

**Vehicle Research and Test Center
2006 Ford Taurus into Left Front of a
2006 Ford Taurus – No Frame Rail Overlap - Oblique 15°
TRC Inc. Test Number: 091106**

**Prepared By:
Transportation Research Center Inc.
10820 State Route 347
East Liberty, OH 43319**

**Final Report
November 2009 – January 2010**

**Prepared For:
Vehicle Research and Test Center
P. O. Box 37
East Liberty, OH 43319**

Notice

Transportation Research Center Inc. does not endorse or certify products of manufacturers. The manufacturer's name appears solely to identify the test article. Transportation Research Center Inc. assumes no liability for the report or use thereof. It is responsible for the facts and the accuracy of the data presented herein. This report does not constitute a standard, specification, or regulation.

This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United State Government does not endorse products or manufacturers.

TRC TEST NUMBER: 091106

Report Approved by:



Mike Tonneman
Project Manager
Transportation Research Center Inc.

Date: 6-3-10

Final Report Accepted by:

Aloke Prasad
Project Engineer
Vehicle Research & Test Center

Date: _____

Table of Contents

<u>Section</u>		<u>Page No.</u>
1	Purpose and Test Procedure	1
2	Test Summary	2
3	Vehicle Information Summary	6
4	Occupant, Vehicle, and Camera Measurement Summary	22
<u>Data Sheet No.</u>		
1	Target Vehicle General Test and Vehicle Parameter Data	7
2	Target Vehicle Seat, Seat Belt, Steering Wheel Adjustment and Fuel Systems Data	10
3	Bullet Vehicle General Test and Vehicle Parameter Data	12
4	Bullet Vehicle Seat, Seat Belt, Steering Wheel Adjustment and Fuel Systems Data	15
5	Vehicles' Accelerometer Placement and Data	17
6	General Test Data	19
7	Target Vehicle Post-Impact Dummy / Vehicle Data	20
8	Bullet Vehicle Post-Impact Dummy / Vehicle Data	21
9	Target Vehicle Dummy Clearance Dimensions	23
10	Target Vehicle Seat Belt Positioning Data	25
11	Bullet Vehicle Dummy Clearance Dimensions	26
12	Bullet Vehicle Seat Belt Positioning Data	28
13	Target Vehicle Profile Measurements	29
14	Target Vehicle Crush	31
15	Target Vehicle Intrusion Measurements	36
16	Bullet Vehicle Crush	43
17	Bullet Vehicle Intrusion Measurements	45
18	Camera Locations and Data	51
19	Target Dummy / Vehicle Temperature Stabilization	53
20	Bullet Dummy / Vehicle Temperature Stabilization	54
<u>Appendix</u>		
A	Photographs	A-1
B	Data Plots	B-1
C	Dummy Configuration and Performance Verification Data	C-1
D	Test Equipment and Instrumentation Calibration Information	D-1
E	Dummy FARO Measurements	E-1

SECTION 1

PURPOSE AND TEST PROCEDURE

PURPOSE

This 96.8 km/h (60.2 mph), no frame rail overlap, 15° oblique, vehicle-to-vehicle impact test was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.).

The test mode was defined with the bullet vehicle moving at 96.8 km/h to impact the left front corner of the target vehicle, with no frame rail overlap, at an impact angle of 15 degrees. The purpose of this test was to evaluate the aggressiveness of the bullet vehicle, a 2006 Ford Taurus 4-door sedan, and the vehicle and occupant response of the target vehicle, a 2006 Ford Taurus 4-door sedan, in this vehicle-to-vehicle angled impact mode.

TEST PROCEDURE

This test was conducted in accordance with VRTC instructions for a no frame rail overlap 15° oblique, vehicle-to-vehicle test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection" (December 18, 2001).

SECTION 2

TEST SUMMARY

A model year 2006 Ford Taurus 4-door sedan (target vehicle) was impacted on the left front corner by a 2006 Ford Taurus 4-door sedan (bullet vehicle) which was moving at a velocity of 96.8 km/h. The target vehicle was stationary and positioned at an angle of 15° to the line of forward motion so that there was no frame rail overlap. The weight of the target vehicle as tested was 1730.8 kg and the test weight of the bullet vehicle was 1735.6 kg. The 50% Overlap, vehicle-to-vehicle impact test was conducted by TRC Inc. on November 6, 2009.

One (1) real-time motion picture camera and eighteen (18) high-speed digital motion picture cameras were used to document the impact event. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information are documented in this report. Pre- and post-test photographs of the test vehicles and anthropomorphic test devices (Dummies) are included in Appendix A.

The target test vehicle had one (1) restrained 50th percentile adult male THOR NT Dummy placed in the driver designated seating position. The THOR NT driver was positioned according to the instructions specified in the Laboratory Test Procedure for FMVSS 208, "Occupant Crash Protection", TP208-13, July 27, 2005. The driver dummy was instrumented with 107 data channels. The dummy channels were composed of accelerometers, load cells, rotational displacement potentiometers, and displacement transducers. The dummy transducers and locations are detailed in Appendix D.

The bullet test vehicle had one restrained Part 572E Hybrid III 50th percentile adult male ATD and two Part 572O Hybrid III 5th percentile adult female dummies. In addition the two dummies in the front outboard seating positions were equipped with THOR lower legs. The dummies were placed in the driver, right front, and left rear passenger seating positions, respectively. Dummy based seating methods were used to determine the placement for the driver 50th percentile male dummy. The Hybrid III 5th percentile right front seat occupant was positioned according to the placement procedures specified in Appendix F of Laboratory

Procedure TP208-13, July 27, 2005. The Hybrid III 5th percentile left rear seat occupant was positioned according to instructions specified in the Laboratory Test Procedure for FMVSS 214, “Side Impact Protection”, TP214D-08, December 15, 2006. The driver and passenger dummies were instrumented with sixty (60) data channels. The rear passenger dummy was instrumented with twenty-six (26) data channels. The dummy channels were composed of accelerometers, load cells, rotational displacement potentiometers, and displacement transducers. The dummy transducers and locations are detailed in Appendix D.

The test vehicles were instrumented with eleven (11) structural accelerometers, shoulder and lap seat belt load cells, and four (4) airbag inductive pick-up transducers. All data channels were recorded with a fully self-contained onboard Kayser Threde data acquisition system. The data channels were digitally sampled and recorded at 12,500 samples per second and processed per Vehicle Research and Test Center (VRTC) specified procedures. The target vehicle sustained 322 mm of static crush during the impact. The bullet vehicle sustained 613 mm of static crush during the impact. General test and vehicle parameters are detailed in the data sheets in this report.

The vehicle information summary is presented in Section 3. The occupant, camera, and vehicle measurements are presented in Section 4. Appendix A contains the still photographic prints. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy verification data. Appendix D contains miscellaneous test information. Appendix E contains Dummy FARO measurements.

VEHICLE DUMMY INJURY CRITERIA SUMMARY

		Units	Target Vehicle		Bullet Vehicle		
			Driver		Driver	Passenger	LR Pass
Maximum Head Acceleration ¹	X	g	-105.6		-53.8	-40.9	59.4
	Y	g	166.1		22.1	20.7	-9.4
	Z	g	54.2		13.4	34.4	44.7
	R	g	170.2		58.6	45.1	72.4
Maximum Chest Acceleration ¹	X	g			-41.6	-23.6	-28.1
	Y	g			16.1	11.4	17.0
	Z	g			-13.4	-12.7	11.2
	R	g			45.9	25.0	30.8
Head Injury Criteria ²	HIC ₃₆	g	324		314	249	375
	T1	ms	127.7		87.8	96.2	104.4
	T2	ms	141.4		115.8	132.2	140.4
	HIC ₁₅	g	324		257	160	236
	T1	ms	127.7		96.9	111.8	108.6
	T2	ms	141.4		111.9	126.9	123.7
Chest Maximum Resultant Acceleration ³		g			43.9	24.2	30.1
	T1	ms			102.2	82.0	115.9
	T2	ms			105.2	85.0	118.9
Chest Deflection		mm			-8.5	-17.6	-17.9
Upper Neck Injury Calculations (NIJ) ²	NTF				0.19	0.26	0.55
	NTE				0.20	0.29	0.38
	NCF				0.01	0.50	0.47
	NCE				0.09	0.00	0.90
Upper Neck Axial Force	Tension	N	912.2		967.0	539.8	1534.8
	Compression	N	-530.3		-18.9	-1016.6	-1754.0
Upper Tibia Index (SAE)	Left		0.28		0.47	0.30	
	Right		0.42		1.01	0.21	
Lower Tibia Index (SAE)	Left		0.34		0.52	0.32	
	Right		0.70		1.07	0.22	
Maximum Femur Force	Left	N	-1046.4		-415.1	-1460.5	-776.4
	Right	N	-3976.3		-3543.8	-59.7	-243.7

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

³ Defined as equal to or exceeding 0.003 sec. duration.

Test Notes:

The bullet vehicle front passenger's right knee X-Axis displacement data channel, 13KNSLRI00HFDSXA, recorded questionable data throughout the event.

The bullet vehicle left rear passenger's upper neck Z-Axis moment data channel, 14NECKUP00HFMOZA, exceeded full scale at 288.6 milliseconds and recorded questionable data thereafter.

The bullet vehicle left rear passenger's right knee X-Axis displacement data channel, 14KNSLRI00HFDSXA, recorded questionable data after approximately 100 milliseconds.

The bullet vehicle driver's lap belt force data channel, 11SEBE0000B5FO0A, recorded questionable data throughout the event.

The bullet vehicle driver's shoulder belt force data channel, 11SEBE0000B3FO0A, recorded anomalous data spikes at 29.9 and 47.9 milliseconds.

The bullet vehicle front passenger's shoulder belt force data channel, 13SEBE0000B3FO0A, recorded no valid data throughout the event.

The bullet vehicles right sill X-axis acceleration data channel, 10SILLRI0000ACXA, recorded questionable data throughout the event.

The target vehicle driver's right foot Y-Axis angular displacement data channel, 21FOOTRILXH3ANYA, recorded questionable data throughout the event.

The target vehicle's center of gravity X-, Y-, and Z-Axis acceleration data channels, 20VEHCG0000ACXA, 20VEHCG0000ACYA, and 20VEHCG0000ACZA respectively, recorded questionable data after approximately 71 milliseconds.

The target vehicle driver's shoulder belt force data channel, 21SEBE0000B3FO0A, exceeded full scale at approximately 66 milliseconds and recorded questionable data thereafter.

SECTION 3
VEHICLE INFORMATION SUMMARY

DATA SHEET NO. 1

TARGET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

TARGET VEHICLE INFORMATION AND OPTIONS

Make	Ford	Driver Front Airbag	Yes
Model Year	2006	Driver Side Airbag	No
VIN:	1FAFP53U96A140655	Driver Head Airbag	No
Model:	Taurus SE	Driver Curtain Airbag	No
Body style:	4-door sedan	Driver Knee Airbag	No
Color:	Beige Metallic	Pass. Front Airbag	Yes ¹
Engine Displacement	3.0 Liters	Pass. Side Airbag	No
Type /No. of Cylinders	V 6	Pass. Head Airbag	No
Engine Placement:	Transverse	Pass. Curtain Airbag	No
Transmission data:	Automatic 3-speed	Pass. Knee Airbag	No
Final drive:	Front Wheel Drive	Load Limiters	No
Delivery Date	11/3/2009	Anti-lock Brakes	Yes
Odometer reading:	107224	All-Wheel Drive	No
Dealer:	Unknown	Pretensioners	Yes
Power steering	Yes	Front Disc	Yes
Power brakes	Yes	Rear Disc	No
Power seats	No	Automatic speed control	Yes
Power windows	Yes	Tilting steering wheel	Yes
Power door locks	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
AM/FM CD	Yes	Anti-skid brake	No
Roof Rack	No	Rear window defroster	Yes
Sunroof / T-Top	No	Automatic Door Locks	Yes
Traction Control	No	Other	No
Does owner's manual provide instructions to turn off automatic door locks?			N/A

¹ The passenger front airbag was disabled for this test.

DATA FROM CERTIFICATION LABEL

Manufactured by	Ford Motor Co.	GVWR (kg)	2124
Date of Manufacture	06/05	GAWR Front (kg)	1157
		GAWR Rear (kg)	967

TARGET TEST VEHICLE SEAT TYPE AND CAPACITY

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	N/A	Bench	
Designated Seating Capacity (DSC)	3	0	3	6
Type of Seat Back	Manual Adjustable	N/A	Fixed	
(A) Capacity Wt. (VCW) (kg)				499
(B) DSC x 68.08 kg				408
(A-B) Cargo Wt. (RCLW) (kg)				91

DATA SHEET NO. 1 (CONTINUED)**TARGET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**TARGET VEHICLE WEIGHTS**

	Units	As Tested (ATW)		
		Front	Rear	Total
Left	kg	505.0	341.4	
Right	kg	536.0	348.4	
Ratio	%	60.1	39.9	
Totals	kg	1041.0	689.8	1730.8

TARGET VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG(aft of front axle)
Delivered: ¹	mm					
Pre-test:	mm	688	676	635	630	1098
Post-test:	mm	615	680	616	663	

GENERAL TARGET VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2755
Total Vehicle Length at Left Side	mm	4809
Total Vehicle Length at Centerline	mm	5009
Total Vehicle Length at Right Side	mm	4809
Weight of Ballast in Cargo Area	kg	108.0
Weight of Vehicle Components Removed	kg	Not Recorded
Amount of Stoddard Solvent in Fuel Tank	liters	0

Weight of ballast secured in vehicle: 108.0 kg

Components removed to meet target test weight: None

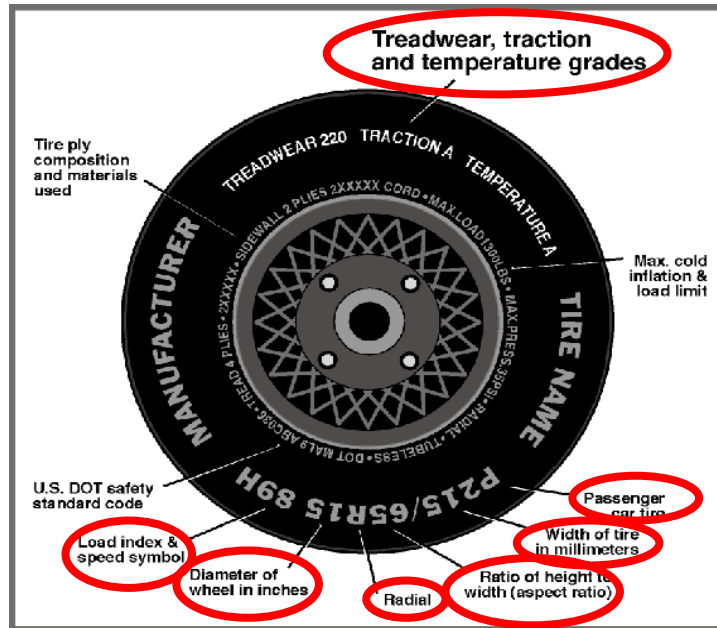
¹ Data was not recorded.

DATA SHEET NO. 1 (CONTINUED)

TARGET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA FROM TIRE PLACARD

Measured Parameter	Left Front	Right Front	Left Rear	Right Rear
Maximum Tire Pressure (kPa)	300 (44 psi)	300 (44 psi)	300 (44 psi)	300 (44 psi)
Cold / Test Pressure (kPa)	205 (30psi)	205 (30psi)	205 (30psi)	205 (30psi)
Recommended Tire Size	P215/60R16	P215/60R16	P215/60R16	P215/60R16
Tire Size on Vehicle	P215/60R16	P215/60R16	P215/60R16	P215/60R16
Tire Manufacturer	Lexington	Goodyear	Michelin	Continental
Tire Name	ES-335	Regatta	MXV 4	Tour-Conti
Load Index & Speed Symbol	94T	94T	94T	94T
Treadwear	560	560	560	560
Traction Grade	A	A	A	A
Temperature Grade	B	B	B	B

DATA SHEET NO. 2

TARGET VEHICLE SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

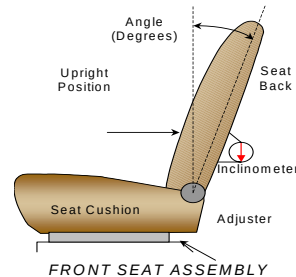
Test Date: 11/06/09

NORMAL DESIGN RIDING POSITION

The seat back angle was measured relative to the rocker sill. The test position was measured using a Faro Inc. C. Measurement Machine.

TARGET SEAT BACK ANGLE

	Degrees
Driver Seat	21.6°

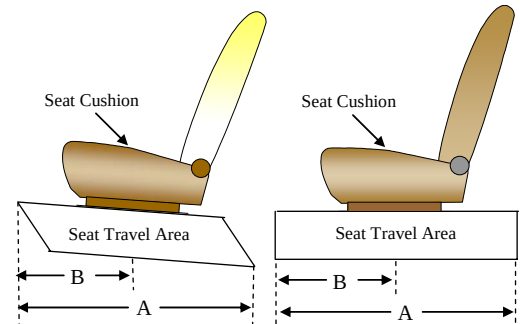


SEAT FORE/AFT POSITIONS

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

TARGET SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	13	7



TARGET SEAT BELT UPPER ANCHORAGE

	Total No. of Positions	Placed in Position No.
Driver Seat	5	1

Position number one is the uppermost adjustment position.

DATA SHEET NO. 2 (CONTINUED)

TARGET VEHICLE SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

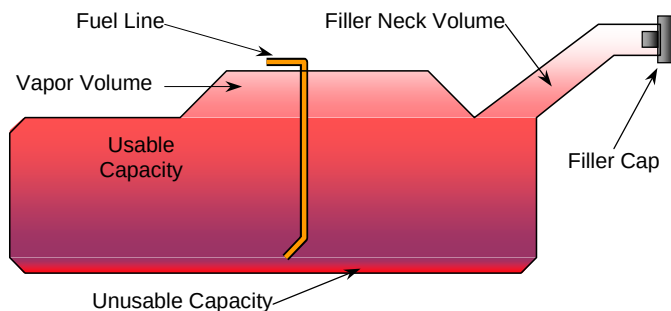
Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

FUEL TANK CAPACITY

	Liters
Usable Capacity of Tank	68.1
Usable Capacity used for FMVSS301	64.7
Actual Amount of Solvent used	0

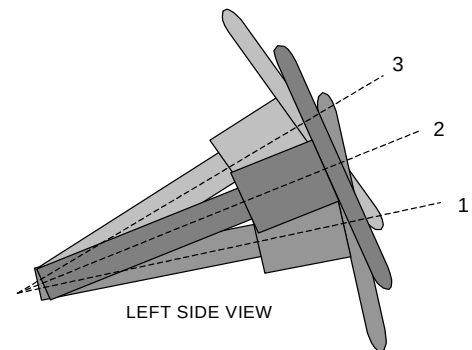
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Detents	Fore/Aft Position, mm
Lowermost Position	1 of 5	Not Measured
Geometric Center Position	3 of 5	20.9
Uppermost Position	5 of 5	Not Measured
Telescoping Steering Wheel Travel		No Feature
Test Position		Fixed

DATA SHEET NO. 3

BULLET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

BULLET VEHICLE INFORMATION AND OPTIONS

Make	Ford	Driver Front Airbag	Yes
Model Year	2006	Driver Side Airbag	No
VIN:	1FAFP53U16A150113	Driver Head Airbag	No
Model:	Taurus SE	Driver Curtain Airbag	No
Body style:	4-door sedan	Driver Knee Airbag	No
Color:	Gray	Pass. Front Airbag	Yes
Engine Displacement	3.0 Liters	Pass. Side Airbag	No
Type /No. of Cylinders	V 6	Pass. Head Airbag	No
Engine Placement:	Transverse	Pass. Curtain Airbag	No
Transmission data:	Automatic 4-speed	Pass. Knee Airbag	No
Final drive:	Front Wheel Drive	Load Limiters	No
Delivery Date	10/19/2009	Anti-lock Brakes	Yes
Odometer reading:	91843	All-Wheel Drive	No
Dealer:	Unknown	Pretensioners	Yes
Power steering	Yes	Front Disc	Yes
Power brakes	Yes	Rear Disc	No
Power seats	No	Automatic speed control	Yes
Power windows	Yes	Tilting steering wheel	Yes
Power door locks	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
AM/FM	Yes	Anti-skid brake	No
Roof Rack	No	Rear window defroster	Yes
Sunroof / T-Top	No	Automatic Door Locks	Yes
Traction Control	No	Other	None
Does owner's manual provide instructions to turn off automatic door locks?			N/A

DATA FROM CERTIFICATION LABEL

Manufactured by	Ford Motor Co.	GVWR (kg)	2125
Date of Manufacture	07/05	GAWR Front (kg)	1158
		GAWR Rear (kg)	967

BULLET VEHICLE SEAT TYPE AND CAPACITY

Measured Parameter	Front	Mid	Rear	Total
Type of Seats	Bucket	N/A	Bench	
Designated Seating Capacity (DSC)	3	0	3	6
Type of Seat Back	Manual adjustable	N/A	Fixed	
(A) Capacity Wt. (VCW) (kg)				498
(B) DSC x 68.08 kg				408
(A-B) Cargo Wt. (RCLW) (kg)				90

DATA SHEET NO. 3 (CONTINUED)**BULLET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**TEST VEHICLE WEIGHTS**

	Units	As Tested (ATW)		
		Front	Rear	Total
Left	kg	514.5	362.0	
Right	kg	494.5	364.6	
Ratio	%	58.1	41.9	
Totals	kg	1009.0	726.6	1735.6

BULLET VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
Delivered: ¹	mm					
Pre-test:	mm	692	703	636	639	1153
Post-test	mm	--- ²	685	615	660	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheelbase	mm	2755
Total Vehicle Length at Left Side	mm	4826
Total Vehicle Length at Centerline	mm	5026
Total Vehicle Length at Right Side	mm	4826
Weight of Ballast in Cargo Area	kg	0
Weight of Vehicle Components Removed	kg	Not Recorded
Amount of Stoddard Solvent in Fuel Tank	liters	0

Weight of ballast secured in vehicle: None

Components removed to meet target test weight: Rear deck lid.

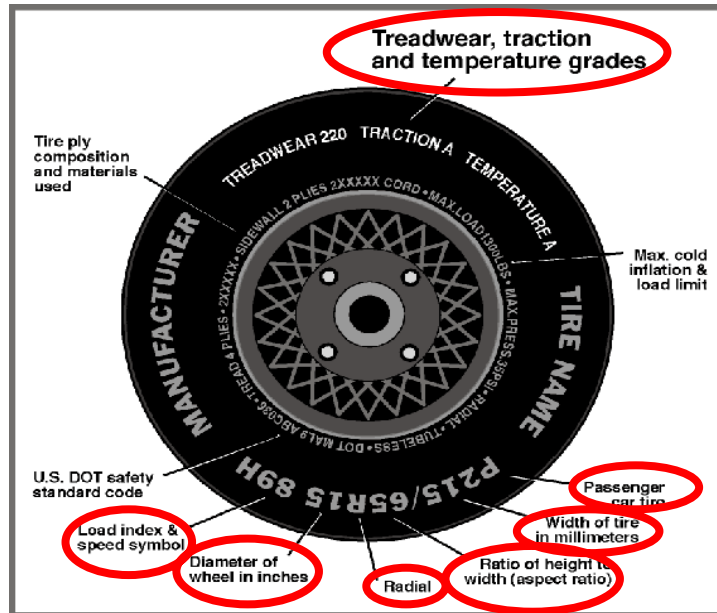
¹ Data was not recorded.² Point could not be measured post-test.

DATA SHEET NO. 3 (CONTINUED)

BULLET VEHICLE GENERAL TEST AND VEHICLE PARAMETER DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300 (44 psi)	300 (44 psi)
Cold / Test Pressure (kPa)	205 (30 psi)	205 (30 psi)
Recommended Tire Size	P215/60R16	P215/60R16
Tire Size on Vehicle	P215/60R16	P215/60R16
Tire Manufacturer	Goodyear	Goodyear
Tire Name	Assurance	Assurance
Load Index & Speed Symbol	94T	94T
Treadwear	700	700
Traction Grade	A	A
Temperature Grade	B	B

DATA SHEET NO. 4

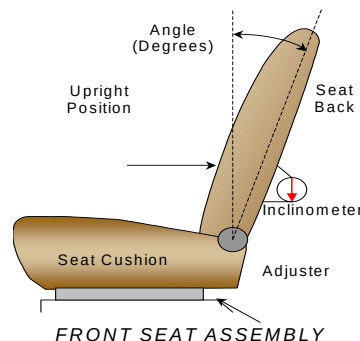
BULLET VEHICLE SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

NORMAL DESIGN RIDING POSITION

The seat back angle was measured relative to the rocker sill. The test position was measured using a Faro Inc. C. Measurement Machine.



BULLET SEAT BACK ANGLE

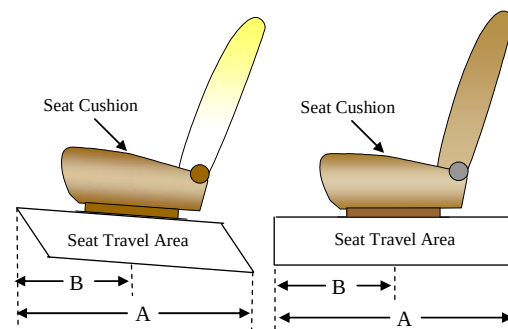
	Degrees
Driver Seat	18.1°
Front Passenger Seat	19.6°
Left Rear Passenger Seat	Fixed

SEAT FORE/AFT POSITIONS

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

BULLET SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position No.
Driver Seat	13	10
Front Passenger Seat	13	1
Left Rear Seat	N/A	fixed



BULLET SEAT BELT UPPER ANCHORAGE

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

Position number one is the uppermost adjustment position.

DATA SHEET NO. 4 (CONTINUED)

BULLET VEHICLE SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

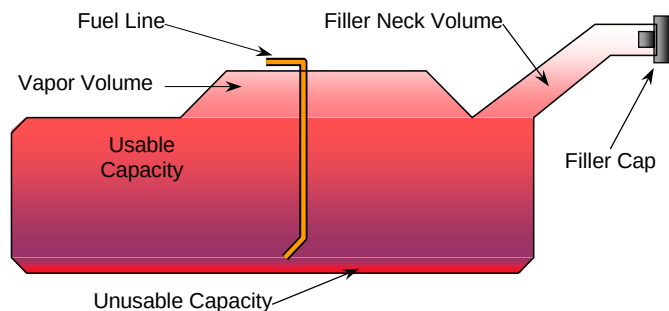
Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

FUEL TANK CAPACITY

	Liters
Usable Capacity of Tank	68.1
Usable Capacity used for FMVSS301	64.7
Actual Amount of Solvent used	0.0

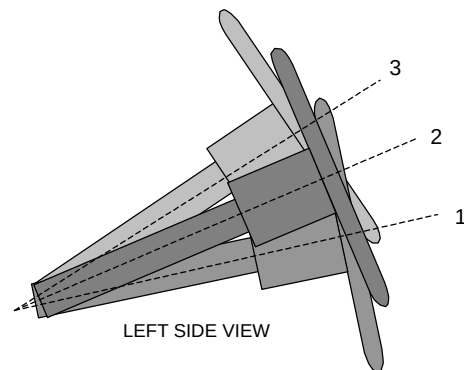
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

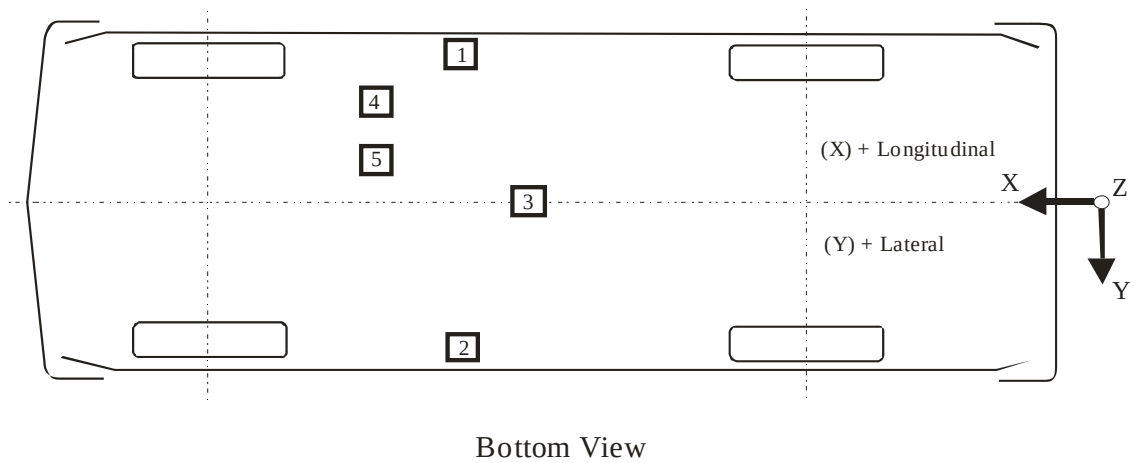
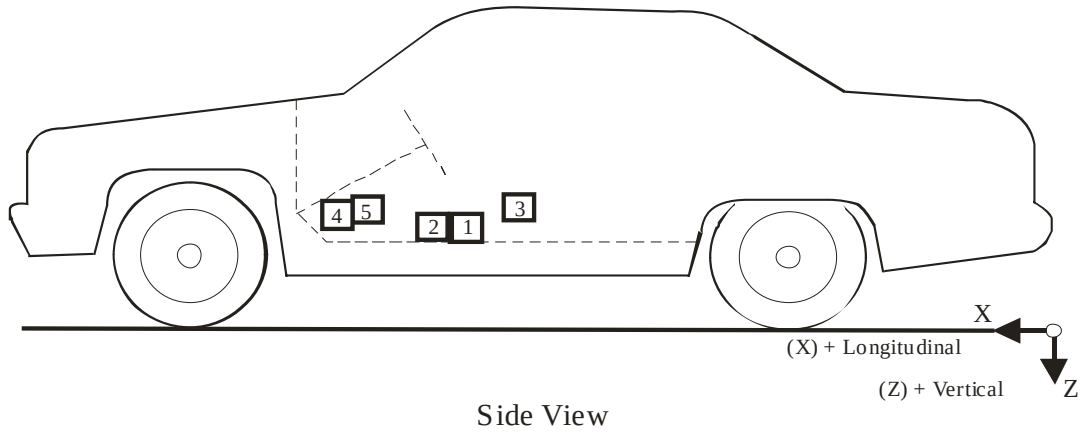
	Detents	Fore/Aft Position, mm
Lowermost Position No. 1	1 of 5	Not Measured
Geometric Center Position No. 2	3 of 5	20.9
Uppermost Position No. 3	5 of 5	Not Measured
Telescoping Steering Wheel Travel		No Feature
Test Position		Fixed

DATA SHEET NO. 5

VEHICLES' ACCELEROMETER PLACEMENT AND DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA SHEET NO. 5 (CONTINUED)

VEHICLES' ACCELEROMETER PLACEMENT AND DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

TARGET VEHICLE INSTRUMENTATION DATA

Location		Positive Direction		Negative Direction	
		Max. (g)	Time (ms)	Max. (g)	Time (ms)
(1) Left Sill Acceleration	X	3.9	236.6	-32.1	75.4
	Y	20.0	87.9	-7.9	144.6
(2) Right Sill Acceleration	X	1.2	262.9	-14.8	59.8
	Y	9.5	101.4	-2.0	304.5
(3) Vehicle Center of Gravity Acceleration	X	43.0	132.3	-59.8	110.8
	Y	9.1	193.7	-111.5	111.7
	Z	82.4	113.6	-43.6	70.2
	R	145.6	111.8		
(4) Driver Foot Rest Acceleration	X	3.7	236.0	-29.5	74.2
	Z	16.4	53.9	-11.2	47.0
(5) Toe Pan Behind Center of Accelerator Acceleration	X	2.9	244.9	-28.9	57.2
	Z	10.3	90.2	-6.9	103.0

BULLET VEHICLE INSTRUMENTATION DATA

Location		Positive Direction		Negative Direction	
		Max. (g)	Time (ms)	Max. (g)	Time (ms)
(1) Left Sill Acceleration	X	5.2	94.0	-52.0	85.0
	Y	56.6	86.8	-17.1	92.9
(2) Right Sill Acceleration	X	2.2	72.4	-0.9	181.0
	Y	14.1	61.5	-6.5	23.1
(3) Vehicle Center of Gravity Acceleration	X	15.1	56.0	-23.7	61.0
	Y	28.2	18.5	-31.4	75.6
	Z	33.0	53.8	-59.9	19.2
	R	65.1	19.1		
(4) Driver Foot Rest Acceleration	X	8.0	62.6	-48.5	81.0
	Z	9.9	46.2	-30.5	72.2
(5) Toe Pan Behind Center of Accelerator Acceleration	X	15.3	64.0	-53.0	54.4
	Z	14.8	92.7	-20.9	73.4

DATA SHEET NO. 6
GENERAL TEST DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

Test Time: 14:22

Ambient temperature at impact area: 18° C

SPEED TRAP DATA

Measured Parameter	Units	Requirements	Value
Trap No. 1 Velocity (Primary)	km/h	95.8 - 97.4	96.8

DATA CHANNELS

TARGET ATD Sensors	107
TARGET Vehicle Structure Accelerometers	11
TARGET Seatbelt Load Cells	2
Airbag Signal Transducers	2
BULLET ATD Sensors	146
BULLET Vehicle Structure Accelerometers	11
BULLET Seatbelt Load Cells	4
Airbag Signal Transducers	4
Total	287

CAMERA COVERAGE

Cameras	
High-Speed Vehicle Onboard - TARGET	3
High-Speed Vehicle Onboard - BULLET	2
High-Speed Offboard	13
Real-Time	1
Total	19

DATA SHEET NO. 7

TARGET VEHICLE POST-IMPACT DUMMY/VEHICLE DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

TEST DUMMY INFORMATION

Description	Driver
Dummy Type/Serial No.	THOR / T015
Head Contact	Front airbag, door, B-Pillar and head restraint
Upper Torso Contact	Front airbag
Lower Torso Contact	None
Left Knee Contact	Knee bolster
Right Knee Contact	Knee bolster

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Left
Locked / Unlocked Doors	Unlocked
Front Door Opening	Jammed and latched
Rear Door Opening	Opened during test
Seat Track Shift (mm)	None
Seat Back Failure	None
Glazing Damage	Cracks

POST-TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Cracks throughout
Window Damage	None
Other Notable Effects	Left front tire flat

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver	
	Installed	Operated
Frontal Airbag	Yes	Yes
Knee Airbag	No	N/A
Side Torso Airbag	No	N/A
Head/Torso Side Airbag	No	N/A
Curtain Airbag	No	N/A
Seat Belt Pretensioner	Yes	Unknown
Seat Belt Load Limiter	Unknown	Unknown

DATA SHEET NO. 8**BULLET VEHICLE POST-IMPACT DUMMY/VEHICLE DATA**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**TEST DUMMY INFORMATION**

Description	Driver	Passenger	Left Rear
Dummy Type/Serial No.	HIII 50 th / 206	HIII 5 th / 329	HIII 5 th / 416
Head Contact	Front airbag and head restraint	Front airbag and head restraint	D-Pillar, and head restraint
Upper Torso Contact	Front airbag	Front airbag	None
Lower Torso Contact	None	None	None
Left Knee Contact	Knee bolster	Glove box	None
Right Knee Contact	Knee bolster	Glove box	None

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Left	Right
Locked / Unlocked Doors	Unlocked	Unlocked
Front Door Opening	Closed and latched	Closed and latched
Rear Door Opening	Closed and latched	Closed and latched
Seat Track Shift (mm)	None	None
Seat Back Failure	None	None
Glazing Damage	Cracks	Cracks

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Windshield Damage	Cracks throughout
Window Damage	N/A
Other Notable Effects	None

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

Restraint Type	Driver (Pos. 1)		Passenger (Pos. 3)		Left Rear (Pos. 4)	
	Installed	Operated	Installed	Operated	Installed	Operated
Frontal Airbag	Yes	Yes	Yes	Yes	No	N/A
Knee Airbag	No	N/A	No	N/A	No	N/A
Side Torso Airbag	No	N/A	No	N/A	No	N/A
Head/Torso Side Airbag	No	N/A	No	N/A	No	N/A
Curtain Airbag	No	N/A	No	N/A	No	N/A
Seat Belt Pretensioner	Yes	Unknown	Yes	Unknown	No	N/A
Seat Belt Load Limiter	Unknown	Unknown	Unknown	Unknown	No	N/A

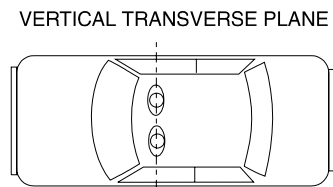
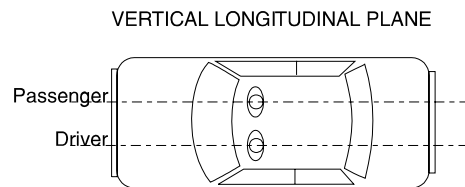
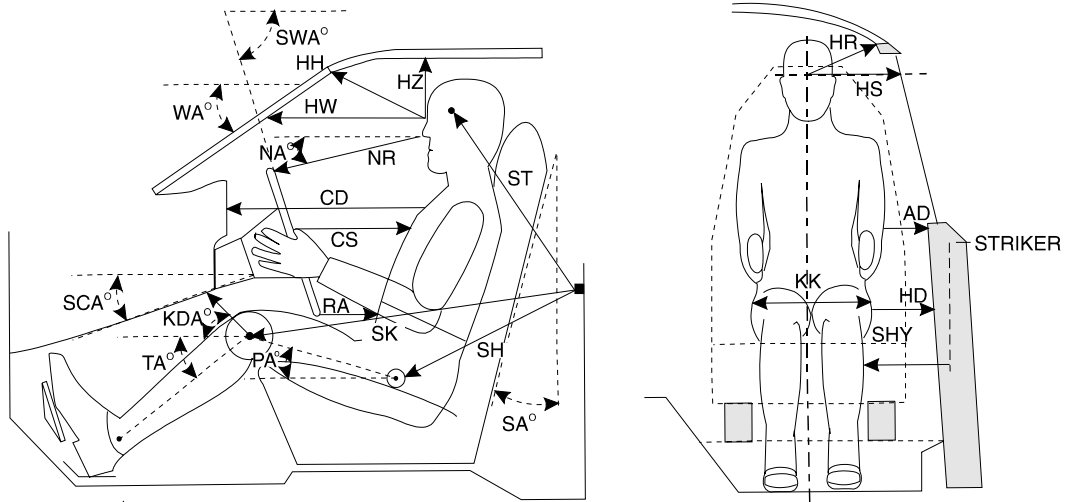
SECTION 4
OCCUPANT, VEHICLE, AND CAMERA MEASUREMENT SUMMARY

DATA SHEET NO. 9

TARGET VEHICLE DUMMY CLEARANCE DIMENSIONS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA SHEET NO. 9 (CONTINUED)

TARGET VEHICLE DUMMY CLEARANCE DIMENSIONS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

Code	Measurement Description	Unit	Driver S/N T015
WA	Windshield angle	°	20.1
SWA	Steering wheel angle	°	69.1
SCA	Steering column angle	°	20.9
SA	Seat back angle	°	20.3
HZ	Head to roof	mm	167
HH	Head to header	mm	331
HW	Head to windshield	mm	592
HR	Head to side header	mm	171
NR	Nose to rim	mm	441
NA	Nose to rim angle	°	15.4
CD	Chest to dash	mm	588
CS	Steering wheel to chest	mm	325
RA	Rim to abdomen	mm	180
KDL	Left knee to dash	mm	132
KDR	Right knee to dash	mm	127
KDA	Outboard knee to dash angle	°	16.8
PA	Pelvic angle	°	--- ²
TA	Tibia angle	°	47.6
KK	Knee to knee	mm	410
ST ¹	Striker to head	mm	568
	Striker to head angle	°	-86.9
SK ¹	Striker to knee	mm	604
	Striker to knee angle	°	-4.2
SH ¹	Striker to H-point	mm	239
	Striker to H-point angle	°	29.2
SHY	Striker to H-point (Y dir.)	mm	248
HS	Head to side window	mm	296
HD	H-point to door	mm	163
AD	Arm to door	mm	226
	Final head angle (X)	°	0.9
	Final head angle (Y)	°	0.3
	Final neck angle (X)	°	0.0
	Final neck angle (Y)	°	1.4
	Final T angle (X)	°	-7.2
	Final T angle (Y)	°	22.2
	Final Lumbar angle (X)	°	-1.7
	Final Lumbar angle (Y)	°	-0.9

The seat back angle (SA°) is measured relative to vertical; all other angles are measured relative to horizontal.

¹ A negative angle indicates the measurement point was above the striker.

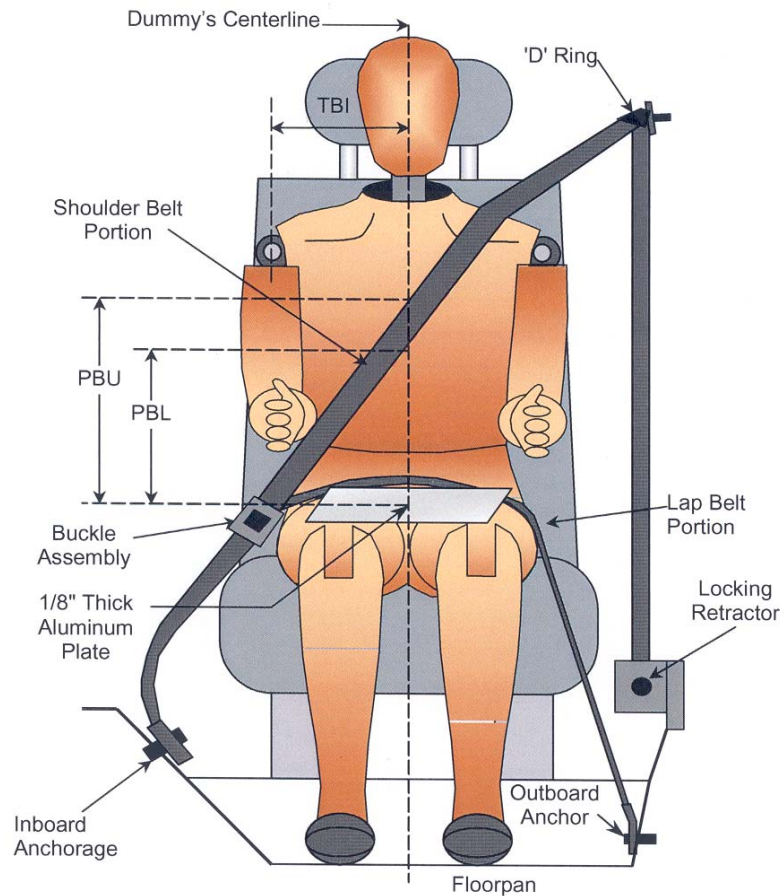
² Measurement not recorded

DATA SHEET NO. 10

TARGET VEHICLE SEAT BELT POSITIONING DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



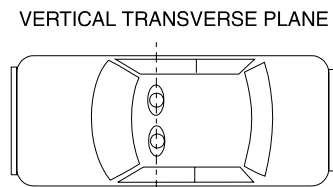
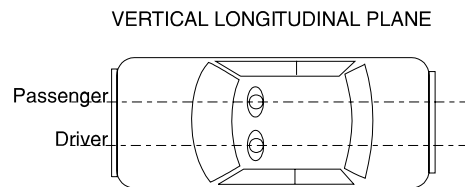
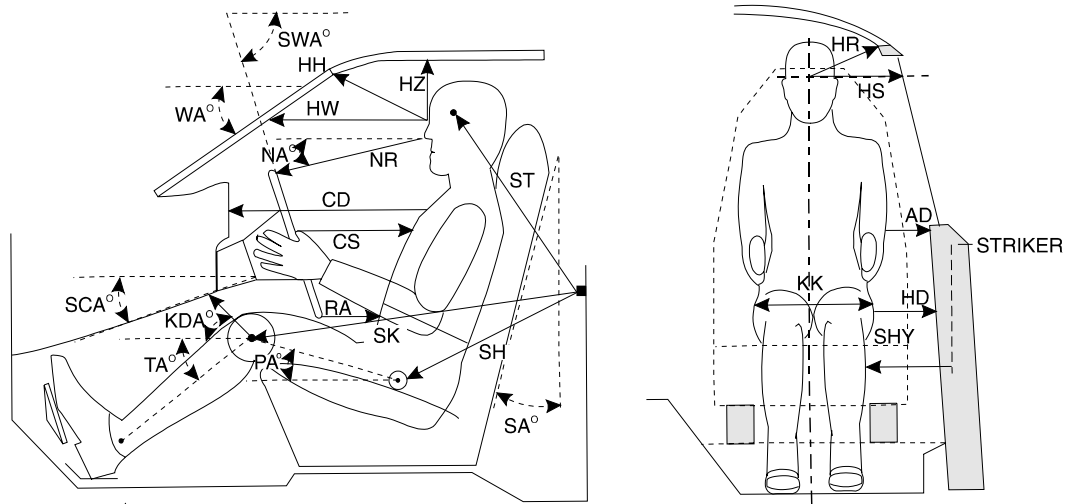
Measurement Parameter		Units	Driver S/N T015
PBU	Top surface of aluminum plate to belt upper edge	mm	360
PBL	Top surface of aluminum plate to belt lower edge	mm	280
TBI	Dummy centerline to intersection of upper torso belt and lap belt	mm	210

DATA SHEET NO. 11

BULLET VEHICLE DUMMY CLEARANCE DIMENSIONS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA SHEET NO. 11 (CONTINUED)

BULLET VEHICLE DUMMY CLEARANCE DIMENSIONS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

Code	Measurement Description	Unit	Driver S/N 206	Front Passenger S/N 329	Left Rear Passenger S/N 416
WA	Windshield angle	°	22.2		
SWA	Steering wheel angle	°	69.1		
SCA	Steering column angle	°	20.9		
SA	Seat back angle	°	20.6	22.6	Fixed
HZ	Head to roof	mm	199	187	318
HH	Head to header	mm	352	275	
	Head to Seatback	mm			559
HW	Head to windshield	mm	683	721	
HR	Head to side header	mm	199	232	289
NR	Nose to rim	mm	409		
NA	Nose to rim angle	°	9.3		
CD	Chest to dash	mm	587	391	
CB	Chest to seatback	mm			611
CS	Steering wheel to chest	mm	326		
RA	Rim to abdomen	mm	227		
KDL	Left knee to dash / seatback	mm	197	96	--- ²
KDR	Right knee to dash / seatback	mm	198	105	--- ²
KDA	Outboard knee to dash / seatback angle	°	17.8	27.0	
PA	Pelvic angle	°	--- ²	--- ²	
TA	Tibia angle	°	39.3	50.1	--- ²
KK	Knee to knee	mm	346	254	--- ²
ST ¹	Striker to head	mm	528	487	277
	Striker to head angle	°	-85.2	-69.6	-66.7
SK ¹	Striker to knee	mm	553	687	658
	Striker to knee angle	°	-0.7	0.8	18.5
SH ¹	Striker to H-point	mm	212	372	254
	Striker to H-point angle	°	35.2	14.3	-36.3
SHY	Striker to H-point (Y dir.)	mm	245	180	
HS	Head to side window	mm	323	337	410
HD	H-point to door	mm	153	100	147
AD	Arm to door	mm	147	165	171

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

¹ A negative angle indicates the measurement point was above the striker.

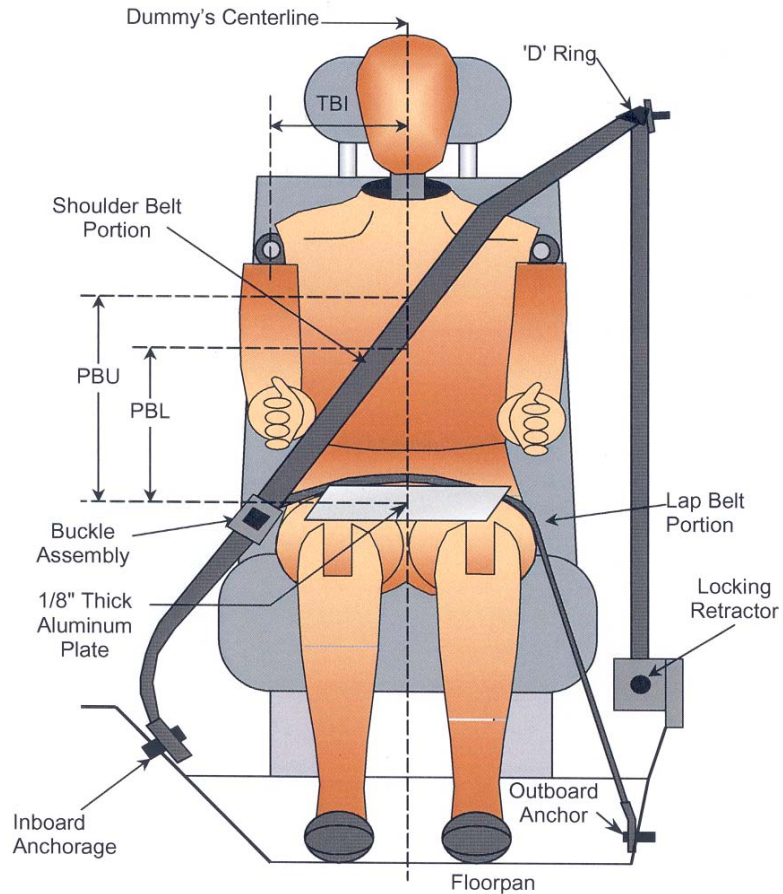
² Measurement not recorded.

DATA SHEET NO. 12

BULLET VEHICLE SEAT BELT POSITIONING DATA

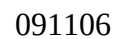
Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Measurement Parameter		Units	Driver S/N 206	Front Passenger S/N 329	Left Rear Passenger S/N 416
PBU	Top surface of aluminum plate to belt upper edge	mm	380	245	285
PBL	Top surface of aluminum plate to belt lower edge	mm	299	152	200
TBI	Belt and lap belt	mm	185	170	160

TARGET VEHICLE PROFILE MEASUREMENTS

Test Date: 11/06/09

DATA SHEET NO. 13 (CONTINUED)**TARGET VEHICLE PROFILE MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09

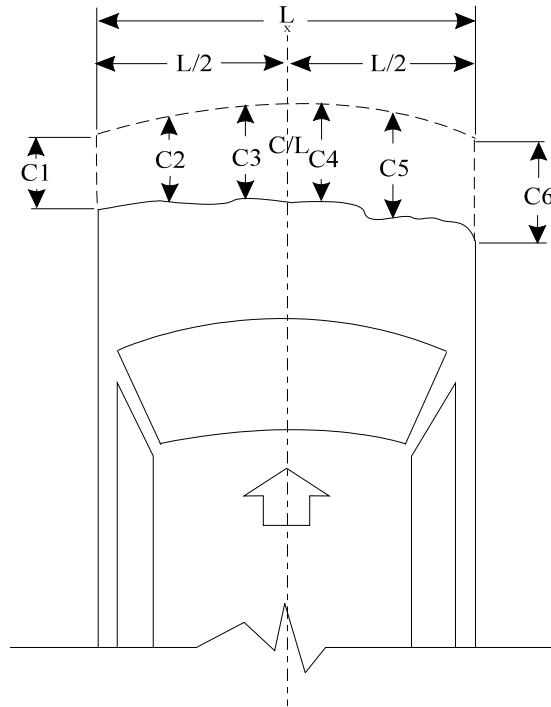
No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5009	4897	112
X2	RSOV to Front of Engine Block	4409	4302	107
X3	RSOV to Firewall	3934	3842	92
X4	RSOV to Upper Leading Edge of Right Door	3444	3460	-16
X5	RSOV to Upper Leading Edge of Left Door	3443	3171	272
X6	RSOV to Lower Leading Edge of Right Door	3403	3418	-15
X7	RSOV to Lower Leading Edge of Left Door	3404	3228	176
X8	RSOV to Upper Trailing Edge of Right Door	2419	2435	-16
X9	RSOV to Upper Trailing Edge of Left Door	2426	2239	187
X10	RSOV to Lower Trailing Edge of Right Door	2388	2399	-11
X11	RSOV to Lower Trailing Edge of Left Door	2387	2227	160
X12	RSOV to Bottom of " A " Post on Right Side	3424	3436	-12
X13	RSOV to Bottom of " A " Post on Left Side	3434	3185	249
X14	RSOV to Firewall - Right Side	4027	4040	-13
X15	RSOV to Firewall - Left Side	4039	3746	293
X16	RSOV to Steering Wheel Center	2999	2837	162
X17	Center of Steering Column to " A " Post	282	304	-22
X18	Center of Steering Column to Headliner	405	510	-105
X19	RSOV to Right Side of Front Bumper	4809	4827	-18
X20	RSOV to Left Side of Front Bumper	4809	4539	270
X21	Length of Engine Block	450	450	0
RD	RSOV to Right Side of Dash Panel	3189	3162	27
CD	RSOV to Center of Dash Panel	3221	3137	84
LD	RSOV to Left Side of Dash Panel	3169	2967	202
	Maximum Width	1840	1955	-115

All distance measurements are in millimeters.

DATA SHEET NO. 14
TARGET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Notes: L is pre-test length of contact surface.
 C1 through C6 are spaced equally apart.
 CL is vehicle centerline.

Vehicle: 2007 Ford Five Hundred
 Tape measured with bumper fascia in place.

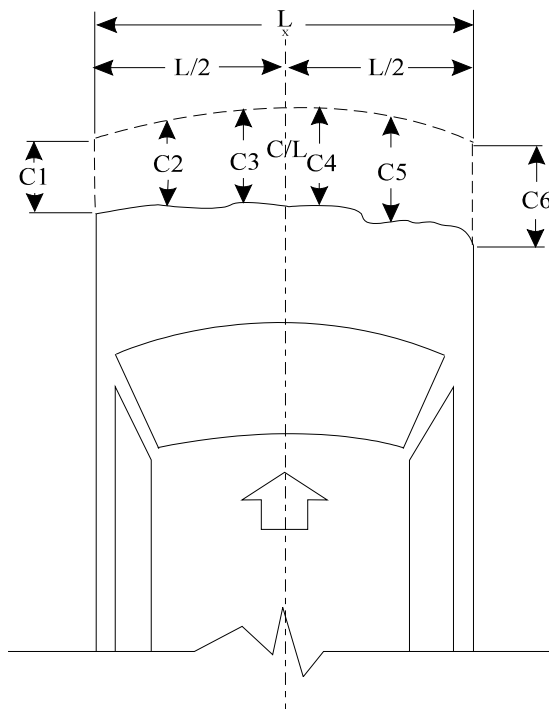
	Pre-Test	Post-Test	Difference	
L=	1524			mm
C1=	5000	4722	278	mm
C2=	5130	4945	185	mm
C3=	5195	5045	150	mm
C4=	5195	5120	75	mm
C5=	5130	5105	25	mm
C6=	5000	5010	-10	mm
CL=	5200	5080	120	mm

DATA SHEET NO. 14 CONTINUED

TARGET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Notes: L is pre-test length of contact surface.
C1 through C6 are spaced equally apart.
CL is vehicle centerline.

Vehicle: 2007 Ford Five Hundred
Faro measurement of bumper reinforcement.

	Pre-Test	Post-Test	Difference	
L=	1326			mm
C1=	4811	4600	211	mm
C2=	4880	4710	170	mm
C3=	4895	4769	126	mm
C4=	4896	4812	84	mm
C5=	4881	4841	40	mm
C6=	4813	4815	-2	mm
CL=	4928	4823	105	mm

DATA SHEET NO. 14 (CONTINUED)

TARGET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

All measurements below in mm.

MAXIMUM EXTERIOR Y-AXIS STATIC CRUSH

Level	Measurement Description	Maximum Exterior Static Crush
5	Window Top	56
4	Window Sill	322
3	Mid Door	226
2	Occupant H-Point	222
1	Sill Top	46
	Maximum Crush	322

DATA SHEET NO. 14 (CONTINUED)

TARGET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
100			-803					-806					3		
200			-825					-809					-16		
300			-842					-796					-46		
400			-863					-771					-92		
500															
600															
700															
800															
900				-785					-743					-42	
1000				-806					-763					-43	
1100		-900	-895	-823			-660	-703	-778			-240	-192	-45	
1200	-853	-897	-896	-834	-794		-702	-719	-783	-757		-195	-177	-51	-37
1300	-842	-905	-897	-842	-767		-838	-757	-768	-711		-67	-140	-74	-56
1400	-844	-909	-899	-850	-743		-842	-741	-757	-688		-67	-158	-93	-55
1500	-846	-911	-900	-857	-717		-851	-773	-786	-666		-60	-127	-71	-51
1600	-847	-914	-902	-863	-689		-849	-801	-825	-643		-65	-101	-38	-46
1700	-848	-917	-904	-867	-659		-823	-809	-858	-618		-94	-95	-9	-41
1800	-849	-919	-906	-872	-619		-866	-846	-890	-582		-53	-60	18	-37
1900	-849	-921	-908	-875	-595		-908	-886	-922	-556		-13	-22	47	-39
2000	-850	-923	-910	-878	-575		-949	-929	-952	-531		26	19	74	-44
2100	-850	-925	-911	-880	-566		-978	-974	-979	-519		53	63	99	-47
2200	-851	-926	-913	-882	-561		-948	-950	-1001	-516		22	37	119	-45
2300	-851	-927	-915	-884	-560		-901	-900	-975	-518		-26	-15	91	-42
2400	-851	-925	-913	-884	-562	-897	-940	-900	-879	-530	46	15	-13	-5	-32
2500	-850	-923	-913	-886	-564	-889	-941	-933	-918	-535	39	18	20	32	-29
2600	-849	-920	-913	-887	-566	-881	-970	-966	-956	-542	32	50	53	69	-24
2700	-848	-920	-912	-887	-570	-870	-1004	-1000	-994	-550	22	84	88	107	-20
2800	-847	-920	-913	-888	-576	-861	-1037	-1034	-1030	-561	14	117	121	142	-15
2900	-846	-919	-913	-888	-585	-850	-1071	-1069	-1065	-575	4	152	156	177	-10
3000	-844	-918	-913	-887	-595	-838	-1104	-1104	-1101	-590	-6	186	191	214	-5
3100	-841	-916	-913	-887	-609	-820	-1138	-1139	-1136	-608	-21	222	226	249	-1
3200			-917	-886	-626			-912	-1170	-627			-5	284	1
3300				-885					-1207					322	

Reference plane is parallel to test vehicle longitudinal centerline.

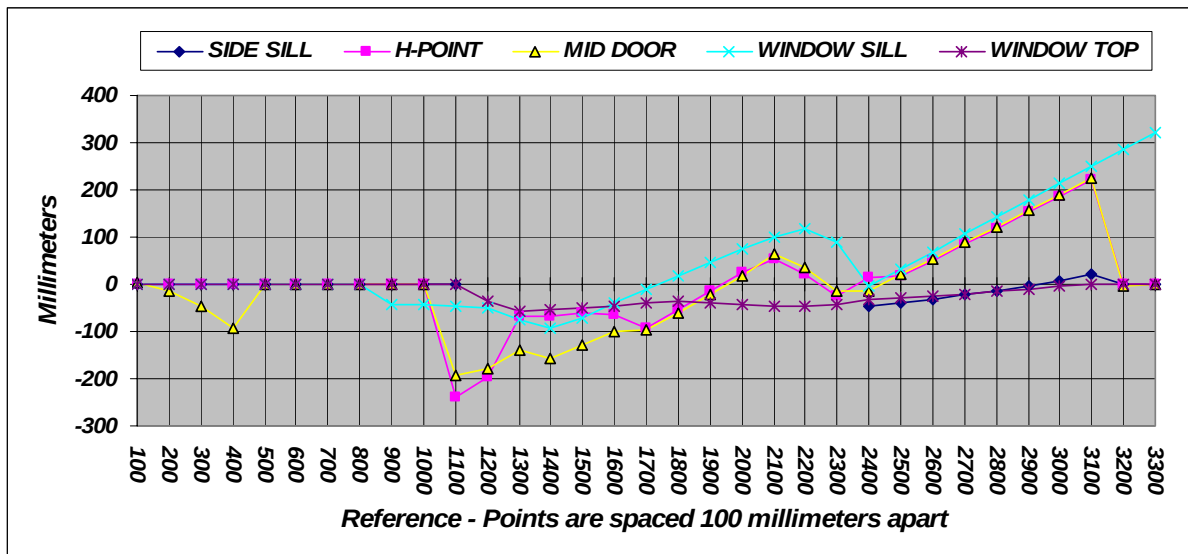
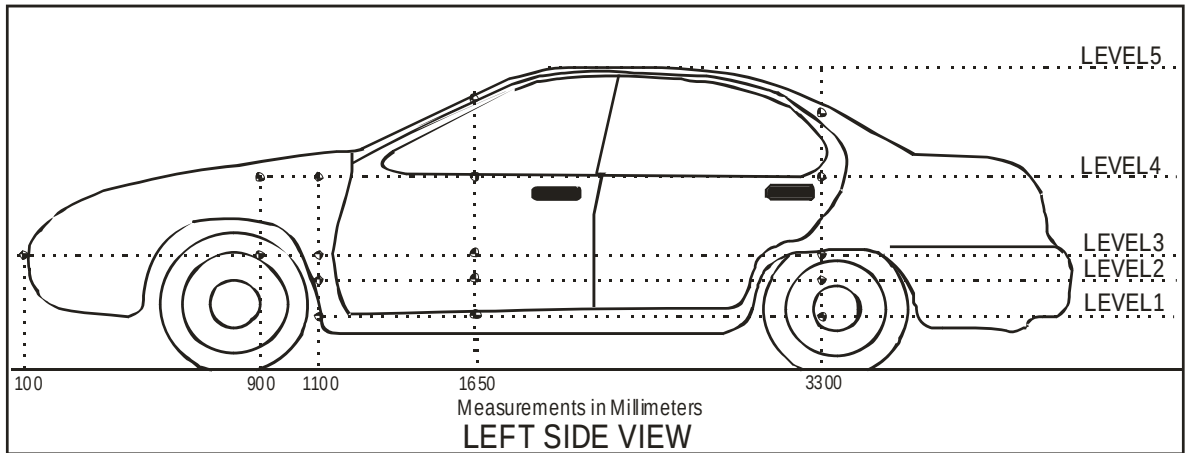
Given measurements = Reference plane to car body

DATA SHEET NO. 14 (CONTINUED)

TARGET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



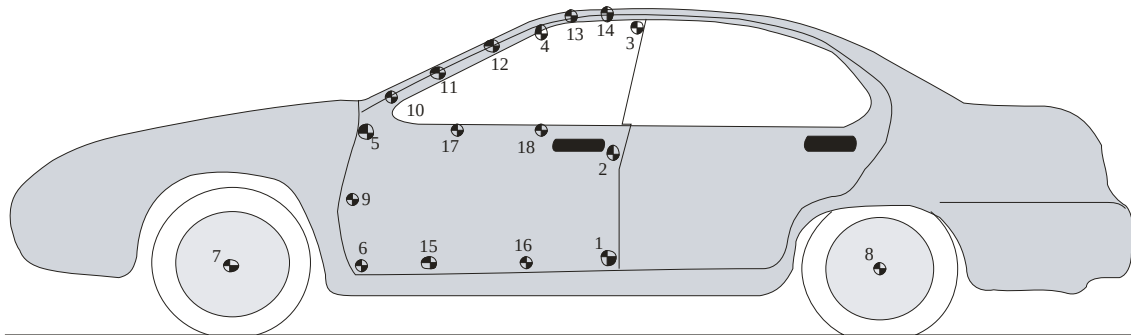
Side Crush data was collected at five levels; Window Top, Window Sill, Mid Door, Hip Point, and Side Sill, in increments of 100 mm. Point one of the grid is the forward-most point on the vehicle at the Mid Door height. The FARO origin (0, 0, 0) is defined as the rearward most point along the centerline of the vehicle. The coordinate system conforms to SAE J211.

DATA SHEET NO. 15

TARGET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



LEFT SIDE VIEW

	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2524	-812	234	2398	-787	349	126	-25	-115
2	2455	-796	-252	2354	-795	-137	101	-1	-115
3	2351	-580	-745	2354	-577	-637	-3	-3	-108
4	2887	-605	-692	2839	-563	-829	48	-42	137
5	3417	-786	-290	3180	-716	-244	237	-70	-46
6	3375	-803	235	3192	-714	276	183	-89	-41
Front Axle 7	3972	-870	265	3631	-840	301	341	-30	-36
Rear Axle 8	1219	-878	260	1204	-875	275	15	-3	-15
9	3407	-781	-68	3155	-678	-26	252	-103	-42
10	3447	-785	-339	3214	-728	-290	233	-57	-49
11	3292	-720	-471	3111	-662	-453	181	-58	-18
12	3085	-662	-594	2979	-611	-655	106	-51	61
13	2714	-572	-742	2693	-544	-854	21	-28	112
14	2519	-560	-768	2524	-539	-757	-5	-21	-11
15	3120	-802	279	2992	-730	359	128	-72	-80
16	2811	-802	279	2683	-755	378	128	-47	-99
17	3093	-833	-351	2861	-816	-278	232	-17	-73
18	2703	-848	-358	2492	-941	-258	211	93	-100

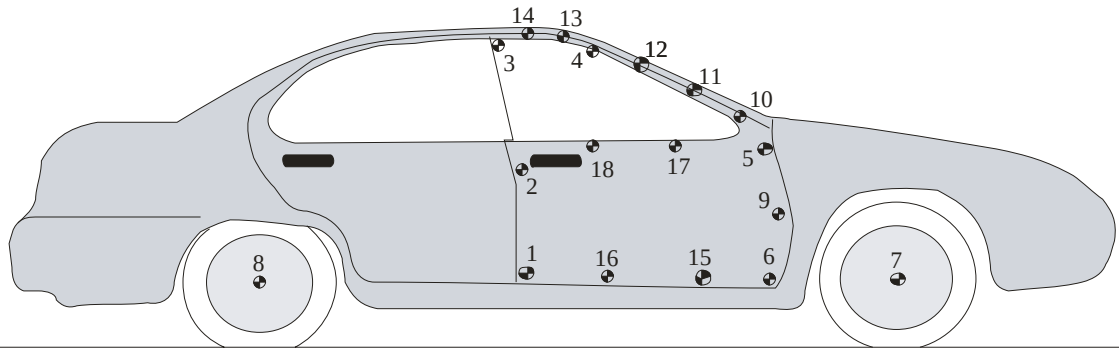
Units (mm)	(7-8) = Wheelbase Left
Pre-Test	2755
Post-Test	2836
Difference	-81

DATA SHEET NO. 15 (CONTINUED)

TARGET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



RIGHT SIDE VIEW

	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2511	813	234	2512	820	231	-1	-7	3
2	2455	804	-244	2454	813	-248	1	-9	4
3	2349	595	-737	2349	609	-742	0	-14	5
4	2882	619	-681	2881	646	-690	1	-27	9
5	3417	793	-280	3421	807	-288	-4	-14	8
6	3375	807	250	3377	816	243	-2	-9	7
Front Axle 7	3969	869	277	4054	826	262	-85	43	15
Rear Axle 8	1214	876	270	1218	878	293	-4	-2	-23
9	3413	789	-66	3409	798	-51	4	-9	-15
10	3453	797	-315	3457	807	-321	-4	-10	6
11	3280	728	-464	3282	744	-471	-2	-16	7
12	3076	673	-585	3078	695	-592	-2	-22	7
13	2719	589	-730	2719	613	-738	0	-24	8
14	2512	576	-757	2513	595	-764	-1	-19	7
15	3102	805	294	3102	814	288	0	-9	6
16	2776	804	293	2776	812	289	0	-8	4
17	3056	846	-335	3060	861	-341	-4	-15	6
18	2728	857	-342	2732	871	-346	-4	-14	4

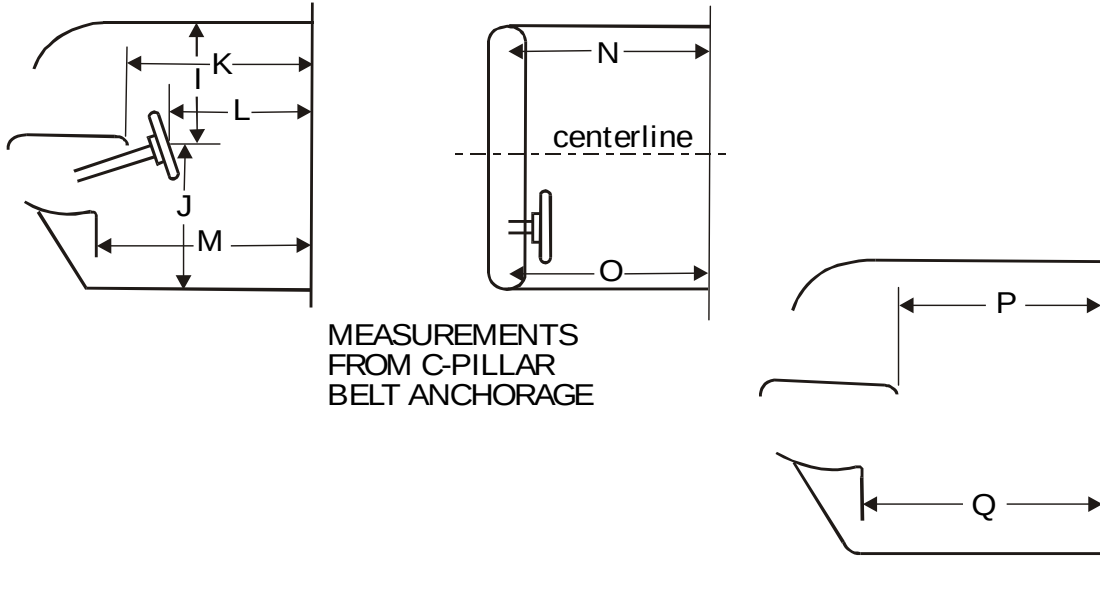
Units (mm)	(7-8) = Wheelbase Right
Pre-Test	2753
Post-Test	2427
Difference	326

DATA SHEET NO. 15 (CONTINUED)

TARGET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



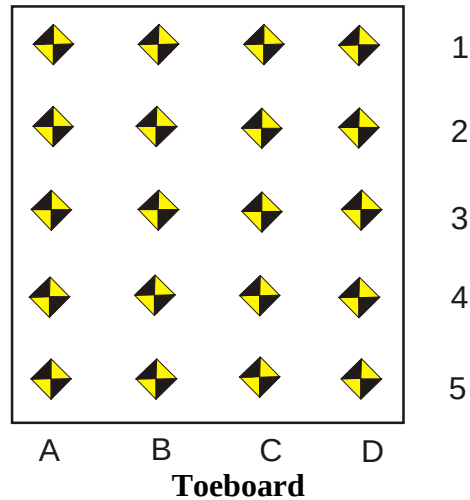
STATIC PASSENGER COMPARTMENT INTRUSION

Measurement	Pre-Test	Post-Test	Difference
I	405	510	-105
J	665	680	-15
K	1840	1631	209
L	1690	1535	155
M	1940	1736	204
N	1840	1795	45
O	1890	1746	144
P = K (Pass.)	1835	1840	-5
Q = M (Pass.)	1930	1921	9

DATA SHEET NO. 15 (CONTINUED)
TARGET VEHICLE INTRUSION MEASUREMENTS
DRIVER SIDE

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DRIVER'S SIDE TOEBOARD MEASUREMENTS

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3545	-567	219	3386	-512	245	159	-55	-26
B1	3616	-414	260	3484	-382	283	132	-32	-23
C1	3621	-301	254	3488	-271	272	133	-30	-18
D1	3626	-170	262	3505	-142	273	121	-28	-11
A2	3513	-566	276	3358	-510	306	155	-56	-30
B2	3573	-420	298	3439	-384	322	134	-36	-24
C2	3564	-301	293	3435	-267	312	129	-34	-19
D2	3568	-166	303	3451	-131	316	117	-35	-13
A3	3475	-569	337	3325	-512	369	150	-57	-32
B3	3484	-430	350	3353	-386	381	131	-44	-31
C3	3481	-299	350	3356	-258	373	125	-41	-23
D3	3489	-167	351	3370	-127	358	119	-40	-7
A4	3235	-602	349	3104	-553	390	131	-49	-41
B4	3246	-422	358	3120	-370	409	126	-52	-51
C4	3243	-276	354	3120	-229	380	123	-47	-26
D4	3239	-188	350	3120	-153	337	119	-35	13
A5	3019	-597	334	2889	-544	412	130	-53	-78
B5	3030	-426	357	2903	-373	411	127	-53	-54
C5	3030	-294	345	2907	-252	362	123	-42	-17
D5	3042	-252	334	2924	-223	337	118	-29	-3

All measurements are in millimeters.

DATA SHEET NO. 15 (CONTINUED)**TARGET VEHICLE INTRUSION MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**DRIVER'S SIDE**

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
Front Outboard Seat Bolt	2922	-563	300	2797	-523	387	125	-40	-87
Steering Center	2979	-360	-301	2835	-277	-340	144	-83	39
Left Knee Bolster	3227	-518	-114	3045	-431	-103	182	-87	-11
Right Knee Bolster	3213	-216	-113	3090	-132	-119	123	-84	6
Accelerator Pedal	3551	-169	163	3415	-91	154	136	-78	9
Brake Pedal	3488	-328	144	3338	-273	159	150	-55	-15
Footrest	3496	-566	192	3330	-502	221	166	-64	-29
IIHS Toepan Right	3678	-177	146	3557	-147	152	121	-30	-6
IIHS Toepan Center	3683	-327	146	3549	-301	161	134	-26	-15
IIHS Toepan Left	3618	-479	145	3461	-430	170	157	-49	-25
IIHS Footrest	3546	-577	146	3377	-517	174	169	-60	-28

All measurements are in millimeters.

DATA SHEET NO. 15 (CONTINUED)**TARGET VEHICLE INTRUSION MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**PASSENGER'S SIDE TOEBOARD**

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3589	226	278	3544	239	244	45	-13	34
B1	3599	329	272	3583	332	260	16	-3	12
C1	3600	431	274	3594	436	275	6	-5	0
D1	3570	546	252	3567	552	249	3	-6	4
A2	3545	226	310	3512	239	287	33	-13	23
B2	3551	335	304	3539	343	303	12	-8	1
C2	3554	431	307	3550	439	310	4	-8	-3
D2	3546	561	295	3544	568	291	2	-7	4
A3	3472	226	353	3453	237	349	19	-11	4
B3	3474	336	355	3471	345	365	3	-9	-10
C3	3473	442	358	3471	451	365	2	-9	-7
D3	3471	559	350	3471	568	351	0	-9	-1
A4	3251	210	357	3249	218	379	2	-8	-22
B4	3250	322	363	3250	333	372	0	-11	-9
C4	3252	428	364	3249	437	373	3	-9	-9
D4	3253	560	360	3256	568	354	-3	-8	6
A5	3052	255	339	3050	263	352	2	-8	-13
B5	3036	328	362	3035	339	375	1	-11	-13
C5	3040	436	364	3039	445	373	1	-9	-9
D5	3051	542	343	3050	552	349	1	-10	-6

All measurements are in millimeters.

DATA SHEET NO. 15 (CONTINUED)

TARGET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

**BUMPER MEASUREMENTS
(without fascia)**

Index	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4813	666	120	4815	498	64	-2	168	56
2	4866	545	118	4848	371	59	18	174	59
3	4881	410	117	4841	234	56	40	176	61
4	4891	273	115	4828	98	53	63	175	62
5	4896	141	114	4812	-34	51	84	175	63
6	4928	5	113	4823	-173	46	105	178	67
7	4895	-131	112	4769	-302	46	126	171	66
8	4890	-269	111	4741	-437	45	149	168	66
9	4880	-405	111	4710	-569	44	170	164	67
10	4866	-540	110	4674	-700	43	192	160	67
11	4811	-660	109	4600	-811	46	211	151	63

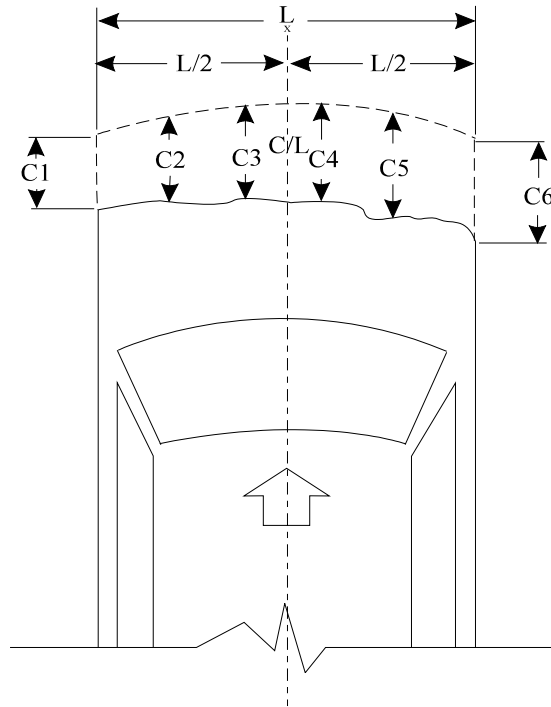
All measurements are in millimeters.

Point 1 is located on the passenger side of the bumper.

DATA SHEET NO. 16
BULLET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Notes: L is pre-test length of contact surface.
 C1 through C6 are spaced equally apart.
 CL is vehicle centerline.

Vehicle: 2007 Ford Five Hundred
 Tape measured with bumper fascia in place.

	Pre-Test	Post-Test ¹	Difference	
L=	1524			mm
C1=	4826			mm
C2=	4961			mm
C3=	5016			mm
C4=	5016			mm
C5=	4961			mm
C6=	4826			mm
CL=	5026			mm

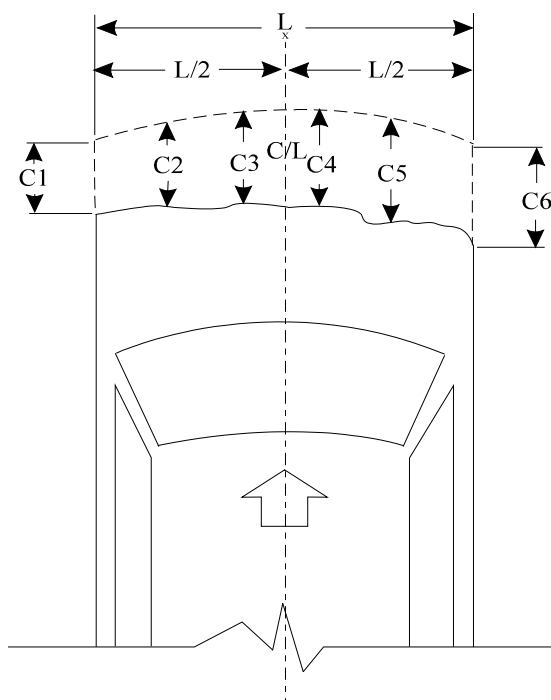
¹ Could not be measured post-test.

DATA SHEET NO. 16 CONTINUED

BULLET VEHICLE CRUSH

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Notes: L is pre-test length of contact surface.
C1 through C6 are spaced equally apart.
CL is vehicle centerline.

Vehicle: 2007 Ford Five Hundred
Faro measurement of bumper reinforcement.

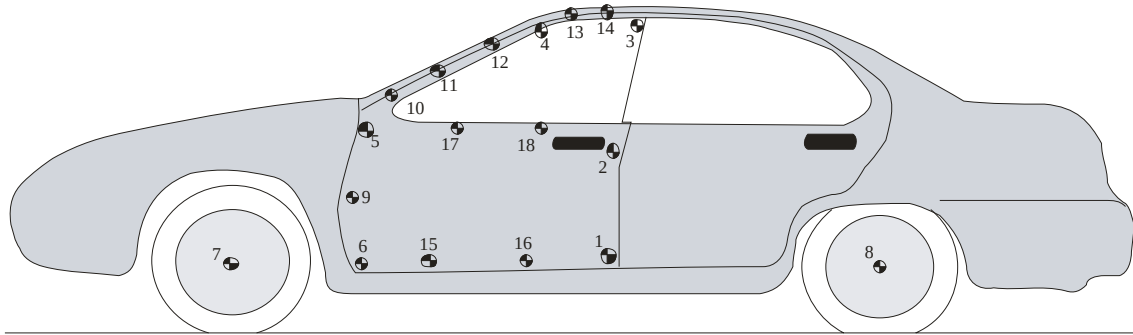
	Pre-Test	Post-Test	Difference	
L=	1329			mm
C1=	4820	4207	613	mm
C2=	4885	4387	498	mm
C3=	4897	4531	366	mm
C4=	4894	4664	230	mm
C5=	4877	4783	94	mm
C6=	4804	4850	-43	mm
CL=	4928	4626	302	mm

DATA SHEET NO. 17

BULLET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



LEFT SIDE VIEW

	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2532	-806	238	2420	-796	272	112	-10	-34
2	2457	-793	-253	2365	-783	-218	92	-10	-35
3	2354	-576	-751	2345	-544	-715	9	-32	-36
4	2884	-601	-696	2836	-580	-876	48	-21	180
5	3418	-781	-298	3259	-775	-354	159	-6	56
6	3374	-797	236	3235	-781	184	139	-16	52
Front Axle 7	3968	-870	264	3623	-887	137	345	17	127
Rear Axle 8	1220	-876	249	1195	-874	206	25	-2	43
9	3408	-776	-65	3241	-763	-122	167	13	57
10	3450	-781	-339	3293	-781	-391	157	0	53
11	3287	-714	-478	3160	-708	-557	127	-6	79
12	3095	-661	-592	3009	-648	-719	86	-13	127
13	2720	-571	-744	2690	-545	-893	30	-26	150
14	2534	-558	-768	2520	-517	-820	14	-41	52
15	3134	-796	277	3012	-786	254	122	-10	23
16	2837	-798	277	2717	-784	287	120	-14	-10
17	3076	-832	-352	2903	-885	-387	173	53	35
18	2731	-845	-358	2559	-910	-367	172	65	9

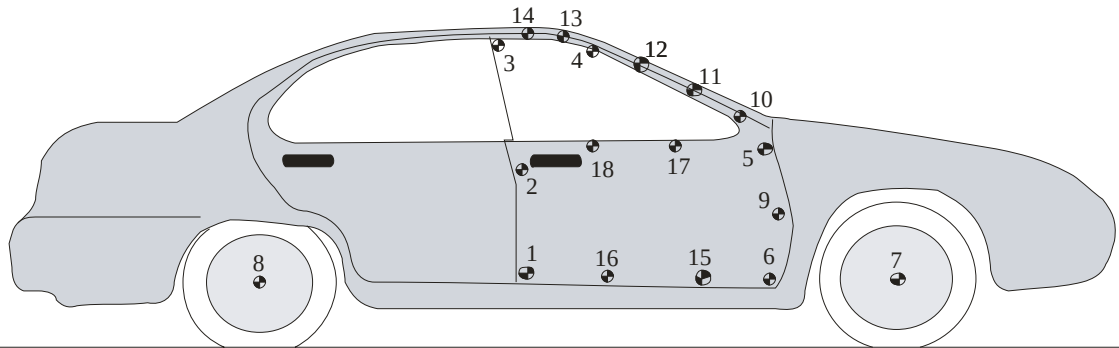
Units (mm)	(7-8) = Wheelbase Left
Pre-Test	2748
Post-Test	2428
Difference	320

DATA SHEET NO. 17 (CONTINUED)

BULLET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



RIGHT SIDE VIEW

	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2516	817	232	2501	838	240	15	-21	-8
2	2455	809	-249	2446	830	-241	9	-21	-8
3	2350	597	-742	2348	619	-736	2	-22	-6
4	2885	623	-687	2883	656	-678	2	-33	-9
5	3417	797	-284	3413	817	-267	4	-20	-17
6	3377	810	240	3363	827	256	14	-17	-16
Front Axle 7	3976	871	272	4040	834	274	-64	37	-2
Rear Axle 8	1213	879	253	1203	884	311	10	-5	-58
9	3407	790	-64	3399	809	-47	8	-20	-17
10	3448	798	-332	3445	815	-314	3	-17	-18
11	3281	732	-473	3278	755	-458	3	-23	-15
12	3083	679	-590	3082	707	-578	1	-28	-12
13	2711	591	-739	2710	621	-731	1	-30	-8
14	2531	578	-761	2530	605	-755	1	-27	-6
15	3105	810	285	3090	829	299	15	-19	-14
16	2773	808	285	2758	829	296	15	-21	-11
17	3047	849	-345	3045	871	-332	2	-22	-13
18	2712	861	-350	2710	883	-341	2	-22	-9

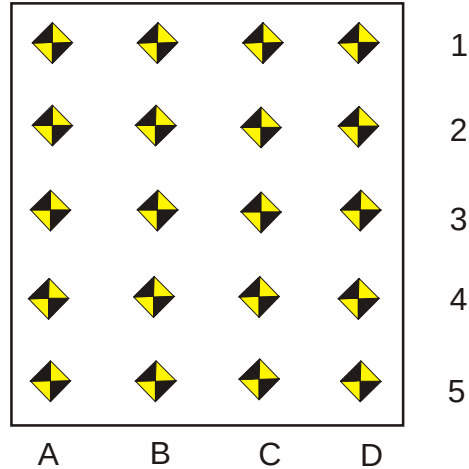
Units (mm)	(7-8) = Wheelbase Right
Pre-Test	2763
Post-Test	2837
Difference	-74

DATA SHEET NO. 17 (CONTINUED)

BULLET VEHICLE INTRUSION MEASUREMENTS

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DRIVER'S SIDE TOEBOARD MEASUREMENTS

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3549	-561	215	3392	-542	149	157	-19	66
B1	3629	-414	251	3486	-403	174	143	-11	77
C1	3622	-300	251	3480	-289	172	142	-11	79
D1	3628	-154	248	3495	-143	172	133	-11	76
A2	3517	-562	272	3377	-546	210	140	-16	62
B2	3578	-419	297	3441	-408	225	137	-11	72
C2	3565	-297	291	3430	-286	221	135	-11	70
D2	3561	-151	303	3439	-139	233	122	-12	70
A3	3478	-568	334	3348	-558	278	130	-10	56
B3	3483	-431	347	3357	-420	291	126	-11	56
C3	3479	-301	348	3354	-289	291	125	-12	57
D3	3465	-151	346	3343	-140	275	122	-11	71
A4	3231	-582	344	3113	-567	316	118	-15	28
B4	3217	-410	356	3099	-395	349	118	-15	7
C4	3219	-280	350	3101	-273	321	118	-7	29
D4	3220	-193	349	3099	-199	271	121	6	78
A5	3007	-588	334	2893	-581	338	114	-7	-4
B5	3024	-412	355	2905	-403	354	119	-9	1
C5	3041	-272	329	2925	-272	303	116	0	26
D5	3072	-231	334	2957	-234	292	115	3	42

All measurements are in millimeters

DATA SHEET NO. 17 (CONTINUED)**BULLET VEHICLE INTRUSION MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**DRIVER'S SIDE**

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
Front Outboard Seat Bolt	2923	-557	298	2817	-558	310	106	1	-12
Steering Center	2981	-353	-310	2855	-323	-408	126	-30	98
Left Knee Bolster	3231	-515	-112	3091	-492	-187	140	-23	75
Right Knee Bolster	3207	-204	-122	3106	-180	-194	101	-24	72
Accelerator Pedal	3550	-158	159	3405	-60	67	145	-98	92
Brake Pedal	3494	-324	142	3304	-330	50	190	6	92
Footrest	3499	-559	187	3340	-541	132	159	-18	55
Parking Brake	3347	-617	78	3178	-587	12	169	-30	66
IIHS Toe pan Right	3677	-177	143	3512	-167	55	165	-10	88
IIHS Toe pan Center	3686	-327	144	3506	-299	63	180	-28	81
IIHS Toe pan Left	3613	-478	149	3436	-454	71	177	-24	78
IIHS Footrest	3542	-576	144	3370	-553	85	172	-23	59

All measurements are in millimeters.

DATA SHEET NO. 17 (CONTINUED)**BULLET VEHICLE INTRUSION MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**PASSENGER'S SIDE TOEBOARD MEASUREMENTS**

Intrusion Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
A1	3589	248	261	3529	264	256	60	-16	5
B1	3579	358	266	3549	368	288	30	-10	-22
C1	3585	461	261	3560	470	282	25	-9	-21
D1	3551	584	249	3530	595	268	21	-11	-19
A2	3535	249	298	3486	267	307	49	-18	-9
B2	3530	357	302	3503	370	328	27	-13	-27
C2	3530	460	301	3508	472	327	22	-12	-26
D2	3525	591	300	3505	604	319	20	-13	-19
A3	3471	240	349	3433	254	370	38	-14	-21
B3	3473	356	348	3450	371	379	23	-15	-31
C3	3472	467	349	3454	482	374	18	-15	-25
D3	3471	593	342	3453	608	362	18	-15	-20
A4	3249	218	349	3226	235	377	23	-17	-28
B4	3261	352	354	3239	369	388	22	-17	-34
C4	3268	466	352	3248	482	380	20	-16	-28
D4	3260	588	348	3242	606	372	18	-18	-24
A5	3064	251	333	3040	270	373	24	-19	-40
B5	3005	357	354	2982	376	387	23	-19	-33
C5	3012	457	355	2991	478	382	21	-21	-27
D5	3019	585	338	3000	604	360	19	-19	-22

All measurements are in millimeters.

DATA SHEET NO. 17 (CONTINUED)**BULLET VEHICLE INTRUSION MEASUREMENTS**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09**BUMPER MEASUREMENTS
(without fascia)**

Index	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4807	667	109	4850	387	-25	-43	280	134
2	4861	546	107	4838	256	-21	23	290	128
3	4877	410	106	4783	129	-18	94	281	124
4	4887	275	106	4726	8	-17	161	267	123
5	4894	140	106	4664	-113	-15	230	253	121
6	4928	4	107	4626	-248	-9	302	252	116
7	4897	-134	107	4531	-350	-11	366	216	118
8	4892	-271	108	4459	-468	-10	433	197	118
9	4885	-405	111	4388	-582	-7	497	177	118
10	4872	-540	113	4317	-695	-1	555	155	114
11	4820	-662	113	4207	-773	3	613	111	110

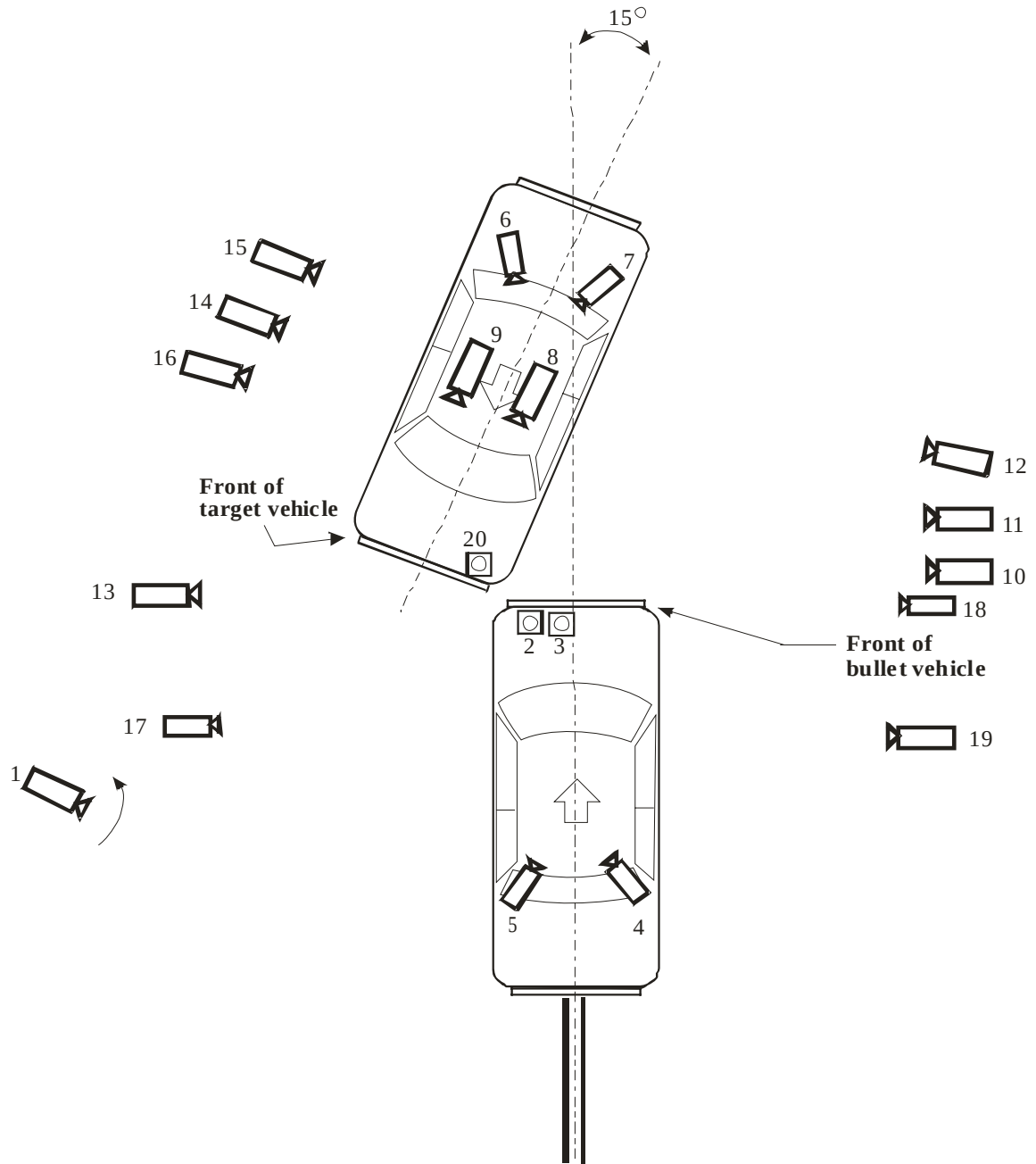
All measurements are in millimeters.

Point 1 is located on the passenger side of the bumper.

