Vehicle Research and Test Center

MDB into Left Side of

2005 Ford Five Hundred

World SID Evaluation

TRC Inc. Test Number: 080821

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Section 1.0

Purpose and Test Procedure

Purpose

This side impact test is part of the current FMVSS 214D Side Impact Protection Regulation, dated September 7, 2007. 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 the 50^{th} percentile male WorldSID dummy in a 2005 Ford Five Hundred in the moving deformable barrier test configuration. The test was conducted in accordance with the National Highway Traffic Safety Administration's Laboratory Test Procedure for FMVSS 214 "Dynamics" Side Protection (TP214D-08, dated December 15, 2006).

Section 2.0

Side Impact Test

Summary of Side Impact Test

A 2005 Ford Five Hundred was impacted on the driver's side by a moving deformable barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 52.8 km/h (32.8 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on August 21, 2008. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (World SID) are included in Appendix A.

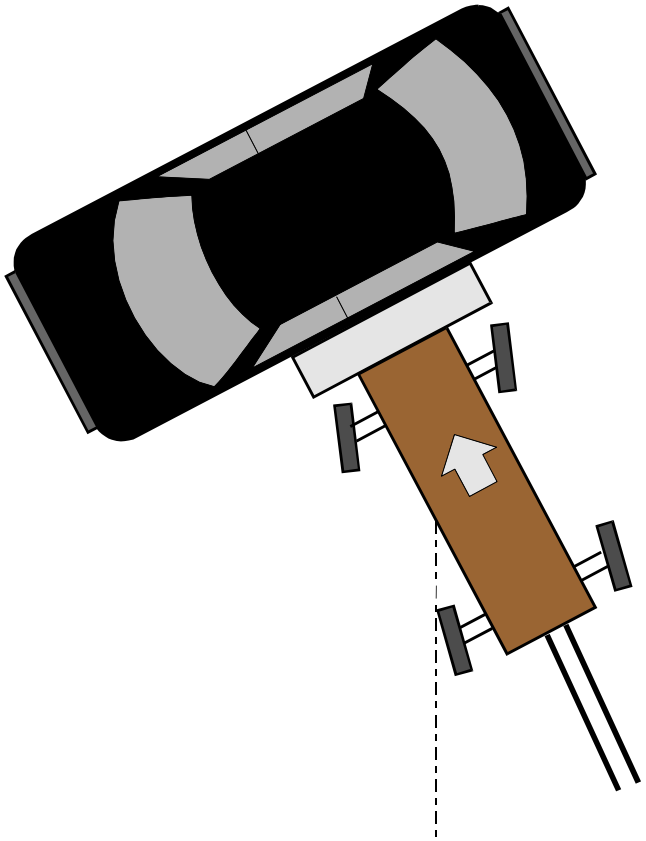
The MDB was equipped with a 214 style deformable barrier face and eight (8) accelerometers to measure longitudinal, lateral, and vertical axis accelerations. The barrier's specified impact velocity range was 52.0 to 53.6 km/h.

Two restrained Side Impact Dummies (World SID) were seated in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions using instructions specified in the World SID Seating Procedure Draft 1.0 and VRTC personnel. Both World SIDs were calibrated prior to this test and were restrained by 3-point seat belts and a side curtain airbag. The side impact test was documented by one (1) real-time camera and nine (9) 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. One hundred twenty-eight (128) 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 182 channels of data were recorded. Appendix B contains the vehicle, barrier, and dummy response data traces.

TEST RESULT SUMMARY



	Front World SID (#014)	Rear World SID (#016)
HIC36 (g) CFC 1000	42	243
Upper Rib Deflection (mm) CFC 600		
Rib 1	20 mm	32 mm
Rib 2	15 mm	36 mm
Rib 3	16 mm	33 mm
Lower Rib Deflection (mm) CFC 600		
Rib 1	23 mm	32 mm
Rib 2	17 mm	22 mm
Lower Spine Resultant (g) CFC 180	47 g	46 g
Pubic Symph. Force (N) CFC 600	777 N	1068 N

	2005 Ford Five Hundred
Vehicle Test Weight	1911.4 kg (4213.9 lbs)
Impact Point (Horizontal)-behind center of front axle	487 mm
Maximum Crush	182 mm Level 2
Impact Speed	32.8 mph

Data Acquisition Explanations

There were no anomalies to report for this test.

Section 3

Summary of Test Results

Table 1 General Test Vehicle Parameter Data

Test Vehicle: 2005 Ford Five Hundred Test Date: 08/21/08

TEST VEHICLE INFORMATION

Make	Ford
Model	Five Hundred
Body Style	Passenger Car
VIN	1FAHP23195G165757
Color	Black
Odometer Reading	61,758
Transmission	3-Speed Automatic
Final Drive	Front wheel drive
Number of Cylinders	6
Engine Displacement	3.0 L
Engine Placement	V
Air Conditioning	Yes
Power Windows	Yes
Power Seats	Yes
Cruise Control	Yes
Tinted Glass	Yes
Keyless Entry	Yes

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes
Driver Side Curtain Airbag	Yes
Driver Side Torso Airbag	Yes
Rear Passenger Side/Curtain Airbag	Yes
Rear Passenger Side Torso Airbag	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	4
AM/FM Radio	Yes
CD Player	Yes
Sun Roof	No
Telescoping Steering Wheel/Column	No

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Company
Date of Manufacture	03/05

GVWR (lb)	4800
GAWR Front (lb)	2525
GAWR Rear (lb)	2350

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

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Ford Five Hundred Test Date 08/21/08

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW) (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	499.6	343.4		553.0	433.6	
Right	kg	499.0	327.4		519.2	405.6	
Ratio	%	59.8	40.2		56.1	43.9	
Totals	kg	998.6	670.8	1669.4	1072.2	839.2	1911.4

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1669.4
Weight of World SID ATD (2)	kg	76.0
Rated Cargo/Luggage Weight (RCLW)	kg	90.0
Calculated Vehicle Target Weight (TVTW)	kg	1911.4

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	734	738	733	739	1152
As Tested	mm	719	727	694	708	1259
Fully Loaded	mm	720	740	685	710	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2867
Total Vehicle Length at Left Side	mm	4890
Total Vehicle Length at Centerline	mm	5099
Total Vehicle Length at Right Side	mm	4890
Weight of Ballast in Trunk	kg	0
Amount of Stoddard Solvent in Fuel Tank	liters	67.0

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Impact Reference Line From Front Axle	mm	491
Impact Point	mm	487
Impact Point Difference	mm	4 mm Left

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Ford Five Hundred Test Date 08/21/08

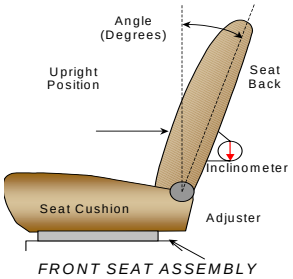
WORLD SID RIDING POSITION

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

Driver: Total Number of detents: N/A

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

Driver seat back angle: The back was adjusted to 9.1° forward of vertical measured at the head restraint.



Was the driver seatback adjusted during seating: ___ No _X_ Yes

If yes, how far and final angle: The seatback was adjusted 1 notch, final angle 10.1°.

Was the rear passenger seatback adjusted during seating: ___ No ___ Yes _X_ N/A

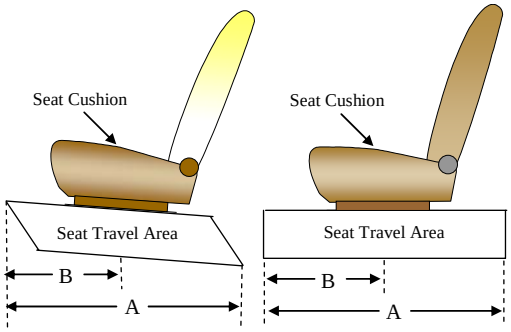
If yes, how far and final angle: _____.

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	235 mm	Mid
Rear Seat	Fixed	Fixed



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	5	1
Rear Seat	Fixed	N/A

Position number one is the uppermost adjustment position.

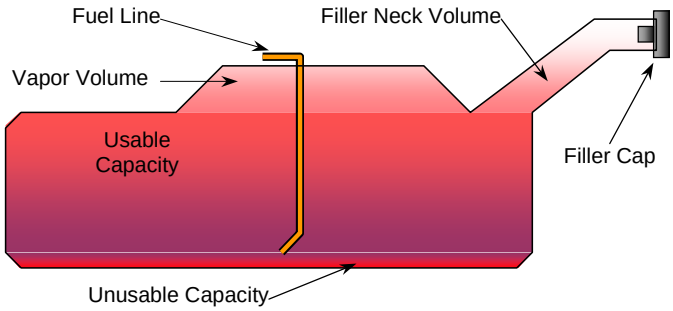
Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2005 Ford Five Hundred Test Date 08/21/08

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank"	72.0
Usable Capacity used for FMVSS 301	72.0
Actual Amount of Solvent used	67.0

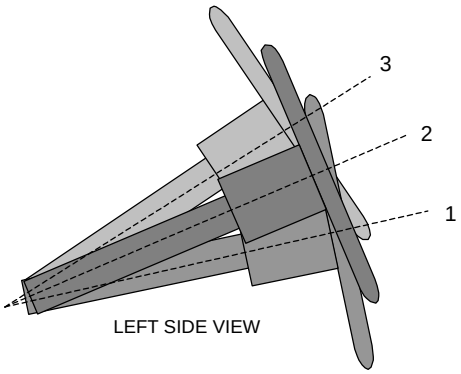
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



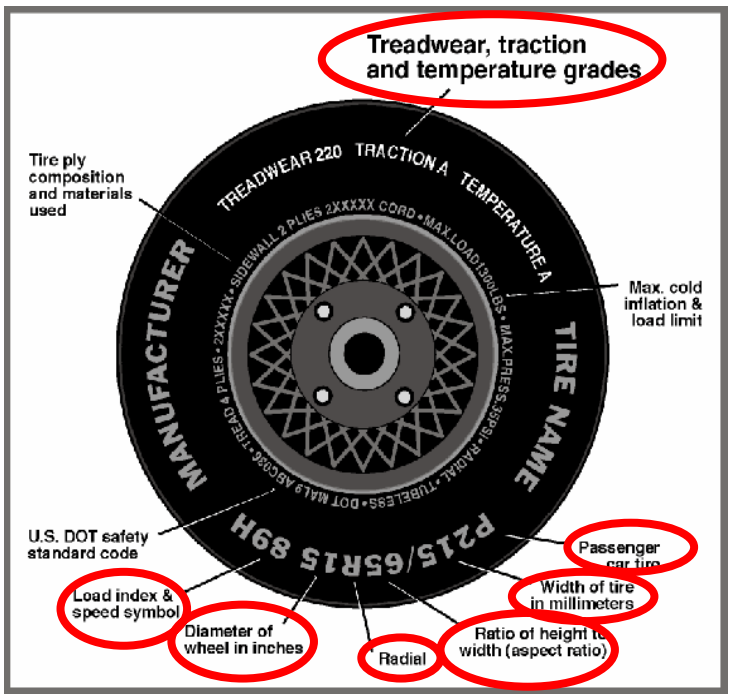
STEERING COLUMN ASSEMBLY

STEERING WHEEL/COLUMN POSITIONS

	Degrees	Fore/Aft Position, mm
Lowermost Position	21.8	N/A
Geometric Center Position	24.3	N/A
Uppermost Position	27.1	N/A

Table 2 Test Vehicle Tire Information

Test Vehicle: 2005 Ford Five Hundred Test Date 08/21/08



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold / Test Pressure (kPa)	220	220
Recommended Tire Size	P215/60R17	P215/60R17
Tire Size on Vehicle	P215/60R17	P215/60R17
Tire Manufacturer	Continental	Continental
Tire Name	ContiTouring Contect	ContiTouring Contect
Radial	R	R
Wheel Diameter	17	17
Load Index & Speed Symbol	95T	95T
Treadwear	360	360
Traction Grade	A	A
Temperature Grade	A	A

Table 3 Post-Test Observations

Test Vehicle: 2005 Ford Five Hundred Test Date 08/21/08

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat World SID	Rear Seat World SID
Dummy Type / Serial No.	World SID / 014	World SID / 016
Head Contact	Side curtain airbag, headrest	Side curtain airbag, side header
Upper Torso Contact	Side airbag	Door panel
Lower Torso Contact	Door panel	Door panel
Left Knee Contact	Door panel	Door panel
Right Knee Contact	None	None

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

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

POST TEST STRUCTURAL OBSERVATIONS

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

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 01		Left Rear (Passenger) Occupant Location 04	
	Installed	Operation	Installed	Operation
Front Airbag	Yes	No	N/A	N/A
Side Airbag	Yes	Yes	No	N/A
Head Airbag	No	N/A	No	N/A
Curtain Airbag	Yes	Yes	Yes	Yes
Seat Belt Pretensioner	Yes	No	Yes	No
Seat Belt Load Limiter	No	N/A	No	N/A

Section 4

Occupant and Vehicle Information

Table 4 World SID Instrumentation Data

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Driver Dummy Serial Number: 014

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Head Acceleration	X	4.9	249.3	9.6	84.2
	Y	21.8	62.6	6.1	304.6
	Z	15.0	54.5	4.7	79.0
	R	24.8	62.6		
Head Angular Displacement	X	2578.3	75.2	1161.0	37.1
	Y	1599.7	74.2	1026.0	40.0
	Z	1076.3	75.6	828.0	58.9
Upper Neck Force	X	318.5	86.4	98.9	249.2
	Y	413.5	62.5	160.4	309.7
	Z	205.0	78.8	589.7	51.8
Upper Neck Moment	X	12.5	54.4	29.6	75.6
	Y	24.6	75.5	17.2	39.9
	Z	21.2	78.6	3.7	131.9
Lower Neck Force	X	200.0	101.0	108.5	26.6
	Y	584.9	57.3	166.7	285.4
	Z	205.7	79.1	648.2	50.7
Lower Neck Moment	X	80.7	62.4	30.6	310.0
	Y	23.2	242.9	52.6	89.1
	Z	13.4	76.7	9.0	123.0
Shoulder Force	X	92.1	110.7	330.4	15.7
	Y	1020.0	39.0	185.3	79.4
	Z	54.6	125.8	556.8	52.2
Shoulder Displacement	Y	18.9	41.4	3.1	102.7
Shoulder Acceleration	X	168.6	15.6	68.0	15.8
	Y	78.1	14.7	66.2	15.8
	Z	213.2	15.6	119.4	16.3
	R	276.8	15.6		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Driver Dummy Serial Number: 014

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
T1 Acceleration	X	6.6	19.1	9.1	49.8
	Y	4.0	83.7	23.6	47.4
	Z	4.6	78.9	2.9	146.4
	R	24.6	47.5		
T4 Acceleration	X	3.4	61.7	7.7	48.6
	Y	6.5	16.9	27.3	37.0
	Z	4.3	146.5	3.3	76.4
	R	27.9	36.8		
T12 Acceleration	X	6.3	59.7	7.4	37.6
	Y	9.0	17.2	46.1	37.4
	Z	2.9	147.1	4.1	76.2
	R	46.8	37.4		
Thorax Rib 1 Displacement	Y	20.2	34.0	0.6	18.7
Thorax Rib 1 Acceleration	X	193.0	12.6	110.2	15.3
	Y	118.4	12.7	110.4	16.6
	Z	40.1	32.9	59.9	13.2
	R	224.4	12.6		
Thorax Rib 2 Displacement	Y	15.4	33.4	2.0	260.3
Thorax Rib 2 Acceleration	X	105.0	15.2	223.5	12.5
	Y	178.6	13.0	146.7	16.3
	Z	39.8	17.0	45.6	12.8
	R	267.7	12.6		
Thorax Rib 3 Displacement	Y	15.7	45.2	2.0	86.7
Thorax Rib 3 Acceleration	X	39.5	97.4	71.9	13.1
	Y	95.4	97.4	53.3	97.8
	Z	17.9	58.2	111.9	97.6
	R	138.3	97.4		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Driver Dummy Serial Number: 014

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Abdominal Rib 1 Displacement	Y	22.9	45.0	5.2	99.0
Abdominal Rib 1 Acceleration	X	53.1	92.1	27.1	98.1
	Y	72.7	38.7	74.7	97.4
	Z	65.4	97.4	113.9	92.1
	R	127.8	92.1		
Abdominal Rib 2 Displacement	Y	17.1	42.2	5.7	102.6
Abdominal Rib 2 Acceleration	X	30.7	82.3	24.2	95.9
	Y	84.5	27.1	52.8	92.2
	Z	59.1	92.1	44.2	35.5
	R	87.2	27.1		
Lumbar Force	X	284.4	54.6	131.7	24.2
	Y	574.1	42.2	291.0	99.1
	Z	134.8	144.8	1017.6	64.8
Lumbar Moment	X	31.5	46.0	20.7	99.4
	Y	5.3	24.3	15.9	54.0
	Z	6.3	46.6	11.4	309.5
Pelvis Acceleration	X	5.3	140.0	8.0	72.8
	Y	38.1	34.3	9.7	59.8
	Z	9.0	29.3	12.9	62.7
	R	38.2	34.3		
Pubic Force	Y	777.3	41.1	43.2	131.4

Positive Direction
Longitudinal: Forward
Lateral: Rightward
Vertical: Downward

Negative Direction
Longitudinal: Rearward
Lateral: Leftward
Vertical: Upward

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Passenger Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Head Acceleration	X	7.0	243.4	18.9	64.5
	Y	58.8	59.3	9.8	273.0
	Z	12.4	82.2	13.2	66.5
	R	59.4	59.3		
Head Angular Displacement	X	2442.0	85.2	2560.1	65.5
	Y	3391.6	83.0	2822.3	82.9
	Z	2336.0	82.3	2181.0	64.9
Upper Neck Force	X	92.6	157.0	228.0	86.2
	Y	99.1	159.8	302.2	276.9
	Z	416.2	233.6	834.4	67.1
Upper Neck Moment	X	24.0	88.6	27.4	61.6
	Y	16.3	88.2	20.7	65.2
	Z	9.7	86.6	8.3	284.8
Lower Neck Force	X	286.0	247.6	248.8	65.2
	Y	556.5	59.3	386.1	255.1
	Z	357.7	214.7	893.8	67.5
Lower Neck Moment	X	20.6	160.7	71.8	259.4
	Y	22.9	157.7	56.2	244.9
	Z	9.4	85.3	11.6	279.2
Shoulder Force	X	240.0	52.6	124.6	85.6
	Y	163.1	89.2	1868.6	51.4
	Z	92.0	111.7	547.8	57.8
Shoulder Displacement	Y	44.5	60.6	3.0	164.6
Shoulder Acceleration	X	60.1	36.3	86.4	36.2
	Y	171.0	36.8	137.4	40.8
	Z	125.1	38.0	229.1	36.2
	R	255.7	36.2		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Passenger Dummy Serial Number: 016

		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
T1 Acceleration	X	3.1	276.1	11.6	57.4
	Y	36.9	58.0	5.0	197.4
	Z	4.1	65.8	2.9	38.0
	R	38.7	58.0		
T4 Acceleration	X	2.5	276.0	10.3	56.3
	Y	36.5	56.0	5.7	193.7
	Z	4.2	65.7	4.2	38.0
	R	37.9	56.1		
T12 Acceleration	X	6.4	68.3	14.7	47.1
	Y	44.0	53.4	4.7	131.4
	Z	4.0	90.4	2.8	37.8
	R	45.7	49.9		
Thorax Rib 1 Displacement	Y	32.1	58.6	1.8	279.2
Thorax Rib 1 Acceleration	X	34.2	38.6	27.2	38.1
	Y	62.5	43.1	81.5	38.2
	Z	74.4	38.4	134.6	38.2
	R	141.9	38.2		
Thorax Rib 2 Displacement	Y	36.0	58.3	1.2	246.0
Thorax Rib 2 Acceleration	X	17.2	95.1	29.6	45.0
	Y	55.3	33.7	61.0	40.1
	Z	46.1	44.8	63.4	40.2
	R	73.5	40.1		
Thorax Rib 3 Displacement	Y	32.9	58.2	1.3	272.0
Thorax Rib 3 Acceleration	X	46.8	40.6	32.5	40.5
	Y	65.5	40.8	110.4	40.2
	Z	90.2	40.1	166.7	40.3
	R	174.9	40.2		

Table 4 World SID Instrumentation Data, Continued

Vehicle: 2005 Ford Five Hundred

Test Number: 080821 Passenger Dummy Serial Number: 016

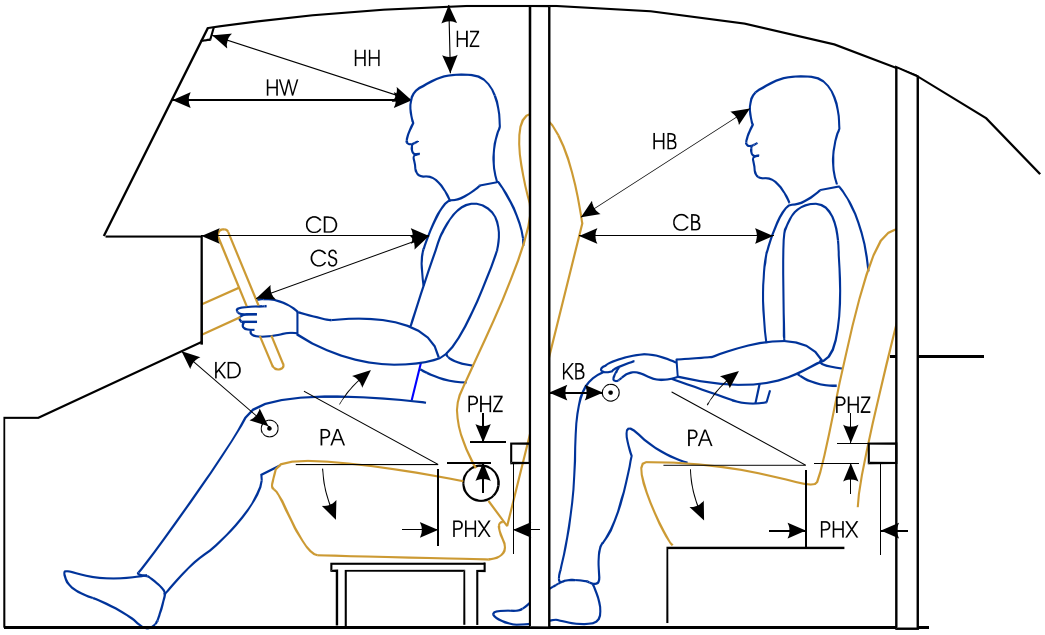
		Positive Direction		Negative Direction	
		Max.	Time	Max.	Time
Location		(g)	(ms)	(g)	(ms)
Abdominal Rib 1 Displacement	Y	31.9	57.2	1.2	243.0
Abdominal Rib 1 Acceleration	X	24.2	46.2	33.4	48.6
	Y	62.6	49.4	61.4	43.9
	Z	57.4	43.8	71.8	44.0
	R	78.0	44.0		
Abdominal Rib 2 Displacement	Y	21.9	55.4	2.0	114.4
Abdominal Rib 2 Acceleration	X	19.5	49.6	28.5	50.9
	Y	78.4	51.0	29.9	49.8
	Z	42.3	50.2	24.0	80.2
	R	83.4	50.2		
Lumbar Force	X	254.5	67.0	460.6	41.7
	Y	528.2	47.9	250.6	131.1
	Z	677.5	242.4	101.5	68.6
Lumbar Moment	X	19.5	54.6	17.5	171.5
	Y	14.9	41.8	15.0	66.6
	Z	17.0	109.0	9.9	49.0
Pelvis Acceleration	X	6.5	49.0	28.9	41.0
	Y	64.9	41.5	9.7	73.8
	Z	12.4	64.2	13.3	49.7
	R	68.5	41.7		
Pubic Force	Y	1068.3	47.9	92.3	85.8

Positive Direction
Longitudinal: Forward
Lateral: Rightward
Vertical: Downward

Negative Direction
Longitudinal: Rearward
Lateral: Leftward
Vertical: Upward

Figure 1 World SID Longitudinal Clearance Dimensions

Vehicle: 2005 Ford Five Hundred



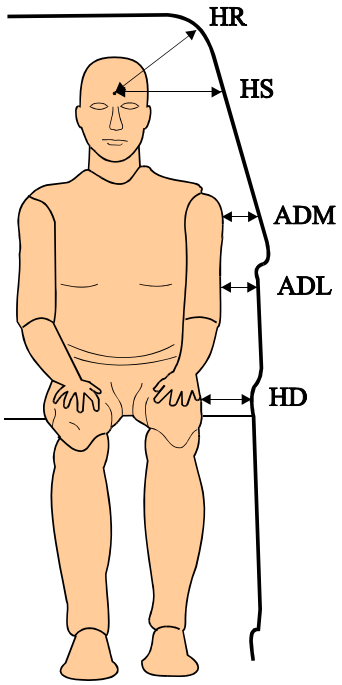
Left Side View

Driver Code	Pass. Code	Measurement Description	Driver S/N 014		Passenger S/N 016	
			Length (mm)	Angle (°)	Length (mm)	Angle (°)
HH		Head to Header	362			
HW		Head to Windshield	689			
HZ		Head to Roof	222			
NR	NB	Nose to Rim/Nose to Seatback	463		676	
CD	CB	Chest to Dash or Seatback	639		659	
CS		Chest to Steering Wheel	389			
KDL	KBL	Left Knee to Dash or Seatback	105	16.2	256	2.1
KDR	KBR	Right Knee to Dash or Seatback	101	24.2	242	2.6
PA°	PA°	Pelvic Angle		42.4		41.5
PHX	PHX	H-Point to Striker (X-Axis)	253		265	
PHZ	PHZ	H-Point to Striker (Z-Axis)	155		271	

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

Figure 2 World SID Lateral Clearance Dimensions

Vehicle: 2005 Ford Five Hundred



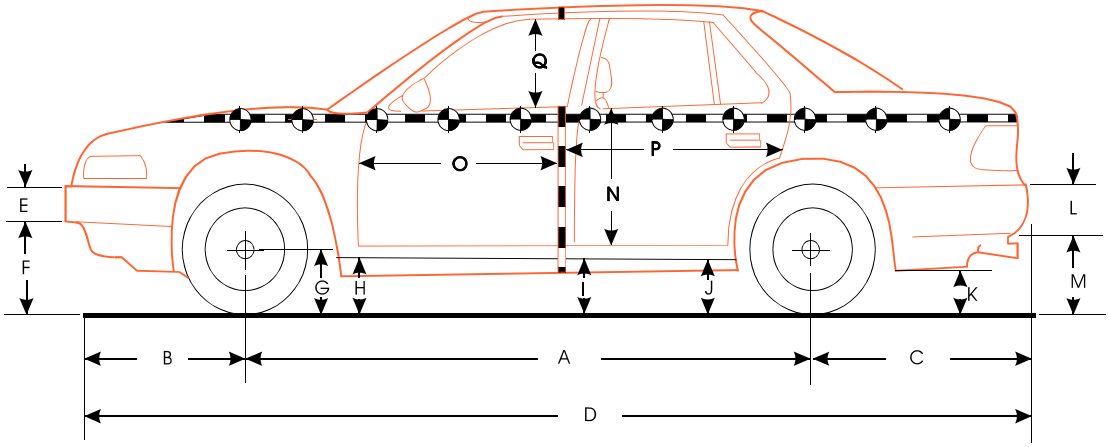
Code	Measurement Description	Units	Driver S/N 014	Passenger S/N 016
HR	Head to Side Header	mm	239	229
HS	Head to Side Window	mm	360	351
AD	Arm to Door, Upper	mm	143	141
AD	Arm to Door, Lower	mm	128	95
HD	H-Point to Door	mm	89	106

		Driver Angles Degrees	Passenger Angles Degrees
Head	X	-0.8	-1.1
	Y	1.1	1.5
Thorax	X	0.3	0.1
	Y	2.3	0.9
Pelvis	X	-2.2	-1.1
	Y	1.5	-0.3

Measured from the tilt sensors in the dummy

Figure 3 Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2005 Ford Five Hundred



Left Side View

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

	Pre-Test (as delivered)	Pre-Test (as tested)	Post-Test (as tested)	Change
A	2867	2867	2867	0
B	985	985	983	2
C	1247	1247	1231	16
D	5099	5099	5061	38
E	170	170	170	0
F	386	390	370	20
G	320	318	318	0
G1	325	215	194	21
H	237	215	196	19
I	248	216	204	12
J1	182	147	144	3
J2	254	220	219	1
K	304	267	272	-5
L	177	177	177	0
M	491	456	474	-18
N	822	822	815	7
O	805	805	837	-32
P	1333	1333	1134	199
Q	436	436	434	2
R	4890	4890	4948	-58
S	4890	4890	4920	-30
T	1385	1385	1276	109

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	5099
2	Total Width	1897
3	Bumper Top Height	553
4	Bumper Bottom Height	399
5	Longitudinal Member Top Height	533
6	Longitudinal Member Bottom Height	408
7	Distance Between Longitudinal Members	1270
7´	Longitudinal Member Width	100
8	Engine Top Height	915
9	Engine Bottom Height	178
10	Engine and Gearbox Width	790
11	Front Bumper - Engine Distance	463
12	Front Shock Absorber Fixing Height	860
13	Bonnet Leading Edge Height	788
14	Front Shock Absorber Fixing Width	1260
15	Front Bumper - Front Axle Distance	985
16	Front Axle - A Pillar Distance	590
17	A Pillar - B Pillar Distance	1040
18	B Pillar - Rear Axle Distance	1210
19	B Pillar - C Pillar Distance	970
20	Roof Sill Bottom Height	1286
21	Roof Sill Top Height	1452
22	Floor Sill Bottom Height	250
23	Floor Sill Top Height	372

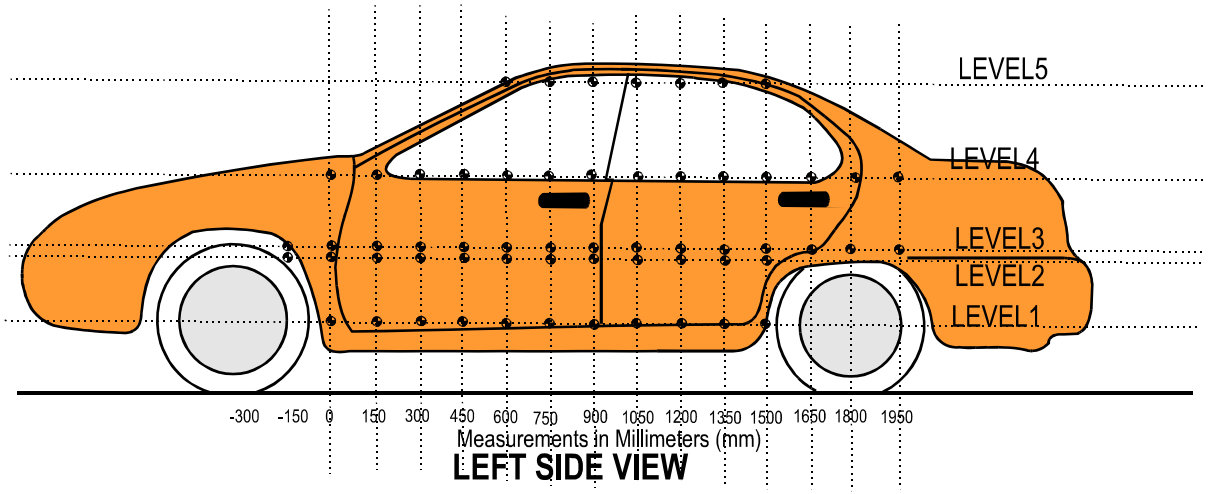
All distance measurements are in millimeters.

[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 Ford Five Hundred



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 Top	1470
4	Window Sill	970
3	Mid Door	645
2	Occupant H-Point	590
1	Side Sill	245

Table 6 Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Ford Five Hundred

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	245	Pre									882	882	882	882	882	882
		Post									879	877	876	875	874	873
		Crush									3	5	6	7	8	9
Level 2 H-Point	590	Pre								944	933	935	937	939	940	941
		Post								944	903	842	790	785	776	783
		Crush								0	30	93	147	154	164	158
Level 3 Mid-Door	645	Pre								953	940	942	944	945	946	947
		Post								948	900	838	801	800	799	794
		Crush								5	40	104	143	145	147	153
Level 4 Window Sill	970	Pre								840	859	867	874	881	886	890
		Post								845	863	858	850	841	833	824
		Crush								-5	-4	9	24	40	53	66
Level 5 Window Top	1470	Pre									831	795	759	725	695	671
		Post									833	797	762	728	699	674
		Crush									-2	-2	-3	-3	-4	-3

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

Note: Negative measurements are vehicle forward of the impact point.
The crush profile grid is established prior to test day based on an estimated impact point.

Table 6 Vehicle Exterior Crush Profiles - All Levels, Continued

Vehicle: 2005 Ford Five Hundred

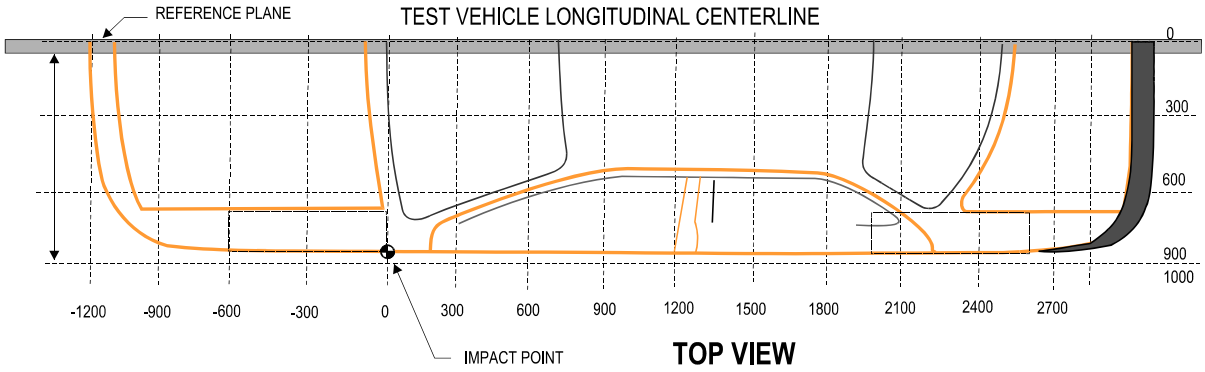
Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	245	Pre	881	880	878	877	875	873	871	870					
		Post	870	869	867	866	866	866	866	871					
		Crush	11	11	11	11	9	7	5	-1					
Level 2 H-Point	590	Pre	941	941	939	938	935	932	929	931					
		Post	791	783	757	760	774	777	780	875					
		Crush	150	158	182	178	161	155	149	56					
Level 3 Mid-Door	645	Pre	947	947	945	942	940	937	933	933	943				
		Post	778	779	768	763	767	780	811	856	934				
		Crush	169	168	177	179	173	157	122	77	9				
Level 4 Window Sill	970	Pre	892	894	897	896	895	893	890	887	882	877	870	863	853
		Post	814	802	802	798	794	788	777	798	871	863	861	858	851
		Crush	78	92	95	98	101	105	113	89	11	14	9	5	2
Level 5 Window Top	1470	Pre	654	644	638	635	634	637	643	653	672	692	718	746	774
		Post	656	644	633	633	633	637	642	652	671	691	717	745	771
		Crush	-2	0	5	2	1	0	1	1	1	1	1	1	3

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

Figure 5 Vehicle Damage Profile Distances

Test Vehicle: 2005 Ford Five Hundred Test Date: 08/21/08

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



MEASUREMENT CONVENTIONS:
Forward of the impact point (towards front of vehicle) is considered negative (-)
Rearward of the impact point (towards rear end of vehicle) is considered positive (+)

DAMAGE PROFILE DISTANCES

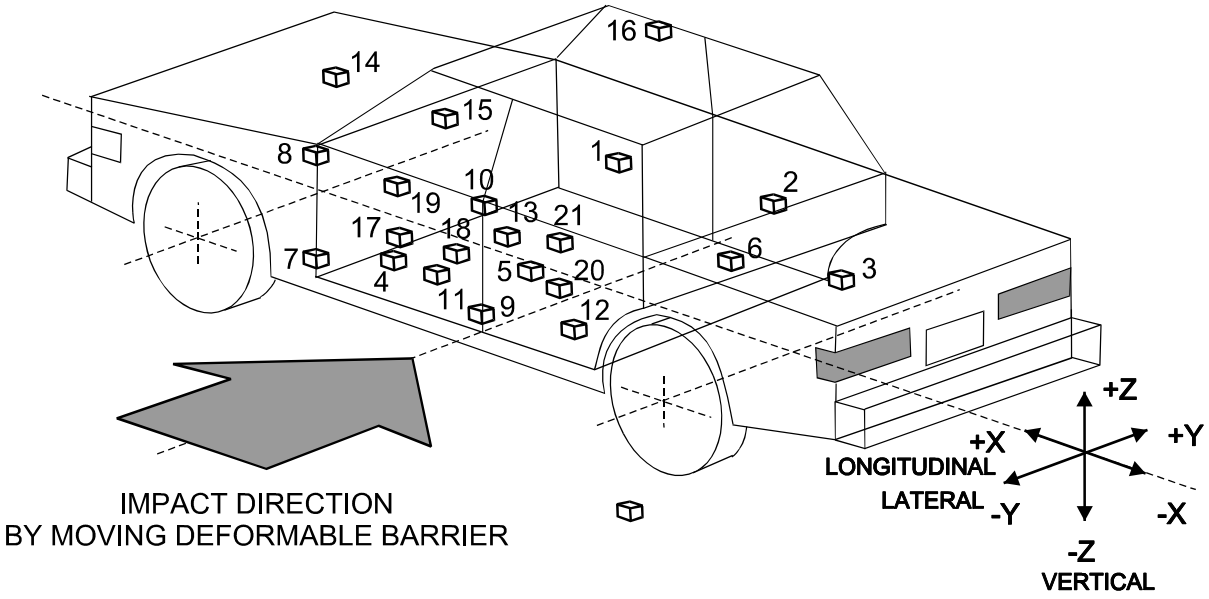
DPD	Distance from Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max. Static Crush (mm)
1	2700 mm	5	774	771	3
2	2100 mm	4	882	871	11
3	1500 mm	3	940	767	173
4	900 mm	3	947	778	169
5	300 mm	2	937	790	147
6	-150 mm	3	953	948	5

Reference plane is parallel to test vehicle longitudinal centerline.

Given dimensions = Reference plane to car body.

Figure 6 Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Ford Five Hundred



1-Right Side Sill at Front Seat
2-Right Side Sill at Rear Seat
3-Rear Floorpan at Rear Seat
4-Left Side Sill at Front Seat
5-Left Side Sill at Rear Seat
6-Right Rear Occupant Compartment
7-Left Lower A-Pillar
8-Left Upper A-Pillar
9-Left Lower B-Pillar
10-Left Upper B-Pillar
11-Left Front Seat Track
12-Left Rear Seat Track
13-Vehicle Center of Gravity
14-Top of Engine
15-Center of Firewall
16-Right Roof Rail at Impact
17-Left Front Door Centerline
18-Left Front Door Mid Rear
19-Left Front Door Upper Centerline
20-Left Rear Door Mid Rear
21-Left Rear Door Upper Centerline

Table 7 Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Ford Five Hundred

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1 Right Side Sill at Front Seat	3660	640	260				
Longitudinal				7.3	8.3	6.2	30.8
Lateral				20.3	22.8	1.5	169.3
Vertical				4.2	56.0	5.6	23.0
Resultant				21.4	22.8		
2 Right Side Sill at Rear Seat	2610	685	315				
Longitudinal				4.3	57.7	5.5	23.2
Lateral				20.0	14.6	1.8	141.7
Vertical				3.4	74.0	7.4	20.4
Resultant				20.2	14.6		
3 Rear Floorpan Above Axle	1482	0	490				
Longitudinal				3.1	54.6	5.7	24.6
Lateral				19.8	30.2	2.8	102.1
Vertical				10.3	52.9	11.4	60.2
Resultant				21.1	30.2		
4 Left Side Sill at Front Seat	3610	640	267				
Longitudinal							
Lateral				30.2	4.6	9.3	9.2
Vertical							
5 Left Side Sill at Rear Seat	2650	685	315				
Longitudinal							
Lateral				30.5	26.5	4.0	40.5
Vertical							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford Five Hundred

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
6 Right Rear Occupant Compartment	2480	580	365				
Longitudinal							
Lateral				20.3	14.8	1.8	141.4
Vertical							
7 Left Lower A-Pillar	3875	840	545				
Longitudinal							
Lateral				71.2	3.5	24.5	15.0
Vertical							
8 Left Upper A-Pillar	3890	820	863				
Longitudinal							
Lateral				31.2	4.2	1.7	134.6
Vertical							
9 Left Lower B-Pillar	2820	820	565				
Longitudinal							
Lateral				140.5	3.2	43.5	77.4
Vertical							
10 Left Upper B-Pillar	2800	820	874				
Longitudinal							
Lateral				115.0	4.5	22.4	12.5
Vertical							
11 Left Front Seat Track	2960	590	349				
Longitudinal							
Lateral				34.5	13.1	11.3	38.4
Vertical							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford Five Hundred

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
12 Left Rear Seat Track	2125	560	423				
Longitudinal							
Lateral				18.8	14.0	1.6	121.2
Vertical							
13 Vehicle Center of Gravity	3205	0	455				
Longitudinal				9.2	23.8	10.1	31.4
Lateral				26.0	15.5	1.5	138.7
Vertical				8.0	21.1	16.4	16.4
Resultant				30.5	16.0		
14 Top of Engine	4541	15	735				
Longitudinal				5.3	98.8	12.1	38.6
Lateral				16.8	52.7	10.0	109.2
Vertical							
15 Center Firewall	4321	15	890				
Longitudinal				4.9	17.4	13.5	22.9
Lateral				15.4	6.7	2.0	161.4
Vertical							
16 Right Roof Rail	3100	640	1380				
Longitudinal				2.9	42.7	4.4	19.0
Lateral				18.5	11.9	3.5	93.1
Vertical							
17 Left Front Door on Centerline	3350	830	656				
Longitudinal							
Lateral				133.9	8.6	56.4	17.0
Vertical							

Table 7 Test Vehicle Accelerometer Locations and Data Summary, Continued

Vehicle: 2005 Ford Five Hundred

Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
	X	Y	Z	Max. (g)	Time (ms)	Max. (g)	Time (ms)
18 Left Front Door Mid Rear	3035	790	656				
Longitudinal							
Lateral				90.9	4.2	580.7	34.7
Vertical							
19 Left Front Door Upper Centerline	3350	810	936				
Longitudinal							
Lateral				71.8	16.0	61.9	22.7
Vertical							
20 Left Rear Door Mid Rear	2130	785	668				
Longitudinal							
Lateral				100.4	18.1	51.1	22.3
Vertical							
21 Left Rear Door Upper Centerline	2393	780	940				
Longitudinal							
Lateral				73.6	7.5	27.4	52.3
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.

Table 8 Deformable Barrier Face Profiles

Vehicle: 2005 Ford Five Hundred

Pre-Test				Post-Test				Difference			
Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm
1	-383.9	799.6	-54.9	1	-311.7	746.1	-89.2	1	-72.2	53.5	34.3
2	-383.8	699.6	-54.7	2	-353.5	655.9	-84.8	2	-30.3	43.7	30.1
3	-384.0	599.7	-54.4	3	-358.2	559.2	-87.0	3	-25.8	40.5	32.6
4	-384.5	499.9	-54.0	4	-356.8	458.7	-89.0	4	-27.7	41.2	35.0
5	-383.9	399.3	-54.0	5	-353.8	359.2	-90.0	5	-30.1	40.1	36.0
6	-383.9	299.2	-53.7	6	-336.5	260.9	-91.1	6	-47.4	38.3	37.4
7	-384.2	198.9	-53.8	7	-303.7	165.8	-93.7	7	-80.5	33.1	39.9
8	-384.7	98.9	-53.2	8	-336.4	72.2	-90.3	8	-48.3	26.7	37.1
9	-384.9	-0.5	-52.9	9	-335.4	-28.1	-90.8	9	-49.5	27.6	37.9
10	-385.1	-101.0	-52.5	10	-338.0	-128.5	-87.9	10	-47.1	27.5	35.4
11	-385.2	-201.3	-52.3	11	-353.9	-226.8	-80.5	11	-31.3	25.5	28.2
12	-385.1	-301.2	-52.6	12	-355.2	-325.6	-75.6	12	-29.9	24.4	23.0
13	-385.0	-401.2	-52.4	13	-349.5	-425.9	-70.8	13	-35.5	24.7	18.4
14	-384.9	-501.3	-52.1	14	-341.5	-526.0	-65.7	14	-43.4	24.7	13.6
15	-384.7	-601.1	-51.6	15	-326.3	-625.2	-62.1	15	-58.4	24.1	10.5
16	-384.6	-701.0	-51.3	16	-295.1	-720.2	-60.6	16	-89.5	19.2	9.3
17	-384.7	-801.3	-51.1	17	-257.5	-812.8	-59.0	17	-127.2	11.5	7.9
18	-384.1	800.4	-183.5	18	-325.8	756.0	-207.0	18	-58.3	44.4	23.5
19	-383.6	699.2	-183.8	19	-352.3	659.2	-213.3	19	-31.3	40.0	29.5
20	-383.6	599.3	-183.2	20	-348.5	559.4	-214.1	20	-35.1	39.9	30.9
21	-383.8	498.2	-183.3	21	-363.0	459.9	-216.7	21	-20.8	38.3	33.4
22	-383.7	398.5	-183.3	22	-358.8	360.4	-218.0	22	-24.9	38.1	34.7

Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

Pre-Test				Post-Test				Difference			
Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm
23	-383.7	298.6	-182.5	23	-342.4	261.7	-219.0	23	-41.3	36.9	36.5
24	-384.0	198.8	-182.6	24	-321.3	164.0	-220.6	24	-62.7	34.8	38.0
25	-384.5	98.9	-182.0	25	-330.8	63.8	-217.5	25	-53.7	35.1	35.5
26	-384.9	-1.0	-181.9	26	-357.7	-32.0	-213.4	26	-27.2	31.0	31.5
27	-384.9	-102.1	-181.4	27	-369.2	-132.1	-208.6	27	-15.7	30.0	27.2
28	-385.0	-201.7	-181.4	28	-370.3	-232.2	-204.1	28	-14.7	30.5	22.7
29	-384.8	-301.6	-181.3	29	-361.5	-333.0	-198.7	29	-23.3	31.4	17.4
30	-384.6	-402.1	-181.7	30	-357.5	-433.0	-195.4	30	-27.1	30.9	13.7
31	-384.6	-501.6	-180.8	31	-349.3	-532.0	-190.0	31	-35.3	30.4	9.2
32	-384.5	-601.5	-180.4	32	-344.0	-630.9	-183.9	32	-40.5	29.4	3.5
33	-384.3	-702.2	-180.5	33	-330.4	-730.8	-178.5	33	-53.9	28.6	-2.0
34	-384.2	-801.9	-180.5	34	-299.2	-820.5	-178.8	34	-85.0	18.6	-1.7
35	-384.0	798.9	-311.9	35	-302.6	759.5	-319.5	35	-81.4	39.4	7.6
36	-383.7	699.3	-311.3	36	-306.4	659.8	-325.4	36	-77.3	39.5	14.1
37	-383.7	598.9	-310.8	37	-319.2	561.0	-327.4	37	-64.5	37.9	16.6
38	-383.8	498.2	-310.6	38	-323.1	460.5	-326.8	38	-60.7	37.7	16.2
39	-384.0	398.2	-309.8	39	-326.4	360.5	-327.0	39	-57.6	37.7	17.2
40	-384.1	298.7	-309.5	40	-329.0	261.2	-327.7	40	-55.1	37.5	18.2
41	-384.3	198.6	-309.5	41	-331.2	160.9	-335.1	41	-53.1	37.7	25.6
42	-384.6	97.9	-309.2	42	-332.9	60.1	-337.1	42	-51.7	37.8	27.9
43	-384.5	-1.8	-309.0	43	-335.2	-38.8	-330.9	43	-49.3	37.0	21.9
44	-384.4	-101.1	-308.5	44	-336.6	-137.2	-324.7	44	-47.8	36.1	16.2

Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

Pre-Test				Post-Test				Difference			
Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm	Index	Xmm	Ymm	Zmm
45	-384.3	-201.5	-308.0	45	-337.5	-237.4	-320.0	45	-46.8	35.9	12.0
46	-384.2	-301.7	-307.8	46	-338.3	-338.2	-316.3	46	-45.9	36.5	8.5
47	-384.2	-402.1	-307.8	47	-338.2	-438.8	-312.9	47	-46.0	36.7	5.1
48	-384.2	-501.3	-307.0	48	-337.8	-537.7	-310.2	48	-46.4	36.4	3.2
49	-383.9	-601.6	-307.3	49	-334.0	-638.7	-304.8	49	-49.9	37.1	-2.5
50	-383.8	-702.0	-306.7	50	-322.7	-738.8	-297.8	50	-61.1	36.8	-8.9
51	-383.8	-801.8	-307.1	51	-304.3	-833.0	-292.6	51	-79.5	31.2	-14.5
52	-473.4	796.3	-436.8	52	-308.1	756.4	-454.1	52	-165.3	39.9	17.3
53	-486.5	699.2	-436.3	53	-325.8	660.0	-459.4	53	-160.7	39.2	23.1
54	-486.5	598.6	-436.6	54	-336.9	560.7	-461.9	54	-149.6	37.9	25.3
55	-486.5	498.4	-435.8	55	-347.2	460.9	-462.7	55	-139.3	37.5	26.9
56	-486.4	398.4	-436.2	56	-352.1	360.4	-462.2	56	-134.3	38.0	26.0
57	-486.5	298.7	-435.8	57	-354.6	261.2	-460.2	57	-131.9	37.5	24.4
58	-486.6	198.2	-435.4	58	-360.1	161.0	-459.8	58	-126.5	37.2	24.4
59	-486.6	98.3	-435.1	59	-357.9	60.5	-456.8	59	-128.7	37.8	21.7
60	-486.5	-1.7	-435.3	60	-366.3	-38.8	-458.4	60	-120.2	37.1	23.1
61	-486.4	-102.1	-434.8	61	-368.4	-139.3	-457.0	61	-118.0	37.2	22.2
62	-486.3	-201.9	-434.6	62	-370.5	-239.6	-455.7	62	-115.8	37.7	21.1
63	-486.2	-301.9	-435.2	63	-372.1	-339.8	-455.0	63	-114.1	37.9	19.8
64	-486.2	-401.9	-434.9	64	-373.1	-438.9	-453.7	64	-113.1	37.0	18.8
65	-486.2	-501.9	-434.2	65	-374.5	-539.0	-451.3	65	-111.7	37.1	17.1
66	-486.2	-601.7	-434.4	66	-373.9	-639.0	-449.1	66	-112.3	37.3	14.7
67	-486.2	-702.7	-434.0	67	-362.0	-738.9	-442.7	67	-124.2	36.2	8.7
68	-473.3	-799.6	-433.6	68	-324.9	-828.6	-429.5	68	-148.4	29.0	-4.1

Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

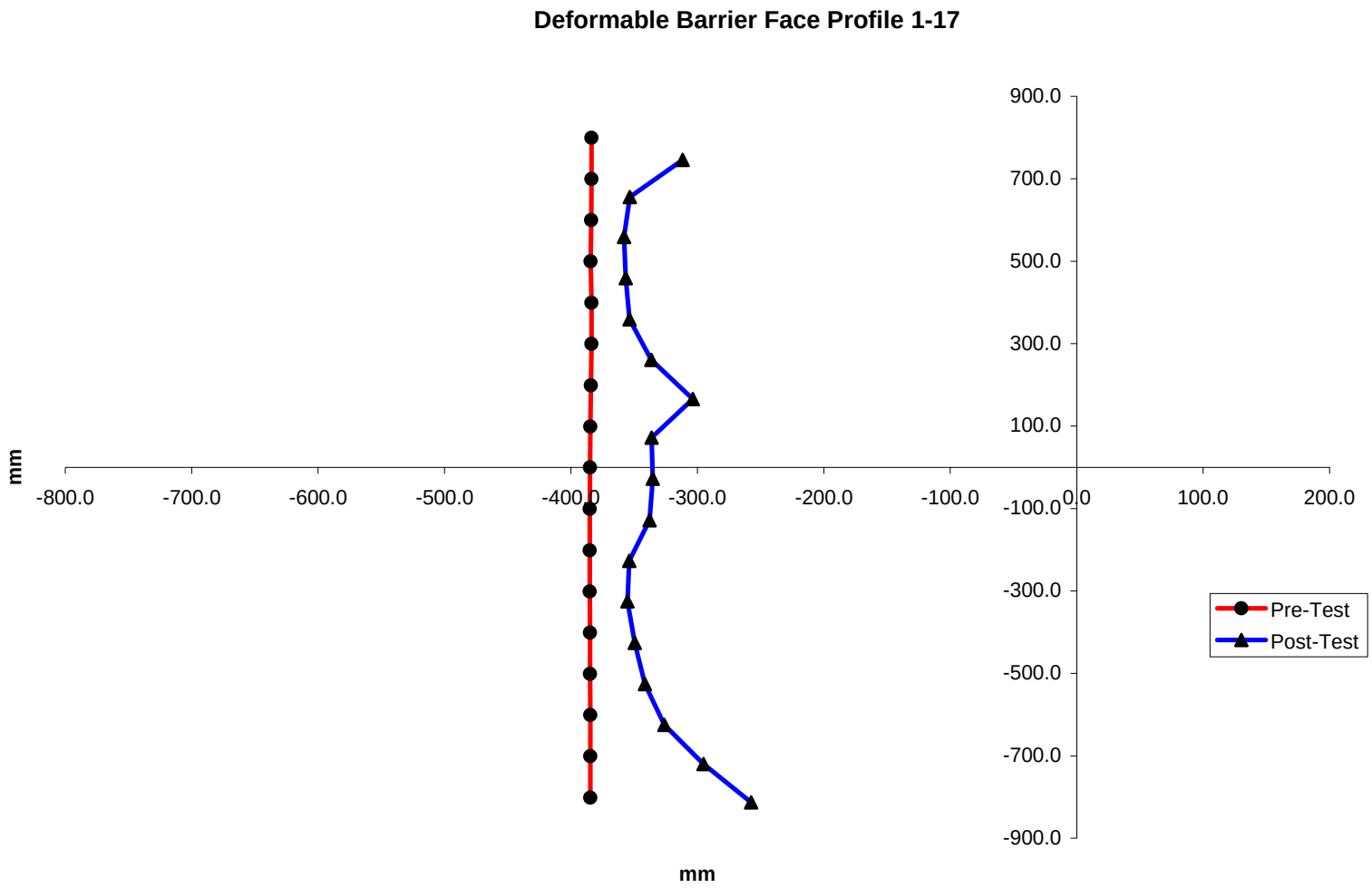


Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

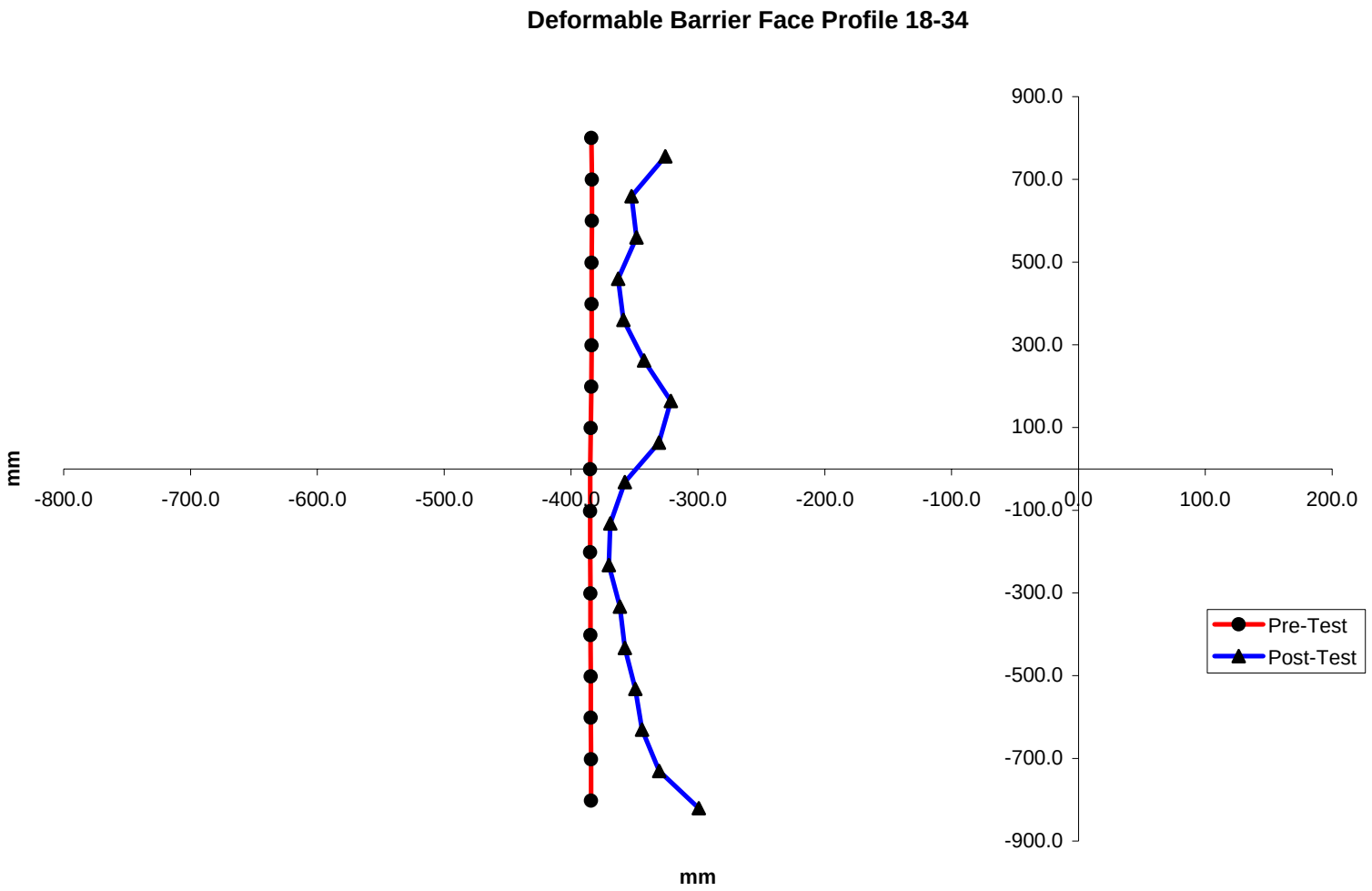


Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

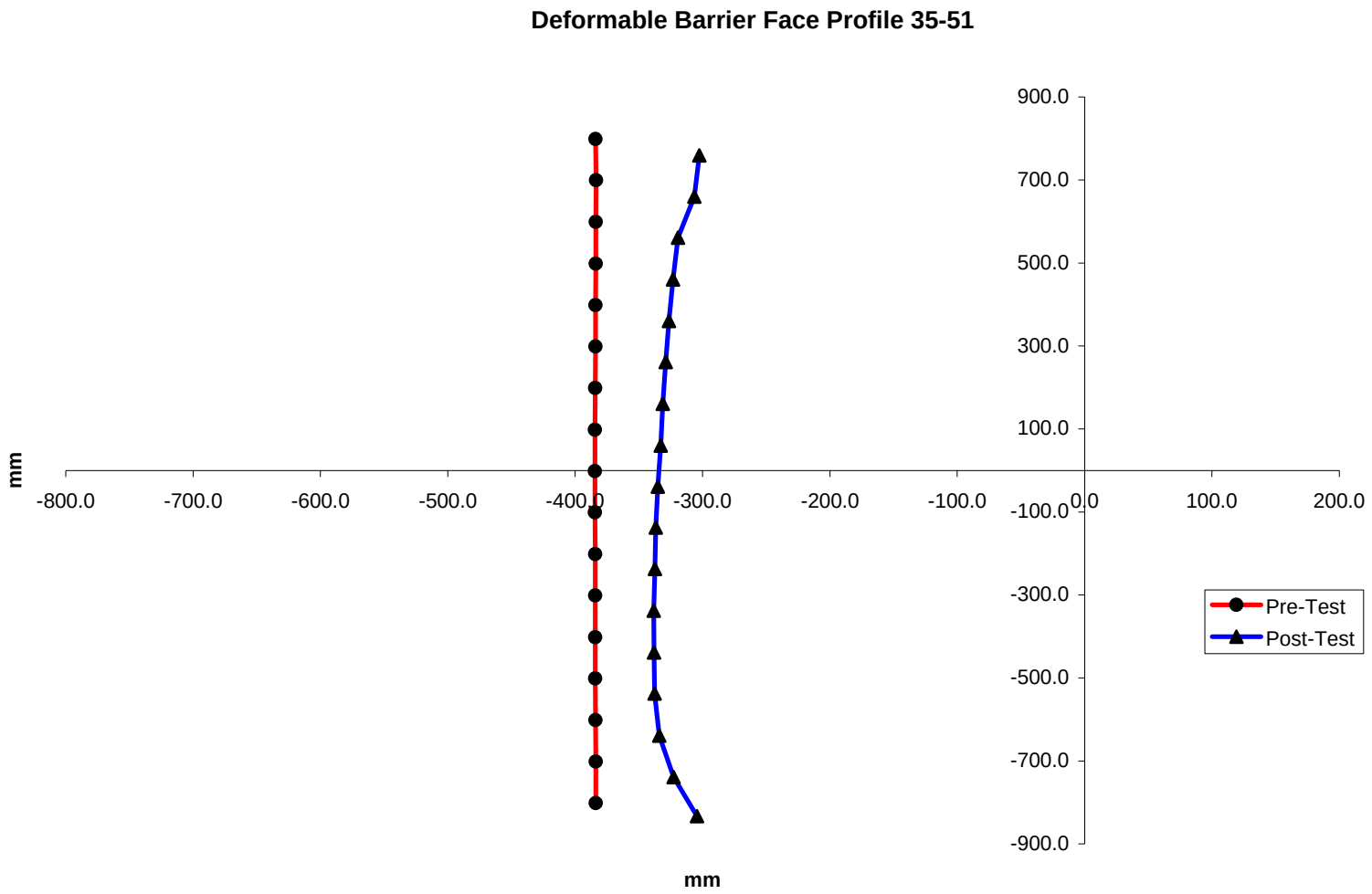


Table 8 Deformable Barrier Face Profiles, Continued

Vehicle: 2005 Ford Five Hundred

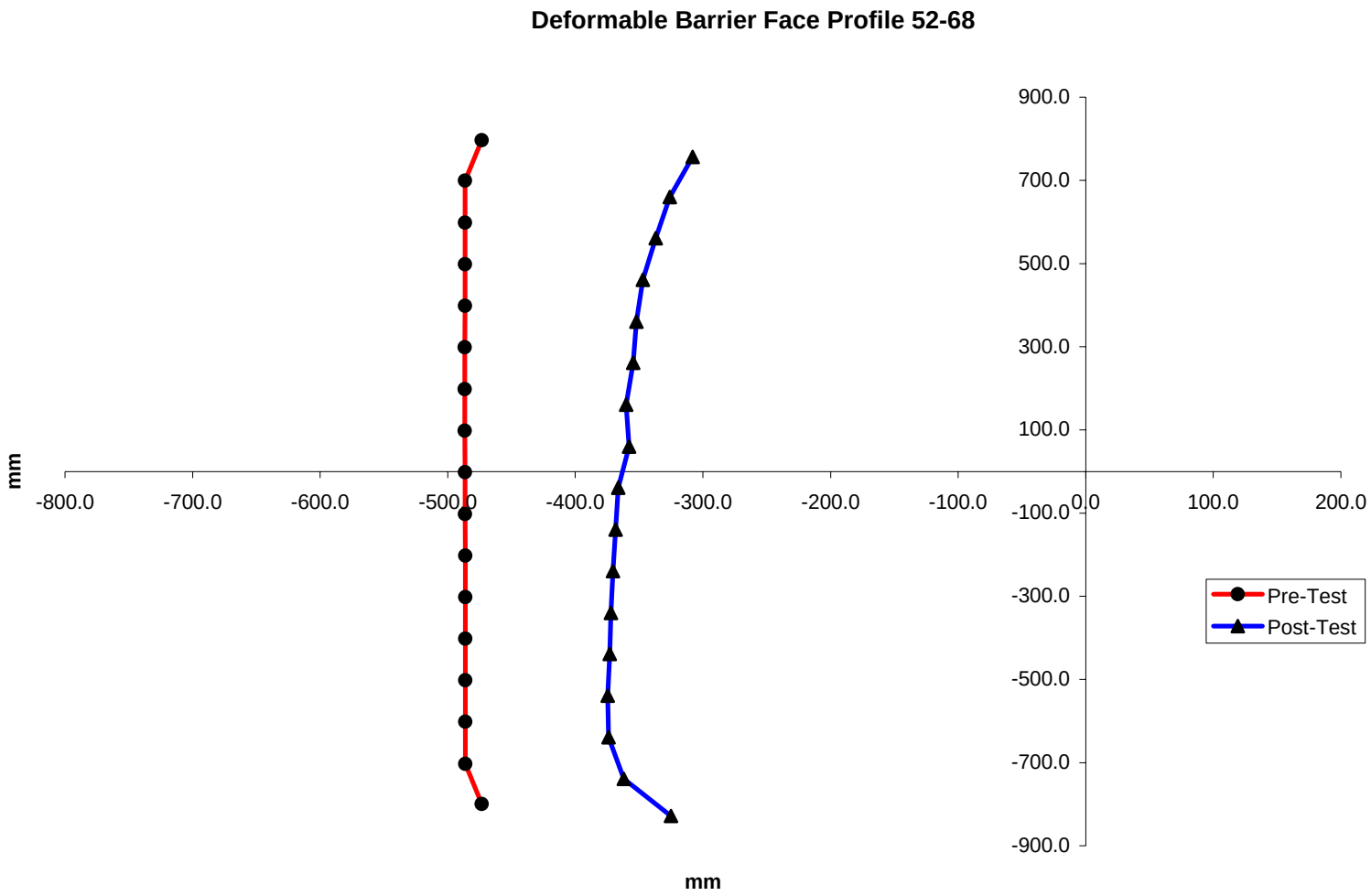
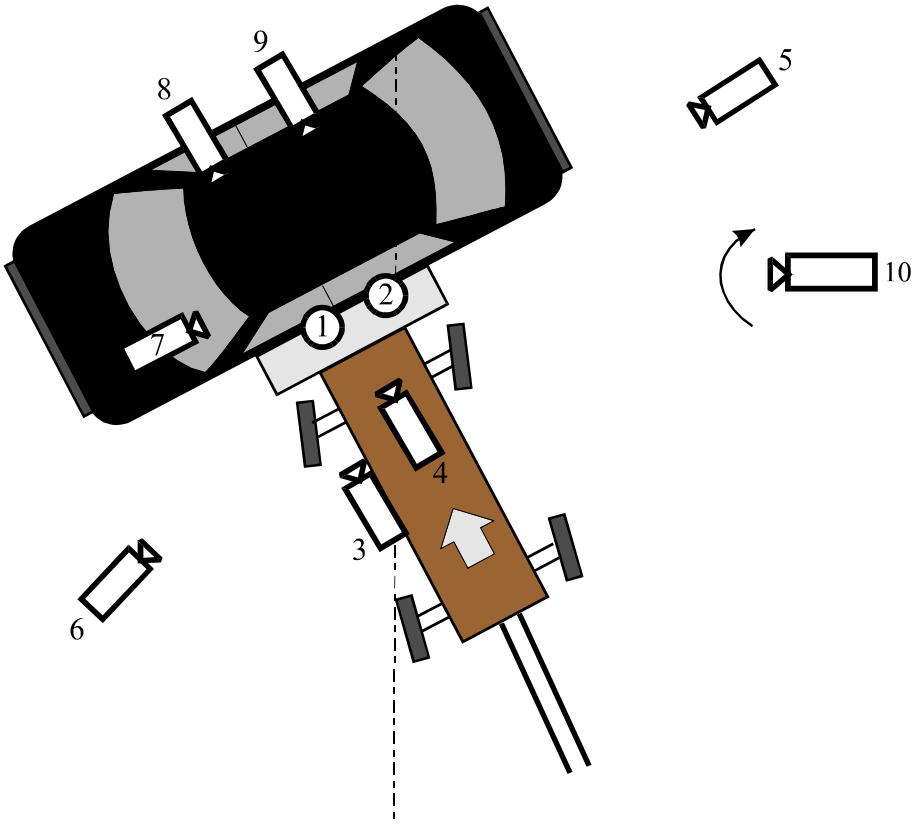


Figure 7 High-Speed Camera Locations and Data Summary

Vehicle: 2005 Ford Five Hundred



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead Wide	0	350	-7000	90.0	12.5	1000
2	Overhead Tight	0	600	-7000	90.0	25	1000
3	MDB Left Front	1680	870	-820	0.1	12.5	1000
4	MDB Centerline Impact	2380	0	-1450	5.0	12.5	1000
5	Left Rear	0	10130	-1270	2.8	25	1000
6	Left Side	2890	5620	-1330	4.7	12.5	1000
7	Onboard Front-Driver	550	1370	-1280	2.1	25	1000
8	Onboard Right Side Front	1700	0	-1190	9.2	12.5	1000
9	Onboard Right Side Rear	1700	860	-1220	12.8	12.5	1000
10	Panning	N/A	N/A	N/A	N/A	Zoom	24

+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

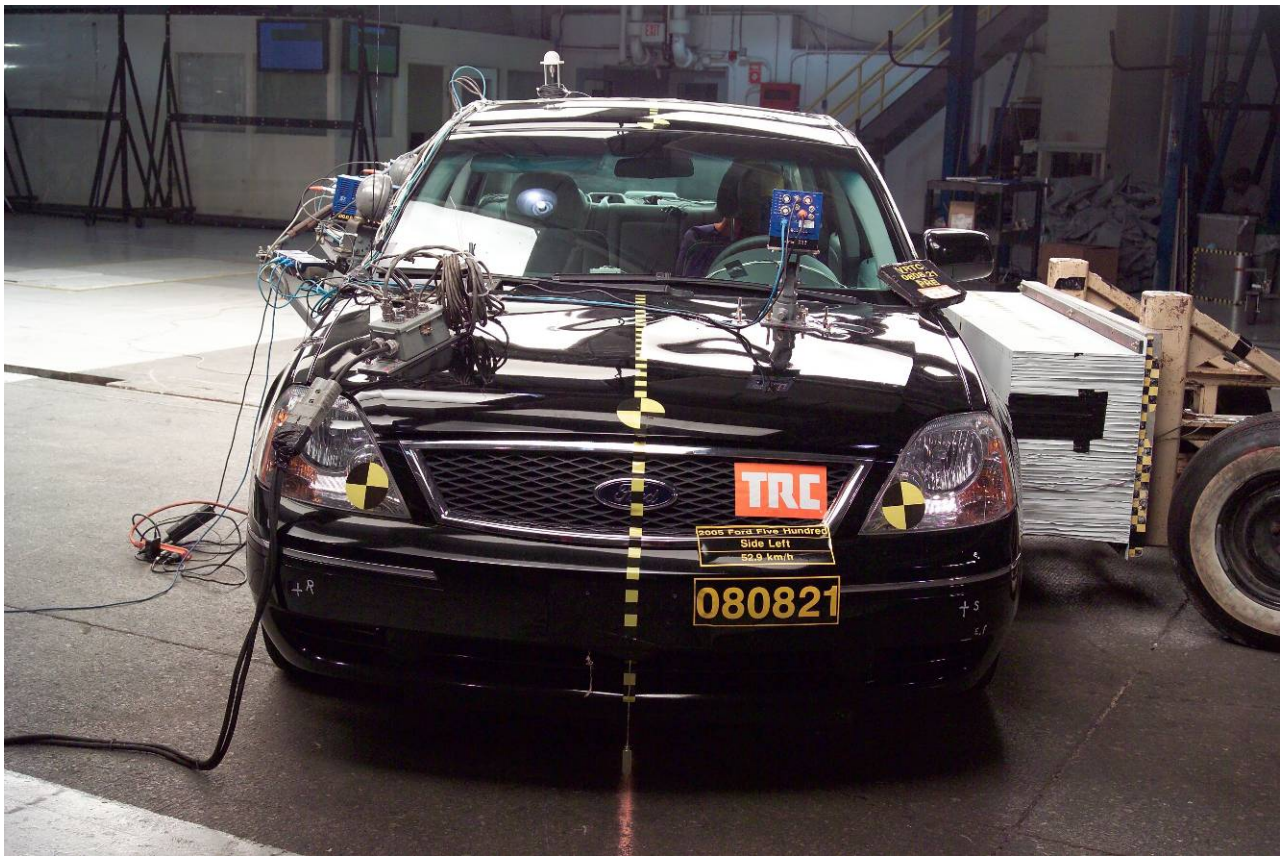


Figure A-1 Pre-Test Front View

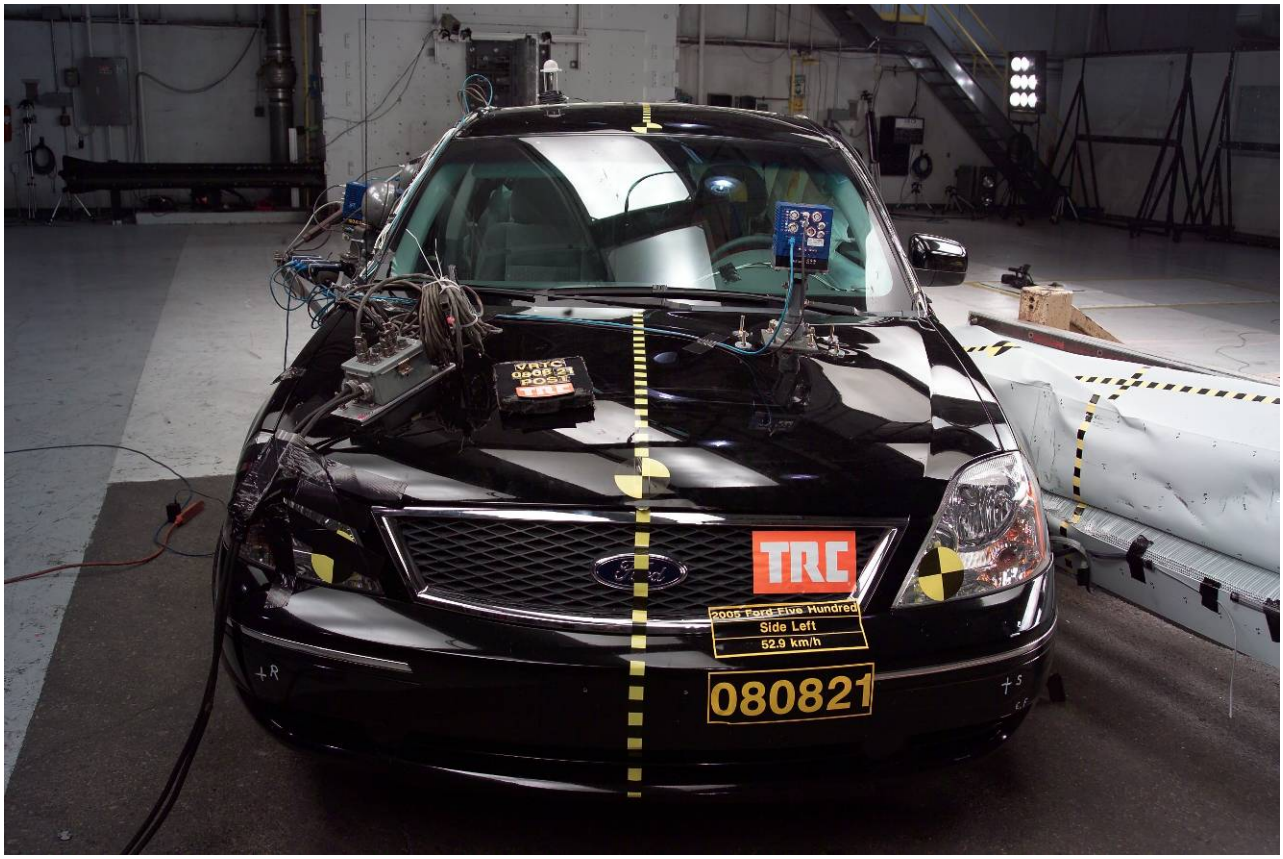


Figure A-2 Post-Test Front View



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 Side View



Figure A-12 Post-Test Right Side View



Figure A-13 Pre-Test Impact Alignment View



Figure A-14 Post-Test Impact Alignment View



Figure A-15 Pre-Test Primary Impact Point View



Figure A-16 Post-Test Primary Impact Point View



Figure A-17 Pre-Test Secondary Impact Point View

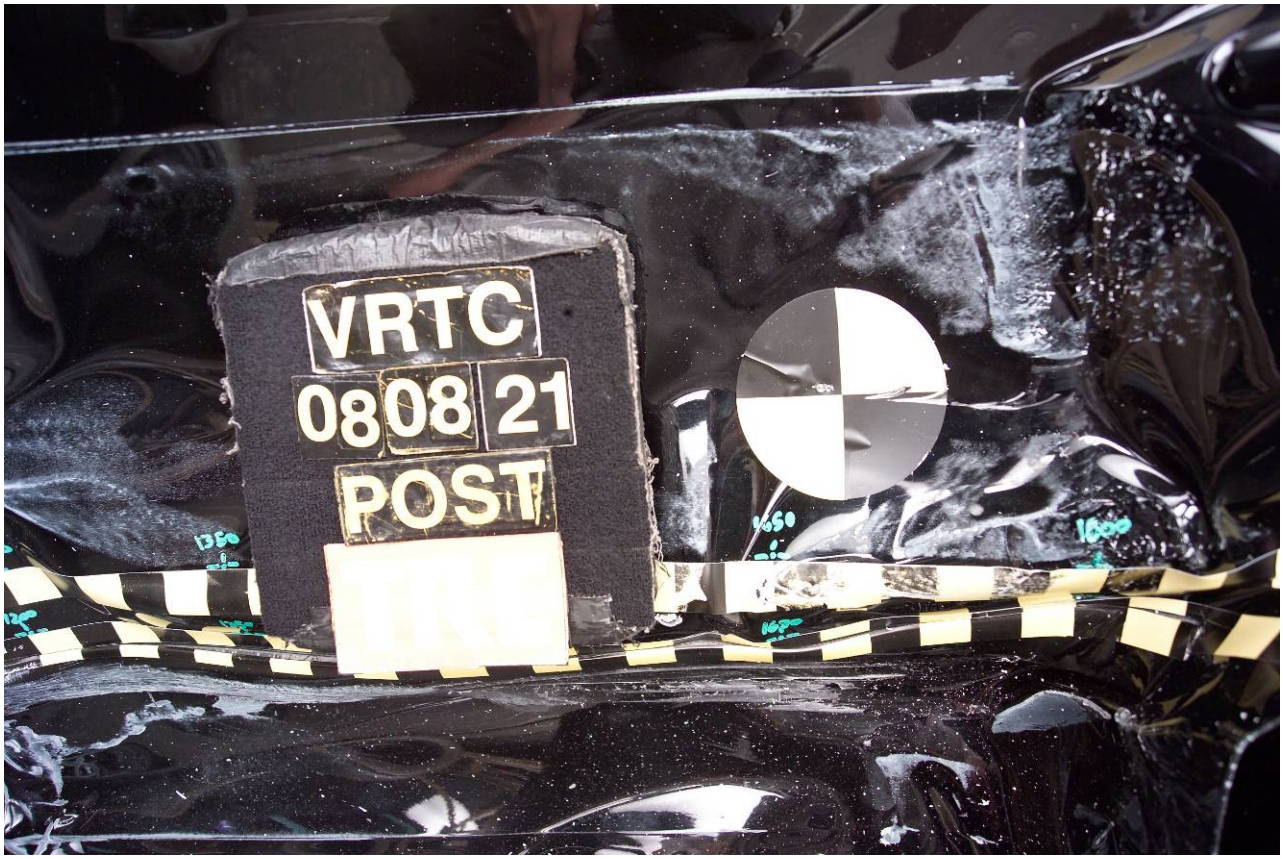


Figure A-18 Post-Test Secondary Impact Point View



Figure A-19 Pre-Test MDB Face Left Side View



Figure A-20 Post-Test MDB Face Left Side View



Figure A-21 Pre-Test MDB Face Right Side View



Figure A-22 Post-Test MDB Face Right Side View

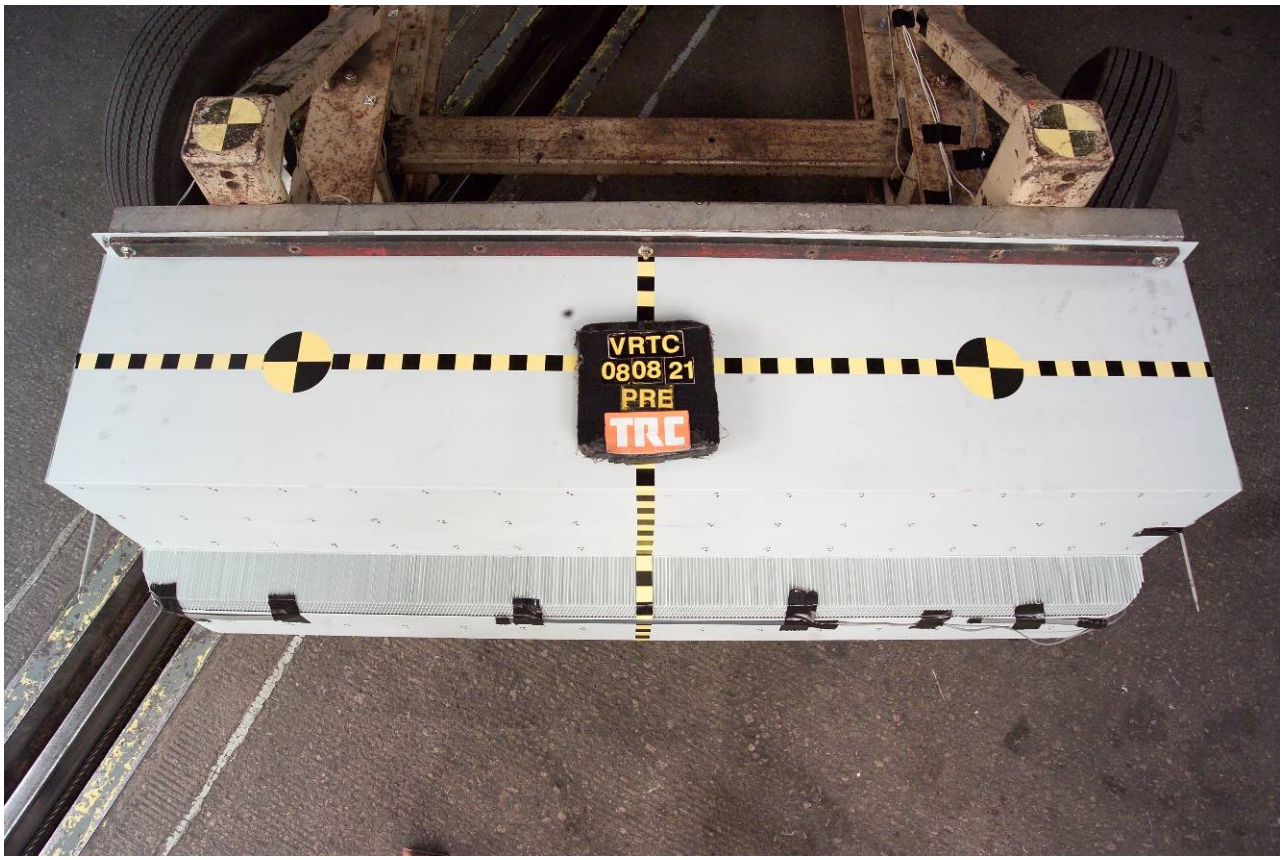


Figure A-23 Pre-Test MDB Face Overhead View



Figure A-24 Post-Test MDB Face Overhead View



Figure A-25 Pre-Test MDB Front View with Contact Switches in Place

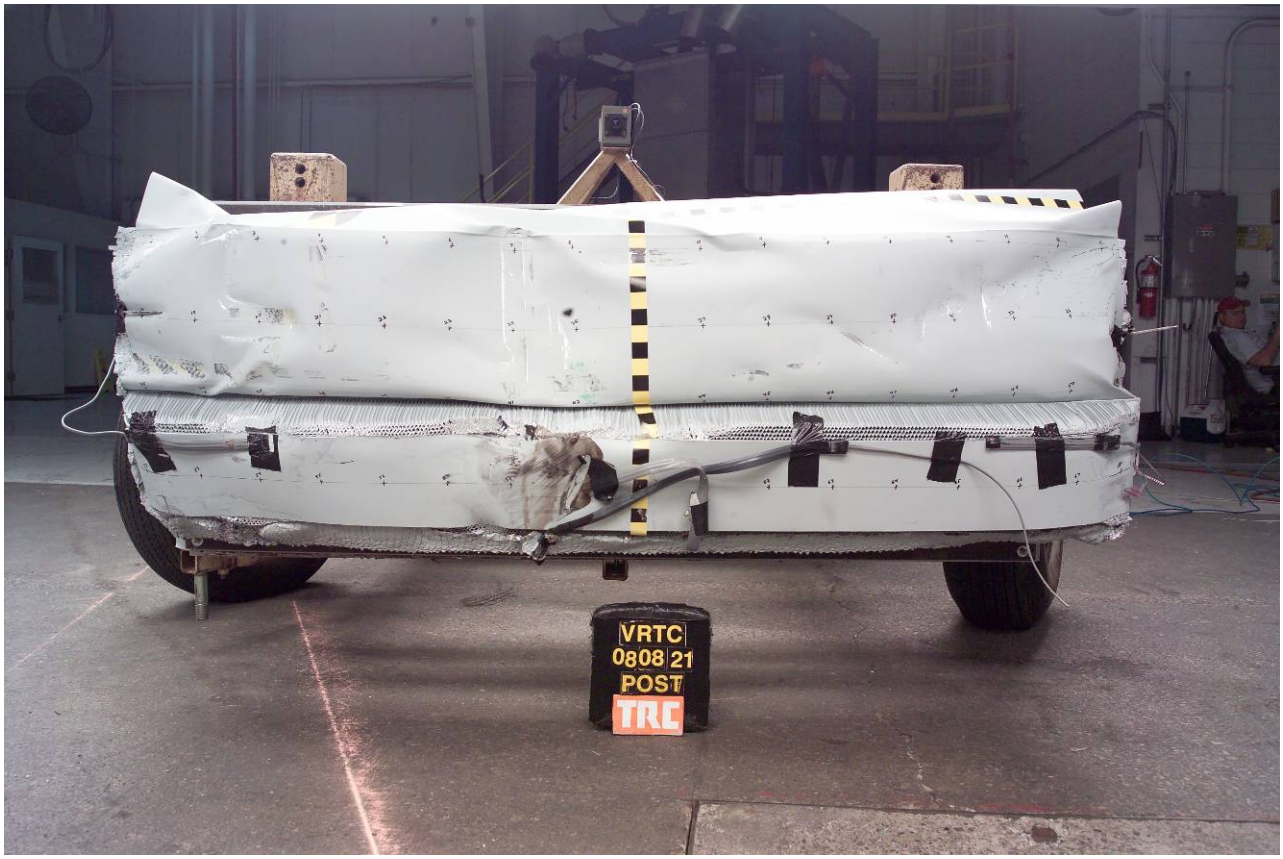


Figure A-26 Post-Test MDB Front View with Contact Switches in Place

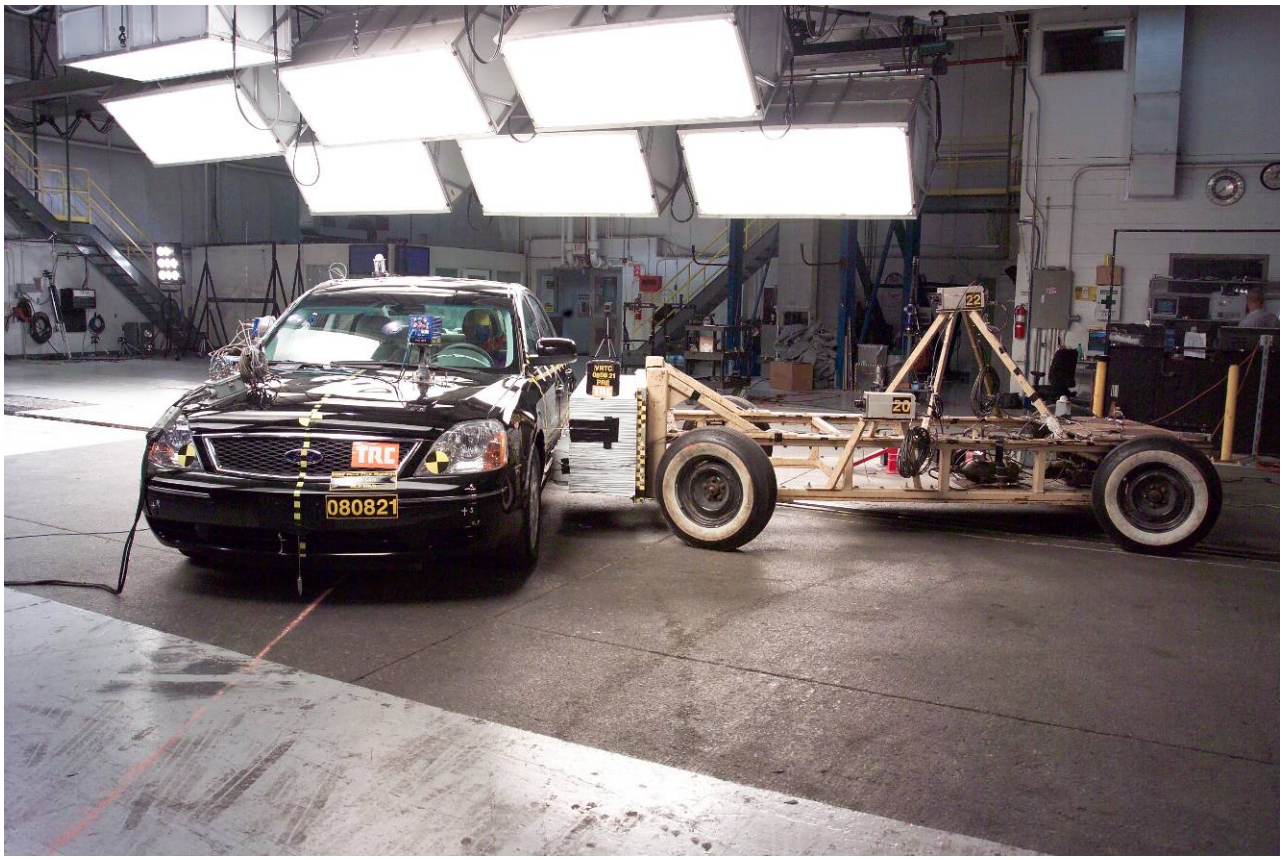


Figure A-27 Pre-Test MDB with Vehicle Left Side Overall View



Figure A-28 Post-Test MDB with Vehicle Left Side Overall View



Figure A-29 Pre-Test MDB with Vehicle Right Side Overall View



Figure A-30 Post-Test MDB with Vehicle Right Side Overall View

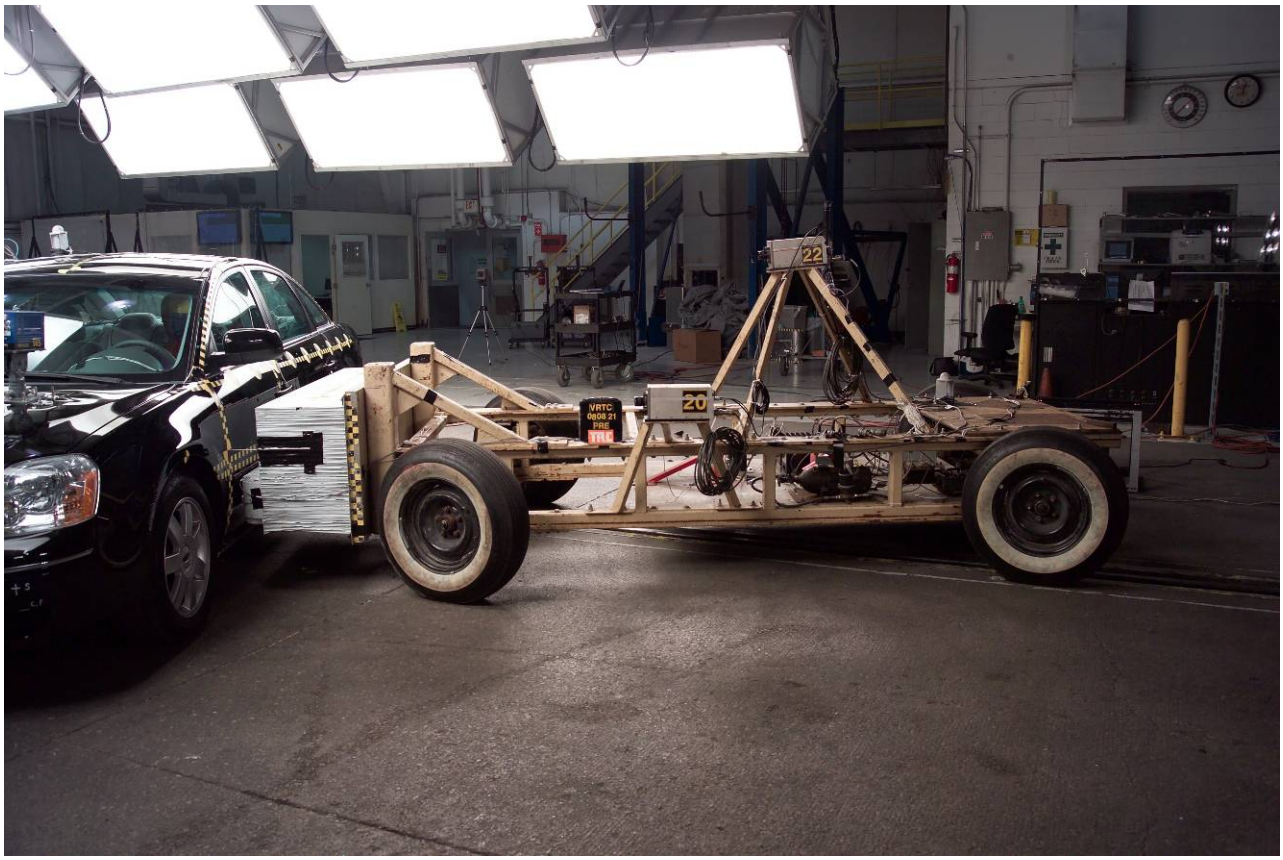


Figure A-31 Pre-Test MDB Left Side Overall View

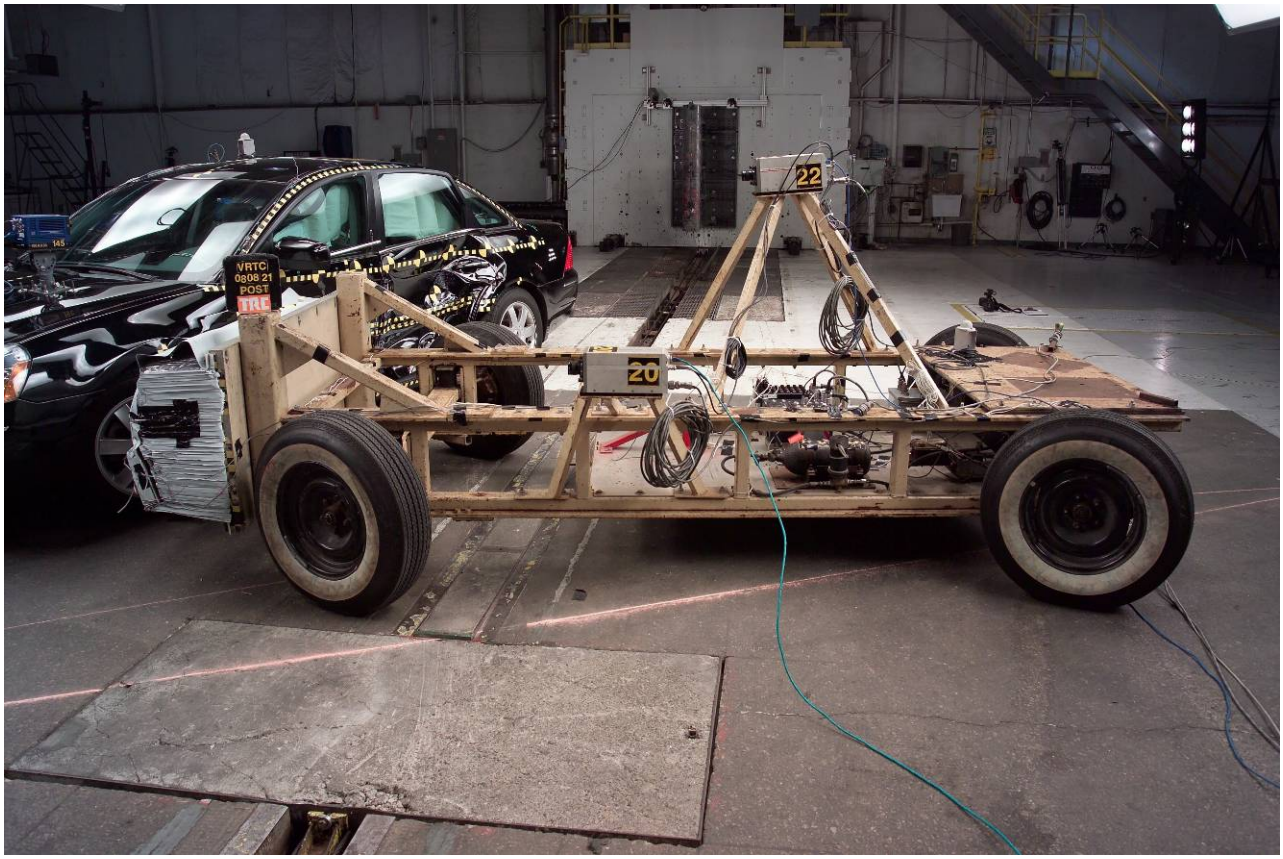


Figure A-32 Post-Test MDB Left Side Overall View

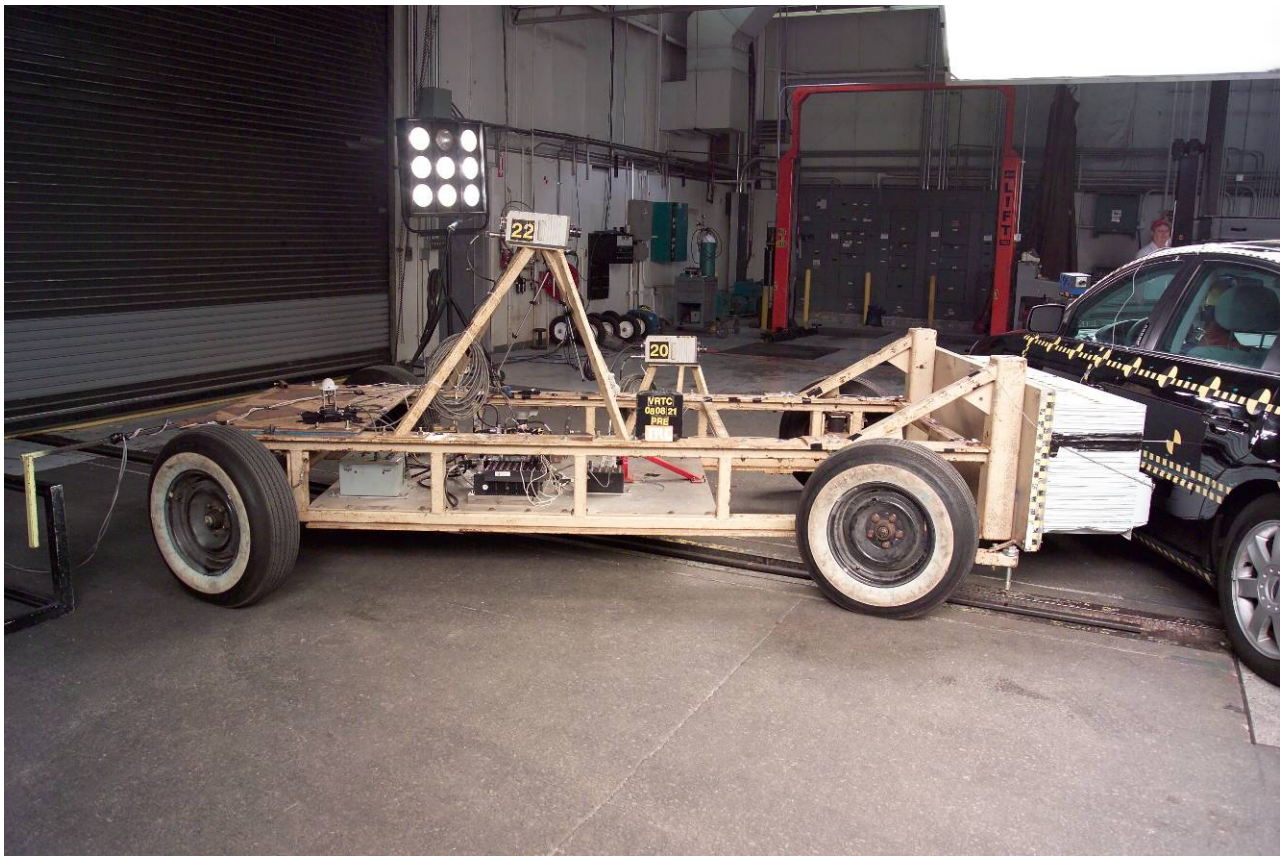


Figure A-33 Pre-Test MDB Right Side Overall View

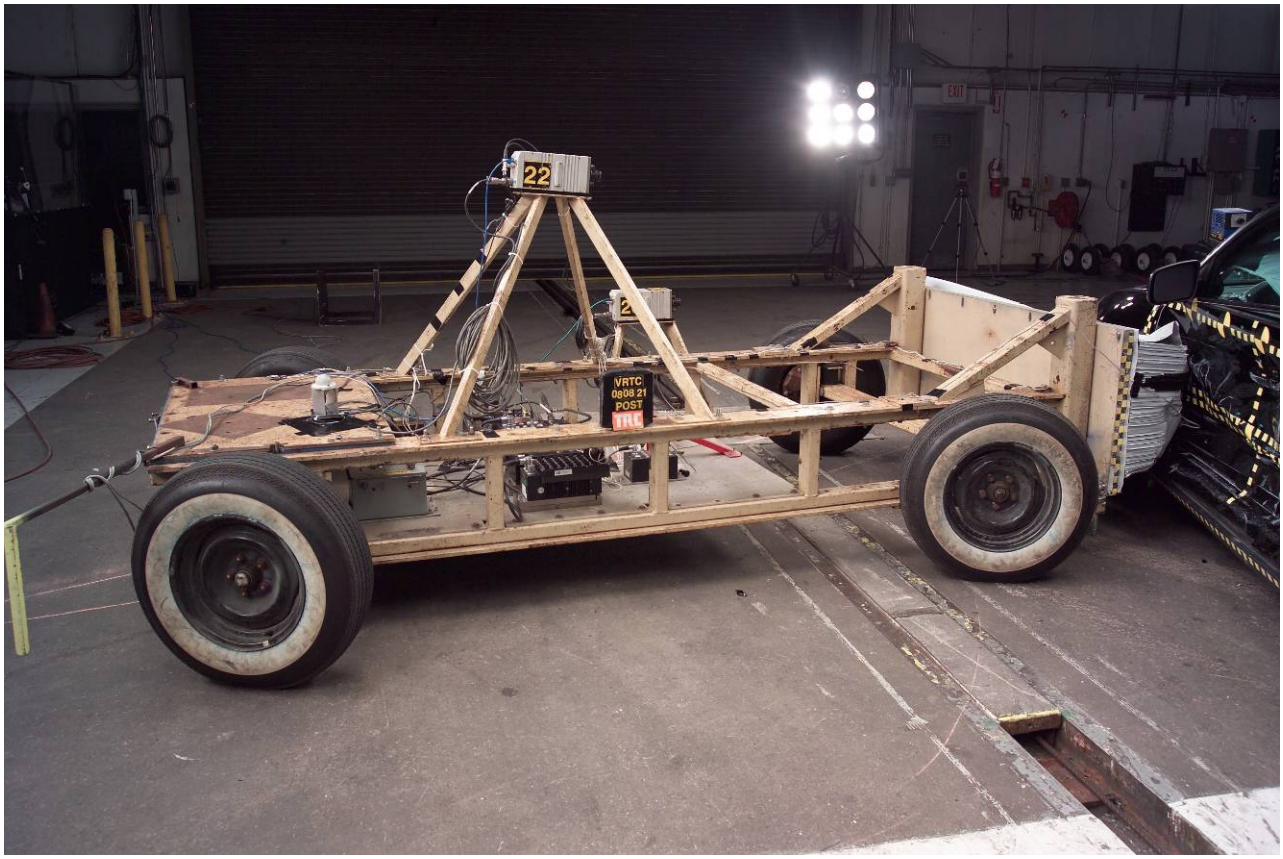


Figure A-34 Post-Test MDB Right Side Overall View

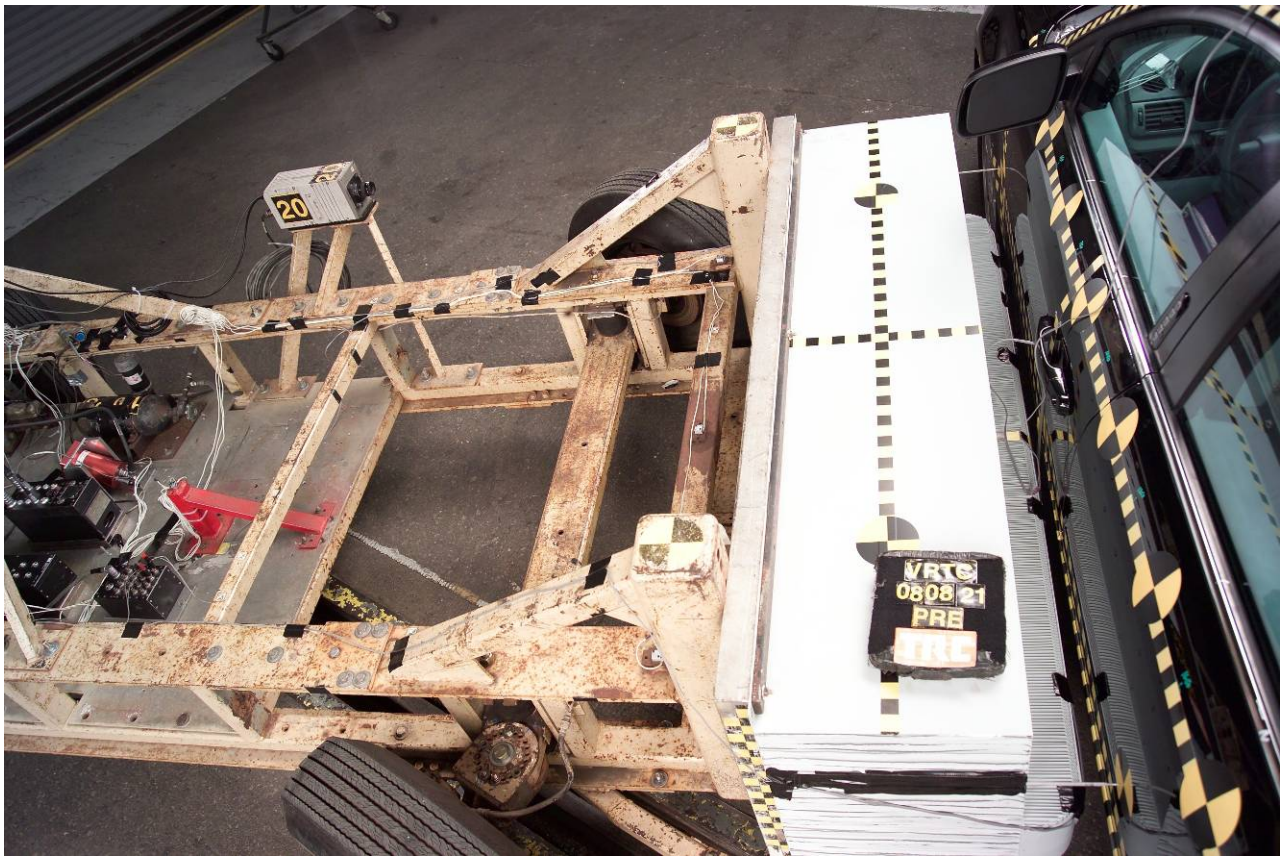


Figure A-35 Pre-Test MDB Alignment Overhead View

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Figure A-36 Pre-Test Driver Dummy Side View



Figure A-37 Post-Test Driver Dummy Side View

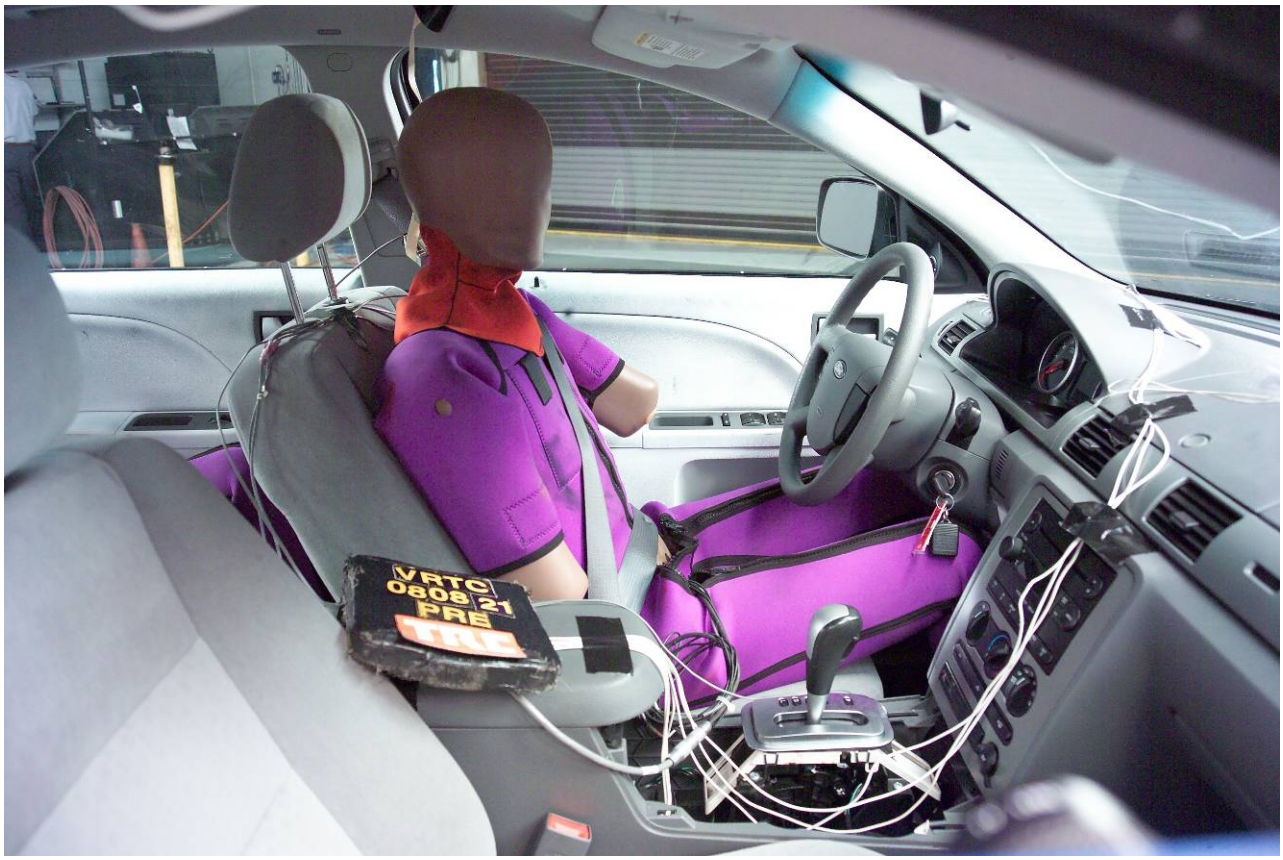


Figure A-38 Pre-Test Right Side Dummy Occupant Compartment View



Figure A-39 Post-Test Right Side Dummy Occupant Compartment View



Figure A-40 Pre-Test Driver Dummy and Door Clearance View



Figure A-41 Post-Test Driver Dummy and Door Clearance View



Figure A-42 Pre-Test Driver Dummy Showing Belts, Chalking, and Contact Switches

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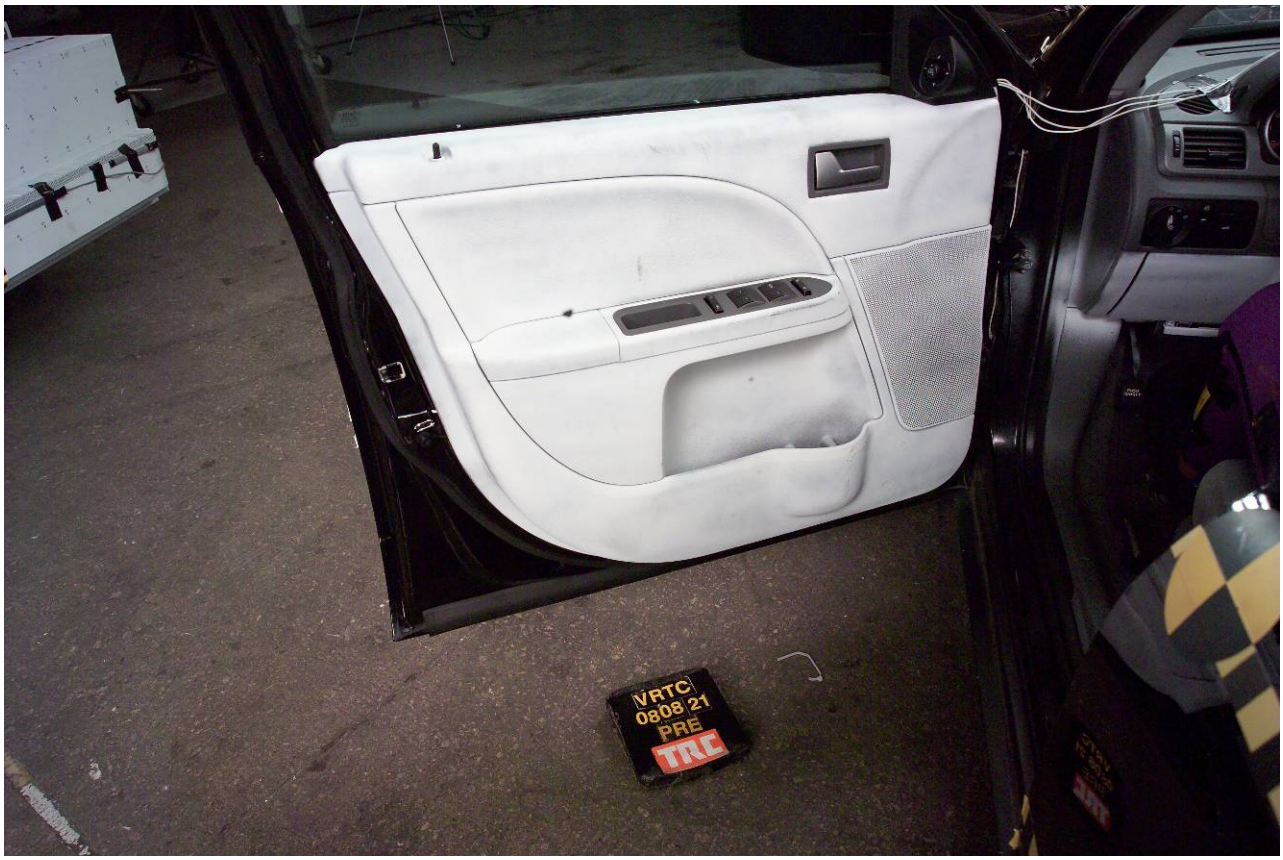


Figure A-43 Pre-Test Driver Door Panel View

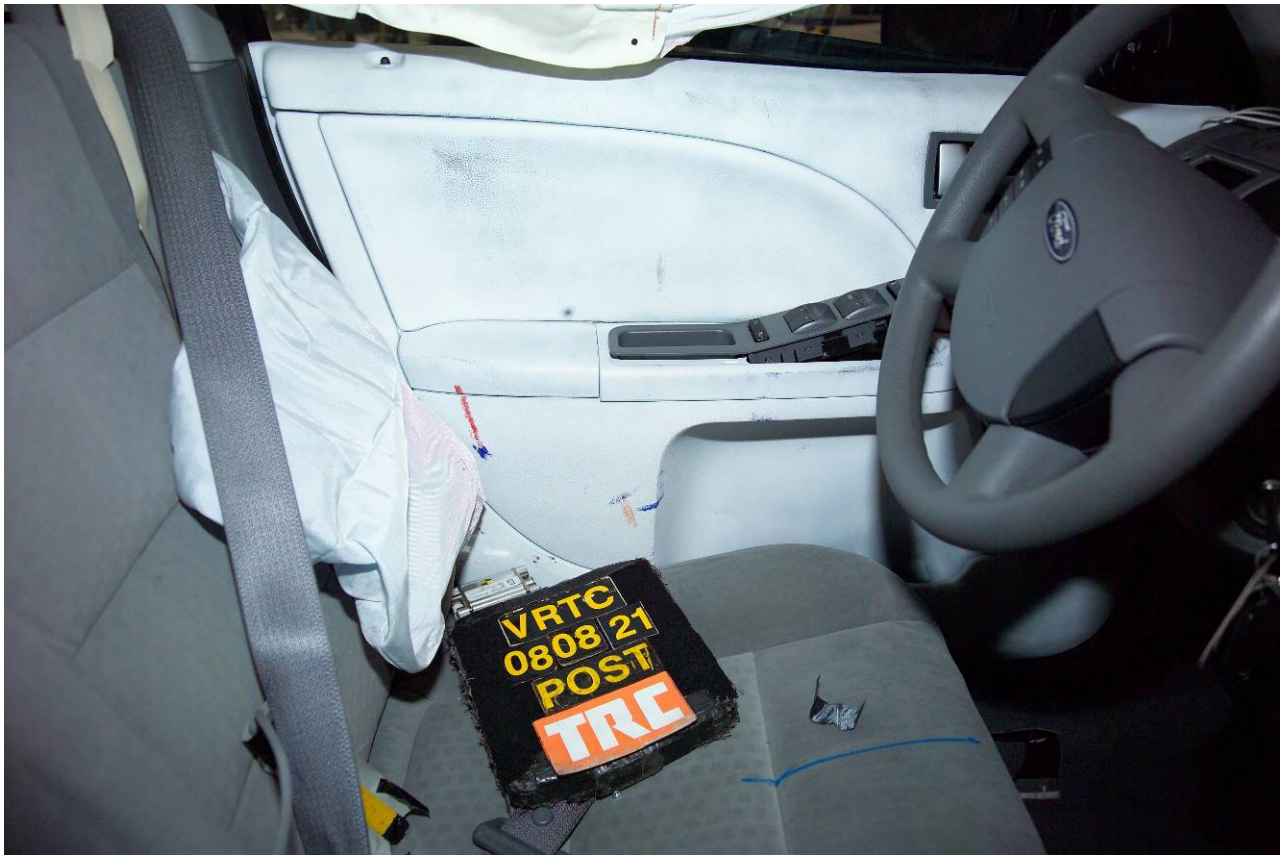


Figure A-44 Post-Test Driver Door Panel View

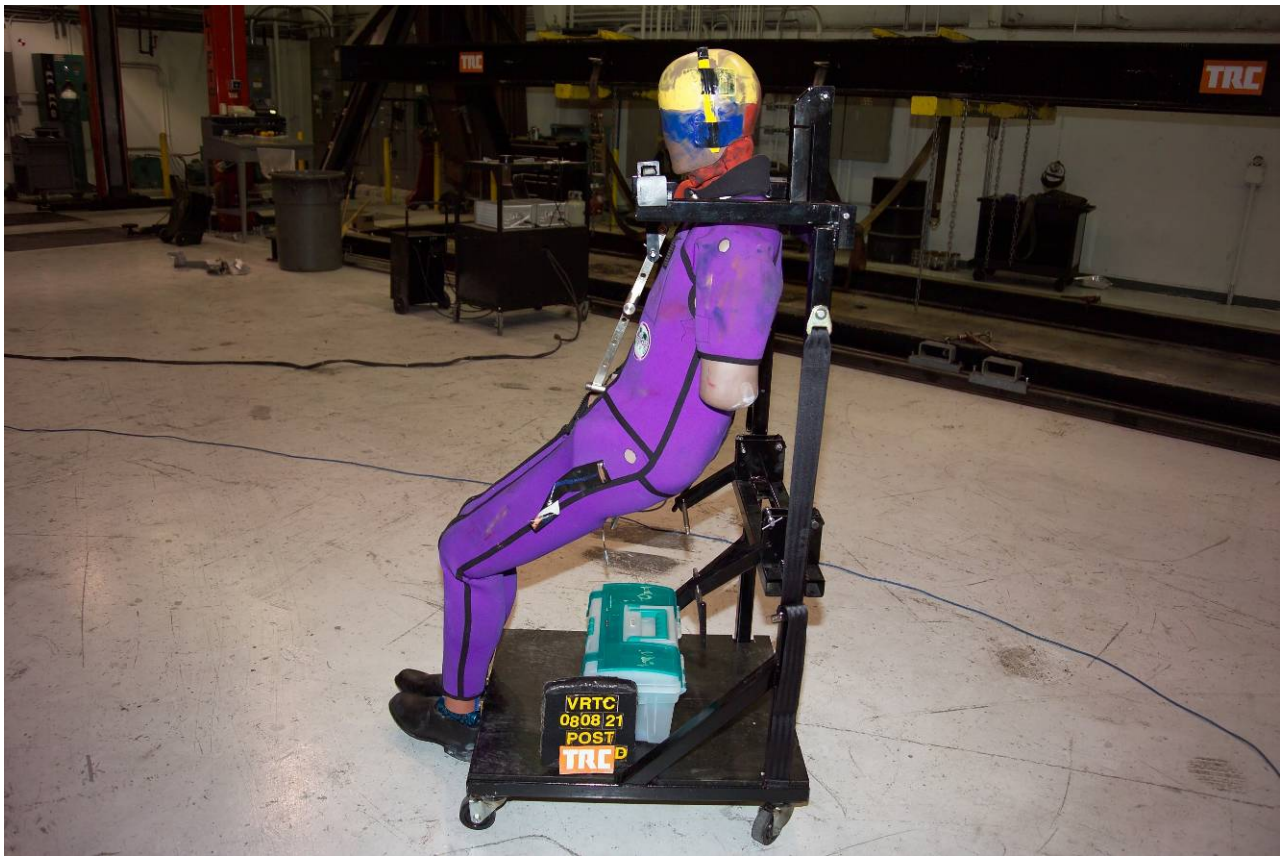


Figure A-45 Post-Test Driver Dummy Overall View



Figure A-46 Post-Test Driver Dummy Head Contact View



Figure A-47 Post-Test Driver Dummy Torso Contact View

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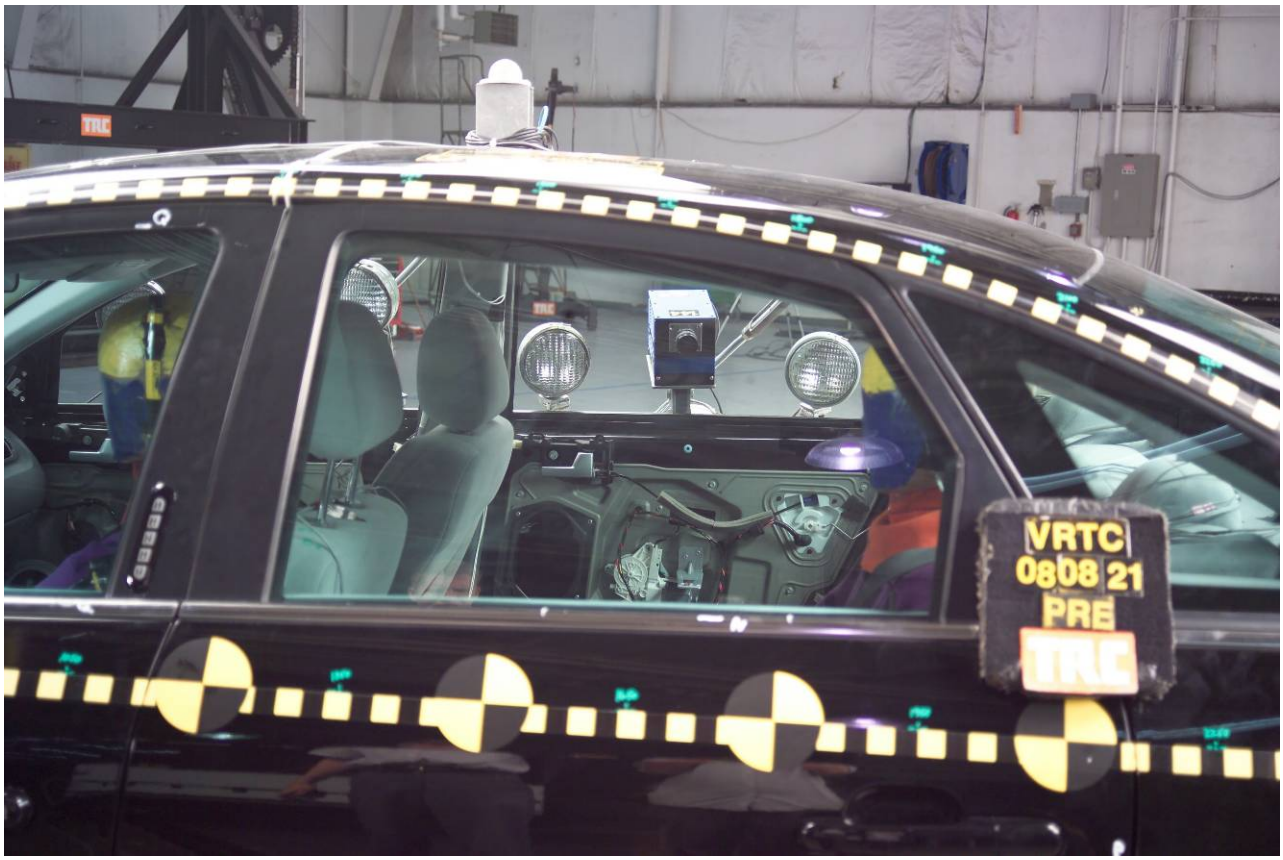


Figure A-48 Pre-Test Passenger Dummy Side View



Figure A-49 Post-Test Passenger Dummy Side View

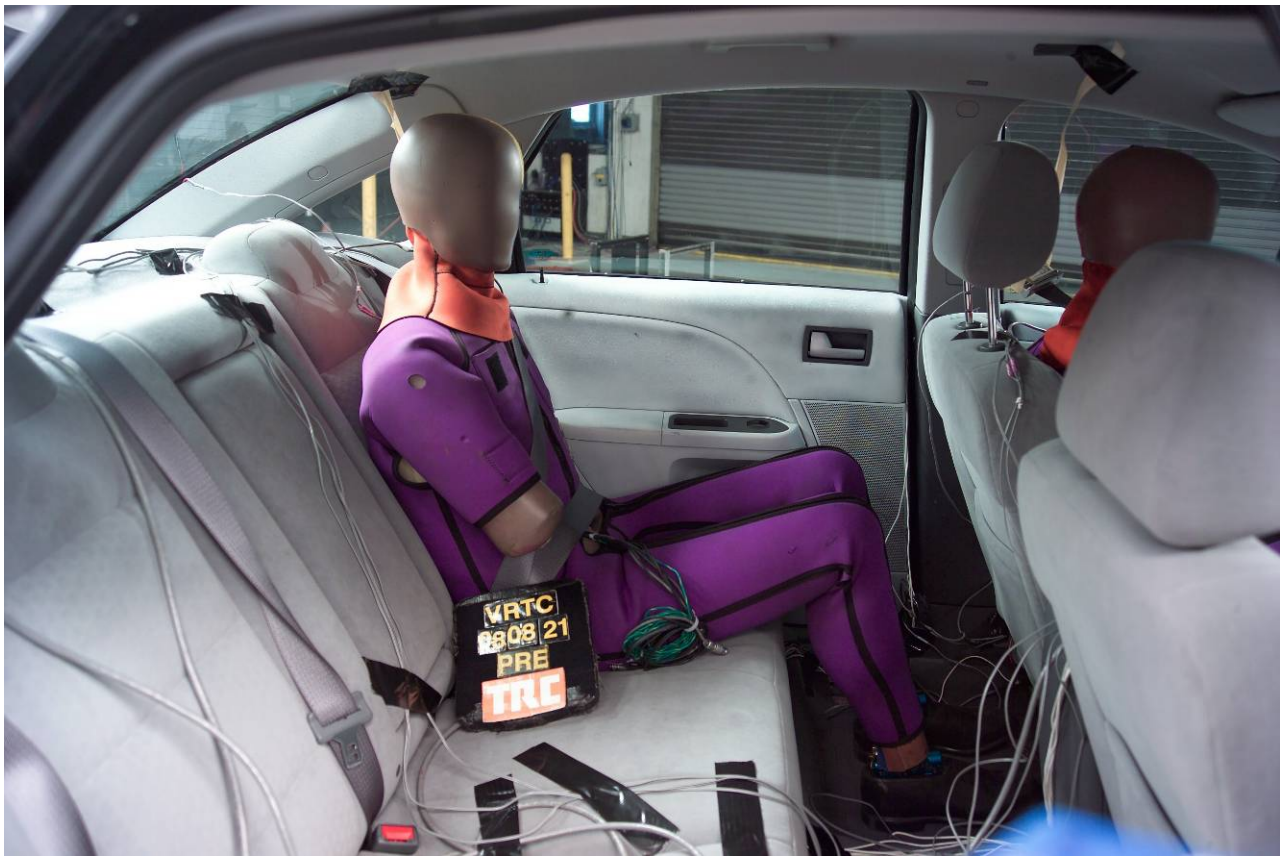


Figure A-50 Pre-Test Right Side Dummy Occupant Compartment View

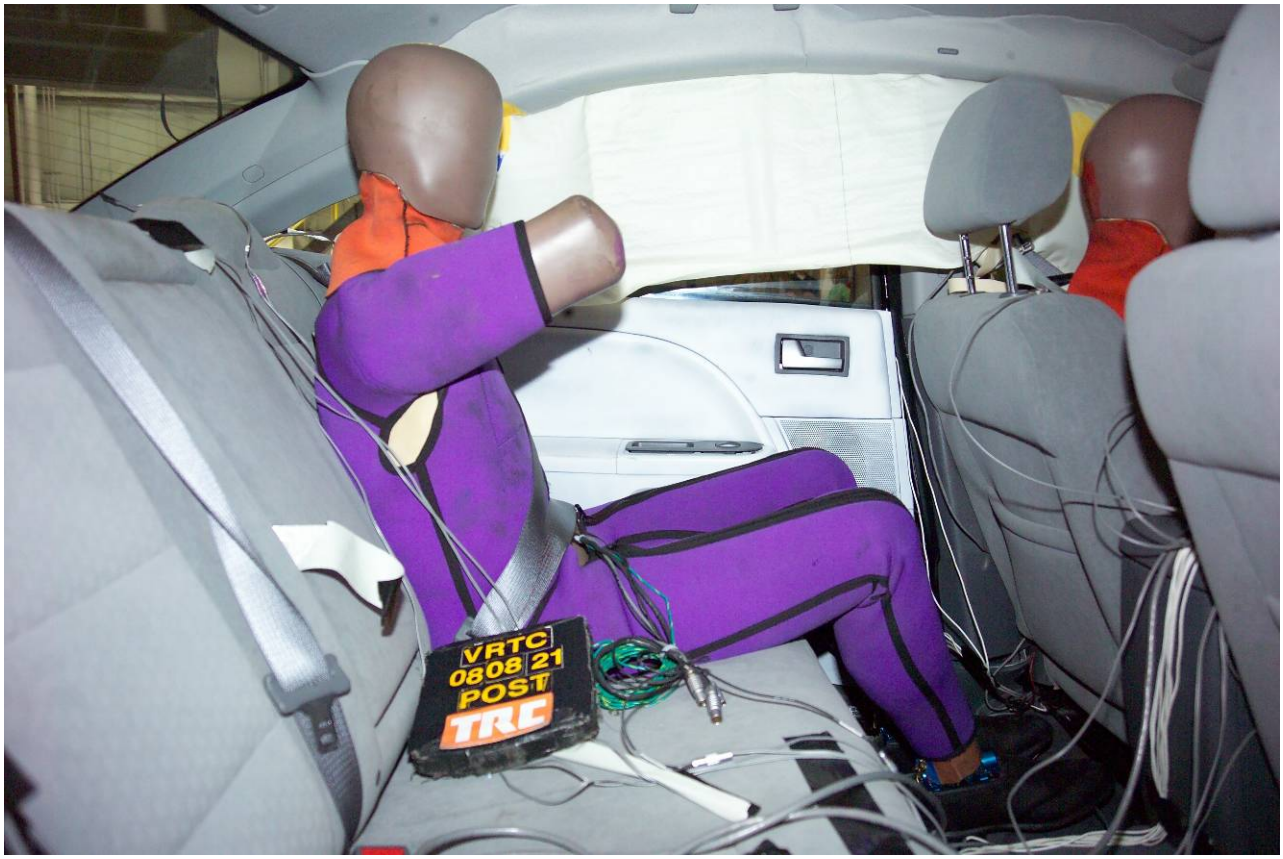


Figure A-51 Post-Test Right Side Dummy Occupant Compartment View

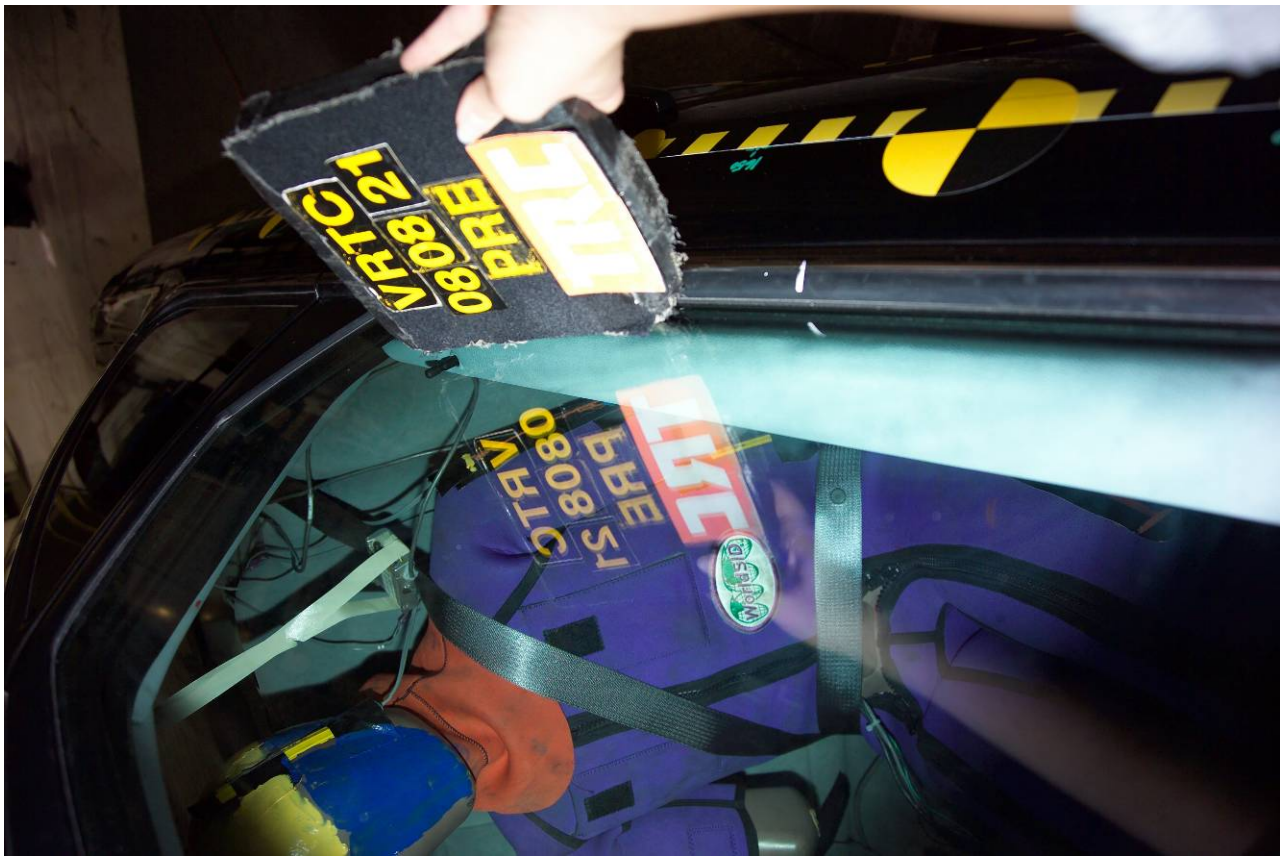


Figure A-52 Pre-Test Passenger Dummy and Door Clearance View



Figure A-53 Post-Test Passenger Dummy and Door Clearance View



Figure A-54 Pre-Test Passenger Dummy Showing Belts, Chalking, and Contact Switches

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Figure A-55 Pre-Test Passenger Door Panel View



Figure A-56 Post-Test Passenger Door Panel View

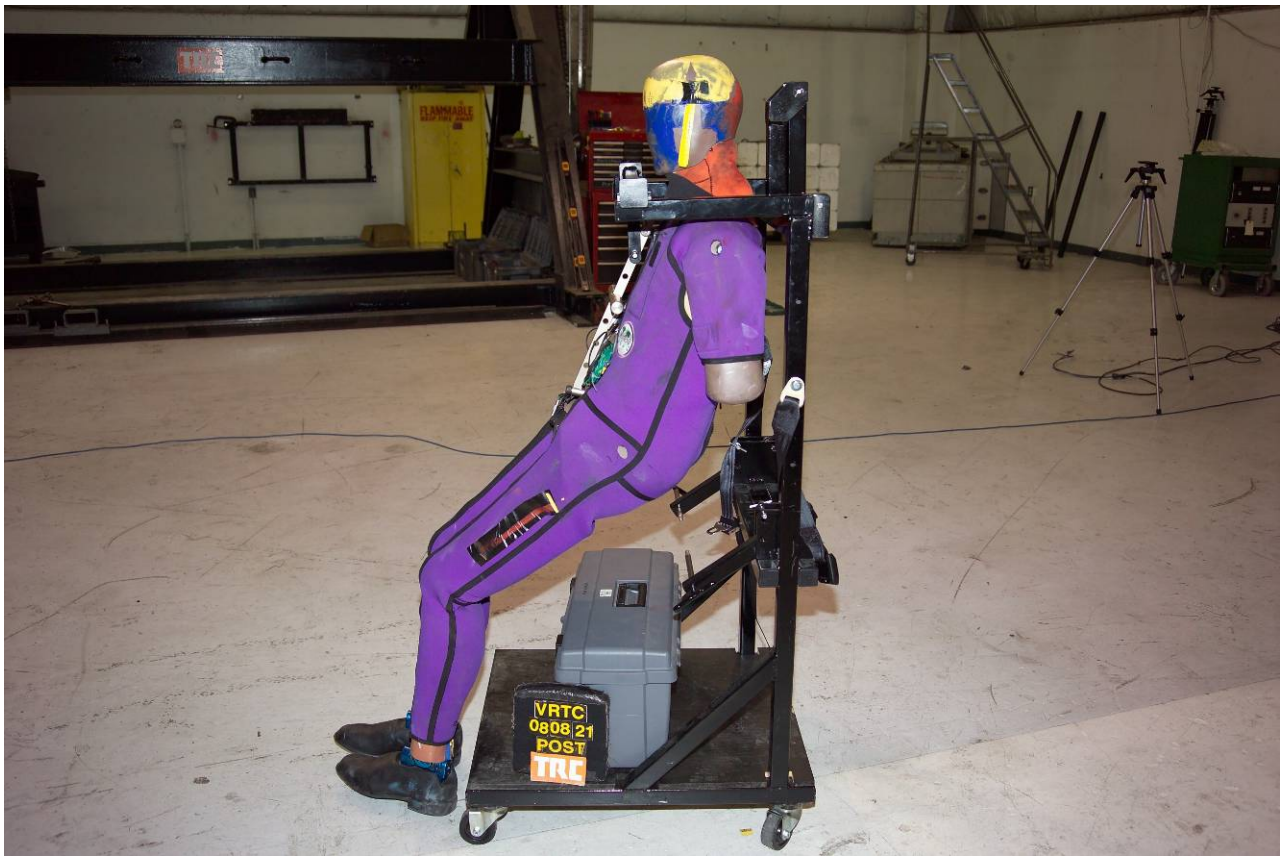


Figure A-57 Post-Test Passenger Dummy Overall View



Figure A-58 Post-Test Passenger Dummy Head Contact View



Figure A-59 Post-Test Passenger Dummy Torso Contact View

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Figure A-60 Certification Label View



Figure A-61 Recommended Tire Pressure Label View



Figure A-62 Pre-Test Ballast View

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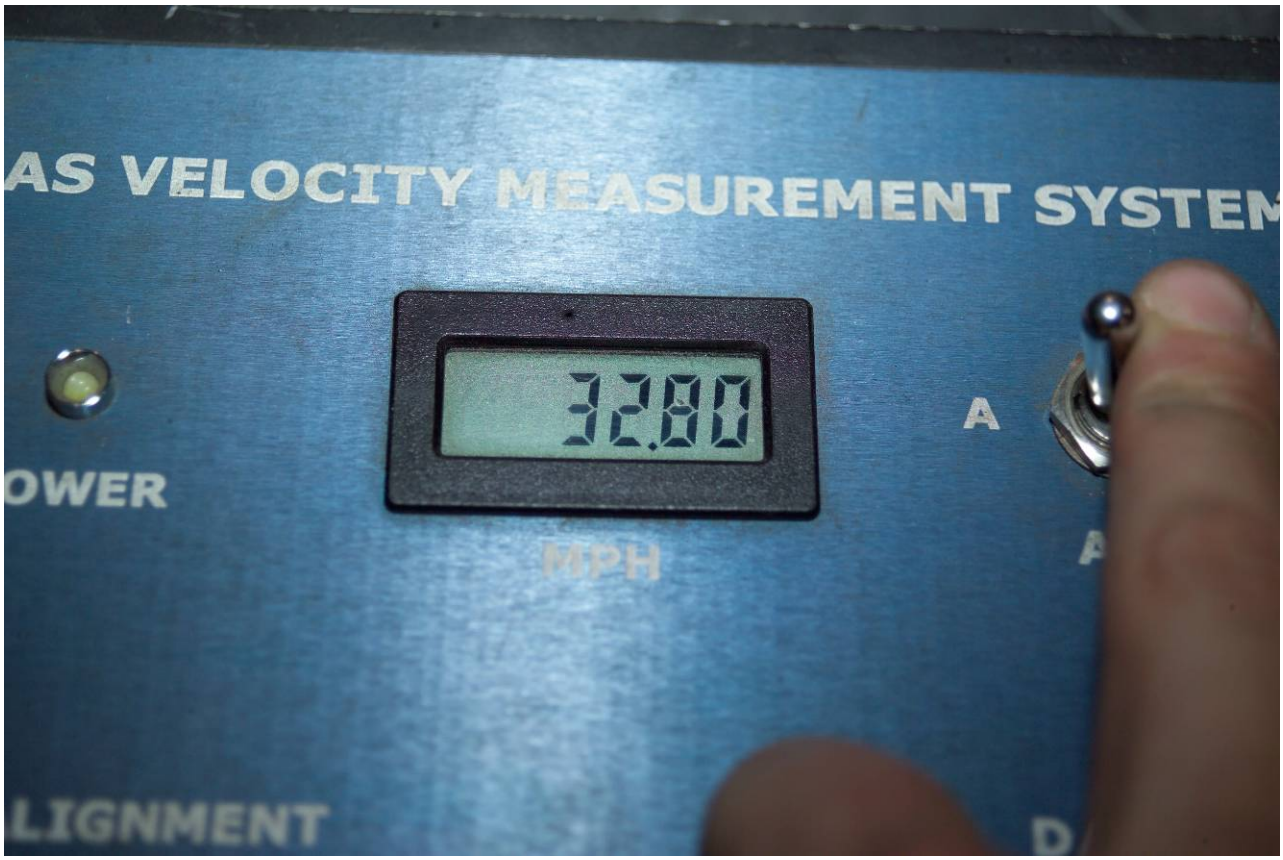


Figure A-63 Post-Test Digital Light Trap Read-Out - View 1

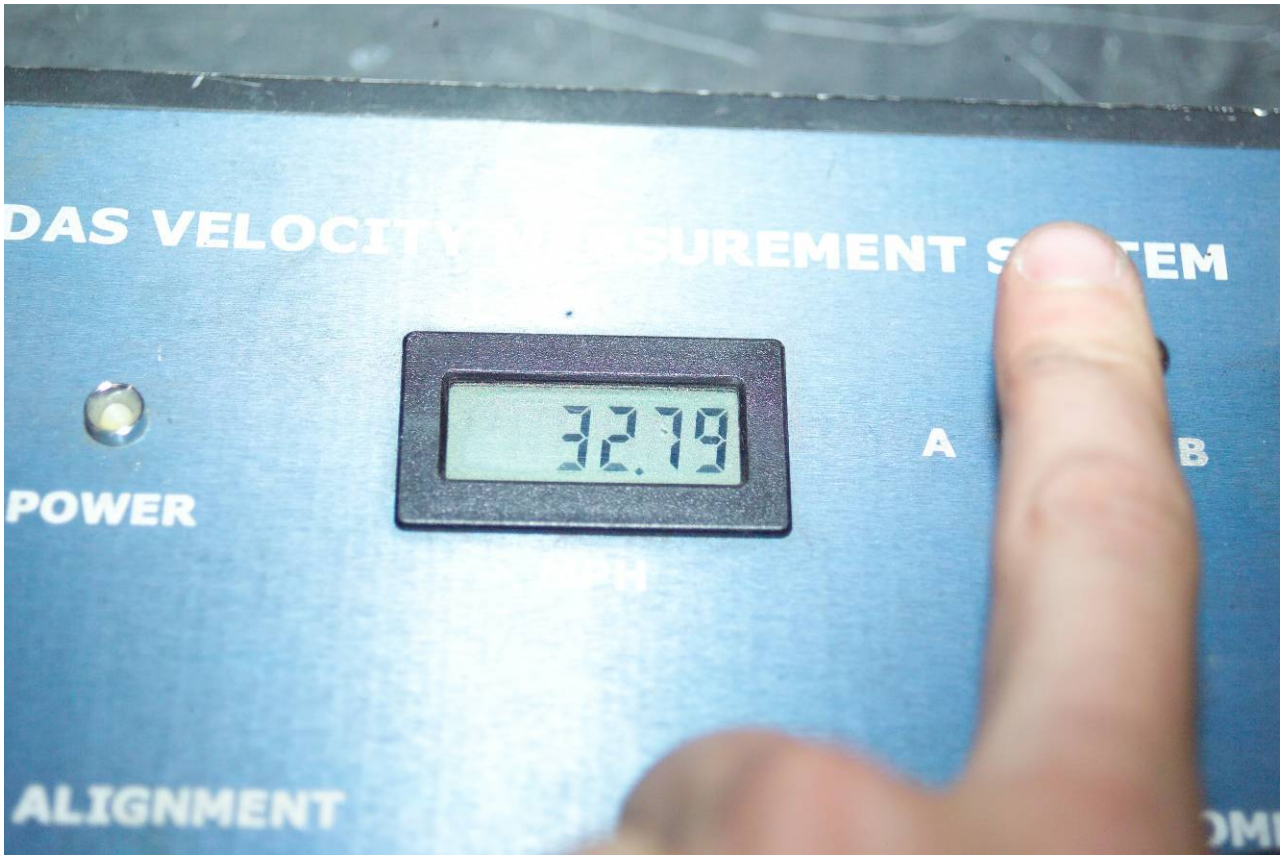


Figure A-64 Post-Test Digital Light Trap Read-Out - View 2

Appendix B

Data Plots

World SID Evaluation

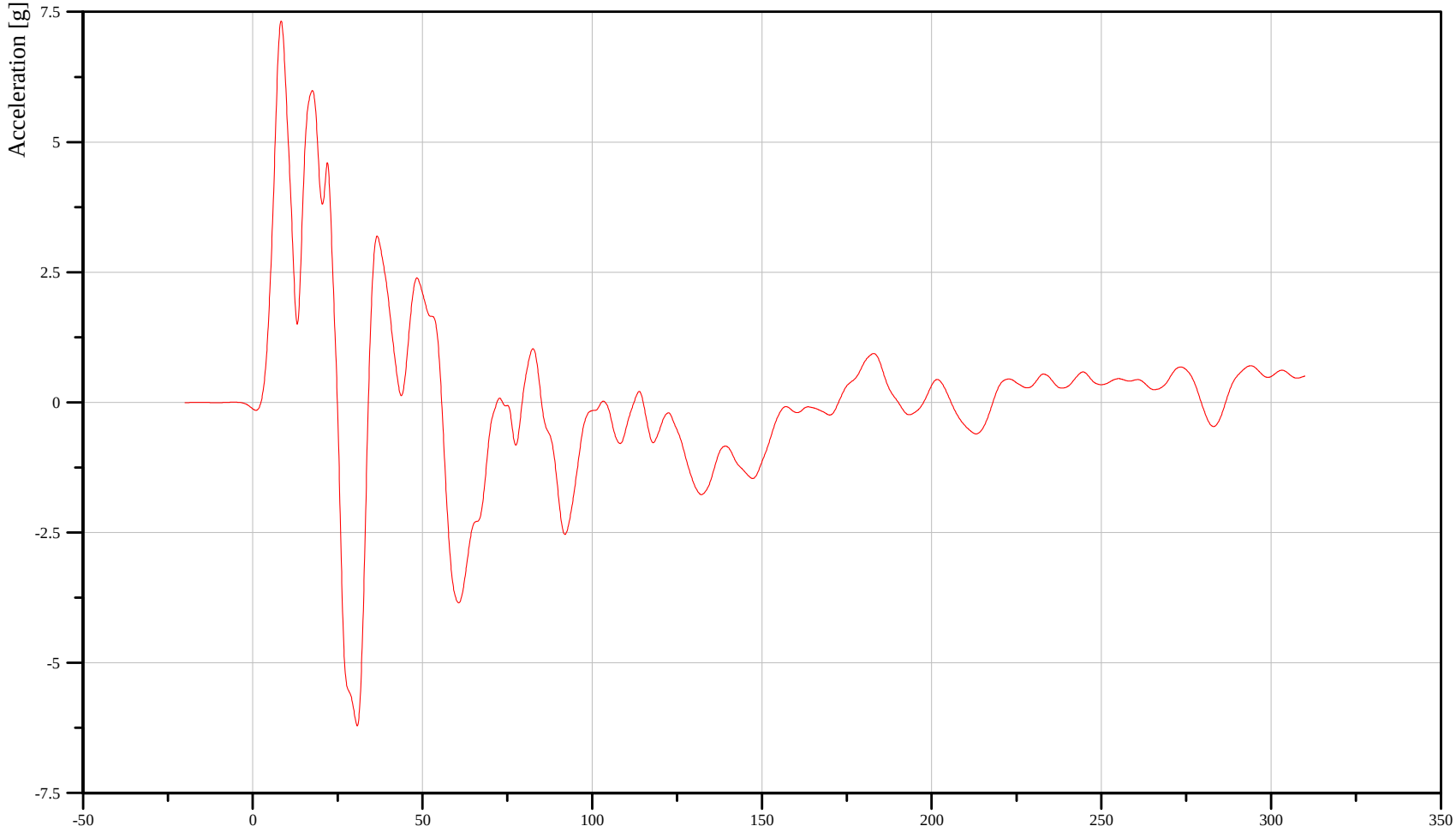
Right Side Sill at Front Seat X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-6.21 g at 30.80 ms

