

**Vehicle Research and Test Center
Left Crabbed Moving Barrier Impact
WorldSID
2010 Ford F-150 XL
TRC Inc. Test Number: 120628**

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**Prepared For
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TRC TEST NUMBER: 120628

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Report Approved July 22, 2013

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Section 1

Purpose and Test Procedure

Purpose

This moving deformable barrier side impact test is part of Federal Motor Vehicle Safety Standard 214 Side Impact Protection. It was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.). The purpose of this test was to refine the seating procedure for the 50th male WorldSID dummy and to begin to evaluate the performance of the post-FMVSS 214 fleet. The test was conducted in accordance with the National Highway Traffic Safety Administration's modified test procedures FMVSS 214/NCAP side impact moving deformable barrier (January, 2010) along with VRTC seating procedure for the WorldSID dummy.

Section 2

Side Impact Test Results

Summary of Side Impact Test

A 2010 Ford F-150 XL was impacted on the left side by a crabbed moving deformable barrier, at a velocity of 61.7 km/h (38.4 mph). The target vehicle was stationary and was positioned at an angle of 62.5° to the line of forward motion. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on June 28, 2012. Pre-test and post-test photographs of the test vehicle, the moving barrier, and the side impact dummy (WorldSID) are included in Appendix A.

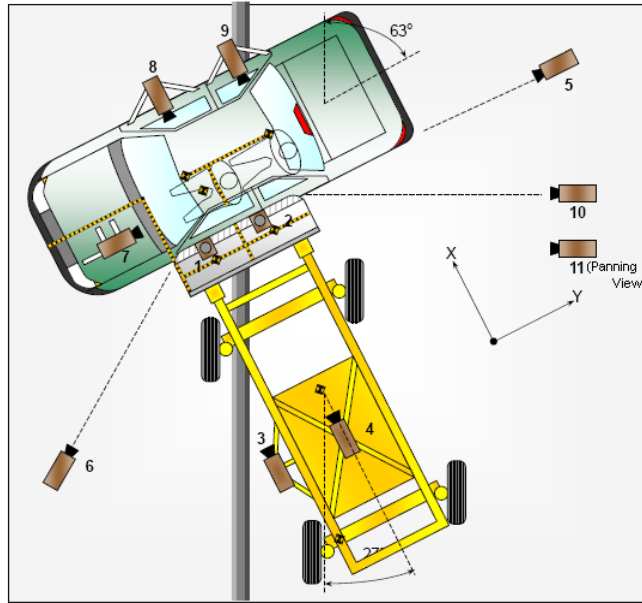
One restrained Side Impact Dummy (WorldSID) S/N 014, was placed in the driver (Position #1) designated seating position according to the instructions specified in the VRTC WorldSID Seating Procedures. The WorldSID was calibrated prior to this test. The side impact test was documented by one (1) real-time camera and eight (8) high-speed digital cameras. Camera locations and other pertinent camera information are included in this report.

The driver front airbag, passenger front airbag, and passenger side curtain and torso airbags were disabled prior to the test performance.

The WorldSID instrumentation is detailed in Table 4. Ninety (90) dummy channels of acceleration, force, moment, and displacement data were collected for this test.

A summary of the side impact dummy (WorldSID) configuration and verification test data can be found in Appendix C. A total of 134 channels of data were recorded. Appendix B contains the vehicle, barrier, and dummy response data traces.

Test Results Summary



	Front WorldSID (#014)
HIC36 (g) CFC 1000	54
Upper Rib Deflection (mm) CFC 600	See Table 4
Lower Rib Deflection (mm) CFC 600	See Table 4
Lower Spine Resultant (g) CFC 180	22.7 g
Pubic Symphysis Force (N) CFC 600	-599.5 N

	2010 Ford F-150 XL
Vehicle Test Weight	2436.8 kg (5372.2 lbs)
Impact Point (Horizontal) rearward of front axle	506 mm
Impact Angle	62.5
Maximum Crush	216 mm Level 1
Impact Speed	61.7 km/h

Data Acquisition Explanations

The Driver Lumber Moment about Z-axis transducer recorded no useful data throughout the test.

The Vehicle Center of Gravity (X) Roll Rate gyro exceeded full scale at 16 milliseconds.

The Vehicle Center of Gravity (Y) Pitch Rate gyro exceeded full scale at 11 milliseconds.

The Vehicle Center of Gravity (Z) Yaw Rate gyro exceeded full scale at 7 milliseconds.

The Vehicle At EDR (X) Roll Rate gyro exceeded full scale at 6 milliseconds.

The Vehicle At EDR (Y) Pitch Rate gyro exceeded full scale at 21 milliseconds.

The Vehicle At EDR (Z) Yaw Rate gyro exceeded full scale at 23 milliseconds.

The Rear Floorpan Above Rear Axle (Y) Pitch Rate gyro recorded invalid data after 25 milliseconds.

Section 3

Summary of Test Results

Table 1 General Test Vehicle Parameter Data

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

TEST VEHICLE INFORMATION

Make	Ford
Model	Pickup
Body Style	M.P.V.
VIN	1FTMF1CWAKC08799
Color	White
Odometer Reading	10,716
Transmission	Automatic
Final Drive	4-wheel drive
Number of Cylinders	8
Engine Displacement	4.6L
Engine Placement	V
Air Conditioning	Yes
Power Windows	No
Power Seats	No
Cruise Control	No
Tinted Glass	Yes
Keyless Entry	No

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes ¹
Driver Side Curtain Airbag	Yes
Driver Side Torso Airbag	Yes
Rear Passenger Side/Curtain Airbag	No
Rear Passenger Side Torso Airbag	No
Power Steering	Yes
Power Door Locks	No
Tilt Wheel	Yes
Anti-lock Brakes	Yes
Traction Control	No
Bucket Seats	No
Rear Defroster	No
2-Door/4-Door	2
AM/FM Radio	Yes
CD Player	No
Sun Roof	No
Telescoping Steering Wheel/Column	No

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Company
Date of Manufacture	05/10

GVWR (kg)	3062
GAWR Front (kg)	1497
GAWR Rear (kg)	1724

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Split Bench	None	None	
Number Of Occupants	3	0	0	3
Capacity Wt. (VCW) (kg)				838

¹ Airbags were disabled prior to the test performance

Table 1 General Test Vehicle Parameter Data, Continued

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

TEST VEHICLE WEIGHTS

	Units	As Delivered (Axle)			As Tested (ATW) (Axle)		
		Front	Rear	Total	Front	Rear	Total
Left	kg	641.2	484.2		664.8	552.6	
Right	kg	632.8	474.2		658.4	561.0	
Ratio	%	57.1	42.9		54.3	45.7	
Totals	kg	1274.0	958.4	2232.4	1323.2	1113.6	2436.8

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight	kg	1734.4
Weight of WorldSID ATD	kg	76.0
Rated Cargo/Luggage Weight (RCLW)	kg	634.0
Calculated Vehicle Target Weight (TVTW)	kg	2444.4

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
As Delivered	mm	914	905	982	986	1580
As Tested	mm	906	905	956	962	1682
Fully Loaded	mm	907	905	953	965	1694

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	3680
Total Vehicle Length at Left Side	mm	5720
Total Vehicle Length at Centerline	mm	5880
Total Vehicle Length at Right Side	mm	5720
Weight of Ballast	kg	78.5
Amount of Stoddard Solvent in Fuel Tank	liters	91.6

TEST VEHICLE IMPACT ACCURACY DATA

Measurement Description	Units	Intended	Actual	Difference
Impact Reference Line From Front Axle	mm	508	506	2 left
Impact Point Angle	Degrees	63	62.5	0.5

Table 1 General Test Vehicle Parameter Data, Continued

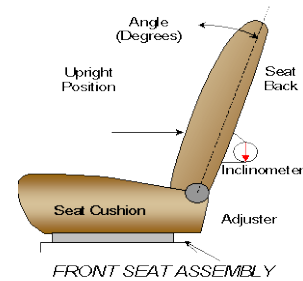
Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

WORLDSID RIDING POSITION

The driver seat back is positioned according to the procedure defined in SAE J826, “Devices for use in Defining and Measuring Vehicle Seating Accommodation”, November, 2008.

Driver seat back angle: The back was adjusted to 23.0° as measured at torso angle with Oscar.

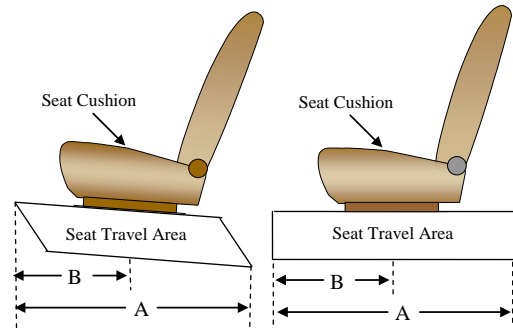


SEAT FORE/AFT POSITIONS

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 the driver. The rear seating position was not tested.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	58 notches	32 notches
Rear Seat	N/A	N/A



SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	4	1
Rear Seat	N/A	N/A

Position number one is the uppermost adjustment position.

Table 1 General Test Vehicle Parameter Data, Continued

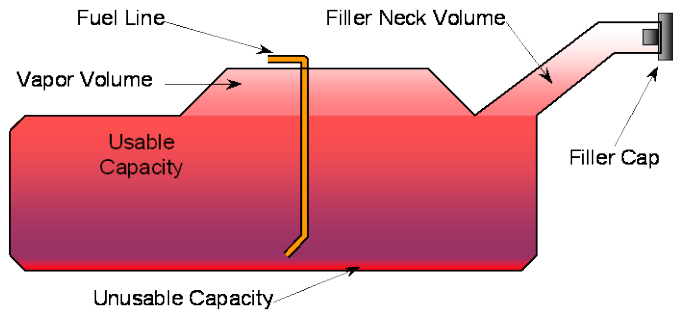
Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

FUEL TANK CAPACITY

	Liters
Usable Capacity of “Standard Tank”	98.4
Usable Capacity used for FMVSS 301	90.5-92.5
Actual Amount of Solvent used	91.6

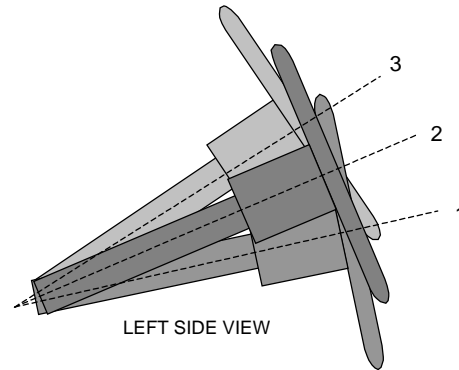
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the “ON” position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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

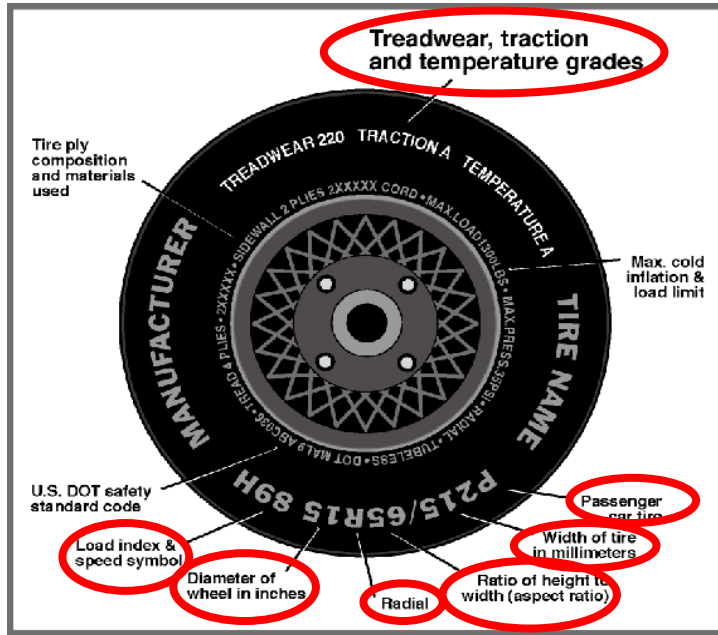
Steering Column Tilt Position	Degrees
Lowermost Position	58
Geometric Center Position	69
Uppermost Position	80

Steering Column Telescoping Position	(mm)
Full In Position	No feature
Full Out Position	No feature
Test Position	No feature

Table 2 Test Vehicle Tire Information

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	240	240
Cold / Test Pressure (kPa)	240	240
Recommended Tire Size	P235/75R17	P235/75R17
Tire Size on Vehicle	P235/75R17	P235/75R17
Tire Manufacturer	Hankook	Hankook
Tire Name	Dyna Pro A/T	Dyna Pro A/T
Radial	Yes	Yes
Wheel Diameter	17	17
Load Index & Speed Symbol	108S	108S
Tread wear	460	460
Traction Grade	B	B
Temperature Grade	A	A

Table 3 Post-Test Observations

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat WorldSID
Dummy Type / Serial No.	WorldSID / 014
Head Contact	Side header, curtain airbag
Upper Torso Contact	None
Lower Torso Contact	None
Left Knee Contact	None
Right Knee Contact	None

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Locked/Unlocked Doors	Unlocked	No feature
Left Side Door Opening	Jammed and latched	No feature
Right Side Door Opening	Closed and latched	No feature
Seat Movement	None	No feature
Seat Back Failure	None	No feature

POST-TEST STRUCTURAL OBSERVATIONS

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

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Left Front (Driver) Occupant Location 01	
	Installed	Operation
Front Airbag	Yes	No ¹
Torso Airbag	Yes	Yes
Head Airbag	No	N/A
Curtain Airbag	Yes	Yes
Seat Belt Pre-tensioner	Yes	Unknown
Seat Belt Load Limiter	No	N/A

¹ The driver front airbag was disabled for this test.

Section 4

Occupant, Vehicle and MDB Information

Table 4 WorldSID Instrumentation Data

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)	X	12.7	198.2	-8.0	73.5
	Y	20.0	52.8	-2.4	187.5
	Z	12.9	61.4	-10.1	30.7
	R	23.2	61.8	---	---
Head Rotational Acceleration (rad/sec ²)	X	122.3	-4.8	-165.7	104.6
	Y	36.9	43.4	-34.0	166.9
	Z	83.9	291.0	-62.0	233.0
Upper Neck Force (N)	X	253.8	199.5	-295.8	128.1
	Y	39.9	15.5	-438.1	62.1
	Z	260.3	182.8	-534.0	66.8
Upper Neck Moment (N-m)	X	8.9	141.0	-13.9	99.2
	Y	30.1	102.1	-33.0	72.3
	Z	17.4	69.2	-2.9	145.7
Lower Neck Force (N)	X	274.9	198.1	-434.0	74.2
	Y	94.0	69.1	-153.9	86.4
	Z	206.1	181.8	-498.2	29.5
Lower Neck Moment (N-m)	X	5.8	129.4	-43.5	59.0
	Y	63.1	127.0	-61.1	197.4
	Z	17.2	79.9	-8.6	198.6
Shoulder Force (N)	X	186.7	12.1	-179.2	12.4
	Y	131.3	12.1	-126.3	12.4
	Z	348.1	12.2	-152.6	12.9
Shoulder Displacement (mm)	Y	405.4	12.1		
Shoulder Acceleration (g)	X	122.3	-4.8	-165.7	104.6
	Y	36.9	43.4	-34.0	166.9
	Z	83.9	291.0	-62.0	233.0
	R	253.8	199.5	---	---

Table 4 WorldSID Instrumentation Data, Continued

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
T1 Acceleration (g)	X	6.0	49.8	-13.4	69.4
	Y	21.7	57.2	-9.8	15.4
	Z	6.5	30.2	-17.5	67.0
	R	26.6	69.1	---	---
T4 Acceleration (g)	X	3.5	153.0	-9.0	69.3
	Y	17.6	57.4	-7.2	129.1
	Z	17.9	67.5	-6.6	31.3
	R	22.7	67.8	---	---
T12 Acceleration (g)	X	3.6	72.5	-9.2	18.1
	Y	24.7	31.8	-4.6	201.6
	Z	15.5	67.2	-7.8	31.8
	R	25.9	31.8	---	---
Thorax Rib 1 Acceleration (g)	X	22.5	27.4	-34.1	15.3
	Y	38.6	17.0	-32.7	13.1
	Z	10.5	49.8	-18.6	13.3
	R	42.4	17.0	---	---
Thorax Rib 1 Displacement (mm)	Y	1.2	175.6	-2.8	50.2
Thorax Rib 2 Acceleration (g)	X	34.2	13.9	-31.4	16.4
	Y	30.1	20.6	-13.2	26.0
	Z	15.7	26.4	-18.2	16.6
	R	41.8	20.7	---	---
Thorax Rib 2 Displacement (mm)	Y	1.9	27.0	-3.1	52.2
Thorax Rib 3 Acceleration (g)	X	18.4	18.0	-17.8	21.5
	Y	51.4	16.7	-28.1	19.1
	Z	15.0	25.1	-22.4	16.1
	R	54.2	16.7	---	---
Thorax Rib 3 Displacement (mm)	Y	3.3	28.3	-2.2	52.3

Table 4 WorldSID Instrumentation Data, Continued

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Abdominal Rib 1 Acceleration (g)	X	27.0	18.2	-28.5	26.8
	Y	52.9	16.3	-25.2	18.2
	Z	21.6	23.2	-27.8	16.6
	R	58.3	16.3	---	---
Abdominal Rib 1 Displacement (mm)	Y	6.0	31.3	-1.6	185.4
Abdominal Rib 2 Acceleration (g)	X	42.1	13.4	-35.0	15.2
	Y	68.0	15.4	-29.8	18.0
	Z	28.5	34.7	-38.9	15.9
	R	75.9	15.3	---	---
Abdominal Rib 2 Displacement (mm)	Y	11.3	33.9	-2.4	104.5
Lumbar Force (N)	X	306.1	125.6	-246.9	56.9
	Y	856.2	32.5	-96.0	140.7
	Z	904.3	71.3	-1503.8	33.1
Lumbar Moment (N-m) ¹	X	88.9	37.7	-7.6	138.8
	Y	17.5	30.8	-4.2	138.6
	Z	0.0	155.8	0.0	-2.5
Pelvis Acceleration (g)	X	7.7	26.5	-12.0	58.9
	Y	31.9	30.4	-6.7	100.8
	Z	5.4	53.0	-11.4	30.6
	R	33.9	30.5	---	---
Sacro-Iliac Left Force (N)	X	159.0	206.9	-344.8	35.8
	Y	42.5	194.9	-1542.1	32.5
	Z	1104.5	31.8	-293.5	64.9

¹ See Data Acquisition Explanations

Table 4 WorldSID Instrumentation Data, Continued

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Driver Dummy Serial Number: 014

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Sacro-Iliac Left Moment (N-m)	X	15.8	71.4	-162.8	32.2
	Y	10.6	134.2	-12.3	55.8
	Z	29.9	32.1	-5.0	124.5
Sacro-Iliac Right Force (N)	X	157.4	124.8	-305.9	58.8
	Y	142.1	91.4	-523.8	31.2
	Z	628.9	71.4	-355.9	25.0
Sacro-Iliac Right Moment (N-m)	X	46.9	71.4	-63.4	24.9
	Y	13.4	23.0	-0.1	5.5
	Z	29.9	57.1	-13.3	125.9
Pubic Force (N)	Y	56.5	139.4	-599.1	28.4
Left Mid Femur Force (N)	X	57.9	86.1	-306.5	29.7
	Y	24.0	210.0	-451.7	31.4
	Z	678.3	32.5	-278.8	85.3
Left Mid Femur Moment (N-m)	X	85.9	27.8	-5.1	207.0
	Y	8.7	72.1	-79.8	18.6
	Z	0.1	7.1	-45.5	29.6
Left Femoral Neck Force (N)	X	11.1	12.6	-815.4	30.3
	Y	389.2	45.8	-599.7	25.9
	Z	151.8	209.9	-939.9	31.4
Left Knee Outboard Force (N)	Y	73.3	53.0	-253.5	32.7
Left Knee Inboard Force (N)	Y	111.7	34.1	-131.8	16.6
Right Femoral Neck Force (N)	X	592.7	31.5	-238.2	87.4
	Y	298.9	65.2	-102.9	96.8
	Z	672.4	70.3	-260.1	58.2

Positive Direction

Longitudinal: Forward
 Lateral: Rightward
 Vertical: Downward

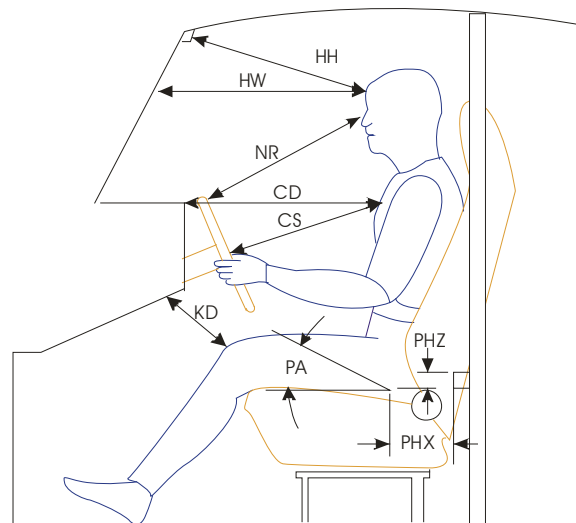
Negative Direction

Longitudinal: Rearward
 Lateral: Leftward
 Vertical: Upward

Figure 1 WorldSID Longitudinal Clearance Dimensions

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



Left Side View

Measurement	Measurement Description	Driver WorldSID #014	
		Length (mm)	Angle
HH	Header to Header	546	
HW	Header to Windshield	830	
HZ	Head to Roof Liner	281	
NR	Nose to Rim/Seat Back	543	
CD	Chest to Dash/Seat Back	708	
CS	Chest to Steering Wheel	469	
KD(L)/KDA(L) [°]	Left Knee to Dash/Seat Back	157	13.4
KD(R)/KDA(R) [°]	Right Knee to Dash/Seat Back	146	11.7
PAX [°]	Pelvic Tilt Angle X		0.2
PAY [°]	Pelvic Tilt Angle Y		3.0
PHX	Hip Point to Striker (X-Axis)	354	
PHZ	Hip Point to Striker (Z-Axis)	38	
HAX [°]	Head Tilt Angle X		-2.5
HAY ^{1°}	Head Tilt Angle Y		0.8
TAX [°]	Thorax Tilt Angle X		-1.4
TAY [°]	Thorax Tilt Angle Y		0.3

Note: All measurements are in millimeters.

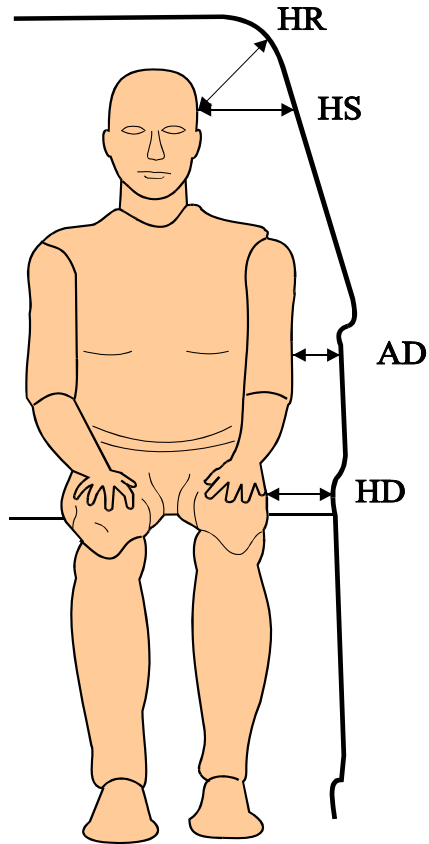
¹NR was measured from bridge of nose

²Measurements not recorded.

Figure 2 WorldSID Lateral Clearance Dimensions

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



Measurement	Driver WorldSID # 014
HR	255
HS	397
AD	Lower: 233 Upper: 168
HD	110

Note: All measurements are in millimeters.

Table 5 WorldSID Position Relative to Striker

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Driver Dummy Serial Number: 014

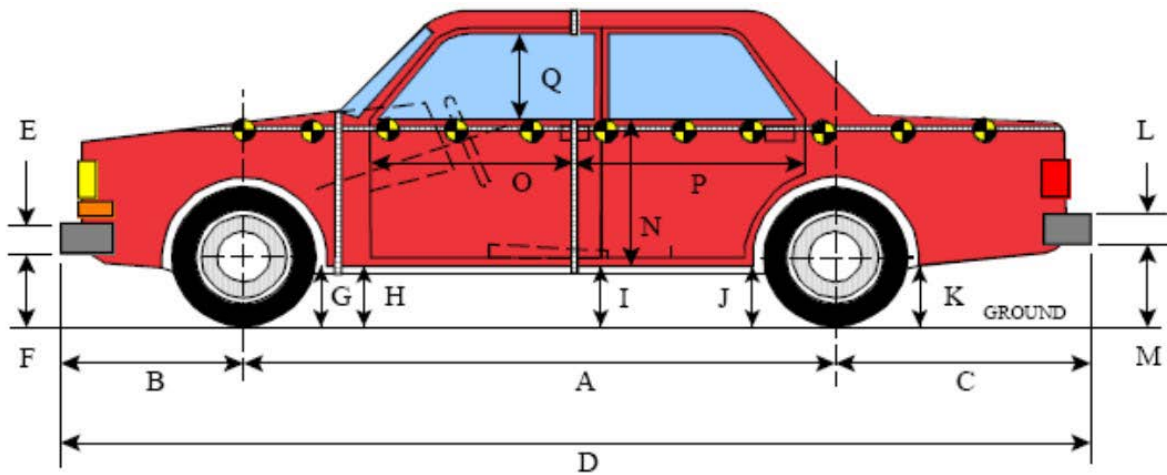
Location	Longitudinal X (mm)	Vertical Z (mm)
M_HEAD CG	3282	1032
M_H POINT	3467	-372
M_KNEE	3895	-483
M_ANKLE	4132	-144
M_RIB 1	3338	-812
M_RIB 2	3376	-736
M_RIB 3	3416	-673
M_RIB 4	3437	-623
M_RIB 5	3456	-568
M_RIB 6	3476	-526

Note: All measurements are in millimeters.
Positive values are forward and down relative to the striker.

Figure 3 Vehicle Pre-Test And Post-Test Measurements

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



Left Side View

Note: Measurements were achieved by using a tape measure.

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	3680	3680	3630	50
B	970	970	1000	-30
C	1230	1230	1225	5
D	5880	5880	5871	9
E	230	230	230	0
F	394	392	415	-23
G	362	362	365	-3
G1	442	433	454	-21
H	446	434	477	-43
I	482	467	530	-63
J1	423	400	475	-75
J2	492	468	535	-67
K	547	516	598	-82
L	142	142	142	0
M	558	525	607	-82
N	N/A	N/A	N/A	N/A
O	741	741	747	-6
P	N/A	N/A	N/A	N/A
Q	490	490	497	-7
R	5720	5720	5735	-15
S	5720	5720	5710	10
T	1570	1570	1565	5

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 6 Vehicle Structural Measurements^{1,2}

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

	Elements	Pre-Test
1	Total Length	5880
2	Total Width	2000
3	Bumper Top Height	617
4	Bumper Bottom Height	362
5	Longitudinal Member Top Height	552
6	Longitudinal Member Bottom Height	395
7	Distance Between Longitudinal Members	927
7'	Longitudinal Member Width	115
8	Engine Top Height	1052
9	Engine Bottom Height	271
10	Engine and Gearbox Width	660
11	Front Bumper - Engine Distance	820
12	Front Shock Absorber Fixing Height	802
13	Bonnet Leading Edge Height	1158
14	Front Shock Absorber Fixing Width	930
15	Front Bumper - Front Axle Distance	N/A
16	Front Axle - A Pillar Distance	650
17	A Pillar - B Pillar Distance	1200
18	B Pillar - Rear Axle Distance	1820
19	B Pillar - C Pillar Distance	N/A
20	Roof Sill Bottom Height	1675
21	Roof Sill Top Height	1750
22	Floor Sill Bottom Height	502
23	Floor Sill Top Height	521

All distance measurements are in millimeters and achieved by using a tape measure.

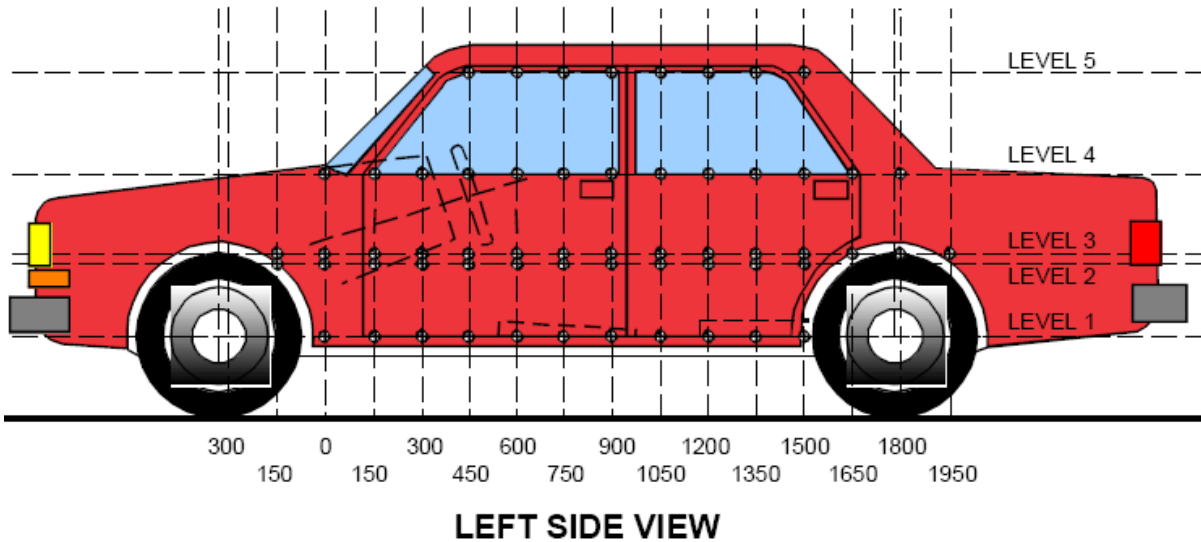
¹ Taken from INSIA report, “Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body”, March 1999.

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

Figure 4 Vehicle Side Measurements

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Crush	Distance from Impact
5	Window Top	1843	4	1206
4	Window Sill	1195	-135	2400
3	Mid Door	853	175	900
2	Occupant H-Point	906	-159	2700
1	Side Sill	517	216	1350

Note: Measurements were taken using a FARO arm at crush grid zero vertical line. Measurements are taken when the vehicle is in the “As Tested” configuration. Measurements forward of the vehicle impact reference line are negative. All measurements are in mm.

Table 7 Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2010 Ford F-150 XL

Location	Height		(mm) From Impact Point														
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	
Level 1 Side Sill	517	Pre										941	945	949	951	953	955
		Post										837	765	749	751	762	760
		Crush										104	180	200	200	191	195
Level 2 H-Point	906	Pre								978	969	959	962	966	969	973	975
		Post								930	916	903	875	860	850	843	838
		Crush								48	53	56	87	106	119	130	137
Level 3 Mid-Door	853	Pre								977	957	959	963	967	969	972	
		Post								917	894	852	830	821	813	809	
		Crush								60	63	107	133	146	156	163	
Level 4 Window Sill	1195	Pre								919	931	940	945	950	955	959	963
		Post								908	916	921	949	950	954	964	970
		Crush								11	15	19	-4	0	1	-5	-7
Level 5 Window Top	1843	Pre															
		Post															
		Crush															

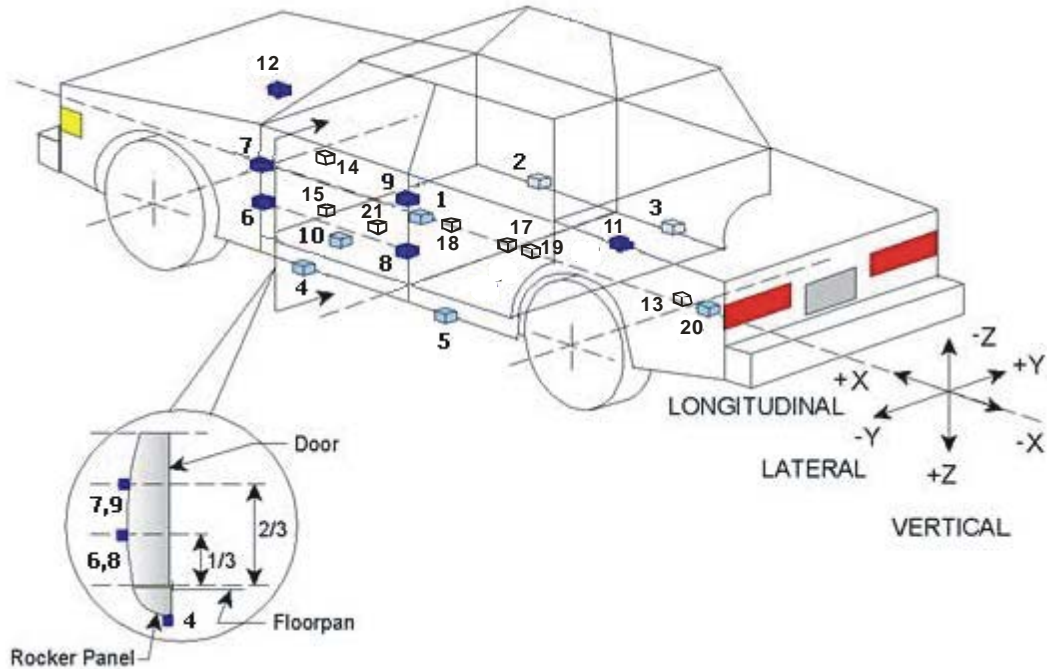
Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	517	Pre	956	958	959	960	958	952	954	954	955	955	955	955	
		Post	756	751	746	744	742	762	879	973	1066	1089	1104	1118	
		Crush	200	207	213	216	216	190	75	-19	-111	-134	-149	-163	
Level 2 H-Point	906	Pre	977	977	978	978	977	967	970	971	972	971	971	969	983
		Post	835	828	830	867	867	970	981	993	1043	1105	1135	1127	1142
		Crush	142	149	148	111	110	-3	-11	-22	-71	-134	-164	-158	-159
Level 3 Mid-Door	853	Pre	974	976	977	977	975	965	968	970	972	974	974	974	989
		Post	805	801	810	824	861	943	973	982	1044	1106	1139	1132	1151
		Crush	169	175	167	153	114	22	-5	-12	-72	-132	-165	-158	-162
Level 4 Window Sill	1195	Pre	967	970	973	973	972	963	964	966	967	968	968	969	969
		Post	971	970	966	959	933	1017	1044	1068	1083	1095	1103	1104	1098
		Crush	-4	0	7	14	39	-54	-80	-102	-116	-127	-135	-135	-129
Level 5 Window Top	1843	Pre			692	697	695								
		Post			688	694	692								
		Crush			4	3	3								

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

Figure 5 Test Vehicle Accelerometer Locations and Data Summary

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



- 1-Vehicle CG
- 2-Right Side Sill Front
- 3-Right Side Sill Rear
- 4-Left Side Sill Front
- 5-Left Side Sill Rear
- 6-Left Side Lower A-Pillar
- 7-Left Side Middle A-Pillar
- 8-Left Side Lower B-Pillar
- 9-Left Side Middle B-Pillar
- 10-Left Front Seat Track
- 11-Right Rear Occupant Compartment
- 12-Engine Block

- 13-Rear Floorpan
- 14-Left Front Door Upper Centerline
- 15-Left Front Door Mid Centerline
- 16-Left Front Door Mid Rear
- 17-Vehicle at EDR¹
- 18-Vehicle CG Gyros
- 19-Vehicle at EDR Gyros¹
- 20-Rear Floorpan Gyros

¹Location of accelerometer may change depending on vehicle EDR location.

Table 8 Test Vehicle Transducer Locations and Data Summary

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
1	Vehicle CG	3400	-60	645				
	Longitudinal (g)				6.3	25.4	-10.9	5.3
	Lateral (g)				30.9	5.4	-11.8	58.1
	Vertical (g)				11.1	21.6	-21.7	18.6
	Resultant				34.3	5.0		
2	Right Side Sill Front	4090	730	540				
	Longitudinal (g)				8.0	22.1	-11.3	64.6
	Lateral (g)				22.9	8.3	-3.8	60.2
	Vertical (g)				11.4	30.6	-23.8	8.1
	Resultant				33.1	8.1		
3	Right Side Sill Rear	3400	720	577				
	Longitudinal (g)				7.8	21.1	-10.2	64.6
	Lateral (g)				30.3	14.9	-9.4	58.9
	Vertical (g)				10.9	73.0	-27.7	20.9
	Resultant				33.3	21.0		
4	Left Side Sill Front	4065	-730	535				
	Lateral (g)				65.4	14.2	-28.8	8.3
5	Left Side Sill Rear	3392	-715	571				
	Lateral (g)				82.1	15.0	-20.9	21.8
6	Left Side Lower A-Pillar	4505	-890	718				
	Lateral (g)				135.8	3.3	-64.1	15.1
7	Left Side Middle A-Pillar	4516	-890	1129				
	Lateral (g)				35.4	4.5	-2.8	-0.6
8	Left Side Lower B-Pillar ¹	3357	-855	690				
	Lateral (g)				199.4	3.6	-46.1	22.6
9	Left Side Middle B-Pillar	3345	-850	1115				
	Lateral (g)				87.0	4.2	-15.1	28.5
10	Front Seat Track	3670	-730	560				
	Lateral (g)				69.4	4.4	-35.6	17.0
11	Right Rear Occupant Compartment	3230	563	749				
	Lateral (g)				31.4	5.4	-12.7	58.2

Table 8 Test Vehicle Transducer Locations and Data Summary, Continued

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
12	Engine Block	5065	353	902				
	Longitudinal (g)				5.9	18.6	-9.8	45.7
	Lateral (g)				20.1	45.6	-9.1	125.5
13	Rear Floorpan	1485	0	837				
	Longitudinal (g)				3.2	41.0	-8.5	34.4
	Lateral (g)				14.8	30.6	-3.1	258.5
	Vertical (g)				17.8	73.8	-16.2	39.1
	Resultant				19.9	73.8		
14	Left Front Door Upper Centerline	3895	-880	1179				
	Lateral (g)				109.2	19.0	-71.7	27.8
15	Left Front Door Mid Centerline	3948	-880	870				
	Lateral (g)				168.3	10.3	-101.7	23.0
16	Left Front Door Mid Rear	3445	-880	870				
	Lateral (g)				126.9	3.8	-39.8	28.4
17	Vehicle at EDR	3765	35	660				
	Longitudinal (g)				3.2	41.0	-8.5	34.4
	Lateral (g)				14.8	30.6	-3.1	258.5
	Vertical (g)				17.8	73.8	-16.2	39.1
	Resultant				19.9	73.8		
18	Vehicle CG	3400	60	645				
	Roll (°/sec) ¹				3.2	41.0	-8.5	34.4
	Pitch (°/sec) ¹				14.8	30.6	-3.1	258.5
	Yaw (°/sec) ¹				17.8	73.8	-16.2	39.1
19	Vehicle at EDR	3765	-25	660				
	Roll (°/sec) ¹				3.2	41.0	-8.5	34.4
	Pitch (°/sec) ¹				14.8	30.6	-3.1	258.5
	Yaw (°/sec) ¹				17.8	73.8	-16.2	39.1
20	Rear Floorpan	1450	0	837				
	Roll (°/sec)				3.2	41.0	-8.5	34.4
	Pitch (°/sec) ¹				14.8	30.6	-3.1	258.5
	Yaw (°/sec)				17.8	73.8	-16.2	39.1

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

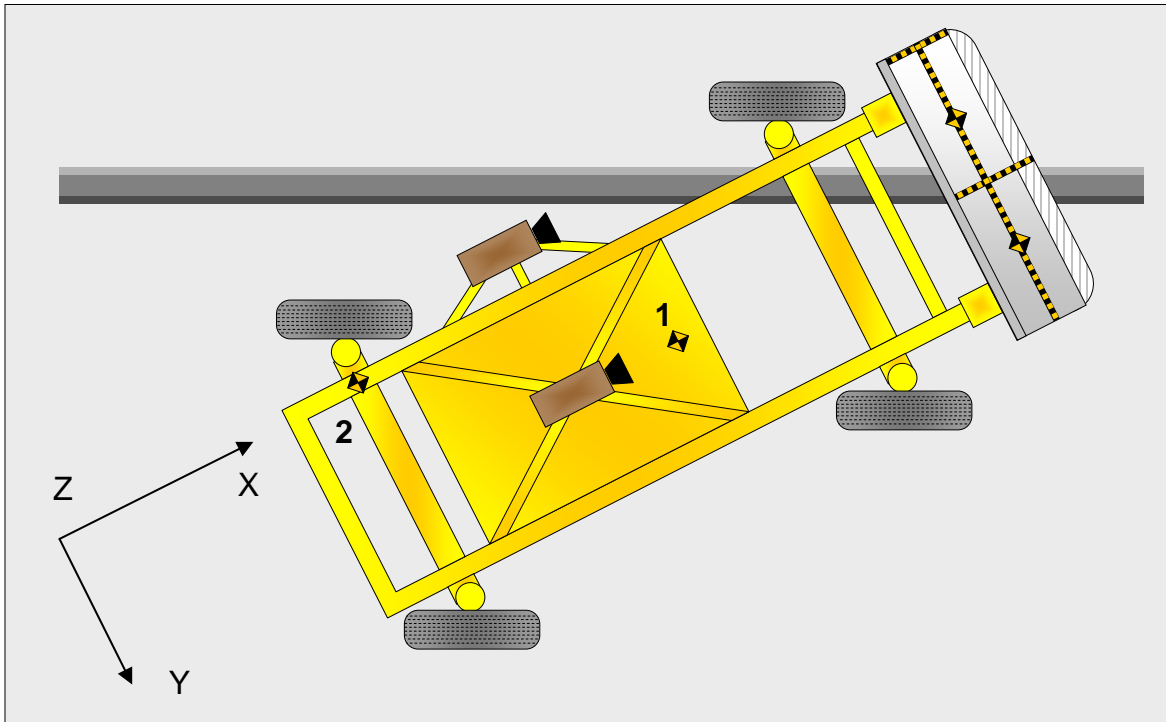
For acceleration data sign convention see Report Sign Convention in Appendix D.

¹ See Data Acquisition Explanations

Table 9 MDB Test Data Summary

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



	Location	Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
1	MDB CG				
	Longitudinal (g)	1.7	138.4	-21.9	27.1
	Lateral (g)	0.6	84.5	-10.6	43.4
	Vertical (g)	6.2	13.4	-3.0	84.0
	Resultant	23.2	27.2	---	---
2	MDB Rear Frame				
	Longitudinal (g)	2.1	168.7	-23.6	40.8
	Lateral (g)	4.1	45.8	-4.0	82.8

Reference : X - Face of MDB (+ forward)
 Y - MDB Centerline (+ to right)
 Z - Ground Plane (+ down)

Table 9 MDB Test Data Summary, Continued

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	413.2	272.8	
Right	kg	371.6	310	
Ratio	%	57.4	42.6	
Totals	kg	784.8	582.8	1367.6

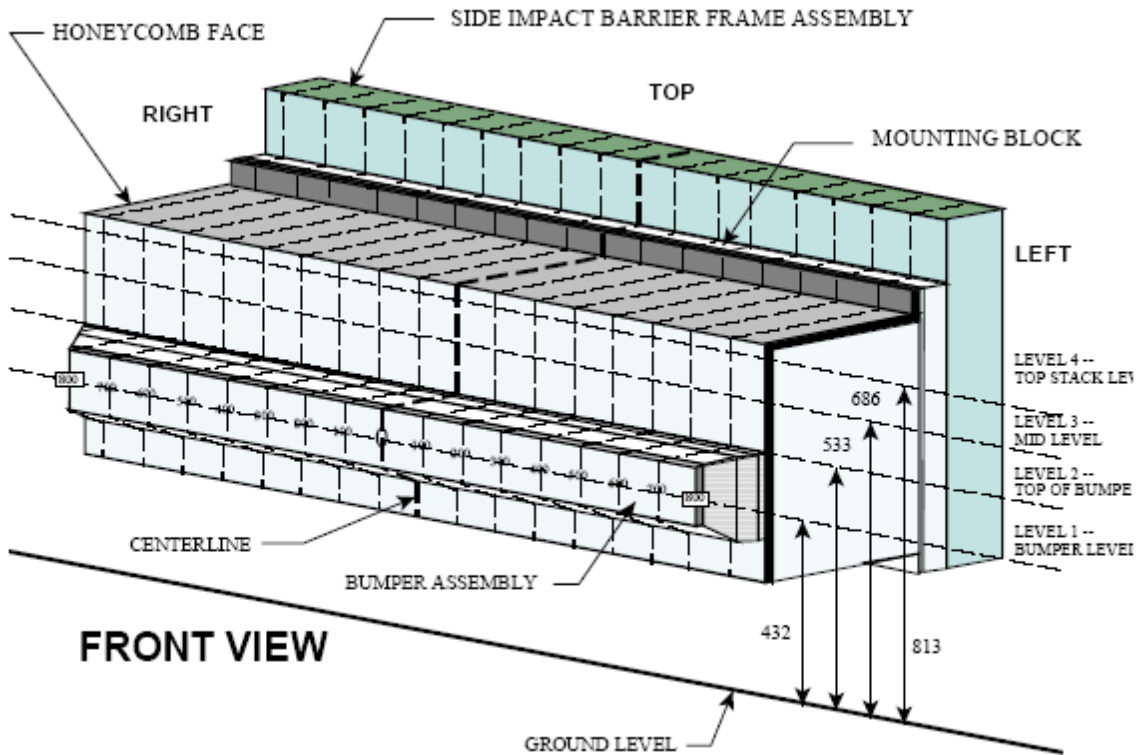
SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.7
Trap No. 2 Velocity (Redundant)	km/h	61.1 to 62.7	61.7
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	91.5
MDB Forward Line of Motion to Target Vehicle CL	degrees	62.5 to 63.5	62.5
MDB Crabbed Angle to MDB Forward Line of Motion	degrees	26 to 28	26

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE

Row	Vertical Location		From Centerline		Maximum Crush
	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	107
B	Top of Bumper	533	700	Left	109
C	Mid-Level	686	800	Right	184
D	Top of Stack	813	800	Right	277

Table 9 MDB Test Data Summary, Continued



NOTE: Dimensions are shown in millimeters, mm

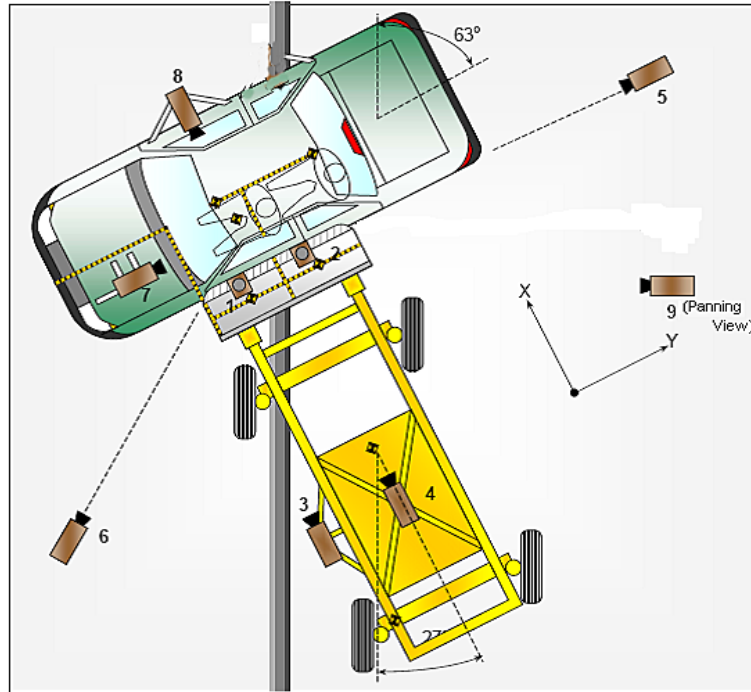
DEFORMABLE BARRIER STATIC CRUSH

Stack Level	Distance Right of Center								C/L	Distance Left of Center							
	800	700	600	500	400	300	200	100		0	100	200	300	400	500	600	700
1	-277	-212	-181	-155	-115	-118	-79	-69	-65	-58	-61	-62	-65	-71	-83	-98	-132
2	-184	-119	-127	-114	-104	-90	-62	-57	-59	-57	-48	-44	-43	-44	-50	-62	-99
3	-99	-86	-89	---	---	---	-94	-96	-98	-96	-100	-103	-104	-107	-108	-109	-103
4	-70	-74	-82	-91	-90	-88	-90	-92	-93	-95	-96	-98	-100	-101	-103	-105	-107

Figure 6 High-Speed Camera Locations and Data Summary

Test Vehicle: 2010 Ford F-150 XL

Test Date: 06/28/12



No.	Camera View	Lens (mm)	Speed (fps)
1	Overhead wide view	8.5	1000
2	Overhead tight	16	1000
3	Impact point	12.5	1000
4	Struck side at impact	8.5	1000
5	Rear view	8.5	1000
6	Front oblique	12.5	1000
7	Onboard driver front	12.5	1000
8	Onboard driver side	8.5	1000
9	Real-time	Zoom	30

Appendix A

Photographs



Figure A-1 Pre-Test Front View



Figure A-2 Post-Test Front View

Photograph Not Taken

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 Rear View



Figure A-8 Post-Test Rear View

Photograph Not Taken

Figure A-9 Pre-Test Right Side View



Figure A-10 Post-Test Right Side View



Figure A-11 Pre-Test Overhead View



Figure A-12 Post-Test Overhead View



Figure A-13 Pre-Test Overhead Close-up View

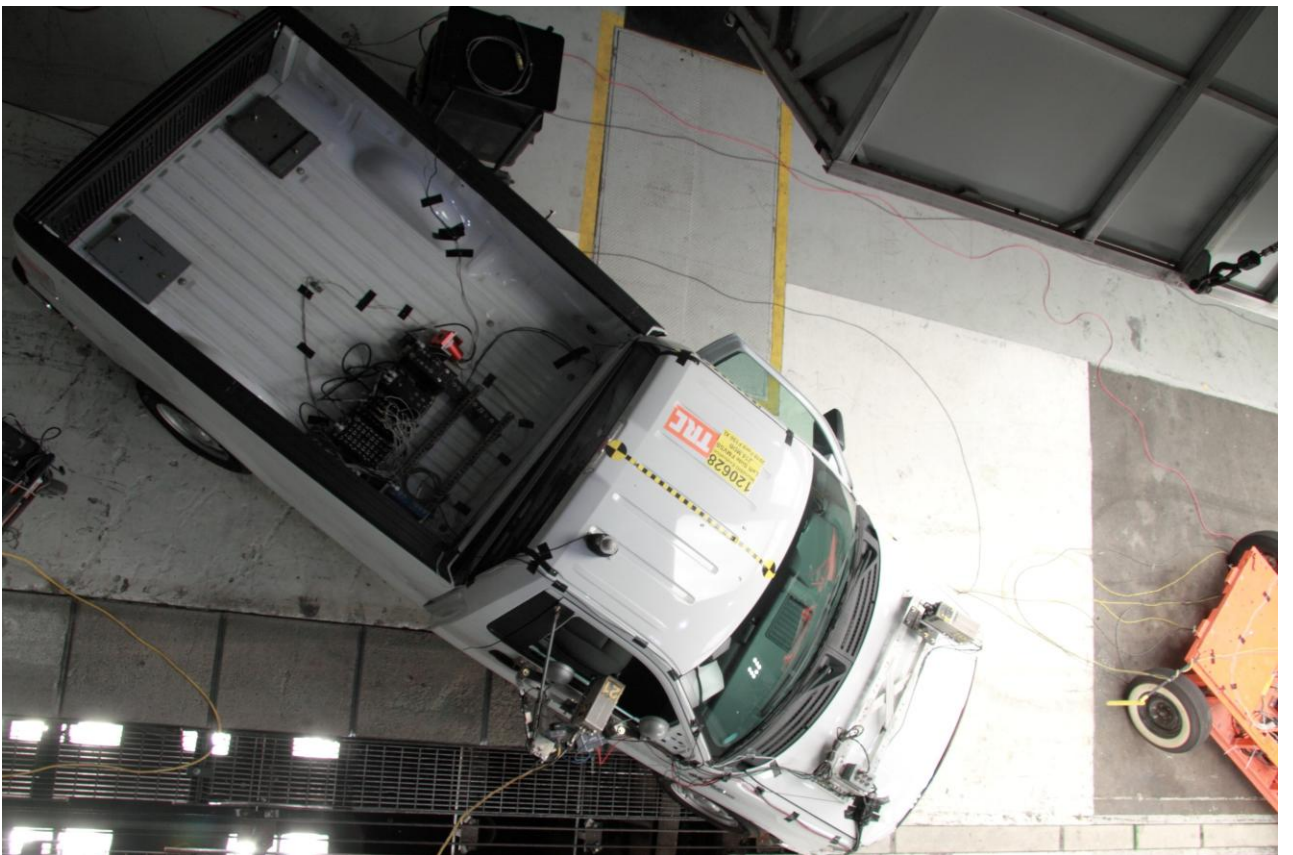


Figure A-14 Post-Test Overhead Close-up View



Figure A-15 Pre-Test Front Overall View



Figure A-16 Pre-Test Rear Overall View



Figure A-17 Pre-Test Primary Impact Point View



Figure A-18 Post-Test Primary Impact Point View



Figure A-19 Pre-Test Secondary Impact Point View



Figure A-20 Post-Test Secondary Impact Point View



Figure A-21 Pre-Test Driver Dummy - View 1



Figure A-22 Post-Test Driver Dummy - View 1



Figure A-23 Pre-Test Driver Dummy - View 2



Figure A-24 Post-Test Driver Dummy - View 2



Figure A-25 Pre-Test Driver Dummy - View 3



Figure A-26 Post-Test Driver Dummy - View 3



Figure A-27 Pre-Test Driver Dummy - View 4



Figure A-28 Post-Test Driver Dummy - View 4



Figure A-29 Pre-Test Driver Dummy - View 5



Figure A-30 Post-Test Driver Dummy - View 5



Figure A-31 Pre-Test Driver Door Panel View



Figure A-32 Post-Test Driver Door Panel View



Figure A-33 Post-Test Driver Dummy Contact View

Intentionally Left Blank



Figure A-34 Post-Test Overall - View 1



Figure A-35 Post-Test Overall - View 2



Figure A-36 Post-Test Overall - View 3



Figure A-37 Post-Test Overall - View 4



Figure A-38 Post-Test Overall - View 5



Figure A-39 Post-Test Overall - View 6



Figure A-40 Pre-Test MDB Face Front View



Figure A-41 Post-Test MDB Face Front View

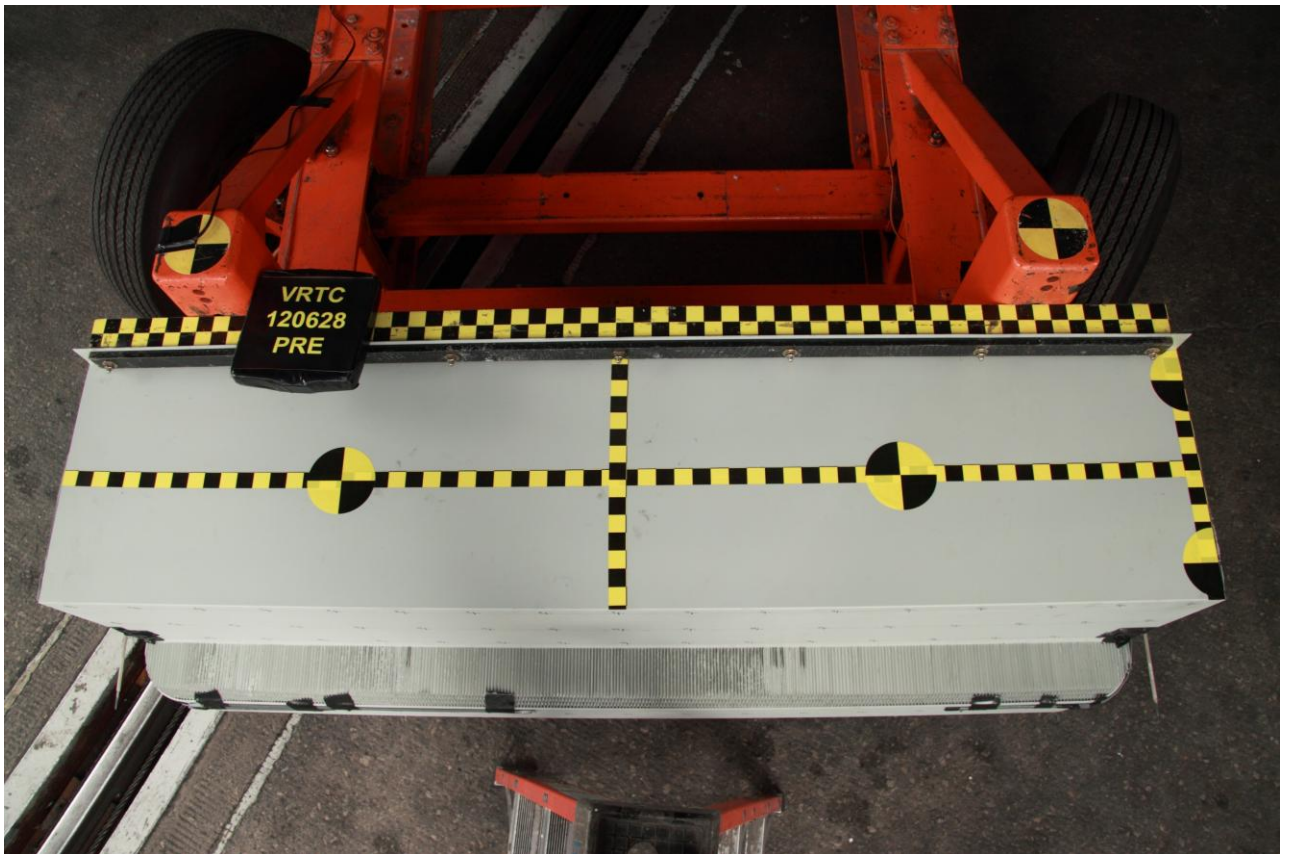


Figure A-42 Pre-Test MDB Face Top View



Figure A-43 Post-Test MDB Face Top View



Figure A-44 Pre-Test MDB Face Left Side View



Figure A-45 Post-Test MDB Face Left Side View



Figure A-46 Pre-Test MDB Face Right Side View



Figure A-47 Post-Test MDB Face Right Side View

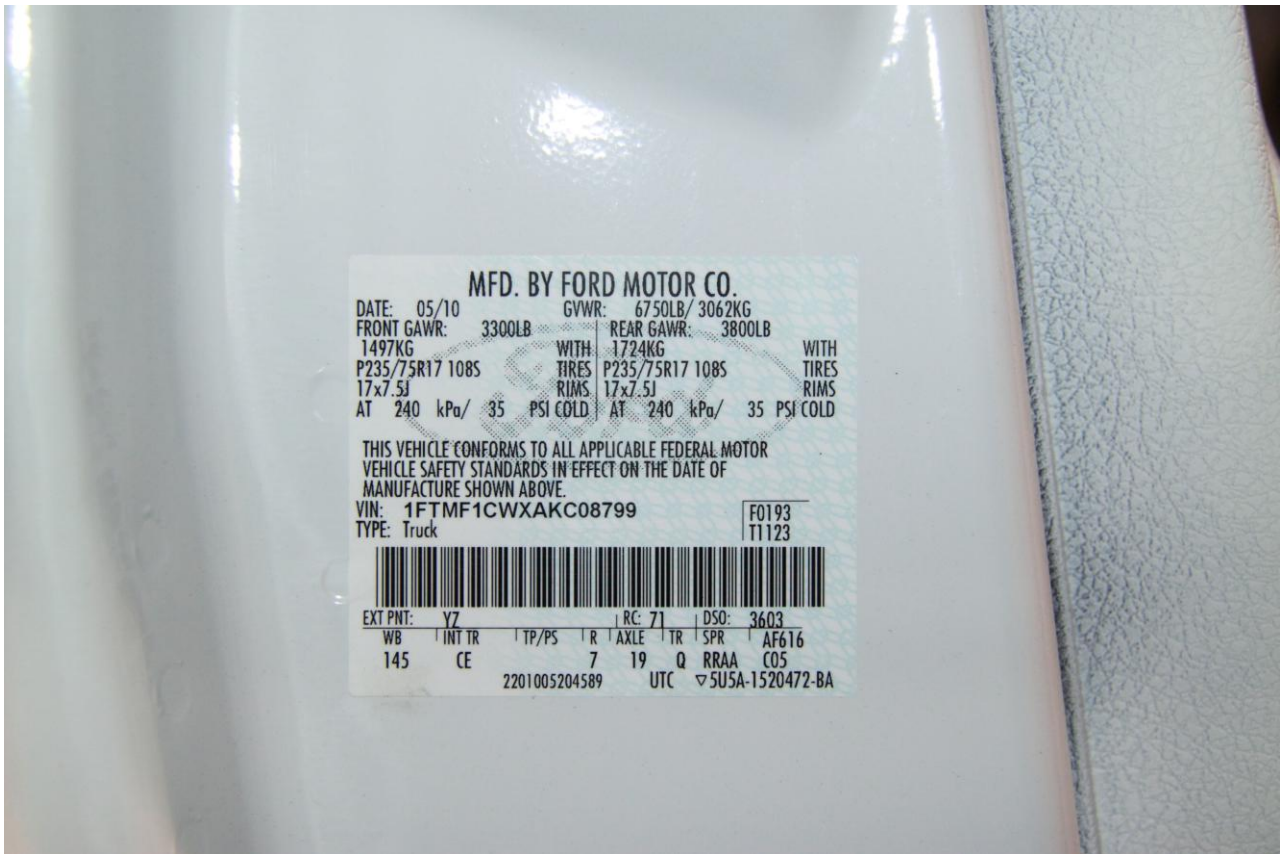


Figure A-48 Vehicle Certification Label

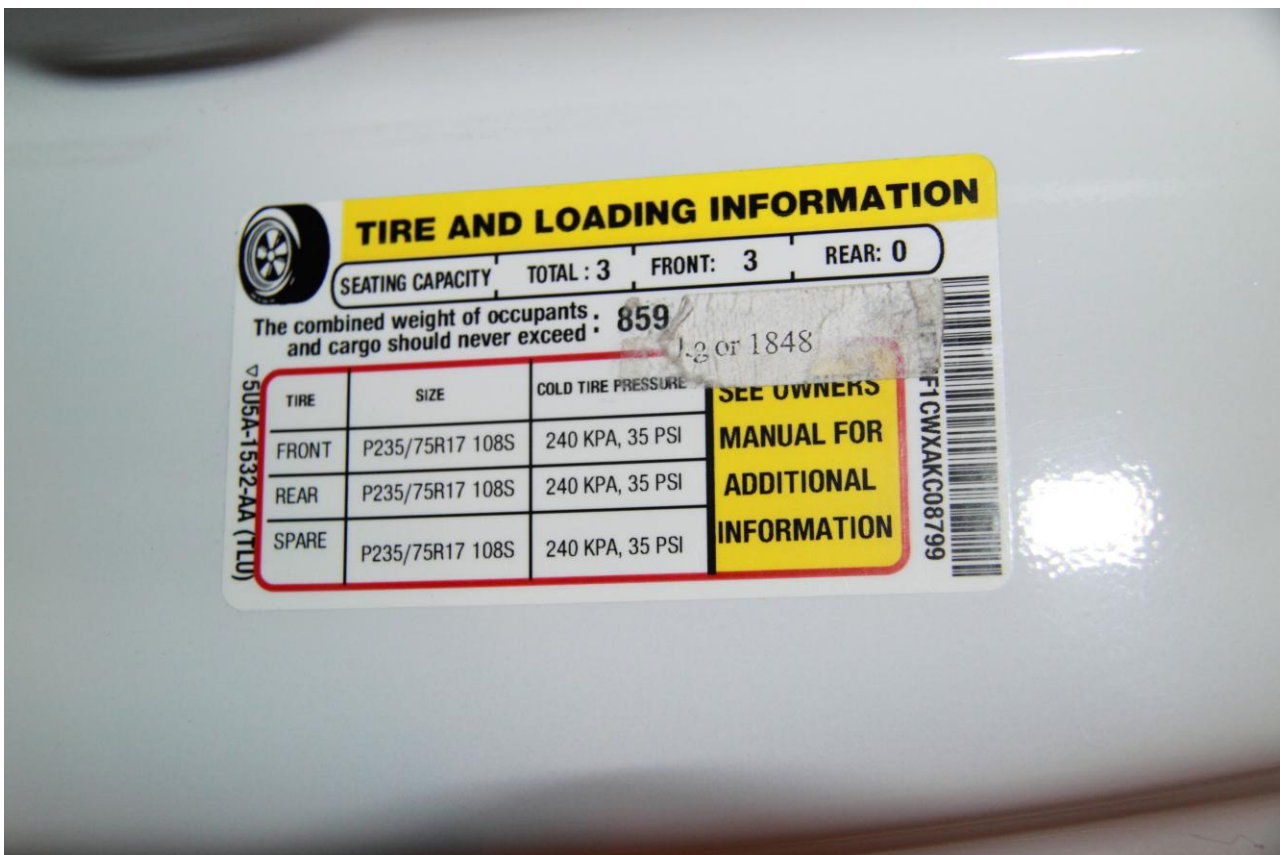


Figure A-49 Tire Pressure Label

Appendix B

Data Plots



FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Longitudinal Ax

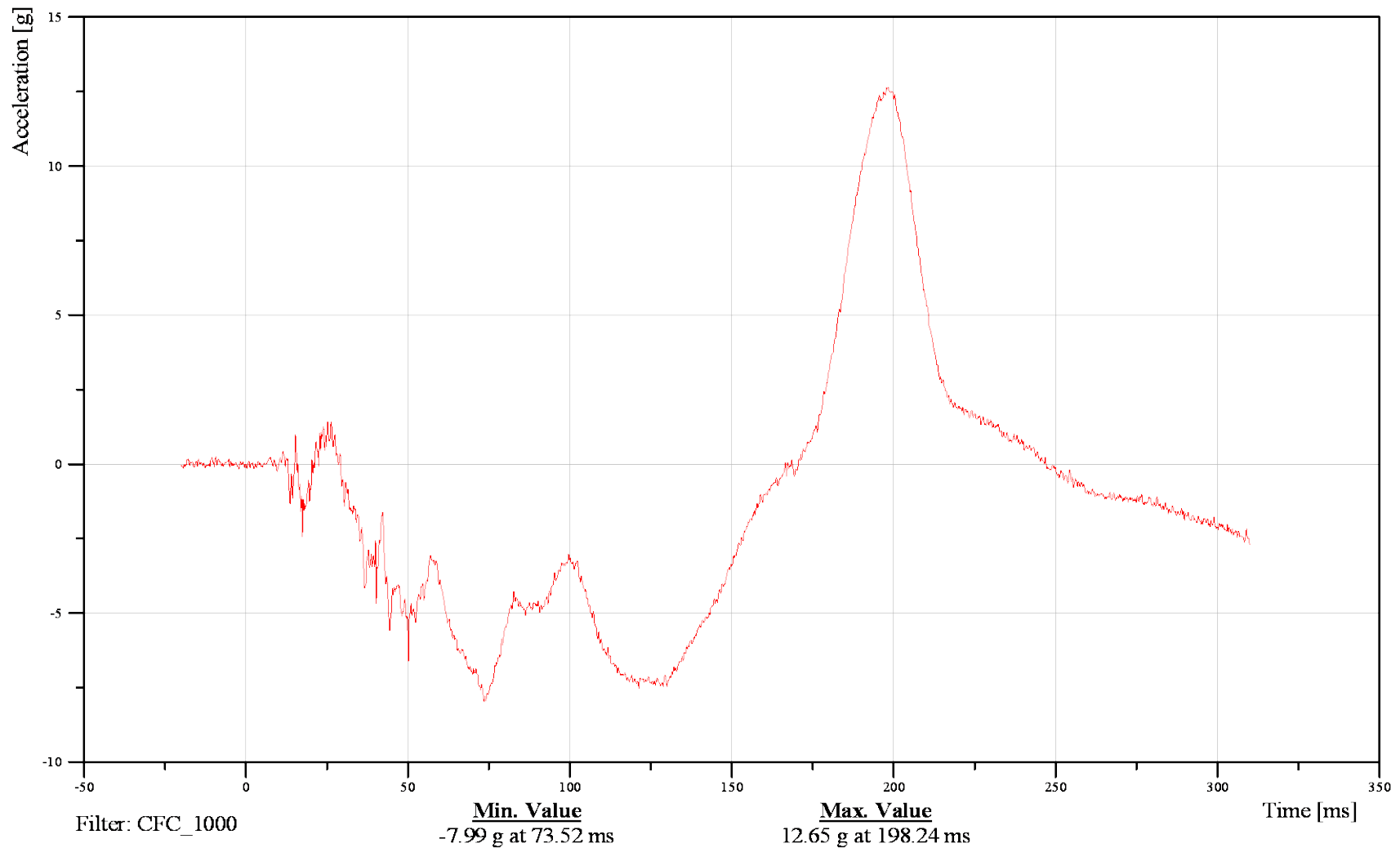
Time: 12:59

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Lateral Ay

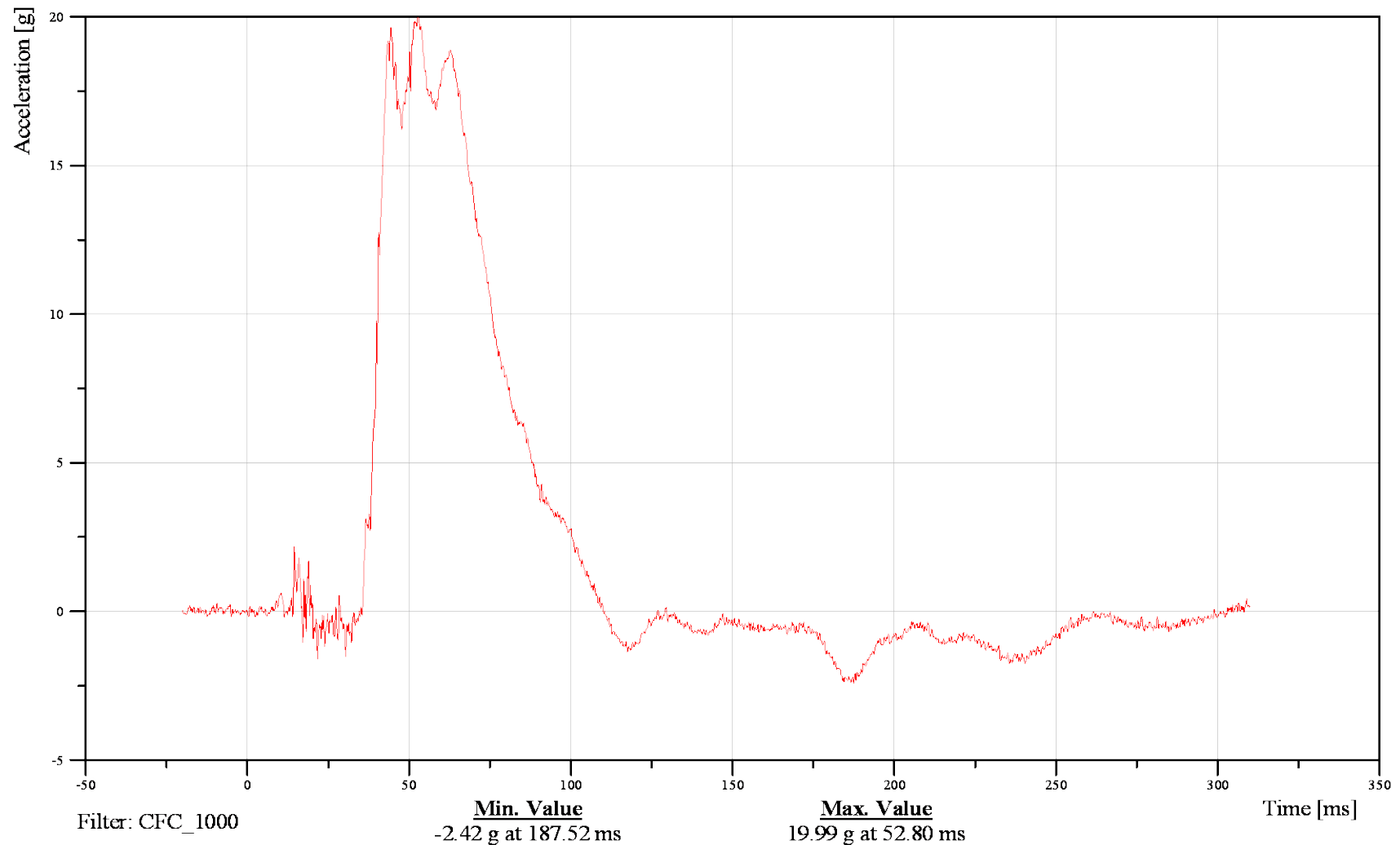
Time: 12:59

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Vertical Az

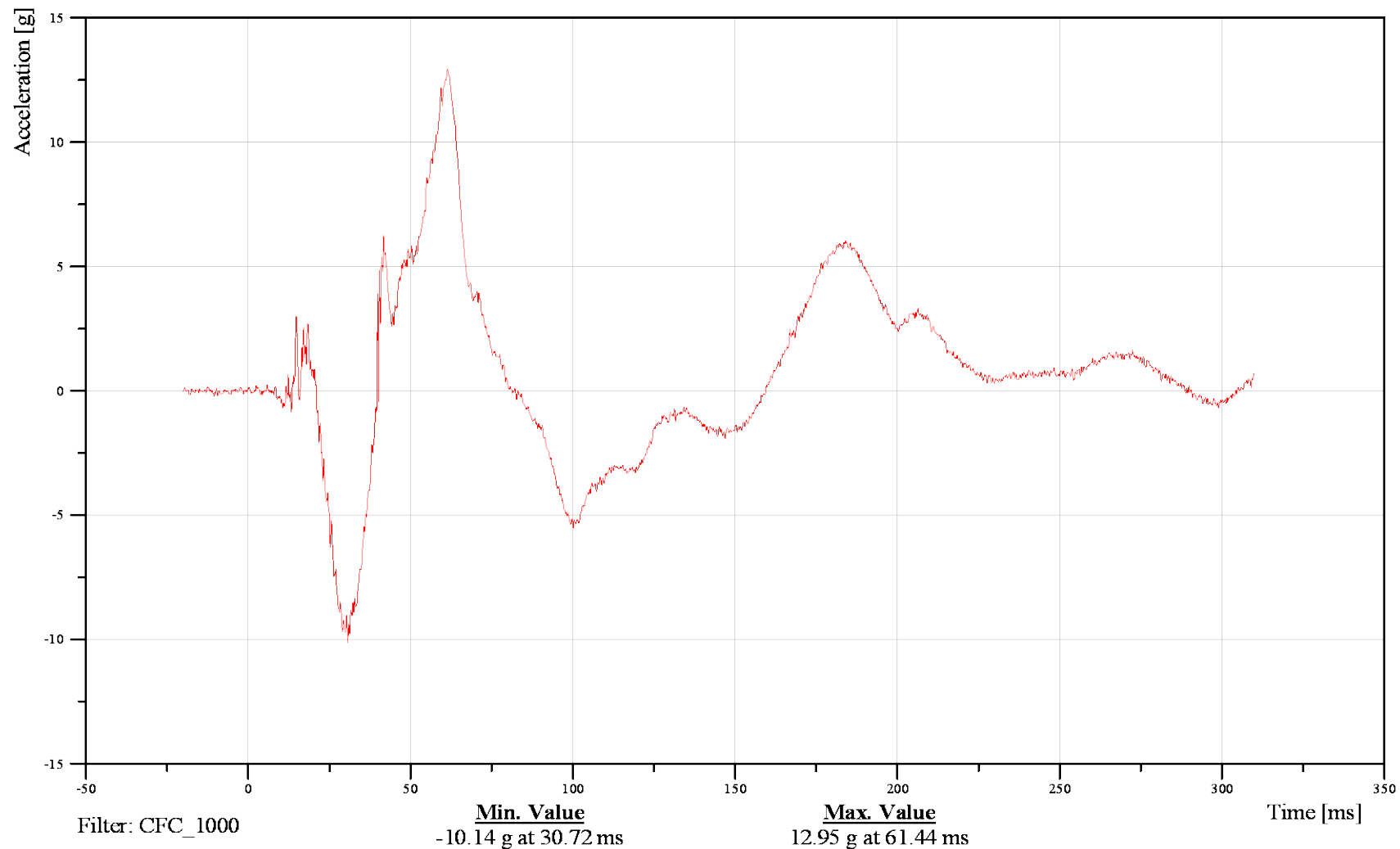
Time: 12:59

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Rotational Acceleration Rx

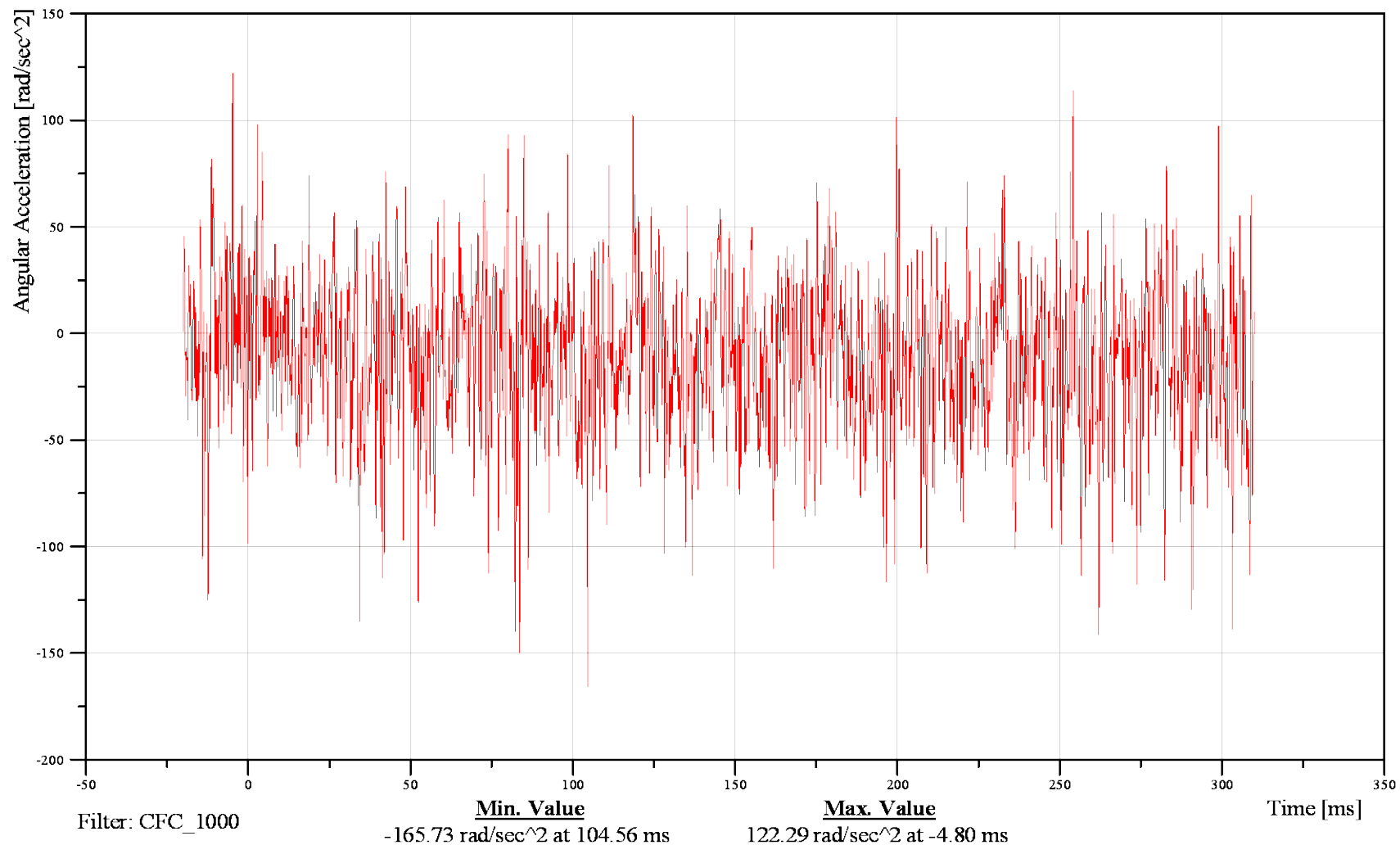
Time: 12:59

Customer: VRTC

11HEAD0000WSAAXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Rotational Acceleration Ry

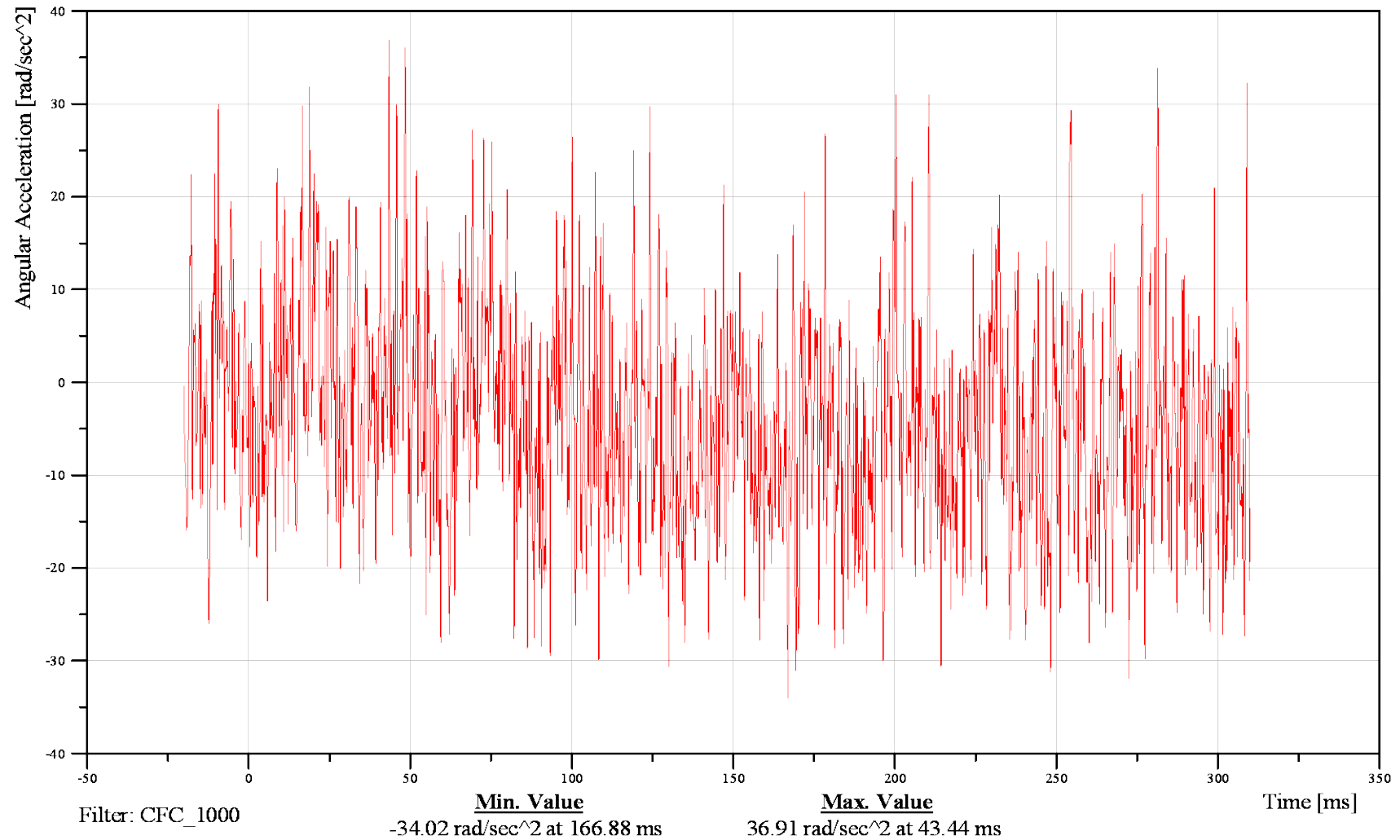
Time: 12:59

Customer: VRTC

11HEAD0000WSAAYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Head Rotational Acceleration Rz

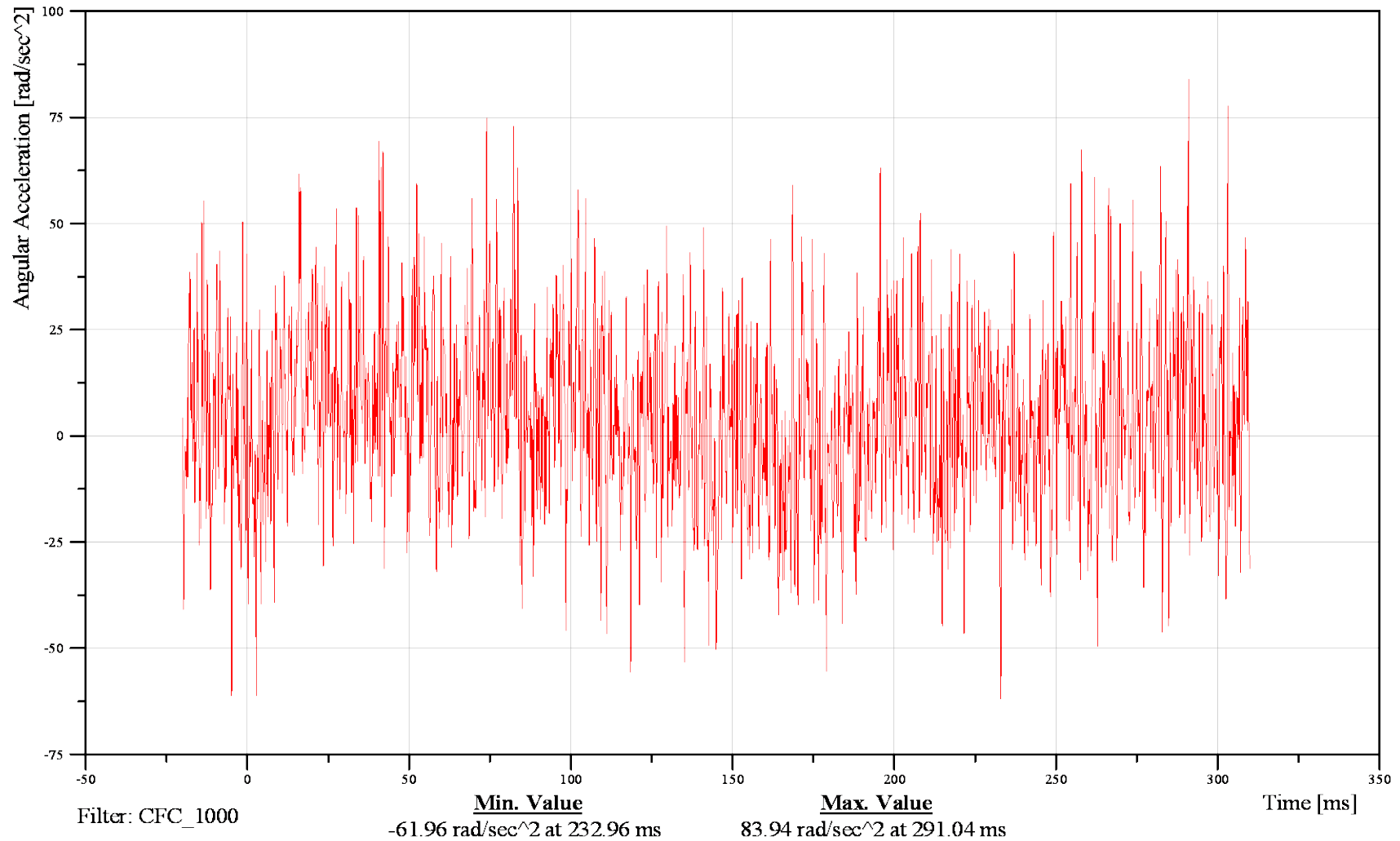
Time: 12:59

Customer: VRTC

11HEAD0000WSAAZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Upper Force Fx

