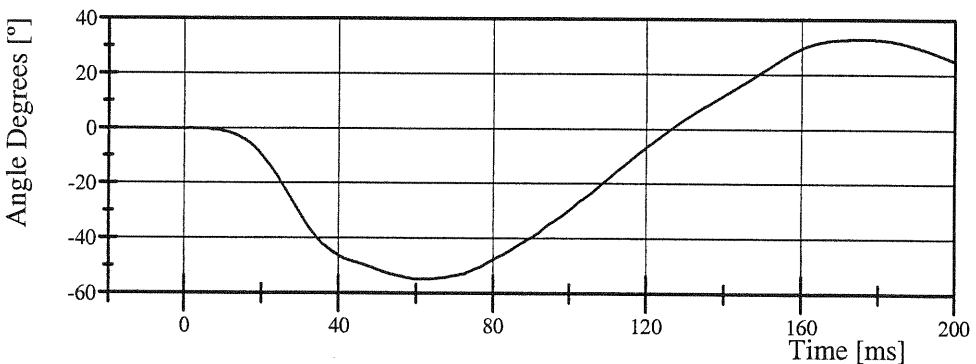


Filter Class: CFC_1000

Max: 13.5 ° at 170.4 ms

Min: -19.5 ° at 61.3 ms

Total Headform Flexion



Filter Class: CFC_1000

Max: 33.0 ° at 175.4 ms

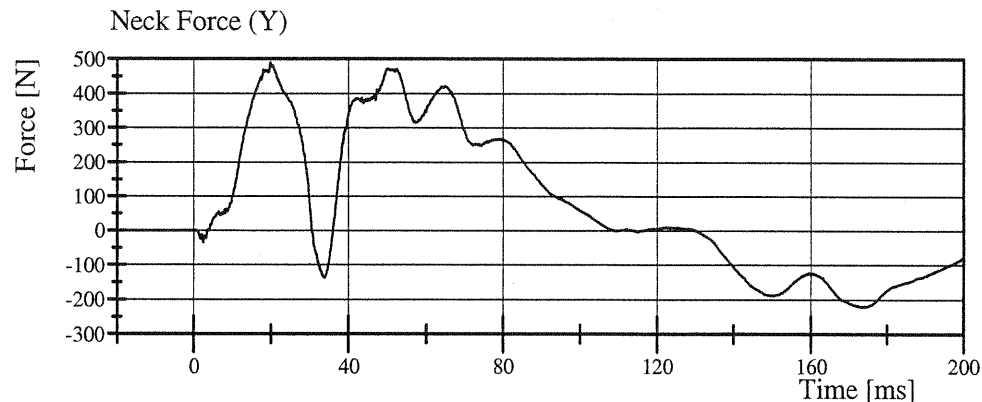
Min: -54.8 ° at 60.9 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-3