Max. Value
7.32 g at 8.32 ms

World SID Evaluation

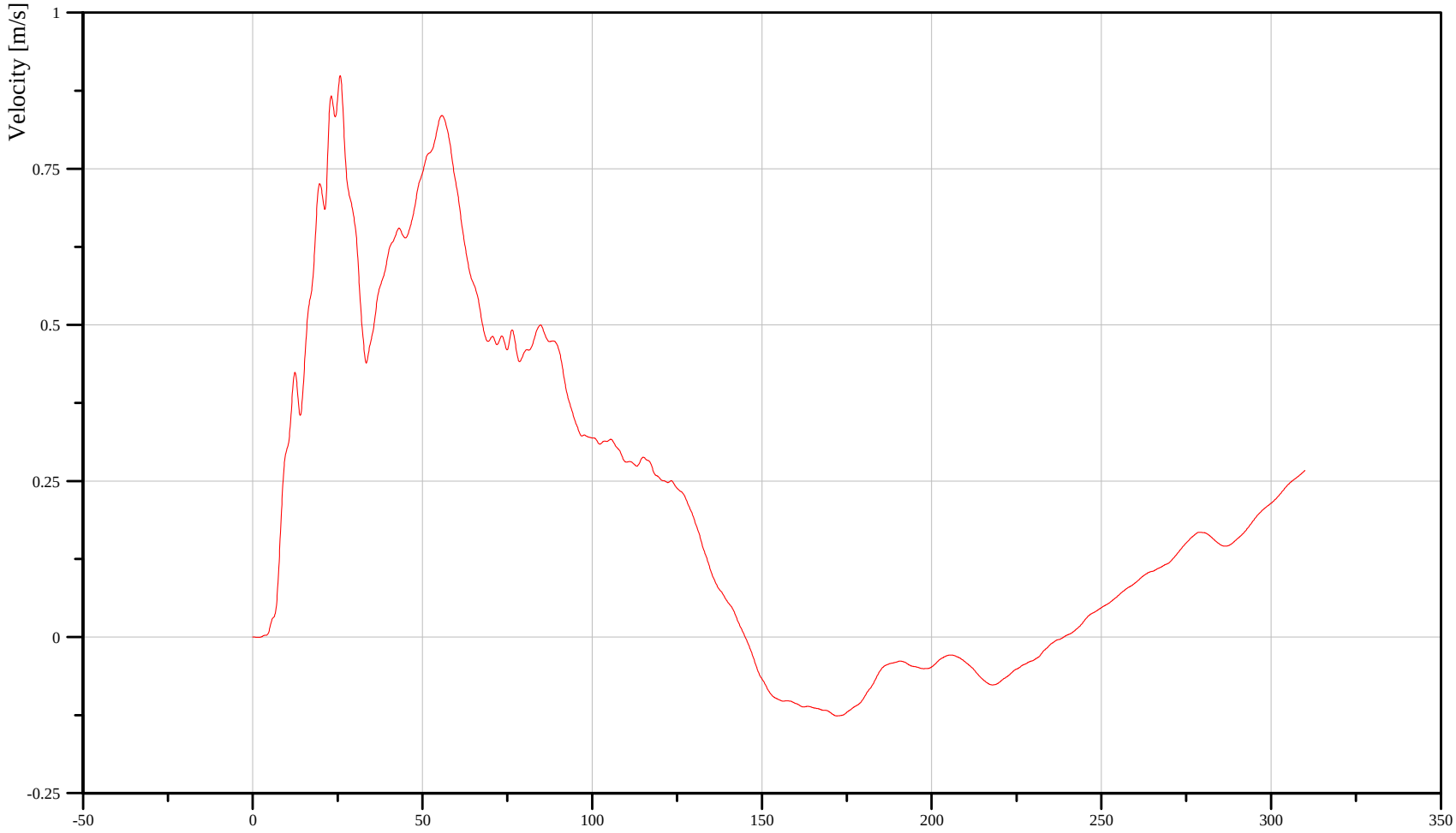
Right Side Sill at Front Seat X-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000VEXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-0.13 m/s at 172.16 ms

Max. Value
0.90 m/s at 25.76 ms

World SID Evaluation

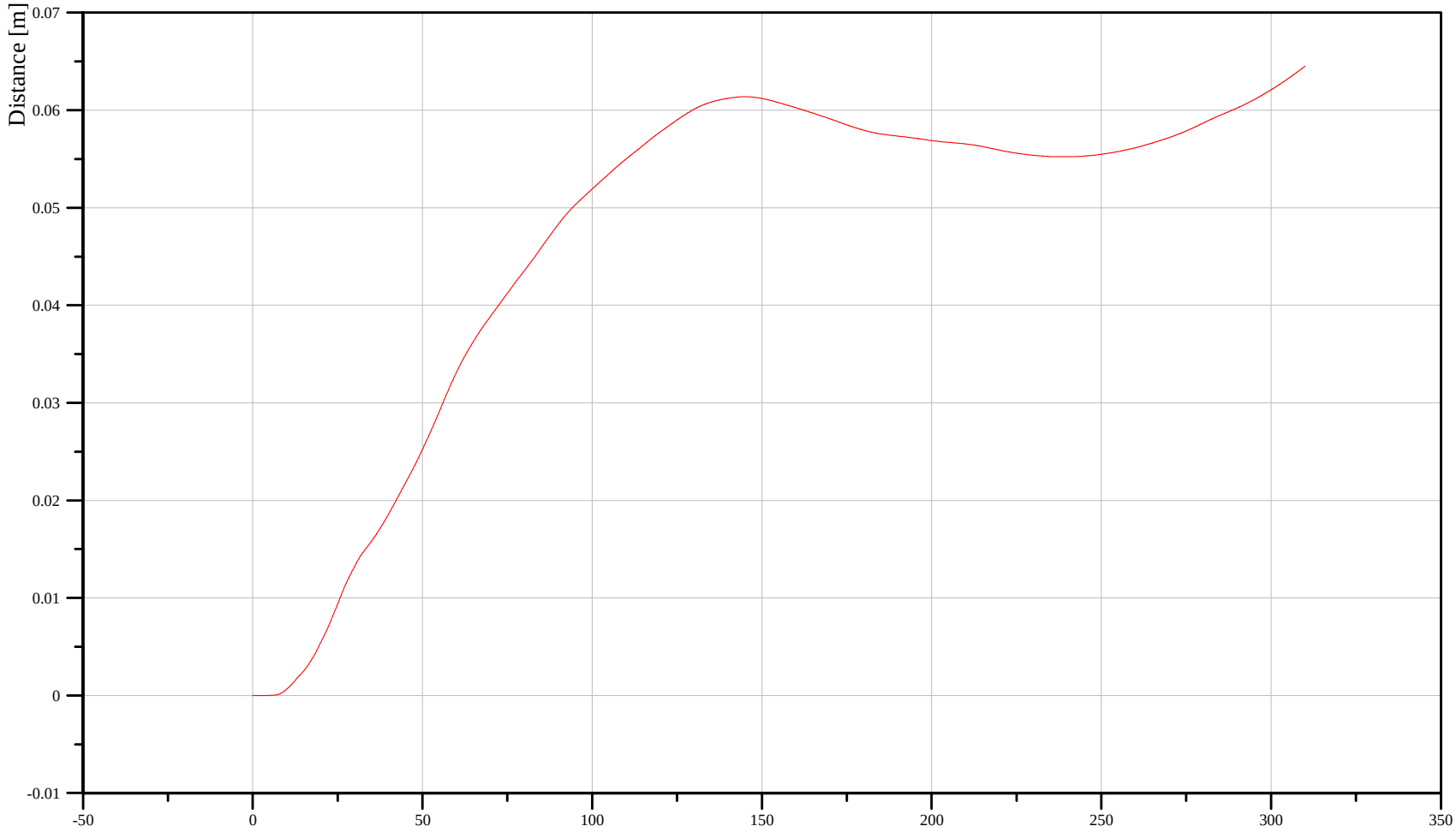
Right Side Sill at Front Seat X-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000DCXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m at 2.40 ms

Max. Value
0.06 m at 310.00 ms

World SID Evaluation

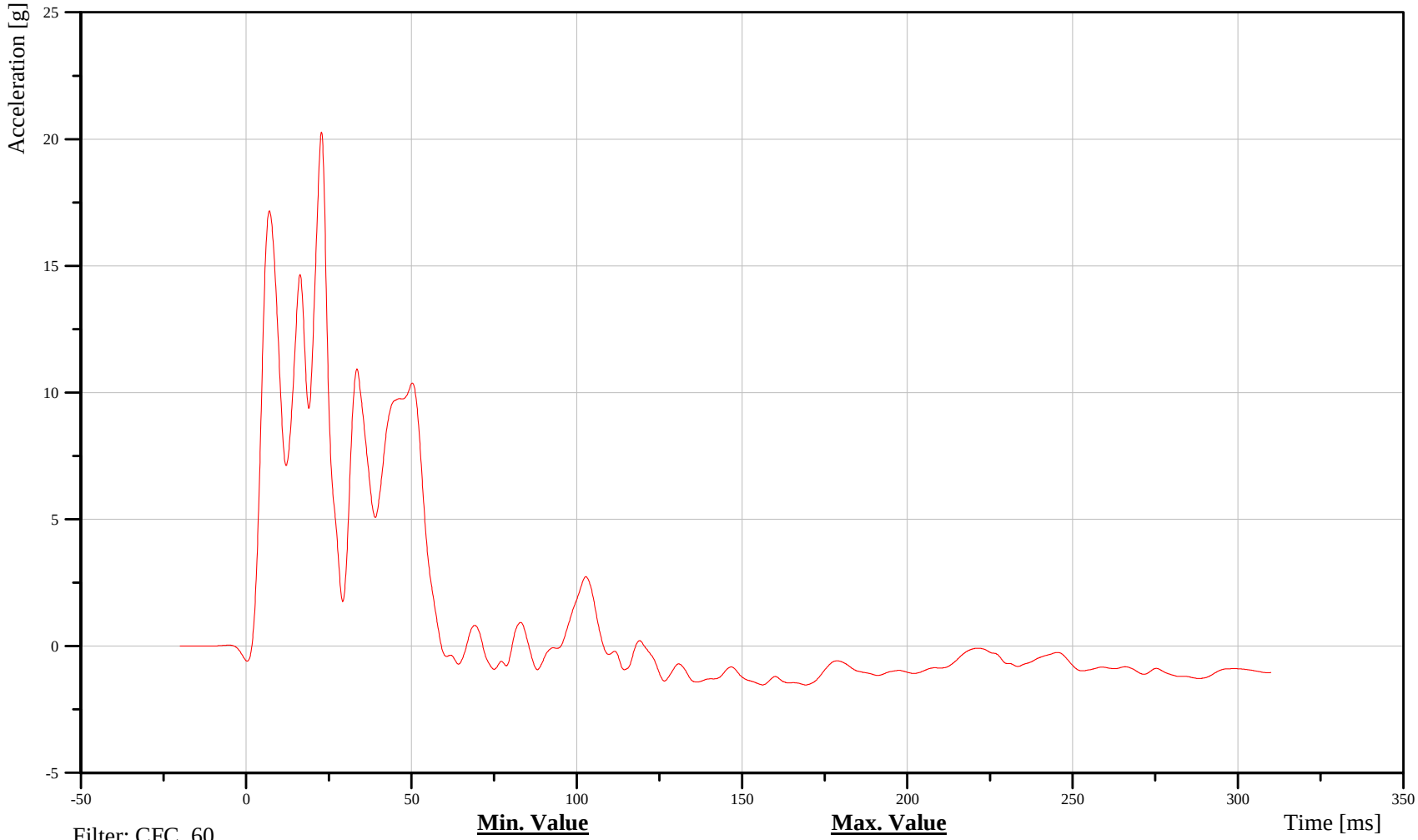
Right Side Sill at Front Seat Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.53 g at 169.28 ms

Max. Value
20.28 g at 22.80 ms

World SID Evaluation

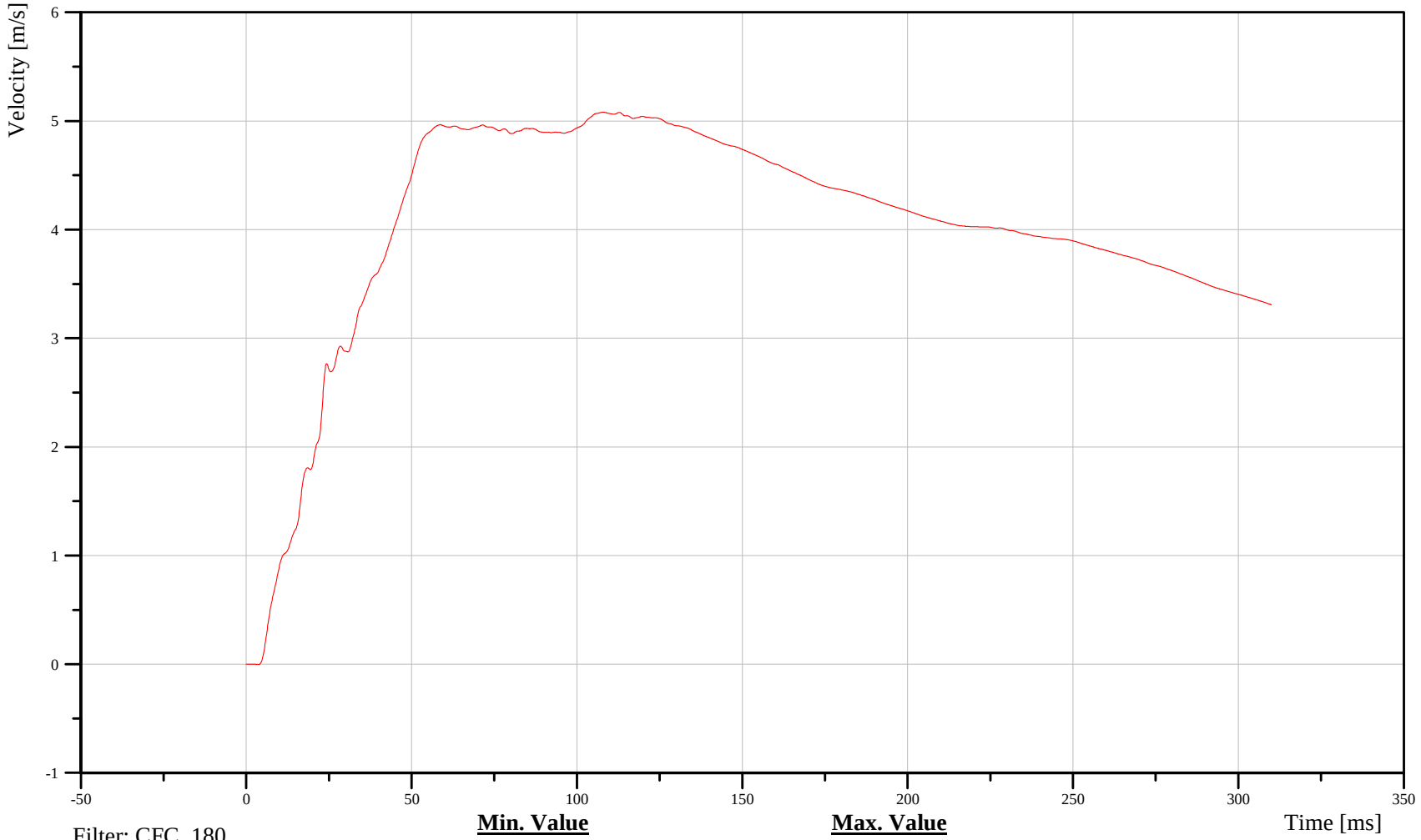
Right Side Sill at Front Seat Y-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000VEYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m/s at 3.60 ms

Max. Value
5.08 m/s at 108.00 ms

World SID Evaluation

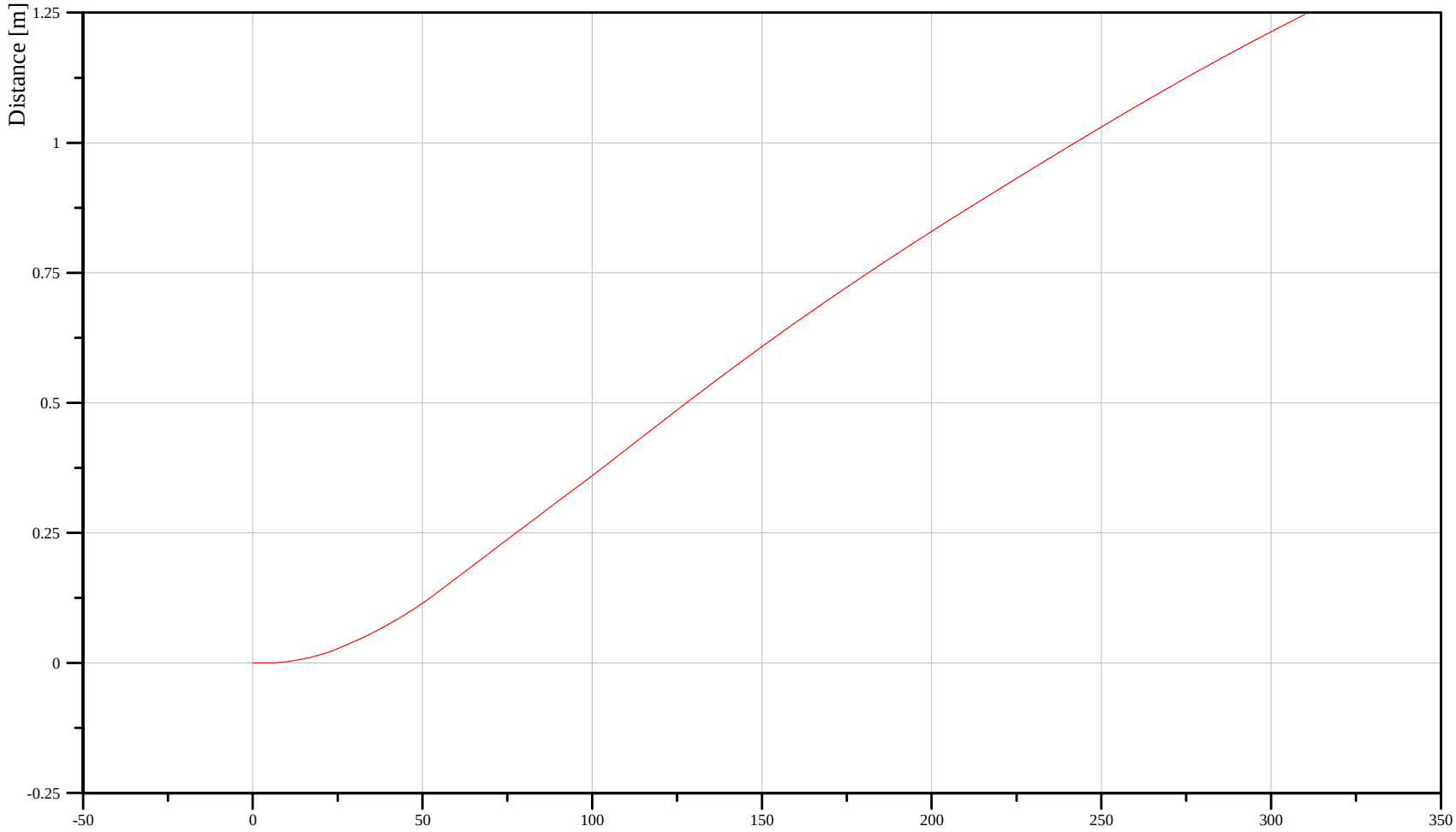
Right Side Sill at Front Seat Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000DCYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m at 4.00 ms

Max. Value
1.25 m at 310.00 ms

World SID Evaluation

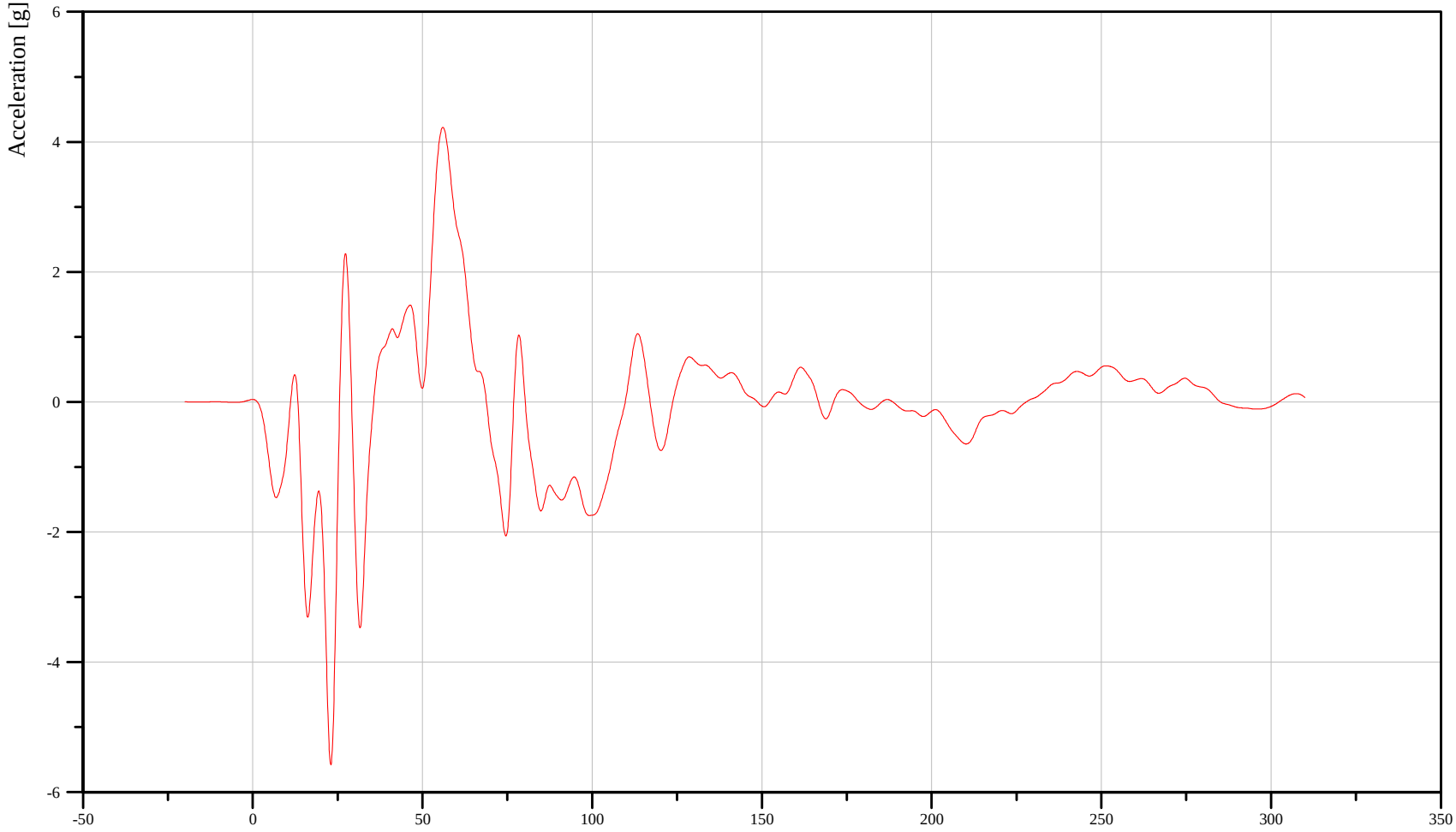
Right Side Sill at Front Seat Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000ACZD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-5.58 g at 23.04 ms

Max. Value
4.23 g at 56.00 ms

World SID Evaluation

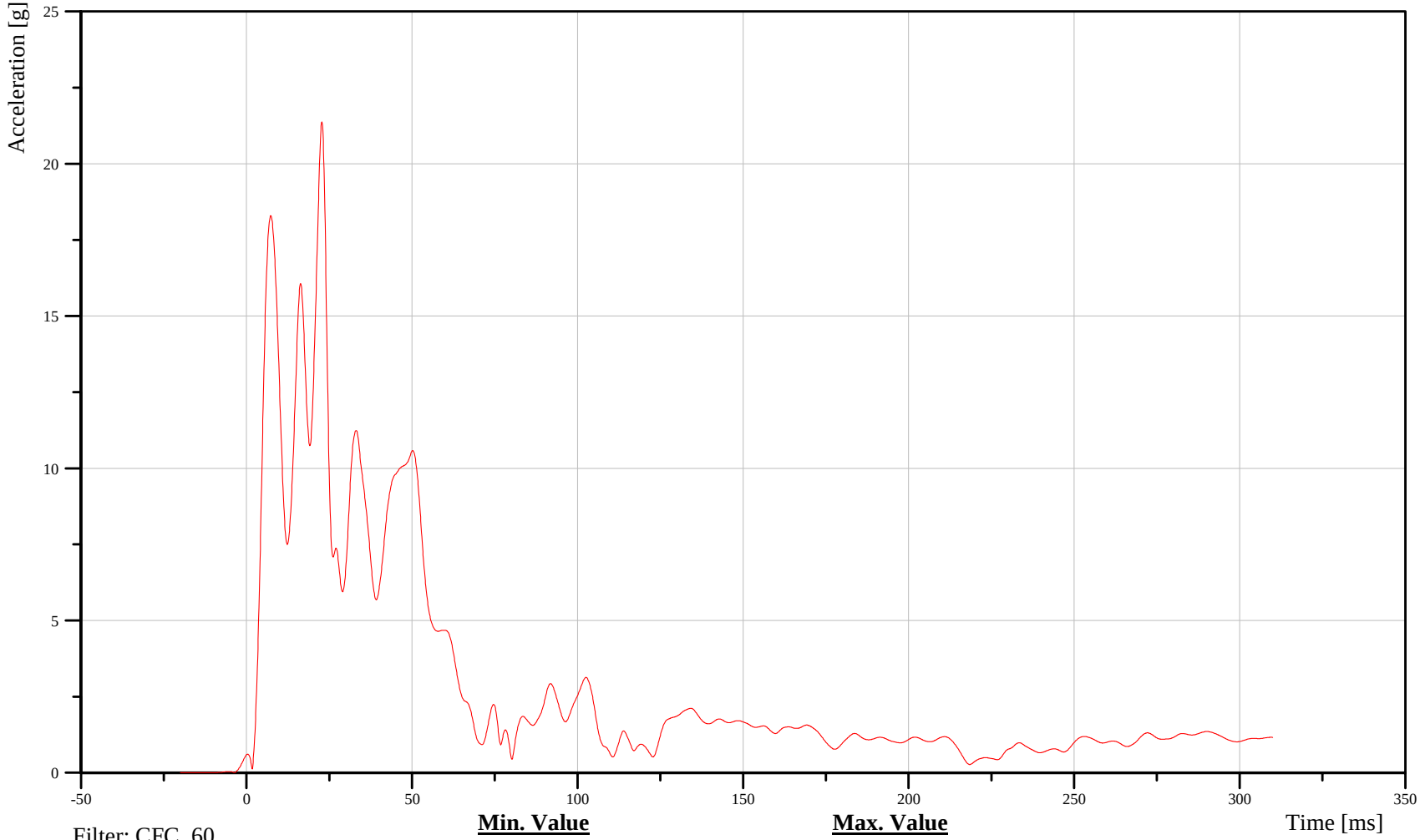
Right Side Sill at Front Seat Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBFR0000ACRD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
0.00 g at -14.32 ms

Max. Value
21.38 g at 22.80 ms

World SID Evaluation

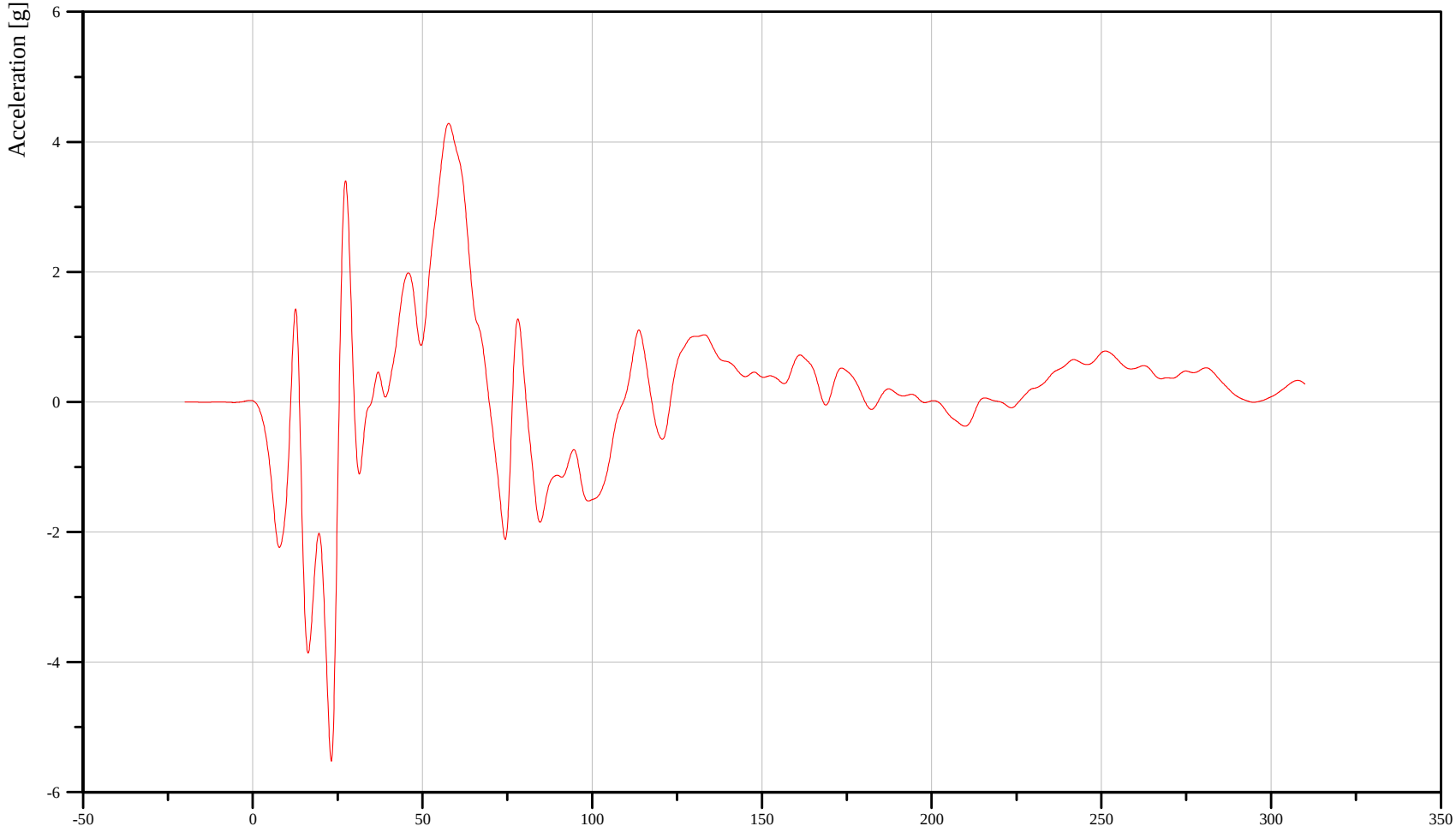
Right Side Sill at Rear Seat X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-5.53 g at 23.20 ms

Max. Value
4.29 g at 57.68 ms

World SID Evaluation

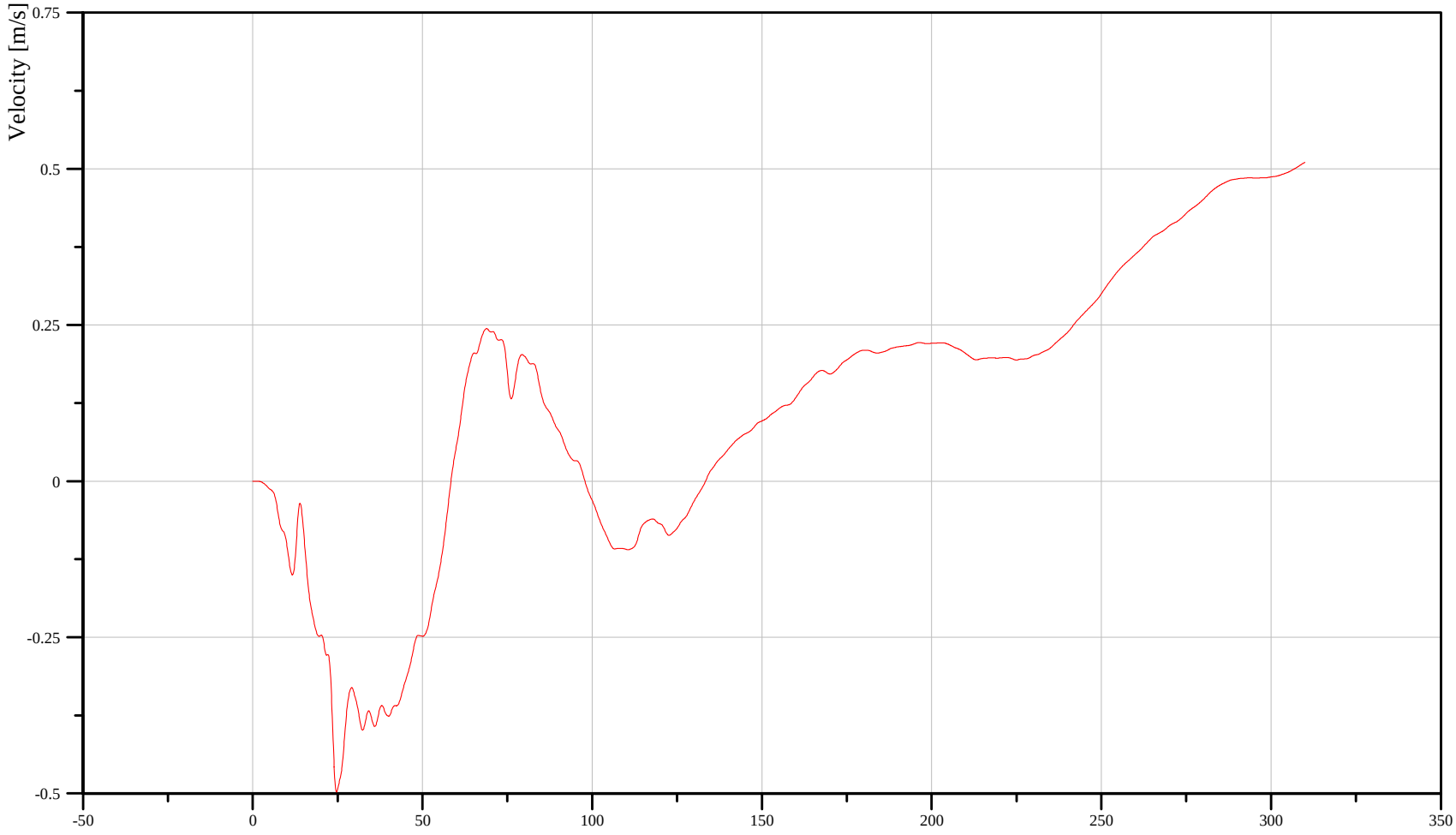
Right Side Sill at Rear Seat X-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000VEXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-0.50 m/s at 24.72 ms

Max. Value
0.51 m/s at 310.00 ms

World SID Evaluation

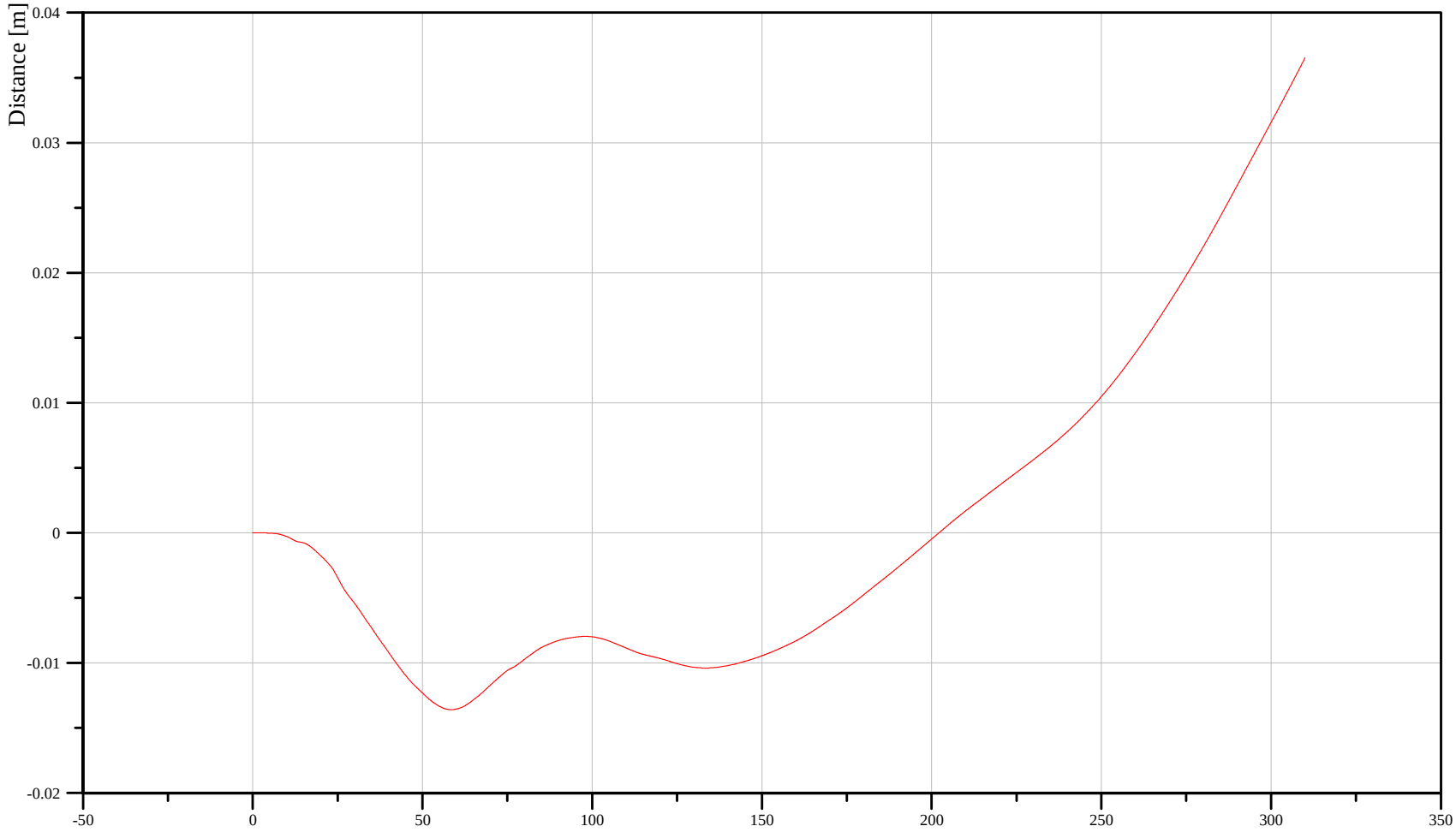
Right Side Sill at Rear Seat X-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000DCXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-0.01 m at 58.40 ms

Max. Value
0.04 m at 310.00 ms

World SID Evaluation

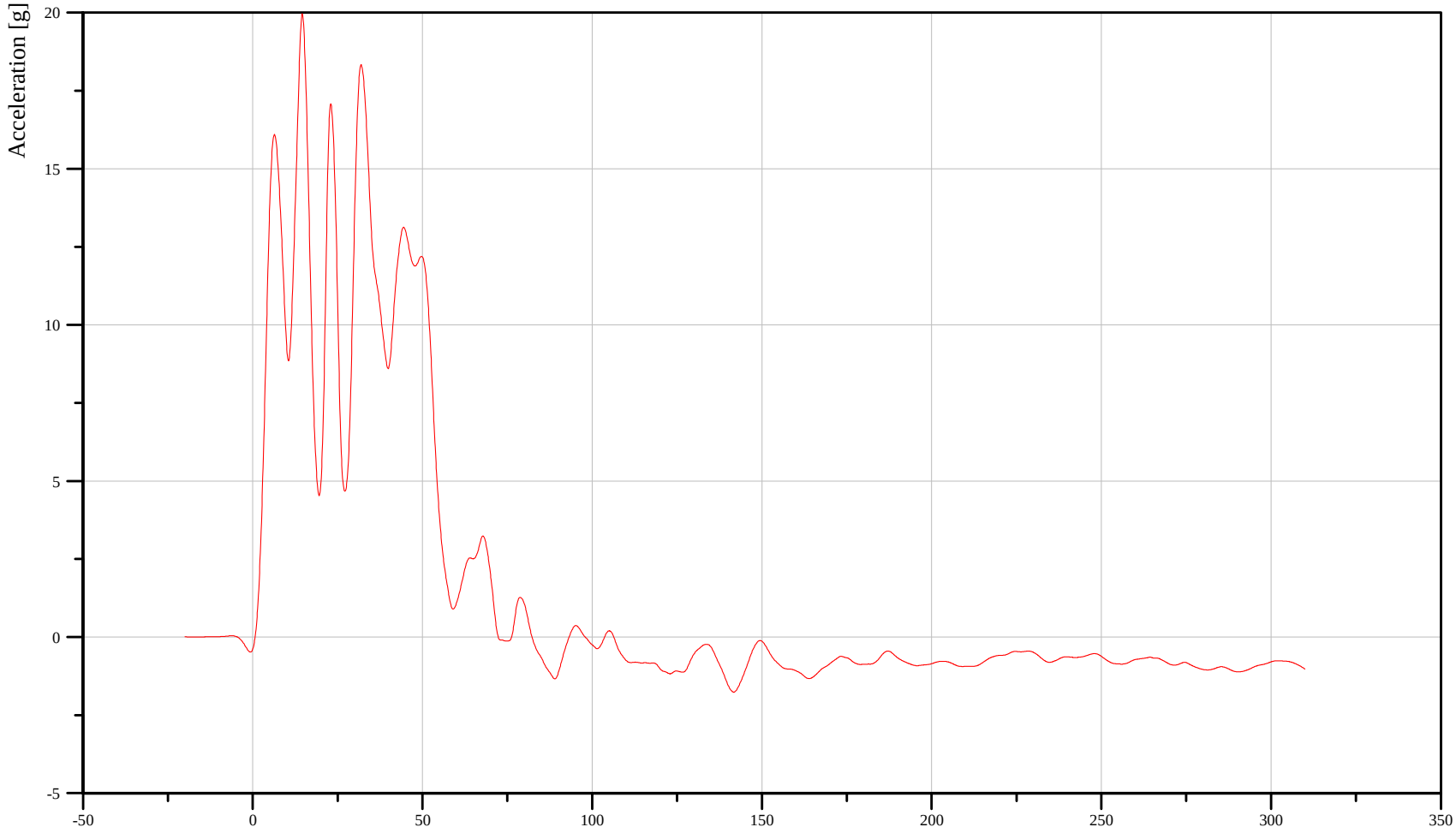
Right Side Sill at Rear Seat Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.76 g at 141.68 ms

Max. Value
19.97 g at 14.56 ms

World SID Evaluation

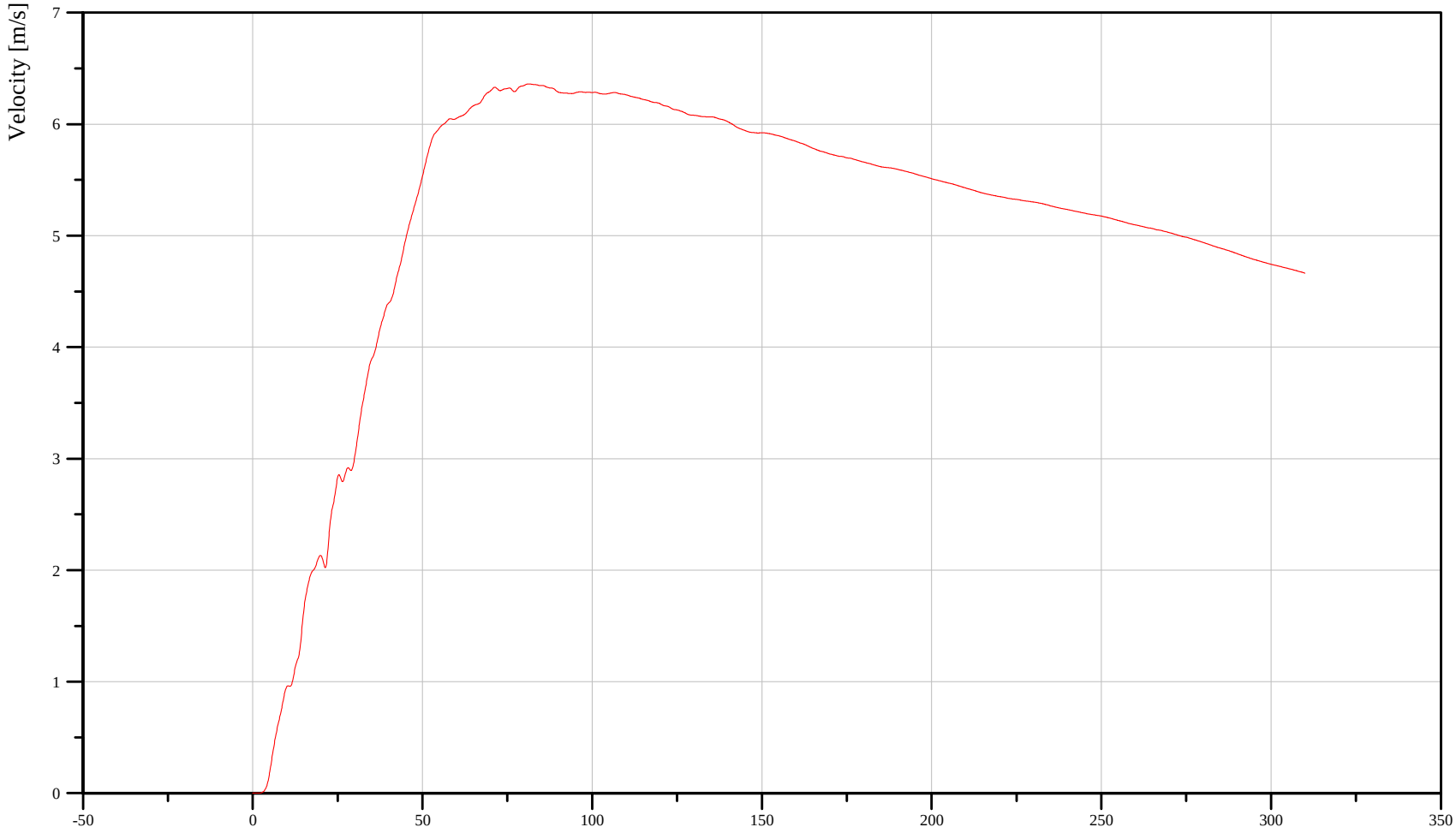
Right Side Sill at Rear Seat Y-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000VEYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m/s at 0.00 ms

Max. Value
6.36 m/s at 81.36 ms

World SID Evaluation

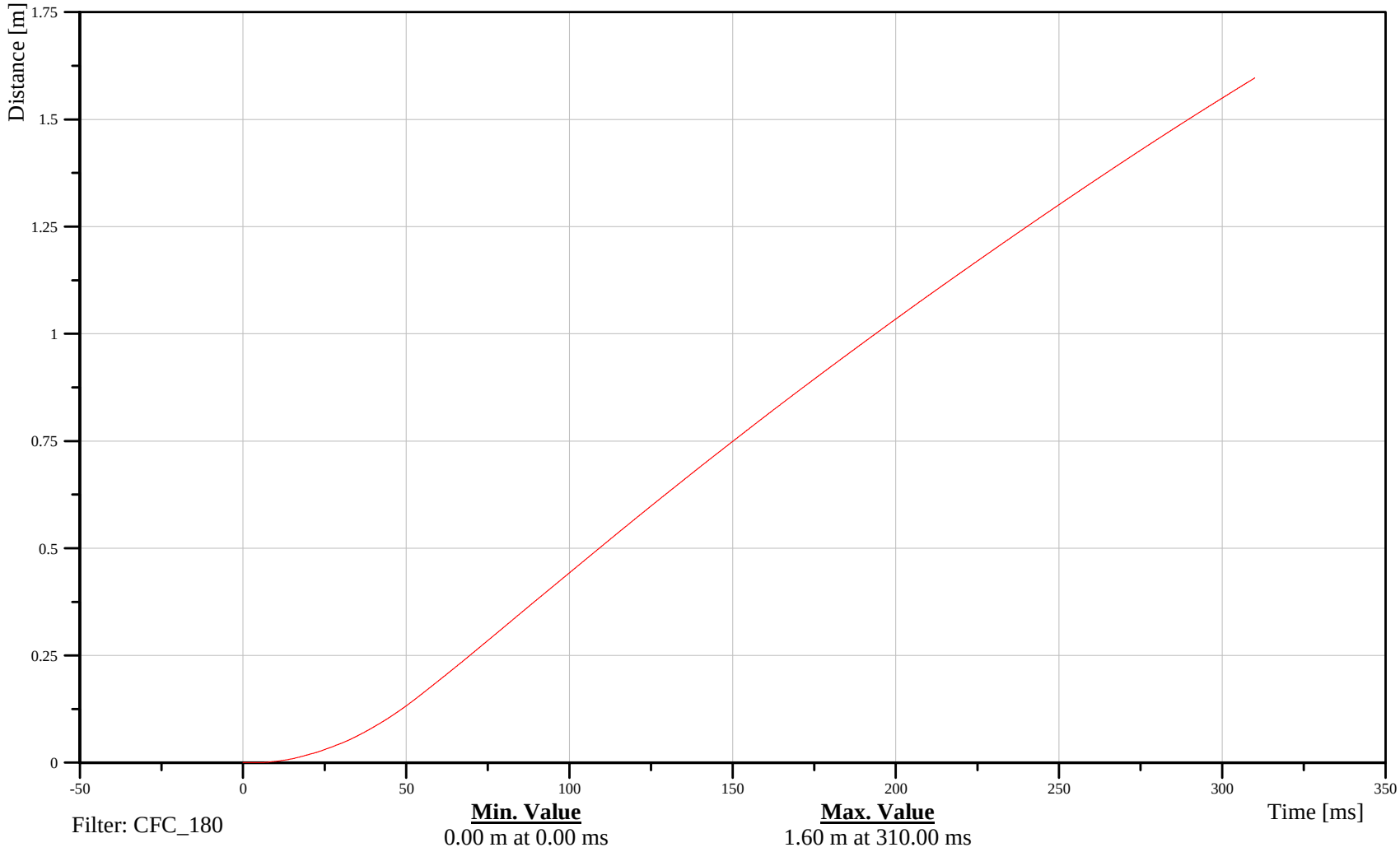
Right Side Sill at Rear Seat Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000DCYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m at 0.00 ms

Max. Value
1.60 m at 310.00 ms

World SID Evaluation

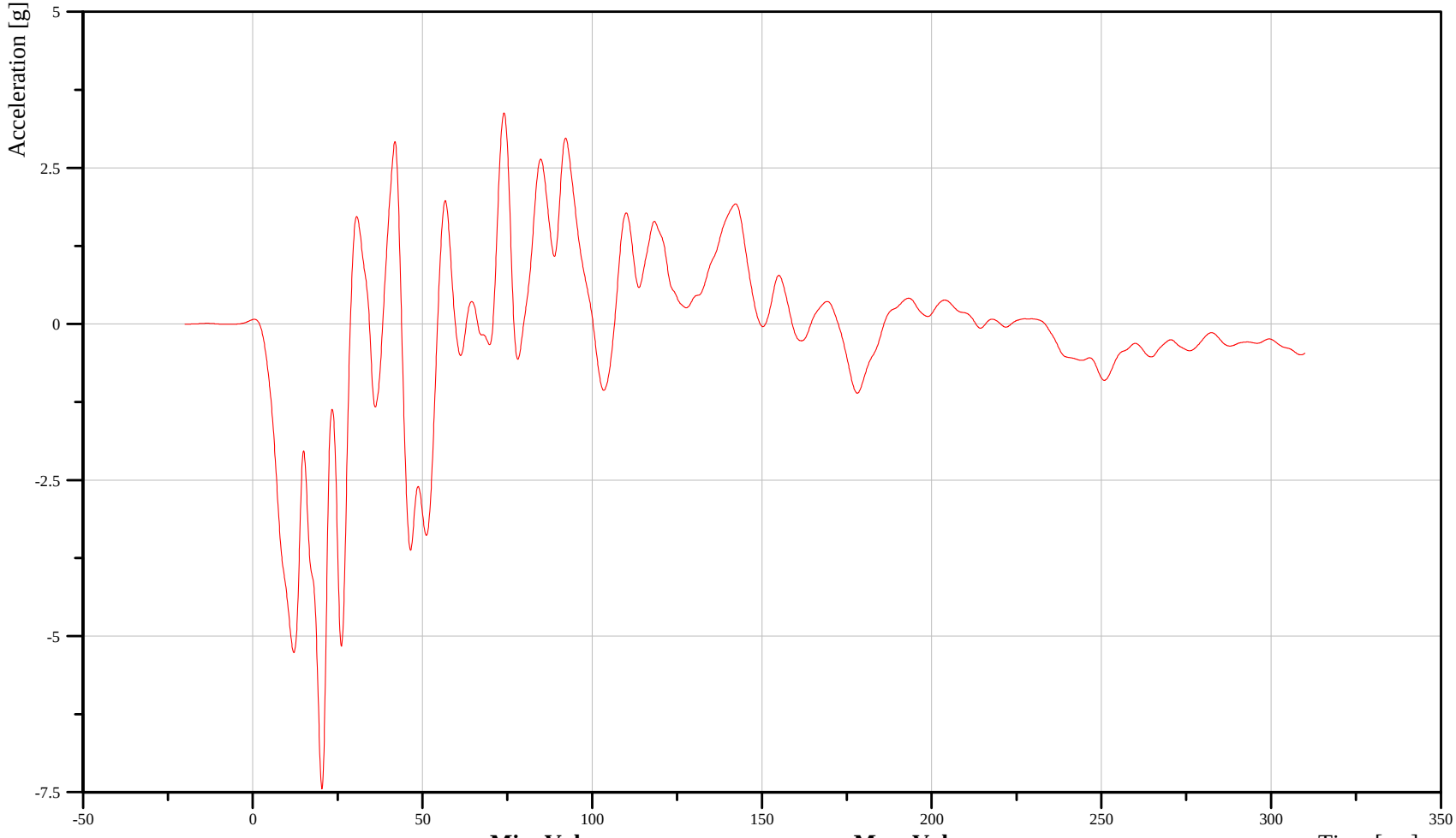
Right Side Sill at Rear Seat Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000ACZD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-7.45 g at 20.40 ms

Max. Value
3.38 g at 74.00 ms

World SID Evaluation

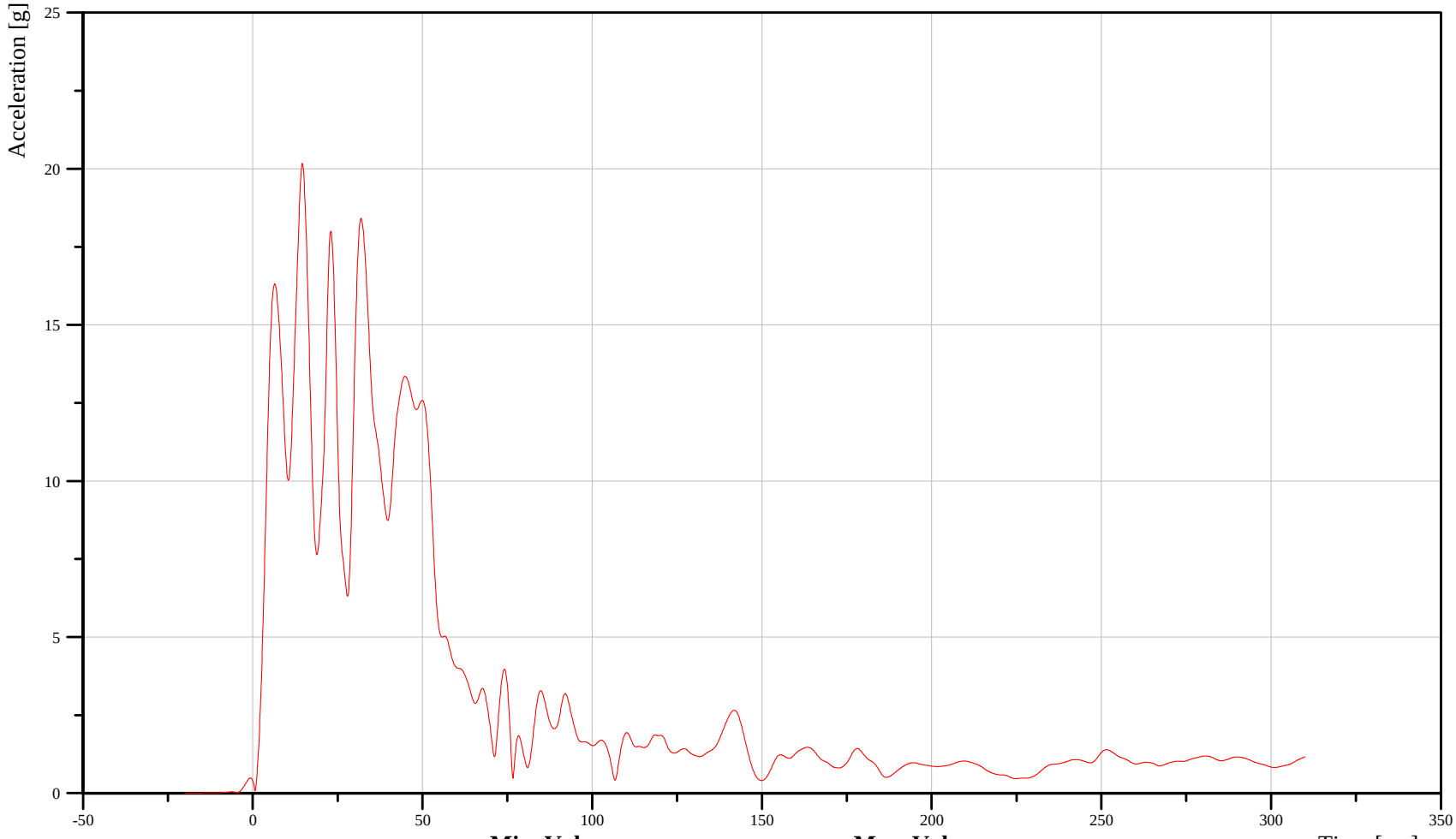
Right Side Sill at Rear Seat Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16SILBRE0000ACRD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
0.00 g at -17.44 ms

Max. Value
20.18 g at 14.64 ms

World SID Evaluation

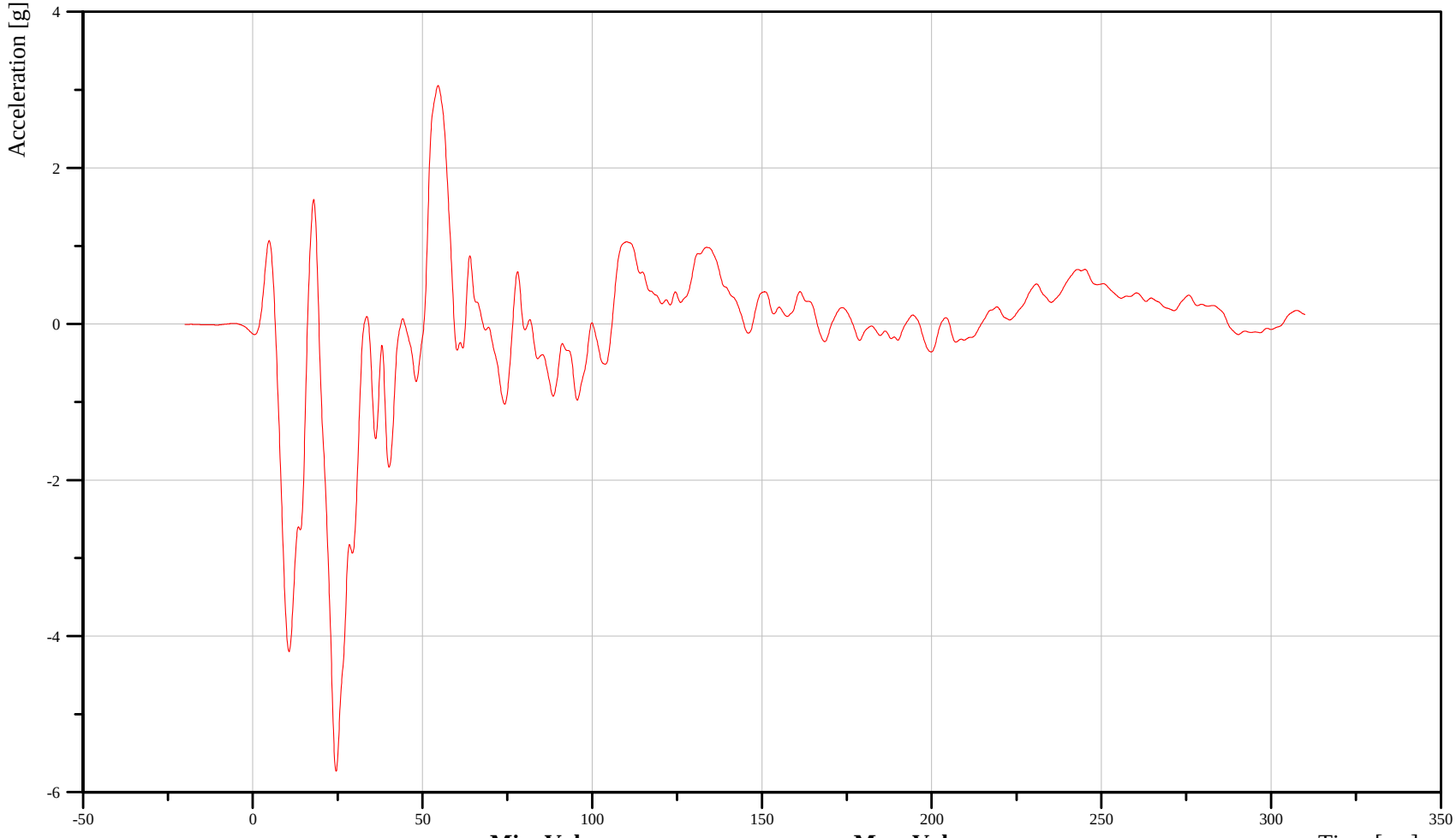
Rear Floorpan Above Axle X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

18FORA000000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-5.73 g at 24.56 ms

Max. Value
3.06 g at 54.64 ms

World SID Evaluation

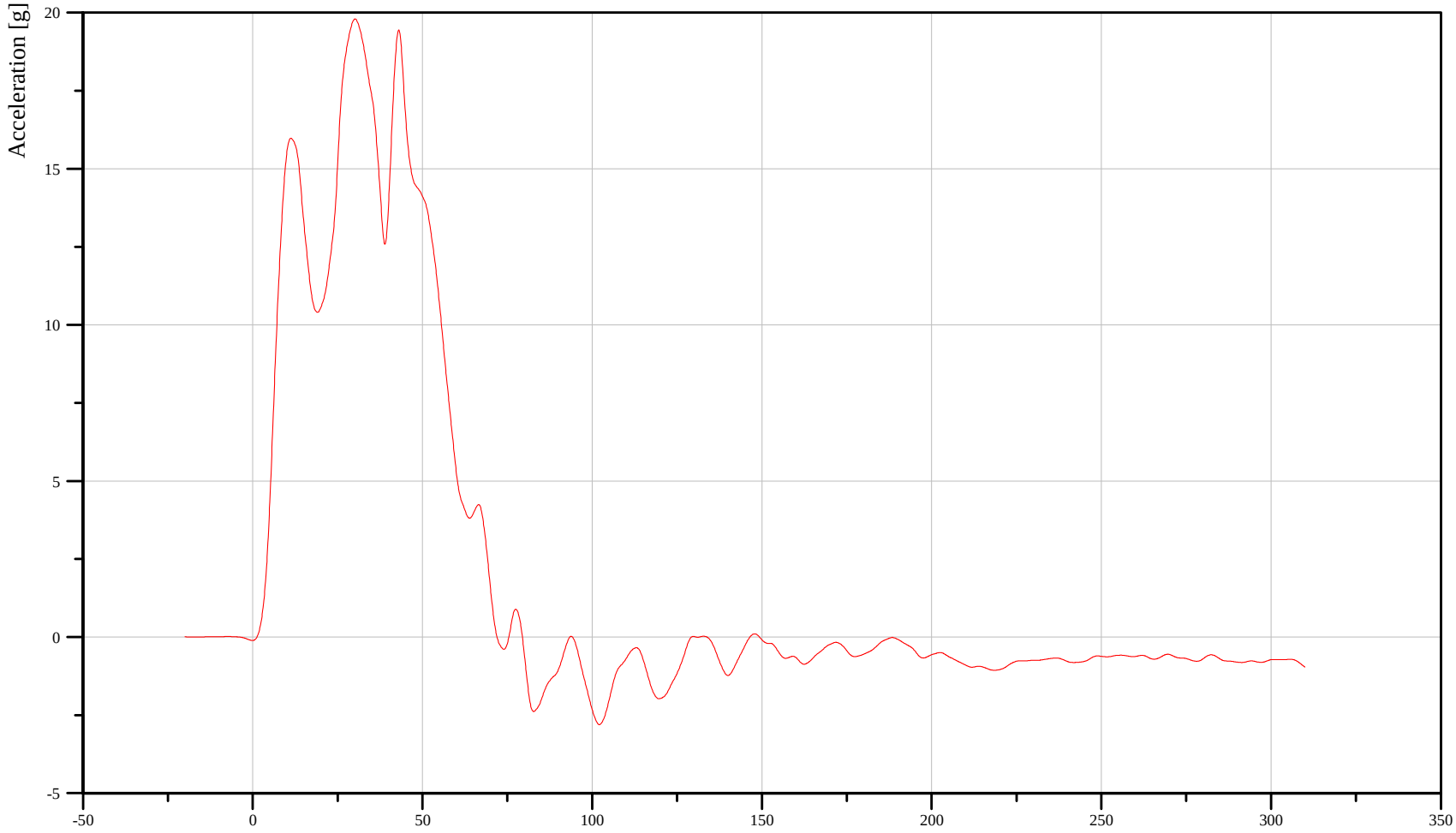
Rear Floorpan Above Axle Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

18FORA000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-2.80 g at 102.08 ms

Max. Value
19.80 g at 30.16 ms

World SID Evaluation

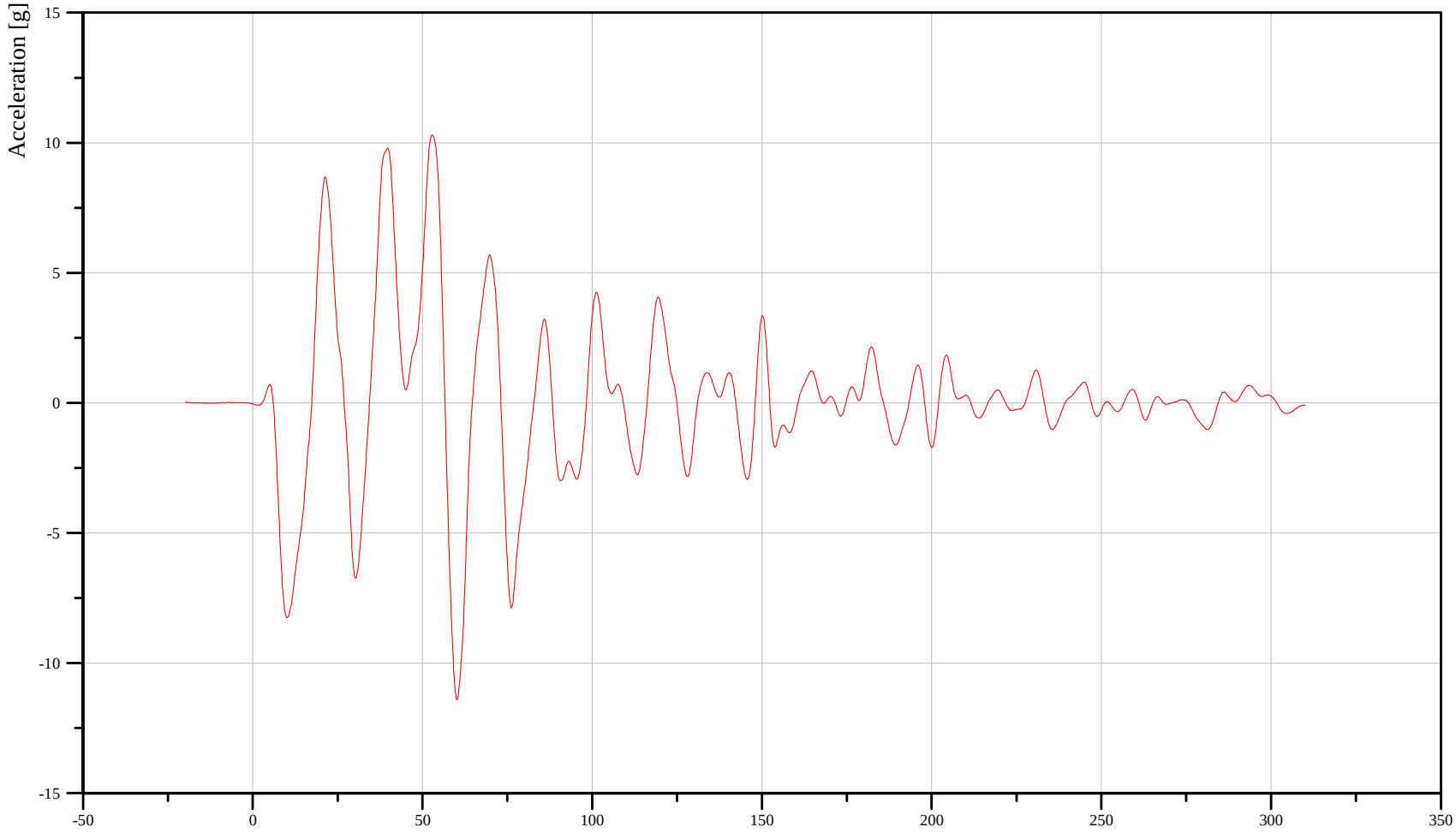
Rear Floorpan Above Axle Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

18FORA000000ACZD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-11.41 g at 60.16 ms

Max. Value
10.29 g at 52.88 ms

World SID Evaluation

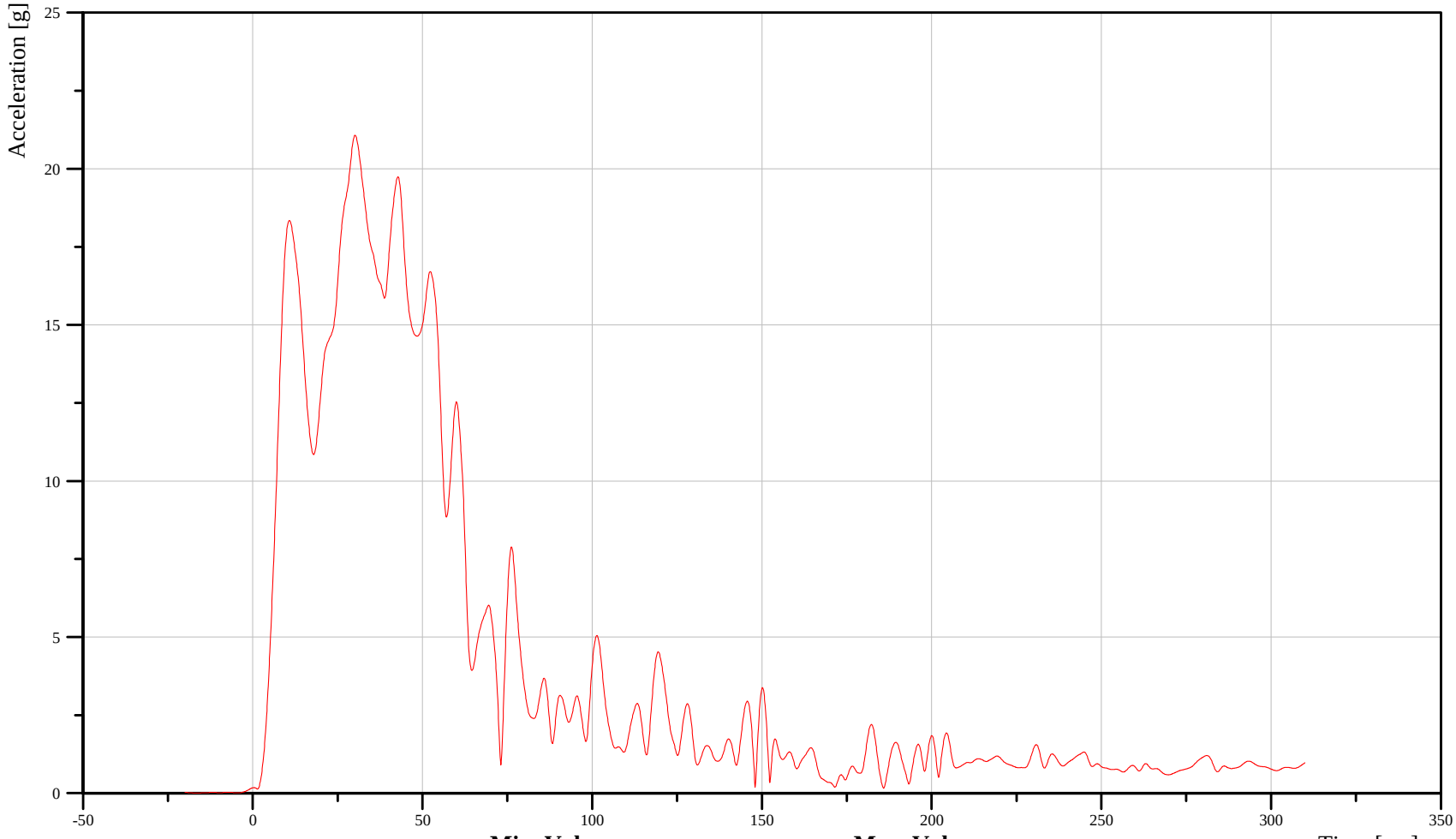
Rear Floorpan Above Axle Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

18FORA000000ACRD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
0.01 g at -16.48 ms

Max. Value
21.07 g at 30.16 ms

World SID Evaluation

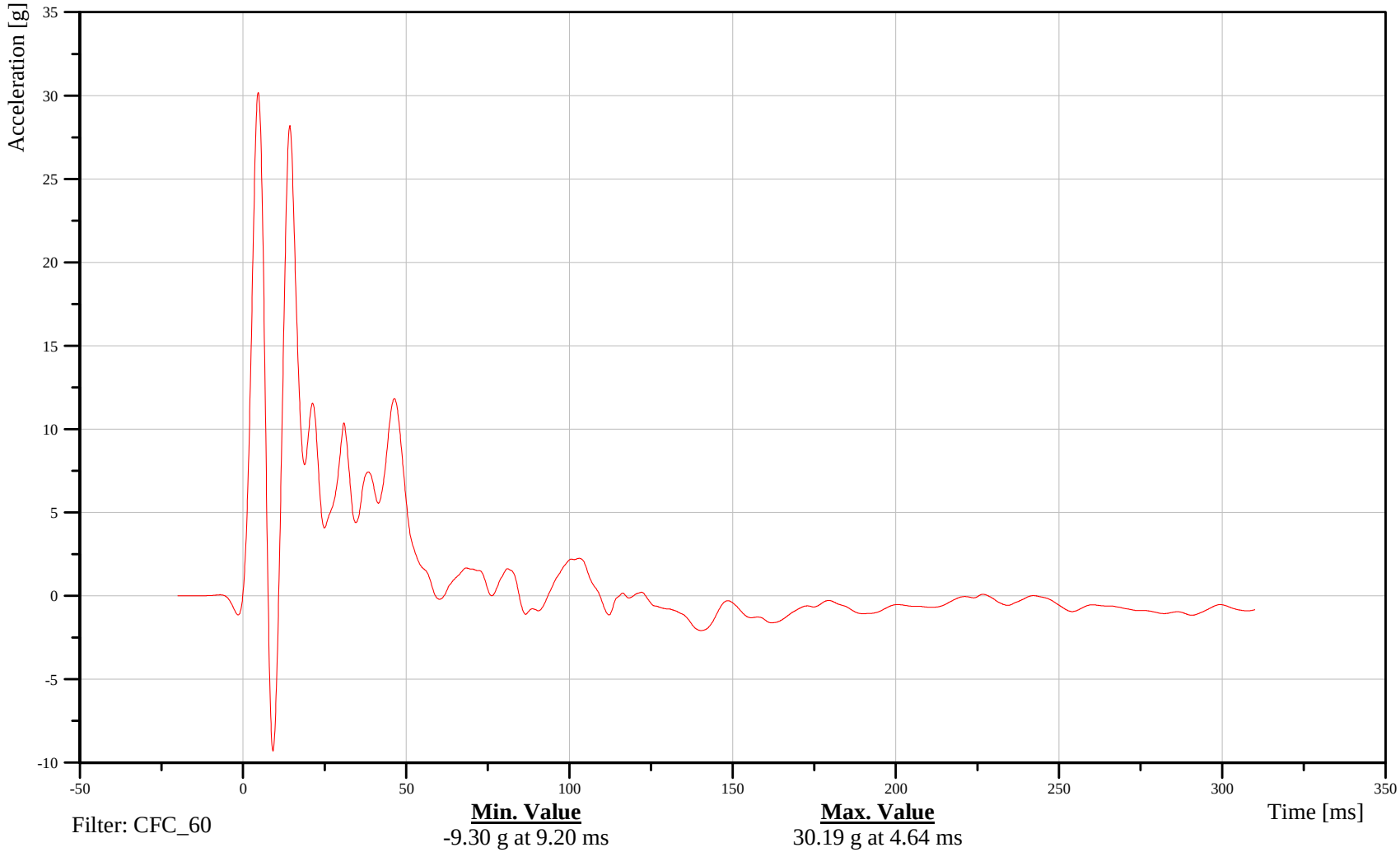
Left Floor Sill at Front Seat Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBFR0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-9.30 g at 9.20 ms

Max. Value
30.19 g at 4.64 ms

World SID Evaluation

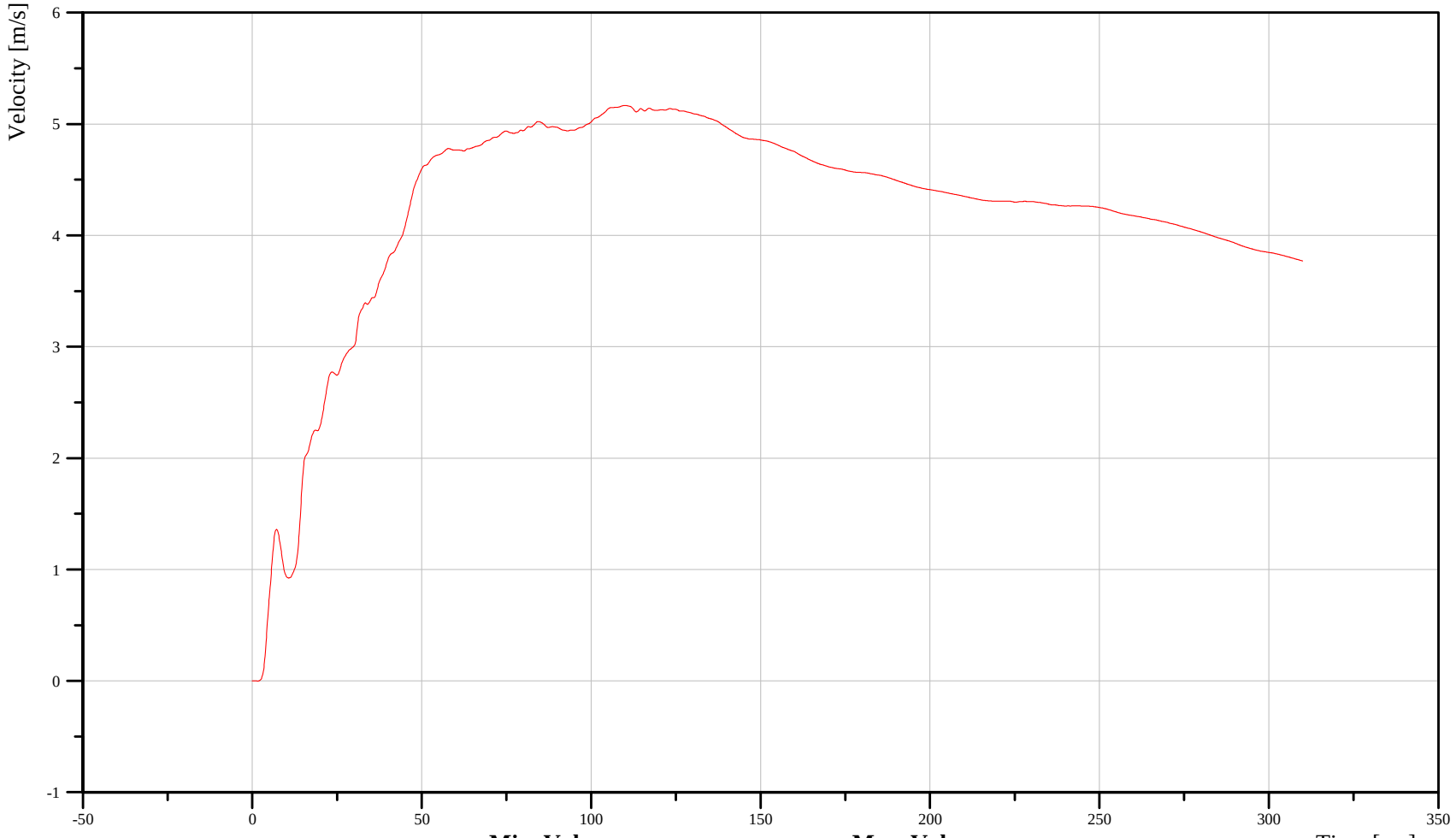
Left Floor Sill at Front Seat Y-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBFR0000VEYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m/s at 1.60 ms

Max. Value
5.17 m/s at 109.92 ms

World SID Evaluation

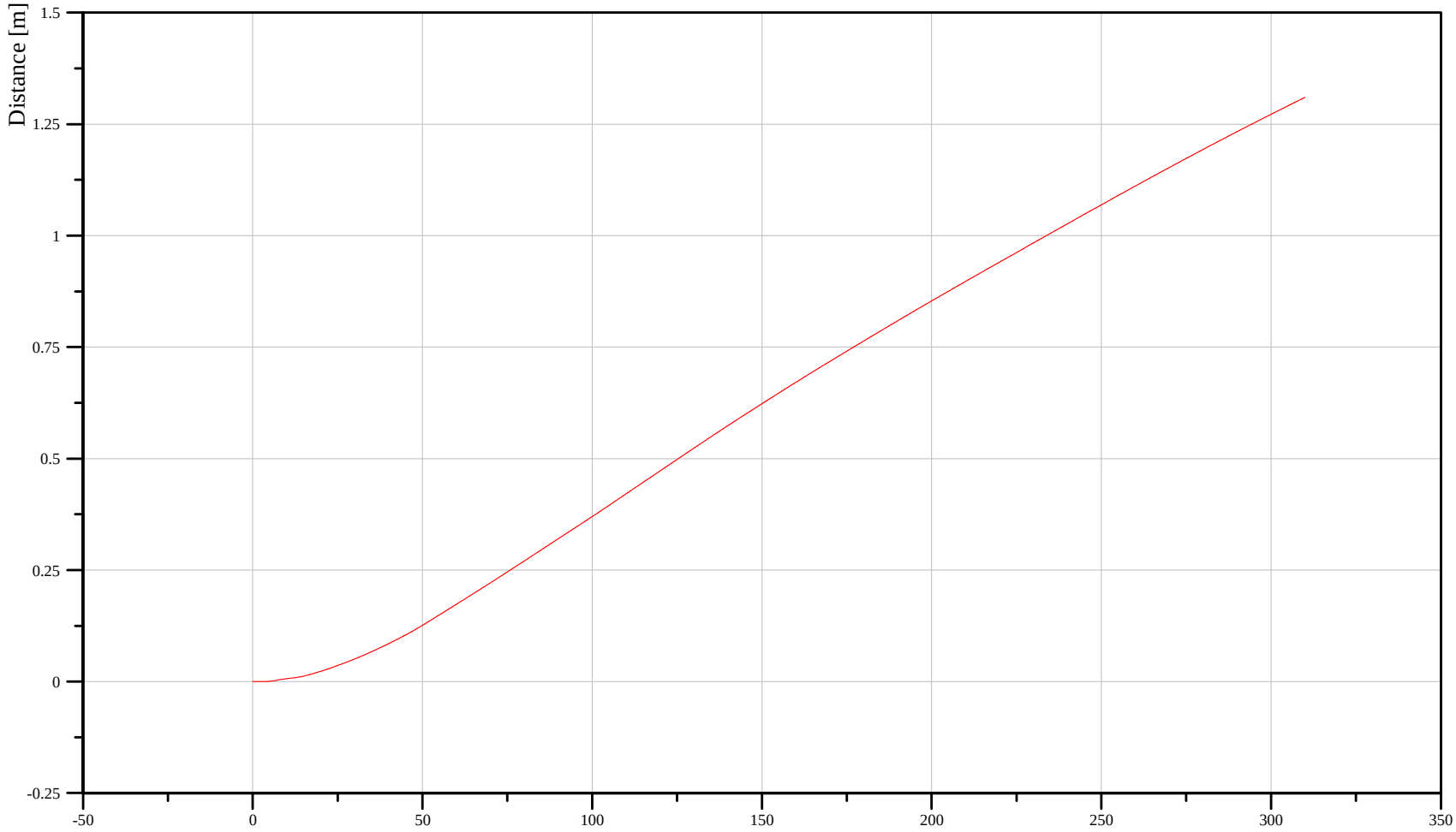
Left Floor Sill at Front Seat Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBFR0000DCYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m at 2.00 ms

Max. Value
1.31 m at 310.00 ms

World SID Evaluation

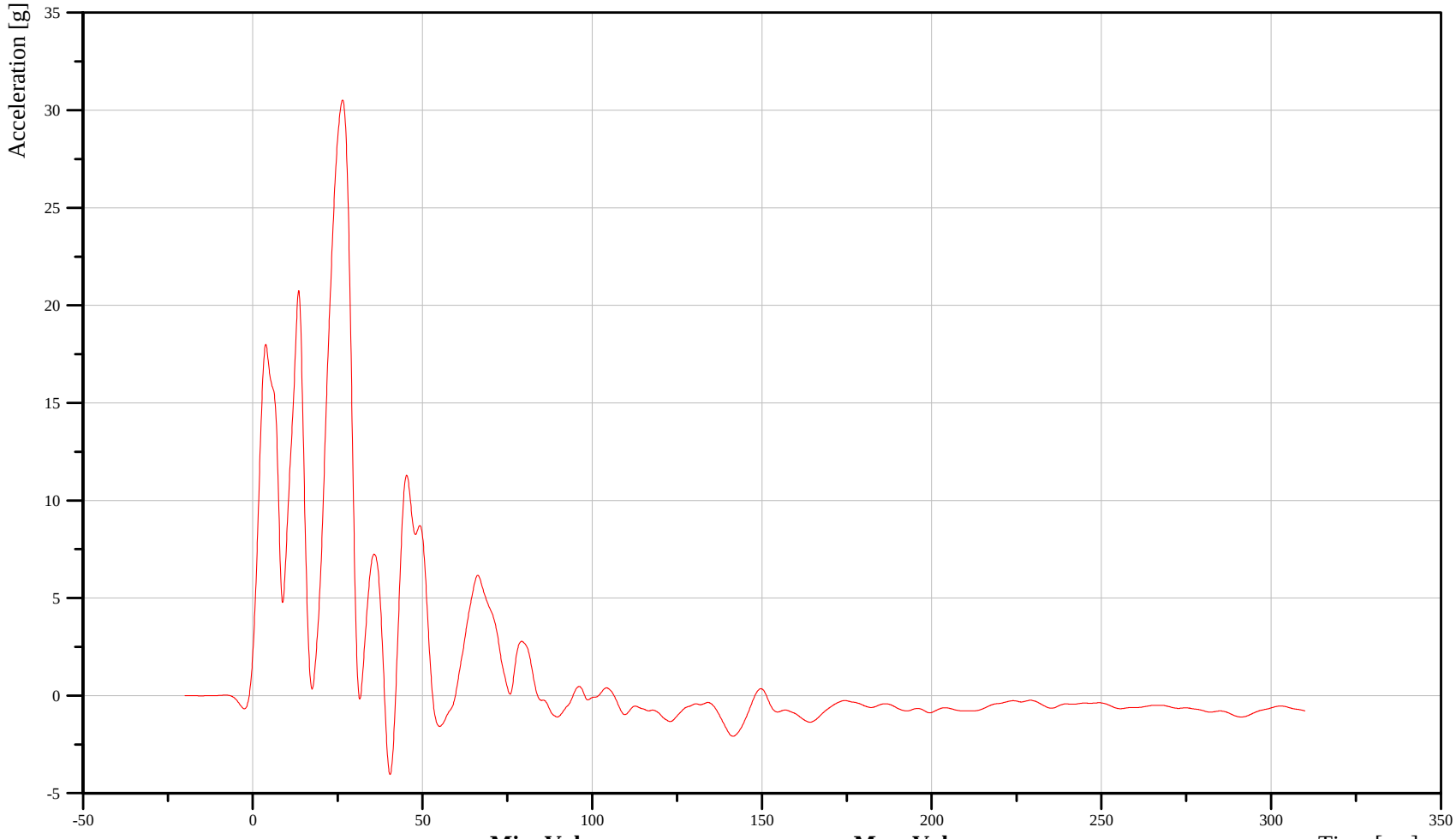
Left Floor Sill at Rear Seat Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBRE0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-4.04 g at 40.48 ms

Max. Value
30.53 g at 26.48 ms

World SID Evaluation

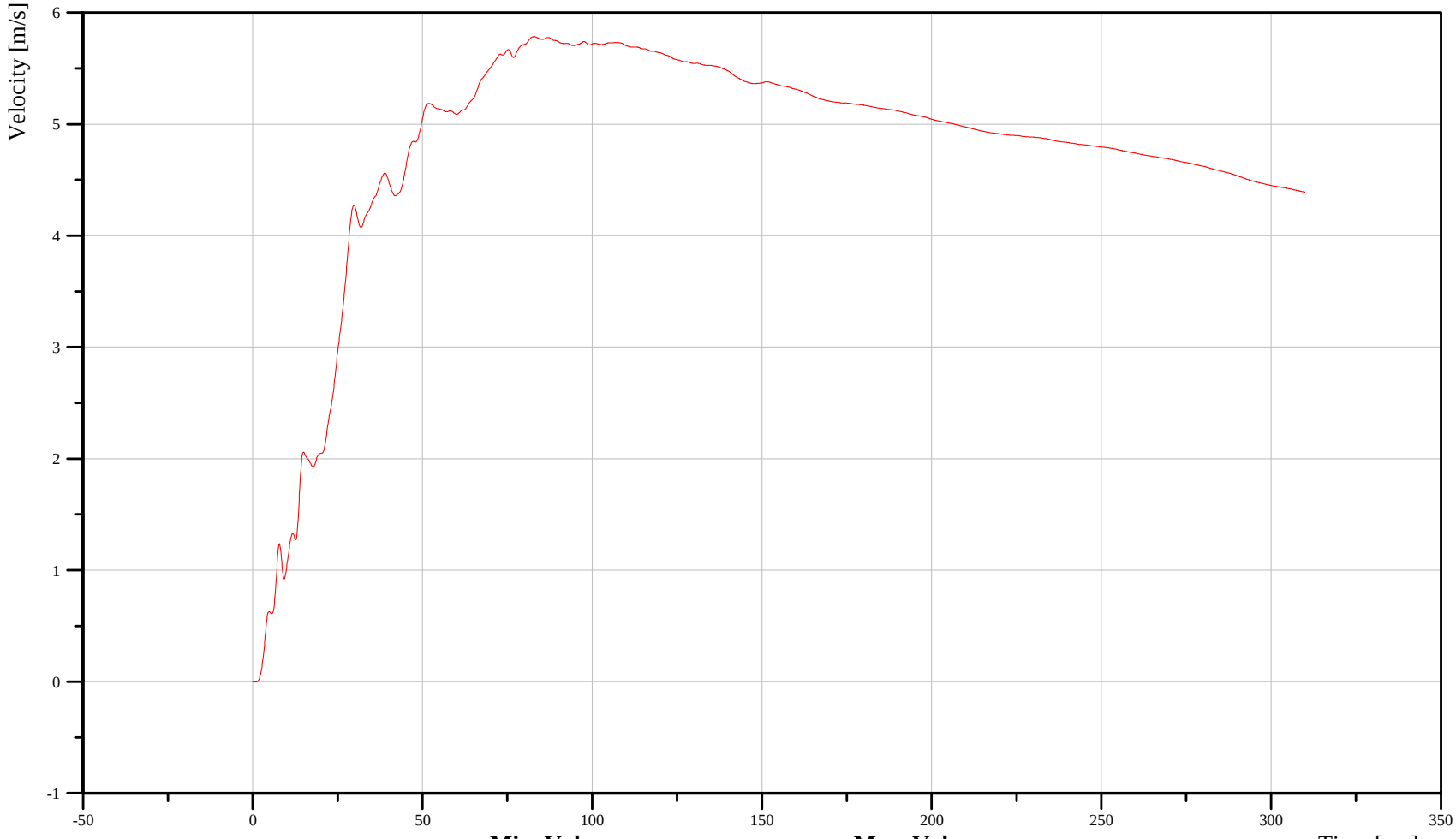
Left Floor Sill at Rear Seat Y-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBRE0000VEYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m/s at 0.88 ms

Max. Value
5.78 m/s at 82.88 ms

World SID Evaluation

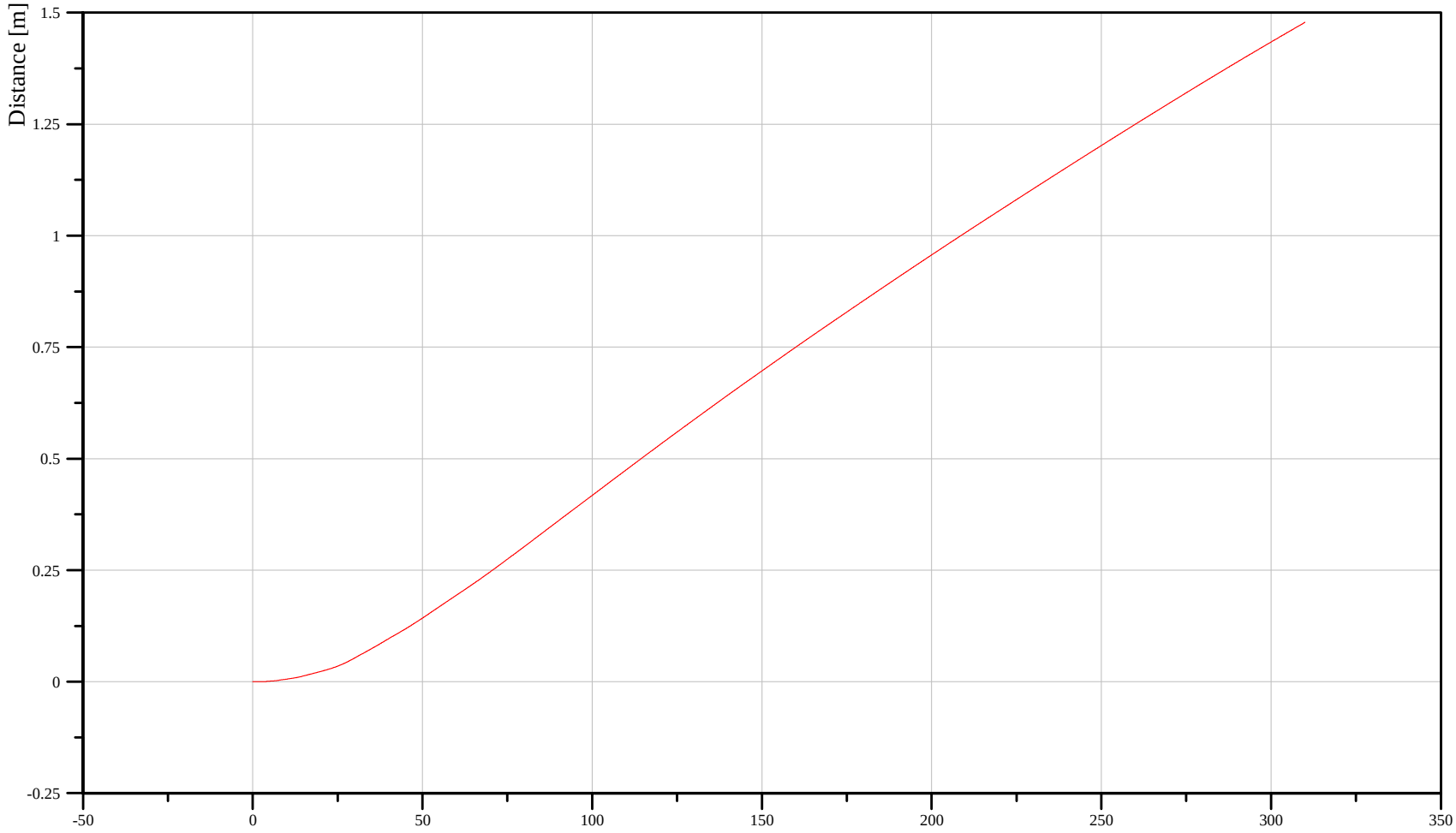
Left Floor Sill at Rear Seat Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SILBRE0000DCYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.00 m at 1.28 ms

Max. Value
1.48 m at 310.00 ms

World SID Evaluation

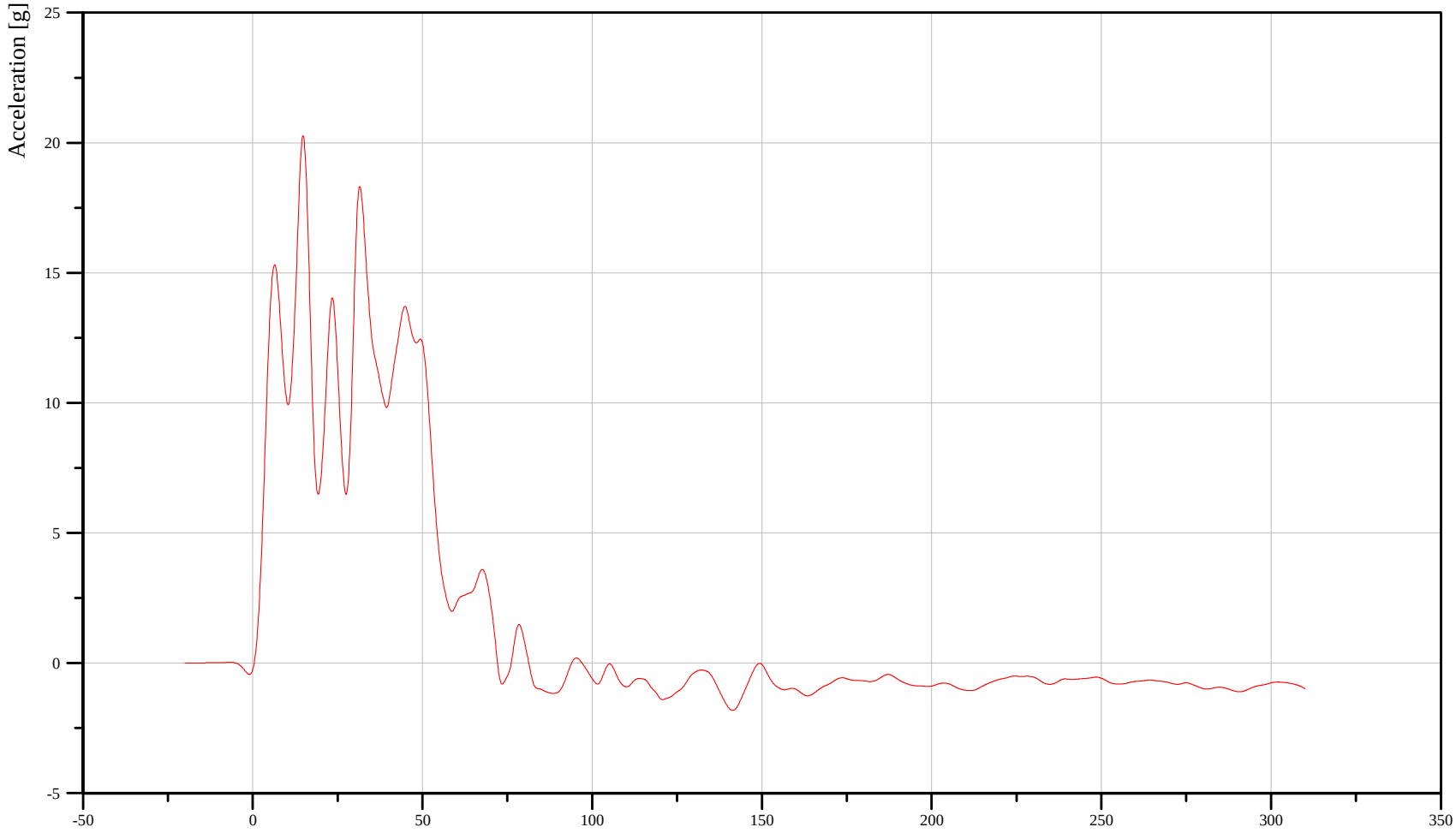
Right Rear Occupant Compartment Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

16VEHCRE0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.82 g at 141.36 ms

Max. Value
20.27 g at 14.80 ms

World SID Evaluation

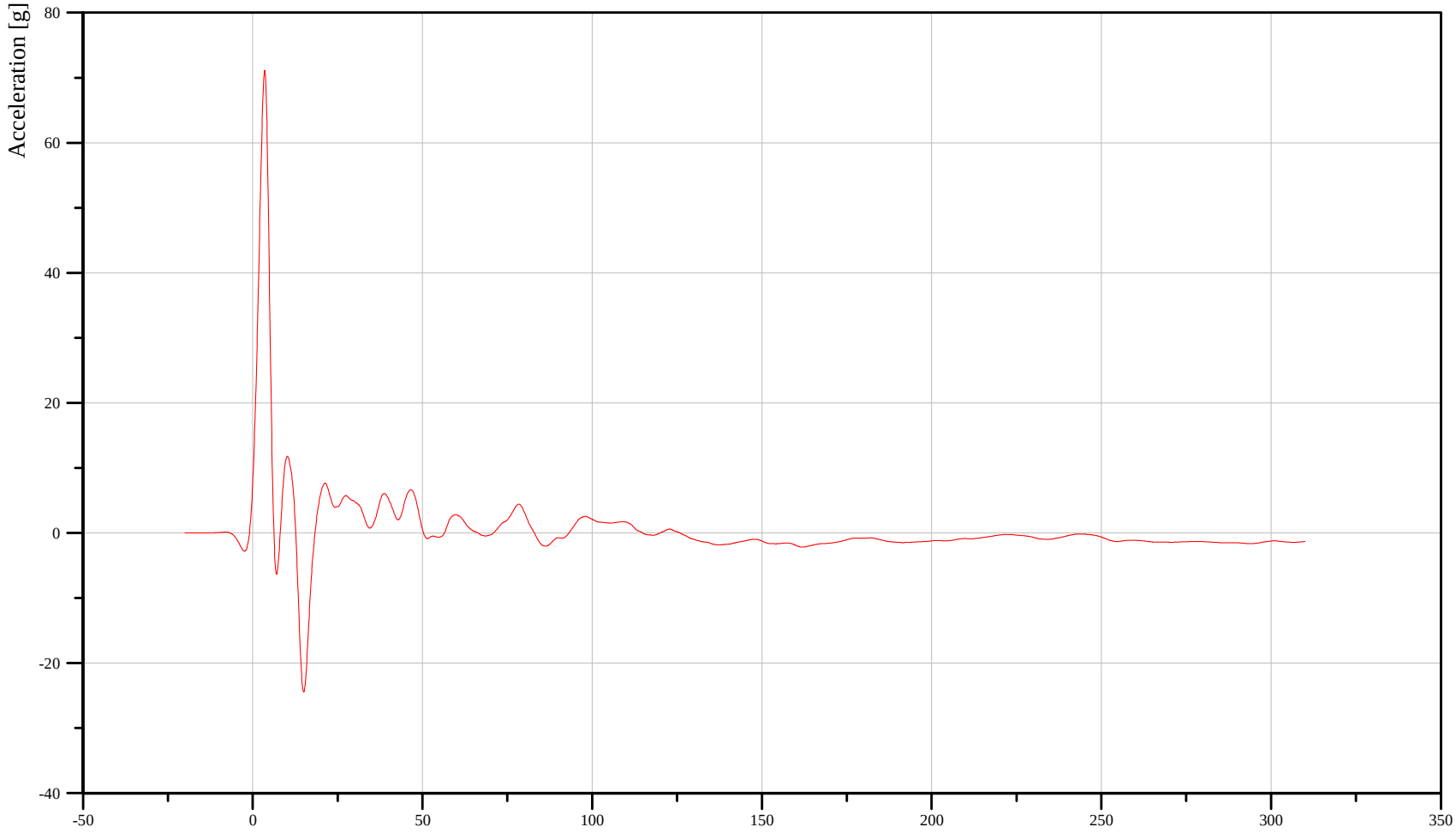
Left Lower A-Post Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11APILLO0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-24.46 g at 15.04 ms

Max. Value
71.17 g at 3.52 ms

World SID Evaluation

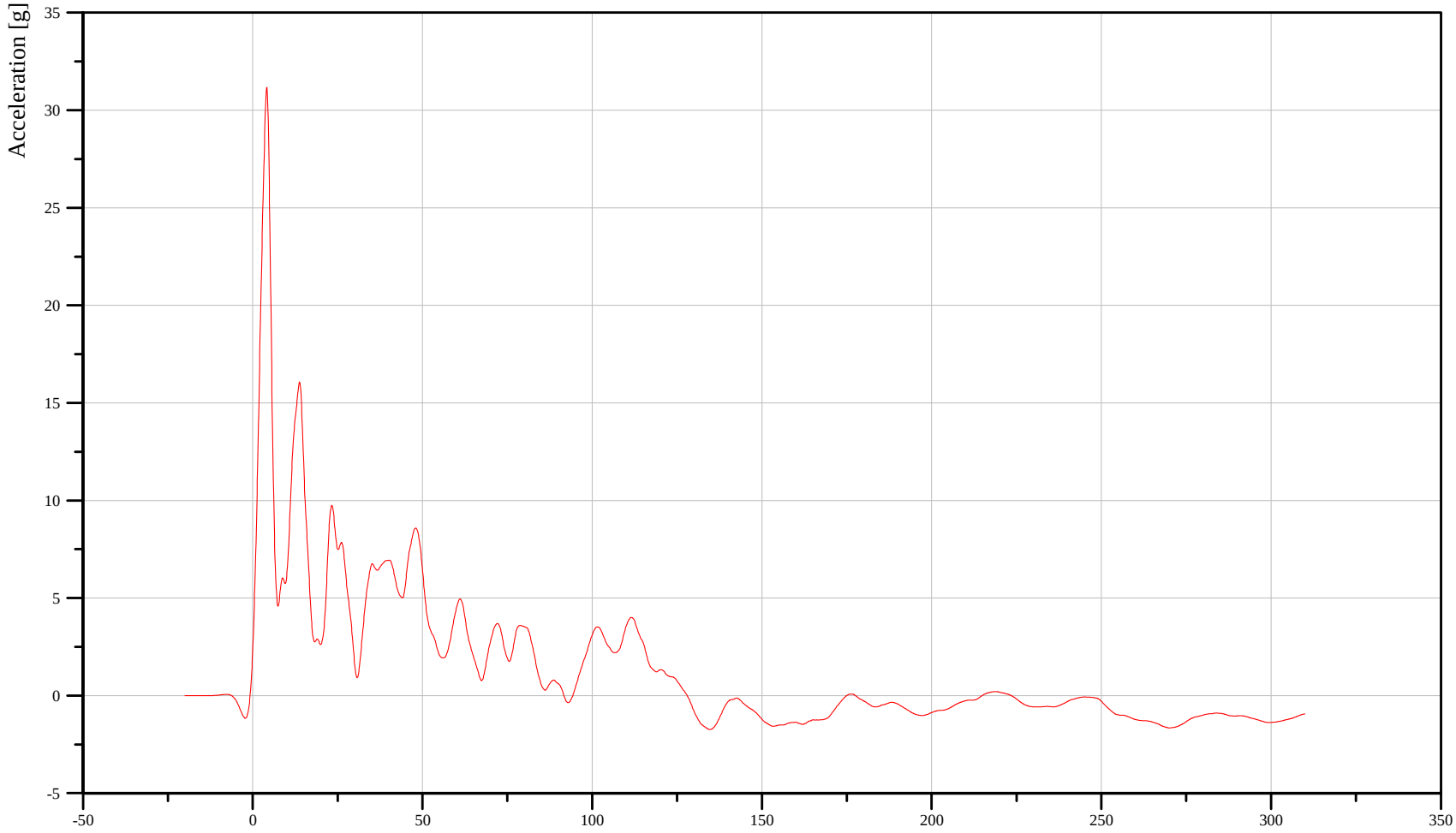
Left Upper A-Post Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11APILUP0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.74 g at 134.64 ms

Max. Value
31.17 g at 4.16 ms

World SID Evaluation

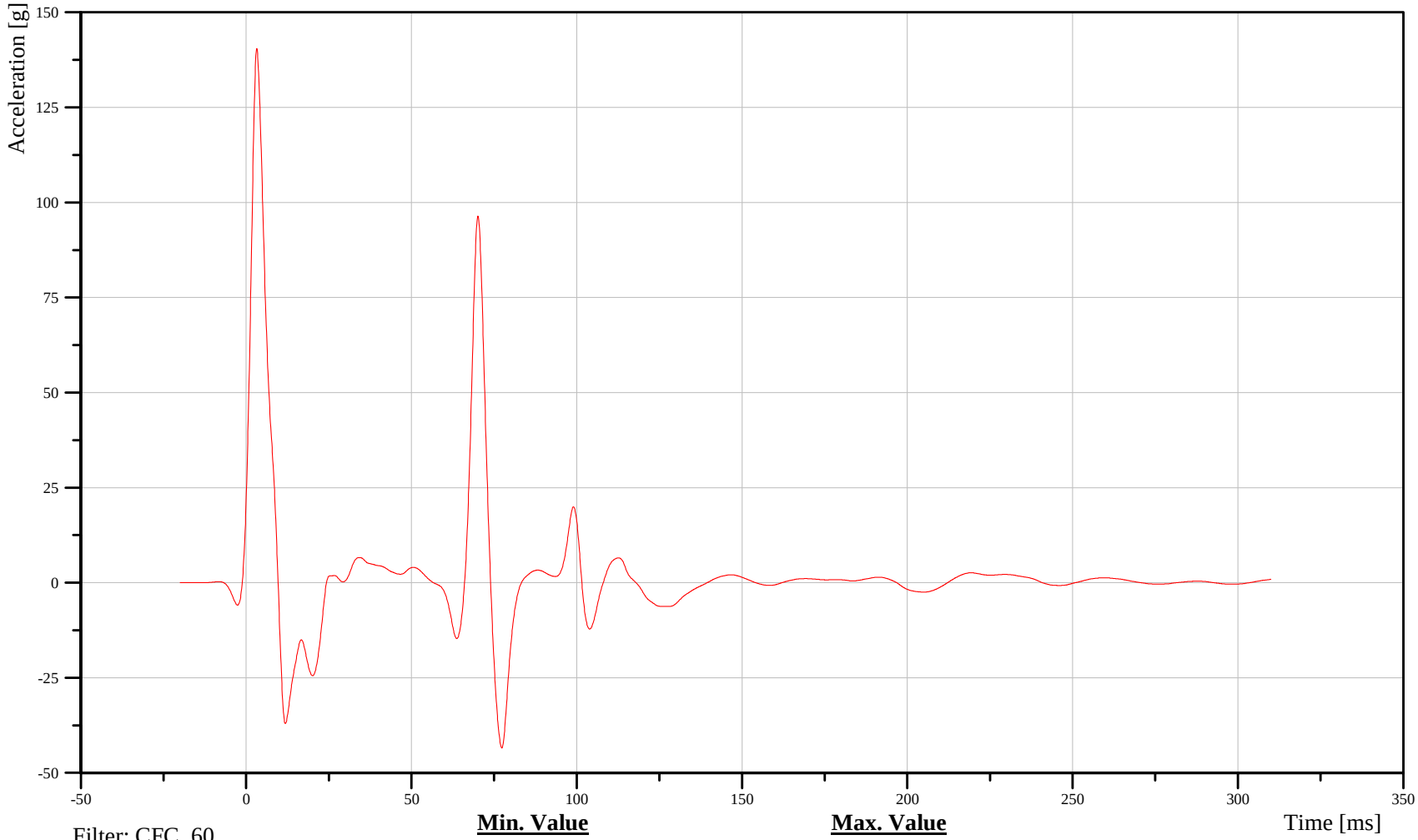
Left Lower B-Post Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14BPILLO0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-43.48 g at 77.36 ms

Max. Value
140.52 g at 3.20 ms

World SID Evaluation

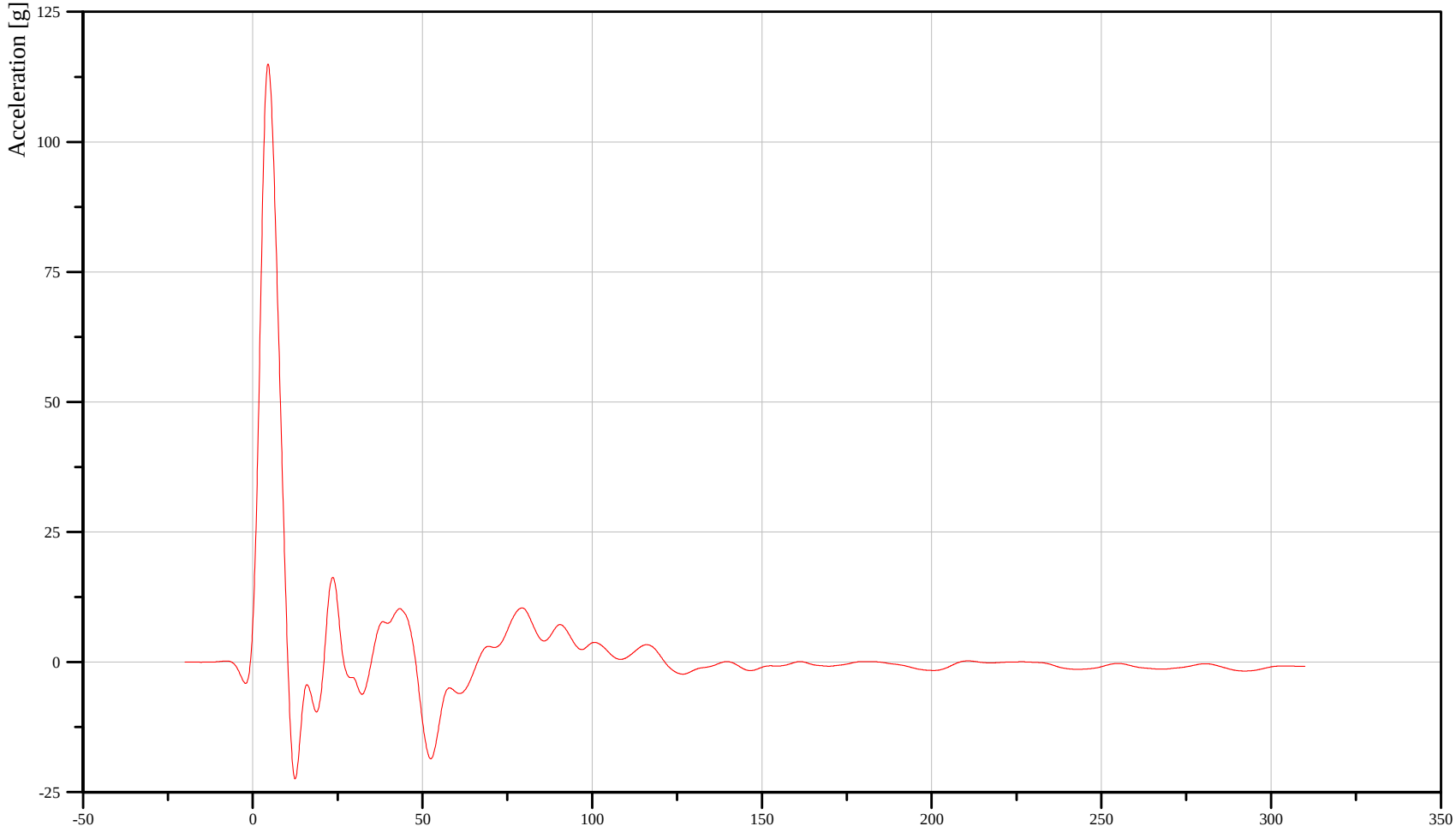
Left Upper B-Post Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14BPILUP0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-22.44 g at 12.48 ms

Max. Value
114.96 g at 4.48 ms

World SID Evaluation

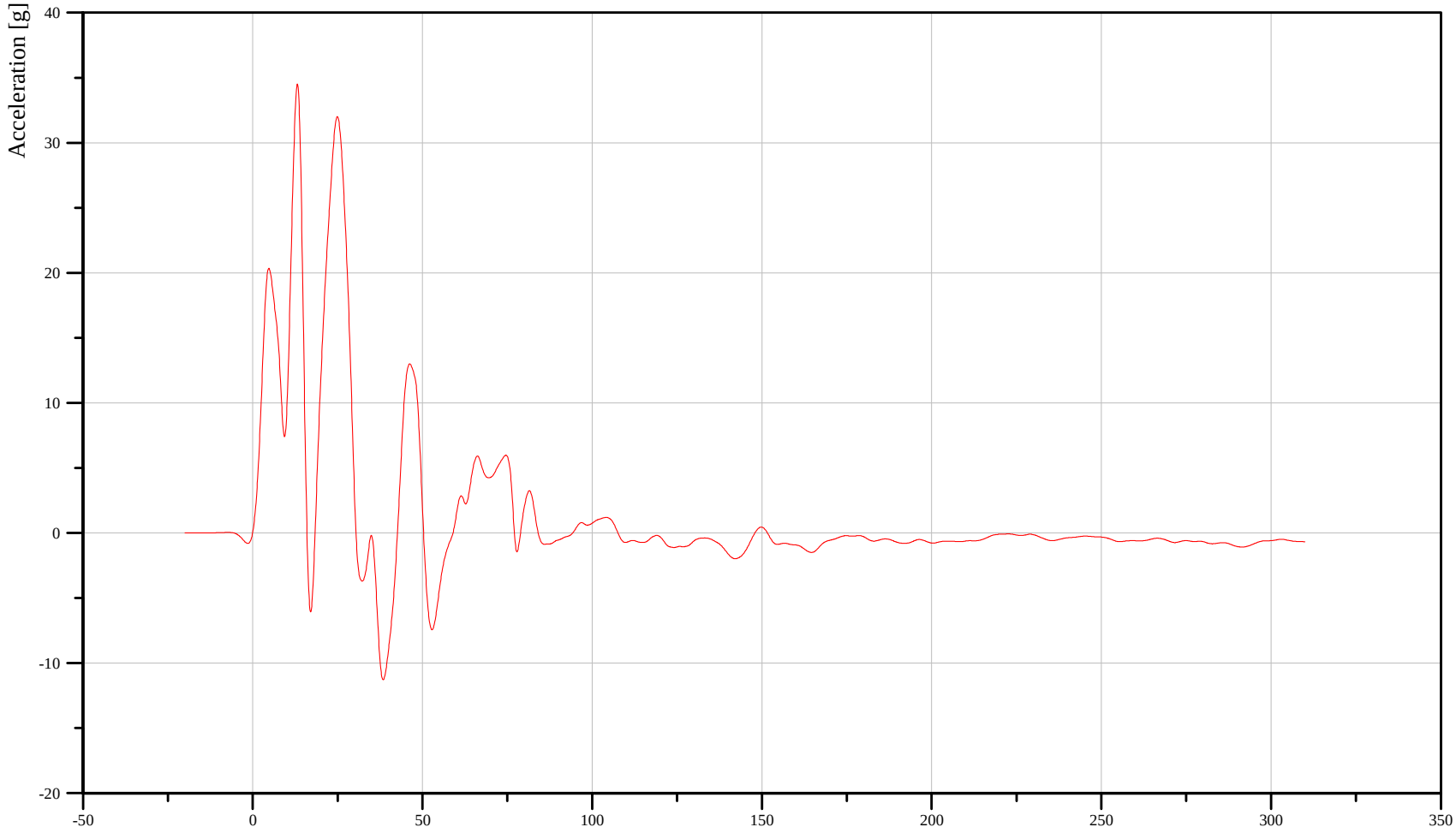
Left Front Seat Track Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SETRFR0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-11.28 g at 38.40 ms

Max. Value
34.53 g at 13.12 ms

World SID Evaluation

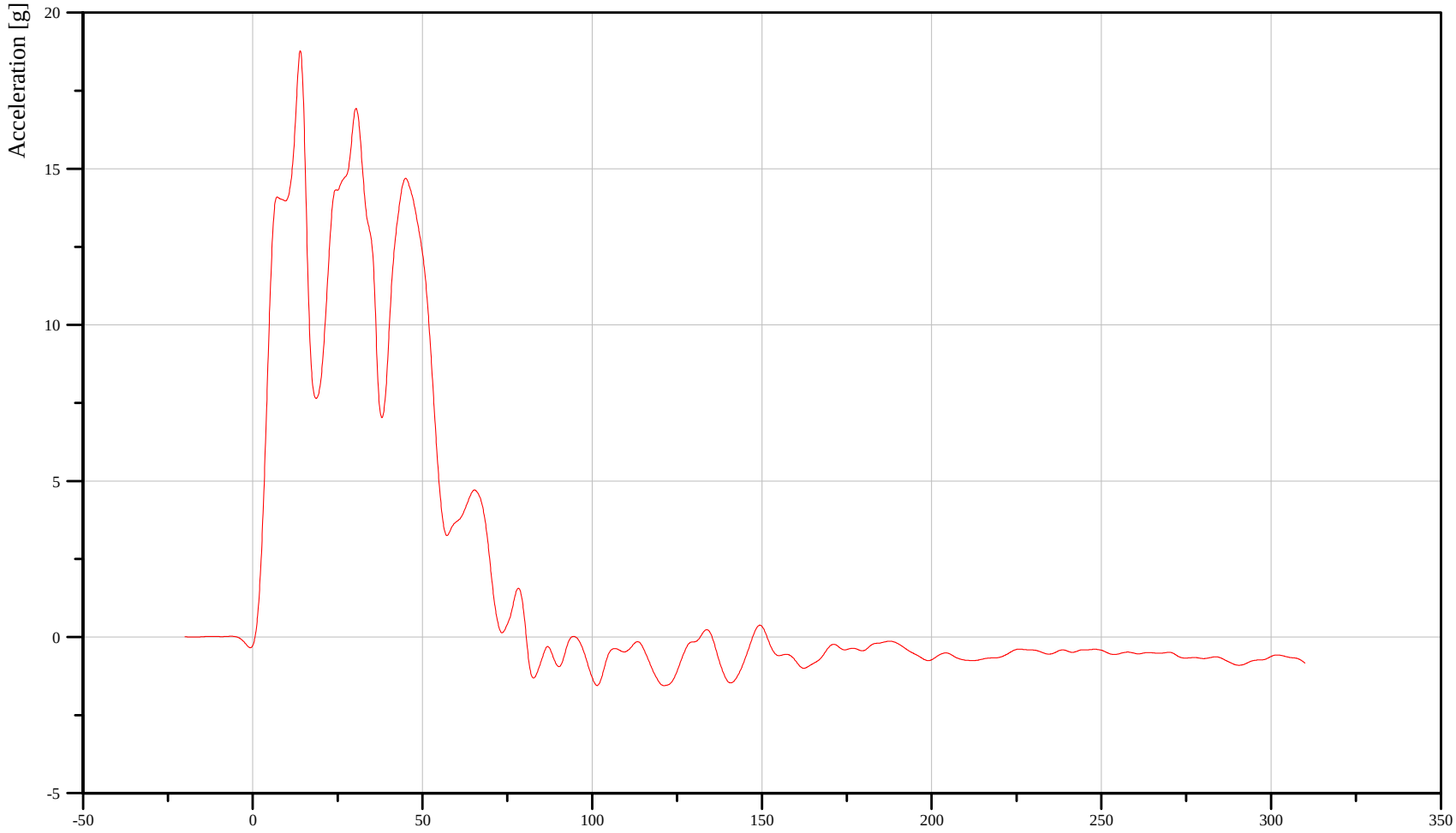
Left Rear Seat Track Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SETRRE0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.55 g at 121.20 ms

Max. Value
18.78 g at 14.00 ms

World SID Evaluation

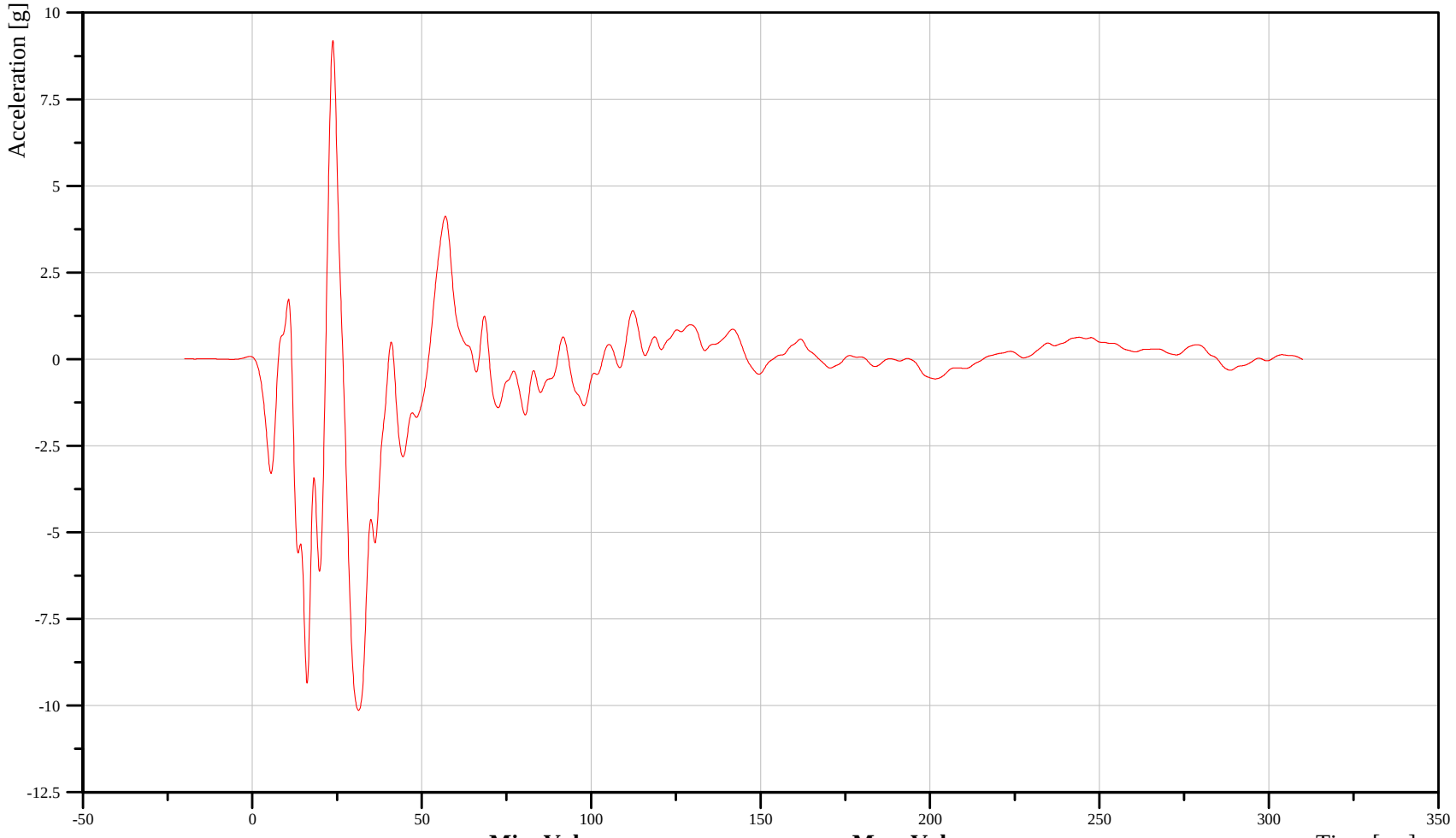
Vehicle Center of Gravity X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-10.14 g at 31.36 ms

Max. Value
9.19 g at 23.76 ms

World SID Evaluation

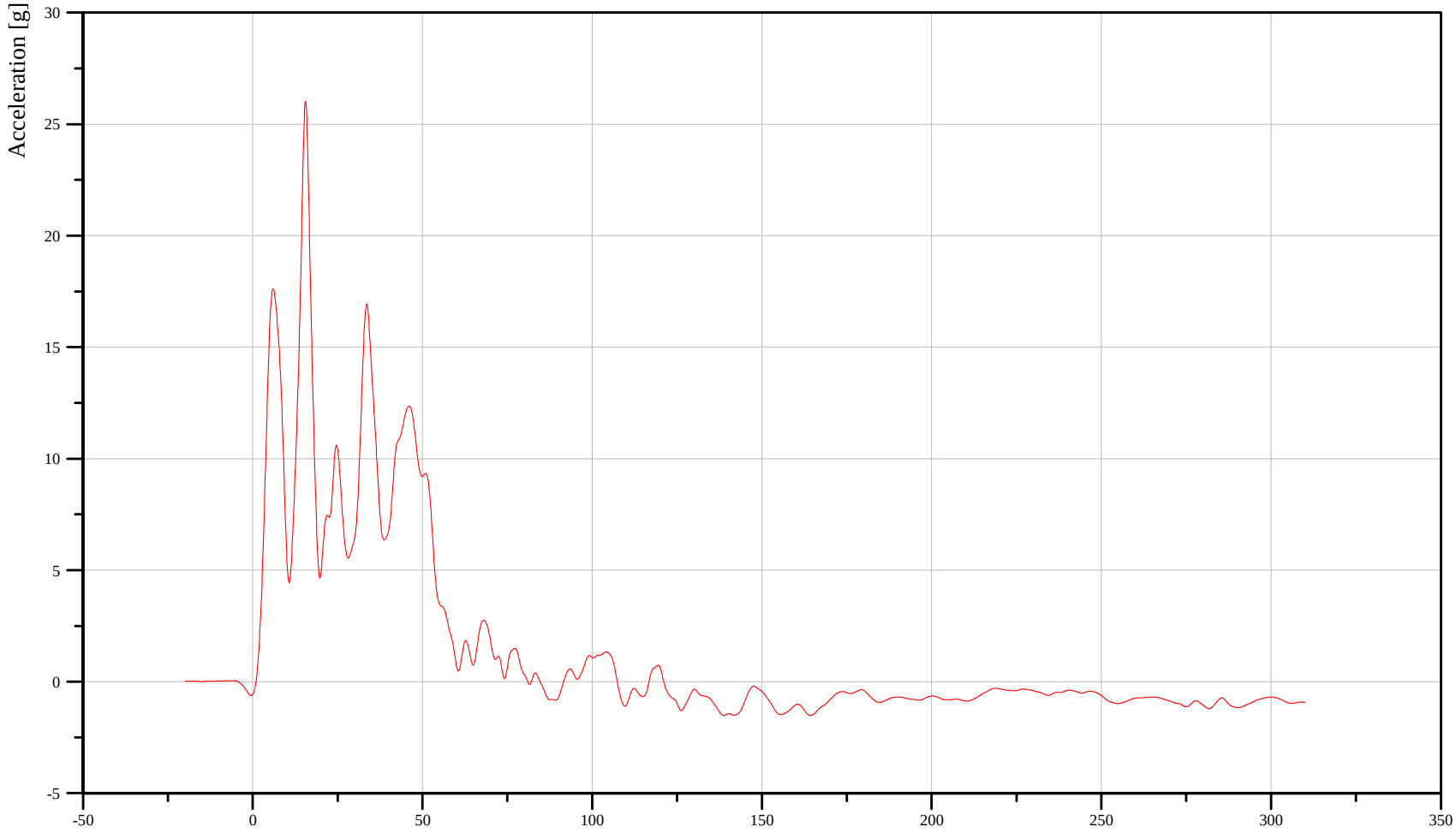
Vehicle Center of Gravity Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1.52 g at 138.72 ms

Max. Value
26.02 g at 15.52 ms

World SID Evaluation

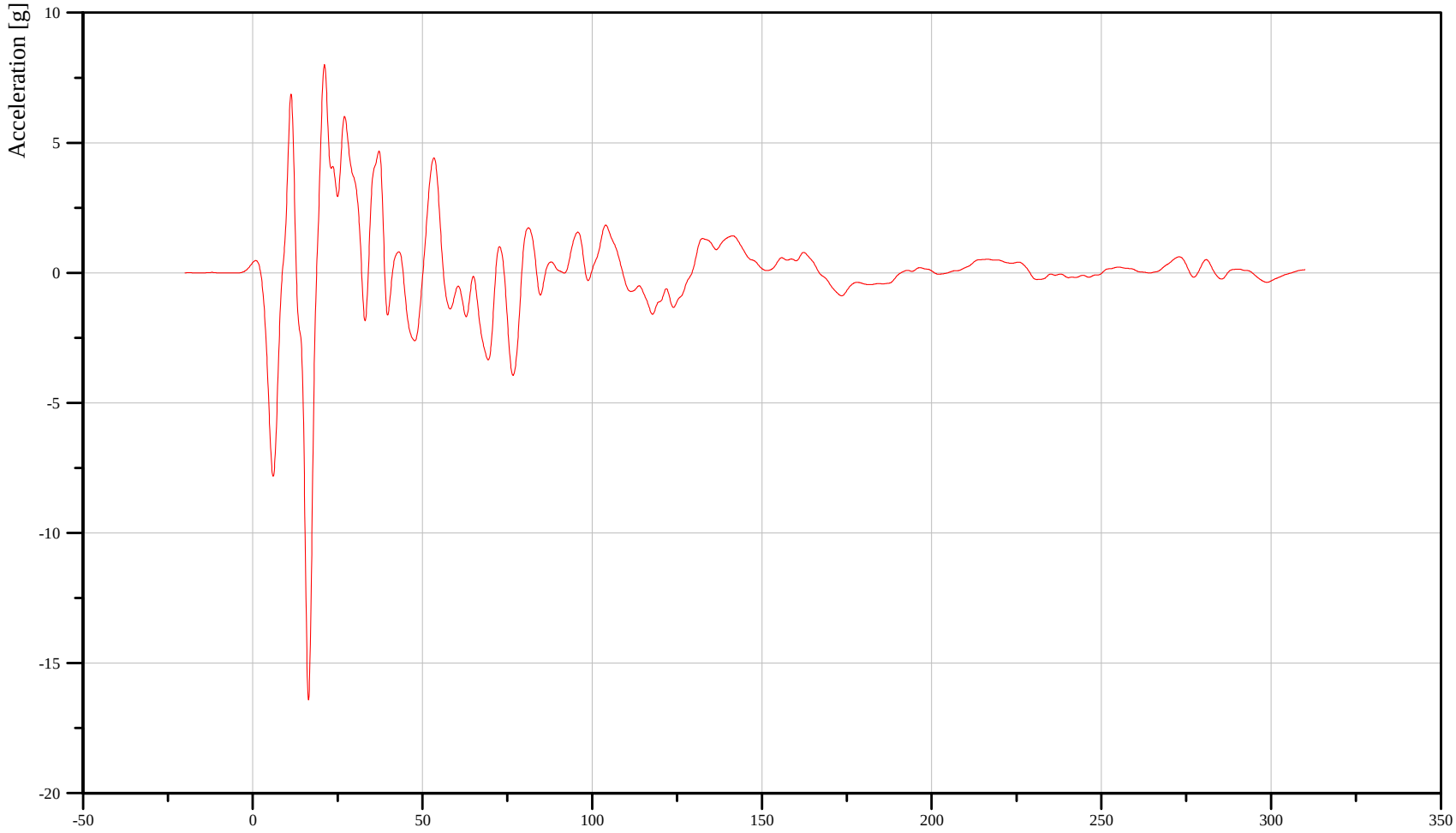
Vehicle Center of Gravity Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-16.41 g at 16.40 ms

Max. Value
8.01 g at 21.12 ms

World SID Evaluation

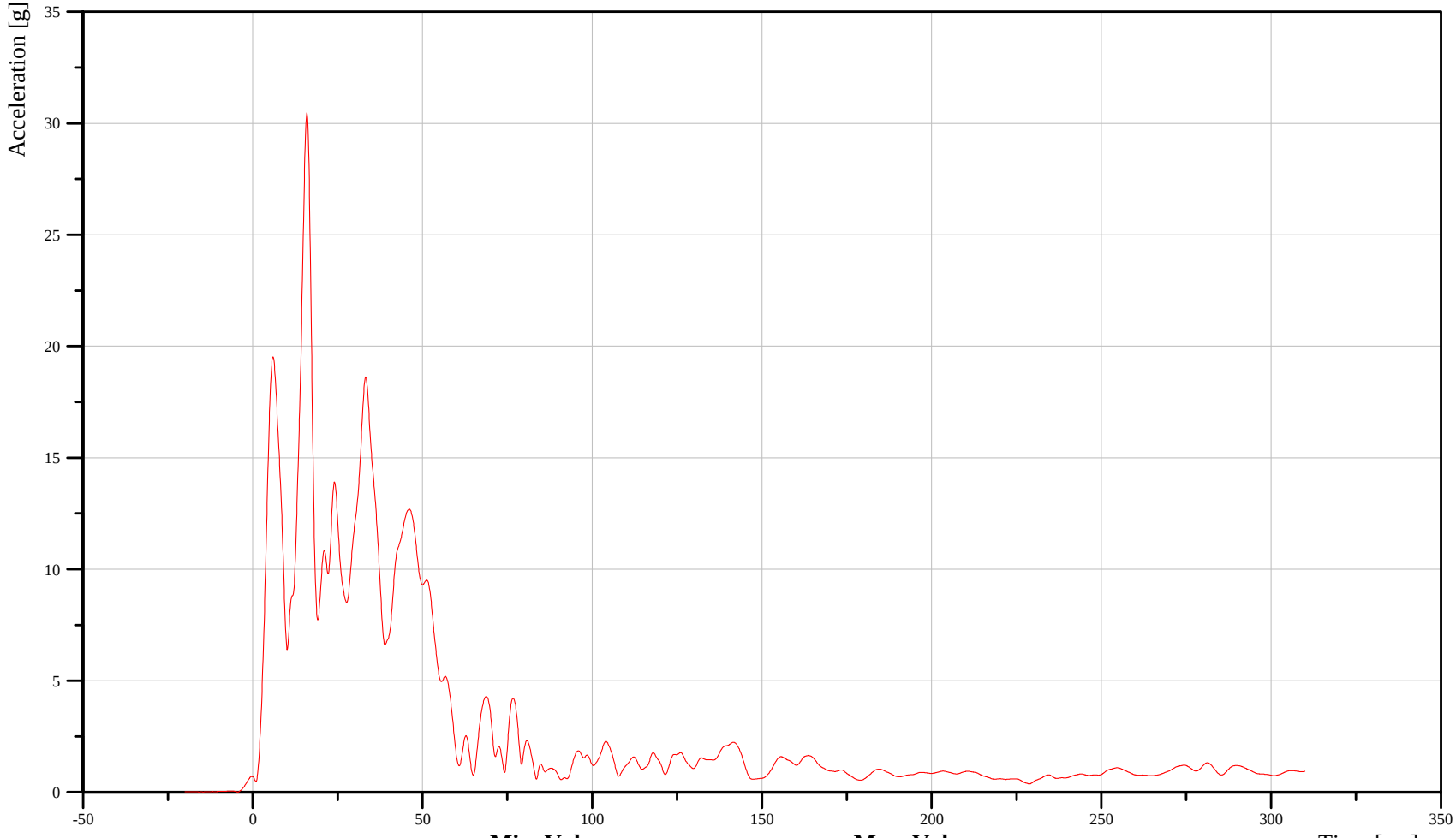
Vehicle Center of Gravity Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
0.00 g at -4.40 ms

Max. Value
30.48 g at 16.00 ms

World SID Evaluation

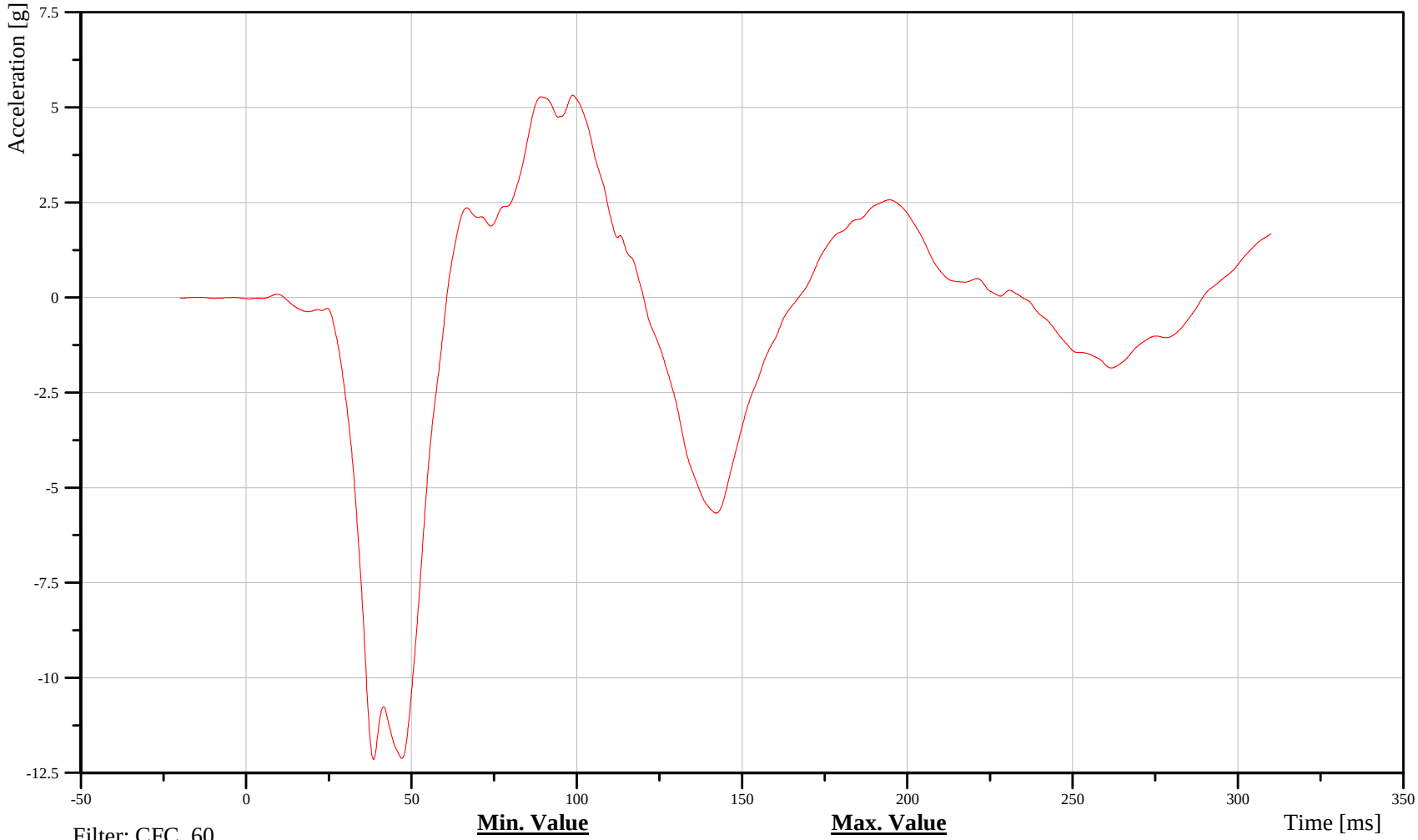
Top of Engine X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10ENGNTP0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-12.15 g at 38.56 ms

Max. Value
5.32 g at 98.80 ms

World SID Evaluation

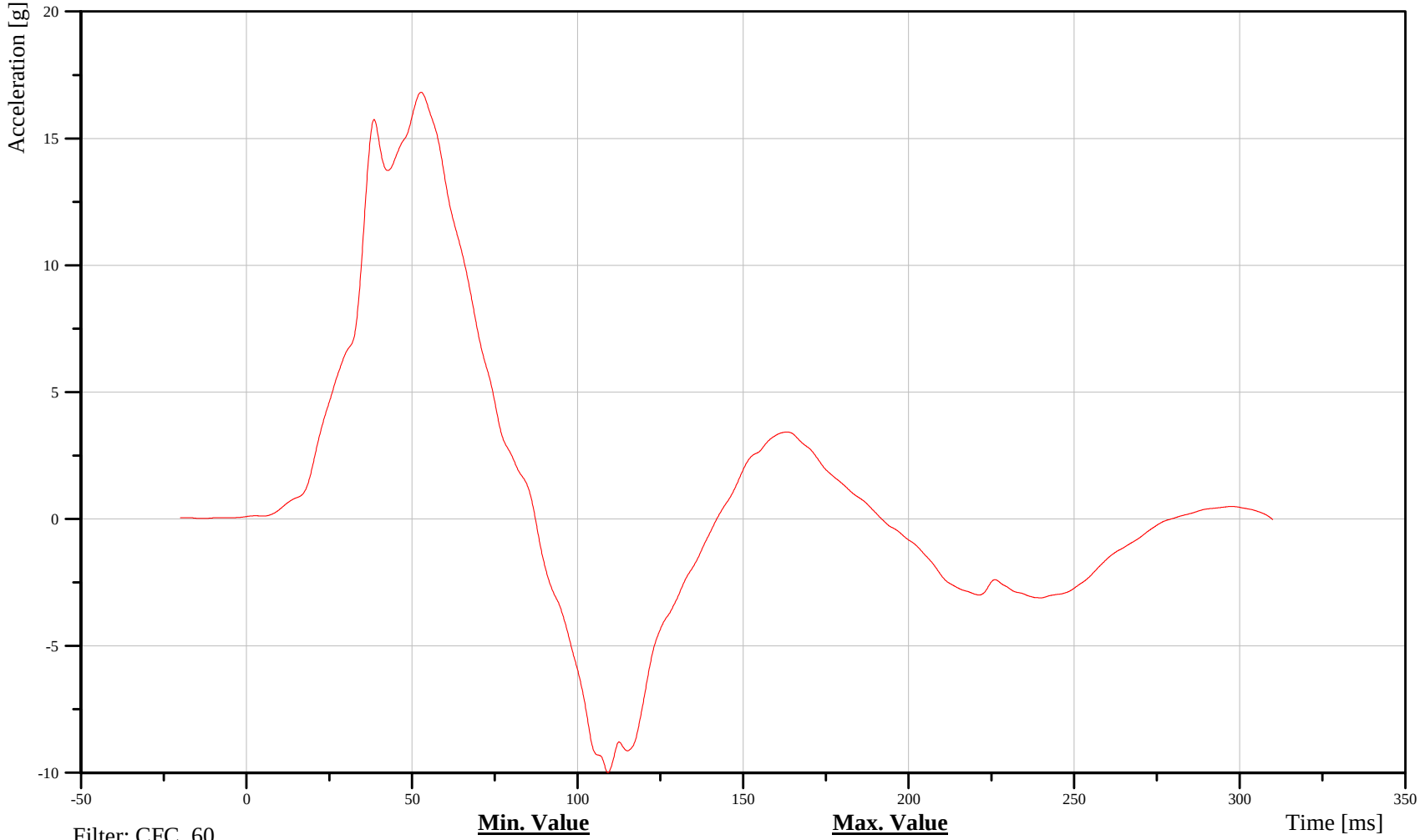
Top of Engine Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10ENGNTP0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-10.00 g at 109.20 ms