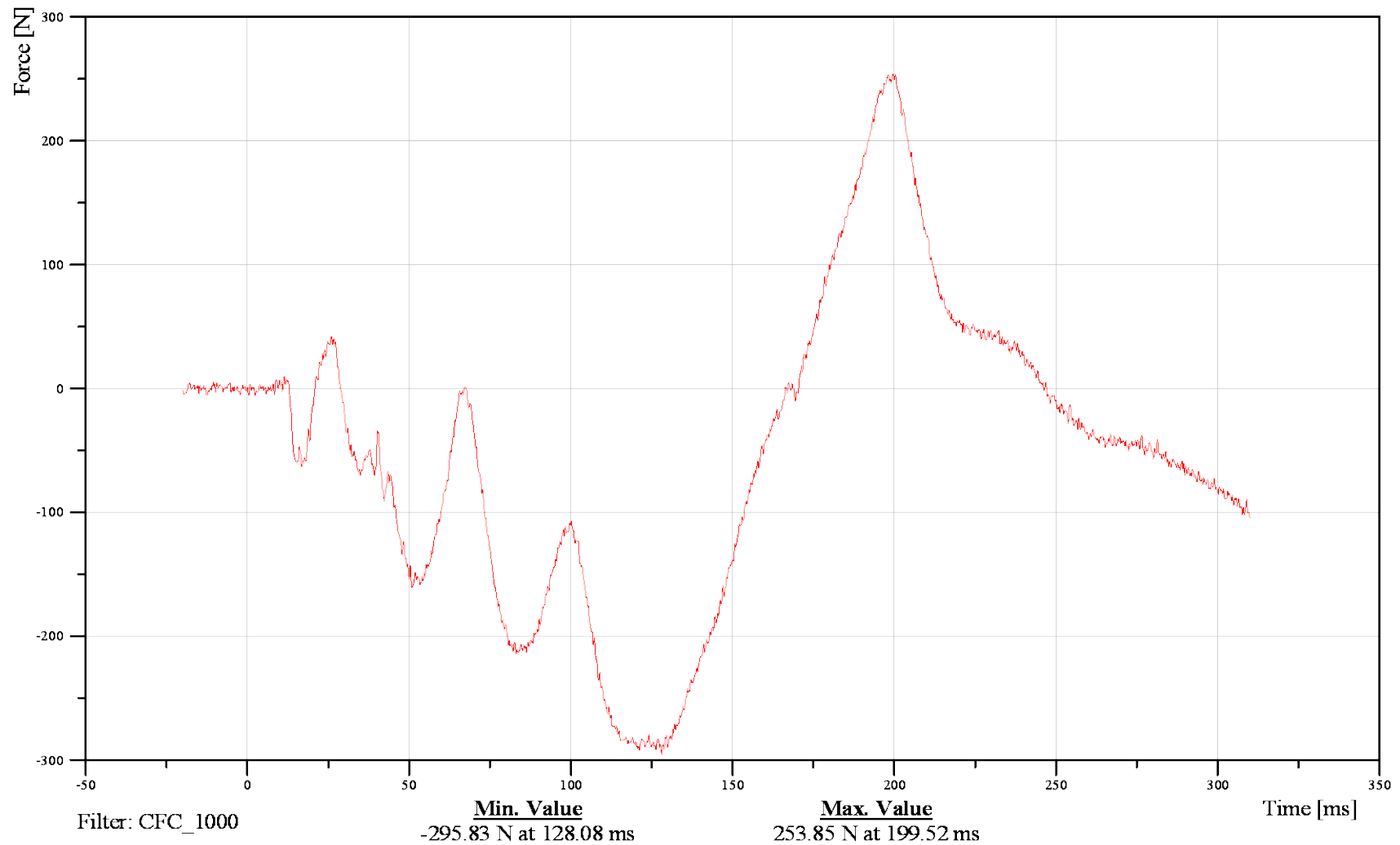
Time: 12:59

Customer: VRTC

11NECKUP00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

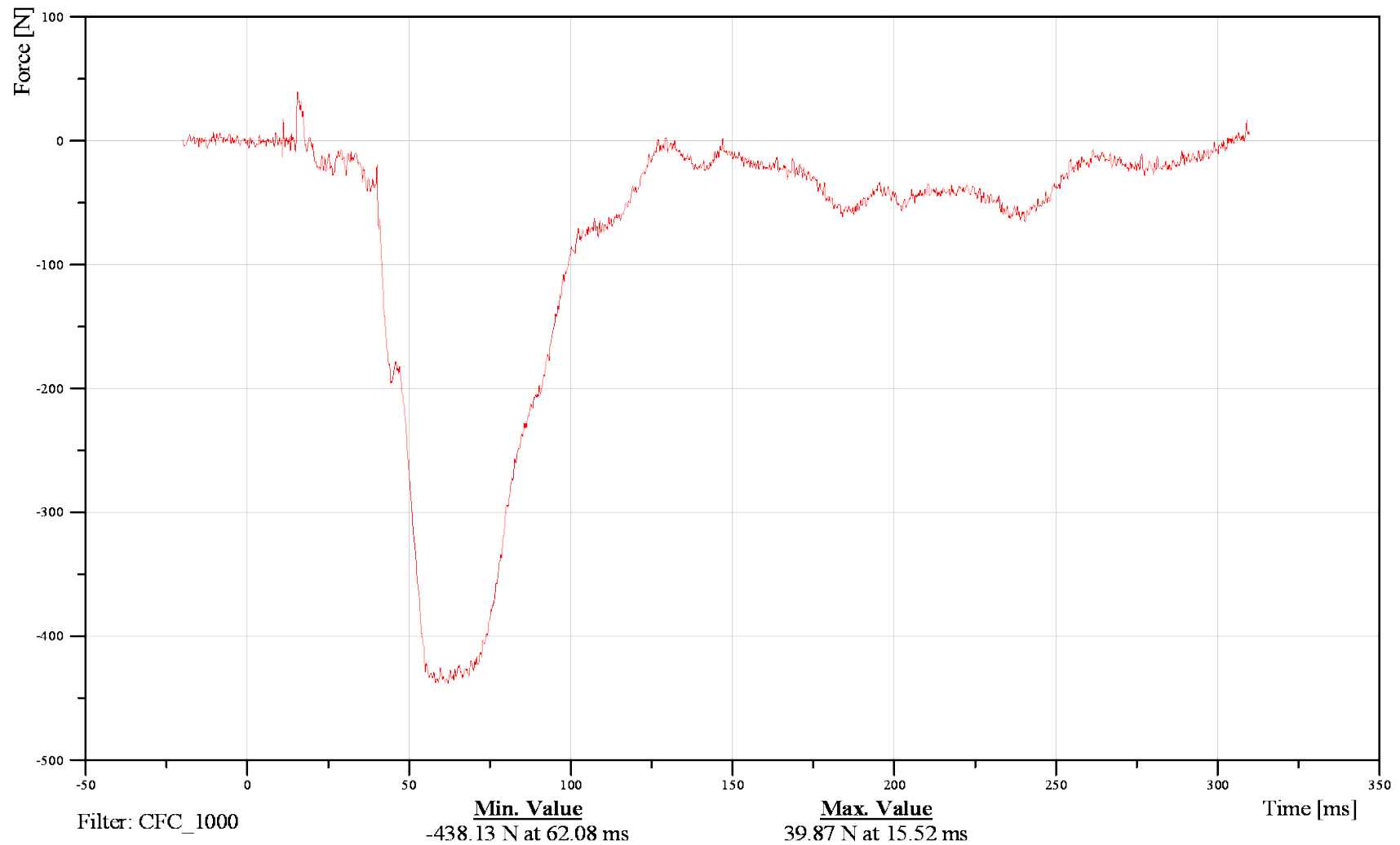
Neck Upper Force Fy

Customer: VRTC

11NECKUP00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

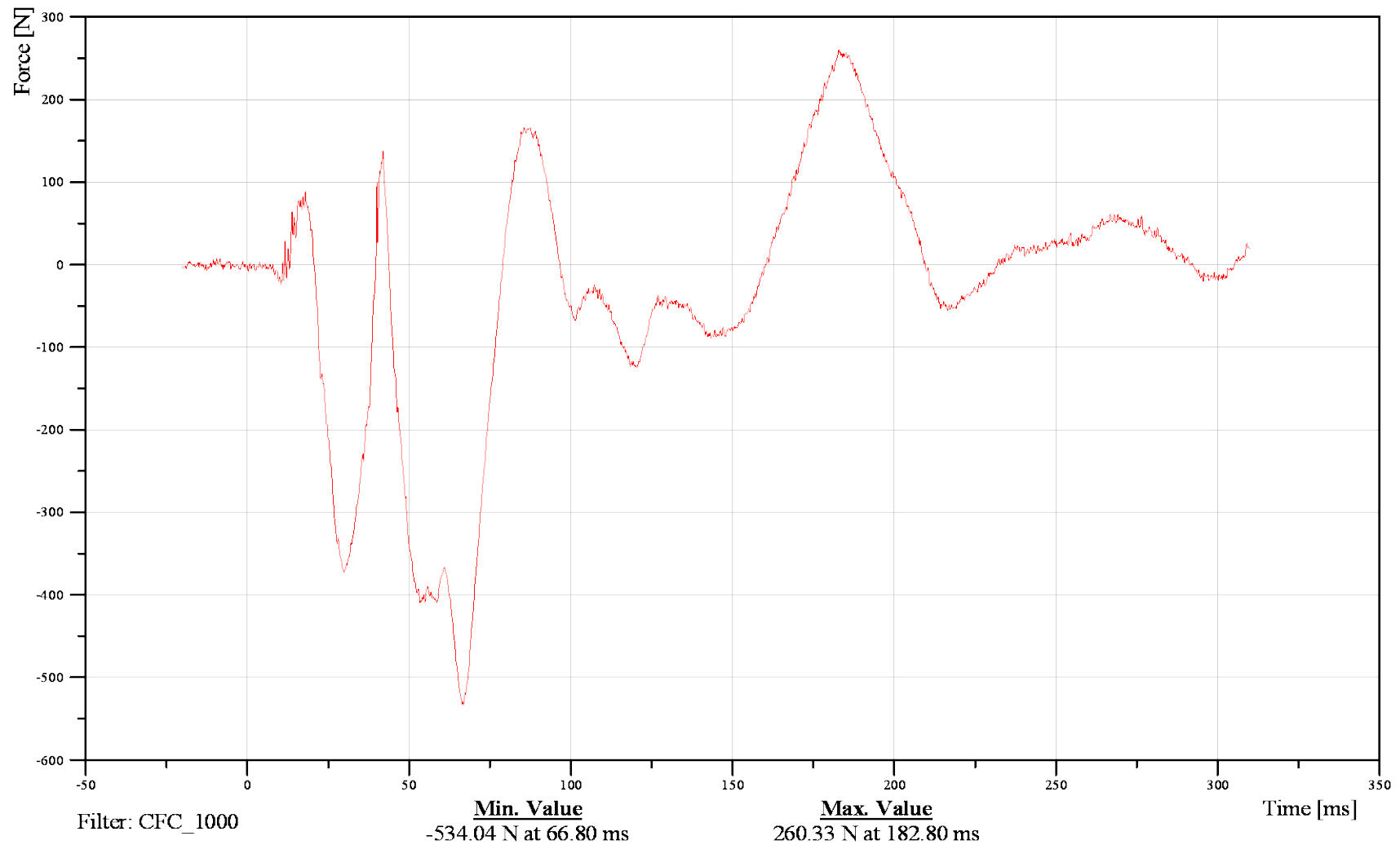
Neck Upper Force Fz

Customer: VRTC

11NECKUP00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

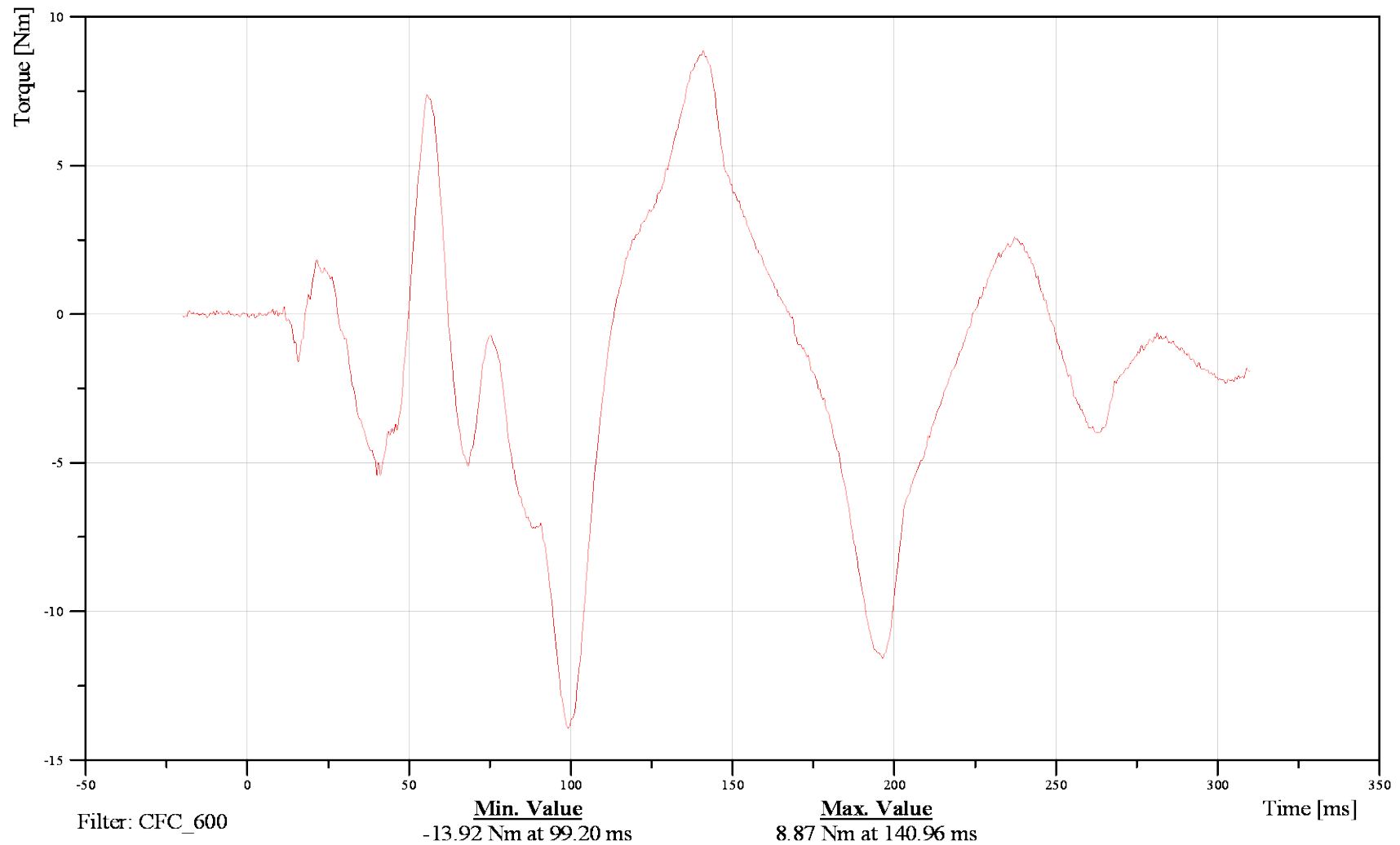
Neck Upper Moment Mx

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Upper Moment My

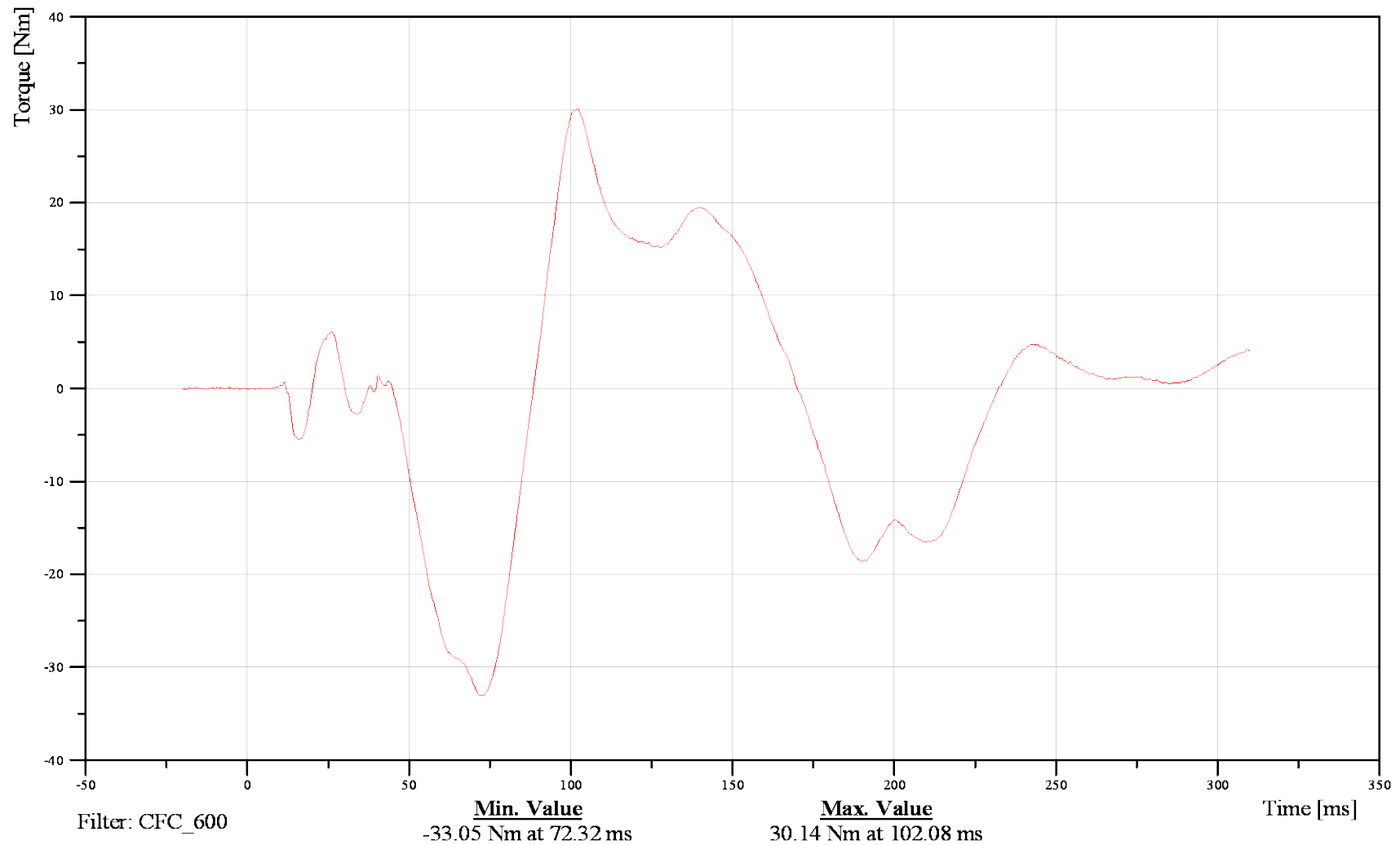
Time: 12:59

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Time: 12:59

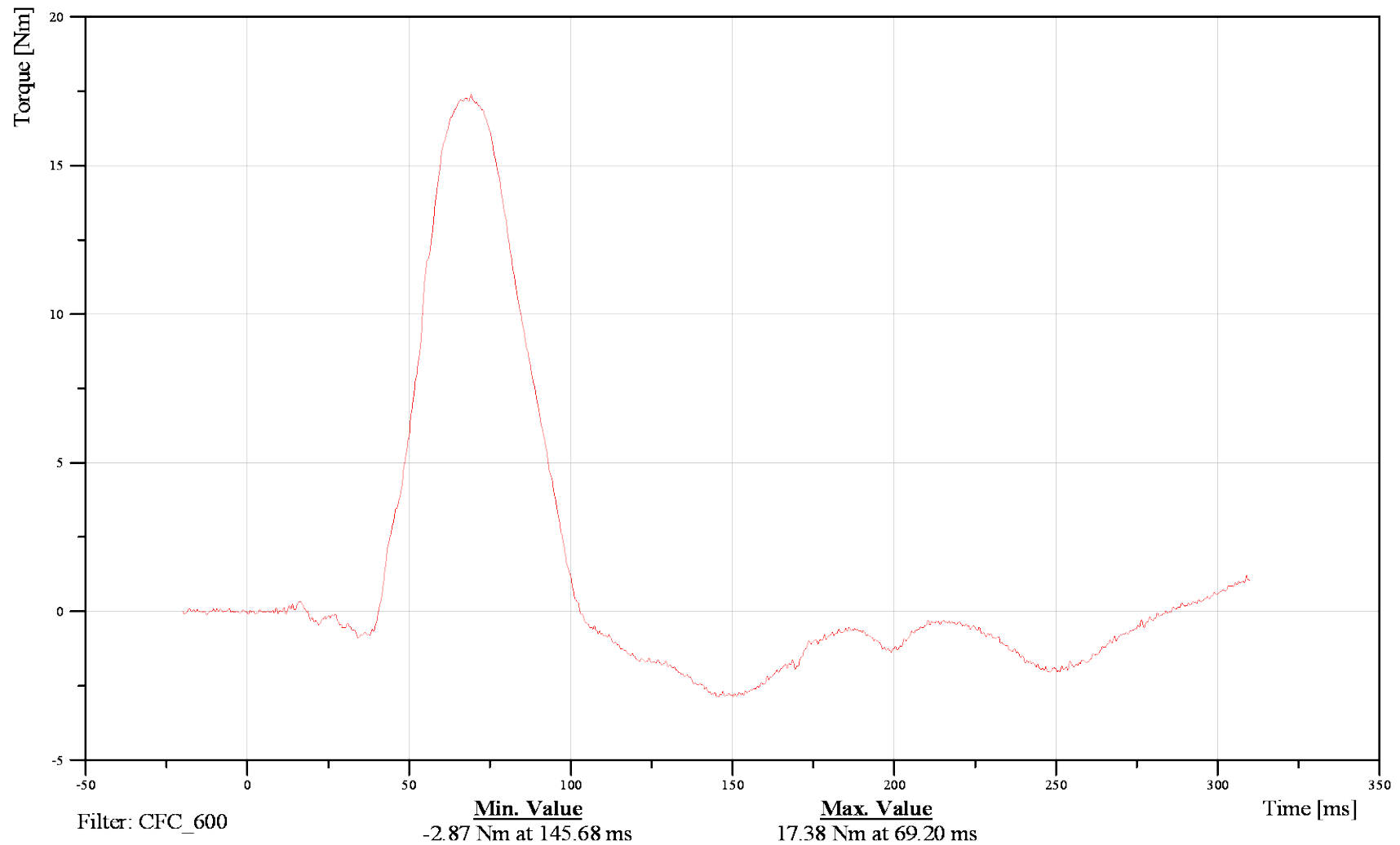
Neck Upper Moment Mz

Customer: VRTC

11NECKUP00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Lower Force Fx

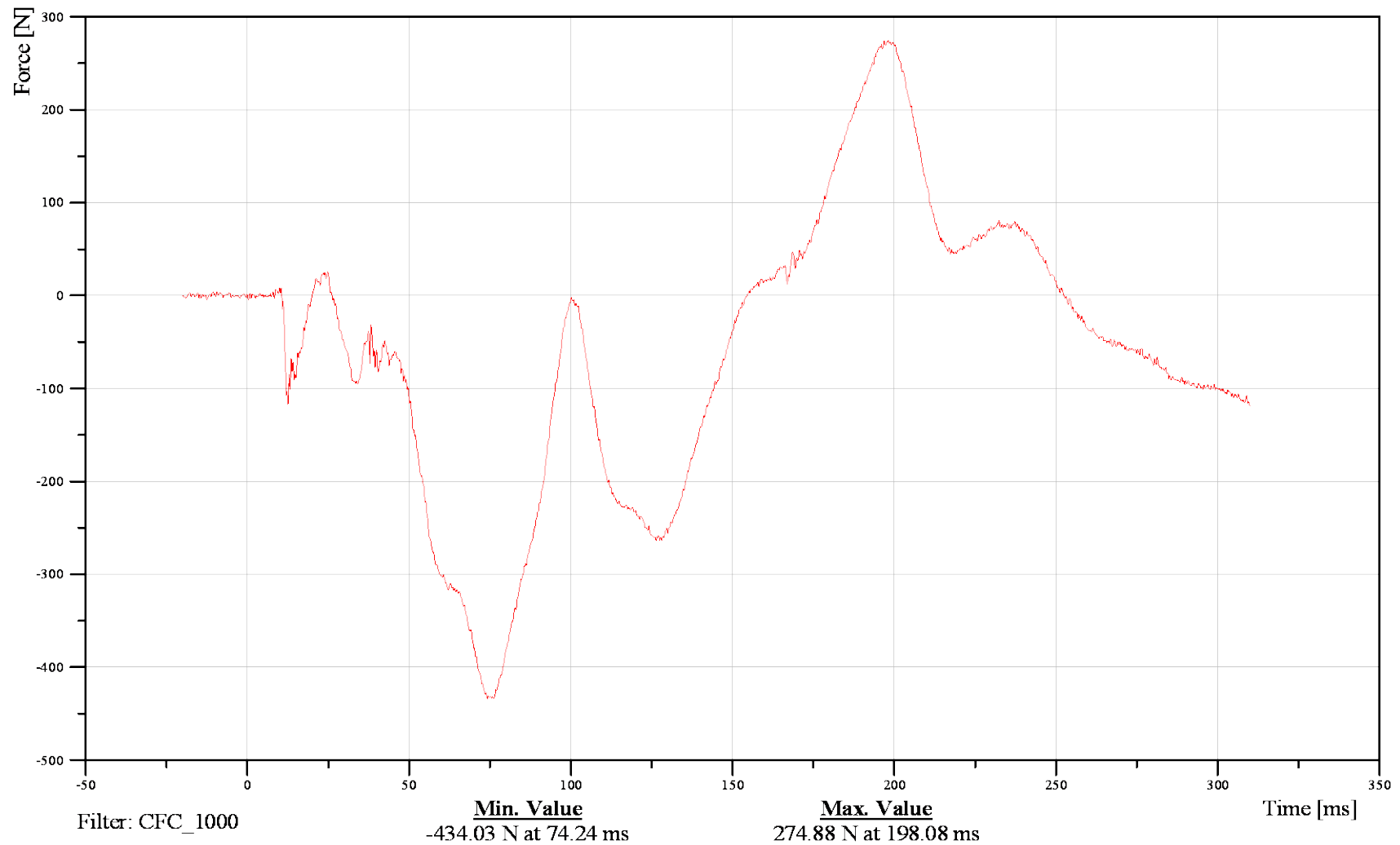
Time: 12:59

Customer: VRTC

11NECKLO00WSFOXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Lower Force Fy

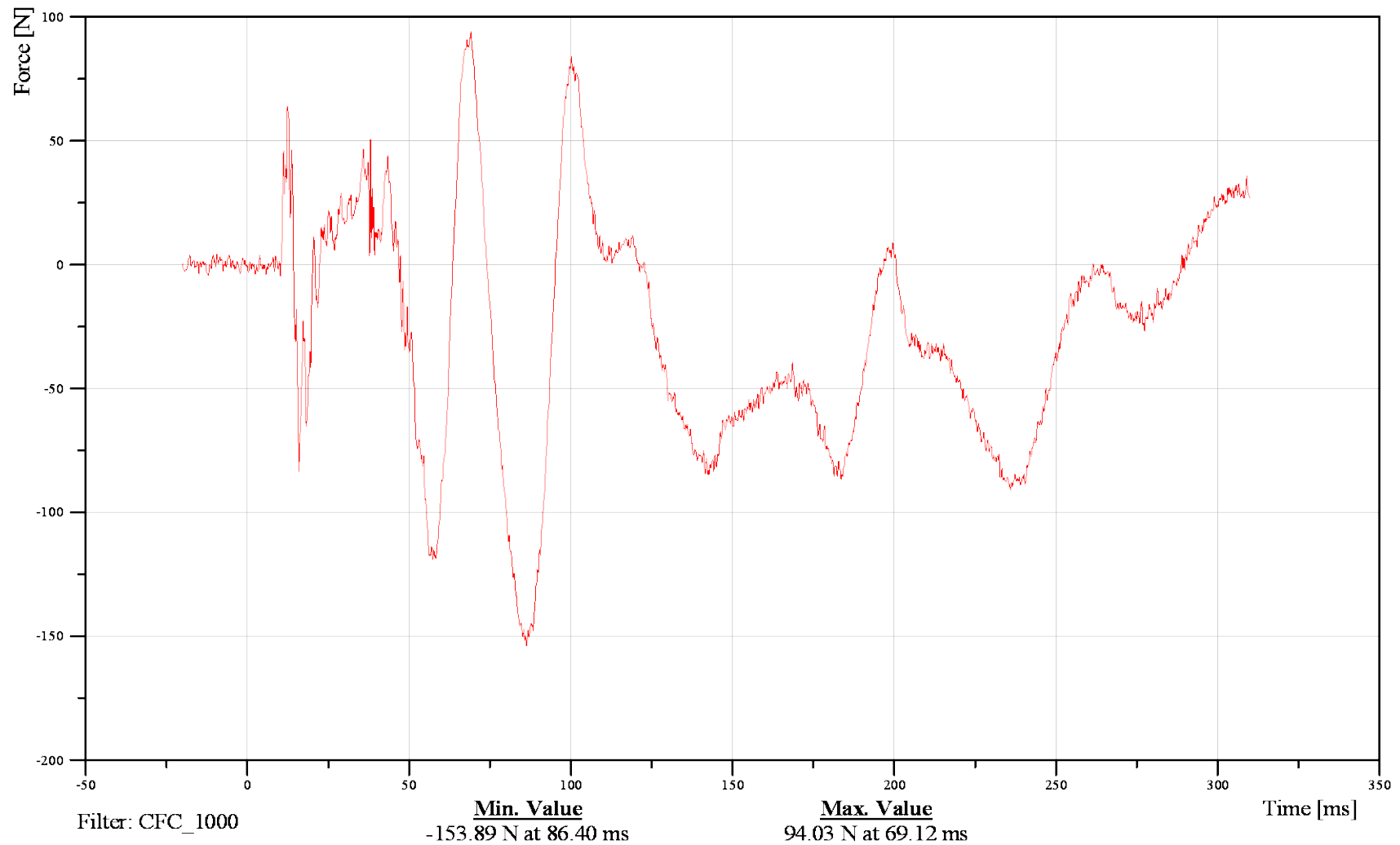
Time: 12:59

Customer: VRTC

11NECKLO00WSFOYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Lower Force Fz

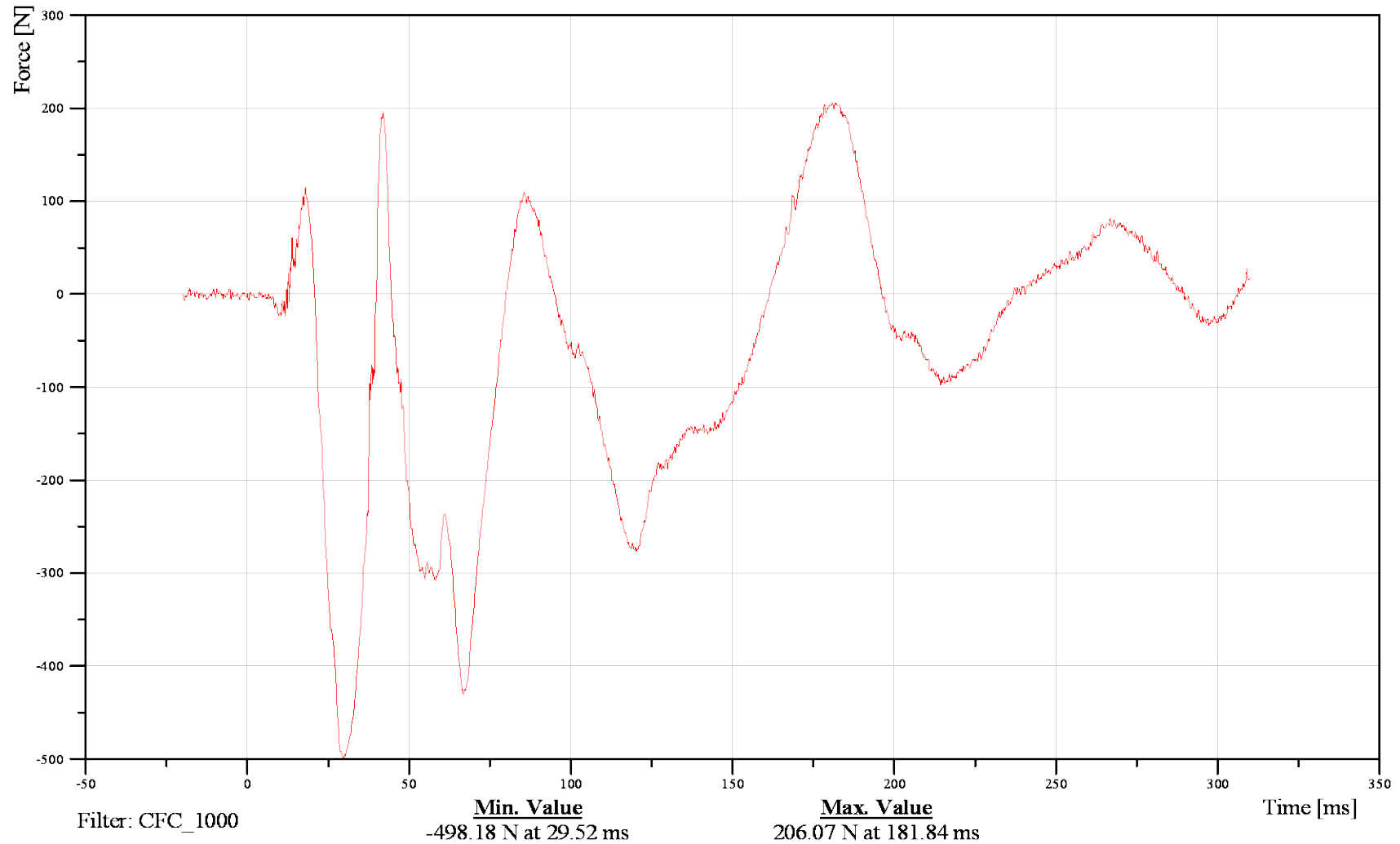
Time: 12:59

Customer: VRTC

11NECKLO00WSFOZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Lower Moment Mx

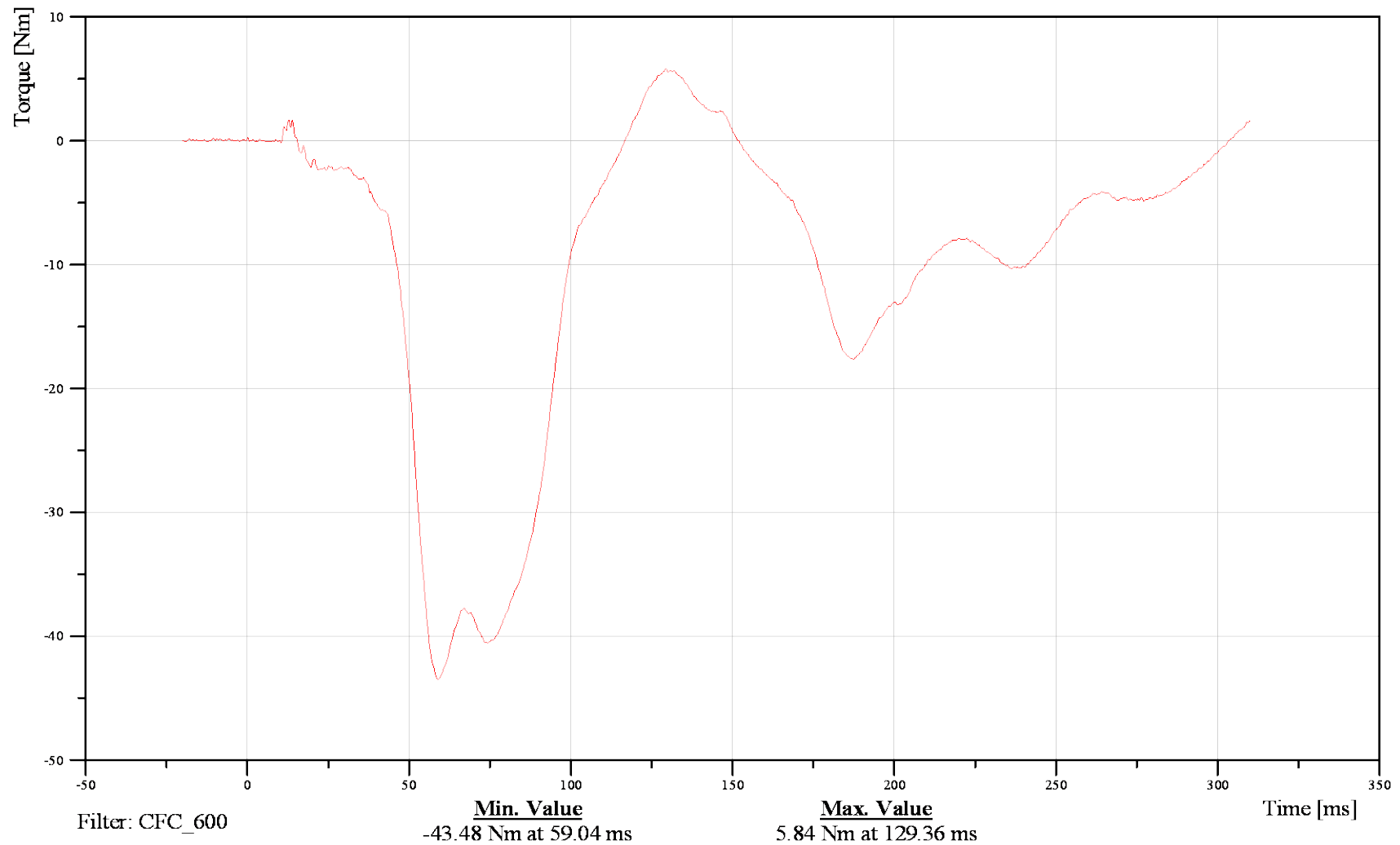
Time: 12:59

Customer: VRTC

11NECKLO00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Time: 12:59

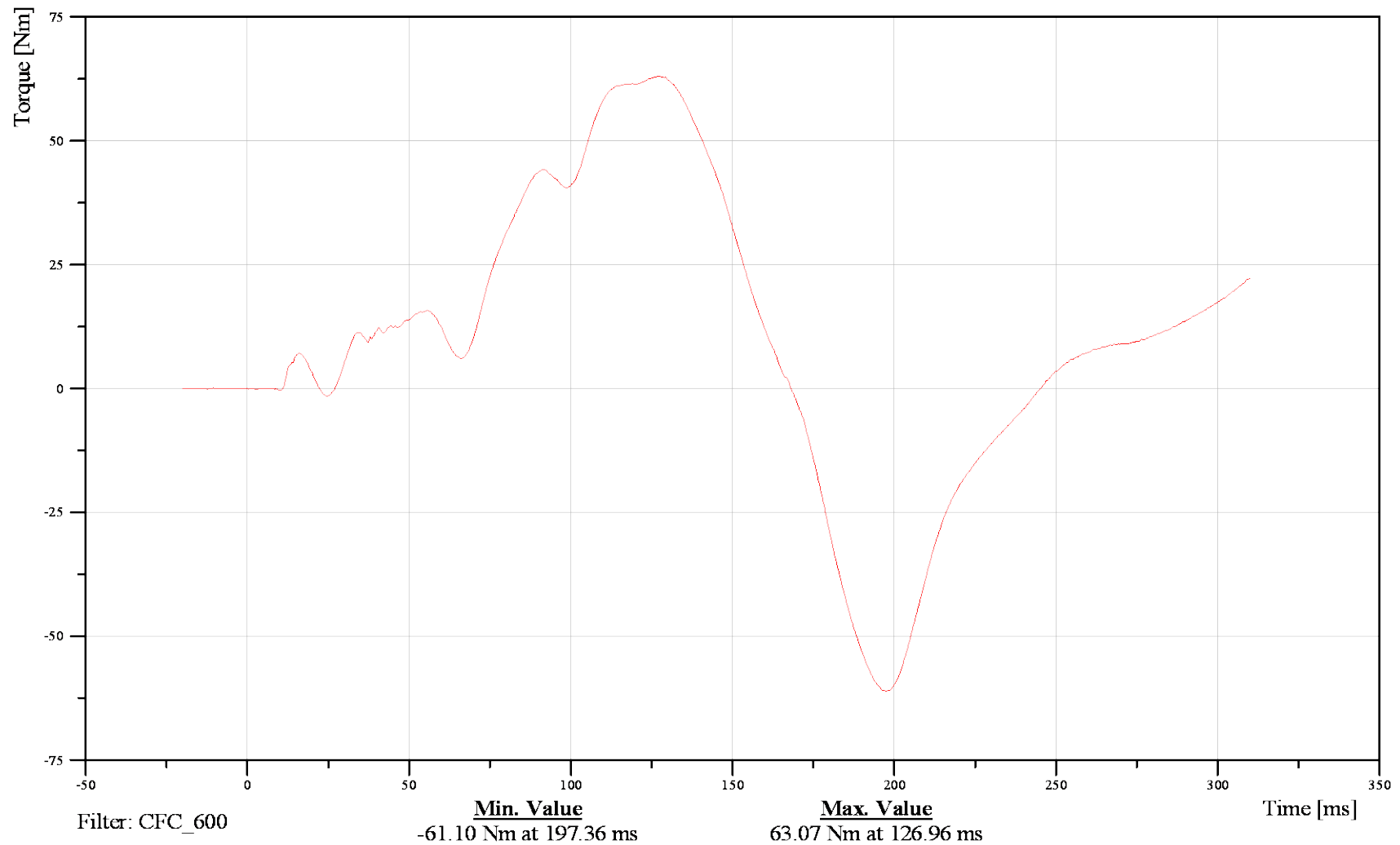
Neck Lower Moment My

Customer: VRTC

11NECKLO00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Neck Lower Moment Mz

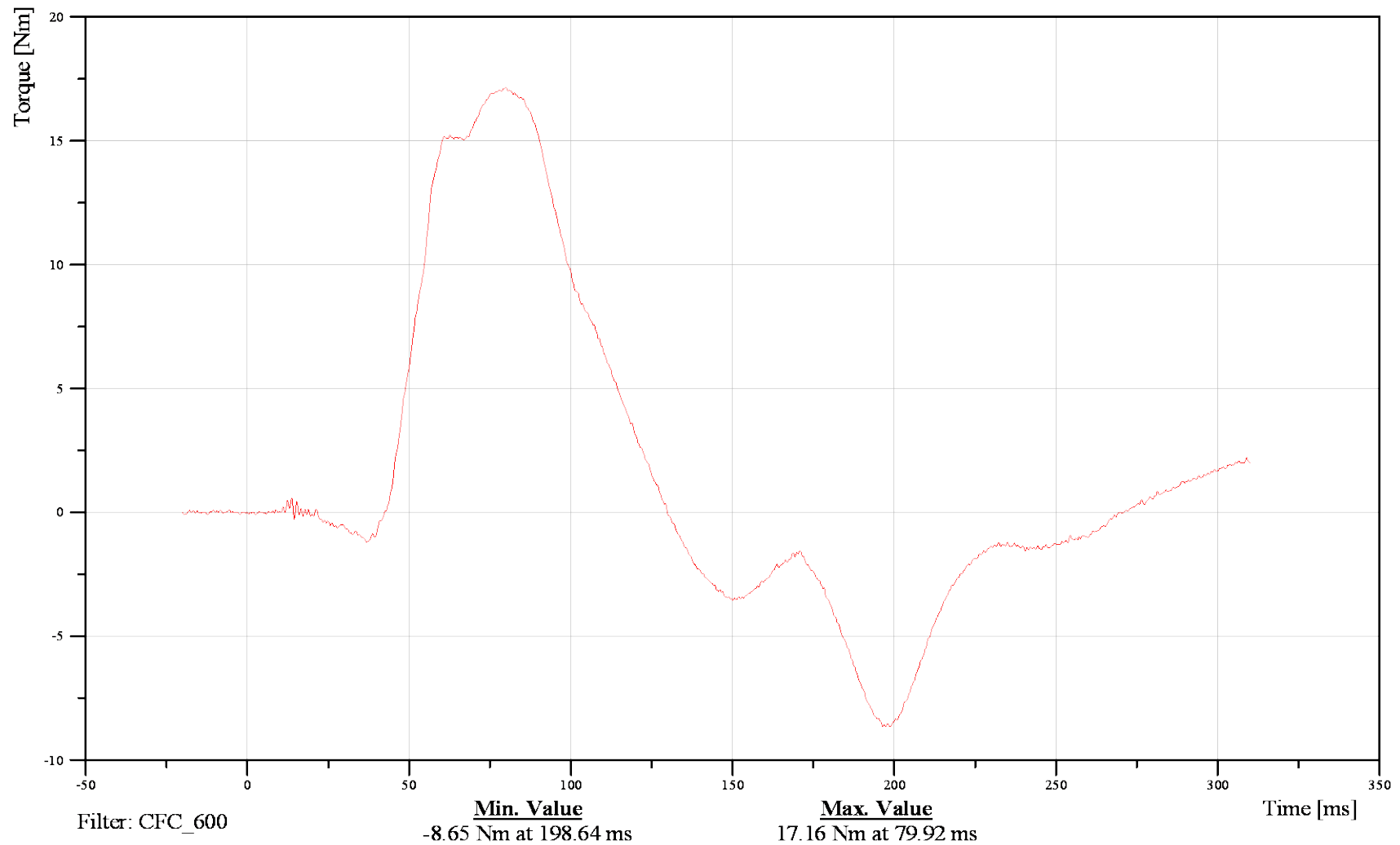
Time: 12:59

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Shoulder Longitudinal Ax

Date: 06/28/2012

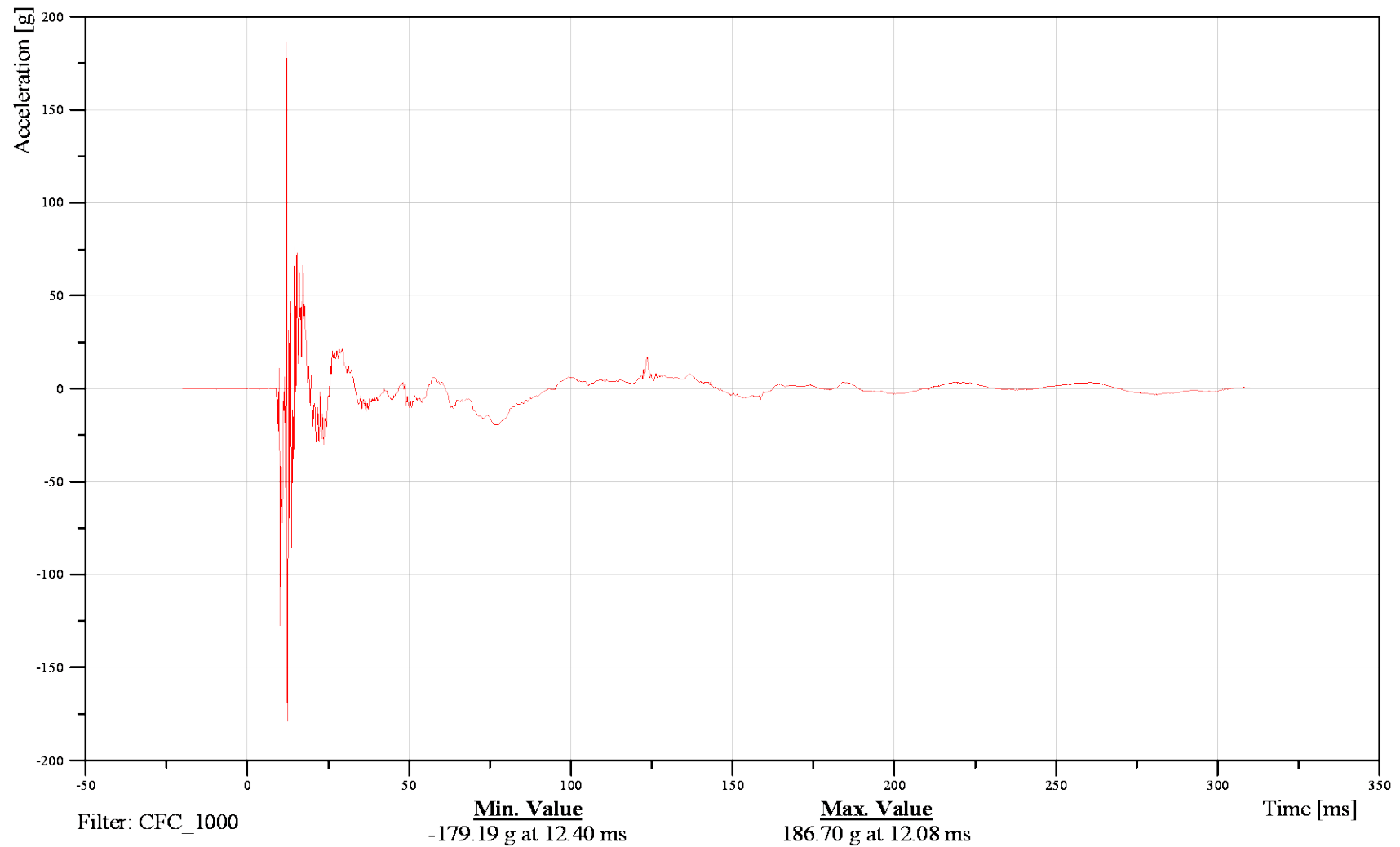
Time: 12:59

Customer: VRTC

11SHLDLE00WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder Lateral Ay

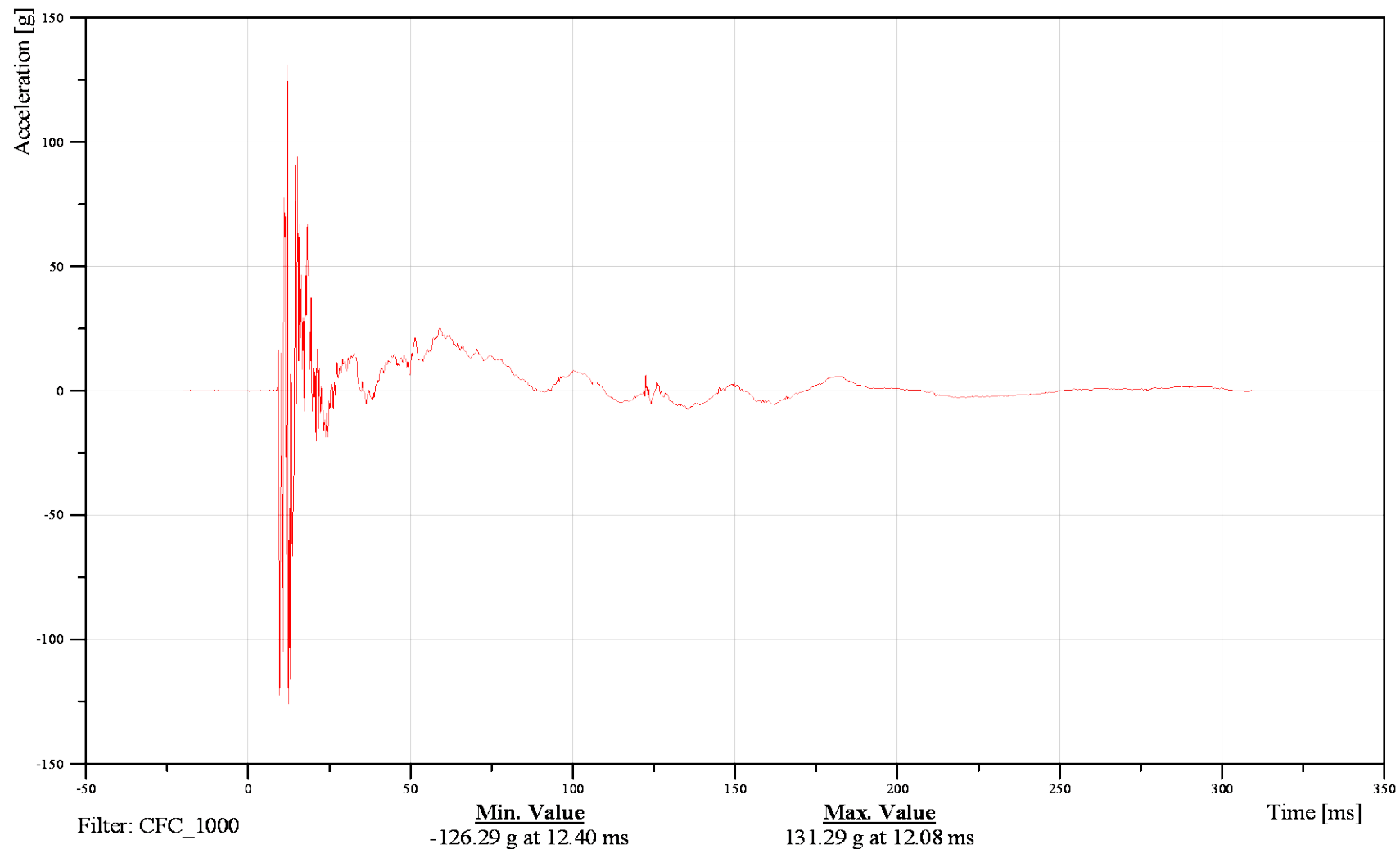
Time: 12:59

Customer: VRTC

11SHLDLE00WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder Vertical Az

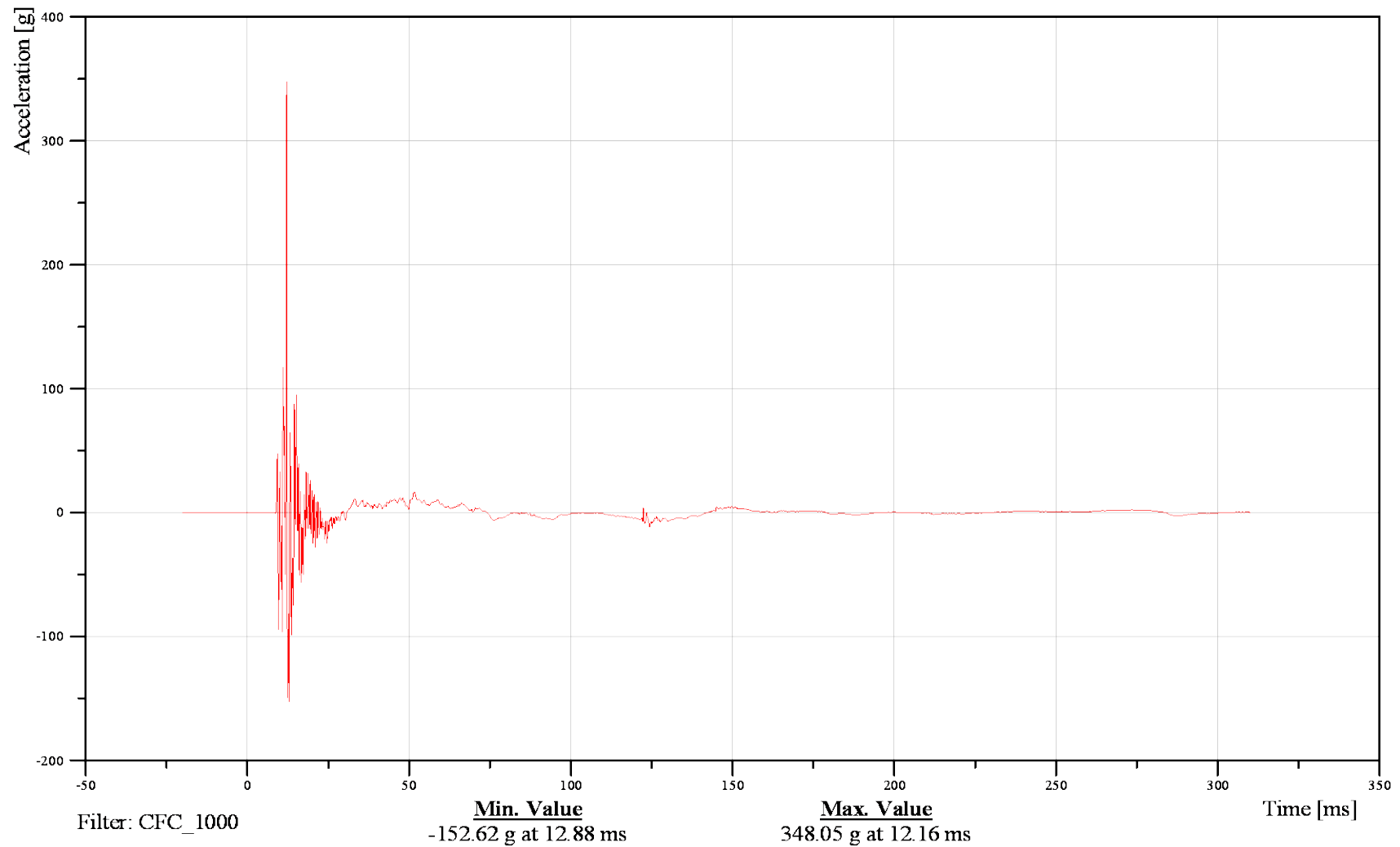
Time: 12:59

Customer: VRTC

11SHLDLE00WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder A Resultant

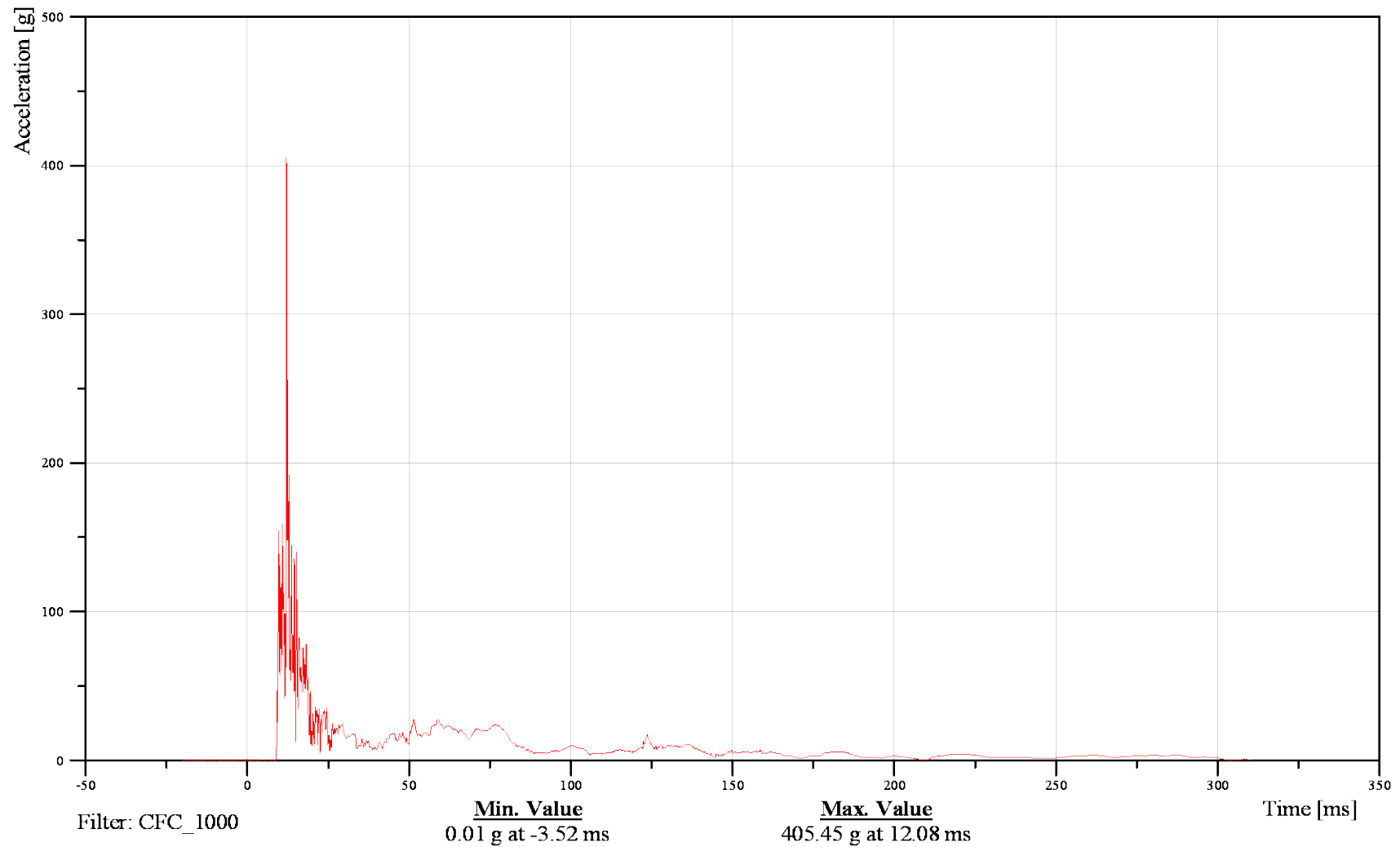
Time: 12:59

Customer: VRTC

11SHLDLE00WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder Force Fx

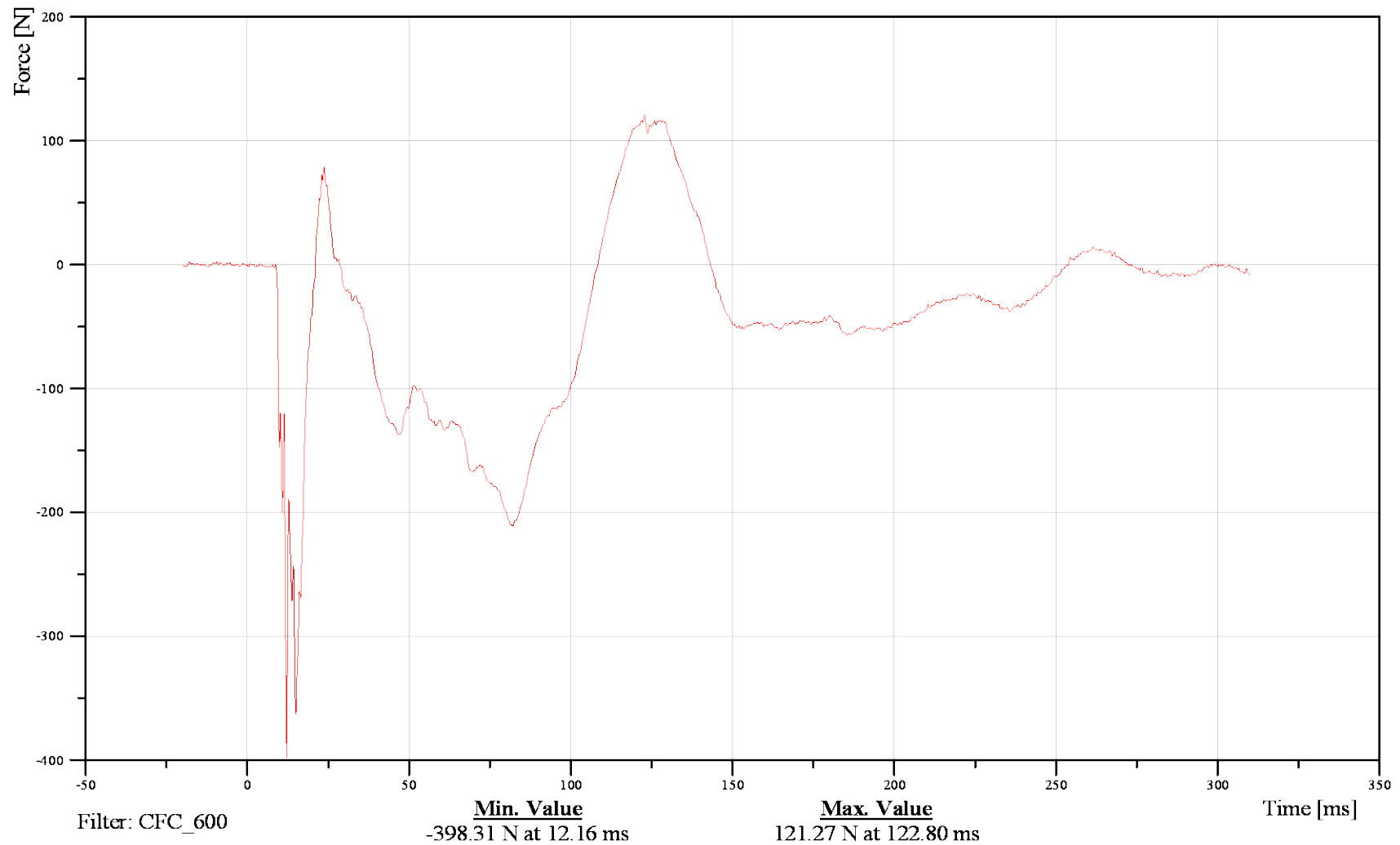
Time: 12:59

Customer: VRTC

11SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

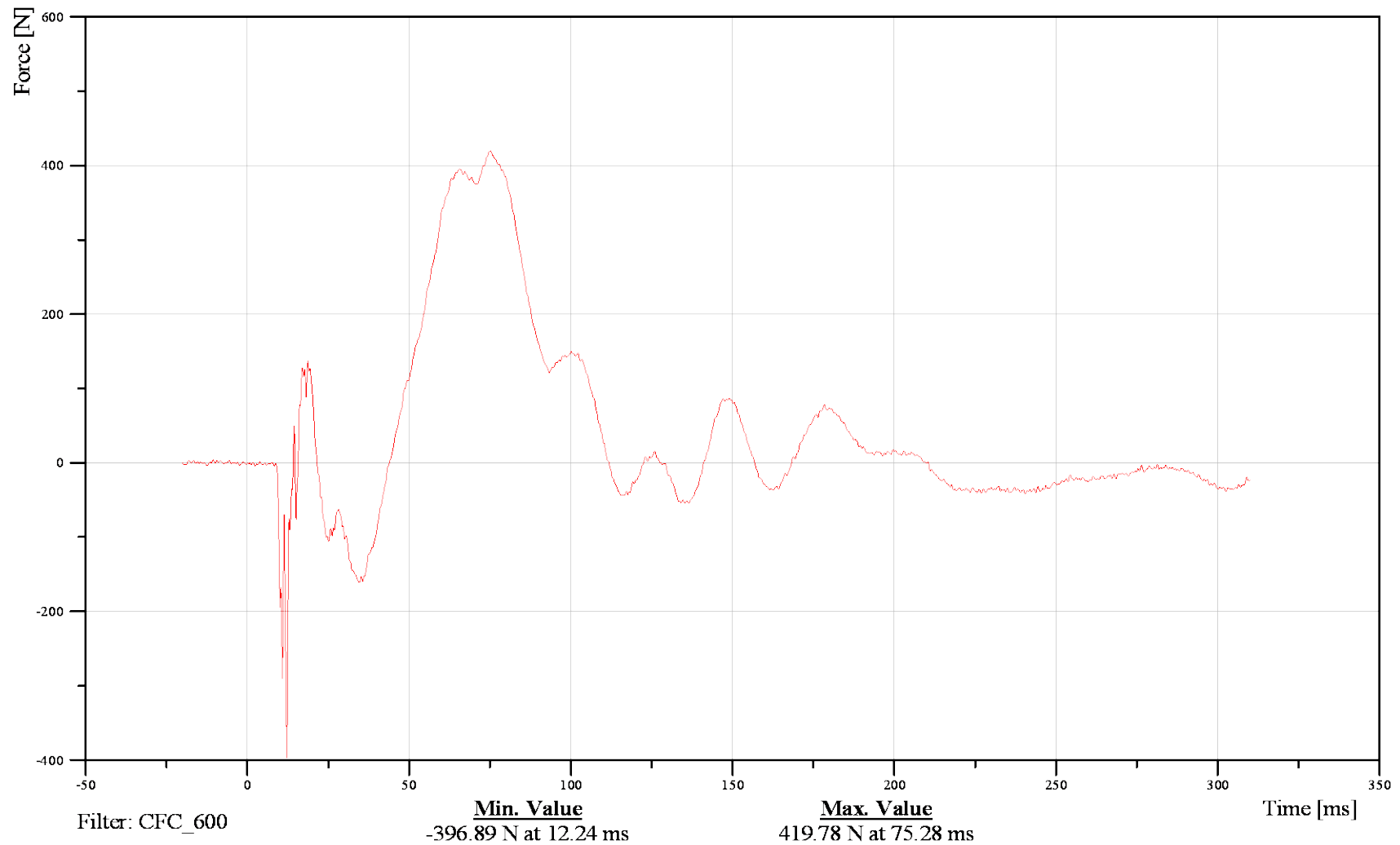
Shoulder Force Fy

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder Force Fz

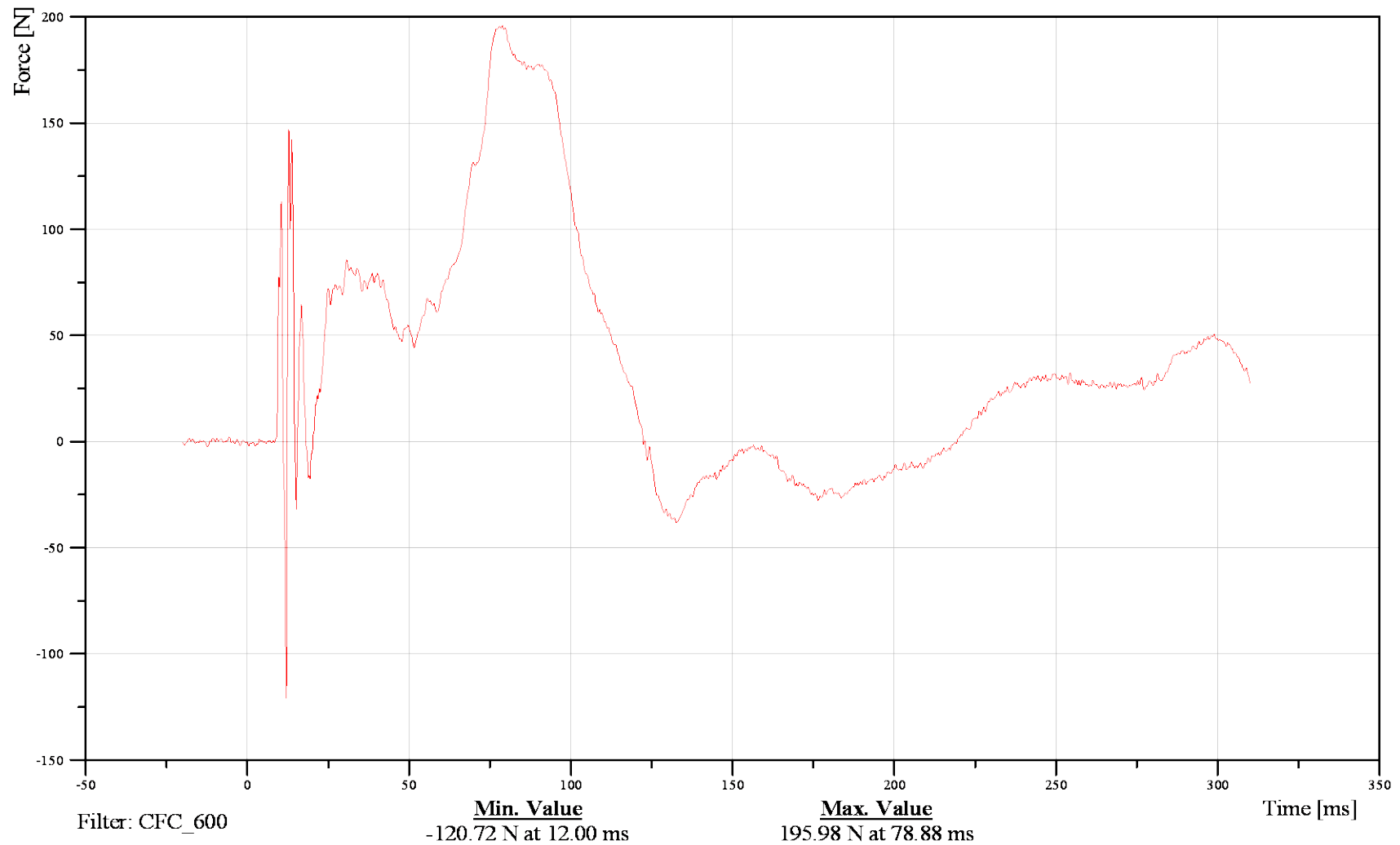
Time: 12:59

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Shoulder Displacement Dy

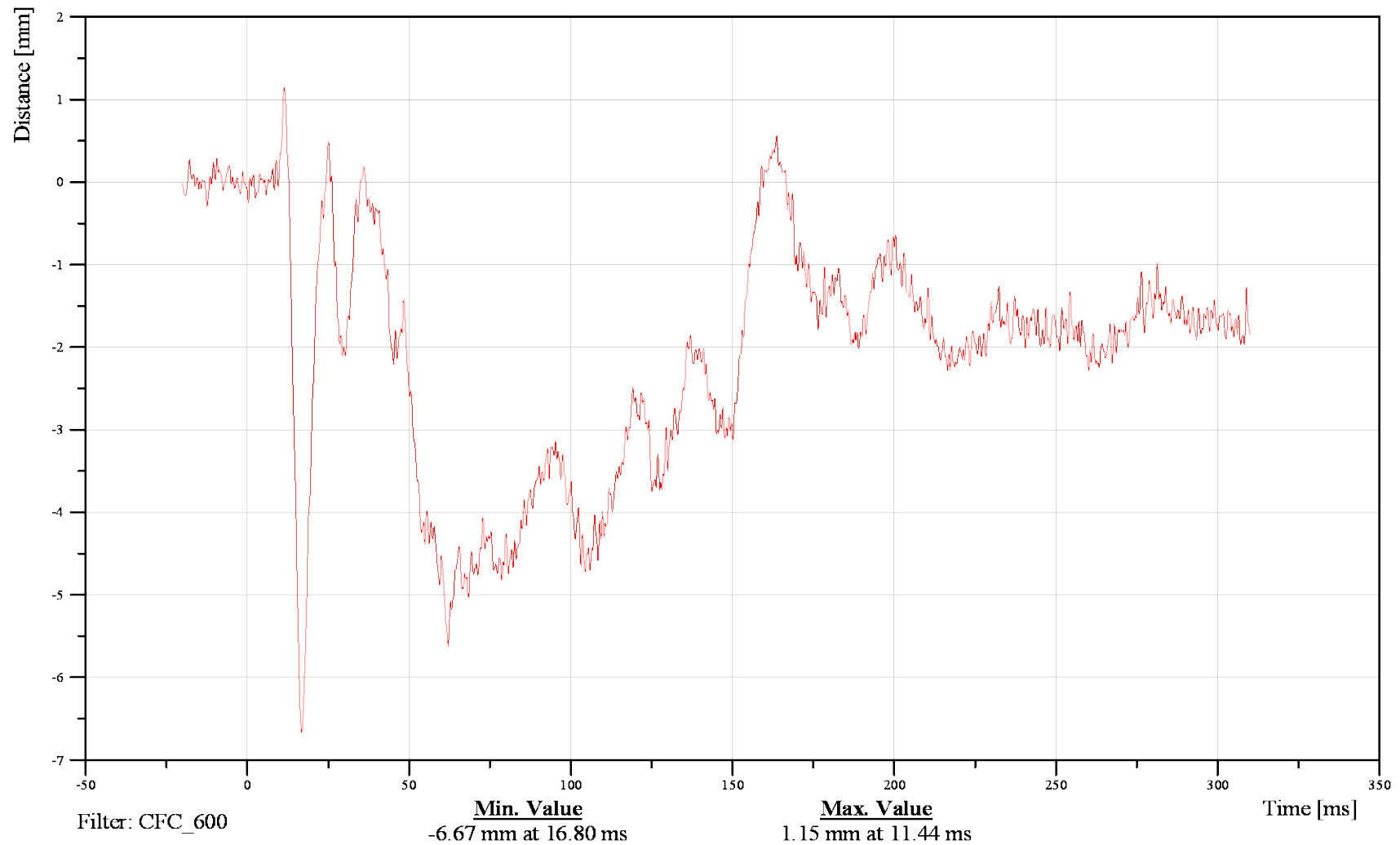
Time: 12:59

Customer: VRTC

11SHRILE00WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T1 Longitudinal Ax

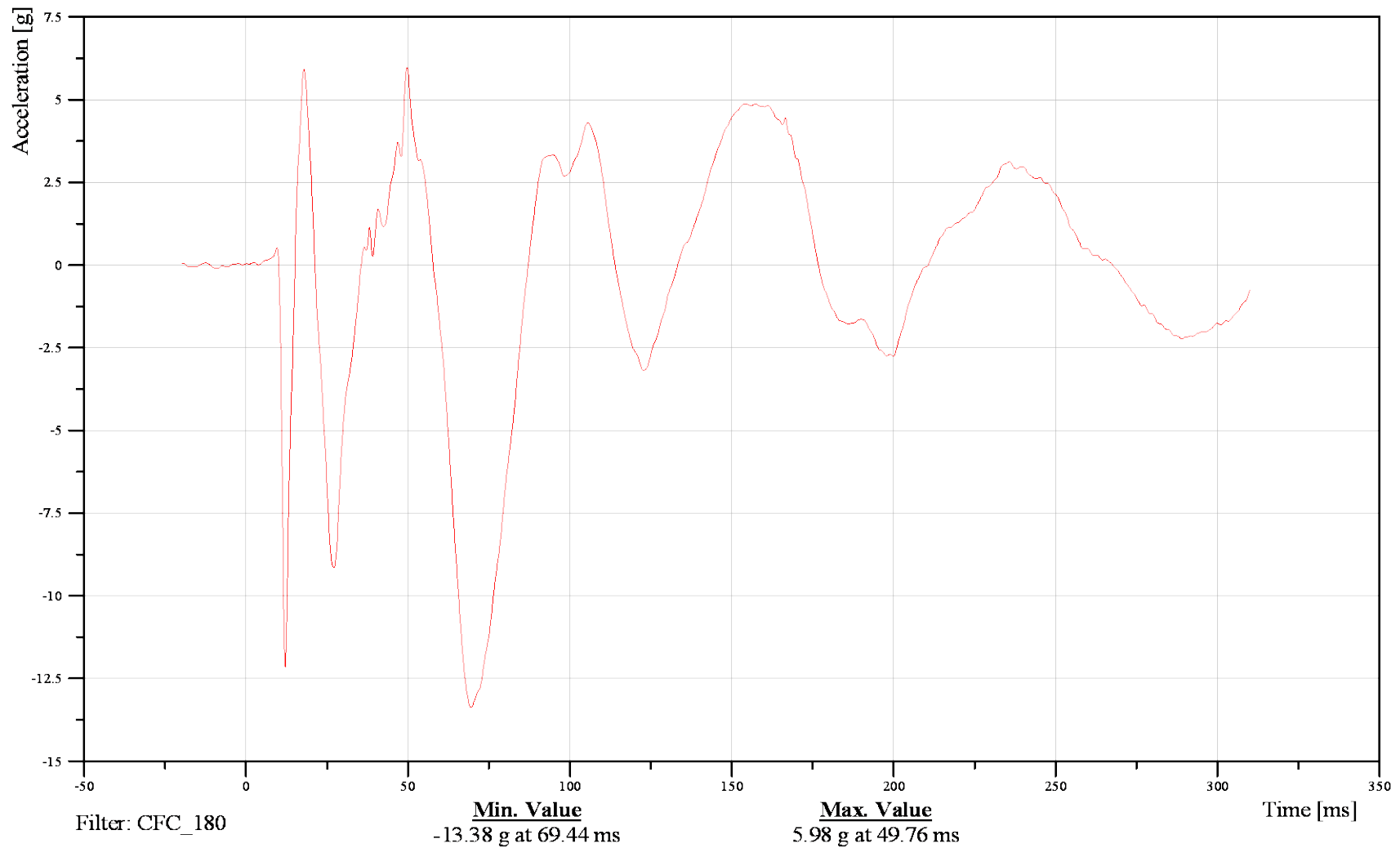
Time: 12:59

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T1 Lateral Ay

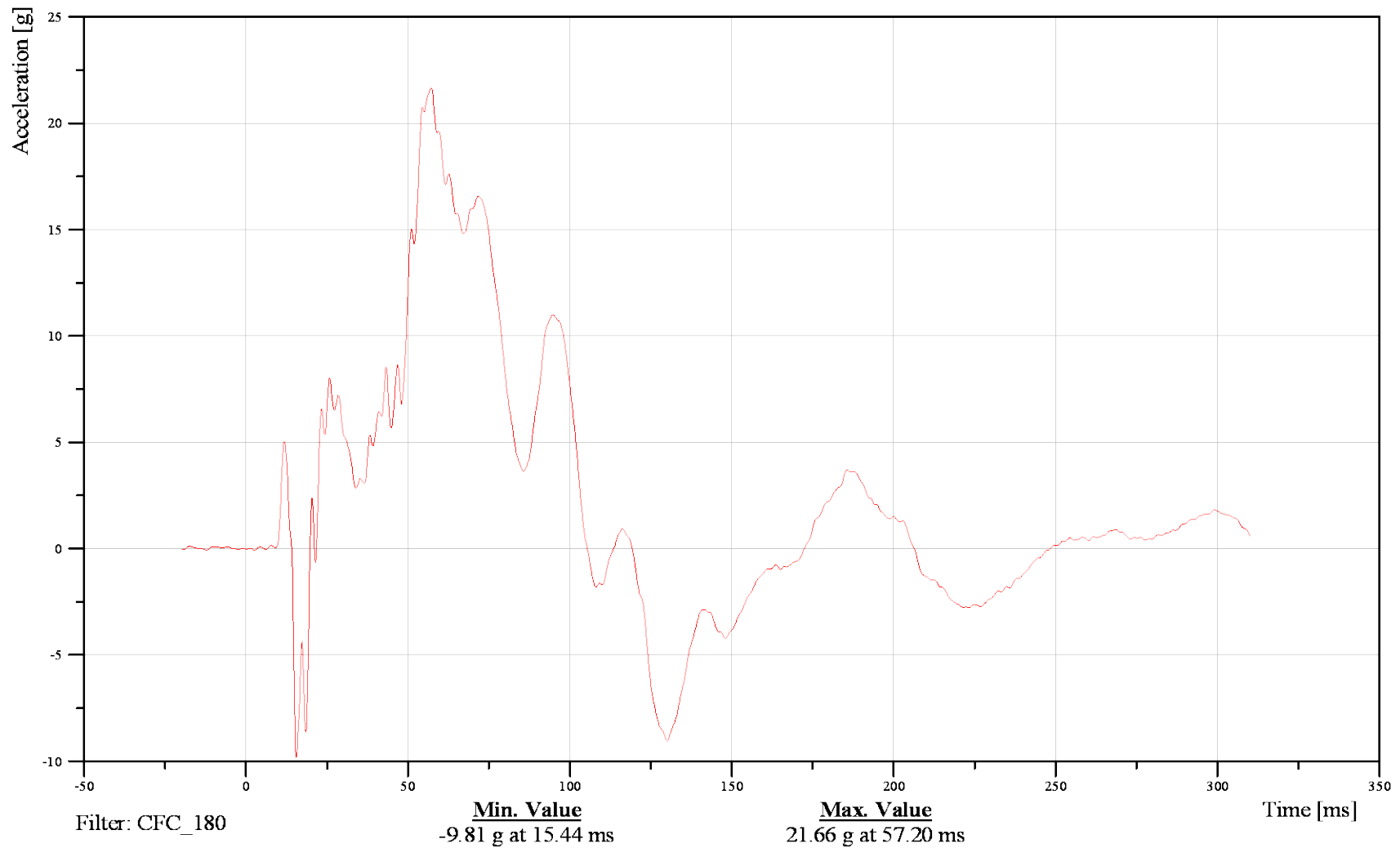
Time: 12:59

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T1 Vertical Az

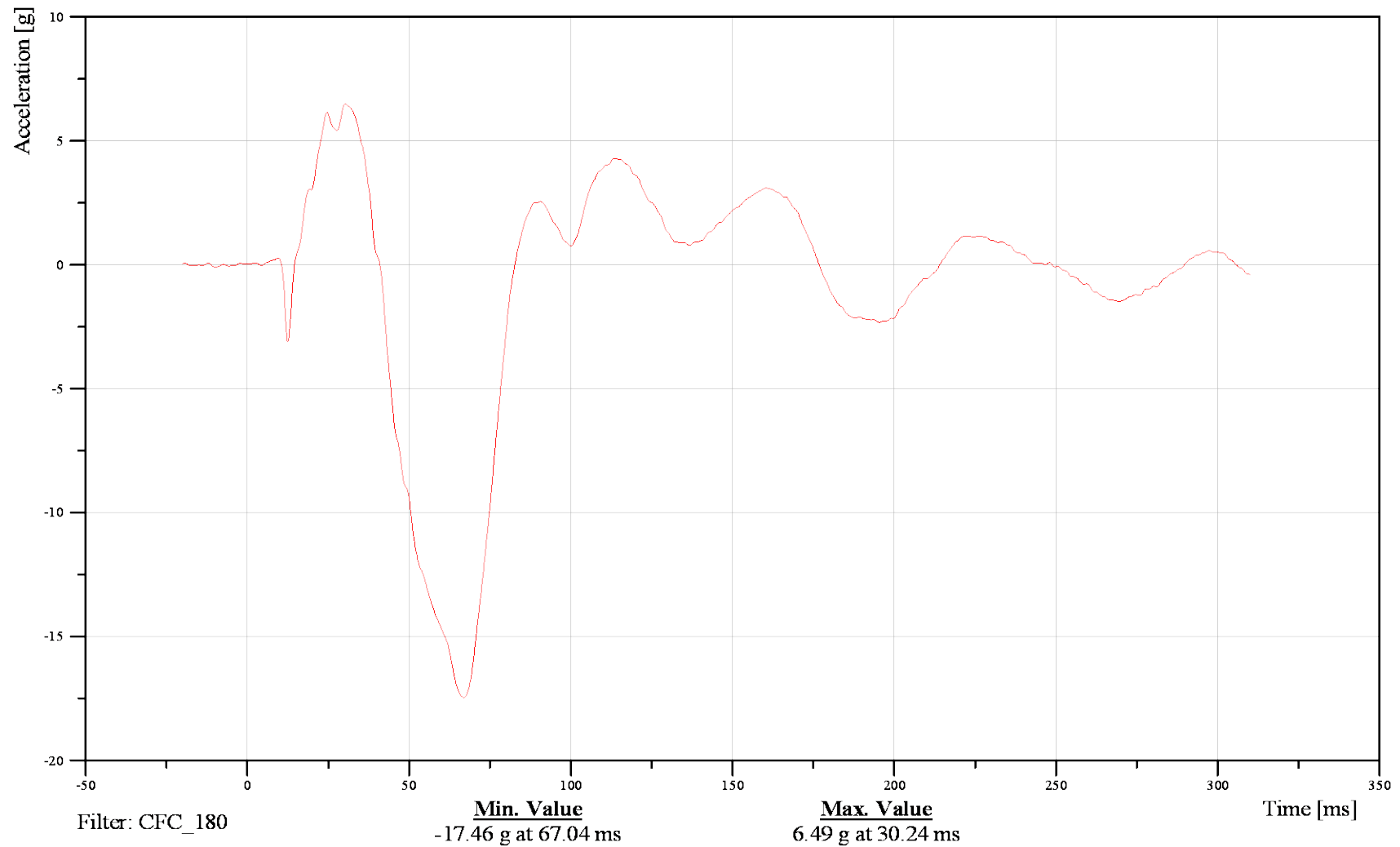
Time: 12:59

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T1 A Resultant

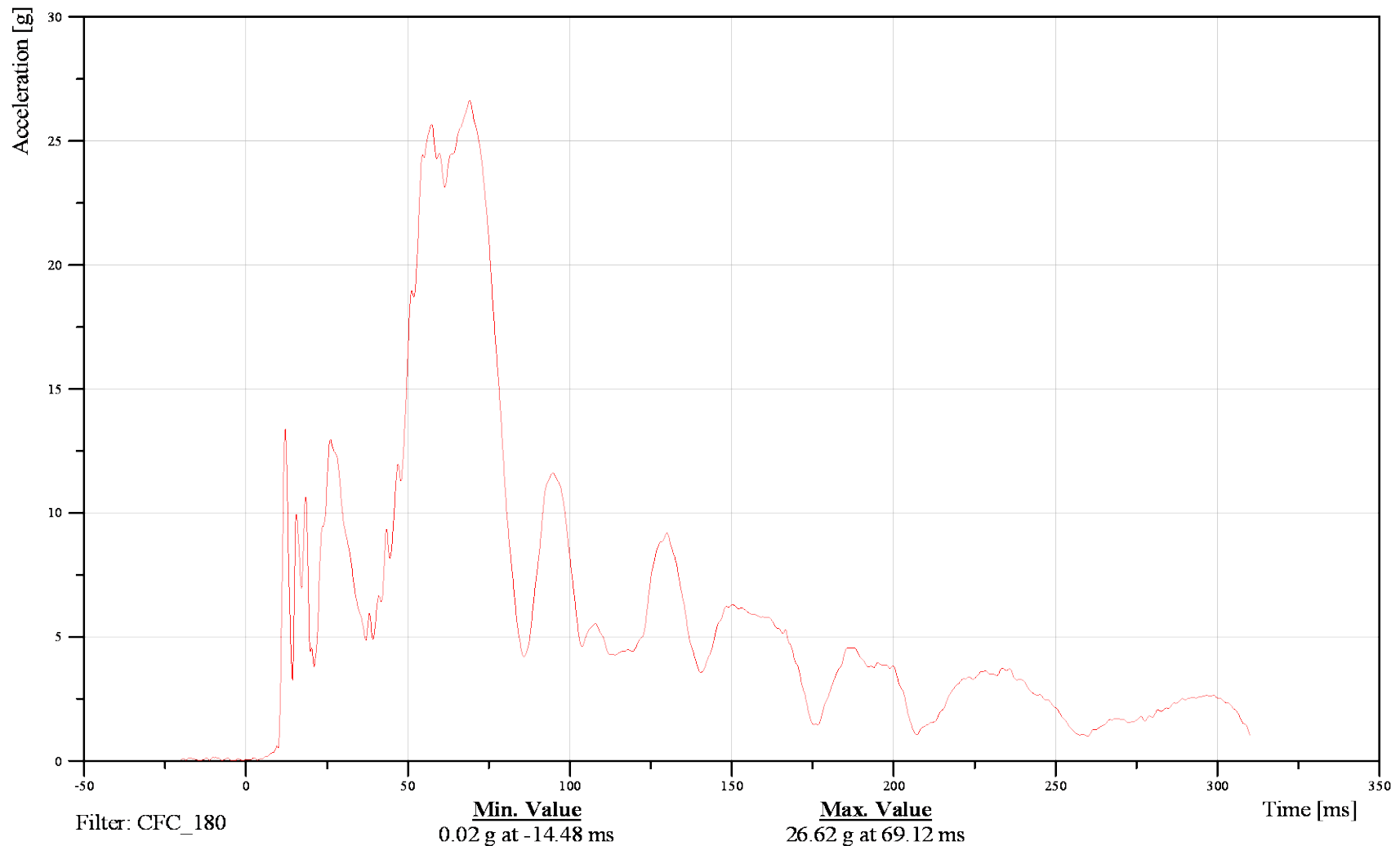
Time: 12:59

Customer: VRTC

11THSP0100WSACRC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 1 Longitudinal Ax

Date: 06/28/2012

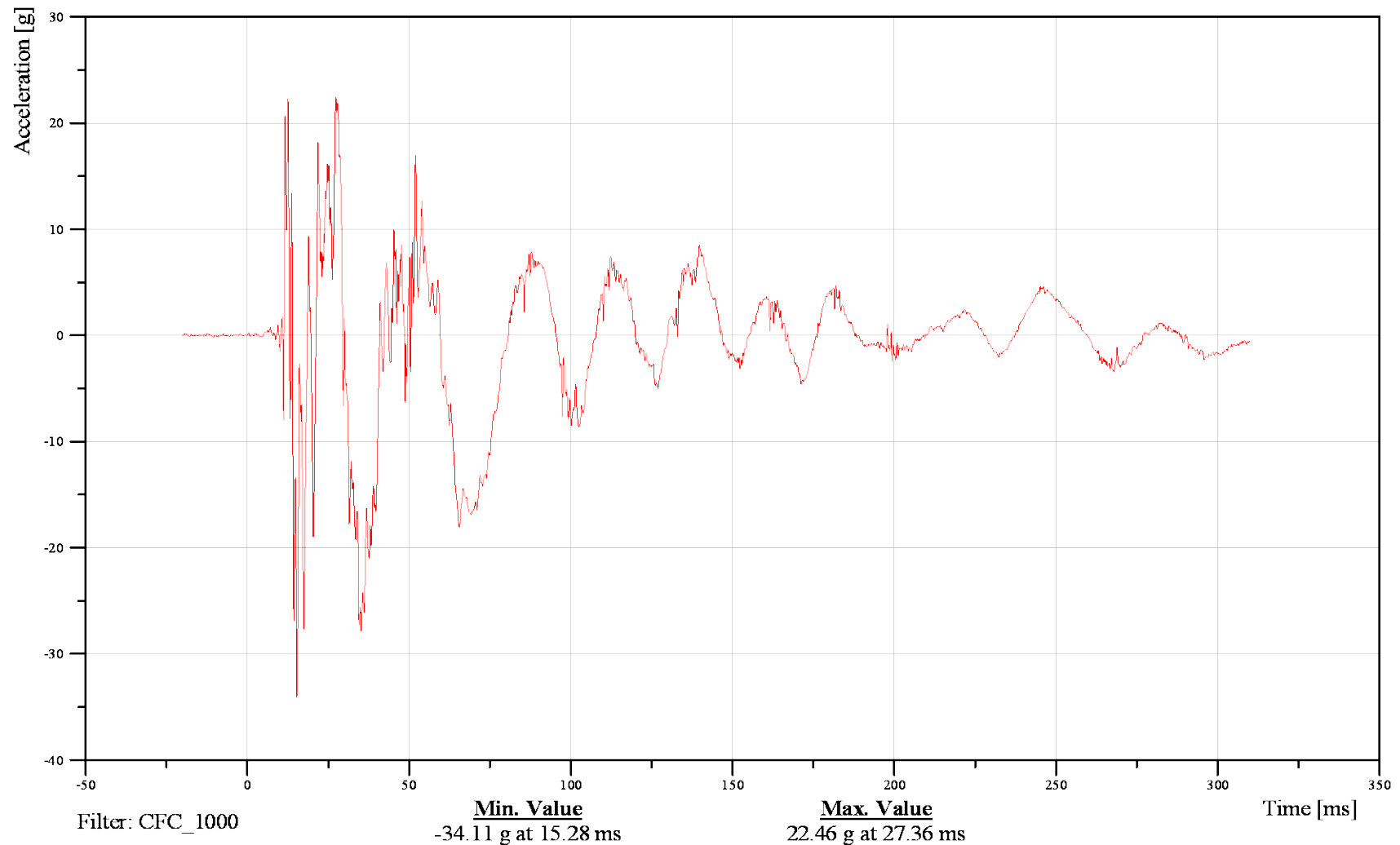
Time: 12:59

Customer: VRTC

11TRRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 1 Lateral Ay

Date: 06/28/2012

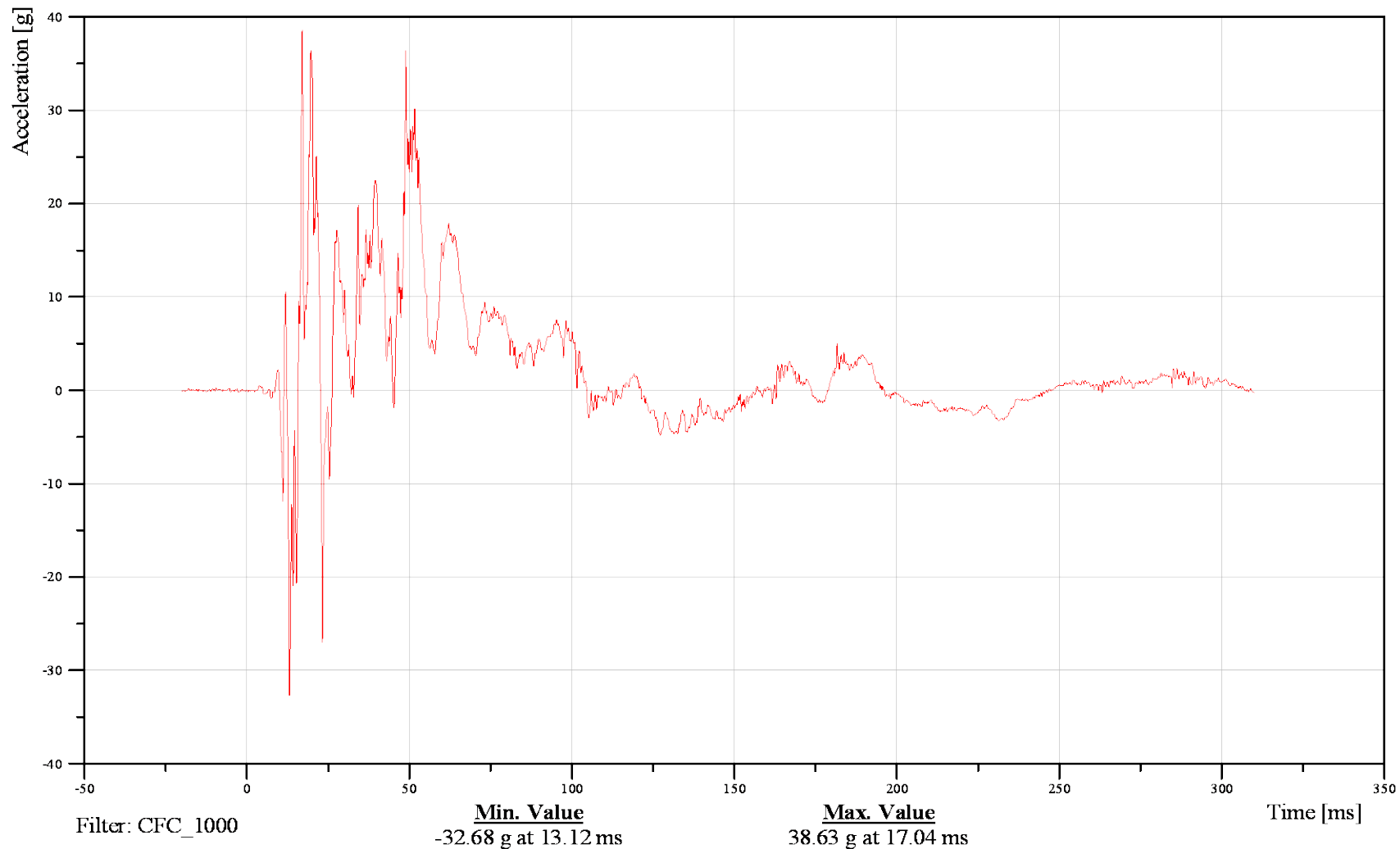
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Customer: VRTC

11TRRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 1 Vertical Az

Date: 06/28/2012

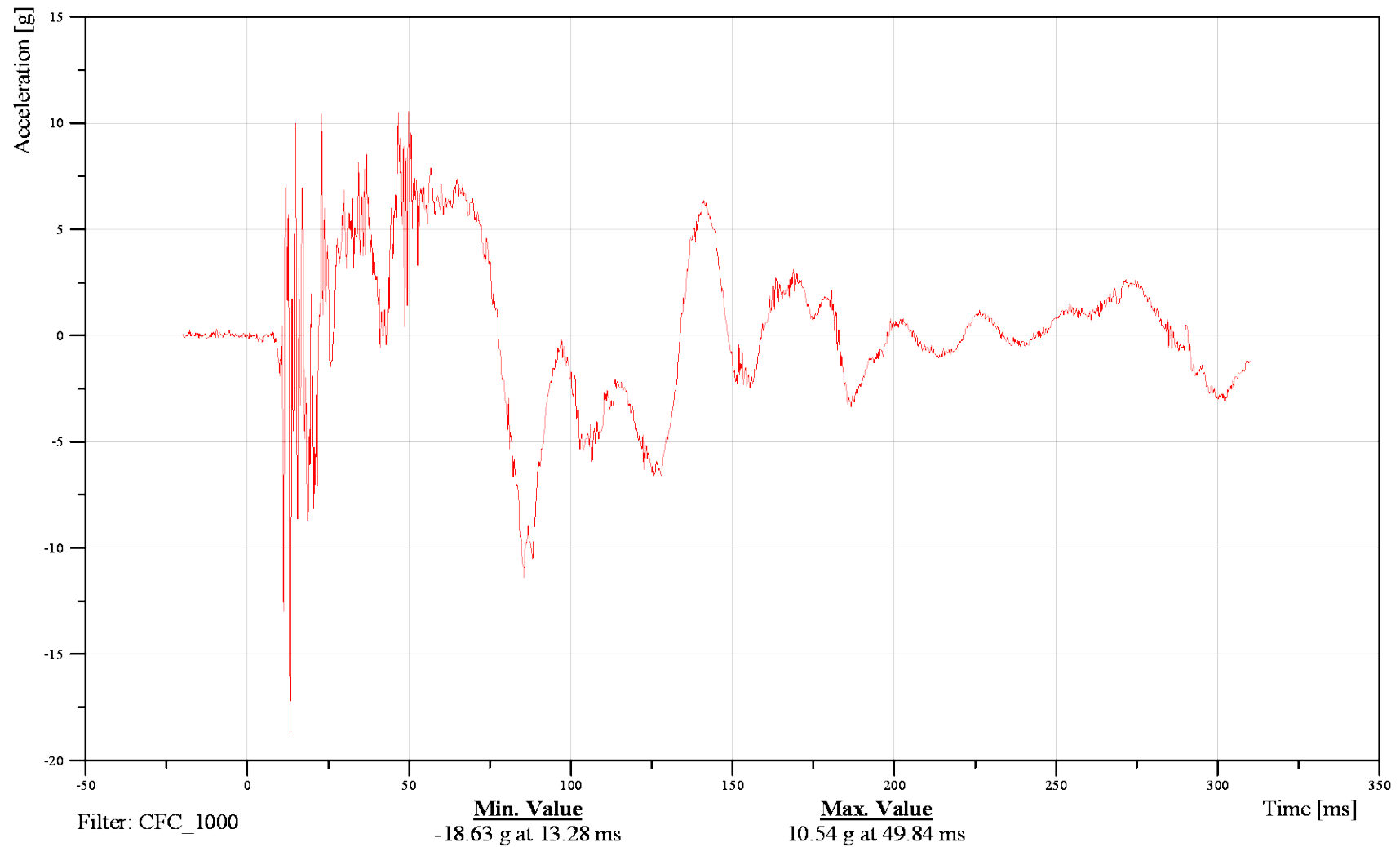
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Customer: VRTC

11TRRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 1 A Resultant

Date: 06/28/2012

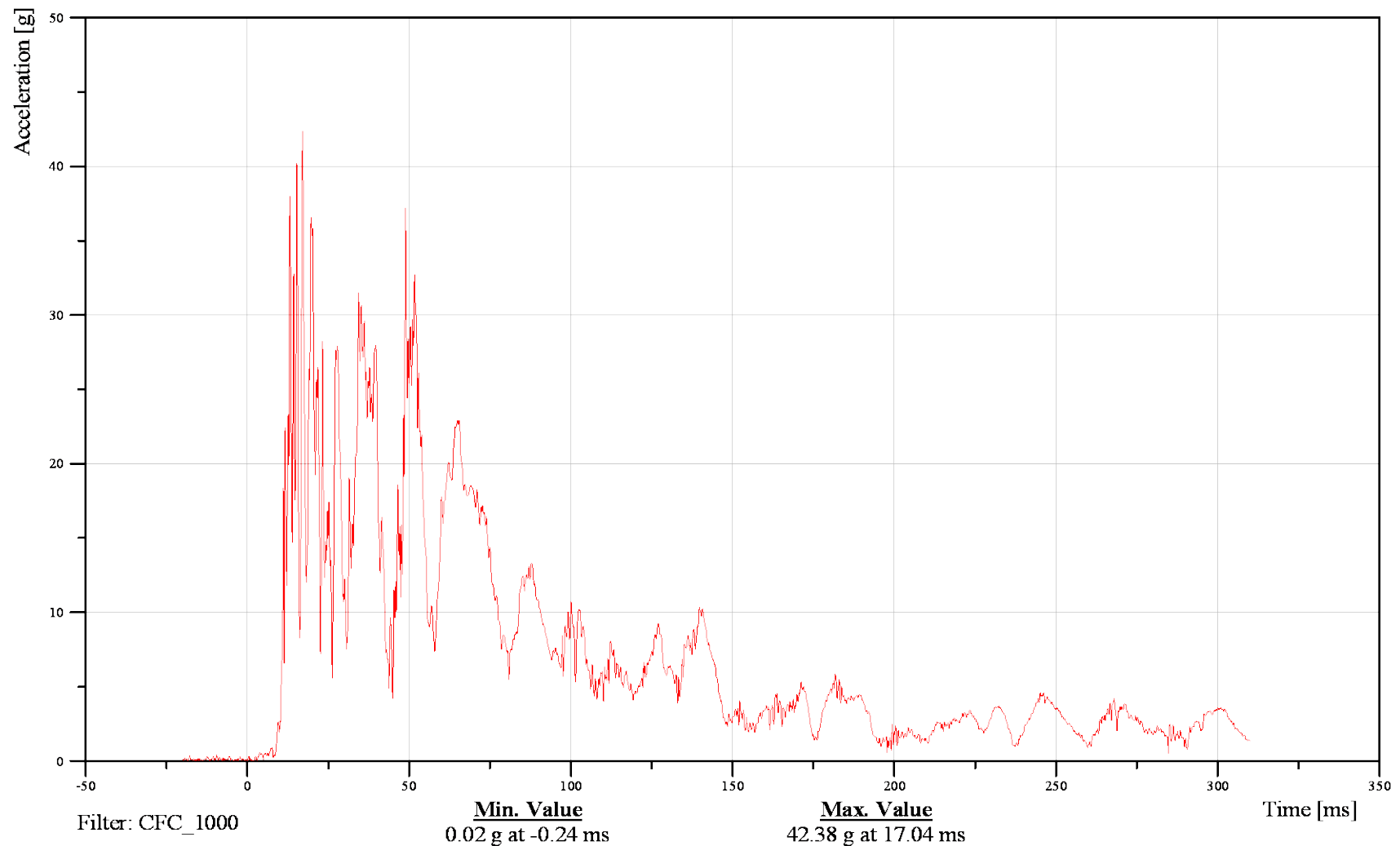
Time: 12:59

Customer: VRTC

11TRRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Thorax Rib 1 Displacement Dy

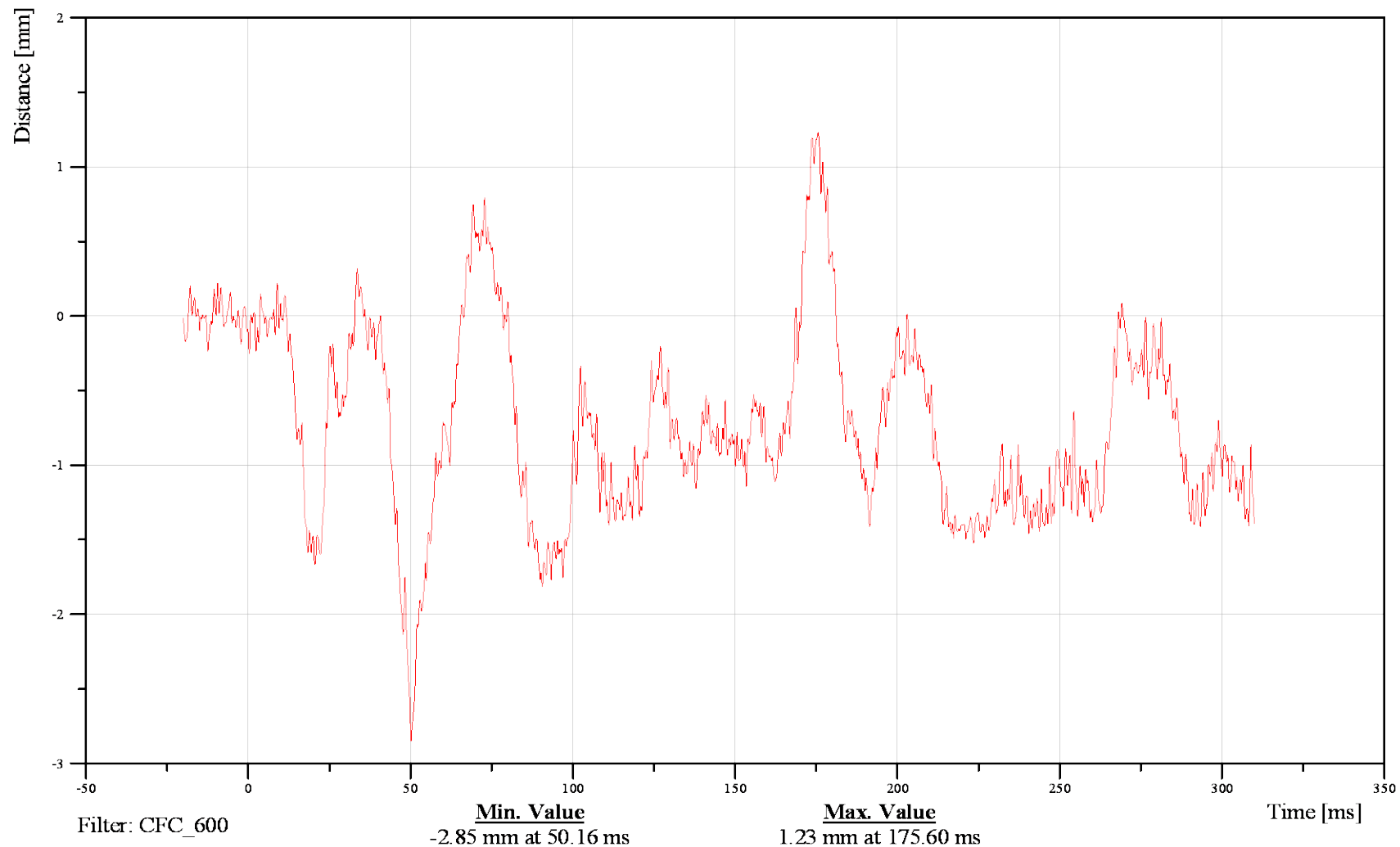
Time: 12:59

Customer: VRTC

11TRRILE01 WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 2 Longitudinal Ax

Date: 06/28/2012

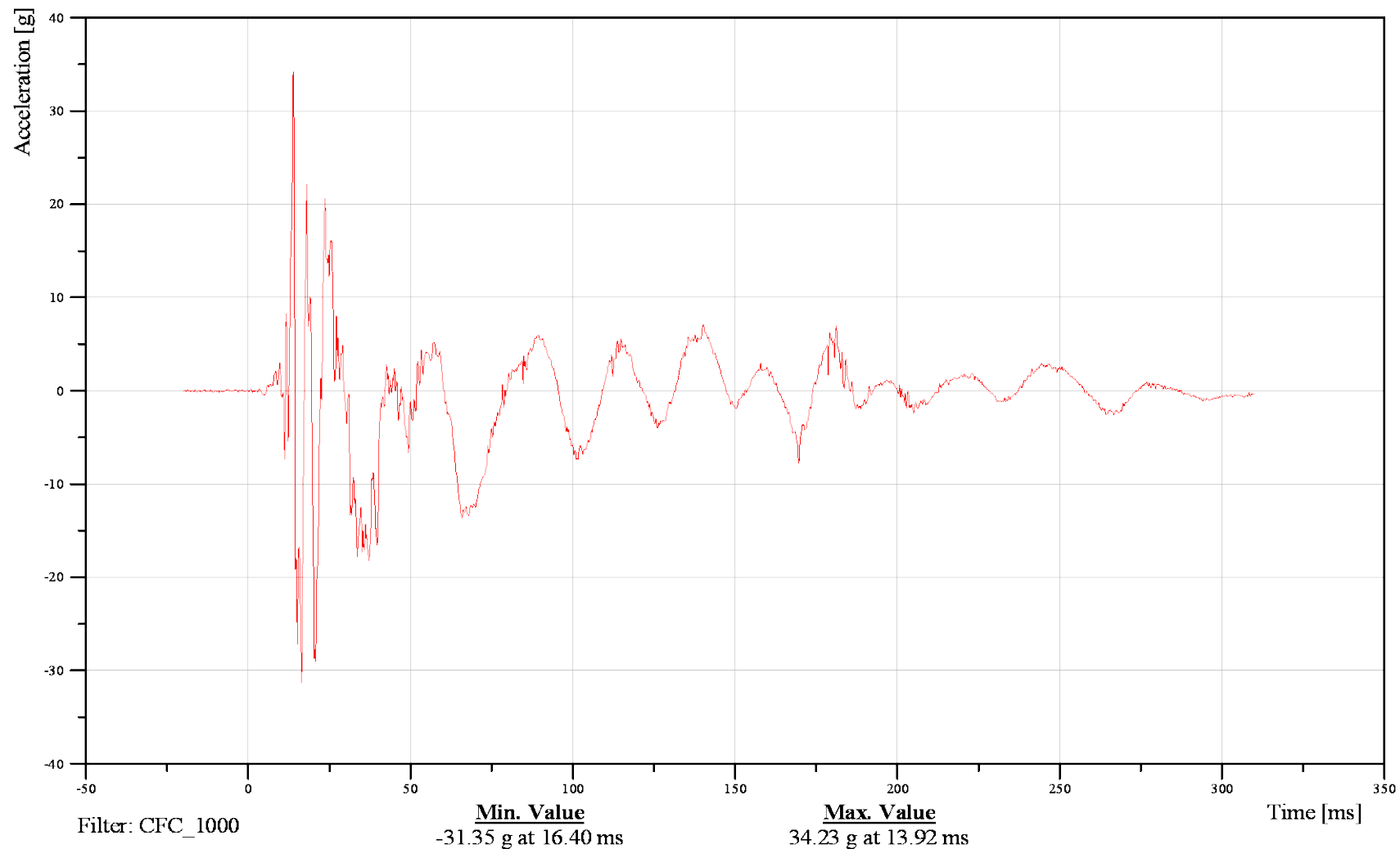
Time: 12:59

Customer: VRTC

11TRRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 2 Lateral Ay

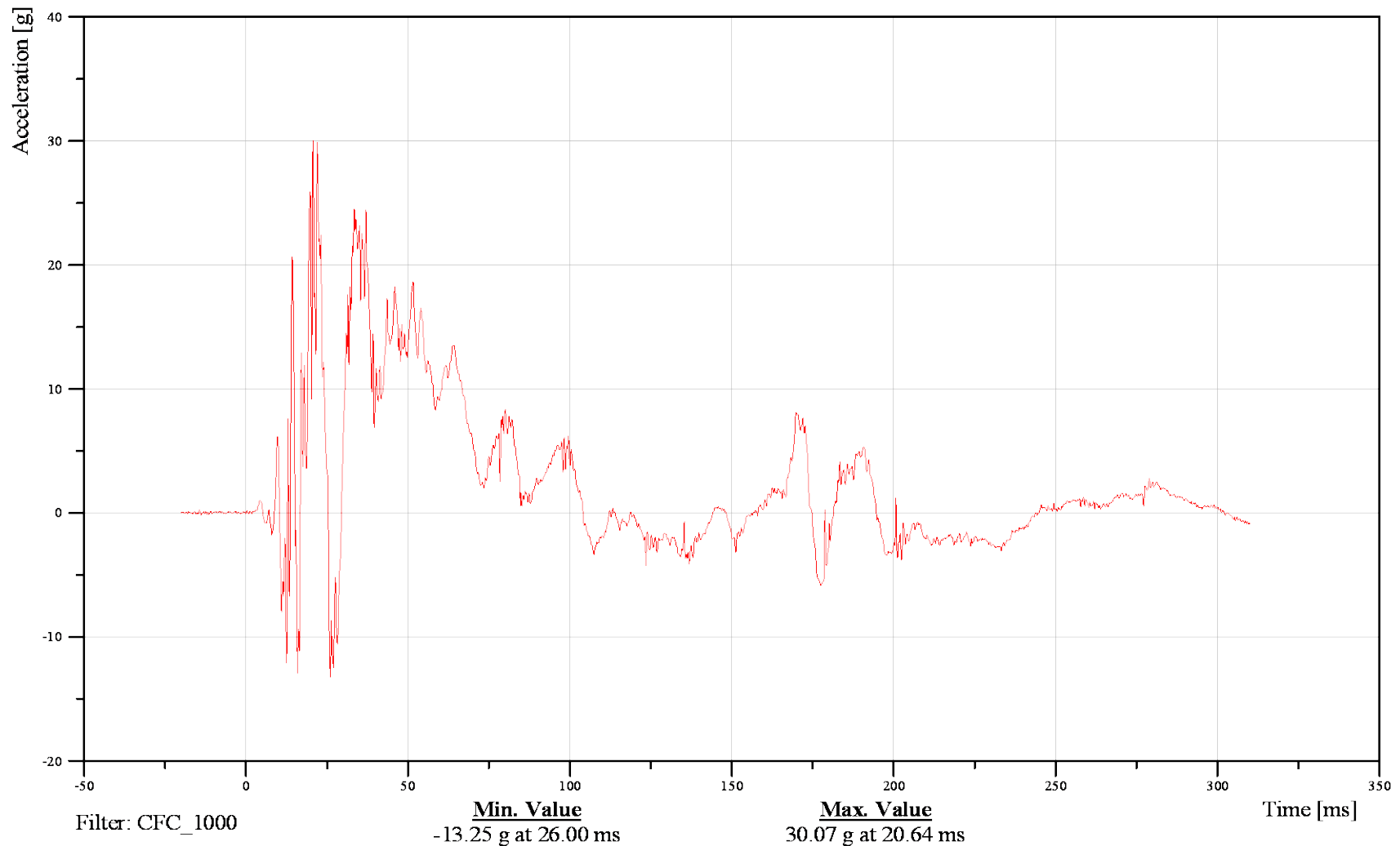
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11TRRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 2 Vertical Az

Date: 06/28/2012

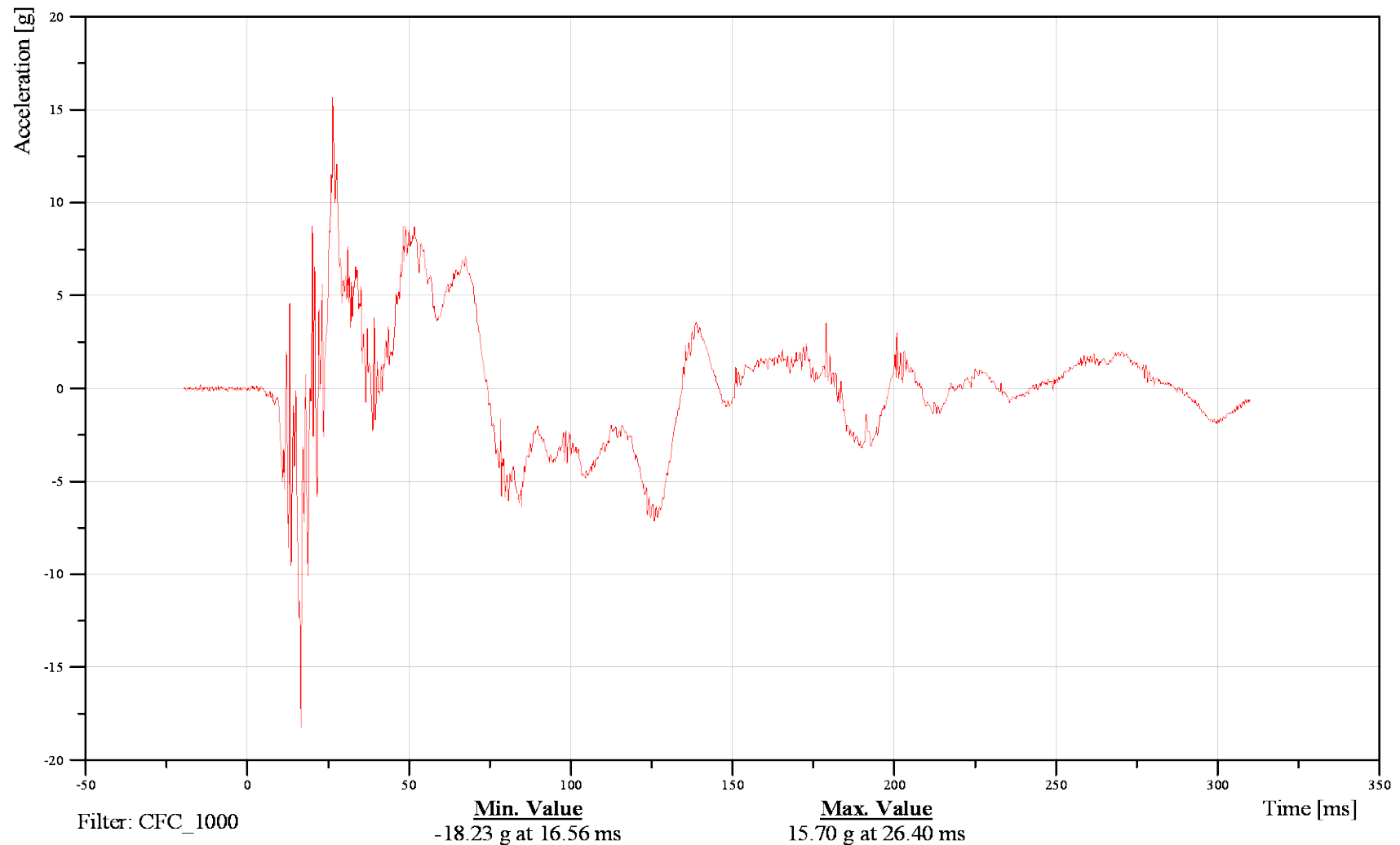
Time: 12:59

Customer: VRTC

11TRRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 2 A Resultant

Date: 06/28/2012

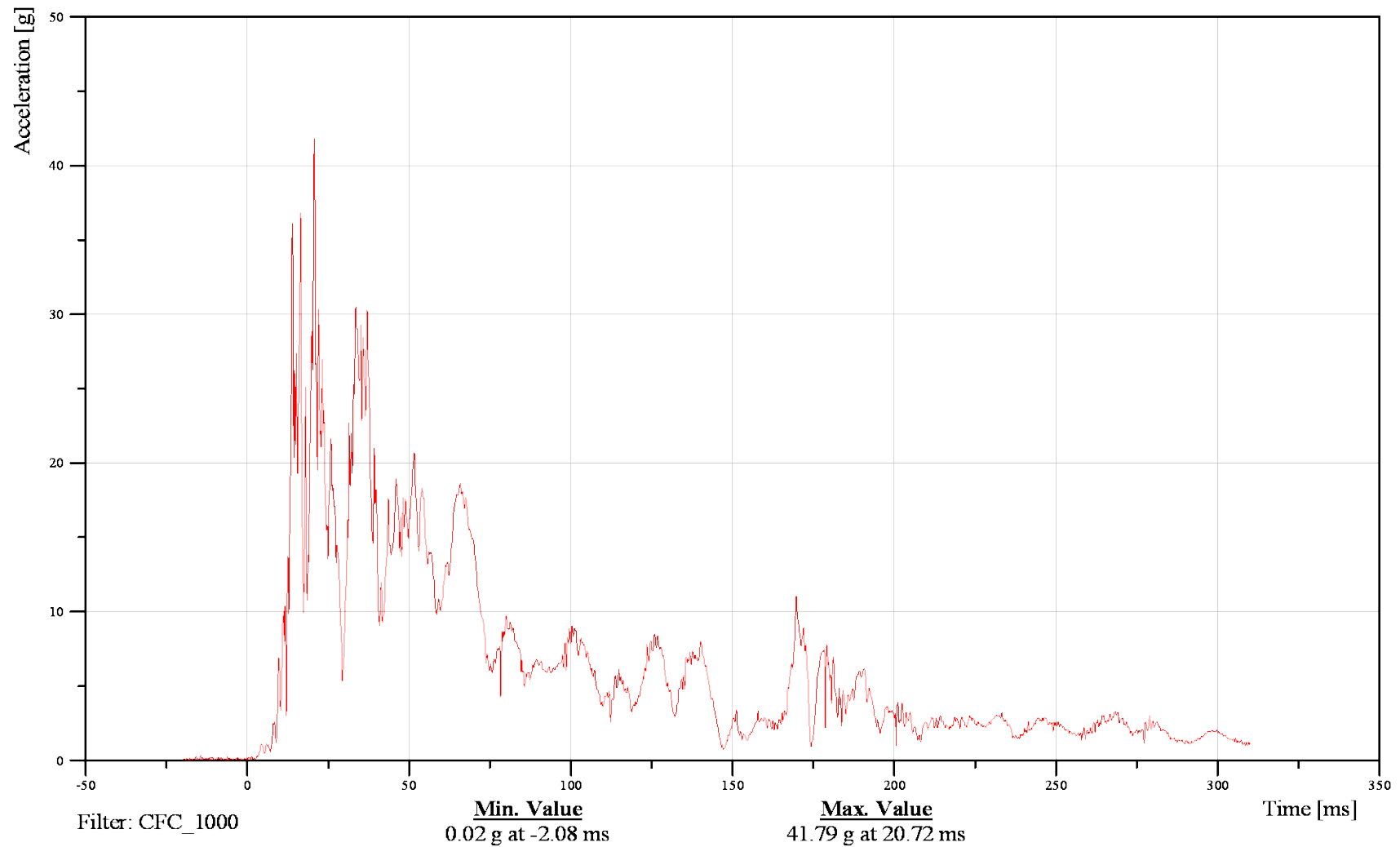
Time: 12:59

Customer: VRTC

11TRRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Thorax Rib 2 Displacement Dy

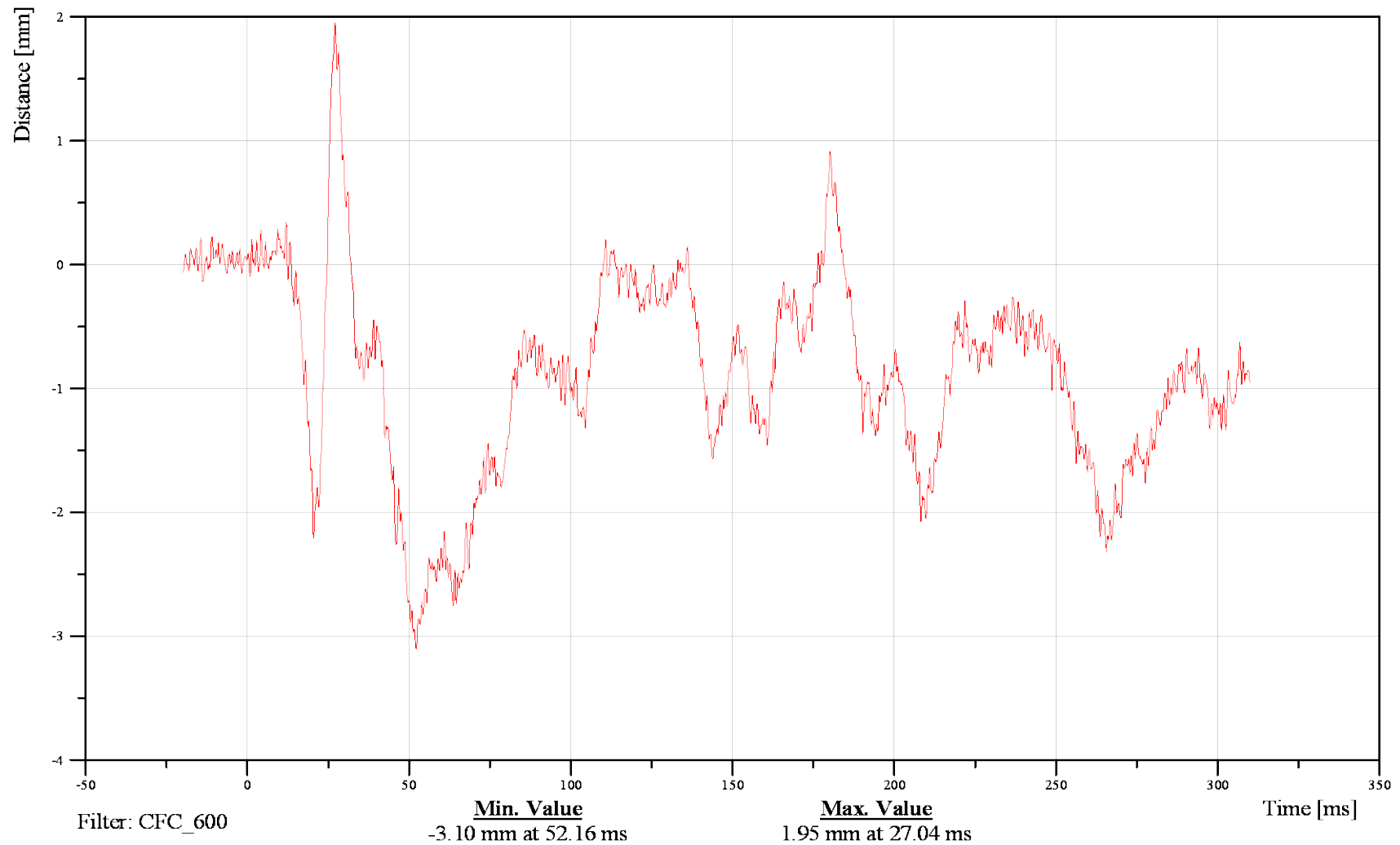
Time: 12:59

Customer: VRTC

11TRRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 3 Longitudinal Ax

Date: 06/28/2012

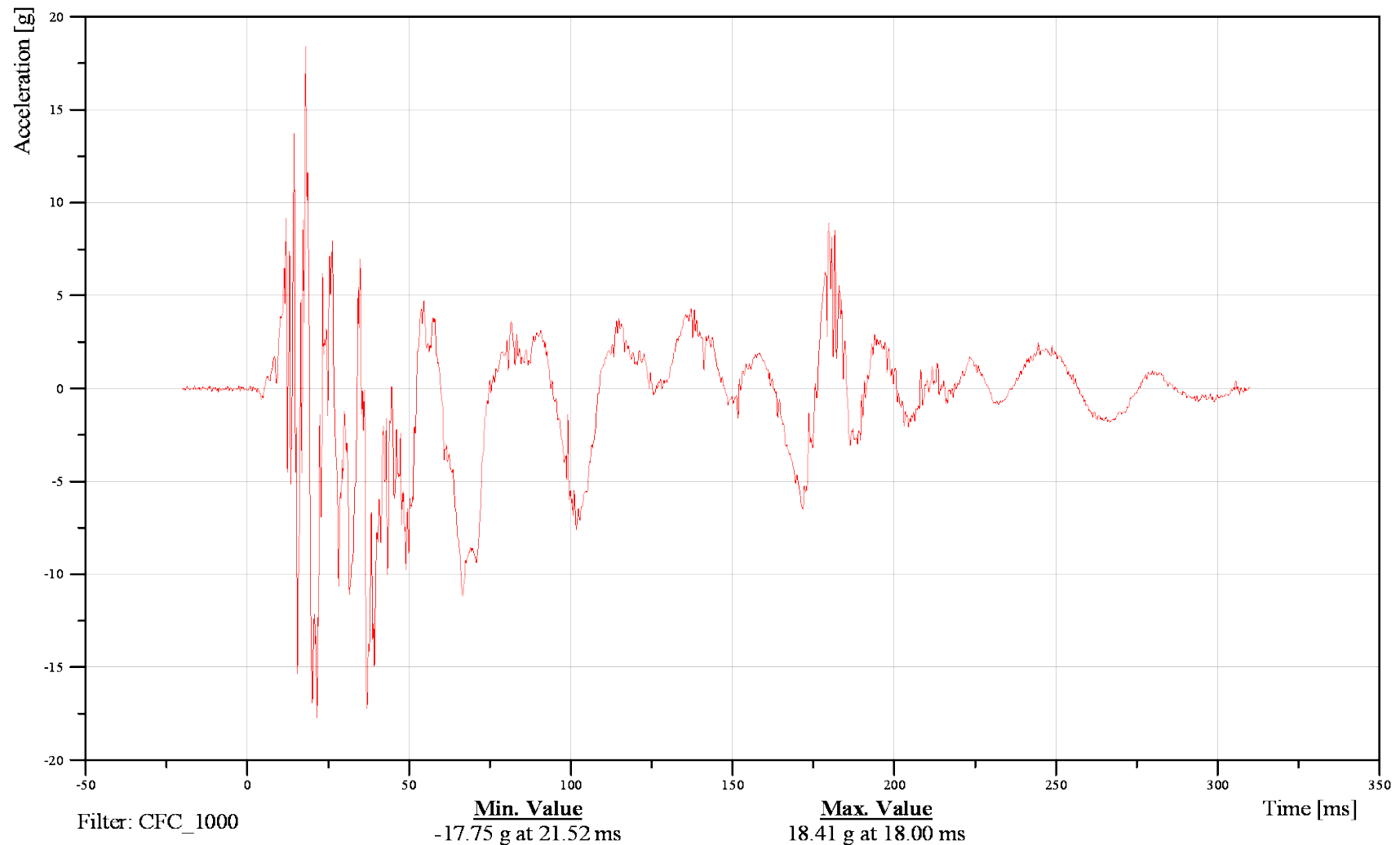
Time: 12:59

Customer: VRTC

11TRRILE03WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Thorax Rib 3 Lateral Ay

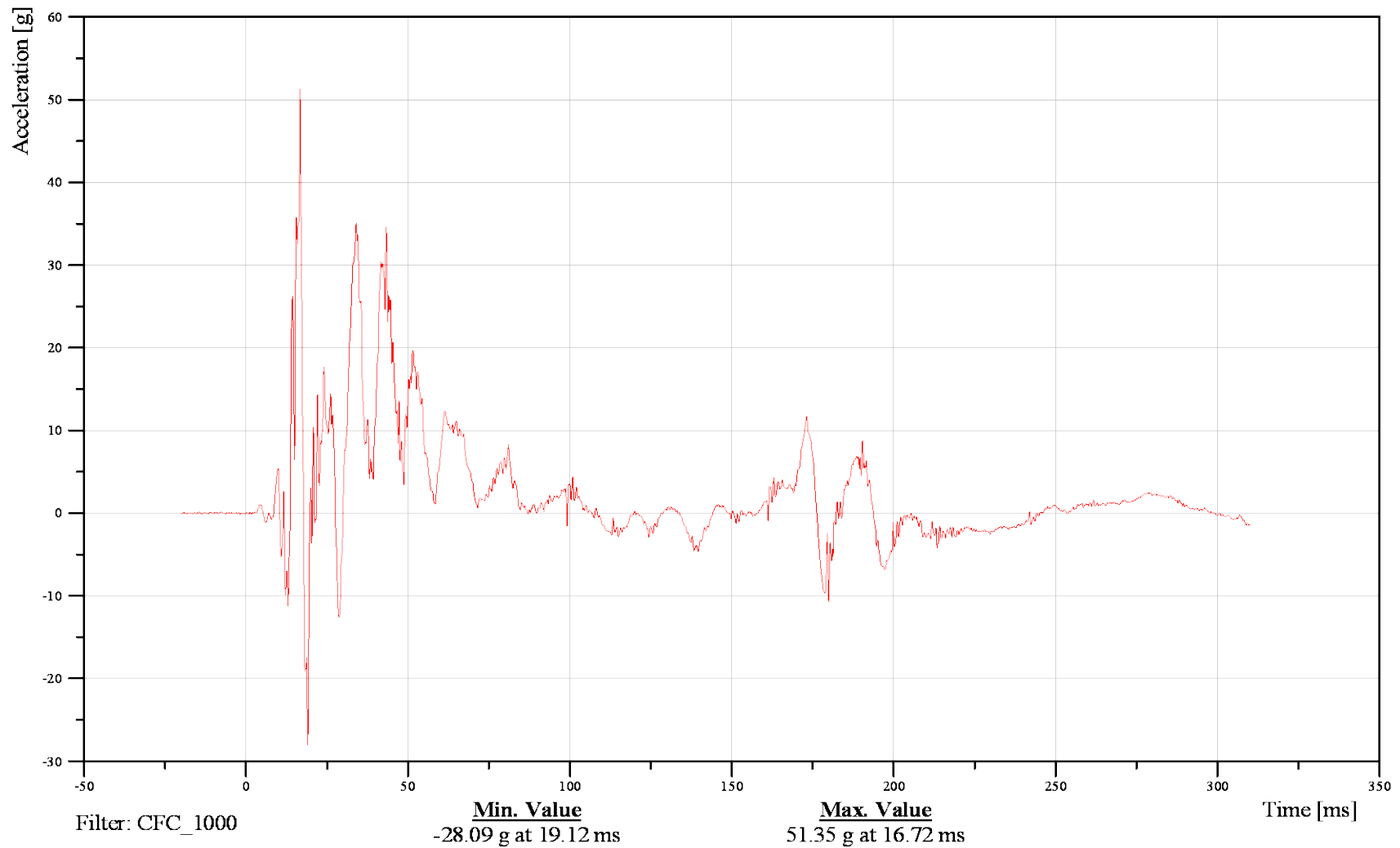
Time: 12:59

Customer: VRTC

11TRRILE03WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 3 Vertical Az

Date: 06/28/2012

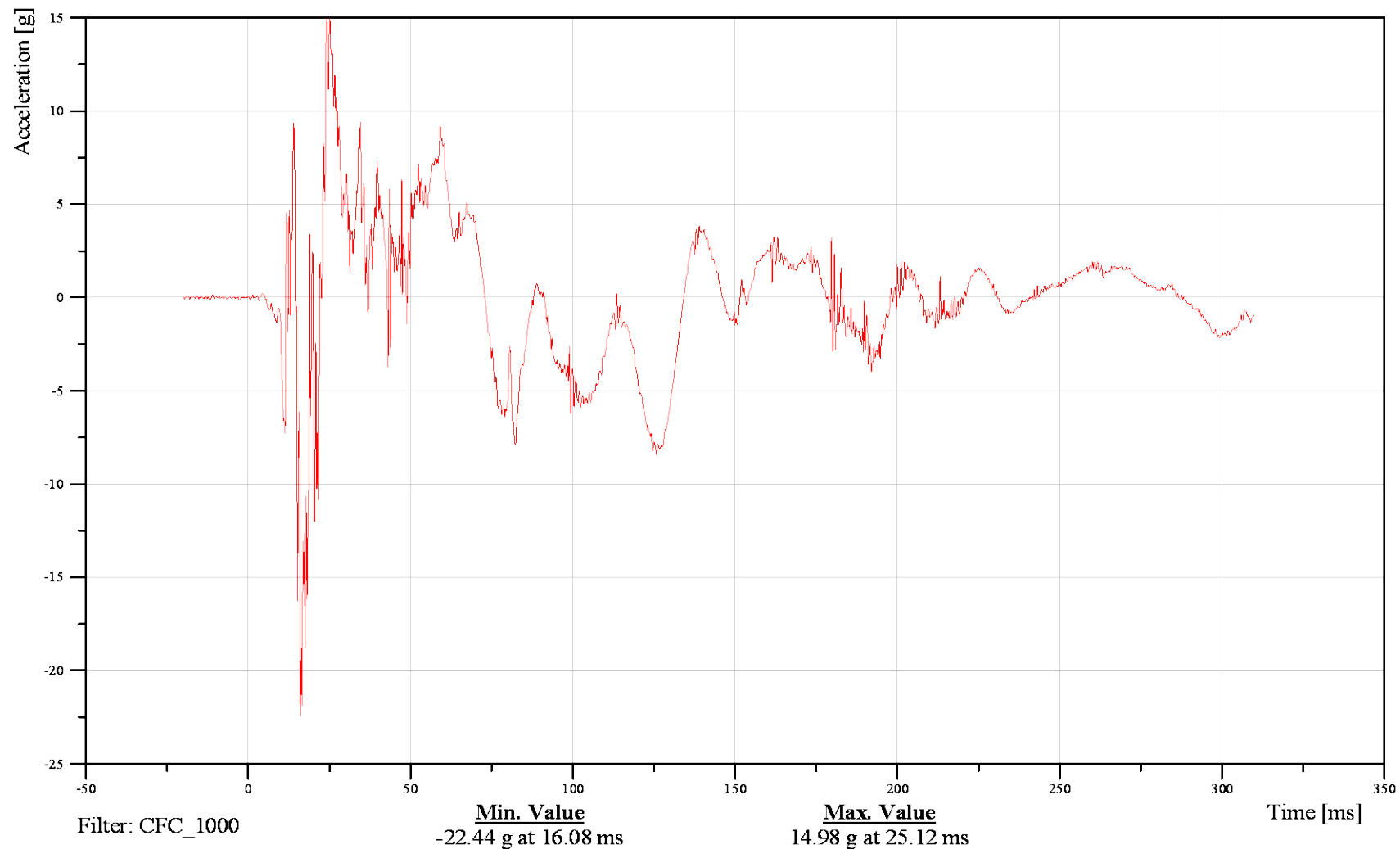
Time: 12:59

Customer: VRTC

11TRRILE03WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Thorax Rib 3 A Resultant

Date: 06/28/2012

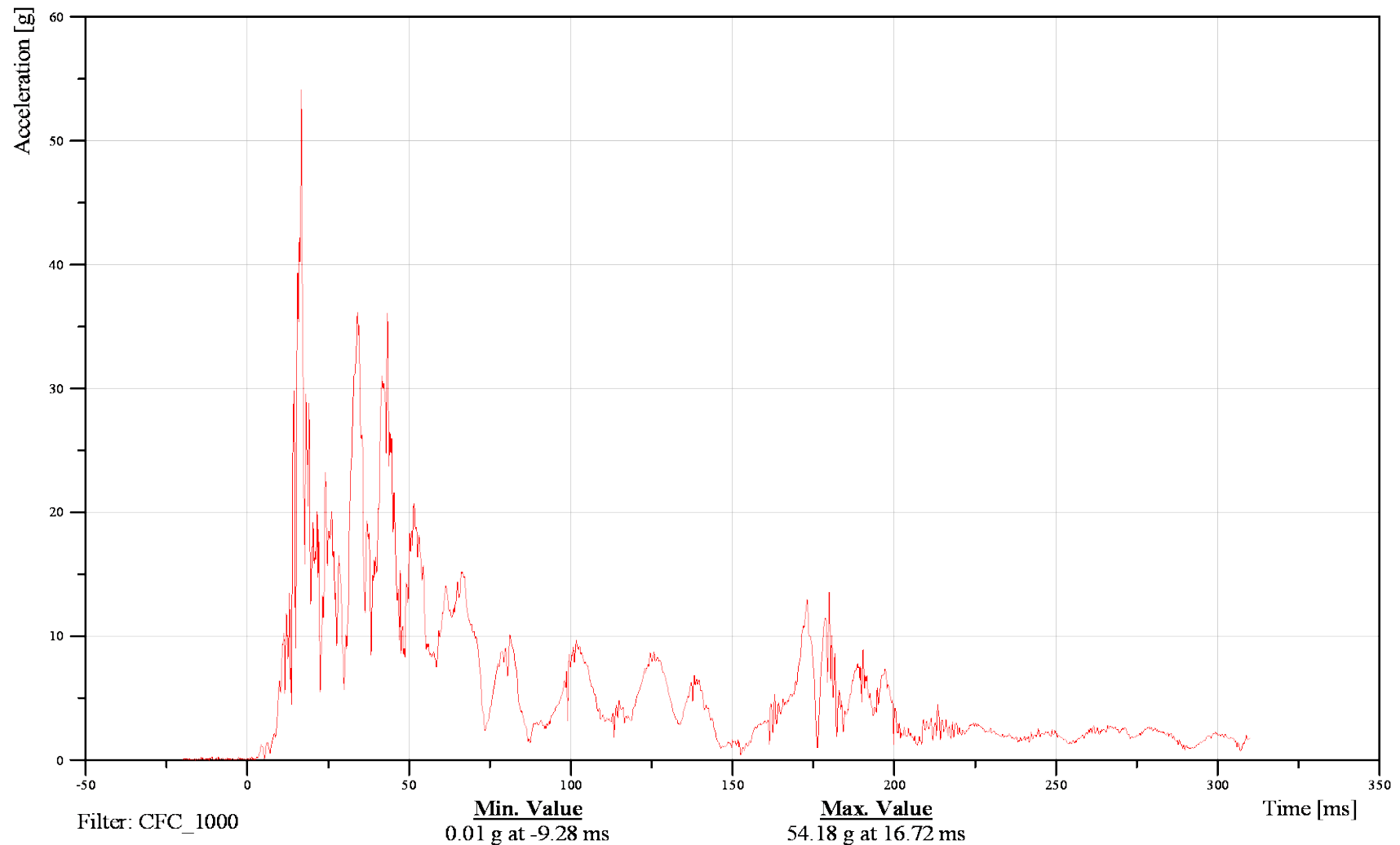
Time: 12:59

Customer: VRTC

11TRRILE03WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Thorax Rib 3 Displacement Dy

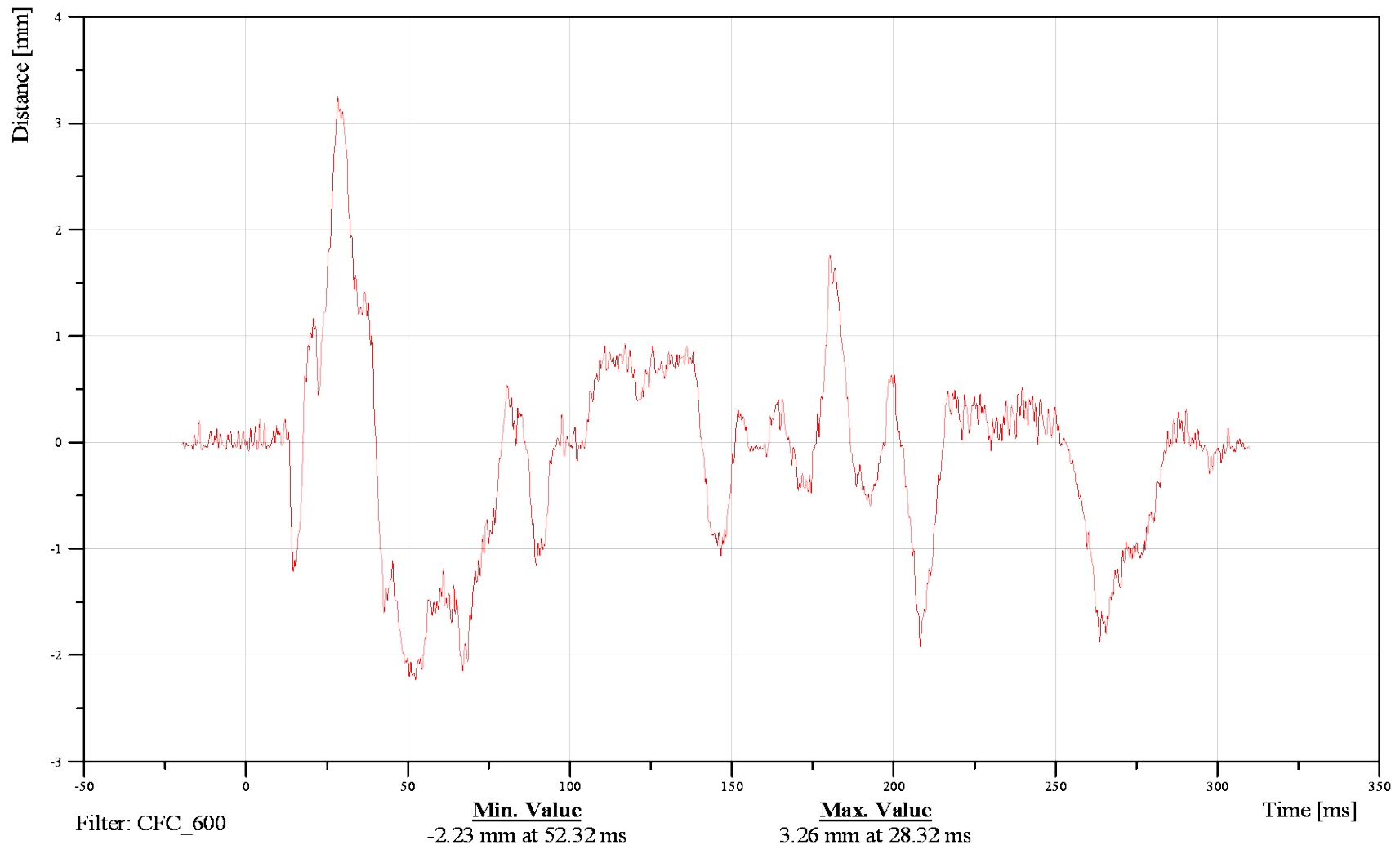
Time: 12:59

Customer: VRTC

11TRRILE03WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 1 Longitudinal Ax

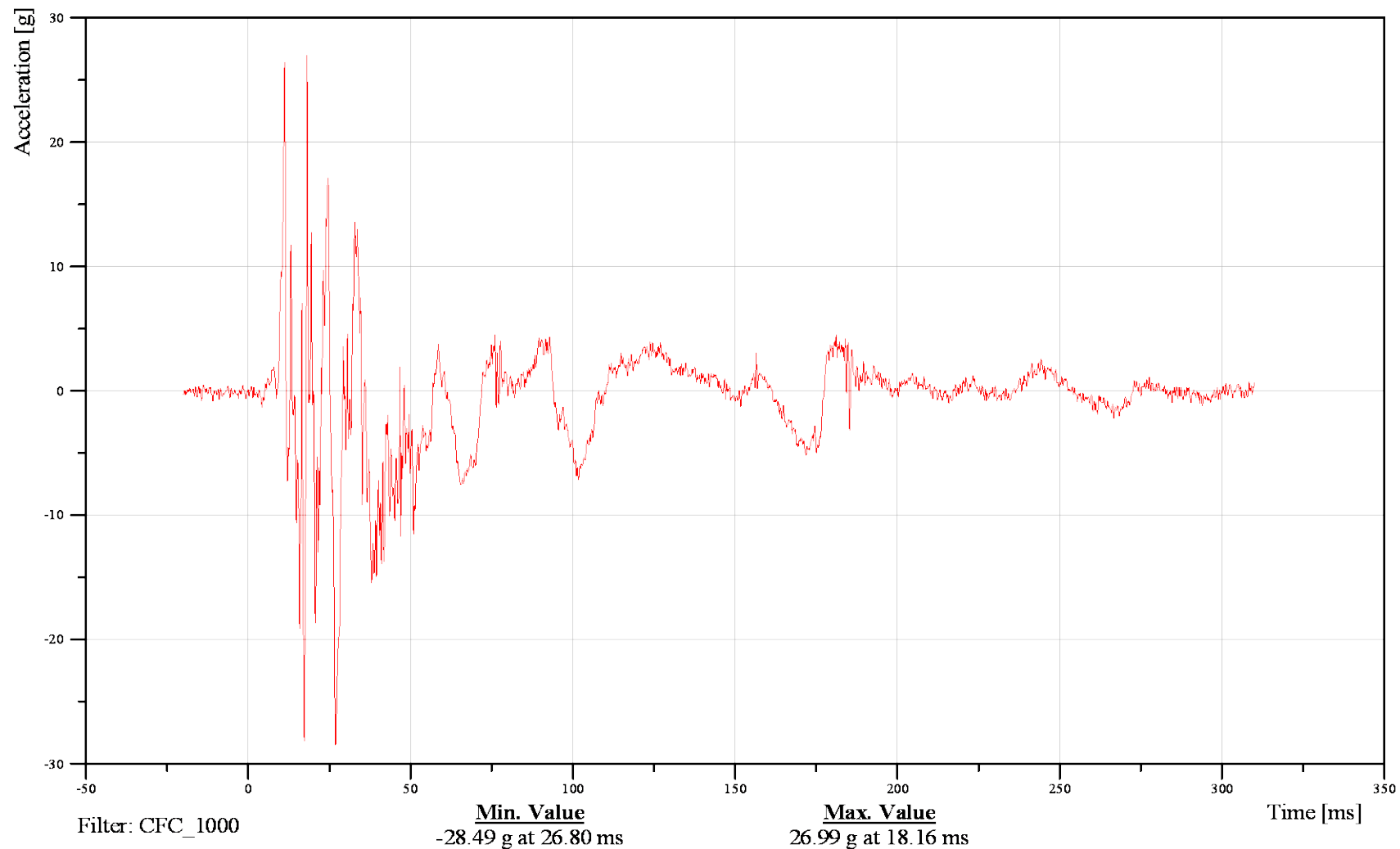
Time: 12:59

Customer: VRTC

11ABRILE01WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 1 Lateral Ay

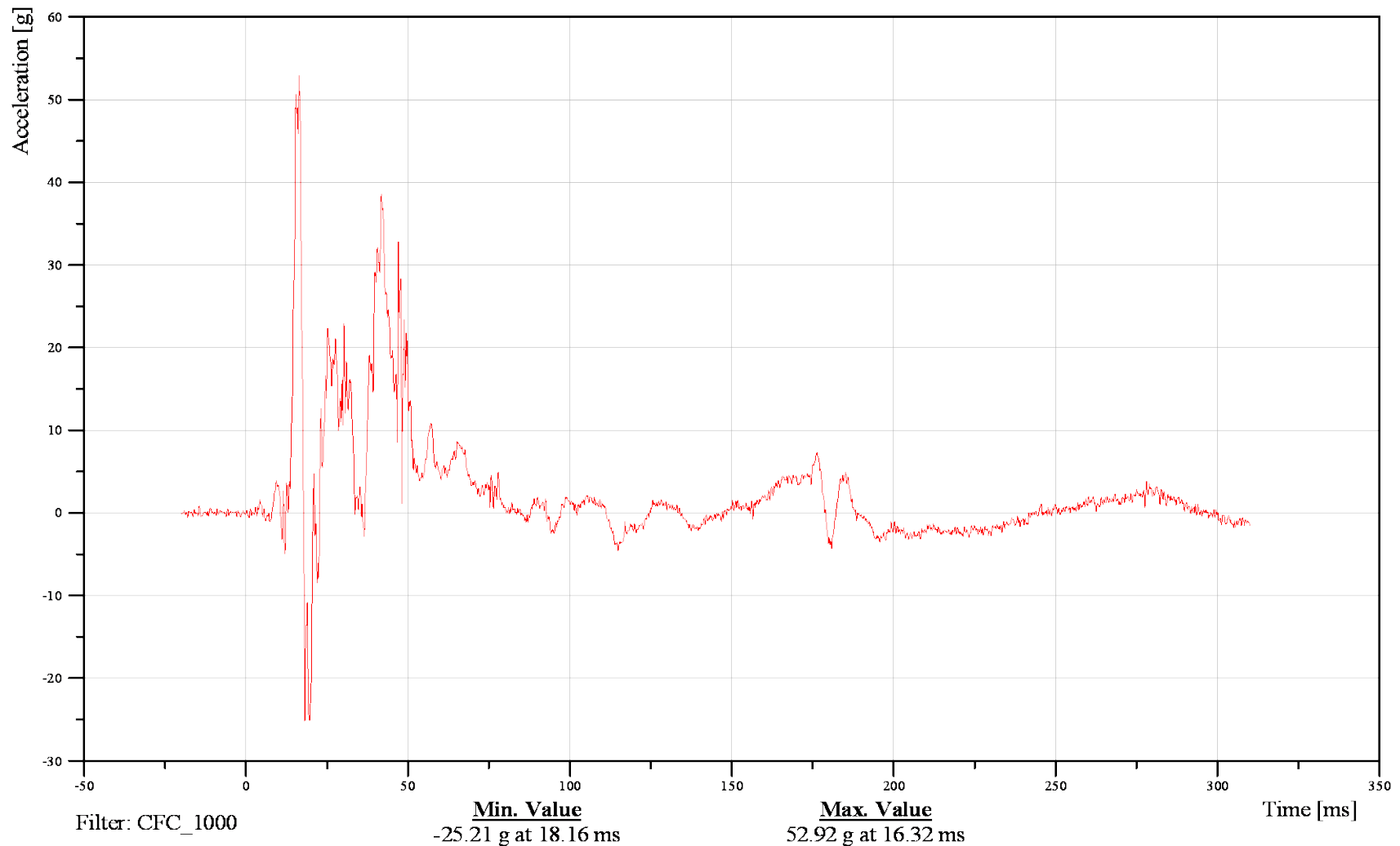
Time: 12:59

Customer: VRTC

11ABRILE01WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 1 Vertical Az

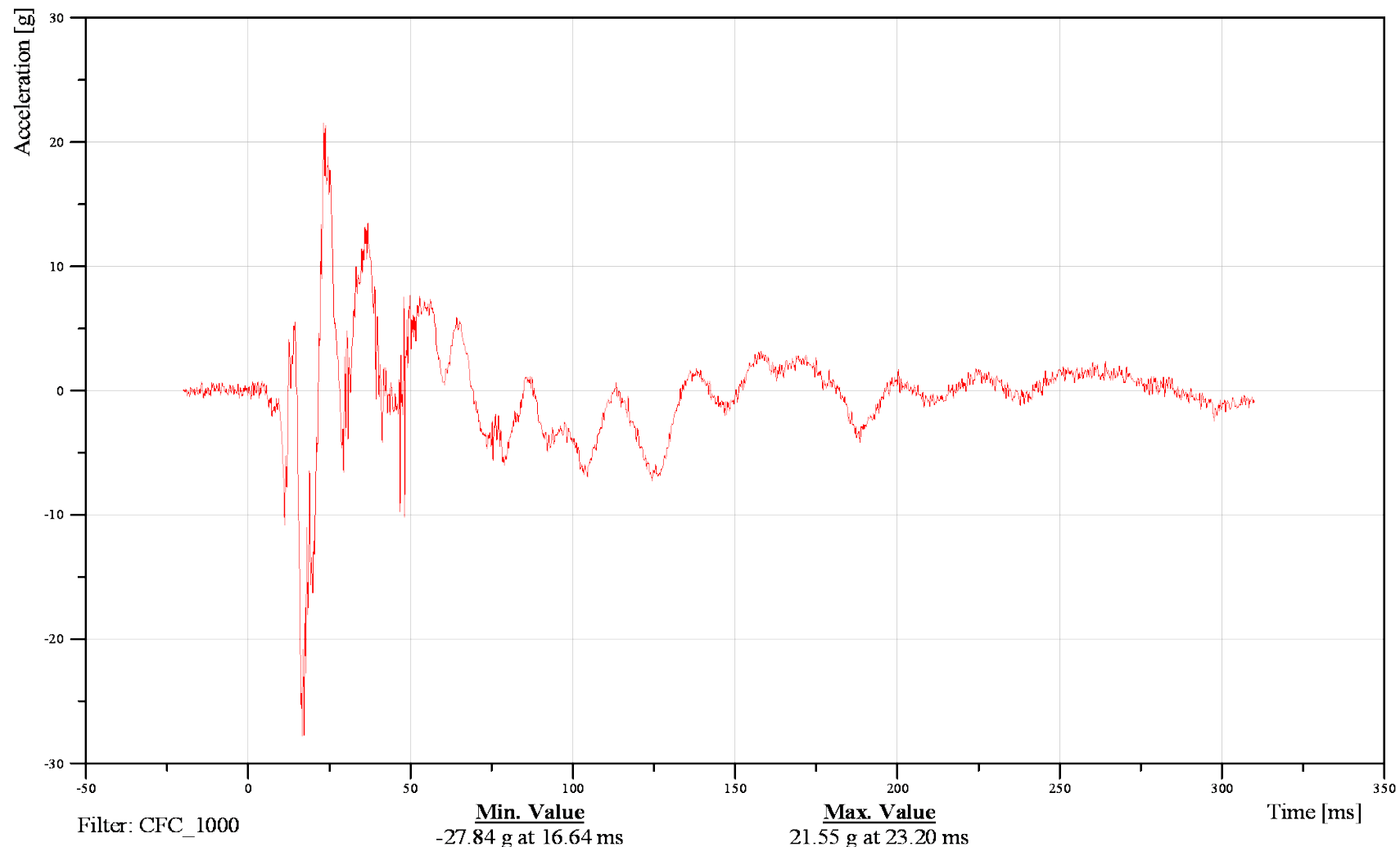
Time: 12:59

Customer: VRTC

11ABRILE01WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Abdominal Rib 1 A Resultant

Date: 06/28/2012

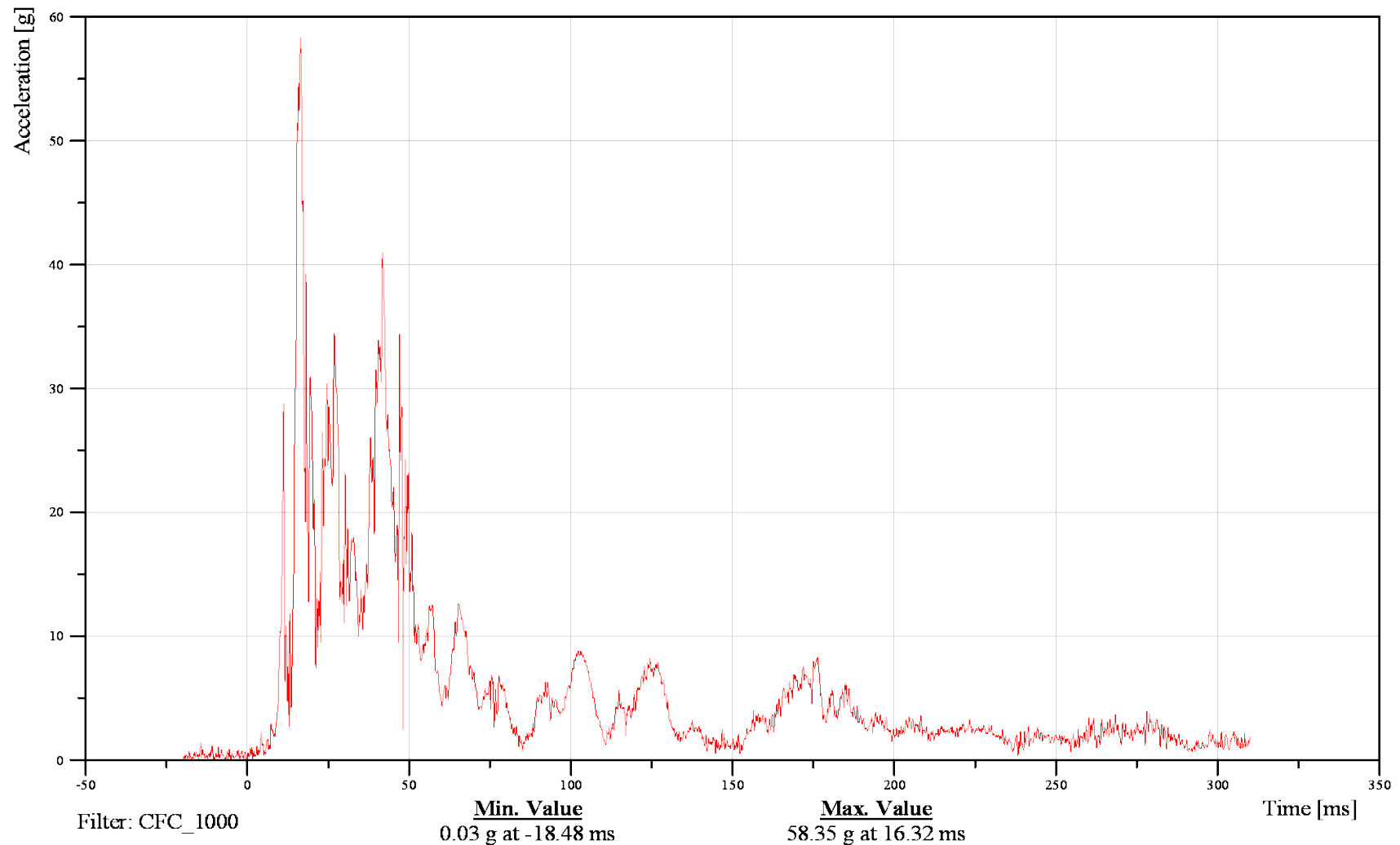
Time: 12:59

Customer: VRTC

11ABRILE01WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 1 Displacement Dy

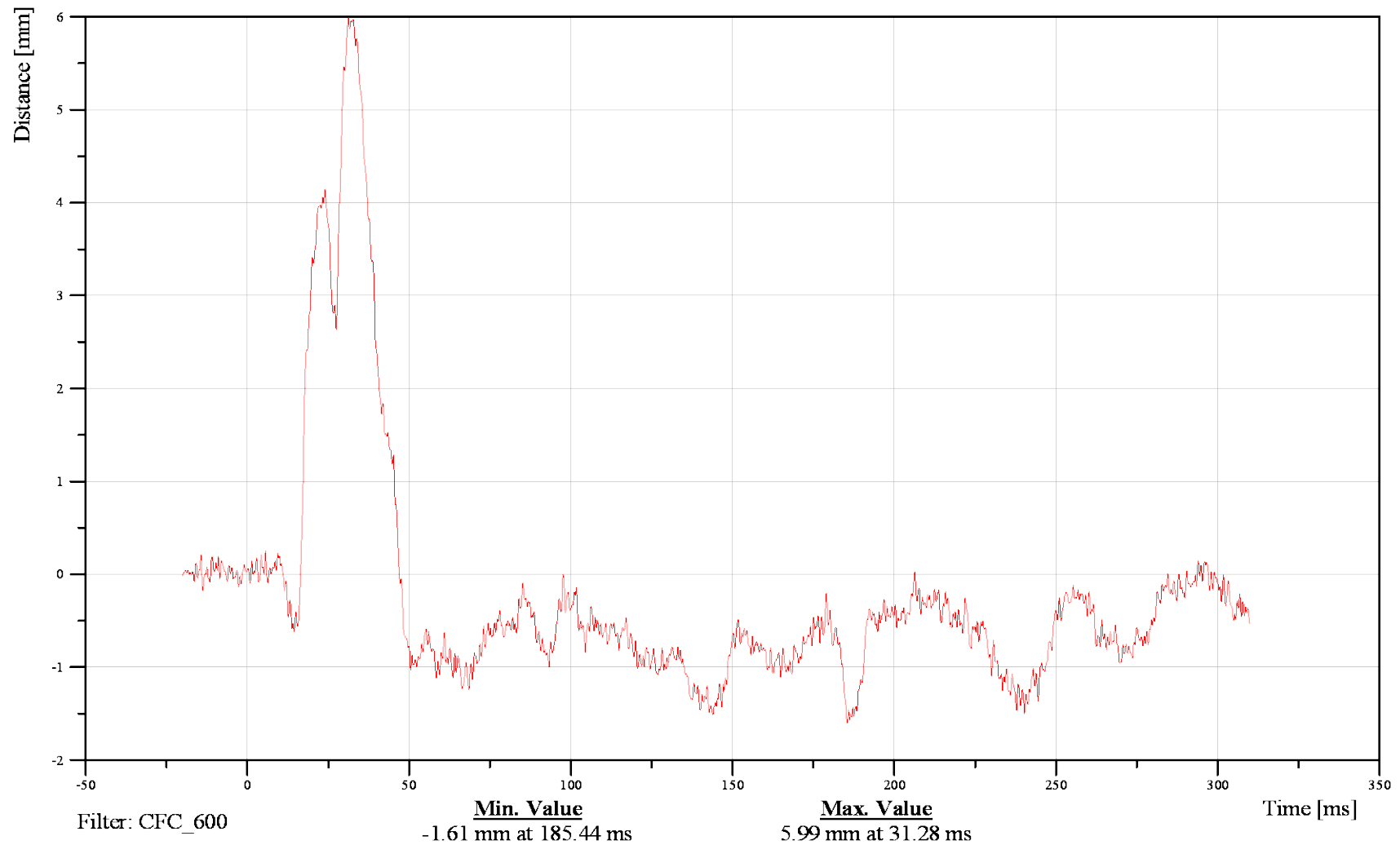
Time: 12:59

Customer: VRTC

11ABRILE01WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 2 Longitudinal Ax

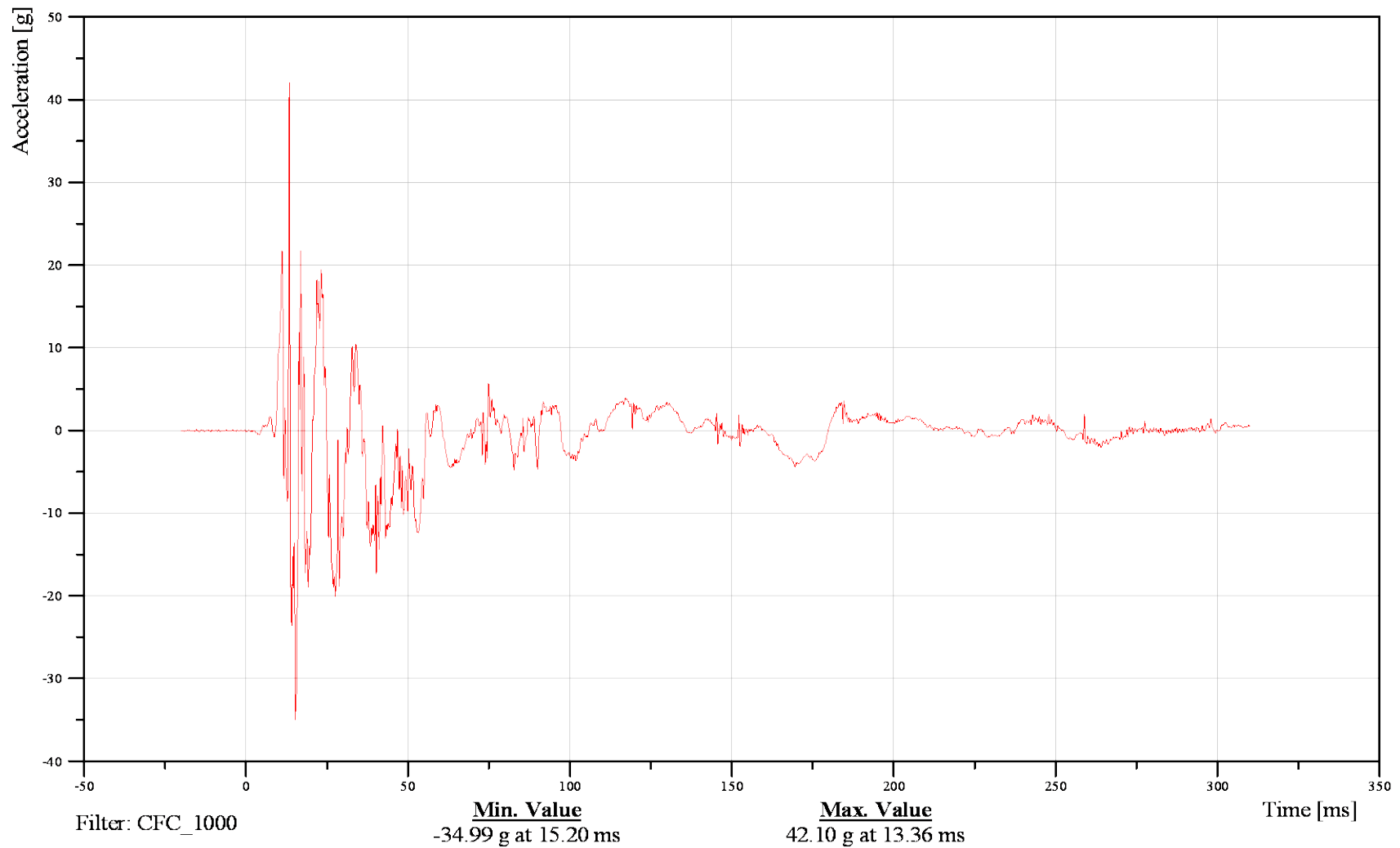
Time: 12:59

Customer: VRTC

11ABRILE02WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 2 Lateral Ay

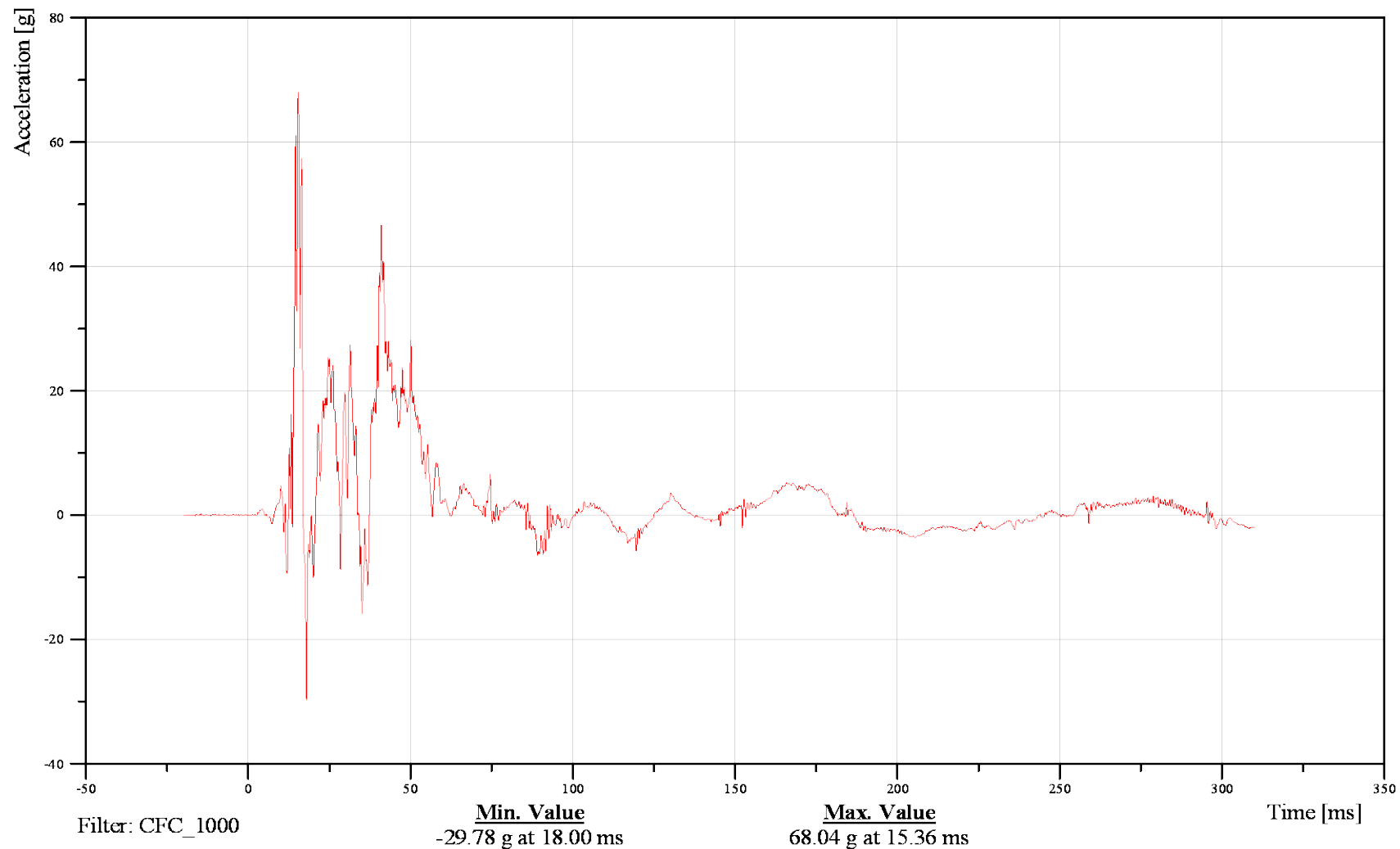
Time: 12:59

Customer: VRTC

11ABRILE02WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 2 Vertical Az

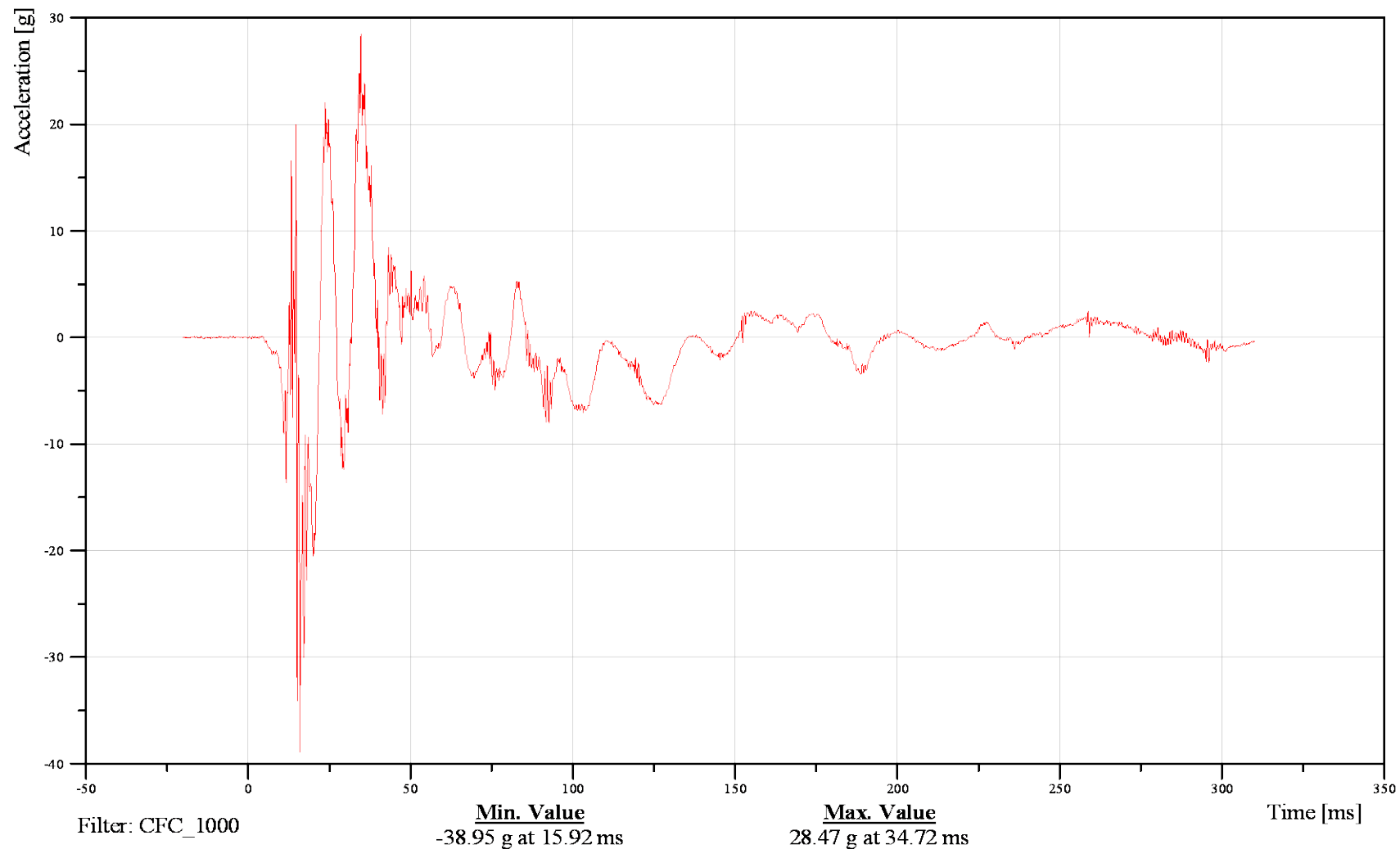
Time: 12:59

Customer: VRTC

11ABRILE02WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Abdominal Rib 2 A Resultant

Date: 06/28/2012

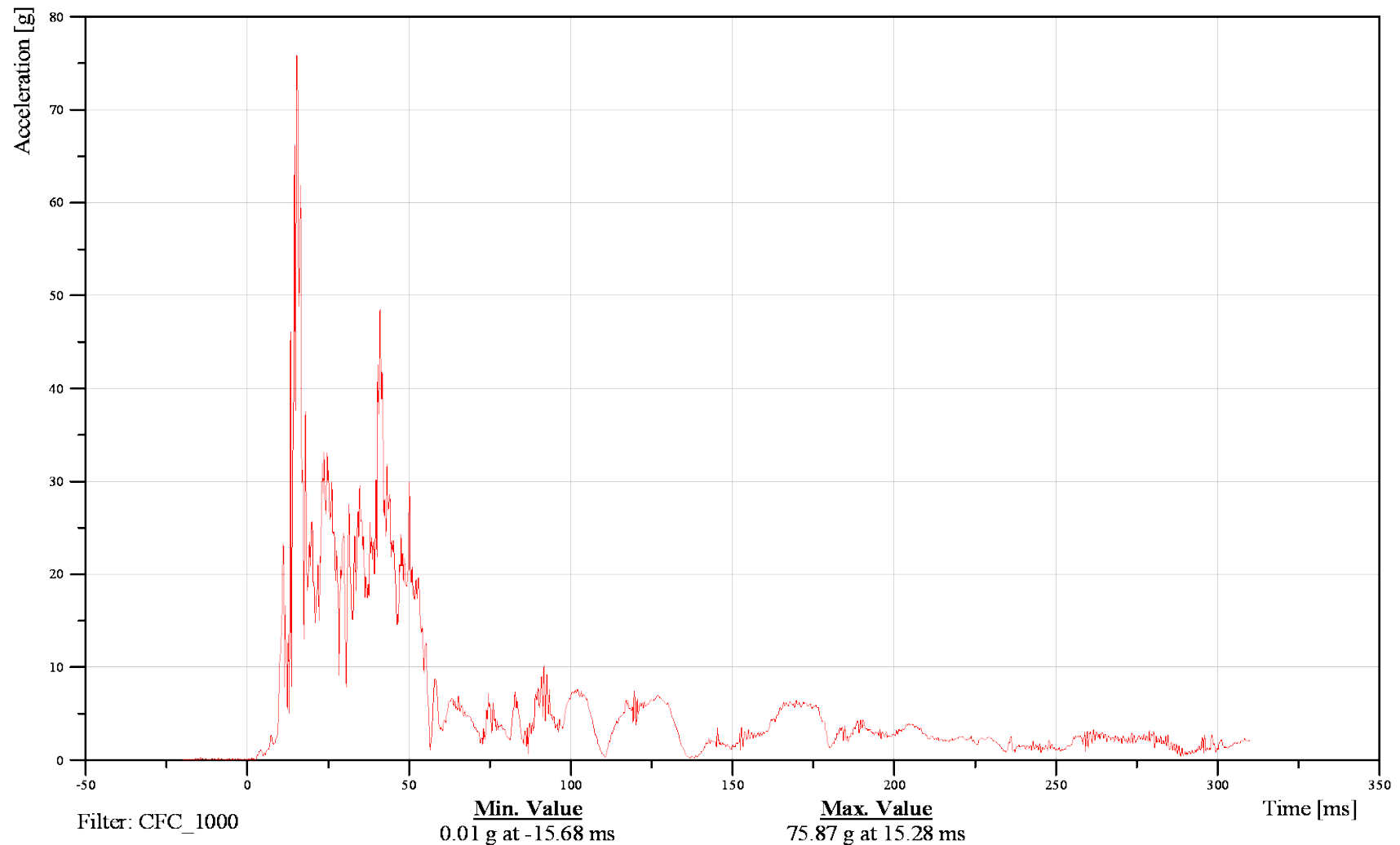
Time: 12:59

Customer: VRTC

11ABRILE02WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Abdominal Rib 2 Displacement Dy

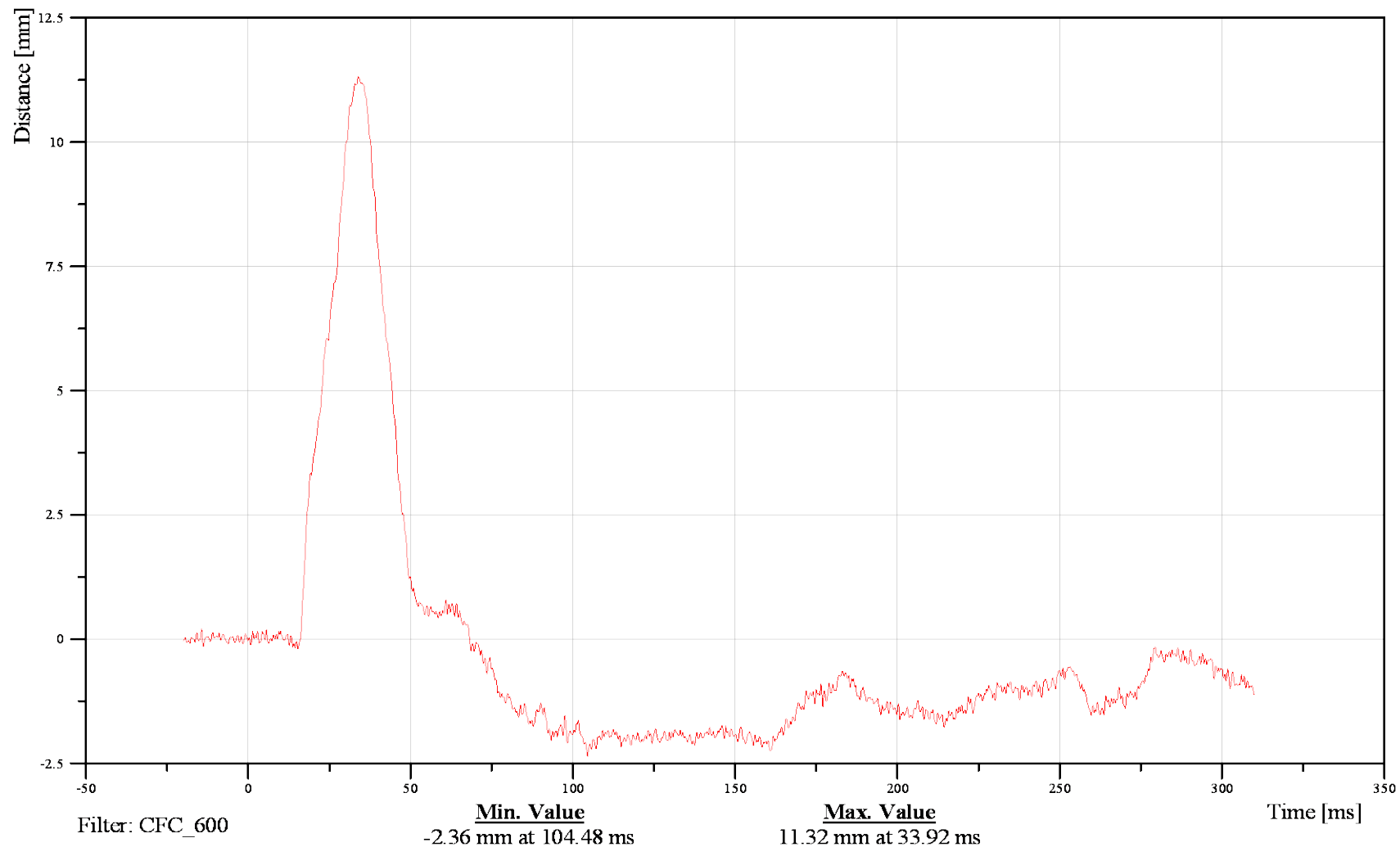
Time: 12:59

Customer: VRTC

11ABRILE02WSDSYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T4 Longitudinal Ax