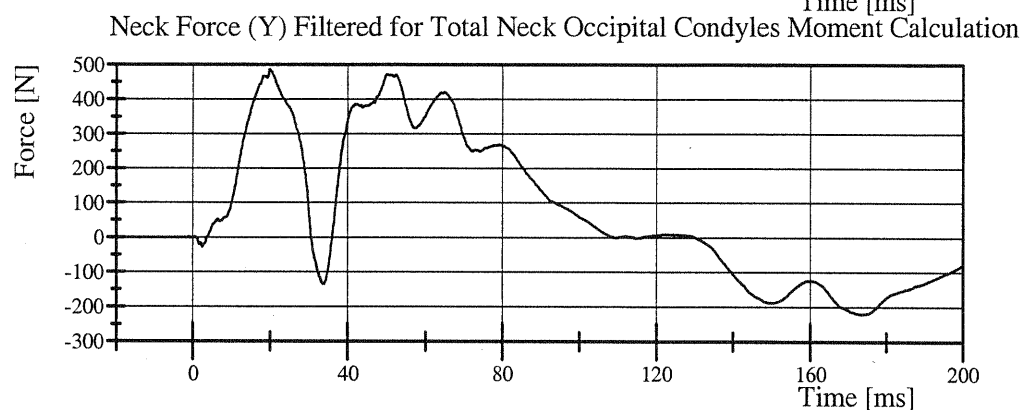
Test Date: 8/15/2007



Filter Class: CFC_1000

Max: 490.0 N at 19.8 ms

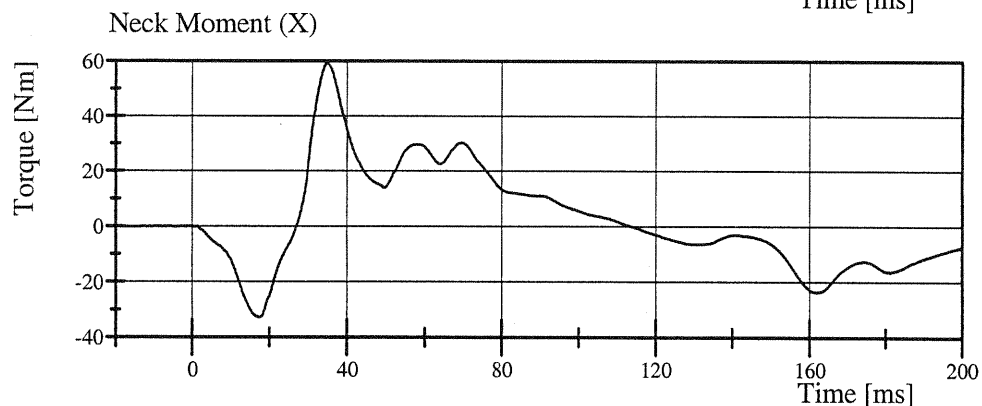
Min: -220.8 N at 173.4 ms



Filter Class: CFC_600

Max: 487.1 N at 19.9 ms

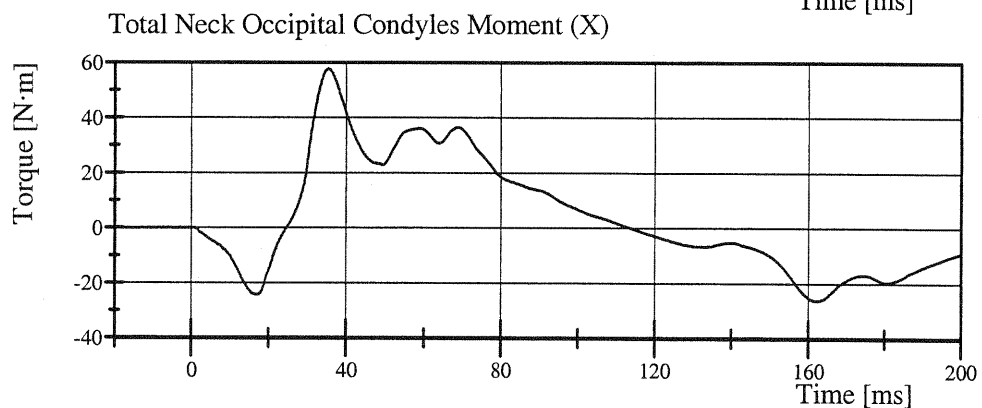
Min: -220.4 N at 173.4 ms



Filter Class: CFC_600

Max: 59.3 Nm at 34.9 ms

Min: -32.8 Nm at 17.3 ms



Filter Class: CFC_600

Max: 57.7 N·m at 35.4 ms

Min: -26.1 N·m at 162.2 ms

Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

Test Date: 8/14/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.29 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,754.8 N	Yes
Shoulder Displacement	35 - 44 mm	37.9 mm	Yes

Test meets specifications.

Comments:

Technician

Rand Beraud

Approved

Ron Stoner

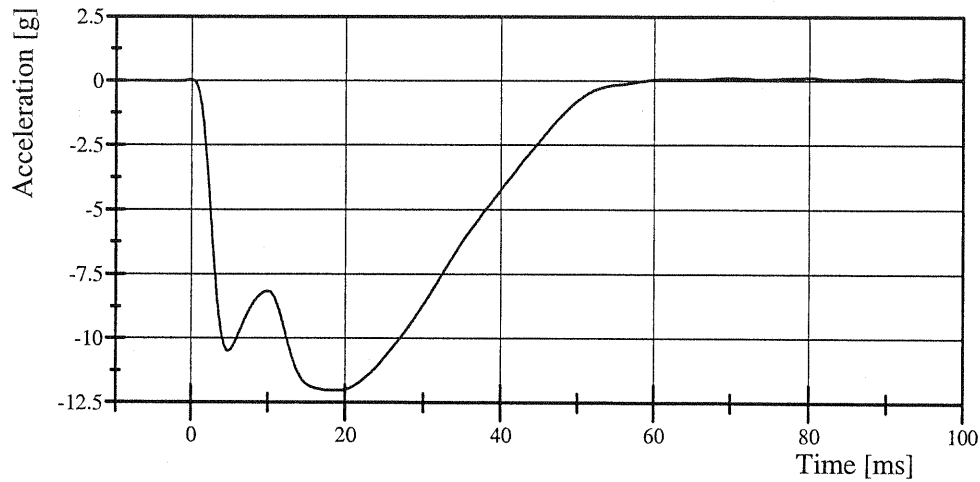
Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-1

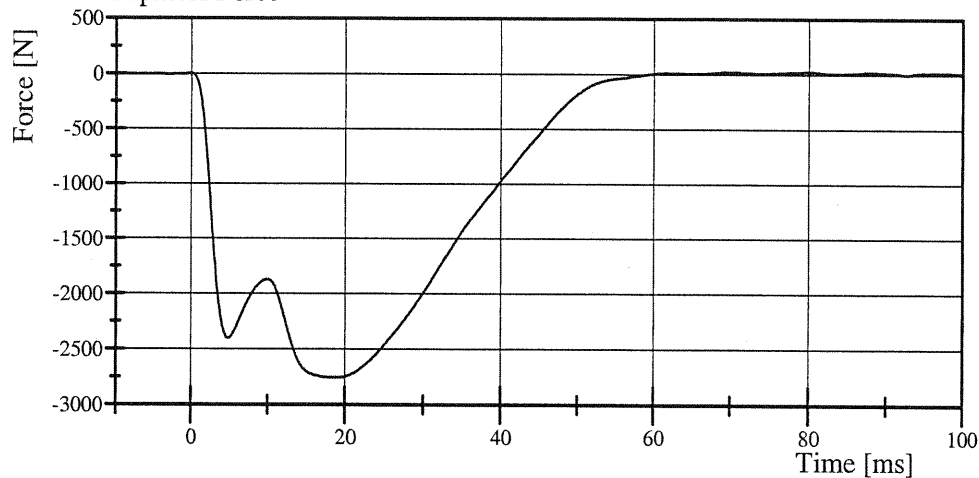
Test Date: 8/14/2007

Impactor Acceleration



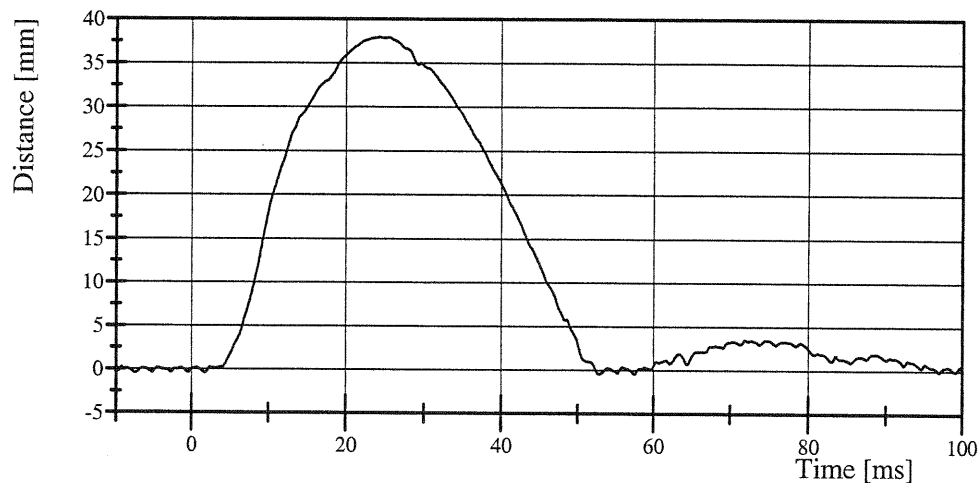
Filter Class: CFC_180
Max: 0.1 g at 80.1 ms
Min: -12.0 g at 19.0 ms