DATA SHEET NO. 18
CAMERA LOCATIONS AND DATA

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



DATA SHEET NO. 18 (CONTINUED)**CAMERA LOCATIONS AND DATA**Test Program: Vehicle to Vehicle Frontal Offset ImpactTest Date: 11/06/09

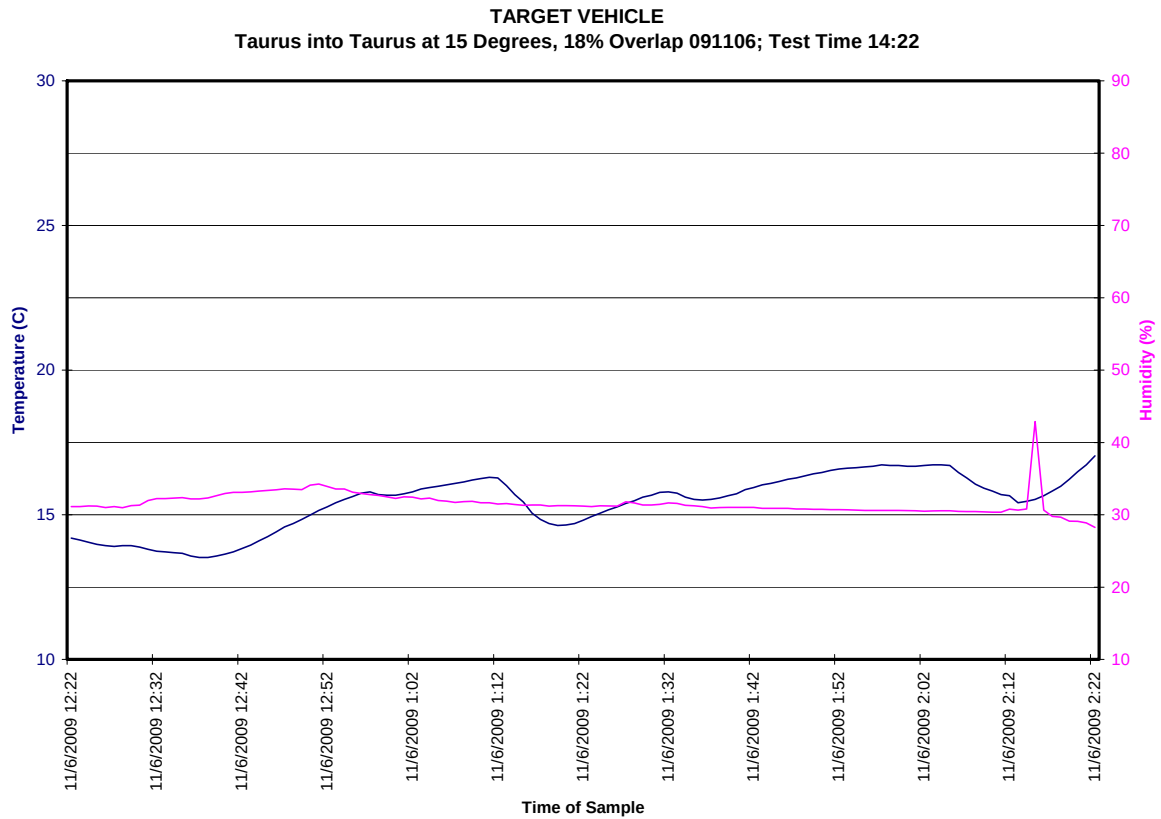
Ref.	Description / Location	Type	Lens (mm)	Speed (f/s)
1	Real Time Panning/Documentary	Canon	Zoom	30
2	Overhead Wide	Visario-G1	12.5	1000
3	Overhead Tight	Visario-G1	25	1000
4	Bullet Onboard Driver Overshoulder	Redlake-LE	8.5	1000
5	Bullet Onboard Passenger Overshoulder	Redlake-LE	8.5	1000
6	Target Onboard Driver Overshoulder	Redlake-LE	8.5	1000
7	Target Onboard Driver Lateral	Redlake-LE	8.5	1000
8	Target Onboard Driver Footwell	VRTC1	5.5	1000
9	Left Wide Bullet Vehicle/Target Vehicle at T-0	Redlake-LE	8.5	1000
10	Left Side Tight Target Vehicle B-Pillar to Bullet Vehicle	Visario-G2	25	1000
11	Left Tight Target Driver to IP/Airbag Contact	Redlake-LE	25	1000
12	Right Wide Target Vehicle/Bullet Vehicle at T-0	Visario-G1	16	1000
13	Right Side Tight Target Vehicle B-Pillar to Bullet Tight	Visario-G2	25	1000
14	Right Tight Target Passenger to IP/Airbag Contact	Visario-G1	50	1000
15	Left Side Tight Bullet Vehicle B-Pillar to Target Vehicle	Visario-G2	25	1000
16	Left Tight Bullet Driver to IP/Airbag Contact	Visario-G1	50	1000
17	Right Side Tight Bullet Vehicle B-Pillar to Target Tight	Redlake-LE	25	1000
18	Right Tight Bullet Passenger to IP/Airbag Contact	Redlake-LE	25	1000
19	Pit Wide	Redlake-LE	12.5	1000

DATA SHEET NO. 19

TARGET DUMMY / VEHICLE TEMPERATURE STABILIZATION

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09

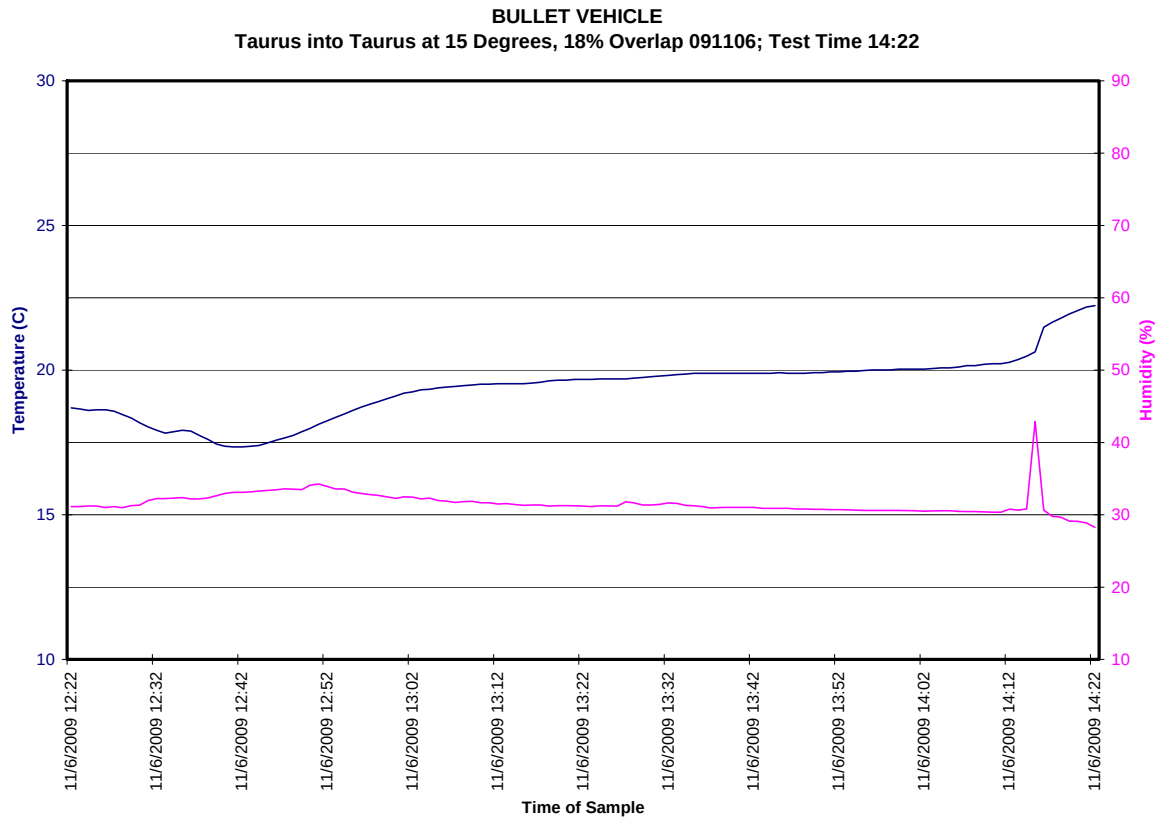


DATA SHEET NO. 20

BULLET DUMMY / VEHICLE TEMPERATURE STABILIZATION

Test Program: Vehicle to Vehicle Frontal Offset Impact

Test Date: 11/06/09



Appendix A

Photographs

List of Photographs

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-1	Pre-Test Overall - View 1	A-8
A-2	Pre-Test Overall - View 2	A-8
A-3	Pre-Test Overall - View 3 – Photograph Not Available	A-9
A-4	Pre-Test Overall - View 4 – Photograph Not Available	A-9
A-5	Pre-Test Overall - View 5 – Photograph Not Available	A-10
A-6	Pre-Test Overall - View 6 – Photograph Not Available	A-10
A-7	Pre-Test Overall - View 7 – Photograph Not Available	A-11
A-8	Pre-Test Overall - View 8 – Photograph Not Available	A-11
A-9	Pre-Test Overhead Wide View	A-12
A-10	Pre-Test Overhead Medium View	A-12
A-11	Pre-Test Overhead Tight View – Photograph Not Available	A-13
A-12	Pre-Test Overhead Impact Alignment View – Photograph Not Available	A-13
A-13	Pre-Test Overhead Target Vehicle View	A-14
A-14	Pre-Test Overhead Bullet Vehicle View	A-14
A-15	Pre-Test Impact Alignment – View 1	A-15
A-16	Pre-Test Impact Alignment – View 2	A-15
A-17	Pre-Test Target Vehicle Front View	A-16
A-18	Post-Test Target Vehicle Front View	A-16
A-19	Pre-Test Target Vehicle Left Front View	A-17
A-20	Post-Test Target Vehicle Left Front View	A-17
A-21	Pre-Test Target Vehicle Left Side View	A-18
A-22	Post-Test Target Vehicle Left Side View	A-18
A-23	Pre-Test Target Vehicle Left Rear View	A-19
A-24	Post-Test Target Vehicle Left Rear View	A-19
A-25	Pre-Test Target Vehicle Rear View	A-20
A-26	Post-Test Target Vehicle Rear View	A-20

List of Photographs, Continued

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-27	Pre-Test Target Vehicle Right Rear View	A-21
A-28	Post-Test Target Vehicle Right Rear View	A-21
A-29	Pre-Test Target Vehicle Right Side View	A-22
A-30	Post-Test Target Vehicle Right Side View	A-22
A-31	Pre-Test Target Vehicle Right Front View	A-23
A-32	Post-Test Target Vehicle Right Front View	A-23
A-33	Pre-Test Target Vehicle Engine Compartment View	A-24
A-34	Post-Test Target Vehicle Engine Compartment View	A-24
A-35	Pre-Test Target Vehicle Front Underbody View	A-25
A-36	Post-Test Target Vehicle Front Underbody View	A-25
A-37	Pre-Test Target Vehicle Mid Front Underbody View	A-26
A-38	Post-Test Target Vehicle Mid Front Underbody View	A-26
A-39	Pre-Test Target Vehicle Mid Underbody View	A-27
A-40	Post-Test Target Vehicle Mid Underbody View	A-27
A-41	Pre-Test Target Vehicle Mid Rear Underbody View	A-28
A-42	Post-Test Target Vehicle Mid Rear Underbody View	A-28
A-43	Pre-Test Target Vehicle Rear Underbody View	A-29
A-44	Post-Test Target Vehicle Rear Underbody View	A-29
A-45	Pre-Test Bullet Vehicle Front View	A-30
A-46	Post-Test Bullet Vehicle Front View	A-30
A-47	Pre-Test Bullet Vehicle Left Front View	A-31
A-48	Post-Test Bullet Vehicle Left Front View	A-31
A-49	Pre-Test Bullet Vehicle Left Side View	A-32
A-50	Post-Test Bullet Vehicle Left Side View	A-32
A-51	Pre-Test Bullet Vehicle Left Rear View	A-33
A-52	Post-Test Bullet Vehicle Left Rear View	A-33

List of Photographs, Continued

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-53	Pre-Test Bullet Vehicle Rear View	A-34
A-54	Post-Test Bullet Vehicle Rear View	A-34
A-55	Pre-Test Bullet Vehicle Right Rear View	A-35
A-56	Post-Test Bullet Vehicle Right Rear View	A-35
A-57	Pre-Test Bullet Vehicle Right Side View	A-36
A-58	Post-Test Bullet Vehicle Right Side View	A-36
A-59	Pre-Test Bullet Vehicle Right Front View	A-37
A-60	Post-Test Bullet Vehicle Right Front View	A-37
A-61	Pre-Test Bullet Vehicle Engine Compartment View	A-38
A-62	Post-Test Bullet Vehicle Engine Compartment View	A-38
A-63	Pre-Test Bullet Vehicle Front Underbody View	A-39
A-64	Post-Test Bullet Vehicle Front Underbody View	A-39
A-65	Pre-Test Bullet Vehicle Mid Front Underbody View	A-40
A-66	Post-Test Bullet Vehicle Mid Front Underbody View	A-40
A-67	Pre-Test Bullet Vehicle Mid Underbody View	A-41
A-68	Post-Test Bullet Vehicle Mid Underbody View	A-41
A-69	Pre-Test Bullet Vehicle Mid Rear Underbody View	A-42
A-70	Post-Test Bullet Vehicle Mid Rear Underbody View	A-42
A-71	Pre-Test Bullet Vehicle Rear Underbody View	A-43
A-72	Post-Test Bullet Vehicle Rear Underbody View	A-43
A-73	Pre-Test Target Vehicle Driver Dummy through Windshield View	A-44
A-74	Post-Test Target Vehicle Driver Dummy through Windshield View	A-44
A-75	Pre-Test Target Vehicle Driver Dummy - View 1	A-45
A-76	Post-Test Target Vehicle Driver Dummy - View 1	A-45
A-77	Pre-Test Target Vehicle Driver Dummy - View 2	A-46
A-78	Post-Test Target Vehicle Driver Dummy - View 2 – Photograph Not Available	A-46

List of Photographs, Continued

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-79	Pre-Test Target Vehicle Driver Dummy - View 3	A-47
A-80	Post-Test Target Vehicle Driver Dummy - View 3 – Photograph Not Available	A-47
A-81	Pre-Test Target Vehicle Driver Dummy - View 4 – Photograph Not Available	A-48
A-82	Post-Test Target Vehicle Driver Dummy - View 4 – Photograph Not Available	A-48
A-83	Pre-Test Target Vehicle Driver Dummy Knee Bolster View	A-49
A-84	Post-Test Target Vehicle Driver Dummy Knee Bolster View – Photograph Not Available	A-49
A-85	Pre-Test Target Vehicle Driver Dummy Foot Position View	A-50
A-86	Pre-Test Target Vehicle Driver Dummy Seat Track View	A-50
A-87	Pre-Test Bullet Vehicle Driver and Passenger Dummies through Windshield View	A-51
A-88	Post-Test Bullet Vehicle Driver and Passenger Dummies through Windshield View	A-51
A-89	Pre-Test Bullet Vehicle Driver Dummy - View 1	A-52
A-90	Post-Test Bullet Vehicle Driver Dummy - View 1	A-52
A-91	Pre-Test Bullet Vehicle Driver Dummy - View 2	A-53
A-92	Post-Test Bullet Vehicle Driver Dummy - View 2 – Photograph Not Available	A-53
A-93	Pre-Test Bullet Vehicle Driver Dummy - View 3	A-54
A-94	Post-Test Bullet Vehicle Driver Dummy - View 3 – Photograph Not Available	A-54
A-95	Pre-Test Bullet Vehicle Driver Dummy - View 4 – Photograph Not Available	A-55
A-96	Post-Test Bullet Vehicle Driver Dummy - View 4 – Photograph Not Available	A-55
A-97	Pre-Test Bullet Vehicle Driver Dummy Knee Bolster View – Photograph Not Available	A-56
A-98	Post-Test Bullet Vehicle Driver Dummy Knee Bolster View – Photograph Not Available	A-56
A-99	Pre-Test Bullet Vehicle Driver Dummy Foot Position View	A-57
A-100	Pre-Test Bullet Vehicle Driver Dummy Seat Track View	A-57

List of Photographs, Continued

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-101	Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 1	A-58
A-102	Post-Test Bullet Vehicle Right Front Passenger Dummy - View 1	A-58
A-103	Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 2	A-59
A-104	Post-Test Bullet Vehicle Right Front Passenger Dummy - View 2	A-59
A-105	Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 3	A-60
A-106	Post-Test Bullet Vehicle Right Front Passenger Dummy - View 3	A-60
A-107	Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 4 – Photograph Not Available	A-61
A-108	Post-Test Bullet Vehicle Right Front Passenger Dummy - View 4 – Photograph Not Available	A-61
A-109	Pre-Test Bullet Vehicle Right Front Passenger Dummy Knee Bolster View	A-62
A-110	Post-Test Bullet Vehicle Right Front Passenger Dummy Knee Bolster View	A-62
A-111	Pre-Test Bullet Vehicle Right Front Passenger Dummy Seat Track View	A-63
A-112	Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 1	A-64
A-113	Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 1	A-64
A-114	Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 2	A-65
A-115	Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 2 – Photograph Not Available	A-65
A-116	Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 3	A-66
A-117	Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 3 – Photograph Not Available	A-66
A-118	Post-Test Target Vehicle Driver Dummy Overall Contact View	A-67
A-119	Post-Test Target Vehicle Driver Dummy Head Contact - View 1	A-67
A-120	Post-Test Target Vehicle Driver Dummy Head Contact - View 2 – Photograph Not Available	A-68
A-121	Post-Test Target Vehicle Driver Dummy Knee Contact - View 1 – Photograph Not Available	A-68
A-122	Post-Test Bullet Vehicle Driver Dummy Overall Contact View	A-69

List of Photographs, Continued

<u>Figure</u>	<u>Description</u>	<u>Page</u>
A-123	Post-Test Bullet Vehicle Driver Dummy Head Contact - View 1	A-69
A-124	Post-Test Bullet Vehicle Driver Dummy Head Contact - View 2 – Photograph Not Available	A-70
A-125	Post-Test Bullet Vehicle Driver Dummy Knee Contact - View 1	A-70
A-126	Post-Test Bullet Vehicle Right Front Passenger Dummy Overall Contact View	A-71
A-127	Post-Test Bullet Vehicle Right Front Passenger Dummy Head Contact - View 1	A-71
A-128	Post-Test Bullet Vehicle Right Front Passenger Dummy Head Contact - View 2 – Photograph Not Available Contact -	A-72
A-129	Post-Test Bullet Vehicle Right Front Passenger Dummy Knee Contact - View 1	A-72
A-130	Post-Test Bullet Vehicle Left Rear Passenger Dummy Overall Contact View	A-73
A-131	Post-Test Bullet Vehicle Left Rear Passenger Dummy Head Contact - View 1 – Photograph Not Available	A-73
A-132	Post-Test Light Trap Readout View	A-74
A-133	Pre-Test Target Vehicle Certification Label View	A-75
A-134	Pre-Test Target Vehicle Tire Load Label View	A-75
A-135	Pre-Test Bullet Vehicle Certification Label View	A-76
A-136	Pre-Test Bullet Vehicle Tire Load Label View	A-76



Figure A-1 Pre-Test Overall - View 1



Figure A-2 Pre-Test Overall - View 2

Photograph Not Available

Figure A-3 Pre-Test Overall - View 3

Photograph Not Available

Figure A-4 Pre-Test Overall - View 4

Photograph Not Available

Figure A-5 Pre-Test Overall - View 5

Photograph Not Available

Figure A-6 Pre-Test Overall - View 6

Photograph Not Available

Figure A-7 Pre-Test Overall - View 7

Photograph Not Available

Figure A-8 Pre-Test Overall - View 8



Figure A-9 Pre-Test Overhead Wide View

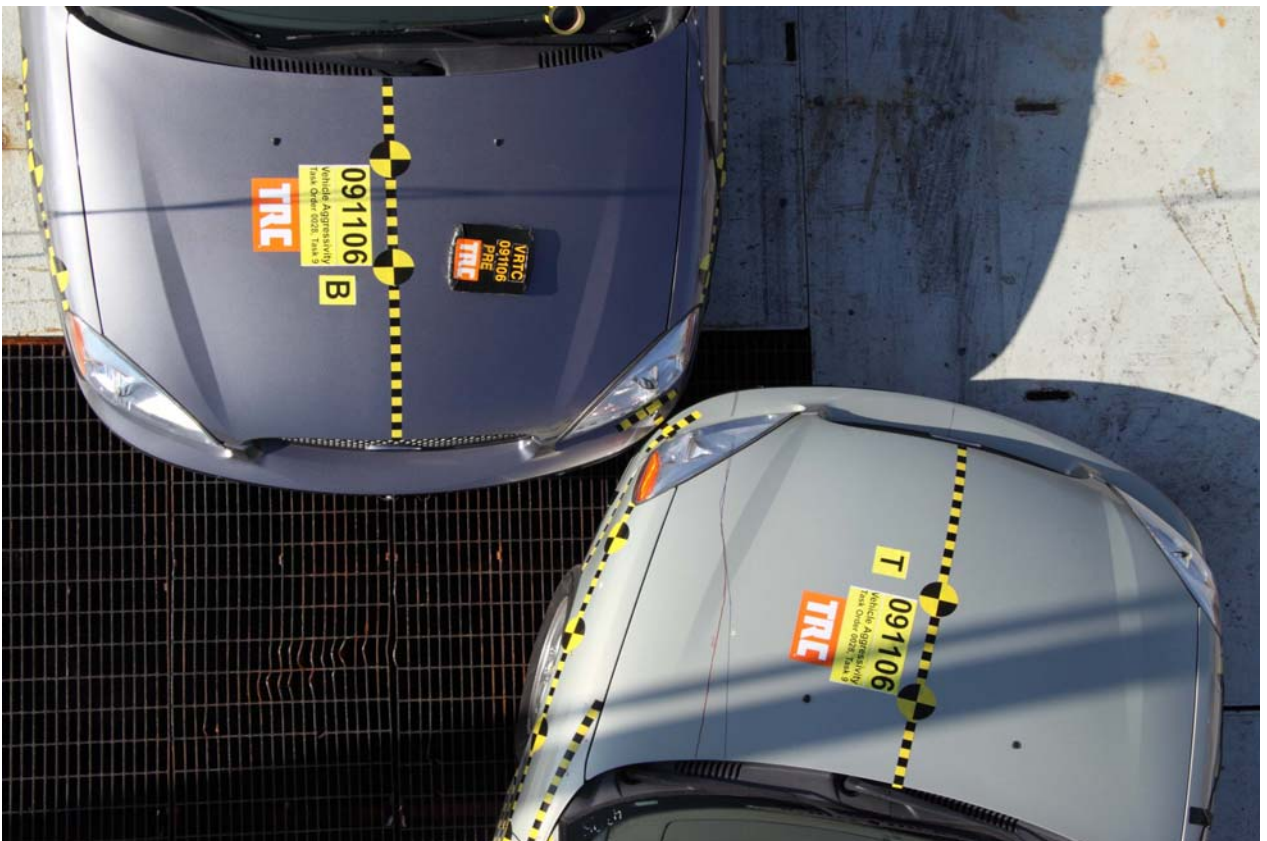


Figure A-10 Pre-Test Overhead Medium View

Photograph Not Available

Figure A-11 Pre-Test Overhead Tight View

Photograph Not Available

Figure A-12 Pre-Test Overhead Impact Alignment View



Figure A-13 Pre-Test Overhead Target Vehicle View



Figure A-14 Pre-Test Overhead Bullet Vehicle View



Figure A-15 Pre-Test Impact Alignment – View 1

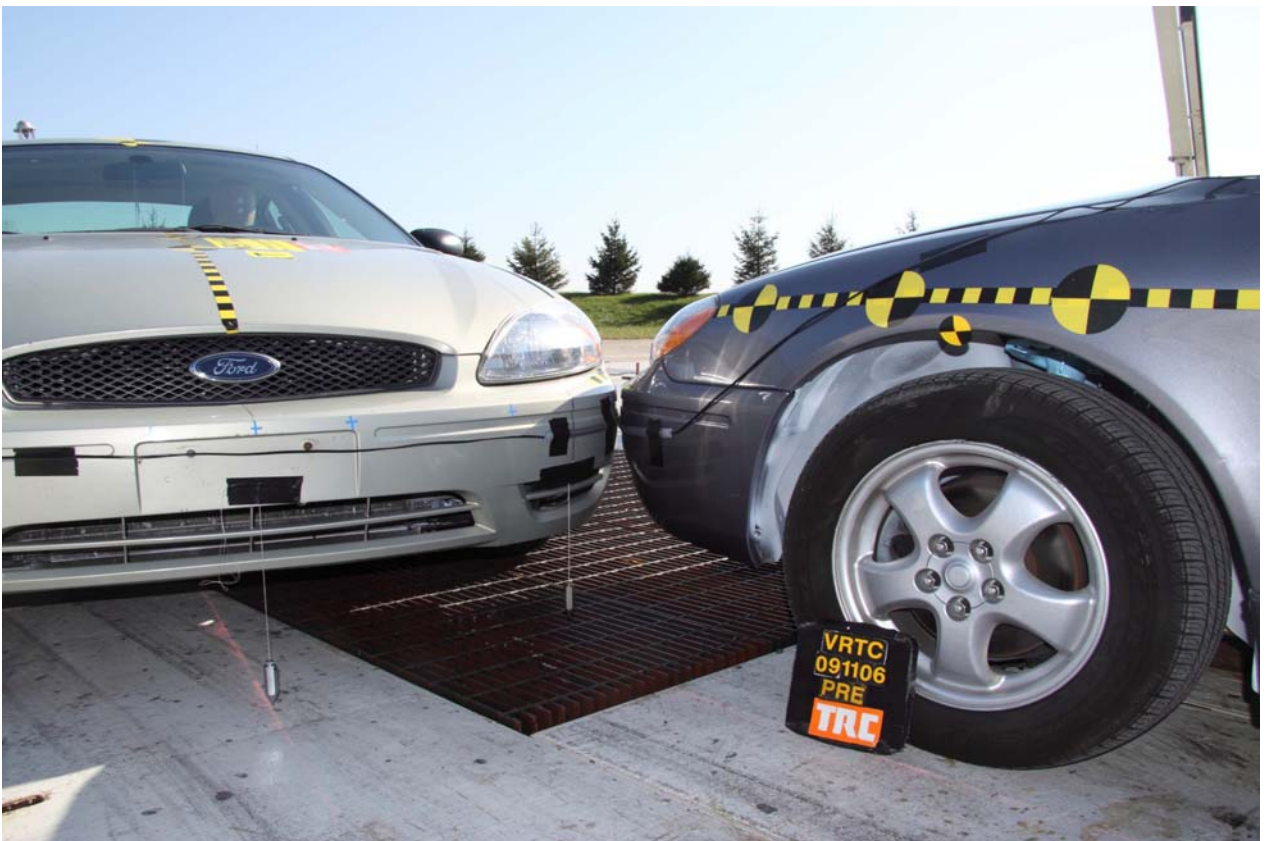


Figure A-16 Pre-Test Impact Alignment – View 2



Figure A-17 Pre-Test Target Vehicle Front View



Figure A-18 Post-Test Target Vehicle Front View



Figure A-19 Pre-Test Target Vehicle Left Front View



Figure A-20 Post-Test Target Vehicle Left Front View



Figure A-21 Pre-Test Target Vehicle Left Side View



Figure A-22 Post-Test Target Vehicle Left Side View



Figure A-23 Pre-Test Target Vehicle Left Rear View



Figure A-24 Post-Test Target Vehicle Left Rear View



Figure A-25 Pre-Test Target Vehicle Rear View



Figure A-26 Post-Test Target Vehicle Rear View



Figure A-27 Pre-Test Target Vehicle Right Rear View



Figure A-28 Post-Test Target Vehicle Right Rear View



Figure A-29 Pre-Test Target Vehicle Right Side View



Figure A-30 Post-Test Target Vehicle Right Side View



Figure A-31 Pre-Test Target Vehicle Right Front View



Figure A-32 Post-Test Target Vehicle Right Front View



Figure A-33 Pre-Test Target Vehicle Engine Compartment View



Figure A-34 Post-Test Target Vehicle Engine Compartment View

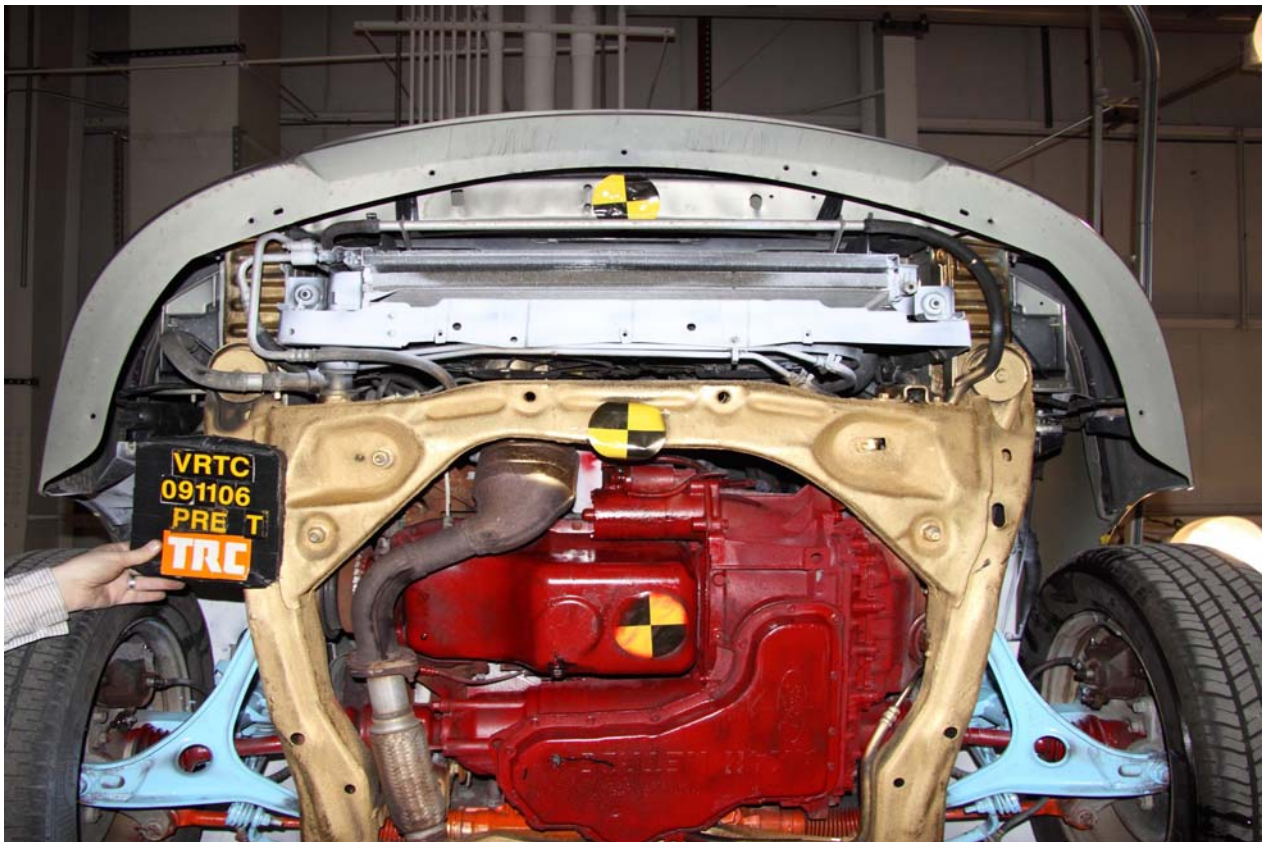


Figure A-35 Pre-Test Target Vehicle Front Underbody View

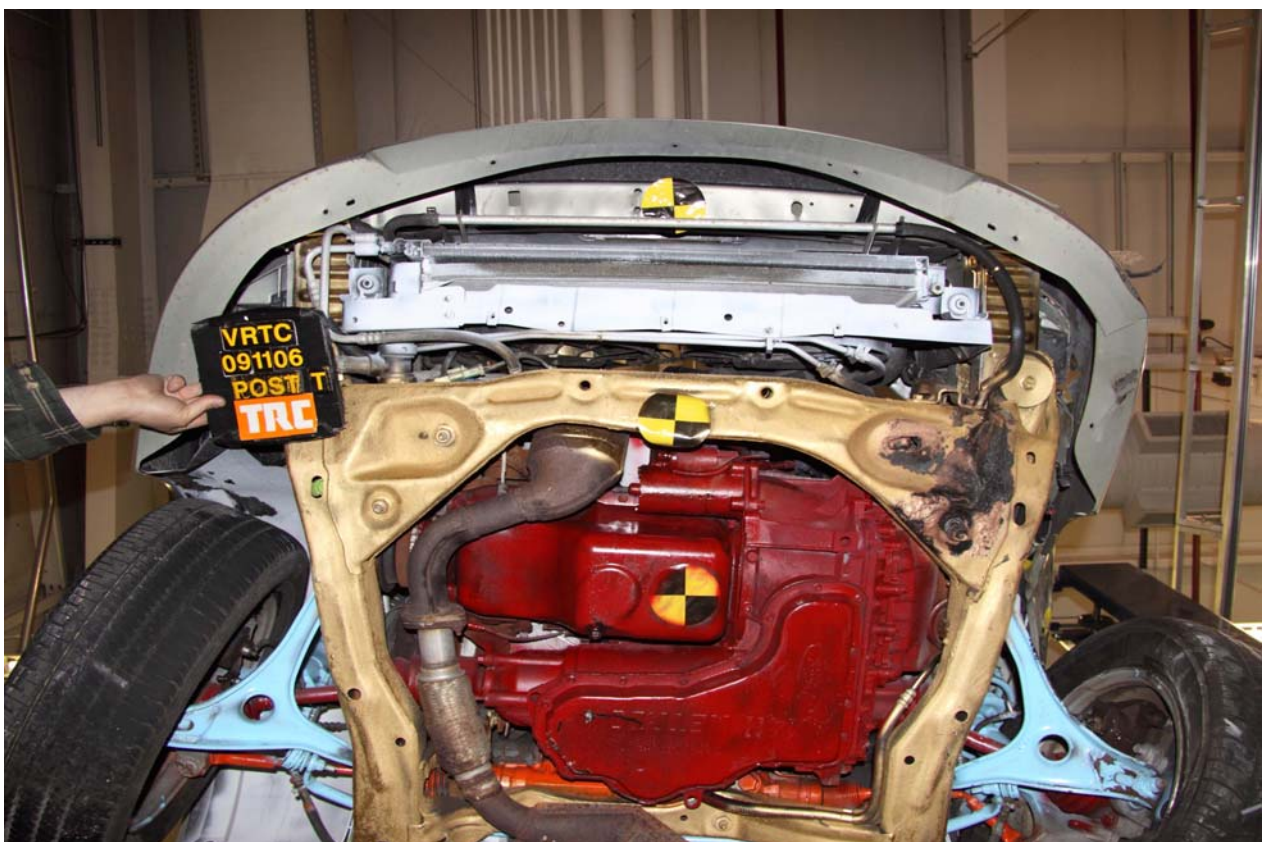


Figure A-36 Post-Test Target Vehicle Front Underbody View

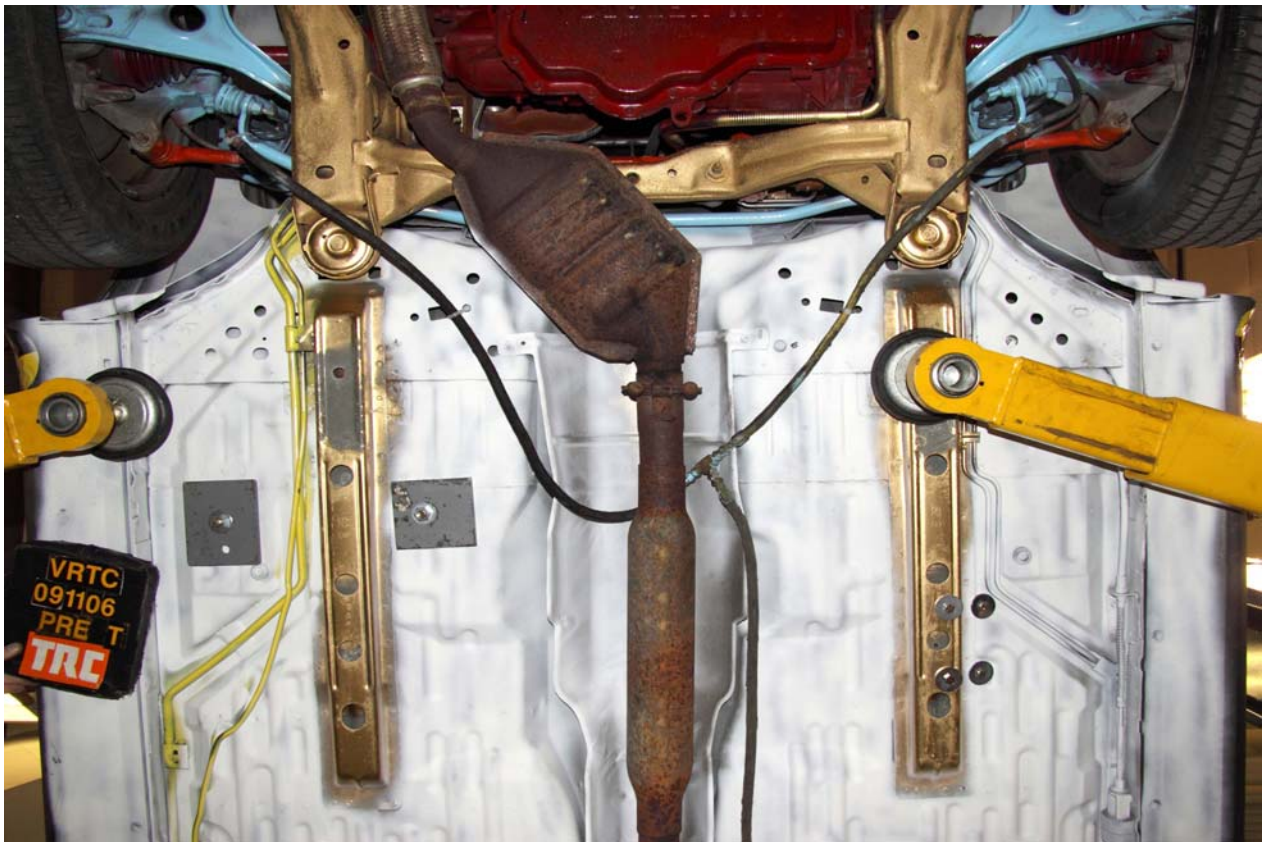


Figure A-37 Pre-Test Target Vehicle Mid Front Underbody View

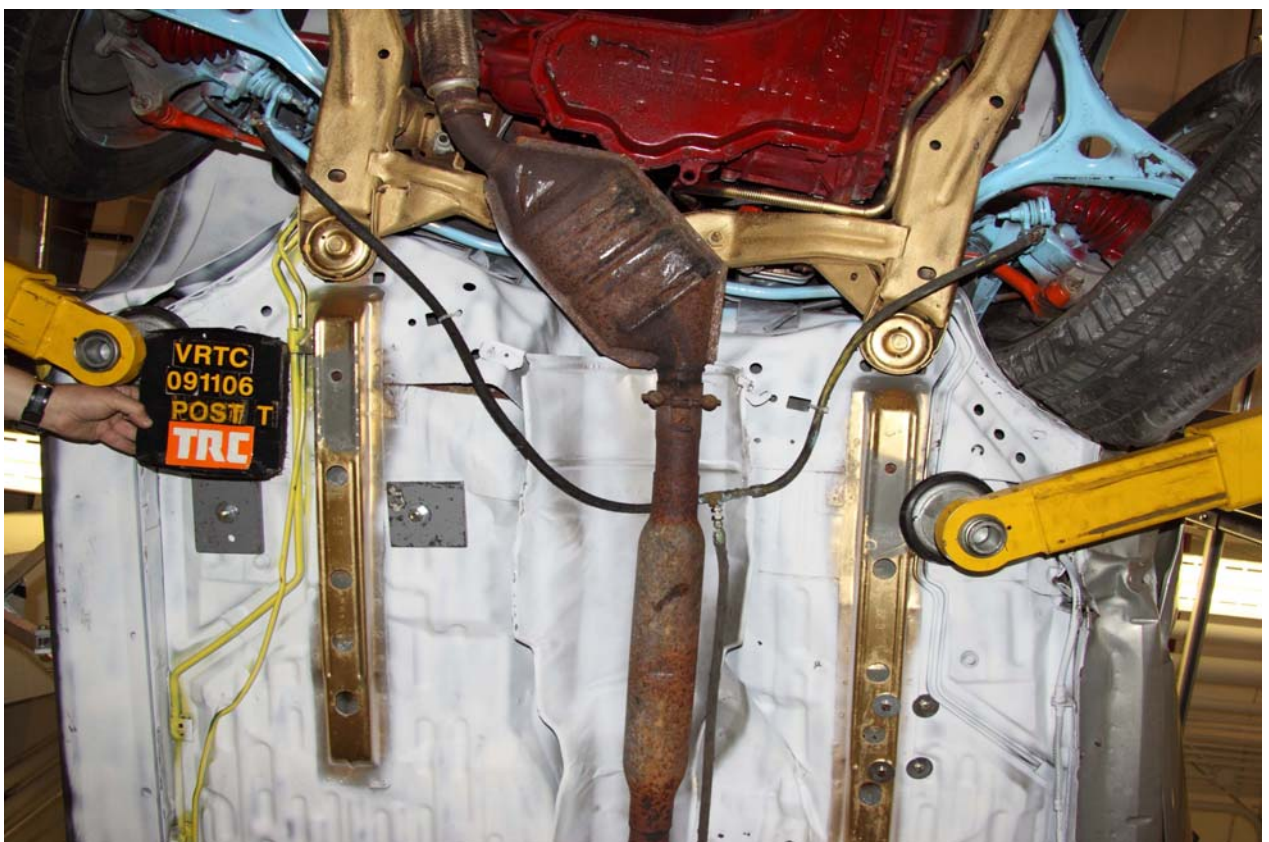


Figure A-38 Post-Test Target Vehicle Mid Front Underbody View

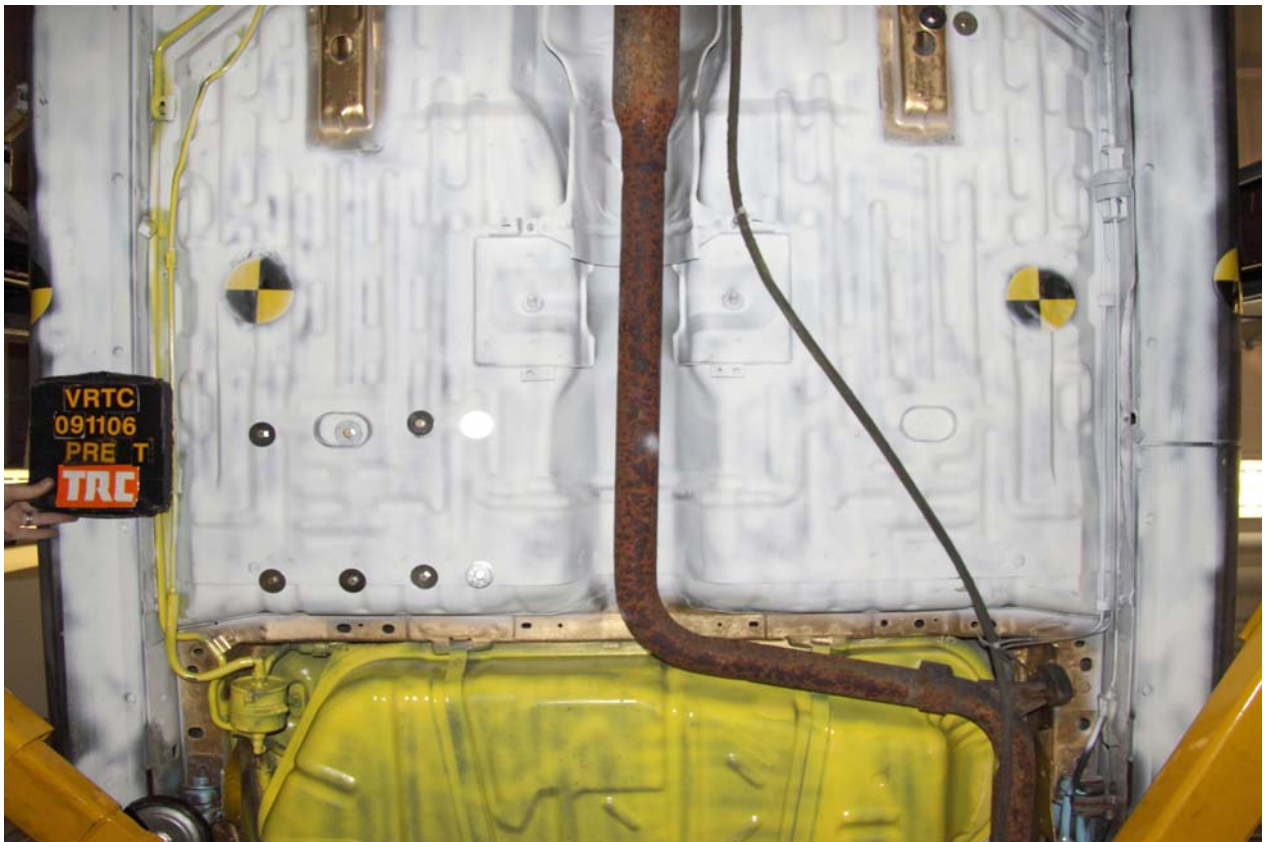


Figure A-39 Pre-Test Target Vehicle Mid Underbody View

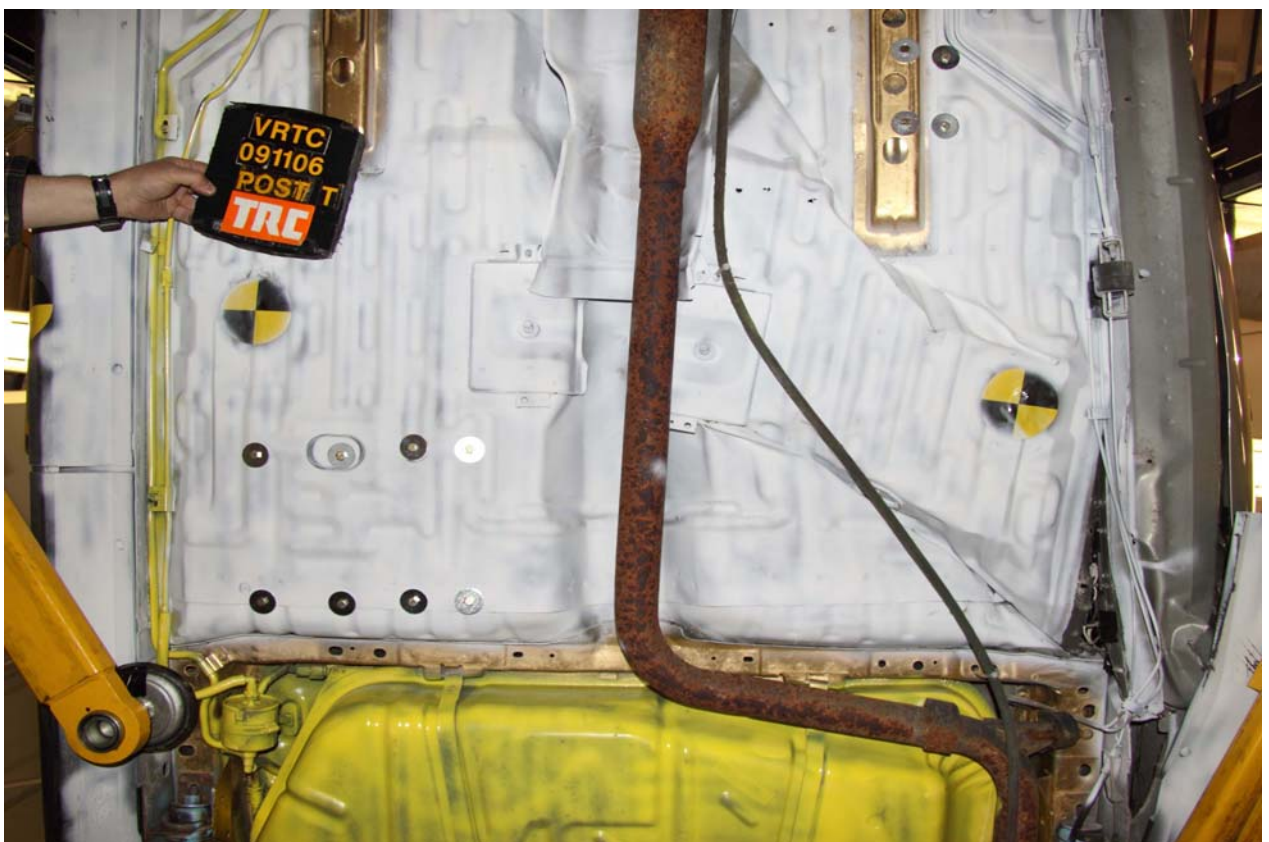


Figure A-40 Post-Test Target Vehicle Mid Underbody View

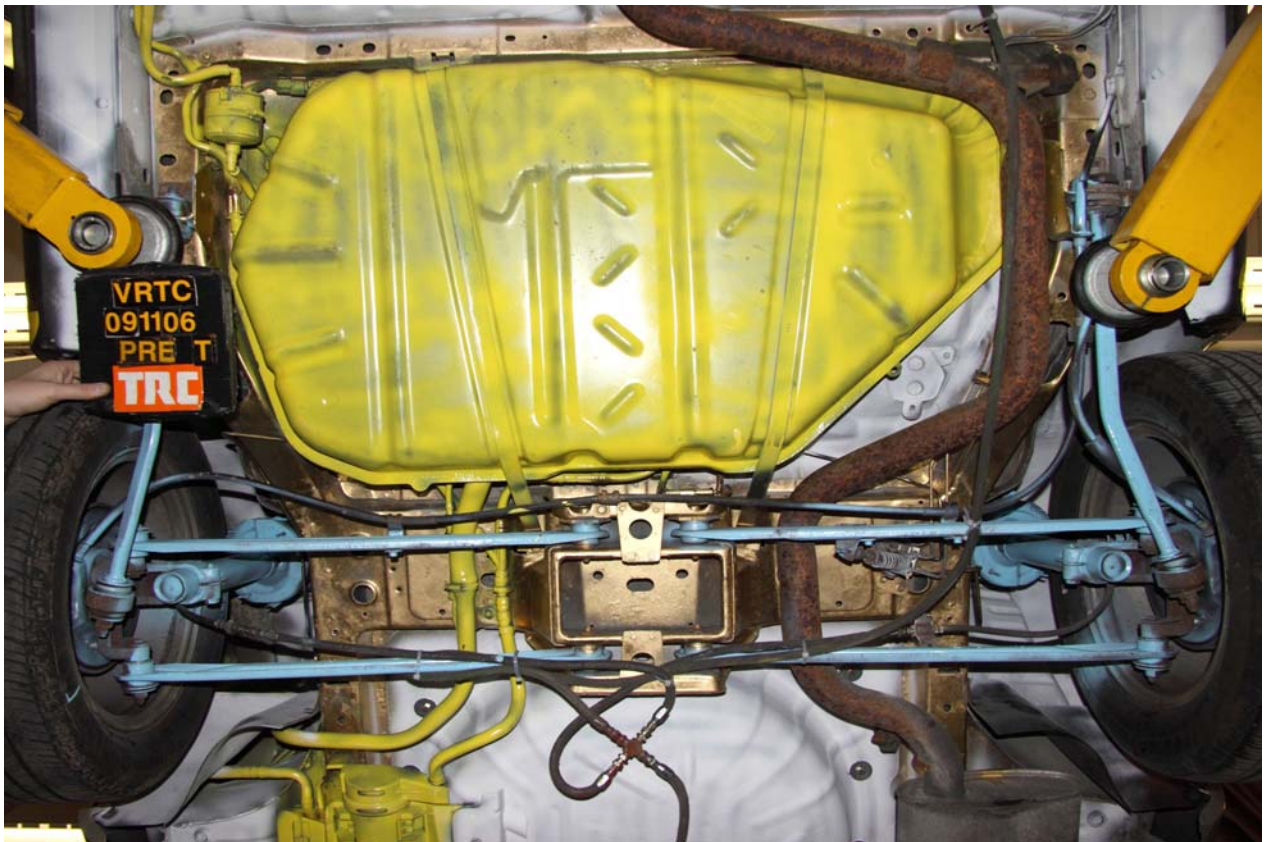


Figure A-41 Pre-Test Target Vehicle Mid Rear Underbody View

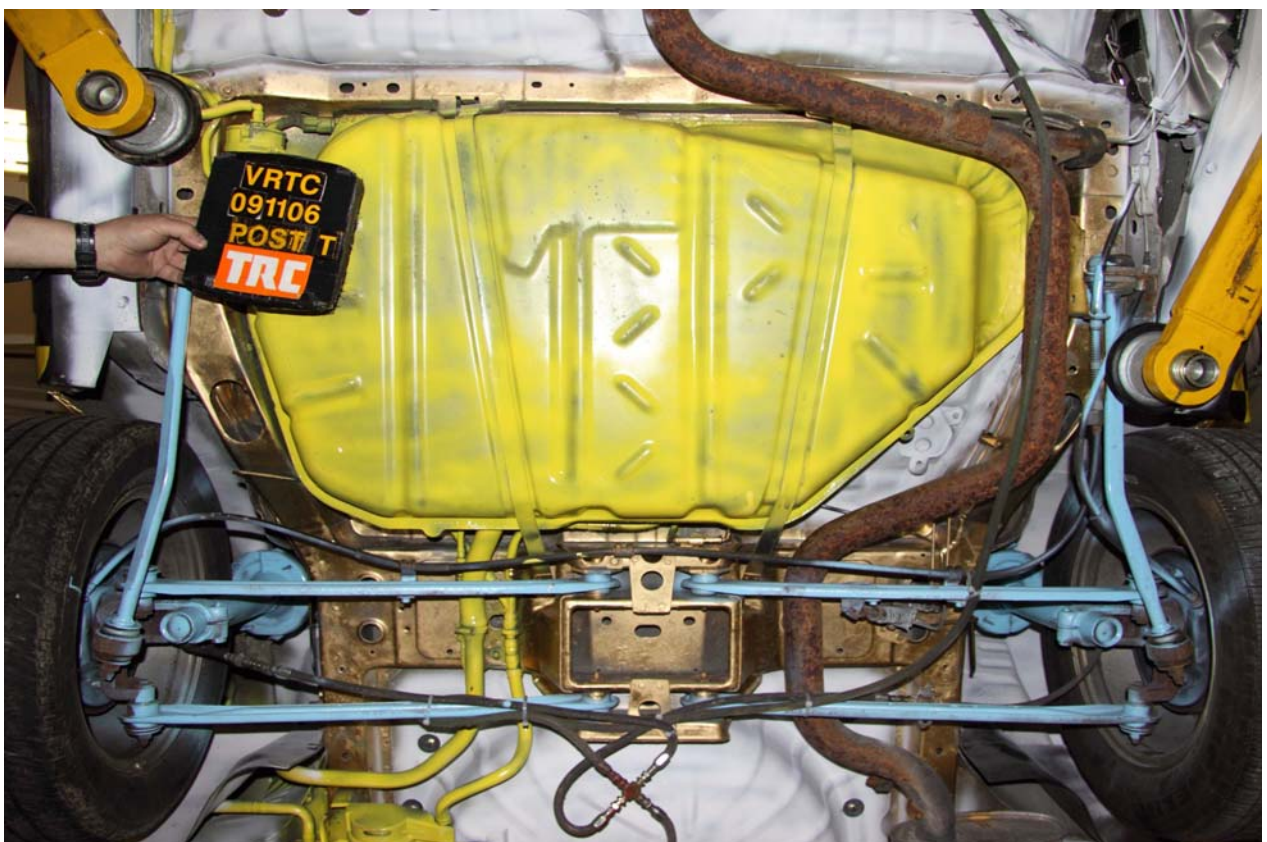


Figure A-42 Post-Test Target Vehicle Mid Rear Underbody View

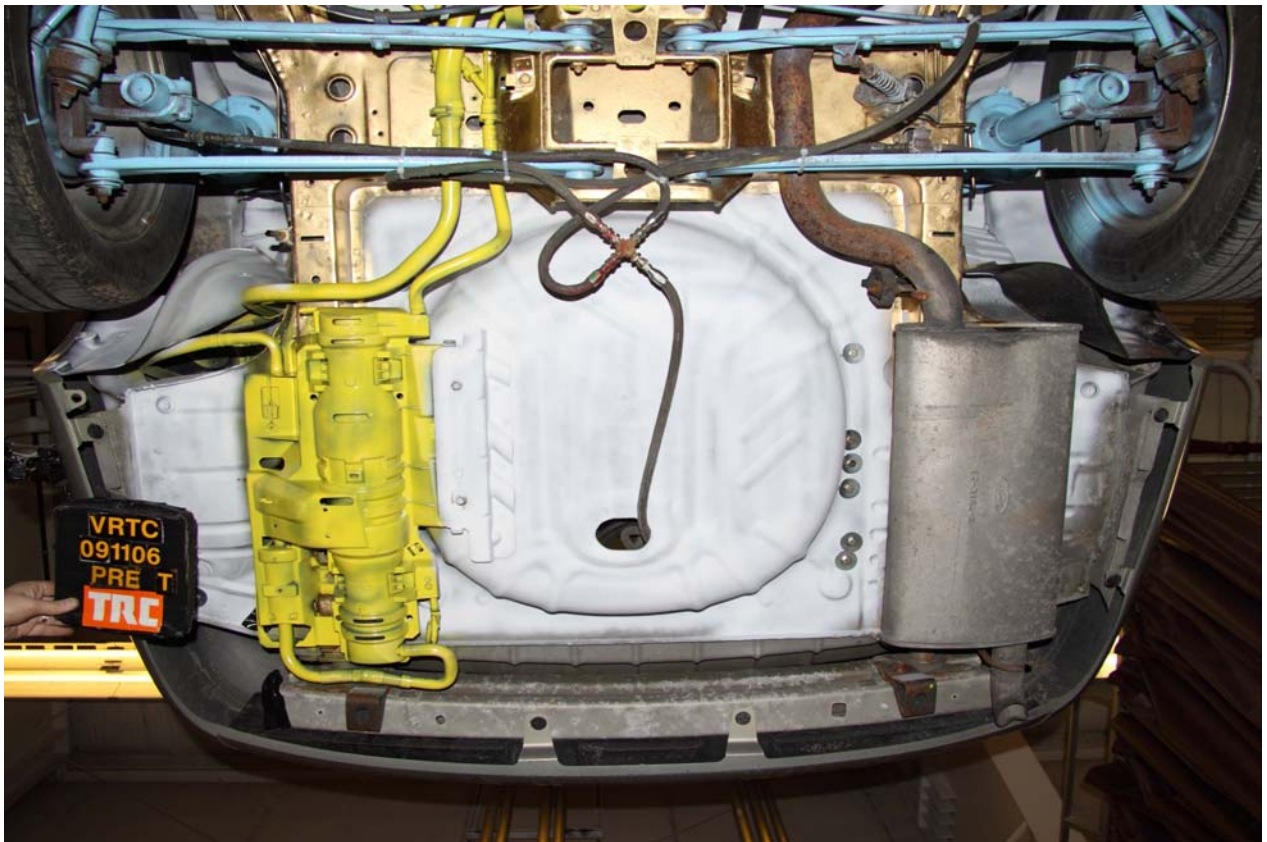


Figure A-43 Pre-Test Target Vehicle Rear Underbody View



Figure A-44 Post-Test Target Vehicle Rear Underbody View

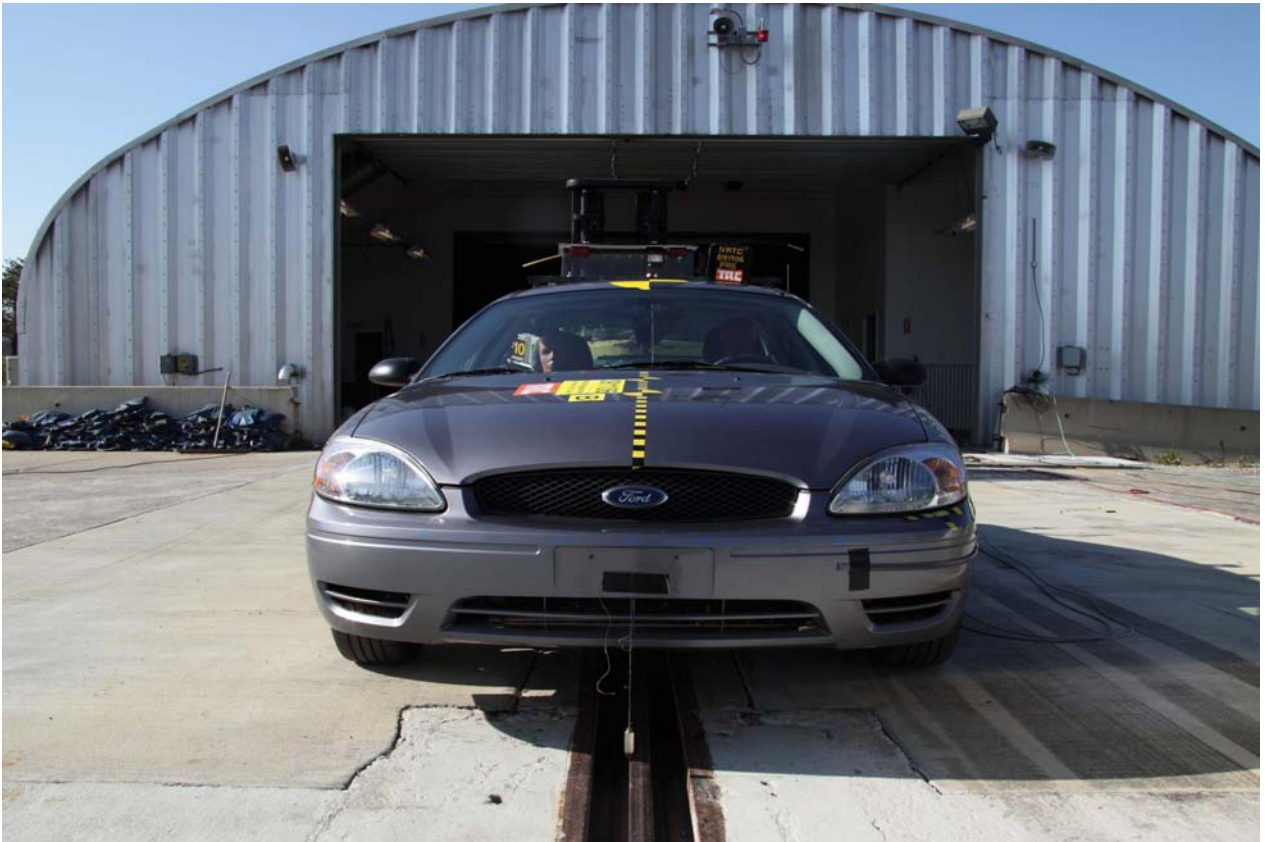


Figure A-45 Pre-Test Bullet Vehicle Front View

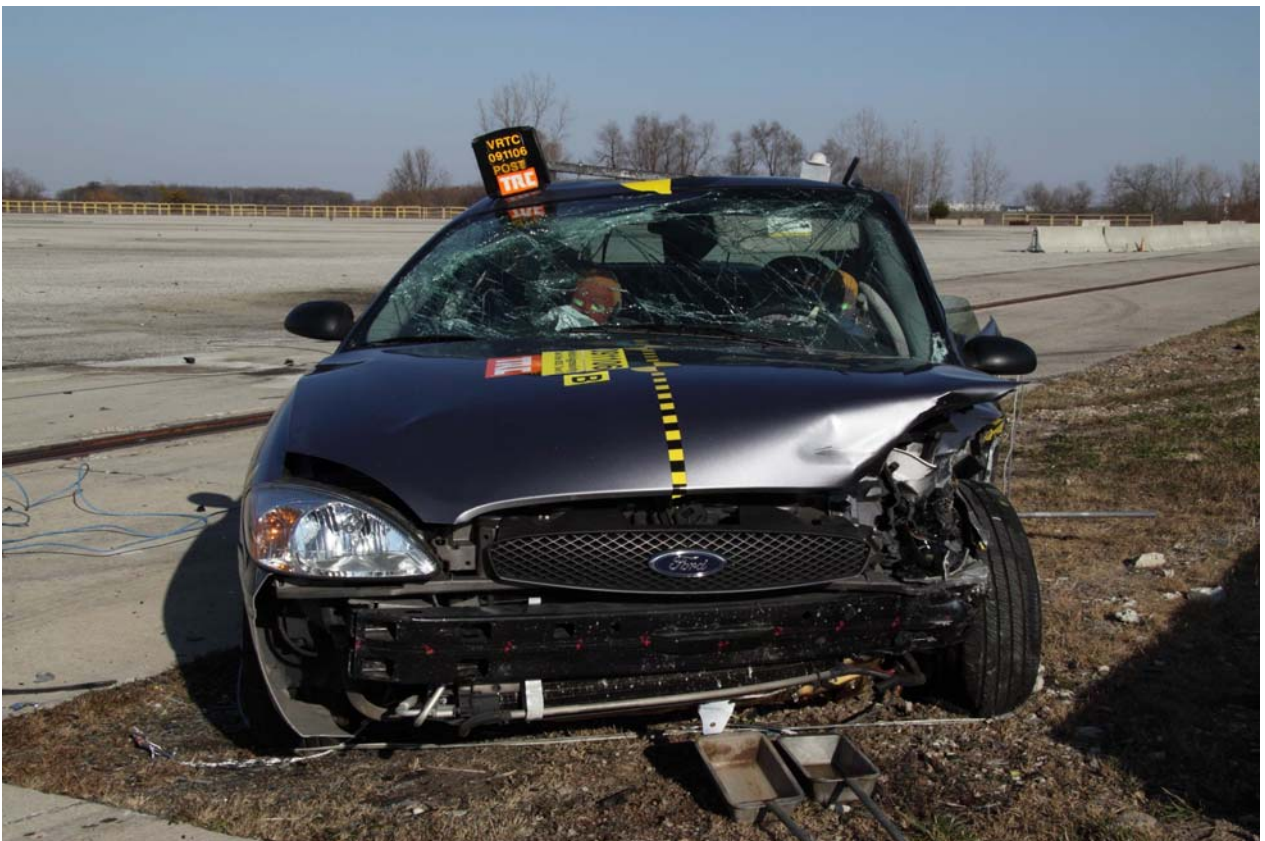


Figure A-46 Post-Test Bullet Vehicle Front View



Figure A-47 Pre-Test Bullet Vehicle Left Front View



Figure A-48 Post-Test Bullet Vehicle Left Front View



Figure A-49 Pre-Test Bullet Vehicle Left Side View



Figure A-50 Post-Test Bullet Vehicle Left Side View



Figure A-51 Pre-Test Bullet Vehicle Left Rear View



Figure A-52 Post-Test Bullet Vehicle Left Rear View



Figure A-53 Pre-Test Bullet Vehicle Rear View



Figure A-54 Post-Test Bullet Vehicle Rear View



Figure A-55 Pre-Test Bullet Vehicle Right Rear View



Figure A-56 Post-Test Bullet Vehicle Right Rear View



Figure A-57 Pre-Test Bullet Vehicle Right Side View



Figure A-58 Post-Test Bullet Vehicle Right Side View



Figure A-59 Pre-Test Bullet Vehicle Right Front View



Figure A-60 Post-Test Bullet Vehicle Right Front View



Figure A-61 Pre-Test Bullet Vehicle Engine Compartment View



Figure A-62 Post-Test Bullet Vehicle Engine Compartment View



Figure A-63 Pre-Test Bullet Vehicle Front Underbody View



Figure A-64 Post-Test Bullet Vehicle Front Underbody View

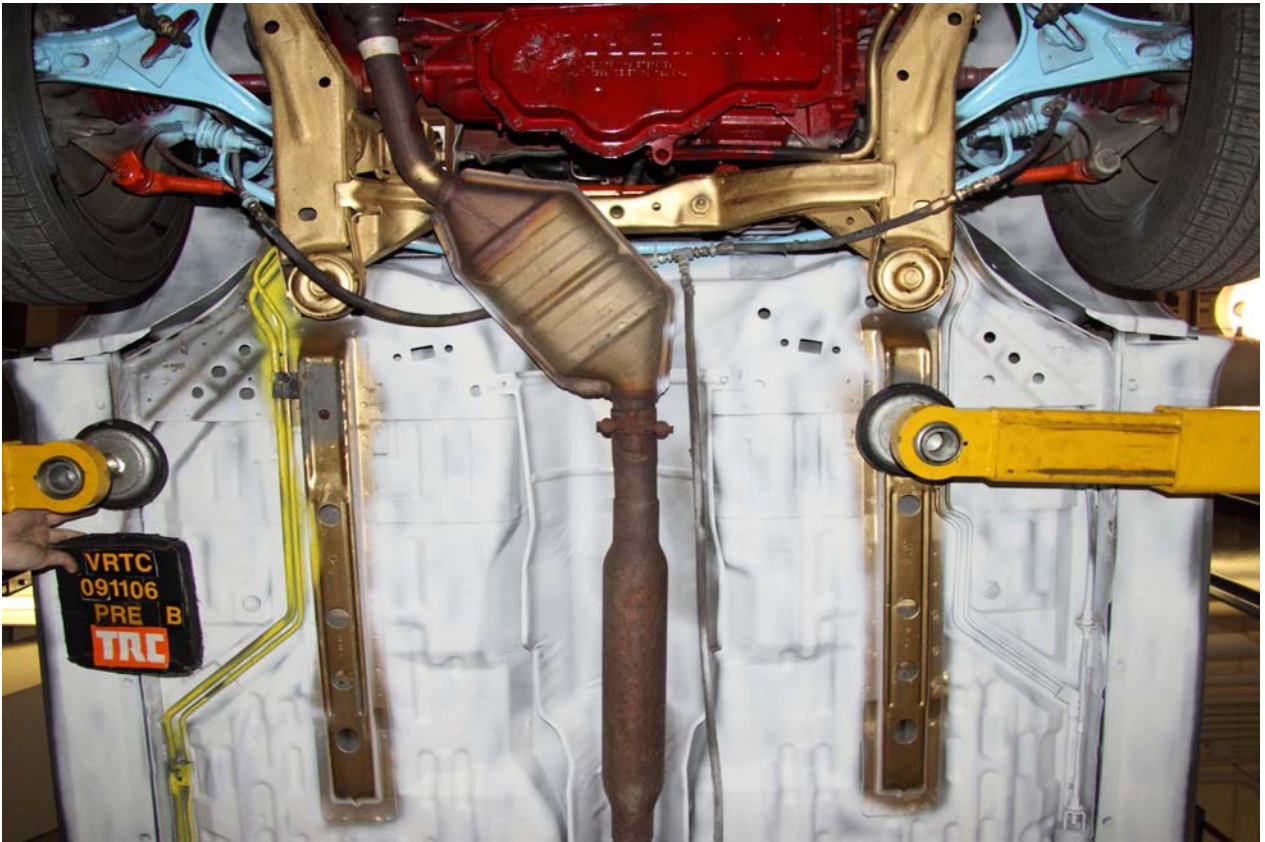


Figure A-65 Pre-Test Bullet Vehicle Mid Front Underbody View



Figure A-66 Post-Test Bullet Vehicle Mid Front Underbody View



Figure A-67 Pre-Test Bullet Vehicle Mid Underbody View

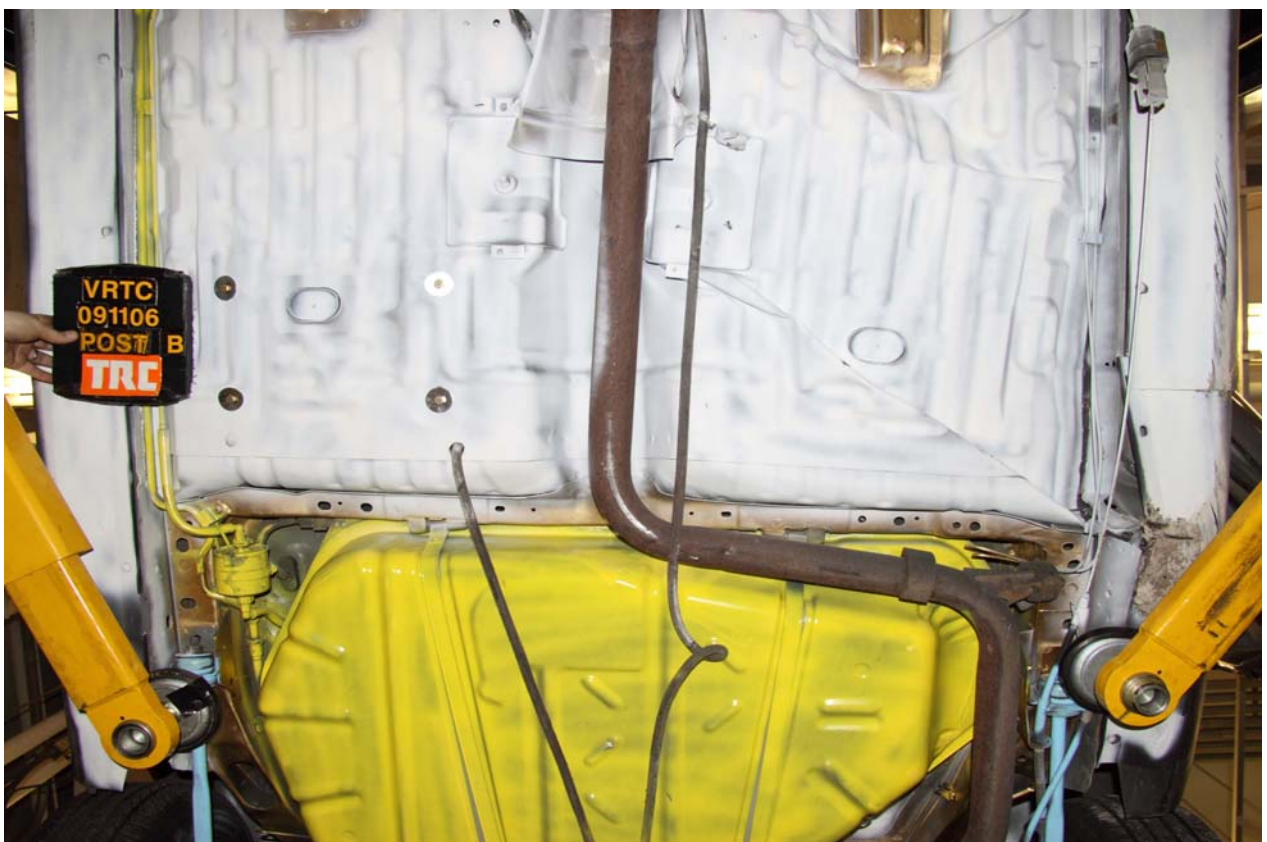


Figure A-68 Post-Test Bullet Vehicle Mid Underbody View

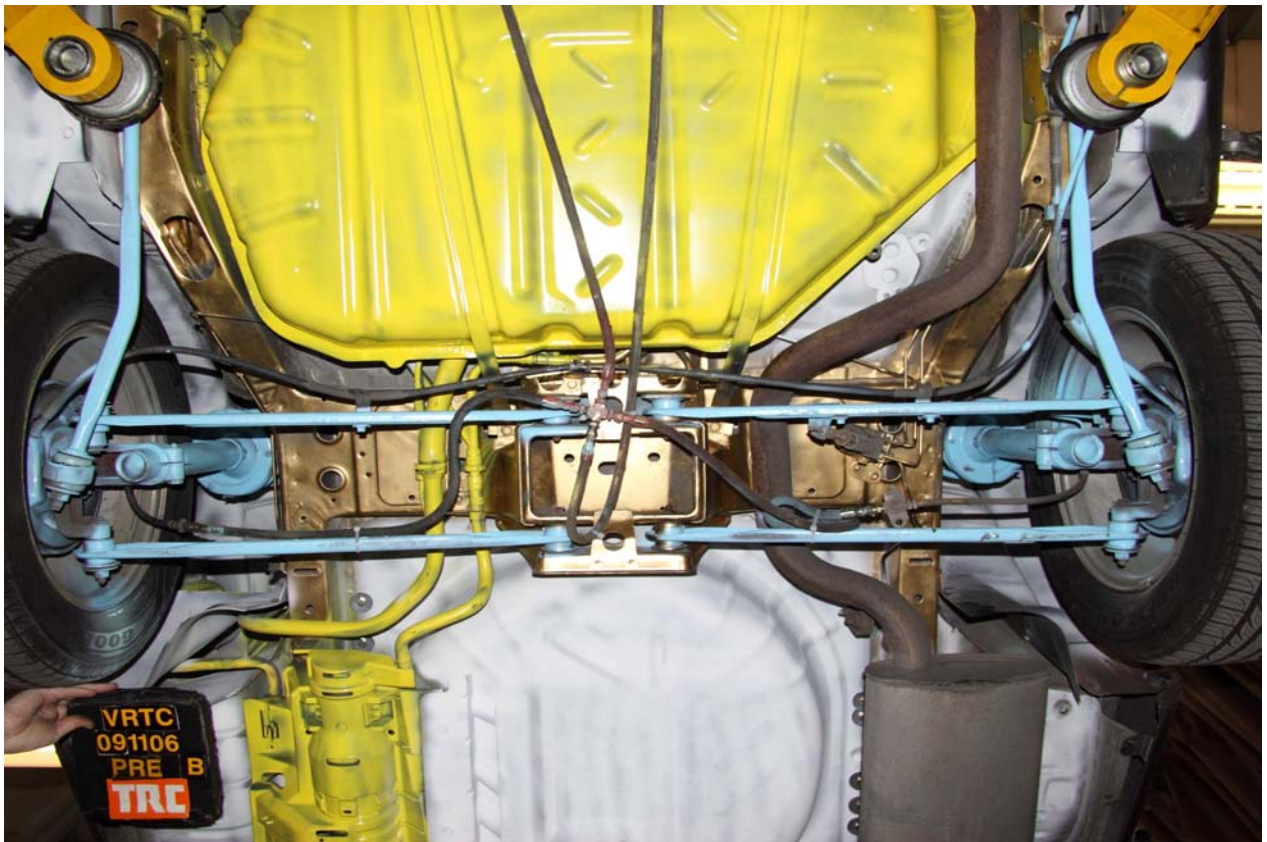


Figure A-69 Pre-Test Bullet Vehicle Mid Rear Underbody View



Figure A-70 Post-Test Bullet Vehicle Mid Rear Underbody View



Figure A-71 Pre-Test Bullet Vehicle Rear Underbody View

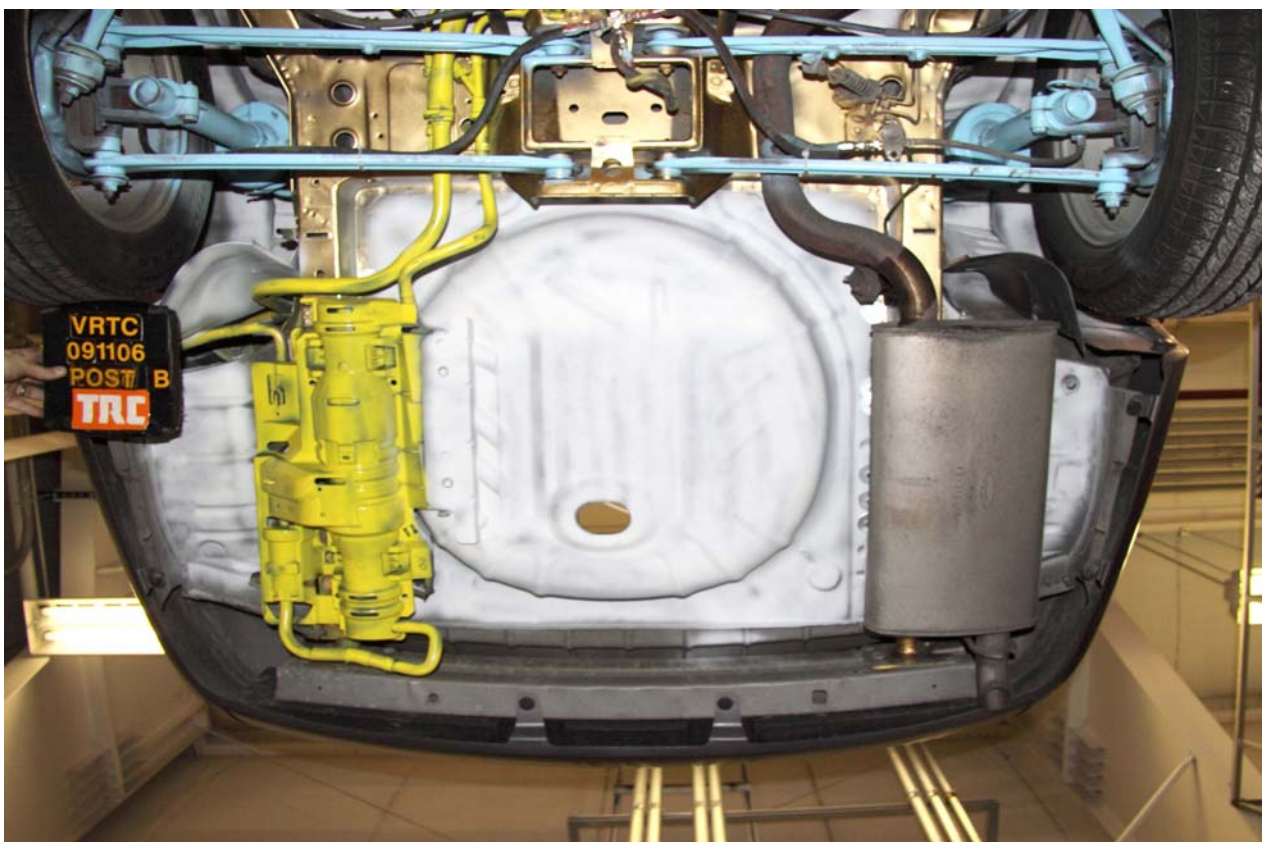


Figure A-72 Post-Test Bullet Vehicle Rear Underbody View



Figure A-73 Pre-Test Target Vehicle Driver Dummy through Windshield View



Figure A-74 Post-Test Target Vehicle Driver Dummy through Windshield View



Figure A-75 Pre-Test Target Vehicle Driver Dummy - View 1



Figure A-76 Post-Test Target Vehicle Driver Dummy - View 1



Figure A-77 Pre-Test Target Vehicle Driver Dummy - View 2

Photograph Not Available

Figure A-78 Post-Test Target Vehicle Driver Dummy - View 2



Figure A-79 Pre-Test Target Vehicle Driver Dummy - View 3

Photograph Not Available

Figure A-80 Post-Test Target Vehicle Driver Dummy - View 3

Photograph Not Available

Figure A-81 Pre-Test Target Vehicle Driver Dummy - View 4

Photograph Not Available

Figure A-82 Post-Test Target Vehicle Driver Dummy - View 4



Figure A-83 Pre-Test Target Vehicle Driver Dummy Knee Bolster View

Photograph Not Available

Figure A-84 Post-Test Target Vehicle Driver Dummy Knee Bolster View



Figure A-85 Pre-Test Target Vehicle Driver Dummy Foot Position View



Figure A-86 Pre-Test Target Vehicle Driver Dummy Seat Track View



Figure A-87 Pre-Test Bullet Vehicle Driver & Passenger Dummies thru Windshield View



Figure A-88 Post-Test Bullet Vehicle Driver & Passenger Dummies thru Windshield View



Figure A-89 Pre-Test Bullet Vehicle Driver Dummy - View 1



Figure A-90 Post-Test Bullet Vehicle Driver Dummy - View 1



Figure A-91 Pre-Test Bullet Vehicle Driver Dummy - View 2

Photograph Not Available

Figure A-92 Post-Test Bullet Vehicle Driver Dummy - View 2



Figure A-93 Pre-Test Bullet Vehicle Driver Dummy - View 3

Photograph Not Available

Figure A-94 Post-Test Bullet Vehicle Driver Dummy - View 3

Photograph Not Available

Figure A-95 Pre-Test Bullet Vehicle Driver Dummy - View 4

Photograph Not Available

Figure A-96 Post-Test Bullet Vehicle Driver Dummy - View 4

Photograph Not Available

Figure A-97 Pre-Test Bullet Vehicle Driver Dummy Knee Bolster View

Photograph Not Available

Figure A-98 Post-Test Bullet Vehicle Driver Dummy Knee Bolster View



Figure A-99 Pre-Test Bullet Vehicle Driver Dummy Foot Position View



Figure A-100 Pre-Test Bullet Vehicle Driver Dummy Seat Track View



Figure A-101 Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 1



Figure A-102 Post-Test Bullet Vehicle Right Front Passenger Dummy - View 1



Figure A-103 Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 2



Figure A-104 Post-Test Bullet Vehicle Right Front Passenger Dummy - View 2



Figure A-105 Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 3



Figure A-106 Post-Test Bullet Vehicle Right Front Passenger Dummy - View 3

Photograph Not Available

Figure A-107 Pre-Test Bullet Vehicle Right Front Passenger Dummy - View 4

Photograph Not Available

Figure A-108 Post-Test Bullet Vehicle Right Front Passenger Dummy - View 4



Figure A-109 Pre-Test Bullet Vehicle Right Front Passenger Dummy Knee Bolster View



Figure A-110 Post-Test Bullet Vehicle Right Front Passenger Dummy Knee Bolster View



Figure A-111 Pre-Test Bullet Vehicle Right Front Passenger Dummy Seat Track View

Intentionally Left Blank



Figure A-112 Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 1



Figure A-113 Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 1



Figure A-114 Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 2

Photograph Not Available

Figure A-115 Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 2



Figure A-116 Pre-Test Bullet Vehicle Left Rear Passenger Dummy - View 3

Photograph Not Available

Figure A-117 Post-Test Bullet Vehicle Left Rear Passenger Dummy - View 3



Figure A-118 Post-Test Target Vehicle Driver Dummy Overall Contact View



Figure A-119 Post-Test Target Vehicle Driver Dummy Head Contact - View 1

Photograph Not Available

Figure A-120 Post-Test Target Vehicle Driver Dummy Head Contact - View 2

Photograph Not Available

Figure A-121 Post-Test Target Vehicle Driver Dummy Knee Contact - View 1



Figure A-122 Post-Test Bullet Vehicle Driver Dummy Overall Contact View



Figure A-123 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 1

Photograph Not Available

Figure A-124 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 2



Figure A-125 Post-Test Bullet Vehicle Driver Dummy Knee Contact - View 1



Figure A-126 Post-Test Bullet Vehicle Right Front Passenger Dummy Overall Contact View



Figure A-127 Post-Test Bullet Vehicle Right Front Passenger Dummy Head Contact-View 1

Photograph Not Available

Figure A-128 Post-Test Bullet Vehicle Right Front Passenger Dummy Head Contact-View 2



Figure A-129 Post-Test Bullet Vehicle Right Front Passenger Dummy Knee Contact-View 1



Figure A-130 Post-Test Bullet Vehicle Left Rear Passenger Dummy Overall Contact View

Photograph Not Available

Figure A-131 Post-Test Bullet Vehicle Left Rear Passenger Dummy Head Contact View



Figure A-132 Post-Test Light Trap Readout View

Intentionally Left Blank



Figure A-133 Pre-Test Target Vehicle Certification Label View



Figure A-134 Pre-Test Target Vehicle Tire Load Label View



Figure A-135 Pre-Test Bullet Vehicle Certification Label View



Figure A-136 Pre-Test Bullet Vehicle Tire Load Label View

Appendix B

Data Plots



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head X-Axis Acceleration

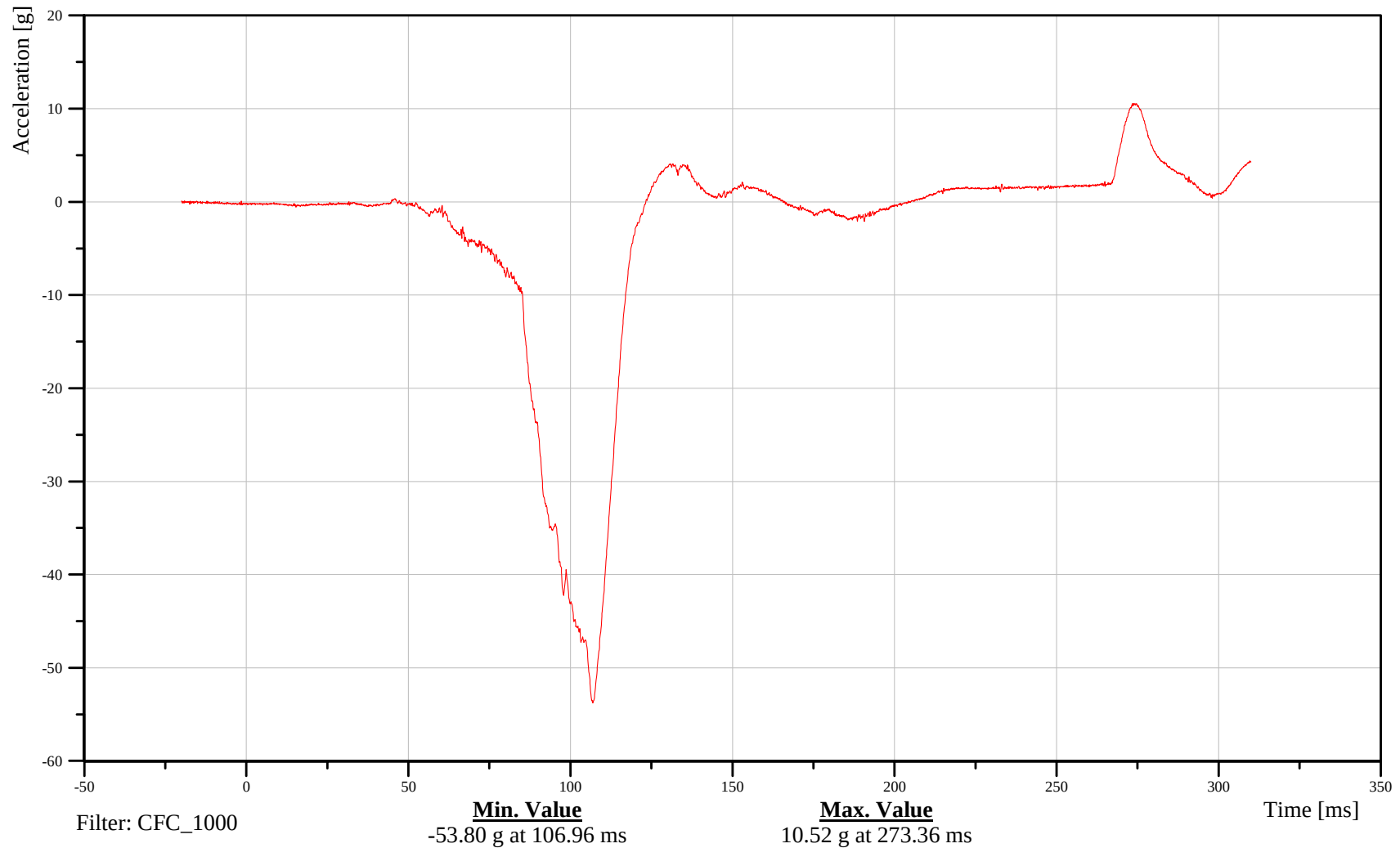
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-2

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Y-Axis Acceleration

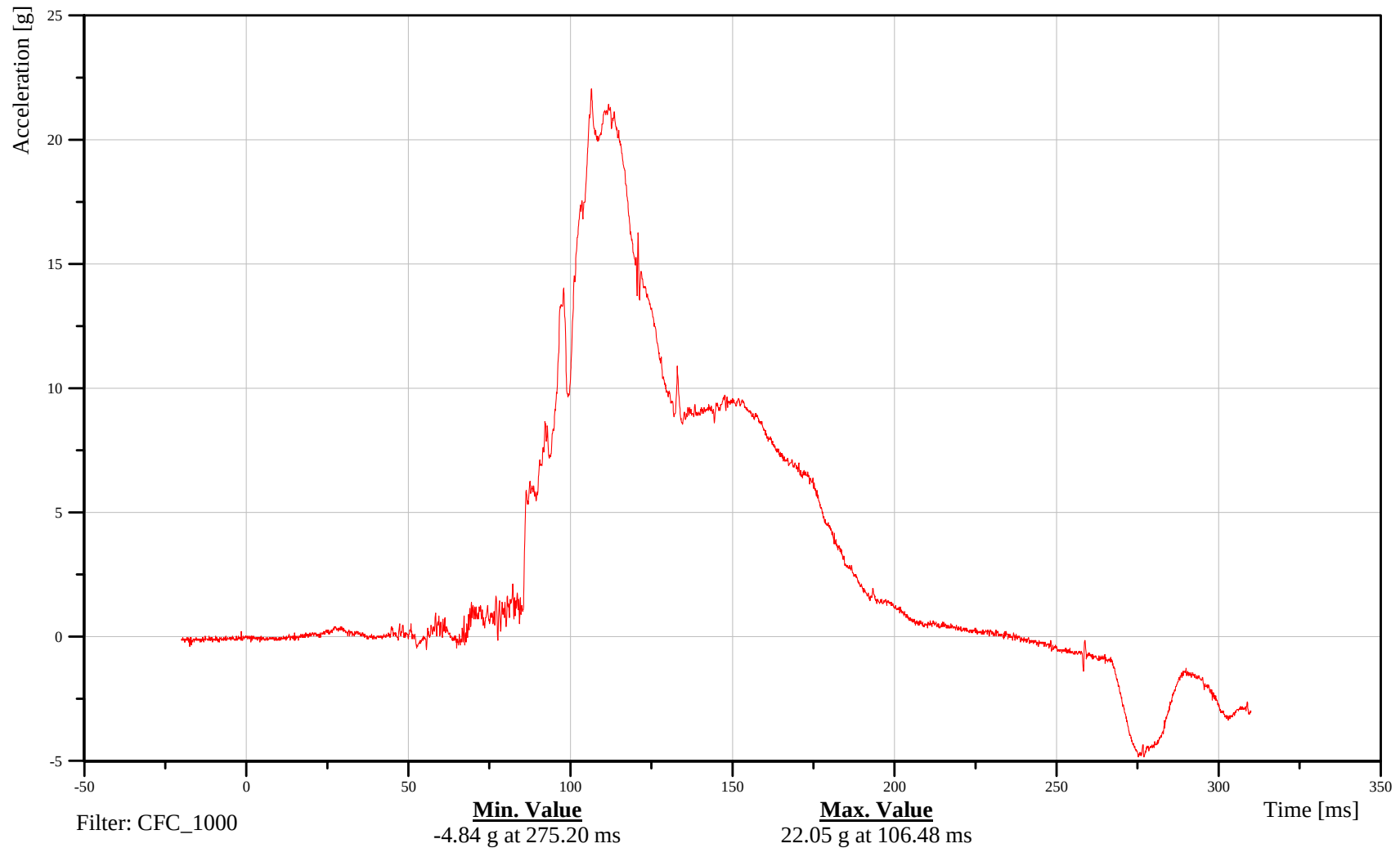
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-3

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Z-Axis Acceleration

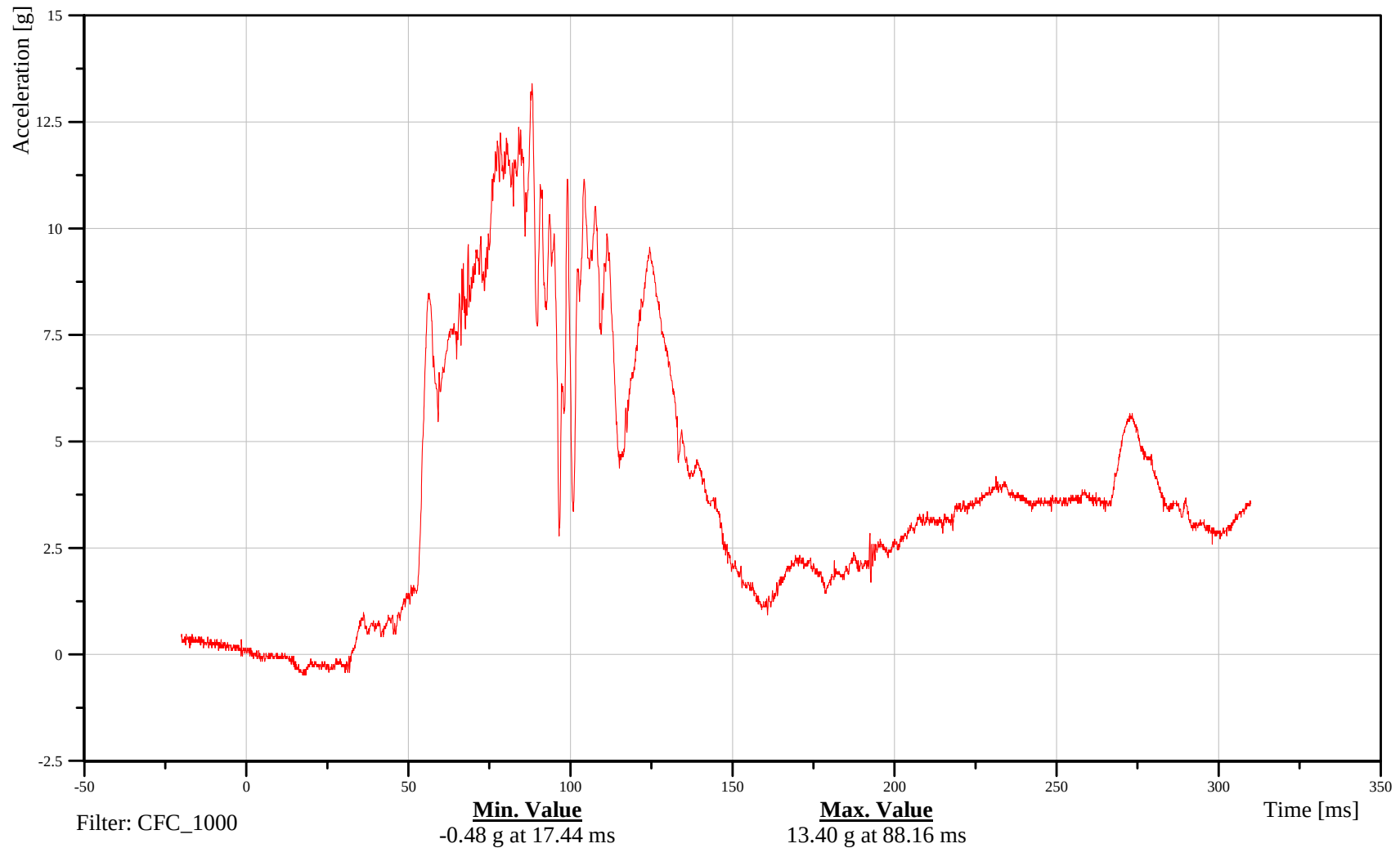
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-4

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Resultant Acceleration

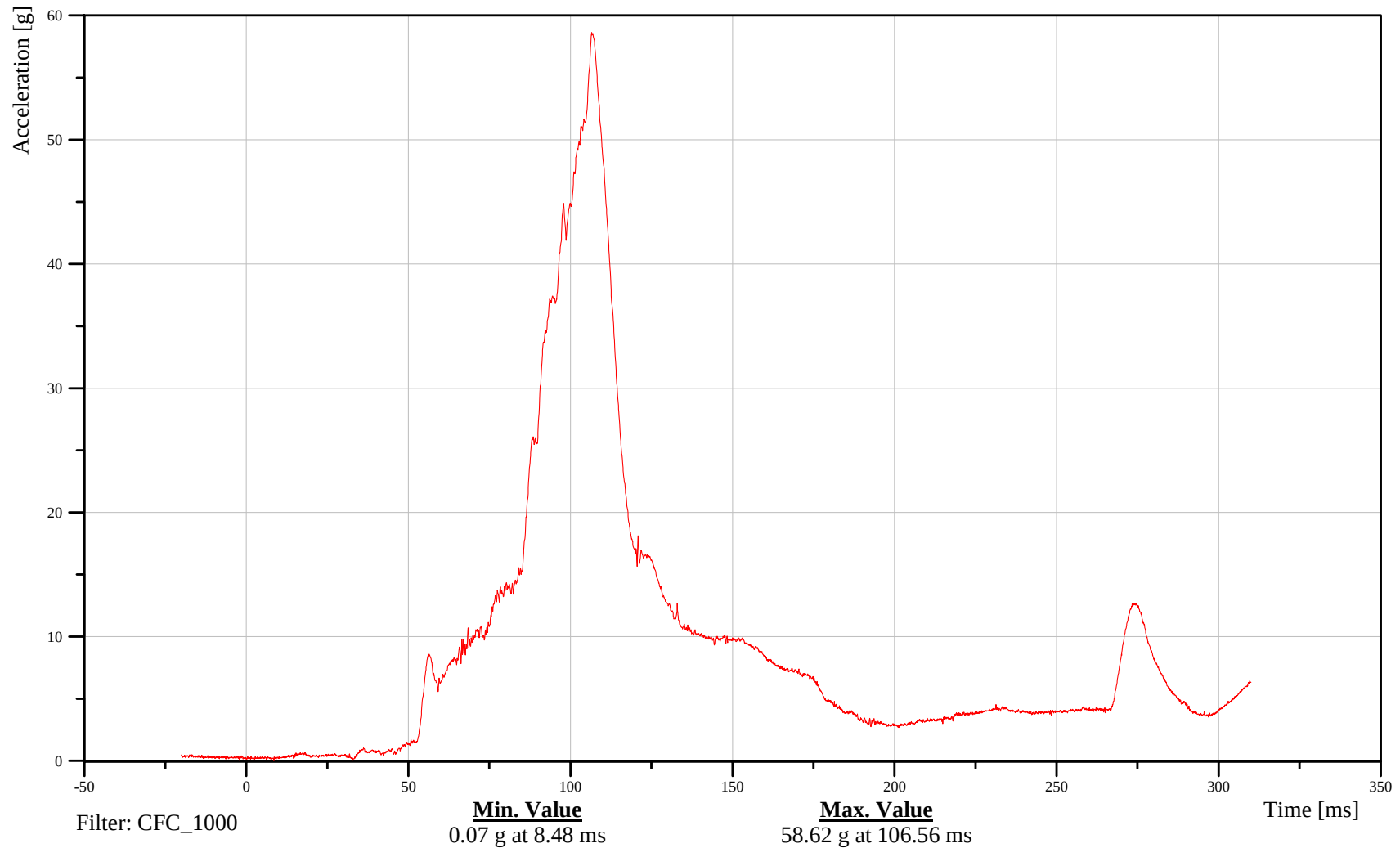
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-5

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Redundant X-Axis Acceleration

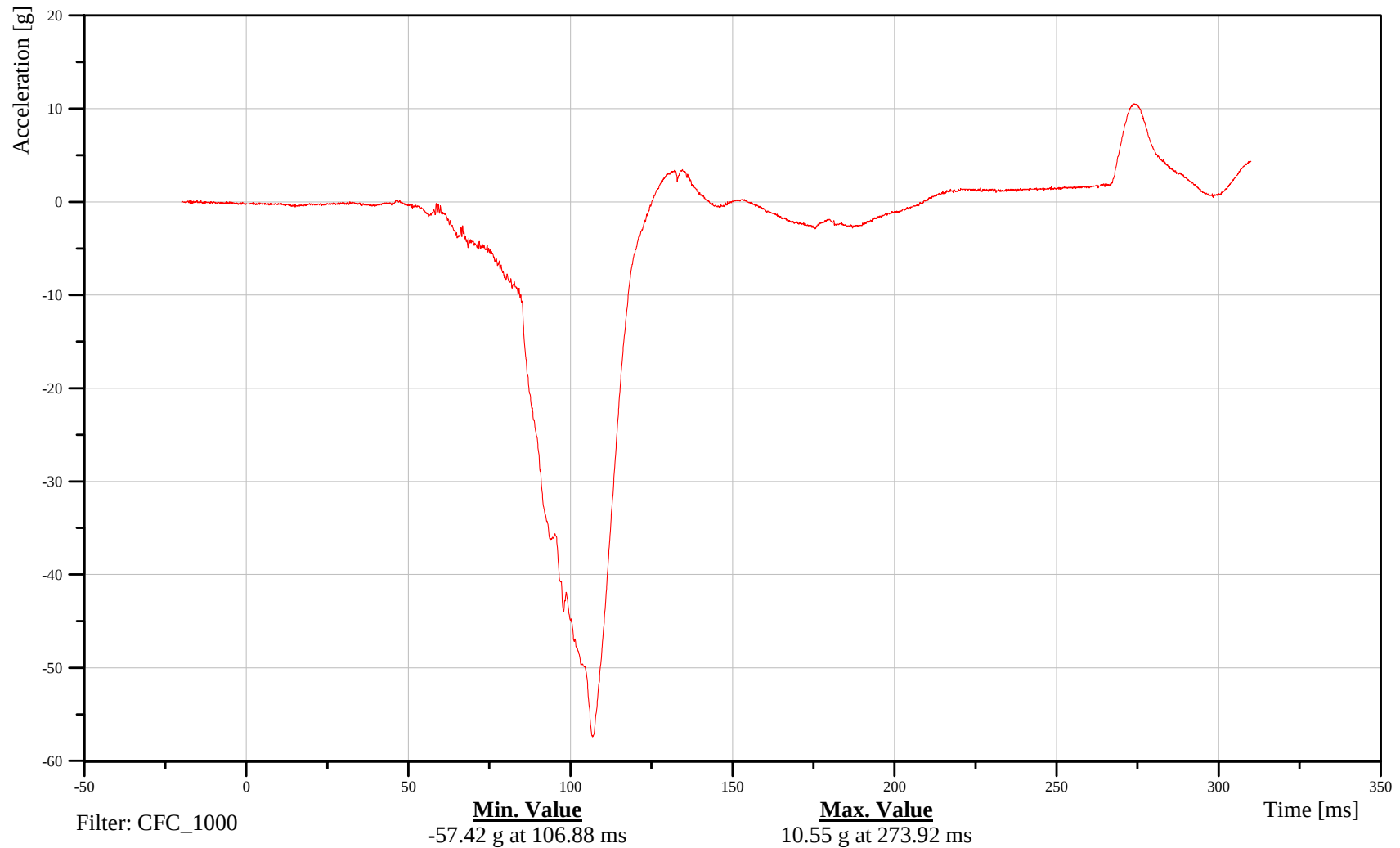
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCGRDH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-6

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Redundant Y-Axis Acceleration

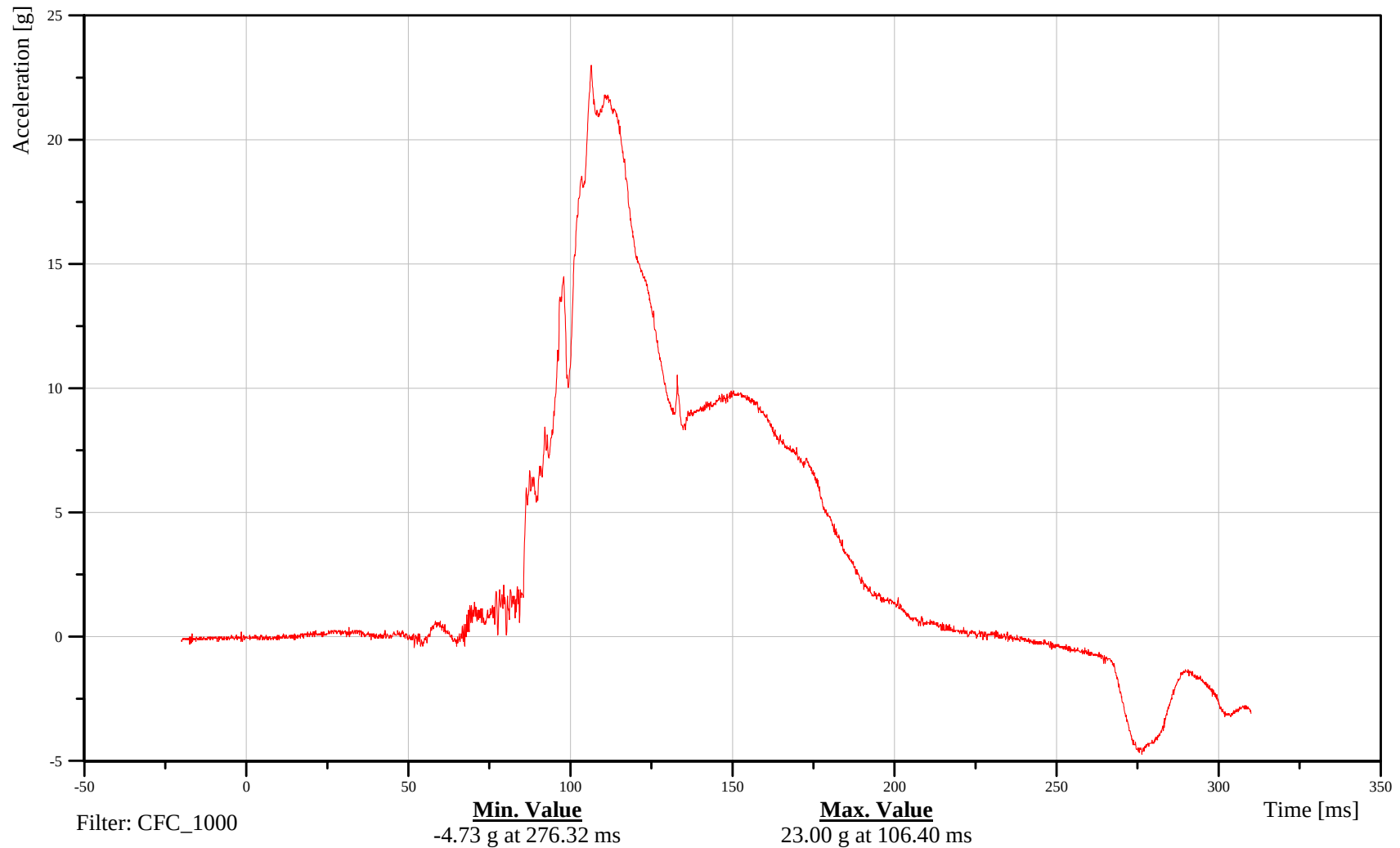
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCGRDH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-7

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Redundant Z-Axis Acceleration

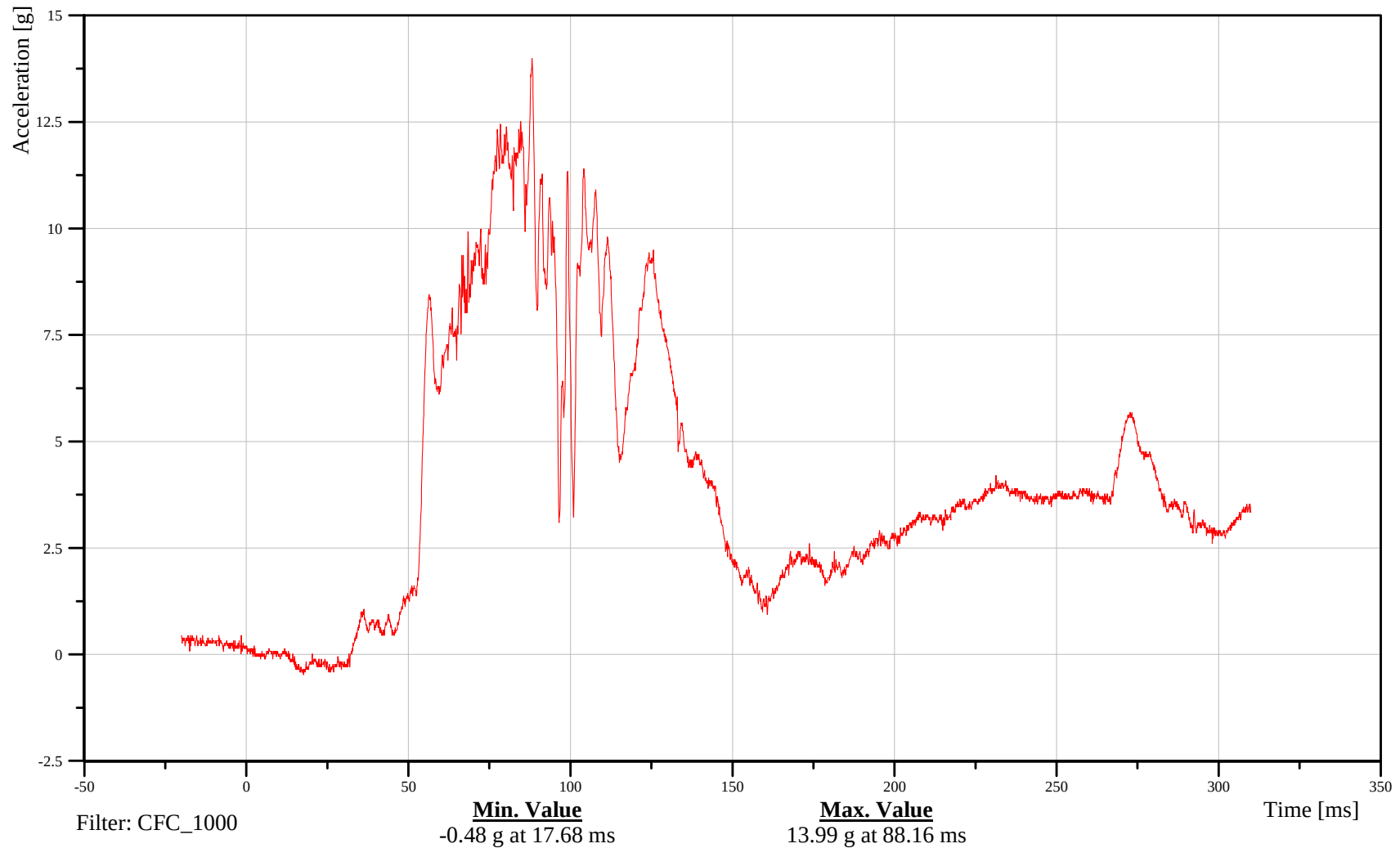
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCGRDH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-8

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Head Redundant Resultant Acceleration

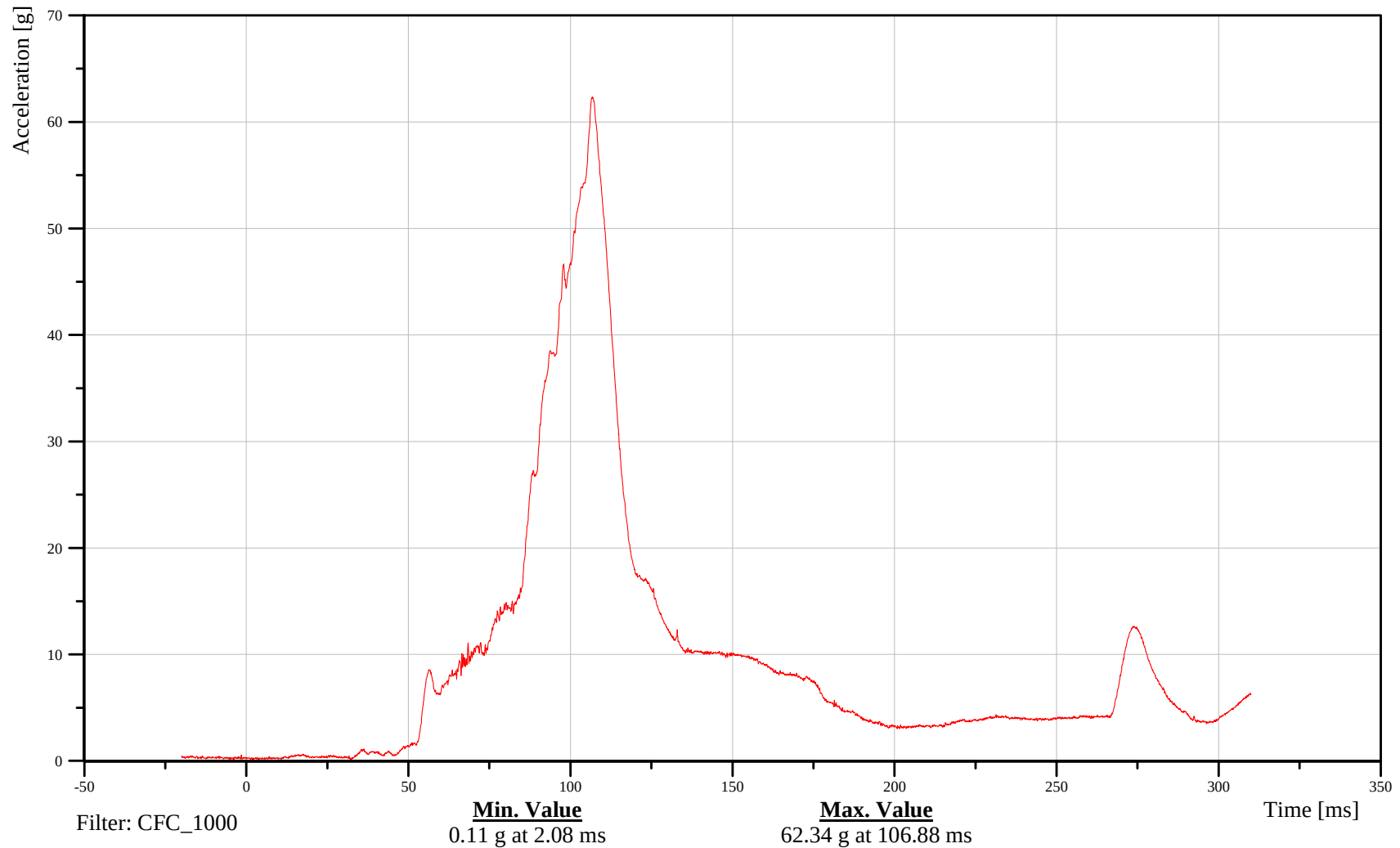
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11HEADCGRDH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-9

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Upper Neck X-Axis Force

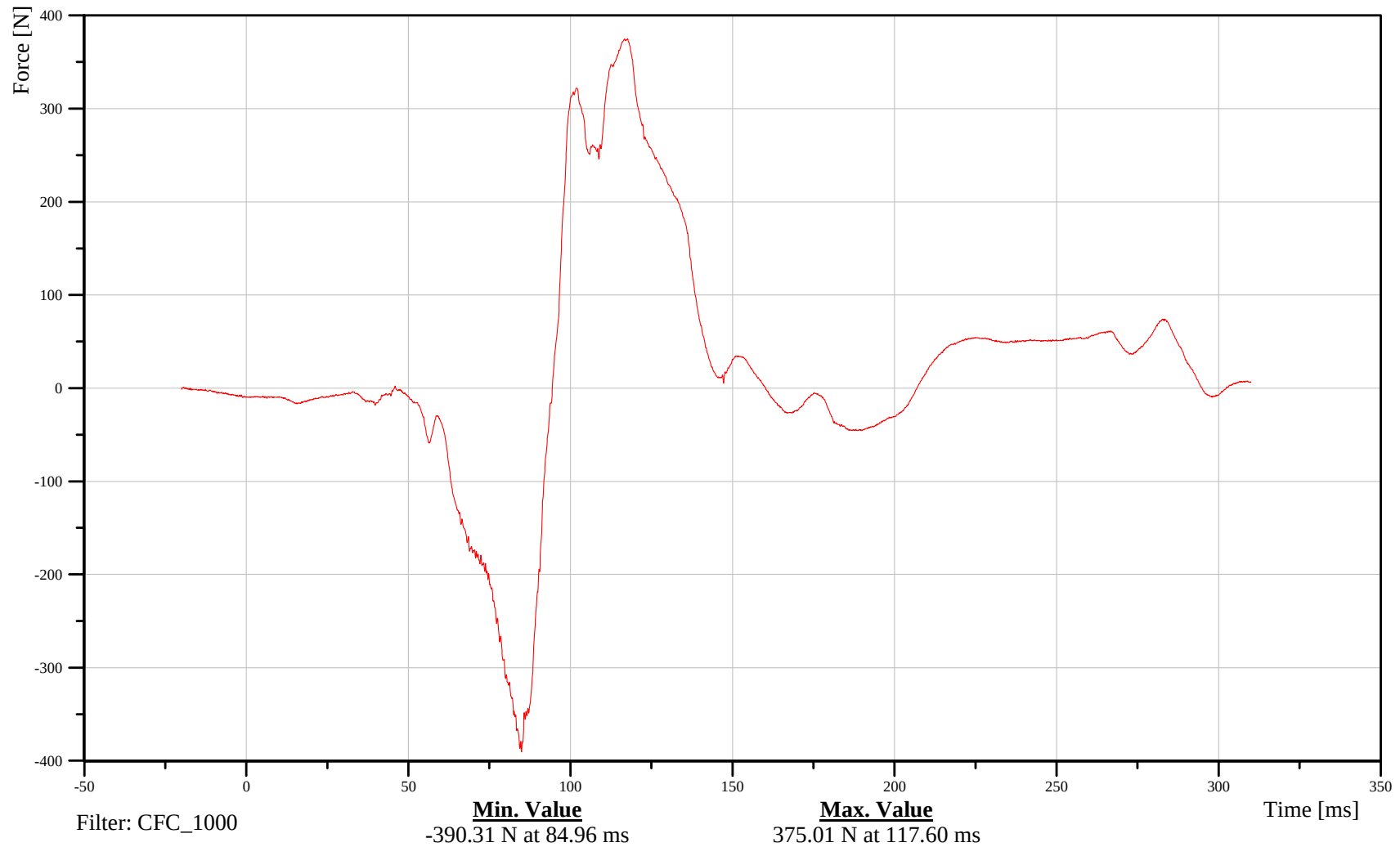
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-10

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Upper Neck Y-Axis Force

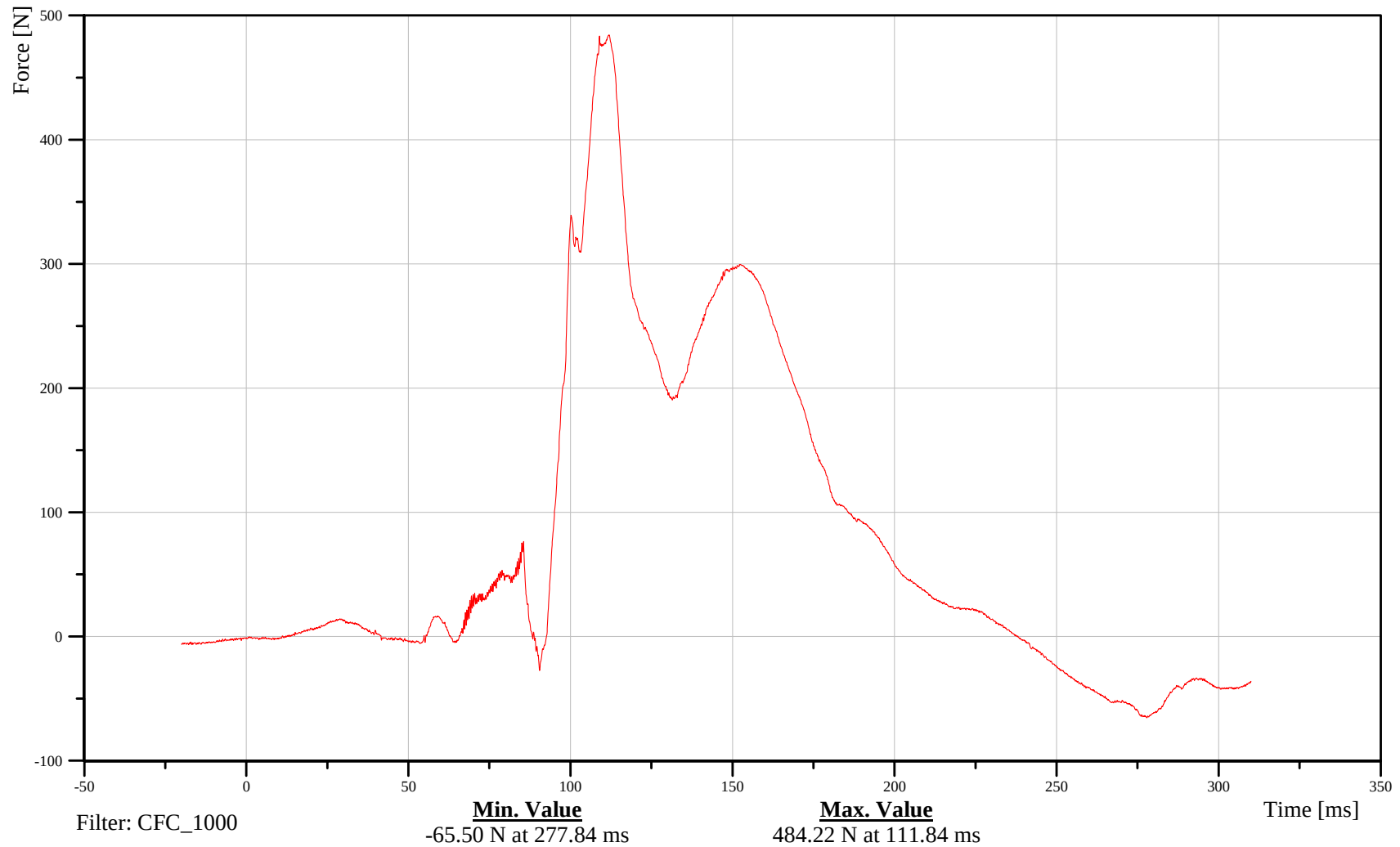
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-11