Max. Value
16.82 g at 52.72 ms

World SID Evaluation

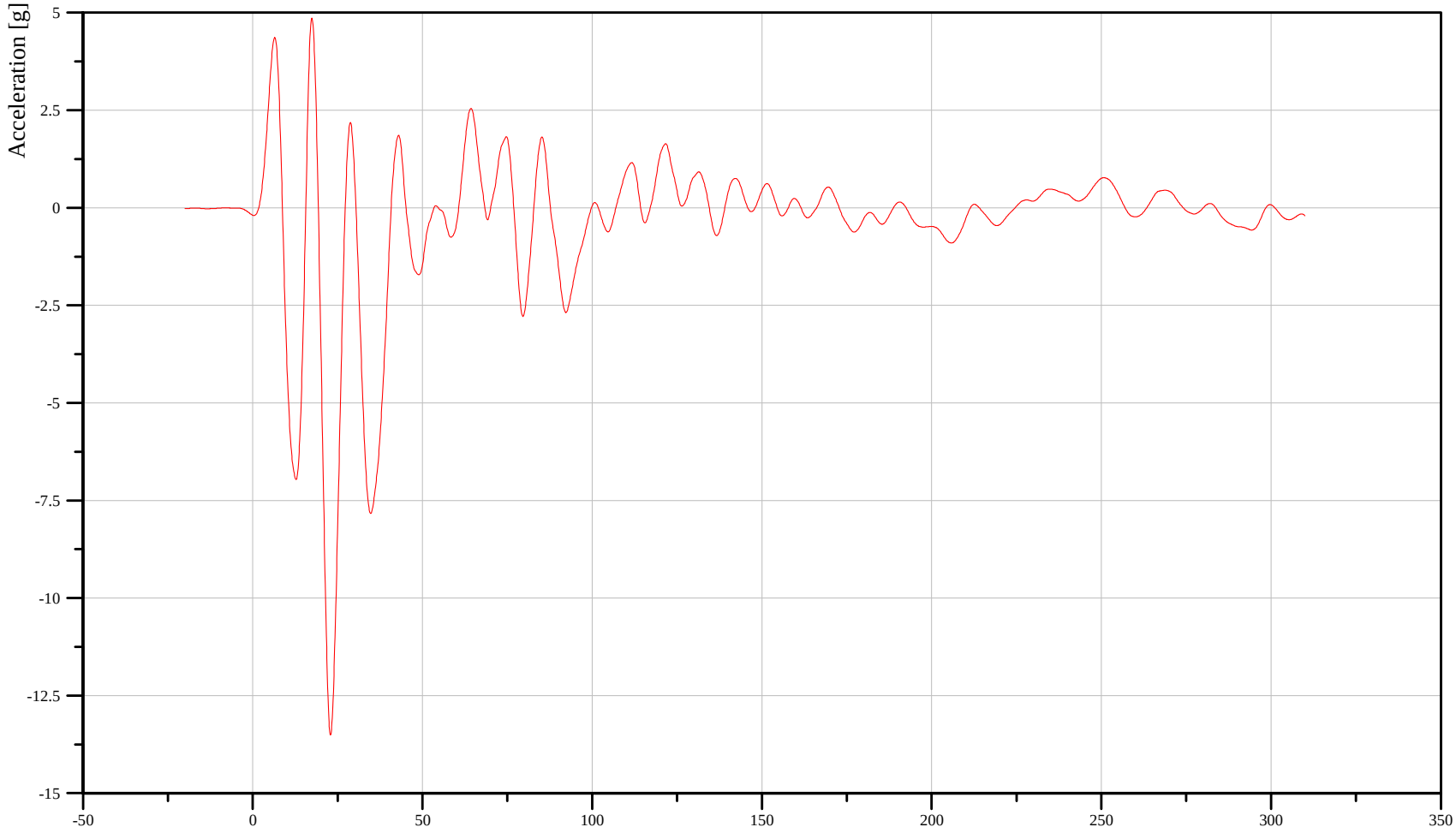
Center Firewall X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

102FIRCX0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-13.51 g at 22.88 ms

Max. Value
4.86 g at 17.44 ms

World SID Evaluation

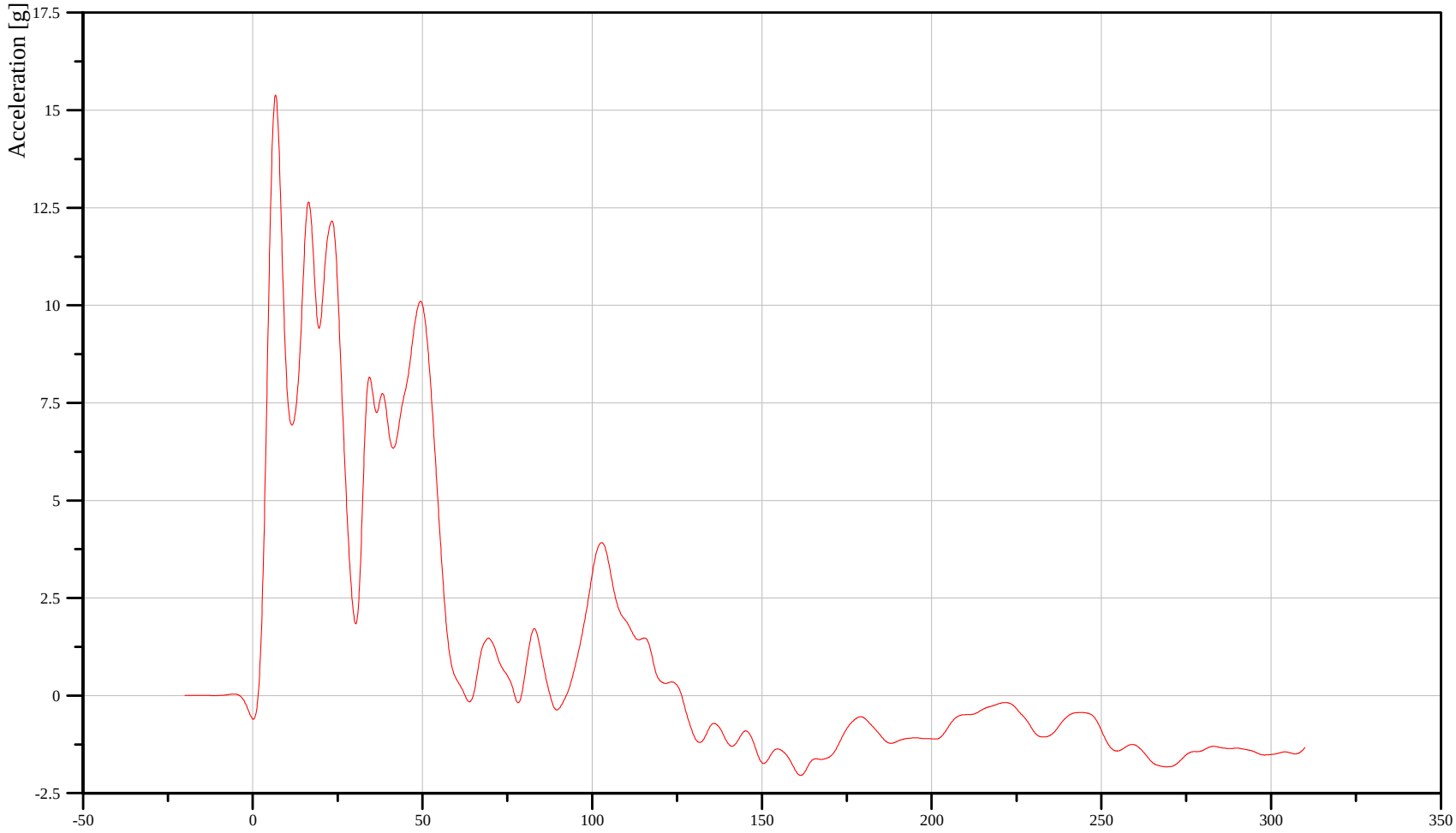
Center Firewall Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

102FIRCX0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-2.04 g at 161.36 ms

Max. Value
15.39 g at 6.72 ms

World SID Evaluation

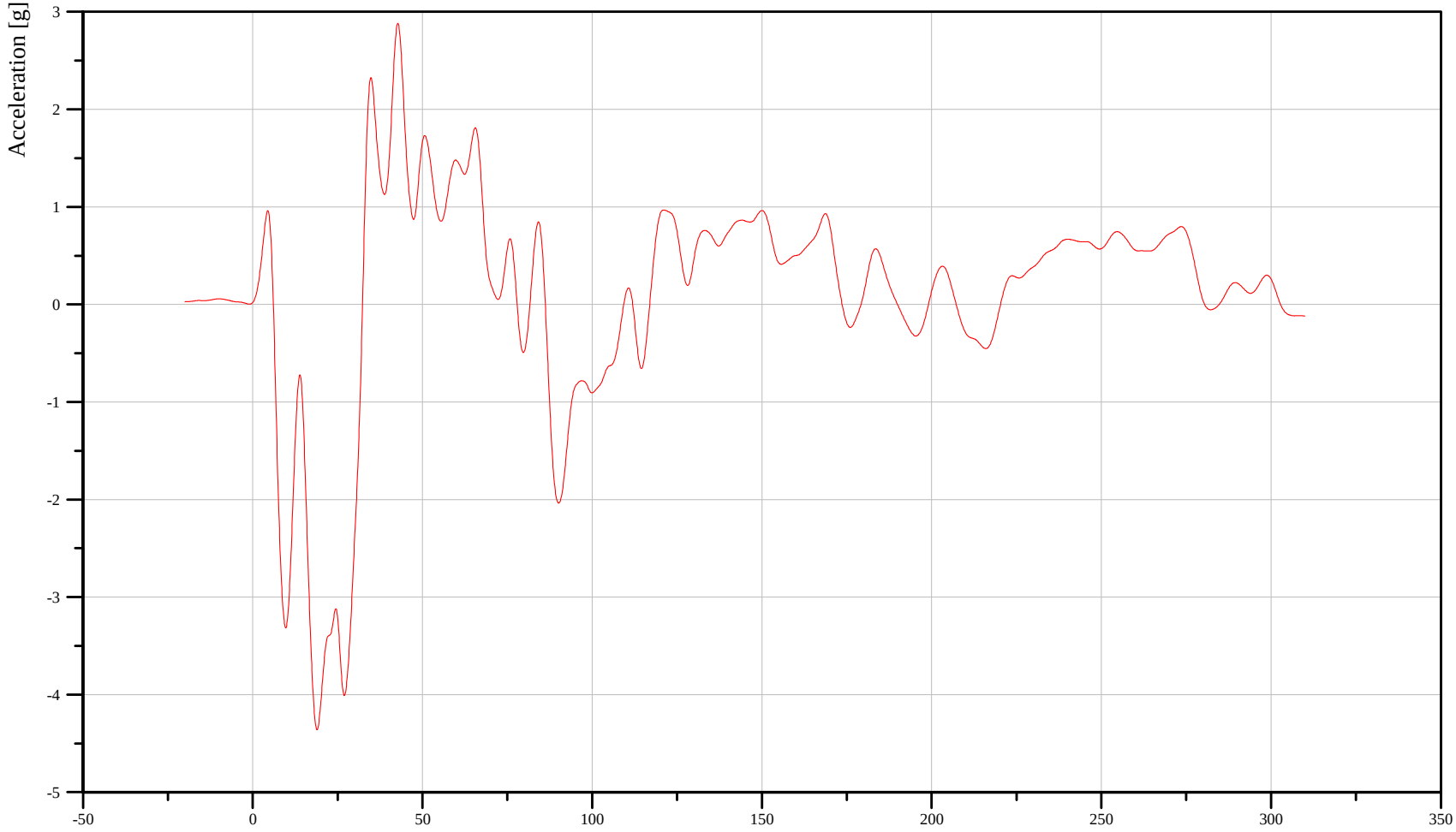
Right Side Roof Rail X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10ROOFRI2100ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-4.36 g at 18.96 ms

Max. Value
2.88 g at 42.72 ms

080821

World SID Evaluation

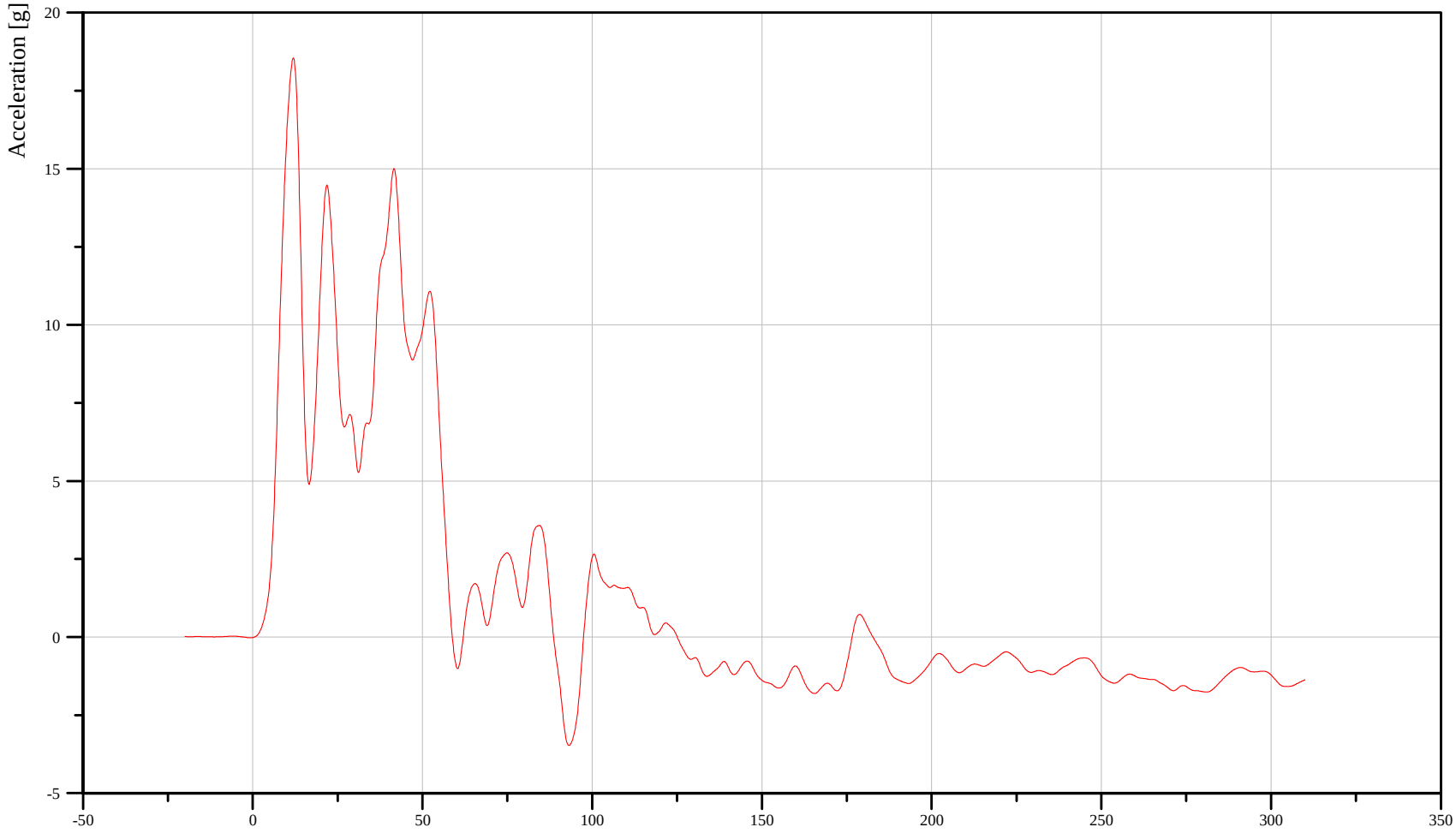
Right Side Roof Rail Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10ROOFRI2100ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-3.47 g at 93.12 ms

Max. Value
18.55 g at 11.92 ms

World SID Evaluation

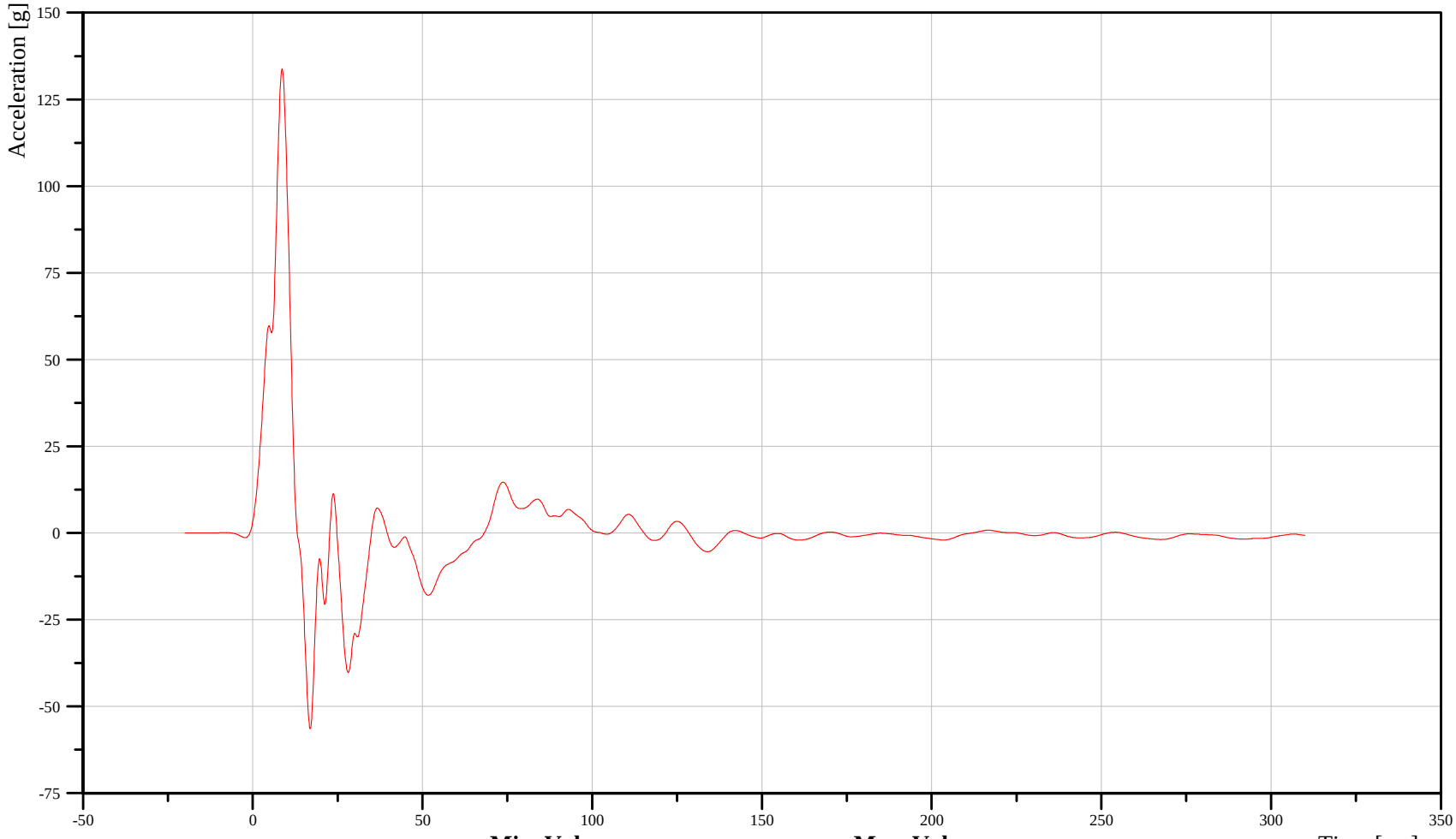
Front Door Centerline Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11DOORMI0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-56.43 g at 16.96 ms

Max. Value
133.89 g at 8.64 ms

World SID Evaluation

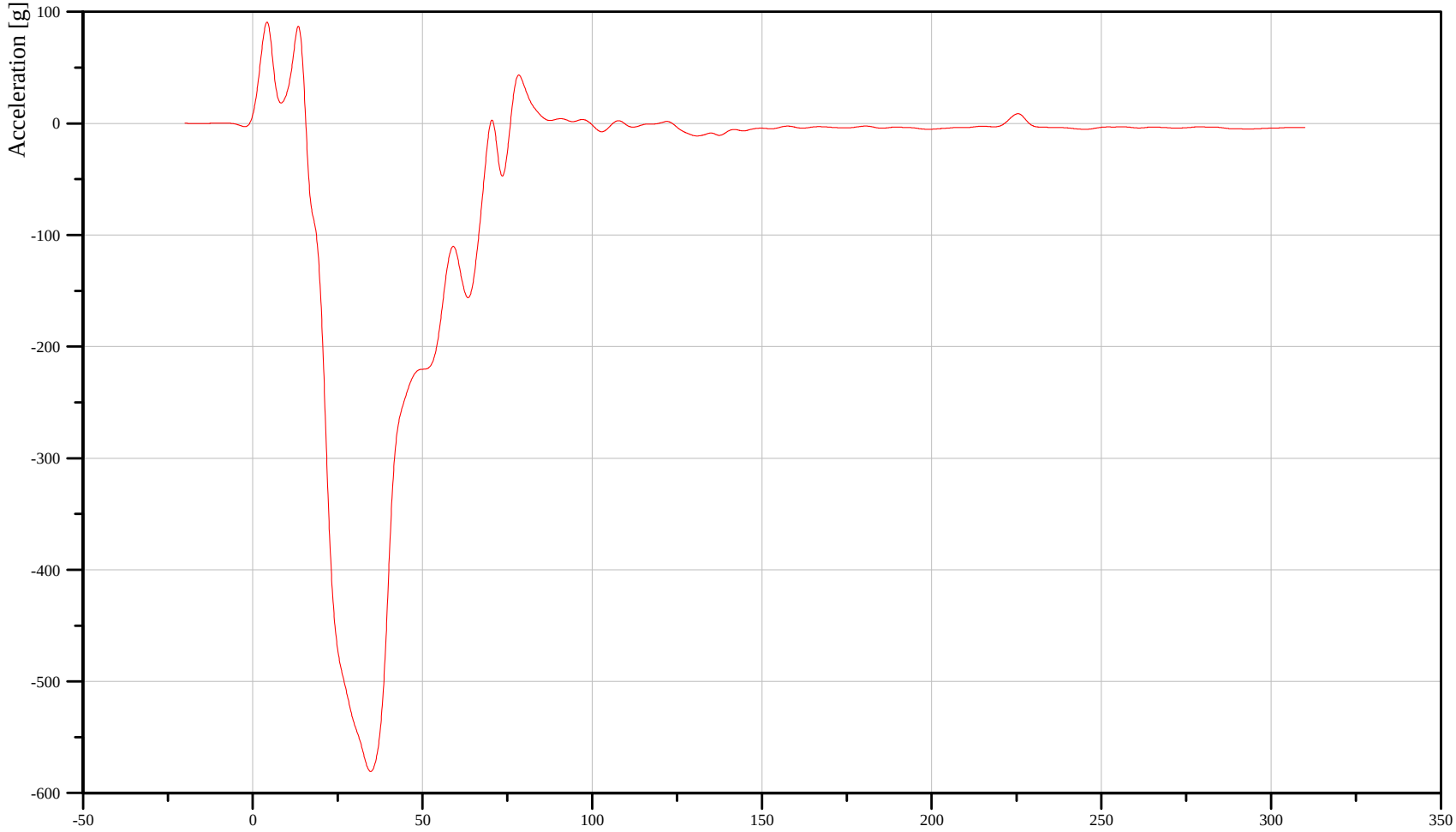
Front Door Mid-Rear Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11DOORMIRE00ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-580.73 g at 34.72 ms

Max. Value
90.93 g at 4.24 ms

World SID Evaluation

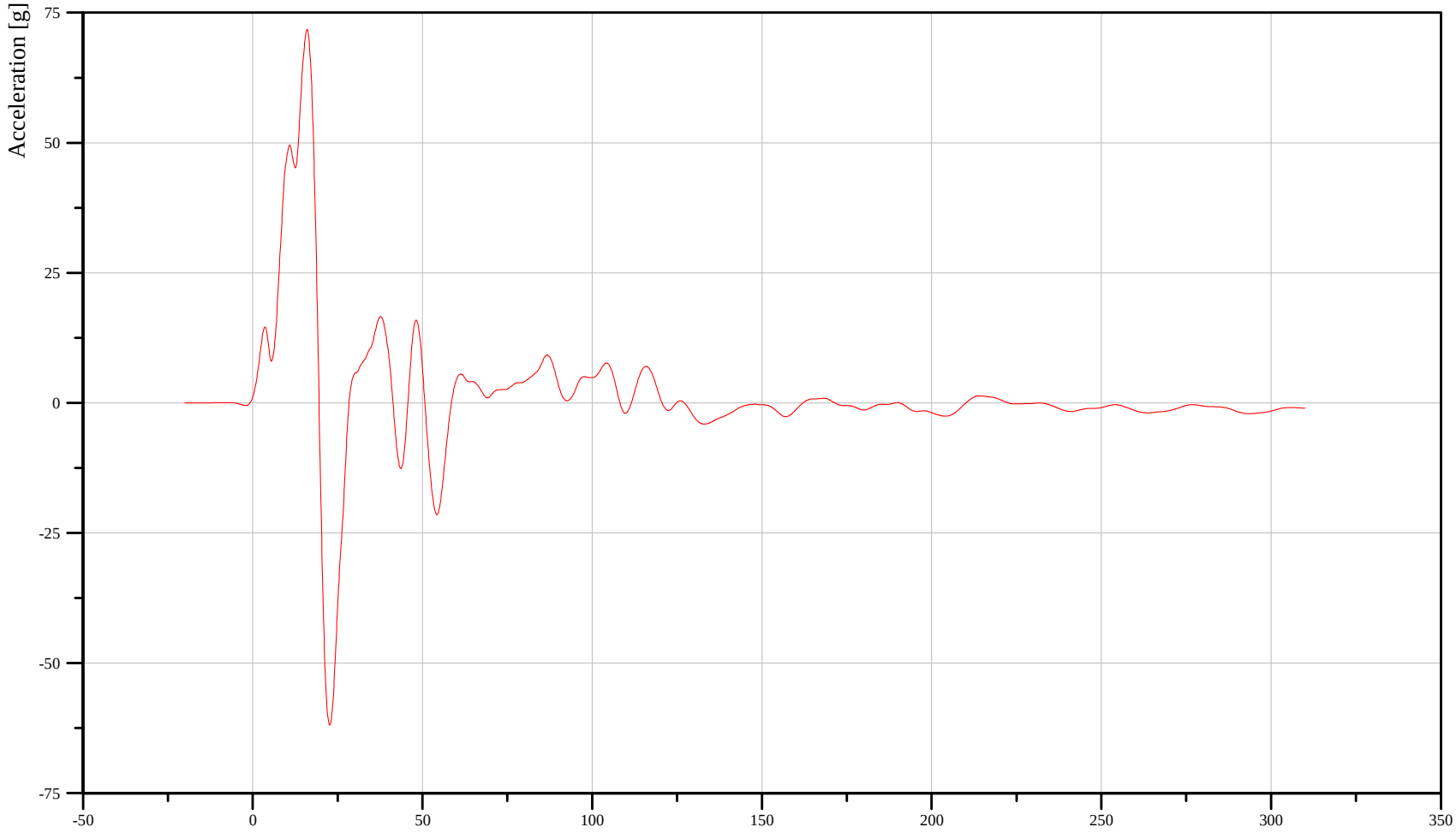
Front Door Upper Centerline Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11DOORUPMI00ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-61.87 g at 22.72 ms

Max. Value
71.82 g at 16.00 ms

World SID Evaluation

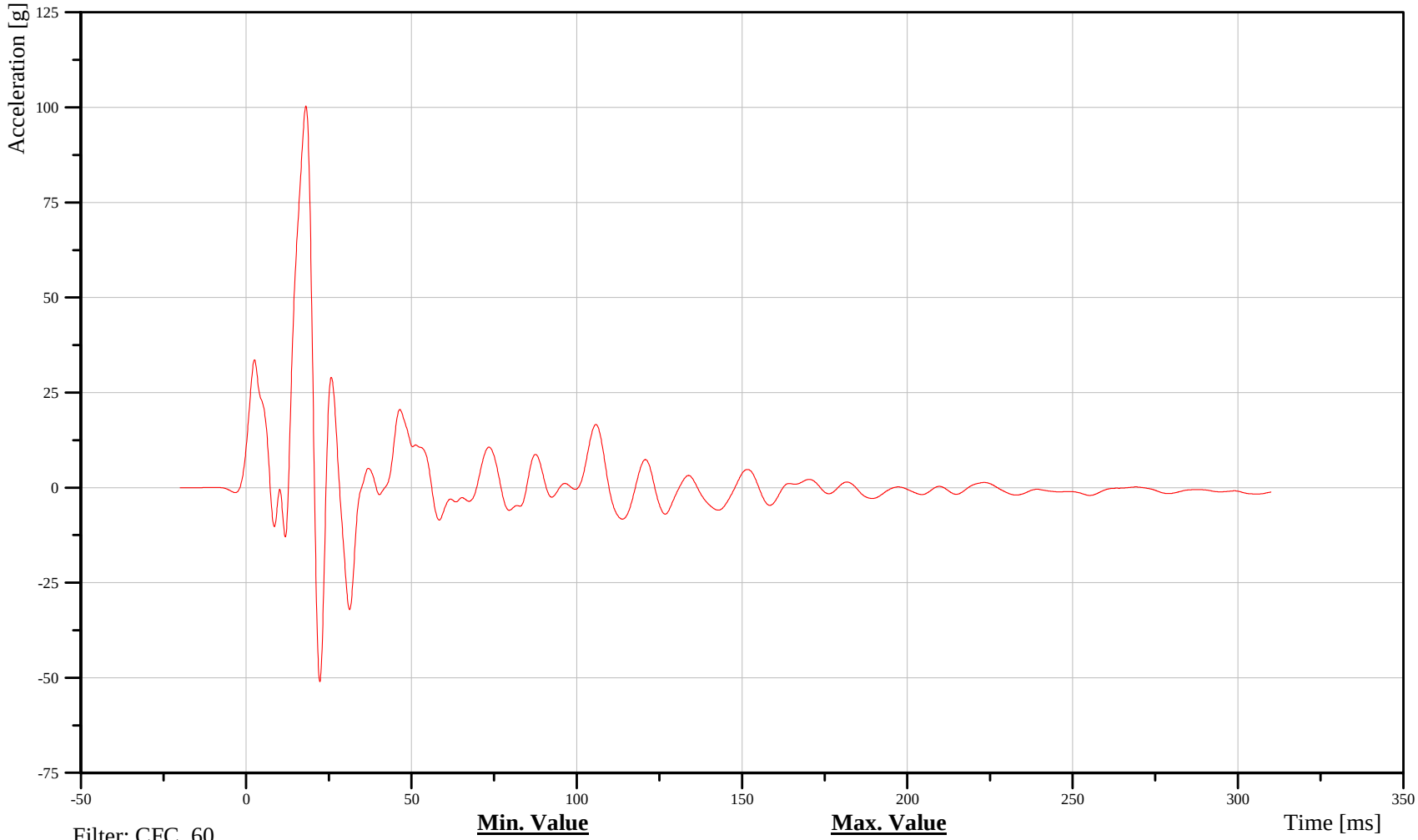
Rear Door Mid-Rear Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14DOORMIRE00ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-51.05 g at 22.32 ms

Max. Value
100.43 g at 18.08 ms

World SID Evaluation

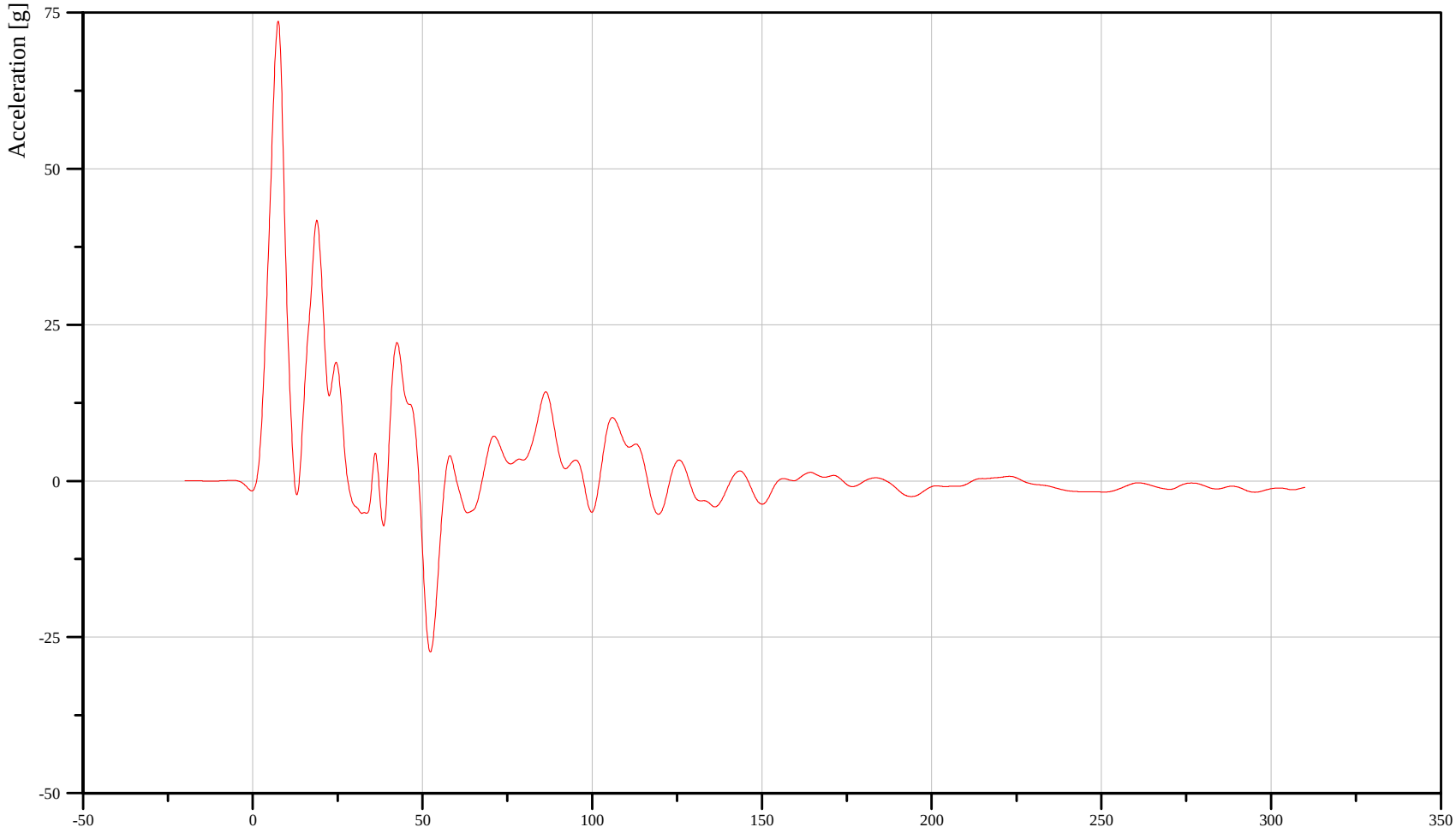
Rear Door Upper Centerline Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14DOORUPMI00ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-27.40 g at 52.32 ms

Max. Value
73.64 g at 7.52 ms

World SID Evaluation

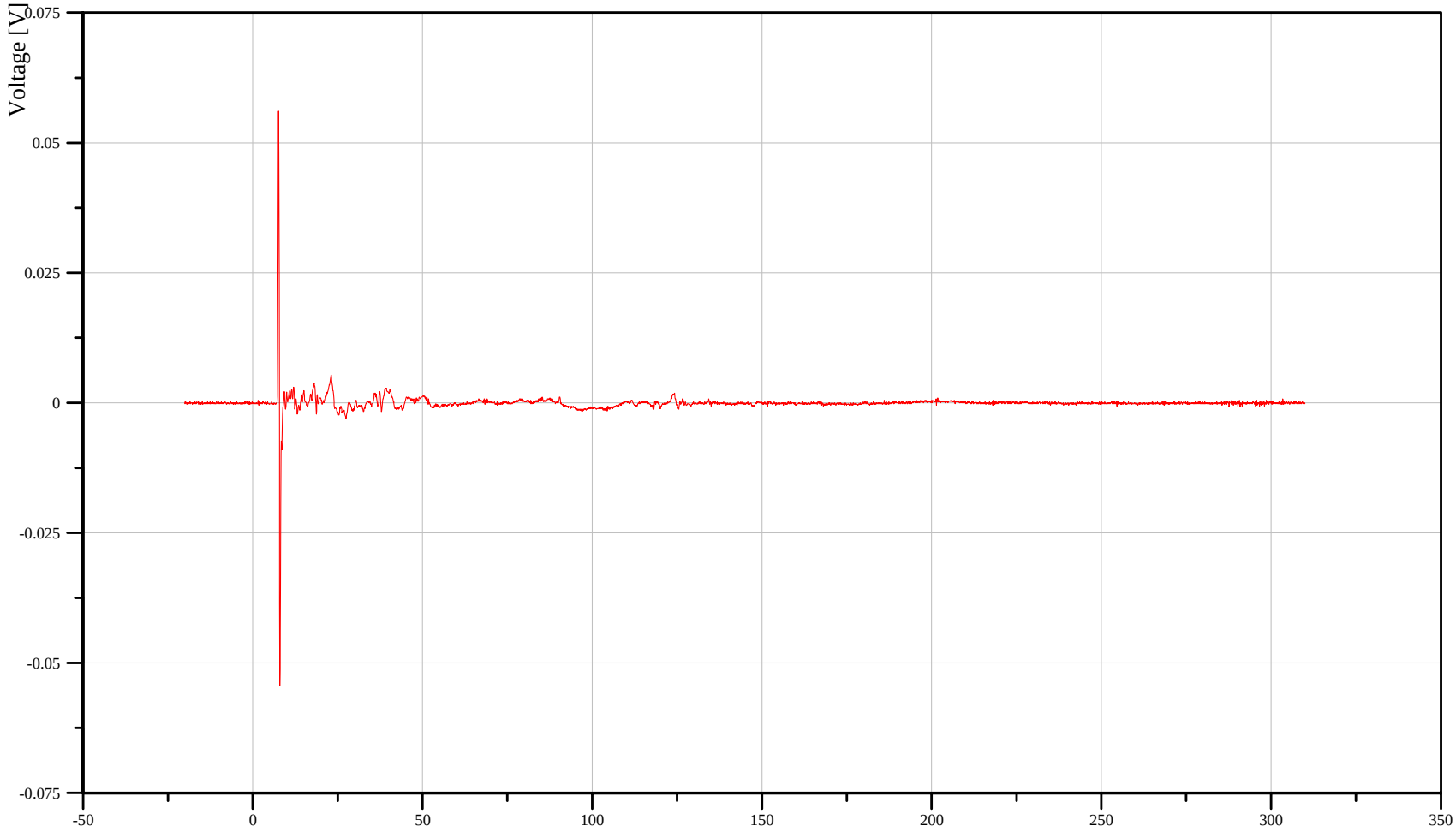
Driver Side Airbag

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10AIRBLE2200CU0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-0.05 V at 8.00 ms

Max. Value
0.06 V at 7.60 ms

World SID Evaluation

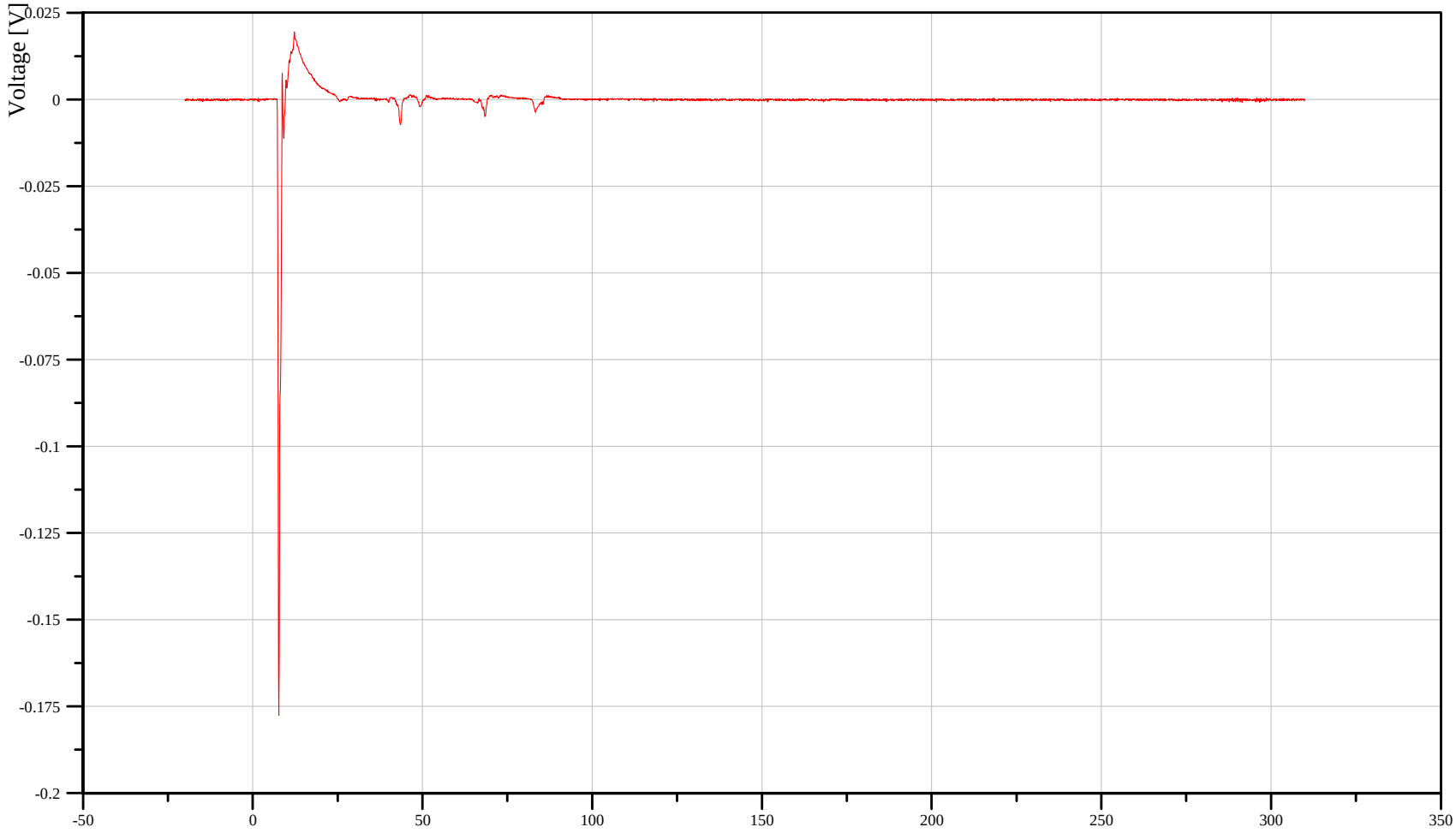
Driver Curtain Airbag

Date: 08/21/2008
Time: 13:12

Customer: VRTC

10AIRBLE2300CU0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-0.18 V at 7.68 ms

Max. Value
0.02 V at 12.24 ms

World SID Evaluation

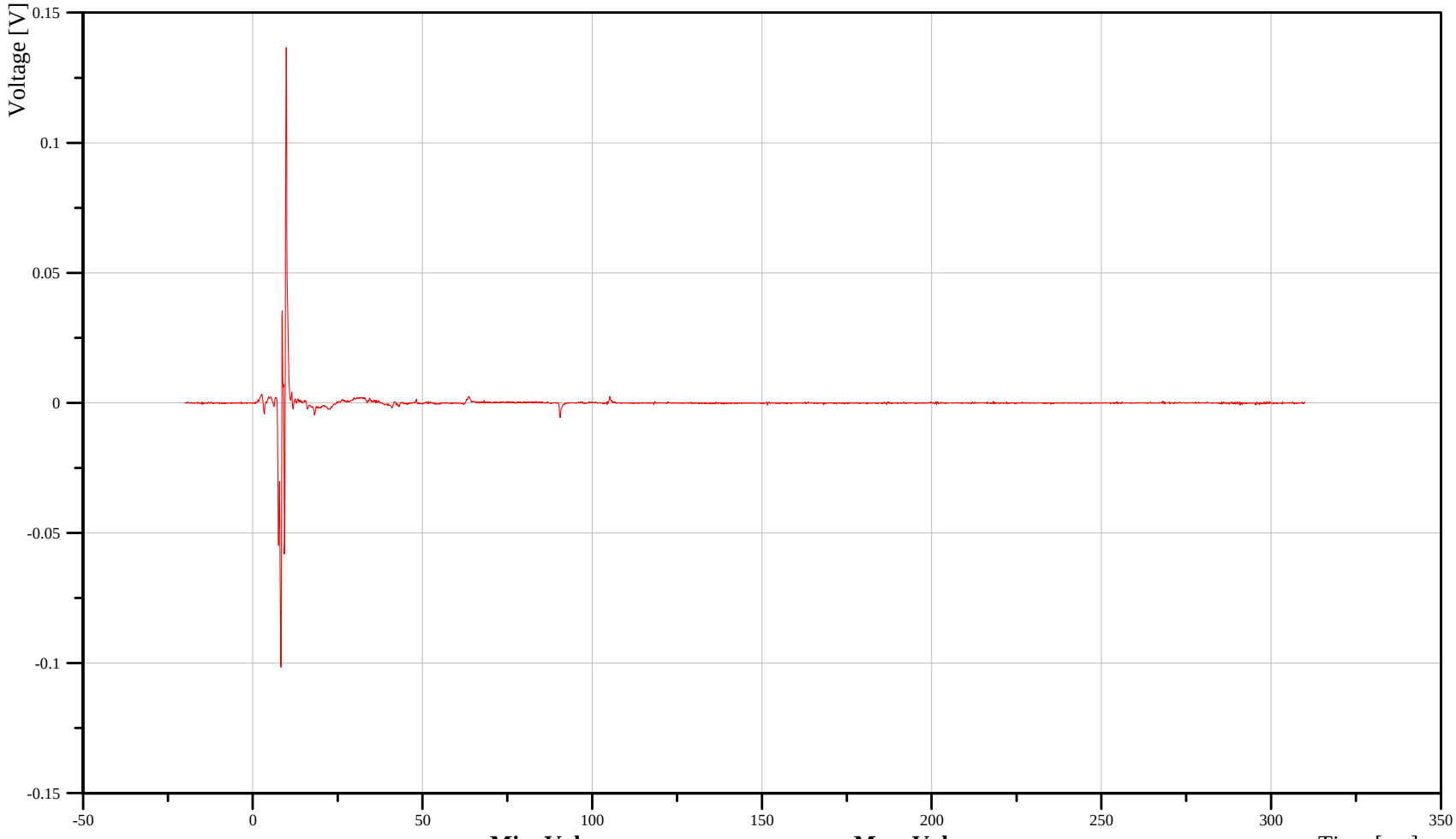
Driver ELR Pretensioner

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PRET000000CU0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-0.10 V at 8.32 ms

Max. Value
0.14 V at 9.84 ms

World SID Evaluation

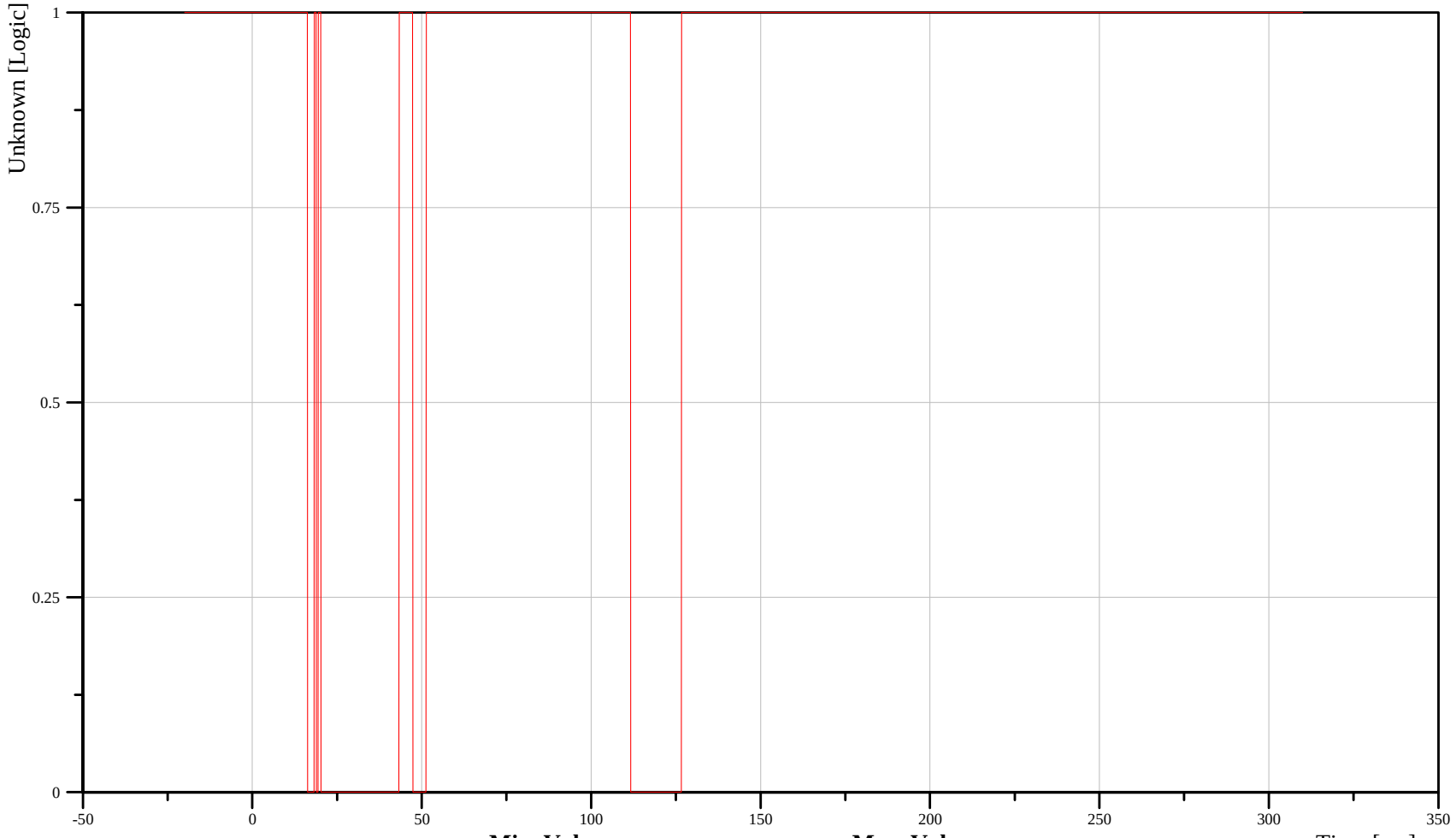
Driver Head Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEAD000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.00 Logic at 16.32 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

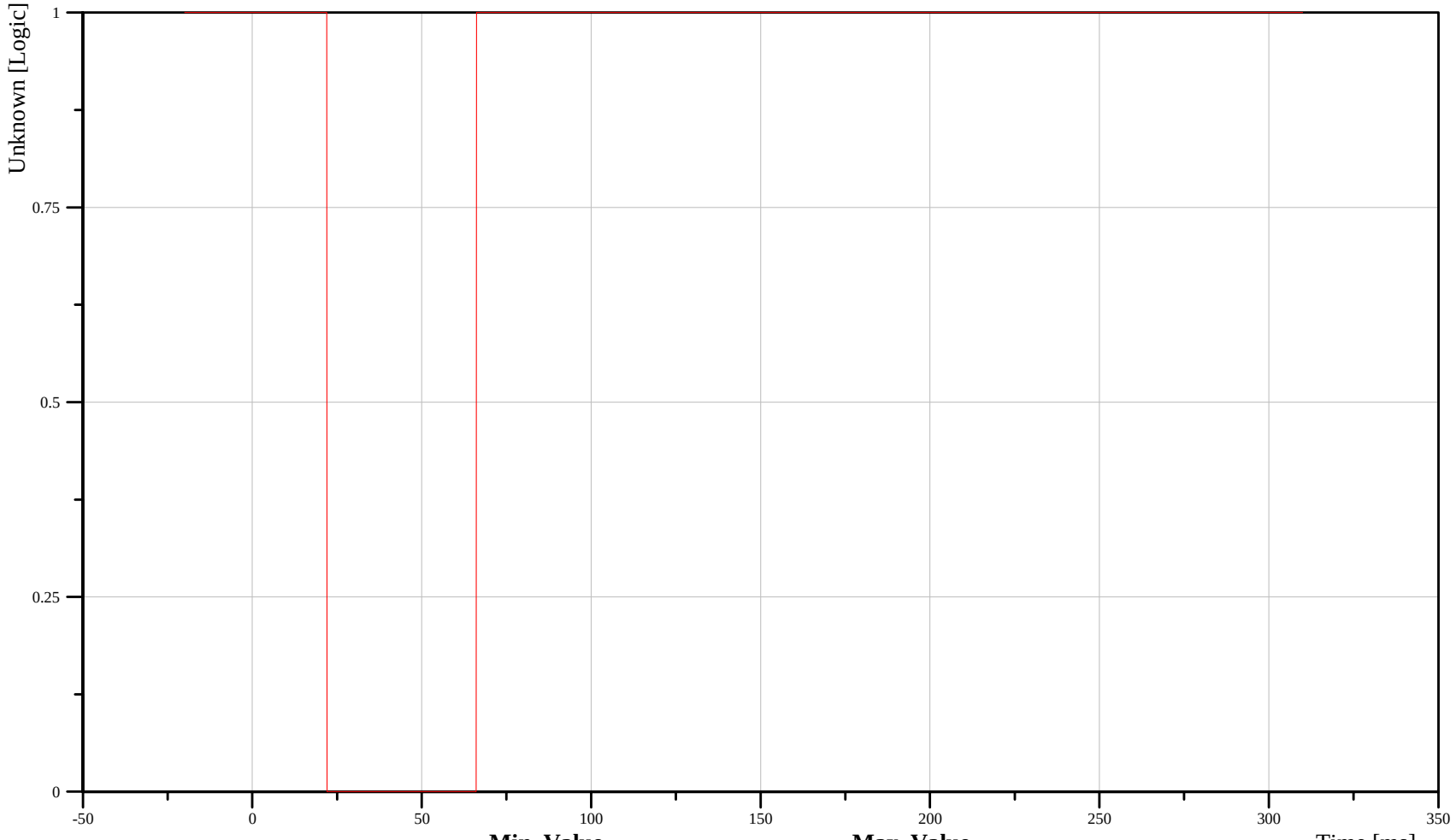
Driver Shoulder Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLD000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.00 Logic at 22.08 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

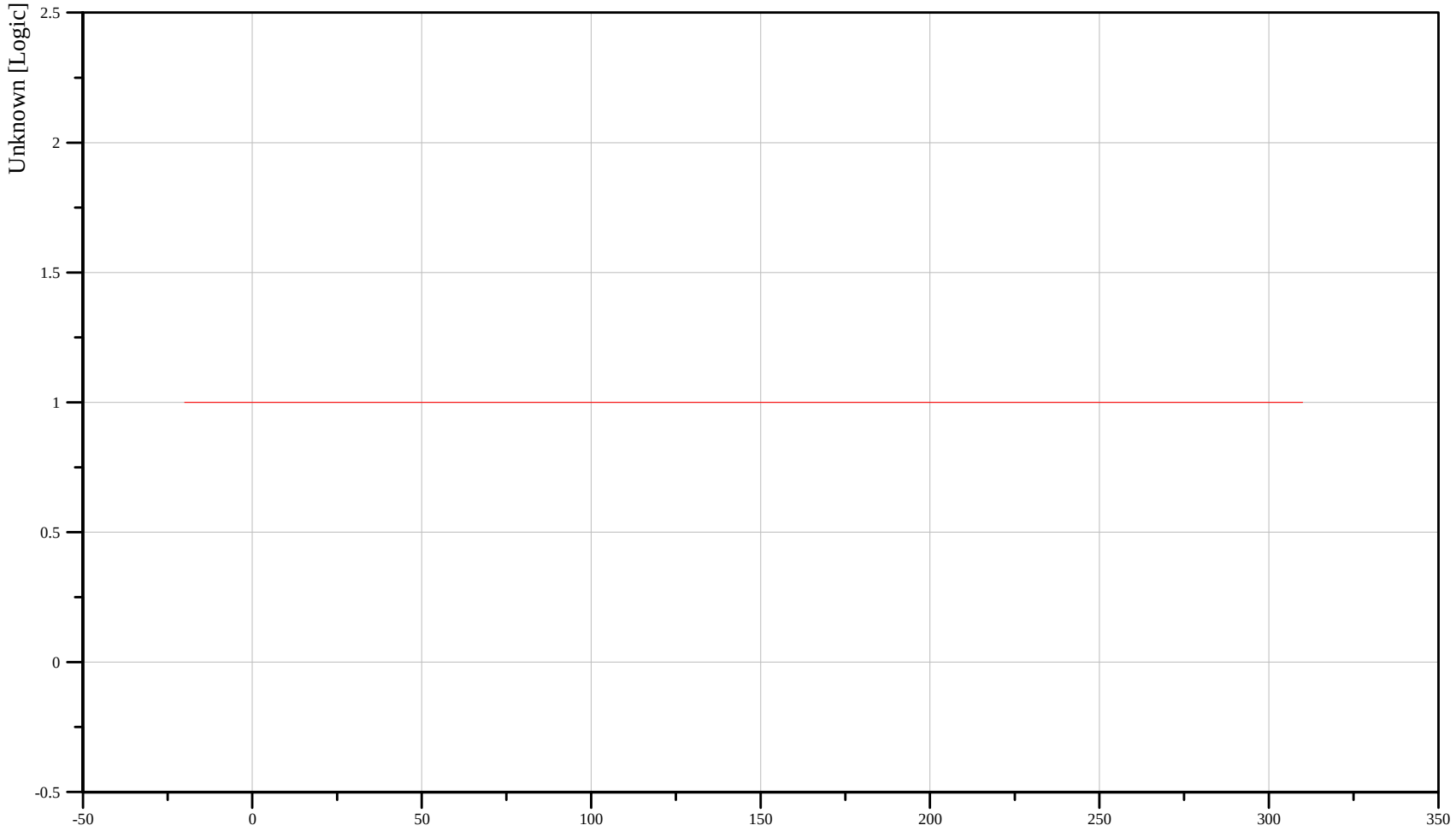
Driver Torso Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TORS000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

	Min. Value	Max. Value
	1.00 Logic at -20.00 ms	1.00 Logic at -20.00 ms

World SID Evaluation

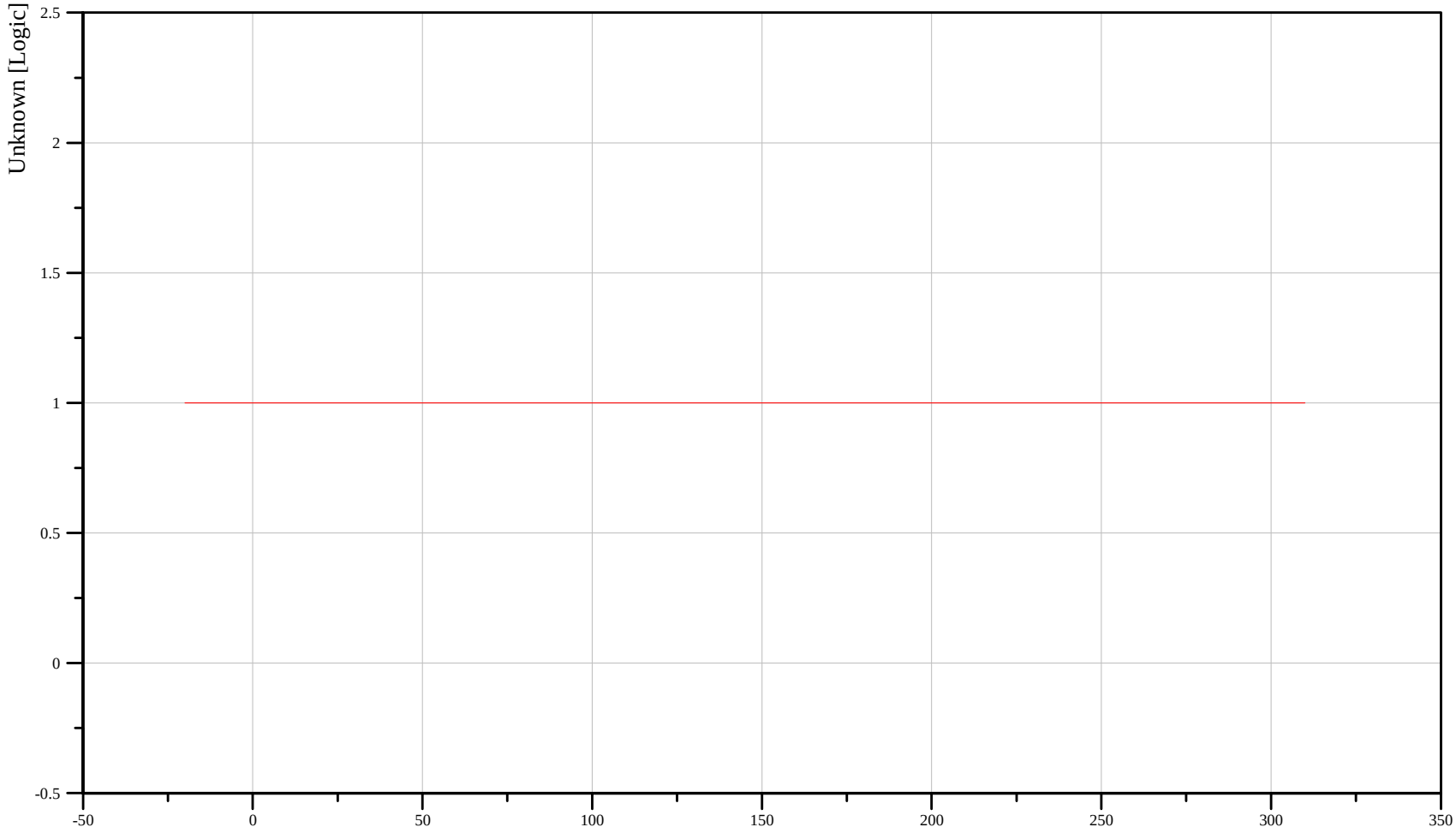
Driver Leg Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LEGLE00000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
1.00 Logic at -20.00 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

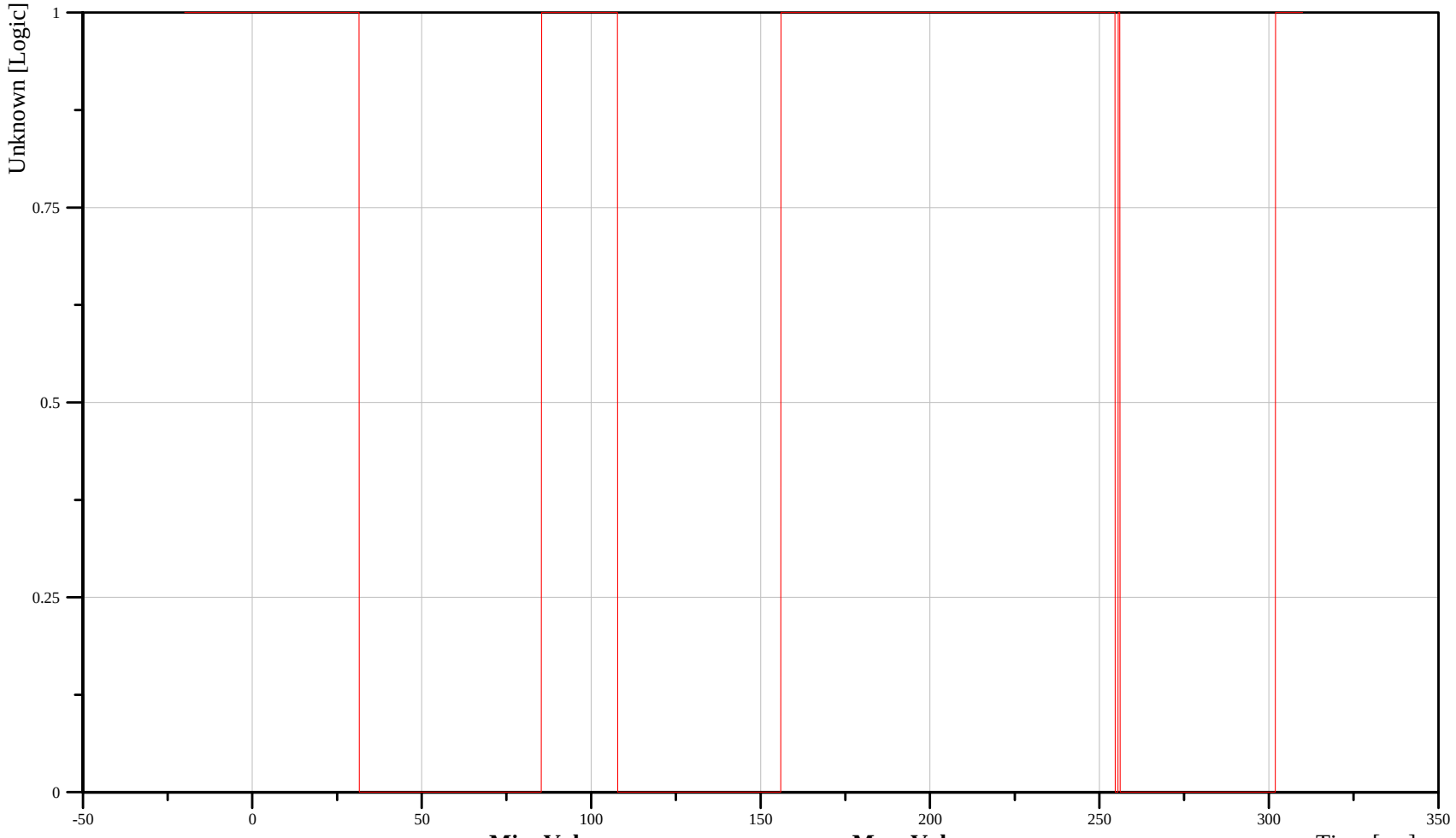
Passenger Head Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEAD000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.00 Logic at 31.60 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

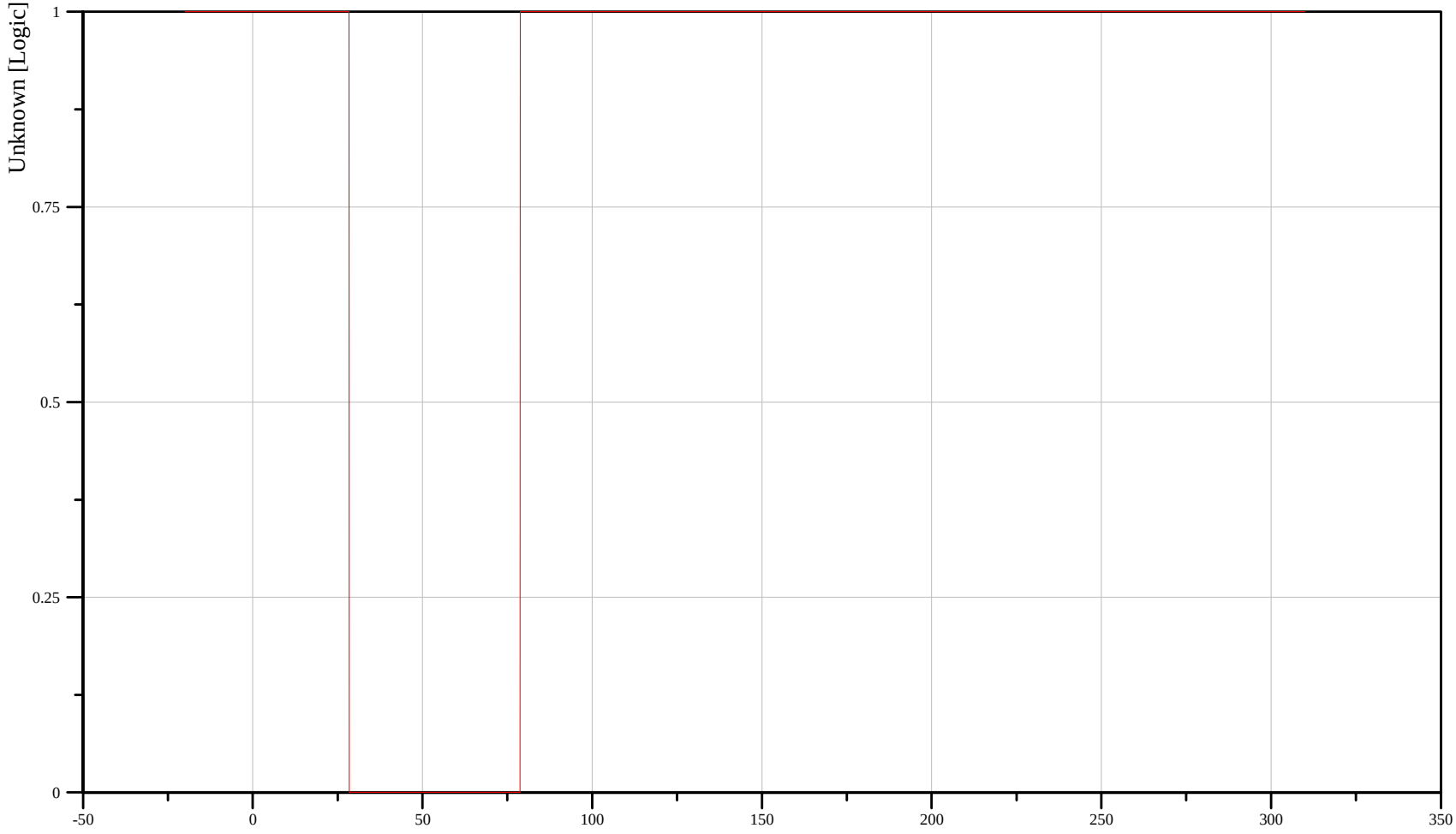
Passenger Shoulder Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLD000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.00 Logic at 28.48 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

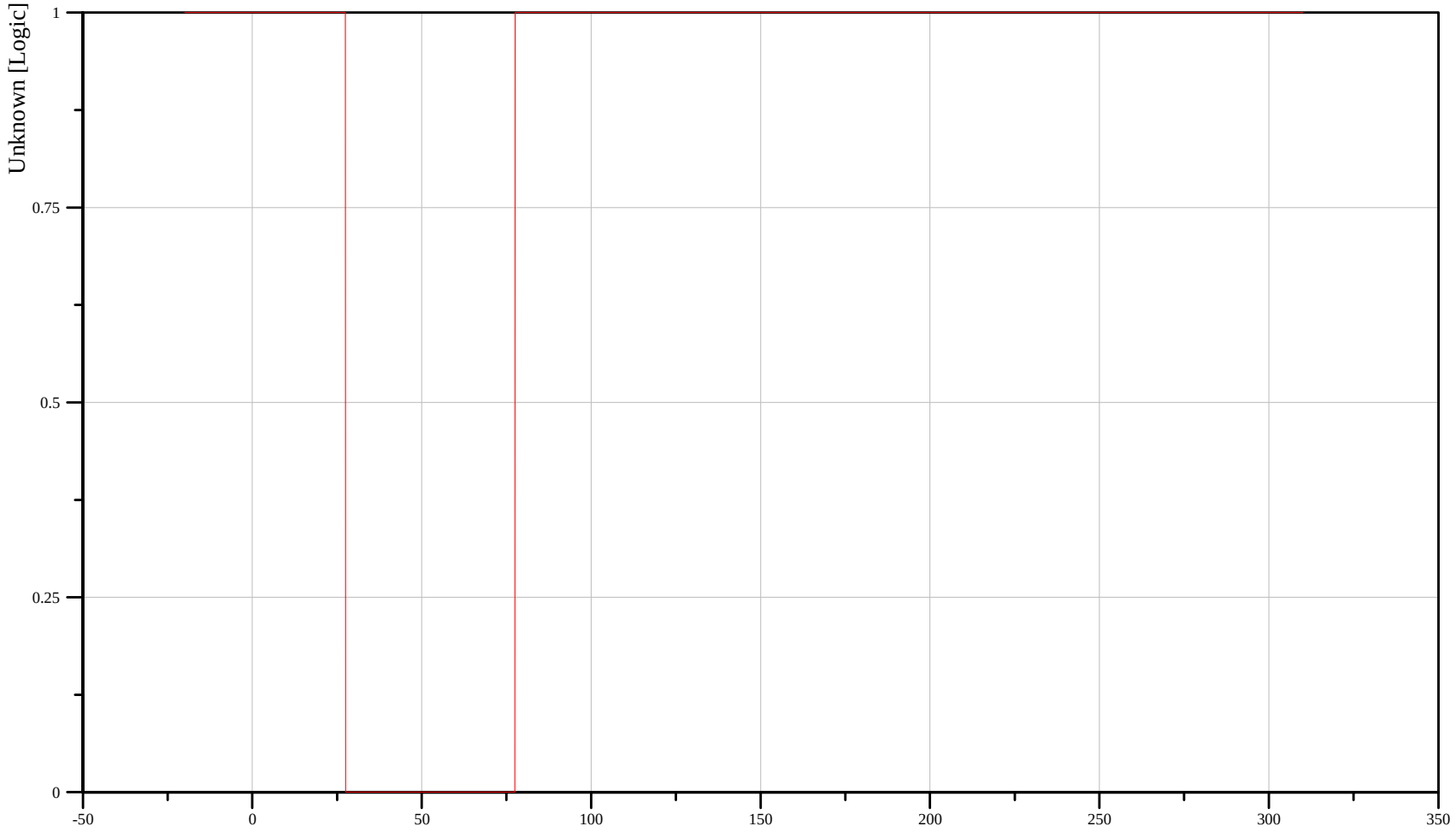
Passenger Torso Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TORS000000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.00 Logic at 27.52 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

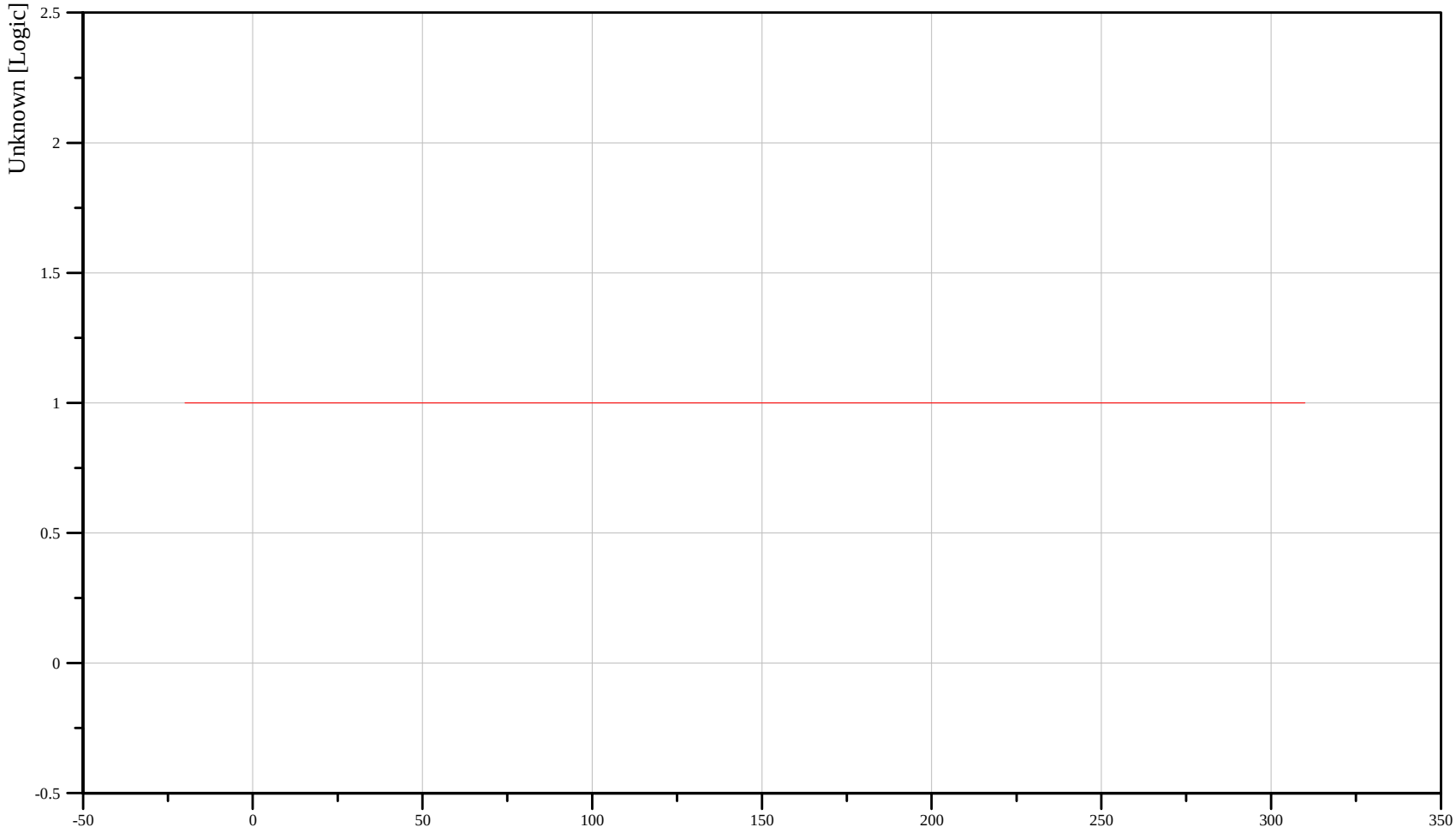
Passenger Leg Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LEGLE00000VO0A

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
1.00 Logic at -20.00 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

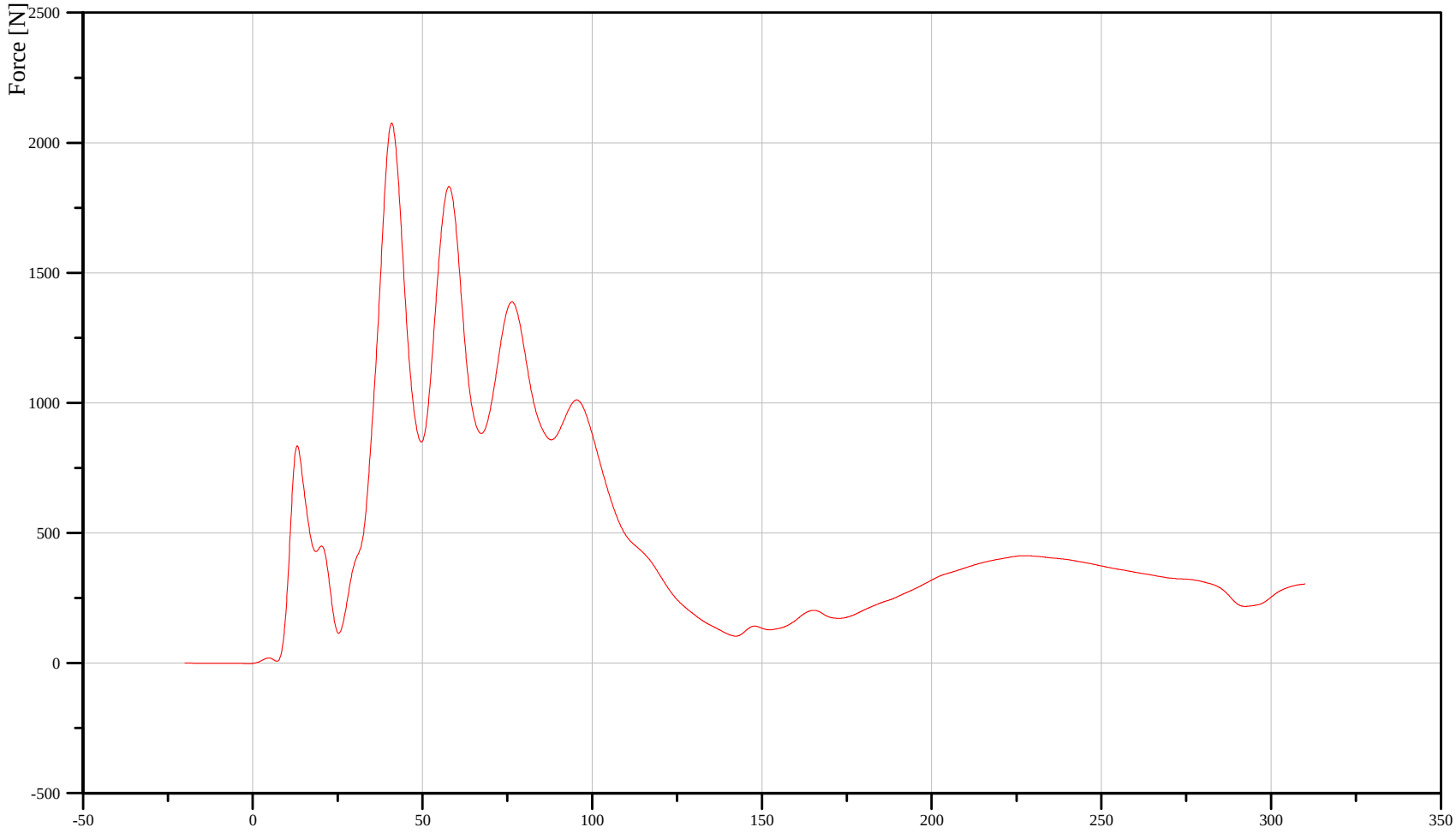
Driver Shoulder Belt Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SEBE0000B3FO0D

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value	Max. Value
-1.78 N at -1.20 ms	2,075.51 N at 40.96 ms

World SID Evaluation

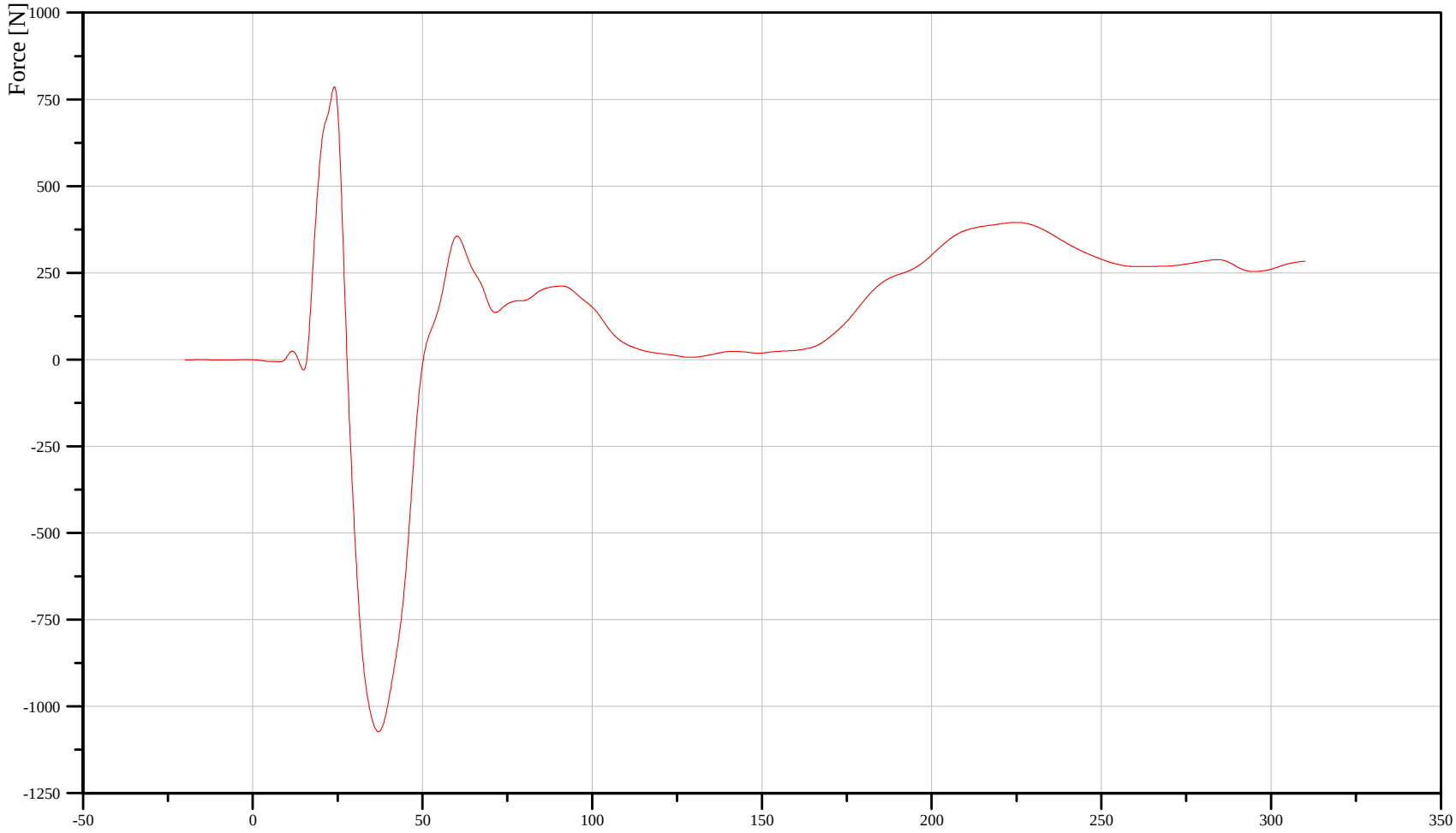
Driver Lap Belt Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SEBE0000B5FO0D

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1,072.79 N at 37.04 ms

Max. Value
786.40 N at 24.00 ms

World SID Evaluation

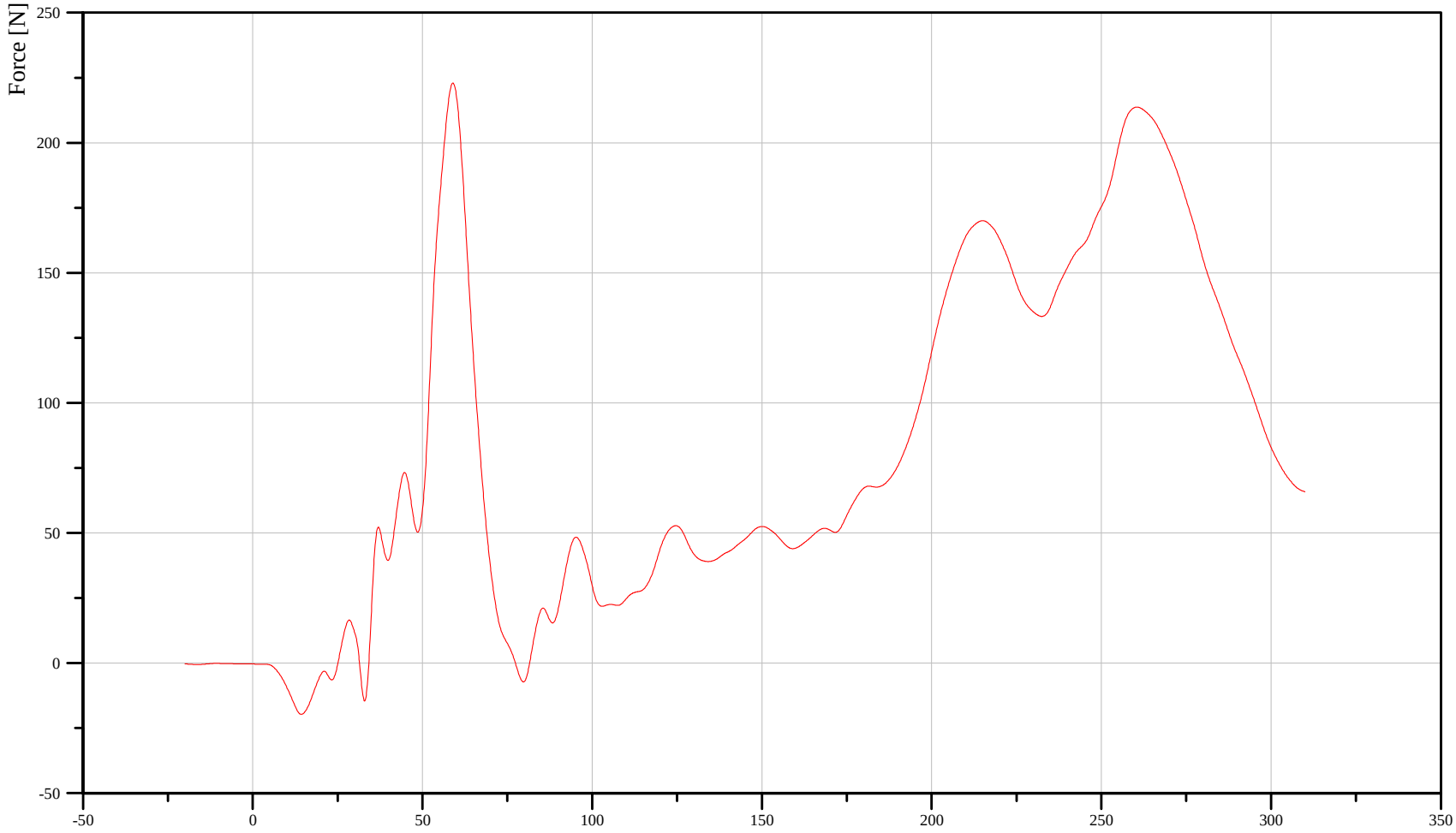
Passenger Shoulder Belt Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SEBE0000B3FO0D

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-19.69 N at 14.32 ms

Max. Value
222.97 N at 58.96 ms

World SID Evaluation

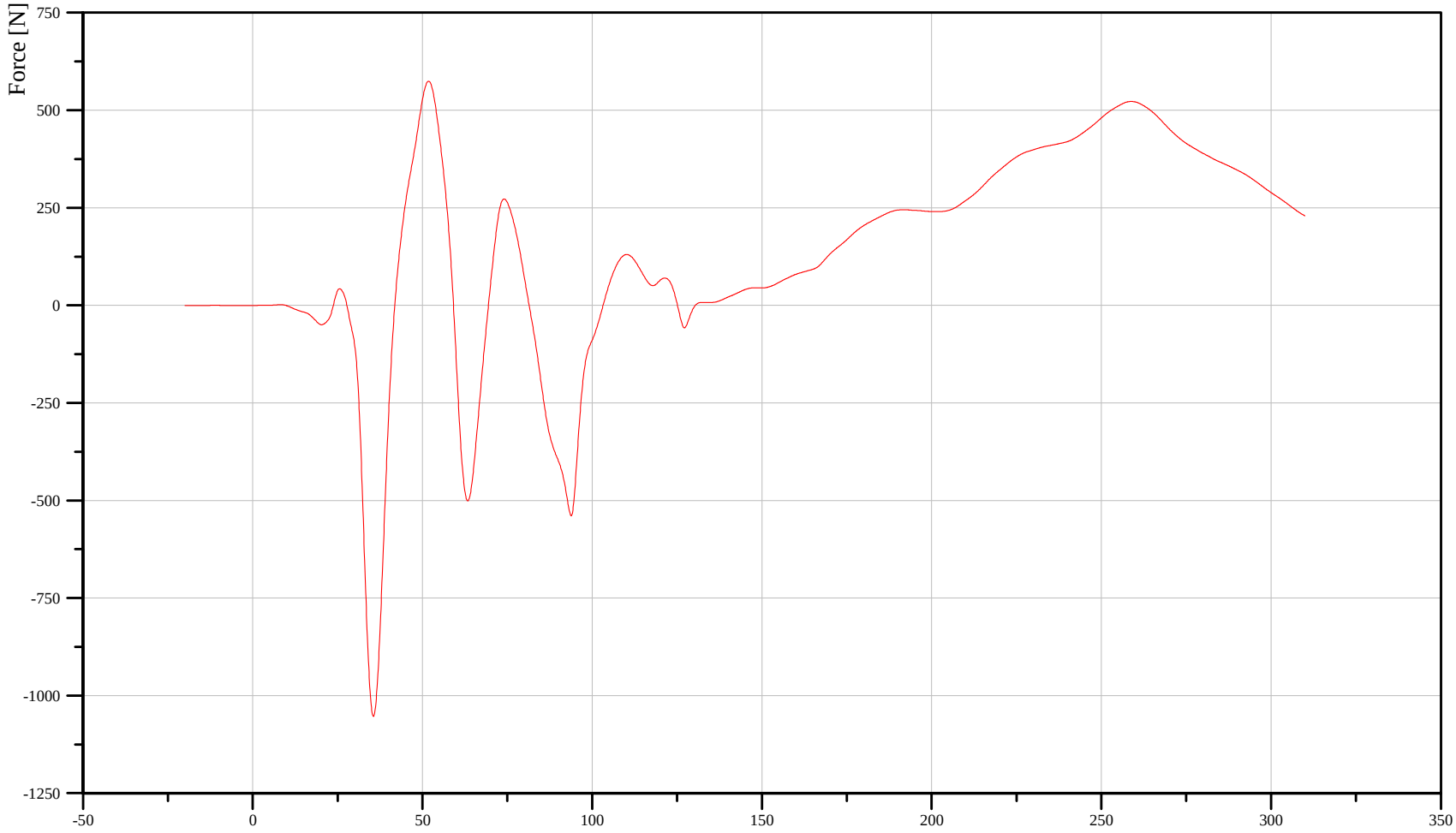
Passenger Lap Belt Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SEBE0000B5FO0D

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-1,053.49 N at 35.52 ms

Max. Value
574.60 N at 51.84 ms

World SID Evaluation

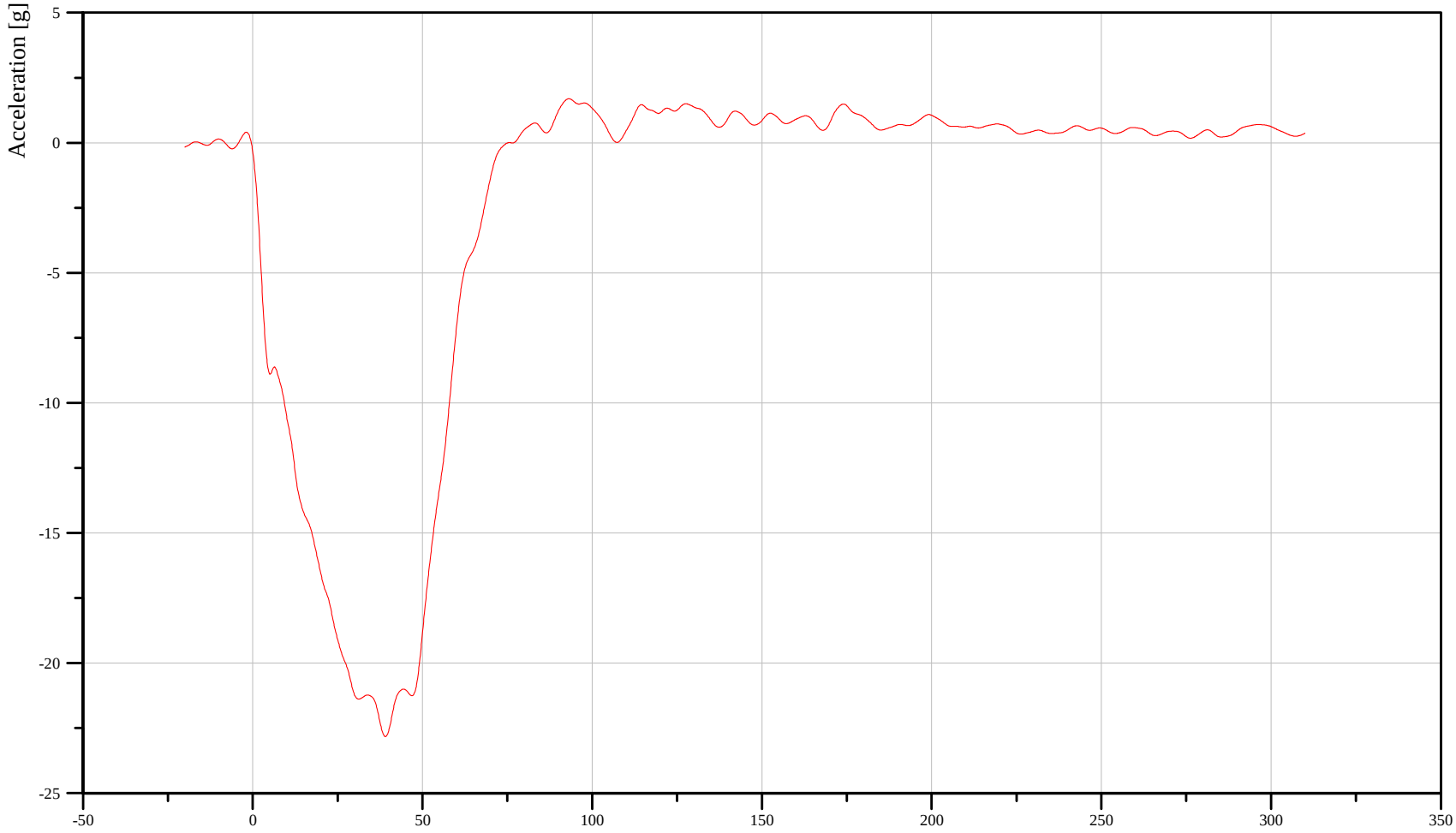
MDB Rear X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M7FRAM000000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-22.82 g at 39.04 ms

Max. Value
1.69 g at 93.12 ms

World SID Evaluation

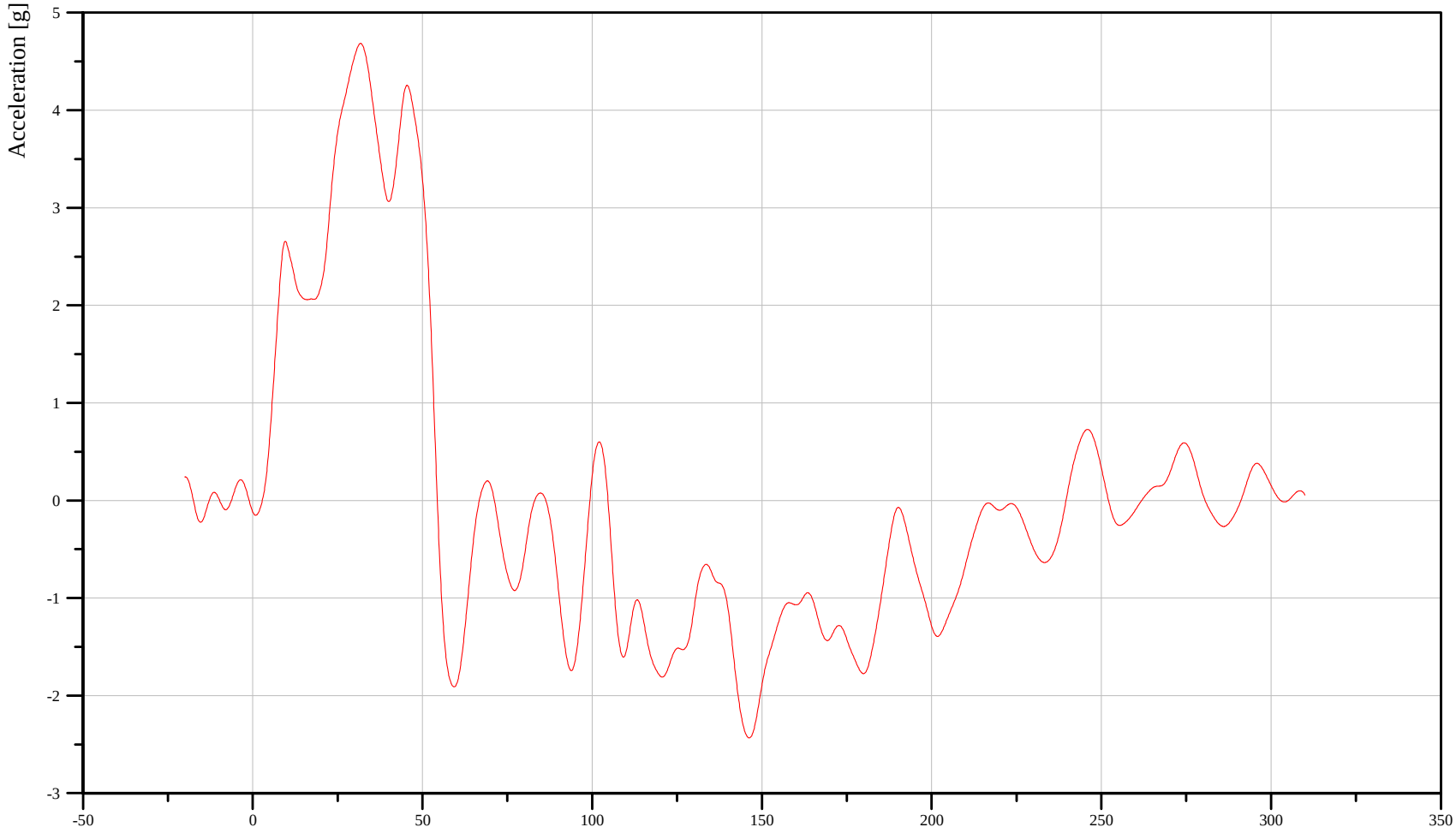
MDB Rear Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M7FRAM000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-2.43 g at 146.24 ms

Max. Value
4.69 g at 31.76 ms

World SID Evaluation

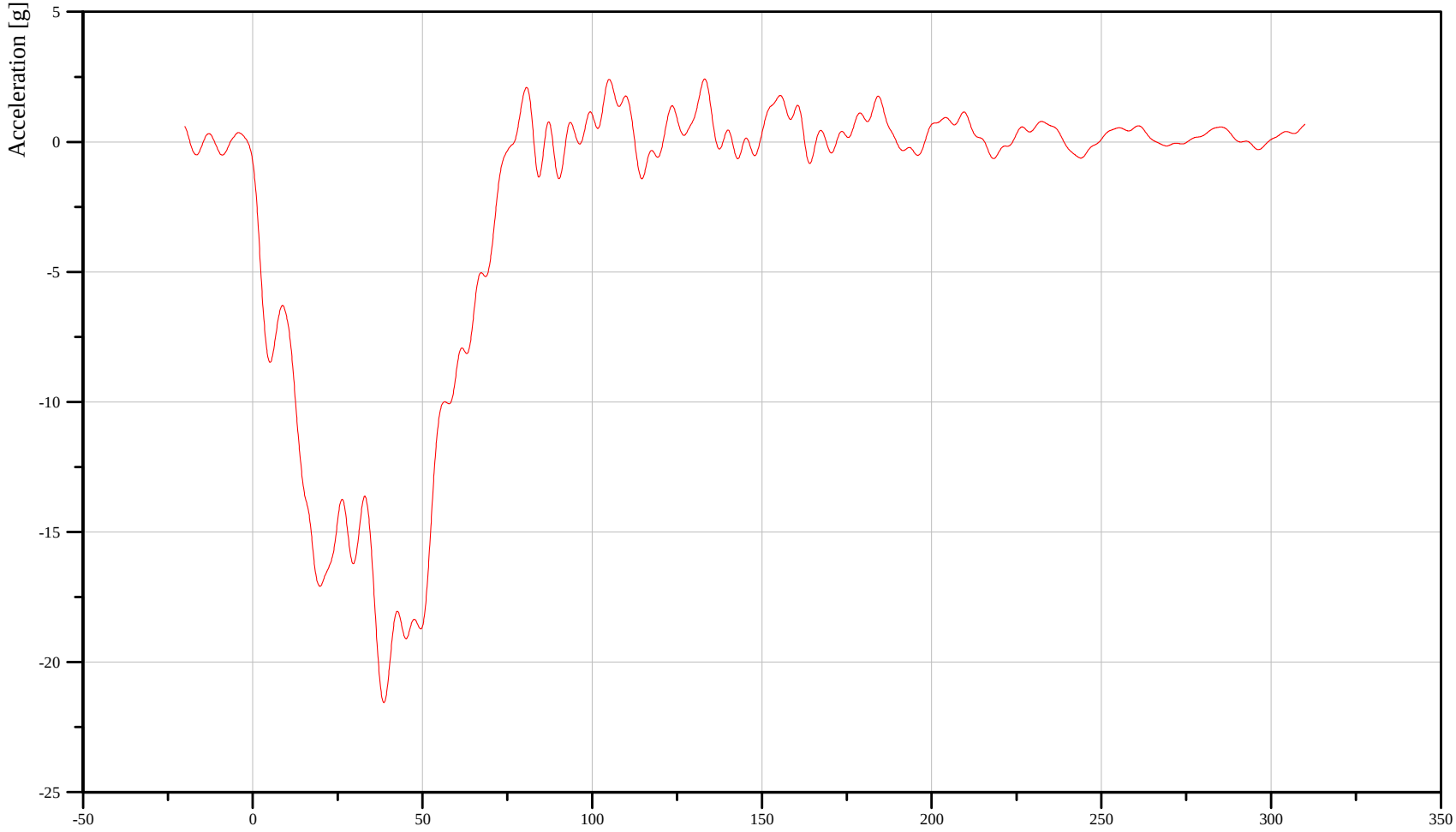
MDB Center of Gravity X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-21.56 g at 38.64 ms

Max. Value
2.42 g at 133.12 ms

World SID Evaluation

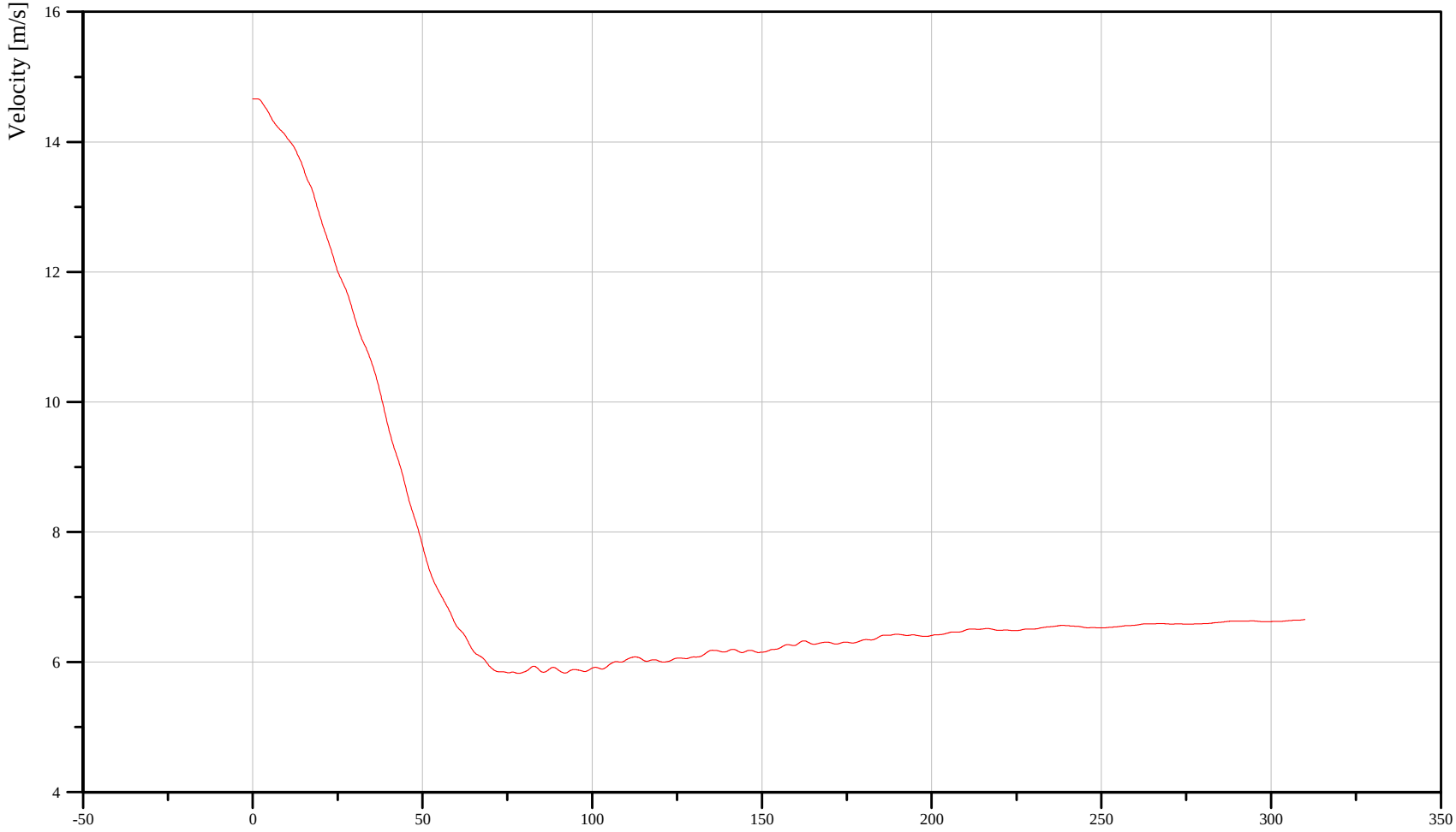
MDB Center of Gravity X-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000VEXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
5.83 m/s at 78.32 ms

Max. Value
14.66 m/s at 1.44 ms

World SID Evaluation

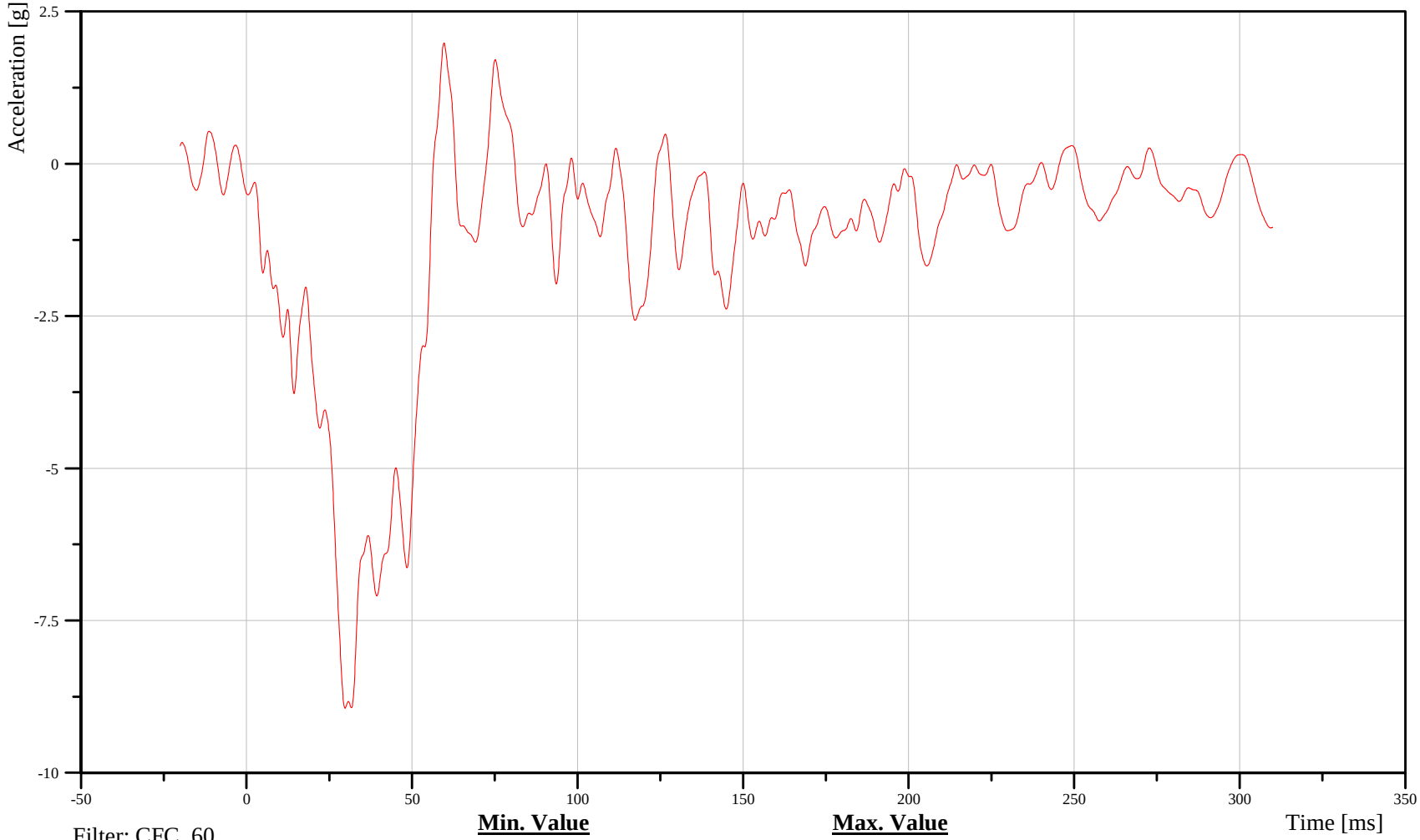
MDB Center of Gravity Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-8.94 g at 29.76 ms

Max. Value
1.98 g at 59.68 ms

World SID Evaluation

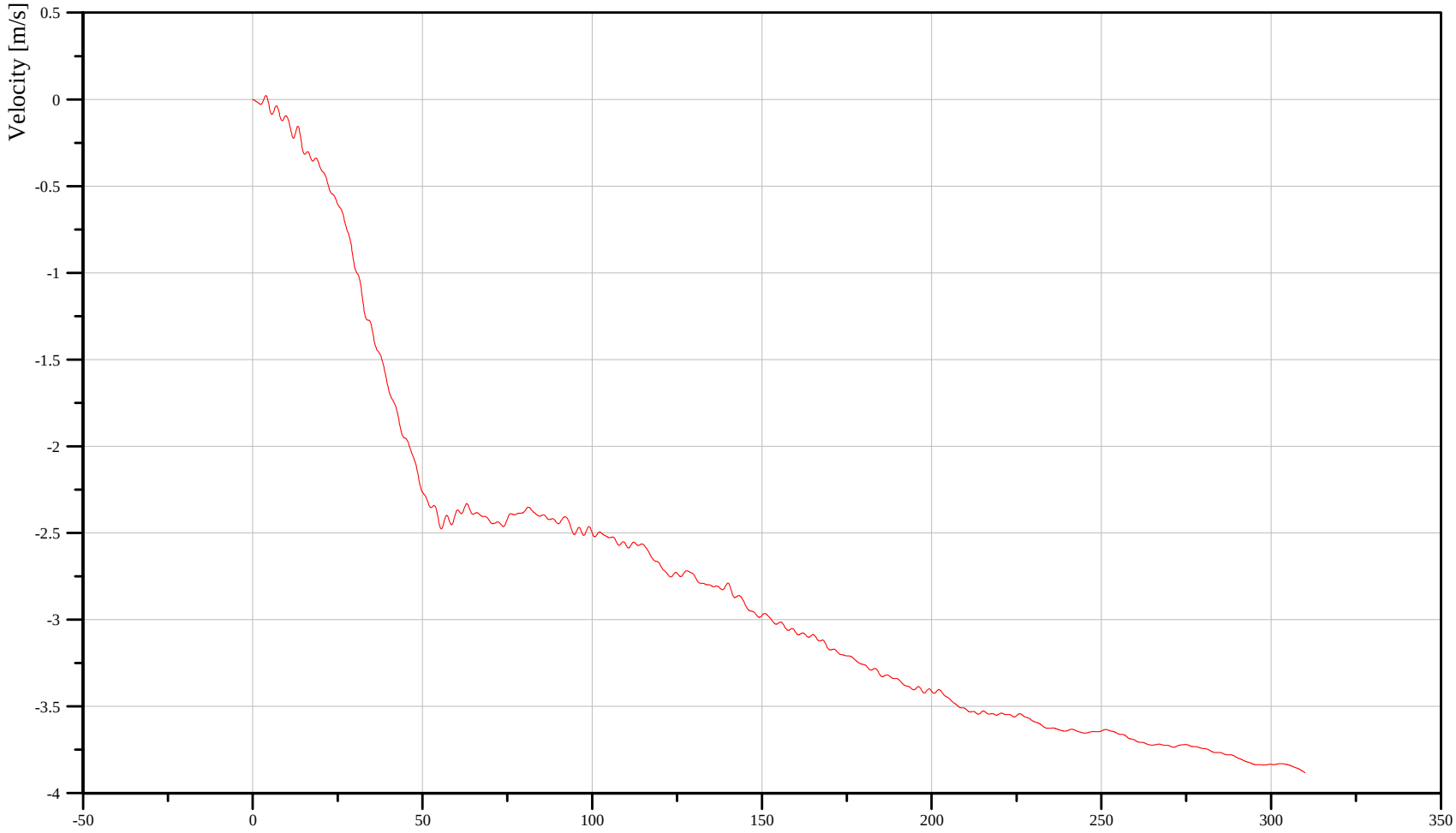
MDB Center of Gravity Y-Axis Velocity

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000VEYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-3.88 m/s at 310.00 ms

Max. Value
0.02 m/s at 3.92 ms

World SID Evaluation

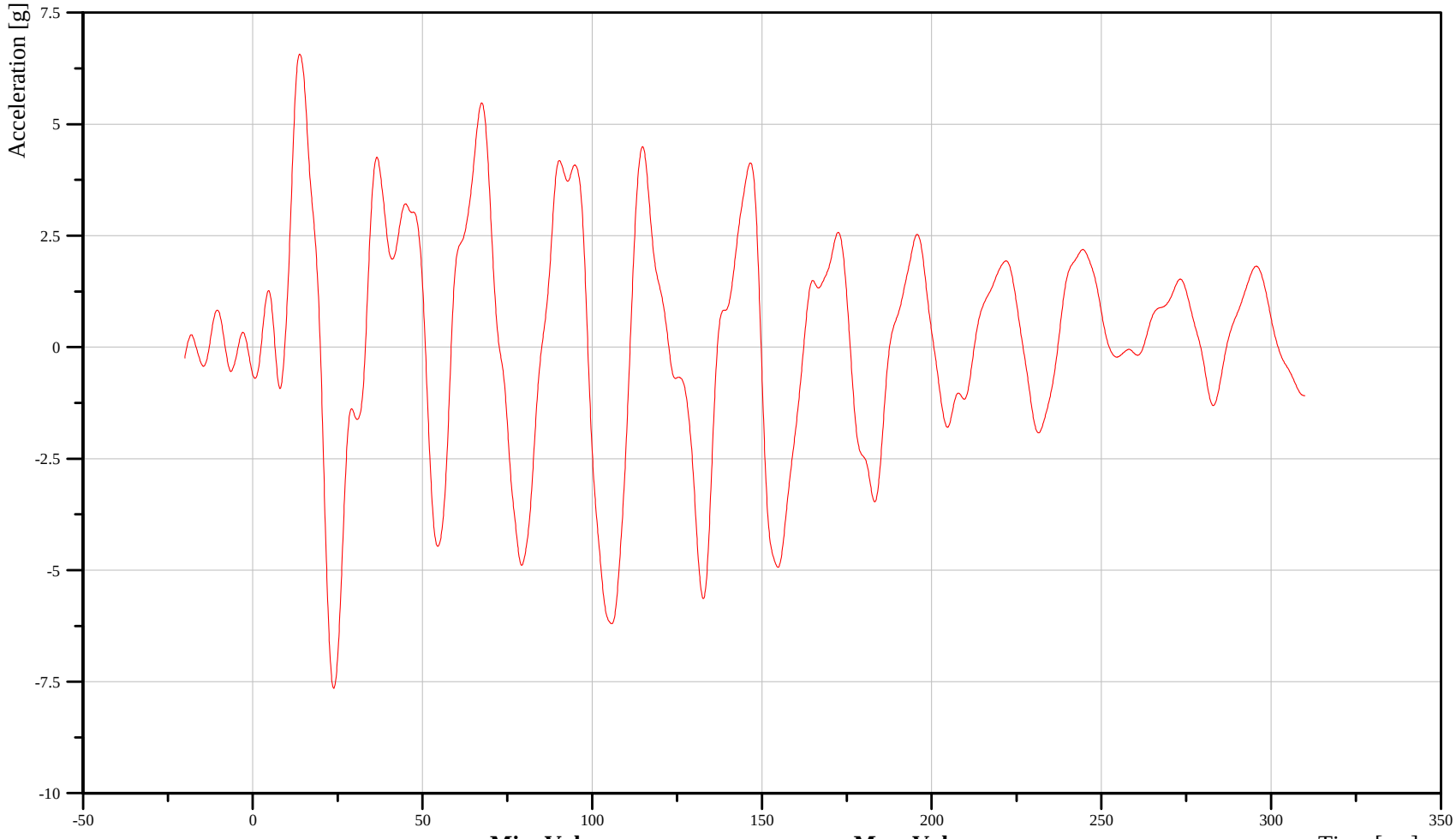
MDB Center of Gravity Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000ACZD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
-7.65 g at 23.84 ms

Max. Value
6.57 g at 13.84 ms

World SID Evaluation

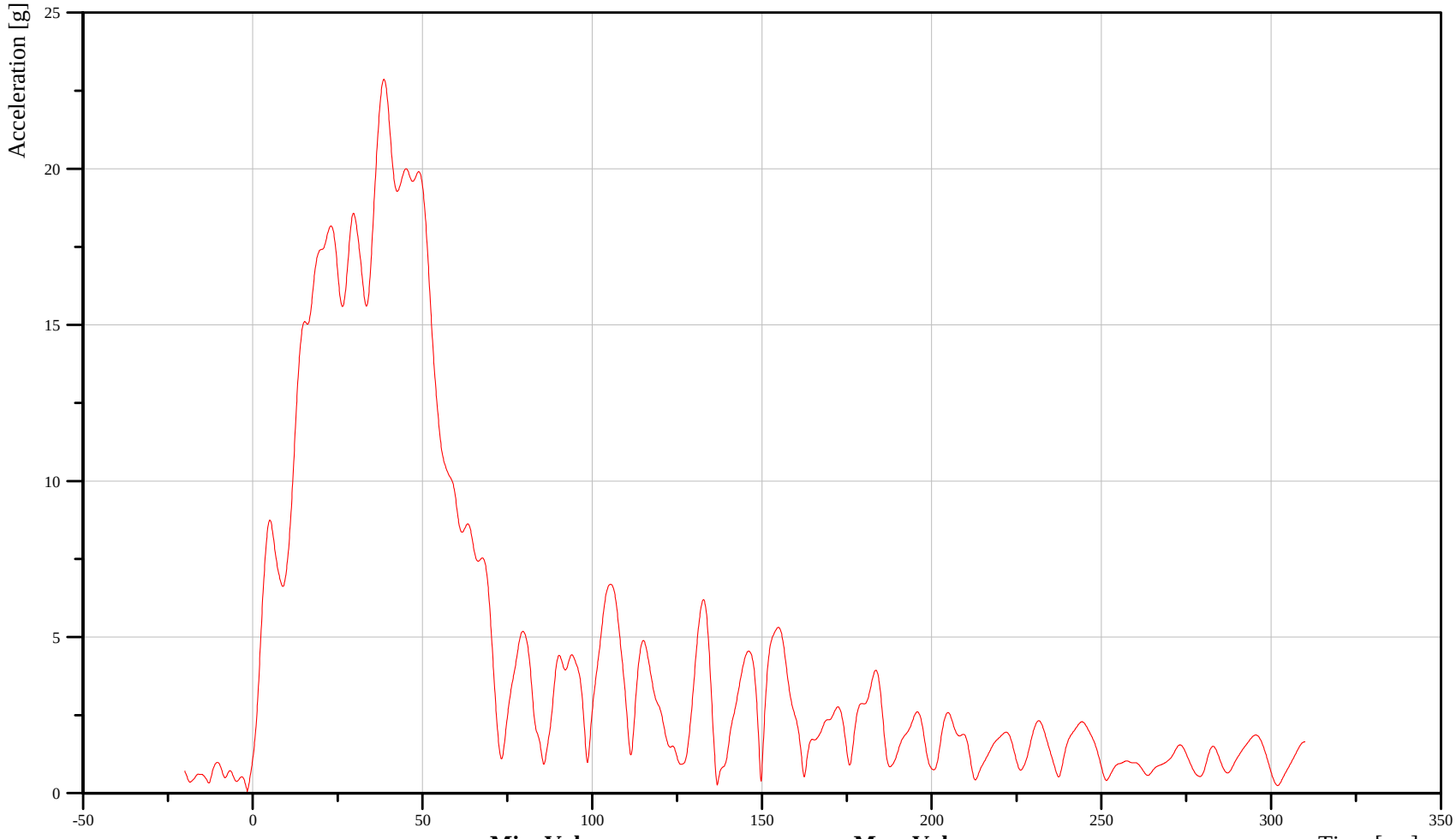
MDB Center of Gravity Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M0VEHCCG0000ACRD

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_60

Min. Value
0.06 g at -1.60 ms

Max. Value
22.87 g at 38.64 ms

World SID Evaluation

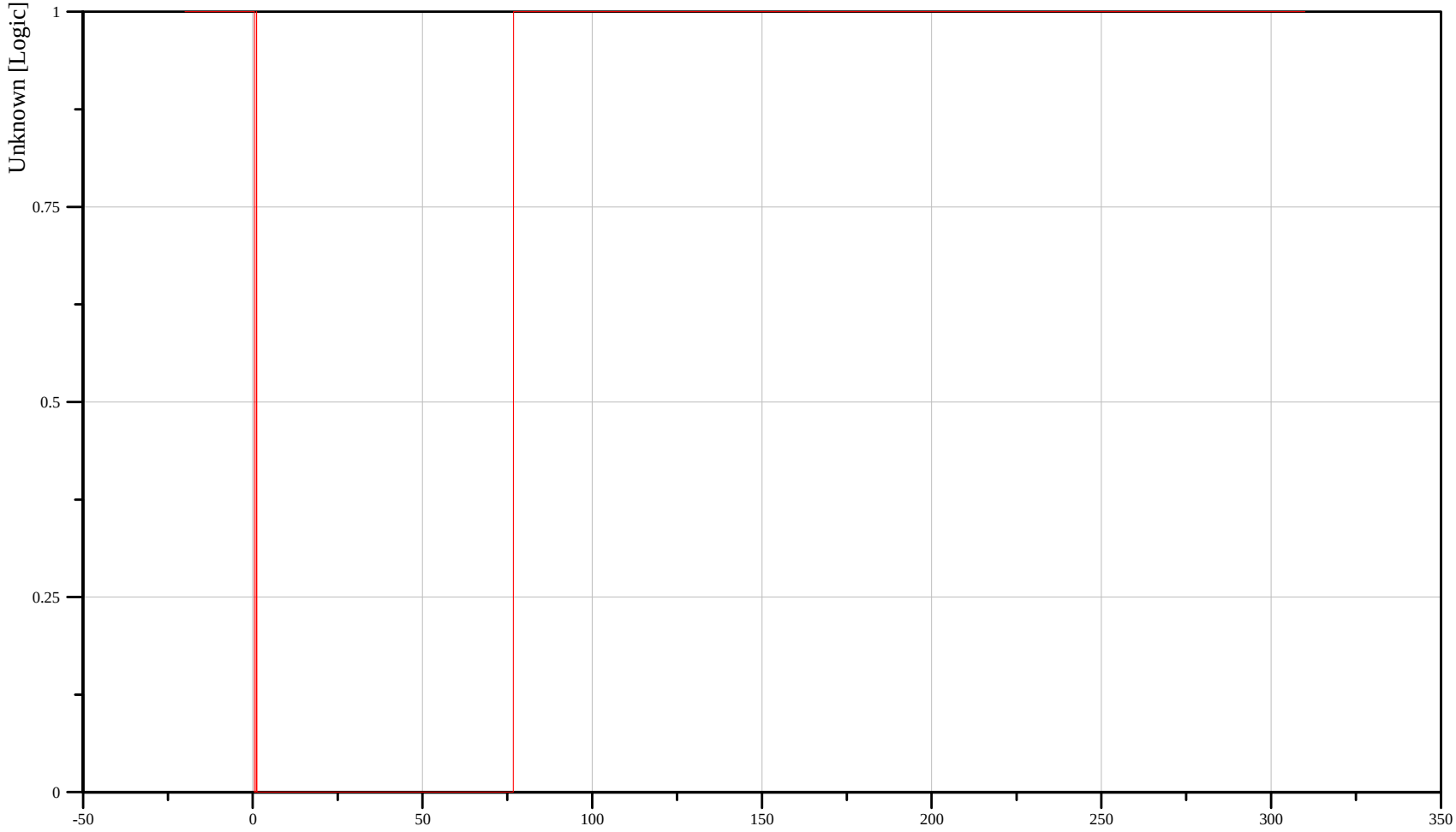
MDB Left Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M1CONT000000VO00

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: Unfiltered

Min. Value
0.00 Logic at 0.56 ms

Max. Value
1.00 Logic at -20.00 ms

World SID Evaluation

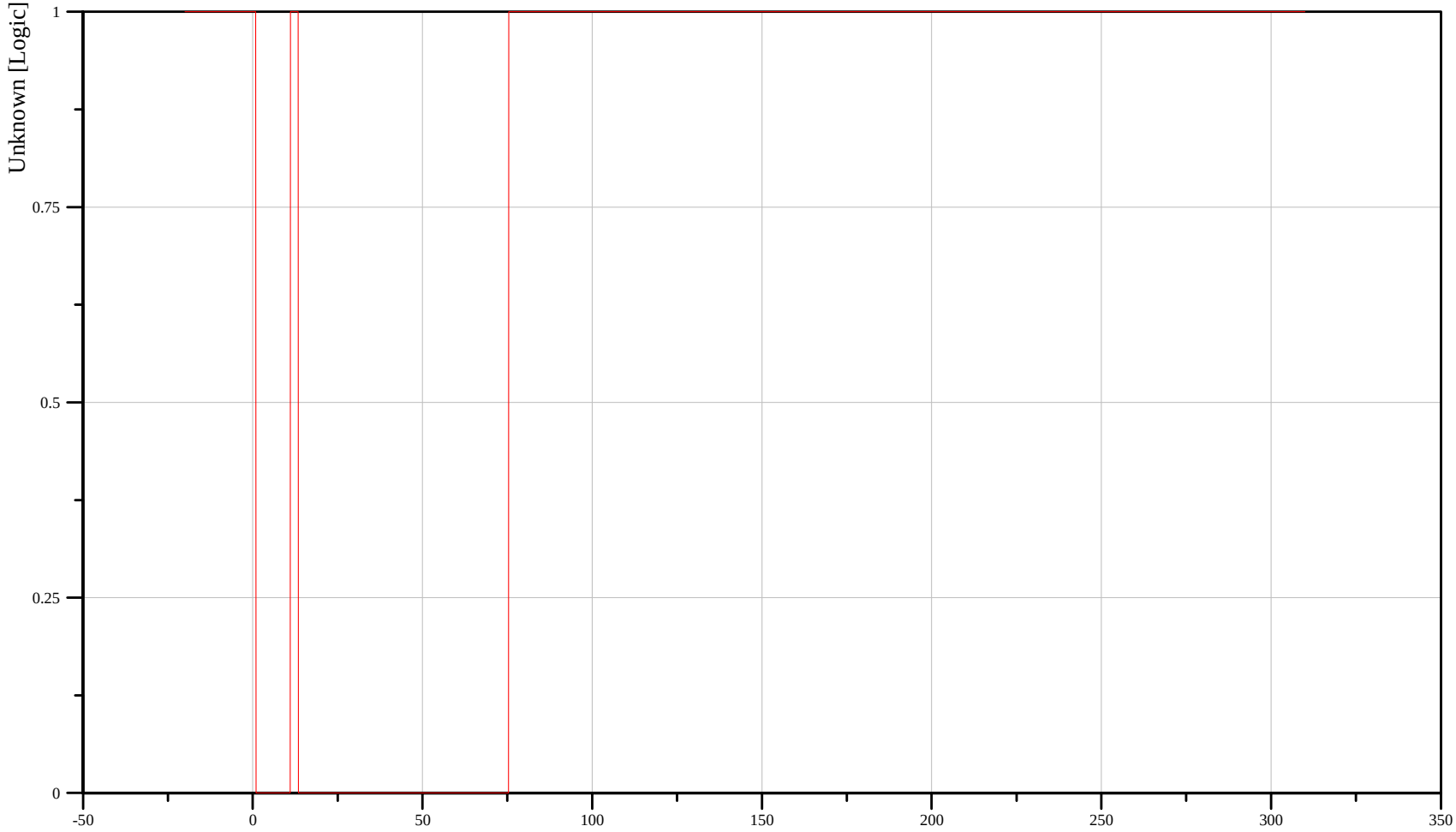
MDB Right Contact Switch

Date: 08/21/2008
Time: 13:12

Customer: VRTC

M3CONT000000VO00

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: Unfiltered

Min. Value
0.00 Logic at 0.96 ms

Max. Value
1.00 Logic at -20.00 ms

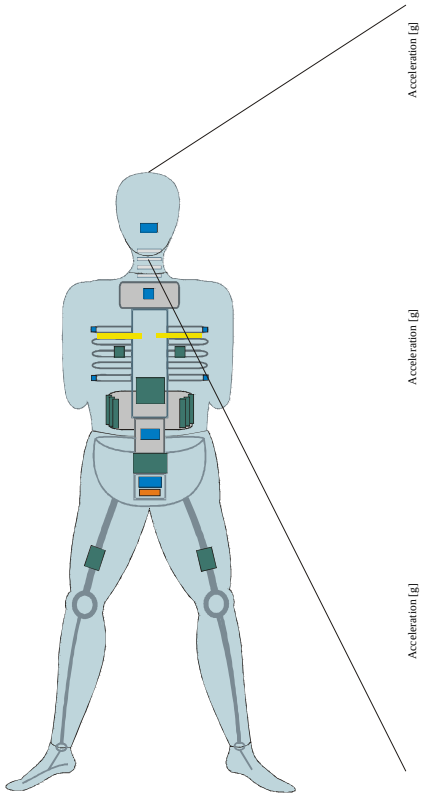
World SID Evaluation

Head Injury Criterion (HIC)

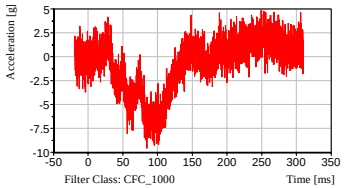
Date: 08/21/2008
Time: 13:12

Customer: VRTC

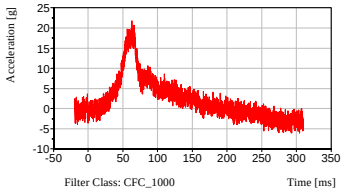
TRC Inc. Test Lab: CTF
Test Number: 080821-1



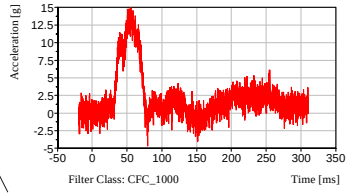
11HEADCG00WSACXA



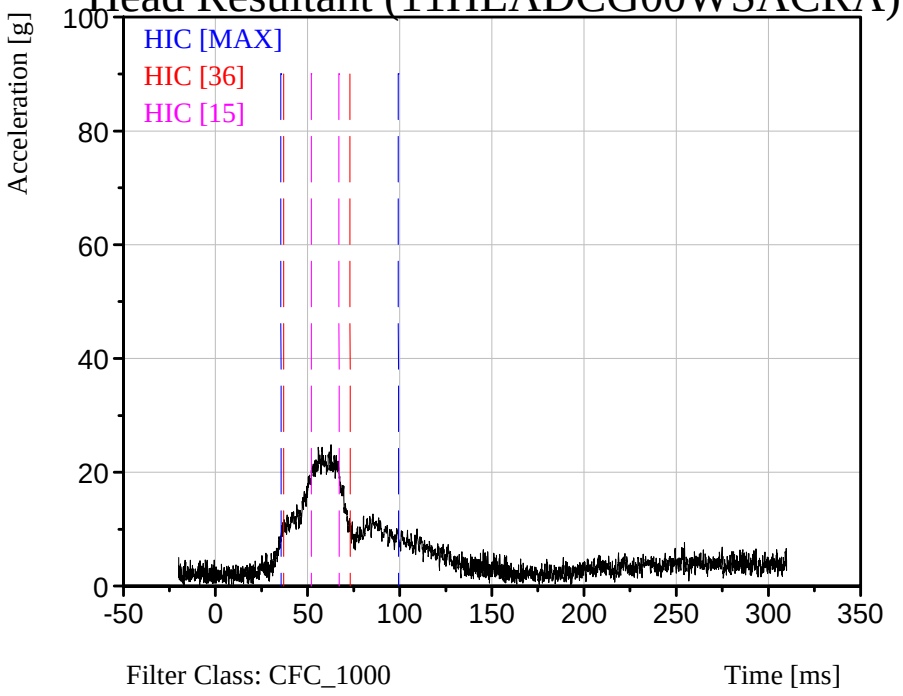
11HEADCG00WSACYA



11HEADCG00WSACZA



Head Resultant (11HEADCG00WSACRA)



	T1 (Begin)	T2 (End)	Avg. g T1 to T2
HIC [Max.] = 43.87	35.60 ms	99.36 ms	13.64 g
HIC [36] = 41.64	37.04 ms	73.04 ms	16.78 g
HIC [15] = 31.94	52.08 ms	67.12 ms	21.41 g

Dummy:
Seating Position:
Driver

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

World SID Evaluation

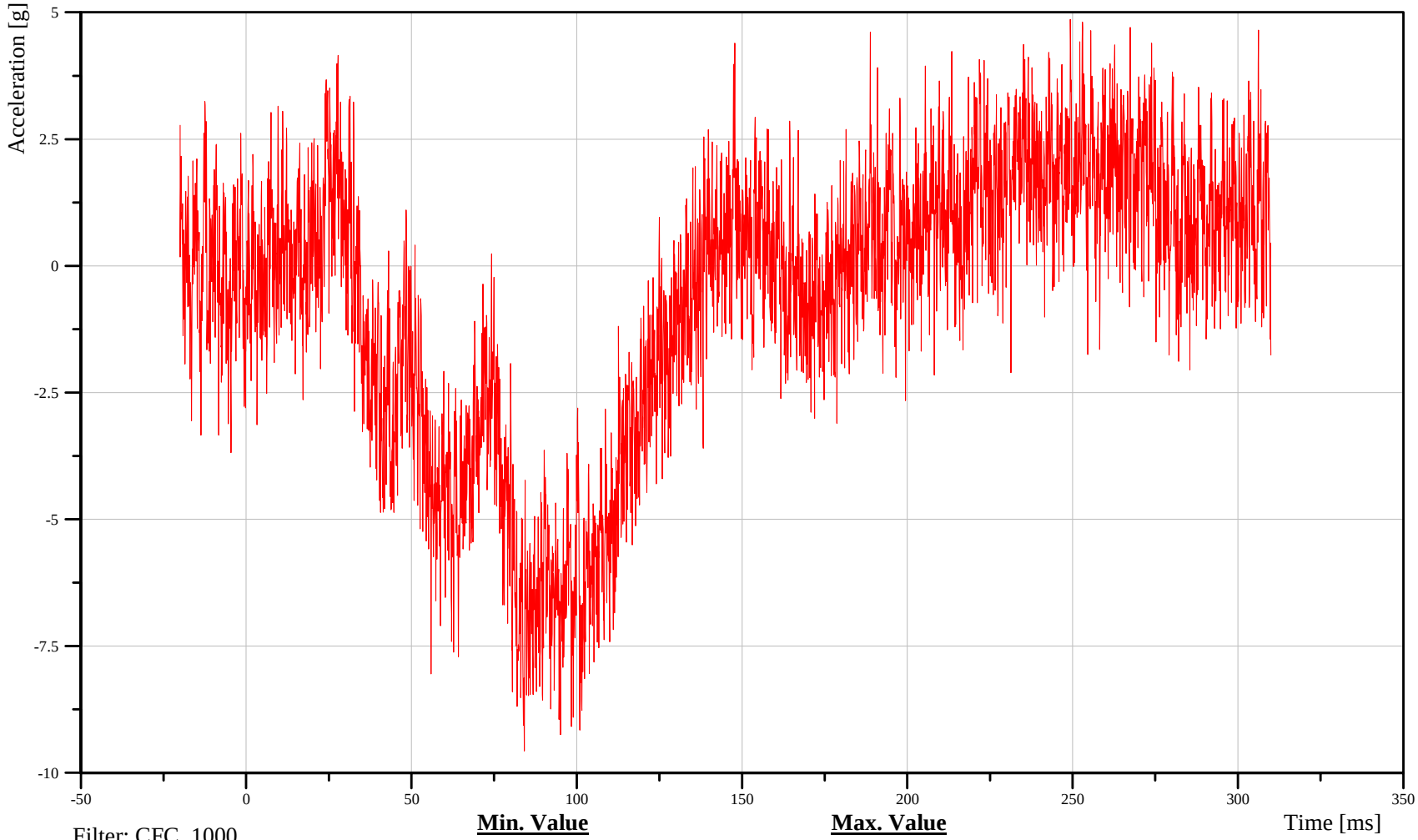
Driver Head X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-9.57 g at 84.16 ms

Max. Value
4.86 g at 249.28 ms

World SID Evaluation

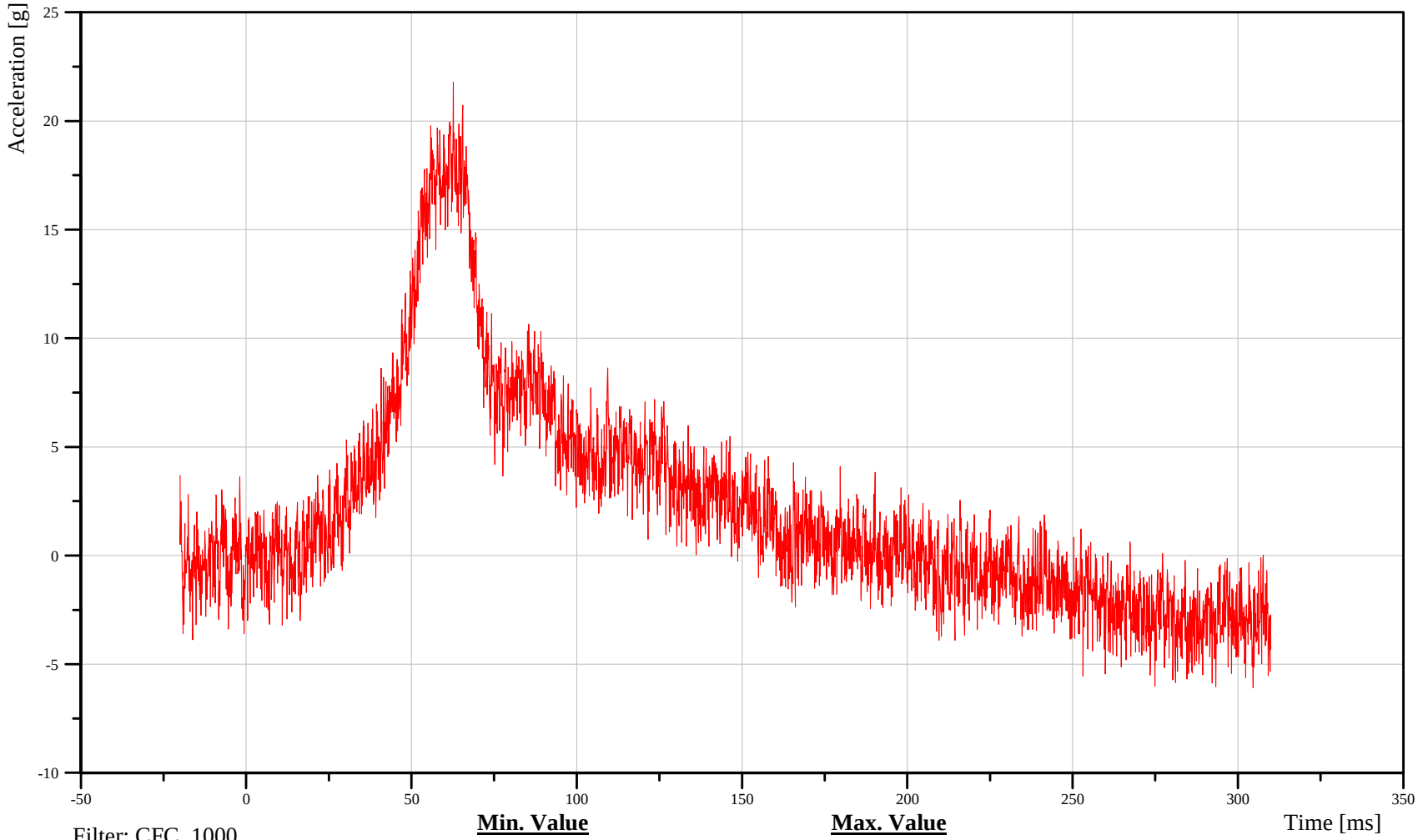
Driver Head Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-6.09 g at 304.56 ms

Max. Value
21.80 g at 62.64 ms

080821

World SID Evaluation

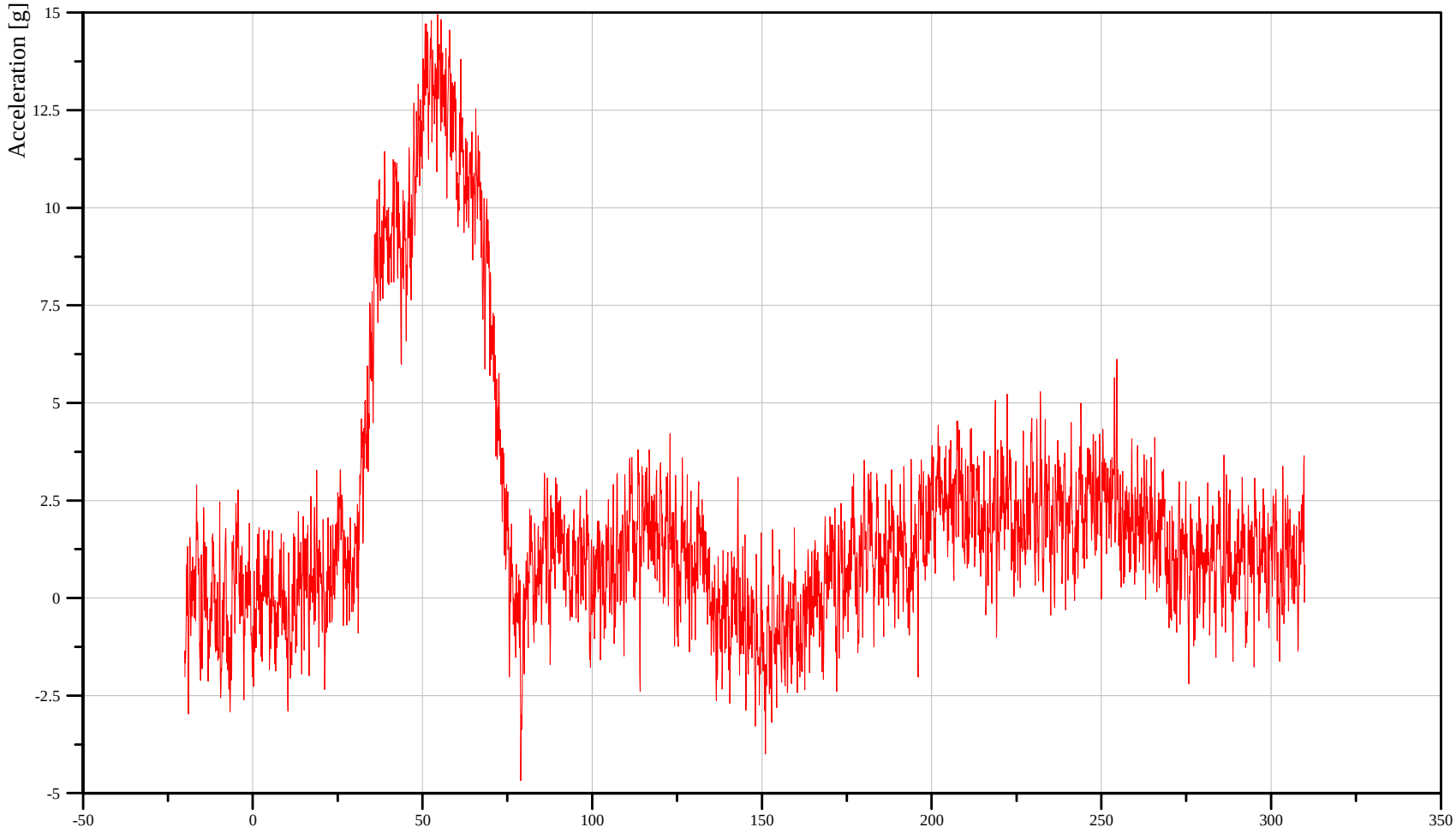
Driver Head Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-4.68 g at 78.96 ms

Max. Value
14.95 g at 54.48 ms

World SID Evaluation

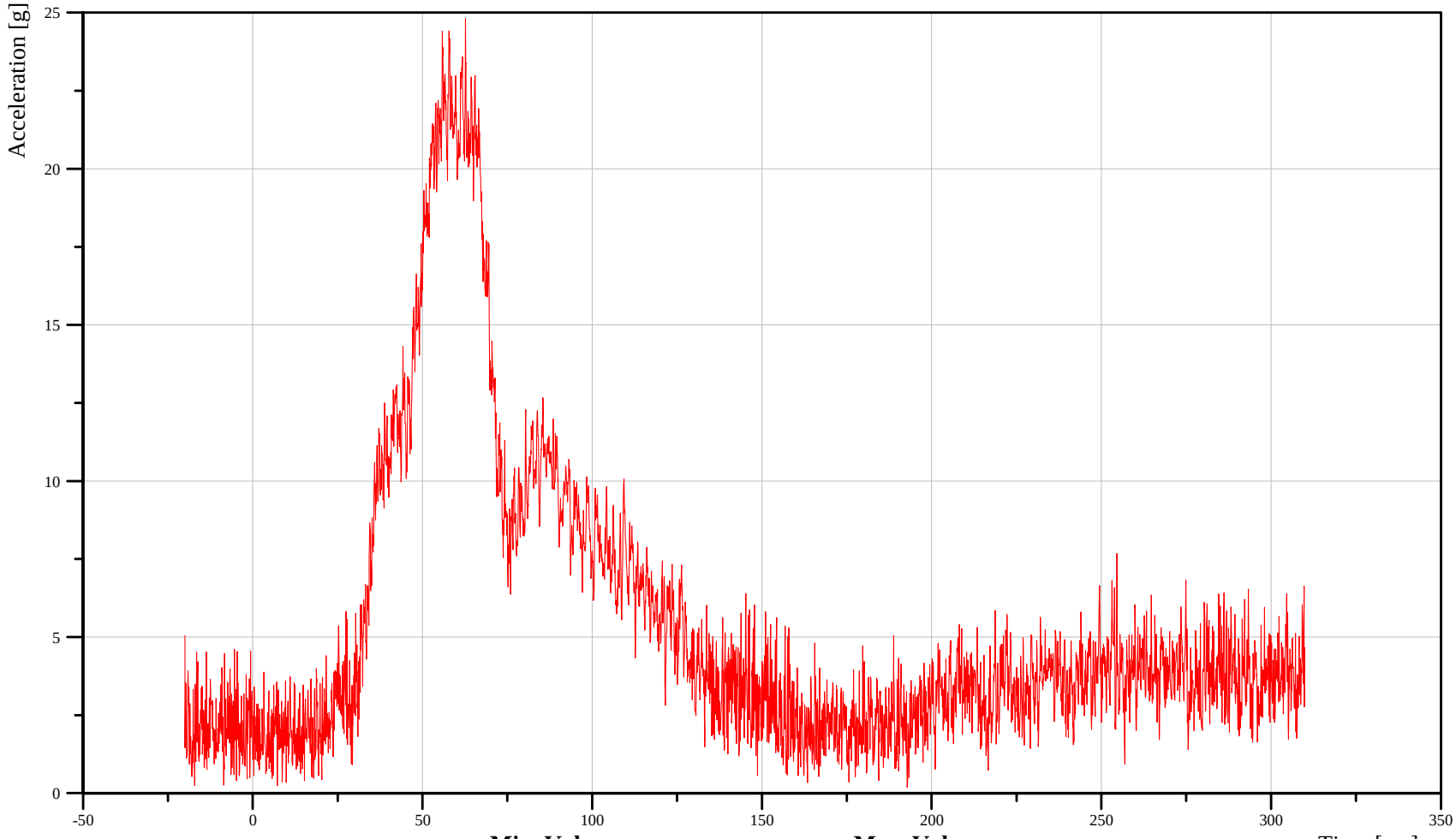
Driver Head Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.19 g at 192.80 ms

