

**Vehicle Research and Test Center
Oblique Side Pole Impact
World SID
2005 Volkswagen Beetle Convertible
TRC Inc. Test Number: 080131**

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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 Volkswagen Beetle Convertible 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

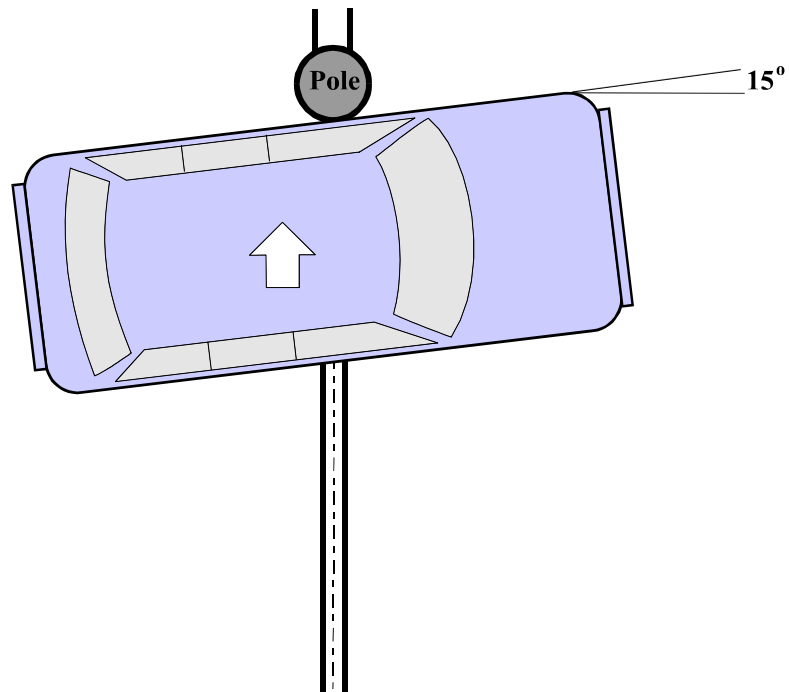
Summary of Side Impact Test

A 2005 Volkswagen Beetle Convertible impacted an oblique rigid pole barrier at an angle of 285°, at a velocity of 32.2 km/h (20.0 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 January 31, 2008. 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-three (93) dummy 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 132 channels of data were recorded. Appendix B contains the vehicle, barrier, and dummy response data traces.



	Front World SID (#016)
HIC36 (g) CFC 1000	3,680
Upper Rib Deflection (mm) CFC 600	
Rib 1	44 mm
Rib 2	33 mm
Rib 3	27 mm
Lower Rib Deflection (mm) CFC 600	
Rib 1	24 mm
Rib 2	25 mm
Lower Spine Resultant (g) CFC 180	69 g
Pubic Symph. Force (N) CFC 600	1127 N

	2005 Volkswagen Beetle
Vehicle Test Weight	1578.6 kg (3480.2 lbs)
Impact Point (Horizontal)-behind center of front axle	1257 mm ¹
Maximum Crush	282 mm Level 1
Impact Speed	19.4 mph

¹ Measurement taken post-test.

Data Acquisition Explanations

The driver dummy's left knee inboard Y-axis force data channel, 11KNEELEINWSFOYP, recorded questionable data throughout the event.

The vehicle's center of gravity X- and Z-axis angular velocity data channels, 10VEHCCG0000AVXA and 10VEHCCG0000AVZA, exceeded full-scale throughout the event.

The vehicle's left lower B-pillar Y-axis acceleration data channel, 14BPILLO0000ACYA, over scaled at 35 milliseconds and recorded questionable data thereafter.

The vehicle's left mid B-pillar Y-axis acceleration data channel, 14BPILMI0000ACYA, over scaled at 57 milliseconds and recorded questionable data thereafter

Section 3

Summary of Test Results

Table 1 General Test Vehicle Parameter Data

Test Vehicle: 2005 Volkswagen Beetle Convertible Test Date: 01/31/08

TEST VEHICLE INFORMATION

Make	Volkswagen
Model	Beetle
Body Style	Convertible
VIN	3VWCM31Y95M363101
Color	Light Blue
Odometer Reading	42,594
Transmission	6-Speed Automatic
Final Drive	Front-wheel drive
Number of Cylinders	4
Engine Displacement	2.0 L
Engine Placement	Transverse
Air Conditioning	Yes
Power Windows	Yes
Power Seats	No
Cruise Control	Yes
Tinted Glass	Yes
Keyless Entry	No

TEST VEHICLE OPTIONS

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Volkswagen De Mexico
Date of Manufacture	04/05

GVWR (lb)	3969
GAWR Front (lb)	2278
GAWR Rear (lb)	1764

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	N/A	Bench	
Number Of Occupants	2	N/A	2	4
Capacity Wt. (VCW)				348
Cargo Wt. (RCLW) (kg)				76

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Volkswagen Beetle Convertible Test Date 01/31/08

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	447.0	272.0		487.8	307.4	
Right	kg	428.0	278.6		498.6	284.8	
Ratio	%	61.4	38.6		62.5	37.5	
Totals	kg	875.0	550.6	1425.6	986.4	592.2	1578.6

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1425.6
Weight of World SID ATD	kg	77.0
Rated Cargo/Luggage Weight (RCLW)	kg	76.0
Calculated Vehicle Target Weight (TVTW)	kg	1578.6

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	678	675	693	695	969
As Tested	mm	719	724	735	747	942
Fully Loaded	mm	673	672	665	670	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2510
Total Vehicle Length at Left Side	mm	3810
Total Vehicle Length at Centerline	mm	4092
Total Vehicle Length at Right Side	mm	3792
Weight of Ballast behind Front Pass. Seat	kg	22.7
Amount of Stoddard Solvent in Fuel Tank	liters	51.1

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Impact Reference Line From Front Axle	mm	1265 ²
Impact Point	mm	1257
Impact Point Difference	mm	8 mm Left

¹ Wheel dollies were used for this test.

² Measurement taken post-test.

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Volkswagen Beetle Convertible Test Date 01/31/08

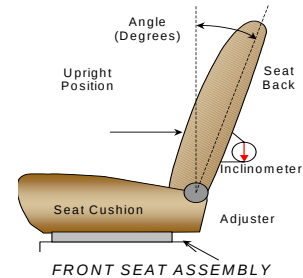
WORLD SID RIDING POSITION

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

Driver: Total Number of detents: 13

Test detent (with the forward-most detent defined as 0): 7

Driver seat back angle: The back was adjusted to 9.6° forward of vertical measured at the head restraint.

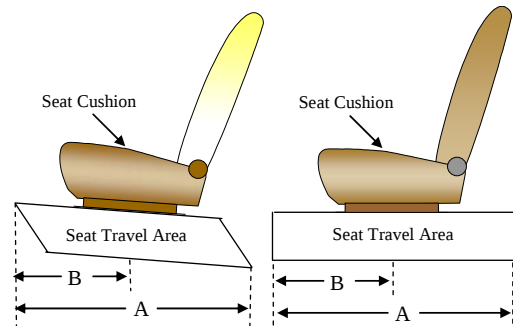


SEAT FORE/AFT POSITIONS

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	220 mm	110 mm
Rear Seat	Fixed	Fixed



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	Fixed	N/A
Rear Seat	Fixed	N/A

Position number one is the uppermost adjustment position.

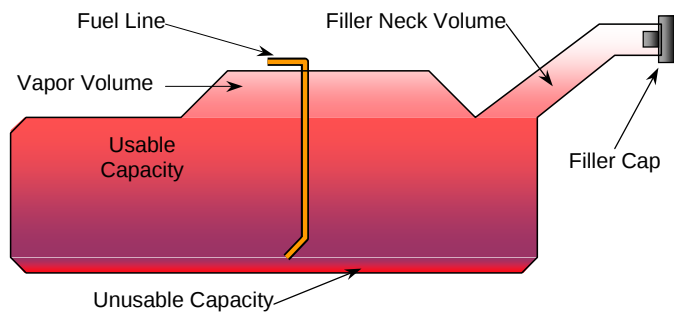
Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Volkswagen Beetle Convertible Test Date 01/31/08

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	54.9
Usable Capacity used for FMVSS 301	54.9
Actual Amount of Solvent used	51.1

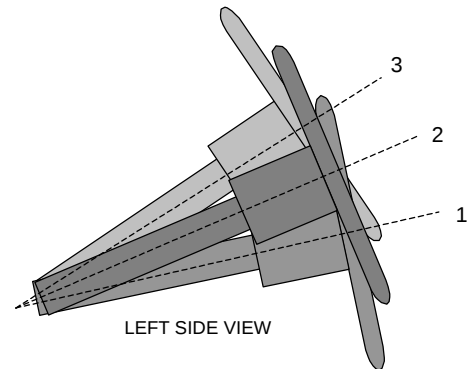
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



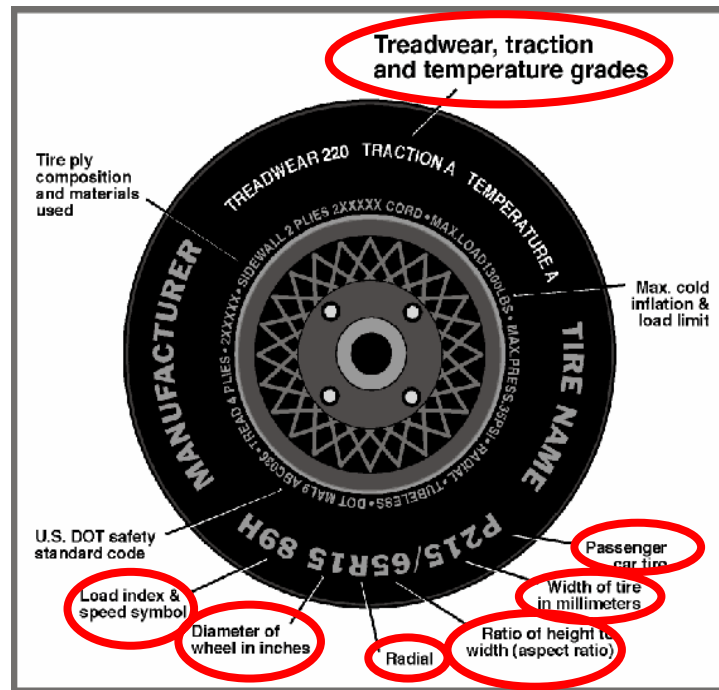
STEERING COLUMN ASSEMBLY

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 Volkswagen Beetle Convertible Test Date 01/31/08



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	350	350
Cold / Test Pressure (kPa)	230	268
Recommended Tire Size	P205/55R16	P205/55R16
Tire Size on Vehicle	P205/55R16	P205/55R16
Tire Manufacturer	Michelin	Michelin
Tire Name	Energy	Energy
Radial	R	R
Wheel Diameter	16	16
Load Index & Speed Symbol	91H	91H
Treadwear	400	400
Traction Grade	A	A
Temperature Grade	A	A

Table 3 Post-Test Observations

Test Vehicle: 2005 Volkswagen Beetle Convertible Test Date 01/31/08

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat World SID
Dummy Type / Serial No.	World SID / 016
Head Contact	Airbag, head restraint, door panel, pole
Upper Torso Contact	Door panel
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	N/A
Left Side Door Opening	Jammed & Latched	N/A
Right Side Door Opening	Closed & Latched	N/A
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	None
Window Damage	None
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	No	N/A
Curtain Airbag	No	N/A
Seat Belt Pretensioner	Yes	No
Seat Belt Load Limiter	No	N/A

Section 4

Occupant and Vehicle Information

Table 4 World SID Instrumentation Data

Vehicle: 2005 Volkswagen Beetle Convertible

Test Number: 080131

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Head Acceleration	X	18.8	125.0	169.8	55.8
	Y	372.4	55.7	8.2	125.8
	Z	140.6	55.5	49.8	57.9
	R	430.1	55.7		
Head Angular Displacement	X	36517.6	55.6	6741.8	124.5
	Y	12479.3	56.1	4945.4	58.6
	Z	22939.3	55.6	6761.6	62.2
Upper Neck Force	X	275.2	55.8	513.8	53.4
	Y	641.4	61.7	232.7	124.3
	Z	1387.9	53.8	1354.7	58.1
Upper Neck Moment	X	25.1	83.0	36.6	59.1
	Y	16.3	64.3	35.7	53.3
	Z	9.6	187.7	15.2	83.9
Lower Neck Force	X	255.4	128.2	931.3	54.3
	Y	1289.5	54.8	229.8	80.7
	Z	1331.4	64.1	1674.2	58.9
Lower Neck Moment	X	114.2	55.4	4.9	83.3
	Y	77.5	55.0	32.6	130.9
	Z	9.7	187.3	19.5	78.0
Shoulder Force	X	268.6	30.9	508.9	23.2
	Y	52.9	89.5	1719.1	40.6
	Z	498.7	43.6	60.5	22.8
Shoulder Displacement	Y	35.5	54.9	1.6	89.1
Shoulder Acceleration	X	116.7	22.6	124.5	30.6
	Y	163.7	22.6	47.3	23.5
	Z	194.5	23.2	106.2	23.6
	R	268.6	22.6		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

Test Number: 080131

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
T1 Acceleration	X	7.3	86.4	25.4	49.1
	Y	44.8	56.7	7.8	91.0
	Z	19.4	58.9	6.0	97.8
	R	50.5	57.0		
T4 Acceleration	X	5.4	86.7	19.9	48.5
	Y	39.9	42.6	11.6	86.6
	Z	19.9	58.7	7.5	96.7
	R	43.1	43.5		
T12 Acceleration	X	12.3	58.3	19.1	40.3
	Y	66.6	42.2	17.4	84.9
	Z	16.3	58.8	8.4	50.4
	R	69.2	42.2		
Thorax Rib 1 Displacement	Y	44.2	49.4	1.2	21.7
Thorax Rib 1 Acceleration	X	47.5	42.0	107.4	31.9
	Y	135.9	31.3	132.4	34.4
	Z	102.1	34.2	93.8	34.6
	R	170.7	31.3		
Thorax Rib 2 Displacement	Y	33.3	49.8	1.5	19.2
Thorax Rib 2 Acceleration	X	56.6	43.9	112.5	30.9
	Y	140.8	31.5	37.2	37.5
	Z	27.9	31.9	39.8	44.1
	R	168.6	31.0		
Thorax Rib 3 Displacement	Y	26.9	48.5	2.2	19.2
Thorax Rib 3 Acceleration	X	45.2	18.3	88.7	32.6
	Y	102.6	43.2	36.2	42.8
	Z	28.9	44.3	74.1	43.0
	R	113.2	32.6		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

Test Number: 080131

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Abdominal Rib 1 Displacement	Y	24.3	48.2	1.2	19.4
Abdominal Rib 1 Acceleration	X	43.3	38.2	93.3	33.0
	Y	118.0	35.0	57.9	37.5
	Z	53.0	50.6	75.4	46.2
	R	129.4	37.8		
Abdominal Rib 2 Displacement	Y	24.7	46.9	0.3	17.0
Abdominal Rib 2 Acceleration	X	47.6	35.5	96.3	34.3
	Y	128.5	34.8	138.1	42.1
	Z	61.0	41.9	48.7	42.2
	R	155.7	34.5		
Lumbar Force	X	457.2	56.0	193.9	26.6
	Y	1174.6	43.0	105.4	101.4
	Z	919.1	60.4	22.2	147.8
Lumbar Moment	X	63.0	49.2	8.1	106.0
	Y	7.1	40.2	24.0	56.1
	Z	13.4	44.2	6.8	76.8
Pelvis Acceleration	X	18.5	45.9	14.2	37.9
	Y	79.7	41.8	18.3	80.7
	Z	9.4	81.8	16.1	57.0
	R	80.6	41.8		
Sacro-Iliac Left Force	X	151.5	38.1	612.1	49.8
	Y	4.4	0.6	3973.0	42.7
	Z	483.0	45.1	277.7	30.2
Sacro-Iliac Left Moment	X	13.3	179.5	124.9	42.7
	Y	13.4	56.2	11.6	39.1
	Z	76.8	40.6	32.9	55.4

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

Test Number: 080131

Driver Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Sacro-Iliac Right Force	X	216.3	52.5	254.3	30.6
	Y	2318.3	43.8	254.4	67.6
	Z	890.0	58.6	3.9	16.6
Sacro-Iliac Right Moment	X	44.3	58.6	43.9	40.7
	Y	8.1	34.2	17.3	73.6
	Z	34.5	55.1	54.7	40.9
Pubic Force	Y	1127.3	44.6	30.7	24.3
Left Femur Force	X	173.2	41.0	249.7	78.4
	Y	26.5	24.1	803.7	55.8
	Z	23.6	19.0	2360.5	49.9
Left Mid Femur Force	X	127.5	51.4	51.8	85.2
	Y	47.2	121.3	957.9	52.3
	Z	1473.2	49.9	24.0	27.5
Left Mid Femur Moment	X	179.5	51.4	5.2	30.5
	Y	21.5	48.0	29.2	79.7
	Z	6.2	119.4	41.6	53.7
Left Knee Outboard Force	Y	259.2	45.4	376.7	56.9
Left Knee Inboard Force ¹	Y	2.3	67.6	2.7	14.3
Right Mid Femur Force	X	97.5	63.4	29.7	94.7
	Y	54.2	47.4	499.7	70.2
	Z	1092.4	61.7	240.7	75.9
Right Mid Femur Moment	X	40.8	104.5	121.5	49.4
	Y	29.4	74.9	29.0	53.9
	Z	0.7	19.4	85.0	65.4

Positive Direction

Longitudinal: Forward

Lateral: Rightward

Vertical: Downward

Negative Direction

Longitudinal: Rearward

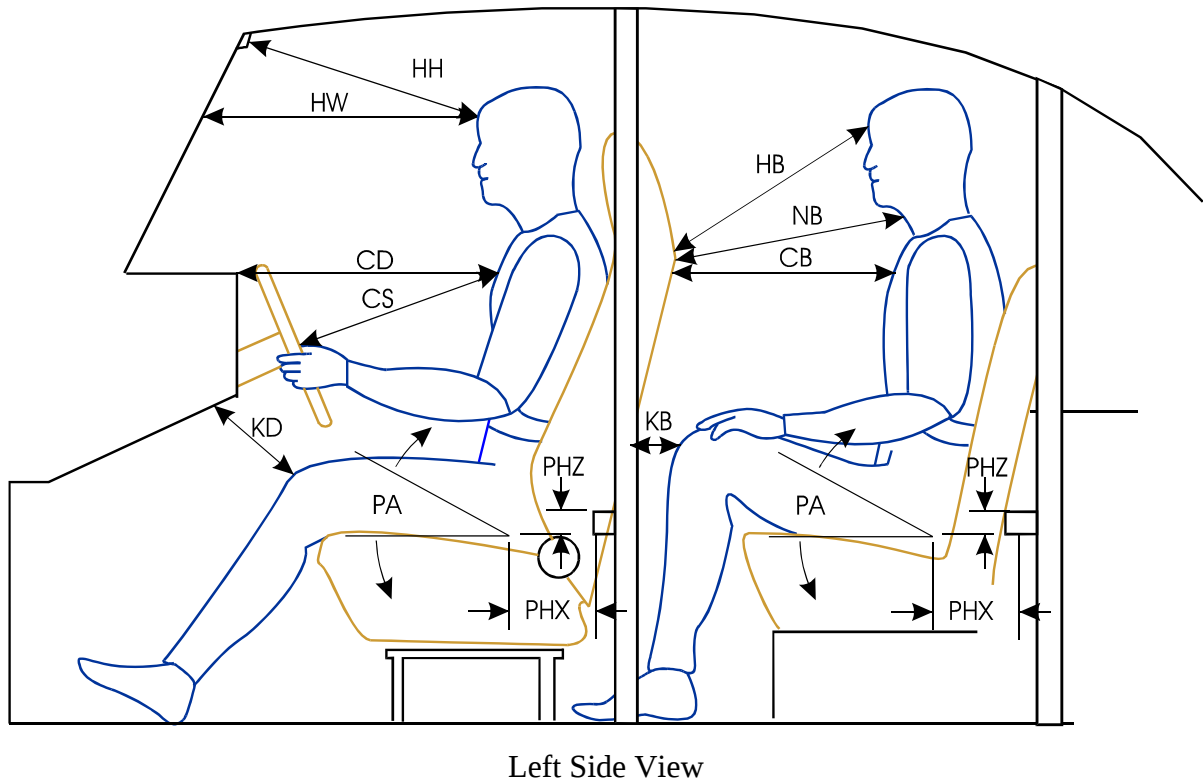
Lateral: Leftward

Vertical: Upward

¹ See Data Acquisition Explanations

Figure 1 World SID Longitudinal Clearance Dimensions

Vehicle: 2005 Volkswagen Beetle Convertible



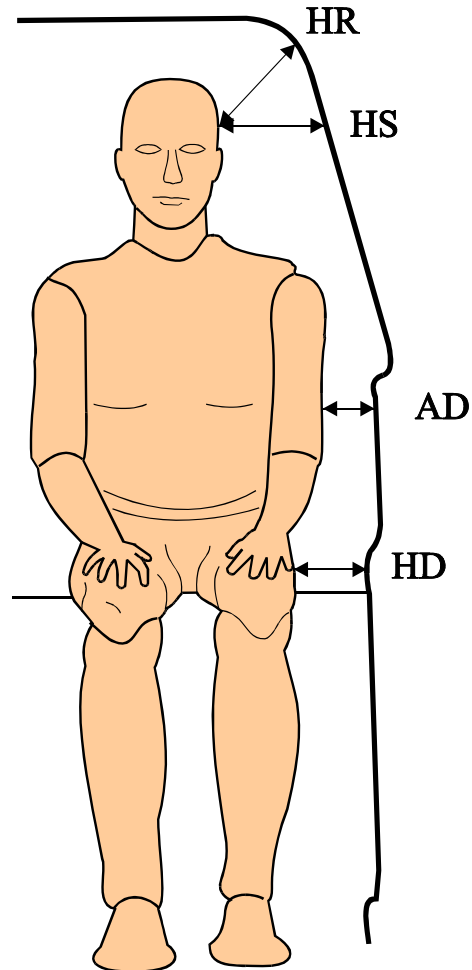
Note: All measurements are in millimeters with tolerance of ± 0.1 mm

Measurement	Driver World SID # 016
HH	672
HW	943
HZ	290
NR	538
CD	650
CS	445
KDL(KDA°)	55/(25.4°)
KDR(KDA°)	50/(25.4°)
PA°	N/A
PHX	343
PHZ	196

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

Figure 2 World SID Lateral Clearance Dimensions

Vehicle: 2005 Volkswagen Beetle Convertible

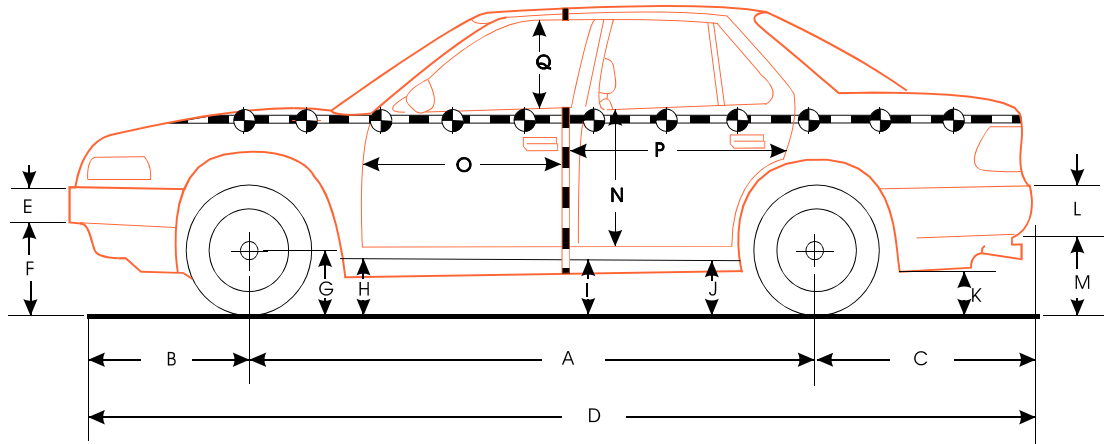


Note: All measurements are in millimeters with tolerance of ± 0.1 mm

Measurement	Driver World SID # 016
HR	237
HS	264
AD	Lower: 111 Upper: 86
HD	163

Figure 3 Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2005 Volkswagen Beetle Convertible



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	2510	2510	2439	71
B	810	810	840	-30
C	772	772	762	10
D	4092	4092	4045	47
E	145	145	145	0
F	368	410	273	137
G	300	350	244	106
H	225	261	175	86
I	224	265	260	5
J1	195	236	241	-5
J2	228	270	274	-4
K	320	356	413	-57
L	187	187	187	0
M	408	451	534	-83
N	N/A	N/A	N/A	N/A
O	870	870	762	108
P	N/A	N/A	N/A	N/A
Q	462	462	435	27
R	3792	3792	3805	-13
S	3810	3810	3739	71
T	1320	1320	1221	99

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	4092
2	Total Width	1674
3	Bumper Top Height	489
4	Bumper Bottom Height	372
5	Longitudinal Member Top Height	467
6	Longitudinal Member Bottom Height	378
7	Distance Between Longitudinal Members	65
7'	Longitudinal Member Width	1060
8	Engine Top Height	805
9	Engine Bottom Height	113
10	Engine and Gearbox Width	630
11	Front Bumper - Engine Distance	435
12	Front Shock Absorber Fixing Height	830
13	Bonnet Leading Edge Height	625
14	Front Shock Absorber Fixing Width	1125
15	Front Bumper - Front Axle Distance	810
16	Front Axle - A Pillar Distance	480
17	A Pillar - B Pillar Distance	1120
18	B Pillar - Rear Axle Distance	905
19	B Pillar - C Pillar Distance	N/A
20	Roof Sill Bottom Height	1355
21	Roof Sill Top Height	1375
22	Floor Sill Bottom Height	345
23	Floor Sill Top Height	380

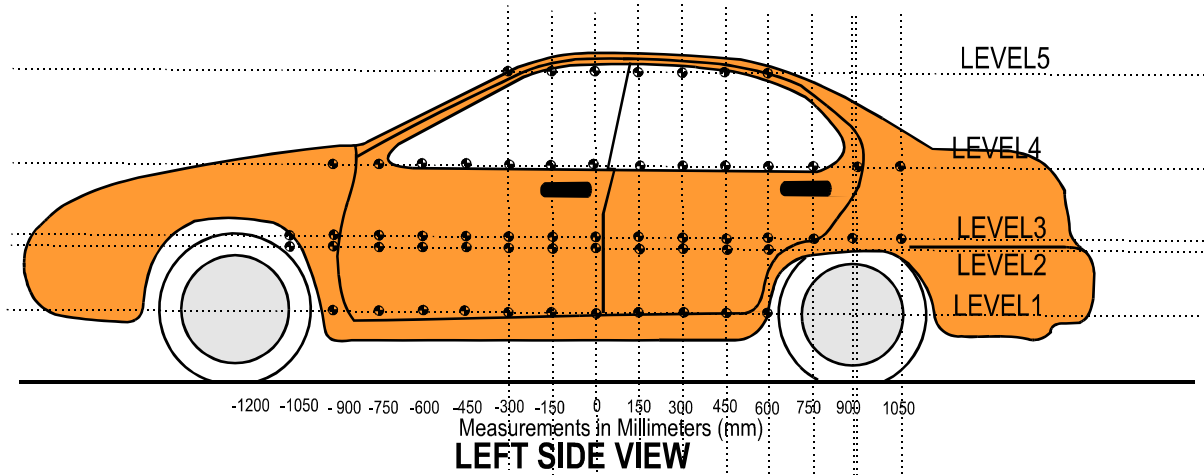
All distance measurements are in millimeters.

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

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 Volkswagen Beetle Convertible



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	1398
4	Window Sill	930
3	Mid Door	620
2	Occupant H-Point	535
1	Sill Top	230

Table 6 Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Volkswagen Beetle Convertible

		(mm) From Impact Point													
Height		-1170	-1020	-870	-720	-570	-420	-270	-120	30	180	330	480	630	780
300	Pre			851	831	838	844	848	850	851	850	847	843	838	856
	Post			871	809	762	711	649	568	582	704	773	806	824	859
	Crush			-20	22	76	133	199	282	269	146	74	37	14	-3
785	Pre			868	815	822	828	832	834	834	832	828	825	820	870
	Post			889	801	755	698	642	574	579	700	794	814	810	866
	Crush			-21	14	67	130	190	260	255	132	34	11	10	4
700	Pre		875	848	813	822	828	832	835	835	832	828	823	817	857
	Post		908	873	799	753	696	643	571	573	692	791	801	804	850
	Crush		-33	-25	14	69	132	189	264	262	140	37	22	13	7
1025	Pre	705	735	752	765	777	786	792	795	795	792	785	778	767	754
	Post	765	775	781	770	727	676	619	556	560	665	751	753	749	742
	Crush	-60	-40	-29	-5	50	110	173	239	235	127	34	25	18	12
1060	Pre		723	699	668	636	597	582	574	576	576	585	604	645	702
	Post		764	730	691	650	605	571	528	517	542	562	588	634	695
	Crush		-41	-31	-23	-14	-8	11	46	59	34	23	16	11	7

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

Negative measurements are vehicle forward of the impact point.

Crush profile grid is established prior to test day based on an estimated impact point. The final distance to impact is measured 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

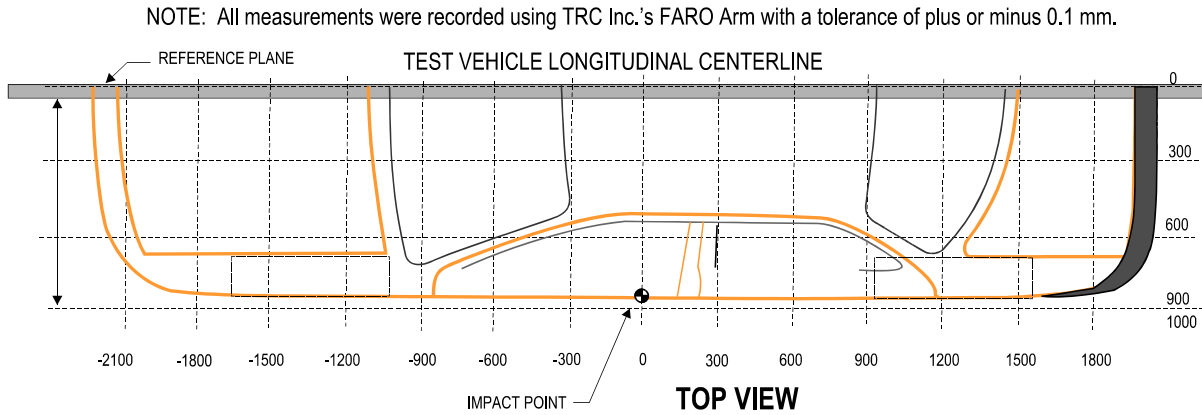
Vehicle: 2005 Volkswagen Beetle Convertible

			(mm) From Impact Point												
Location	Height		930	1080	1230	1380	1530	1680	1830	1980	2130	2280	2430	2580	2730
Level 1 Side Sill	300	Pre													
		Post													
		Crush													
Level 2 H-Point	785	Pre													
		Post													
		Crush													
Level 3 Mid-Door	700	Pre	871												
		Post	867												
		Crush	4												
Level 4 Window Sill	1025	Pre	736	712											
		Post	728	707											
		Crush	8	5											
Level 5 Window Top	1060	Pre													
		Post													
		Crush													

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 Volkswagen Beetle Convertible Test Date: 01/31/08



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

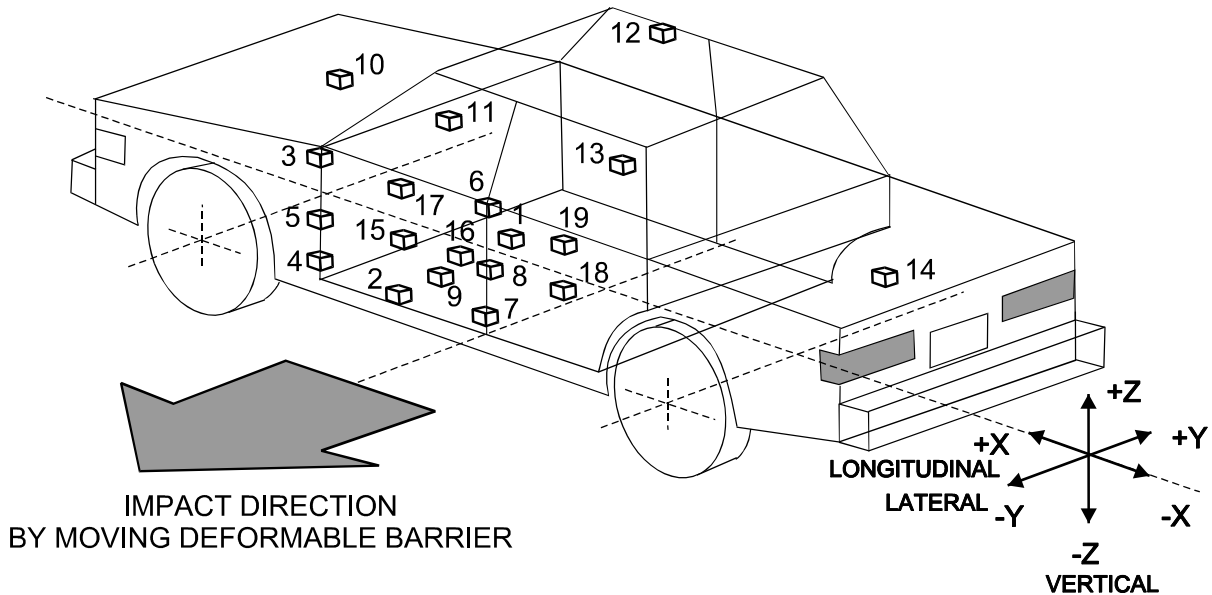
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	1080 mm	4	712	707	5
2	630 mm	4	767	749	18
3	180 mm	1	850	704	146
4	-270 mm	1	848	649	199
5	-720 mm	5	668	691	-23
6	-1170 mm	4	705	765	-60

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 Volkswagen Beetle Convertible



- 1-Vehicle Center of Gravity
- 2-Left Floor Sill Between A-Pillar and Impact Line
- 3-Left Side Sill at A-Pillar
- 4-Left Side Lower A-Pillar
- 5-Left Side Middle A-Pillar
- 6-Left Side Sill at B-Pillar
- 7-Left Side Lower B-Pillar
- 8-Left Side Middle B-Pillar
- 9-Left Side Front Seat Track at H-point

- 10-Top of Engine
- 11-Firewall
- 12-Right Side Roof Rail
- 13-Right Side Sill
- 14-Rear Deck Behind Rear Axle
- 15-Left Front Door on Centerline
- 16-Left Front Door Mid Rear
- 17-Left Front Door Upper Centerline
- 18-Left Rear Door Mid Rear
- 19-Left Rear Door Upper Centerline

Table 7 Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Volkswagen Beetle Convertible

Location	Coordinates (millimeters)			Positive Direction Max. Time (g) (ms)		Negative Direction Max. Time (g) (ms)	
	X	Y	Z				
1 Vehicle CG	1790	0	605				
Longitudinal				10.1	32.9	18.1	16.9
Lateral				32.7	24.6	2.7	35.8
Vertical				20.0	42.4	9.3	35.9
Resultant				33.0	24.6		
2 Left Floor Sill Between A-Pillar and Impact Line	1855	650	310				
Longitudinal							
Lateral				42.2	20.5	6.5	39.5
Vertical							
3 Left Side Sill at A-Pillar	2200	655	335				
Longitudinal							
Lateral				24.3	11.3	3.5	39.6
Vertical							
4 Left Side Lower A-Pillar	2235	715	475				
Longitudinal							
Lateral				17.6	33.6	3.6	39.9
Vertical							
5 Left Side Middle A-Pillar	2230	690	965				
Longitudinal							
Lateral				15.7	35.4	1.1	4.6
Vertical							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
6 Left Side Sill at B-Pillar	1120	650	260				
Longitudinal							
Lateral				42.6	19.7	44.6	97.5
Vertical							
7 Left Side Lower B-Pillar	1130	780	440				
Longitudinal							
Lateral ¹				1658.9	39.1	43.2	30.5
Vertical							
8 Left Side Middle B-Pillar	1130	810	925				
Longitudinal							
Lateral ¹				1600.6	61.5	51.0	53.0
Vertical							
9 Left Side Front Seat Track at H-Point	1510	550	280				
Longitudinal							
Lateral				55.2	13.0	3.5	61.3
Vertical							
10 Top of Engine	3472	203	866				
Longitudinal				6.1	95.0	12.8	25.2
Lateral				12.7	47.8	1.1	228.5
Vertical							

¹ See Data Acquisition Explanations

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
11 Firewall	3292	25	855				
Longitudinal							
Lateral				9.8	46.1	0.7	303.0
Vertical							
12 Right Side Roof Rail	1415	540	1425				
Longitudinal							
Lateral				96.6	37.1	5.1	144.6
Vertical							
13 Right Side Sill	1420	720	205				
Longitudinal							
Lateral				20.0	14.9	2.0	195.6
Vertical							
14 Rear Deck Behind Rear Axle	200	0	675				
Longitudinal				4.3	151.2	6.9	44.0
Lateral				23.6	43.7	2.1	292.7
Vertical							
15 Left Front Door on Centerline	2335	755	718				
Longitudinal							
Lateral				105.4	10.2	58.5	24.2
Vertical							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Volkswagen Beetle Convertible

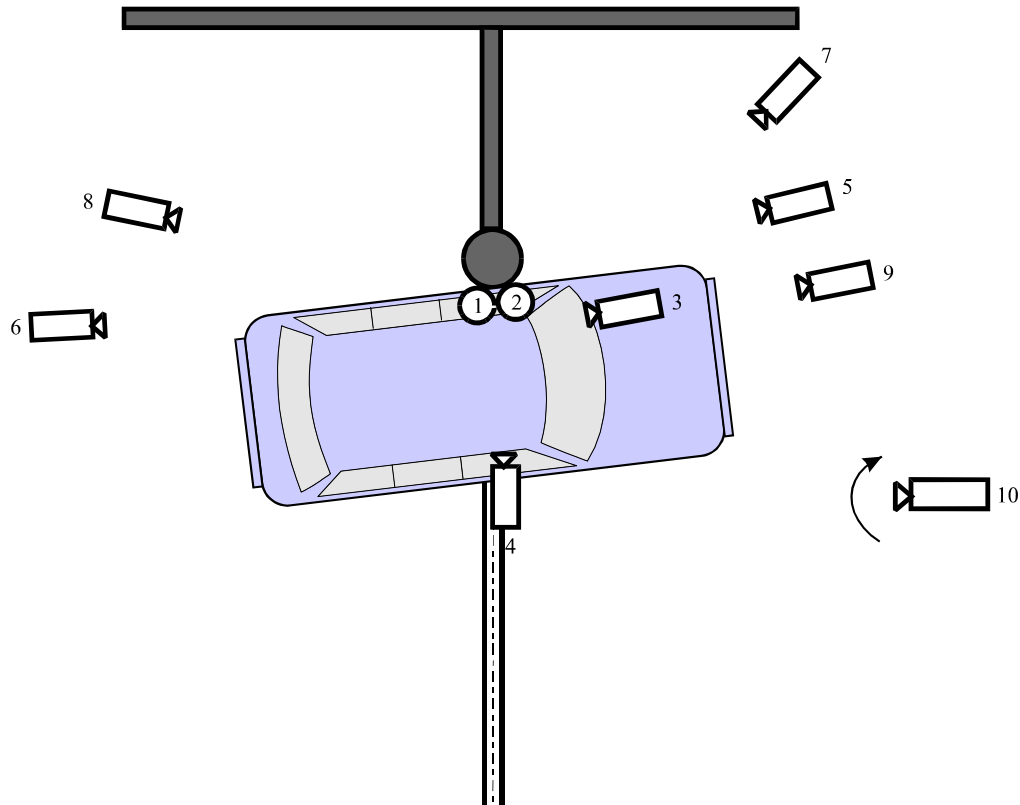
Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
16 Left Front Door Mid Rear	1950	700	718				
Longitudinal							
Lateral				93.5	20.7	135.4	17.0
Vertical							
17 Left Front Door Upper Centerline	2335	719	957				
Longitudinal							
Lateral				123.2	10.7	31.7	25.9
Vertical							
18 Left Rear Door Mid Rear	1630	653	643				
Longitudinal							
Lateral				79.3	23.8	14.1	30.2
Vertical							
19 Left Rear Door Upper Centerline	1630	628	950				
Longitudinal							
Lateral				68.0	19.0	2.8	297.6
Vertical							

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 Volkswagen Beetle Convertible



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead Wide	670	0	-5620	90.0	12.5	1000
2	Overhead Tight	0	0	-5620	90.0	25	1000
3	Onboard Front - Driver	400	4600	-1350	8.6	12.5	1000
4	Onboard Side Front	1500	0	-123	11.3	8.5	1000
5	Front Vehicle to Pole	0	4780	-965	5.6	12.5	1000
6	Rear Vehicle to Pole	370	5970	-975	2.6	1.5	1000
7	Left Front Angled	1990	4420	-1040	3.4	25	1000
8	Left Rear Angled	1440	4740	-1000	2.8	25	1000
9	Vehicle Front on Driver	540	3890	-1590	7.2	12.5	1000
10	Panning	N/A	N/A	N/A	N/A	Zoom	24
11	Underbody Pole Contact	0	0	-3260	90.0	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

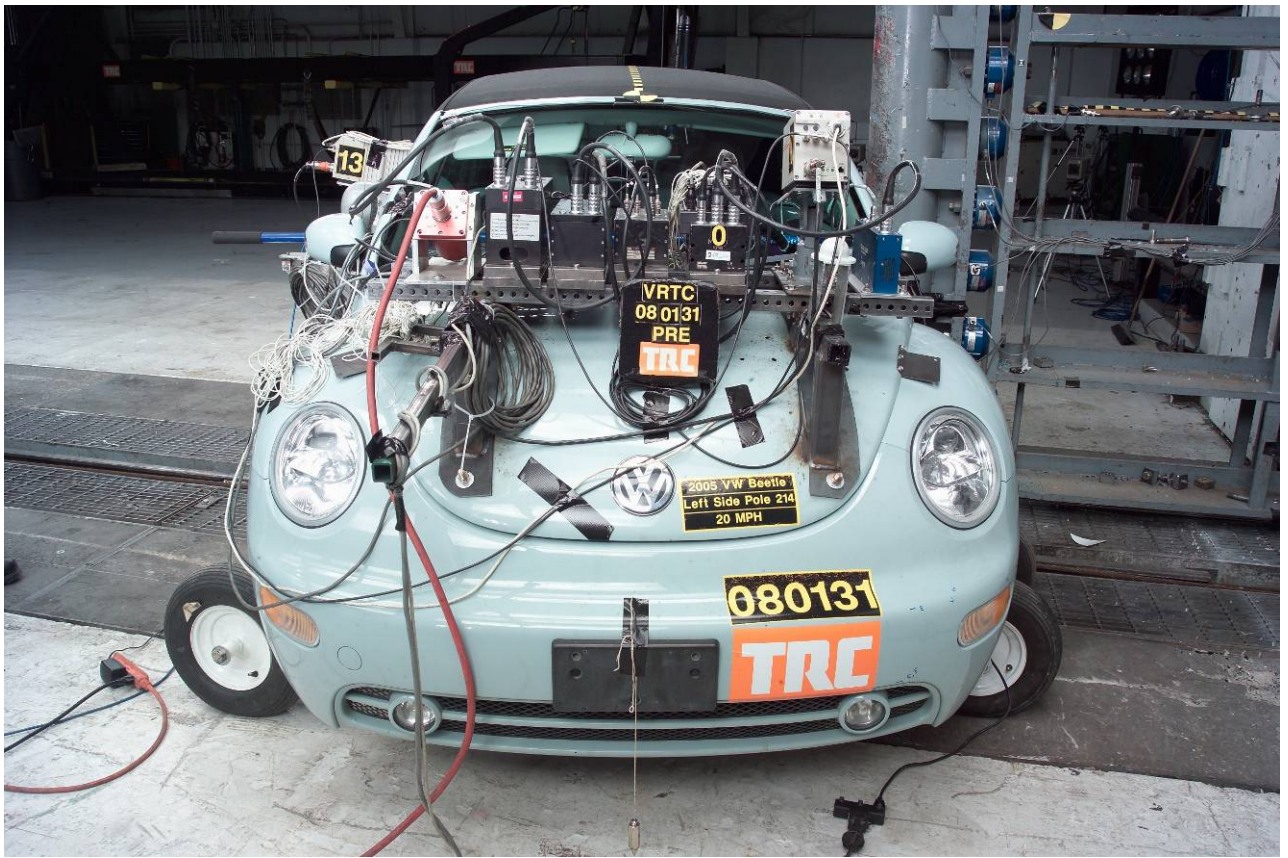


Figure A-1 Pre-Test Front View

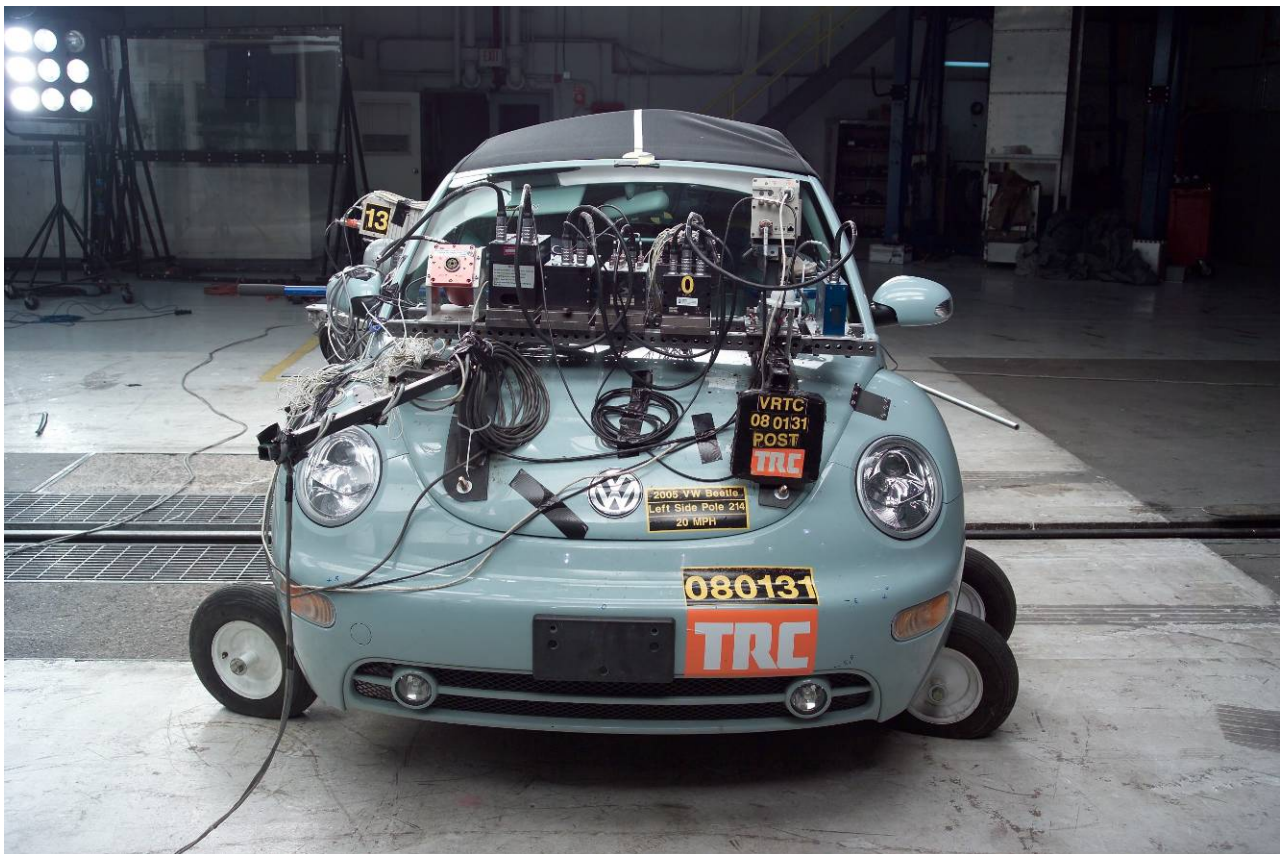


Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View

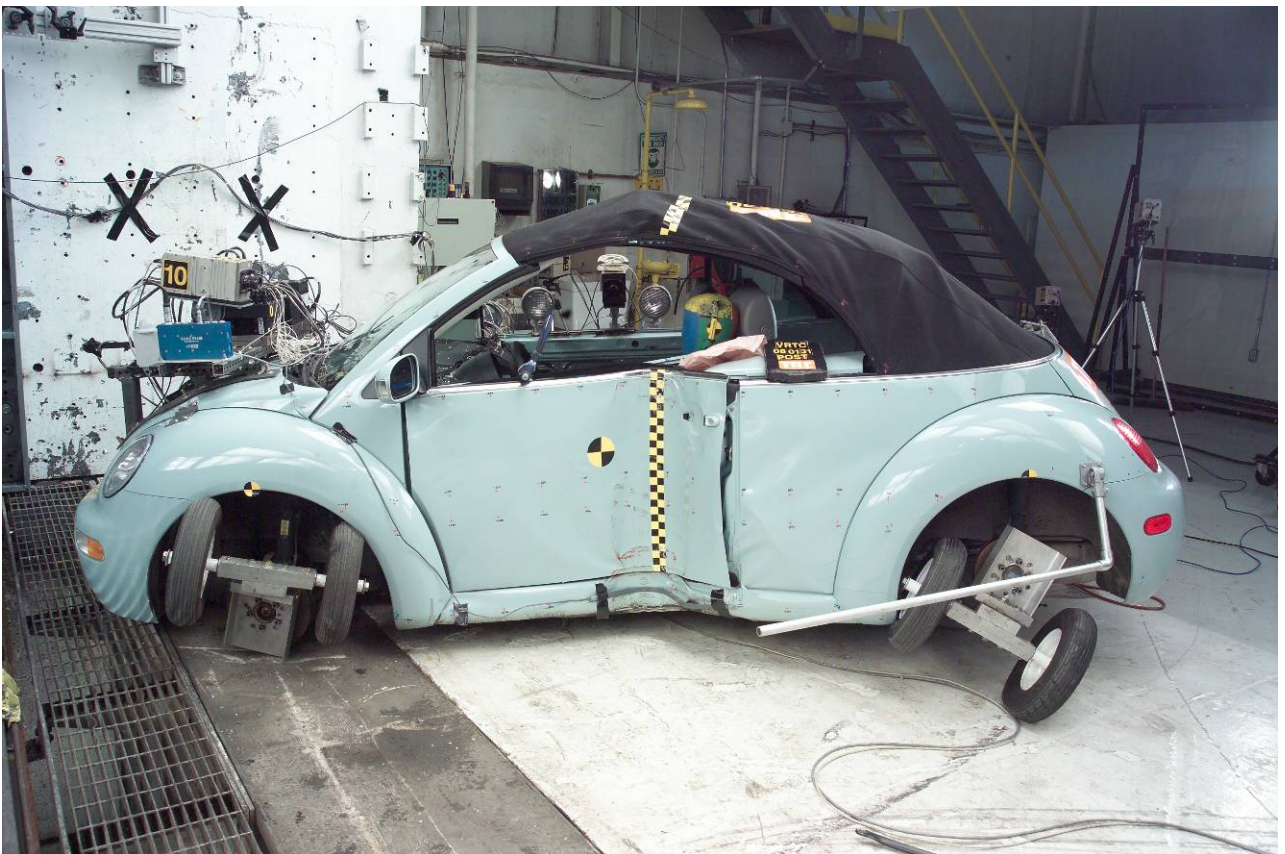


Figure A-6 Post-Test Left Side View



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

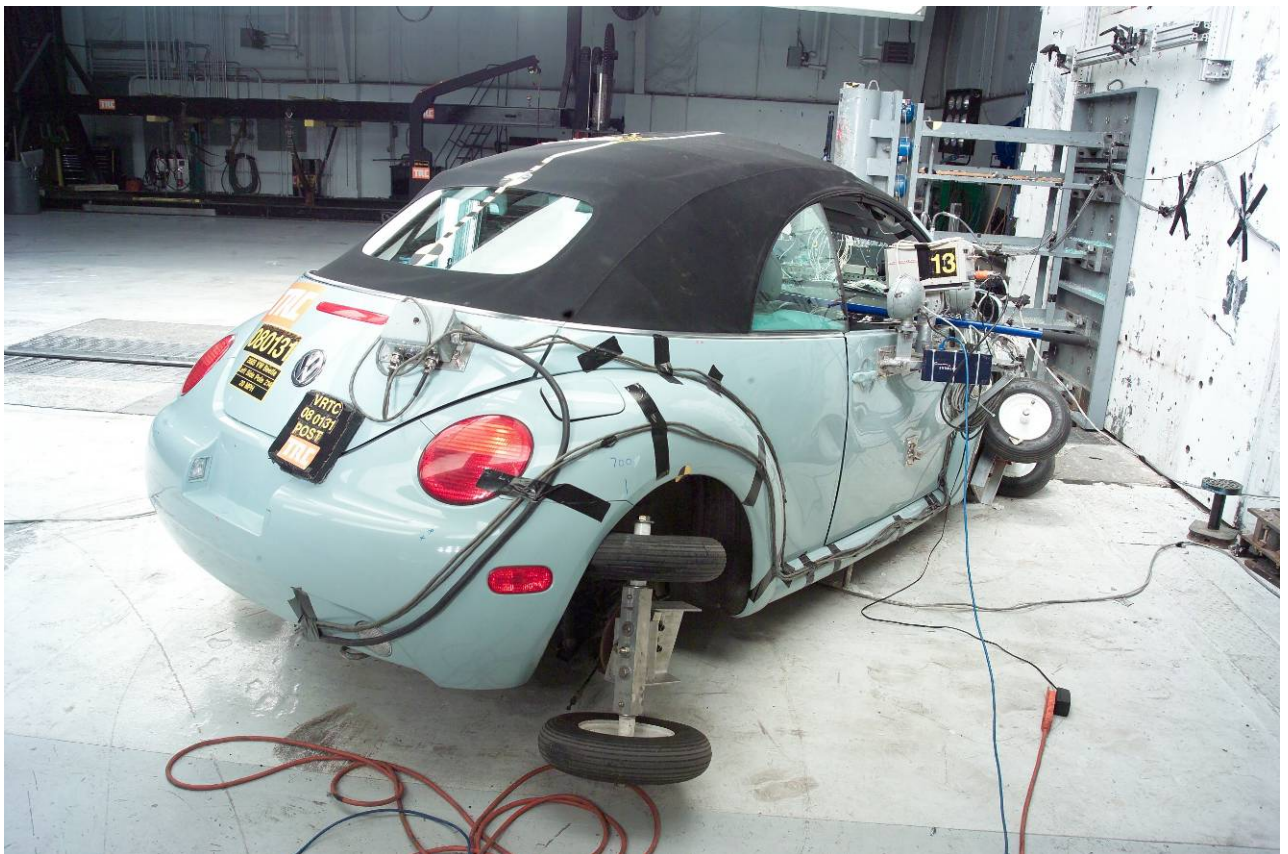


Figure A-12 Post-Test Right Rear View

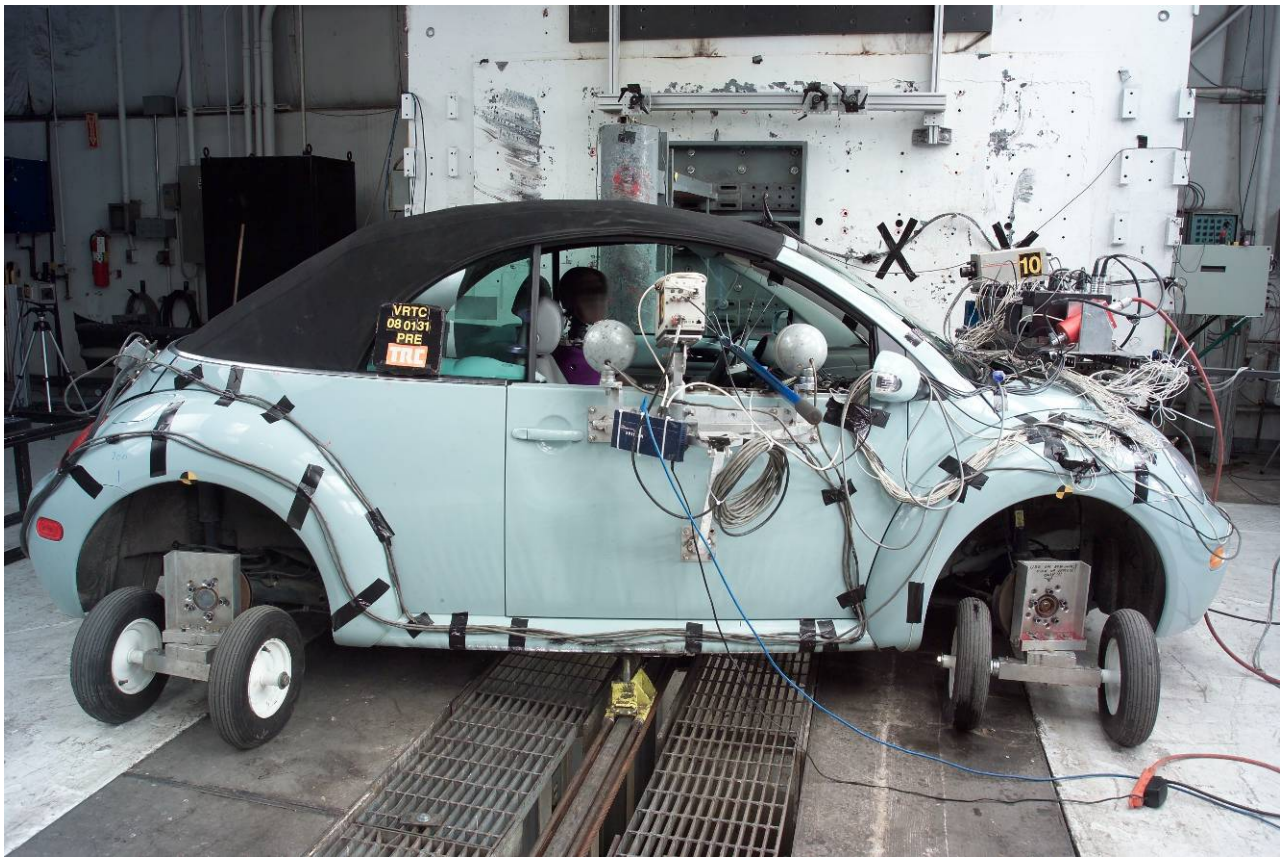


Figure A-13 Pre-Test Right Side View



Figure A-14 Post-Test Right Side View

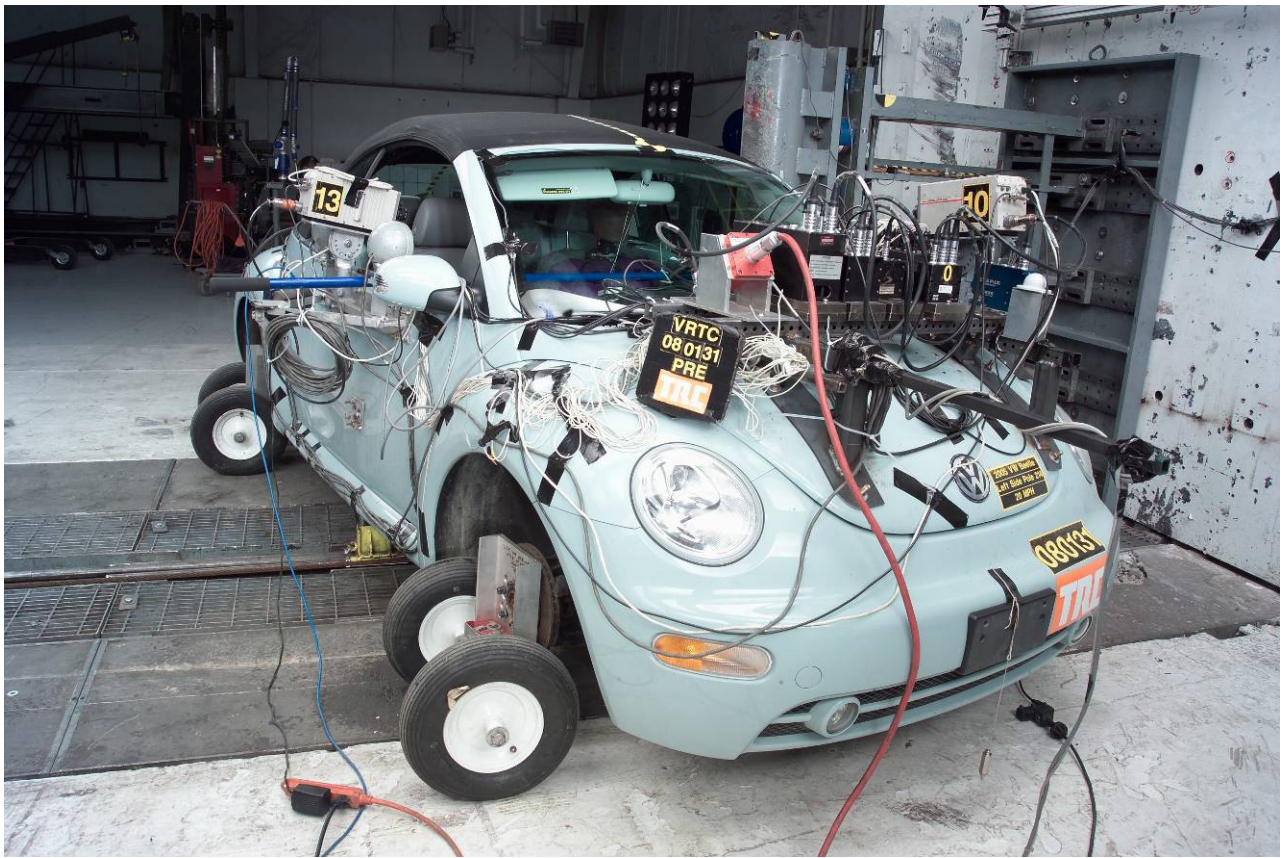


Figure A-15 Pre-Test Right Front View



Figure A-16 Post-Test Right Front View

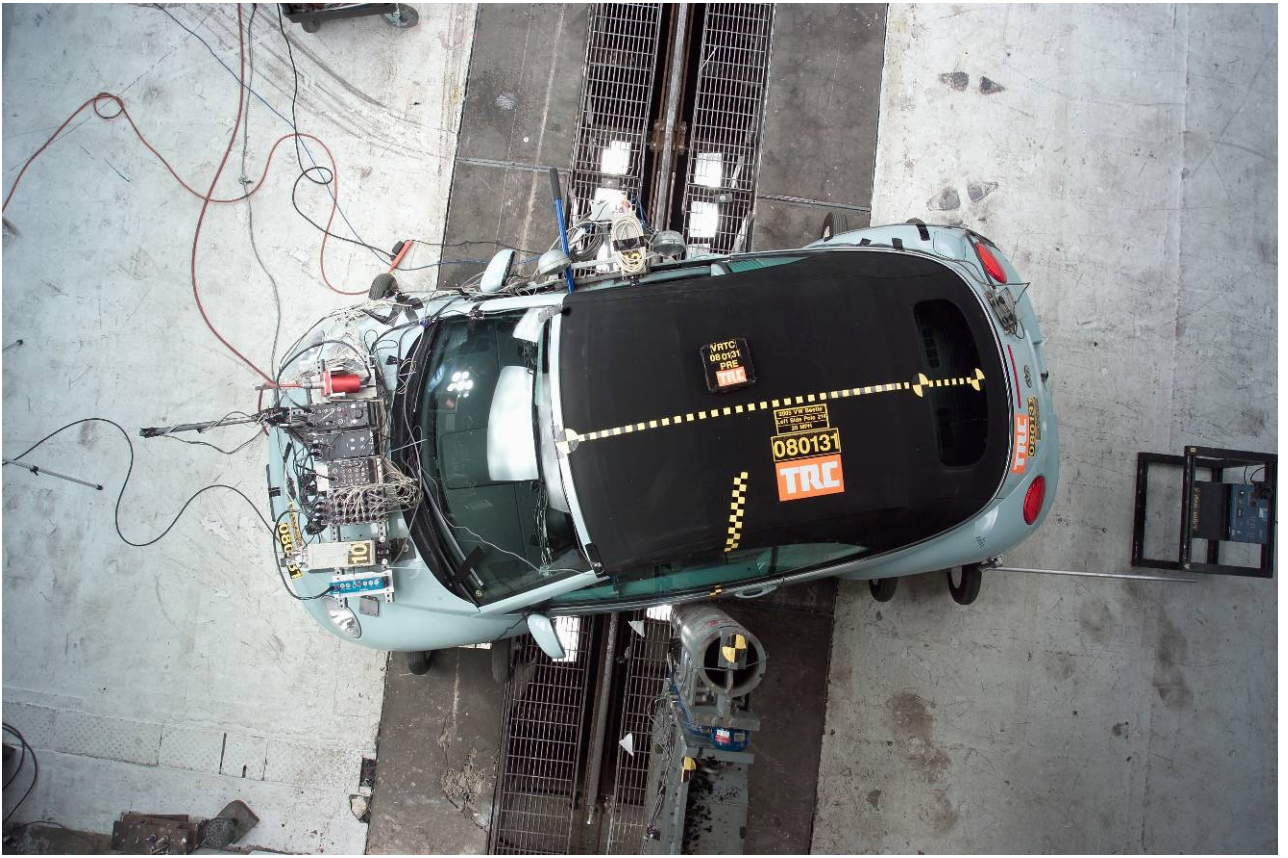


Figure A-17 Pre-Test Overhead View

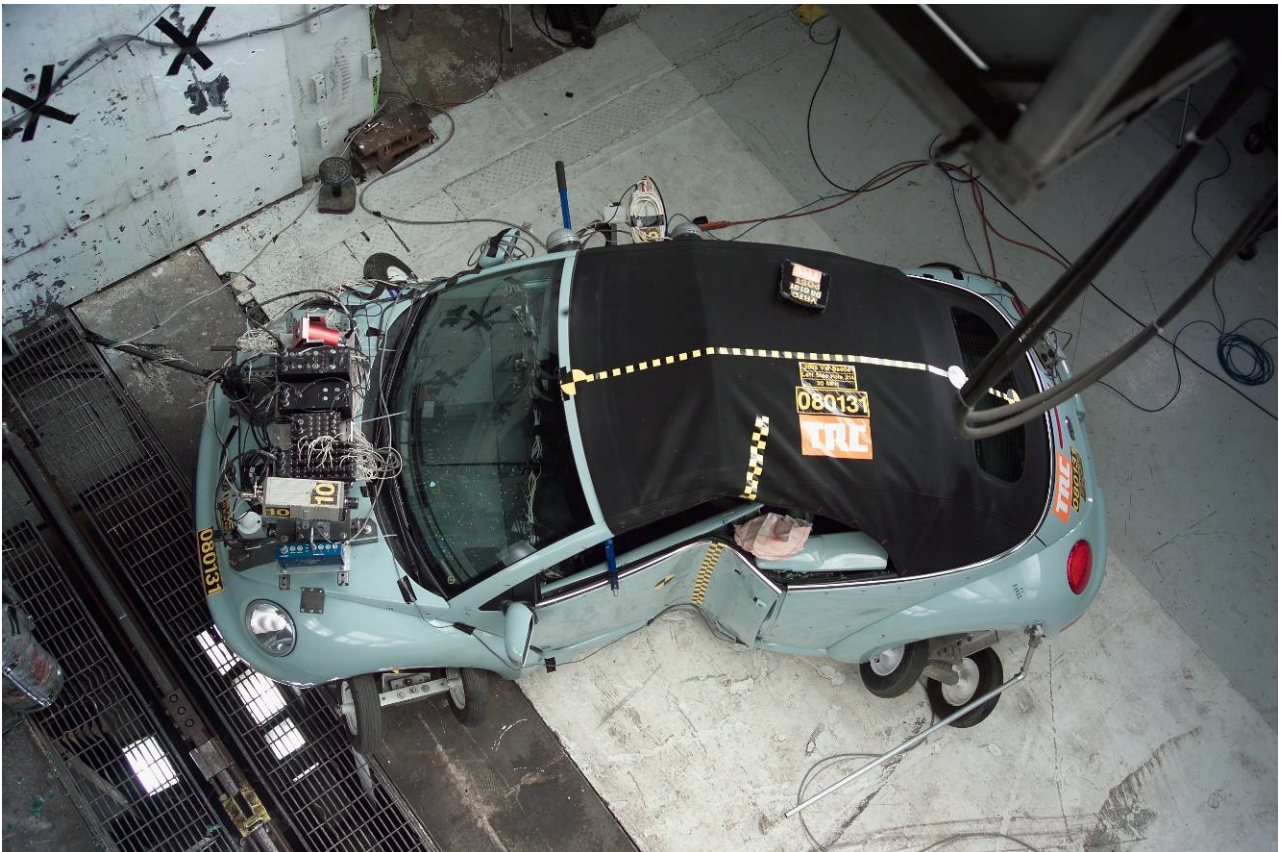


Figure A-18 Post-Test Overhead View



Figure A-19 Pre-Test Impact Alignment - View 1



Figure A-20 Pre-Test Impact Alignment - View 2

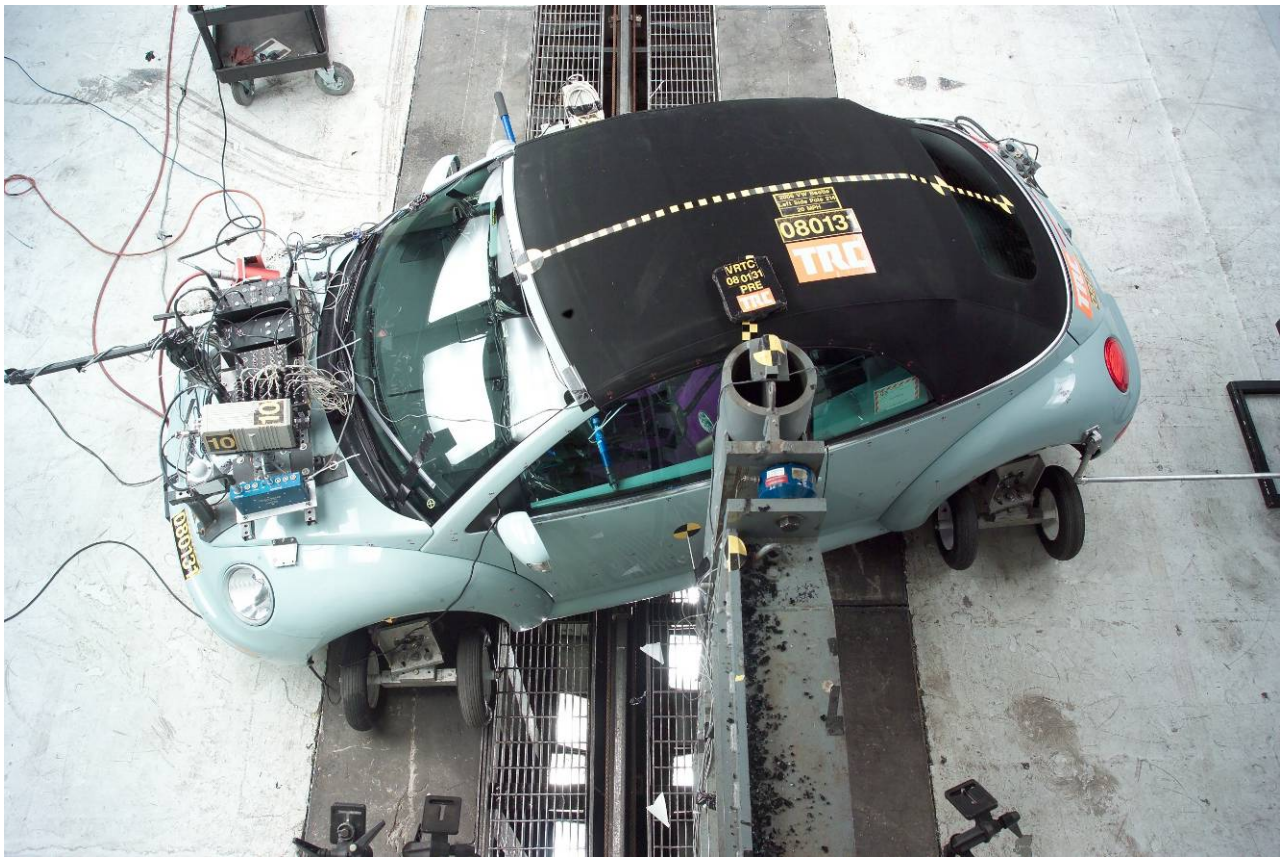




Figure A-23 Pre-Test Fuel Filler Cap View



Figure A-24 Post-Test Fuel Filler Cap View

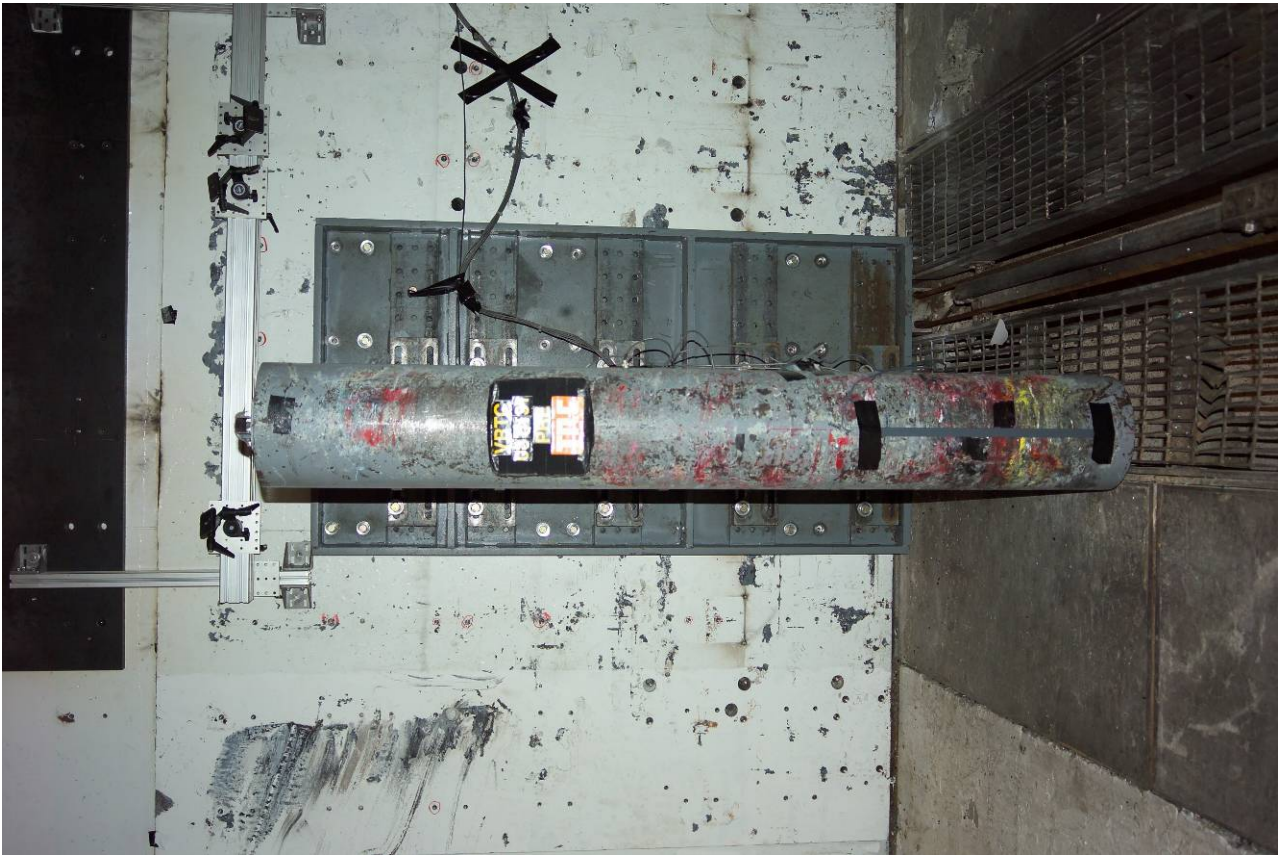


Figure A-25 Pre-Test Pole Barrier Front View



Figure A-26 Post-Test Pole Barrier Front View



Figure A-27 Pre-Test Driver Dummy Side View



Figure A-28 Post-Test Driver Dummy Side View



Figure A-29 Pre-Test Right Side Dummy Occupant Compartment View

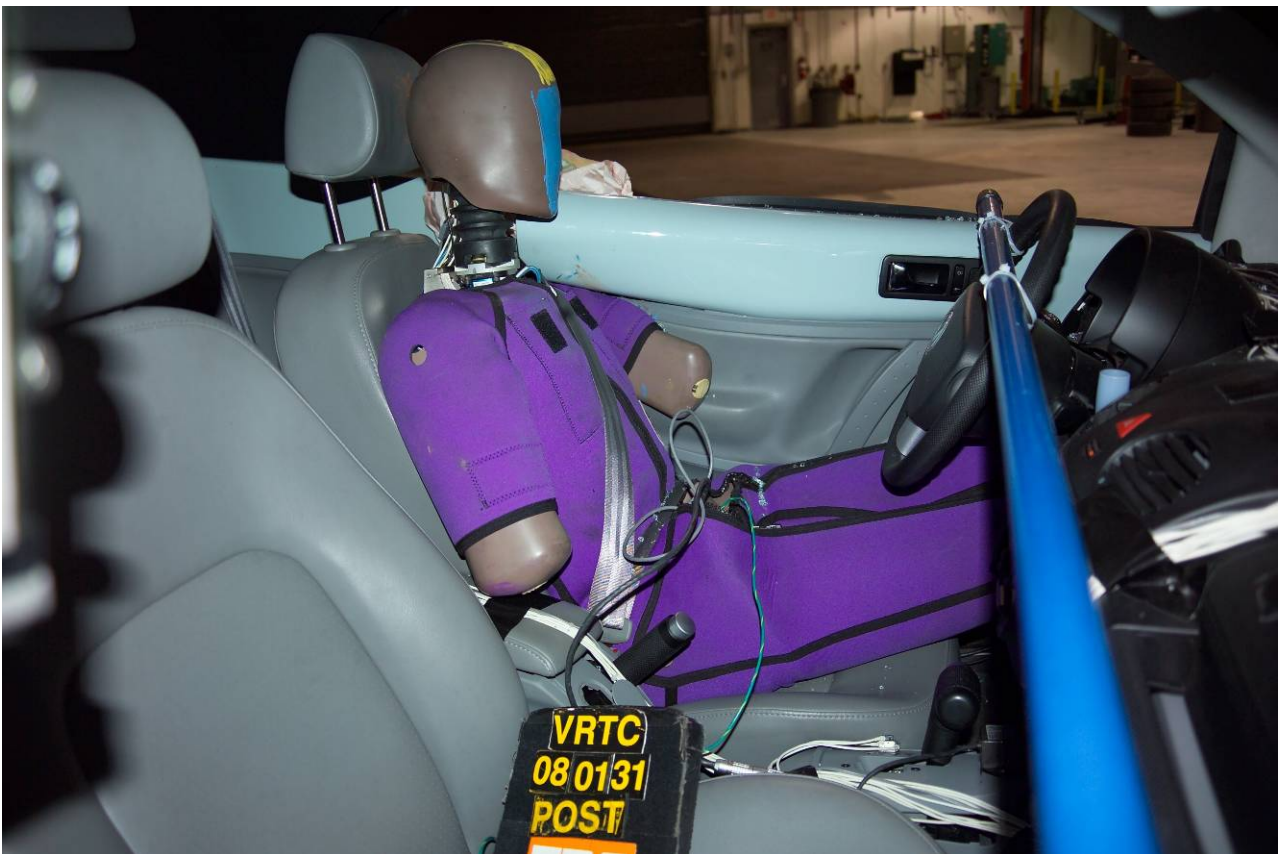


Figure A-30 Post-Test Right Side Dummy Occupant Compartment View



Figure A-31 Pre-Test Driver Dummy and Door Clearance View



Figure A-32 Post-Test Driver Dummy and Door Clearance View

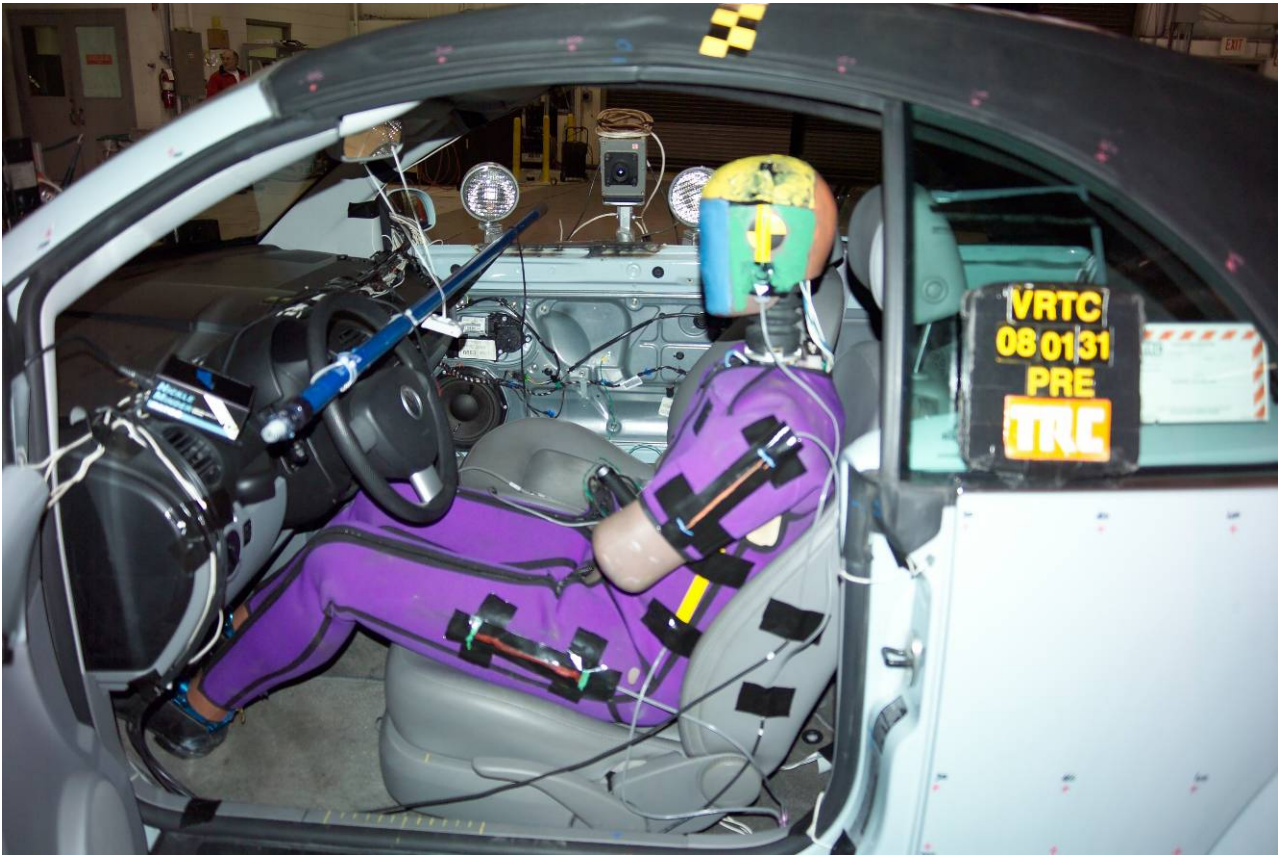


Figure A-33 Pre-Test Driver Dummy Showing Belts, Chalking, and Contact Switches

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Figure A-34 Pre-Test Driver Door Panel View



Figure A-35 Post-Test Driver Door Panel View



Figure A-36 Post-Test Driver Dummy Head Contact - View 1



Figure A-37 Post-Test Driver Dummy Head Contact - View 2



Figure A-38 Certification Label View

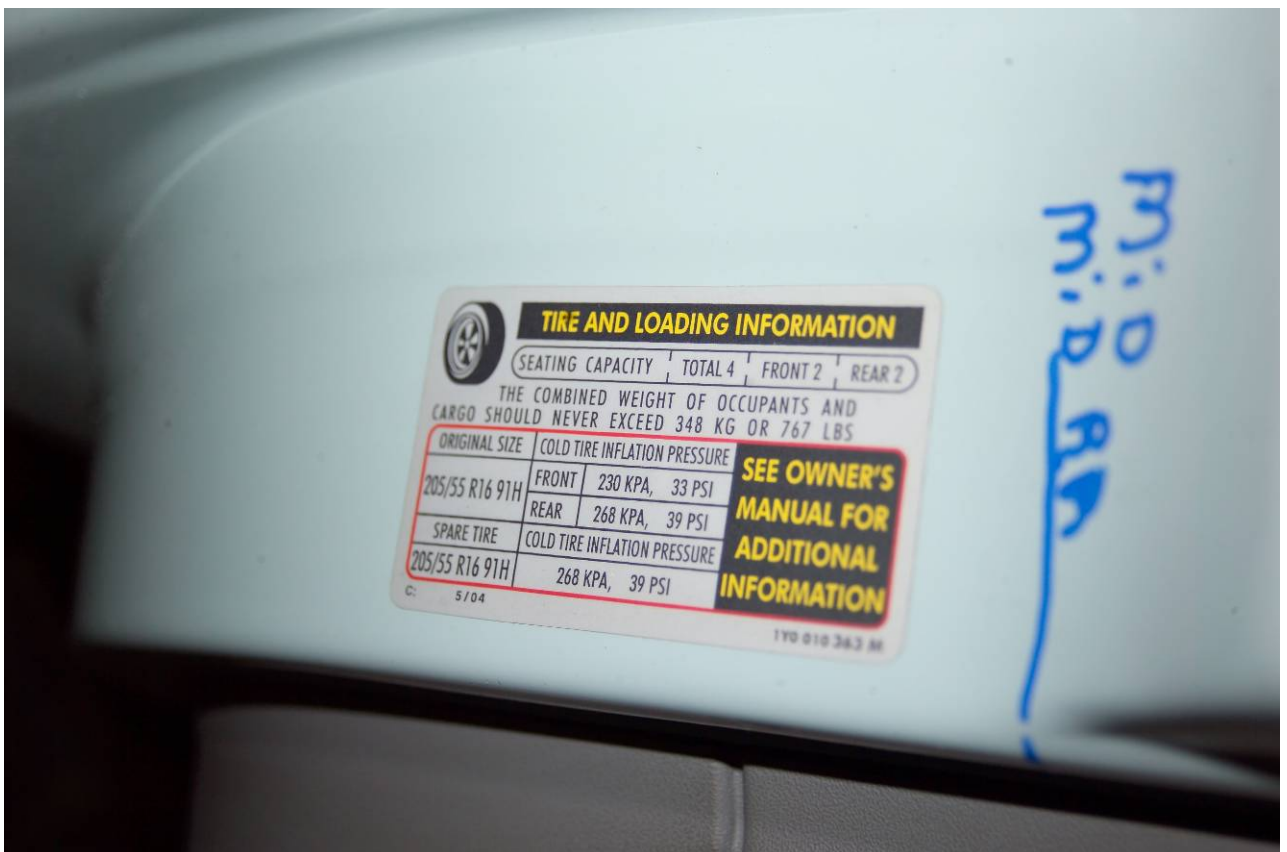


Figure A-39 Recommended Tire Pressure Label View



Figure A-40 Pre-Test Ballast View

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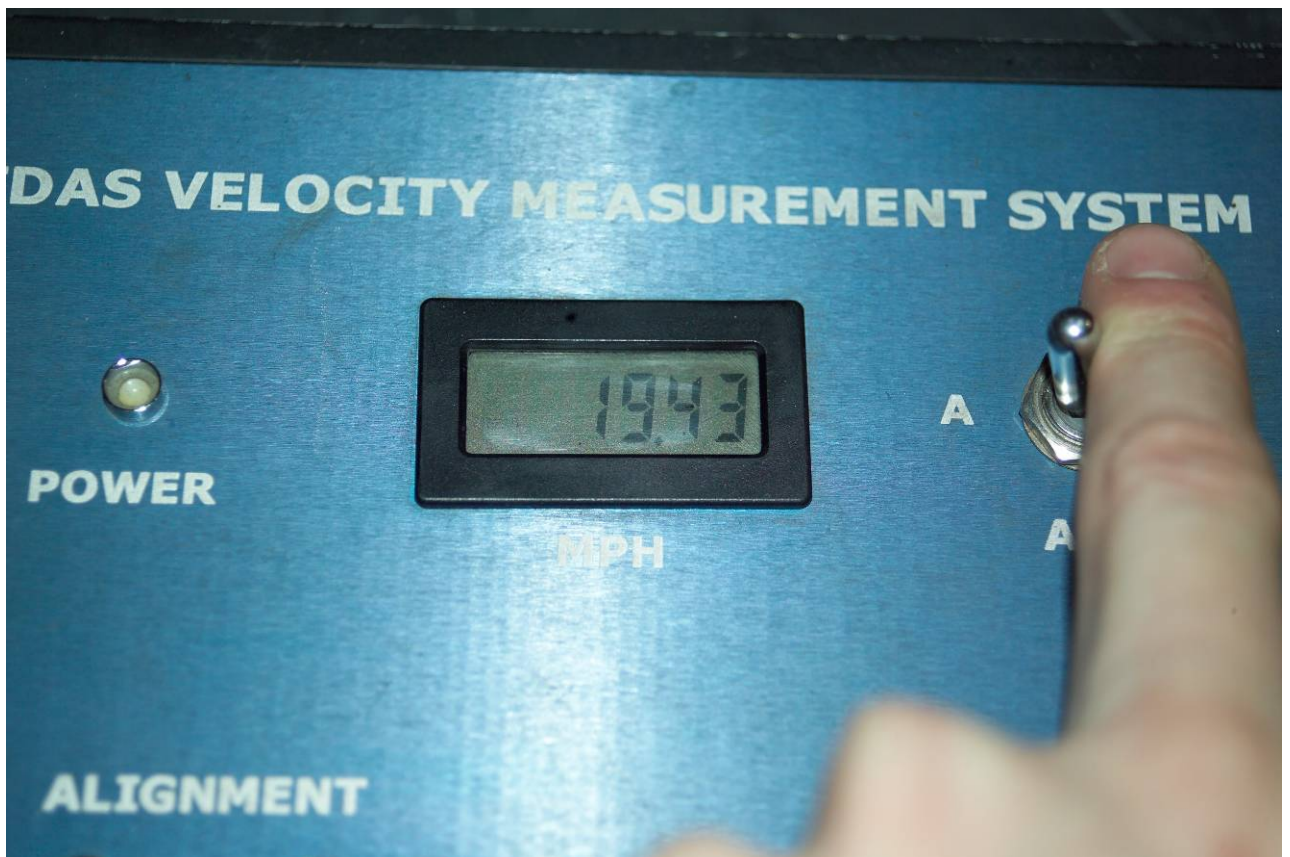