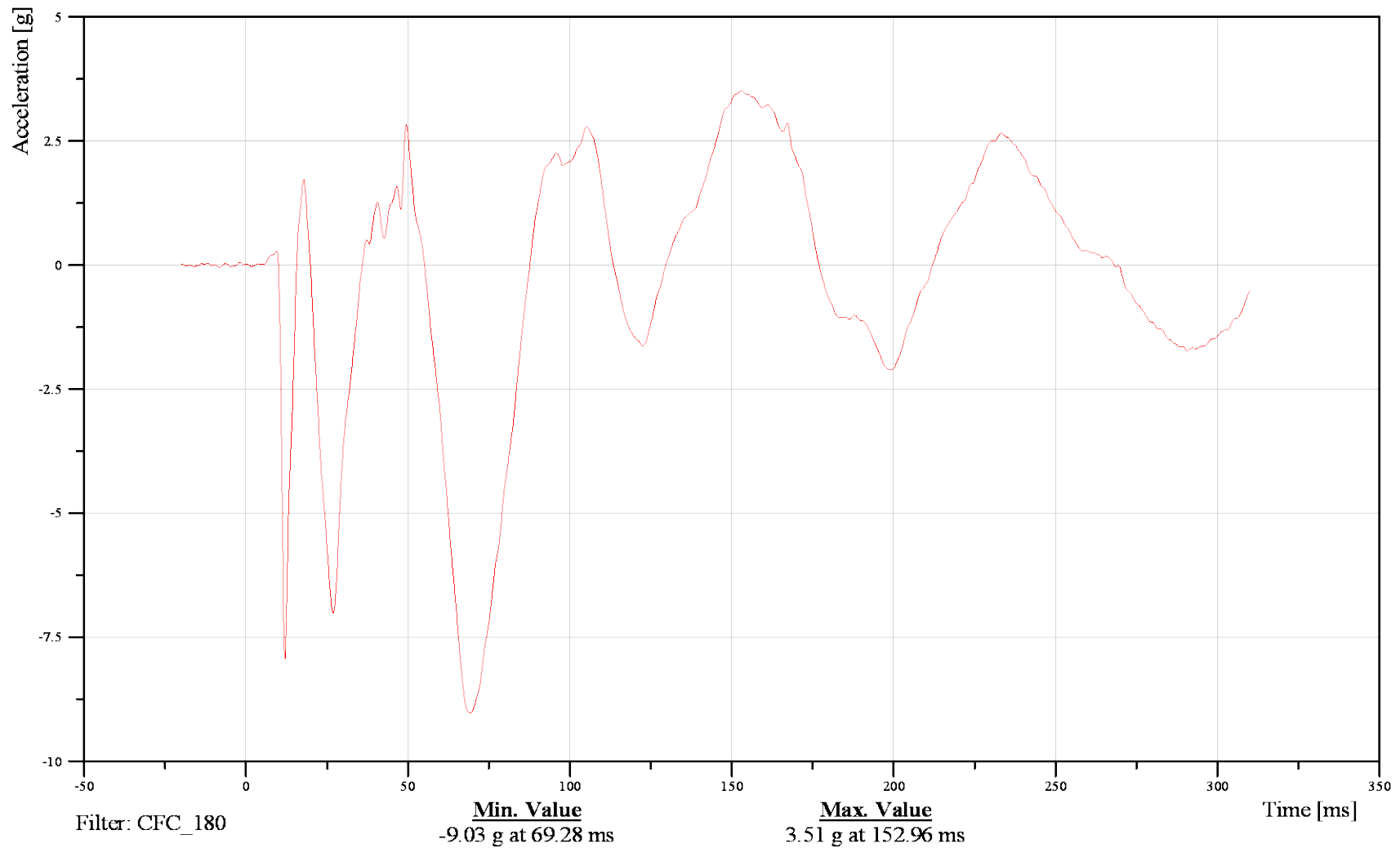
Time: 12:59

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

T4 Lateral Ay

Date: 06/28/2012

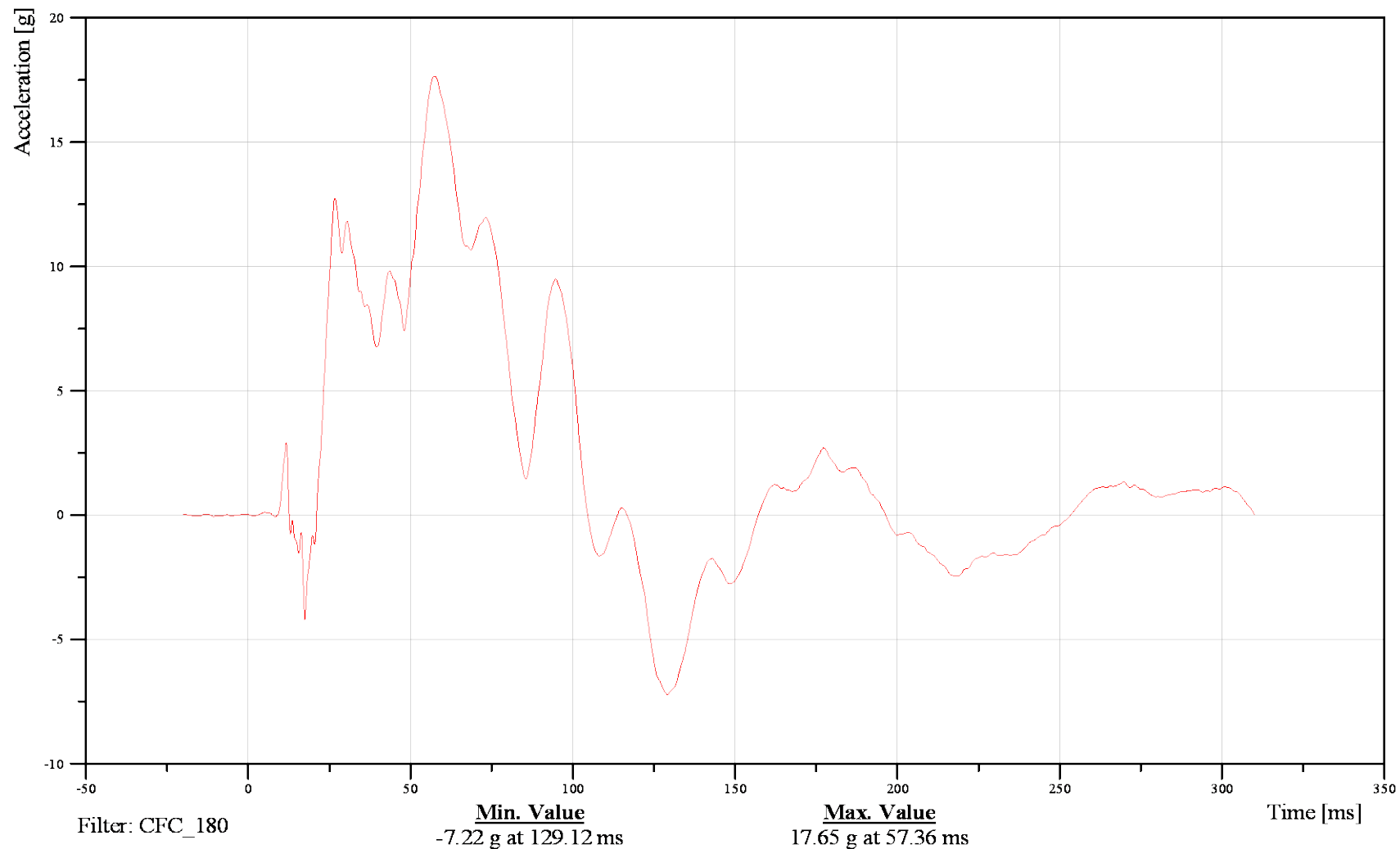
Time: 12:59

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

T4 Vertical Az

Date: 06/28/2012

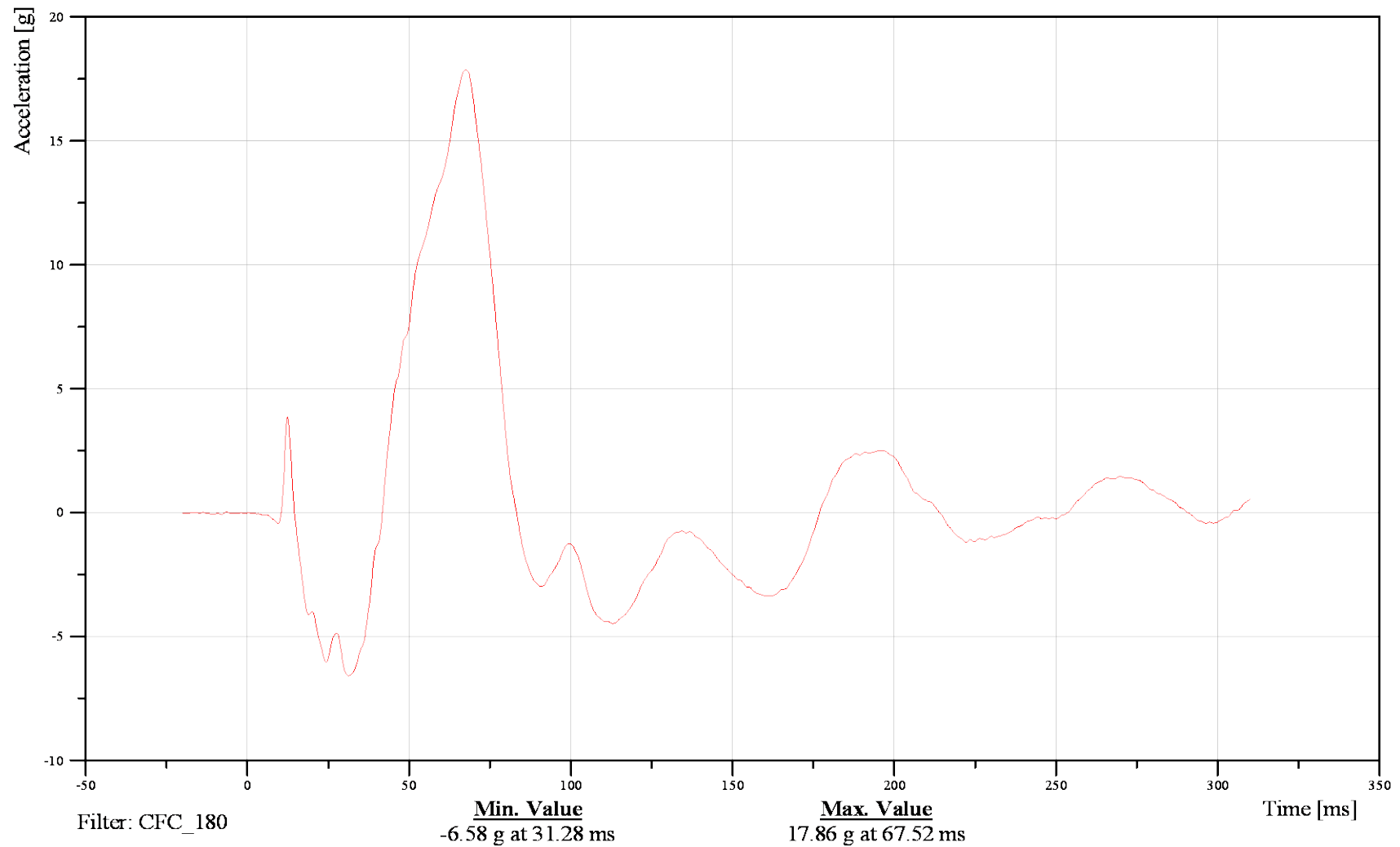
Time: 12:59

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T4 A Resultant

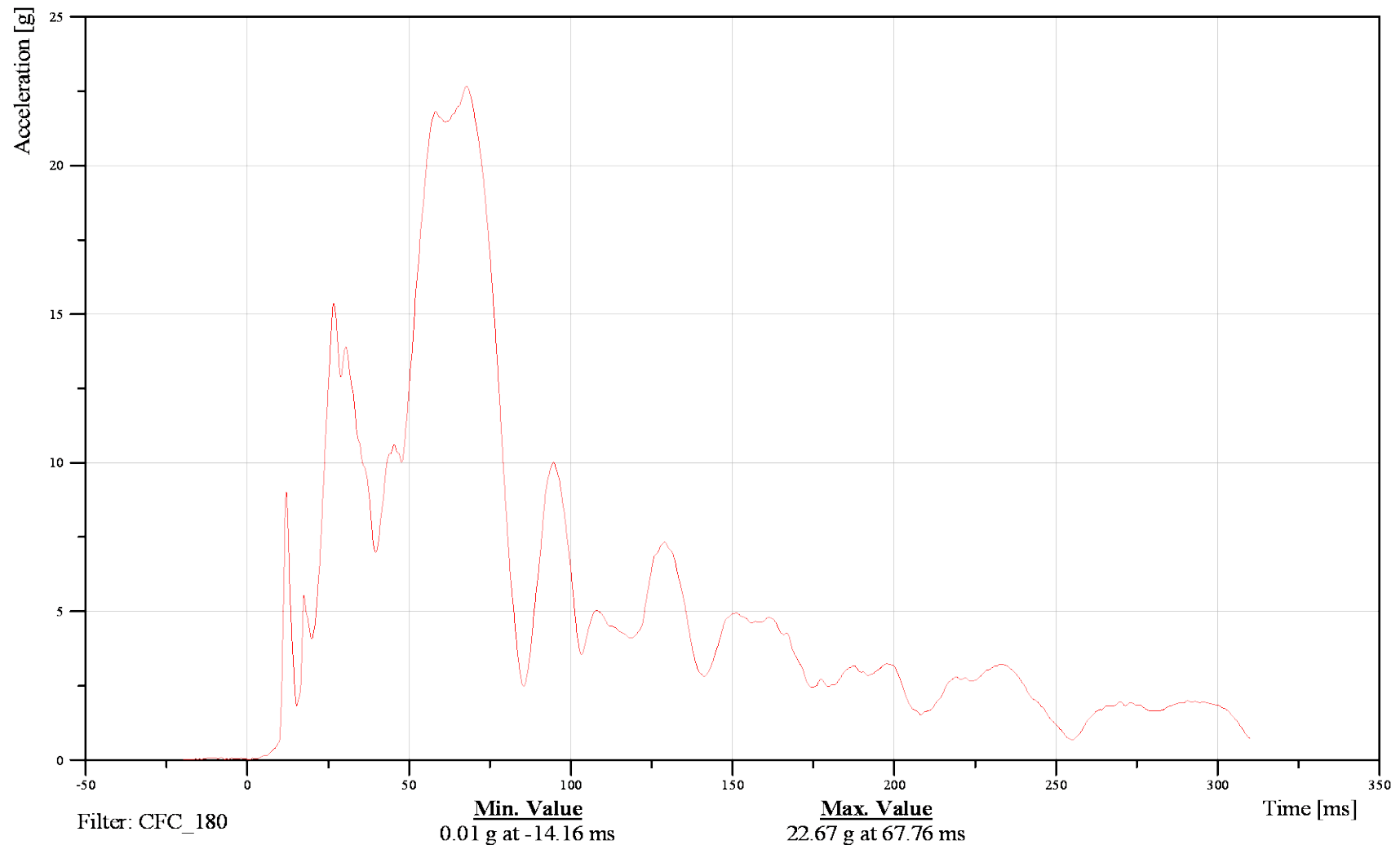
Time: 12:59

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T12 Longitudinal Ax

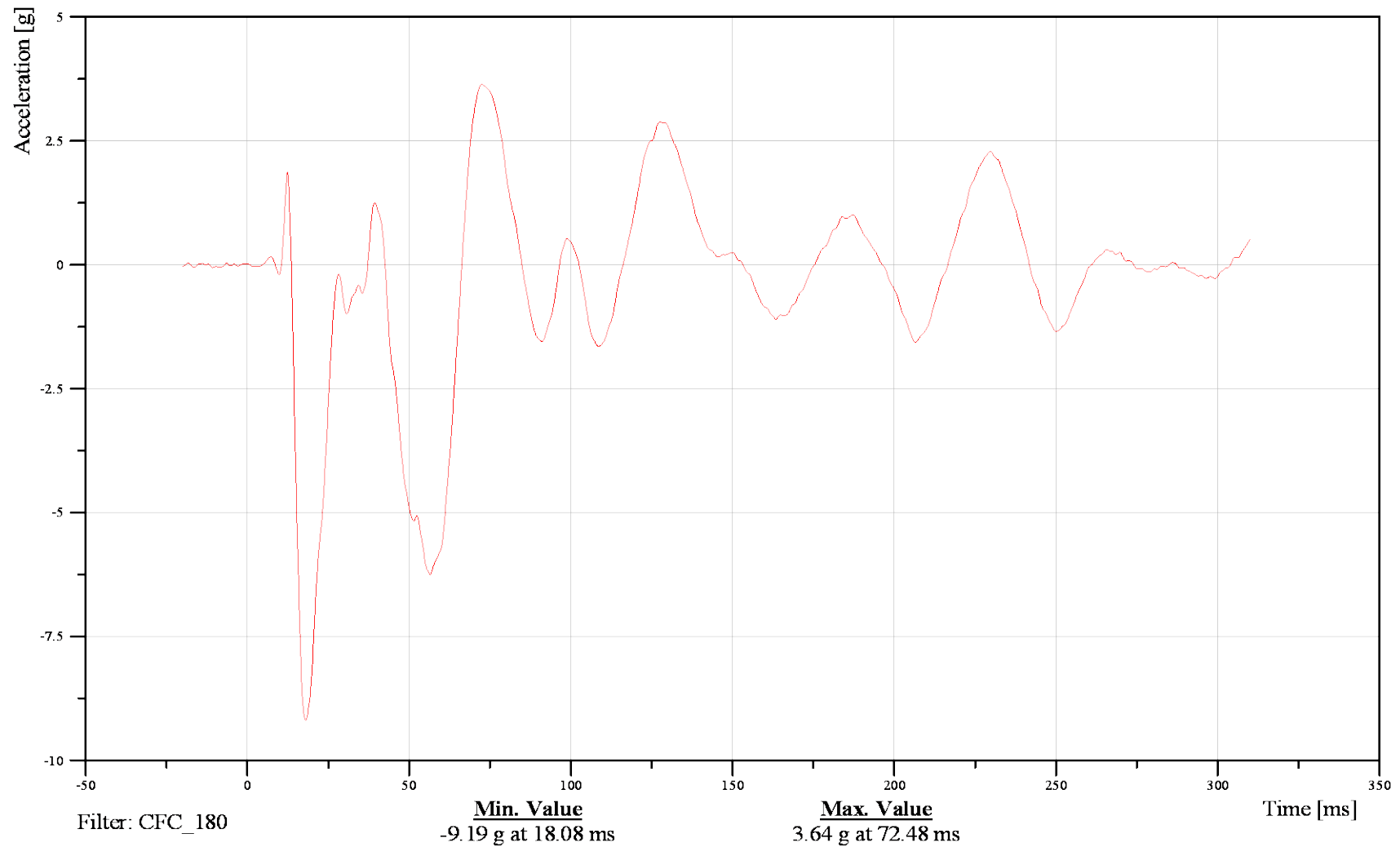
Time: 12:59

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

T12 Lateral Ay

Date: 06/28/2012

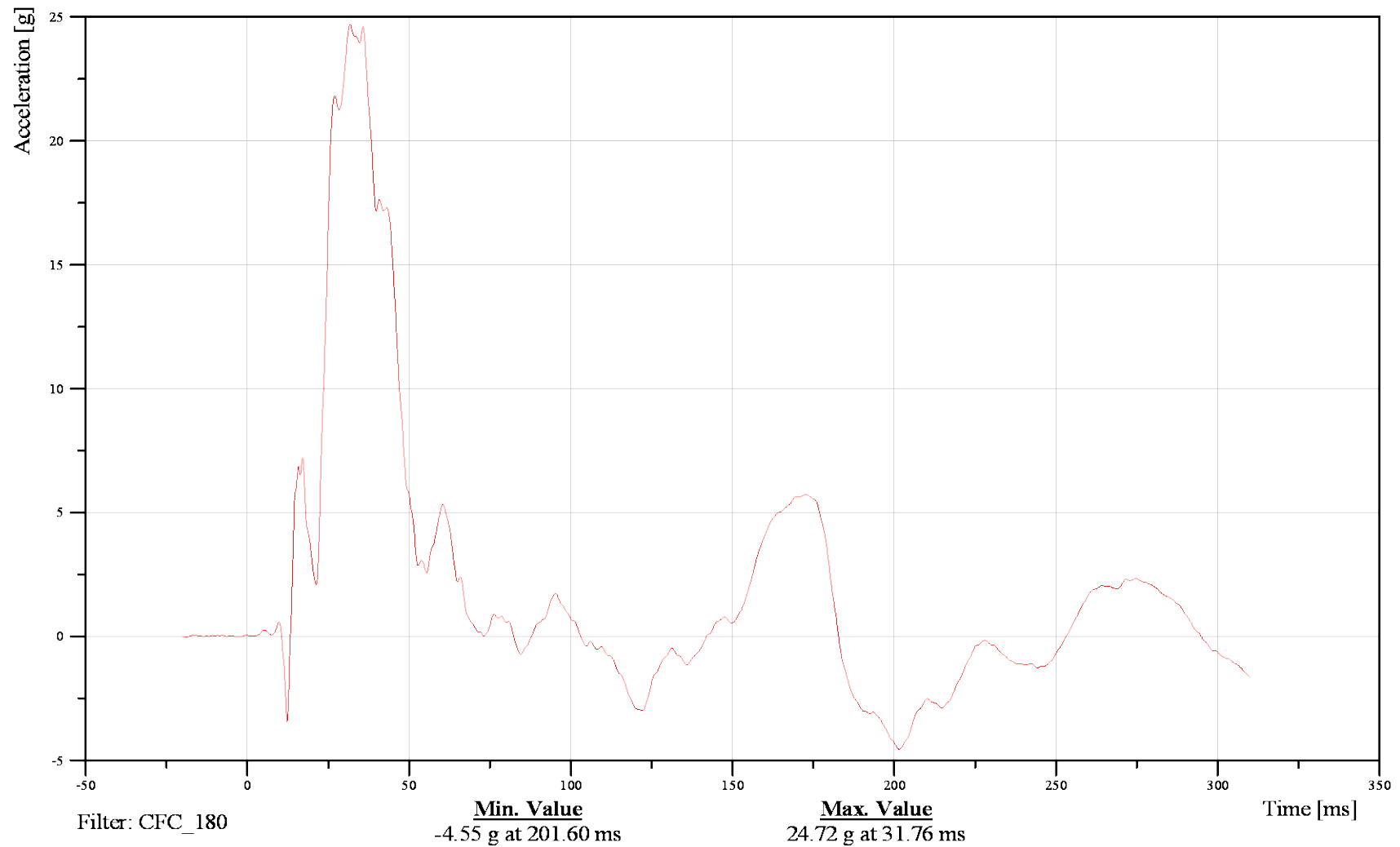
Time: 12:59

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T12 Vertical Az

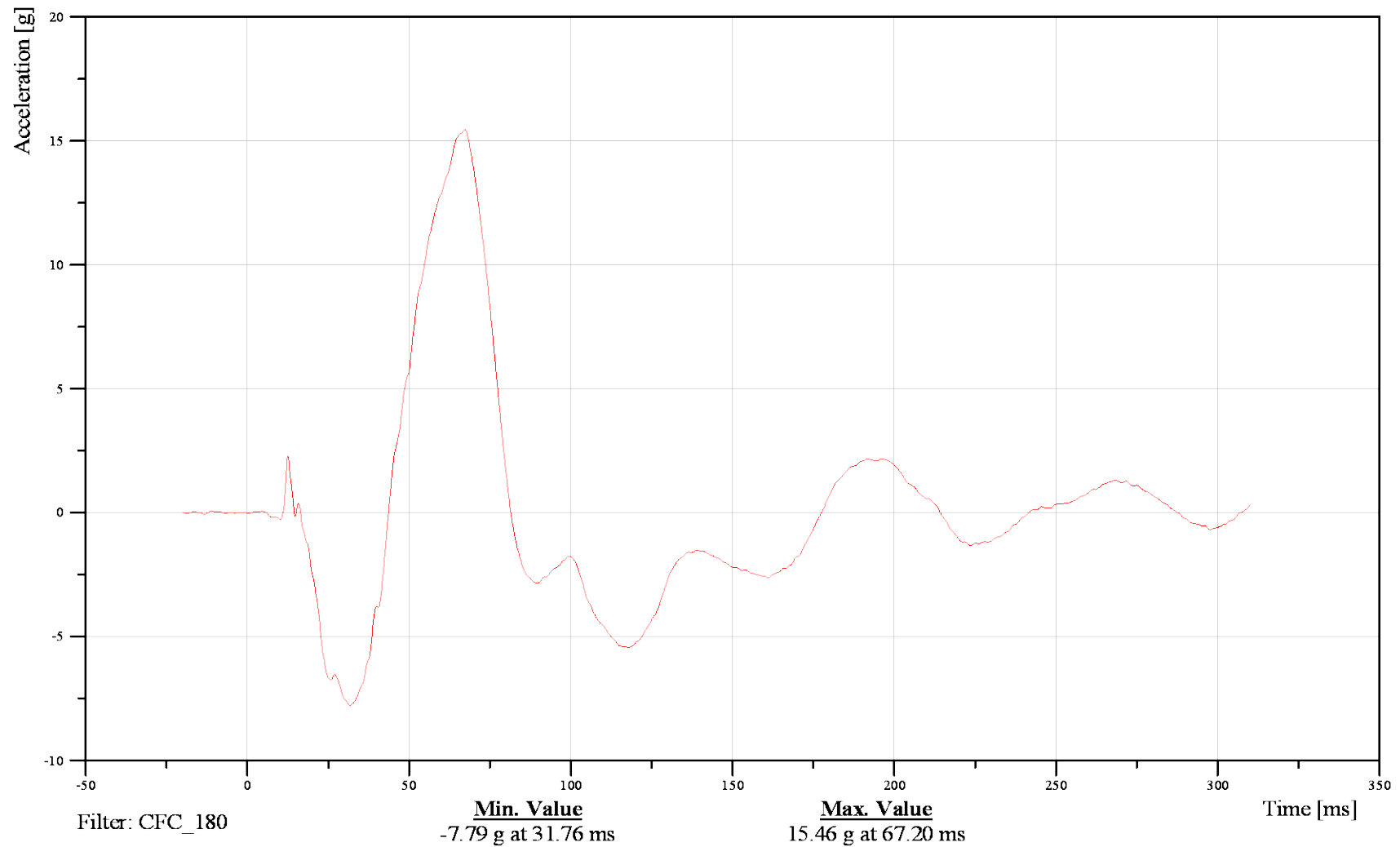
Time: 12:59

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

T12 A Resultant

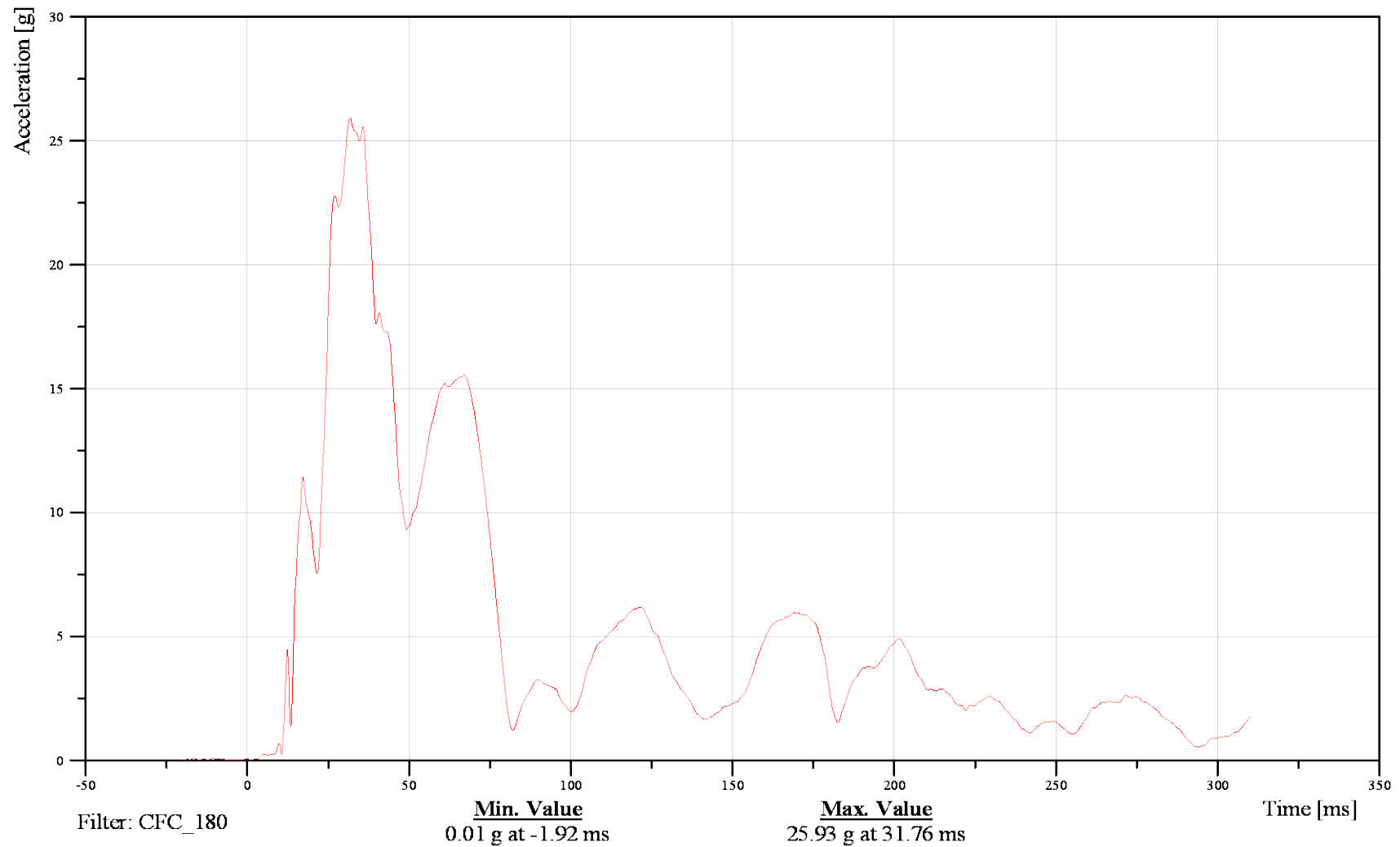
Time: 12:59

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Pelvis Longitudinal Ax

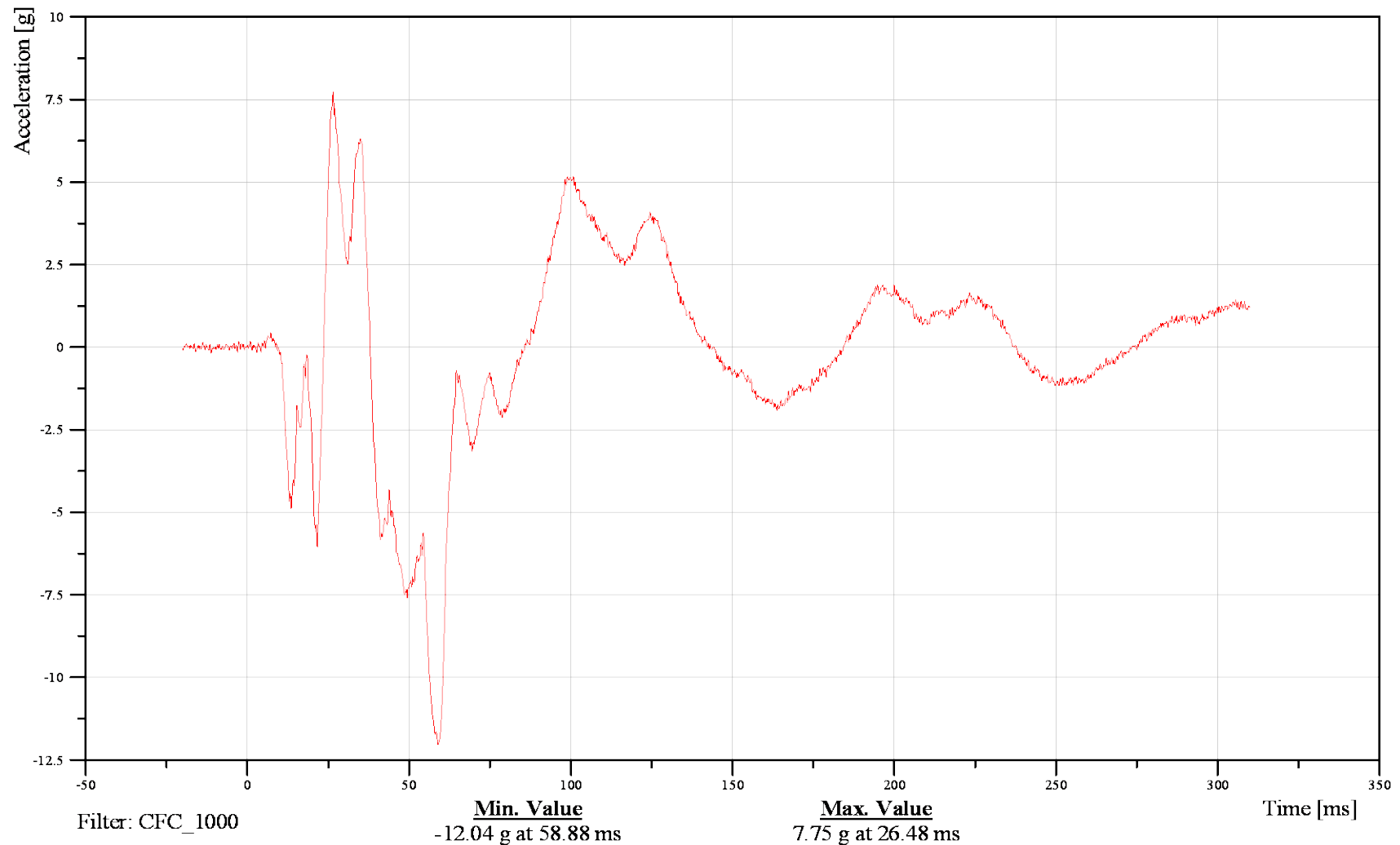
Time: 12:59

Customer: VRTC

11PELV0000WSACXA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Pelvis Lateral Ay

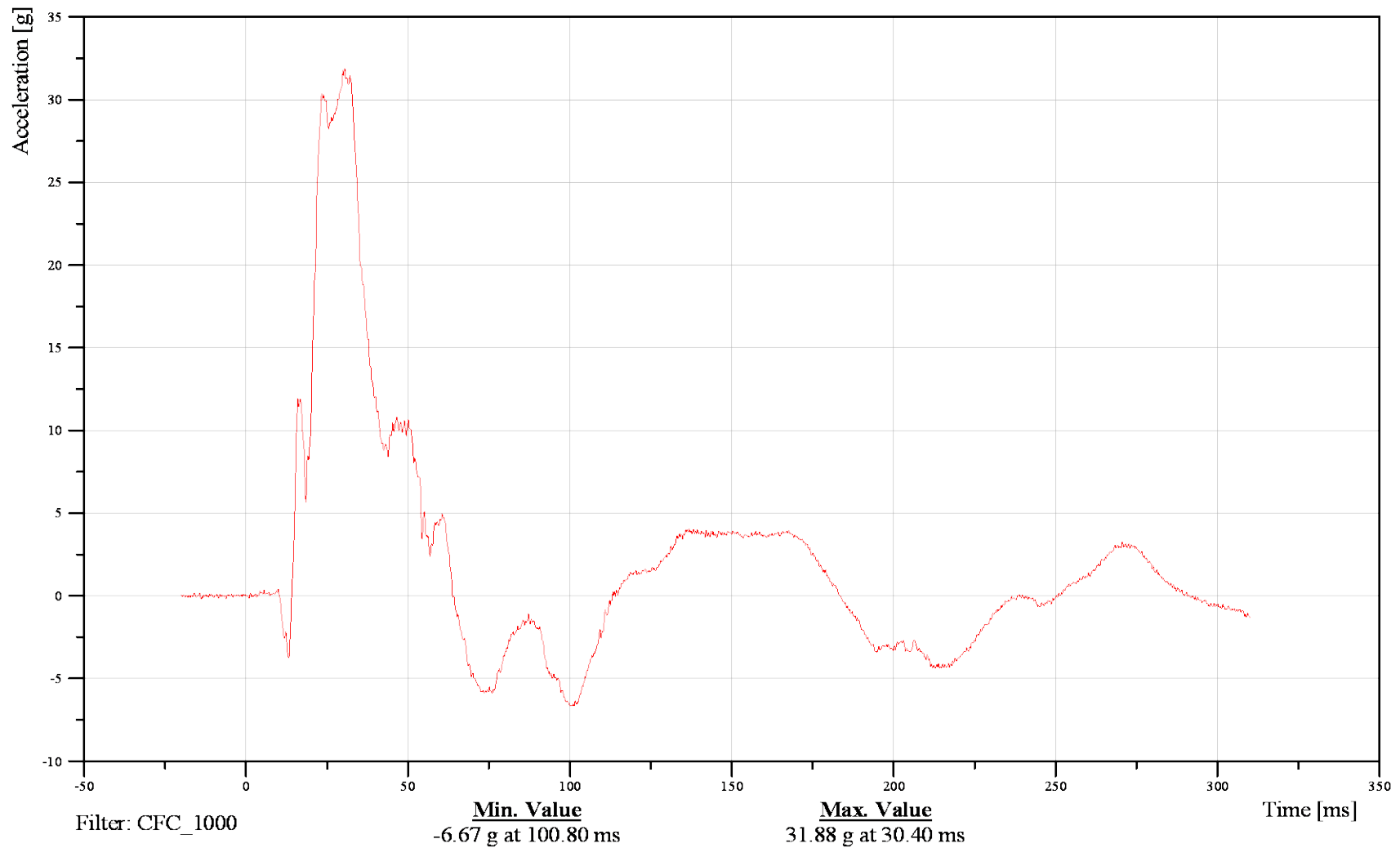
Time: 12:59

Customer: VRTC

11PELV0000WSACYA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Pelvis Vertical Az

Date: 06/28/2012

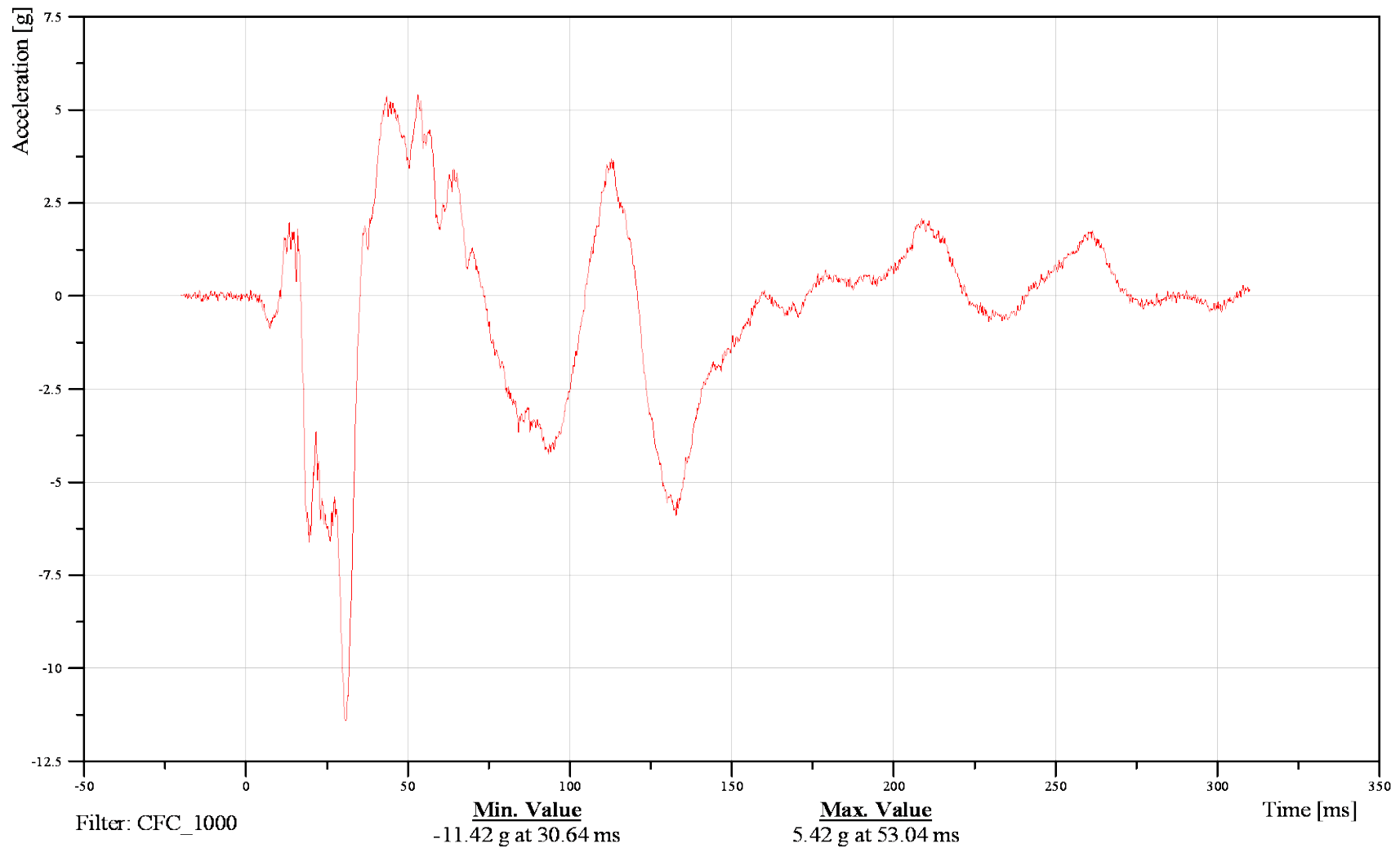
Time: 12:59

Customer: VRTC

11PELV0000WSACZA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Pelvis A Resultant

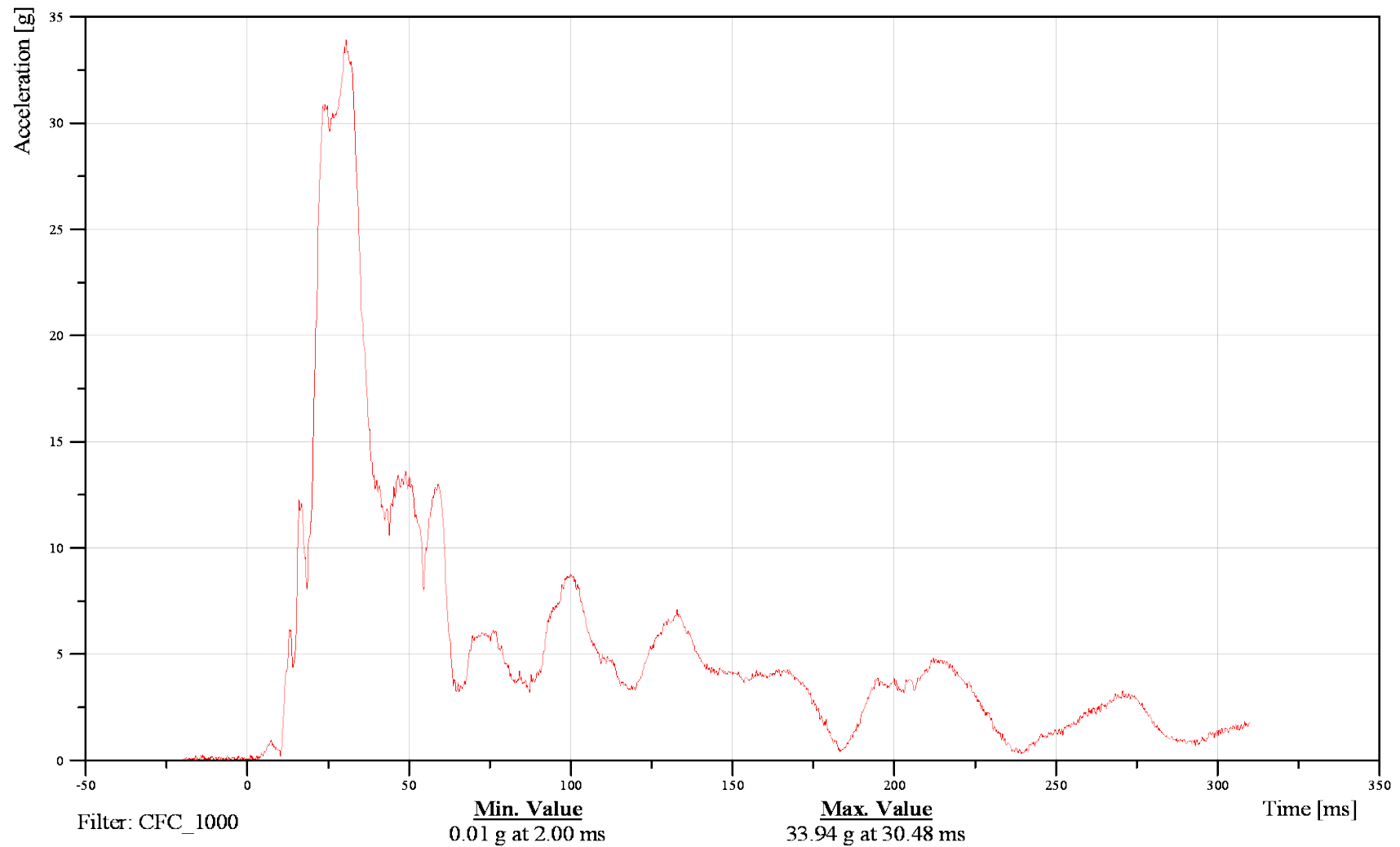
Time: 12:59

Customer: VRTC

11PELV0000WSACRA

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

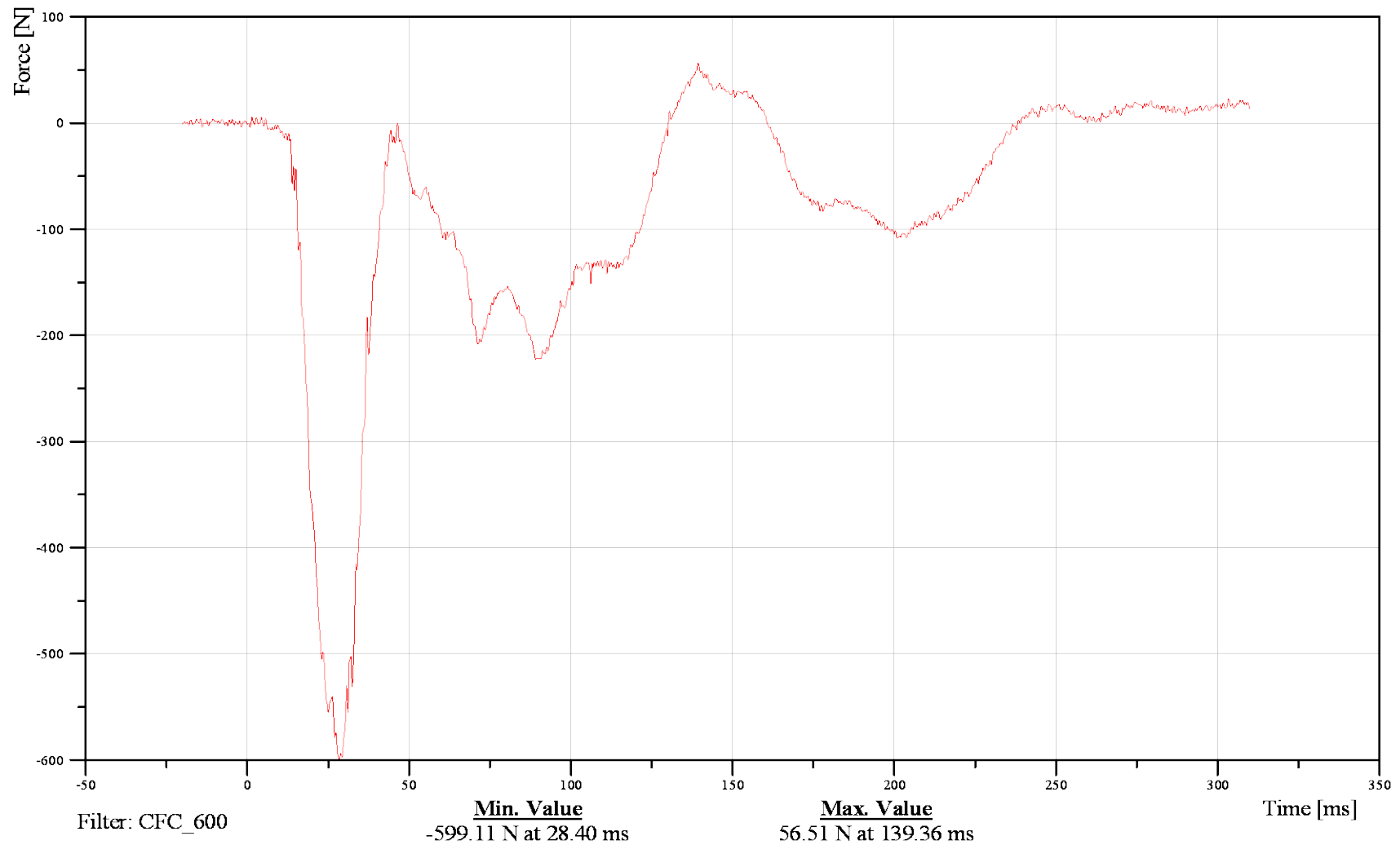
Pubic Force Fy

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Lumbar Force Fx

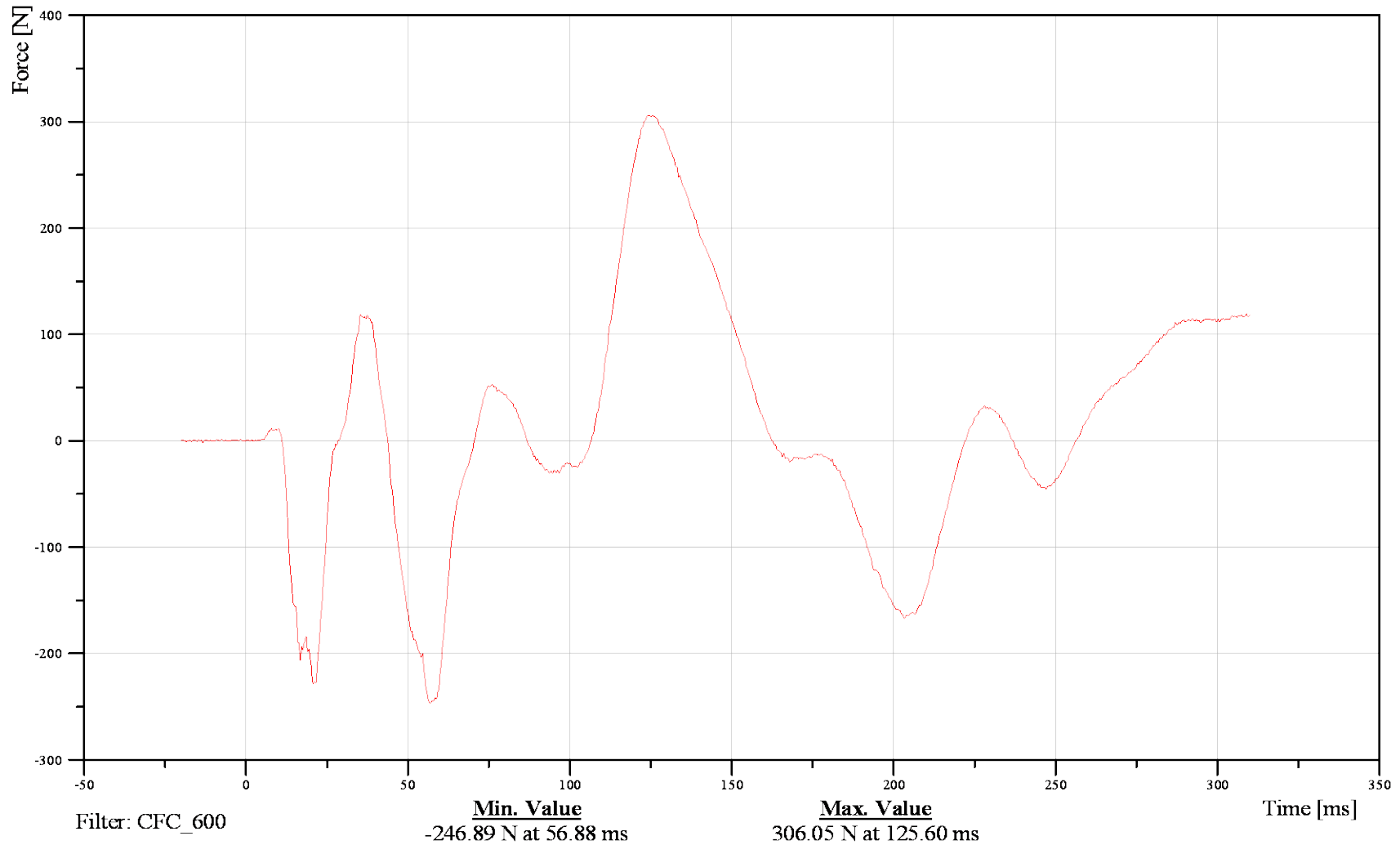
Time: 12:59

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

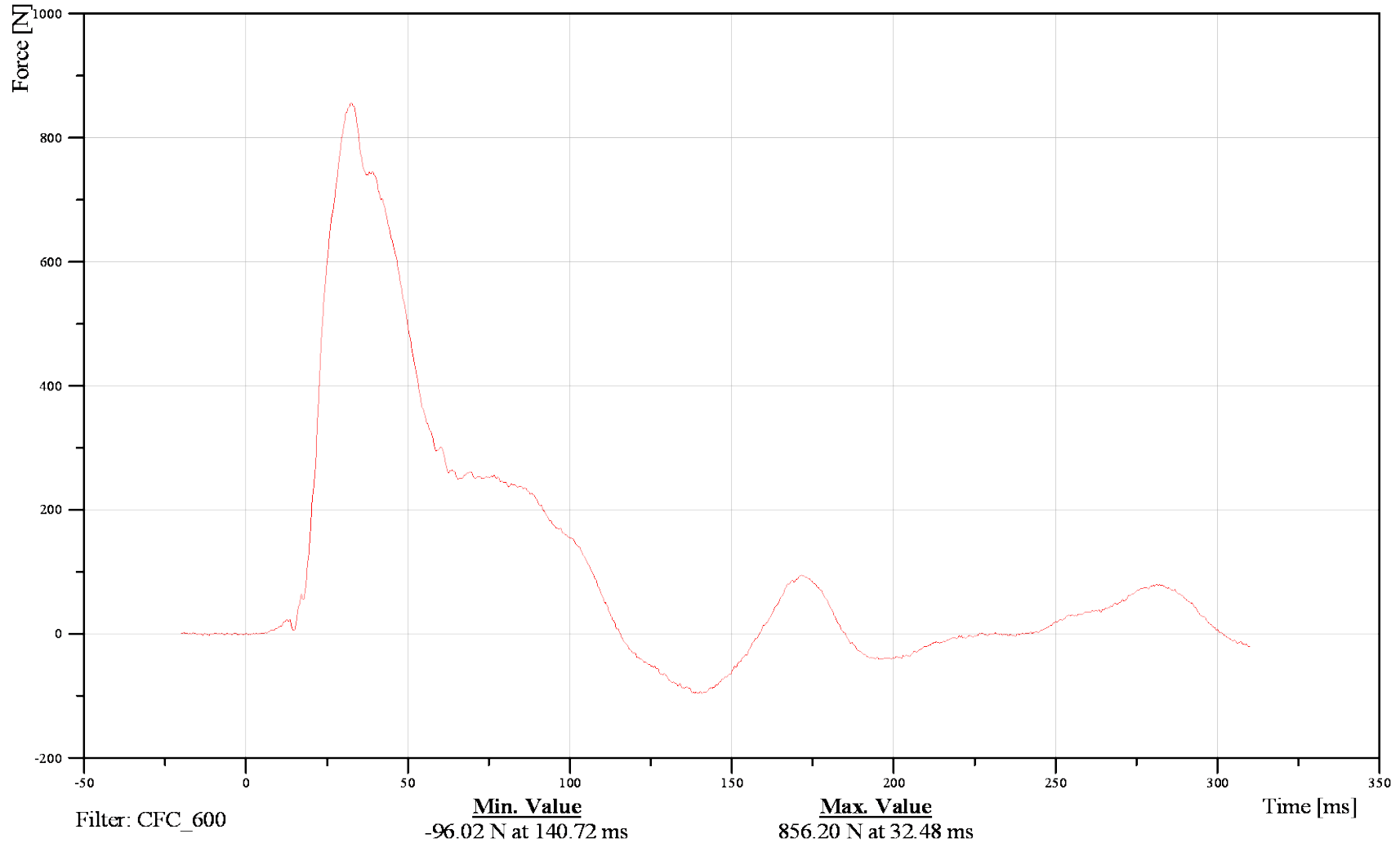
Lumbar Force Fy

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

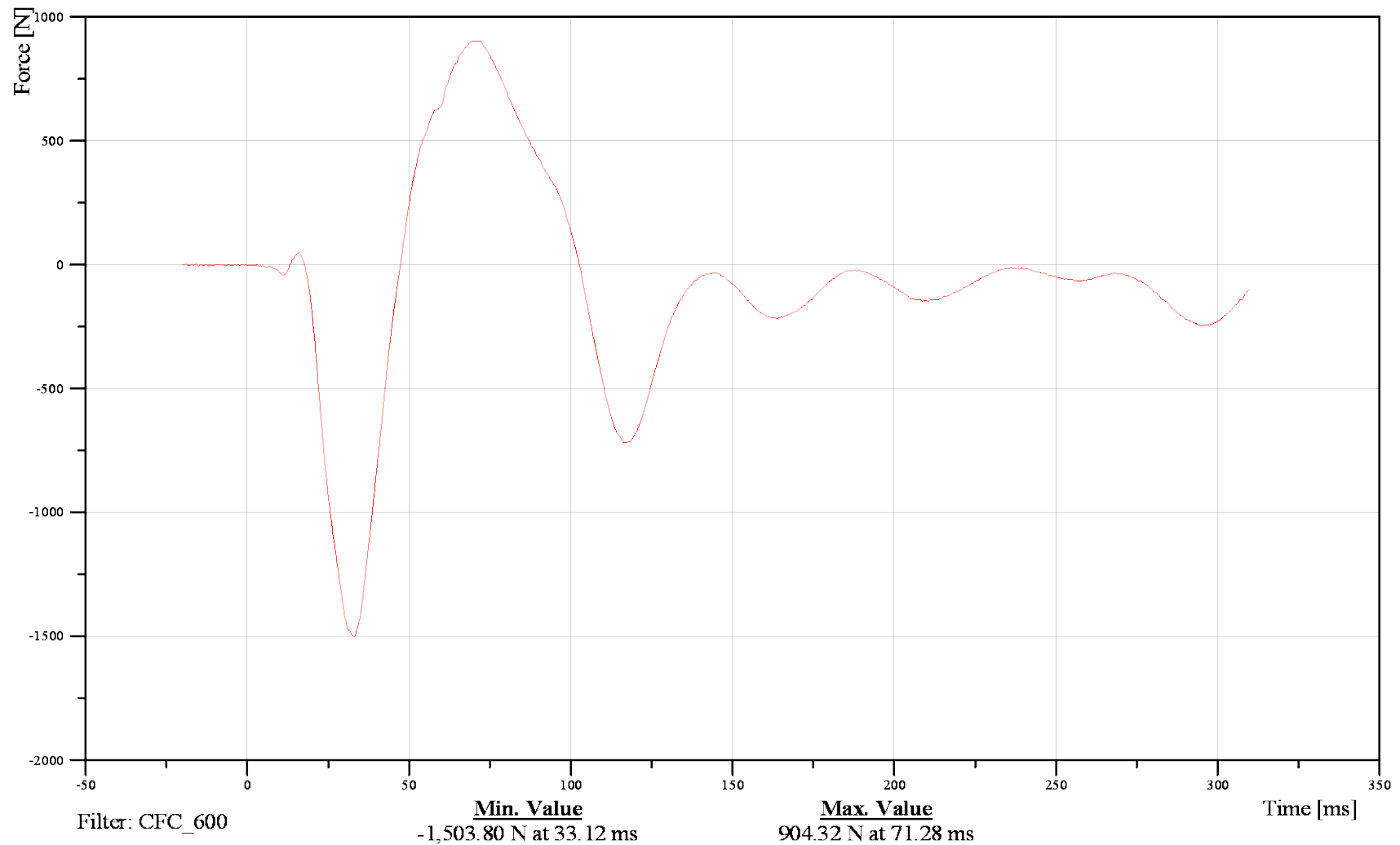
Lumbar Force Fz

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Time: 12:59

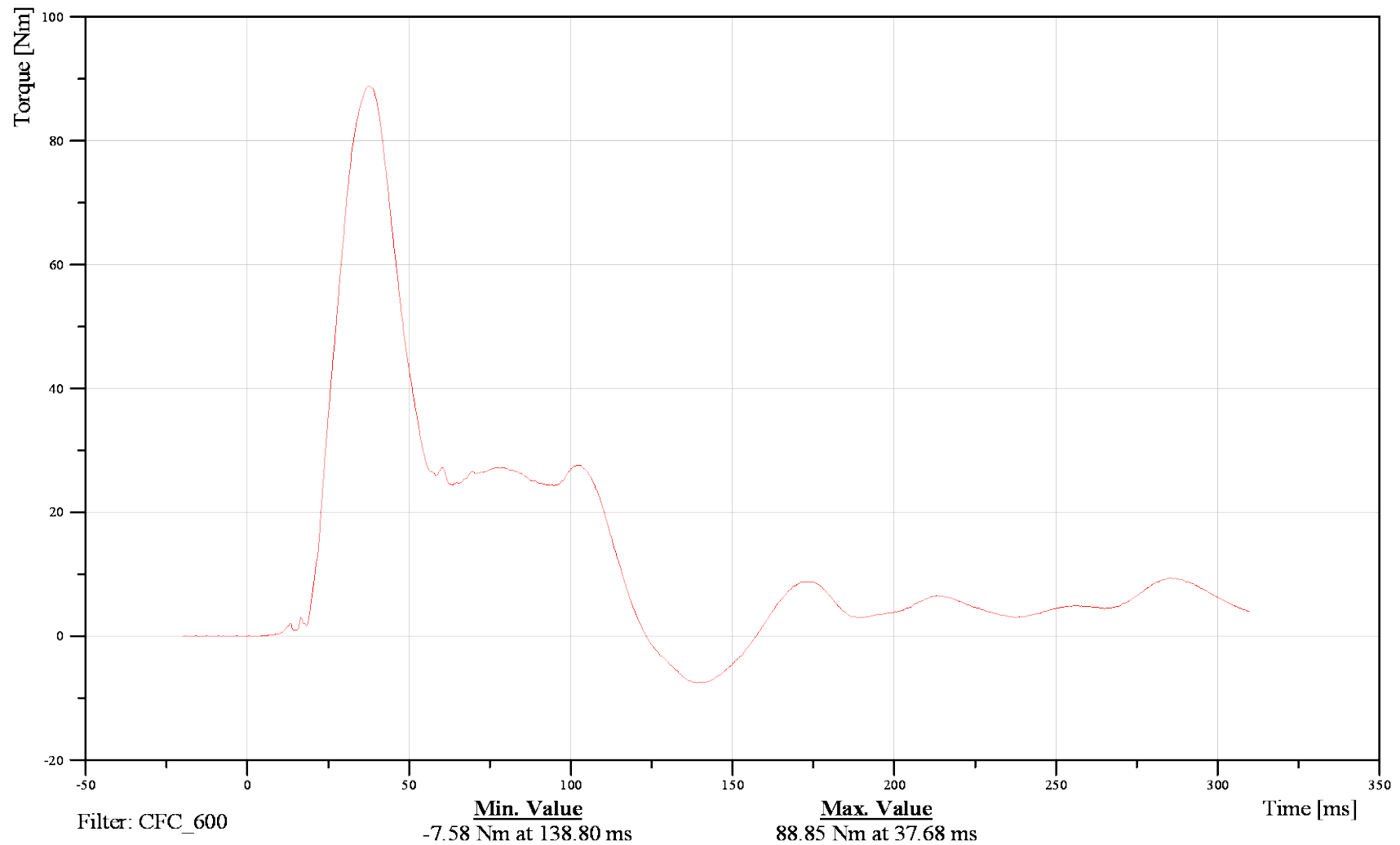
Lumbar Moment Mx

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Time: 12:59

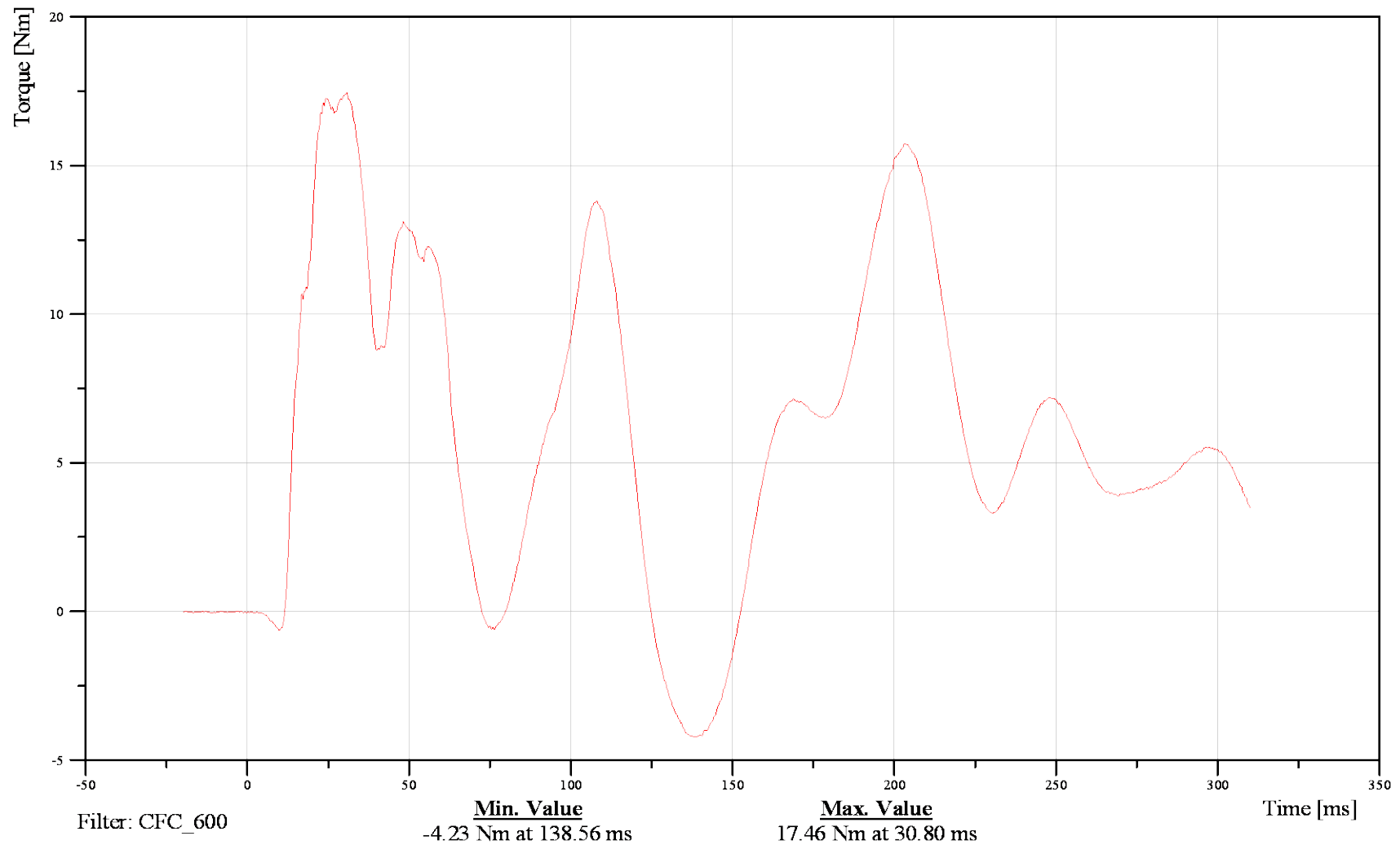
Lumbar Moment My

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Lumbar Moment Mz

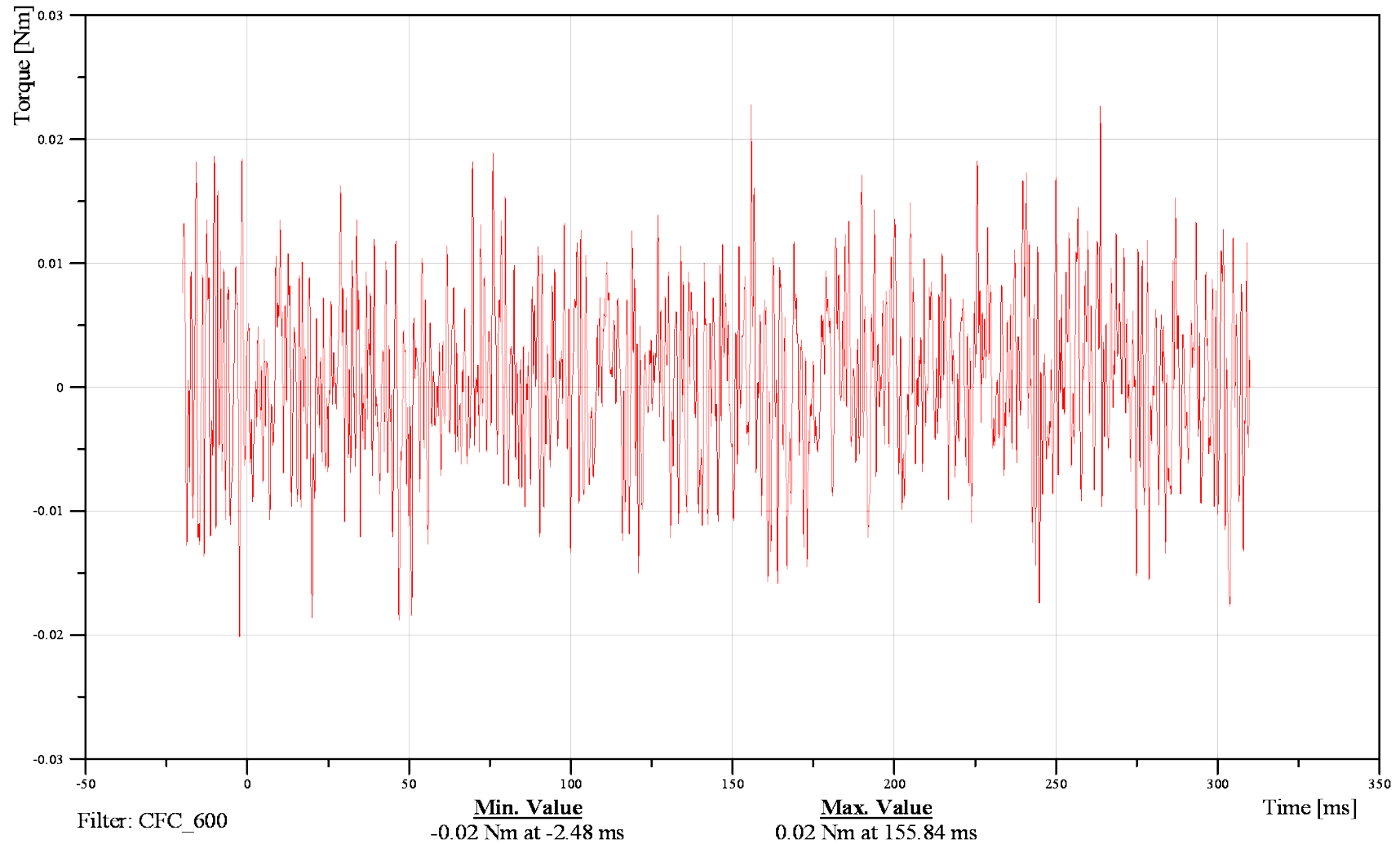
Time: 12:59

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Moment Mx

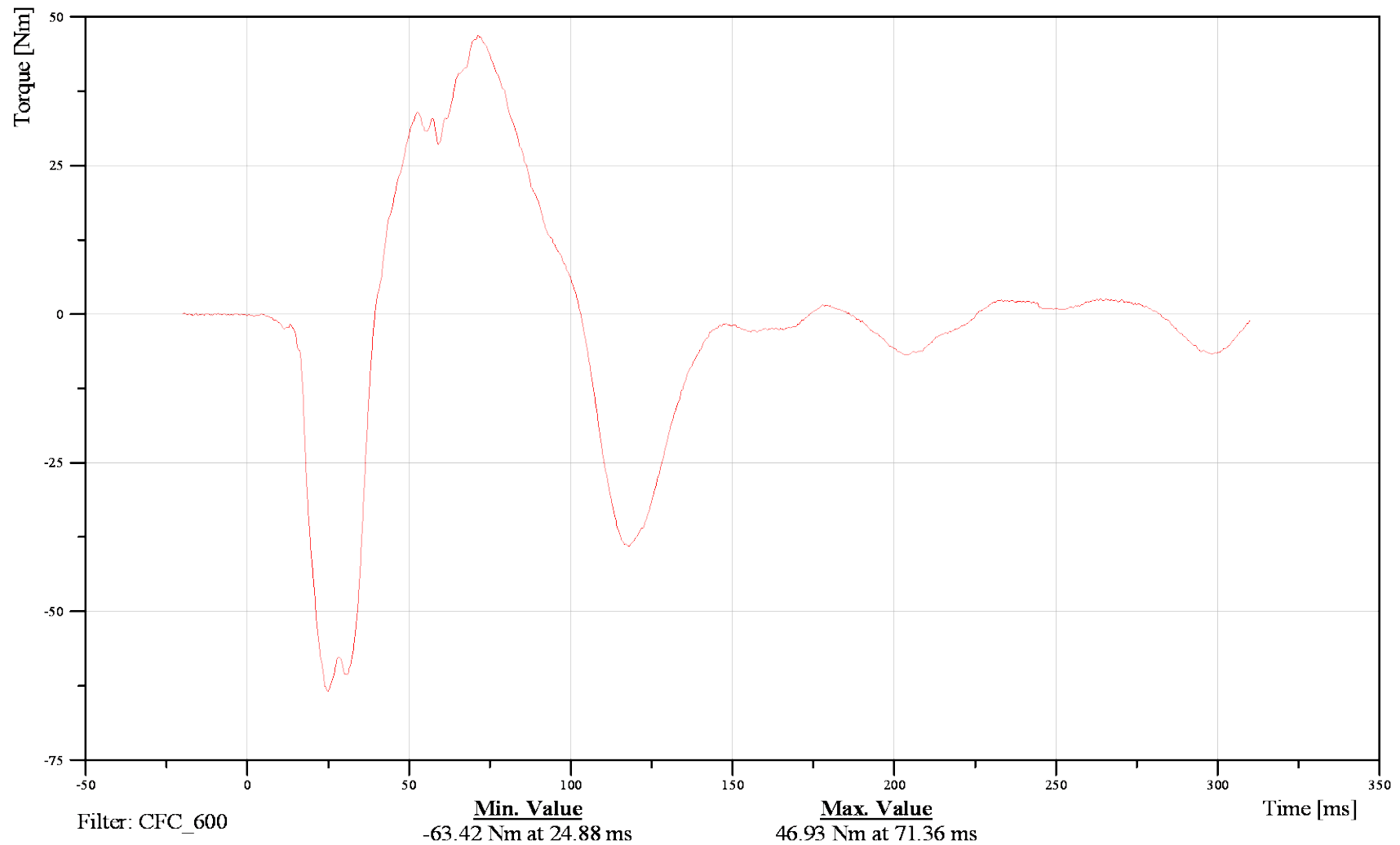
Time: 12:59

Customer: VRTC

11SACRRI00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Moment My

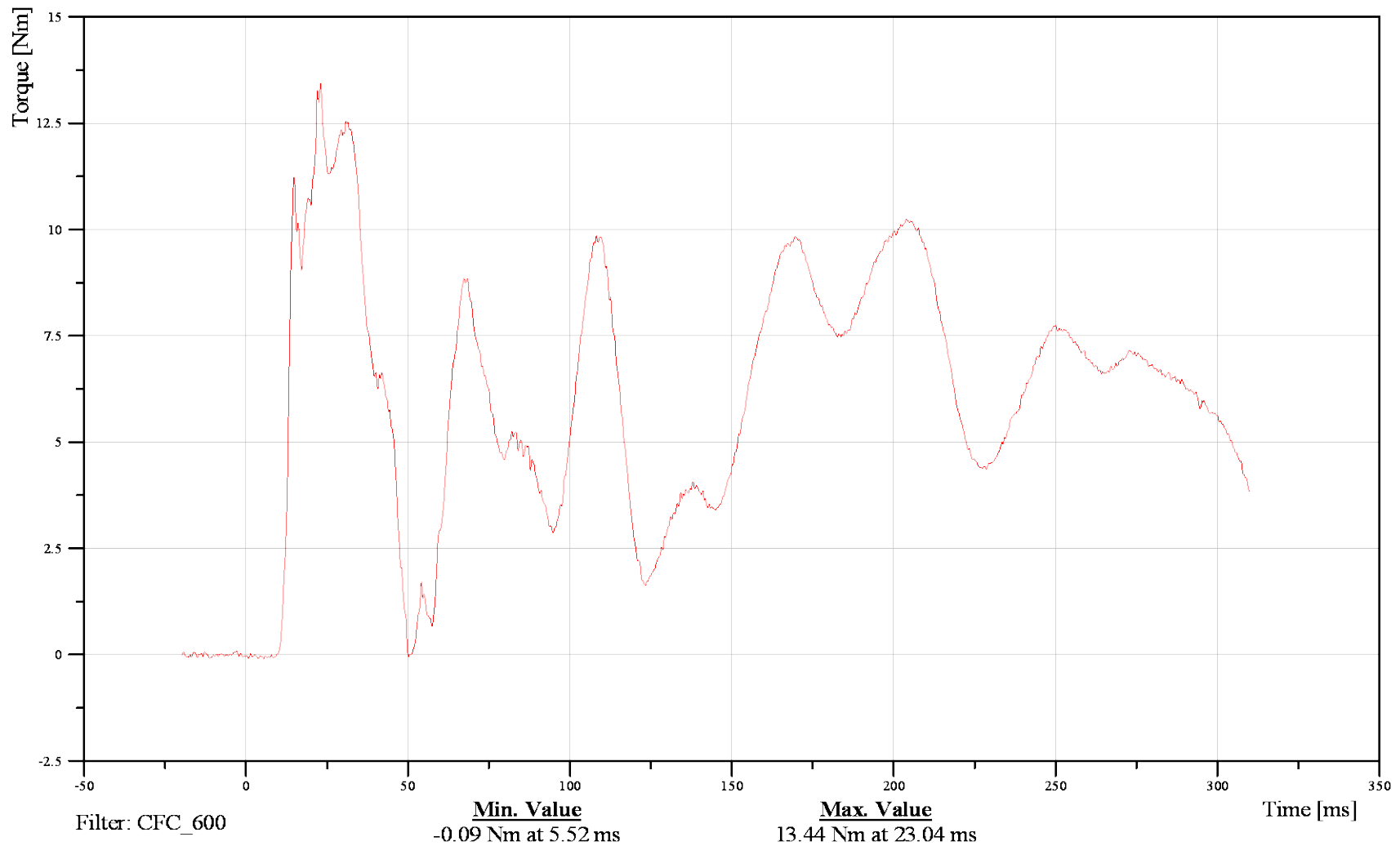
Time: 12:59

Customer: VRTC

11SACRRI00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Moment Mz

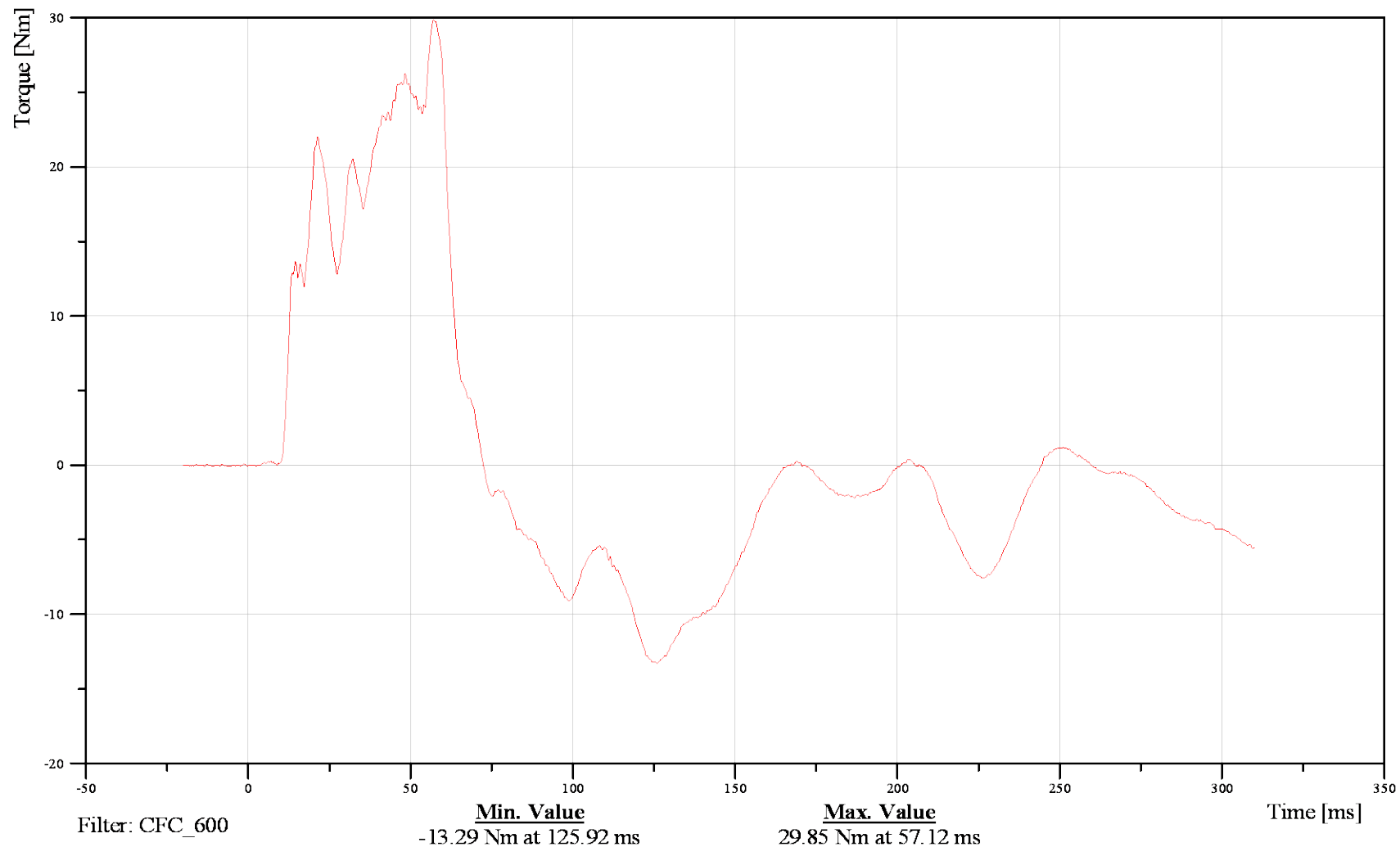
Time: 12:59

Customer: VRTC

11SACRRI00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Force Fx

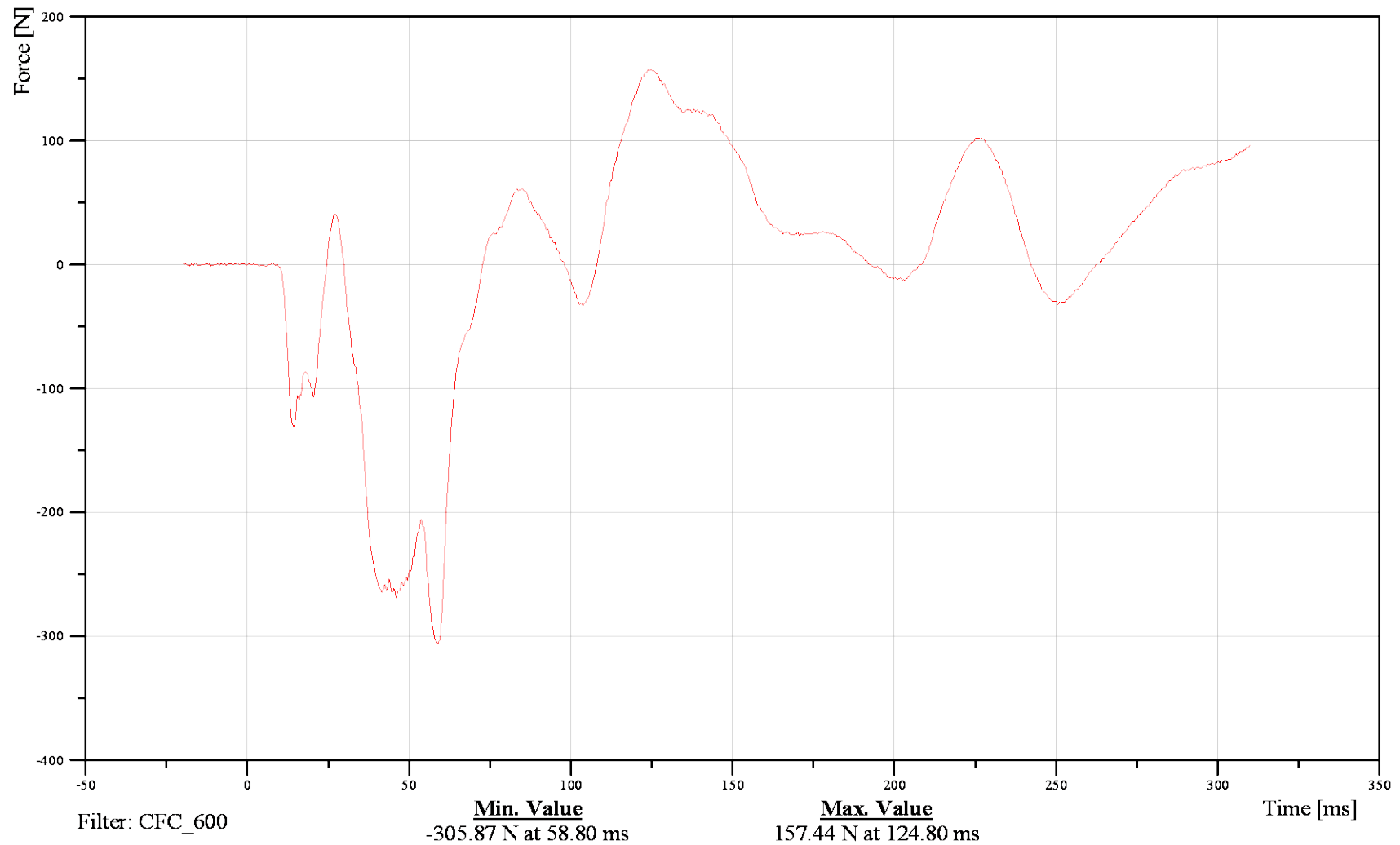
Time: 12:59

Customer: VRTC

11SACRRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Force Fy

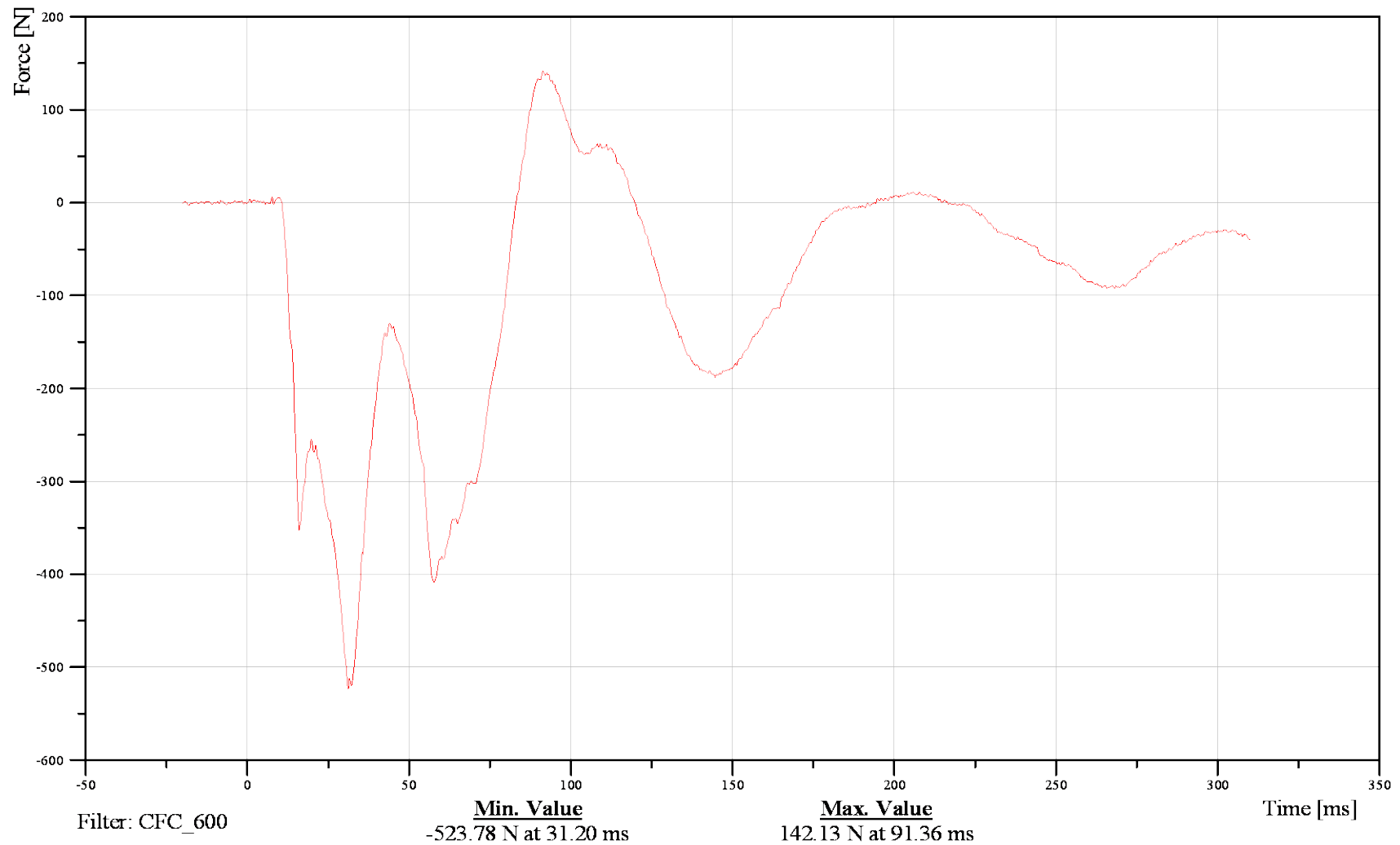
Time: 12:59

Customer: VRTC

11SACRRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Right Force Fz

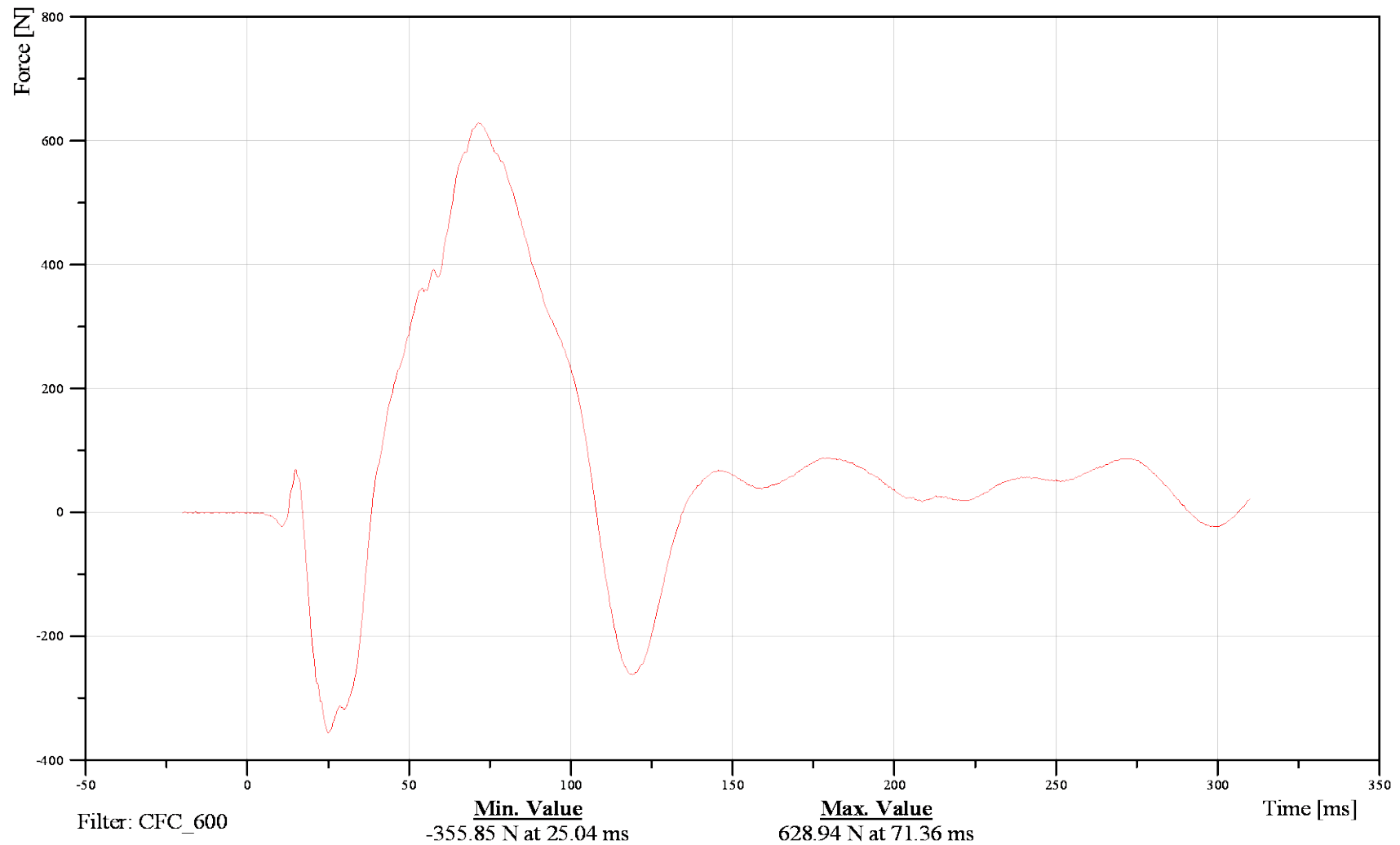
Time: 12:59

Customer: VRTC

11SACRRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Left Moment Mx

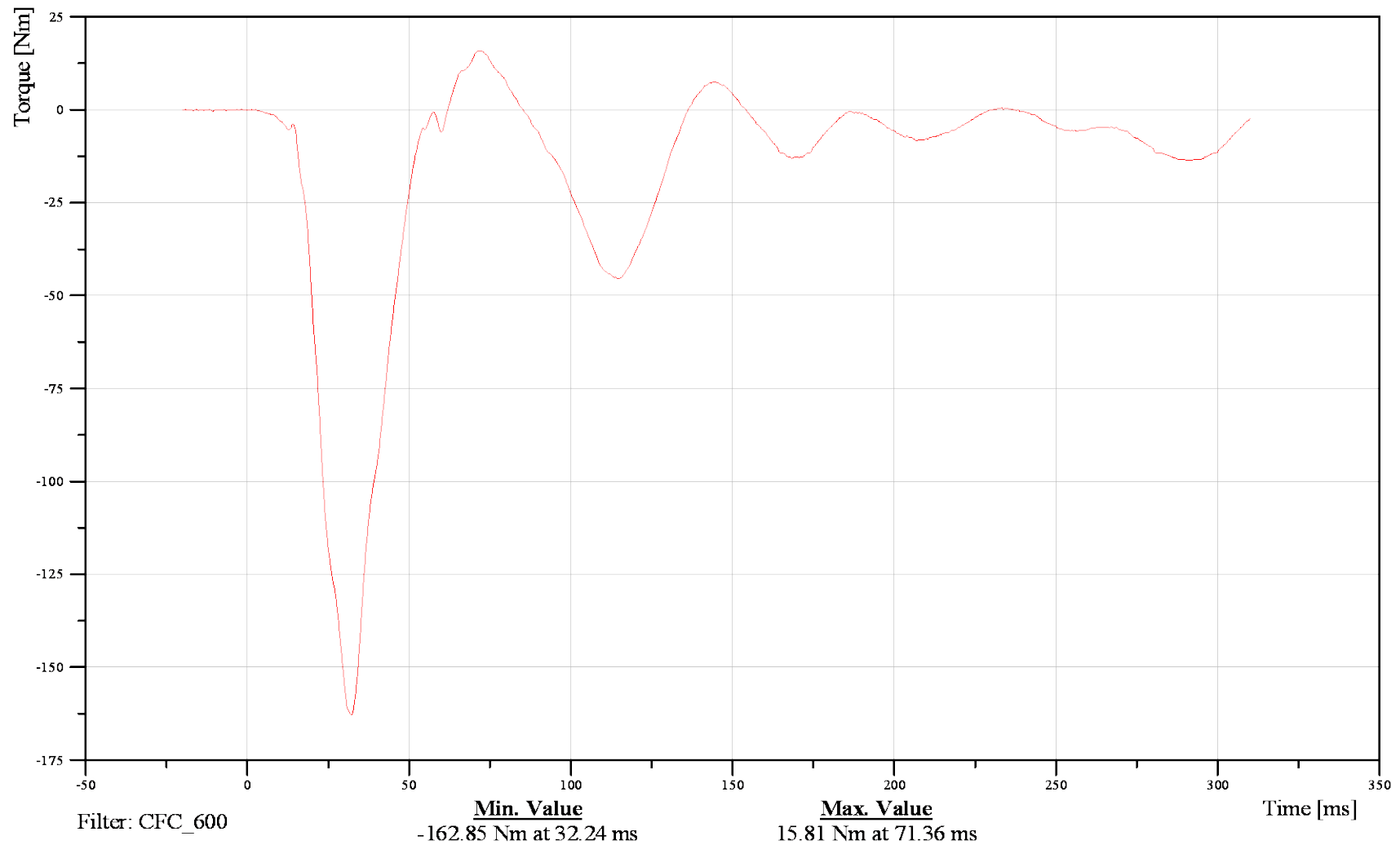
Time: 12:59

Customer: VRTC

11SACRLE00WSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Left Moment My

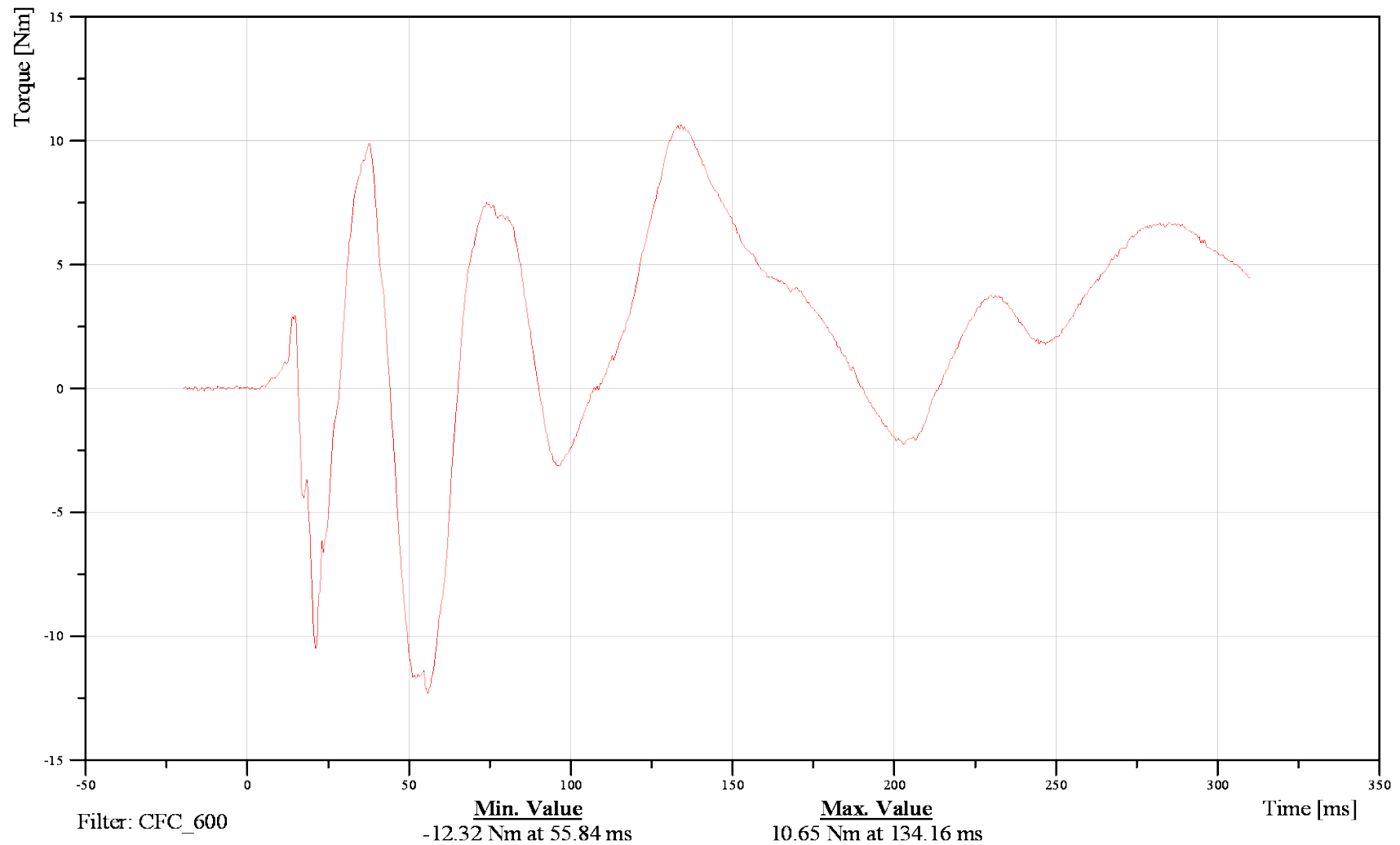
Time: 12:59

Customer: VRTC

11SACRLE00WSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Left Moment Mz

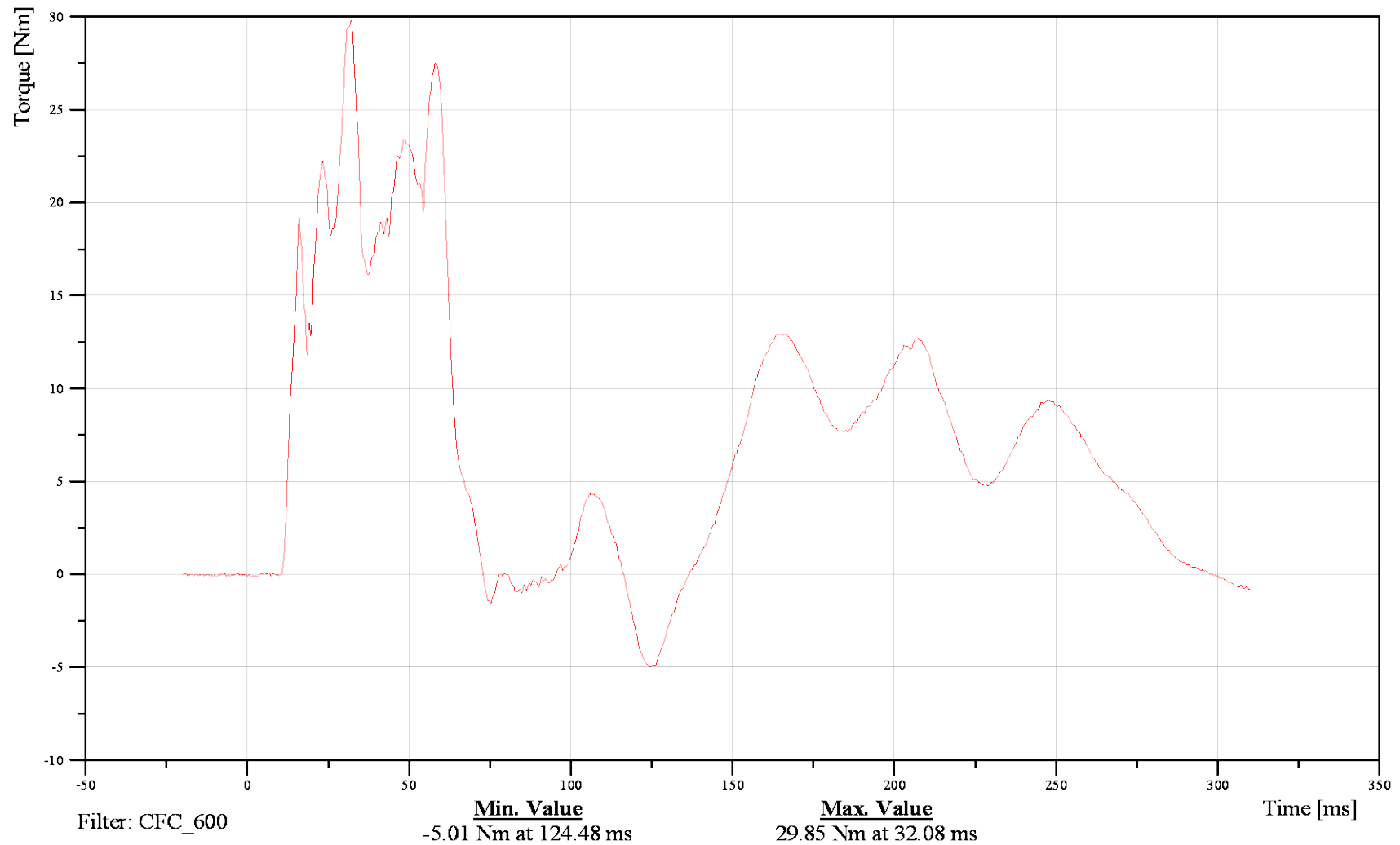
Time: 12:59

Customer: VRTC

11SACRLE00WSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Sacro-Iliac Left Force Fx