Max. Value
24.82 g at 62.64 ms

World SID Evaluation

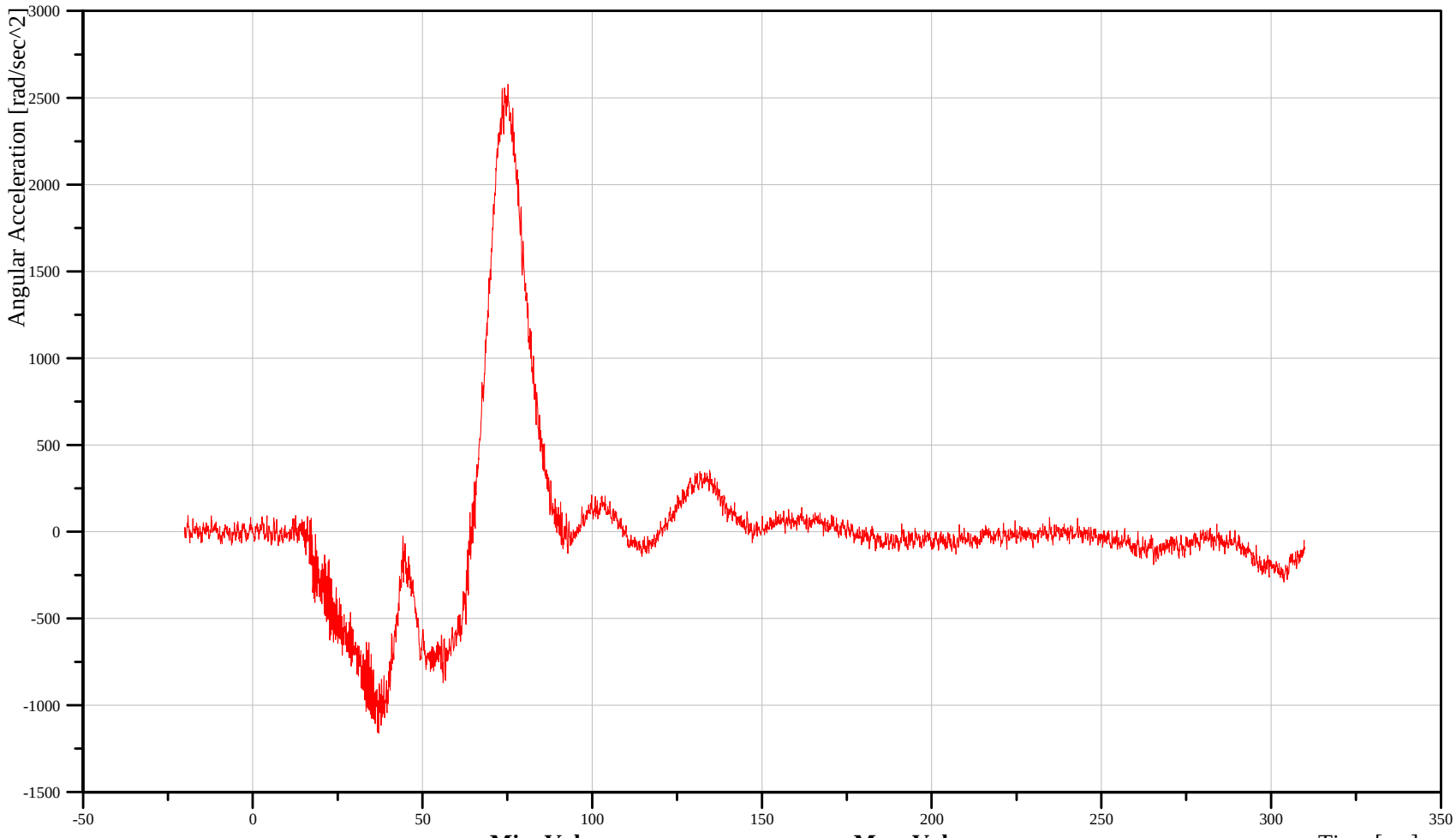
Driver Head X-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSANXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-1,160.97 rad/sec^2 at 37.12 ms

Max. Value
2,578.27 rad/sec^2 at 75.20 ms

World SID Evaluation

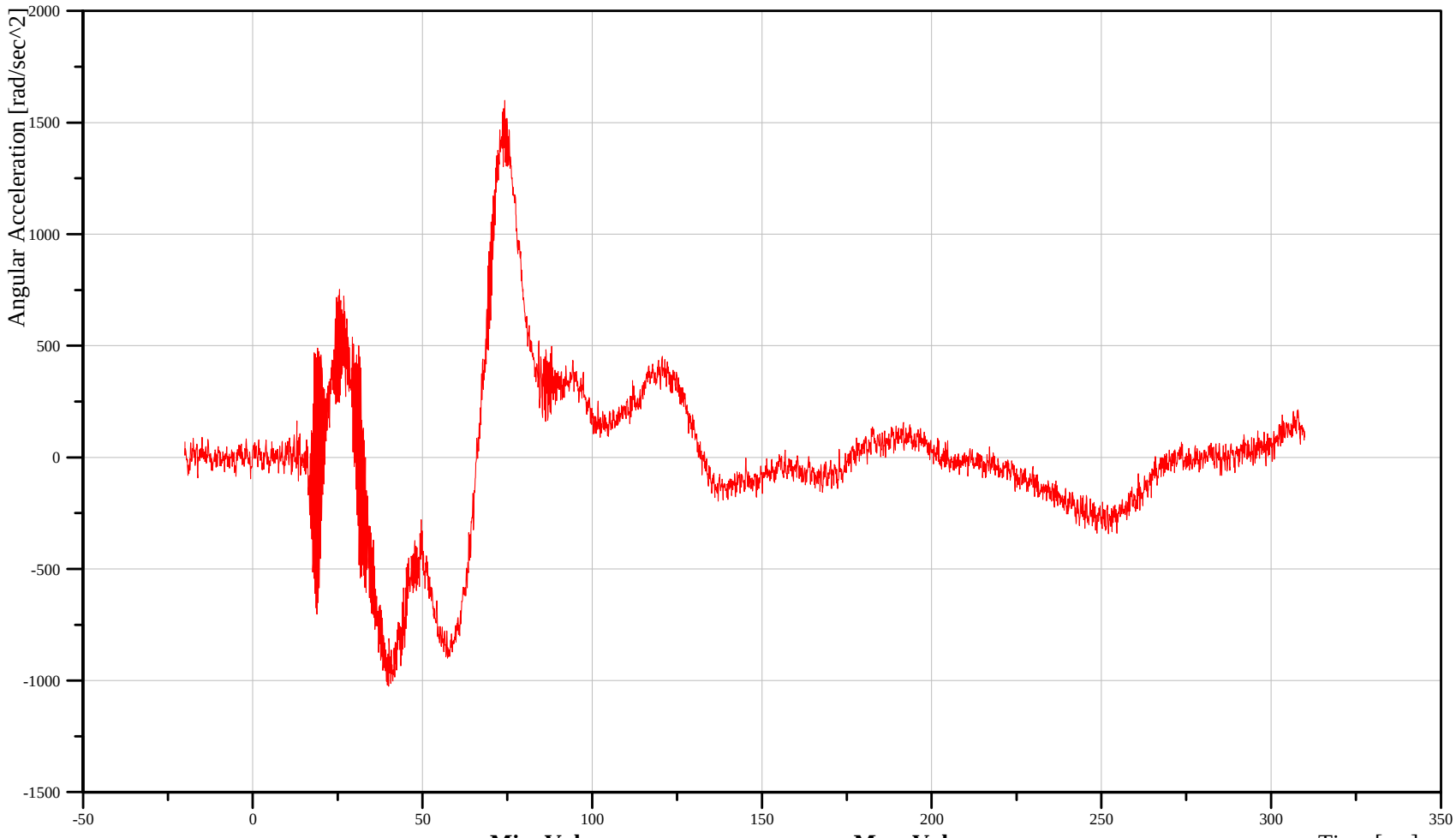
Driver Head Y-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSANYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-1,025.96 rad/sec^2 at 40.00 ms

Max. Value
1,599.65 rad/sec^2 at 74.24 ms

World SID Evaluation

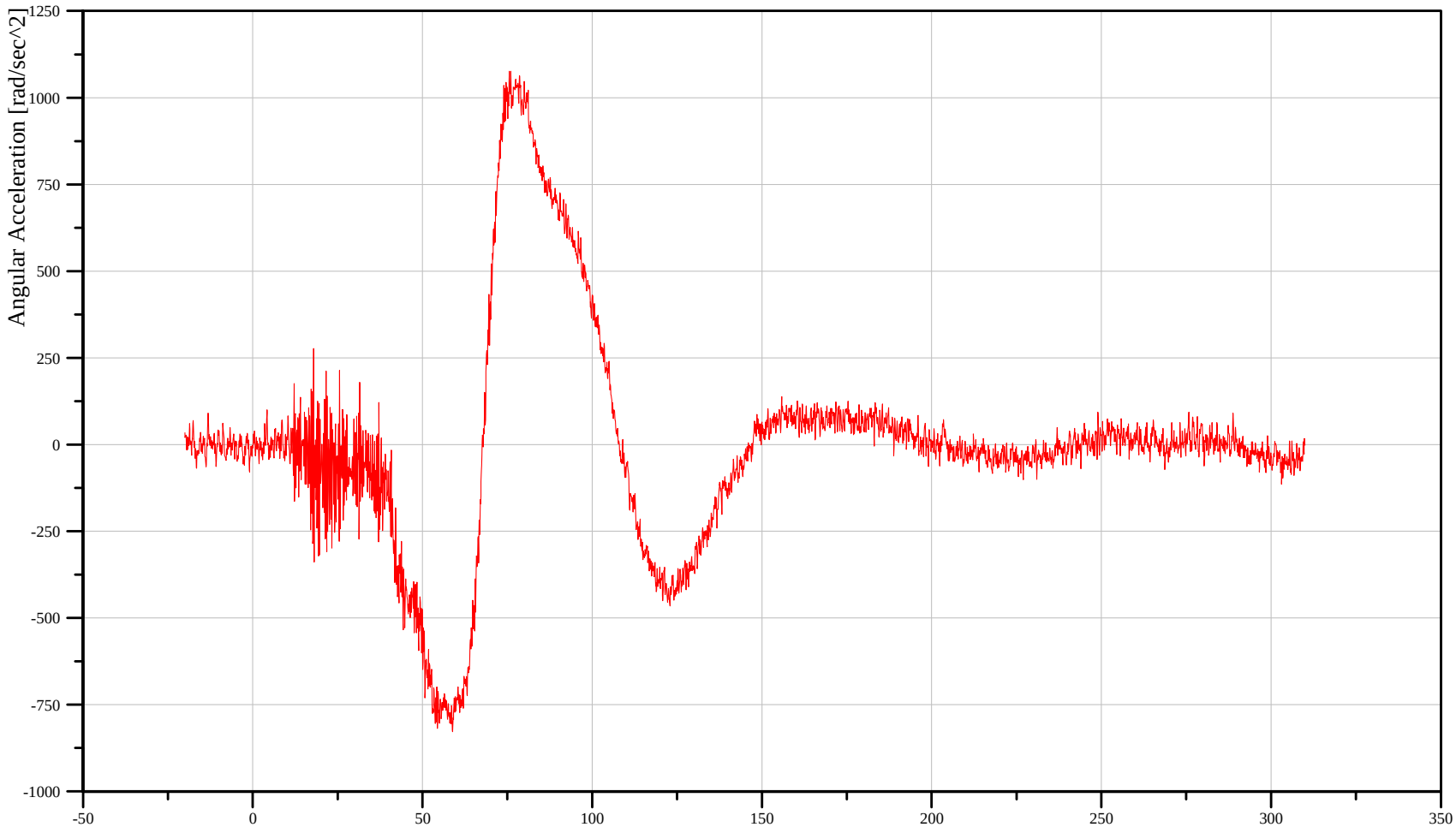
Driver Head Z-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11HEADCG00WSANZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-827.97 rad/sec^2 at 58.88 ms

Max. Value
1,076.33 rad/sec^2 at 75.60 ms

World SID Evaluation

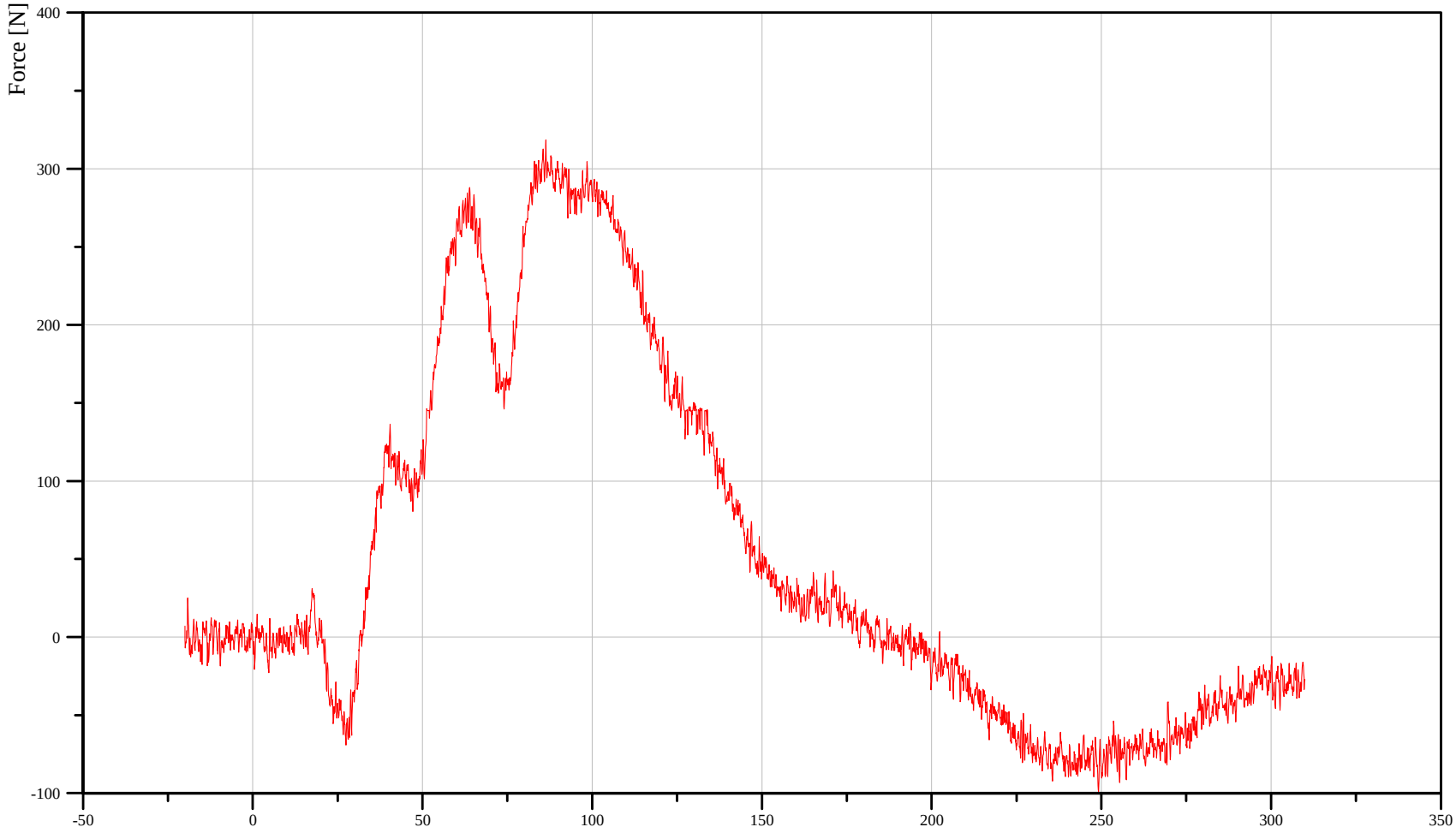
Driver Upper Neck X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-98.89 N at 249.20 ms

Max. Value
318.47 N at 86.40 ms

World SID Evaluation

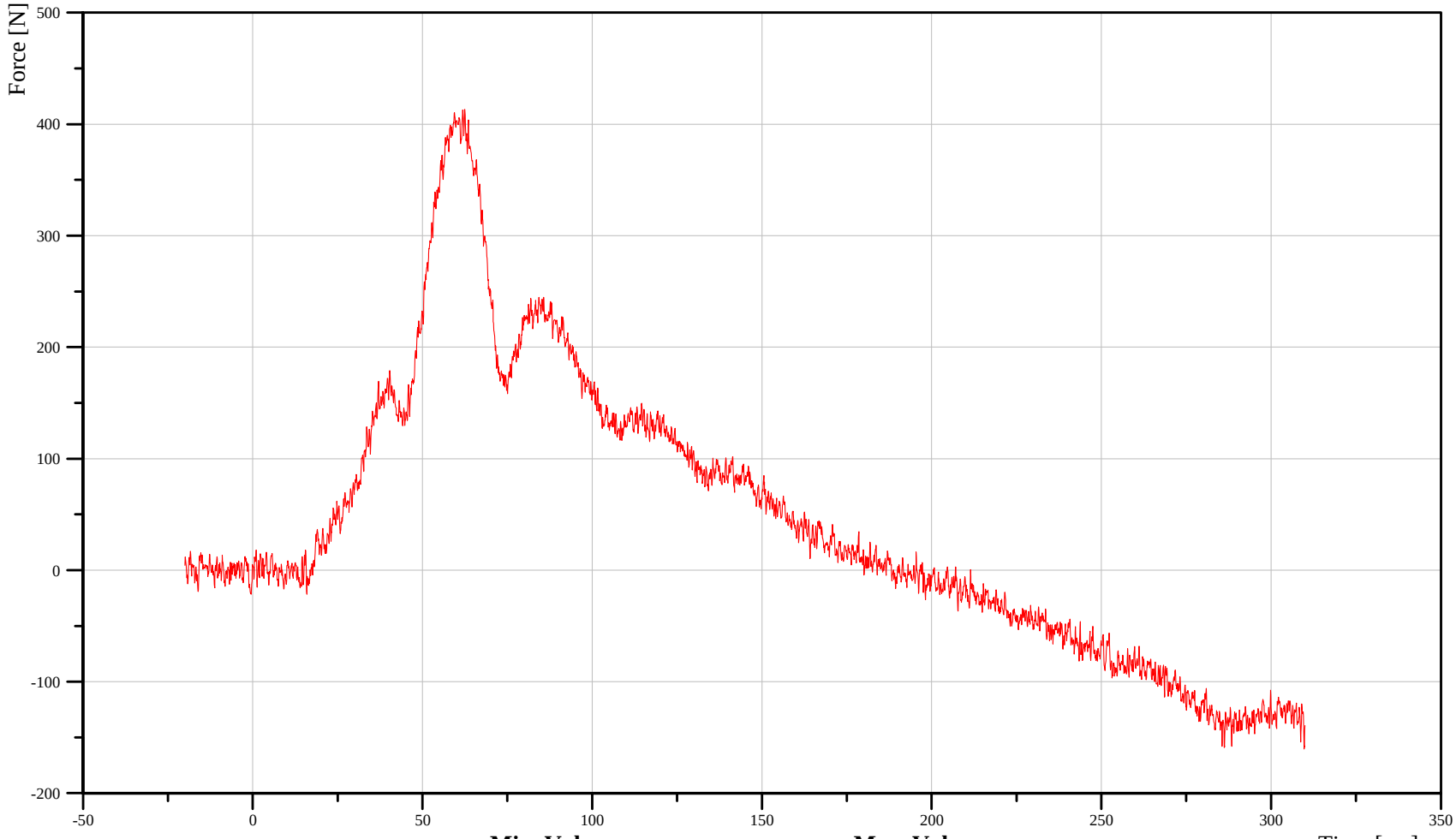
Driver Upper Neck Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-160.37 N at 309.68 ms

Max. Value
413.48 N at 62.48 ms

World SID Evaluation

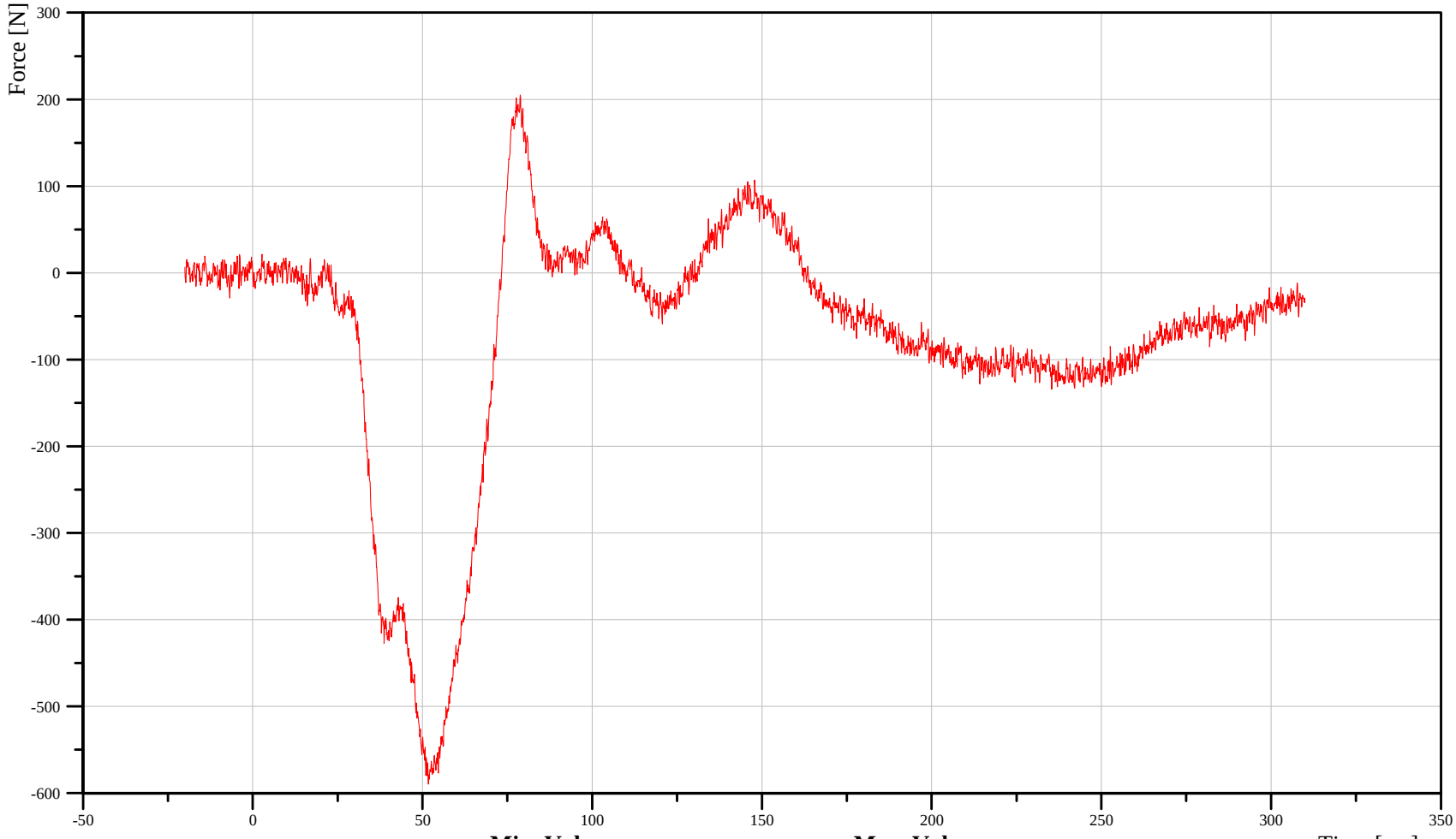
Driver Upper Neck Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-589.70 N at 51.76 ms

Max. Value
205.02 N at 78.80 ms

World SID Evaluation

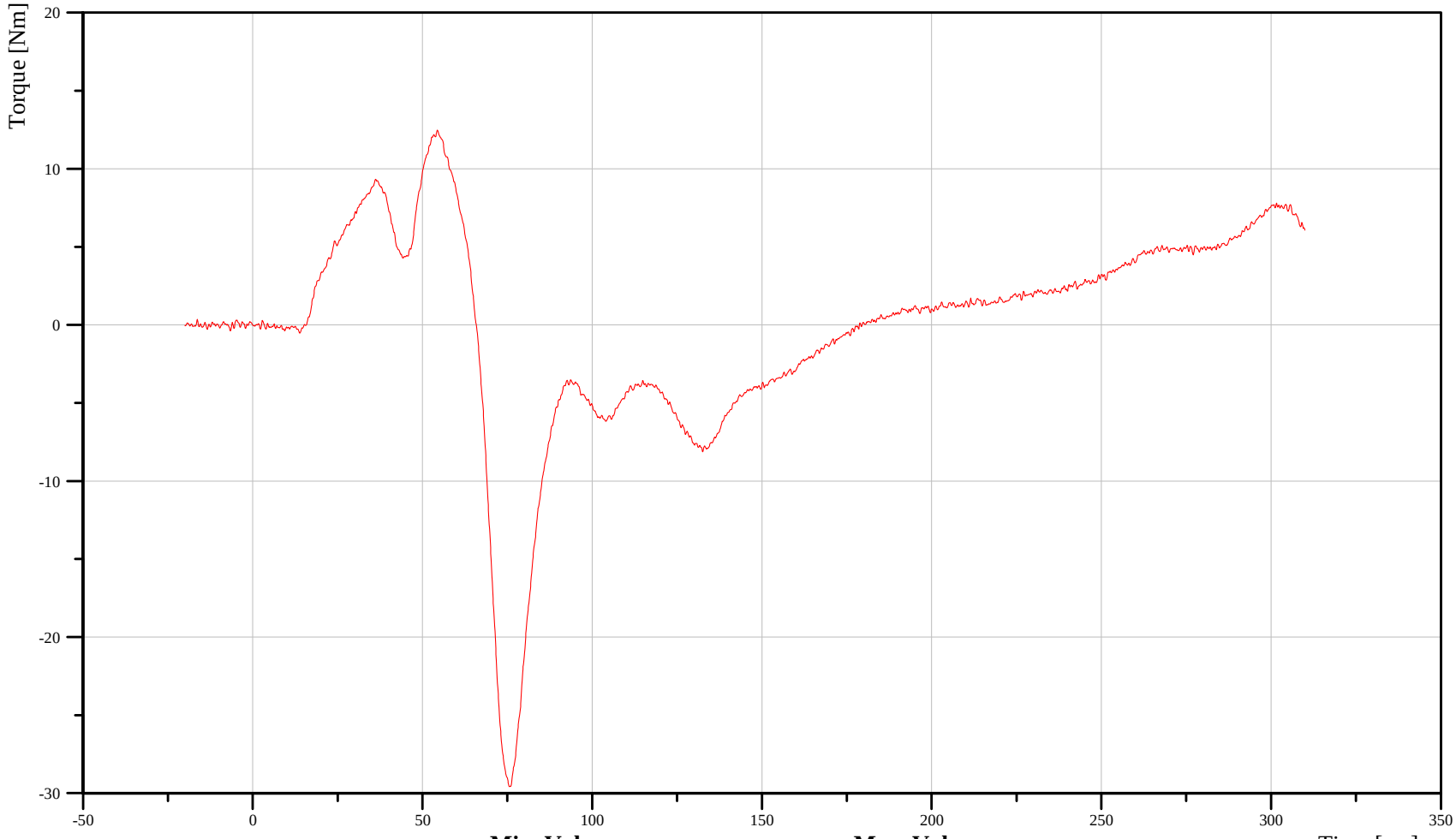
Driver Upper Neck Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-29.59 Nm at 75.60 ms

Max. Value
12.47 Nm at 54.40 ms

World SID Evaluation

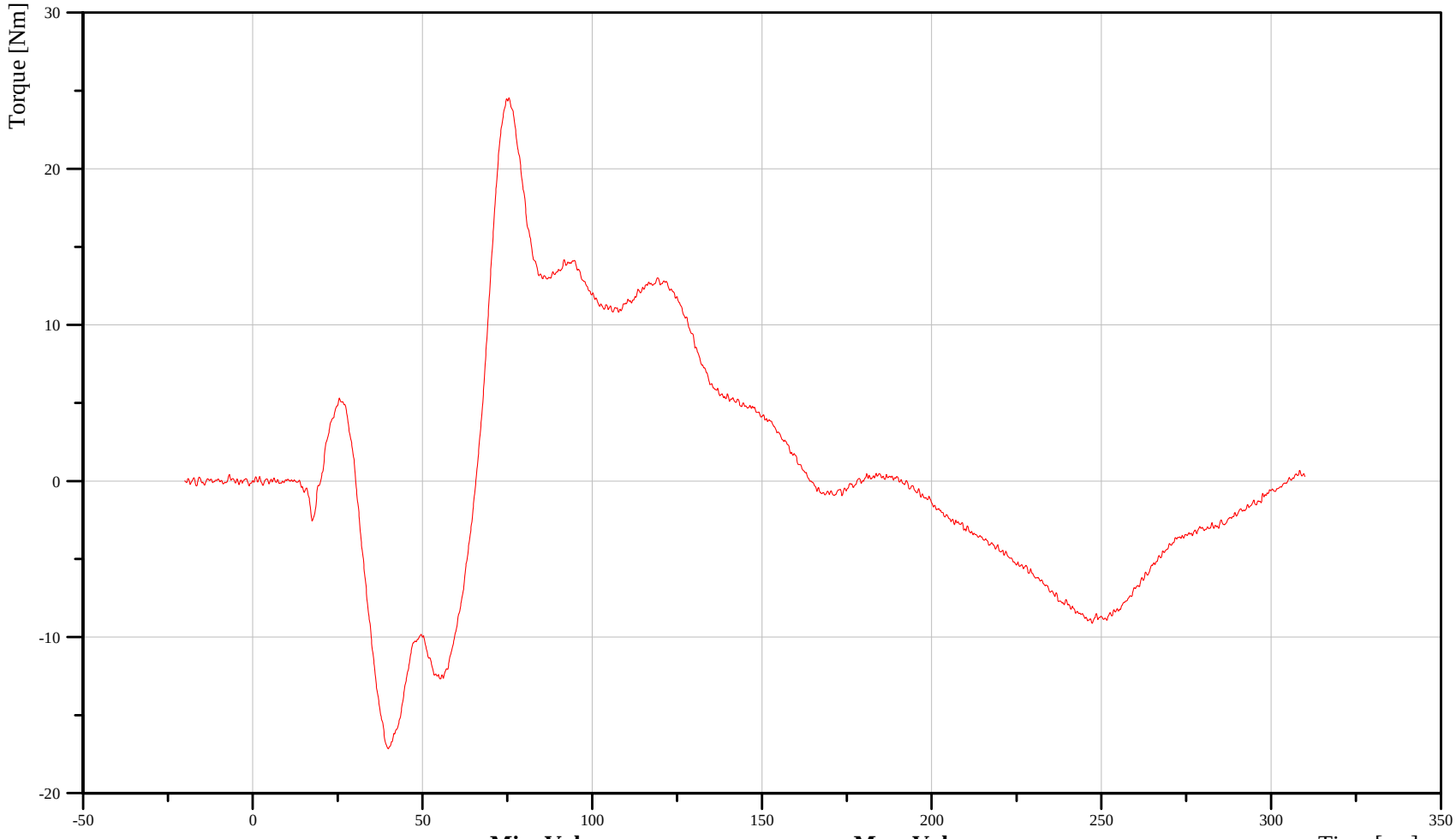
Driver Upper Neck Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-17.16 Nm at 39.92 ms

Max. Value
24.56 Nm at 75.52 ms

World SID Evaluation

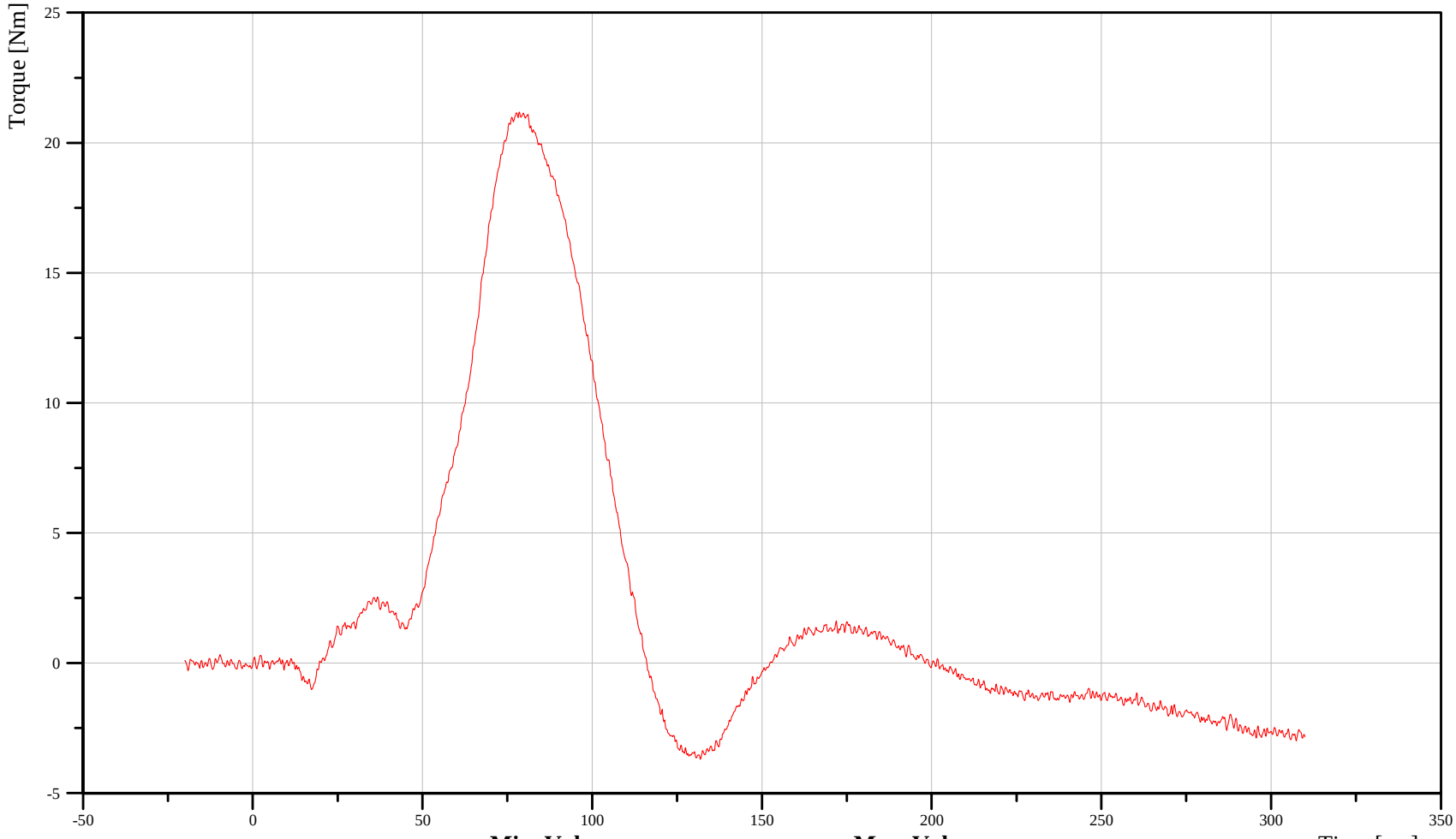
Driver Upper Neck Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKUP00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-3.69 Nm at 131.92 ms

Max. Value
21.18 Nm at 78.56 ms

World SID Evaluation

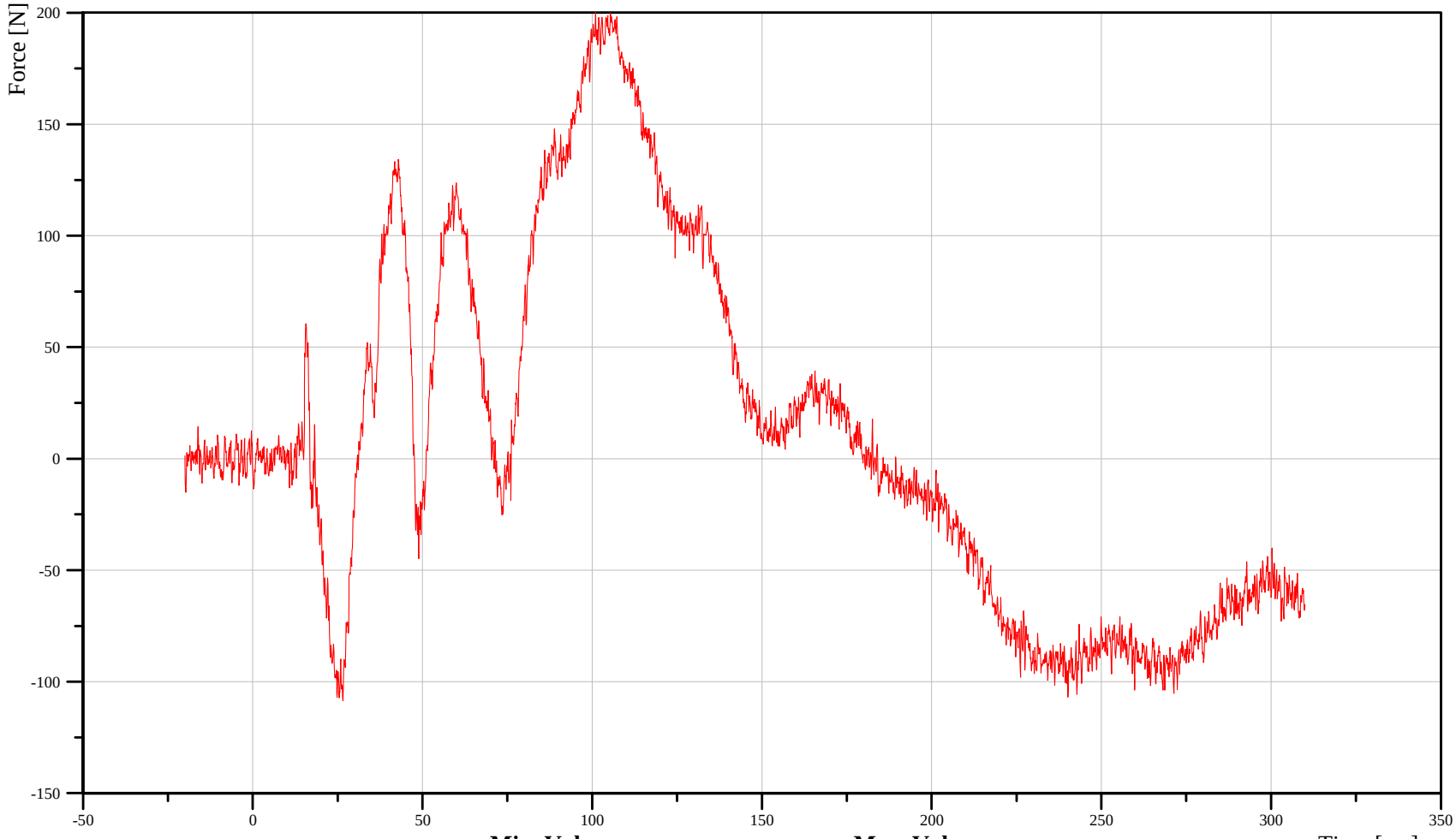
Driver Lower Neck X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-108.55 N at 26.56 ms

Max. Value
200.01 N at 101.04 ms

World SID Evaluation

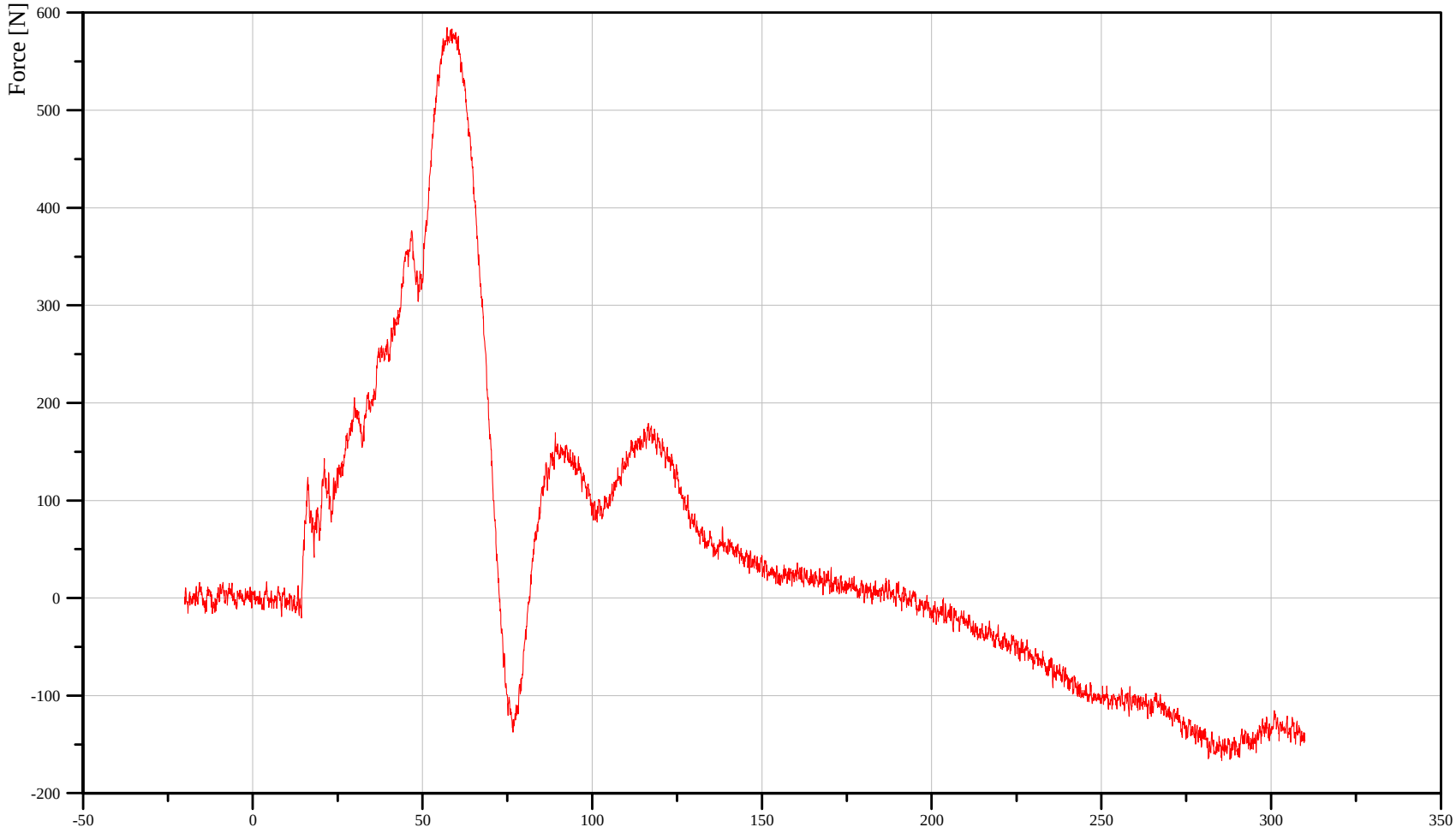
Driver Lower Neck Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-166.67 N at 285.44 ms

Max. Value
584.89 N at 57.28 ms

World SID Evaluation

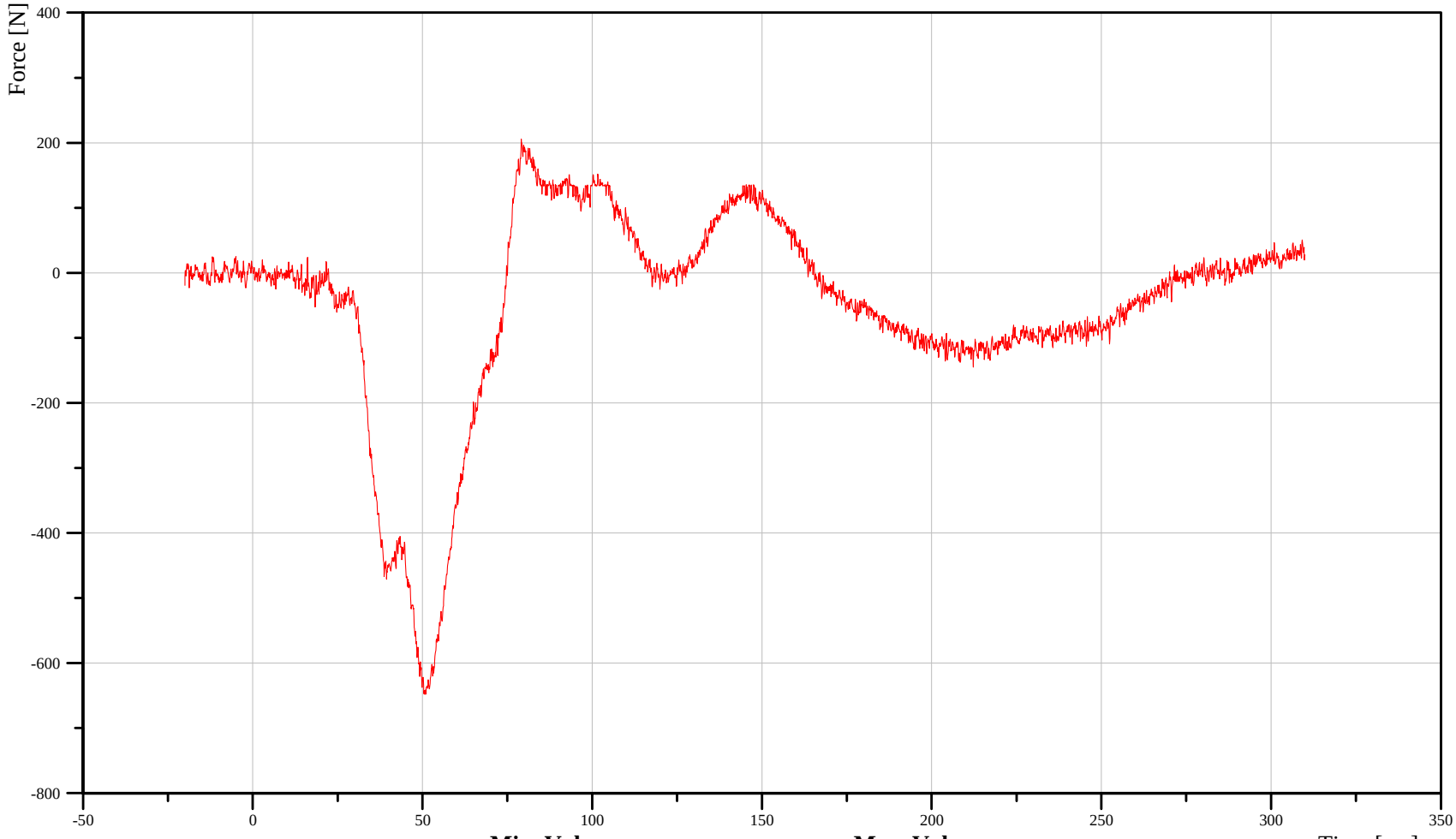
Driver Lower Neck Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-648.16 N at 50.72 ms

Max. Value
205.75 N at 79.12 ms

World SID Evaluation

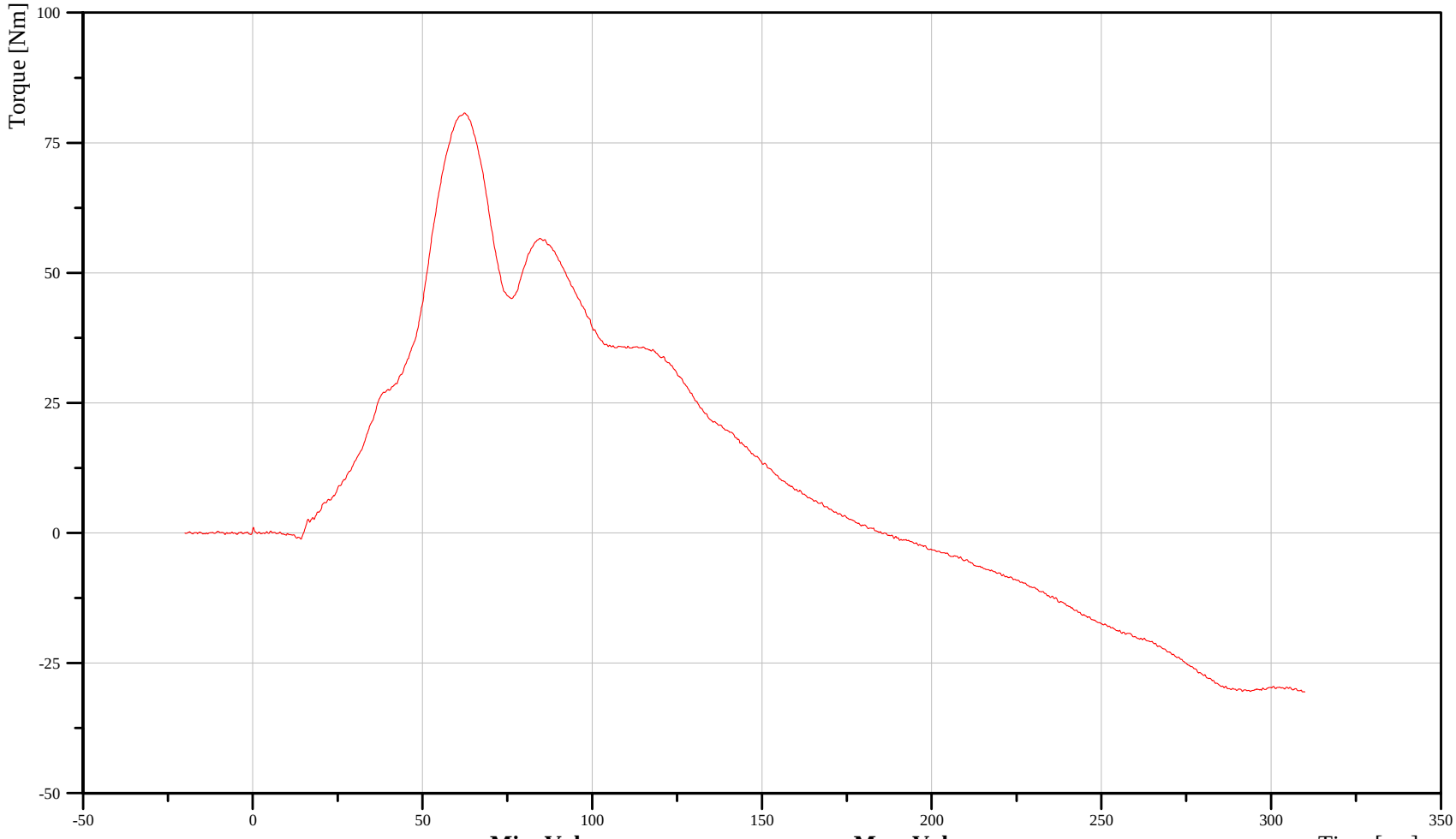
Driver Lower Neck Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-30.57 Nm at 310.00 ms

Max. Value
80.74 Nm at 62.40 ms

World SID Evaluation

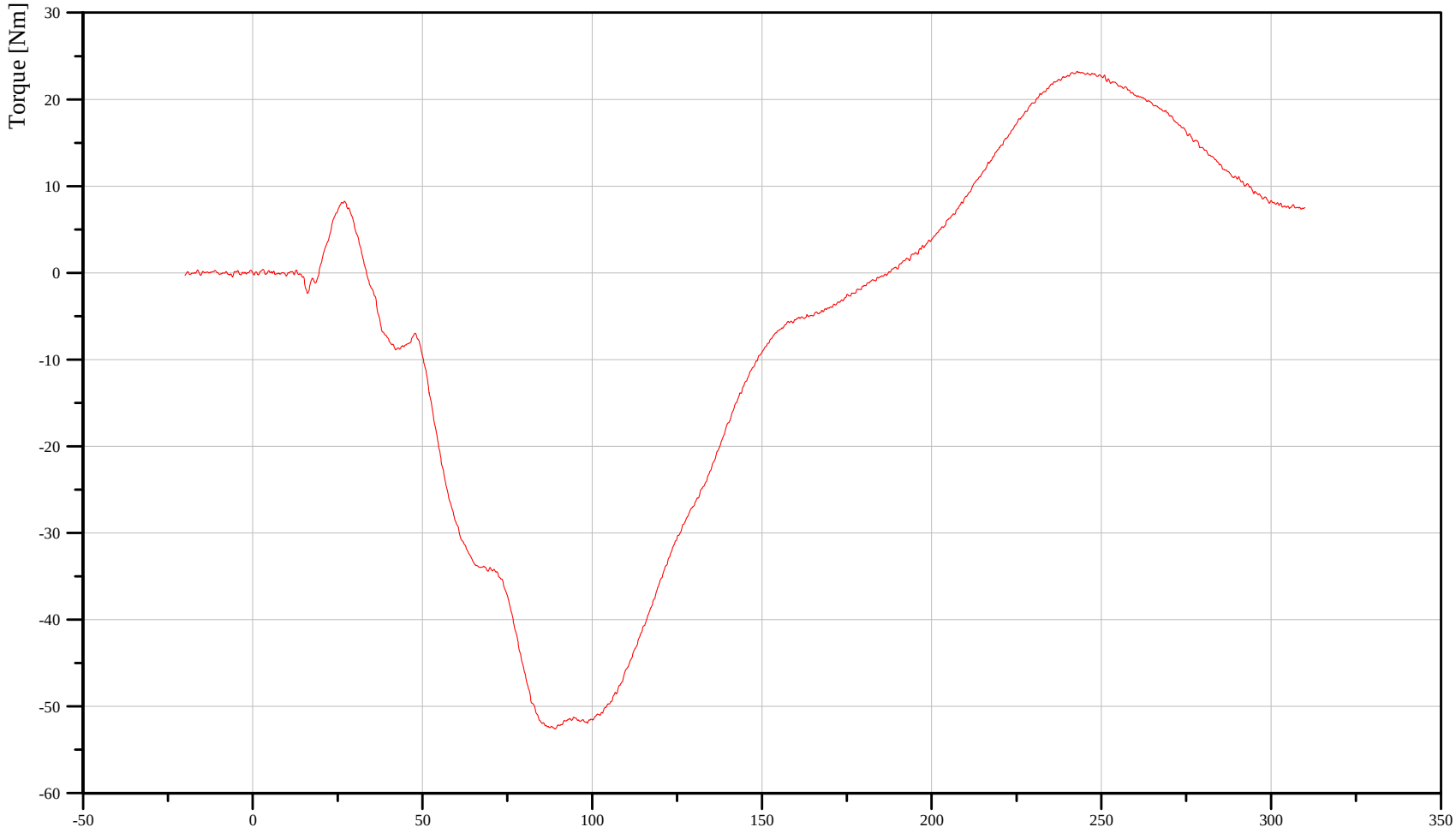
Driver Lower Neck Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-52.59 Nm at 89.12 ms

Max. Value
23.24 Nm at 242.88 ms

World SID Evaluation

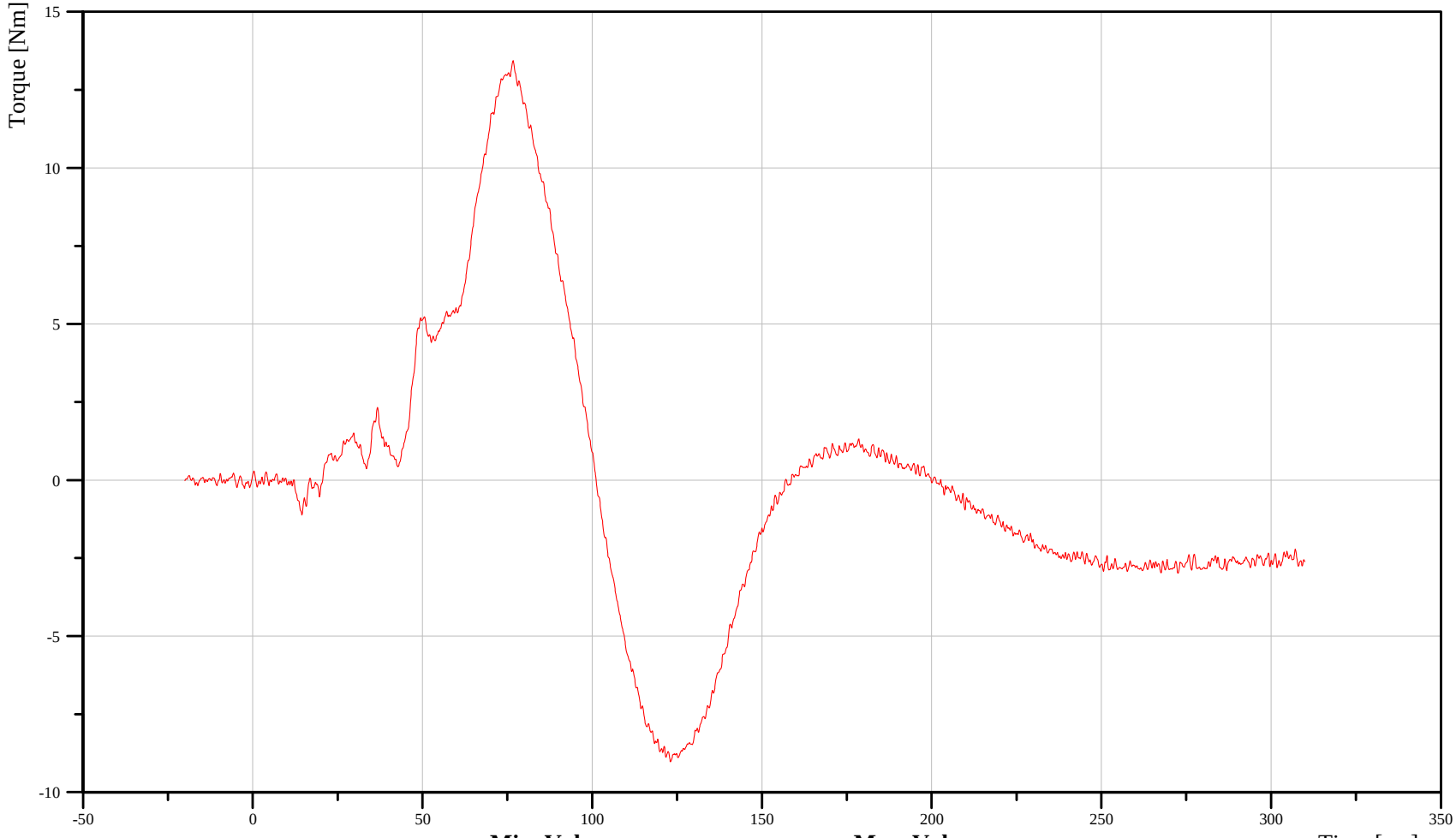
Driver Lower Neck Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-9.02 Nm at 123.04 ms

Max. Value
13.44 Nm at 76.72 ms

World SID Evaluation

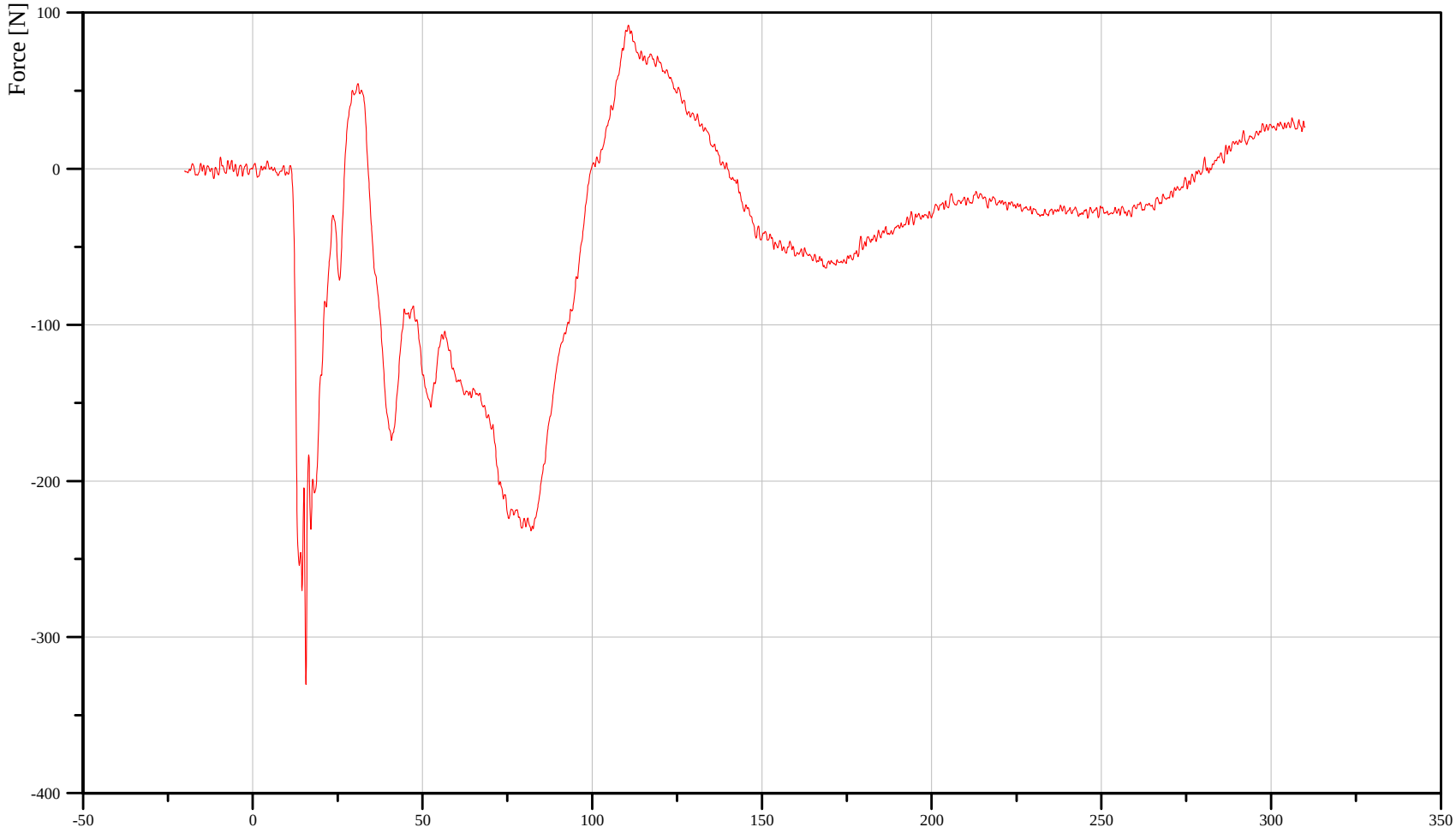
Driver Shoulder X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-330.37 N at 15.68 ms

Max. Value
92.14 N at 110.72 ms

World SID Evaluation

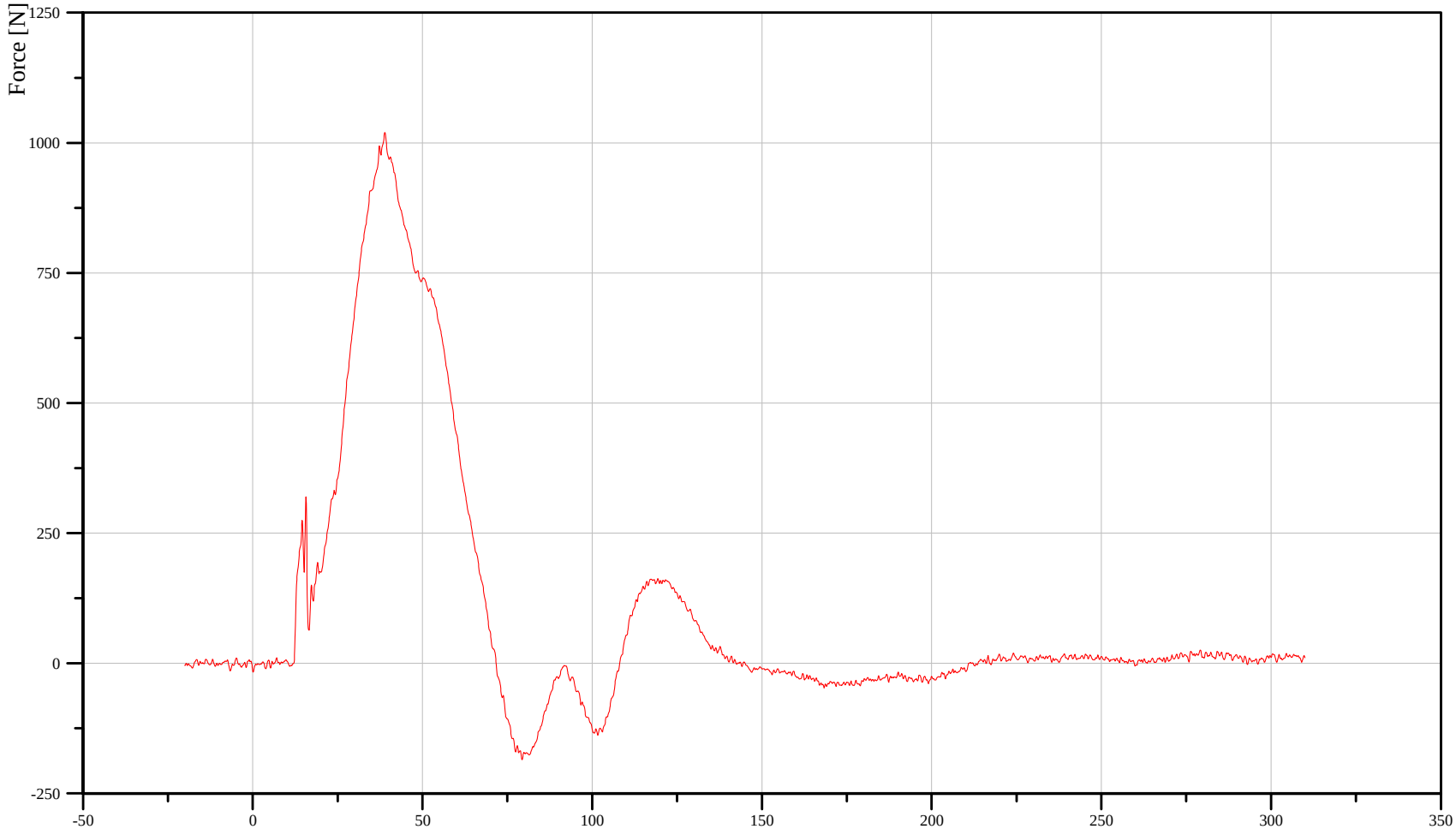
Driver Shoulder Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-185.34 N at 79.36 ms

Max. Value
1,020.00 N at 38.96 ms

World SID Evaluation

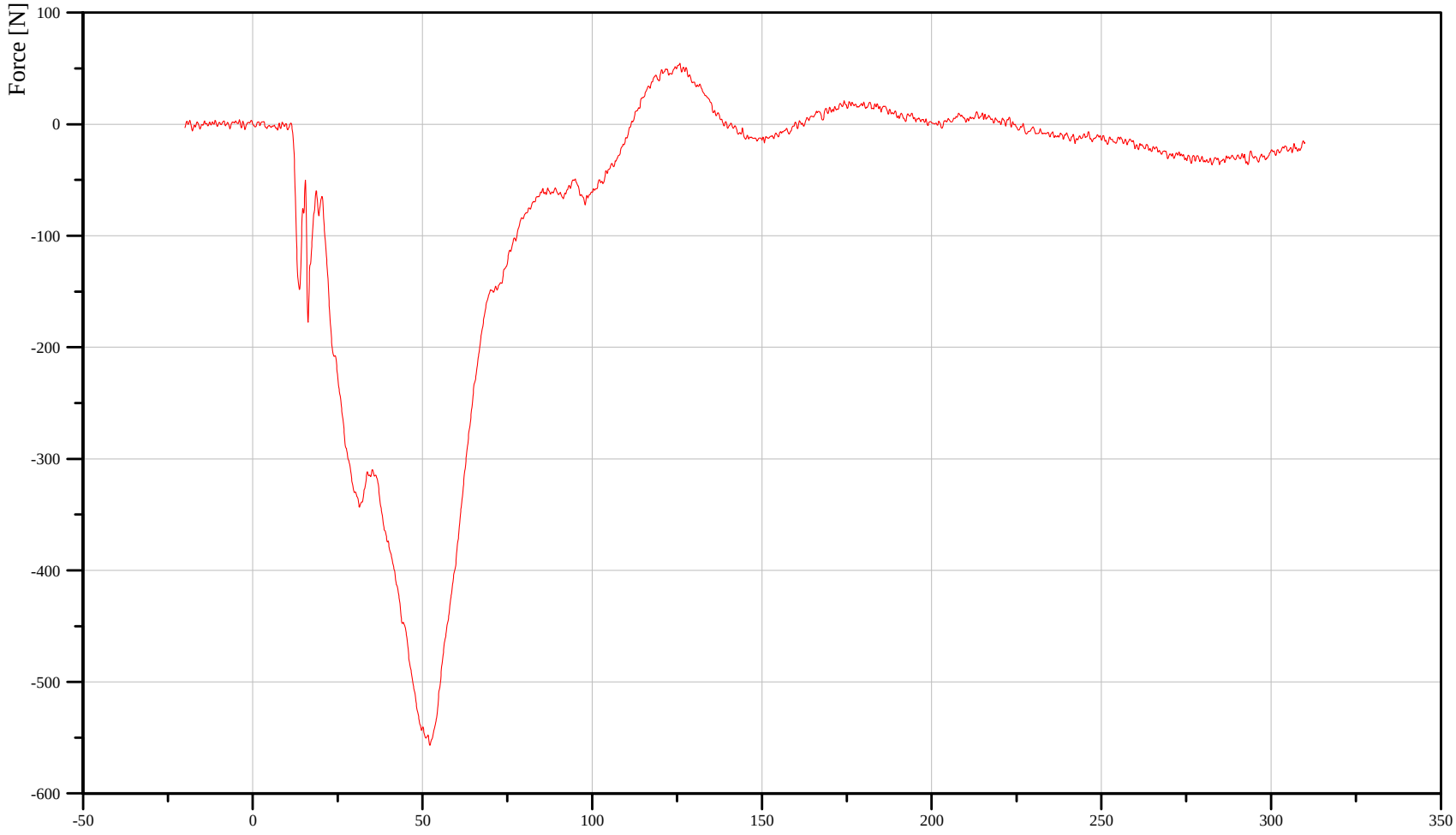
Driver Shoulder Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-556.75 N at 52.16 ms

Max. Value
54.60 N at 125.84 ms

World SID Evaluation

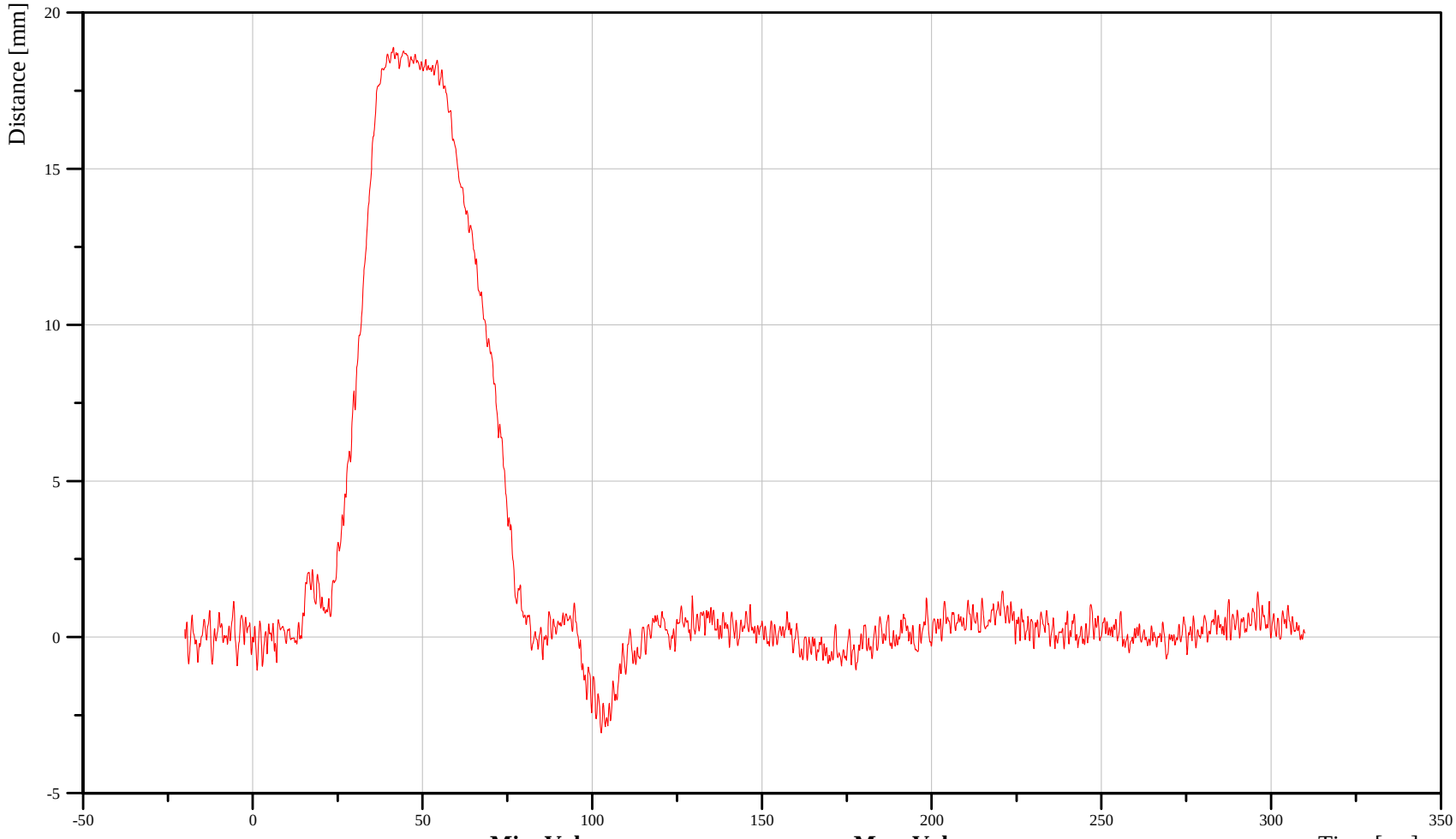
Driver Shoulder Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-3.07 mm at 102.72 ms

Max. Value
18.89 mm at 41.44 ms

World SID Evaluation

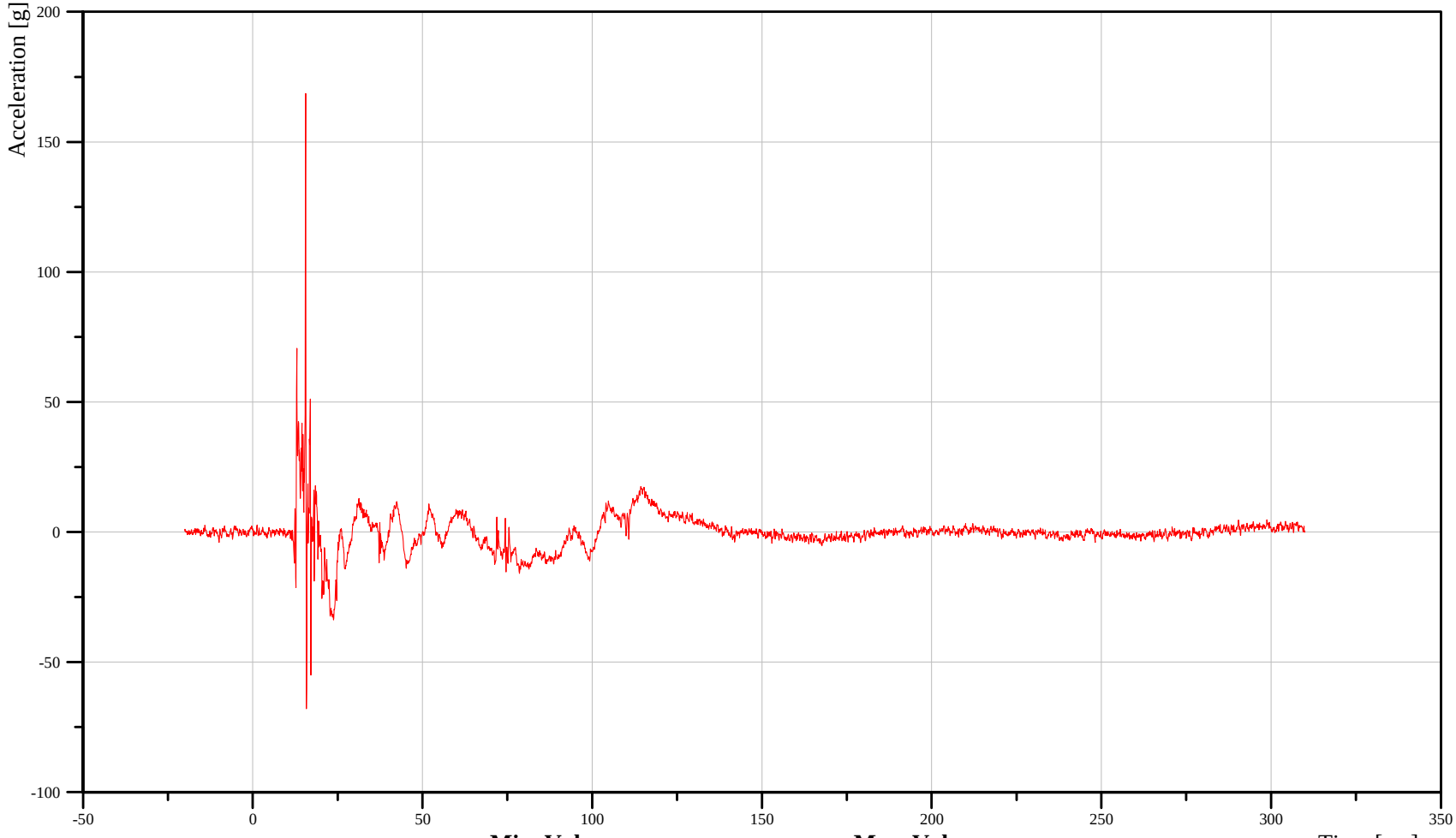
Driver Shoulder X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-67.96 g at 15.76 ms

Max. Value
168.58 g at 15.60 ms

World SID Evaluation

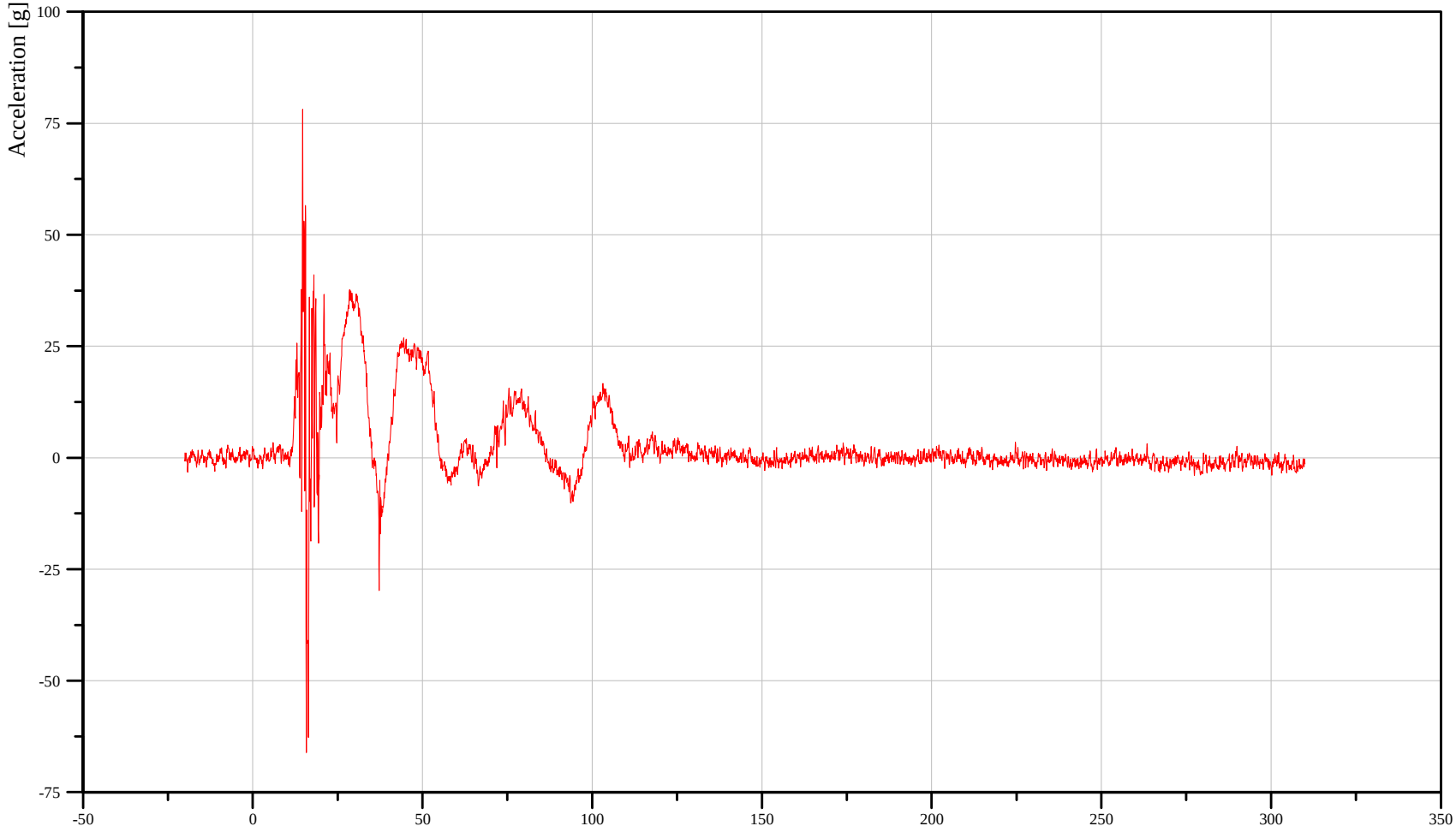
Driver Shoulder Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-66.16 g at 15.76 ms

Max. Value
78.11 g at 14.72 ms

World SID Evaluation

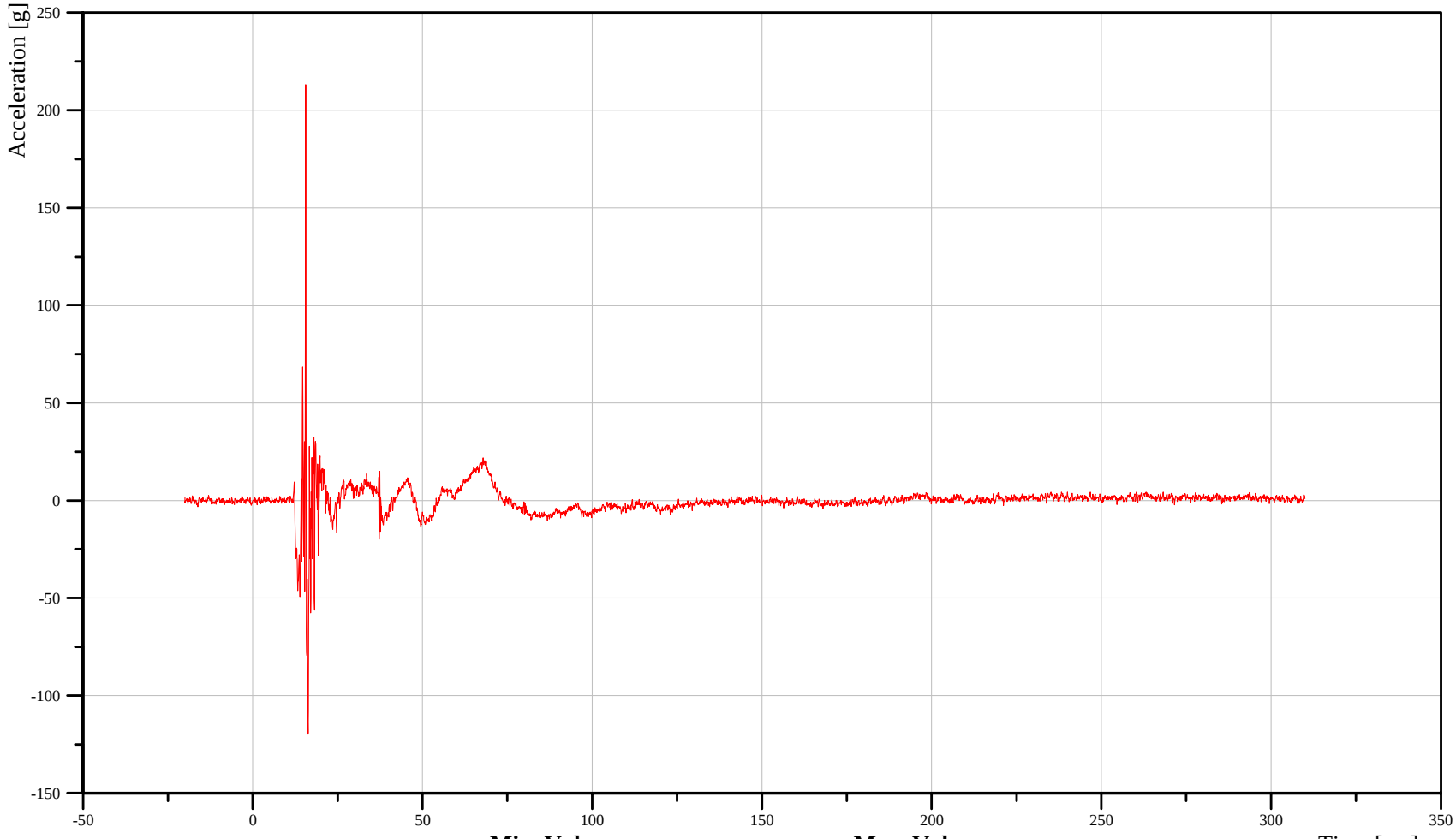
Driver Shoulder Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-119.45 g at 16.32 ms

Max. Value
213.16 g at 15.60 ms

World SID Evaluation

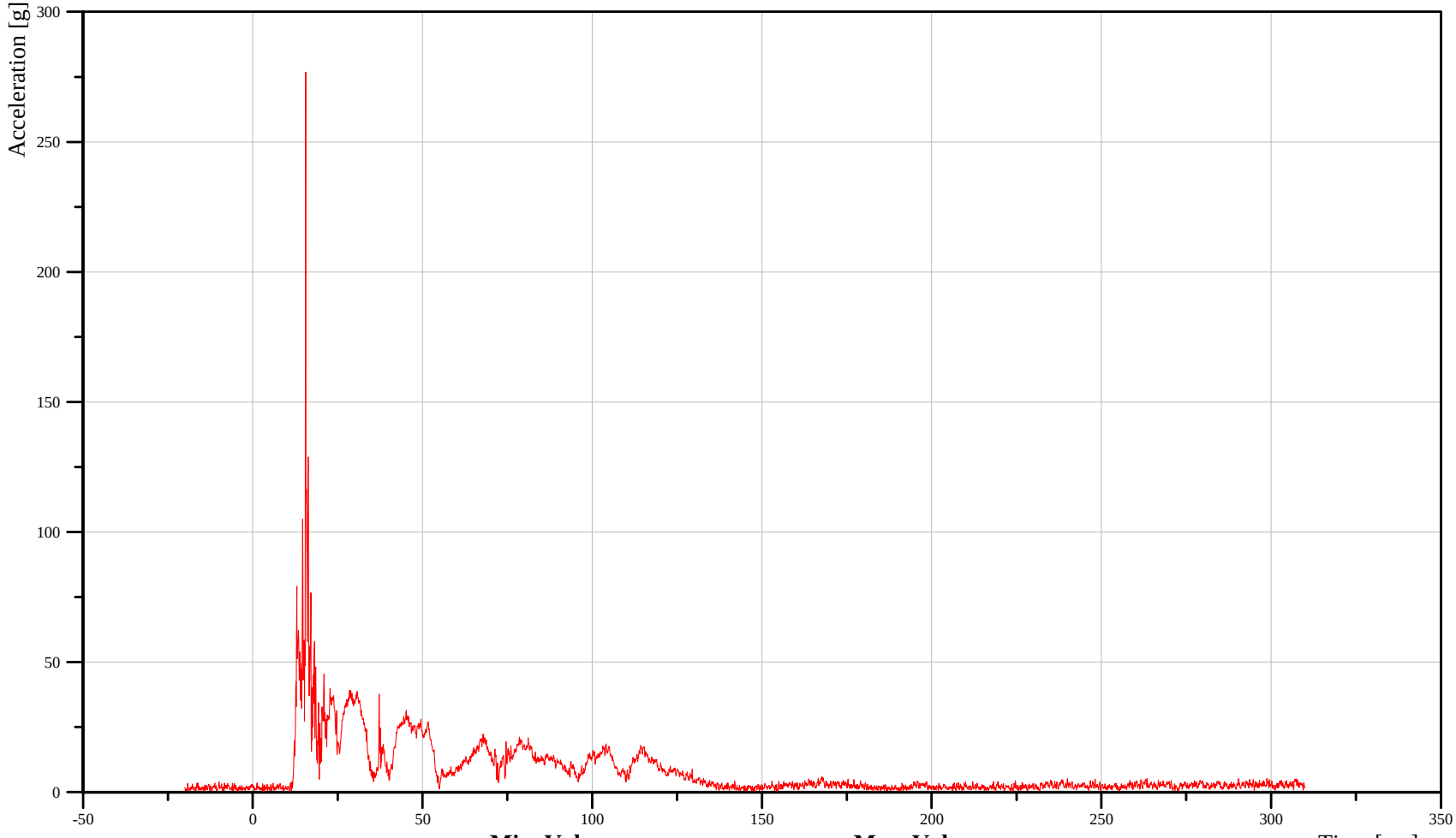
Driver Shoulder Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11SHLDLE00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.14 g at 3.28 ms

Max. Value
276.78 g at 15.60 ms

World SID Evaluation

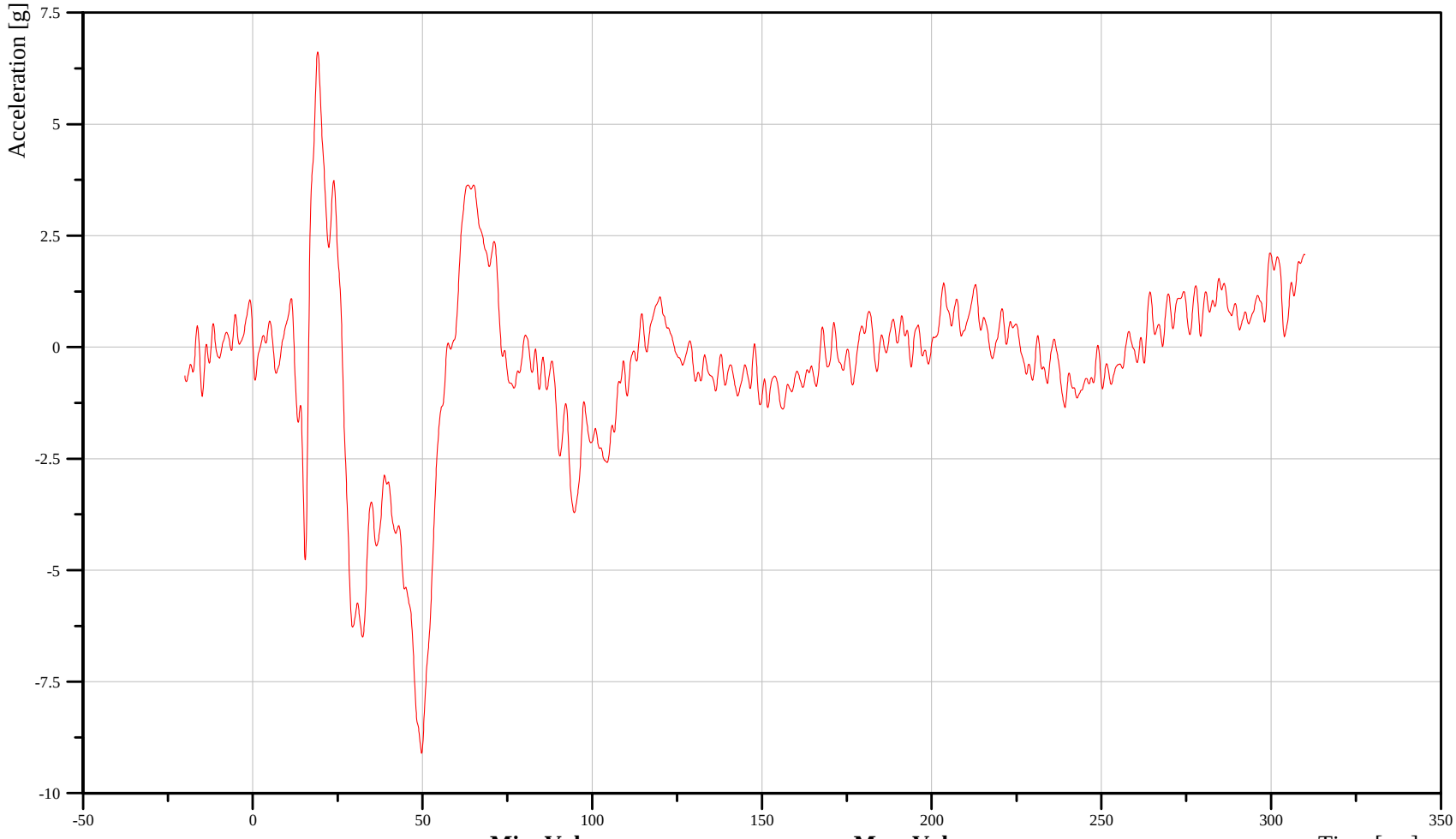
Driver T1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-9.10 g at 49.76 ms

Max. Value
6.62 g at 19.12 ms

World SID Evaluation

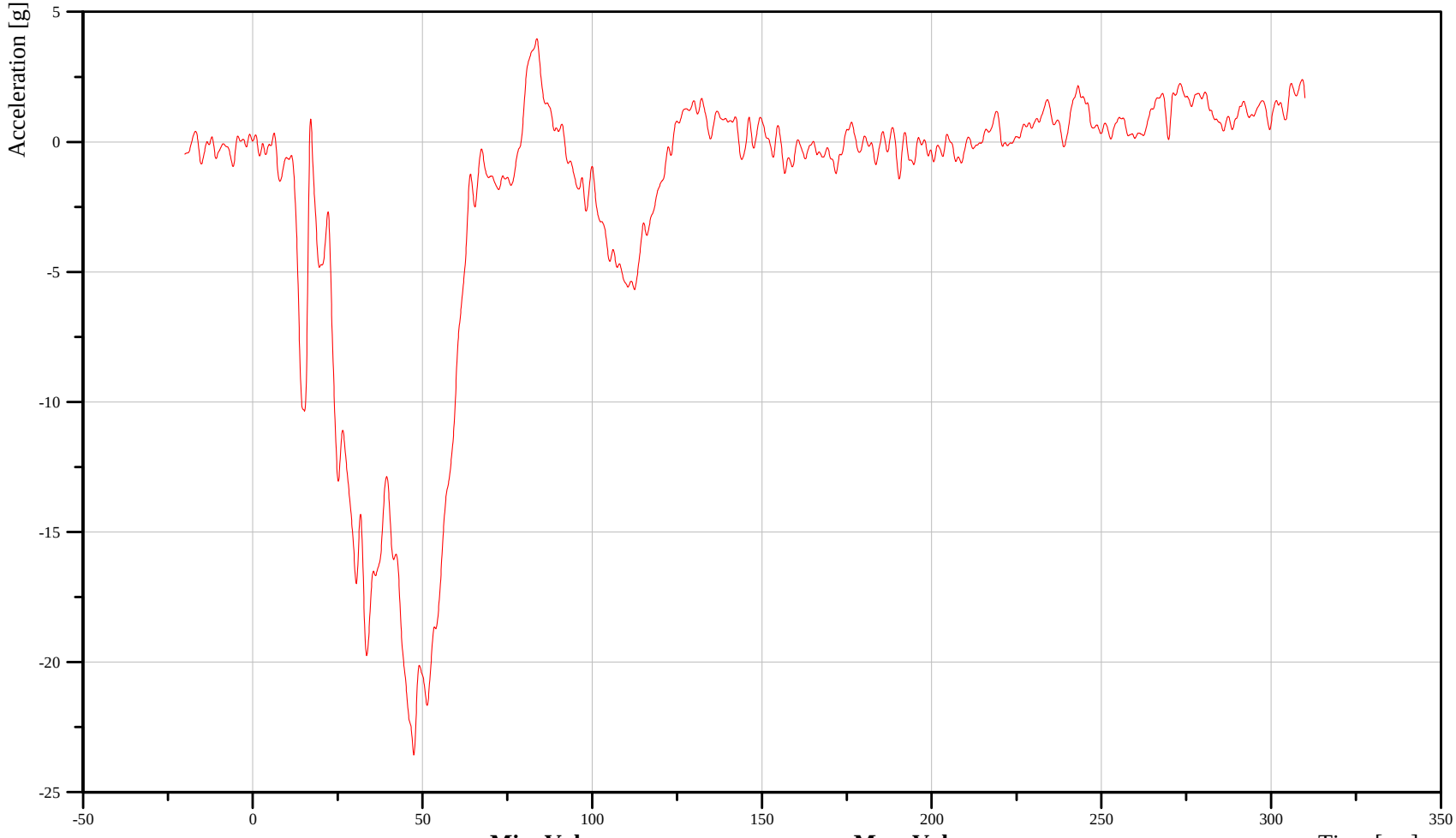
Driver T1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-23.57 g at 47.44 ms

Max. Value
3.96 g at 83.68 ms

World SID Evaluation

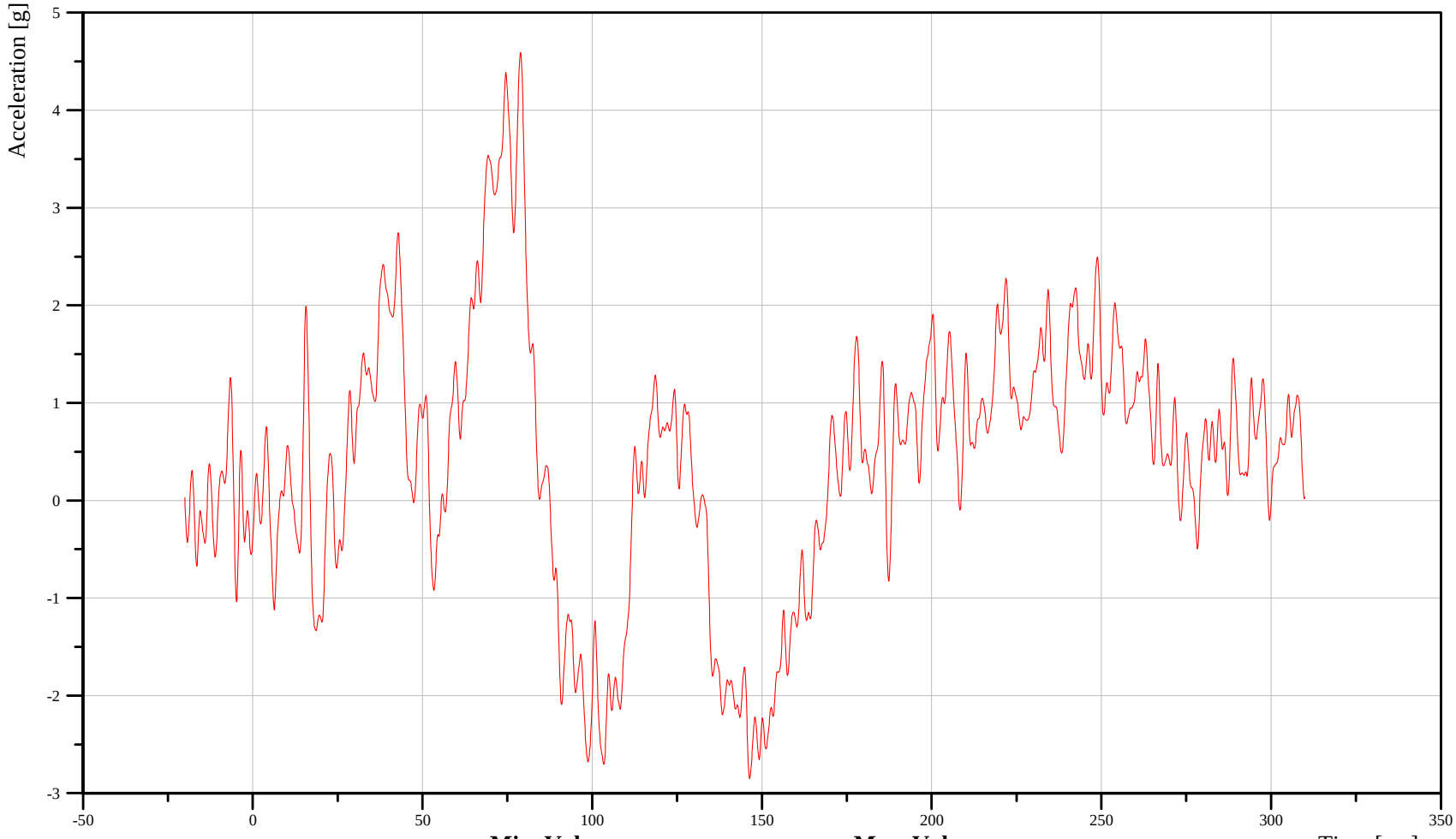
Driver T1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-2.85 g at 146.40 ms

Max. Value
4.59 g at 78.88 ms

World SID Evaluation

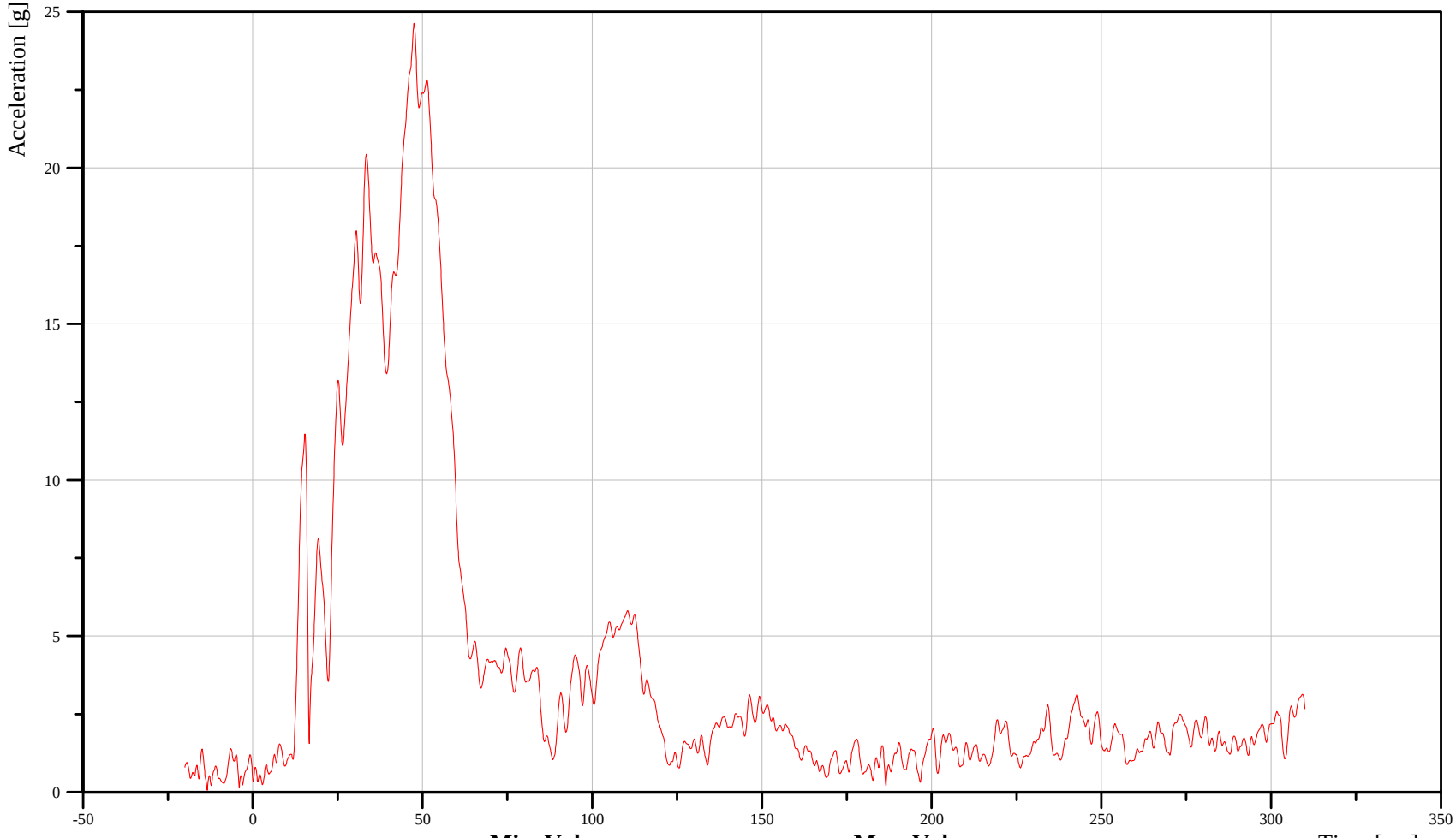
Driver T1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0100WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.06 g at -13.36 ms

Max. Value
24.63 g at 47.52 ms

World SID Evaluation

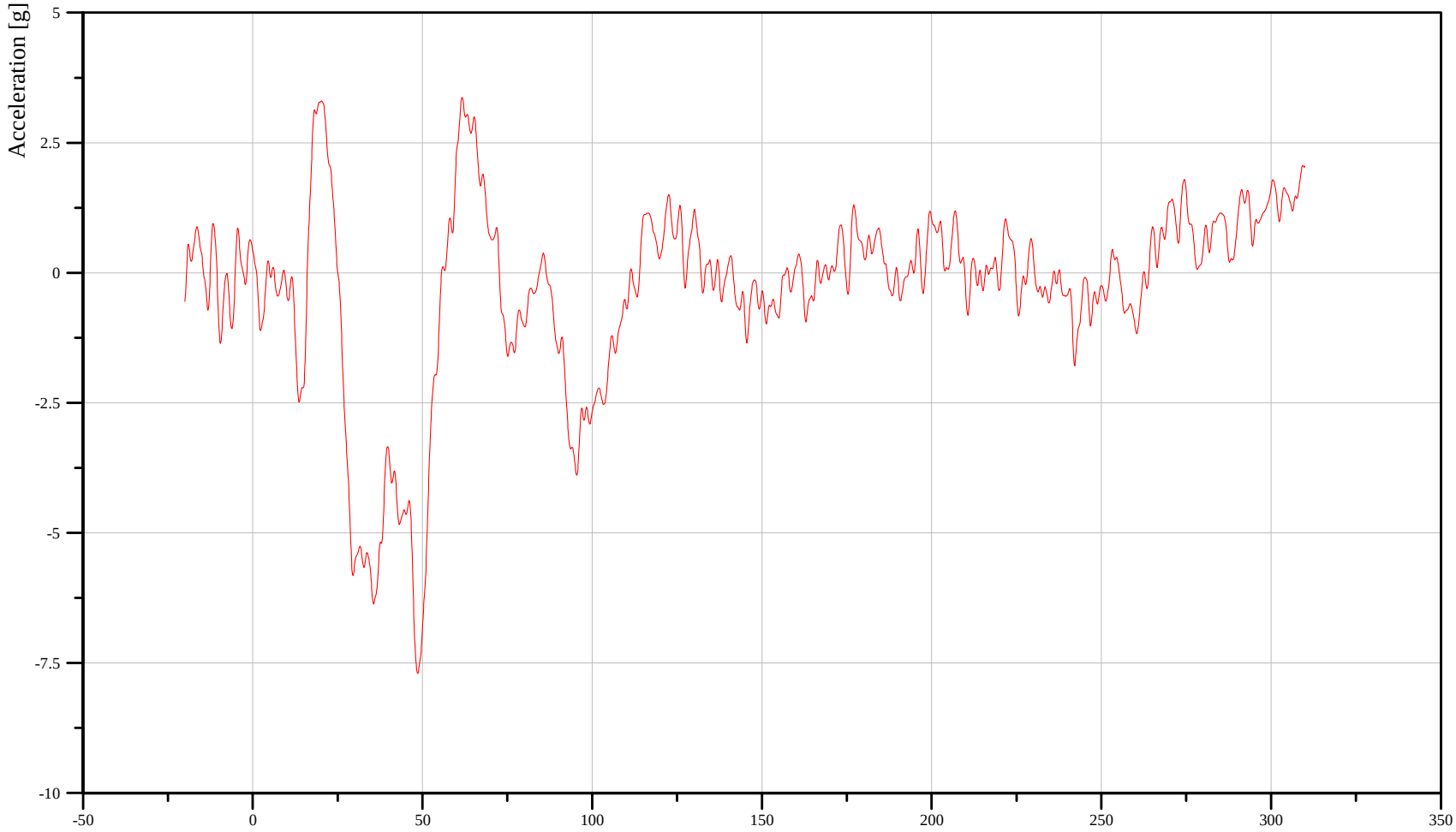
Driver T4 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-7.70 g at 48.64 ms

Max. Value
3.37 g at 61.68 ms

World SID Evaluation

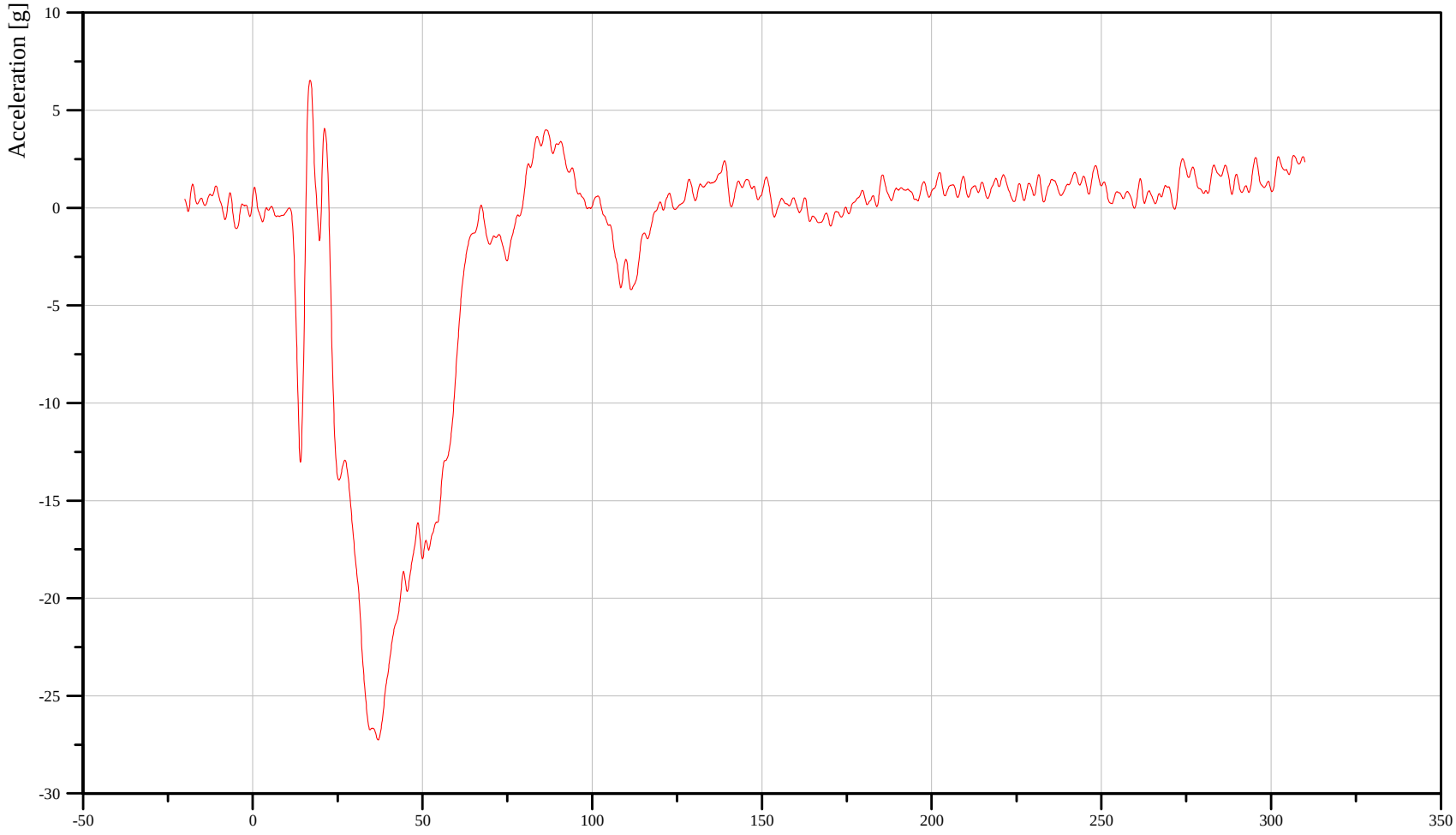
Driver T4 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-27.26 g at 36.96 ms

Max. Value
6.54 g at 16.88 ms

World SID Evaluation

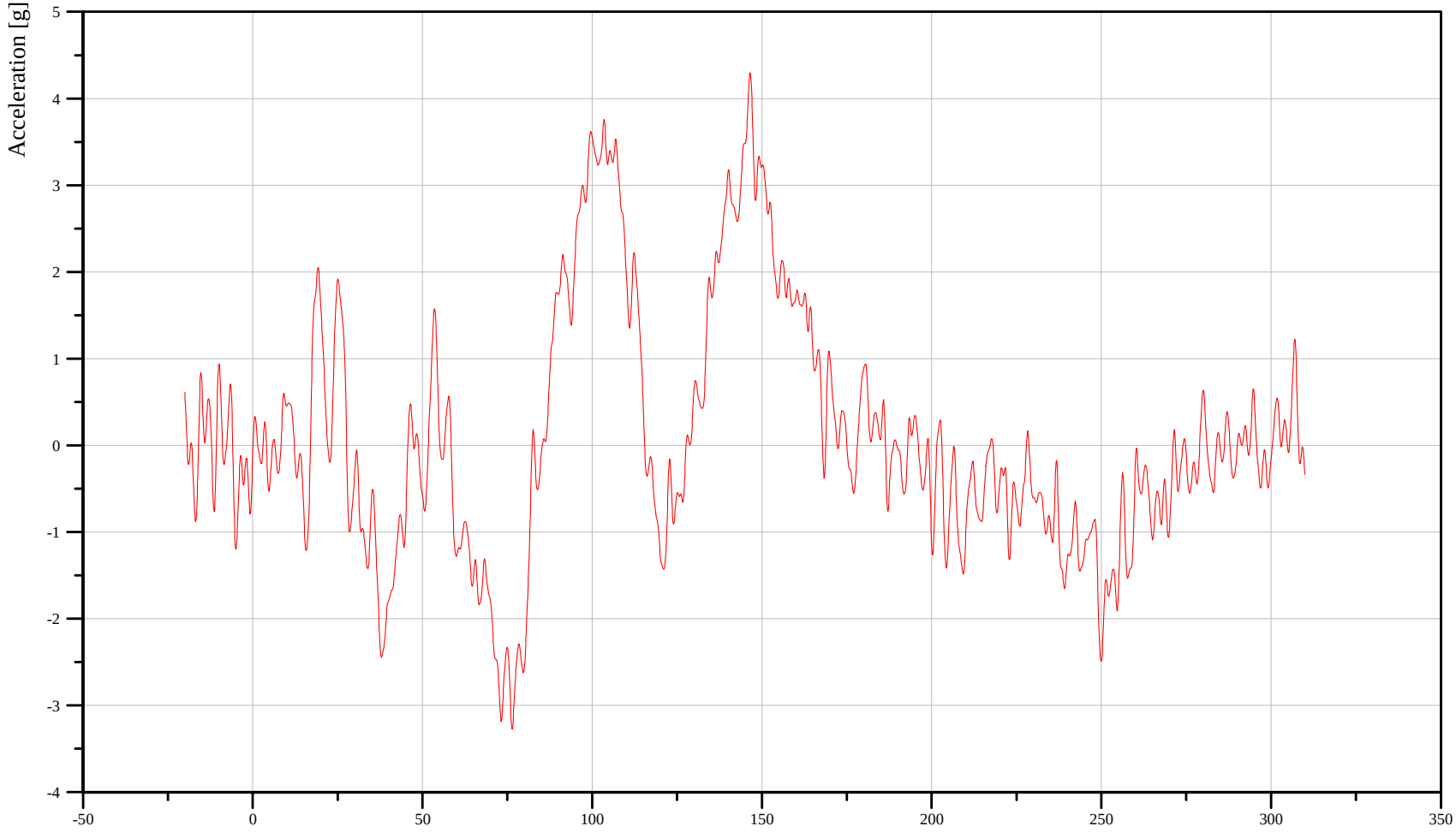
Driver T4 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-3.27 g at 76.40 ms

Max. Value
4.30 g at 146.48 ms

World SID Evaluation

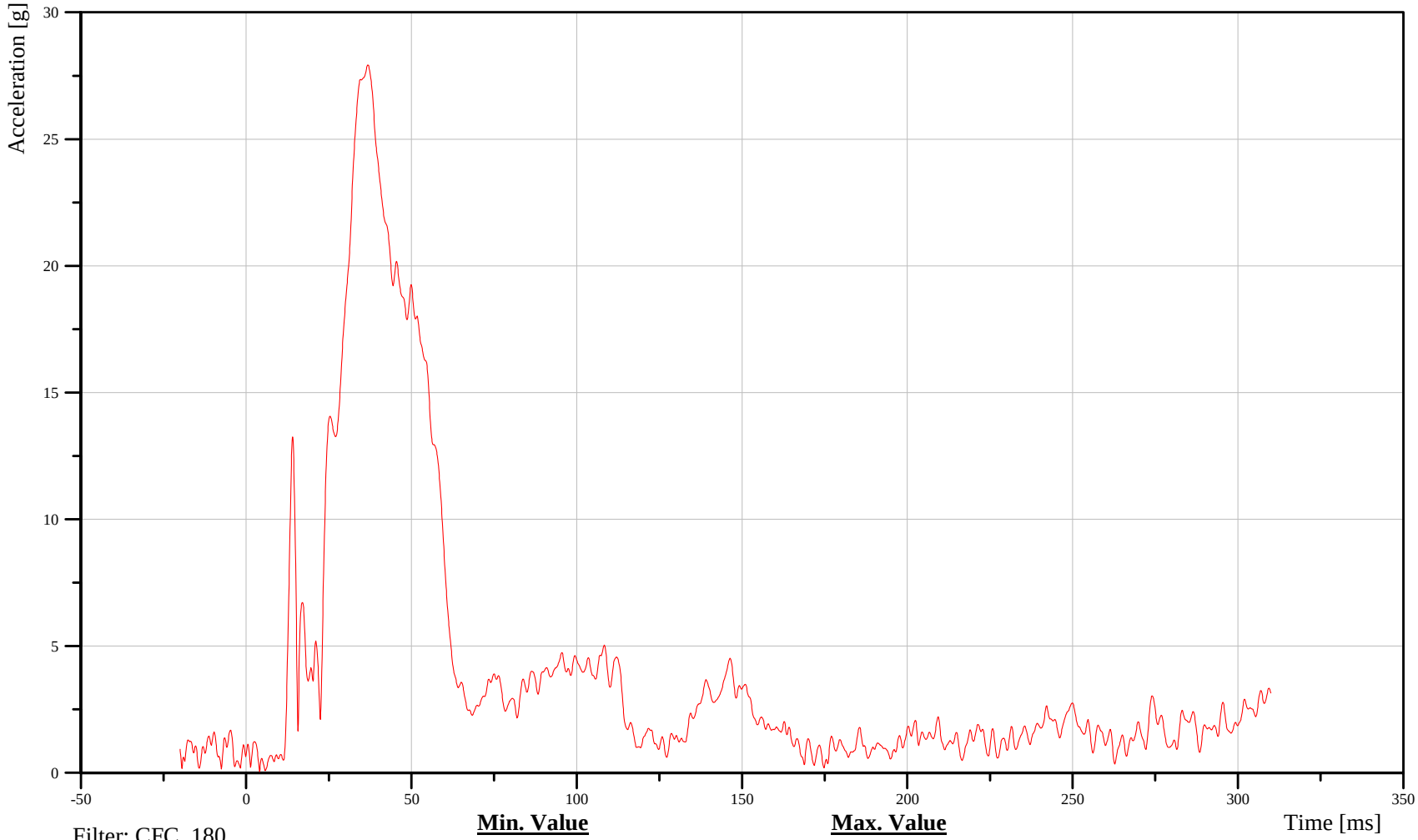
Driver T4 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.04 g at 4.08 ms

Max. Value
27.92 g at 36.80 ms

World SID Evaluation

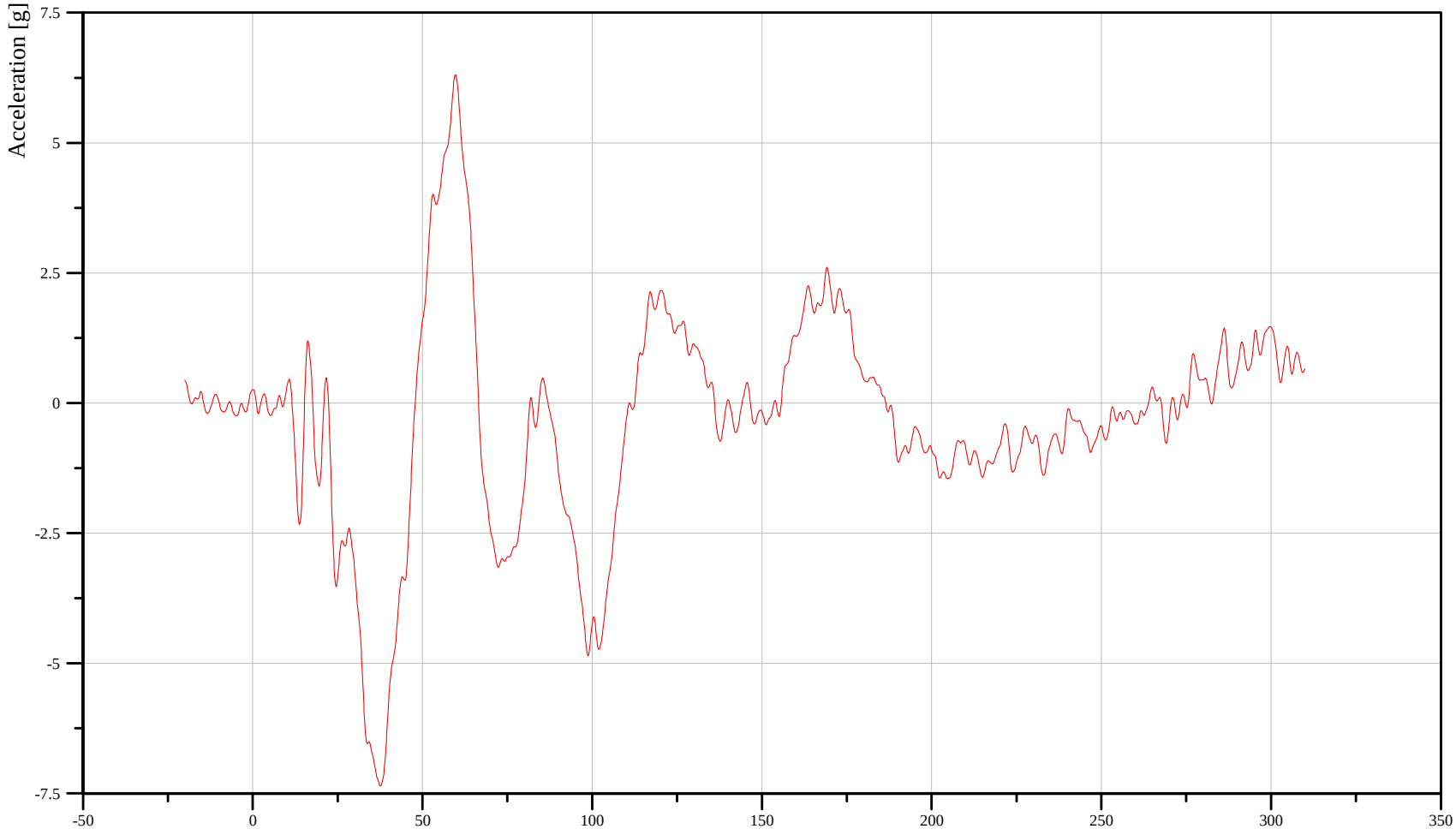
Driver T12 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-7.36 g at 37.60 ms

Max. Value
6.31 g at 59.68 ms

World SID Evaluation

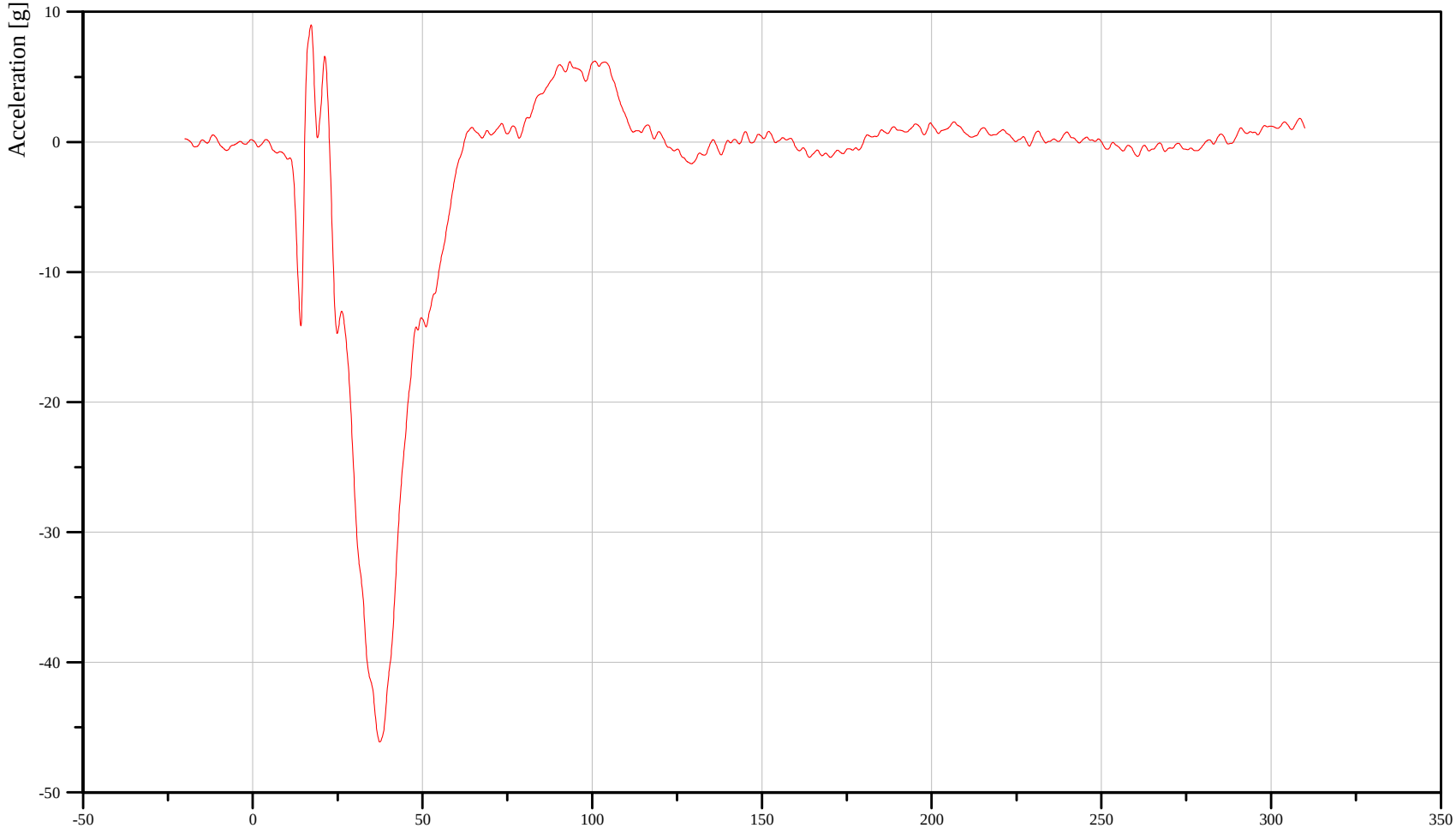
Driver T12 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-46.12 g at 37.44 ms

Max. Value
9.00 g at 17.20 ms

World SID Evaluation

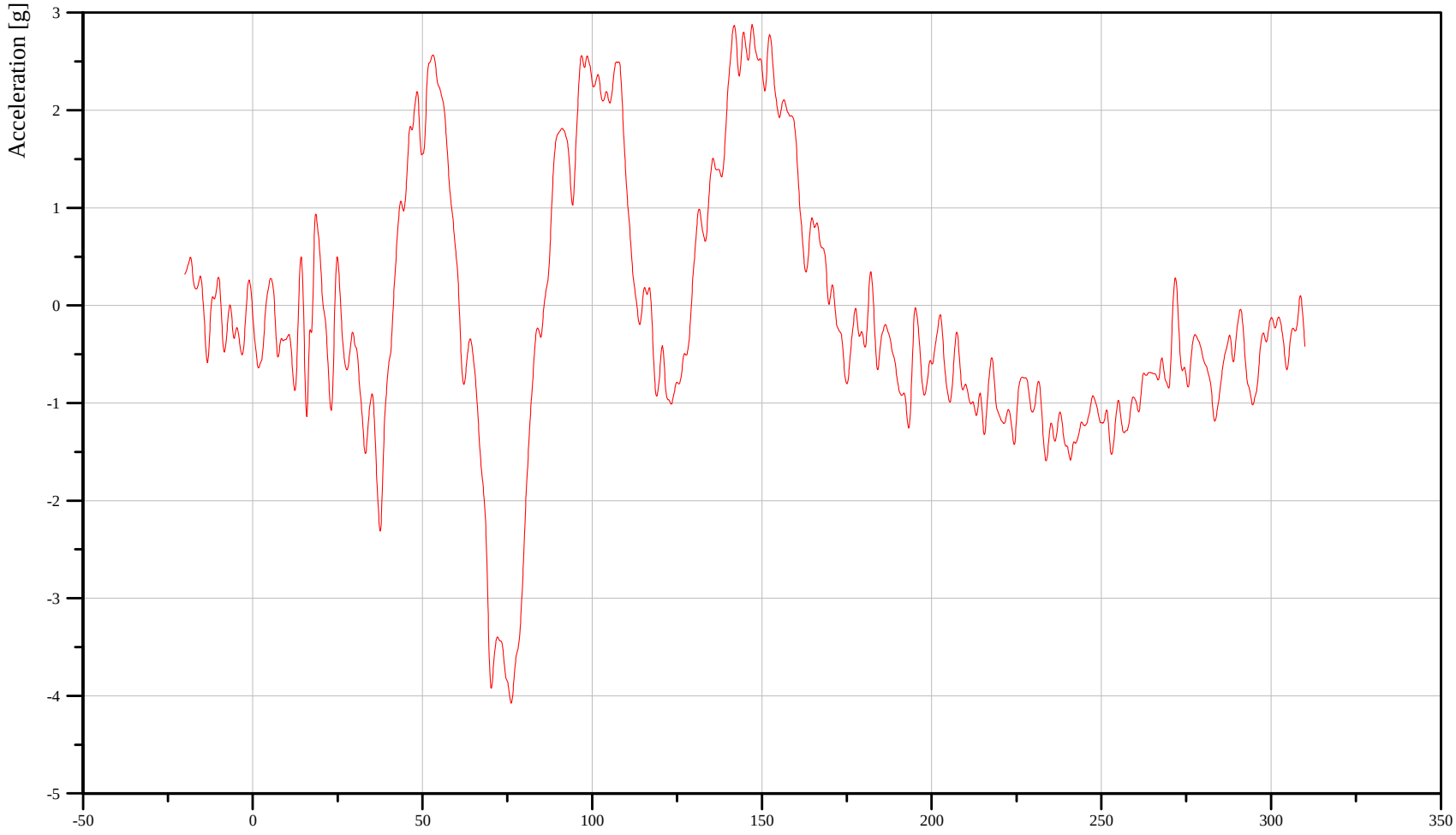
Driver T12 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-4.07 g at 76.16 ms

Max. Value
2.88 g at 147.12 ms

World SID Evaluation

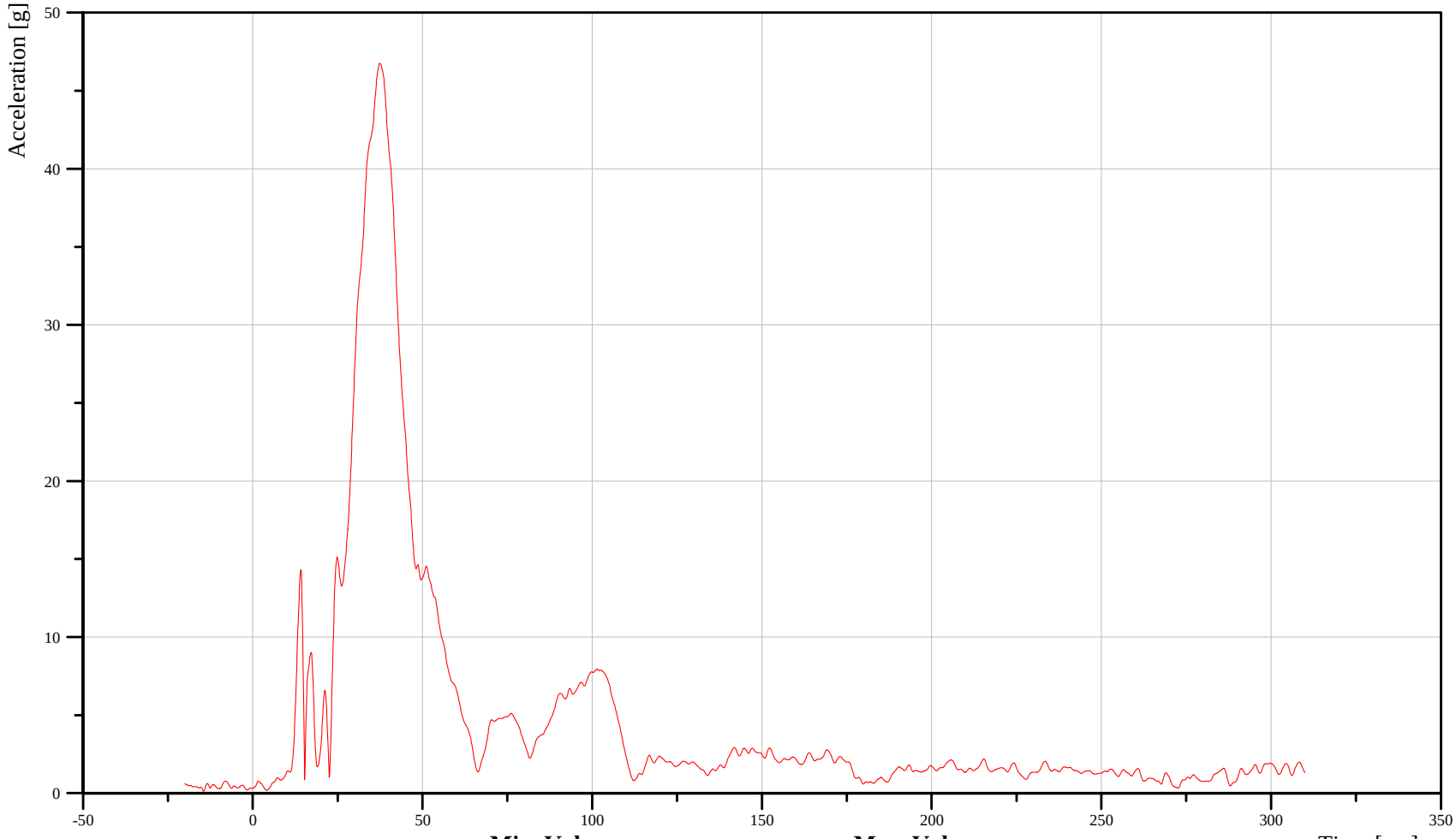
Driver T12 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.12 g at -14.48 ms

Max. Value
46.75 g at 37.44 ms

World SID Evaluation

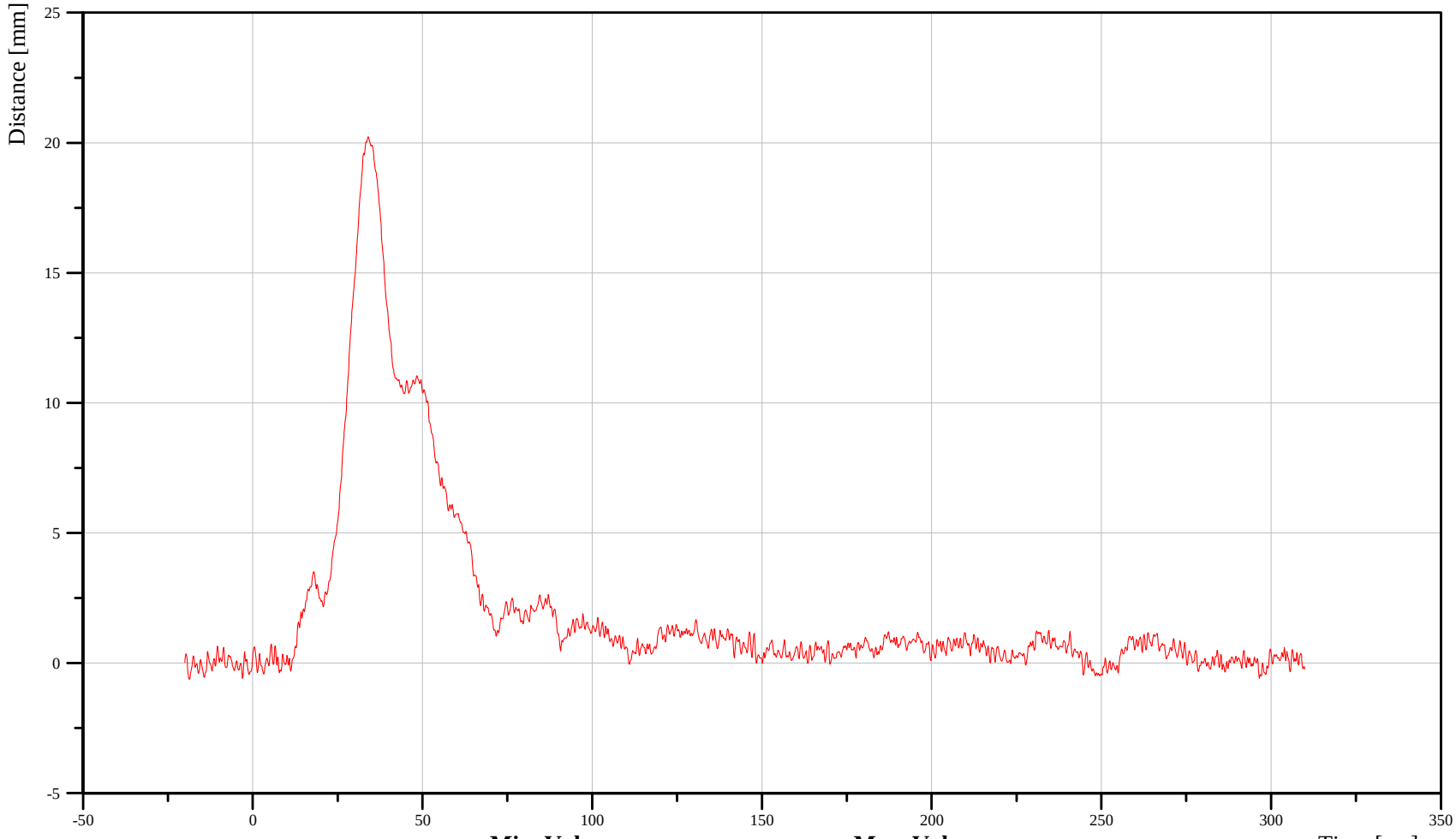
Driver Thorax Rib 1 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE01WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-0.62 mm at -18.72 ms

Max. Value
20.23 mm at 34.00 ms

World SID Evaluation

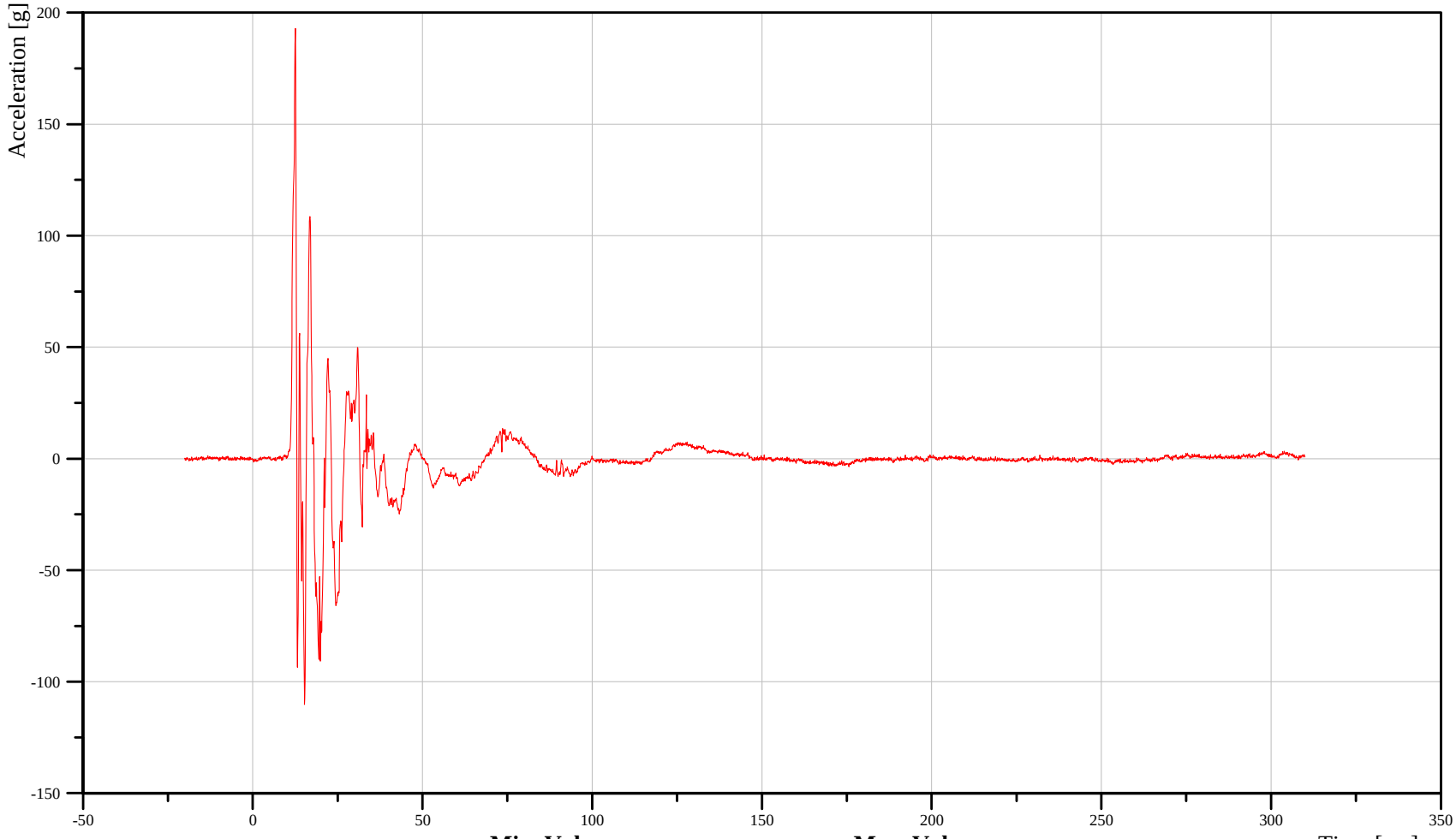
Driver Thorax Rib 1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE01WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-110.18 g at 15.28 ms

Max. Value
193.01 g at 12.56 ms

World SID Evaluation

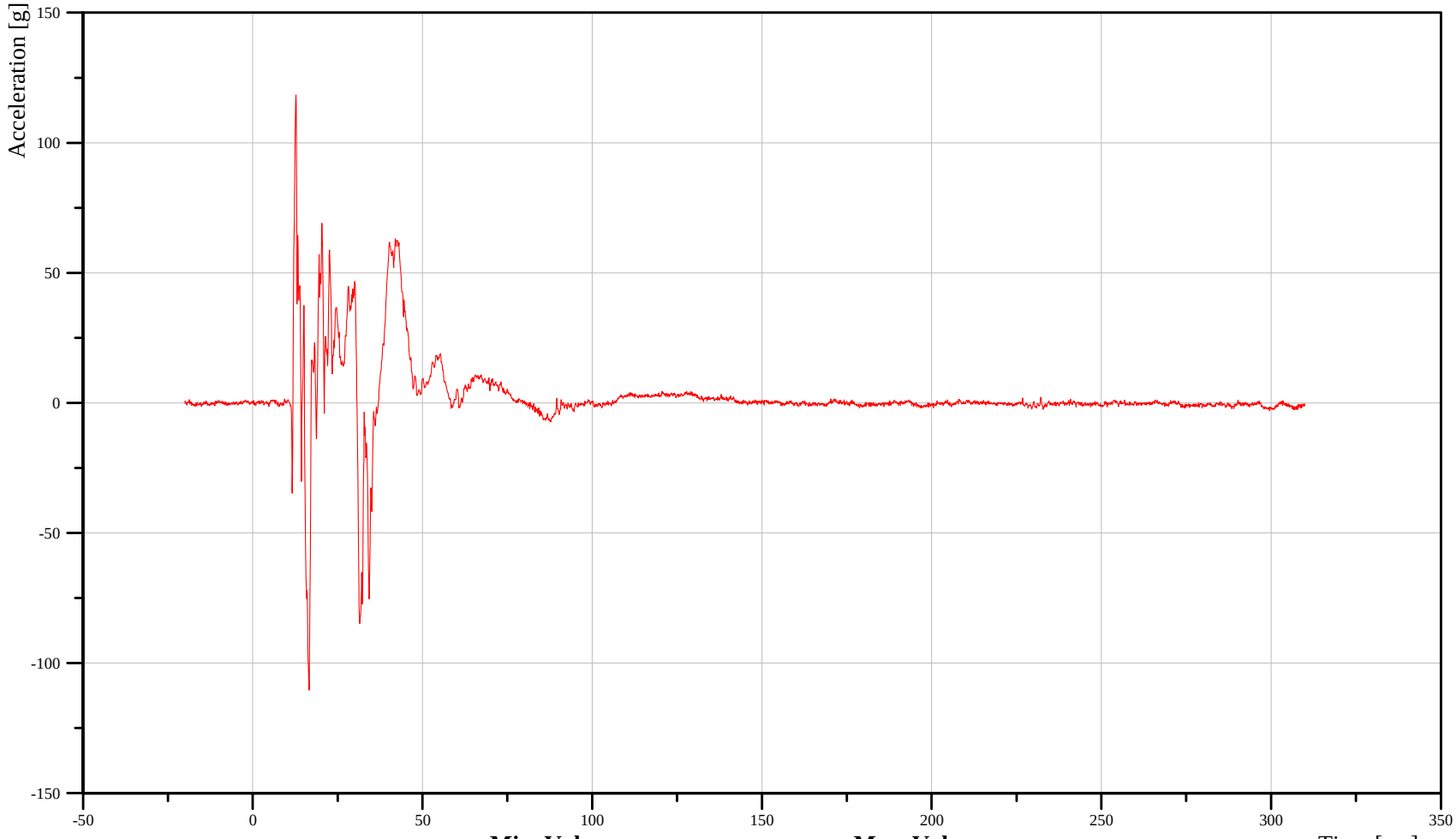
Driver Thorax Rib 1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE01WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-110.42 g at 16.56 ms