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Upper Neck Z-Axis Force

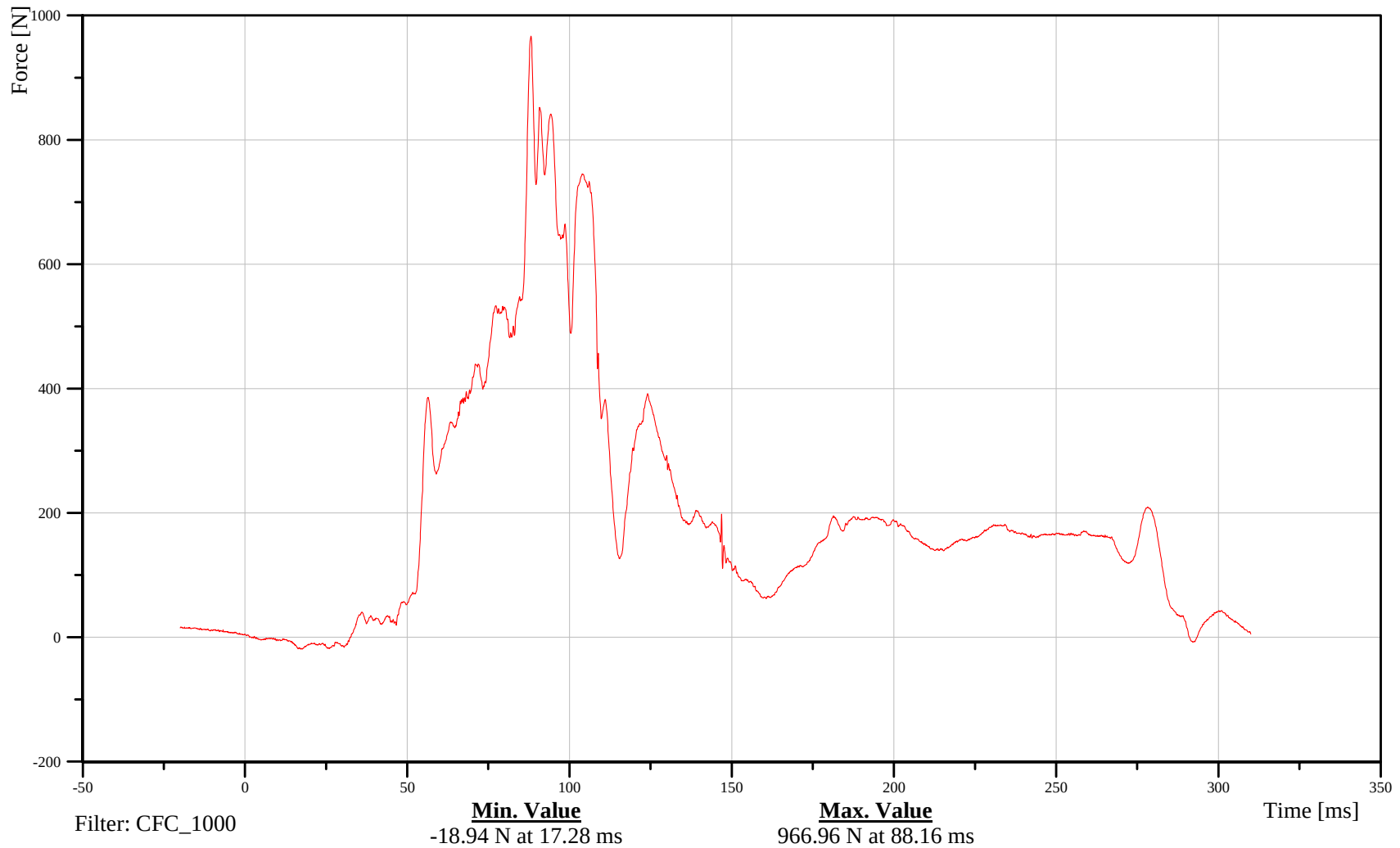
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-12

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

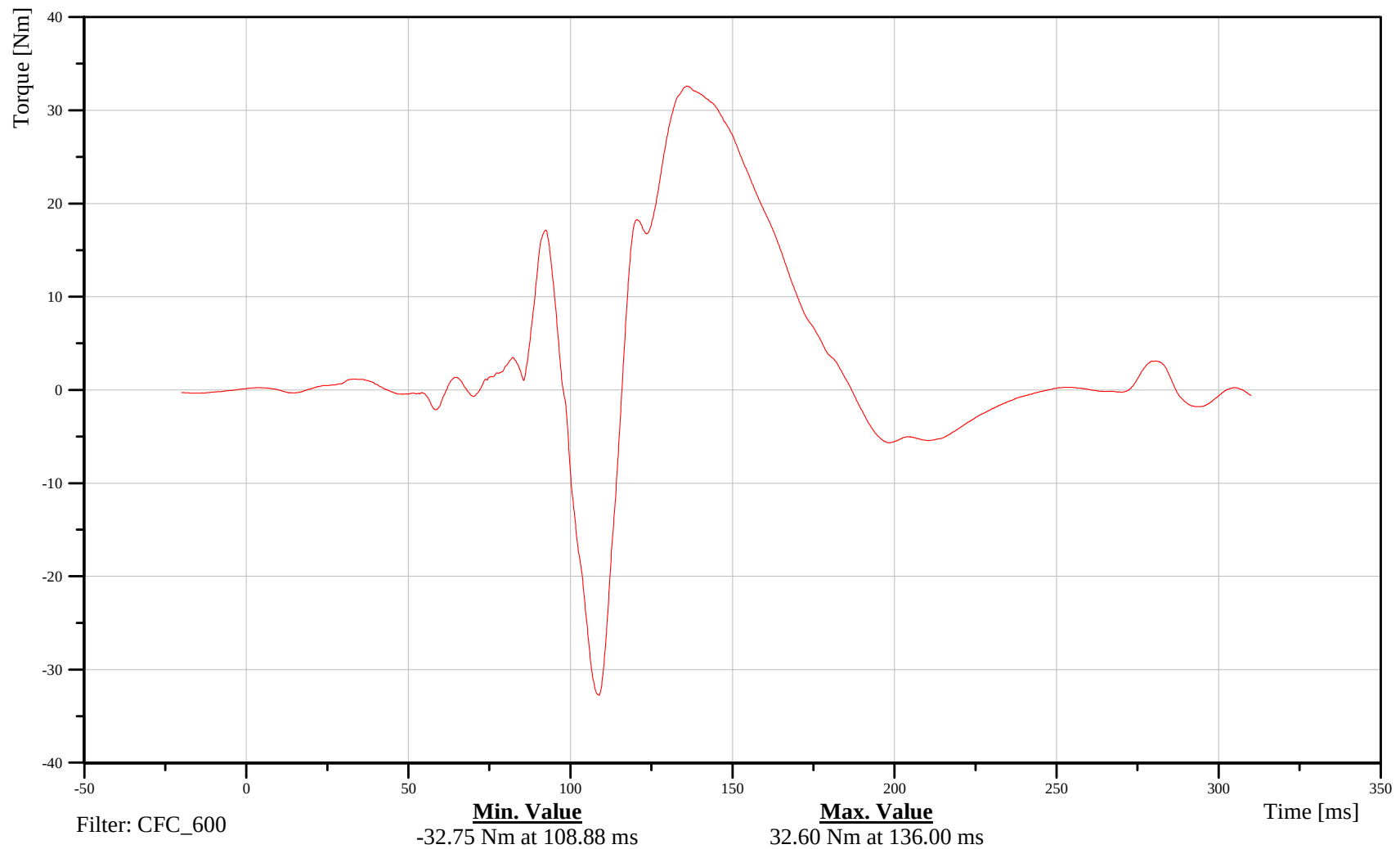
Bullet Vehicle Driver Upper Neck Moment About X Axis

Customer: VRTC

11NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-13

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

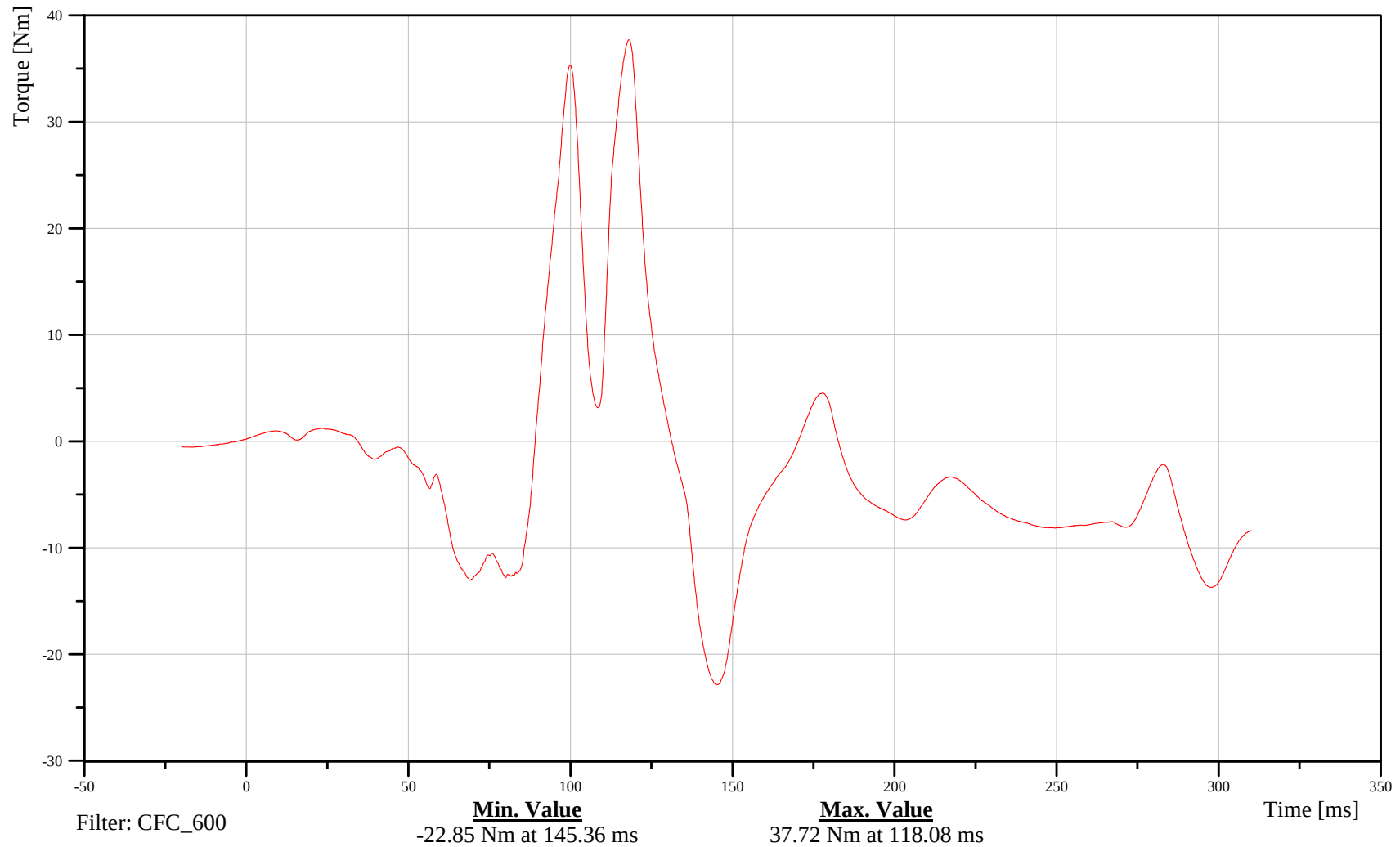
Bullet Vehicle Driver Upper Neck Moment About Y Axis

Customer: VRTC

11NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-14

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

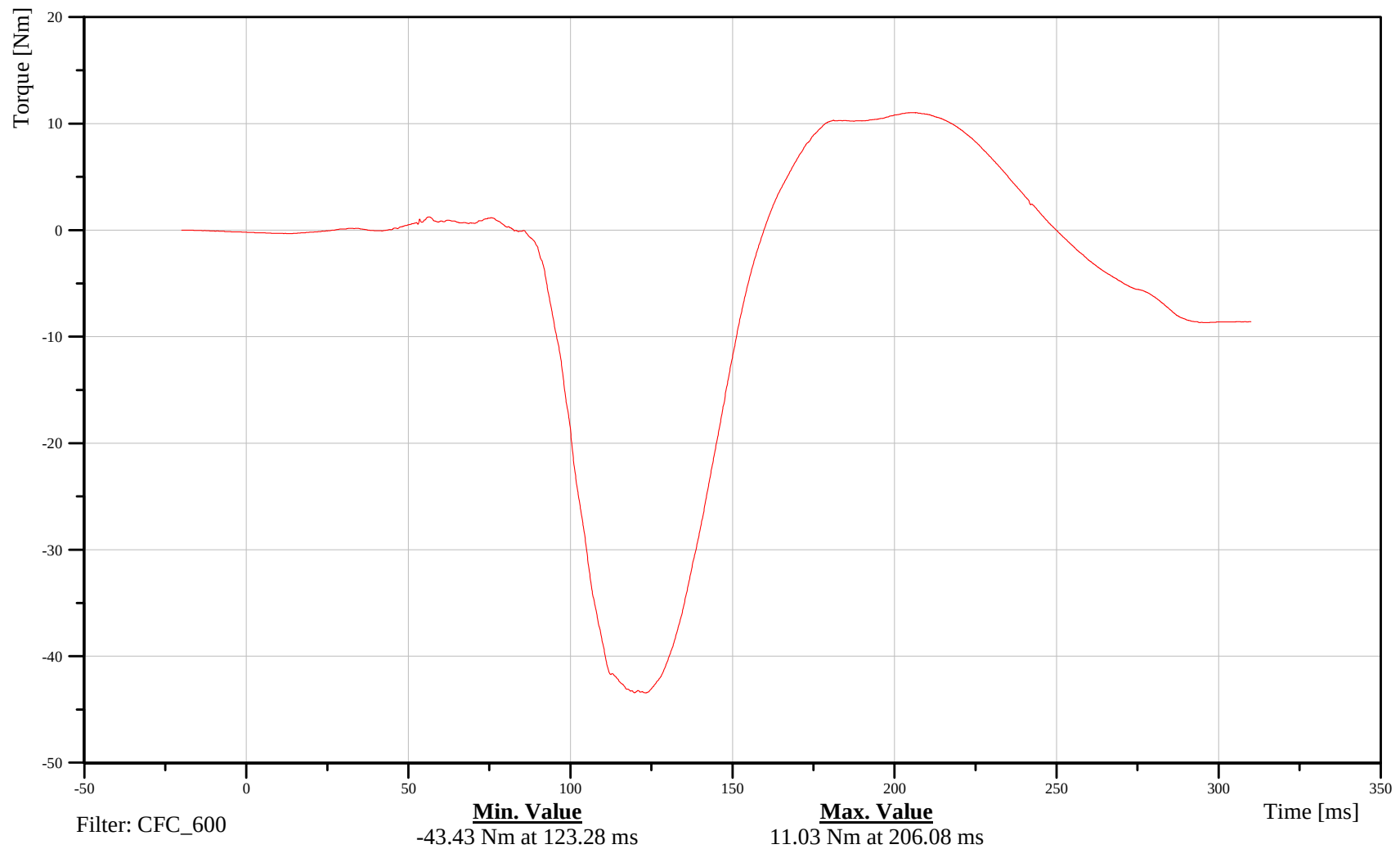
Bullet Vehicle Driver Upper Neck Moment About Z Axis

Customer: VRTC

11NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-15

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest X-Axis Acceleration

Date: 11/06/2009

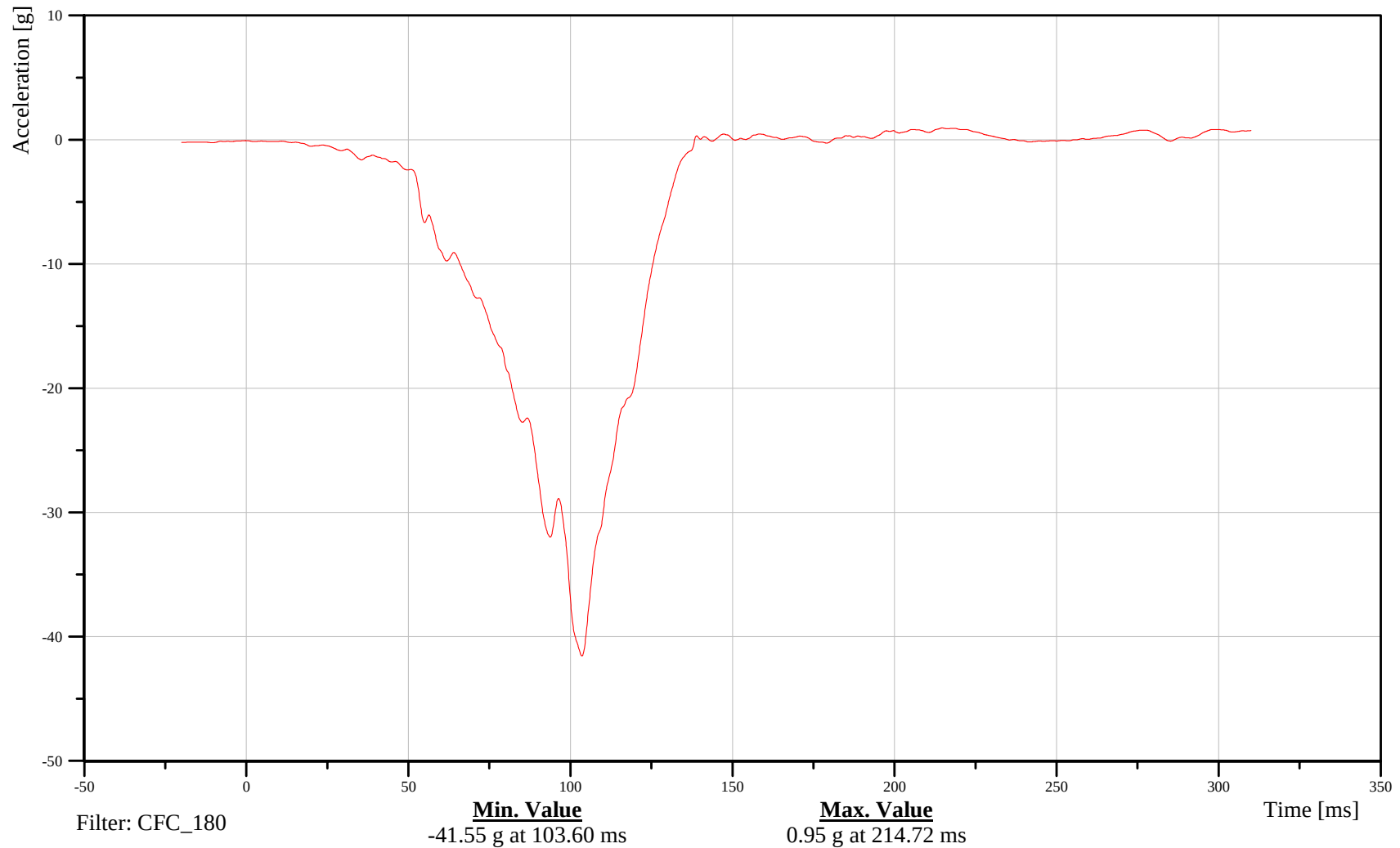
Time: 14:32

Customer: VRTC

11CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-16

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Y-Axis Acceleration

Date: 11/06/2009

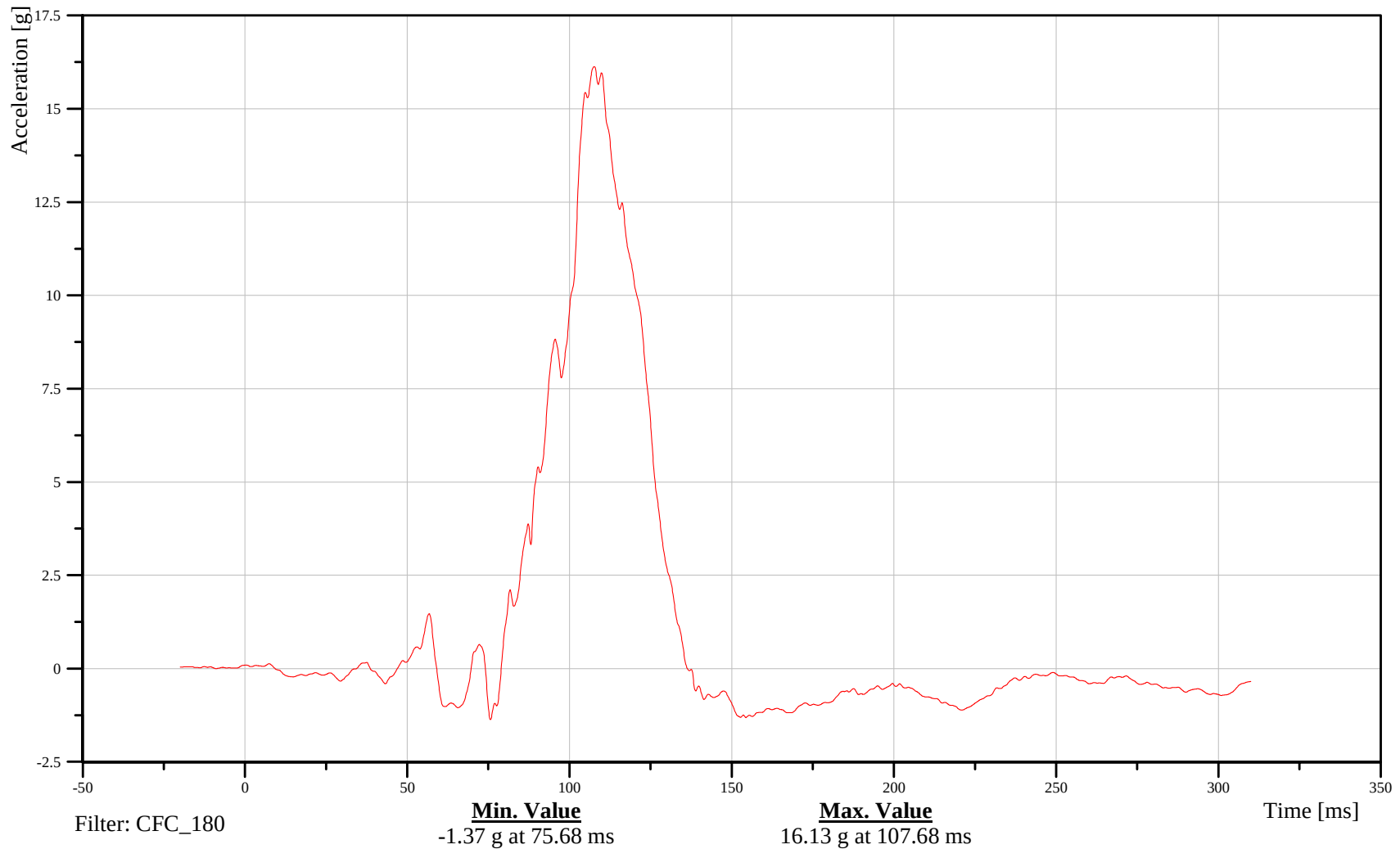
Time: 14:32

Customer: VRTC

11CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-17

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Z-Axis Acceleration

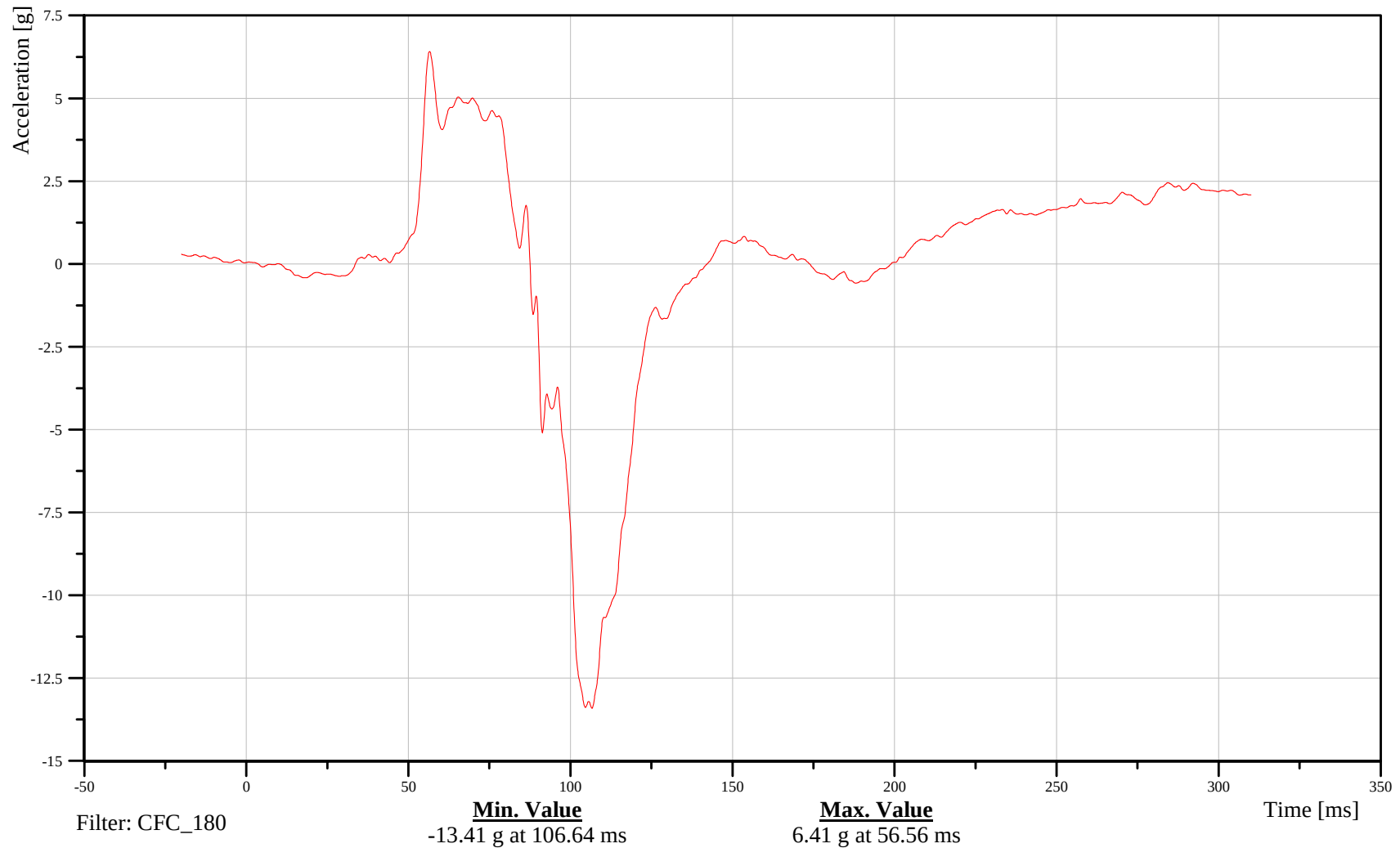
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-18

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

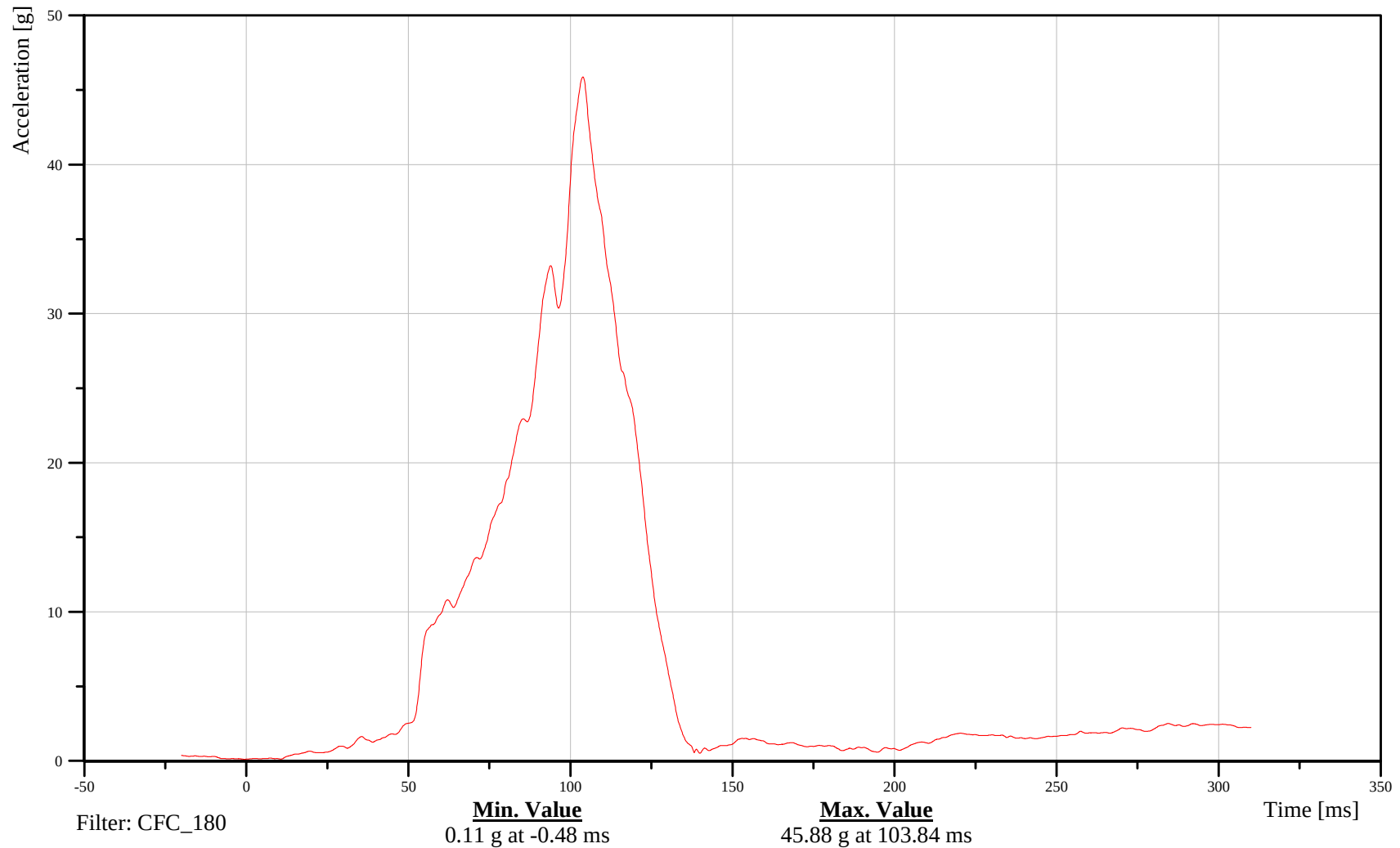
Bullet Vehicle Driver Chest Resultant Acceleration

Customer: VRTC

11CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-19

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Redundant X-Axis Acceleration

Date: 11/06/2009

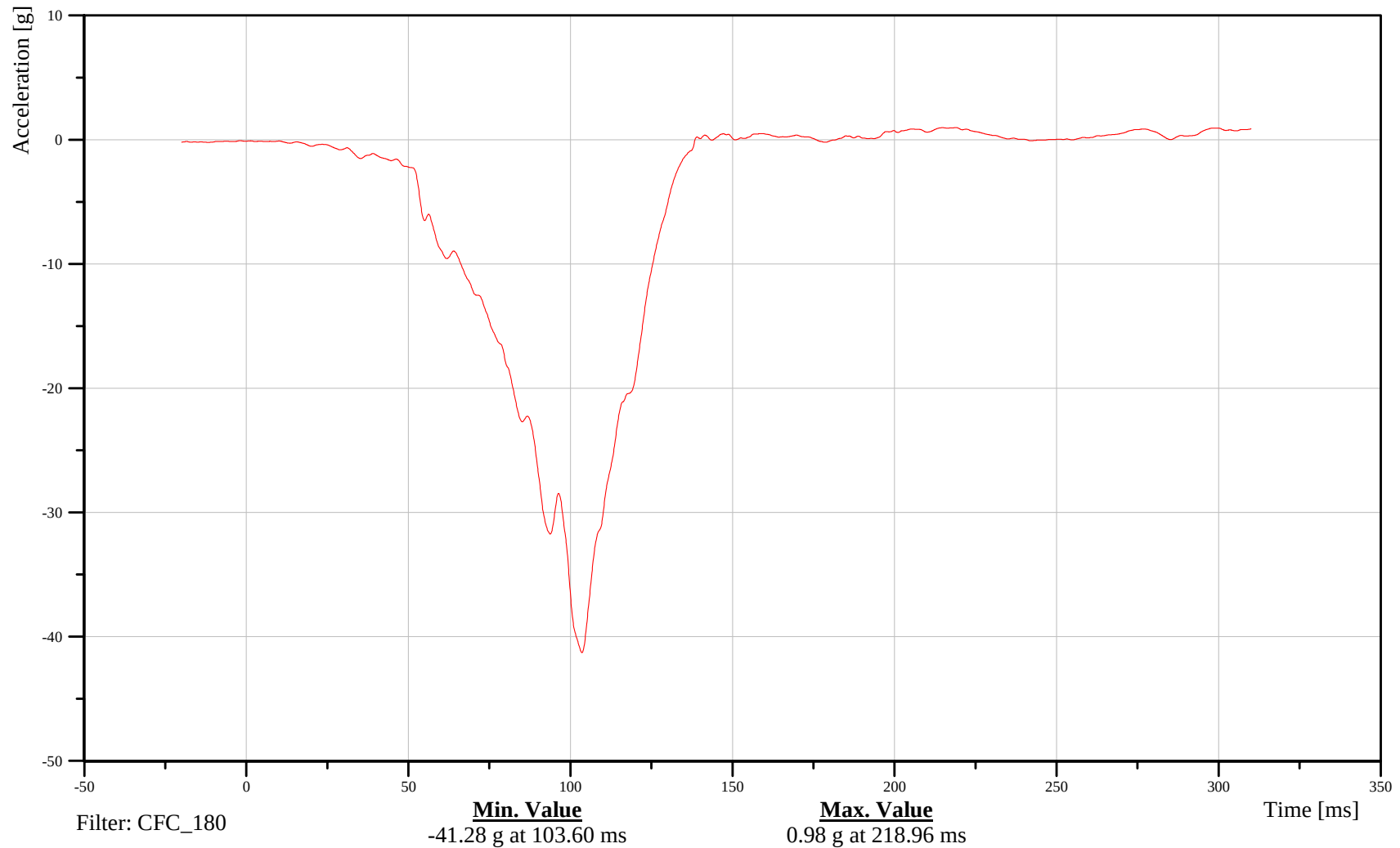
Time: 14:32

Customer: VRTC

11CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-20

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Redundant Y-Axis Acceleration

Date: 11/06/2009

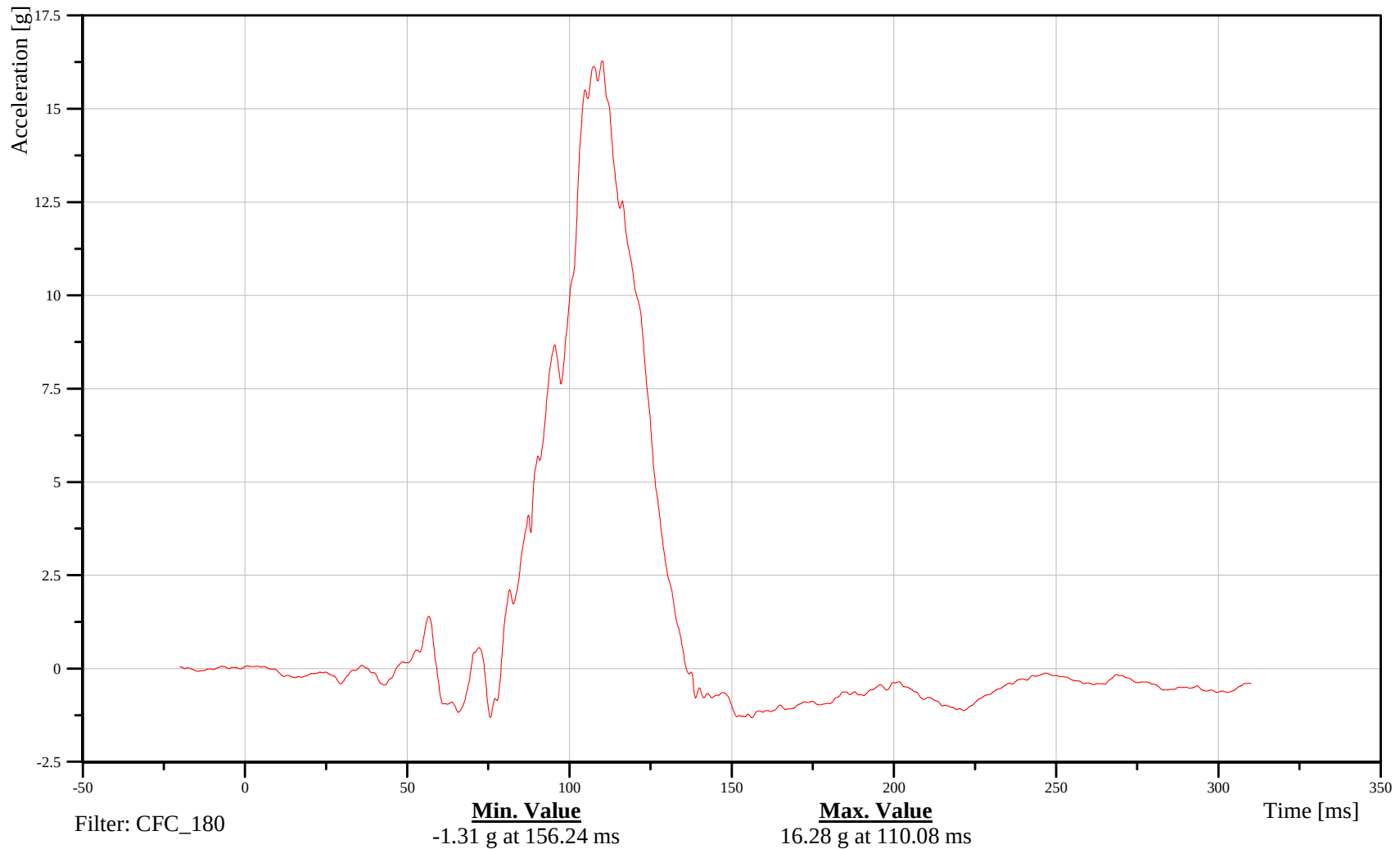
Time: 14:32

Customer: VRTC

11CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-21

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Redundant Z-Axis Acceleration

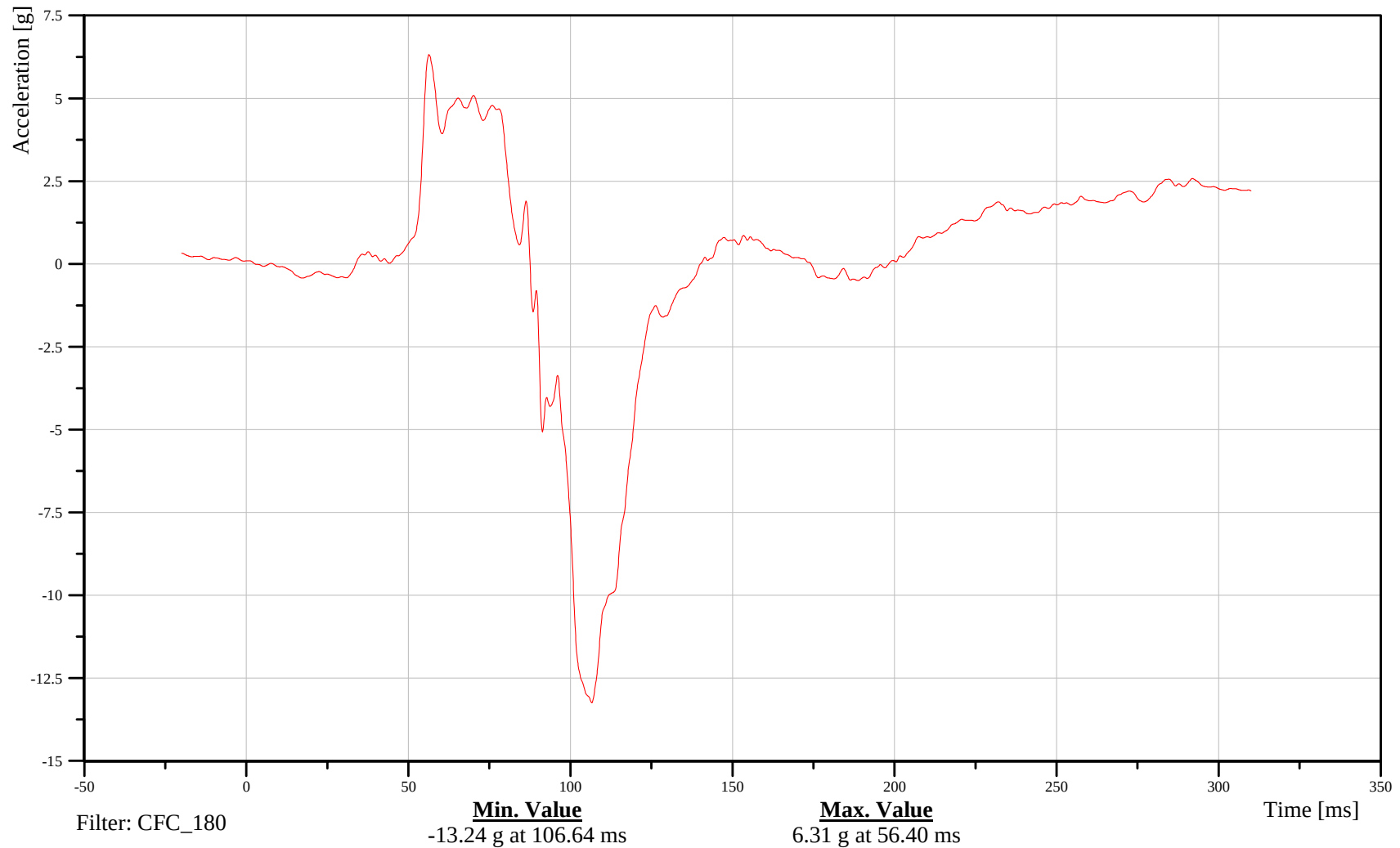
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-22

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest Redundant Resultant Acceleration

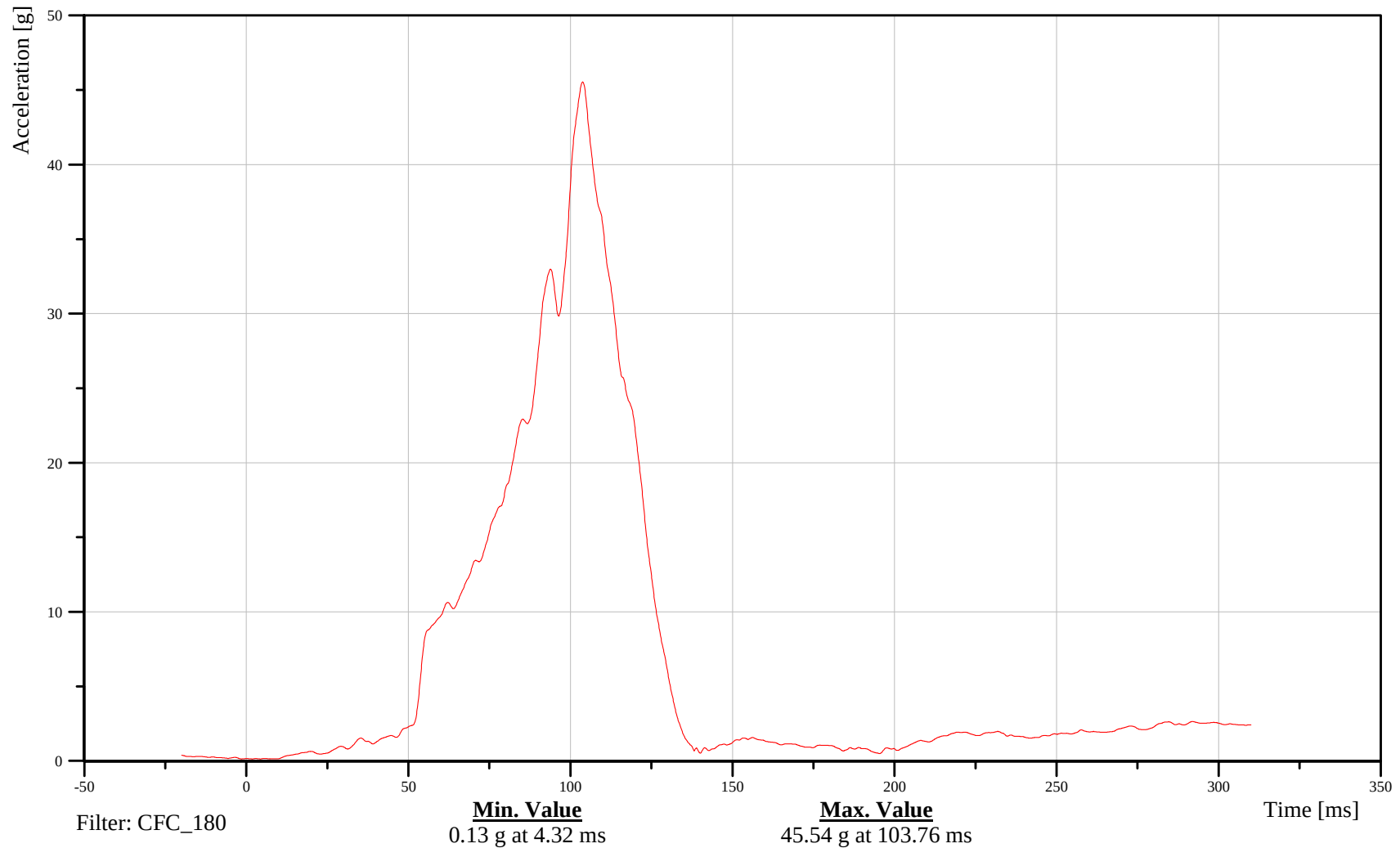
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11CHSTCGRDH3ACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-23

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Chest X-Axis Displacement

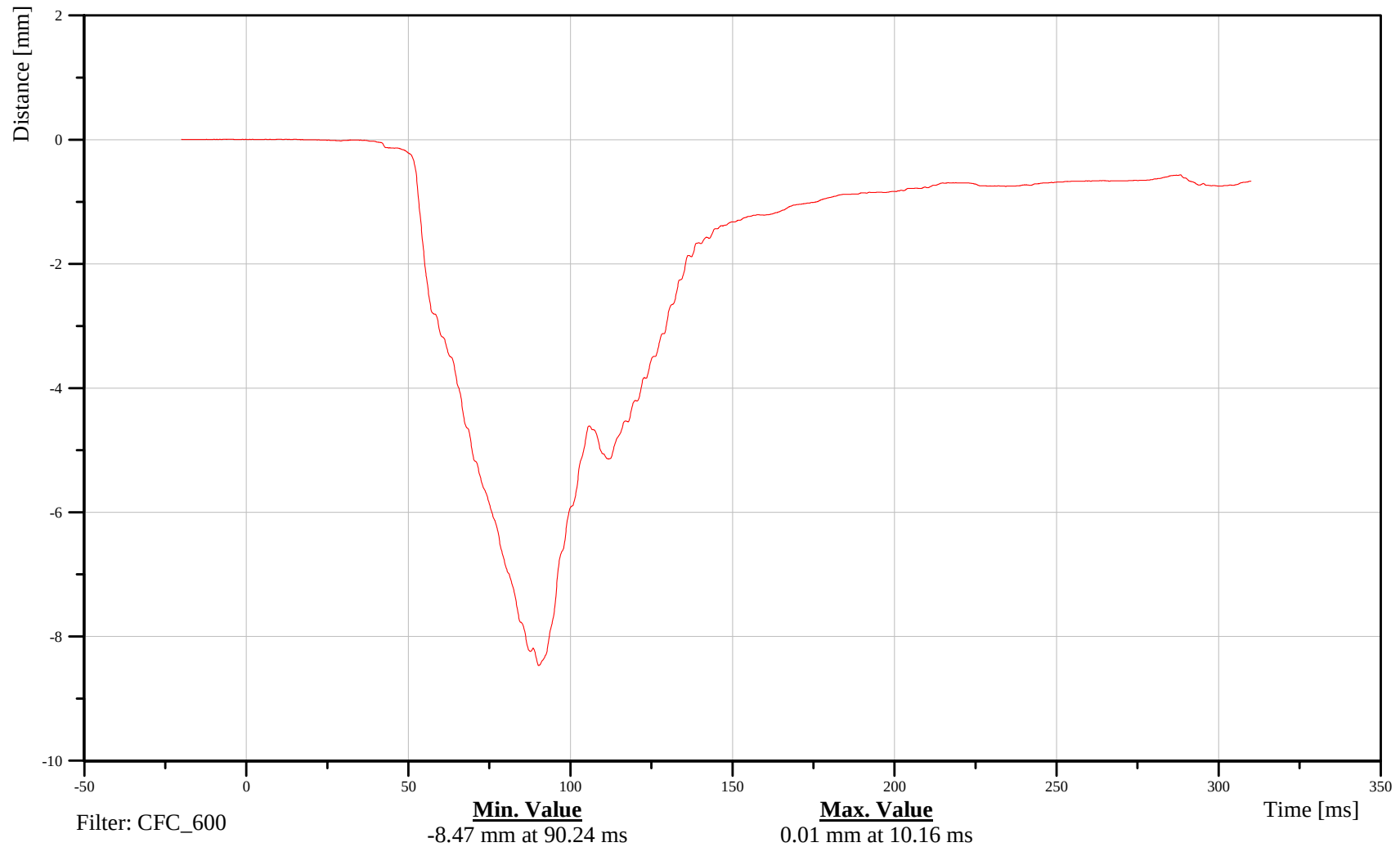
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-24

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Pelvis X-Axis Acceleration

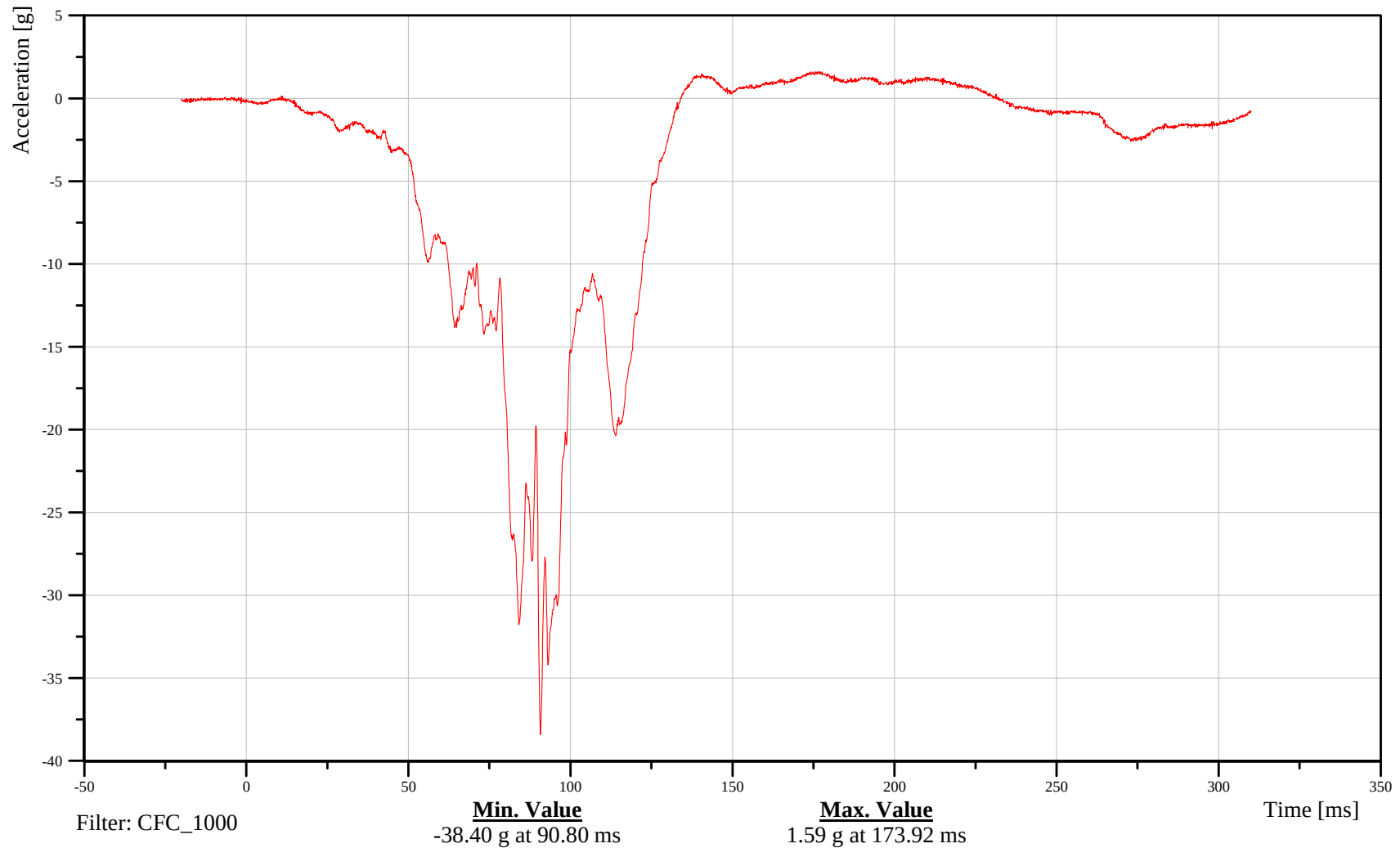
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-25

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Pelvis Y-Axis Acceleration

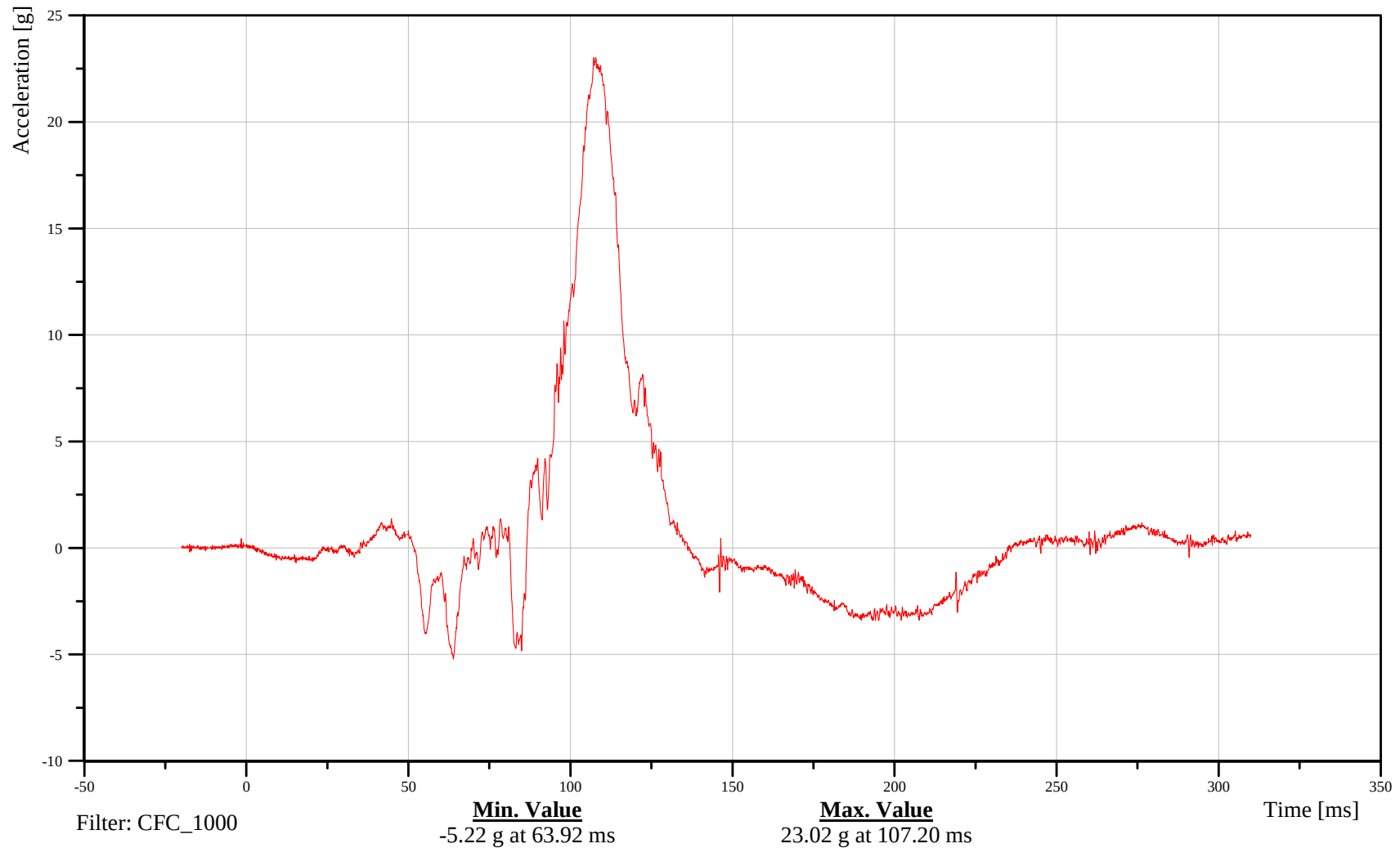
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106





Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Pelvis Z-Axis Acceleration

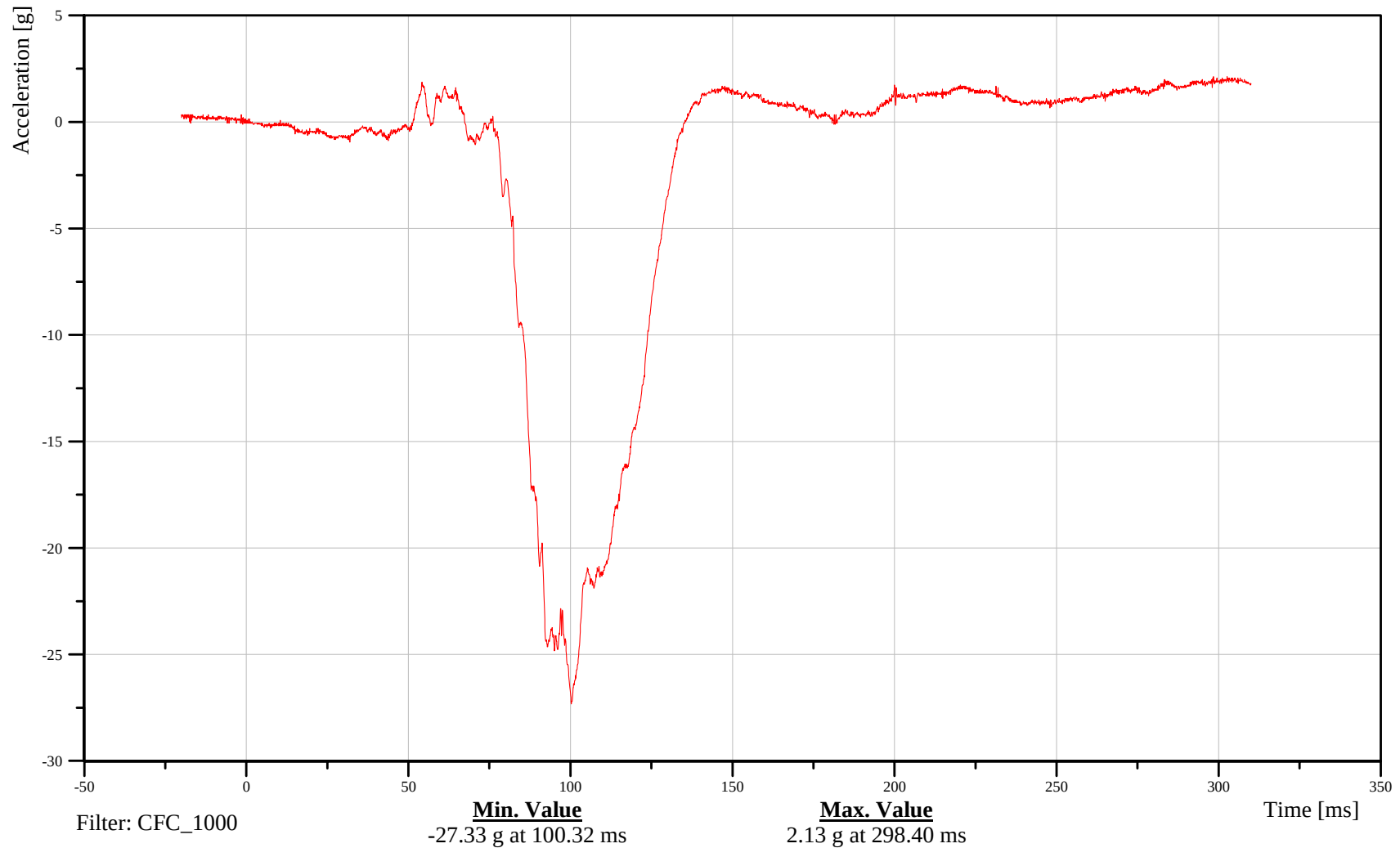
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-27

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

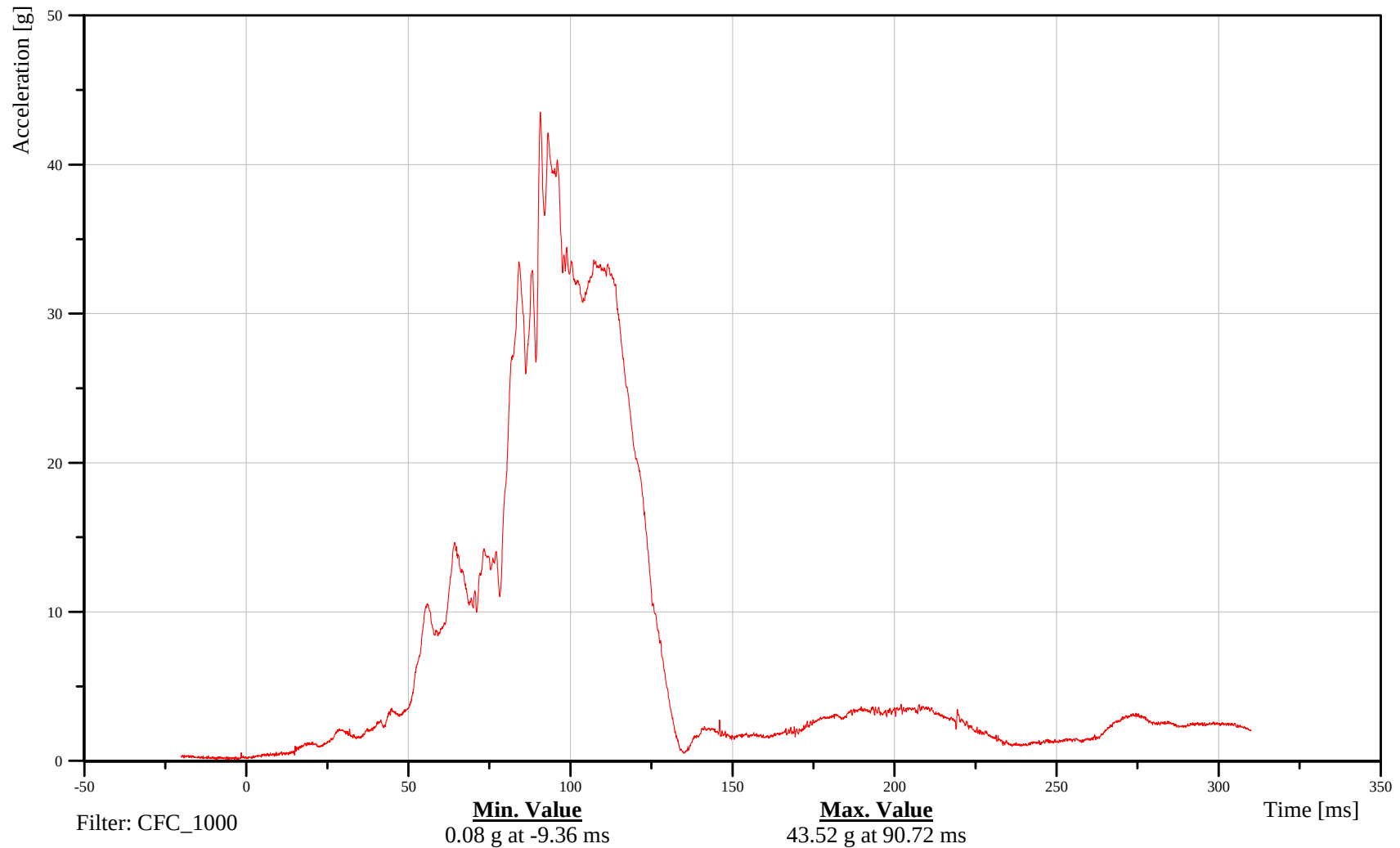
Bullet Vehicle Driver Pelvis Resultant Acceleration

Customer: VRTC

11PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-28

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Femur Z-Axis Force

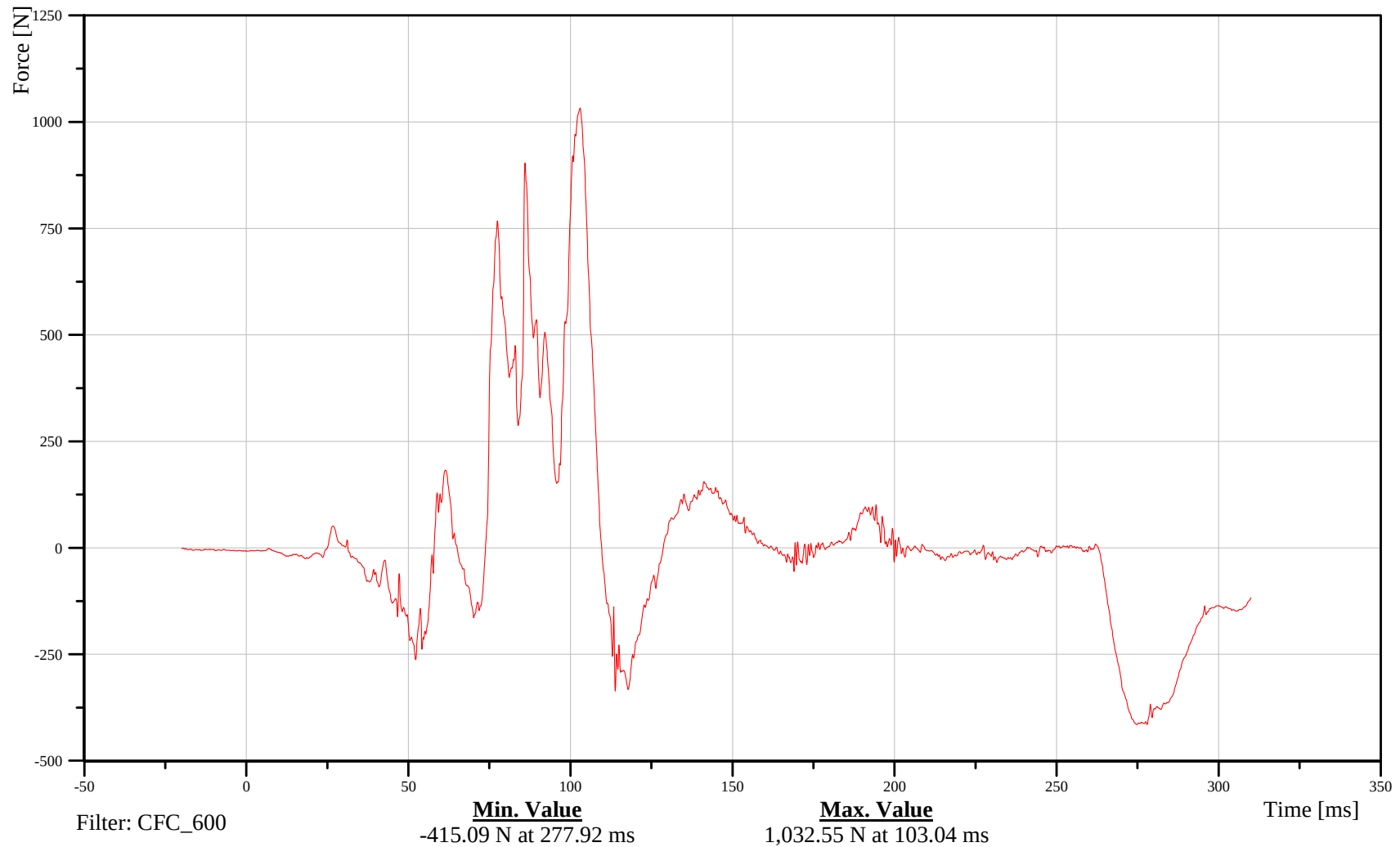
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-29

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Femur Z-Axis Force

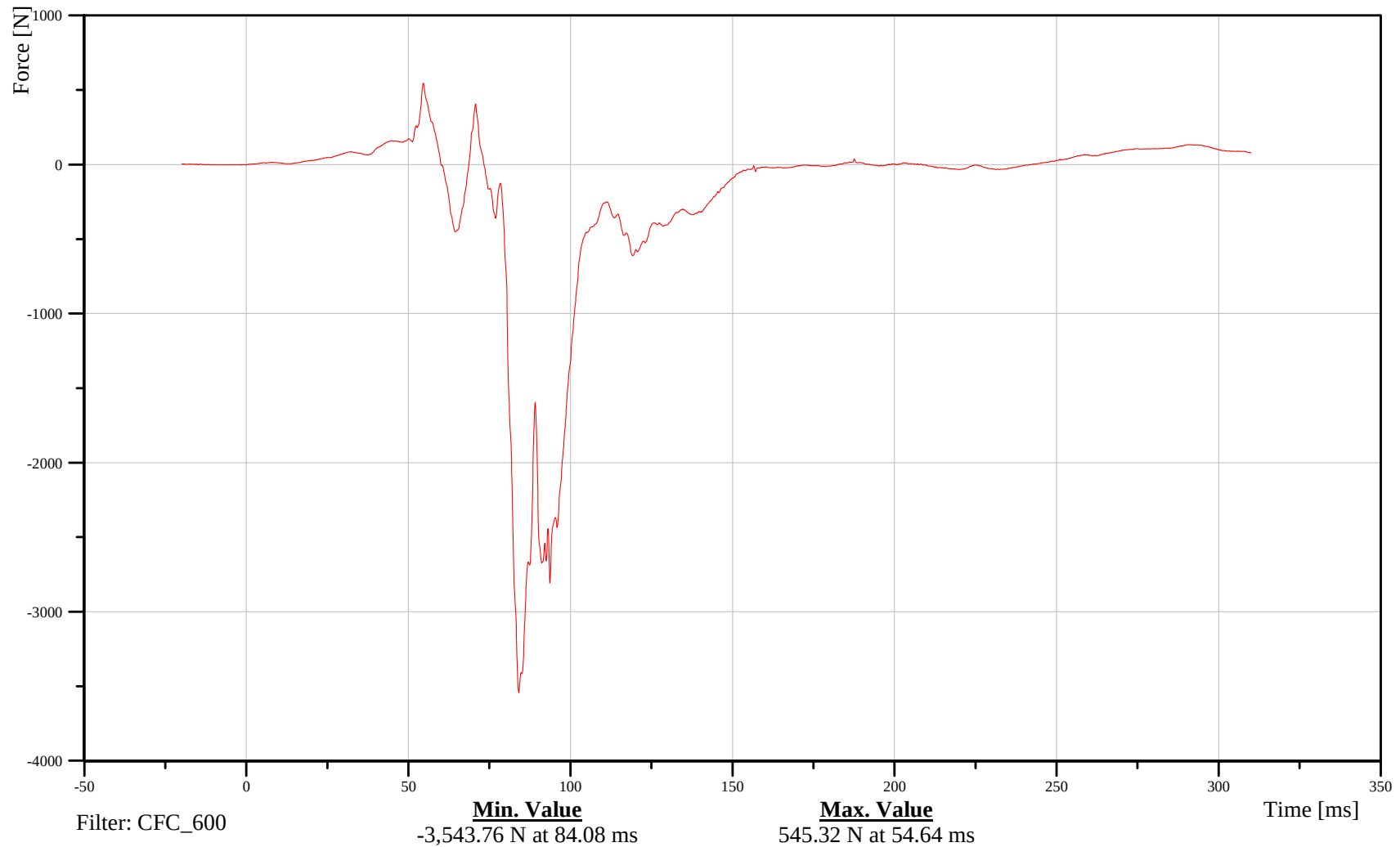
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-30

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Knee X-Axis Displacement

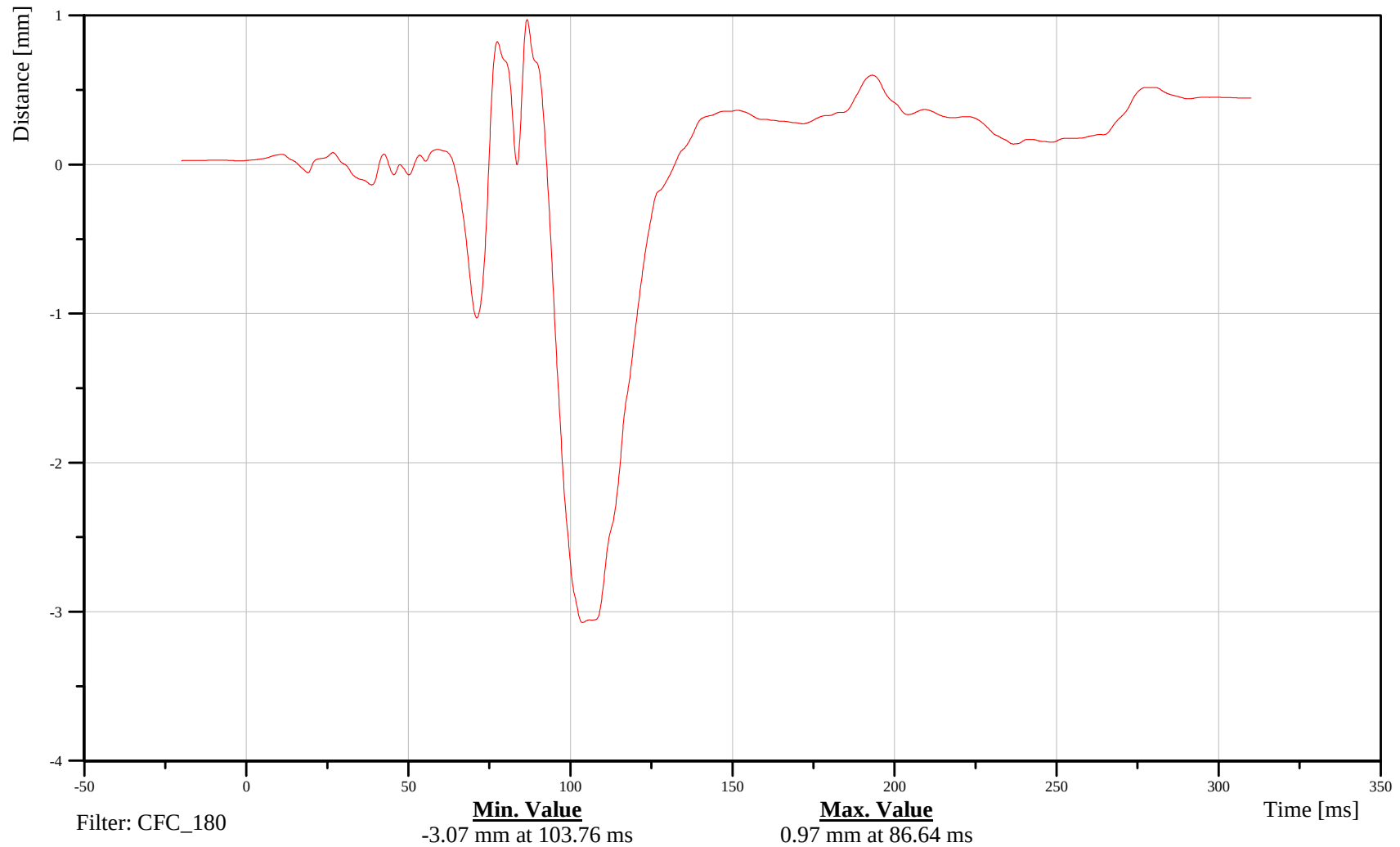
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 091106





Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Upper Tibia X-Axis Force

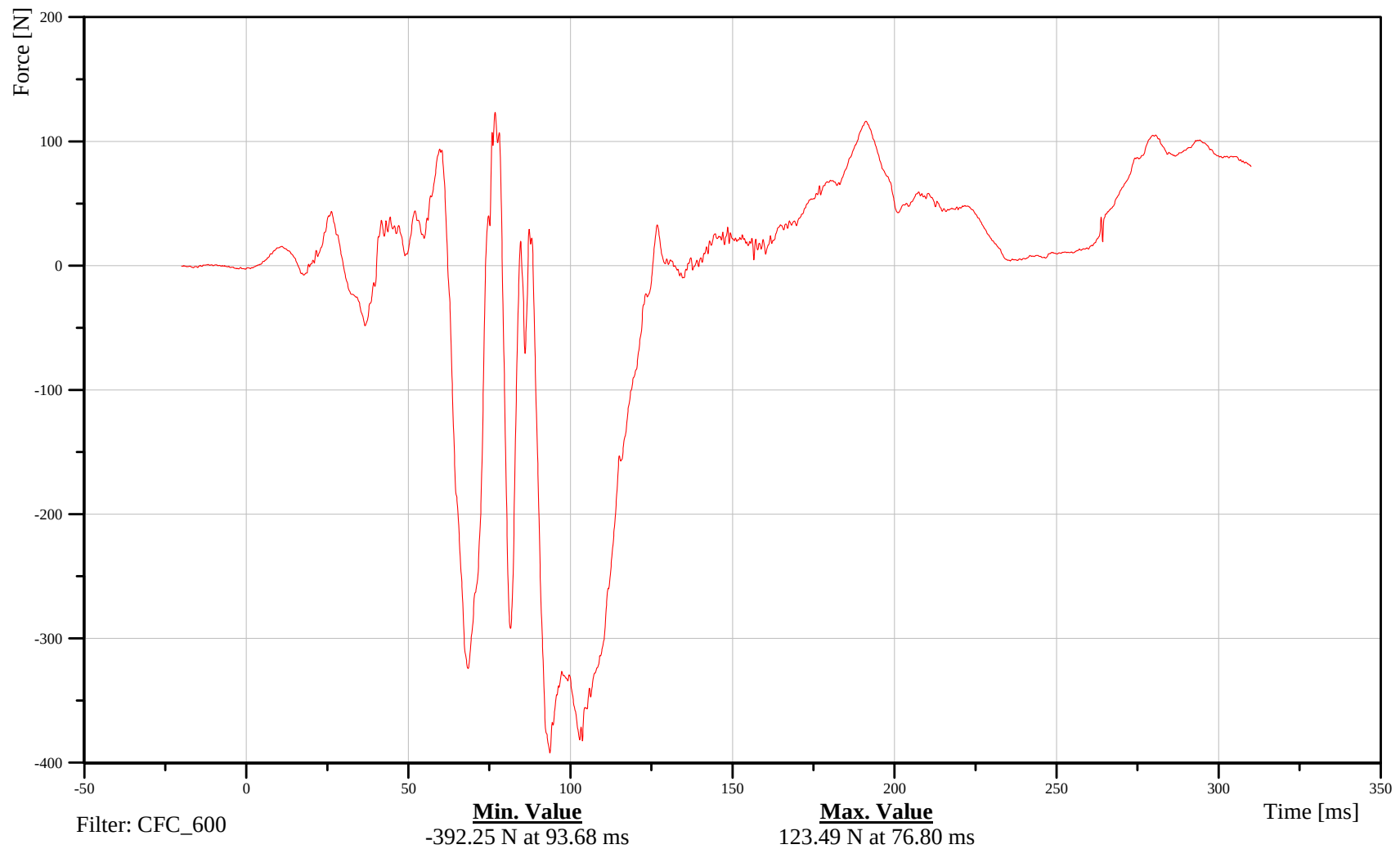
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-32

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Upper Tibia Z-Axis Force

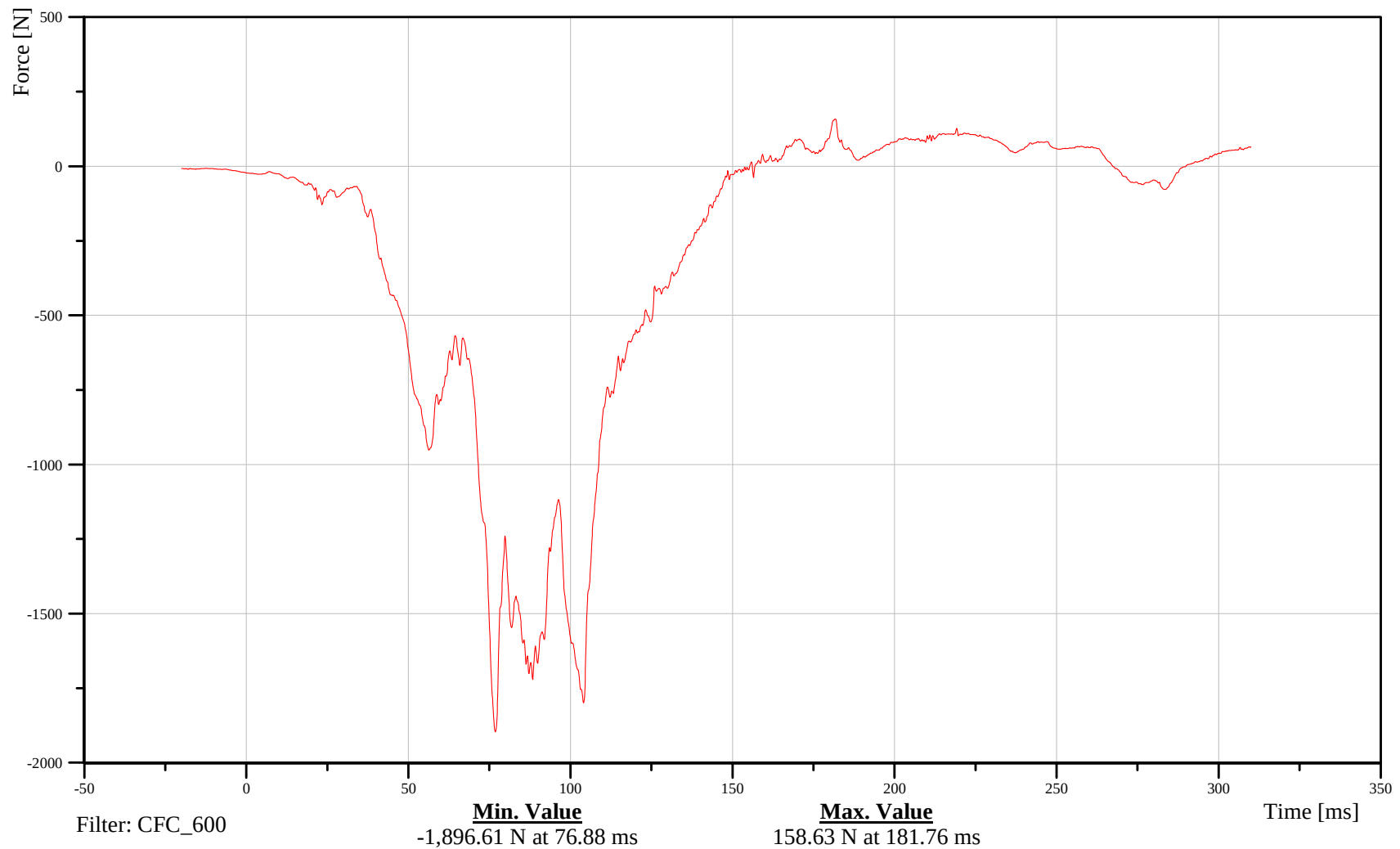
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-33

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Upper Tibia Moment About X Axis

Date: 11/06/2009

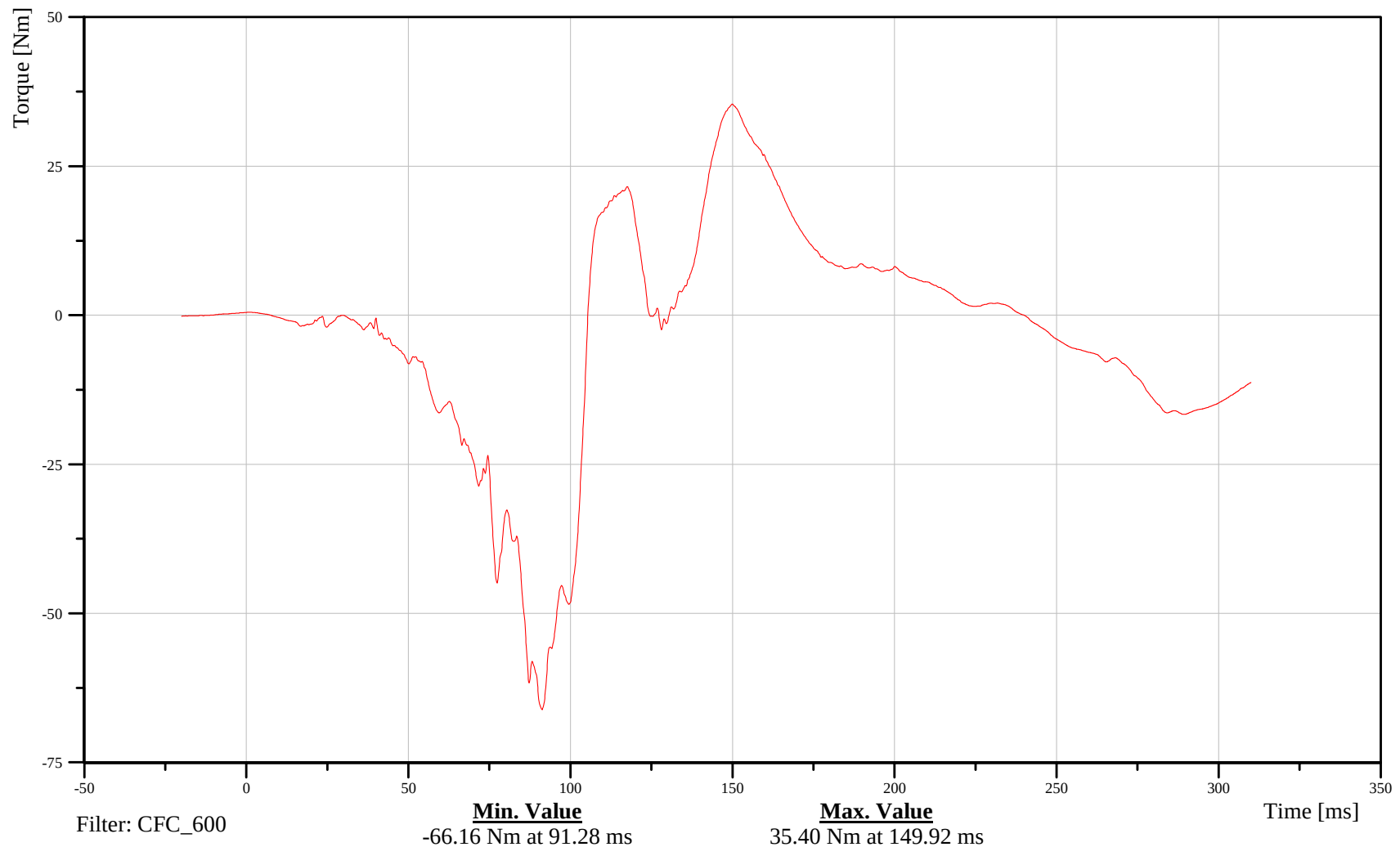
Time: 14:32

Customer: VRTC

11TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-34

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Upper Tibia Moment About Y Axis

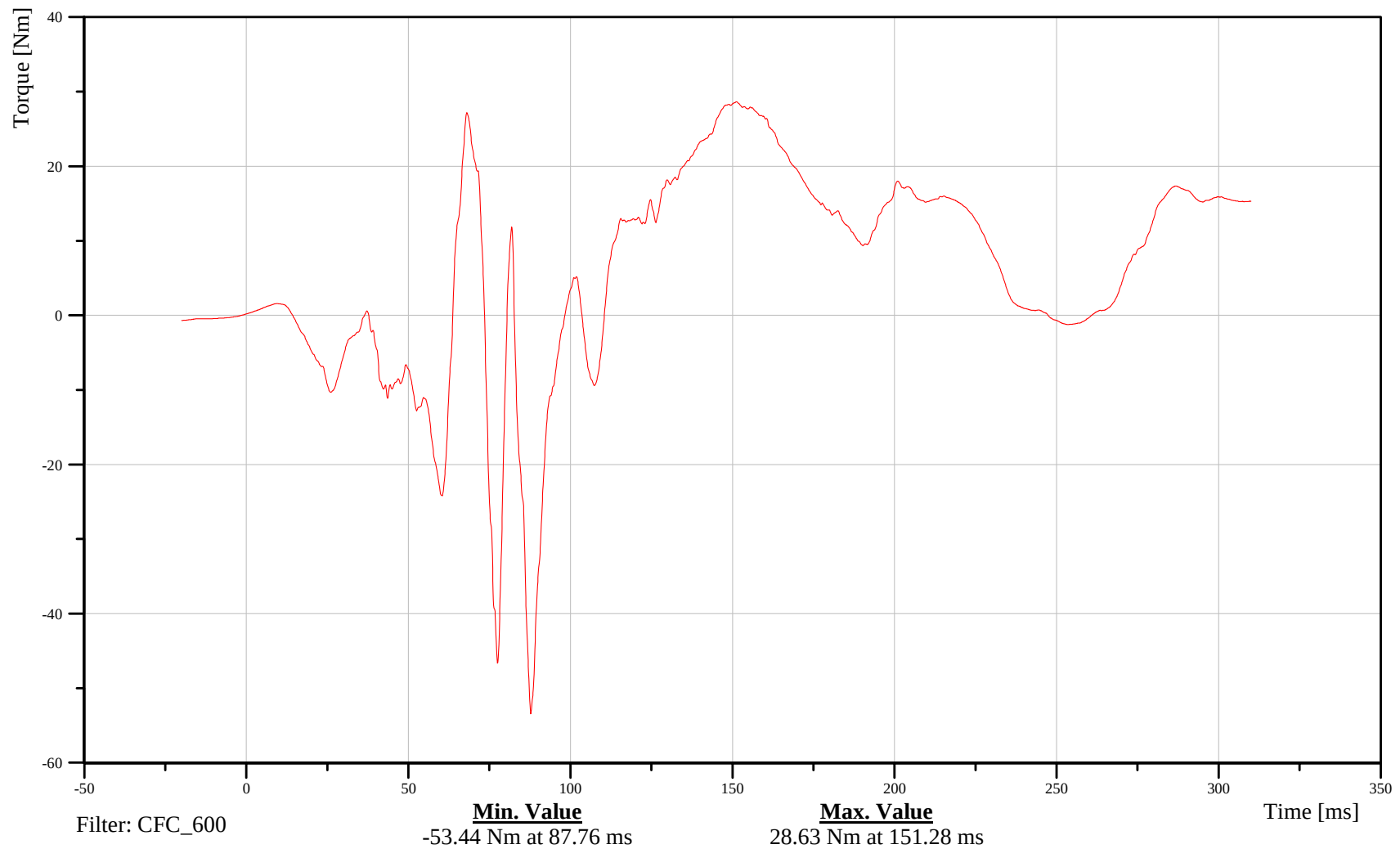
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-35

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Lower Tibia X-Axis Force

Date: 11/06/2009

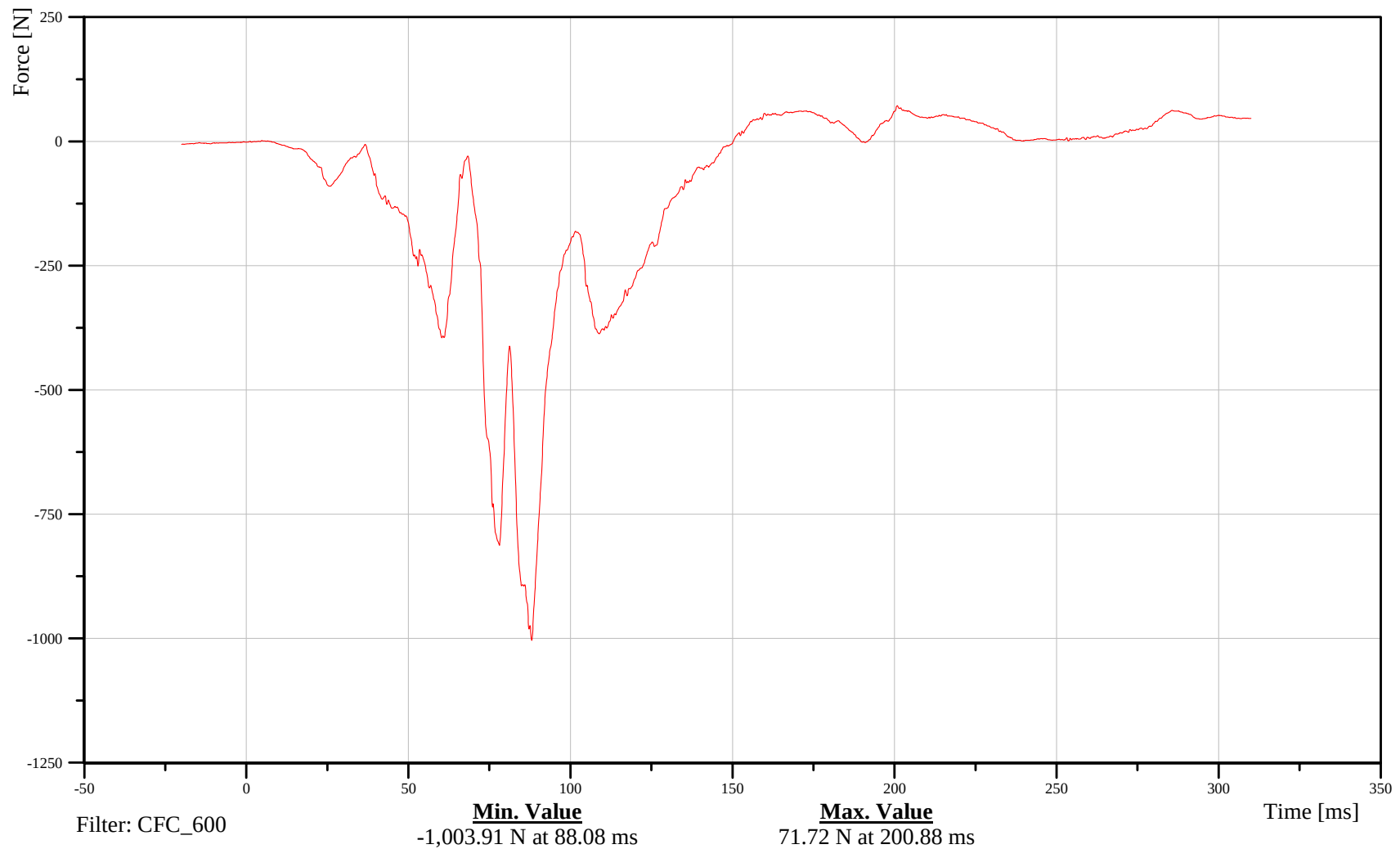
Time: 14:32

Customer: VRTC

11TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-36

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Lower Tibia Y-Axis Force

Date: 11/06/2009

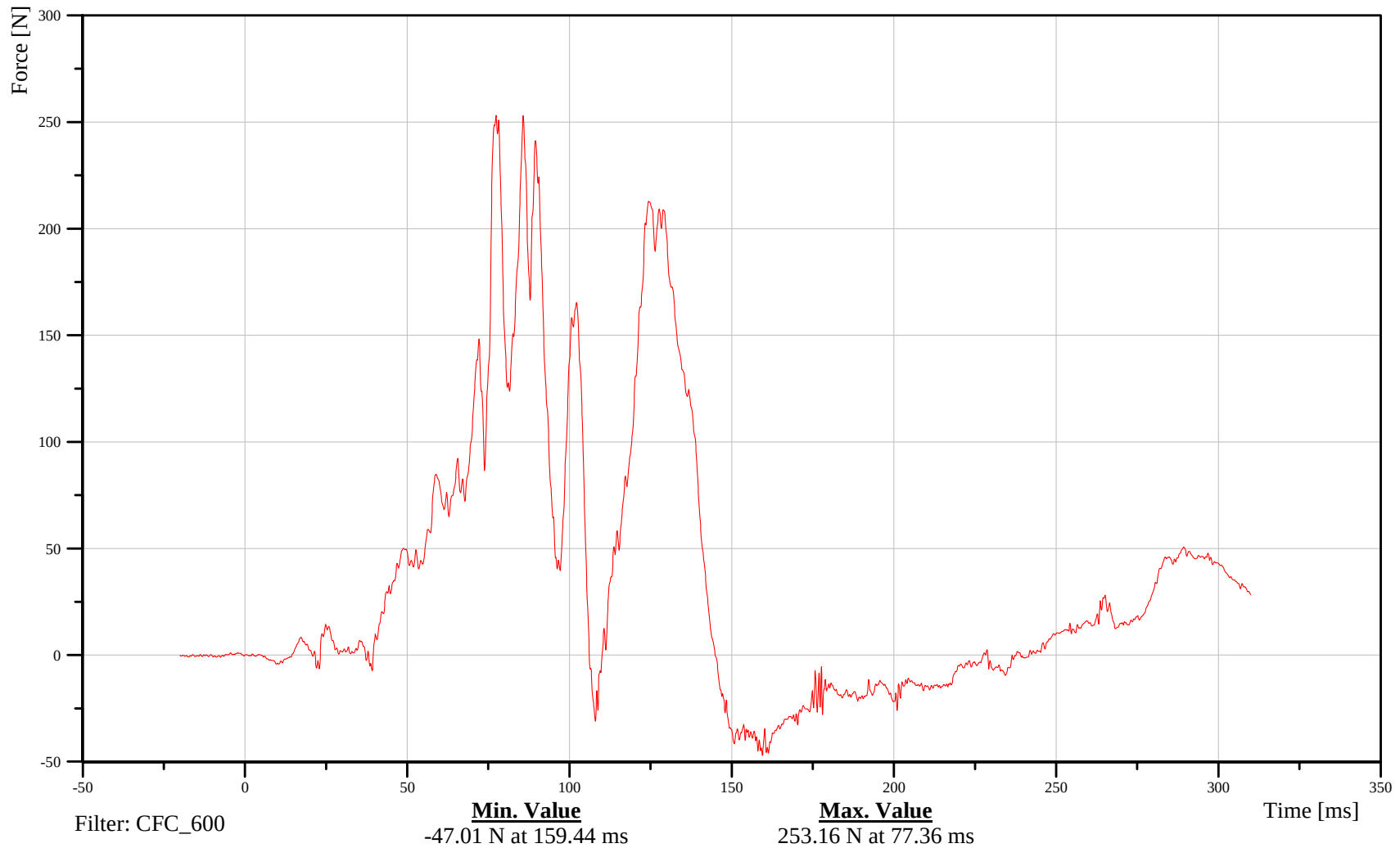
Time: 14:32

Customer: VRTC

11TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-37

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Lower Tibia Z-Axis Force

Date: 11/06/2009

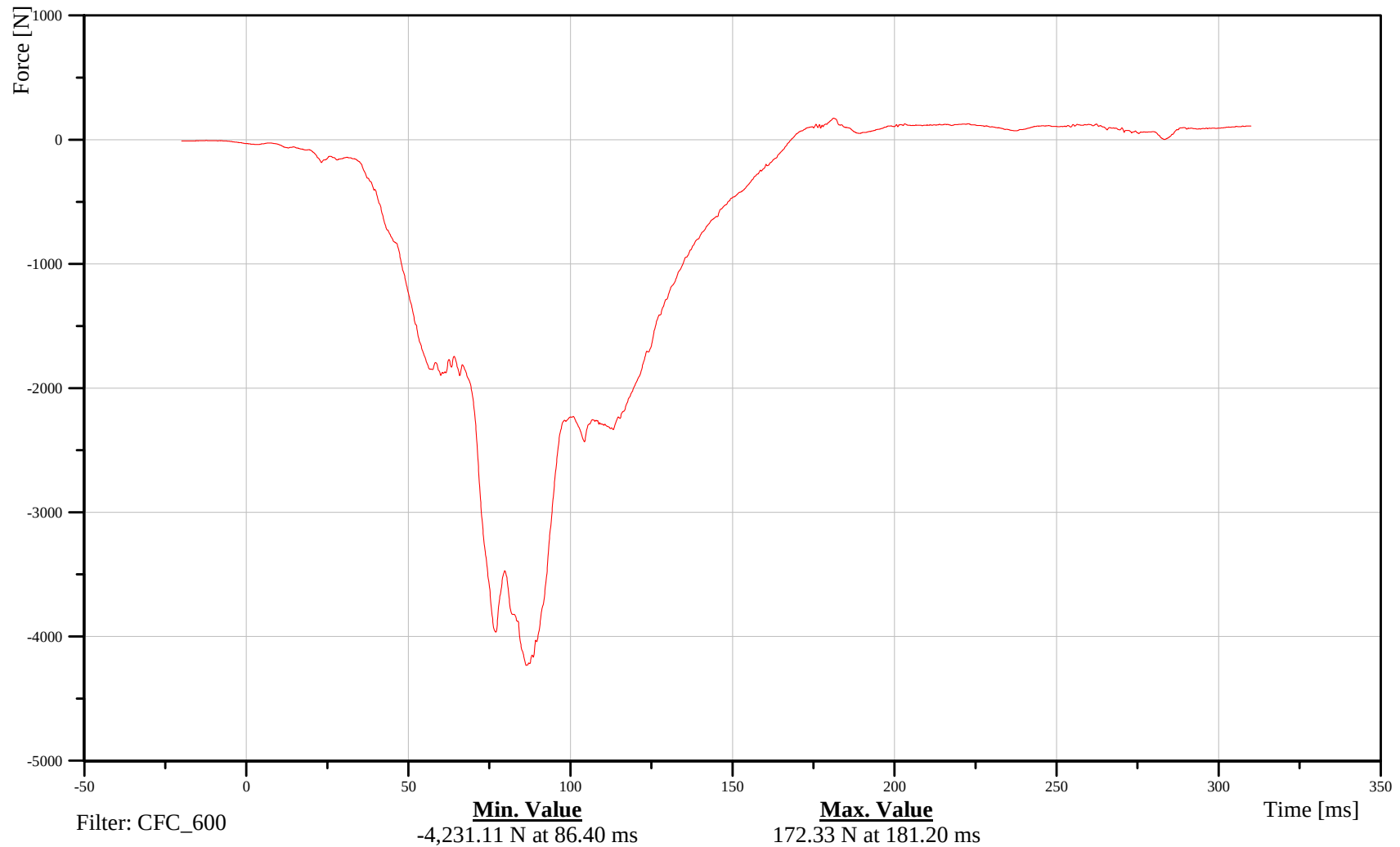
Time: 14:32

Customer: VRTC

11TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-38

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Lower Tibia Moment About X Axis

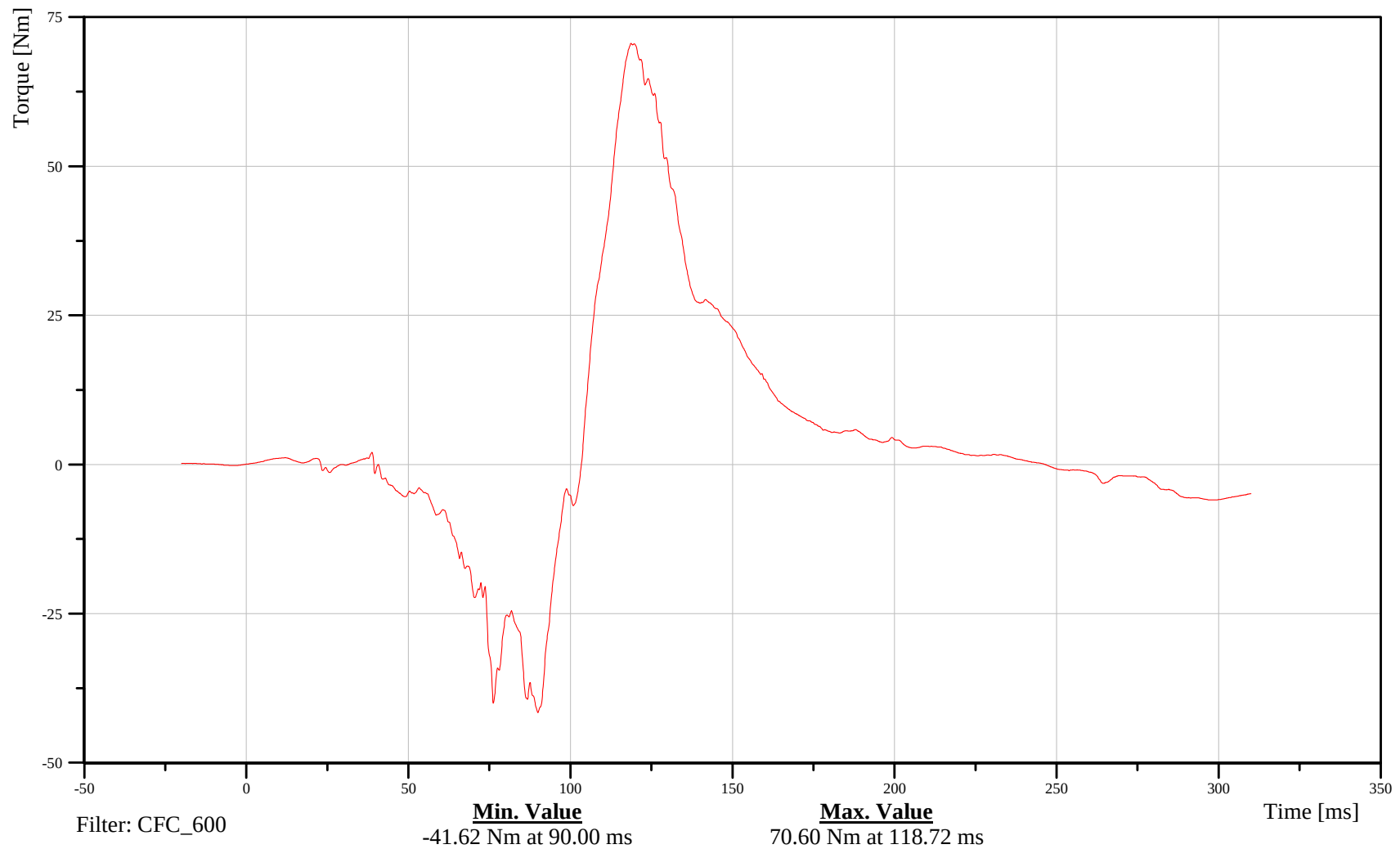
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-39

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Lower Tibia Moment About Y Axis

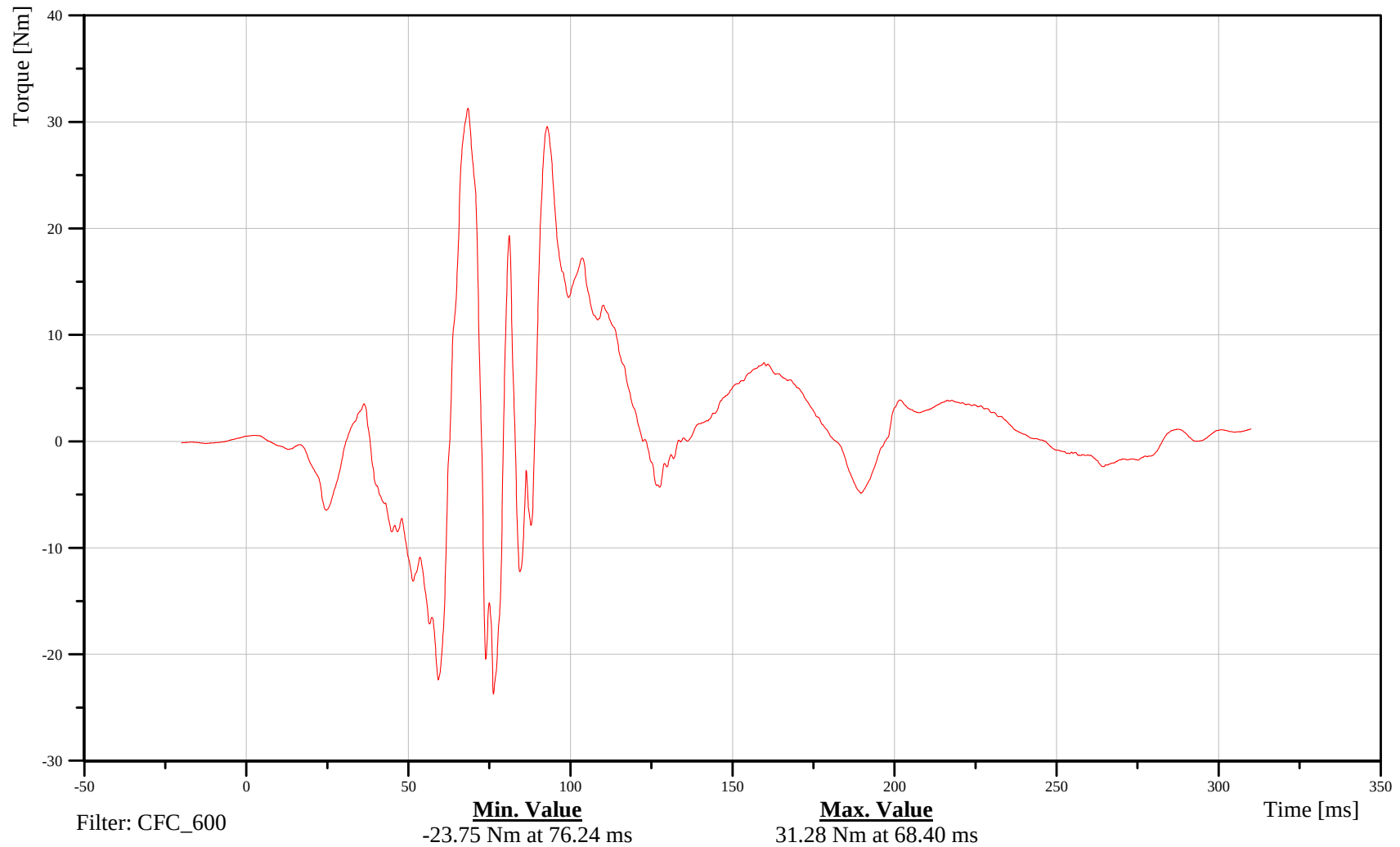
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-40