Figure A-41 Post-Test Digital Light Trap Read-Out - View 1

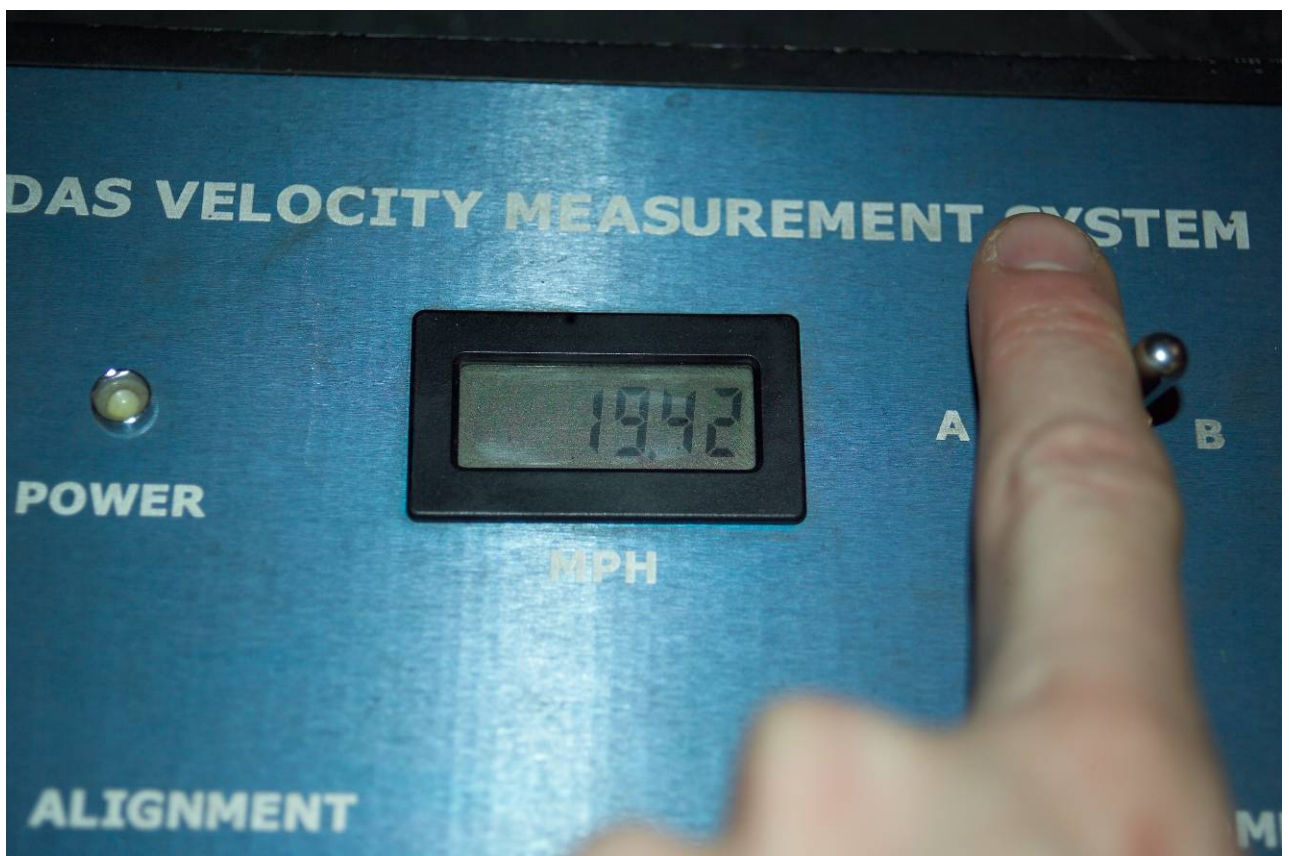


Figure A-42 Post-Test Digital Light Trap Read-Out - View 2

Appendix B

Data Plots



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

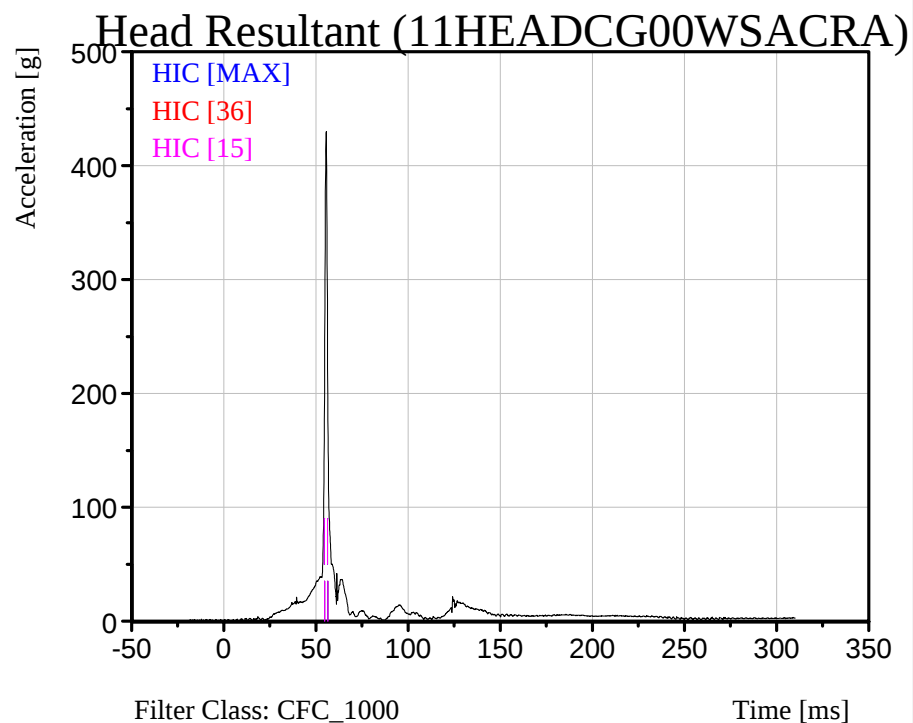
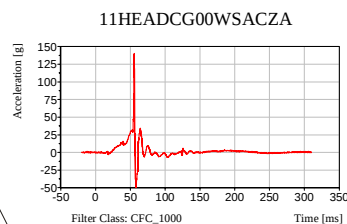
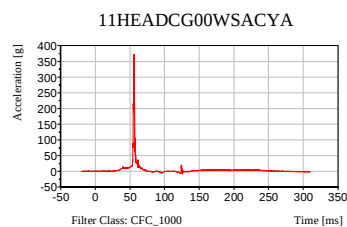
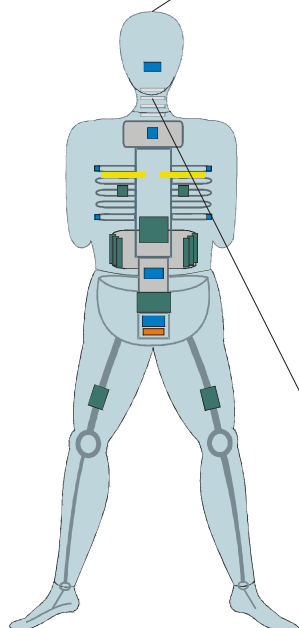
Head Injury Criterion (HIC)

Date: 1/31/2008
Time: 15:15

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080131



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 3,680.24	54.72 ms	56.48 ms	331.34 g
HIC [36] = 3,680.24	54.72 ms	56.48 ms	331.34 g
HIC [15] = 3,680.24	54.72 ms	56.48 ms	331.34 g

Dummy:
Seating Position:
Driver

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

B-2

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

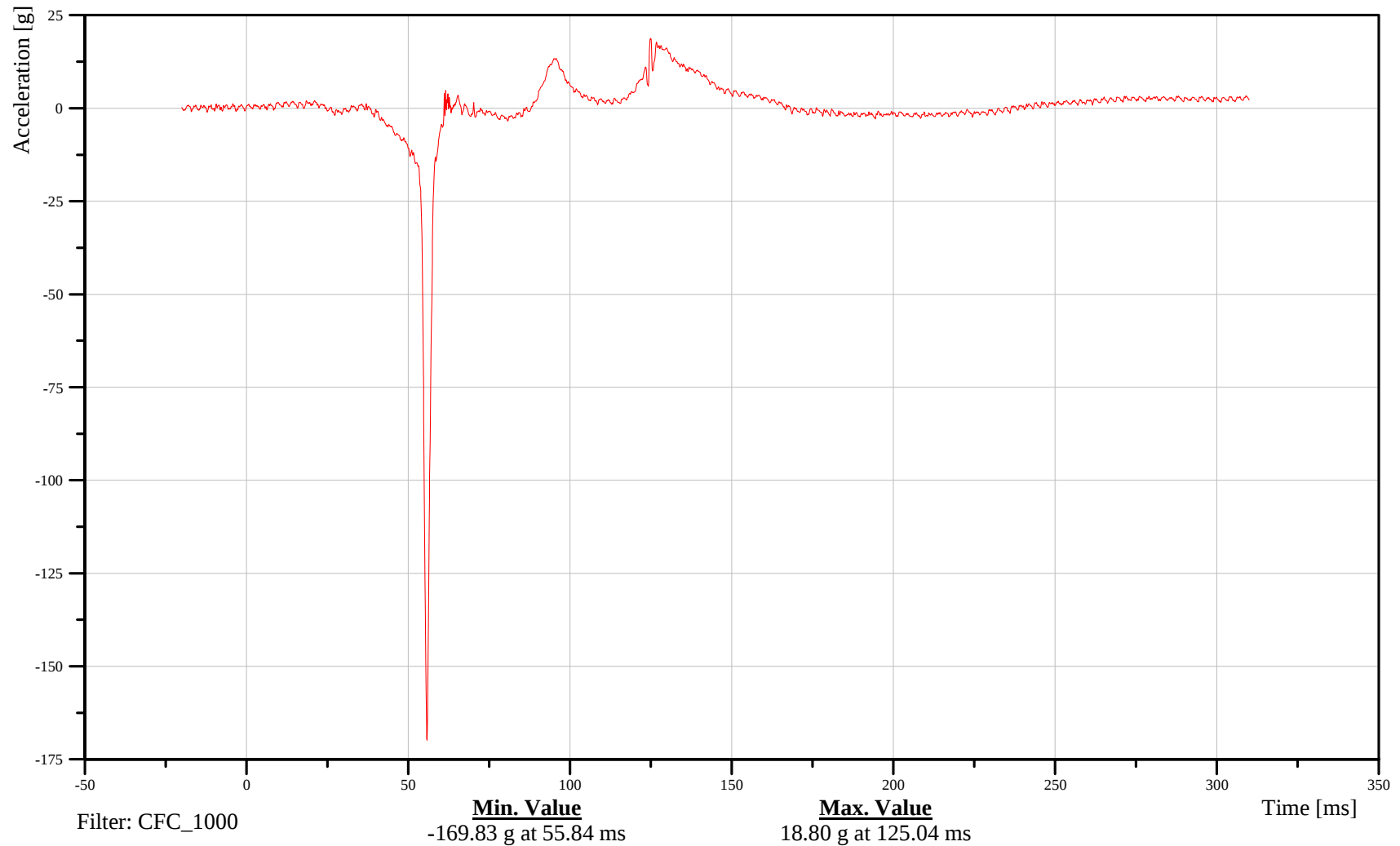
Head X-Axis Acceleration

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-3

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

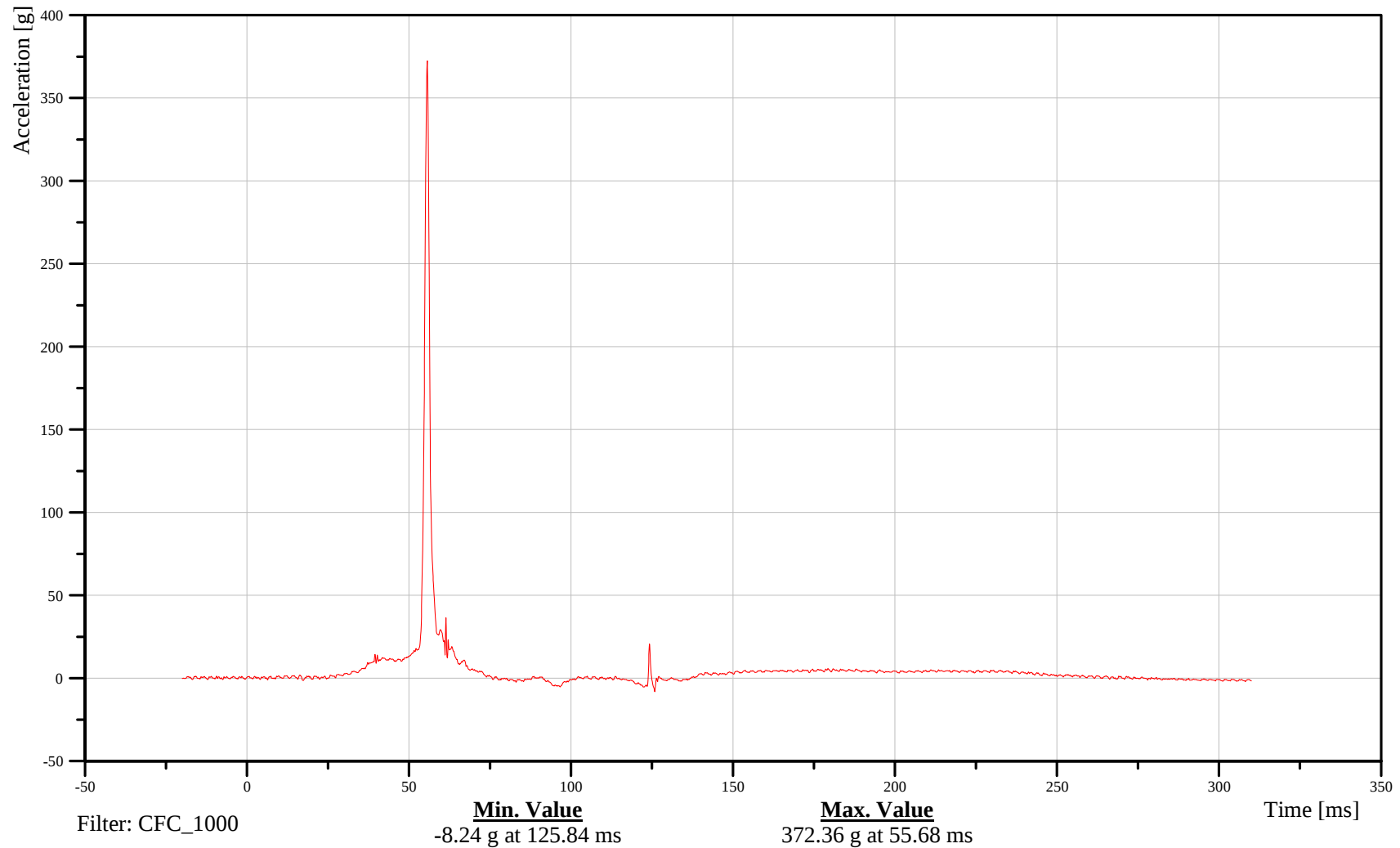
Head Y-Axis Acceleration

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-4

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

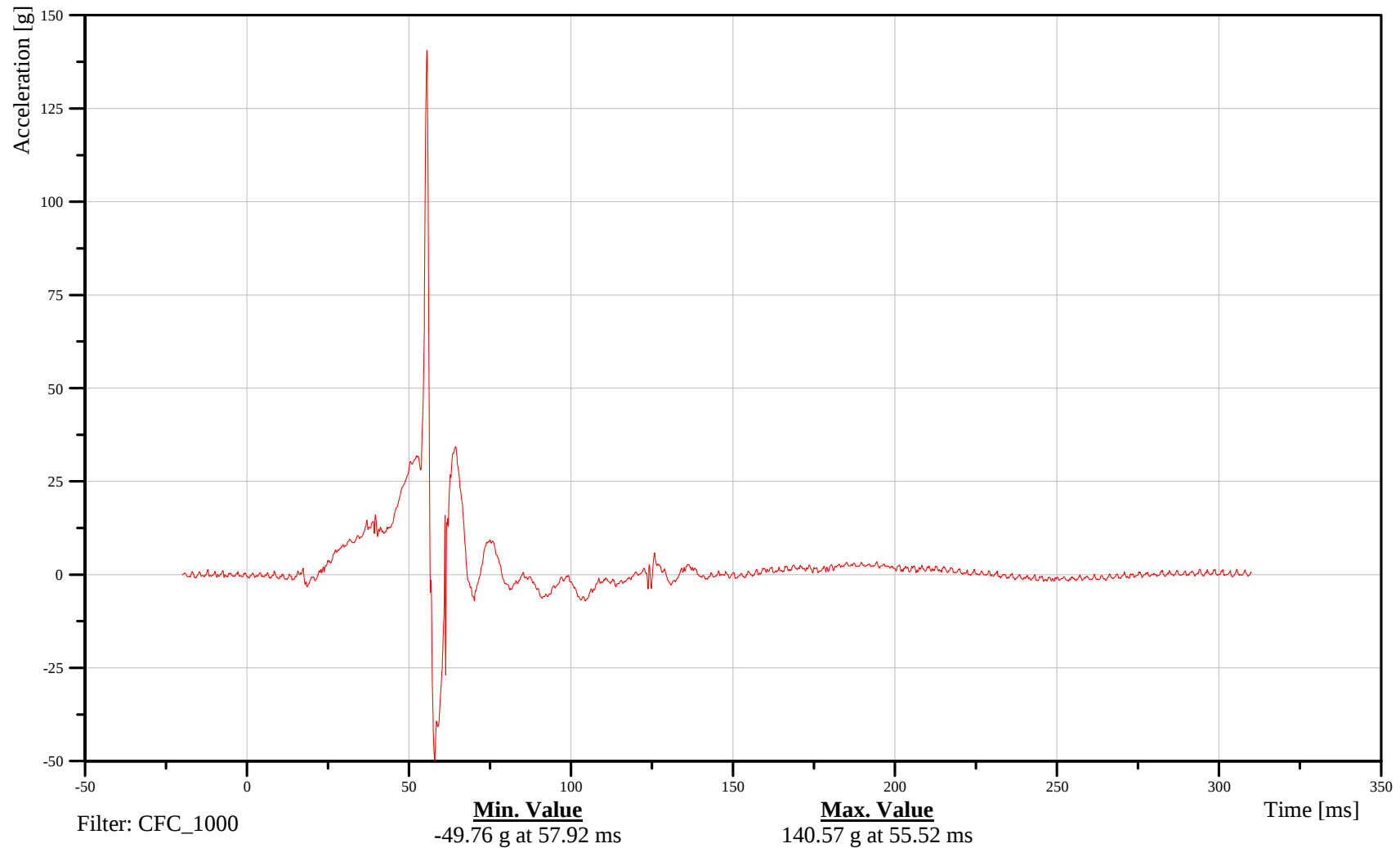
Head Z-Axis Acceleration

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-5

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

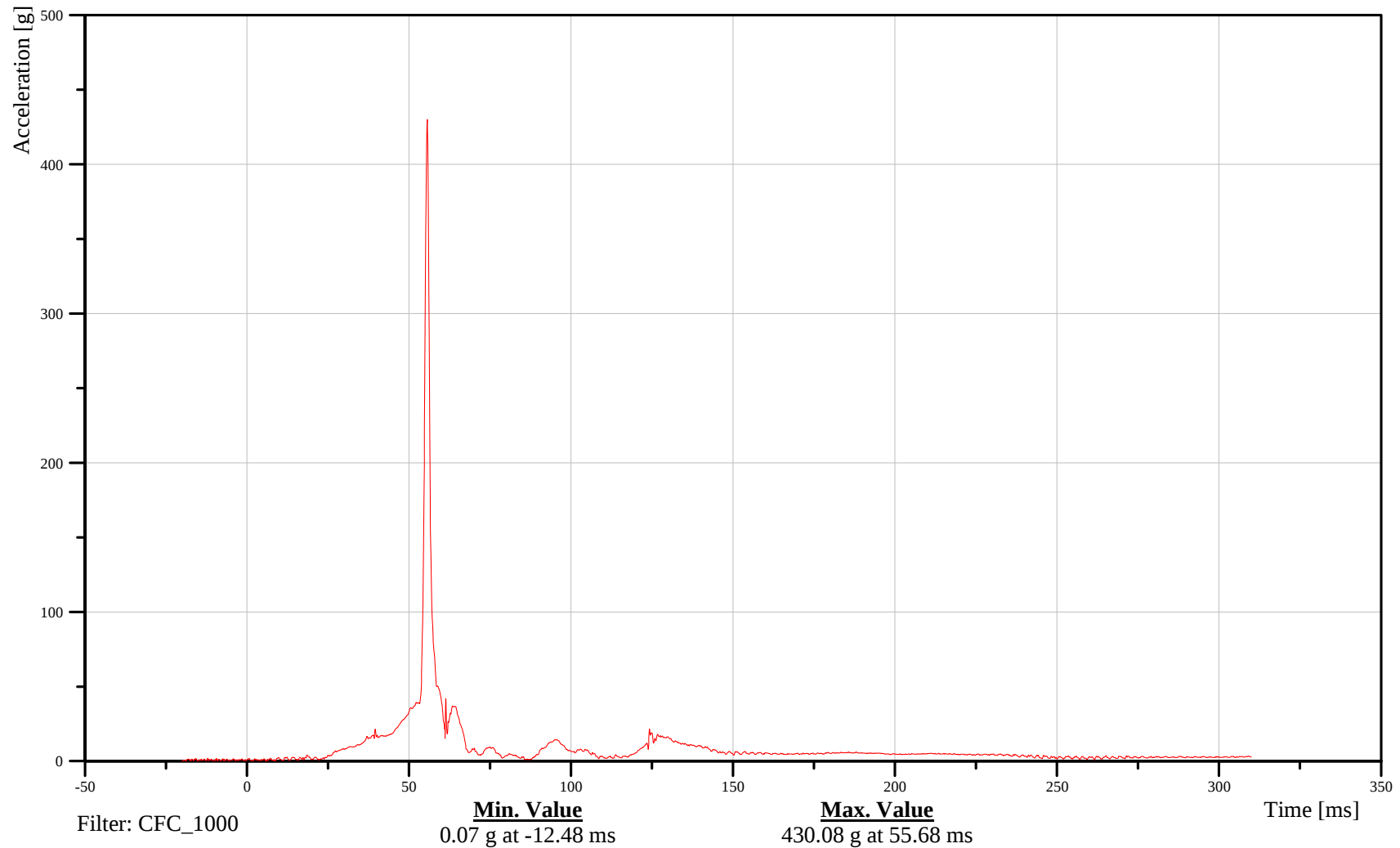
Head Resultant Acceleration

Customer: VRTC

11HEADCG00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-6

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

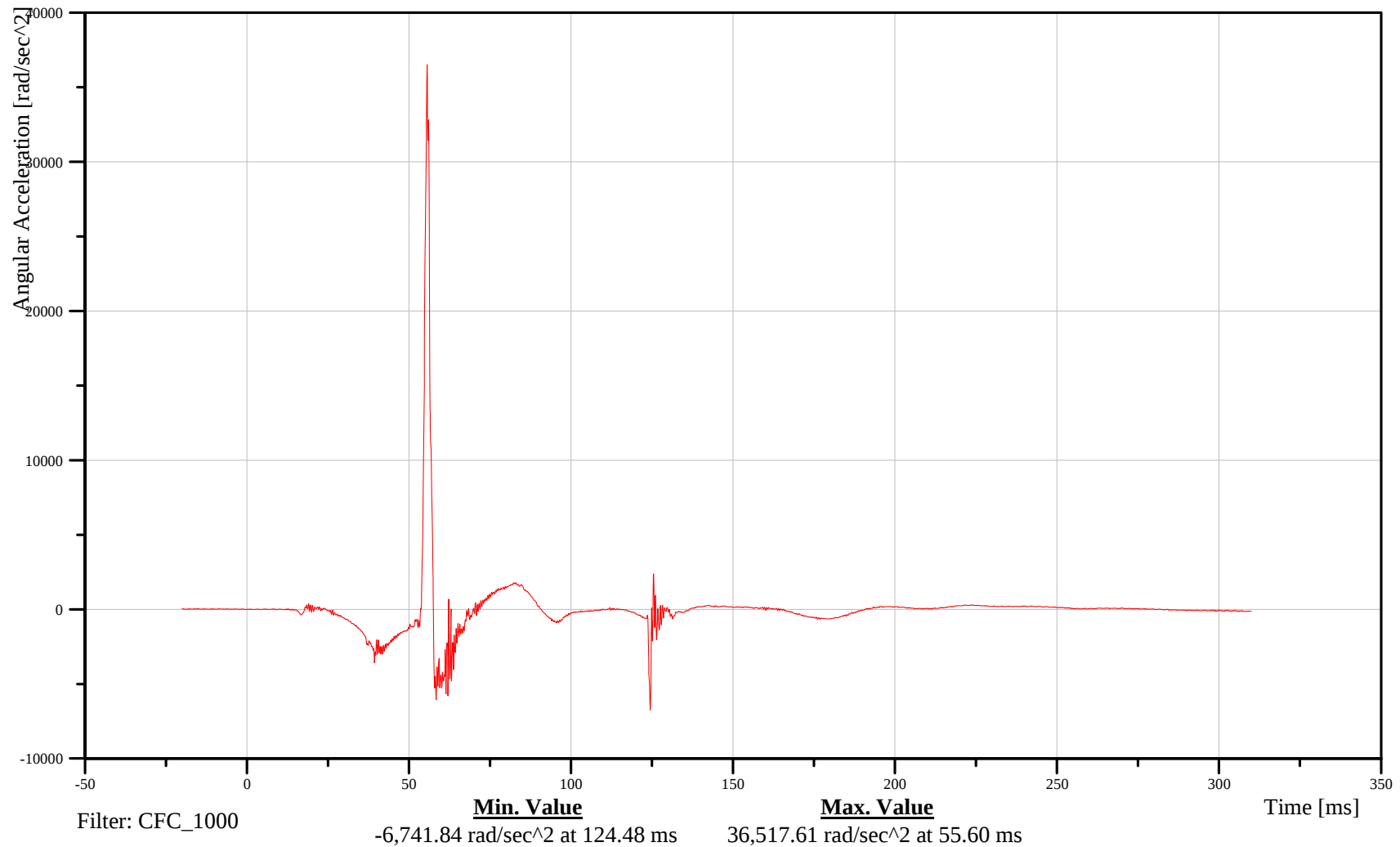
Head X-Axis Angular Displacement

Customer: VRTC

11HEADCG00WSANXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-7

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

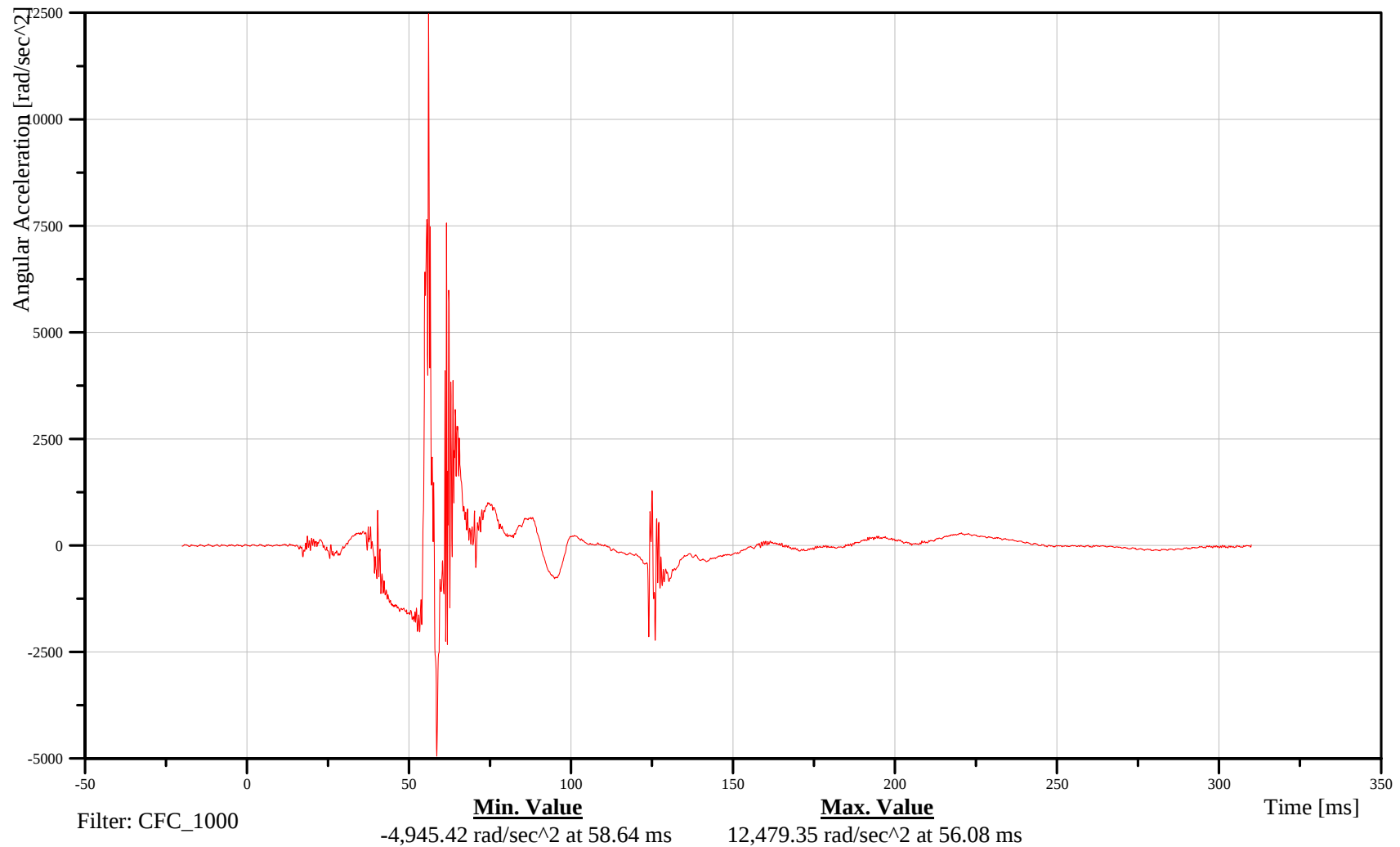
Head Y-Axis Angular Displacement

Customer: VRTC

11HEADC00WSANYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-8

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

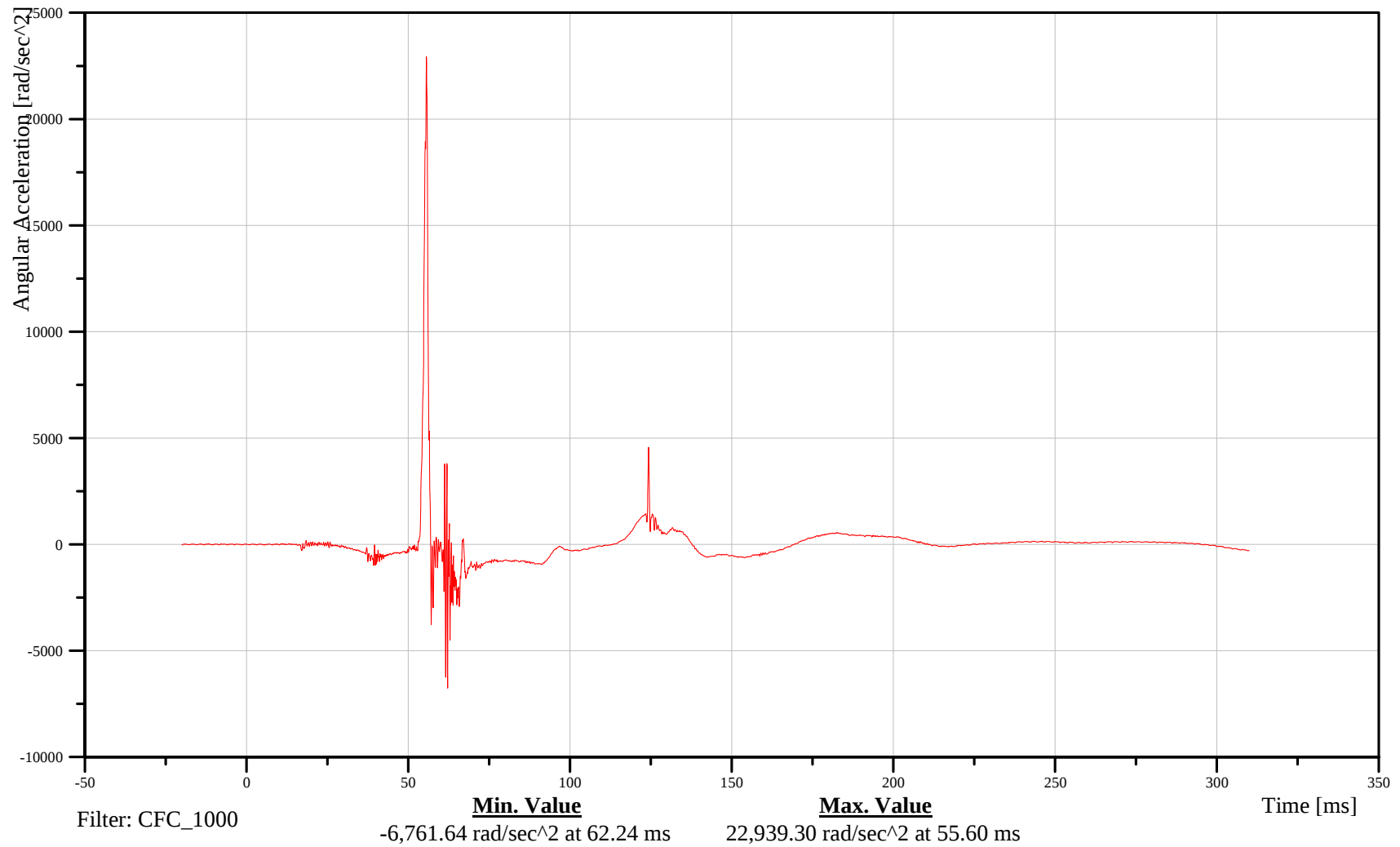
Head Z-Axis Angular Displacement

Customer: VRTC

11HEADCG00WSANZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-9

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

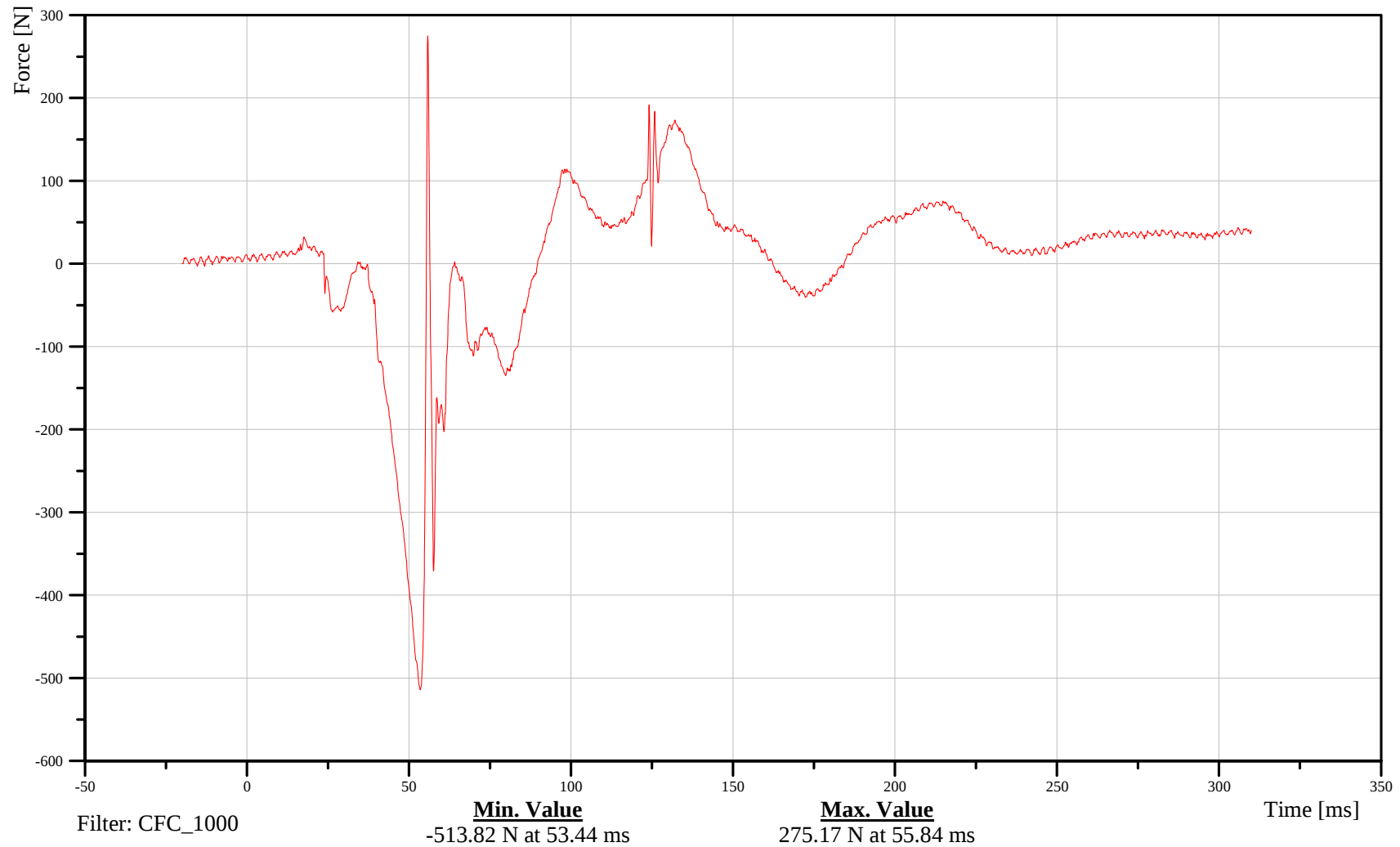
Upper Neck X-Axis Force

Customer: VRTC

11NECKUP00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-10

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

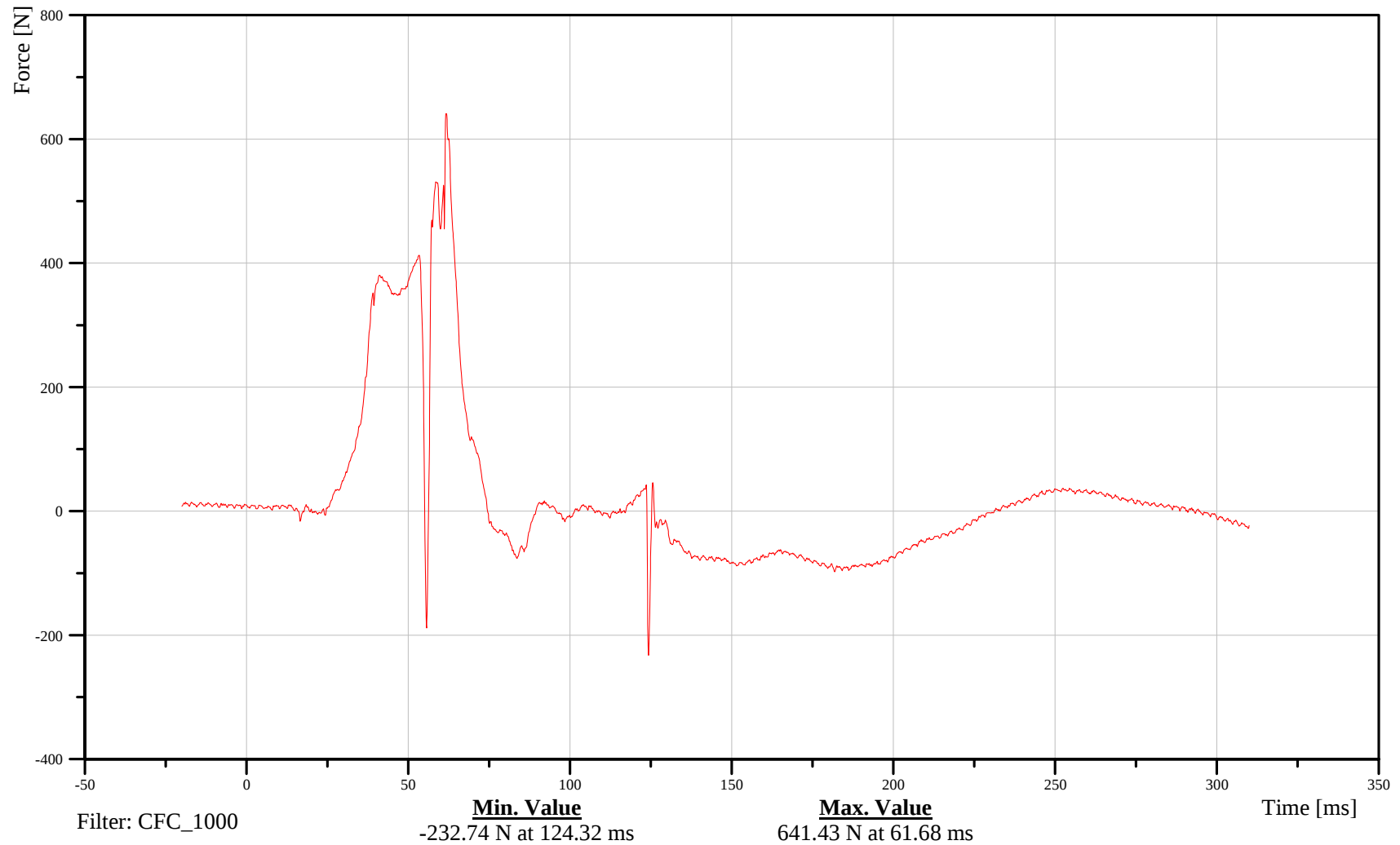
Upper Neck Y-Axis Force

Customer: VRTC

11NECKUP00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-11

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

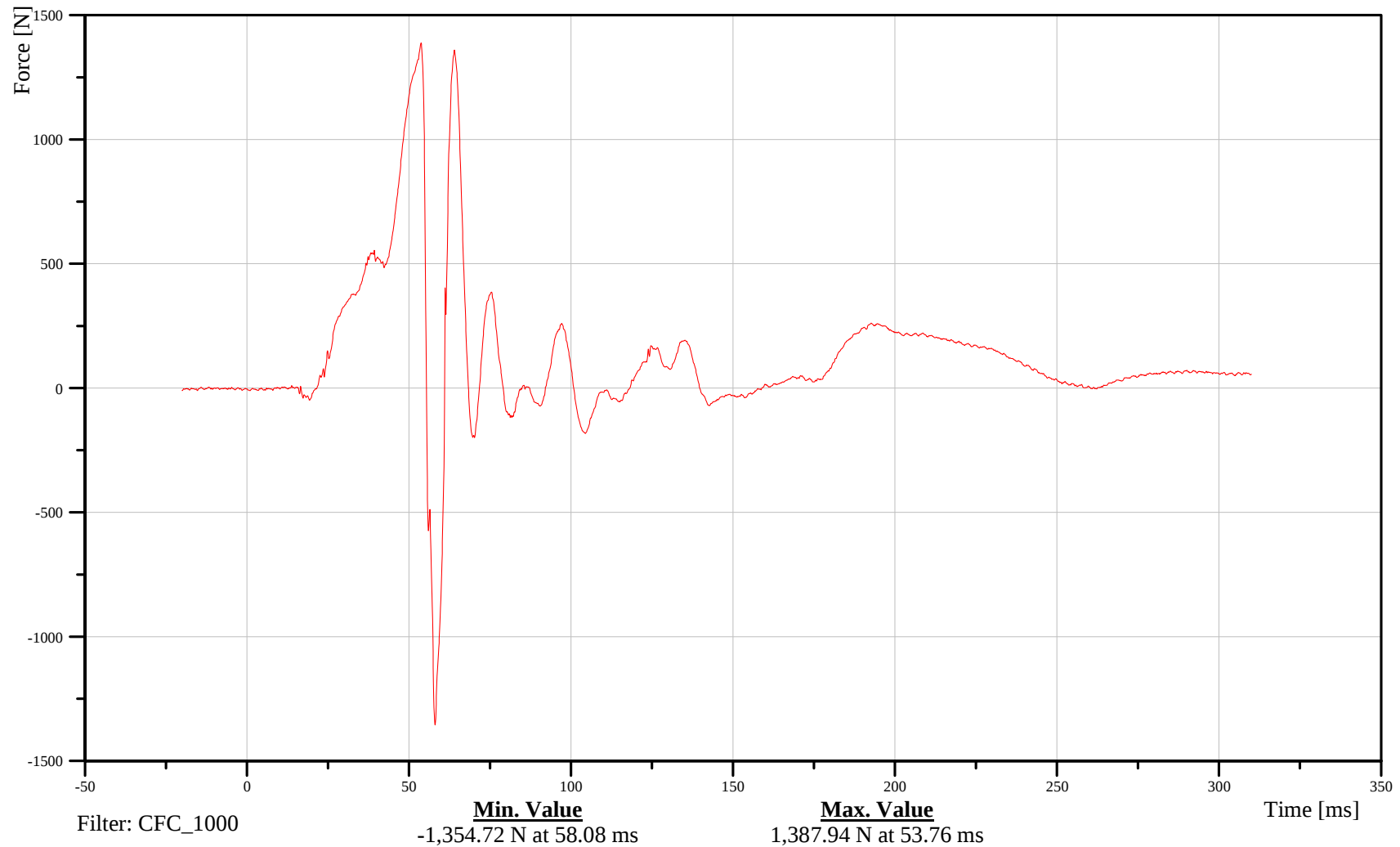
Upper Neck Z-Axis Force

Customer: VRTC

11NECKUP00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-12

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

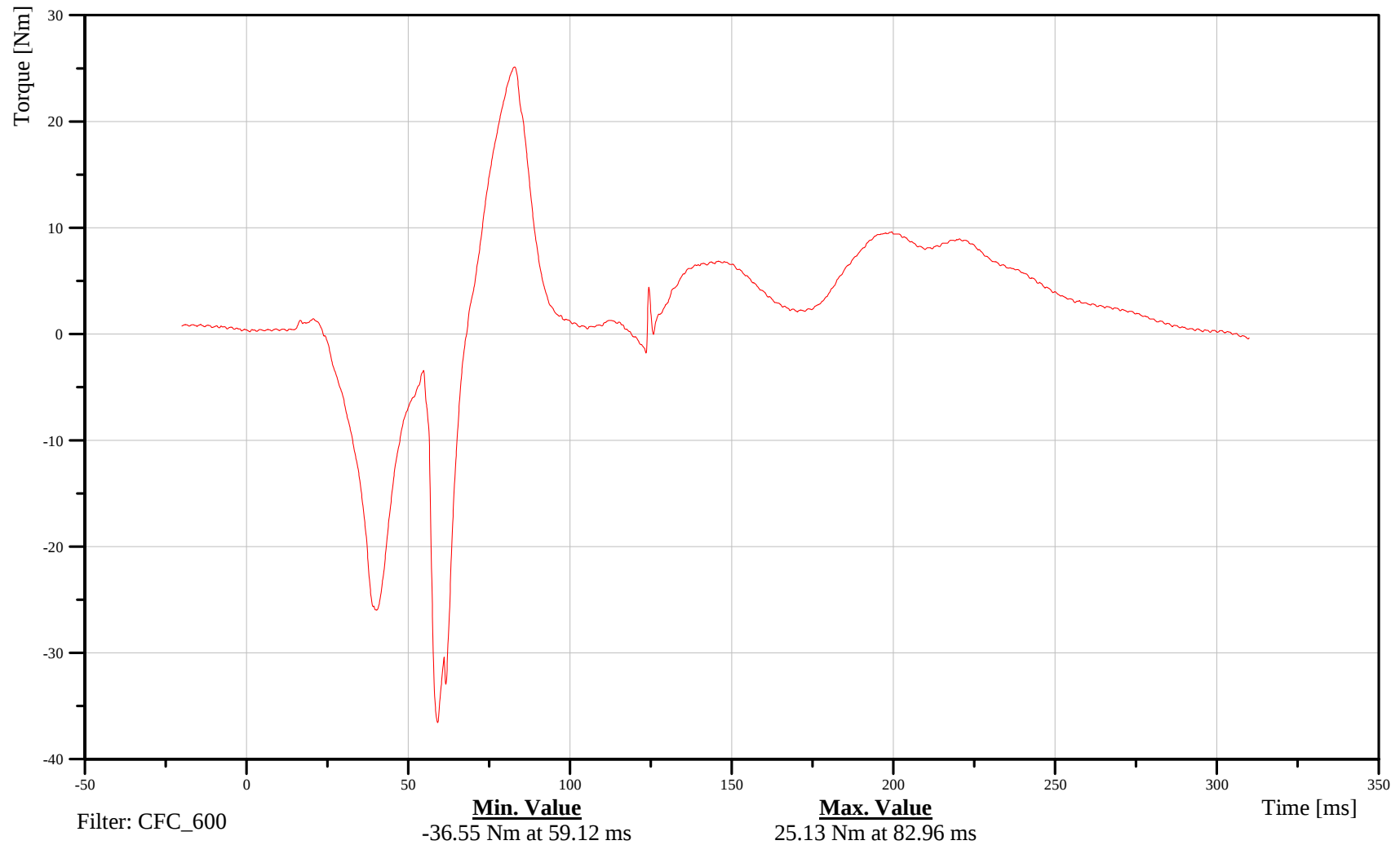
Upper Neck Moment About X Axis

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-13

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

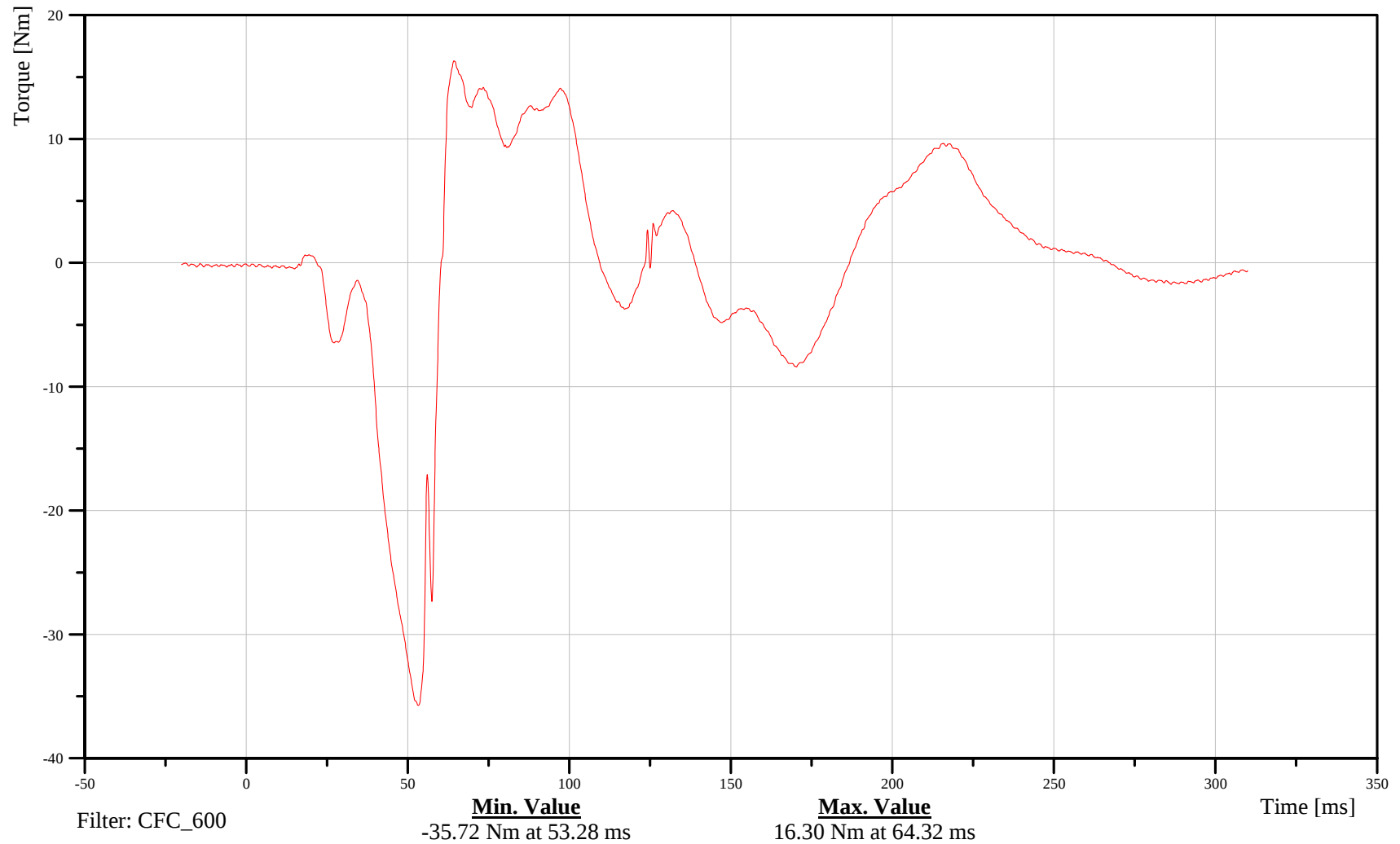
Upper Neck Moment About Y Axis

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-14

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

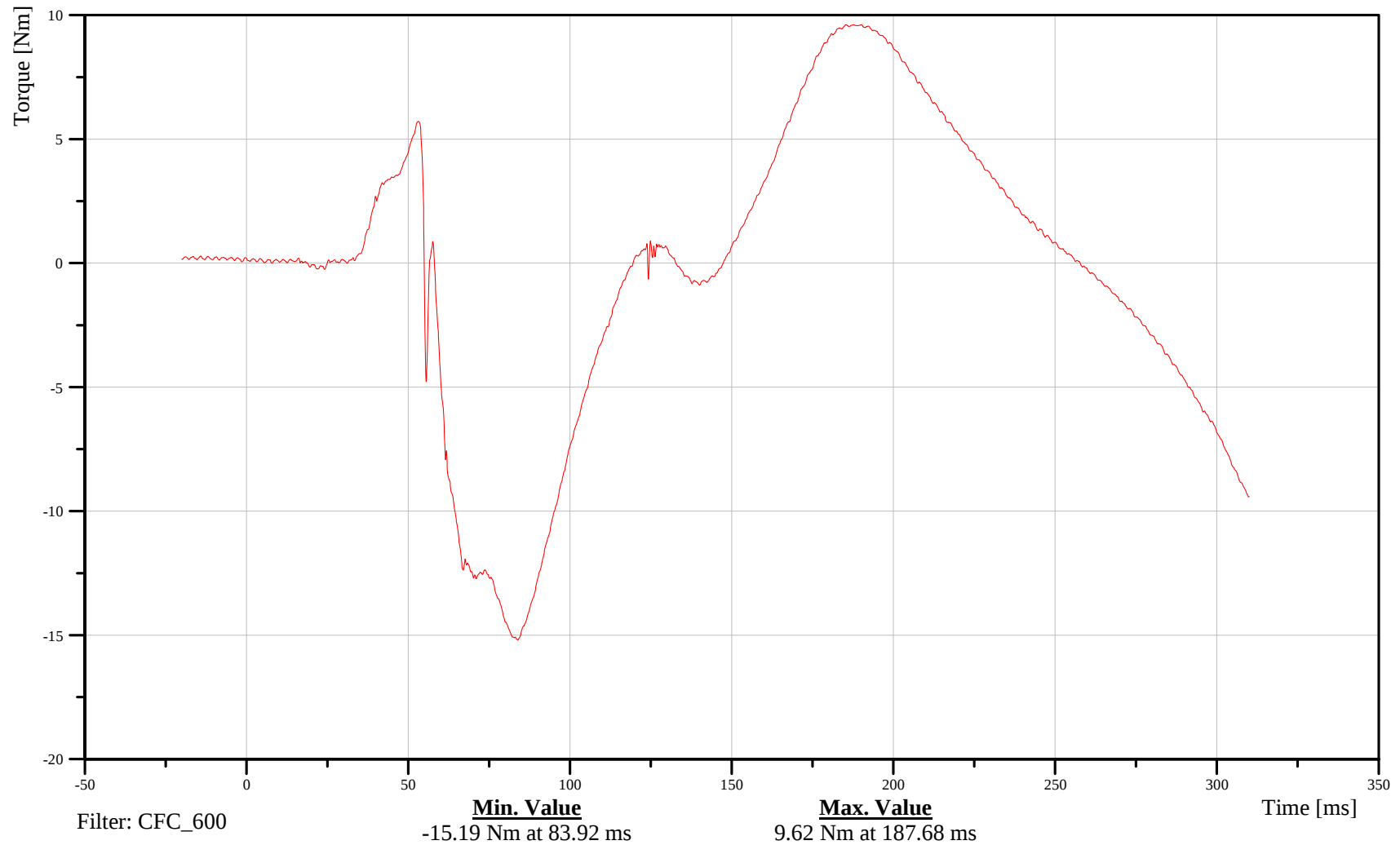
Upper Neck Moment About Z Axis

Customer: VRTC

11NECKUP00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-15

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

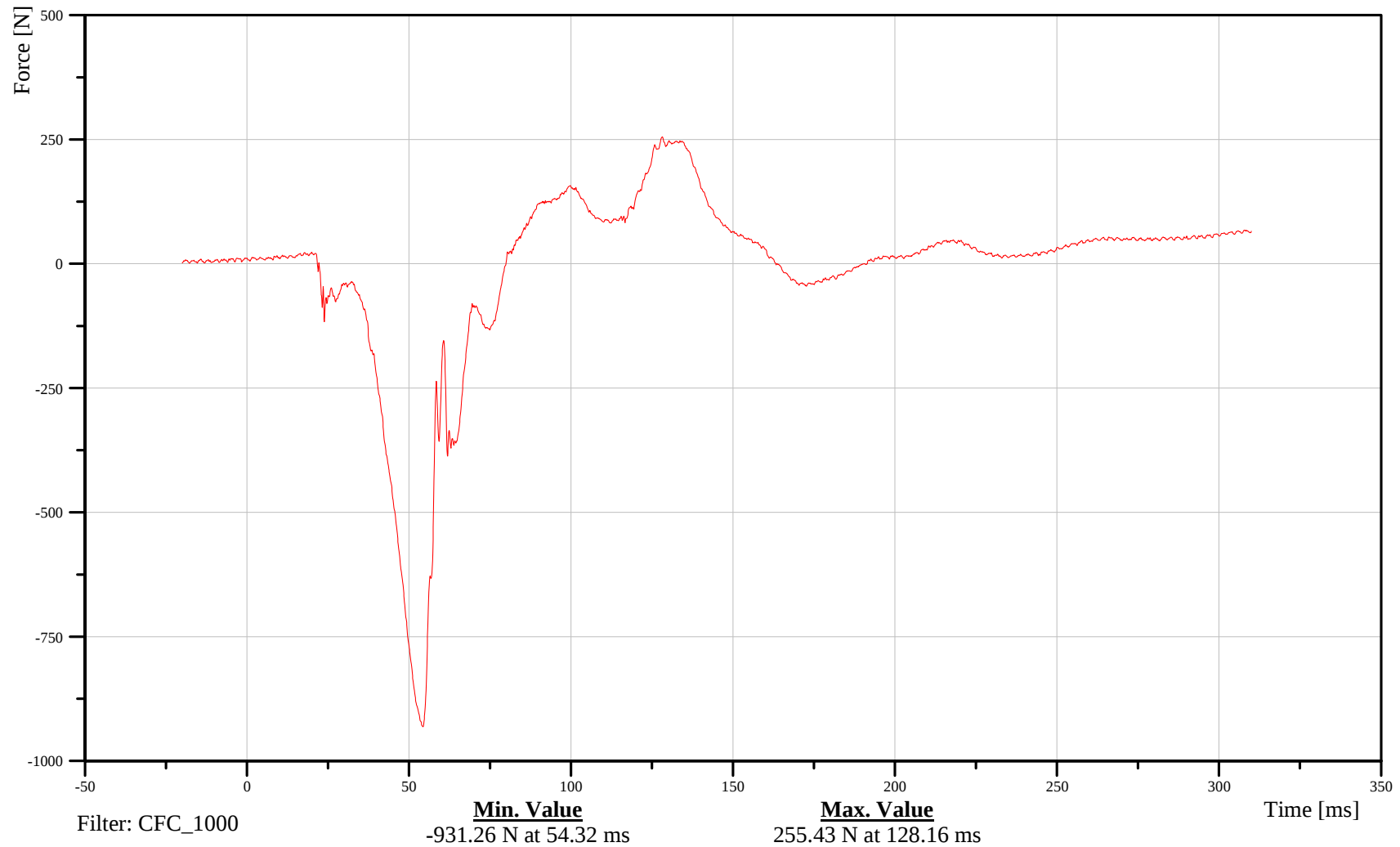
Lower Neck X-Axis Force

Customer: VRTC

11NECKLO00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-16

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

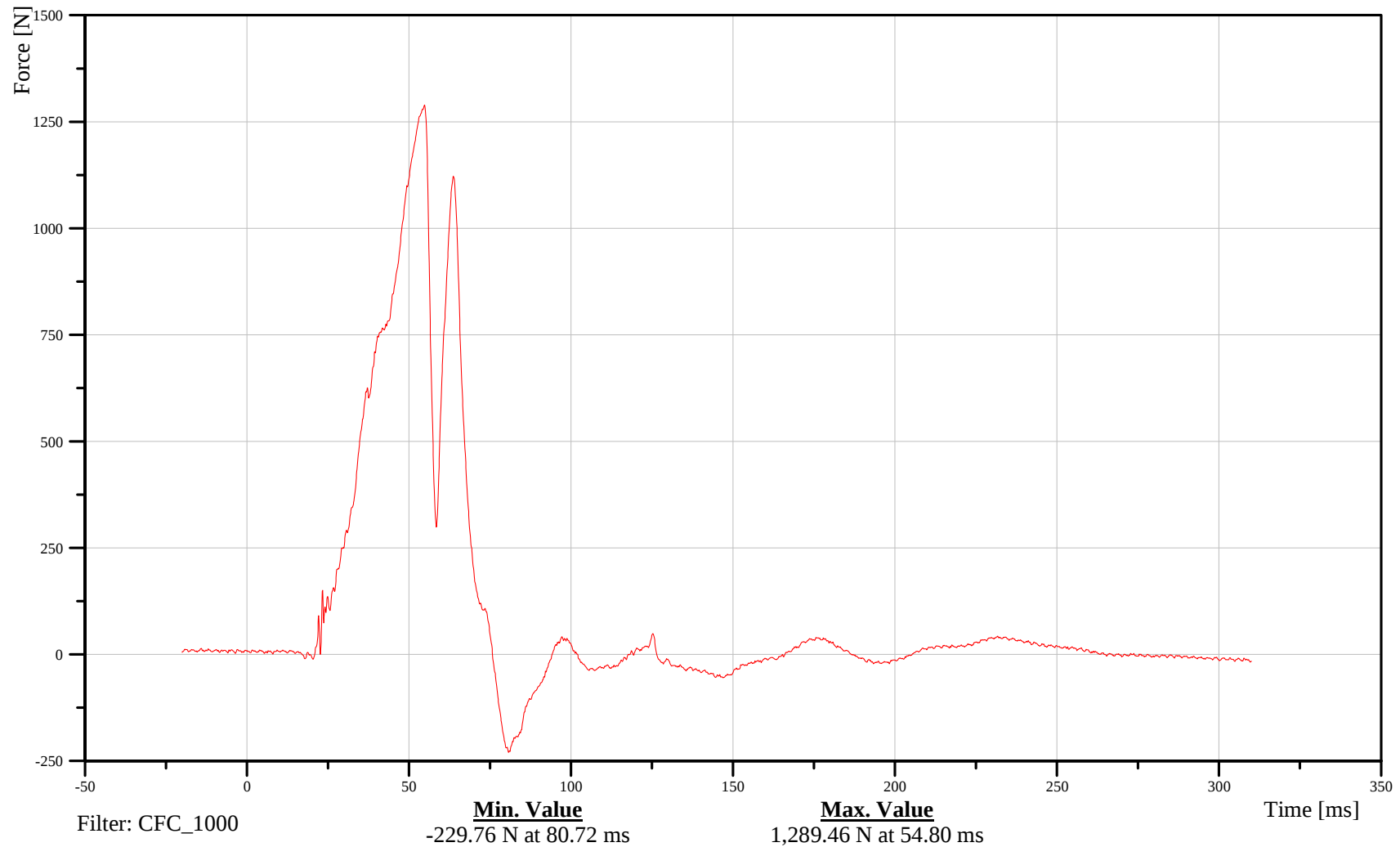
Lower Neck Y-Axis Force

Customer: VRTC

11NECKLO00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-17

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

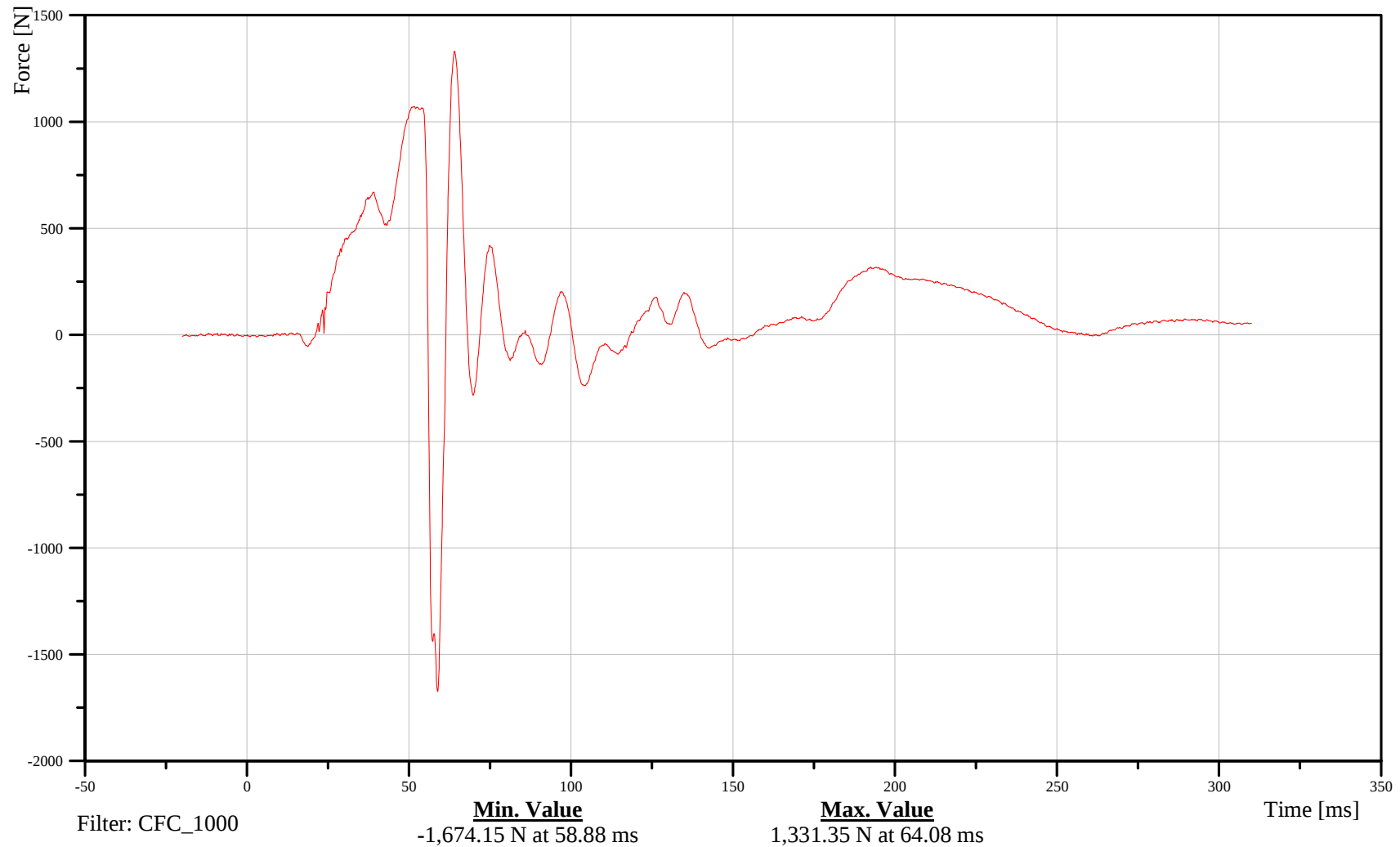
Lower Neck Z-Axis Force

Customer: VRTC

11NECKLO00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-18

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

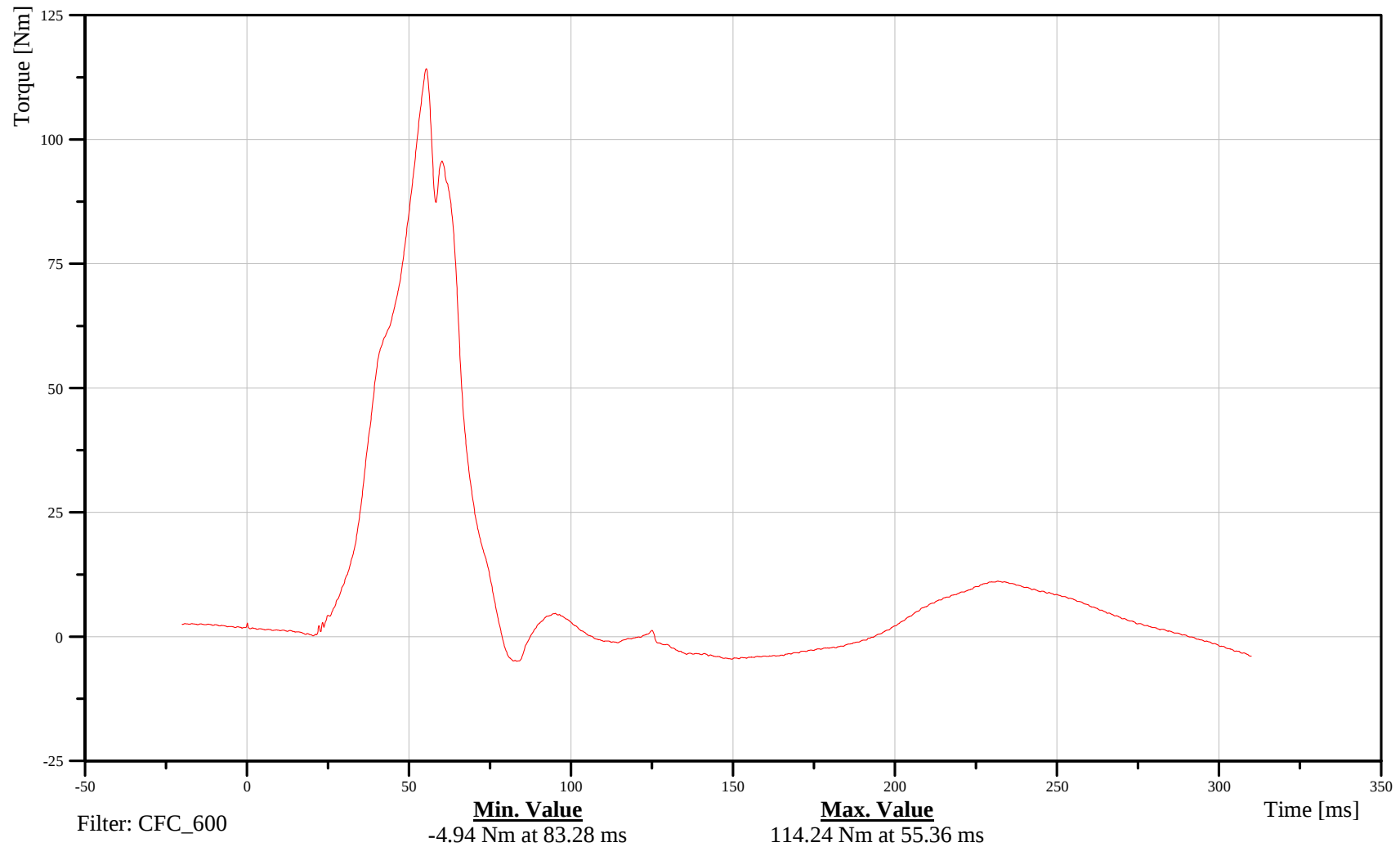
Lower Neck Moment About X Axis

Customer: VRTC

11NECKLO00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-19

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

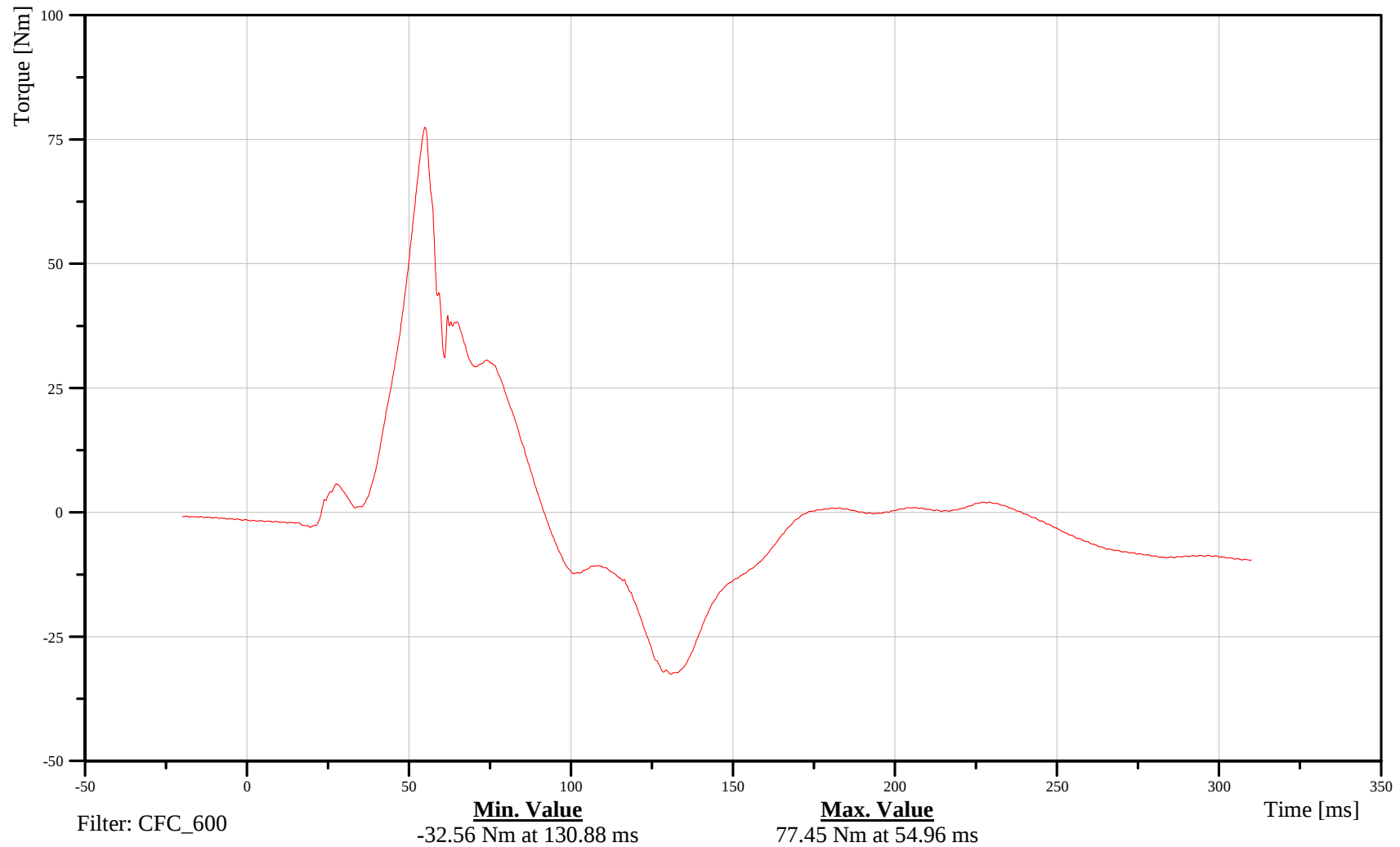
Lower Neck Moment About Y Axis

Customer: VRTC

11NECKLO00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-20

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

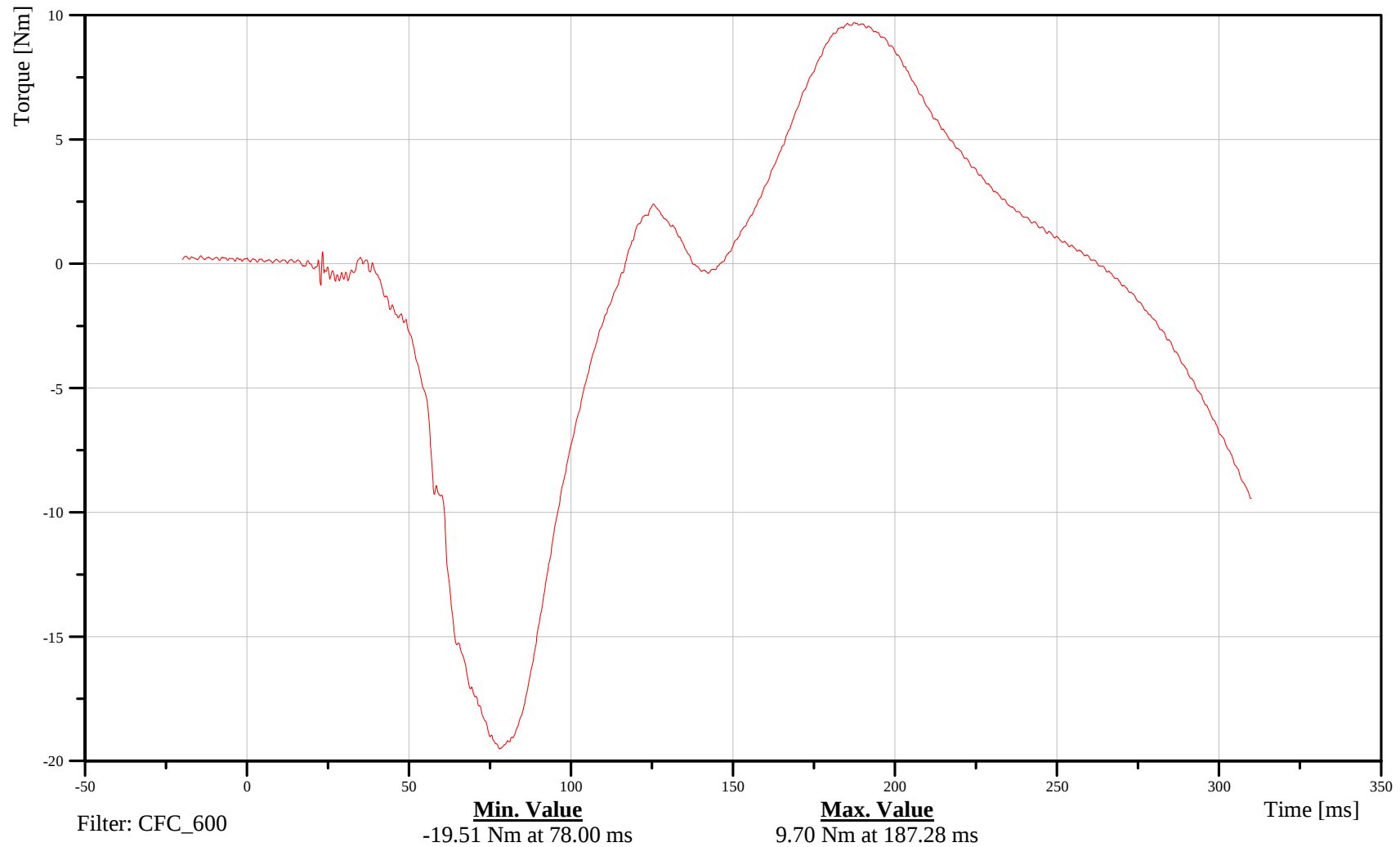
Lower Neck Moment About Z Axis

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-21

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

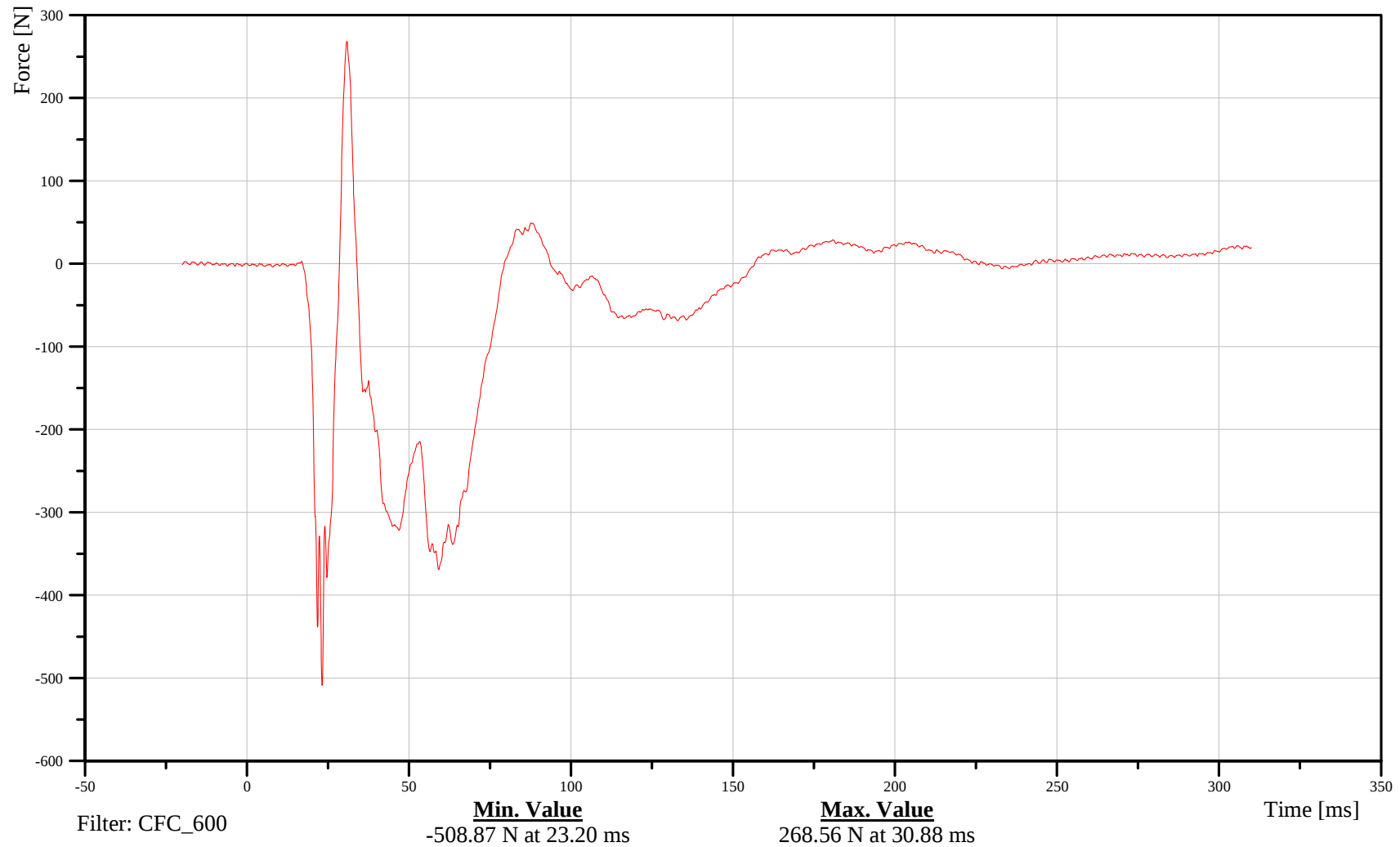
Shoulder X-Axis Force

Customer: VRTC

11SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-22

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

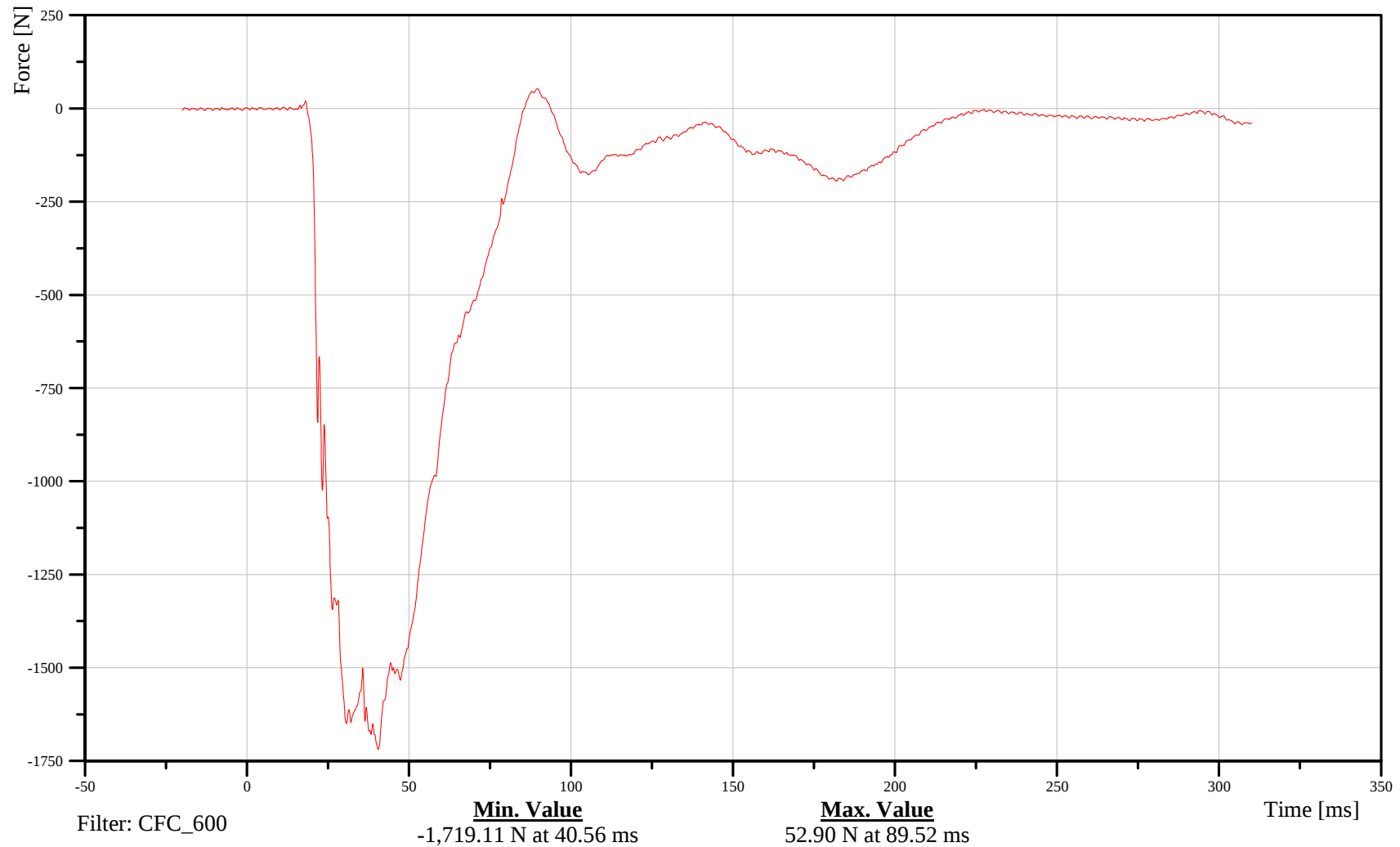
Shoulder Y-Axis Force

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-23

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

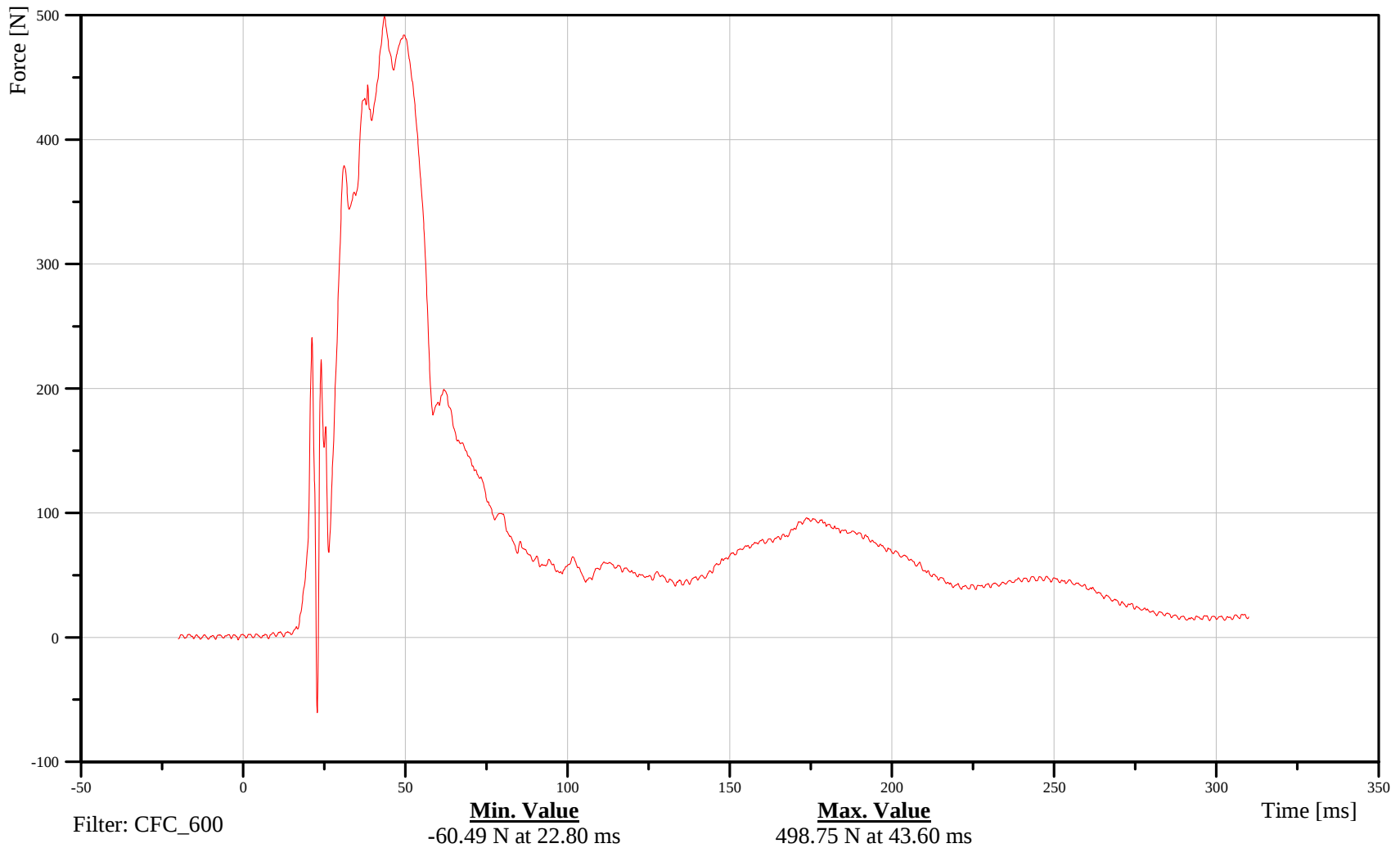
Shoulder Z-Axis Force

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-24

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

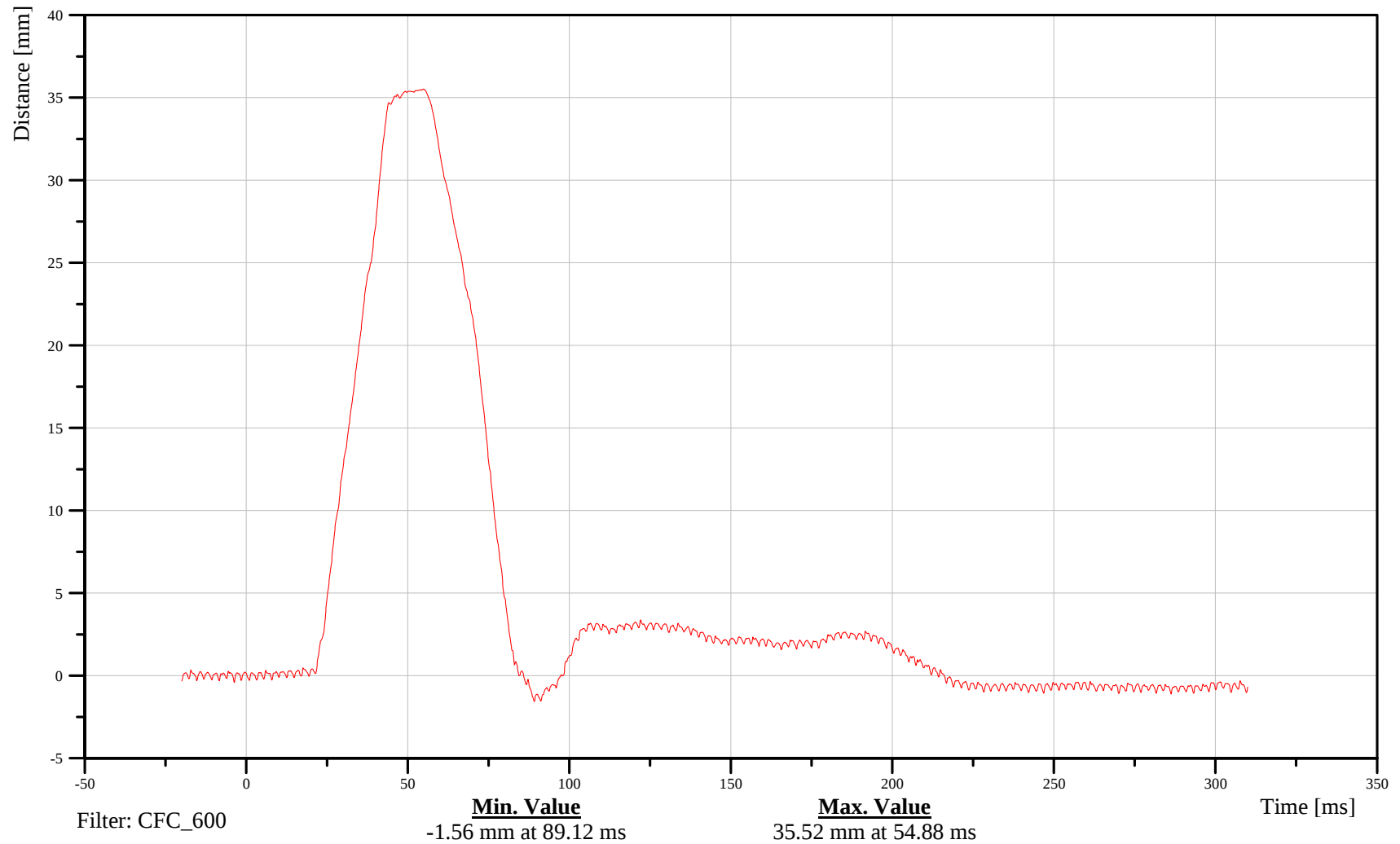
Shoulder Y-Axis Displacement

Customer: VRTC

11SHLDLE00WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-25

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

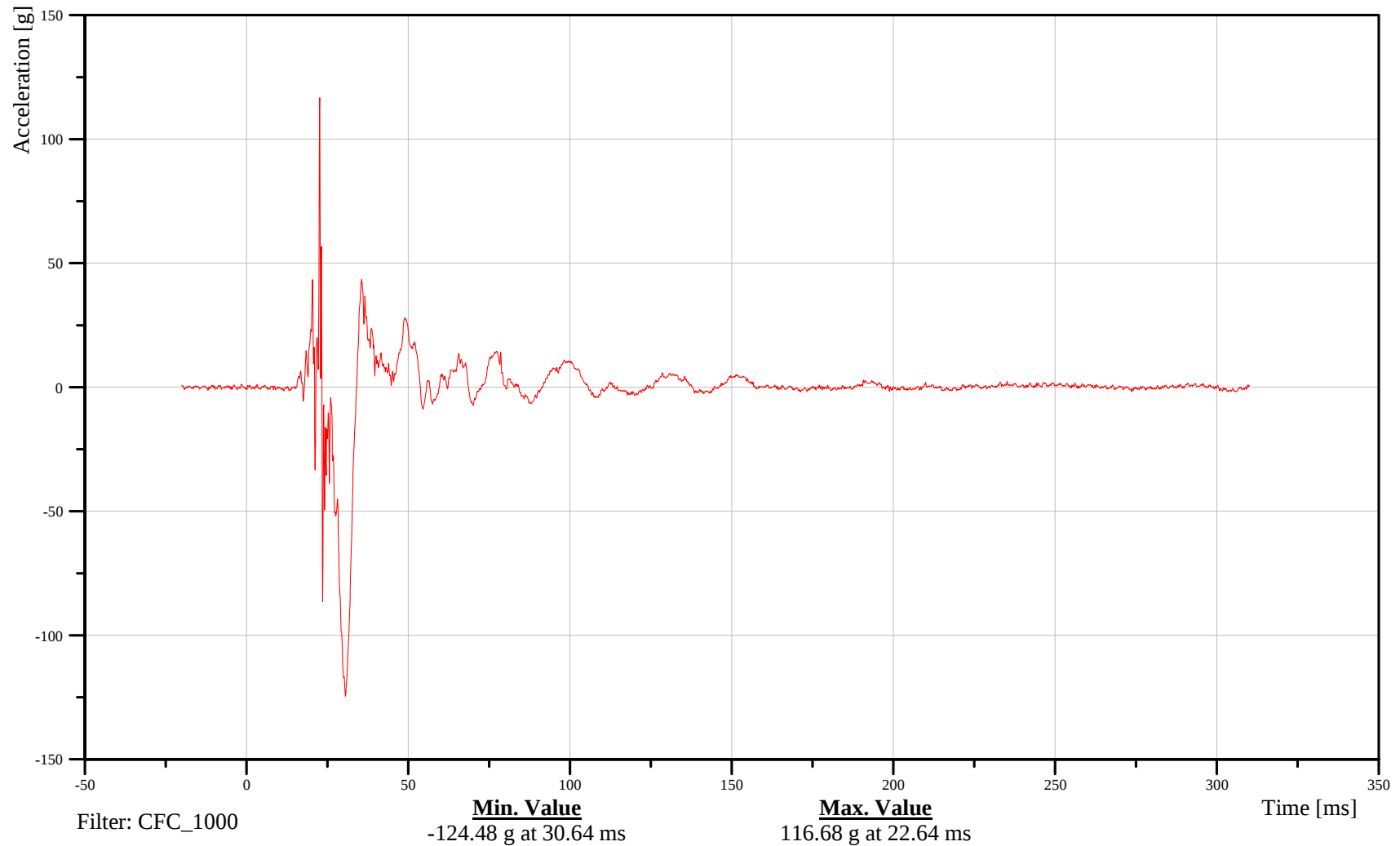
Shoulder X-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-26