Max. Value
118.37 g at 12.72 ms

World SID Evaluation

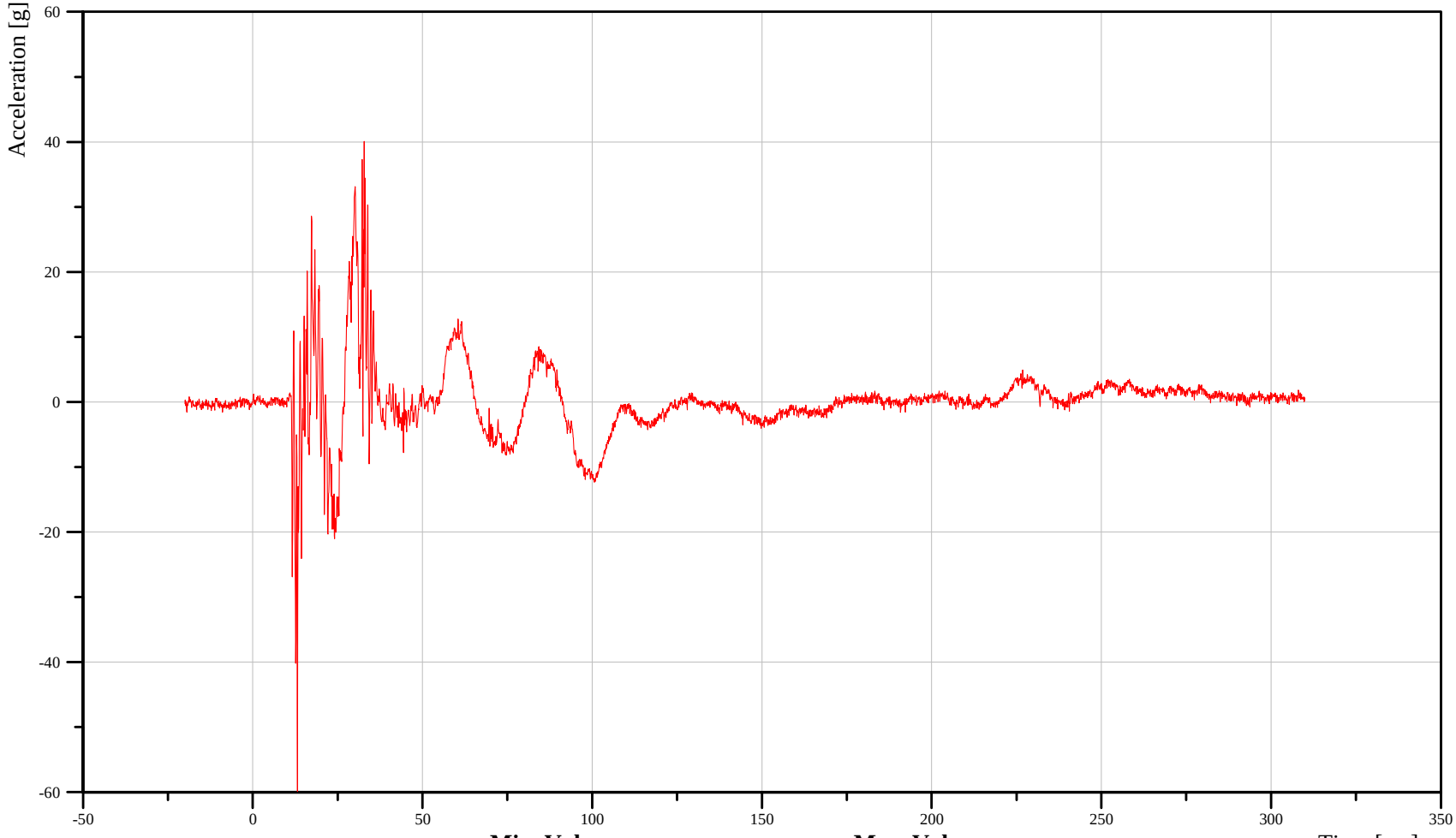
Driver Thorax Rib 1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE01WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-59.88 g at 13.20 ms

Max. Value
40.08 g at 32.88 ms

World SID Evaluation

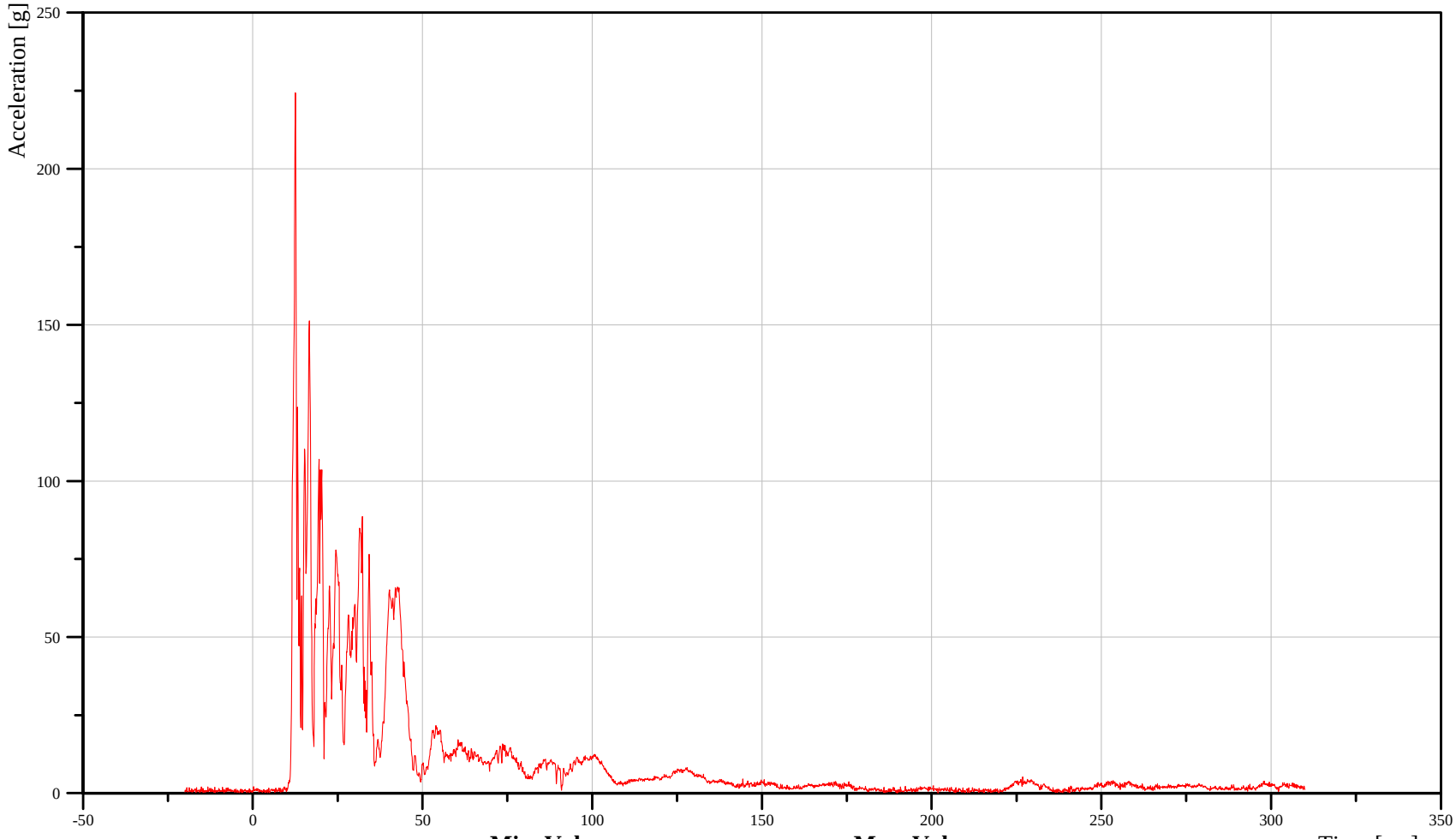
Driver Thorax Rib 1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE01WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.05 g at 189.76 ms

Max. Value
224.37 g at 12.56 ms

World SID Evaluation

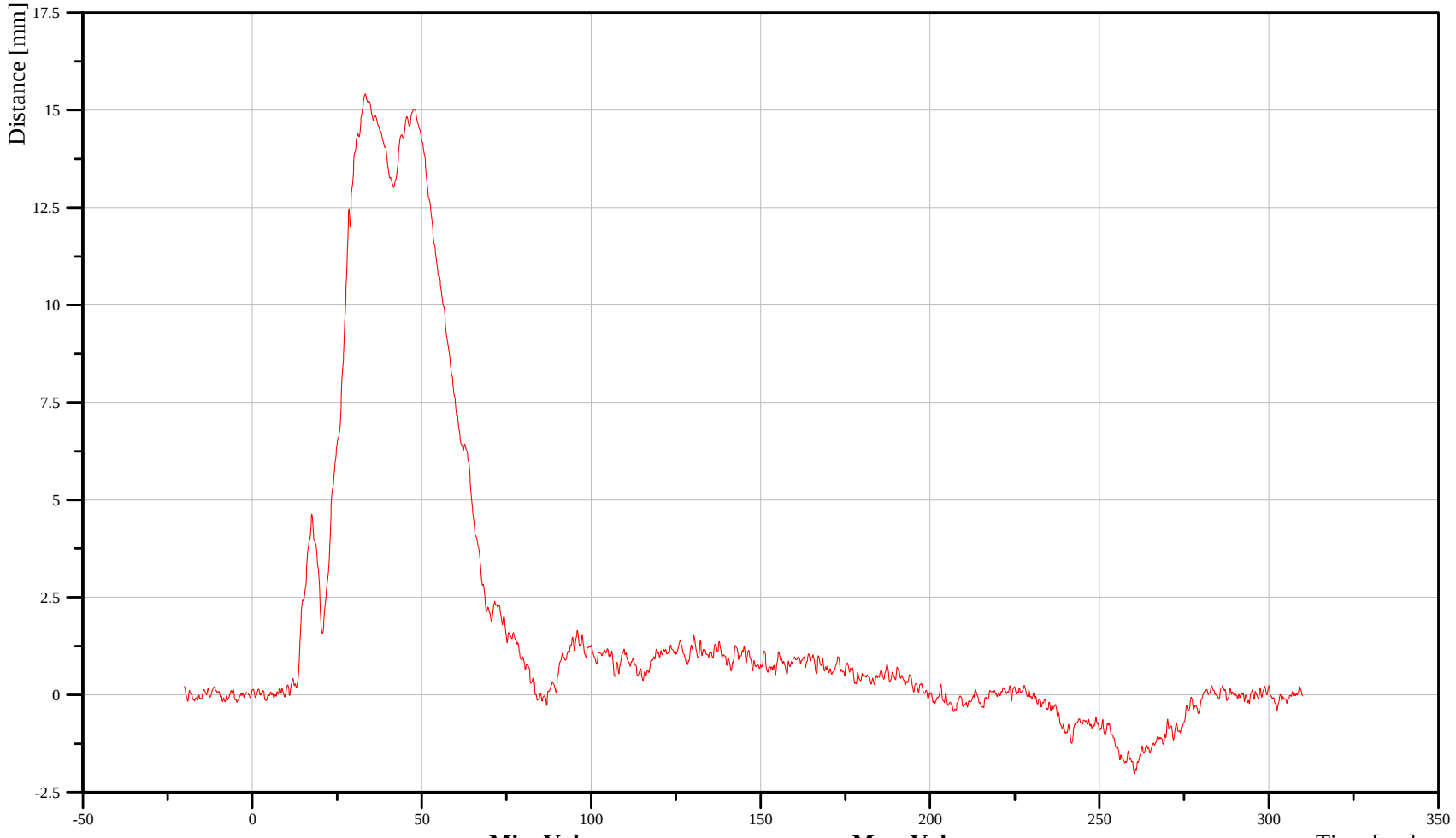
Driver Thorax Rib 2 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE02WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-2.02 mm at 260.32 ms

Max. Value
15.41 mm at 33.36 ms

World SID Evaluation

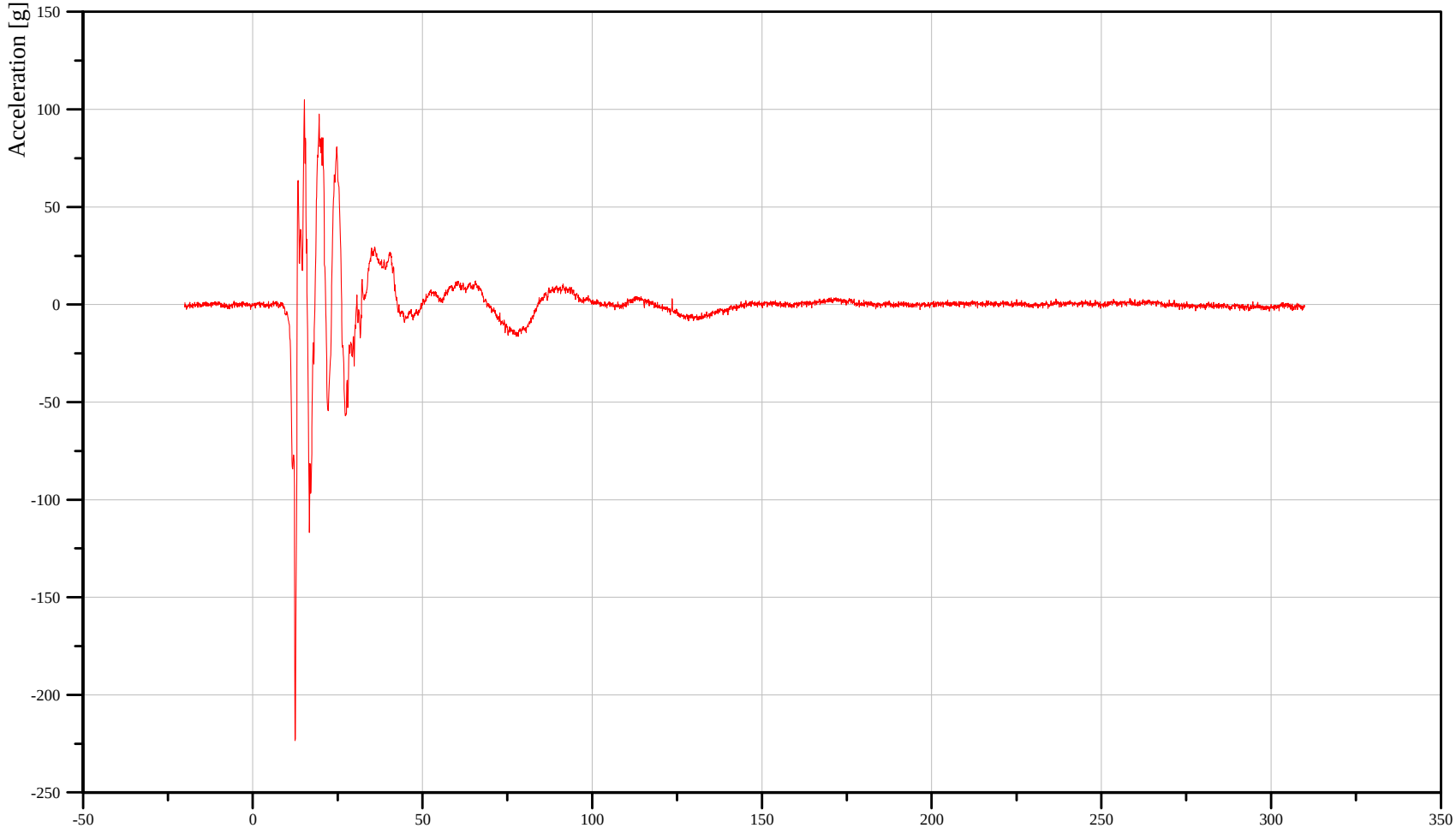
Driver Thorax Rib 2 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE02WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-223.55 g at 12.48 ms

Max. Value
104.99 g at 15.20 ms

World SID Evaluation

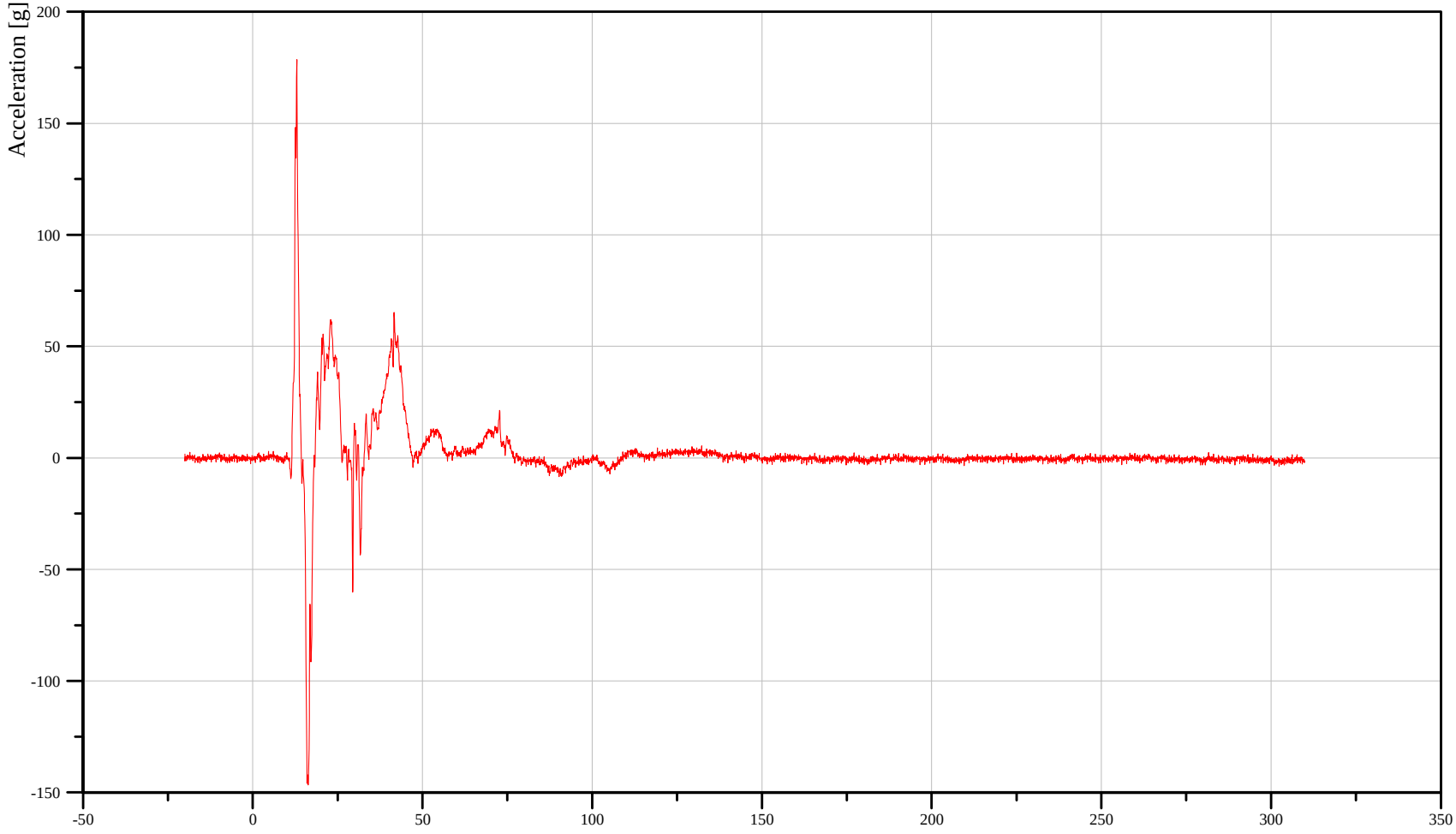
Driver Thorax Rib 2 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE02WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-146.69 g at 16.32 ms

Max. Value
178.55 g at 12.96 ms

World SID Evaluation

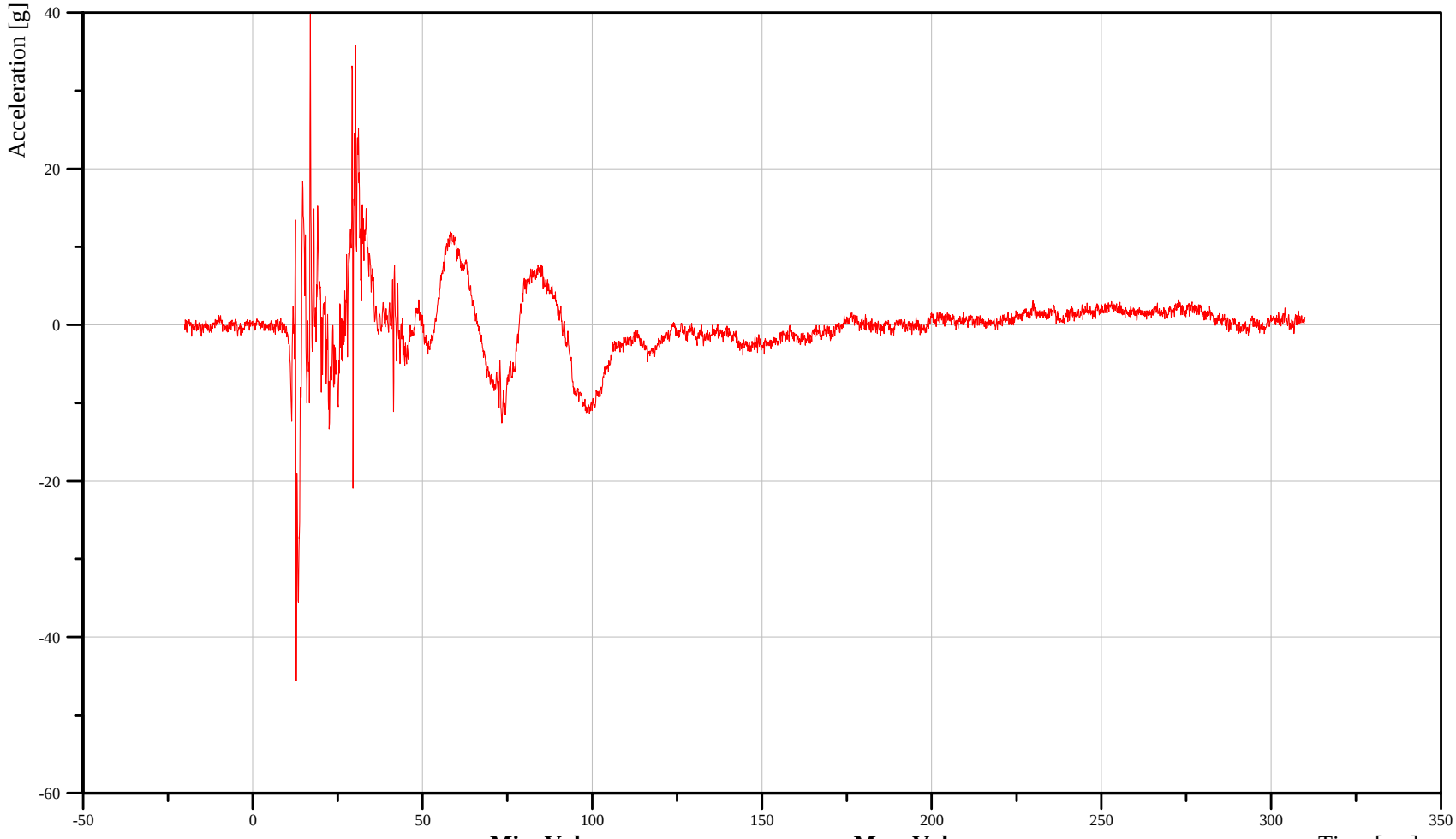
Driver Thorax Rib 2 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE02WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-45.62 g at 12.80 ms

Max. Value
39.81 g at 16.96 ms

World SID Evaluation

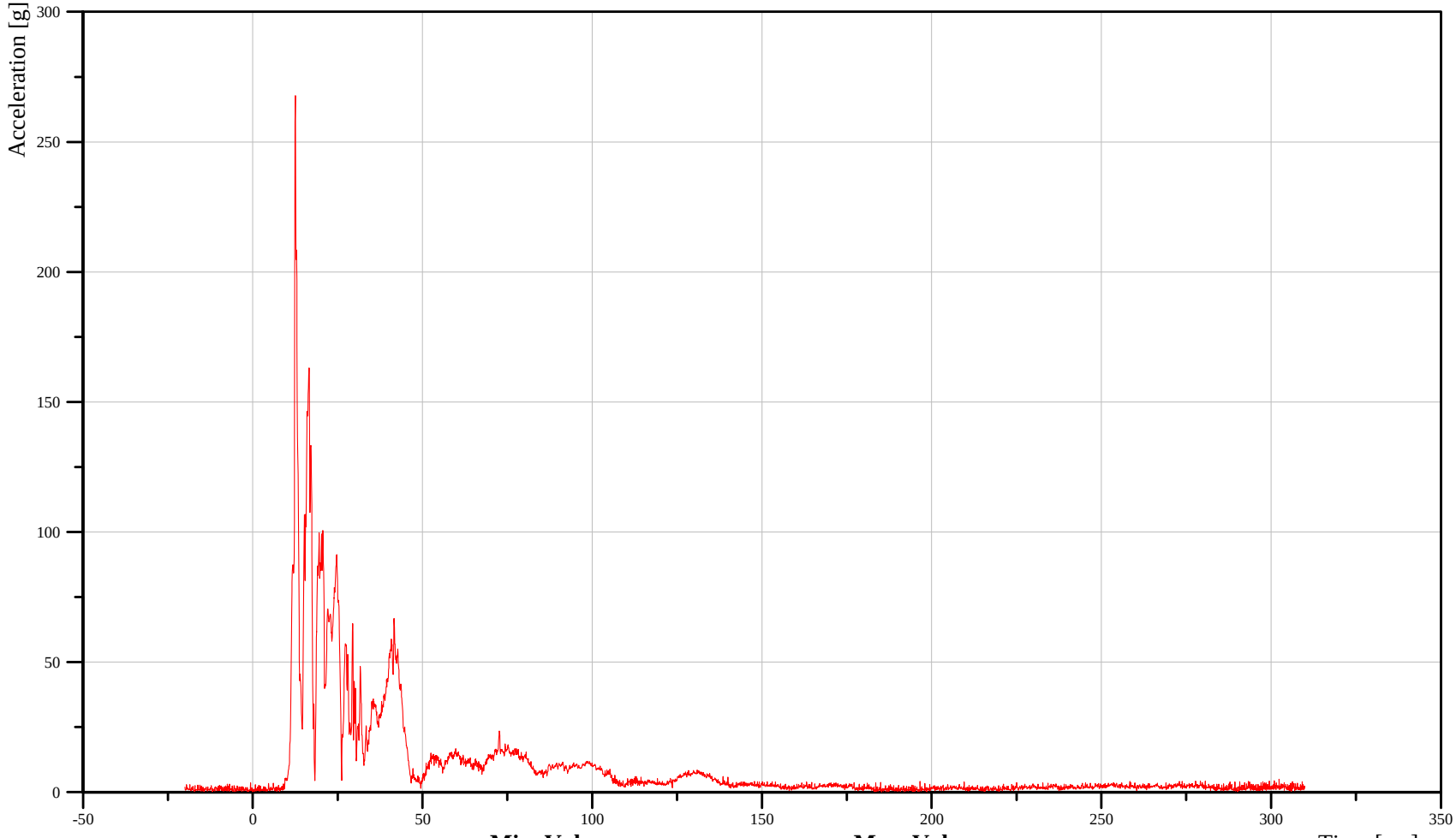
Driver Thorax Rib 2 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE02WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.07 g at 185.28 ms

Max. Value
267.74 g at 12.56 ms

World SID Evaluation

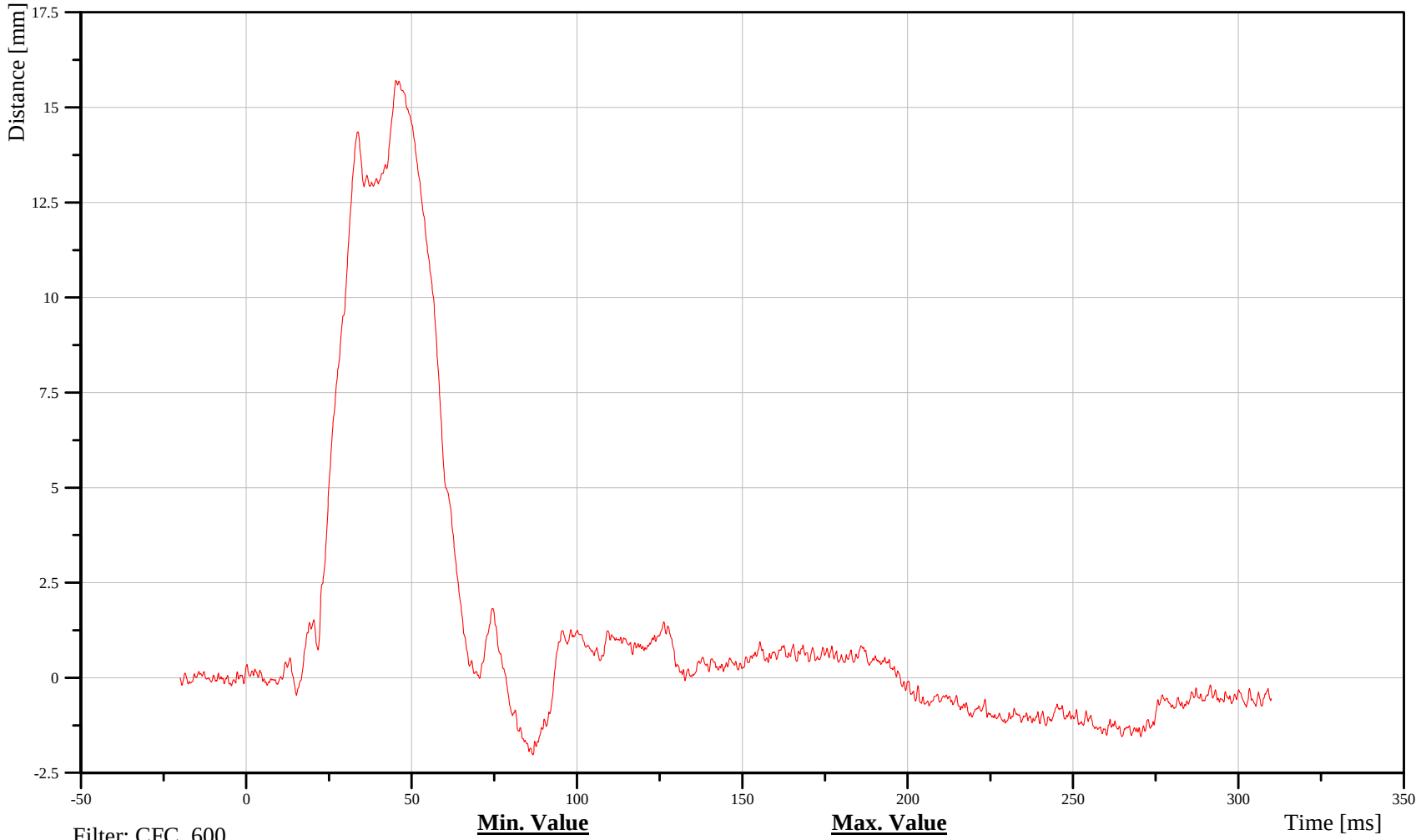
Driver Thorax Rib 3 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE03WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-2.02 mm at 86.72 ms

Max. Value
15.71 mm at 45.20 ms

World SID Evaluation

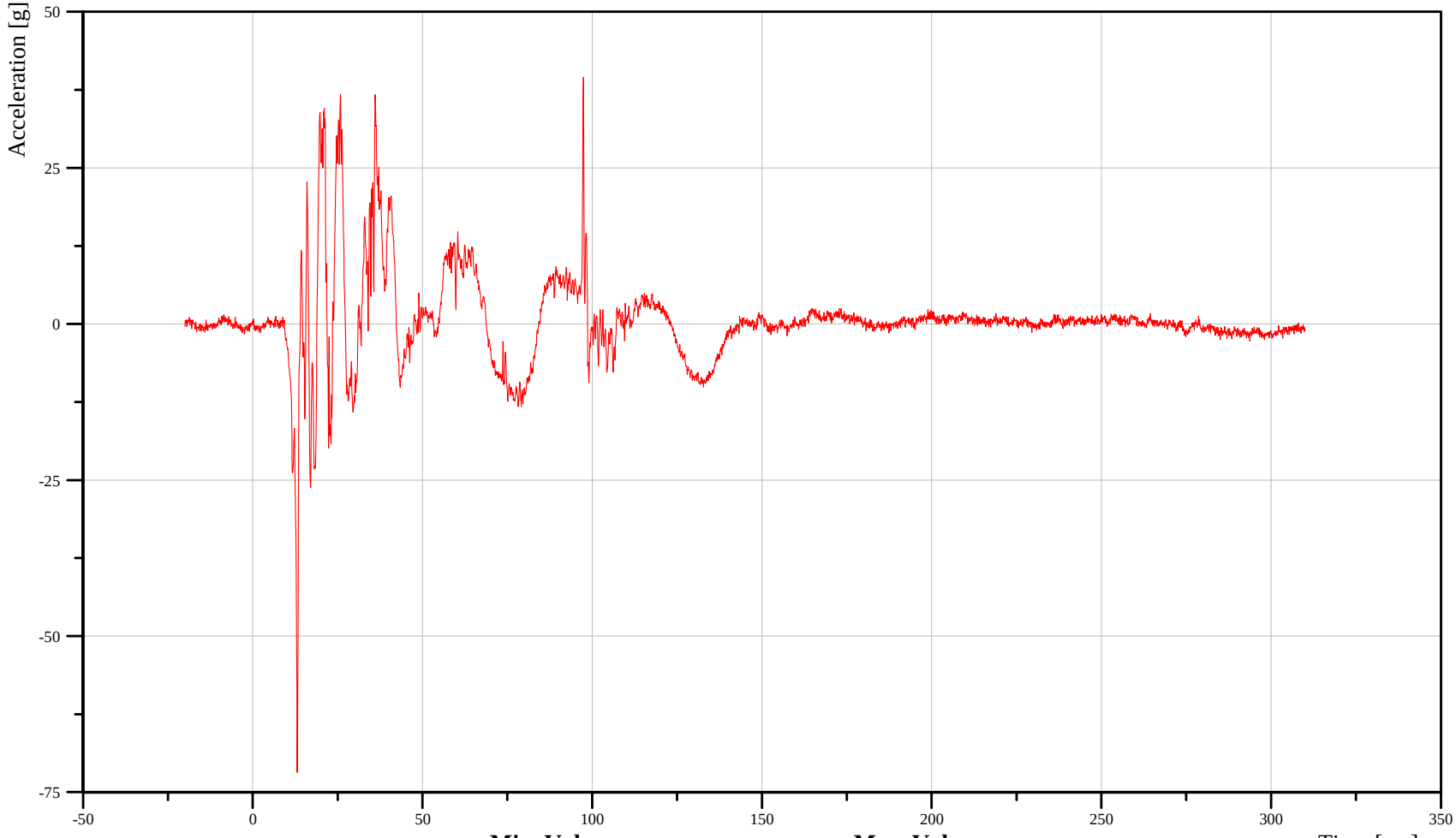
Driver Thorax Rib 3 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE03WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-71.86 g at 13.12 ms

Max. Value
39.49 g at 97.44 ms

World SID Evaluation

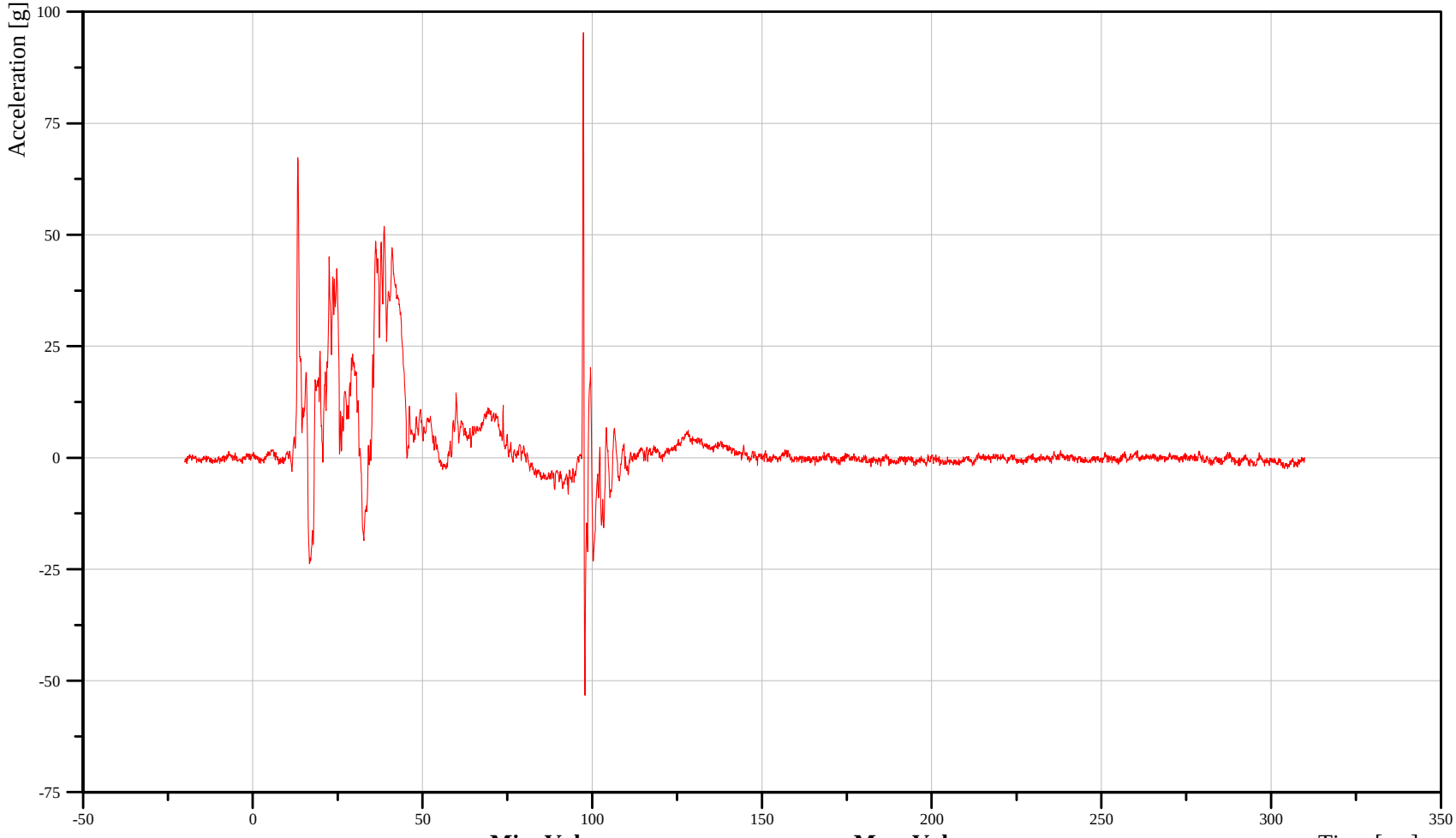
Driver Thorax Rib 3 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE03WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-53.30 g at 97.84 ms

Max. Value
95.40 g at 97.44 ms

World SID Evaluation

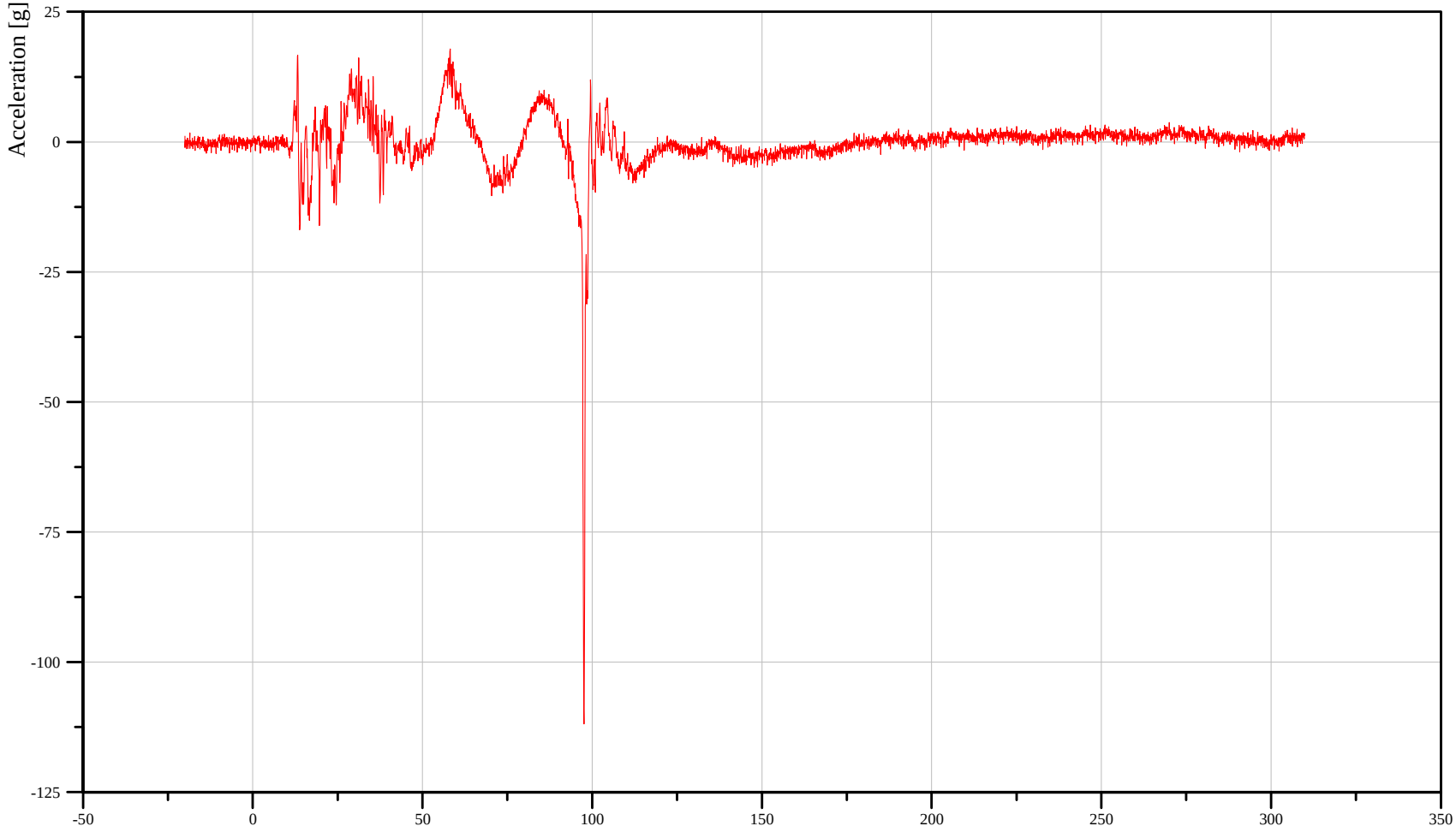
Driver Thorax Rib 3 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE03WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-111.87 g at 97.60 ms

Max. Value
17.87 g at 58.16 ms

World SID Evaluation

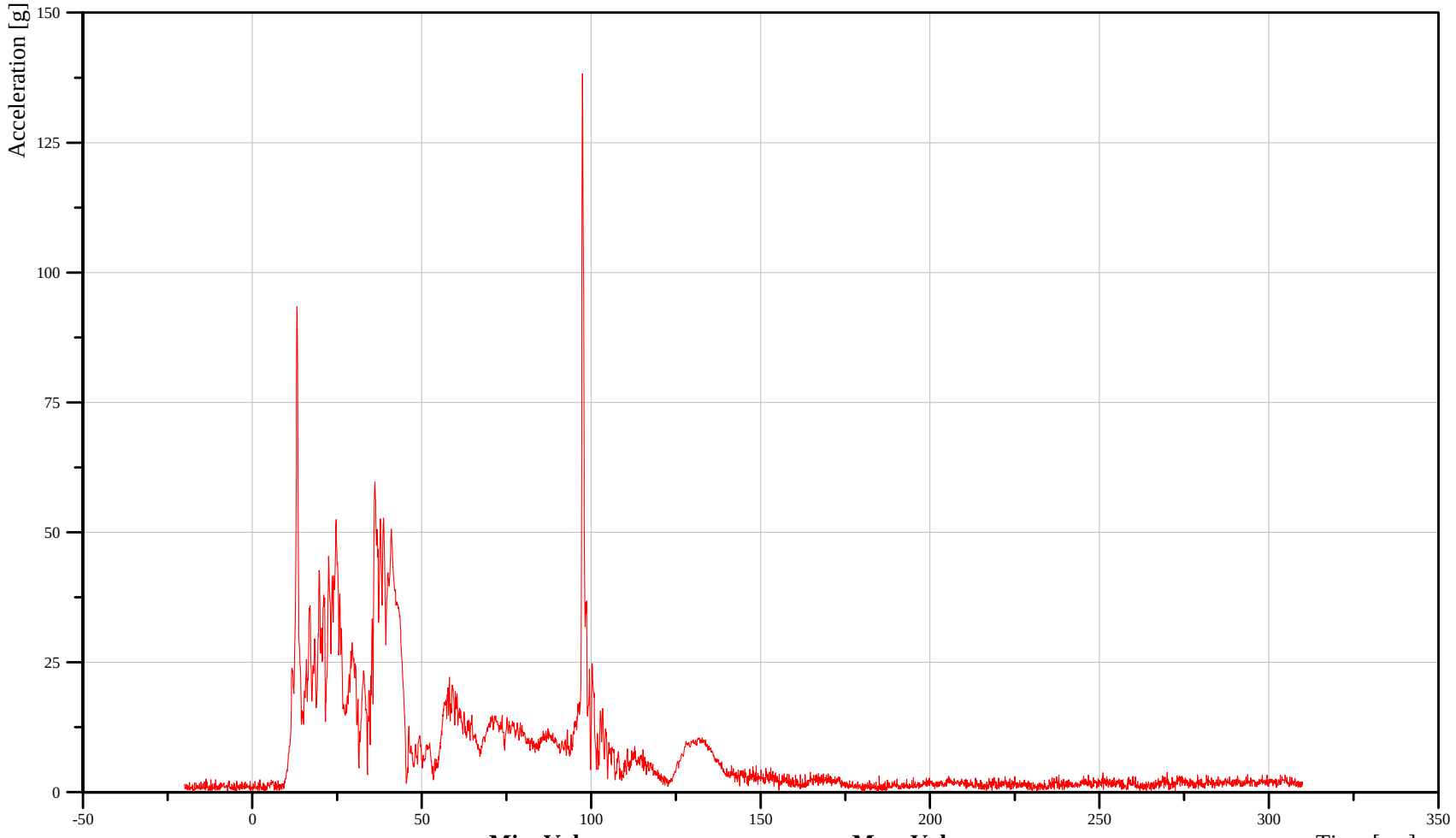
Driver Thorax Rib 3 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11TRRILE03WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.13 g at 184.48 ms

Max. Value
138.26 g at 97.44 ms

World SID Evaluation

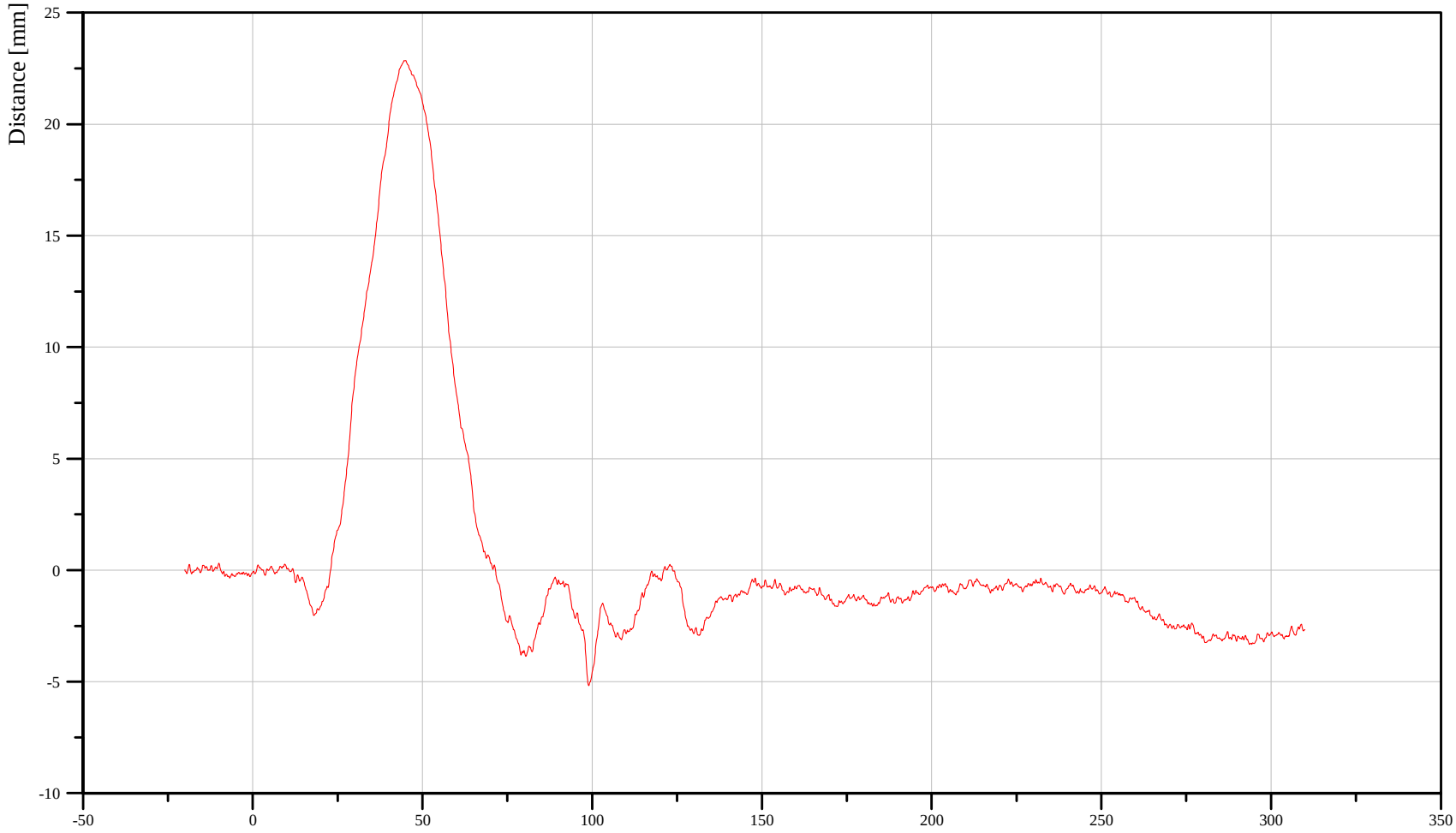
Driver Abdominal Rib 1 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE01WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-5.17 mm at 99.04 ms

Max. Value
22.86 mm at 45.04 ms

World SID Evaluation

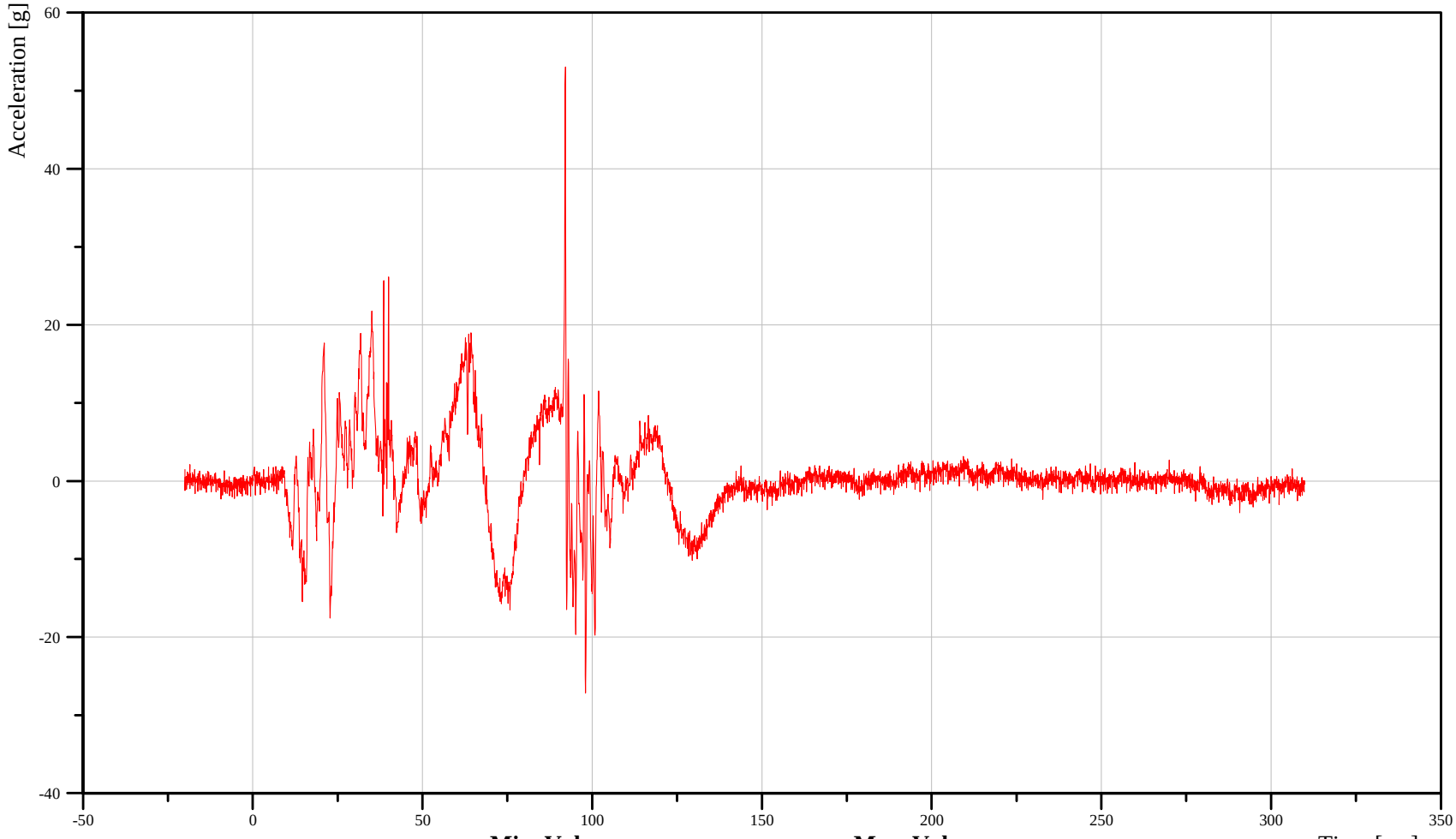
Driver Abdominal Rib 1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE01WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-27.14 g at 98.08 ms

Max. Value
53.06 g at 92.08 ms

World SID Evaluation

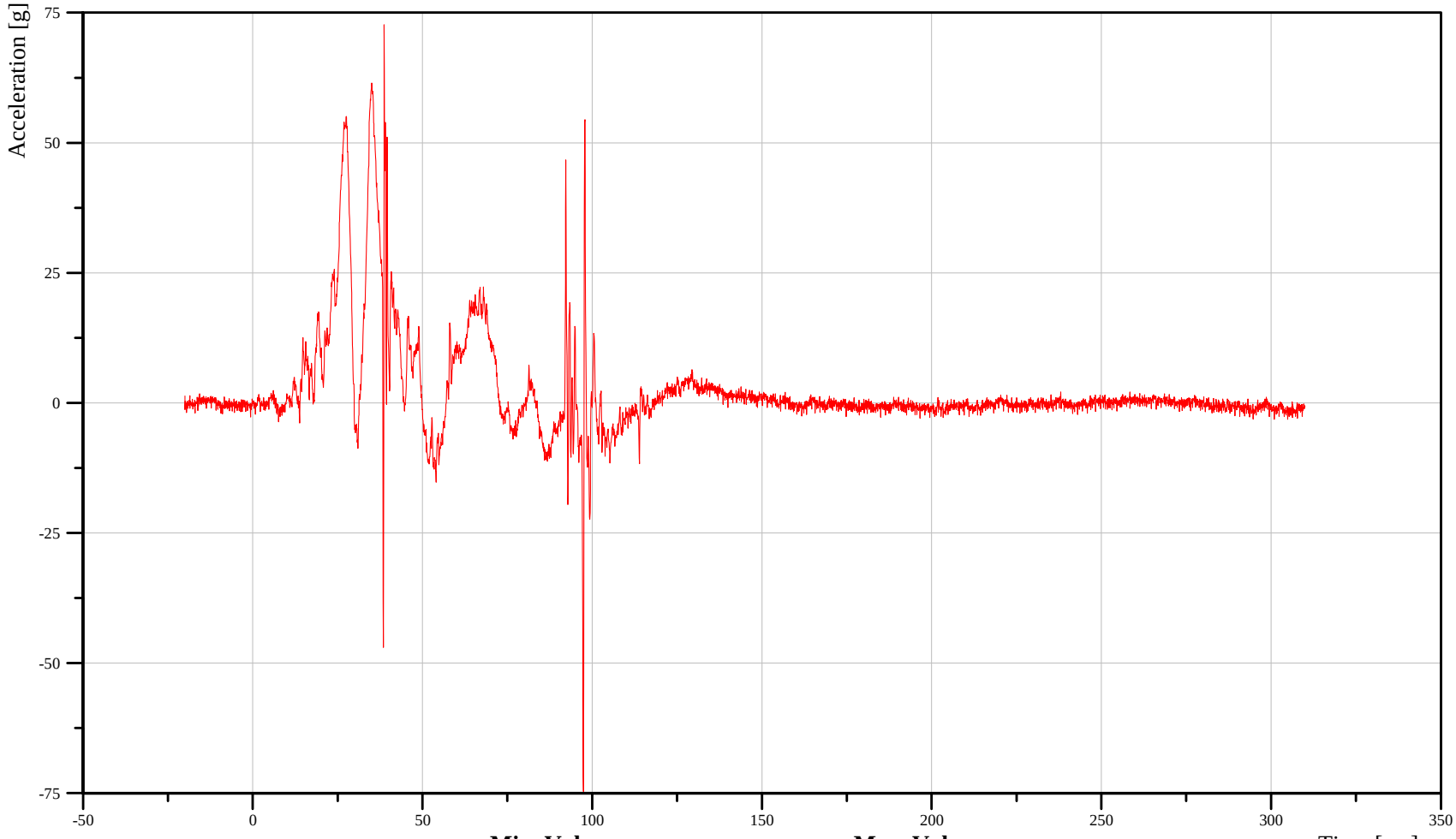
Driver Abdominal Rib 1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE01WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-74.66 g at 97.44 ms

Max. Value
72.66 g at 38.72 ms

World SID Evaluation

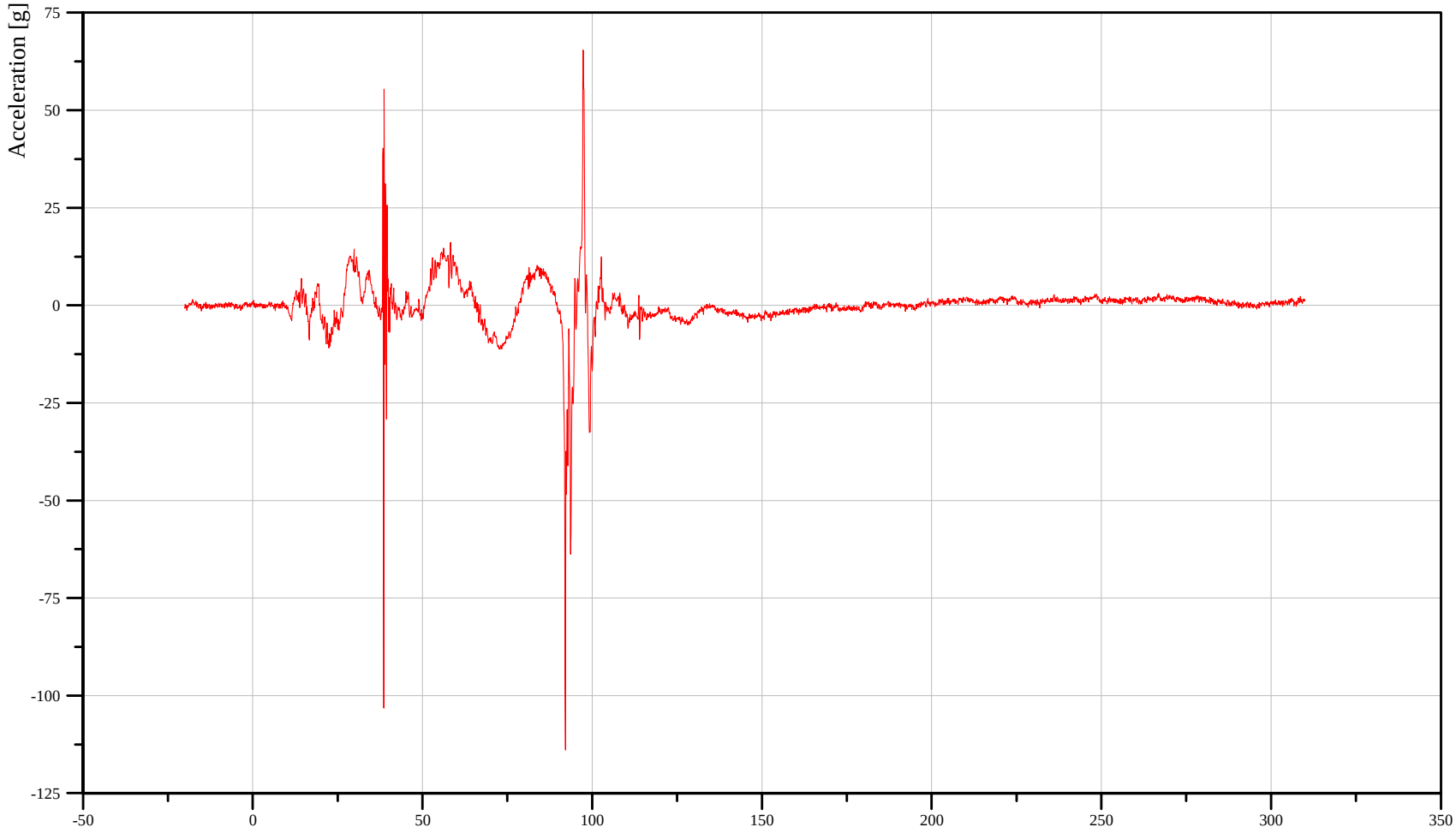
Driver Abdominal Rib 1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE01WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-113.94 g at 92.08 ms

Max. Value
65.39 g at 97.36 ms

World SID Evaluation

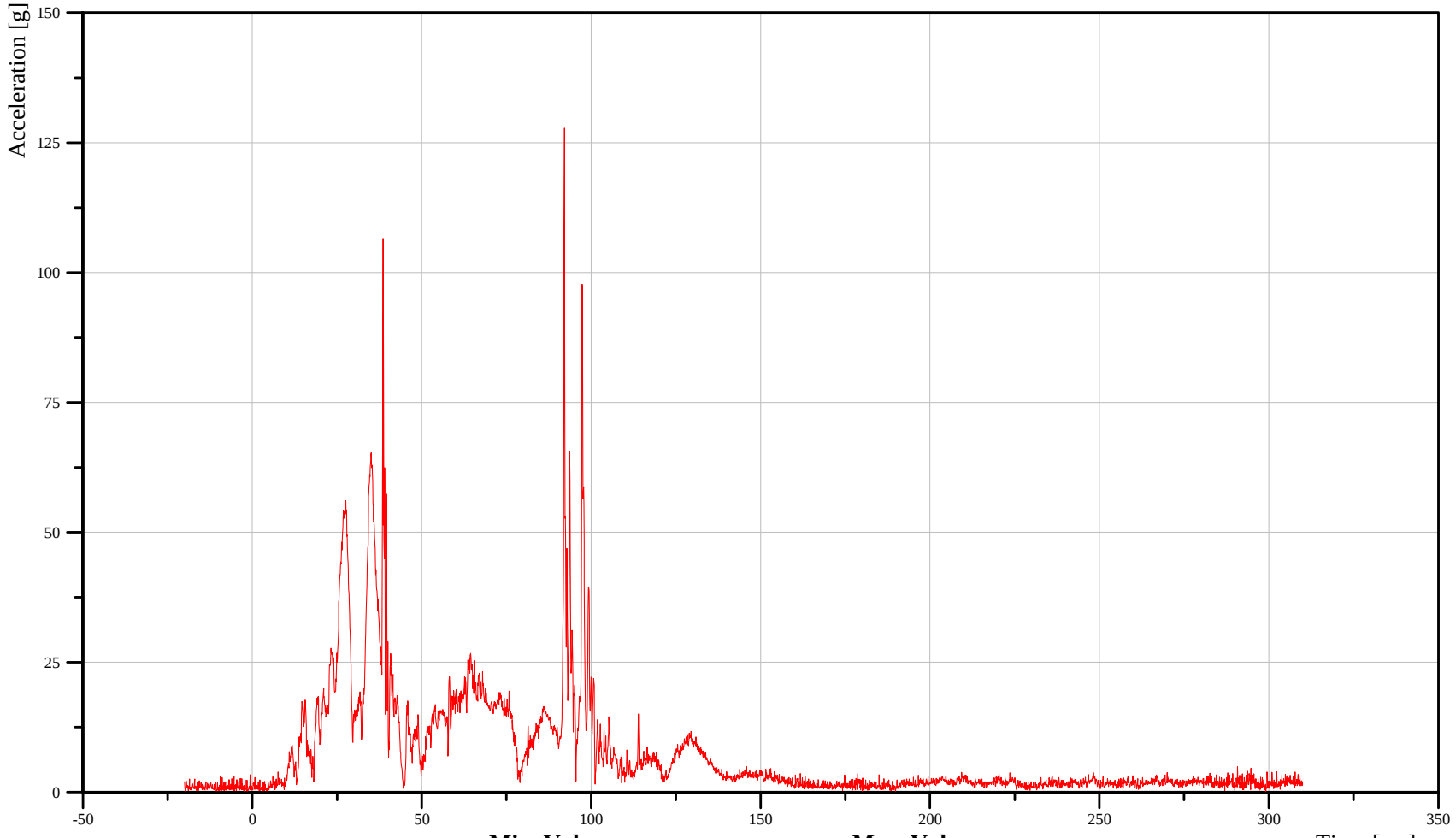
Driver Abdominal Rib 1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE01WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.13 g at 299.12 ms

Max. Value
127.77 g at 92.08 ms

World SID Evaluation

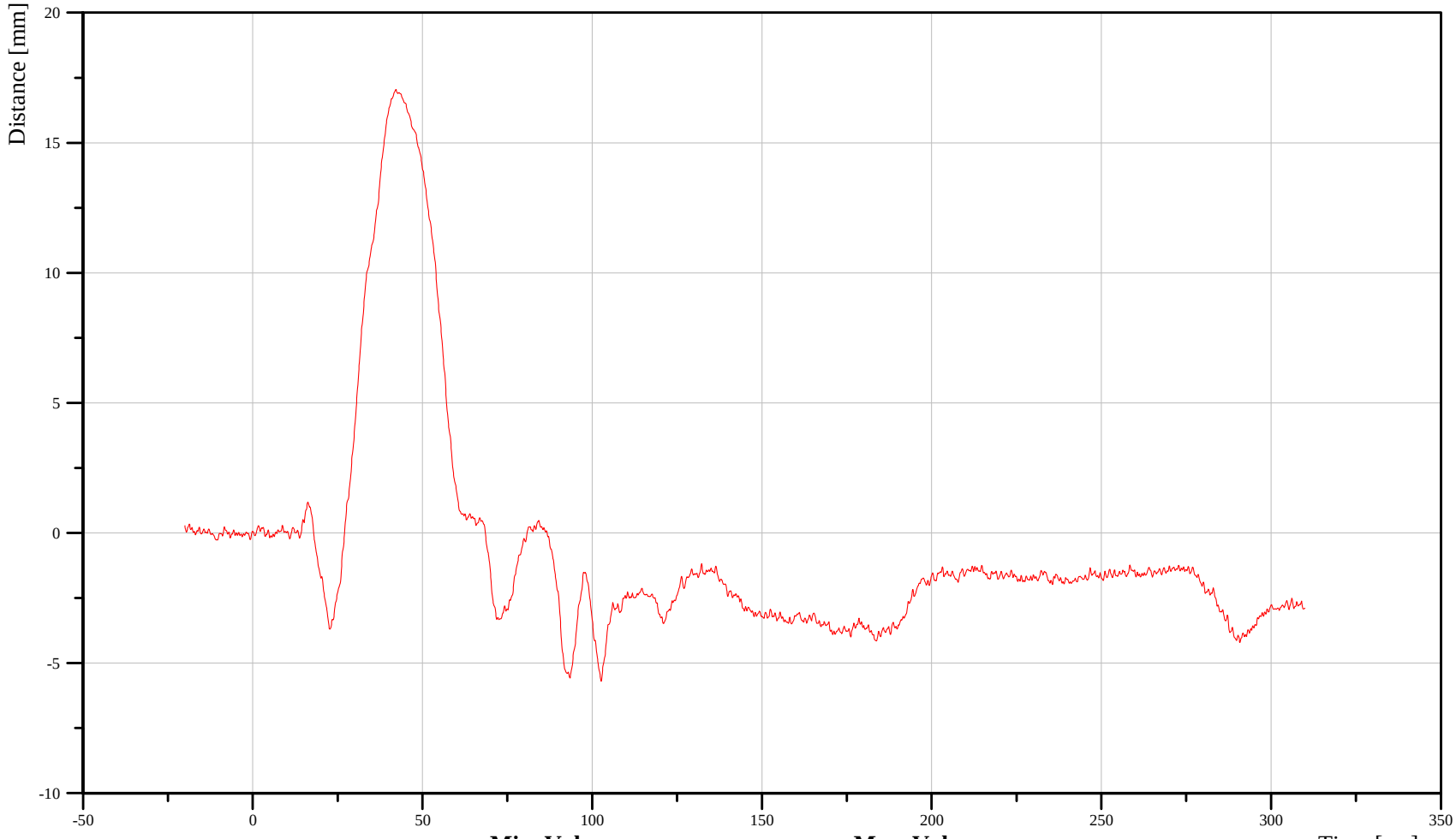
Driver Abdominal Rib 2 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE02WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-5.70 mm at 102.64 ms

Max. Value
17.05 mm at 42.16 ms

World SID Evaluation

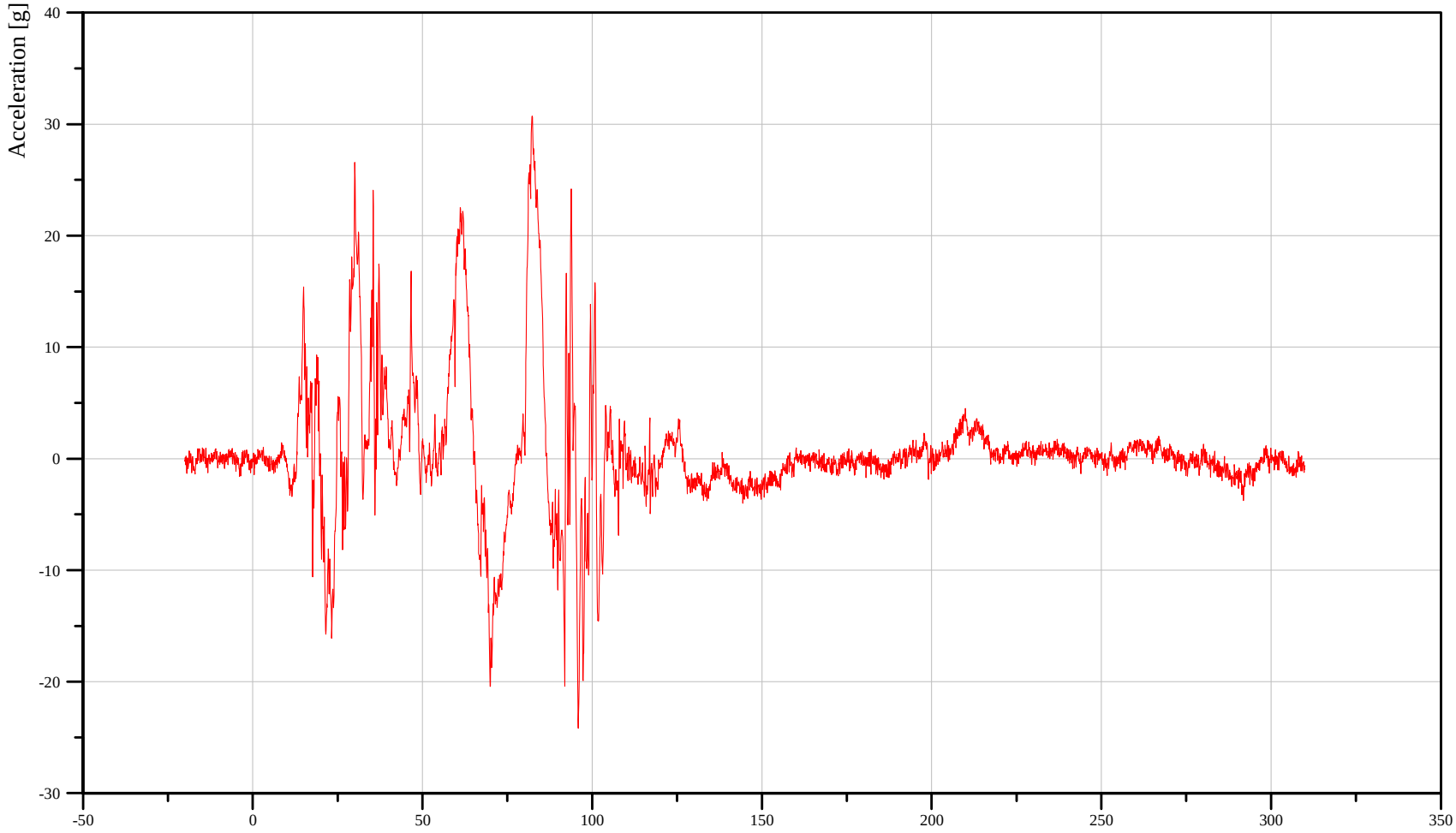
Driver Abdominal Rib 2 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE02WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-24.20 g at 95.92 ms

Max. Value
30.74 g at 82.32 ms

World SID Evaluation

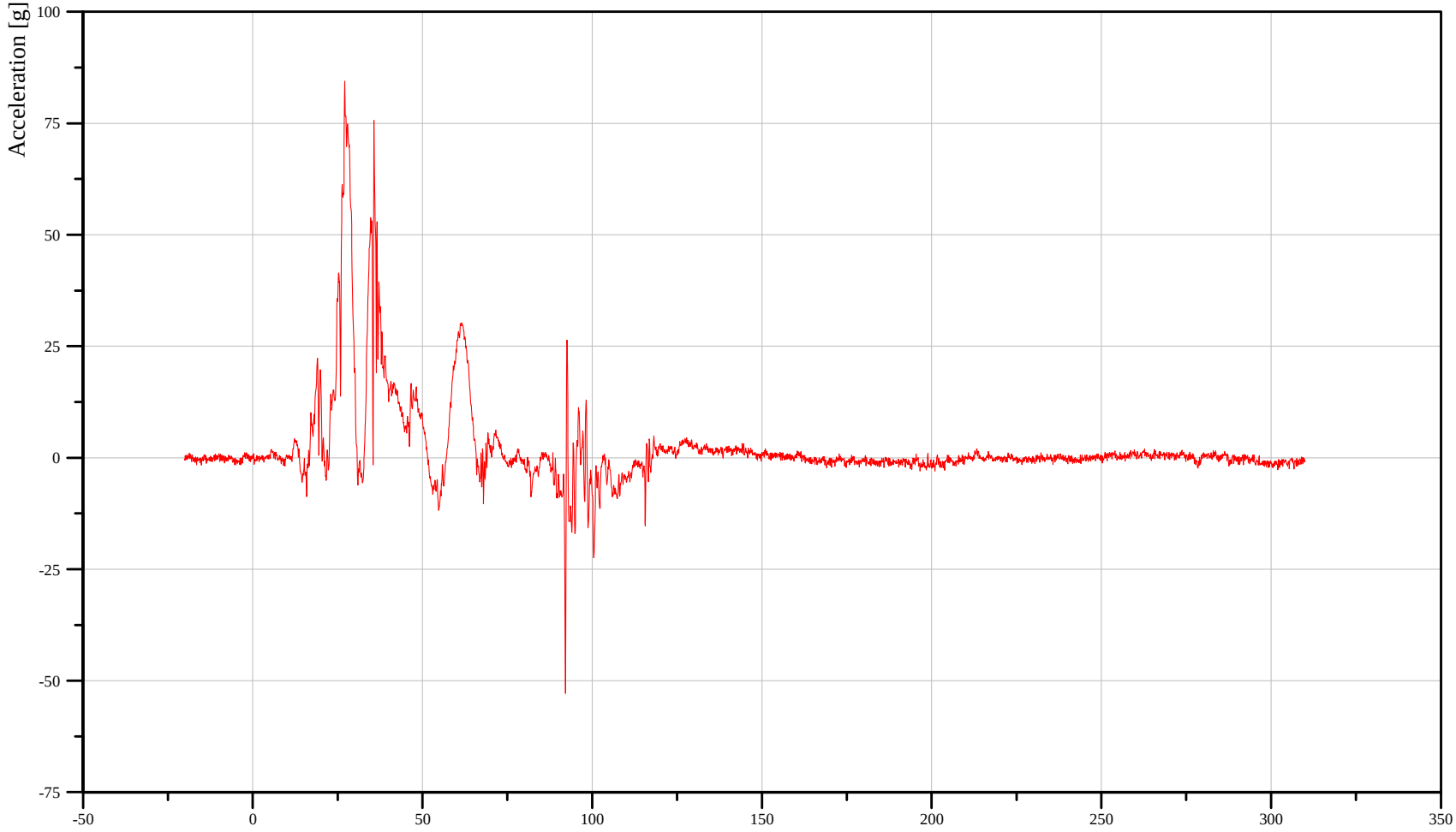
Driver Abdominal Rib 2 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE02WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-52.83 g at 92.16 ms

Max. Value
84.46 g at 27.12 ms

World SID Evaluation

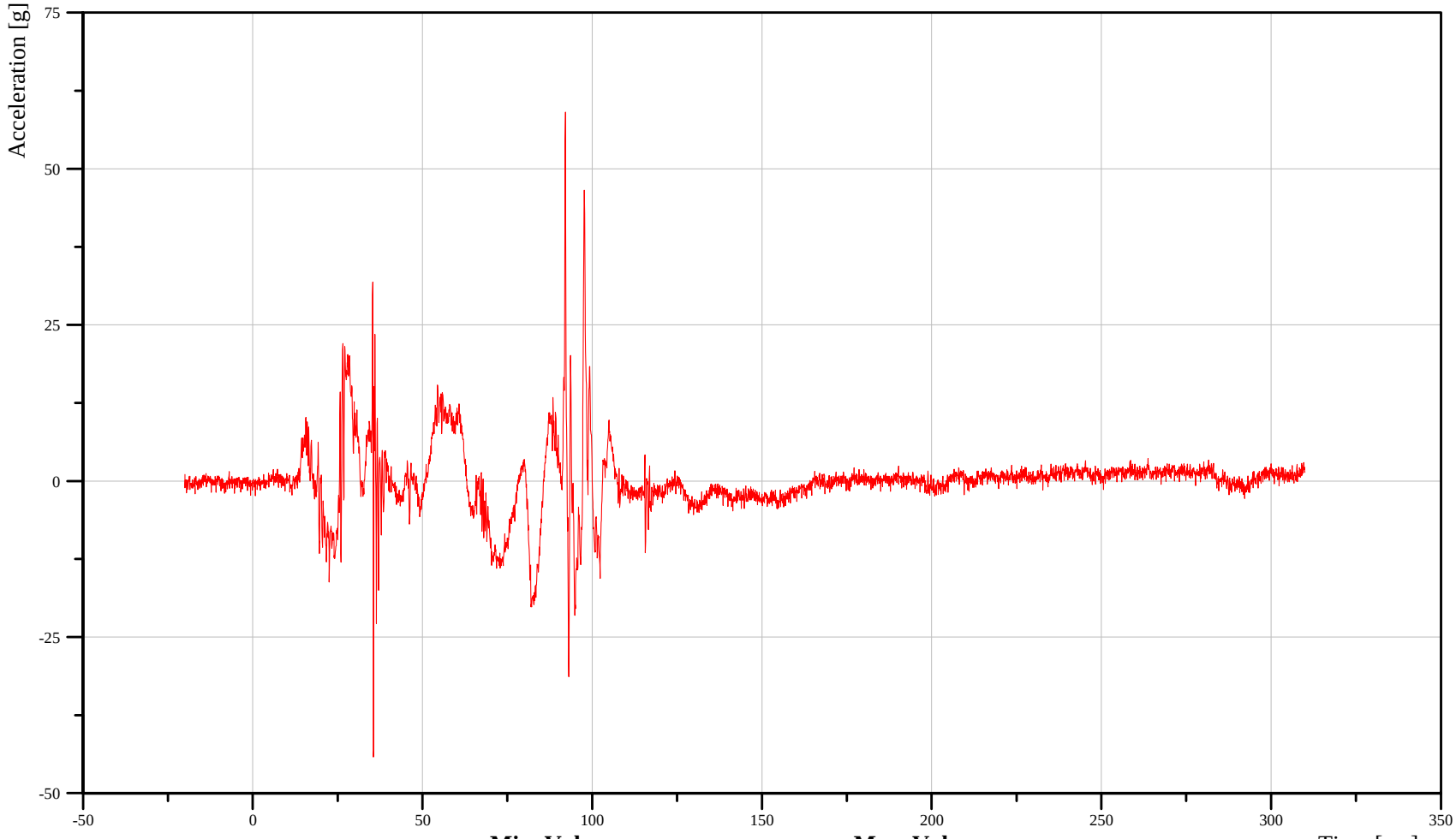
Driver Abdominal Rib 2 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE02WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-44.22 g at 35.52 ms

Max. Value
59.08 g at 92.08 ms

World SID Evaluation

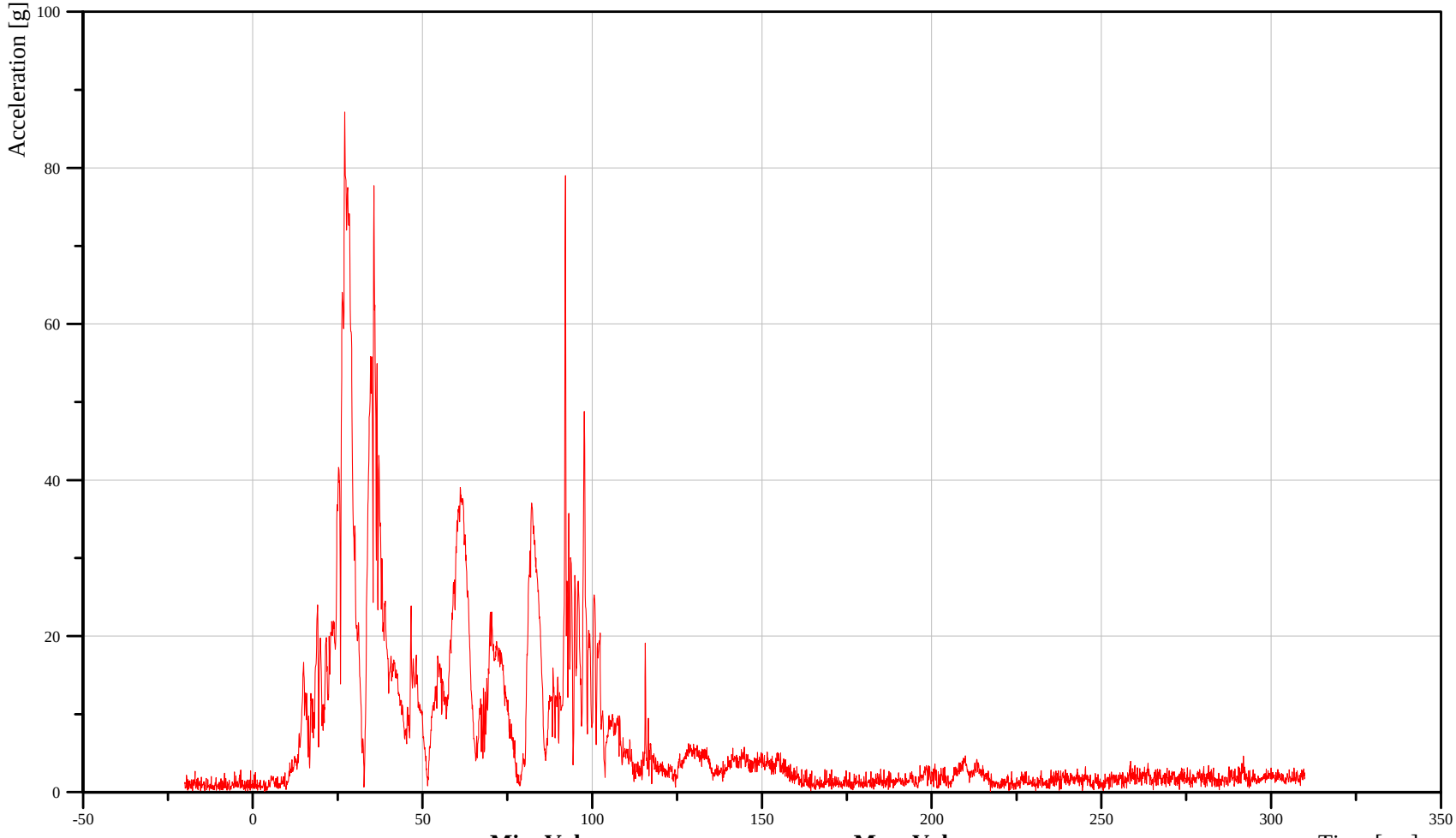
Driver Abdominal Rib 2 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11ABRILE02WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.11 g at 217.28 ms

Max. Value
87.16 g at 27.12 ms

World SID Evaluation

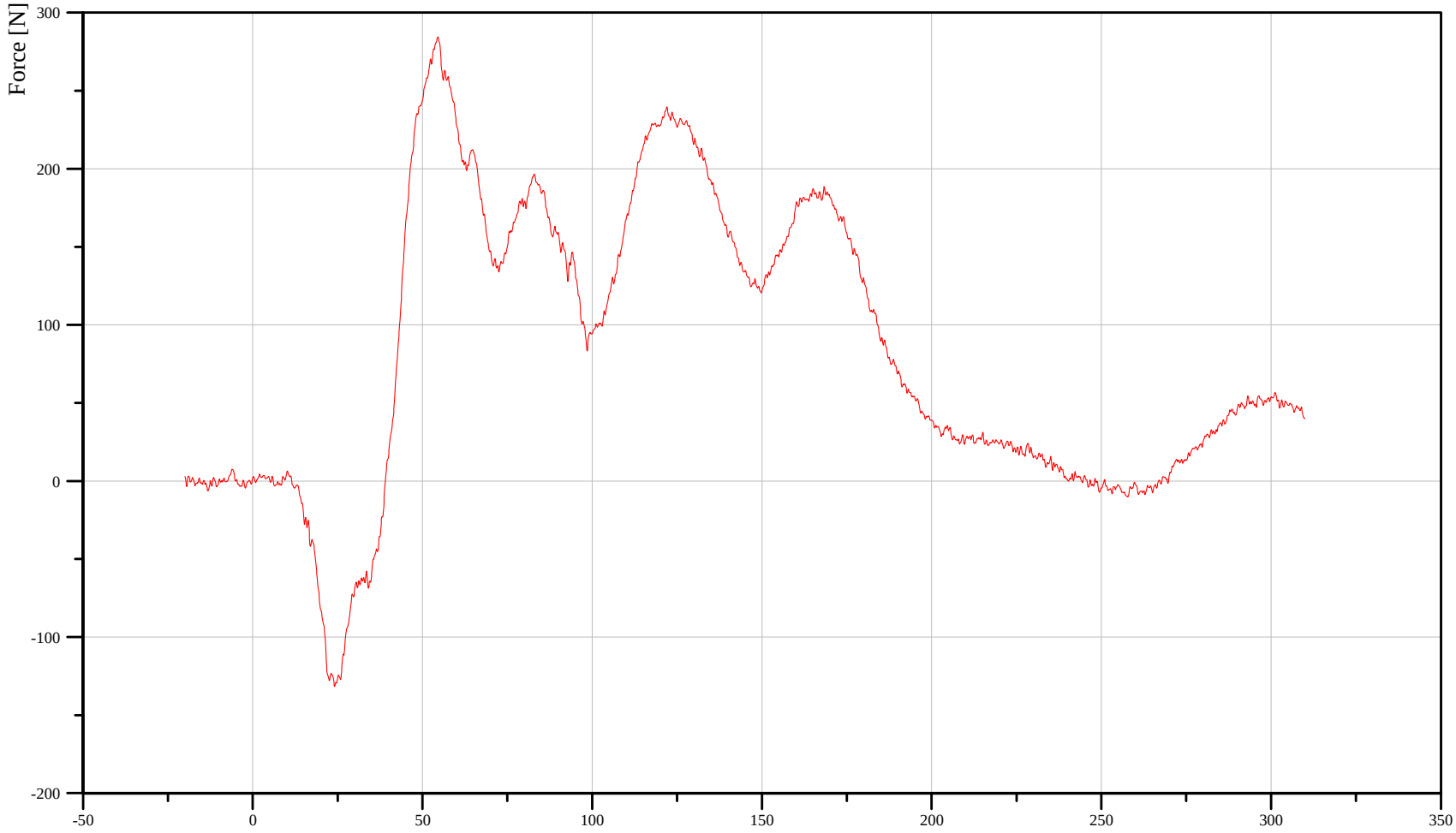
Driver Lumbar X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-131.74 N at 24.16 ms

Max. Value
284.37 N at 54.56 ms

World SID Evaluation

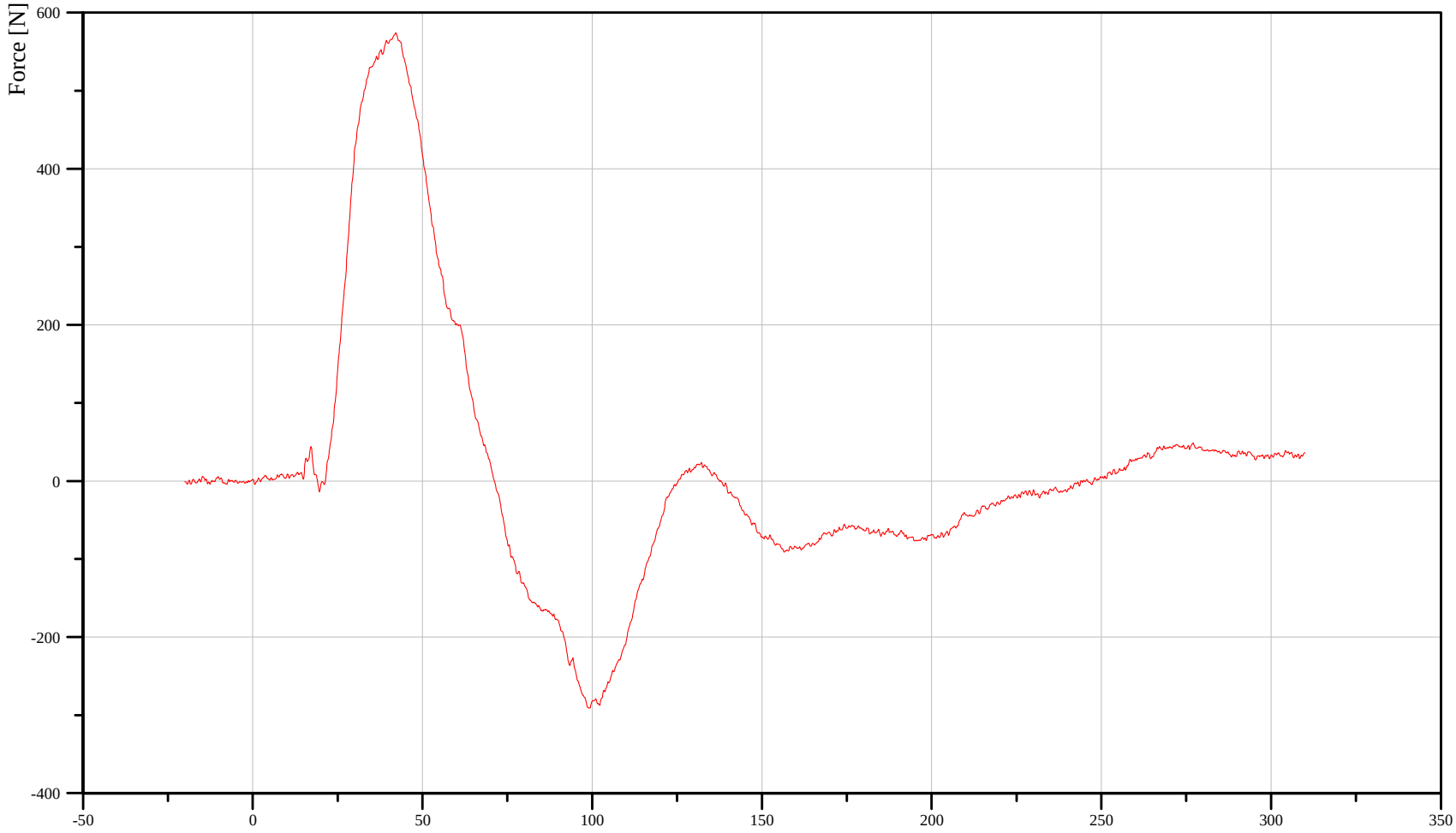
Driver Lumbar Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-291.04 N at 99.12 ms

Max. Value
574.10 N at 42.16 ms

World SID Evaluation

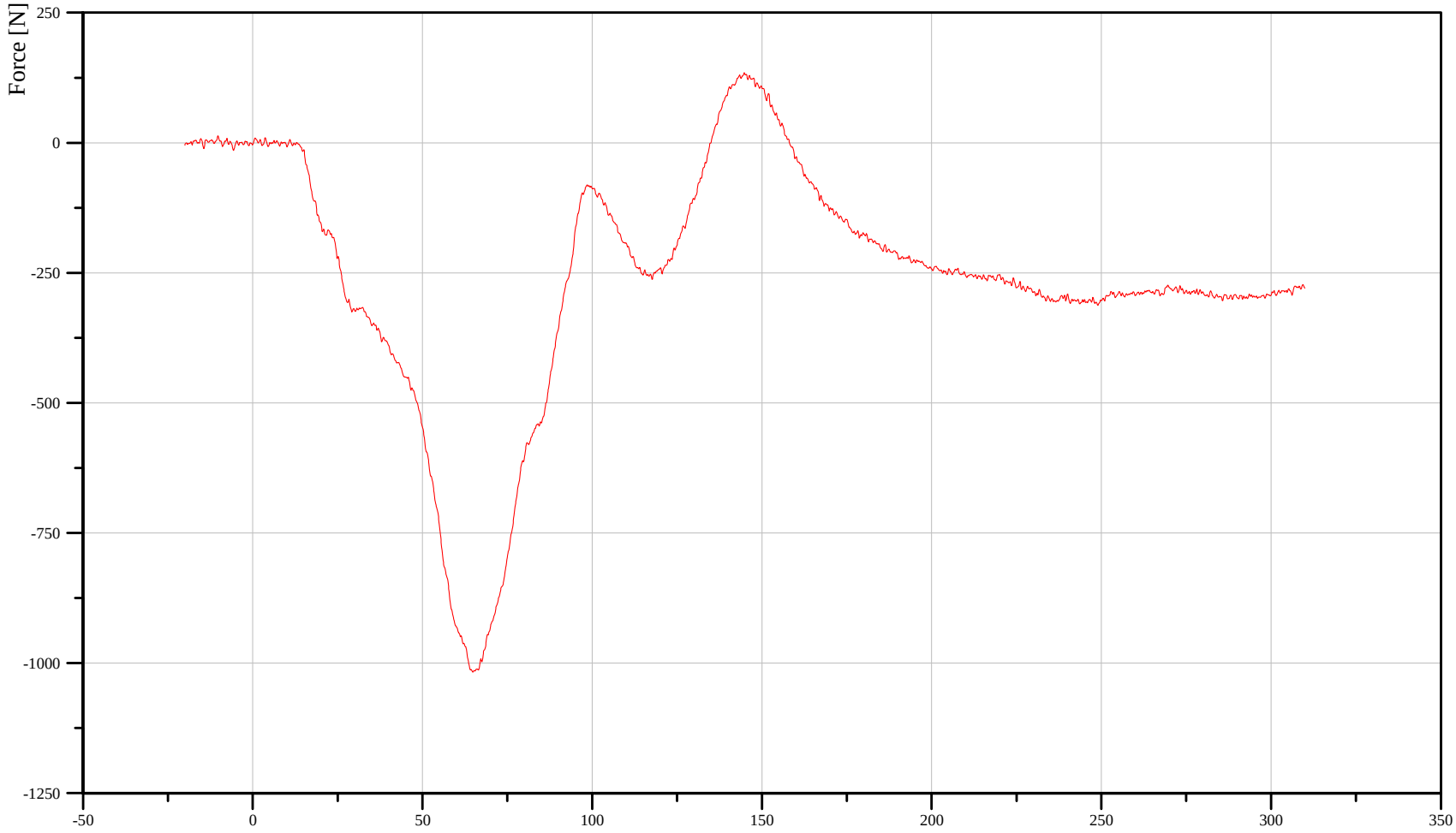
Driver Lumbar Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1,017.60 N at 64.80 ms

Max. Value
134.78 N at 144.80 ms

World SID Evaluation

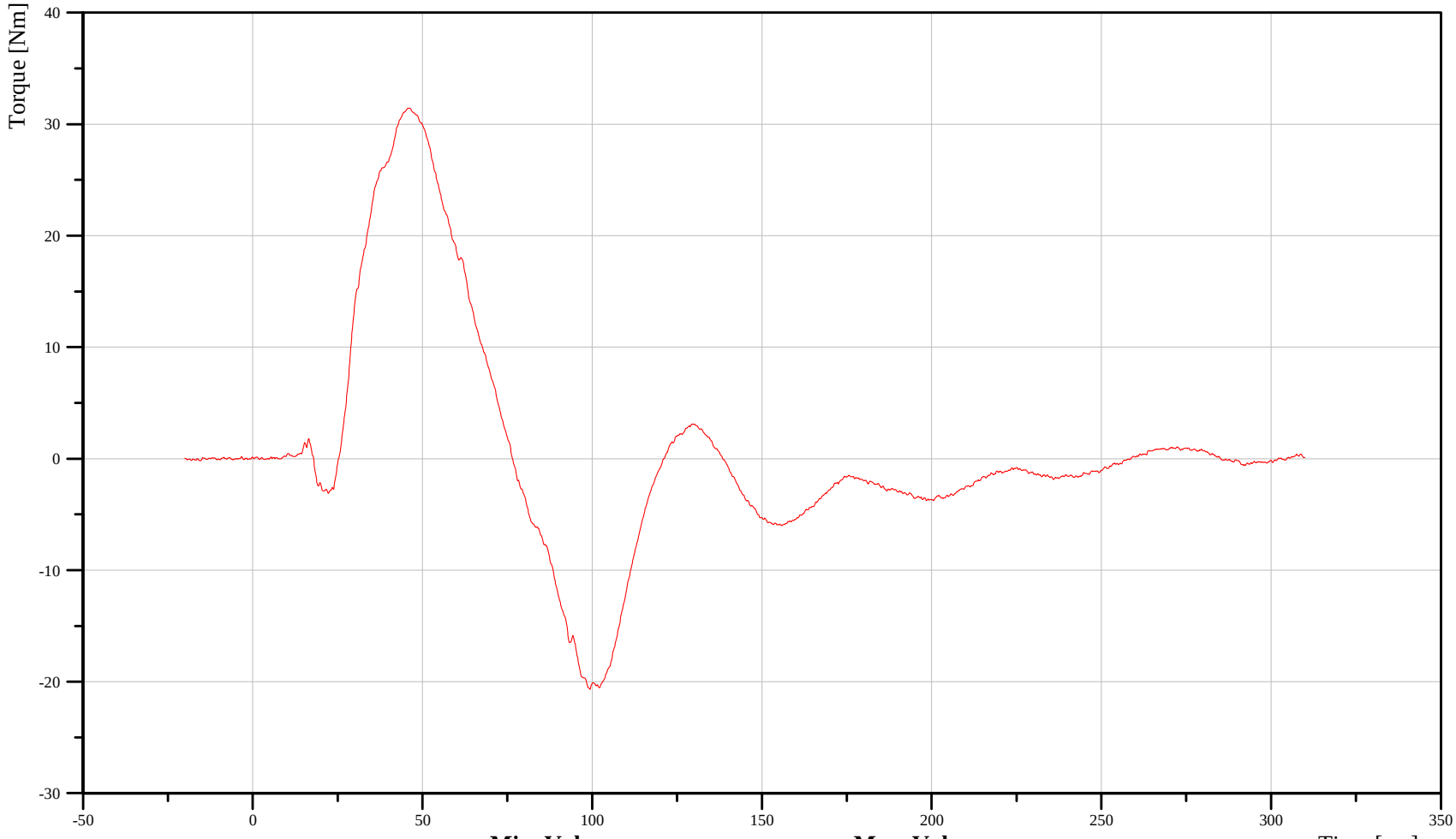
Driver Lumbar Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-20.68 Nm at 99.36 ms

Max. Value
31.45 Nm at 46.00 ms

World SID Evaluation

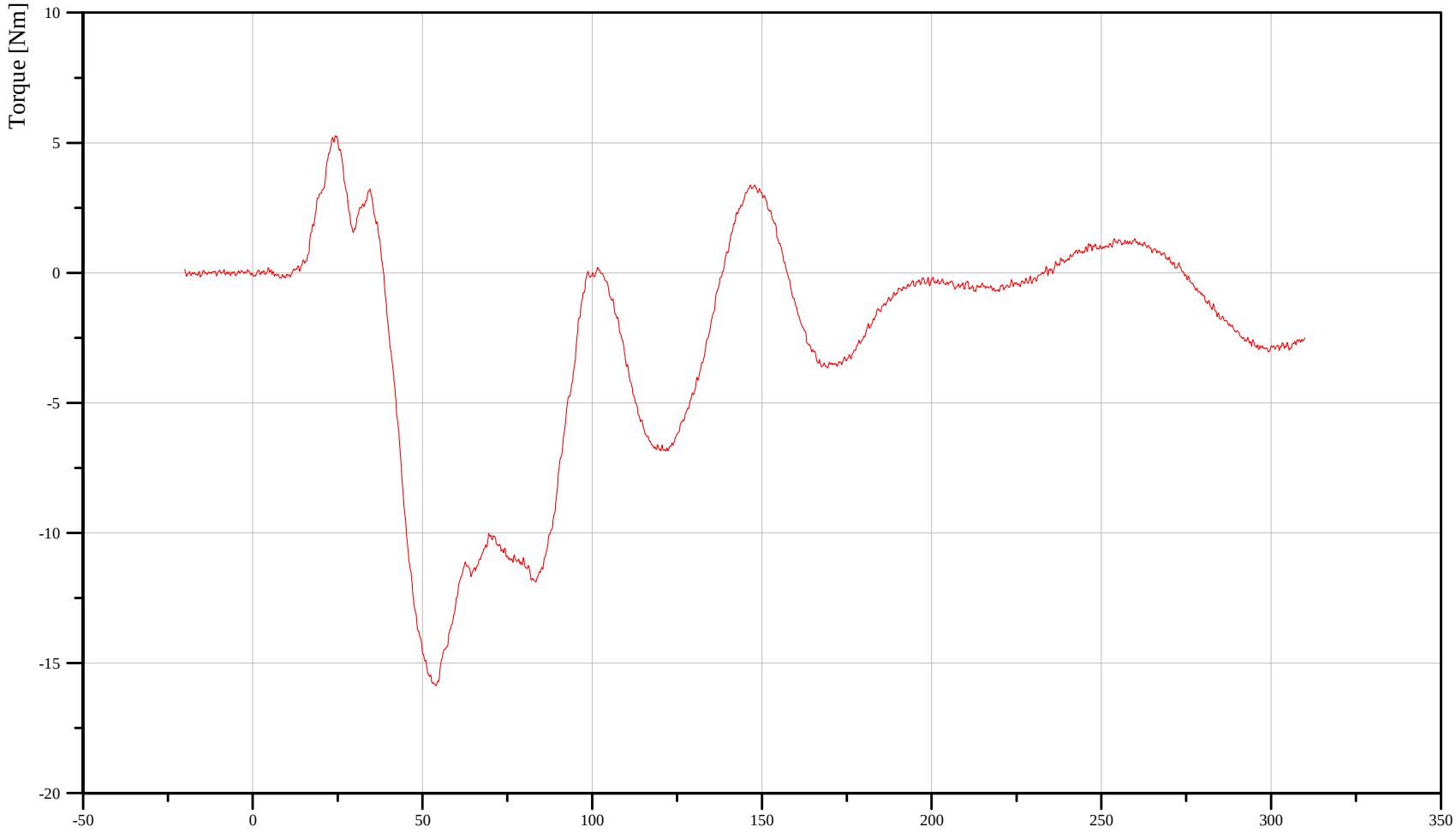
Driver Lumbar Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-15.87 Nm at 54.00 ms

Max. Value
5.27 Nm at 24.32 ms

World SID Evaluation

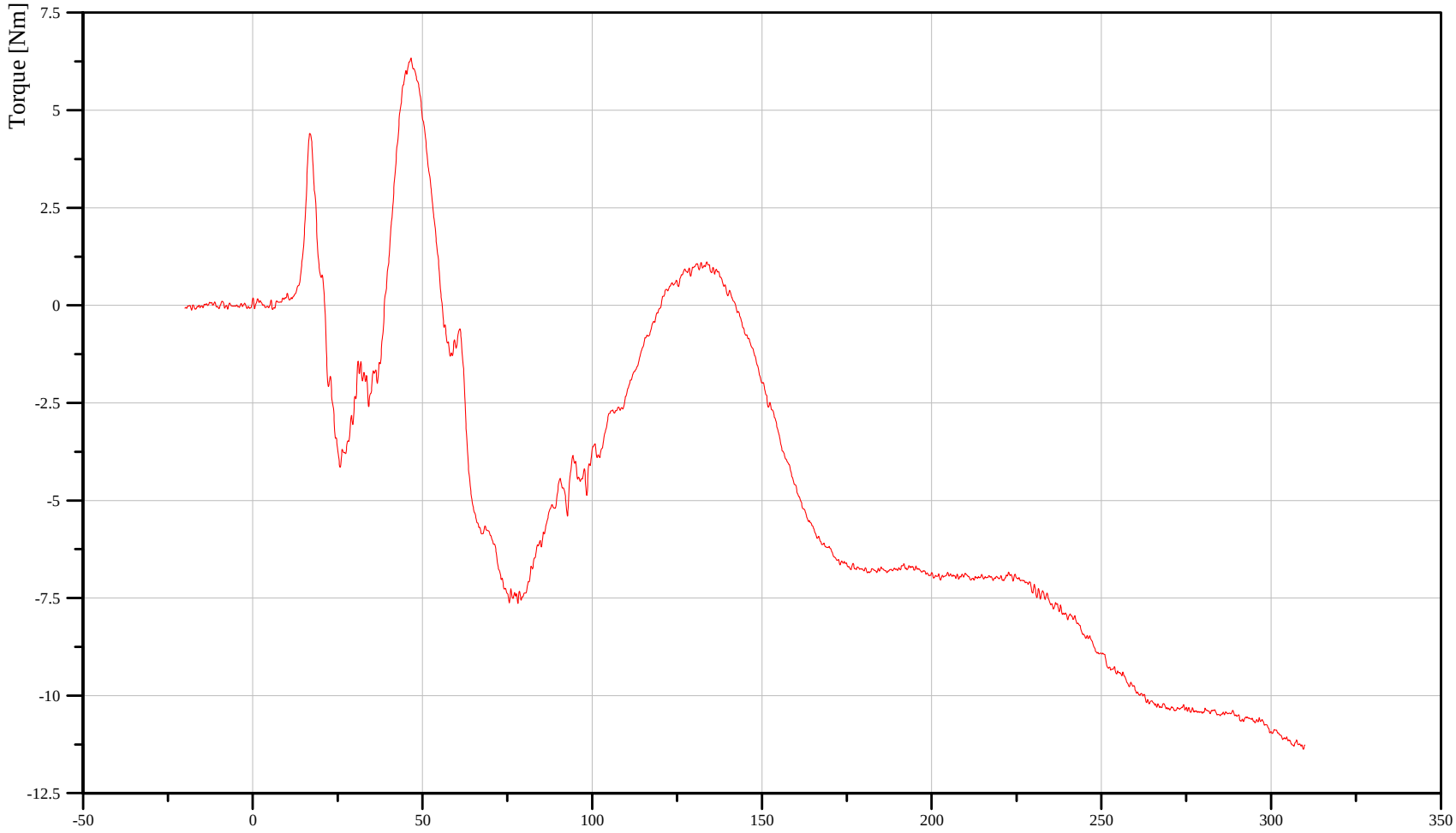
Driver Lumbar Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-11.38 Nm at 309.52 ms

Max. Value
6.34 Nm at 46.64 ms

World SID Evaluation

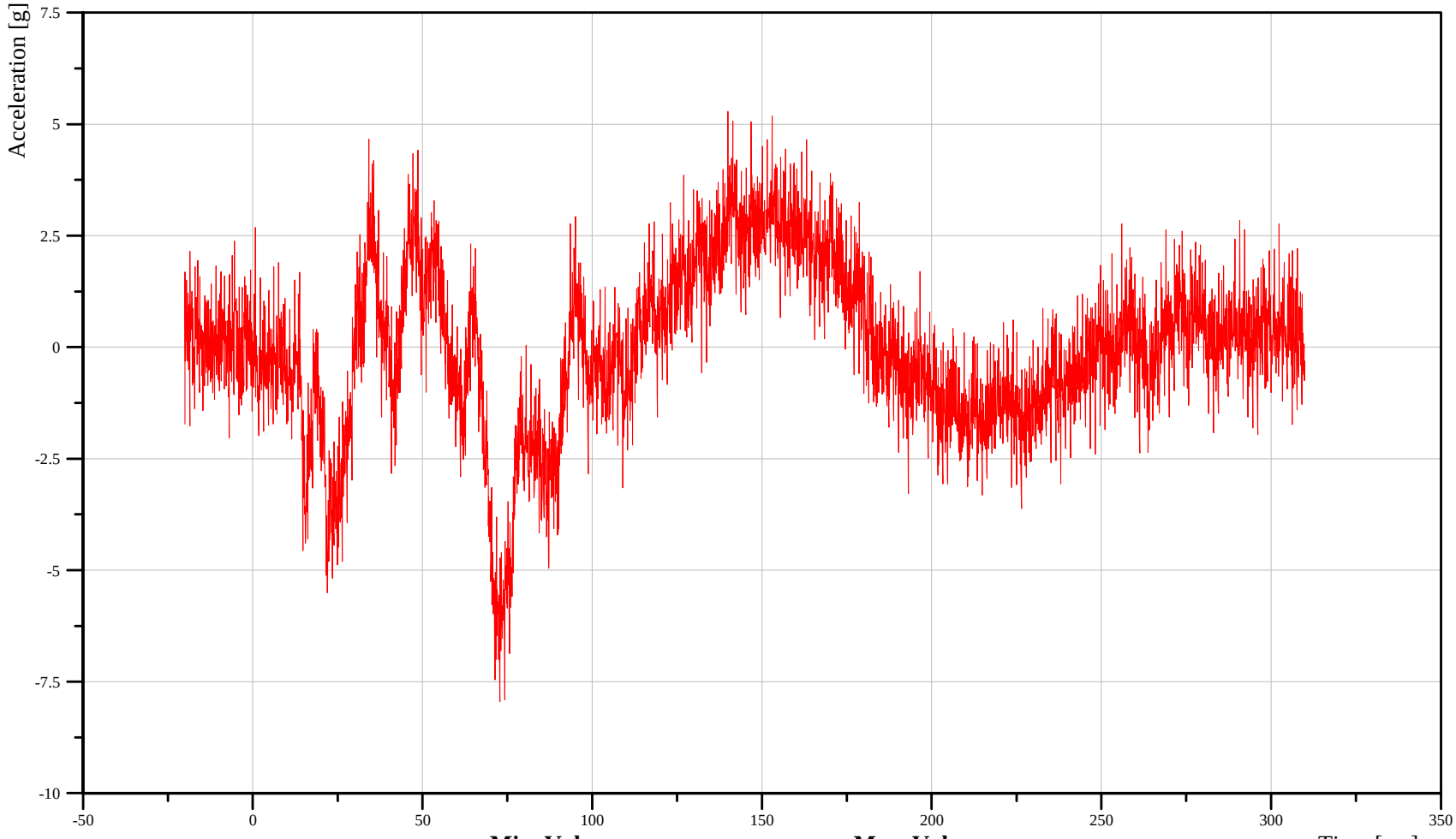
Driver Pelvis X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PELVCG00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-7.95 g at 72.80 ms

Max. Value
5.29 g at 140.00 ms

World SID Evaluation

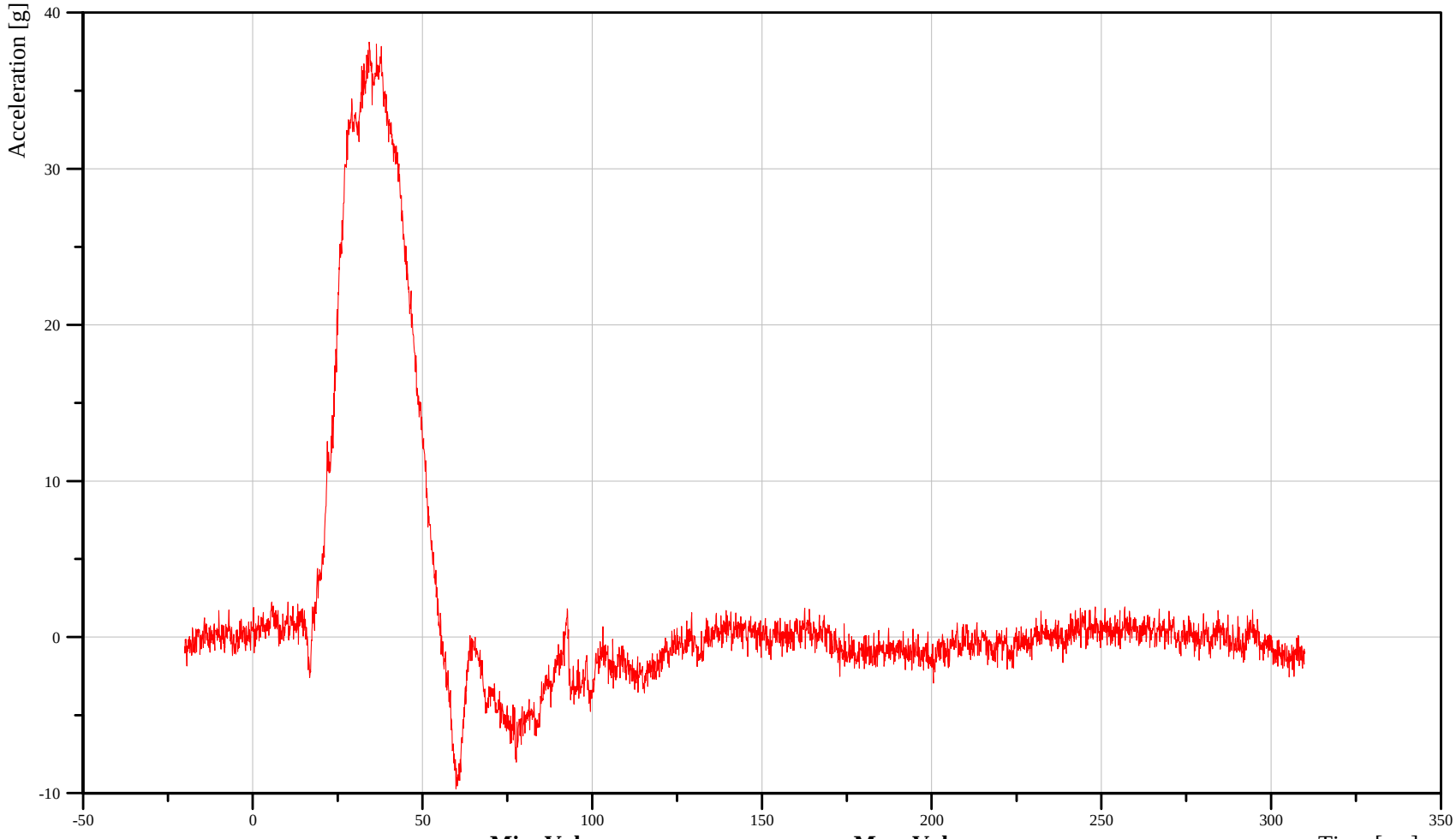
Driver Pelvis Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PELVCG00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-9.74 g at 59.84 ms

Max. Value
38.10 g at 34.32 ms

World SID Evaluation

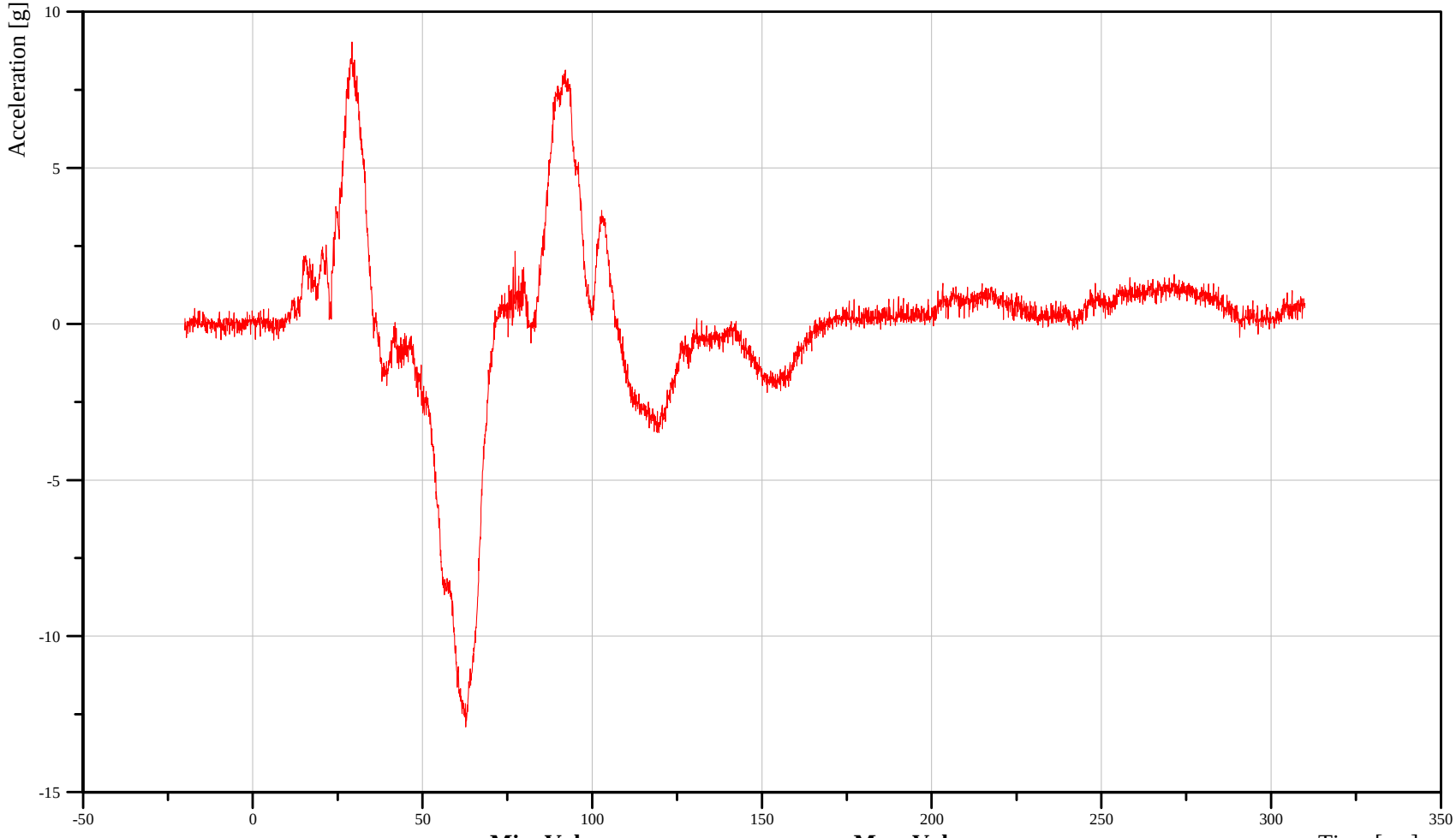
Driver Pelvis Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PELVCG00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-12.91 g at 62.72 ms

Max. Value
9.04 g at 29.28 ms

World SID Evaluation

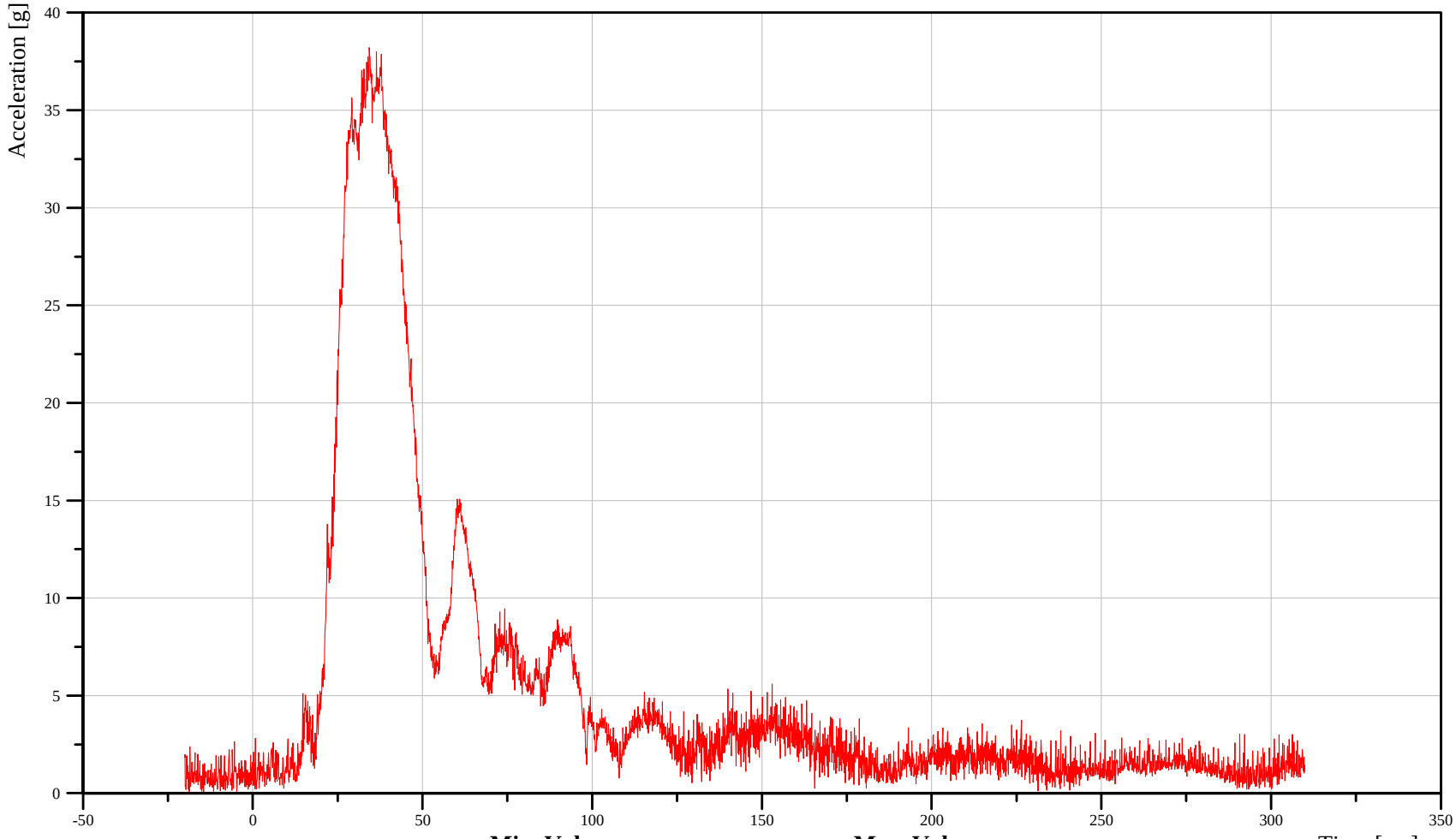
Driver Pelvis Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PELVCG00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.07 g at -14.48 ms

Max. Value
38.21 g at 34.32 ms

World SID Evaluation

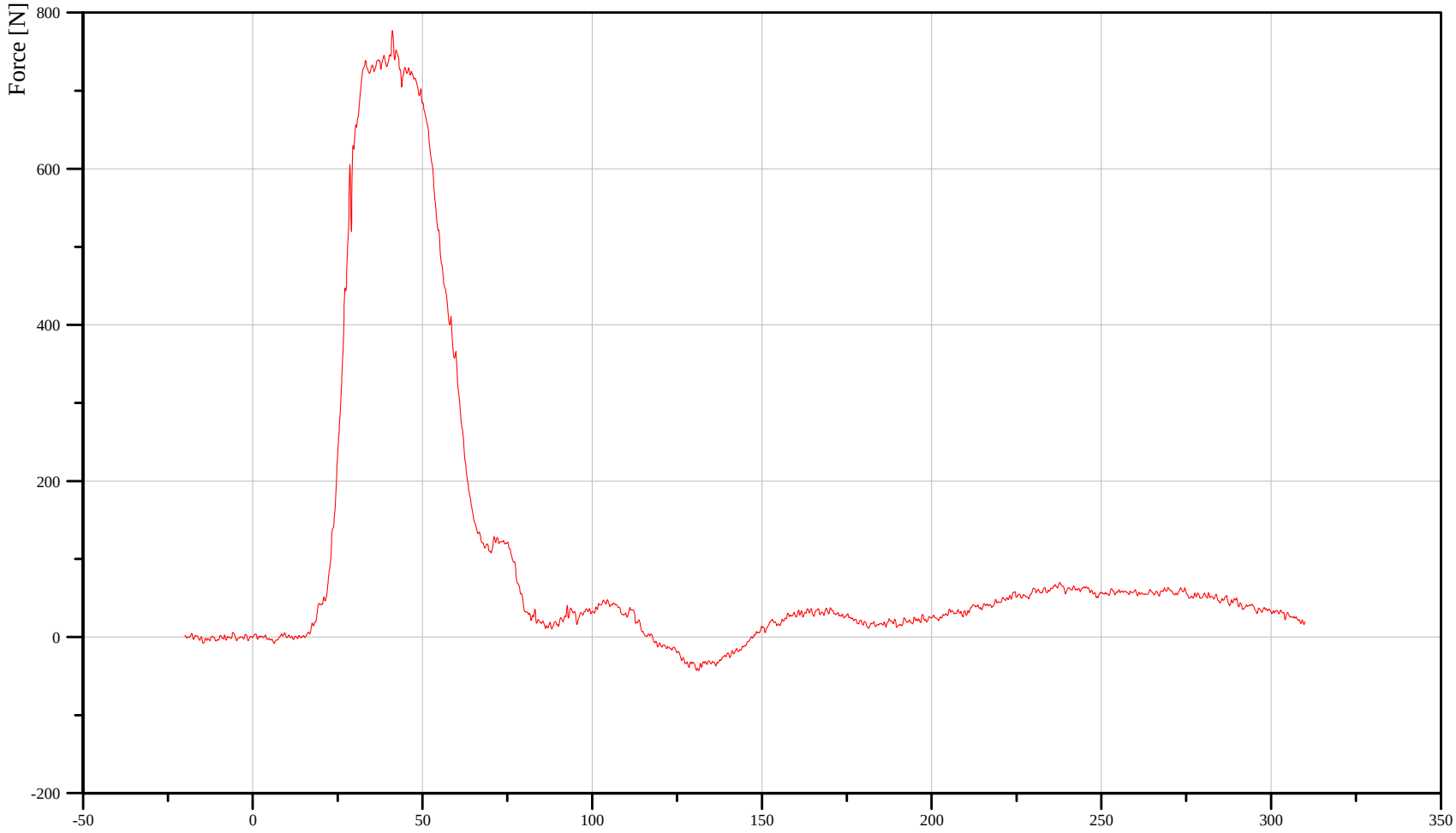
Driver Pubic Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-43.17 N at 131.36 ms

Max. Value
777.26 N at 41.12 ms

B-150

080821

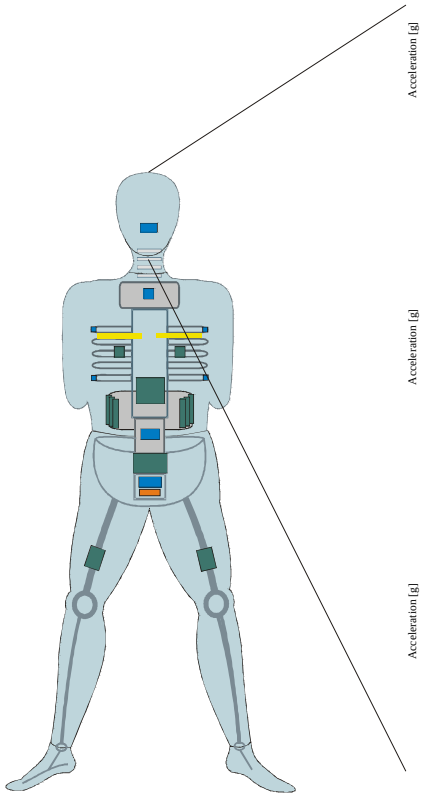
World SID Evaluation

Head Injury Criterion (HIC)

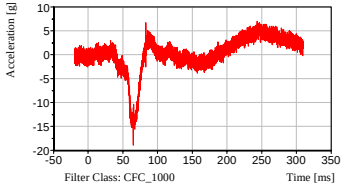
Date: 08/21/2008
Time: 13:12

Customer: VRTC

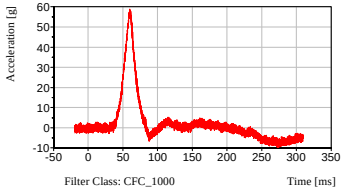
TRC Inc. Test Lab: CTF
Test Number: 080821-1



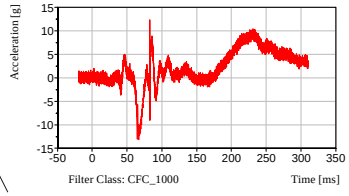
14HEADCG00WSACXA



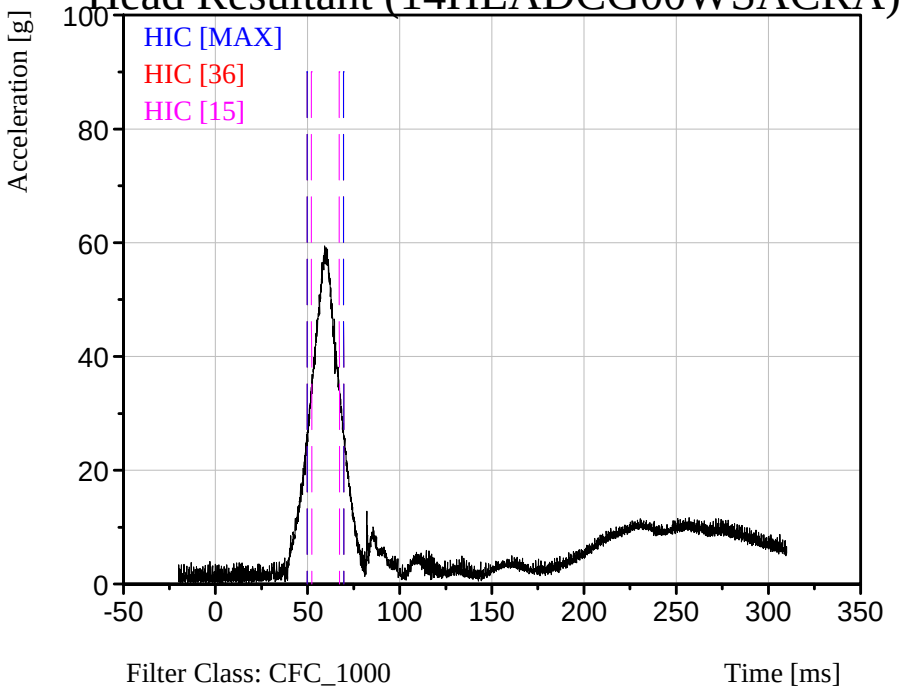
14HEADCG00WSACYA



14HEADCG00WSACZA



Head Resultant (14HEADCG00WSACRA)



	T1 (Begin)	T2 (End)	Avg. g T1 to T2
HIC [Max.] = 242.52	49.76 ms	69.60 ms	43.07 g
HIC [36] = 242.52	49.76 ms	69.60 ms	43.07 g
HIC [15] = 231.34	52.24 ms	67.28 ms	47.22 g

Dummy:
Seating Position:
Left Rear Passenger

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

World SID Evaluation

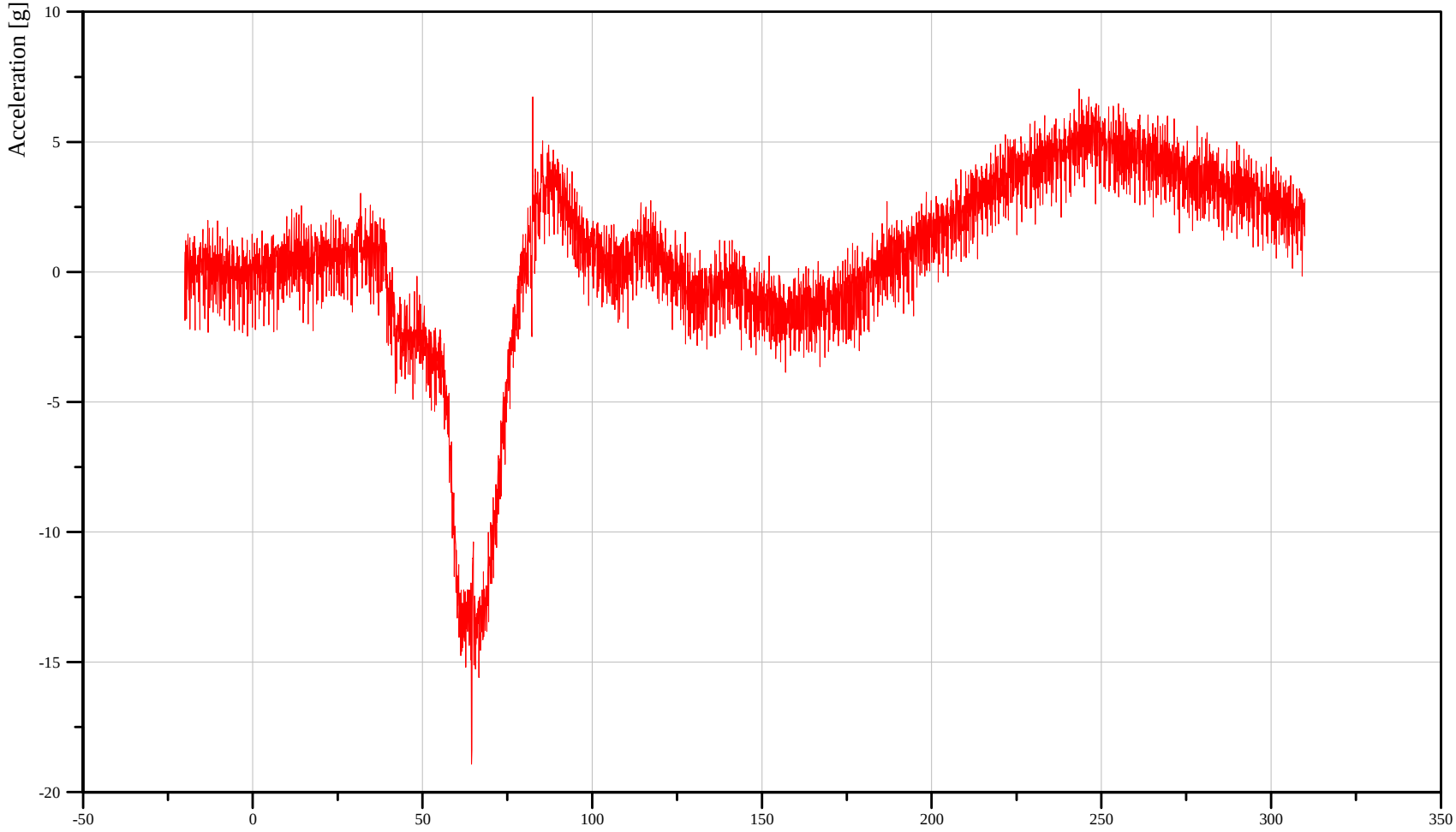
Passenger Head X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-18.92 g at 64.48 ms

Max. Value
7.03 g at 243.44 ms

World SID Evaluation

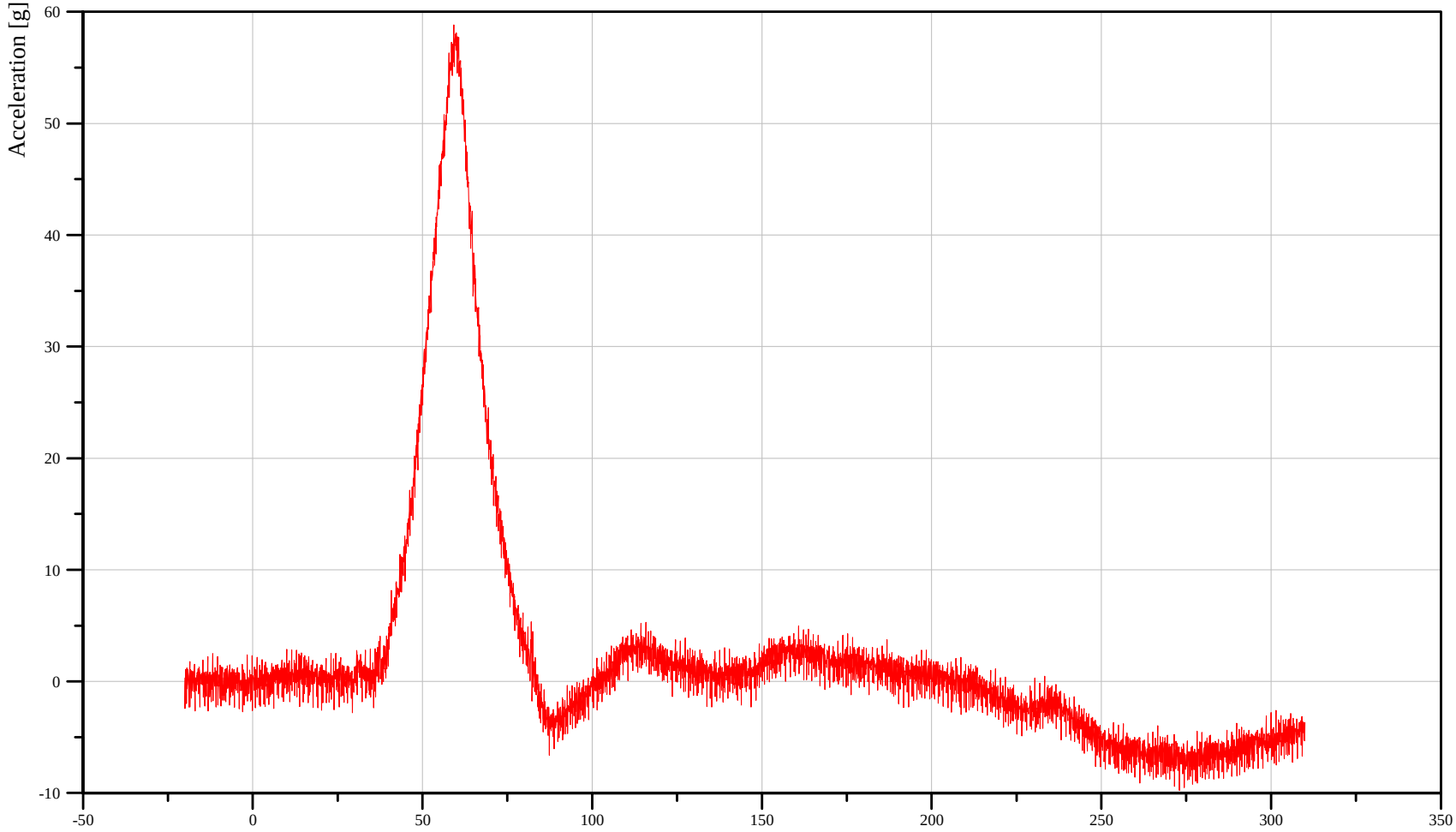
Passenger Head Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-9.78 g at 272.96 ms

Max. Value
58.83 g at 59.28 ms

World SID Evaluation

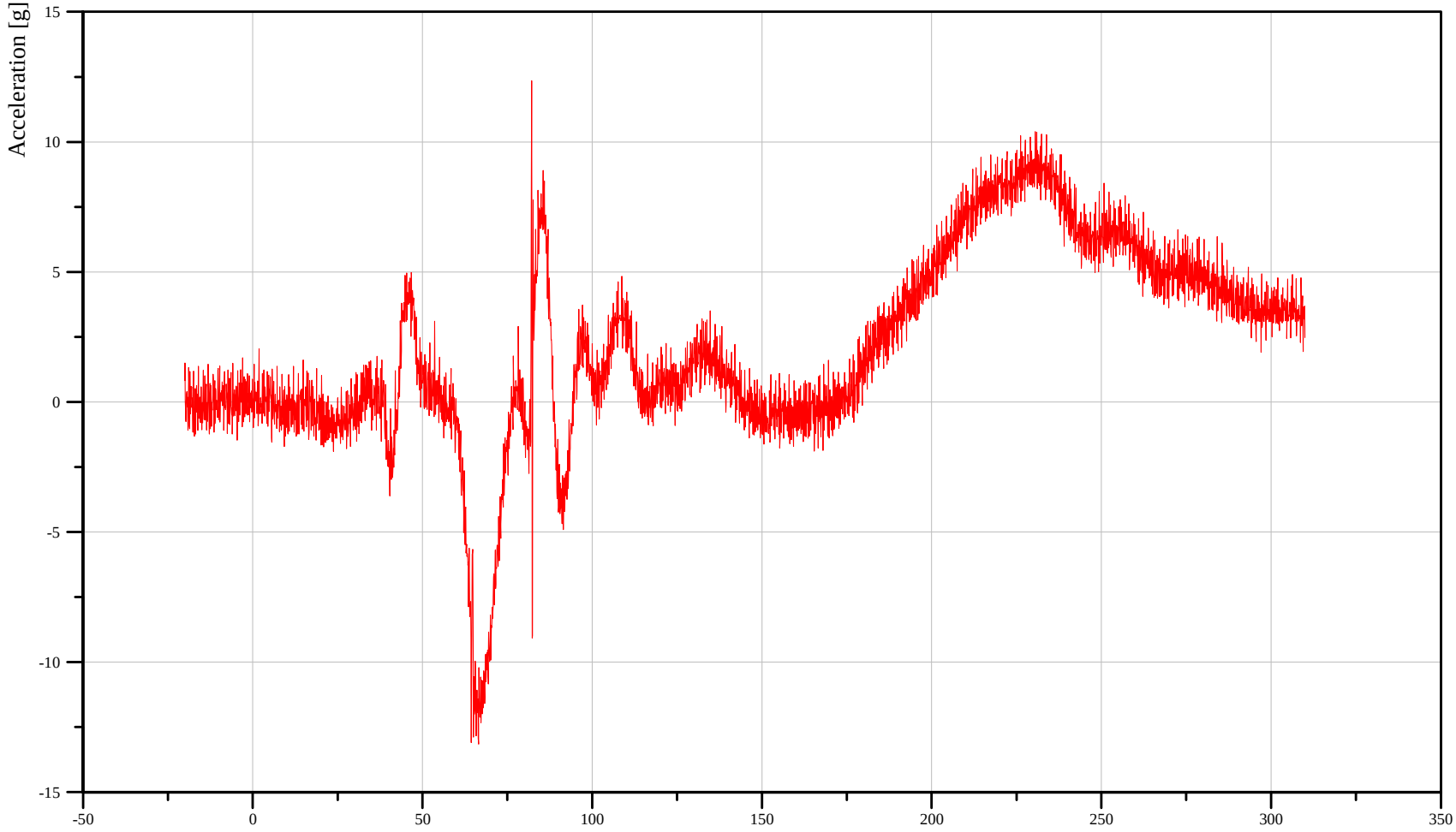
Passenger Head Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-13.15 g at 66.48 ms

Max. Value
12.36 g at 82.16 ms

World SID Evaluation

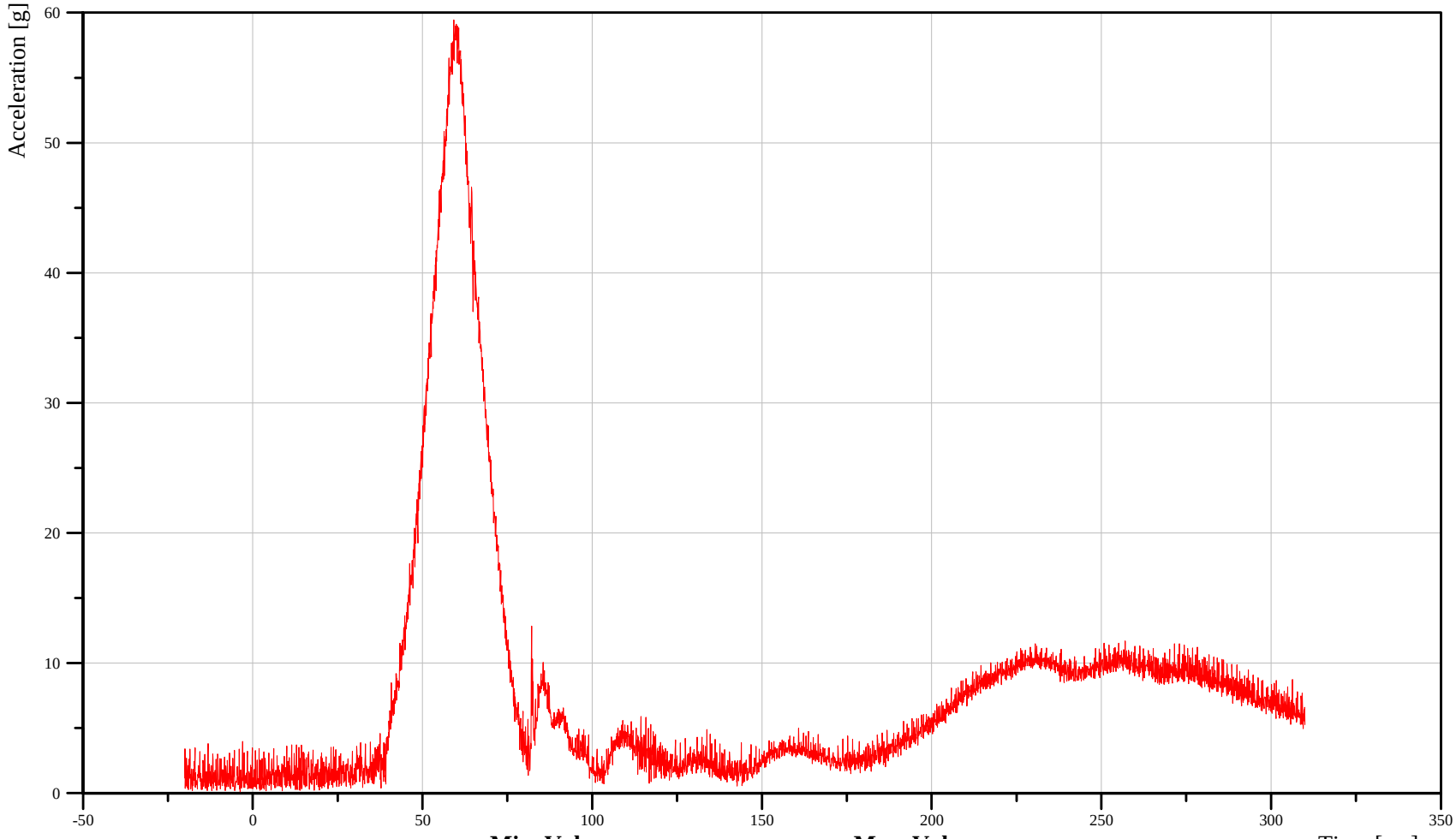
Passenger Head Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.11 g at -3.68 ms

Max. Value
59.44 g at 59.28 ms

World SID Evaluation

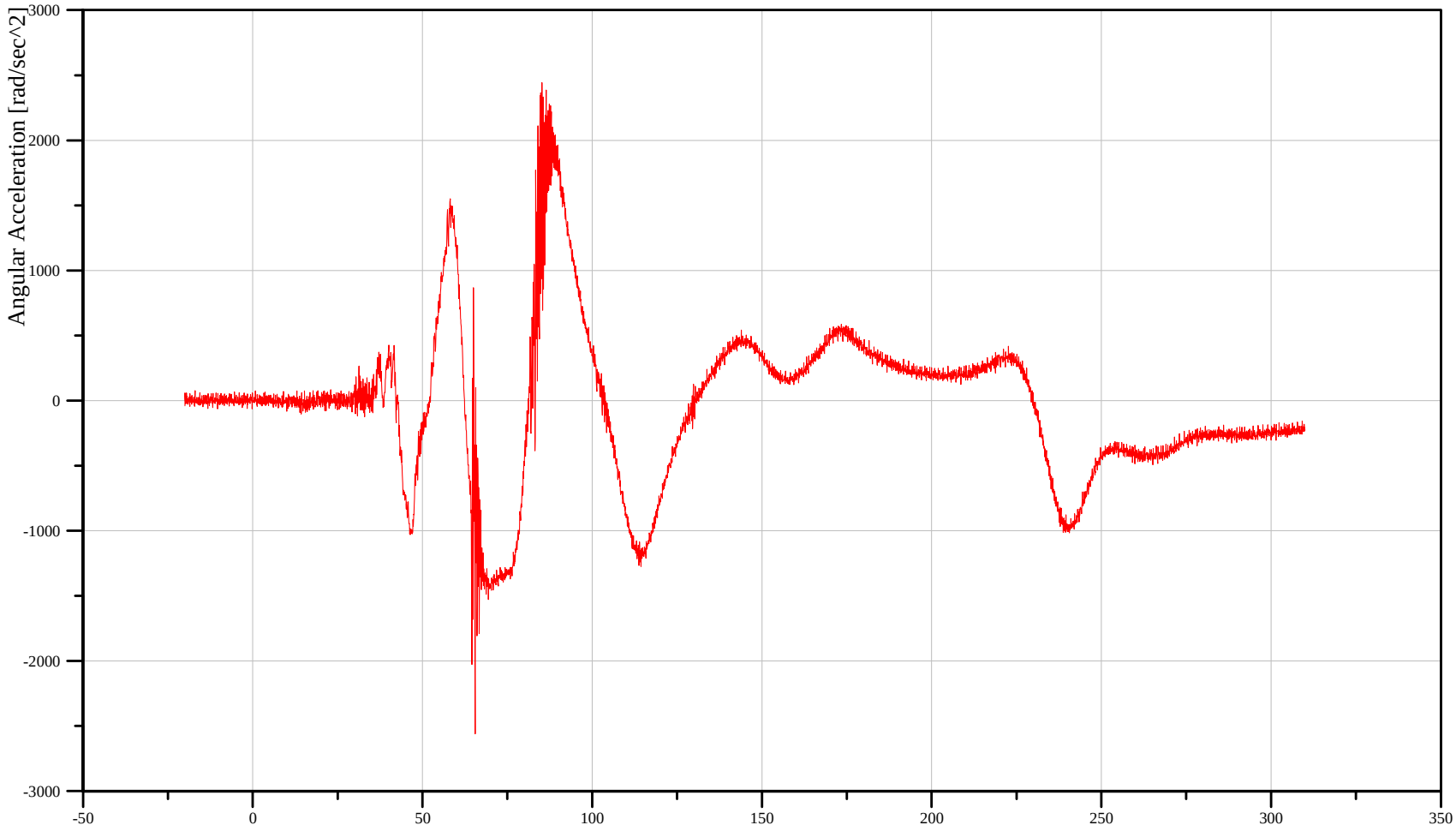
Passenger Head X-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSANXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-2,560.06 rad/sec^2 at 65.52 ms