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Tibia X-Axis Acceleration

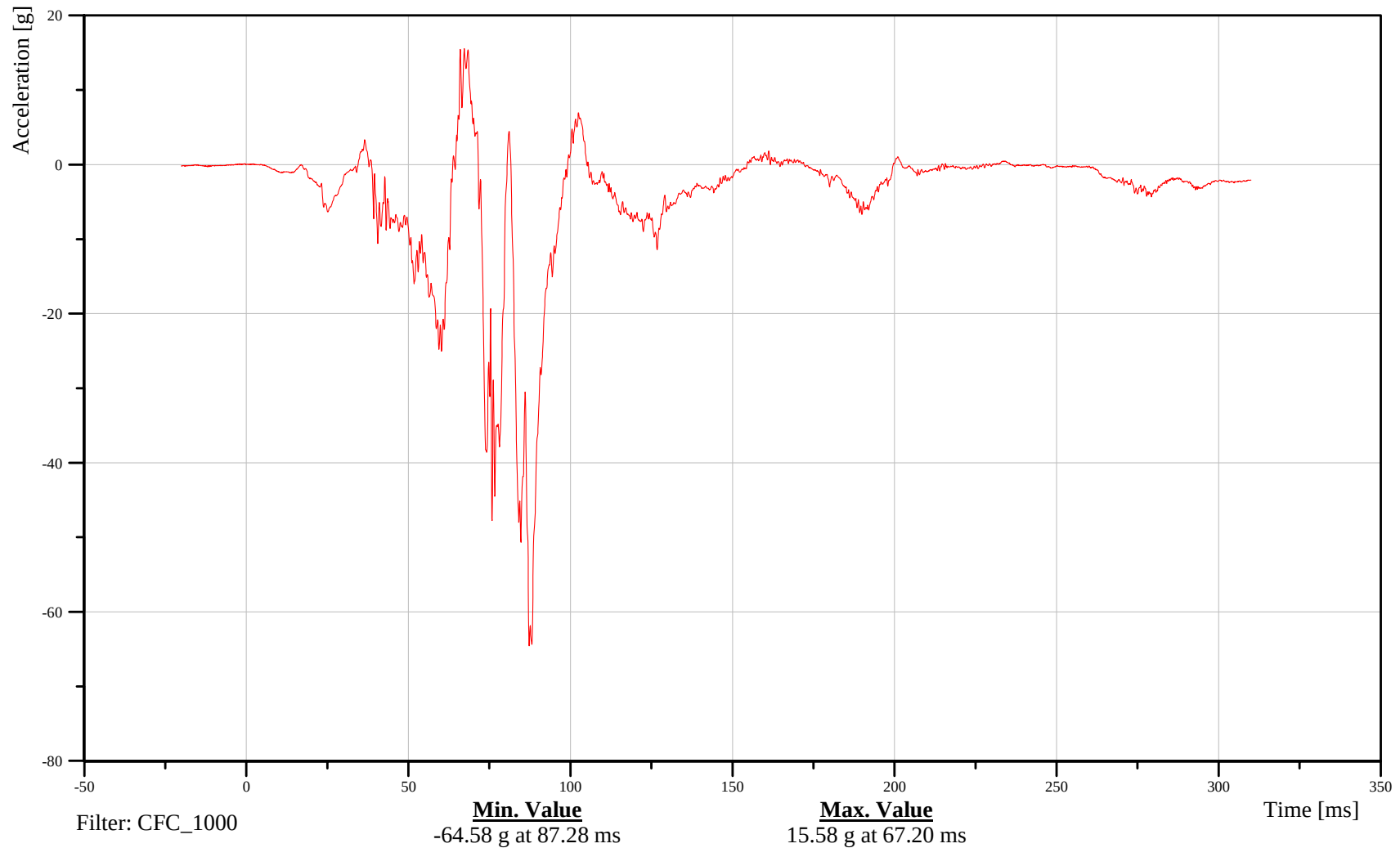
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBILELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-41

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Tibia Y-Axis Acceleration

Date: 11/06/2009

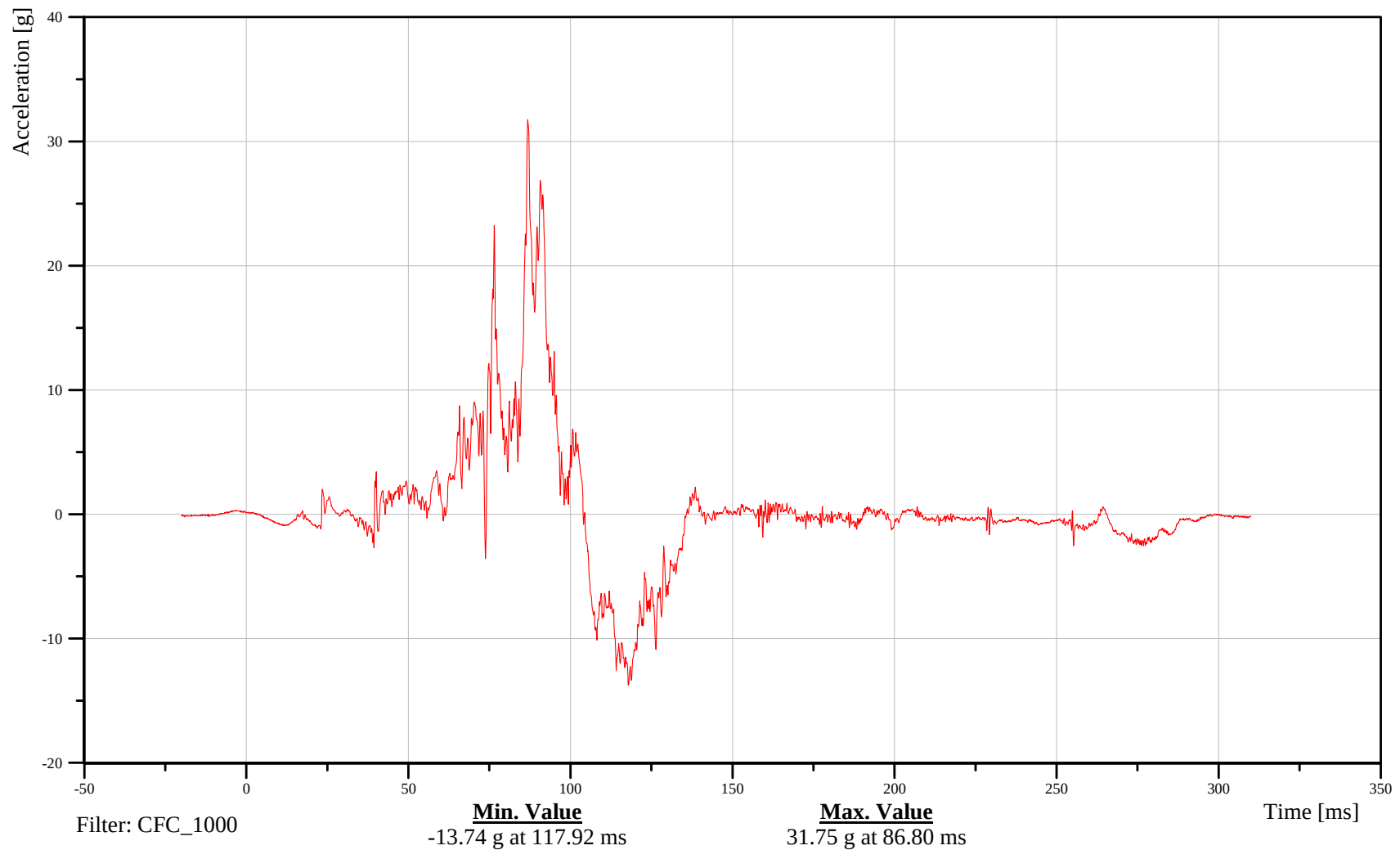
Time: 14:32

Customer: VRTC

11TIBILELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-42

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot X-Axis Acceleration

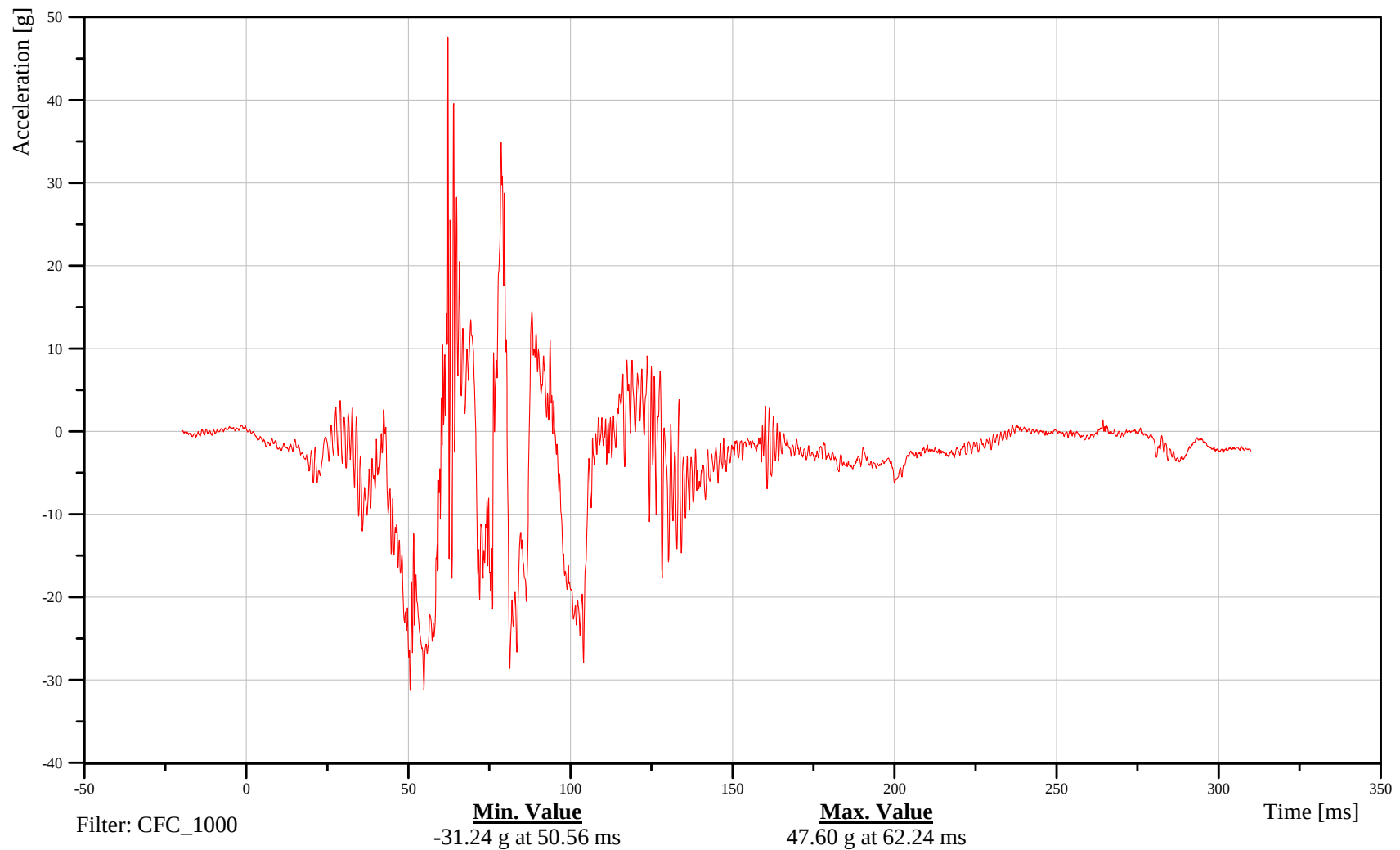
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-43

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot Y-Axis Acceleration

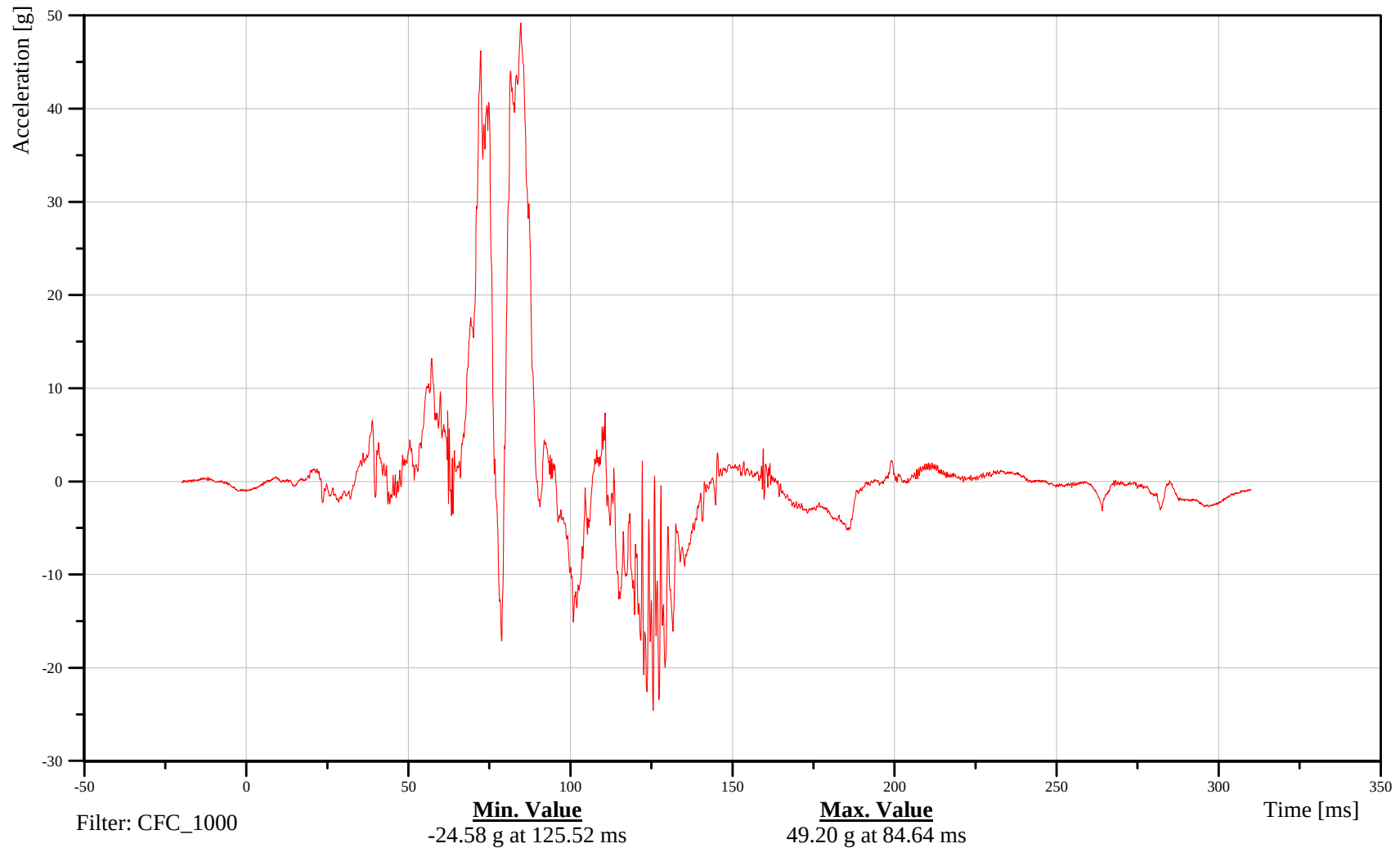
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-44

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot Z-Axis Acceleration

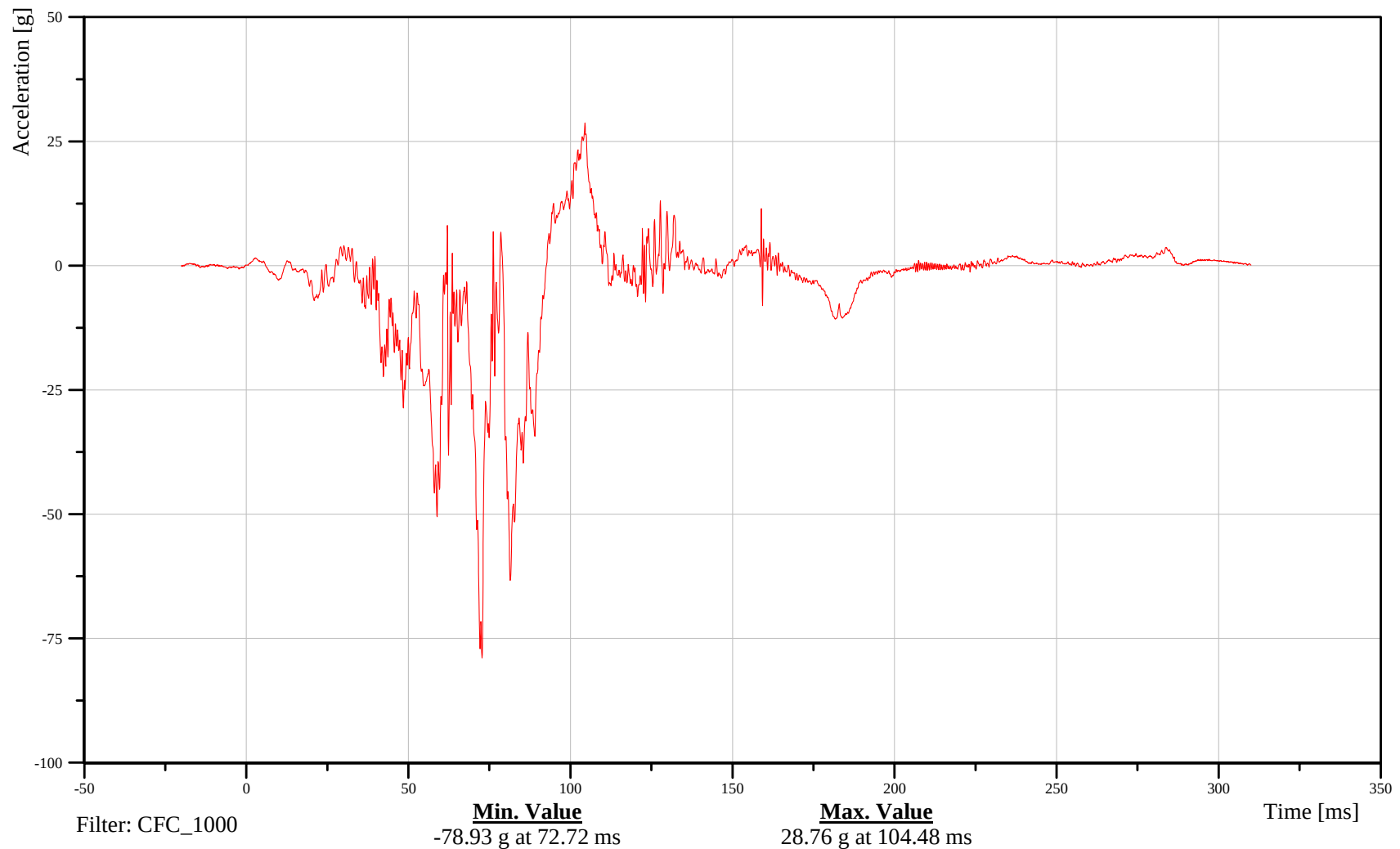
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-45

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot Resultant Acceleration

Date: 11/06/2009

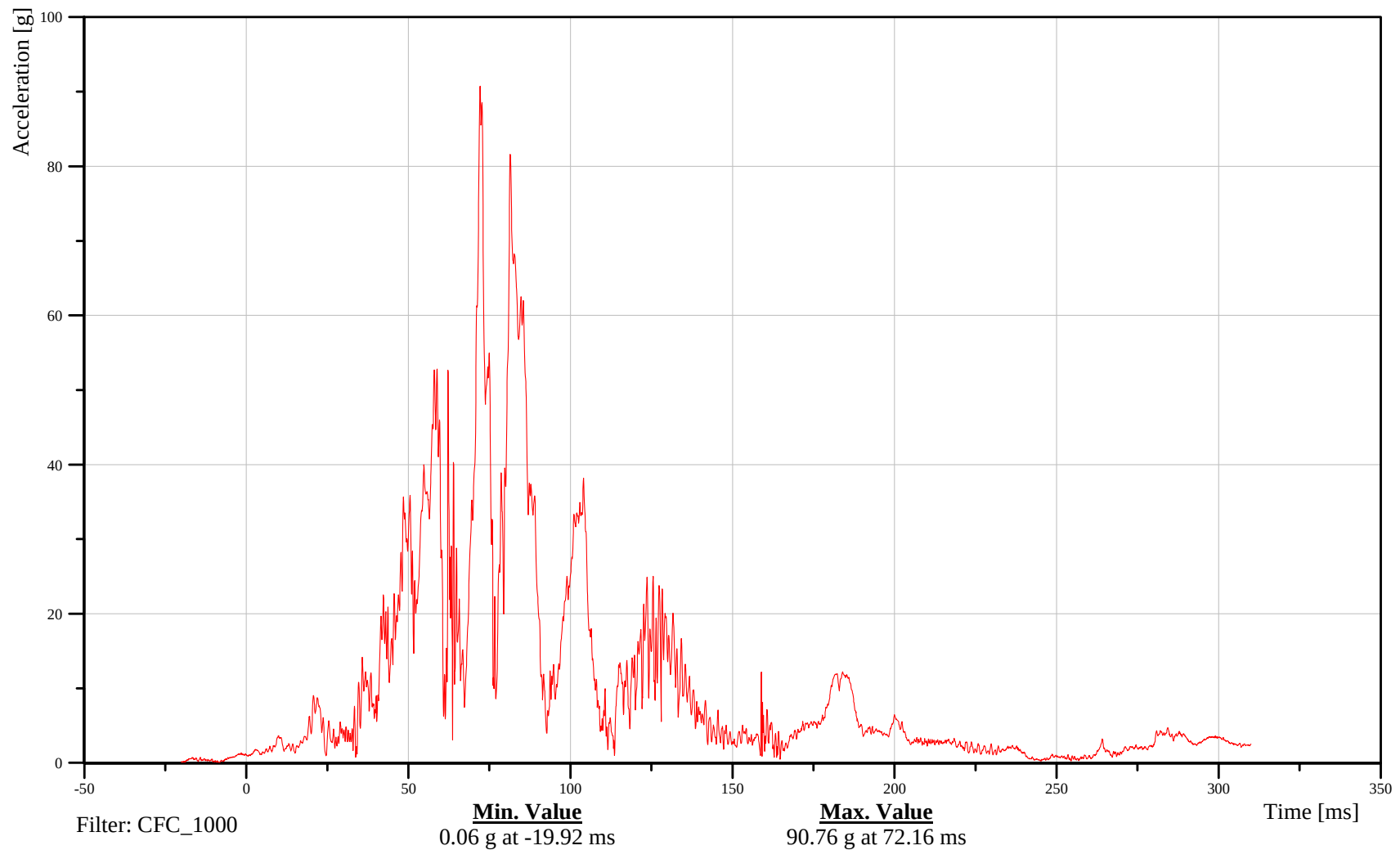
Time: 14:32

Customer: VRTC

11FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-46

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot X-Axis Angular Displacement

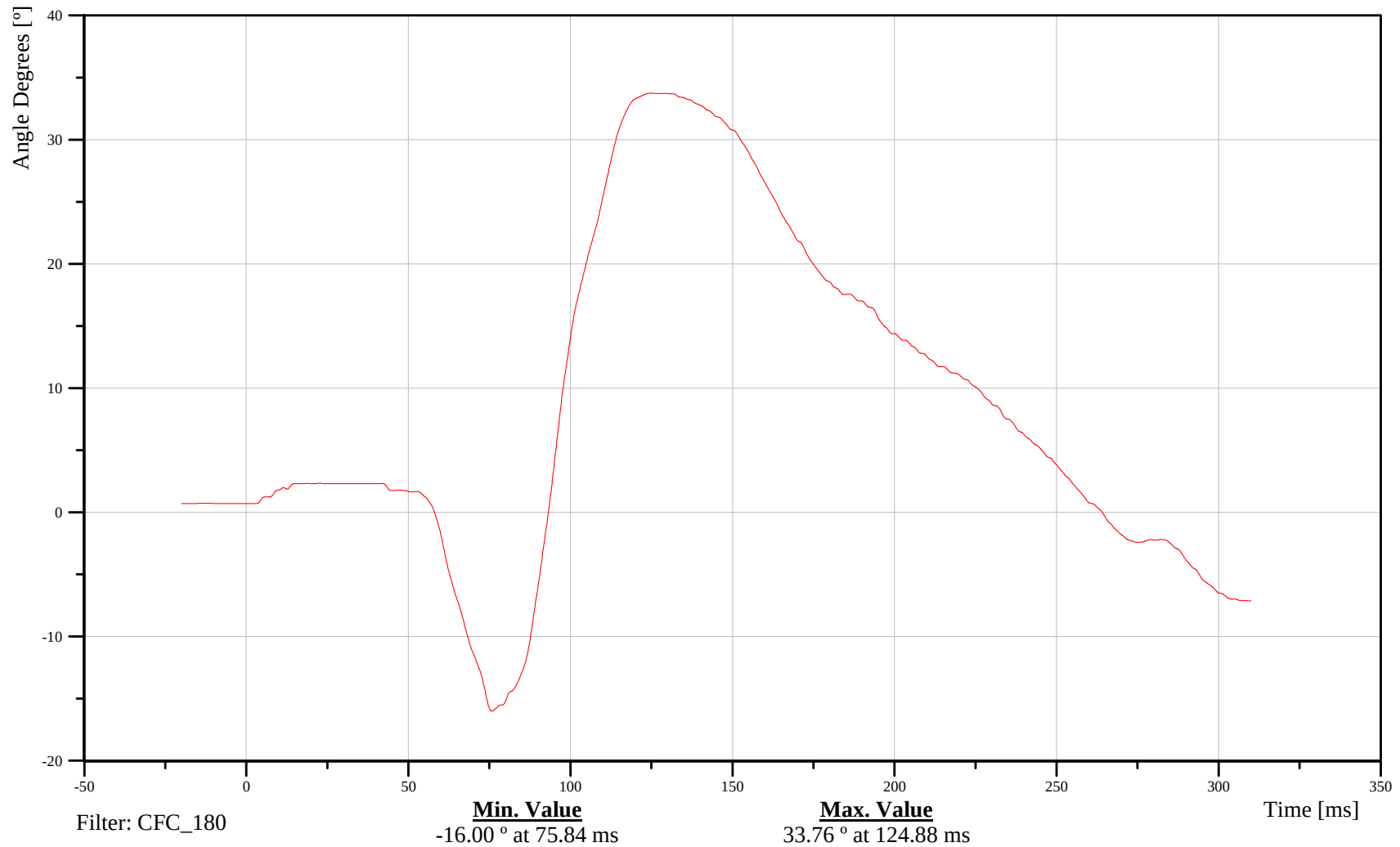
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-47

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Left Foot Y-Axis Angular Displacement

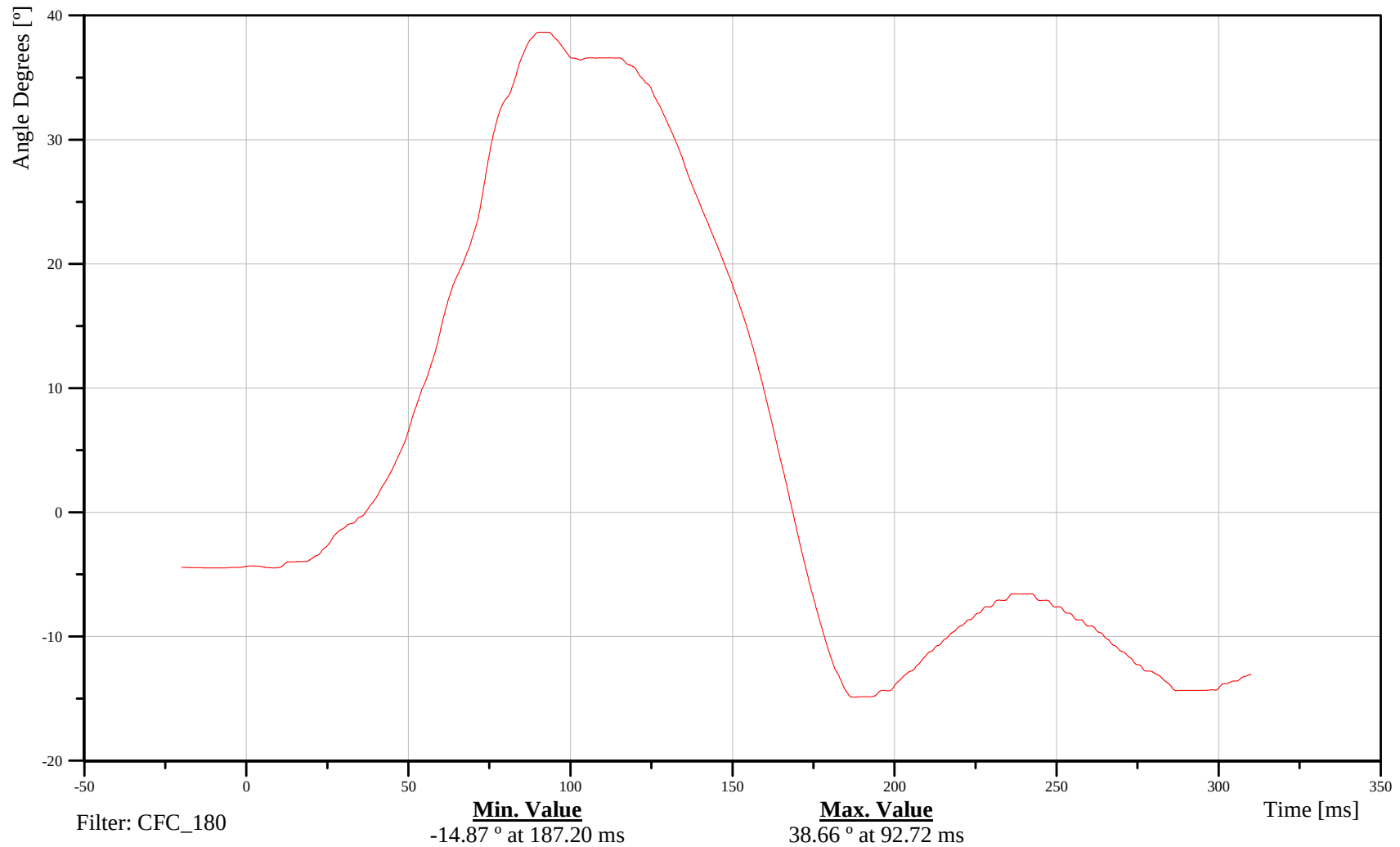
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-48

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

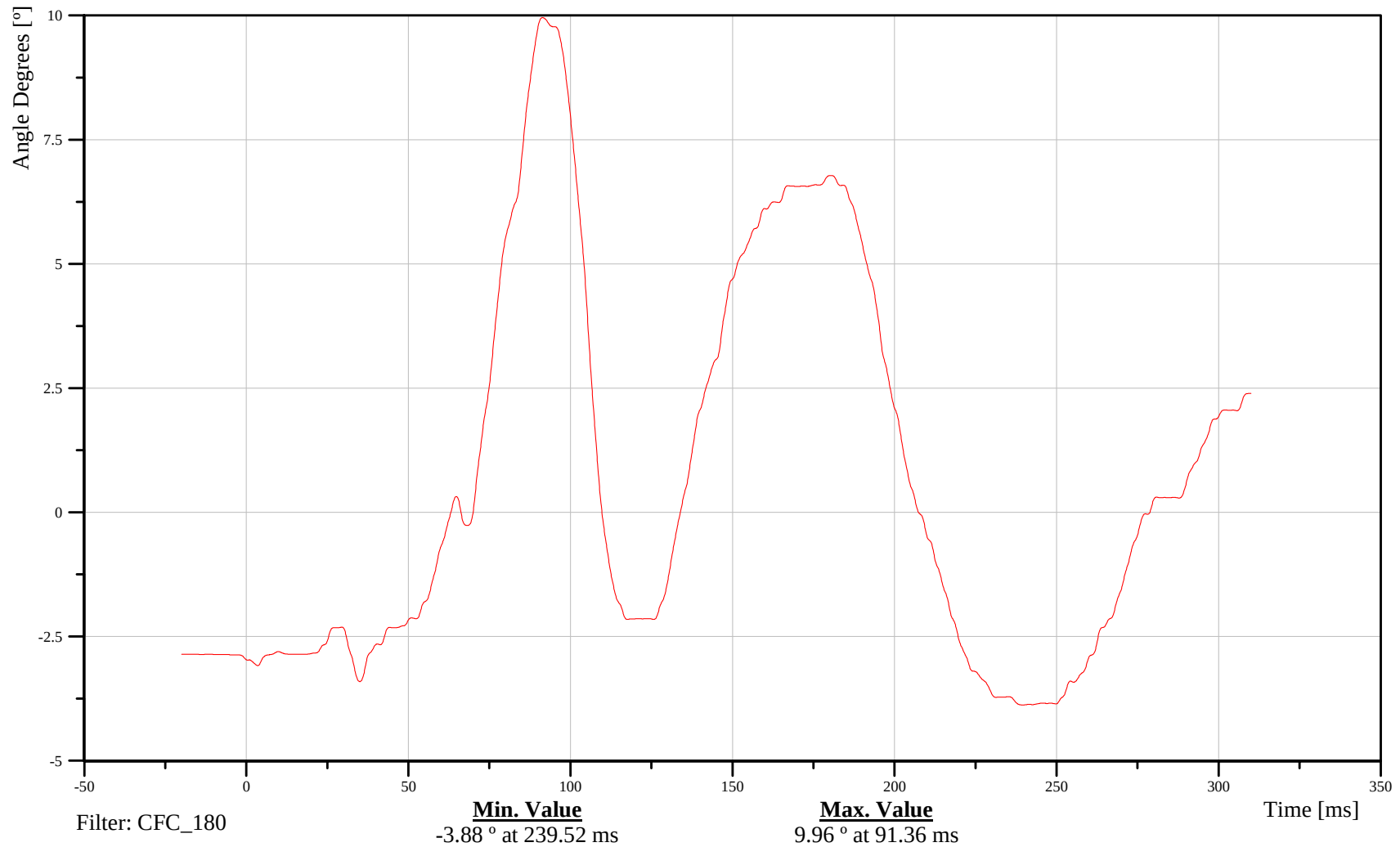
Bullet Vehicle Driver Left Foot Z-Axis Angular Displacement

Customer: VRTC

11FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-49

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Knee X-Axis Displacement

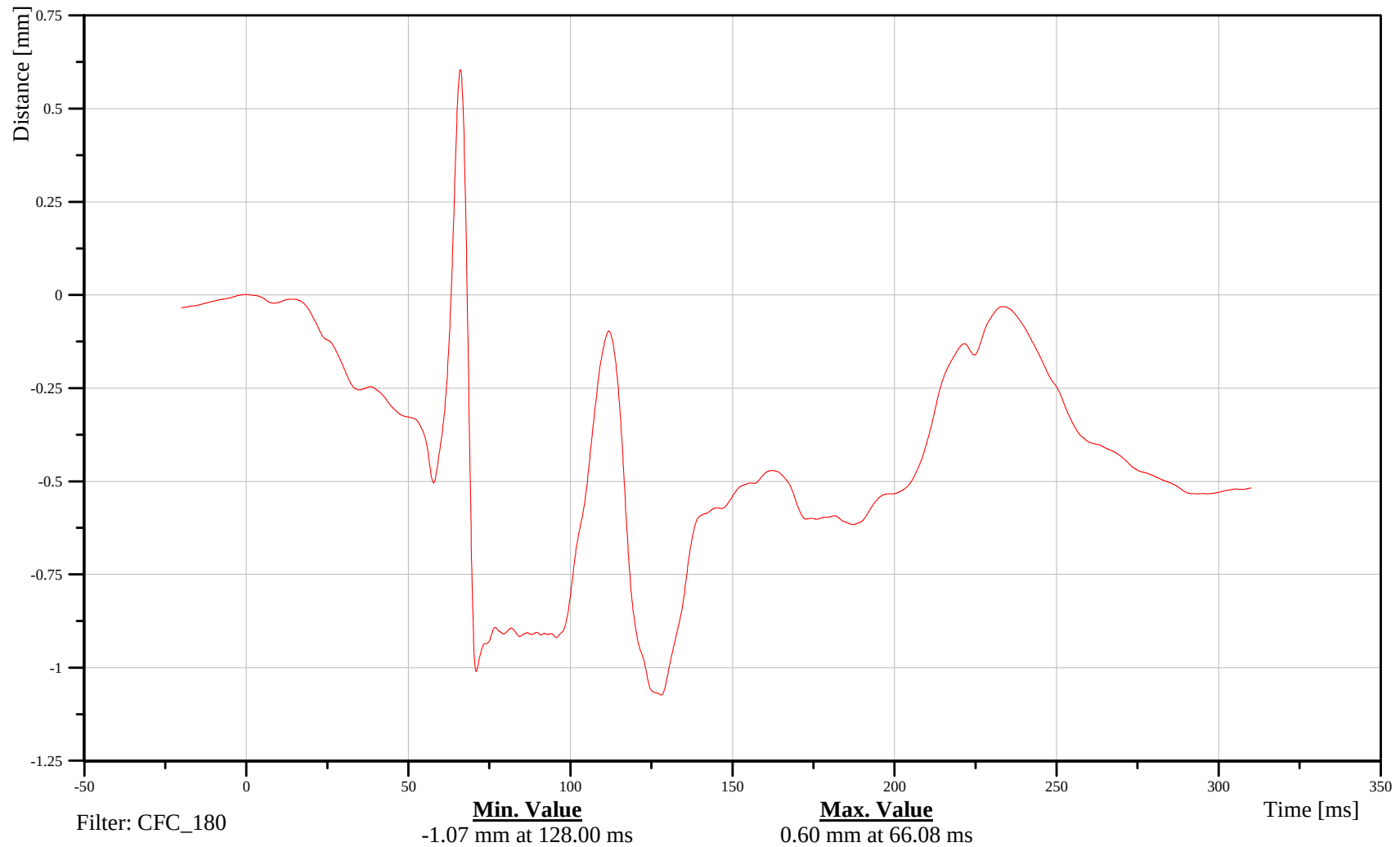
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-50

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Upper Tibia X-Axis Force

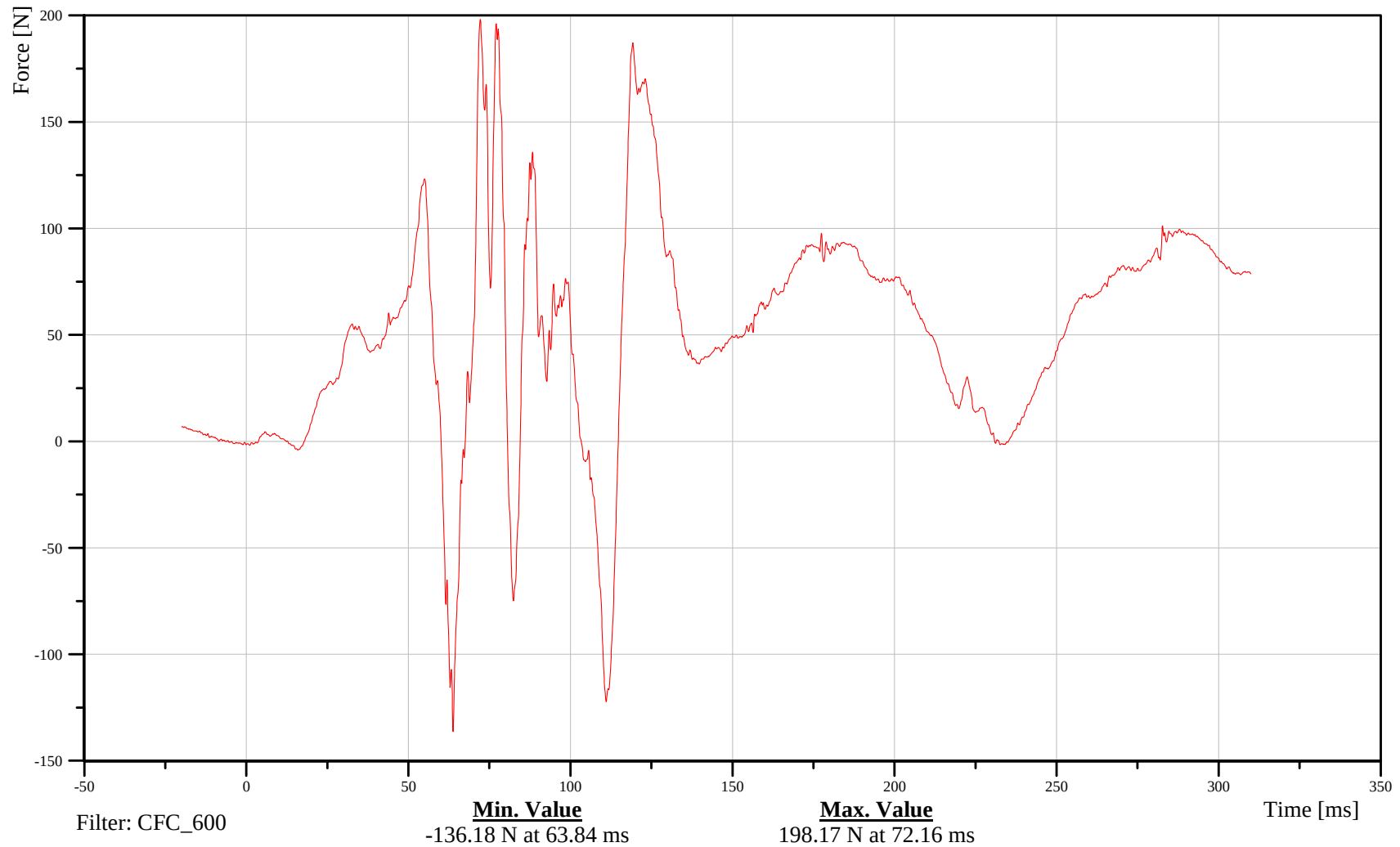
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-51

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Upper Tibia Z-Axis Force

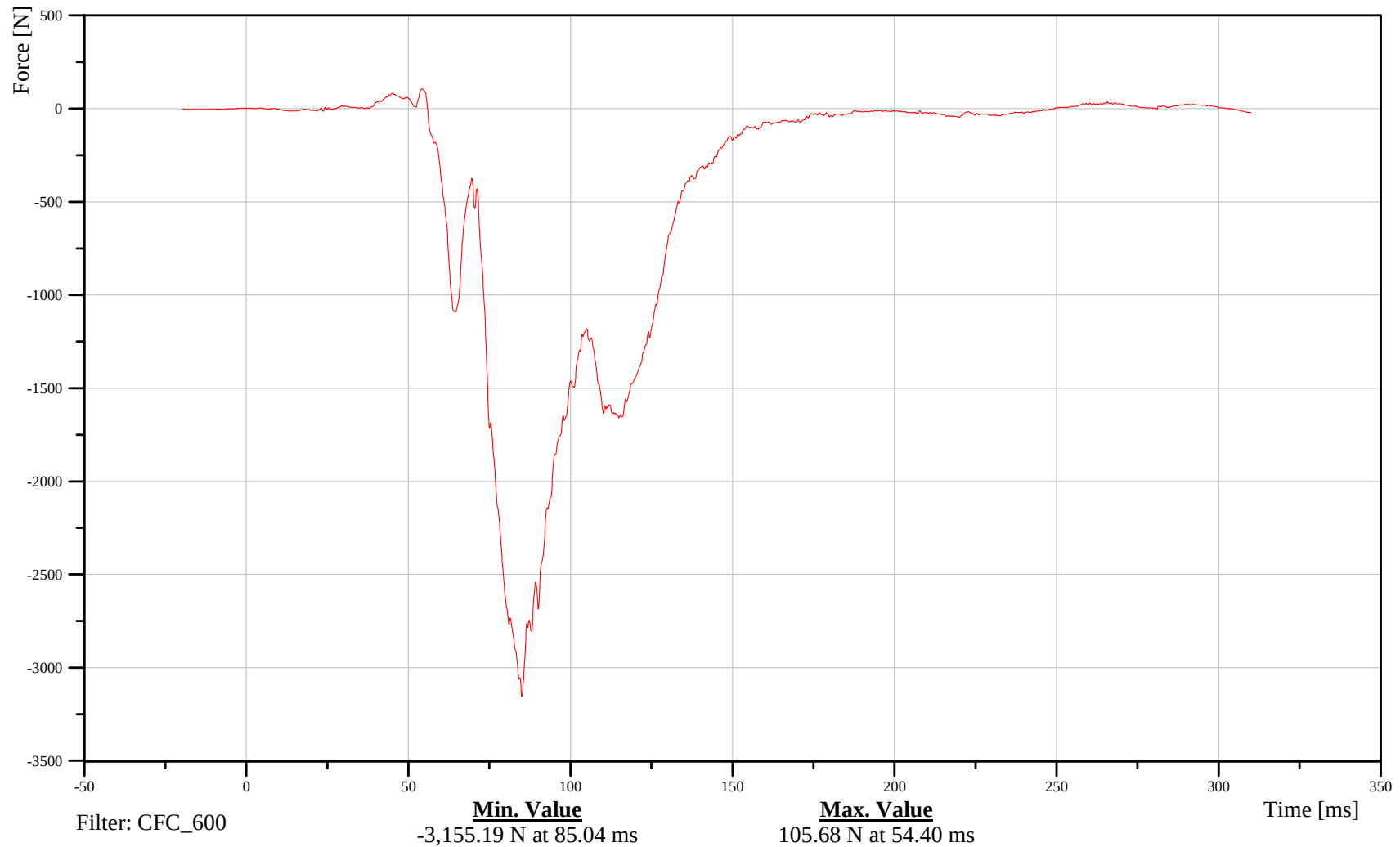
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-52

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Upper Tibia Moment About X Axis

Date: 11/06/2009

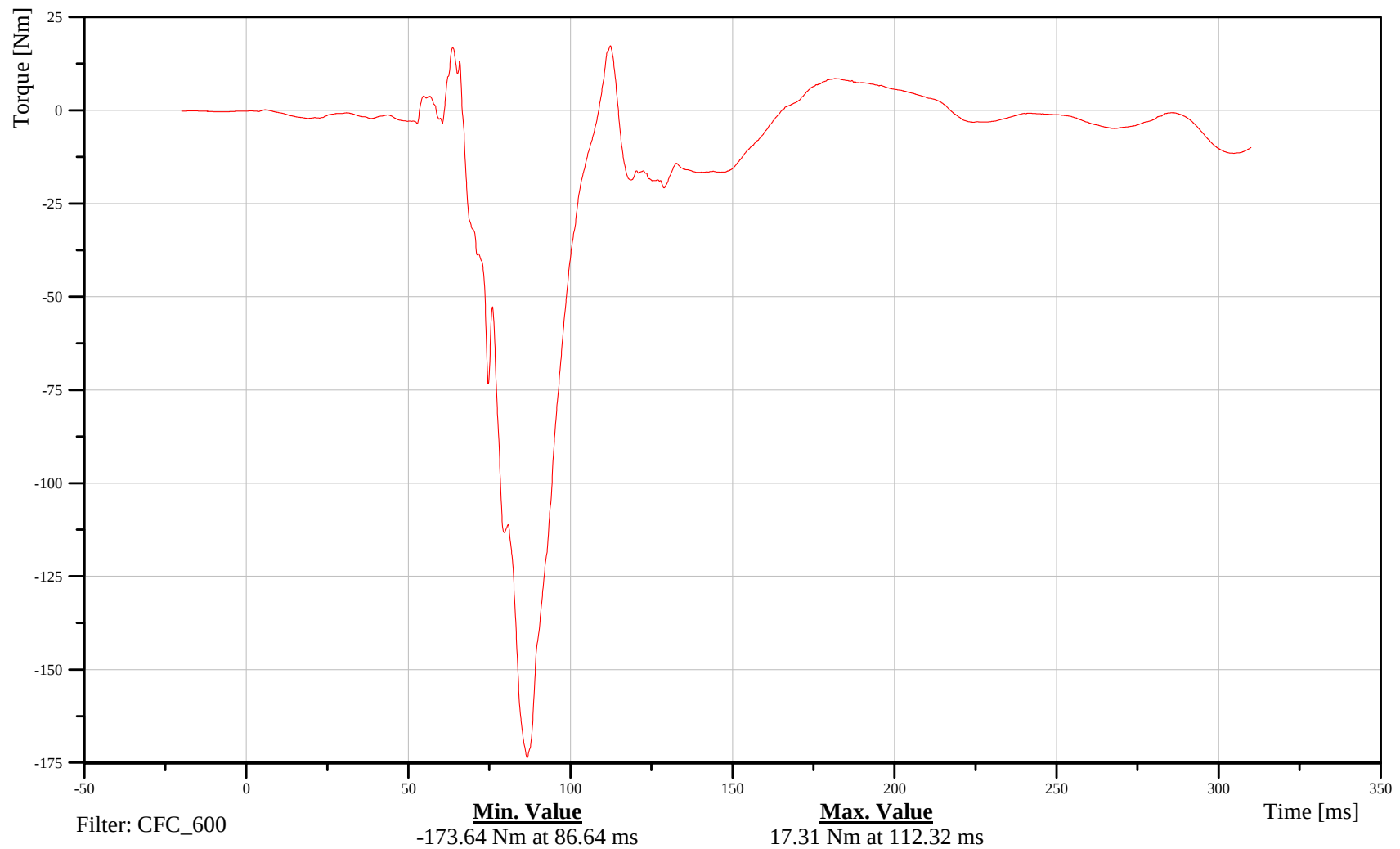
Time: 14:32

Customer: VRTC

11TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-53

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Upper Tibia Moment About Y Axis

Date: 11/06/2009

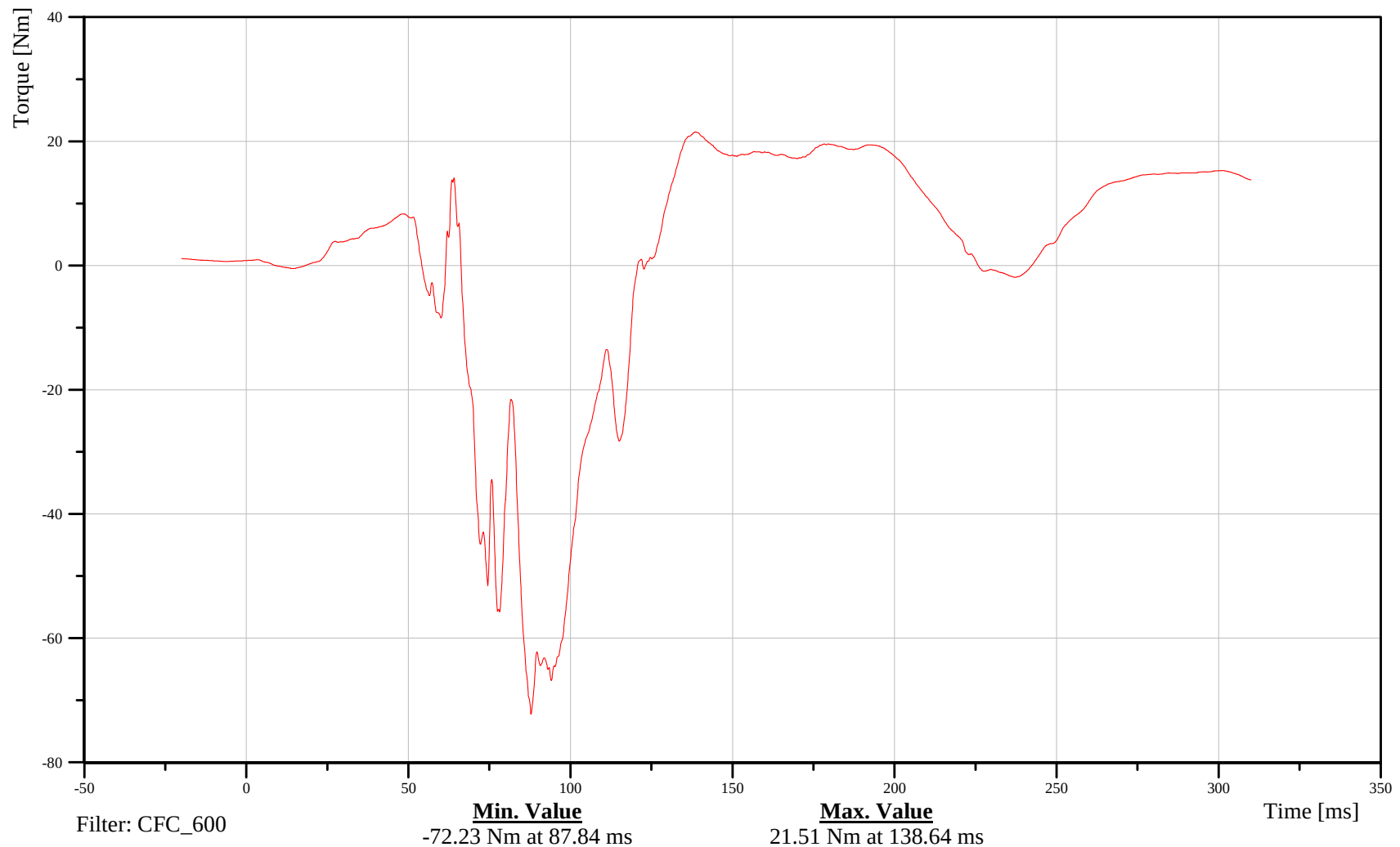
Time: 14:32

Customer: VRTC

11TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-54

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Lower Tibia X-Axis Force

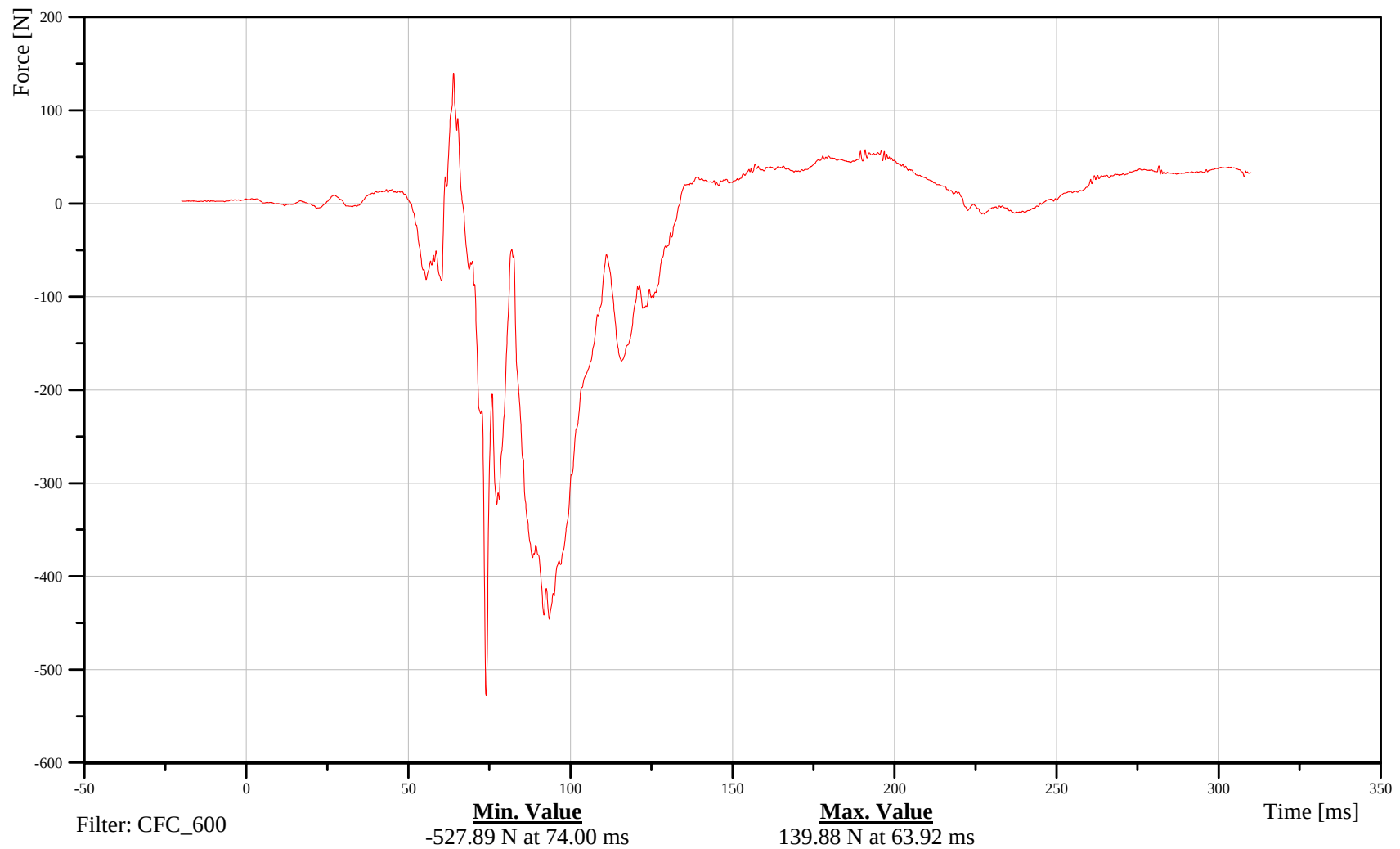
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRLLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-55

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Lower Tibia Y-Axis Force

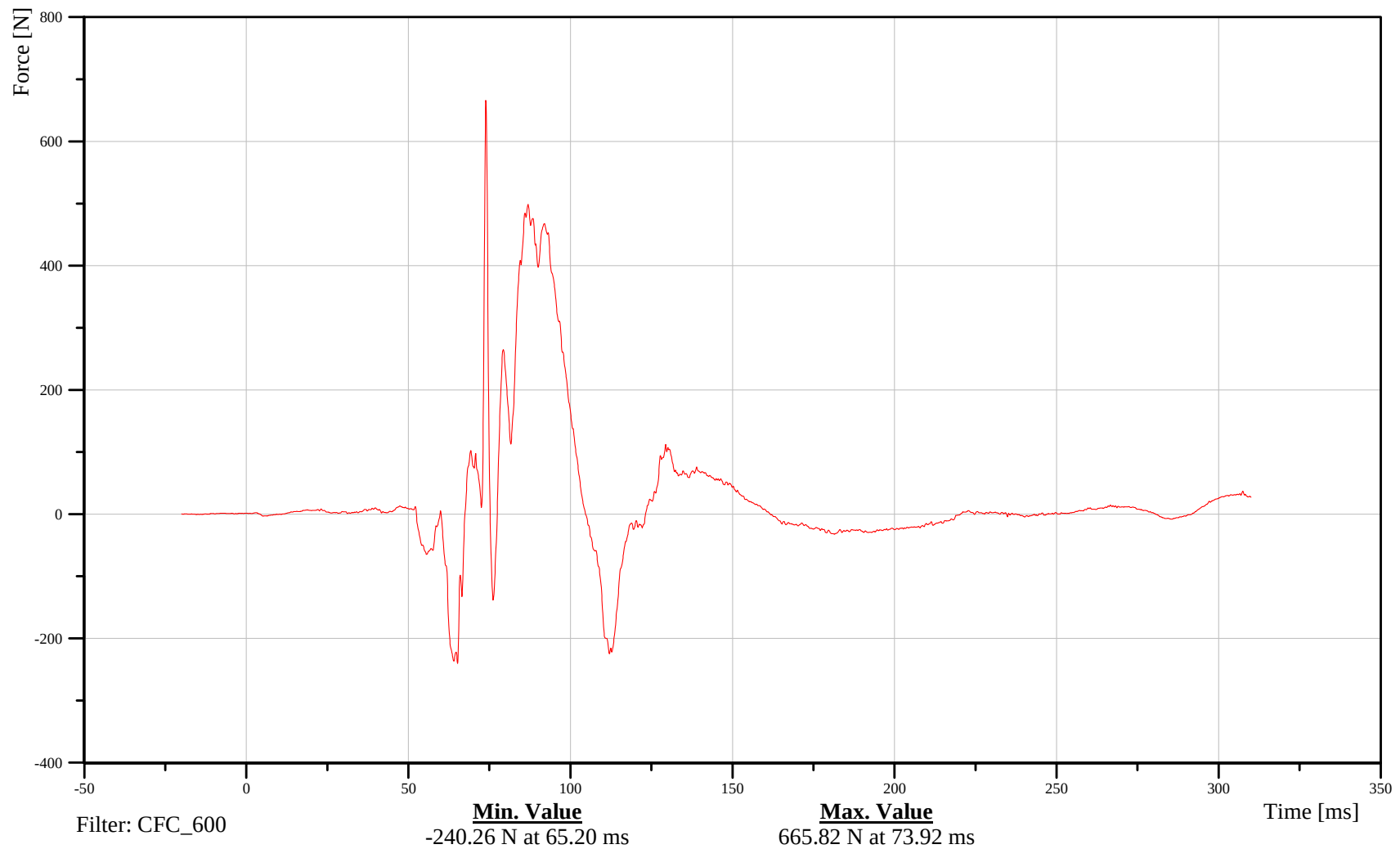
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-56

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Lower Tibia Z-Axis Force

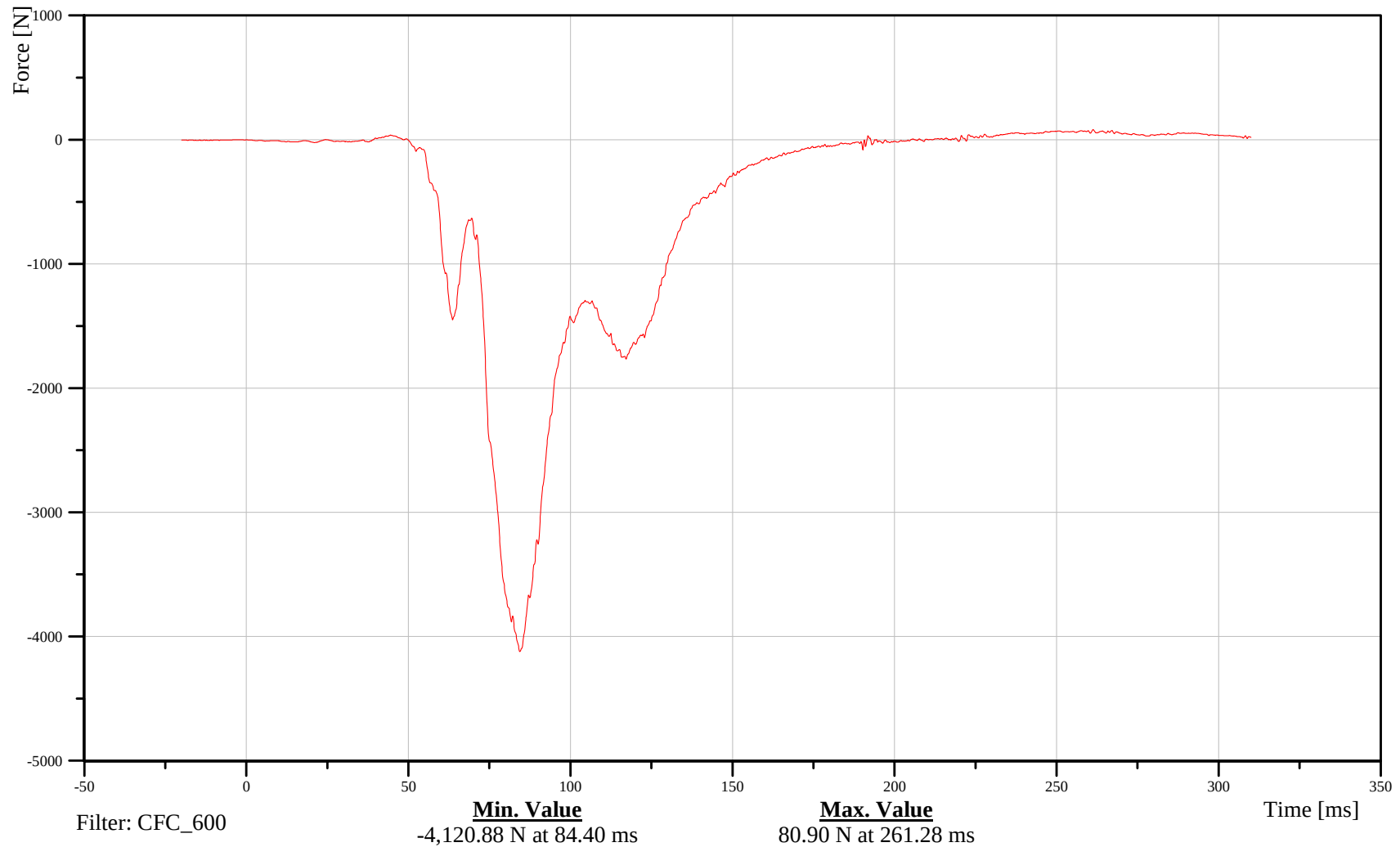
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-57

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Lower Tibia Moment About X Axis

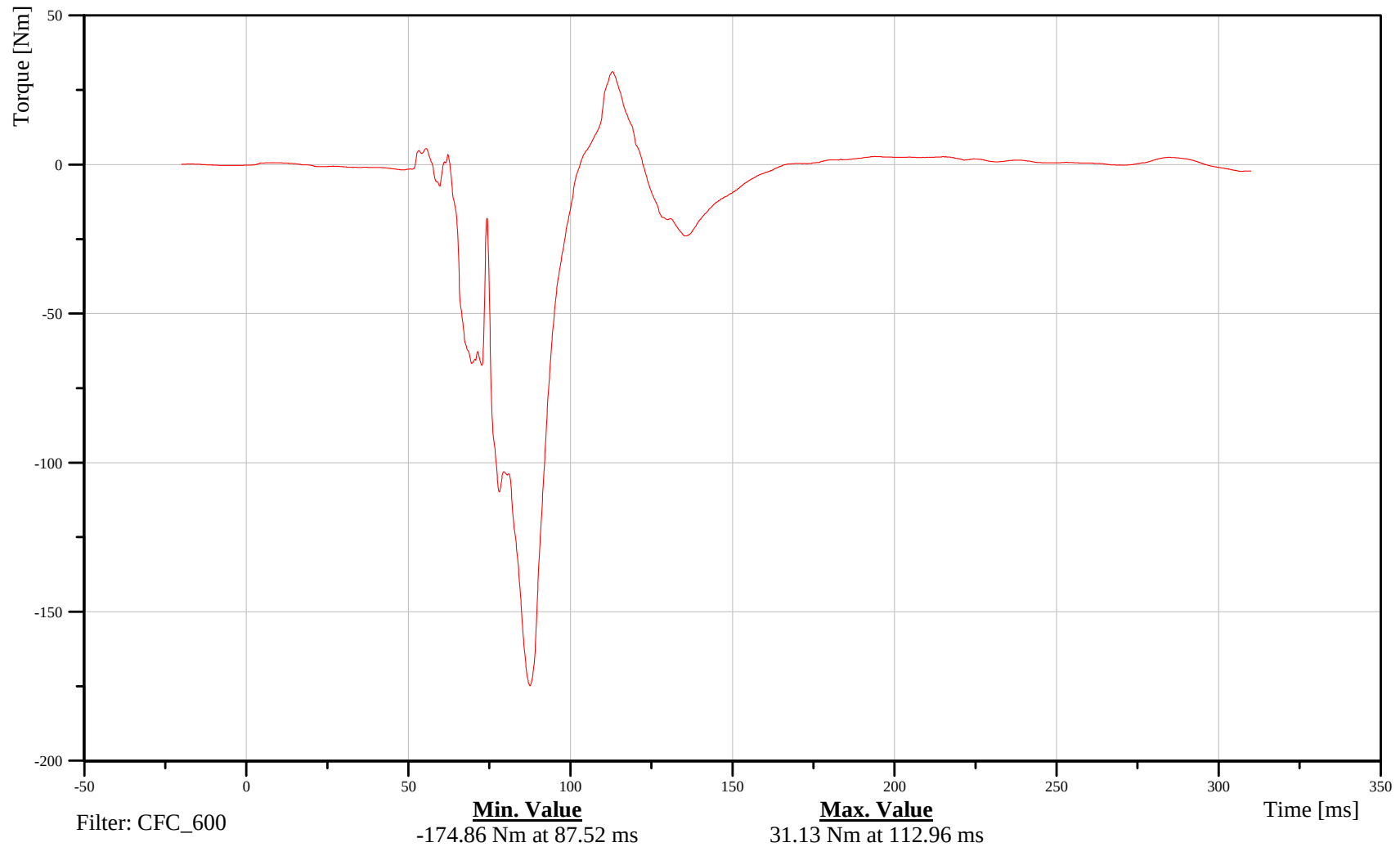
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-58

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Lower Tibia Moment About Y Axis

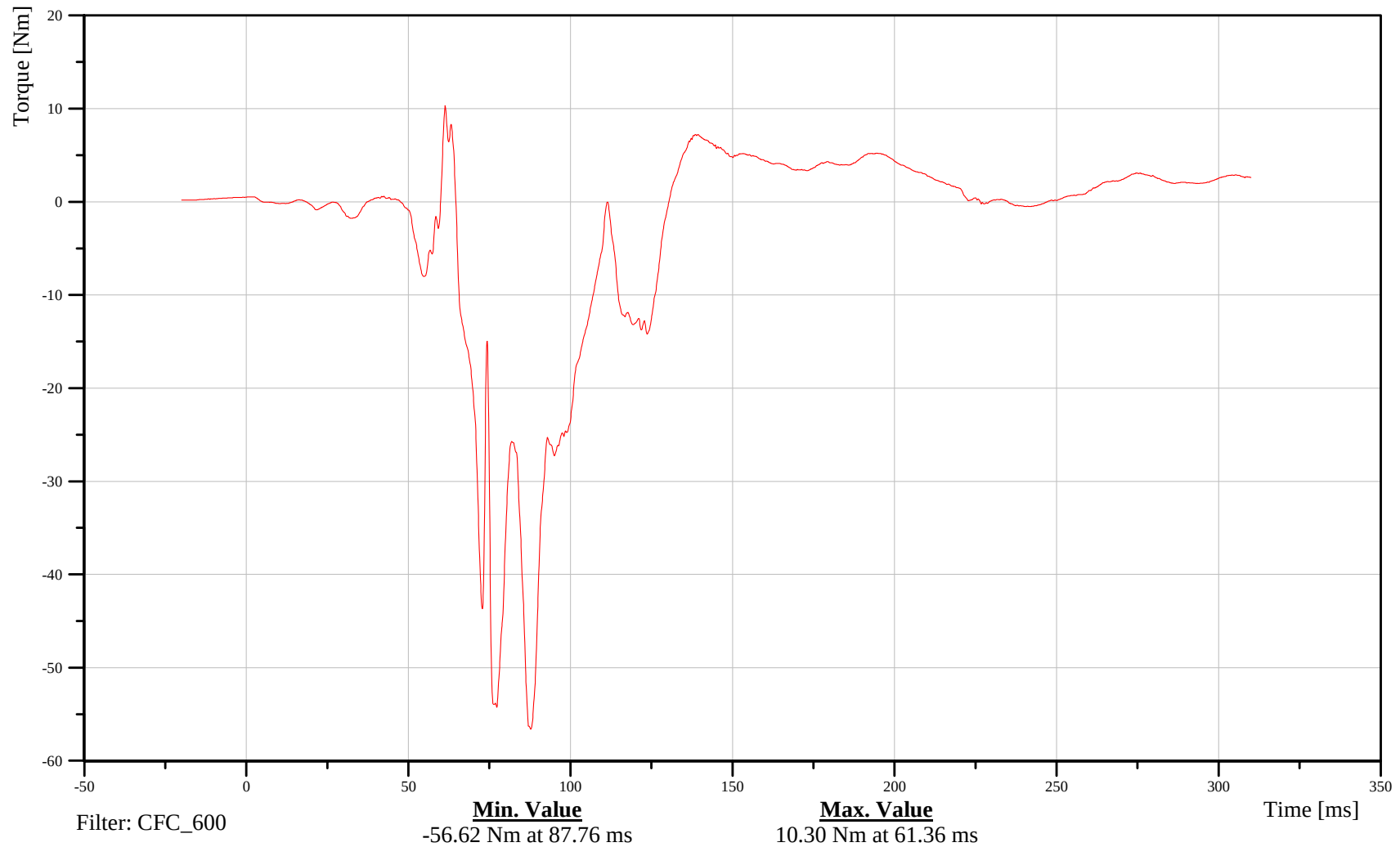
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-59

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Tibia X-Axis Acceleration

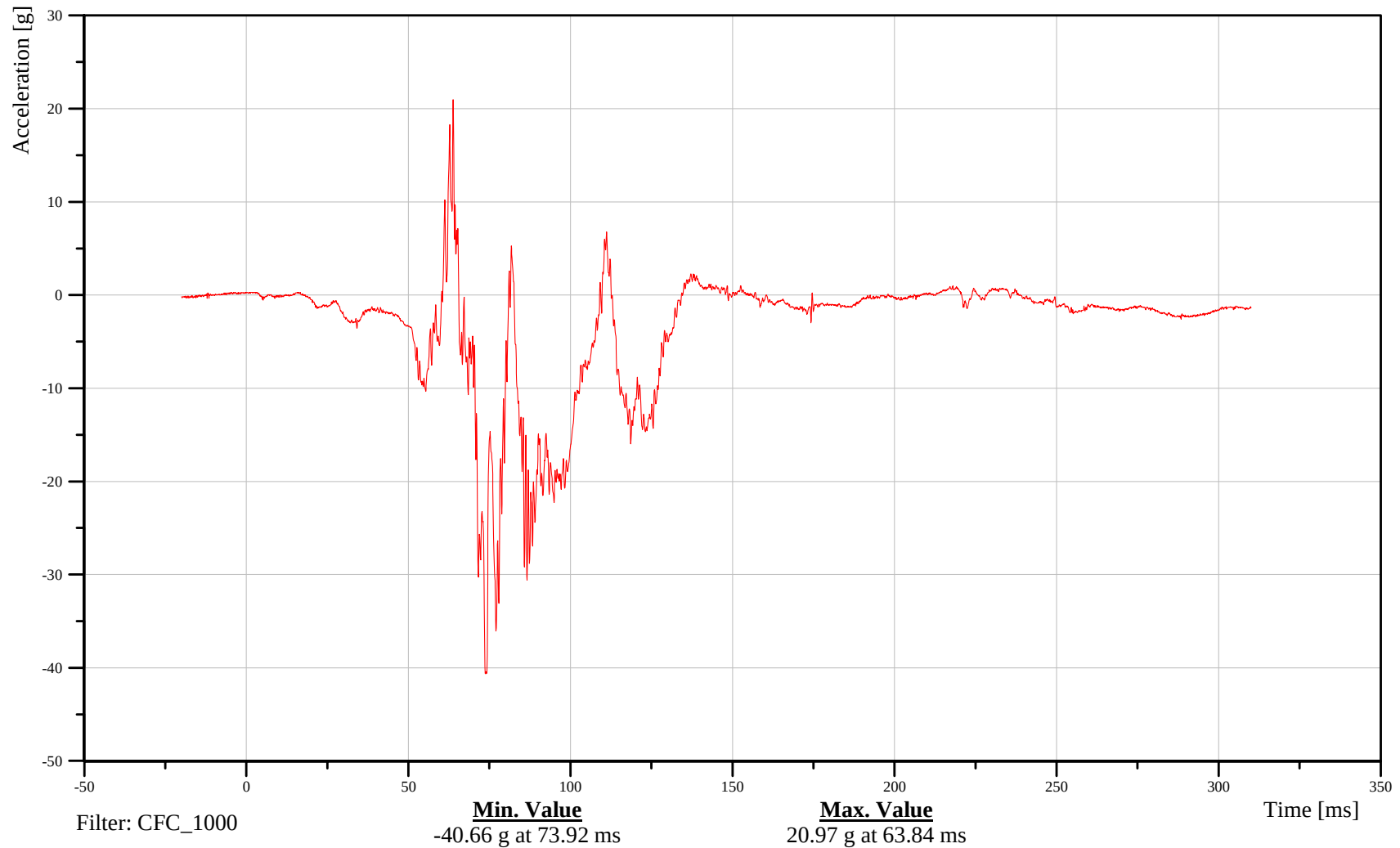
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-60

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Tibia Y-Axis Acceleration

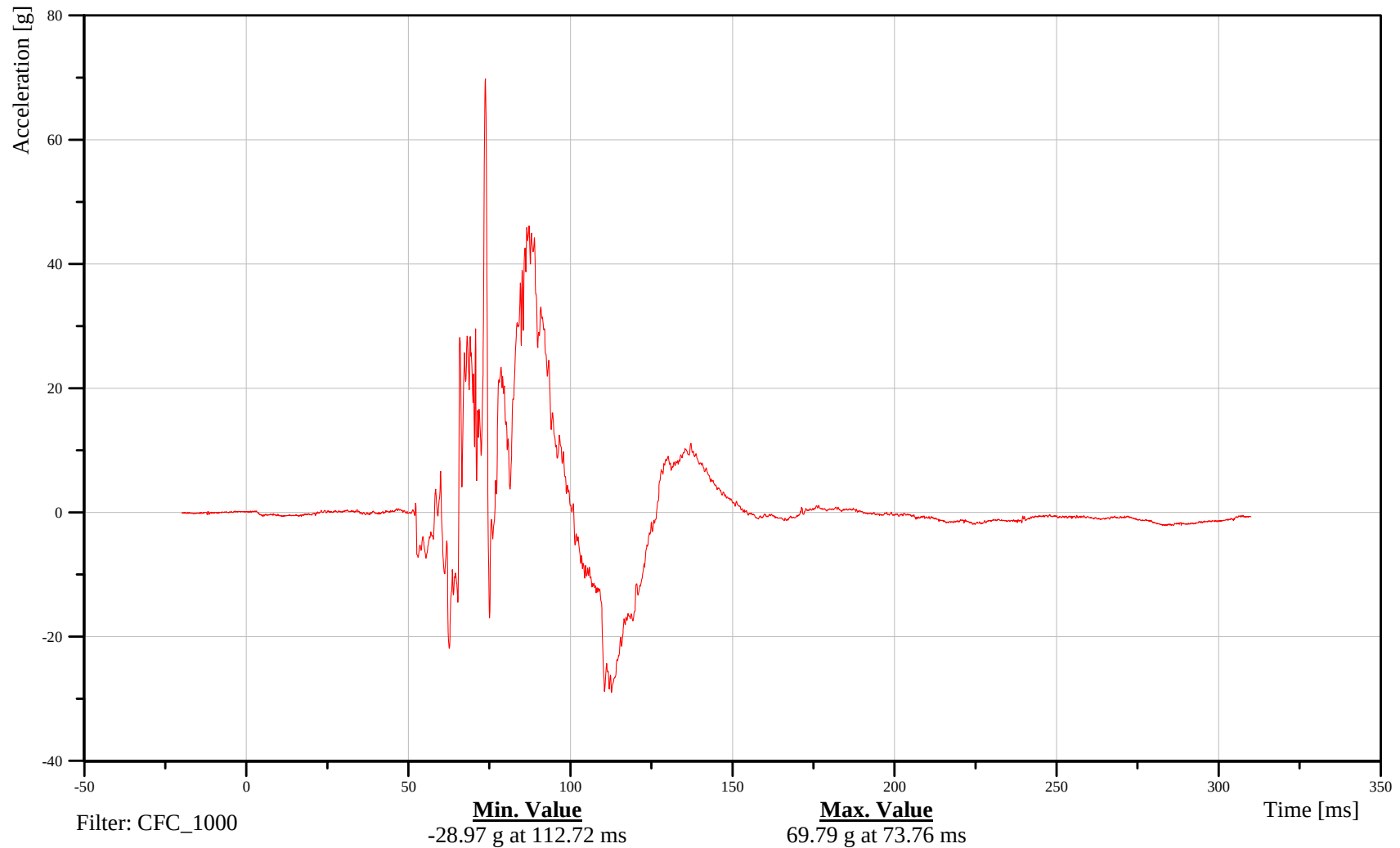
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11TIBIRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-61

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Foot X-Axis Acceleration

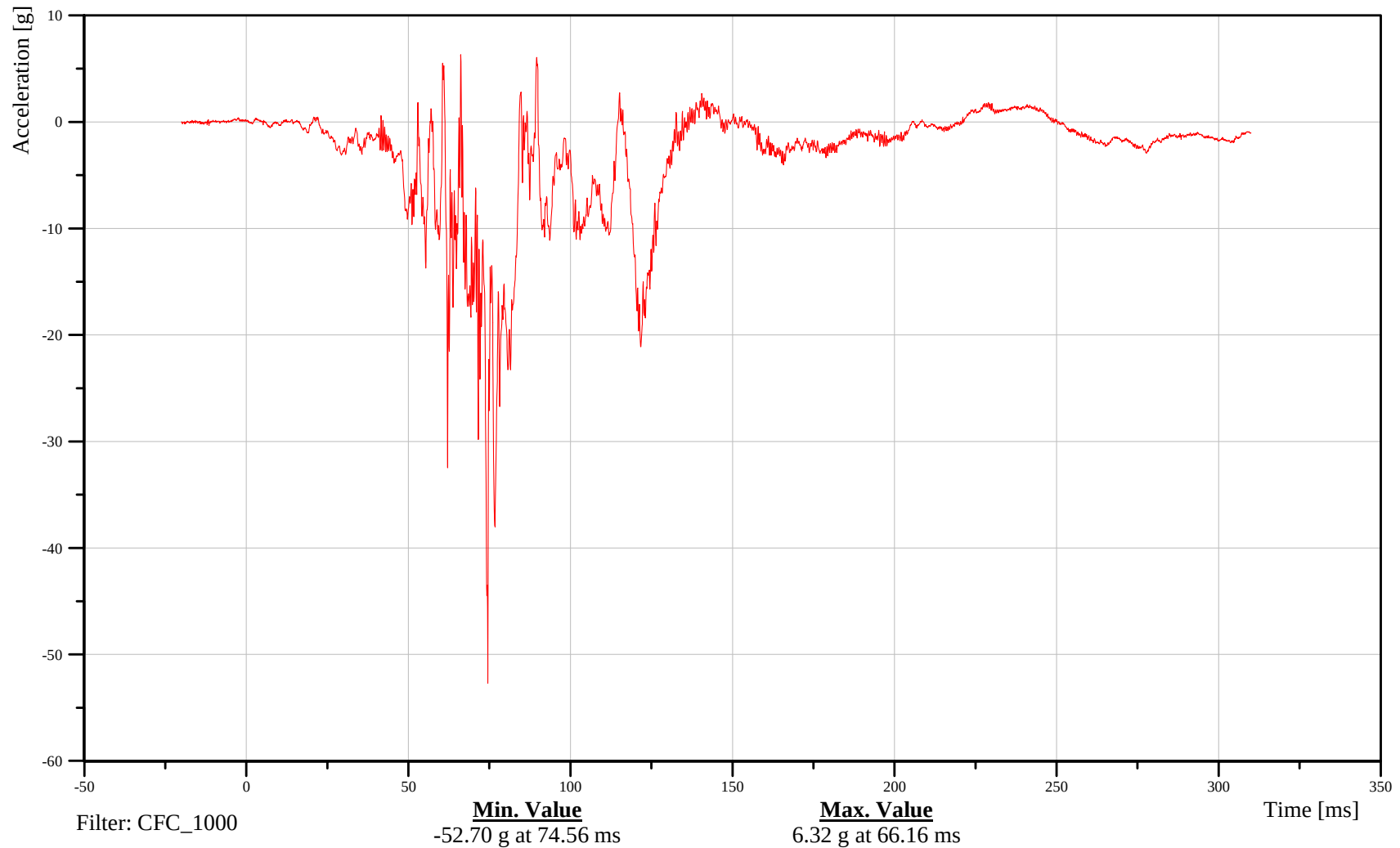
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-62

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Foot Y-Axis Acceleration

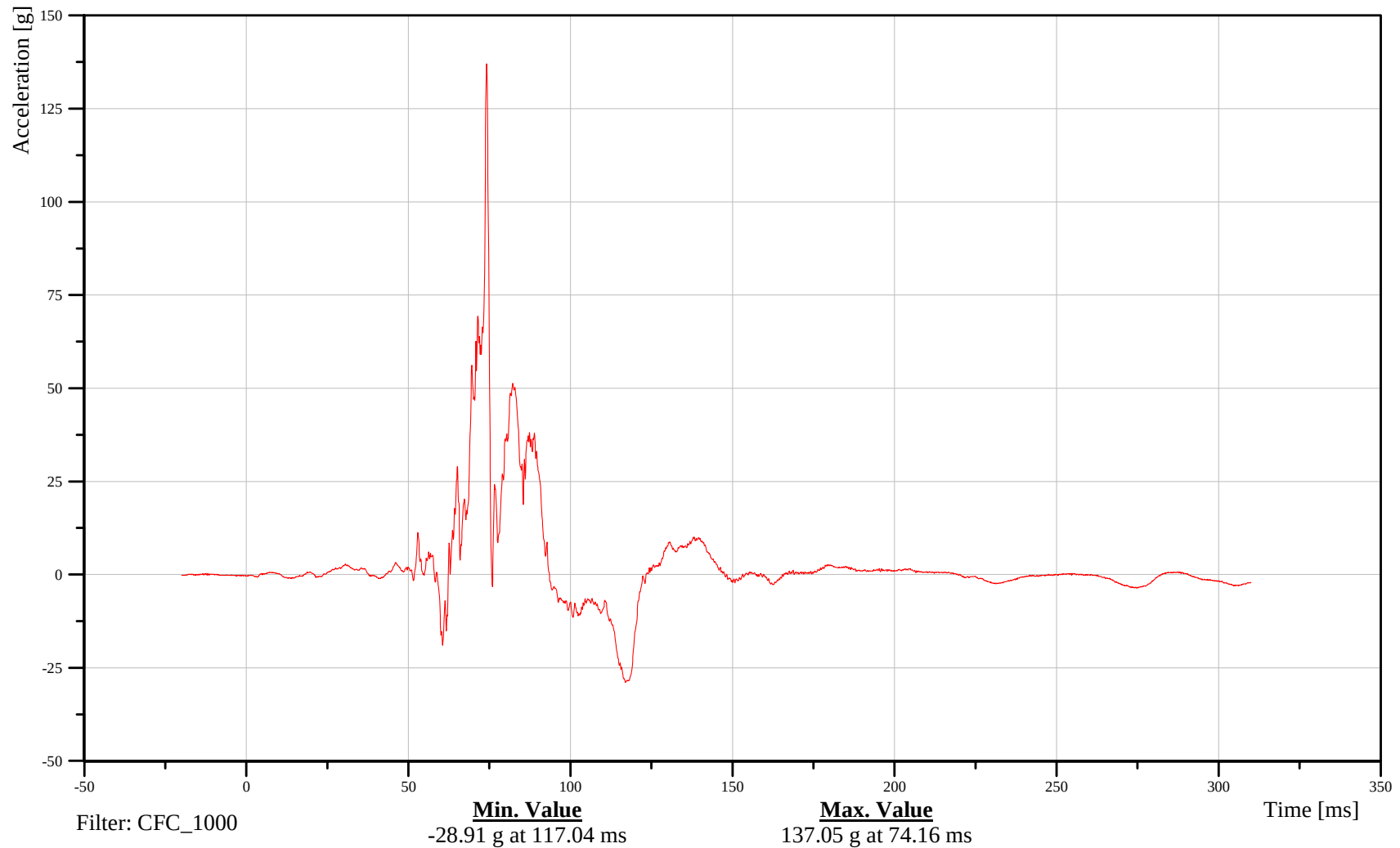
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-63

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Foot Z-Axis Acceleration

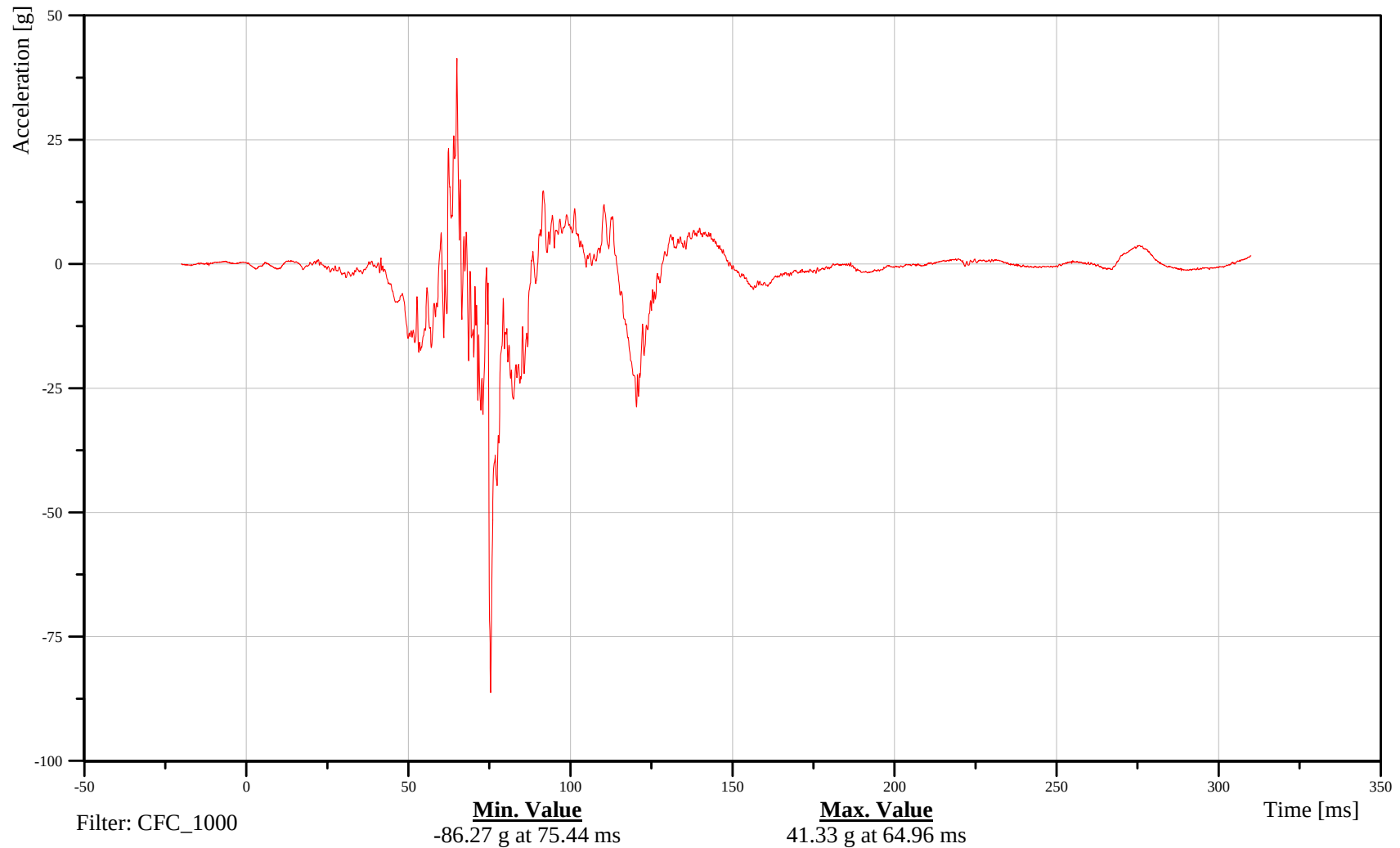
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-64

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

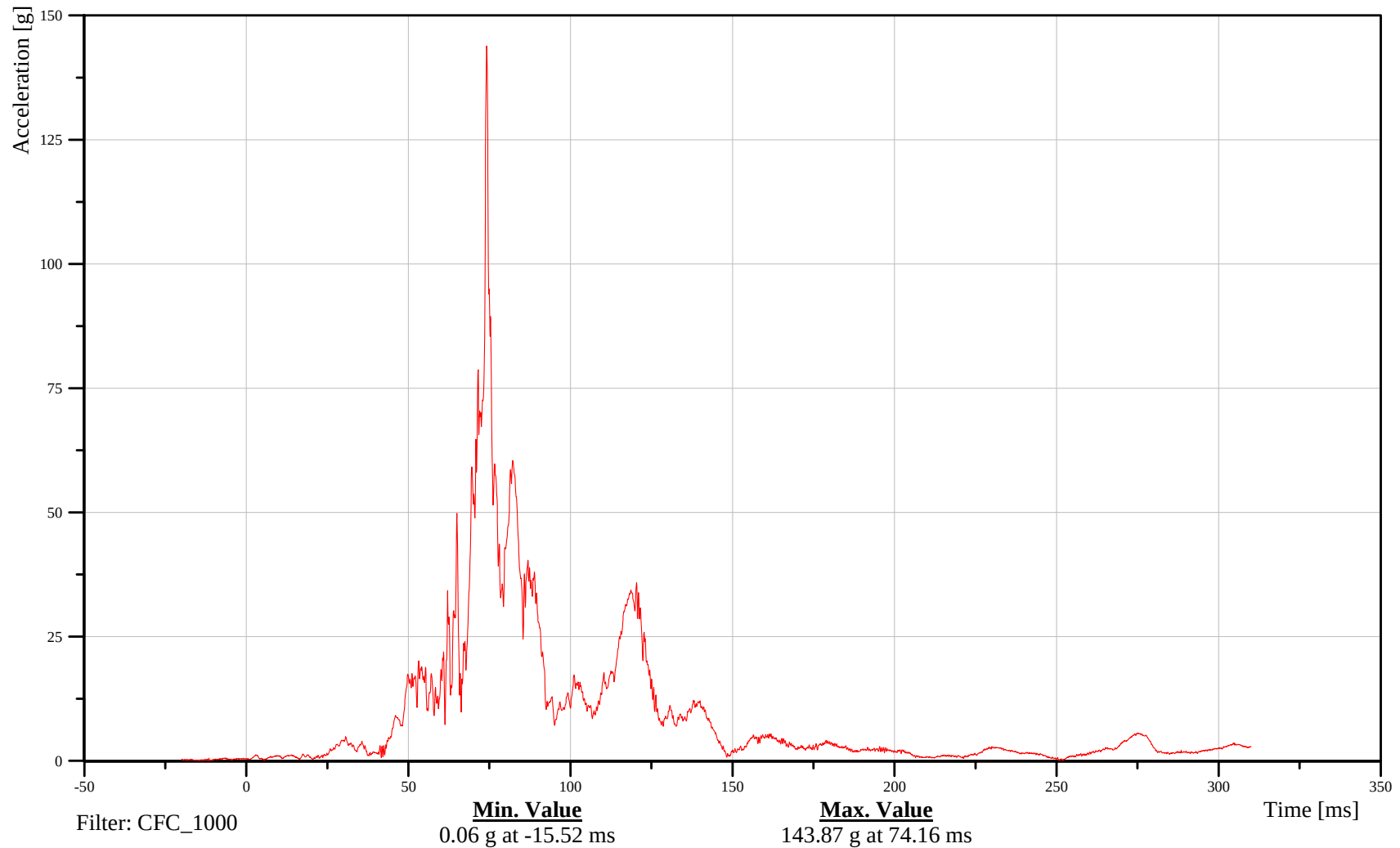
Bullet Vehicle Driver Right Foot Resultant Acceleration

Customer: VRTC

11FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-65

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Foot X-Axis Angular Displacement

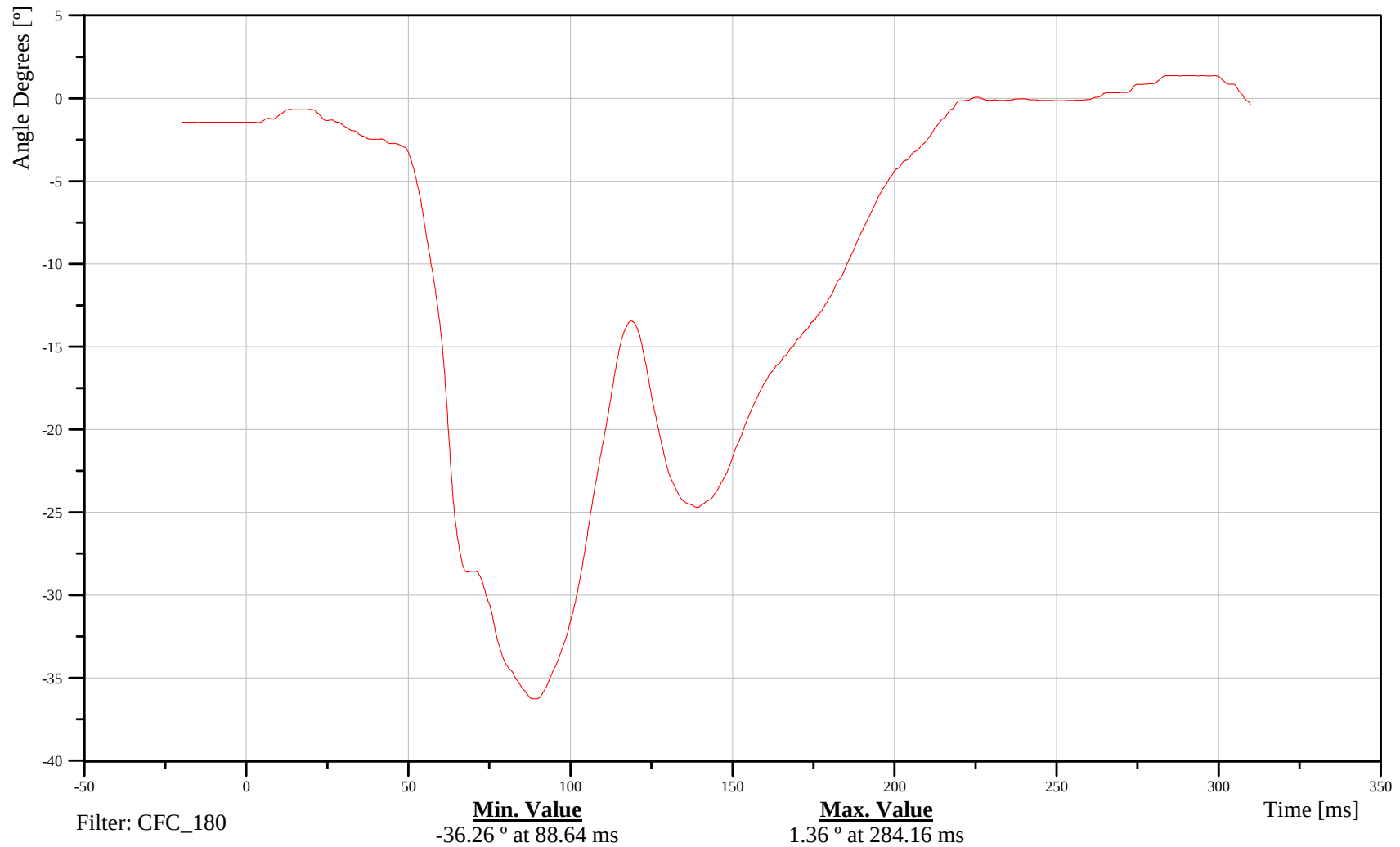
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-66

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

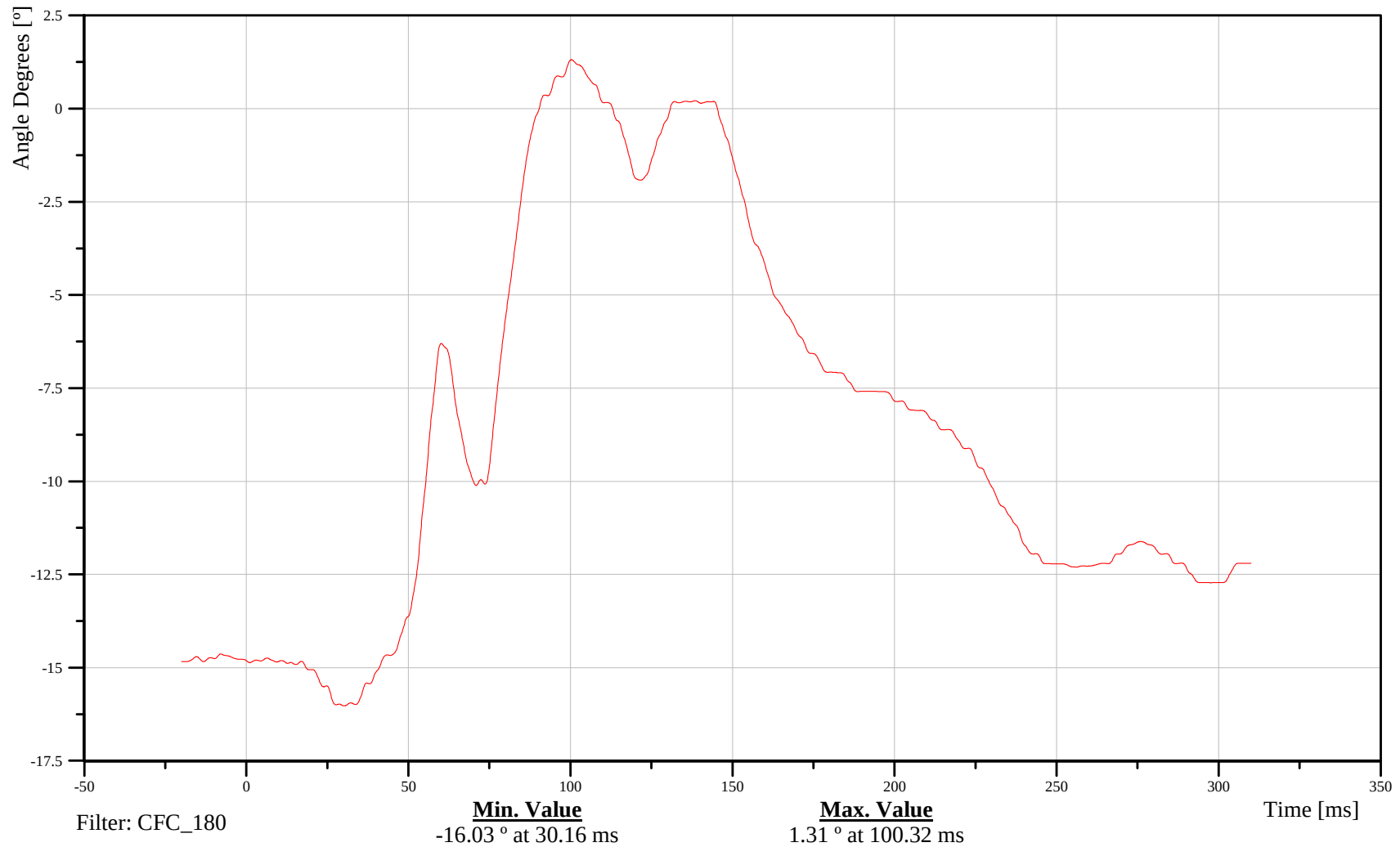
Bullet Vehicle Driver Right Foot Y-Axis Angular Displacement

Customer: VRTC

11FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-67

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Right Foot Z-Axis Angular Displacement

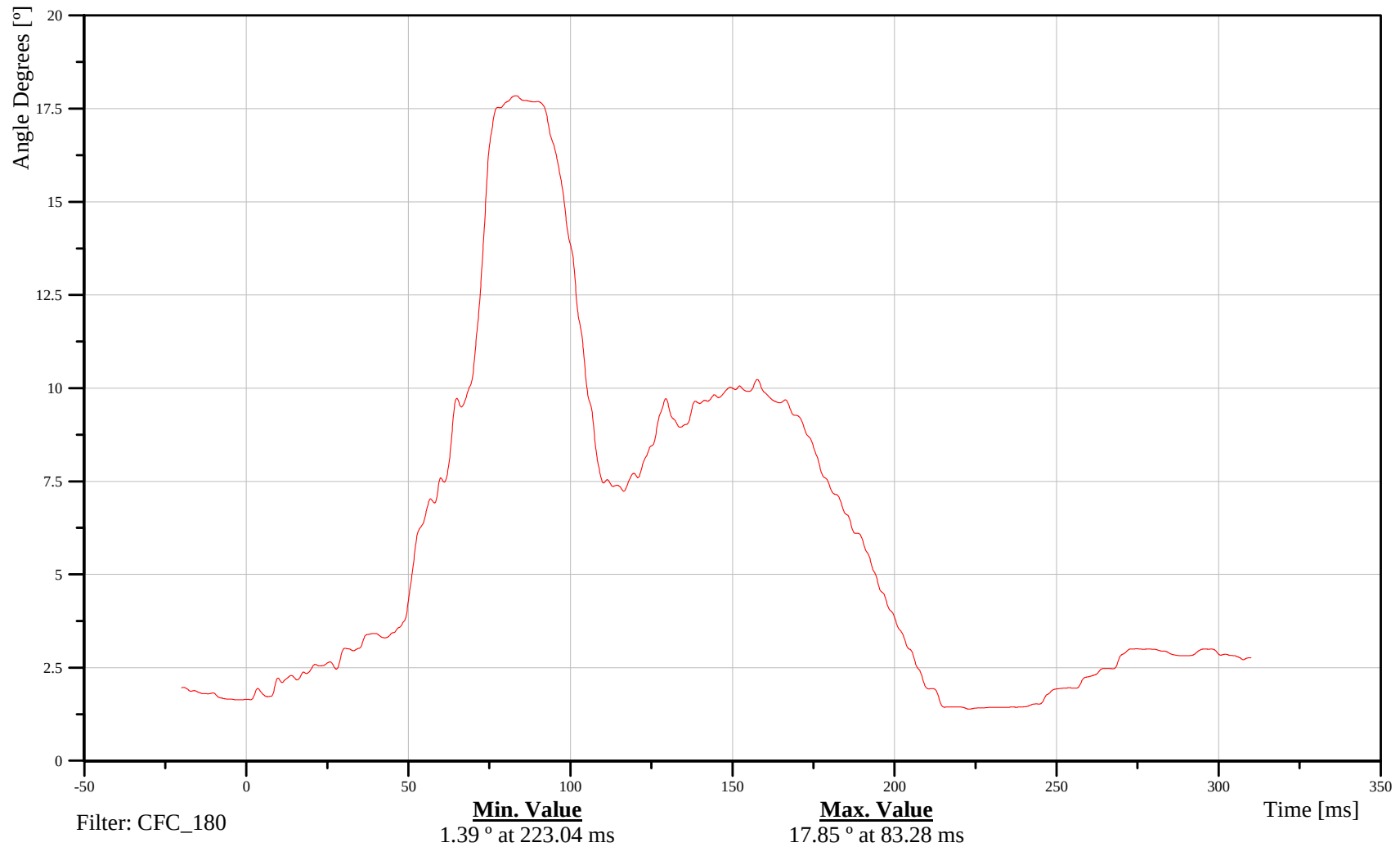
Date: 11/06/2009
Time: 14:32

Customer: VRTC

11FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-68

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

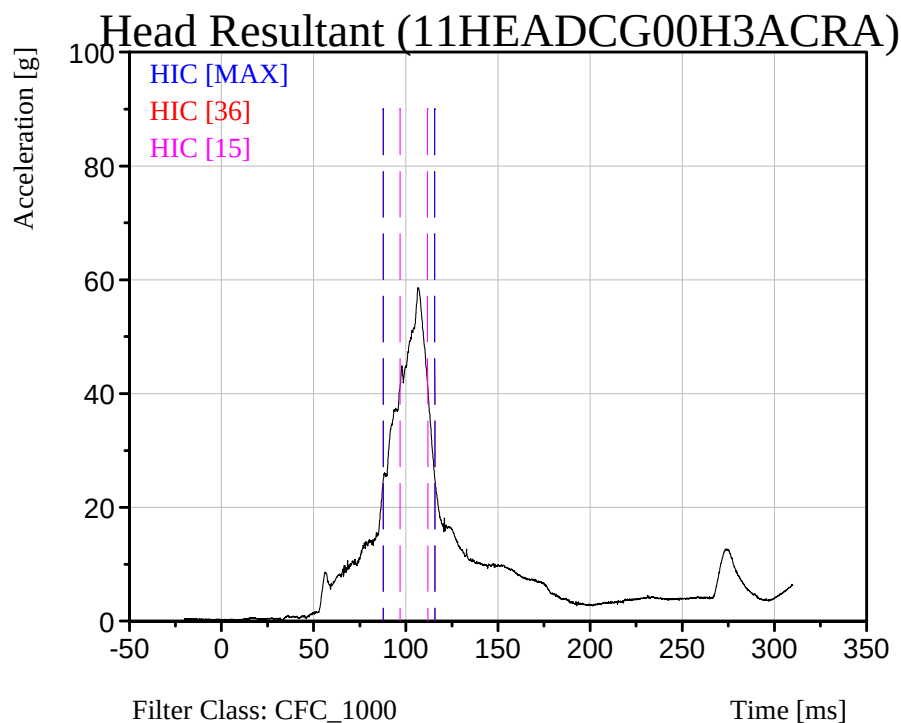
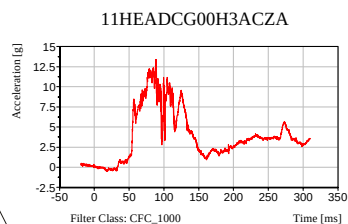
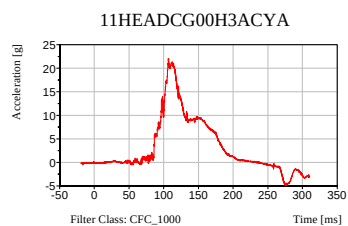
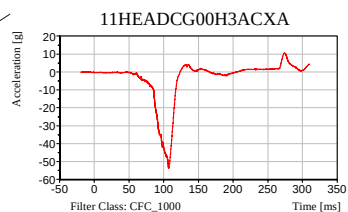
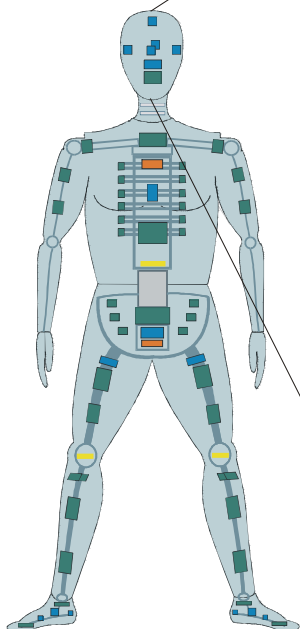
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 314.11	87.84 ms	115.76 ms	41.68 g
HIC [36] = 314.11	87.84 ms	115.76 ms	41.68 g
HIC [15] = 256.55	96.88 ms	111.92 ms	49.25 g