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

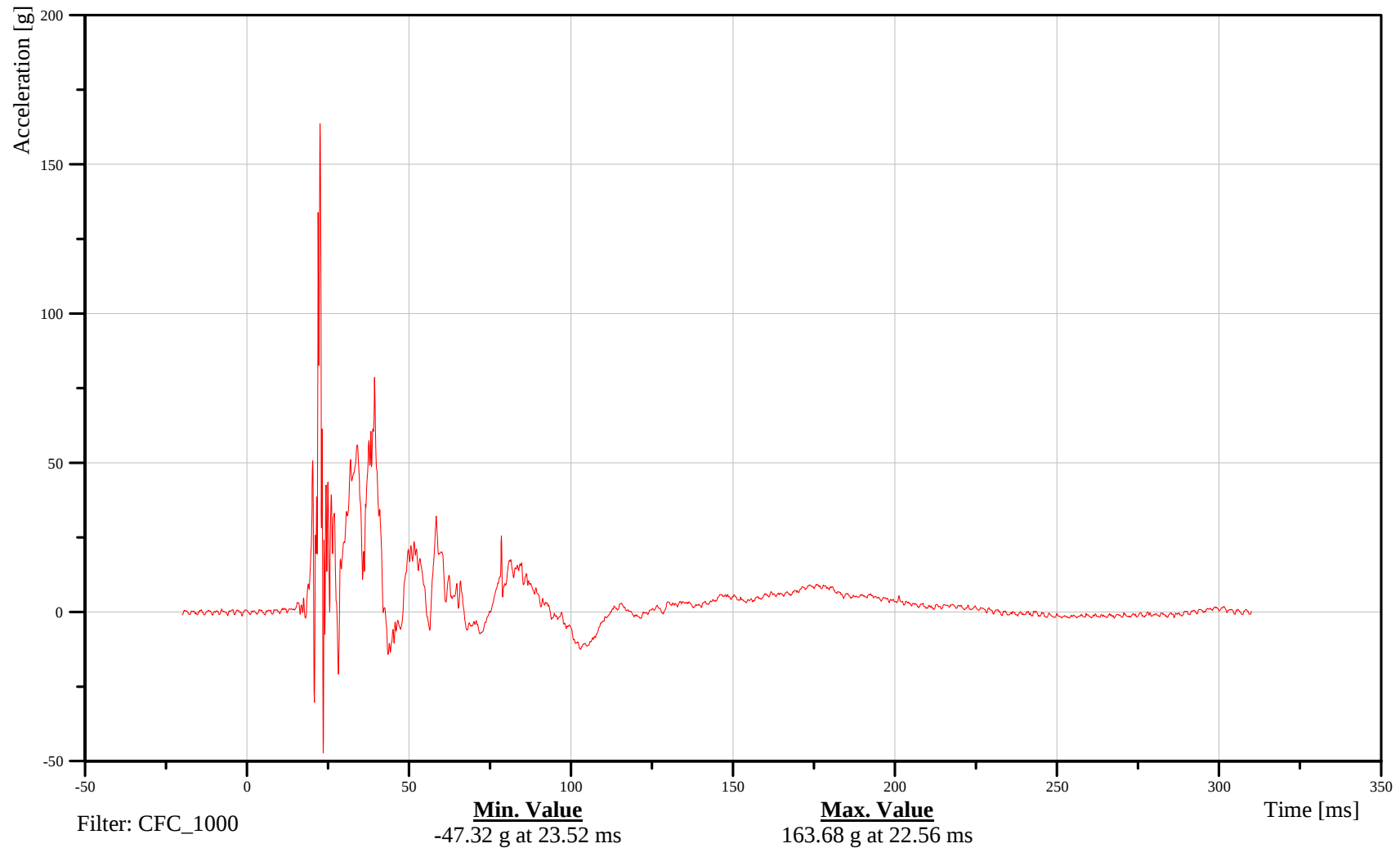
Shoulder Y-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-27