Max. Value
2,441.99 rad/sec^2 at 85.20 ms

World SID Evaluation

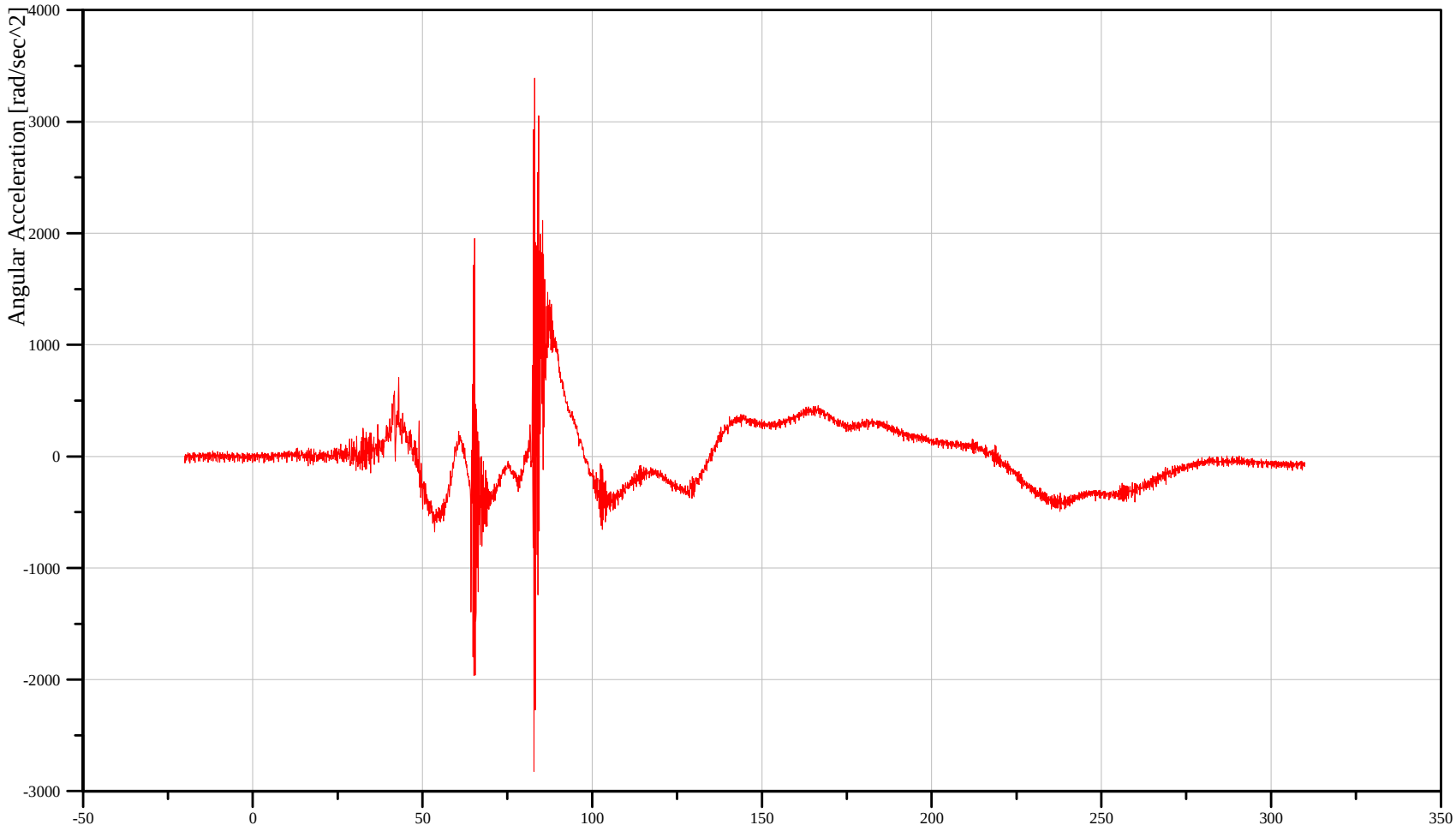
Passenger Head Y-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSANYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value	Max. Value
-2,822.27 rad/sec^2 at 82.88 ms	3,391.62 rad/sec^2 at 83.04 ms

World SID Evaluation

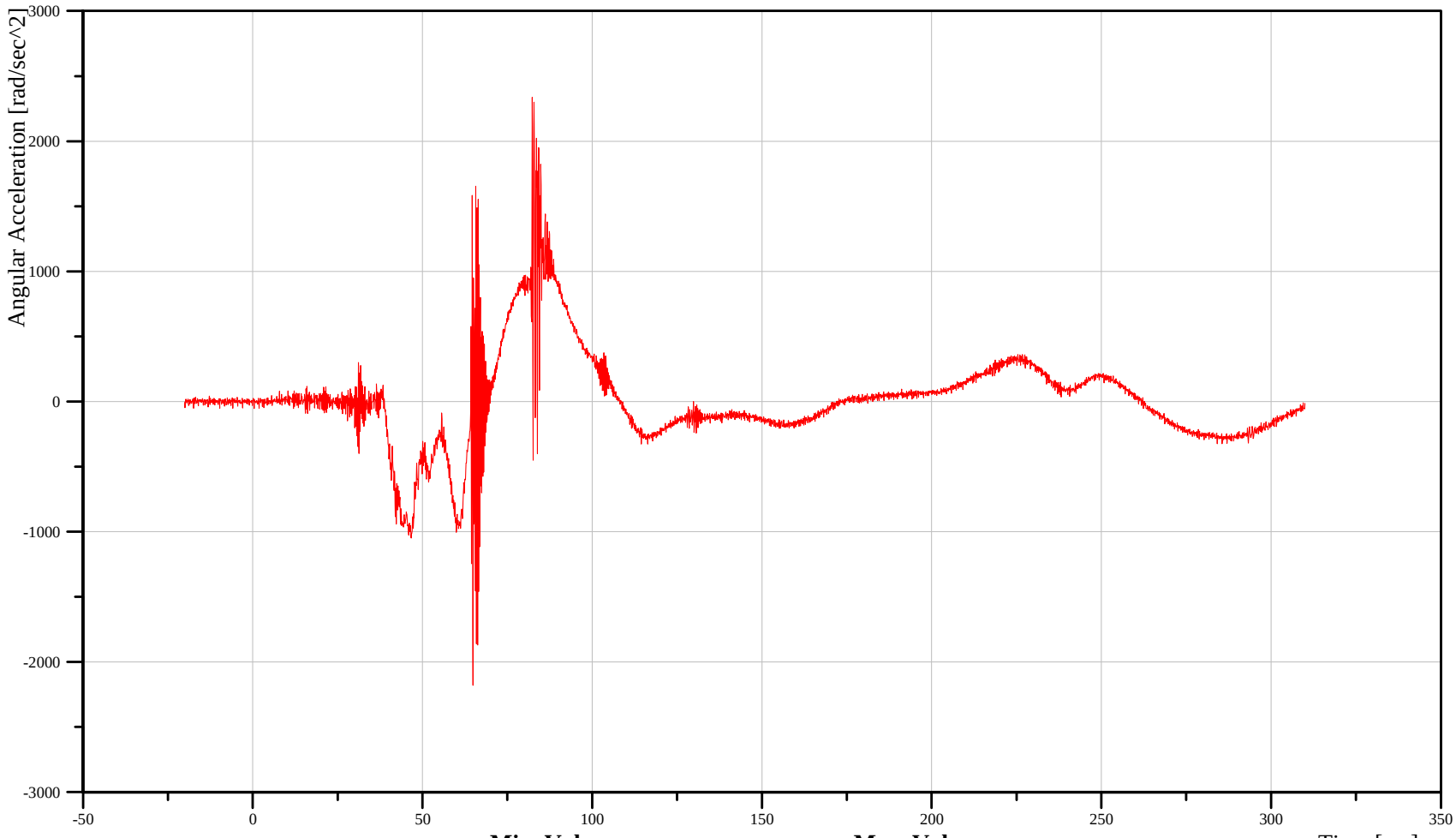
Passenger Head Z-Axis Angular Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14HEADCG00WSANZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value	Max. Value
-2,180.97 rad/sec^2 at 64.88 ms	2,336.00 rad/sec^2 at 82.32 ms

World SID Evaluation

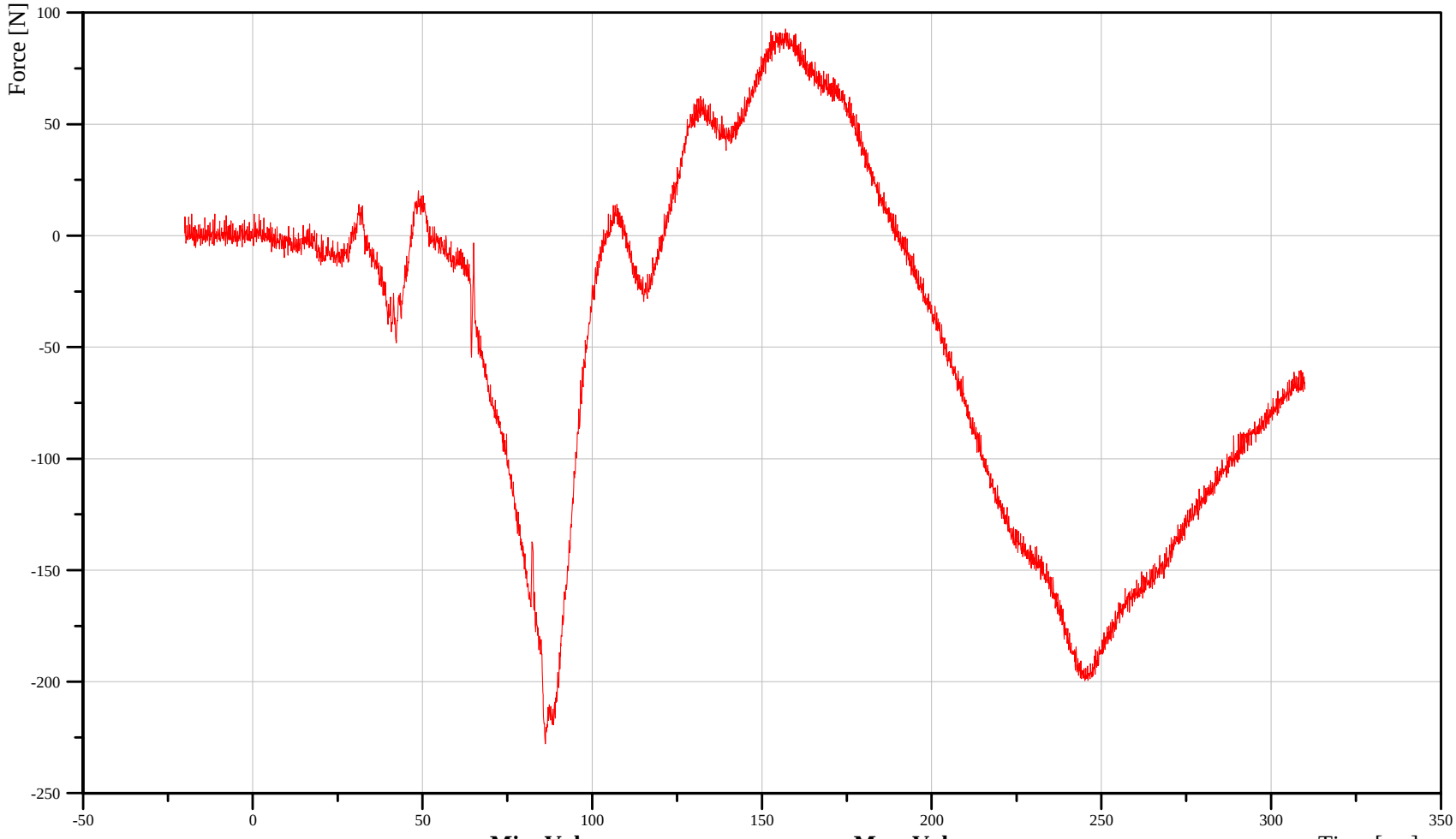
Passenger Upper Neck X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-227.96 N at 86.16 ms

Max. Value
92.61 N at 156.96 ms

World SID Evaluation

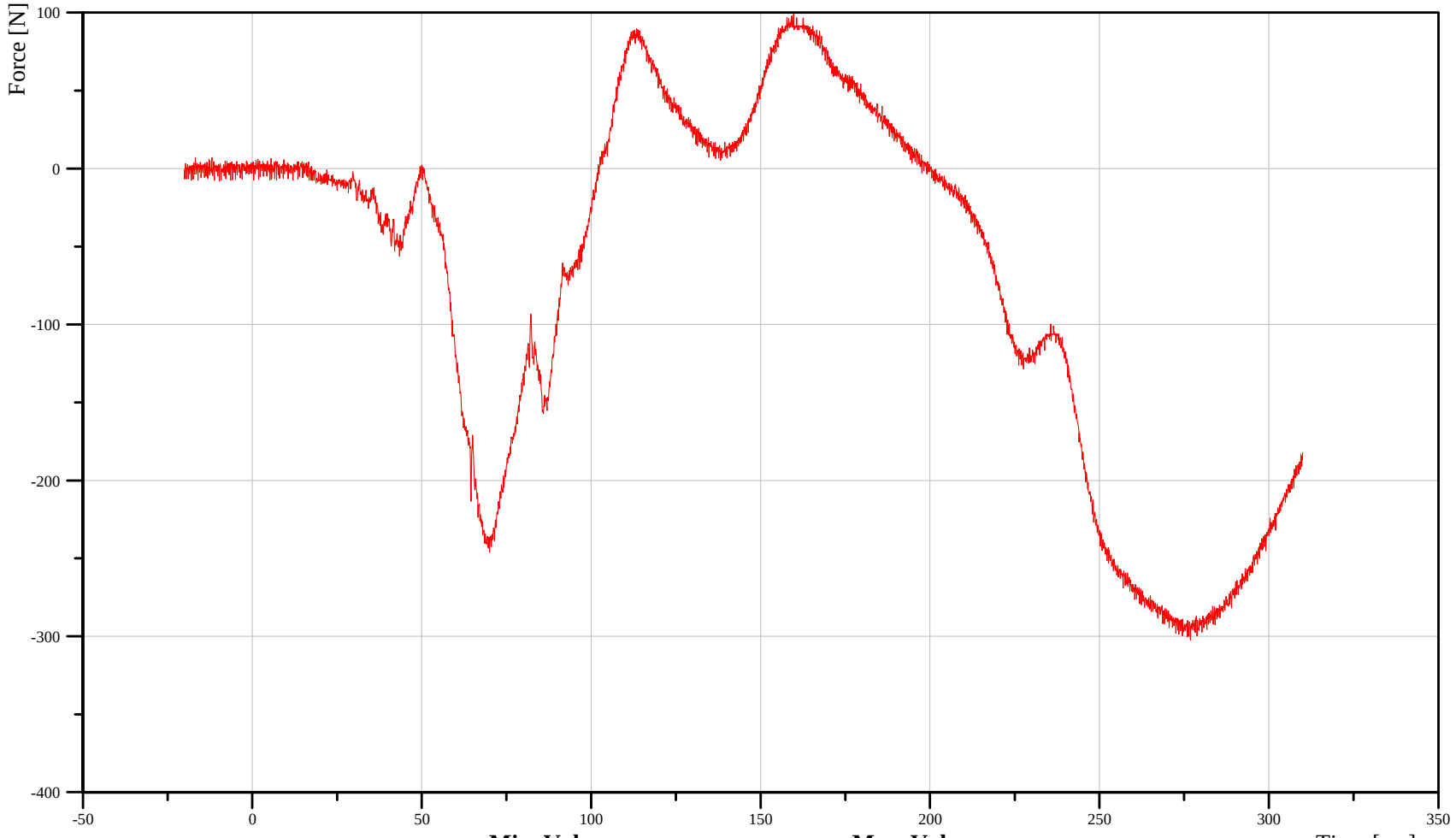
Passenger Upper Neck Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-302.24 N at 276.88 ms

Max. Value
99.15 N at 159.76 ms

World SID Evaluation

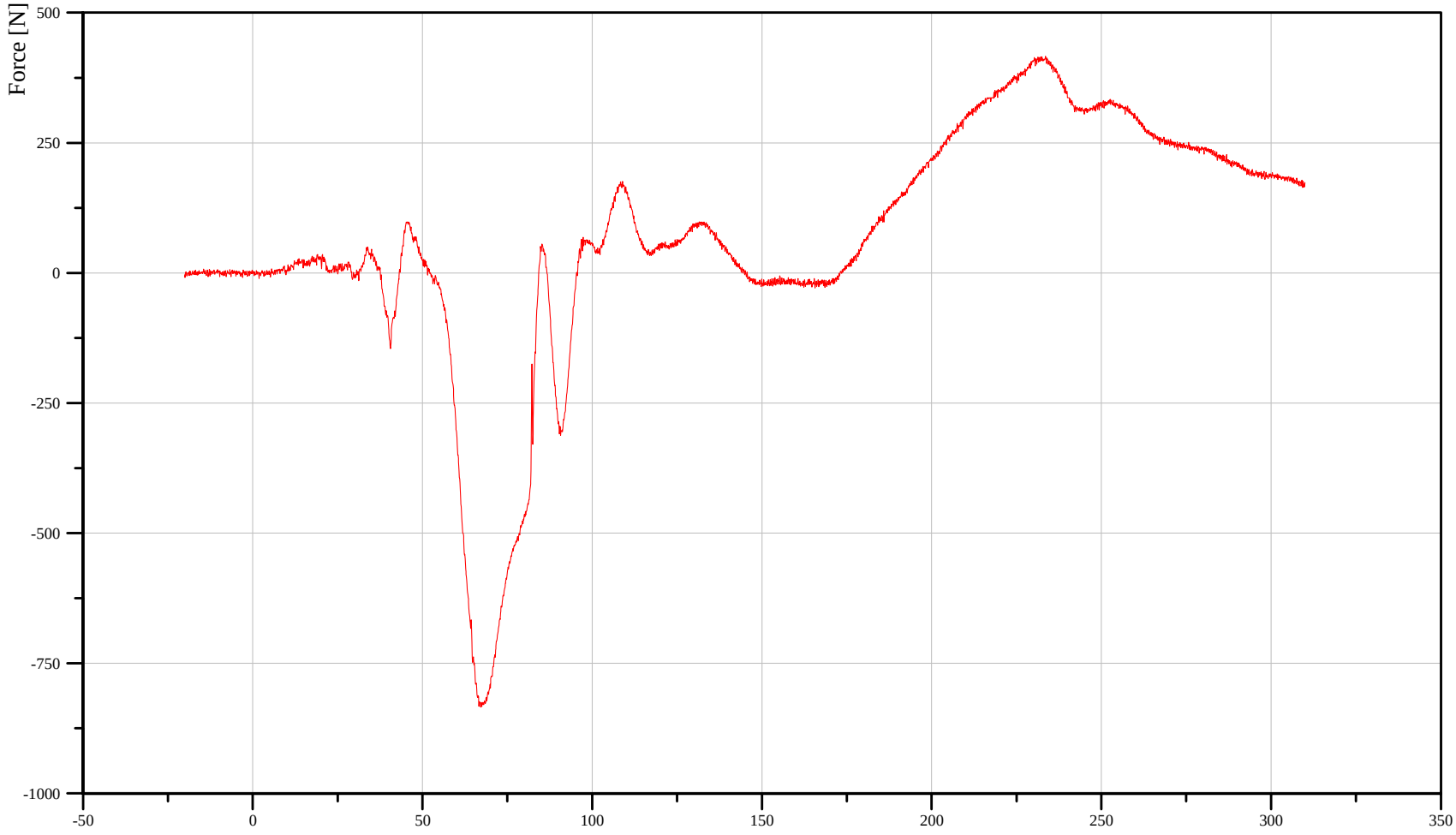
Passenger Upper Neck Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-834.41 N at 67.12 ms

Max. Value
416.24 N at 233.60 ms

World SID Evaluation

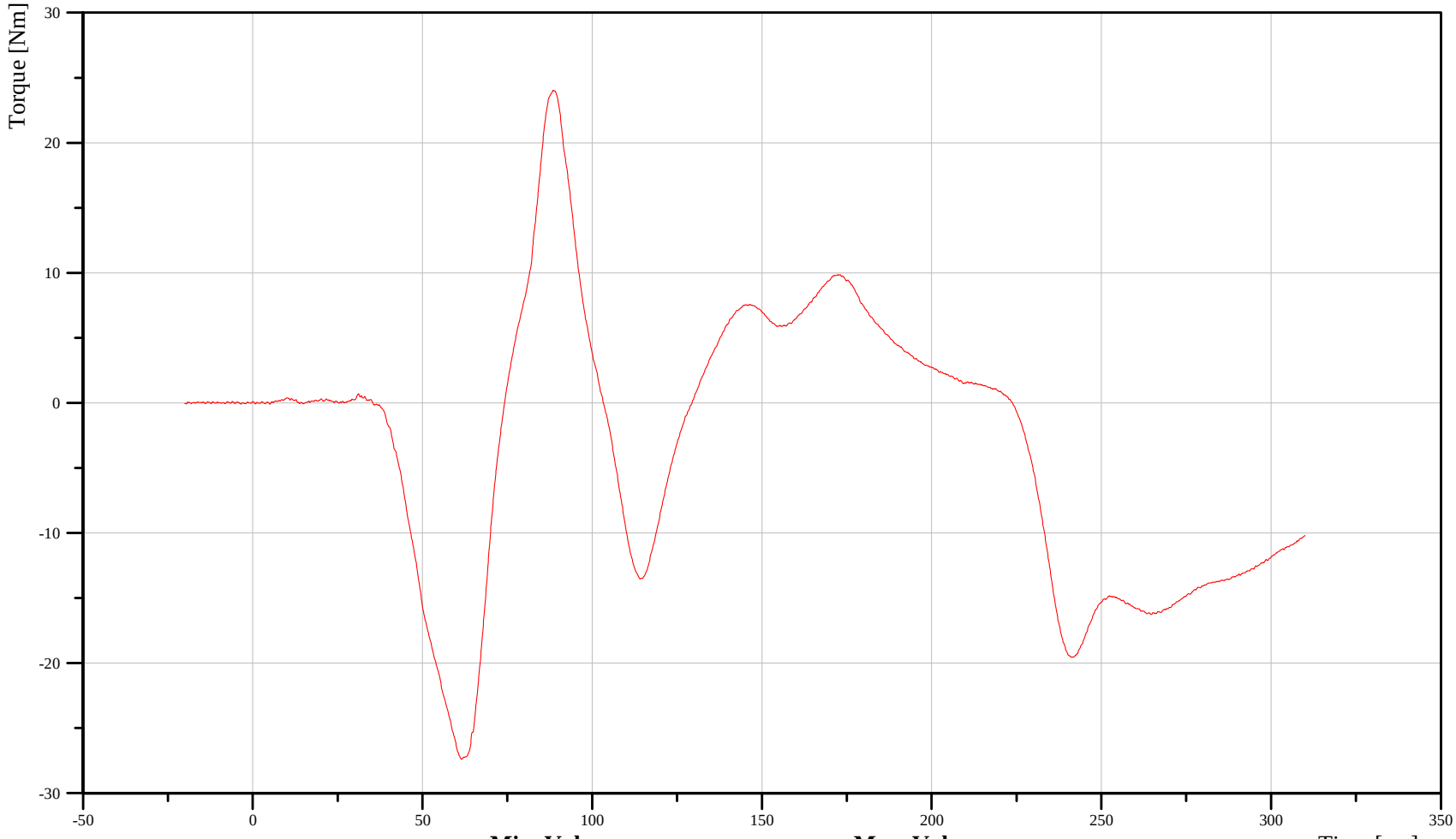
Passenger Upper Neck Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-27.39 Nm at 61.60 ms

Max. Value
24.03 Nm at 88.56 ms

World SID Evaluation

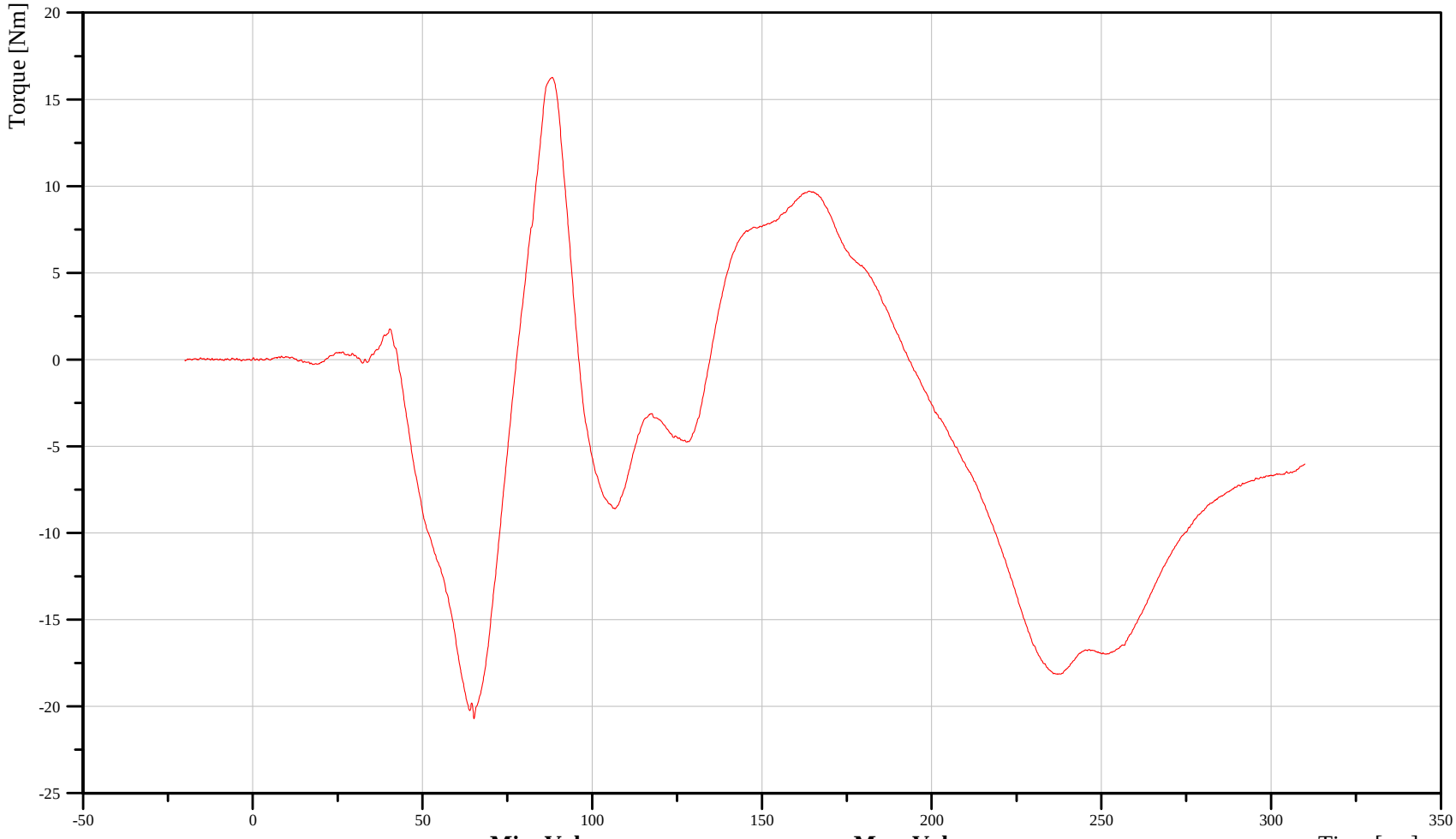
Passenger Upper Neck Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-20.72 Nm at 65.20 ms

Max. Value
16.27 Nm at 88.24 ms

World SID Evaluation

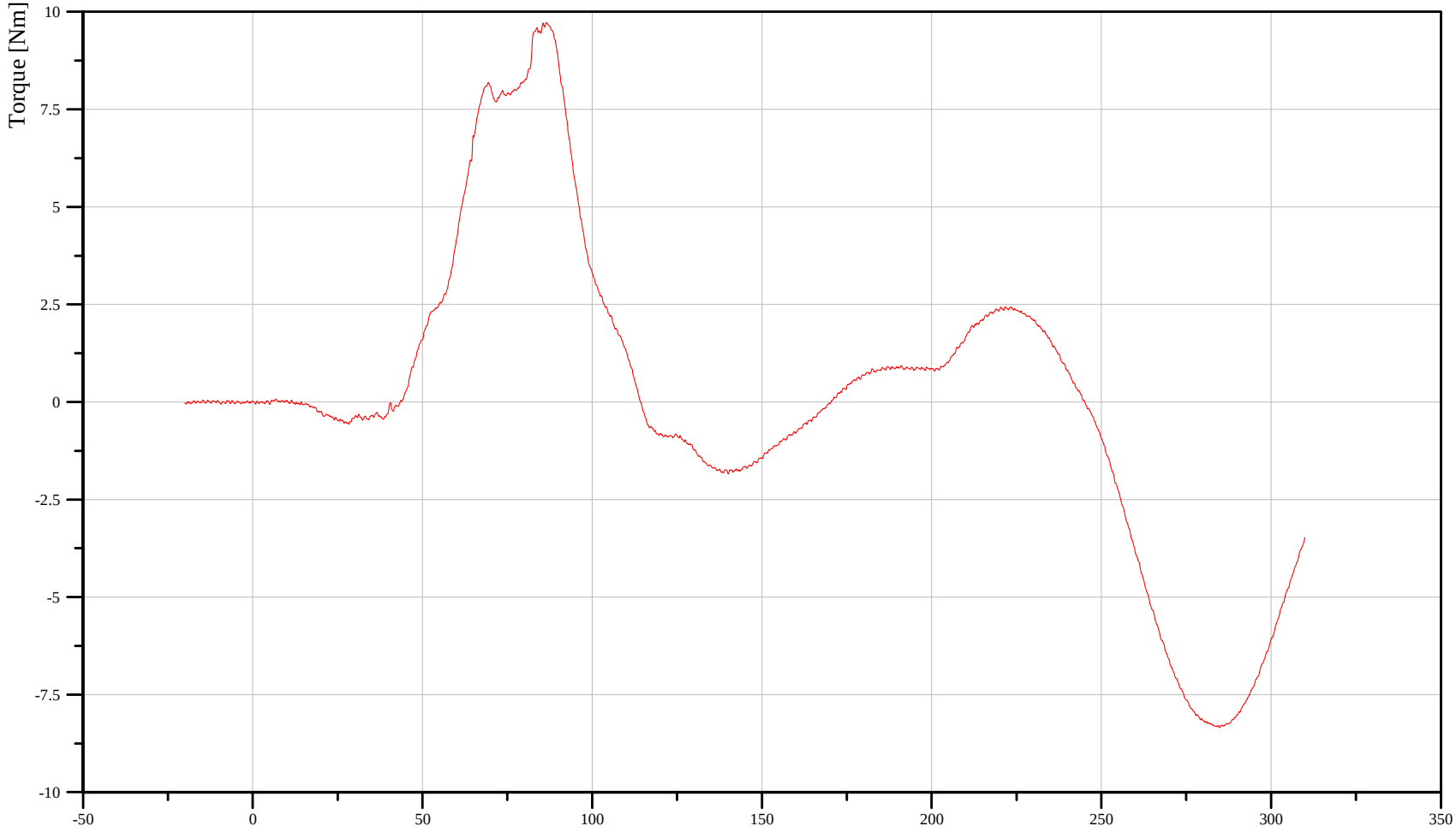
Passenger Upper Neck Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKUP00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-8.35 Nm at 284.80 ms

Max. Value
9.72 Nm at 86.56 ms

World SID Evaluation

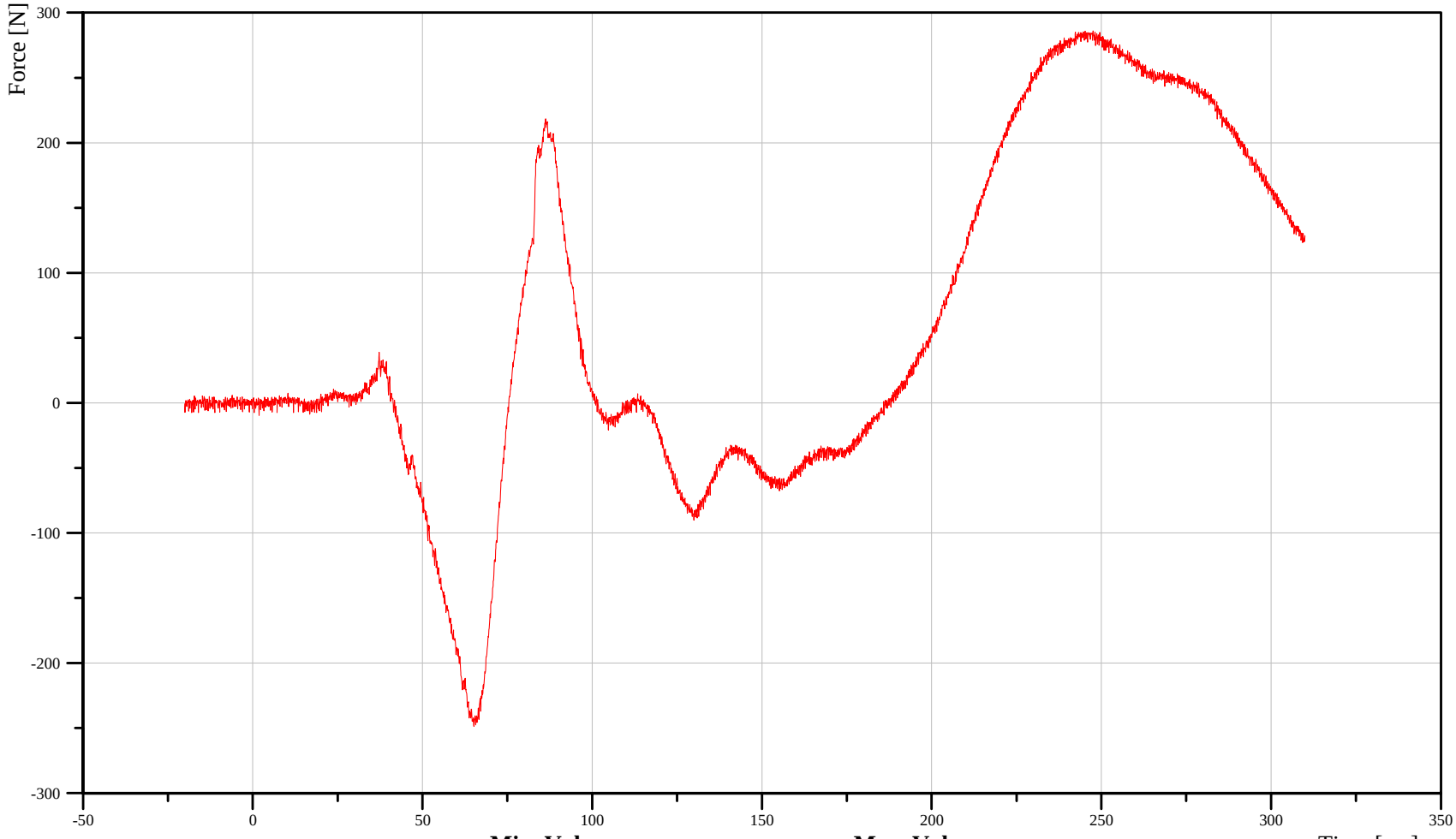
Passenger Lower Neck X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-248.84 N at 65.20 ms

Max. Value
285.98 N at 247.60 ms

World SID Evaluation

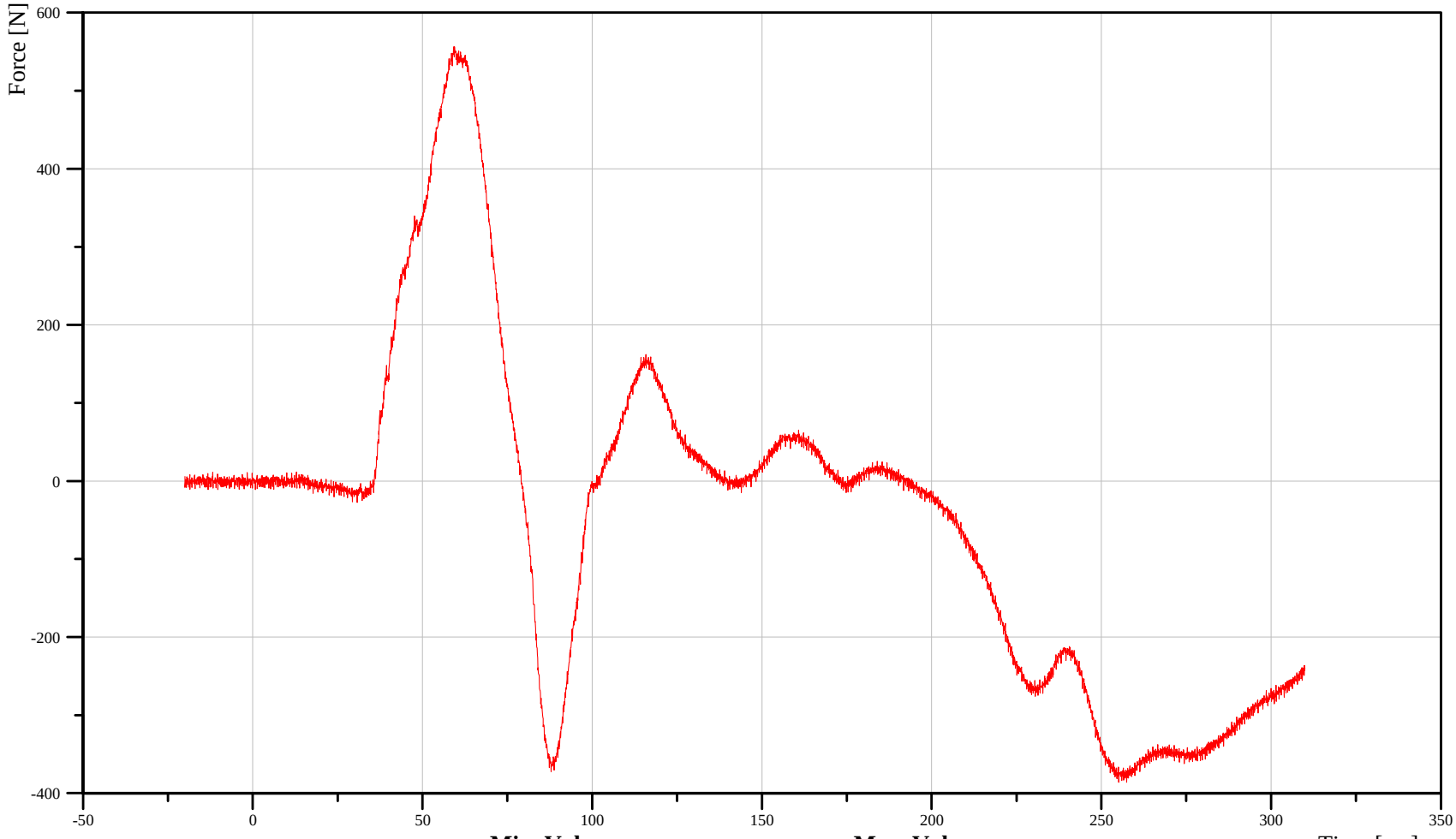
Passenger Lower Neck Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-386.15 N at 255.12 ms

Max. Value
556.51 N at 59.28 ms

World SID Evaluation

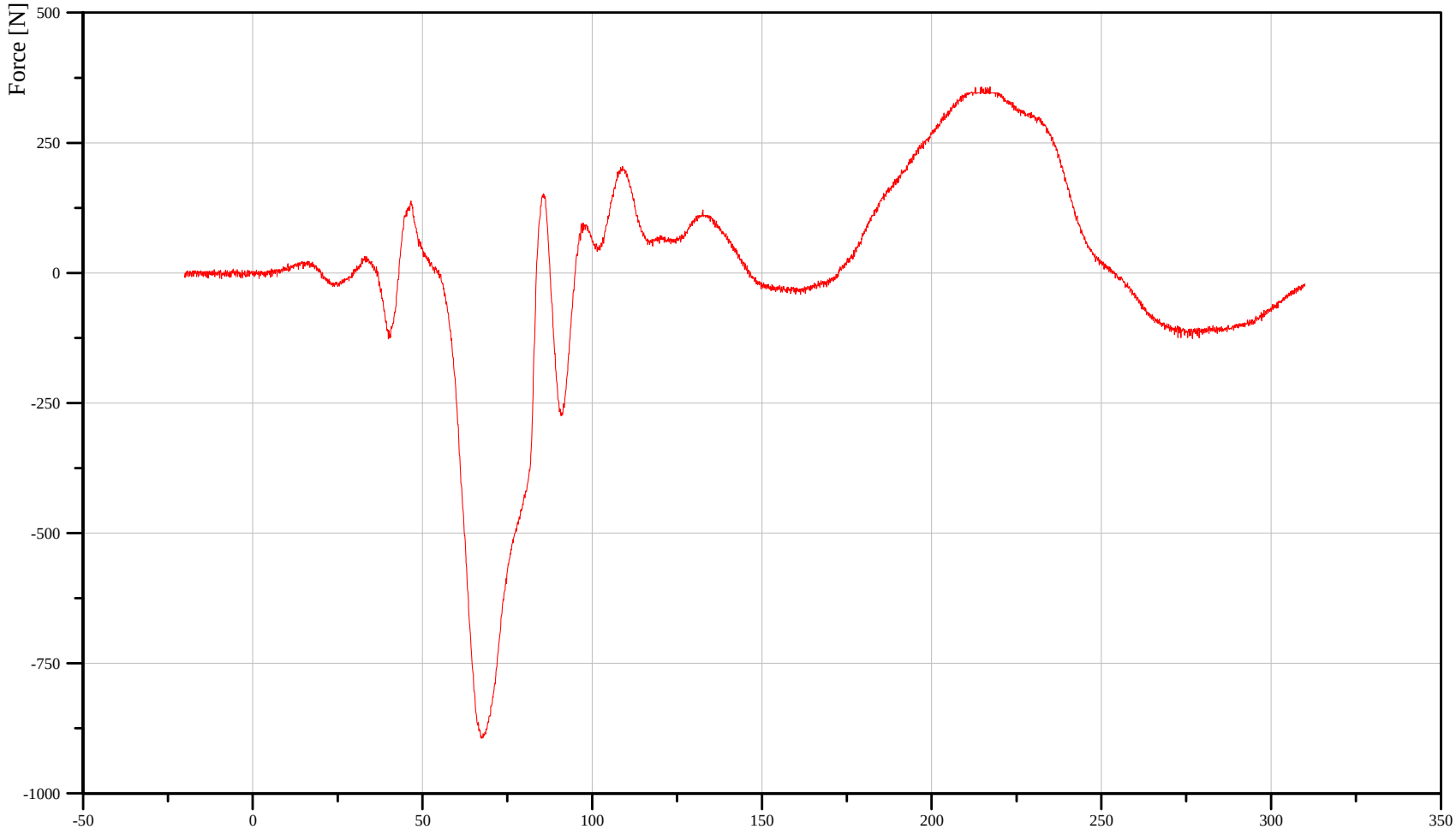
Passenger Lower Neck Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-893.83 N at 67.52 ms

Max. Value
357.67 N at 214.72 ms

World SID Evaluation

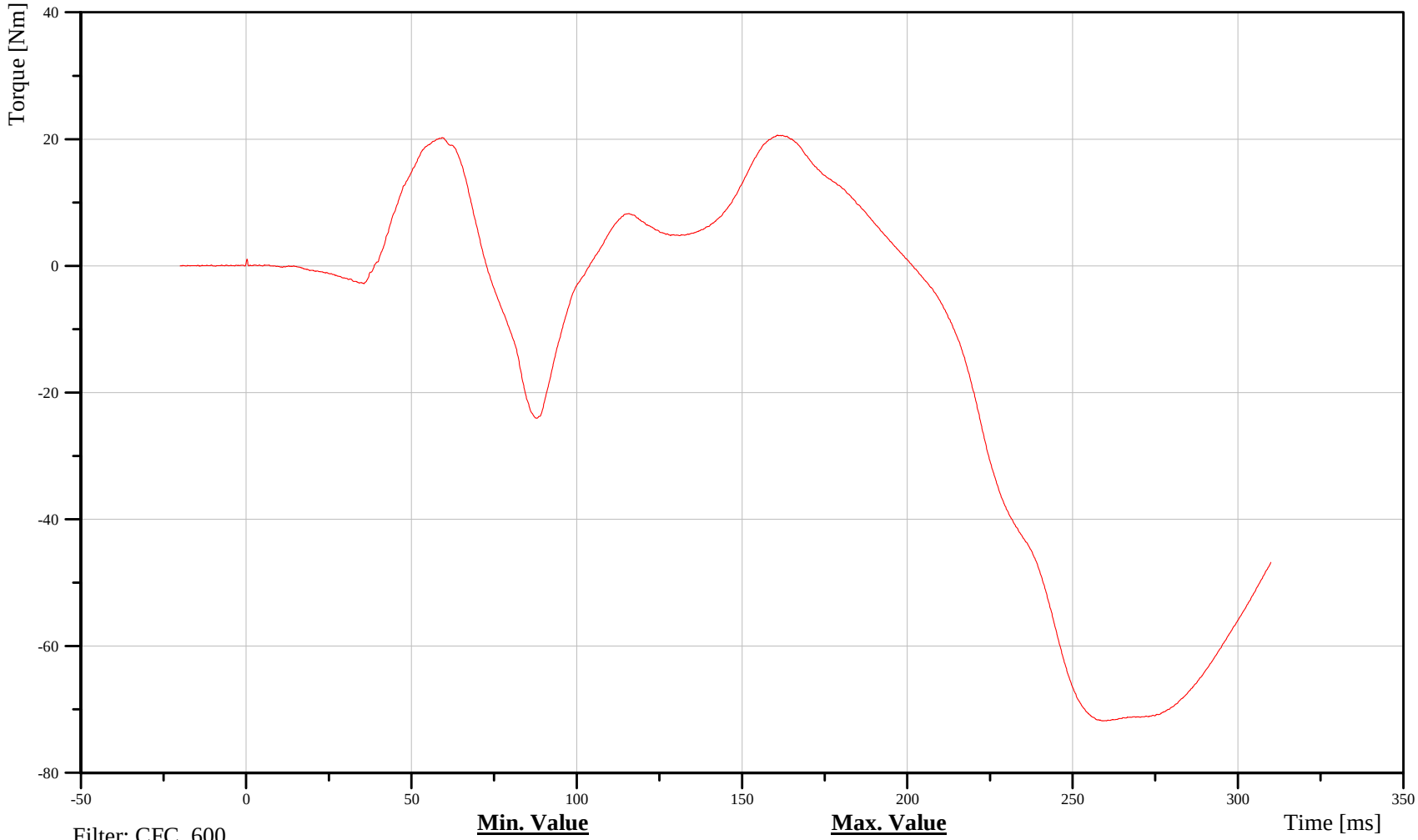
Passenger Lower Neck Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-71.80 Nm at 259.44 ms

Max. Value
20.62 Nm at 160.72 ms

World SID Evaluation

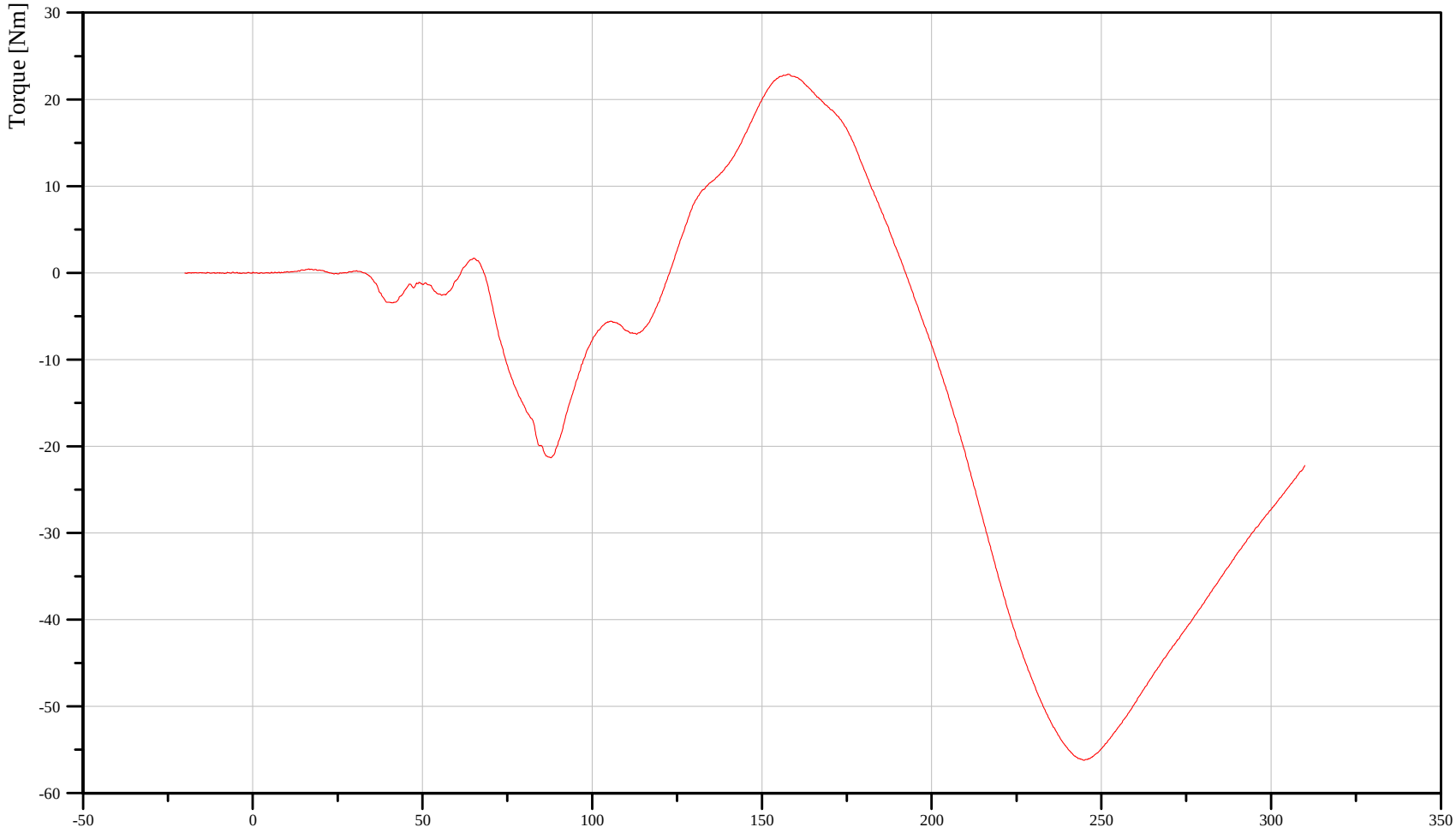
Passenger Lower Neck Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-56.22 Nm at 244.88 ms

Max. Value
22.89 Nm at 157.68 ms

World SID Evaluation

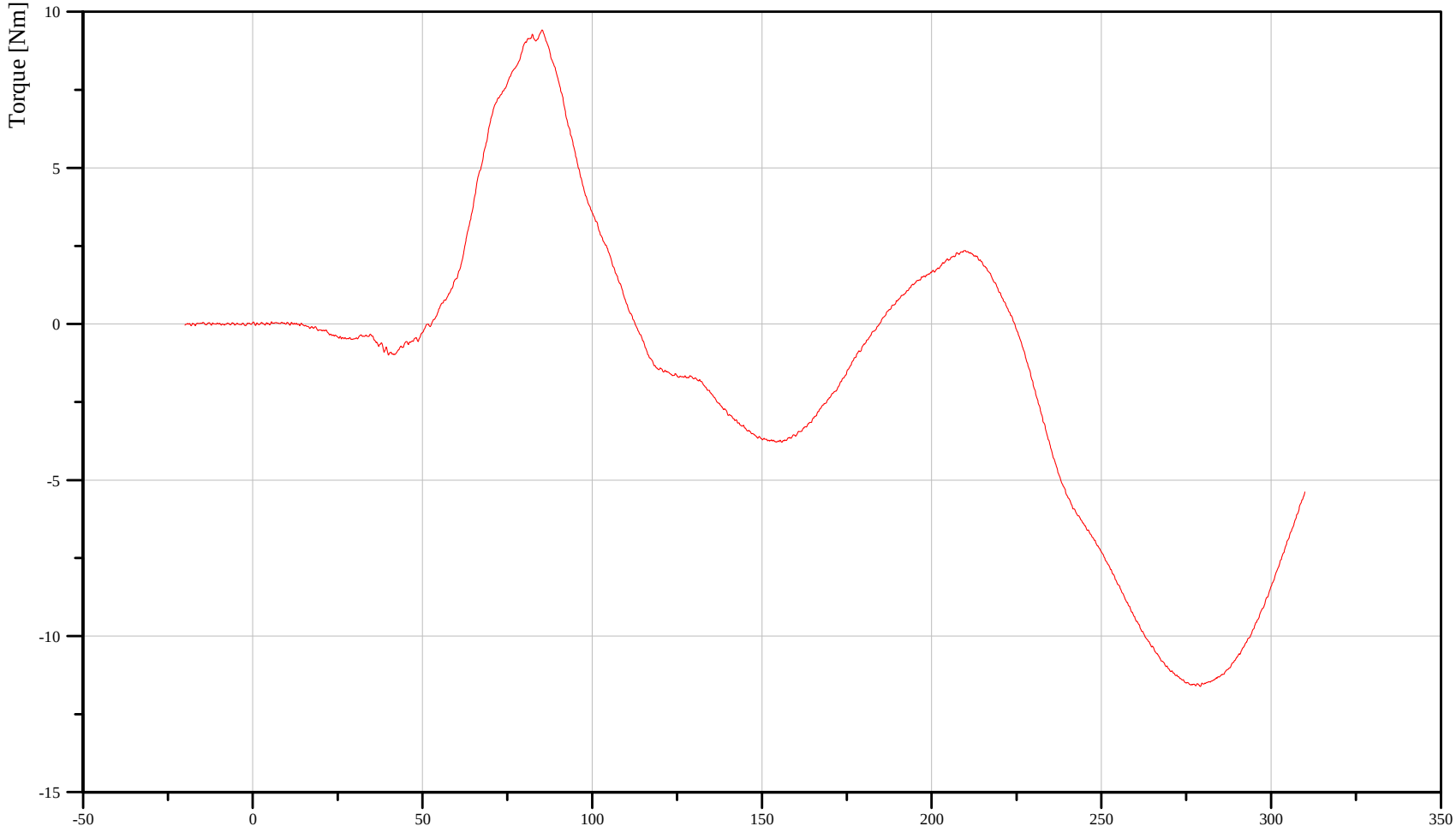
Passenger Lower Neck Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14NECKLO00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-11.61 Nm at 279.20 ms

Max. Value
9.42 Nm at 85.28 ms

World SID Evaluation

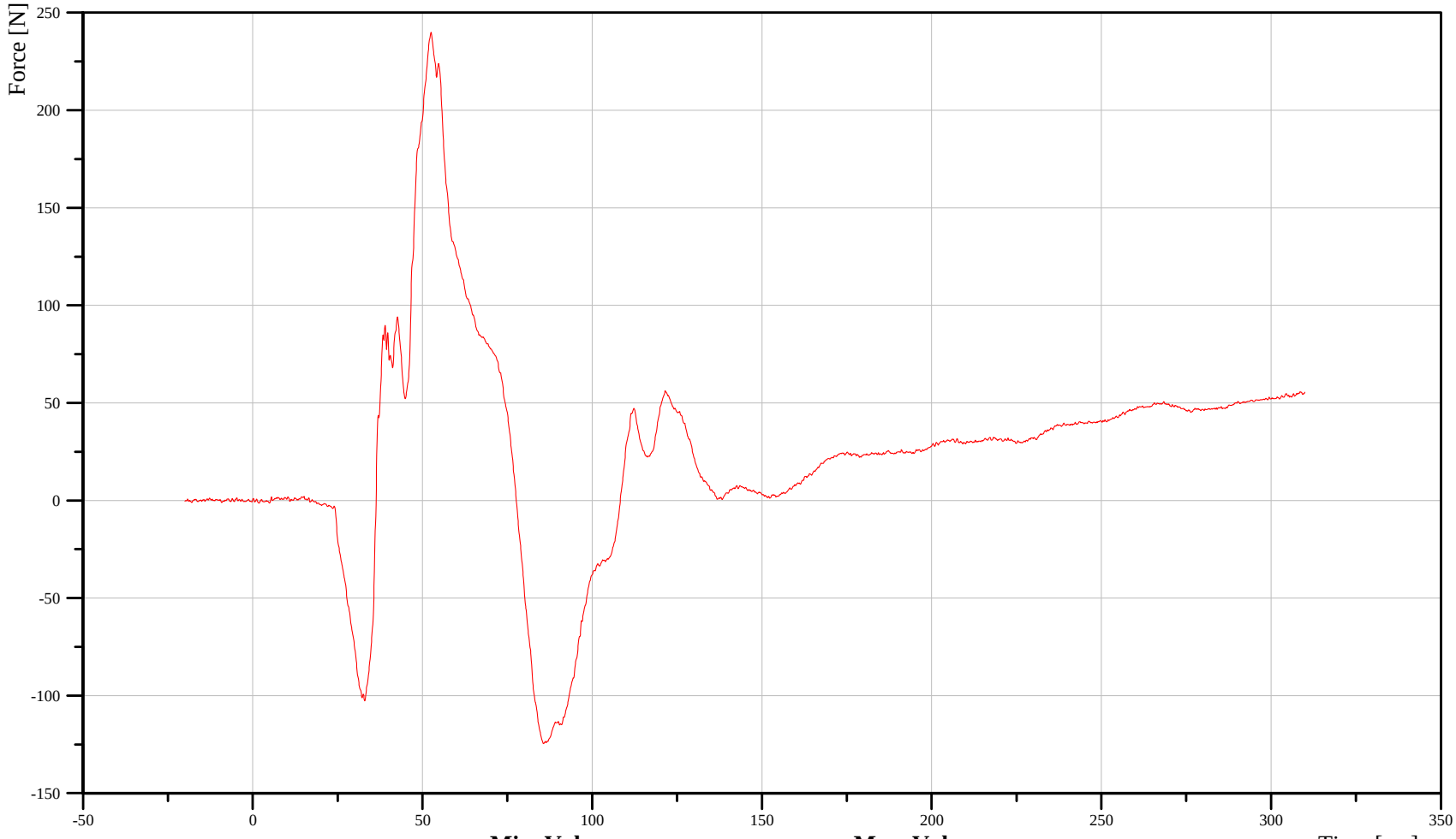
Passenger Shoulder X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-124.62 N at 85.60 ms

Max. Value
239.98 N at 52.56 ms

World SID Evaluation

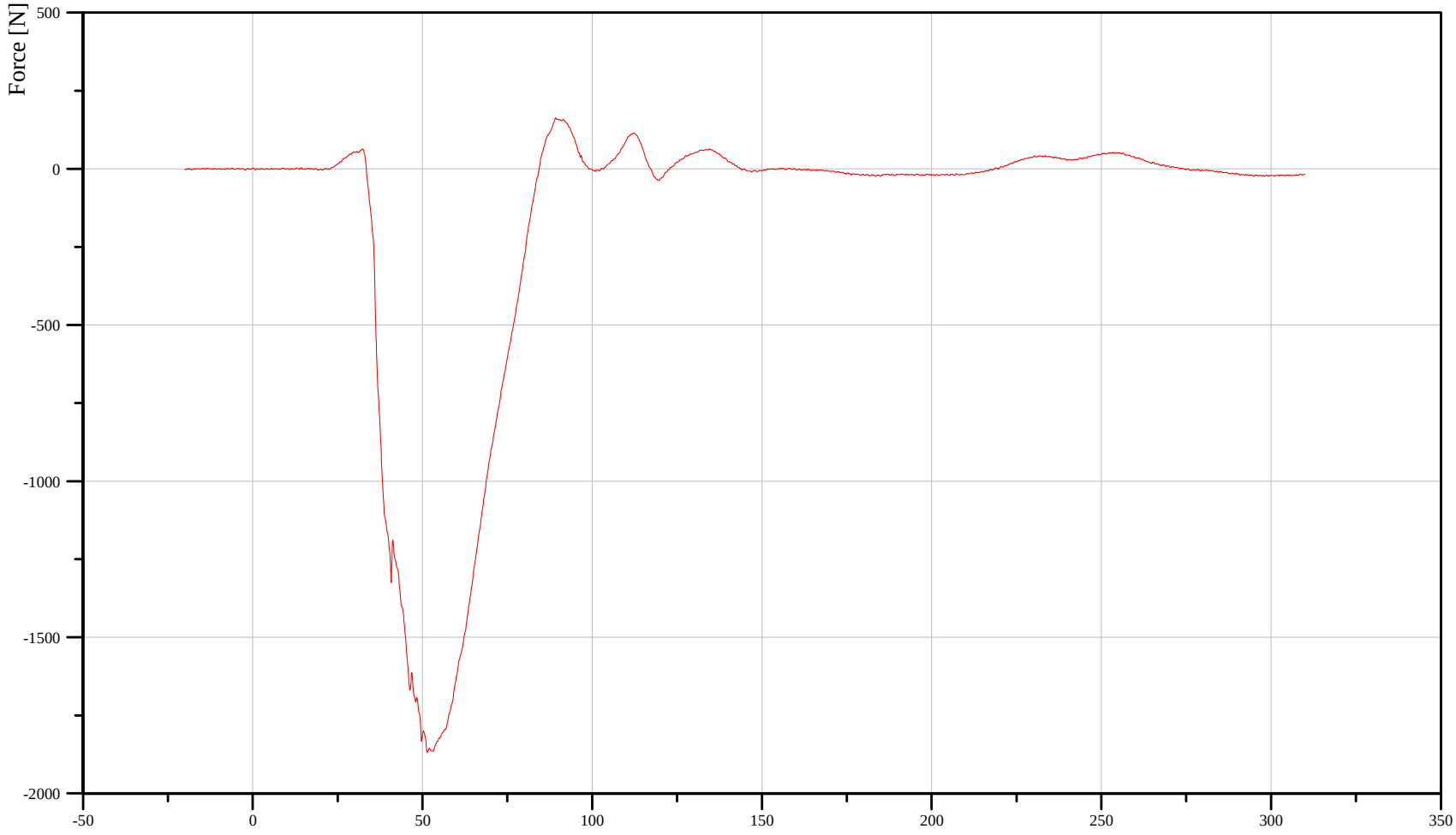
Passenger Shoulder Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1,868.60 N at 51.44 ms

Max. Value
163.06 N at 89.20 ms

World SID Evaluation

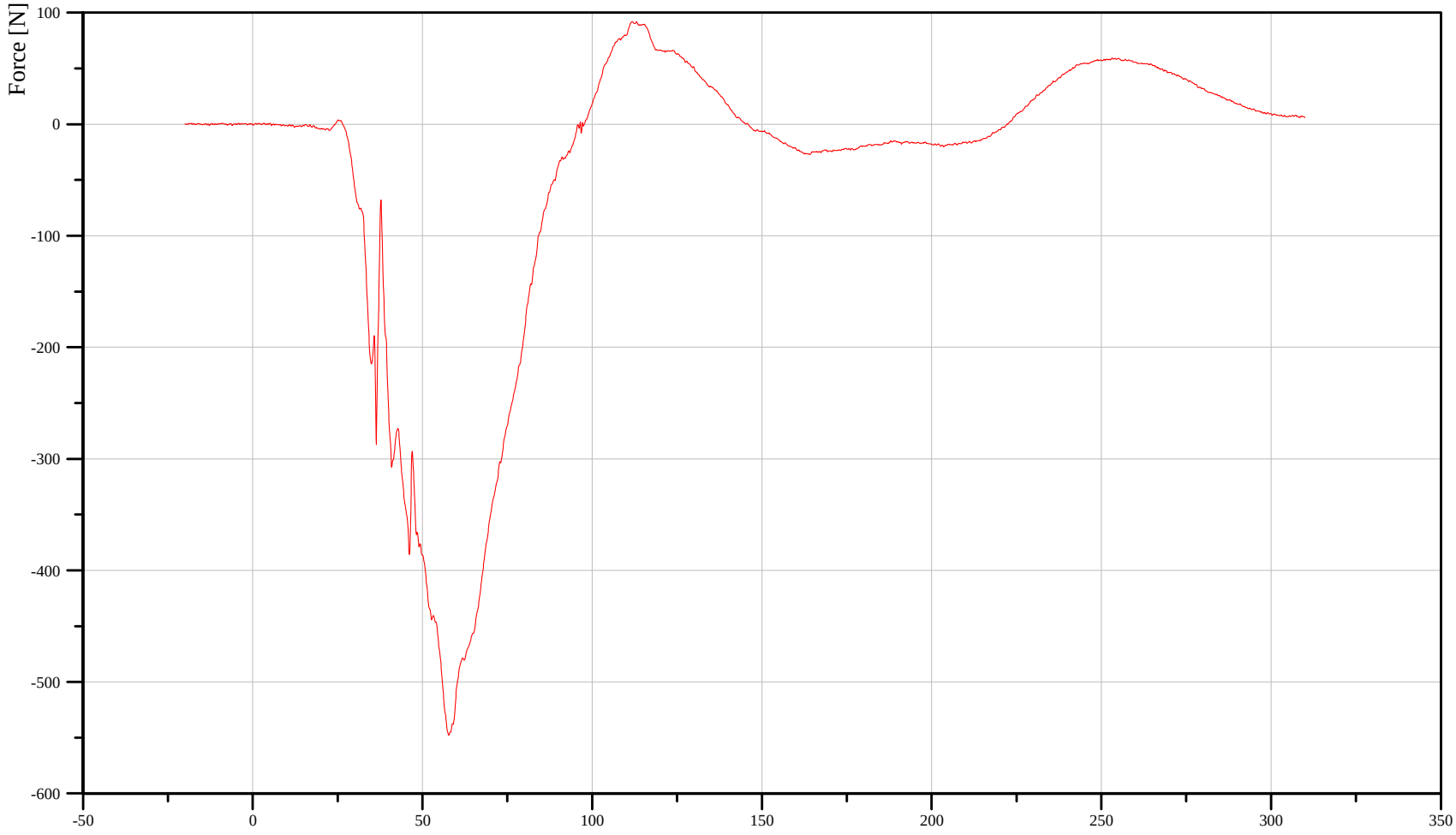
Passenger Shoulder Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-547.79 N at 57.76 ms

Max. Value
92.00 N at 111.68 ms

World SID Evaluation

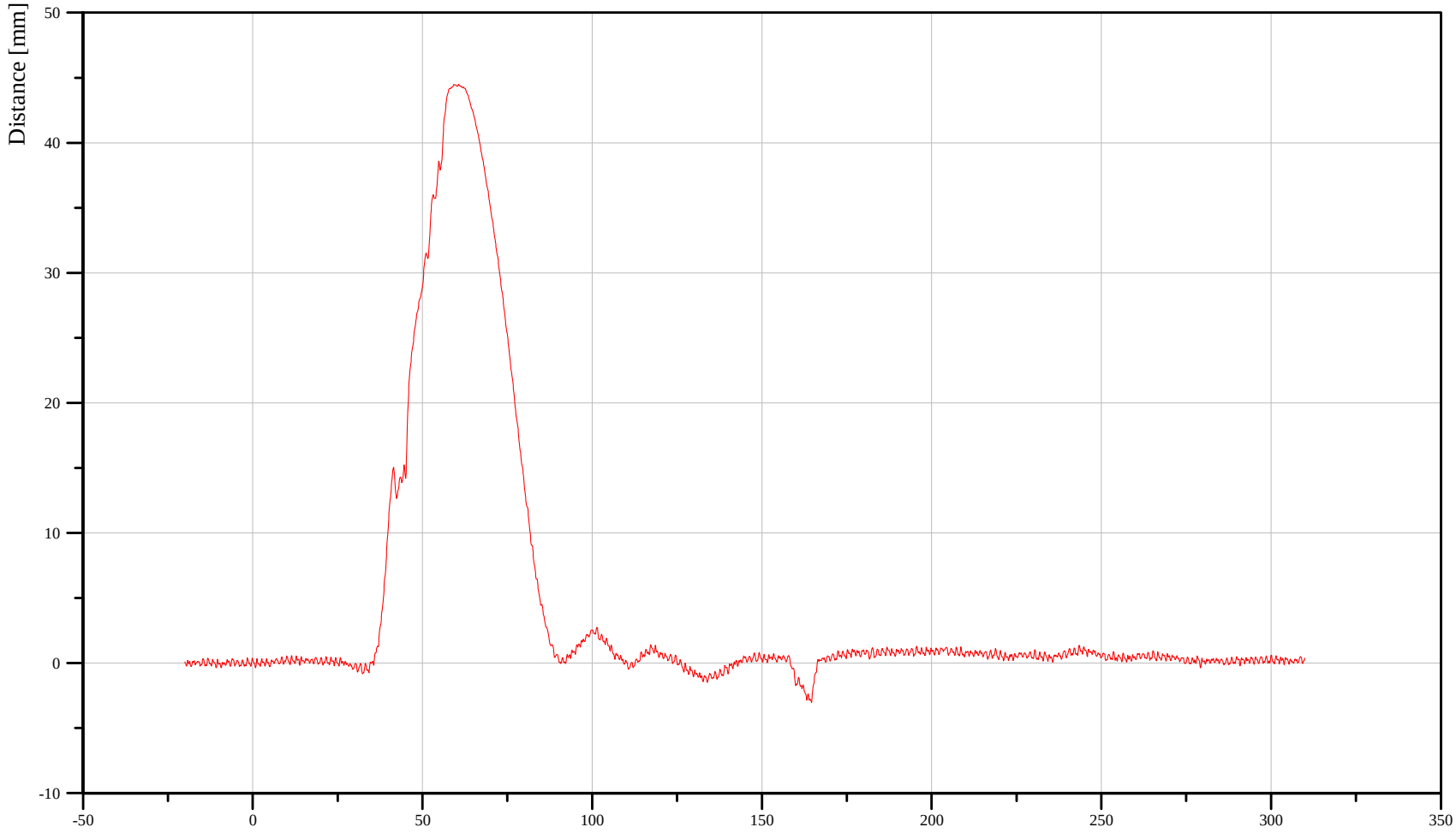
Passenger Shoulder Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-3.03 mm at 164.64 ms

Max. Value
44.49 mm at 60.64 ms

World SID Evaluation

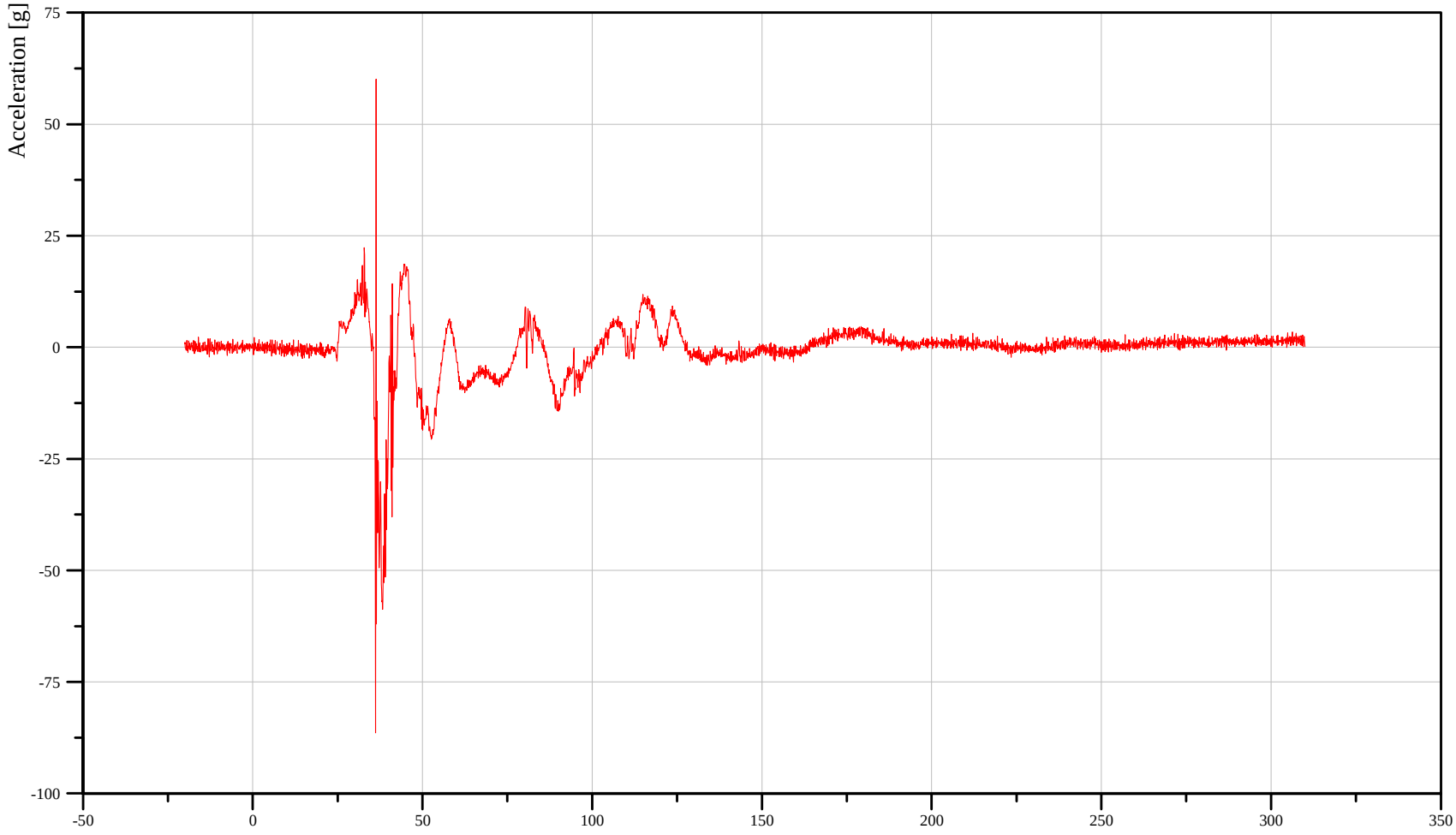
Passenger Shoulder X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-86.44 g at 36.16 ms

Max. Value
60.15 g at 36.32 ms

World SID Evaluation

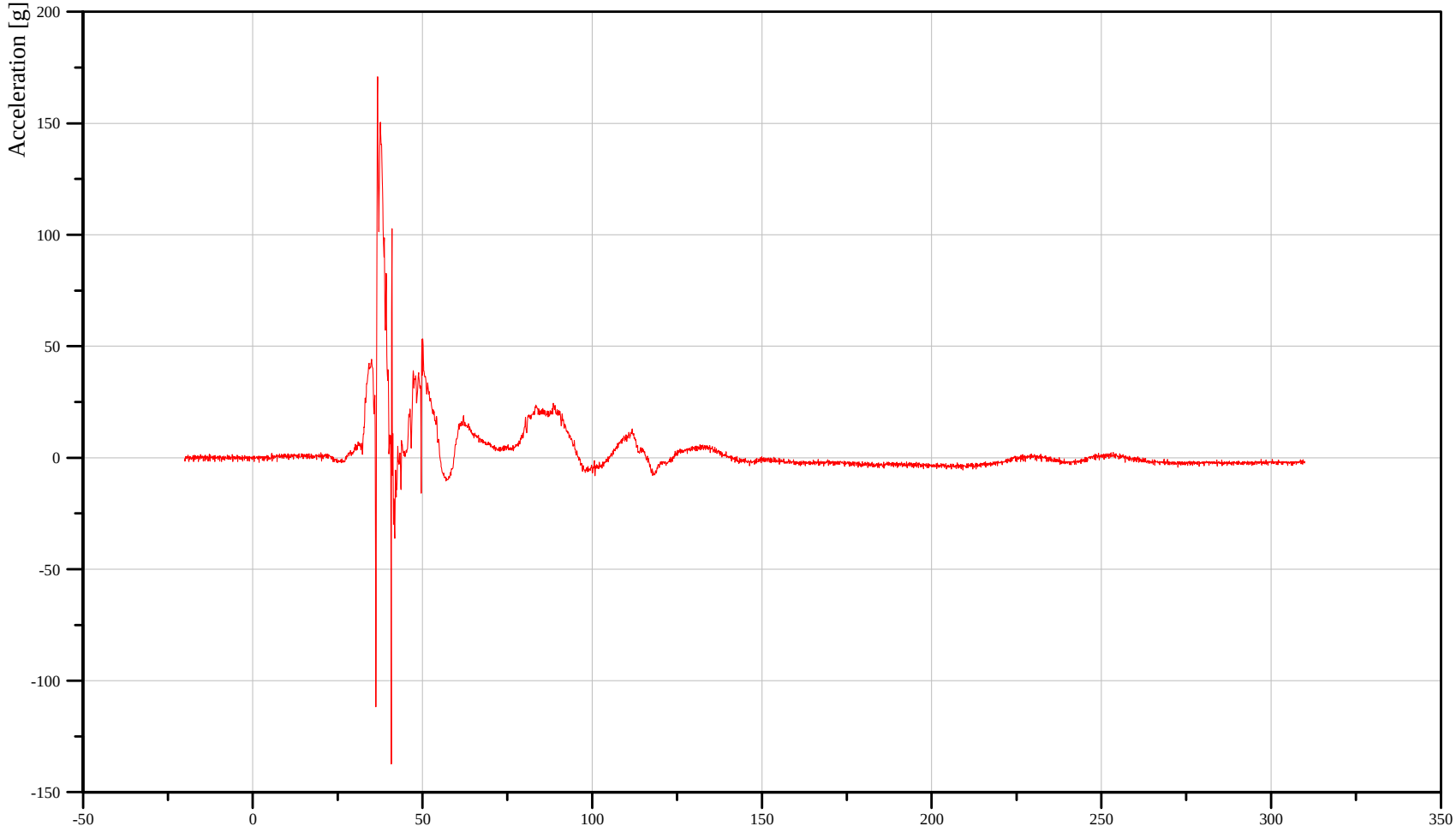
Passenger Shoulder Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-137.39 g at 40.80 ms

Max. Value
170.97 g at 36.80 ms

World SID Evaluation

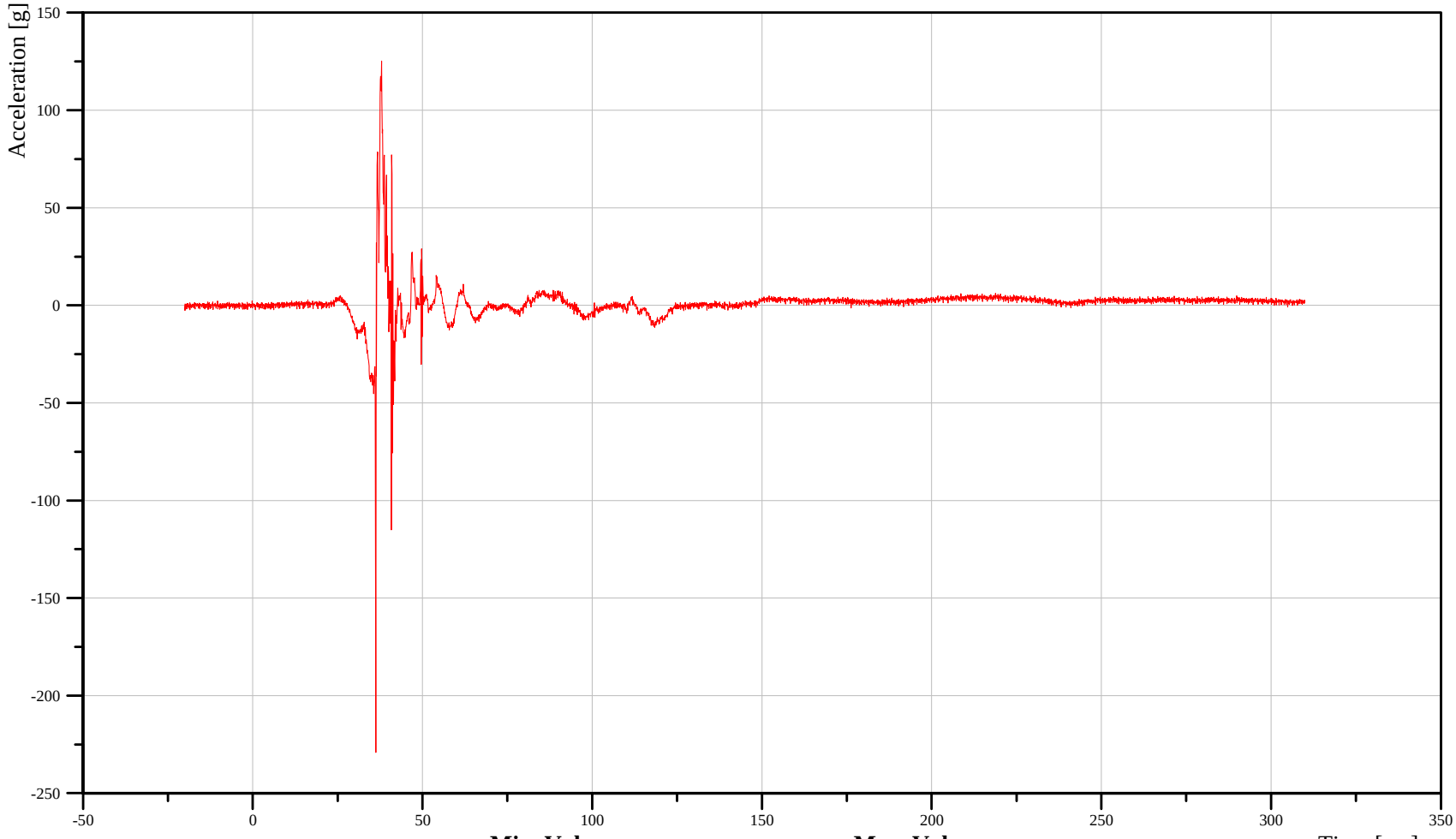
Passenger Shoulder Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-229.10 g at 36.24 ms

Max. Value
125.15 g at 38.00 ms

World SID Evaluation

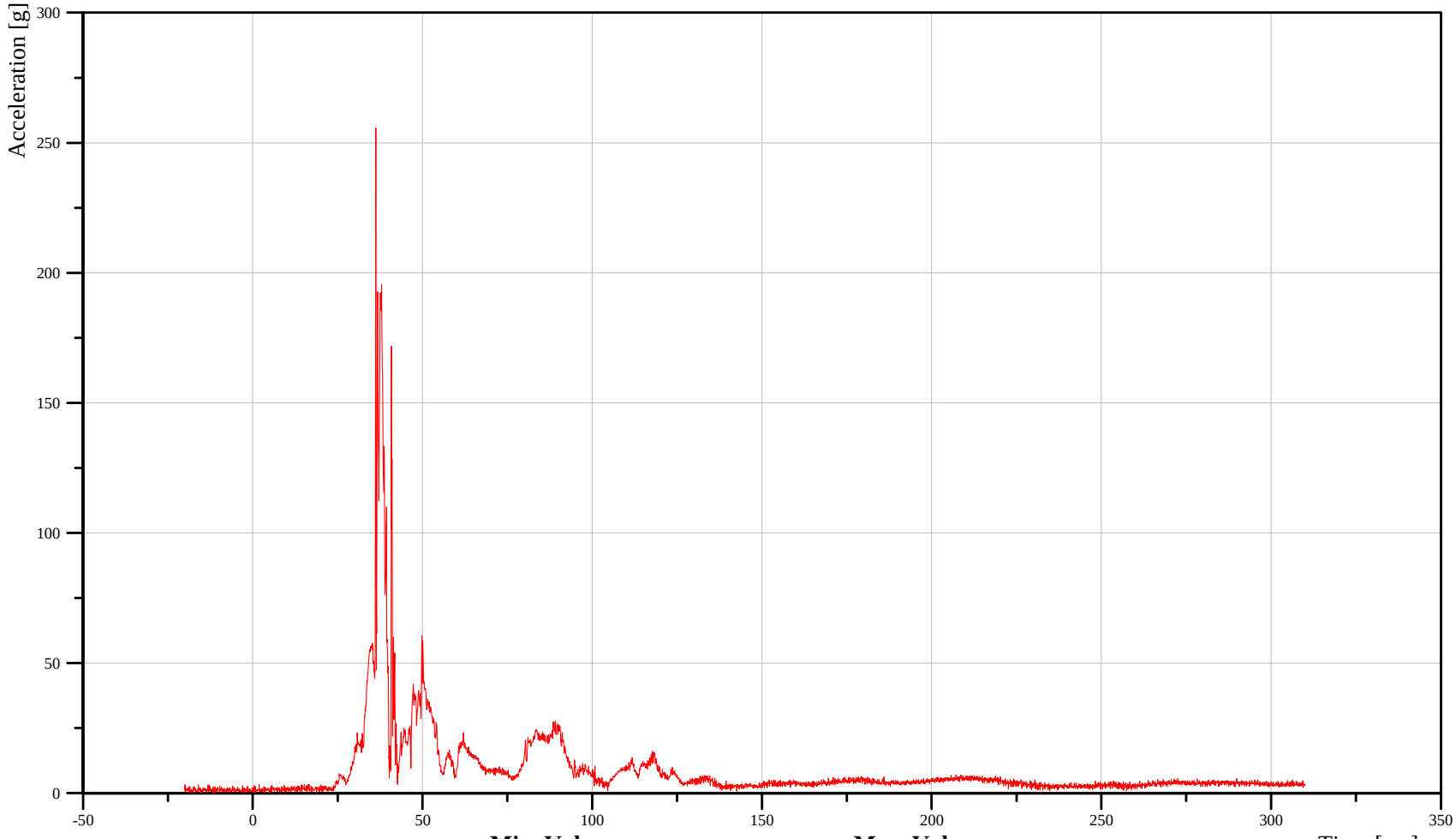
Passenger Shoulder Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14SHLDLE00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.11 g at -11.52 ms

Max. Value
255.67 g at 36.24 ms

World SID Evaluation

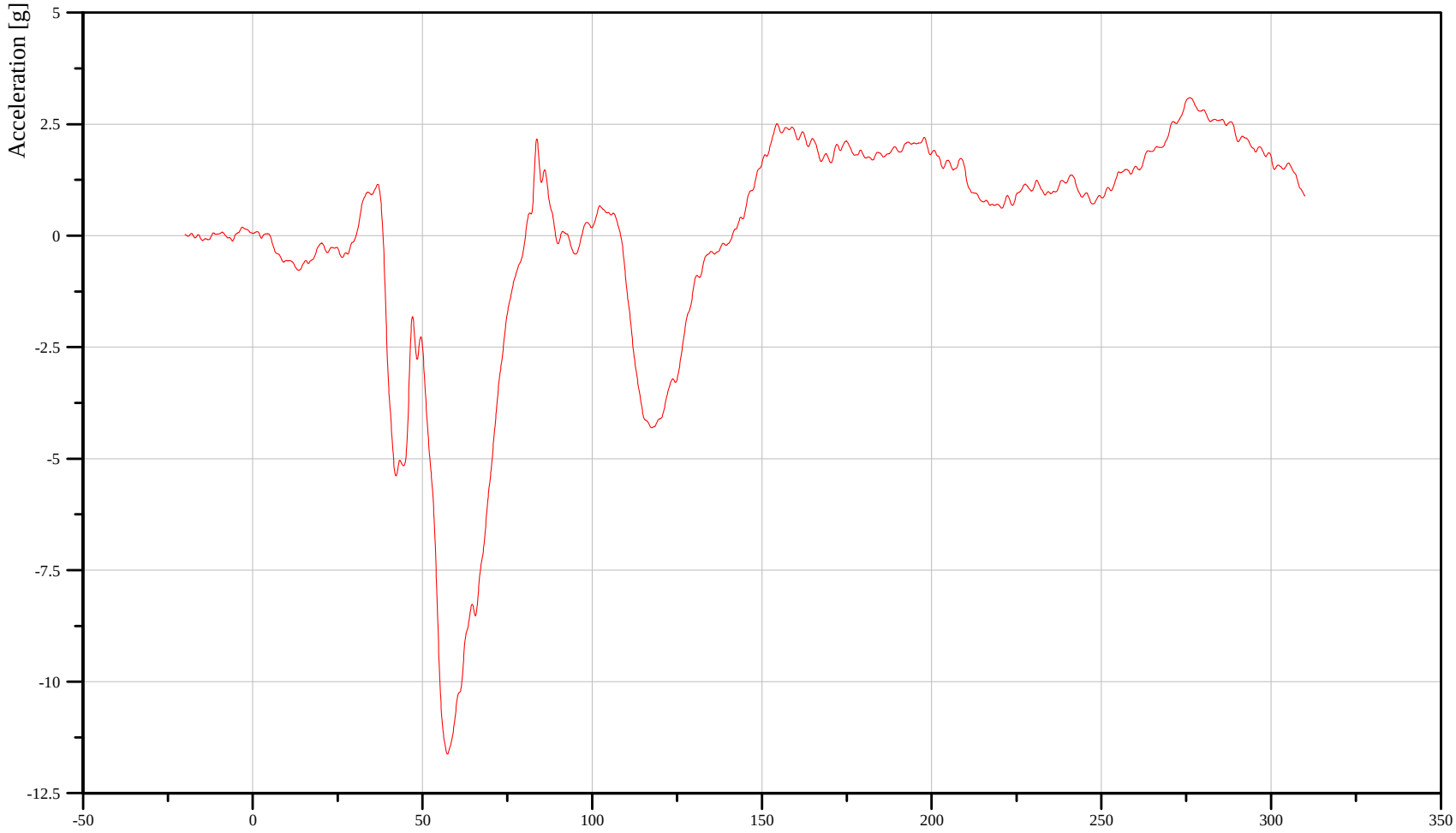
Passenger T1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0100WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-11.62 g at 57.36 ms

Max. Value
3.10 g at 276.08 ms

World SID Evaluation

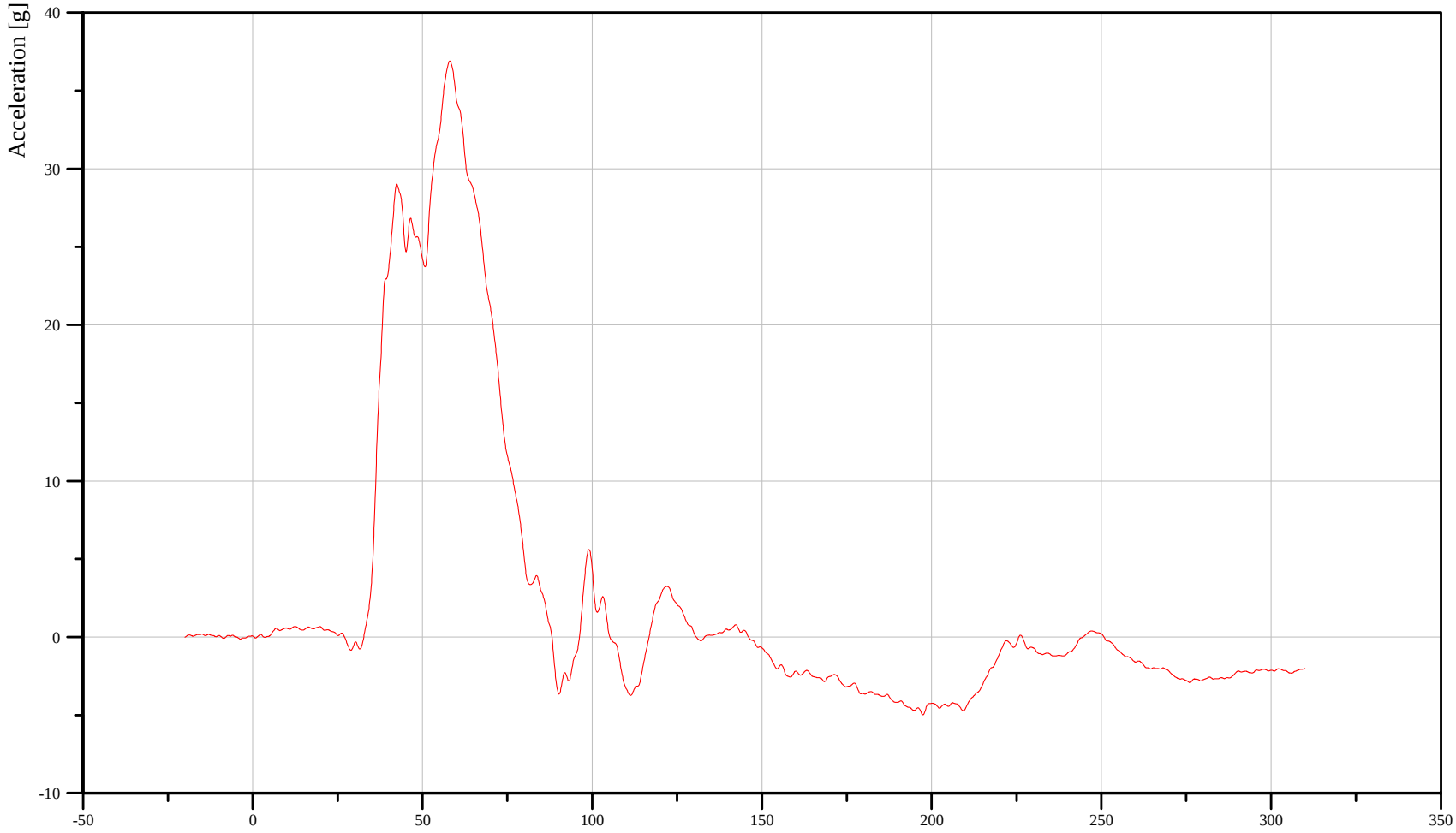
Passenger T1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0100WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-4.99 g at 197.44 ms

Max. Value
36.90 g at 58.00 ms

World SID Evaluation

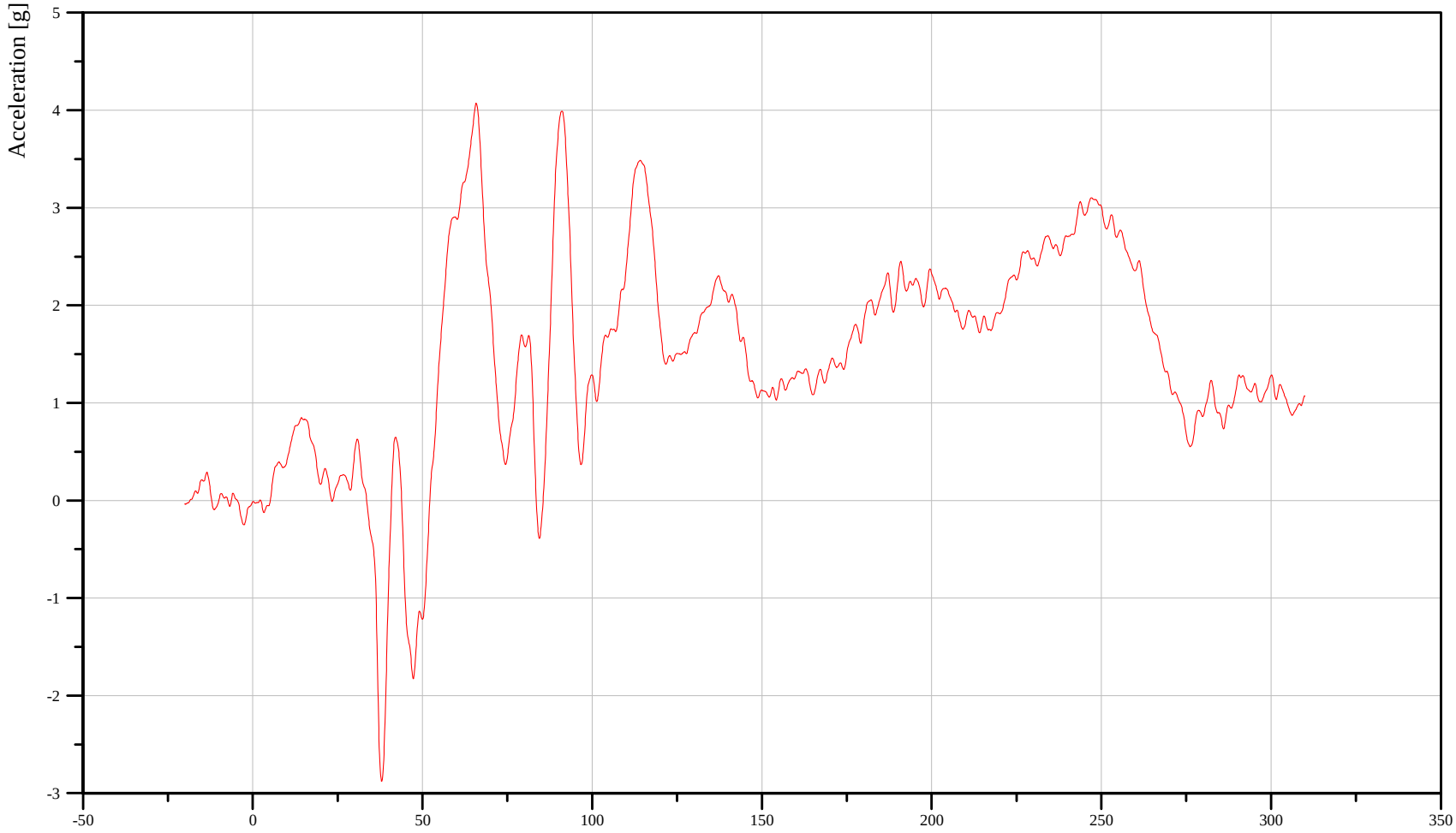
Passenger T1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0100WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-2.88 g at 38.00 ms

Max. Value
4.07 g at 65.84 ms

World SID Evaluation

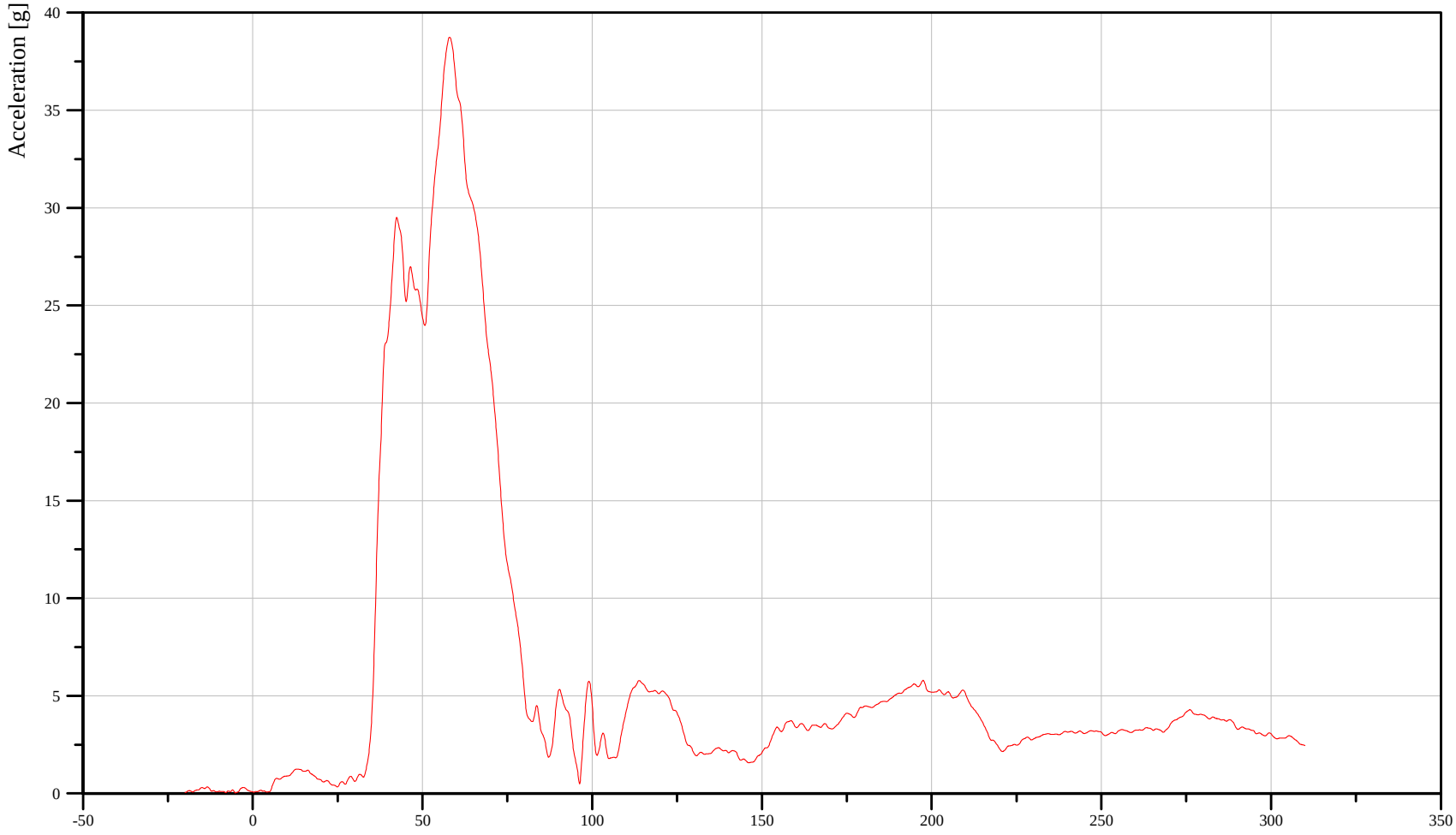
Passenger T1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0100WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.03 g at -5.12 ms

Max. Value
38.74 g at 58.00 ms

World SID Evaluation

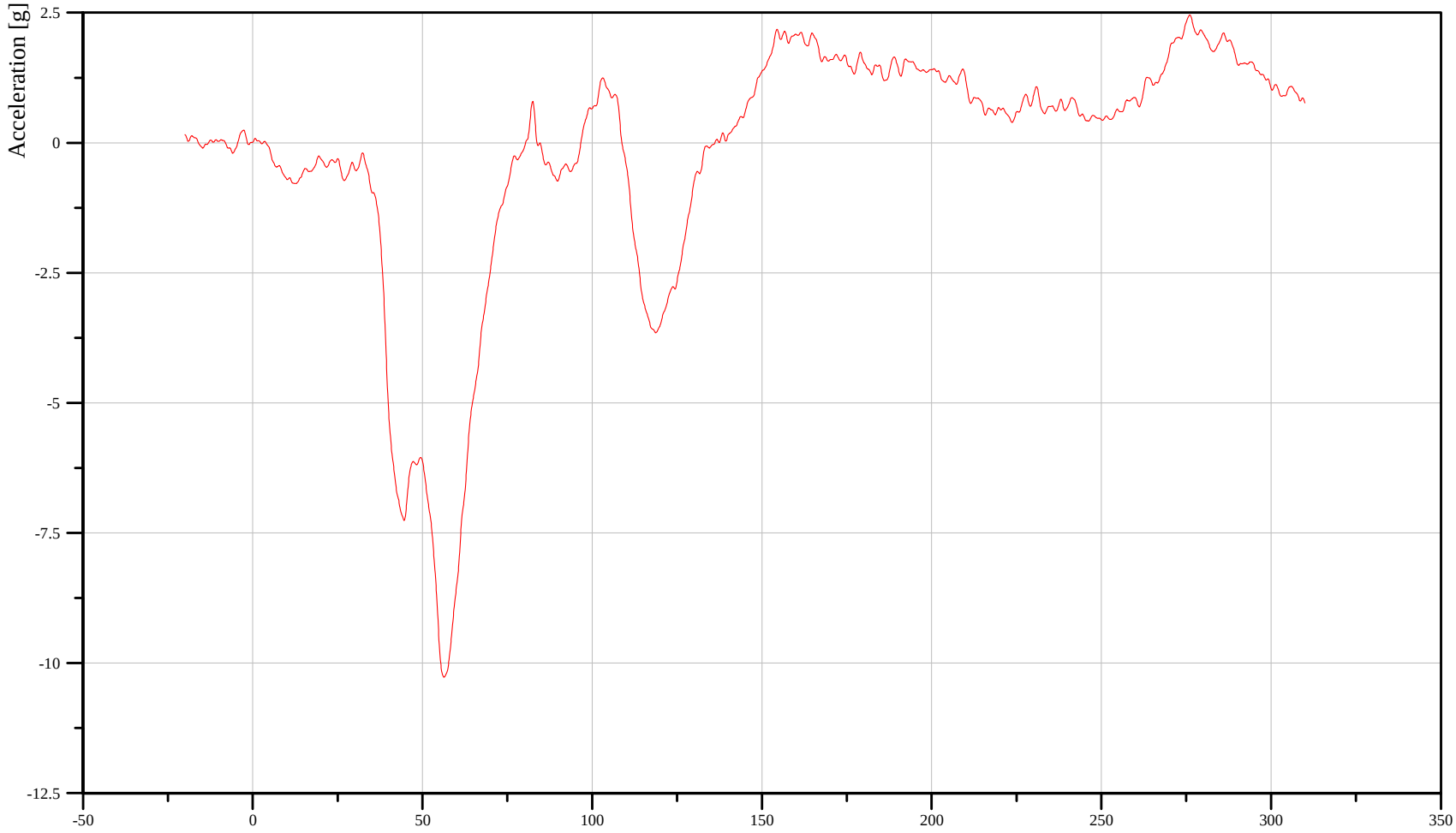
Passenger T4 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0400WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-10.27 g at 56.32 ms

Max. Value
2.46 g at 276.00 ms

World SID Evaluation

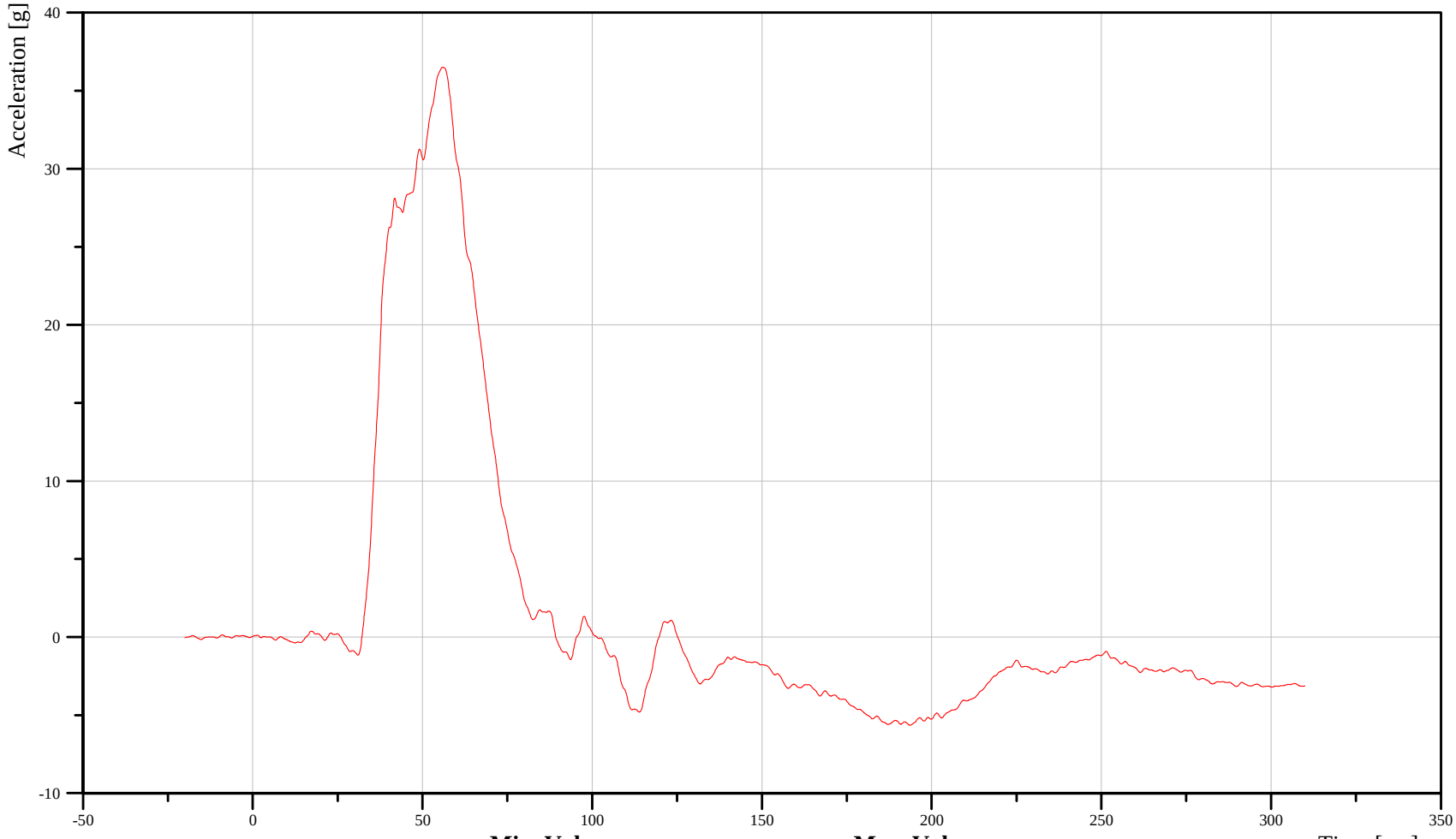
Passenger T4 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0400WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-5.66 g at 193.68 ms

Max. Value
36.50 g at 56.00 ms

World SID Evaluation

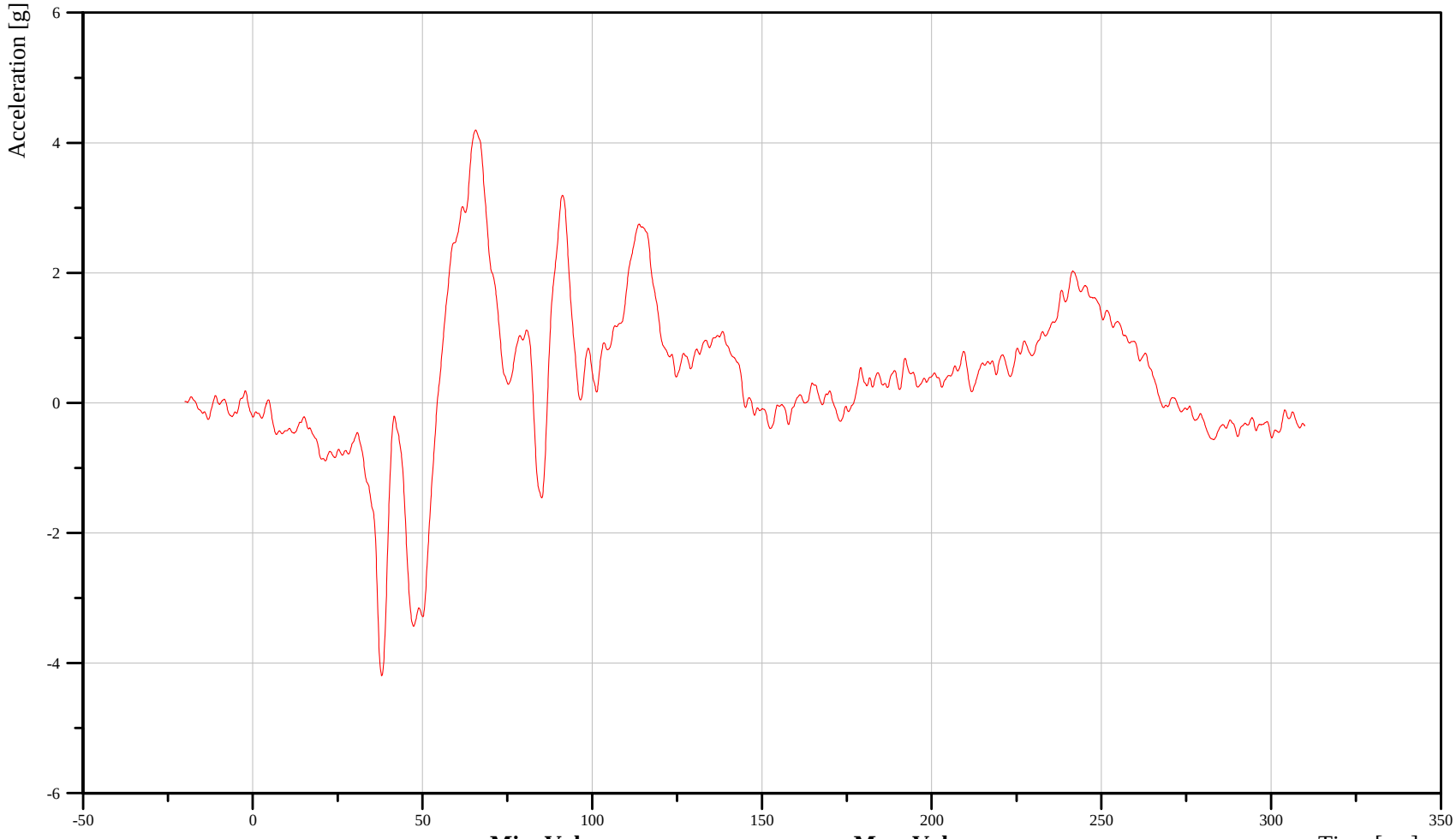
Passenger T4 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0400WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-4.19 g at 38.00 ms

Max. Value
4.20 g at 65.68 ms

World SID Evaluation

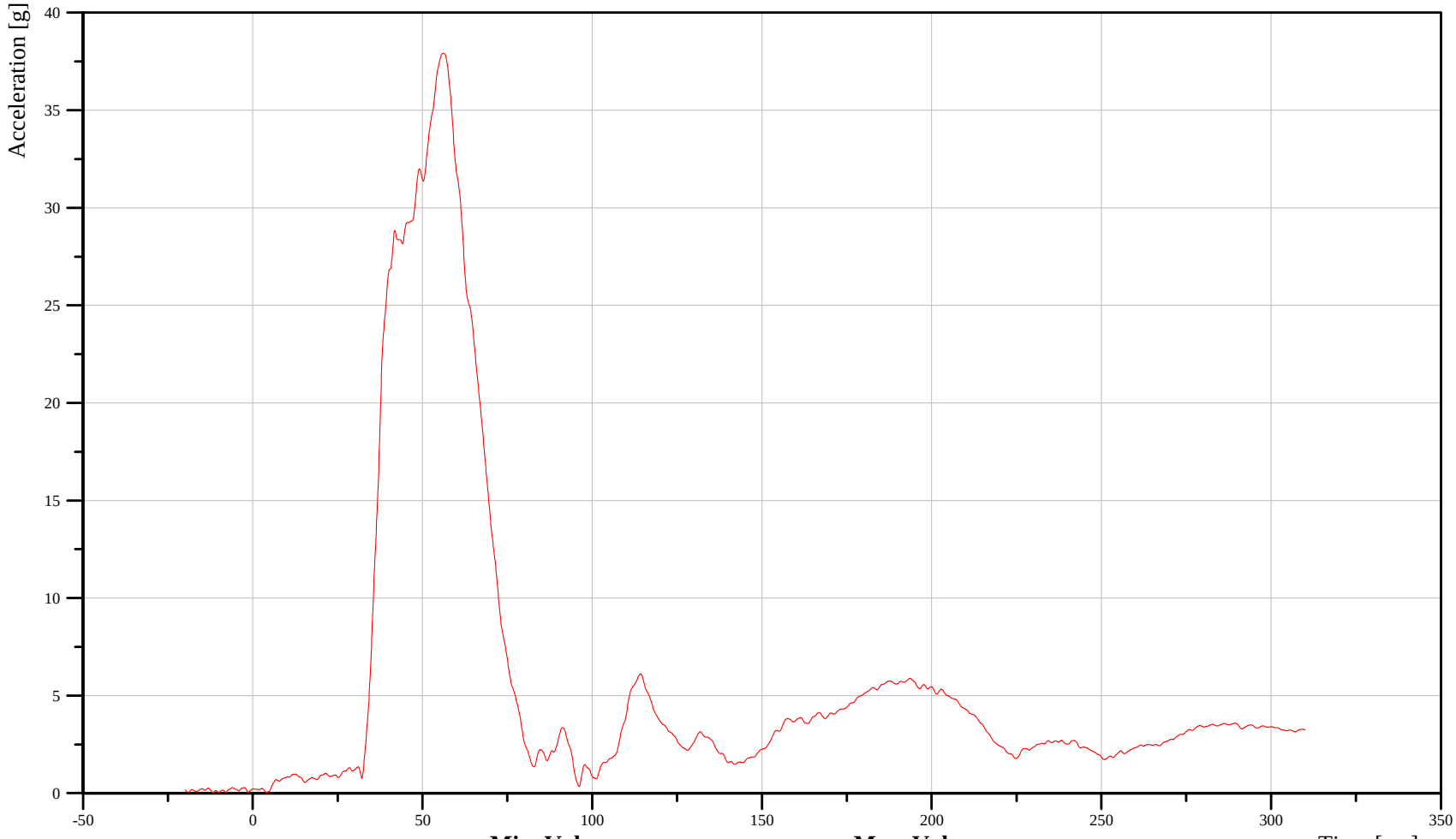
Passenger T4 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP0400WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.01 g at -11.68 ms

Max. Value
37.92 g at 56.08 ms

World SID Evaluation

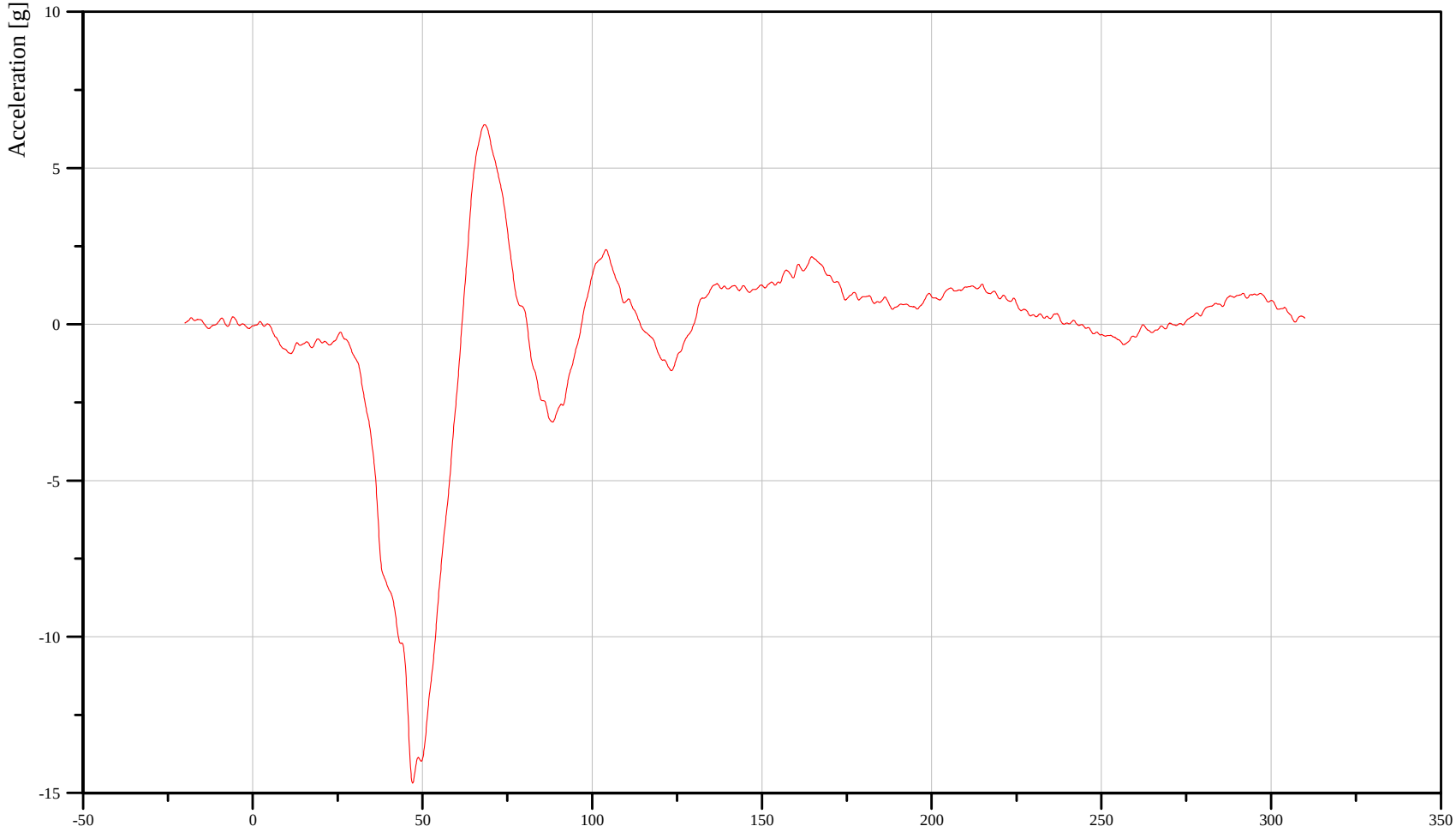
Passenger T12 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP1200WSACXC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-14.68 g at 47.12 ms

Max. Value
6.39 g at 68.32 ms

World SID Evaluation

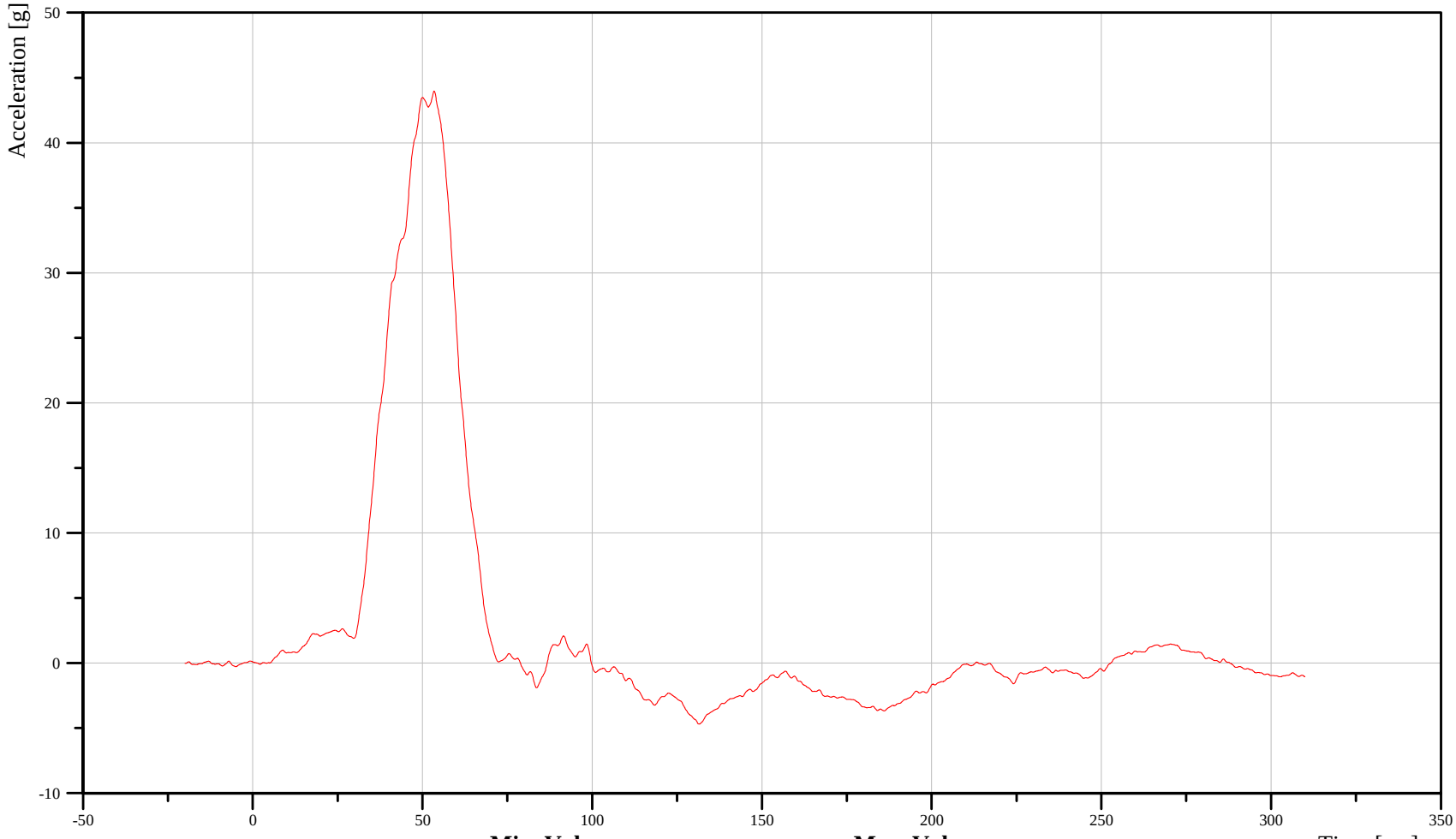
Passenger T12 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP1200WSACYC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-4.69 g at 131.44 ms

Max. Value
43.98 g at 53.44 ms

World SID Evaluation

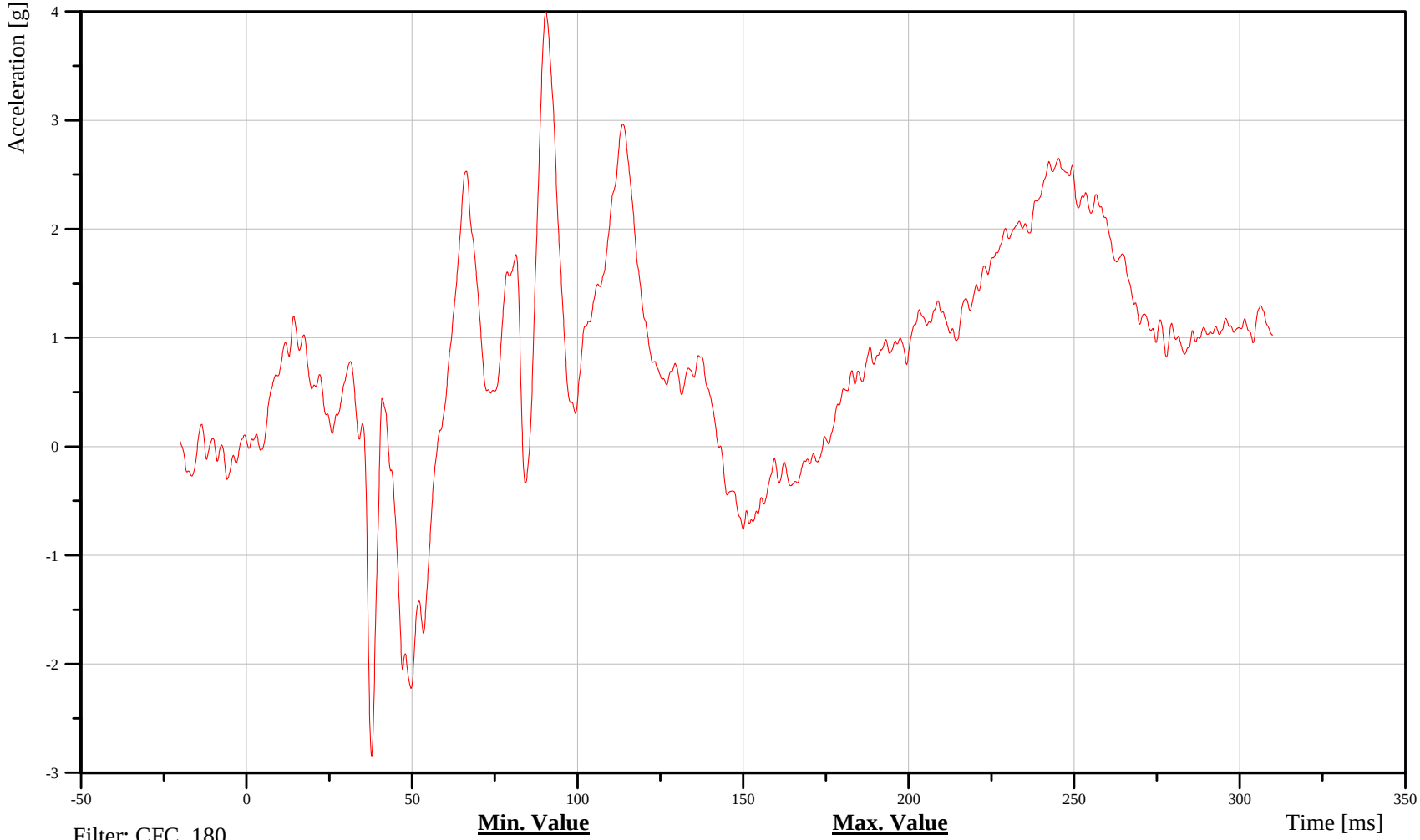
Passenger T12 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP1200WSACZC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
-2.84 g at 37.84 ms

Max. Value
4.00 g at 90.40 ms

World SID Evaluation

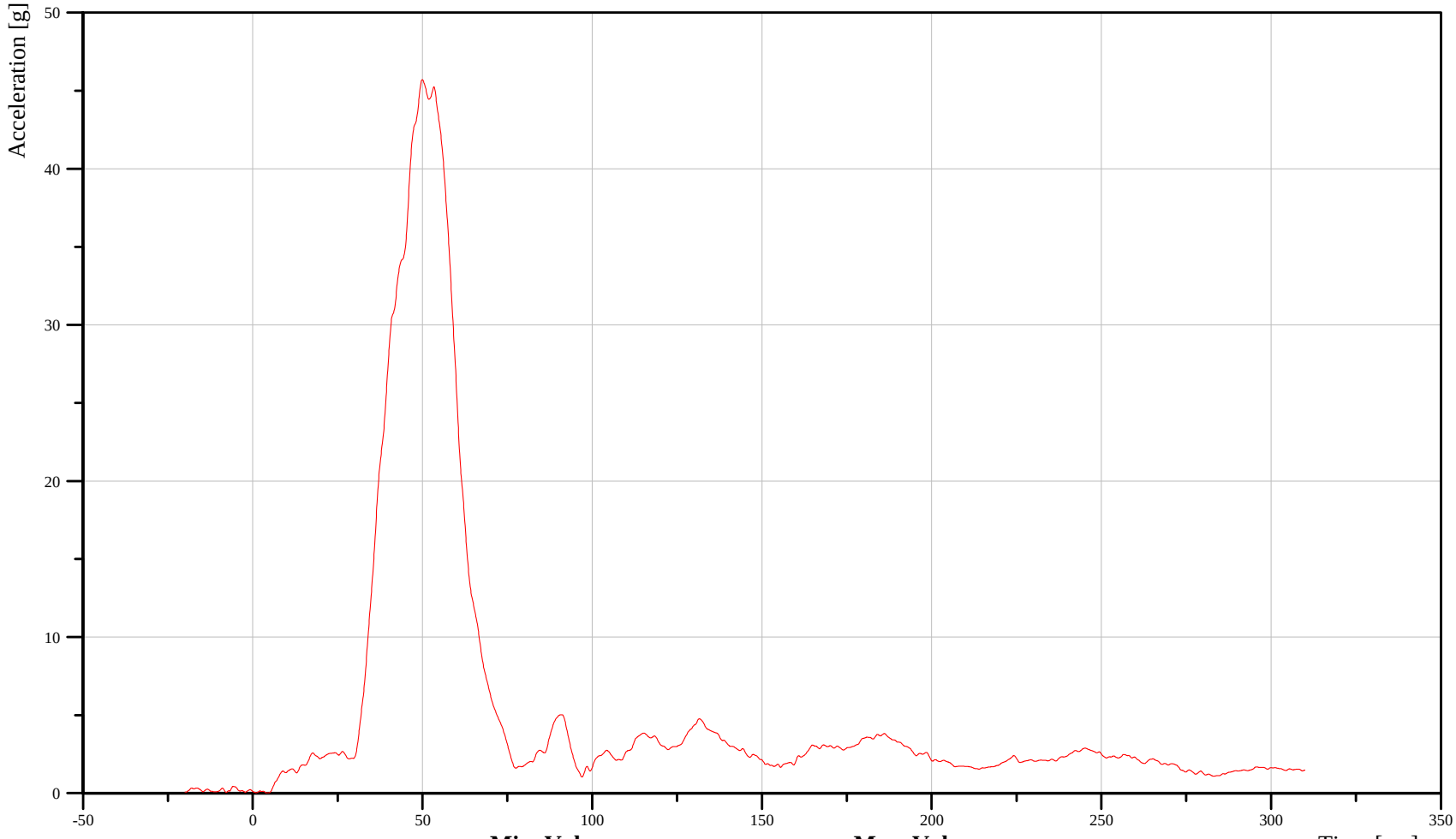
Passenger T12 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14THSP1200WSACRC

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_180

Min. Value
0.02 g at 3.92 ms

Max. Value
45.71 g at 49.92 ms

World SID Evaluation

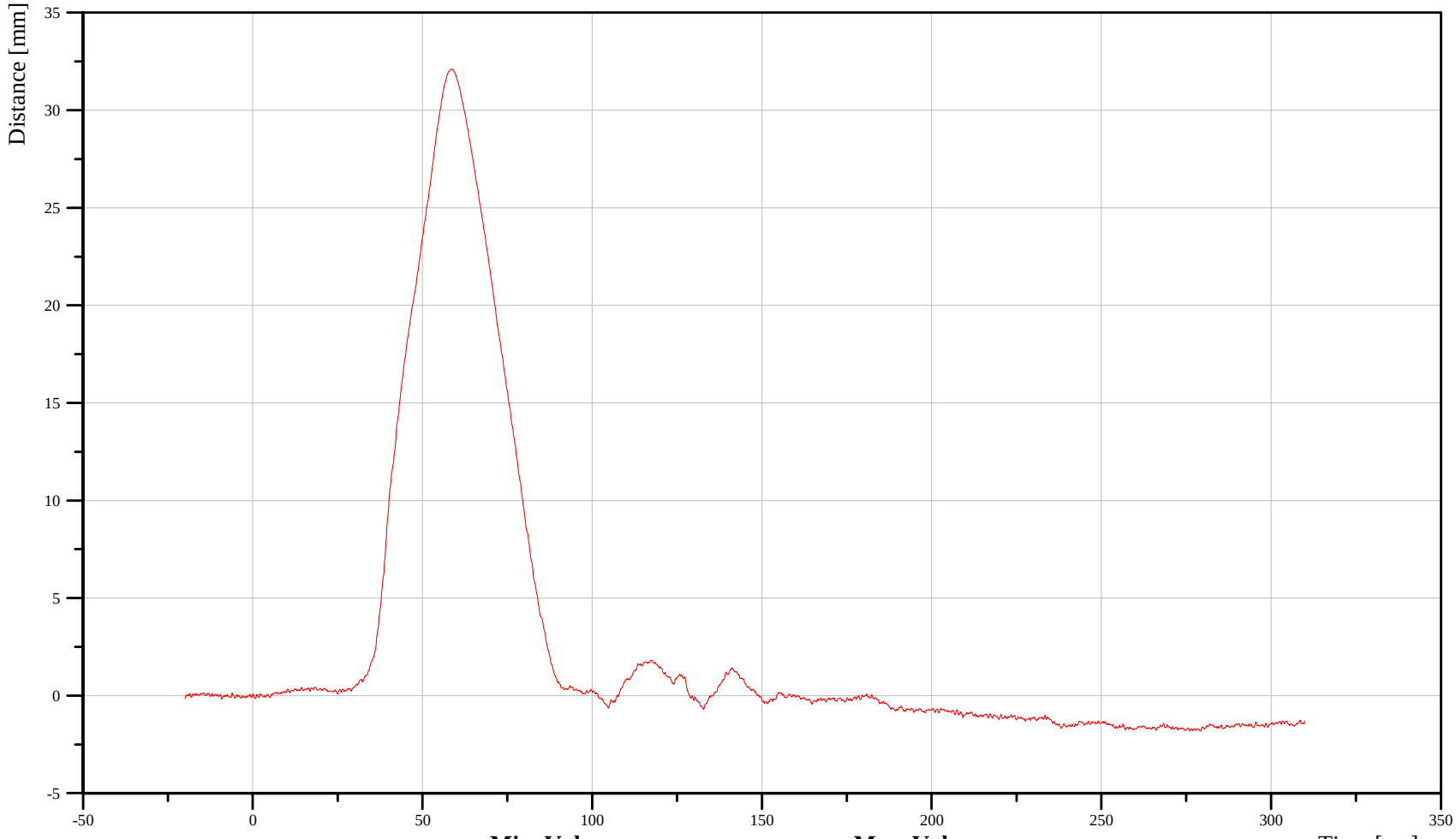
Passenger Thorax Rib 1 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE01WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1.81 mm at 279.20 ms

Max. Value
32.11 mm at 58.64 ms

World SID Evaluation

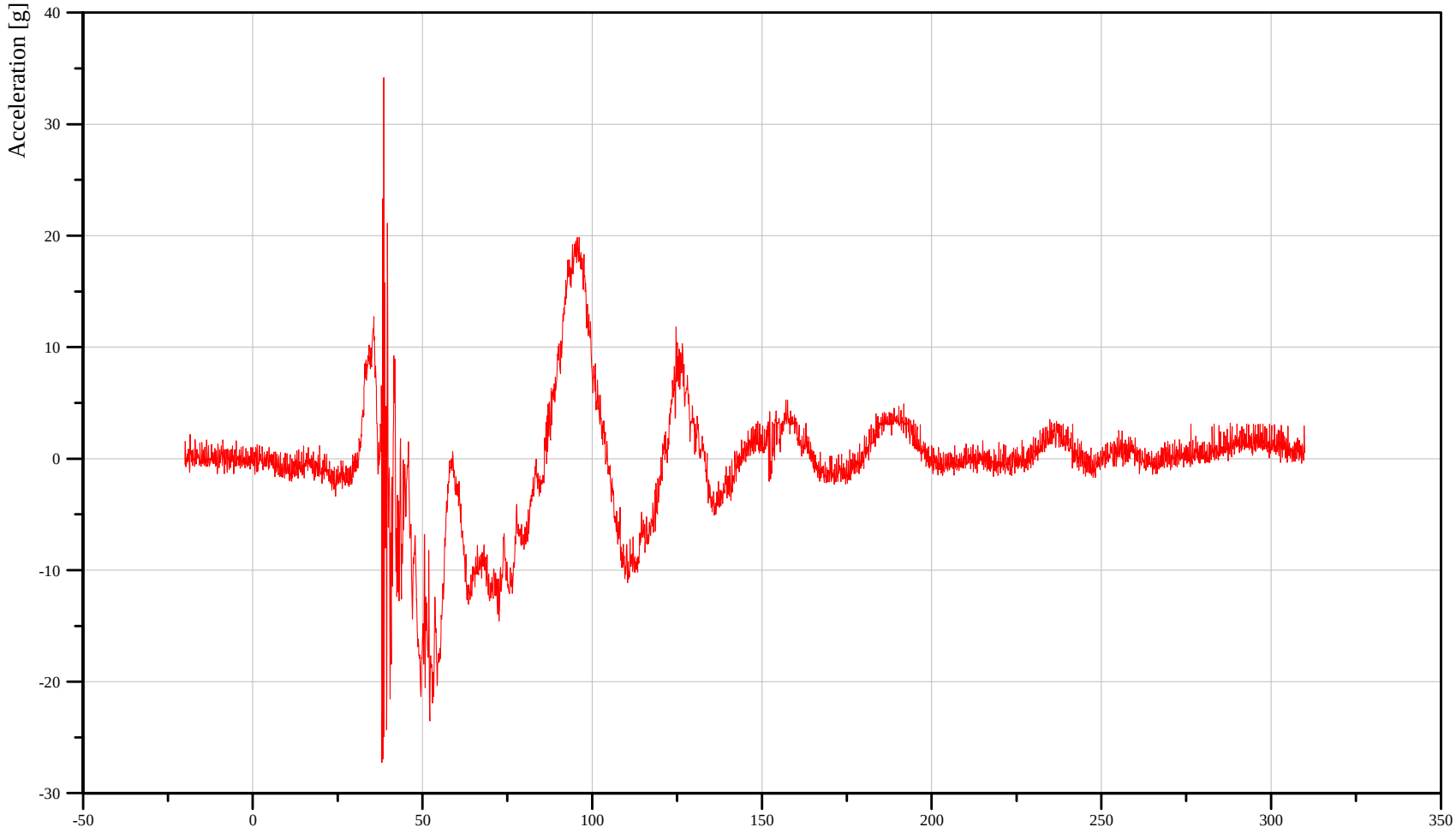
Passenger Thorax Rib 1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE01WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-27.24 g at 38.08 ms

Max. Value
34.19 g at 38.56 ms

World SID Evaluation

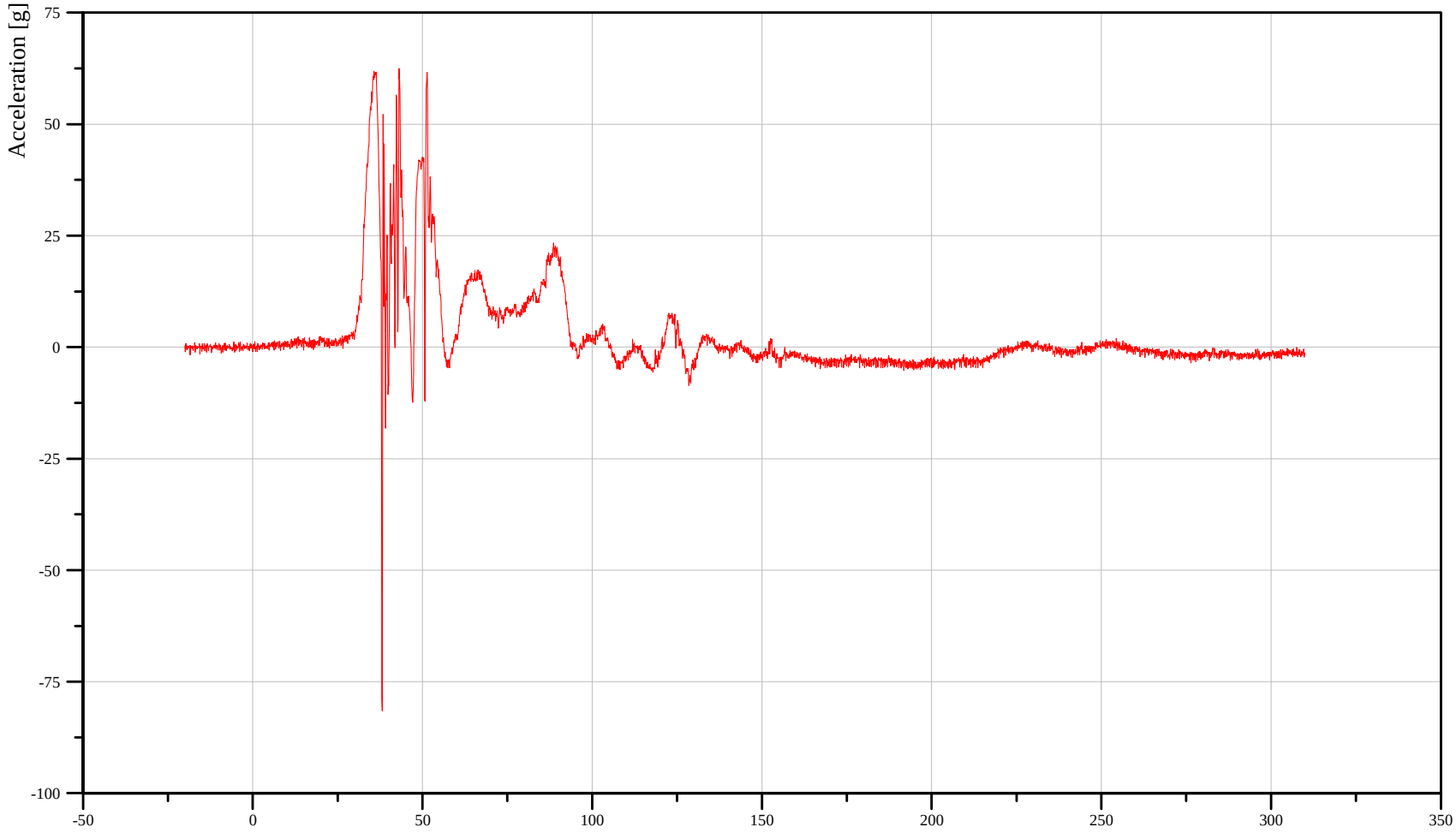
Passenger Thorax Rib 1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE01WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-81.54 g at 38.16 ms

Max. Value
62.51 g at 43.12 ms

World SID Evaluation

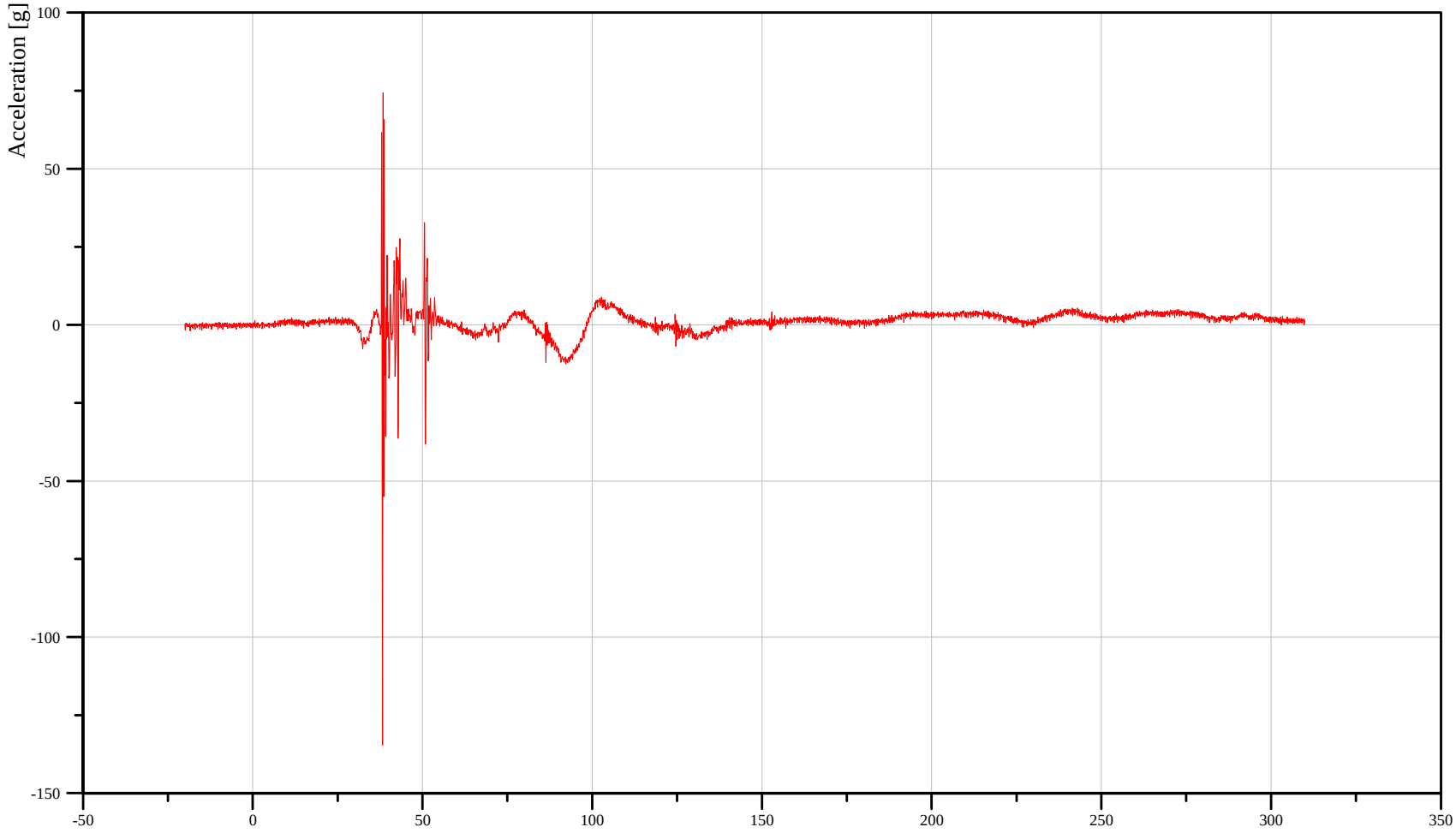
Passenger Thorax Rib 1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE01WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-134.56 g at 38.24 ms