Dummy:IIII 50th Male
Seating Position:
Driver

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

B-69

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

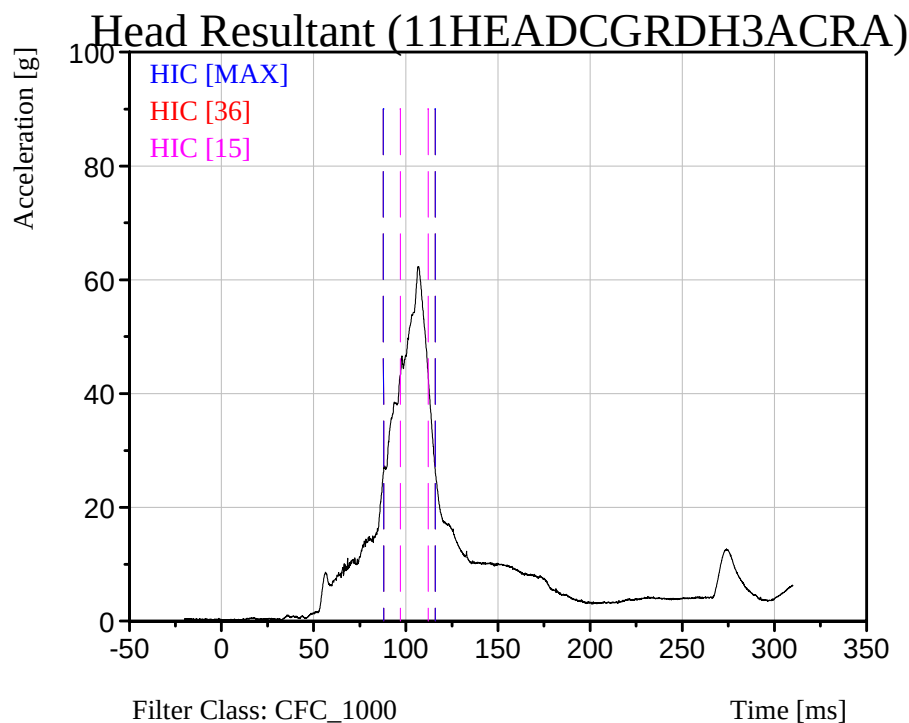
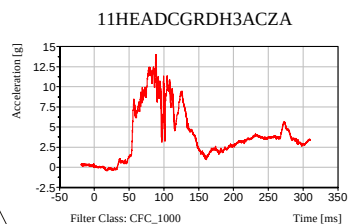
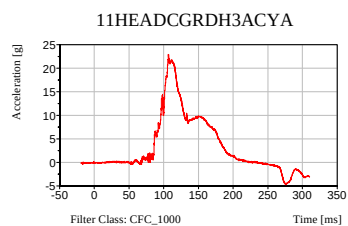
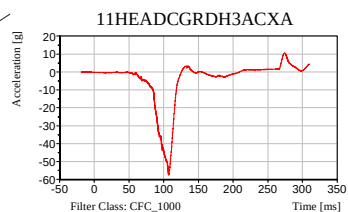
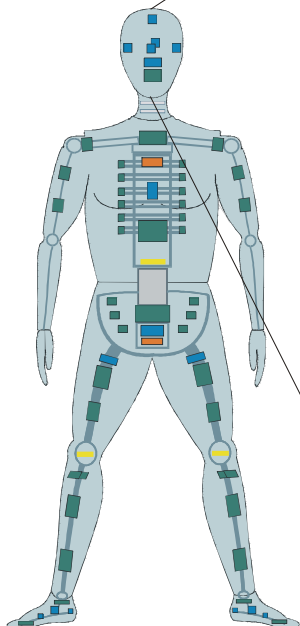
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 360.29	87.92 ms	116.00 ms	43.93 g
HIC [36] = 360.29	87.92 ms	116.00 ms	43.93 g
HIC [15] = 295.83	97.12 ms	112.16 ms	52.13 g

Dummy: HIII 50th Male
Seating Position:
Driver

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

B-70

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

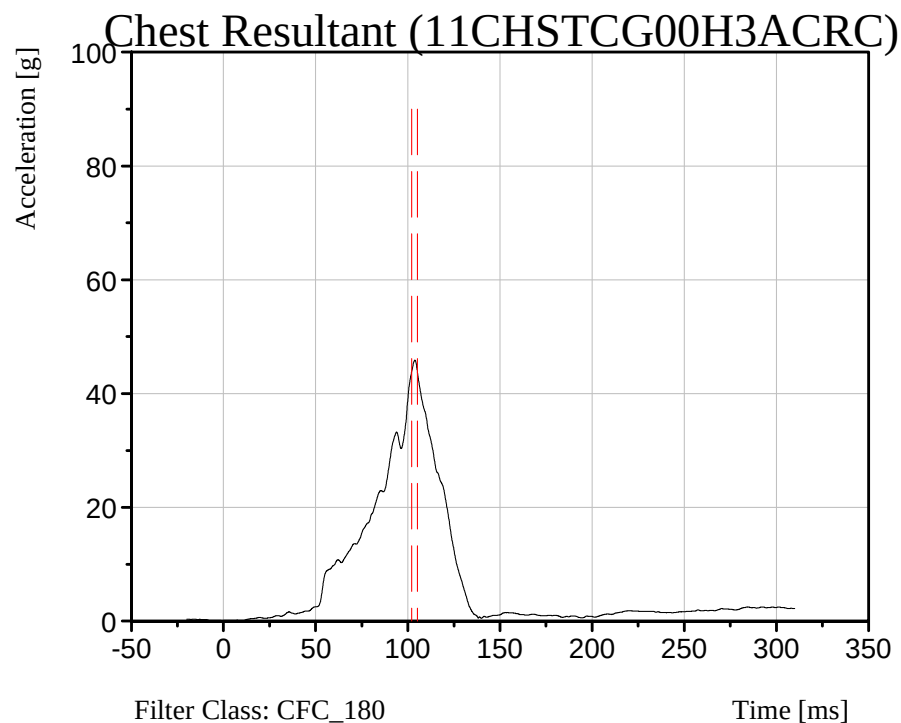
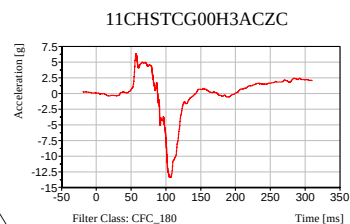
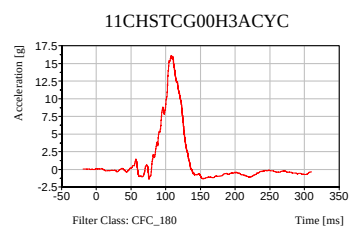
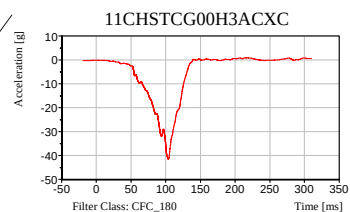
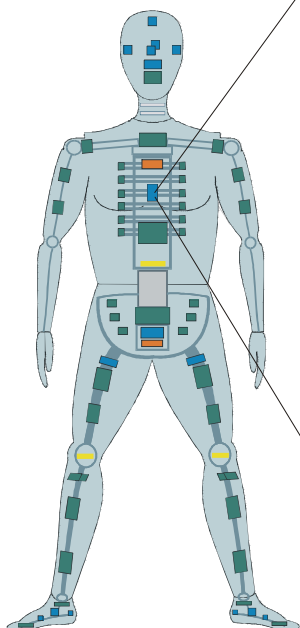
Time: 14:32

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 43.94 g
Chest Severity Index = 264.54

T1 (Begin) T2 (End)
102.17 ms 105.17 ms

Dummy: HIII 50th Male
Seating Position:

Driver

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-71

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

3 ms Duration Acceleration (Chest)

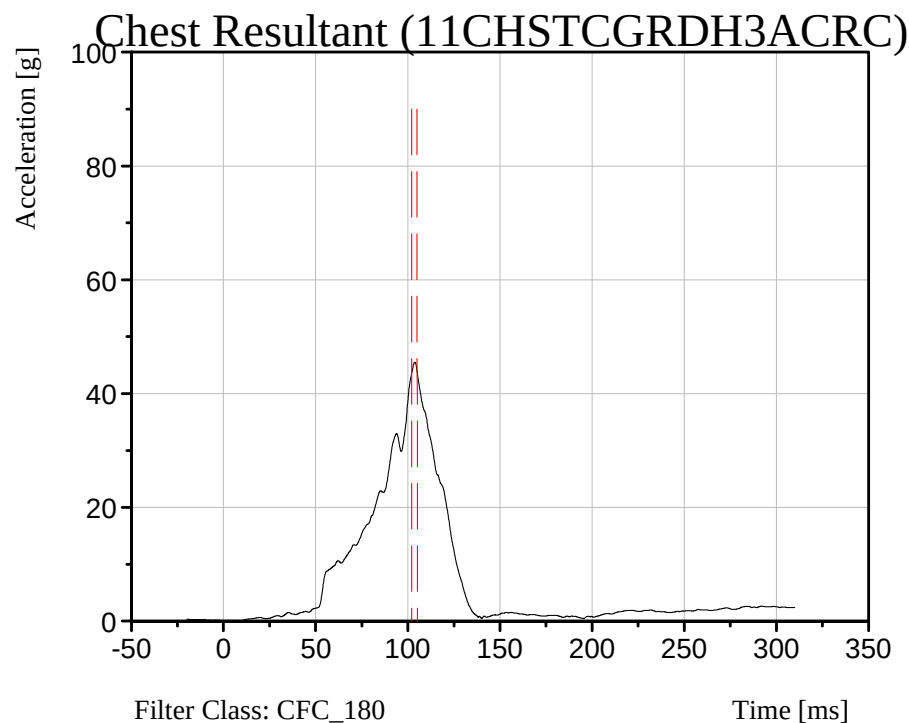
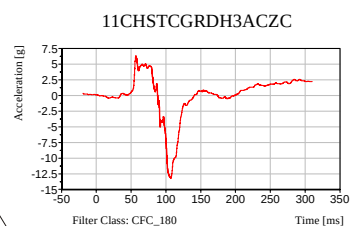
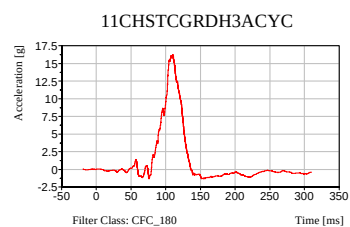
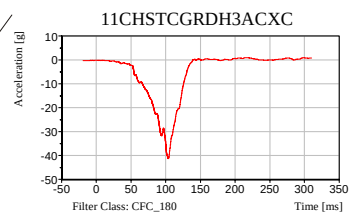
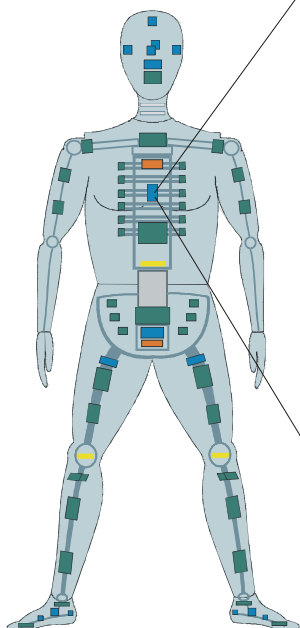
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 43.62 g
Chest Severity Index = 259.72

<u>T1</u> (Begin)	<u>T2</u> (End)
102.16 ms	105.16 ms

Dummy:HIII 50th Male
Seating Position:
Driver

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-72

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Chest Deflection

Date: 11/06/2009

Time: 14:32

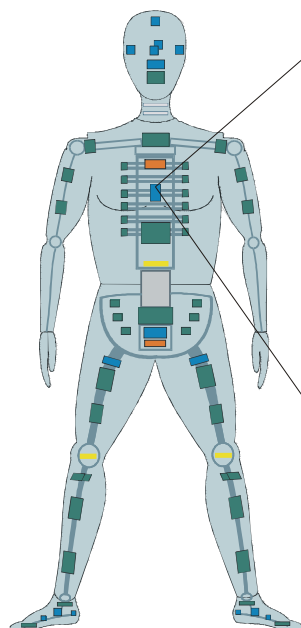
Customer: VRTC

TRC Inc. Test Lab: CTF

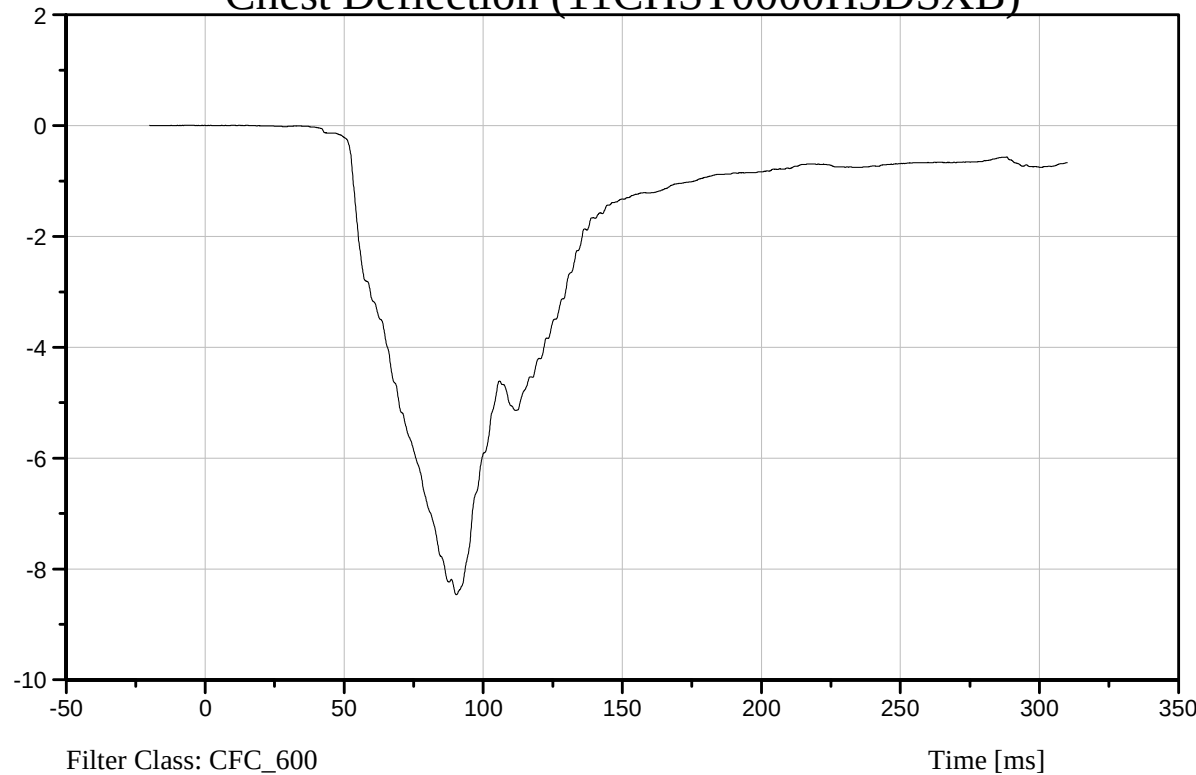
Test Number: 091106

Test Orientation = Frontal

Chest Deflection (11CHST0000H3DSXB)



Distance [mm]



Dummy: HIII 50th Male
Seating Position:
Driver

[Max.] 0.01 mm at 10.16 ms

[Min.] -8.47 mm at 90.24 ms

ChestDeflection Source Code : Min/Max of 11CHST0000H3DSXB (CFC_600)

B-73

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap Neck Moment about the Occipital Condyle (NECK OM)

Date: 11/06/2009
Time: 14:32

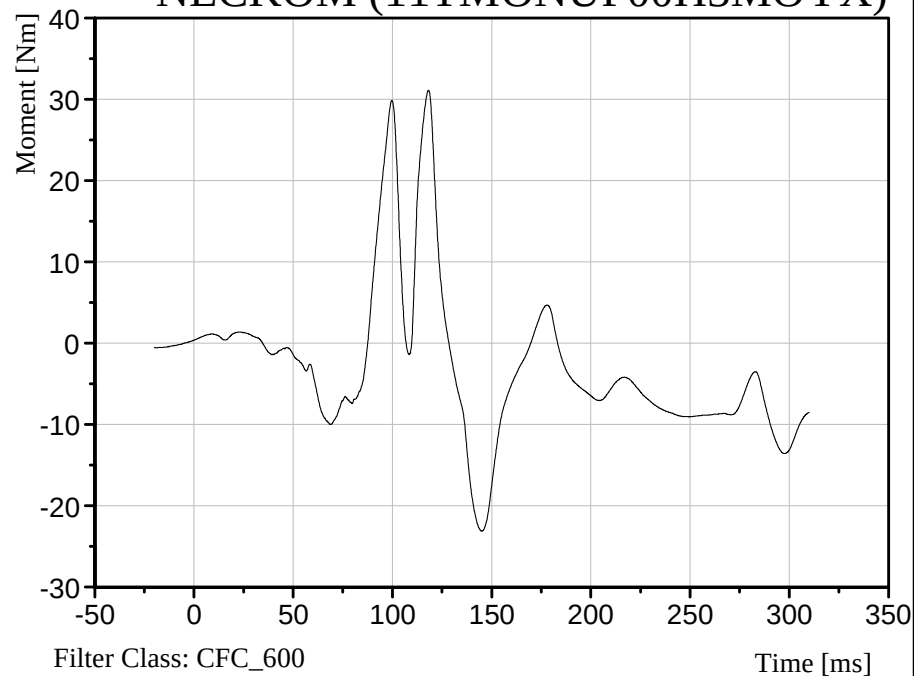
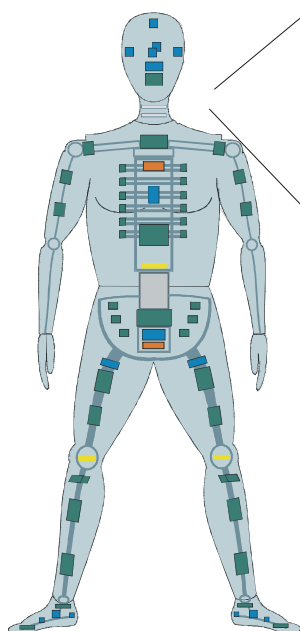
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

NECKOM (11TMONUP00H3MOYX)



Dummy:HIII 50th Male
Seating Position:
Driver

Neck OM Source Code: My - (D*Fx)

[Max.] 31.14 Nm at 118.16 ms

[Min.] -23.08 Nm at 144.96 ms



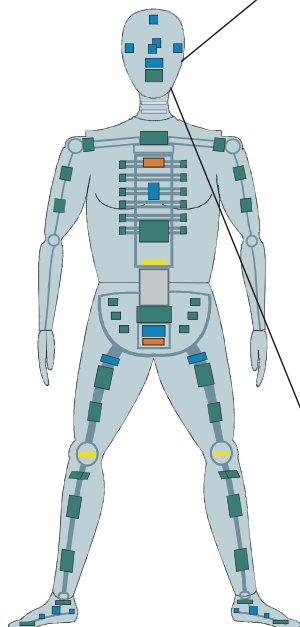
Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Injury Predictor (NIJ)

Date: 11/06/2009
Time: 14:32

Customer: VRTC

Test Orientation = Frontal
Fzc(Tension) = 6806
Fzc(Compression) = 6160
Myc(Extension) = 135
Myc(Flexion) = 310



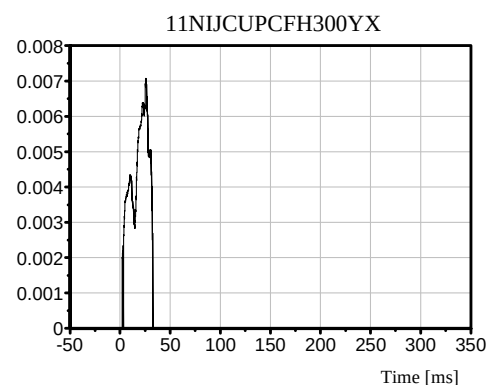
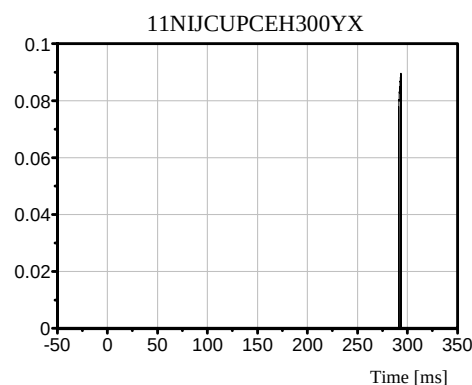
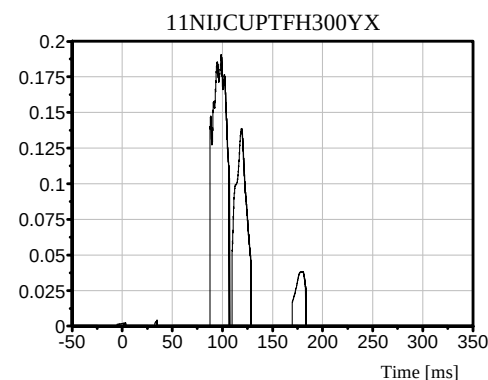
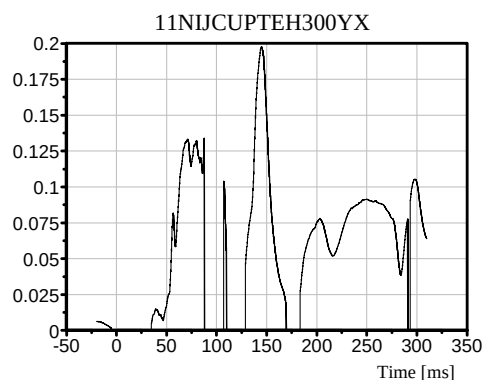
Dummy: HIII 50th Male
Seating Position:

Driver

NIJ Source Code: (Fz/Fzc)+(Myc/Myc)



TRC Inc. Test Lab: CTF
Test Number: 091106



B-75

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

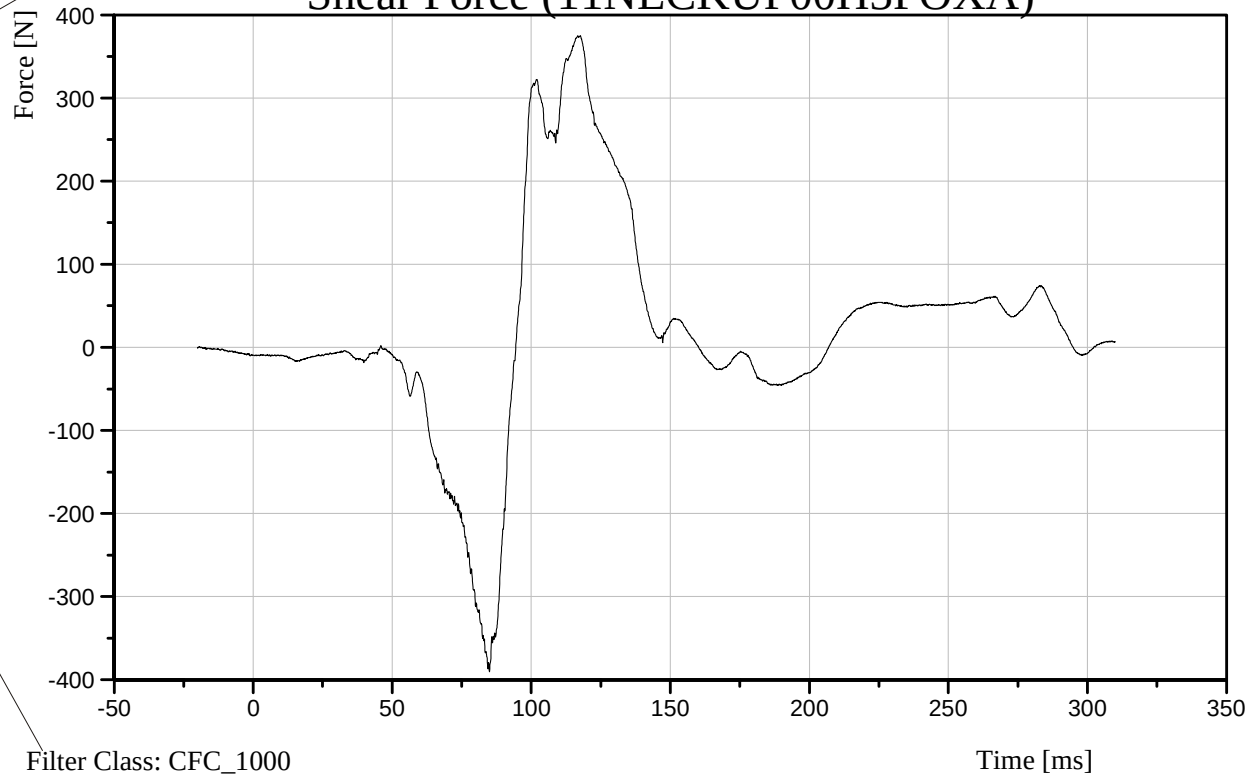
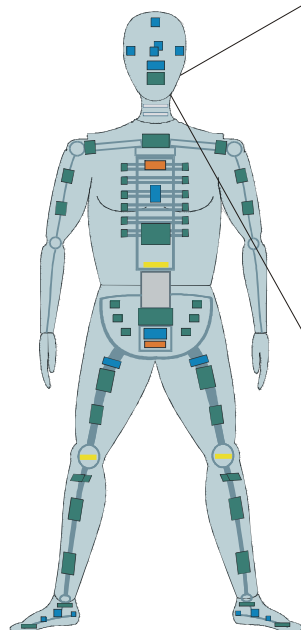
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (11NECKUP00H3FOXA)



Dummy:HIII 50th Male
Seating Position:
Driver

[Max.] 375.01 N at 117.60 ms

[Min.] -390.31 N at 84.96 ms

Neck Shear Force Source Code: Min/Max of 11NECKUP00H3FOXA

B-76

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

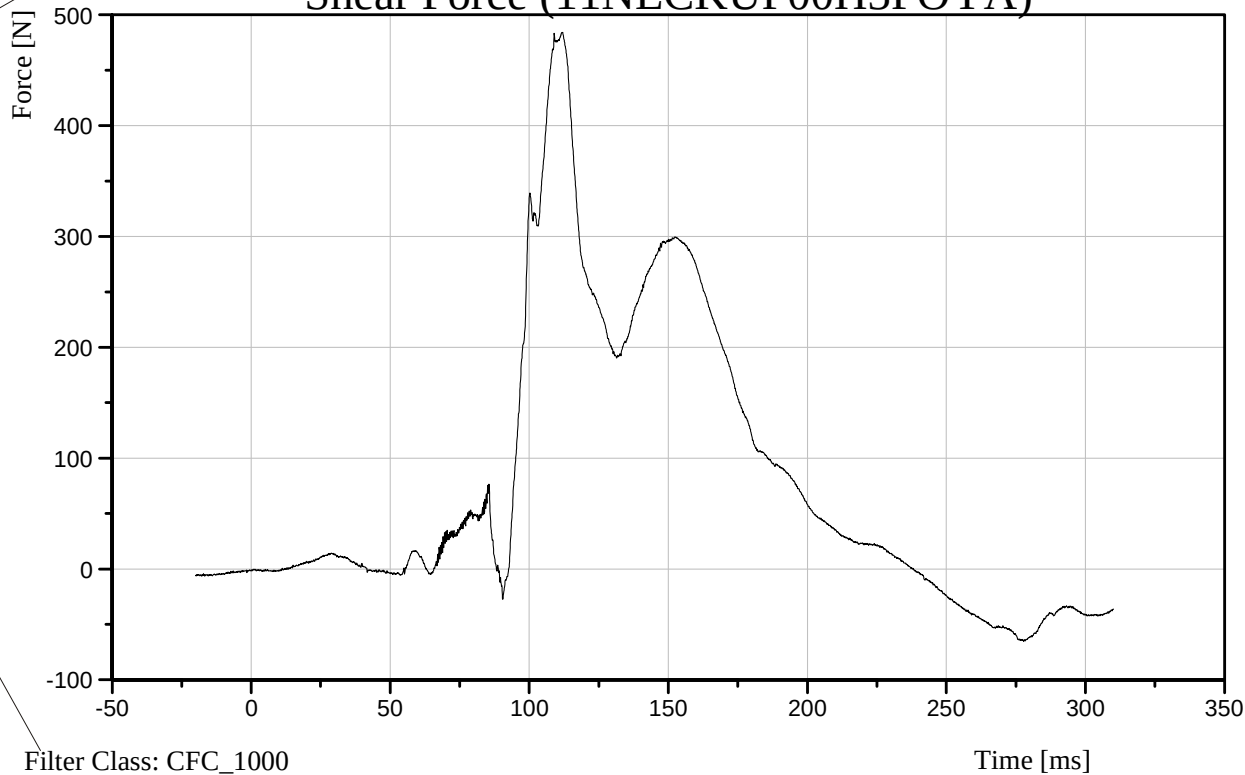
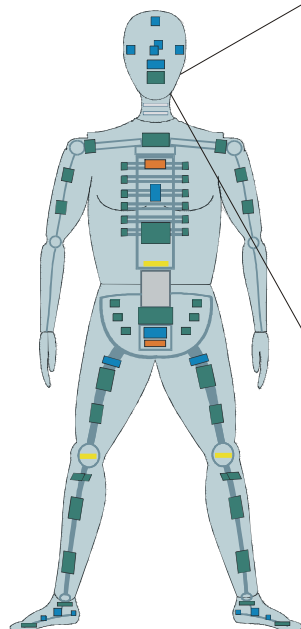
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (11NECKUP00H3FOYA)



Dummy: HIII 50th Male

Seating Position:

Driver

[Max.] 484.22 N at 111.84 ms

[Min.] -65.50 N at 277.84 ms

Neck Shear Force Source Code: Min/Max of 11NECKUP00H3FOYA

B-77

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Axial Force

Date: 11/06/2009
Time: 14:32

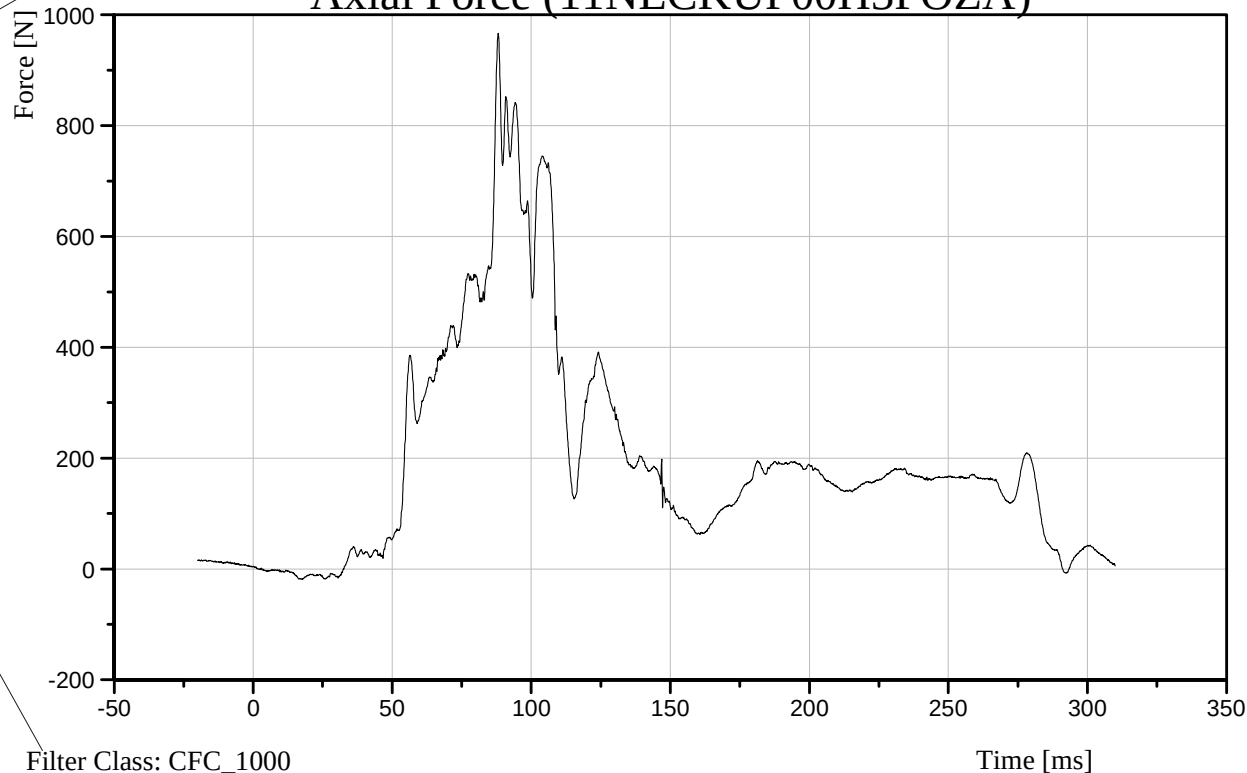
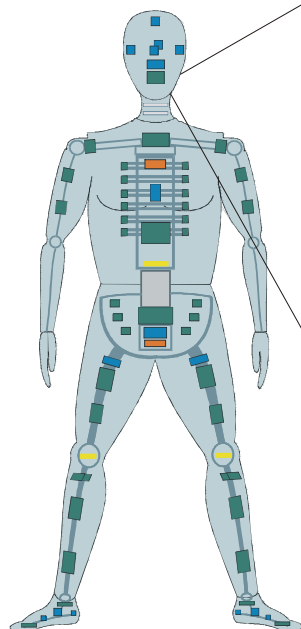
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Axial Force (11NECKUP00H3FOZA)



Dummy:HIII 50th Male
Seating Position:
Driver

[Max.] 966.96 N at 88.16 ms

[Min.] -18.94 N at 17.28 ms

Neck Axial Force Source Code: Min/Max of 11NECKUP00H3FOZA

B-78

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

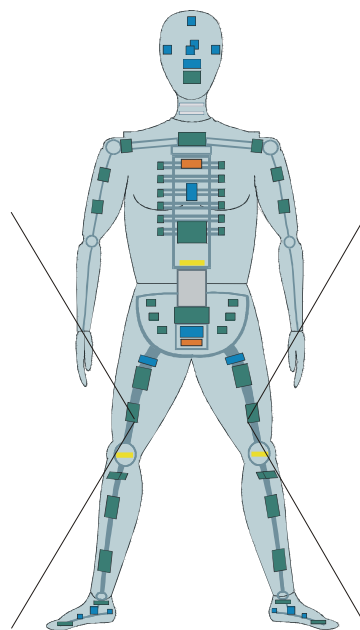
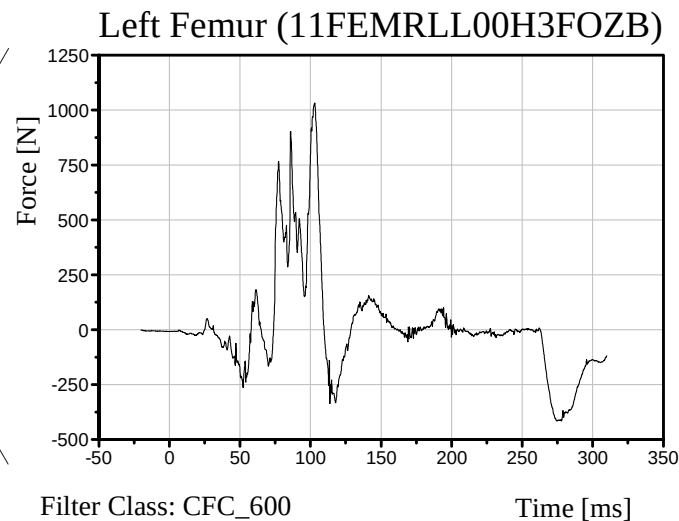
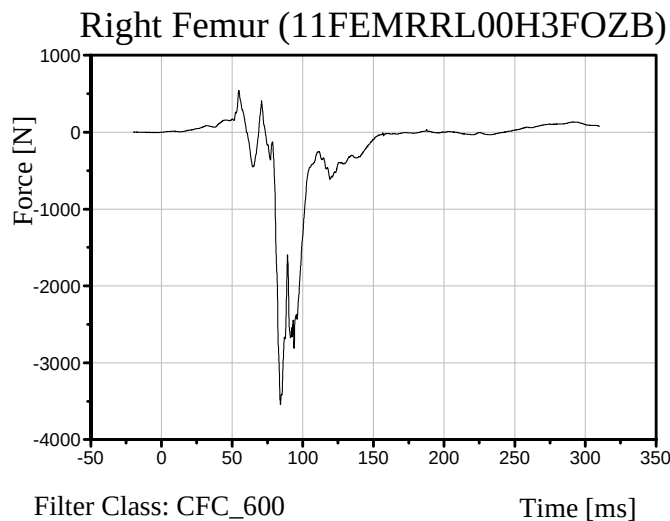
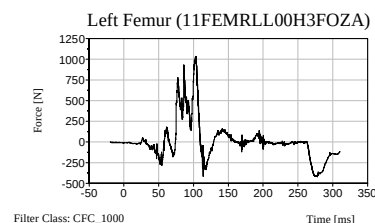
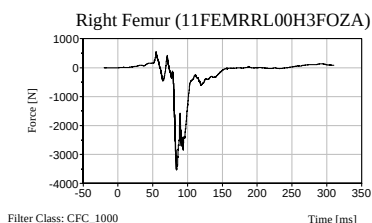
Femur Load

Date: 11/06/2009
Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Tension] 545.32 N at 54.64 ms
Min [Compression] -3,543.76 N at 84.08 ms

Dummy: HIII 50th Male
Seating Position:
Driver

Max [Tension] 1,032.55 N at 103.04 ms
Min [Compression] -415.09 N at 277.92 ms

Femur Load Source Code : Min/Max of 11FEMRRL00H3FOZB and 11FEMRLL00H3FOZB (CFC 600)

B-79

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

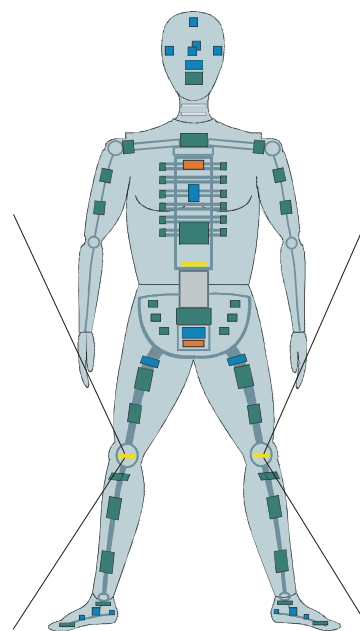
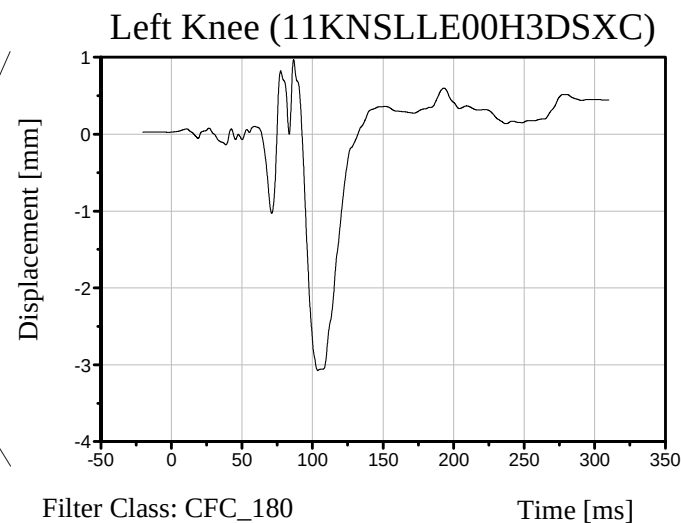
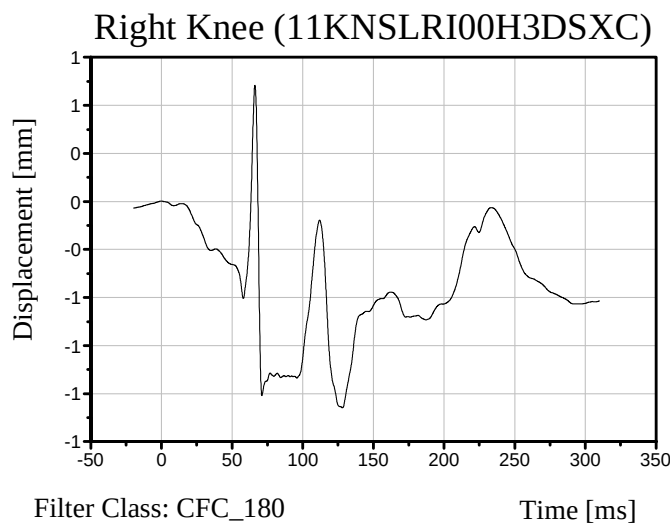
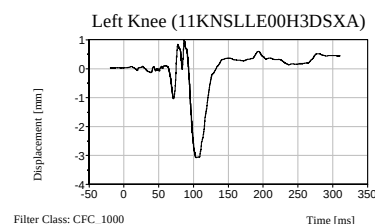
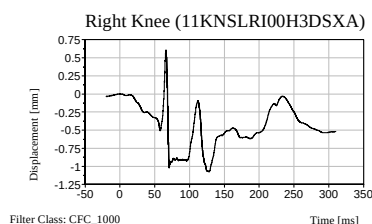
Knee Slider Displacement

Date: 11/06/2009
Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max. [Tension] 0.60 mm at 66.08 ms
Min. [Compression] -1.07 mm at 128.00 ms

Dummy: HIII 50th Male
Seating Position:
Driver

Max. [Tension] 0.97 mm at 86.64 ms
Min. [Compression] -3.07 mm at 103.76 ms

Knee Displacement Source Code : Min/Max of 11KNSLRI00H3DSXC and 11KNSLLE00H3DSXC (CFC 600)

B-80

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Tibia Index (TI)

Date: 11/06/2009

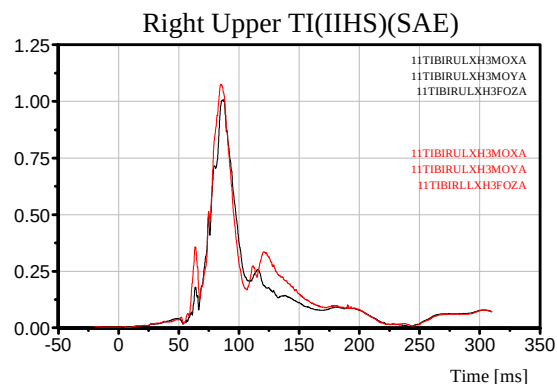
Time: 14:32

Customer: VRTC

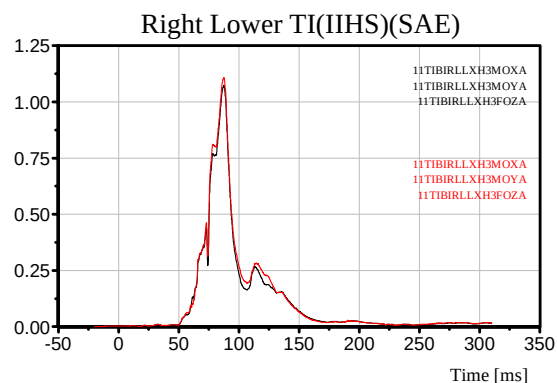
TRC Inc. Test Lab: CTF

Test Number: 091106

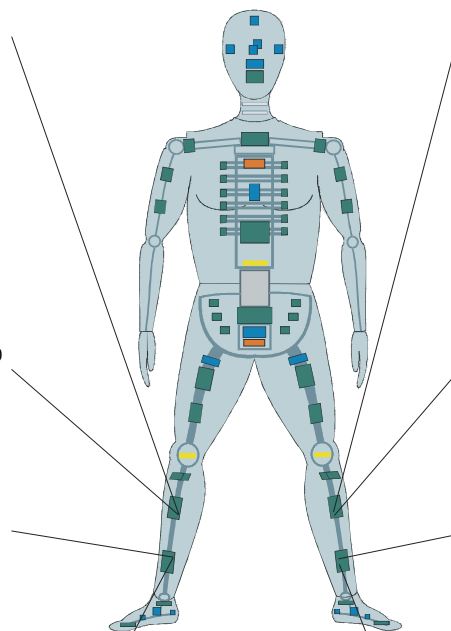
Critical Bending Moment = 240 N·m
Critical Compression Force = 12000 N



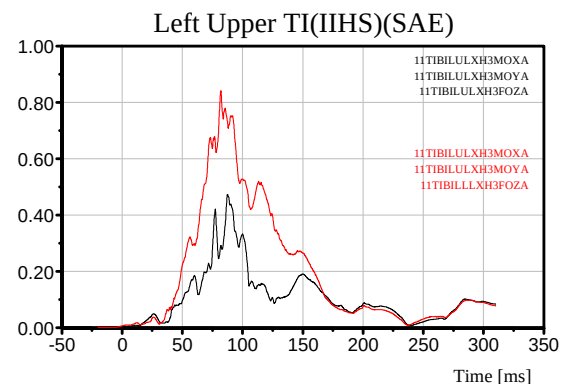
Max = 1.01 at 86.88 ms (SAE)
Max = 1.08 at 85.20 ms (IIHS)



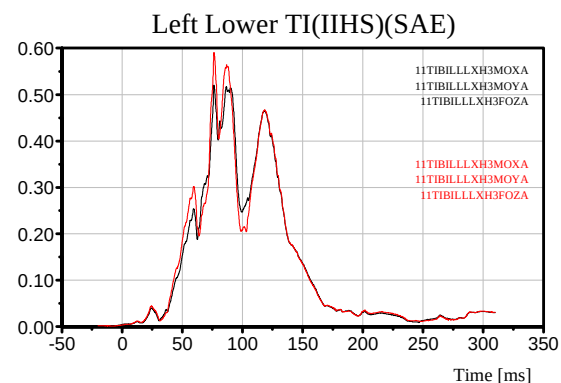
Max = 1.07 at 87.52 ms (SAE)
Max = 1.11 at 87.52 ms (IIHS)



Dummy: HIII 50th Male
Seating Position:
Driver



Max = 0.47 at 87.52 ms (SAE)
Max = 0.84 at 82.00 ms (IIHS)



Max = 0.52 at 76.32 ms (SAE)
Max = 0.59 at 76.32 ms (IIHS)

Tibia Index Source Code : Guideline 96/79/EC; SAE J1727 AUG96; and IIHS Crashworthiness Evaluation Offset Barrier Crash Test Protocol (Version X)

B-81

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Foot Acceleration

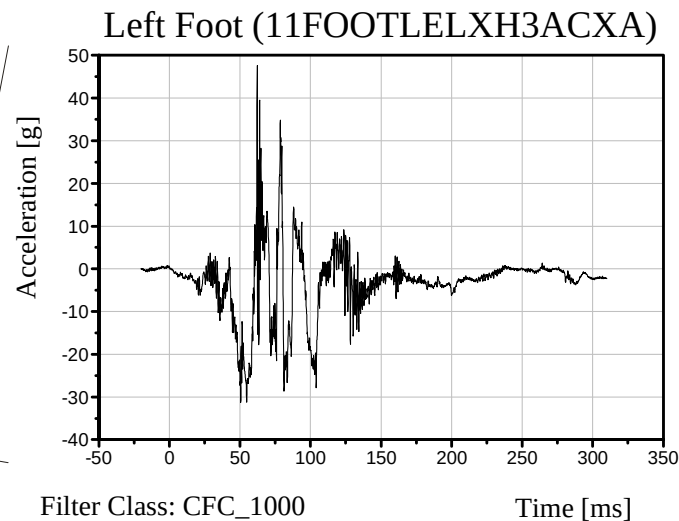
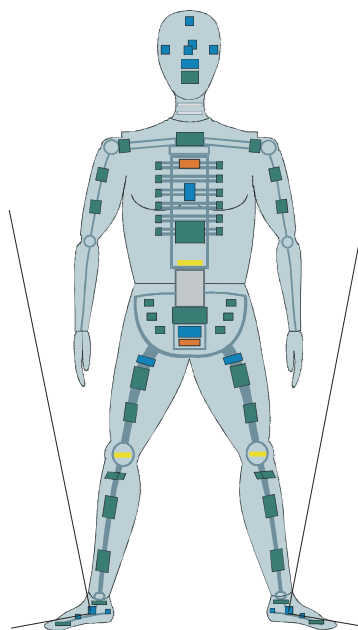
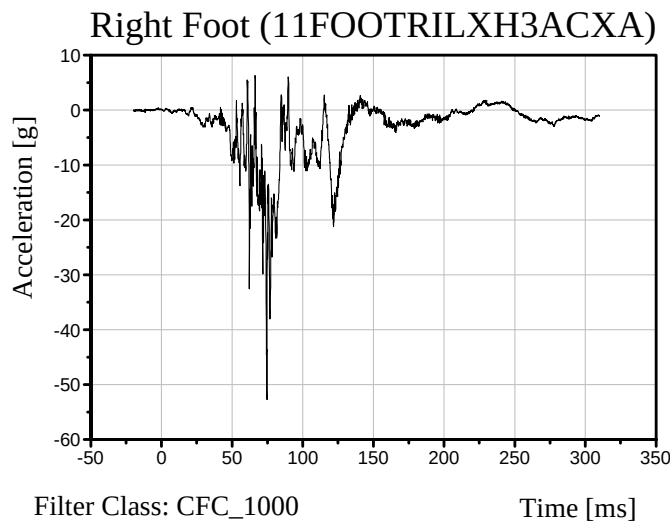
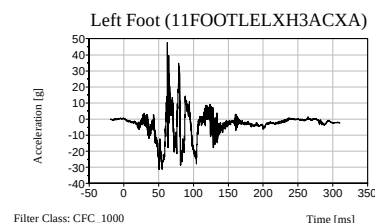
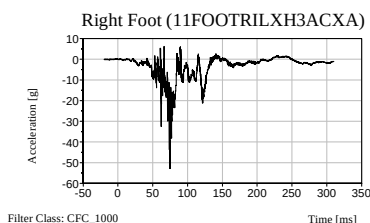
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Acceleration] 6.32 g at 66.16 ms
Min [Acceleration] -52.70 g at 74.56 ms

Dummy: HIII 50th Male
Seating Position:
Driver

Max [Acceleration] 47.60 g at 62.24 ms
Min [Acceleration] -31.24 g at 50.56 ms

Foot Acceleration Source Code : Min/Max of 11FOOTRILXH3ACXA and 11FOOTLELXH3ACXA

B-82

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

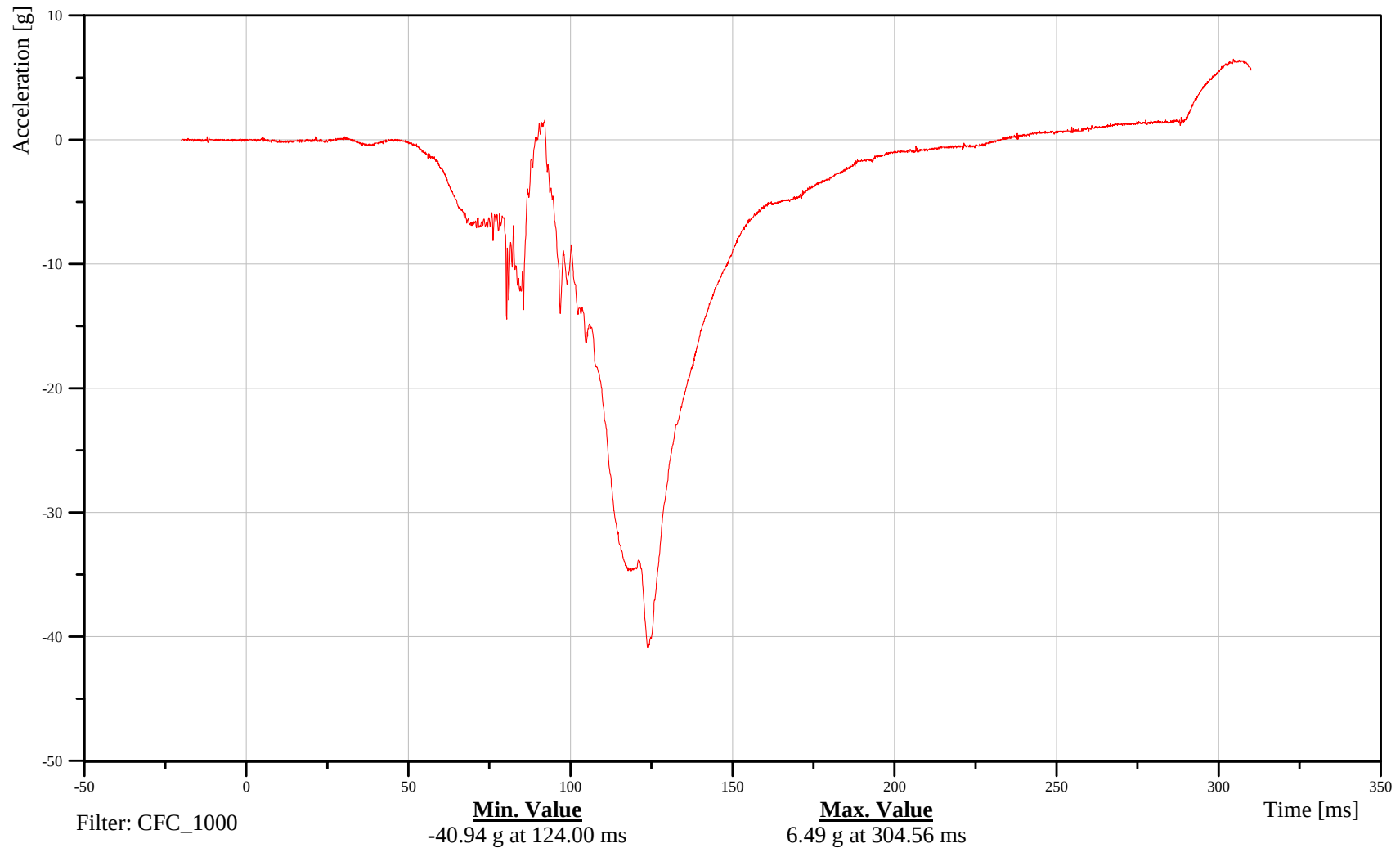
Bullet Vehicle Right Front Passenger Head X-Axis Acceleration

Customer: VRTC

13HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-83

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

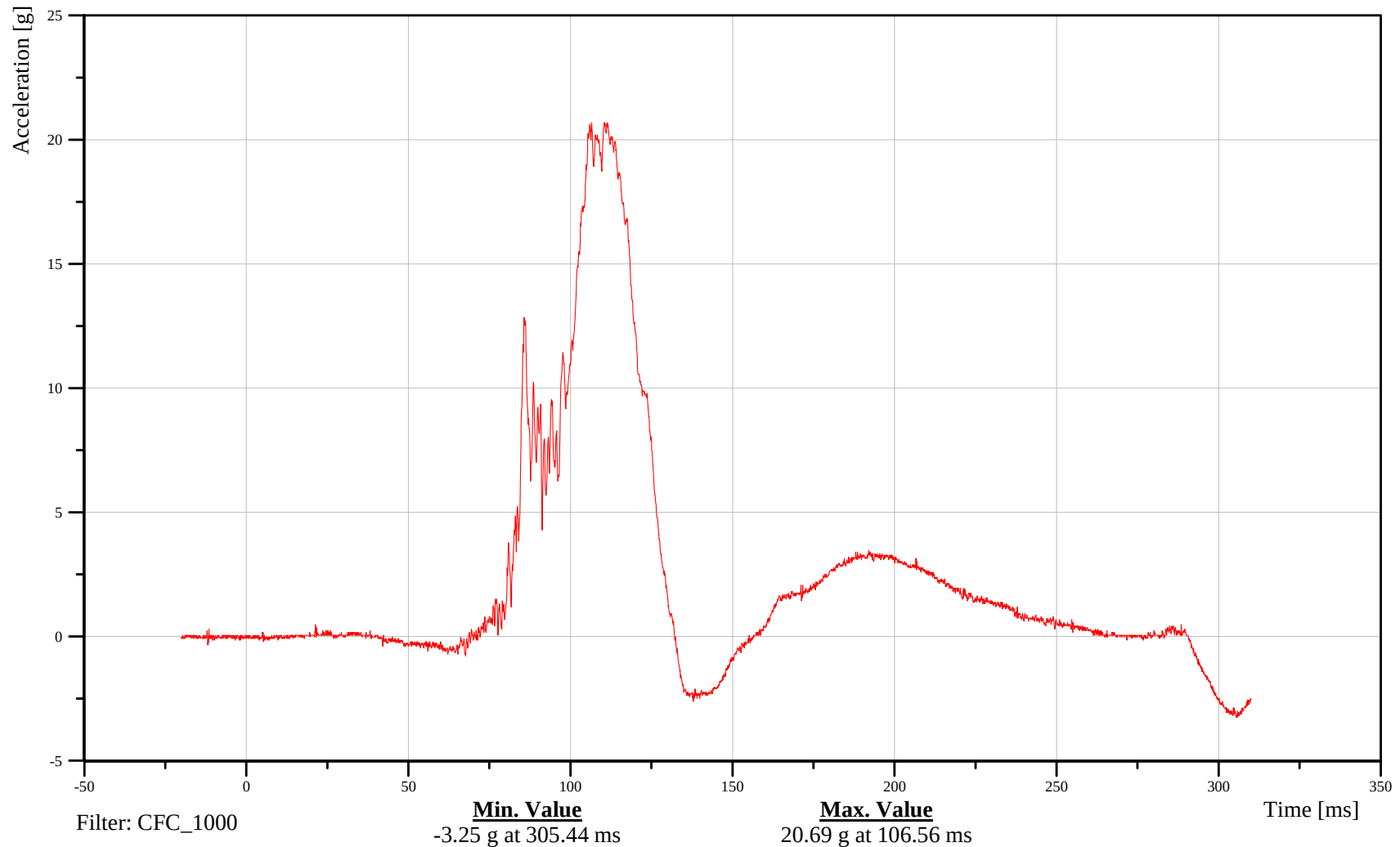
Bullet Vehicle Right Front Passenger Head Y-Axis Acceleration

Customer: VRTC

13HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-84

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

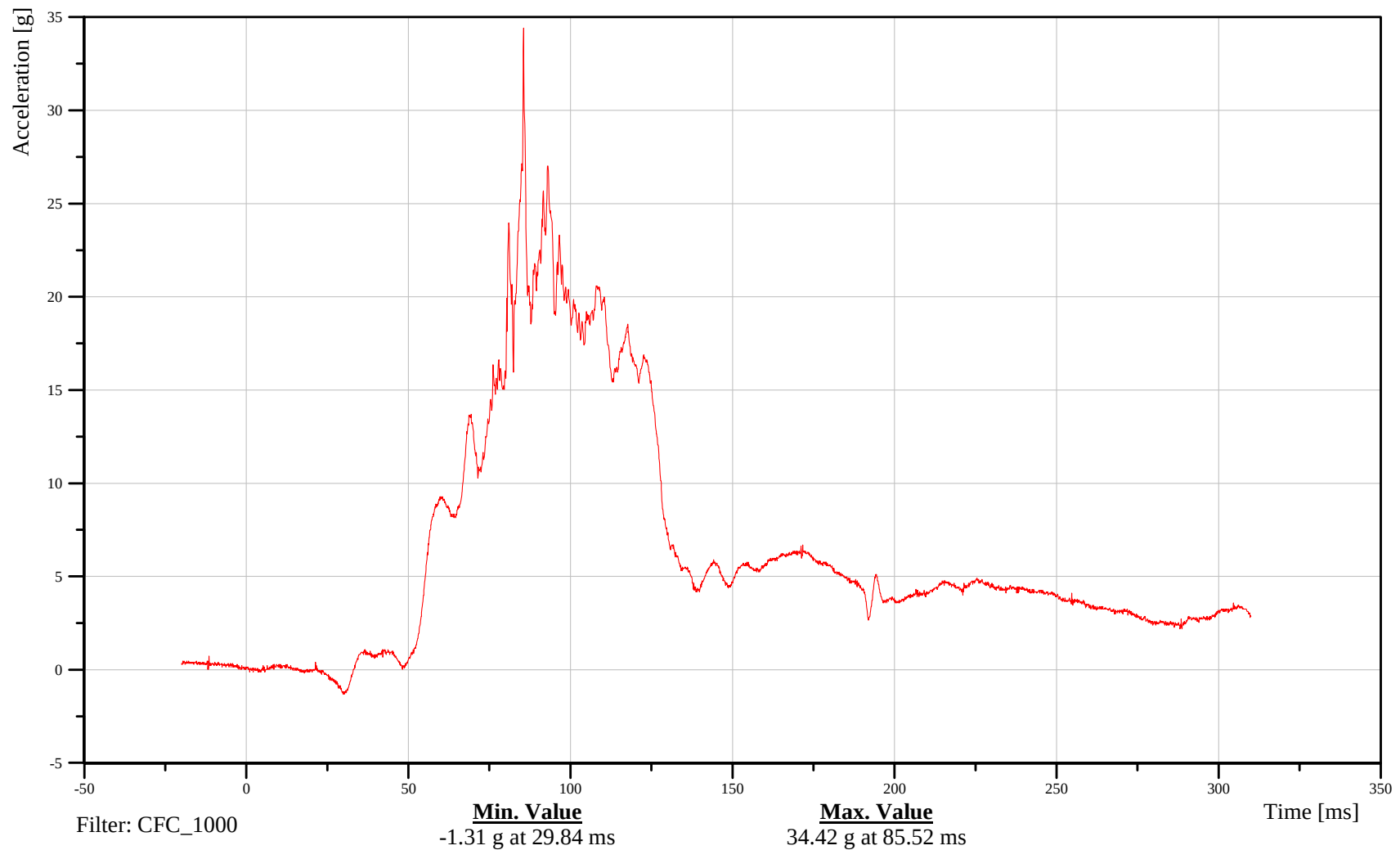
Bullet Vehicle Right Front Passenger Head Z-Axis Acceleration

Customer: VRTC

13HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-85

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

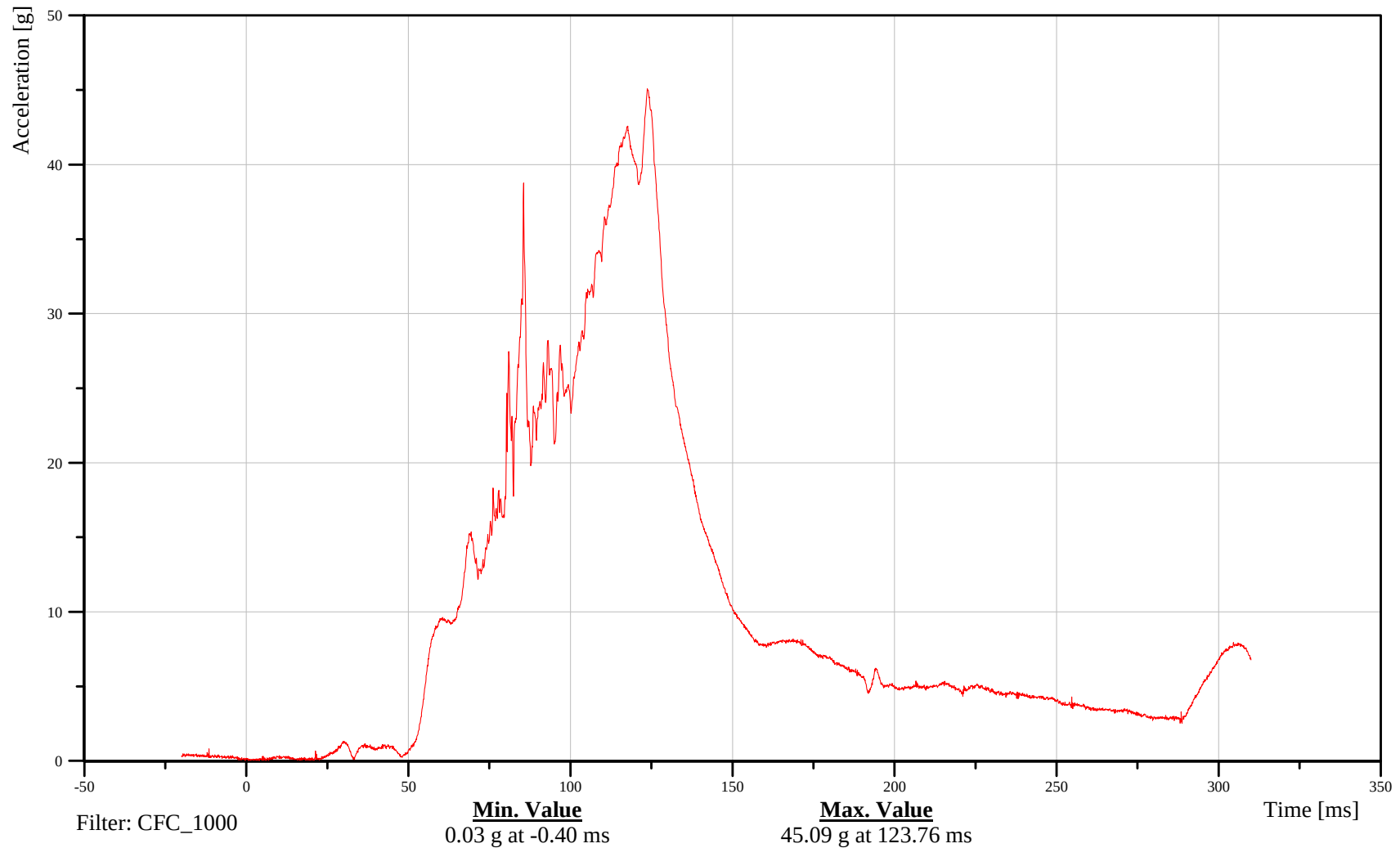
Bullet Vehicle Right Front Passenger Head Resultant Acceleration

Customer: VRTC

13HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-86

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Head Redundant X-Axis Acceleration

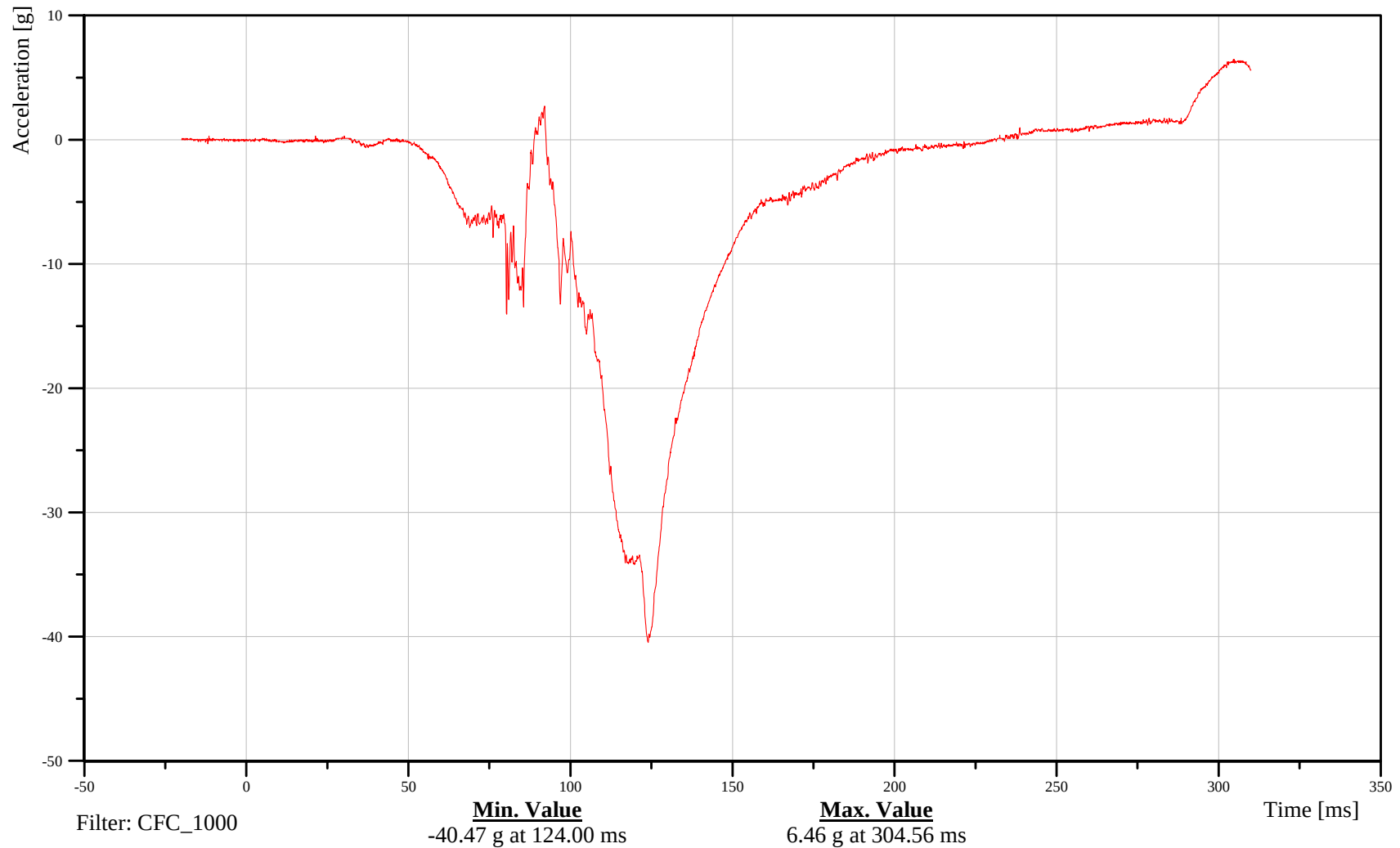
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13HEADCGRDHFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-87

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Head Redundant Y-Axis Acceleration

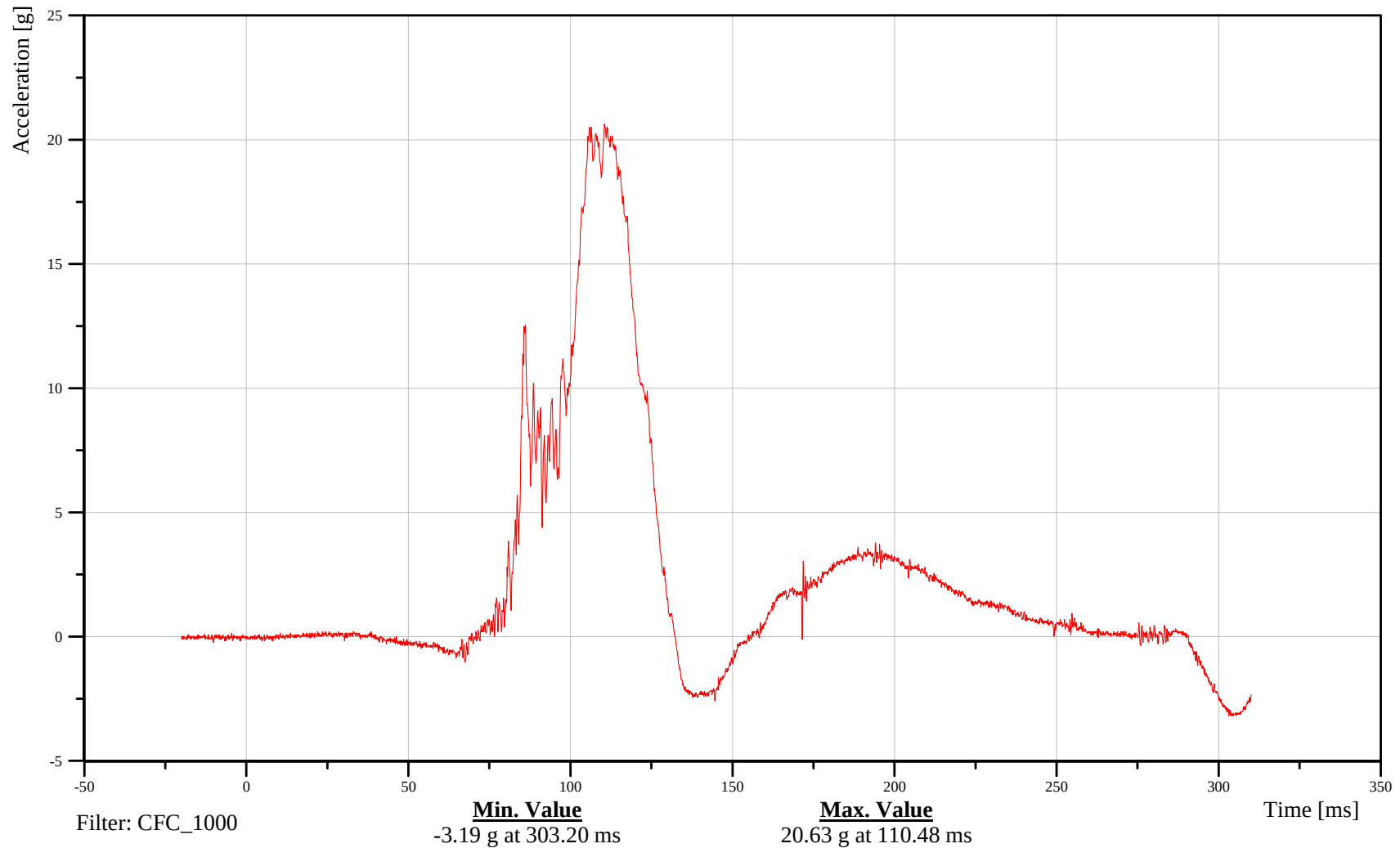
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13HEADCGRDHFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-88

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Head Redundant Z-Axis Acceleration

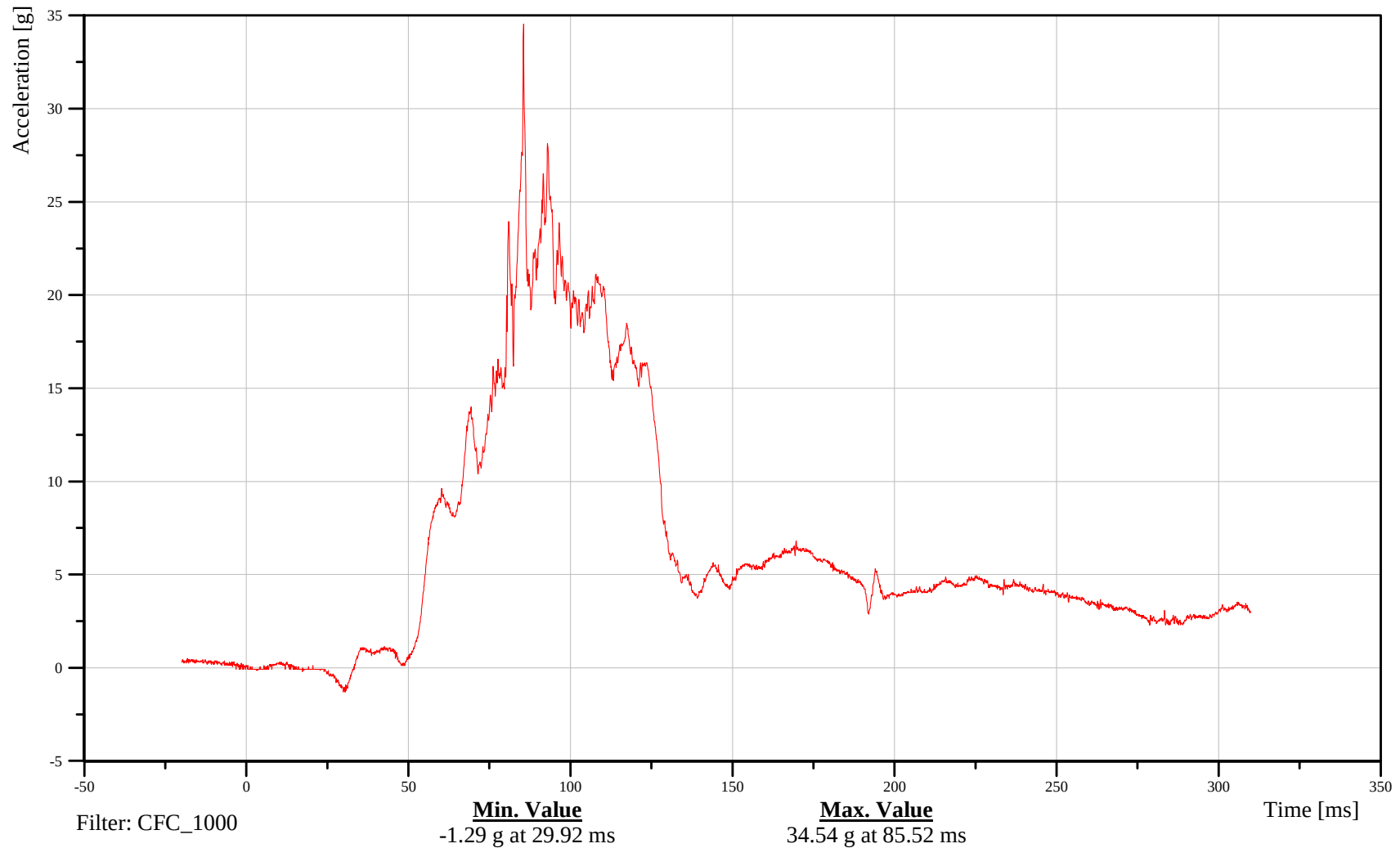
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13HEADCGRDHFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-89

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Head Redundant Resultant Acceleration

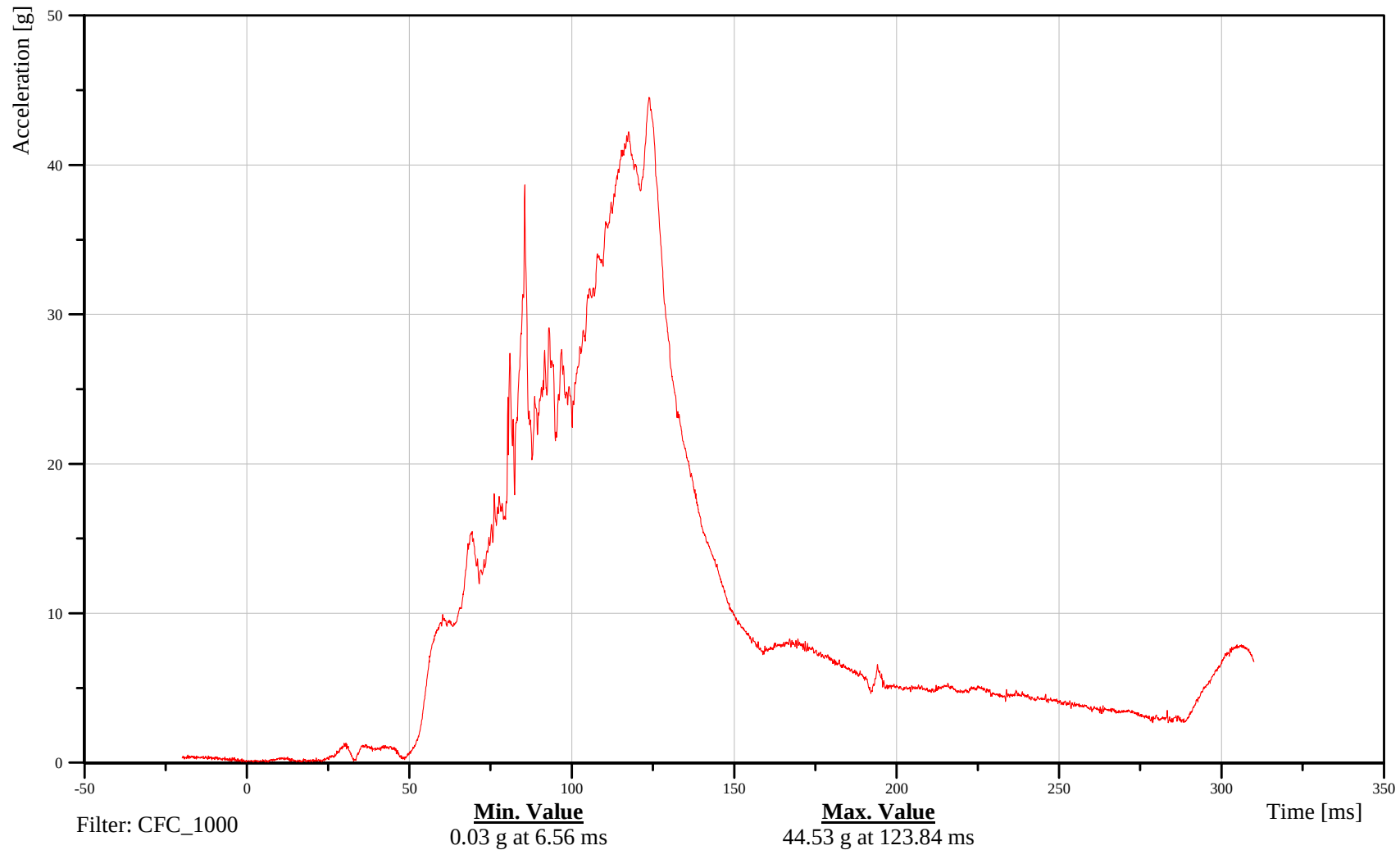
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13HEADCGRDHFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-90

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Upper Neck X-Axis Force

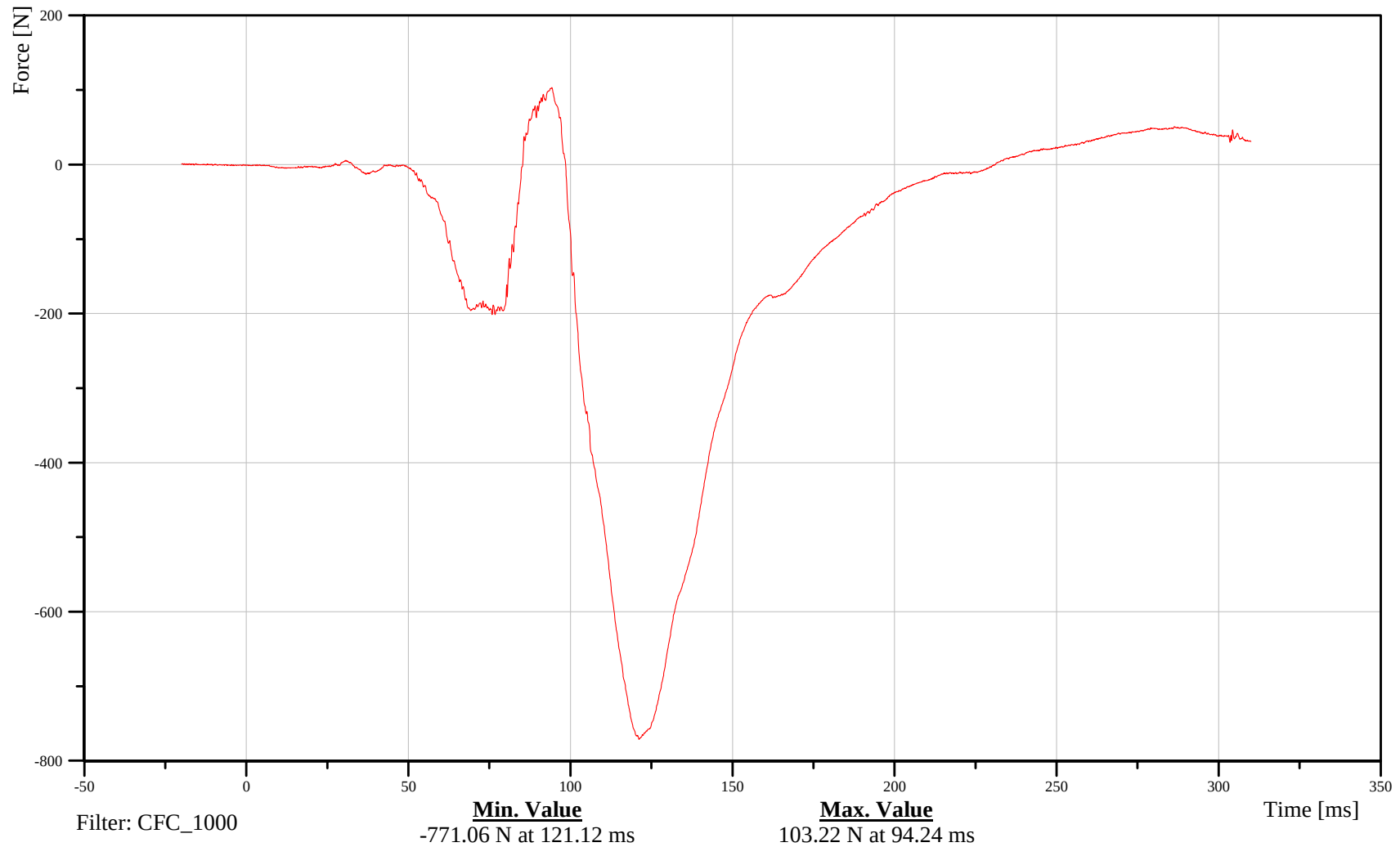
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-91

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Upper Neck Y-Axis Force

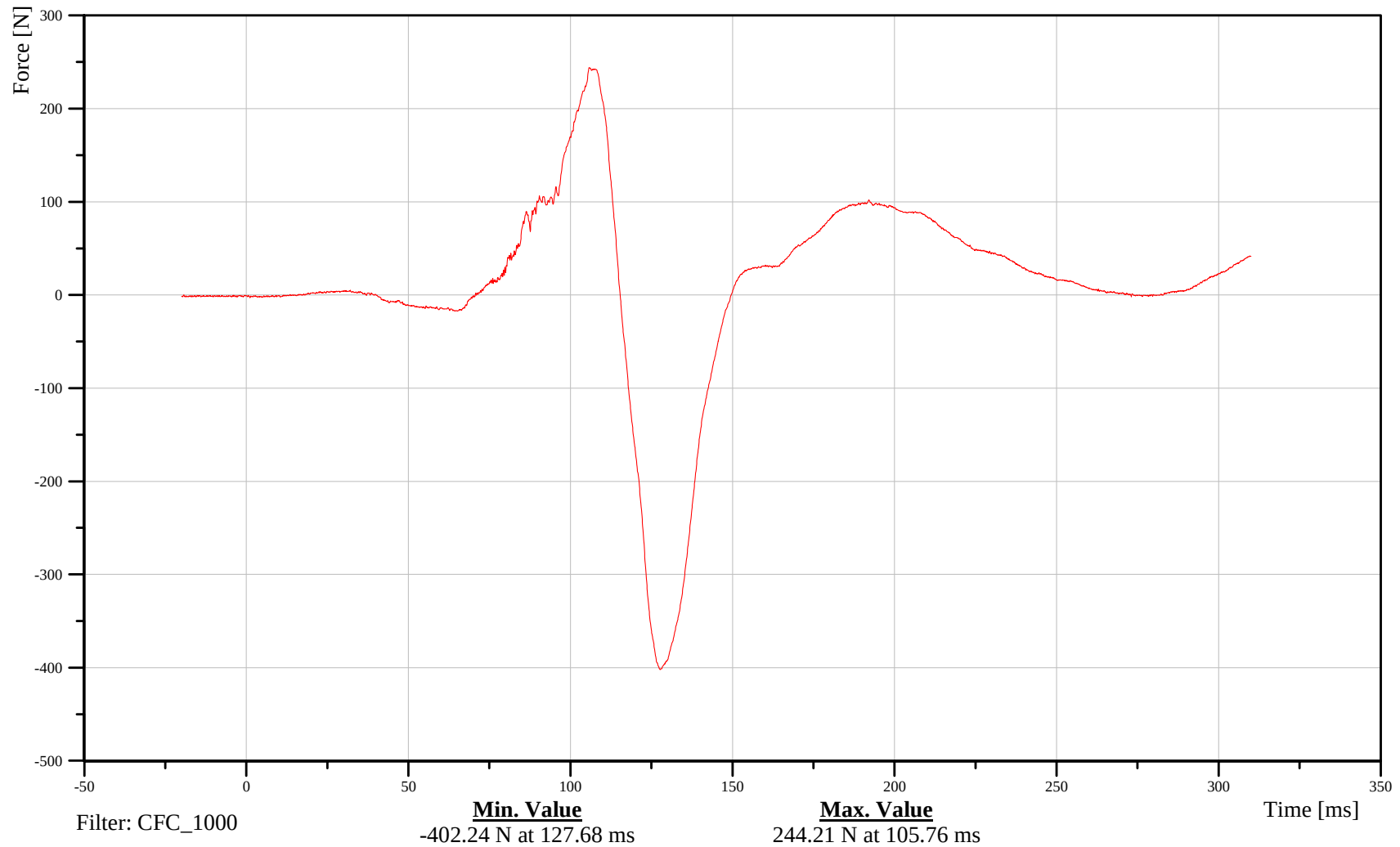
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-92

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Upper Neck Z-Axis Force

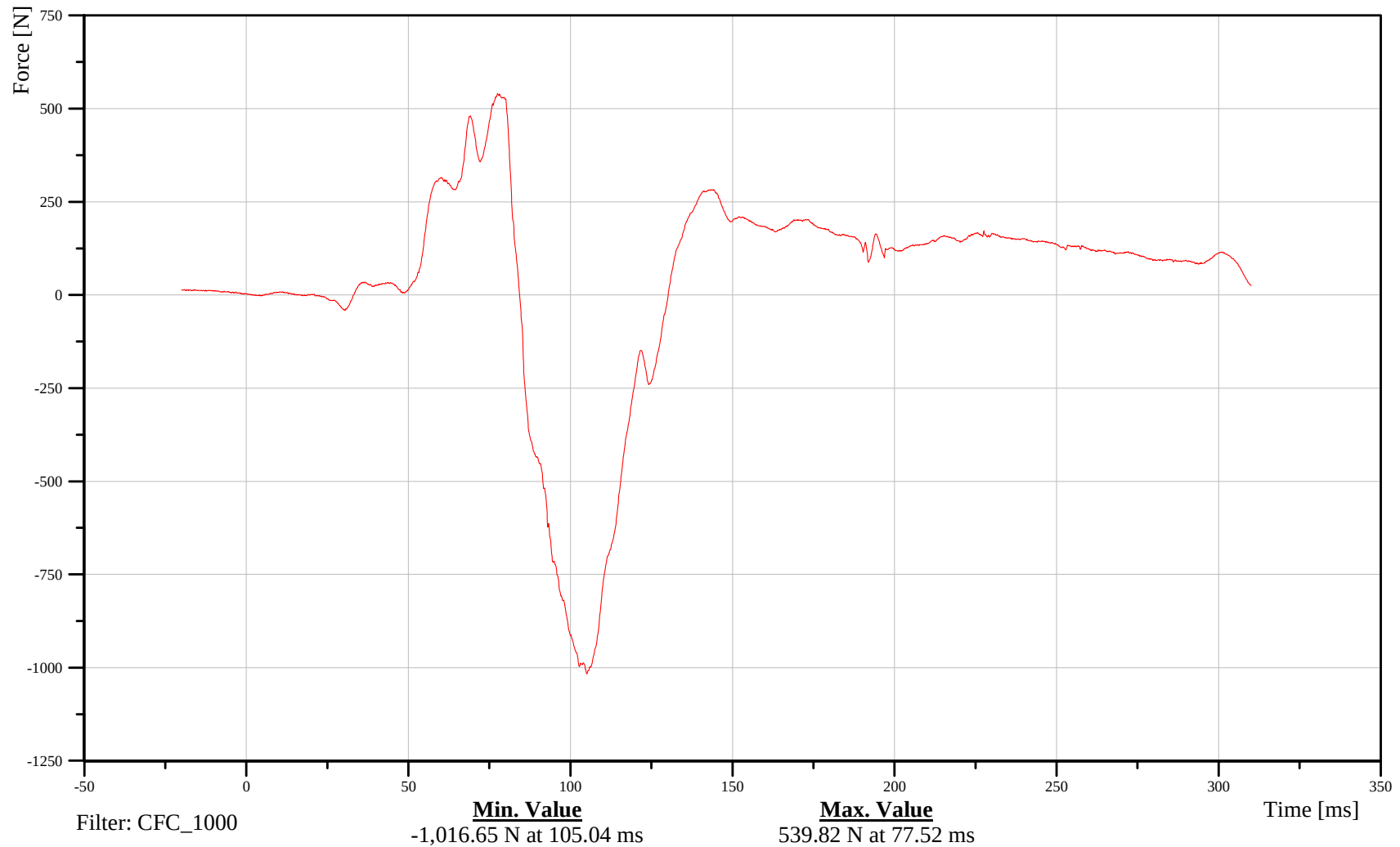
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-93

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Upper Neck Moment About X Axis

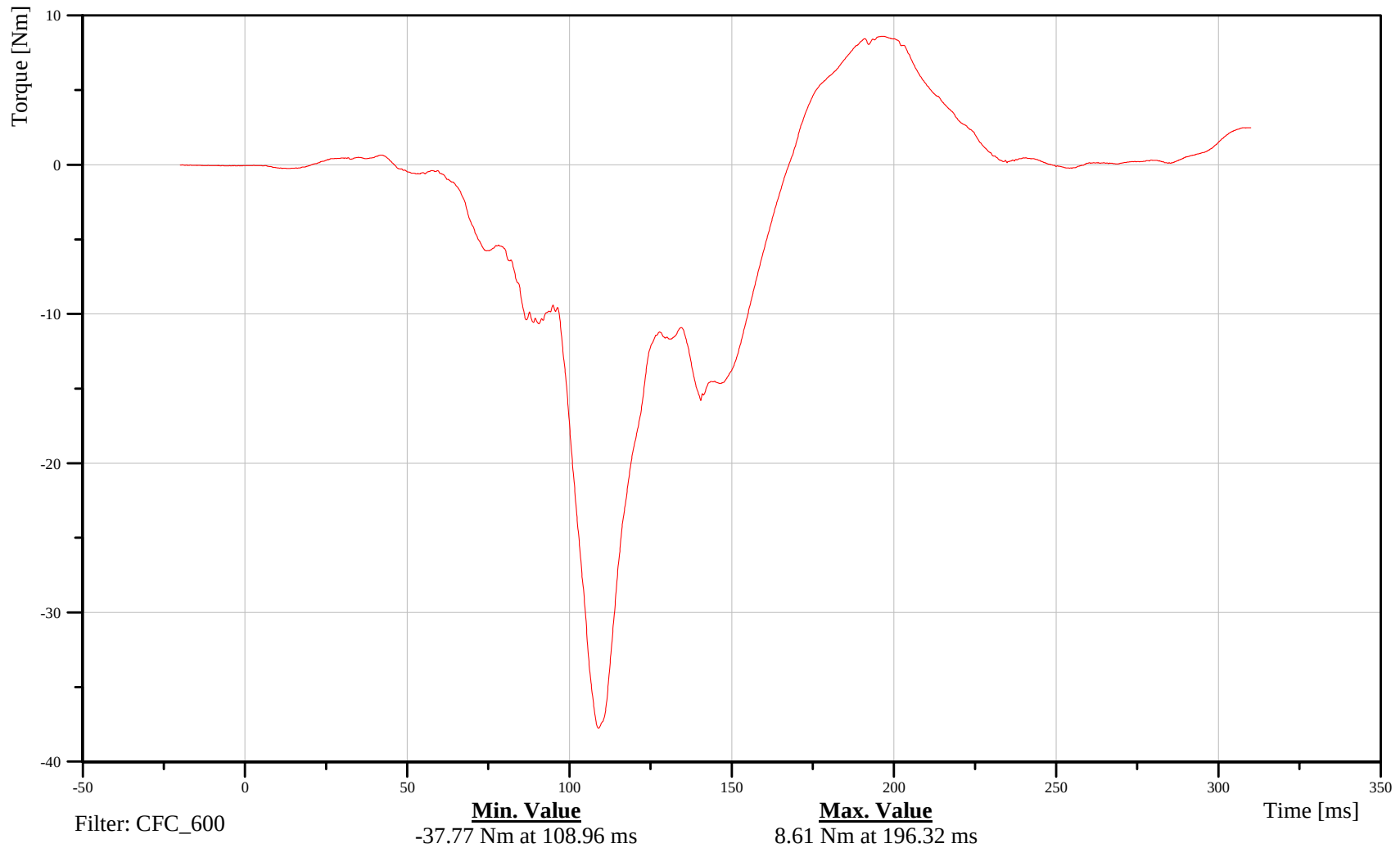
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-94

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Upper Neck Moment About Y Axis

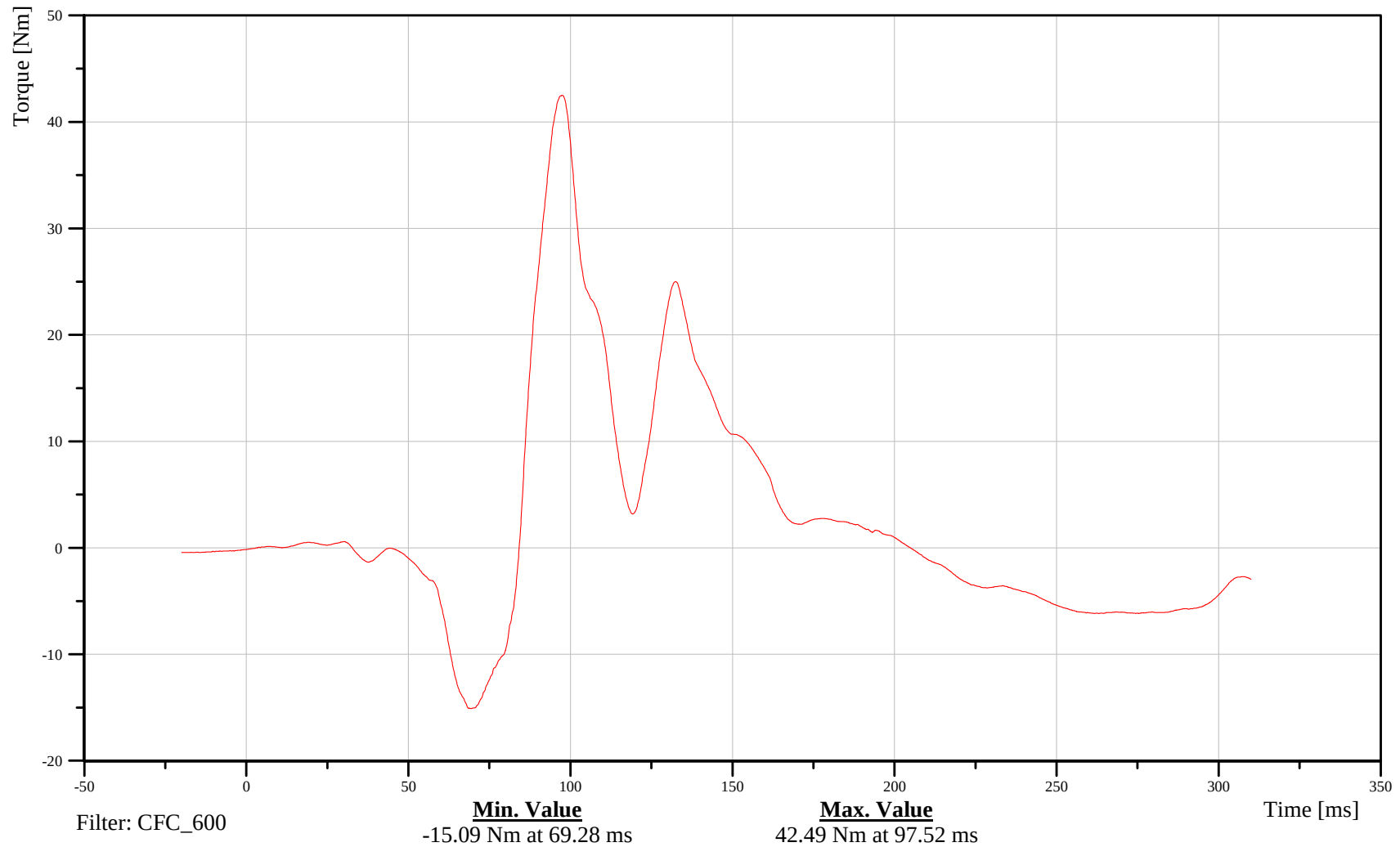
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-95

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Upper Neck Moment About Z Axis

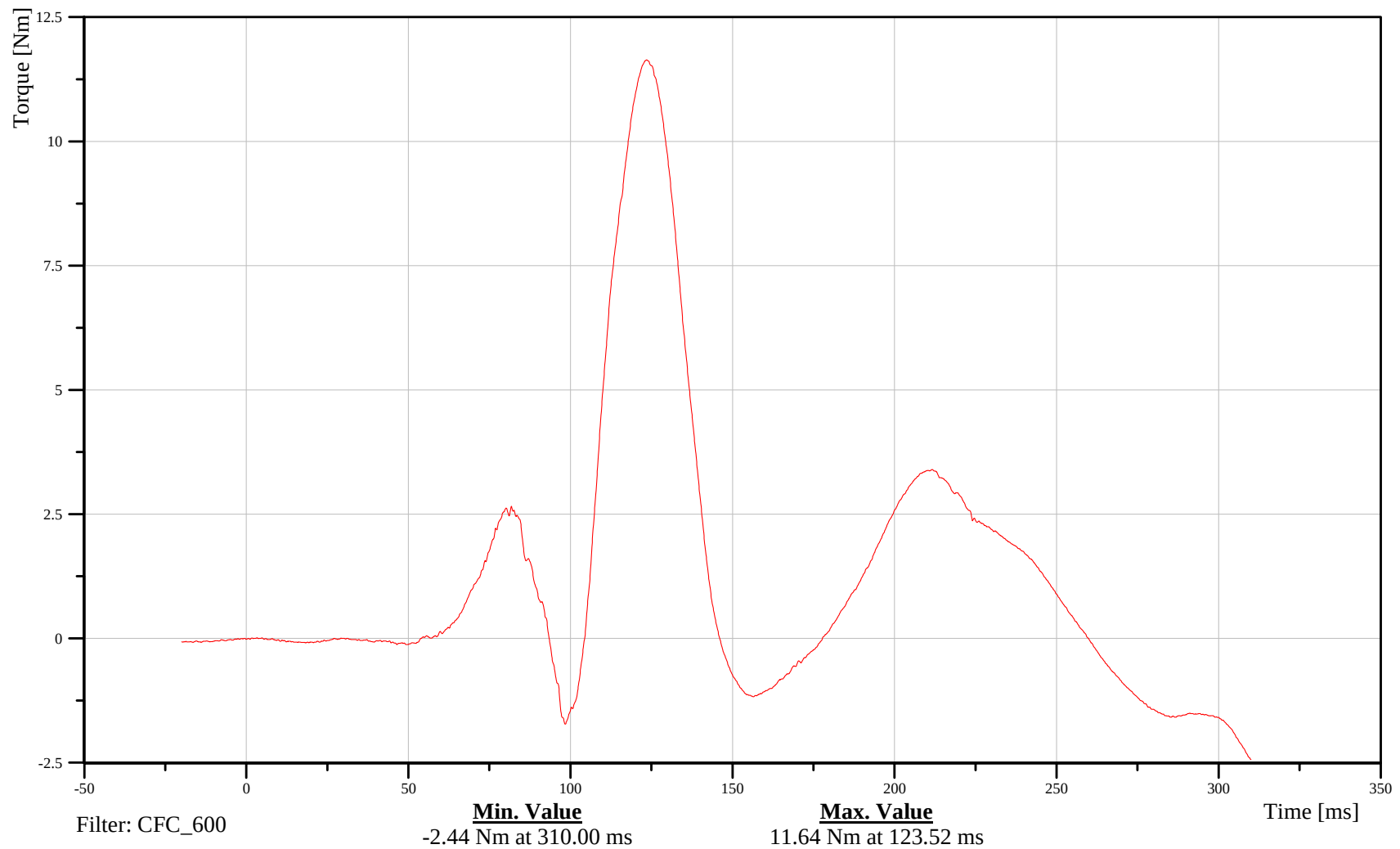
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-96

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest X-Axis Acceleration

Date: 11/06/2009

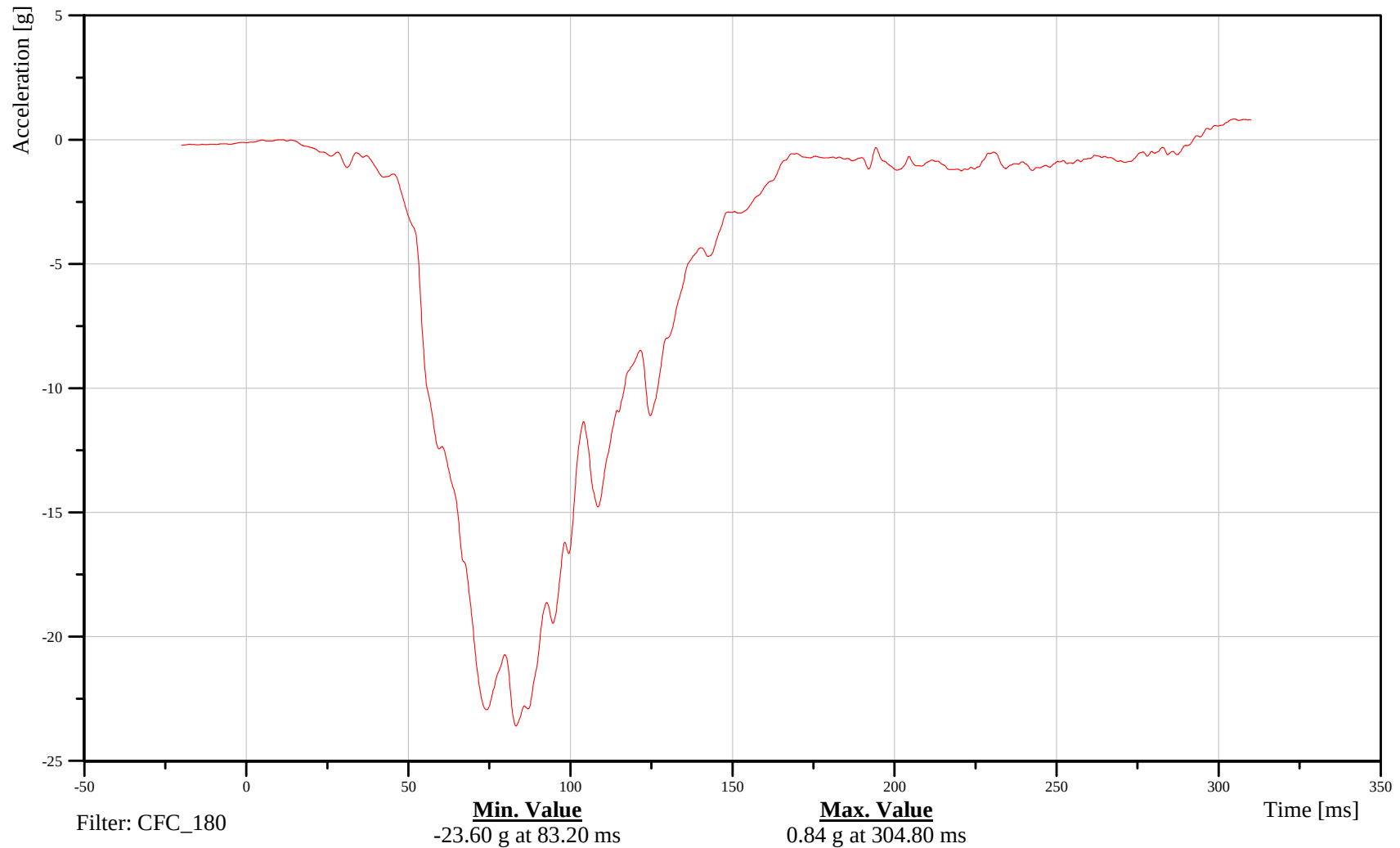
Time: 14:32

Customer: VRTC

13CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-97

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest Y-Axis Acceleration

Date: 11/06/2009

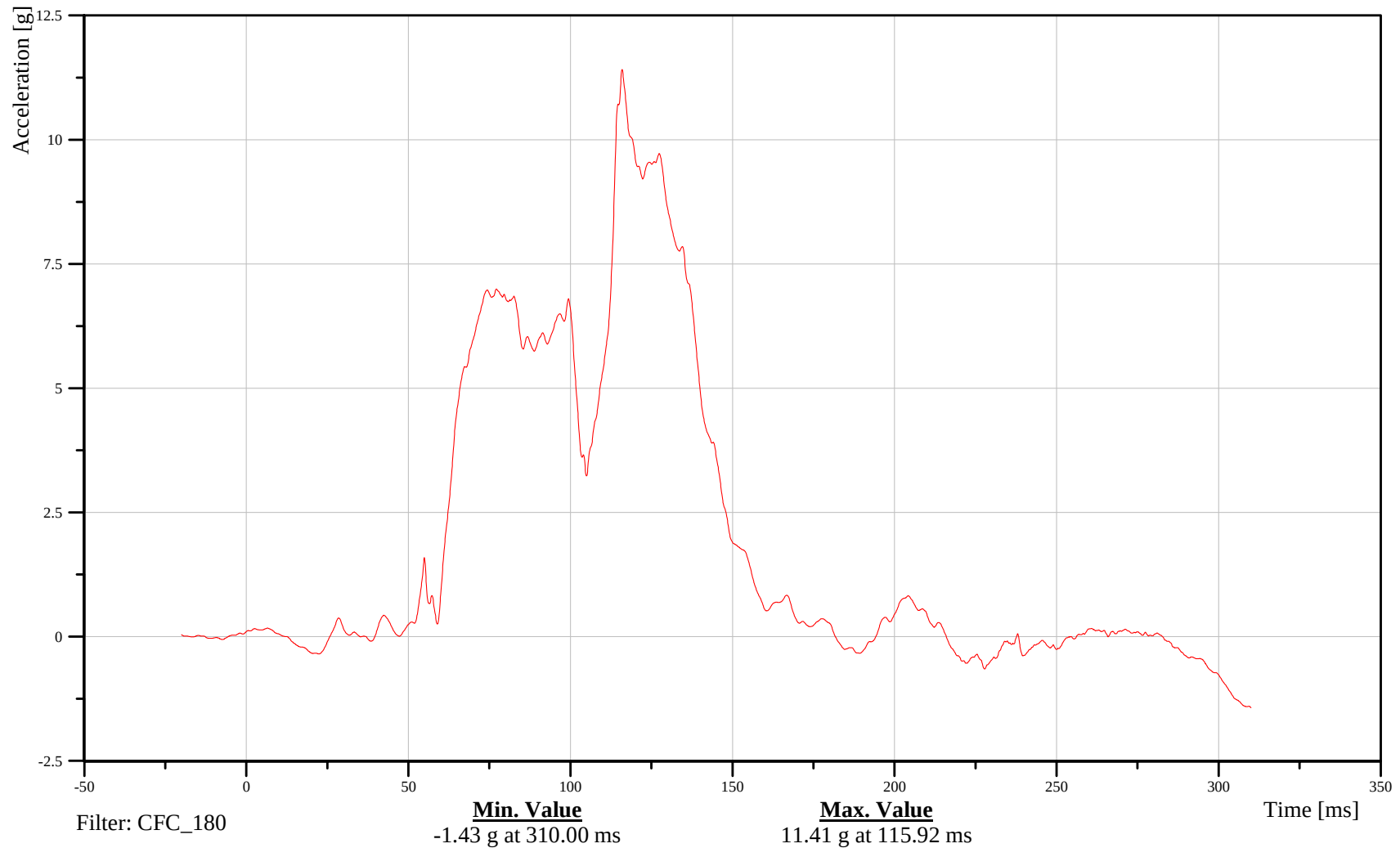
Time: 14:32

Customer: VRTC

13CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-98

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

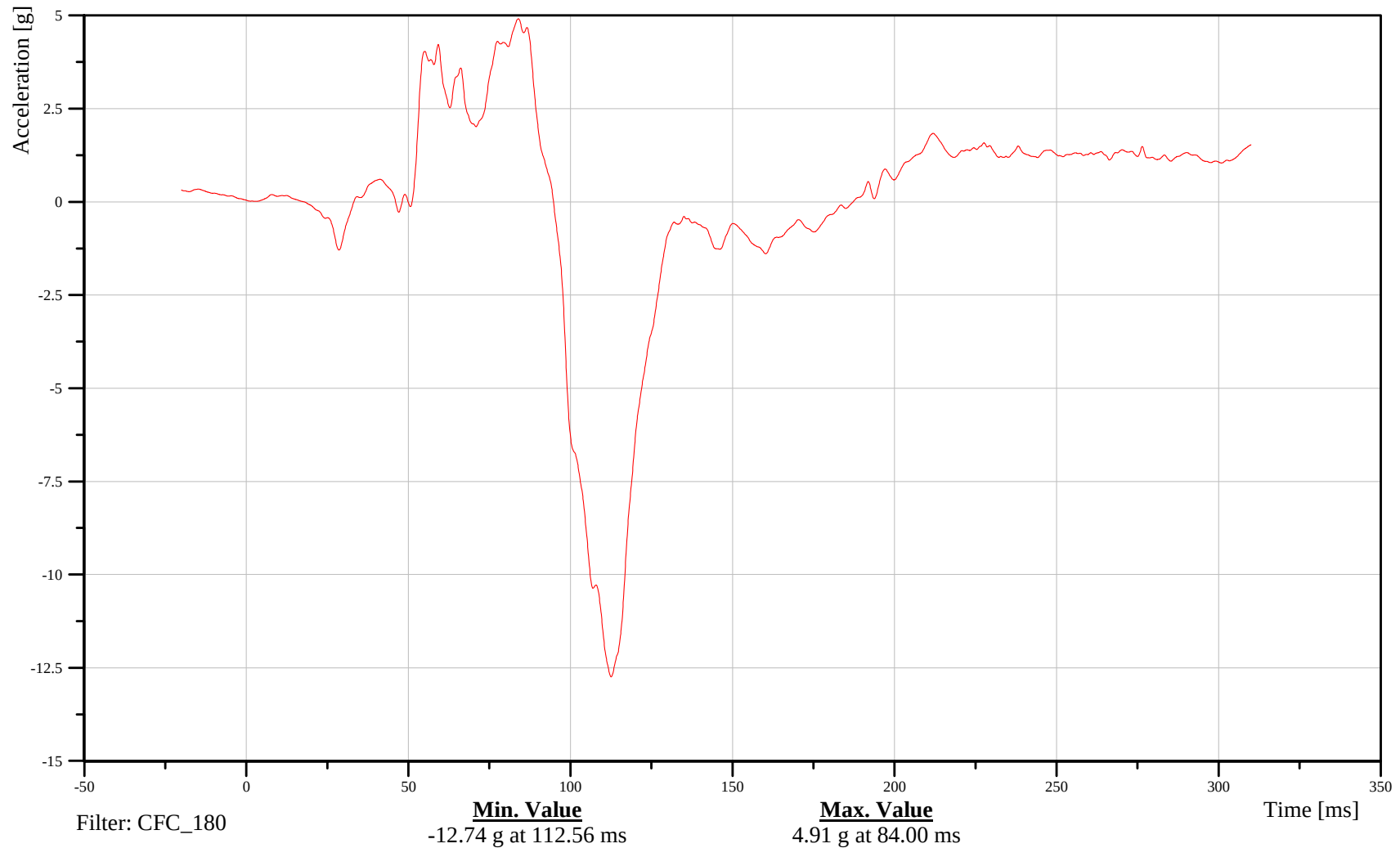
Bullet Vehicle Right Front Passenger Chest Z-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-99