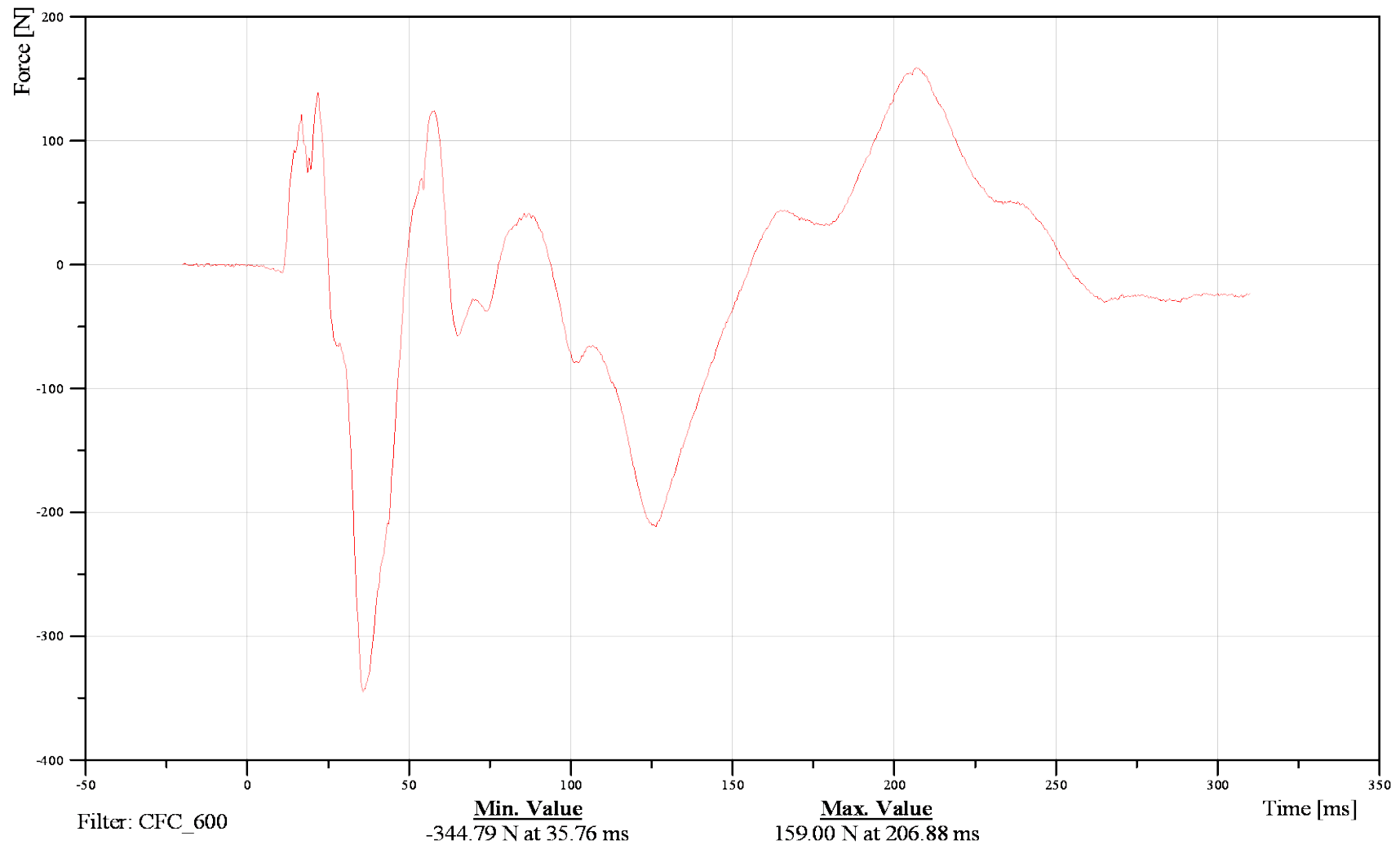
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11SACRLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Left Force Fy

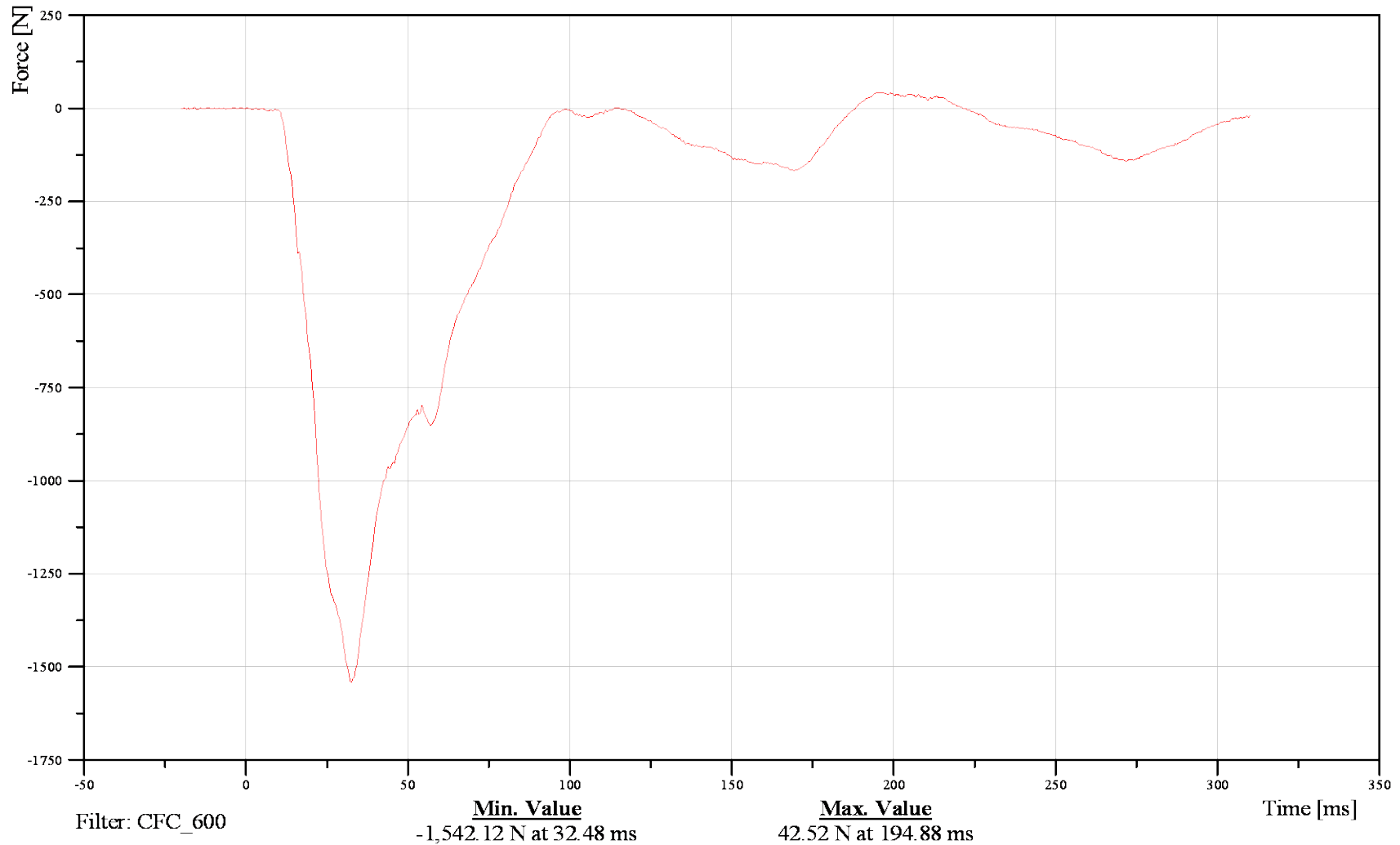
Time: 12:59

Customer: VRTC

11SACRLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Sacro-Iliac Left Force Fz

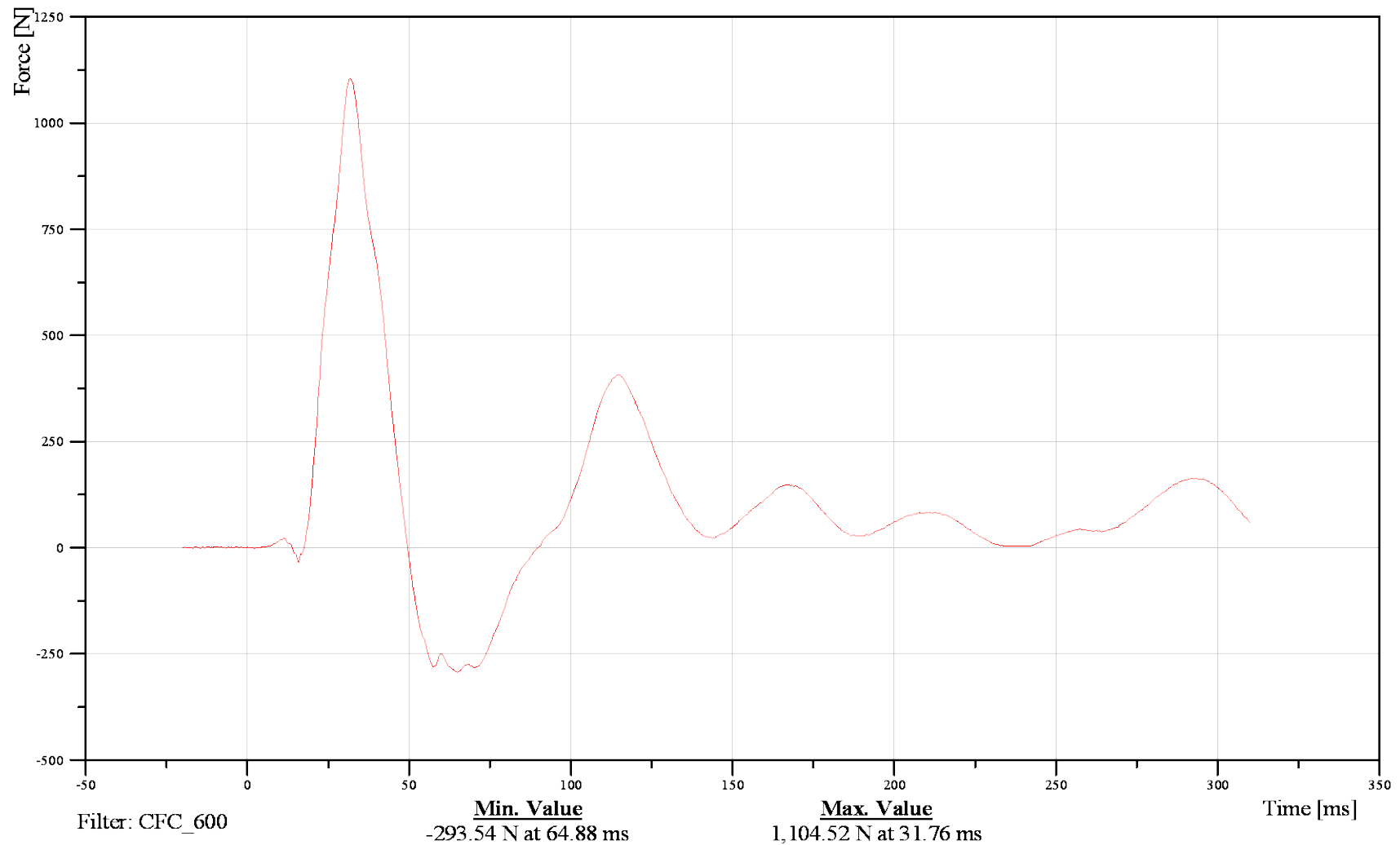
Time: 12:59

Customer: VRTC

11SACRLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Mid Femur Force Fx

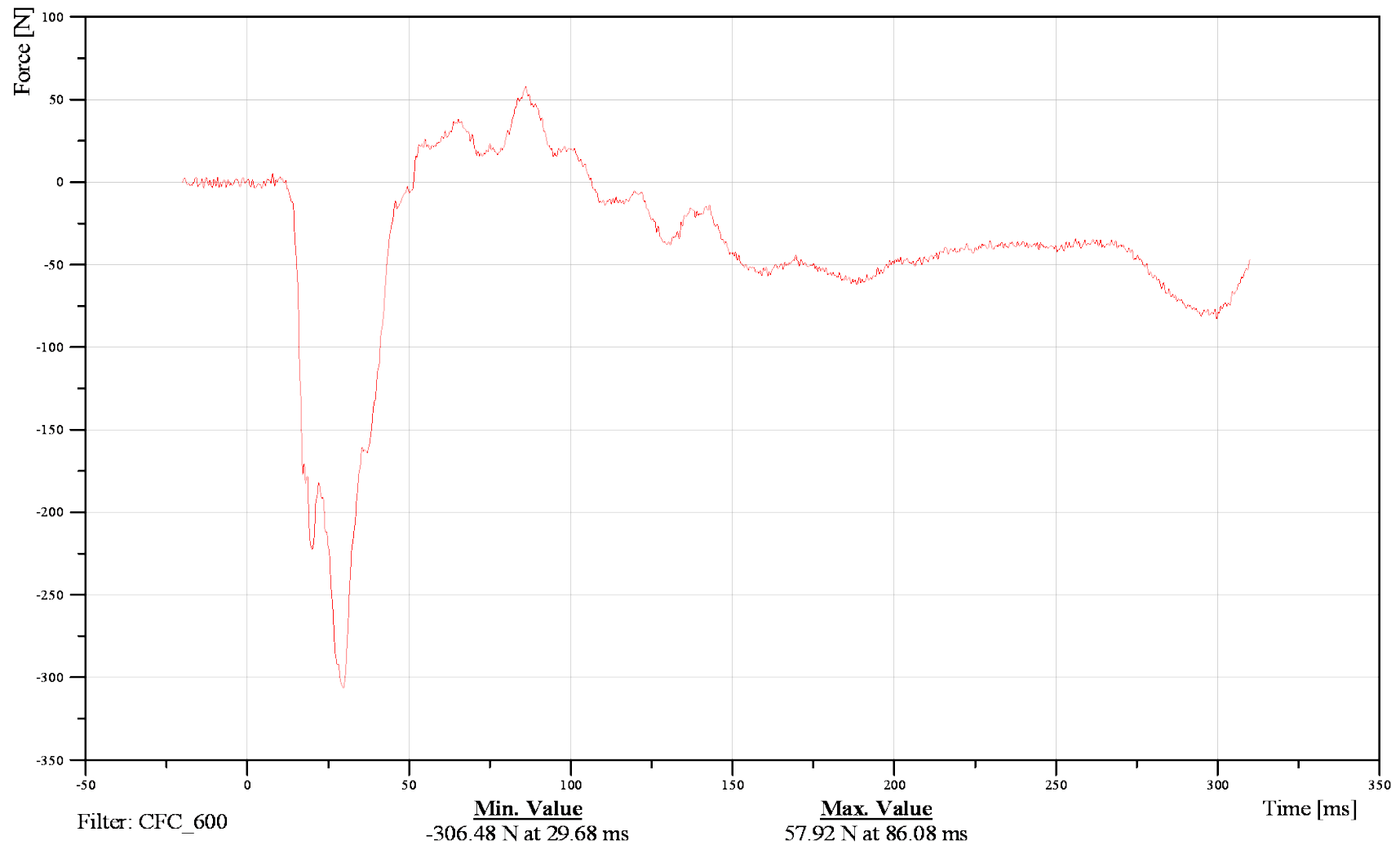
Time: 12:59

Customer: VRTC

11FEMRLEMIWSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Mid Femur Force Fy

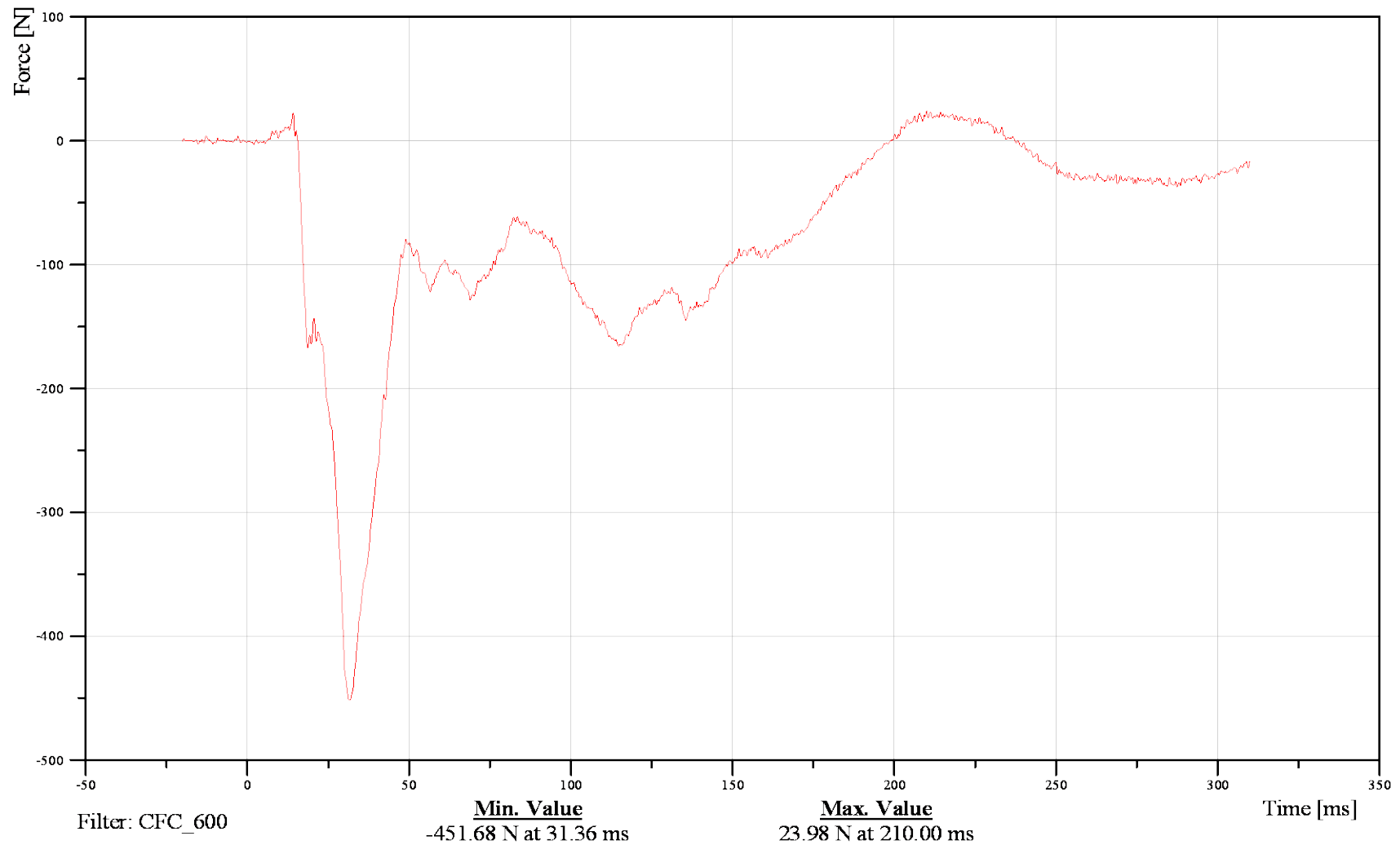
Time: 12:59

Customer: VRTC

11FEMRLEMIWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Mid Femur Force Fz

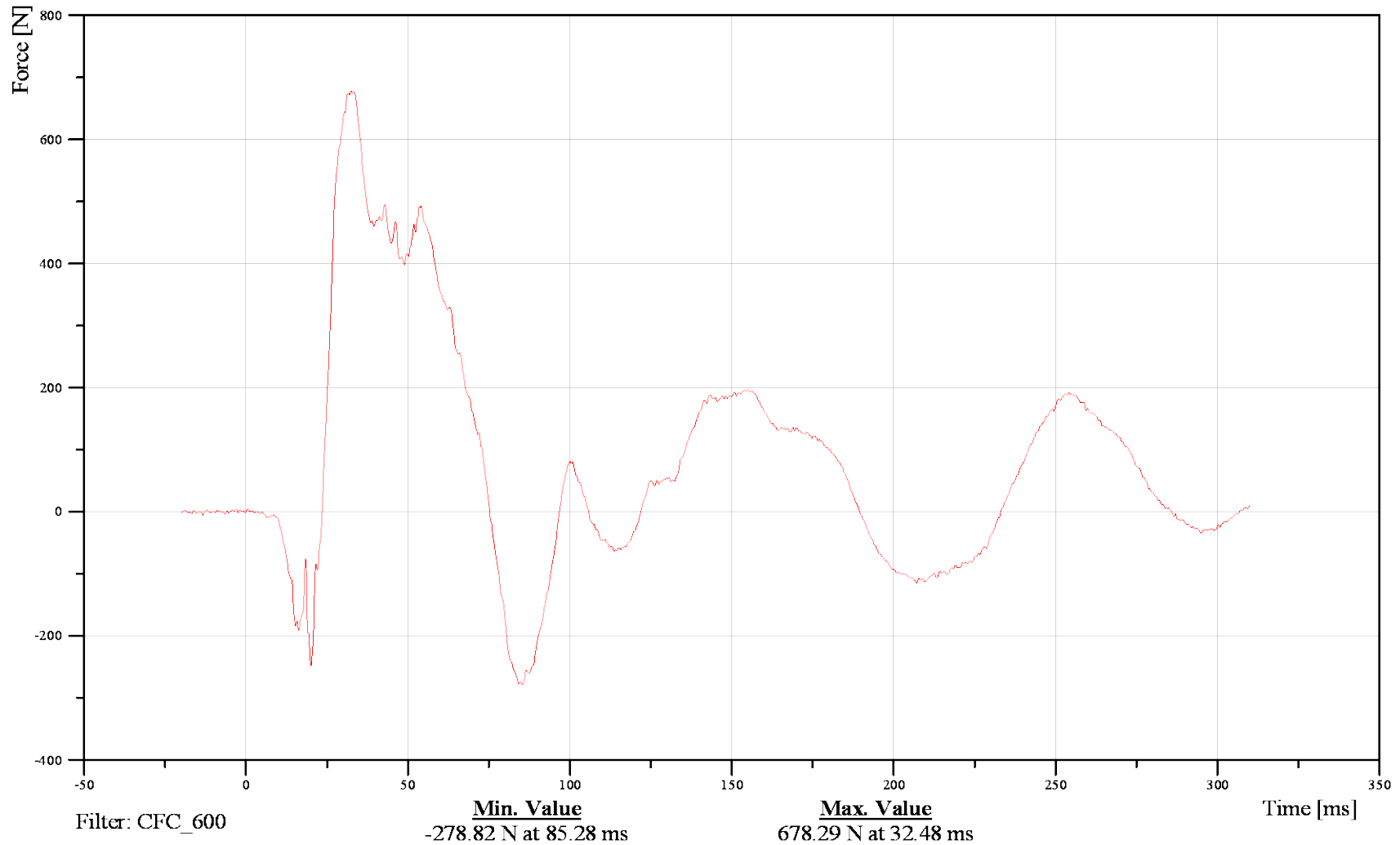
Time: 12:59

Customer: VRTC

11FEMRLEMIWSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Mid Femur Moment Mx

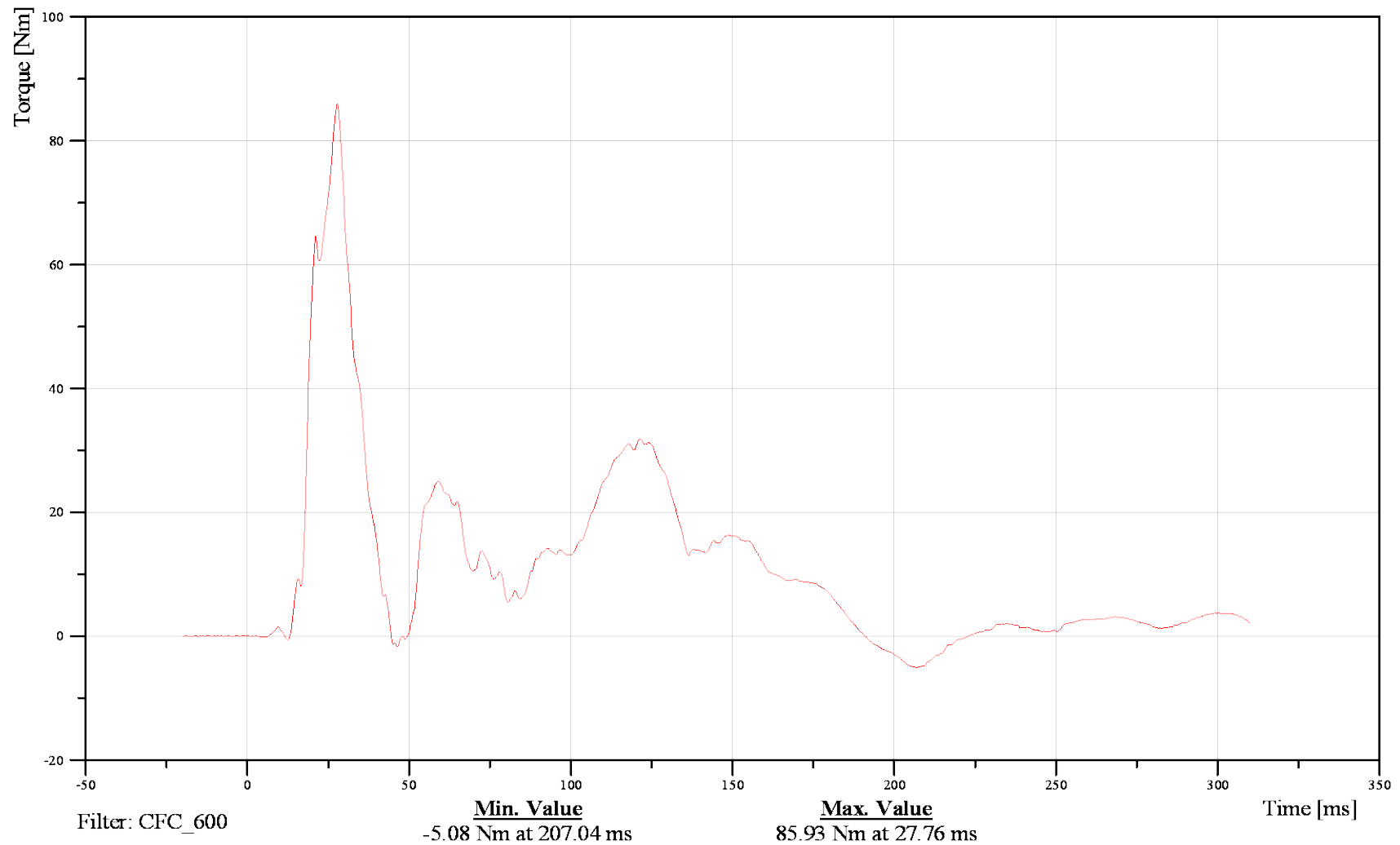
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11FEMRLEMIWSMOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Mid Femur Moment My

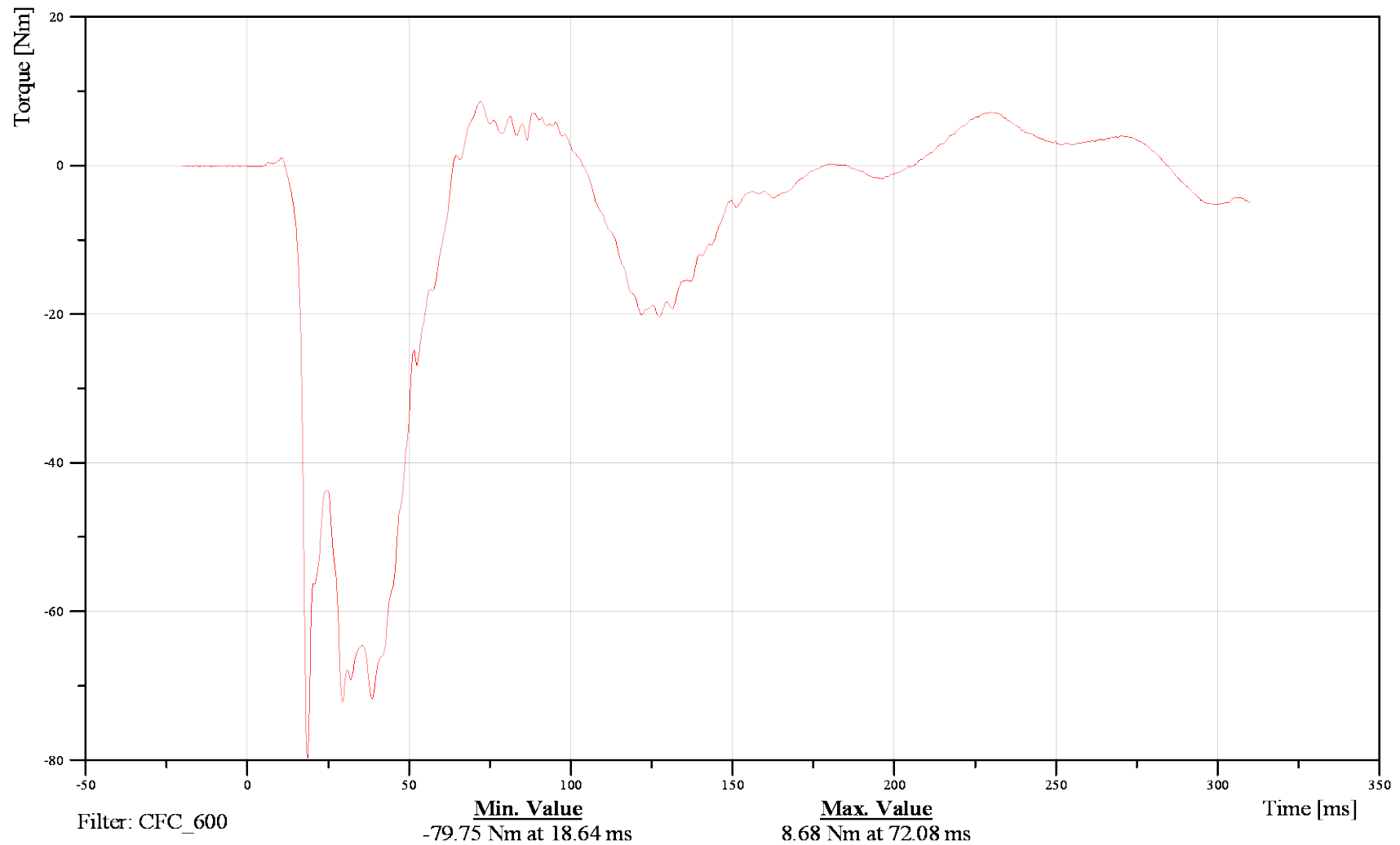
Time: 12:59

Customer: VRTC

11FEMRLEMIWSMOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012
Time: 12:59

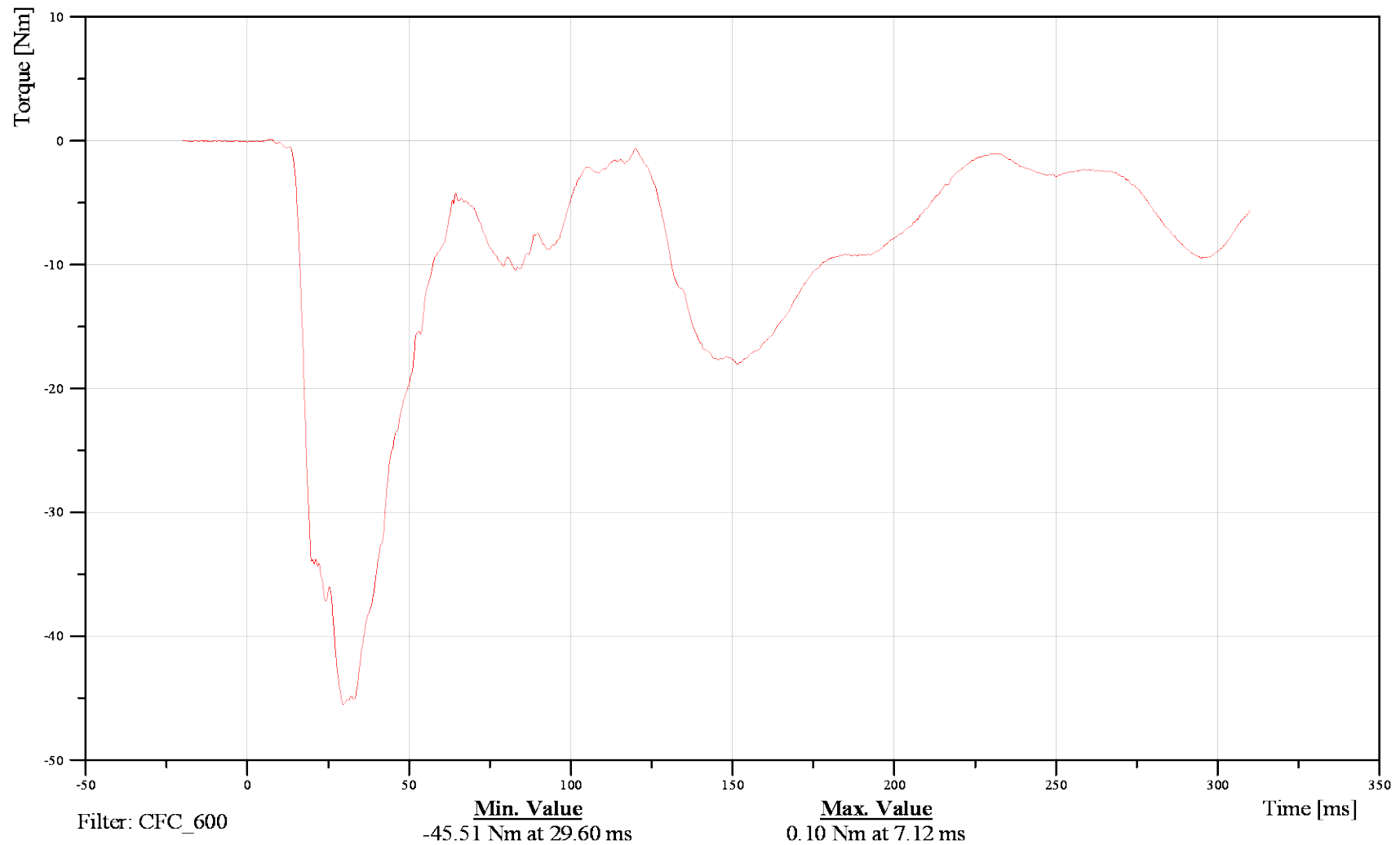
Left Mid Femur Moment Mz

Customer: VRTC

11FEMRLEMIWSMOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Femoral Neck Force Fx

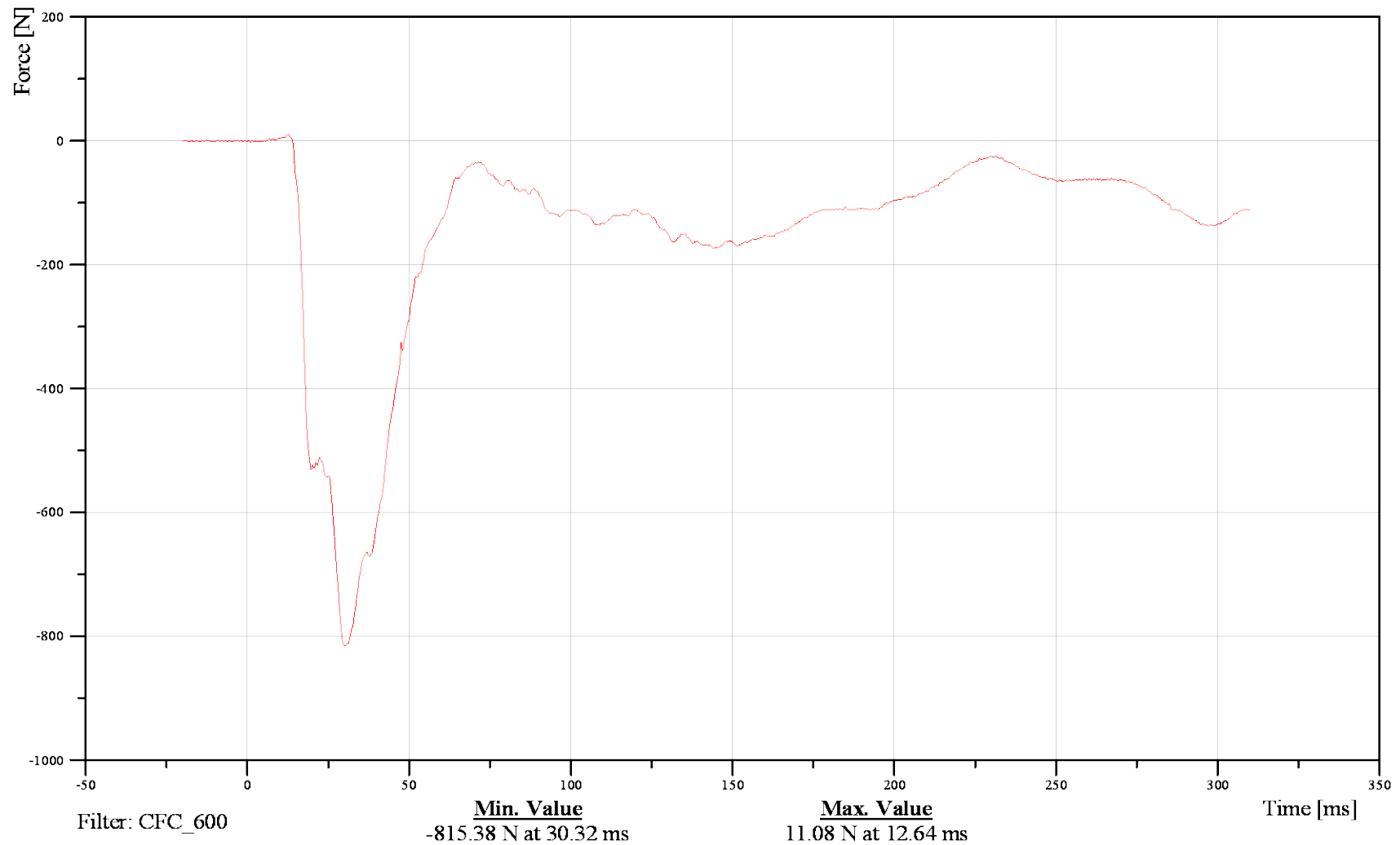
Time: 12:59

Customer: VRTC

11FEACLE00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Femoral Neck Force Fy

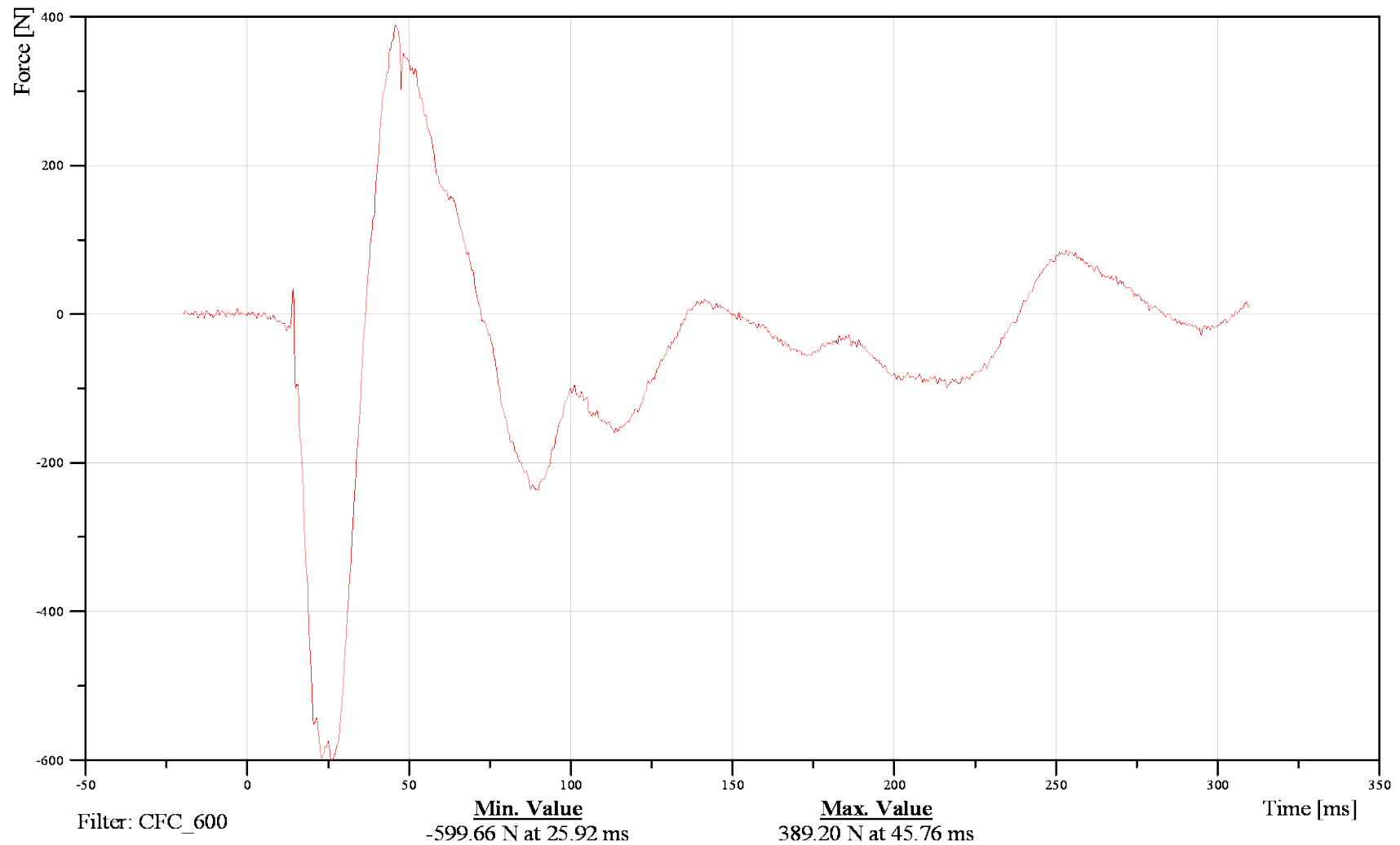
Time: 12:59

Customer: VRTC

11FEACLE00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Femoral Neck Force Fz

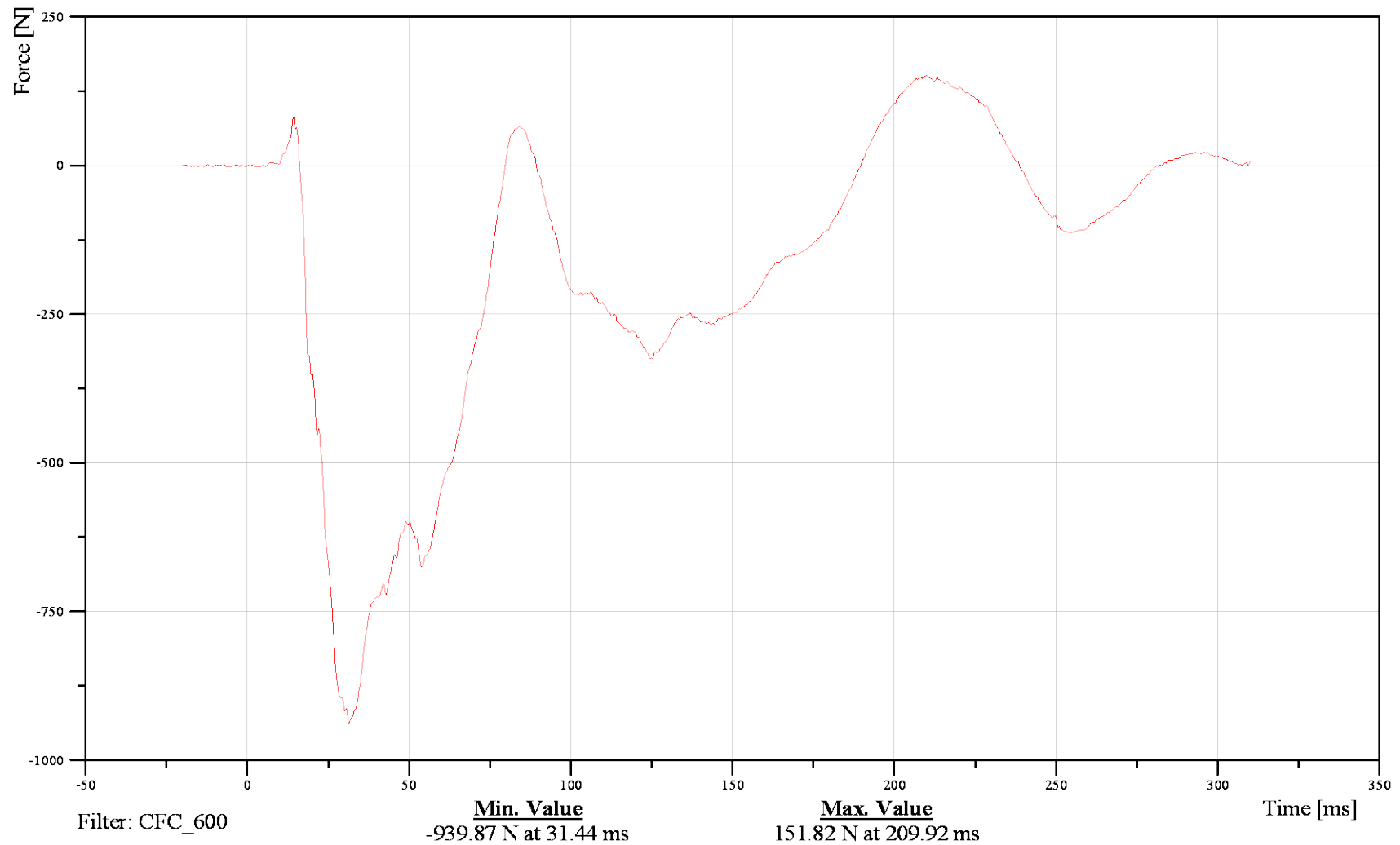
Time: 12:59

Customer: VRTC

11FEACLE00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Femoral Neck Force Fx

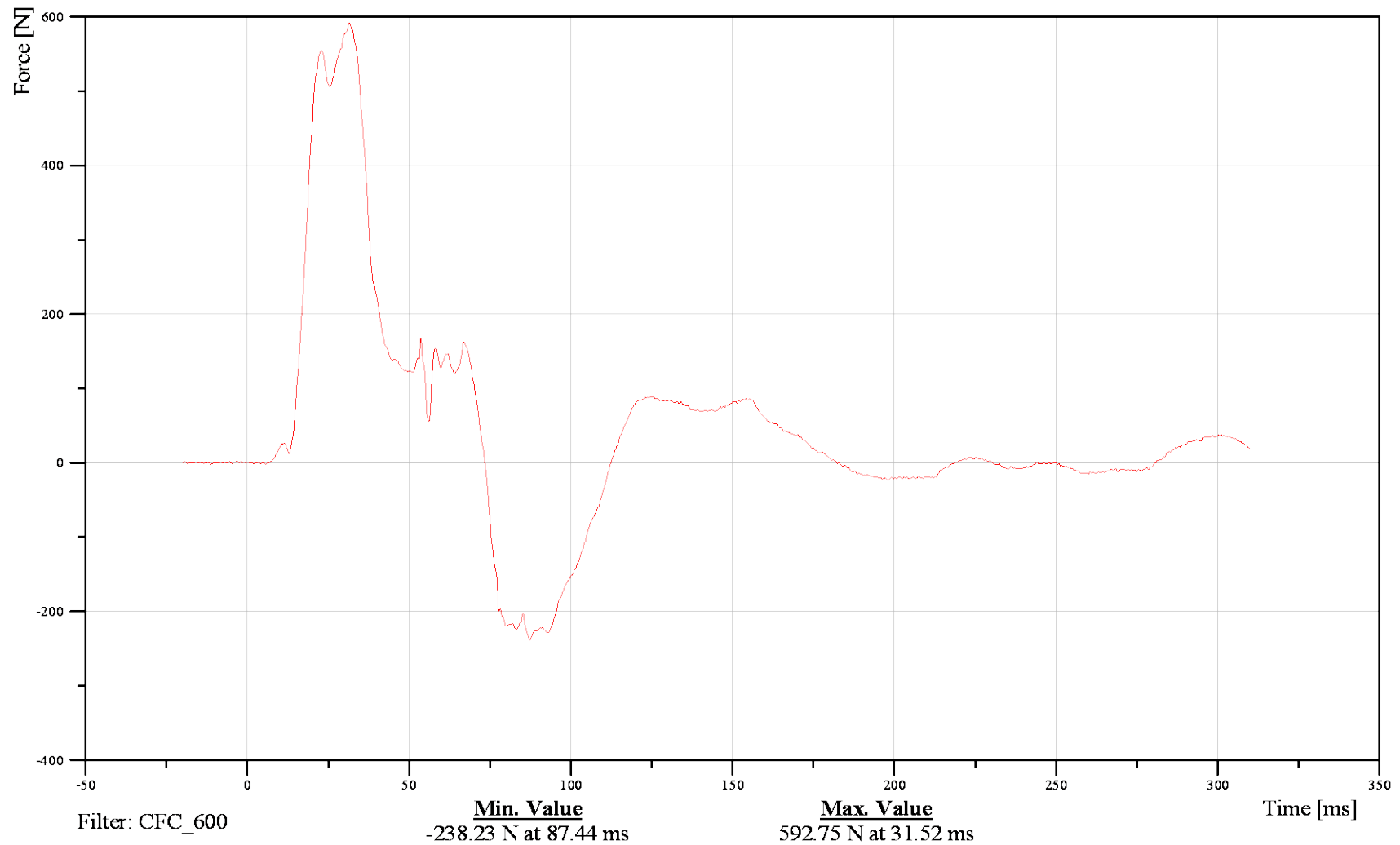
Time: 12:59

Customer: VRTC

11FEACRI00WSFOXB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Time: 12:59

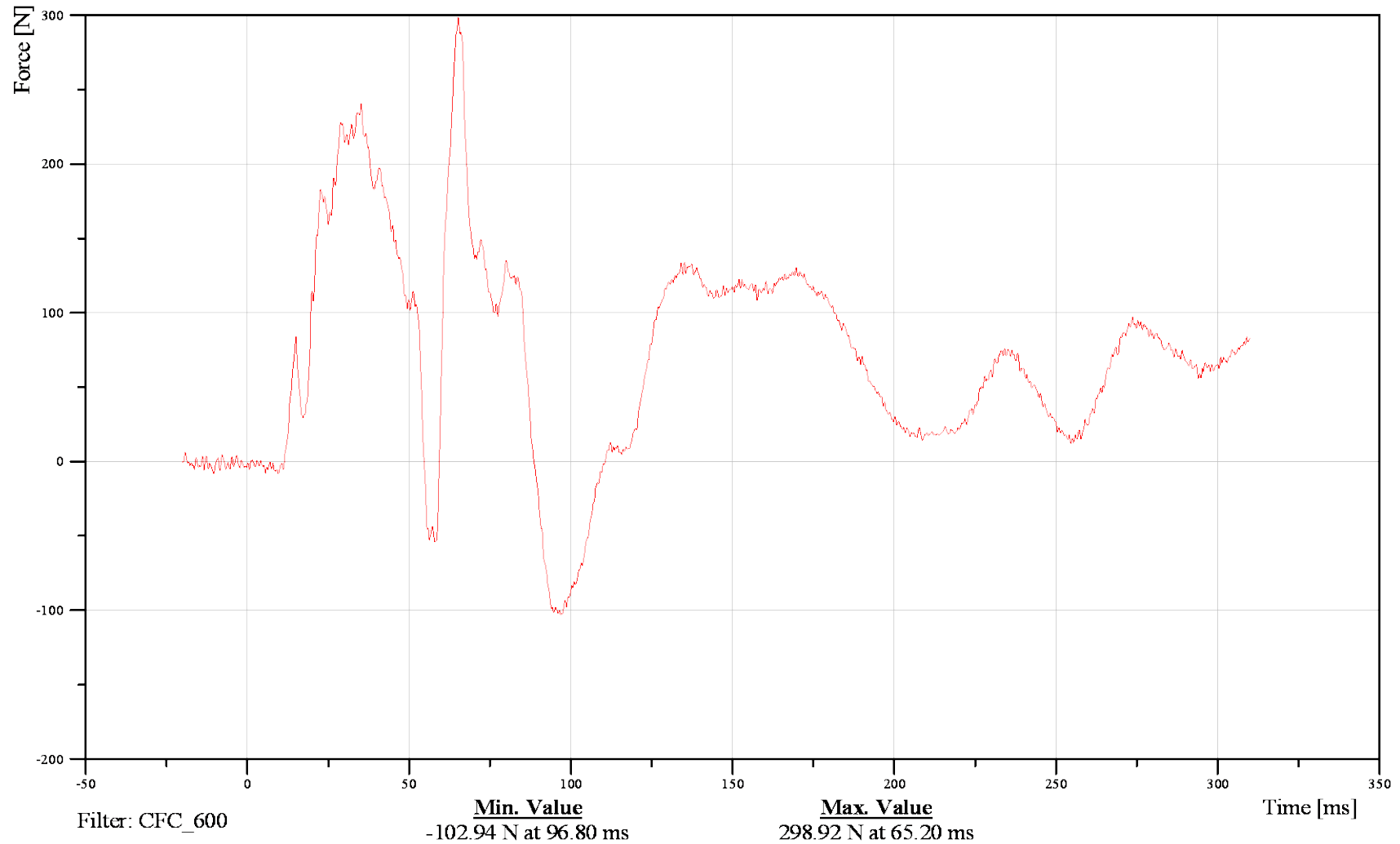
Right Femoral Neck Force Fy

Customer: VRTC

11FEACRI00WSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Femoral Neck Force Fz

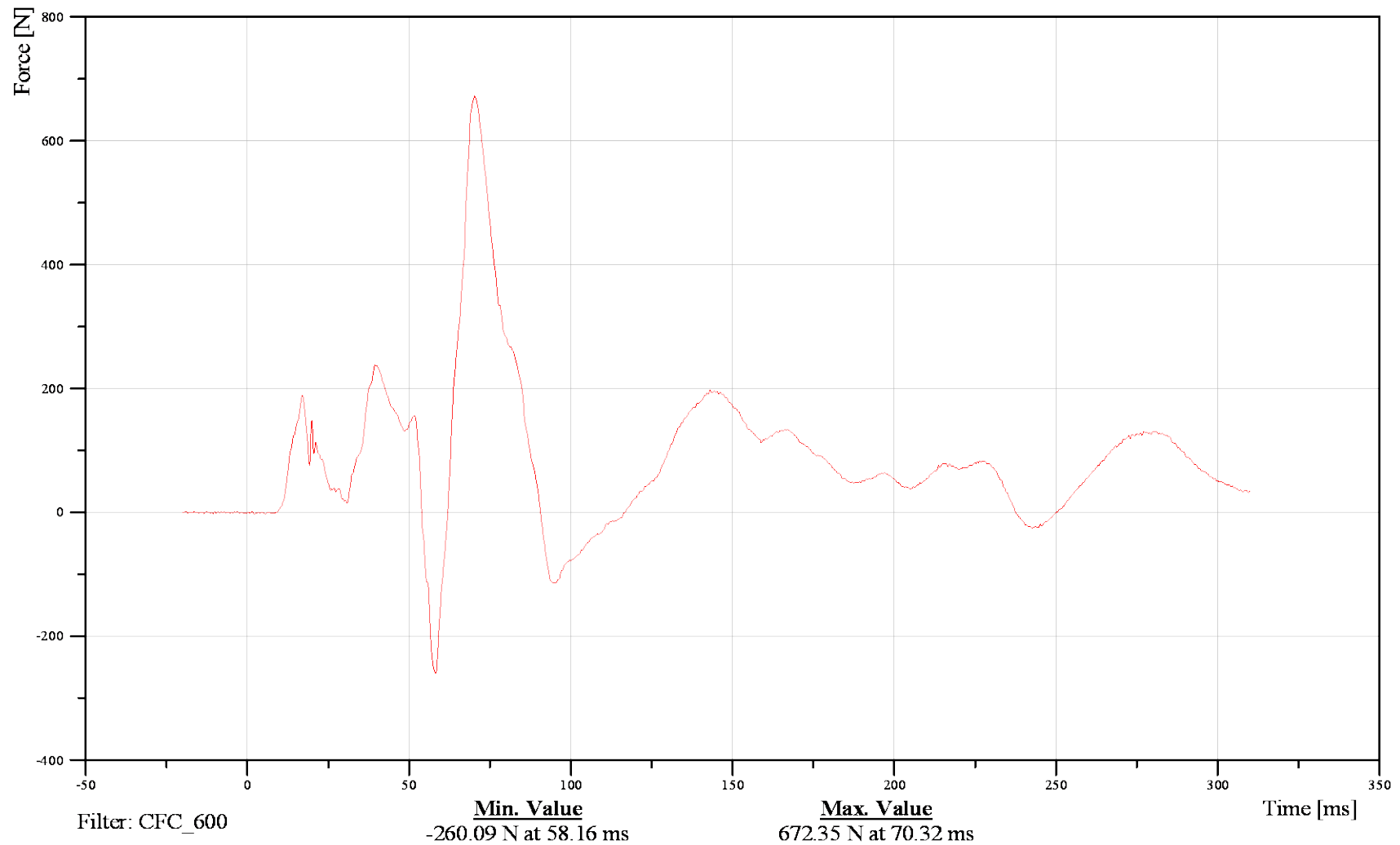
Time: 12:59

Customer: VRTC

11FEACRI00WSFOZB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Knee Outboard Force Fy

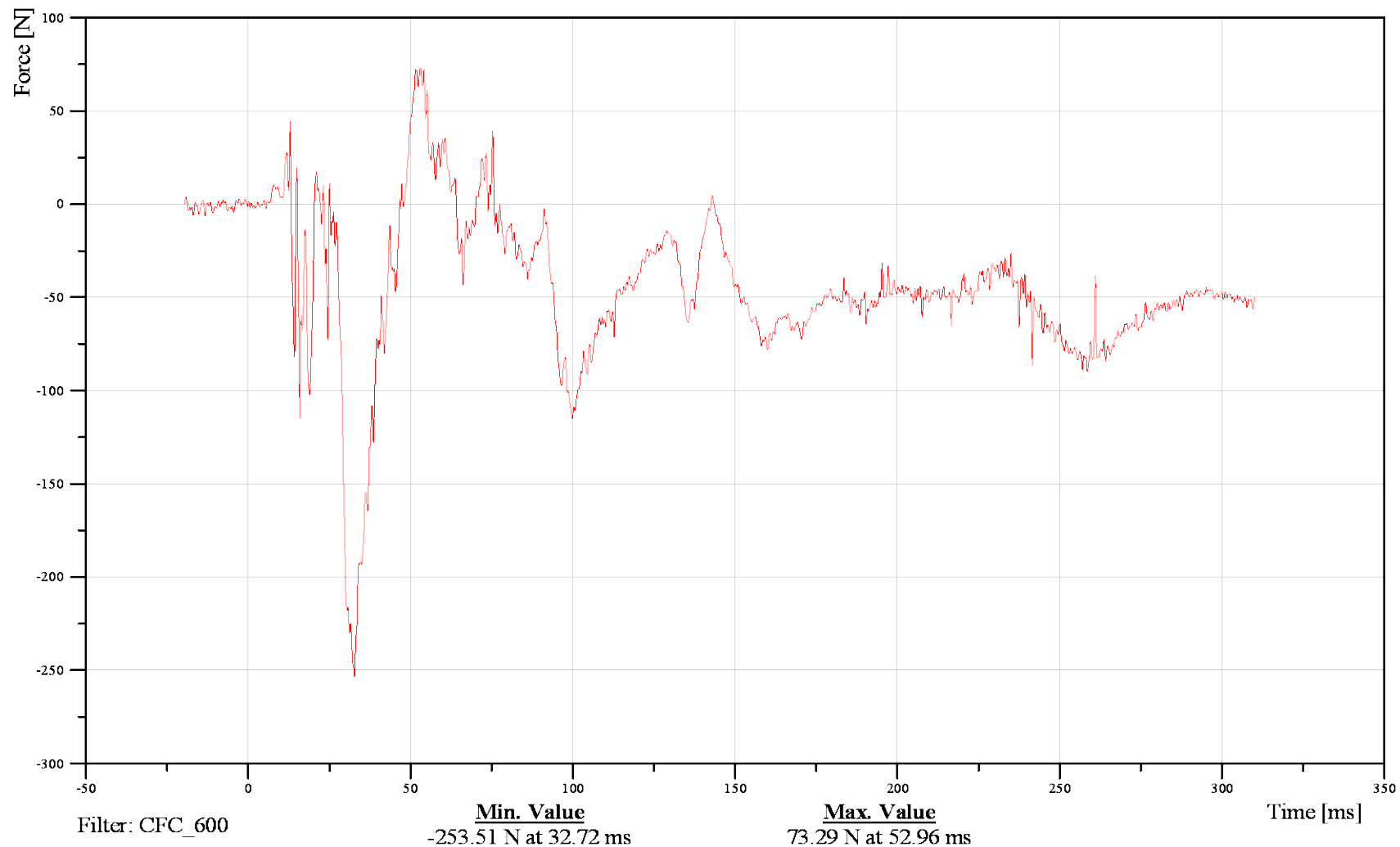
Time: 12:59

Customer: VRTC

11KNEELEOUWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Knee Inboard Force Fy

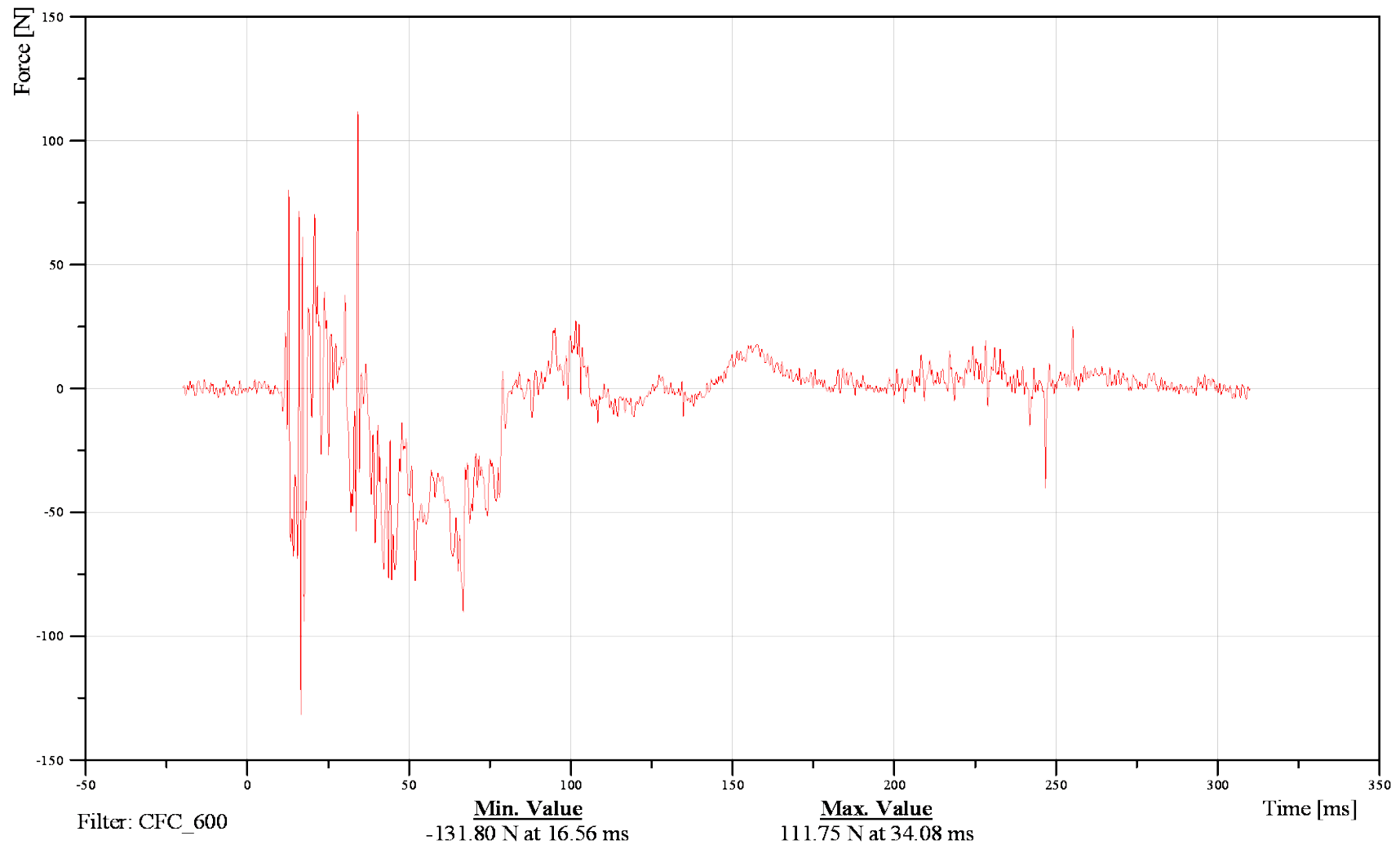
Time: 12:59

Customer: VRTC

11KNEELEINWSFOYB

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Vehicle CG (X)

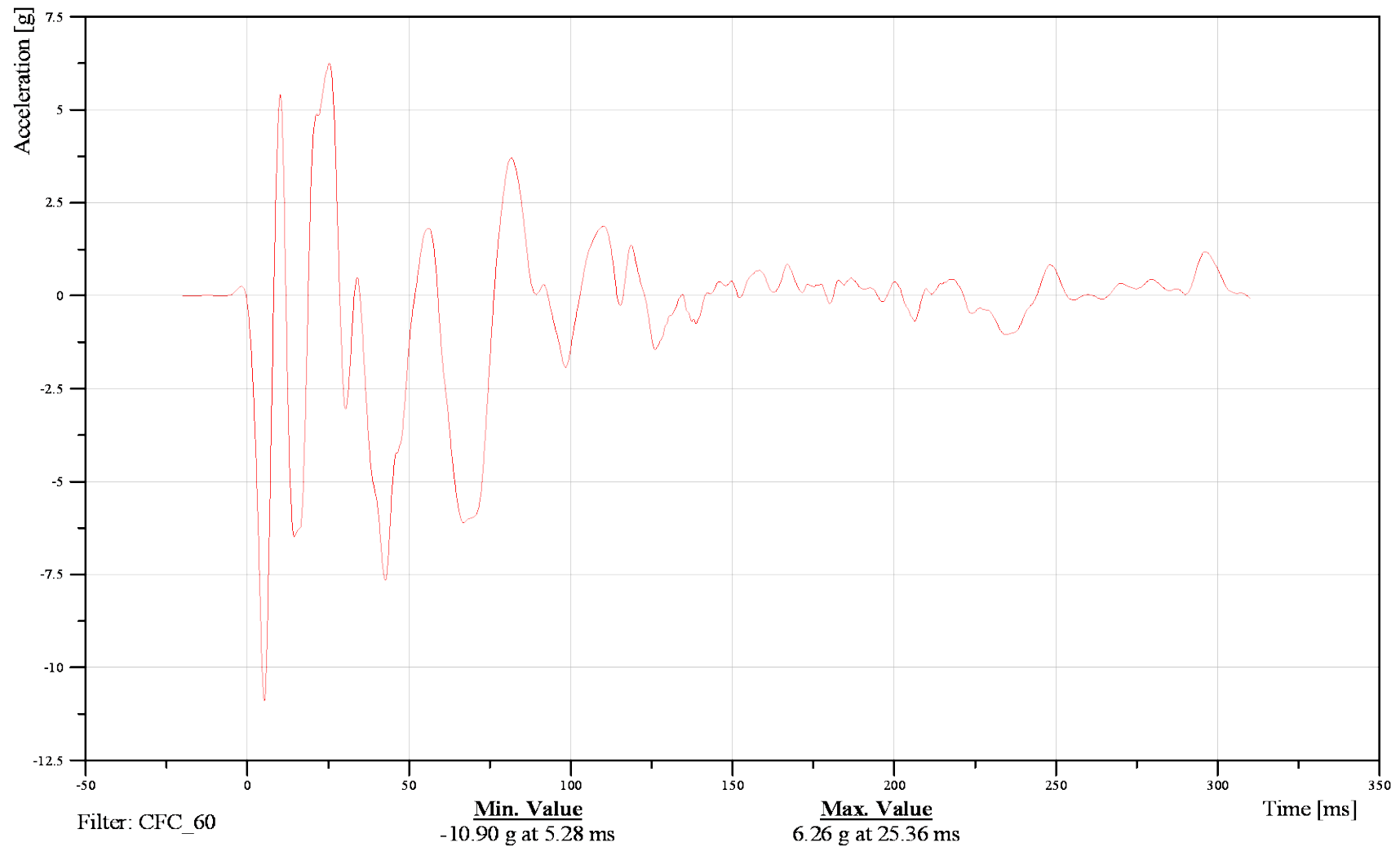
Time: 12:59

Customer: VRTC

11VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Vehicle CG (Y)

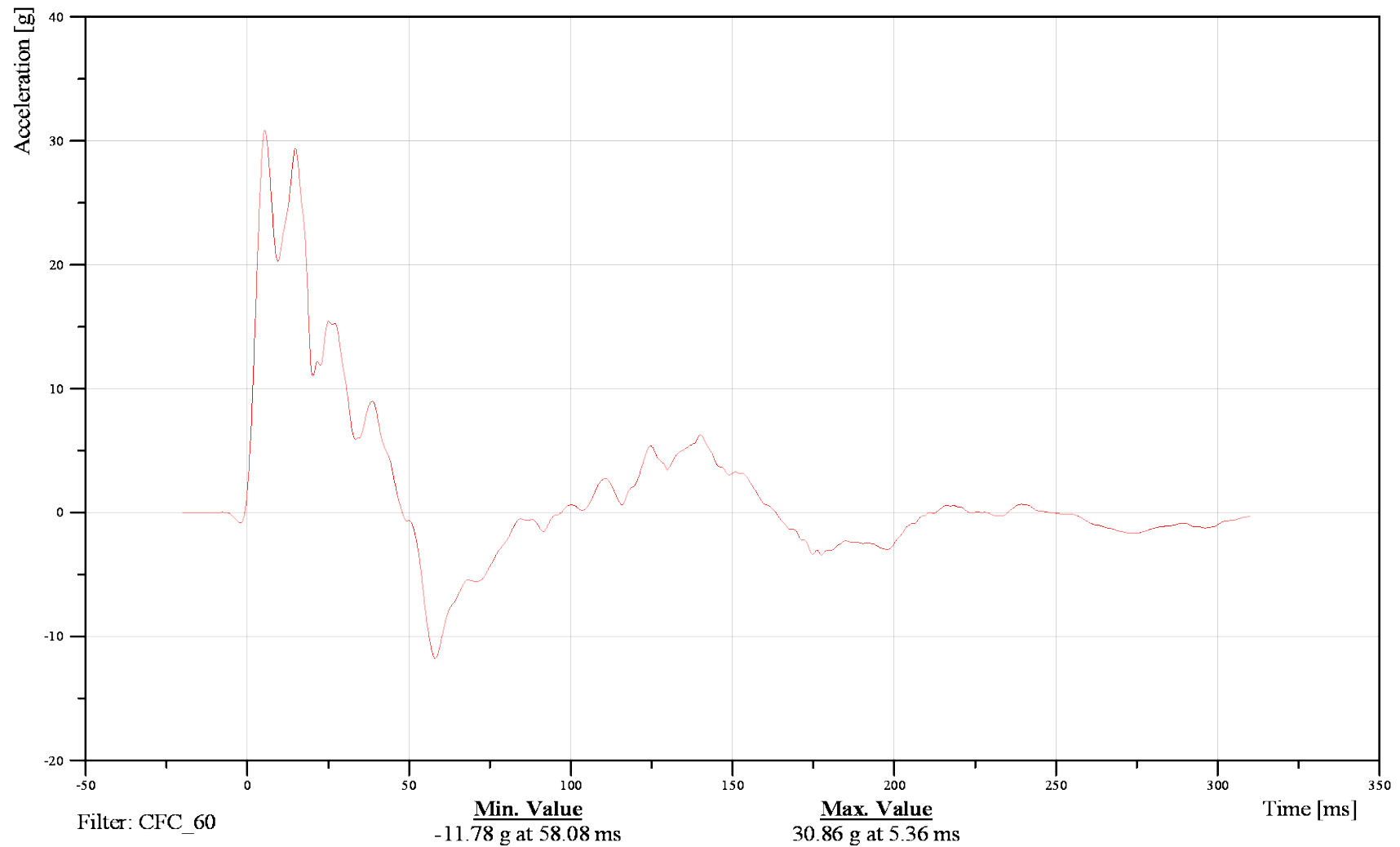
Time: 12:59

Customer: VRTC

11VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Vehicle CG (Z)

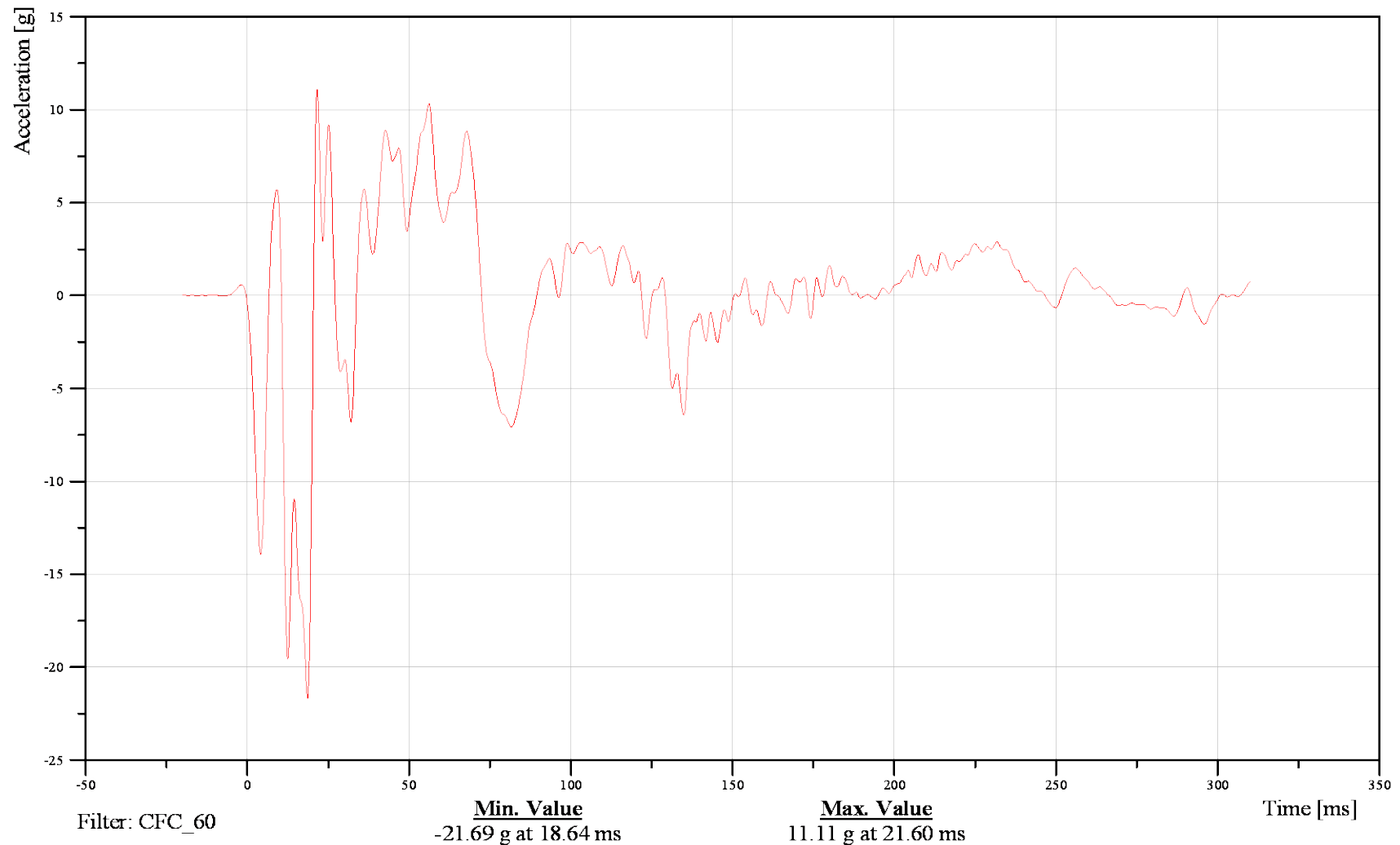
Time: 12:59

Customer: VRTC

11VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Vehicle CG Resultant

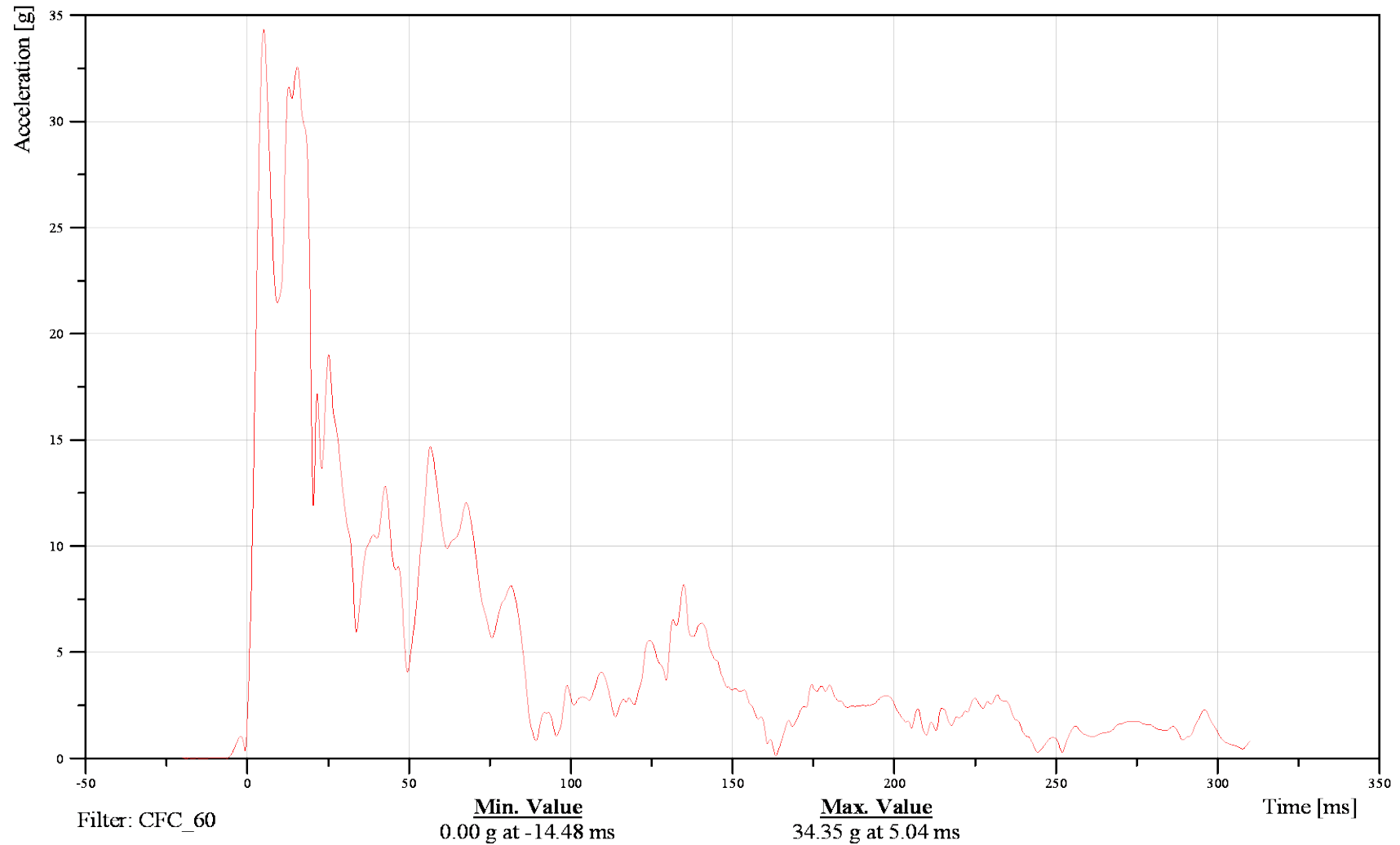
Time: 12:59

Customer: VRTC

11VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Front Sill at Front Seat (X)

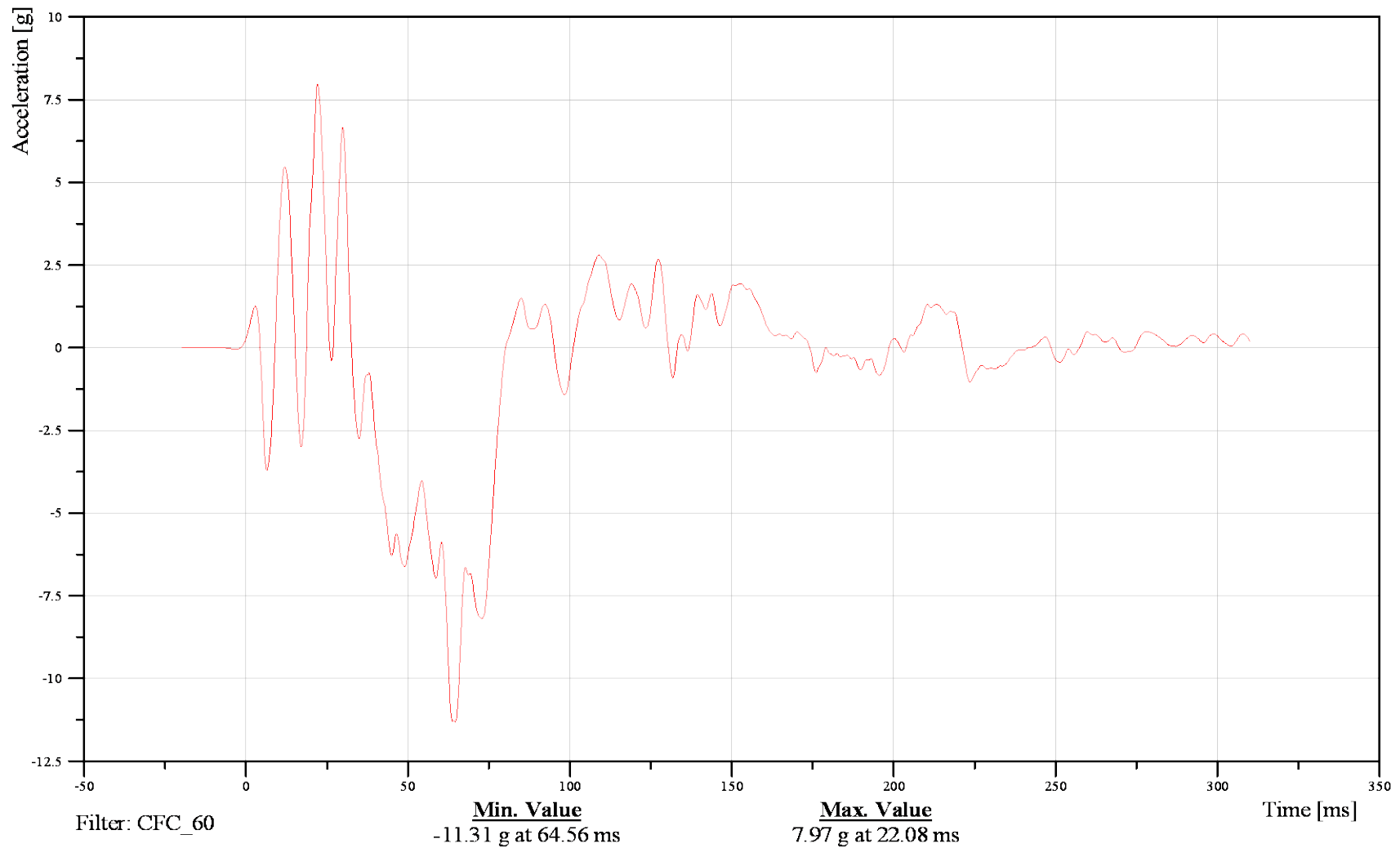
Time: 12:59

Customer: VRTC

11SILBRIFR00ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Right Front Sill at Front Seat (Y)