Max. Value
74.35 g at 38.40 ms

World SID Evaluation

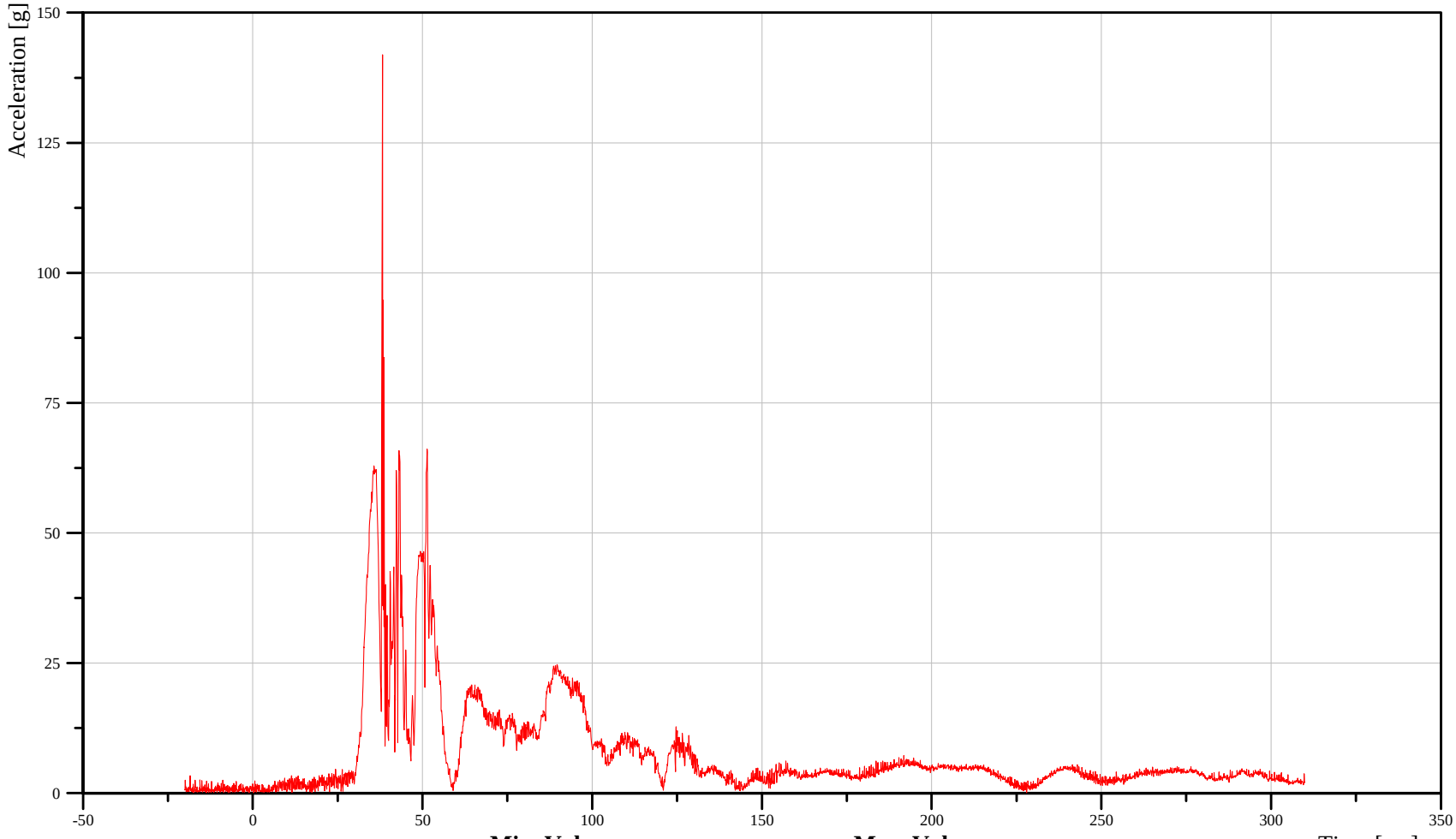
Passenger Thorax Rib 1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE01WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.09 g at -13.68 ms

Max. Value
141.94 g at 38.24 ms

World SID Evaluation

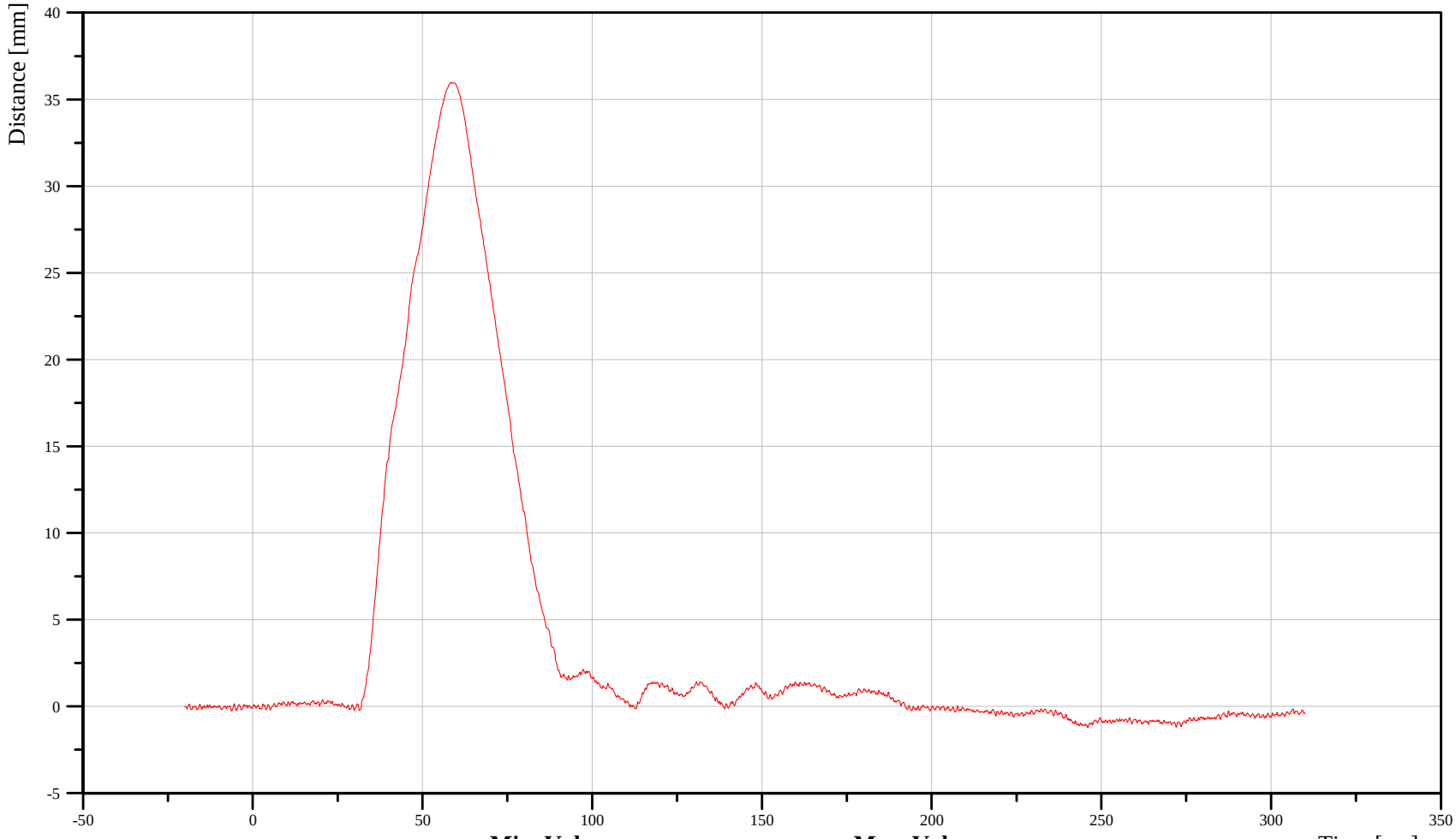
Passenger Thorax Rib 2 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE02WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1.22 mm at 246.00 ms

Max. Value
35.97 mm at 58.32 ms

World SID Evaluation

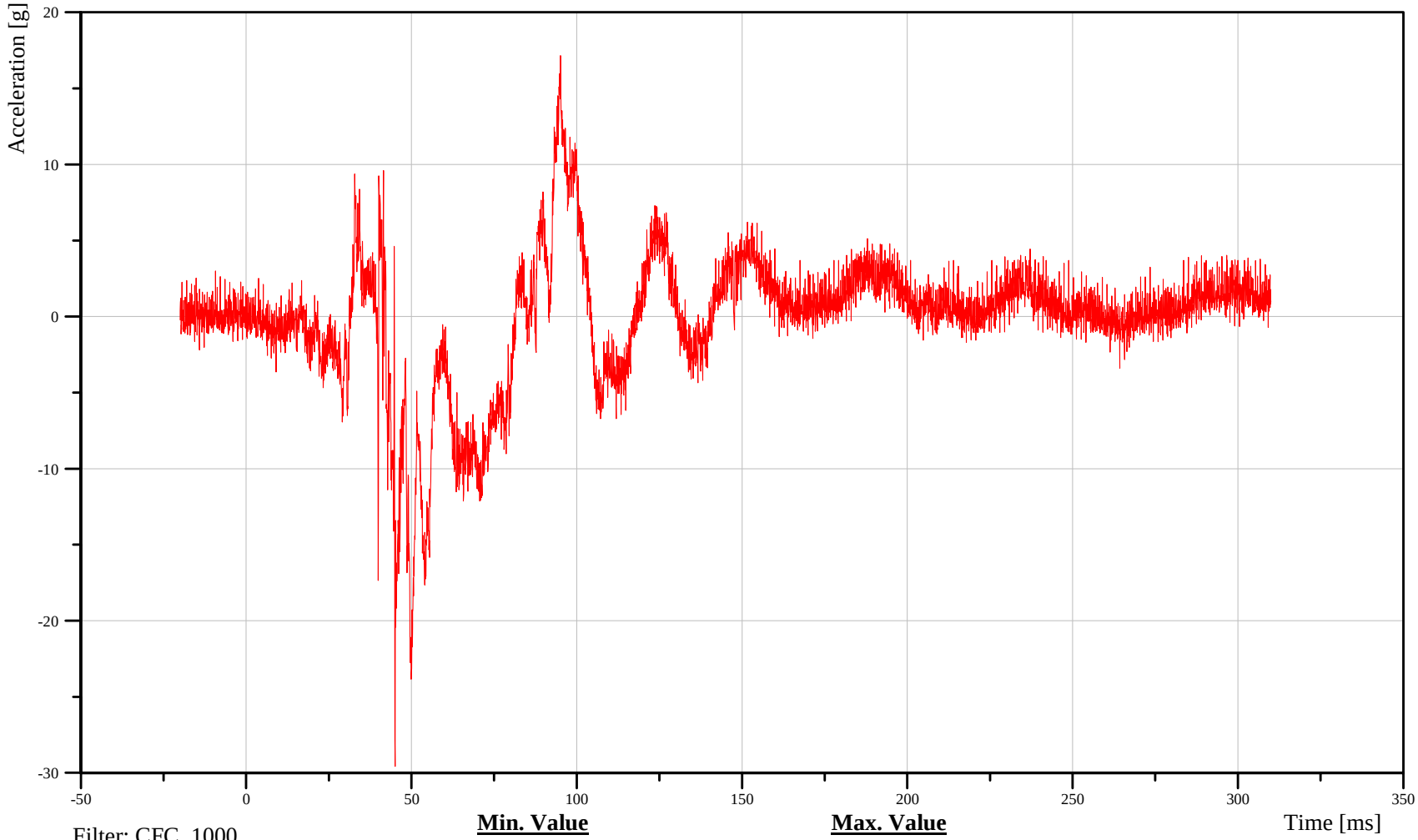
Passenger Thorax Rib 2 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE02WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-29.58 g at 45.04 ms

Max. Value
17.16 g at 95.12 ms

World SID Evaluation

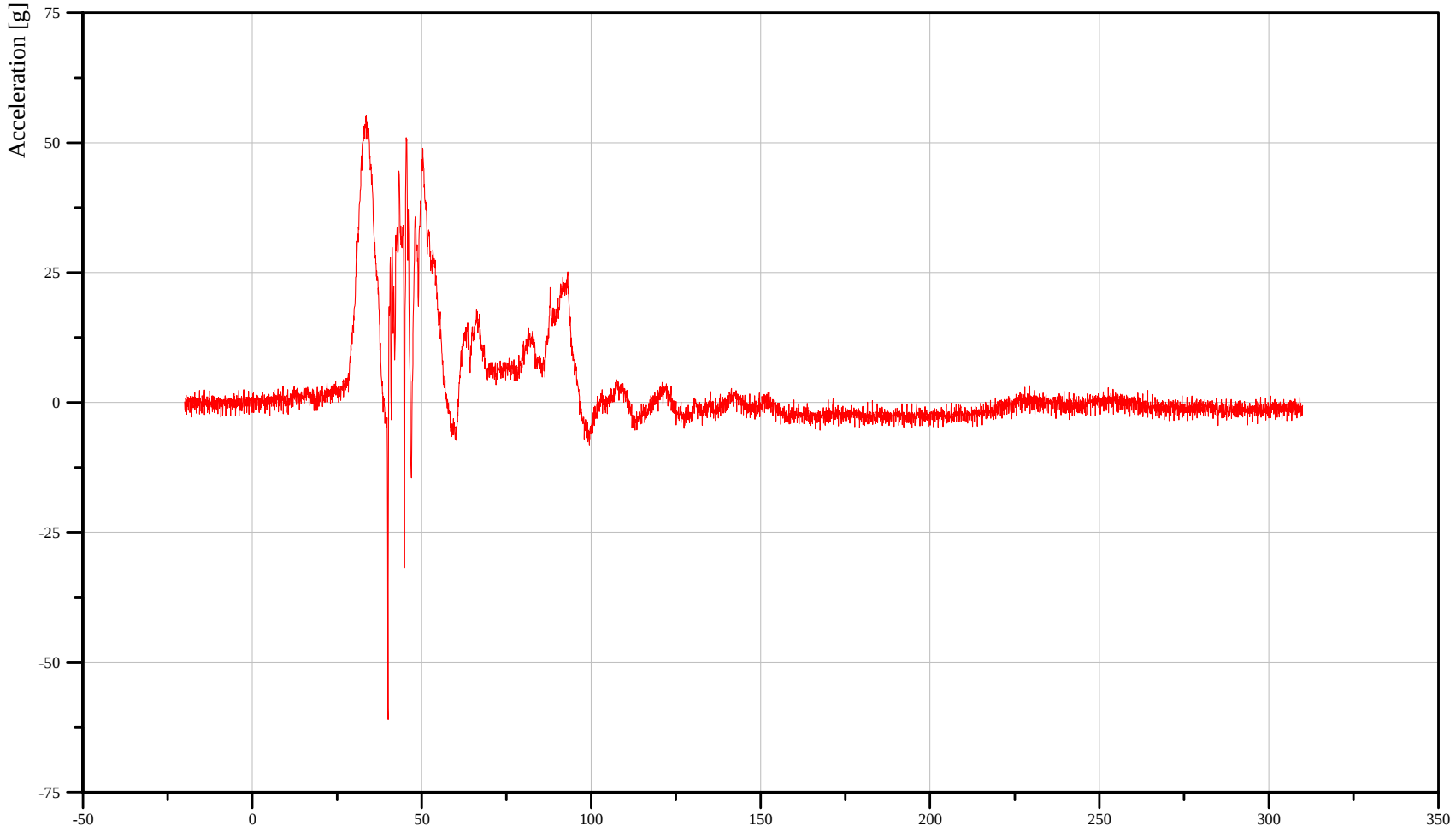
Passenger Thorax Rib 2 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE02WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-61.03 g at 40.08 ms

Max. Value
55.28 g at 33.68 ms

World SID Evaluation

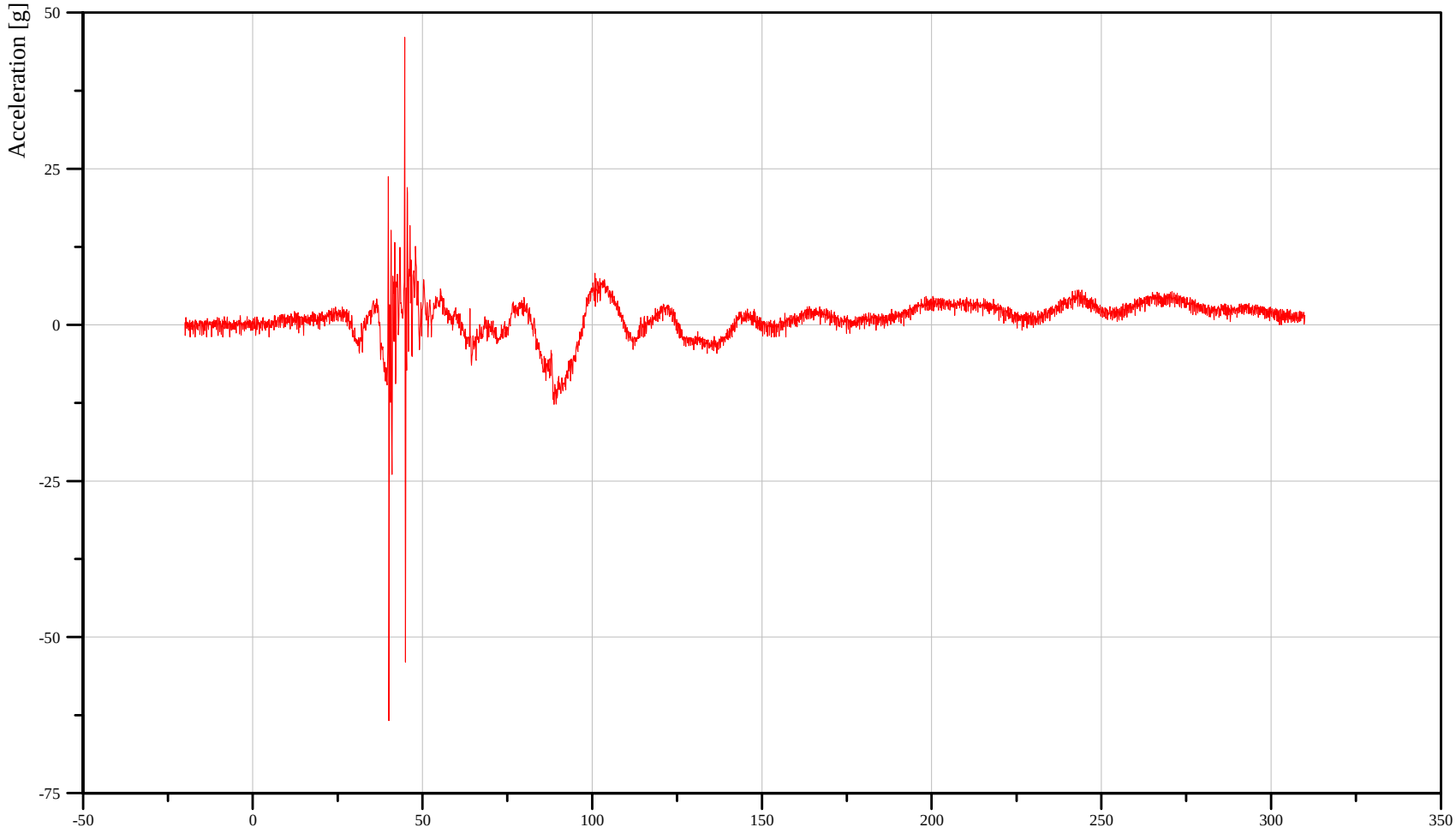
Passenger Thorax Rib 2 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE02WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-63.37 g at 40.16 ms

Max. Value
46.08 g at 44.80 ms

World SID Evaluation

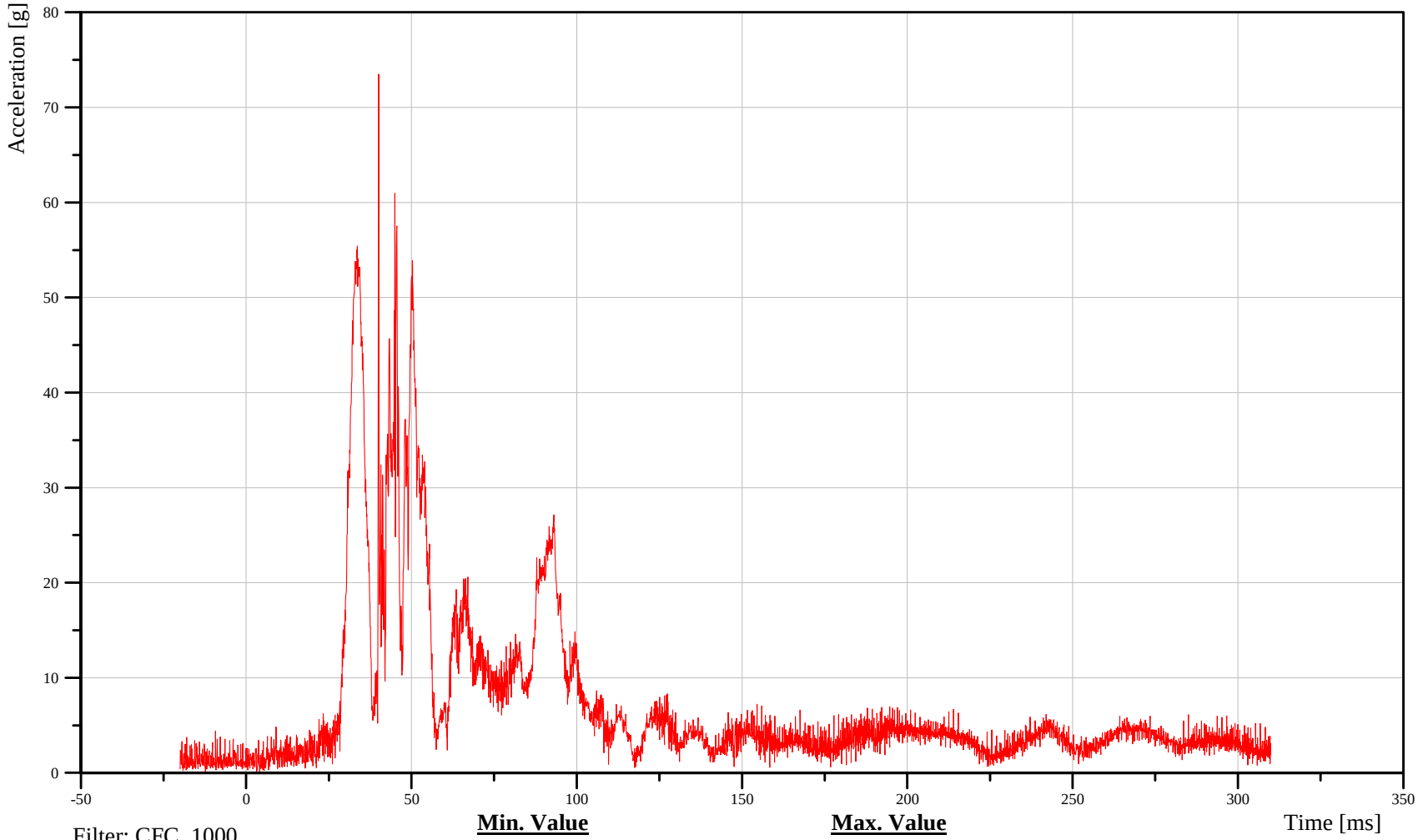
Passenger Thorax Rib 2 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE02WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.16 g at -12.32 ms

Max. Value
73.51 g at 40.08 ms

World SID Evaluation

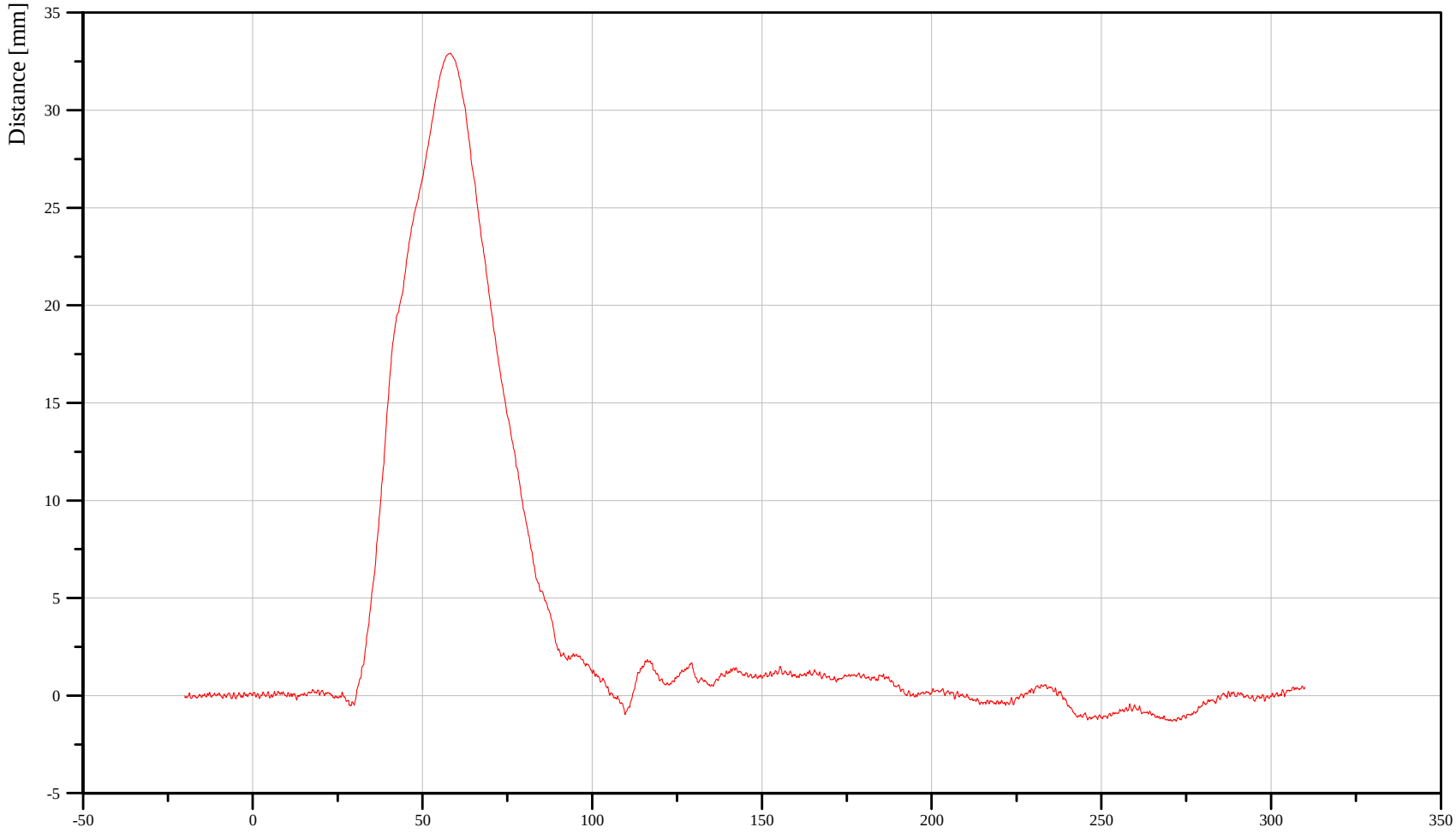
Passenger Thorax Rib 3 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE03WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1.31 mm at 272.00 ms

Max. Value
32.93 mm at 58.24 ms

World SID Evaluation

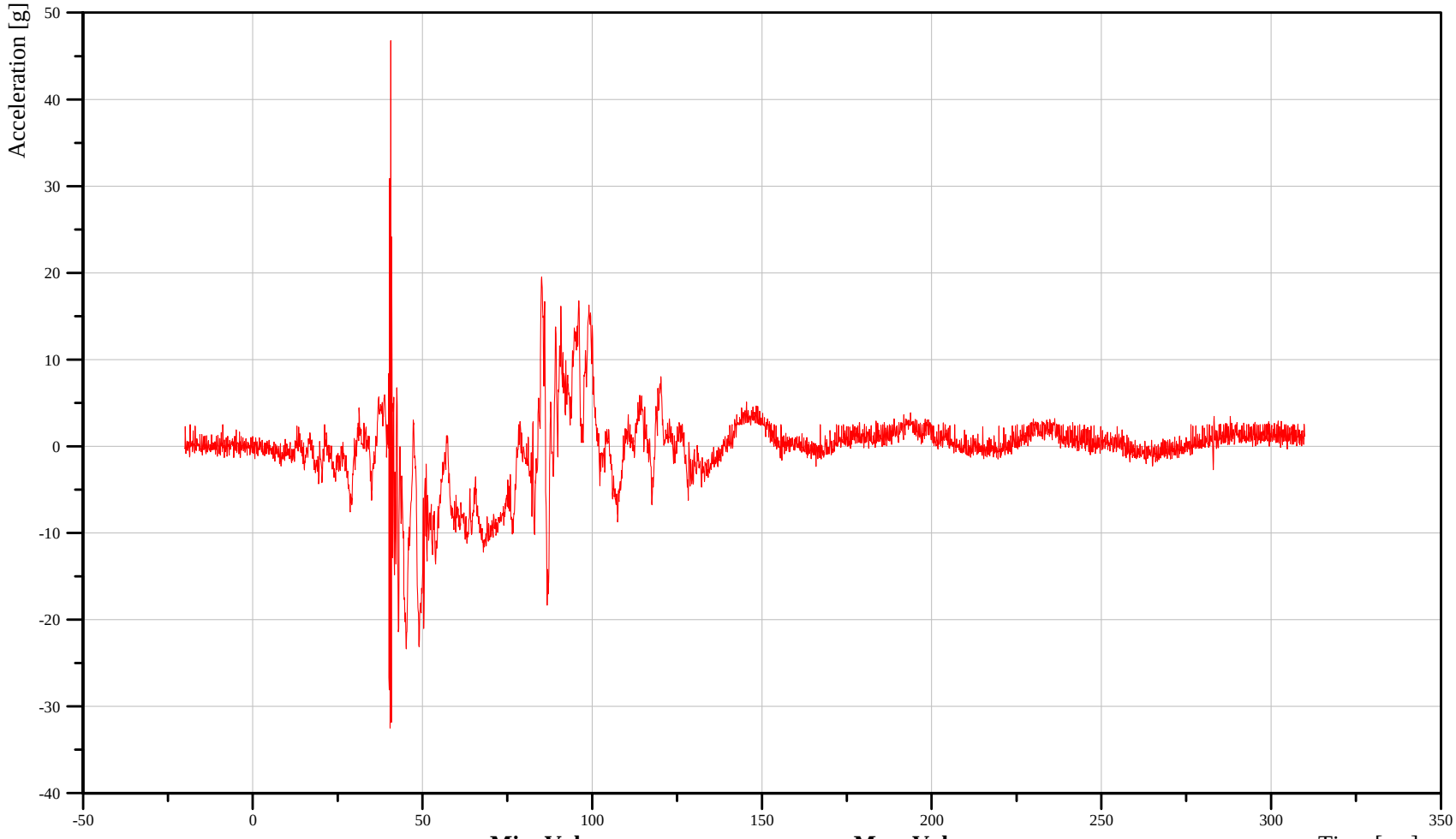
Passenger Thorax Rib 3 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE03WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-32.49 g at 40.48 ms

Max. Value
46.77 g at 40.64 ms

World SID Evaluation

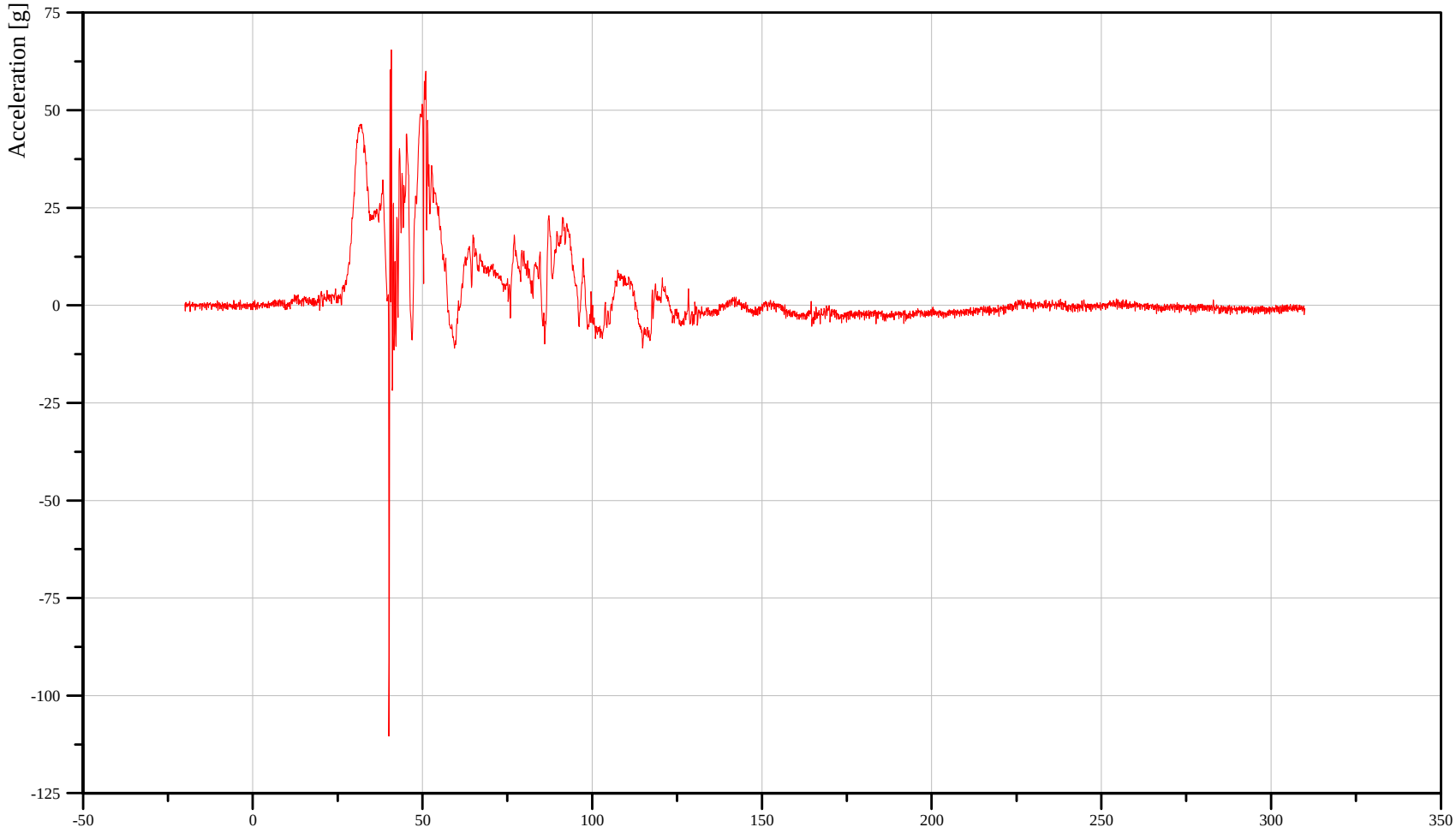
Passenger Thorax Rib 3 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE03WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-110.40 g at 40.16 ms

Max. Value
65.52 g at 40.80 ms

World SID Evaluation

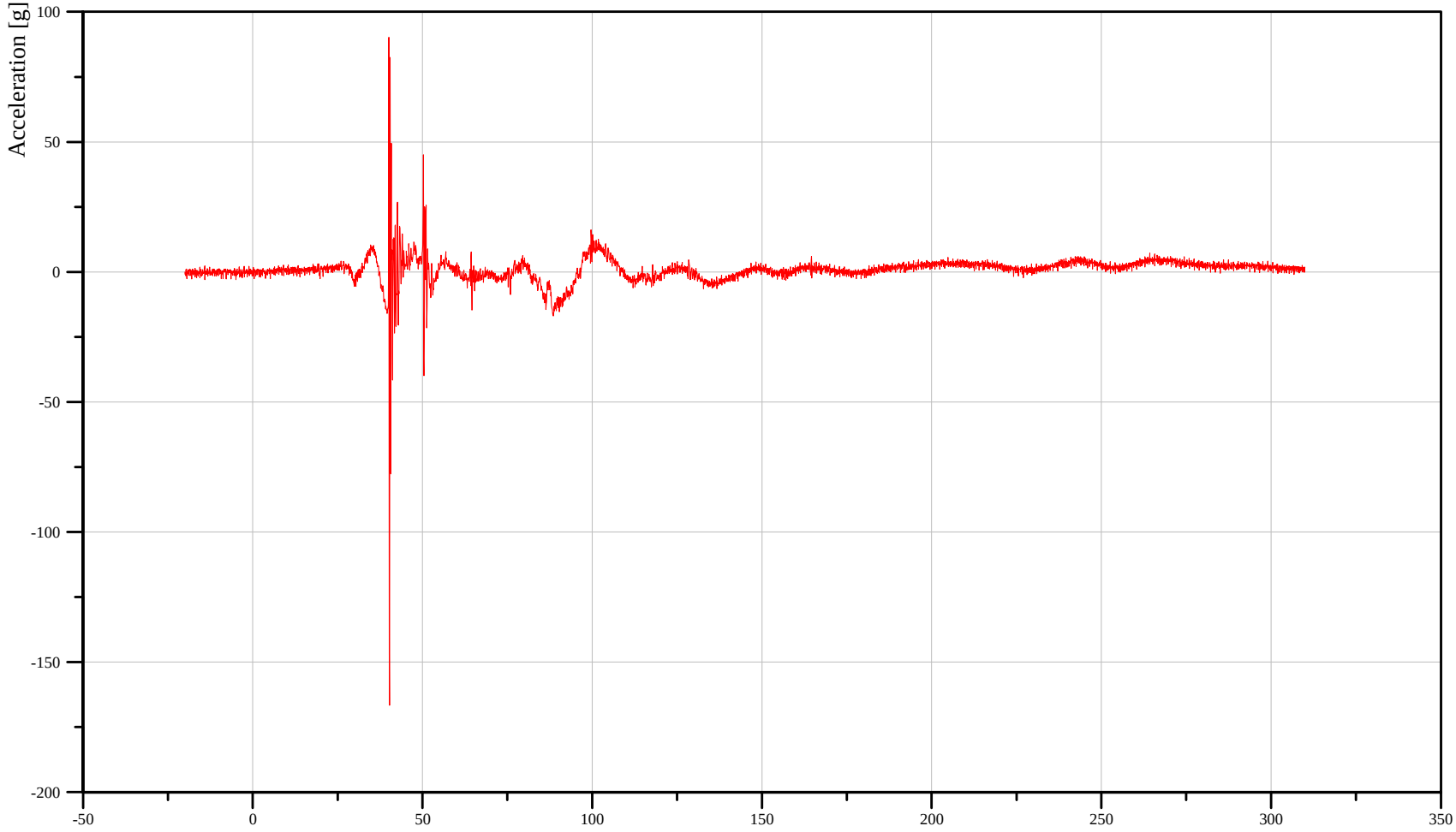
Passenger Thorax Rib 3 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE03WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-166.67 g at 40.32 ms

Max. Value
90.24 g at 40.08 ms

World SID Evaluation

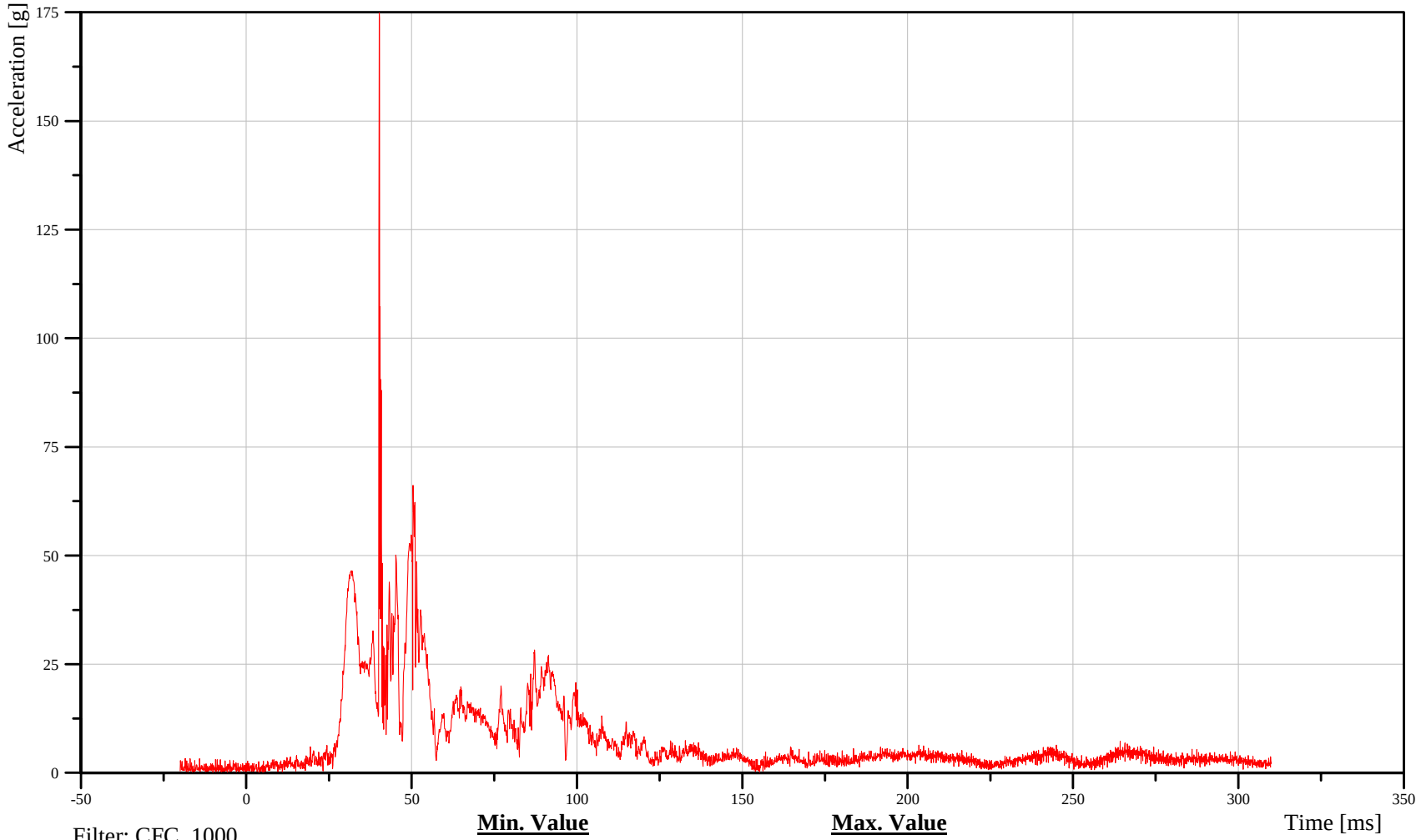
Passenger Thorax Rib 3 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14TRRILE03WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.13 g at 3.84 ms

Max. Value
174.91 g at 40.24 ms

World SID Evaluation

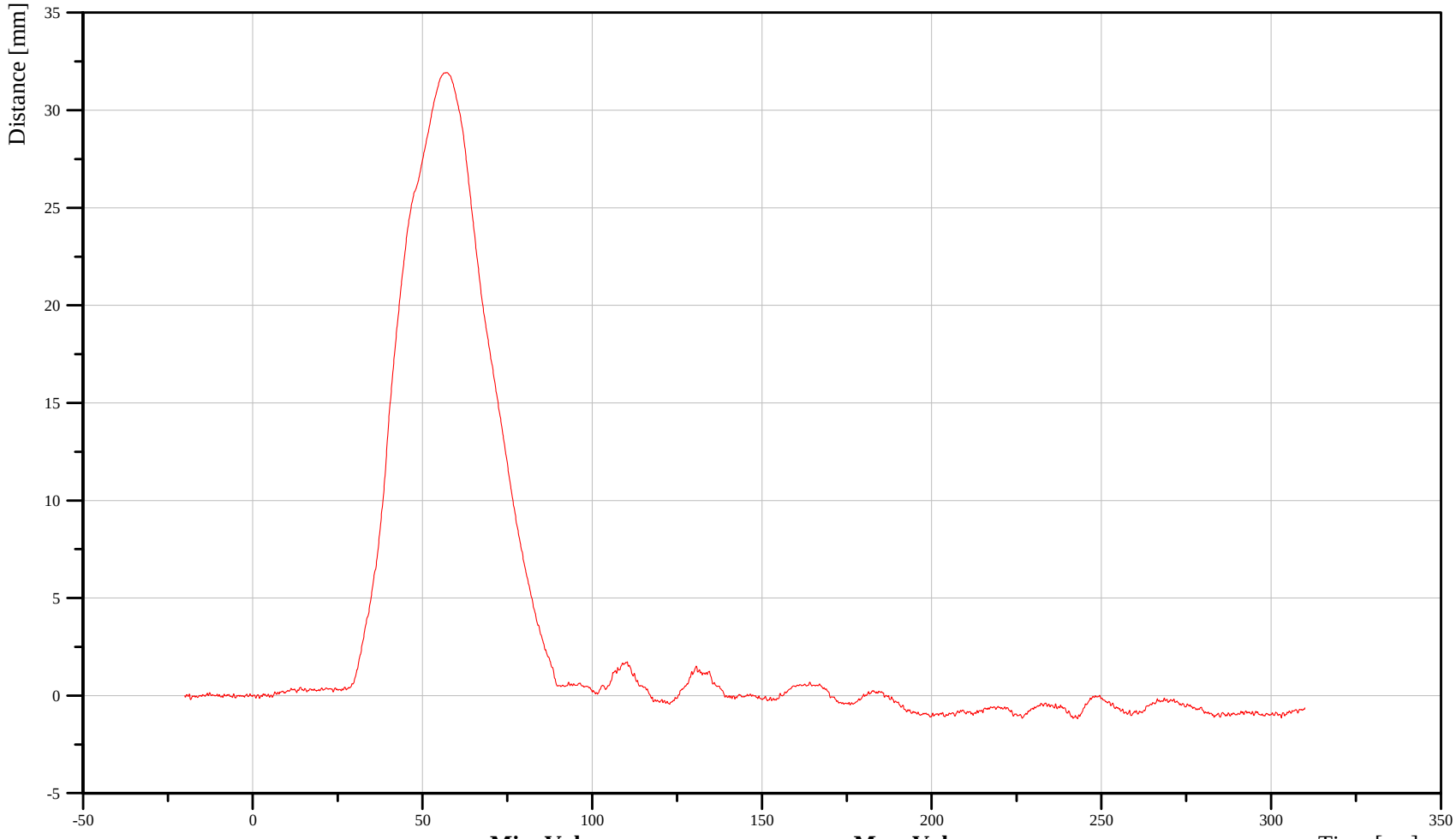
Passenger Abdominal Rib 1 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE01WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-1.19 mm at 242.96 ms

Max. Value
31.93 mm at 57.20 ms

World SID Evaluation

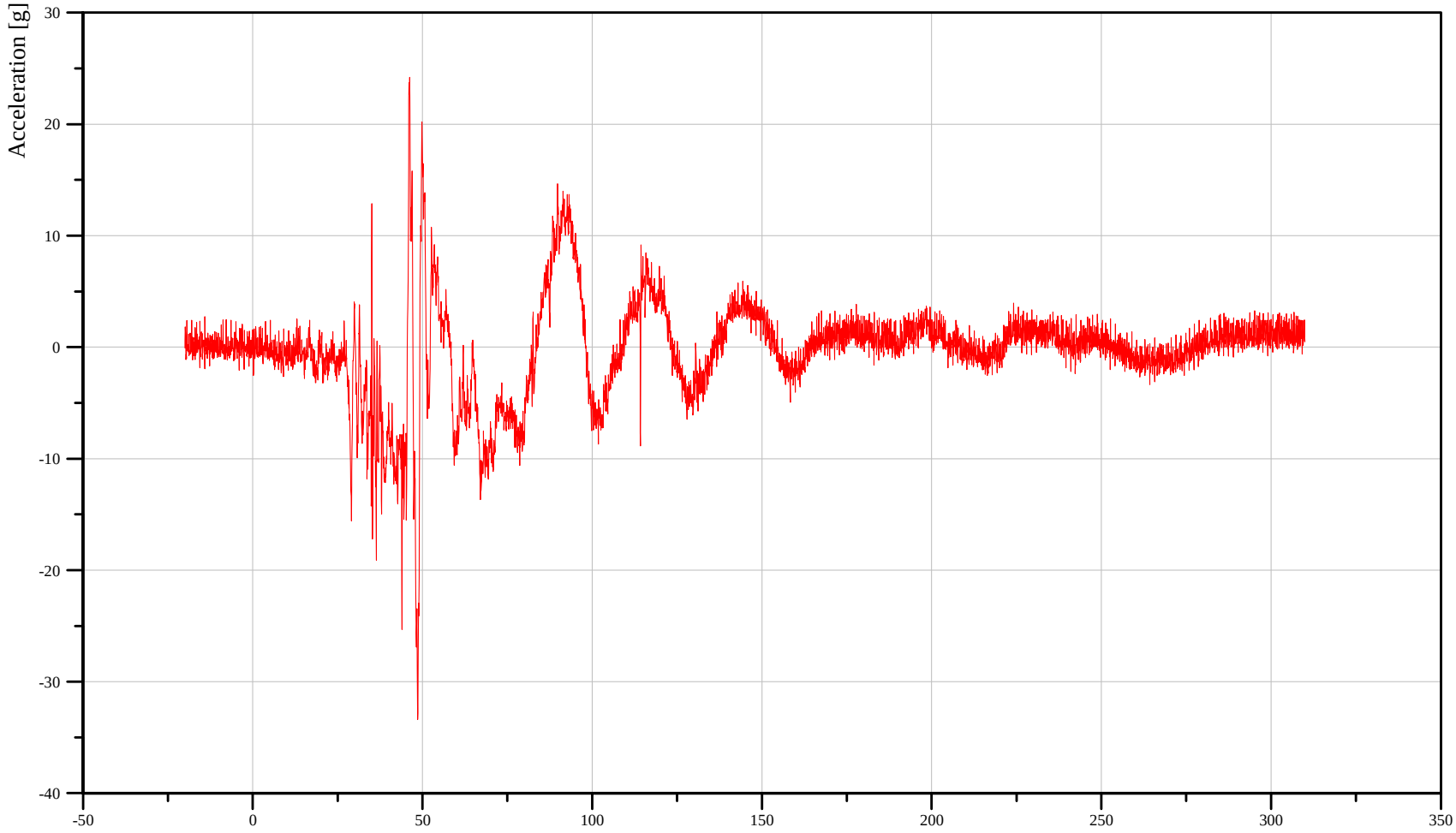
Passenger Abdominal Rib 1 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE01WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-33.38 g at 48.56 ms

Max. Value
24.20 g at 46.24 ms

080821

World SID Evaluation

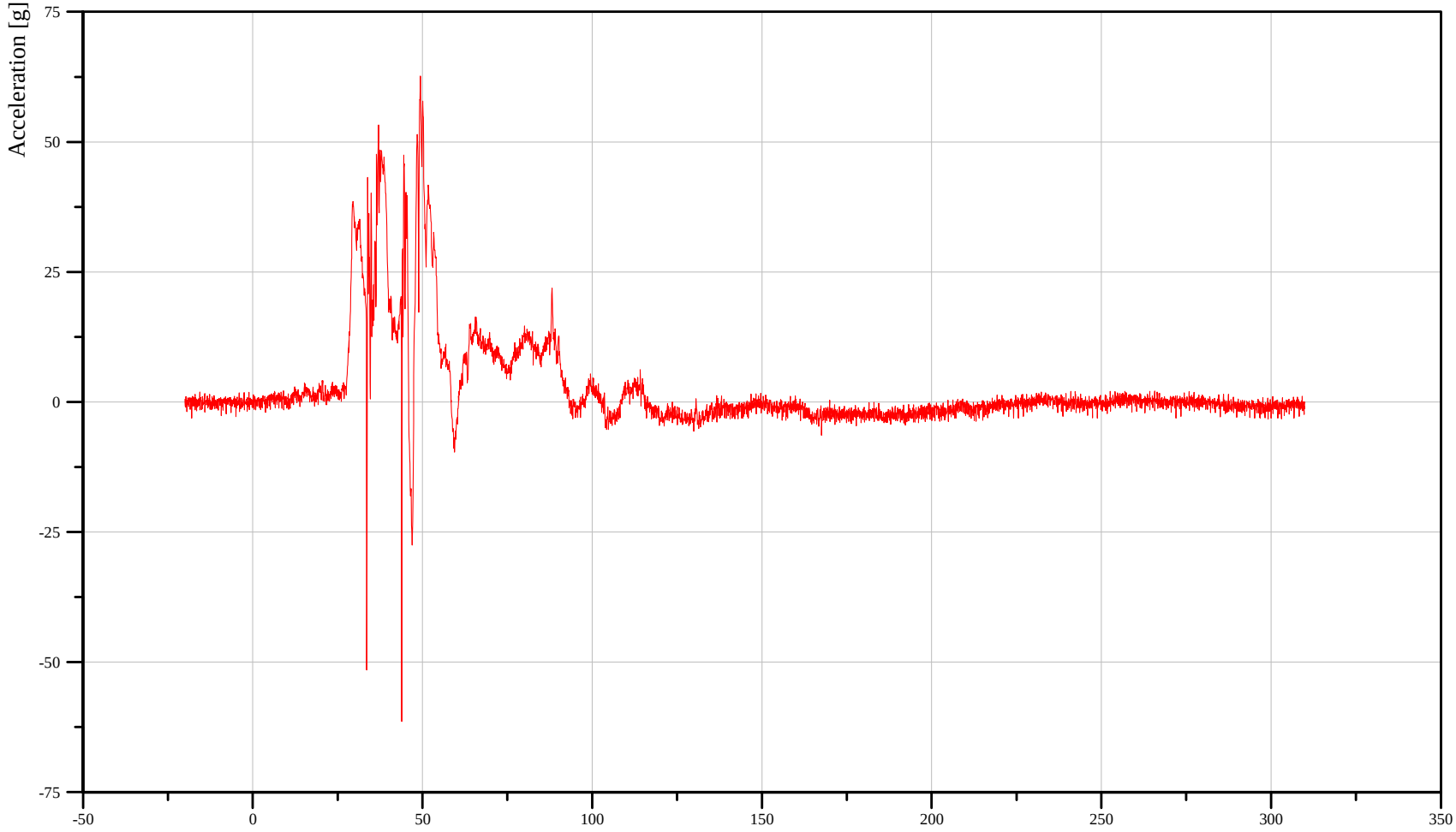
Passenger Abdominal Rib 1 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE01WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value	**Max. Value**
-61.39 g at 43.92 ms	62.65 g at 49.36 ms

World SID Evaluation

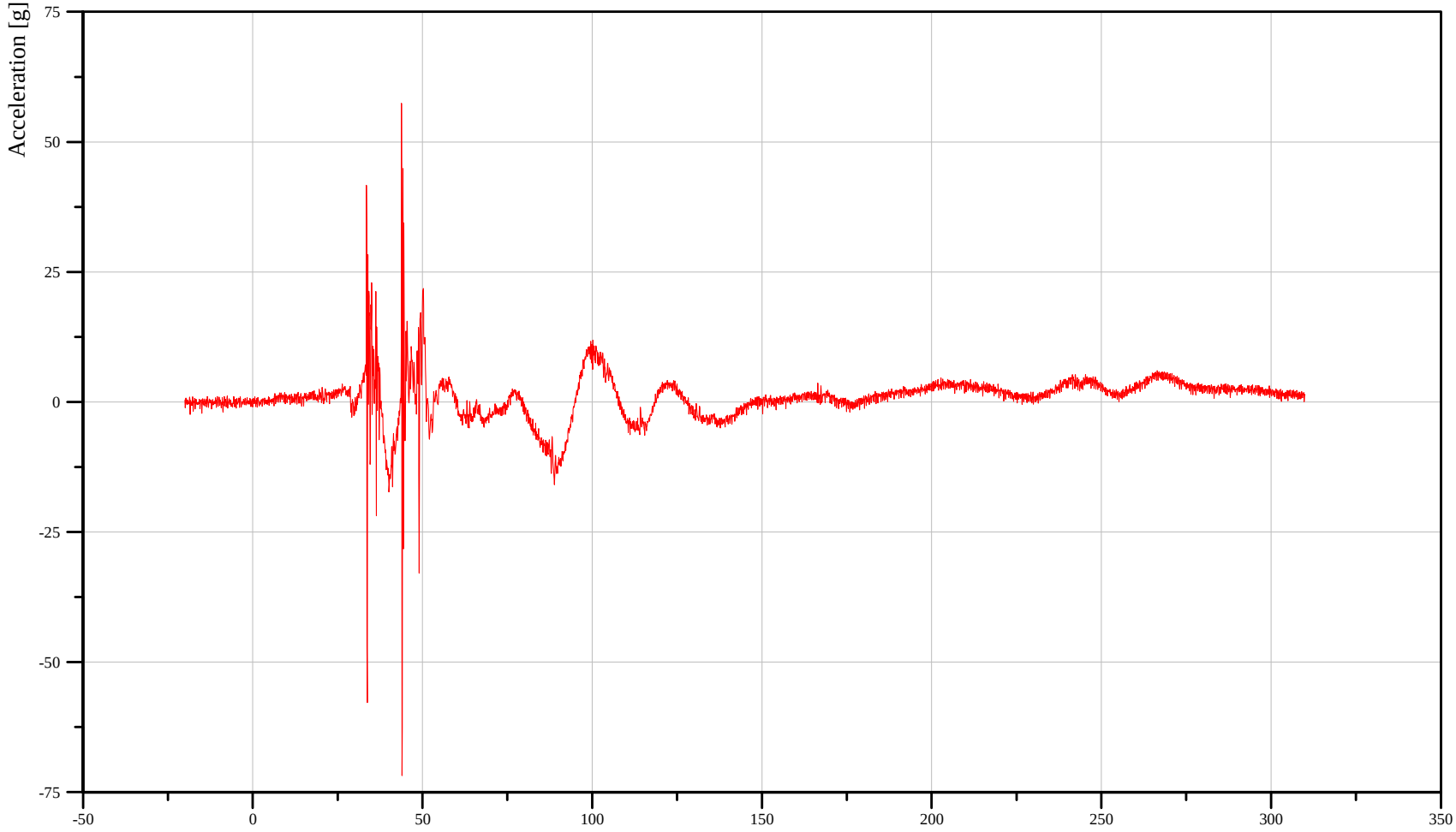
Passenger Abdominal Rib 1 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE01WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-71.78 g at 44.00 ms

Max. Value
57.40 g at 43.84 ms

World SID Evaluation

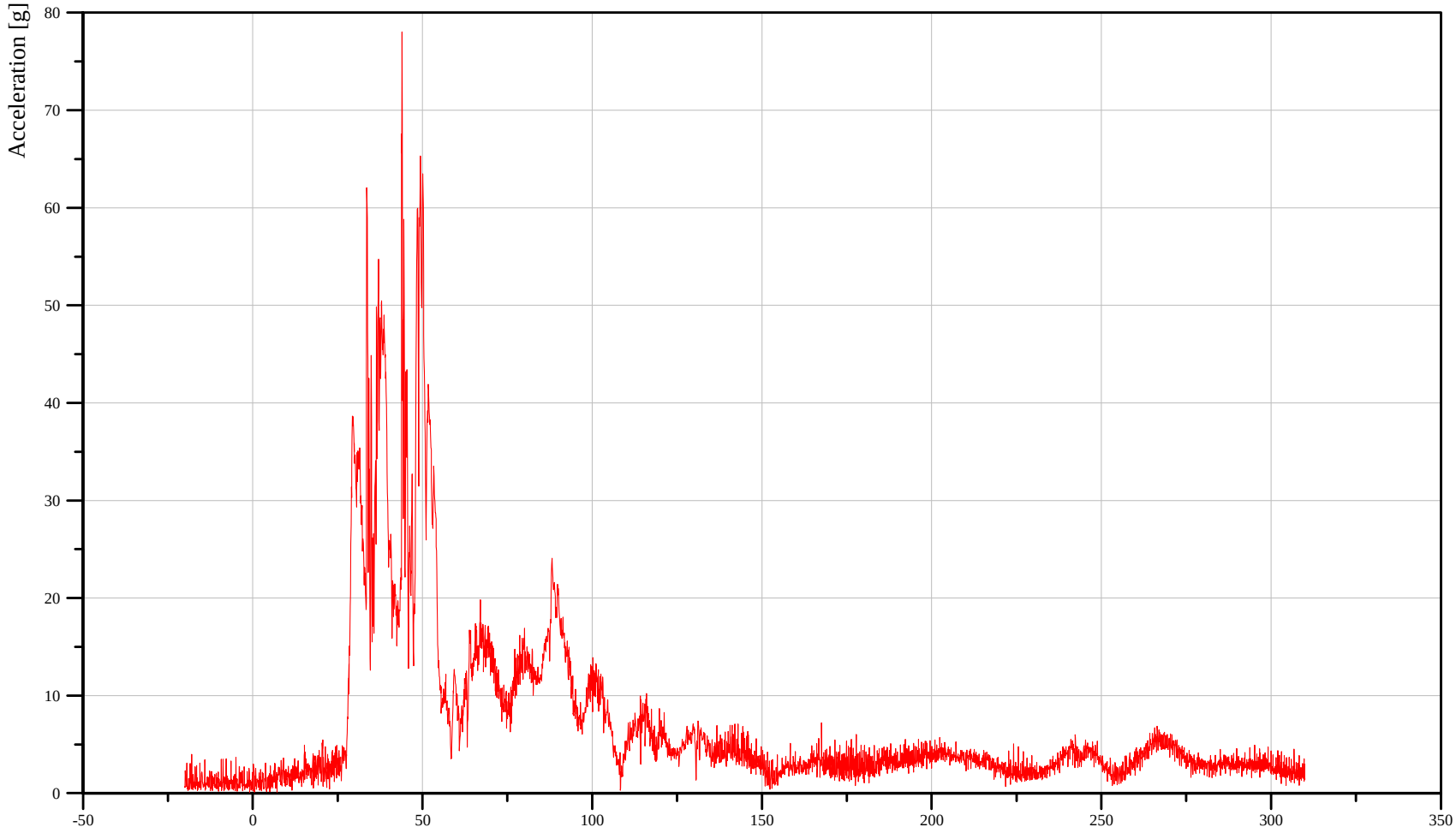
Passenger Abdominal Rib 1 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE01WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.08 g at -0.88 ms

Max. Value
78.04 g at 44.00 ms

World SID Evaluation

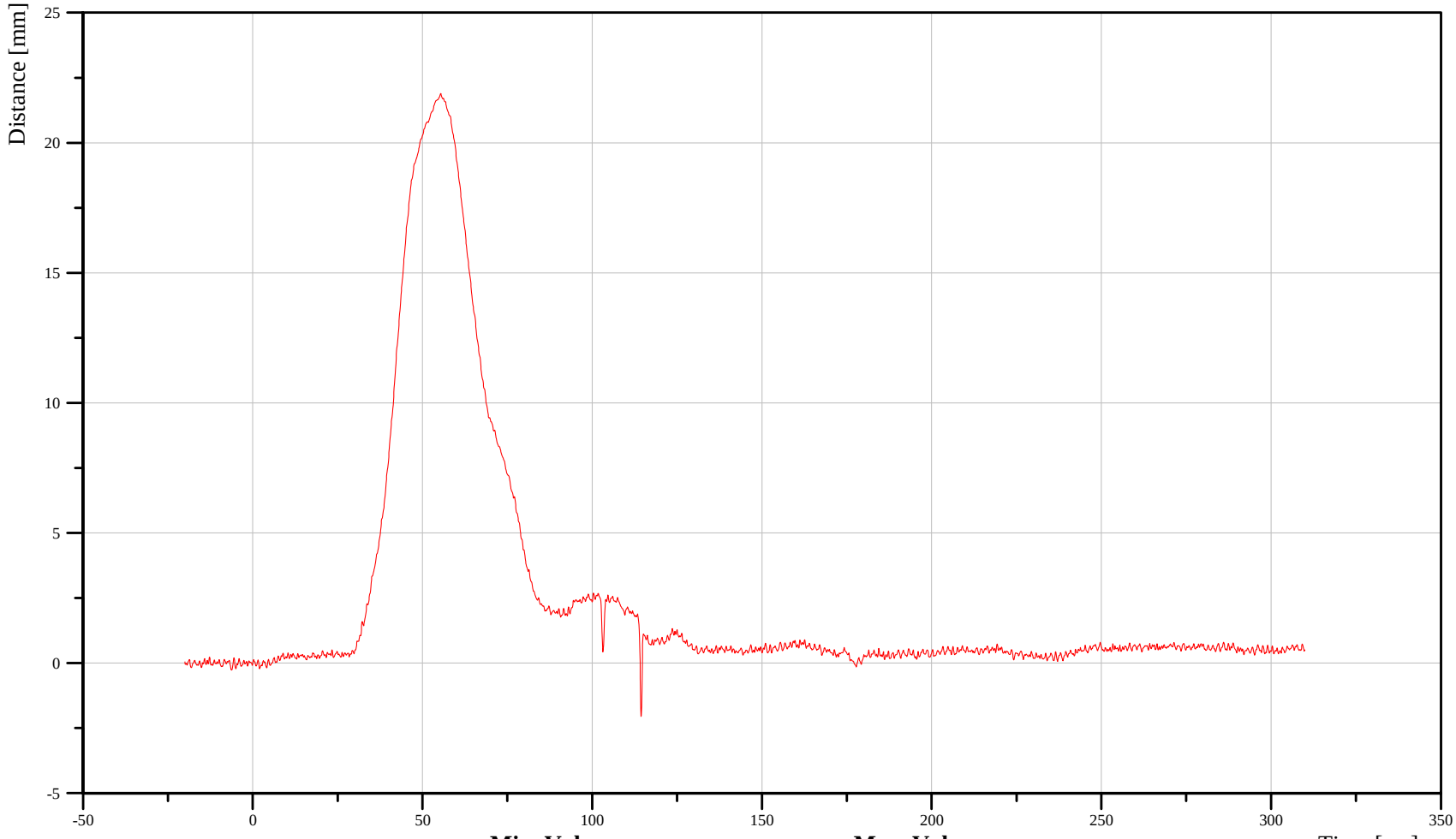
Passenger Abdominal Rib 2 Y-Axis Displacement

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE02WSDSYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-2.05 mm at 114.40 ms

Max. Value
21.89 mm at 55.36 ms

World SID Evaluation

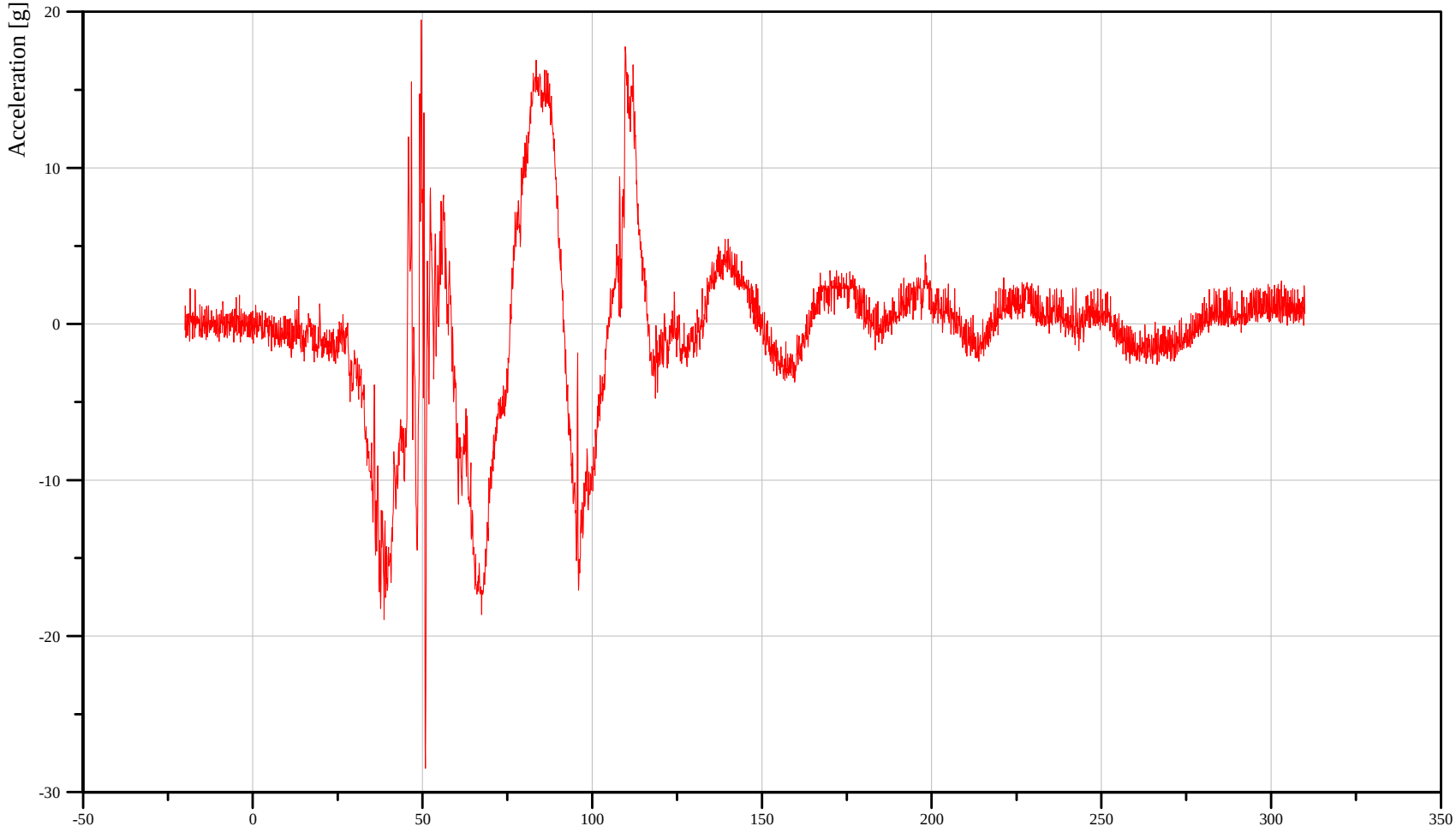
Passenger Abdominal Rib 2 X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE02WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-28.47 g at 50.88 ms

Max. Value
19.48 g at 49.60 ms

World SID Evaluation

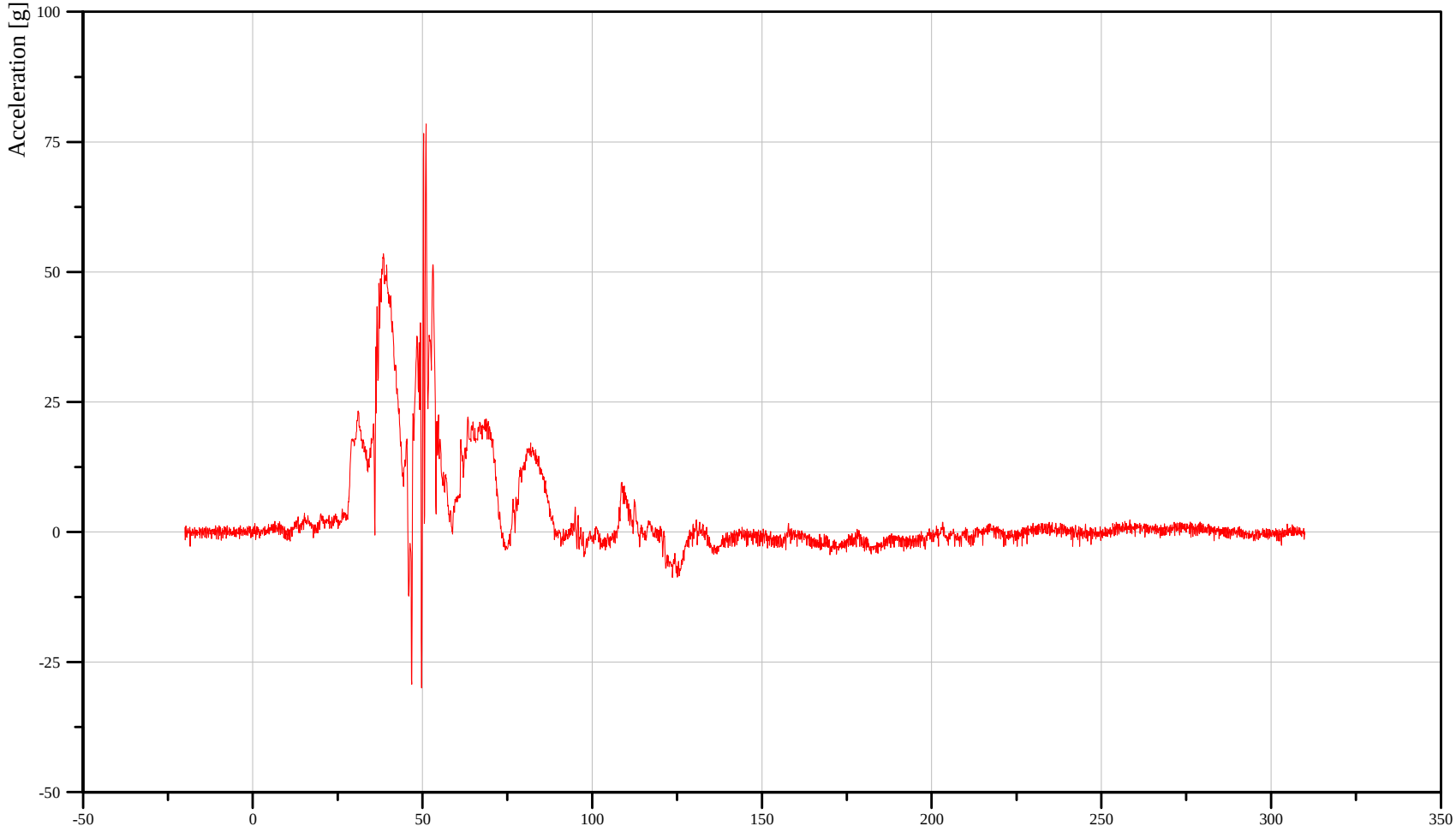
Passenger Abdominal Rib 2 Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE02WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-29.94 g at 49.76 ms

Max. Value
78.45 g at 51.04 ms

World SID Evaluation

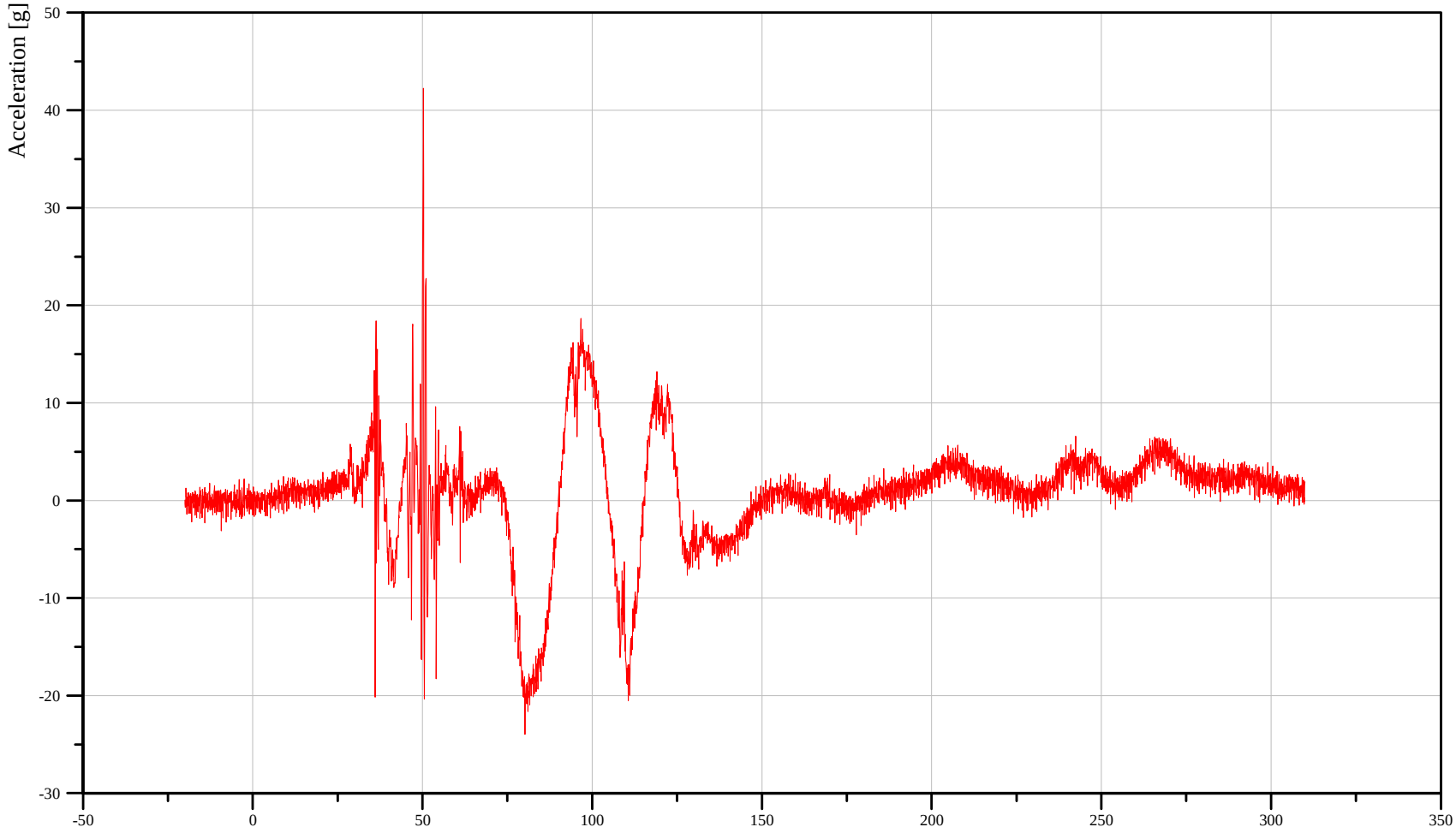
Passenger Abdominal Rib 2 Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE02WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-23.99 g at 80.16 ms

Max. Value
42.27 g at 50.24 ms

World SID Evaluation

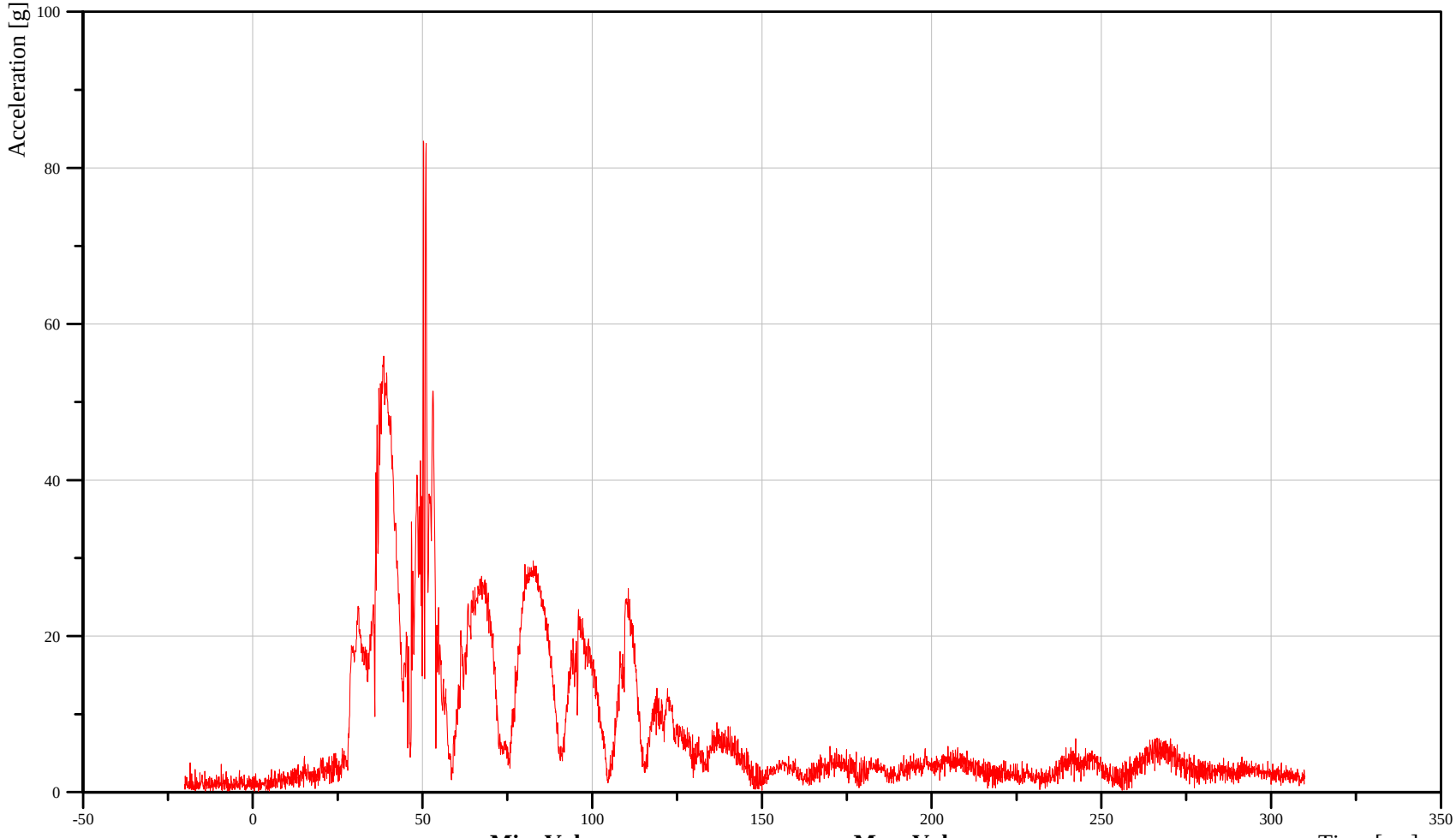
Passenger Abdominal Rib 2 Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14ABRILE02WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.11 g at 1.68 ms

Max. Value
83.43 g at 50.24 ms

World SID Evaluation

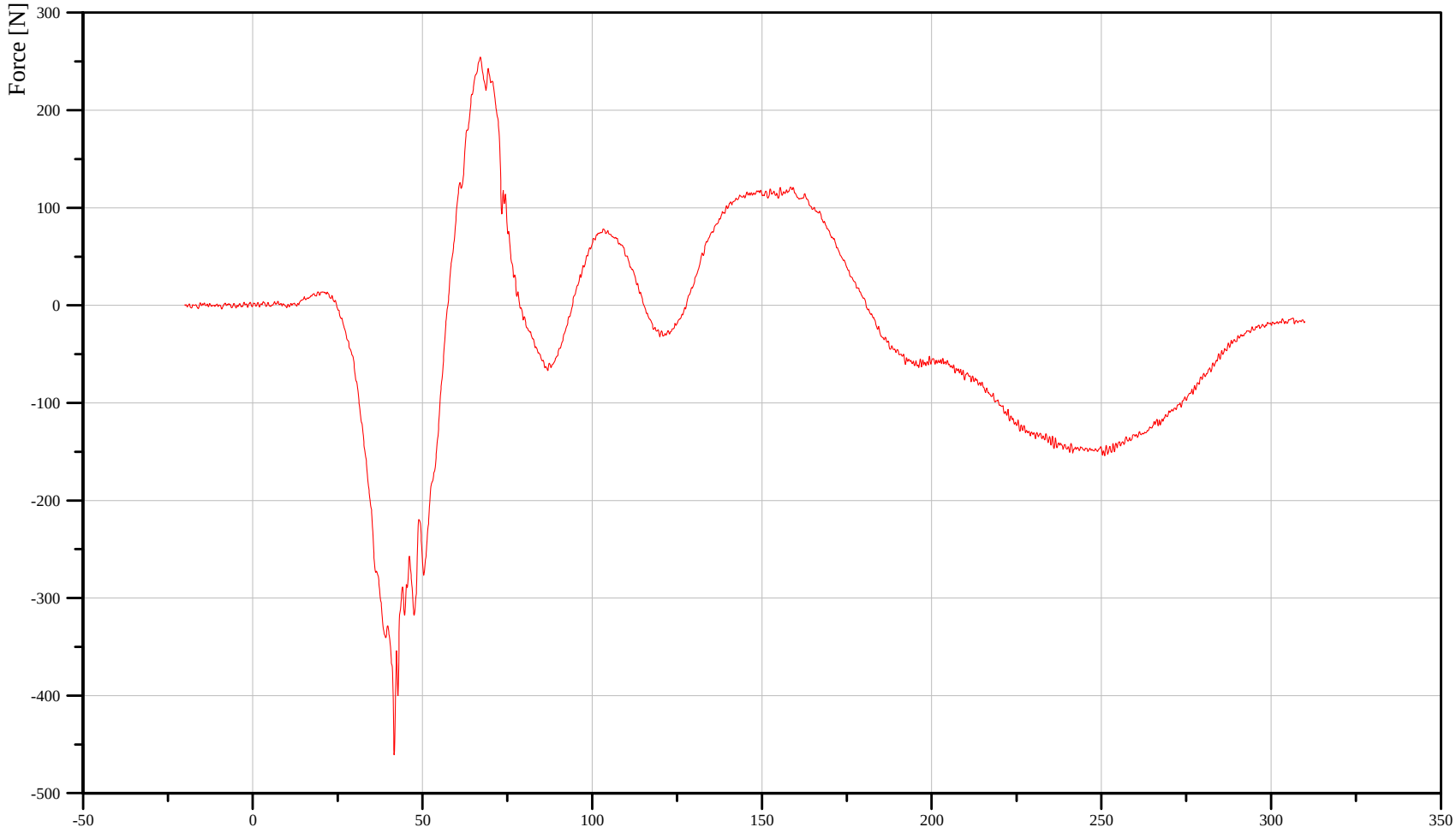
Passenger Lumbar X-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-460.61 N at 41.68 ms

Max. Value
254.49 N at 67.04 ms

World SID Evaluation

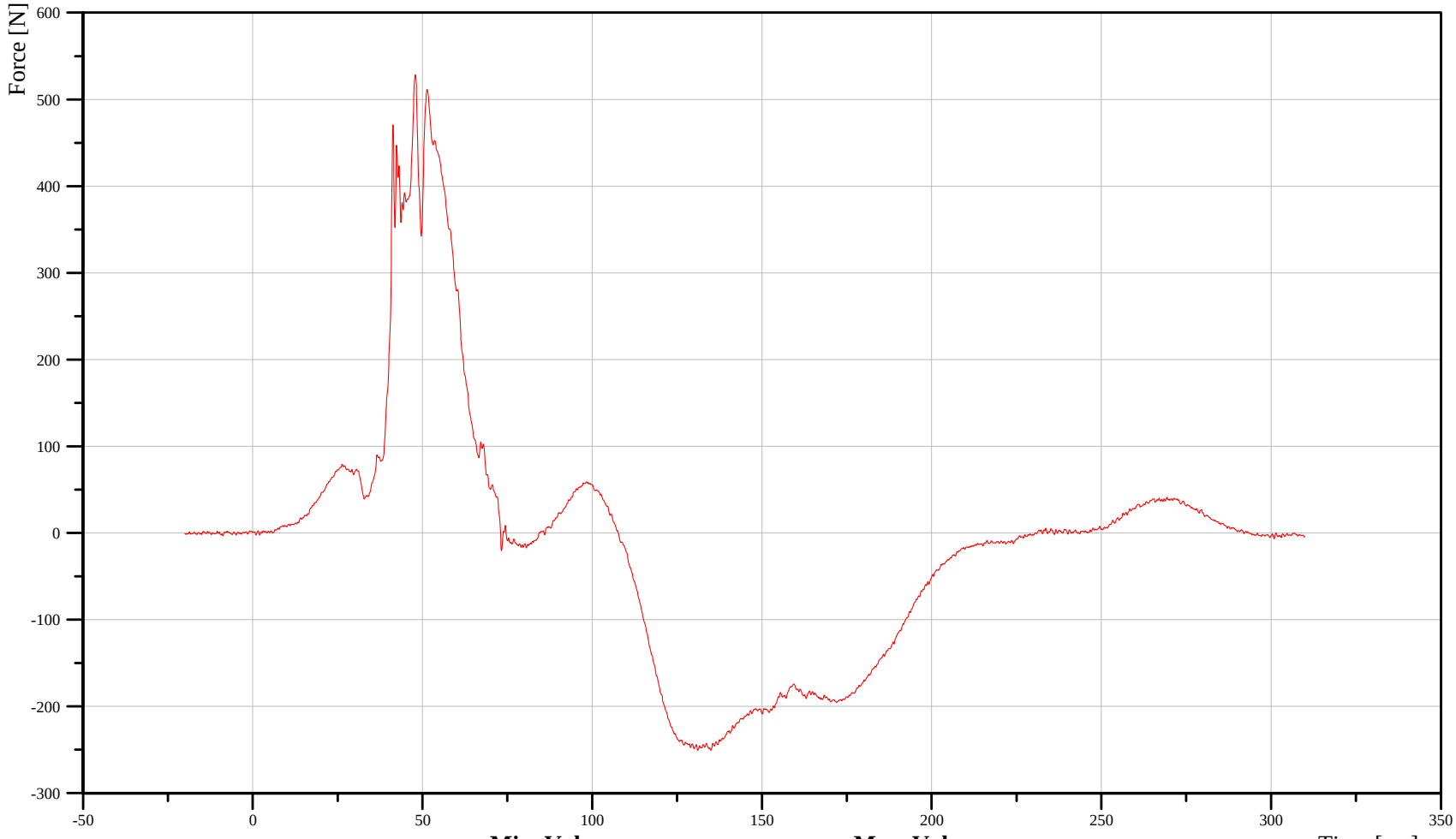
Passenger Lumbar Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-250.56 N at 131.12 ms

Max. Value
528.23 N at 47.92 ms

World SID Evaluation

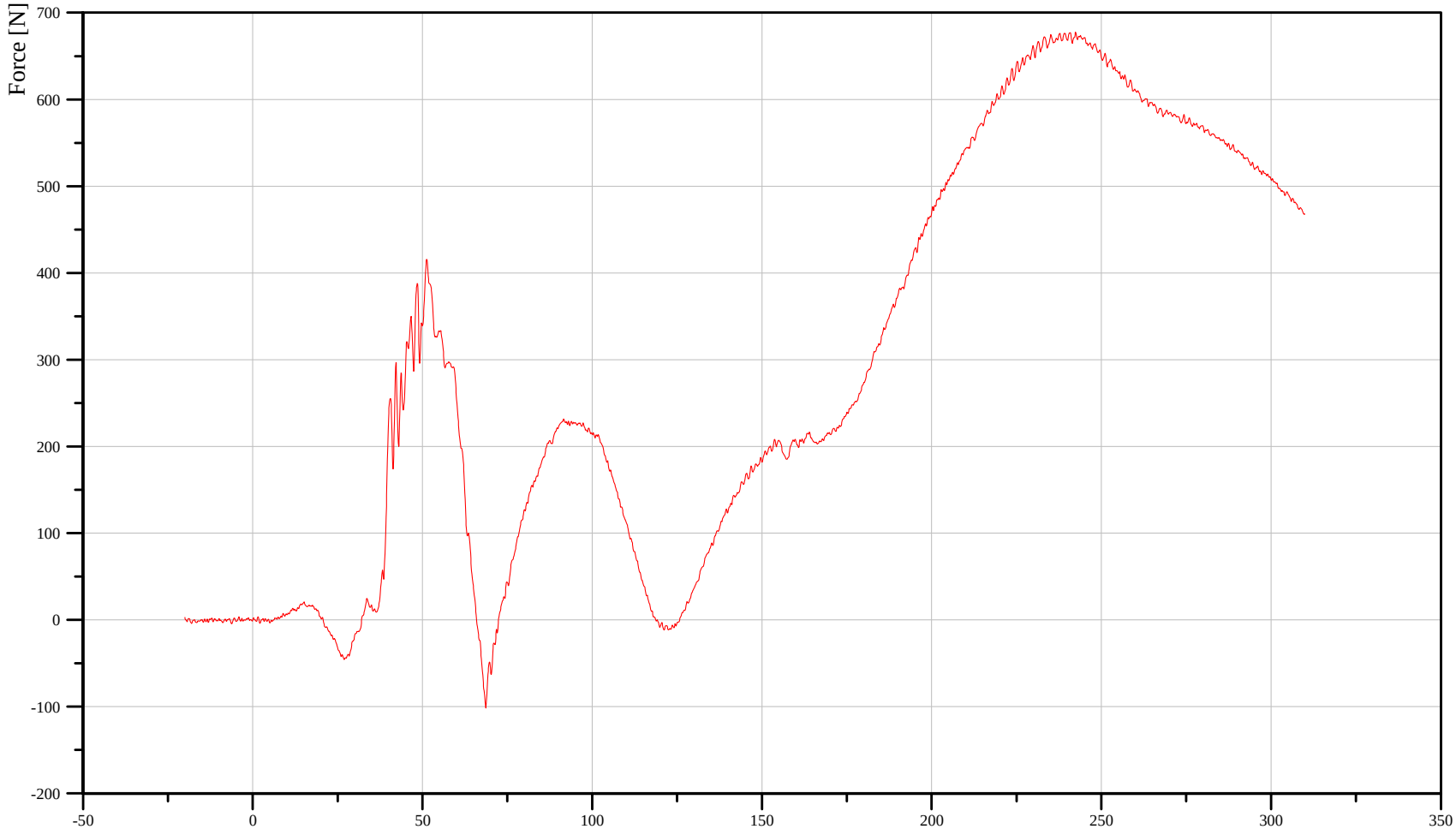
Passenger Lumbar Z-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-101.54 N at 68.64 ms

Max. Value
677.52 N at 242.40 ms

World SID Evaluation

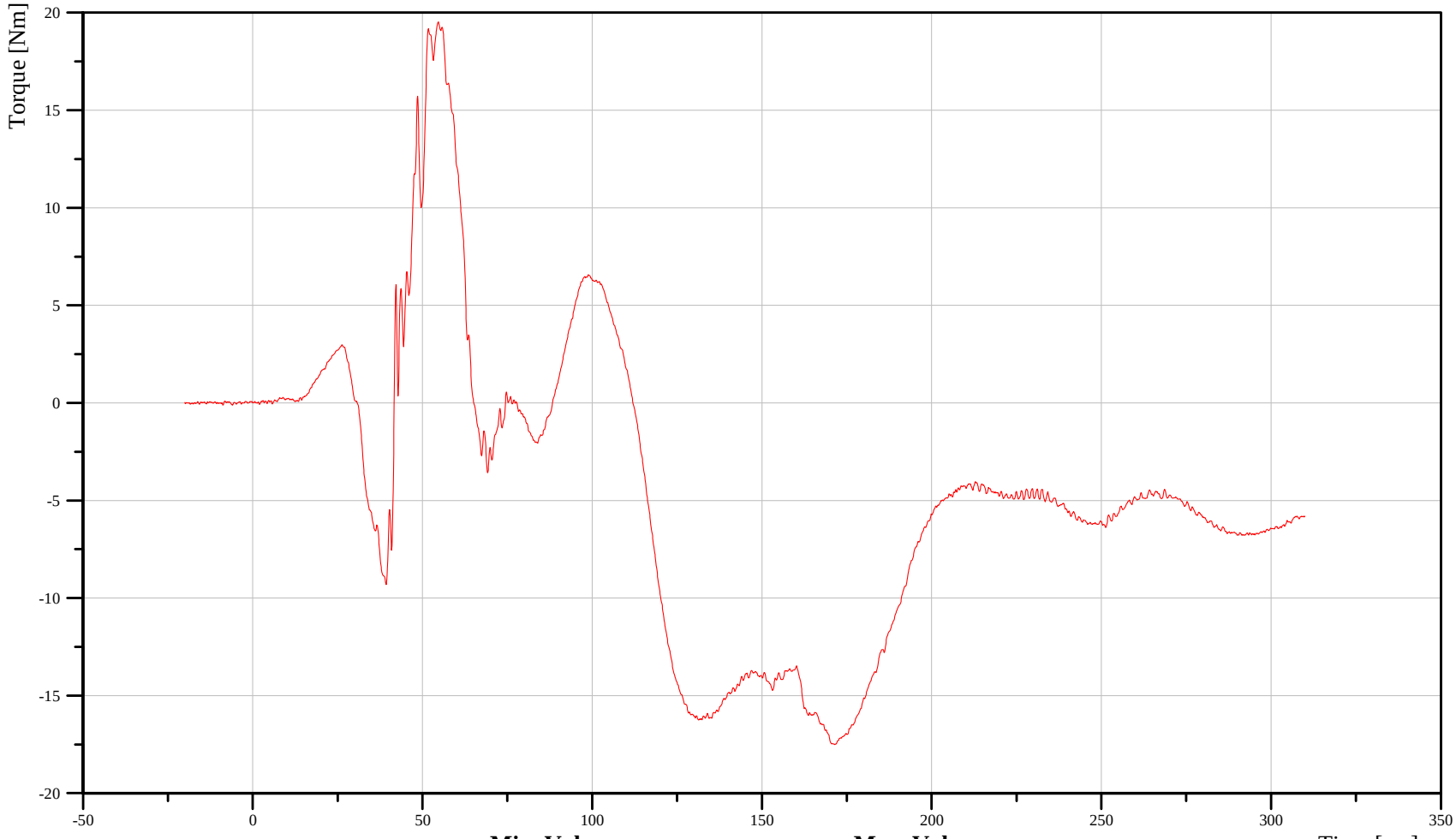
Passenger Lumbar Moment About X Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-17.50 Nm at 171.52 ms

Max. Value
19.52 Nm at 54.64 ms

World SID Evaluation

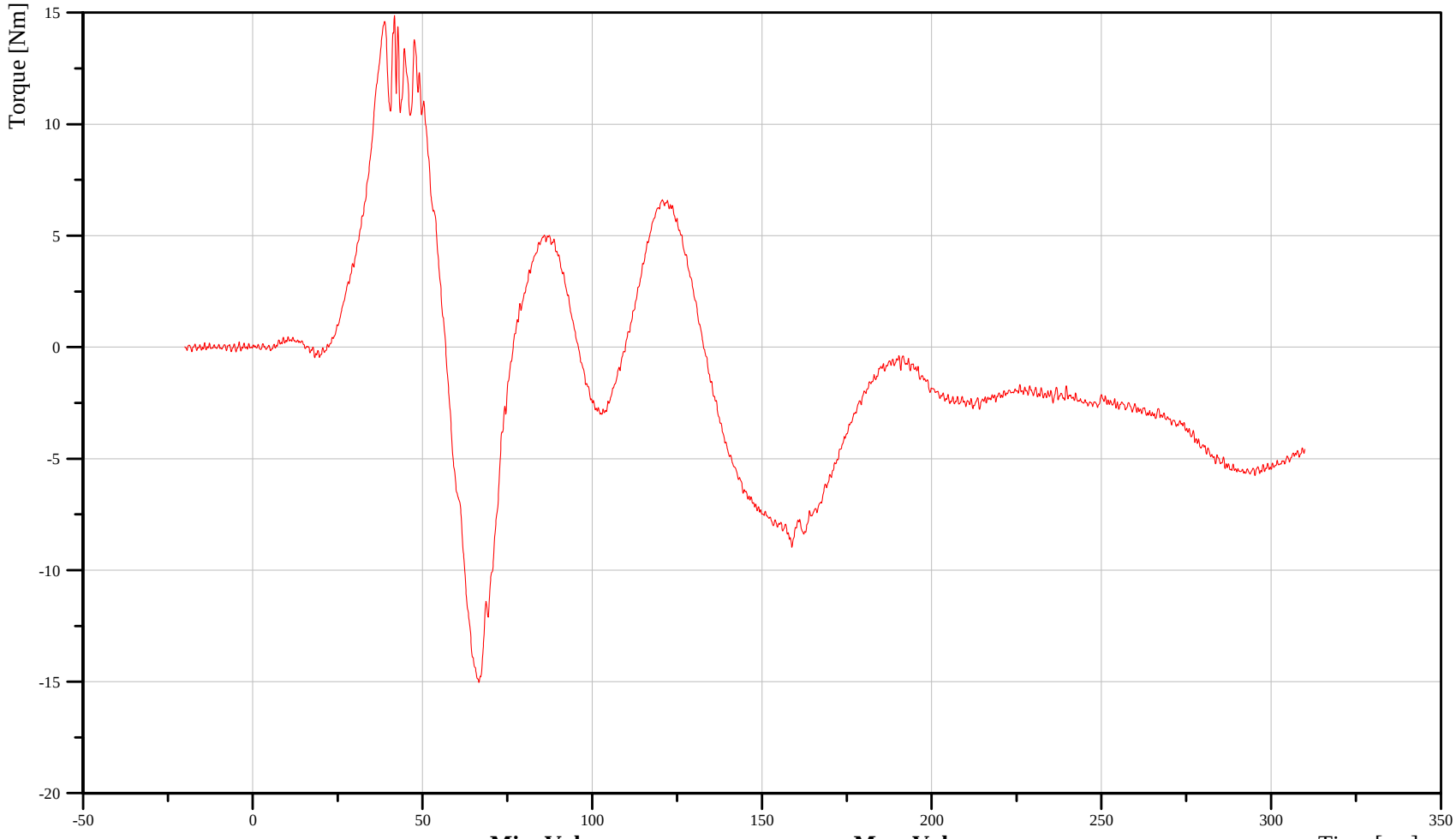
Passenger Lumbar Moment About Y Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-15.03 Nm at 66.64 ms

Max. Value
14.87 Nm at 41.76 ms

World SID Evaluation

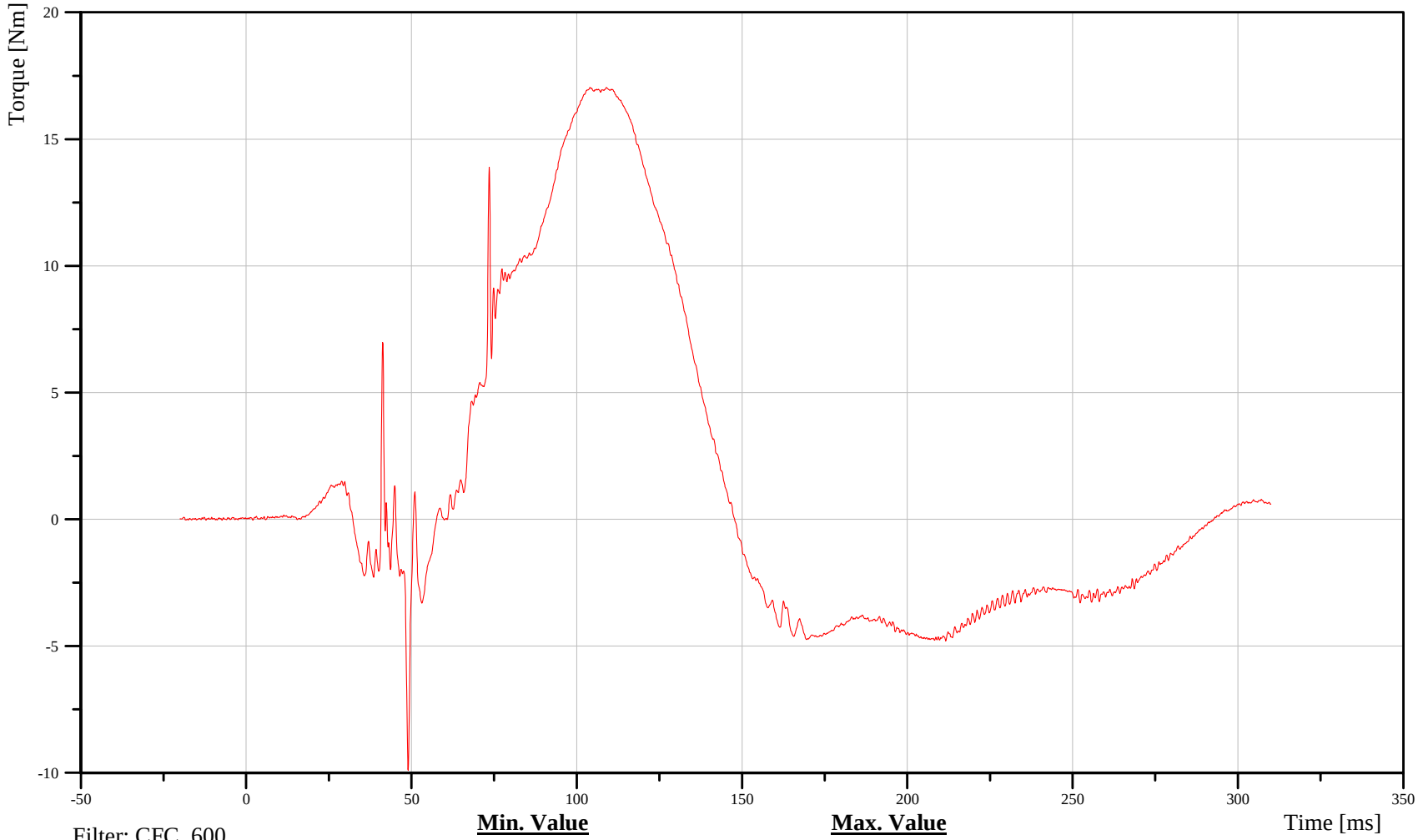
Passenger Lumbar Moment About Z Axis

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14LUSP0000WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-9.90 Nm at 49.04 ms

Max. Value
17.04 Nm at 108.96 ms

World SID Evaluation

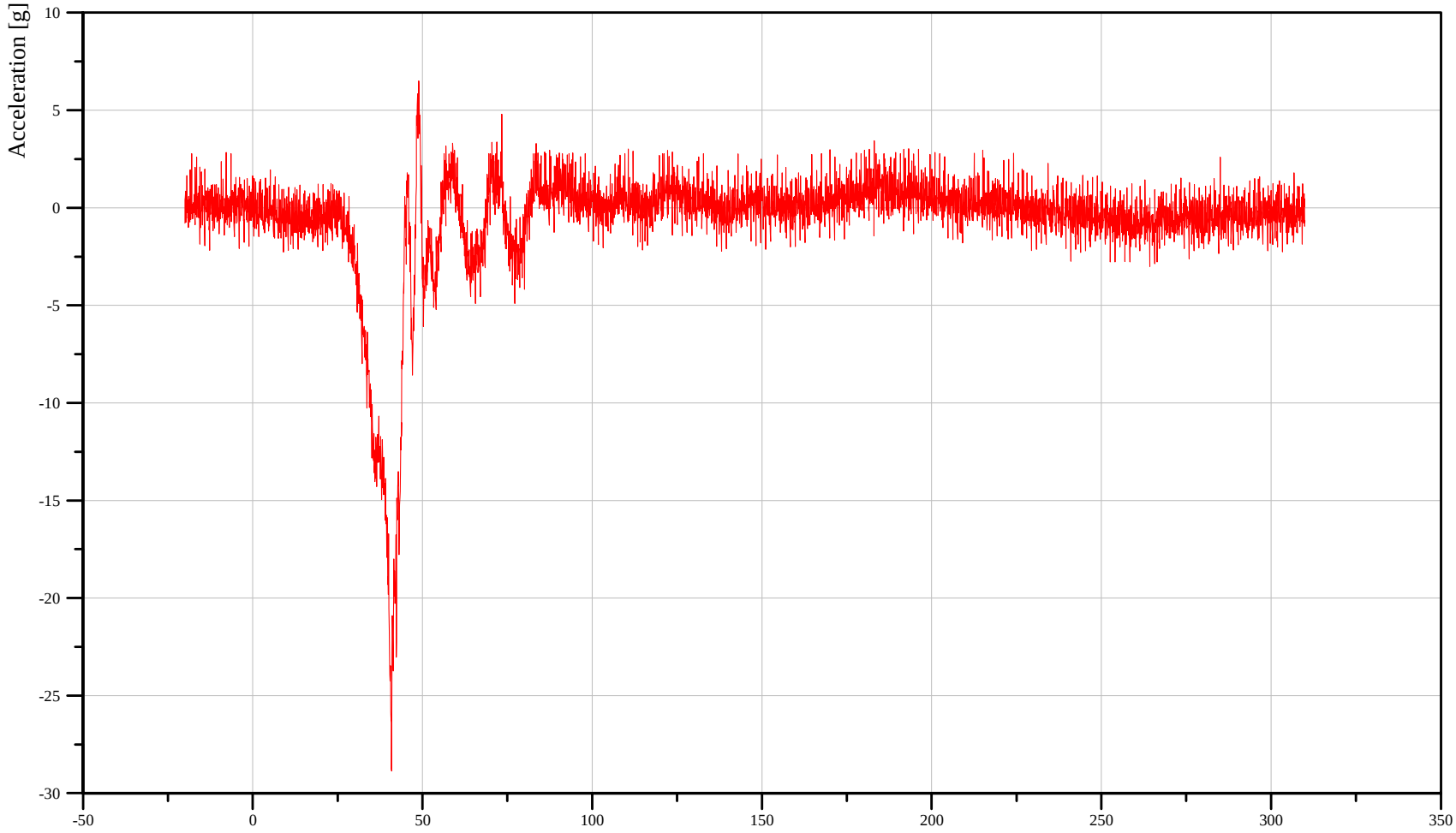
Passenger Pelvis X-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14PELVCG00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-28.87 g at 40.96 ms

Max. Value
6.51 g at 48.96 ms

World SID Evaluation

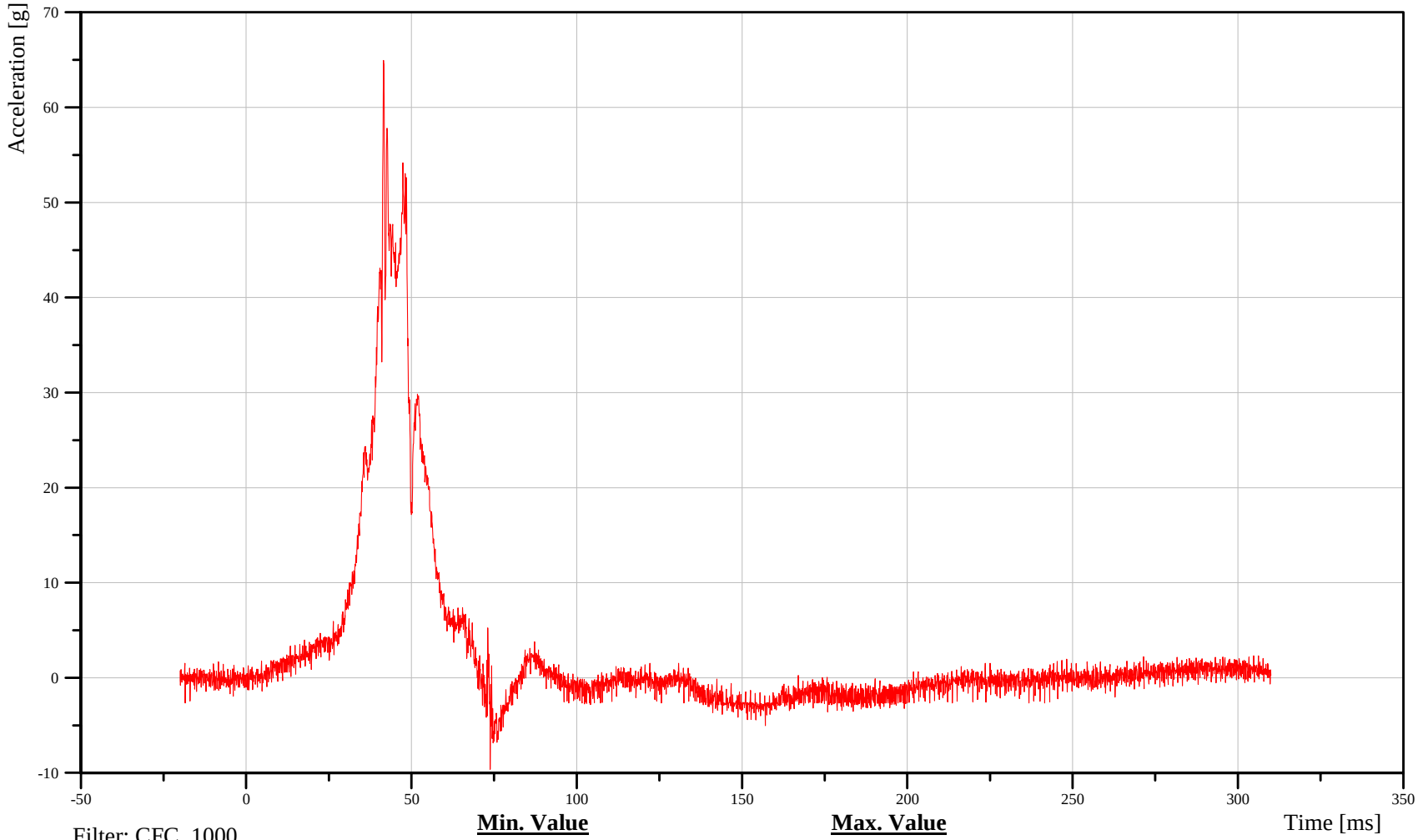
Passenger Pelvis Y-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14PELVCG00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-9.65 g at 73.84 ms

Max. Value
64.93 g at 41.52 ms

World SID Evaluation

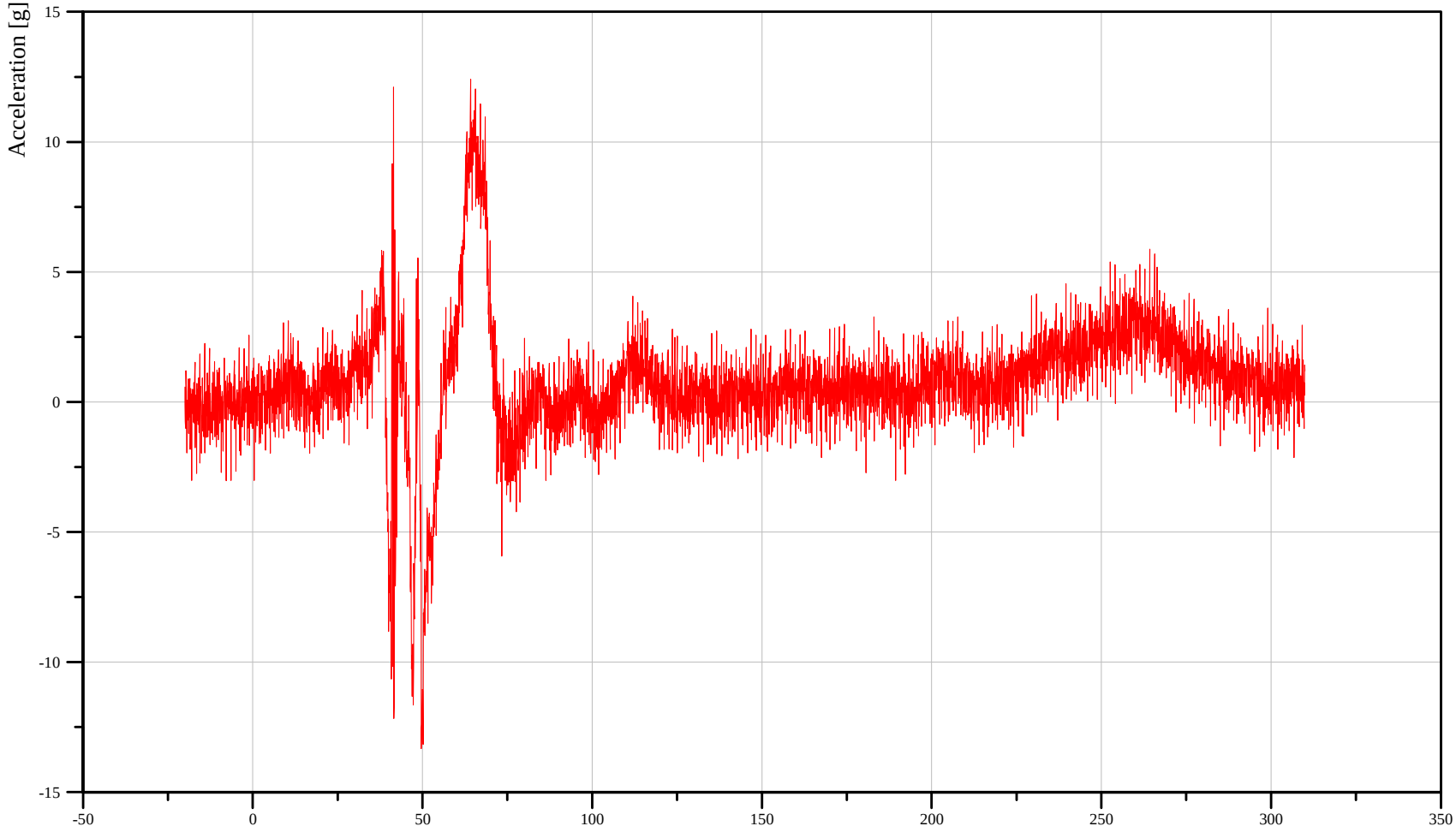
Passenger Pelvis Z-Axis Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14PELVCG00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
-13.33 g at 49.68 ms

Max. Value
12.42 g at 64.16 ms

World SID Evaluation

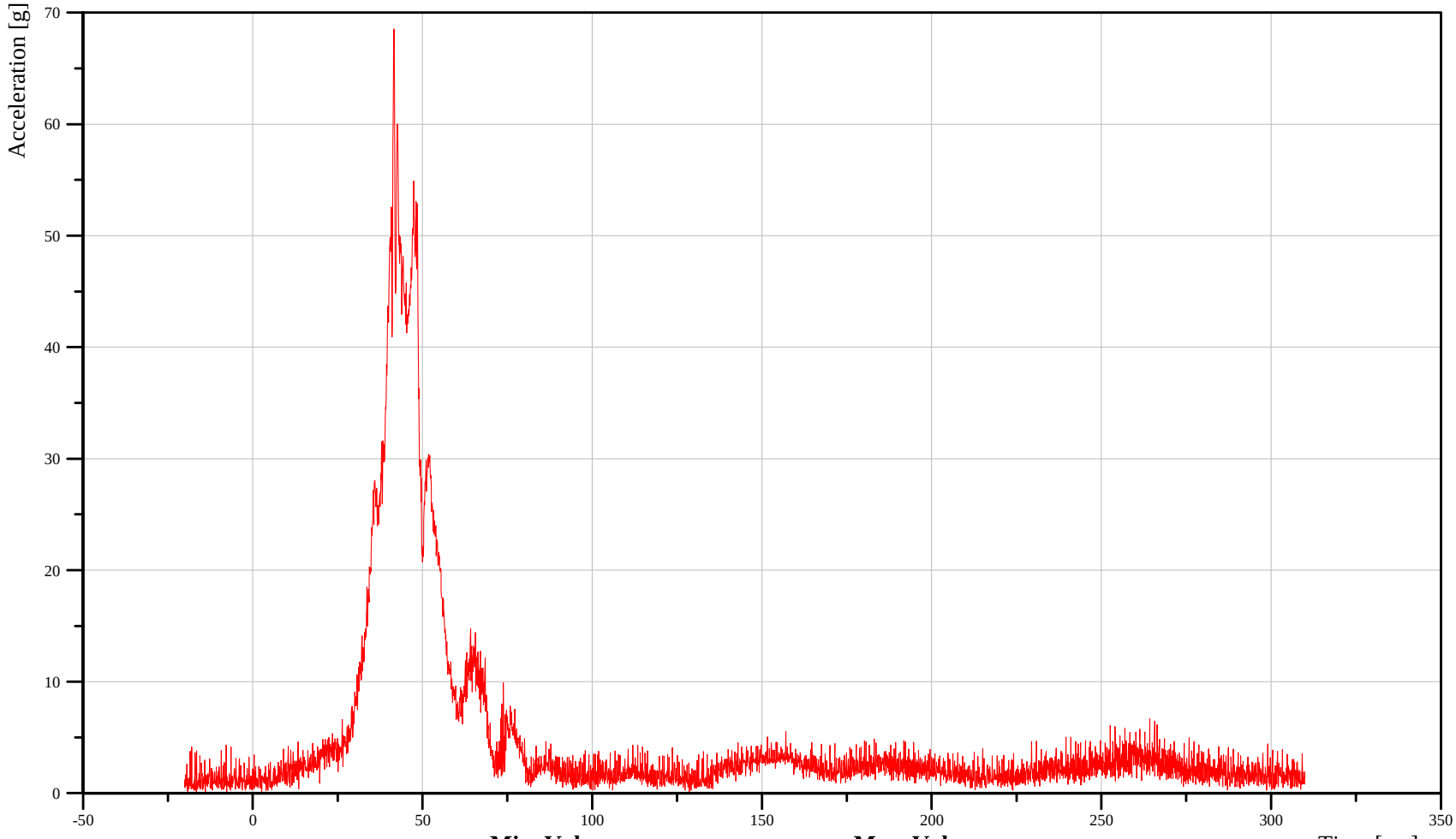
Passenger Pelvis Resultant Acceleration

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14PELVCG00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_1000

Min. Value
0.11 g at -19.04 ms

Max. Value
68.55 g at 41.68 ms

World SID Evaluation

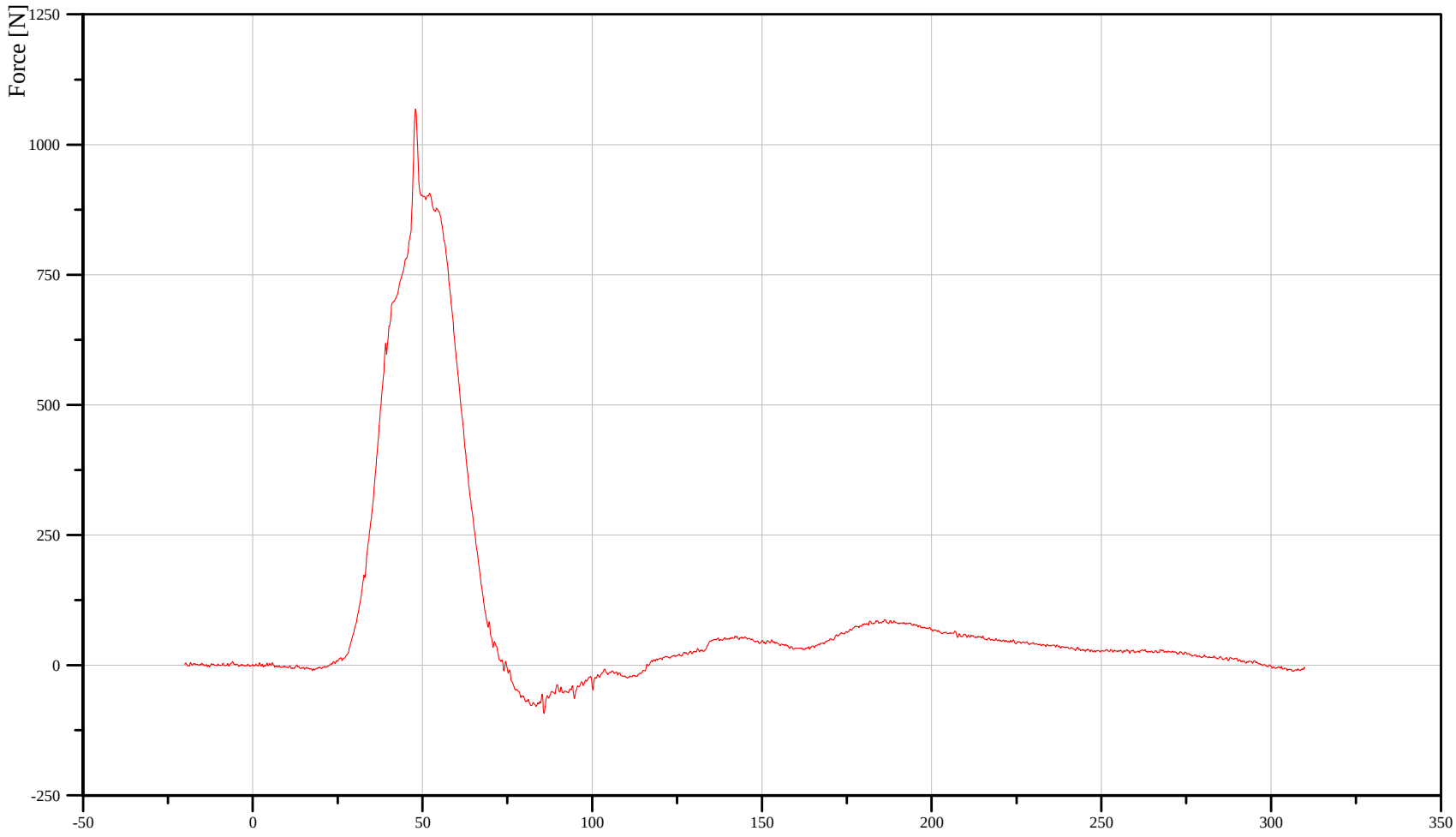
Passenger Pubic Y-Axis Force

Date: 08/21/2008
Time: 13:12

Customer: VRTC

14PUBC0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 080821-1



Filter: CFC_600

Min. Value
-92.32 N at 85.84 ms

Max. Value
1,068.34 N at 47.92 ms

Appendix C

World SID Configuration and Performance Verification Data

Calibration Test Results

Pre-Test

World SID: 014

Configured for Left Side Impact

Transportation Research Center Inc.

Front Head Drop
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	268.8 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	3.7 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

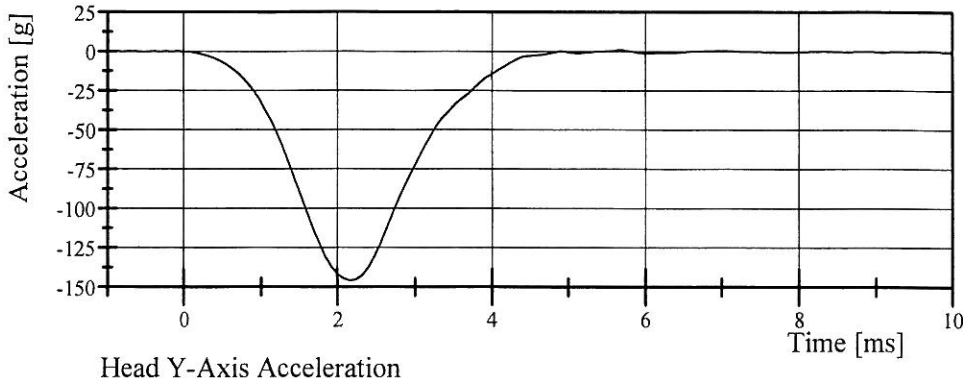
08.18.2008 09:17:28 612

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Transportation Research Center Inc.

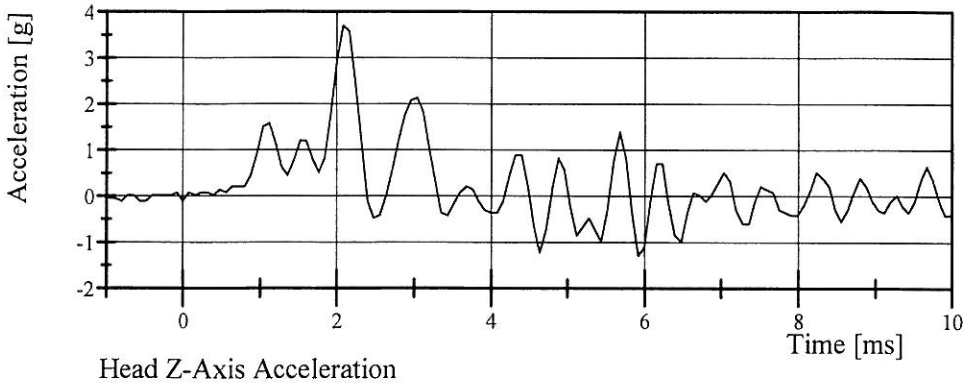
Front Head Drop
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Head X-Axis Acceleration



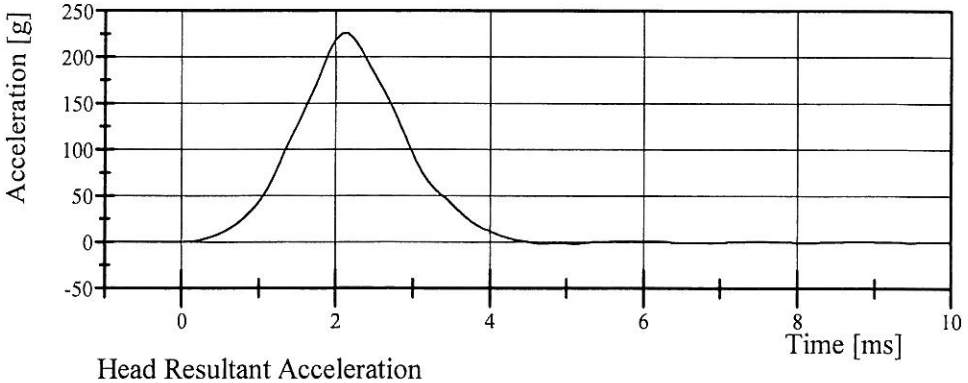
Filter Class: CFC_1000
Max: 1.0 g at 5.7 ms
Min: -145.8 g at 2.2 ms

Head Y-Axis Acceleration



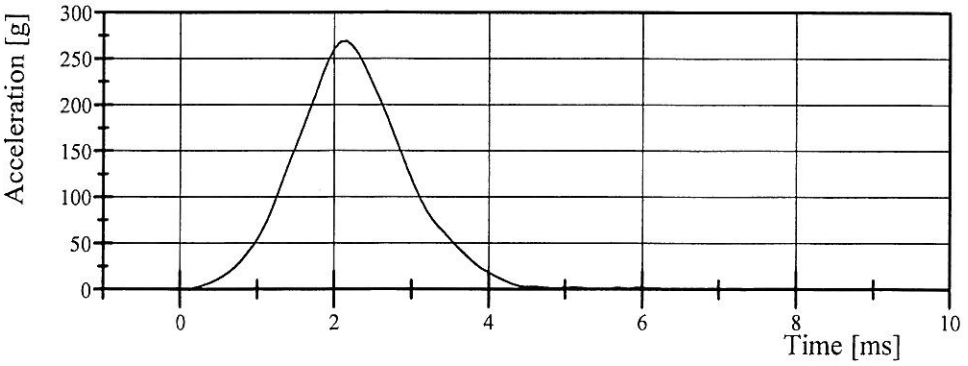
Filter Class: CFC_1000
Max: 3.7 g at 2.1 ms
Min: -1.3 g at 5.9 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 225.8 g at 2.2 ms
Min: -2.1 g at 5.1 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 268.8 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. 014 Certification No. 2-2
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	109.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-2.3 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician Charles W. Bell

Approved Ron Stover

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

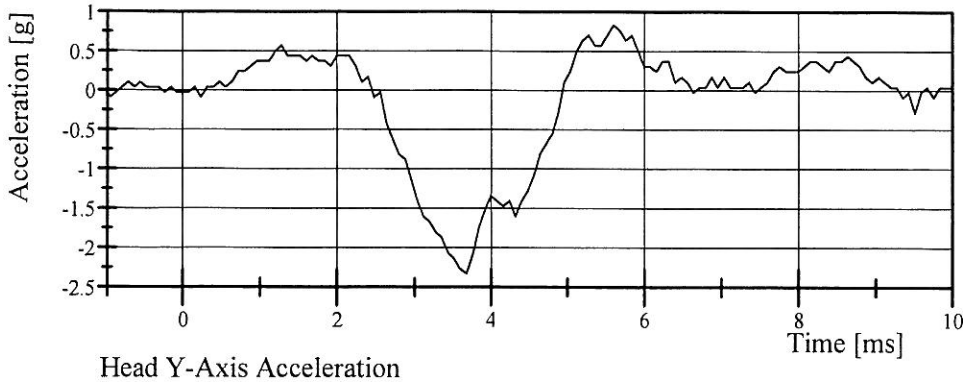
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Transportation Research Center Inc.

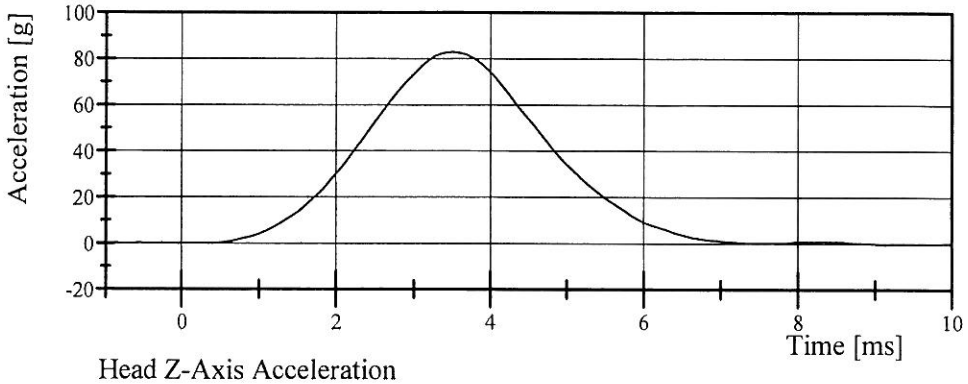
Left Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2
Test Date: 8/18/2008

Head X-Axis Acceleration



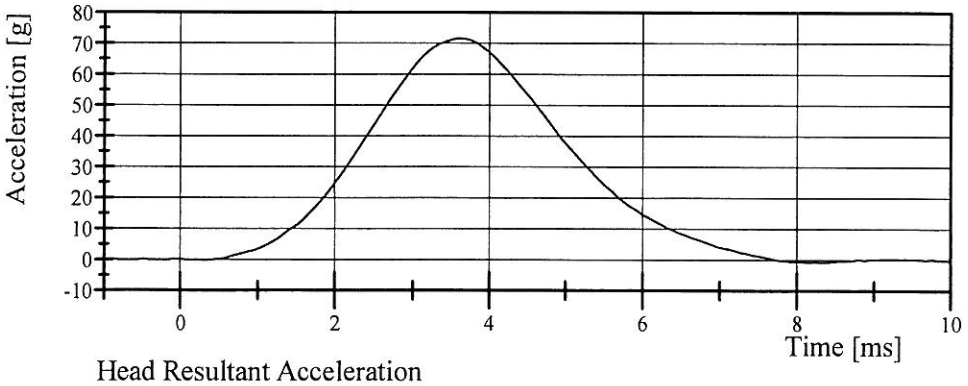
Filter Class: CFC_1000
Max: 0.8 g at 5.6 ms
Min: -2.3 g at 3.7 ms

Head Y-Axis Acceleration



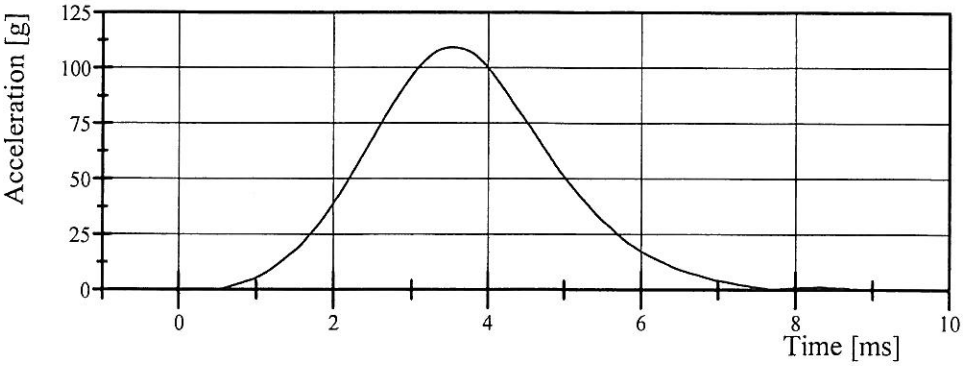
Filter Class: CFC_1000
Max: 82.9 g at 3.5 ms
Min: -0.3 g at 9.1 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 71.6 g at 3.6 ms
Min: -0.8 g at 8.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 109.3 g at 3.5 ms
Min: 0.0 g at -0.2 ms

Transportation Research Center Inc.

Right Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	113.4 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.6 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Approved

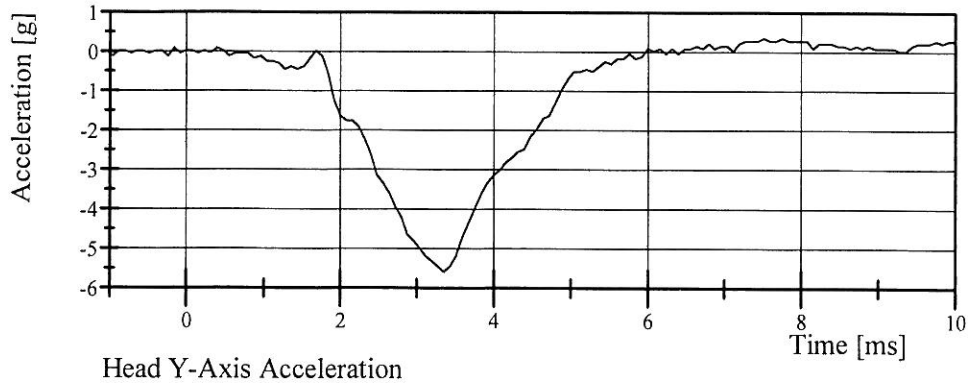
Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:22:13 606

Transportation Research Center Inc.

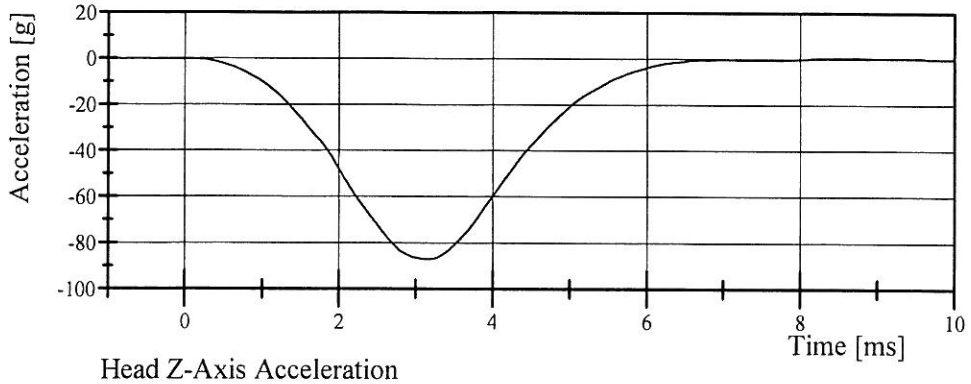
Right Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Head X-Axis Acceleration



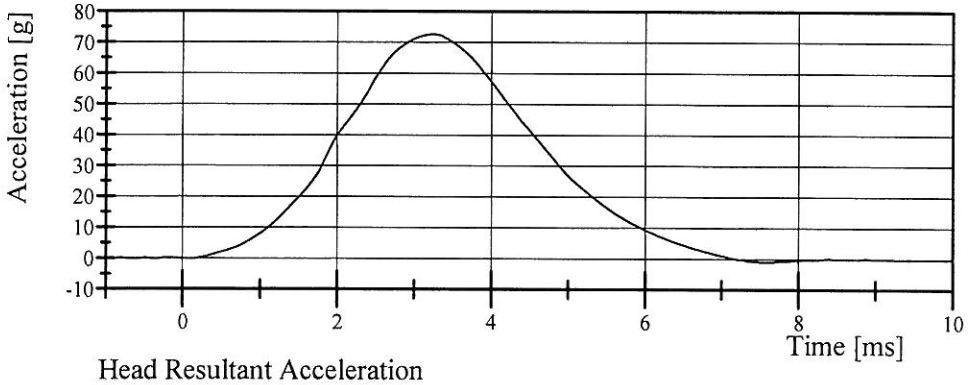
Filter Class: CFC_1000
Max: 0.4 g at 7.5 ms
Min: -5.6 g at 3.4 ms

Head Y-Axis Acceleration



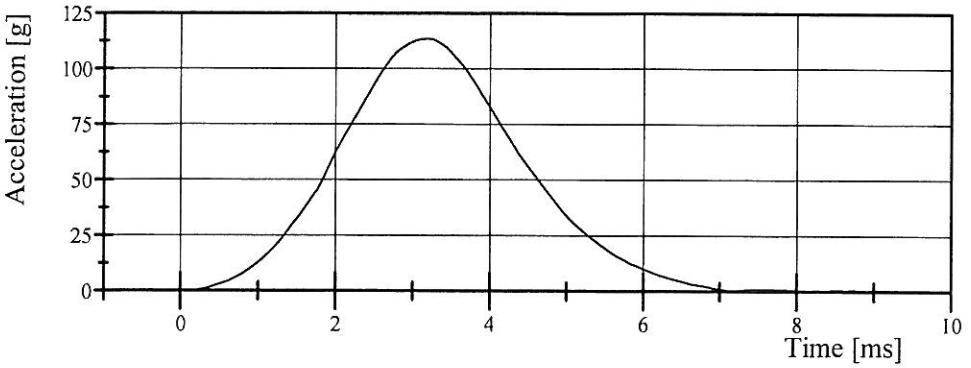
Filter Class: CFC_1000
Max: 0.6 g at 8.7 ms
Min: -87.1 g at 3.1 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 72.6 g at 3.3 ms
Min: -0.9 g at 7.6 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 113.4 g at 3.2 ms
Min: 0.0 g at -0.6 ms

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

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Transportation Research Center Inc.

Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.35 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.890 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.918 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	3.070 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-54.2 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	63.4 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	61.4 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) °	-35.1 °	Yes
Time of Peak	56 - 68 ms	59.2 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-31.7 °	Yes
Time of Peak	56 - 68 ms	62.8 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ron Stover

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

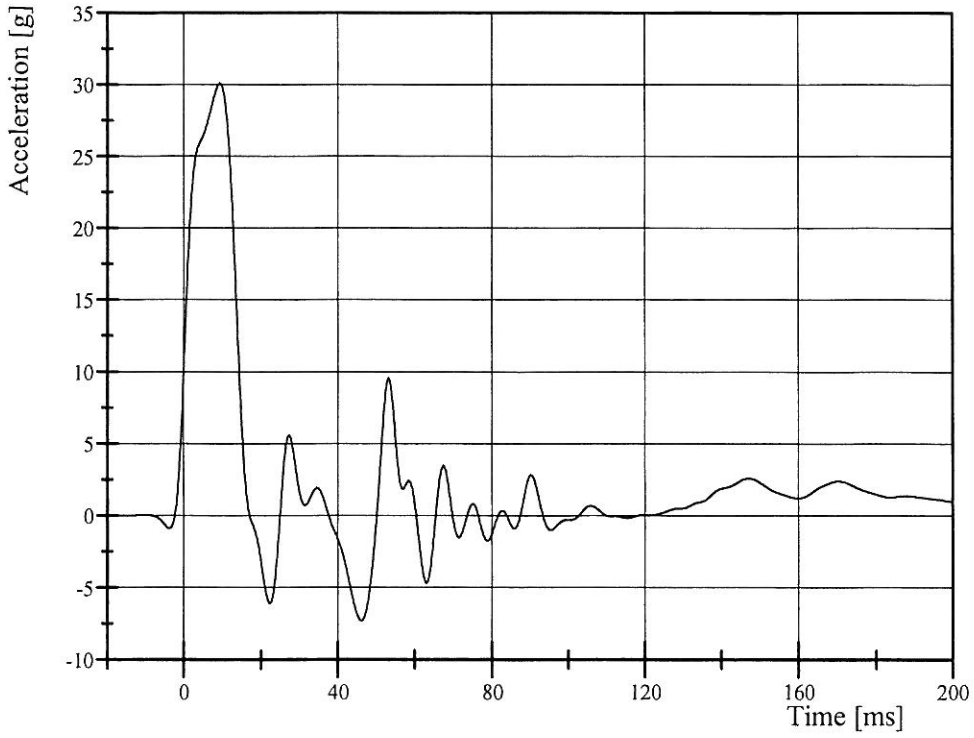
08.18.2008 13:19:53 1364

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Transportation Research Center Inc.

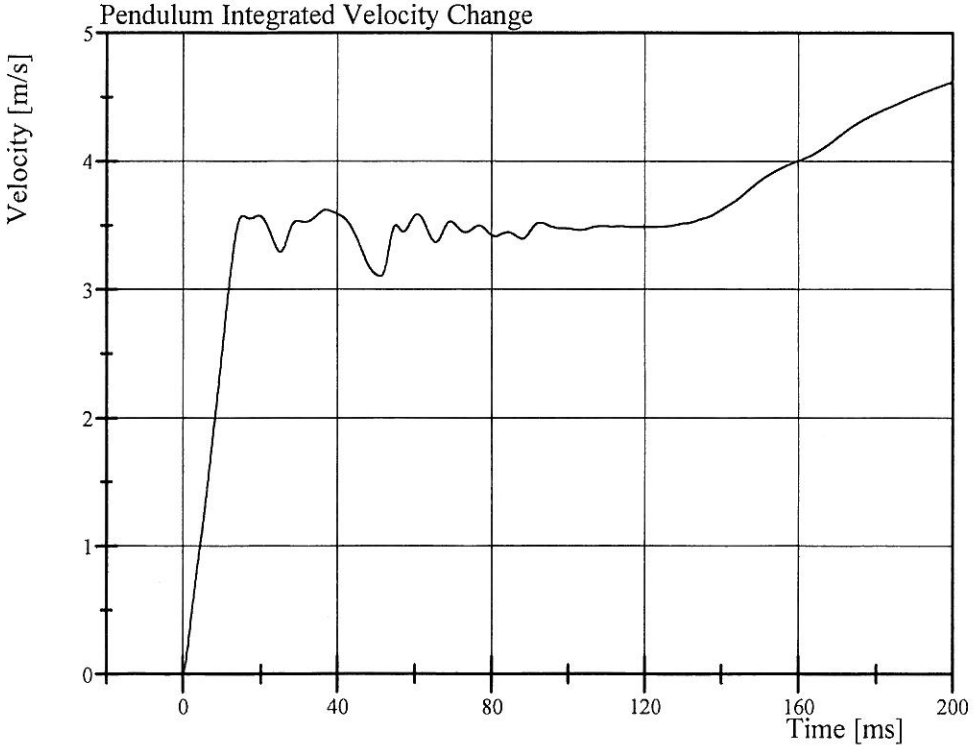
Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Pendulum Acceleration



Filter Class: CFC_60
Max: 30.1 g at 9.4 ms
Min: -7.3 g at 46.2 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 4.6 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

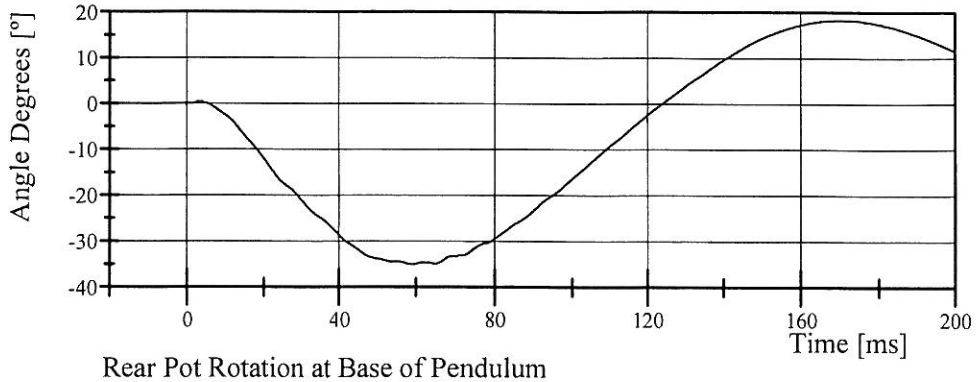
08.18.2008 13:20:02 1364

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Transportation Research Center Inc.