Impactor Force



Filter Class: CFC_180
Max: 27.6 N at 80.1 ms
Min: -2,754.8 N at 19.0 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 37.9 mm at 24.2 ms
Min: -0.5 mm at 52.8 ms

Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-2

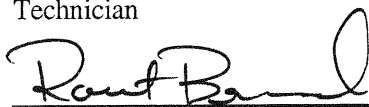
Test Date: 8/14/2007

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.28 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,846.4 N	Yes
Upper Abdominal Rib Displacement	33 - 41 mm	37.8 mm	Yes
Lower Abdominal Rib Displacement	31 - 39 mm	32.1 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.6 g	Yes

Test meets specifications.

Comments:

Technician



Approved

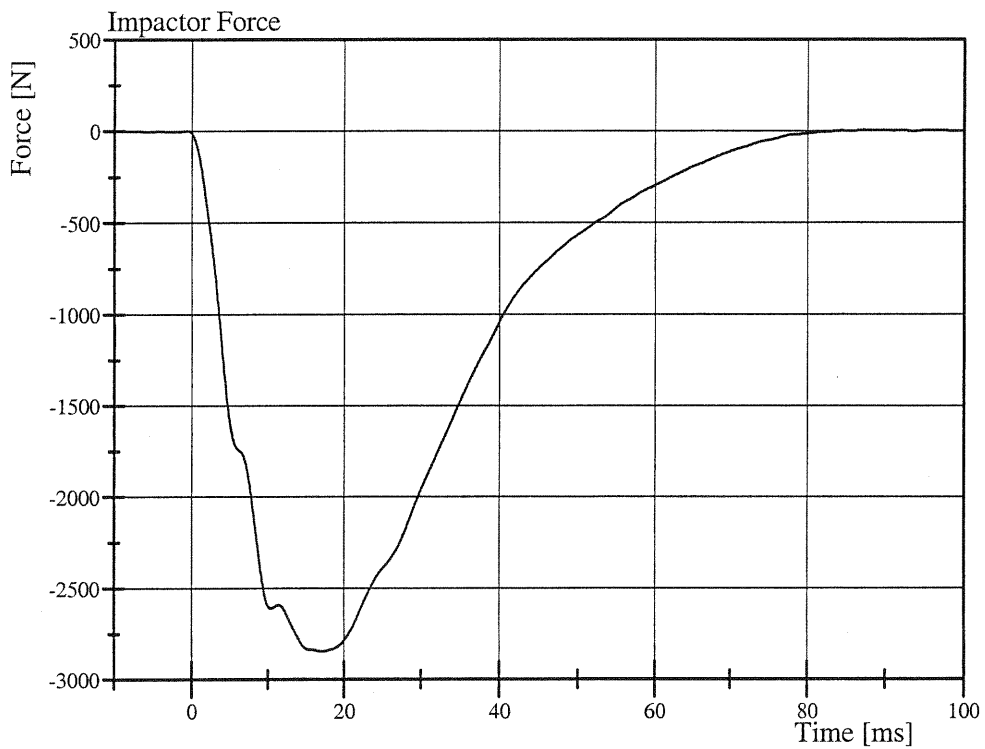
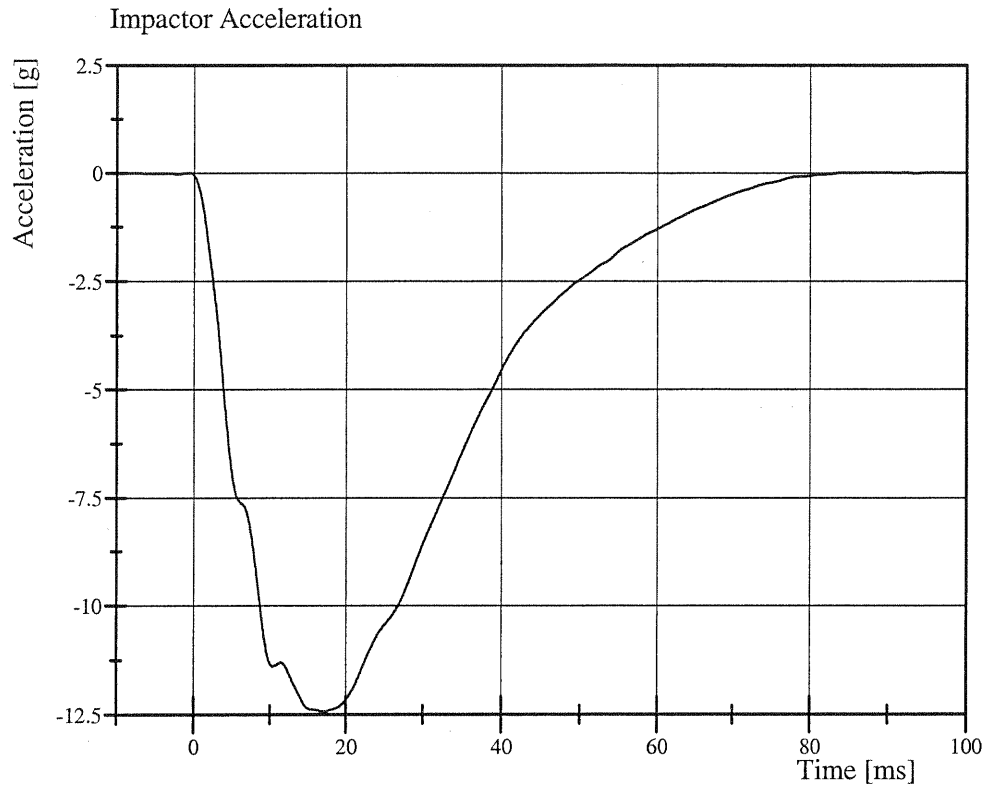


Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-2

Test Date: 8/14/2007



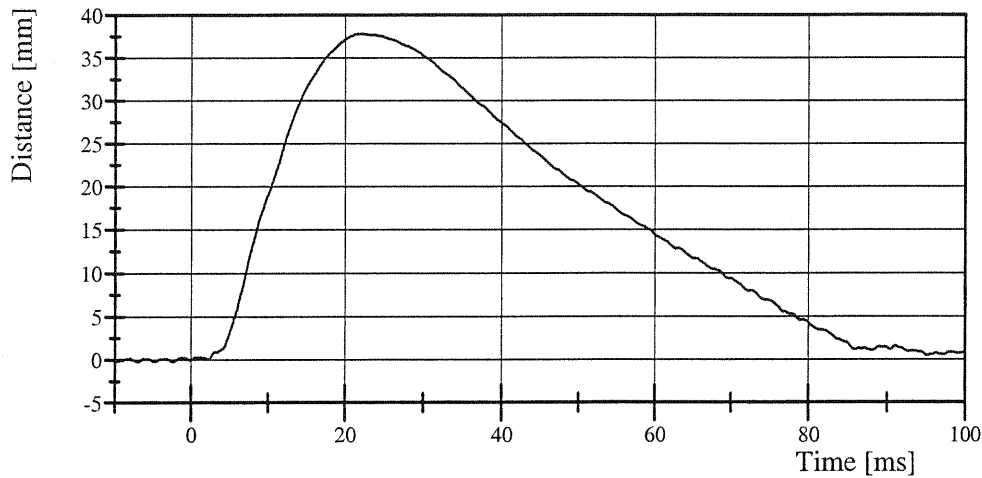
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 3-2

Test Date: 8/14/2007

Upper Abdominal Rib Displacement

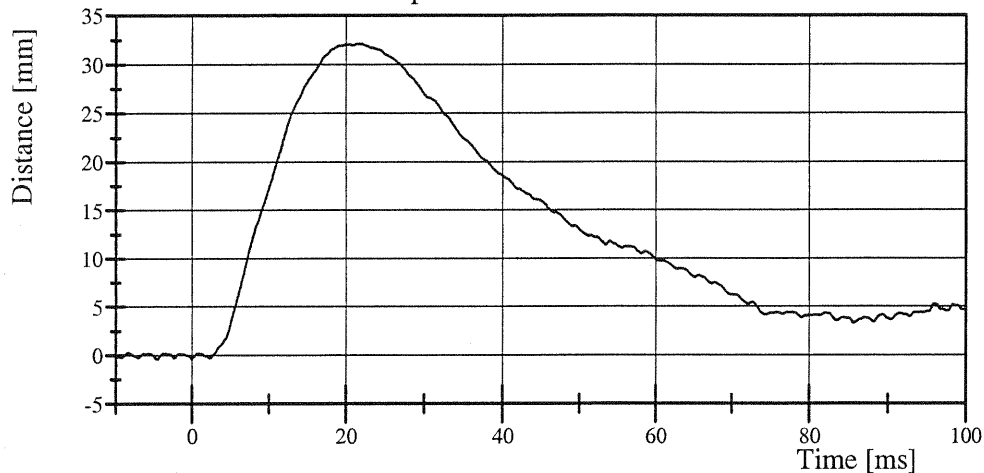


Filter Class: CFC_600

Max: 37.8 mm at 22.1 ms

Min: -0.2 mm at -2.3 ms

Lower Abdominal Rib Displacement

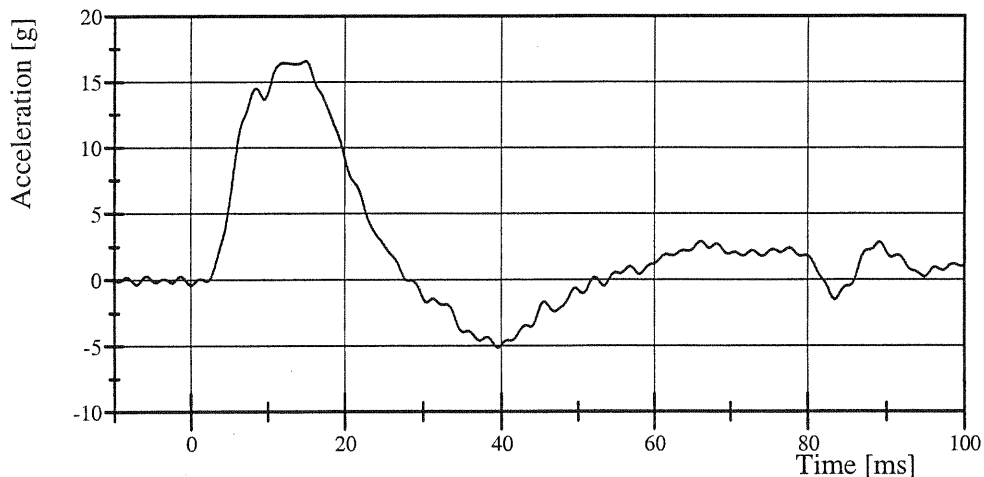


Filter Class: CFC_600

Max: 32.1 mm at 21.7 ms

Min: -0.4 mm at -4.6 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180

Max: 16.6 g at 15.0 ms

Min: -5.1 g at 39.6 ms

Appendix D

Test Equipment List and Calibration 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
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	600
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head Form Accelerations	1000