Date: 06/28/2012

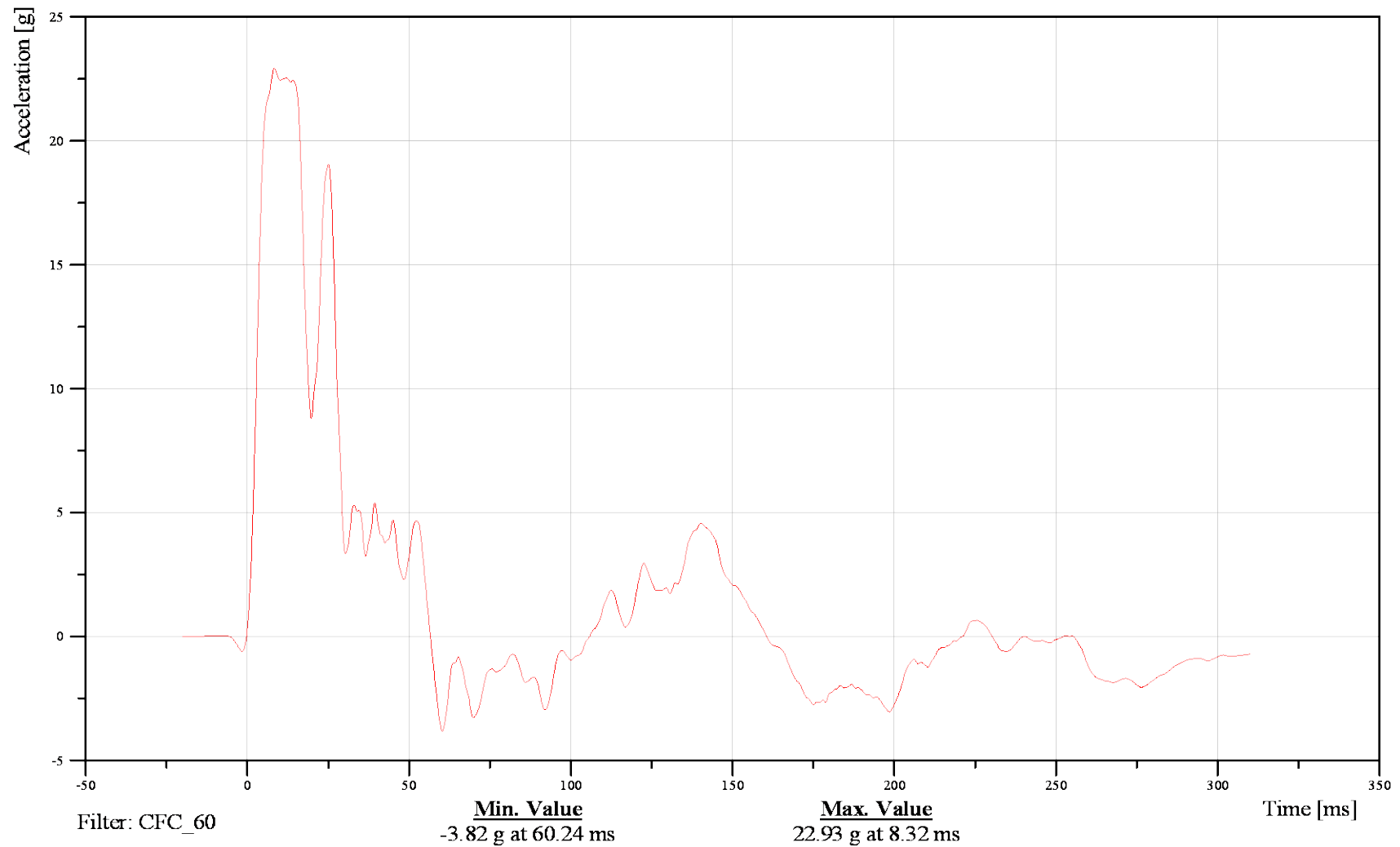
Time: 12:59

Customer: VRTC

11SILBRIFR00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Front Sill at Front Seat (Z)

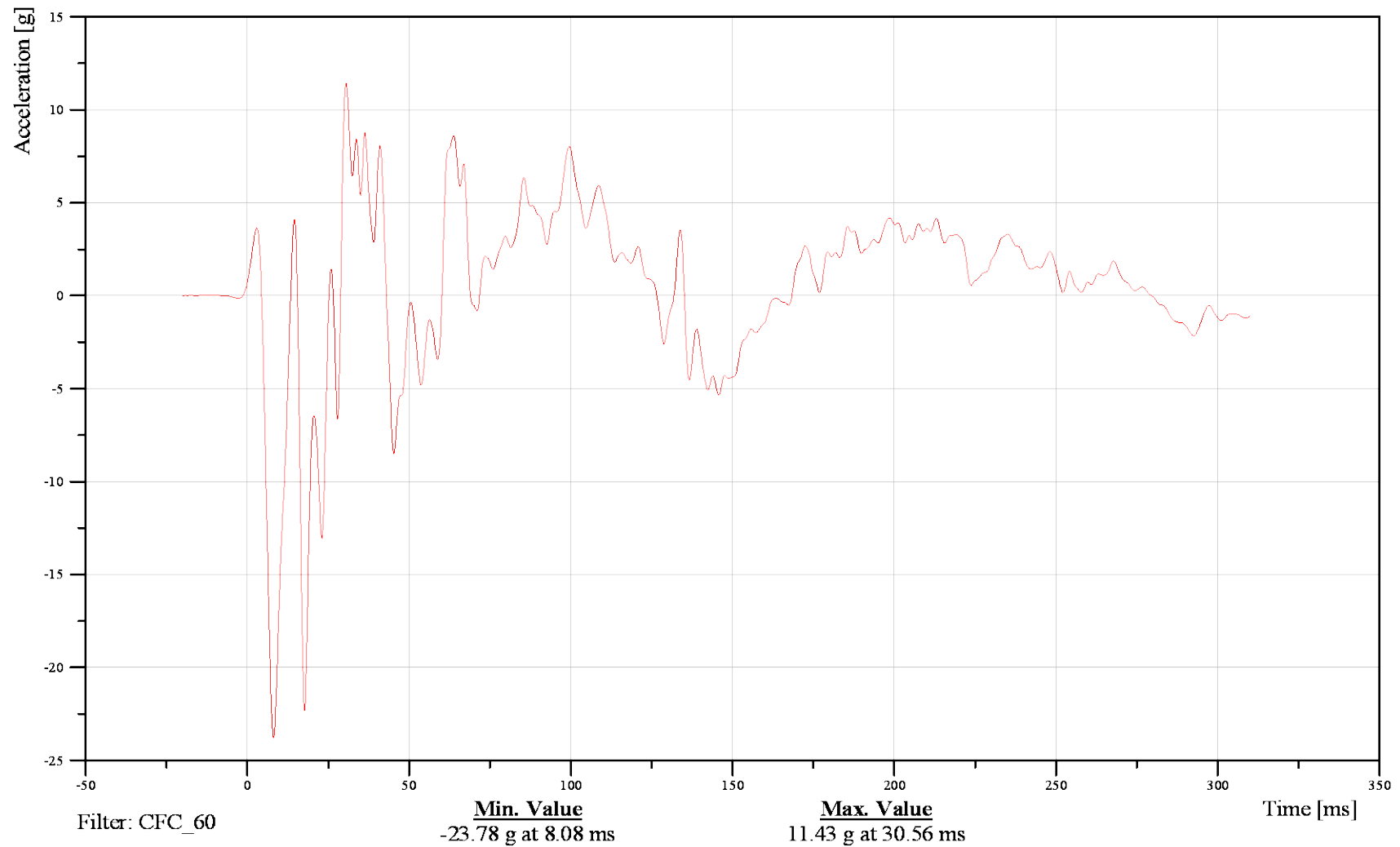
Time: 12:59

Customer: VRTC

11SILBRIFR00ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Front Sill at Front Seat Resultant

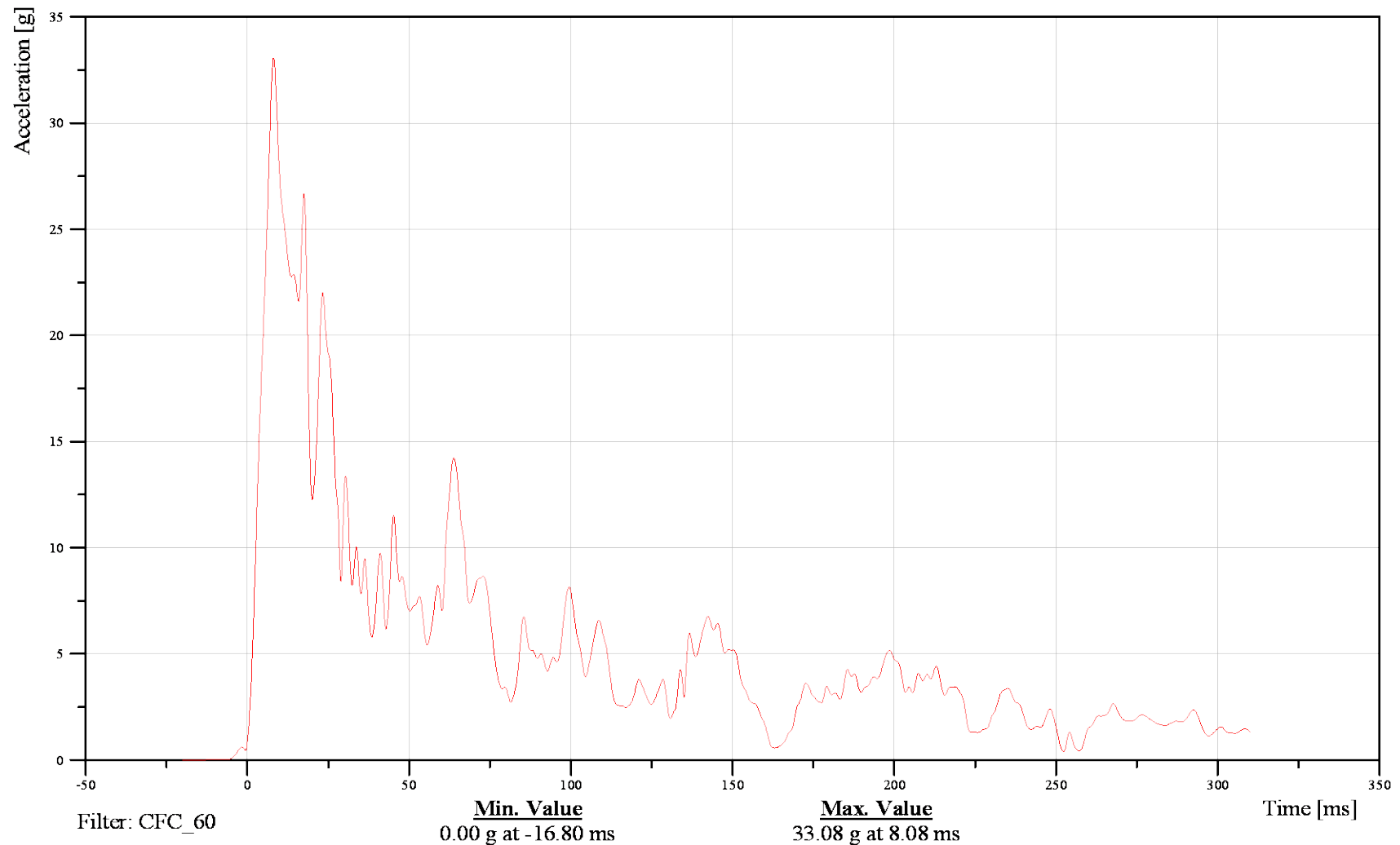
Time: 12:59

Customer: VRTC

11SILBRIFR00ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Rear Sill at Rear Seat (X)

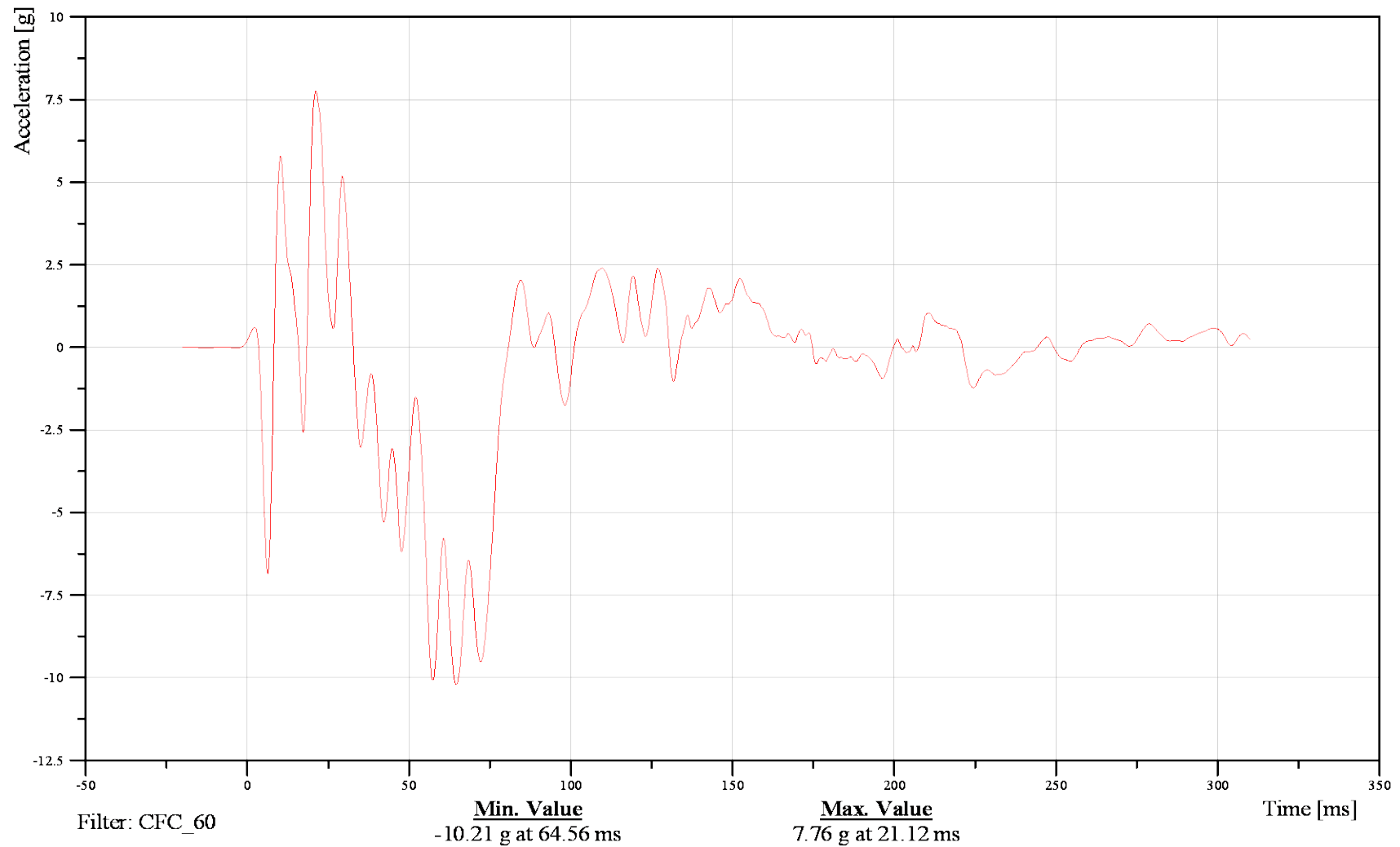
Time: 12:59

Customer: VRTC

11SILBRIRE00ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Right Rear Sill at Rear Seat (Y)

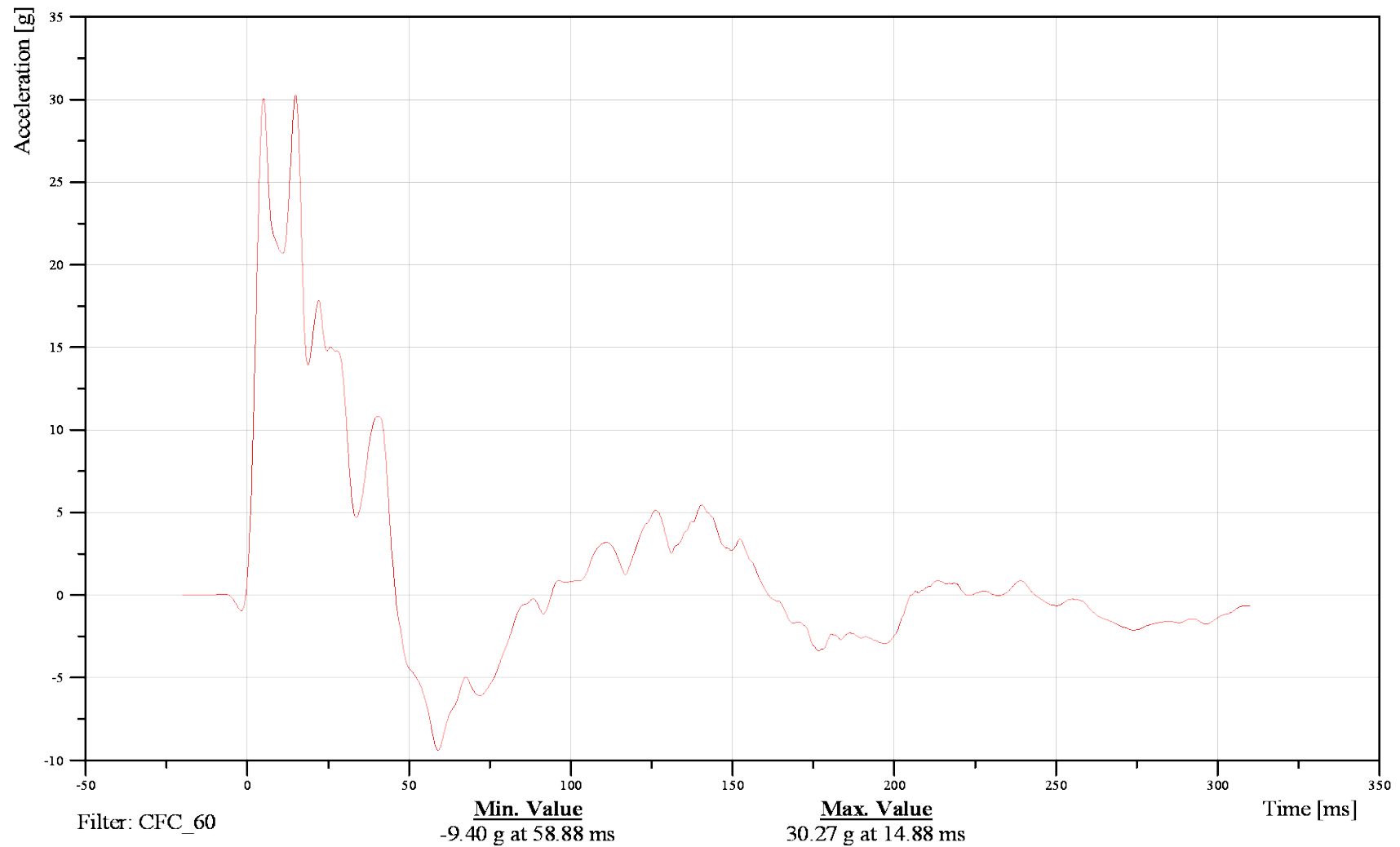
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11SILBRIRE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Rear Sill at Rear Seat (Z)

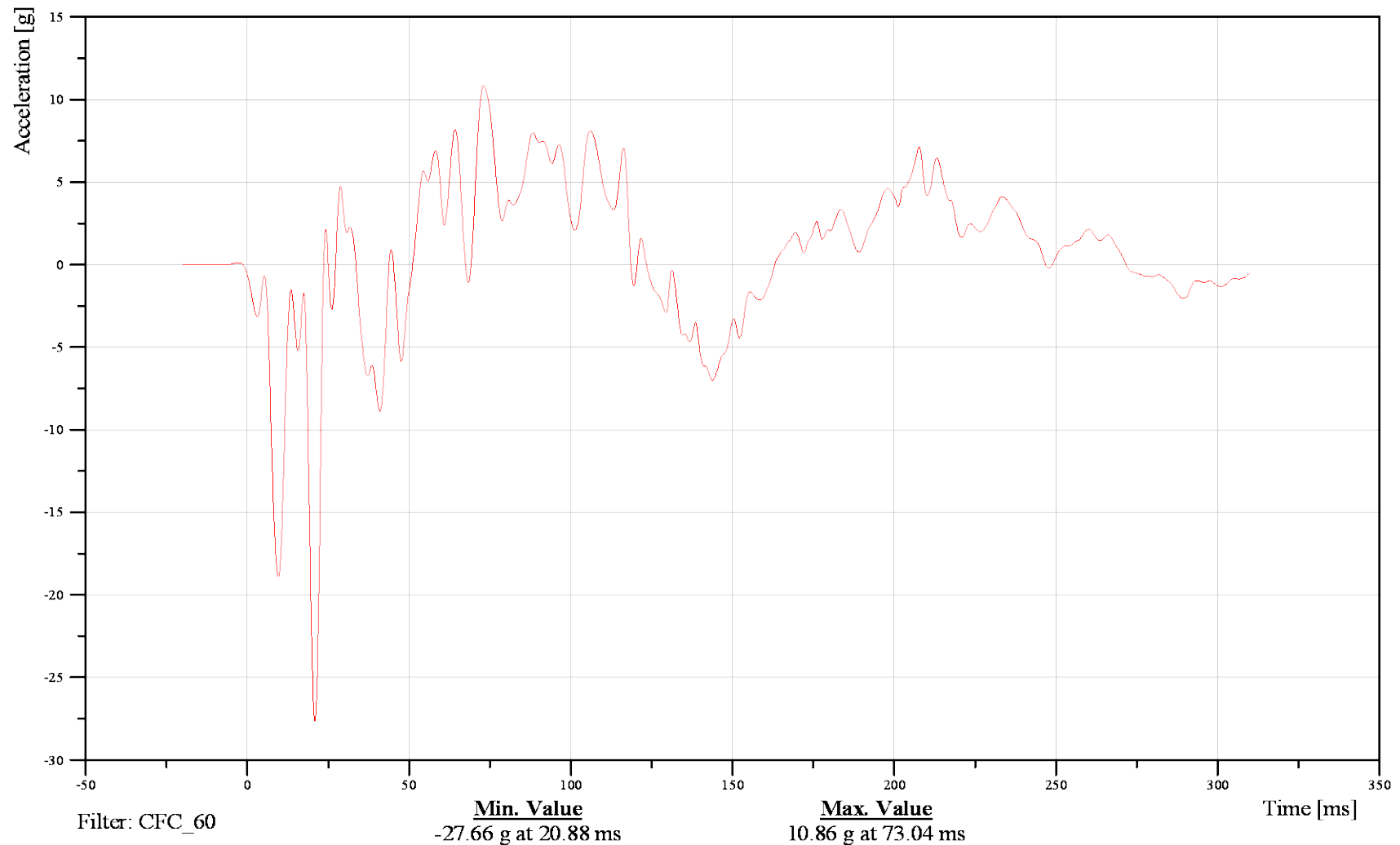
Time: 12:59

Customer: VRTC

11SILBRIRE00ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Right Rear Sill at Rear Seat Resultant

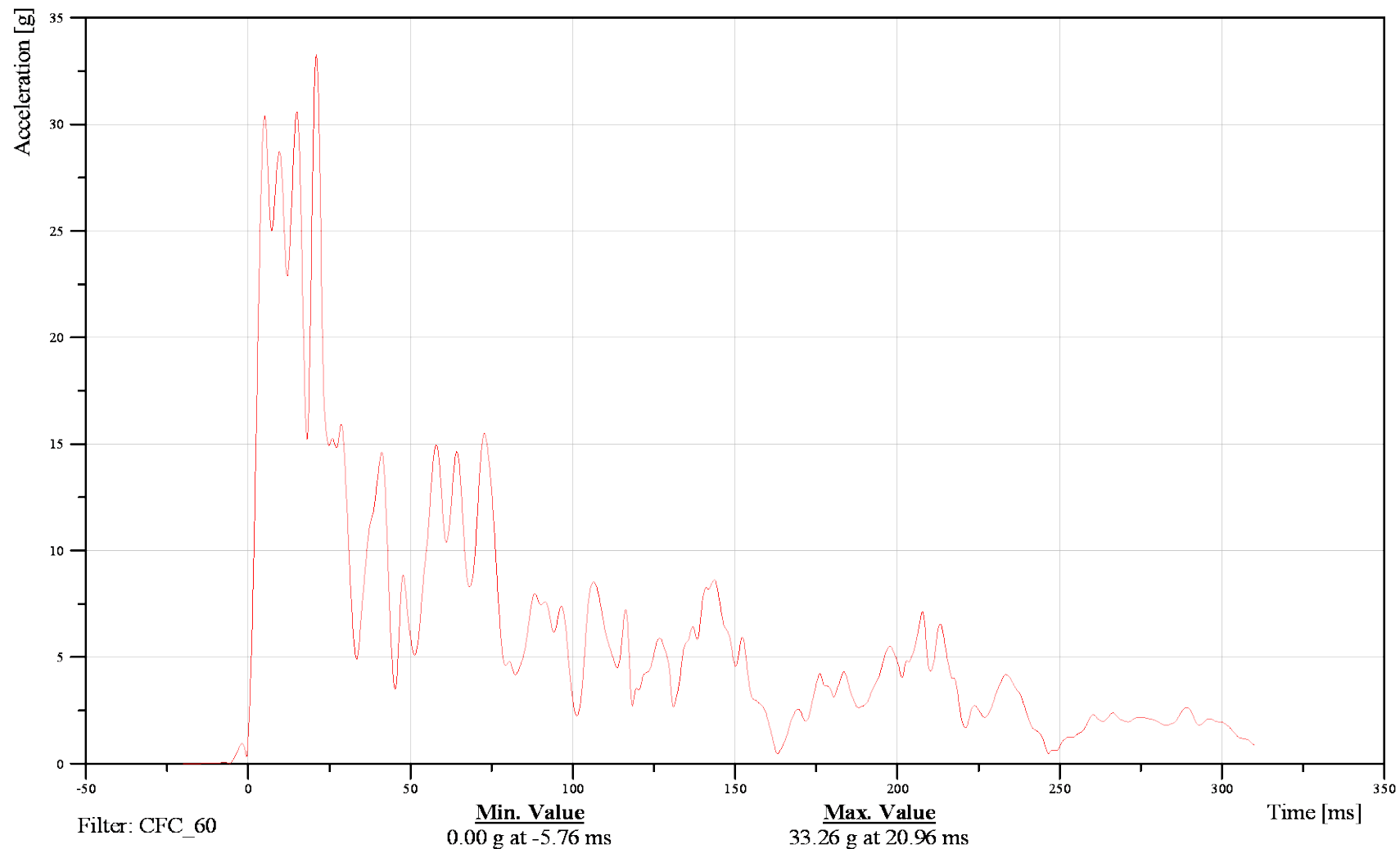
Time: 12:59

Customer: VRTC

11SILBRIRE00ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Side Sill at Front Seat (Y)

Date: 06/28/2012

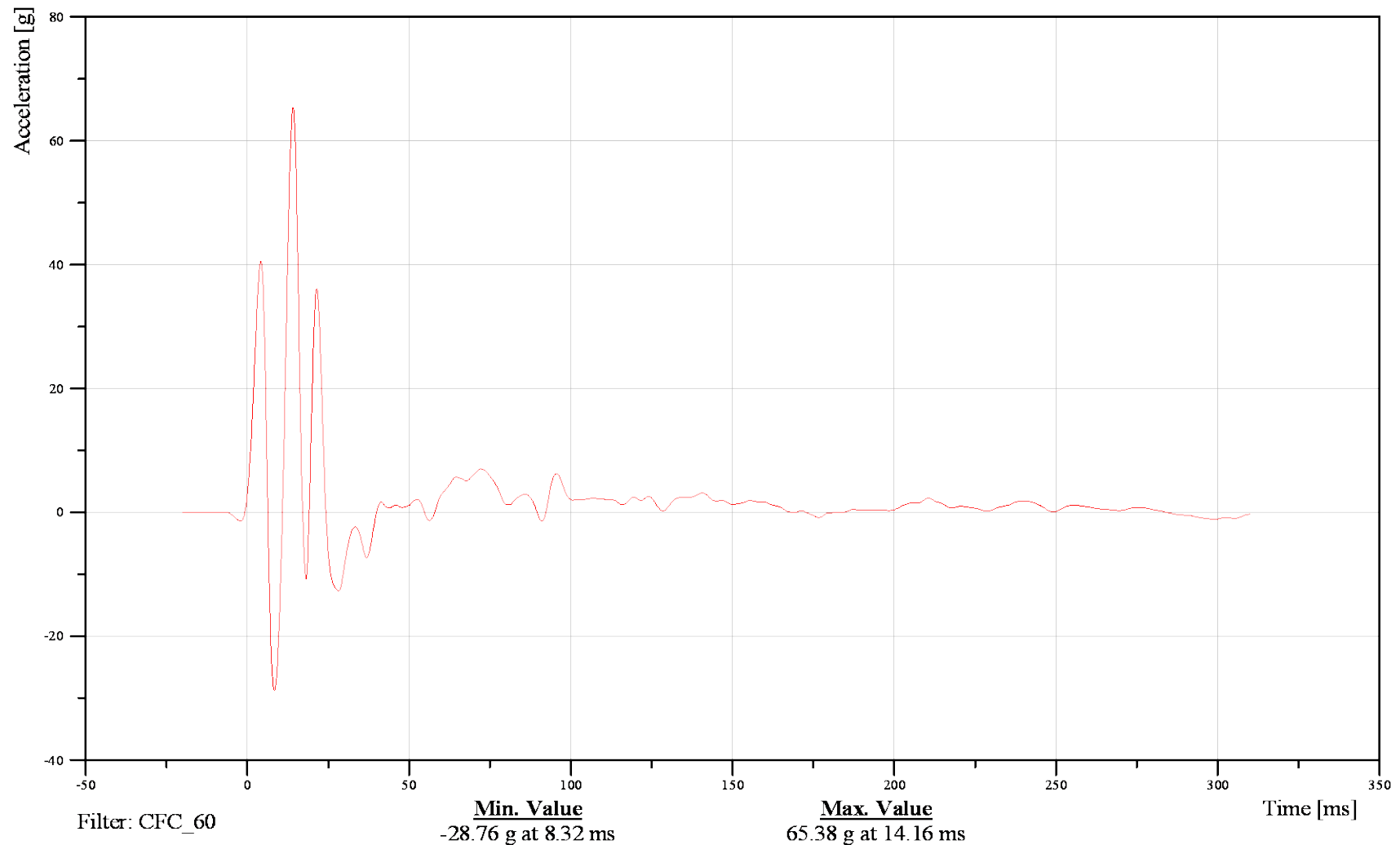
Time: 12:59

Customer: VRTC

11SILBLEFR00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Side Sill at Rear Seat (Y)

Date: 06/28/2012

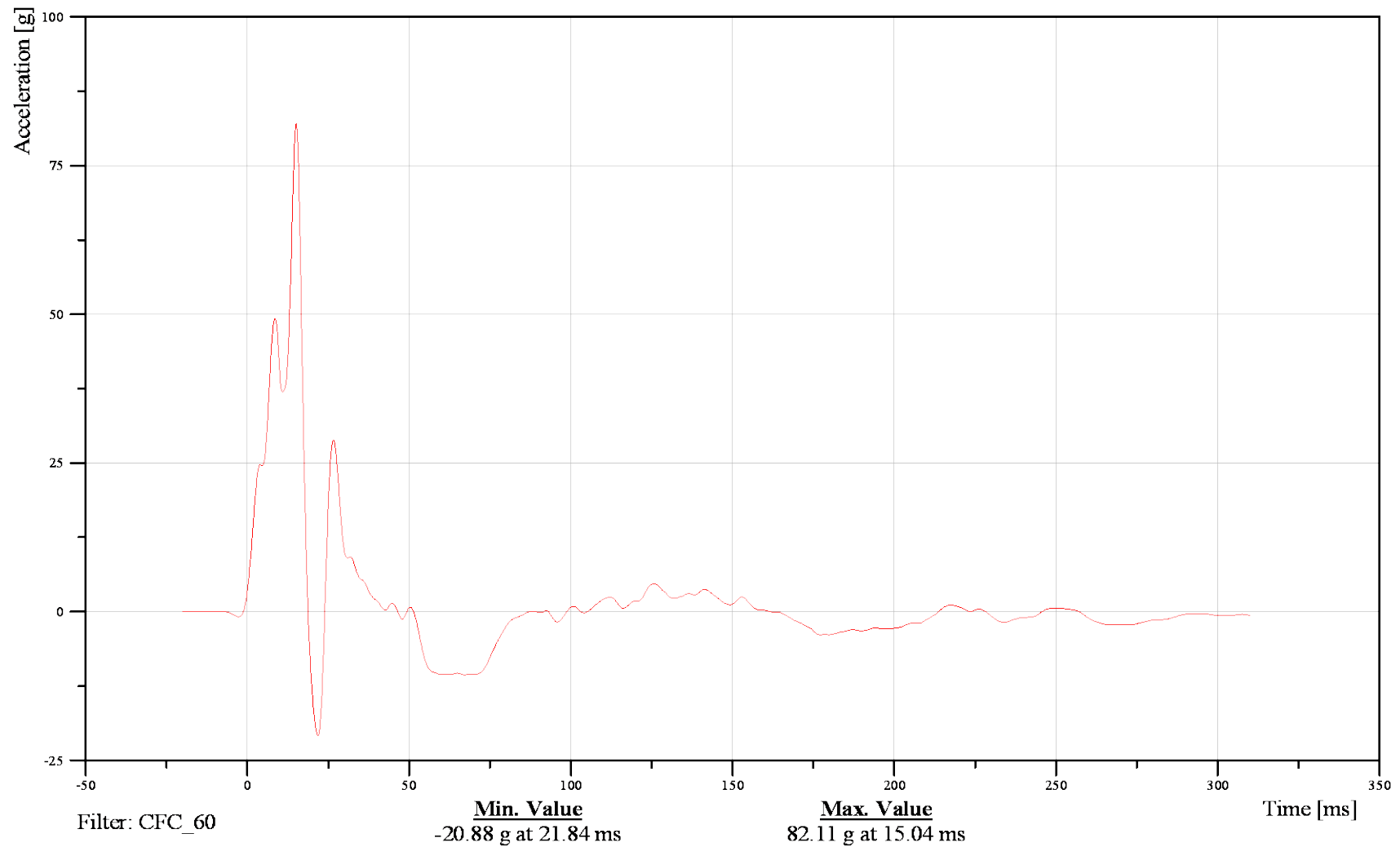
Time: 12:59

Customer: VRTC

11SILBLERE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Lower A Post (Y)

Date: 06/28/2012

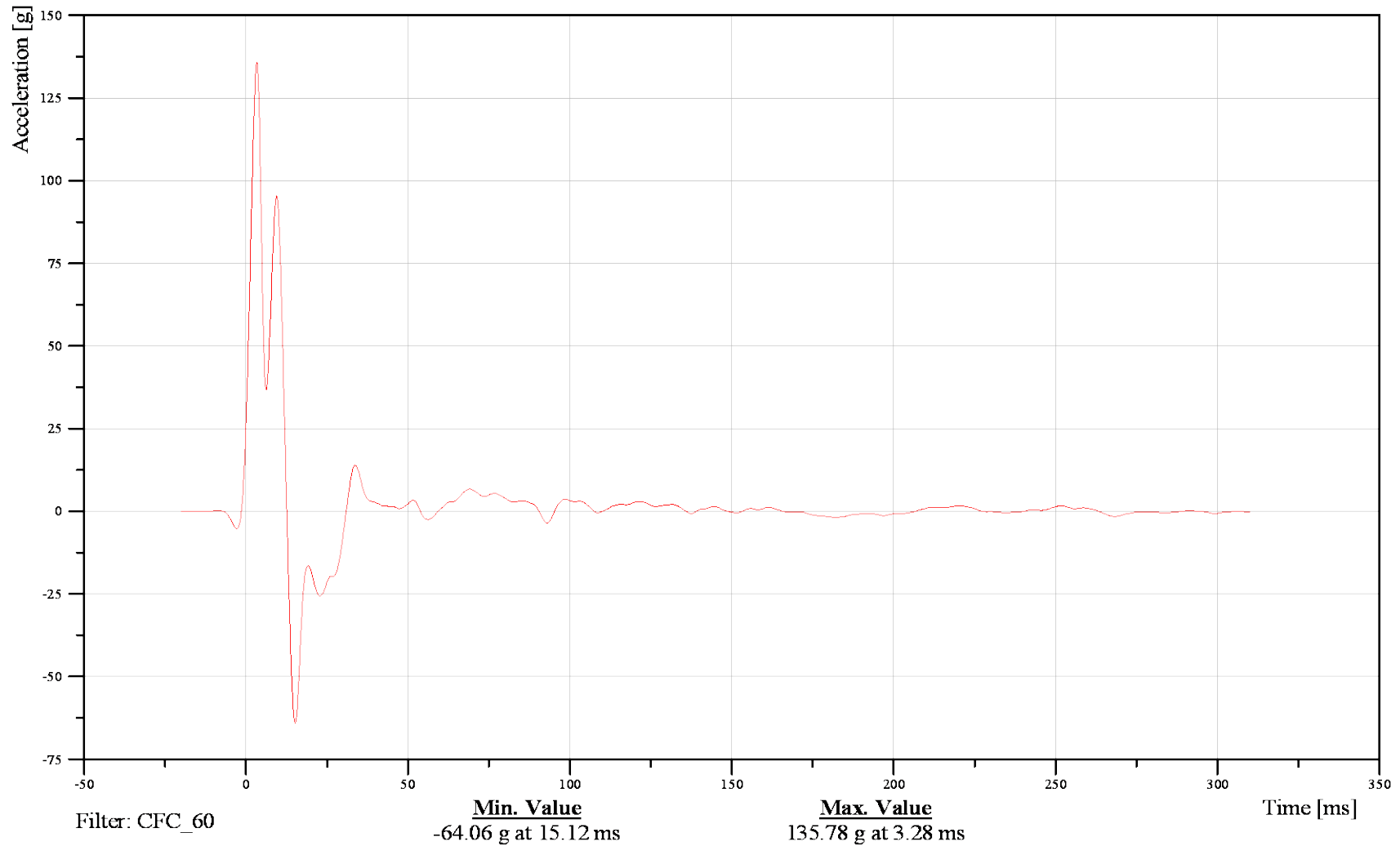
Time: 12:59

Customer: VRTC

11APILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Middle A-Post (Y)

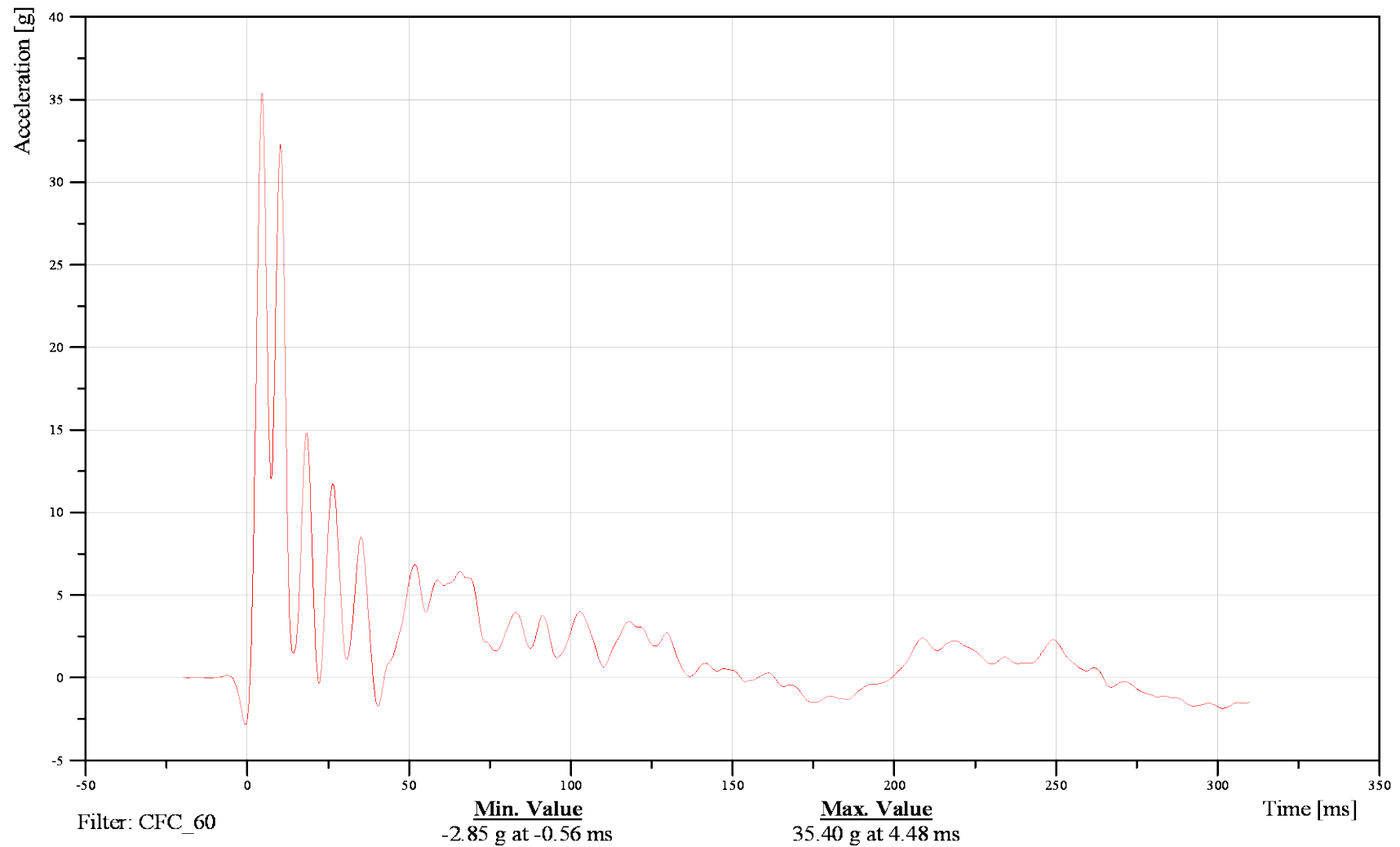
Time: 12:59

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Lower B Post (Y)

Date: 06/28/2012

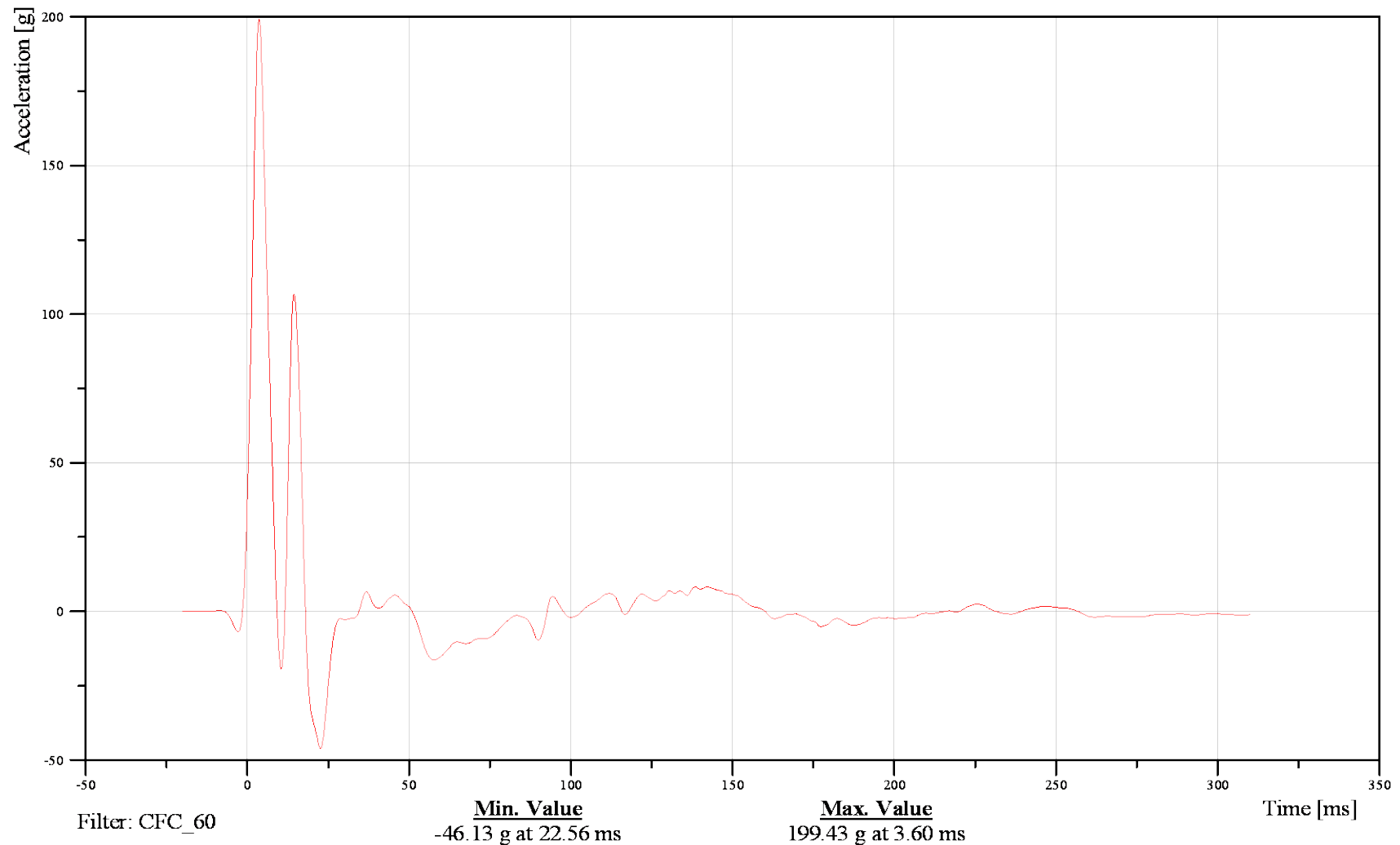
Time: 12:59

Customer: VRTC

11BPILLO0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Middle B Post (Y)

Date: 06/28/2012

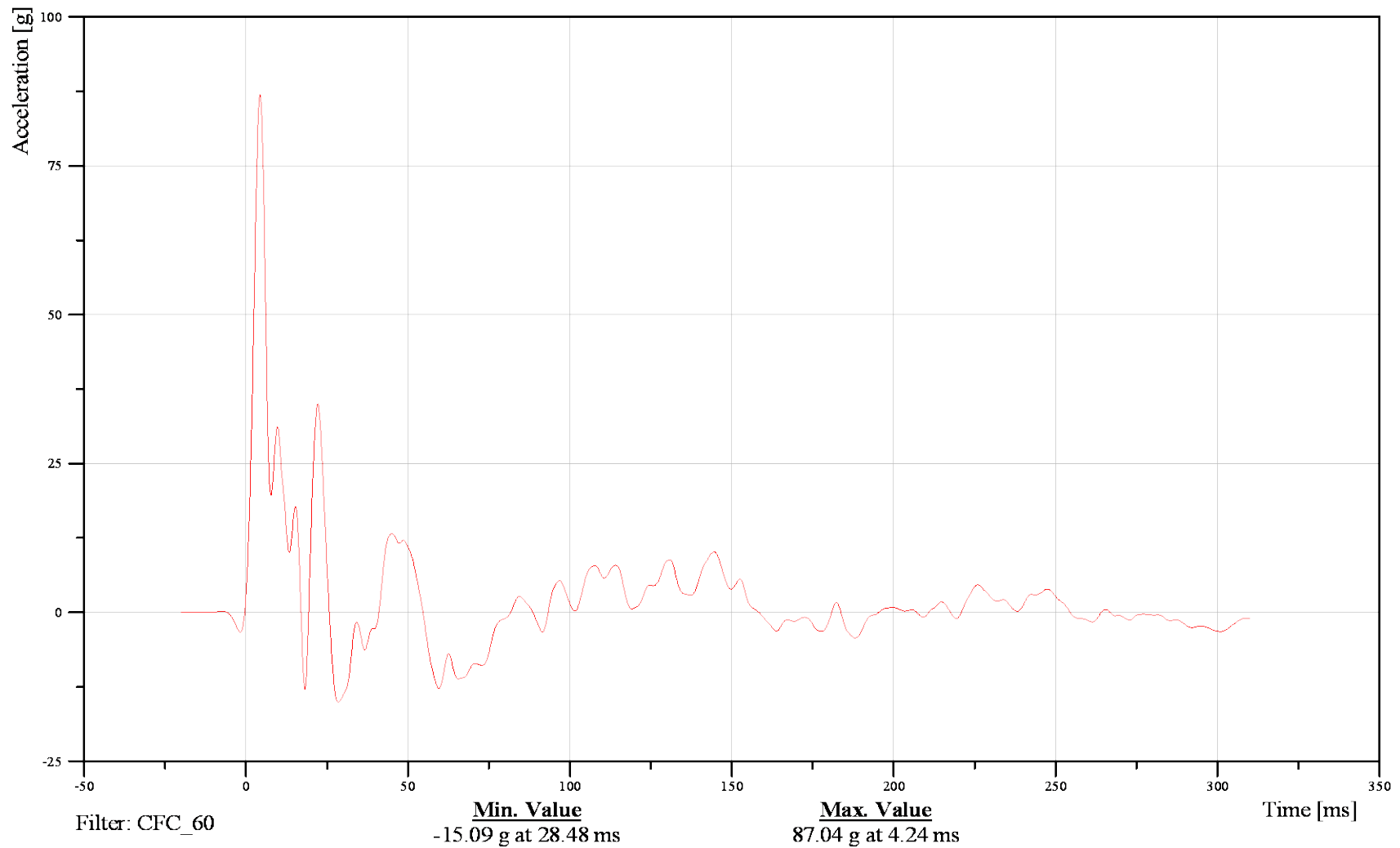
Time: 12:59

Customer: VRTC

11BPILMI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Front Seat Track (Y)

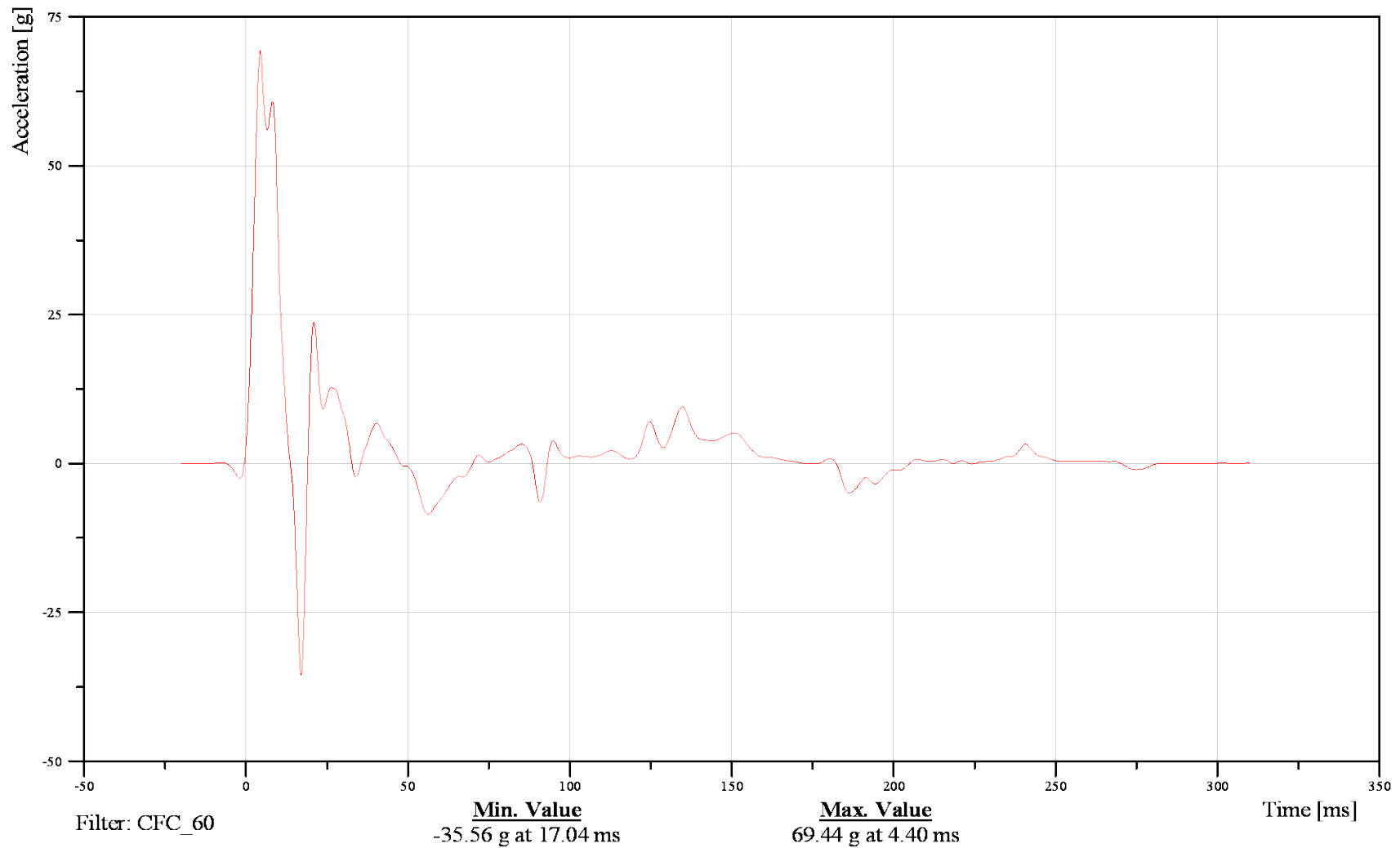
Time: 12:59

Customer: VRTC

11SETR000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL
RIGHT REAR OCCUPANT COMPARTMENT AY

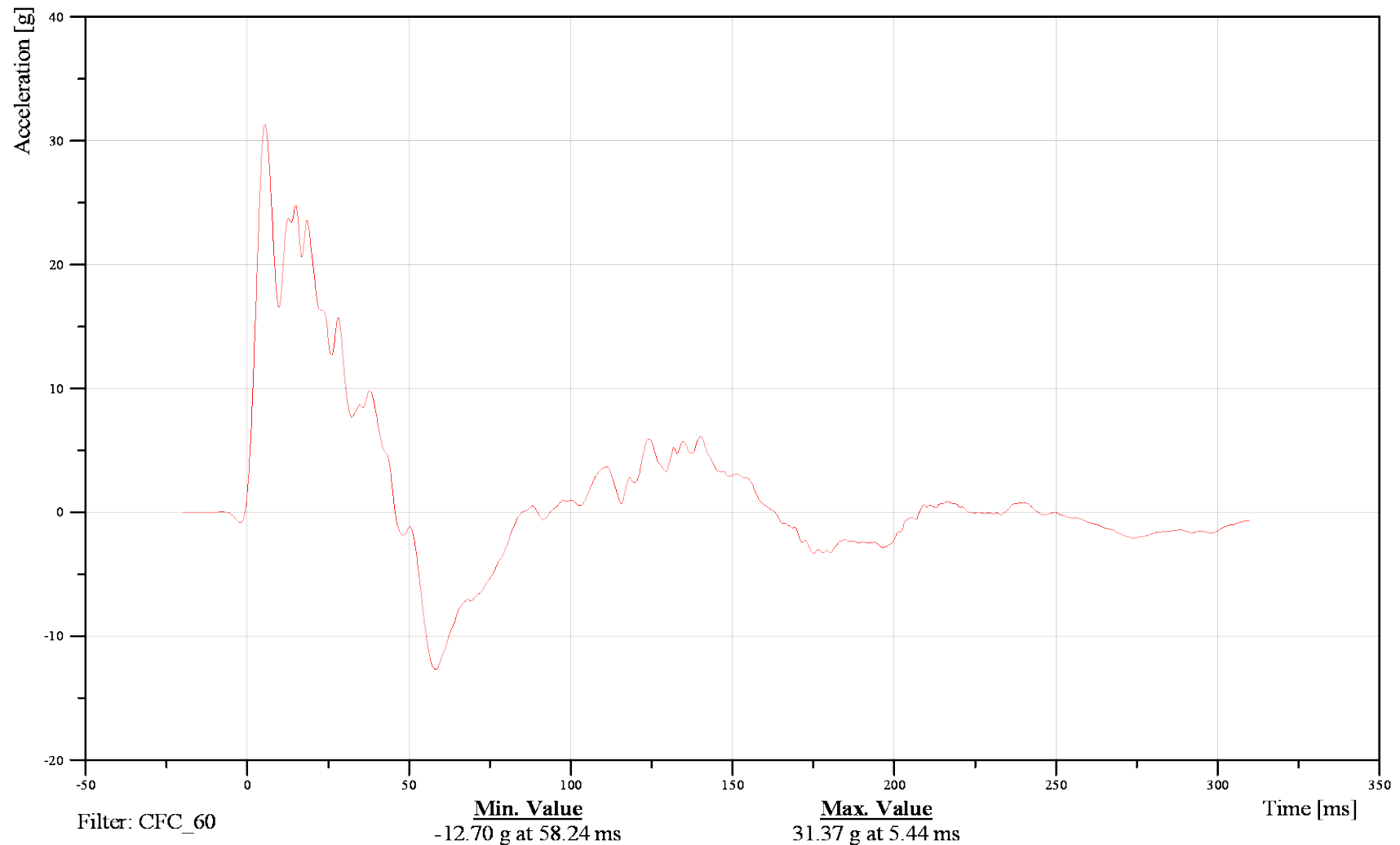
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11VEHCRIRE00ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

ENGINE BLOCK AX

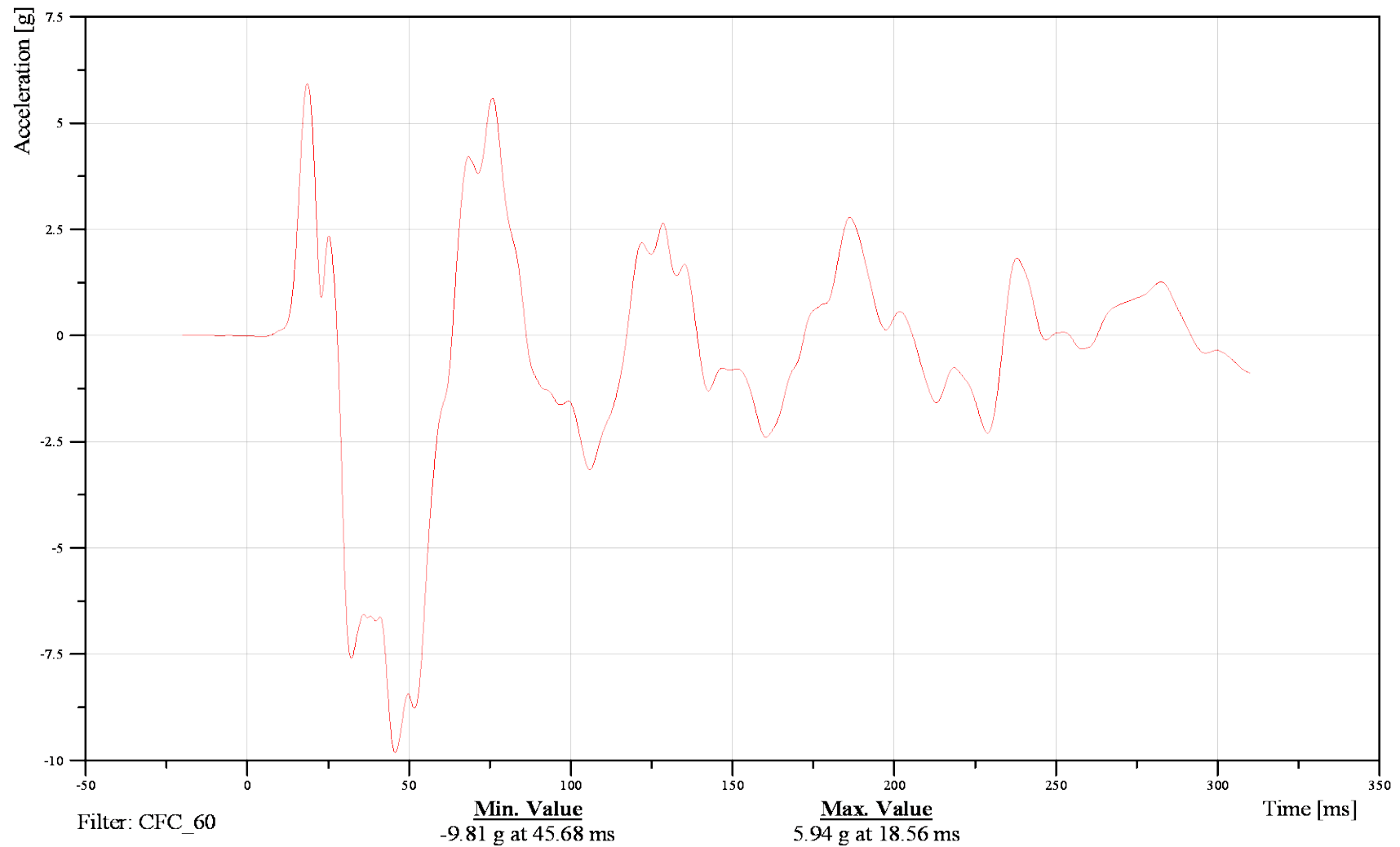
Time: 12:59

Customer: VRTC

11ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





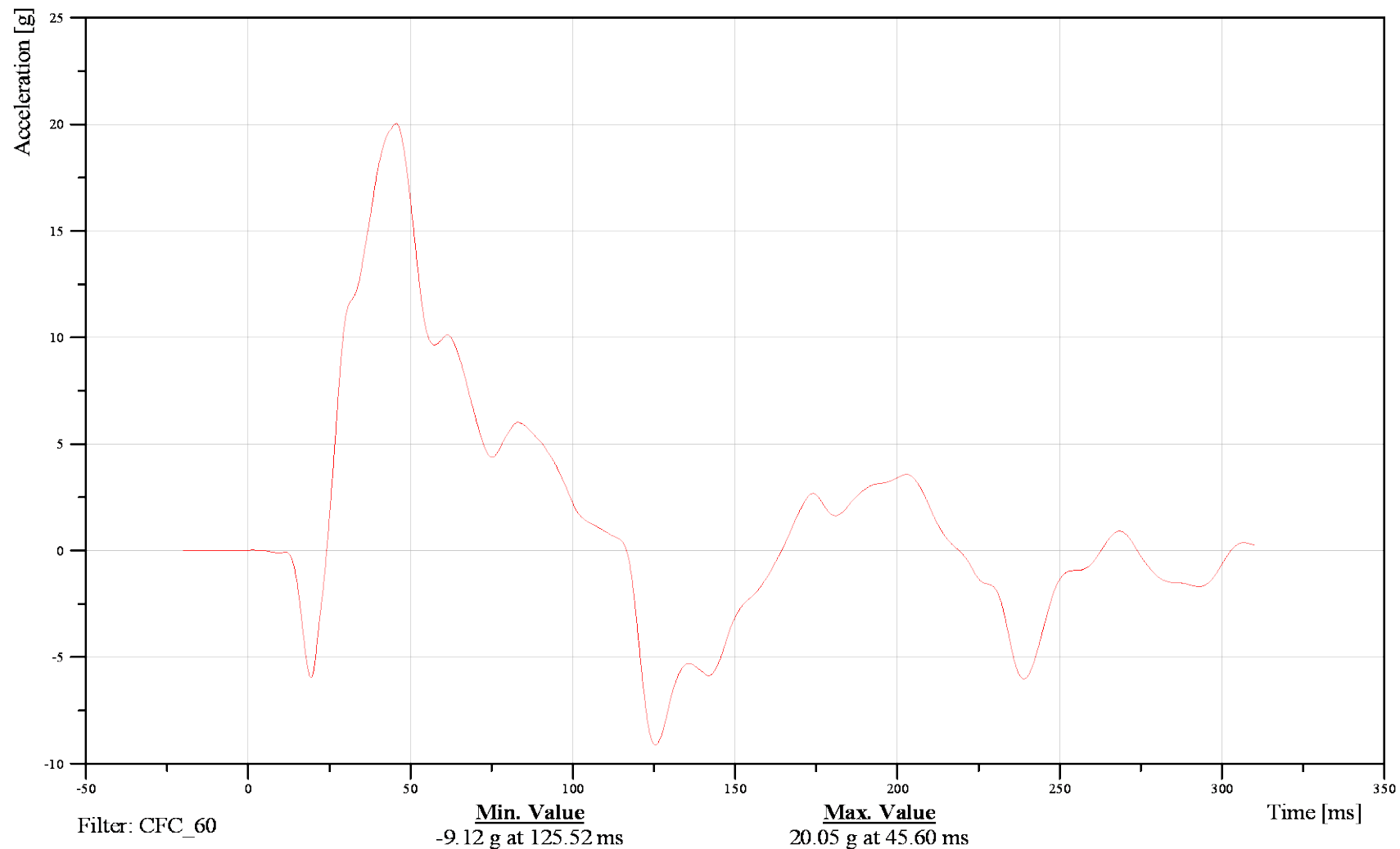
FMVSS 214 Side Impact 2010 Ford F150 XL
ENGINE BLOCK AY

Date: 06/28/2012
Time: 12:59

Customer: VRTC

11ENGNTP0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Rear Floor Pan Above Axle (X)

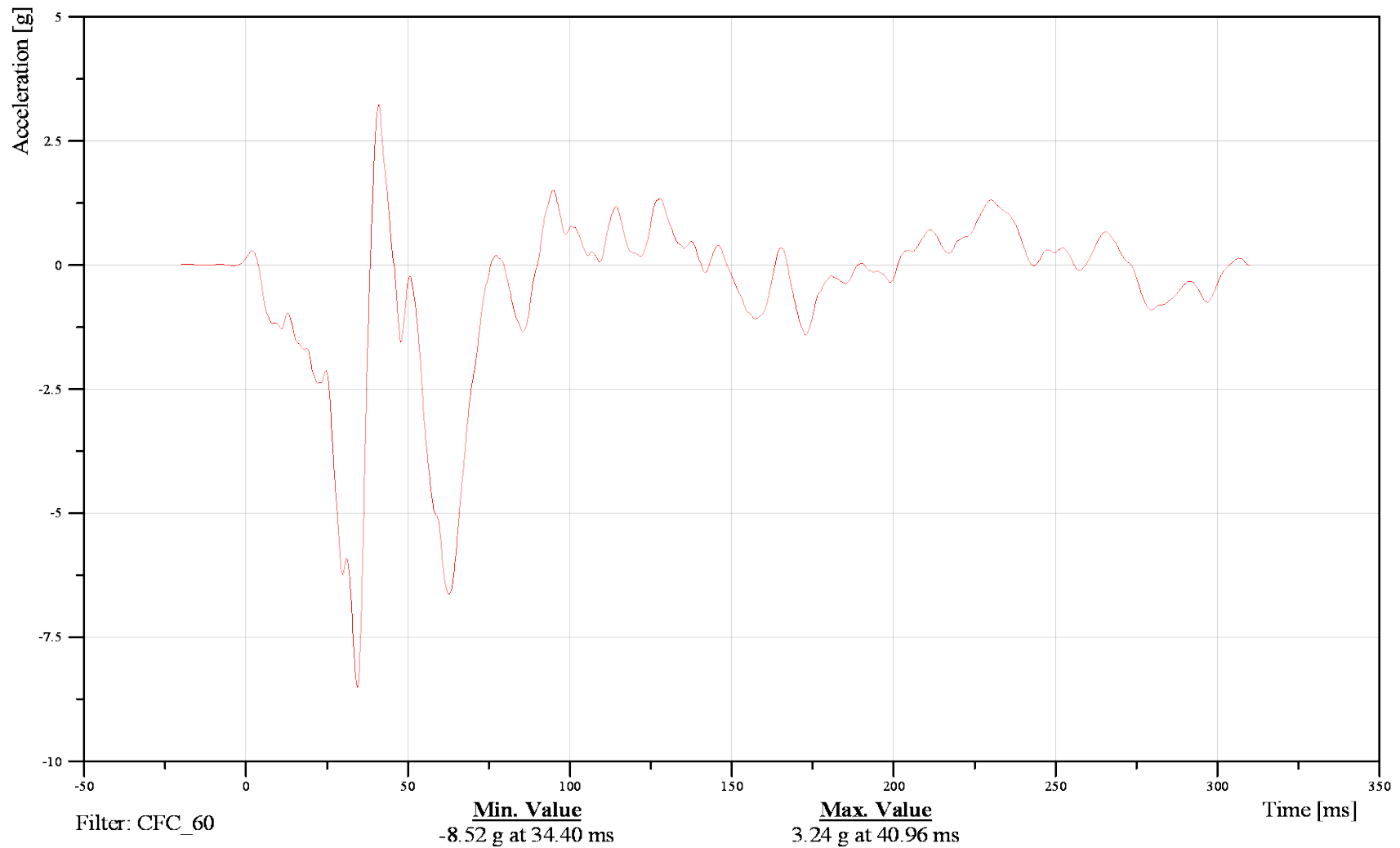
Time: 12:59

Customer: VRTC

11FORA000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Rear Floor Pan Above Axle (Y)

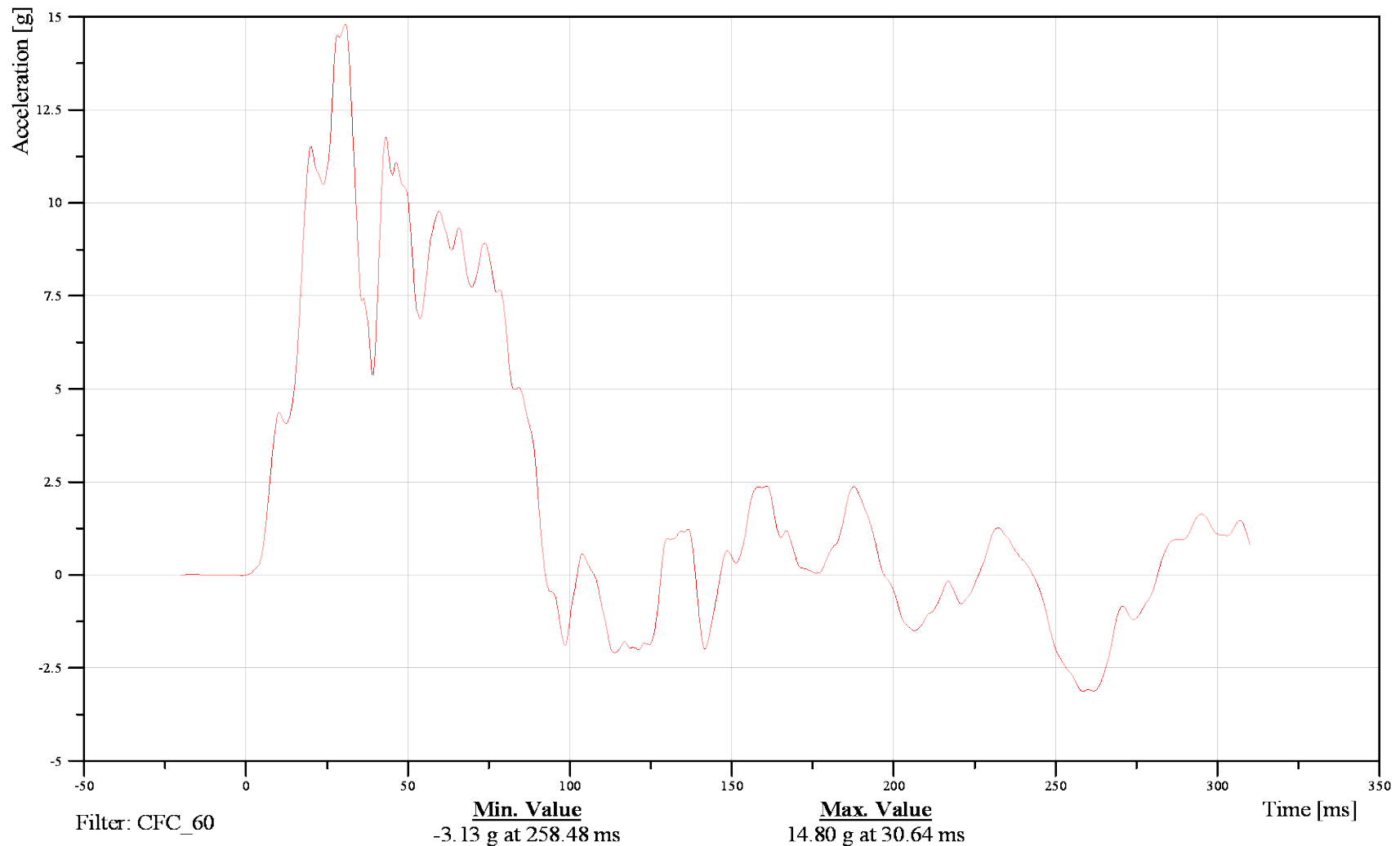
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11FORA000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Rear Floor Pan Above Axle (Z)

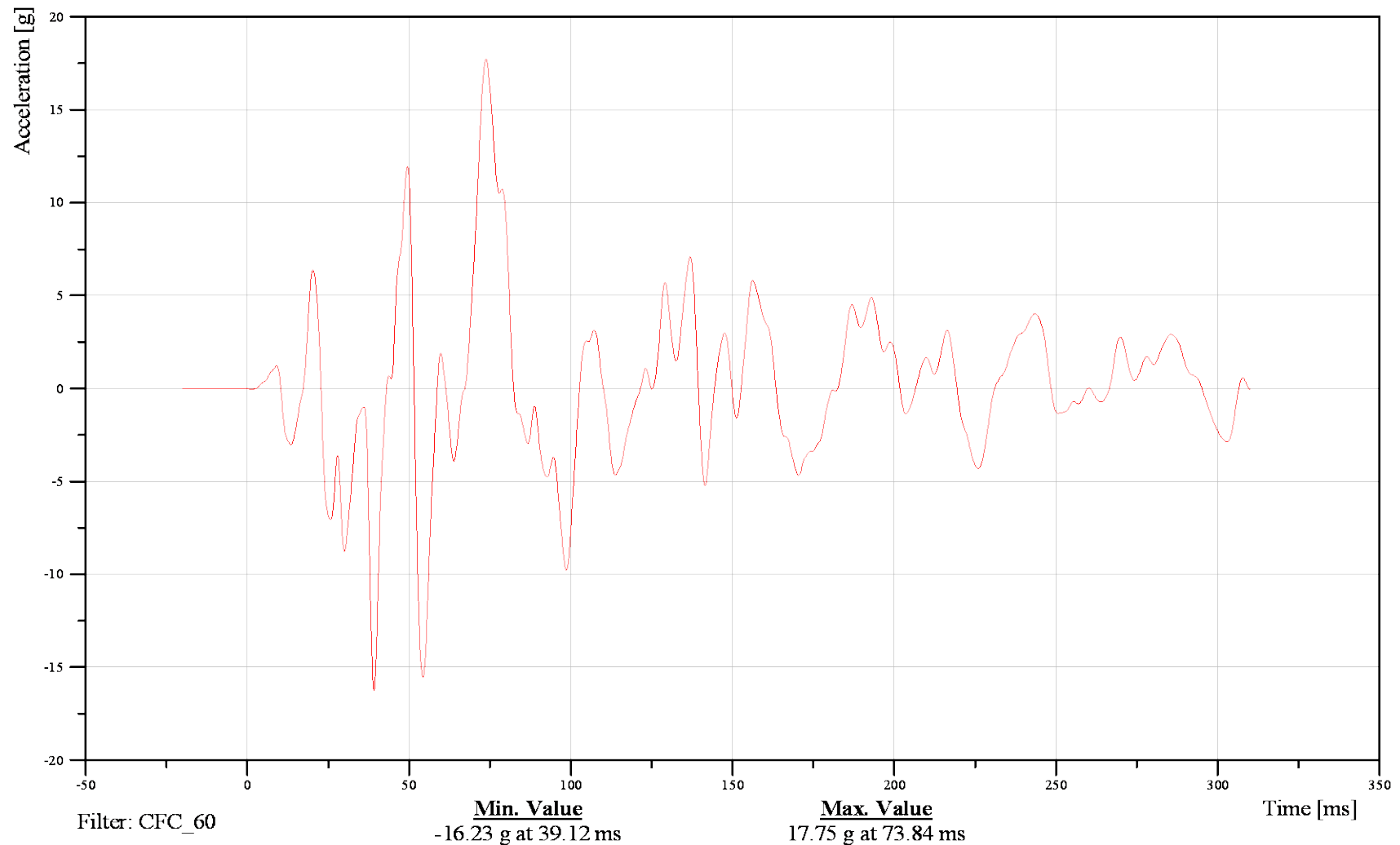
Time: 12:59

Customer: VRTC

11FORA000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Rear Floor Pan Above Axle Resultant

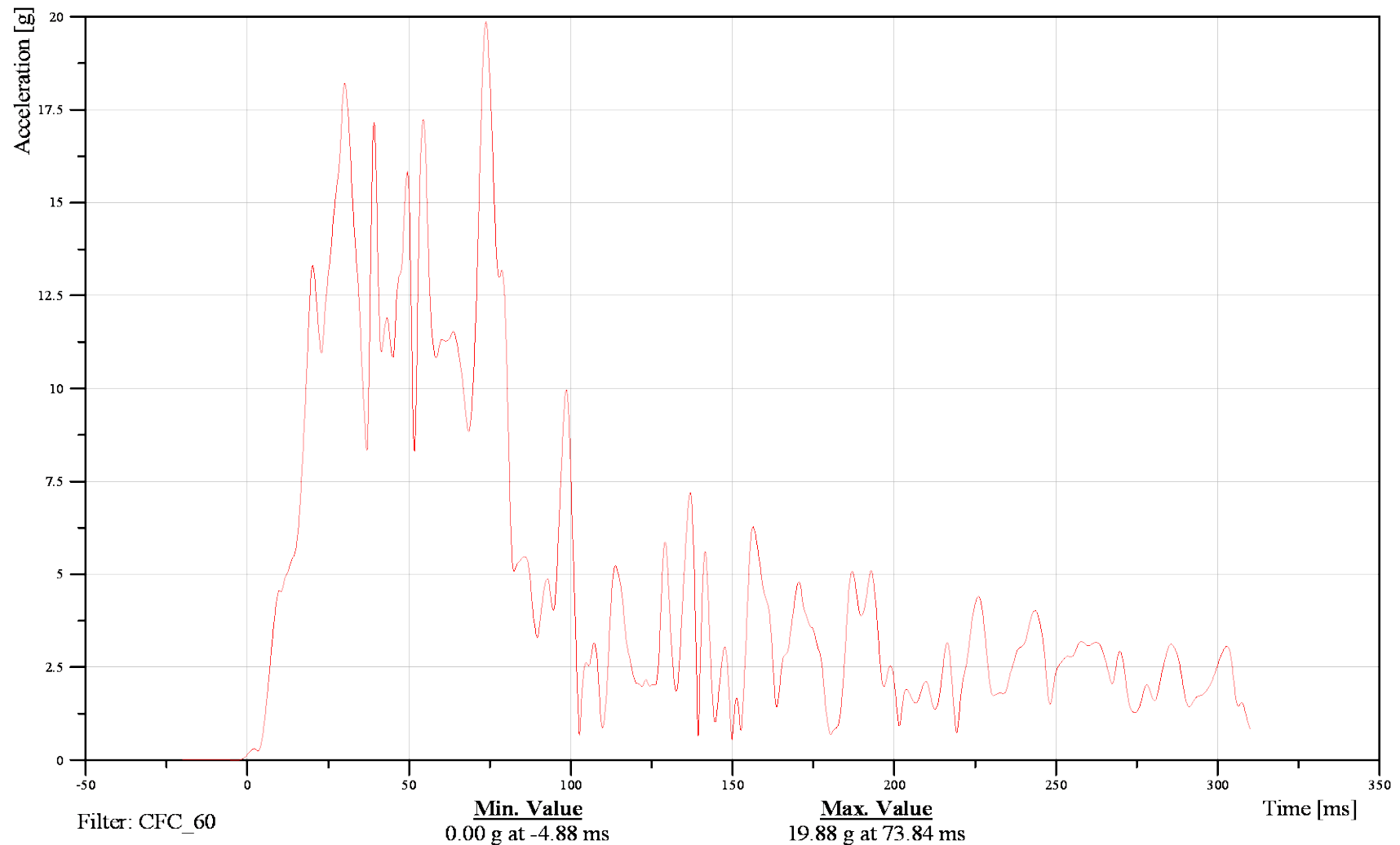
Time: 12:59

Customer: VRTC

11FORA000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Vehicle at EDR (X)

Date: 06/28/2012

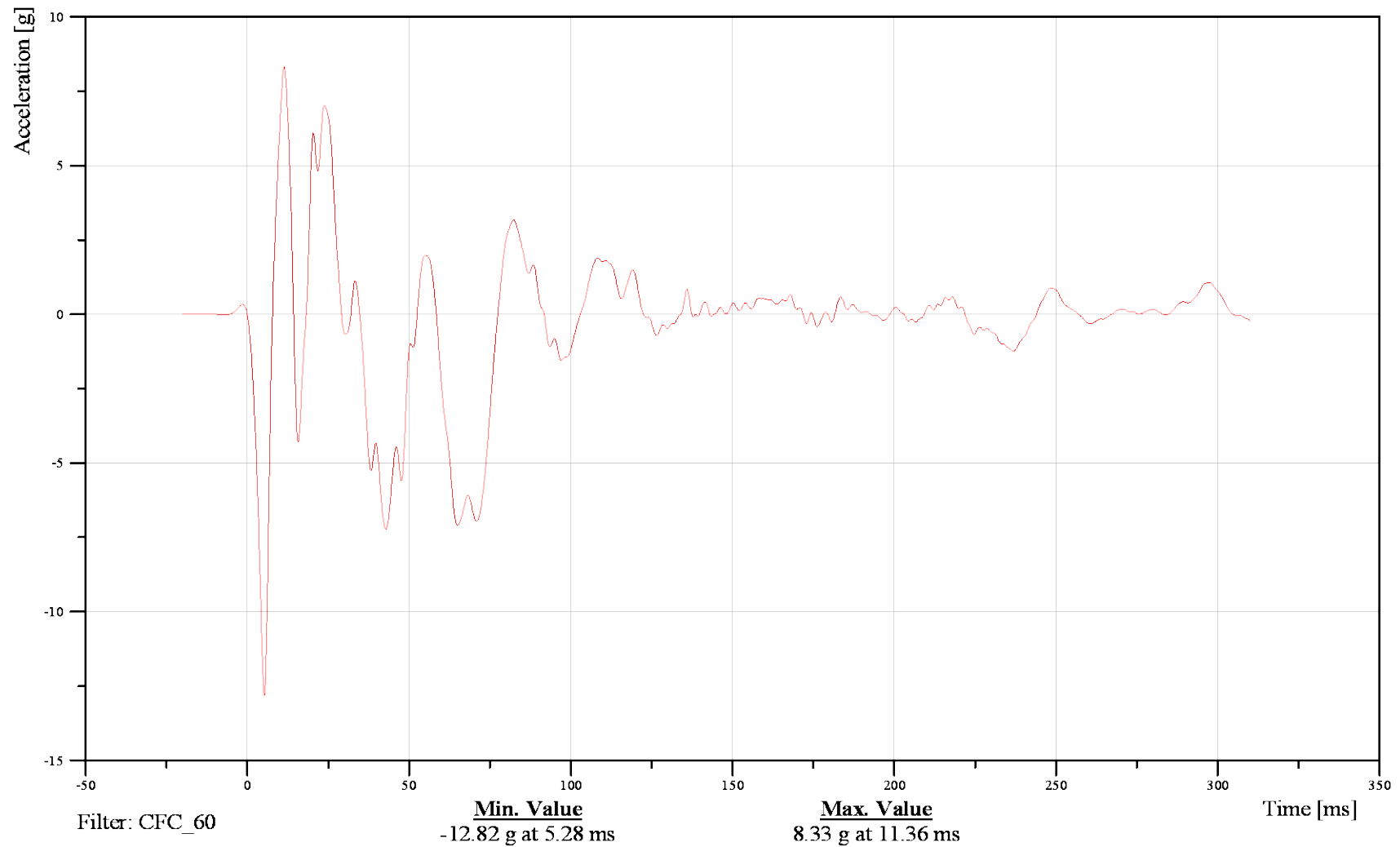
Time: 12:59

Customer: VRTC

11VEHCEDR000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Vehicle at EDR (Y)

Date: 06/28/2012

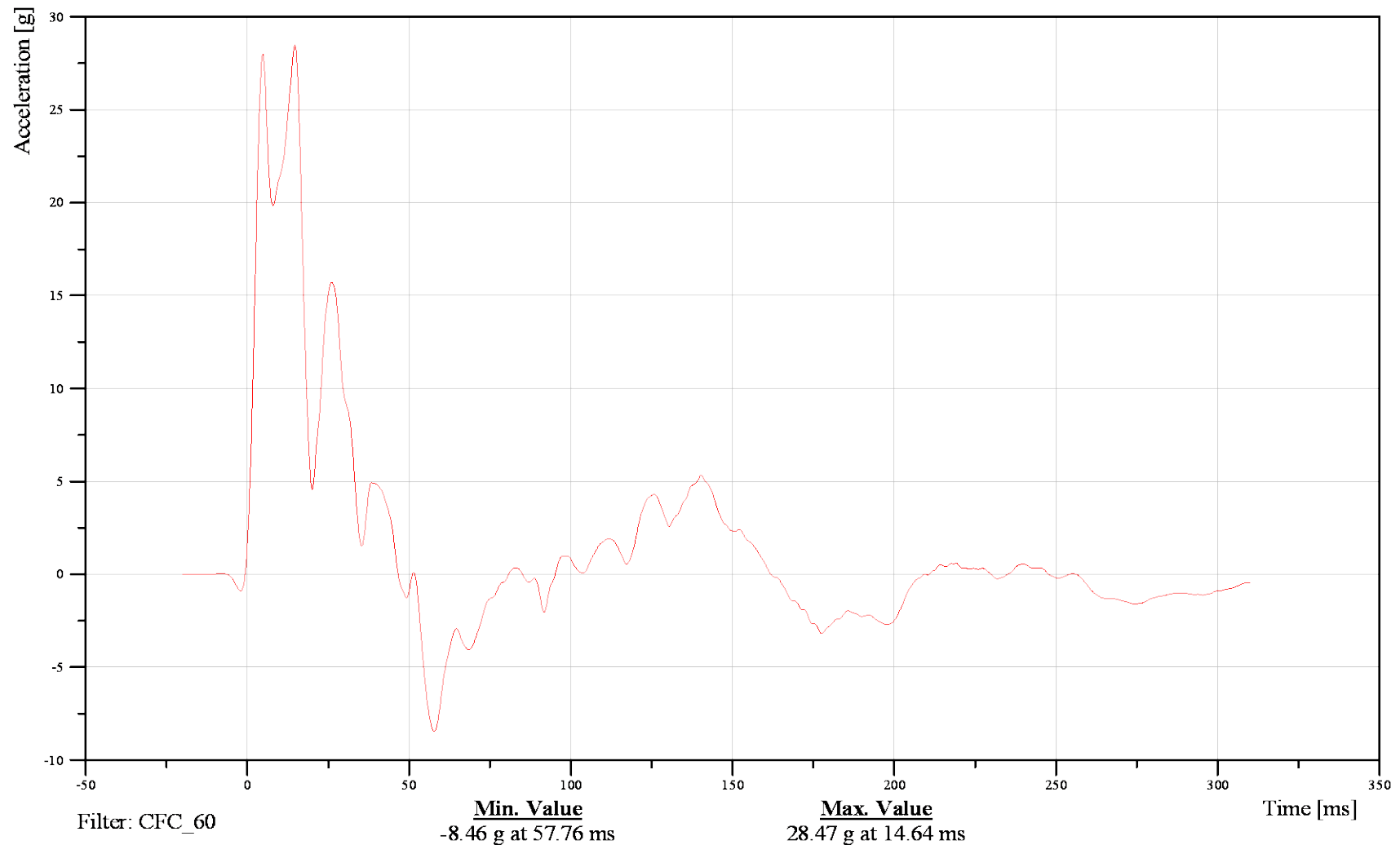
Time: 12:59

Customer: VRTC

11VEHCEDR000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Vehicle at EDR (Z)

Date: 06/28/2012

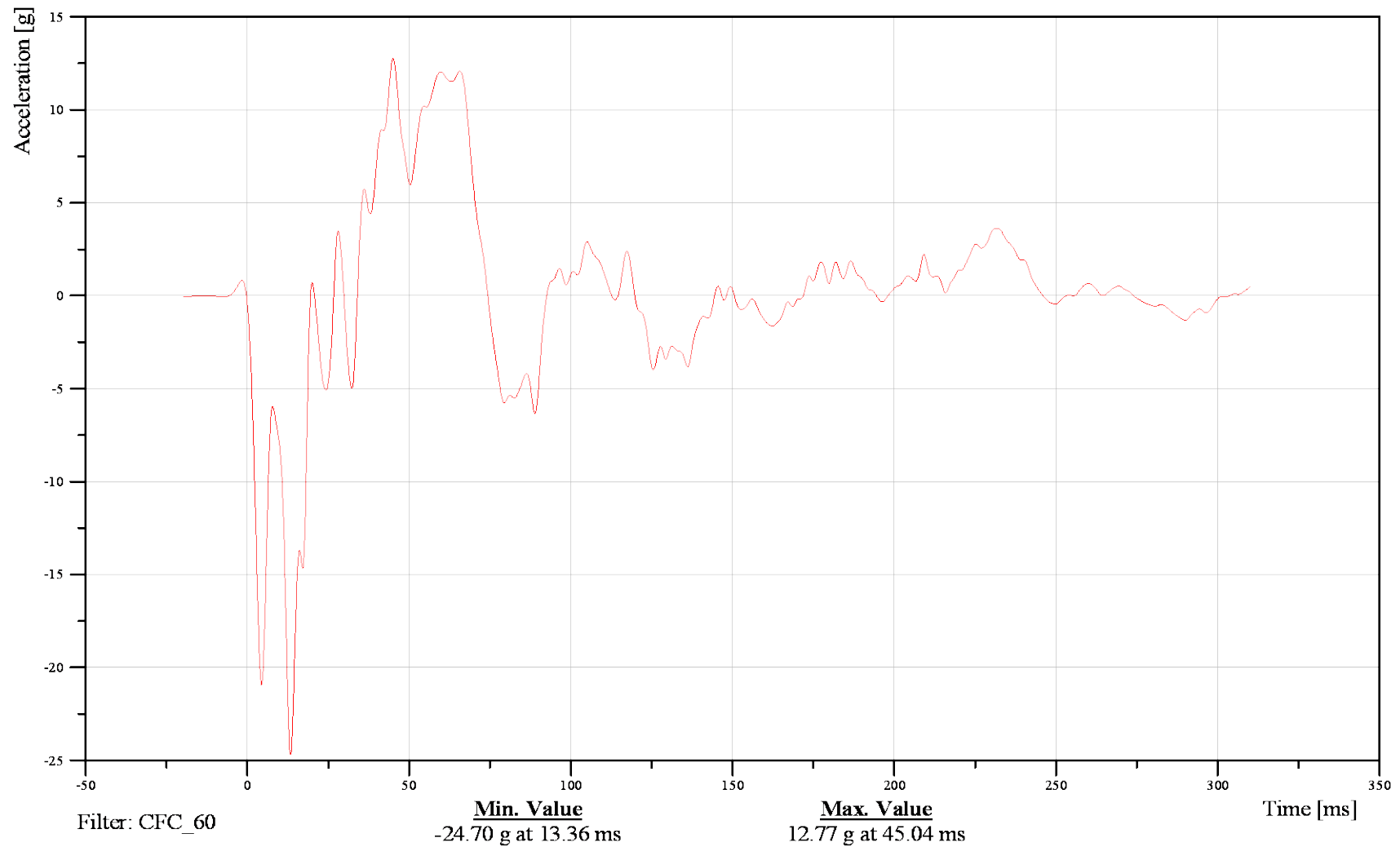
Time: 12:59

Customer: VRTC

11VEHCEDR000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Vehicle at EDR Resultant