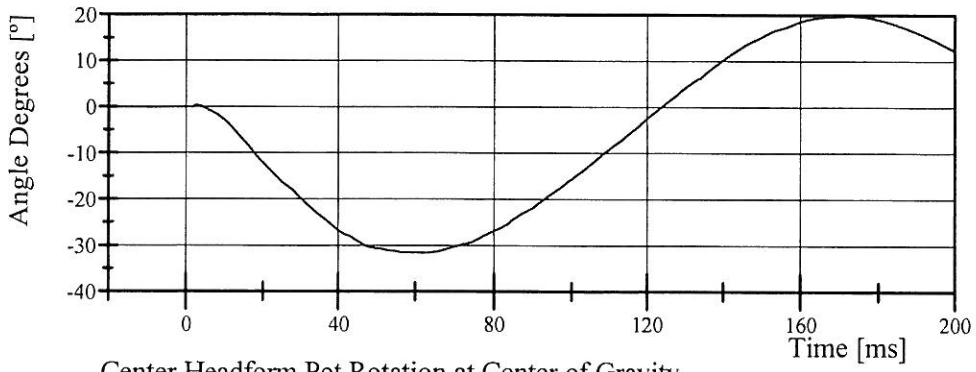
Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/18/2008

Forward Pot Rotation at Base of Pendulum



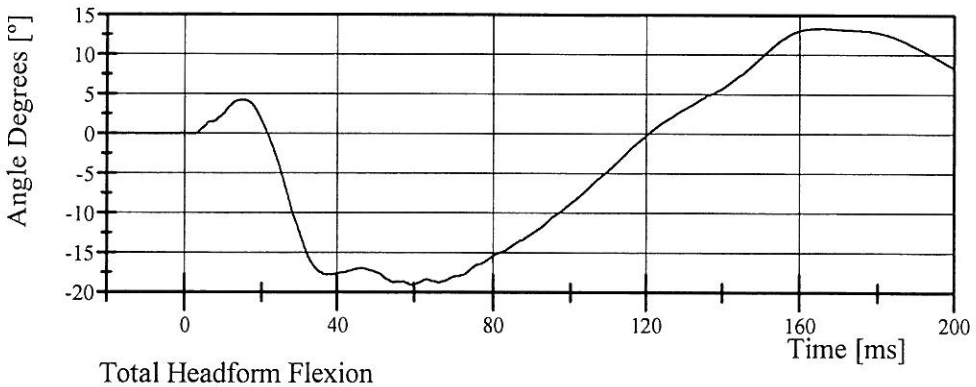
Filter Class: CFC_1000
Max: 18.3 ° at 170.2 ms
Min: -35.1 ° at 59.2 ms

Rear Pot Rotation at Base of Pendulum



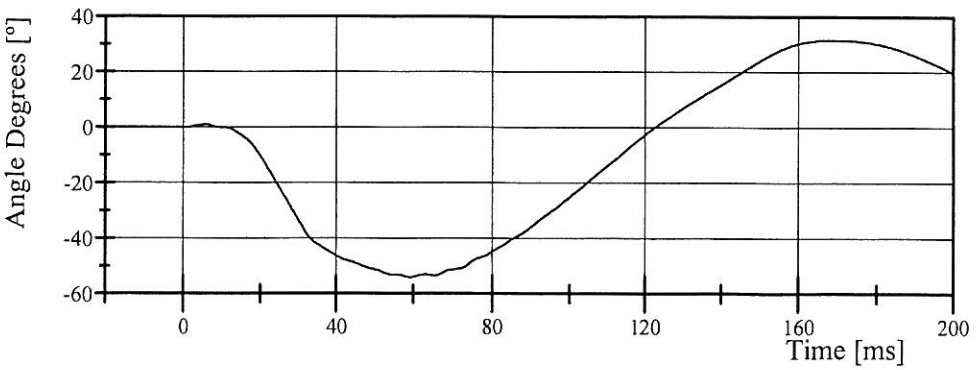
Filter Class: CFC_1000
Max: 19.8 ° at 172.6 ms
Min: -31.7 ° at 62.8 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_1000
Max: 13.4 ° at 165.7 ms
Min: -19.1 ° at 59.2 ms

Total Headform Flexion



Filter Class: CFC_1000
Max: 31.6 ° at 168.5 ms
Min: -54.2 ° at 59.2 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.18.2008 13:20:02 1364

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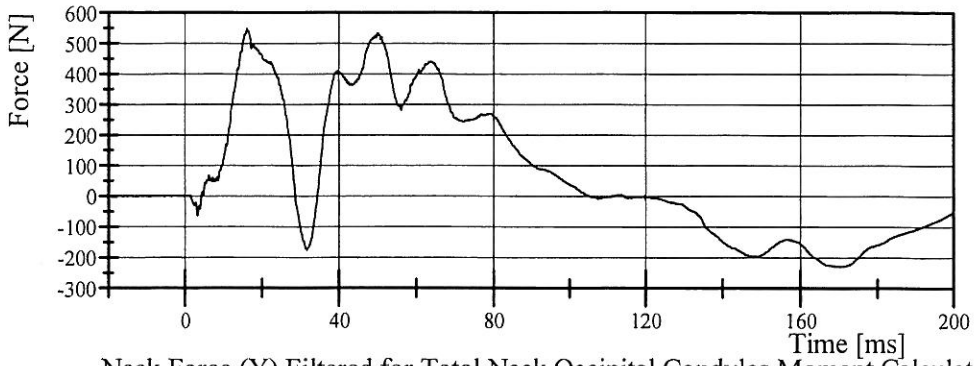
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1

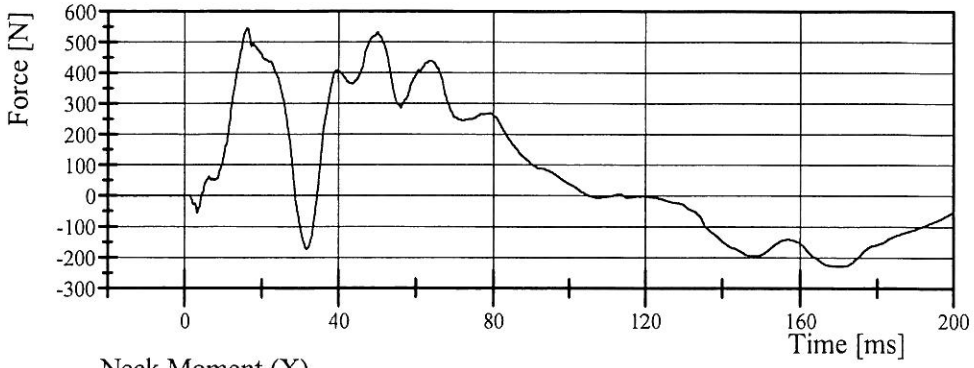
Test Date: 8/18/2008

Neck Force (Y)



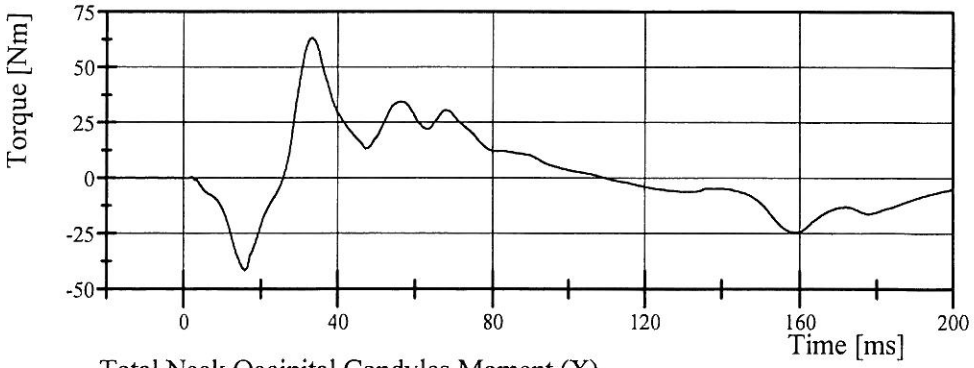
Filter Class: CFC_1000
Max: 547.4 N at 16.2 ms
Min: -229.4 N at 170.3 ms

Neck Force (Y) Filtered for Total Neck Occipital Condyles Moment Calculation



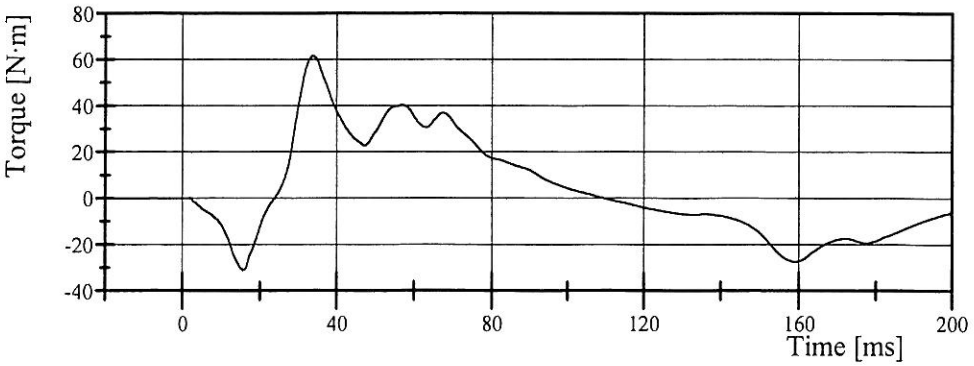
Filter Class: CFC_600
Max: 545.3 N at 16.2 ms
Min: -229.1 N at 170.3 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 63.2 Nm at 33.2 ms
Min: -41.4 Nm at 15.9 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: CFC_600
Max: 61.4 N·m at 33.8 ms
Min: -31.0 N·m at 15.8 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.18.2008 13:20:03 1364

080821

Transportation Research Center Inc.

Left Lateral Shoulder
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 1/27/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.29 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-3,119.1 N	Yes
Shoulder Displacement	35 - 44 mm	41.5 mm	Yes

Test meets specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

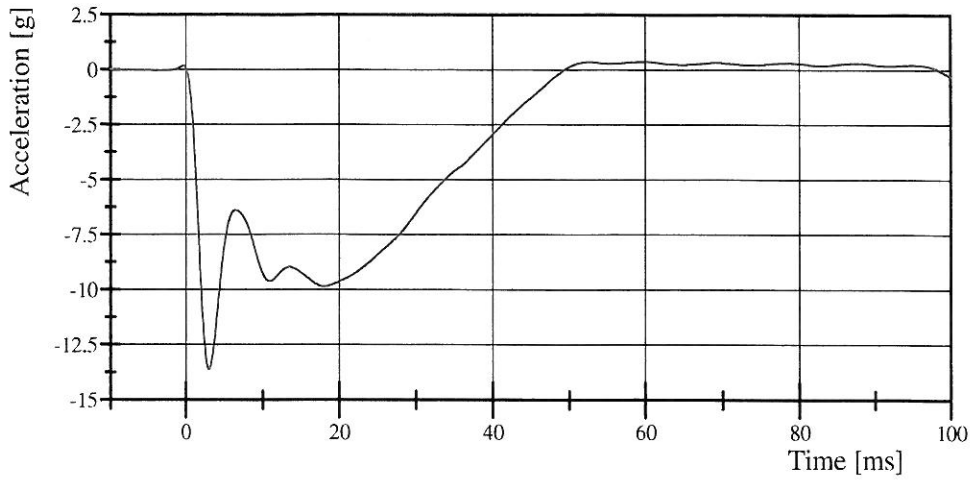
01.27.2009 13:26:17 2493

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Transportation Research Center Inc.

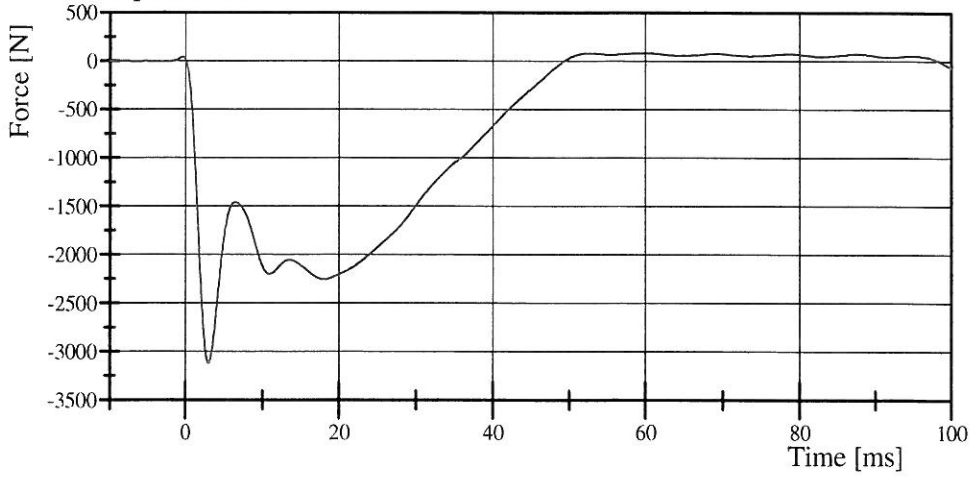
Left Lateral Shoulder
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 1/27/2009

Impactor Acceleration



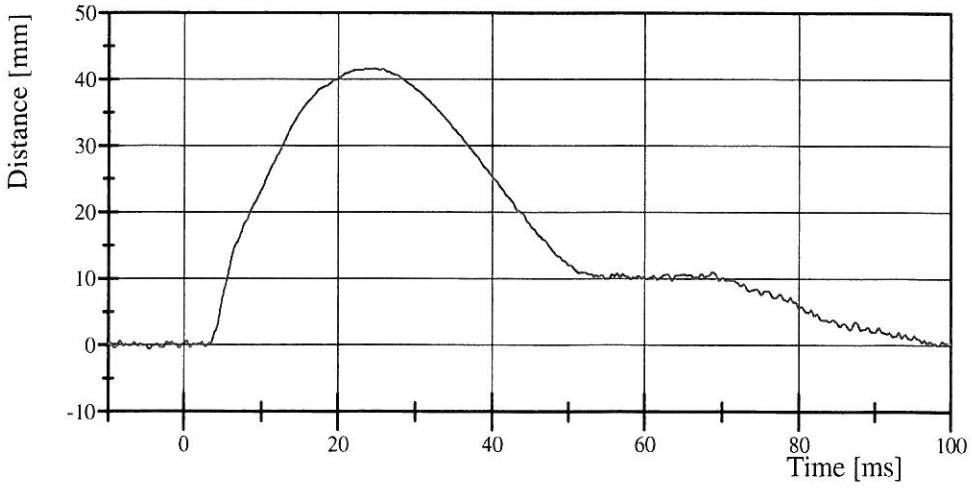
Filter Class: CFC_180
Max: 0.4 g at 60.3 ms
Min: -13.6 g at 3.0 ms

Impactor Force



Filter Class: CFC_180
Max: 83.6 N at 60.3 ms
Min: -3,119.1 N at 3.0 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 41.5 mm at 24.5 ms
Min: -0.6 mm at -4.6 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

01.27.2009 13:26:24 2493

080821

Transportation Research Center Inc.

Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.75 m/s	Yes
Impactor Force	(-4,700) - (-6,400) N	-5,340.5 N	Yes
Upper Thorax Rib Displacement	35 - 47 mm	41.7 mm	Yes
Center Thorax Rib Displacement	42 - 57 mm	51.2 mm	Yes
Lower Thorax Rib Displacement	40 - 54 mm	44.0 mm	Yes
Upper Spine Lateral Acceleration	24 - 33 g	28.4 g	Yes
Lower Spine Lateral Acceleration	20 - 28 g	21.8 g	Yes

Test meets specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

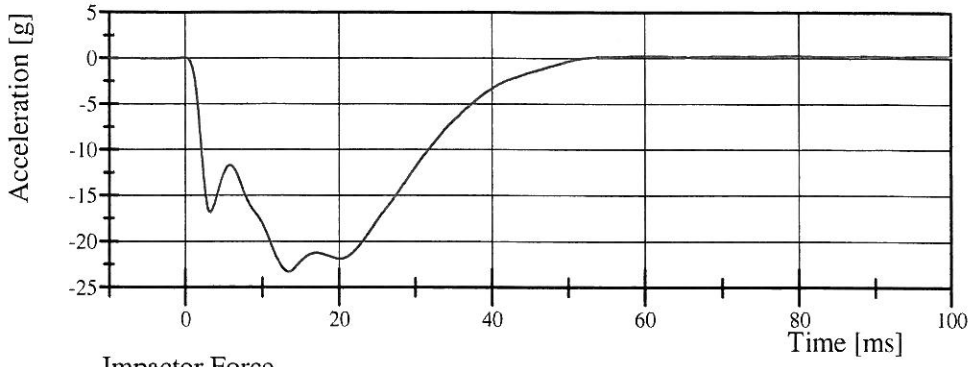
01.23.2009 13:00:43 3996

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Transportation Research Center Inc.

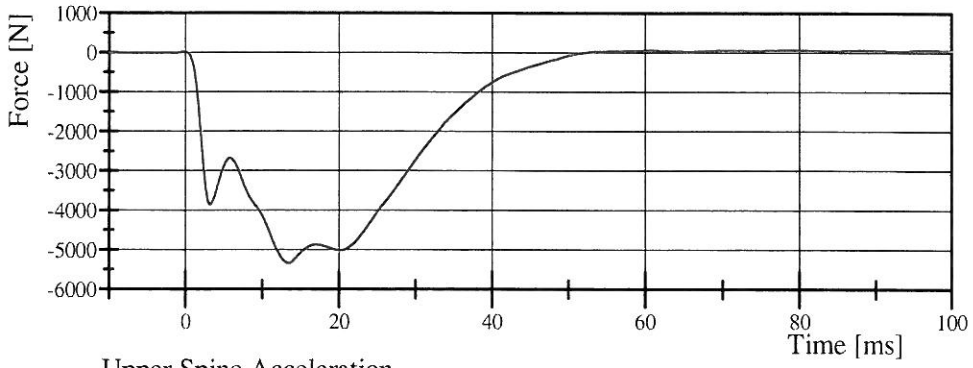
Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/20/2008

Impactor Acceleration



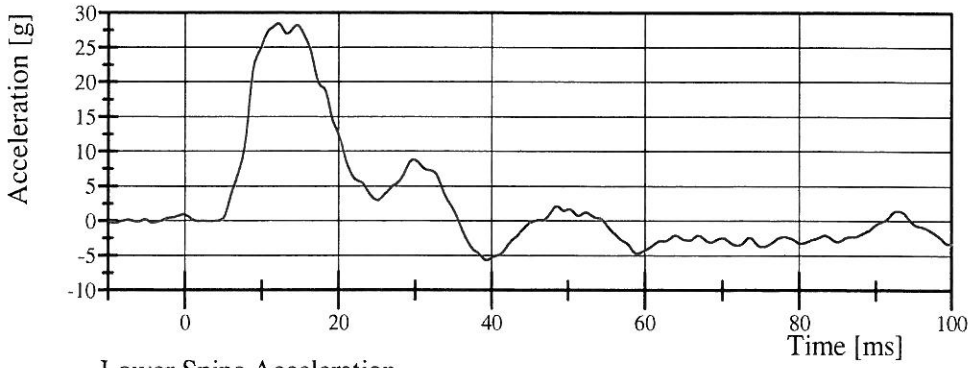
Filter Class: CFC_180
Max: 0.3 g at 79.8 ms
Min: -23.3 g at 13.5 ms

Impactor Force



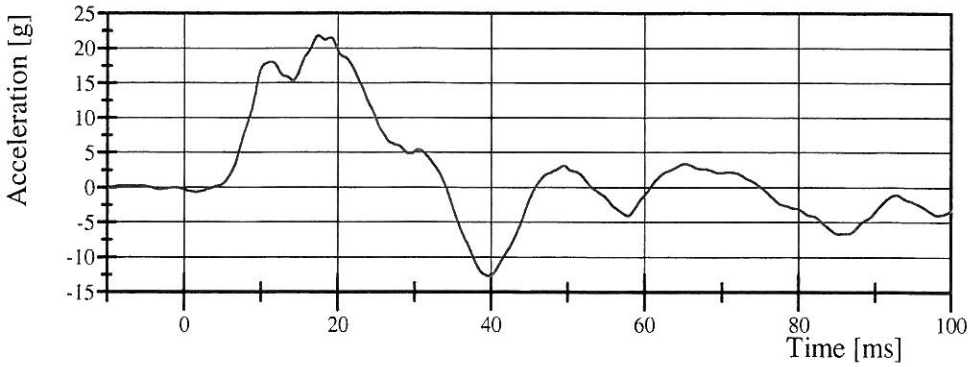
Filter Class: CFC_180
Max: 67.7 N at 79.8 ms
Min: -5,340.5 N at 13.5 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 28.4 g at 12.2 ms
Min: -5.7 g at 39.4 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 21.8 g at 17.5 ms
Min: -12.7 g at 39.7 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

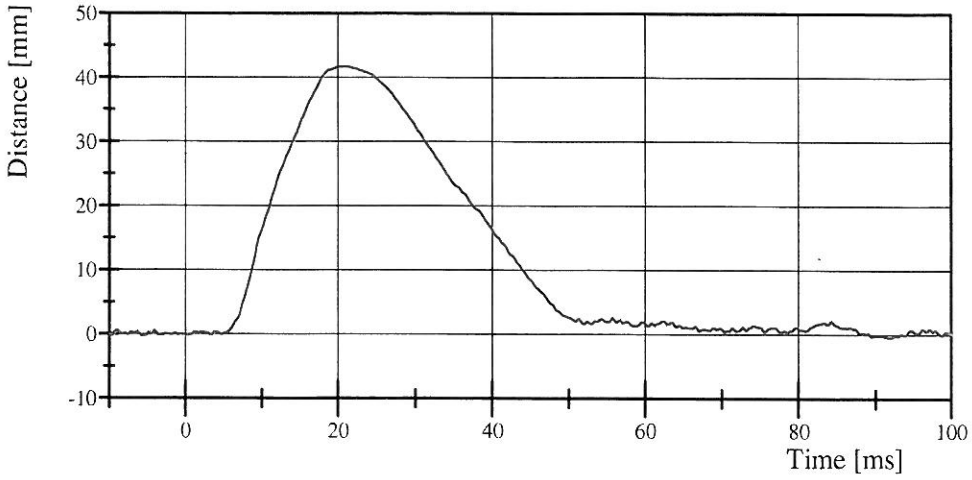
01.23.2009 13:00:53 3996

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Transportation Research Center Inc.

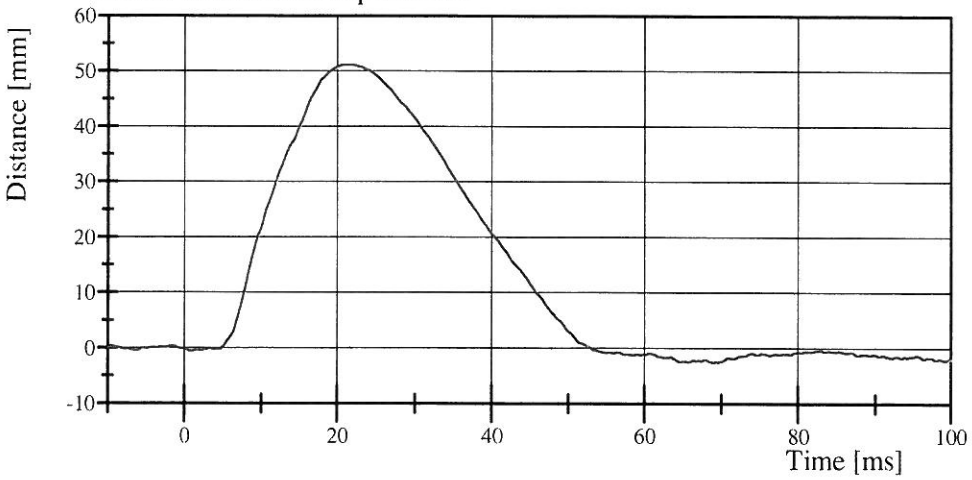
Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-1
Test Date: 8/20/2008

Upper Thorax Rib Displacement



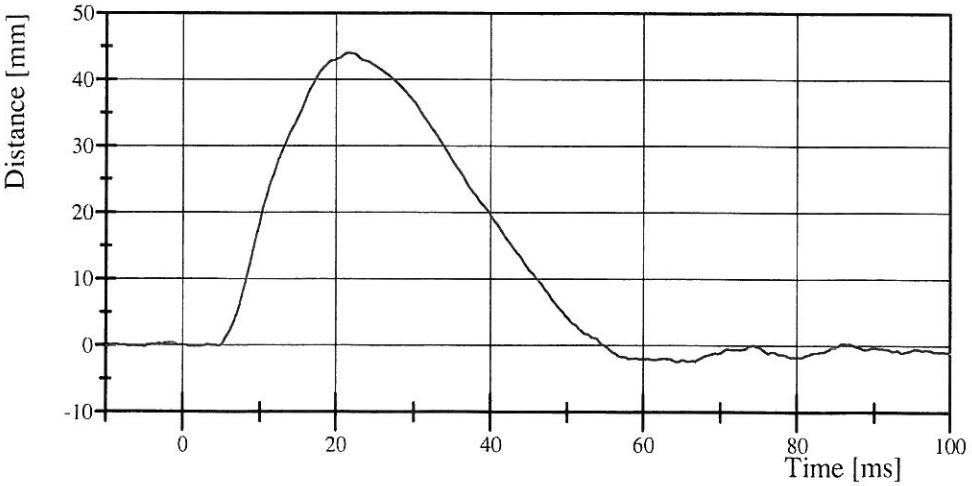
Filter Class: CFC_600
Max: 41.7 mm at 20.9 ms
Min: -0.4 mm at 92.2 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 51.2 mm at 21.5 ms
Min: -2.6 mm at 69.0 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 44.0 mm at 21.7 ms
Min: -2.5 mm at 64.5 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

01.23.2009 13:00:54 3996

080821

Transportation Research Center Inc.

Left Lateral Thorax without Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-3
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.406 m/s	No
Impactor Force	(-3,200) - (-3,900) N	-3,512.9 N	Yes
Upper Thorax Rib Displacement	34 - 43 mm	38.6 mm	Yes
Center Thorax Rib Displacement	34 - 43 mm	42.7 mm	Yes
Lower Thorax Rib Displacement	34 - 43 mm	39.7 mm	Yes
Upper Spine Lateral Acceleration	12 - 17 g	14.1 g	Yes
Lower Spine Lateral Acceleration	15 - 21 g	14.7 g	No

Test does not meet specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

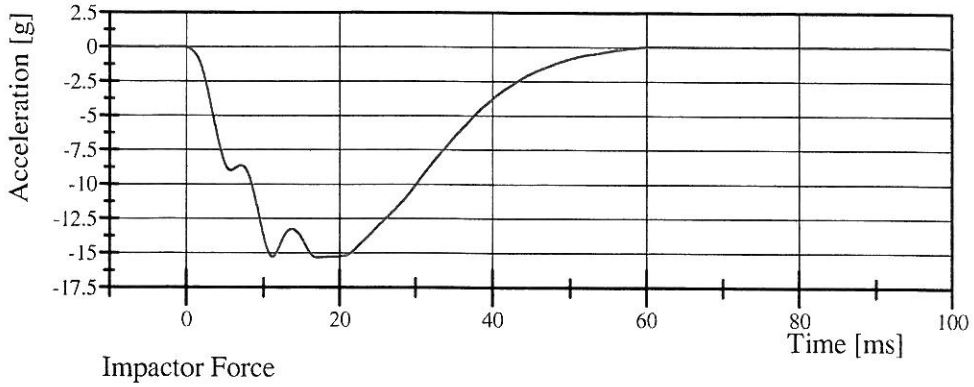
01.23.2009 13:03:33 3991

080821

Transportation Research Center Inc.

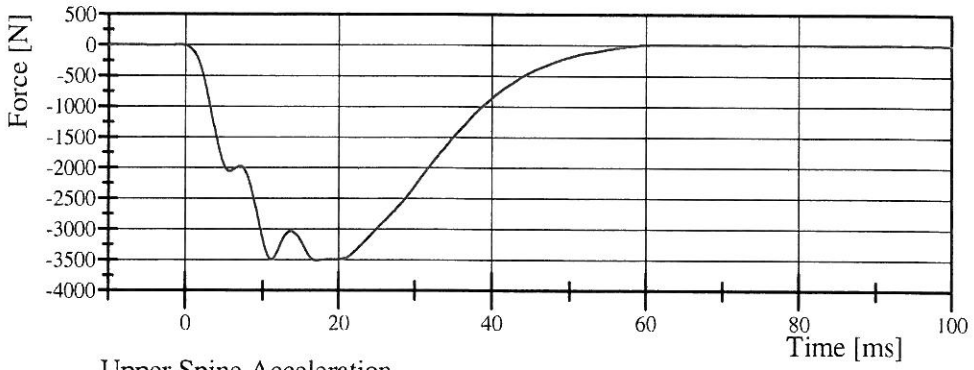
Left Lateral Thorax without Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-3
Test Date: 8/20/2008

Impactor Acceleration



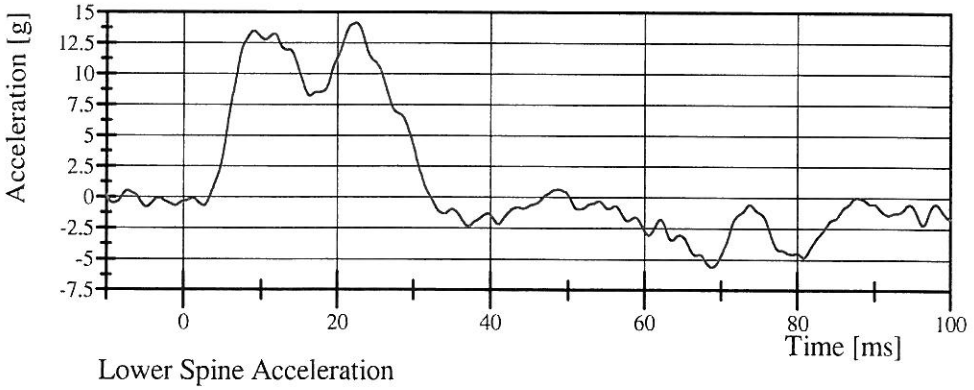
Filter Class: CFC_180
Max: 0.0 g at 62.7 ms
Min: -15.3 g at 17.2 ms

Impactor Force



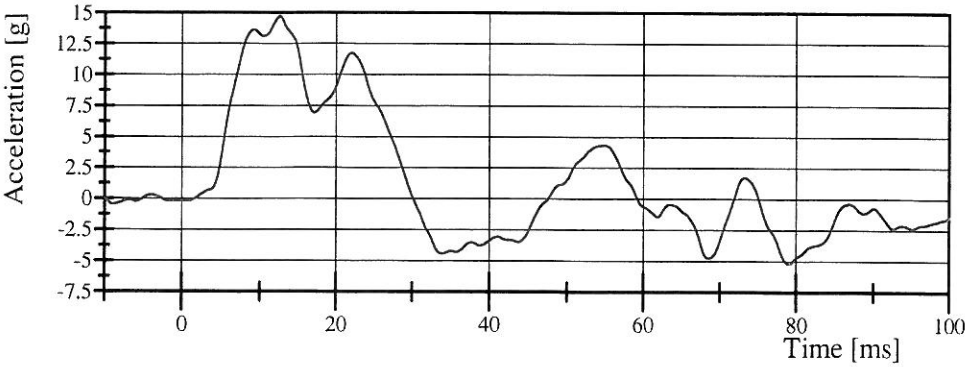
Filter Class: CFC_180
Max: 8.4 N at 62.7 ms
Min: -3,512.9 N at 17.2 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 14.1 g at 22.5 ms
Min: -5.6 g at 68.9 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 14.7 g at 12.7 ms
Min: -5.2 g at 79.1 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

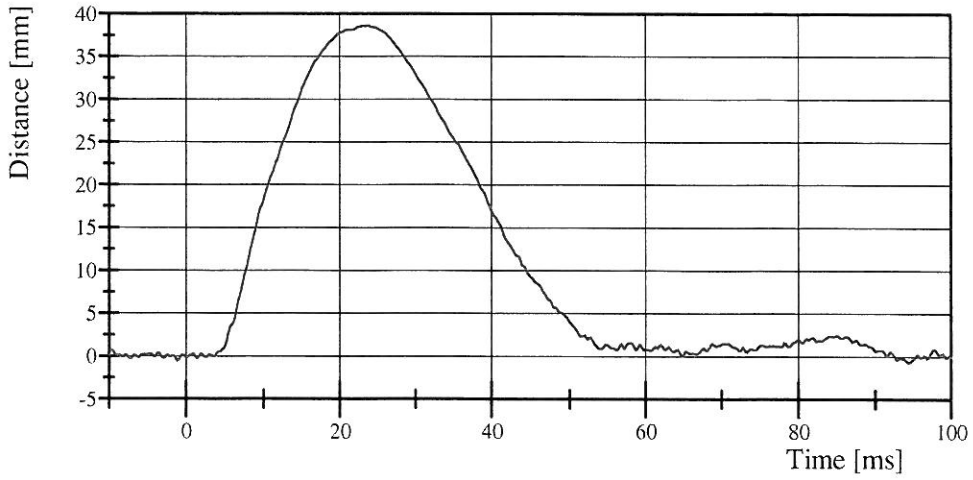
01.23.2009 13:04:22 3991

080821

Transportation Research Center Inc.

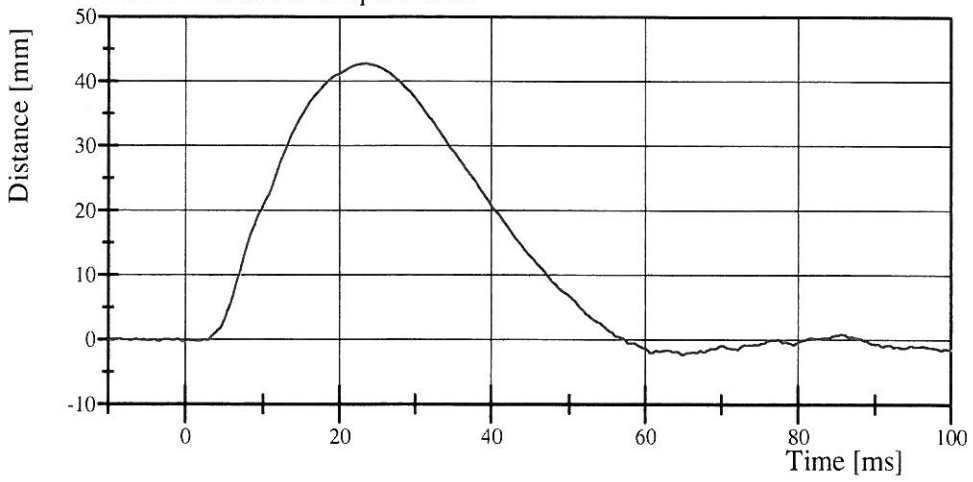
Left Lateral Thorax without Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-3
Test Date: 8/20/2008

Upper Thorax Rib Displacement



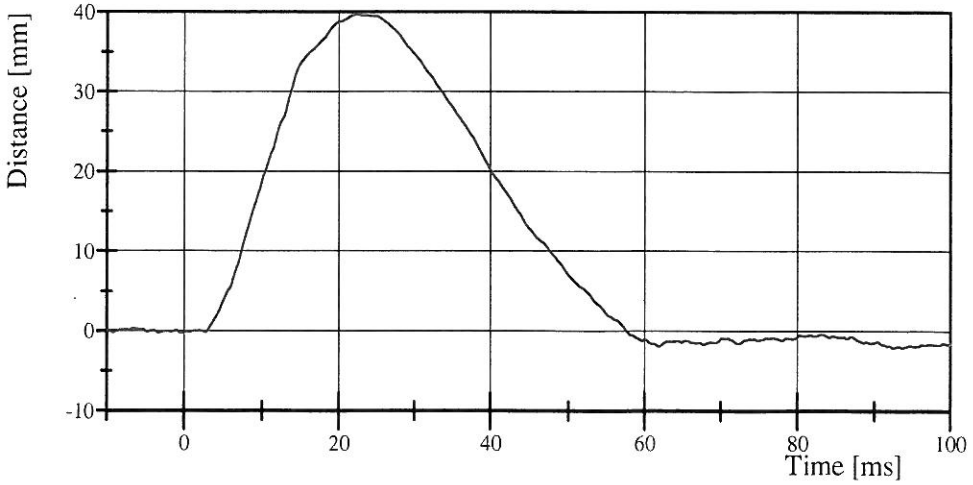
Filter Class: CFC_600
Max: 38.6 mm at 23.8 ms
Min: -0.7 mm at 94.5 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 42.7 mm at 23.6 ms
Min: -2.4 mm at 65.0 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.7 mm at 22.4 ms
Min: -2.2 mm at 92.5 ms

Transportation Research Center Inc.

Left Lateral Abdomen
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.38 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-3,046.9 N	Yes
Upper Abdominal Rib Displacement	33 - 41 mm	35.7 mm	Yes
Lower Abdominal Rib Displacement	31 - 39 mm	33.9 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.5 g	Yes

Test meets specifications.

Comments:

Technician Paul Boraudes

Approved Ron Stone

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

01.23.2009 13:06:53 3993

080821

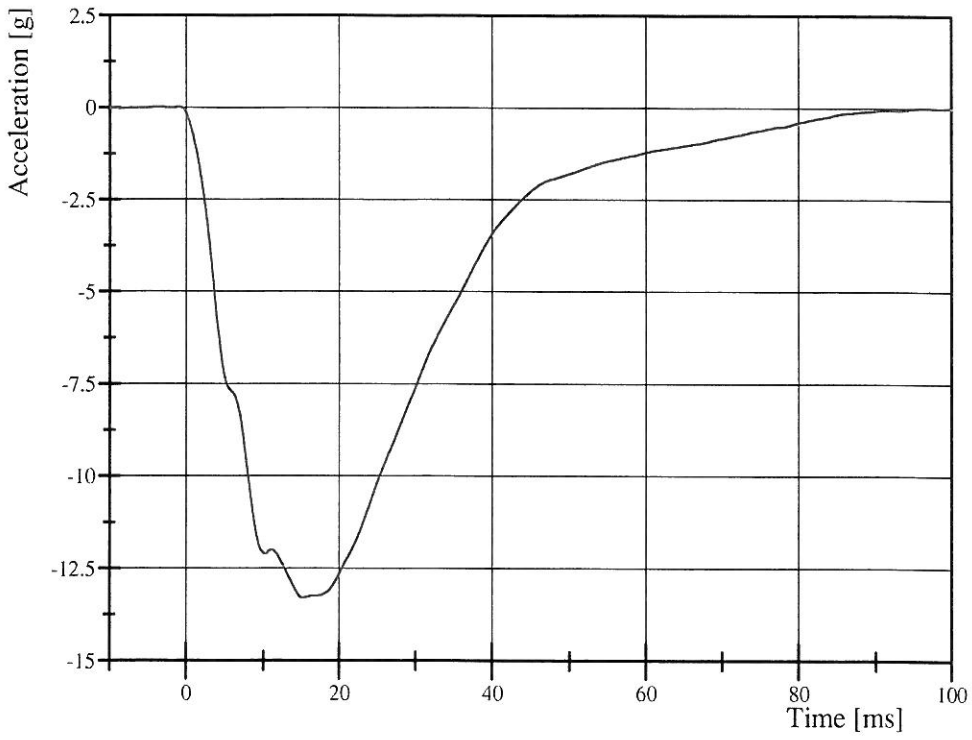
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2

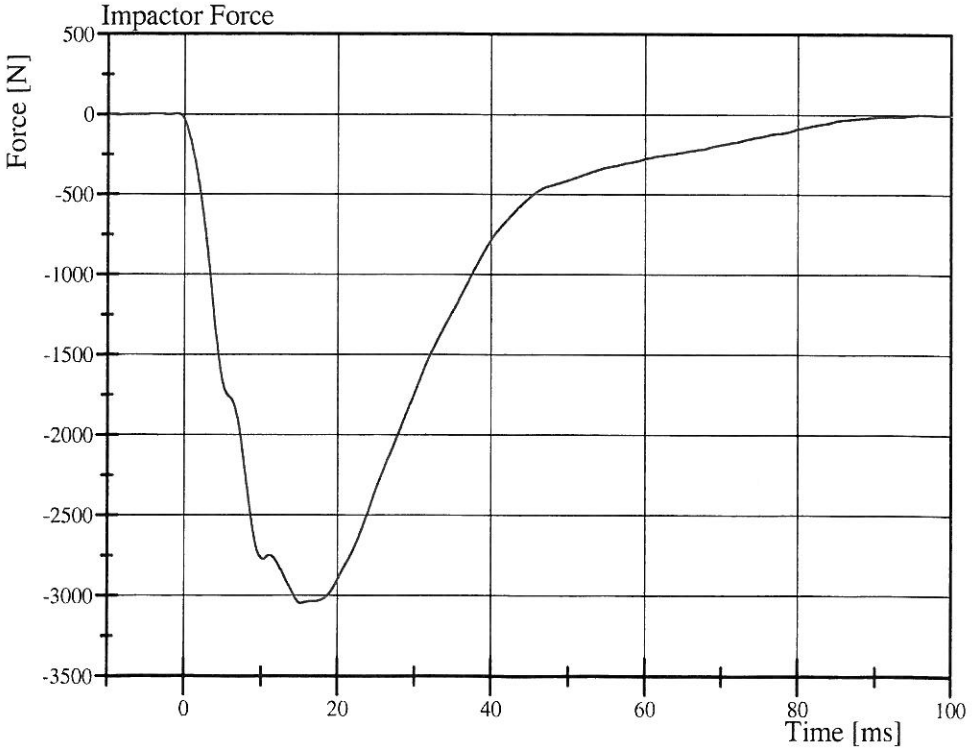
Test Date: 8/20/2008

Impactor Acceleration



Filter Class: CFC_180
Max: 0.0 g at -0.9 ms
Min: -13.3 g at 15.3 ms

Impactor Force



Filter Class: CFC_180
Max: 2.0 N at -0.9 ms
Min: -3,046.9 N at 15.3 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

01.23.2009 13:07:04 3993

080821

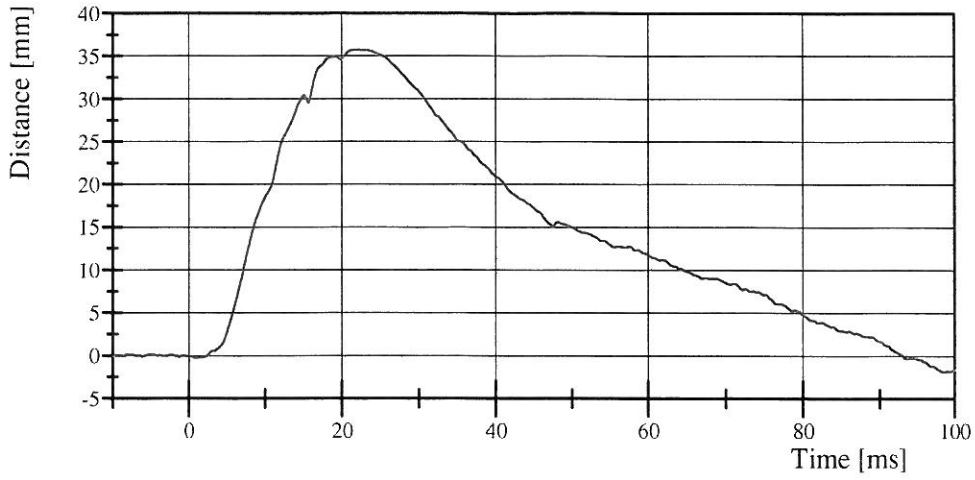
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2

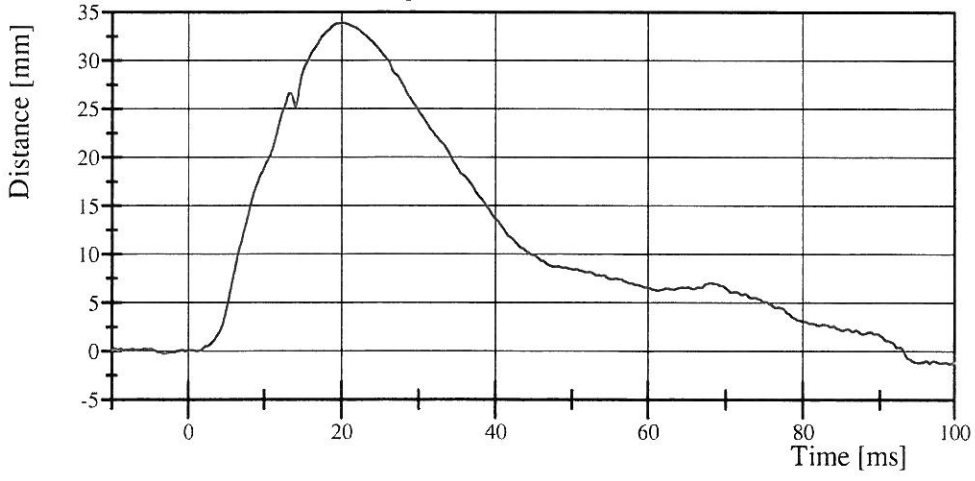
Test Date: 8/20/2008

Upper Abdominal Rib Displacement



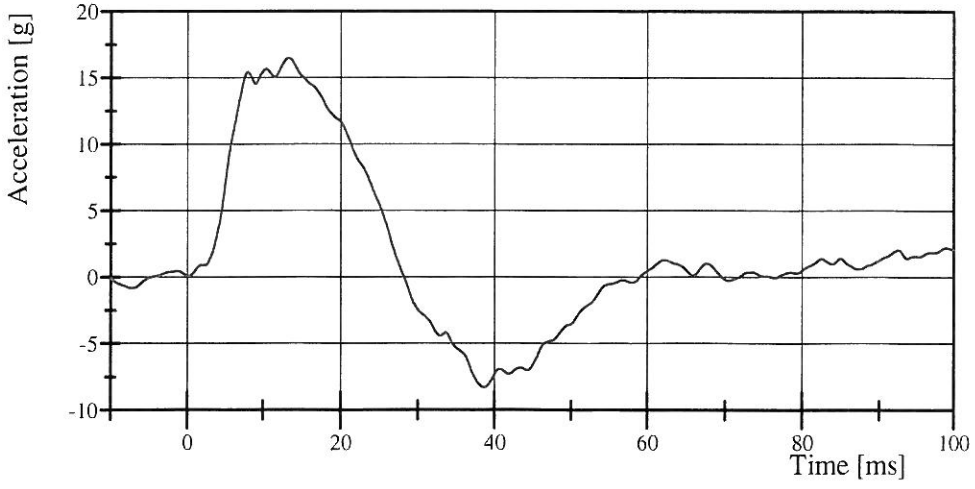
Filter Class: CFC_600
Max: 35.7 mm at 21.7 ms
Min: -1.9 mm at 98.7 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 33.9 mm at 20.3 ms
Min: -1.3 mm at 99.5 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 16.5 g at 13.3 ms
Min: -8.3 g at 38.6 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

01.23.2009 13:07:05 3993

080821

Transportation Research Center Inc.

Left Lateral Pelvis
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.69 m/s	Yes
Impactor Force	(-6,300) - (-7,800) N	-7,506.7 N	Yes
Pelvis Lateral Acceleration	41 - 51 g	40.5 g	No
Lower Spine Lateral Acceleration	10 - 14 g	12.1 g	Yes

Test does not meet specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

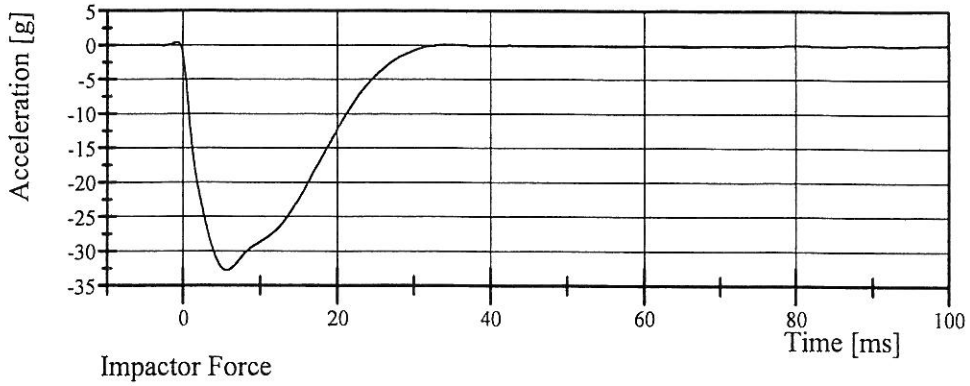
08.20.2008 13:32:45 5997

080821

Transportation Research Center Inc.

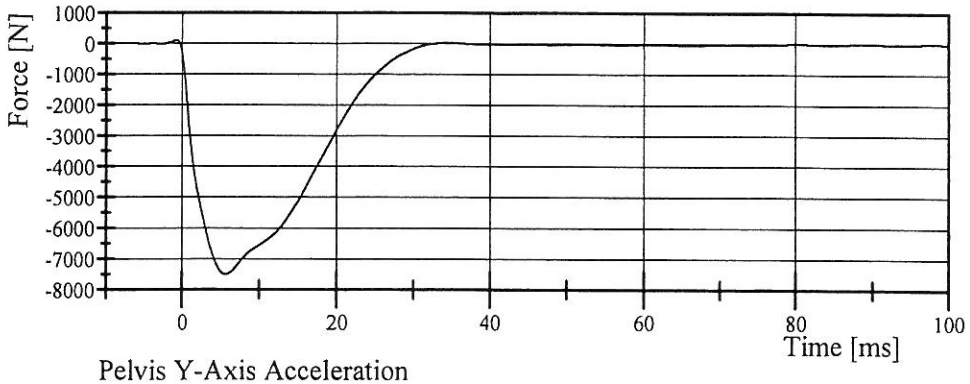
Left Lateral Pelvis
WorldSID ISO 15830-2 Serial No. 014 Certification No. 2-2
Test Date: 8/20/2008

Impactor Acceleration



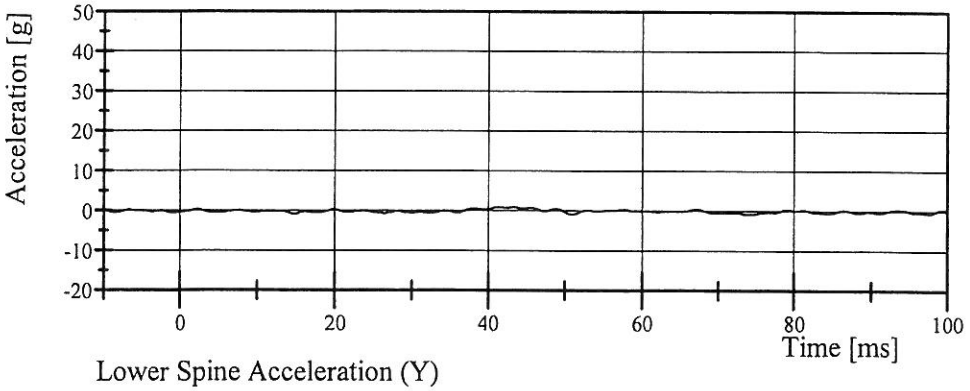
Filter Class: CFC_180
Max: 0.5 g at -0.7 ms
Min: -32.8 g at 5.7 ms

Impactor Force



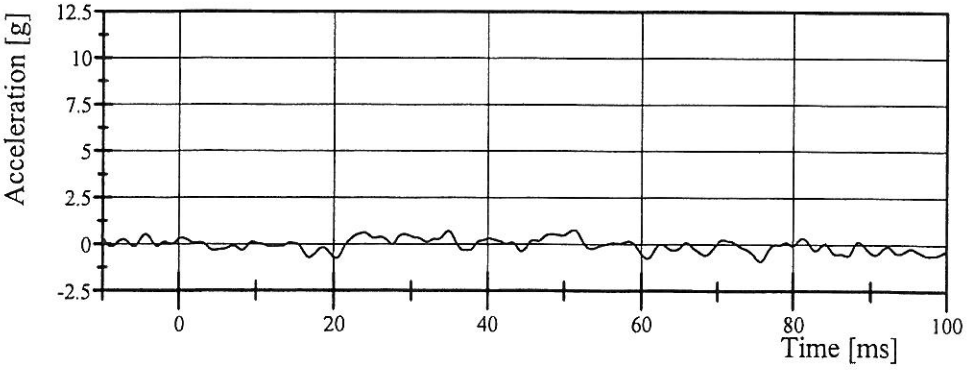
Filter Class: CFC_180
Max: 110.6 N at -0.7 ms
Min: -7,506.7 N at 5.7 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 40.5 g at 0.0 ms
Min: -16.3 g at 0.0 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 12.1 g at 0.0 ms
Min: -2.0 g at 0.0 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 13:34:00 5997

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. 5-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	252.5 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	8.6 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

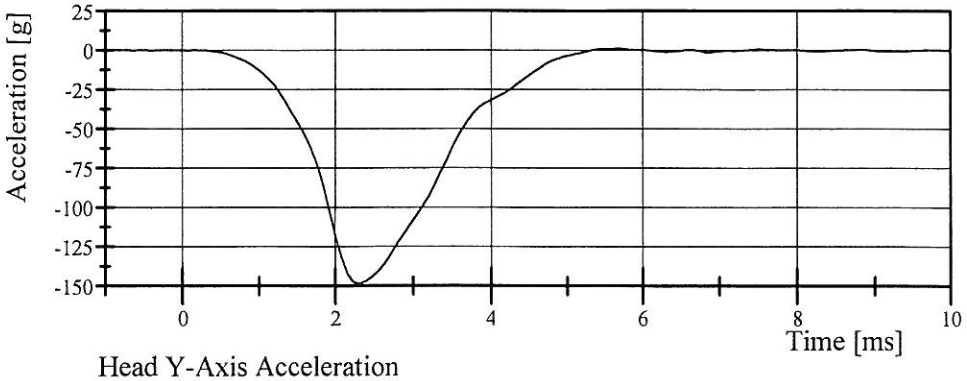
08.18.2008 10:35:18 608

080821

Transportation Research Center Inc.

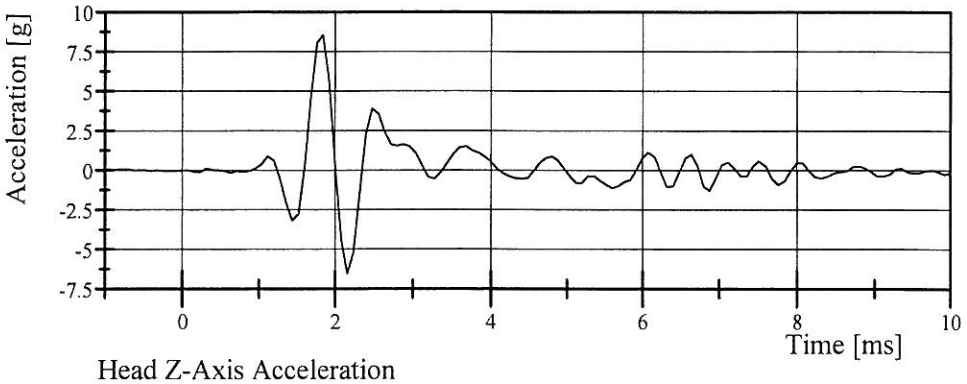
Front Head Drop
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/18/2008

Head X-Axis Acceleration



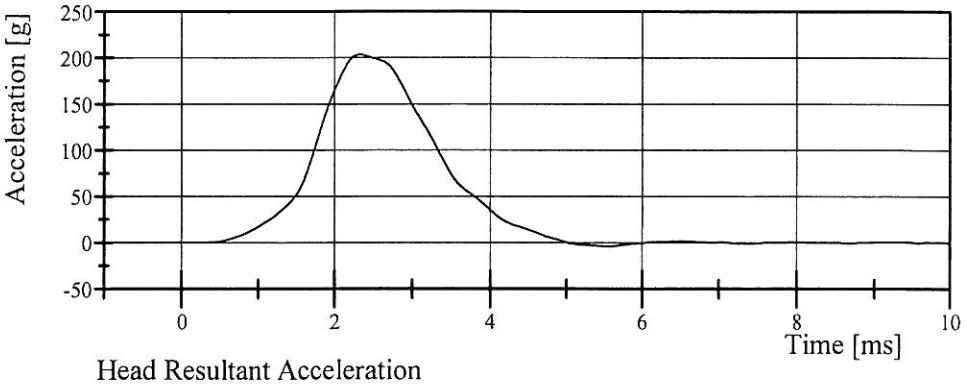
Filter Class: CFC_1000
Max: 1.3 g at 5.7 ms
Min: -148.6 g at 2.3 ms

Head Y-Axis Acceleration



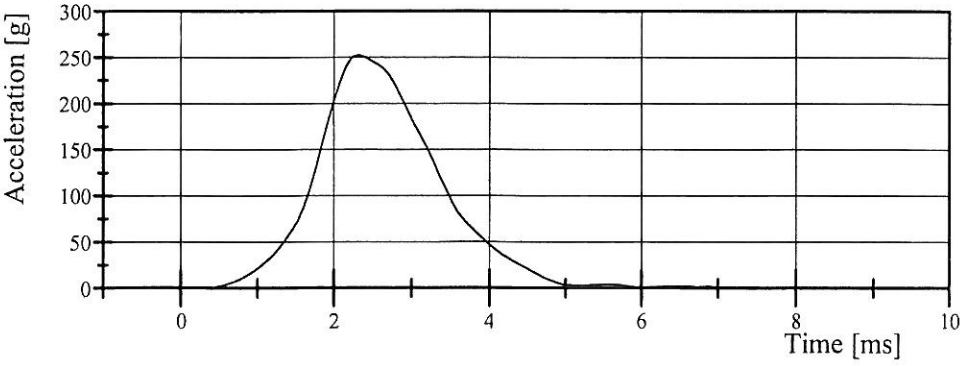
Filter Class: CFC_1000
Max: 8.6 g at 1.8 ms
Min: -6.5 g at 2.2 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 204.1 g at 2.3 ms
Min: -3.8 g at 5.5 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 252.5 g at 2.3 ms
Min: 0.0 g at 0.0 ms

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:35:27 608

Transportation Research Center Inc.

Left Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	107.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	2.4 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Charles W. Ball

Approved

Ron Stover

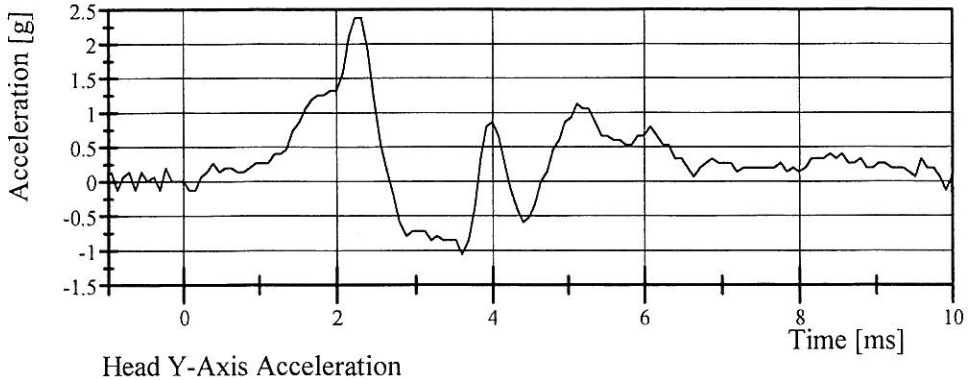
Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:43:20 606

Transportation Research Center Inc.

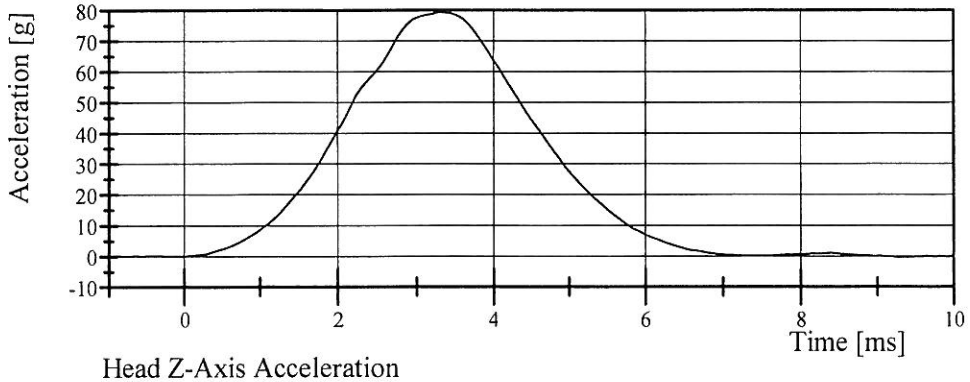
Left Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/18/2008

Head X-Axis Acceleration



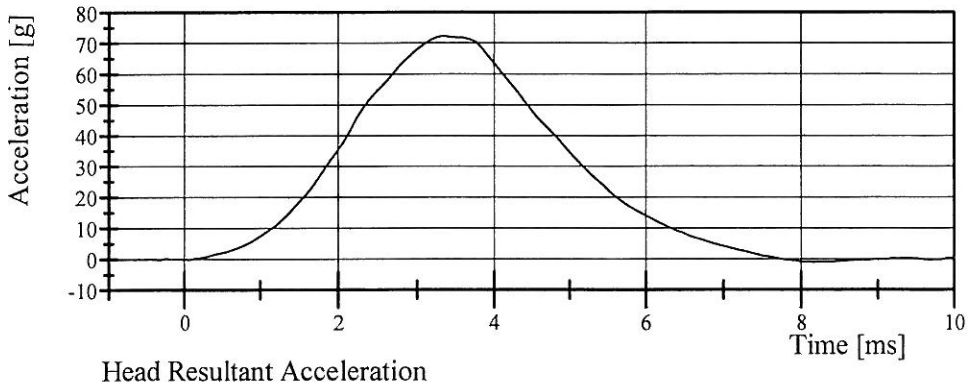
Filter Class: CFC_1000
Max: 2.4 g at 2.2 ms
Min: -1.1 g at 3.6 ms

Head Y-Axis Acceleration



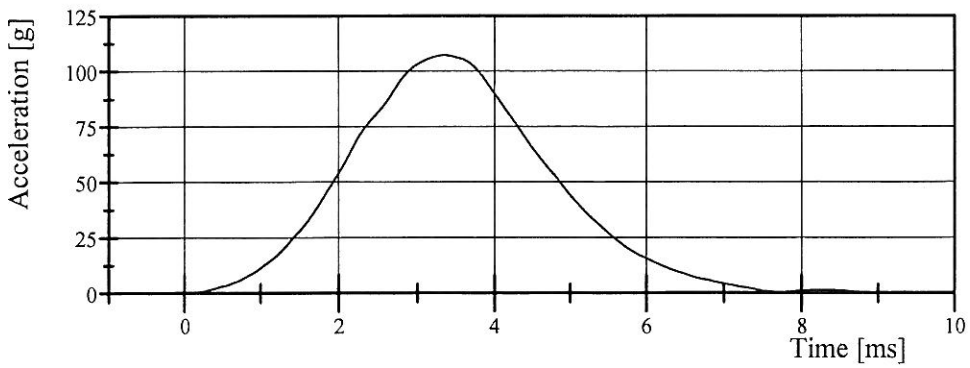
Filter Class: CFC_1000
Max: 79.3 g at 3.3 ms
Min: -0.4 g at 9.4 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 72.3 g at 3.4 ms
Min: -1.0 g at 8.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 107.3 g at 3.4 ms
Min: 0.0 g at -0.2 ms

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:43:29 606

Transportation Research Center Inc.

Right Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	109.8 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-1.9 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Charles W. Hall

Approved

Ron Stoner

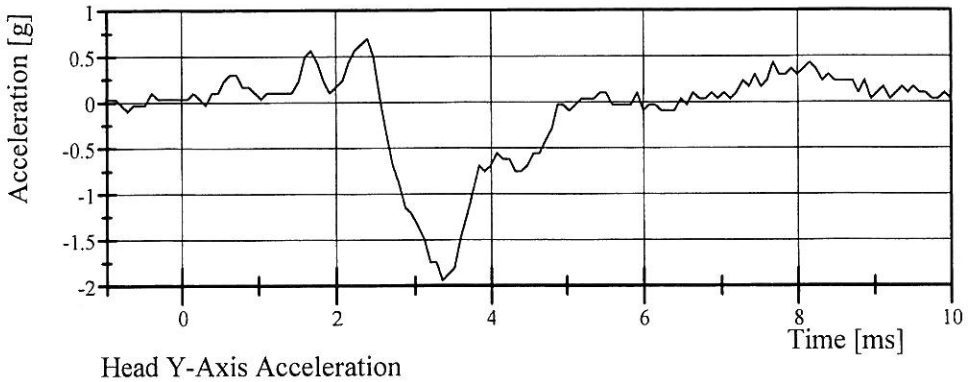
Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:54:43 607

Transportation Research Center Inc.

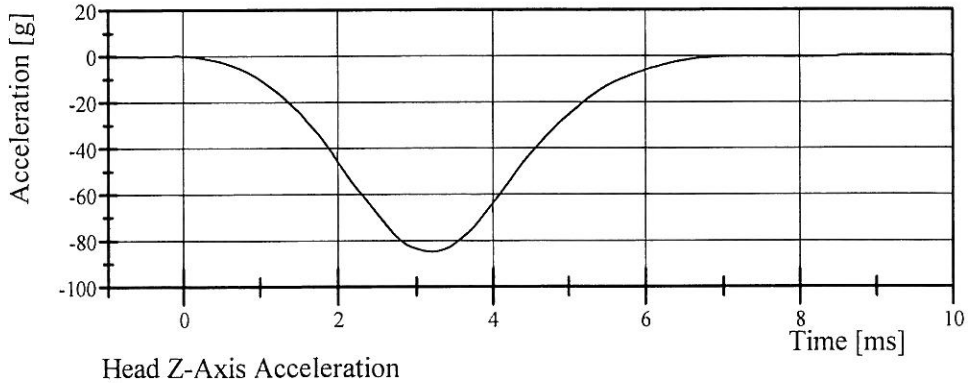
Right Lateral Head Drop
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/18/2008

Head X-Axis Acceleration



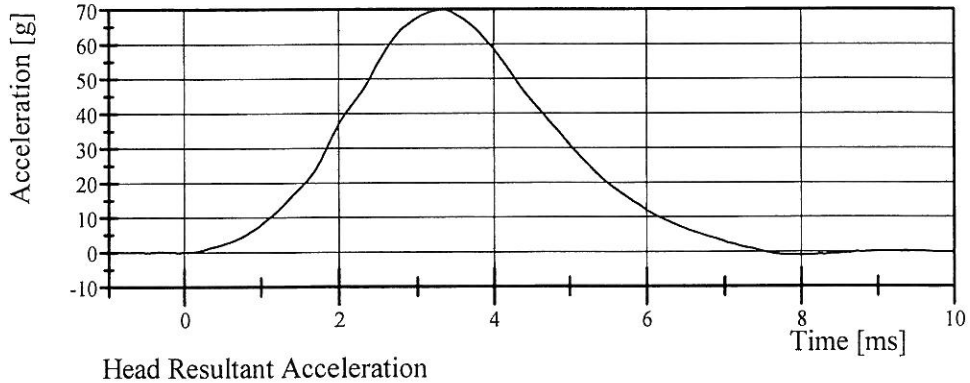
Filter Class: CFC_1000
Max: 0.7 g at 2.4 ms
Min: -1.9 g at 3.4 ms

Head Y-Axis Acceleration



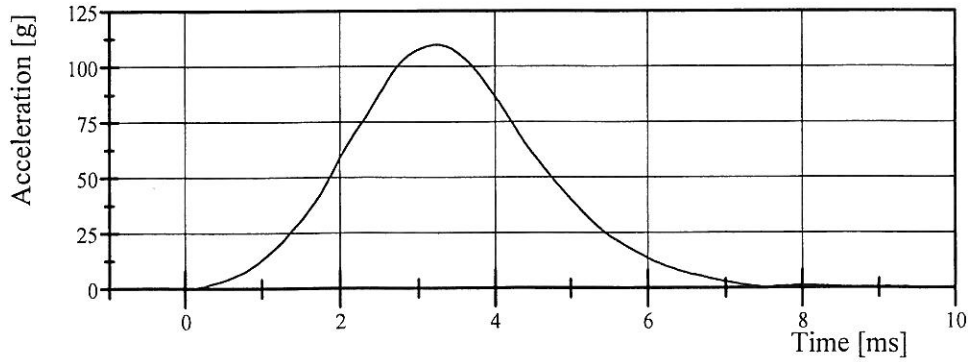
Filter Class: CFC_1000
Max: 0.6 g at 9.1 ms
Min: -84.9 g at 3.2 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 69.9 g at 3.4 ms
Min: -1.0 g at 8.0 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 109.8 g at 3.3 ms
Min: 0.0 g at -1.0 ms

Specification Source: ISO 15830-2, dated 12/1/2005
with Polarity in accordance with J211

08.18.2008 10:54:54 607

Transportation Research Center Inc.

Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.35 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.928 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.976 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	3.084 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-55.4 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	64.1 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	59.8 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) °	-35.9 °	Yes
Time of Peak	56 - 68 ms	60.2 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-32.2 °	Yes
Time of Peak	56 - 68 ms	60.9 ms	Yes

Test meets specifications.

Comments:

Technician 

Approved 

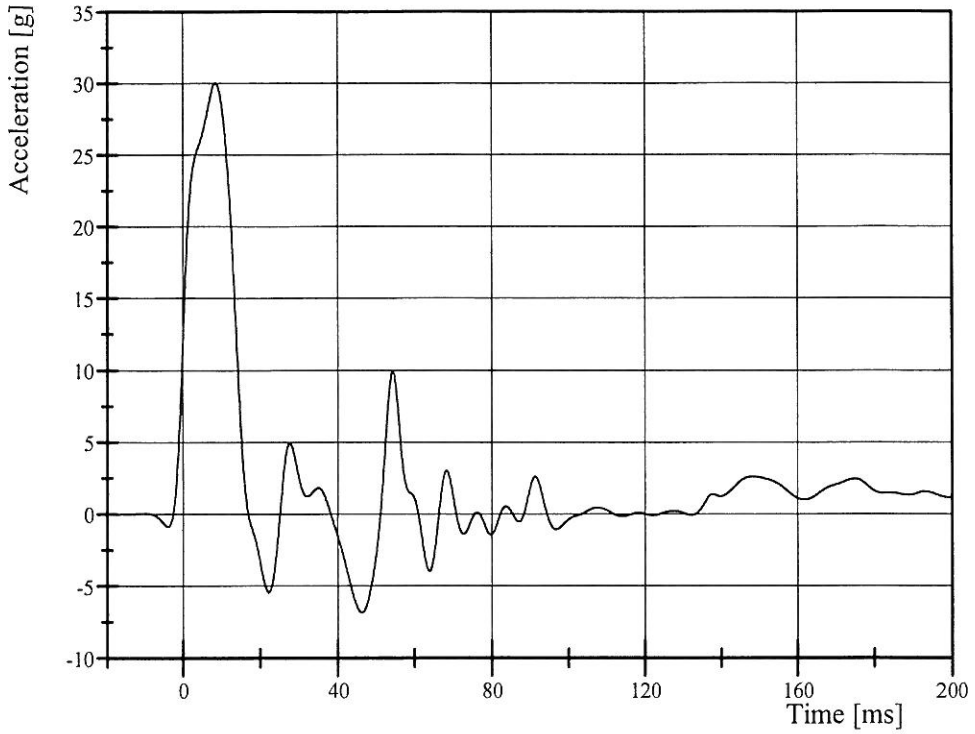
Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 08:54:52 1367

Transportation Research Center Inc.

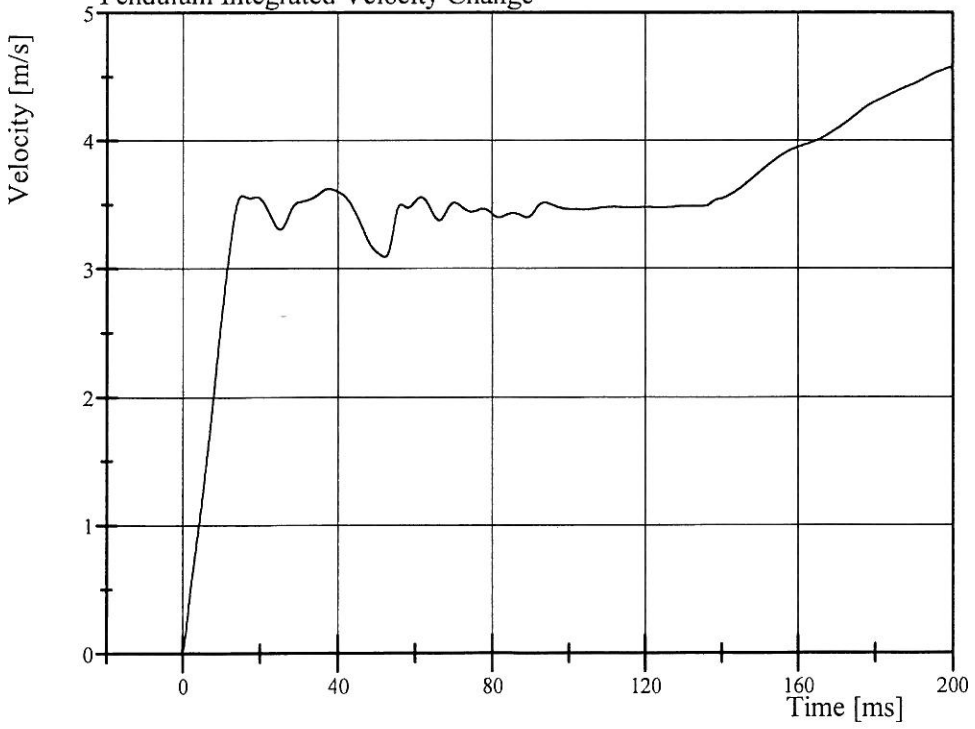
Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/20/2008

Pendulum Acceleration



Filter Class: CFC_60
Max: 30.0 g at 8.6 ms
Min: -6.8 g at 46.3 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 4.6 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 08:55:01 1367

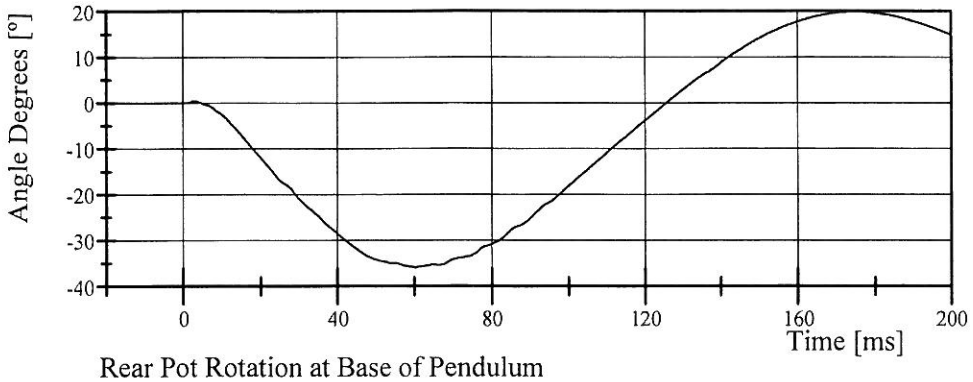
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1

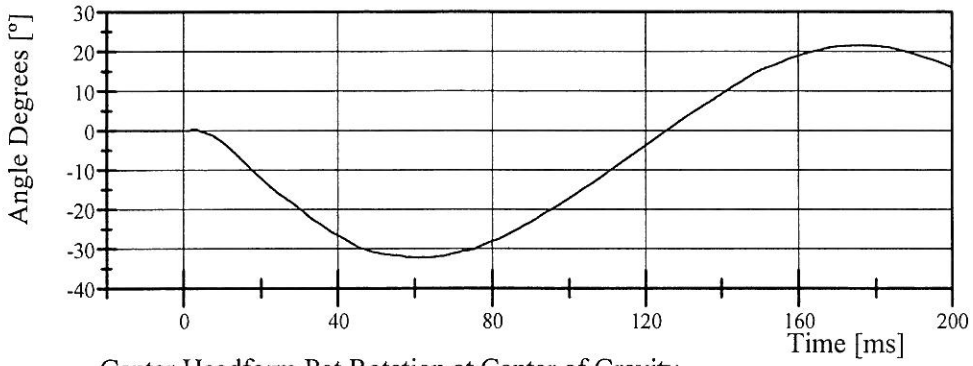
Test Date: 8/20/2008

Forward Pot Rotation at Base of Pendulum



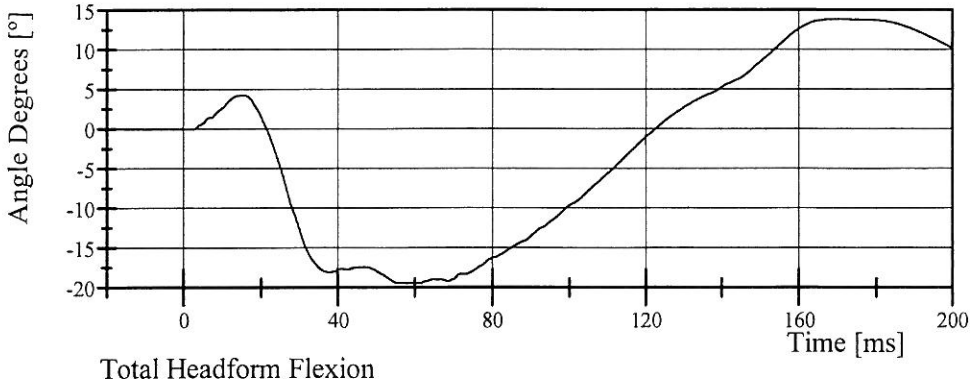
Filter Class: CFC_1000
Max: 19.9 ° at 175.1 ms
Min: -35.9 ° at 60.2 ms

Rear Pot Rotation at Base of Pendulum



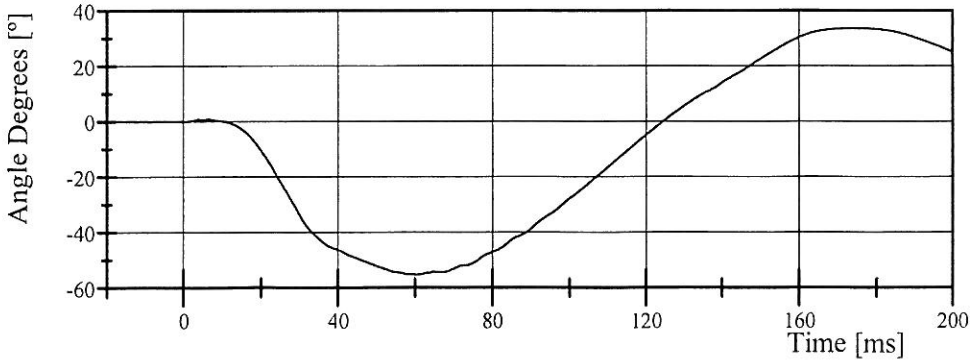
Filter Class: CFC_1000
Max: 21.6 ° at 176.7 ms
Min: -32.2 ° at 60.9 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_1000
Max: 13.9 ° at 170.4 ms
Min: -19.5 ° at 57.8 ms

Total Headform Flexion



Filter Class: CFC_1000
Max: 33.7 ° at 174.7 ms
Min: -55.4 ° at 60.5 ms

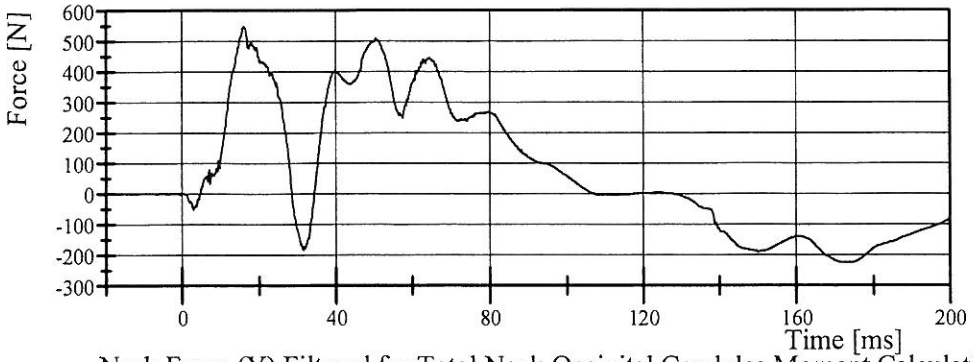
Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 08:55:02 1367

Transportation Research Center Inc.

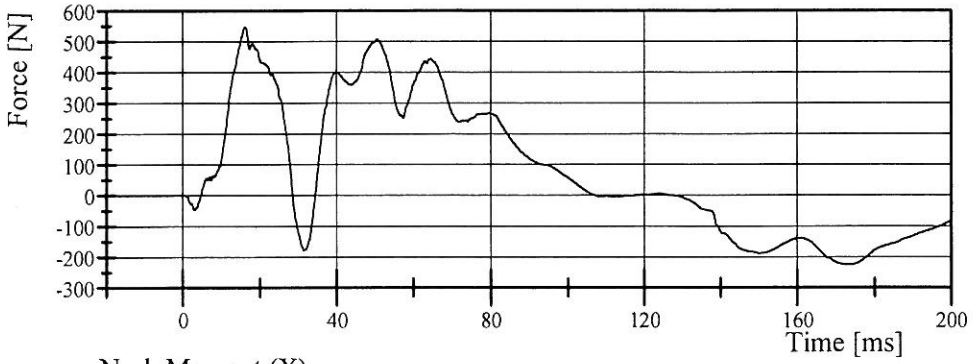
Left Lateral Neck
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/20/2008

Neck Force (Y)



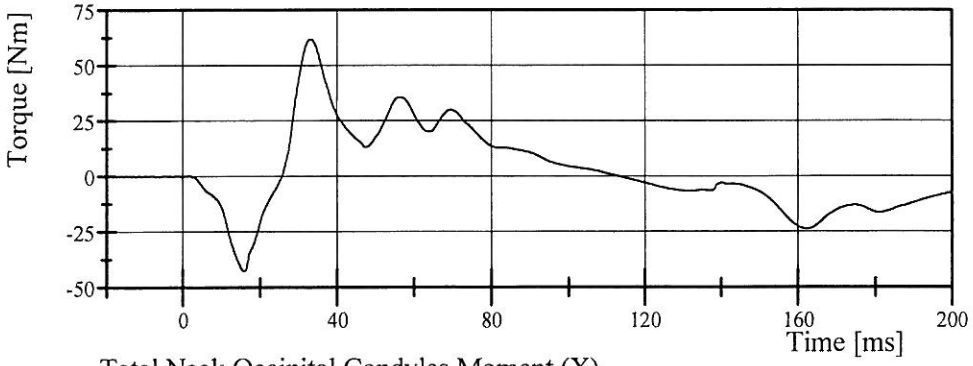
Filter Class: CFC_1000
Max: 547.8 N at 16.2 ms
Min: -225.1 N at 172.4 ms

Neck Force (Y) Filtered for Total Neck Occipital Condyles Moment Calculation



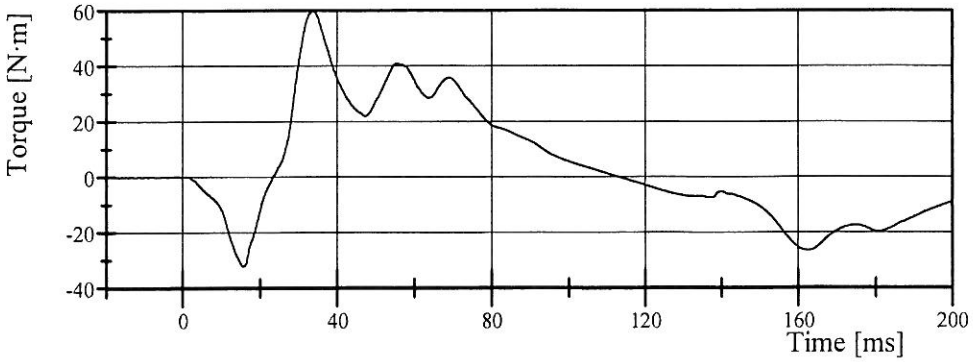
Filter Class: CFC_600
Max: 547.4 N at 16.2 ms
Min: -224.7 N at 173.0 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 61.8 Nm at 33.2 ms
Min: -42.7 Nm at 15.9 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: CFC_600
Max: 59.8 N·m at 33.7 ms
Min: -32.2 N·m at 15.7 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 08:55:03 1367

Transportation Research Center Inc.

Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 016WSD05 TA Certification No. 4-4
Test Date: 8/19/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.80 m/s	Yes
Impactor Force	(-4,700) - (-6,400) N	-5,645.9 N	Yes
Upper Thorax Rib Displacement	35 - 47 mm	35.1 mm	Yes
Center Thorax Rib Displacement	42 - 57 mm	44.4 mm	Yes
Lower Thorax Rib Displacement	40 - 54 mm	39.3 mm	No
Upper Spine Lateral Acceleration	24 - 33 g	31.0 g	Yes
Lower Spine Lateral Acceleration	20 - 28 g	23.2 g	Yes

Test does not meet specifications.

Comments:

Technician Charles W. Kell

Approved Ron Stonecipher

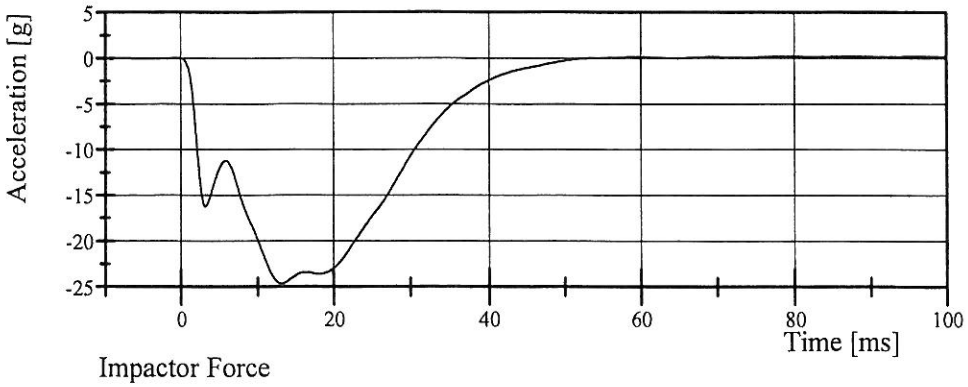
Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 09:05:57 3994

Transportation Research Center Inc.

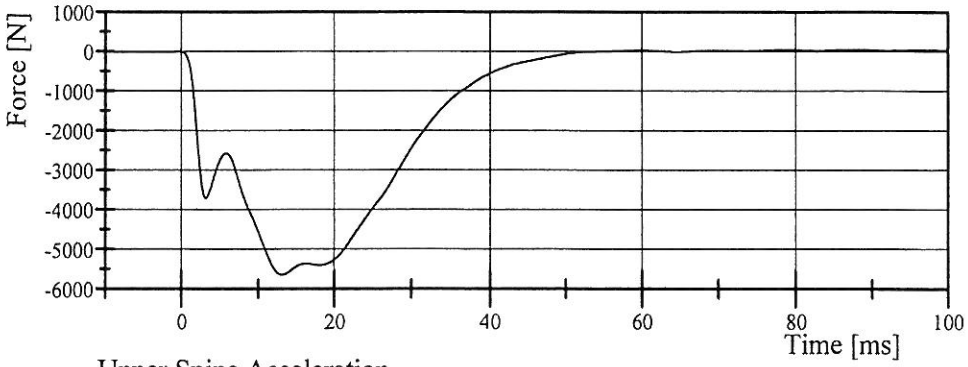
Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 016WSD05 TA Certification No. 4-4
Test Date: 8/19/2008

Impactor Acceleration



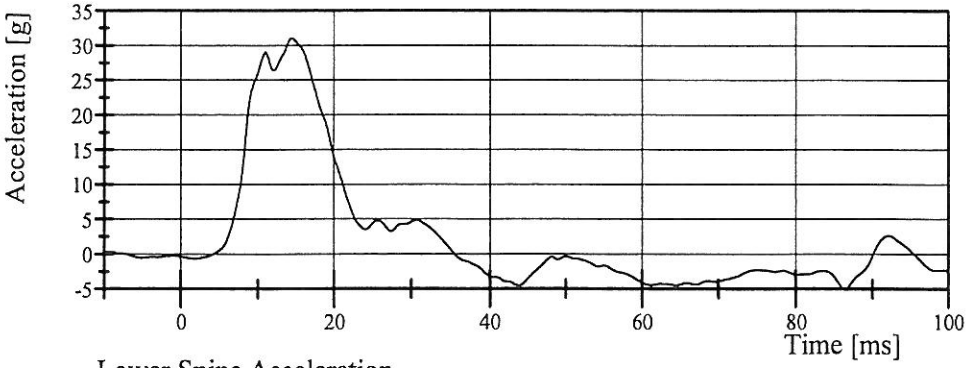
Filter Class: CFC_180
Max: 0.2 g at 87.6 ms
Min: -24.6 g at 13.2 ms

Impactor Force



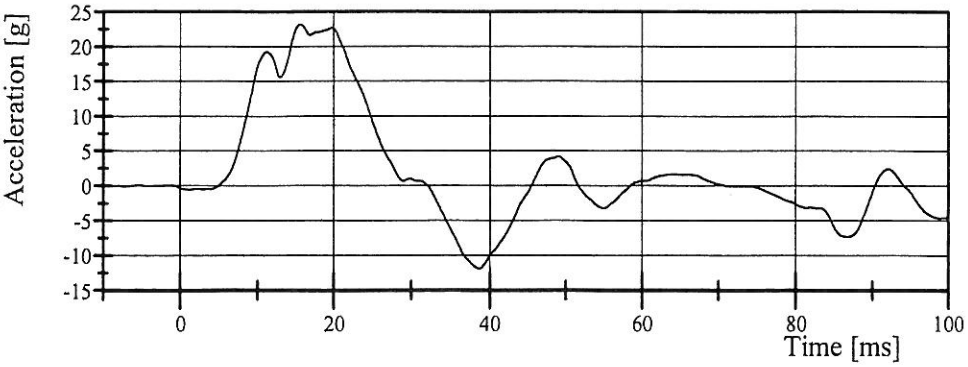
Filter Class: CFC_180
Max: 49.0 N at 87.6 ms
Min: -5,645.9 N at 13.2 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 31.0 g at 14.6 ms
Min: -5.0 g at 86.5 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 23.2 g at 15.7 ms
Min: -11.9 g at 38.8 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 09:08:19 3994

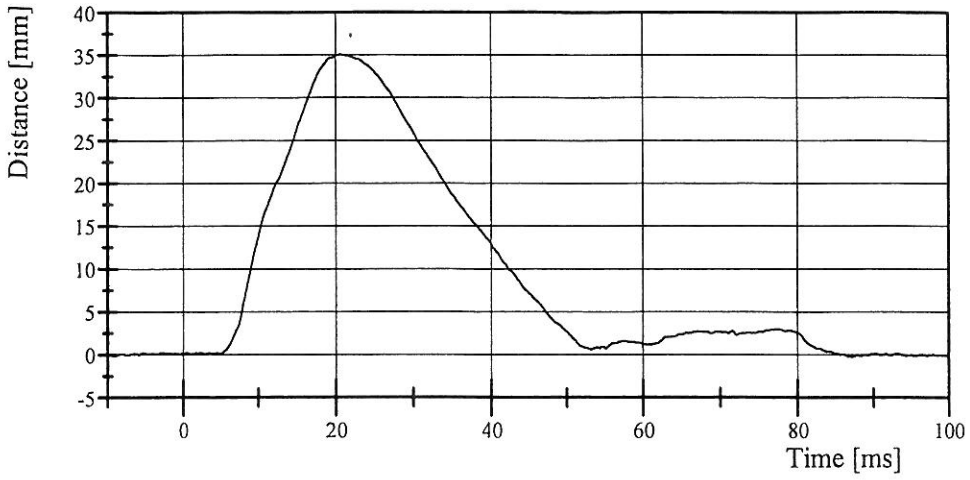
Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 016WSD05 TA Certification No. 4-4

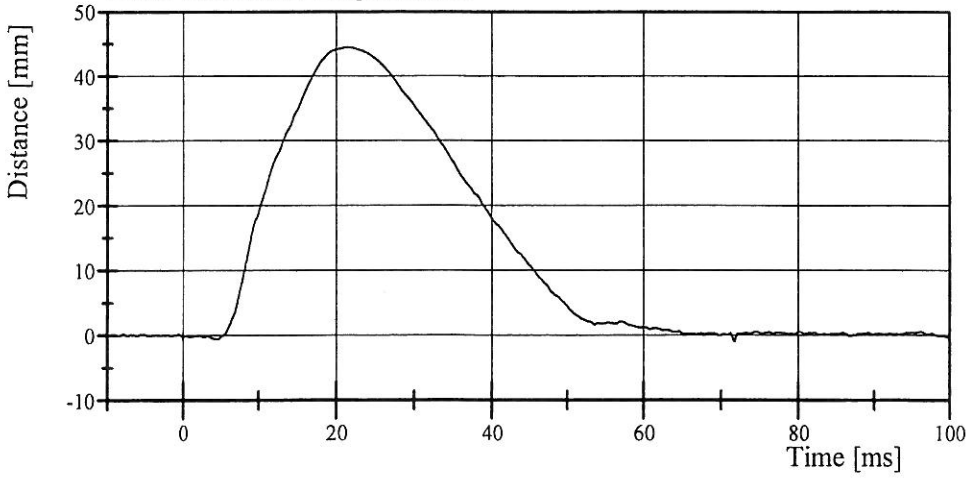
Test Date: 8/19/2008

Upper Thorax Rib Displacement



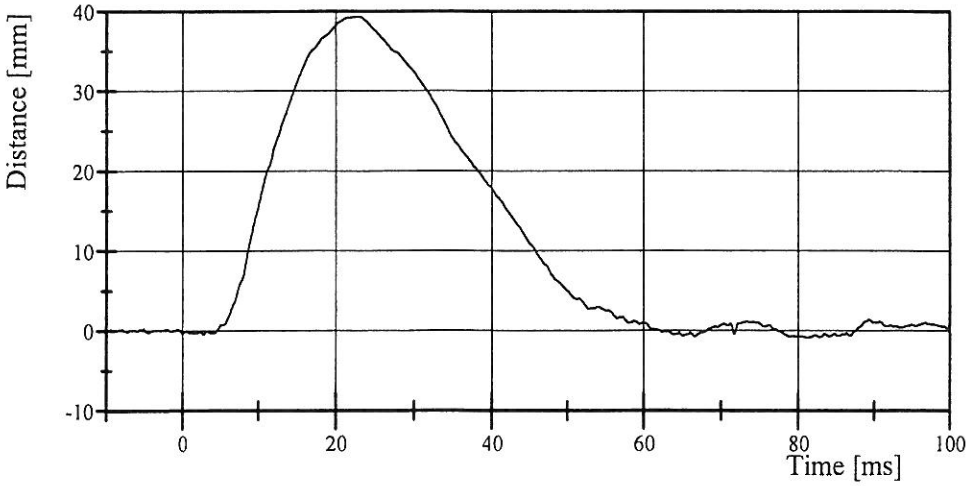
Filter Class: CFC_600
Max: 35.1 mm at 20.7 ms
Min: -0.3 mm at 87.2 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 44.4 mm at 21.5 ms
Min: -1.0 mm at 71.8 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.3 mm at 23.1 ms
Min: -0.9 mm at 81.2 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 09:08:20 3994

Transportation Research Center Inc.

Left Lateral Abdomen
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/19/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.34 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,759.6 N	Yes
Upper Abdominal Rib Displacement	33 - 41 mm	37.0 mm	Yes
Lower Abdominal Rib Displacement	31 - 39 mm	34.9 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	15.5 g	Yes

Test meets specifications.

Comments:

Technician

Approved

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 12:28:05 3987

080821

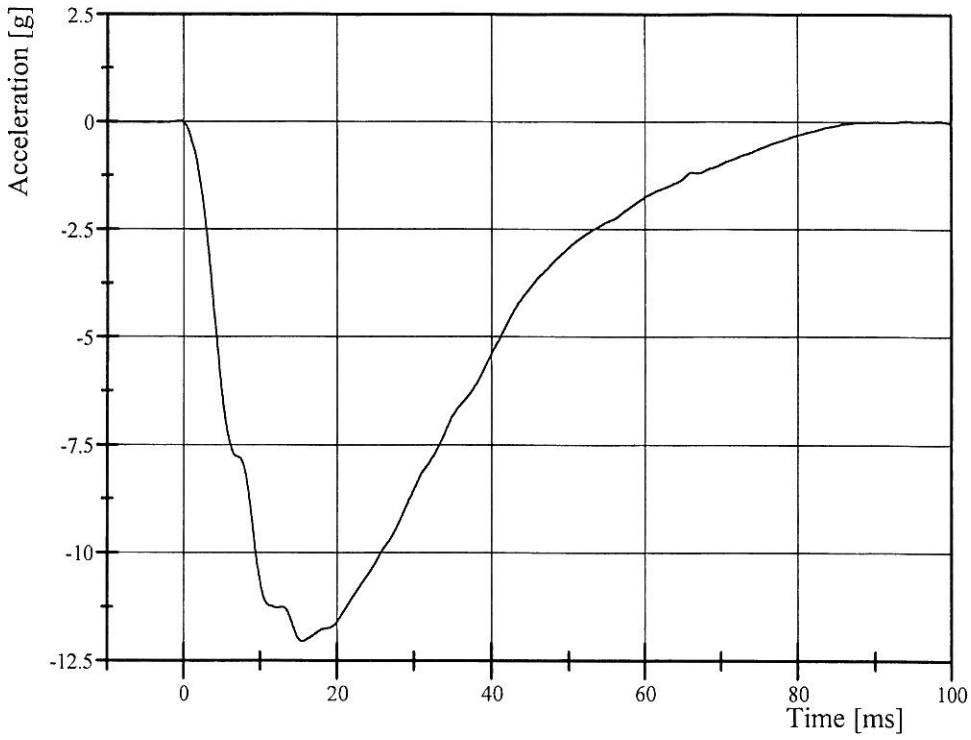
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1

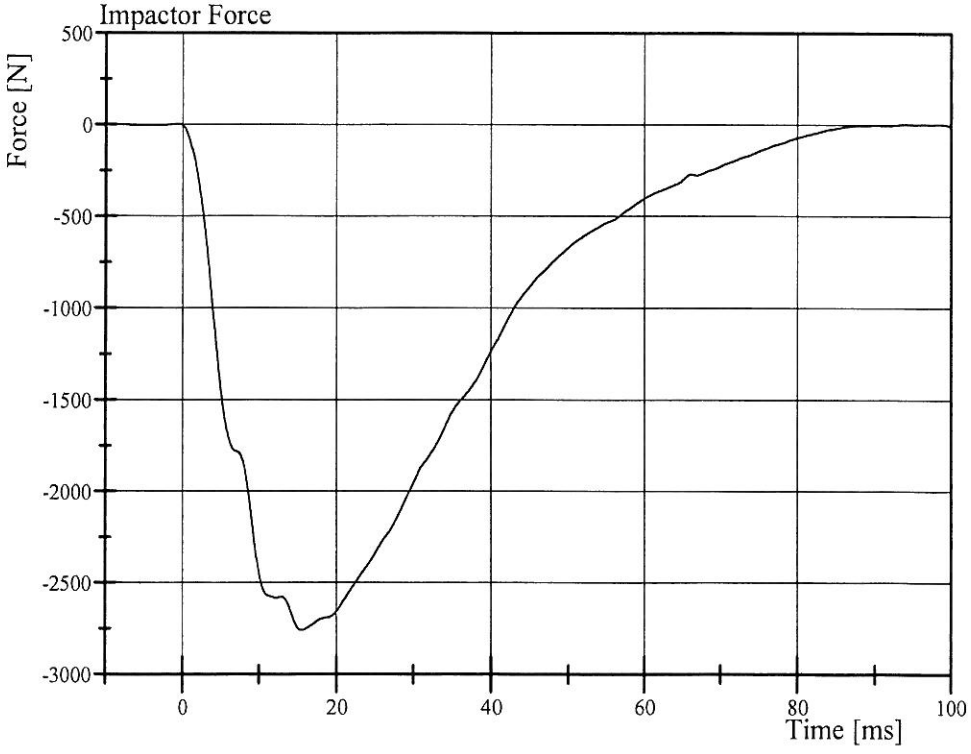
Test Date: 8/19/2008

Impactor Acceleration



Filter Class: CFC_180
Max: 0.0 g at -0.5 ms
Min: -12.0 g at 15.5 ms

Impactor Force



Filter Class: CFC_180
Max: 4.4 N at -0.5 ms
Min: -2,759.6 N at 15.5 ms

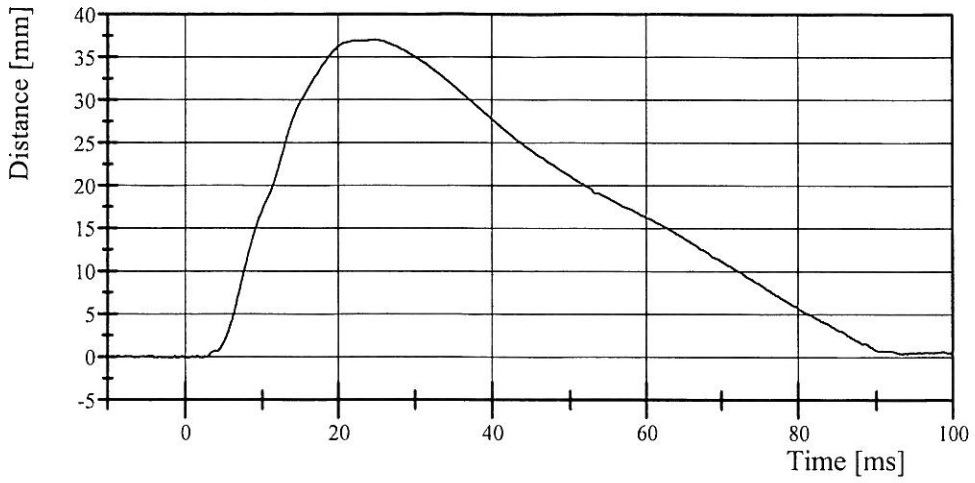
Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 12:28:16 3987

Transportation Research Center Inc.

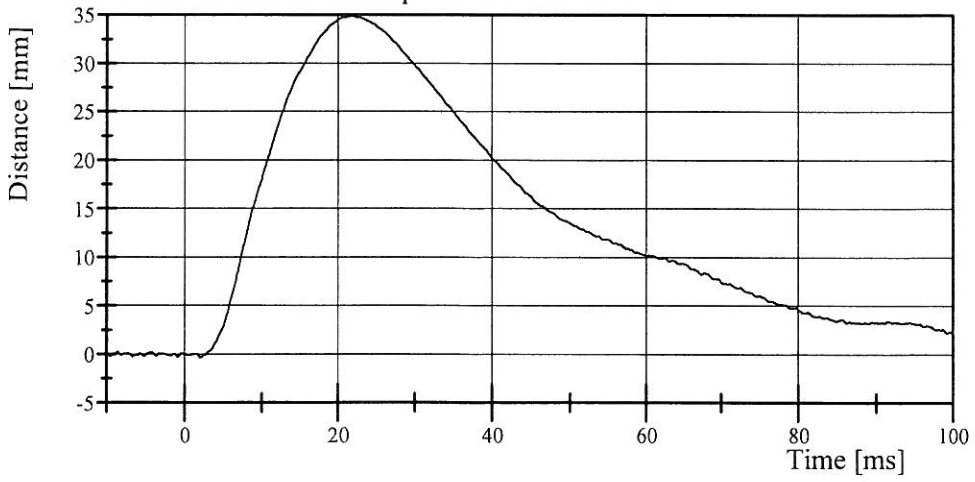
Left Lateral Abdomen
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-1
Test Date: 8/19/2008

Upper Abdominal Rib Displacement



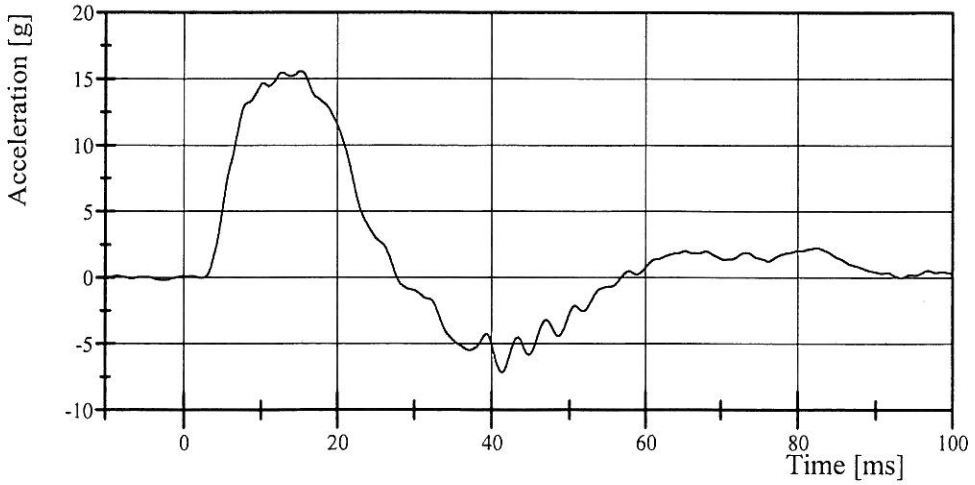
Filter Class: CFC_600
Max: 37.0 mm at 24.8 ms
Min: -0.1 mm at 0.4 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 34.9 mm at 21.9 ms
Min: -0.4 mm at 2.1 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 15.5 g at 15.2 ms
Min: -7.2 g at 41.4 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.19.2008 12:28:19 3987

080821

Transportation Research Center Inc.

Left Lateral Pelvis
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-4
Test Date: 8/20/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.76 m/s	Yes
Impactor Force	(-6,300) - (-7,800) N	-7,306.9 N	Yes
Pelvis Lateral Acceleration	41 - 51 g	39.0 g	No
Lower Spine Lateral Acceleration	10 - 14 g	13.5 g	Yes

Test does not meet specifications.

Comments:

Technician

Approved

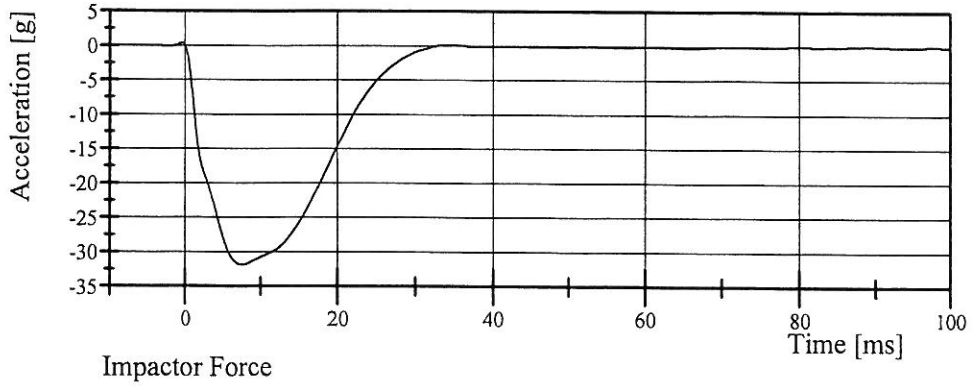
Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 07:52:12 3989

Transportation Research Center Inc.

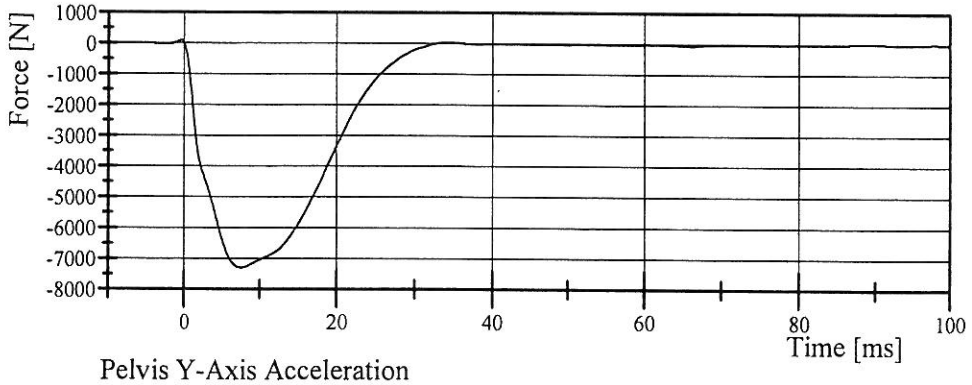
Left Lateral Pelvis
WorldSID ISO 15830-2 Serial No. 016 Certification No. 5-4
Test Date: 8/20/2008

Impactor Acceleration



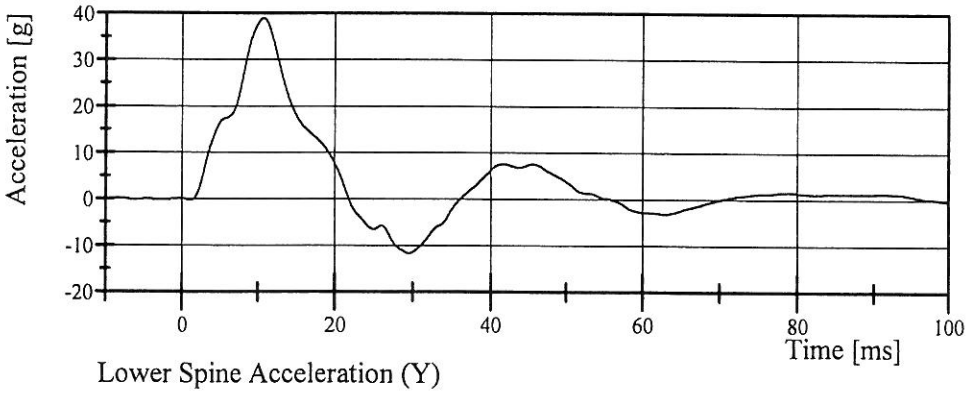
Filter Class: CFC_180
Max: 0.4 g at -0.4 ms
Min: -31.9 g at 7.6 ms

Impactor Force



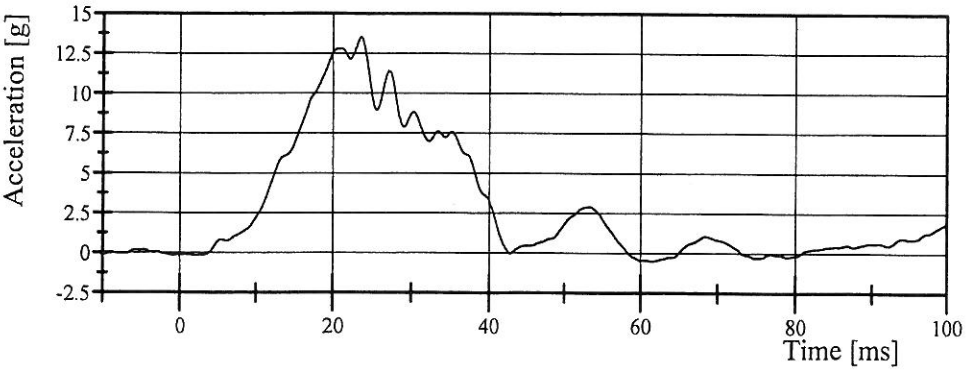
Filter Class: CFC_180
Max: 95.2 N at -0.4 ms
Min: -7,306.9 N at 7.6 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 39.0 g at 10.8 ms
Min: -11.7 g at 29.6 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 13.5 g at 23.6 ms
Min: -0.5 g at 61.5 ms

Specification Source: ISO 15830-2 dated 12/1/2005
with polarity in accordance with SAE J211

08.20.2008 07:52:35 3989

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

Lumbar load cells:	+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

Typical Test Measurements	Channel Class
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 080821

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
1	Trig D1	10ZERO000000VO0A	EVENT	1	Logic	Bipolar
2	P61297	16SILBFR0000ACXA	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME (#1)	400	g	Bipolar
3	P61299	16SILBFR0000ACYA	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME (#1)	1000	g	-Bipolar
4	P58614	16SILBFR0000ACZA	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME (#1)	400	g	Bipolar
5	P61321	16SILBRE0000ACXA	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME (#2)	400	g	Bipolar
6	P61341	16SILBRE0000ACYA	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME (#2)	1000	g	-Bipolar
7	P61286	16SILBRE0000ACZA	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME (#2)	400	g	-Bipolar
8	P61334	18FORA000000ACXA	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME (#3)	1000	g	Bipolar
9	P61267	18FORA000000ACYA	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME (#3)	1000	g	-Bipolar
10	P61308	18FORA000000ACZA	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME (#3)	1000	g	-Bipolar
11	P57824	14SILBFR0000ACYA	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME (#5)	1000	g	Bipolar
12	P61265	14SILBRE0000ACYA	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	1000	g	Bipolar
13	P61285	16VEHCRE0000ACYA	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME (#7)	1500	g	Bipolar
14	P61389	11APILLO0000ACYA	LEFT LOWER A-POST (Y) ACCELERATION VS TIME (#14)	1500	g	-Bipolar
15	P61378	11APILUP0000ACYA	LEFT UPPER A-POST (Y) ACCELERATION VS TIME (#15)	1500	g	-Bipolar
16	P57190	14BPILLO0000ACYA	LEFT LOWER B-POST (Y) ACCELERATION VS TIME (#12)	1500	g	-Bipolar
17	P61306	14BPILUP0000ACYA	LEFT UPPER B-POST (Y) ACCELERATION VS TIME (#13)	1500	g	-Bipolar
18	P58576	11SETRFR0000ACYA	LEFT FRONT SEAT TRACK (Y) ACCELERATION VS TIME (#16)	1500	g	Bipolar
19	p57808	14SETRRE0000ACYA	LEFT REAR SEAT TRACK (Y) ACCELERATION VS TIME	1500	g	Bipolar
20	P61282	10VEHCCG0000ACXA	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME (#18)	1000	g	Bipolar
21	P58569	10VEHCCG0000ACYA	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME (#18)	1000	g	-Bipolar
22	P61319	10VEHCCG0000ACZA	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME (#18)	1000	g	-Bipolar
23	P61390	10ENGNTP0000ACXA	Top of Engine X-axis Accel	2000	g	Bipolar
24	P61443	10ENGNTP0000ACYA	Top of Engine Y-axis Accel	2000	g	-Bipolar
25	P61429	102FIRCX0000ACXA	Center of Firewall X-axis Accel	2000	g	Bipolar
26	P61425	102FIRCX0000ACYA	Center of Firewall Y-axis Accel	2000	g	-Bipolar
27	P61439	10ROOFRI2100ACXA	Right Roof Rail in line with Impact X-Axis Accel	2000	g	Bipolar
28	P58105	10ROOFRI2100ACYA	Right Roof Rail in line with Impact Y-Axis Accel	2000	g	-Bipolar
29	P61434	11DOORMI0000ACYA	FRONT DOOR CENTERLINE (#6) Y-Axis Accel	2000	g	Bipolar
30	P61453	11DOORMIRE00ACYA	FRONT DOOR MID REAR (#8) Y-Axis Accel (J 4)	2000	g	Bipolar
31	p57816	11DOORUPMI00ACYA	FRONT DOOR UPPER CENTER (#9) Y-Axis Accel	2000	g	Bipolar
32	P58542	14DOORMIRE00ACYA	REAR DOOR MID REAR (#10) Y-Axis Accel (R 14)	2000	g	Bipolar
33	P61310	14DOORUPMI00ACYA	REAR DOOR UPPER CENTER (#11) Y-Axis Accel	2000	g	Bipolar
34	3419T-808	11SEBE0000B3FO0A	Driver Shoulder Belt Load Cell	15568	N	Bipolar
35	3419T-739	11SEBE0000B5FO0A	Driver Lap Belt Load Cell	15568	N	Bipolar
36	3419-829	14SEBE0000B3FO0A	Driver left rear Shoulder Belt Load Cell (S1504)	15568	N	Bipolar
37	3419-807	14SEBE0000B5FO0A	Driver left rear Lap Belt Load Cell	15568	N	Bipolar
38	ABFire1	10AIRBLE2200CU0A	Driver Side airbag (if equipped)	5	V	Bipolar

Channel Report Test Number 080821

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
39	ABFire2	10AIRBLE2300CU0A	Driver Curtain airbag (if equipped)	5	V	Bipolar
40	ABFire3	11PRET000000CU0A	ELR P/T DRIV	5	V	Bipolar
41	Bit.01	11HEAD000000VO0A	01 DUMMY HEAD CONTACT SWITCH (J)	1	Logic	Bipolar
42	Bit.02	11SHLD000000VO0A	01 DUMMY SHOULDER CONTACT SWITCH (K)	1	Logic	Bipolar
43	Bit.03	11TORS000000VO0A	01 DUMMY TORSO CONTACT SWITCH (T)	1	Logic	Bipolar
44	Bit.04	11LEGLE00000VO0A	01 DUMMY LEFT LEGS CONTACT SWITCH (F)	1	Logic	Bipolar
45	Bit.06	14HEAD000000VO0A	04 DUMMY HEAD CONTACT SWITCH (N)	1	Logic	Bipolar
46	Bit.07	14SHLD000000VO0A	04 DUMMY SHOULDER CONTACT SWITCH (H)	1	Logic	Bipolar
47	Bit.08	14TORS000000VO0A	04 DUMMY TORSO CONTACT SWITCH (A)	1	Logic	Bipolar
48	Bit.09	14LEGLE00000VO0A	04 DUMMY LEFT LEGS CONTACT SWITCH (I)	1	Logic	Bipolar
49	P59060	M0VEHCCG0000ACXA	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME (#1)	600	g	Bipolar
50	P44310	M0VEHCCG0000ACYA	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME(#1)	600	g	Bipolar
51	P59051	M0VEHCCG0000ACZA	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME(#1)	600	g	-Bipolar
52	P56432	M7FRAM000000ACXA	MDB REAR (X) ACCELERATION VS TIME (#2)	600	g	Bipolar
53	P57210	M7FRAM000000ACYA	MDB REAR (Y) ACCELERATION VS TIME (#2)	600	g	-Bipolar
54	P58023	M0FRAMLE0000ACXA	MDB L X	600	g	Bipolar
55	P57792	M0FRAMTP0000ACXA	MDB TOP X	600	g	Bipolar
56	P57827	M0FRAMRI0000ACXA	MDB R X	600	g	Bipolar
57	Bit.00	M3CONT000000VO00	MDB RIGHT CONTACT SWITCH	1	Logic	Bipolar
58	Bit.01	M1CONT000000VO00	MDB LEFT CONTACT SWITCH	1	Logic	Bipolar

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
1	16SILBFR0000ACXA	Right Side Sill at Front Seat X-Axis Acceleration	60	+	yes	400
1A	16SILBFR0000VEXA	Right Side Sill at Front Seat X-Axis Velocity	180			
1B	16SILBFR0000DCXA	Right Side Sill at Front Seat X-Axis Displacement	180			
2	16SILBFR0000ACYA	Right Side Sill at Front Seat Y-Axis Acceleration	60	+	yes	1000
2A	16SILBFR0000VEYA	Right Side Sill at Front Seat Y-Axis Velocity	180			
2B	16SILBFR0000DCYA	Right Side Sill at Front Seat Y-Axis Displacement	180			
3	16SILBFR0000ACZA	Right Side Sill at Front Seat Z-Axis Acceleration	60	+	yes	400
3A	16SILBFR0000ACRA	Right Side Sill at Front Seat Resultant Acceleration	60			
4	16SILBRE0000ACXA	Right Side Sill at Rear Seat X-Axis Acceleration	60	+	yes	400
4A	16SILBRE0000VEXA	Right Side Sill at Rear Seat X-Axis Velocity	180			
4B	16SILBRE0000DCXA	Right Side Sill at Rear Seat X-Axis Displacement	180			
5	16SILBRE0000ACYA	Right Side Sill at Rear Seat Y-Axis Acceleration	60	+	yes	1000
5A	16SILBRE0000VEYA	Right Side Sill at Rear Seat Y-Axis Velocity	180			
5B	16SILBRE0000DCYA	Right Side Sill at Rear Seat Y-Axis Displacement	180			
6	16SILBRE0000ACZA	Right Side Sill at Rear Seat Z-Axis Acceleration	60	+	yes	400
6A	16SILBRE0000ACRA	Right Side Sill at Rear Seat Resultant Acceleration	60			
7	18FORA000000ACXA	Rear Floorpan Above Axle X-Axis Acceleration	60	+	yes	1000
8	18FORA000000ACYA	Rear Floorpan Above Axle Y-Axis Acceleration	60	+	yes	1000
9	18FORA000000ACZA	Rear Floorpan Above Axle Z-Axis Acceleration	60	+	yes	1000
9A	18FORA000000ACRA	Rear Floorpan Above Axle Resultant Acceleration	60			
10	14SILBFR0000ACYA	Left Floor Sill at Front Seat Y-Axis Acceleration	60	+	yes	1000
10A	14SILBFR0000VEYA	Left Floor Sill at Front Seat Y-Axis Velocity	180			
10B	14SILBFR0000DCYA	Left Floor Sill at Front Seat Y-Axis Displacement	180			
11	14SILBRE0000ACYA	Left Floor Sill at Rear Seat Y-Axis Acceleration	60	+	yes	1000
11A	14SILBRE0000VEYA	Left Floor Sill at Rear Seat Y-Axis Velocity	180			
11B	14SILBRE0000DCYA	Left Floor Sill at Rear Seat Y-Axis Displacement	180			
12	16VEHCRE0000ACYA	Right Rear Occupant Compartment Y-Axis Acceleration	60	+	yes	1500
13	11APILLO0000ACYA	Left Lower A-Post Y-Axis Acceleration	60	+	yes	1500
14	11APILUP0000ACYA	Left Upper A-Post Y-Axis Acceleration	60	+	yes	1500
15	14BPILLO0000ACYA	Left Lower B-Post Y-Axis Acceleration	60	+	yes	1500
16	14BPILUP0000ACYA	Left Upper B-Post Y-Axis Acceleration	60	+	yes	1500
17	11SETRFR0000ACYA	Left Front Seat Track Y-Axis Acceleration	60	+	yes	1500
18	14SETRRE0000ACYA	Left Rear Seat Track Y-Axis Acceleration	60	+	yes	1500
19	10VEHCCG0000ACXA	Vehicle Center of Gravity X-Axis Acceleration	60	+	yes	1000
20	10VEHCCG0000ACYA	Vehicle Center of Gravity Y-Axis Acceleration	60	+	yes	1000
21	10VEHCCG0000ACZA	Vehicle Center of Gravity Z-Axis Acceleration	60	+	yes	1000
21A	10VEHCCG0000ACRA	Vehicle Center of Gravity Resultant Acceleration	60			
22	10ENGNTP0000ACXA	Top of Engine X-Axis Acceleration	60	+	yes	2000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
23	10ENGNTP0000ACYA	Top of Engine Y-Axis Acceleration	60	+	yes	2000
24	102FIRCX0000ACXA	Center Firewall X-Axis Acceleration	60	+	yes	2000
25	102FIRCX0000ACYA	Center Firewall Y-Axis Acceleration	60	+	yes	2000
26	10ROOFRI2100ACXA	Right Side Roof Rail X-Axis Acceleration	60	+	yes	2000
27	10ROOFRI2100ACYA	Right Side Roof Rail Y-Axis Acceleration	60	+	yes	2000
28	11DOORMI0000ACYA	Front Door Centerline Y-Axis Acceleration	60	+	yes	2000
29	11DOORMIRE00ACYA	Front Door Mid-Rear Y-Axis Acceleration	60	+	yes	2000
30	11DOORUPMI00ACYA	Front Door Upper Centerline Y-Axis Acceleration	60	+	yes	2000
31	14DOORMIRE00ACYA	Rear Door Mid-Rear Y-Axis Acceleration	60	+	yes	2000
32	14DOORUPMI00ACYA	Rear Door Upper Centerline Y-Axis Acceleration	60	+	yes	2000
33	10AIRBLE2200CU0A	Driver Side Airbag	1000	+	no	5
34	10AIRBLE2300CU0A	Driver Curtain Airbag	1000	+	no	5
35	11PRET000000CU0A	Driver ELR Pretensioner	1000	+	no	5
36	11HEAD000000VO0A	Driver Head Contact Switch	1000	+	no	1
37	11SHLD000000VO0A	Driver Shoulder Contact Switch	1000	+	no	1
38	11TORS000000VO0A	Driver Torso Contact Switch	1000	+	no	1
39	11LEGLE00000VO0A	Driver Leg Contact Switch	1000	+	no	1
40	14HEAD000000VO0A	Passenger Head Contact Switch	1000	+	no	1
41	14SHLD000000VO0A	Passenger Shoulder Contact Switch	1000	+	no	1
42	14TORS000000VO0A	Passenger Torso Contact Switch	1000	+	no	1
43	14LEGLE00000VO0A	Passenger Leg Contact Switch	1000	+	no	1
44	11SEBE0000B3FO0A	Driver Shoulder Belt Force	60	+	yes	15568
45	11SEBE0000B5FO0A	Driver Lap Belt Force	60	+	yes	15568
46	14SEBE0000B3FO0A	Passenger Shoulder Belt Force	60	+	yes	15568
47	14SEBE0000B5FO0A	Passenger Lap Belt Force	60	+	yes	15568
48	M7FRAM000000ACXA	MDB Rear X-Axis Acceleration	60	+	yes	600
49	M7FRAM000000ACYA	MDB Rear Y-Axis Acceleration	60	+	yes	600
50	M0VEHCCG0000ACXA	MDB Center of Gravity X-Axis Acceleration	60	+	yes	600
50A	M0VEHCCG0000VEXA	MDB Center of Gravity X-Axis Velocity	180			
51	M0VEHCCG0000ACYA	MDB Center of Gravity Y-Axis Acceleration	60	+	yes	600
51A	M0VEHCCG0000VEYA	MDB Center of Gravity Y-Axis Velocity	180			
52	M0VEHCCG0000ACZA	MDB Center of Gravity Z-Axis Acceleration	60	+	yes	600
52A	M0VEHCCG0000ACRA	MDB Center of Gravity Resultant Acceleration	60			
53	M1CONT000000VO00	MDB Left Contact Switch	0	+	no	1
54	M3CONT000000VO00	MDB Right Contact Switch	0	+	no	1
55	11HEADCG00WSACXA	Driver Head X-Axis Acceleration	1000	+	yes	2000
56	11HEADCG00WSACYA	Driver Head Y-Axis Acceleration	1000	+	yes	2000
57	11HEADCG00WSACZA	Driver Head Z-Axis Acceleration	1000	+	yes	2000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
57A	11HEADCG00WSACRA	Driver Head Resultant Acceleration	1000			
58	11HEADCG00WSANXA	Driver Head X-Axis Angular Displacement	1000	+	yes	50000
59	11HEADCG00WSANYA	Driver Head Y-Axis Angular Displacement	1000	+	yes	50000
60	11HEADCG00WSANZA	Driver Head Z-Axis Angular Displacement	1000	+	yes	50000
61	11NECKUP00WSFOXA	Driver Upper Neck X-Axis Force	1000	+	yes	10000
62	11NECKUP00WSFOYA	Driver Upper Neck Y-Axis Force	1000	+	yes	10000
63	11NECKUP00WSFOZA	Driver Upper Neck Z-Axis Force	1000	+	yes	12000
64	11NECKUP00WSMOXA	Driver Upper Neck Moment About X Axis	600	+	yes	300
65	11NECKUP00WSMOYA	Driver Upper Neck Moment About Y Axis	600	+	yes	300
66	11NECKUP00WSMOZA	Driver Upper Neck Moment About Z Axis	600	+	yes	200
67	11NECKLO00WSFOXA	Driver Lower Neck X-Axis Force	1000	+	yes	10000
68	11NECKLO00WSFOYA	Driver Lower Neck Y-Axis Force	1000	+	yes	10000
69	11NECKLO00WSFOZA	Driver Lower Neck Z-Axis Force	1000	+	yes	12000
70	11NECKLO00WSMOXA	Driver Lower Neck Moment About X Axis	600	+	yes	300
71	11NECKLO00WSMOYA	Driver Lower Neck Moment About Y Axis	600	+	yes	300
72	11NECKLO00WSMOZA	Driver Lower Neck Moment About Z Axis	600	+	yes	200
73	11SHLDLE00WSFOXA	Driver Shoulder X-Axis Force	600	+	yes	5000
74	11SHLDLE00WSFOYA	Driver Shoulder Y-Axis Force	600	+	yes	10000
75	11SHLDLE00WSFOZA	Driver Shoulder Z-Axis Force	600	+	yes	5000
76	11SHLDLE00WSDSYA	Driver Shoulder Y-Axis Displacement	600	+	yes	90
77	11SHLDLE00WSACXA	Driver Shoulder X-Axis Acceleration	1000	+	yes	2000
78	11SHLDLE00WSACYA	Driver Shoulder Y-Axis Acceleration	1000	+	yes	2000
79	11SHLDLE00WSACZA	Driver Shoulder Z-Axis Acceleration	1000	+	yes	2000
79A	11SHLDLE00WSACRA	Driver Shoulder Resultant Acceleration	1000			
80	11THSP0100WSACXA	Driver T1 X-Axis Acceleration	180	+	yes	2000
81	11THSP0100WSACYA	Driver T1 Y-Axis Acceleration	180	+	yes	2000
82	11THSP0100WSACZA	Driver T1 Z-Axis Acceleration	180	+	yes	2000
82A	11THSP0100WSACRA	Driver T1 Resultant Acceleration	180			
83	11THSP0400WSACXA	Driver T4 X-Axis Acceleration	180	+	yes	2000
84	11THSP0400WSACYA	Driver T4 Y-Axis Acceleration	180	+	yes	2000
85	11THSP0400WSACZA	Driver T4 Z-Axis Acceleration	180	+	yes	2000
85A	11THSP0400WSACRA	Driver T4 Resultant Acceleration	180			
86	11THSP1200WSACXA	Driver T12 X-Axis Acceleration	180	+	yes	2000
87	11THSP1200WSACYA	Driver T12 Y-Axis Acceleration	180	+	yes	2000
88	11THSP1200WSACZA	Driver T12 Z-Axis Acceleration	180	+	yes	2000
88A	11THSP1200WSACRA	Driver T12 Resultant Acceleration	180			
89	11TRRILE01WSDSYA	Driver Thorax Rib 1 Y-Axis Displacement	600	+	yes	90
90	11TRRILE01WSACXA	Driver Thorax Rib 1 X-Axis Acceleration	1000	+	yes	2000

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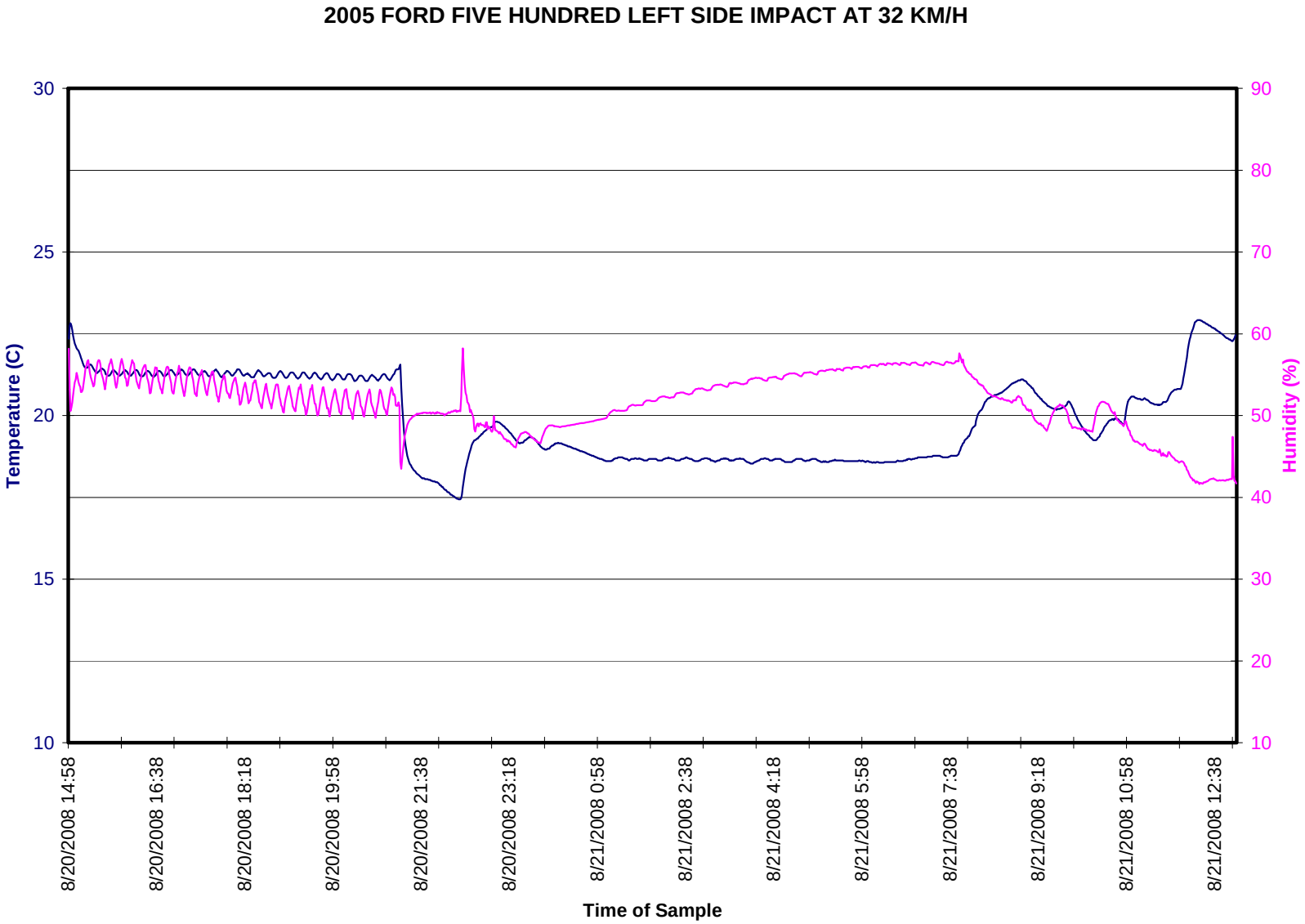
Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
91	11TRRILE01WSACYA	Driver Thorax Rib 1 Y-Axis Acceleration	1000	+	yes	2000
92	11TRRILE01WSACZA	Driver Thorax Rib 1 Z-Axis Acceleration	1000	+	yes	2000
92A	11TRRILE01WSACRA	Driver Thorax Rib 1 Resultant Acceleration	1000			
93	11TRRILE02WSDSYA	Driver Thorax Rib 2 Y-Axis Displacement	600	+	yes	90
94	11TRRILE02WSACXA	Driver Thorax Rib 2 X-Axis Acceleration	1000	+	yes	2000
95	11TRRILE02WSACYA	Driver Thorax Rib 2 Y-Axis Acceleration	1000	+	yes	2000
96	11TRRILE02WSACZA	Driver Thorax Rib 2 Z-Axis Acceleration	1000	+	yes	2000
96A	11TRRILE02WSACRA	Driver Thorax Rib 2 Resultant Acceleration	1000			
97	11TRRILE03WSDSYA	Driver Thorax Rib 3 Y-Axis Displacement	600	+	yes	90
98	11TRRILE03WSACXA	Driver Thorax Rib 3 X-Axis Acceleration	1000	+	yes	2000
99	11TRRILE03WSACYA	Driver Thorax Rib 3 Y-Axis Acceleration	1000	+	yes	2000
100	11TRRILE03WSACZA	Driver Thorax Rib 3 Z-Axis Acceleration	1000	+	yes	2000
100A	11TRRILE03WSACRA	Driver Thorax Rib 3 Resultant Acceleration	1000			
101	11ABRILE01WSDSYA	Driver Abdominal Rib 1 Y-Axis Displacement	600	+	yes	90
102	11ABRILE01WSACXA	Driver Abdominal Rib 1 X-Axis Acceleration	1000	+	yes	2000
103	11ABRILE01WSACYA	Driver Abdominal Rib 1 Y-Axis Acceleration	1000	+	yes	2000
104	11ABRILE01WSACZA	Driver Abdominal Rib 1 Z-Axis Acceleration	1000	+	yes	2000
104A	11ABRILE01WSACRA	Driver Abdominal Rib 1 Resultant Acceleration	1000			
105	11ABRILE02WSDSYA	Driver Abdominal Rib 2 Y-Axis Displacement	600	+	yes	90
106	11ABRILE02WSACXA	Driver Abdominal Rib 2 X-Axis Acceleration	1000	+	yes	2000
107	11ABRILE02WSACYA	Driver Abdominal Rib 2 Y-Axis Acceleration	1000	+	yes	2000
108	11ABRILE02WSACZA	Driver Abdominal Rib 2 Z-Axis Acceleration	1000	+	yes	2000
108A	11ABRILE02WSACRA	Driver Abdominal Rib 2 Resultant Acceleration	1000			
109	11LUSP0000WSFOXA	Driver Lumbar X-Axis Force	600	+	yes	10000
110	11LUSP0000WSFOYA	Driver Lumbar Y-Axis Force	600	+	yes	10000
111	11LUSP0000WSFOZA	Driver Lumbar Z-Axis Force	600	+	yes	12000
112	11LUSP0000WSMOXA	Driver Lumbar Moment About X Axis	600	+	yes	300
113	11LUSP0000WSMOYA	Driver Lumbar Moment About Y Axis	600	+	yes	300
114	11LUSP0000WSMOZA	Driver Lumbar Moment About Z Axis	600	+	yes	200
115	11PELVCG00WSACXA	Driver Pelvis X-Axis Acceleration	1000	+	yes	2000
116	11PELVCG00WSACYA	Driver Pelvis Y-Axis Acceleration	1000	+	yes	2000
117	11PELVCG00WSACZA	Driver Pelvis Z-Axis Acceleration	1000	+	yes	2000
117A	11PELVCG00WSACRA	Driver Pelvis Resultant Acceleration	1000			
118	11PUBC0000WSFOYA	Driver Pubic Y-Axis Force	600	+	yes	12000
119	14HEADCG00WSACXA	Passenger Head X-Axis Acceleration	1000	+	yes	2000
120	14HEADCG00WSACYA	Passenger Head Y-Axis Acceleration	1000	+	yes	2000
121	14HEADCG00WSACZA	Passenger Head Z-Axis Acceleration	1000	+	yes	2000
121A	14HEADCG00WSACRA	Passenger Head Resultant Acceleration	1000			

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
122	14HEADCG00WSANXA	Passenger Head X-Axis Angular Displacement	1000	+	yes	50000
123	14HEADCG00WSANYA	Passenger Head Y-Axis Angular Displacement	1000	+	yes	50000
124	14HEADCG00WSANZA	Passenger Head Z-Axis Angular Displacement	1000	+	yes	50000
125	14NECKUP00WSFOXA	Passenger Upper Neck X-Axis Force	1000	+	yes	10000
126	14NECKUP00WSFOYA	Passenger Upper Neck Y-Axis Force	1000	+	yes	10000
127	14NECKUP00WSFOZA	Passenger Upper Neck Z-Axis Force	1000	+	yes	12000
128	14NECKUP00WSMOXA	Passenger Upper Neck Moment About X Axis	600	+	yes	300
129	14NECKUP00WSMOYA	Passenger Upper Neck Moment About Y Axis	600	+	yes	300
130	14NECKUP00WSMOZA	Passenger Upper Neck Moment About Z Axis	600	+	yes	200
131	14NECKLO00WSFOXA	Passenger Lower Neck X-Axis Force	1000	+	yes	10000
132	14NECKLO00WSFOYA	Passenger Lower Neck Y-Axis Force	1000	+	yes	10000
133	14NECKLO00WSFOZA	Passenger Lower Neck Z-Axis Force	1000	+	yes	12000
134	14NECKLO00WSMOXA	Passenger Lower Neck Moment About X Axis	600	+	yes	300
135	14NECKLO00WSMOYA	Passenger Lower Neck Moment About Y Axis	600	+	yes	300
136	14NECKLO00WSMOZA	Passenger Lower Neck Moment About Z Axis	600	+	yes	200
137	14SHLDLE00WSFOXA	Passenger Shoulder X-Axis Force	600	+	yes	5000
138	14SHLDLE00WSFOYA	Passenger Shoulder Y-Axis Force	600	+	yes	10000
139	14SHLDLE00WSFOZA	Passenger Shoulder Z-Axis Force	600	+	yes	5000
140	14SHLDLE00WSDSYA	Passenger Shoulder Y-Axis Displacement	600	+	yes	90
141	14SHLDLE00WSACXA	Passenger Shoulder X-Axis Acceleration	1000	+	yes	2000
142	14SHLDLE00WSACYA	Passenger Shoulder Y-Axis Acceleration	1000	+	yes	2000
143	14SHLDLE00WSACZA	Passenger Shoulder Z-Axis Acceleration	1000	+	yes	2000
143A	14SHLDLE00WSACRA	Passenger Shoulder Resultant Acceleration	1000			
144	14THSP0100WSACXA	Passenger T1 X-Axis Acceleration	180	+	yes	2000
145	14THSP0100WSACYA	Passenger T1 Y-Axis Acceleration	180	+	yes	2000
146	14THSP0100WSACZA	Passenger T1 Z-Axis Acceleration	180	+	yes	2000
146A	14THSP0100WSACRA	Passenger T1 Resultant Acceleration	180			
147	14THSP0400WSACXA	Passenger T4 X-Axis Acceleration	180	+	yes	2000
148	14THSP0400WSACYA	Passenger T4 Y-Axis Acceleration	180	+	yes	2000
149	14THSP0400WSACZA	Passenger T4 Z-Axis Acceleration	180	+	yes	2000
149A	14THSP0400WSACRA	Passenger T4 Resultant Acceleration	180			
150	14THSP1200WSACXA	Passenger T12 X-Axis Acceleration	180	+	yes	2000
151	14THSP1200WSACYA	Passenger T12 Y-Axis Acceleration	180	+	yes	2000
152	14THSP1200WSACZA	Passenger T12 Z-Axis Acceleration	180	+	yes	2000
152A	14THSP1200WSACRA	Passenger T12 Resultant Acceleration	180			
153	14TRRILE01WSDSYA	Passenger Thorax Rib 1 Y-Axis Displacement	600	+	yes	90
154	14TRRILE01WSACXA	Passenger Thorax Rib 1 X-Axis Acceleration	1000	+	yes	2000
155	14TRRILE01WSACYA	Passenger Thorax Rib 1 Y-Axis Acceleration	1000	+	yes	2000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
156	14TRRILE01WSACZA	Passenger Thorax Rib 1 Z-Axis Acceleration	1000	+	yes	2000
156A	14TRRILE01WSACRA	Passenger Thorax Rib 1 Resultant Acceleration	1000			
157	14TRRILE02WSDSYA	Passenger Thorax Rib 2 Y-Axis Displacement	600	+	yes	90
158	14TRRILE02WSACXA	Passenger Thorax Rib 2 X-Axis Acceleration	1000	+	yes	2000
159	14TRRILE02WSACYA	Passenger Thorax Rib 2 Y-Axis Acceleration	1000	+	yes	2000
160	14TRRILE02WSACZA	Passenger Thorax Rib 2 Z-Axis Acceleration	1000	+	yes	2000
160A	14TRRILE02WSACRA	Passenger Thorax Rib 2 Resultant Acceleration	1000			
161	14TRRILE03WSDSYA	Passenger Thorax Rib 3 Y-Axis Displacement	600	+	yes	90
162	14TRRILE03WSACXA	Passenger Thorax Rib 3 X-Axis Acceleration	1000	+	yes	2000
163	14TRRILE03WSACYA	Passenger Thorax Rib 3 Y-Axis Acceleration	1000	+	yes	2000
164	14TRRILE03WSACZA	Passenger Thorax Rib 3 Z-Axis Acceleration	1000	+	yes	2000
164A	14TRRILE03WSACRA	Passenger Thorax Rib 3 Resultant Acceleration	1000			
165	14ABRILE01WSDSYA	Passenger Abdominal Rib 1 Y-Axis Displacement	600	+	yes	90
166	14ABRILE01WSACXA	Passenger Abdominal Rib 1 X-Axis Acceleration	1000	+	yes	2000
167	14ABRILE01WSACYA	Passenger Abdominal Rib 1 Y-Axis Acceleration	1000	+	yes	2000
168	14ABRILE01WSACZA	Passenger Abdominal Rib 1 Z-Axis Acceleration	1000	+	yes	2000
168A	14ABRILE01WSACRA	Passenger Abdominal Rib 1 Resultant Acceleration	1000			
169	14ABRILE02WSDSYA	Passenger Abdominal Rib 2 Y-Axis Displacement	600	+	yes	90
170	14ABRILE02WSACXA	Passenger Abdominal Rib 2 X-Axis Acceleration	1000	+	yes	2000
171	14ABRILE02WSACYA	Passenger Abdominal Rib 2 Y-Axis Acceleration	1000	+	yes	2000
172	14ABRILE02WSACZA	Passenger Abdominal Rib 2 Z-Axis Acceleration	1000	+	yes	2000
172A	14ABRILE02WSACRA	Passenger Abdominal Rib 2 Resultant Acceleration	1000			
173	14LUSP0000WSFOXA	Passenger Lumbar X-Axis Force	600	+	yes	10000
174	14LUSP0000WSFOYA	Passenger Lumbar Y-Axis Force	600	+	yes	10000
175	14LUSP0000WSFOZA	Passenger Lumbar Z-Axis Force	600	+	yes	12000
176	14LUSP0000WSMOXA	Passenger Lumbar Moment About X Axis	600	+	yes	300
177	14LUSP0000WSMOYA	Passenger Lumbar Moment About Y Axis	600	+	yes	300
178	14LUSP0000WSMOZA	Passenger Lumbar Moment About Z Axis	600	+	yes	200
179	14PELVCG00WSACXA	Passenger Pelvis X-Axis Acceleration	1000	+	yes	2000
180	14PELVCG00WSACYA	Passenger Pelvis Y-Axis Acceleration	1000	+	yes	2000
181	14PELVCG00WSACZA	Passenger Pelvis Z-Axis Acceleration	1000	+	yes	2000
181A	14PELVCG00WSACRA	Passenger Pelvis Resultant Acceleration	1000			
182	14PUBC0000WSFOYA	Passenger Pubic Y-Axis Force	600	+	yes	12000


2005 FORD FIVE HUNDRED LEFT SIDE IMPACT AT 32 KM/H
Temperature (C)
Humidity (%)
30
25
20
15
10
90
80
70
60
50
40
30
20
10
8/20/2008 14:58
8/20/2008 16:38
8/20/2008 18:18
8/20/2008 19:58
8/20/2008 21:38
8/20/2008 23:18
8/21/2008 0:58
8/21/2008 2:38
8/21/2008 4:18
8/21/2008 5:58
8/21/2008 7:38
8/21/2008 9:18
8/21/2008 10:58
8/21/2008 12:38
Time of Sample

CERTIFICATE OF CONFORMITY

Serial No. **13580** Certificate No. **37230**

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

Cellbond Composites Ltd
5 Stukeley Business Centre
Blackstone Road
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E. sales@cellbond.com
www.cellbond.com

	Test Results	GR No.	Blk No.
1	47542-8	13072	N/A
2	47308-8	13030	N/A

Declaration.

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

Additional Information...

Company Registration
England 1944904

Registered Office
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF

Cellbond Offices
United Kingdom
United States of America
Spain

CELLBOND

NHTSA / IIHS DEFORMABLE SIDE IMPACT BARRIER ALUMINIUM HONEYCOMB CERTIFICATION STATIC TEST RESULTS

MAIN BLOCK
Core: 1.6 3/8 5052

Required Crush Strength
42.5 PSI to 47.5 PSI

Test No: 47542-8

GR No: 13072
Block No: N/A

	Crush Strength (PSI)			
	0.25 to 0.38 inch	0.38 to 0.52 inch	0.52 to 0.65 inch	RESULT
Sample* 1	44.523	44.787	44.740	PASS
Sample 2	44.278	44.234	44.302	PASS
Sample 3	42.482	42.791	43.101	FAIL
Sample 4	44.168	43.044	44.208	PASS
Sample 5	44.463	43.940	43.844	PASS
Sample 6	44.516	44.160	44.102	PASS
Sample 7	43.298	43.694	43.015	PASS
Sample 8	44.815	44.905	45.238	PASS

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

*Sample size and location as per R94.

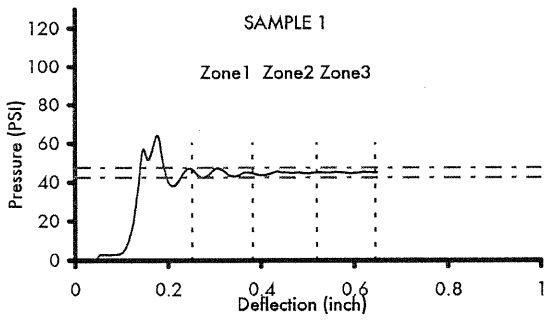
RESULT: PASSED

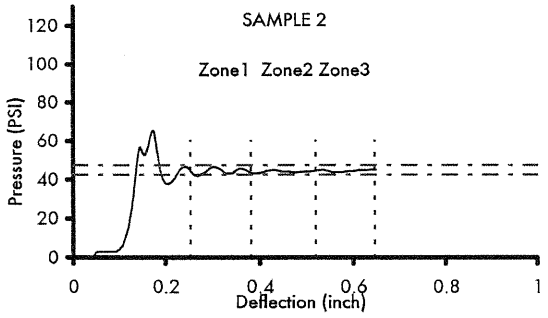
NHTSA / IIHS DEFORMABLE SIDE IMPACT BARRIER
MAIN BLOCK

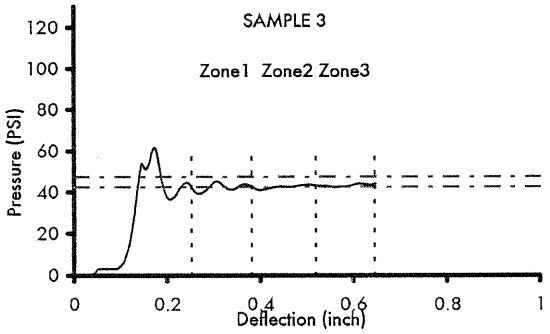
Honeycomb Type: 1.6 3/8 5052
Higher Acceptable Crush Strength Limit: 47.5 PSI
Lower Acceptable Crush Strength Limit:42.5 PSI

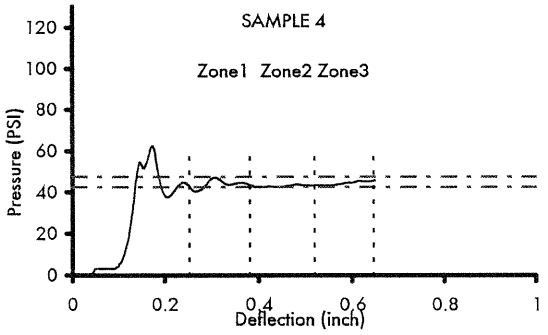
Section 1:	0.25 - 0.38 inch
Section 2:	0.38 - 0.52 inch
Section 3:	0.52 - 0.65 inch
Speed:	0.25 inch/min

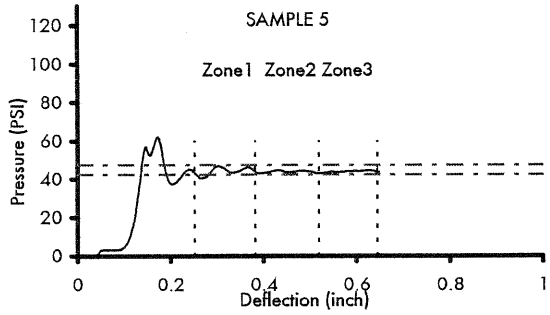
Test No: 47542-8 GR No: 13072 Block No: N/A

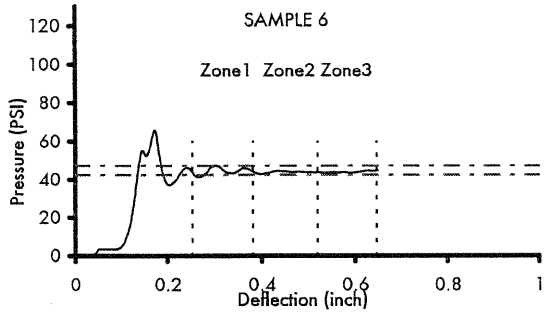


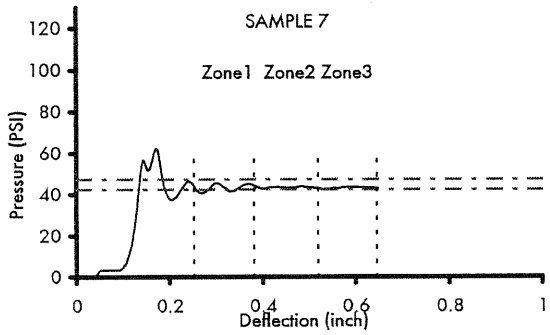


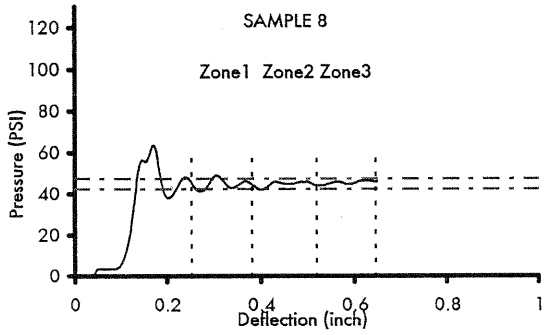












CELLBOND

NHTSA / IIHS DEFORMABLE SIDE IMPACT BARRIER ALUMINIUM HONEYCOMB CERTIFICATION STATIC TEST RESULTS

BUMPER
Core: 5.2 1/4 3003

Required Crush Strength
230 PSI to 260 PSI

Test No: 47308-8

GR No: 13030
Block No: N/A

	Crush Strength (PSI)			
	0.25 to 0.38	0.38 to 0.52	0.52 to 0.65	RESULT
Sample* 1	237.72	239.09	239.72	PASS
Sample 2	233.69	235.74	236.03	PASS
Sample 3	232.92	236.07	232.55	PASS
Sample 4	235.02	234.60	232.38	PASS
Sample 5	238.77	237.28	237.26	PASS
Sample 6	237.32	236.54	233.16	PASS
Sample 7	240.26	240.56	239.86	PASS
Sample 8	237.04	236.82	237.61	PASS

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

*Sample size and location as per R94.

RESULT: PASSED

NHTSA / IIHS DEFORMABLE SIDE IMPACT BARRIER
BUMPER

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

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

Test No: 47308-8 GR No: 13030 Block No: N/A