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

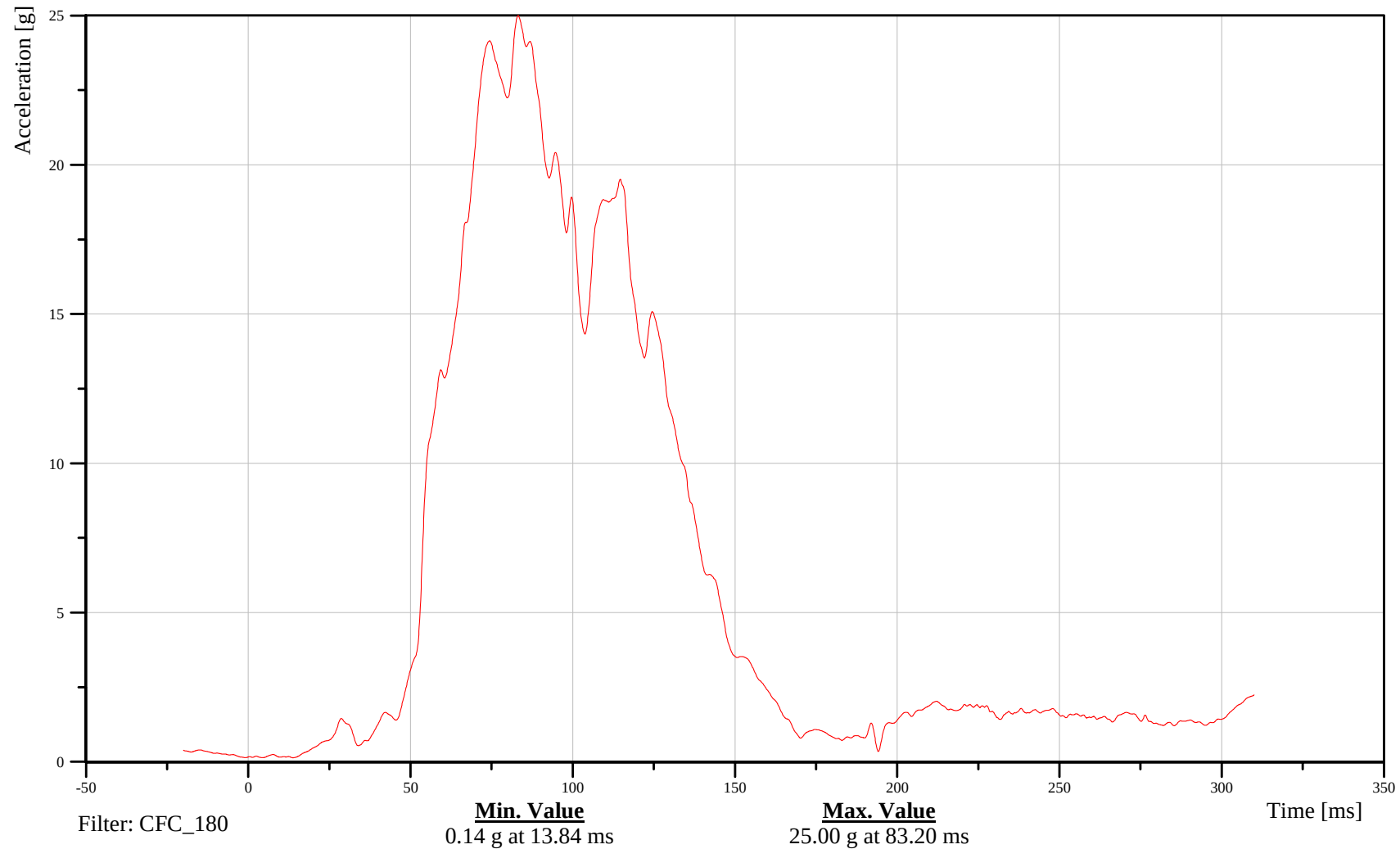
Bullet Vehicle Right Front Passenger Chest Resultant Acceleration

Customer: VRTC

13CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-100

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest Redundant X-Axis Acceleration

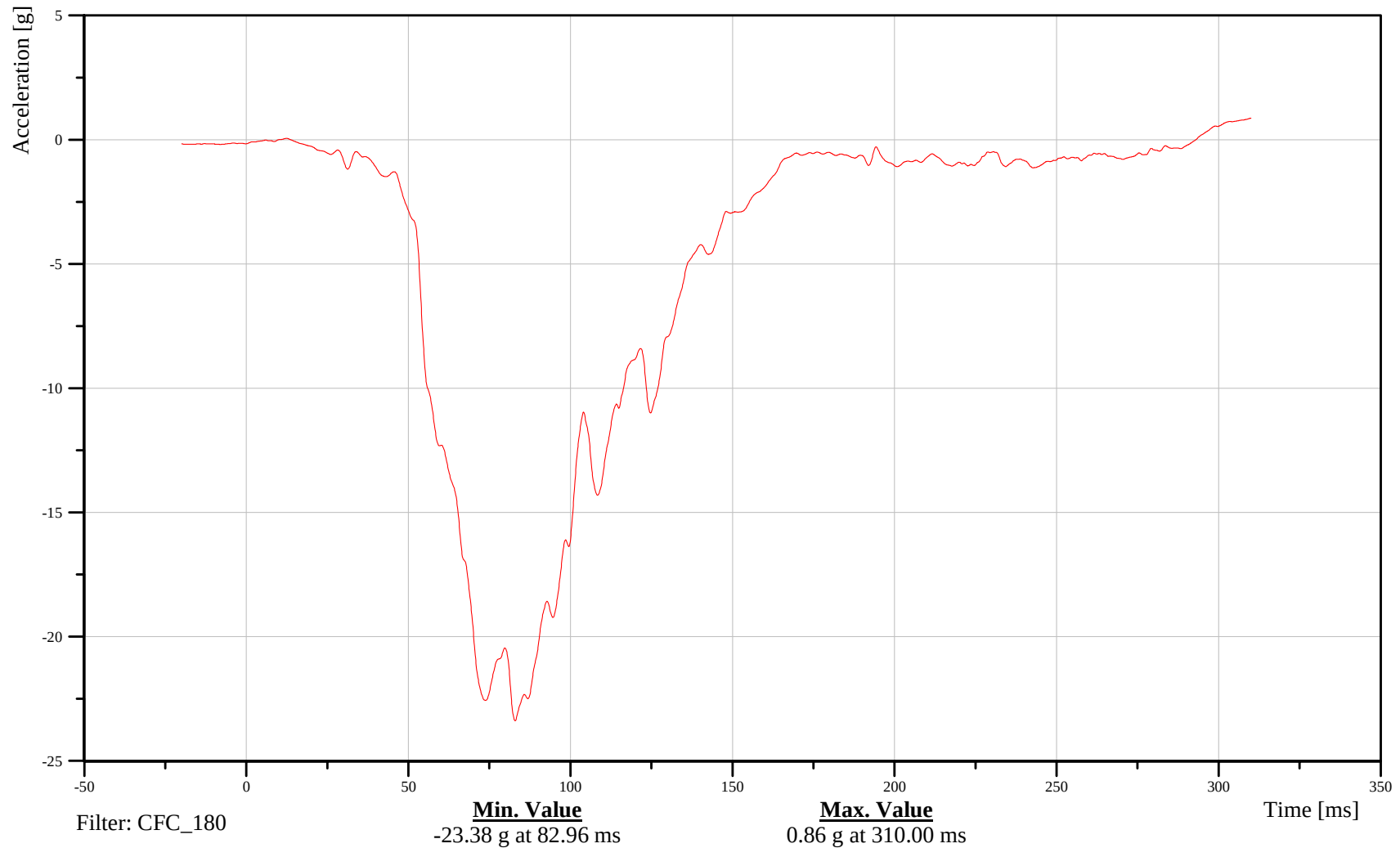
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13CHSTCGRDHFACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-101

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest Redundant Y-Axis Acceleration

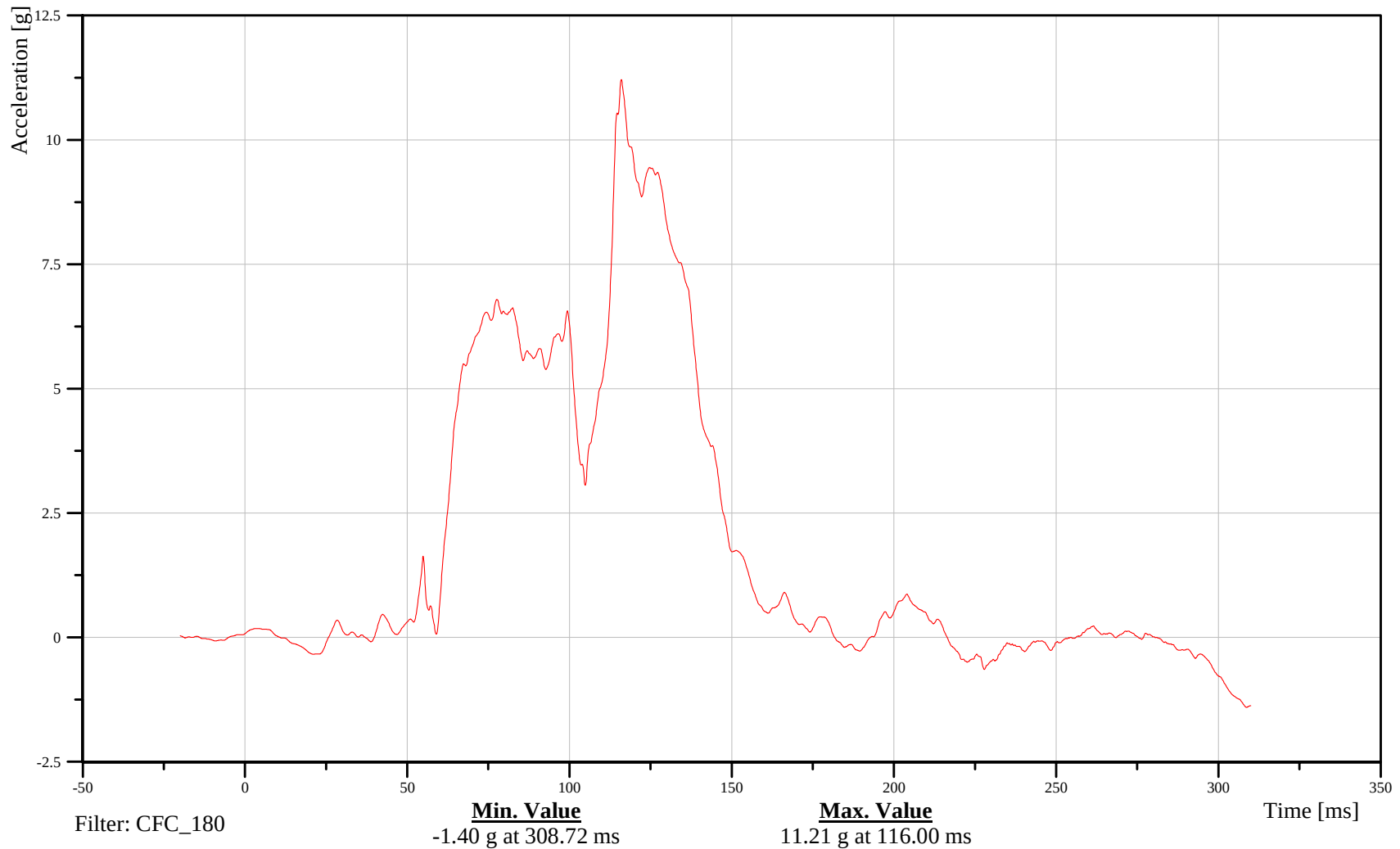
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13CHSTCGRDHFACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-102

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Chest Redundant Z-Axis Acceleration

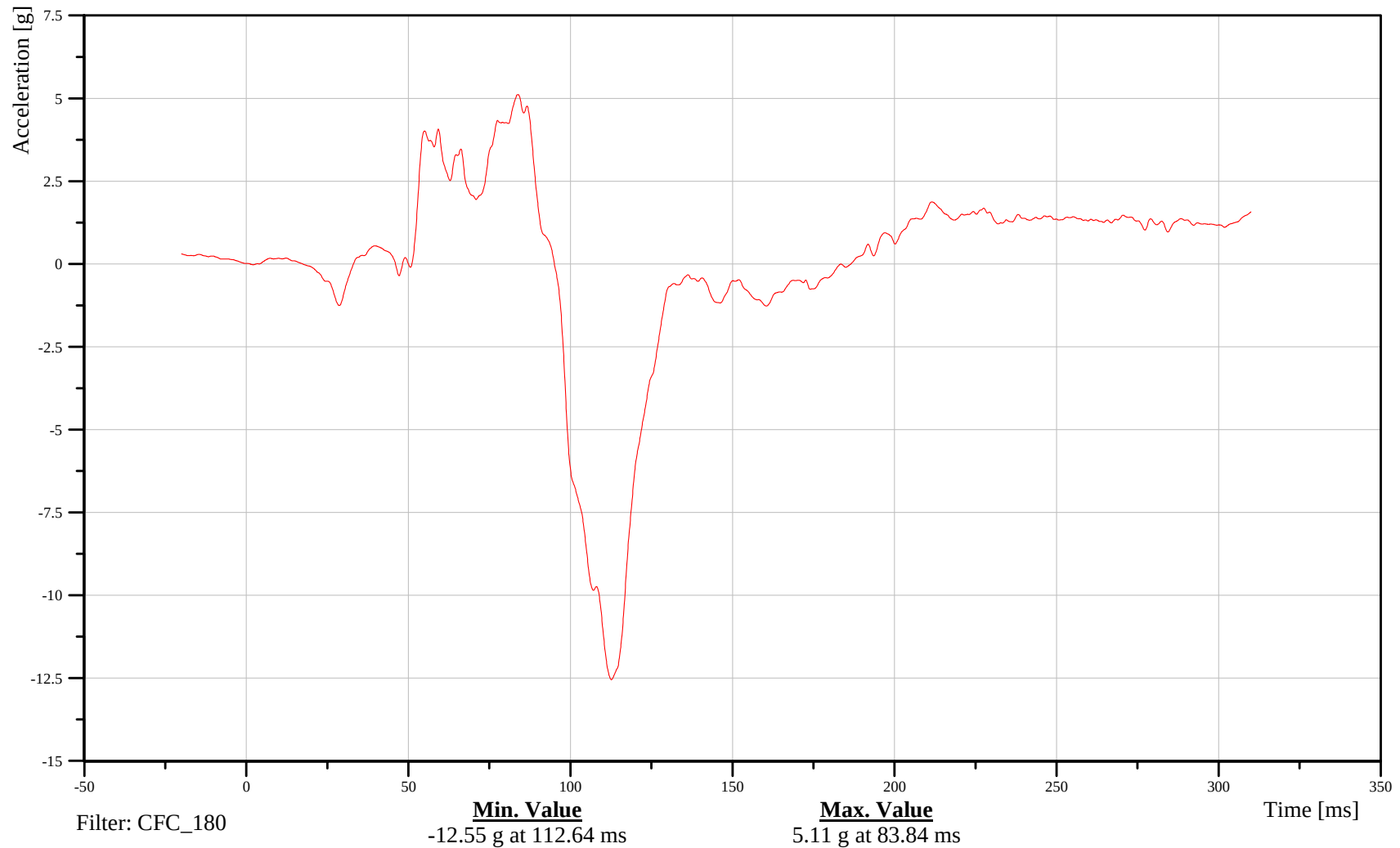
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13CHSTCGRDHFACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-103

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest Redundant Resultant Acceleration

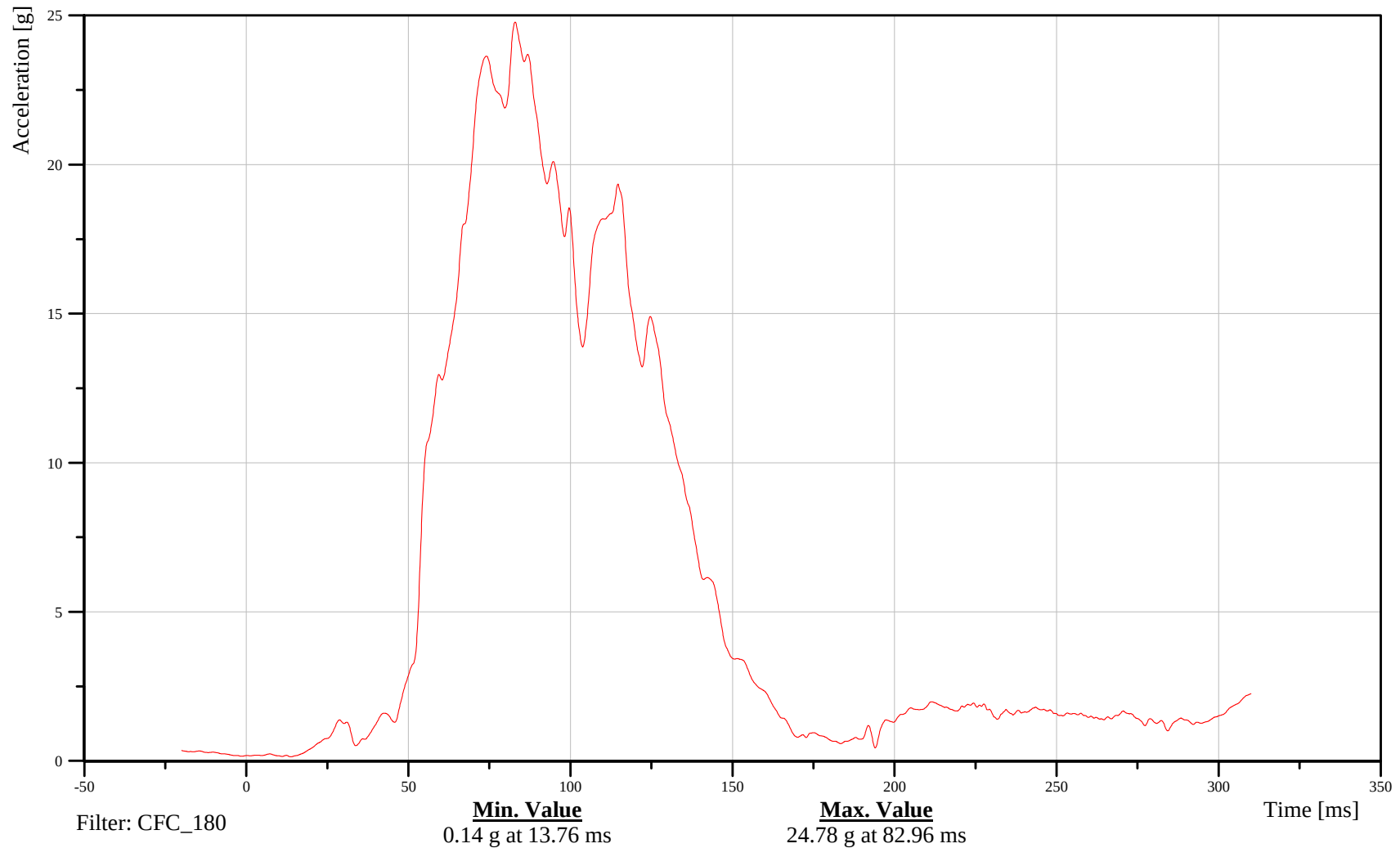
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13CHSTCGRDHFACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-104

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Chest X-Axis Displacement

Date: 11/06/2009

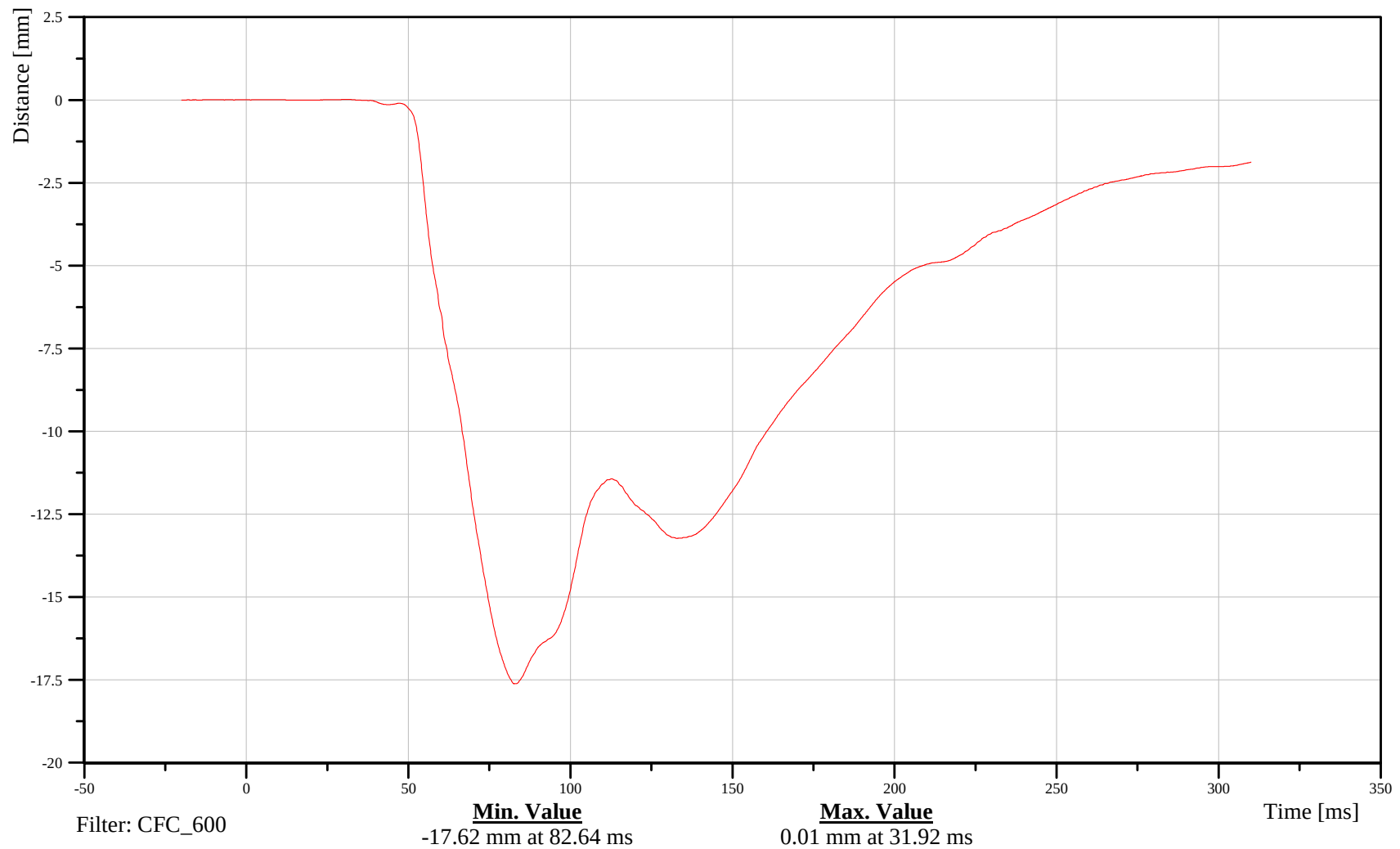
Time: 14:32

Customer: VRTC

13CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-105

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

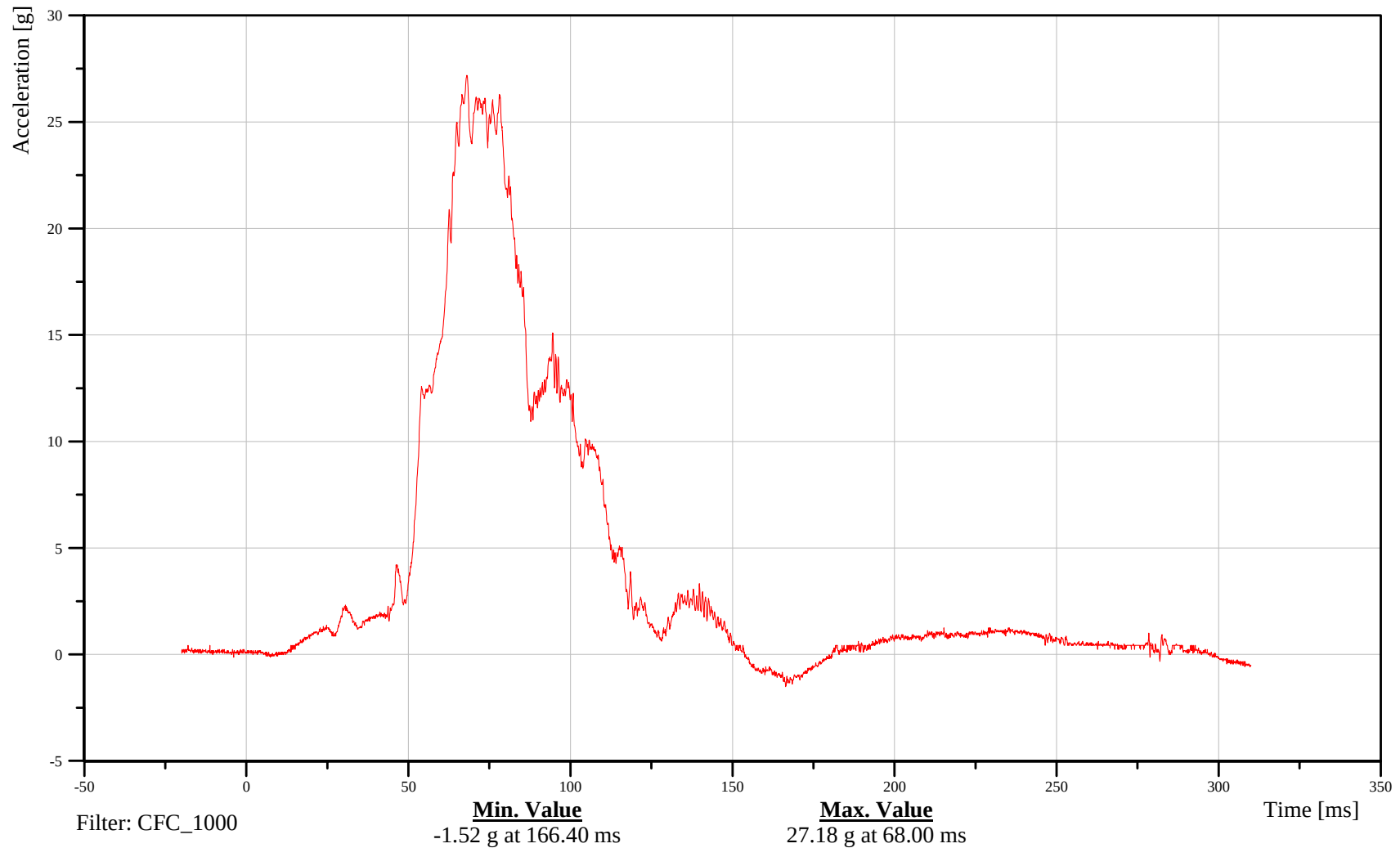
Bullet Vehicle Right Front Passenger Pelvis X-Axis Acceleration

Customer: VRTC

13PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-106

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

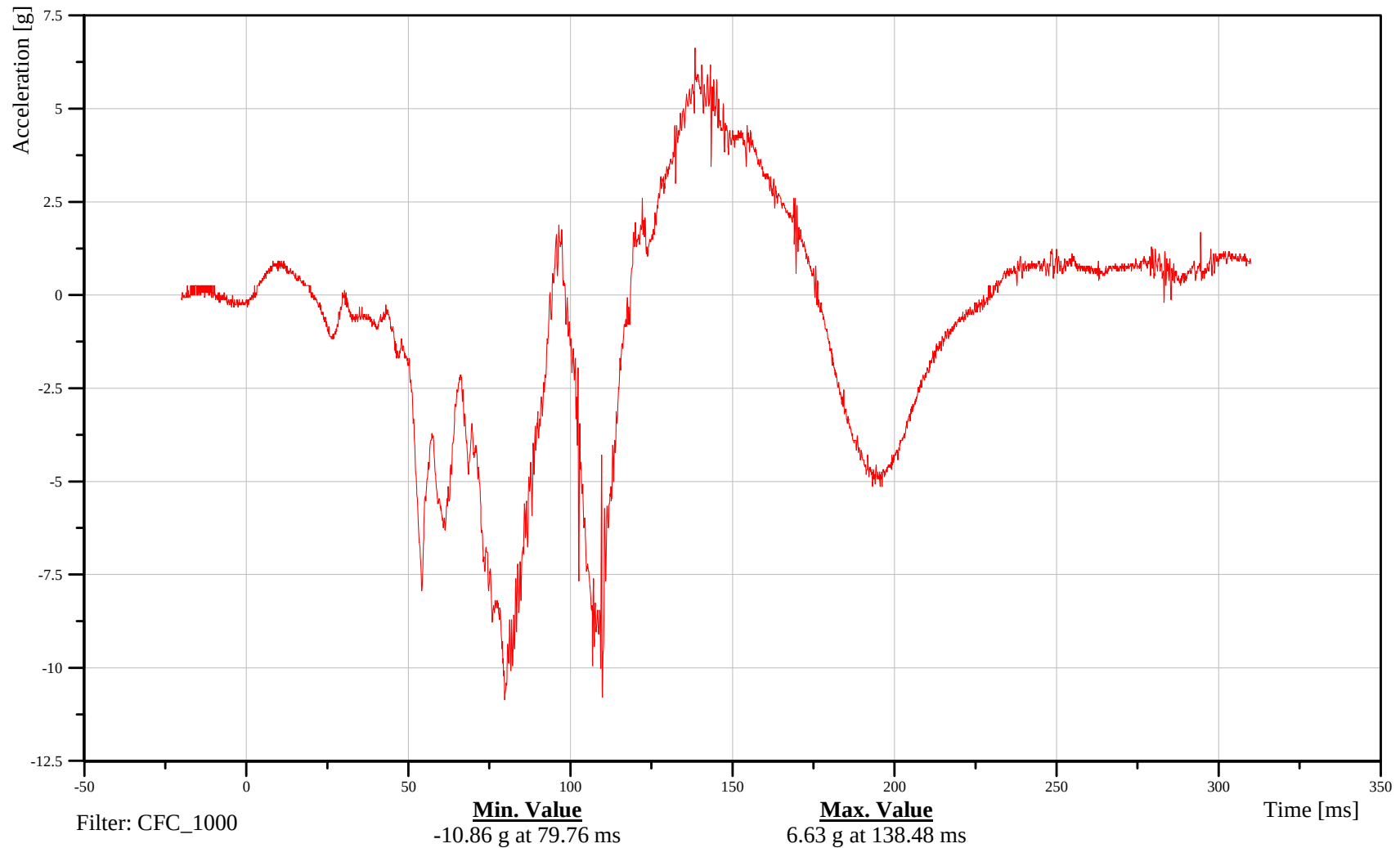
Bullet Vehicle Right Front Passenger Pelvis Y-Axis Acceleration

Customer: VRTC

13PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-107

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Pelvis Z-Axis Acceleration

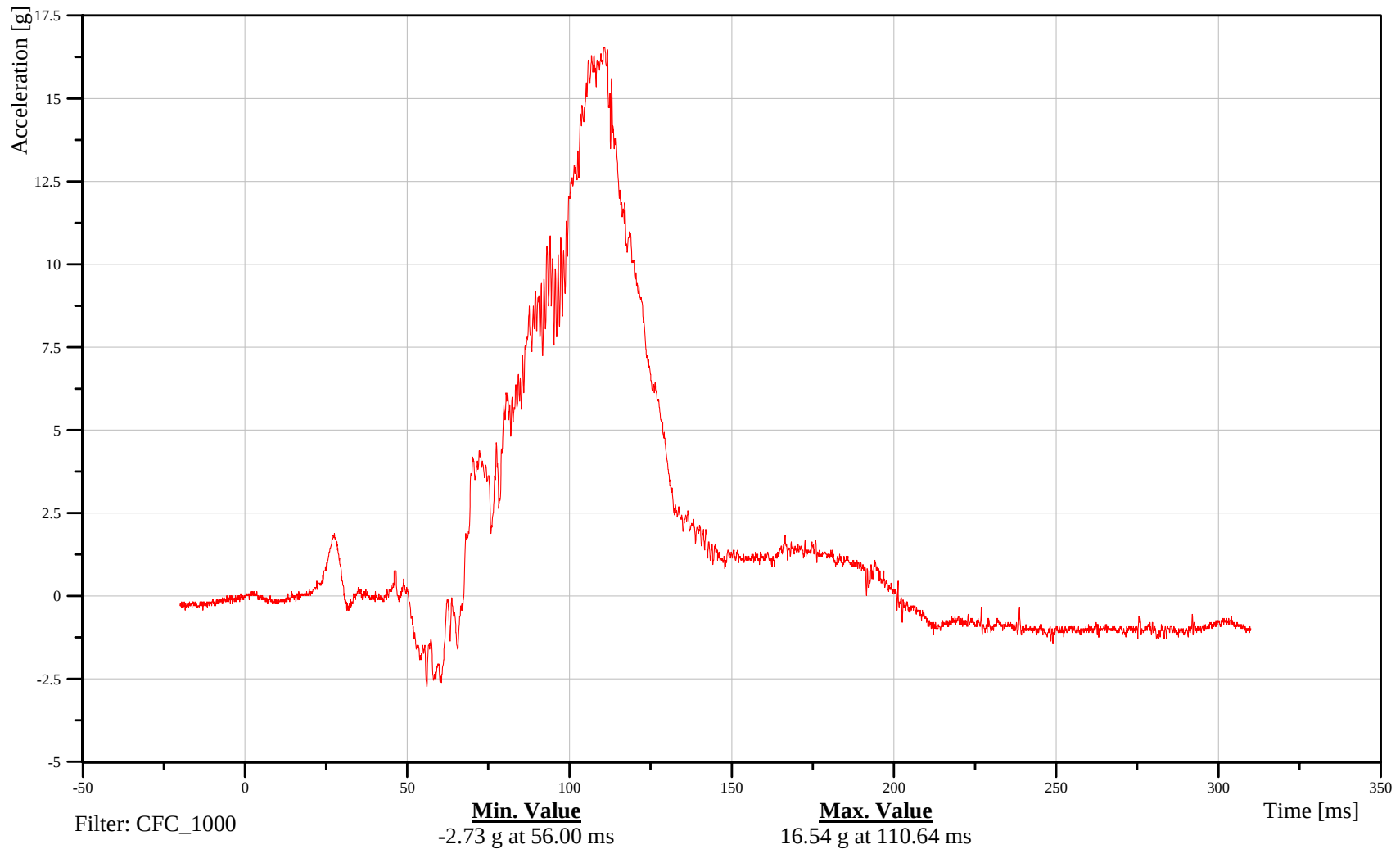
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-108

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Pelvis Resultant Acceleration

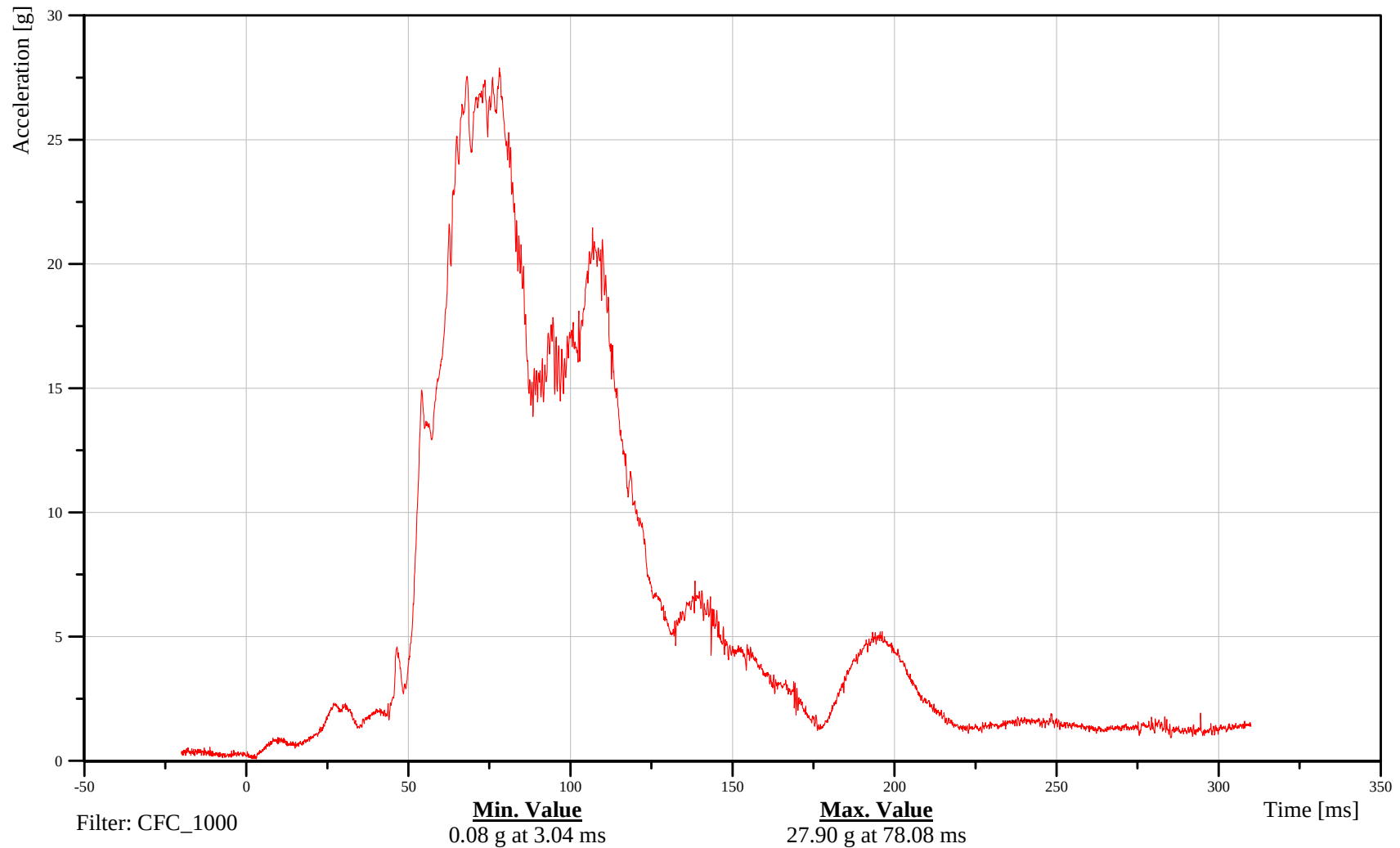
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-109

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Left Femur Z-Axis Force

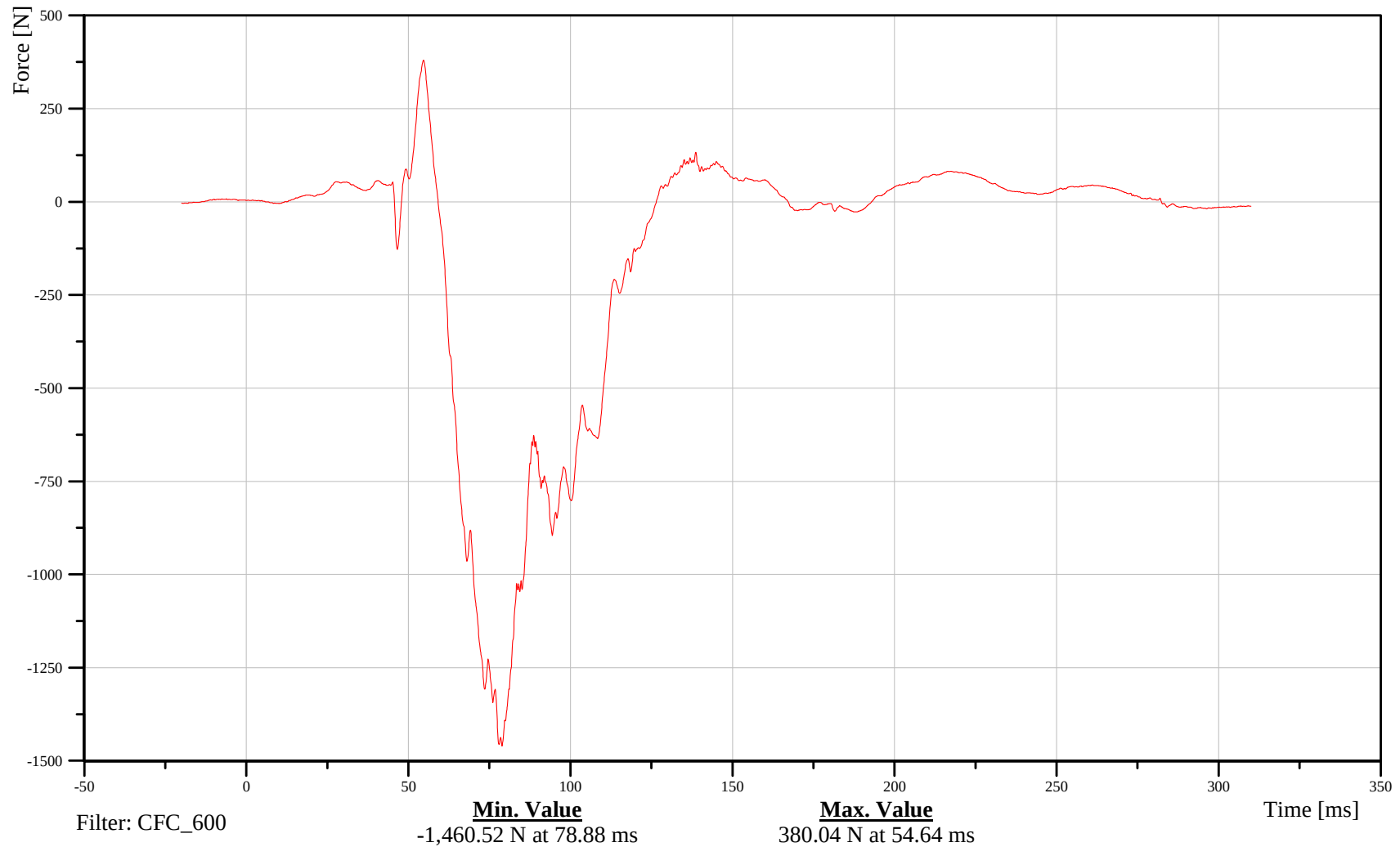
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FEMRLU00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-110

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Right Femur Z-Axis Force

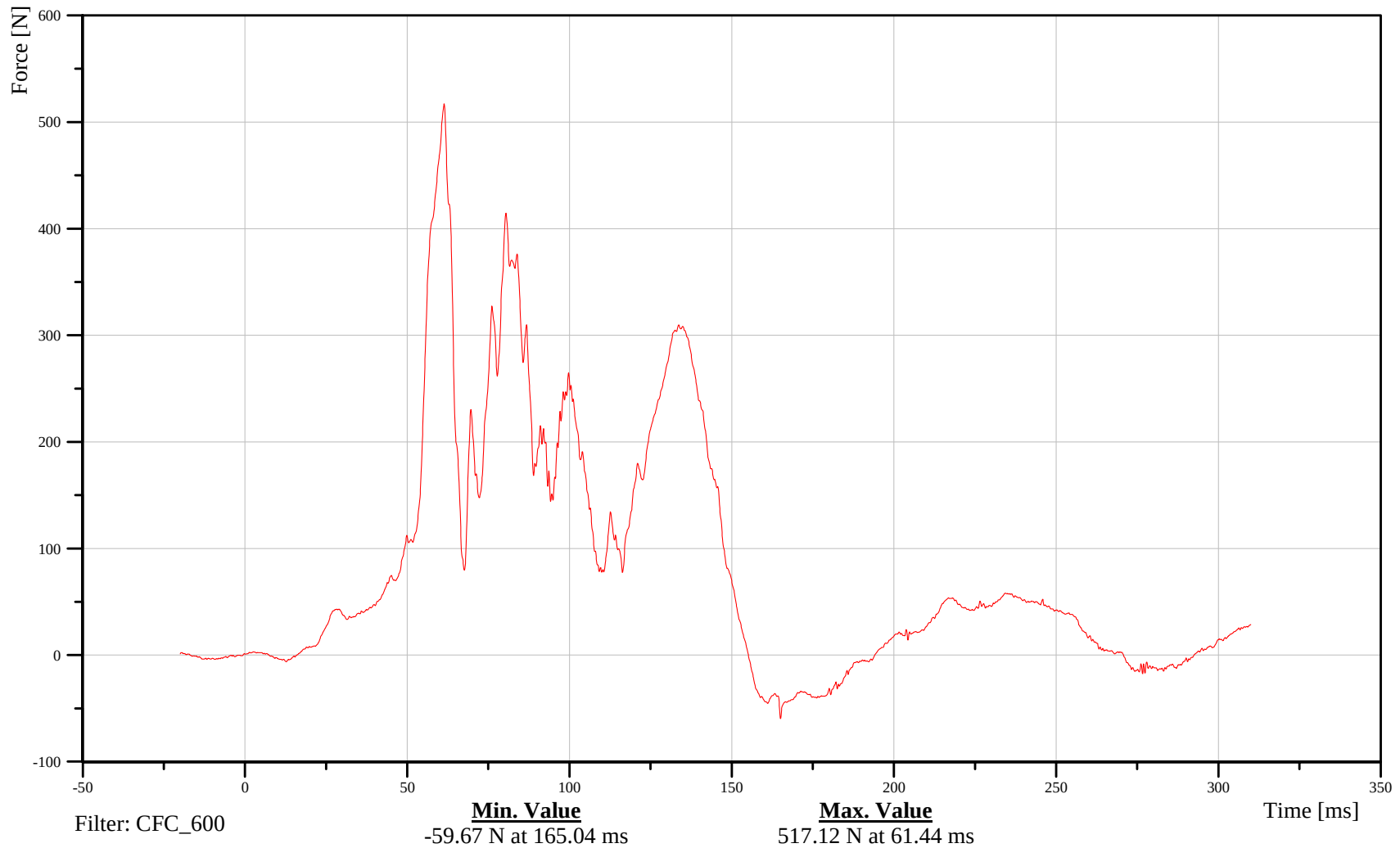
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FEMRRU00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-111

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

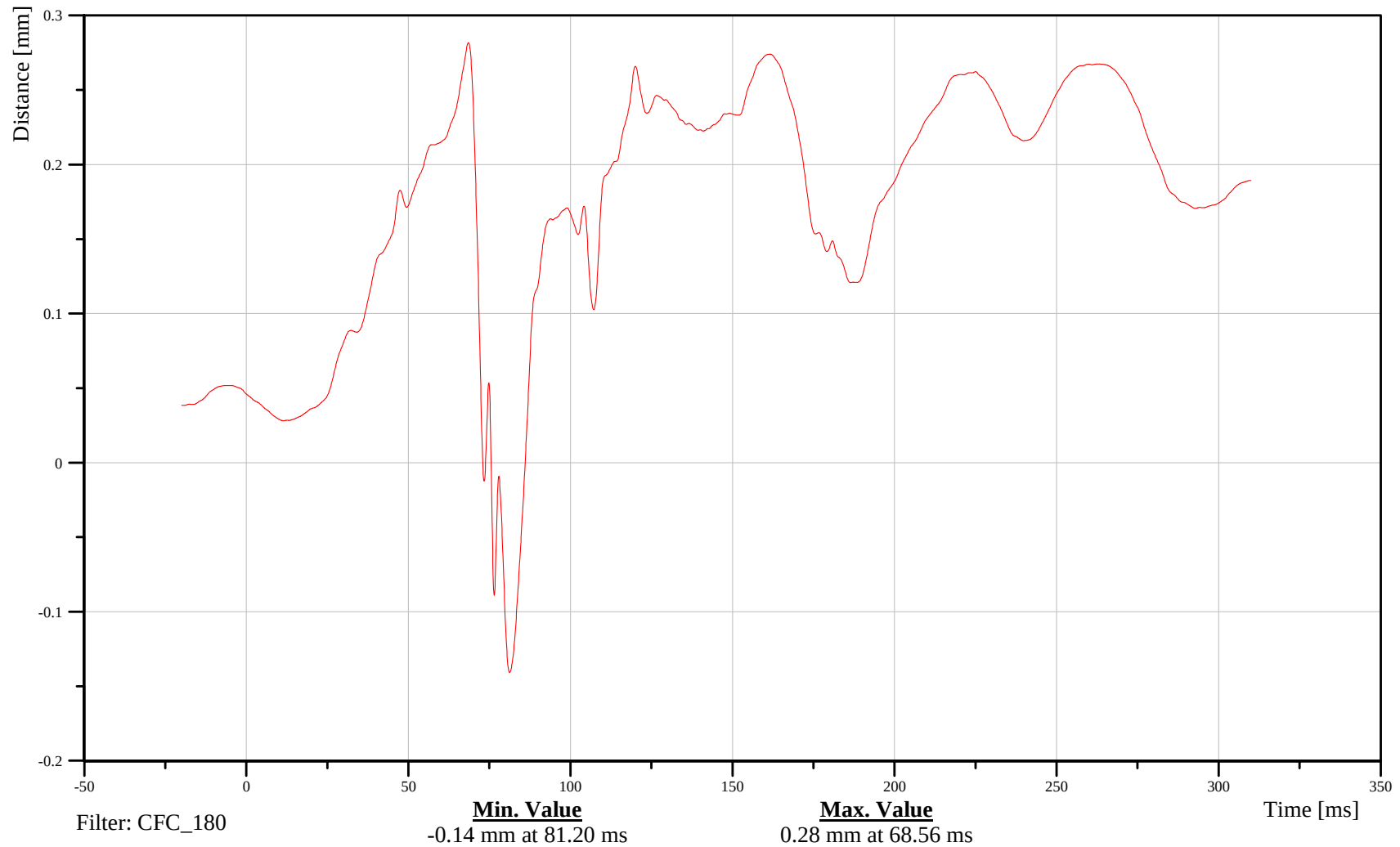
Bullet Vehicle Right Front Passenger Left Knee X-Axis Displacement

Customer: VRTC

13KNSLLE00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-112

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

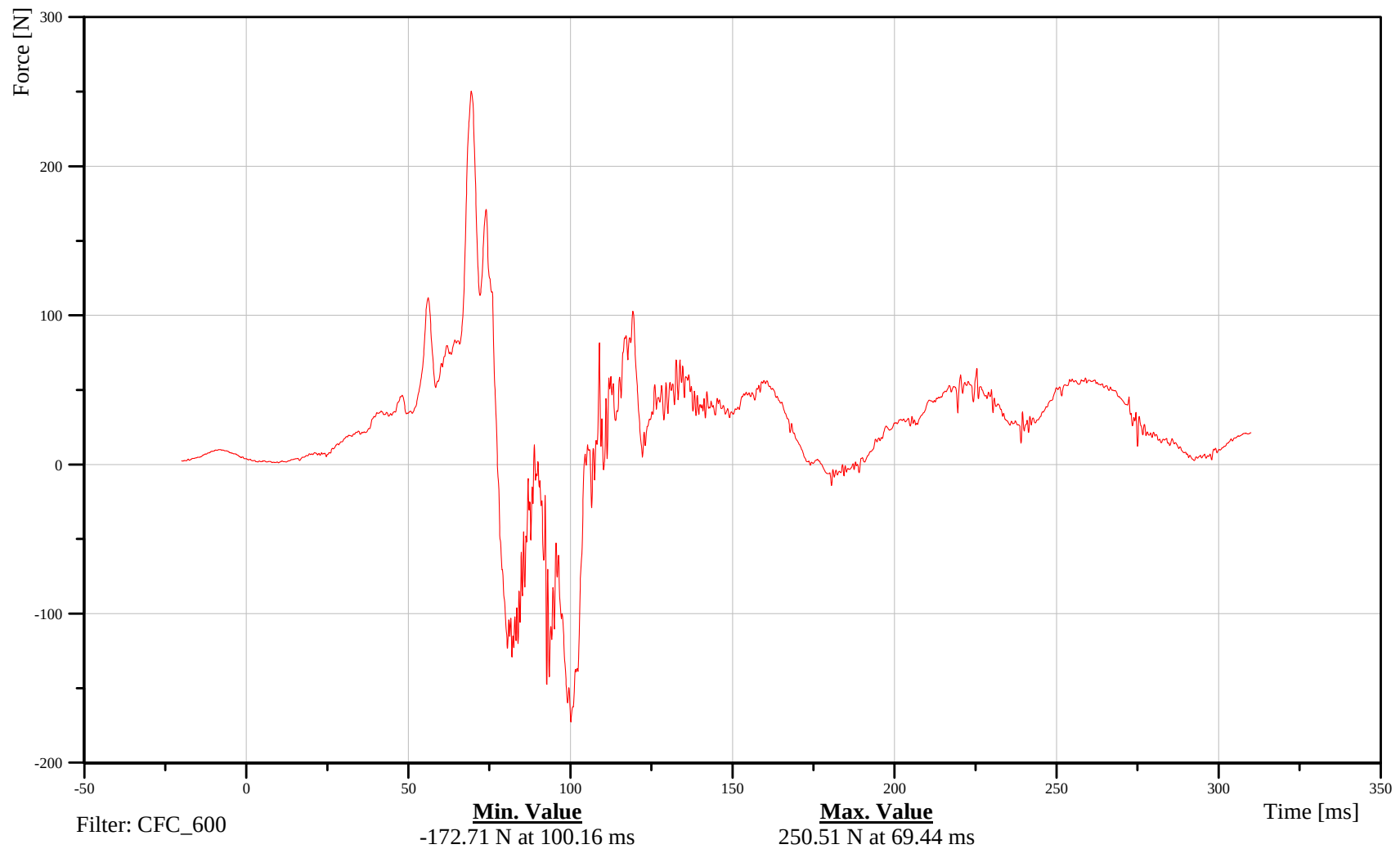
Bullet Vehicle Right Front Passenger Left Upper Tibia X-Axis Force

Customer: VRTC

13TIBILULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-113

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

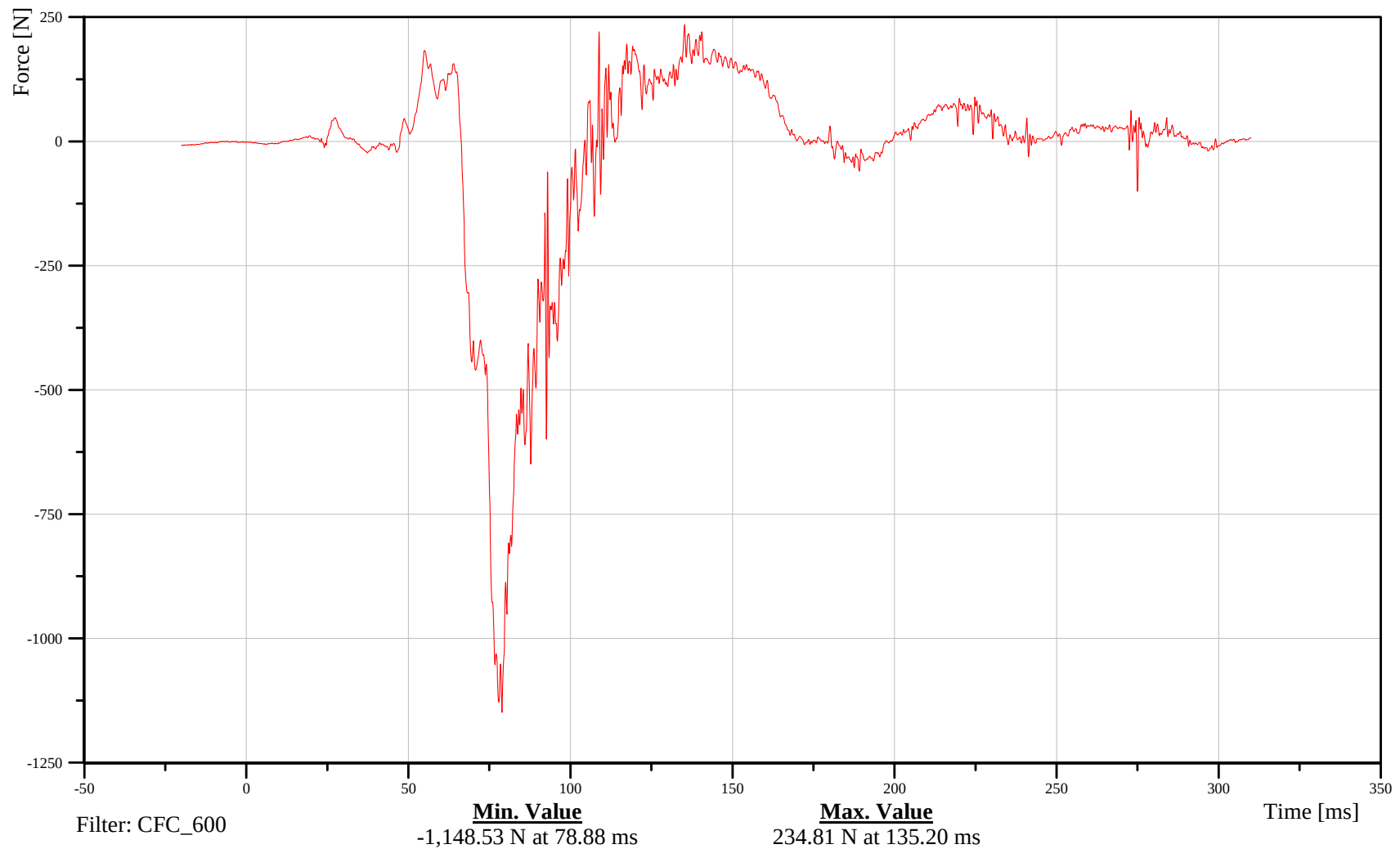
Bullet Vehicle Right Front Passenger Left Upper Tibia Z-Axis Force

Customer: VRTC

13TIBILULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-114

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Left Upper Tibia Moment About X Axis

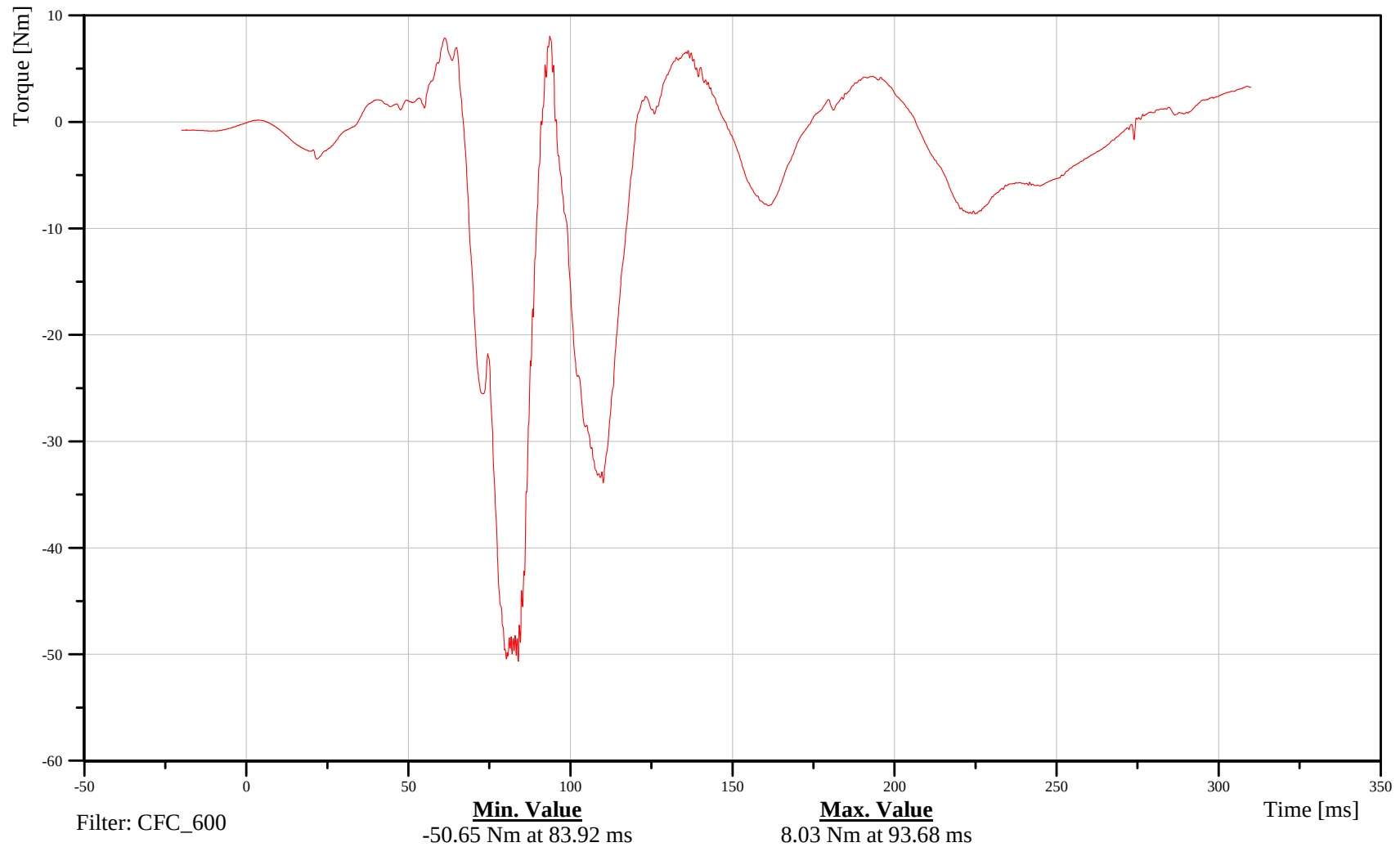
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBILULXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-115

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Left Upper Tibia Moment About Y Axis

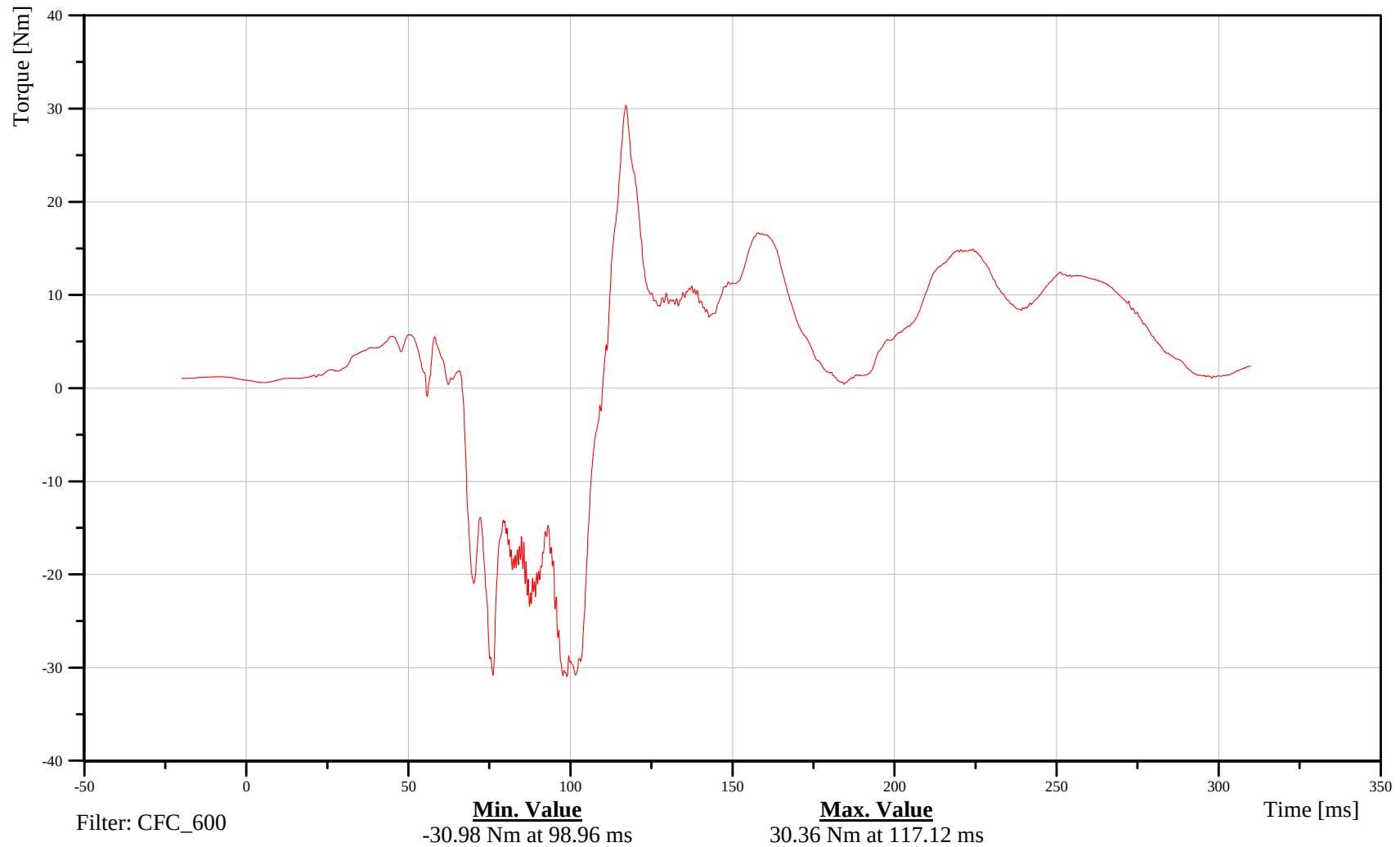
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBILULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-116

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

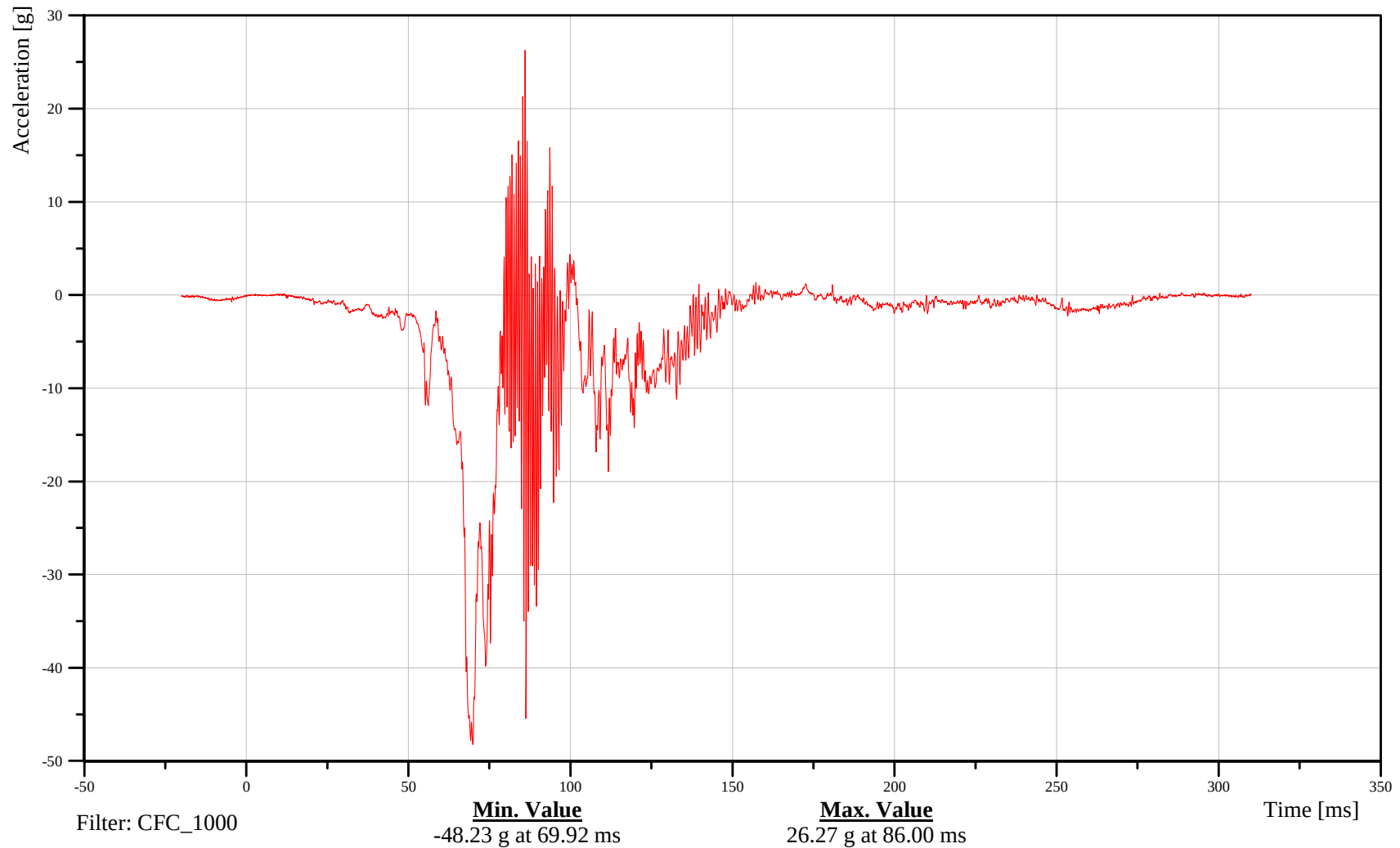
Bullet Vehicle Right Front Passenger Left Tibia X-Axis Acceleration

Customer: VRTC

13TIBILELXHFA C XA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-117

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

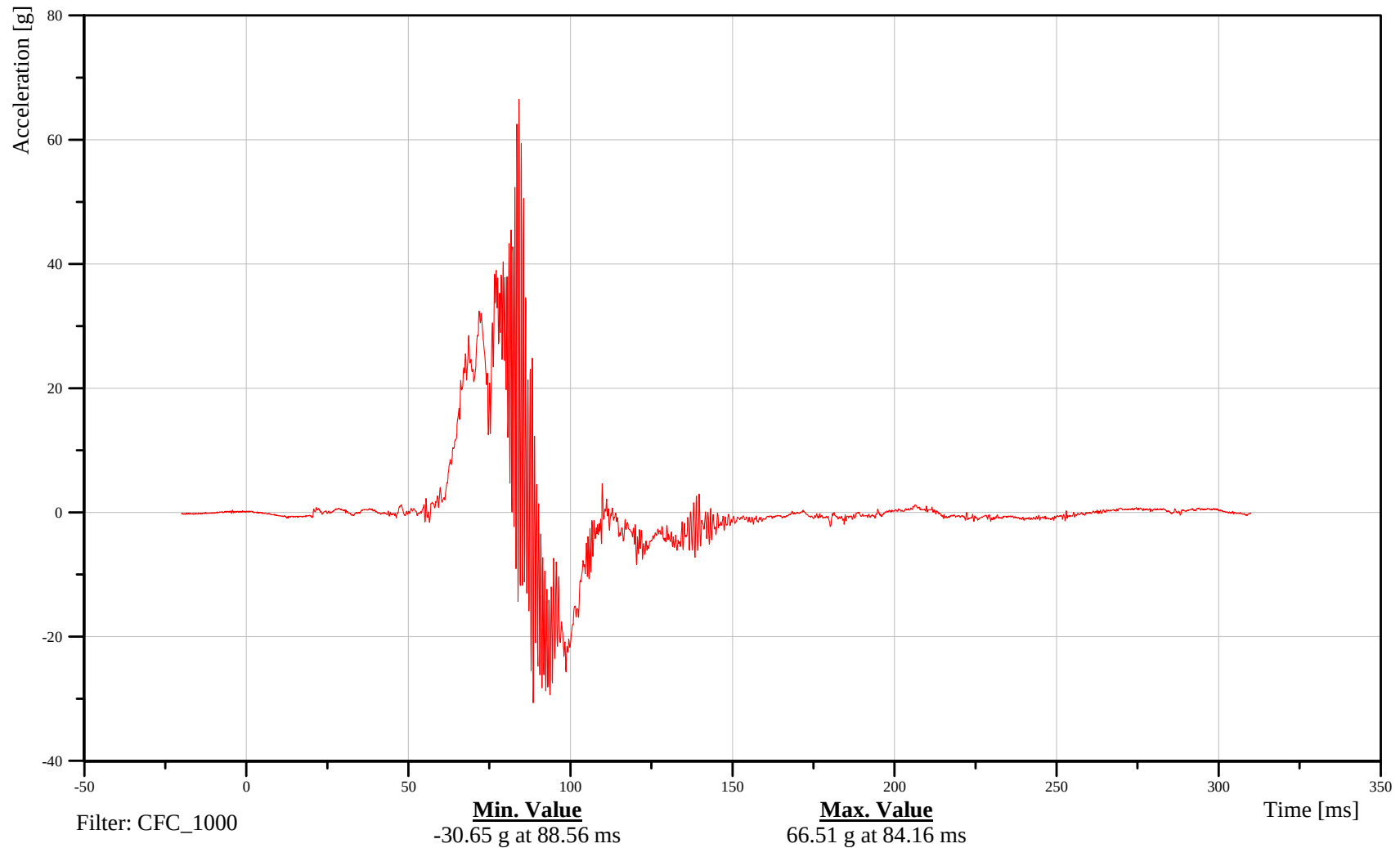
Bullet Vehicle Right Front Passenger Left Tibia Y-Axis Acceleration

Customer: VRTC

13TIBILELXHFACTYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-118

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

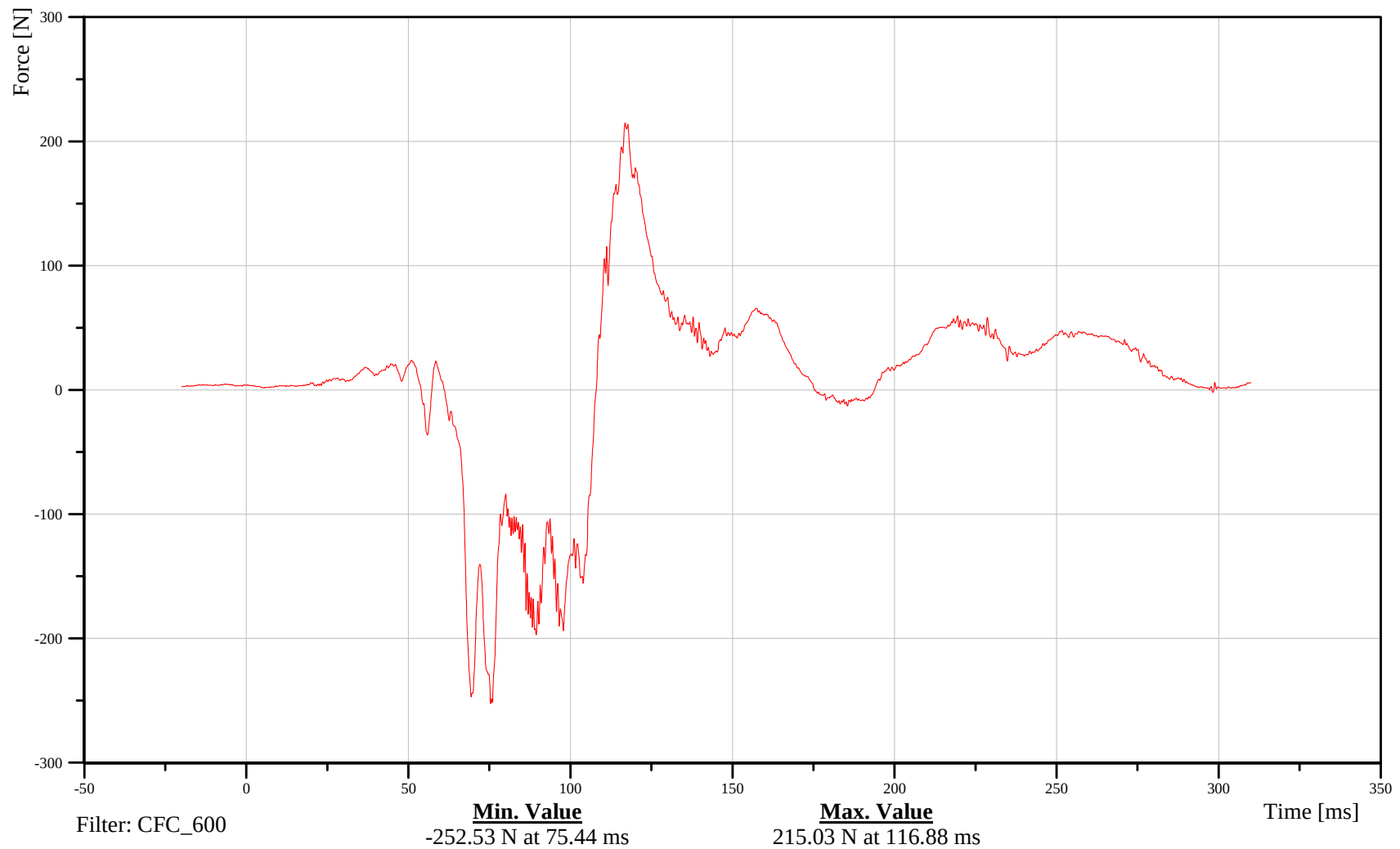
Bullet Vehicle Right Front Passenger Left Lower Tibia X-Axis Force

Customer: VRTC

13TIBILLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-119

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

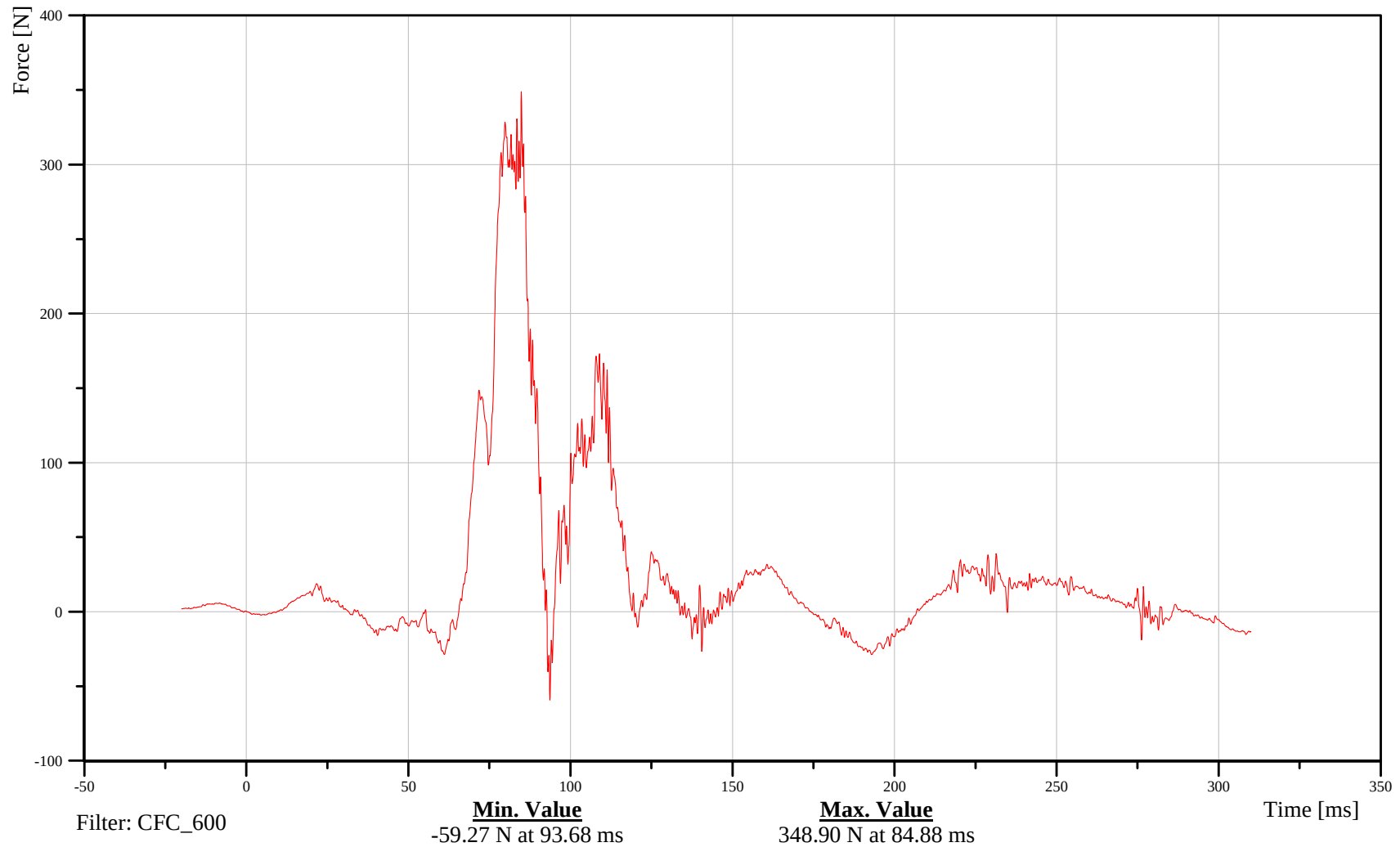
Bullet Vehicle Right Front Passenger Left Lower Tibia Y-Axis Force

Customer: VRTC

13TIBILLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-120

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Left Lower Tibia Z-Axis Force

Date: 11/06/2009

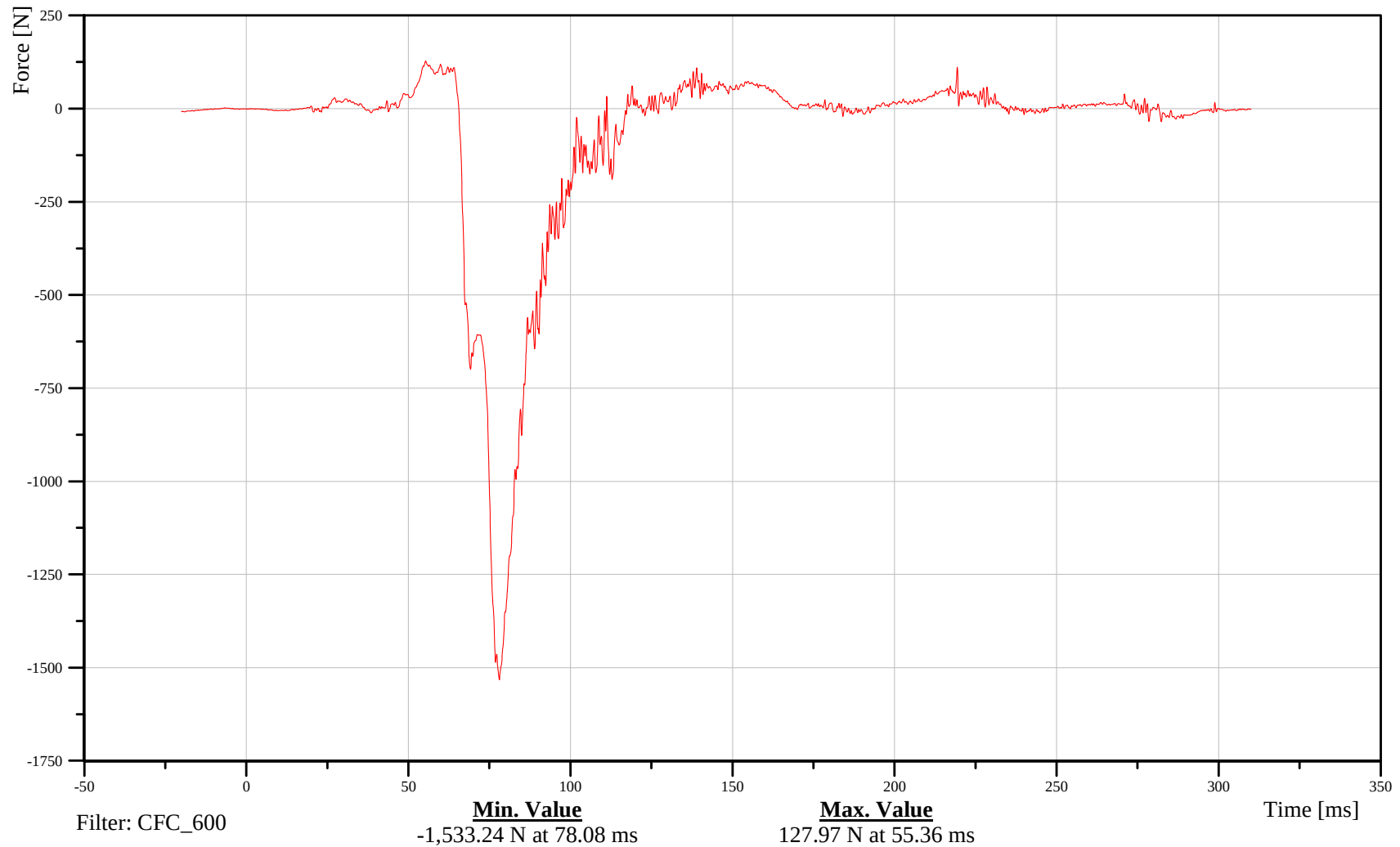
Time: 14:32

Customer: VRTC

13TIBILLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-121

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Left Lower Tibia Moment About X Axis

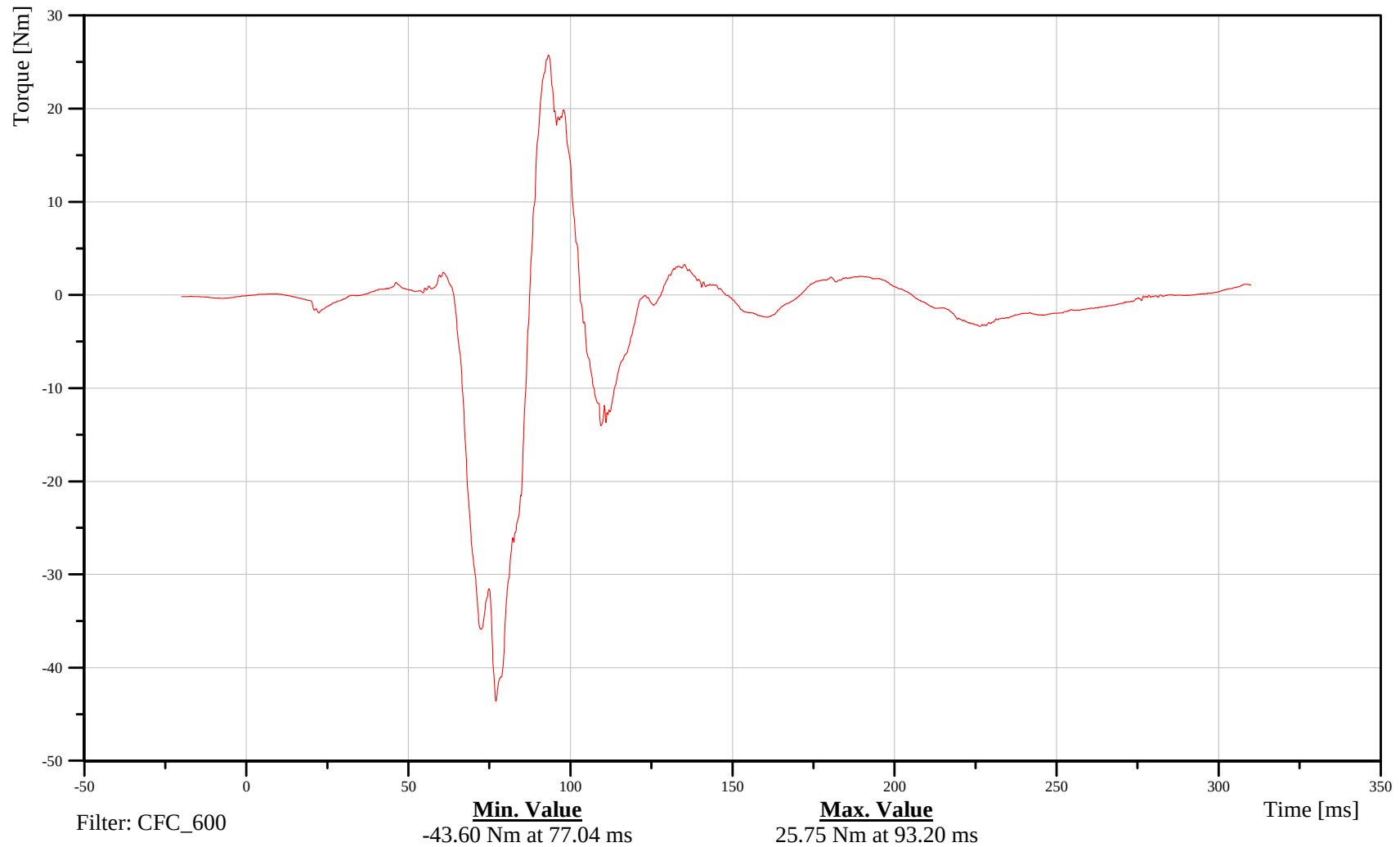
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBILLXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-122

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Left Lower Tibia Moment About Y Axis

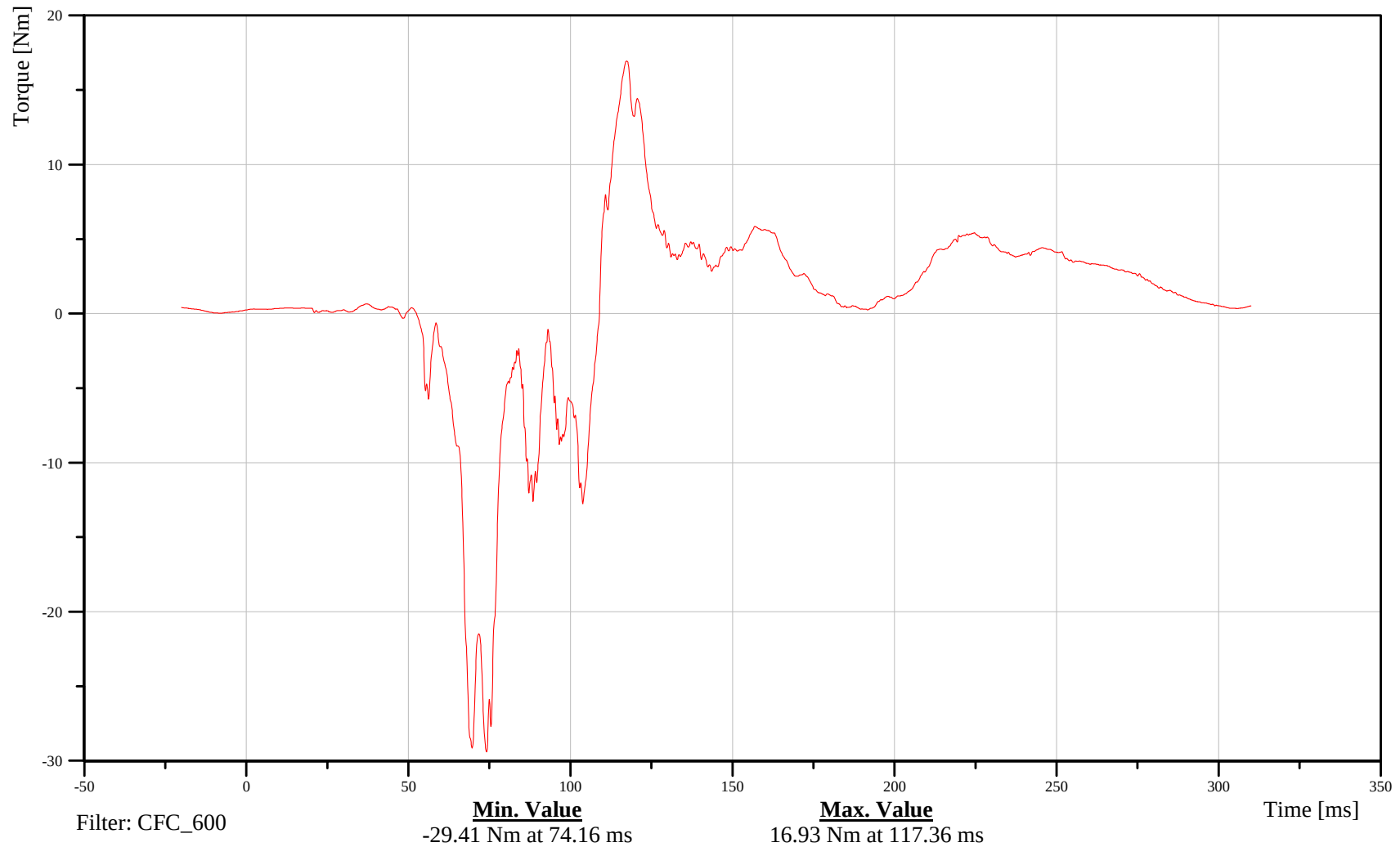
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBILLXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-123

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Left Foot X-Axis Angular Displacement

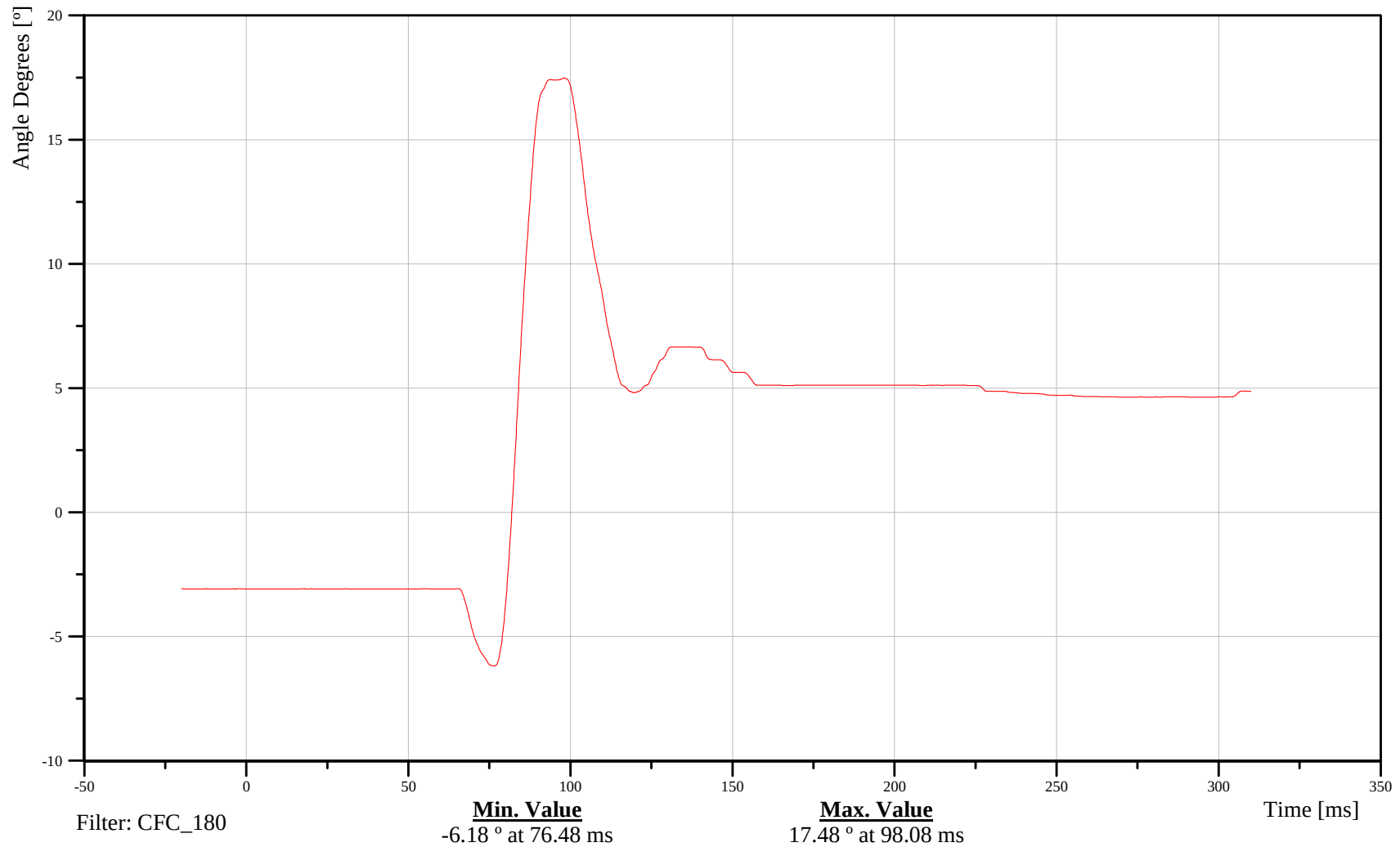
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTLELXHFXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-124

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Left Foot Y-Axis Angular Displacement

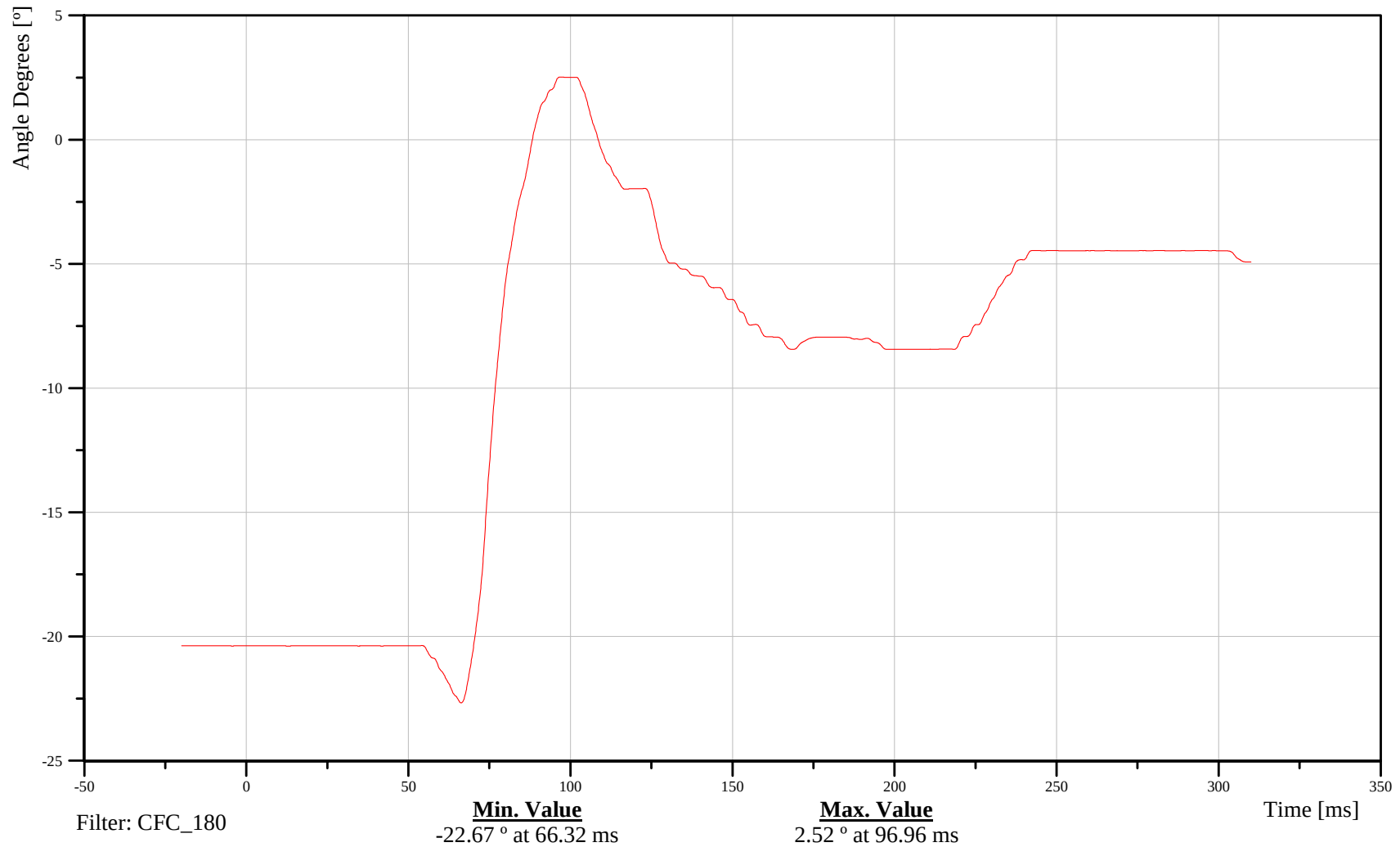
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTLELXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-125

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Left Foot Z-Axis Angular Displacement

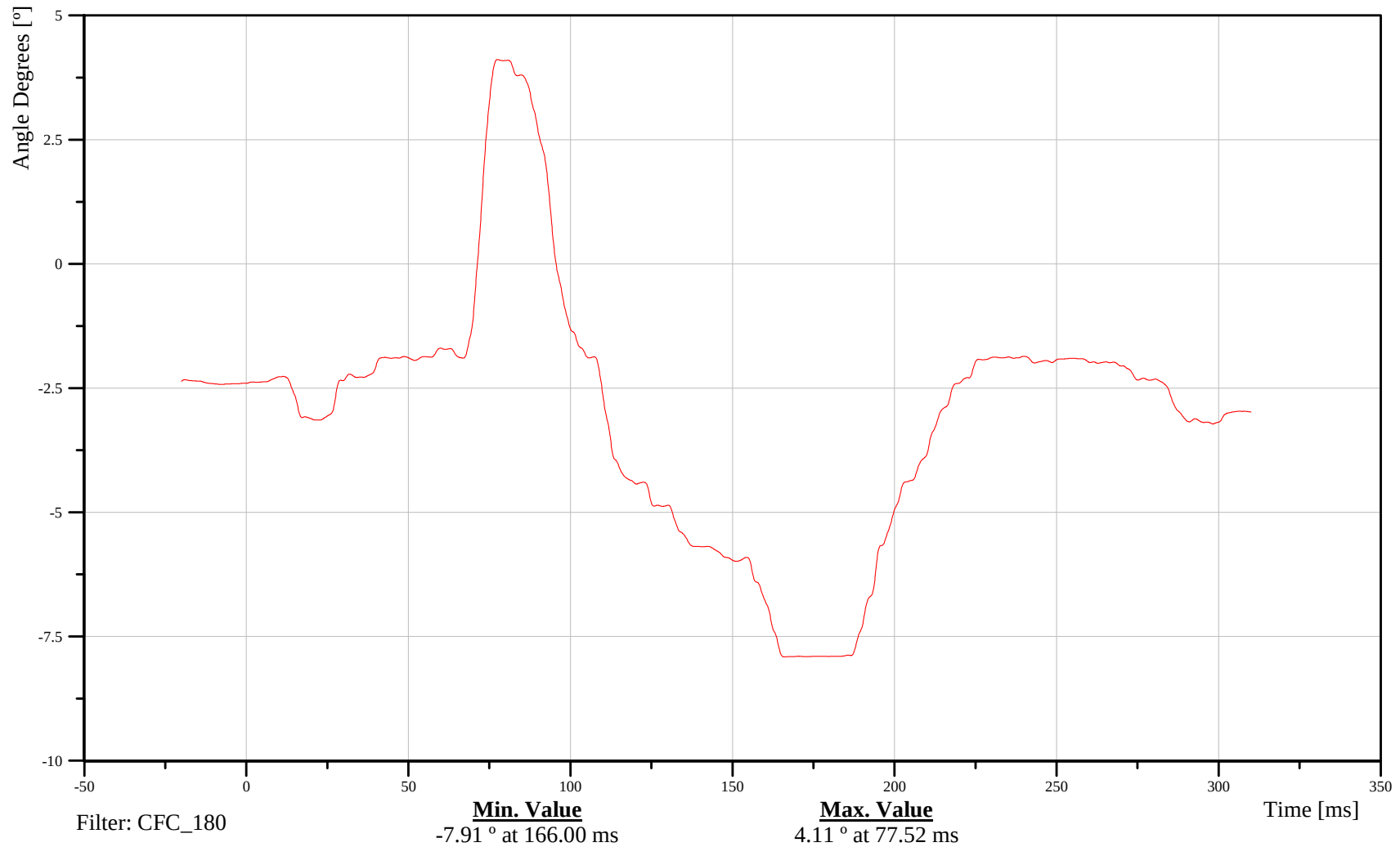
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTLELXH FANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-126

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

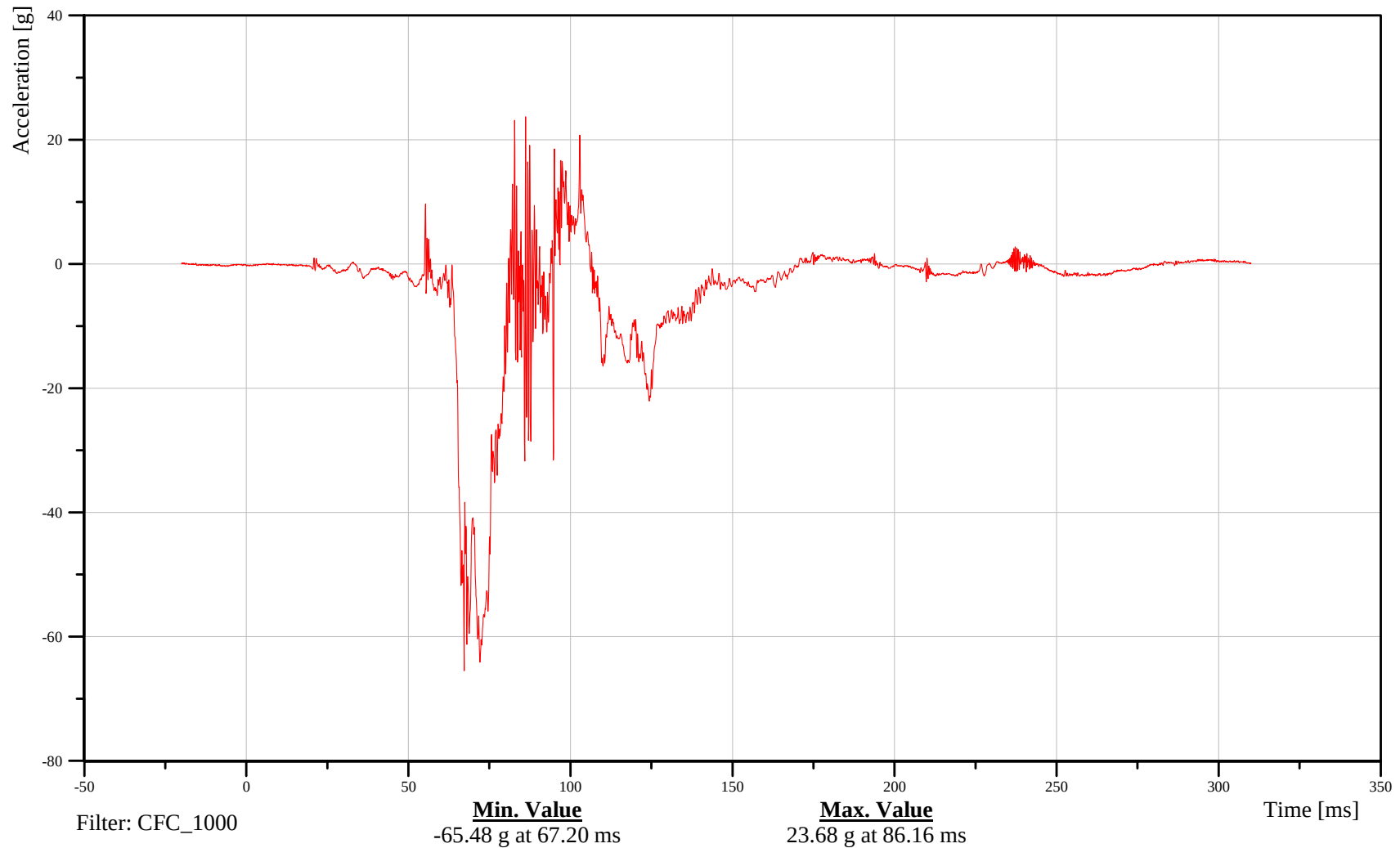
Bullet Vehicle Right Front Passenger Left Foot X-Axis Acceleration