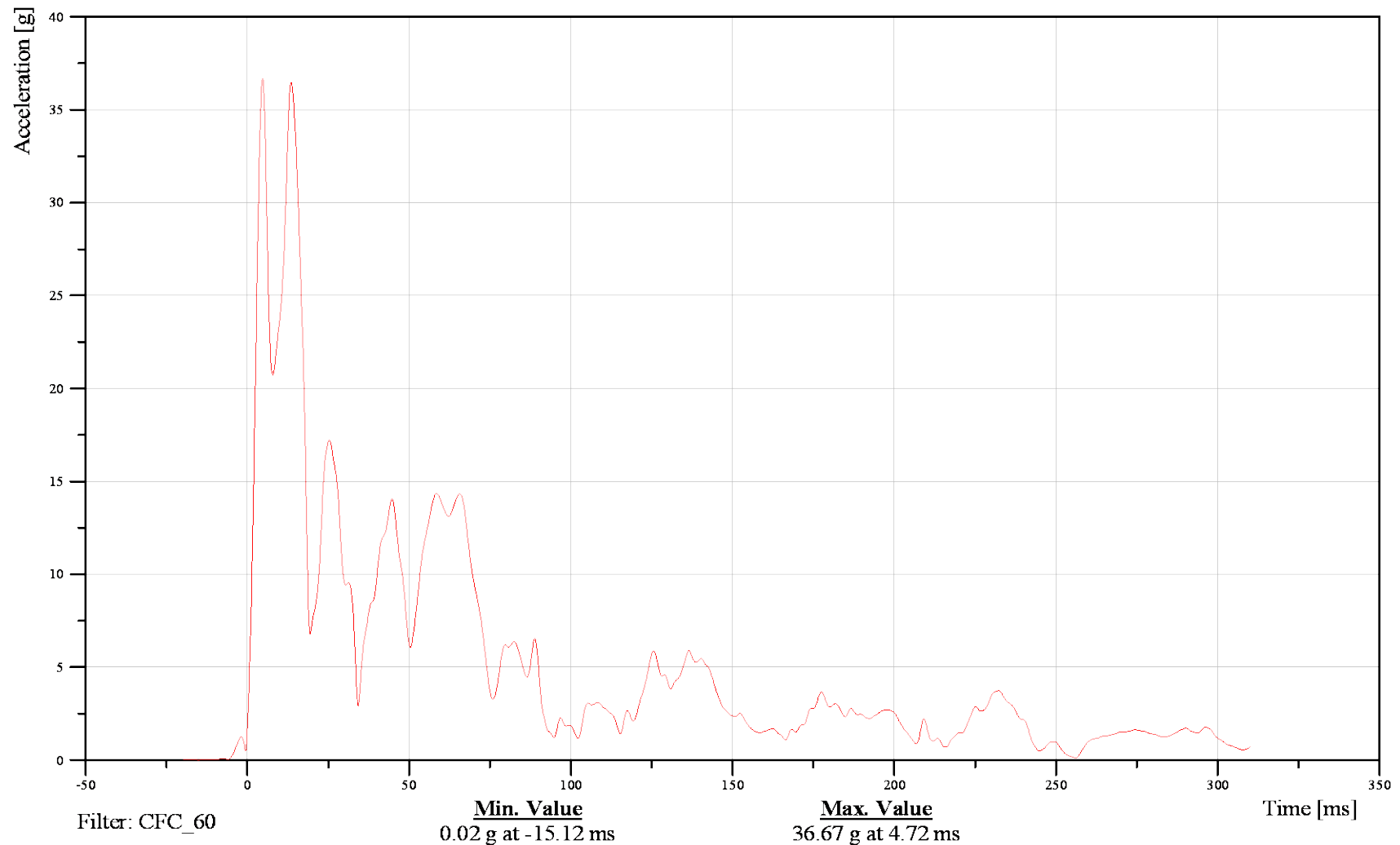
Time: 12:59

Customer: VRTC

11VEHCEDR000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL
VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO

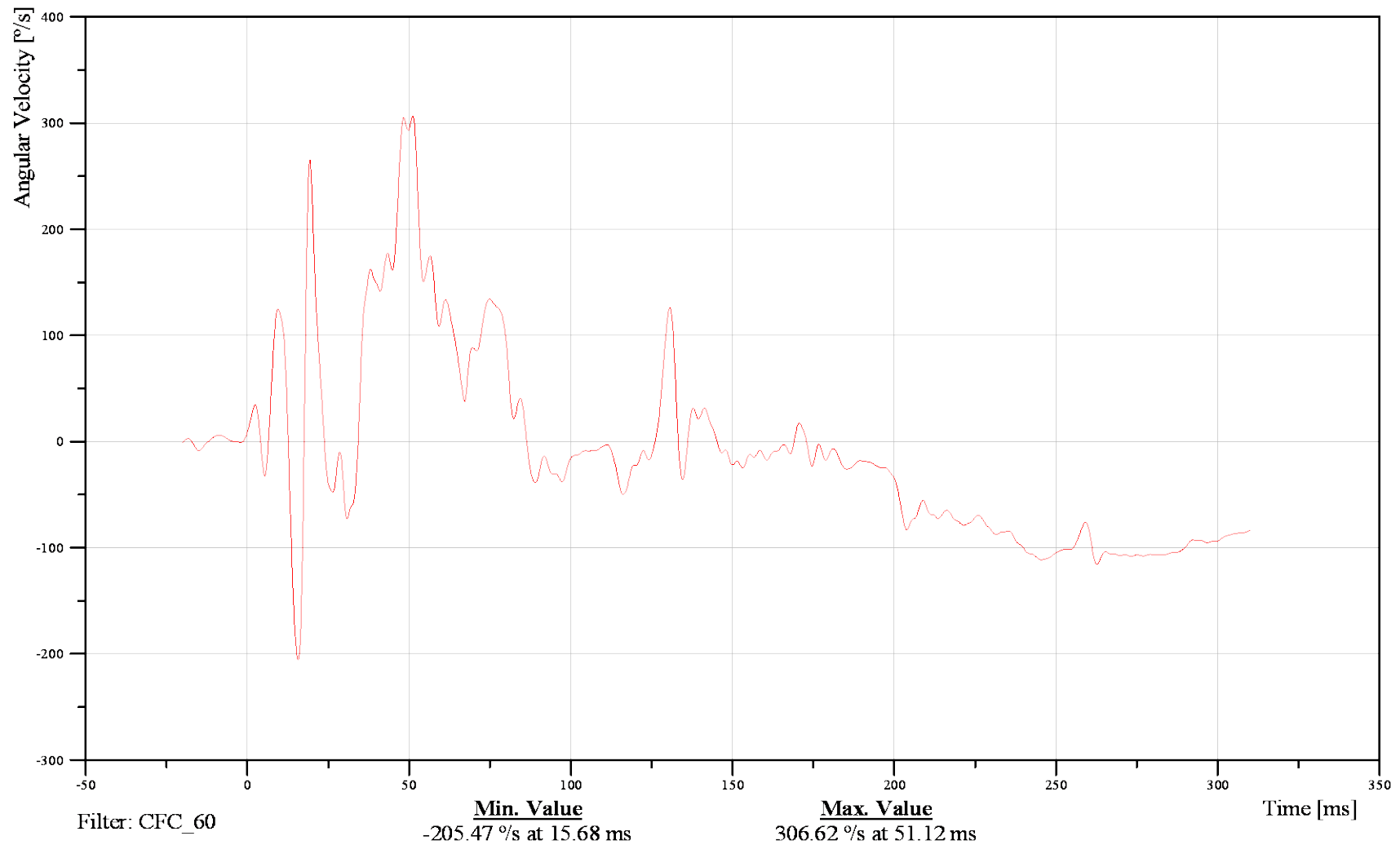
Date: 06/28/2012
Time: 12:59

Customer: VRTC

10VEHCCG0000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL
VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO

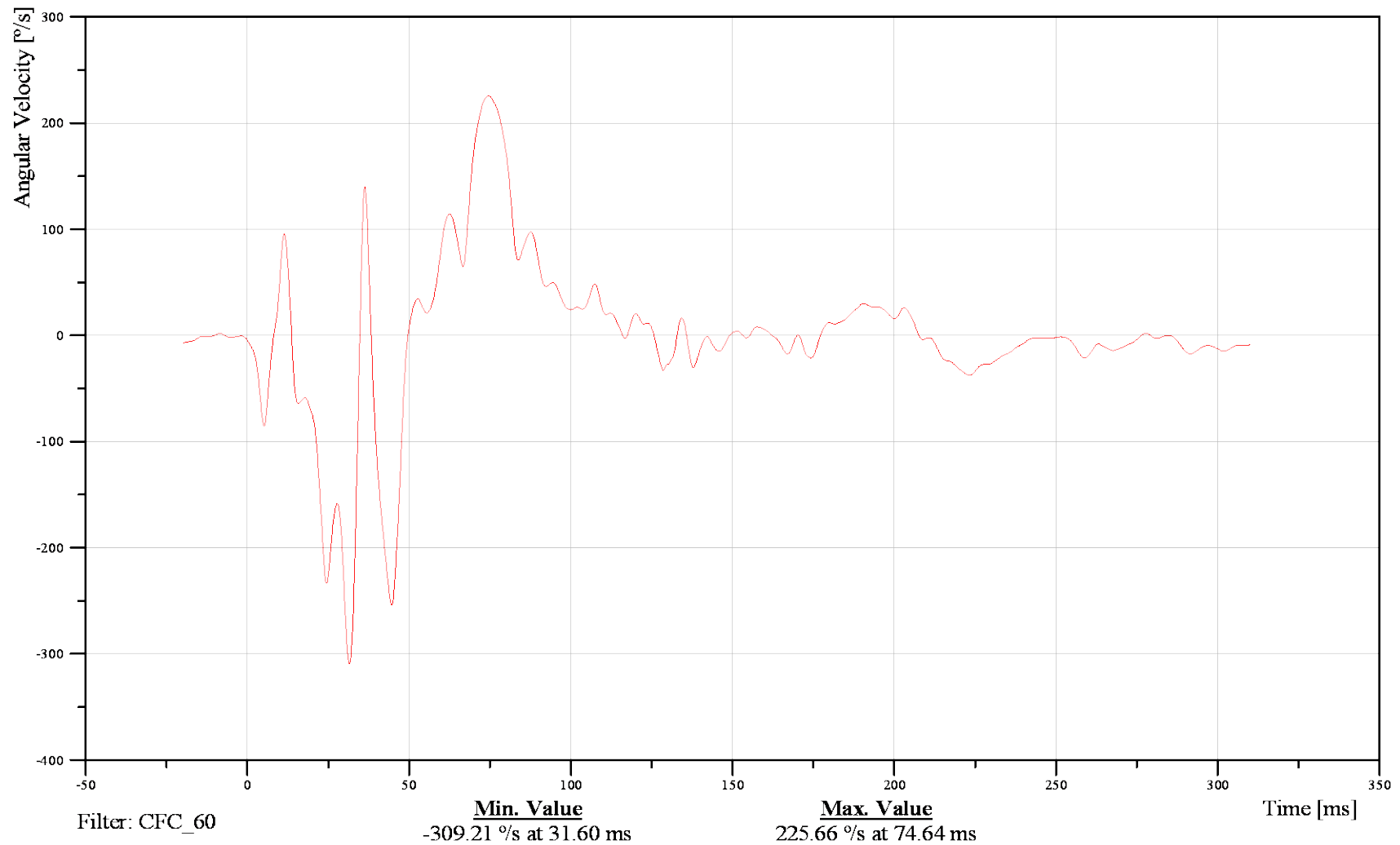
Date: 06/28/2012
Time: 12:59

Customer: VRTC

10VEHCCG0000AVYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL
VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO

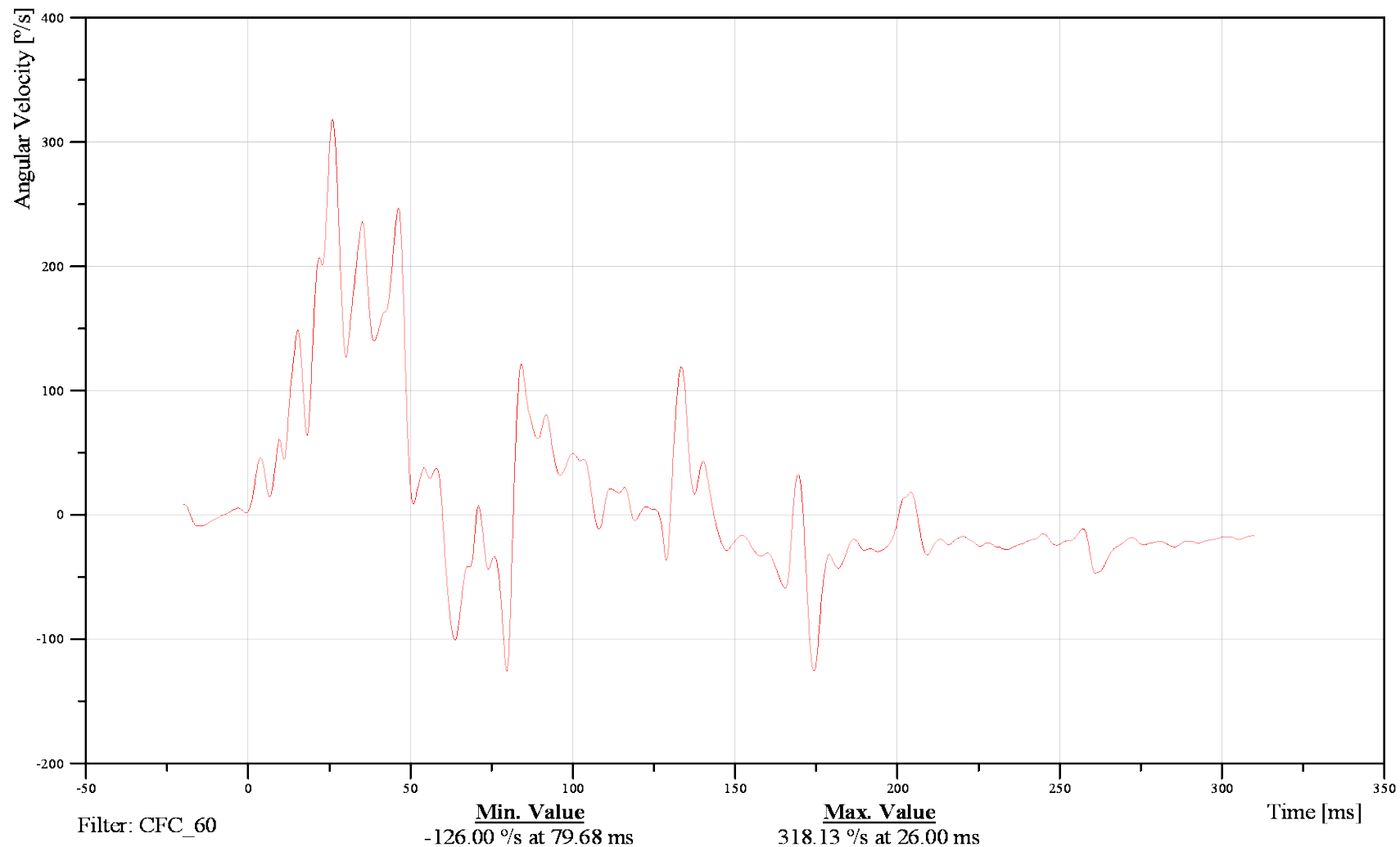
Date: 06/28/2012
Time: 12:59

Customer: VRTC

10VEHCCG0000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

VEHICLE AT EDR (X) ROLL RATE GYRO

Date: 06/28/2012

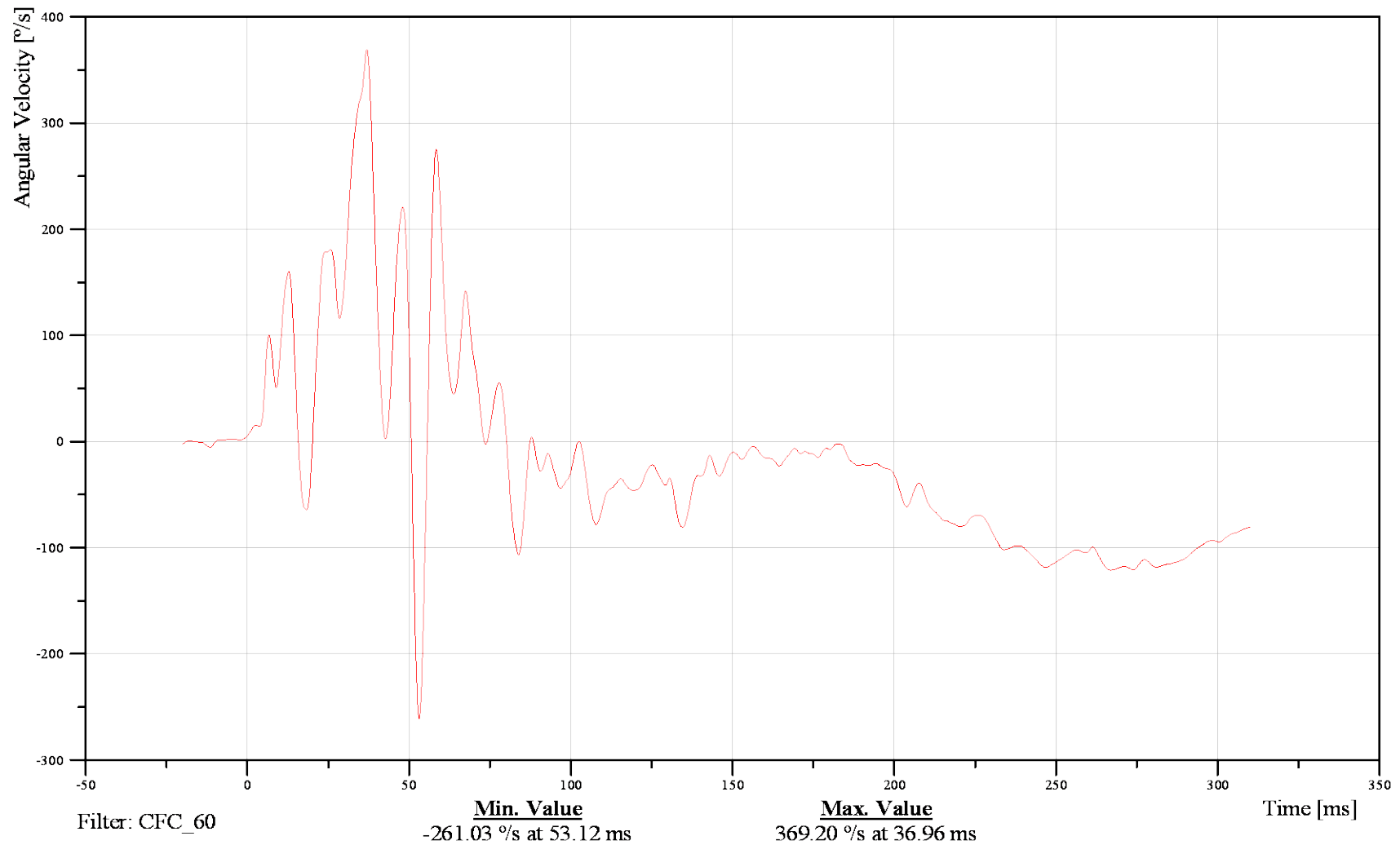
Time: 12:59

Customer: VRTC

10VEHCEDR000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

VEHICLE AT EDR (Y) PITCH RATE GYRO

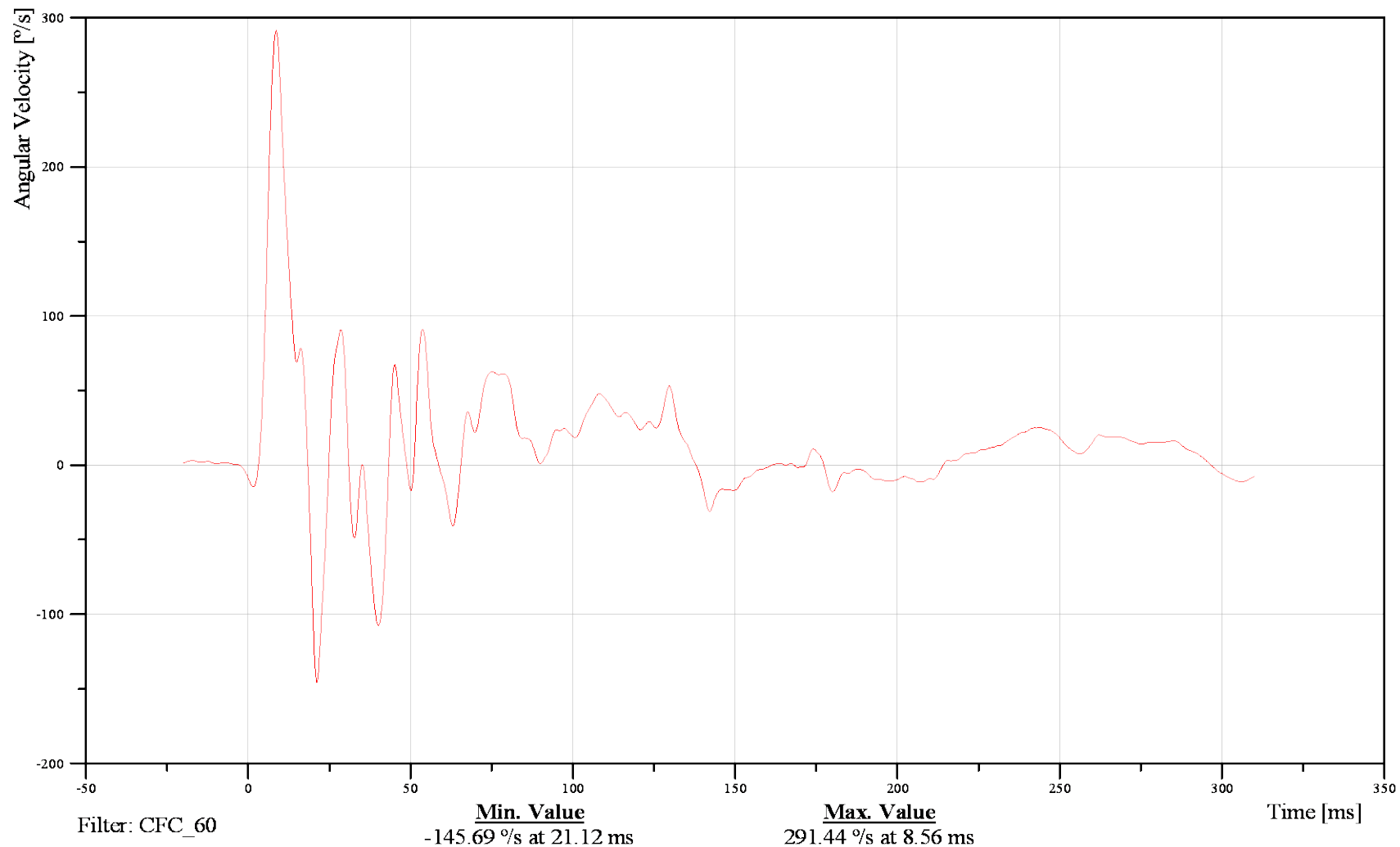
Time: 12:59

Customer: VRTC

10VEHCEDR000AVYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

VEHICLE AT EDR (Z) YAW RATE GYRO

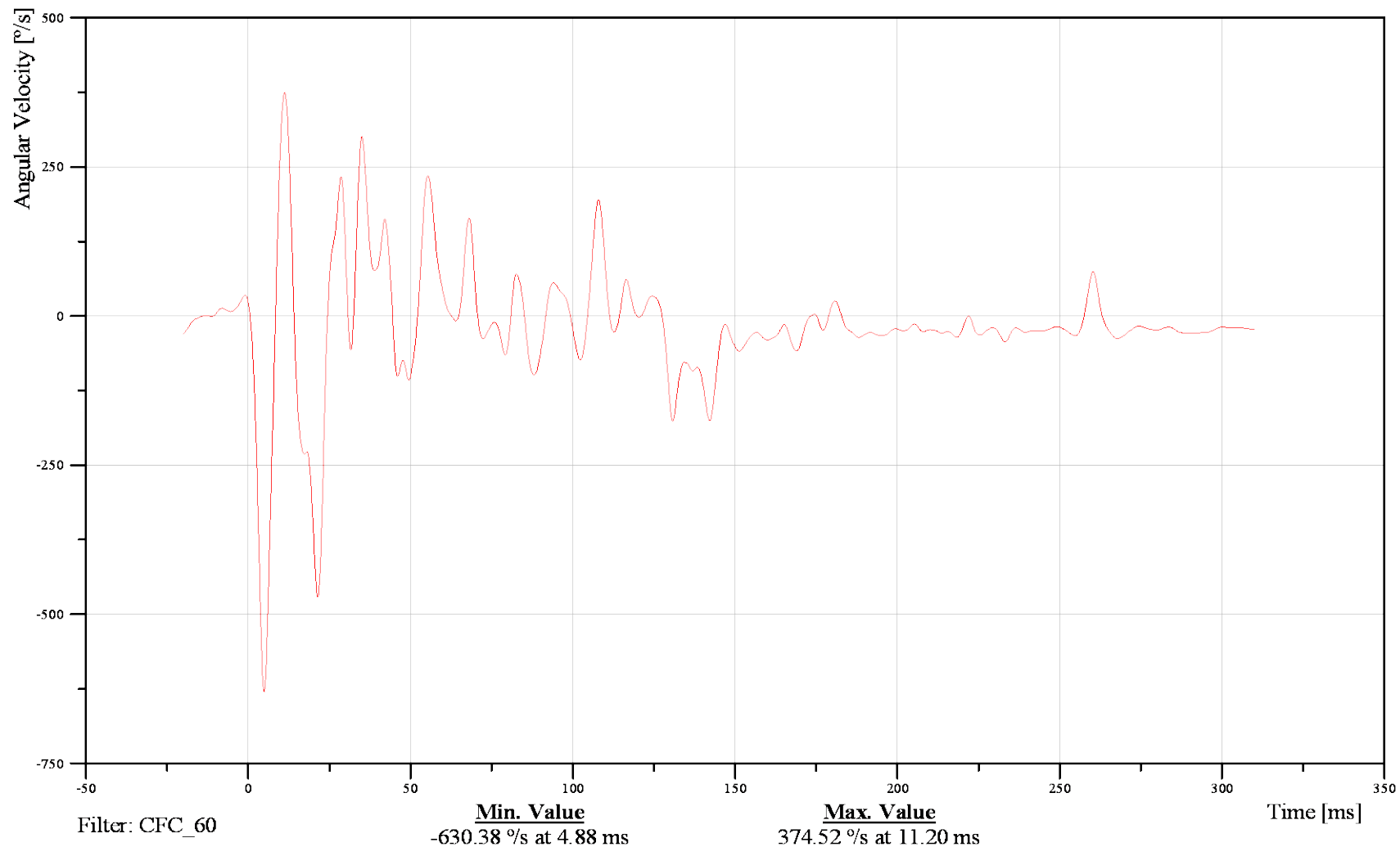
Time: 12:59

Customer: VRTC

10VEHCEDR000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

REAR DECK (X) ROLL RATE GYRO

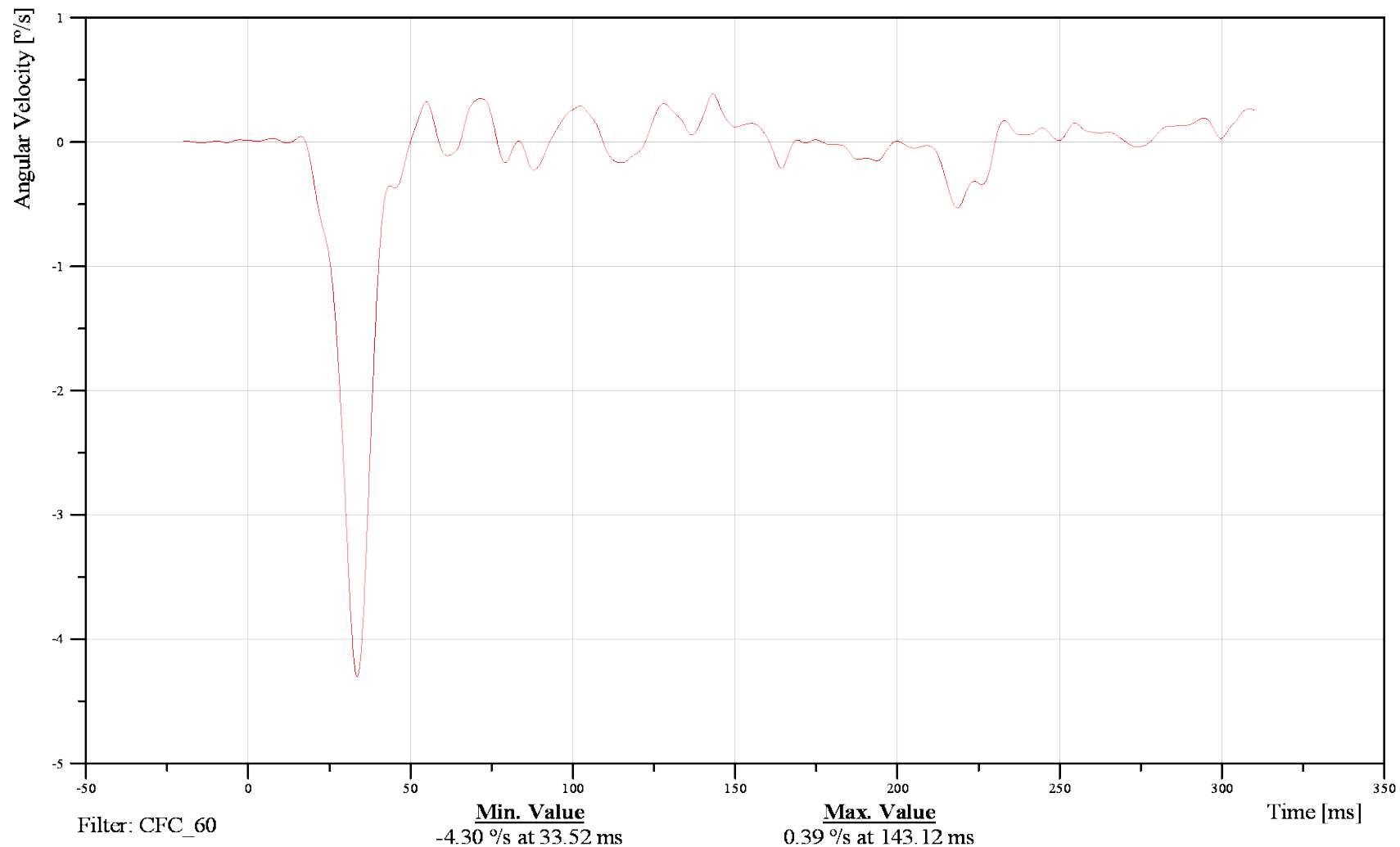
Time: 12:59

Customer: VRTC

10FORARD0000AVXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

REAR DECK (Y) PITCH RATE GYRO

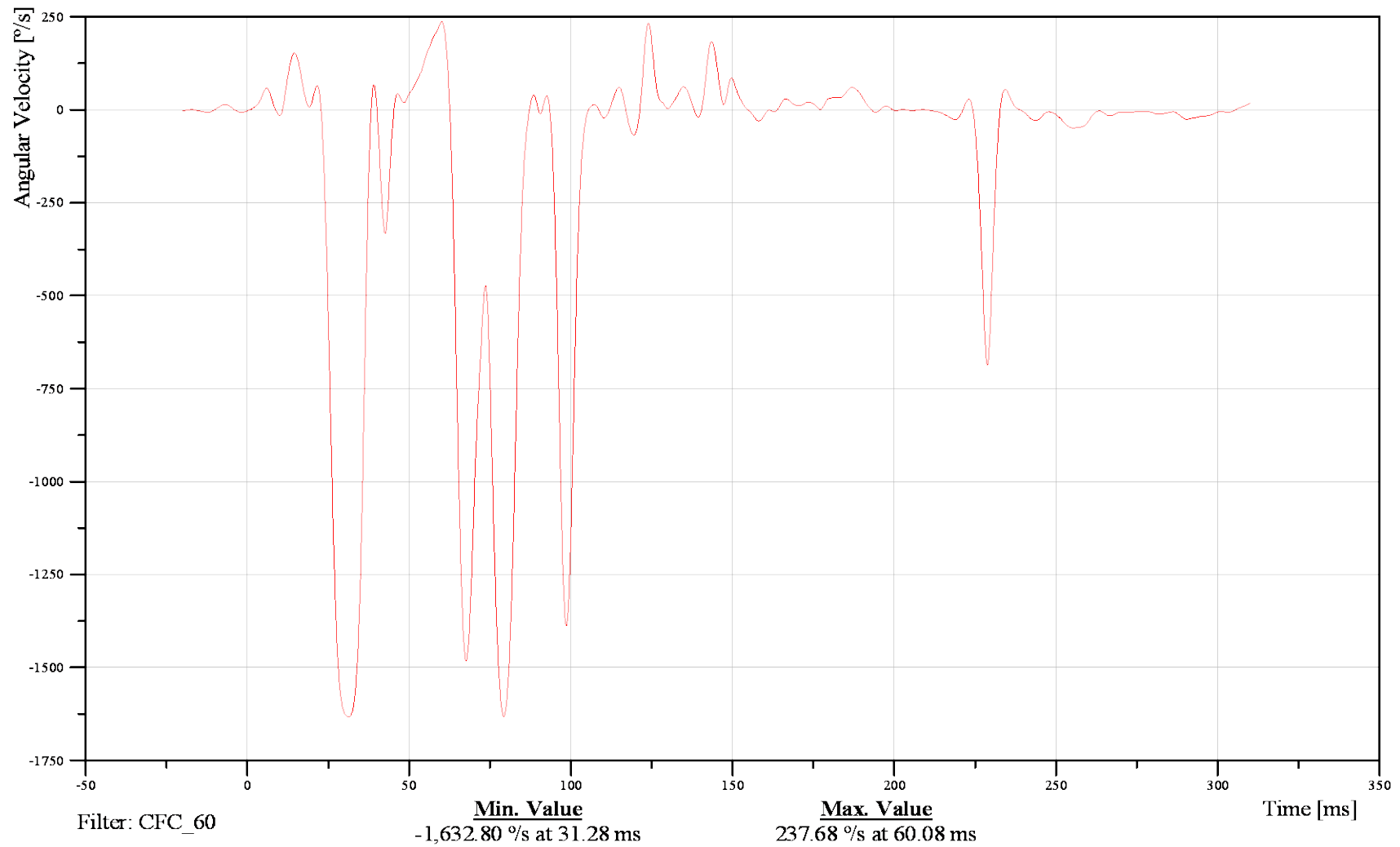
Time: 12:59

Customer: VRTC

10FORARD0000AVYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

REAR DECK (Z) YAW RATE GYRO

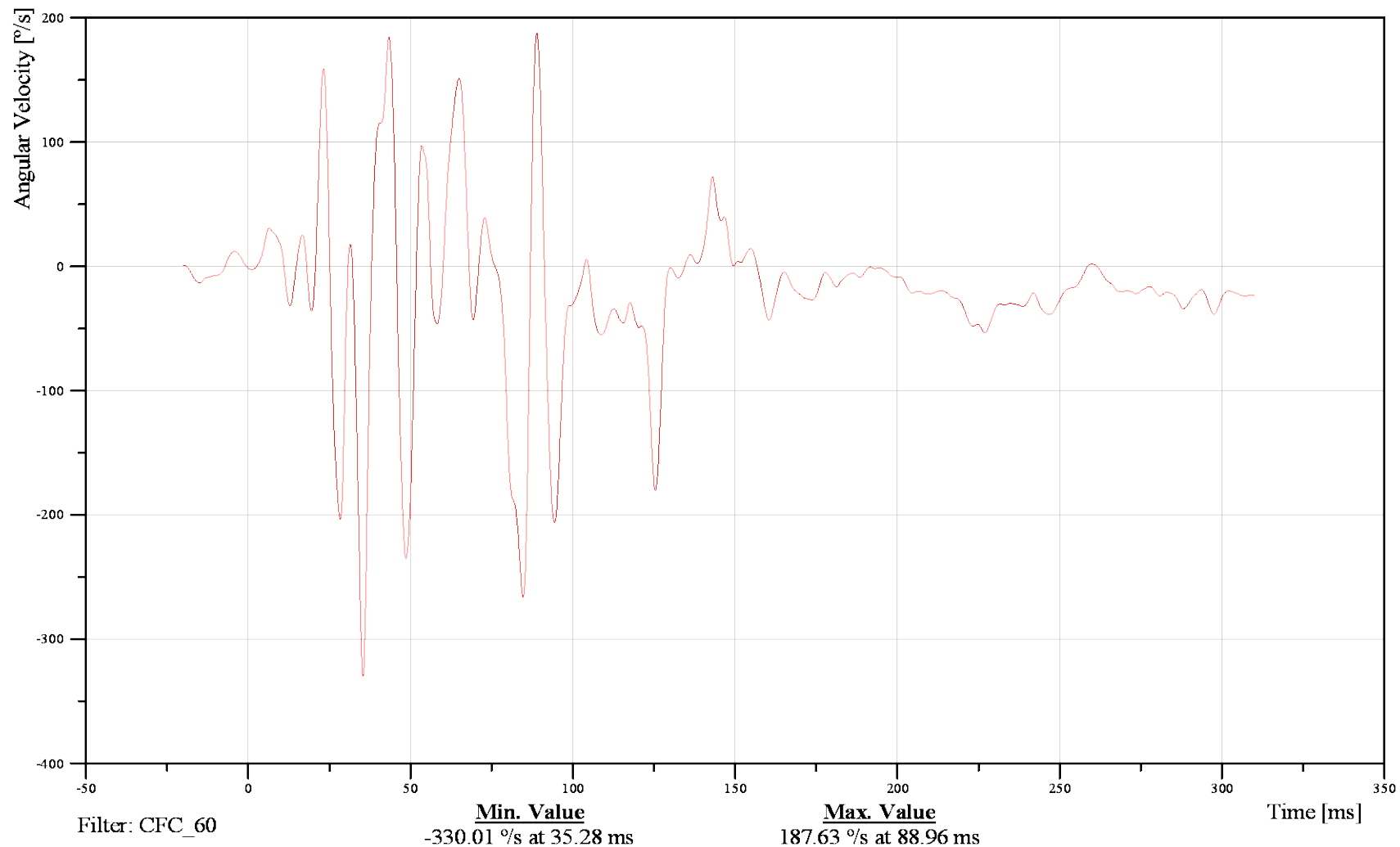
Time: 12:59

Customer: VRTC

10FORARD0000AVZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Front Door Mid Centerline (Y)

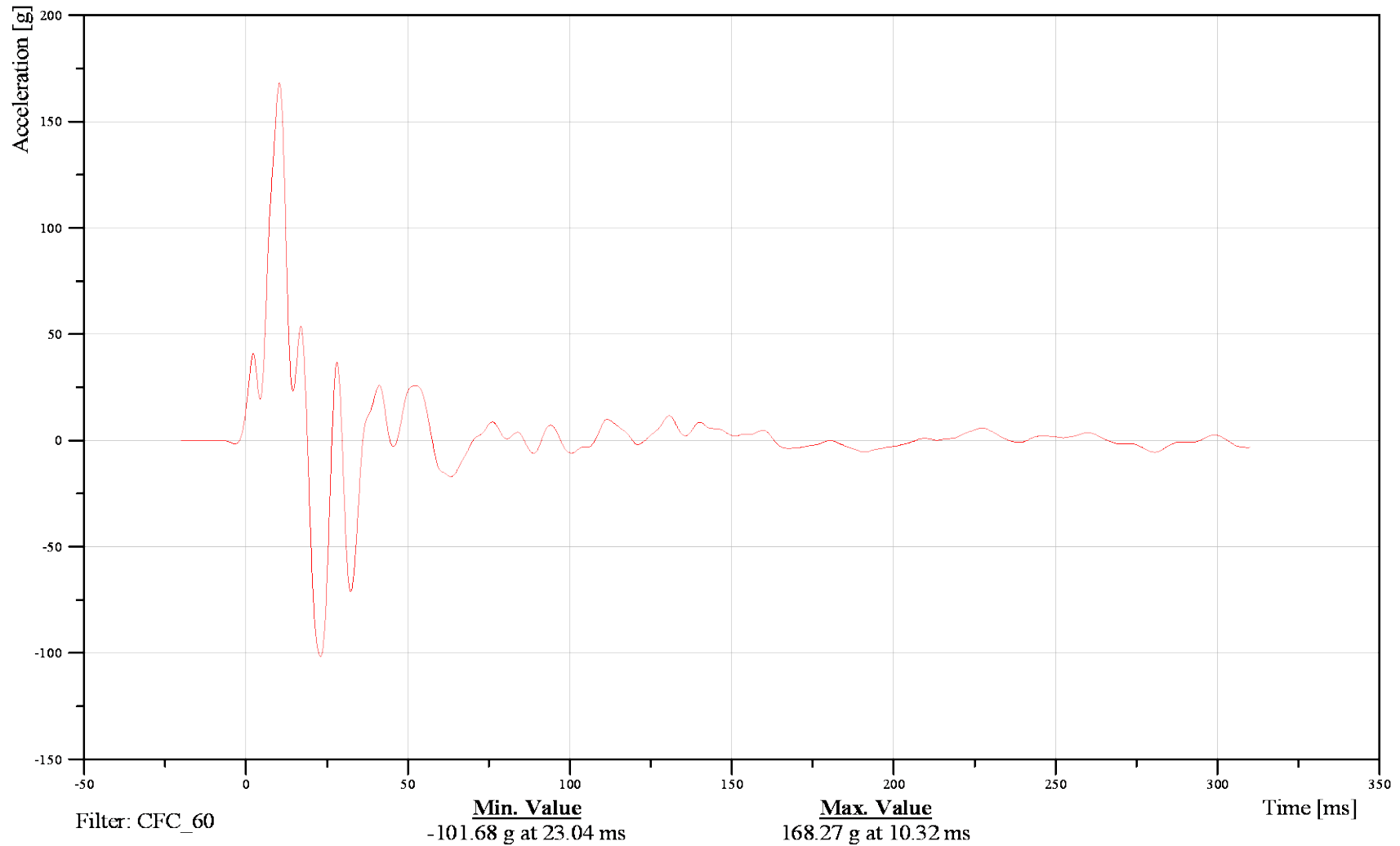
Date: 06/28/2012
Time: 12:59

Customer: VRTC

11DOORMIMI71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Left Front Door Mid Rear (Y)

Date: 06/28/2012

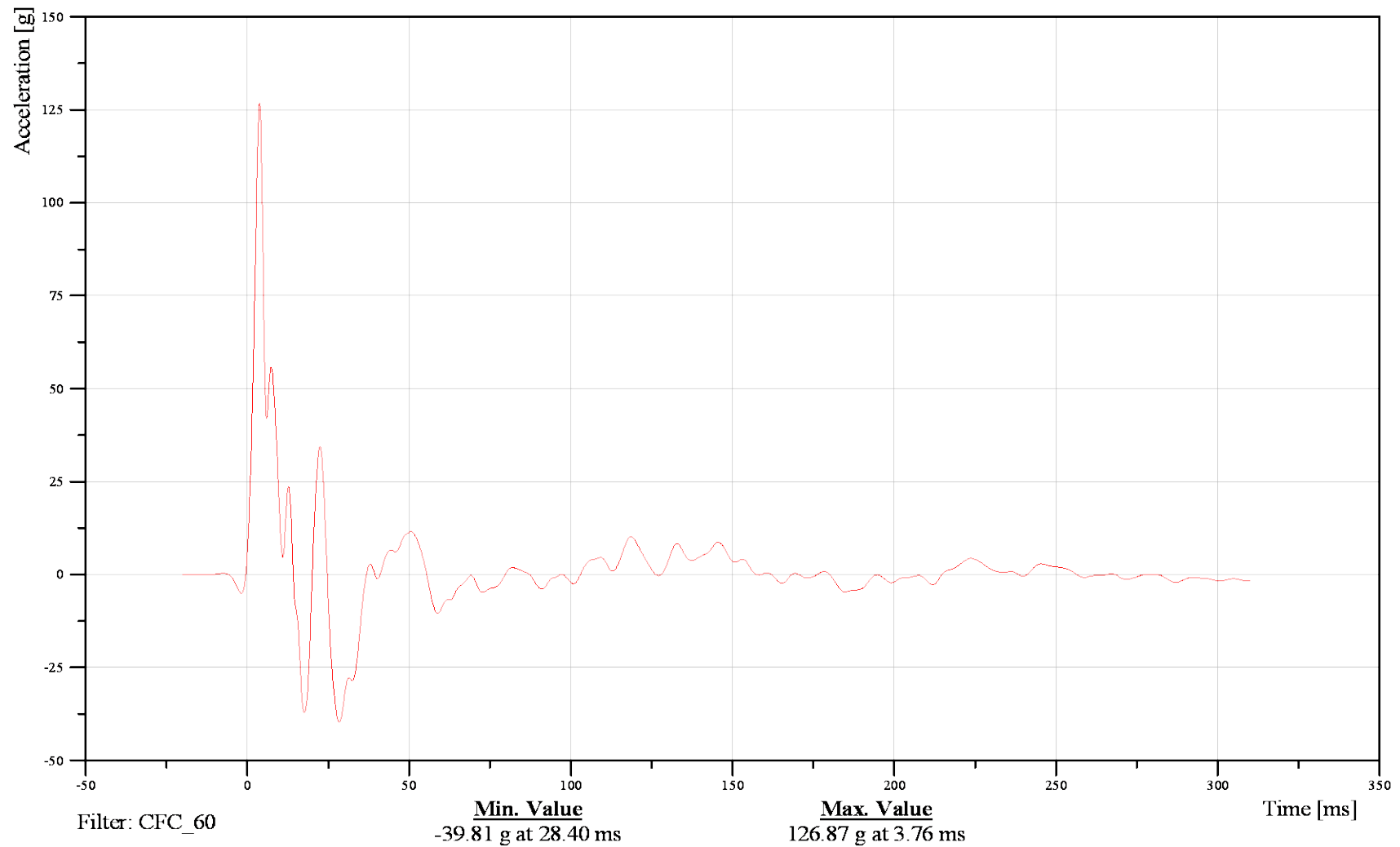
Time: 12:59

Customer: VRTC

11DOORMIRE71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

Date: 06/28/2012

Left Front Door Upper Centerline (Y)

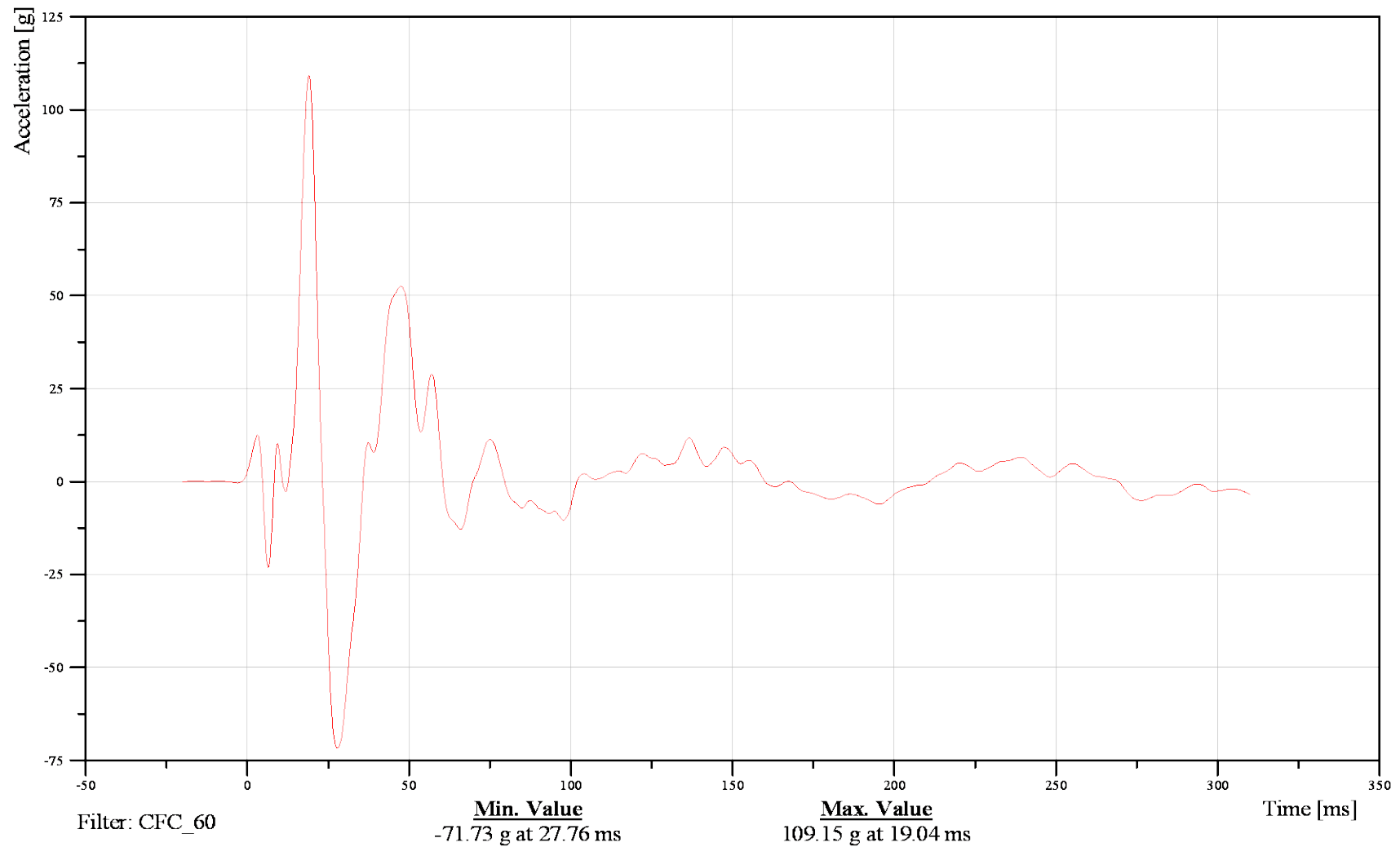
Time: 12:59

Customer: VRTC

11DOORMIUP71ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB CG AX

Date: 06/28/2012

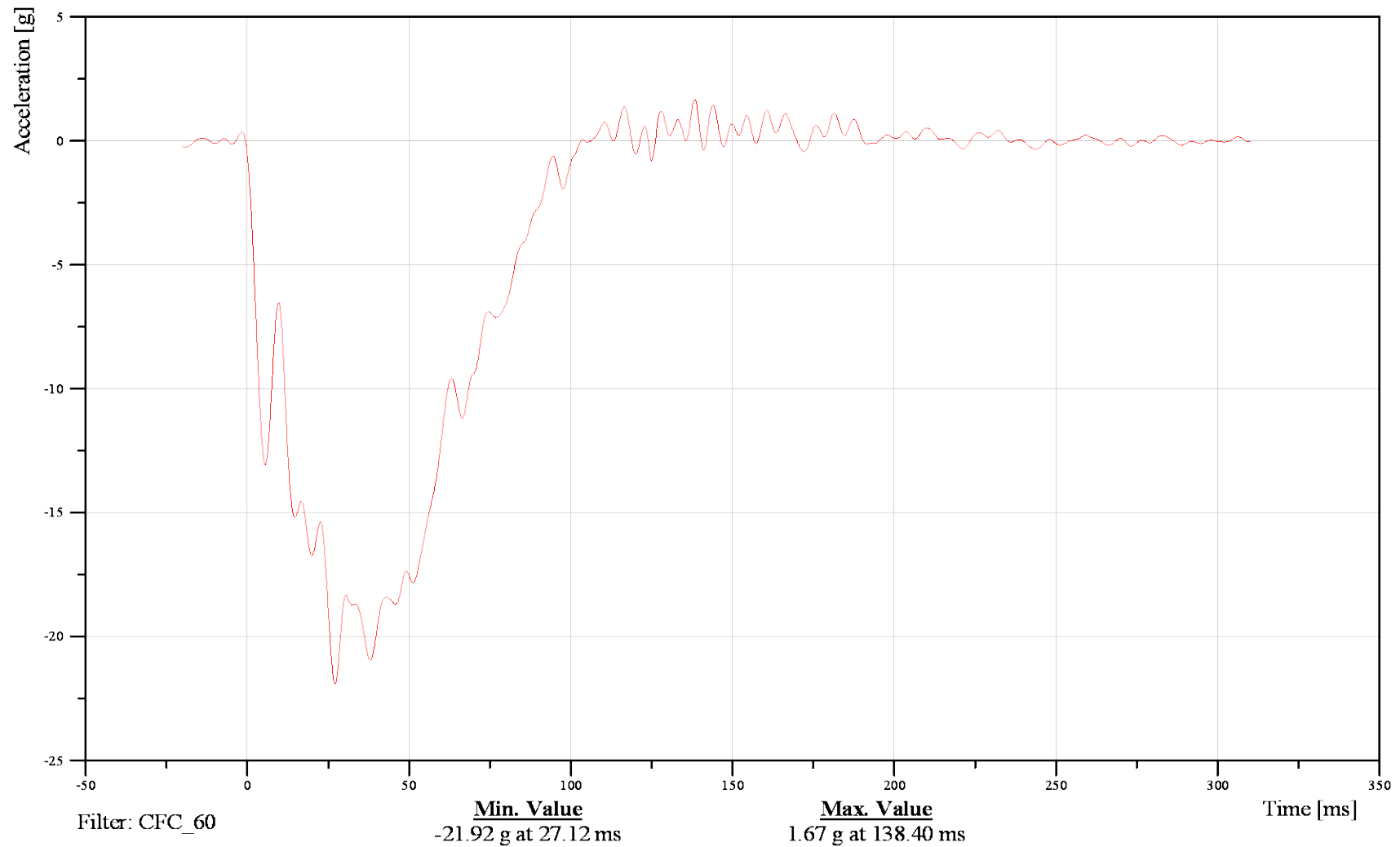
Time: 12:59

Customer: VRTC

M0MBARCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB CG AY

Date: 06/28/2012

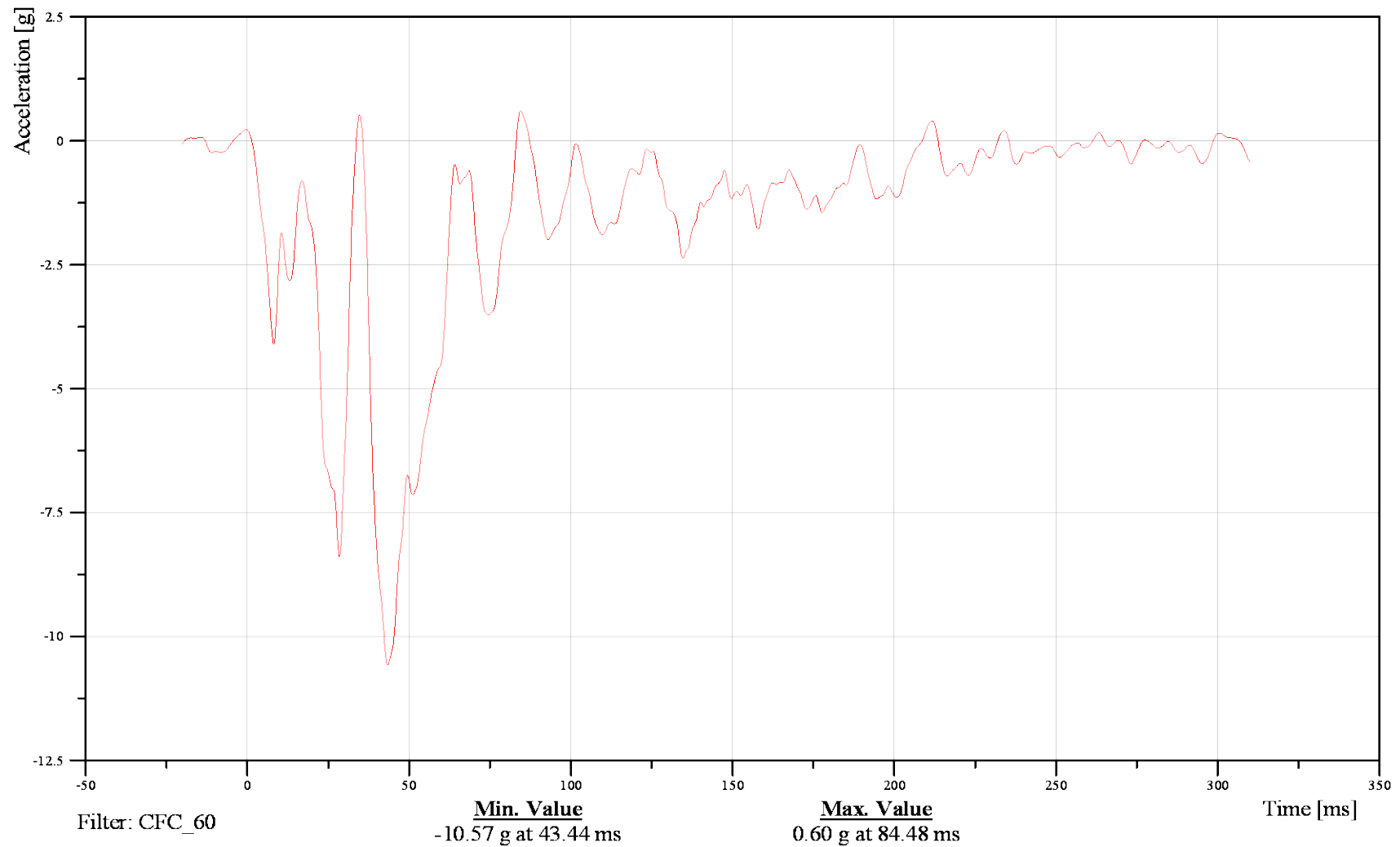
Time: 12:59

Customer: VRTC

M0MBARCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB CG AZ

Date: 06/28/2012

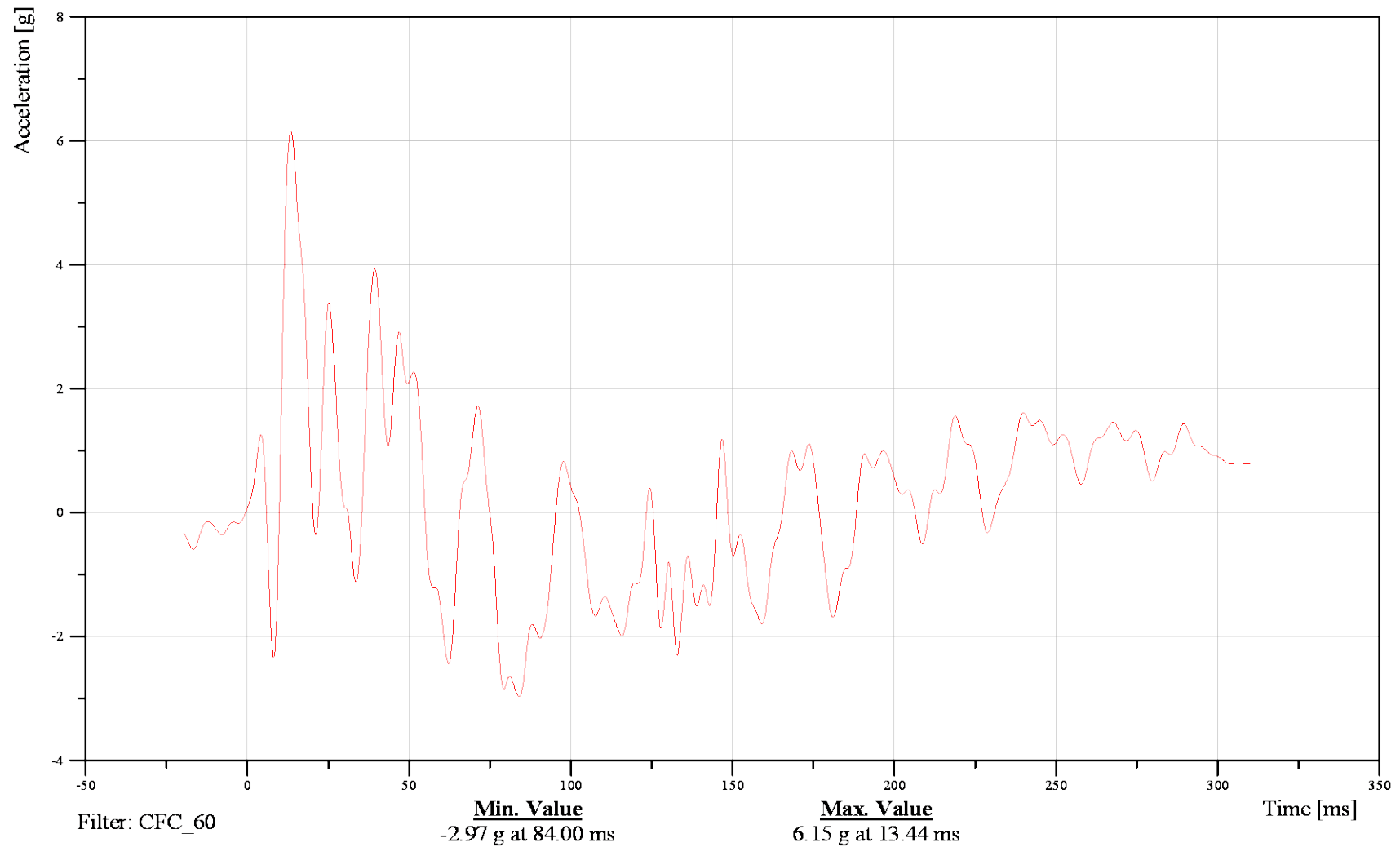
Time: 12:59

Customer: VRTC

M0MBARCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB CG A Resultant

Date: 06/28/2012

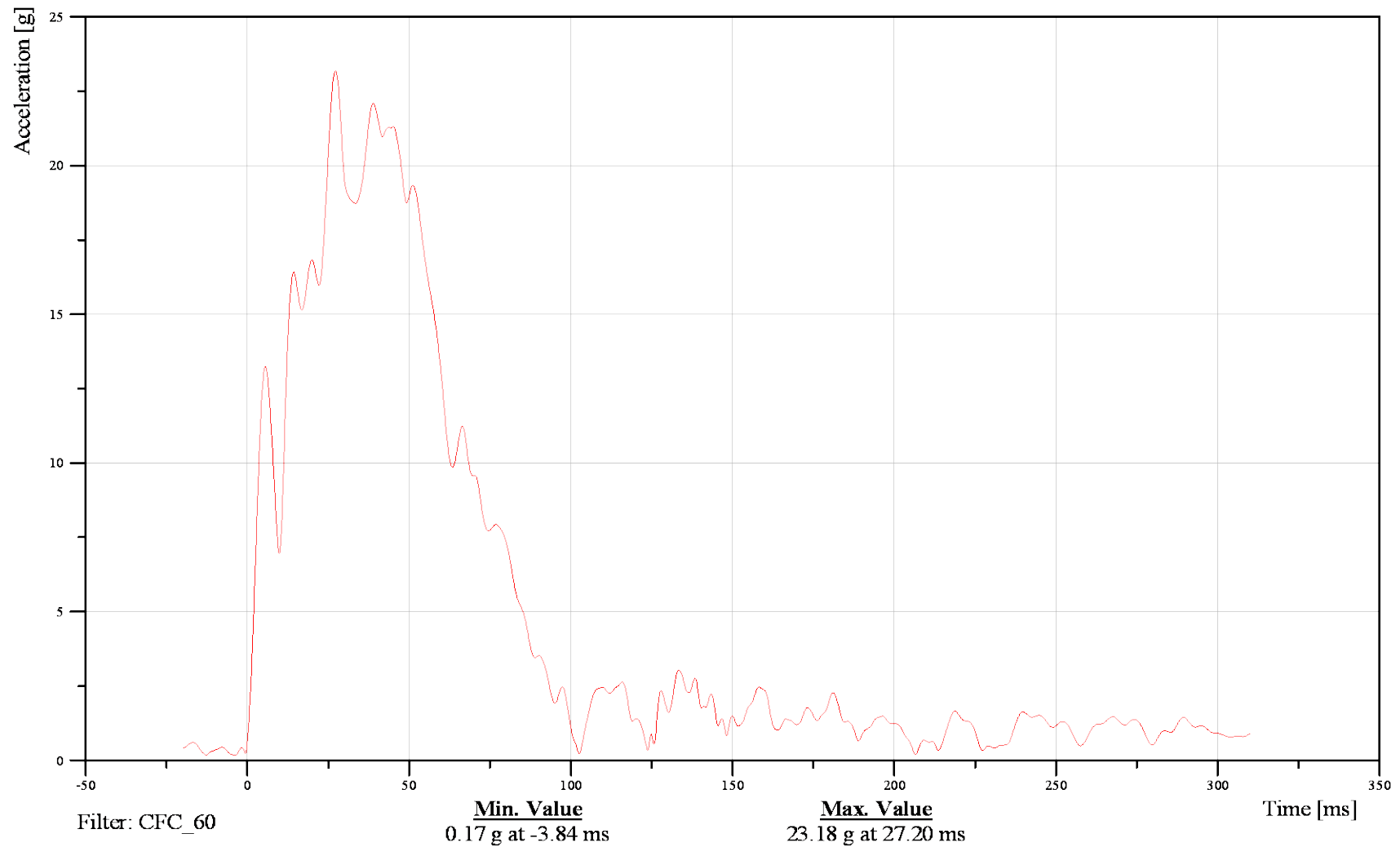
Time: 12:59

Customer: VRTC

M0MBARCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB REAR AX

Date: 06/28/2012

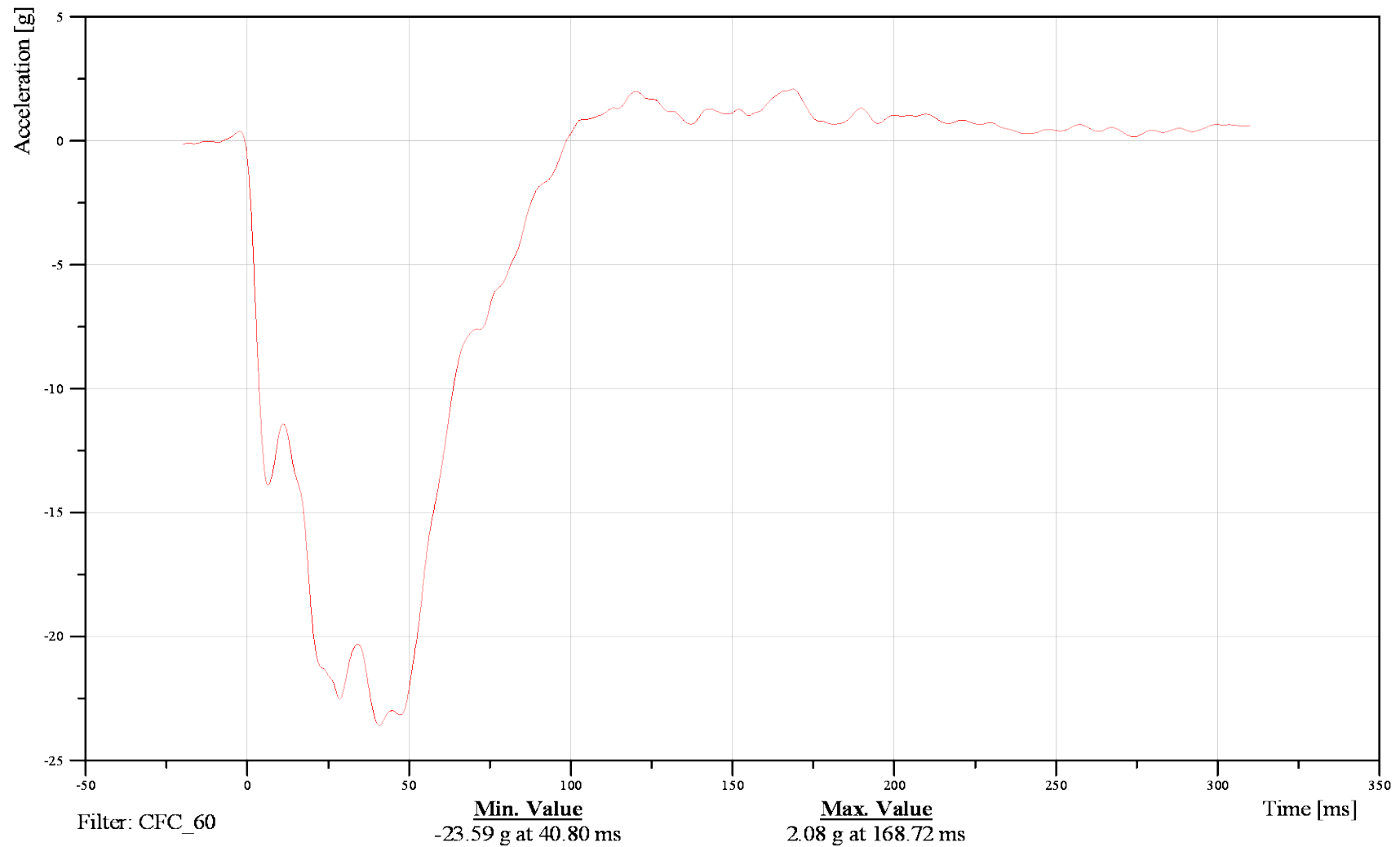
Time: 12:59

Customer: VRTC

M0FRAMRE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

MDB REAR AY

Date: 06/28/2012

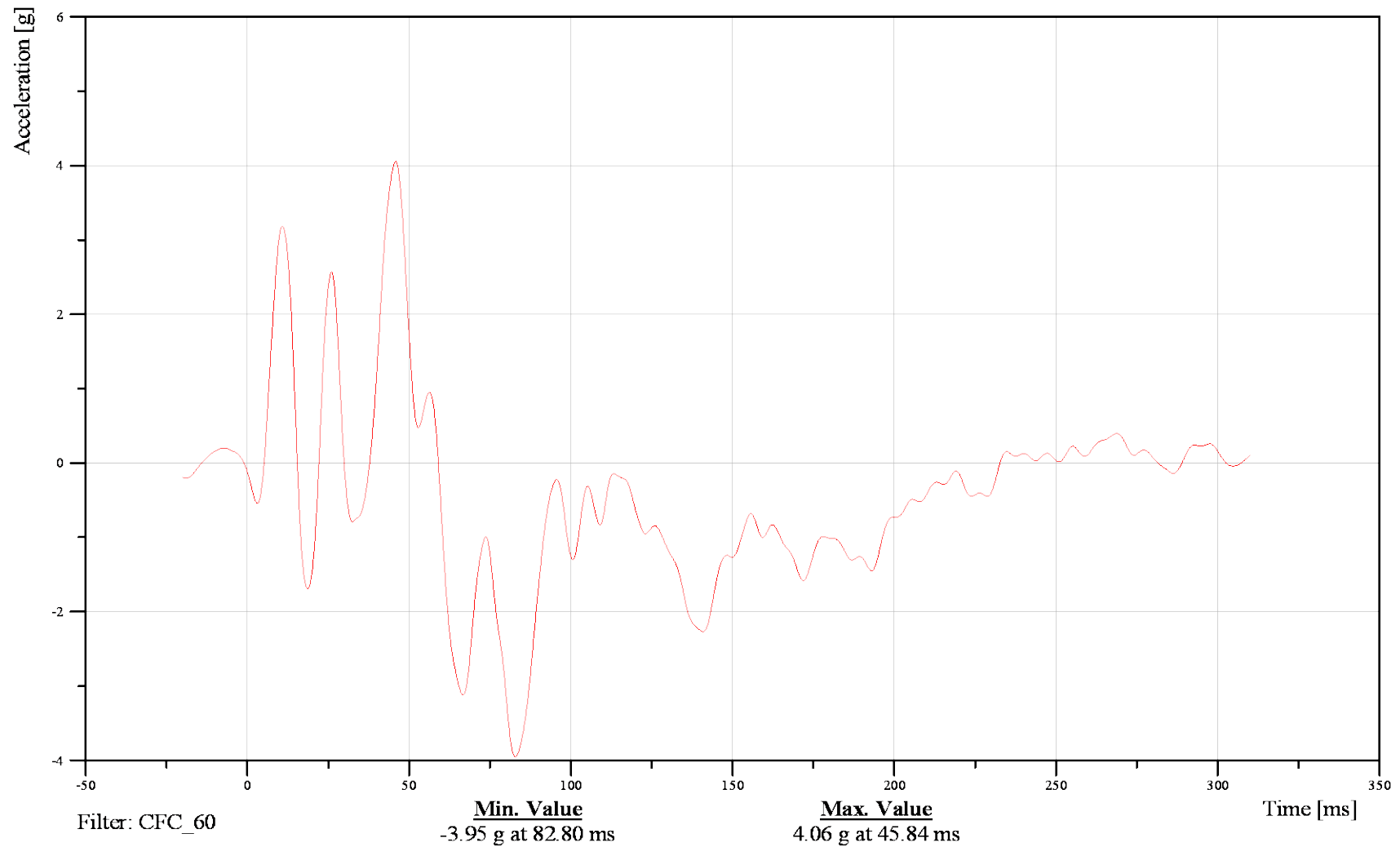
Time: 12:59

Customer: VRTC

M0FRAMRE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

LEFT MDB CONTACT

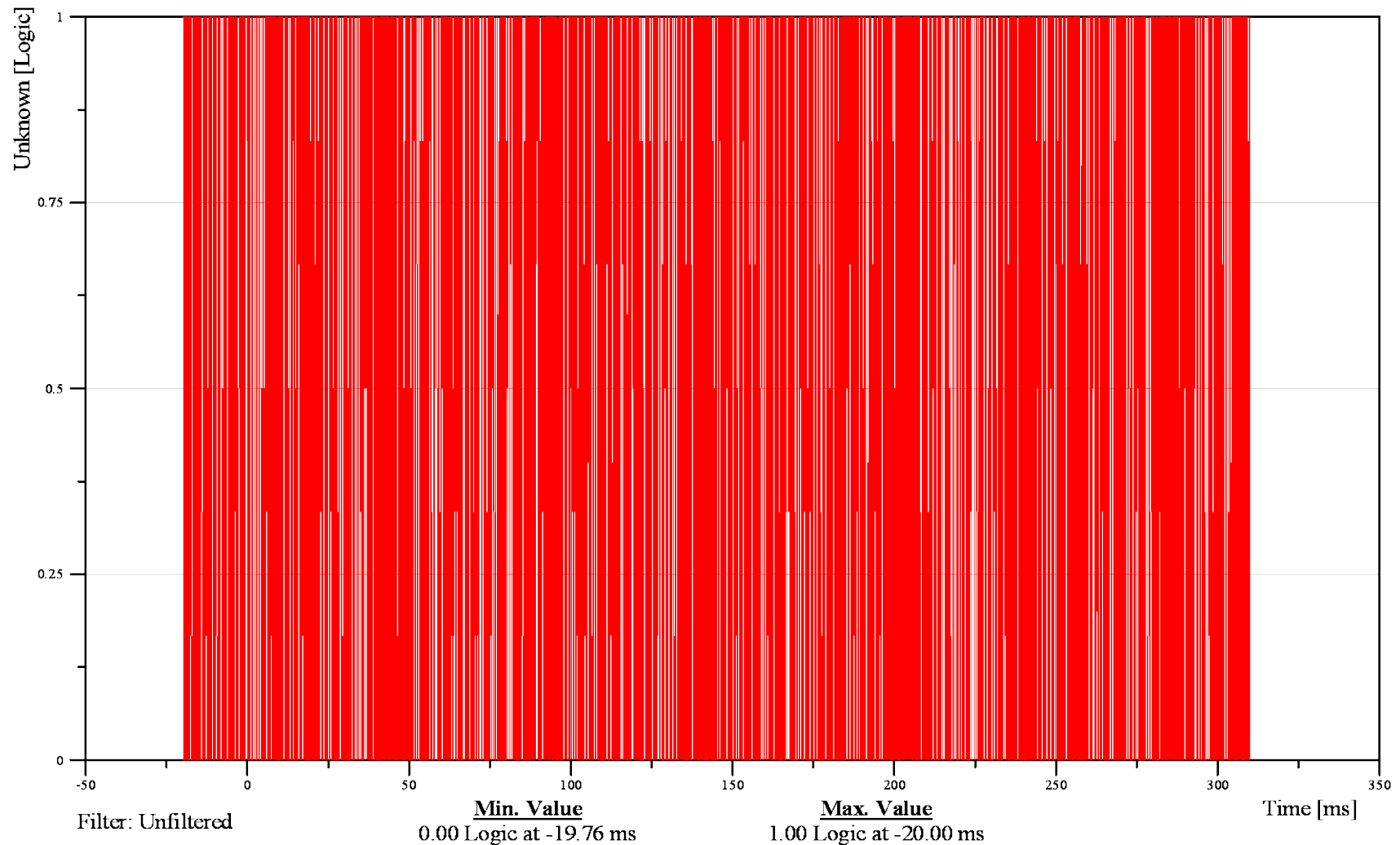
Date: 06/28/2012
Time: 12:59

Customer: VRTC

M0MBARLE0000VO00

TRC Inc. Test Lab: CTF

Test Number: 120628





FMVSS 214 Side Impact 2010 Ford F150 XL

RIGHT MDB CONTACT

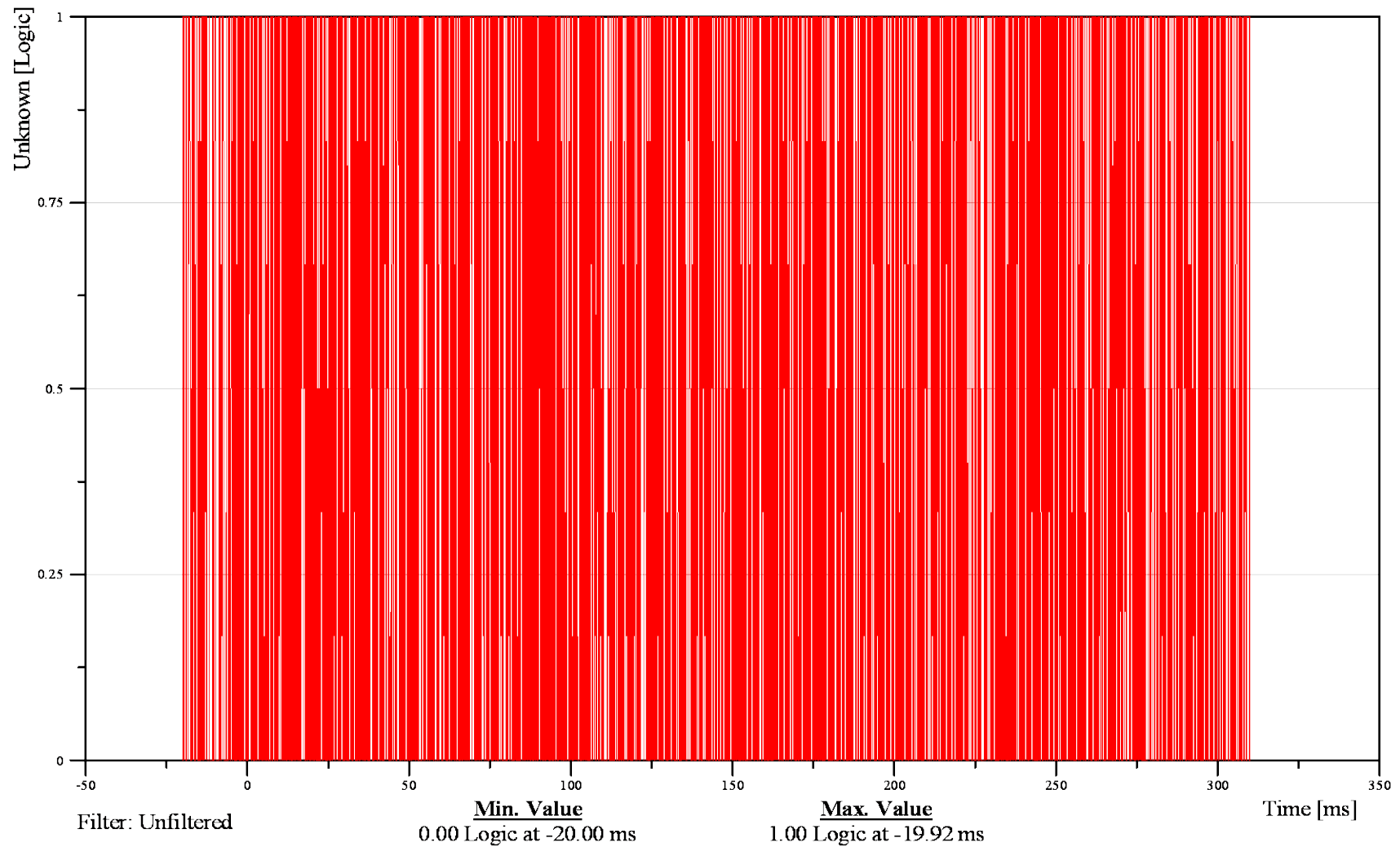
Date: 06/28/2012
Time: 12:59

Customer: VRTC

MOMBARRI0000VO00

TRC Inc. Test Lab: CTF

Test Number: 120628



Appendix C

WorldSID Configuration and Performance Verification Data

Calibration Test Results

Pre-Test

WorldSID: 014

Configured for Left Side Impact

Transportation Research Center Inc.

Front Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	258.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-2.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

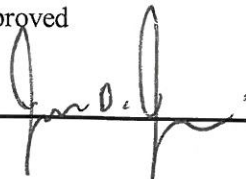
Test meets specifications.

Comments:

Technician



Approved

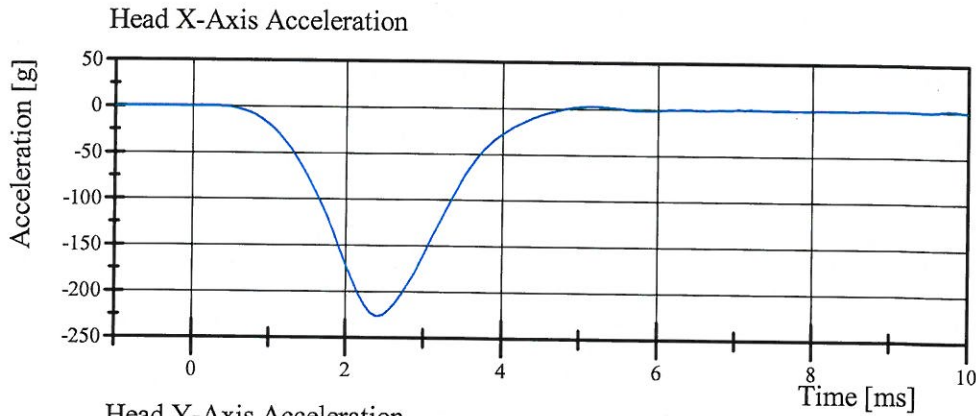


Transportation Research Center Inc.

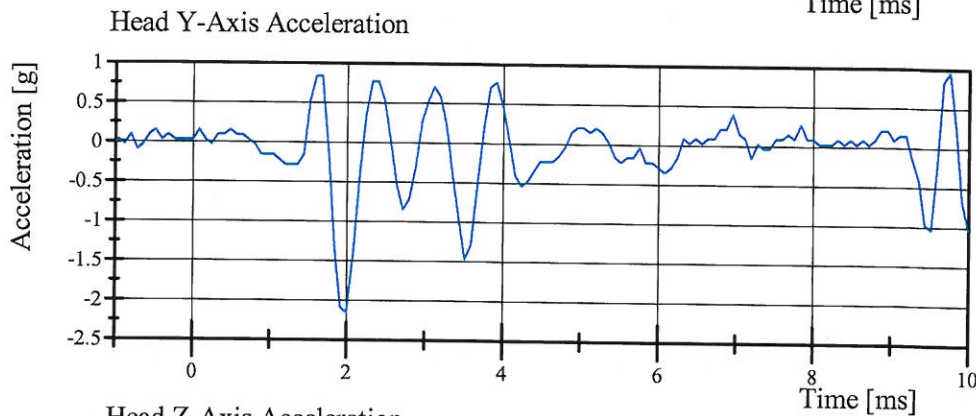
Front Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

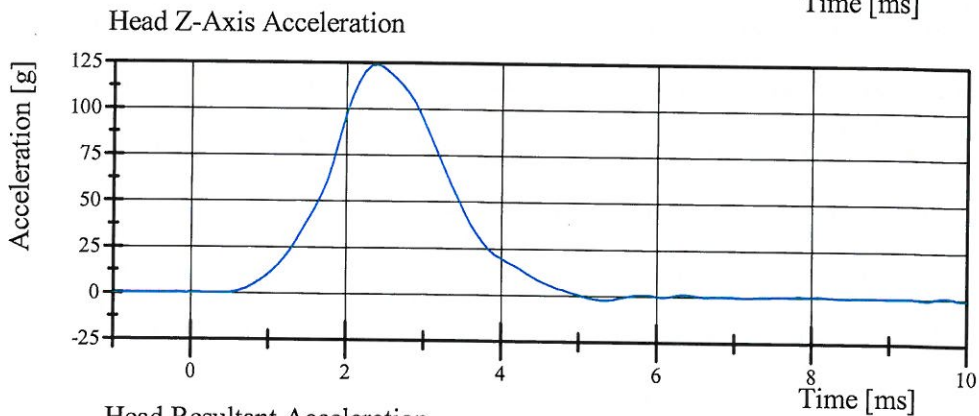
Test Date: 6/14/2012



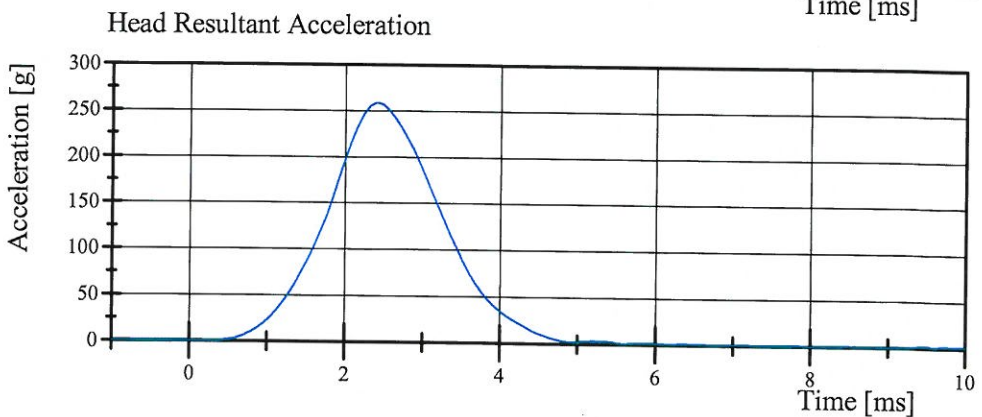
Filter Class: CFC_1000
Max: 2.5 gn at 5.1 ms
Min: -227.0 gn at 2.4 ms



Filter Class: CFC_1000
Max: 1.0 gn at 9.8 ms
Min: -2.2 gn at 2.0 ms



Filter Class: CFC_1000
Max: 124.0 gn at 2.4 ms
Min: -2.3 gn at 5.4 ms



Filter Class: CFC_1000
Max: 258.7 gn at 2.4 ms
Min: 0.0 gn at -1.0 ms

Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	116.6 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-3.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

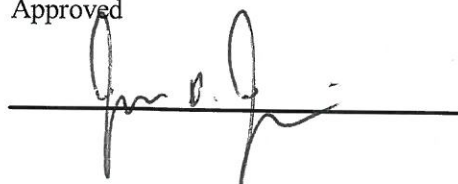
Test meets specifications.

Comments:

Technician



Approved

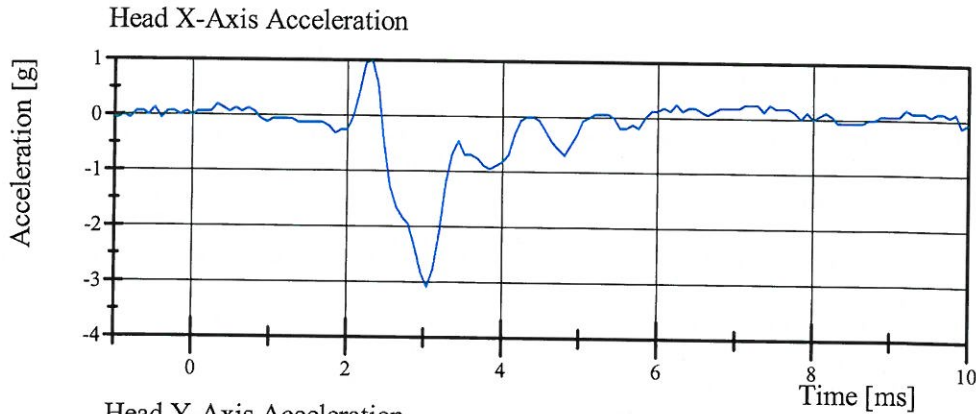


Transportation Research Center Inc.

Left Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

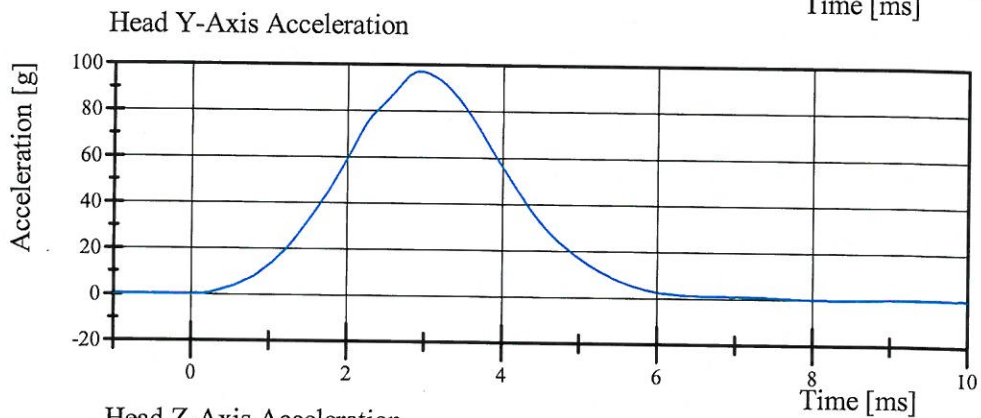
Test Date: 6/14/2012



Filter Class: CFC_1000

Max: 1.0 gn at 2.3 ms

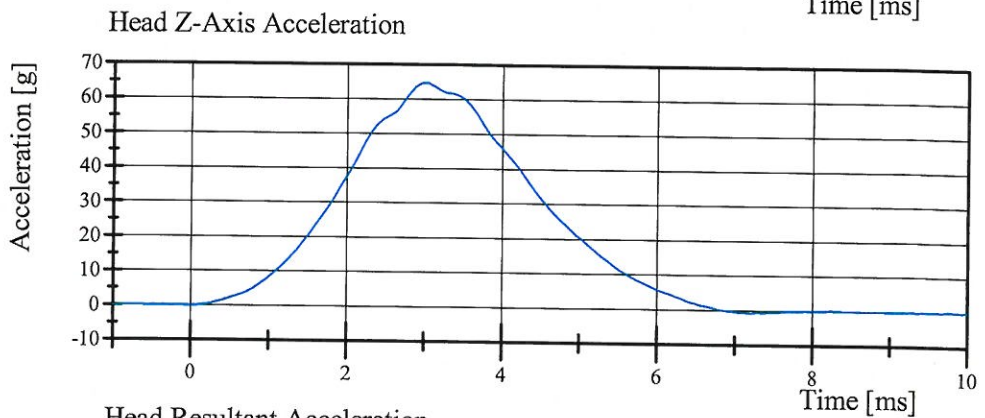
Min: -3.1 gn at 3.0 ms



Filter Class: CFC_1000

Max: 97.1 gn at 3.0 ms

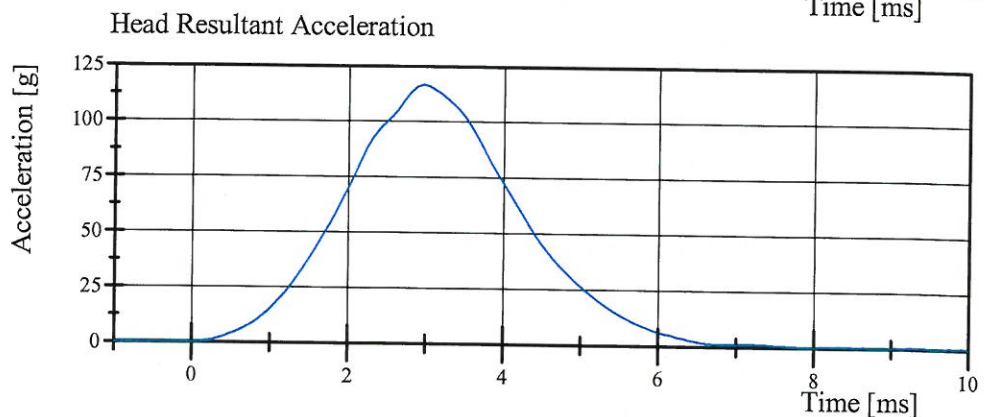
Min: -0.3 gn at 8.3 ms



Filter Class: CFC_1000

Max: 64.6 gn at 3.0 ms

Min: -0.8 gn at 7.2 ms



Filter Class: CFC_1000

Max: 116.6 gn at 3.0 ms

Min: 0.0 gn at -0.9 ms

Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

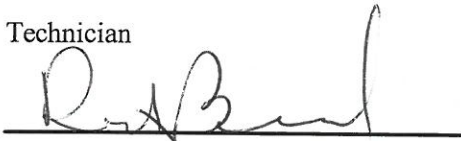
Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Peak Head Resultant Acceleration	99 - 121 g	119.5 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	8.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

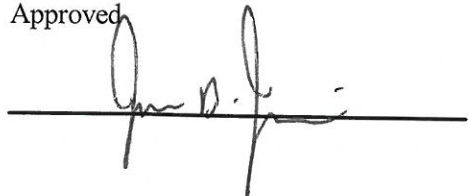
Test meets specifications.