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

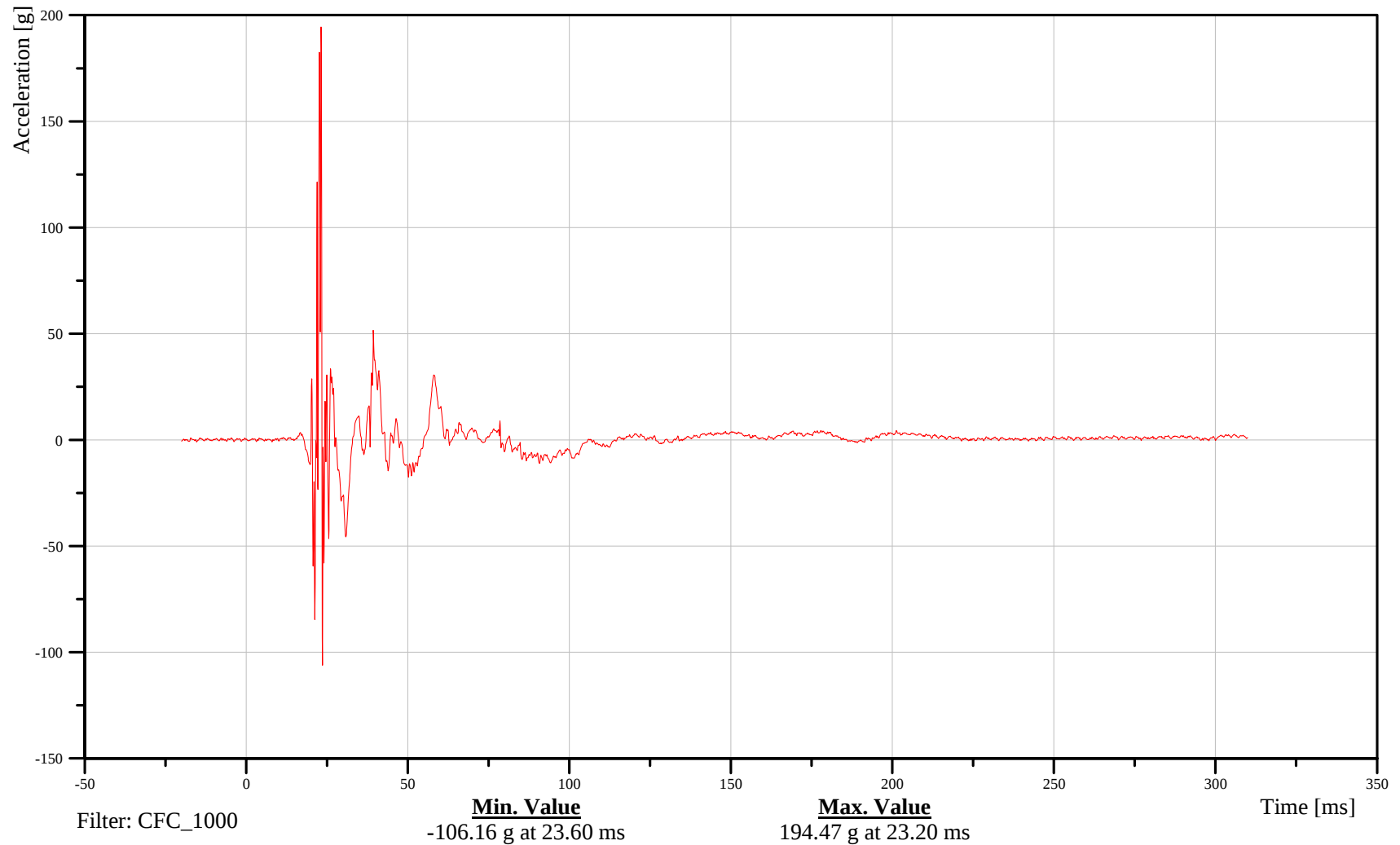
Shoulder Z-Axis Acceleration

Customer: VRTC

11SHLDLE00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-28

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

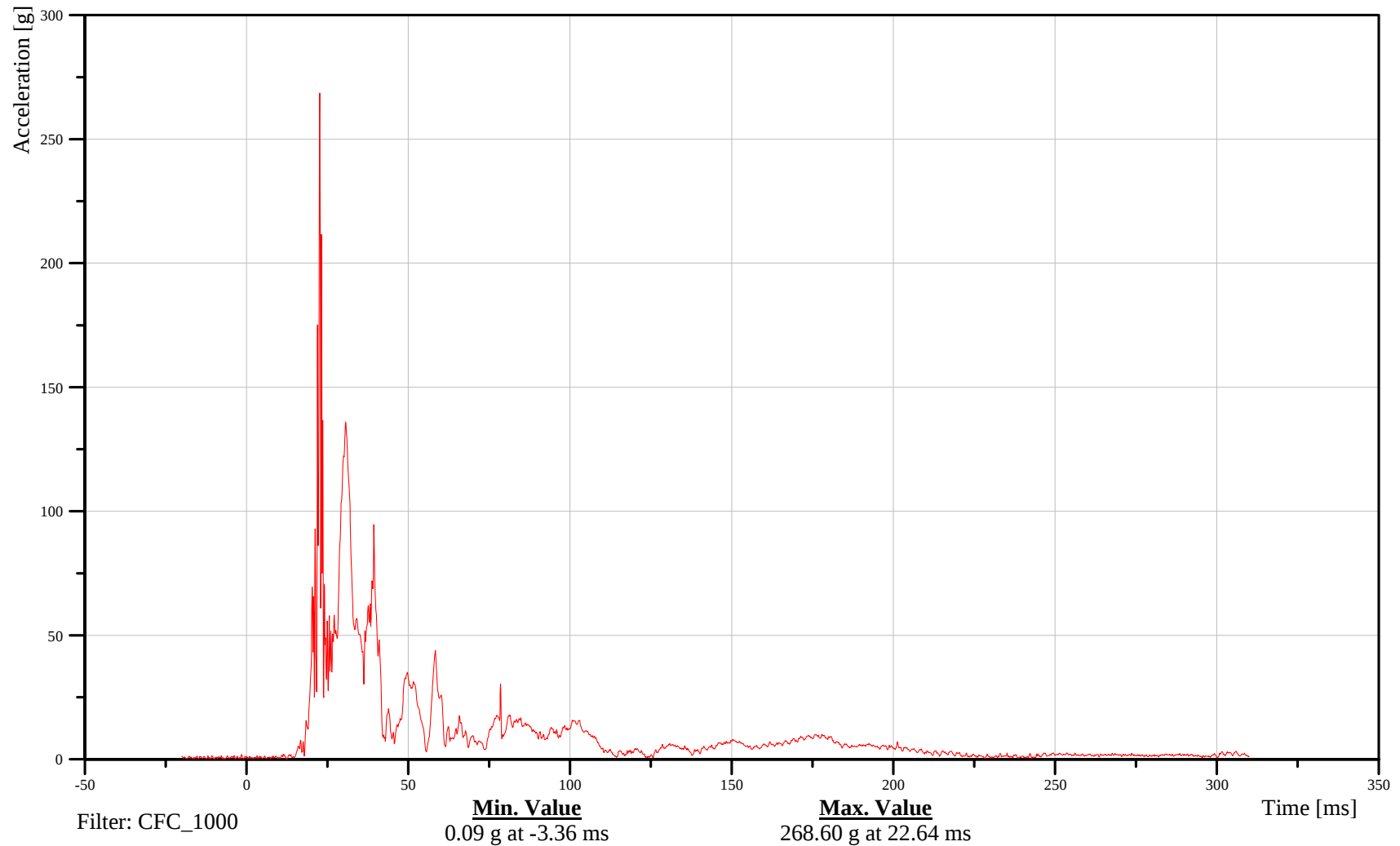
Shoulder Resultant Acceleration

Customer: VRTC

11SHLDLE00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-29

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

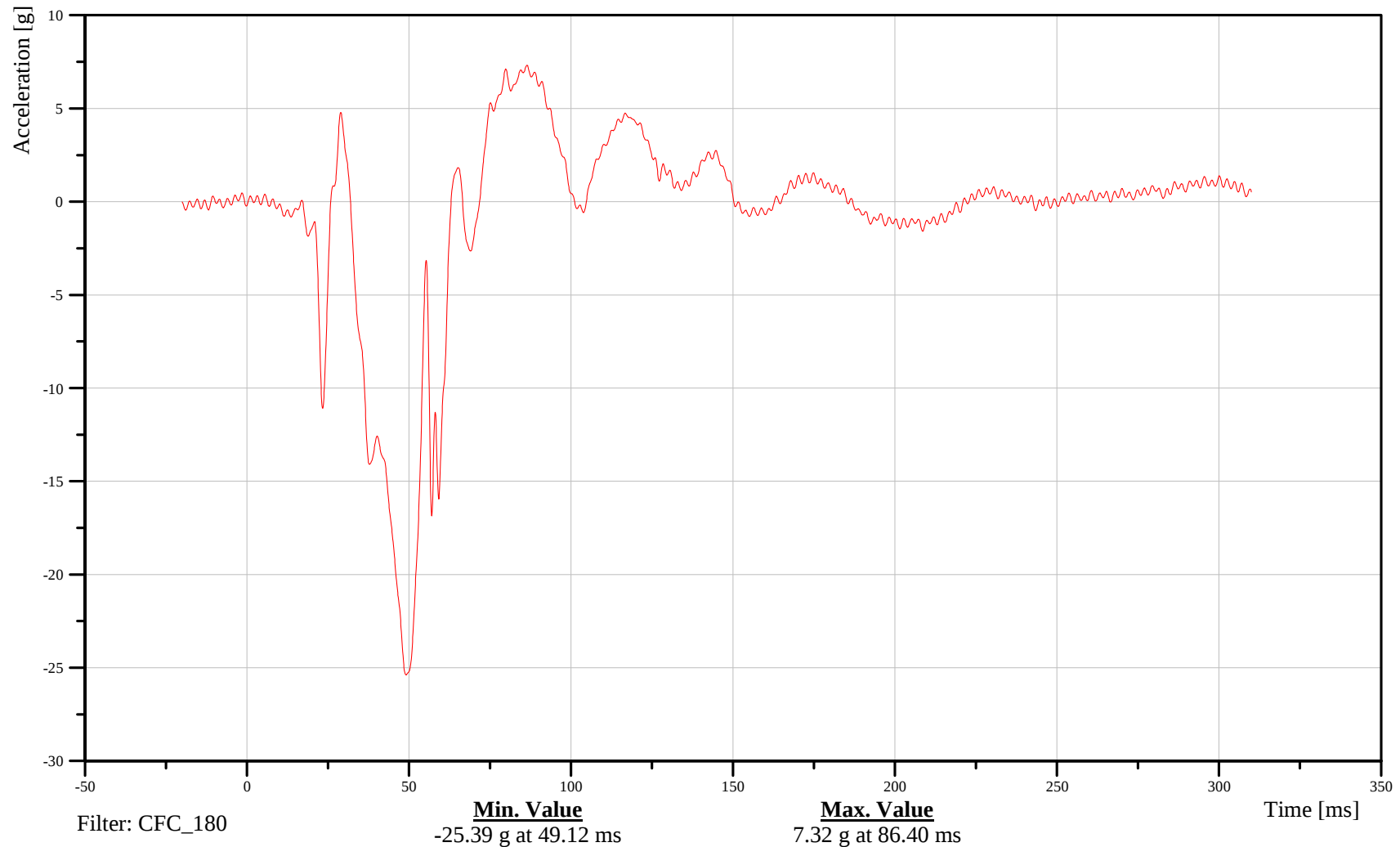
T1 X-Axis Acceleration

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-30

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

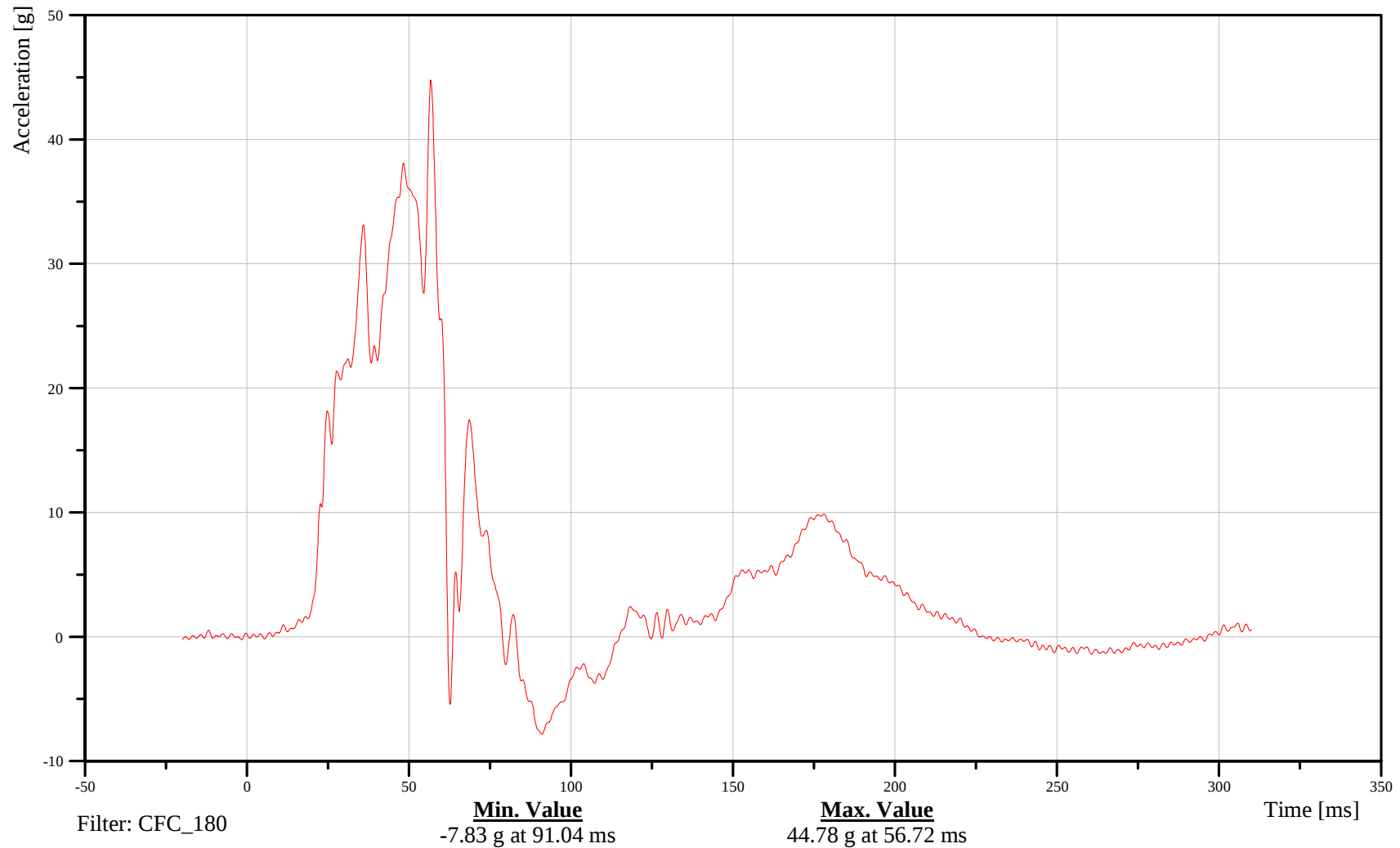
T1 Y-Axis Acceleration

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-31

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

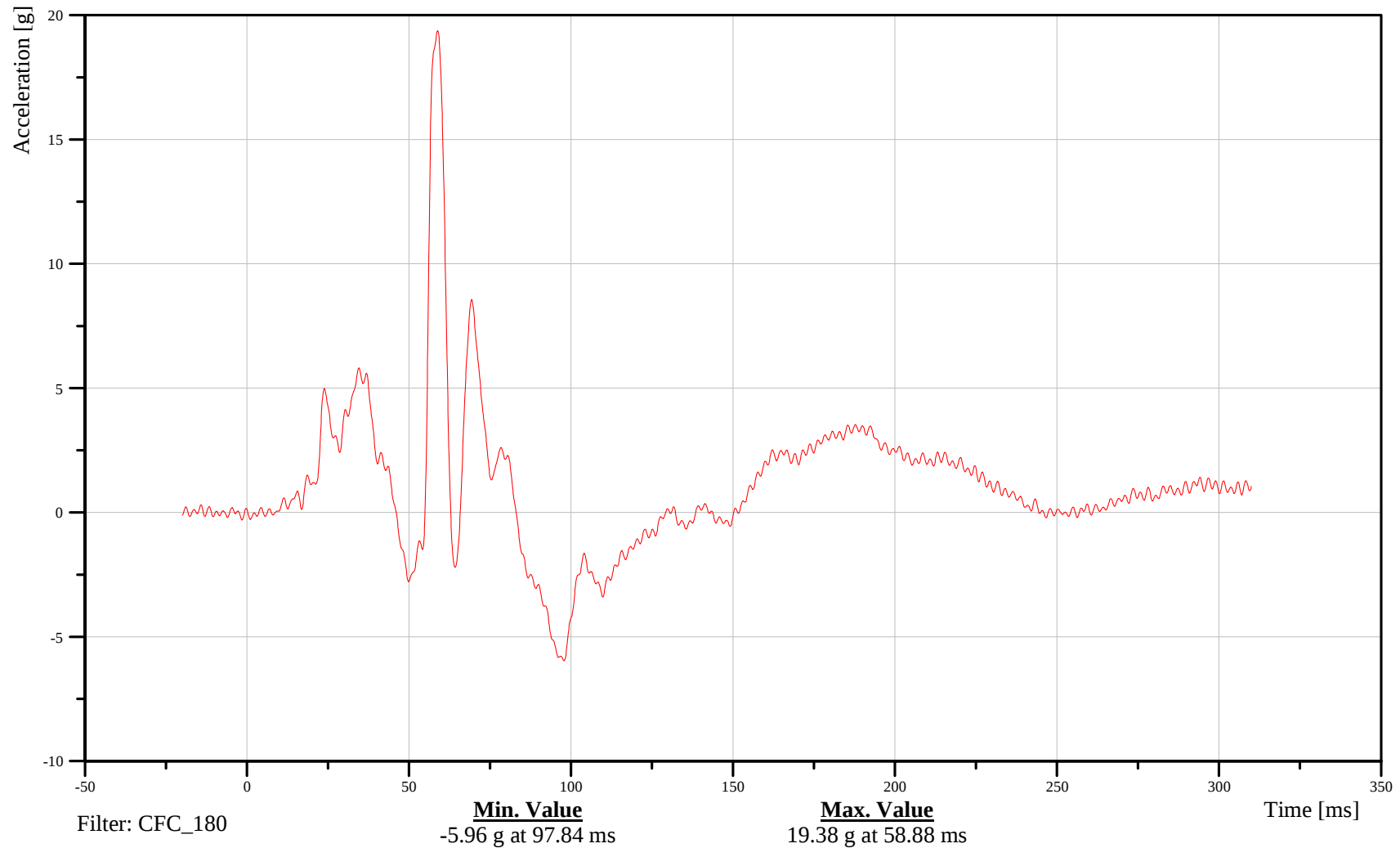
T1 Z-Axis Acceleration

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-32

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

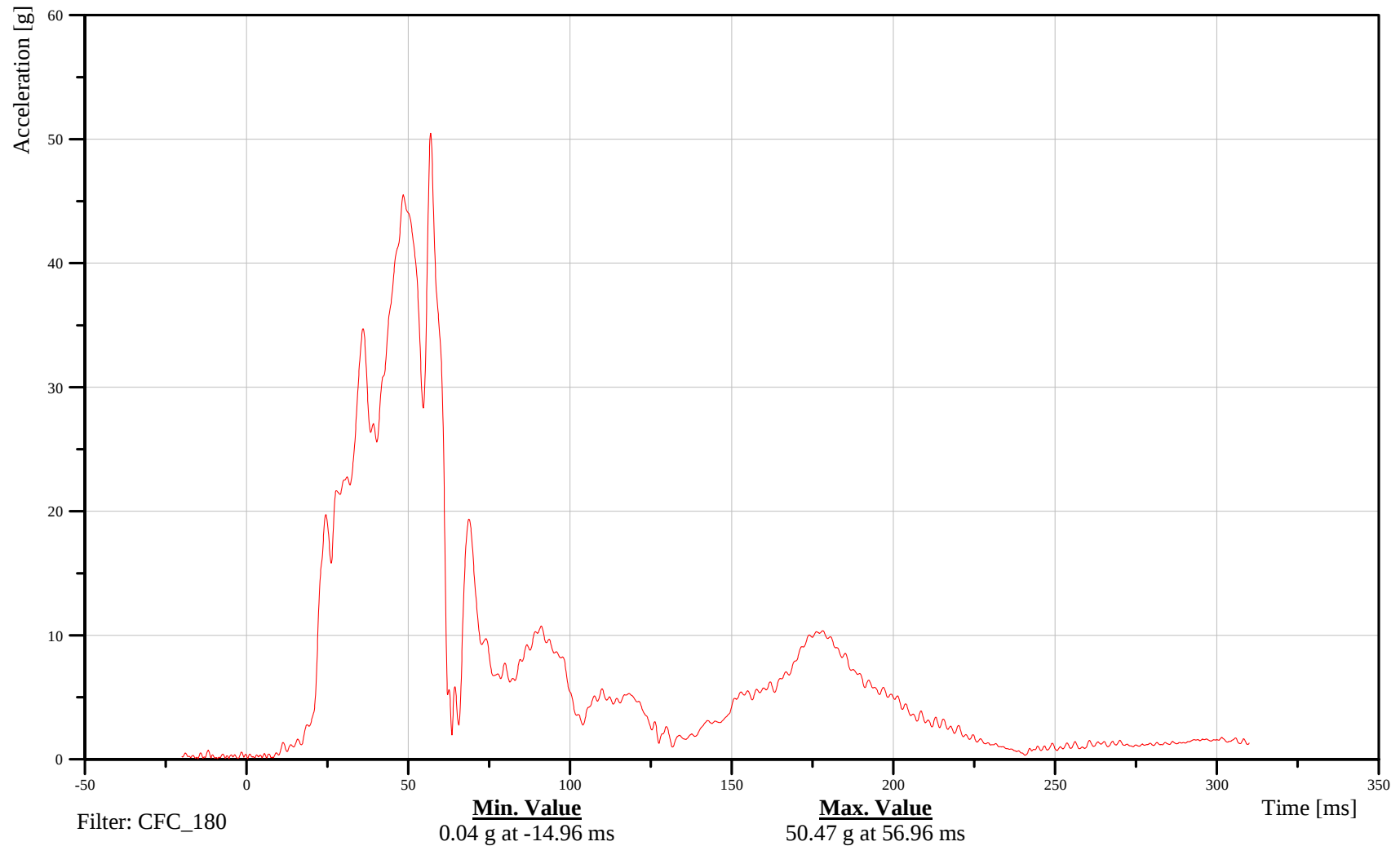
T1 Resultant Acceleration

Customer: VRTC

11THSP0100WSACRC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-33

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

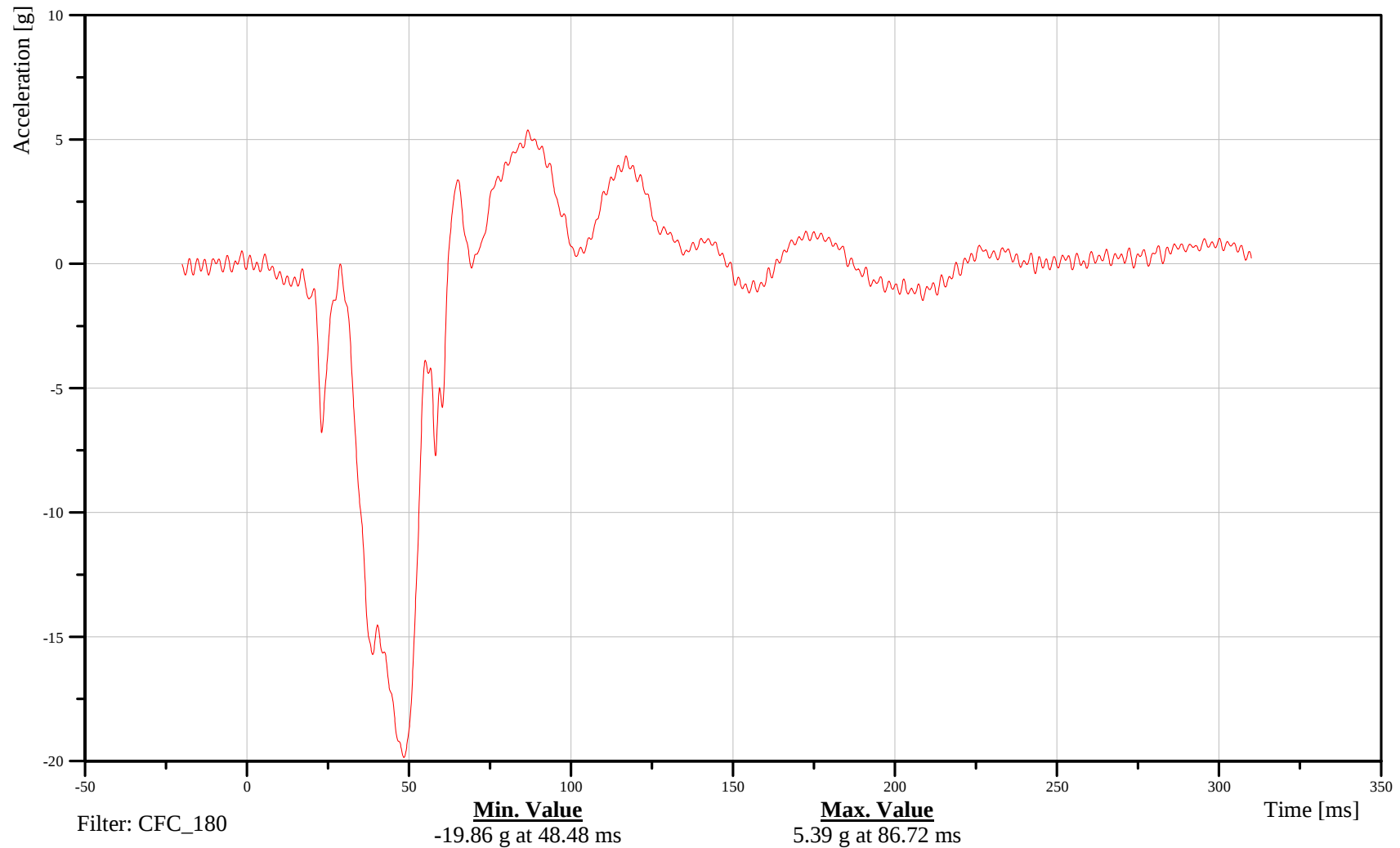
T4 X-Axis Acceleration

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-34

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

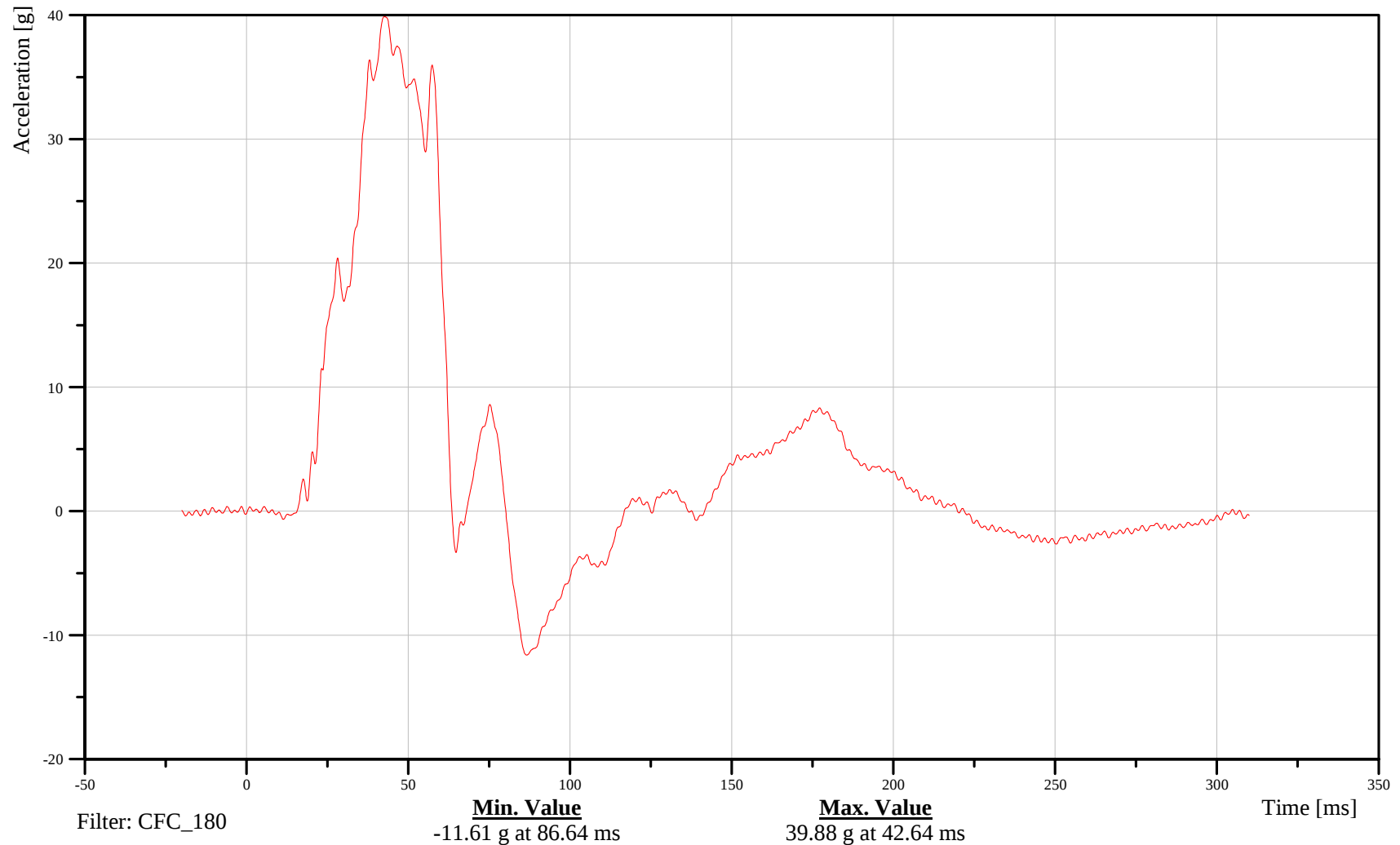
T4 Y-Axis Acceleration

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-35

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

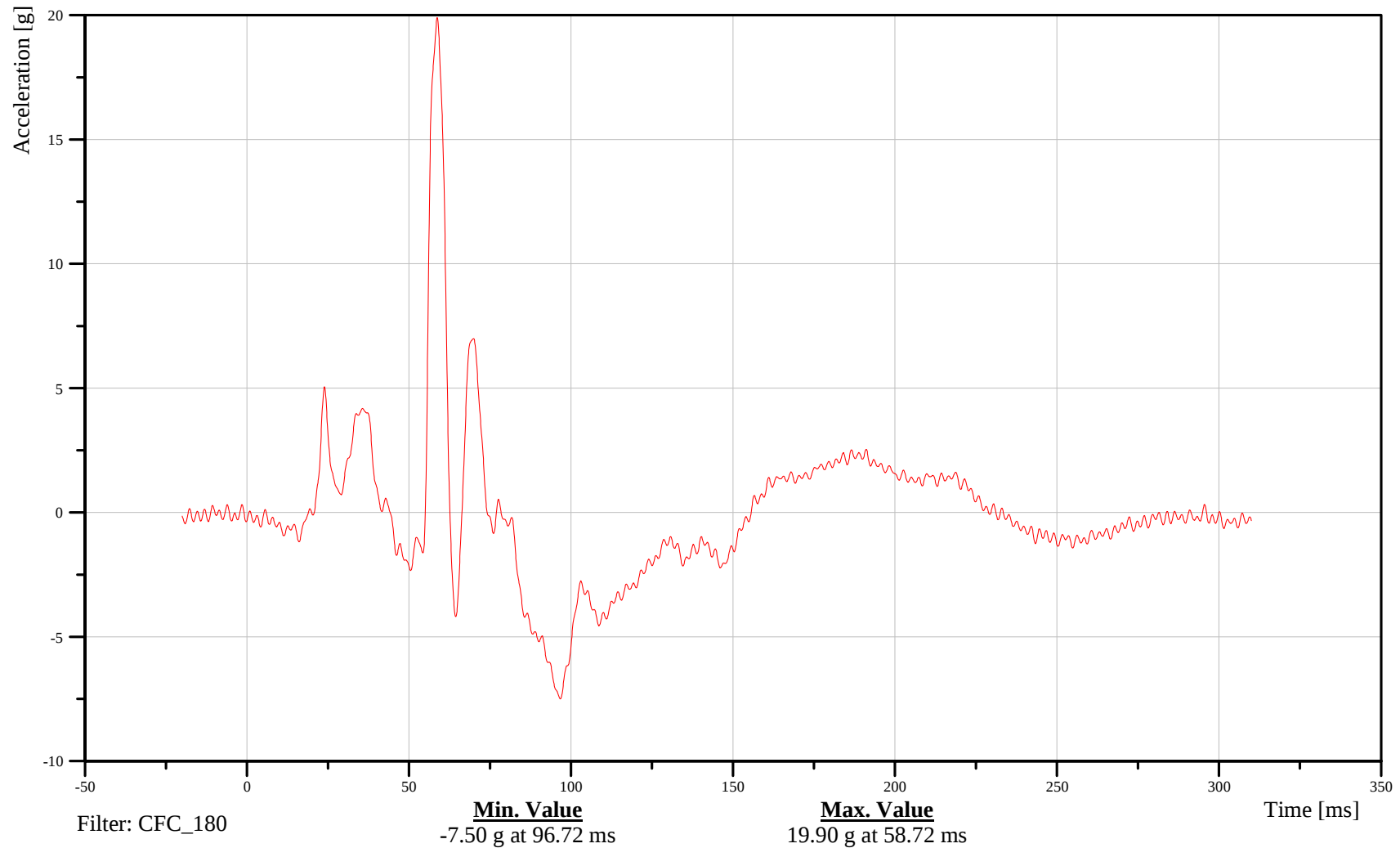
T4 Z-Axis Acceleration

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-36

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

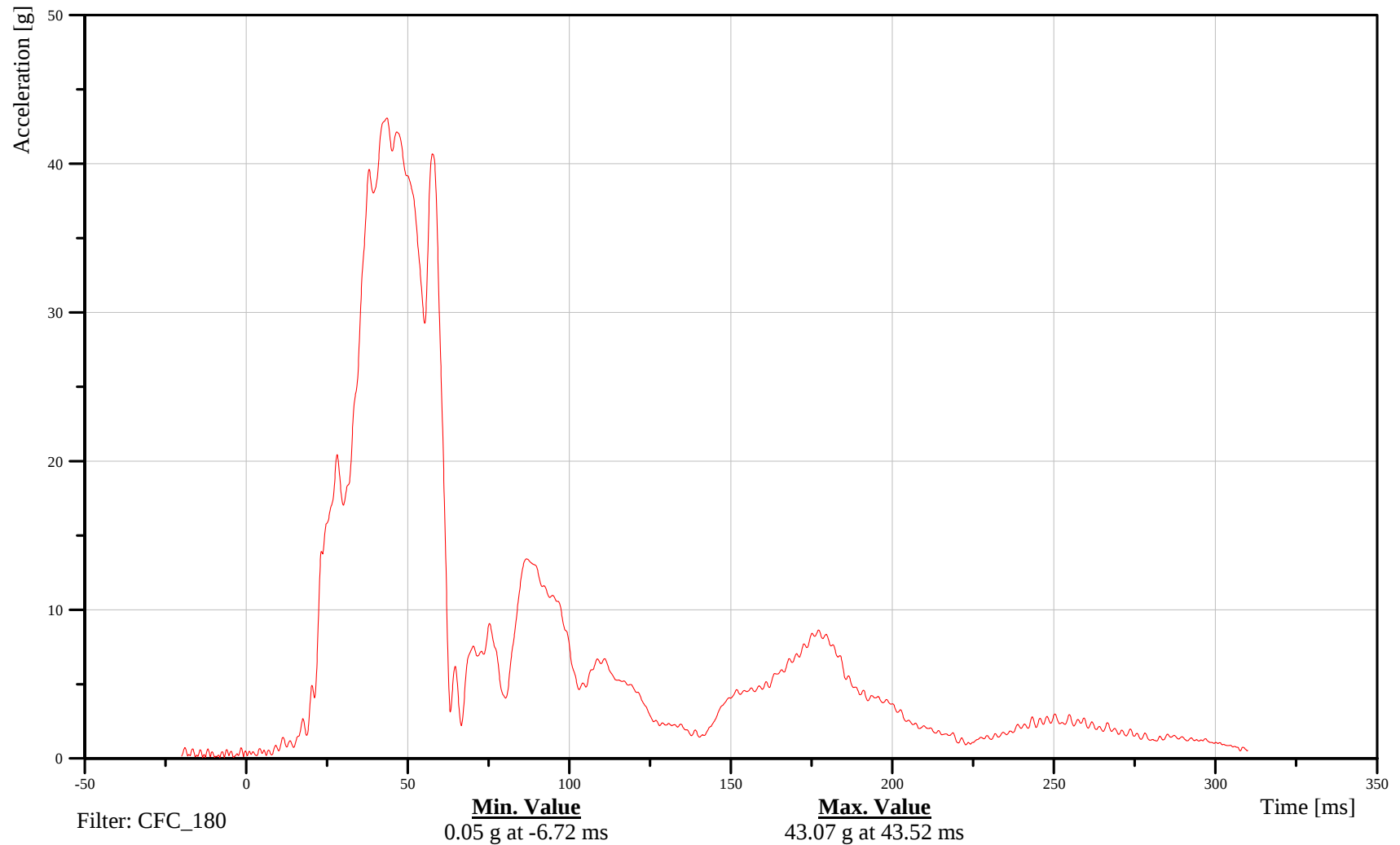
T4 Resultant Acceleration

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-37

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

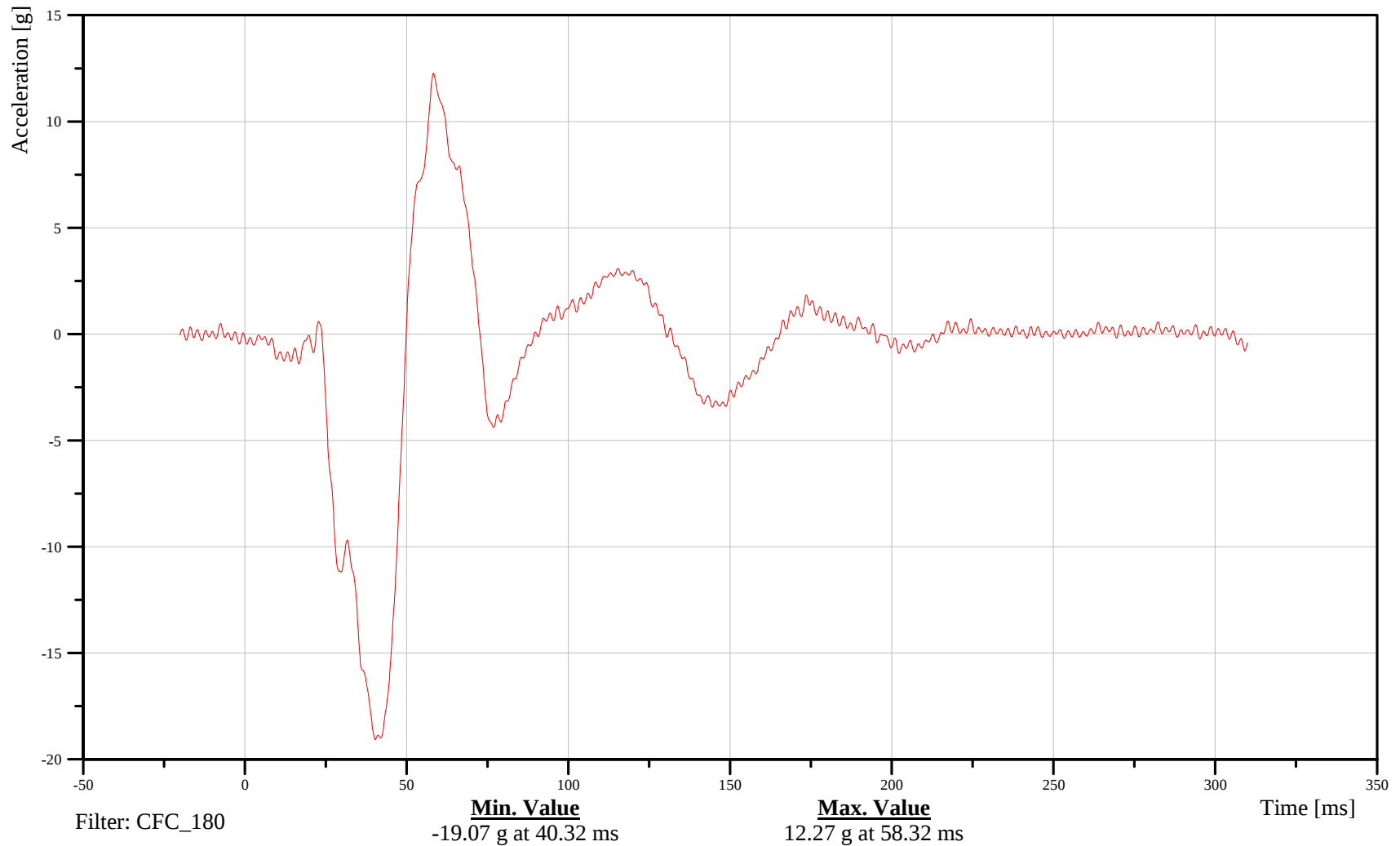
T12 X-Axis Acceleration

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-38

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

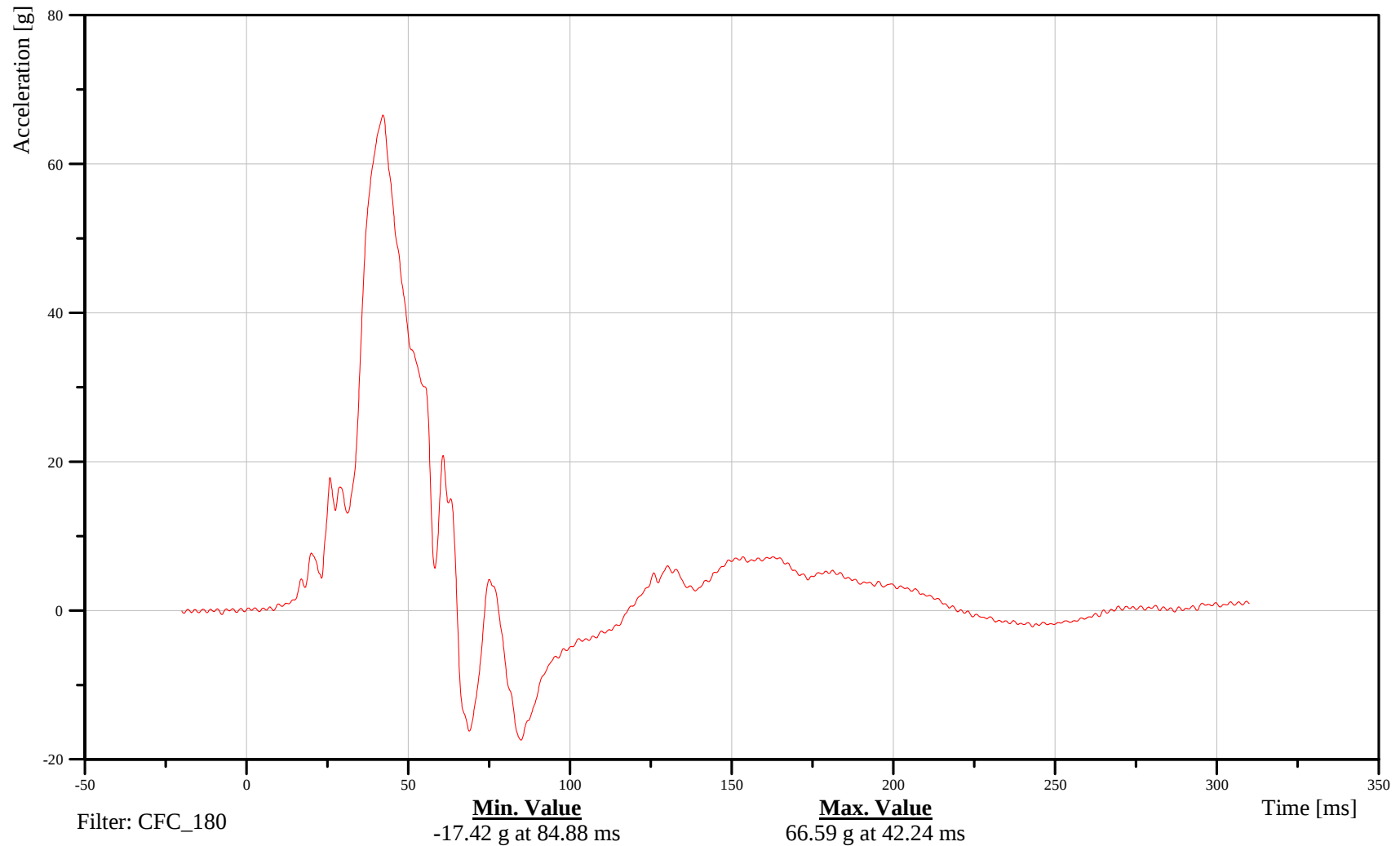
T12 Y-Axis Acceleration

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-39

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

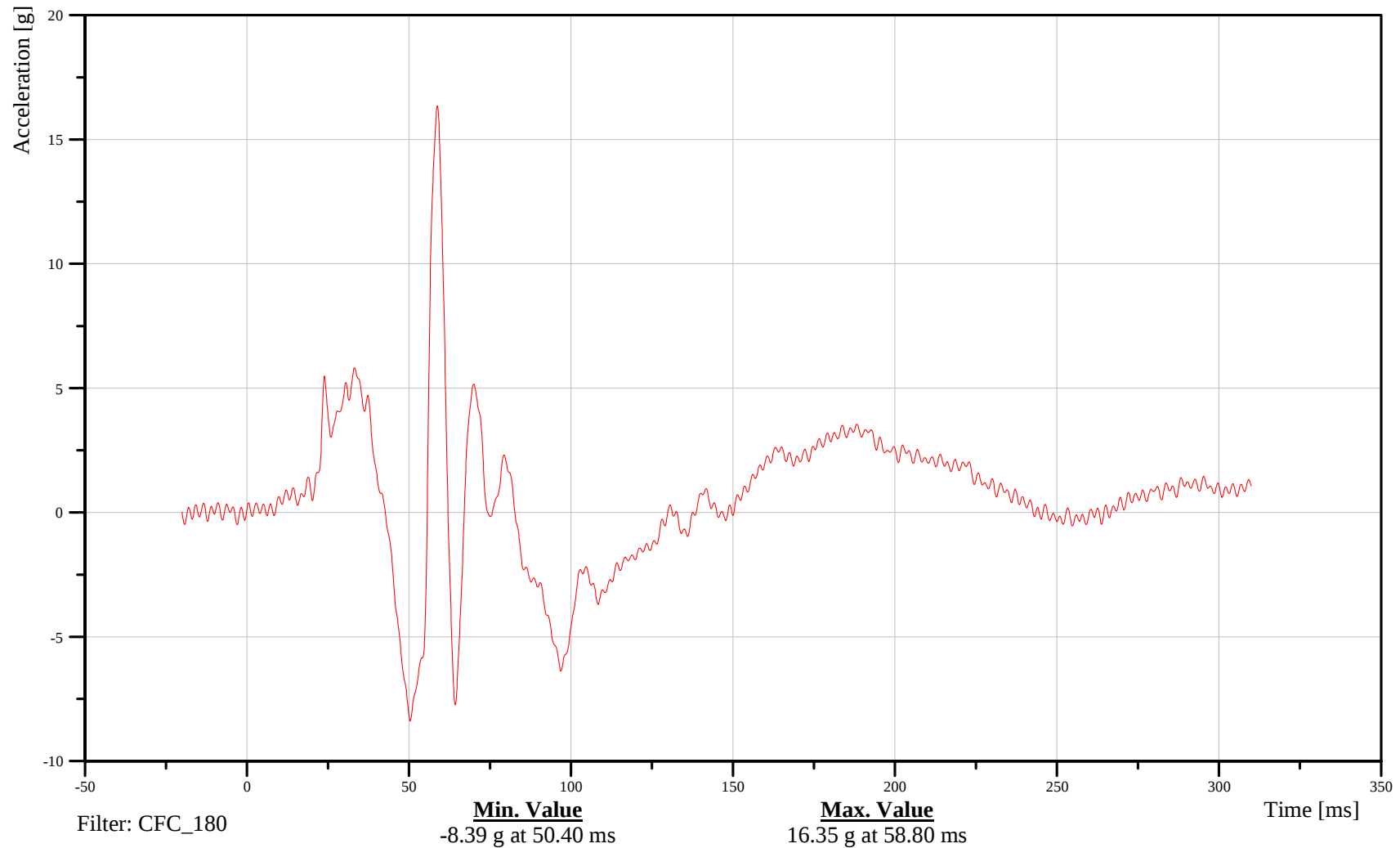
T12 Z-Axis Acceleration

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-40

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

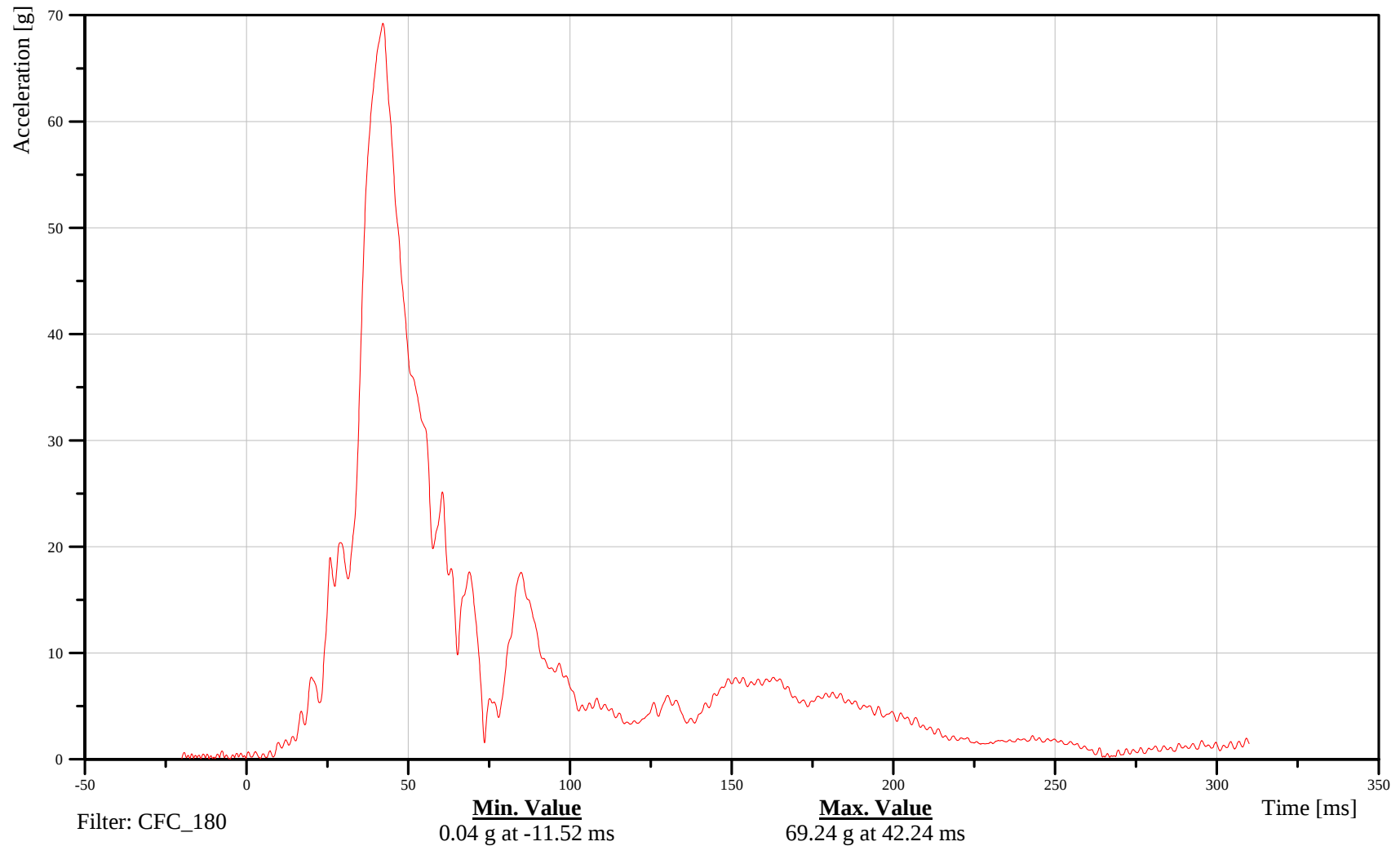
T12 Resultant Acceleration

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-41

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

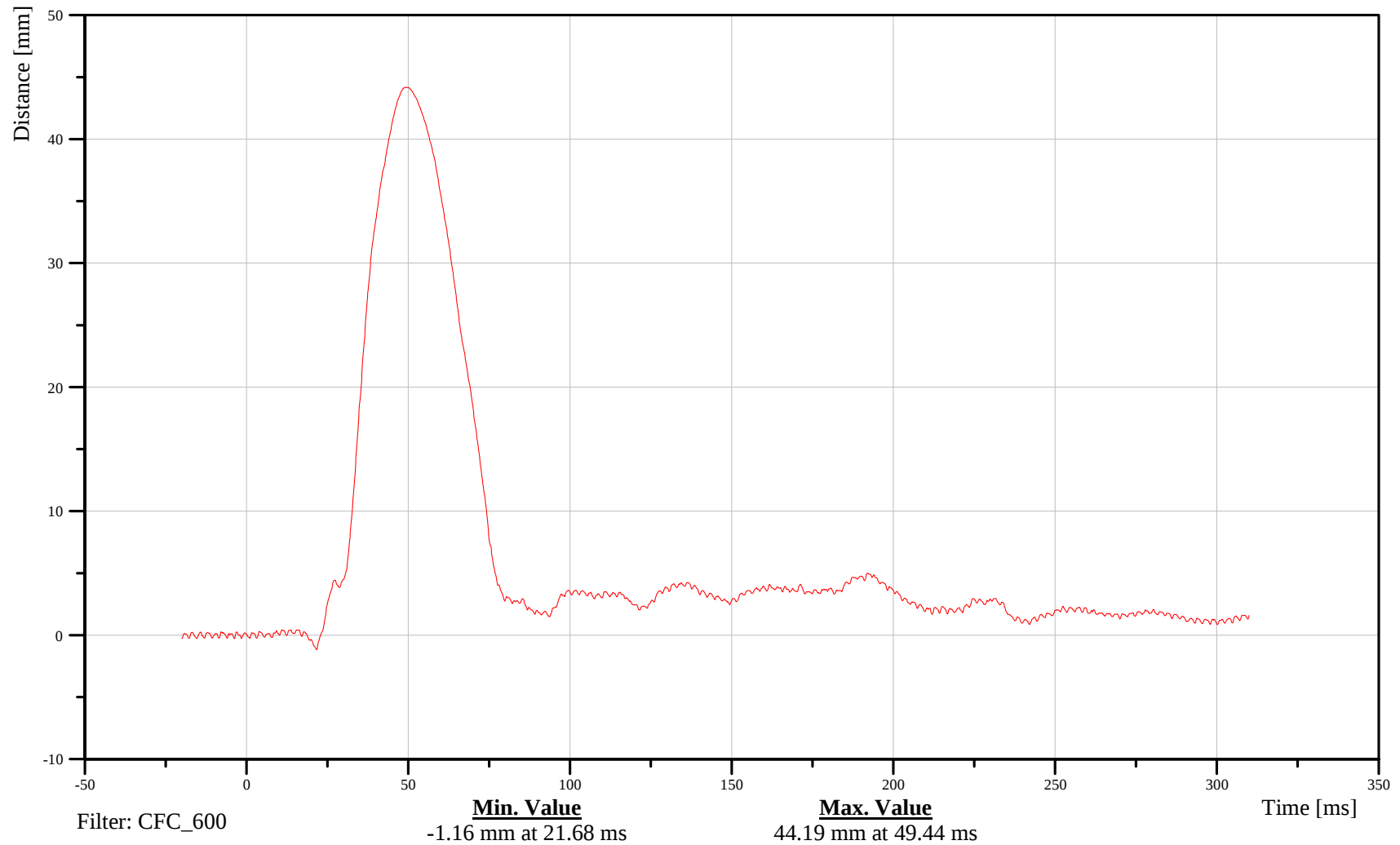
Thorax Rib 1 Y-Axis Displacement

Customer: VRTC

11TRRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-42

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

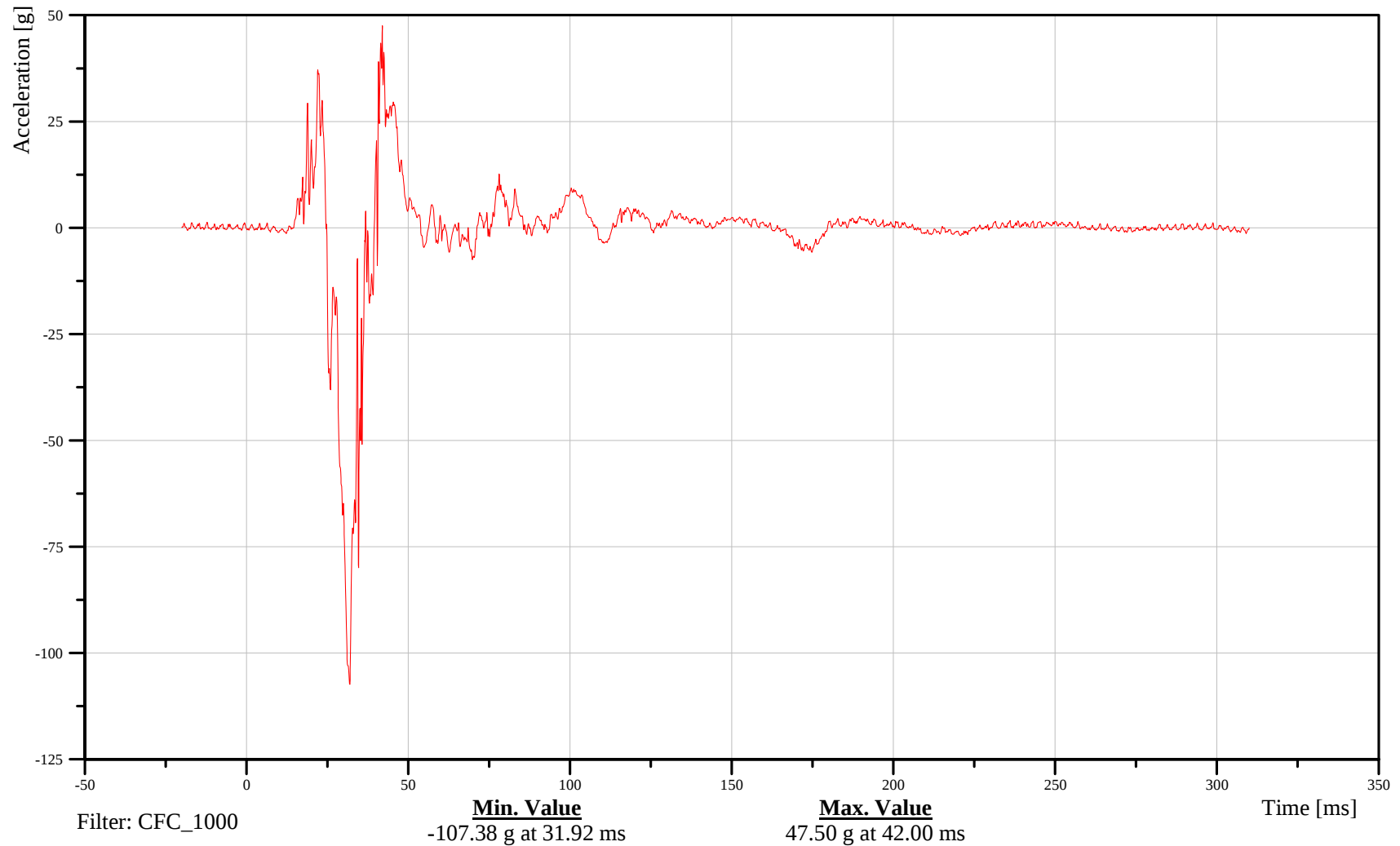
Thorax Rib 1 X-Axis Acceleration

Customer: VRTC

11TRRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-43

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

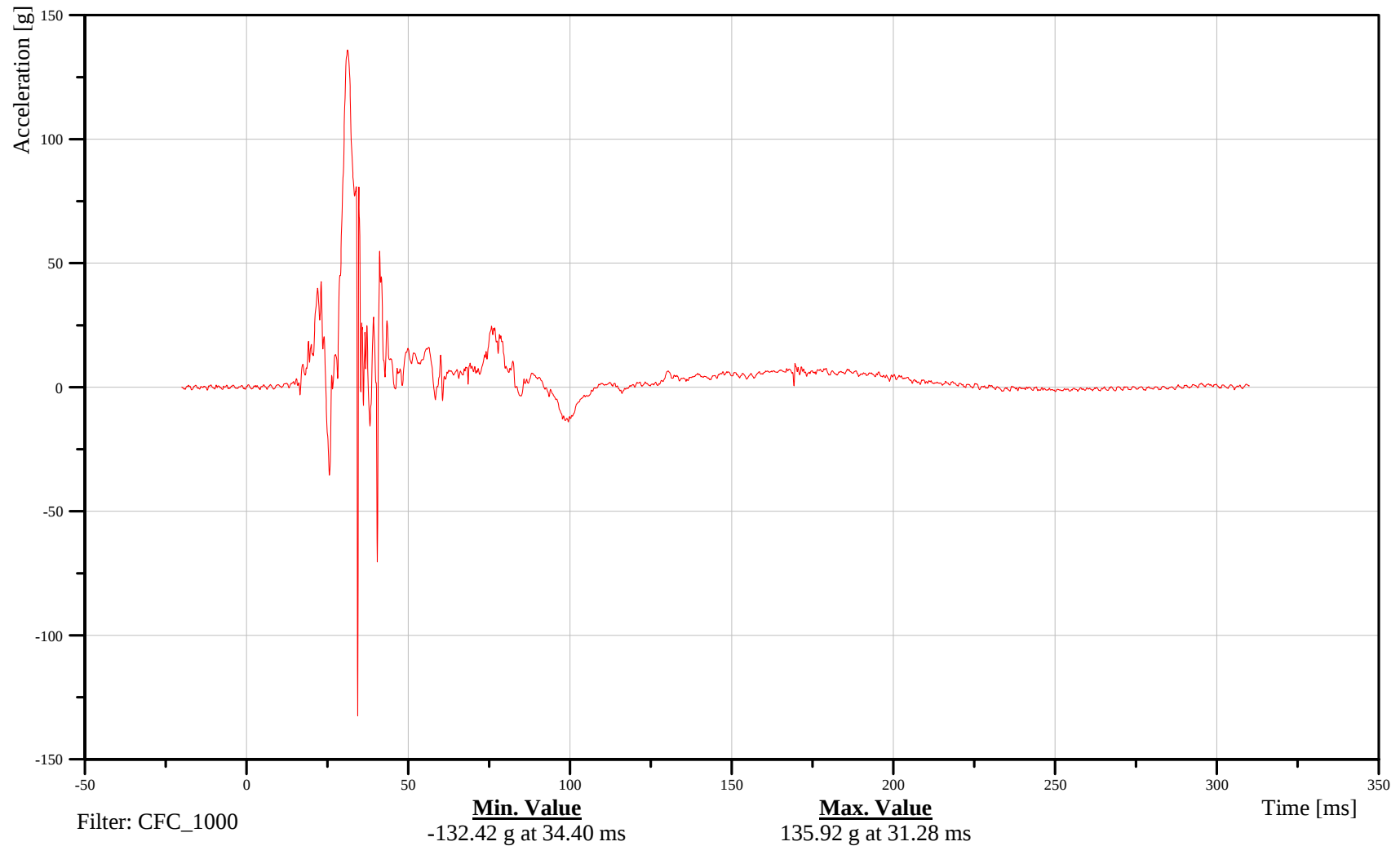
Thorax Rib 1 Y-Axis Acceleration

Customer: VRTC

11TRRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-44

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

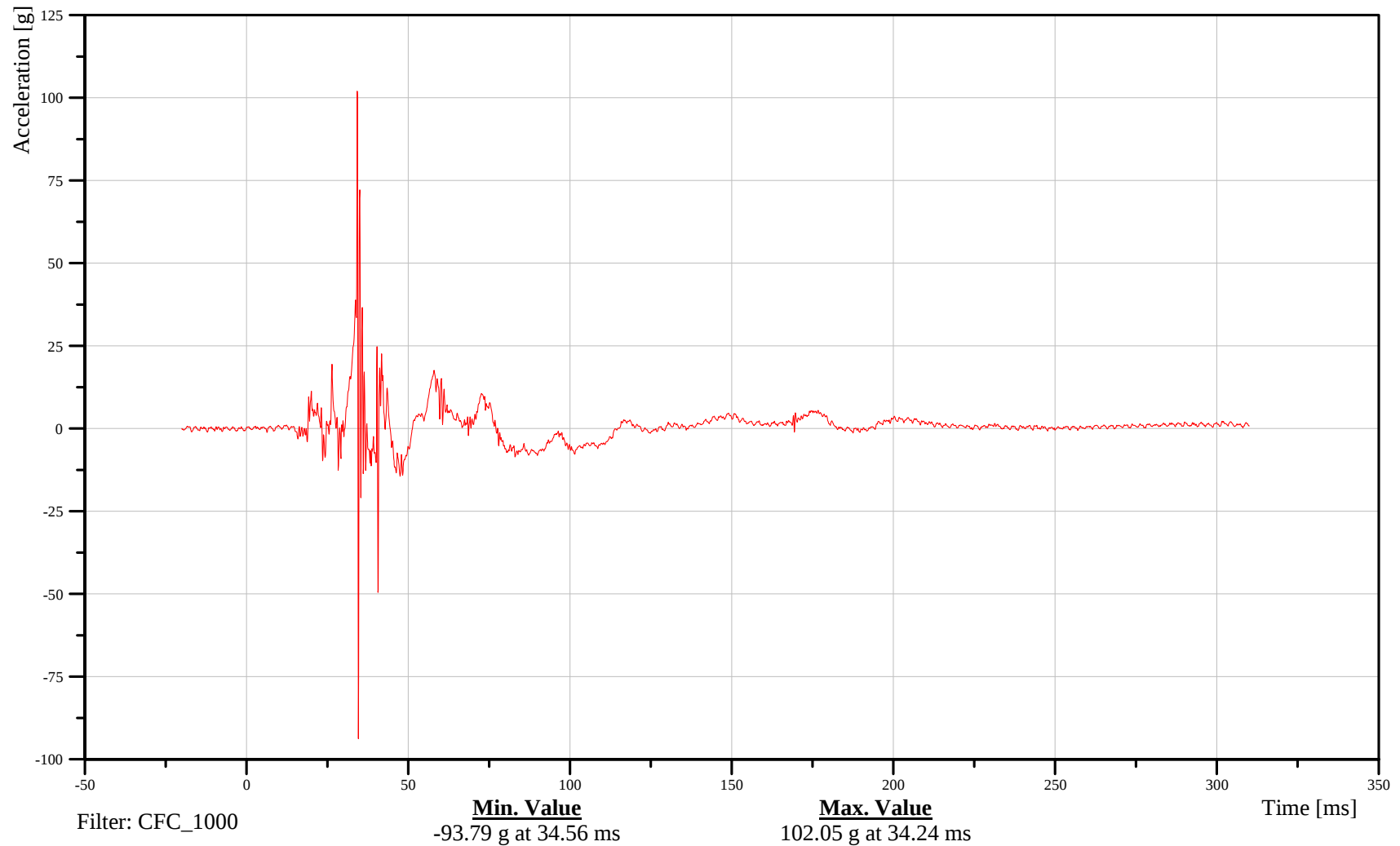
Thorax Rib 1 Z-Axis Acceleration

Customer: VRTC

11TRRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-45

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

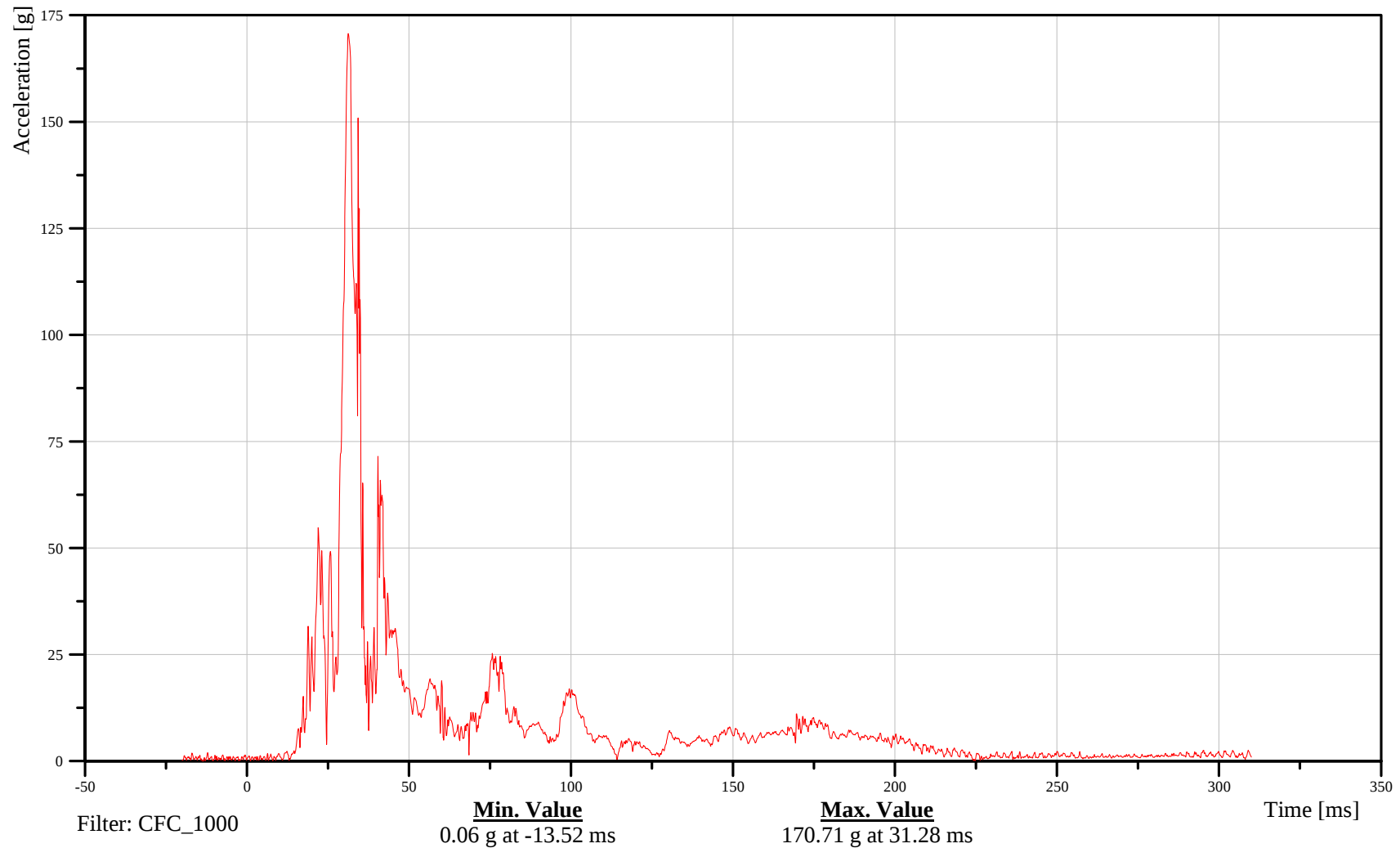
Thorax Rib 1 Resultant Acceleration

Customer: VRTC

11TRRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-46

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

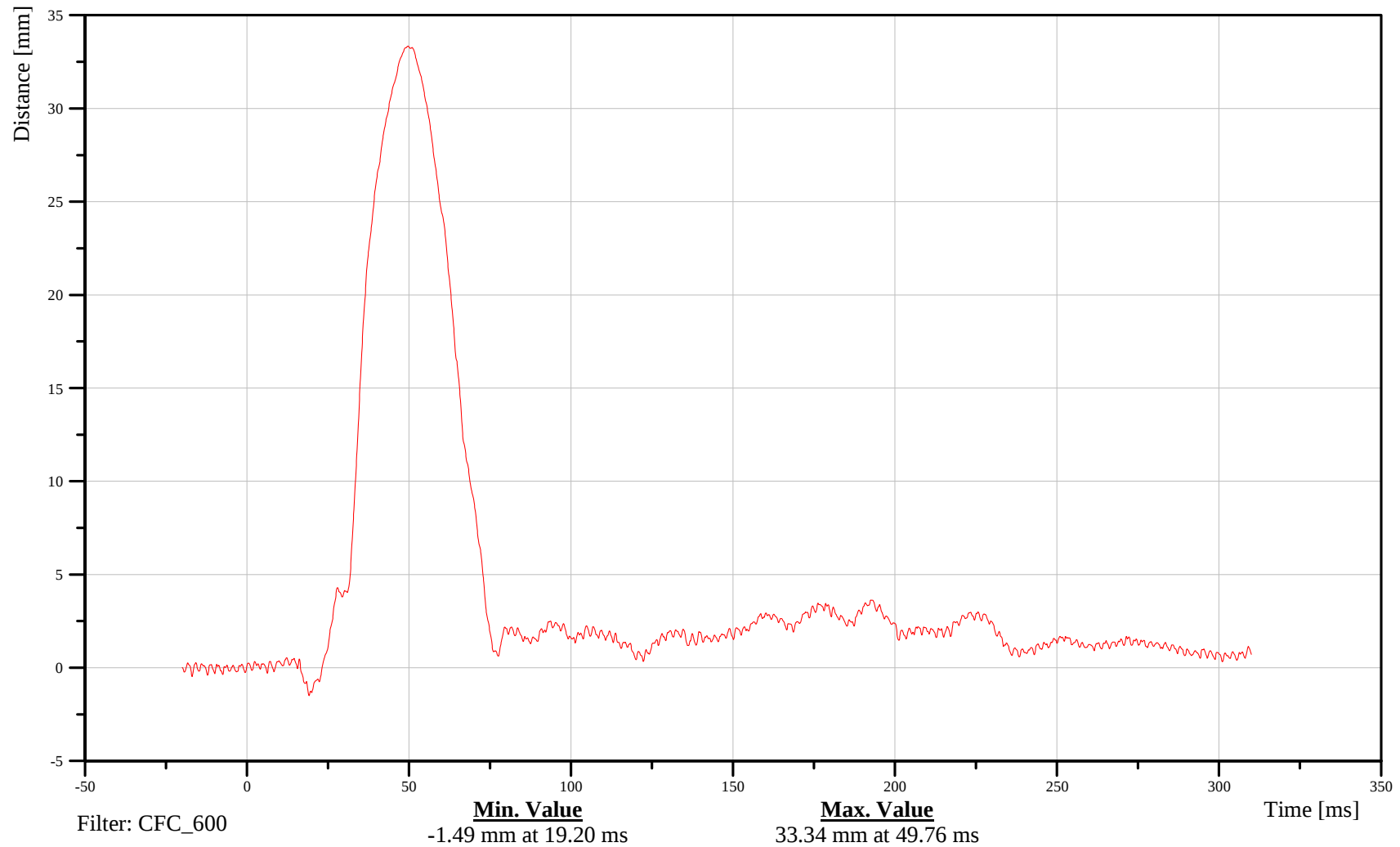
Thorax Rib 2 Y-Axis Displacement

Customer: VRTC

11TRRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-47

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

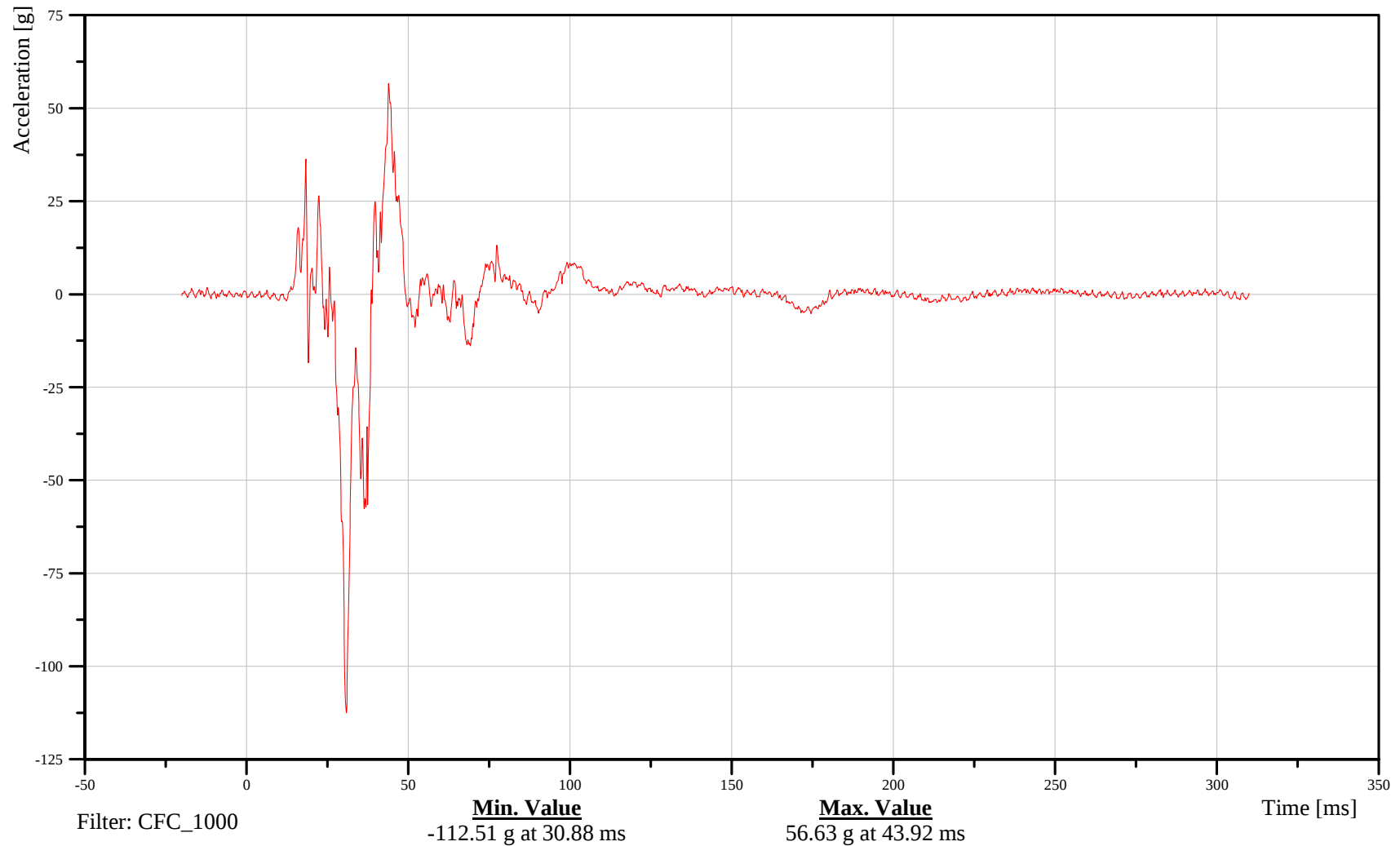
Thorax Rib 2 X-Axis Acceleration

Customer: VRTC

11TRRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-48

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

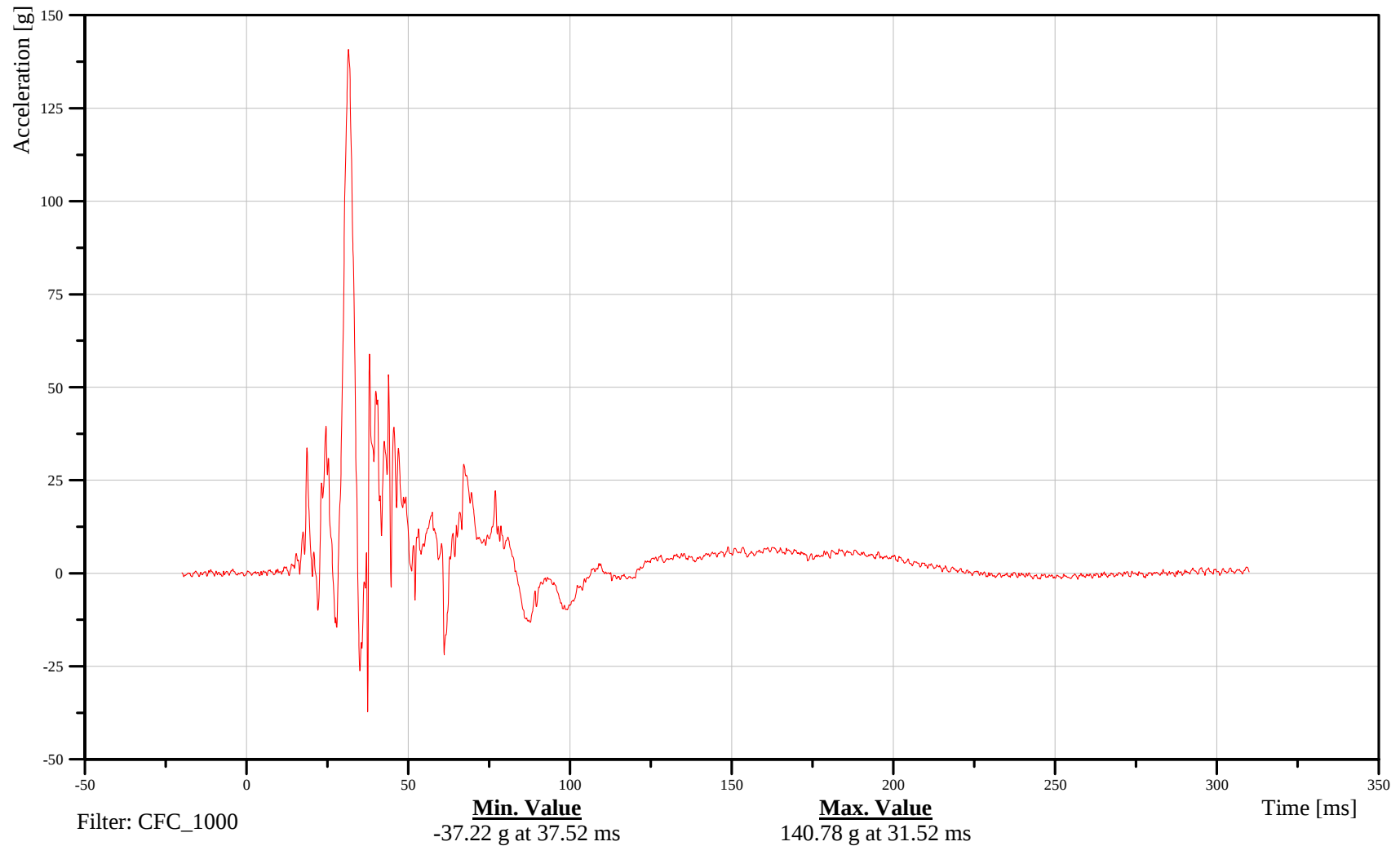
Thorax Rib 2 Y-Axis Acceleration

Customer: VRTC

11TRRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-49

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

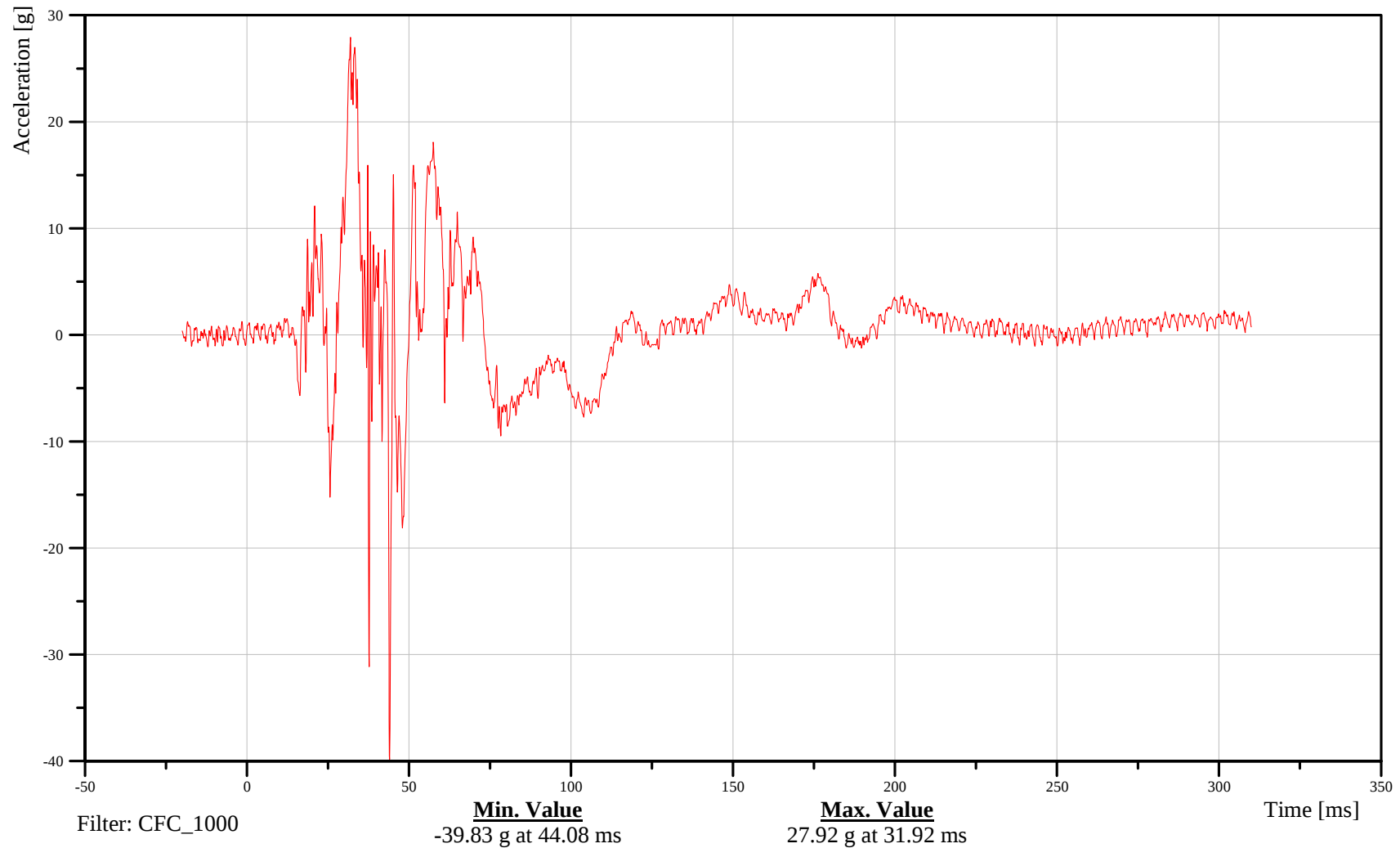
Thorax Rib 2 Z-Axis Acceleration

Customer: VRTC

11TRRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-50

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

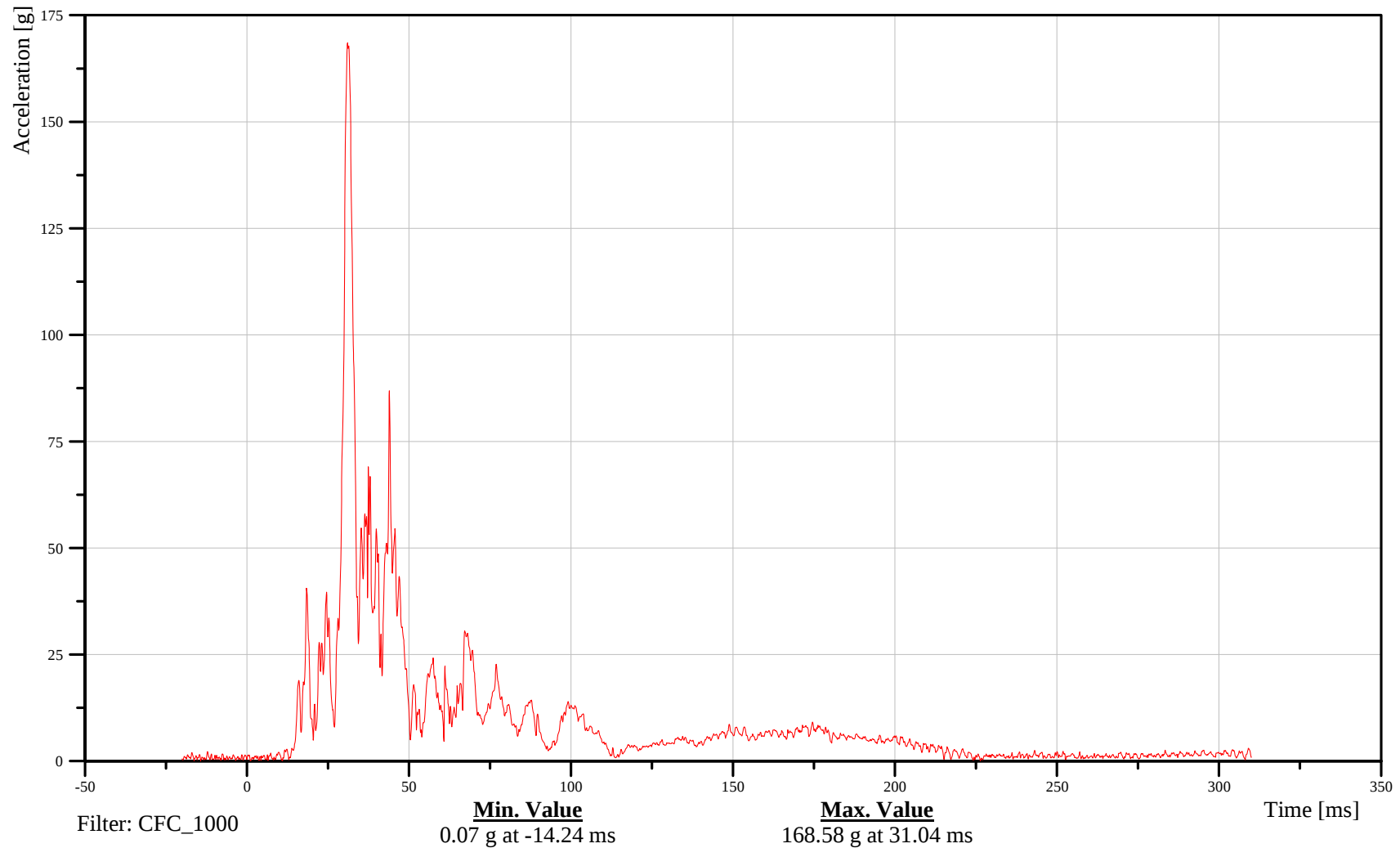
Thorax Rib 2 Resultant Acceleration

Customer: VRTC

11TRRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-51

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

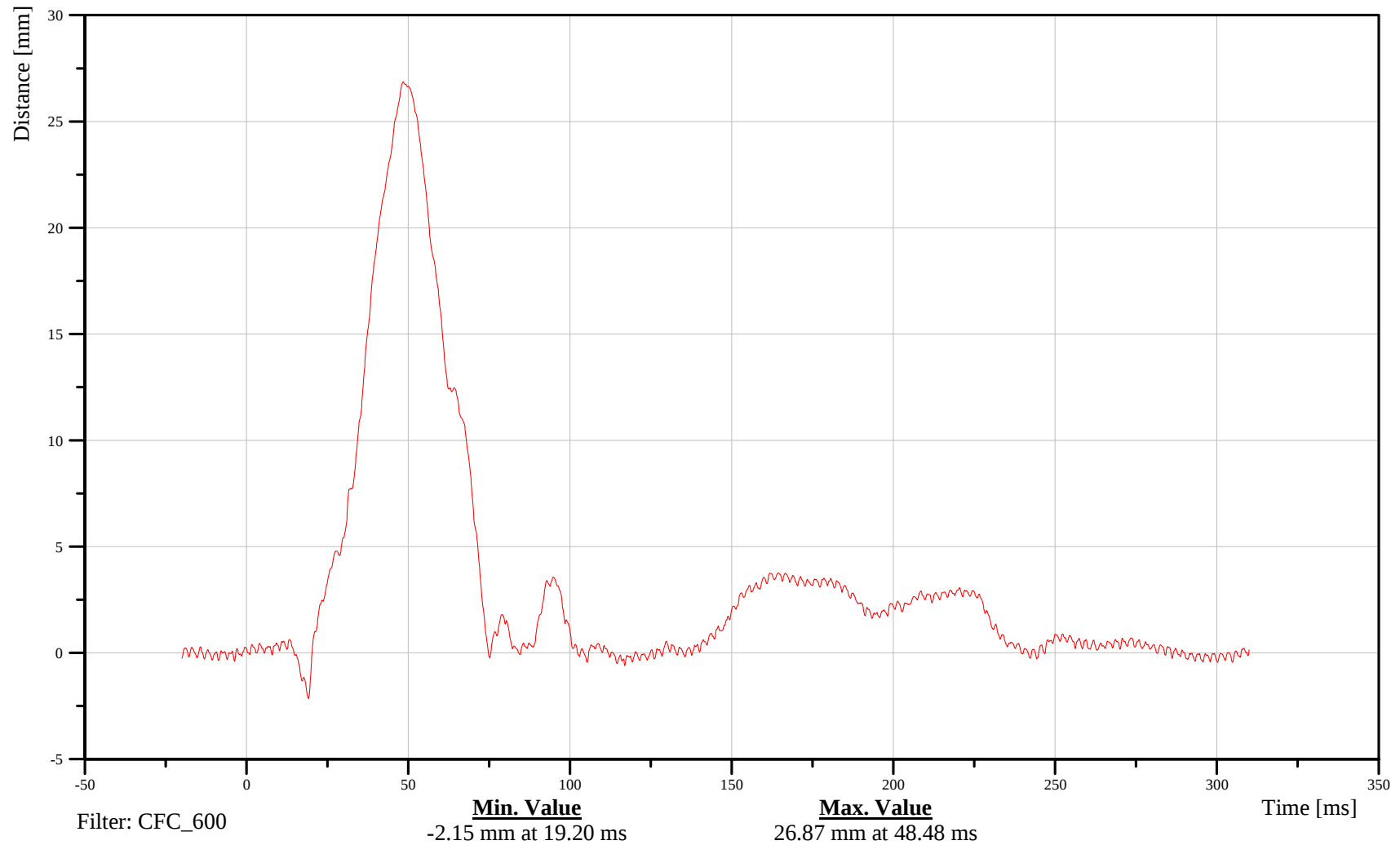
Thorax Rib 3 Y-Axis Displacement

Customer: VRTC

11TRRILE03WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-52

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

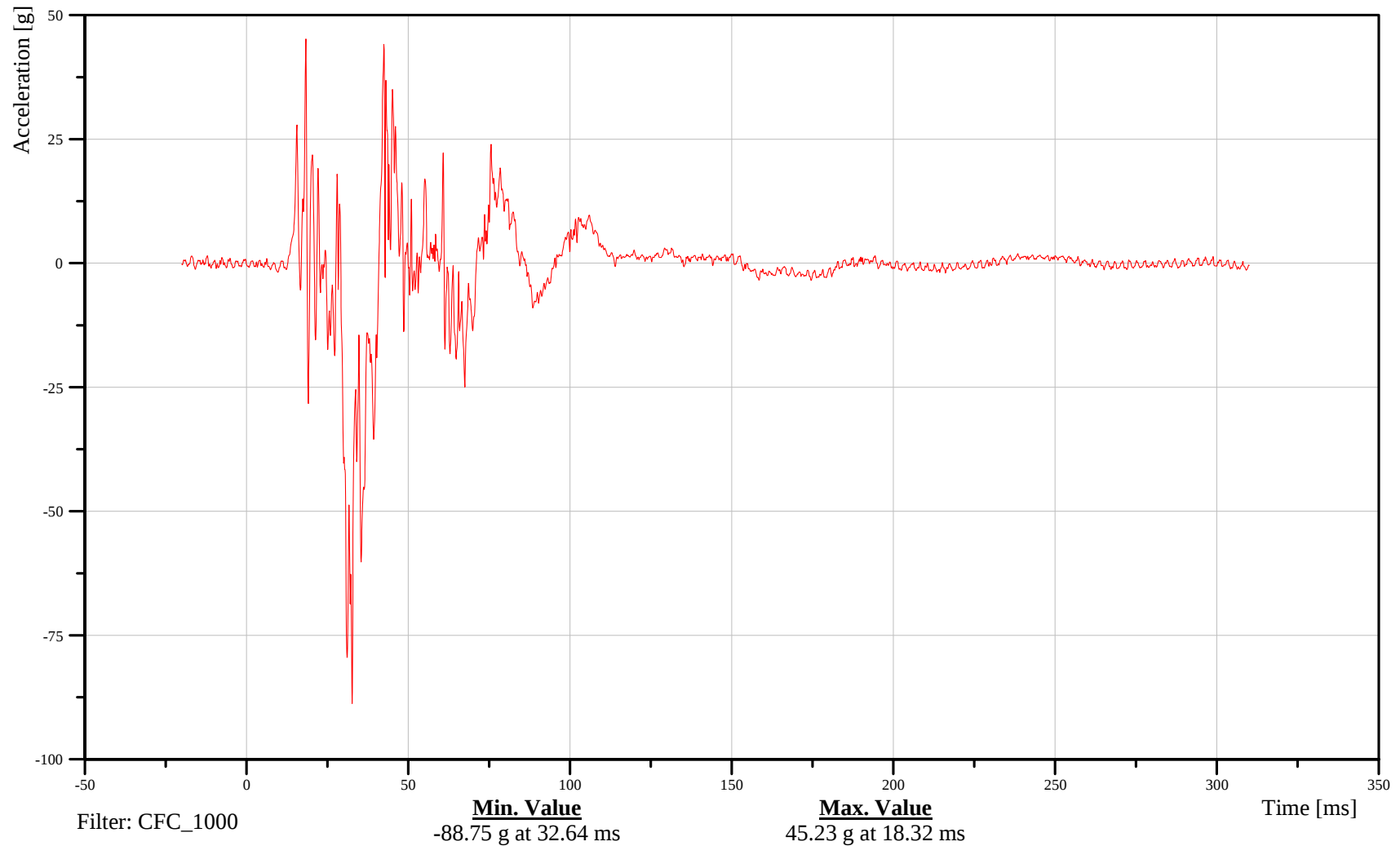
Thorax Rib 3 X-Axis Acceleration

Customer: VRTC

11TRRILE03WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-53

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

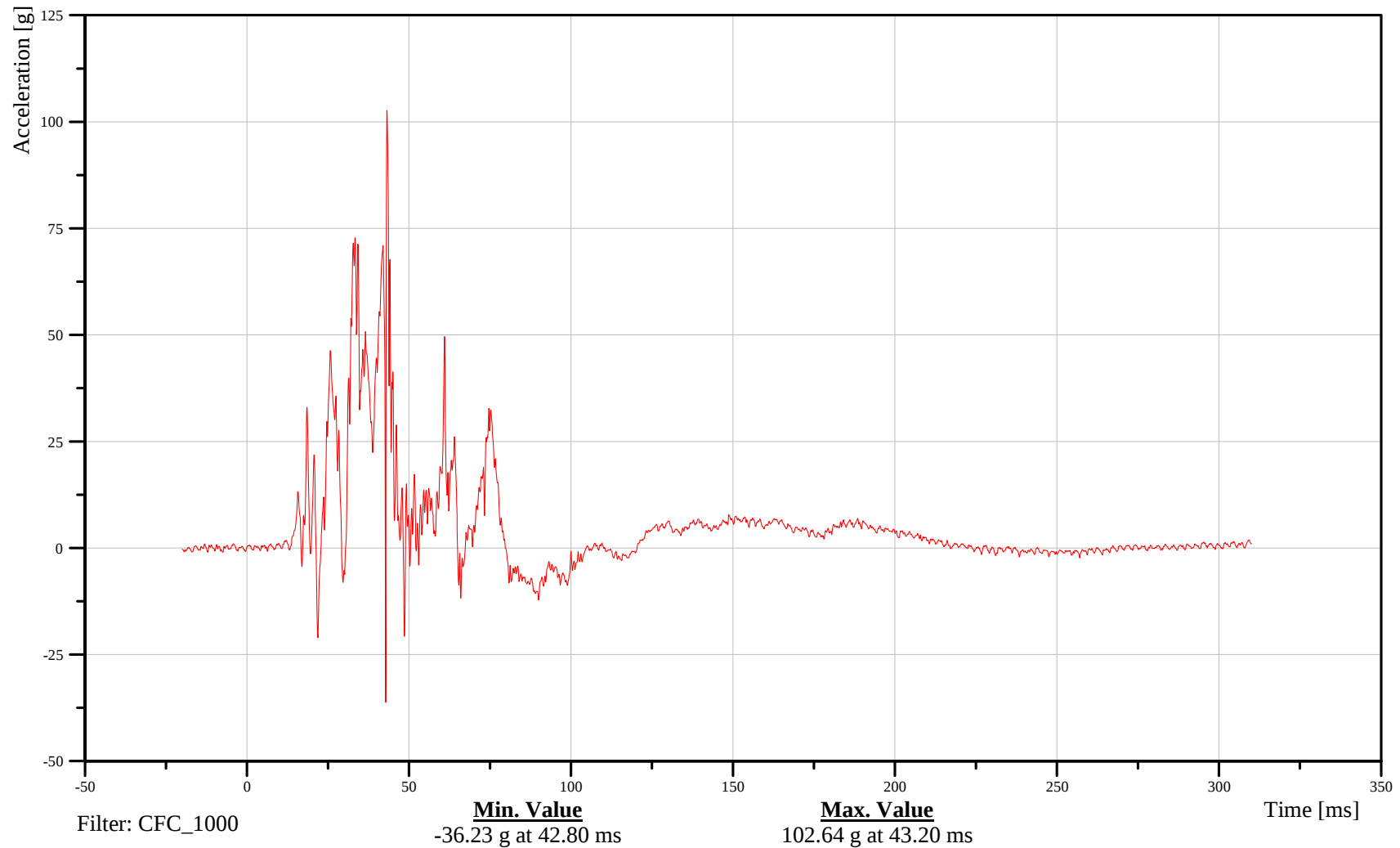
Thorax Rib 3 Y-Axis Acceleration

Customer: VRTC

11TRRILE03WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-54

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

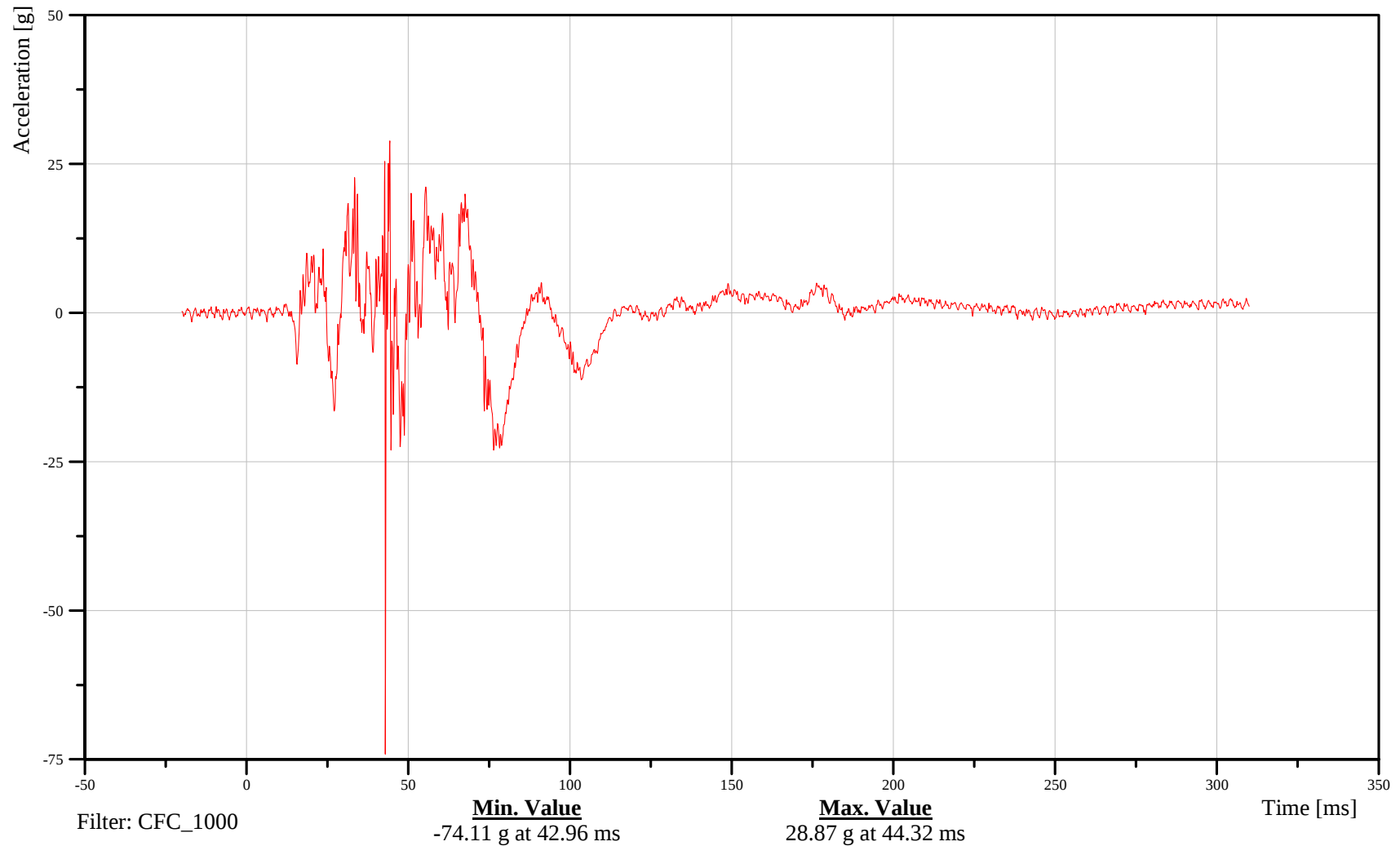
Thorax Rib 3 Z-Axis Acceleration

Customer: VRTC

11TRRILE03WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-55

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

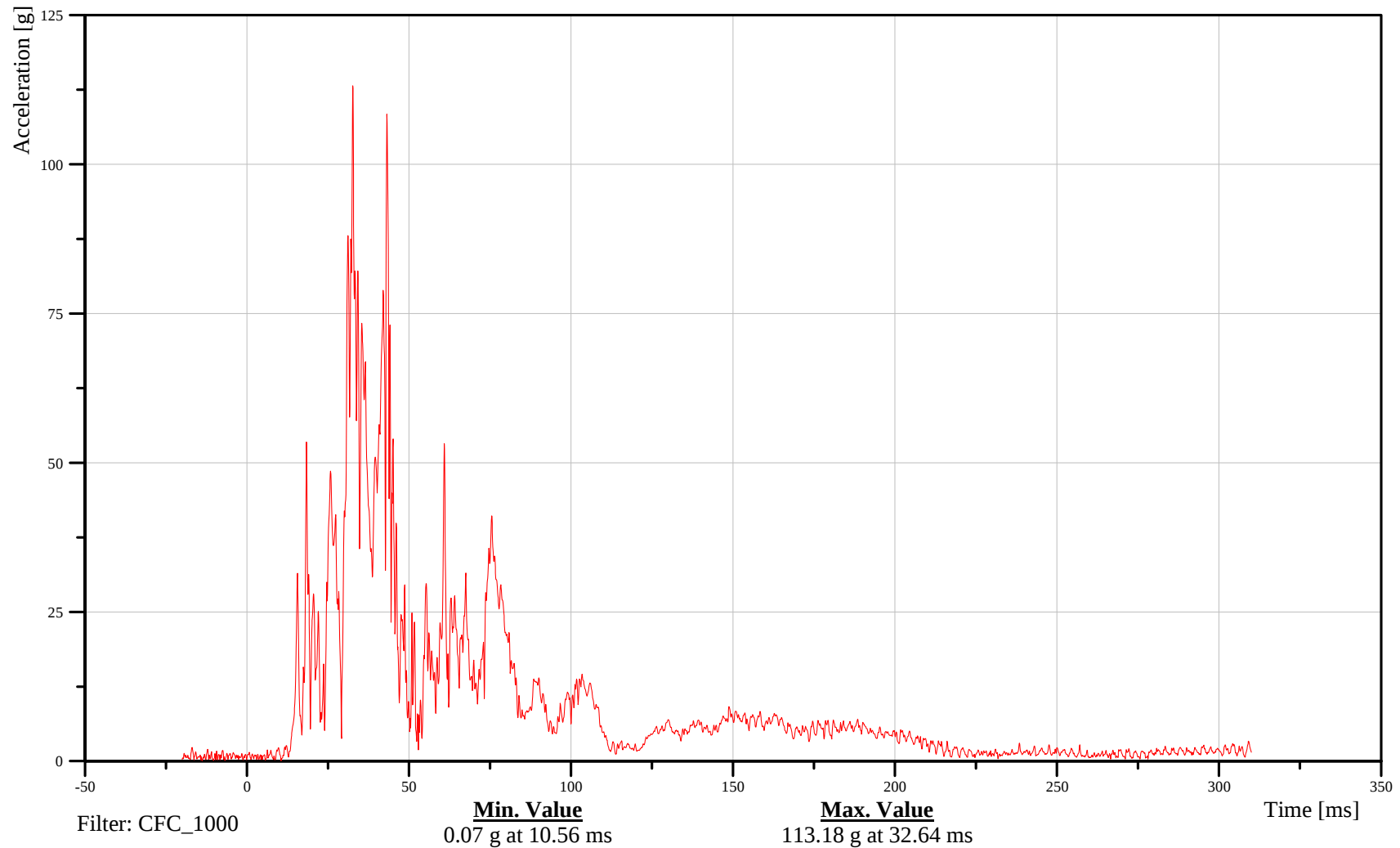
Thorax Rib 3 Resultant Acceleration

Customer: VRTC

11TRRILE03WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-56

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

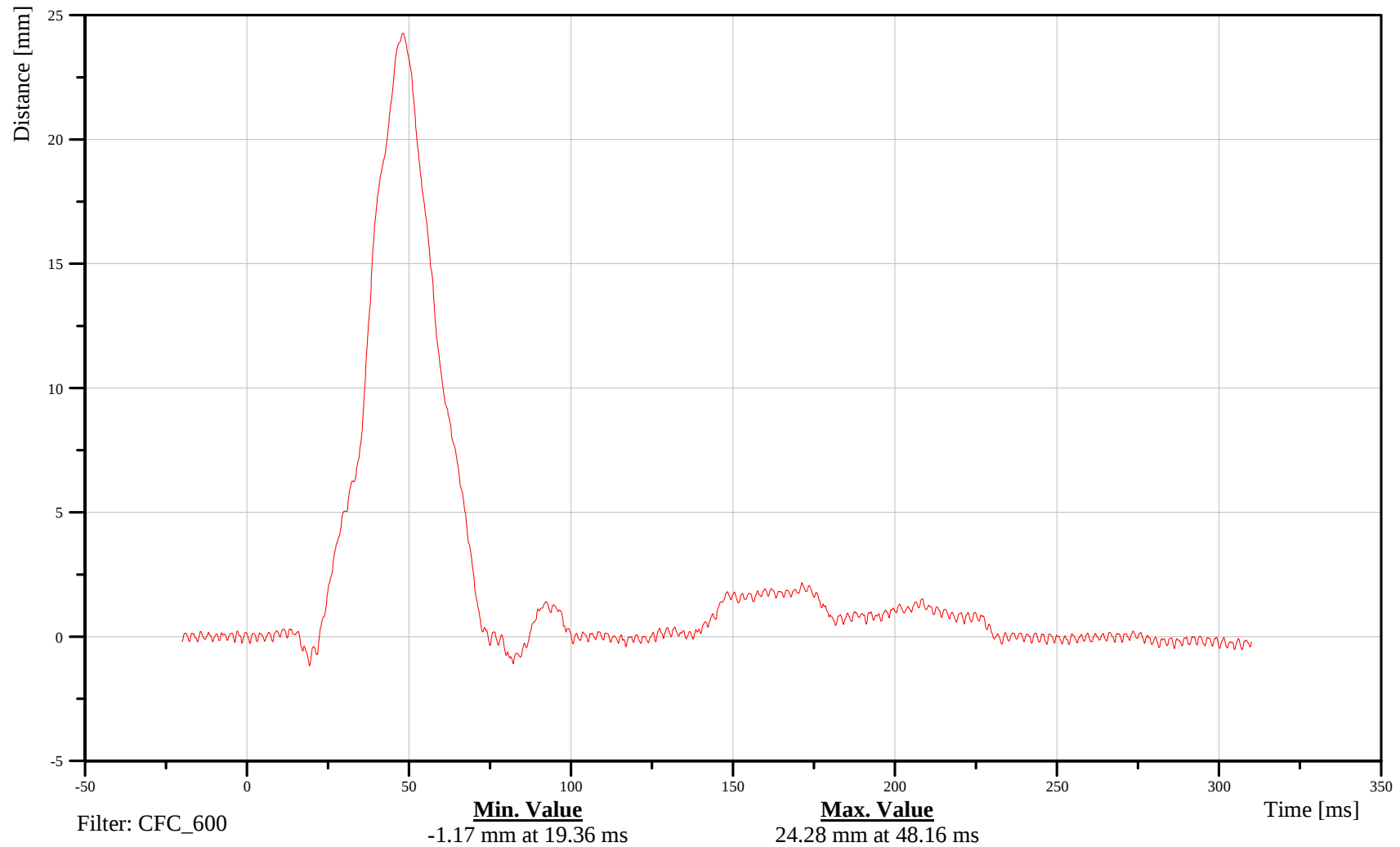
Abdominal Rib 1 Y-Axis Displacement

Customer: VRTC

11ABRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-57

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

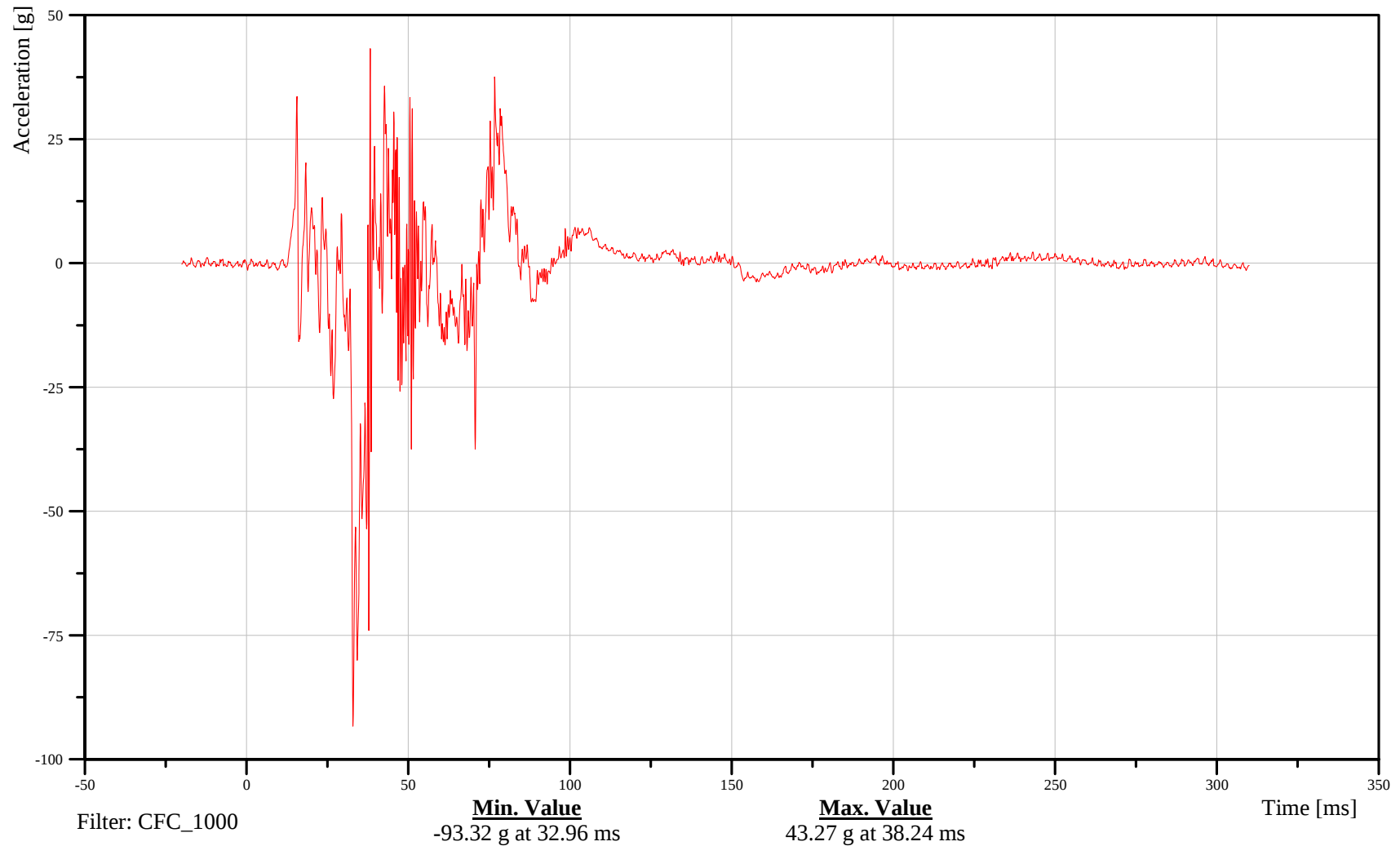
Abdominal Rib 1 X-Axis Acceleration

Customer: VRTC

11ABRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-58

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

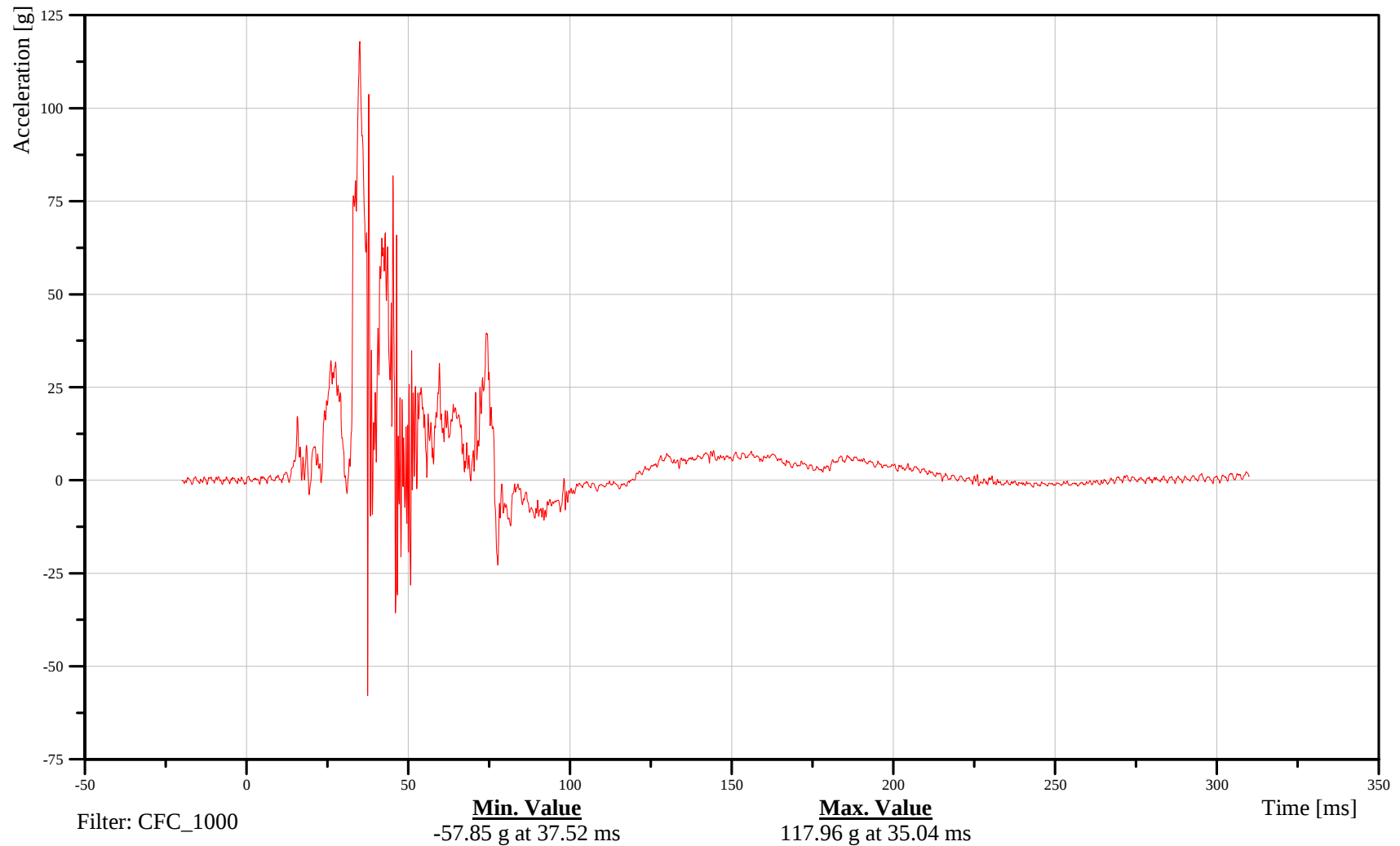
Abdominal Rib 1 Y-Axis Acceleration

Customer: VRTC

11ABRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-59

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

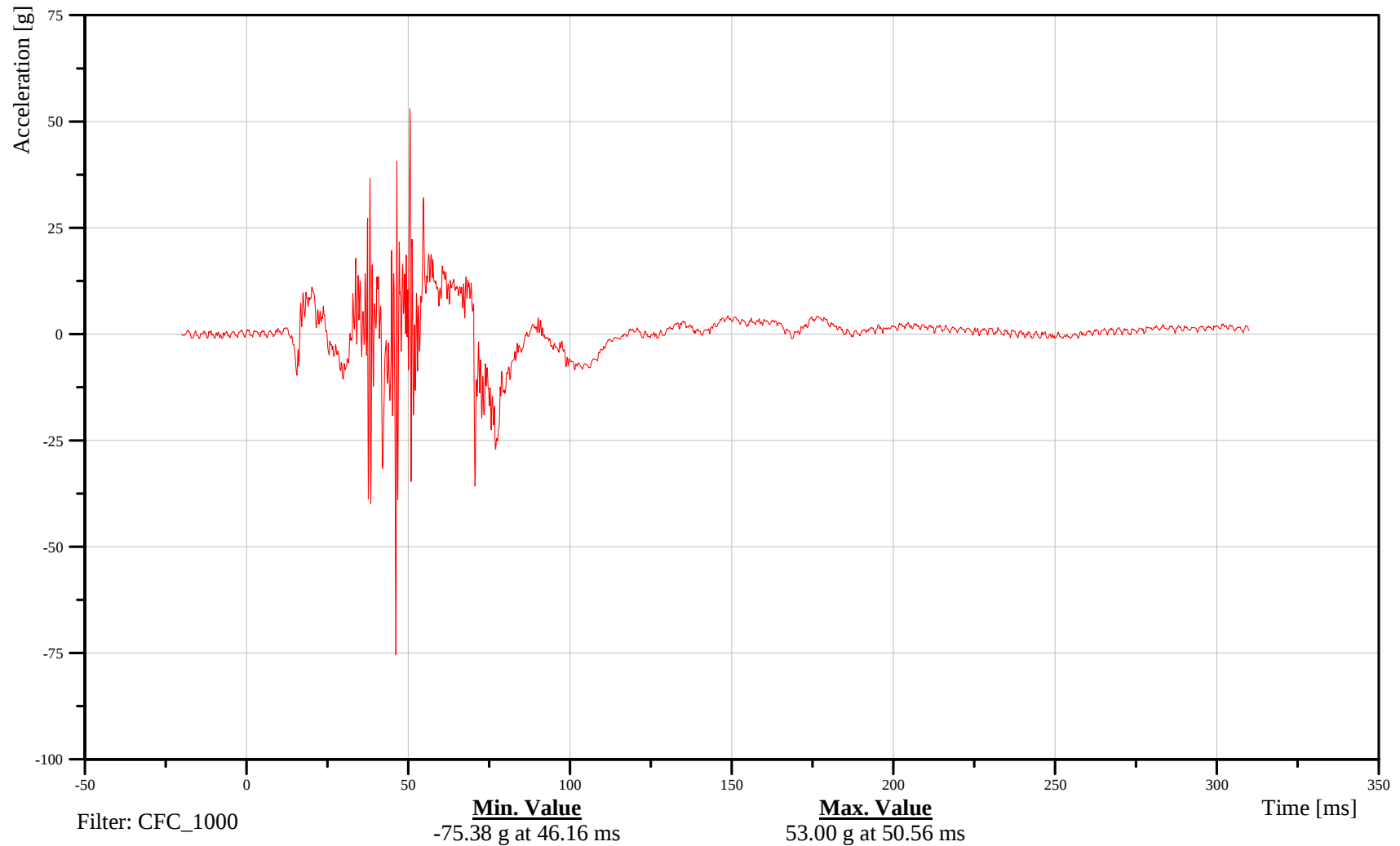
Abdominal Rib 1 Z-Axis Acceleration

Customer: VRTC

11ABRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-60

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

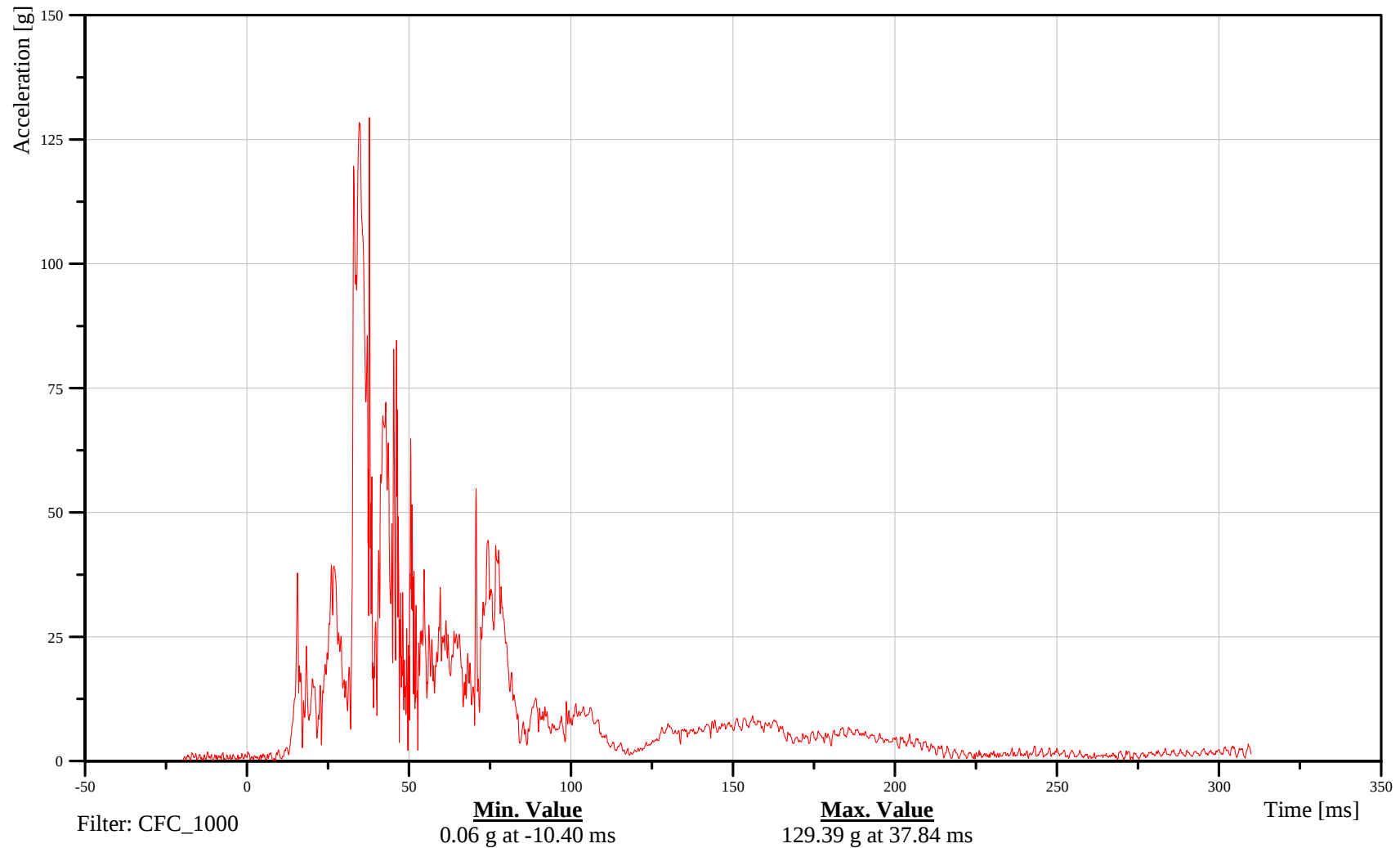
Abdominal Rib 1 Resultant Acceleration

Customer: VRTC

11ABRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-61

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

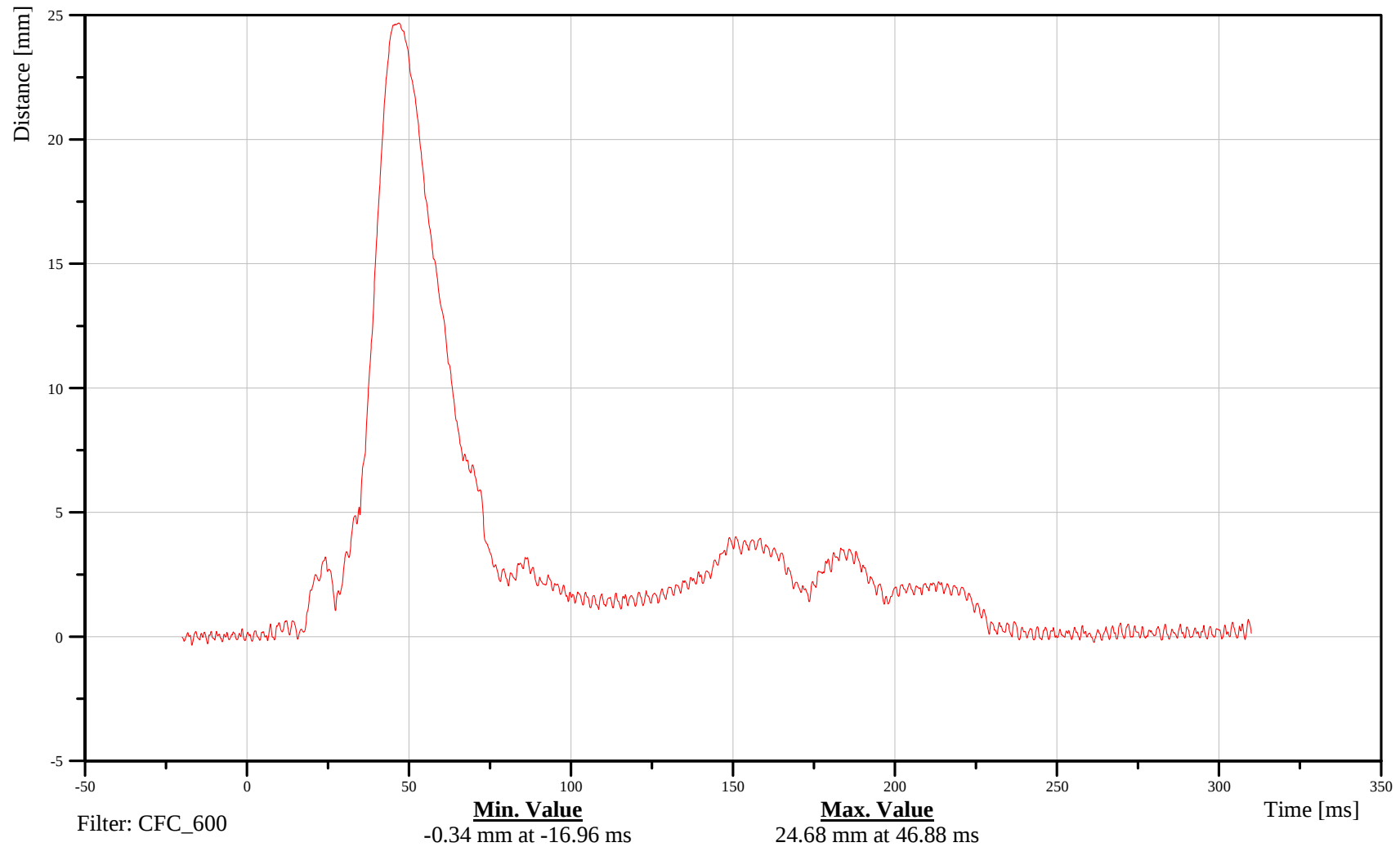
Abdominal Rib 2 Y-Axis Displacement

Customer: VRTC

11ABRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-62

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

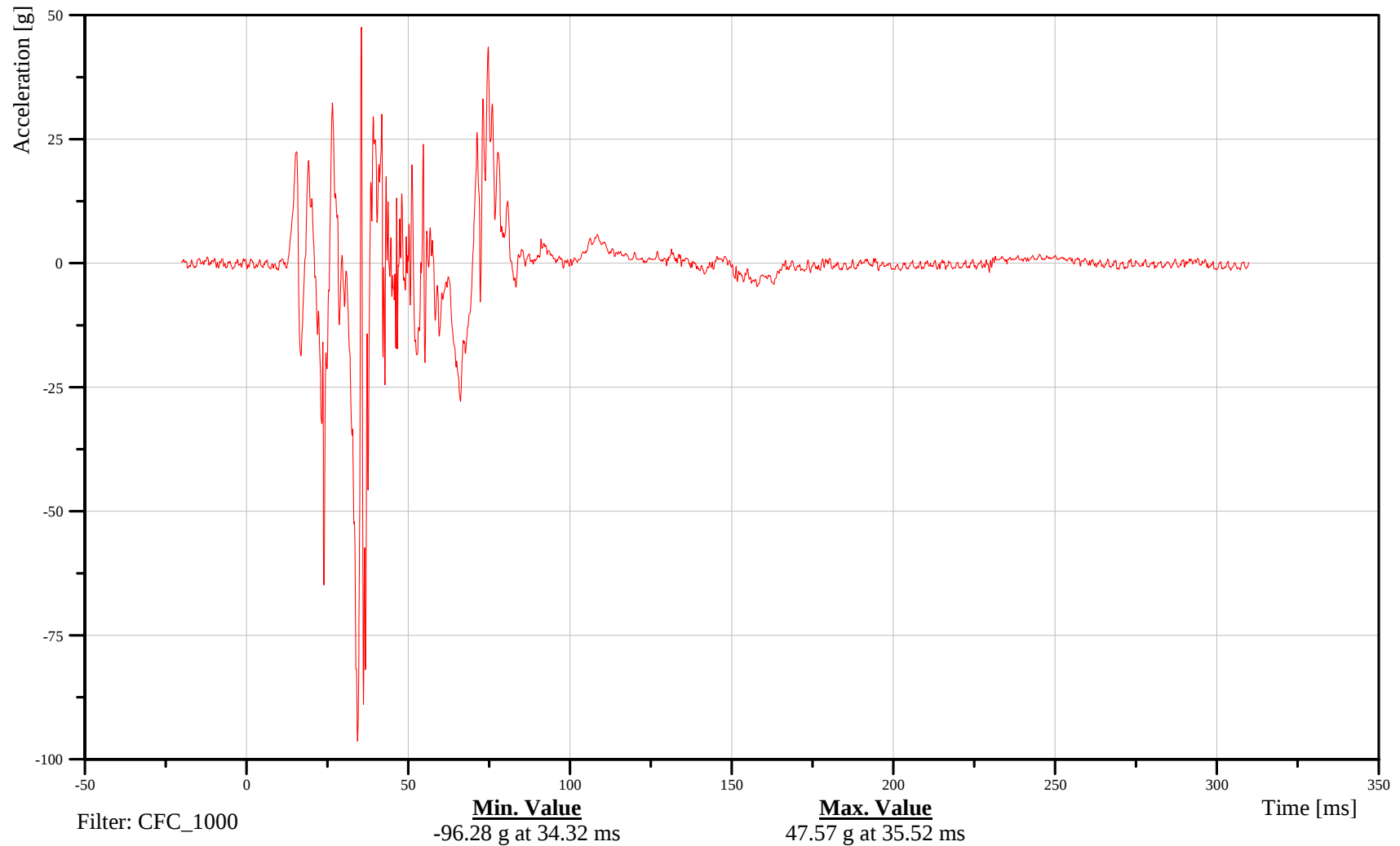
Abdominal Rib 2 X-Axis Acceleration

Customer: VRTC

11ABRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-63

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

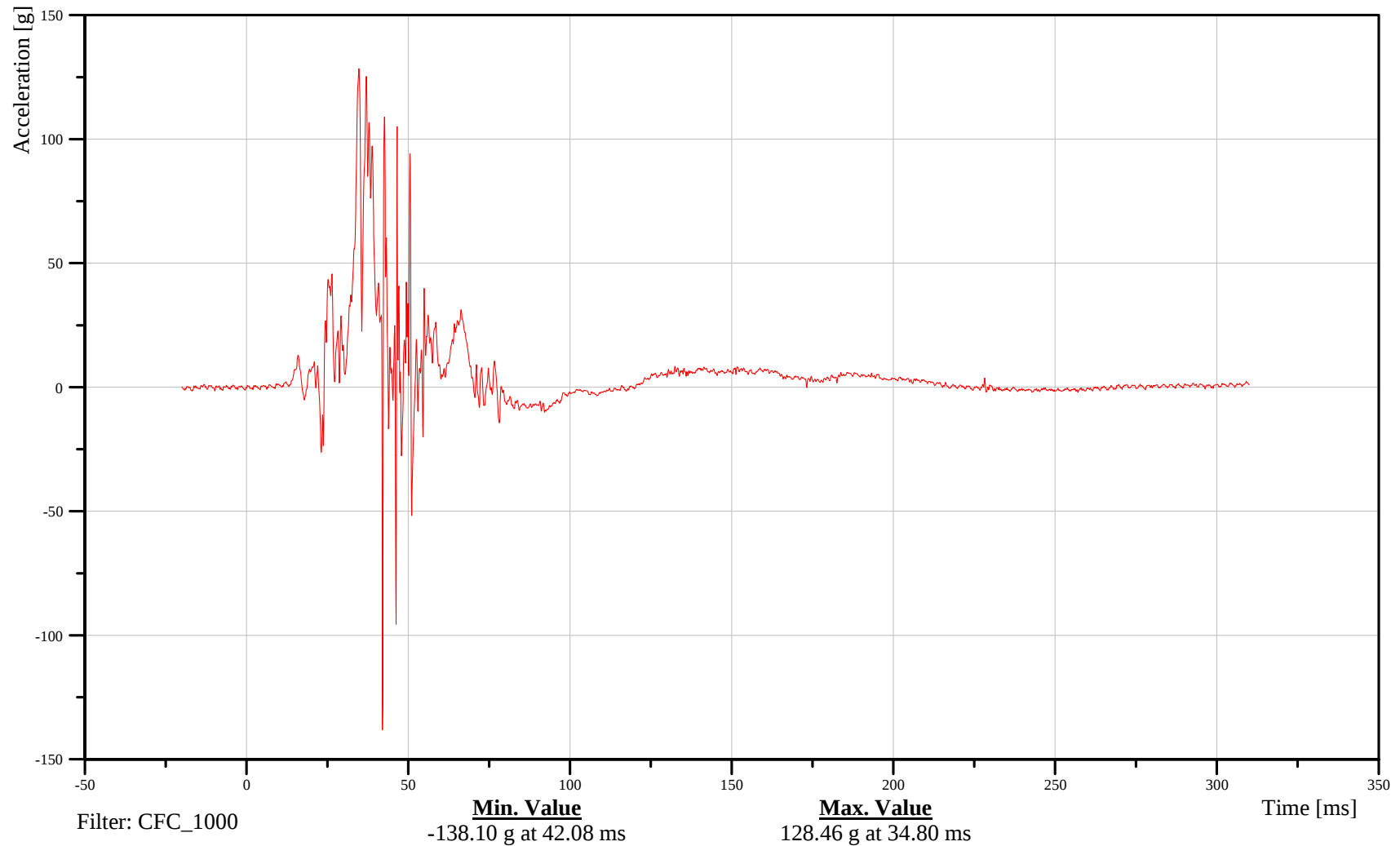