Customer: VRTC

13FOOTLELXHFA C XA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-127

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

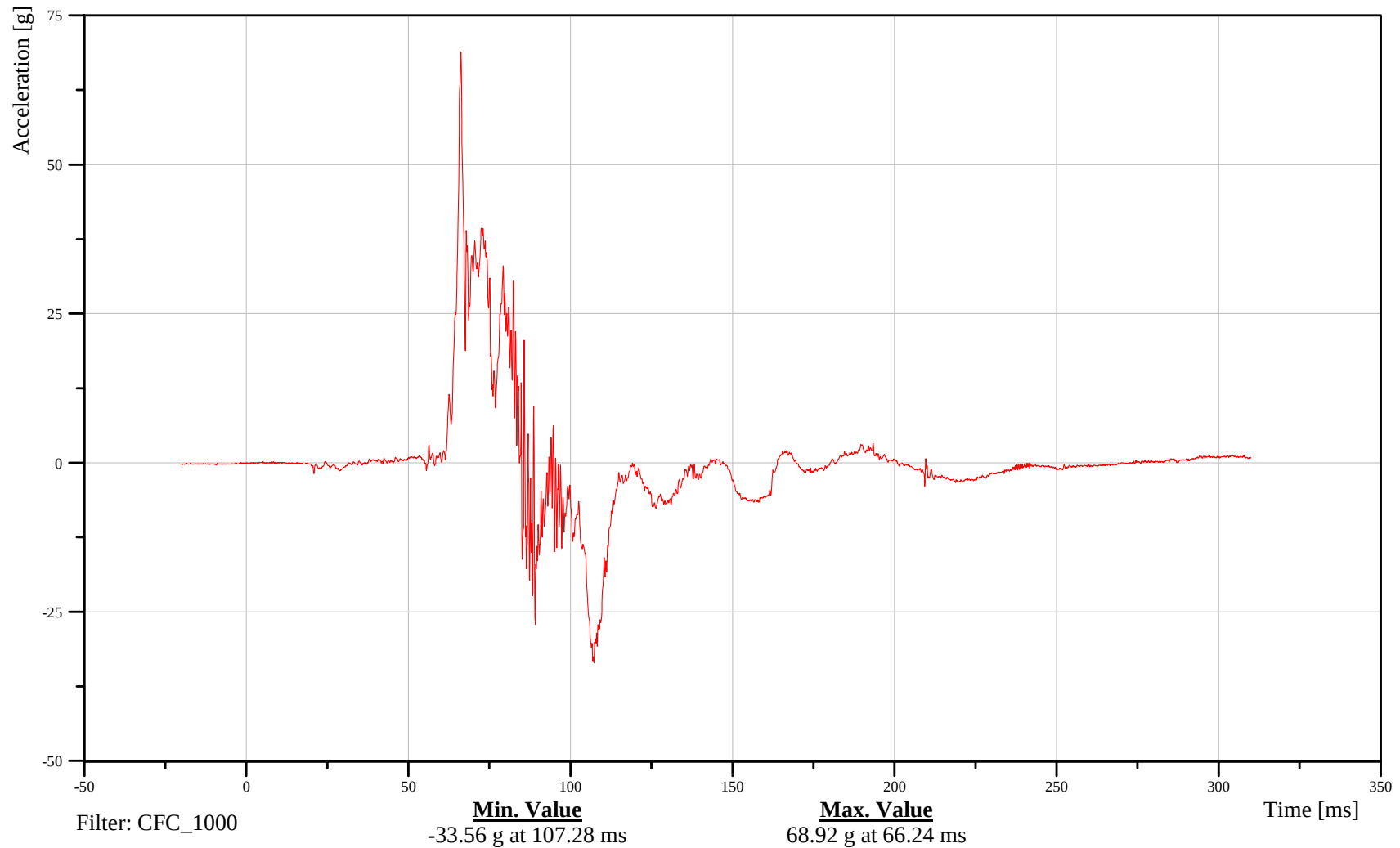
Bullet Vehicle Right Front Passenger Left Foot Y-Axis Acceleration

Customer: VRTC

13FOOTLELXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-128

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

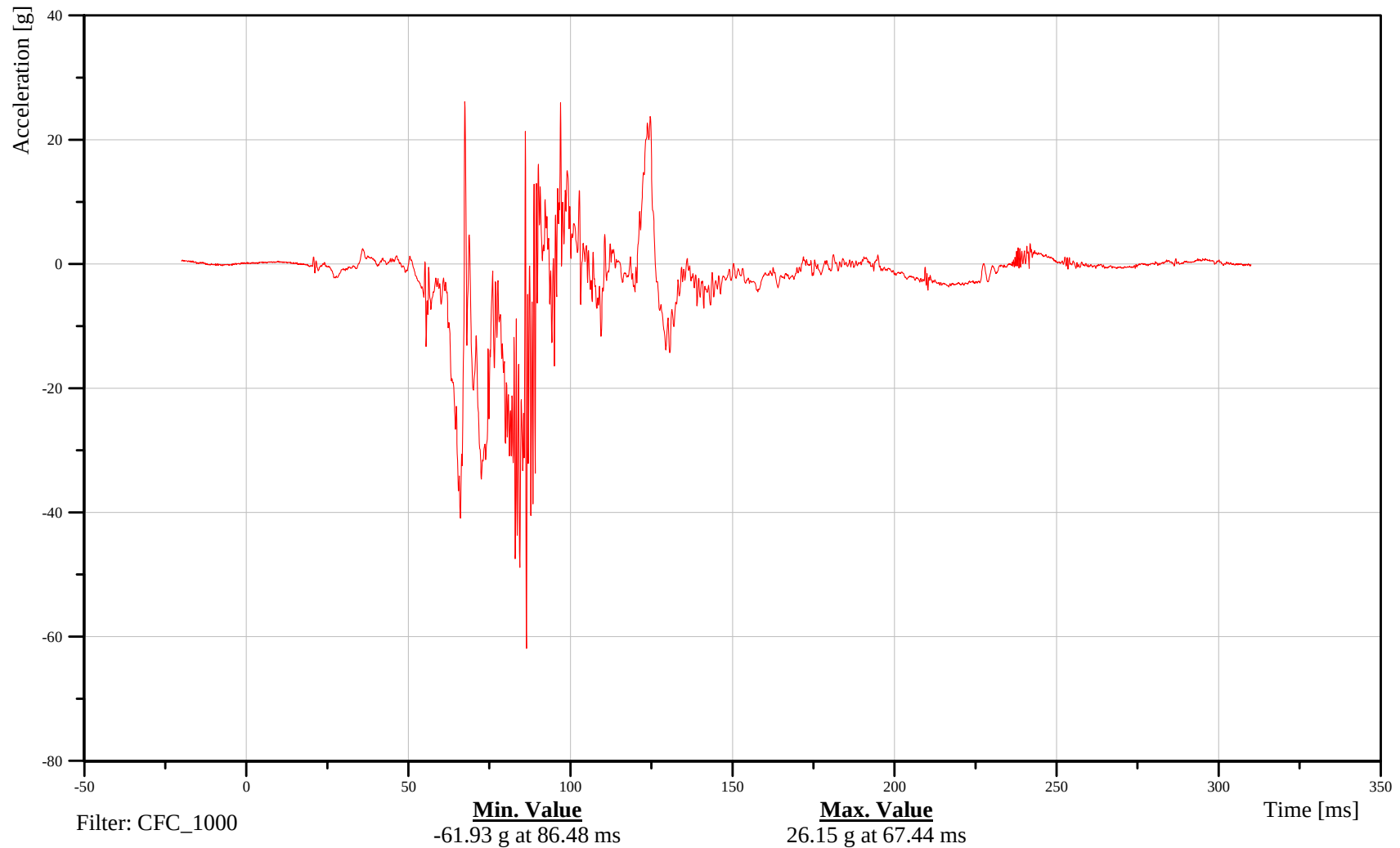
Bullet Vehicle Right Front Passenger Left Foot Z-Axis Acceleration

Customer: VRTC

13FOOTLELXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-129

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

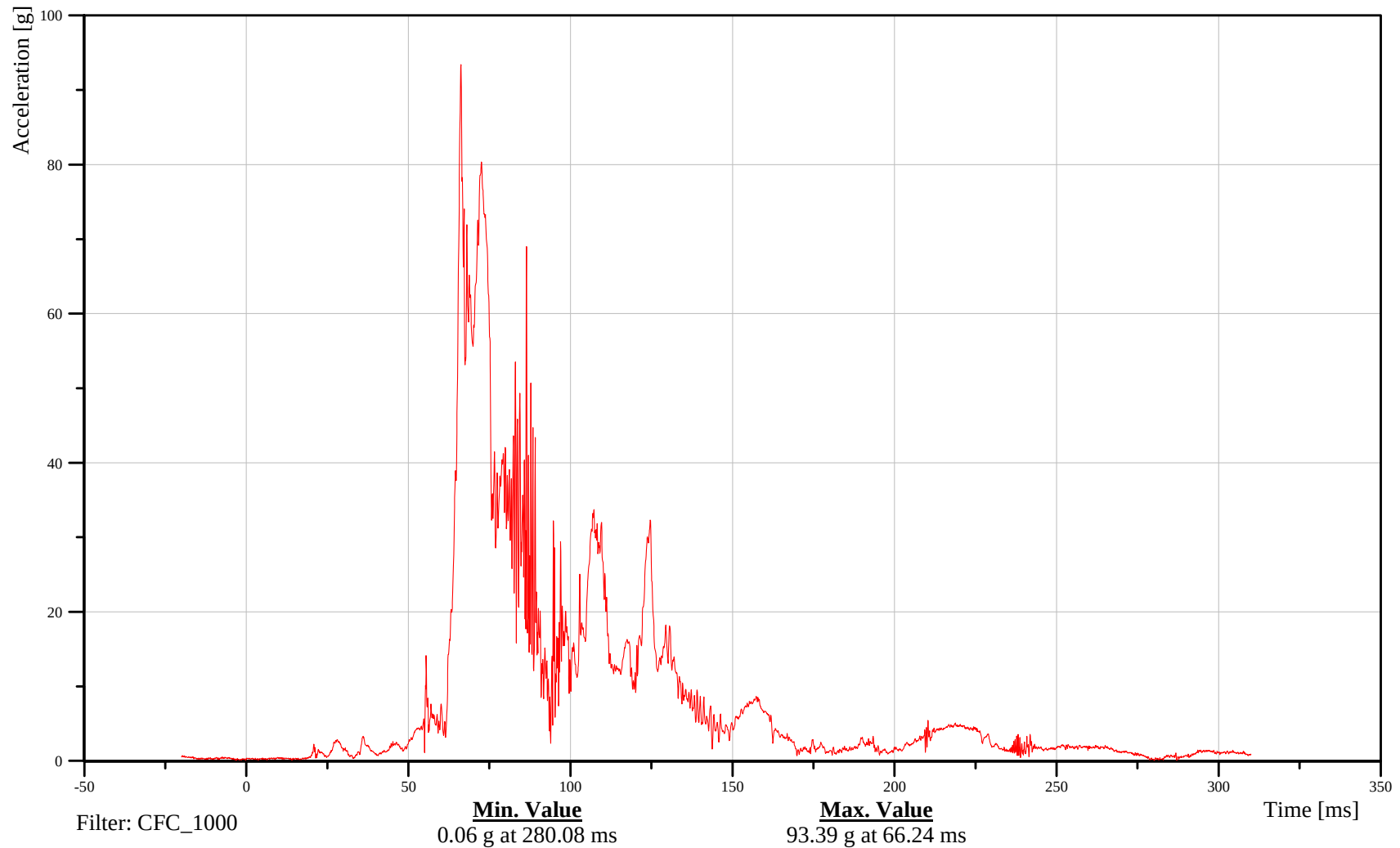
Bullet Vehicle Right Front Passenger Left Foot Resultant Acceleration

Customer: VRTC

13FOOTLELXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-130

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Right Knee X-Axis Displacement

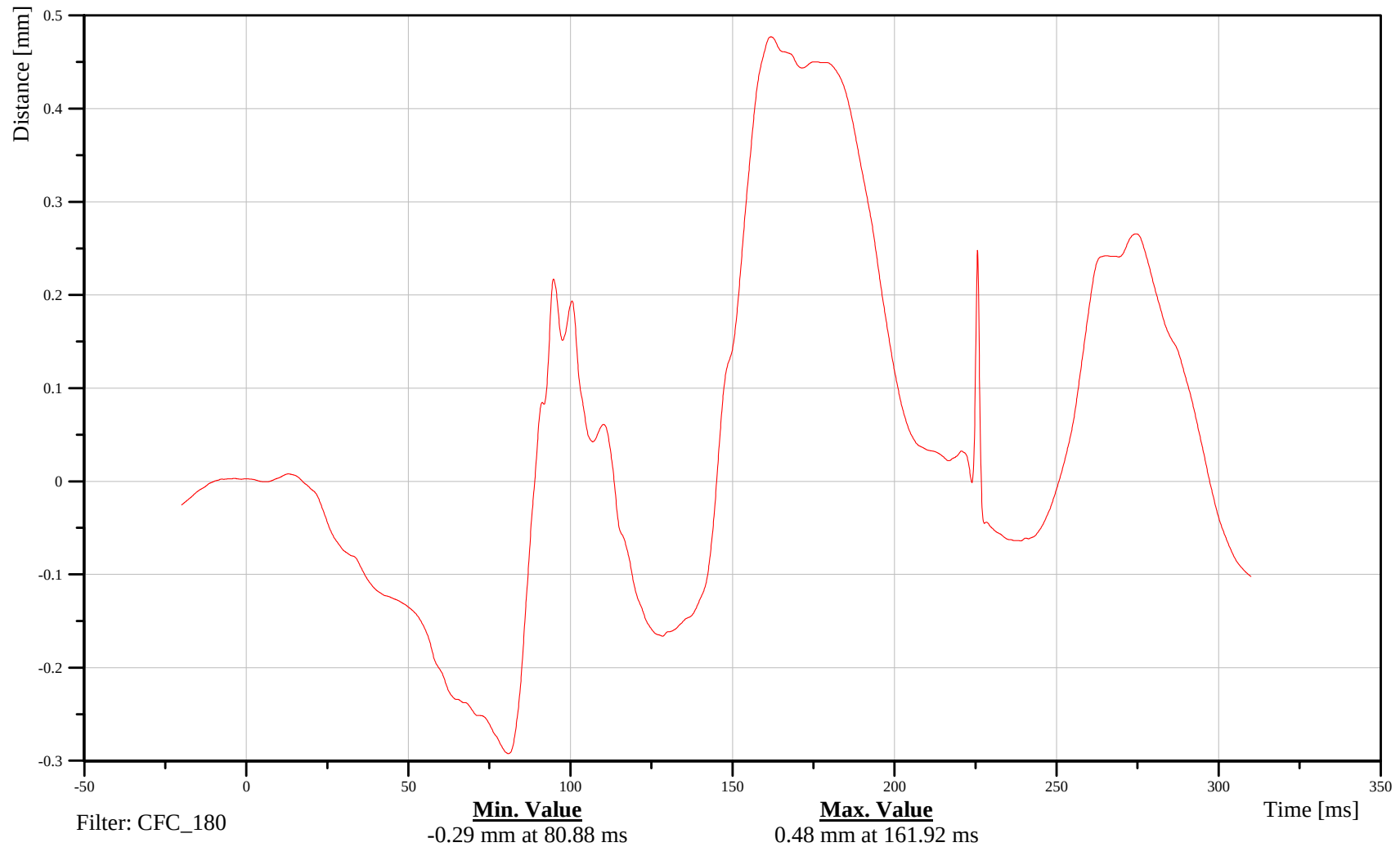
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13KNSLRI00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-131

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

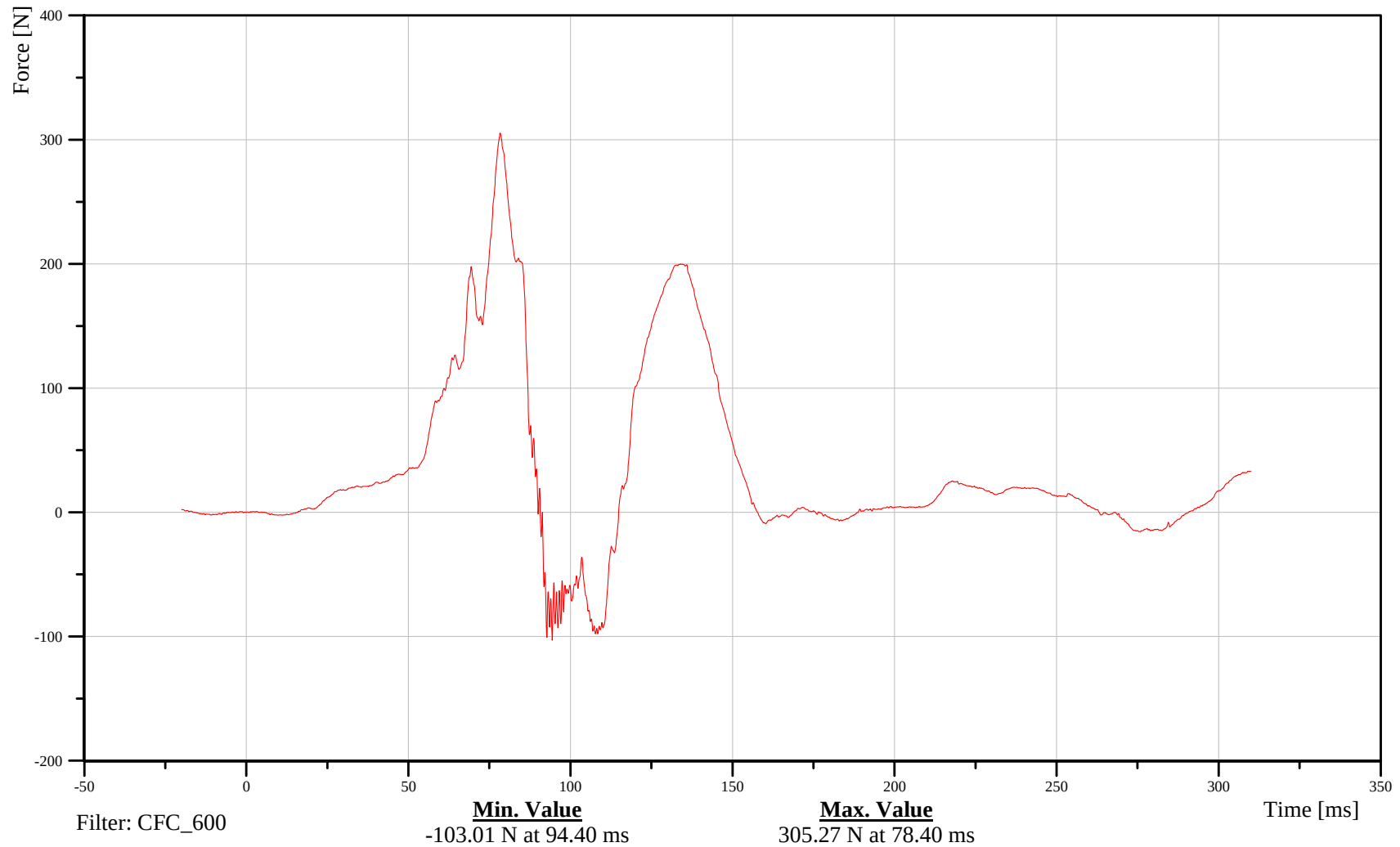
Bullet Vehicle Right Front Passenger Right Upper Tibia X-Axis Force

Customer: VRTC

13TIBIRULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-132

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

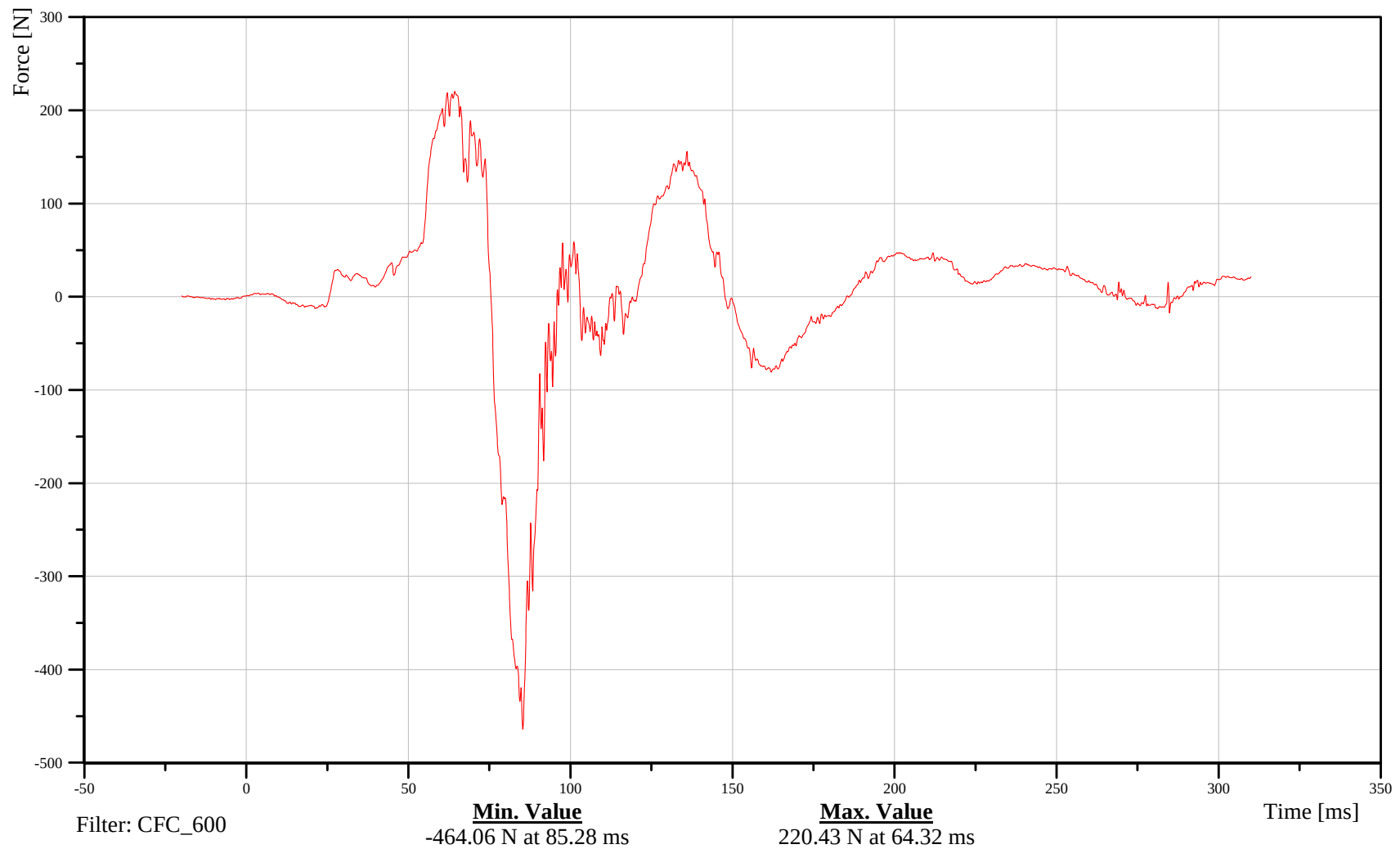
Bullet Vehicle Right Front Passenger Right Upper Tibia Z-Axis Force

Customer: VRTC

13TIBIRULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-133

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Upper Tibia Moment About X Axis

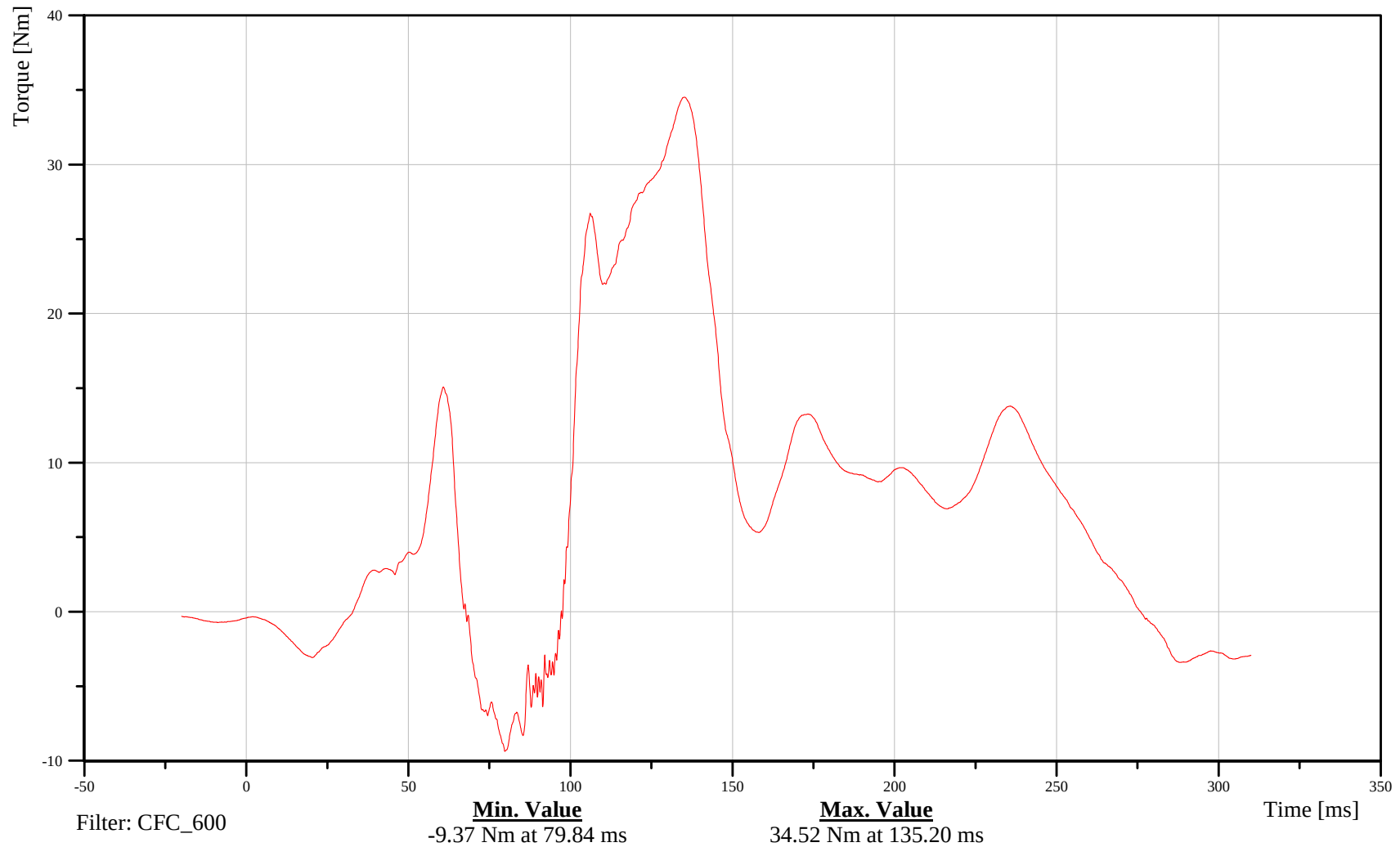
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBIRULXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-134

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Upper Tibia Moment About Y Axis

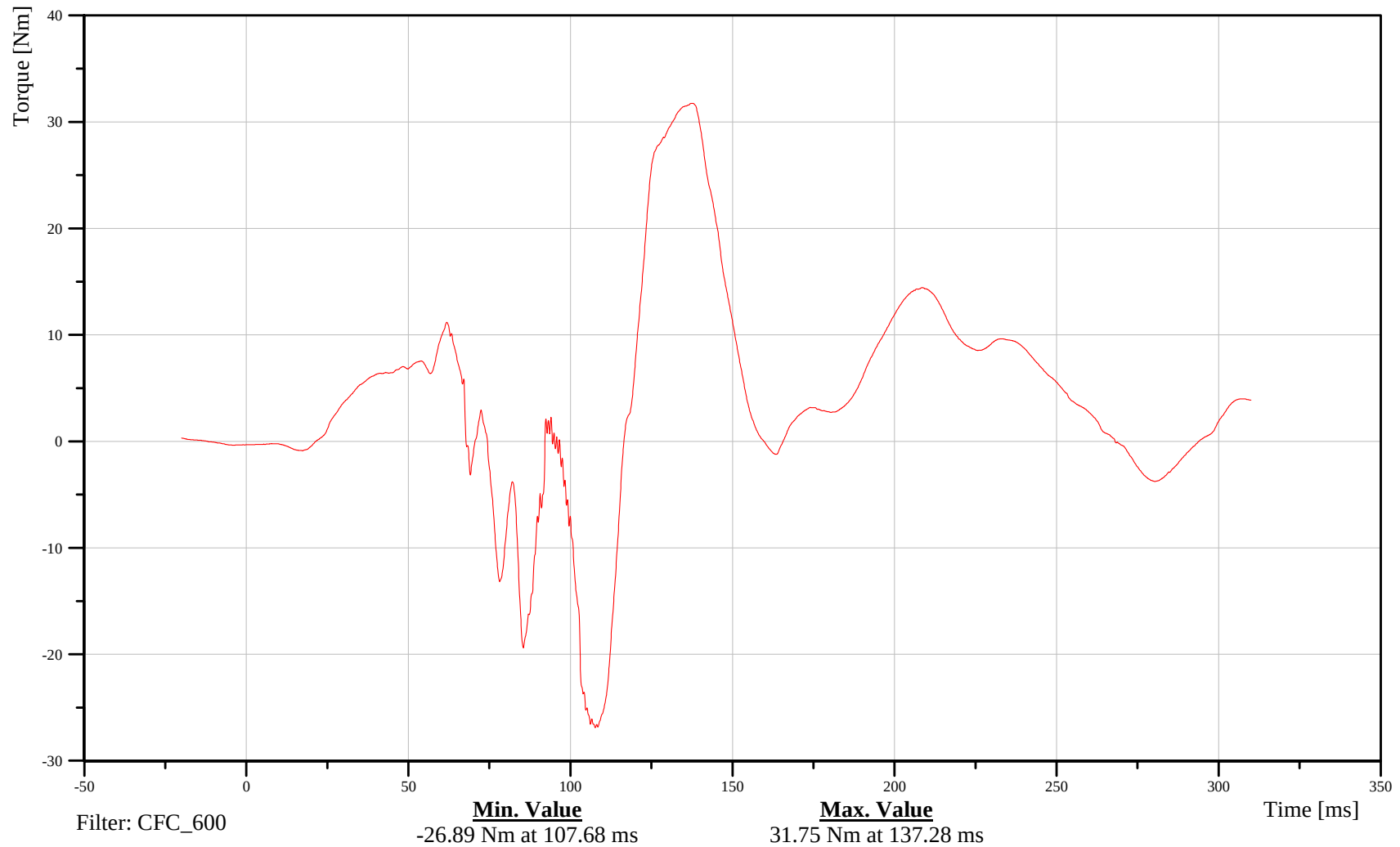
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBIRULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-135

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

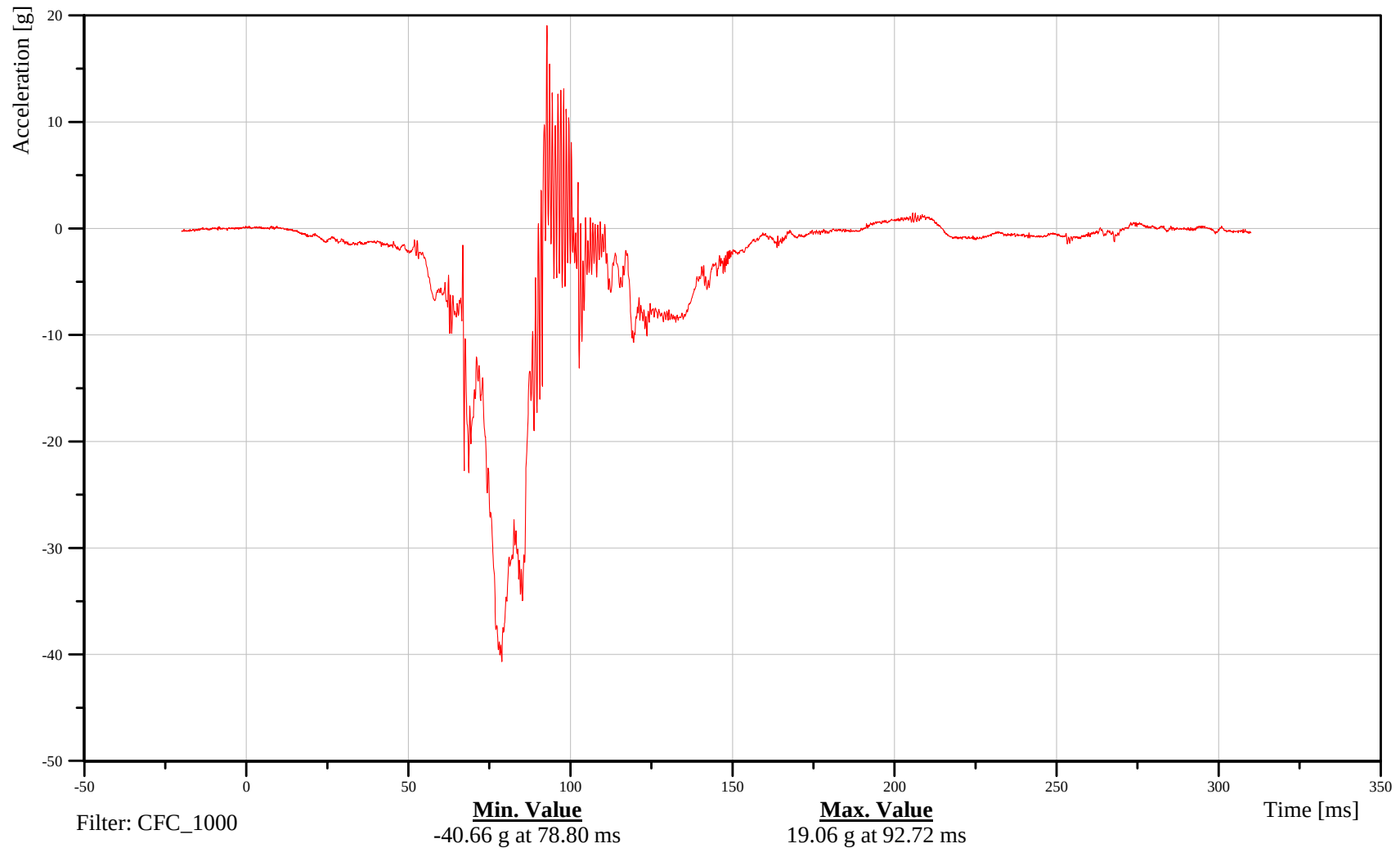
Bullet Vehicle Right Front Passenger Right Tibia X-Axis Acceleration

Customer: VRTC

13TIBIRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-136

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

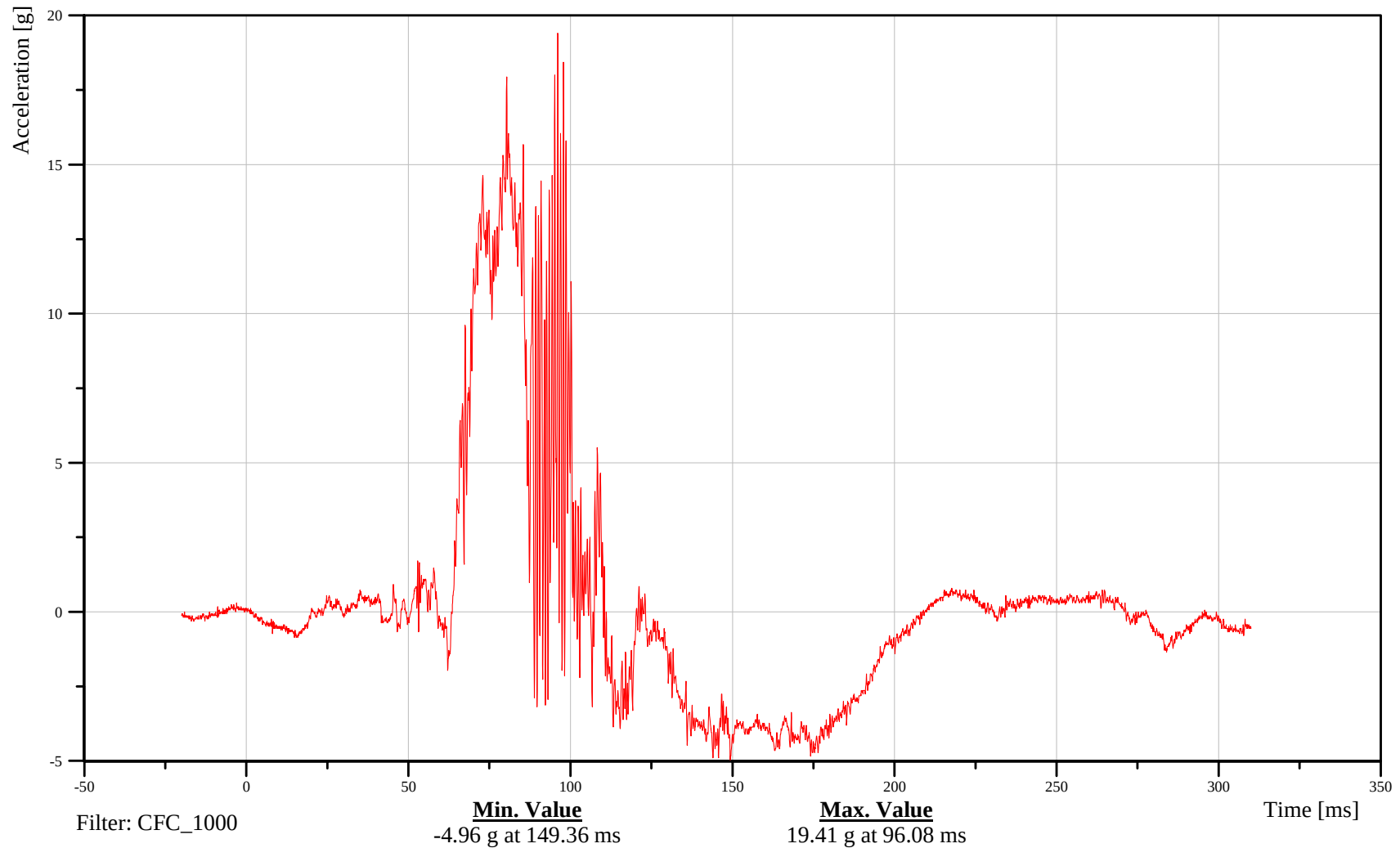
Bullet Vehicle Right Front Passenger Right Tibia Y-Axis Acceleration

Customer: VRTC

13TIBIRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-137

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

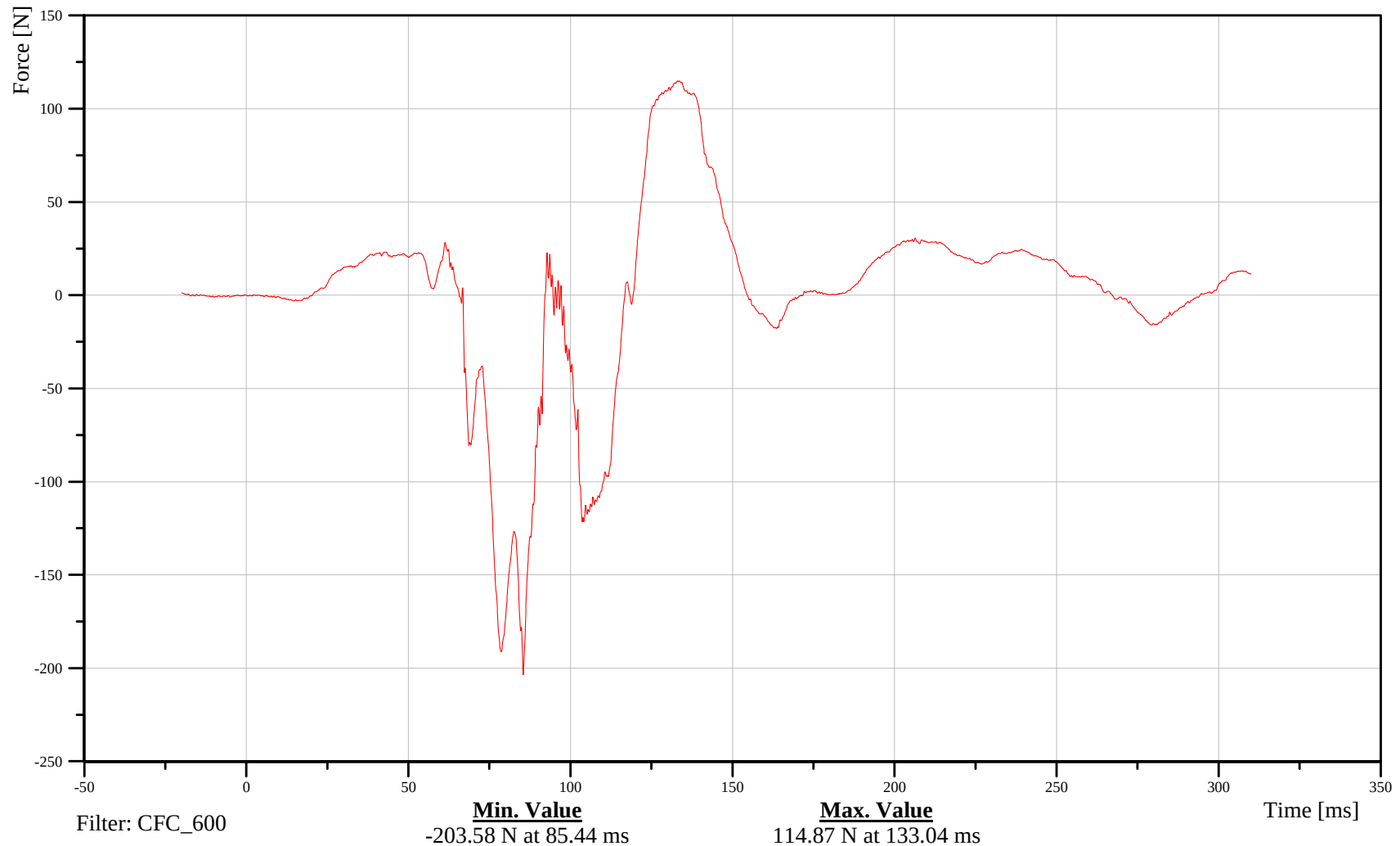
Bullet Vehicle Right Front Passenger Right Lower Tibia X-Axis Force

Customer: VRTC

13TIBIRLLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-138

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

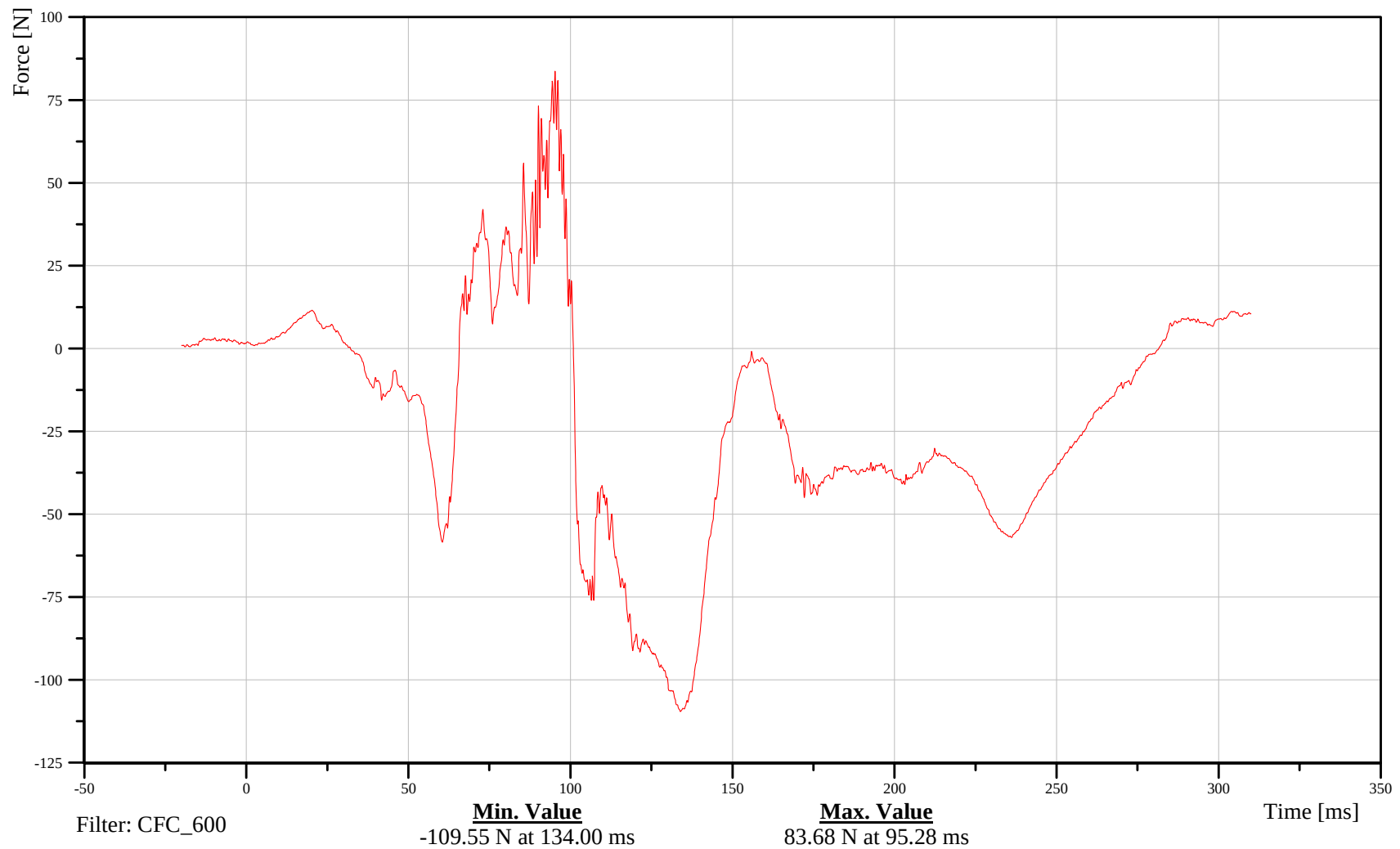
Bullet Vehicle Right Front Passenger Right Lower Tibia Y-Axis Force

Customer: VRTC

13TIBIRLLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-139

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Bullet Vehicle Right Front Passenger Right Lower Tibia Z-Axis Force

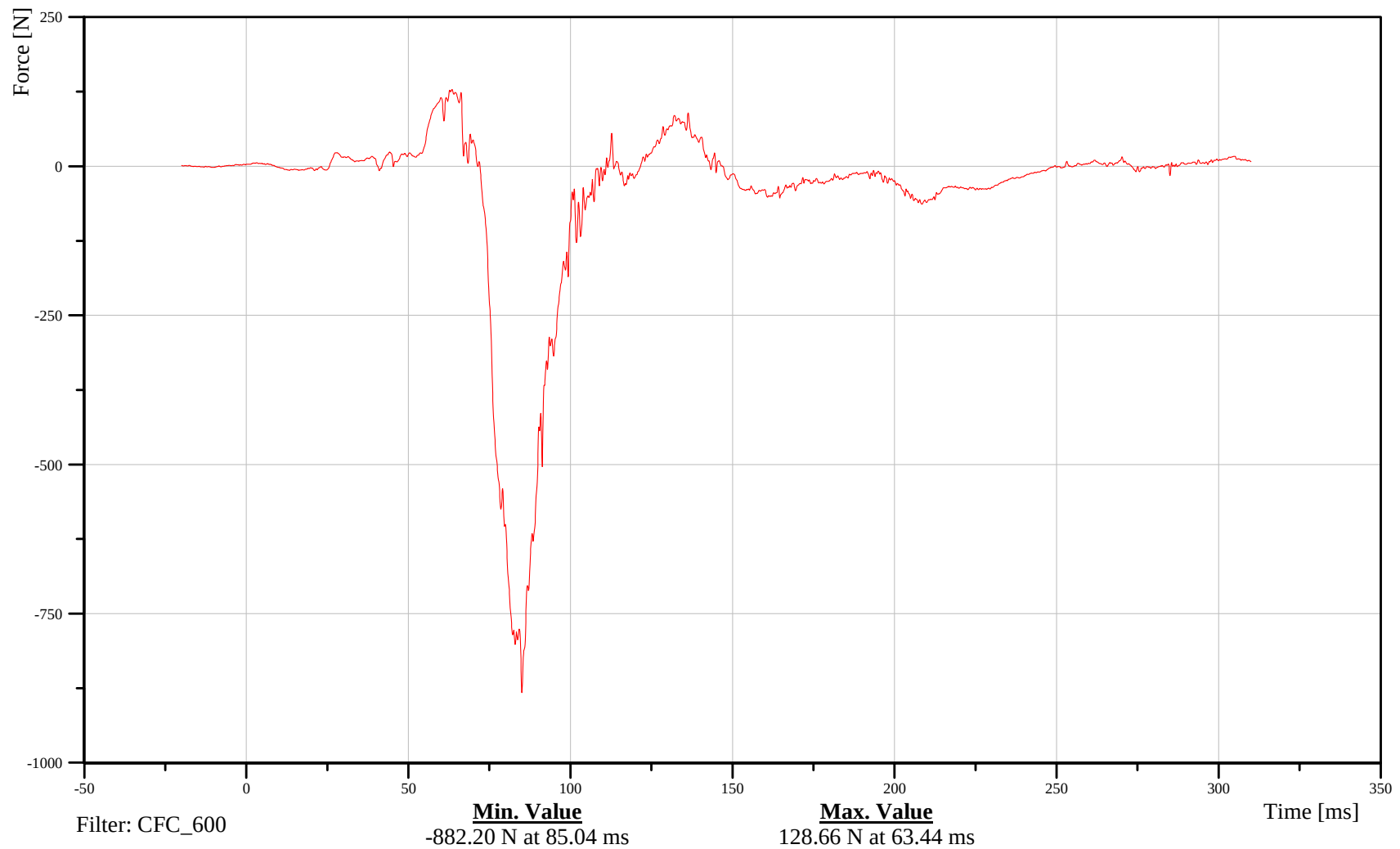
Time: 14:32

Customer: VRTC

13TIBIRLLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-140

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Lower Tibia Moment About X Axis

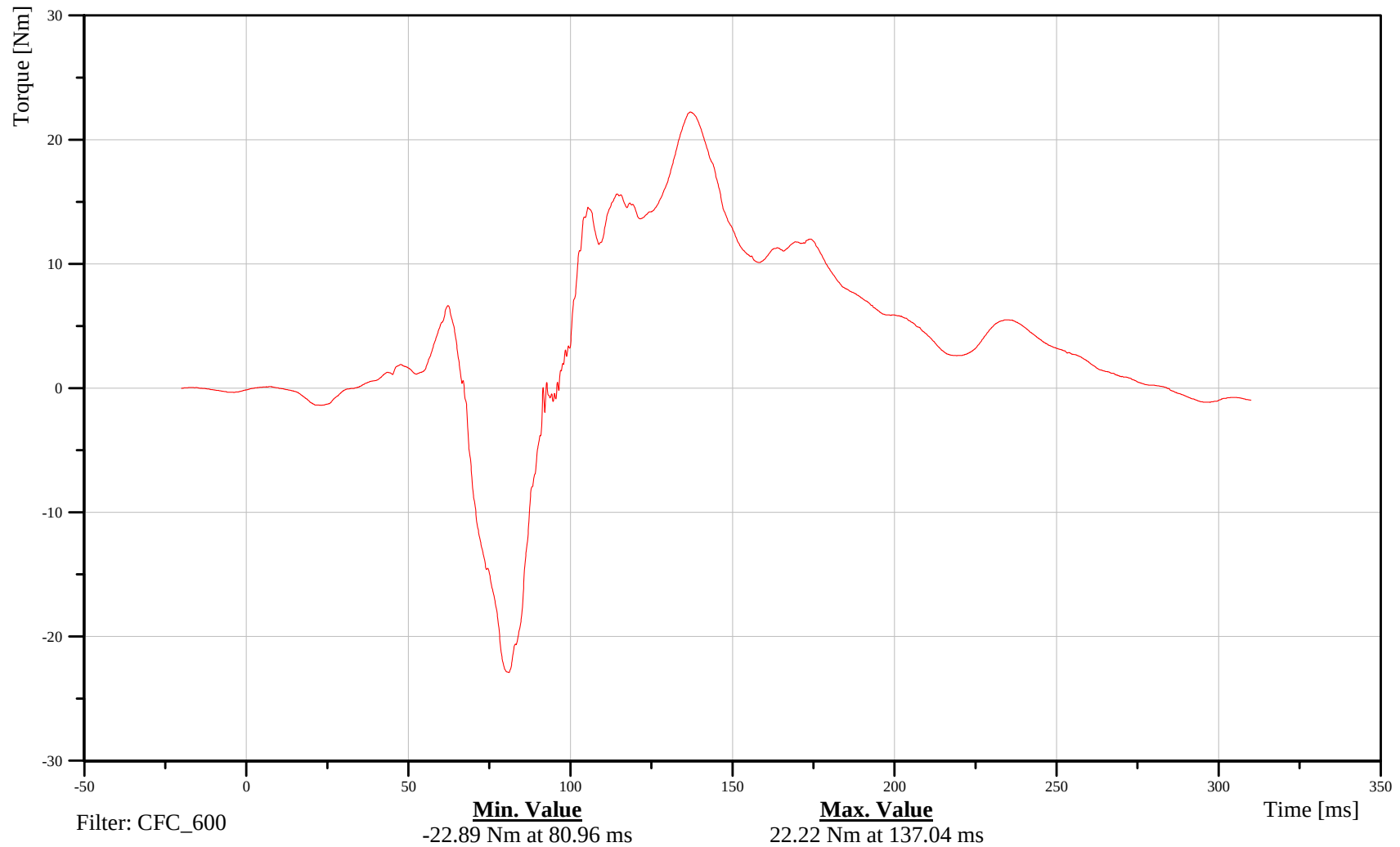
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBIRLLXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-141

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Lower Tibia Moment About Y Axis

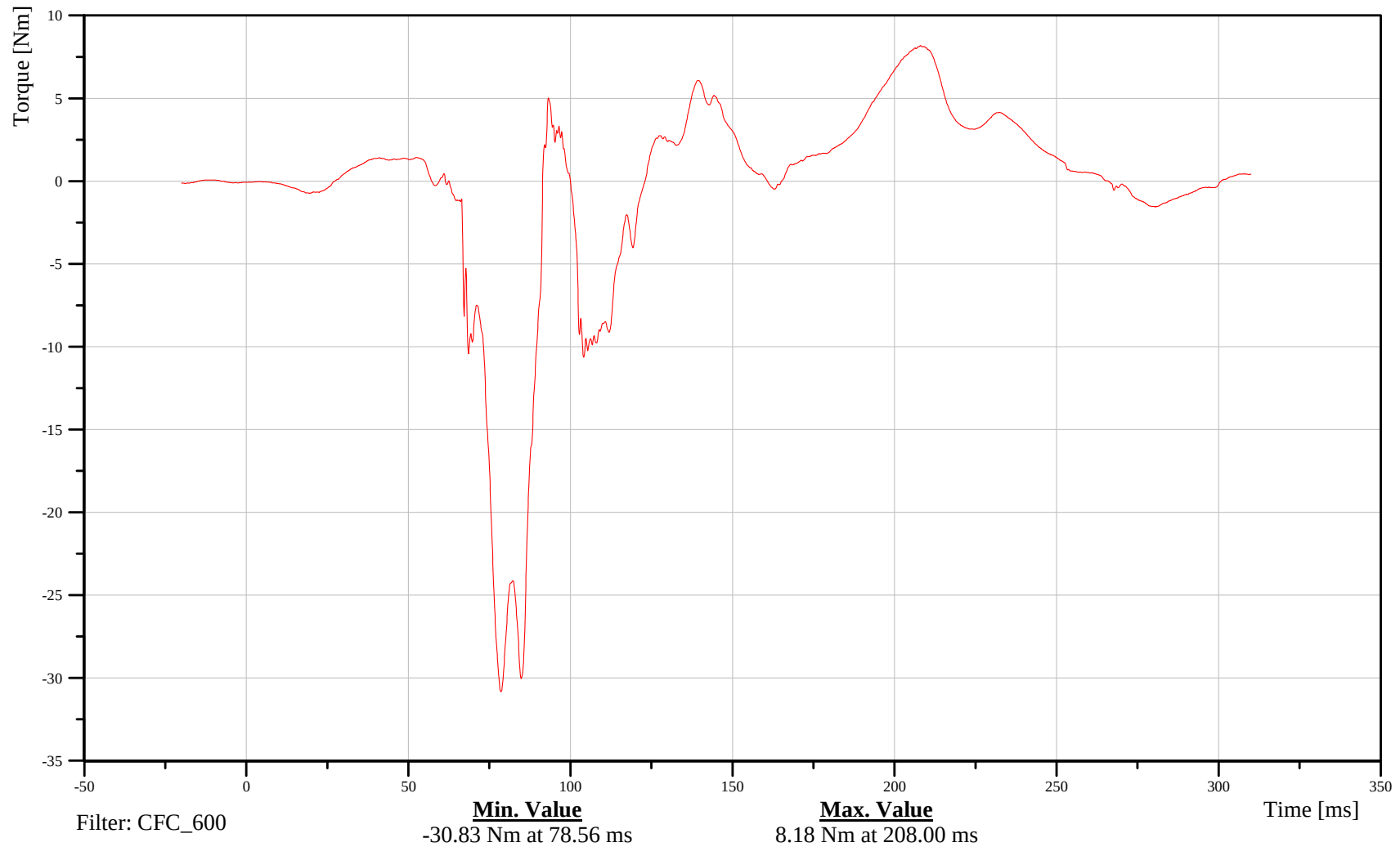
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13TIBIRLLXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-142

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Foot X-Axis Angular Displacement

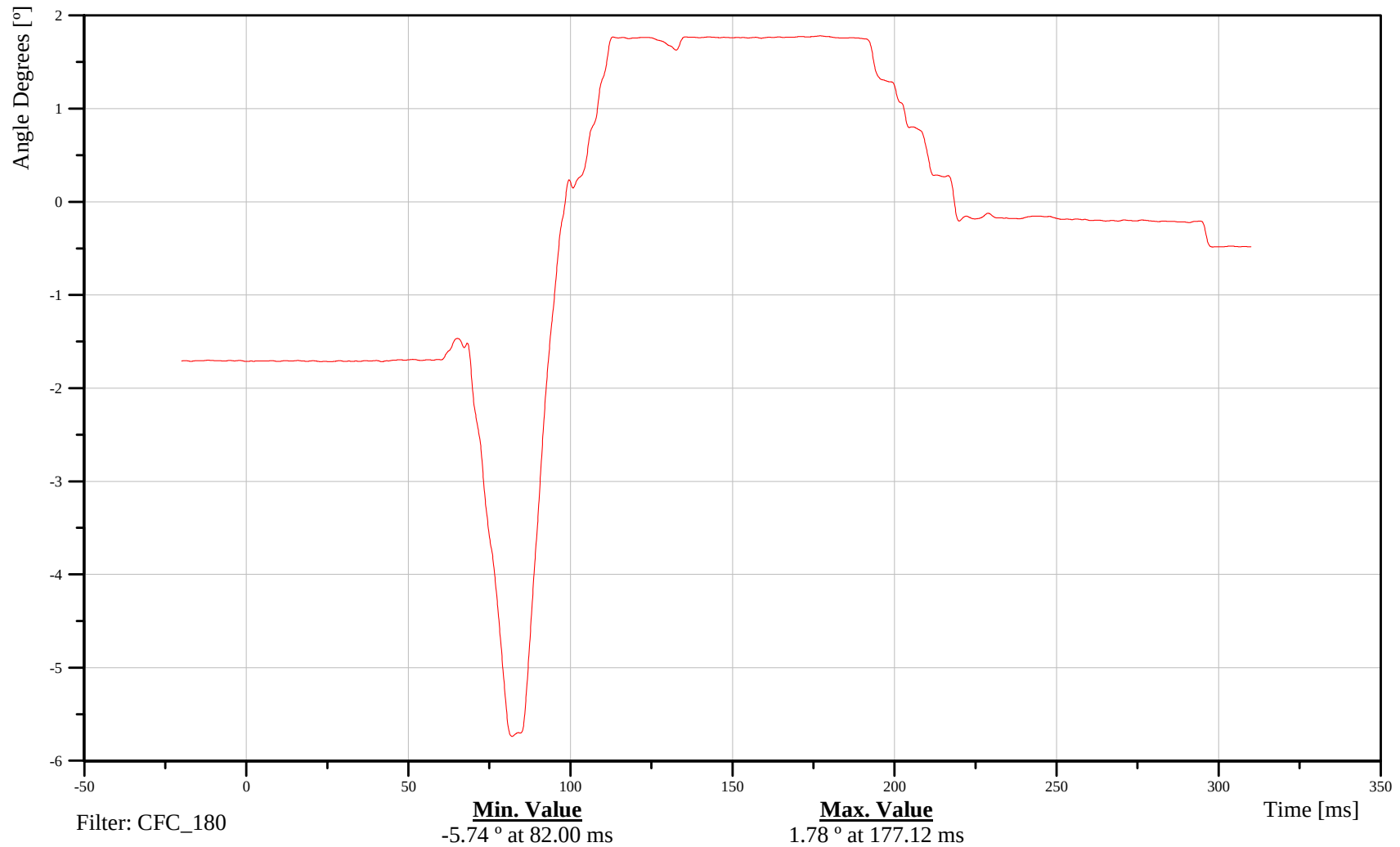
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTRILXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-143

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Right Foot Y-Axis Angular Displacement

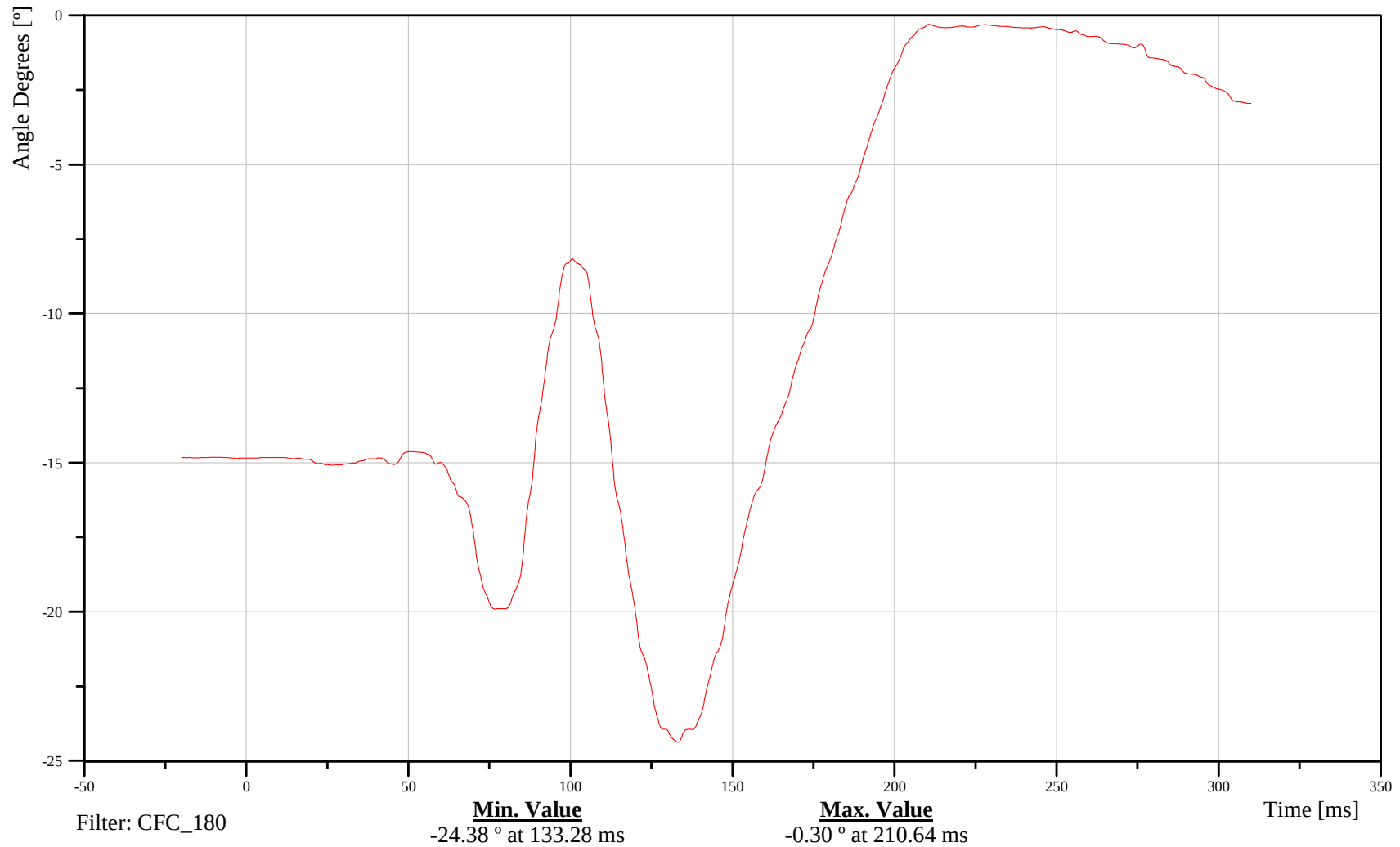
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTRILXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-144

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Right Front Passenger Right Foot Z-Axis Angular Displacement

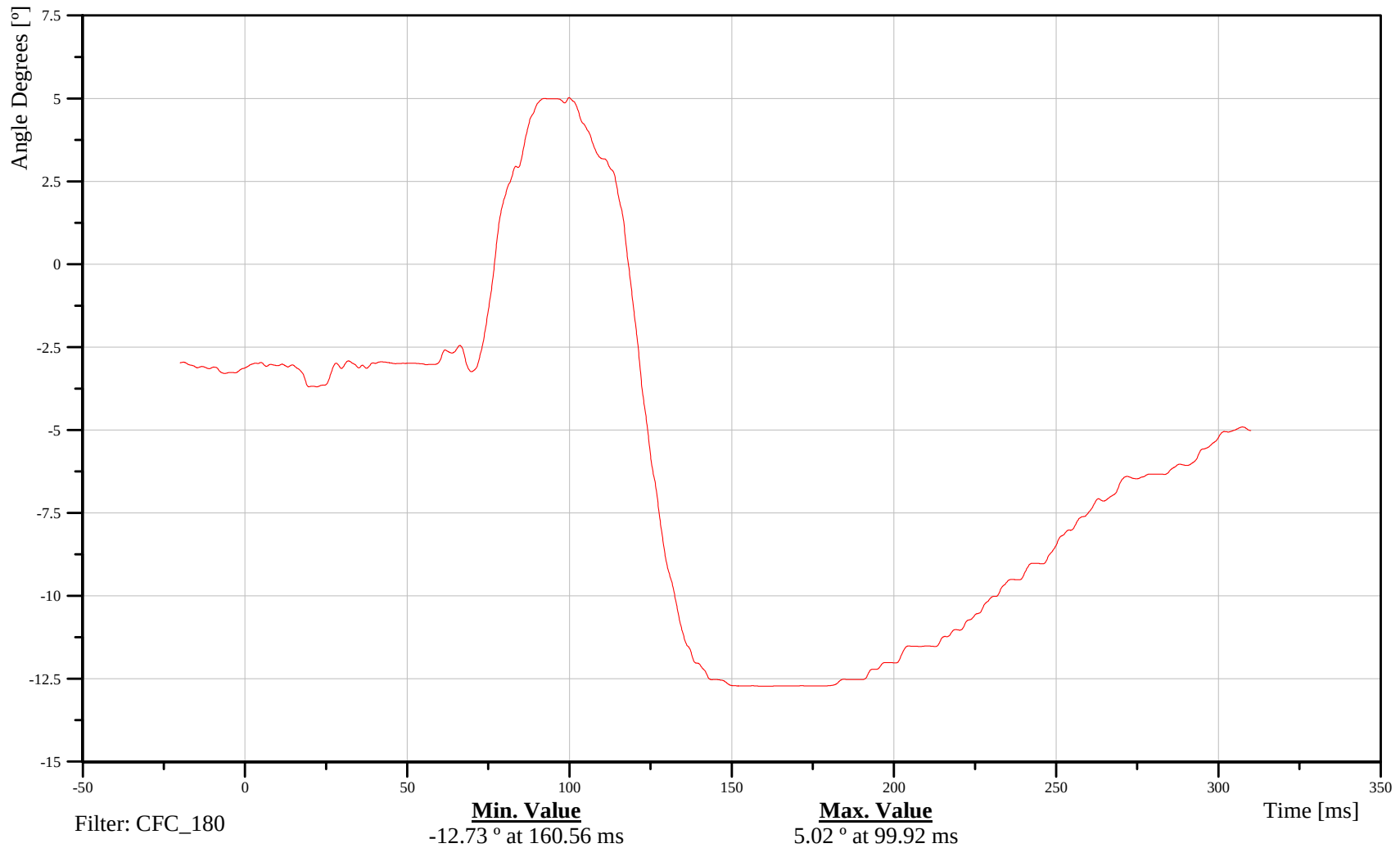
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTRILXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-145

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

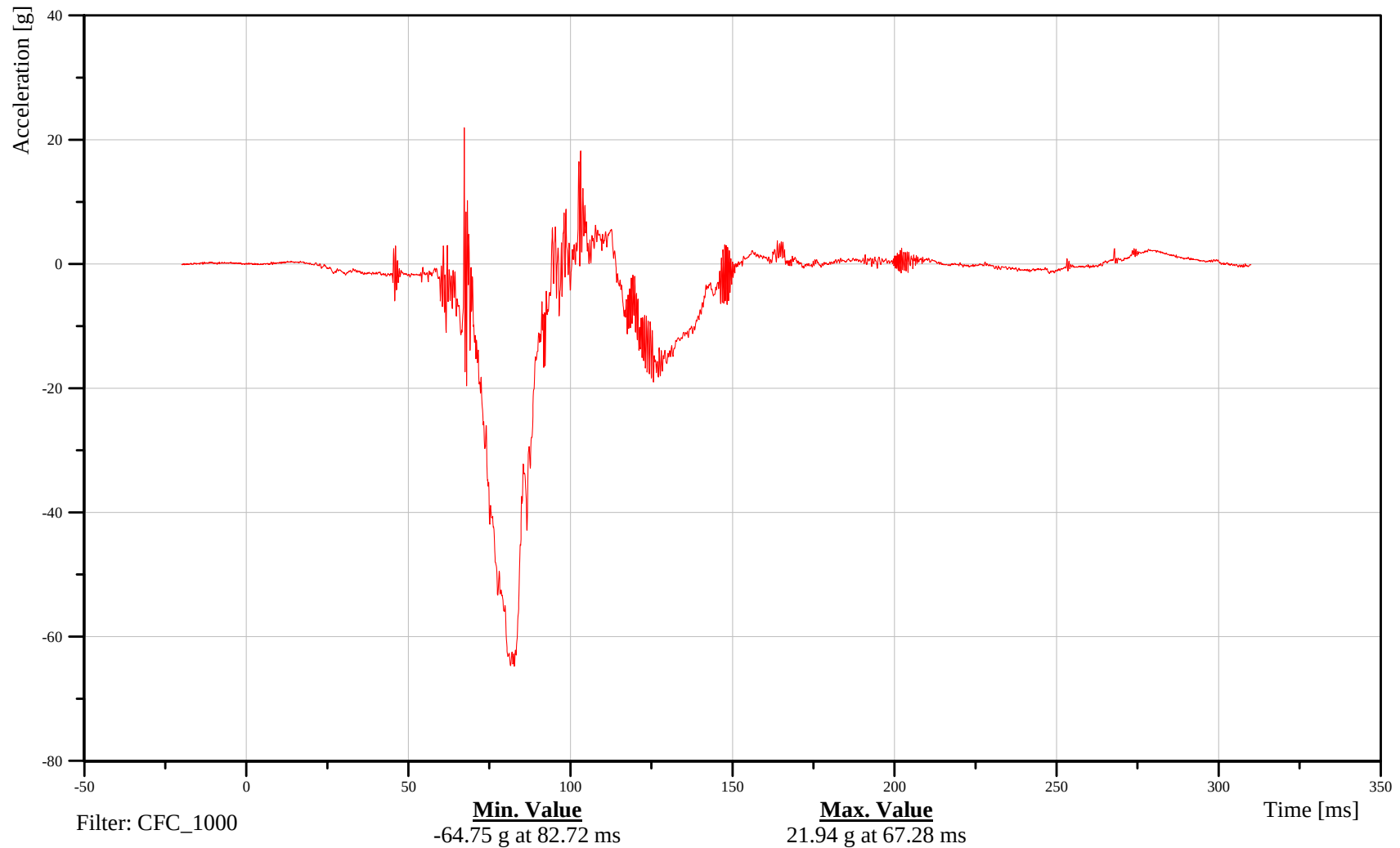
Bullet Vehicle Right Front Passenger Right Foot X-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-146

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

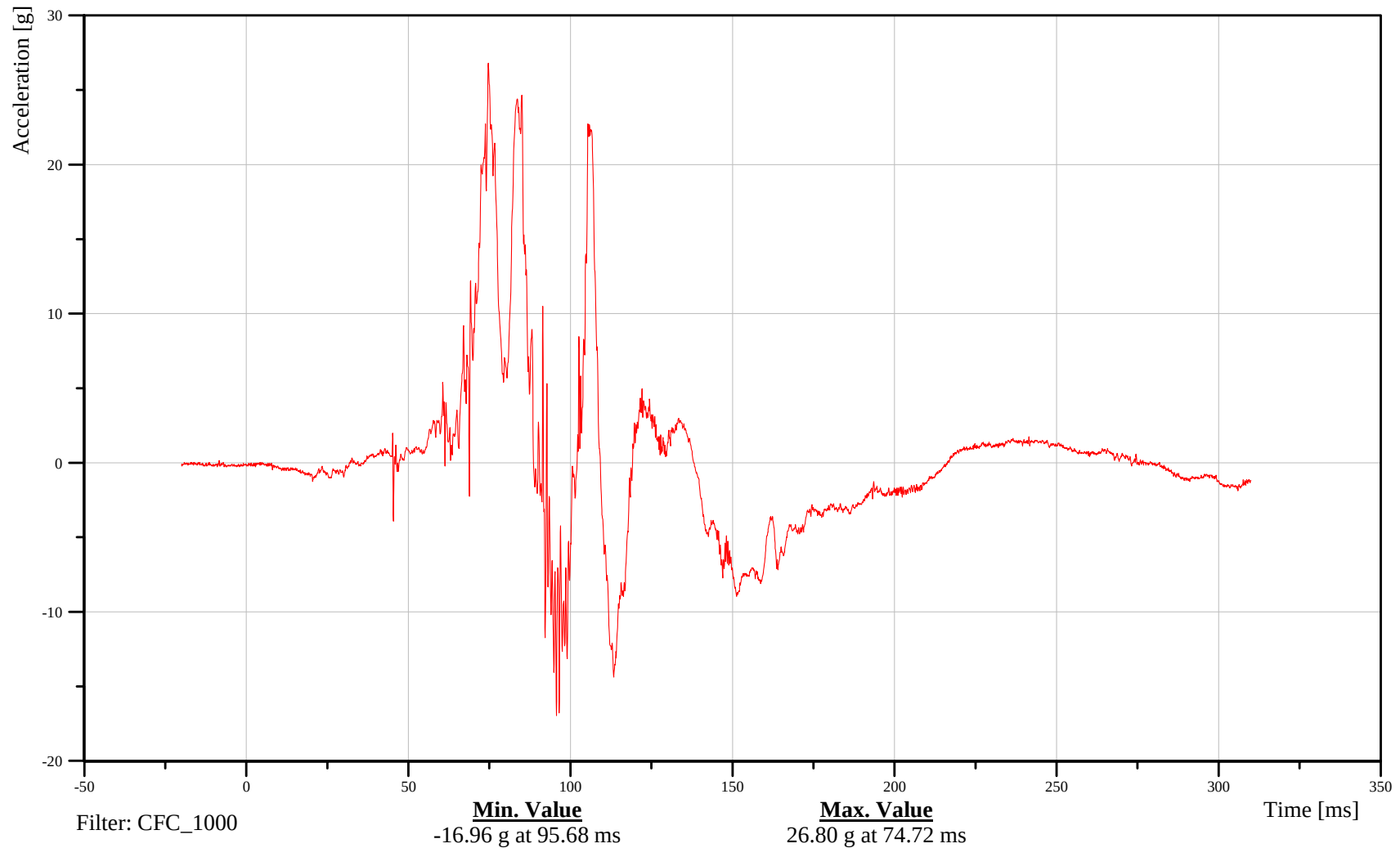
Bullet Vehicle Right Front Passenger Right Foot Y-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-147

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

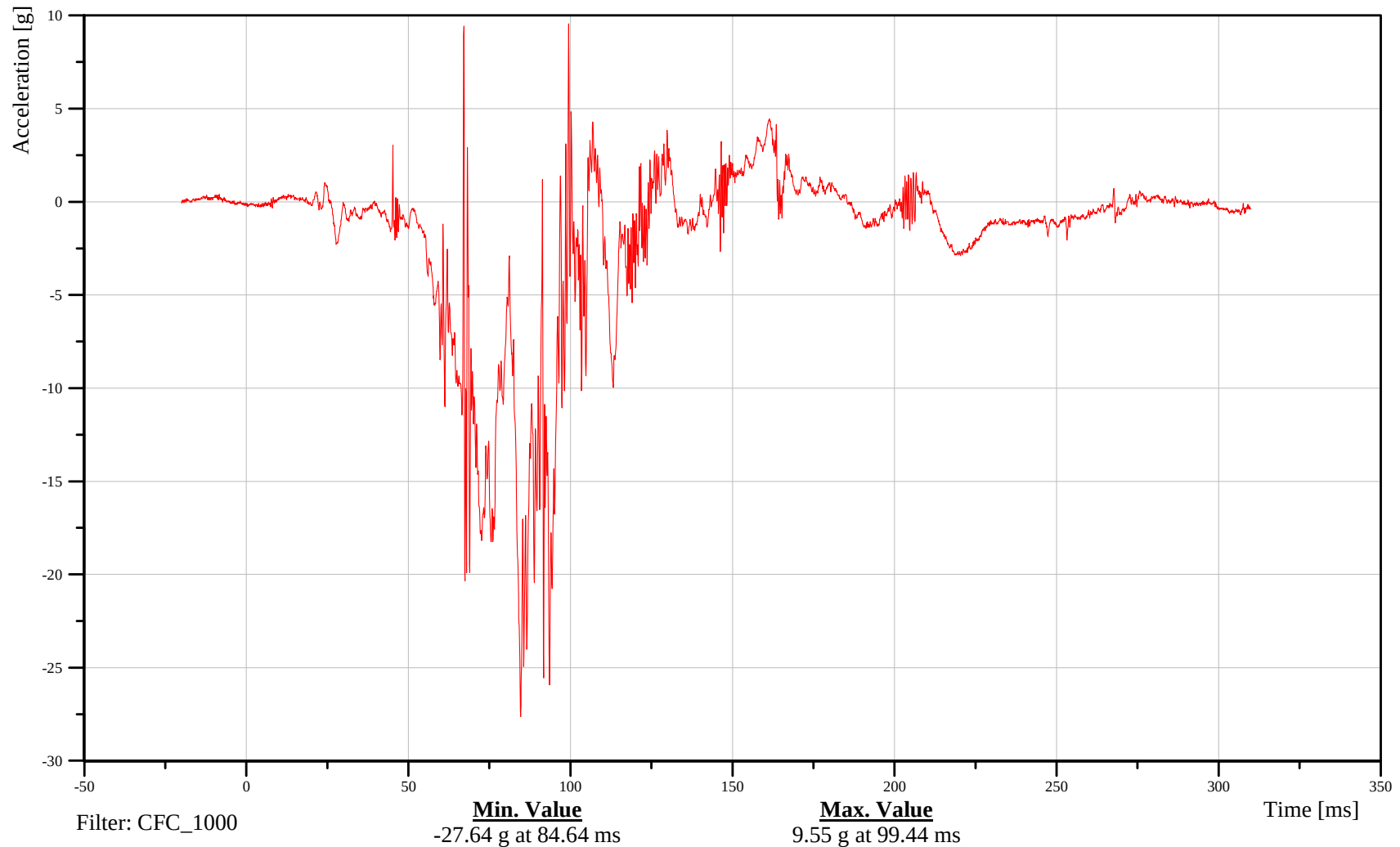
Bullet Vehicle Right Front Passenger Right Foot Z-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-148

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Right Foot Resultant Acceleration

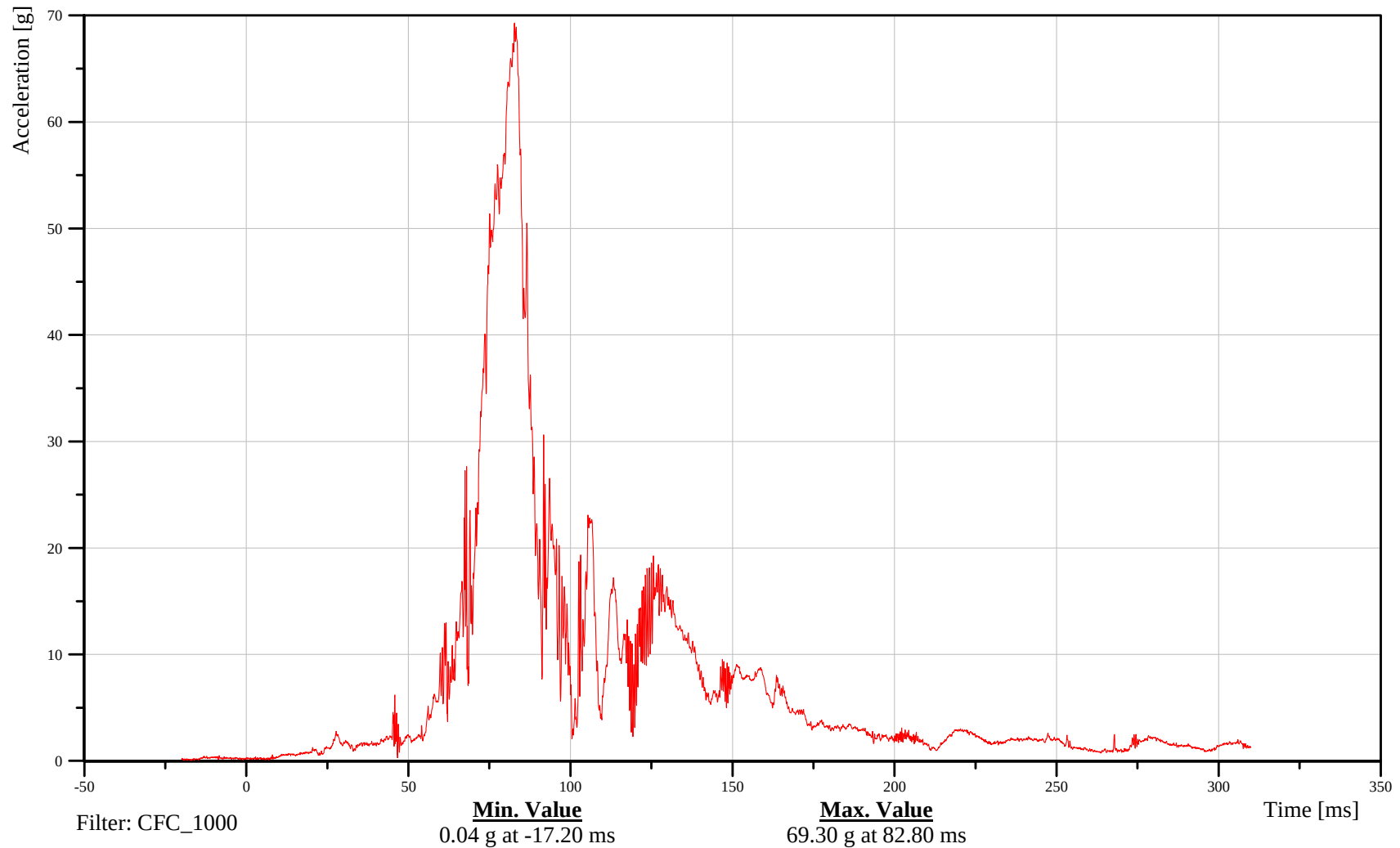
Date: 11/06/2009
Time: 14:32

Customer: VRTC

13FOOTRILXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-149

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

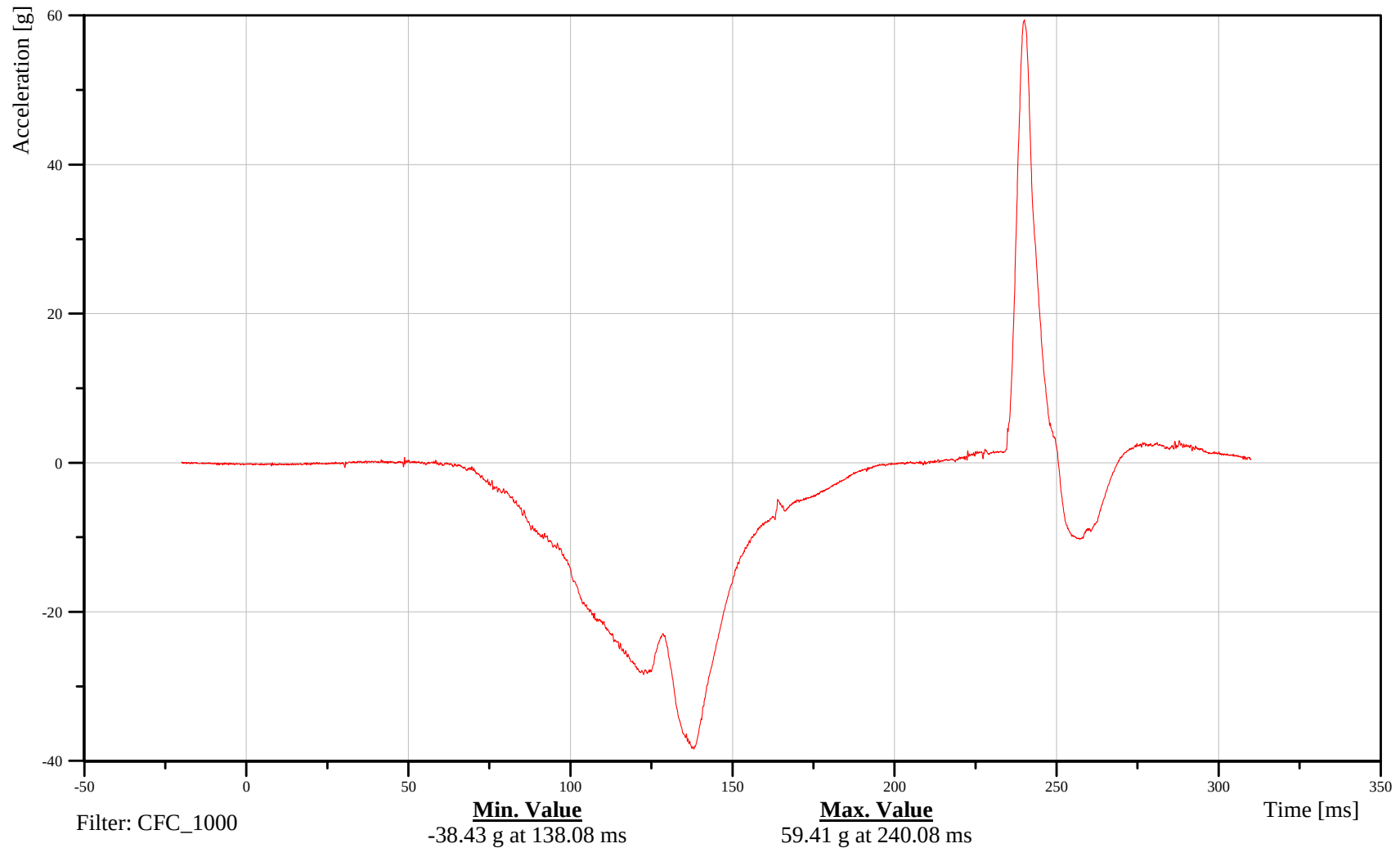
Bullet Vehicle Left Rear Passenger Head X-Axis Acceleration

Customer: VRTC

14HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-150

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

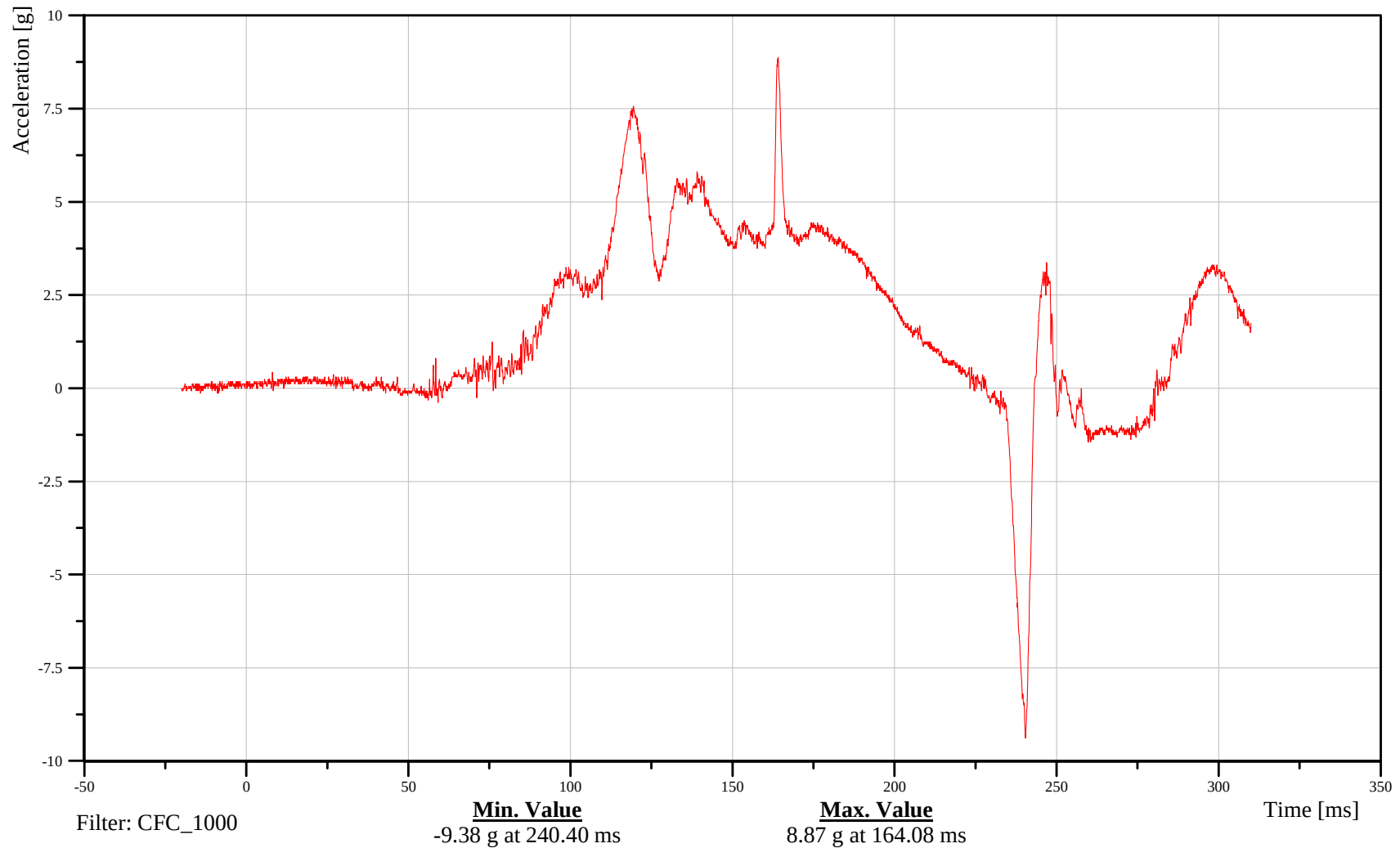
Bullet Vehicle Left Rear Passenger Head Y-Axis Acceleration

Customer: VRTC

14HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-151

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Head Z-Axis Acceleration

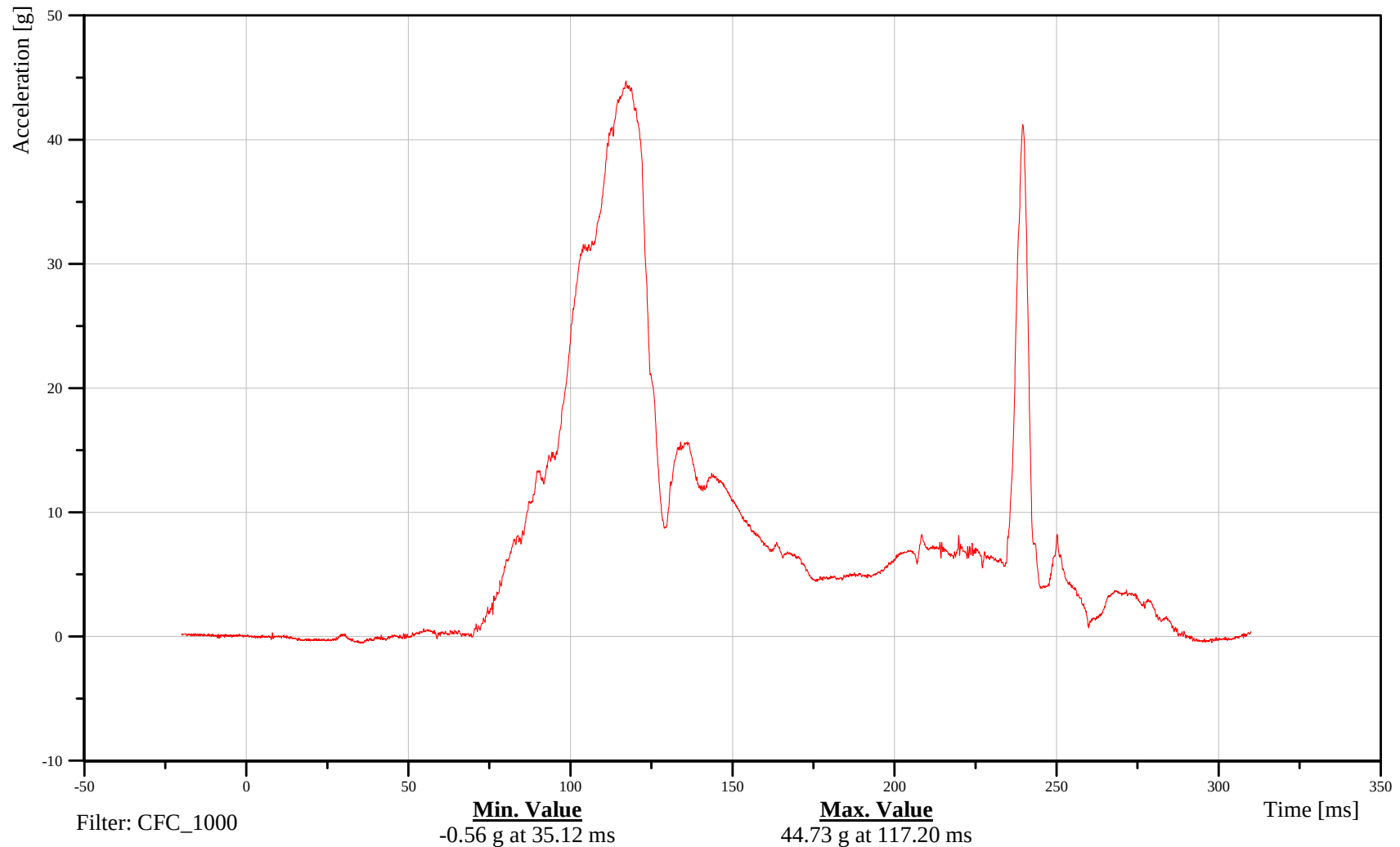
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-152

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

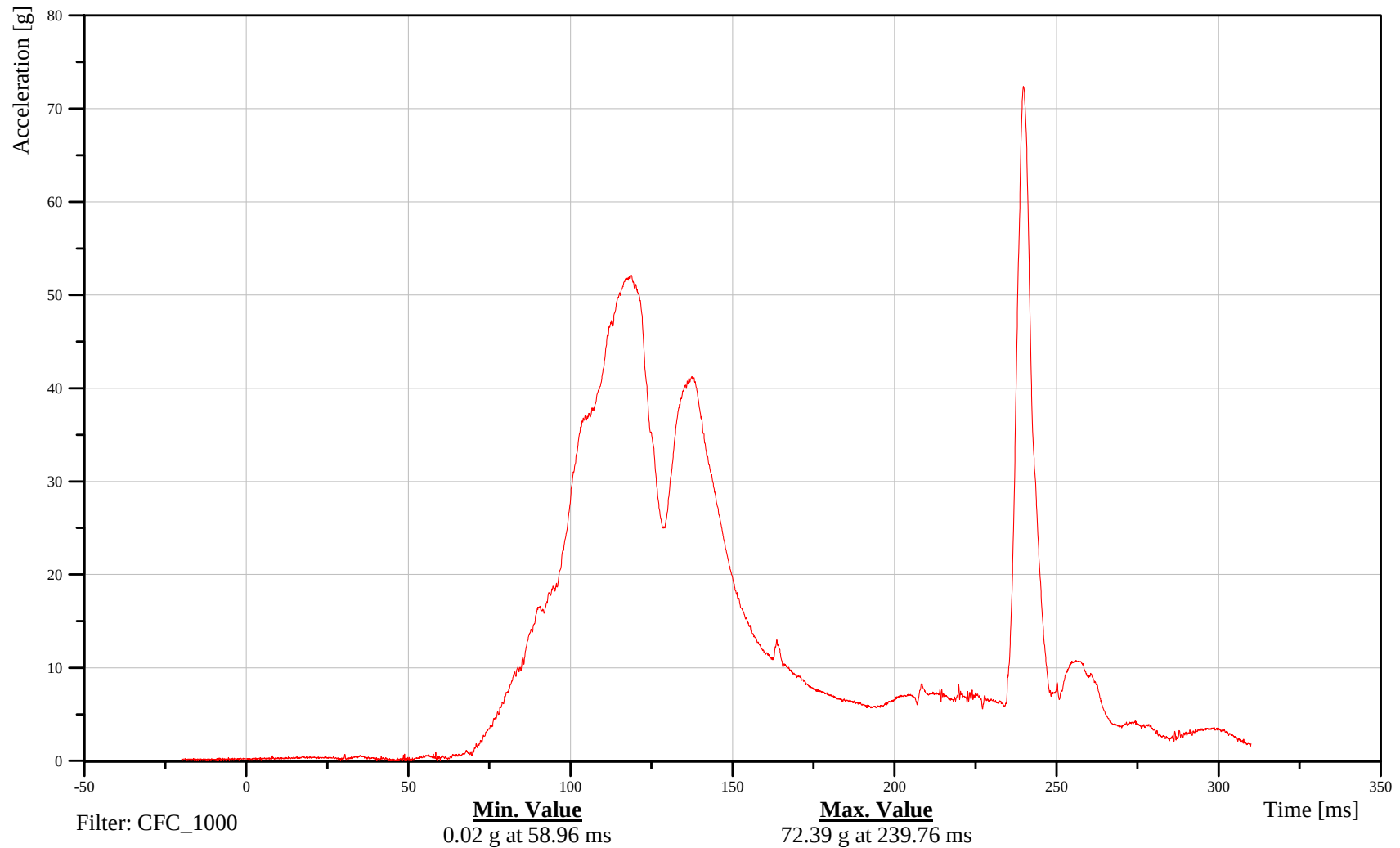
Bullet Vehicle Left Rear Passenger Head Resultant Acceleration

Customer: VRTC

14HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-153

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

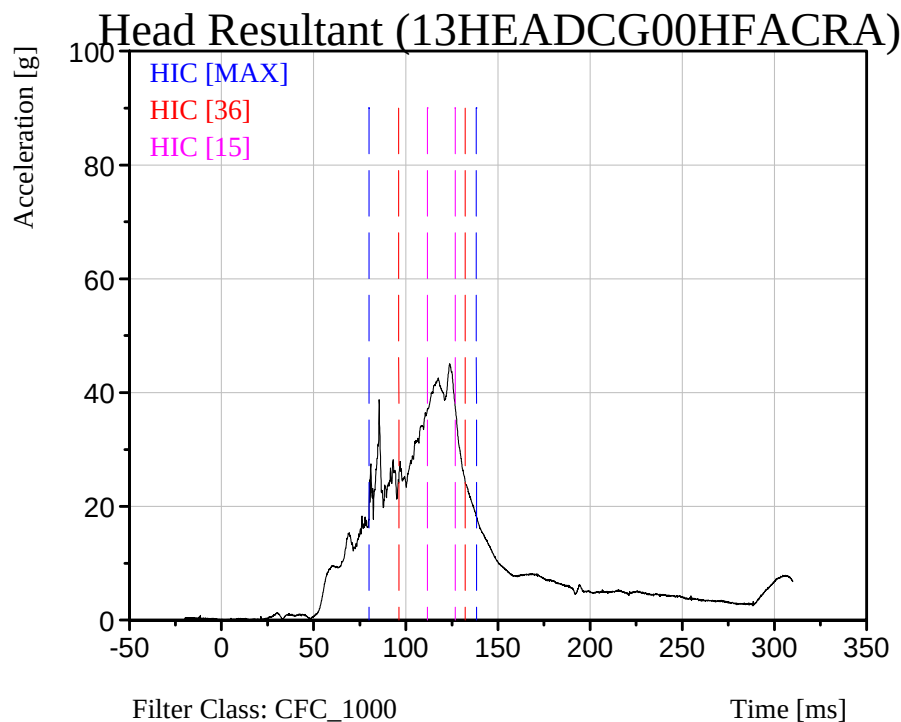
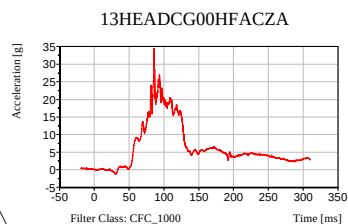
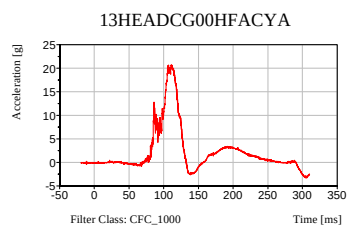
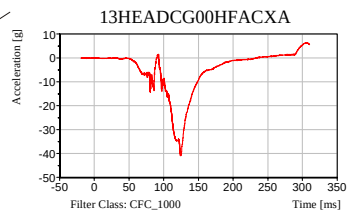
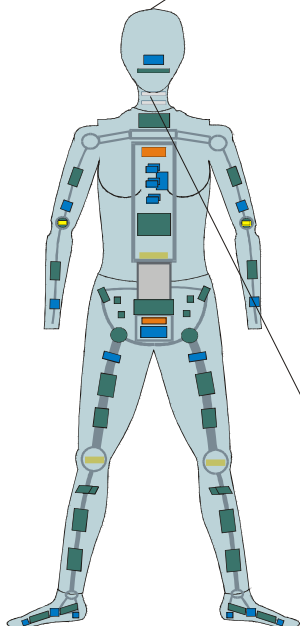
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 294.68	80.08 ms	138.32 ms	30.30 g
HIC [36] = 248.79	96.24 ms	132.24 ms	34.32 g
HIC [15] = 160.19	111.84 ms	126.88 ms	40.81 g

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

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

B-154

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

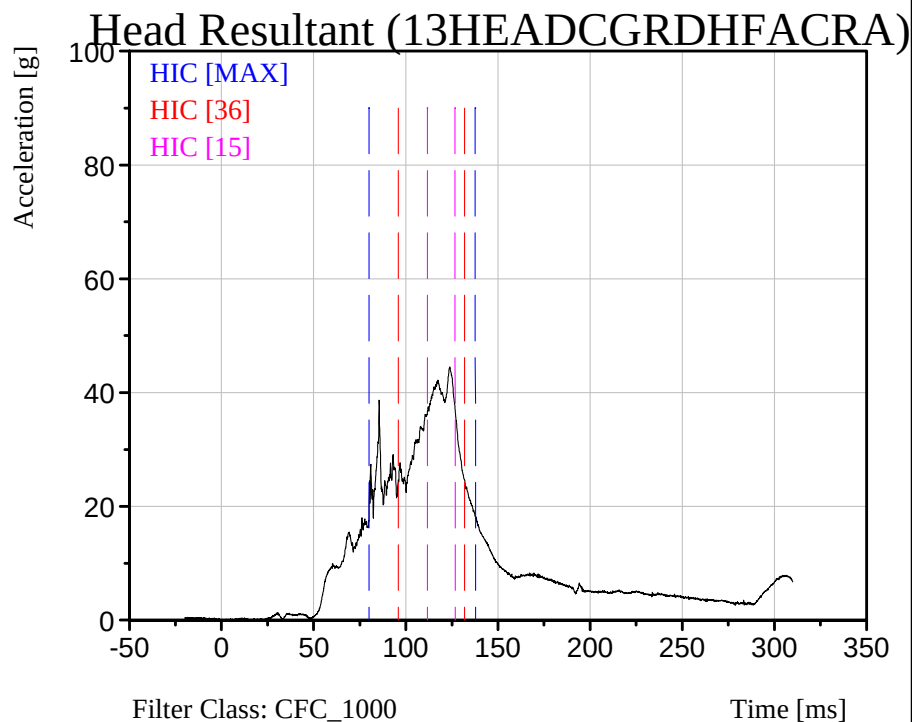
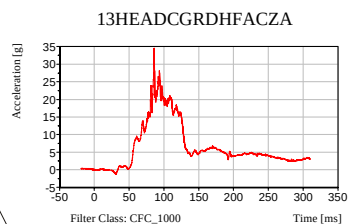
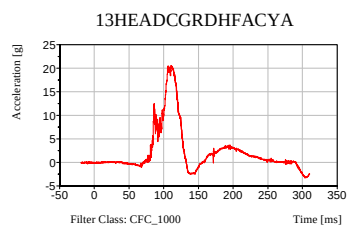
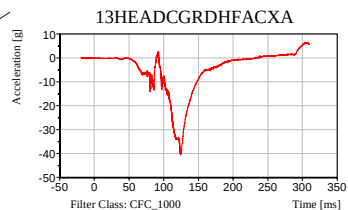
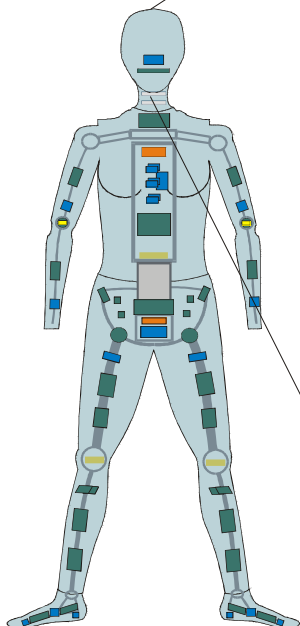
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 289.62	80.08 ms	137.76 ms	30.20 g
HIC [36] = 241.90	95.92 ms	131.92 ms	33.94 g
HIC [15] = 155.28	111.76 ms	126.80 ms	40.30 g

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

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

B-155

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

3 ms Duration Acceleration (Chest)