Comments:

Technician



Approved

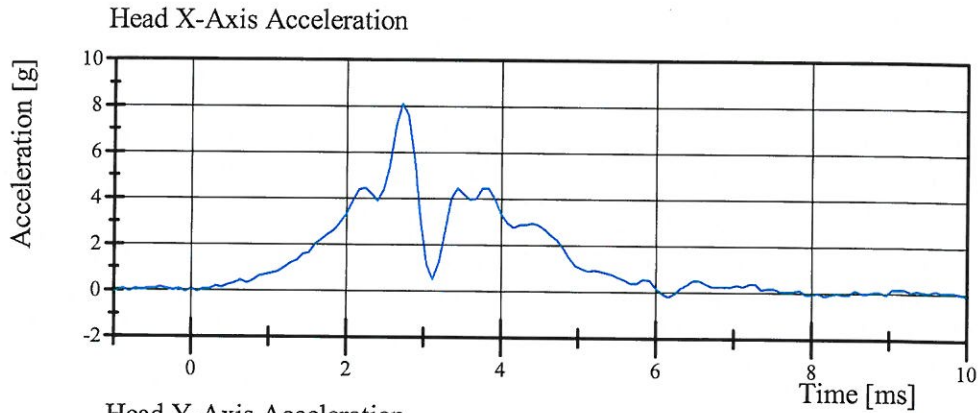


Transportation Research Center Inc.

Right Lateral Head Drop

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

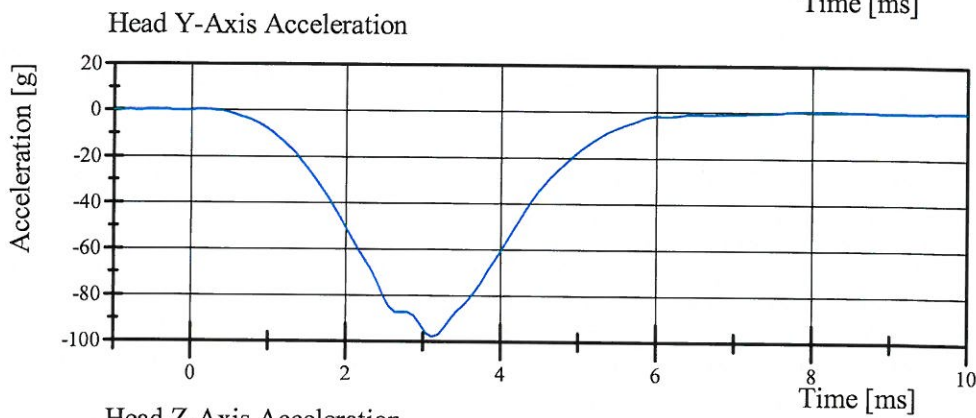
Test Date: 6/14/2012



Filter Class: CFC_1000

Max: 8.1 gn at 2.7 ms

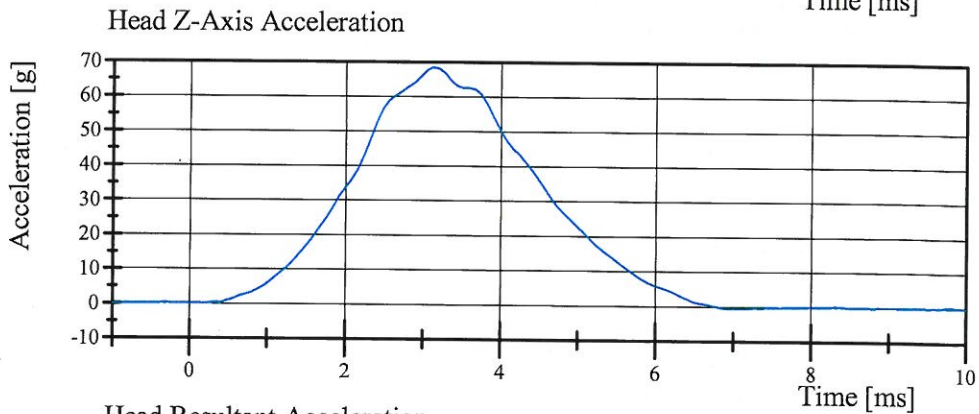
Min: -0.2 gn at 6.2 ms



Filter Class: CFC_1000

Max: 0.6 gn at 7.9 ms

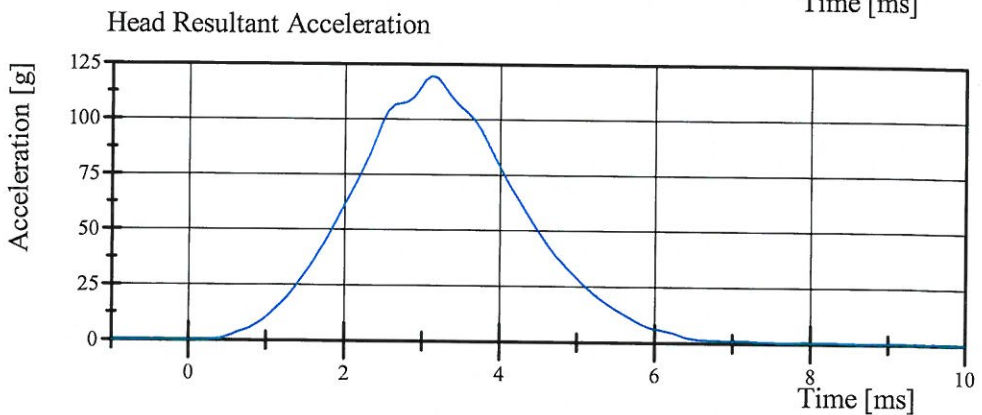
Min: -98.0 gn at 3.1 ms



Filter Class: CFC_1000

Max: 68.4 gn at 3.1 ms

Min: -0.6 gn at 7.1 ms



Filter Class: CFC_1000

Max: 119.5 gn at 3.1 ms

Min: 0.1 gn at -0.5 ms

Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

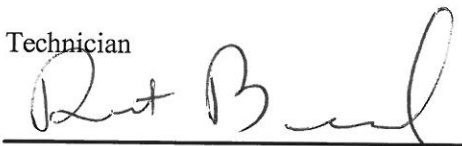
Test Date: 6/14/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.49 m/s	Yes
Pendulum Integrated Velocity			
Change at 4 ms	0.77 - 1.04 m/s	0.846 m/s	Yes
Change at 8 ms	1.6 - 2.16 m/s	1.786 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.787 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-54.7 deg	Yes
Headform Flexion Decay			
- from Peak to Zero Degrees	58 - 72 ms	61.0 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	66.4 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) °	-35.8 °	Yes
Time of Peak	56 - 68 ms	60.5 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) °	-31.8 °	Yes
Time of Peak	56 - 68 ms	60.6 ms	Yes

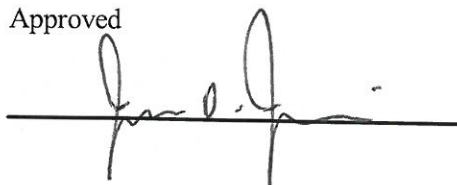
Test meets specifications.

Comments:

Technician



Approved



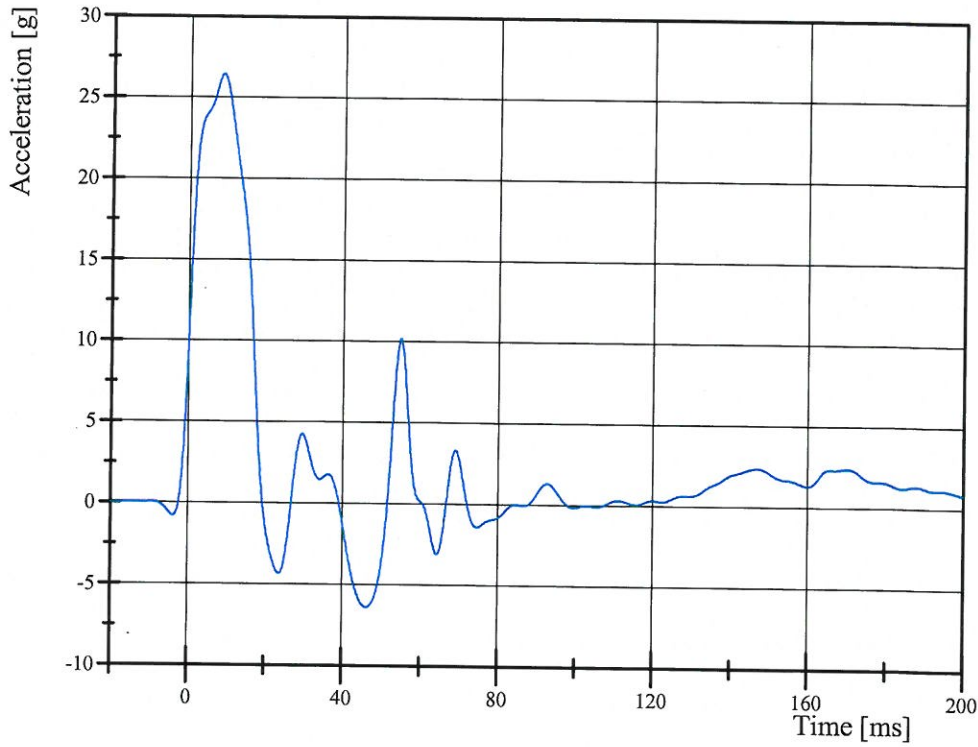
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

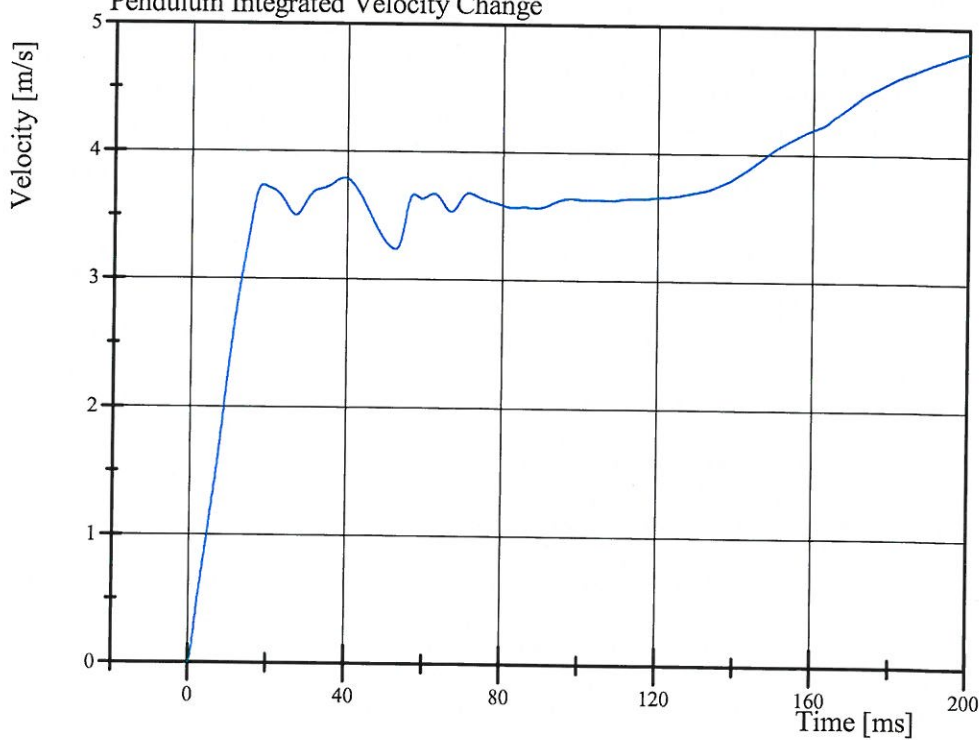
Test Date: 6/14/2012

Pendulum Acceleration



Filter Class: CFC_60
Max: 26.4 gn at 8.6 ms
Min: -6.4 gn at 46.3 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 4.8 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

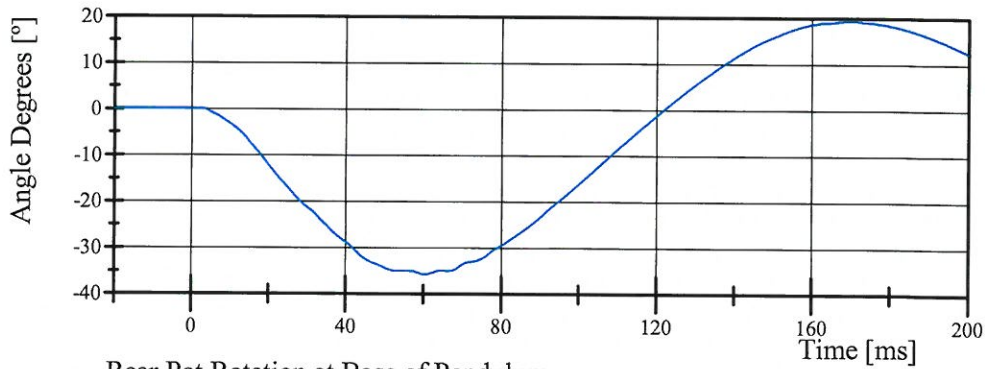
Transportation Research Center Inc.

Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

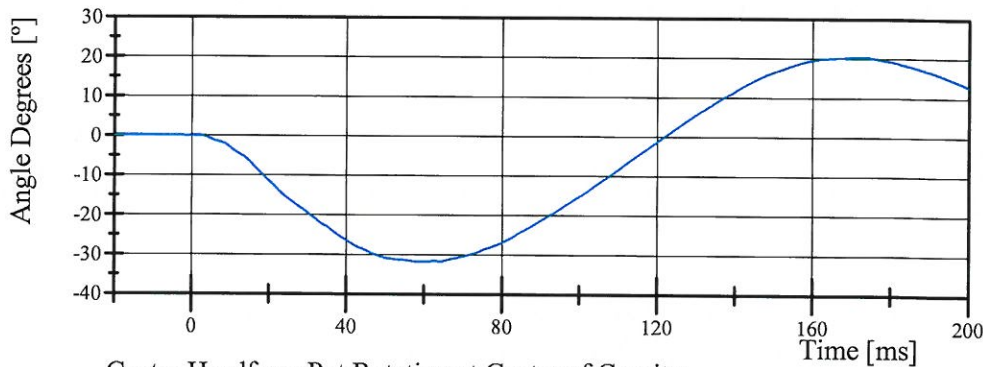
Test Date: 6/14/2012

Forward Pot Rotation at Base of Pendulum



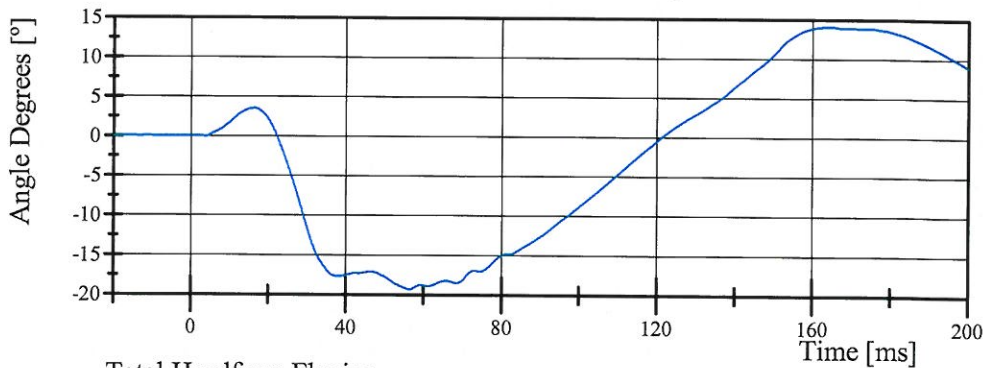
Filter Class: CFC_180
Max: 19.4 ° at 170.1 ms
Min: -35.8 ° at 60.5 ms

Rear Pot Rotation at Base of Pendulum



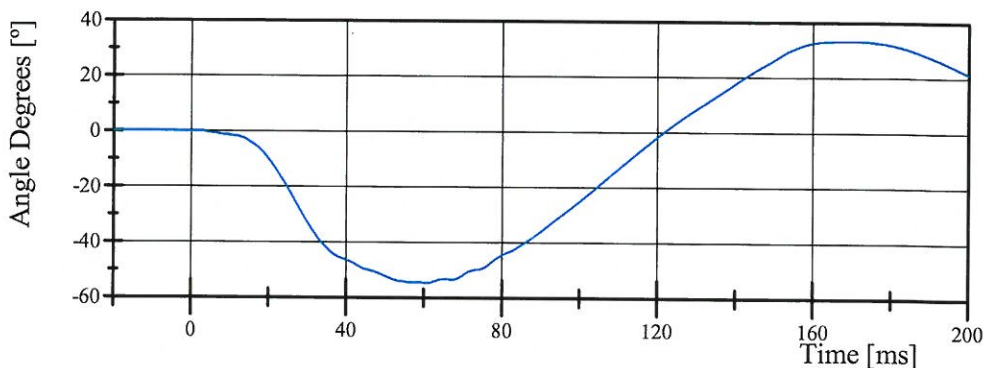
Filter Class: CFC_180
Max: 20.4 ° at 172.3 ms
Min: -31.8 ° at 60.6 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_180
Max: 14.1 ° at 164.4 ms
Min: -19.3 ° at 56.4 ms

Total Headform Flexion



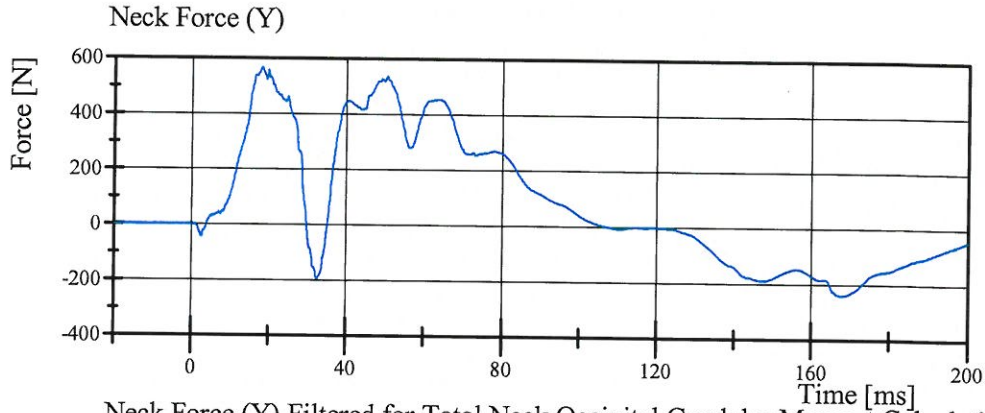
Filter Class: CFC_180
Max: 33.3 ° at 169.6 ms
Min: -54.7 ° at 60.7 ms

Transportation Research Center Inc.

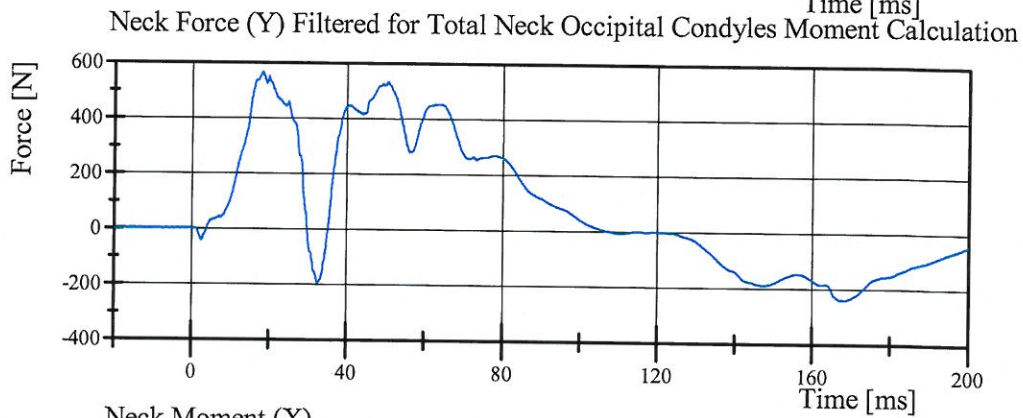
Left Lateral Neck

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

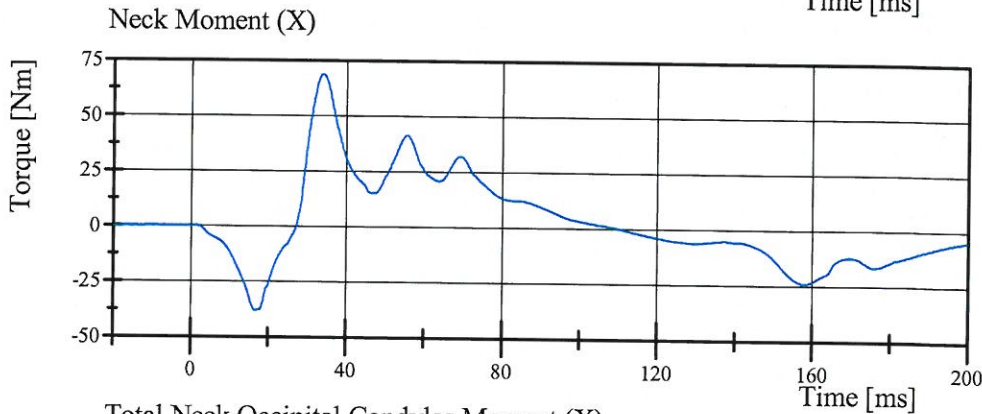
Test Date: 6/14/2012



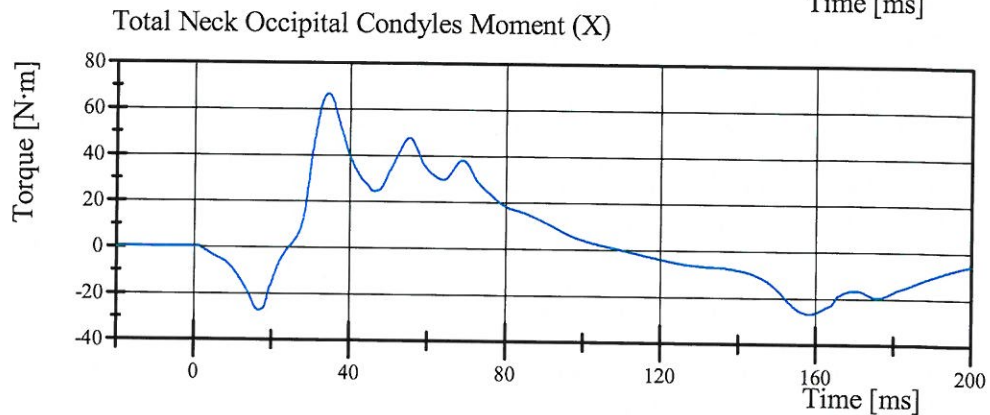
Filter Class: CFC_1000
Max: 565.5 N at 18.2 ms
Min: -240.1 N at 167.6 ms



Filter Class: CFC_600
Max: 564.9 N at 18.2 ms
Min: -239.9 N at 167.5 ms



Filter Class: CFC_600
Max: 68.8 Nm at 33.8 ms
Min: -38.1 Nm at 16.6 ms



Filter Class: Without_(Consta
Max: 66.4 N·m at 34.4 ms
Min: -27.6 N·m at 16.6 ms

Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-12

Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.34 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-2,961.1 N	Yes
Shoulder Displacement	35 - 44 mm	41.8 mm	Yes

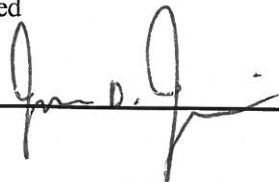
Test meets specifications.

Comments:

Technician



Approved



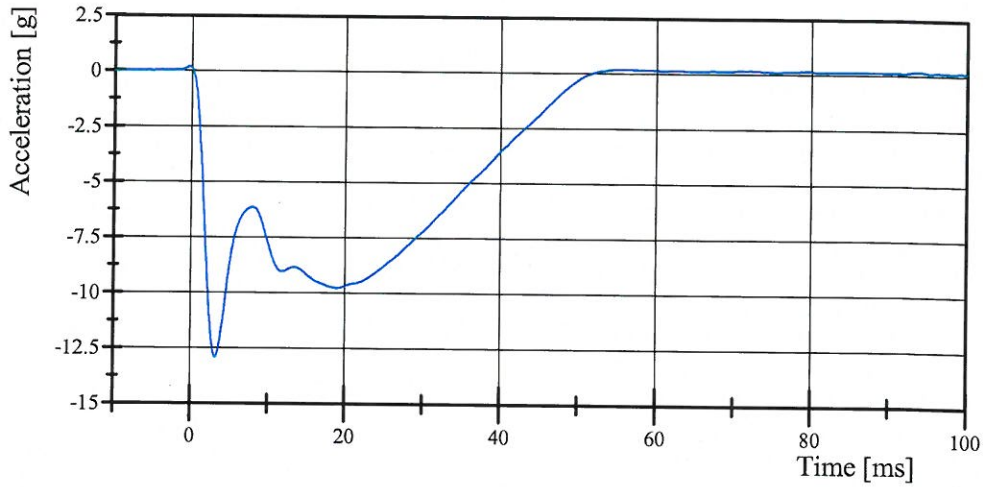
Transportation Research Center Inc.

Left Lateral Shoulder

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-12

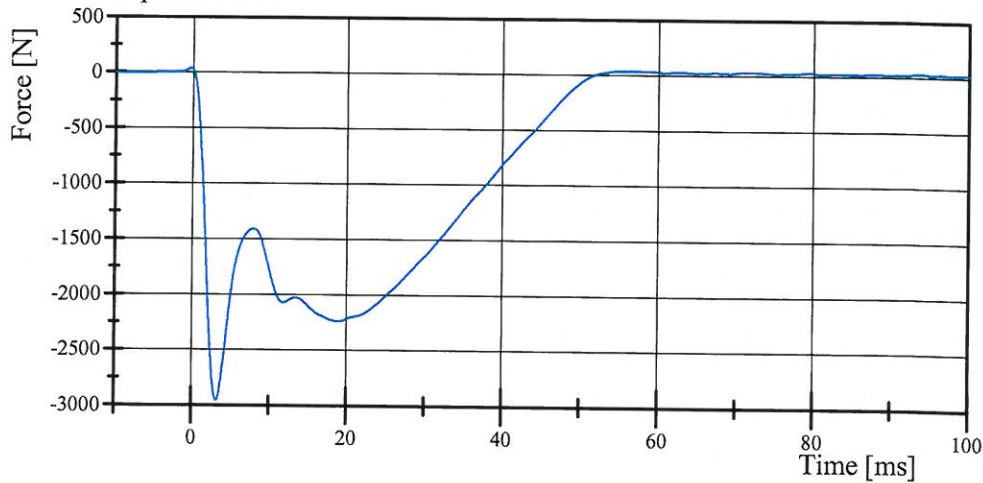
Test Date: 6/26/2012

Impactor Acceleration



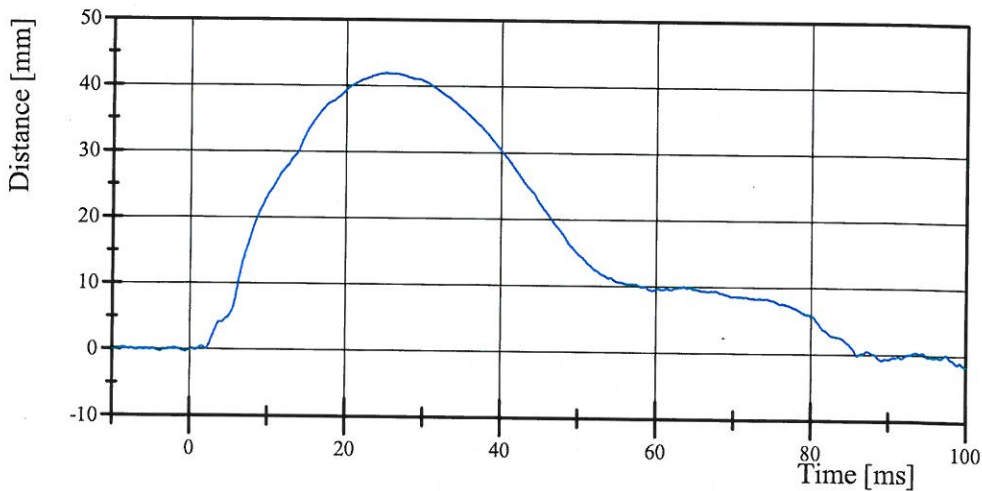
Filter Class: CFC_180
Max: 0.2 gn at 56.6 ms
Min: -12.9 gn at 3.3 ms

Impactor Force



Filter Class: CFC_180
Max: 39.6 N at 56.6 ms
Min: -2,961.1 N at 3.3 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 41.8 mm at 25.1 ms
Min: -1.6 mm at 100.0 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm
WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2
Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	6.6 - 6.8 m/s	6.77 m/s	Yes
Impactor Force	(-4,900) - (-5,800) N	-5,450.3 N	Yes
Upper Thorax Rib Displacement	35 - 47 mm	40.8 mm	Yes
Center Thorax Rib Displacement	46 - 56 mm	44.9 mm	No
Lower Thorax Rib Displacement	39 - 46 mm	39.3 mm	Yes
Upper Spine Lateral Acceleration	28 - 37 g	31.6 g	Yes
Lower Spine Lateral Acceleration	22 - 28 g	23.0 g	Yes

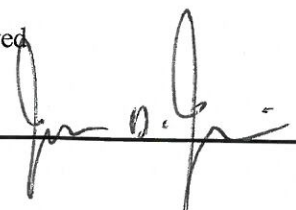
Test does not meet specifications.

Comments:

Technician



Approved

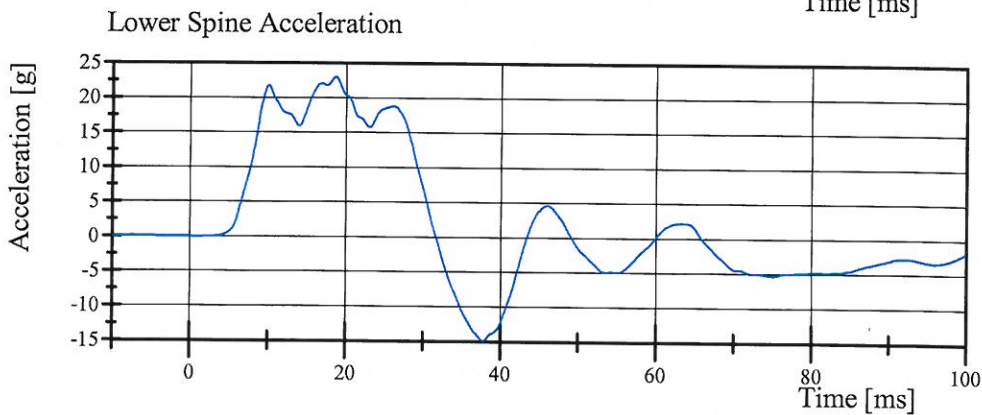
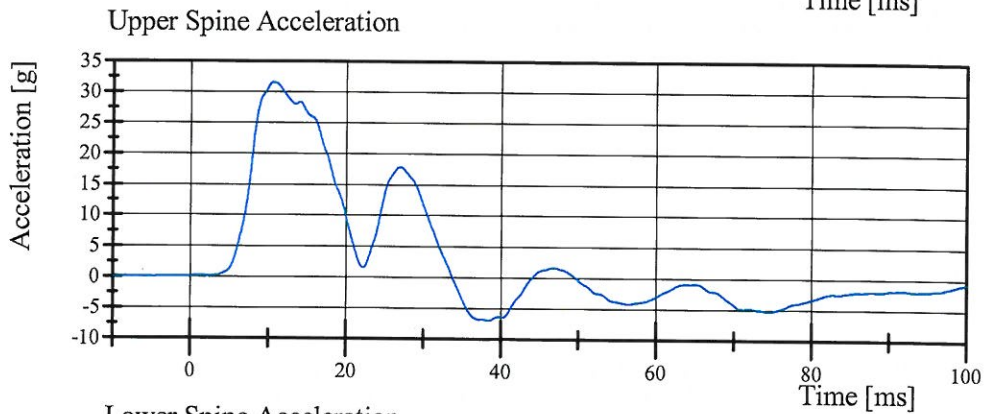
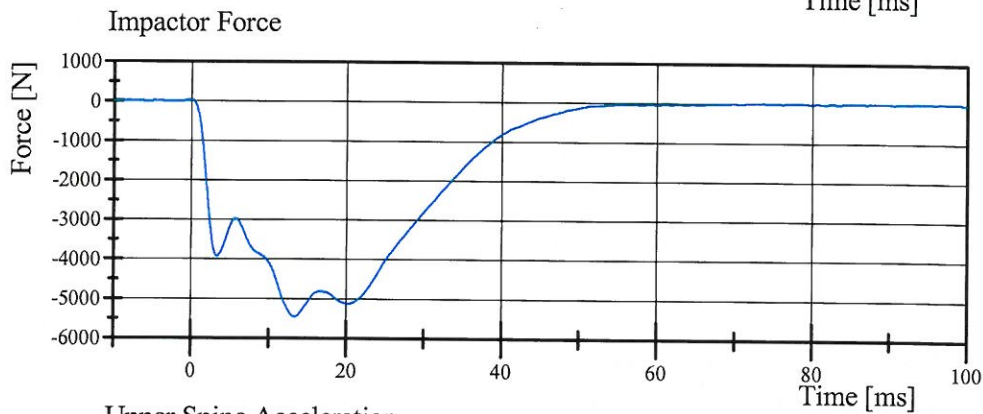
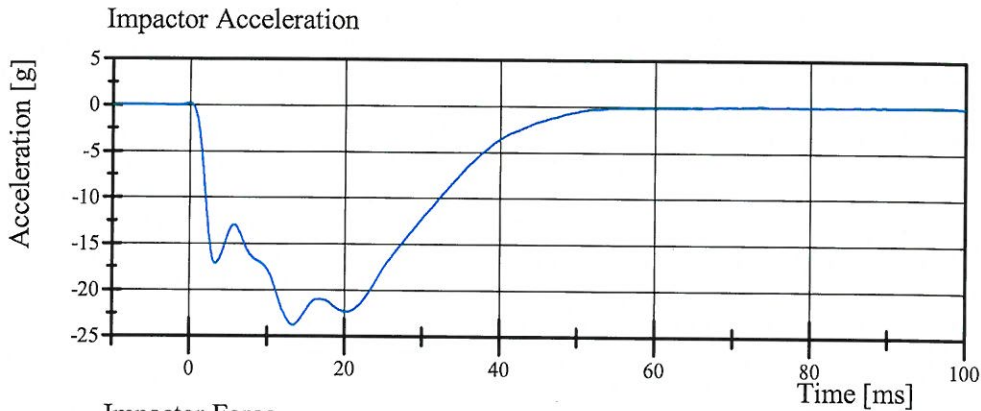


Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

Test Date: 6/26/2012



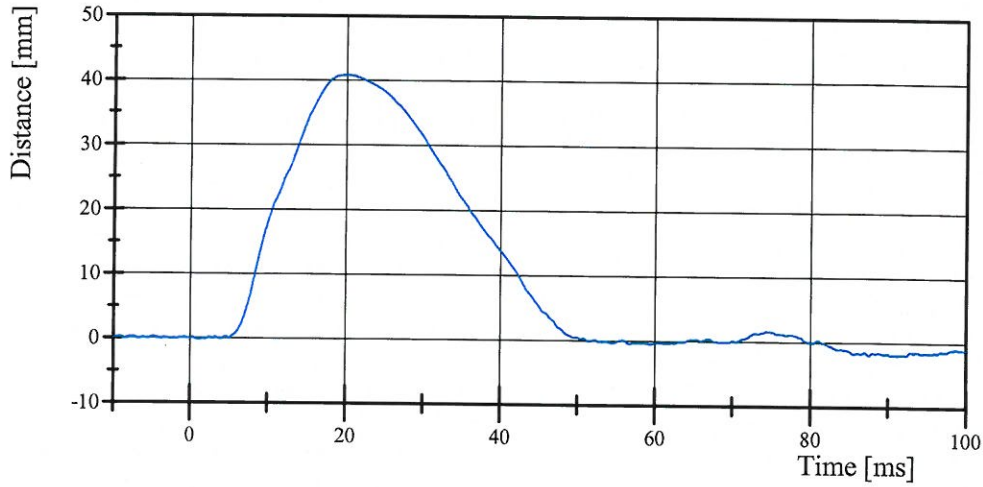
Transportation Research Center Inc.

Left Lateral Thorax with Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

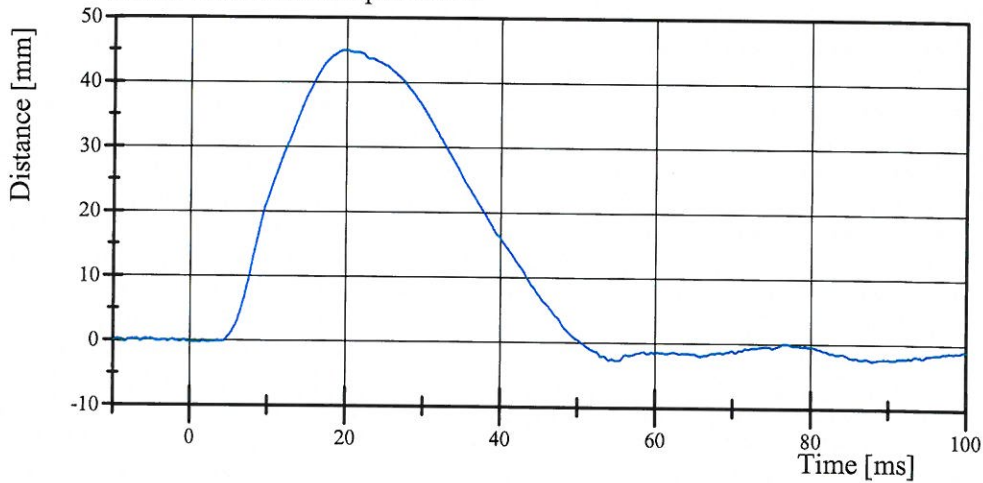
Test Date: 6/26/2012

Upper Thorax Rib Displacement



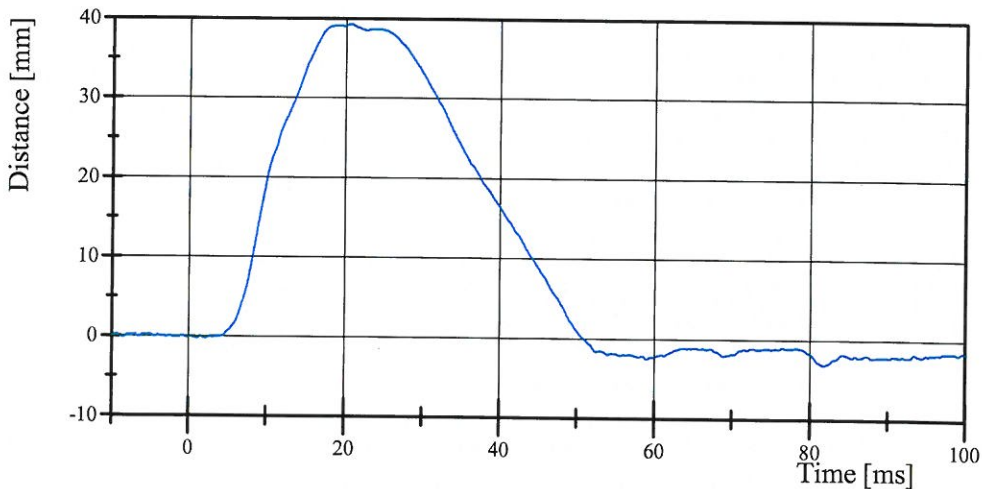
Filter Class: CFC_600
Max: 40.8 mm at 20.1 ms
Min: -2.0 mm at 91.3 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 44.9 mm at 20.0 ms
Min: -2.8 mm at 55.1 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.3 mm at 20.7 ms
Min: -3.2 mm at 81.8 ms

Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

Test Date: 6/21/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.366 m/s	Yes
Impactor Force	(-3,200) - (-3,800) N	-3,557.2 N	Yes
Upper Thorax Rib Displacement	33 - 43 mm	36.5 mm	Yes
Center Thorax Rib Displacement	35 - 43 mm	37.8 mm	Yes
Lower Thorax Rib Displacement	32 - 40 mm	39.9 mm	Yes
Upper Spine Lateral Acceleration	14 - 20 g	14.1 g	Yes
Lower Spine Lateral Acceleration	14 - 22 g	15.9 g	Yes

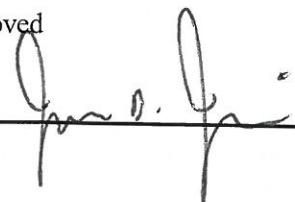
Test meets specifications.

Comments:

Technician



Approved

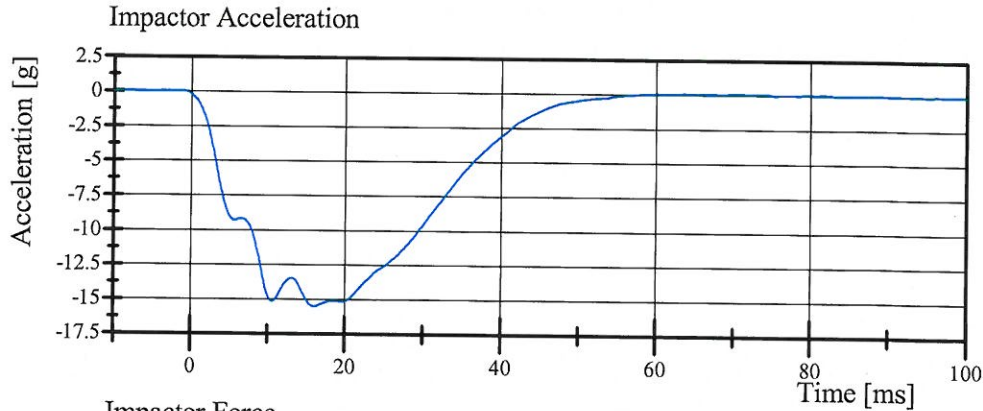


Transportation Research Center Inc.

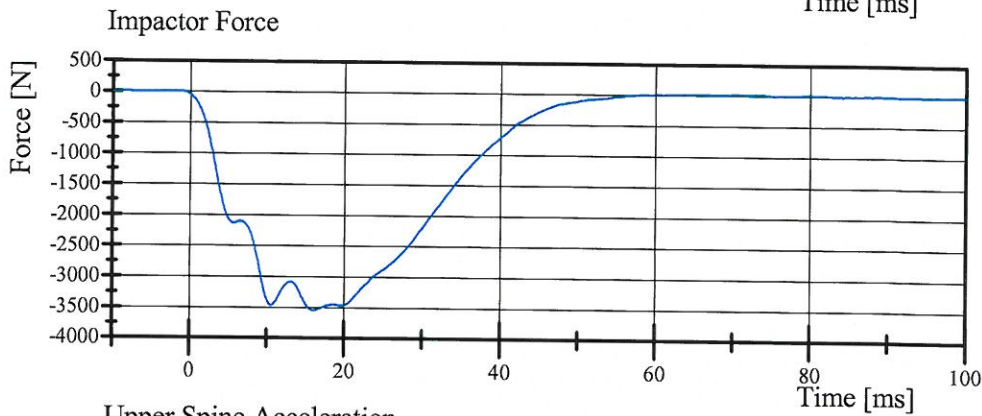
Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

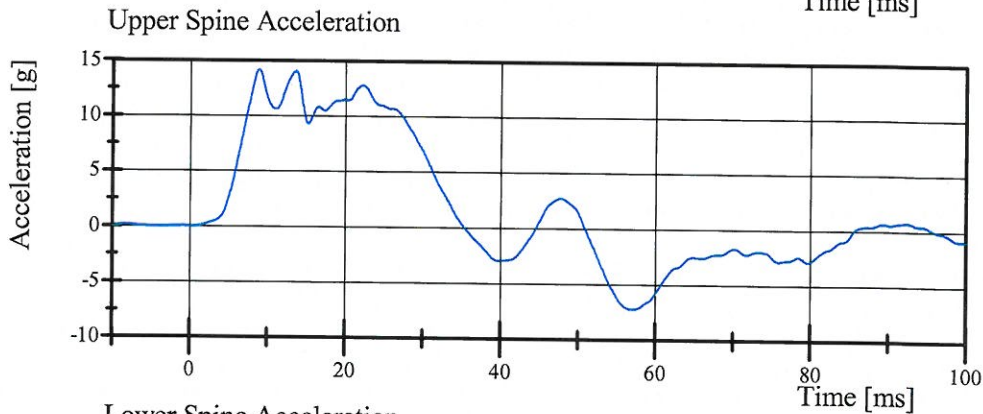
Test Date: 6/21/2012



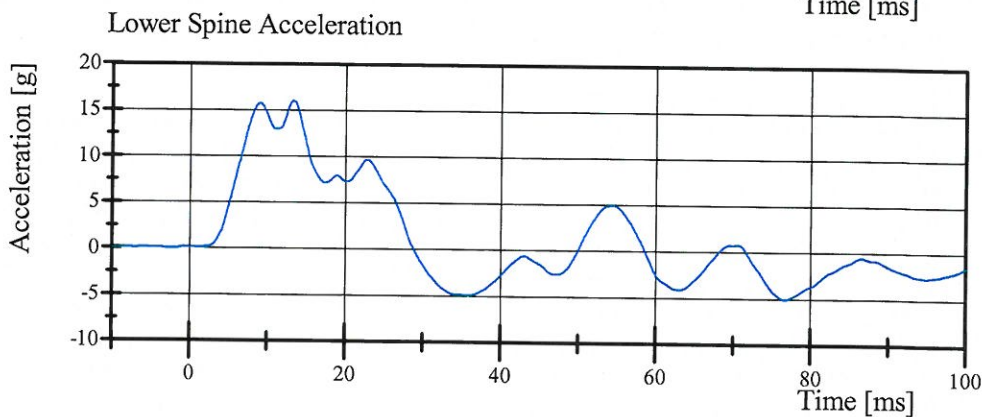
Filter Class: CFC_180
Max: 0.1 gn at 70.8 ms
Min: -15.5 gn at 16.0 ms



Filter Class: CFC_180
Max: 15.0 N at 70.8 ms
Min: -3,557.2 N at 16.0 ms



Filter Class: CFC_180
Max: 14.1 gn at 8.9 ms
Min: -7.2 gn at 57.1 ms



Filter Class: CFC_180
Max: 15.9 gn at 13.3 ms
Min: -5.1 gn at 76.7 ms

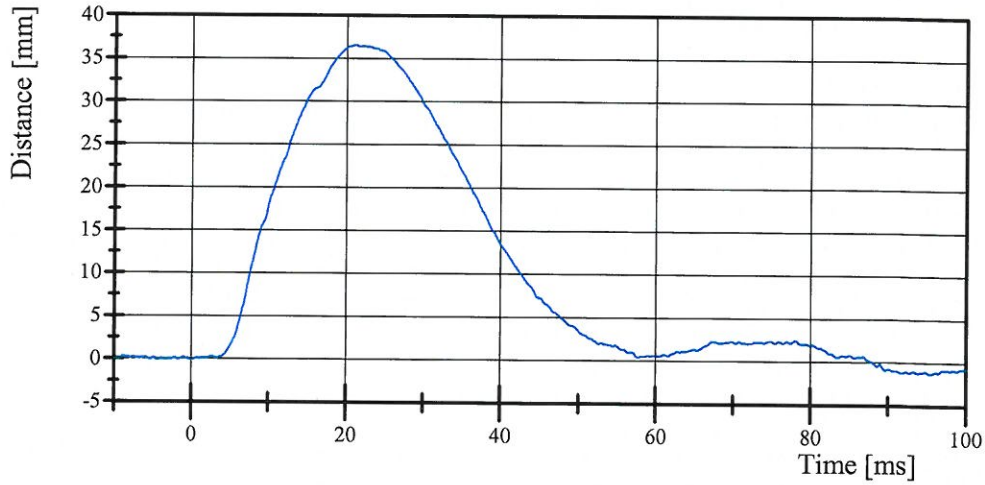
Transportation Research Center Inc.

Left Lateral Thorax without Arm

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-3

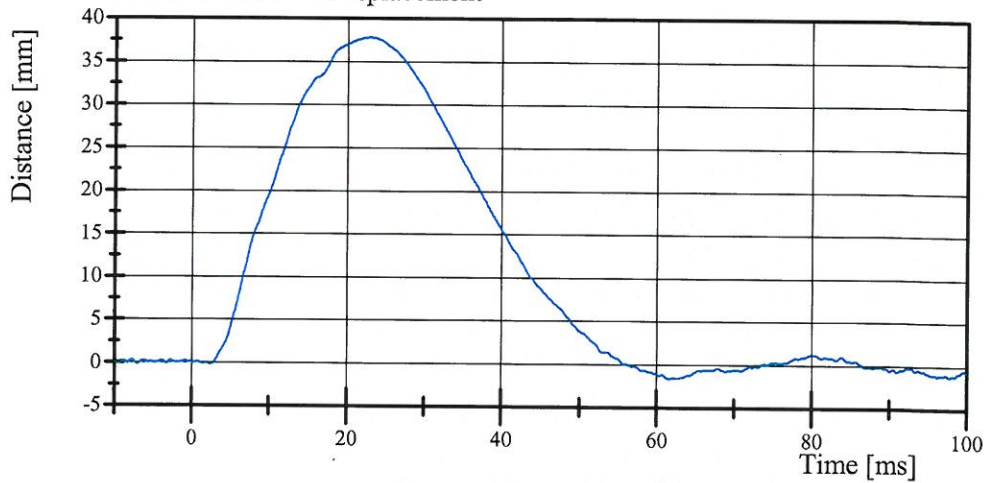
Test Date: 6/21/2012

Upper Thorax Rib Displacement



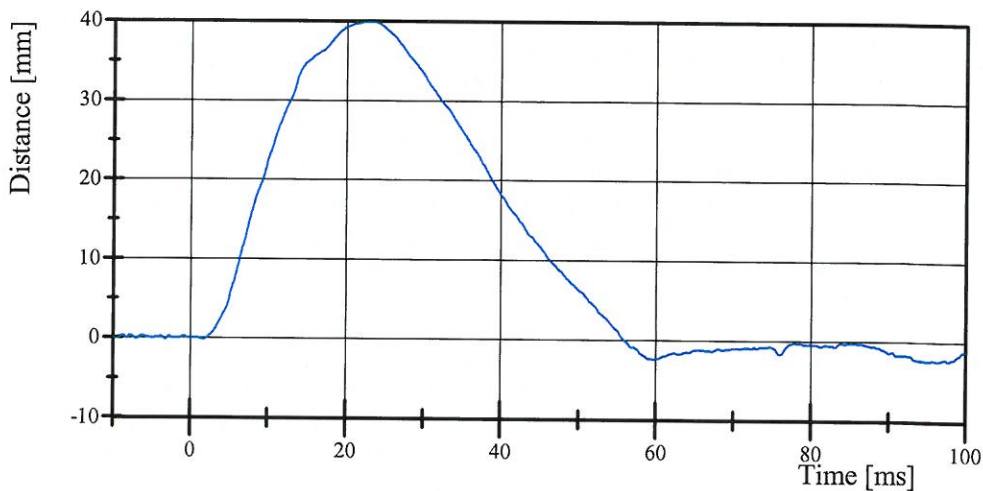
Filter Class: CFC_600
Max: 36.5 mm at 21.2 ms
Min: -1.4 mm at 95.4 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 37.8 mm at 22.9 ms
Min: -1.6 mm at 61.6 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 39.9 mm at 22.9 ms
Min: -2.5 mm at 97.8 ms

Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2


Test Date: 6/26/2012

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impactor Velocity	4.2 - 4.4 m/s	4.38 m/s	Yes
Impactor Force	(-2,700) - (-3,100) N	-3,029.1 N	Yes
Upper Abdominal Rib Displacement	33 - 40 mm	35.8 mm	Yes
Lower Abdominal Rib Displacement	30 - 36 mm	34.4 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.4 g	Yes

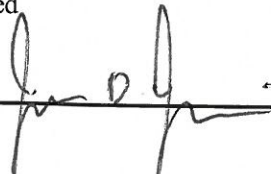
Test meets specifications.

Comments:

Technician



Approved

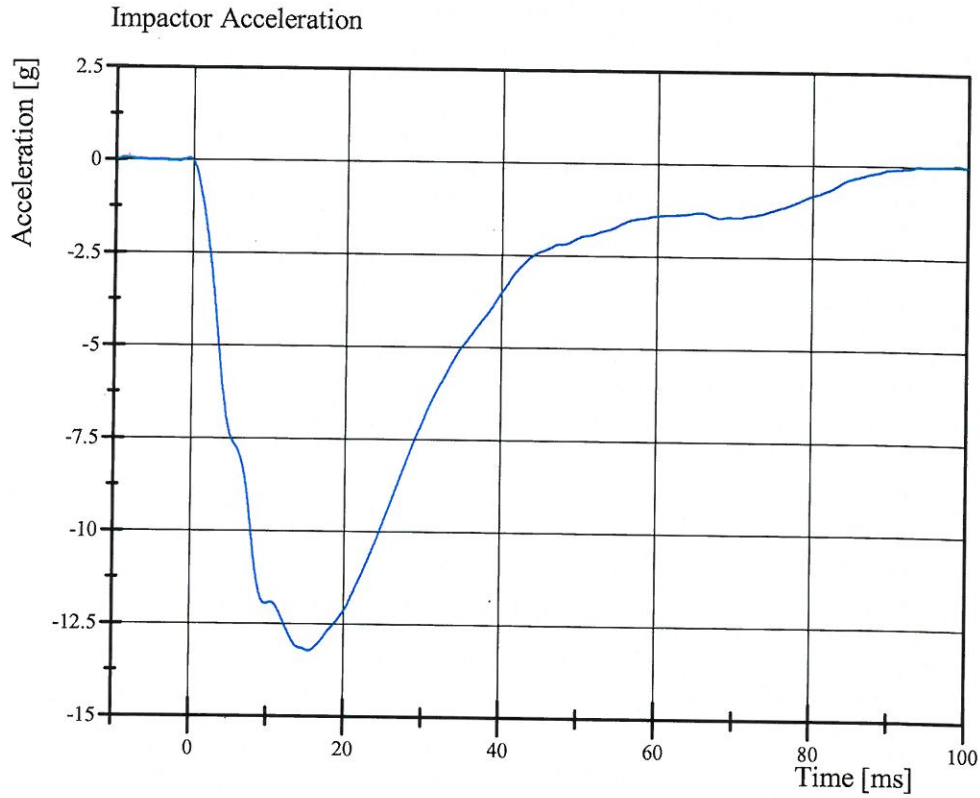


Transportation Research Center Inc.

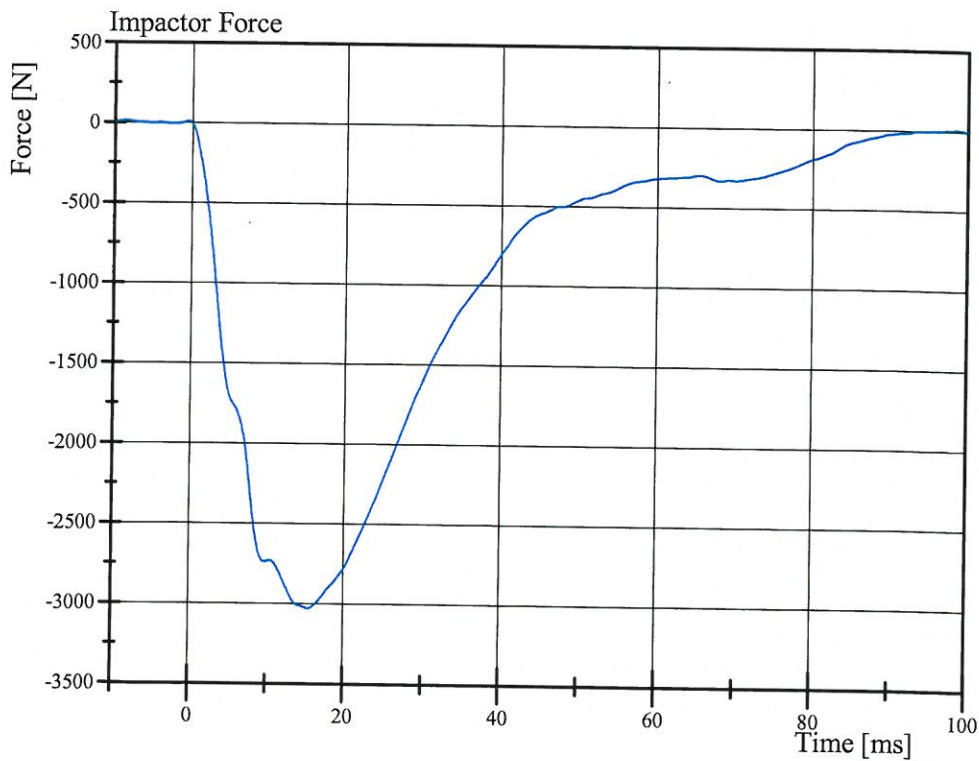
Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

Test Date: 6/26/2012



Filter Class: CFC_180
Max: 0.0 gn at -8.5 ms
Min: -13.2 gn at 15.5 ms



Filter Class: CFC_180
Max: 9.5 N at -8.5 ms
Min: -3,029.1 N at 15.5 ms

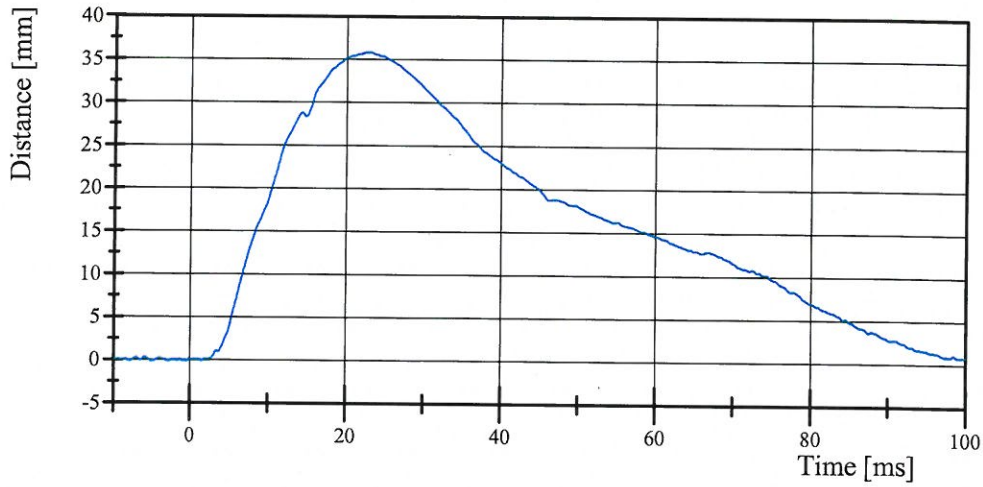
Transportation Research Center Inc.

Left Lateral Abdomen

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-2

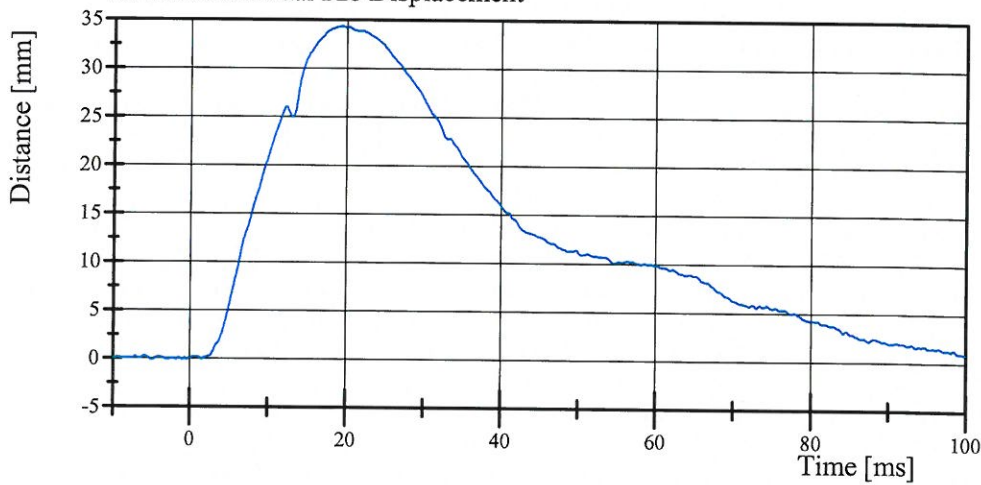
Test Date: 6/26/2012

Upper Abdominal Rib Displacement



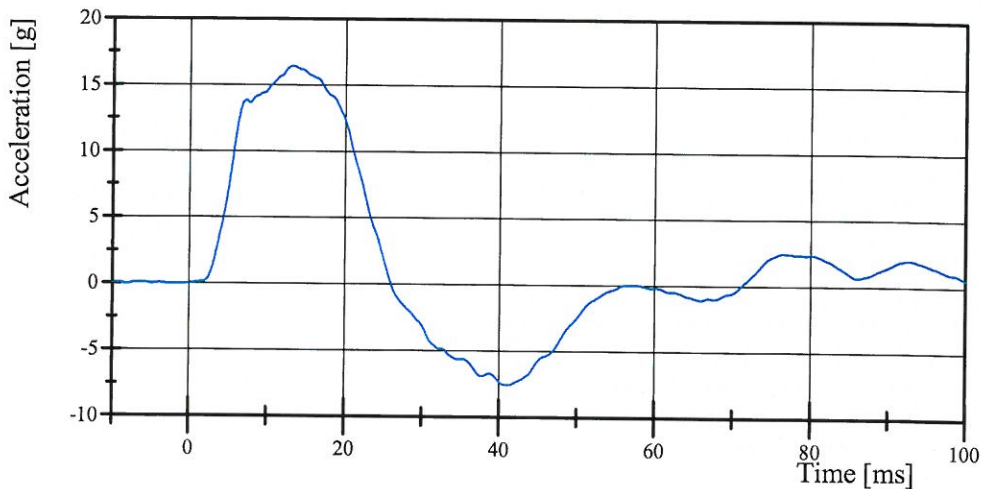
Filter Class: CFC_600
Max: 35.8 mm at 22.8 ms
Min: -0.1 mm at -0.5 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 34.4 mm at 19.4 ms
Min: -0.1 mm at -5.0 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 16.4 gn at 13.2 ms
Min: -7.6 gn at 41.1 ms

Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

Test Date: 6/25/2012

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	-7,539.7 N	Yes
Pelvis Lateral Acceleration	41 - 51 g	45.8 g	Yes
Lower Spine Lateral Acceleration	10 - 14 g	11.9 g	Yes

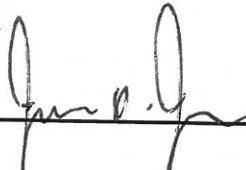
Test meets specifications.

Comments:

Technician



Approved

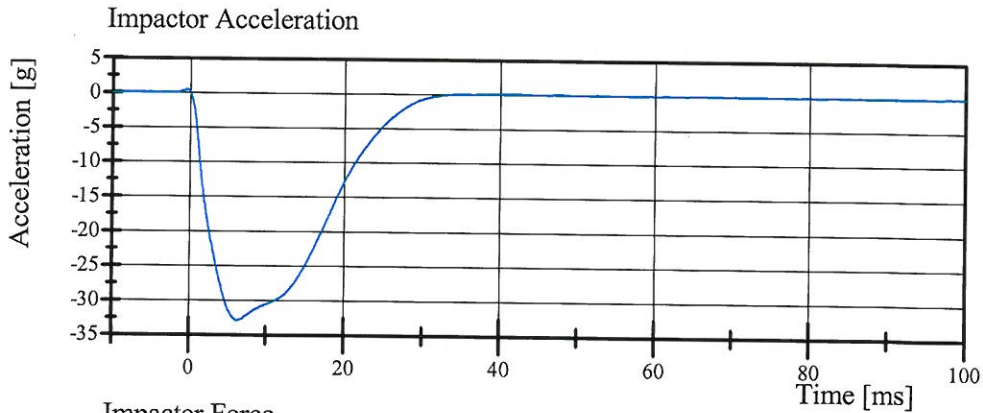


Transportation Research Center Inc.

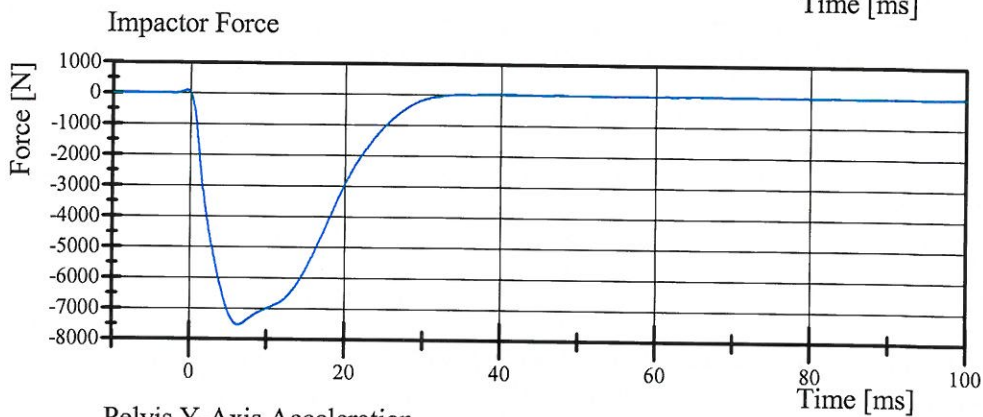
Left Lateral Pelvis

WorldSID ISO 15830-2 Serial No. 014 Certification No. 11-1

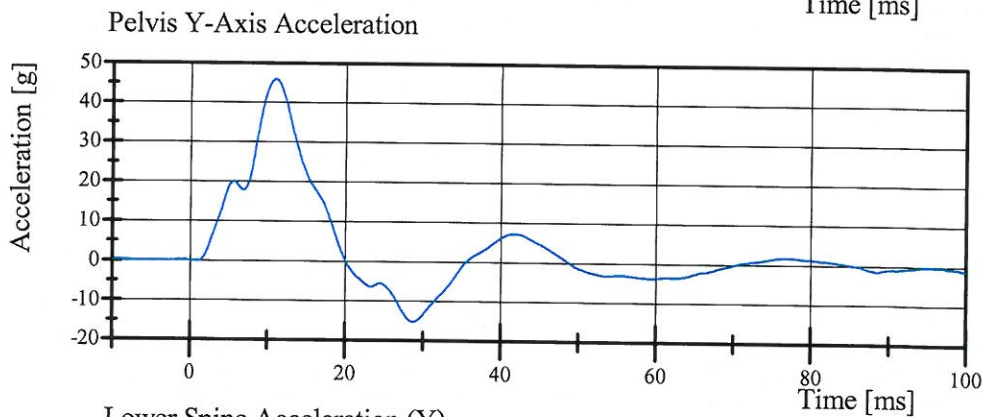
Test Date: 6/25/2012



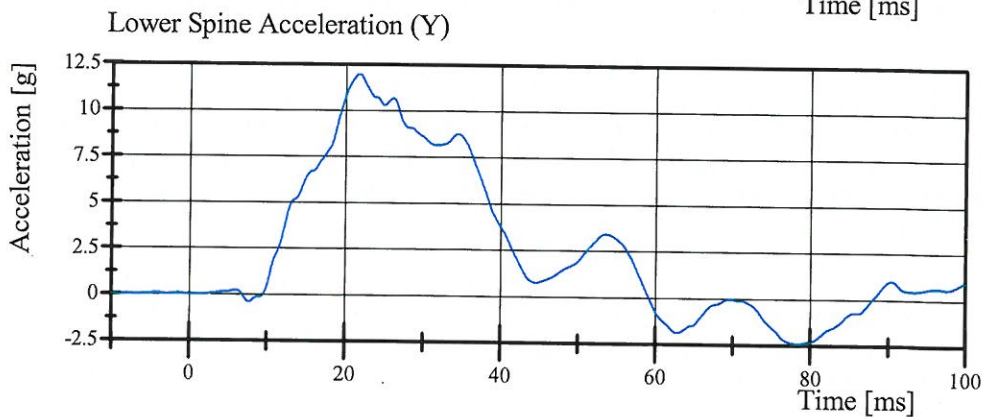
Filter Class: CFC_180
Max: 0.3 gn at -0.4 ms
Min: -32.9 gn at 6.4 ms



Filter Class: CFC_180
Max: 77.6 N at -0.4 ms
Min: -7,539.7 N at 6.4 ms



Filter Class: CFC_180
Max: 45.8 gn at 11.0 ms
Min: -15.2 gn at 28.8 ms



Filter Class: CFC_180
Max: 11.9 gn at 21.7 ms
Min: -2.4 gn at 78.4 ms

Appendix D

Miscellaneous Test Information

Sign Convention
SAE J211 MAR95

Accelerometers:

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

Potentiometers:

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

Rotation potentiometers:

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

Load cells:

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

Neck load cells:

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

Tibia load cells:

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

Sign Convention (Continued)
SAE J211 MAR95

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

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

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

Channel Report Test Number 120628

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
1	Trig D1	10ZERO000000VO0A	EVENT	1	Logic	Bipolar
2	P74804	11VEHCCG0000ACXA	Vehicle CG (X)	2000	g	Bipolar
3	P72544	11VEHCCG0000ACYA	Vehicle CG (Y)	2000	g	-Bipolar
4	P74809	11VEHCCG0000ACZA	Vehicle CG (Z)	2000	g	-Bipolar
5	P74518	11SILBRIFR00ACXA	Right Front Sill at Front Seat (X)	2000	g	-Bipolar
6	P74822	11SILBRIFR00ACYA	Right Front Sill at Front Seat (Y)	2000	g	-Bipolar
7	P74519	11SILBRIFR00ACZA	Right Front Sill at Front Seat (Z)	2000	g	-Bipolar
8	P75105	11SILBRIRE00ACXA	Right Rear Sill at Rear Seat (X)	2000	g	-Bipolar
9	P49789	11SILBRIRE00ACYA	Right Rear Sill at Rear Seat (Y)	2000	g	-Bipolar
10	P74736	11SILBRIRE00ACZA	Right Rear Sill at Rear Seat (Z)	2000	g	-Bipolar
11	P45699	11SILBLEFR00ACYA	Left Side Sill at Front Seat (Y)	2000	g	-Bipolar
12	P66701	11SILBLERE00ACYA	Left Side Sill at Rear Seat (Y)	2000	g	-Bipolar
13	P73290	11APILLO0000ACYA	Left Lower A Post (Y)	2000	g	-Bipolar
14	P73572	11APILMI0000ACYA	Left Middle A-Post (Y)	2000	g	-Bipolar
15	P74816	11BPILLO0000ACYA	Left Lower B Post (Y)	2000	g	-Bipolar
16	P74091	11BPILMI0000ACYA	Left Middle B Post (Y)	2000	g	-Bipolar
17	P74435	11SETR000000ACYA	Front Seat Track (Y)	2000	g	-Bipolar
18	P74081	112OCCRIRE00ACYA	Right Rear Occupant Comp (Y)	2000	g	Bipolar
19	P75097	11ENGNTPO000ACXA	ENGINE BLOCK AX	2000	g	Bipolar
20	P75096	11ENGNTPO000ACYA	ENGINE BLOCK AY	2000	g	-Bipolar
21	P74795	11FORA000000ACXA	Rear Floor Pan Above Axle (X)	2000	g	Bipolar
22	P73598	11FORA000000ACYA	Rear Floor Pan Above Axle (Y)	2000	g	-Bipolar
23	P74176	11FORA000000ACZA	Rear Floor Pan Above Axle (Z)	2000	g	-Bipolar
24	P73285	11DOORMIUP71ACYA	Left Front Door Upper Centerline (Y)	2000	g	Bipolar
25	P75034	11DOORMIMI71ACYA	Left Front Door Mid Centerline (Y)	2000	g	Bipolar
26	P74428	11DOORMIRE71ACYA	Left Front Door Mid Rear (Y)	2000	g	Bipolar
27	P74521	11VEHEDR0000ACXA	Vehicle at EDR (X)	2000	g	Bipolar

Channel Report Test Number 120628 Continued

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity
28	P69381	11VEHEDR0000ACYA	Vehicle at EDR (Y)	2000	g	-Bipolar
29	P74082	11VEHEDR0000ACZA	Vehicle at EDR (Z)	2000	g	-Bipolar
30	ARS-1500-ARS0323	10VEHCCG0000AVXA	VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO	1500	°/s	Bipolar
31	ARS-1500-ARS0300	10VEHCCG0000AVYA	VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO	1500	°/s	-Bipolar
32	ARS-1500-ARS2331	10VEHCCG0000AVZA	VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO	1500	°/s	-Bipolar
33	ARS-1500-ARS3810	10VEHEDR0000AVXA	VEHICLE AT EDR (X) ROLL RATE GYRO	1500	°/s	Bipolar
34	ARS-1500-ARS4783	10VEHEDR0000AVYA	VEHICLE AT EDR (Y) PITCH RATE GYRO	1500	°/s	Bipolar
35	ARS-1500-ARS4512	10VEHEDR0000AVZA	VEHICLE AT EDR (Z) YAW RATE GYRO	1500	°/s	Bipolar
36	ARS-1500-ARS4511	10DECKRR0000AVXA	Rear Floorpan Above Rr Axle (X) ROLL RATE GYRO	1500	°/s	Bipolar
37	ARS-1500-ARS3811	10DECKRR0000AVYA	Rear Floorpan Above Rr Axle (Y) PITCH RATE GYRO	1500	°/s	Bipolar
38	ARS-1500-ARS3812	10DECKRR0000AVZA	Rear Floorpan Above Rr Axle (Z) YAW RATE GYRO	1500	°/s	Bipolar
39	P72290	M0MBARCG0000ACXA	MDB CG AX	2000	g	Bipolar
40	P74455	M0MBARCG0000ACYA	MDB CG AY	2000	g	Bipolar
41	P75026	M0MBARCG0000ACZA	MDB CG AZ	2000	g	-Bipolar
42	P74446	M0FRAMRE0000ACXA	MDB REAR AX	2000	g	Bipolar
43	P74438	M0FRAMRE0000ACYA	MDB REAR AY	2000	g	Bipolar
44	Bit.00	M0MBARLE0000VO00	LEFT MDB CONTACT	1	Logic	Bipolar
45	Bit.01	M0MBARRI0000VO00	RIGHT MDB CONTACT	1	Logic	Bipolar

Command File Test Number 120628

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
1	11HEADCG00WSACXA	Head Longitudinal Ax	1000	+	no	400
2	11HEADCG00WSACYA	Head Lateral Ay	1000	+	no	400
3	11HEADCG00WSACZA	Head Vertical Az	1000	+	no	400
3A	11HEAD0000WSACRA	Head A Resultant	1000			
4	11HEAD0000WSAAXA	Head Rotational Acceleration Rx	1000	-	no	50000
5	11HEAD0000WSAAYA	Head Rotational Acceleration Ry	1000	+	no	50000
6	11HEAD0000WSAAZA	Head Rotational Acceleration Rz	1000	+	no	50000
7	11NECKUP00WSFOXA	Neck Upper Force Fx	1000	-	no	10000
8	11NECKUP00WSFOYA	Neck Upper Force Fy	1000	+	no	10000
9	11NECKUP00WSFOZA	Neck Upper Force Fz	1000	-	no	12000
10	11NECKUP00WSMOXA	Neck Upper Moment Mx	600	-	no	300
11	11NECKUP00WSMOYA	Neck Upper Moment My	600	+	no	300
12	11NECKUP00WSMOZA	Neck Upper Moment Mz	600	+	no	200
13	11NECKLO00WSFOXA	Neck Lower Force Fx	1000	+	no	10000
14	11NECKLO00WSFOYA	Neck Lower Force Fy	1000	+	no	10000
15	11NECKLO00WSFOZA	Neck Lower Force Fz	1000	-	no	12000
16	11NECKLO00WSMOXA	Neck Lower Moment Mx	600	+	no	300
17	11NECKLO00WSMOYA	Neck Lower Moment My	600	+	no	300
18	11NECKLO00WSMOZA	Neck Lower Moment Mz	600	+	no	200
19	11SHLDLE00WSACXA	Shoulder Longitudinal Ax	1000	+	no	400
20	11SHLDLE00WSACYA	Shoulder Lateral Ay	1000	+	no	400
21	11SHLDLE00WSACZA	Shoulder Vertical Az	1000	+	no	400
21A	11SHLDLE00WSACRA	Shoulder A Resultant	1000			
22	11SHLDLE00WSFOXA	Shoulder Force Fx	600	+	no	5000
23	11SHLDLE00WSFOYA	Shoulder Force Fy	600	-	no	10000

Command File Test Number 120628 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
24	11SHLDLE00WSFOZA	Shoulder Force Fz	600	-	no	5000
25	11SHRILE00WSDSYA	Shoulder Displacement Dy	600	+	no	90
26	11THSP0100WSACXA	T1 Longitudinal Ax	180	+	no	400
27	11THSP0100WSACYA	T1 Lateral Ay	180	+	no	400
28	11THSP0100WSACZA	T1 Veritcal Az	180	-	no	400
28A	11THSP0100WSACRA	T1 A Resultant	180			
29	11TRRILE01WSACXA	Thorax Rib 1 Longitudinal Ax	1000	+	no	400
30	11TRRILE01WSACYA	Thorax Rib 1 Lateral Ay	1000	+	no	400
31	11TRRILE01WSACZA	Thorax Rib 1 Vertical Az	1000	+	no	400
31A	11TRRILE01WSACRA	Thorax Rib 1 A Resultant	1000			
32	11TRRILE01WSDSYA	Thorax Rib 1 Displacement Dy	600	+	no	90
33	11TRRILE02WSACXA	Thorax Rib 2 Longitudinal Ax	1000	+	no	400
34	11TRRILE02WSACYA	Thorax Rib 2 Lateral Ay	1000	+	no	400
35	11TRRILE02WSACZA	Thorax Rib 2 Vertical Az	1000	+	no	400
35A	11TRRILE02WSACRA	Thorax Rib 2 A Resultant	1000			
36	11TRRILE02WSDSYA	Thorax Rib 2 Displacement Dy	600	+	no	90
37	11TRRILE03WSACXA	Thorax Rib 3 Longitudinal Ax	1000	+	no	400
38	11TRRILE03WSACYA	Thorax Rib 3 Lateral Ay	1000	+	no	400
39	11TRRILE03WSACZA	Thorax Rib 3 Vertical Az	1000	+	no	400
39A	11TRRILE03WSACRA	Thorax Rib 3 A Resultant	1000			
40	11TRRILE03WSDSYA	Thorax Rib 3 Displacement Dy	600	+	no	90
41	11ABRILE01WSACXA	Abdominal Rib 1 Longitudinal Ax	1000	+	no	2000
42	11ABRILE01WSACYA	Abdominal Rib 1 Lateral Ay	1000	+	no	2000
43	11ABRILE01WSACZA	Abdominal Rib 1 Vertical Az	1000	+	no	2000
43A	11ABRILE01WSACRA	Abdominal Rib 1 A Resultant	1000			
44	11ABRILE01WSDSYA	Abdominal Rib 1 Displacement Dy	600	+	no	90
45	11ABRILE02WSACXA	Abdominal Rib 2 Longitudinal Ax	1000	+	no	400

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Command File Test Number 120628 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
46	11ABRILE02WSACYA	Abdominal Rib 2 Lateral Ay	1000	+	no	400
47	11ABRILE02WSACZA	Abdominal Rib 2 Vertical Az	1000	+	no	400
47A	11ABRILE02WSACRA	Abdominal Rib 2 A Resultant	1000			
48	11ABRILE02WSDSYA	Abdominal Rib 2 Displacement Dy	600	+	no	90
49	11THSP0400WSACXA	T4 Longitudinal Ax	180	+	no	400
50	11THSP0400WSACYA	T4 Lateral Ay	180	+	no	400
51	11THSP0400WSACZA	T4 Vertical Az	180	+	no	400
51A	11THSP0400WSACRA	T4 A Resultant	180			
52	11THSP1200WSACXA	T12 Longitudinal Ax	180	+	no	400
53	11THSP1200WSACYA	T12 Lateral Ay	180	+	no	400
54	11THSP1200WSACZA	T12 Vertical Az	180	+	no	400
54A	11THSP1200WSACRA	T12 A Resultant	180			
55	11PELV0000WSACXA	Pelvis Longitudinal Ax	1000	+	no	400
56	11PELV0000WSACYA	Pelvis Lateral Ay	1000	+	no	400
57	11PELV0000WSACZA	Pelvis Vertical Az	1000	+	no	400
57A	11PELV0000WSACRA	Pelvis A Resultant	1000			
58	11PUBC0000WSFOYA	Pubic Force Fy	600	-	no	12000
59	11LUSP0000WSFOXA	Lumbar Force Fx	600	+	no	10000
60	11LUSP0000WSFOYA	Lumbar Force Fy	600	+	no	10000
61	11LUSP0000WSFOZA	Lumbar Force Fz	600	-	no	12000
62	11LUSP0000WSMOXA	Lumbar Moment Mx	600	+	no	300
63	11LUSP0000WSMOYA	Lumbar Moment My	600	+	no	300
64	11LUSP0000WSMOZA	Lumbar Moment Mz	600	+	no	200
65	11SACRRI00WSMOXA	Sacro-Iliac Right Moment Mx	600	+	no	1000
66	11SACRRI00WSMOYA	Sacro-Iliac Right Moment My	600	+	no	400
67	11SACRRI00WSMOZA	Sacro-Iliac Right Moment Mz	600	+	no	400
68	11SACRRI00WSFOXA	Sacro-Iliac Right Force Fx	600	+	no	6000
69	11SACRRI00WSFOYA	Sacro-Iliac Right Force Fy	600	-	no	12000

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Command File Test Number 120628 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
70	11SACRRI00WSFOZA	Sacro-Iliac Right Force Fz	600	-	no	6000
71	11SACRLE00WSMOXA	Sacro-Iliac Left Moment Mx	600	+	no	1000
72	11SACRLE00WSMOYA	Sacro-Iliac Left Moment My	600	+	no	400
73	11SACRLE00WSMOZA	Sacro-Iliac Left Moment Mz	600	+	no	400
74	11SACRLE00WSFOXA	Sacro-Iliac Left Force Fx	600	+	no	6000
75	11SACRLE00WSFOYA	Sacro-Iliac Left Force Fy	600	-	no	12000
76	11SACRLE00WSFOZA	Sacro-Iliac Left Force Fz	600	+	no	6000
77	11FEMRLEMIWSFOXA	Left Mid Femur Force Fx	600	+	no	15000
78	11FEMRLEMIWSFOYA	Left Mid Femur Force Fy	600	+	no	15000
79	11FEMRLEMIWSFOZA	Left Mid Femur Force Fz	600	-	no	15000
80	11FEMRLEMIWSMOXA	Left Mid Femur Moment Mx	600	+	no	350
81	11FEMRLEMIWSMOYA	Left Mid Femur Moment My	600	+	no	350
82	11FEMRLEMIWSMOZA	Left Mid Femur Moment Mz	600	+	no	300
83	11FEACLE00WSFOXA	Left Femoral Neck Force Fx	600	-	no	10000
84	11FEACLE00WSFOYA	Left Femoral Neck Force Fy	600	-	no	25000
85	11FEACLE00WSFOZA	Left Femoral Neck Force Fz	600	-	no	10000
86	11FEACRI00WSFOXA	Right Femoral Neck Force Fx	600	-	no	10000
87	11FEACRI00WSFOYA	Right Femoral Neck Force Fy	600	-	no	25000
88	11FEACRI00WSFOZA	Right Femoral Neck Force Fz	600	-	no	10000
89	11KNEELEOUWSFOYA	Left Knee Outboard Force Fy	600	+	no	20000
90	11KNEELEINWSFOYA	Left Knee Inboard Force Fy	600	+	no	20000
91	11VEHCCG0000ACXA	Vehicle CG (X)	60	+	no	2000
92	11VEHCCG0000ACYA	Vehicle CG (Y)	60	+	no	2000
93	11VEHCCG0000ACZA	Vehicle CG (Z)	60	+	no	2000
93A	11VEHCCG0000ACRA	Vehicle CG Resultant	60			
94	11SILBRIFR00ACXA	Right Front Sill at Front Seat (X)	60	+	no	2000
95	11SILBRIFR00ACYA	Right Front Sill at Front Seat (Y)	60	+	no	2000
96	11SILBRIFR00ACZA	Right Front Sill at Front Seat (Z)	60	+	no	2000

Command File Test Number 120628 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
96A	11SILBRIFR00ACRA	Right Front Sill at Front Seat Resultant	60			
97	11SILBRIRE00ACXA	Right Rear Sill at Rear Seat (X)	60	+	no	2000
98	11SILBRIRE00ACYA	Right Rear Sill at Rear Seat (Y)	60	+	no	2000
99	11SILBRIRE00ACZA	Right Rear Sill at Rear Seat (Z)	60	+	no	2000
99A	11SILBRIRE00ACRA	Right Rear Sill at Rear Seat Resultant	60			
100	11SILBLEFR00ACYA	Left Side Sill at Front Seat (Y)	60	+	no	2000
101	11SILBLERE00ACYA	Left Side Sill at Rear Seat (Y)	60	+	no	2000
102	11APILLO0000ACYA	Left Lower A Post (Y)	60	+	no	2000
103	11APILMI0000ACYA	Left Middle A-Post (Y)	60	+	no	2000
104	11BPILLO0000ACYA	Left Lower B Post (Y)	60	+	no	2000
105	11BPILMI0000ACYA	Left Middle B Post (Y)	60	+	no	2000
106	11SETR000000ACYA	Front Seat Track (Y)	60	+	no	2000
107	11VEHCRIRE00ACYA	RIGHT REAR OCCUPANT COMPARTMENT AY	60	+	no	2000
108	11ENGNTTP0000ACXA	ENGINE BLOCK AX	60	+	no	2000
109	11ENGNTTP0000ACYA	ENGINE BLOCK AY	60	+	no	2000
110	11FORA000000ACXA	Rear Floor Pan Above Axle (X)	60	+	no	2000
111	11FORA000000ACYA	Rear Floor Pan Above Axle (Y)	60	+	no	2000
112	11FORA000000ACZA	Rear Floor Pan Above Axle (Z)	60	+	no	2000
112A	11FORA000000ACRA	Rear Floor Pan Above Axle Resultant	60			
113	11VEHCEDR000ACXA	Vehicle at EDR (X)	60	+	no	2000
114	11VEHCEDR000ACYA	Vehicle at EDR (Y)	60	+	no	2000
115	11VEHCEDR000ACZA	Vehicle at EDR (Z)	60	+	no	2000
115A	11VEHCEDR000ACRA	Vehicle at EDR Resultant	60			
116	10VEHCCG0000AVXA	VEHICLE CENTER OF GRAVITY (X) ROLL RATE GYRO	60	+	no	1500
117	10VEHCCG0000AVYA	VEHICLE CENTER OF GRAVITY (Y) PITCH RATE GYRO	60	+	no	1500
118	10VEHCCG0000AVZA	VEHICLE CENTER OF GRAVITY (Z) YAW RATE GYRO	60	-	no	1500
119	10VEHCEDR000AVXA	VEHICLE AT EDR (X) ROLL RATE GYRO	60	+	no	1500
120	10VEHCEDR000AVYA	VEHICLE AT EDR (Y) PITCH RATE GYRO	60	+	no	1500

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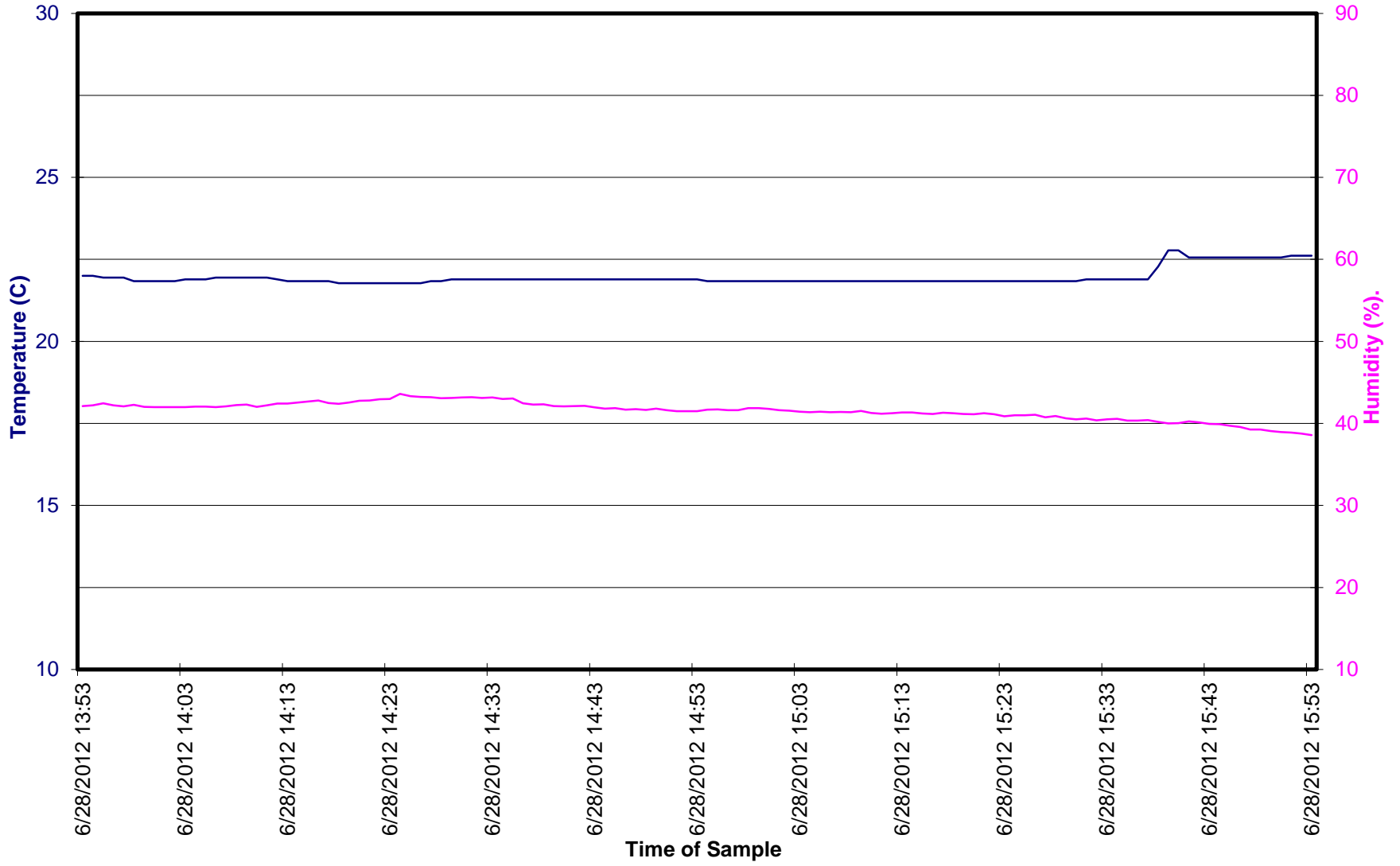
Command File Test Number 120628 Continued

Channel	ISO mnemonic	Channel Title	Filter	Flip	Zero	Full Scale
121	10VEHCEDR000AVZA	VEHICLE AT EDR (Z) YAW RATE GYRO	60	+	no	1500
122	10FORARD0000AVXA	REAR DECK (X) ROLL RATE GYRO	60	+	no	1500
123	10FORARD0000AVYA	REAR DECK (Y) PITCH RATE GYRO	60	+	no	1500
124	10FORARD0000AVZA	REAR DECK (Z) YAW RATE GYRO	60	+	no	1500
125	11DOORMIMI71ACYA	Left Front Door Mid Centerline (Y)	60	+	no	2000
126	11DOORMIRE71ACYA	Left Front Door Mid Rear (Y)	60	+	no	2000
127	11DOORMIUP71ACYA	Left Front Door Upper Centerline (Y)	60	+	no	2000
128	M0MBARCG0000ACXA	MDB CG AX	60	+	no	2000
129	M0MBARCG0000ACYA	MDB CG AY	60	+	no	2000
130	M0MBARCG0000ACZA	MDB CG AZ	60	+	no	2000
130A	M0MBARCG0000ACRA	MDB CG A Resultant	60			
131	M0FRAMRE0000ACXA	MDB REAR AX	60	+	no	2000
132	M0FRAMRE0000ACYA	MDB REAR AY	60	+	no	2000
133	M0MBARLE0000VO00	LEFT MDB CONTACT	0	+	no	1
134	M0MBARRI0000VO00	RIGHT MDB CONTACT	0	+	no	1

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Moving Deformable Barrier Into Left Side of 2010 Ford F-150 XL 120628; Test Time 15:53



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