Abdominal Rib 2 Y-Axis Acceleration

Customer: VRTC

11ABRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-64

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

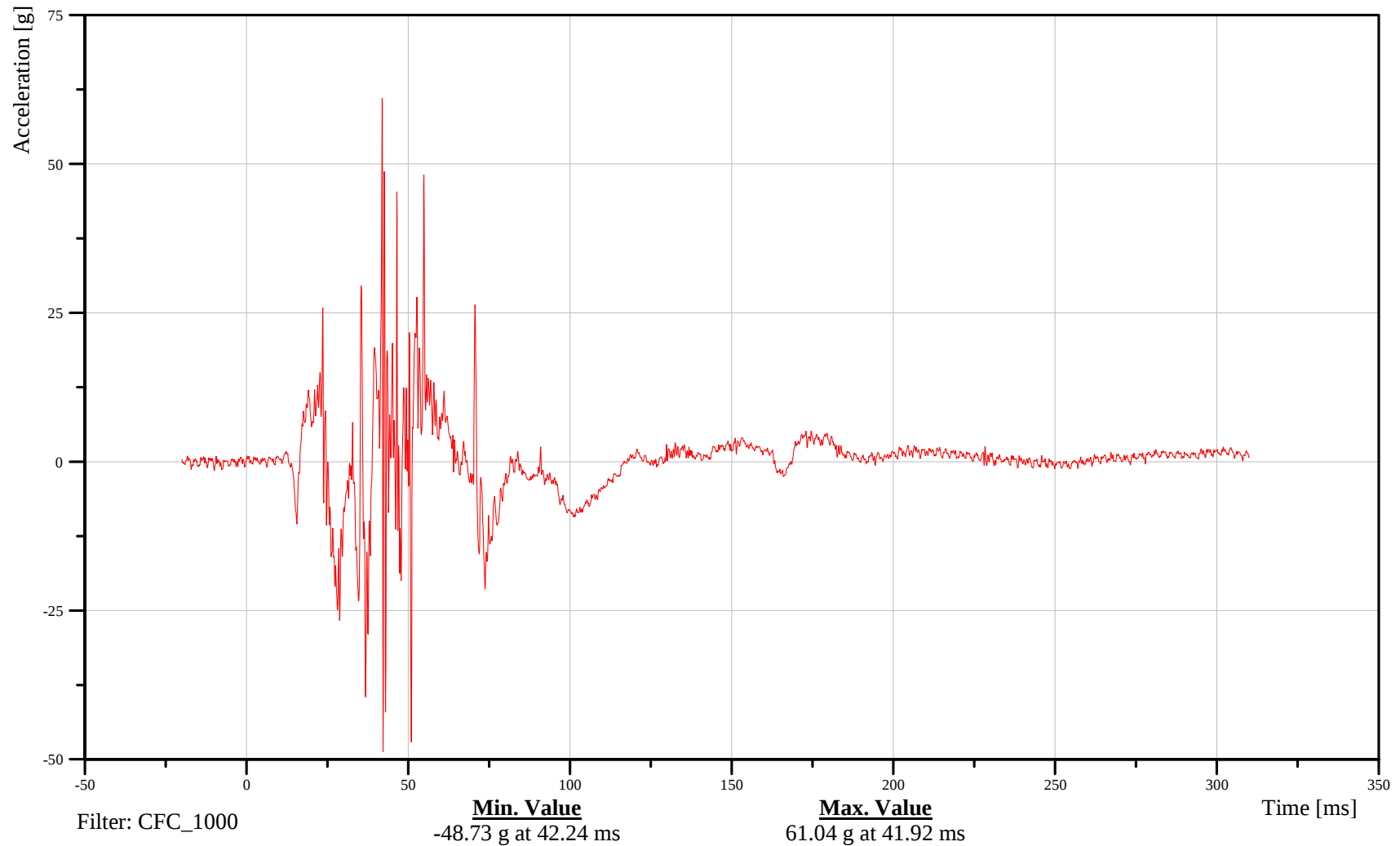
Abdominal Rib 2 Z-Axis Acceleration

Customer: VRTC

11ABRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-65

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

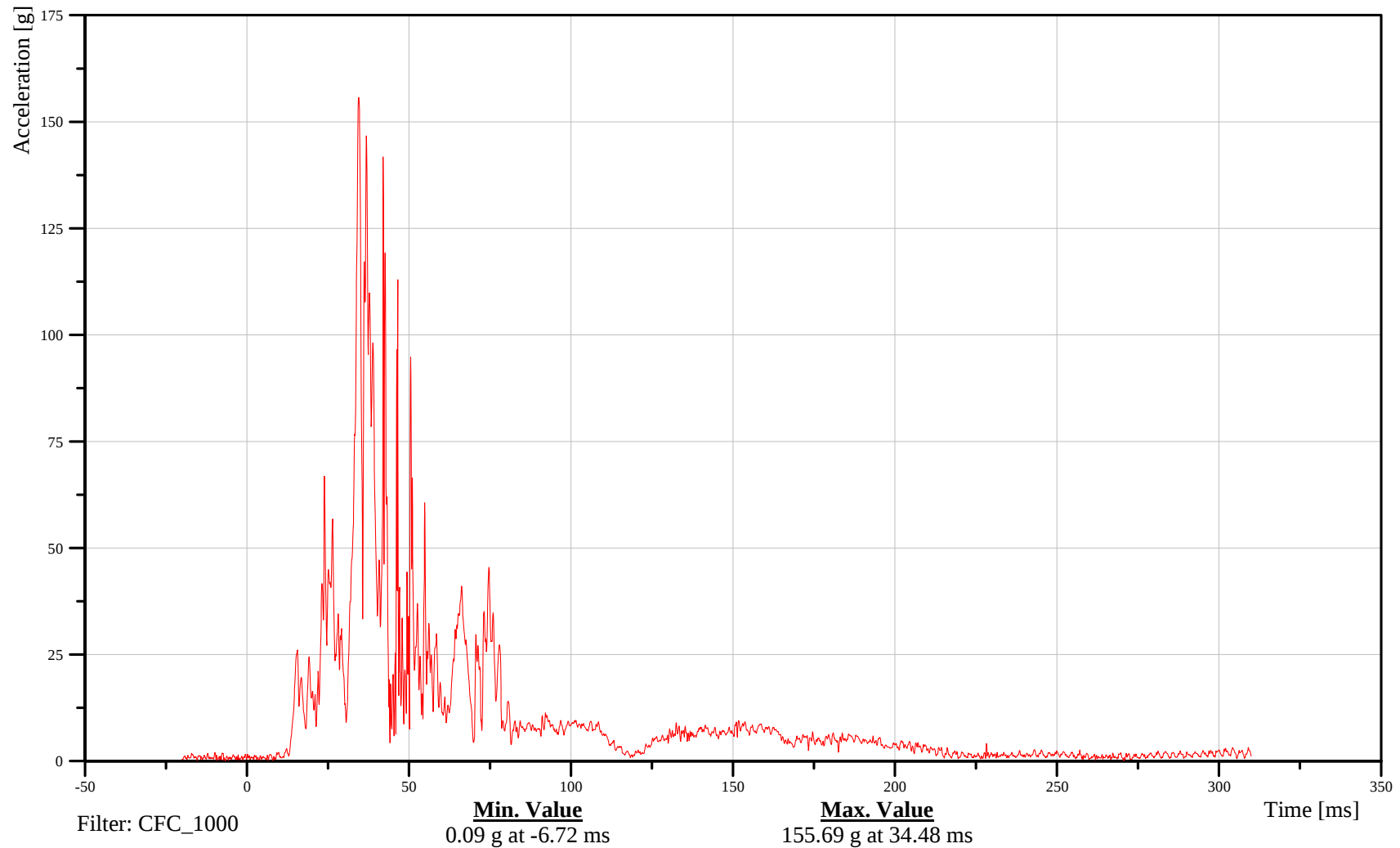
Abdominal Rib 2 Resultant Acceleration

Customer: VRTC

11ABRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-66

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

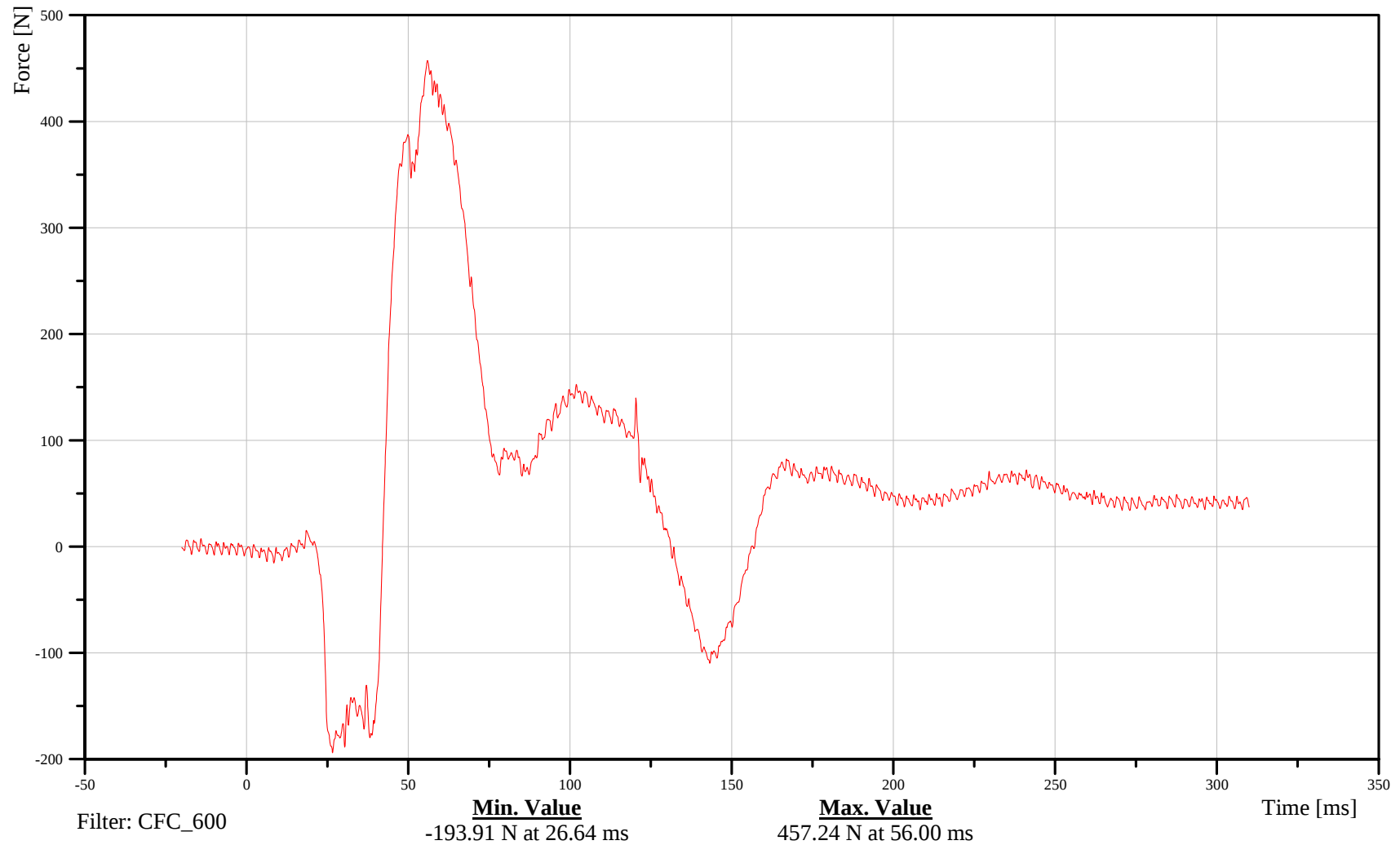
Lumbar X-Axis Force

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-67

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

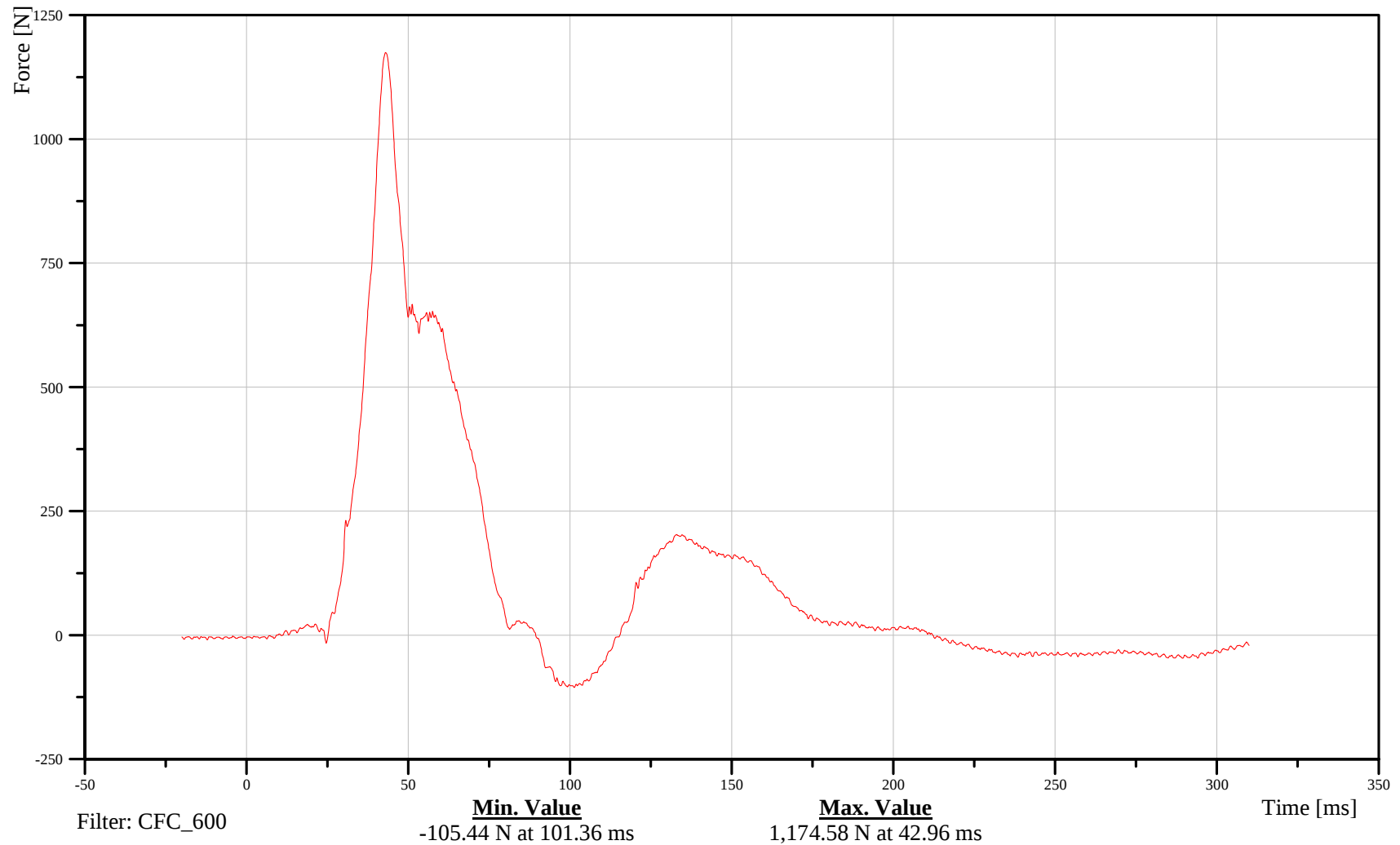
Lumbar Y-Axis Force

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-68

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

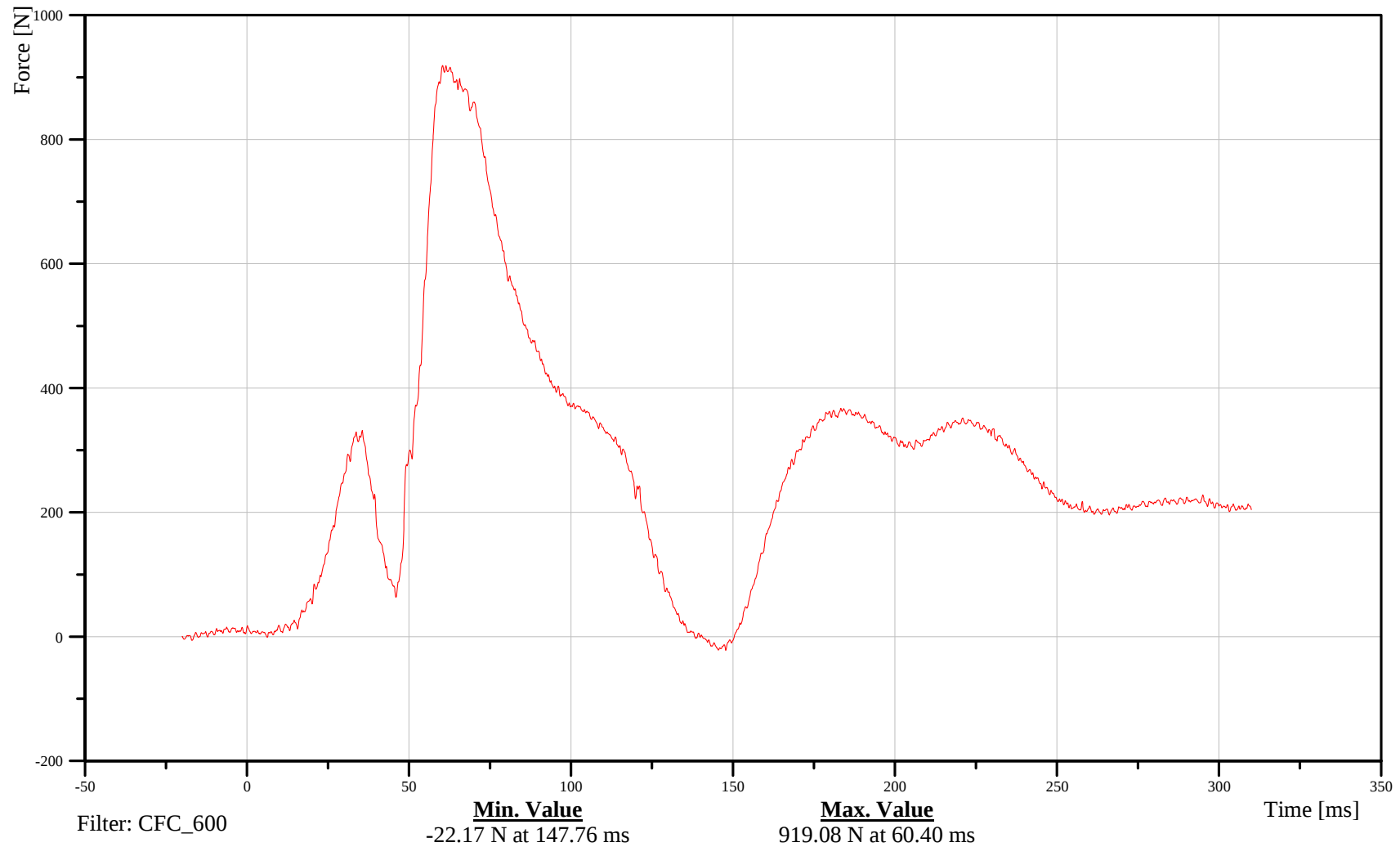
Lumbar Z-Axis Force

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-69

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

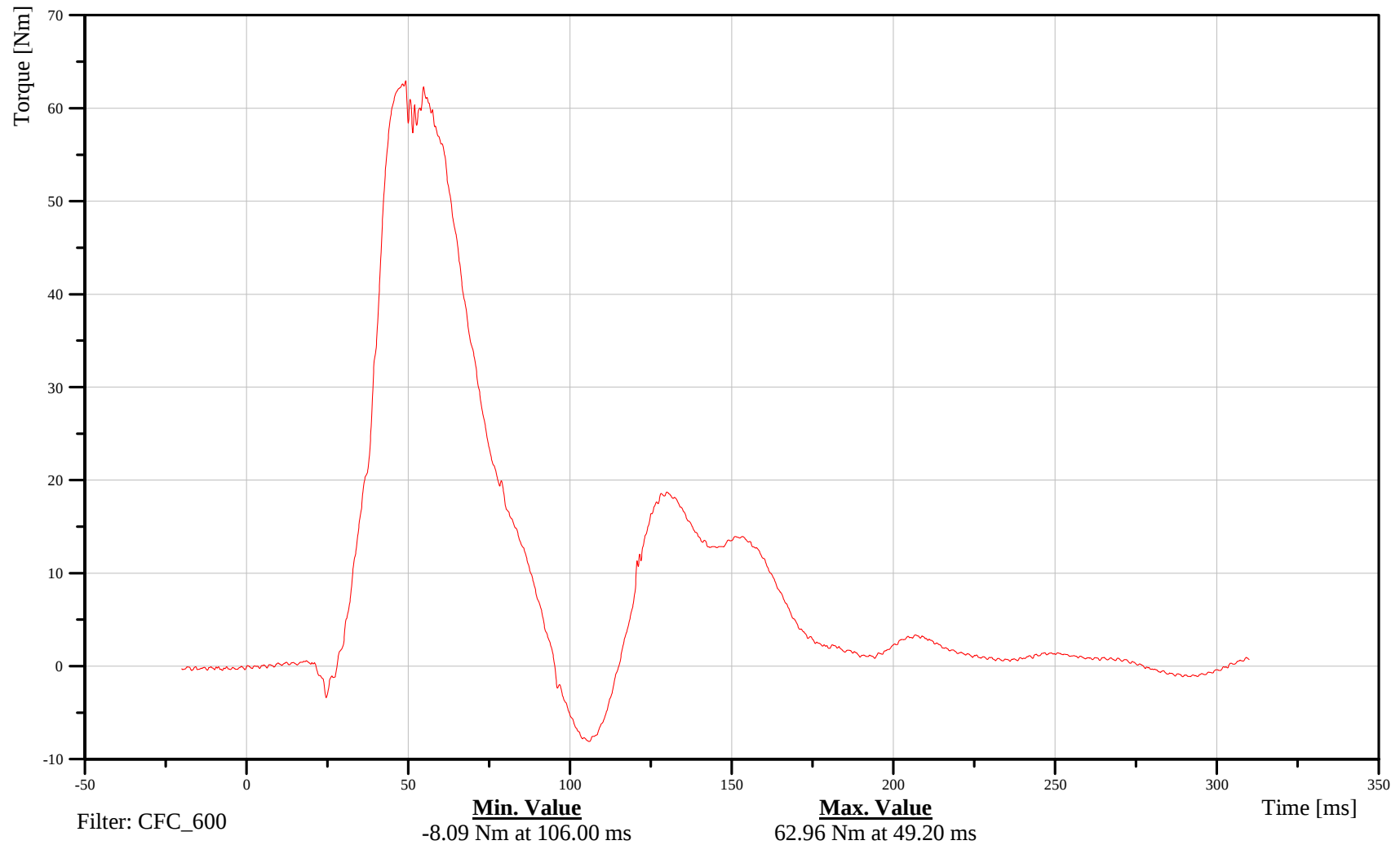
Lumbar Moment About X Axis

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-70

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

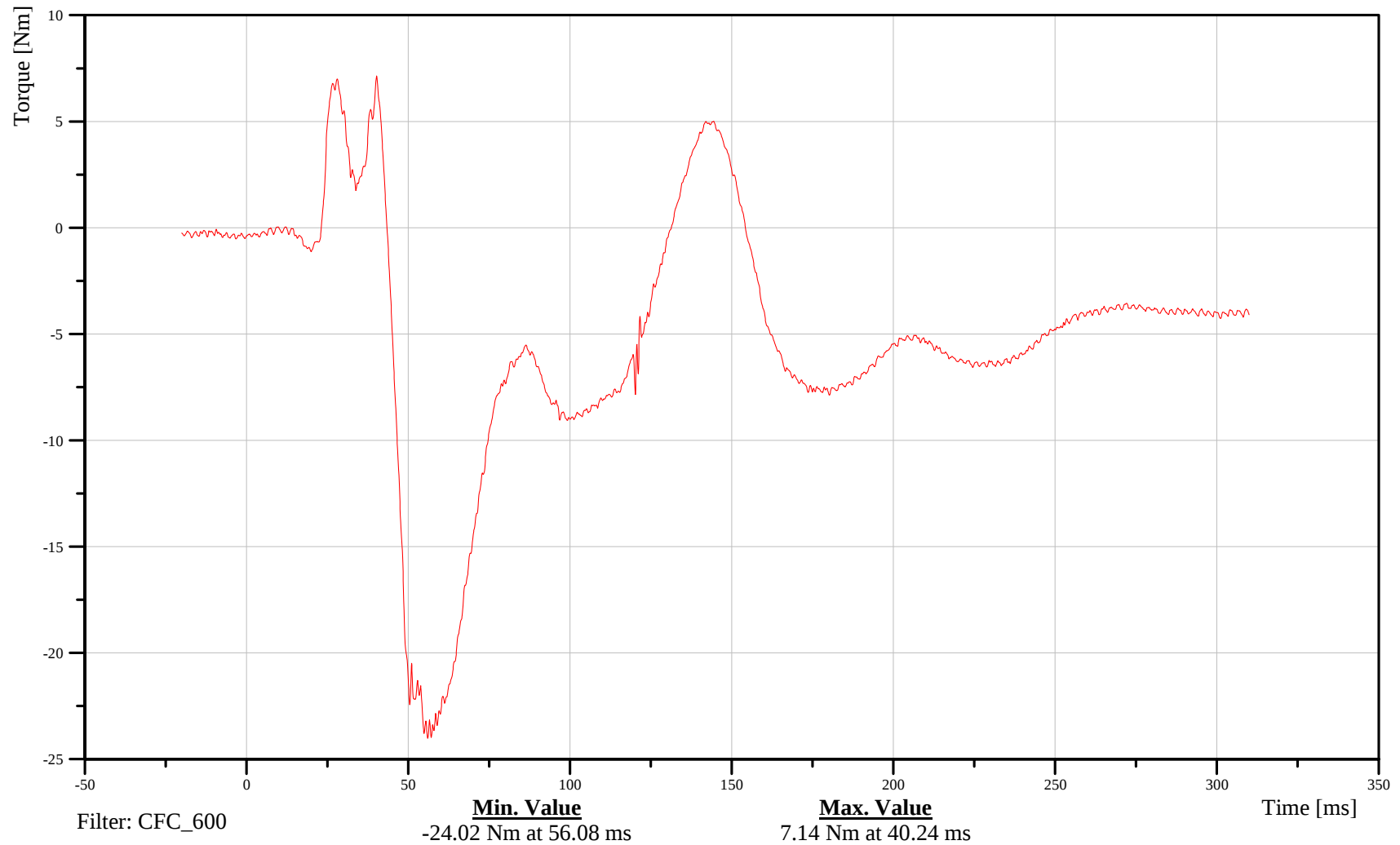
Lumbar Moment About Y Axis

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-71

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

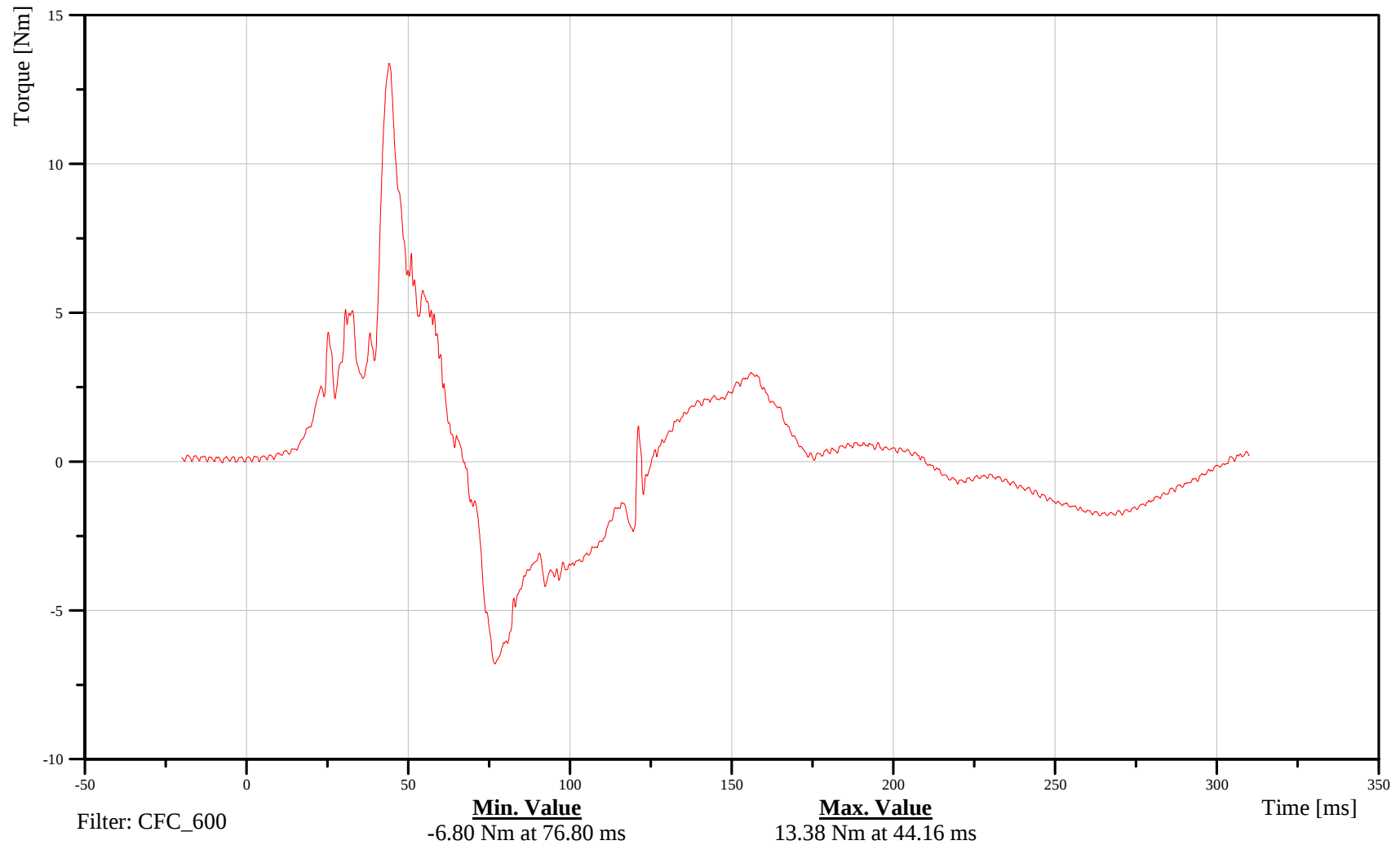
Lumbar Moment About Z Axis

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-72

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

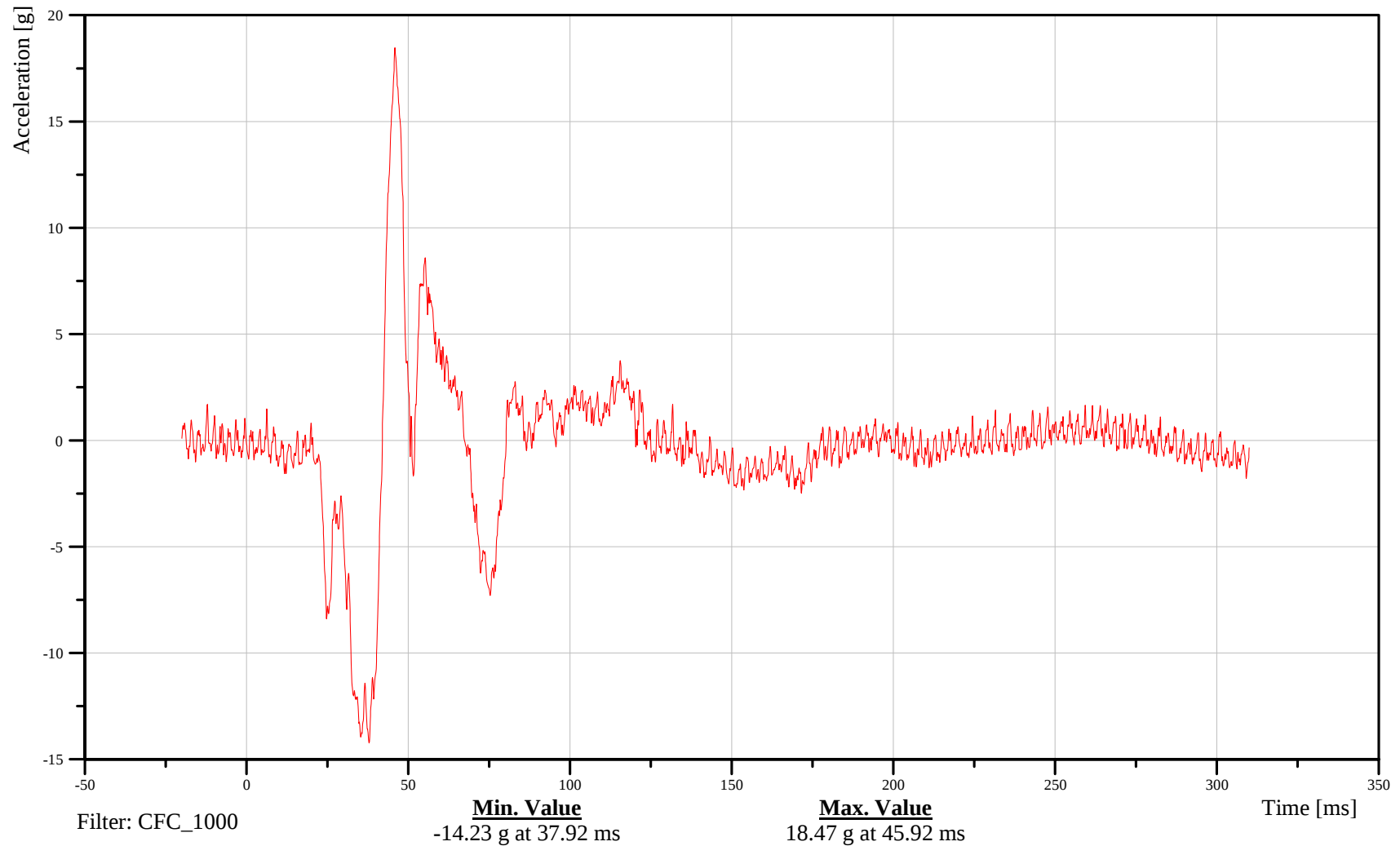
Pelvis X-Axis Acceleration

Customer: VRTC

11PELVCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-73

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

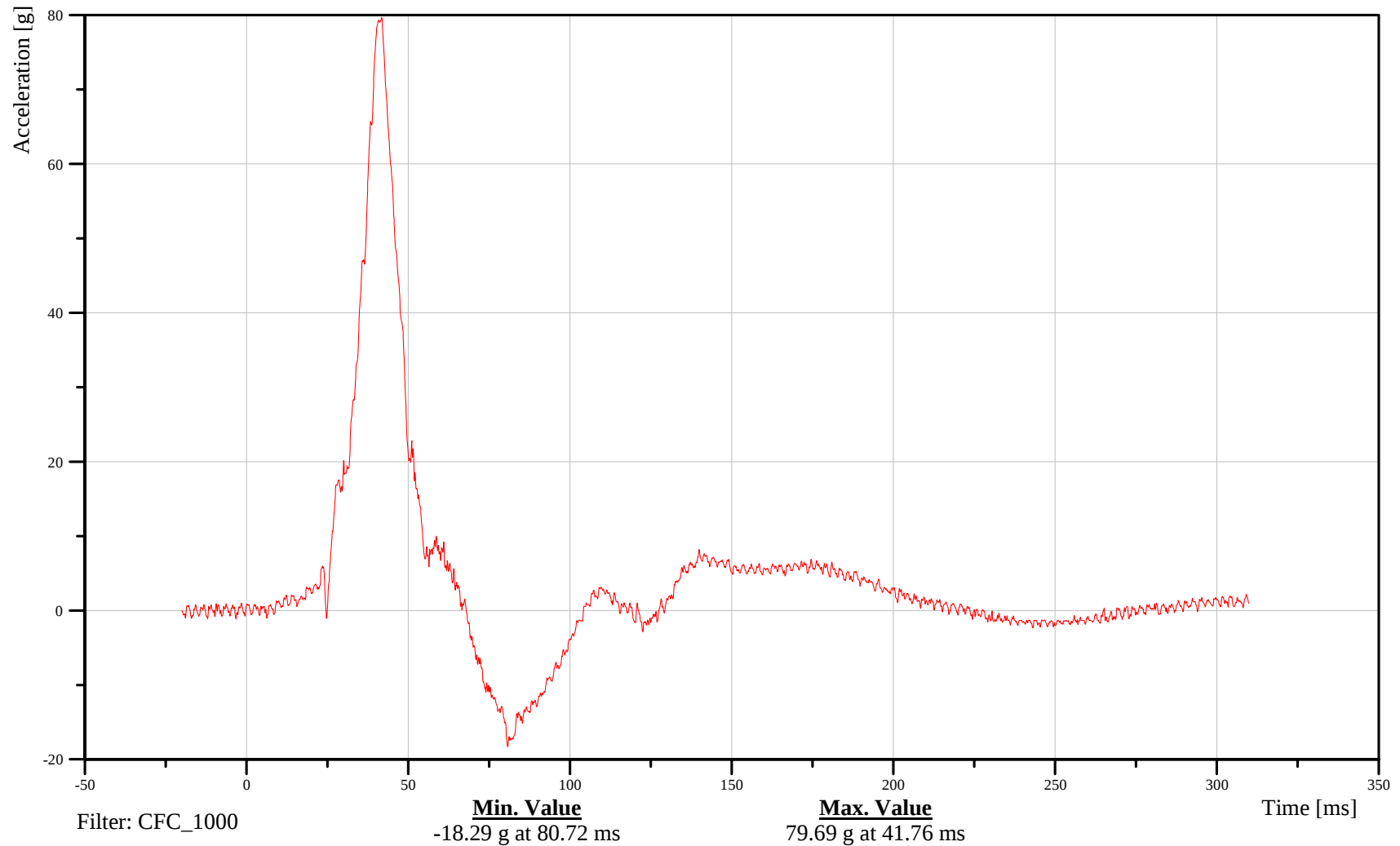
Pelvis Y-Axis Acceleration

Customer: VRTC

11PELVCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-74

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

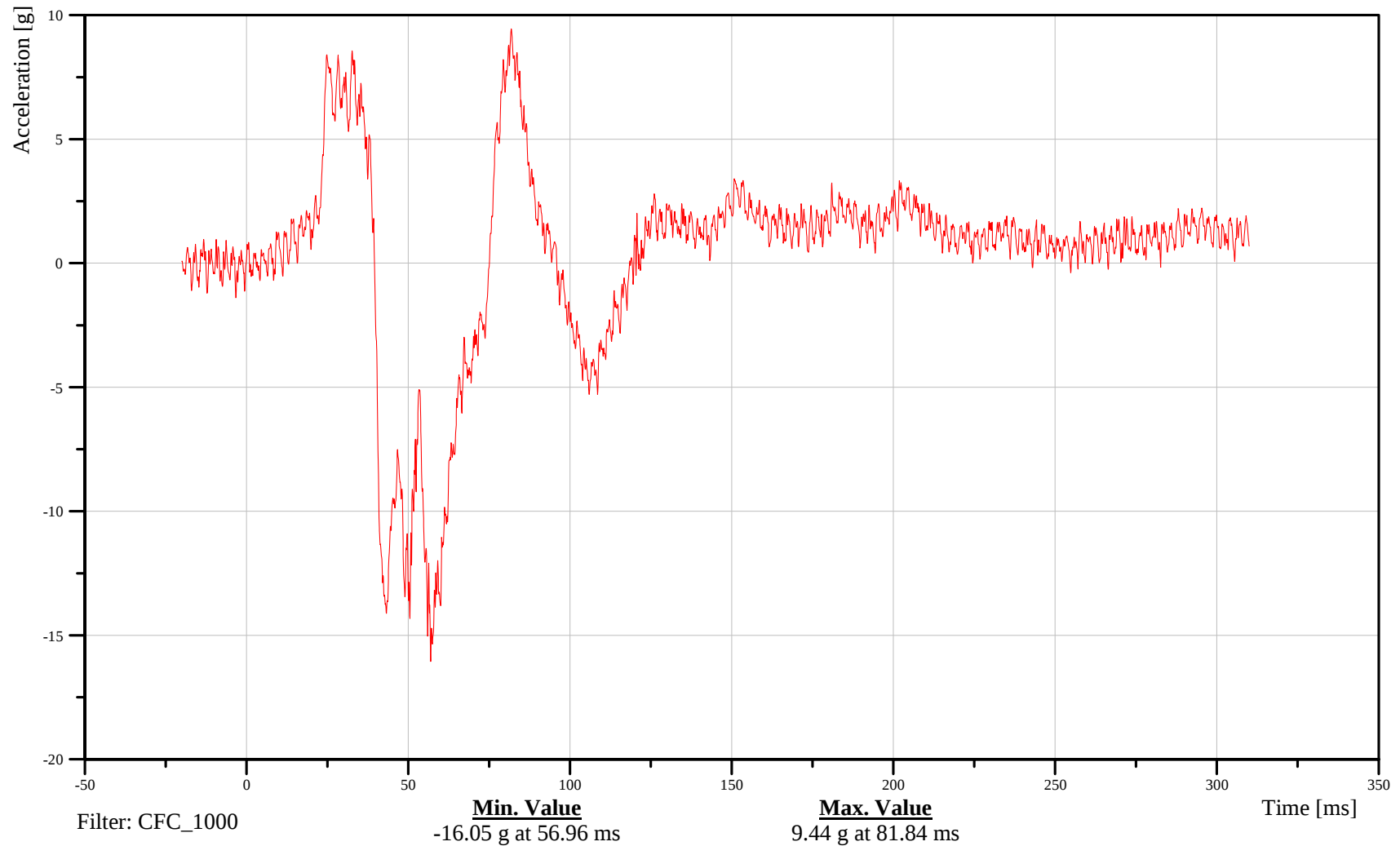
Pelvis Z-Axis Acceleration

Customer: VRTC

11PELVCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-75

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

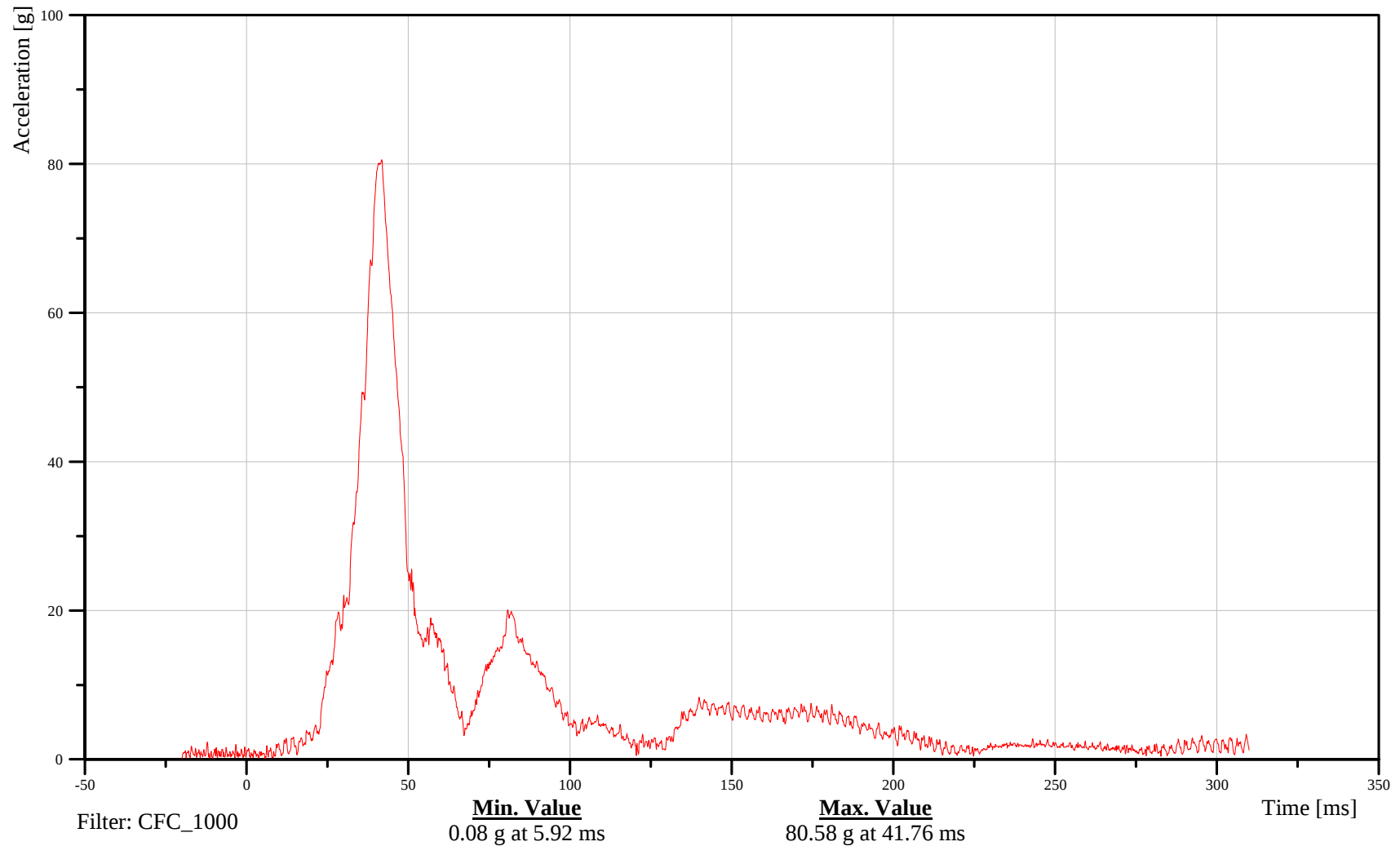
Pelvis Resultant Acceleration

Customer: VRTC

11PELVCG00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-76

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

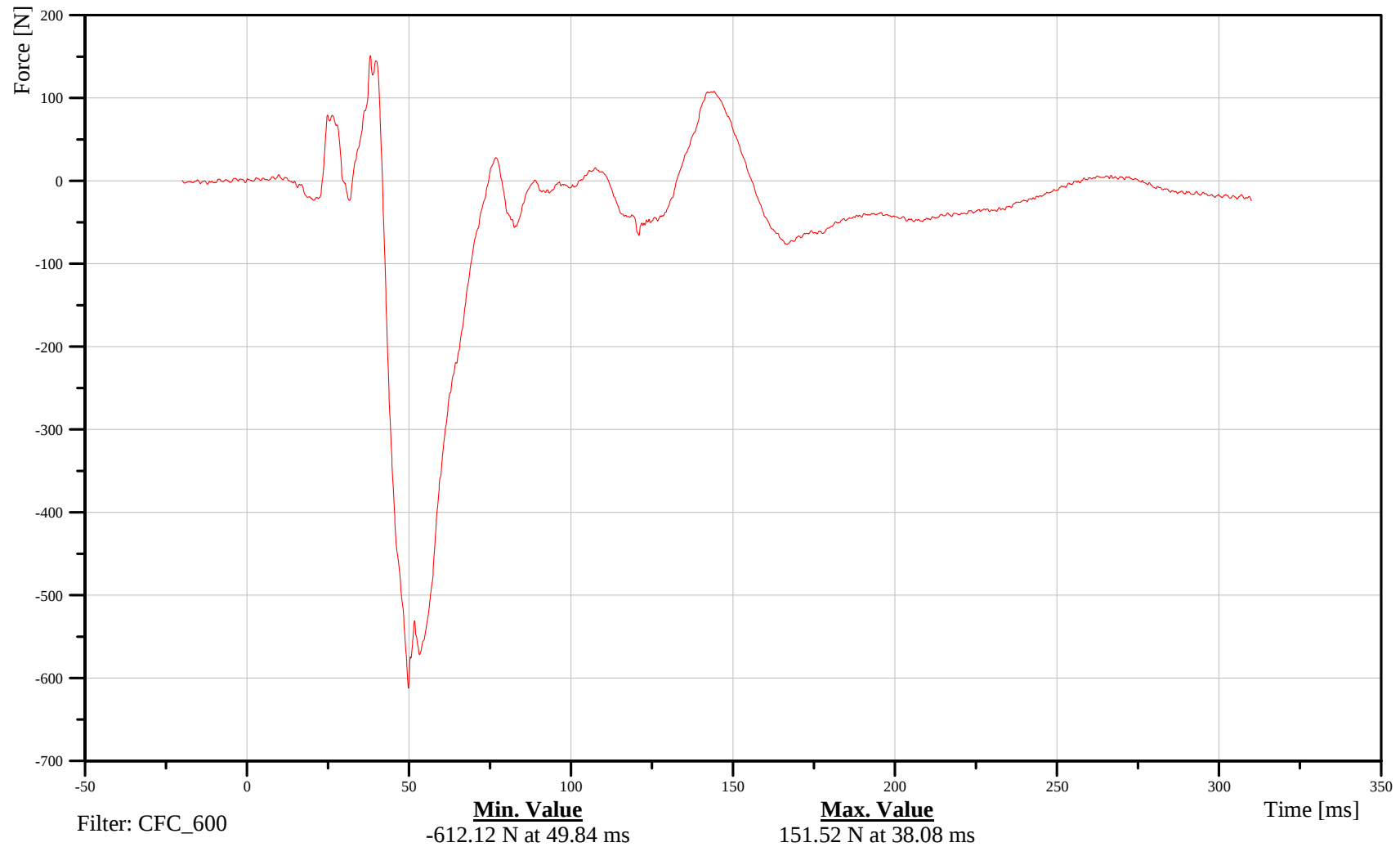
Sacro-Iliac Left X-Axis Force

Customer: VRTC

11SACRLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-77

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

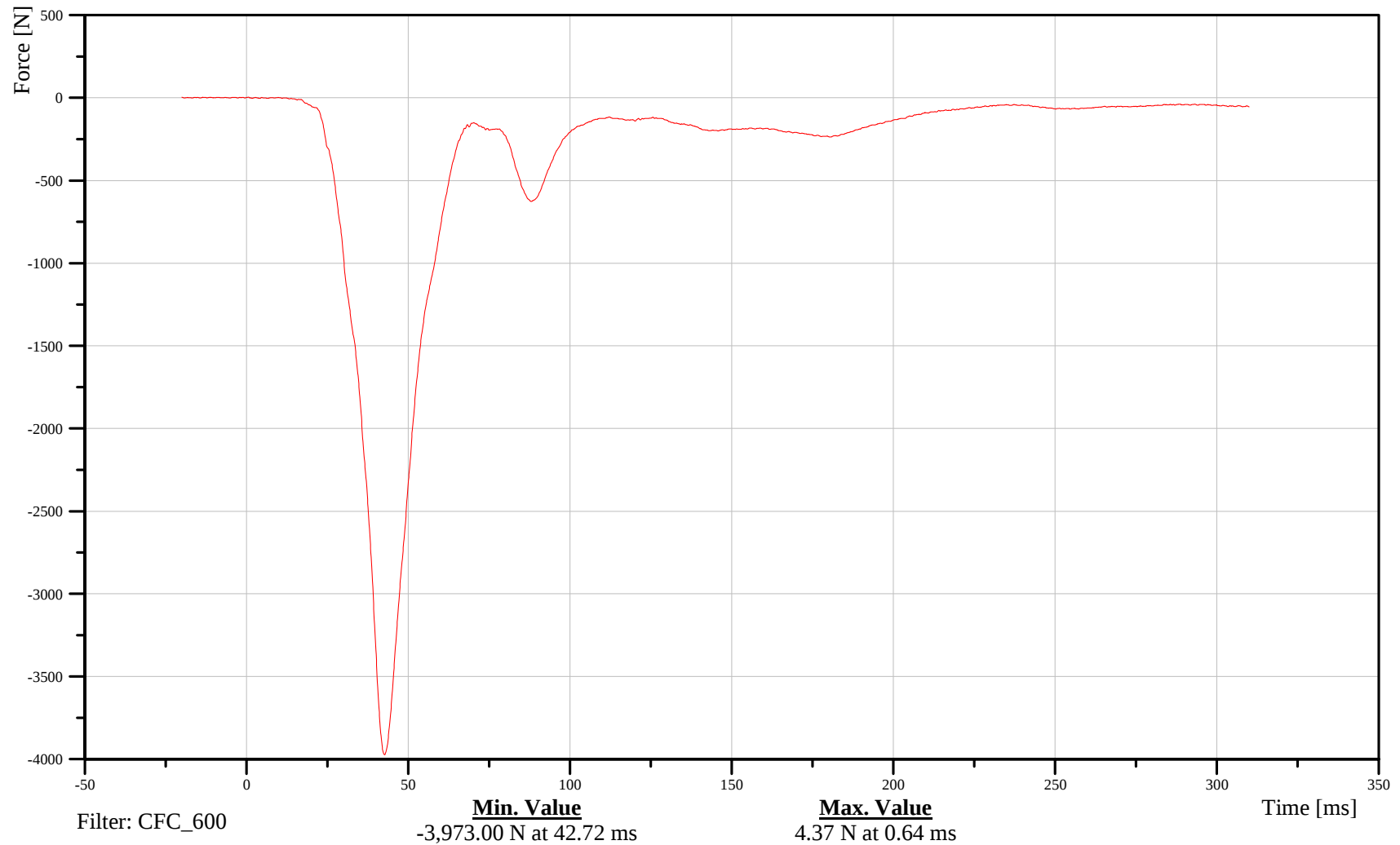
Sacro-Iliac Left Y-Axis Force

Customer: VRTC

11SACRLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-78

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

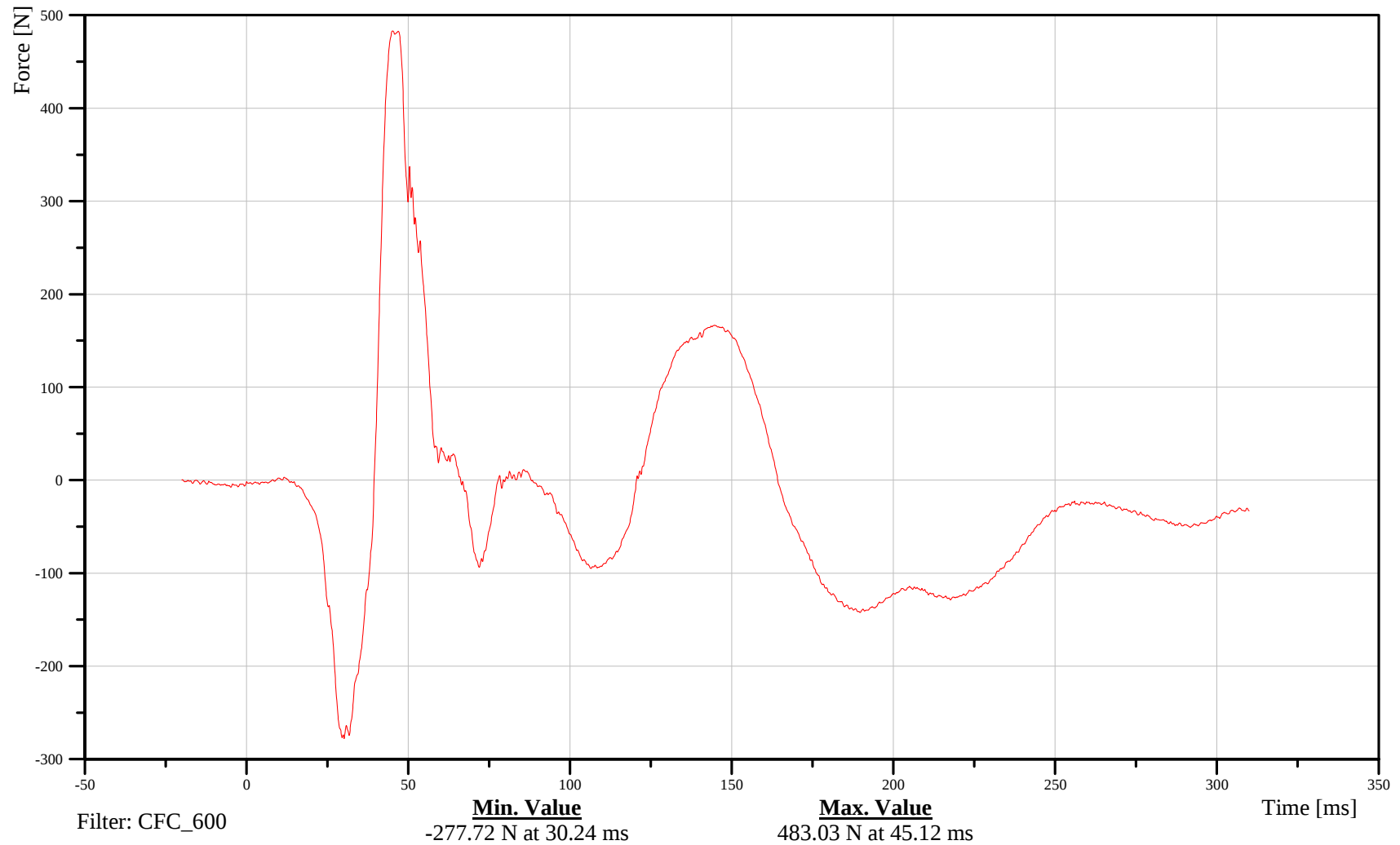
Sacro-Iliac Left Z-Axis Force

Customer: VRTC

11SACRLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-79

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

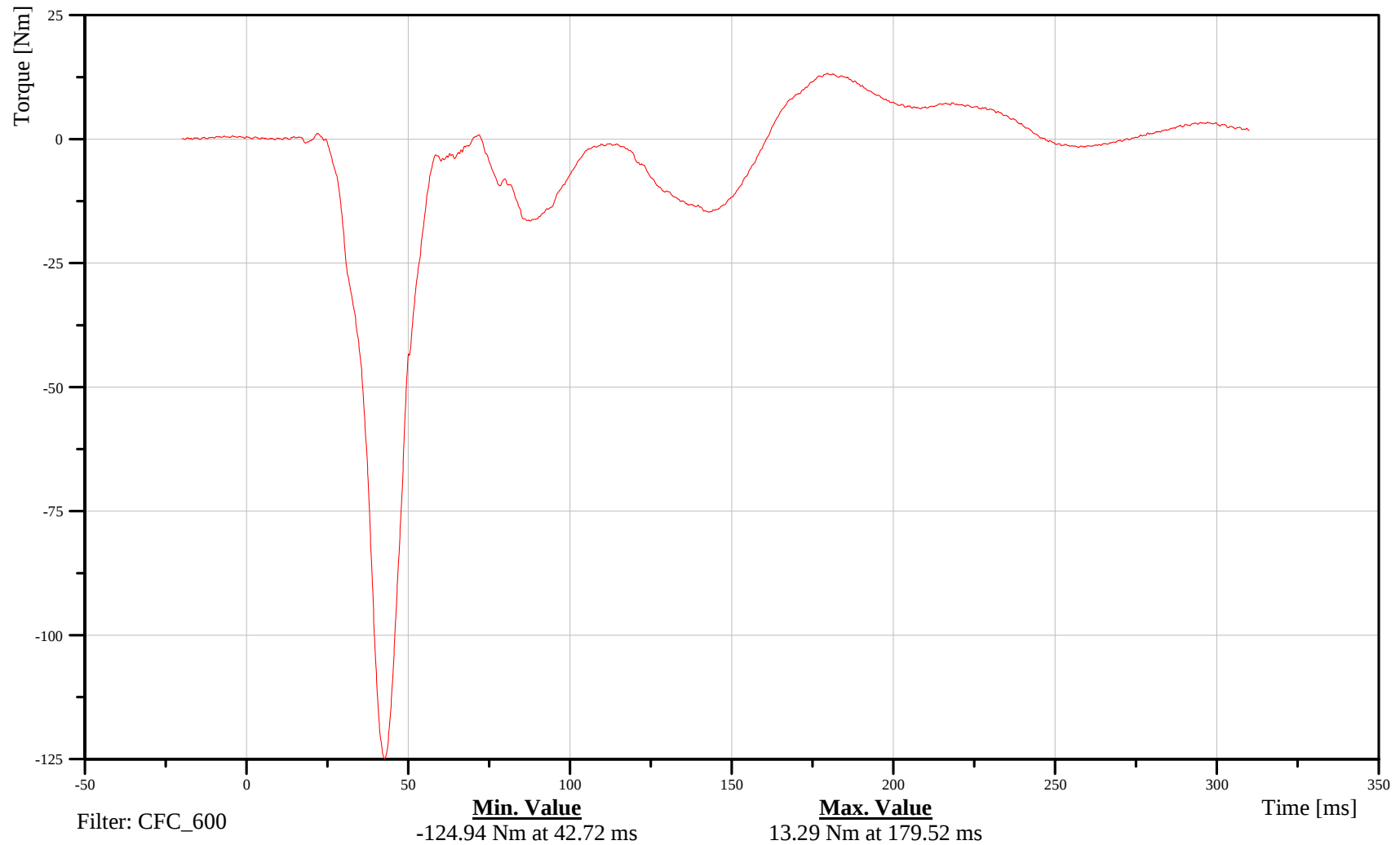
Sacro-Iliac Left Moment About X Axis

Customer: VRTC

11SACRLE00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-80

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

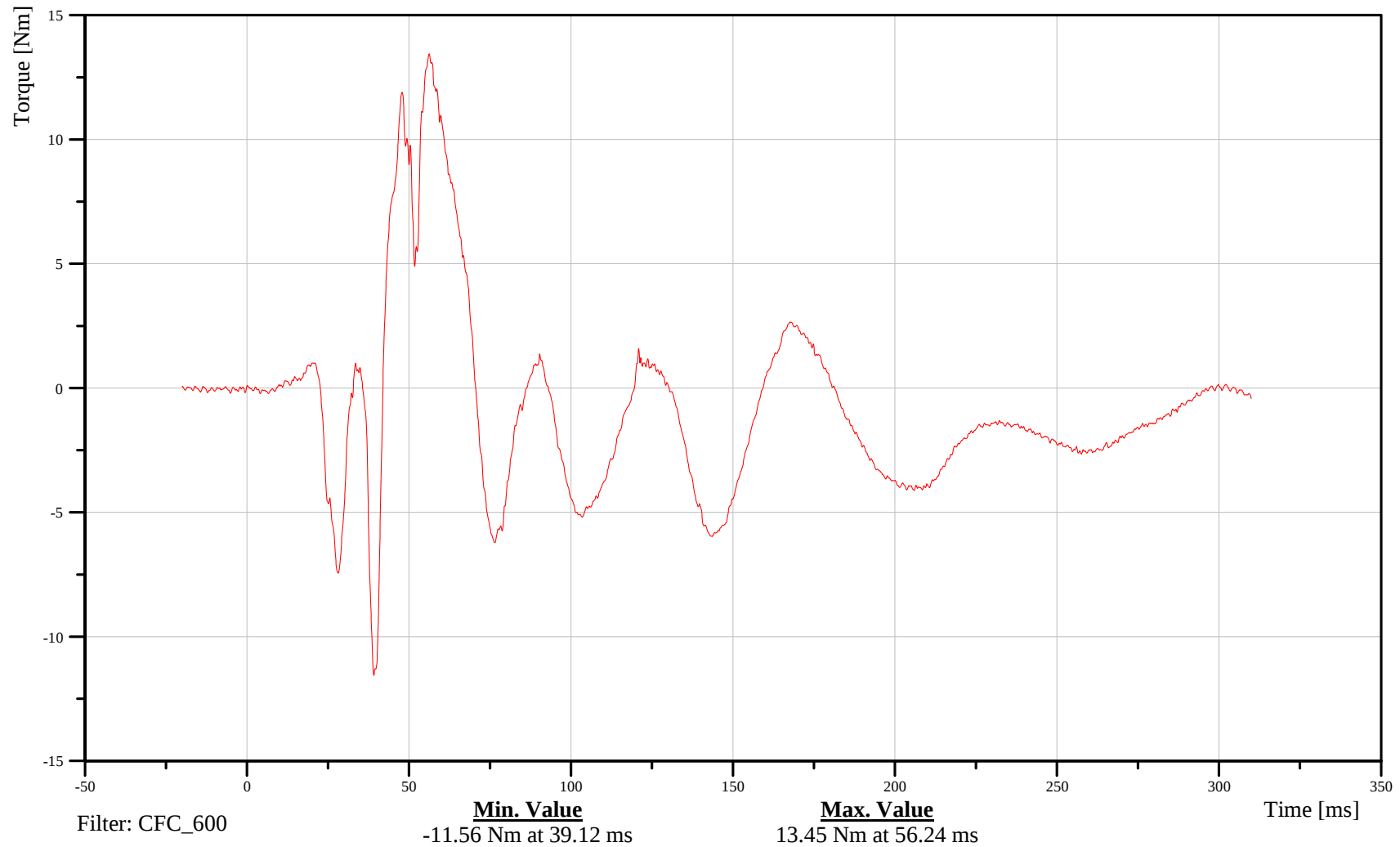
Sacro-Iliac Left Moment About Y Axis

Customer: VRTC

11SACRLE00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-81

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

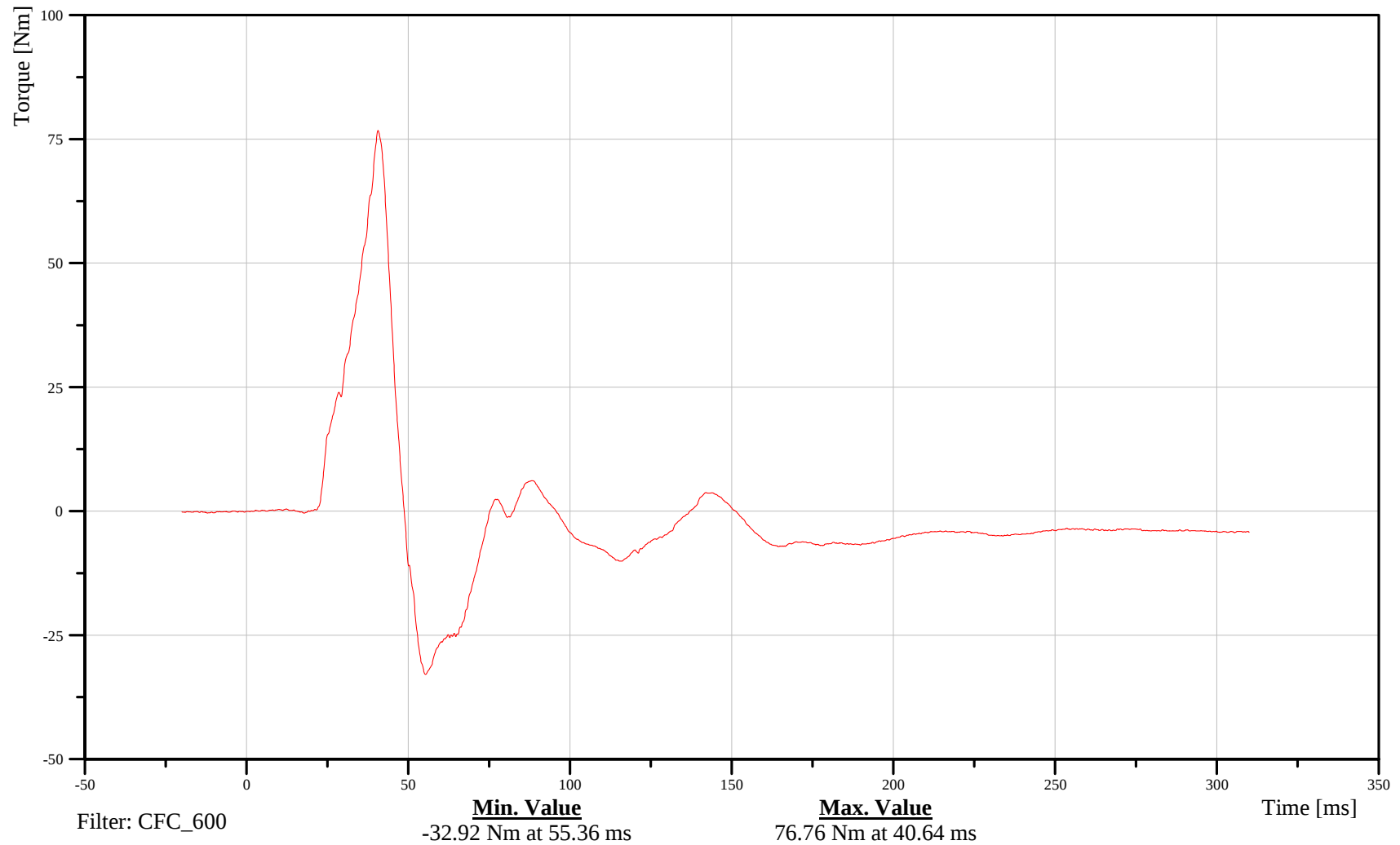
Sacro-Iliac Left Moment About Z Axis

Customer: VRTC

11SACRLE00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-82

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

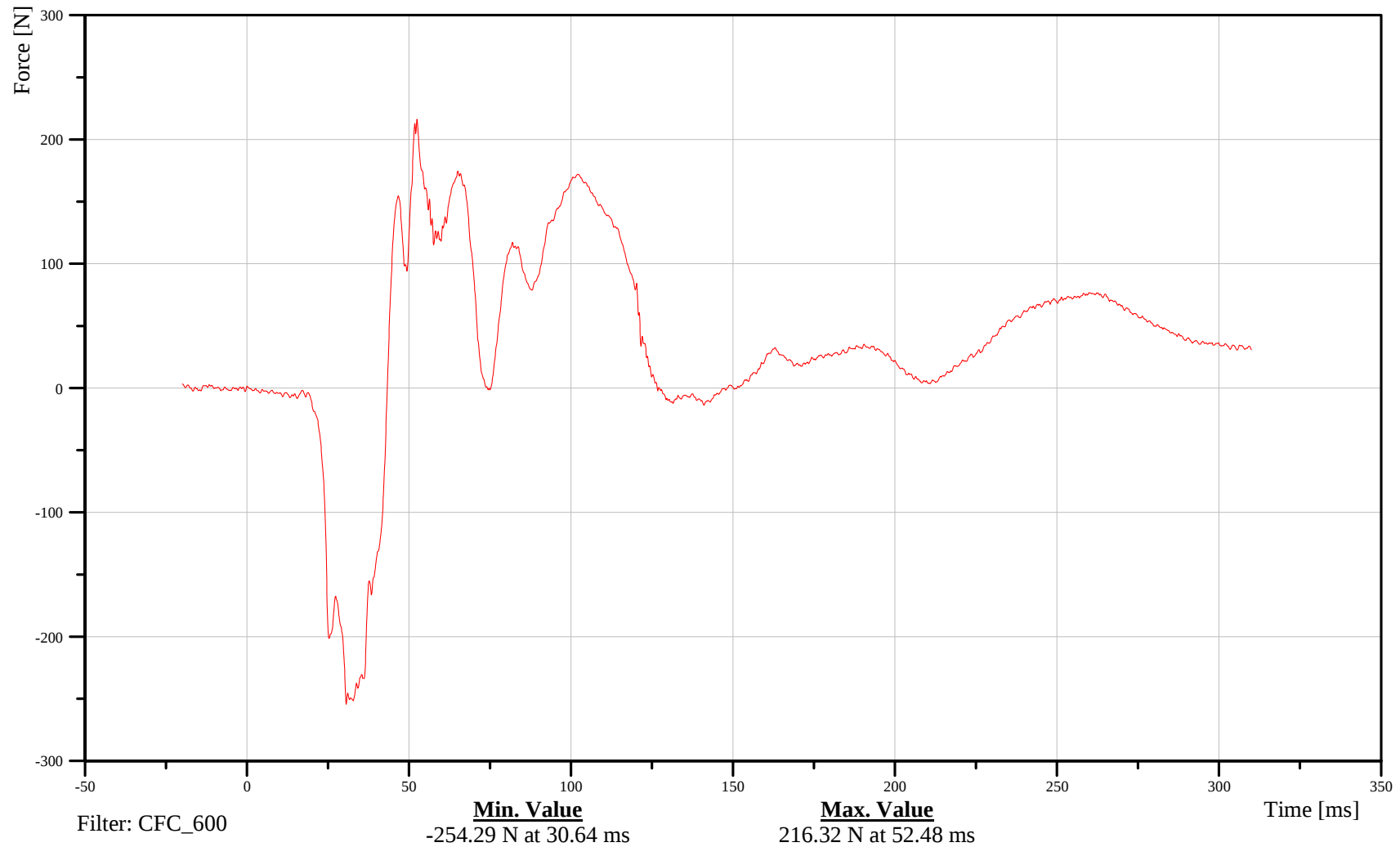
Sacro-Iliac Right X-Axis Force

Customer: VRTC

11SACRRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-83

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

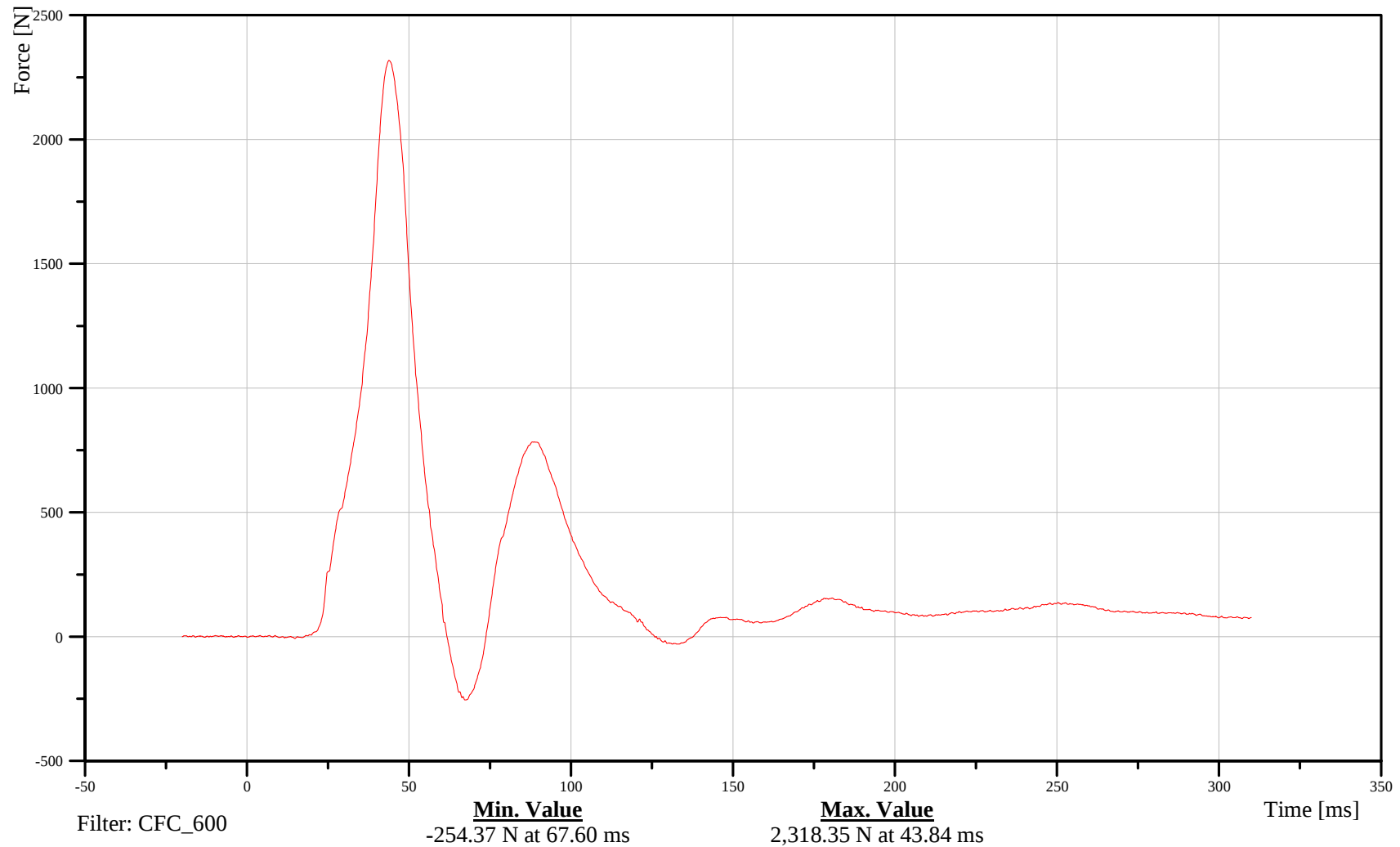
Sacro-Iliac Right Y-Axis Force

Customer: VRTC

11SACRRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-84

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

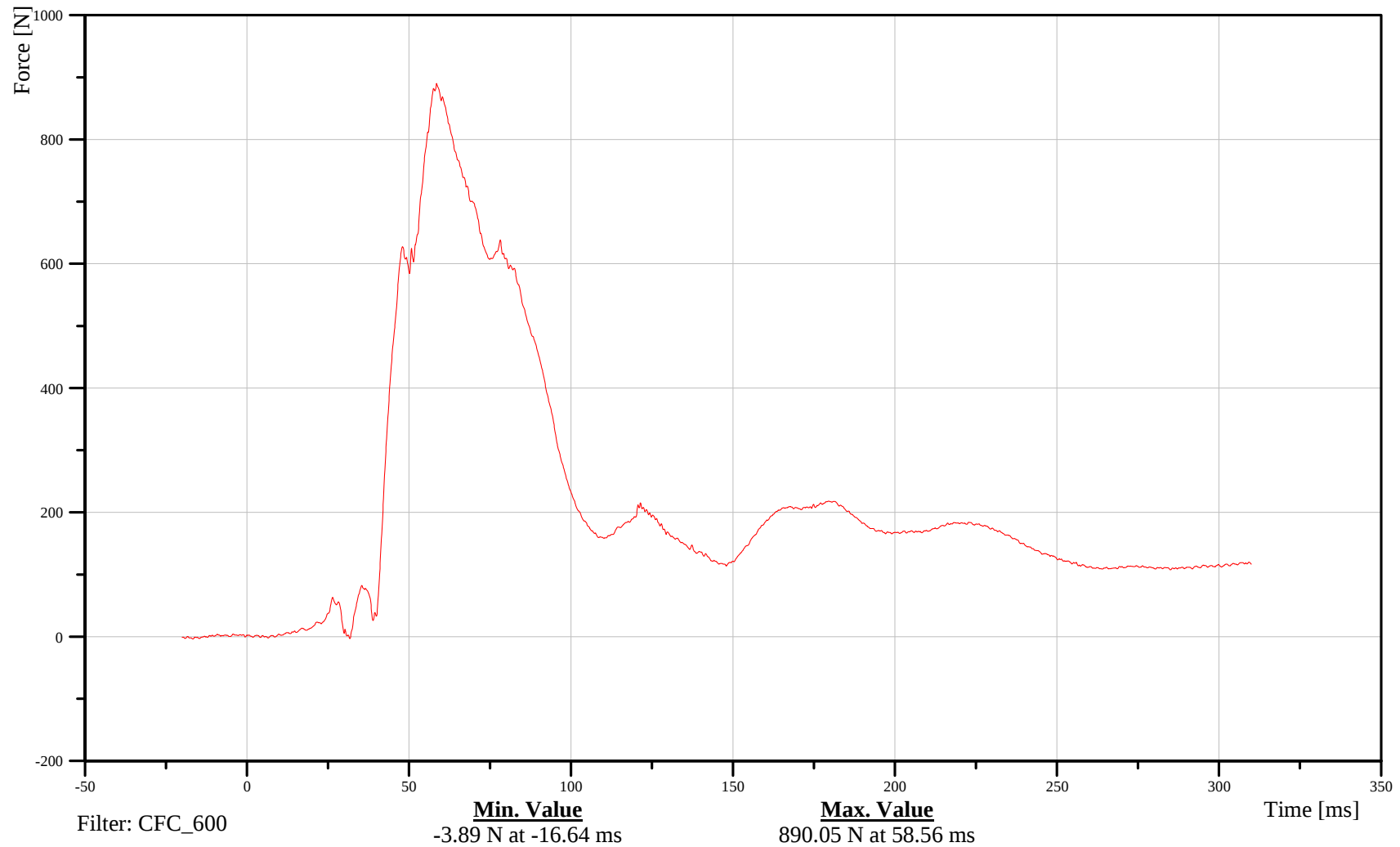
Sacro-Iliac Right Z-Axis Force

Customer: VRTC

11SACRRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-85

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

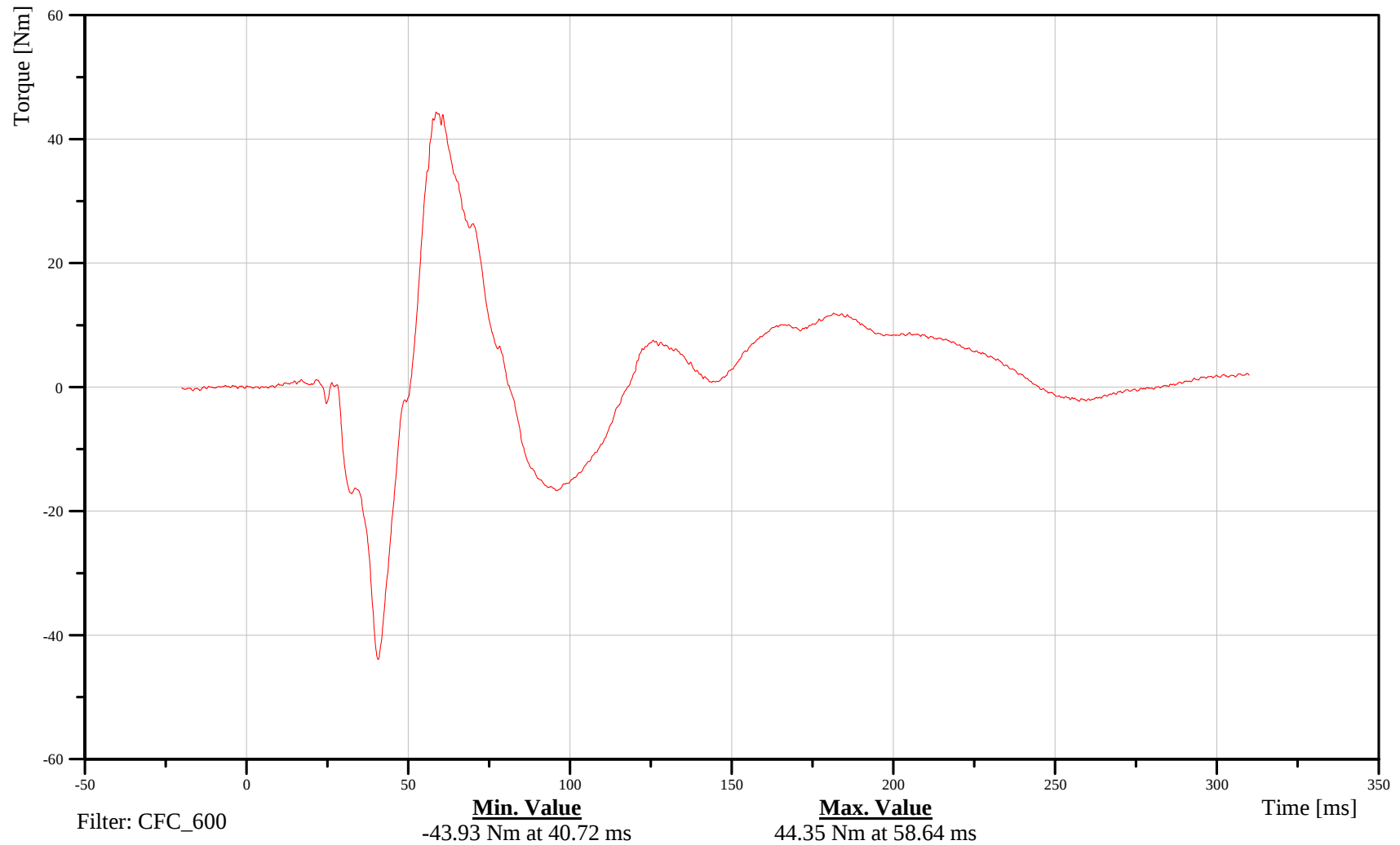
Sacro-Iliac Right Moment About X Axis

Customer: VRTC

11SACRRI00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-86

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

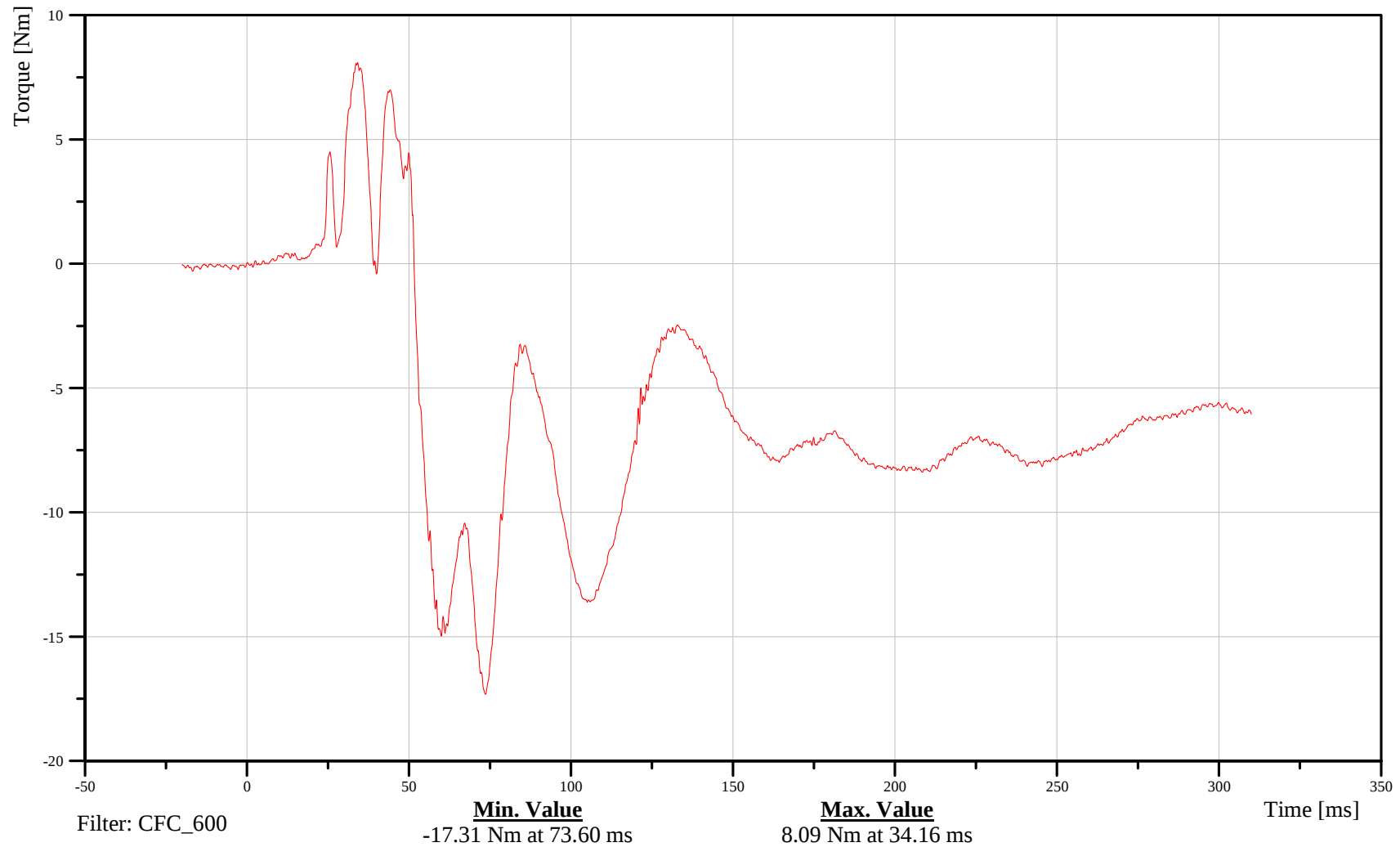
Sacro-Iliac Right Moment About Y Axis

Customer: VRTC

11SACRRI00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-87

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

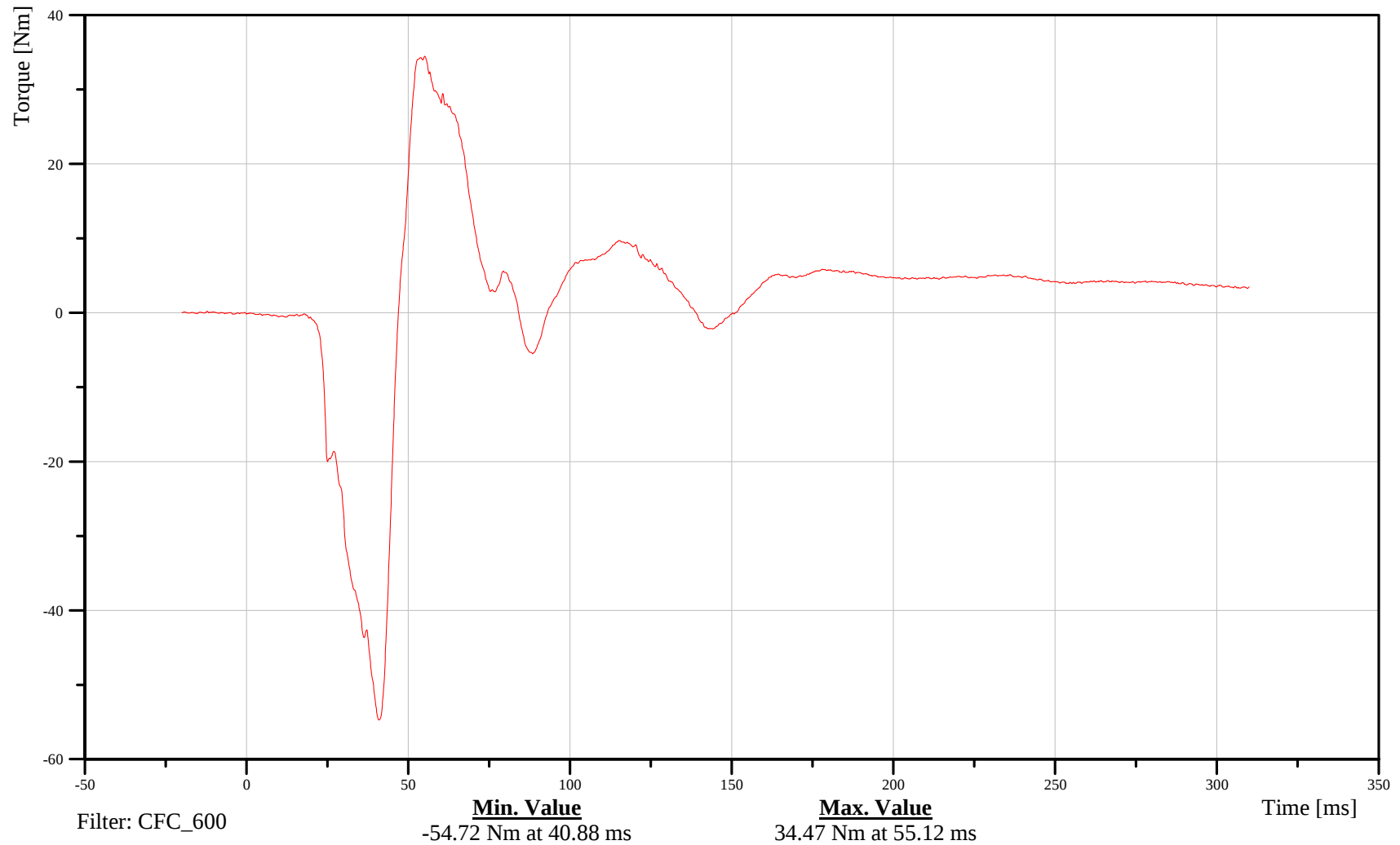
Sacro-Iliac Right Moment About Z Axis

Customer: VRTC

11SACRRI00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-88

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

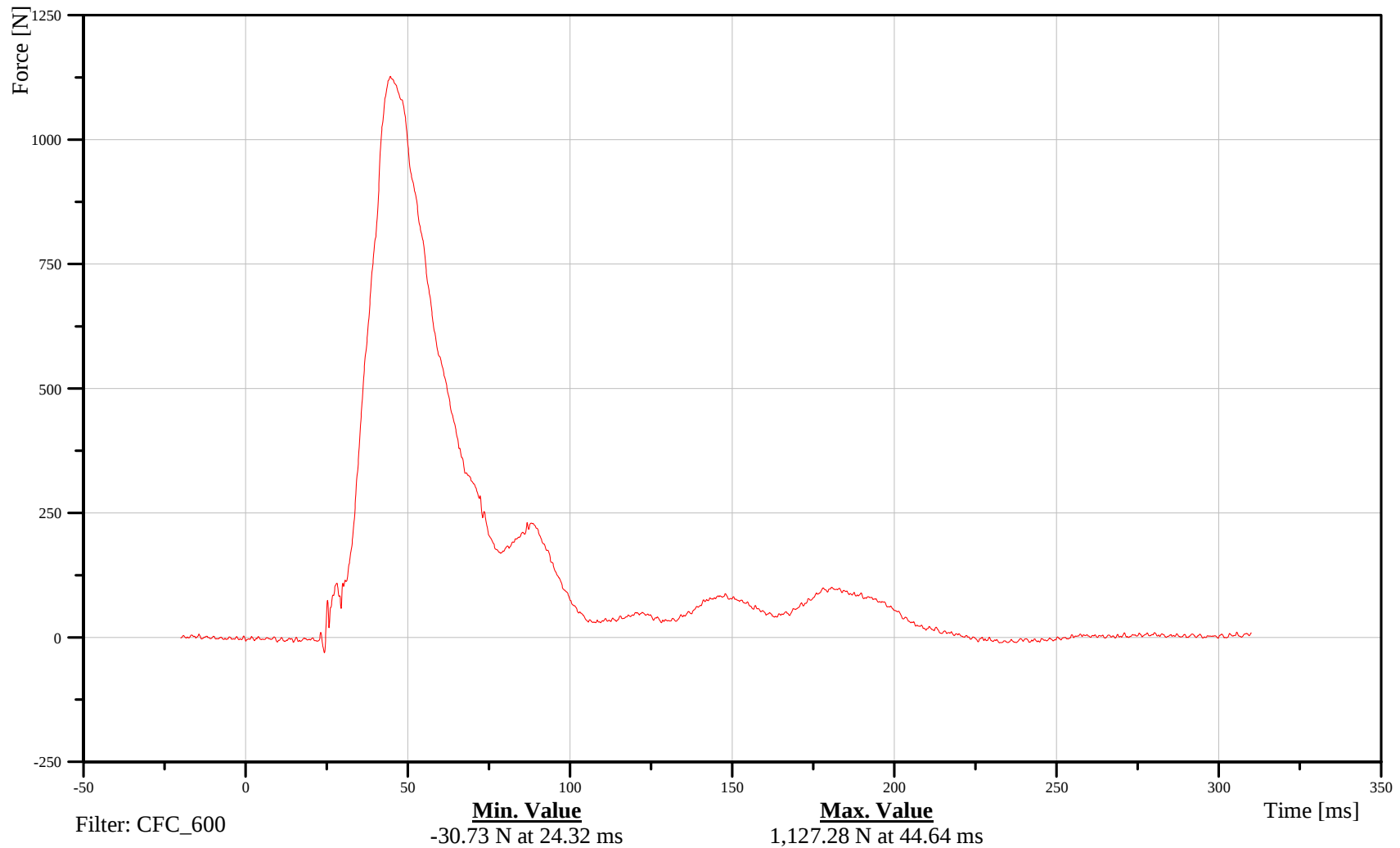
Pubic Y-Axis Force

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-89

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

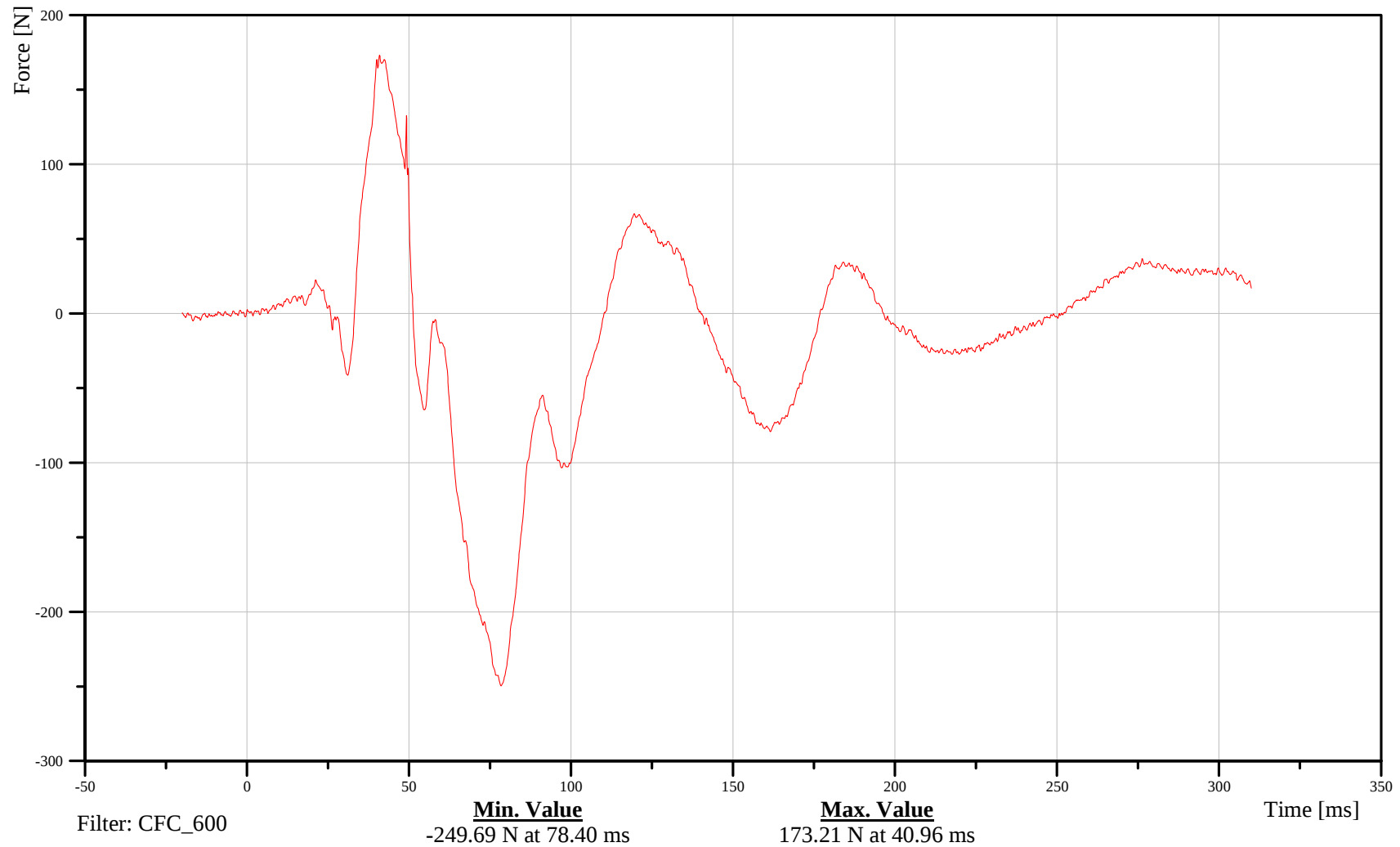
Left Femur X-Axis Force

Customer: VRTC

11FEACLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-90

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

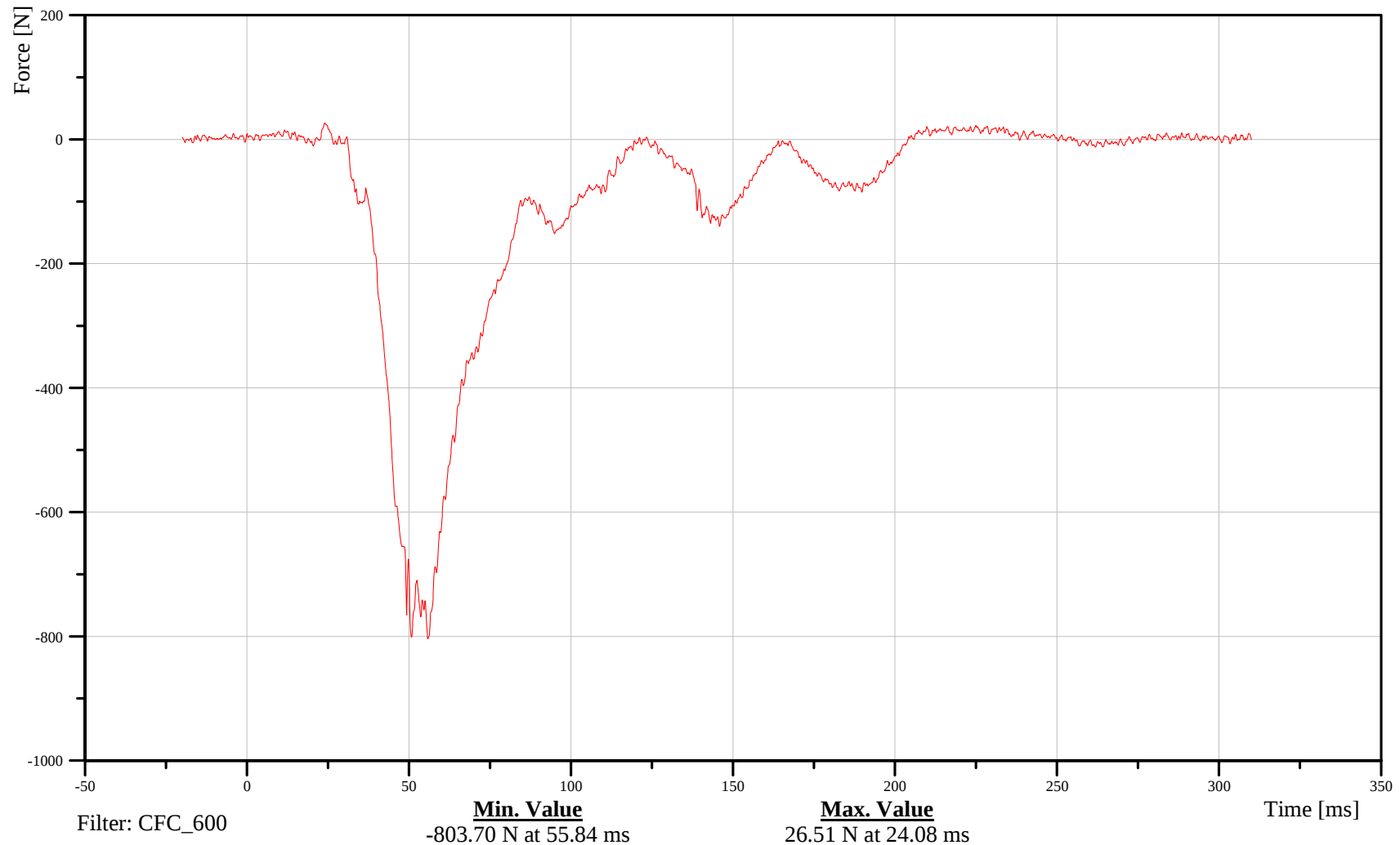
Left Femur Y-Axis Force

Customer: VRTC

11FEACLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-91

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

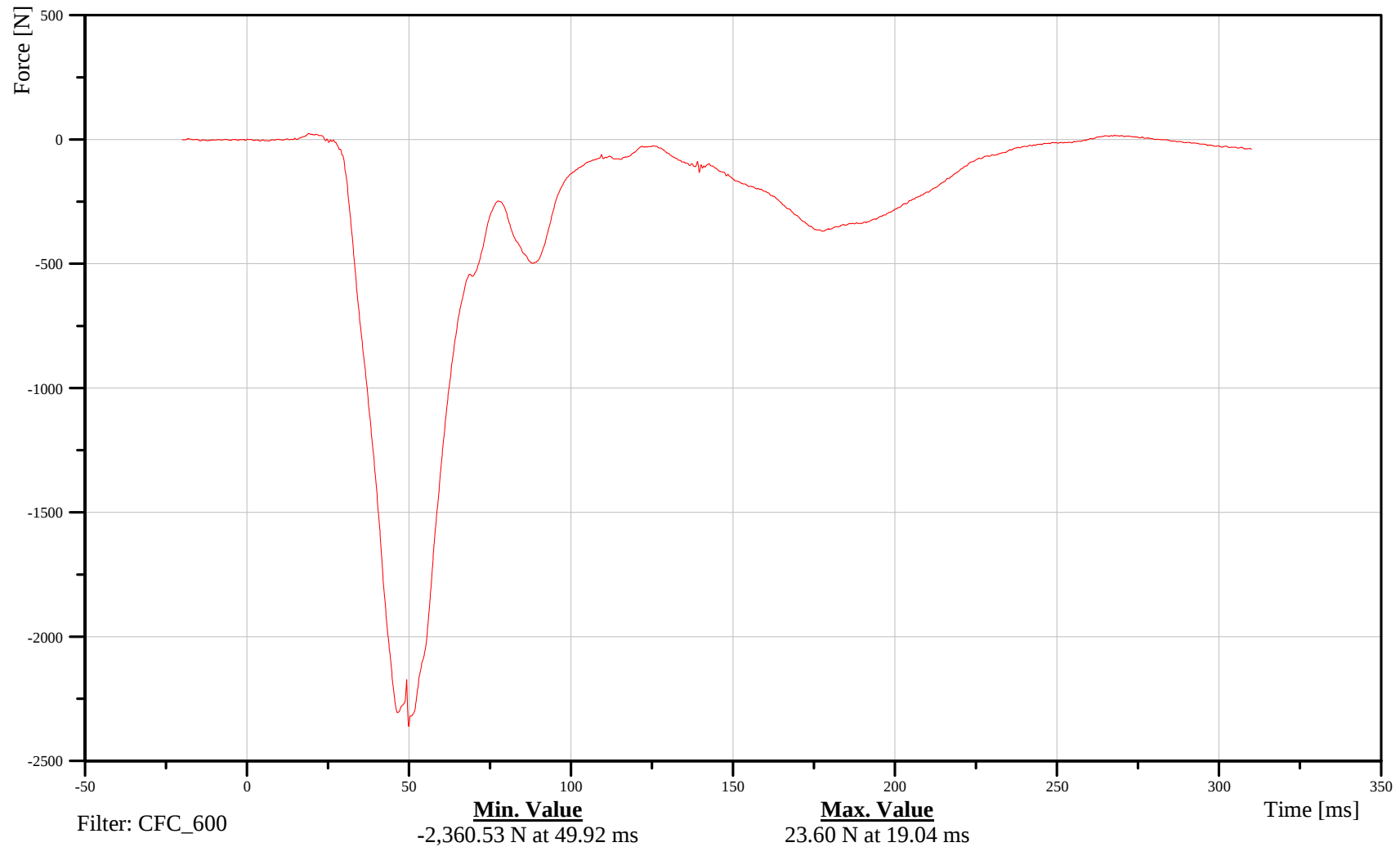
Left Femur Z-Axis Force

Customer: VRTC

11FEACLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-92

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

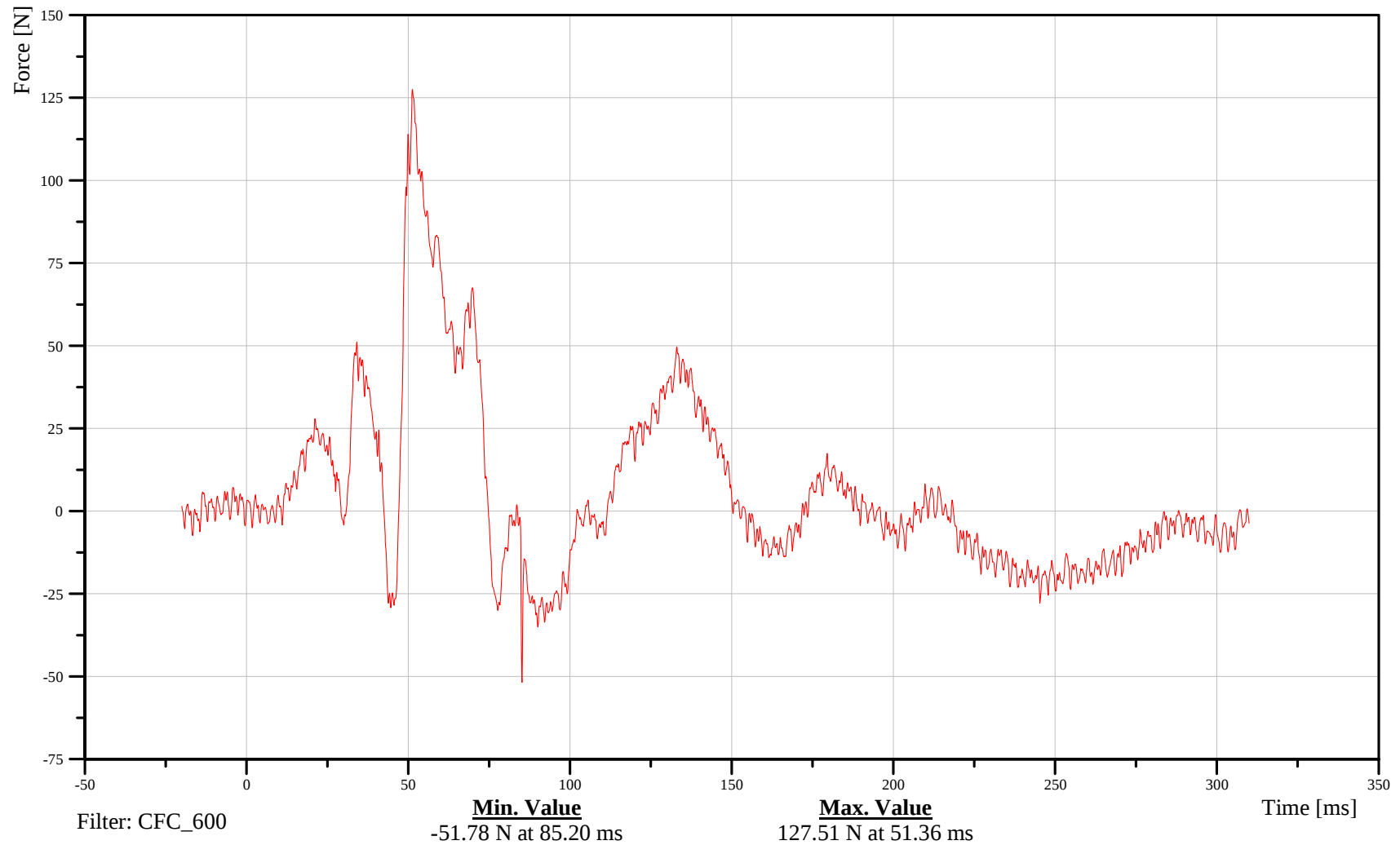
Left Mid Femur X-Axis Force

Customer: VRTC

11FEMRLEMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-93

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

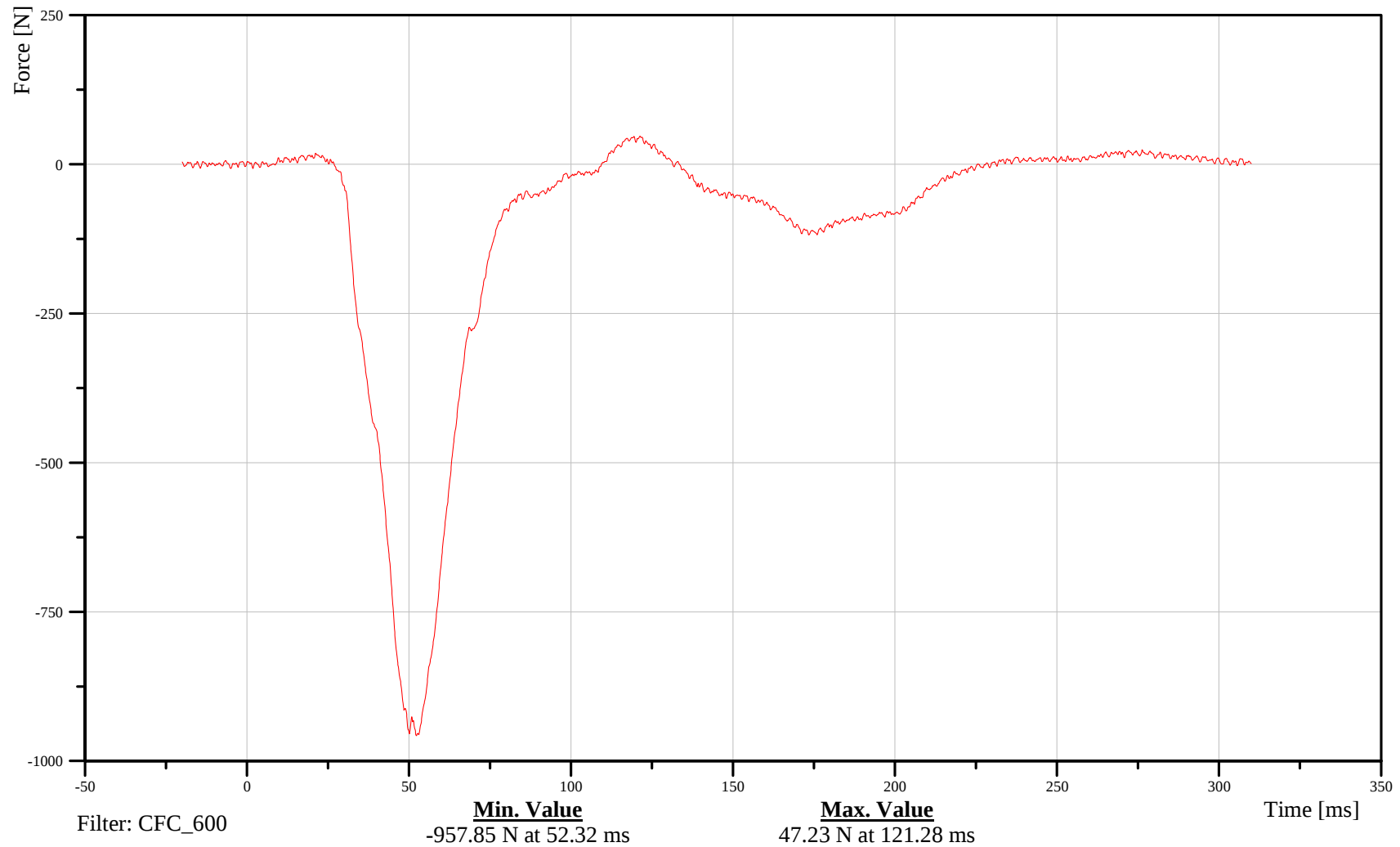
Left Mid Femur Y-Axis Force

Customer: VRTC

11FEMRLEMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-94

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

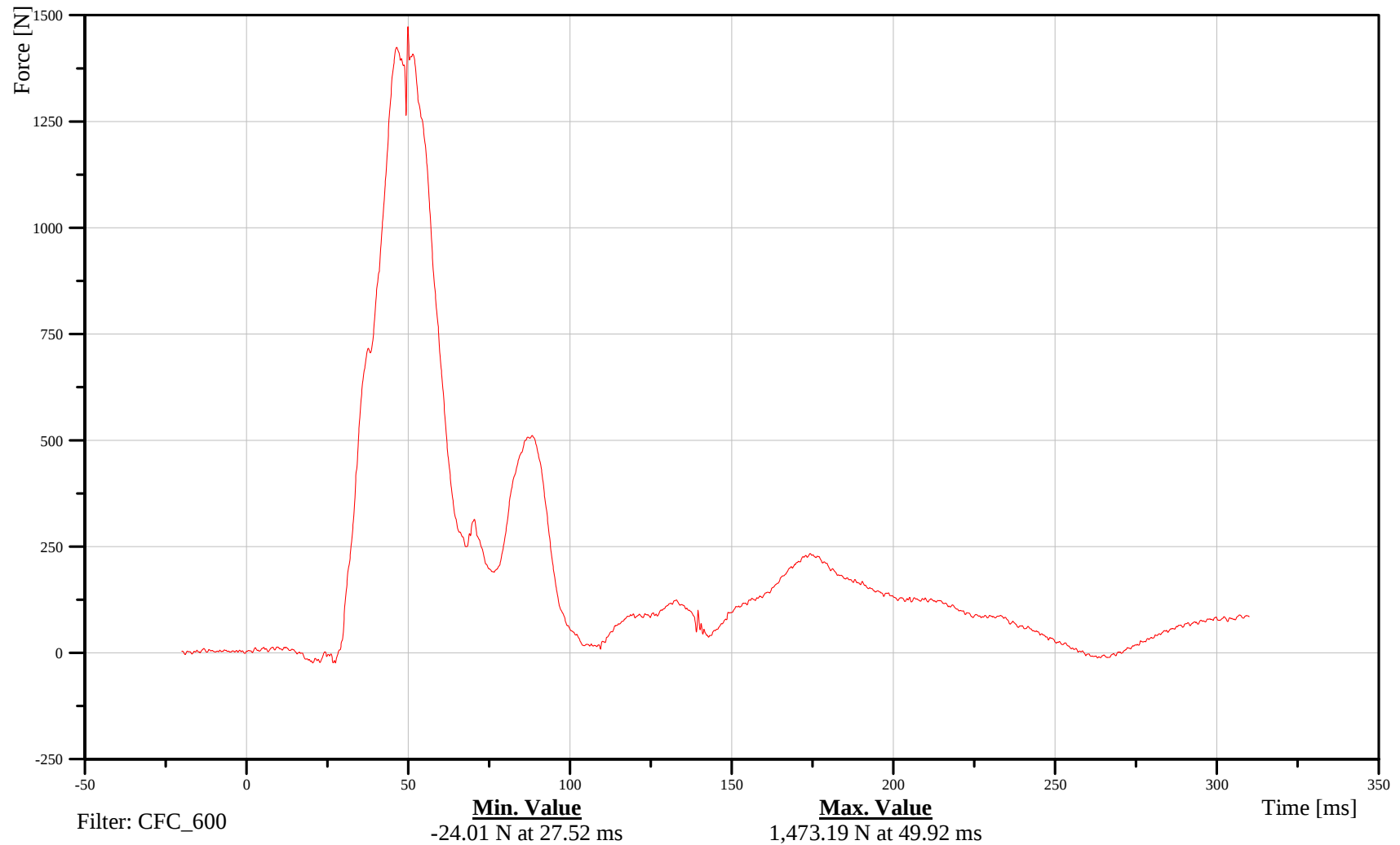
Left Mid Femur Z-Axis Force

Customer: VRTC

11FEMRLEMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-95

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

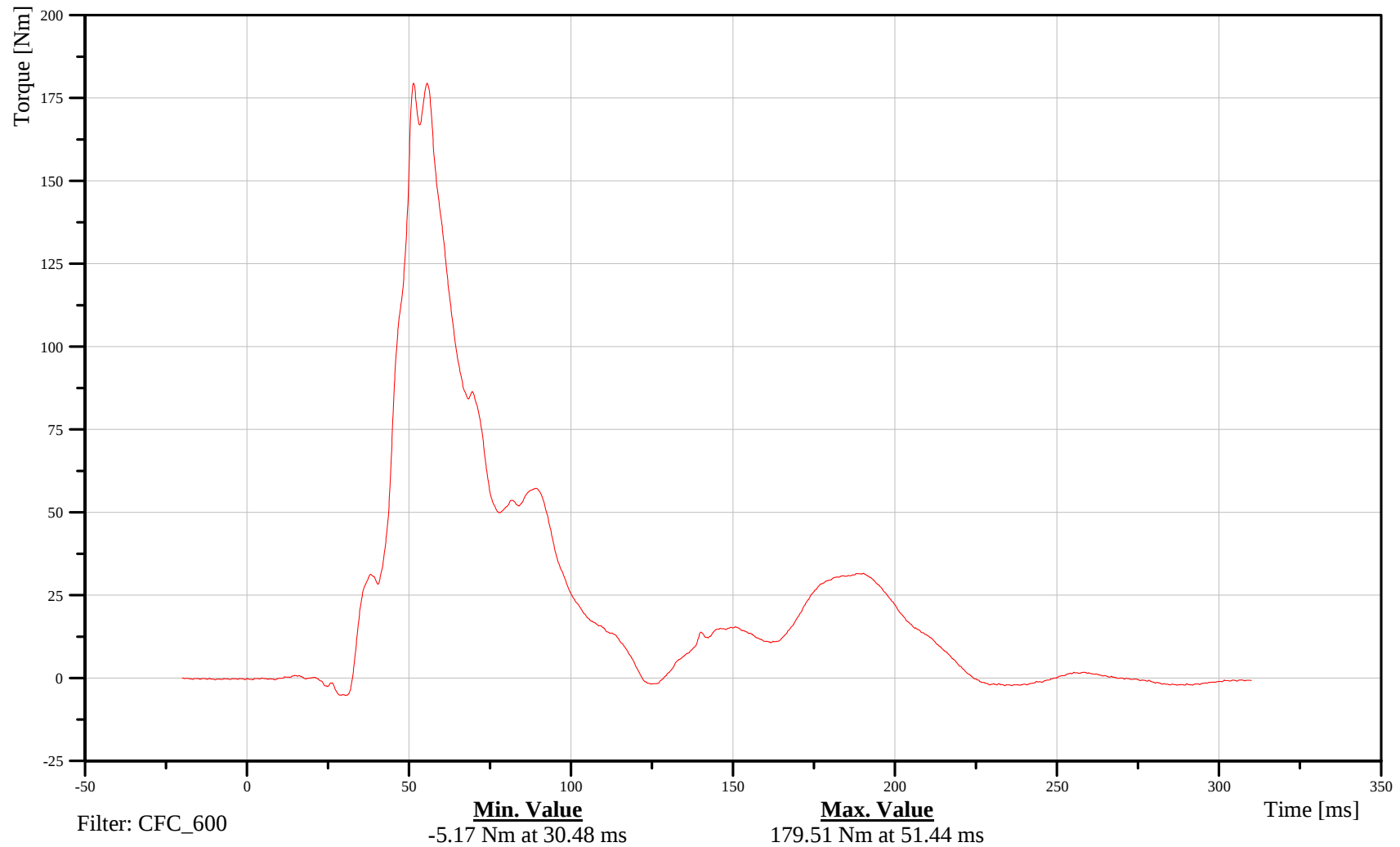
Left Mid Femur Moment About X Axis

Customer: VRTC

11FEMRLEMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-96

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

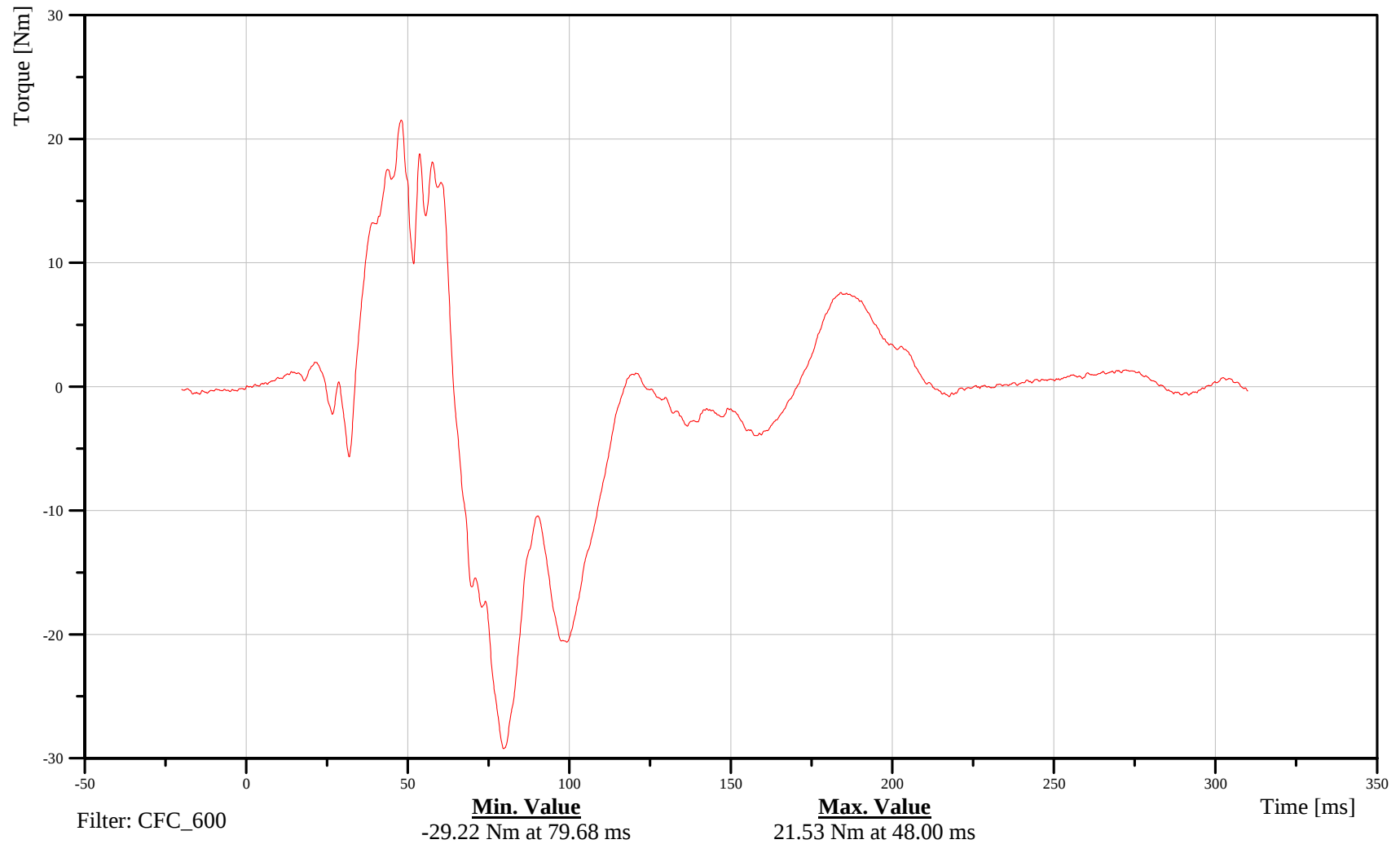
Left Mid Femur Moment About Y Axis

Customer: VRTC

11FEMRLEMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-97

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

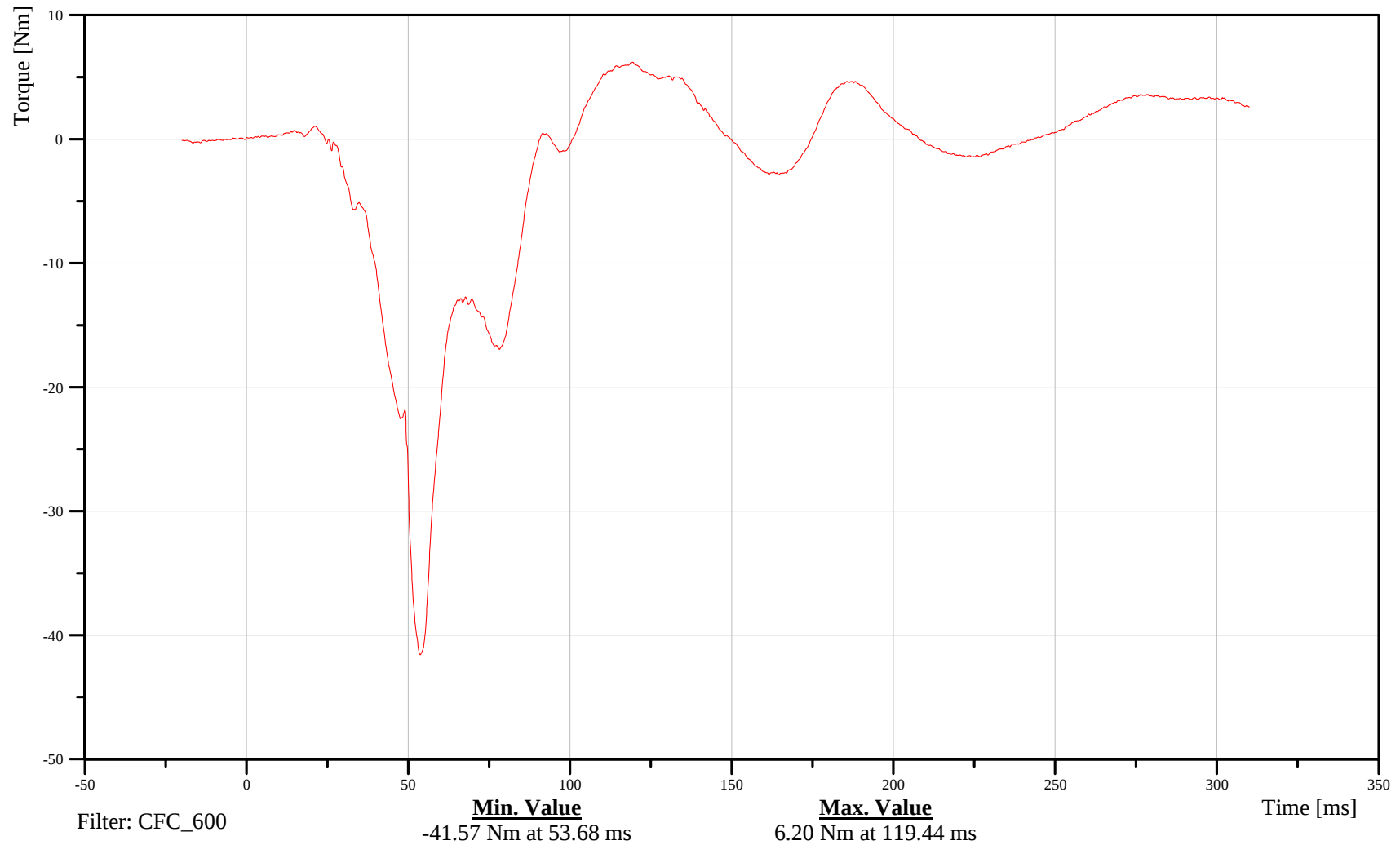
Left Mid Femur Moment About Z Axis

Customer: VRTC

11FEMRLEMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-98

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

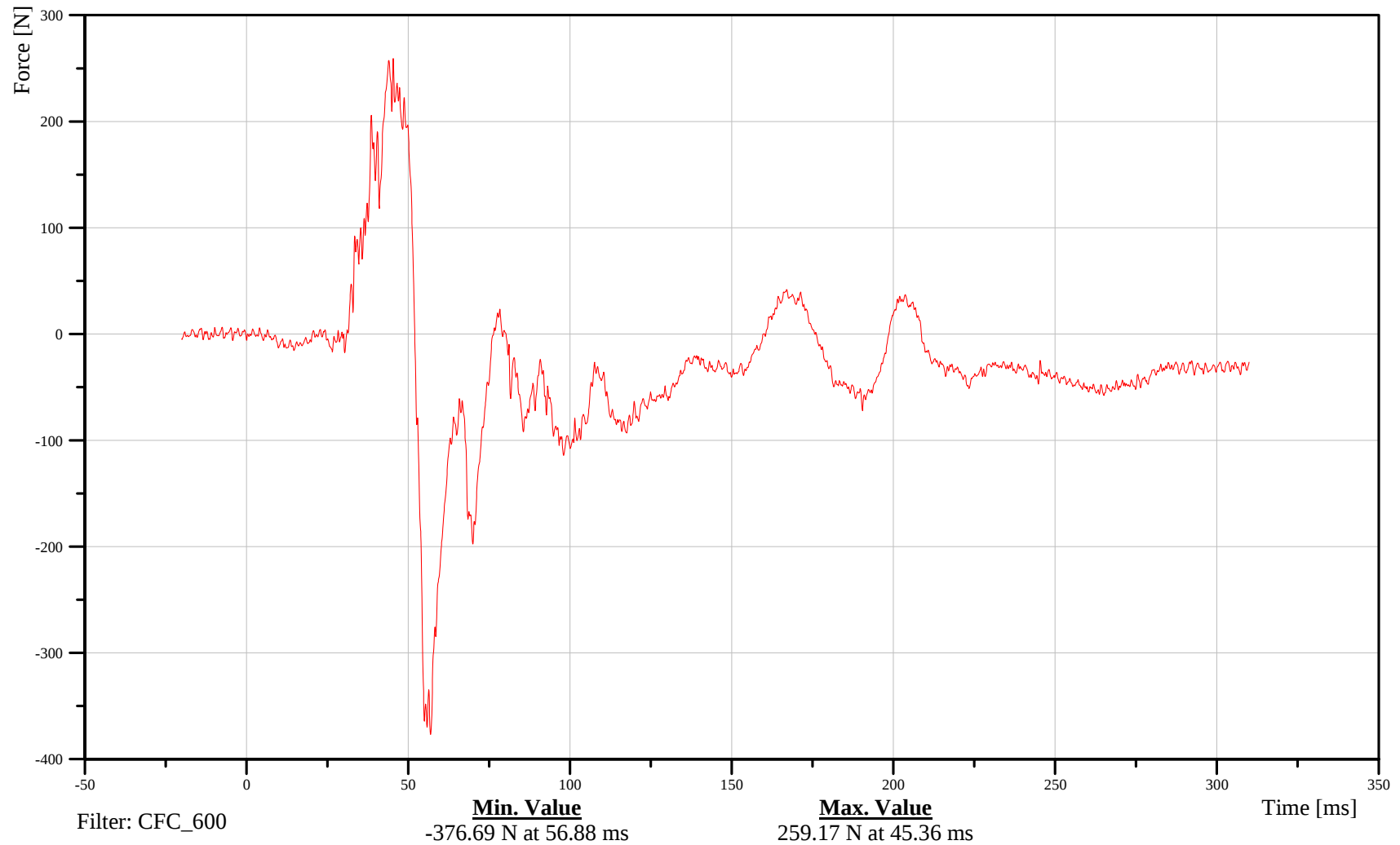
Left Knee Outboard Y-Axis Force

Customer: VRTC

11KNEEEOUWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-99

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Left Knee Inboard Y-Axis Force