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 070809

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	DAS		Positive Polarity	Assembly
						Flip			
1	Trig D1	10ZERO000000VO0A	EVENT		1 Logic	+		Bipolar	
2	P54555	16SILBFR0000ACXA	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME (#1)	400	g	+		Forward	
3	P54859	16SILBFR0000ACYA	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME (#1)	1000	g	-		Leftward	
4	P54770	16SILBFR0000ACZA	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME (#1)	400	g	+		Downward	
5	P49302	16SILBRE0000ACXA	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME (#2)	400	g	+		Forward	
6	P49336	16SILBRE0000ACYA	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME (#2)	1000	g	-		Leftward	
7	P49566	16SILBRE0000ACZA	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME (#2)	400	g	-		Upward	
8	P54533	18FORA000000ACXA	REAR FLOOR PAN ABOVE AXLE (X) ACCELERATION VS TIME (#3)	1000	g	+		Forward	
9	P50963	18FORA000000ACYA	REAR FLOOR PAN ABOVE AXLE (Y) ACCELERATION VS TIME (#3)	1000	g	-		Leftward	
10	P54443	18FORA000000ACZA	REAR FLOOR PAN ABOVE AXLE (Z) ACCELERATION VS TIME (#3)	1000	g	-		Upward	
11	P54540	14SILBFR0000ACYA	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME (#5)	1000	g	+		Rightward	
12	P56959	14SILBRE0000ACYA	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME (#4)	1000	g	+		Rightward	
13	P54236	16VEHCRE0000ACYA	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME (#7)	1500	g	-		Leftward	
14	P56976	11APILLO0000ACYA	LEFT LOWER A-POST (Y) ACCELERATION VS TIME (#14)	1500	g	-		Leftward	
15	P54832	11APILMI0000ACYA	LEFT MID A-POST (Y) ACCELERATION VS TIME (#15)	1500	g	-		Leftward	
16	P54546	14BPILLO0000ACYA	LEFT LOWER B-POST (Y) ACCELERATION VS TIME (#12)	1500	g	-		Leftward	
17	P56944	14BPILMI0000ACYA	LEFT MID B-POST (Y) ACCELERATION VS TIME (#13)	1500	g	-		Leftward	
18	P54856	11SETRFR0000ACYA	LEFT FRONT SEAT TRACK (Y) ACCELERATION VS TIME (#16) - align with h-point	1500	g	+		Rightward	
19	P54849	14SETRLERE00ACYA	LEFT REAR SEAT TRACK (Y) ACCELERATION VS TIME (#17)	1500	g	-		Leftward	
20	P49899	10VEHCCG0000ACXA	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME (#18)	1000	g	+		Forward	
21	P47546	10VEHCCG0000ACYA	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME (#18)	1000	g	-		Leftward	
22	P54288	10VEHCCG0000ACZA	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME (#18)	1000	g	-		Upward	
23	P54620	14DOOR000001ACYA	Vehicle Front Door centerline 430 mm above ground Y acceleration	1500	g	+		Rightward	
24	P54532	14DOOR000002ACYA	Vehicle Front Door mid-rear 430 mm above ground Y acceleration	1500	g	+		Rightward	
25	P54576	14DOOR000003ACYA	Vehicle Front Door upper centerline 685 mm above ground Y acceleration	1500	g	+		Rightward	
26	P45665	16DOOR000002ACYA	Vehicle Rear Door mid-rear 430 mm above ground Y acceleration	1500	g	+		Rightward	
27	P54539	16DOOR000003ACYA	Vehicle Rear Door upper centerline 685 mm above ground Y acceleration	1500	g	+		Rightward	
28	P56977	12ENGNTPO000ACXA	Top of Engine X acceleration	1000	g	+		Forward	
29	P56975	12ENGNTPO000ACYA	Top of Engine Y acceleration	1000	g	-		Leftward	
30	P56955	12VEHC000000ACXA	Firewall X acceleration	1000	g	+		Forward	
31	P56957	12VEHC000000ACYA	Firewall Y acceleration	1000	g	-		Leftward	
32	P56966	13ROOF000000ACXA	Right side Roof Rail (in line with impact point) X acceleration	1000	g	-		Rearward	
33	P56942	13ROOF000000ACYA	Right side Roof Rail (in line with impact point) Y acceleration	1000	g	-		Leftward	
34	P48056	13SILBFR0000ACYA	Right side sill in-line with impact location Y-axis acceleration	1000	g	+		Rightward	
35	P54184	18DECK000000ACXA	Rear deck behind rear axel X-axis Accel	1000	g	+		Forward	
36	P50953	18DECK000000ACYA	Rear deck behind rear axel Y-axis Accel	1000	g	-		Leftward	
37	P54573	18DECK000000ACZA	Rear deck behind rear axel Z-axis Accel	1000	g	-		Upward	
38	ABFire1	11AIRBMILE00EV0A	DRIV. SIDE AIRBAG IND (IP 44)	5	V	+		Bipolar	
39	ABFire2	11AIRBTPLE00EV0A	DRIV. SIDE CURTAIN IND (IP 15)	5	V	+		Bipolar	
40	Bit.00	11CONT000001VO00	Head contact switch	1	Logic	+		Bipolar	
41	Bit.01	11CONT000002VO00	Shoulder contact switch	1	Logic	+		Bipolar	
42	Bit.02	11CONT000003VO00	Torso contact switch	1	Logic	+		Bipolar	
43	Bit.03	11CONT000004VO00	Leg contact switch	1	Logic	+		Bipolar	
44	68054	K0FBAR010000FOXA	POLE LOAD CELL1	222400	N	-		Compression force	0-Barrier 201 Pole.001
45	68032	K0FBAR020000FOXA	POLE LOAD CELL 2	222400	N	-		Compression force	0-Barrier 201 Pole.002

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	DAS Flip	Positive Polarity	Assembly
46	1220BZY-50K-122067A	K0FBAR030000FOXA	POLE LOAD CELL 3	222400	N	-	Compression force	0-Barrier 201 Pole.003
47	1220BZY-50K-122027A	K0FBAR040000FOXA	POLE LOAD CELL 4	222400	N	-	Compression force	0-Barrier 201 Pole.004
48	1220BZY-50K-122061A	K0FBAR050000FOXA	POLE LOAD CELL 5	222400	N	-	Compression force	0-Barrier 201 Pole.005
49	1220BZY-50K-114016A	K0FBAR060000FOXA	POLE LOAD CELL 6	222400	N	-	Compression force	0-Barrier 201 Pole.006
50	1220TX-50K-68056A	K0FBAR070000FOXA	POLE LOAD CELL 7	222400	N	-	Compression force	0-Barrier 201 Pole.007
51	1220TX-50K-68022A	K0FBAR080000FOXA	POLE LOAD CELL 8	222400	N	-	Compression force	0-Barrier 201 Pole.008

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
1	11HEADCG00WSACXP	Head X-Axis Acceleration	1000	+	yes	2000
2	11HEADCG00WSACYP	Head Y-Axis Acceleration	1000	+	yes	2000
3	11HEADCG00WSACZP	Head Z-Axis Acceleration	1000	+	yes	2000
3A	11HEADCG00WSACRA	Head Resultant Acceleration	1000			
4	11HEADCG00WSANXP	Head X-Axis Angular Displacement	1000	+	no	50000
5	11HEADCG00WSANYP	Head Y-Axis Angular Displacement	1000	+	no	50000
6	11HEADCG00WSANZP	Head Z-Axis Angular Displacement	1000	+	no	50000
7	11NECKUP00WSFOXP	Upper Neck X-Axis Force	1000	+	yes	10000
8	11NECKUP00WSFOYP	Upper Neck Y-Axis Force	1000	+	yes	10000
9	11NECKUP00WSFOZP	Upper Neck Z-Axis Force	1000	+	yes	12000
10	11NECKUP00WSMOXP	Upper Neck Moment About X Axis	600	+	yes	300
11	11NECKUP00WSMOYP	Upper Neck Moment About Y Axis	600	+	yes	300
12	11NECKUP00WSMOZP	Upper Neck Moment About Z Axis	600	+	yes	200
13	11NECKLO00WSFOXP	Lower Neck X-Axis Force	1000	+	yes	10000
14	11NECKLO00WSFOYP	Lower Neck Y-Axis Force	1000	+	yes	10000
15	11NECKLO00WSFOZP	Lower Neck Z-Axis Force	1000	+	yes	12000
16	11NECKLO00WSMOXP	Lower Neck Moment About X Axis	600	+	yes	300
17	11NECKLO00WSMOYP	Lower Neck Moment About Y Axis	600	+	yes	300
18	11NECKLO00WSMOZP	Lower Neck Moment About Z Axis	600	+	yes	200
19	11SHLDLE00WSFOXP	Shoulder X-Axis Force	600	+	yes	5000
20	11SHLDLE00WSFOYP	Shoulder Y-Axis Force	600	+	yes	10000
21	11SHLDLE00WSFOZP	Shoulder Z-Axis Force	600	+	yes	5000
22	11SHLDLE00WSDSYP	Shoulder Y-Axis Displacement	600	+	yes	90
23	11SHLDLE00WSACXP	Shoulder X-Axis Acceleration	1000	+	yes	2000
24	11SHLDLE00WSACYP	Shoulder Y-Axis Acceleration	1000	+	yes	2000
25	11SHLDLE00WSACZP	Shoulder Z-Axis Acceleration	1000	+	yes	2000
25A	11SHLDLE00WSACRA	Shoulder Resultant Acceleration	1000			
26	11THSP0100WSACXP	T1 X-Axis Acceleration	180	+	yes	2000
27	11THSP0100WSACYP	T1 Y-Axis Acceleration	180	+	yes	2000
28	11THSP0100WSACZP	T1 Z-Axis Acceleration	180	+	yes	2000
28A	11THSP0100WSACRA	T1 Resultant Acceleration	180			
29	11THSP0400WSACXP	T4 X-Axis Acceleration	180	+	yes	2000
30	11THSP0400WSACYP	T4 Y-Axis Acceleration	180	+	yes	2000
31	11THSP0400WSACZP	T4 Z-Axis Acceleration	180	+	yes	2000
31A	11THSP0400WSACRA	T4 Resultant Acceleration	180			
32	11THSP1200WSACXP	T12 X-Axis Acceleration	180	+	yes	2000
33	11THSP1200WSACYP	T12 Y-Axis Acceleration	180	+	yes	2000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
34	11THSP1200WSACZP	T12 Z-Axis Acceleration	180	+	yes	2000
34A	11THSP1200WSACRA	T12 Resultant Acceleration	180			
35	11TRRILE01WSDSYP	Thorax Rib 1 Y-Axis Displacement	600	+	yes	90
36	11TRRILE01WSACXP	Thorax Rib 1 X-Axis Acceleration	1000	+	yes	2000
37	11TRRILE01WSACYP	Thorax Rib 1 Y-Axis Acceleration	1000	+	yes	2000
38	11TRRILE01WSACZP	Thorax Rib 1 Z-Axis Acceleration	1000	+	yes	2000
38A	11TRRILE01WSACRA	Thorax Rib 1 Resultant Acceleration	1000			
39	11TRRILE02WSDSYP	Thorax Rib 2 Y-Axis Displacement	600	+	yes	90
40	11TRRILE02WSACXP	Thorax Rib 2 X-Axis Acceleration	1000	+	yes	2000
41	11TRRILE02WSACYP	Thorax Rib 2 Y-Axis Acceleration	1000	+	yes	2000
42	11TRRILE02WSACZP	Thorax Rib 2 Z-Axis Acceleration	1000	+	yes	2000
42A	11TRRILE02WSACRA	Thorax Rib 2 Resultant Acceleration	1000			
43	11TRRILE03WSDSYP	Thorax Rib 3 Y-Axis Displacement	600	+	yes	90
44	11TRRILE03WSACXP	Thorax Rib 3 X-Axis Acceleration	1000	+	yes	2000
45	11TRRILE03WSACYP	Thorax Rib 3 Y-Axis Acceleration	1000	+	yes	2000
46	11TRRILE03WSACZP	Thorax Rib 3 Z-Axis Acceleration	1000	+	yes	2000
46A	11TRRILE03WSACRA	Thorax Rib 3 Resultant Acceleration	1000			
47	11ABRILE01WSDSYP	Abdominal Rib 1 Y-Axis Displacement	600	+	yes	90
48	11ABRILE01WSACXP	Abdominal Rib 1 X-Axis Acceleration	1000	+	yes	2000
49	11ABRILE01WSACYP	Abdominal Rib 1 Y-Axis Acceleration	1000	+	yes	2000
50	11ABRILE01WSACZP	Abdominal Rib 1 Z-Axis Acceleration	1000	+	yes	2000
50A	11ABRILE01WSACRA	Abdominal Rib 1 Resultant Acceleration	1000			
51	11ABRILE02WSDSYP	Abdominal Rib 2 Y-Axis Displacement	600	+	yes	90
52	11ABRILE02WSACXP	Abdominal Rib 2 X-Axis Acceleration	1000	+	yes	2000
53	11ABRILE02WSACYP	Abdominal Rib 2 Y-Axis Acceleration	1000	+	yes	2000
54	11ABRILE02WSACZP	Abdominal Rib 2 Z-Axis Acceleration	1000	+	yes	2000
54A	11ABRILE02WSACRA	Abdominal Rib 2 Resultant Acceleration	1000			
55	11LUSP0000WSFOXP	Lumbar X-Axis Force	600	+	yes	10000
56	11LUSP0000WSFOYP	Lumbar Y-Axis Force	600	+	yes	10000
57	11LUSP0000WSFOZP	Lumbar Z-Axis Force	600	+	yes	12000
58	11LUSP0000WSMOXP	Lumbar Moment About X Axis	600	+	yes	300
59	11LUSP0000WSMOYP	Lumbar Moment About Y Axis	600	+	yes	300
60	11LUSP0000WSMOZP	Lumbar Moment About Z Axis	600	+	yes	200
61	11PELVCG00WSACXP	Pelvis X-Axis Acceleration	1000	+	yes	2000
62	11PELVCG00WSACYP	Pelvis Y-Axis Acceleration	1000	+	yes	2000
63	11PELVCG00WSACZP	Pelvis Z-Axis Acceleration	1000	+	yes	2000
63A	11PELVCG00WSACRA	Pelvis Resultant Acceleration	1000			