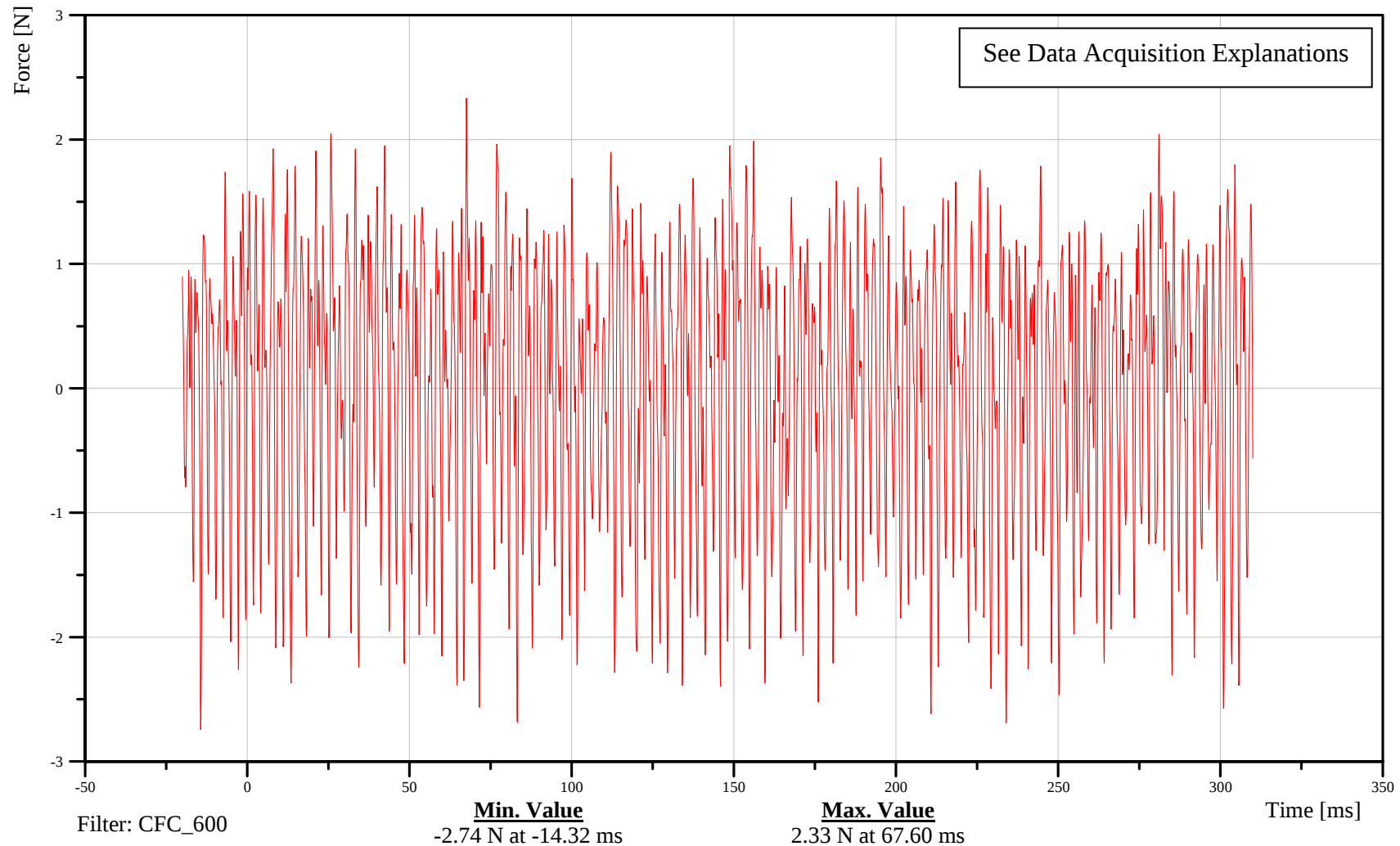
Date: 1/31/2008
Time: 15:15

Customer: VRTC

11KNEELEINWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-100

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

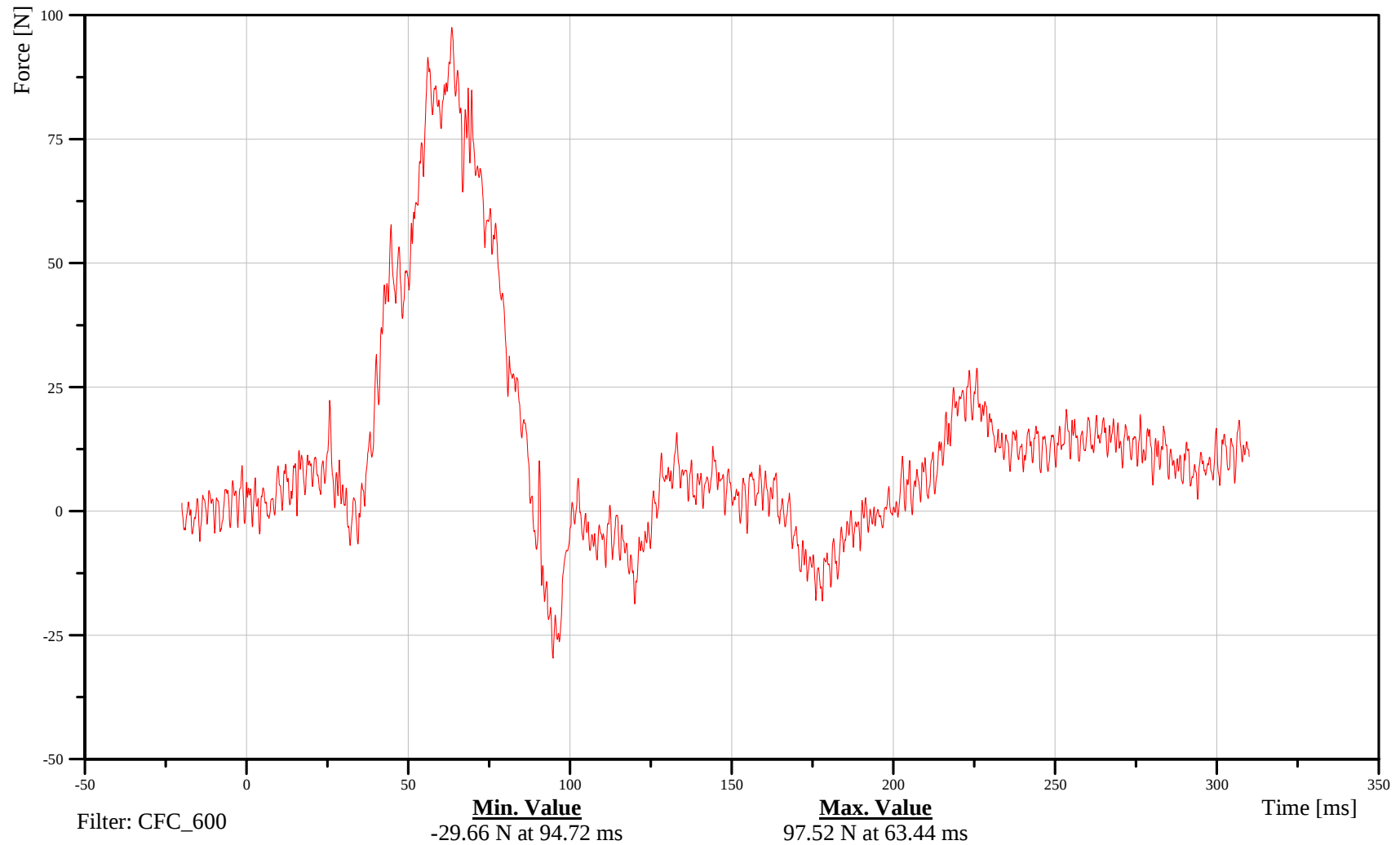
Right Mid Femur X-Axis Force

Customer: VRTC

11FEMRRIMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-101

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

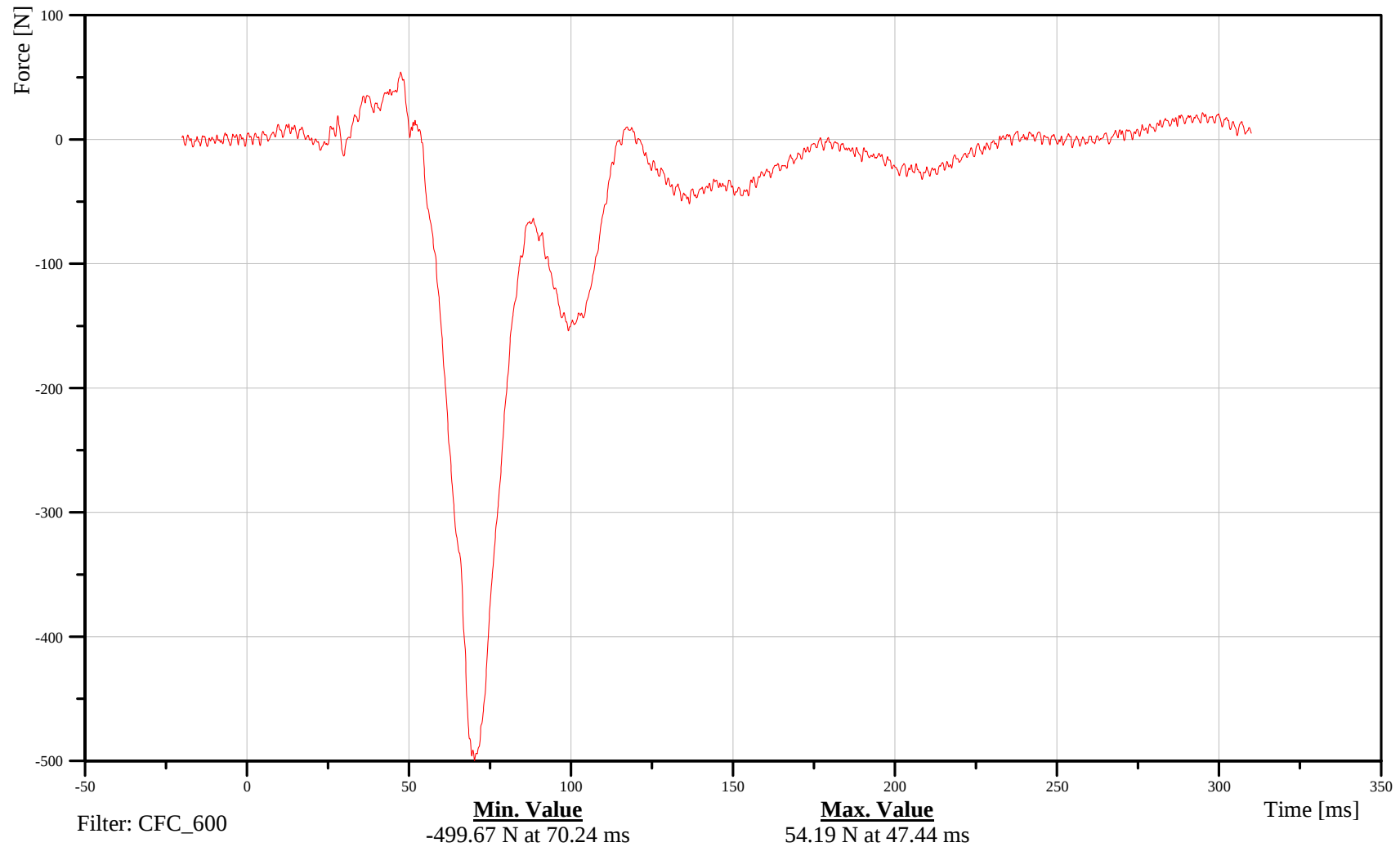
Right Mid Femur Y-Axis Force

Customer: VRTC

11FEMRRIMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-102

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

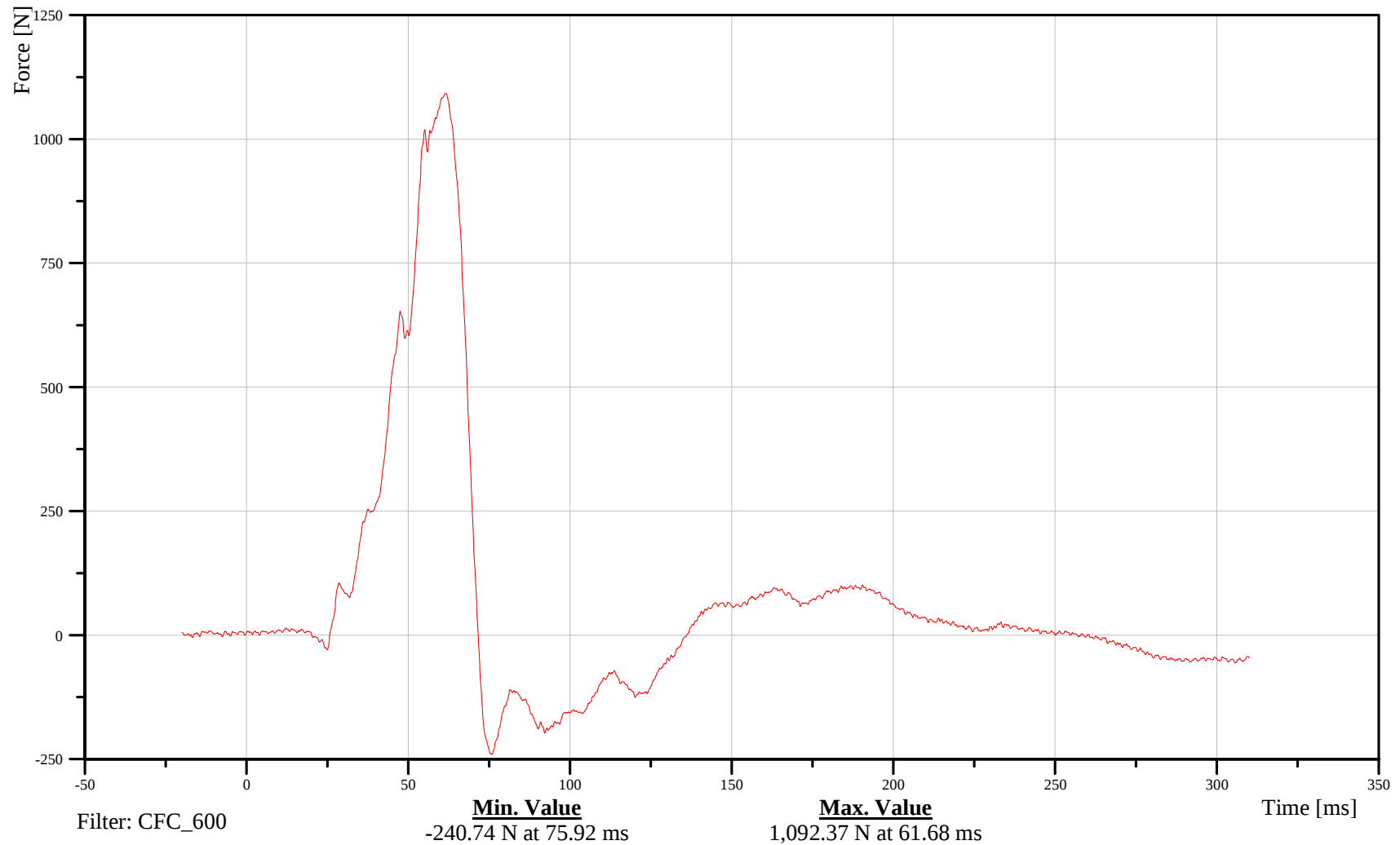
Right Mid Femur Z-Axis Force

Customer: VRTC

11FEMRRIMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-103

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

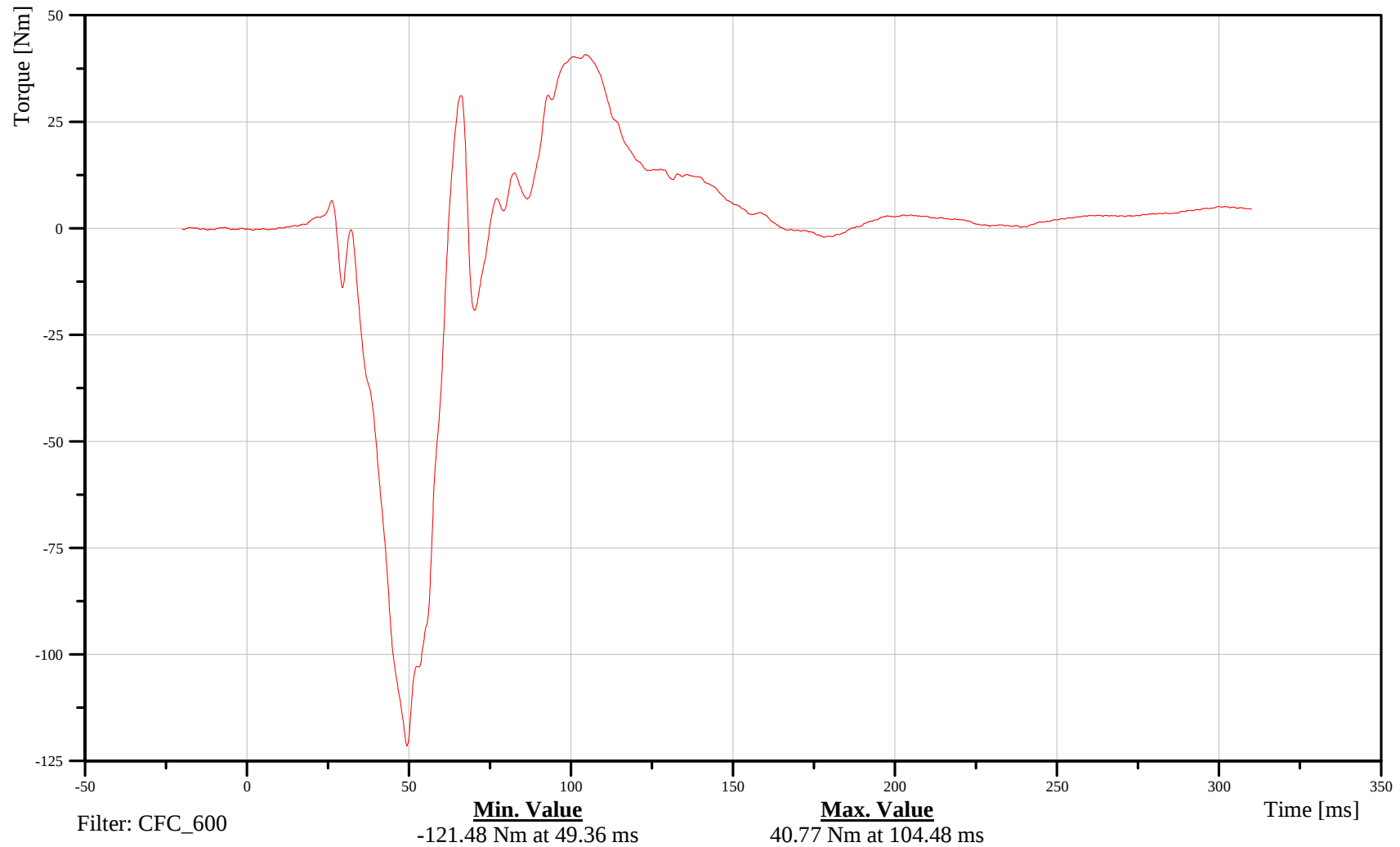
Right Mid Femur Moment About X Axis

Customer: VRTC

11FEMRRIMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-104

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

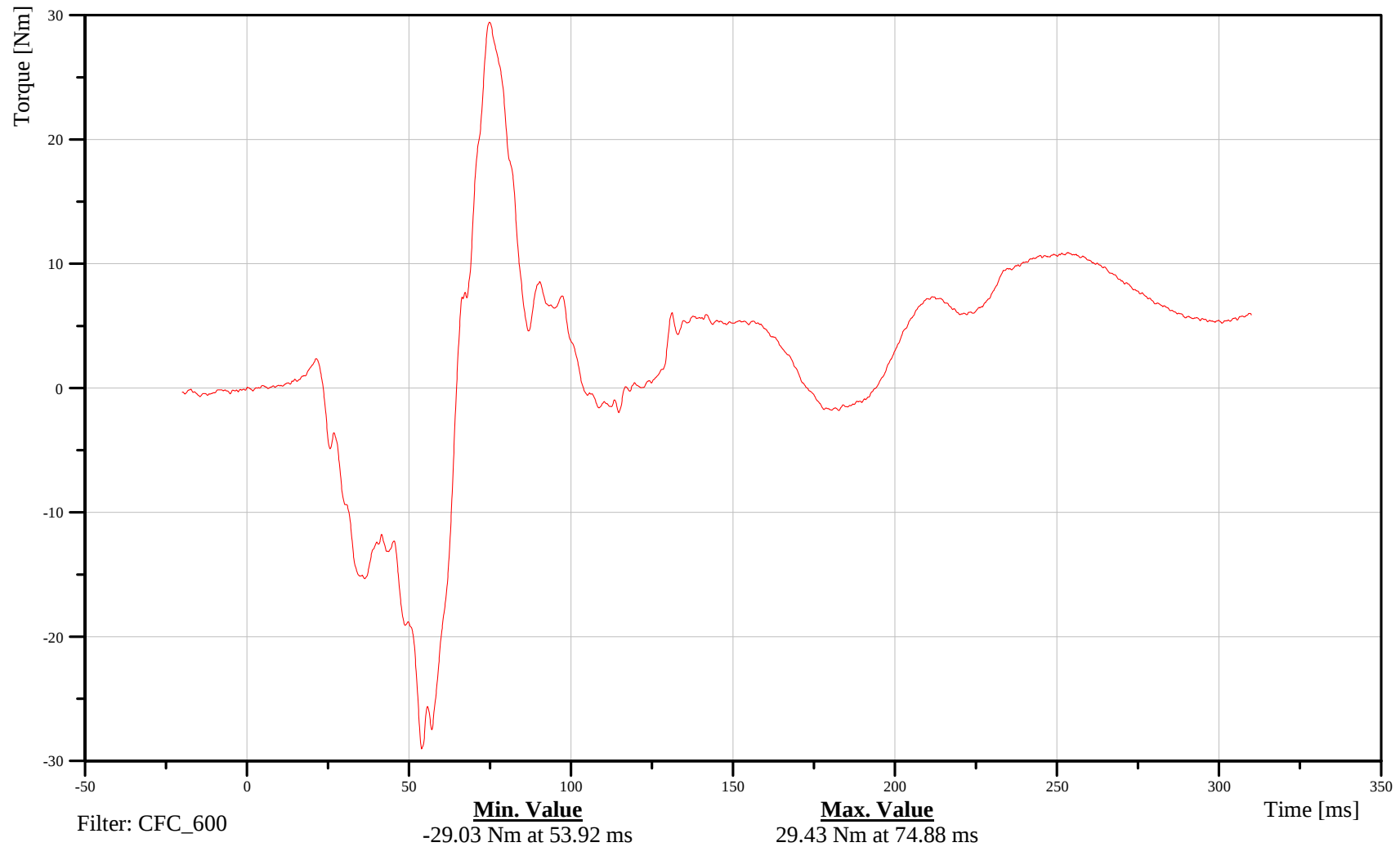
Right Mid Femur Moment About Y Axis

Customer: VRTC

11FEMRRIMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-105

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

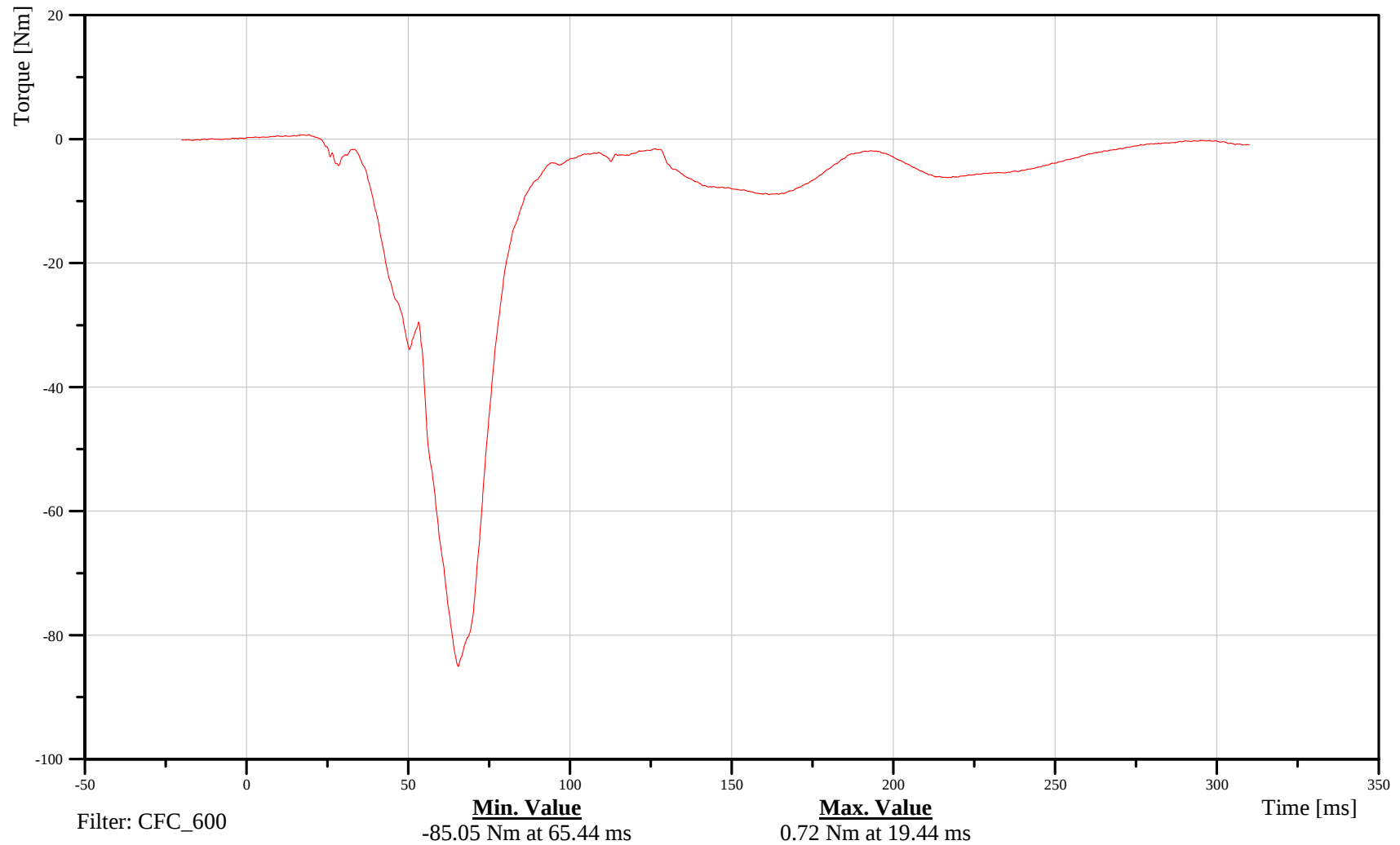
Right Mid Femur Moment About Z Axis

Customer: VRTC

11FEMRRIMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 080131



B-106

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

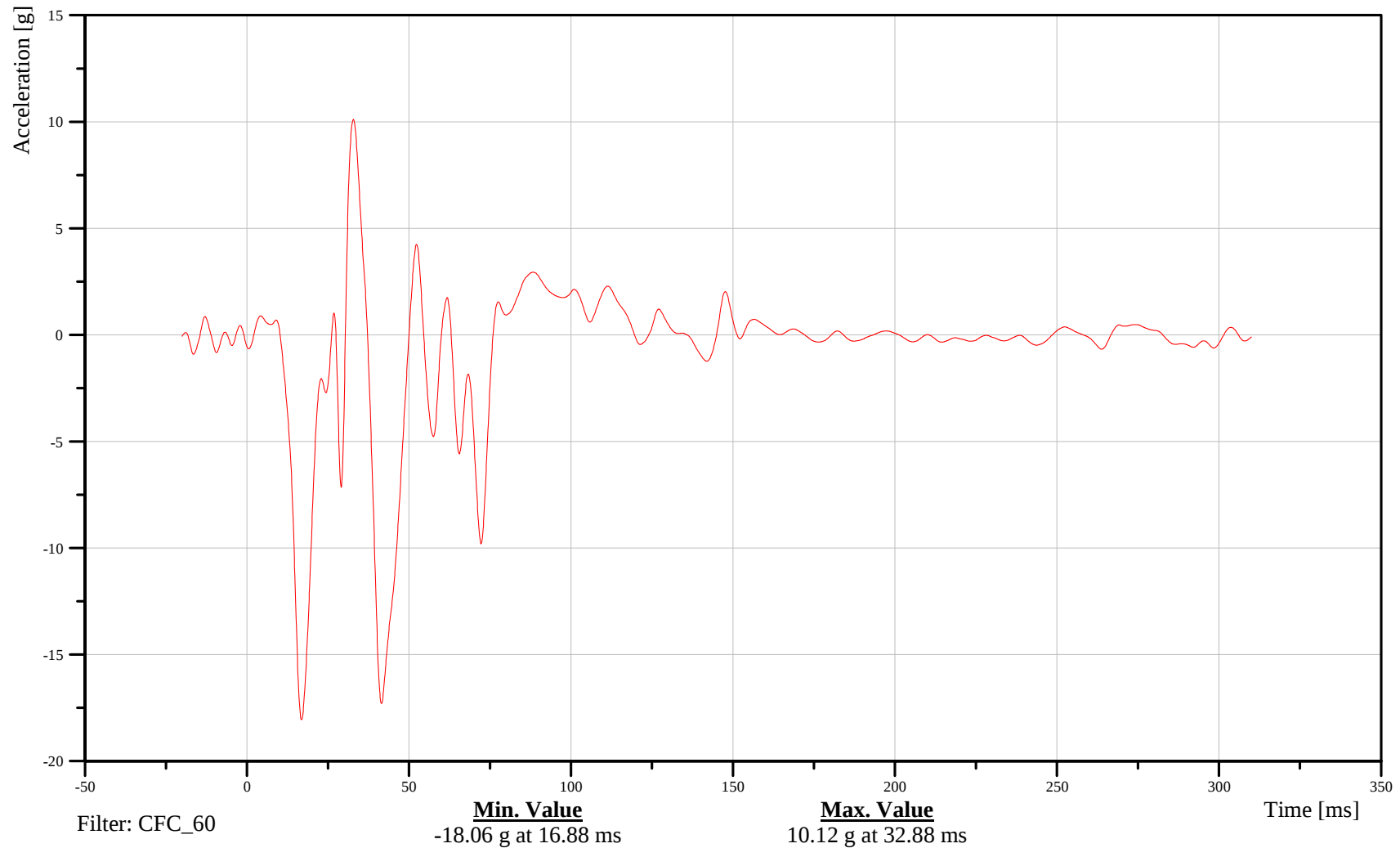
Vehicle Center of Gravity X-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-107

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

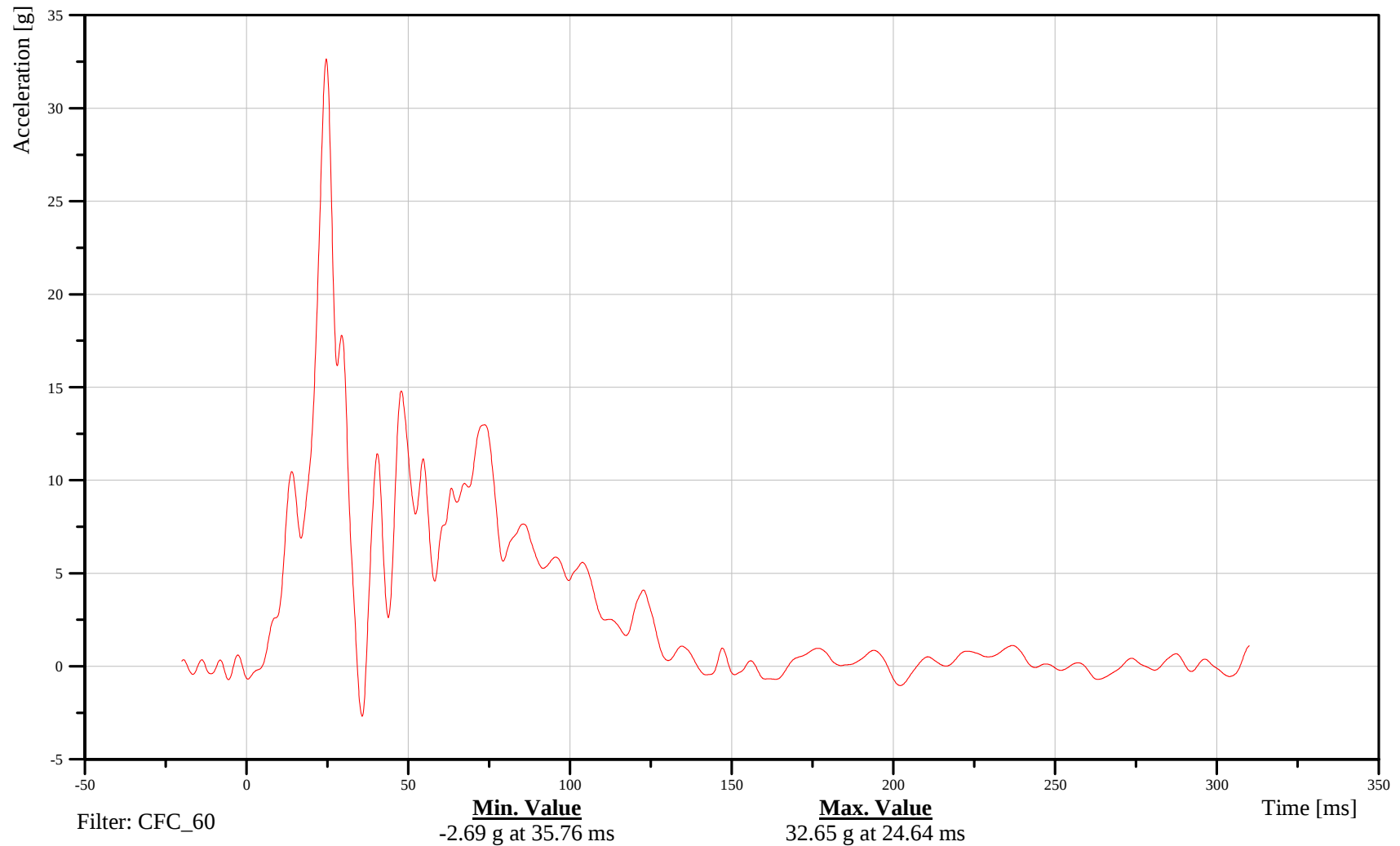
Vehicle Center of Gravity Y-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-108

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

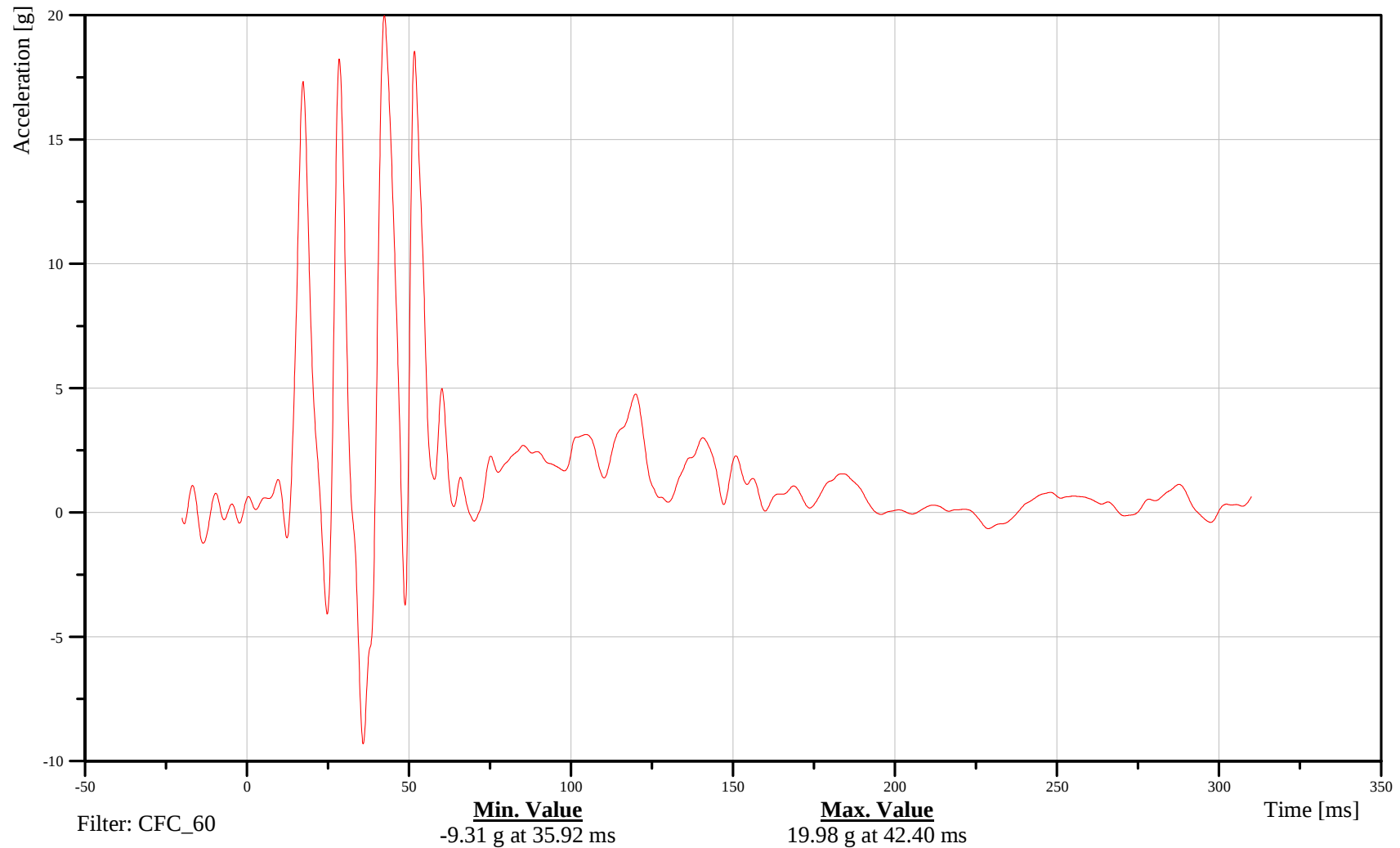
Vehicle Center of Gravity Z-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-109

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

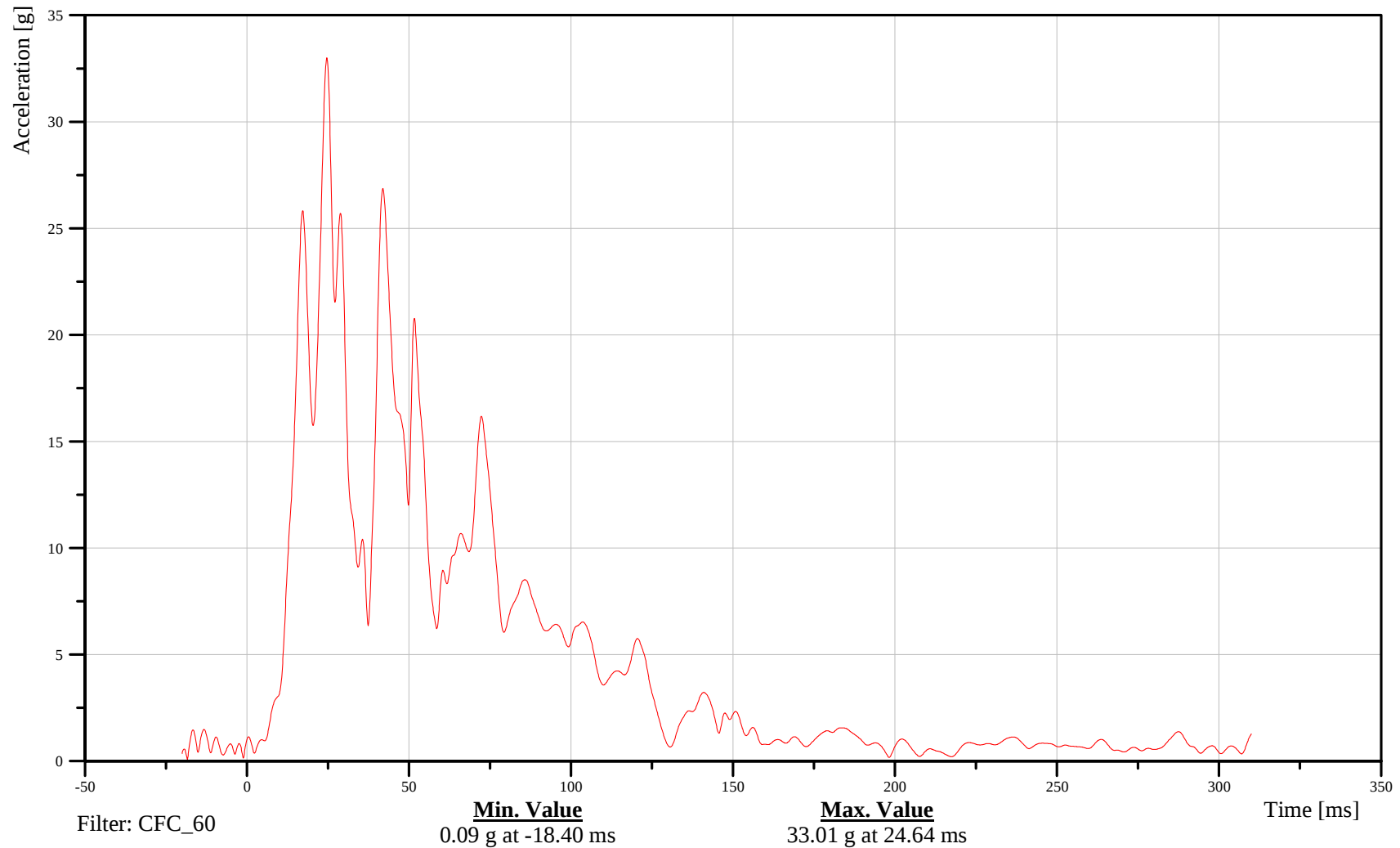
Vehicle Center of Gravity Resultant Acceleration

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-110

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

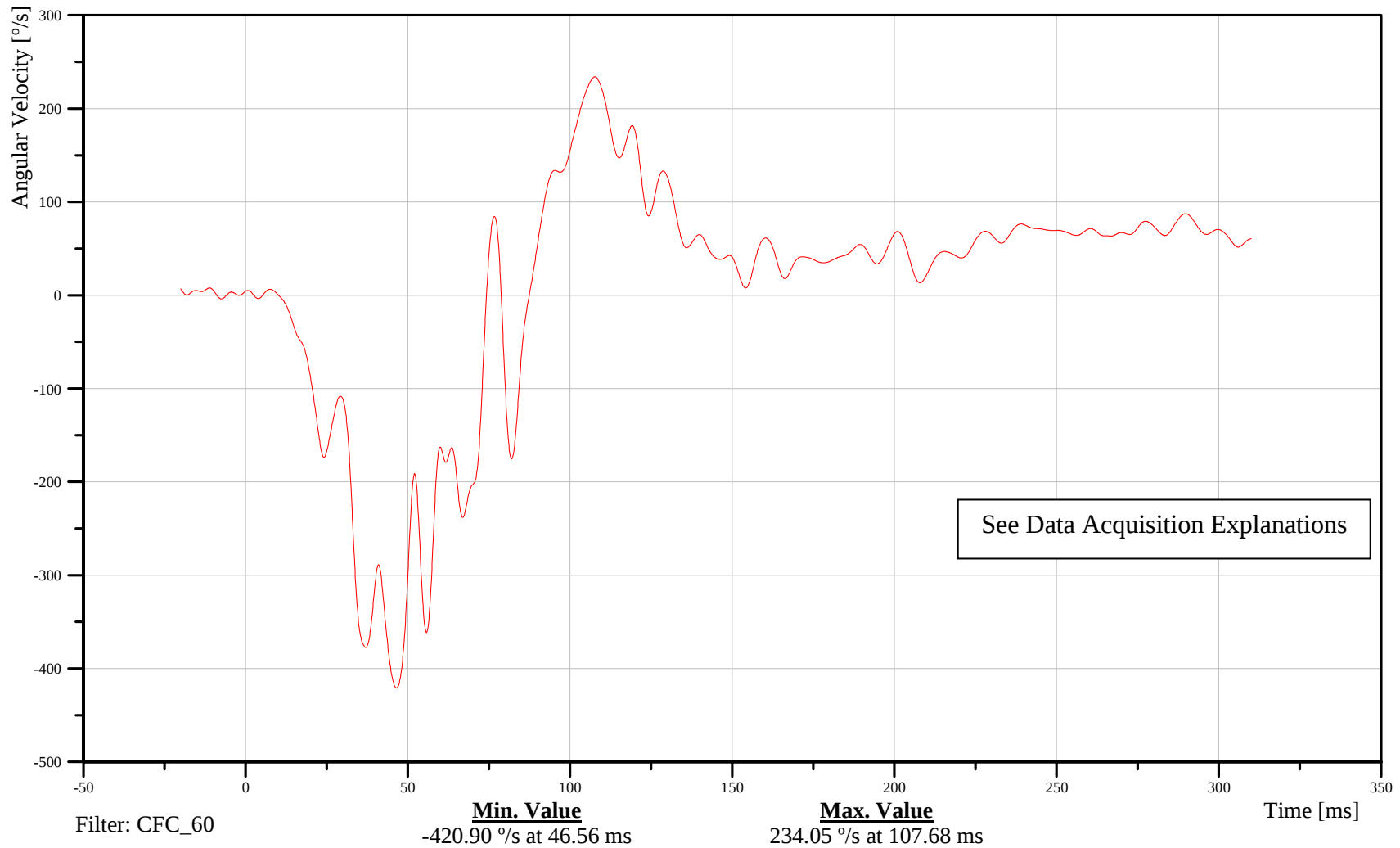
Vehicle Center of Gravity X-Axis Angular Velocity

Customer: VRTC

10VEHCCG0000AVXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-111

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

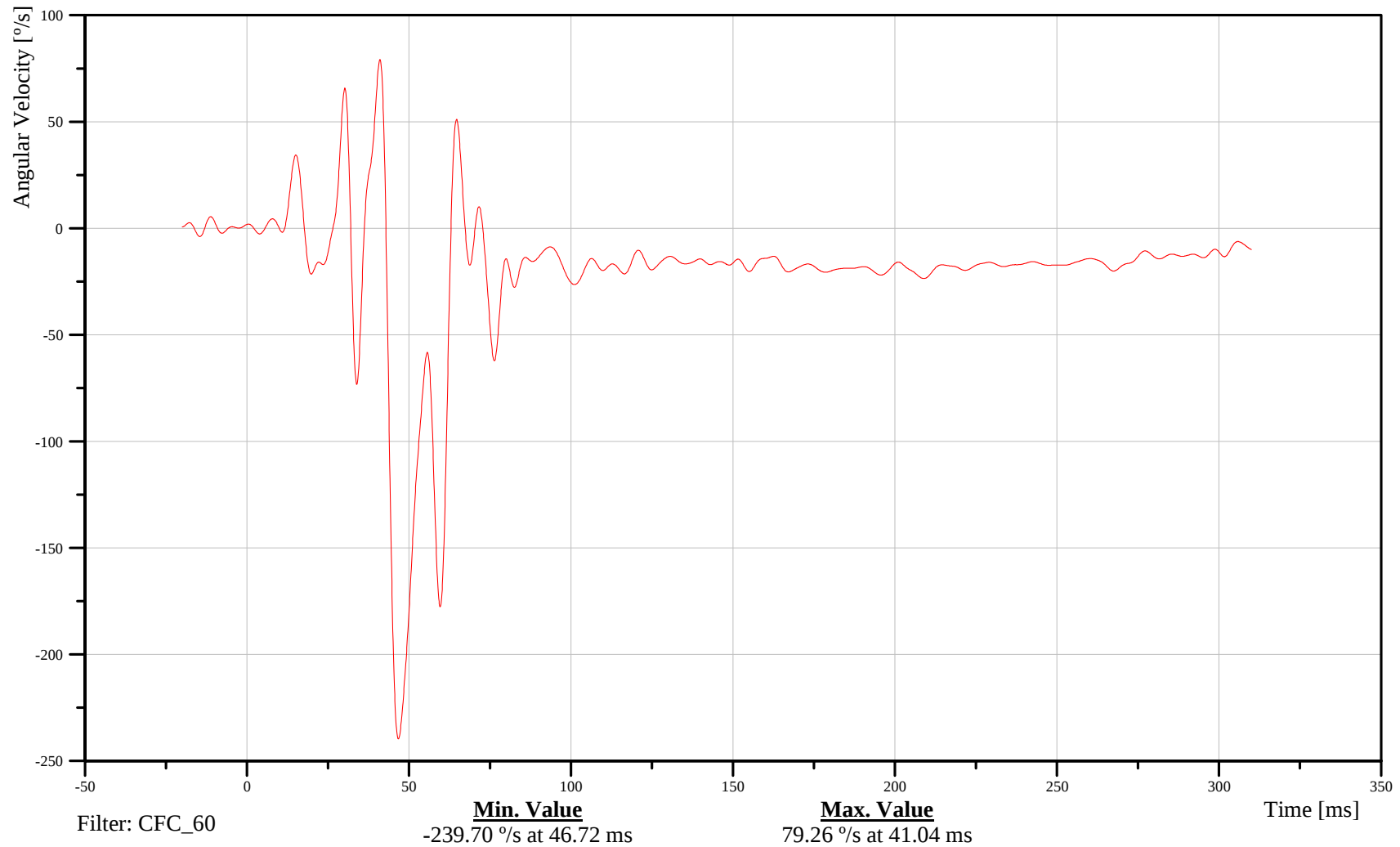
Vehicle Center of Gravity Y-Axis Angular Velocity

Customer: VRTC

10VEHCCG0000AVYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-112

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

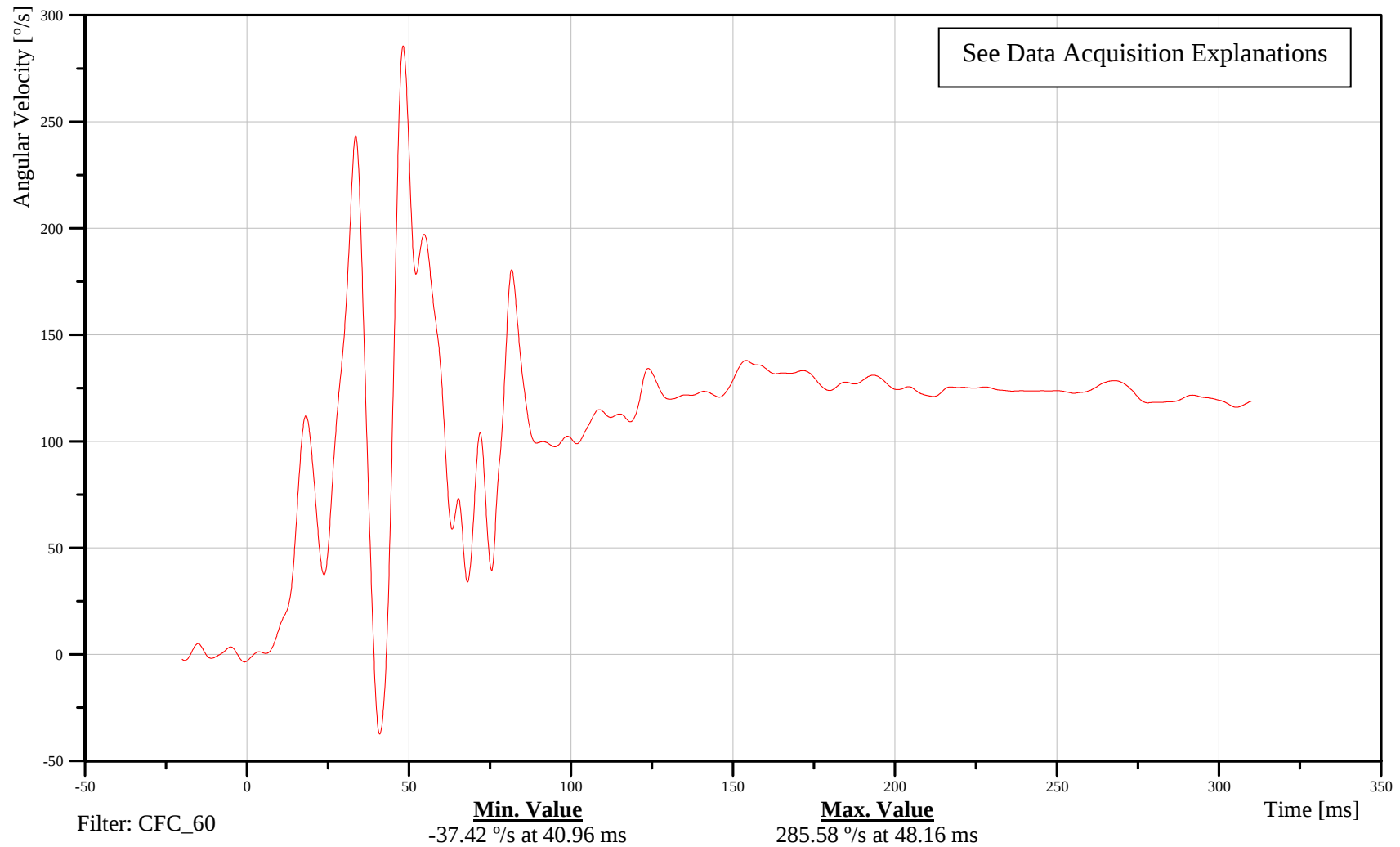
Vehicle Center of Gravity Z-Axis Angular Velocity

Customer: VRTC

10VEHCCG0000AVZD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-113

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

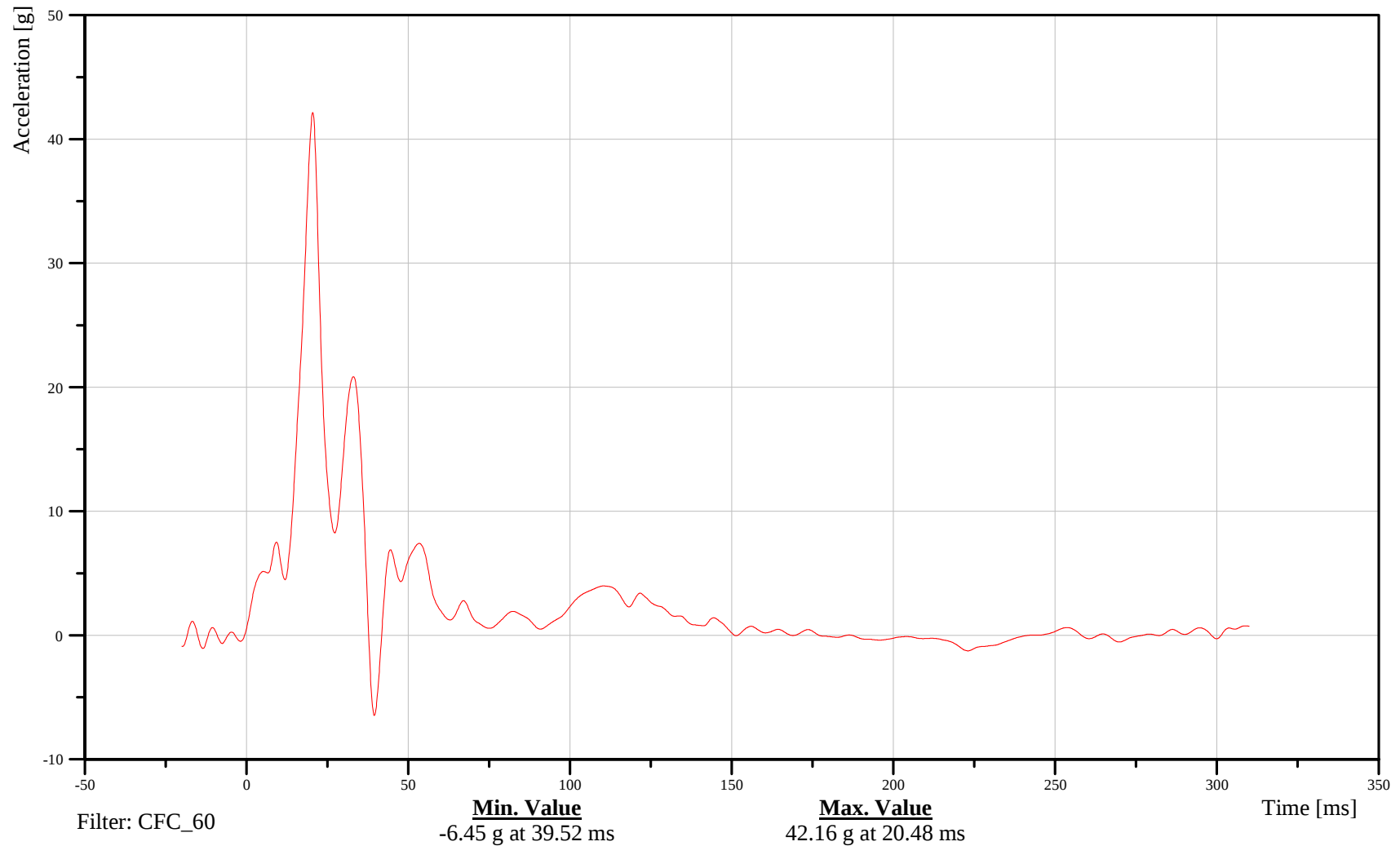
Left Floor Sill Between A-Pillar and Impact Line Y-Axis Acceleration

Customer: VRTC

11SILBMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-114

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

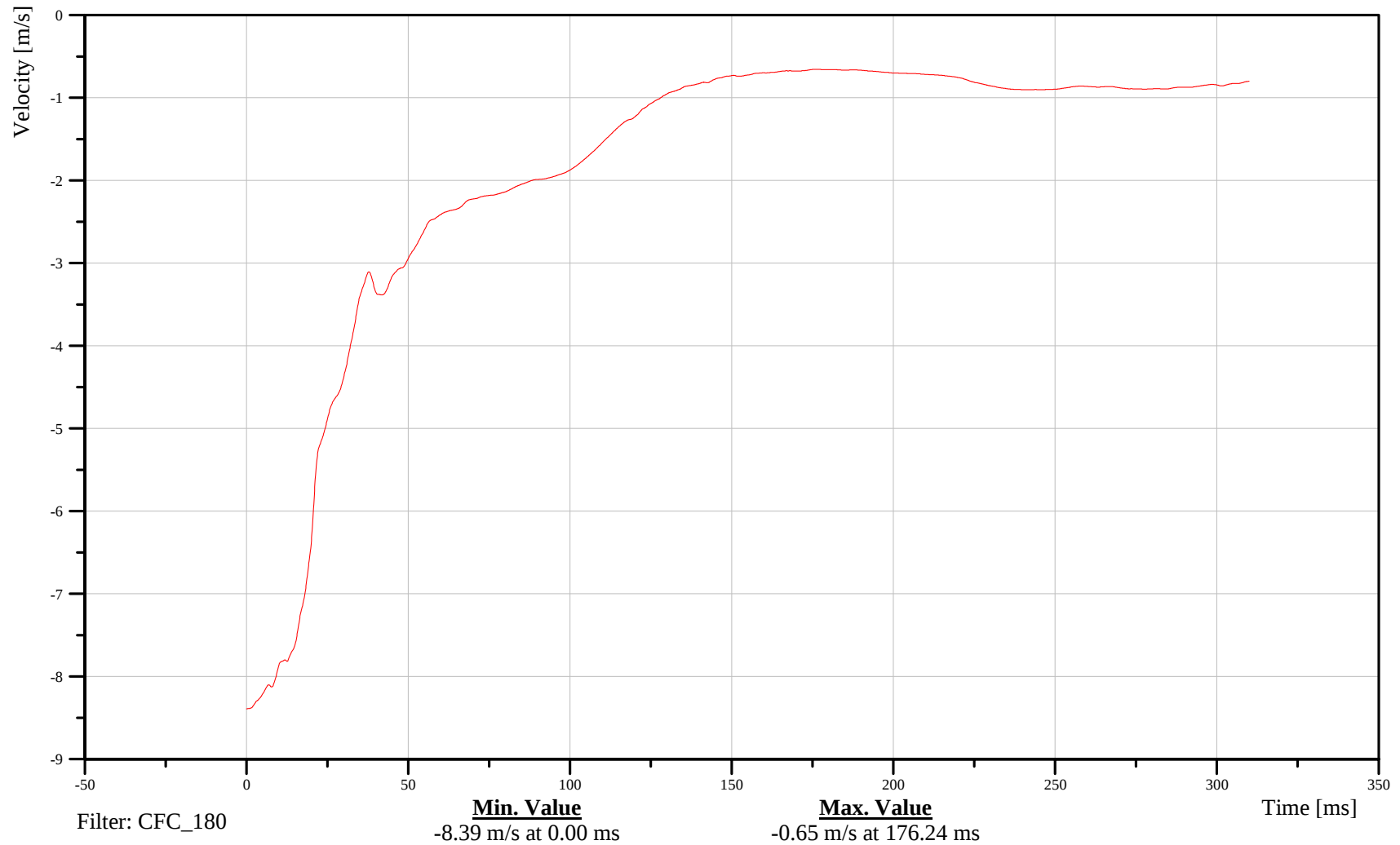
Left Floor Sill Between A-Pillar and Impact Line Y-Axis Velocity

Customer: VRTC

11SILBMI0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-115

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

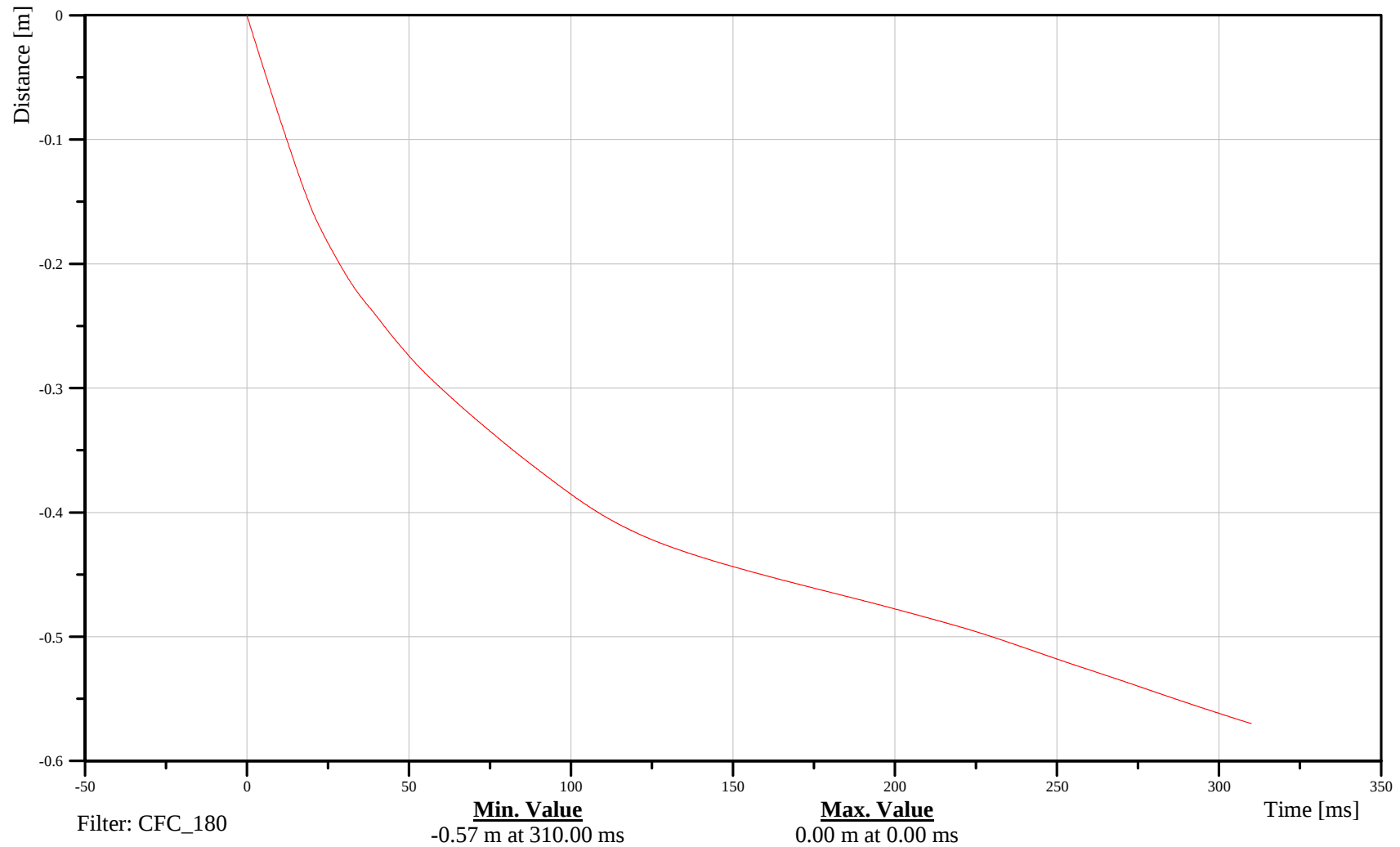
Left Floor Sill Between A-Pillar and Impact Line Y-Axis Displacement

Customer: VRTC

11SILBMI0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-116

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

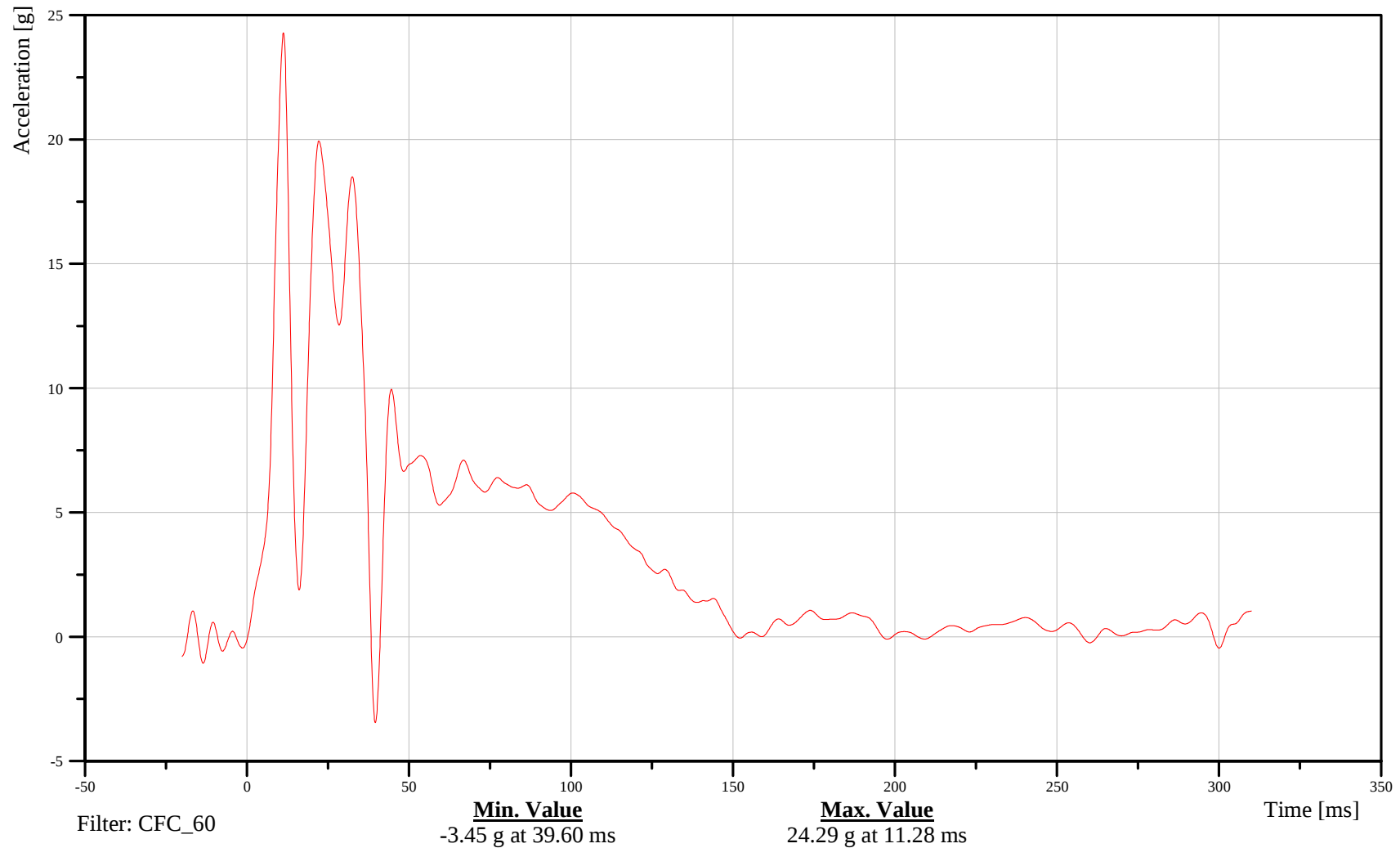
Left Side Sill at A-Pillar Y-Axis Acceleration

Customer: VRTC

11SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-117

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

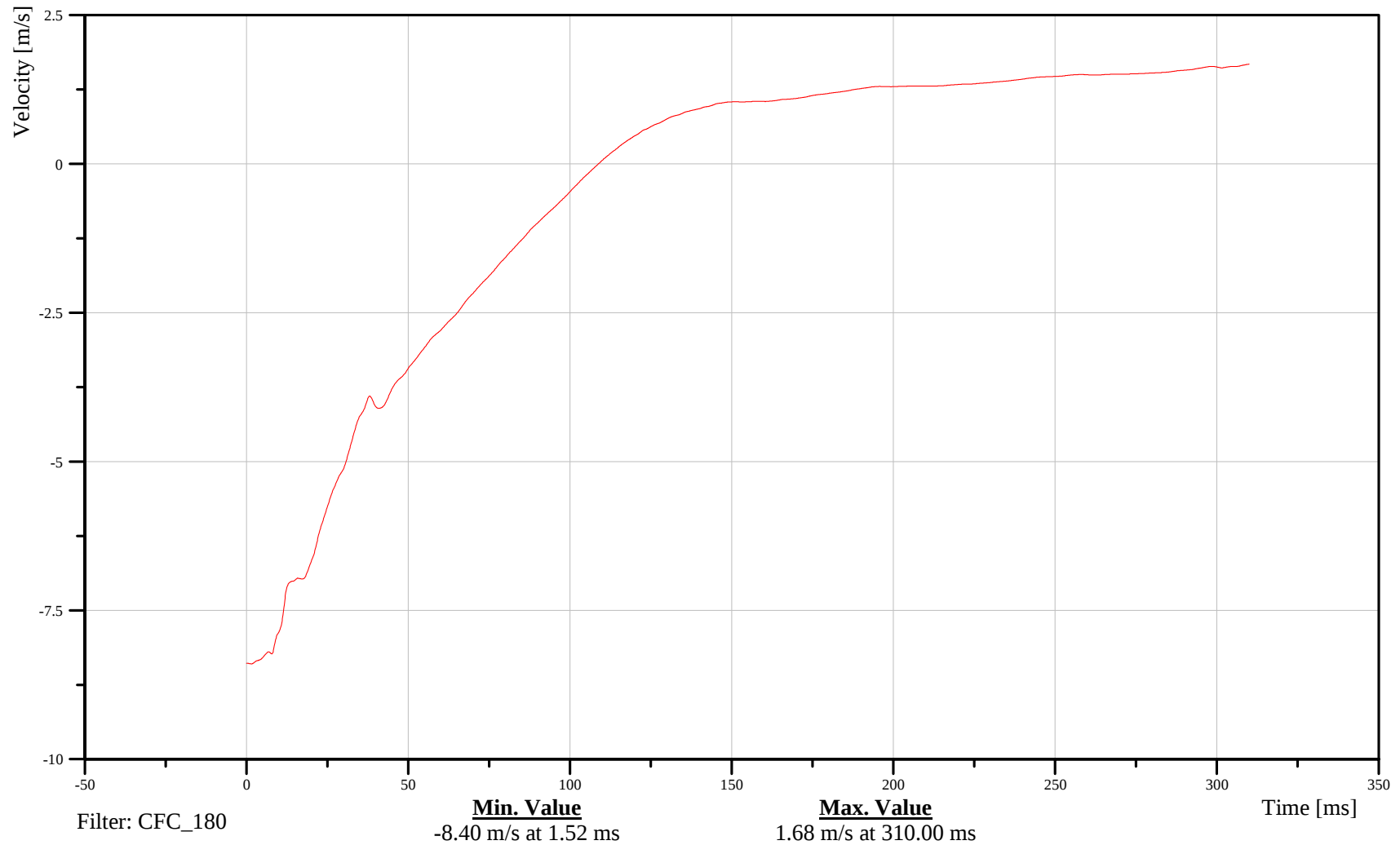
Left Side Sill at A-Pillar Y-Axis Velocity

Customer: VRTC

11SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-118

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

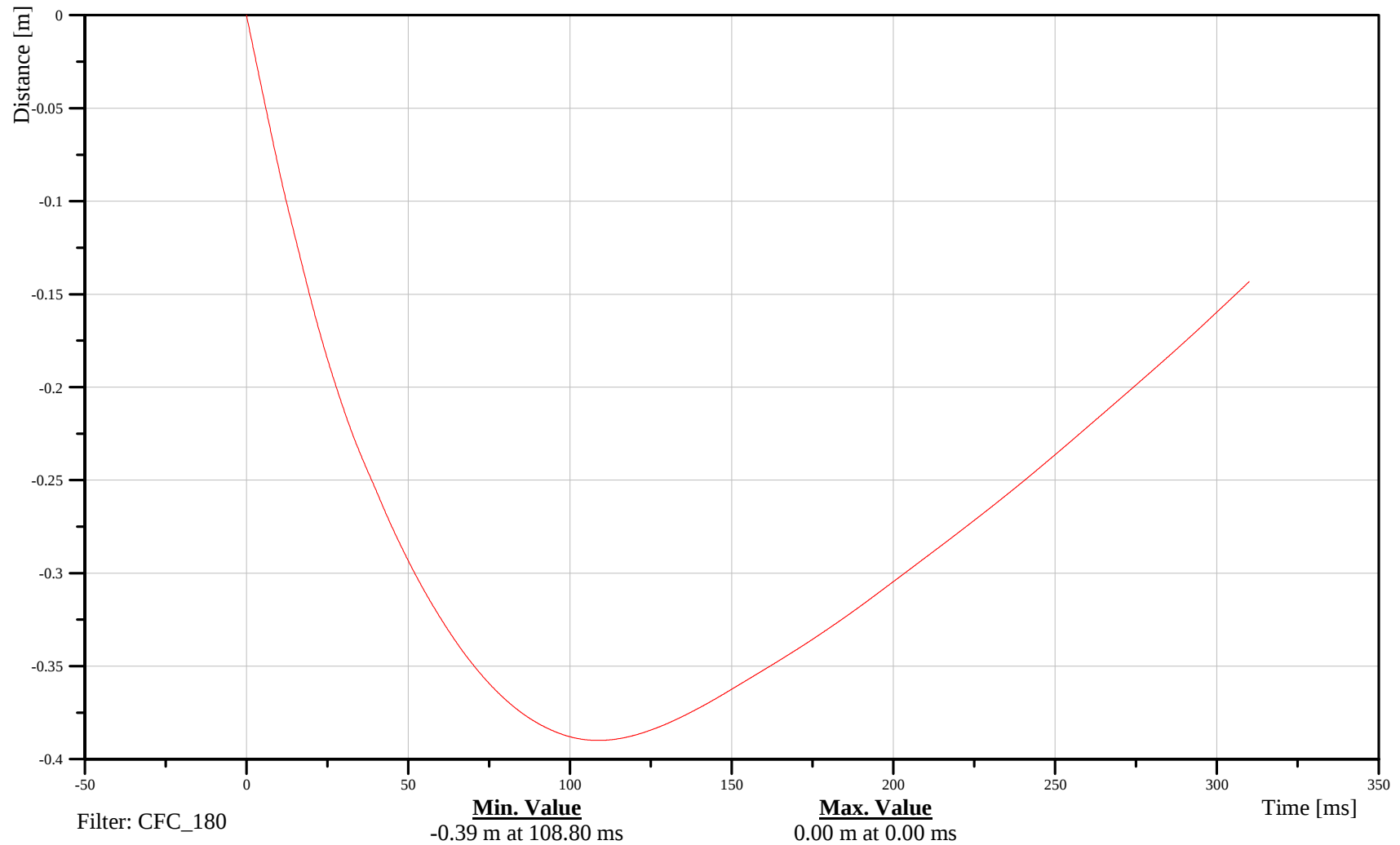
Left Side Sill at A-Pillar Y-Axis Displacement

Customer: VRTC

11SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-119

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

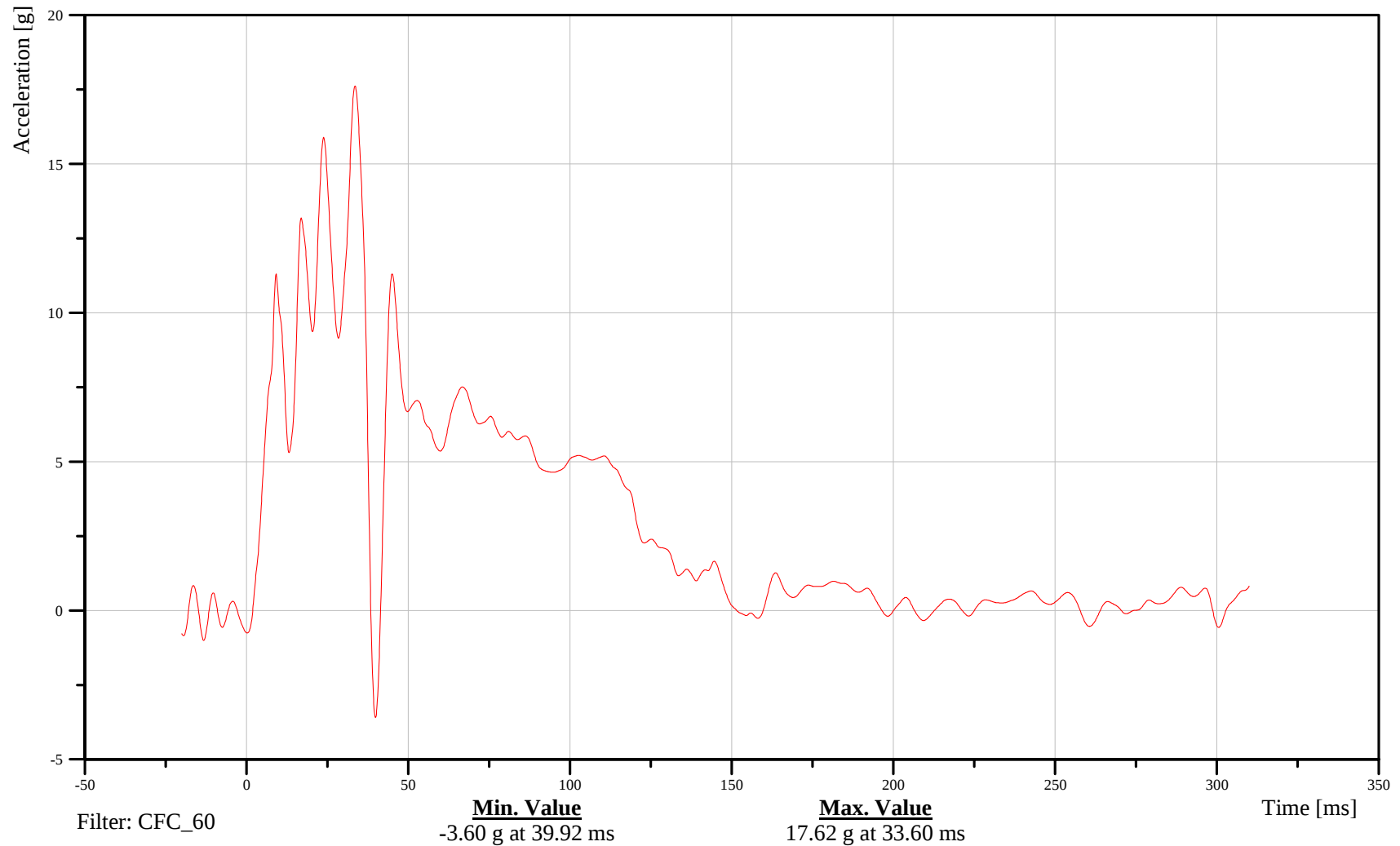
Left Lower A-Post Y-Axis Acceleration

Customer: VRTC

11APILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-120

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

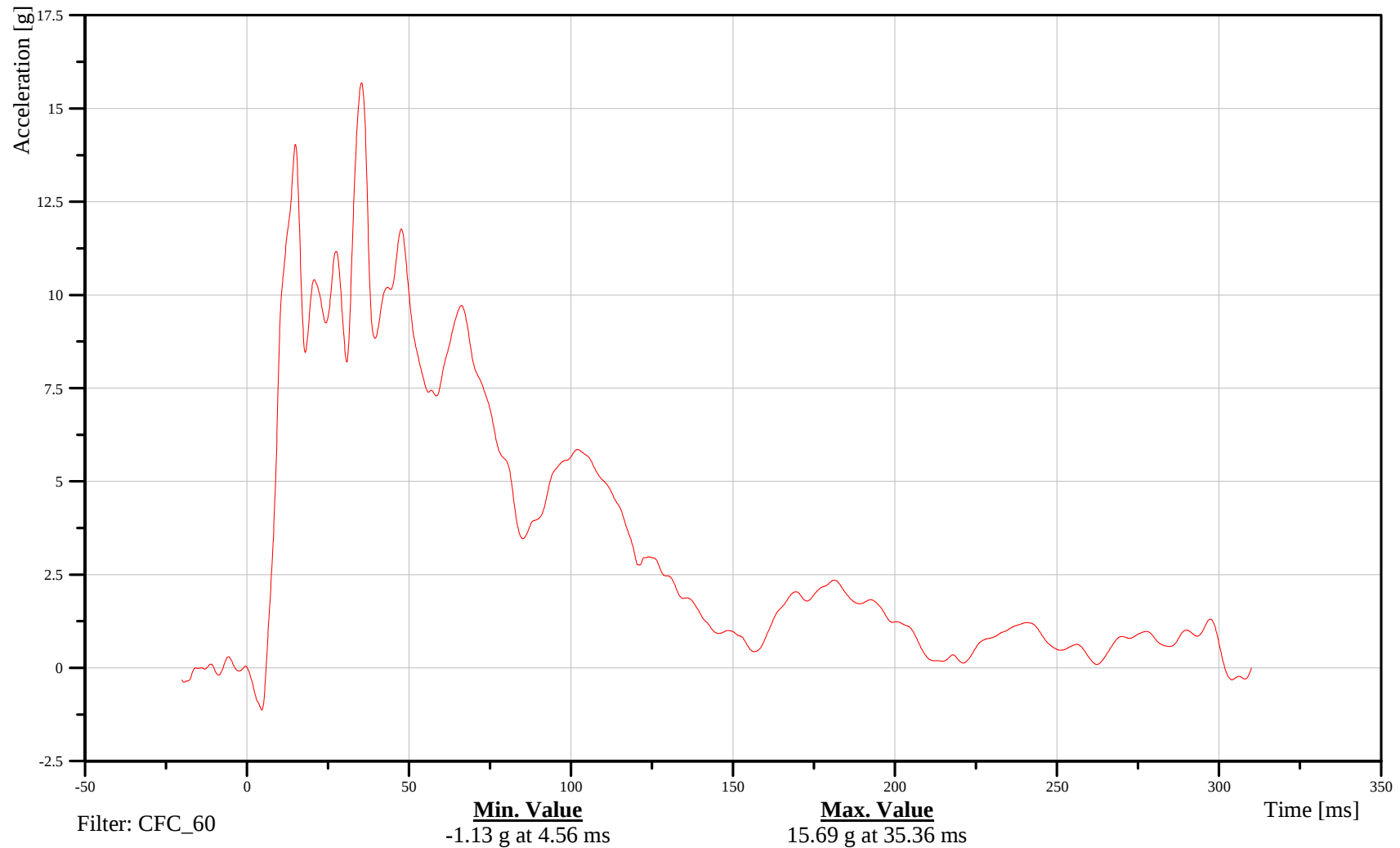
Left Mid A-Post Y-Axis Acceleration

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-121

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

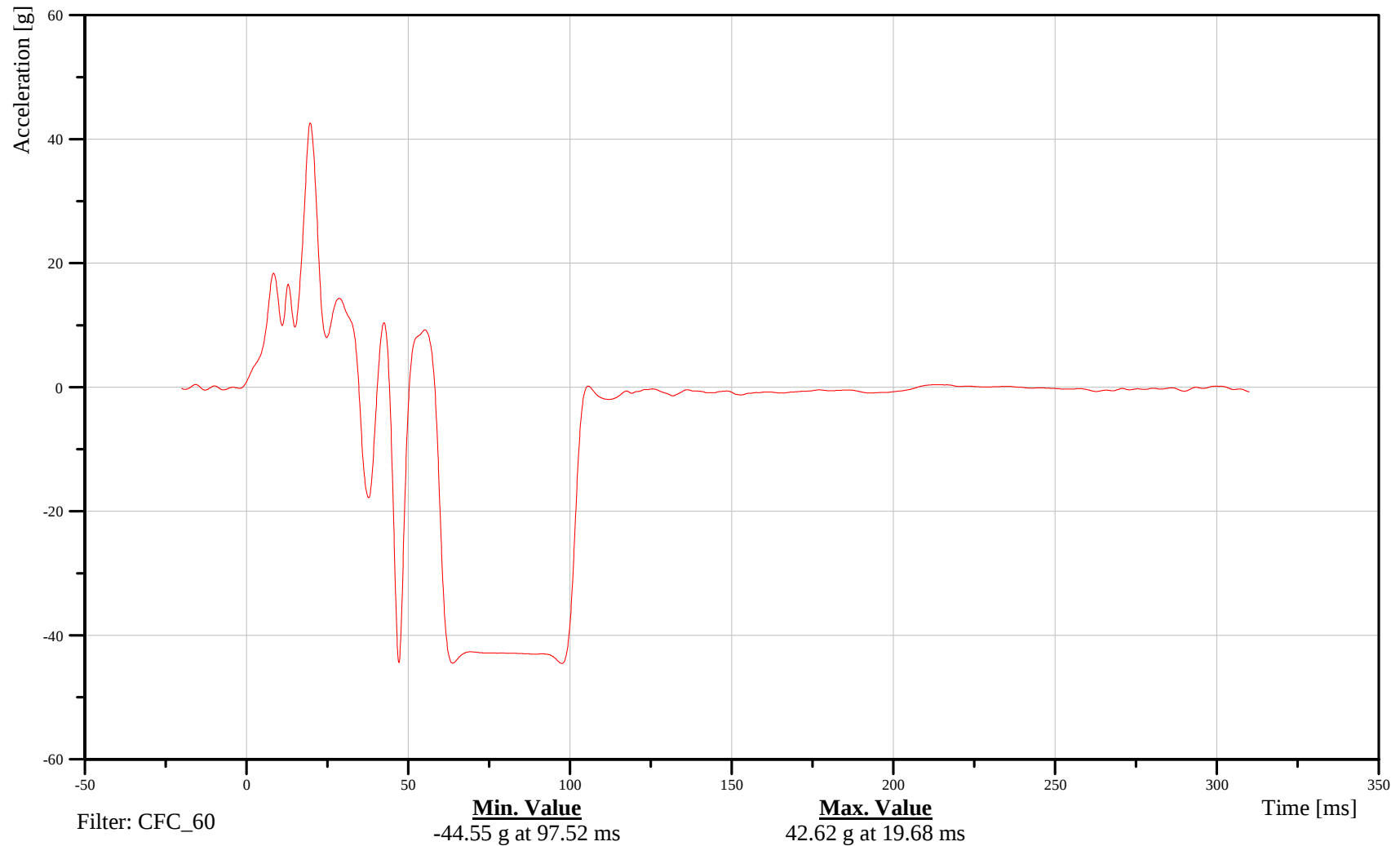
Left Side Sill at B-Pillar Y-Axis Acceleration