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
64	11SACRLE00WSFOXP	Sacro-Iliac Left X-Axis Force	600	+	yes	6000
65	11SACRLE00WSFOYP	Sacro-Iliac Left Y-Axis Force	600	+	yes	12000
66	11SACRLE00WSFOZP	Sacro-Iliac Left Z-Axis Force	600	+	yes	6000
67	11SACRLE00WSMOXP	Sacro-Iliac Left Moment About X Axis	600	+	yes	1000
68	11SACRLE00WSMOYP	Sacro-Iliac Left Moment About Y Axis	600	+	yes	400
69	11SACRLE00WSMOZP	Sacro-Iliac Left Moment About Z Axis	600	+	yes	400
70	11SACRRI00WSFOXP	Sacro-Iliac Right X-Axis Force	600	+	yes	6000
71	11SACRRI00WSFOYP	Sacro-Iliac Right Y-Axis Force	600	+	yes	12000
72	11SACRRI00WSFOZP	Sacro-Iliac Right Z-Axis Force	600	+	yes	6000
73	11SACRRI00WSMOXP	Sacro-Iliac Right Moment About X Axis	600	+	yes	1000
74	11SACRRI00WSMOYP	Sacro-Iliac Right Moment About Y Axis	600	+	yes	400
75	11SACRRI00WSMOZP	Sacro-Iliac Right Moment About Z Axis	600	+	yes	400
76	11PUBC0000WSFOYP	Pubic Y-Axis Force	600	+	yes	12000
77	11FEMRL00WSFOXP	Left Femur X-Axis Force	600	+	yes	10000
78	11FEMRL00WSFOYP	Left Femur Y-Axis Force	600	+	yes	25000
79	11FEMRL00WSFOZP	Left Femur Z-Axis Force	600	+	yes	10000
80	11FEMRLEMIWSFOXP	Left Mid Femur X-Axis Force	600	+	yes	15000
81	11FEMRLEMIWSFOYP	Left Mid Femur Y-Axis Force	600	+	yes	15000
82	11FEMRLEMIWSFOZP	Left Mid Femur Z-Axis Force	600	+	yes	15000
83	11FEMRLEMIWSMOXP	Left Mid Femur Moment About X Axis	600	+	yes	350
84	11FEMRLEMIWSMOYP	Left Mid Femur Moment About Y Axis	600	+	yes	350
85	11FEMRLEMIWSMOZP	Left Mid Femur Moment About Z Axis	600	+	yes	300
86	11KNEELEOUWSFOYP	Left Knee Inboard Y-Axis Force	600	+	yes	20000
87	11FEMRRIMIWSFOXP	Right Mid Femur X-Axis Force	600	+	yes	15000
88	11FEMRRIMIWSFOYP	Right Mid Femur Y-Axis Force	600	+	yes	15000
89	11FEMRRIMIWSFOZP	Right Mid Femur Z-Axis Force	600	+	yes	15000
90	11FEMRRIMIWSMOXP	Right Mid Femur Moment About X Axis	600	+	yes	350
91	11FEMRRIMIWSMOYP	Right Mid Femur Moment About Y Axis	600	+	yes	350
92	11FEMRRIMIWSMOZP	Right Mid Femur Moment About Z Axis	600	+	yes	300
93	16SILBFR0000ACXA	Right Side Sill at Front Seat X-Axis Acceleration	60	+	yes	400
93A	16SILBFR0000VEXC	Right Side Sill at Front Seat X-Axis Velocity	180			
93B	16SILBFR0000DCXC	Right Side Sill at Front Seat X-Axis Displacement	180			
94	16SILBFR0000ACYA	Right Side Sill at Front Seat Y-Axis Acceleration	60	+	yes	1000
94A	16SILBFR0000VEYC	Right Side Sill at Front Seat Y-Axis Velocity	180			
94B	16SILBFR0000DCYC	Right Side Sill at Front Seat Y-Axis Displacement	180			
95	16SILBFR0000ACZA	Right Side Sill at Front Seat Z-Axis Acceleration	60	+	yes	400
95A	16SILBFR0000ACRA	Right Side Sill at Front Seat Resultant Acceleration	60			