Customer: VRTC

14SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-122

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

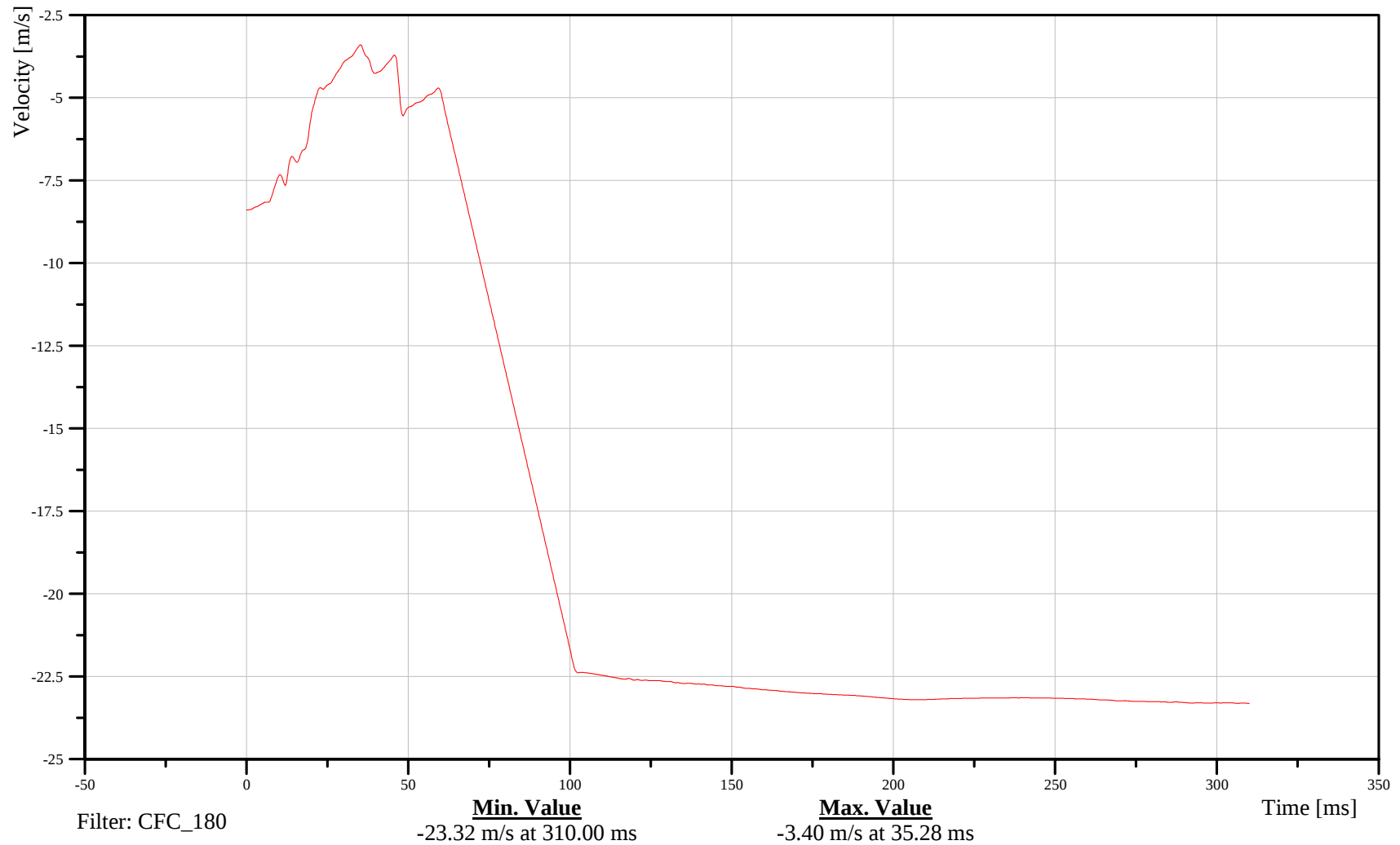
Left Side Sill at B-Pillar Y-Axis Velocity

Customer: VRTC

14SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-123

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

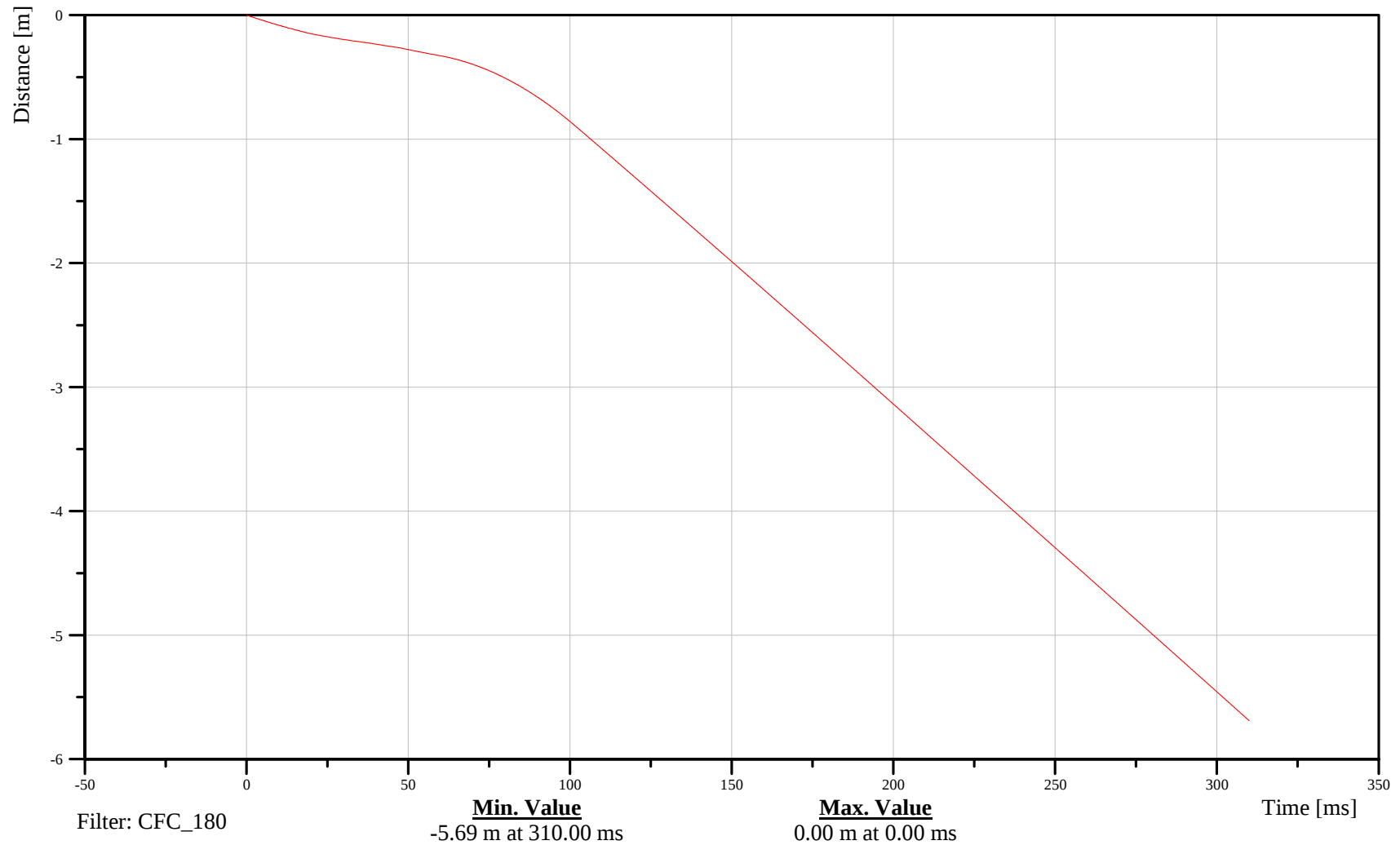
Left Side Sill at B-Pillar Y-Axis Displacement

Customer: VRTC

14SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-124

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

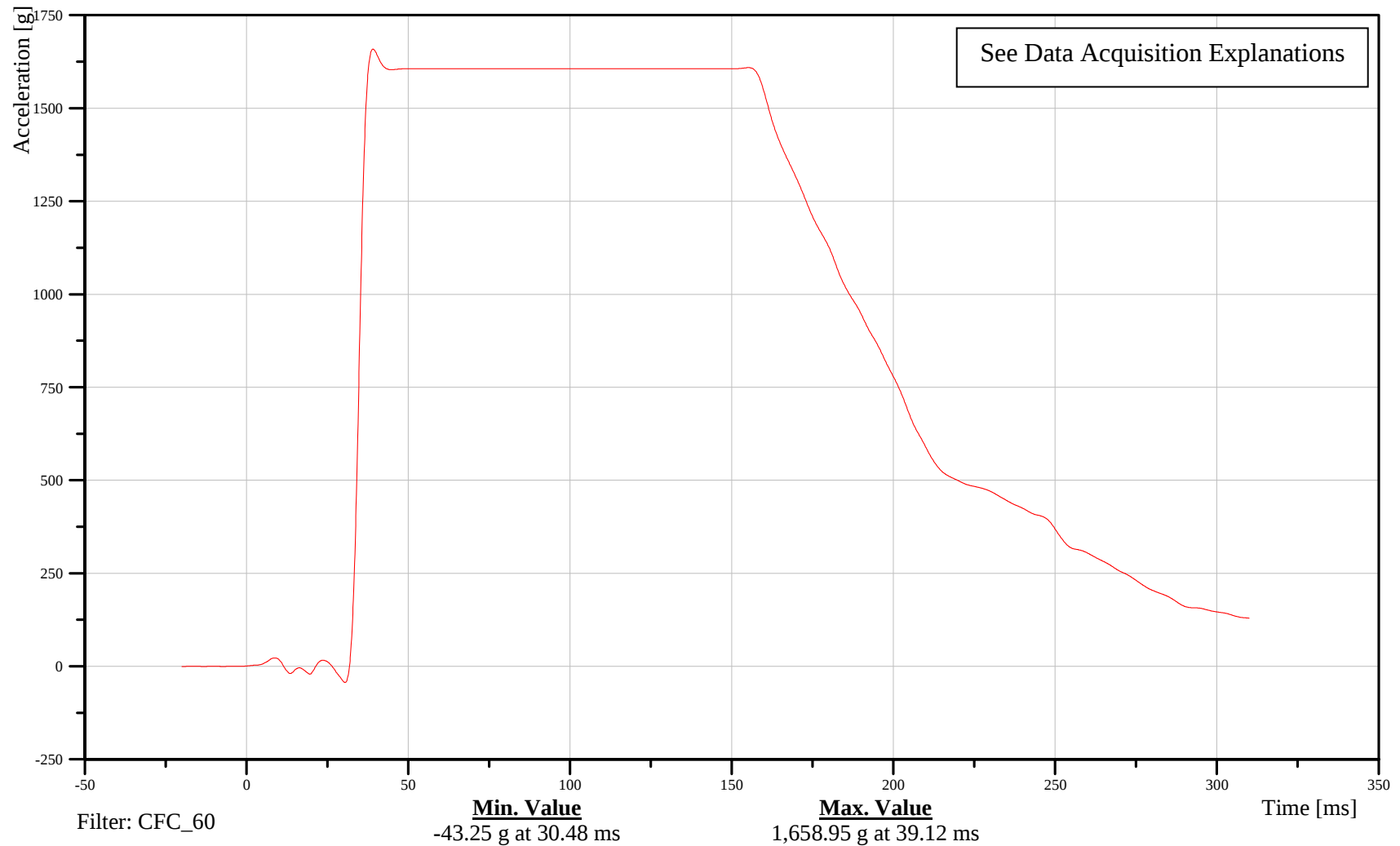
Left Lower B-Post Y-Axis Acceleration

Customer: VRTC

14BPILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-125

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Left Mid B-Post Y-Axis Acceleration

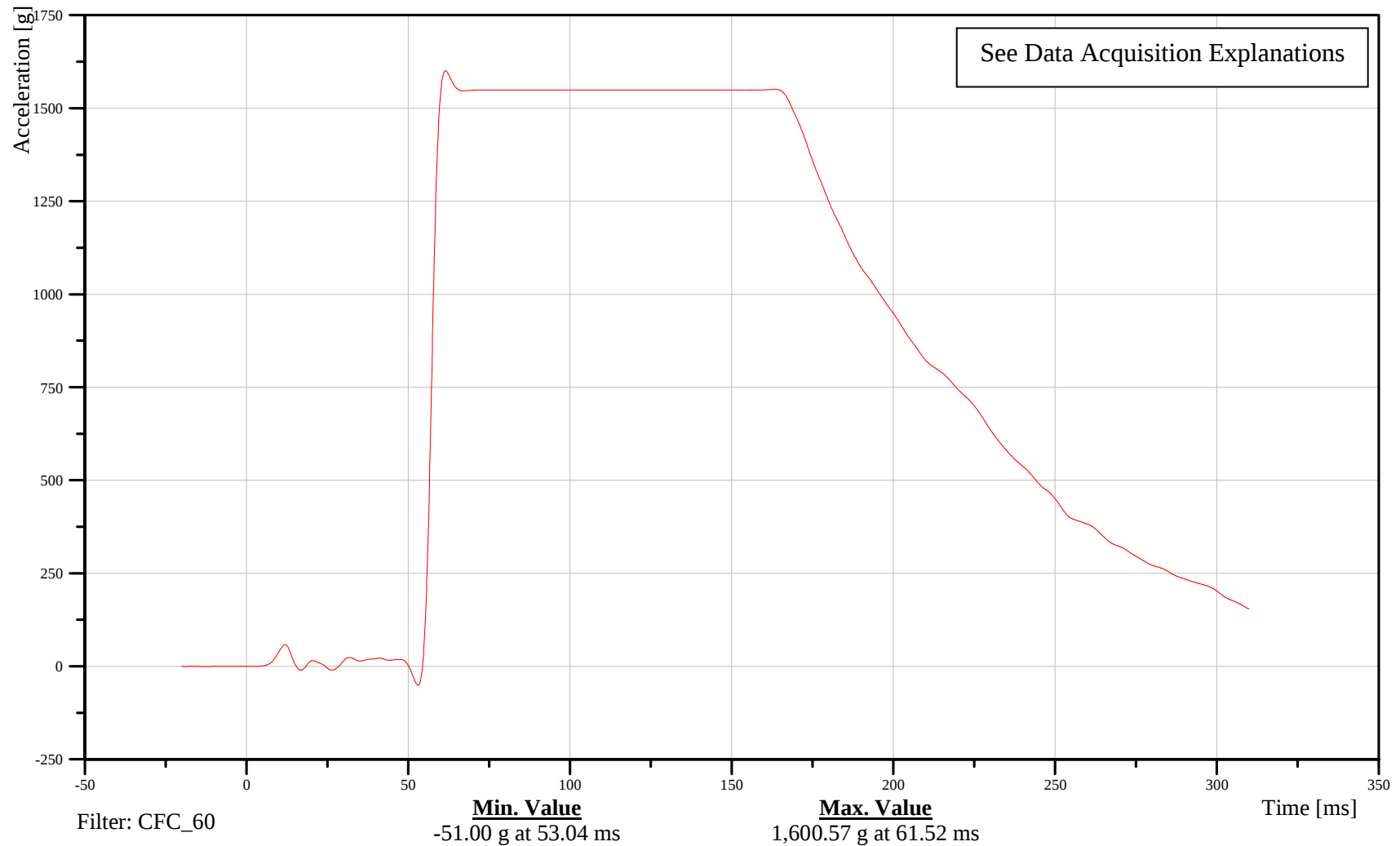
Date: 1/31/2008
Time: 15:15

Customer: VRTC

14BPILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-126

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

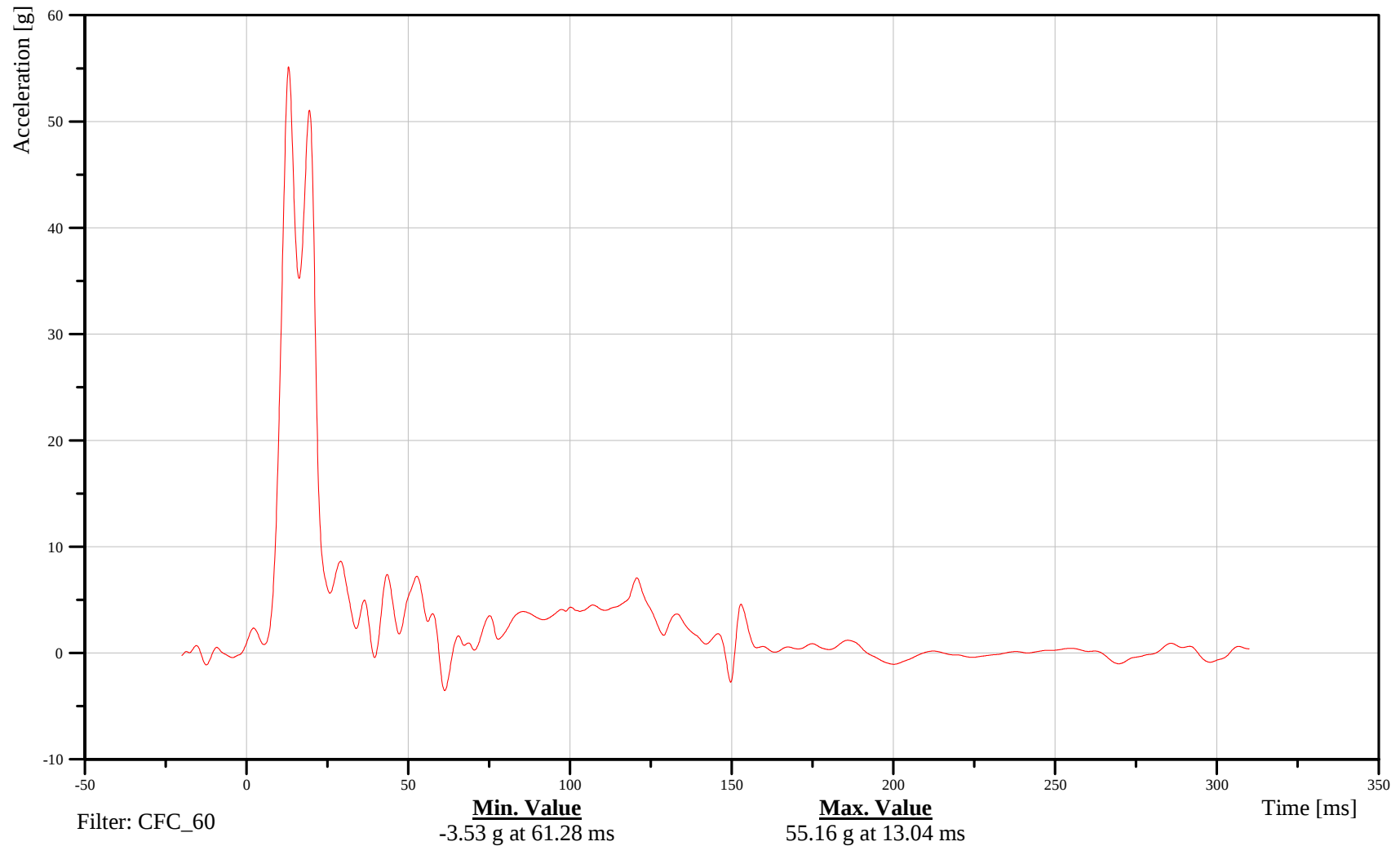
Left Front Seat Track Y-Axis Acceleration

Customer: VRTC

11SETRFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-127

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

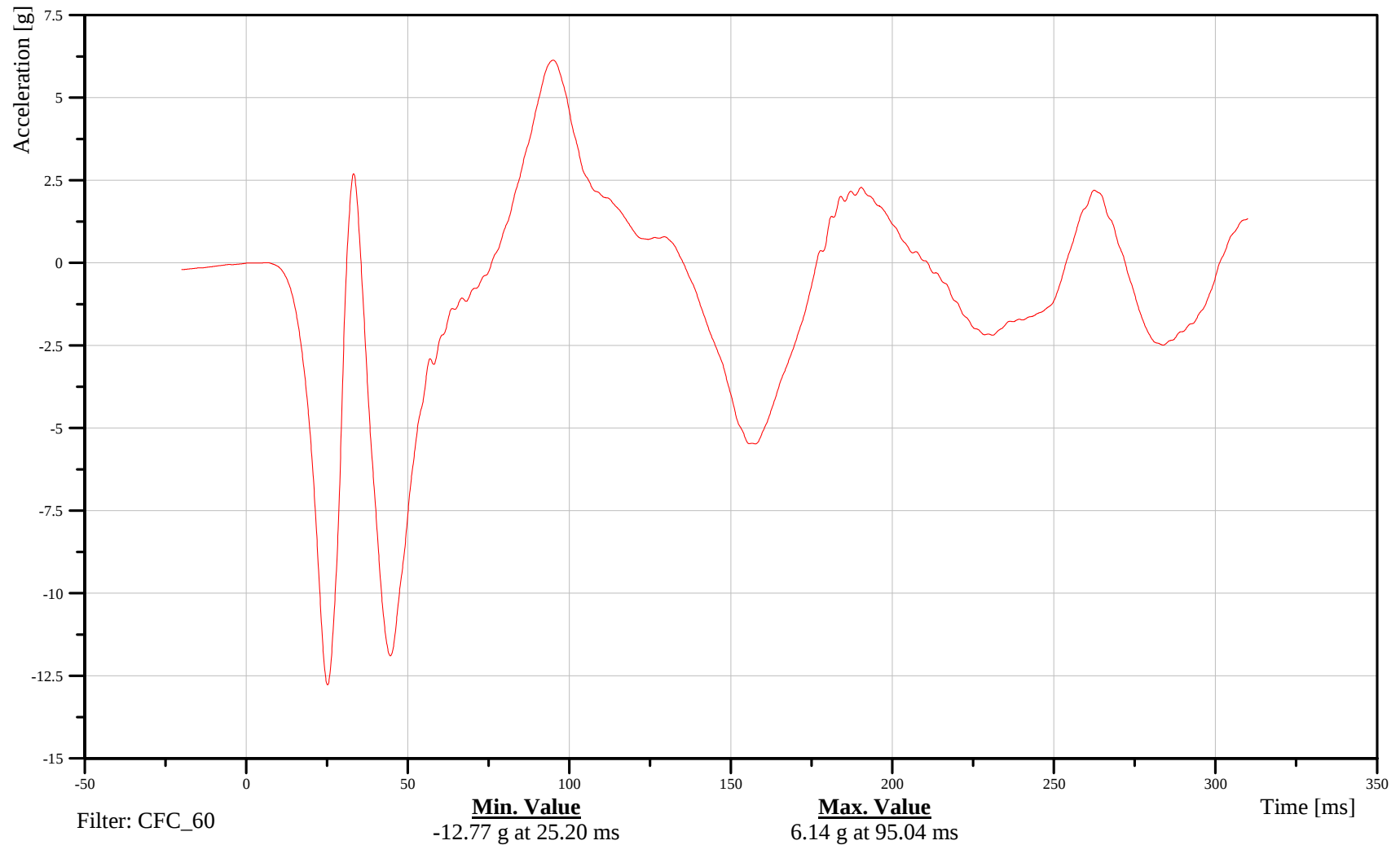
Top of Engine X-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-128

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

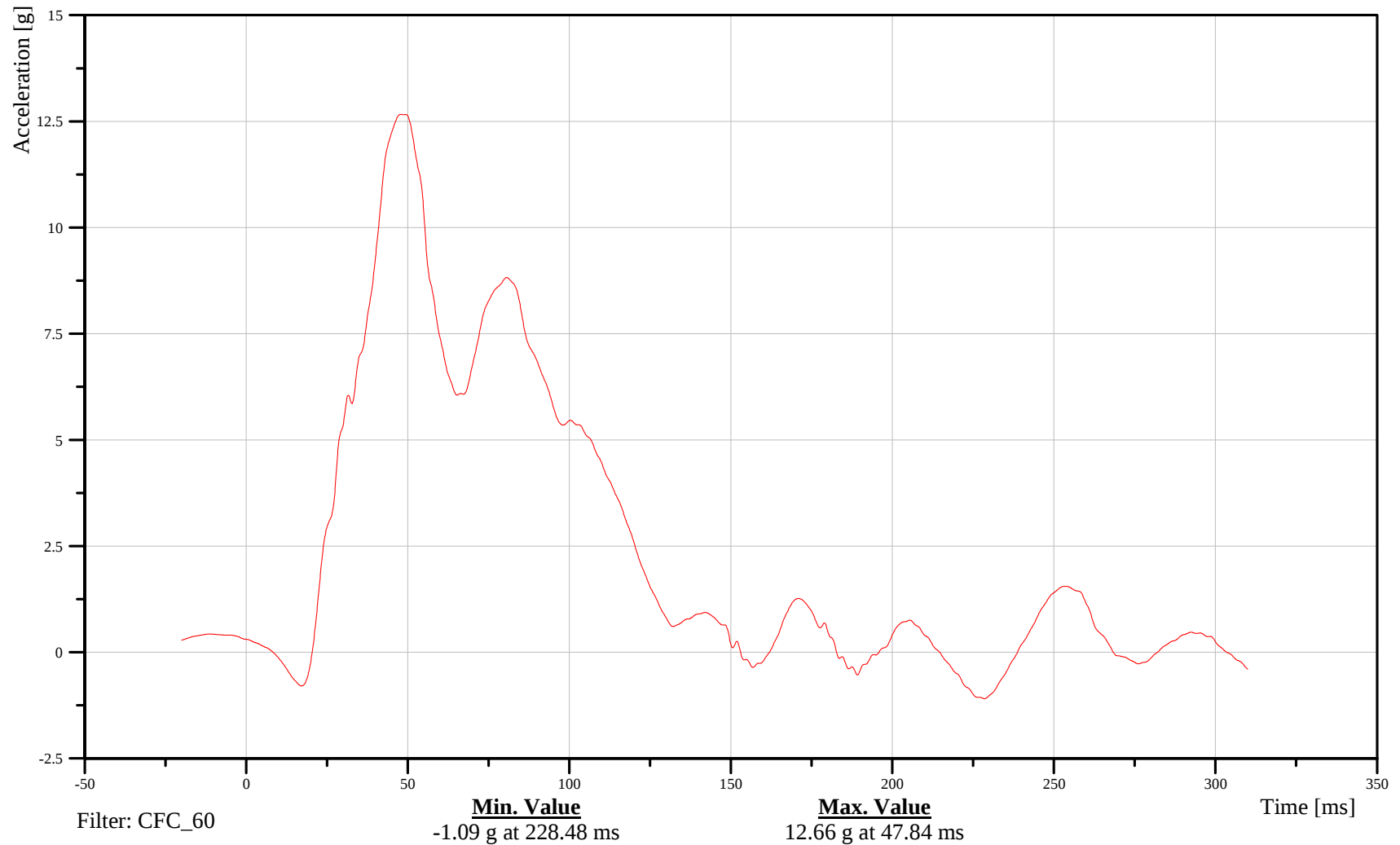
Top of Engine Y-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-129

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

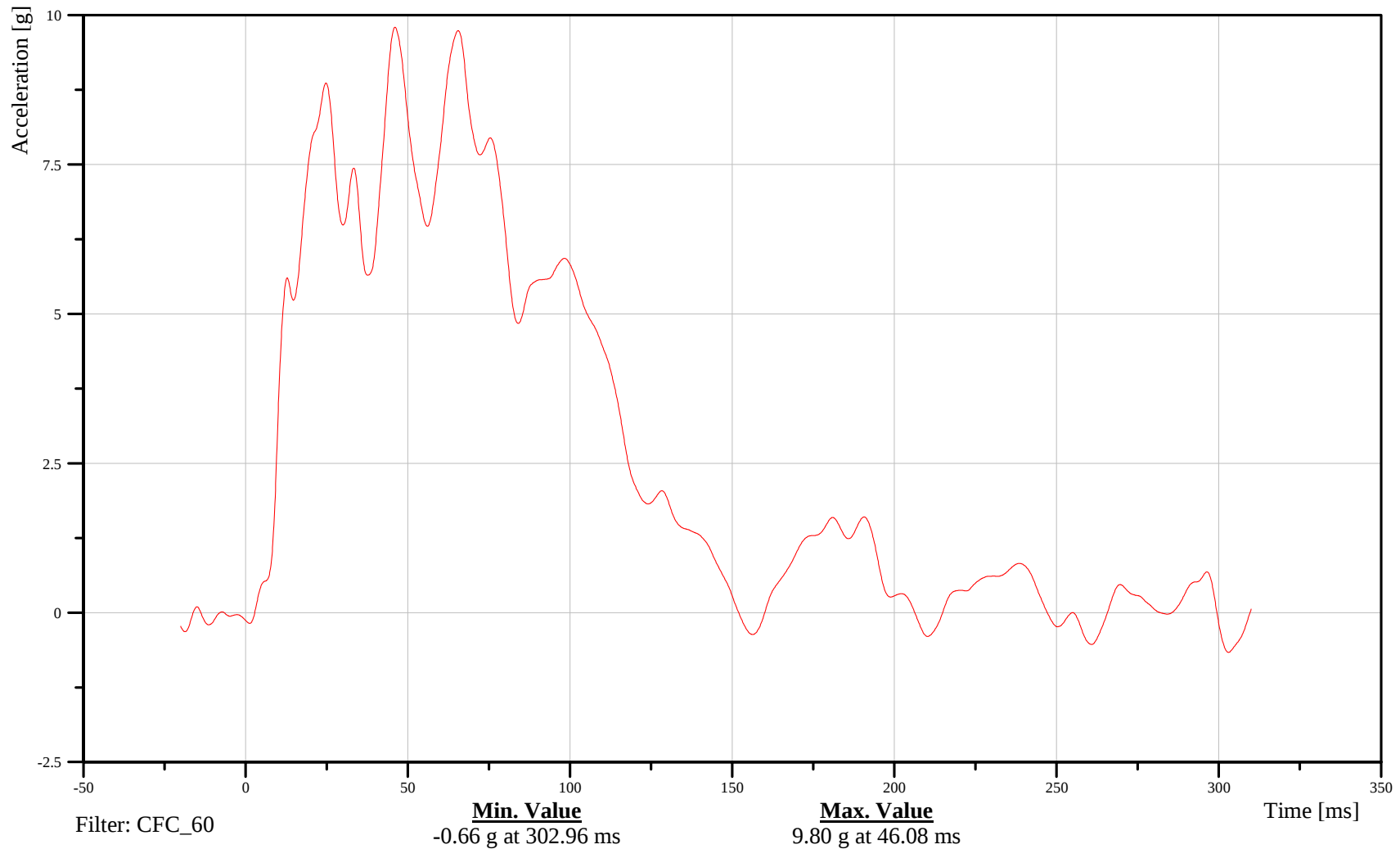
Center Firewall Y-Axis Acceleration

Customer: VRTC

12VEHC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-130

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

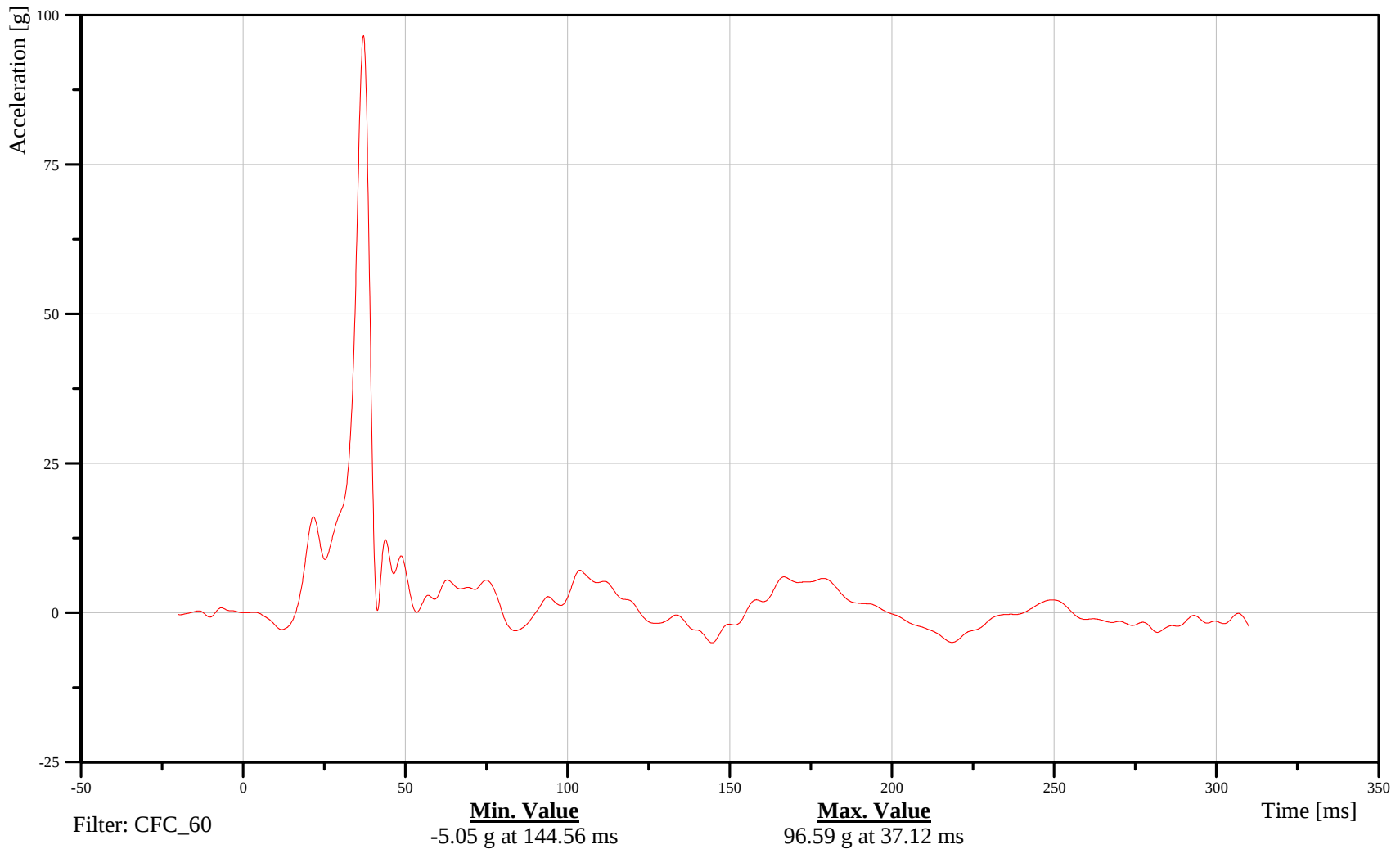
Right Side Roof Rail (in line with impact point) Y-Axis Acceleration

Customer: VRTC

13ROOF000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-131

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

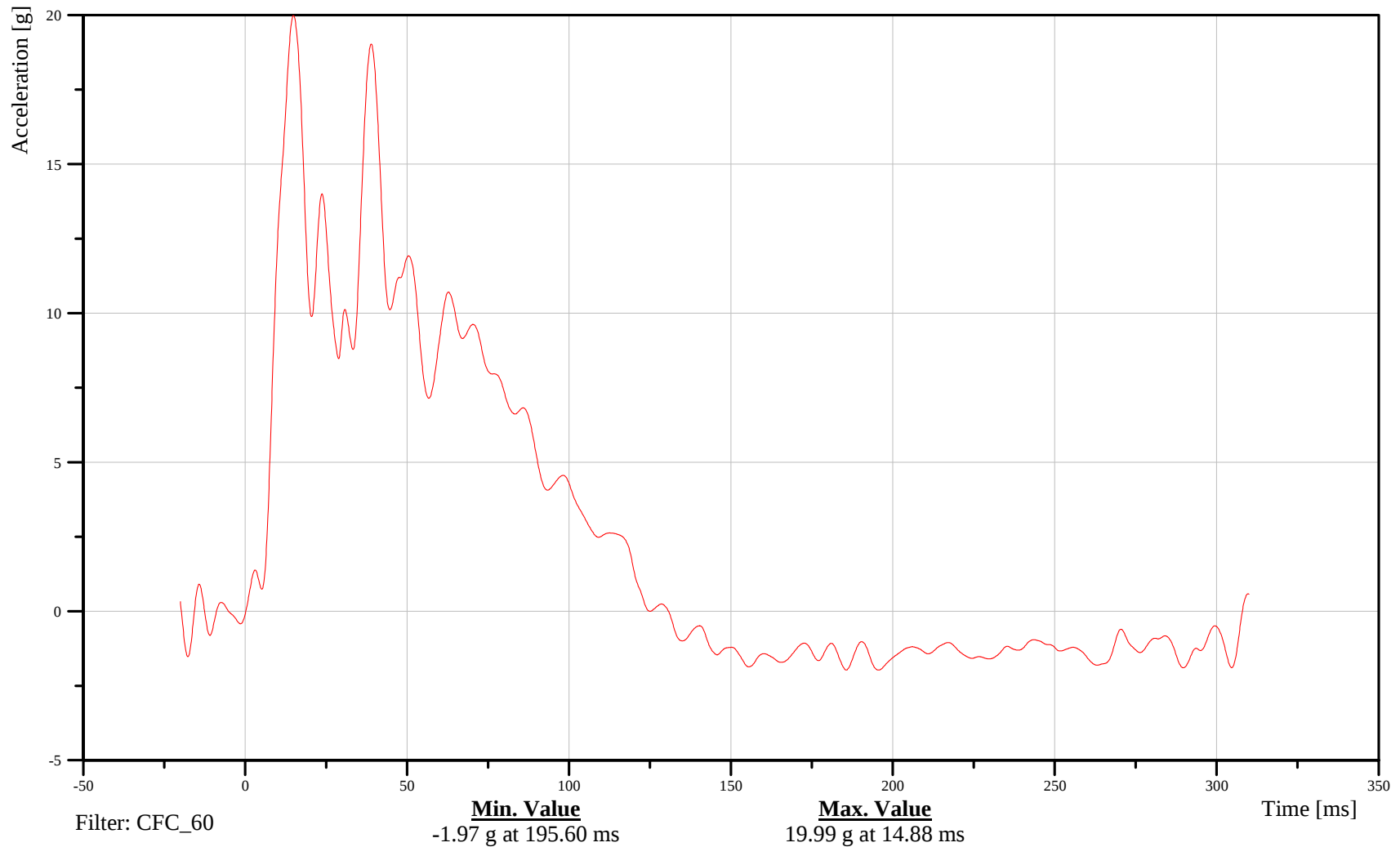
Right Side Sill (in-line with impact location) Y-Axis Acceleration

Customer: VRTC

13SILBFR0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-132

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

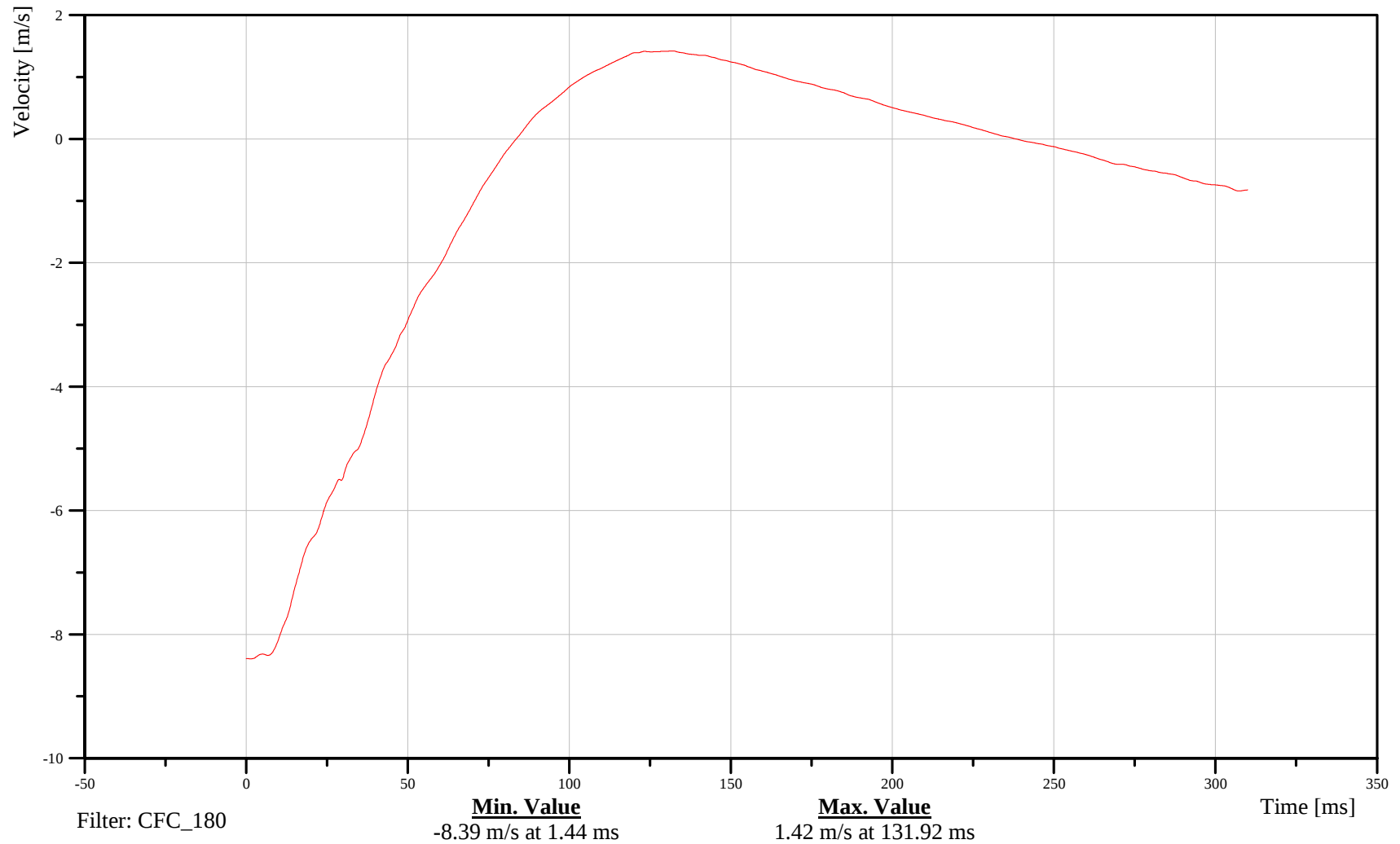
Right Side Sill (in-line with impact location) Y-Axis Velocity

Customer: VRTC

13SILBFR0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-133

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

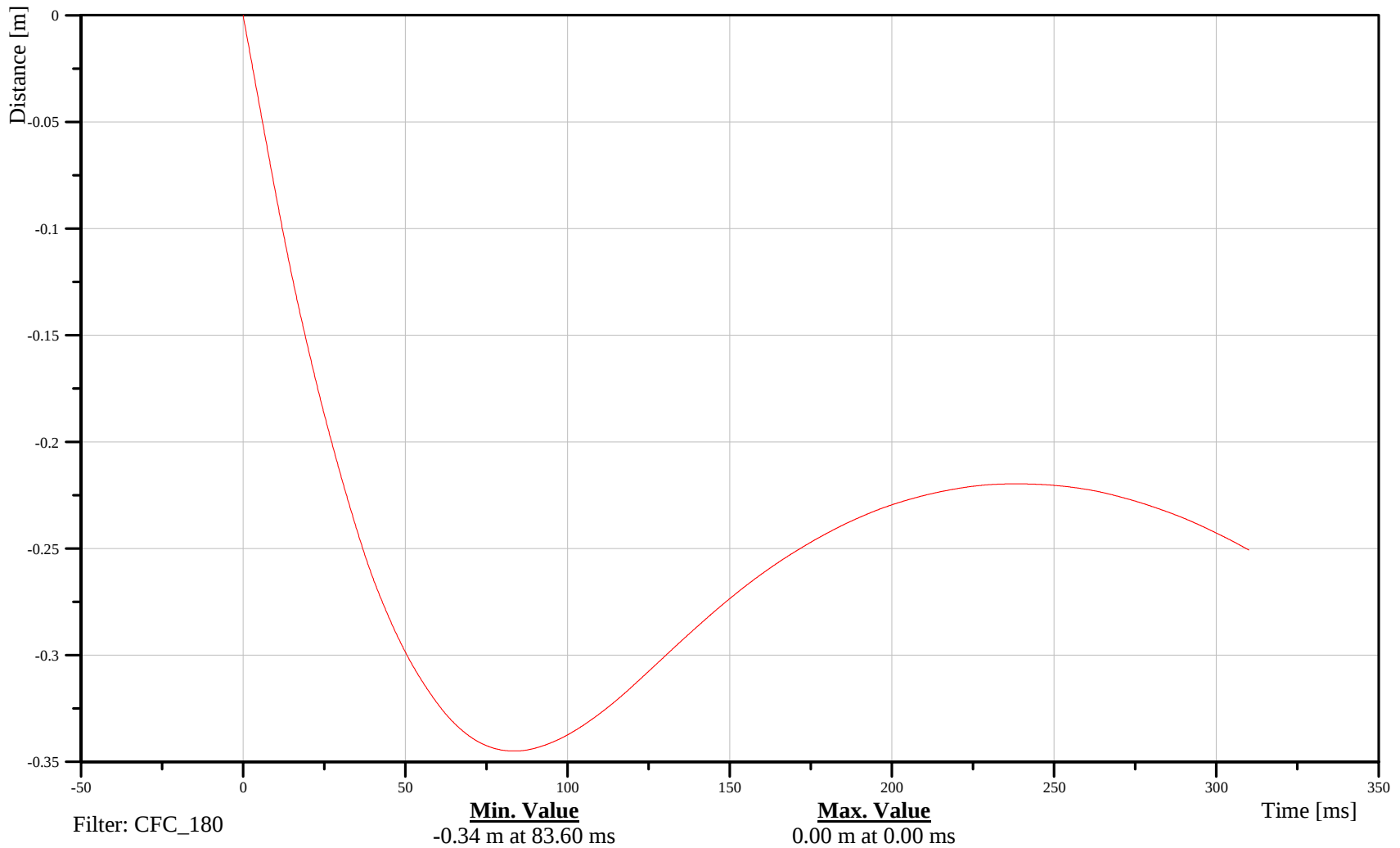
Right Side Sill (in-line with impact location) Y-Axis Displacement

Customer: VRTC

13SILBFR0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080131



B-134

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

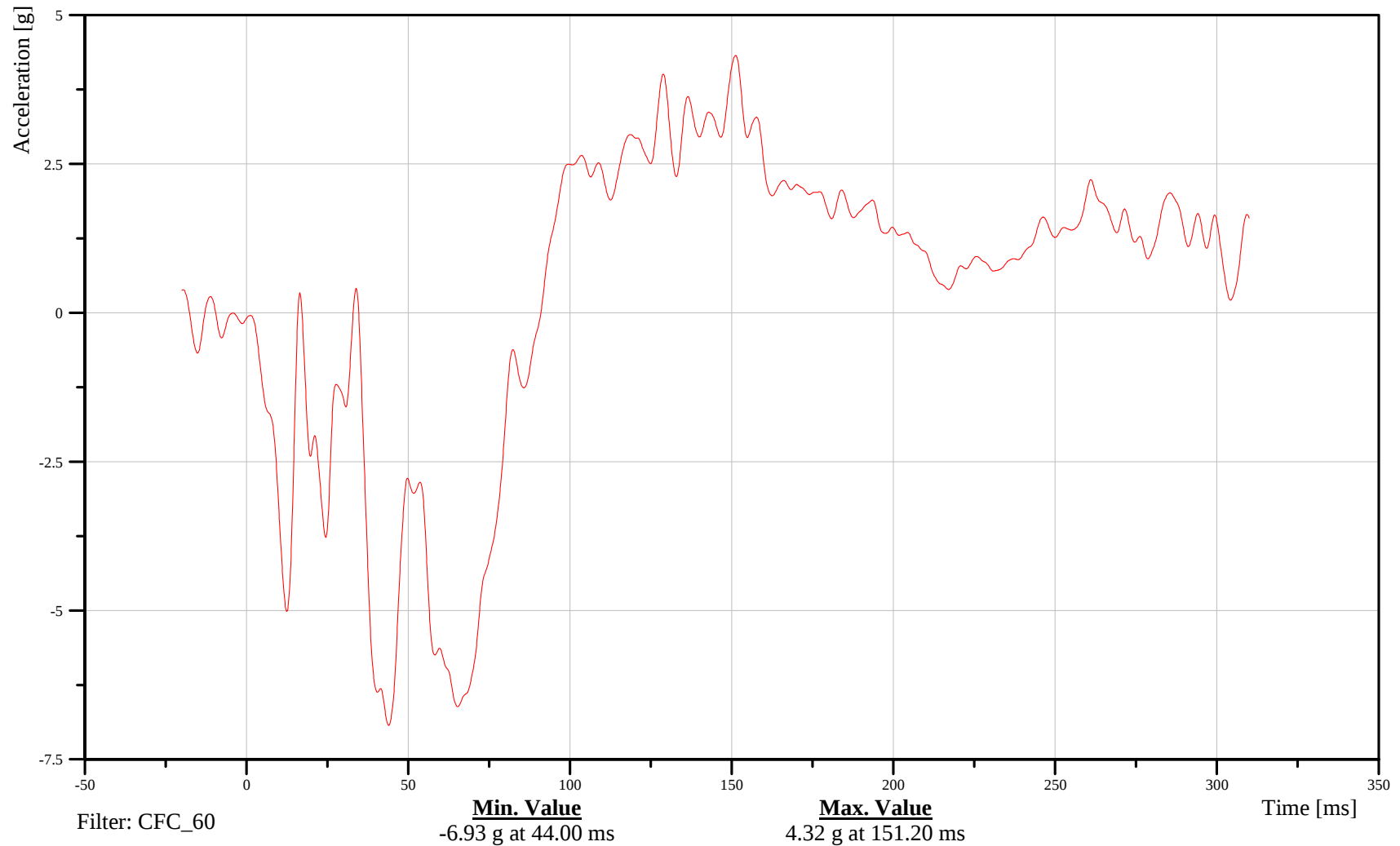
Rear Deck Behind Rear Axle X-Axis Acceleration

Customer: VRTC

18DECK000000ACXA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-135

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

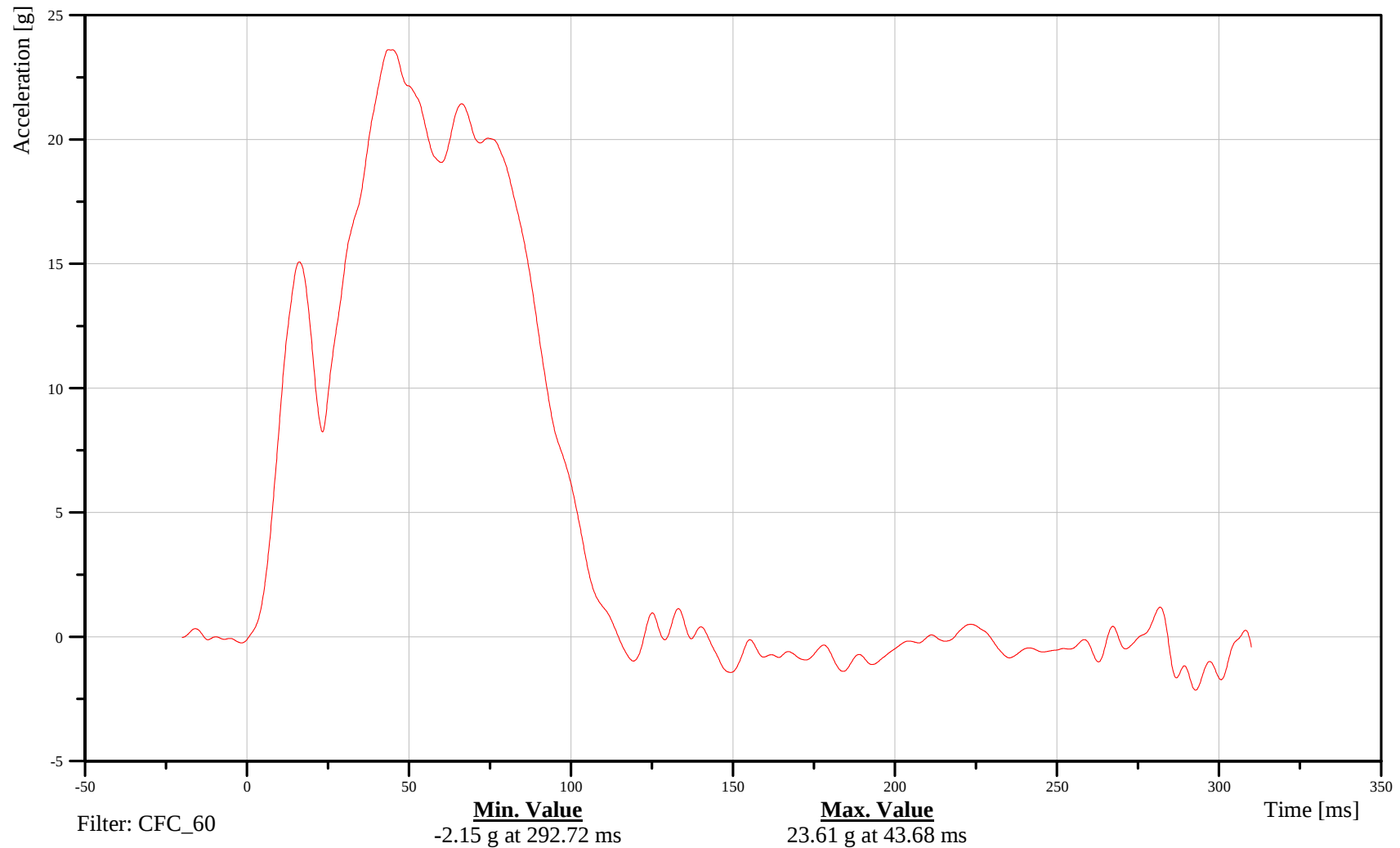
Rear Deck Behind Rear Axle Y-Axis Acceleration

Customer: VRTC

18DECK000000ACYA

TRC Inc. Test Lab: CTF

Test Number: 080131



B-136

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

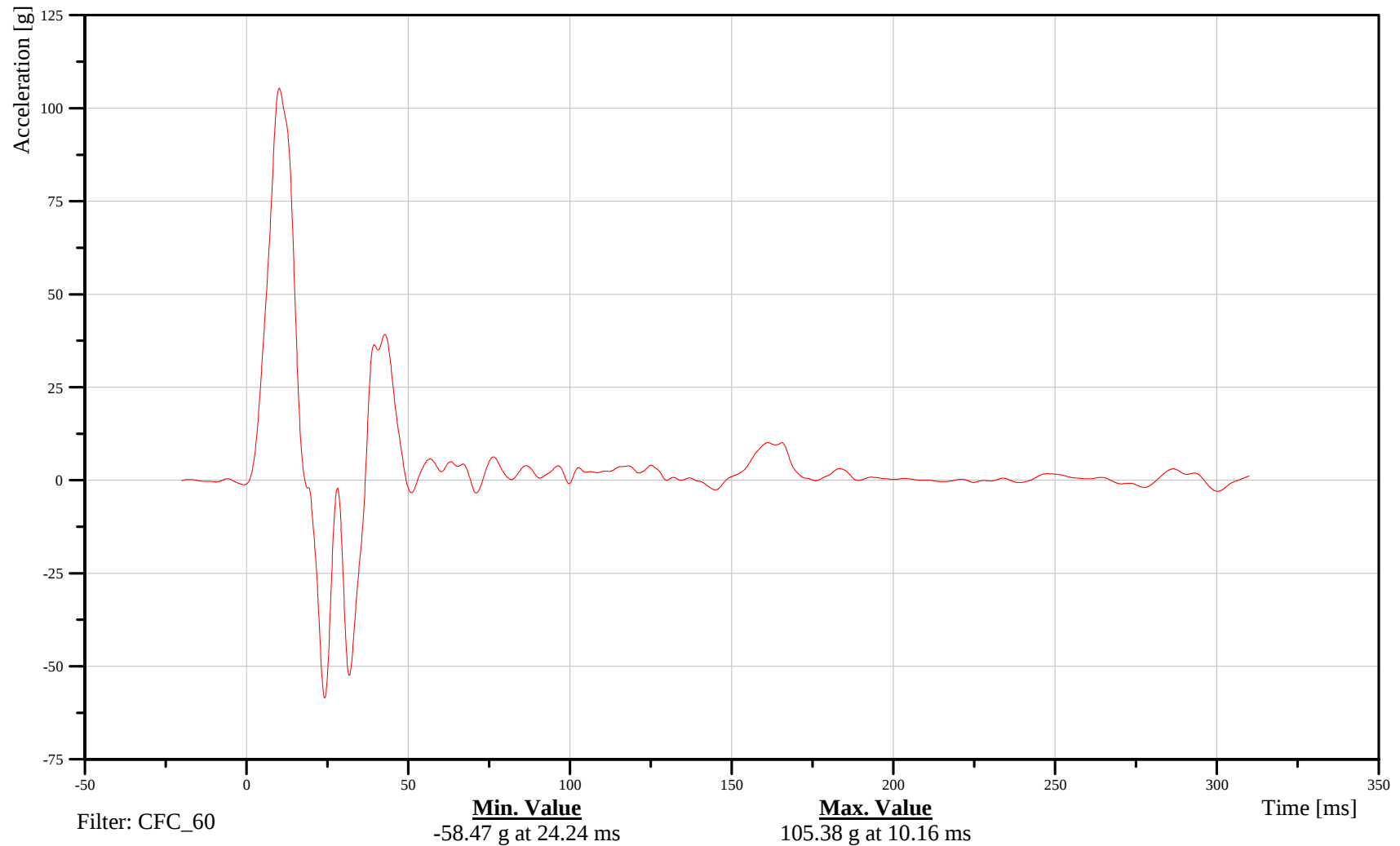
Vehicle Front Door Centerline 430 mm Above Ground Y-Axis Acceleration

Customer: VRTC

14DOOR000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-137

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

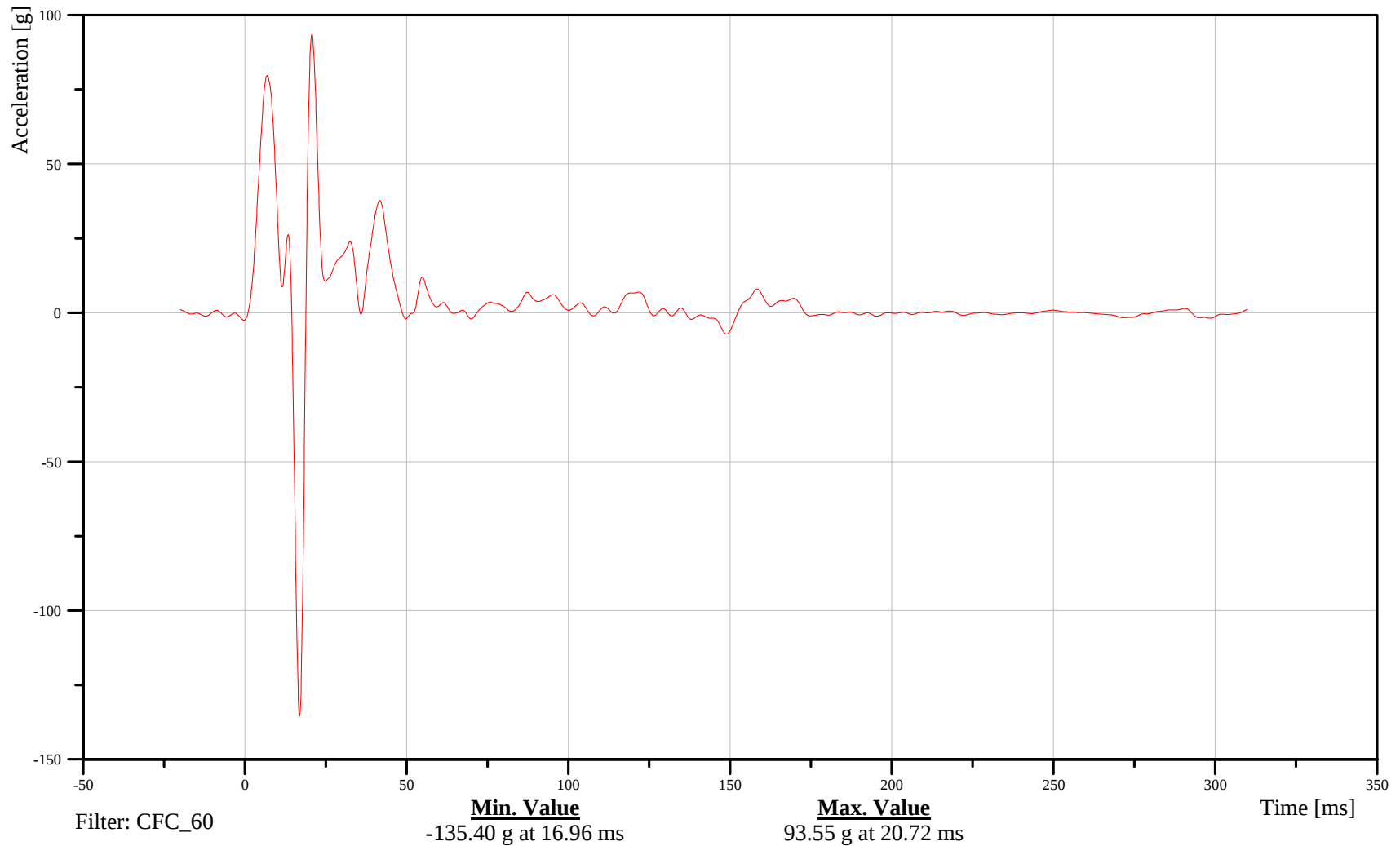
Vehicle Front Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration

Customer: VRTC

14DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-138

080131



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

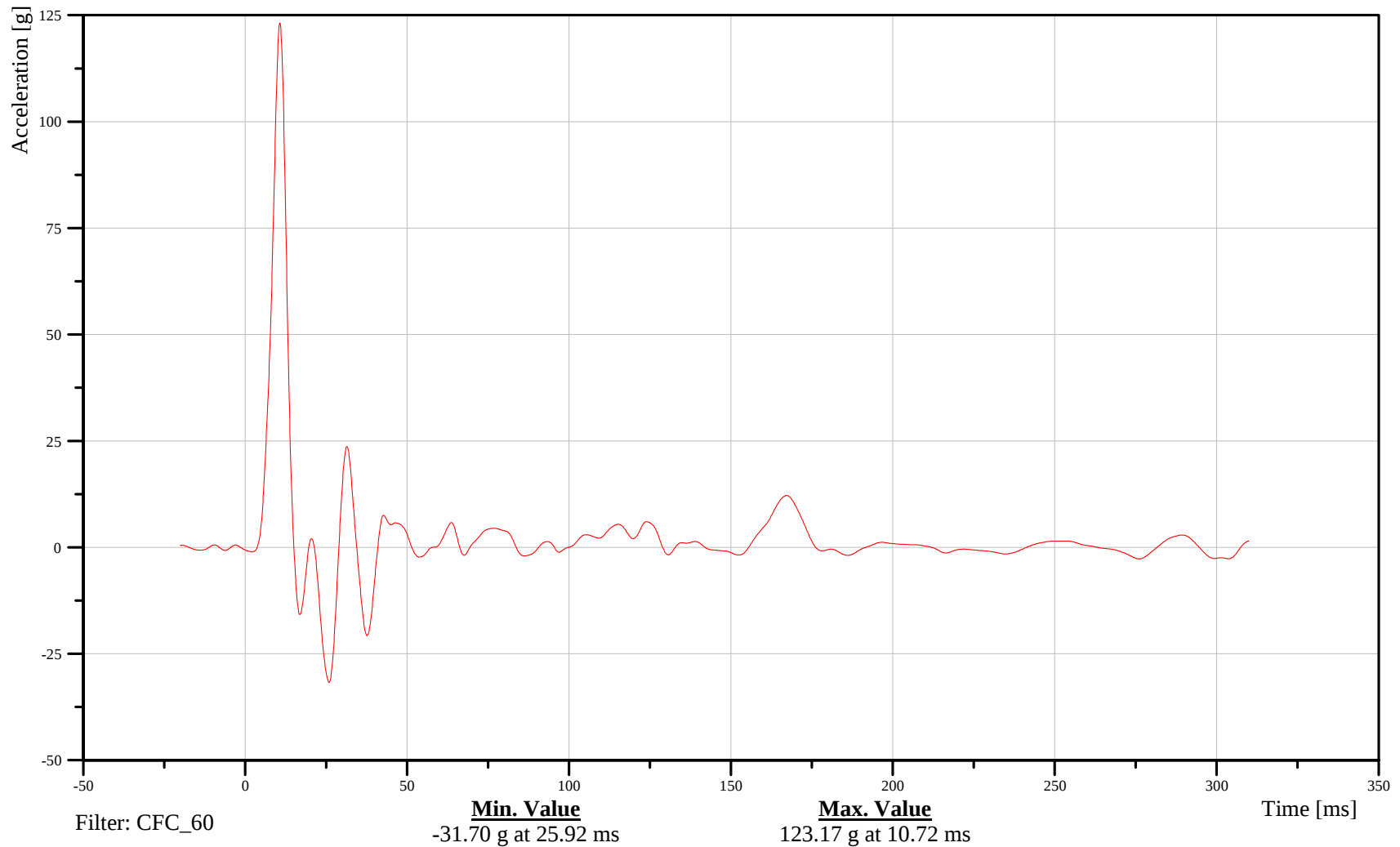
Date: 1/31/2008
Time: 15:15

Customer: VRTC

14DOOR000003ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-139

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

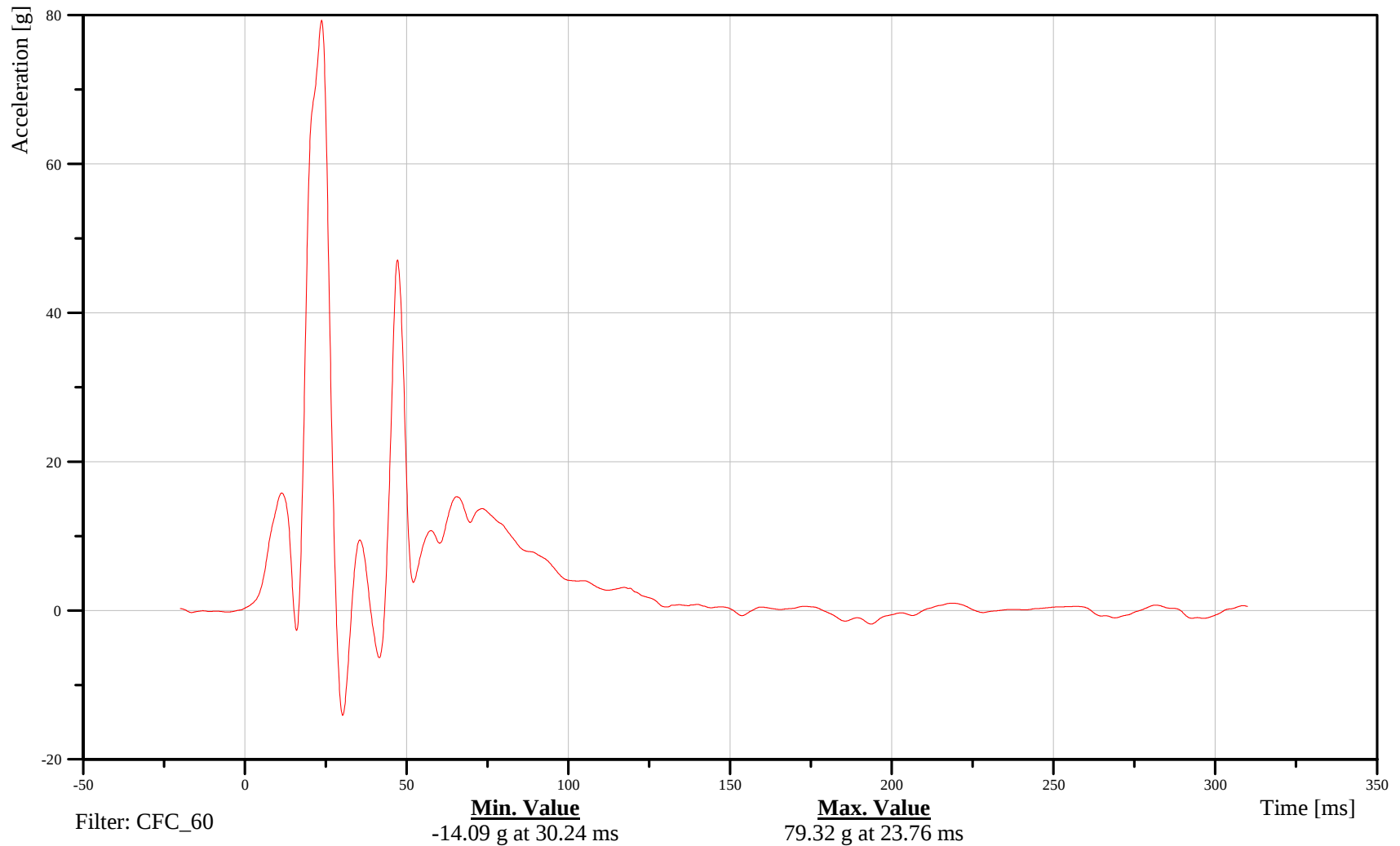
Vehicle Rear Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration

Customer: VRTC

16DOOR000002ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-140

080131



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

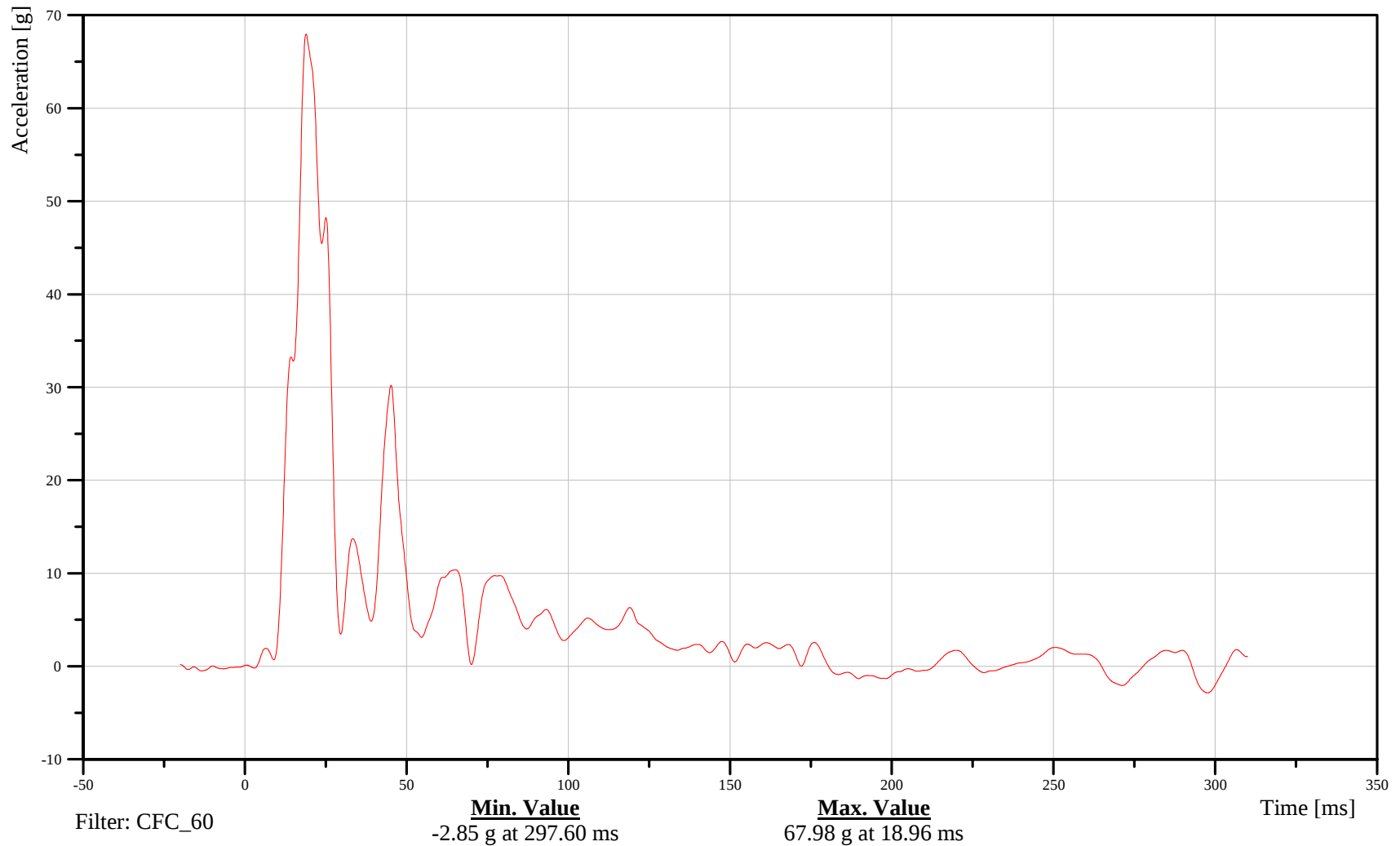
Date: 1/31/2008
Time: 15:15

Customer: VRTC

16DOOR000003ACYD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-141

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

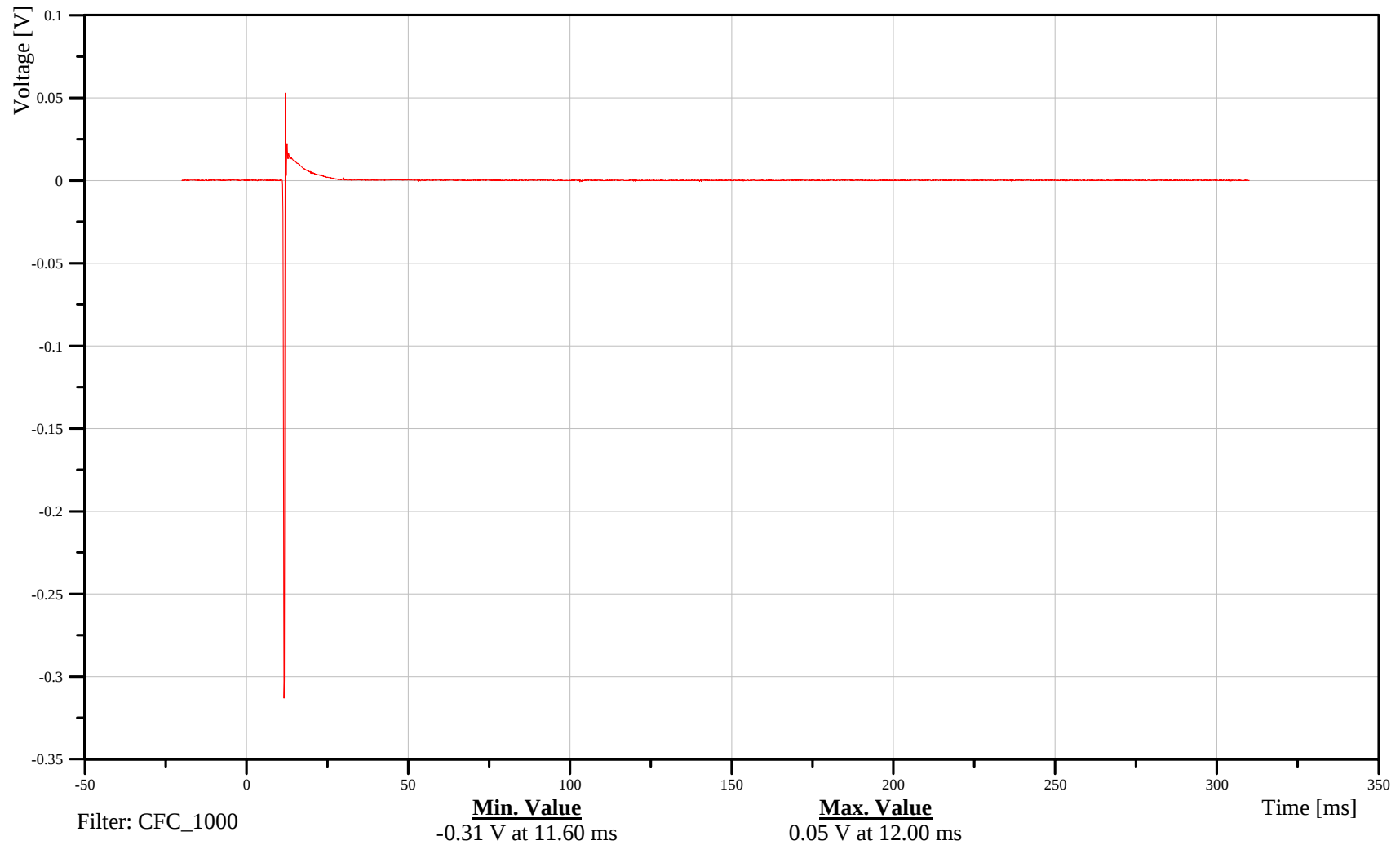
Driver Side Airbag Inductor

Customer: VRTC

11AIRBMILE00EV0A

TRC Inc. Test Lab: CTF

Test Number: 080131



B-142

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

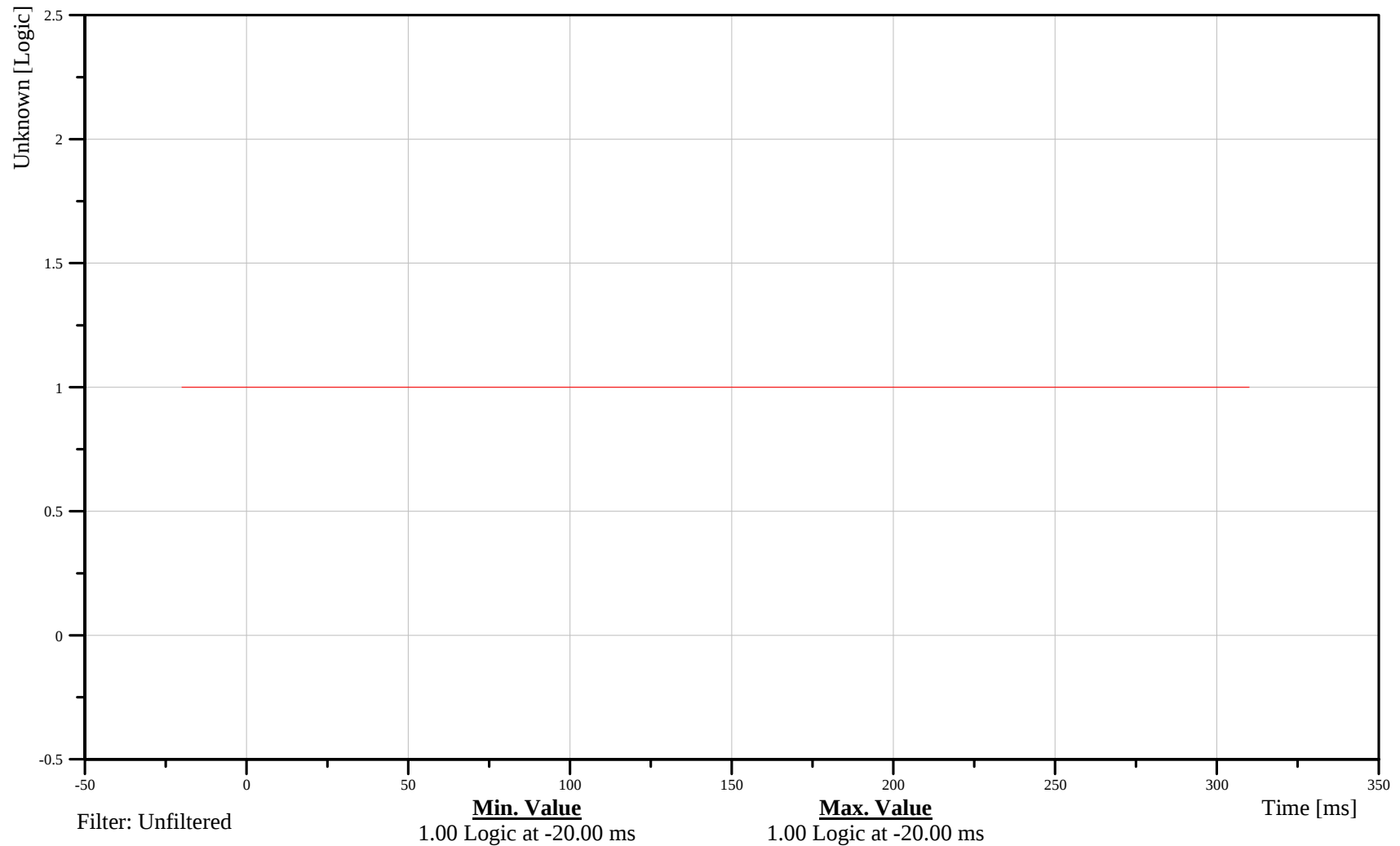
Head Contact Switch

Customer: VRTC

11CONT000001VO00

TRC Inc. Test Lab: CTF

Test Number: 080131



B-143

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

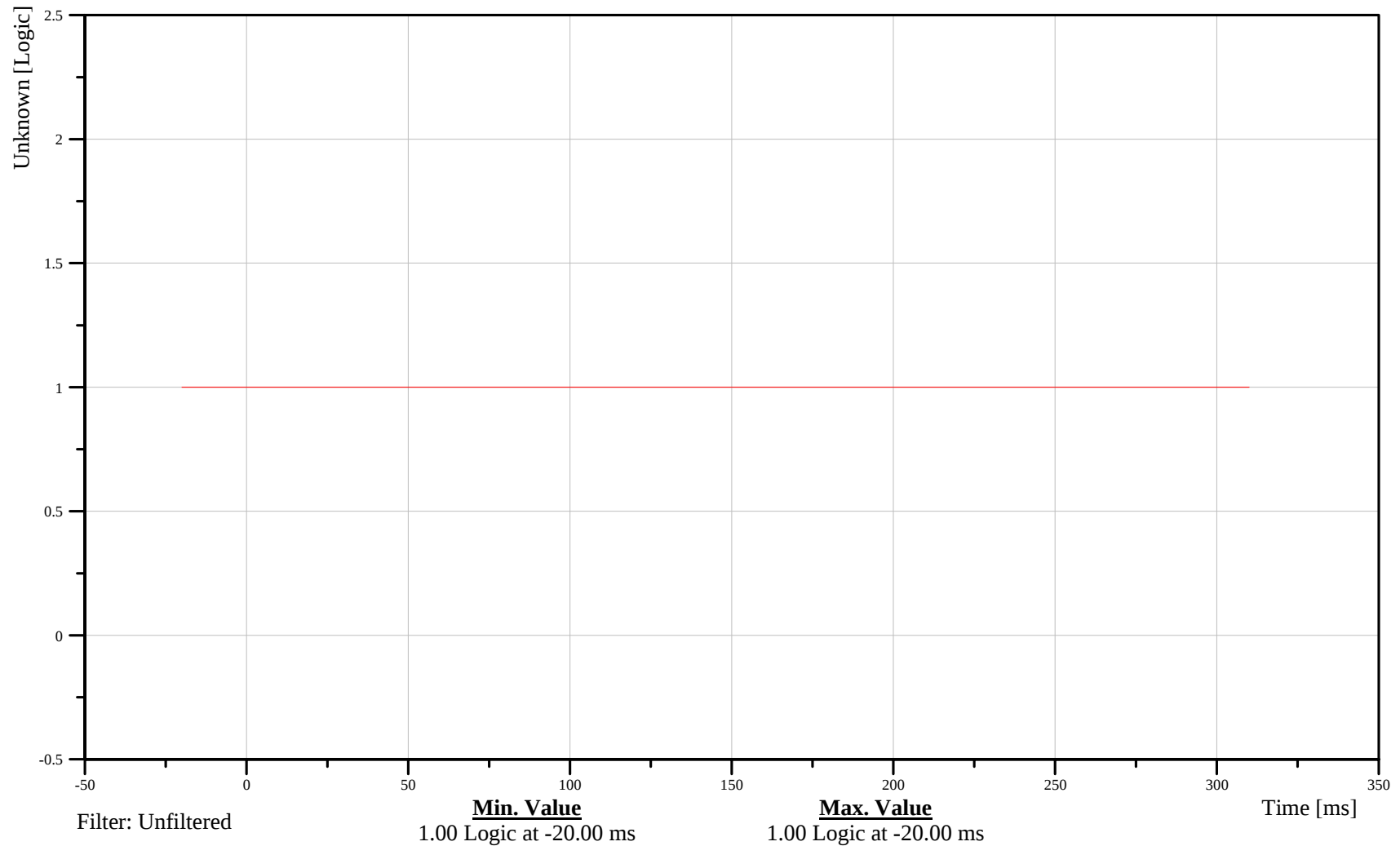
Shoulder Contact Switch

Customer: VRTC

11CONT000002VO00

TRC Inc. Test Lab: CTF

Test Number: 080131



B-144

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

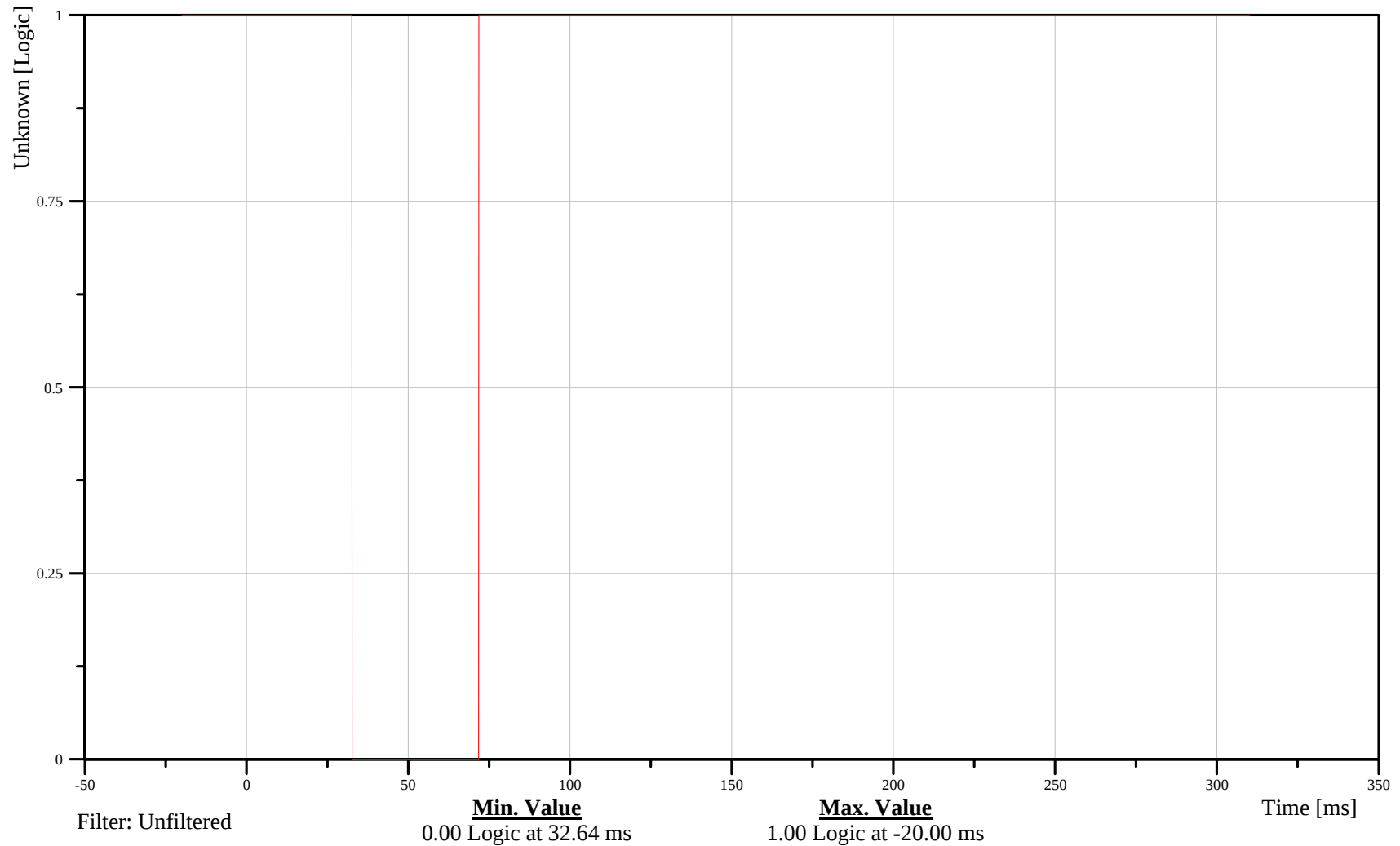
Torso Contact Switch

Customer: VRTC

11CONT000003VO00

TRC Inc. Test Lab: CTF

Test Number: 080131



B-145

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

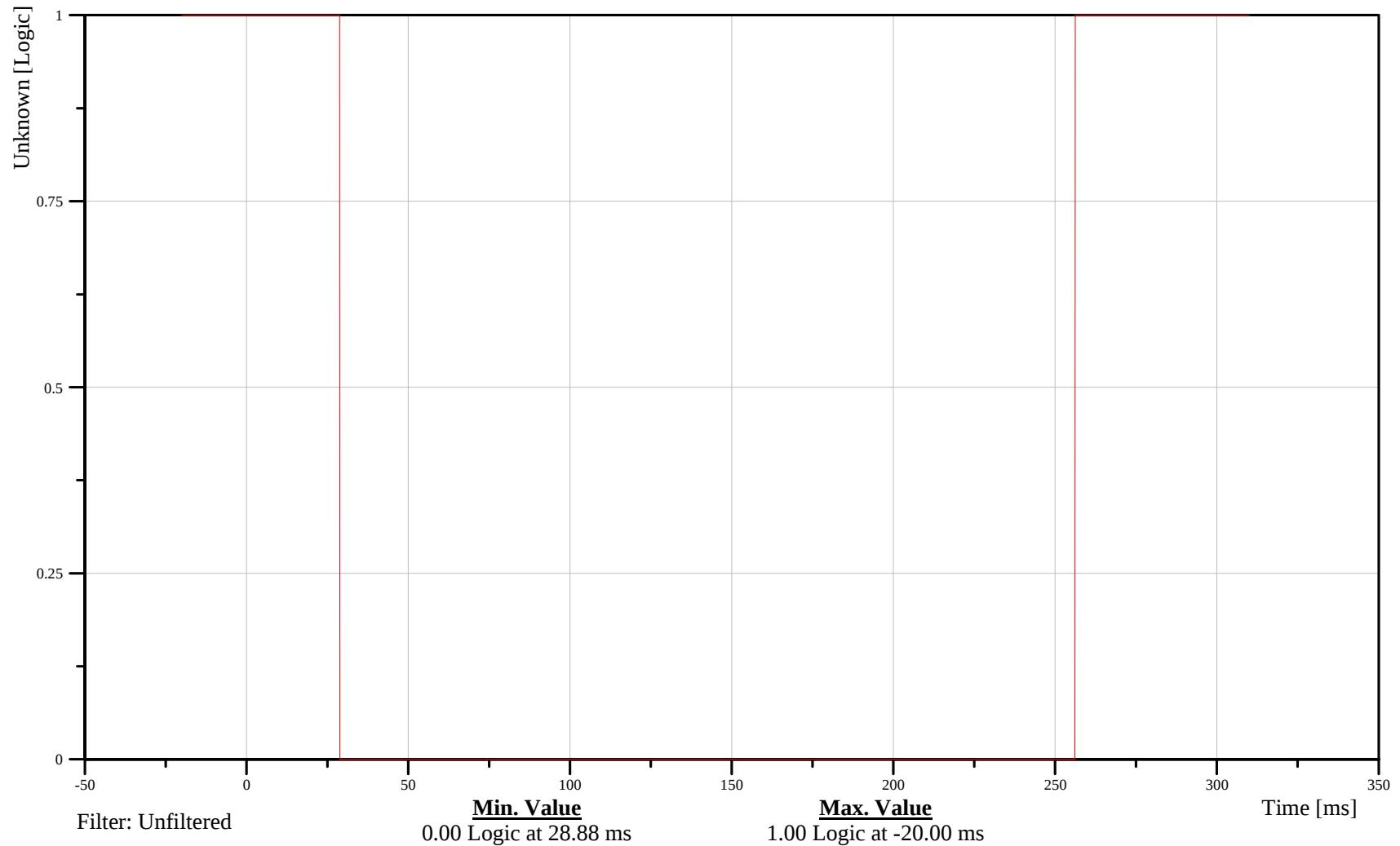
Leg Contact Switch

Customer: VRTC

11CONT000004VO00

TRC Inc. Test Lab: CTF

Test Number: 080131



B-146

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

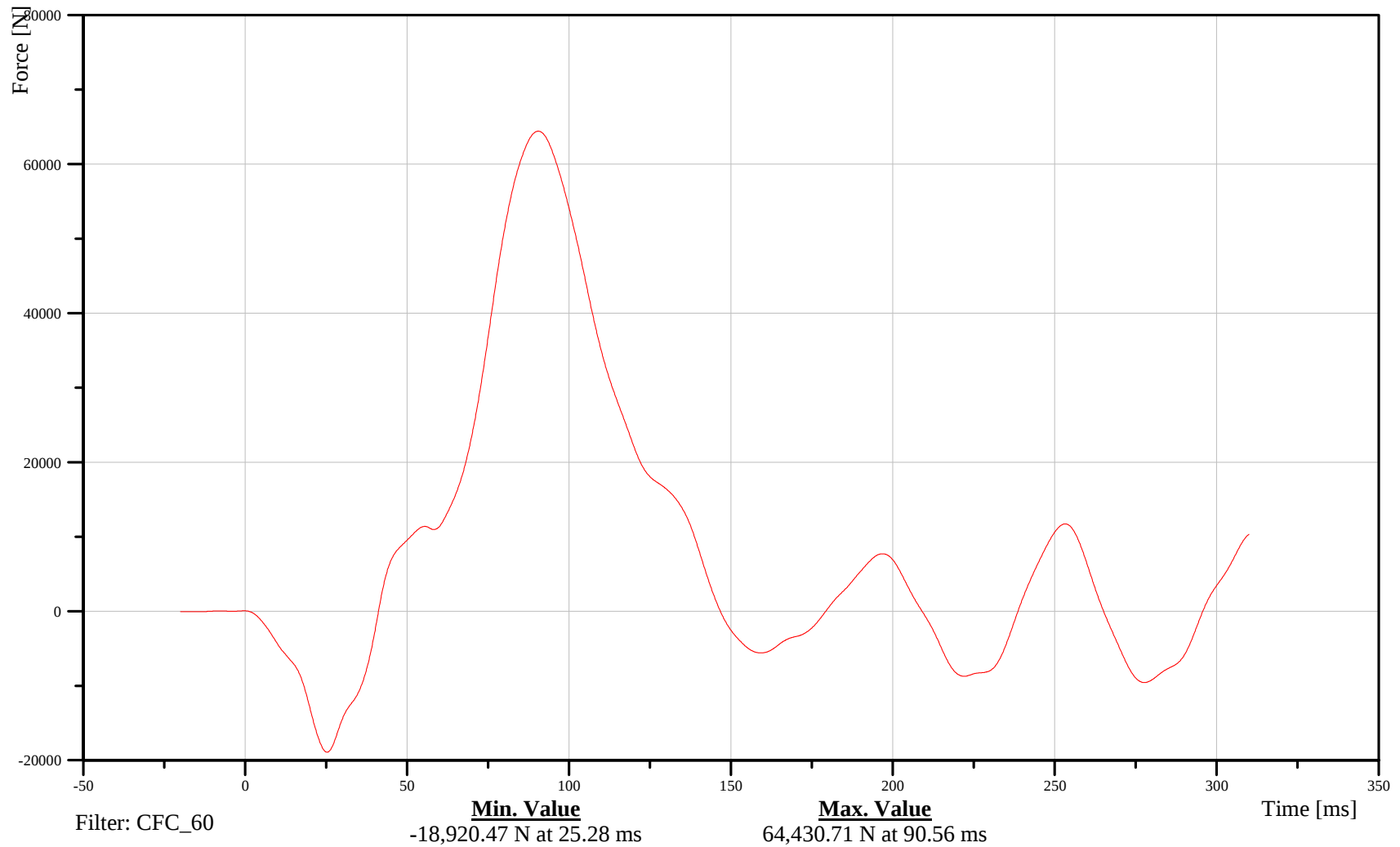
Pole Load Cell 1

Customer: VRTC

K0FBAR010000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-147

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

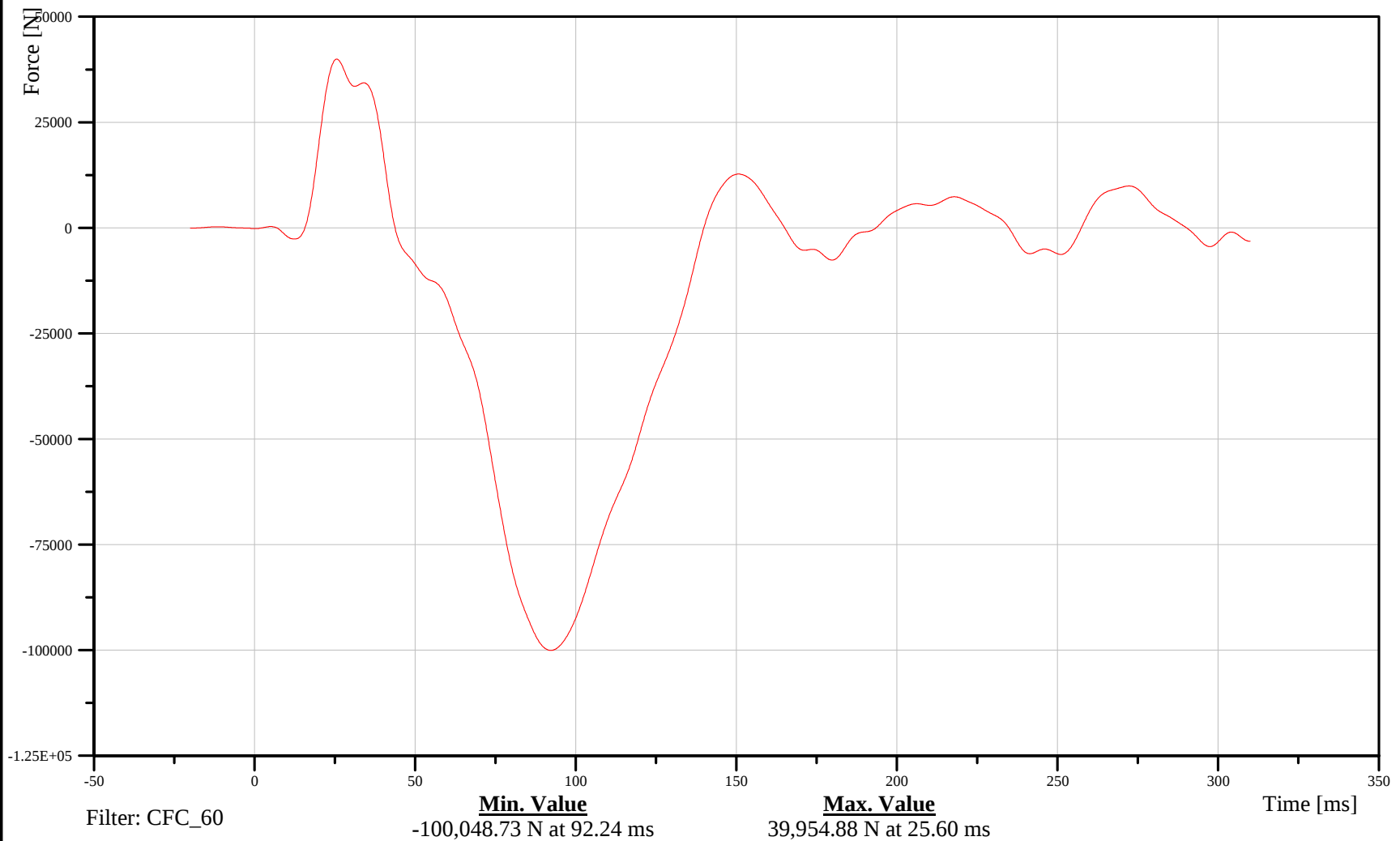
Pole Load Cell 2

Customer: VRTC

K0FBAR020000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-148

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

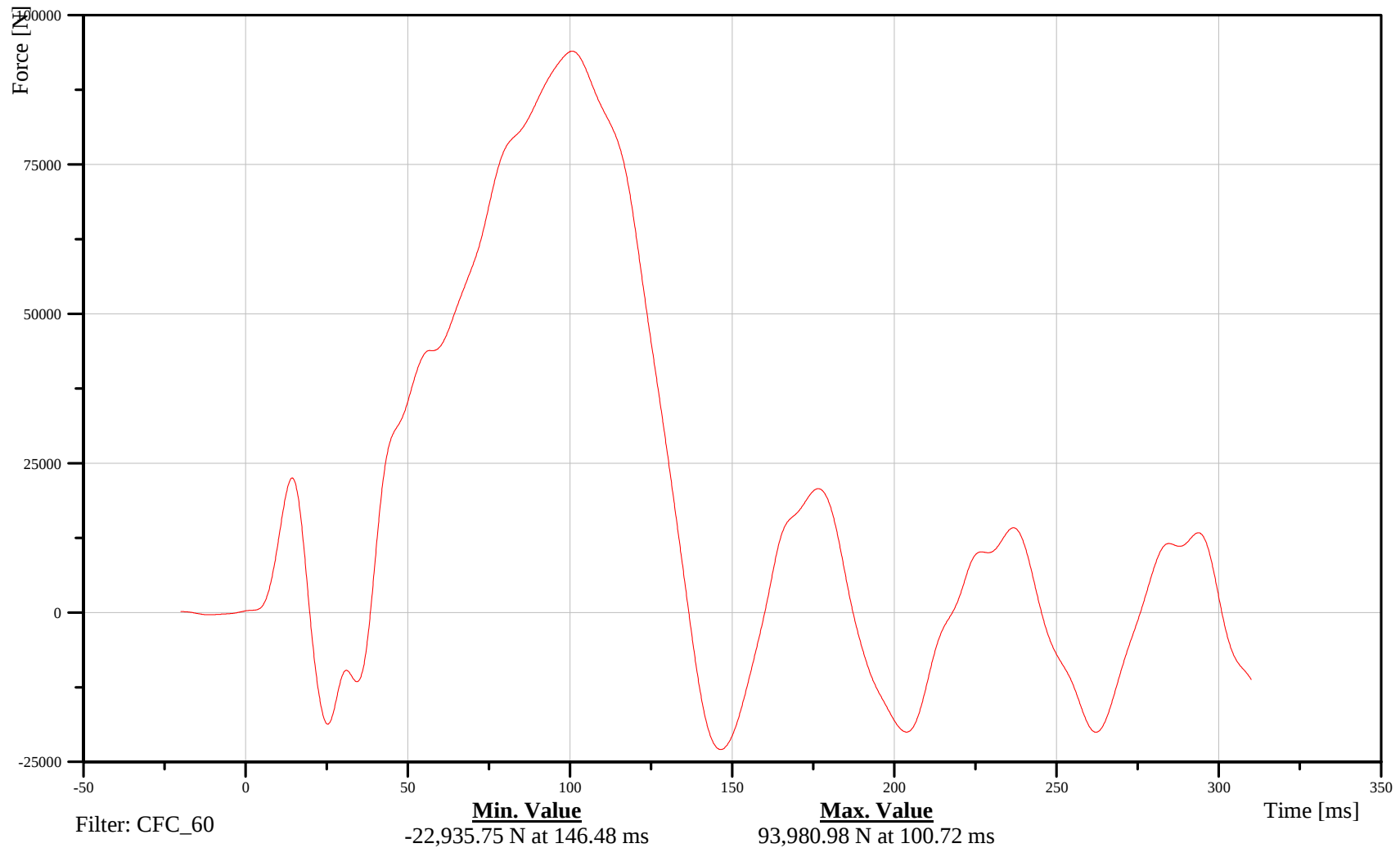
Pole Load Cell 3

Customer: VRTC

K0FBAR030000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-149

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

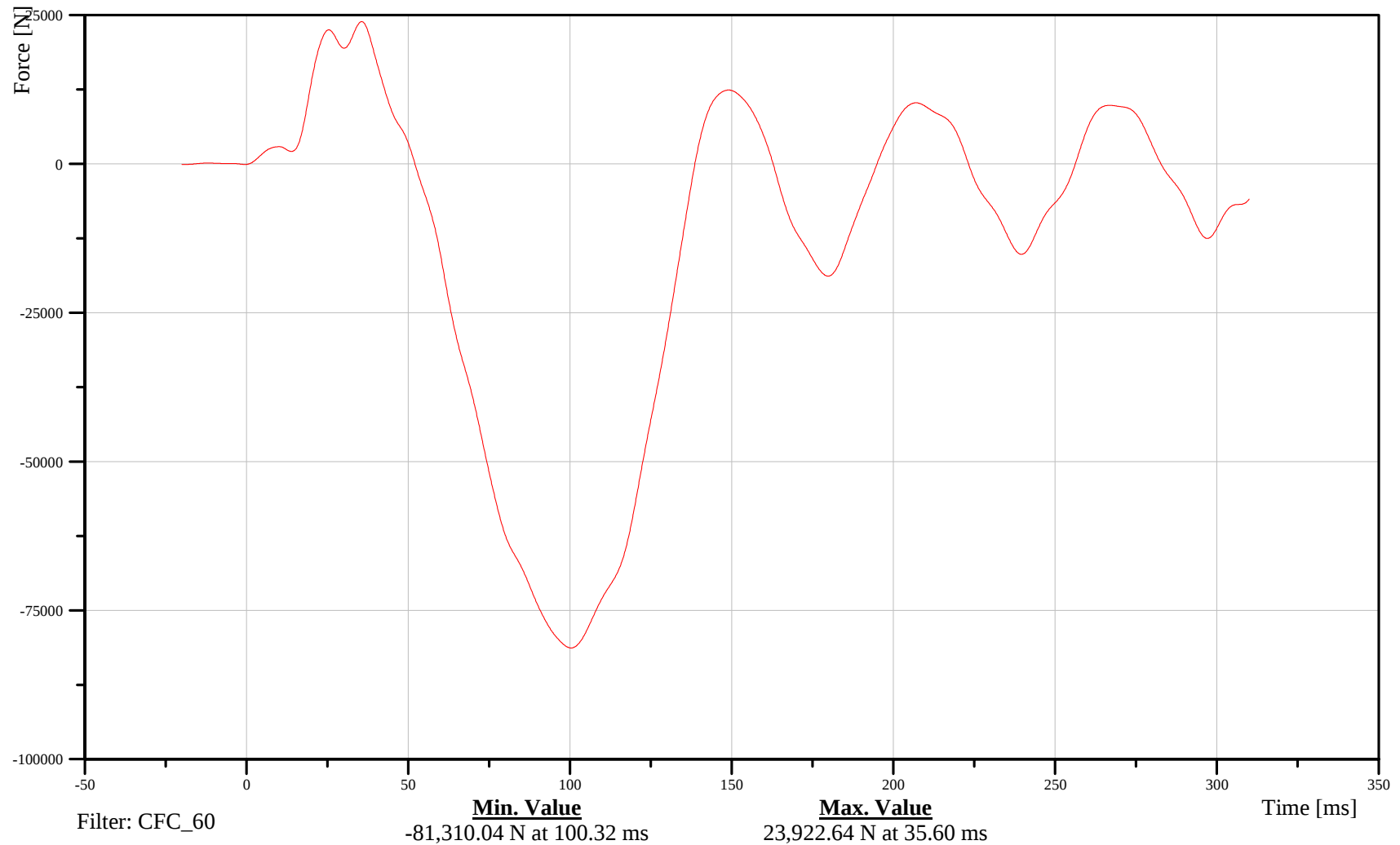
Pole Load Cell 4

Customer: VRTC

K0FBAR040000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-150

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Pole Load Cell 5

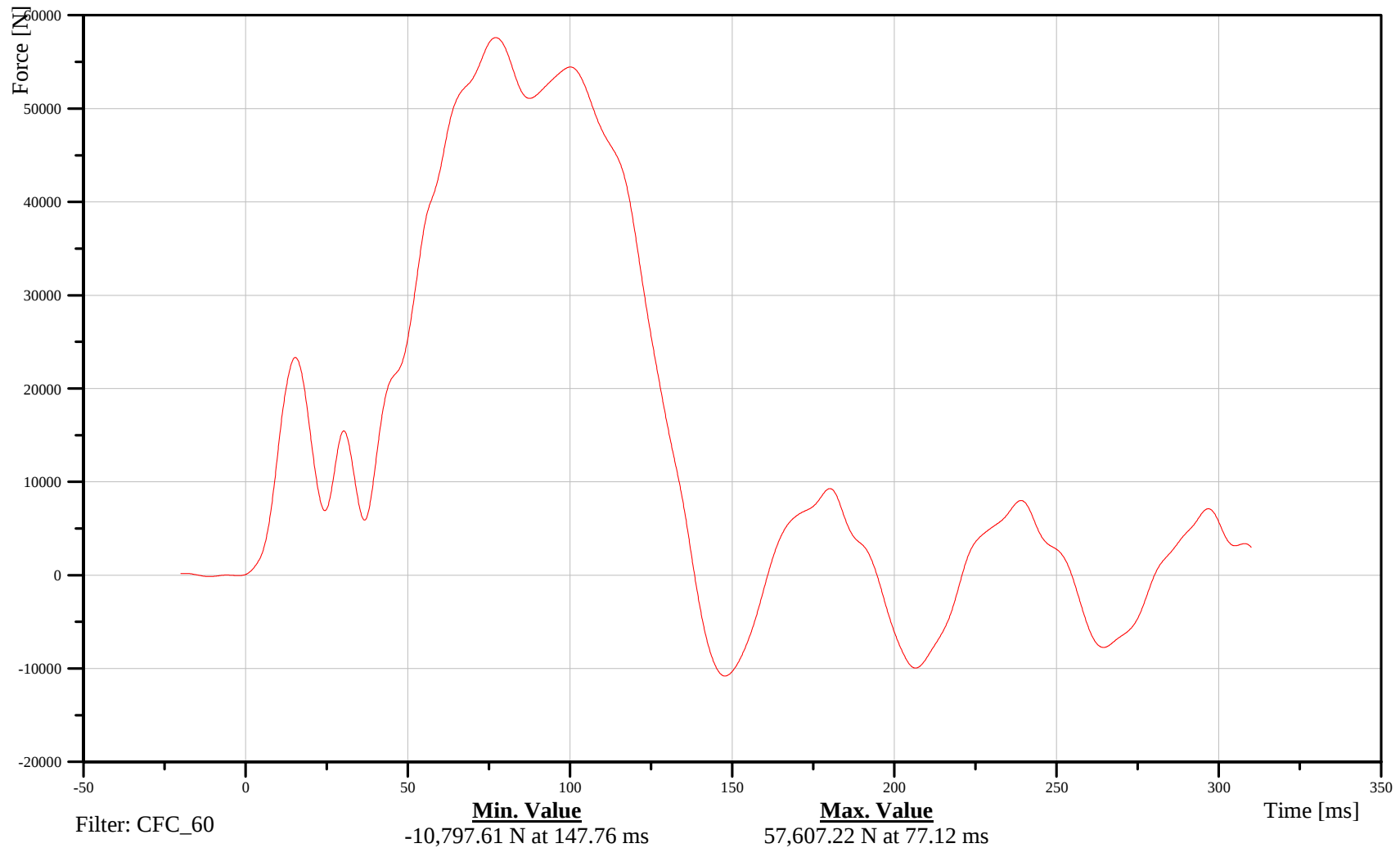
Date: 1/31/2008
Time: 15:15

Customer: VRTC

K0FBAR050000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-151

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

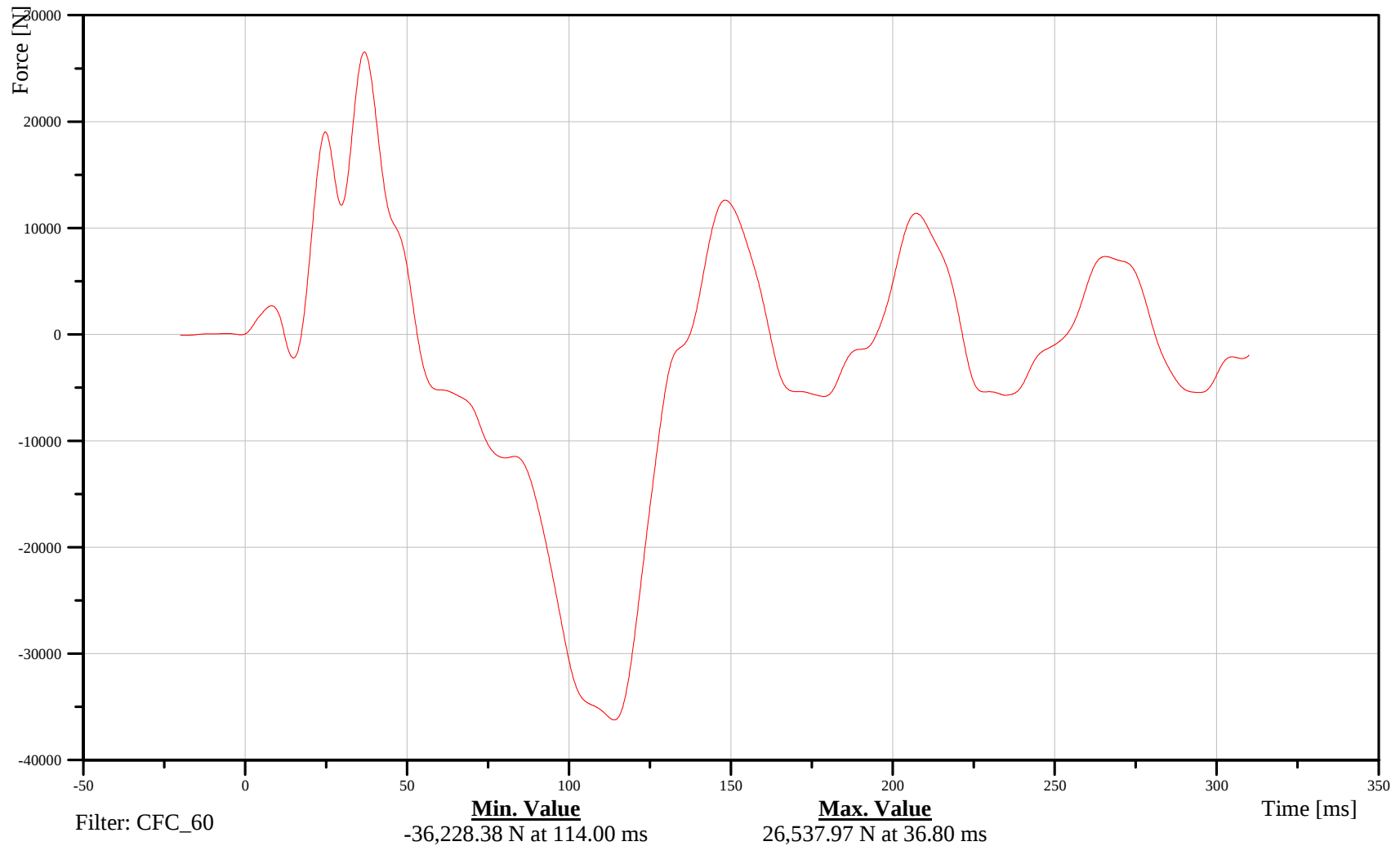
Pole Load Cell 6

Customer: VRTC

K0FBAR060000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-152

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Pole Load Cell 7

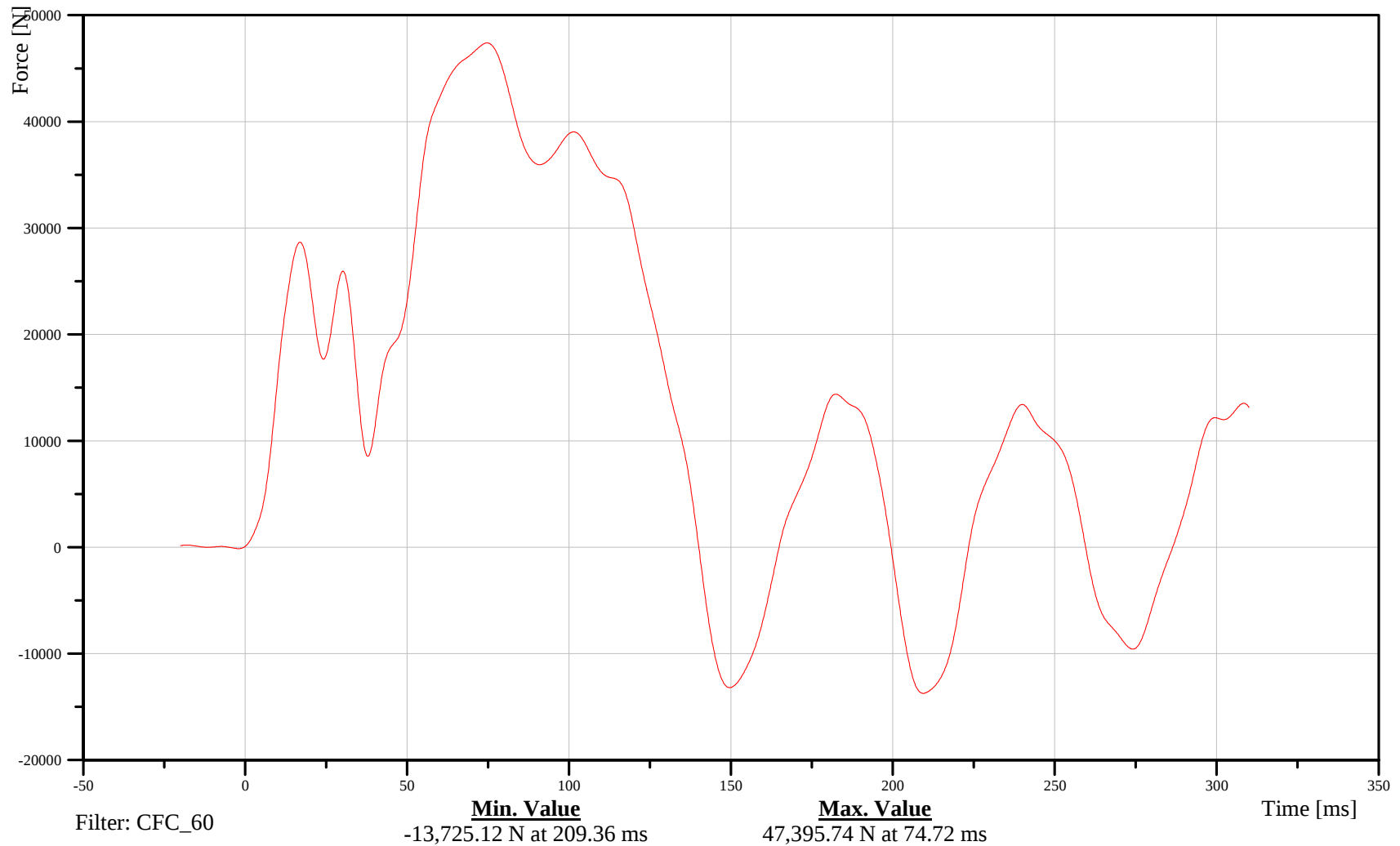
Date: 1/31/2008
Time: 15:15

Customer: VRTC

K0FBAR070000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-153

080131



2005 VW Beetle Left Side FMVSS 214 Pole Impact at 32 kph

Date: 1/31/2008
Time: 15:15

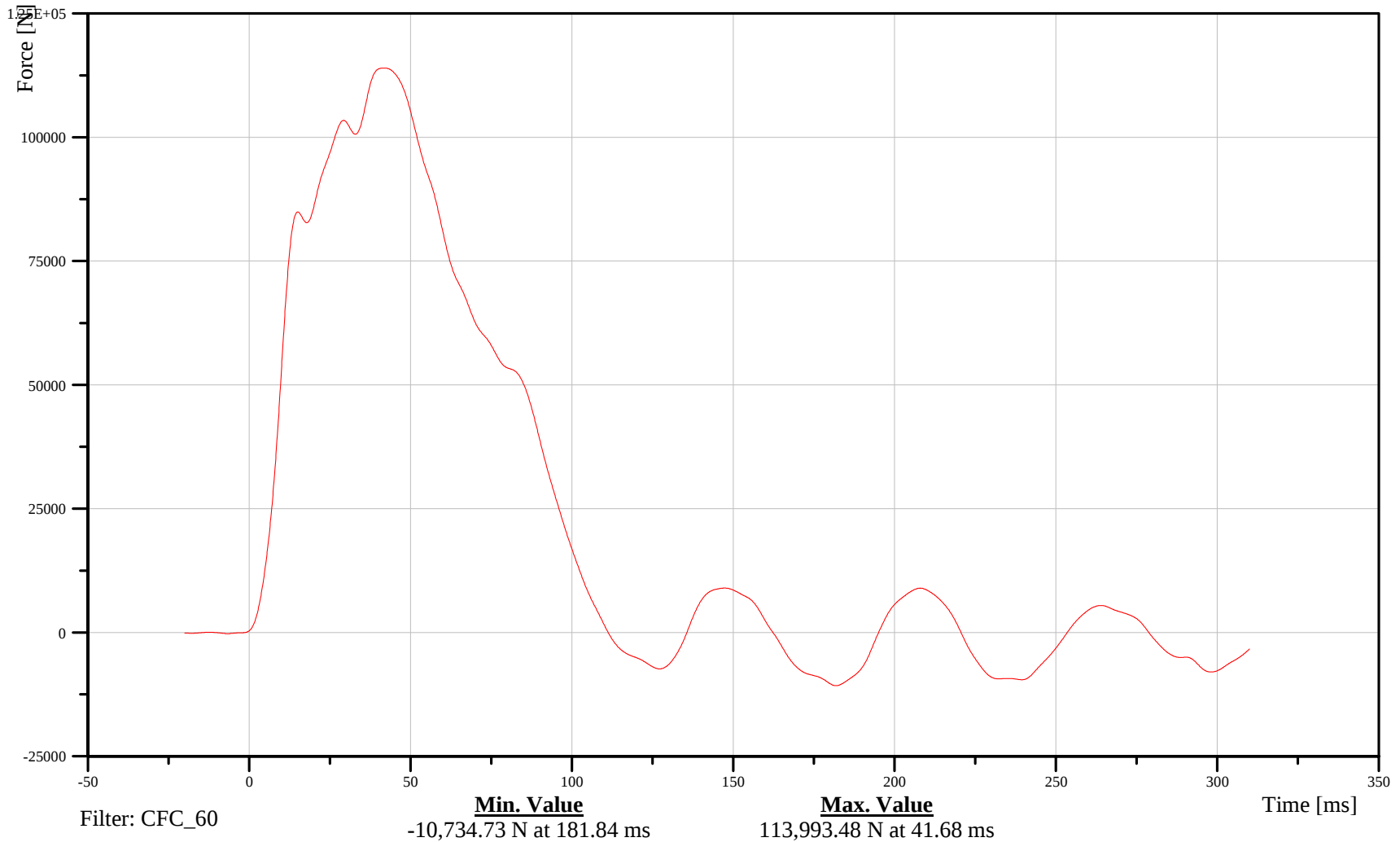
Pole Load Cell 8

Customer: VRTC

K0FBAR080000FOXD

TRC Inc. Test Lab: CTF

Test Number: 080131



B-154

080131

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 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 Berasola

Approved

Ron Stoner

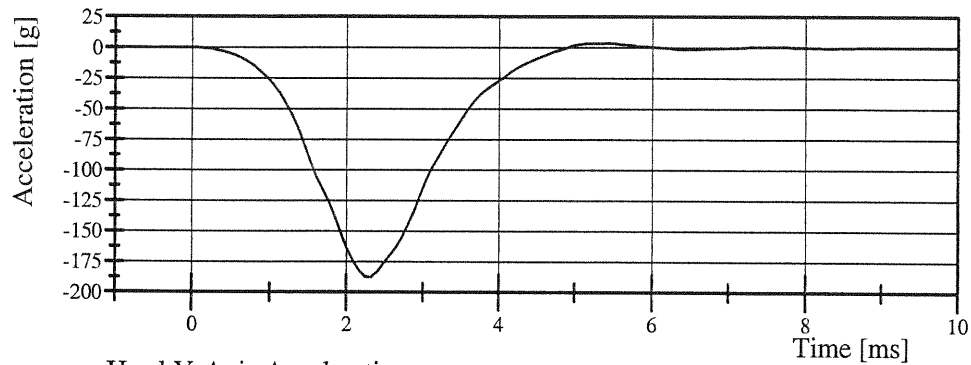
Transportation Research Center Inc.

Front Head Drop

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

Test Date: 8/14/2007

Head X-Axis Acceleration

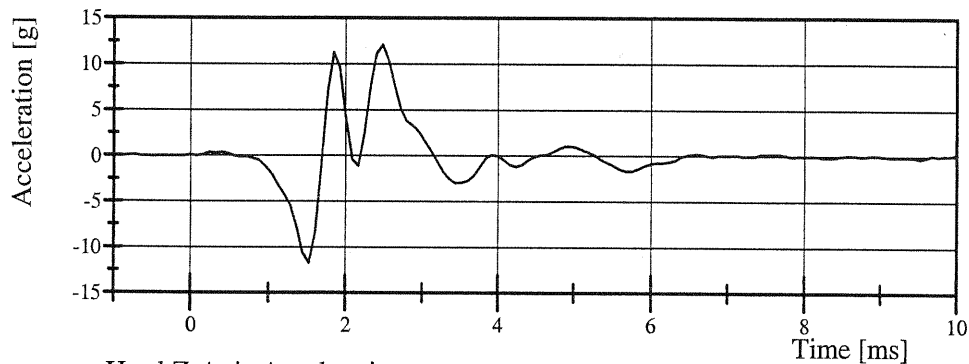


Filter Class: CFC_1000

Max: 3.5 g at 5.4 ms

Min: -187.6 g at 2.3 ms

Head Y-Axis Acceleration

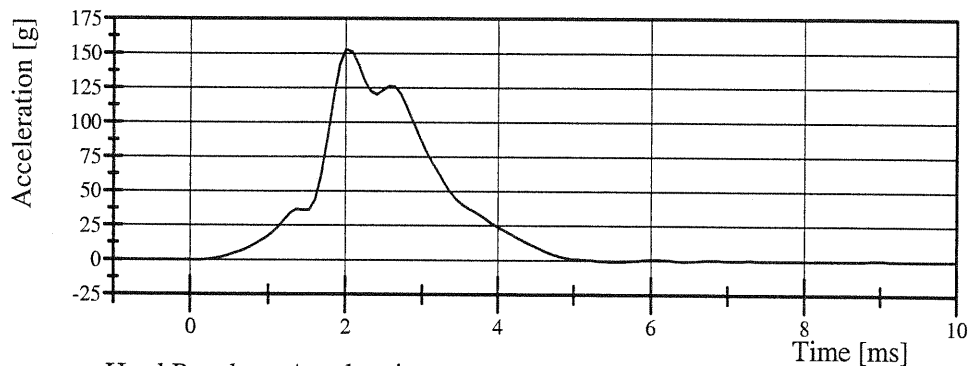


Filter Class: CFC_1000

Max: 12.1 g at 2.5 ms

Min: -11.8 g at 1.5 ms

Head Z-Axis Acceleration

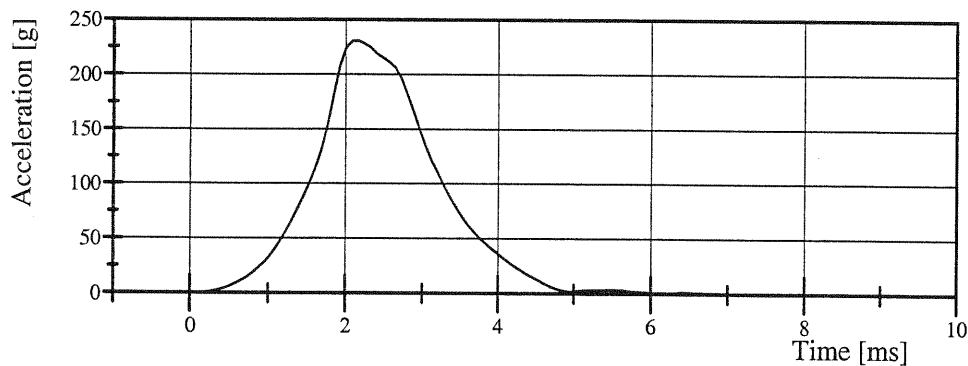


Filter Class: CFC_1000

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

Rout Brand

Approved

Ron Storer

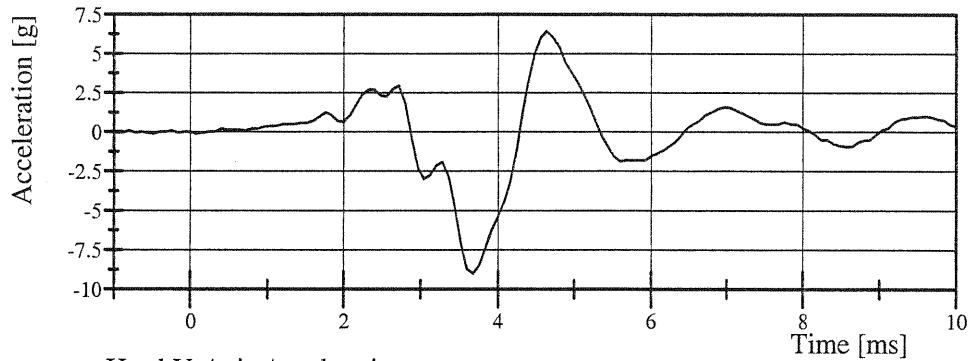
Transportation Research Center Inc.

Left Lateral Head Drop

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

Test Date: 8/14/2007

Head X-Axis Acceleration

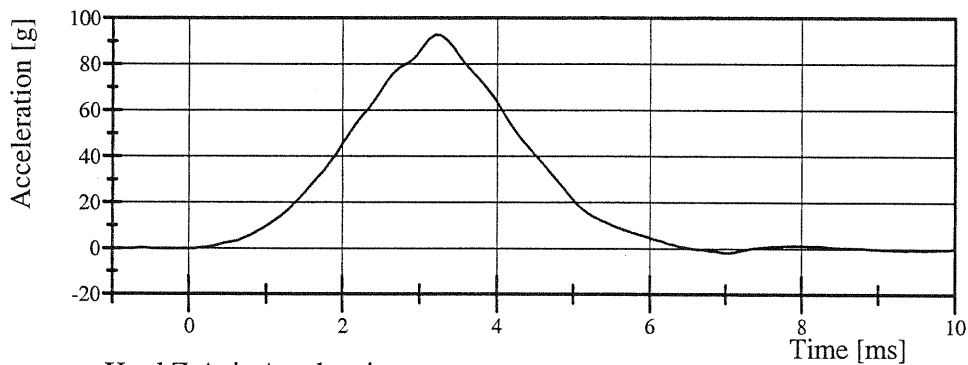


Filter Class: CFC_1000

Max: 6.5 g at 4.6 ms

Min: -9.0 g at 3.7 ms

Head Y-Axis Acceleration

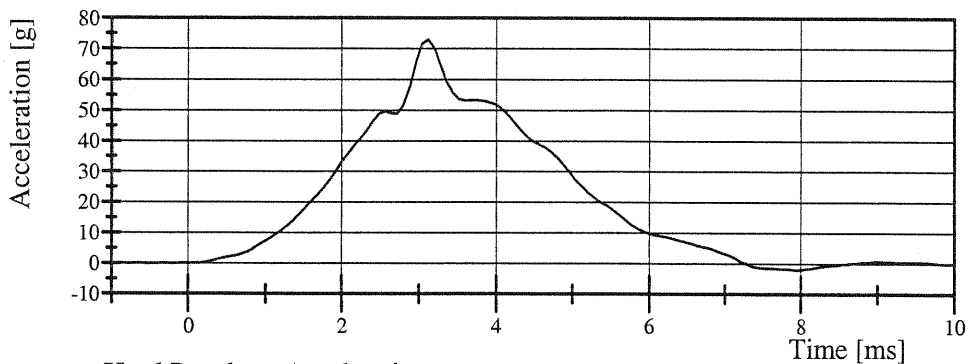


Filter Class: CFC_1000

Max: 92.7 g at 3.2 ms

Min: -1.9 g at 7.0 ms

Head Z-Axis Acceleration

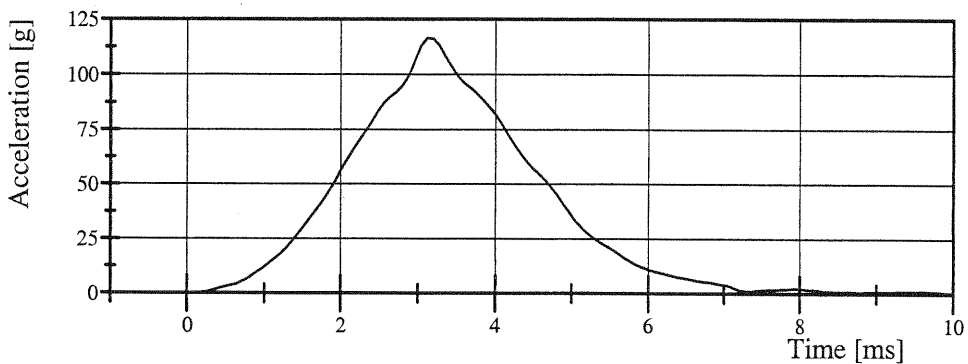


Filter Class: CFC_1000

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

Dart Baul

Approved

Ron Stoner

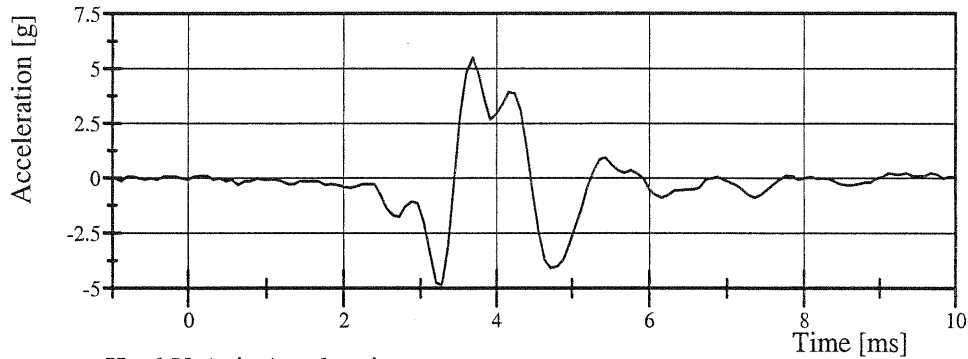
Transportation Research Center Inc.

Right Lateral Head Drop

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

Test Date: 8/14/2007

Head X-Axis Acceleration

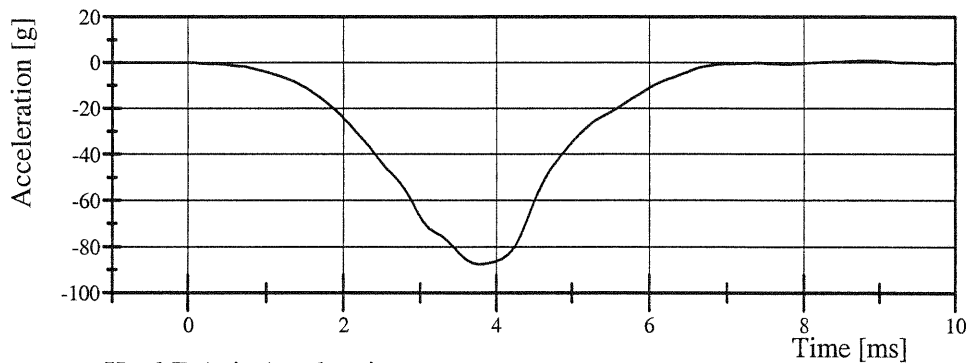


Filter Class: CFC_1000

Max: 5.5 g at 3.7 ms

Min: -4.8 g at 3.3 ms

Head Y-Axis Acceleration

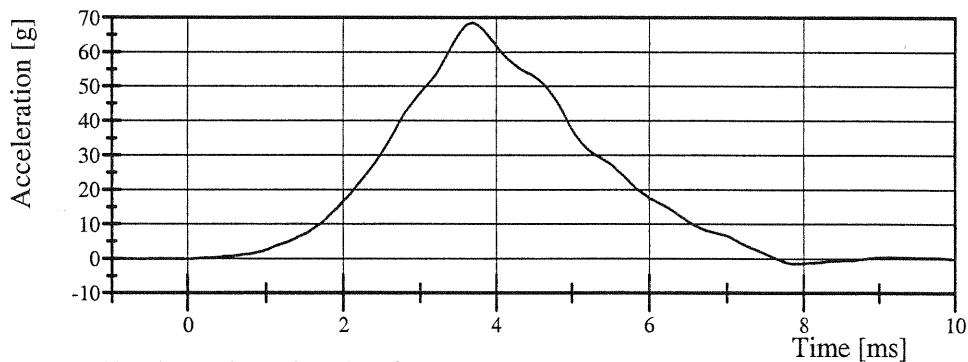


Filter Class: CFC_1000

Max: 0.8 g at 8.7 ms

Min: -87.7 g at 3.8 ms

Head Z-Axis Acceleration

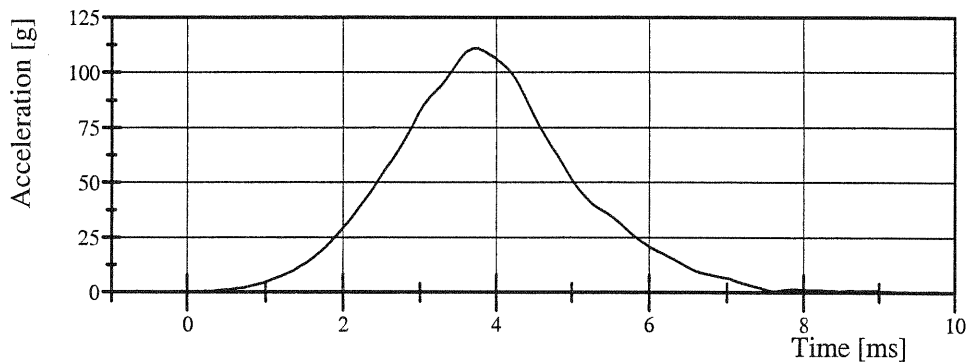


Filter Class: CFC_1000

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 Barabas

Approved

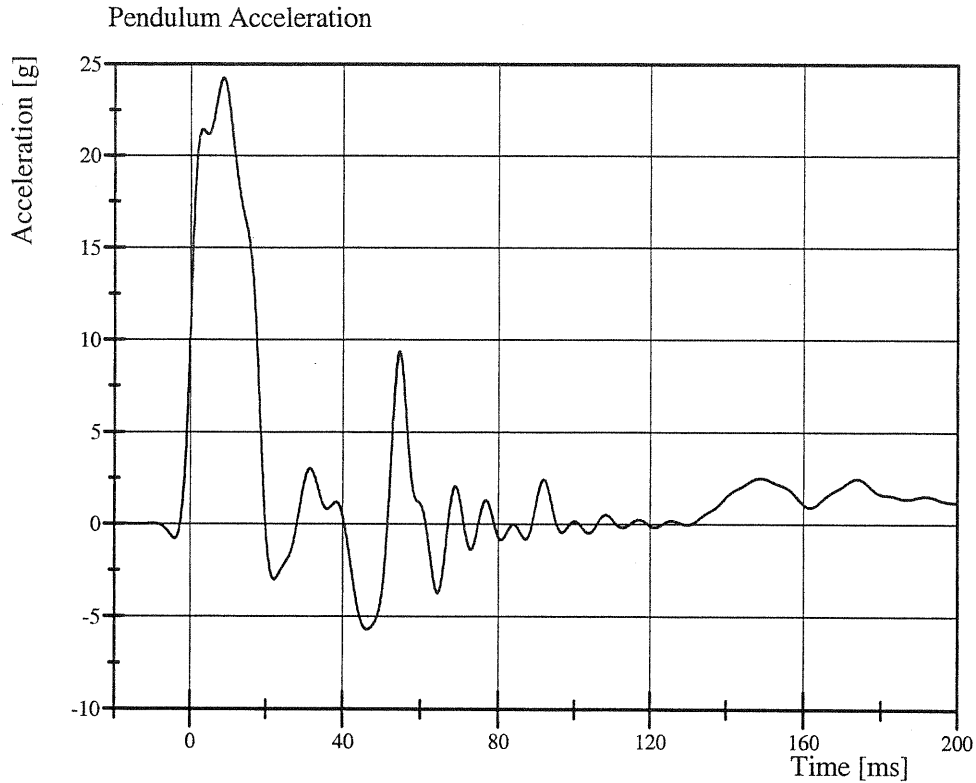
Ken Starnes

Transportation Research Center Inc.

Left Lateral Neck

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

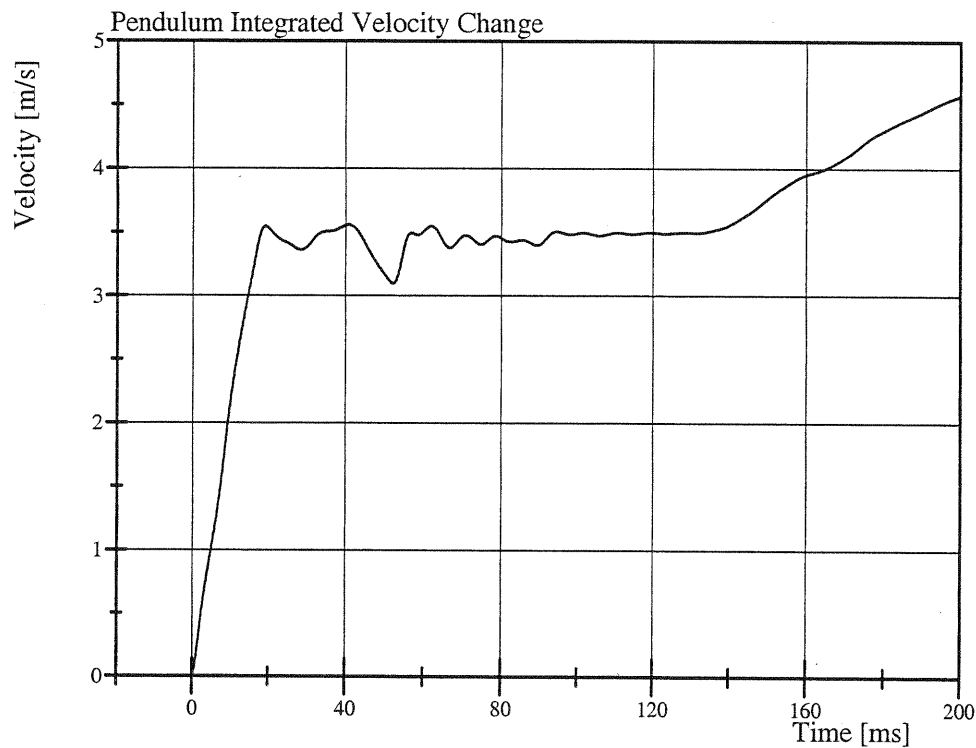
Test Date: 8/15/2007



Filter Class: CFC_60

Max: 24.3 g at 8.7 ms

Min: -5.7 g at 46.2 ms



Filter Class: CFC_180

Max: 4.6 m/s at 200.0 ms

Min: 0.0 m/s at 0.0 ms

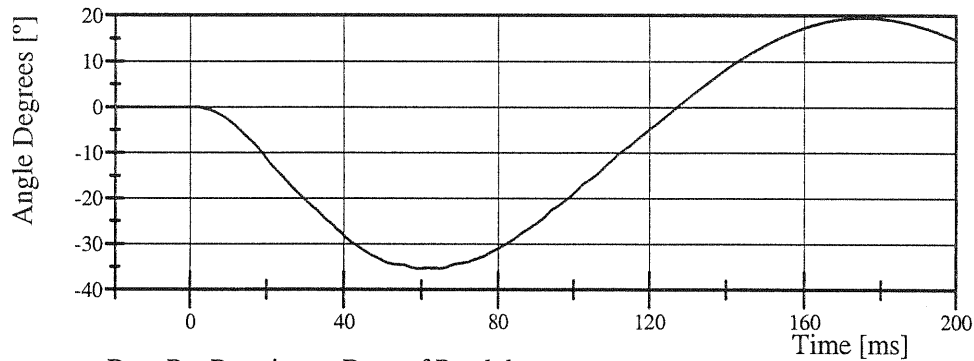
Transportation Research Center Inc.

Left Lateral Neck

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

Test Date: 8/15/2007

Forward Pot Rotation at Base of Pendulum

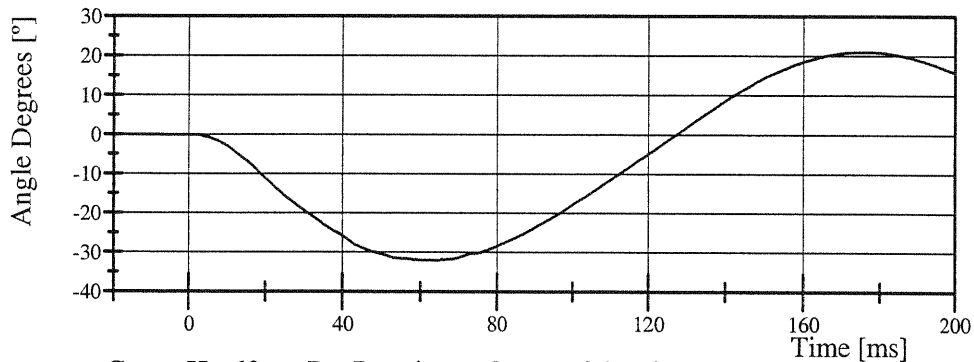


Filter Class: CFC_1000

Max: 19.5 ° at 174.2 ms

Min: -35.4 ° at 59.0 ms

Rear Pot Rotation at Base of Pendulum

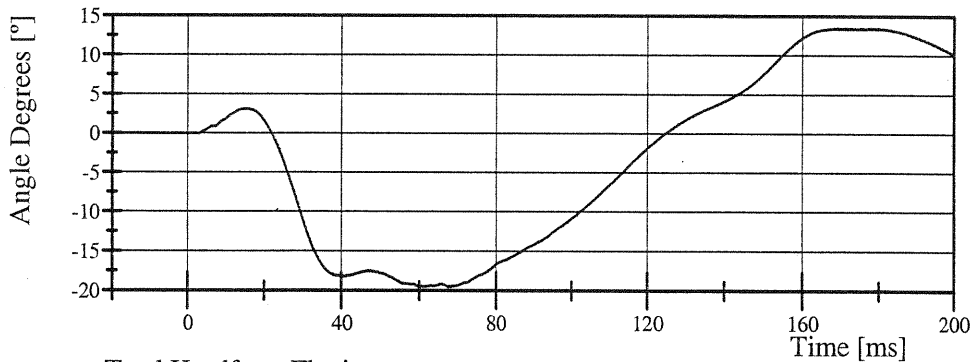


Filter Class: CFC_1000

Max: 21.1 ° at 174.8 ms

Min: -32.1 ° at 64.7 ms

Center Headform Pot Rotation at Center of Gravity

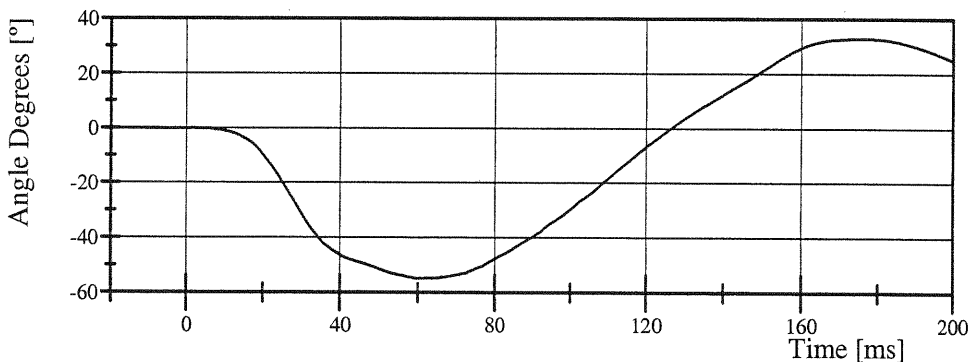


Filter Class: CFC_1000

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

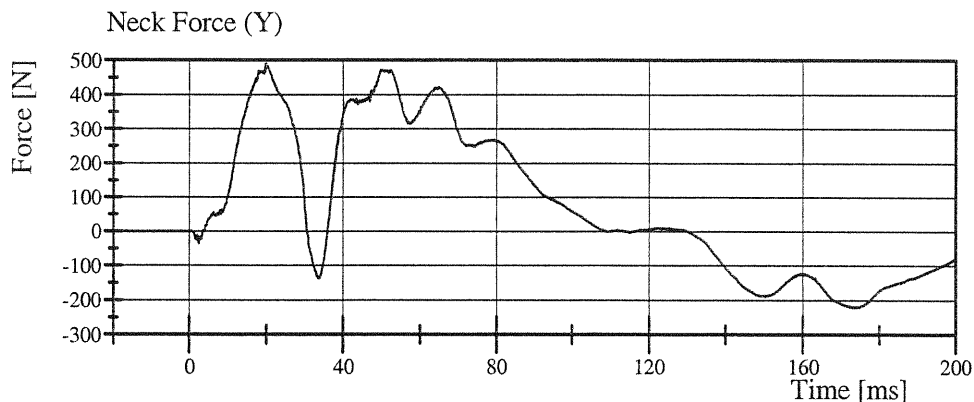
Min: -54.8 ° at 60.9 ms

Transportation Research Center Inc.

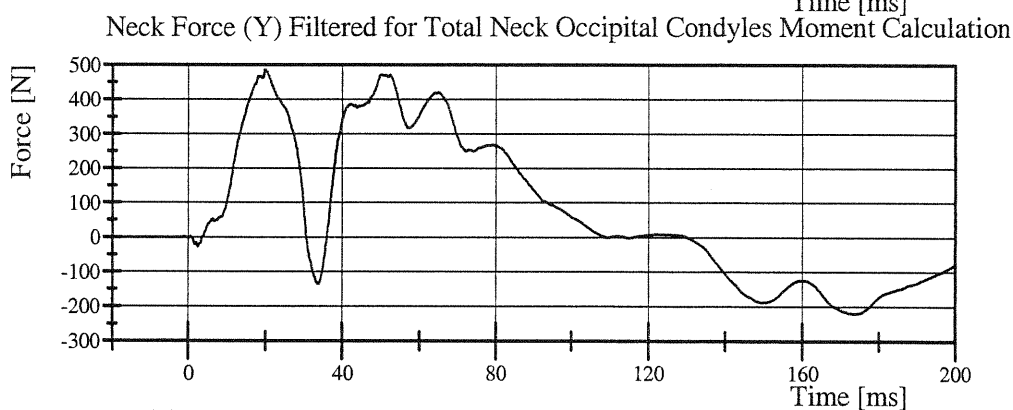
Left Lateral Neck

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

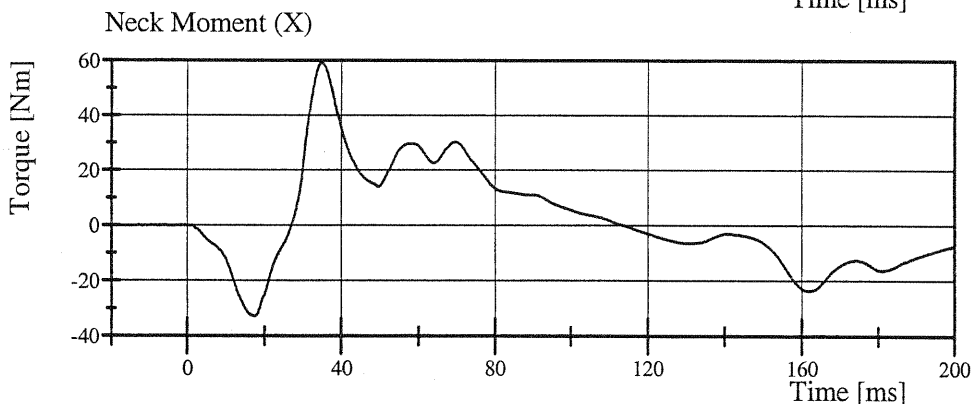
Test Date: 8/15/2007



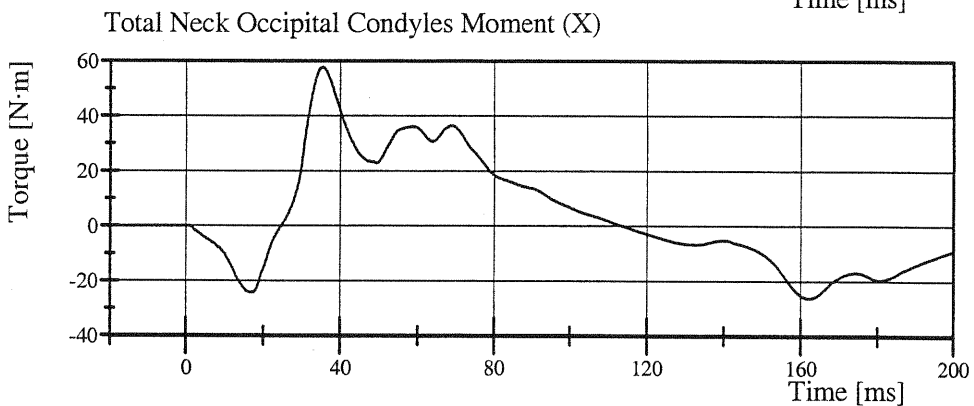
Filter Class: CFC_1000
Max: 490.0 N at 19.8 ms
Min: -220.8 N at 173.4 ms



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

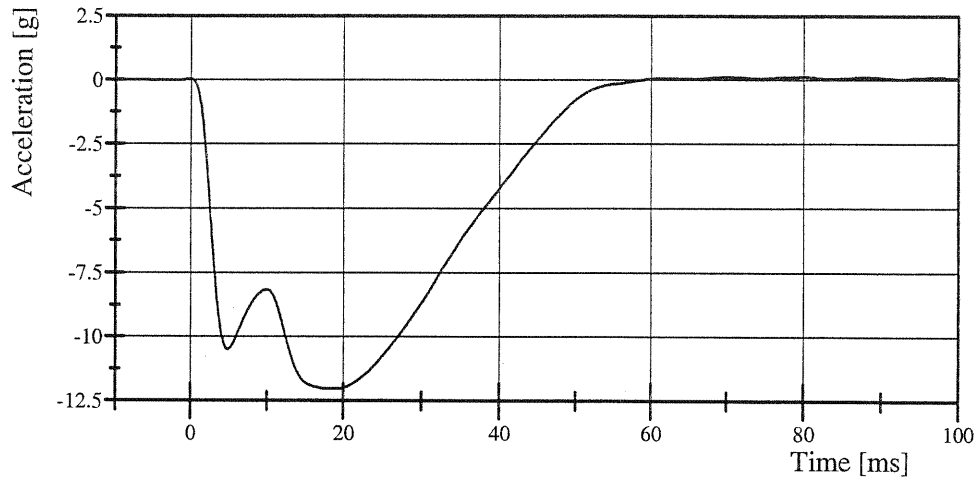
Transportation Research Center Inc.

Left Lateral Shoulder

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

Test Date: 8/14/2007

Impactor Acceleration

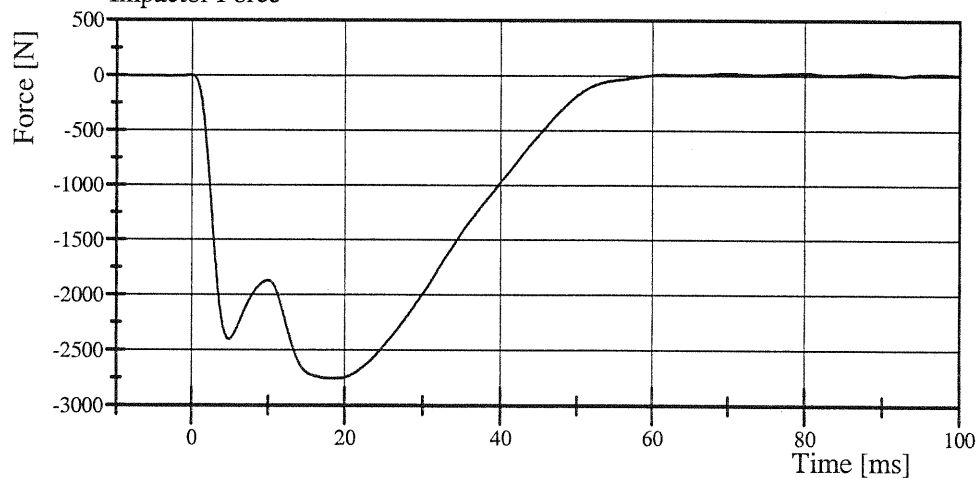


Filter Class: CFC_180

Max: 0.1 g at 80.1 ms

Min: -12.0 g at 19.0 ms

Impactor Force

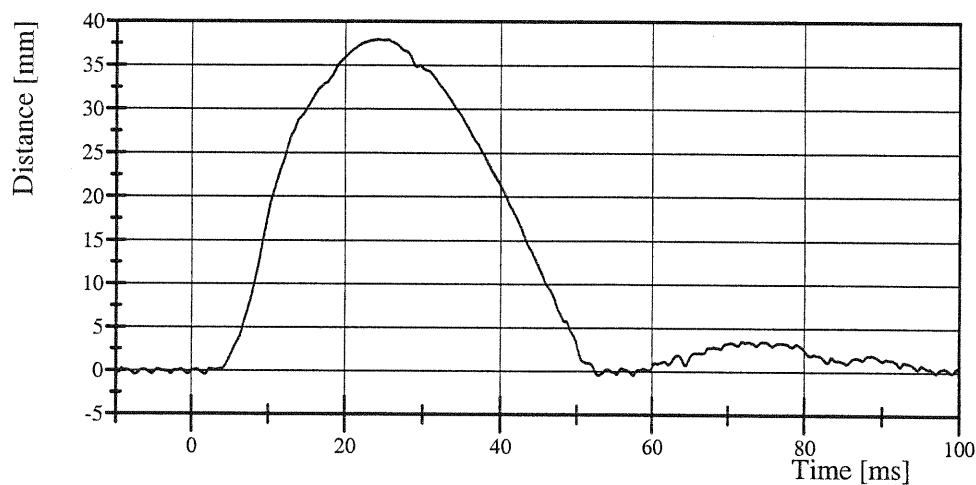


Filter Class: CFC_180

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

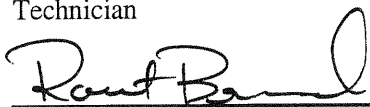
Test Date: 8/14/2007

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

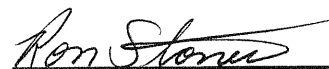
Test meets specifications.

Comments:

Technician



Approved

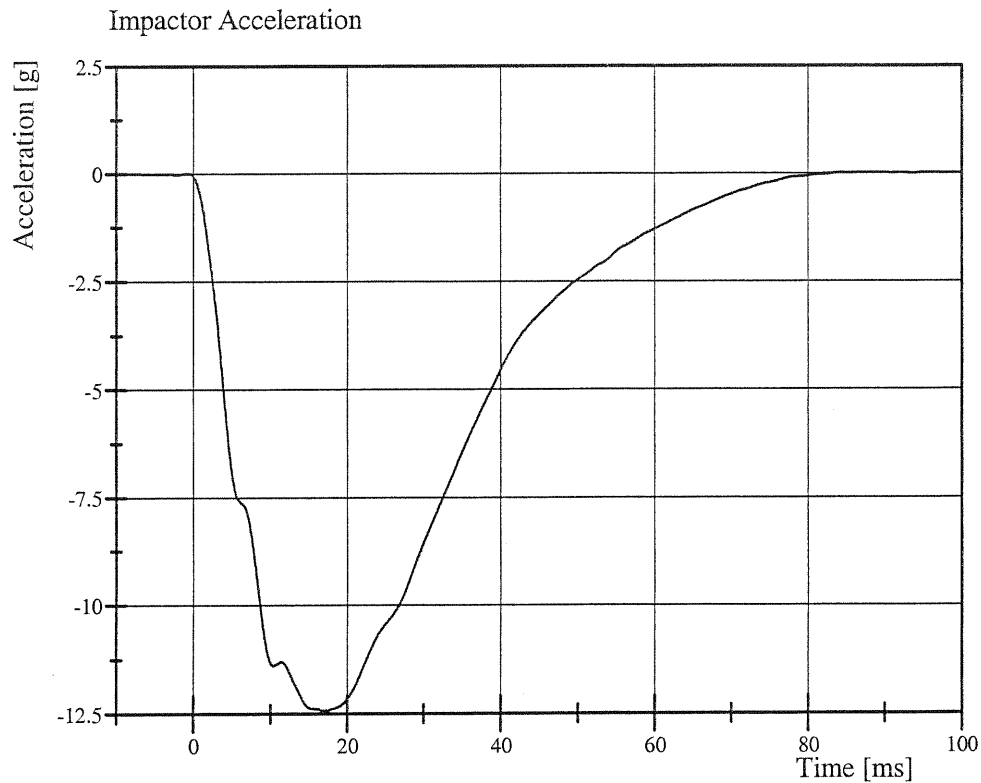


Transportation Research Center Inc.

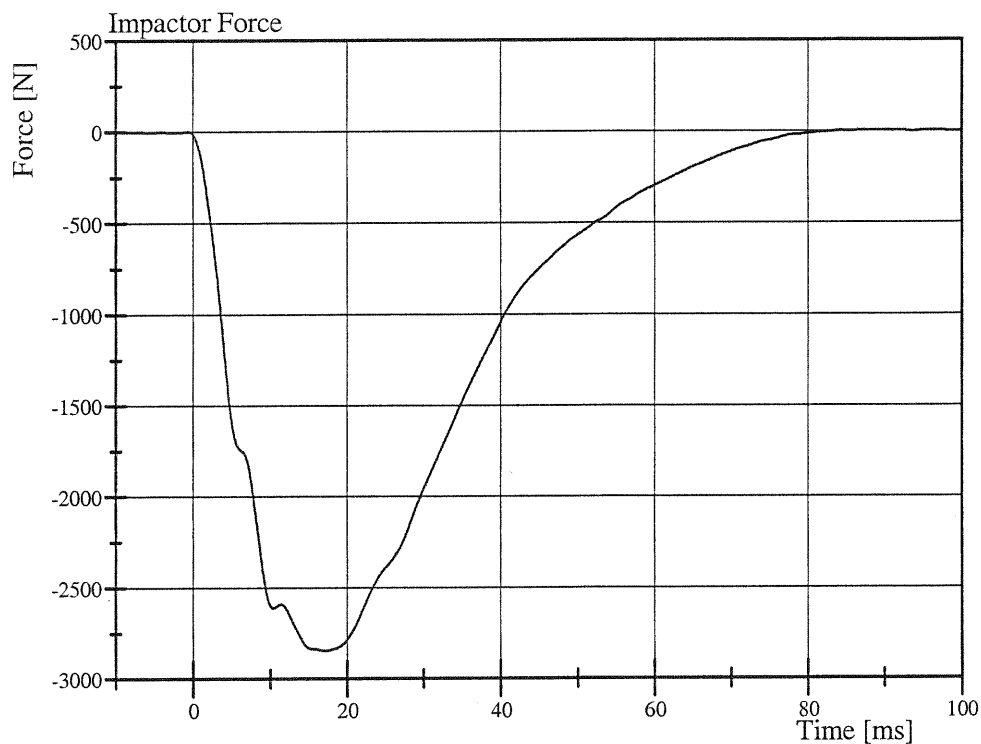
Left Lateral Abdomen

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

Test Date: 8/14/2007



Filter Class: CFC_180
Max: 0.0 g at 87.2 ms
Min: -12.4 g at 17.1 ms



Filter Class: CFC_180
Max: 4.4 N at 87.2 ms
Min: -2,846.4 N at 17.1 ms



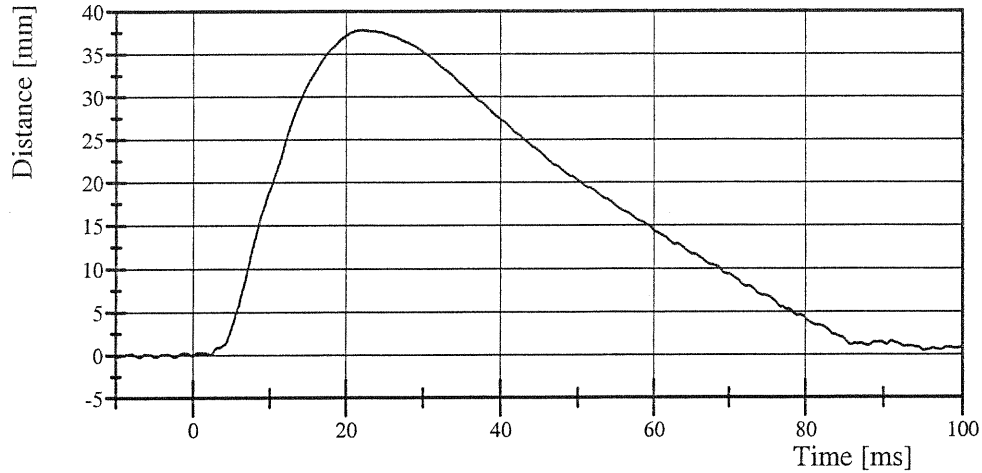
Transportation Research Center Inc.

Left Lateral Abdomen

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

Test Date: 8/14/2007

Upper Abdominal Rib Displacement

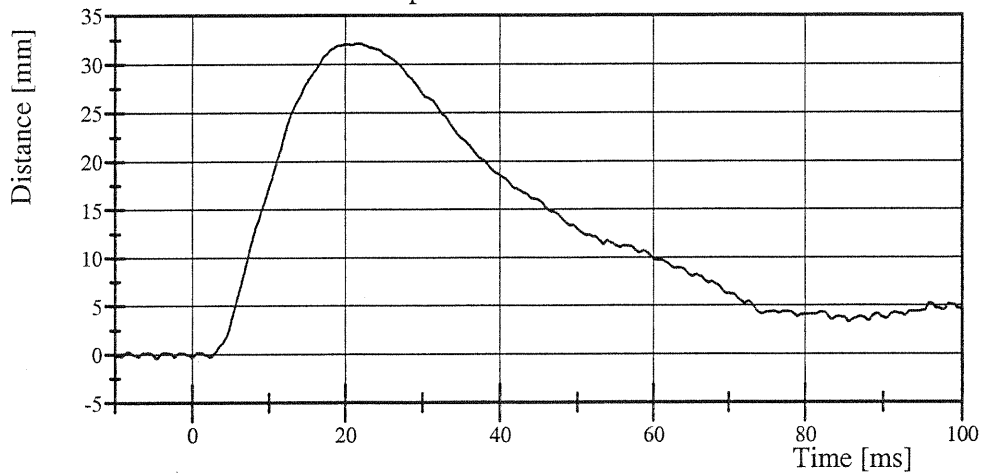


Filter Class: CFC_600

Max: 37.8 mm at 22.1 ms

Min: -0.2 mm at -2.3 ms

Lower Abdominal Rib Displacement

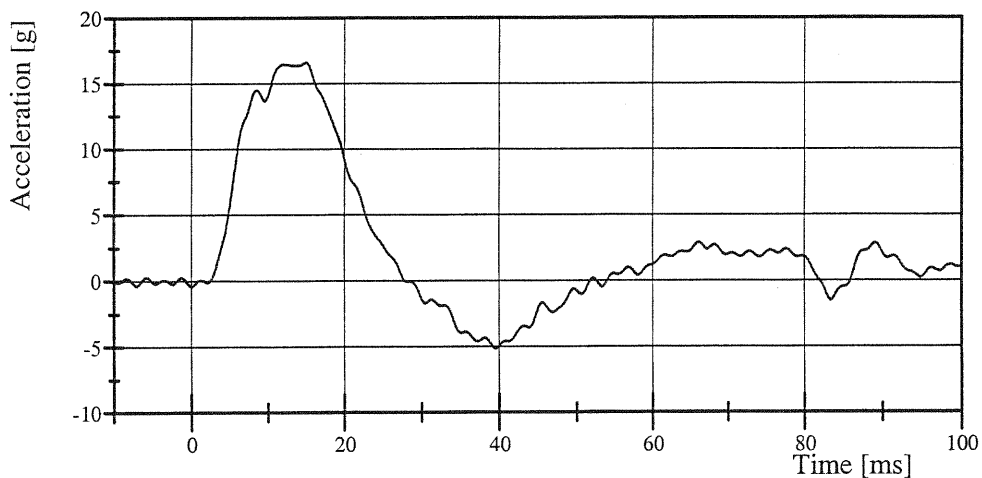


Filter Class: CFC_600

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 080131

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
1	Trig D1	10ZERO00000VO0A	EVENT		1 Logic	Bipolar	
2	P57960	10VEHCCG0000ACXA	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	1000	g	Bipolar	
3	P57897	10VEHCCG0000ACYA	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	1000	g	-Bipolar	
4	P57944	10VEHCCG0000ACZA	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	1000	g	-Bipolar	
5	DT-136-X	10VEHCCG0000AVXA	VEHICLE CENTER OF GRAVITY (X) ANGULAR VELOCITY	400	%s	Bipolar	
6	DT-136-Y	10VEHCCG0000AVYA	VEHICLE CENTER OF GRAVITY (Y) ANGULAR VELOCITY	400	%s	Bipolar	
7	DT-136-Z	10VEHCCG0000AVZA	VEHICLE CENTER OF GRAVITY (Z) ANGULAR VELOCITY	400	%s	Bipolar	
8	P57208	11SILBMI0000ACYA	LEFT FLOOR SILL BETWEEN A PILLER AND IMPACT LINE (Y) ACCELERATION VS TIME	1000	g	Bipolar	
9	P40425	11SILBFR0000ACYA	LEFT SIDE SILL AT A PILLER (Y) ACCELERATION VS TIME	1000	g	Bipolar	
10	P57948	11APILLO0000ACYA	LEFT LOWER A-POST (Y) ACCELERATION VS TIME	1500	g	-Bipolar	
11	P57940	11APILMI0000ACYA	LEFT MID A-POST (Y) ACCELERATION VS TIME	1500	g	-Bipolar	
12	P56932	14SILBFR0000ACYA	LEFT SIDE SILL AT B PILLER (Y) ACCELERATION VS TIME	1000	g	Bipolar	
13	P57012	14BPILLO0000ACYA	LEFT LOWER B-POST (Y) ACCELERATION VS TIME	1500	g	-Bipolar	
14	P57021	14BPILMI0000ACYA	LEFT MID B-POST (Y) ACCELERATION VS TIME	1500	g	-Bipolar	
15	P57405	11SETRFR0000ACYA	LEFT FRONT SEAT TRACK (Y) ACCELERATION VS TIME- align with h-point	1500	g	Bipolar	
16	P57190	12ENGNTTP0000ACXA	Top of Engine X acceleration	1000	g	Bipolar	
17	P57908	12ENGNTTP0000ACYA	Top of Engine Y acceleration	1000	g	-Bipolar	
18	P47541	12VEHC000000ACYA	Center Firewall Y acceleration	1000	g	-Bipolar	
19	P54439	13ROOF000000ACYA	Right side Roof Rail (in line with impact point) Y acceleration	1000	g	-Bipolar	
20	P54533	13SILBFR0000ACYA	Right side sill in-line with impact location y-axis acceleration	1000	g	Bipolar	
21	P48623	18DECK000000ACXA	Rear deck behind rear axel x-axis Accel	1000	g	-Bipolar	
22	P54518	18DECK000000ACYA	Rear deck behind rear axel y-axis Accel	1000	g	Bipolar	
23	P56886	14DOOR000001ACYA	Vehicle Front Door centerline 430 mm above ground Y acceleration	1500	g	Bipolar	
24	P57025	14DOOR000002ACYA	Vehicle Front Door mid-rear 430 mm above ground Y acceleration	1500	g	Bipolar	
25	P56920	14DOOR000003ACYA	Vehicle Front Door upper centerline 685 mm above ground Y acceleration	1500	g	Bipolar	
26	P57202	16DOOR000002ACYA	Vehicle Rear Door mid-rear 430 mm above ground Y acceleration	1500	g	Bipolar	
27	P57222	16DOOR000003ACYA	Vehicle Rear Door upper centerline 685 mm above ground Y acceleration	1500	g	Bipolar	
28	ABFire1	11AIRBMILE00EV0A	DRIV. SIDE AIRBAG IND (IP4)(J18)	5	V	Bipolar	
29	Bit.00	11CONT000001VO00	Head contact switch (R)	1	Logic	Bipolar	
30	Bit.01	11CONT000002VO00	shoulder contact switch (H)	1	Logic	Bipolar	
31	Bit.02	11CONT000003VO00	torso contact switch (C)	1	Logic	Bipolar	
32	Bit.03	11CONT000004VO00	leg contact switch (D)	1	Logic	Bipolar	
33	68069	K0FBAR010000FOXA	POLE LOAD CELL 1	222400	N	-Bipolar	0-Barrier 201 Pole.001
34	68054	K0FBAR020000FOXA	POLE LOAD CELL 2	222400	N	-Bipolar	0-Barrier 201 Pole.002
35	1220BZY-50K-122067A	K0FBAR030000FOXA	POLE LOAD CELL 3	222400	N	-Bipolar	0-Barrier 201 Pole.003
36	1220BZY-50K-122027A	K0FBAR040000FOXA	POLE LOAD CELL 4	222400	N	-Bipolar	0-Barrier 201 Pole.004
37	1220BZY-50K-122061A	K0FBAR050000FOXA	POLE LOAD CELL 5	222400	N	-Bipolar	0-Barrier 201 Pole.005
38	1220BZY-50K-114016A	K0FBAR060000FOXA	POLE LOAD CELL 6	222400	N	-Bipolar	0-Barrier 201 Pole.006
39	1220TX-50K-68056A	K0FBAR070000FOXA	POLE LOAD CELL 7	222400	N	-Bipolar	0-Barrier 201 Pole.007
40	1220TX-50K-68022A	K0FBAR080000FOXA	POLE LOAD CELL 8	222400	N	-Bipolar	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	+	yes	50000
5	11HEADCG00WSANYP	Head Y-Axis Angular Displacement	1000	+	yes	50000
6	11HEADCG00WSANZP	Head Z-Axis Angular Displacement	1000	+	yes	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
34	11THSP1200WSACZP	T12 Z-Axis Acceleration	180	+	yes	2000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
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			
64	11SACRLE00WSFOXP	Sacro-Iliac Left X-Axis Force	600	+	yes	6000
65	11SACRLE00WSFOYP	Sacro-Iliac Left Y-Axis Force	600	+	yes	12000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
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	11FEACLE00WSFOXP	Left Femur X-Axis Force	600	+	yes	10000
78	11FEACLE00WSFOYP	Left Femur Y-Axis Force	600	+	yes	25000
79	11FEACLE00WSFOZP	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 Outboard Y-Axis Force	600	+	yes	20000
87	11KNEELEINWSFOYP	Left Knee Inboard Y-Axis Force	600	+	yes	20000
88	11FEMRRIMIWSFOXP	Right Mid Femur X-Axis Force	600	+	yes	15000
89	11FEMRRIMIWSFOYP	Right Mid Femur Y-Axis Force	600	+	yes	15000
90	11FEMRRIMIWSFOZP	Right Mid Femur Z-Axis Force	600	+	yes	15000
91	11FEMRRIMIWSMOXP	Right Mid Femur Moment About X Axis	600	+	yes	350
92	11FEMRRIMIWSMOYP	Right Mid Femur Moment About Y Axis	600	+	yes	350
93	11FEMRRIMIWSMOZP	Right Mid Femur Moment About Z Axis	600	+	yes	300
94	10VEHCCG0000ACXA	Vehicle Center of Gravity X-Axis Acceleration	60	+	yes	1000
95	10VEHCCG0000ACYA	Vehicle Center of Gravity Y-Axis Acceleration	60	+	yes	1000
96	10VEHCCG0000ACZA	Vehicle Center of Gravity Z-Axis Acceleration	60	+	yes	1000
96A	10VEHCCG0000ACRA	Vehicle Center of Gravity Resultant Acceleration	60			
97	10VEHCCG0000AVXA	Vehicle Center of Gravity X-Axis Angular Velocity	60	+	yes	400
98	10VEHCCG0000AVYA	Vehicle Center of Gravity Y-Axis Angular Velocity	60	+	yes	400
99	10VEHCCG0000AVZA	Vehicle Center of Gravity Z-Axis Angular Velocity	60	+	yes	400
100	11SILBMI0000ACYA	Left Floor Sill Between A-Pillar and Impact Line Y-Axis Acceleration	60	+	yes	1000
100A	11SILBMI0000VEYC	Left Floor Sill Between A-Pillar and Impact Line Y-Axis Velocity	180			
100B	11SILBMI0000DCYC	Left Floor Sill Between A-Pillar and Impact Line Y-Axis Displacement	180			

Command File Test Number 080131

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
101	11SILBFR0000ACYA	Left Side Sill at A-Pillar Y-Axis Acceleration	60	+	yes	1000
101A	11SILBFR0000VEYC	Left Side Sill at A-Pillar Y-Axis Velocity	180			
101B	11SILBFR0000DCYC	Left Side Sill at A-Pillar Y-Axis Displacement	180			
102	11APILLO0000ACYA	Left Lower A-Post Y-Axis Acceleration	60	+	yes	1500
103	11APILMI0000ACYA	Left Mid A-Post Y-Axis Acceleration	60	+	yes	1500
104	14SILBFR0000ACYA	Left Side Sill at B-Pillar Y-Axis Acceleration	60	+	yes	1000
104A	14SILBFR0000VEYC	Left Side Sill at B-Pillar Y-Axis Velocity	180			
104B	14SILBFR0000DCYC	Left Side Sill at B-Pillar Y-Axis Displacement	180			
105	14BPILLO0000ACYA	Left Lower B-Post Y-Axis Acceleration	60	+	yes	1500
106	14BPILMI0000ACYA	Left Mid B-Post Y-Axis Acceleration	60	+	yes	1500
107	11SETRFR0000ACYA	Left Front Seat Track Y-Axis Acceleration	60	+	yes	1500
108	12ENGNT0000ACXA	Top of Engine X-Axis Acceleration	60	+	yes	1000
109	12ENGNT0000ACYA	Top of Engine Y-Axis Acceleration	60	+	yes	1000
110	12VEHC000000ACYA	Center Firewall Y-Axis Acceleration	60	+	yes	1000
111	13ROOF000000ACYA	Right Side Roof Rail (in line with impact point) Y-Axis Acceleration	60	+	yes	1000
112	13SILBFR0000ACYA	Right Side Sill (in-line with impact location) Y-Axis Acceleration	60	-	yes	1000
112A	13SILBFR0000VEYC	Right Side Sill (in-line with impact location) Y-Axis Velocity	180			
112B	13SILBFR0000DCYC	Right Side Sill (in-line with impact location) Y-Axis Displacement	180			
113	18DECK000000ACXA	Rear Deck Behind Rear Axle X-Axis Acceleration	60	+	yes	1000
114	18DECK000000ACYA	Rear Deck Behind Rear Axle Y-Axis Acceleration	60	+	yes	1000
115	14DOOR000001ACYA	Vehicle Front Door Centerline 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
116	14DOOR000002ACYA	Vehicle Front Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
117	14DOOR000003ACYA	Vehicle Front Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
118	16DOOR000002ACYA	Vehicle Rear Door Mid-Rear 430 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
119	16DOOR000003ACYA	Vehicle Rear Door Upper Centerline 685 mm Above Ground Y-Axis Acceleration	60	+	yes	1500
120	11AIRBMILE00EV0A	Driver Side Airbag Inductor	1000	+	no	5
121	11CONT000001VO00	Head Contact Switch	0	+	no	1
122	11CONT000002VO00	Shoulder Contact Switch	0	+	no	1
123	11CONT000003VO00	Torso Contact Switch	0	+	no	1
124	11CONT000004VO00	Leg Contact Switch	0	+	no	1
125	K0FBAR010000FOXA	Pole Load Cell 1	60	+	yes	222400
126	K0FBAR020000FOXA	Pole Load Cell 2	60	+	yes	222400
127	K0FBAR030000FOXA	Pole Load Cell 3	60	+	yes	222400
128	K0FBAR040000FOXA	Pole Load Cell 4	60	+	yes	222400
129	K0FBAR050000FOXA	Pole Load Cell 5	60	+	yes	222400
130	K0FBAR060000FOXA	Pole Load Cell 6	60	+	yes	222400
131	K0FBAR070000FOXA	Pole Load Cell 7	60	+	yes	222400
132	K0FBAR080000FOXA	Pole Load Cell 8	60	+	yes	222400

2005 VW BEETLE LEFT SIDE FMVSS 214 POLE IMPACT AT 32 KPH