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
96	16SILBRE0000ACXA	Right Side Sill at Rear Seat X-Axis Acceleration	60	+	yes	400
96A	16SILBRE0000VEXC	Right Side Sill at Rear Seat X-Axis Velocity	180			
96B	16SILBRE0000DCXC	Right Side Sill at Rear Seat X-Axis Displacement	180			
97	16SILBRE0000ACYA	Right Side Sill at Rear Seat Y-Axis Acceleration	60	+	yes	1000
97A	16SILBRE0000VEYC	Right Side Sill at Rear Seat Y-Axis Velocity	180			
97B	16SILBRE0000DCYC	Right Side Sill at Rear Seat Y-Axis Displacement	180			
98	16SILBRE0000ACZA	Right Side Sill at Rear Seat Z-Axis Acceleration	60	+	yes	400
98A	16SILBRE0000ACRA	Right Side Sill at Rear Seat Resultant Acceleration	60			
99	18FORA000000ACXA	Rear Floorpan Above Axle X-Axis Acceleration	60	+	yes	1000
100	18FORA000000ACYA	Rear Floorpan Above Axle Y-Axis Acceleration	60	+	yes	1000
101	18FORA000000ACZA	Rear Floorpan Above Axle Z-Axis Acceleration	60	+	yes	1000
101A	18FORA000000ACRA	Rear Floorpan Above Axle Resultant Acceleration	60			
102	14SILBFR0000ACYA	Left Side Sill at Front Seat Y-Axis Acceleration	60	+	yes	1000
102A	14SILBFR0000VEYC	Left Side Sill at Front Seat Y-Axis Velocity	180			
102B	14SILBFR0000DCYC	Left Side Sill at Front Seat Y-Axis Displacement	180			
103	14SILBRE0000ACYA	Left Side Sill at Rear Seat Y-Axis Acceleration	60	+	yes	1000
103A	14SILBRE0000VEYC	Left Side Sill at Rear Seat Y-Axis Velocity	180			
103B	14SILBRE0000DCYC	Left Side Sill at Rear Seat Y-Axis Displacement	180			
104	16VEHCRE0000ACYA	Right Rear Occupant Compartment Y-Axis Acceleration	60	+	yes	1500
105	11APILLO0000ACYA	Left Lower A-Post Y-Axis Acceleration	60	+	yes	1500
106	11APILMI0000ACYA	Left Mid A-Post Y-Axis Acceleration	60	+	yes	1500
107	14BPILLO0000ACYA	Left Lower B-Post Y-Axis Acceleration	60	+	yes	1500
108	14BPILMI0000ACYA	Left Mid B-Post Y-Axis Acceleration	60	+	yes	1500
109	11SETFR0000ACYA	Left Front Seat Track Y-Axis Acceleration	60	+	yes	1500
110	14SETRLERE00ACYA	Left Rear Seat Track Y-Axis Acceleration	60	+	yes	1500
111	10VEHCCG0000ACXA	Vehicle Center of Gravity X-Axis Acceleration	60	+	yes	1000
112	10VEHCCG0000ACYA	Vehicle Center of Gravity Y-Axis Acceleration	60	+	yes	1000
113	10VEHCCG0000ACZA	Vehicle Center of Gravity Z-Axis Acceleration	60	+	yes	1000
113A	10VEHCCG0000ACRA	Vehicle Center of Gravity Resultant Acceleration	60			
114	14DOOR000001ACYA	Vehicle Front Door Centerline 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
115	14DOOR000002ACYA	Vehicle Front Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
116	14DOOR000003ACYA	Vehicle Front Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
117	16DOOR000002ACYA	Vehicle Rear Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
118	16DOOR000003ACYA	Vehicle Rear Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
119	12ENGNT0000ACXA	Top of Engine X-Axis Acceleration	60	+	yes	1000
120	12ENGNT0000ACYA	Top of Engine Y-Axis Acceleration	60	+	yes	1000
121	12VEHC000000ACXA	Firewall X-Axis Acceleration	60	+	yes	1000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
122	12VEHC000000ACYA	Firewall Y-Axis Acceleration	60	+	yes	1000
123	13ROOF000000ACXA	Right Side Roof Rail (in line with impact point) X-Axis Acceleration	60	+	yes	1000
124	13ROOF000000ACYA	Right Side Roof Rail (in line with impact point) Y-Axis Acceleration	60	+	yes	1000
125	13SILBFR000000ACYA	Right Side Sill (in-line with impact location) Y-Axis Acceleration	60	+	yes	1000
126	18DECK000000ACXA	Rear Deck Behind Rear Axle X-Axis Acceleration	60	+	yes	1000
127	18DECK000000ACYA	Rear Deck Behind Rear Axle Y-Axis Acceleration	60	+	yes	1000
128	18DECK000000ACZA	Rear Deck Behind Rear Axle Z-Axis Acceleration	60	+	yes	1000
128A	18DECK000000ACRA	Rear Deck Behind Rear Axle Resultant Acceleration	60			
129	11AIRBMILE00EV0A	Driver Side Airbag Inductor	1000	+	no	5
130	11AIRBTPLE00EV0A	Driver Side Curtain Inductor	1000	+	no	5
131	11CONT000001VO00	Head Contact Switch	0	+	no	1
132	11CONT000002VO00	Shoulder Contact Switch	0	+	no	1
133	11CONT000003VO00	Torso Contact Switch	0	+	no	1
134	11CONT000004VO00	Left Contact Switch	0	+	no	1
135	K0FBAR010000FOXA	Pole Load Cell 1	60	+	yes	222400
136	K0FBAR020000FOXA	Pole Load Cell 2	60	+	yes	222400
137	K0FBAR030000FOXA	Pole Load Cell 3	60	+	yes	222400
138	K0FBAR040000FOXA	Pole Load Cell 4	60	+	yes	222400
139	K0FBAR050000FOXA	Pole Load Cell 5	60	+	yes	222400
140	K0FBAR060000FOXA	Pole Load Cell 6	60	+	yes	222400
141	K0FBAR070000FOXA	Pole Load Cell 7	60	+	yes	222400
142	K0FBAR080000FOXA	Pole Load Cell 8	60	+	yes	222400

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