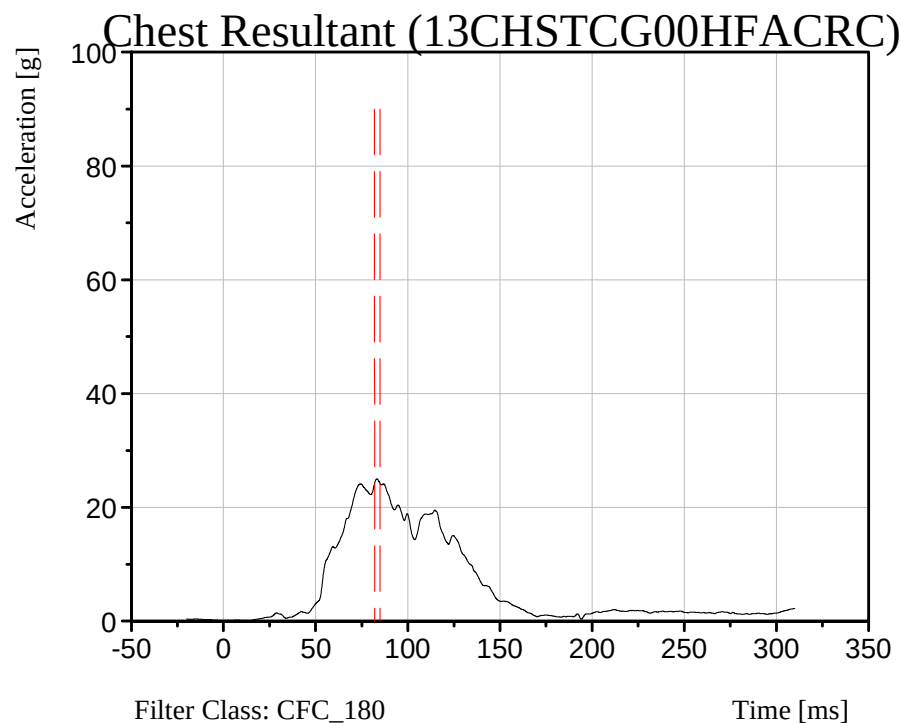
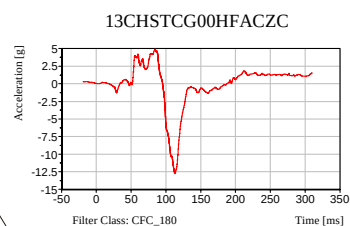
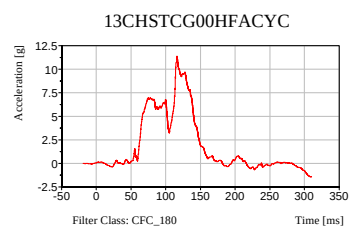
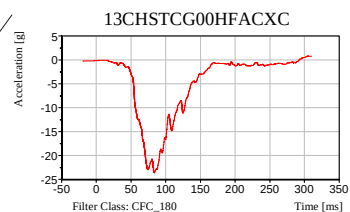
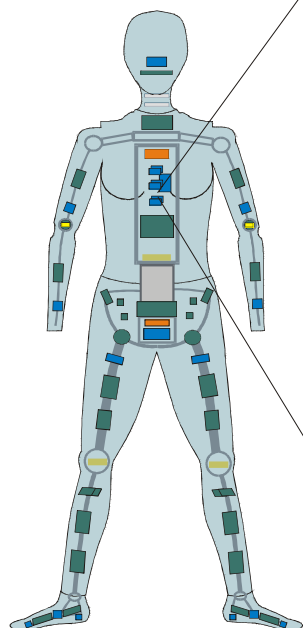
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 24.23 g
Chest Severity Index = 120.98

<u>T1</u> (Begin)	<u>T2</u> (End)
81.95 ms	84.95 ms

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-156

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

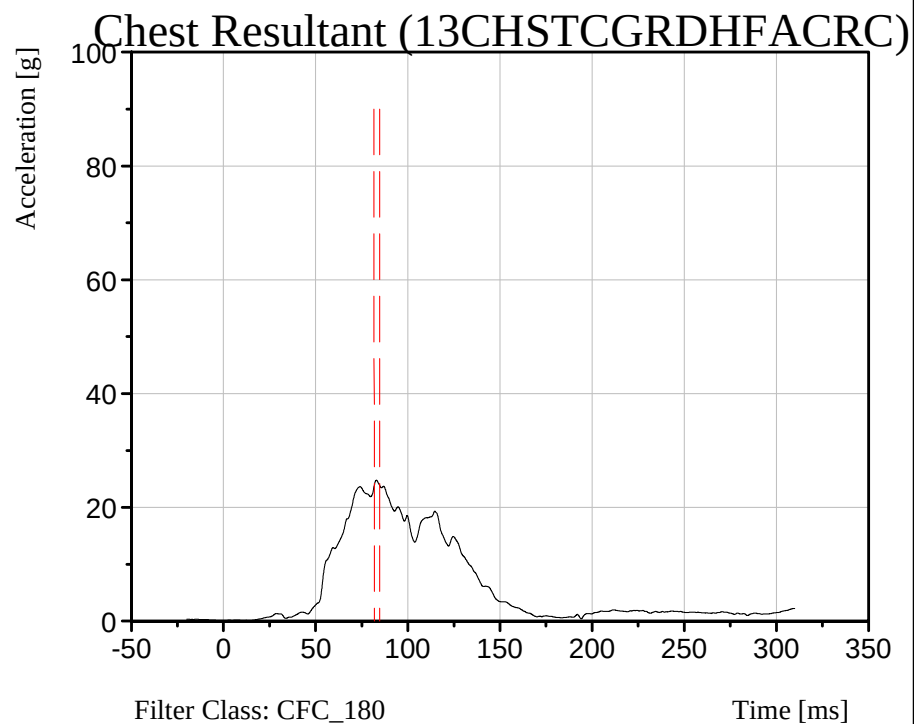
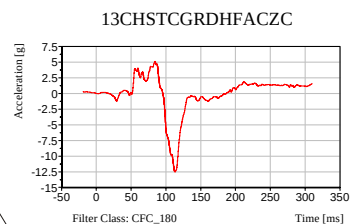
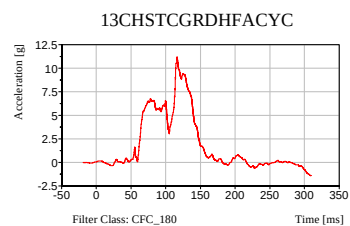
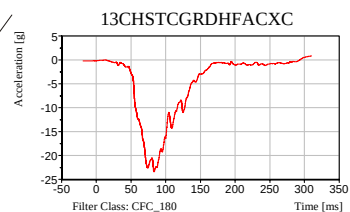
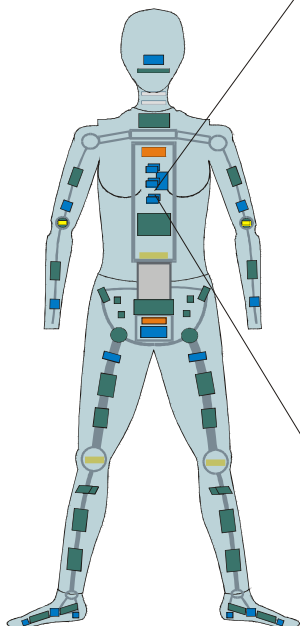
Time: 14:32

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 23.86 g
Chest Severity Index = 115.74

<u>T1</u> (Begin)	<u>T2</u> (End)
81.78 ms	84.78 ms

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-157

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

Chest Deflection

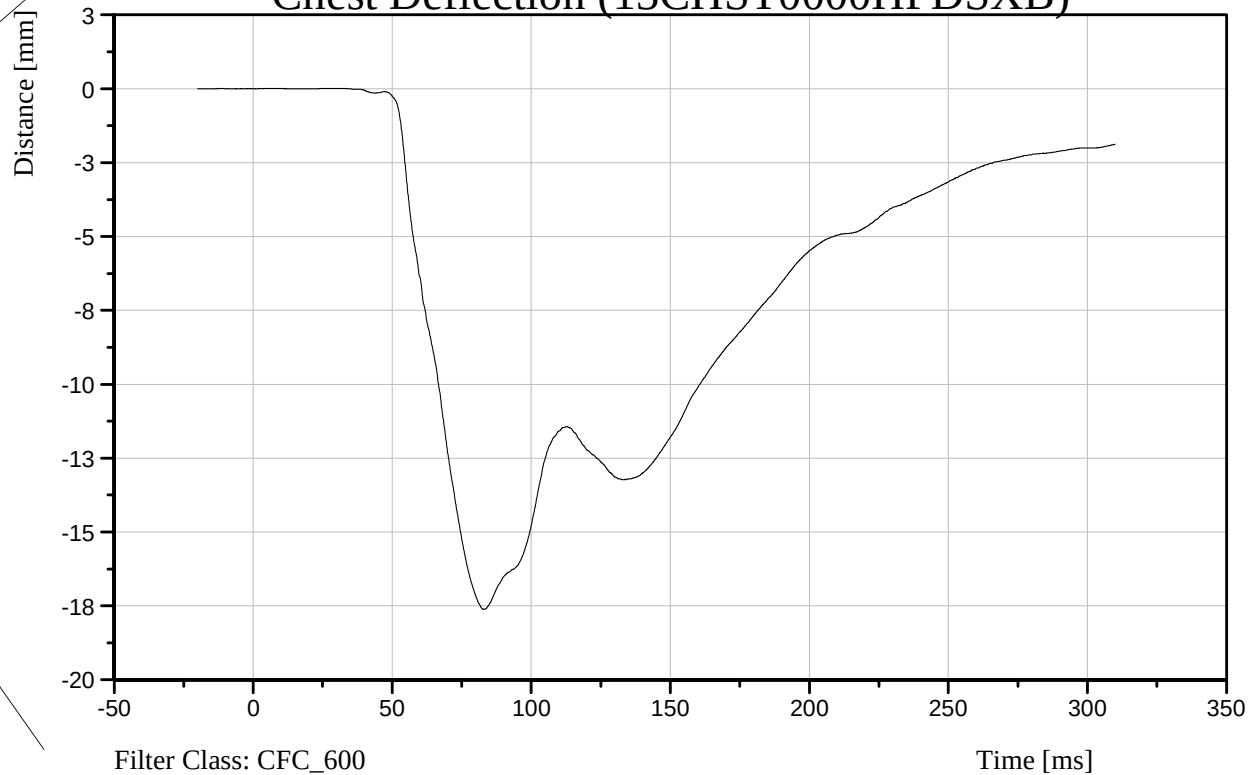
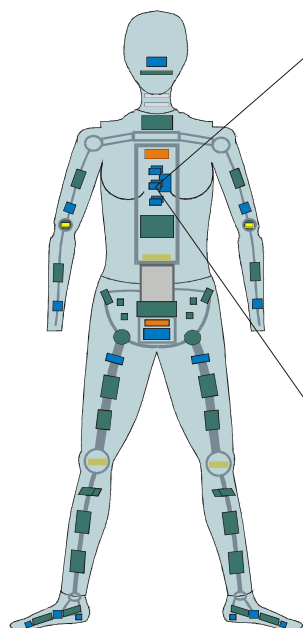
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Chest Deflection (13CHST0000HFDSXB)



Dummy: HIII 5th Female

Seating Position:

Right Front Passenger

[Max.] 0.01 mm at 31.92 ms

[Min.] -17.62 mm at 82.64 ms

ChestDeflection Source Code : Min/Max of 13CHST0000HFDSXB (CFC_600)

B-158

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap Neck Moment about the Occipital Condyle (NECK OM)

Date: 11/06/2009
Time: 14:32

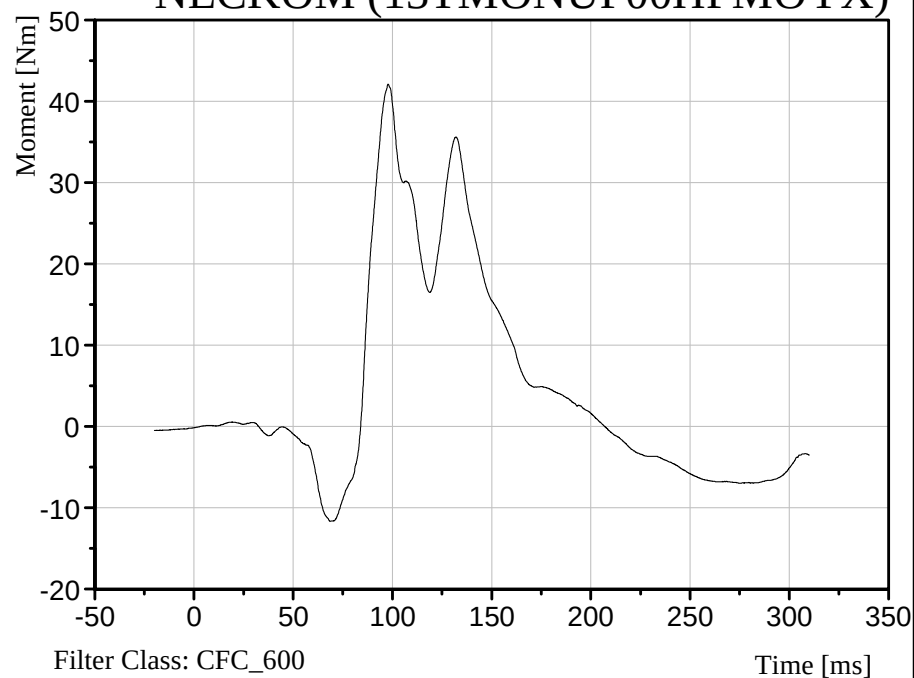
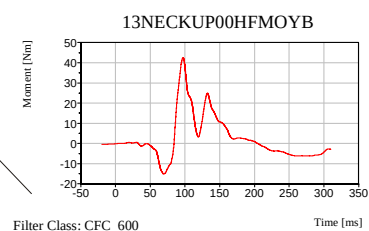
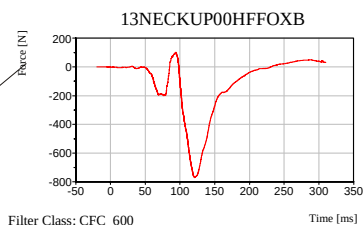
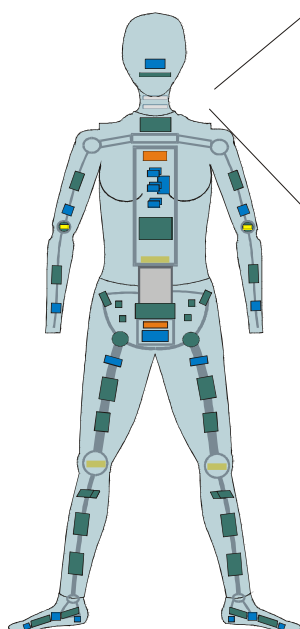
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

NECKOM (13TMONUP00HFM0YX)



Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

Neck OM Source Code: My - (D*Fx)

[Max.] 42.14 Nm at 97.84 ms

[Min.] -11.65 Nm at 68.64 ms

B-159

091106



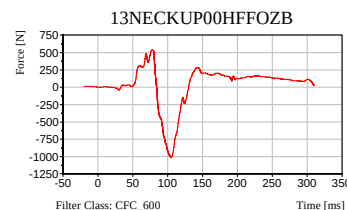
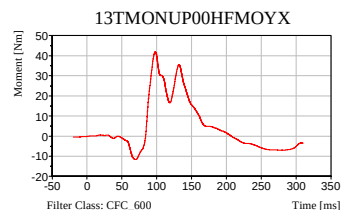
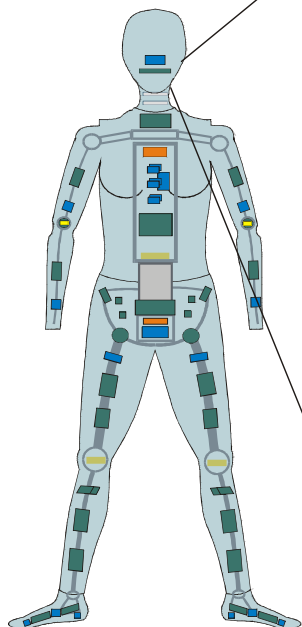
Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Injury Predictor (NIJ)

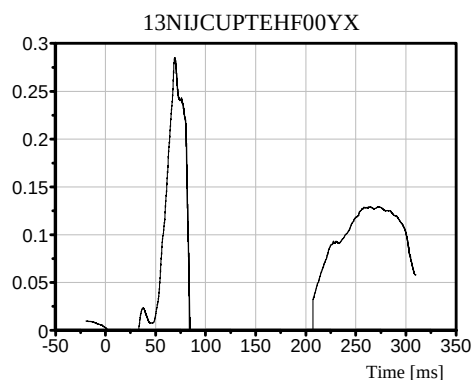
Date: 11/06/2009
Time: 14:32

Customer: VRTC

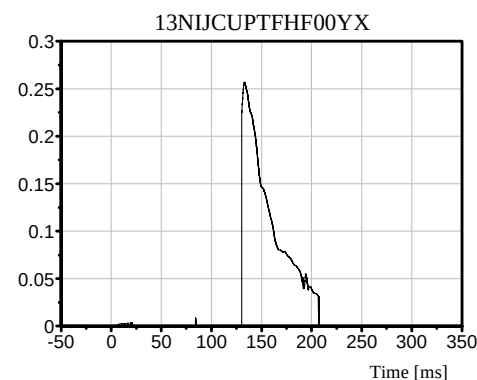
Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155



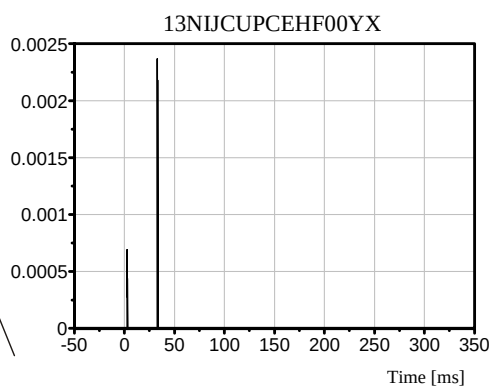
TRC Inc. Test Lab: CTF
Test Number: 091106



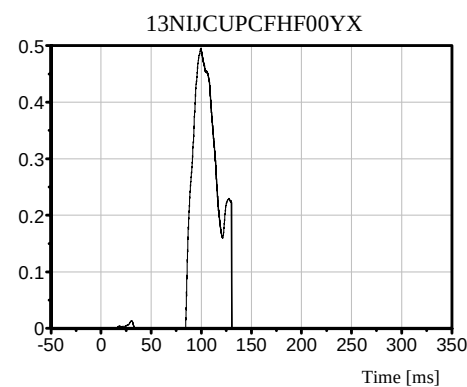
Max [NTE] 0.2852 at 68.96 ms



Max [NTF] 0.2570 at 132.88 ms



Max [NCE] 0.0024 at 32.72 ms



Max [NCF] 0.4951 at 99.36 ms

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

NIJ Source Code: (Fz/Fzc)+(My/Myc)

B-160

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

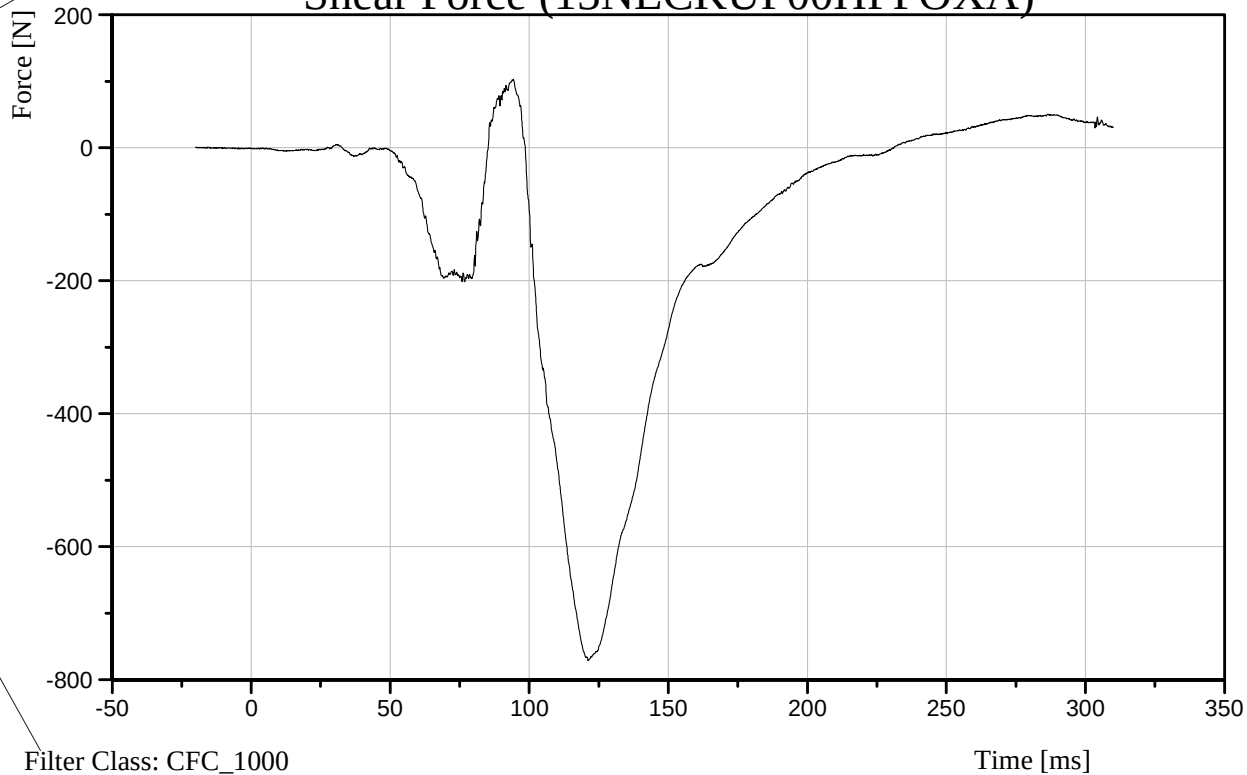
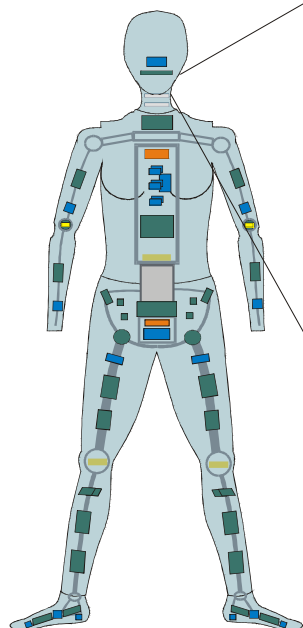
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (13NECKUP00HFFOXA)



Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

[Max.] 103.22 N at 94.24 ms

[Min.] -771.06 N at 121.12 ms

Neck Shear Force Source Code: Min/Max of 13NECKUP00HFFOXA

B-161

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

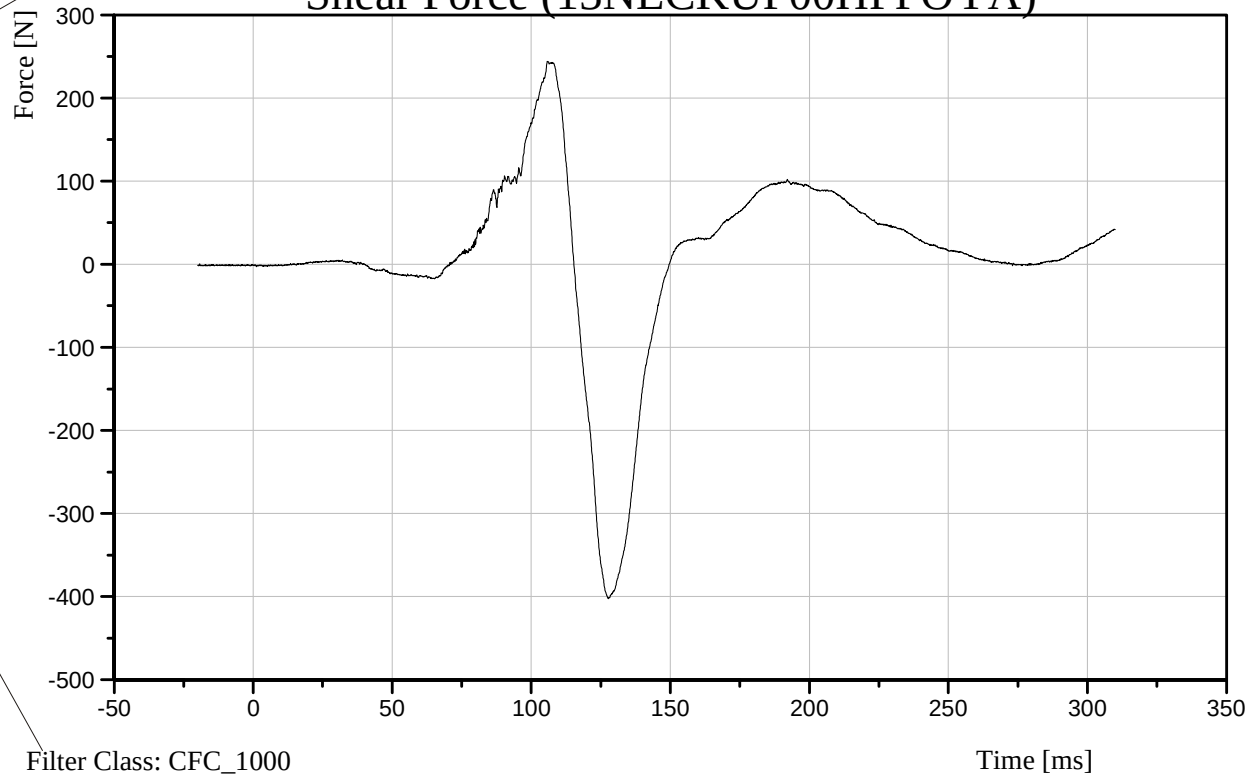
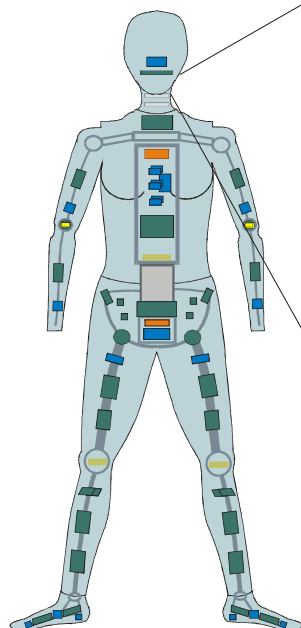
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (13NECKUP00HFFOYA)



Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

[Max.] 244.21 N at 105.76 ms

[Min.] -402.24 N at 127.68 ms

Neck Shear Force Source Code: Min/Max of 13NECKUP00HFFOYA

B-162

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Axial Force

Date: 11/06/2009

Time: 14:32

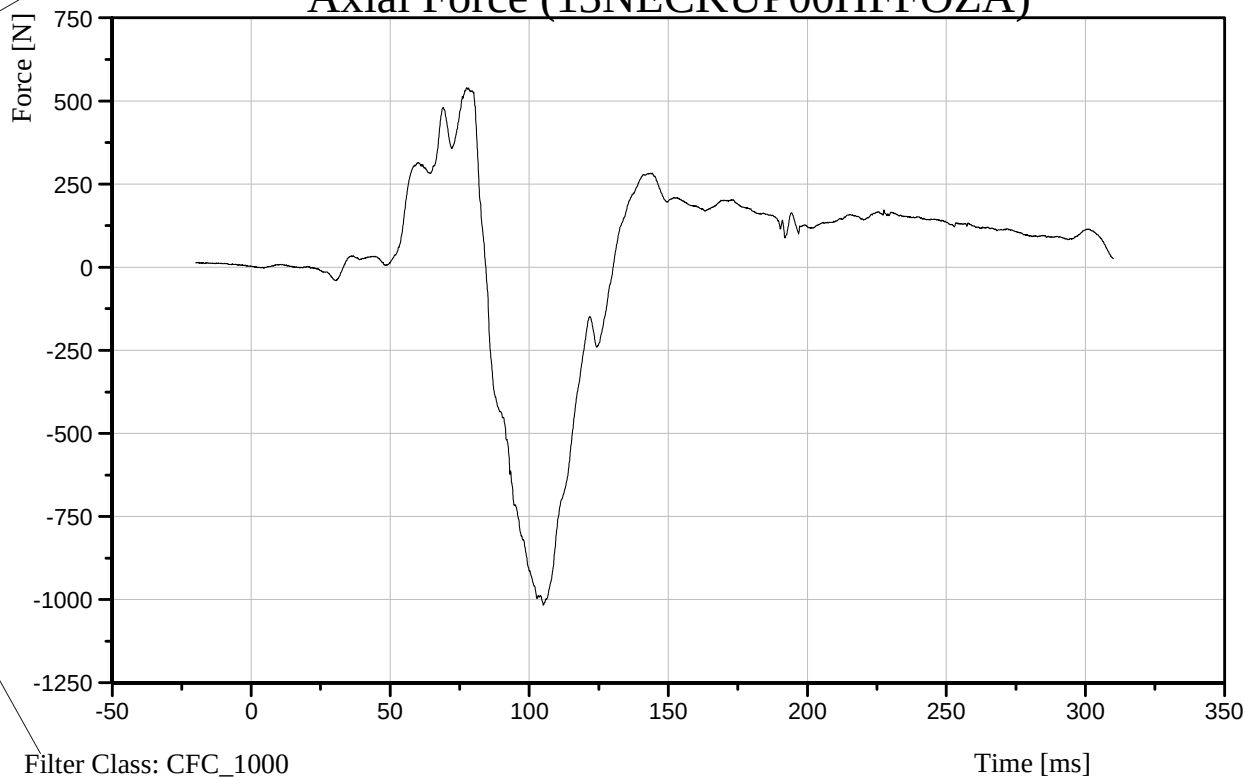
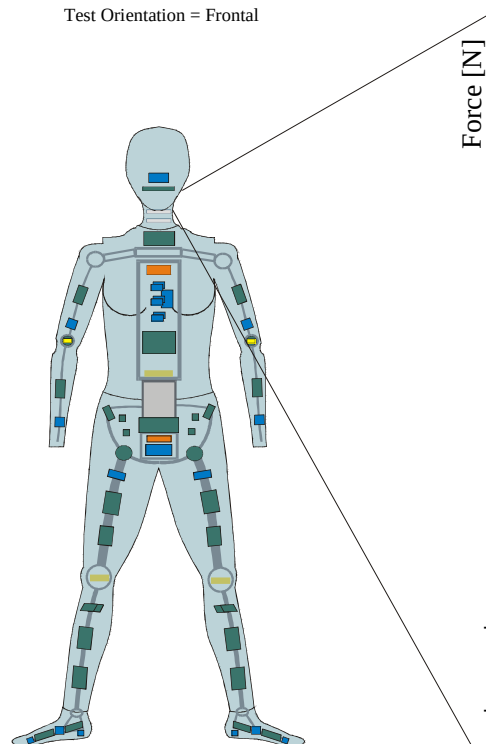
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Axial Force (13NECKUP00HFFOZA)



Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

[Max.] 539.82 N at 77.52 ms

[Min.] -1,016.65 N at 105.04 ms

Neck Axial Force Source Code: Min/Max of 13NECKUP00HFFOZA

B-163

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

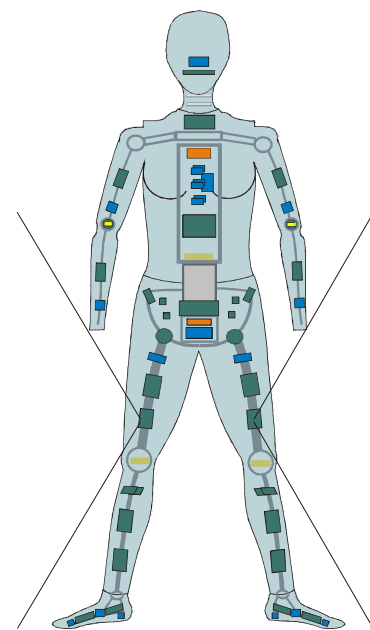
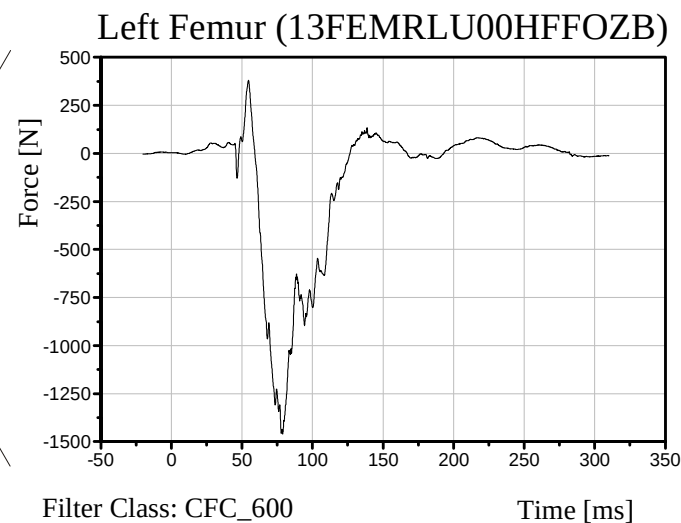
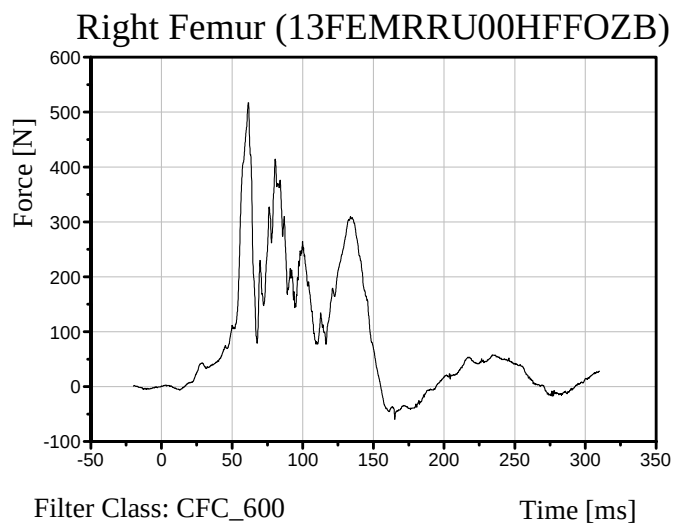
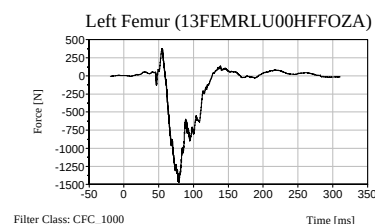
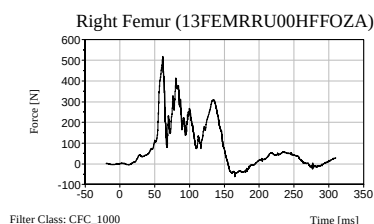
Femur Load

Date: 11/06/2009
Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Tension] 517.12 N at 61.44 ms
Min [Compression] -59.67 N at 165.04 ms

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

Max [Tension] 380.04 N at 54.64 ms
Min [Compression] -1,460.52 N at 78.88 ms

Femur Load Source Code : Min/Max of 13FEMRRU00HFFOZB and 13FEMRLU00HFFOZB (CFC 600)

B-164

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

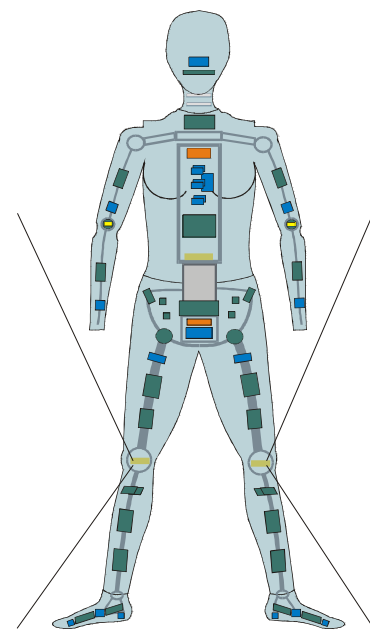
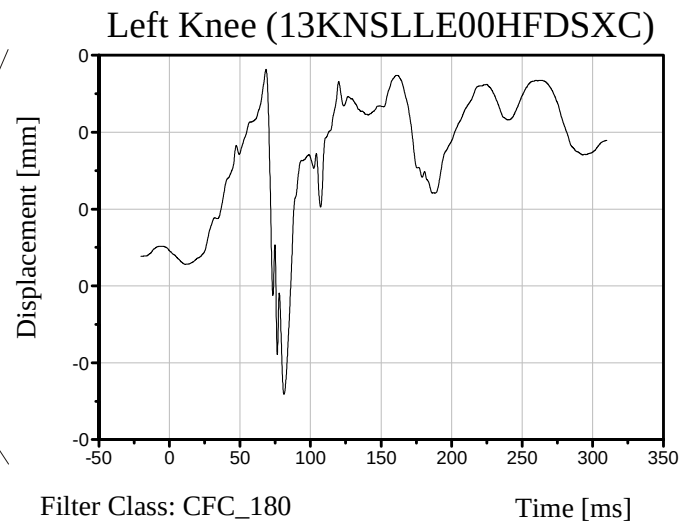
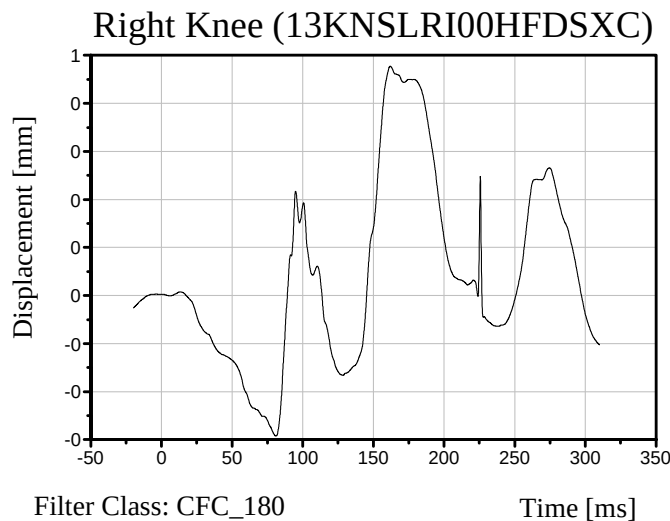
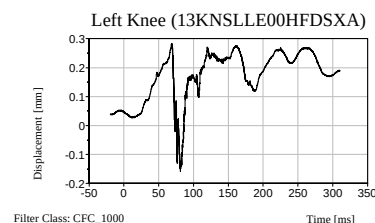
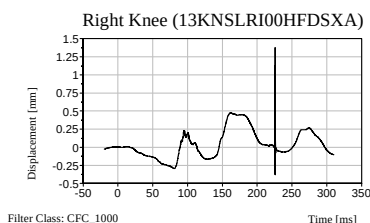
Knee Slider Displacement

Date: 11/06/2009
Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max. [Tension] 0.48 mm at 161.92 ms
Min. [Compression] -0.29 mm at 80.88 ms

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

Max. [Tension] 0.28 mm at 68.56 ms
Min. [Compression] -0.14 mm at 81.20 ms

Knee Displacement Source Code : Min/Max of 13KNSLRI00HFDSXC and 13KNSLLE00HFDSXC (CFC 600)

B-165

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Tibia Index (TI)

Date: 11/06/2009

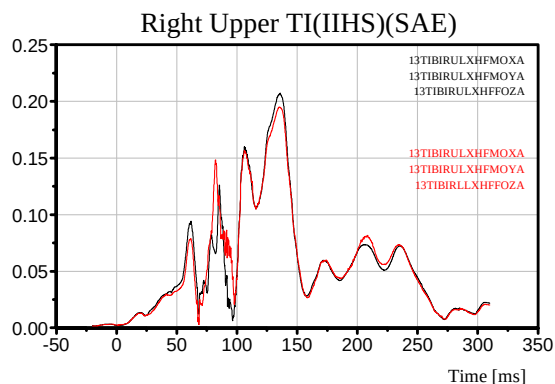
Time: 14:32

Customer: VRTC

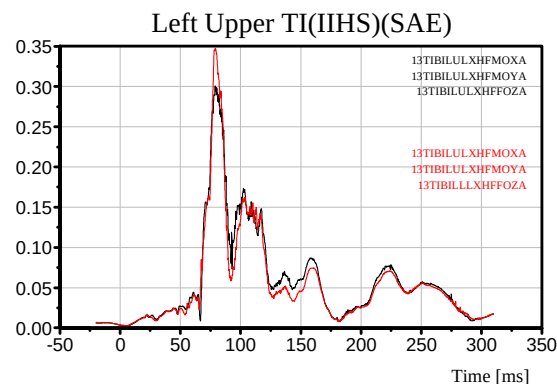
TRC Inc. Test Lab: CTF

Test Number: 091106

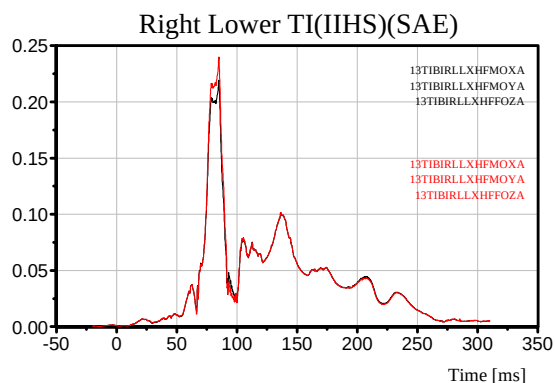
Critical Bending Moment = 240 N·m
Critical Compression Force = 12000 N



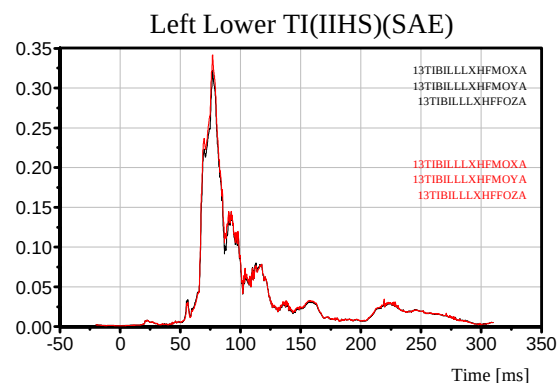
Max = 0.21 at 135.92 ms (SAE)
Max = 0.20 at 135.28 ms (IIHS)



Max = 0.30 at 78.96 ms (SAE)
Max = 0.35 at 79.04 ms (IIHS)



Max = 0.22 at 84.96 ms (SAE)
Max = 0.24 at 85.04 ms (IIHS)



Max = 0.32 at 76.88 ms (SAE)
Max = 0.34 at 76.88 ms (IIHS)

Dummy: HIII 5th Female
Seating Position:
Right Front Passenger

Tibia Index Source Code : Guideline 96/79/EC; SAE J1727 AUG96; and IIHS Crashworthiness Evaluation Offset Barrier Crash Test Protocol (Version X)

B-166

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Foot Acceleration

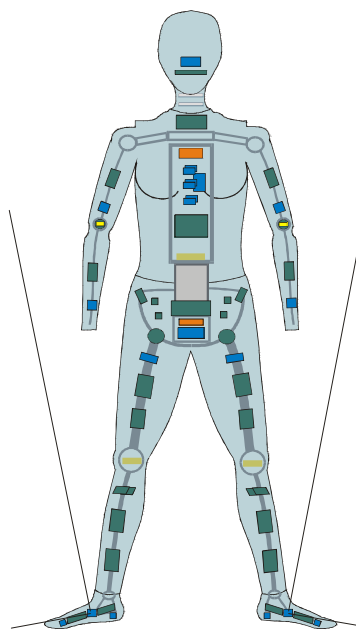
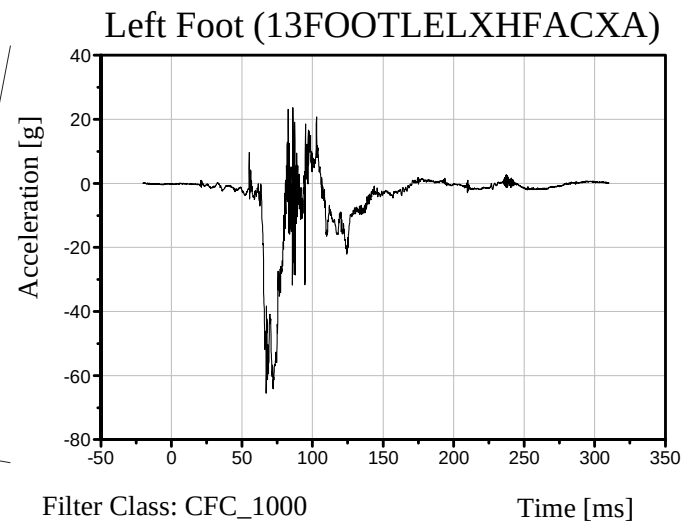
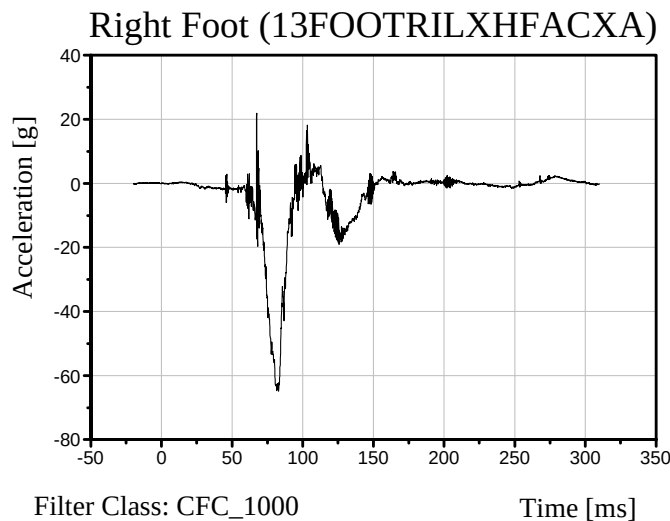
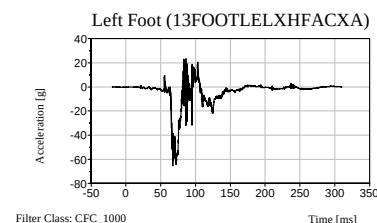
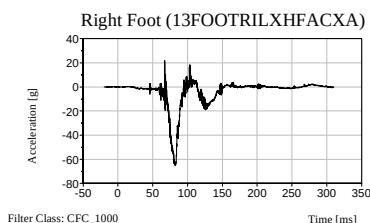
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Acceleration] 21.94 g at 67.28 ms
Min [Acceleration] -64.75 g at 82.72 ms

Dummy:HIII 5th Female
Seating Position:
Right Front Passenger

Max [Acceleration] 23.68 g at 86.16 ms
Min [Acceleration] -65.48 g at 67.20 ms

Foot Acceleration Source Code : Min/Max of 13FOOTRILXHFACXA and 13FOOTLELXHFACXA

B-167

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Head Redundant X-Axis Acceleration

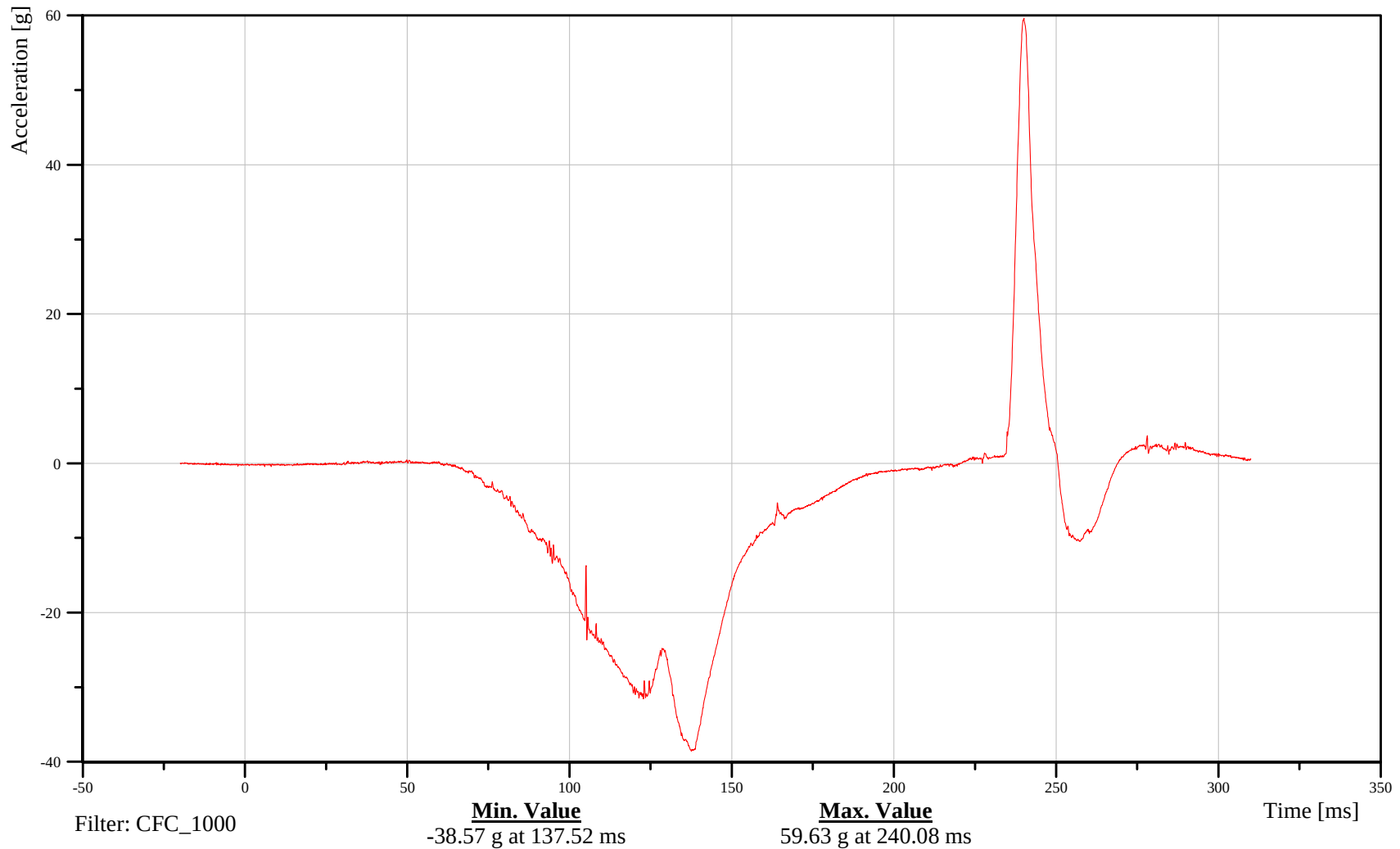
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14HEADCGRDHFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-168

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Left Rear Passenger Head Redundant Y-Axis Acceleration

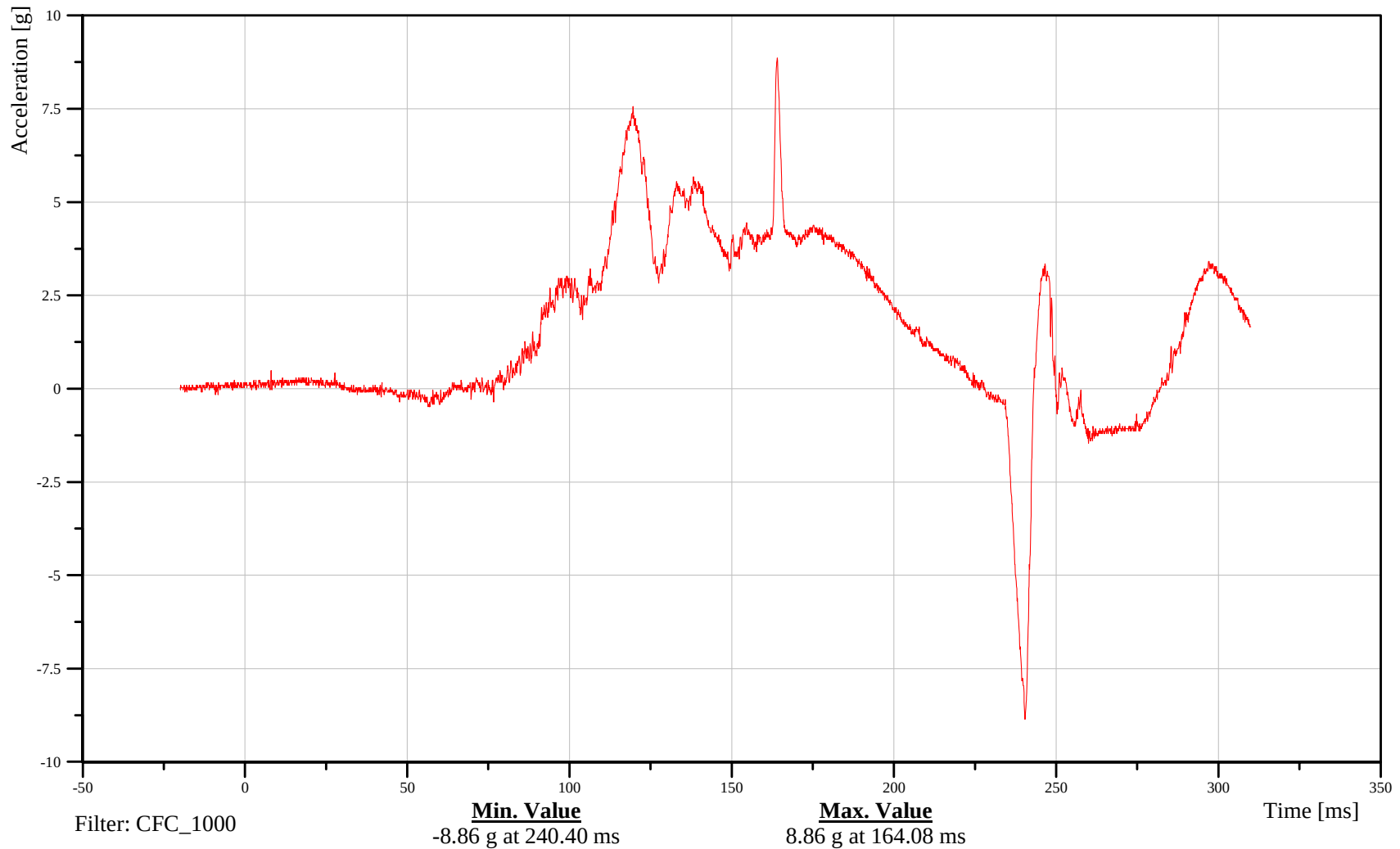
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14HEADCGRDHFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-169

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Head Redundant Z-Axis Acceleration

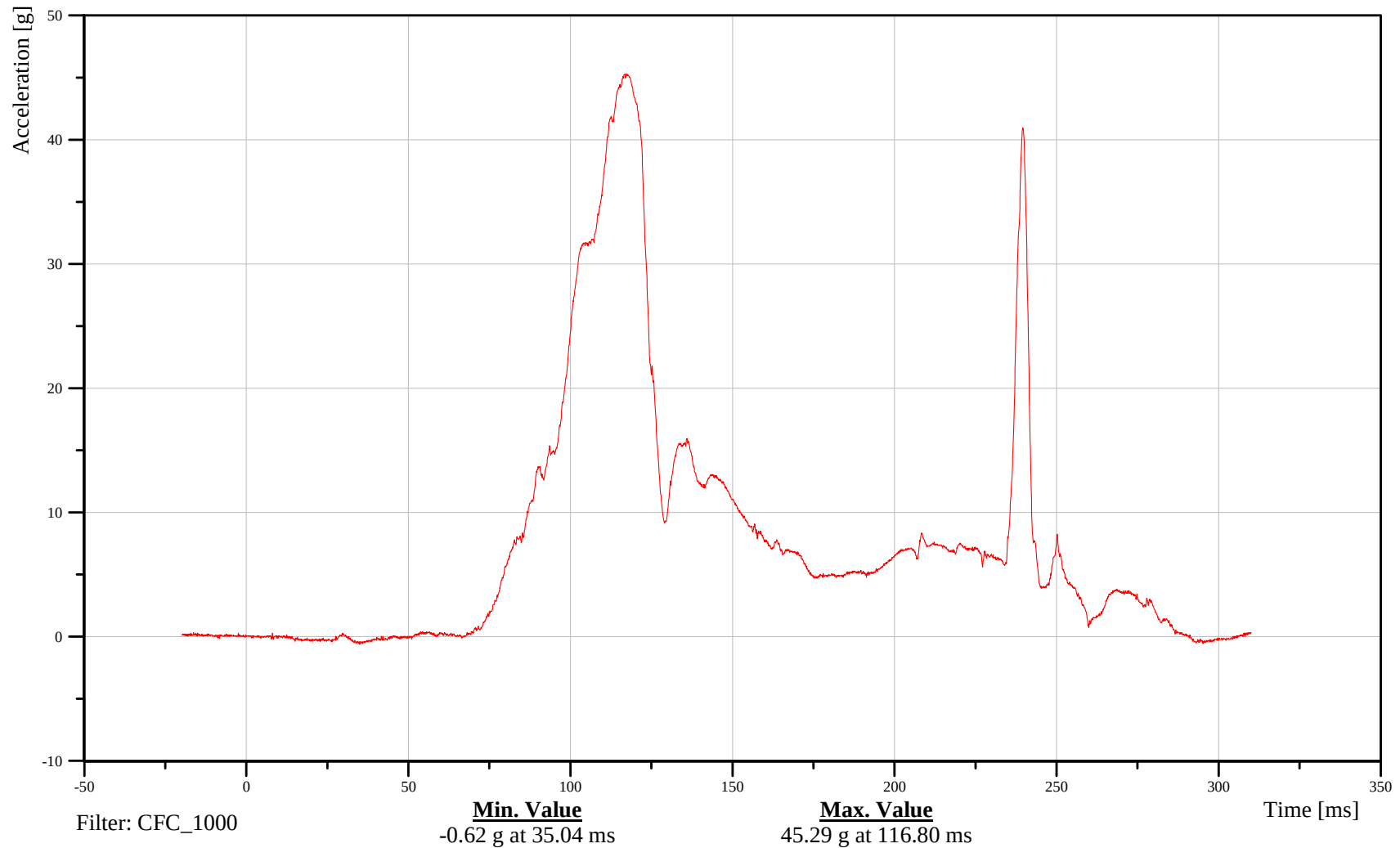
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14HEADCGRDHFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-170

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap
Bullet Vehicle Left Rear Passenger Head Redundant Resultant Acceleration

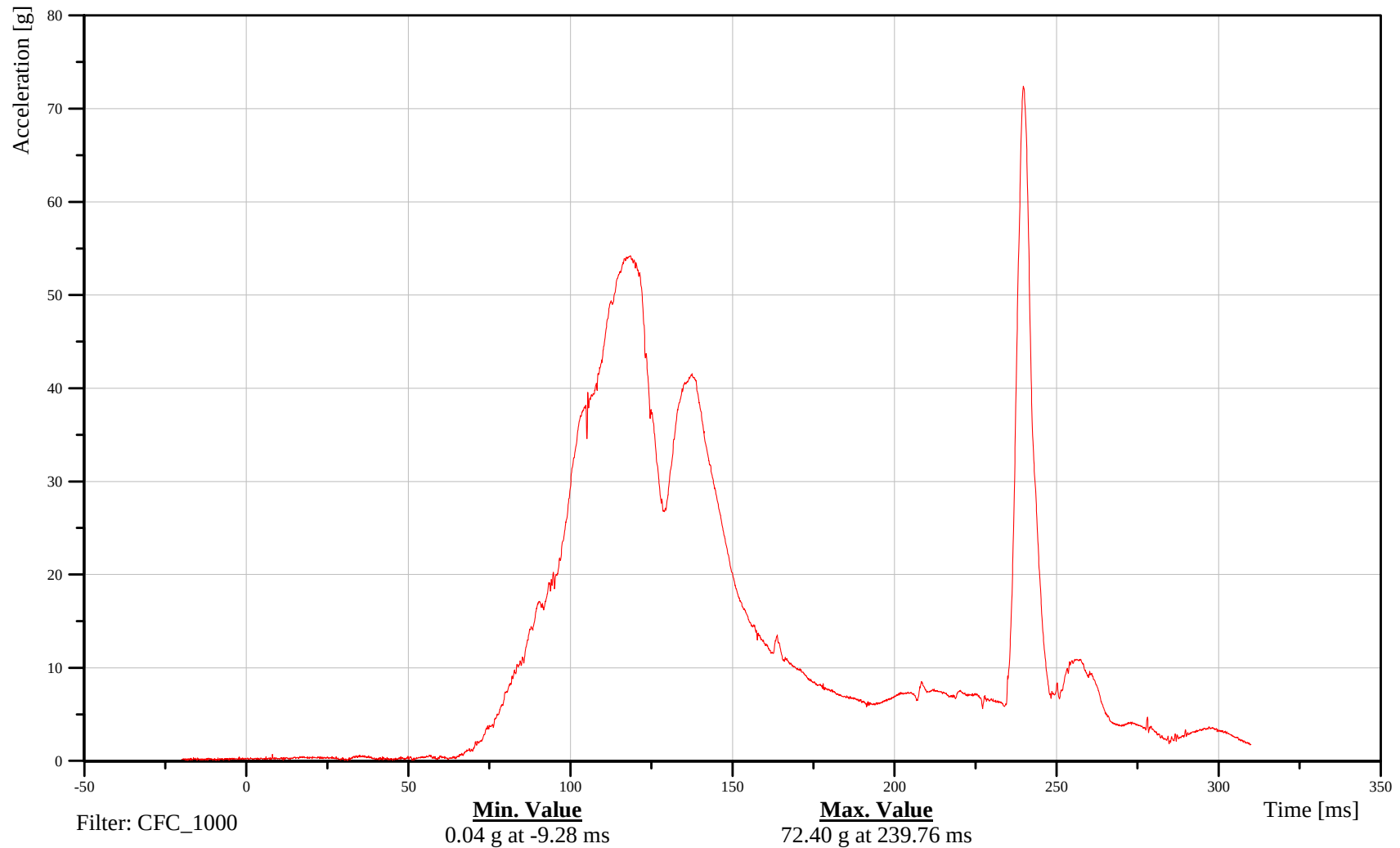
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14HEADCGRDHFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-171

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

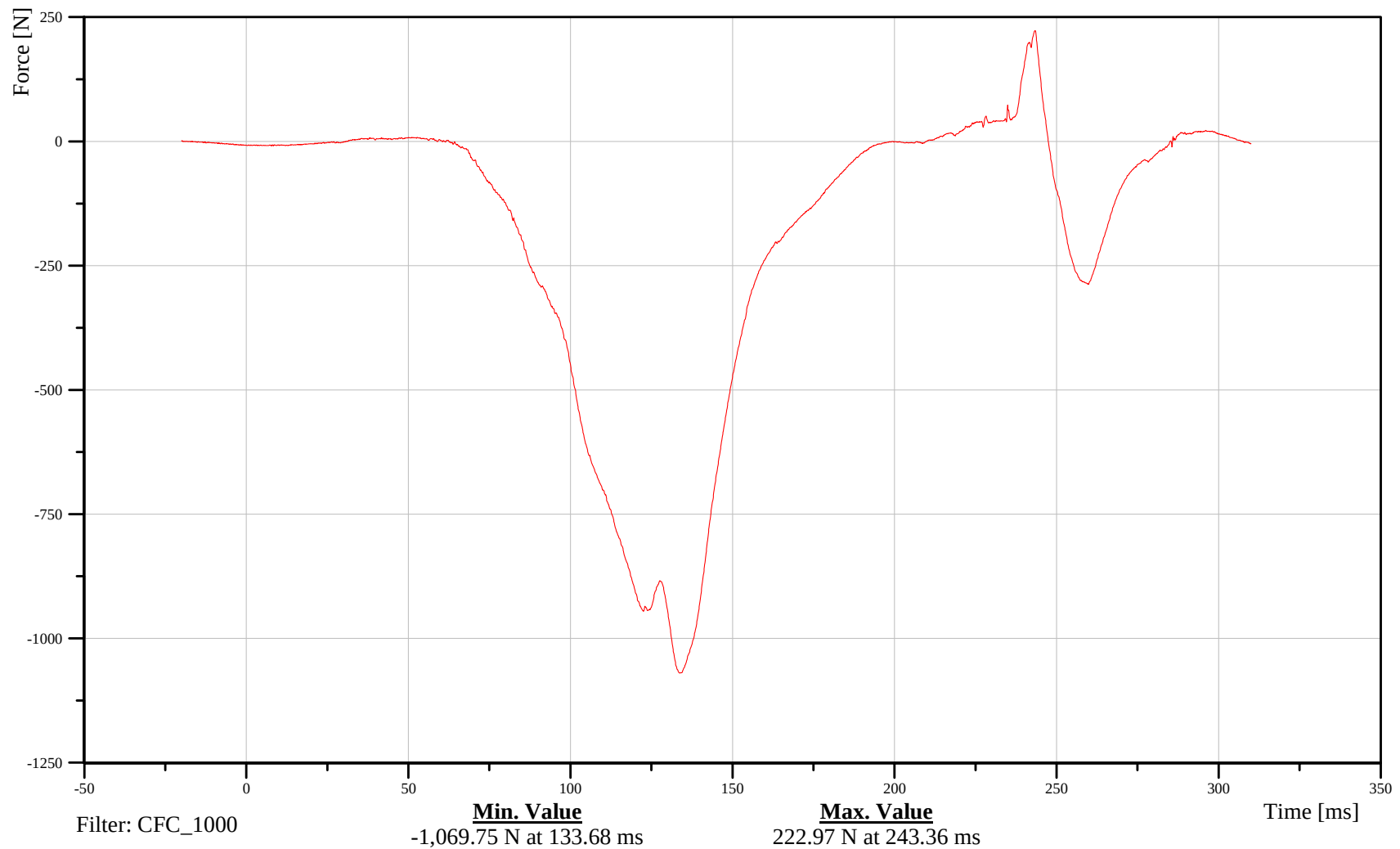
Bullet Vehicle Left Rear Passenger Upper Neck X-Axis Force

Customer: VRTC

14NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-172

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

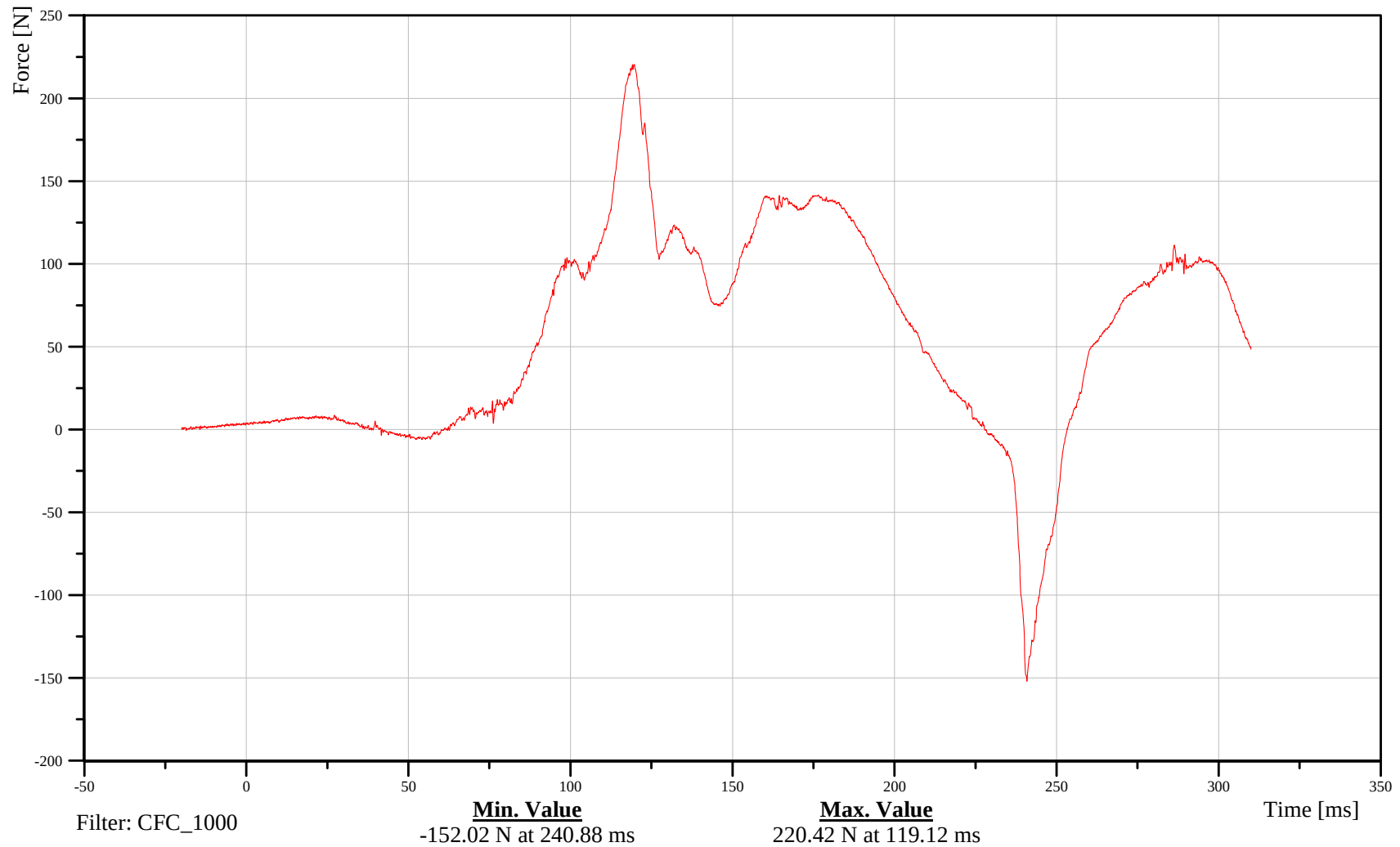
Bullet Vehicle Left Rear Passenger Upper Neck Y-Axis Force

Customer: VRTC

14NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-173

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Upper Neck Z-Axis Force

Date: 11/06/2009

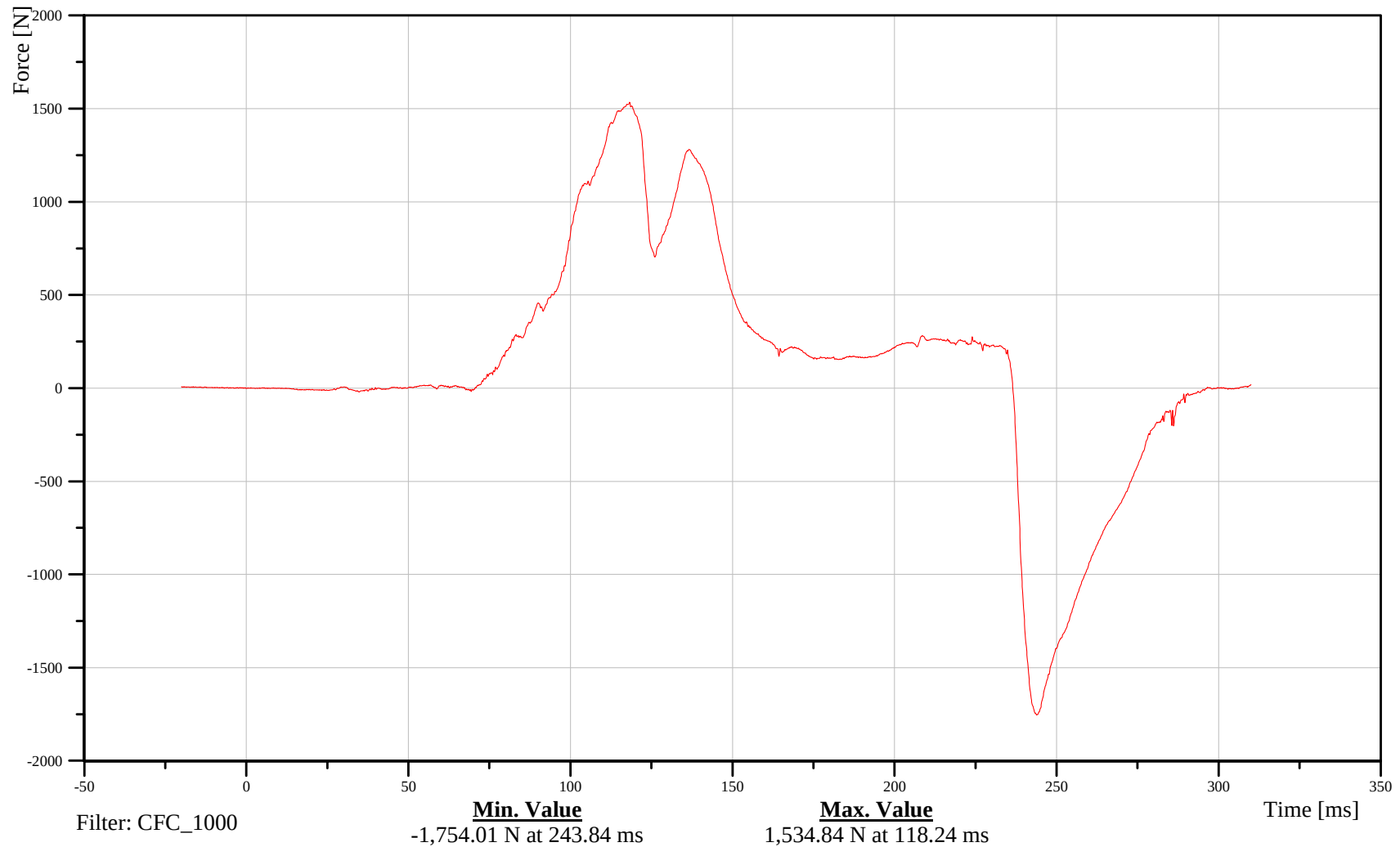
Time: 14:32

Customer: VRTC

14NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-174

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Upper Neck Moment About X Axis

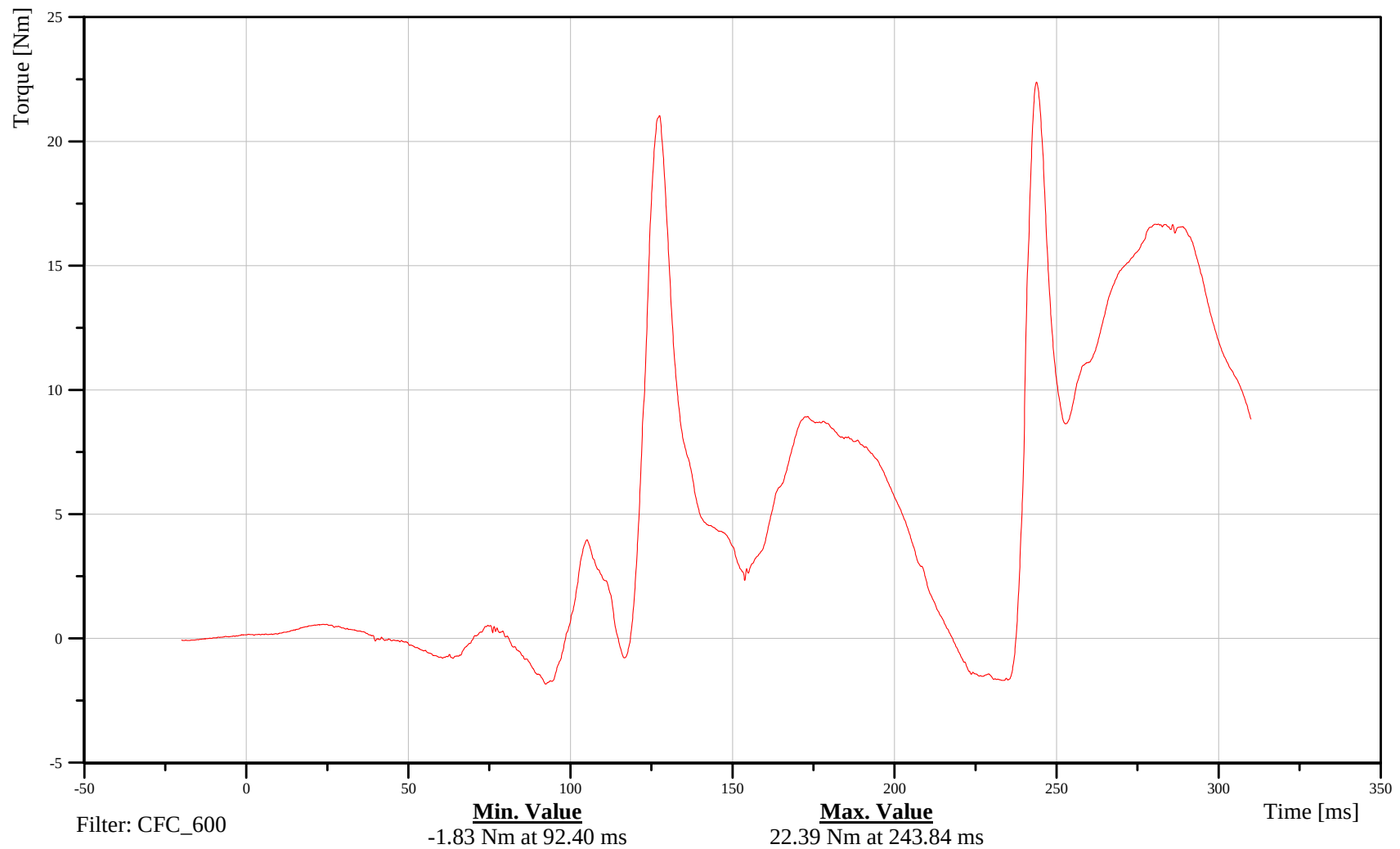
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-175

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Upper Neck Moment About Y Axis

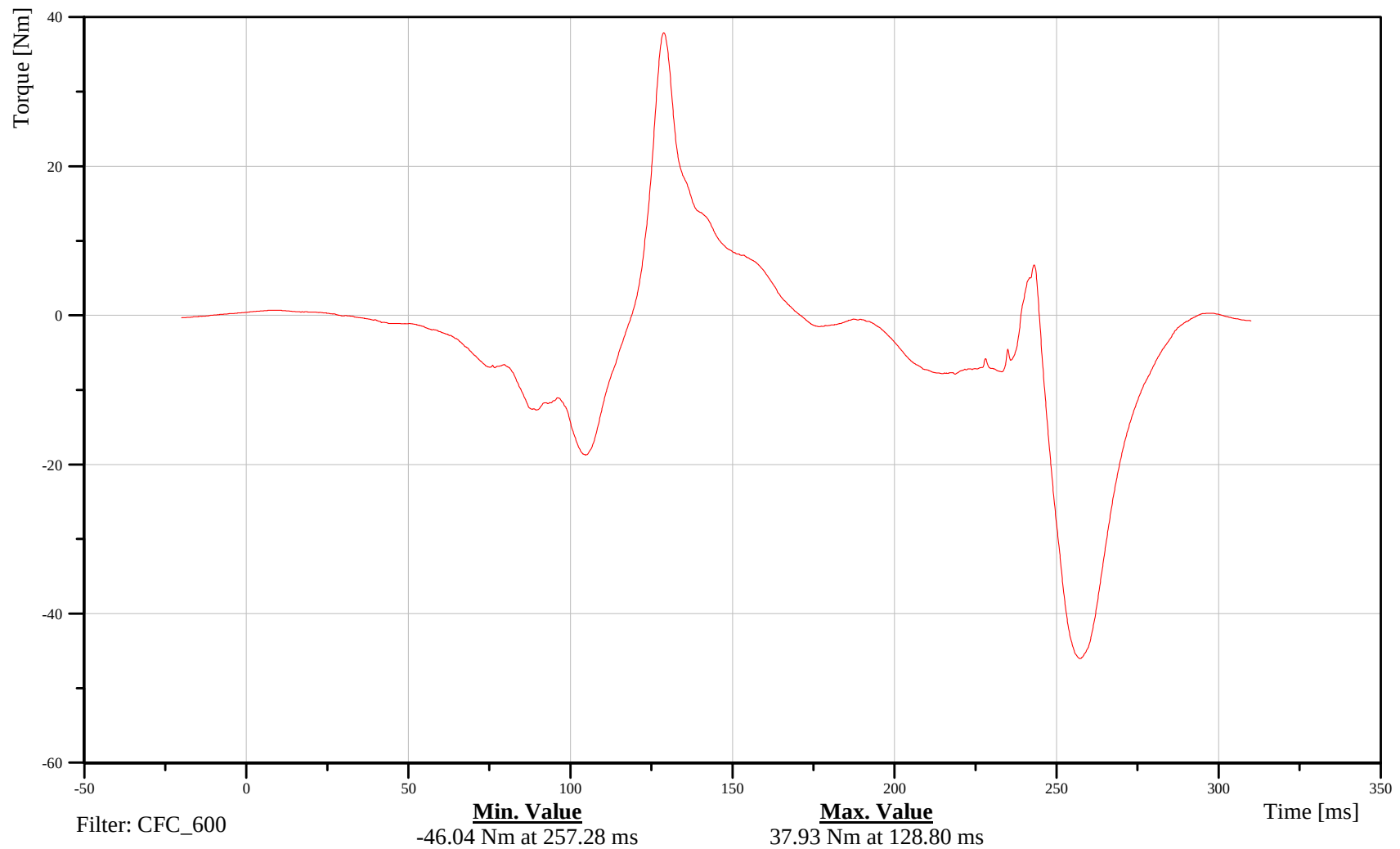
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-176

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Upper Neck Moment About Z Axis

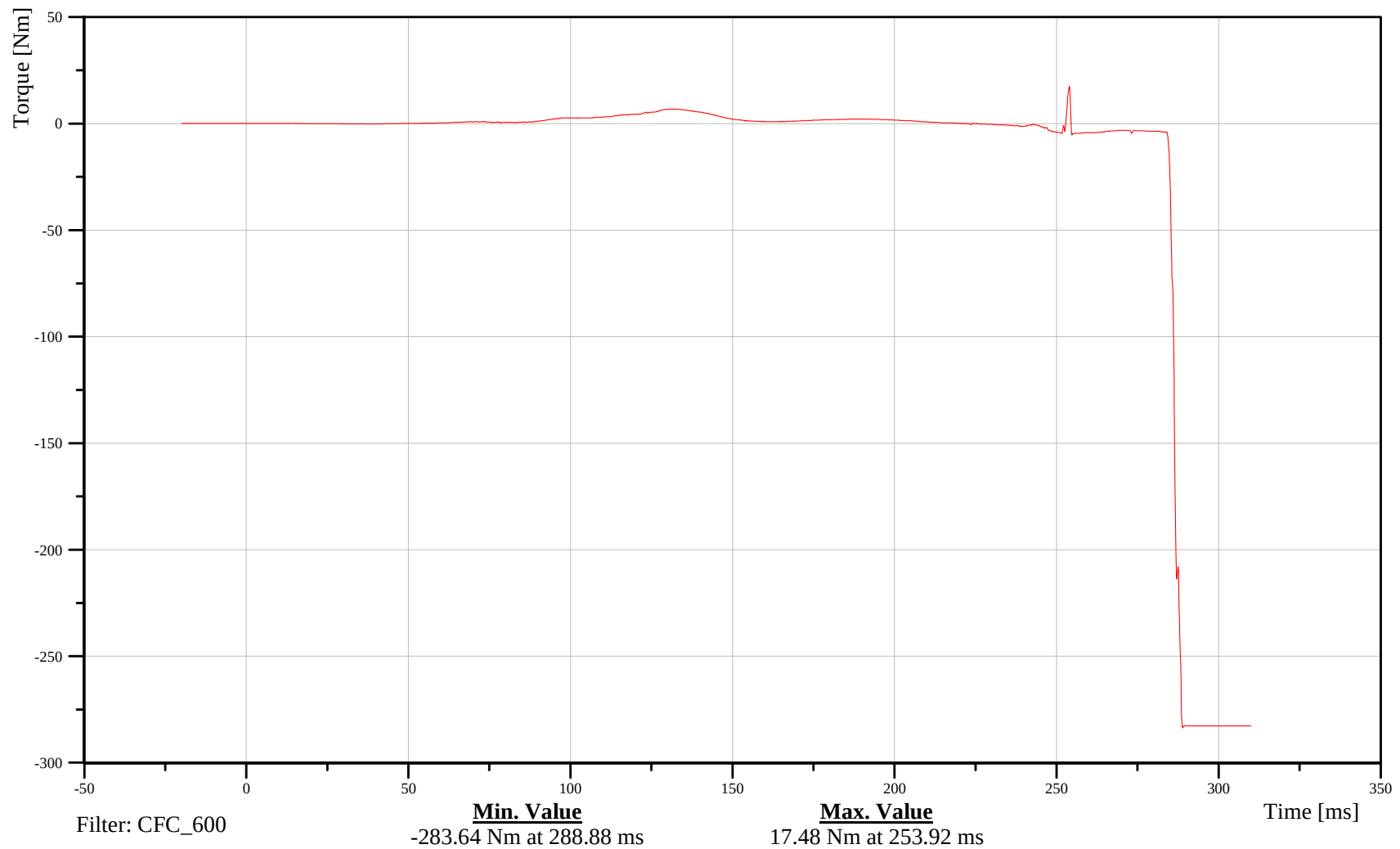
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-177

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest X-Axis Acceleration

Date: 11/06/2009

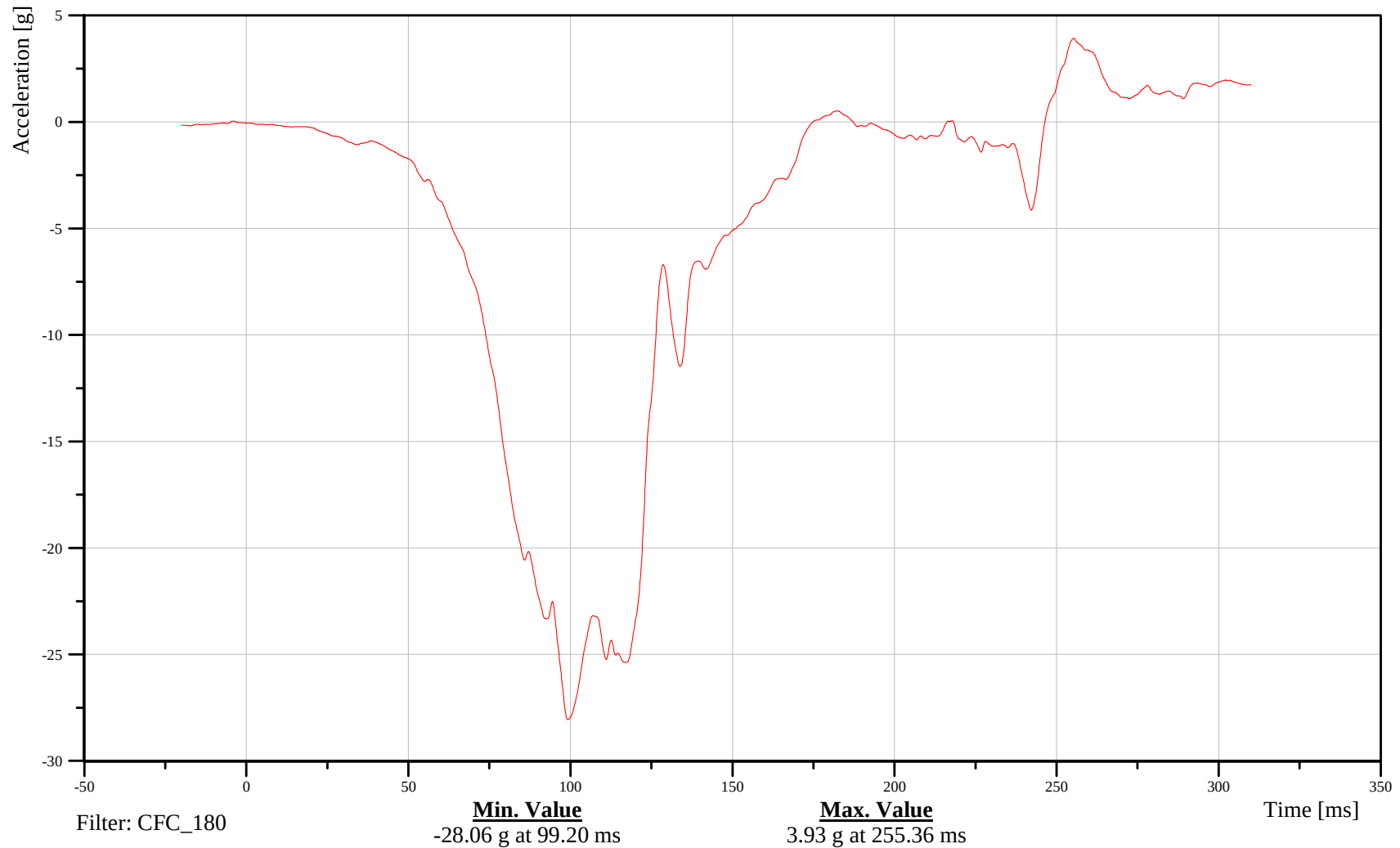
Time: 14:32

Customer: VRTC

14CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-178

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Y-Axis Acceleration

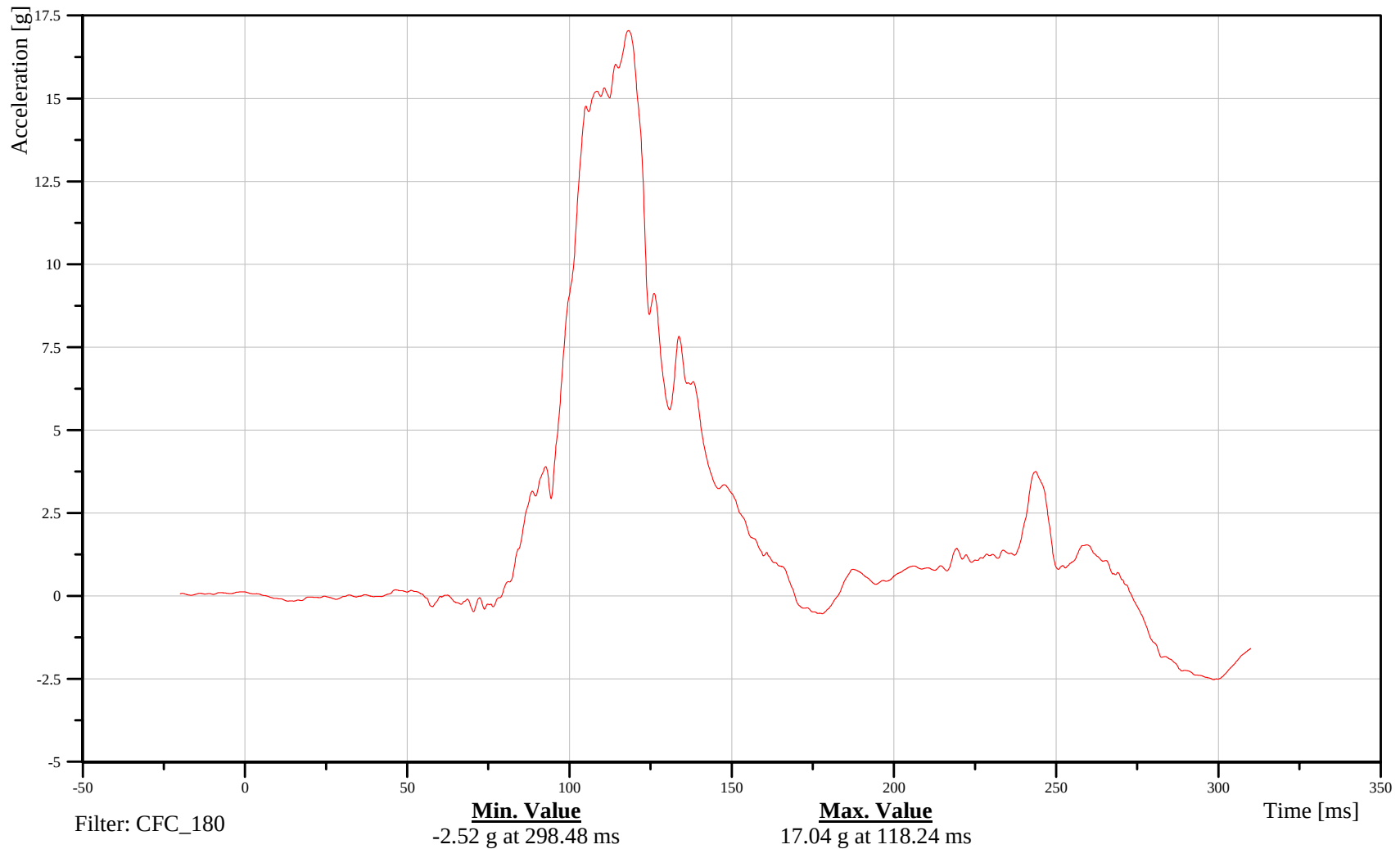
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-179

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

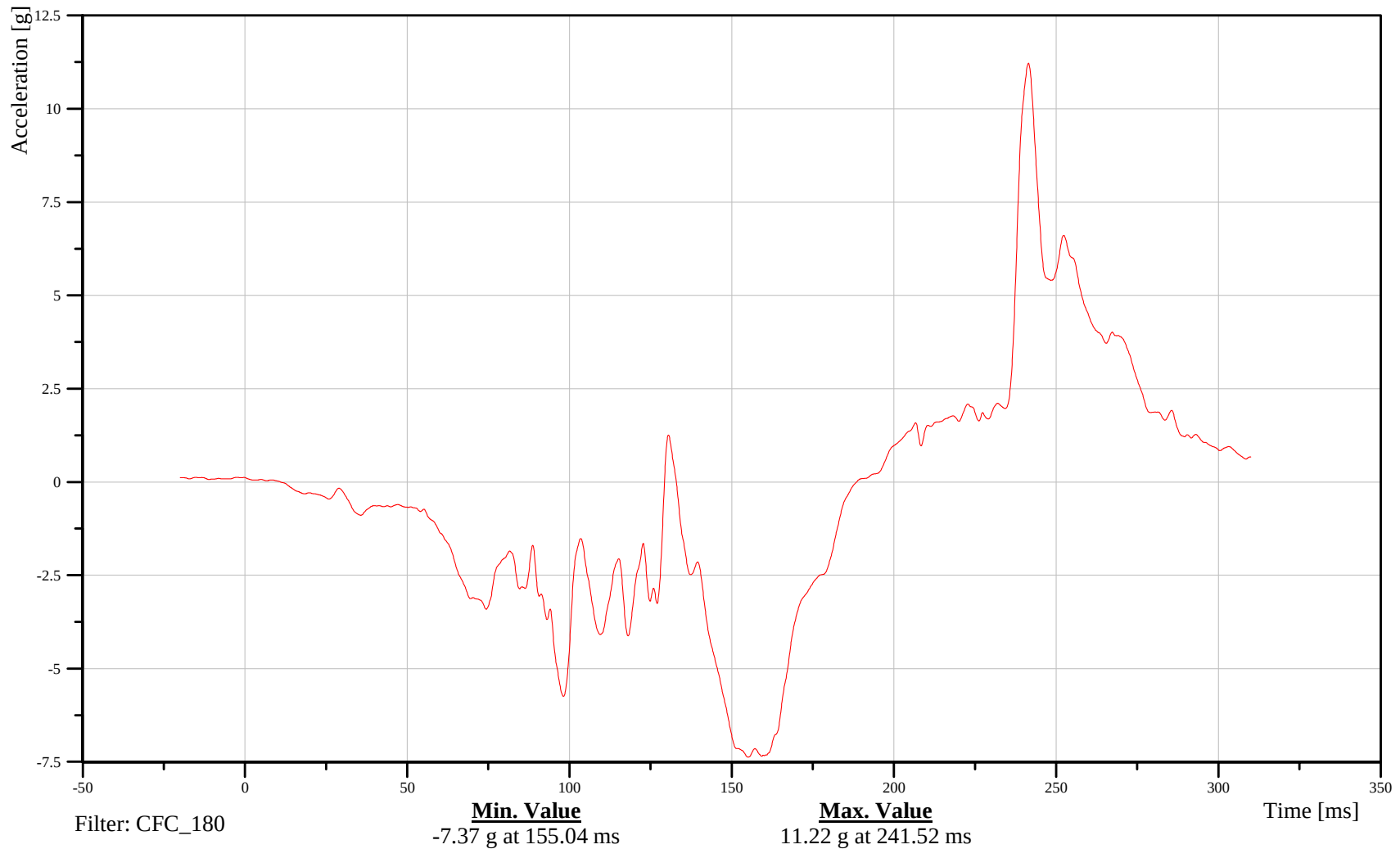
Bullet Vehicle Left Rear Passenger Chest Z-Axis Acceleration

Customer: VRTC

14CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-180

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Resultant Acceleration

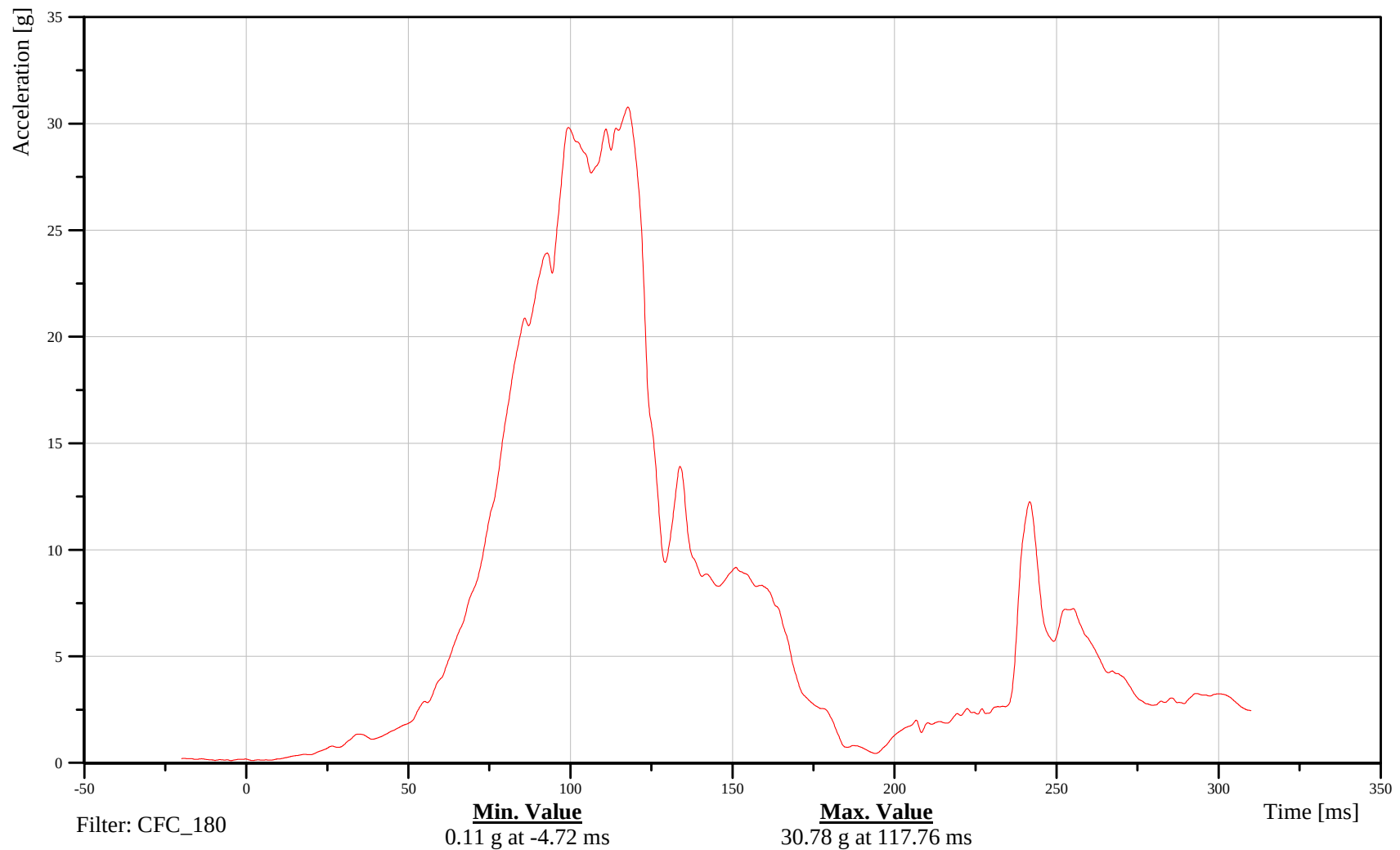
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-181

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Redundant X-Axis Acceleration

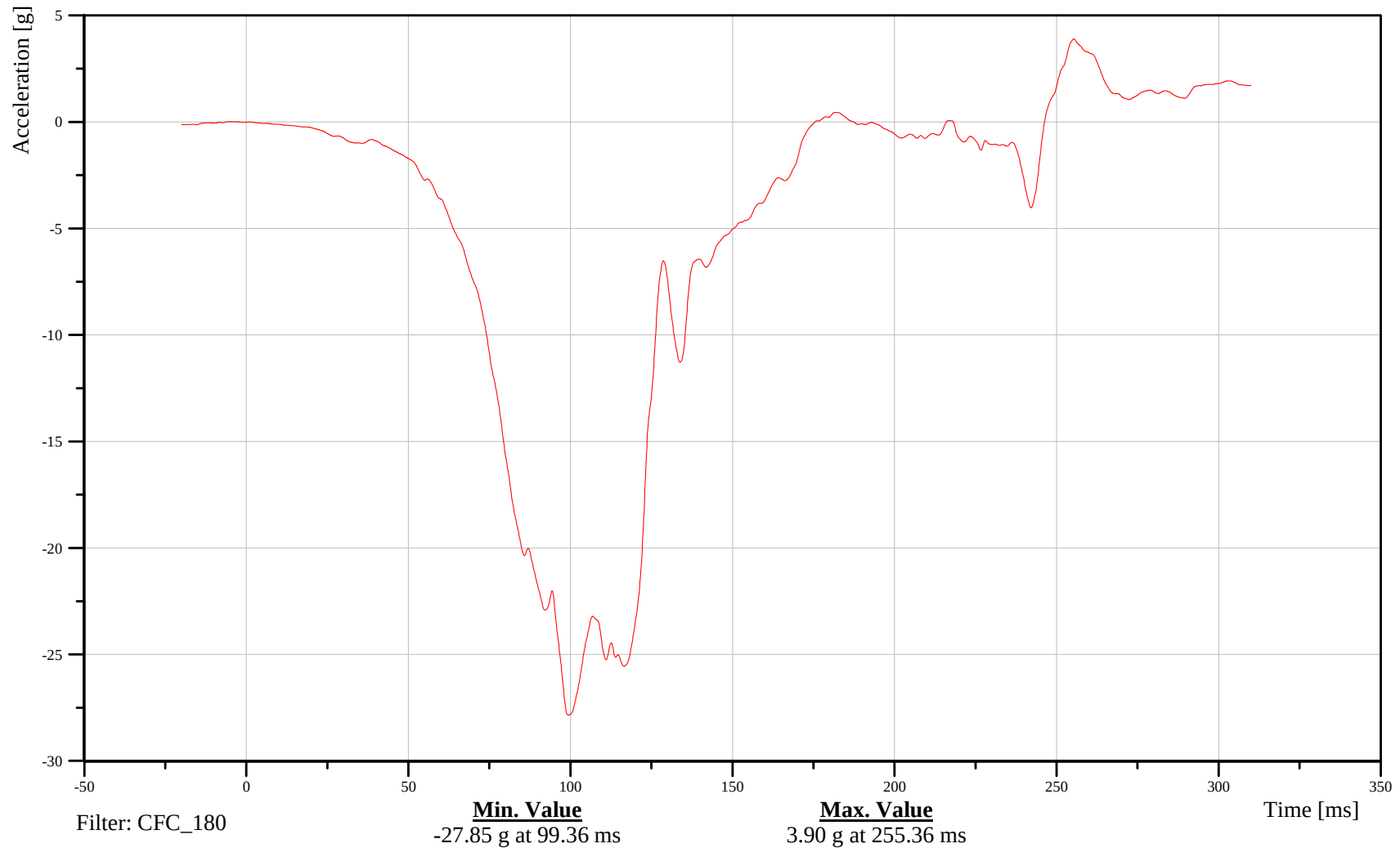
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCGRDHFACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-182

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Redundant Y-Axis Acceleration

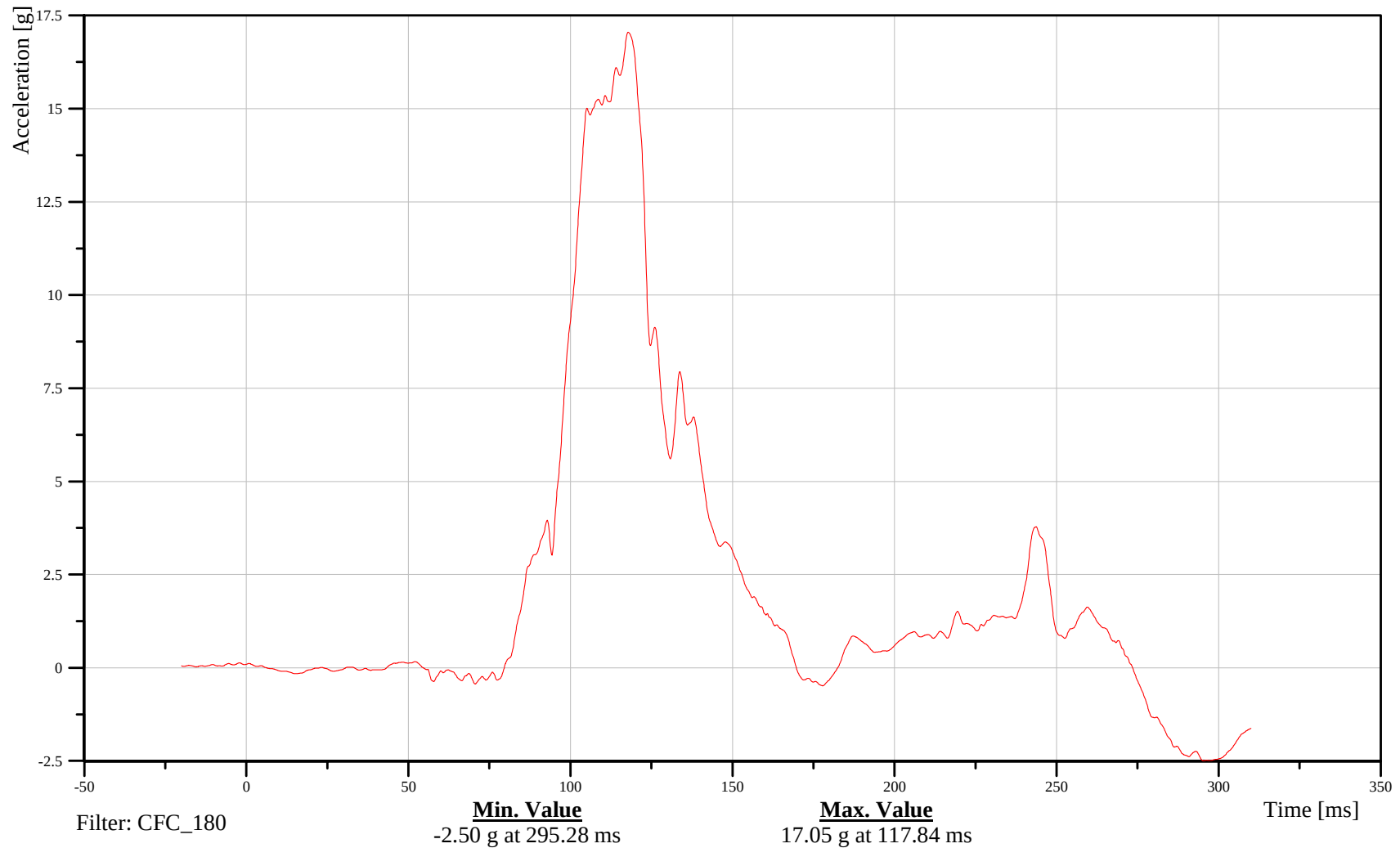
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCGRDHFACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-183

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Redundant Z-Axis Acceleration

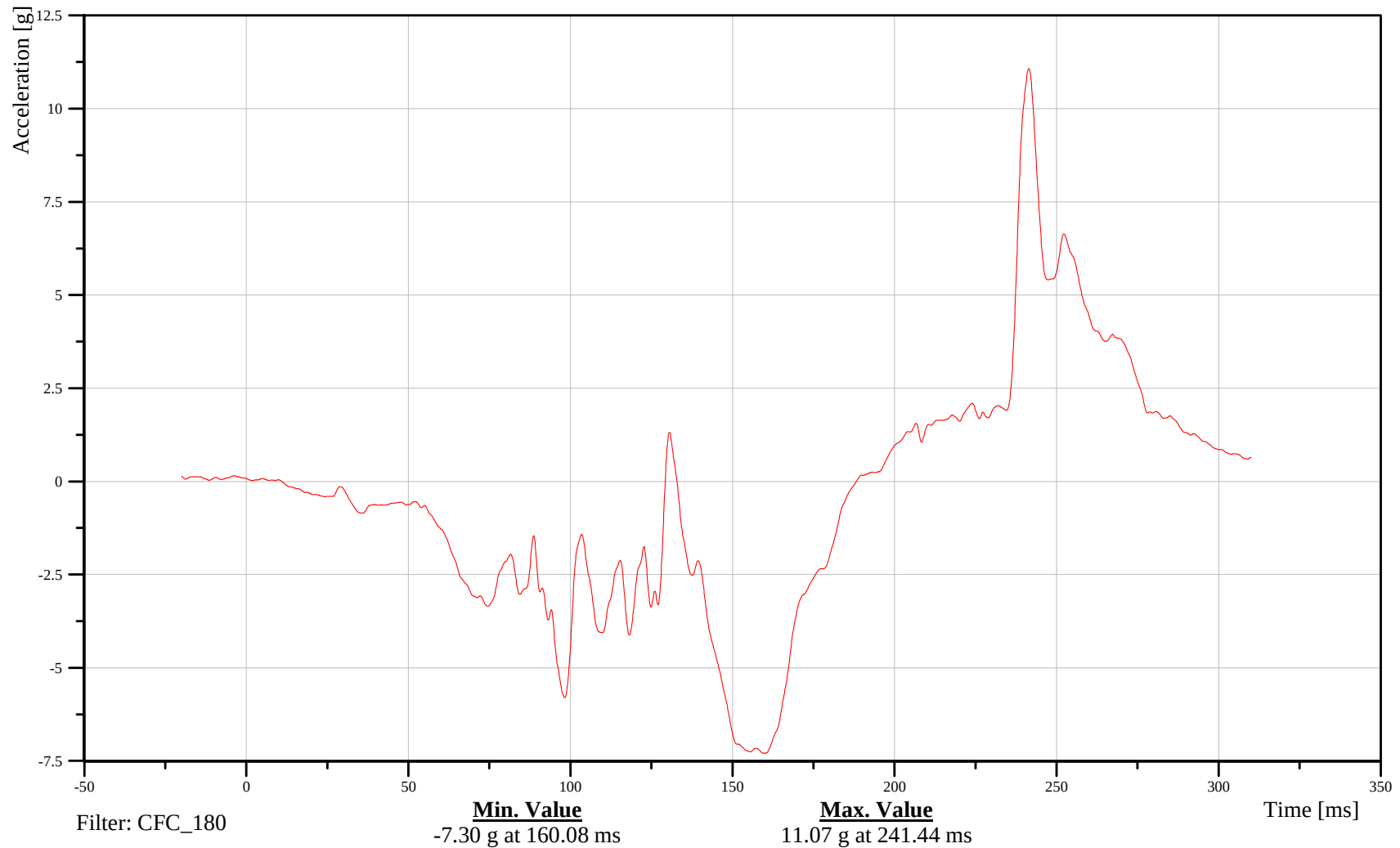
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCGRDHFACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-184

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Chest Redundant Resultant Acceleration

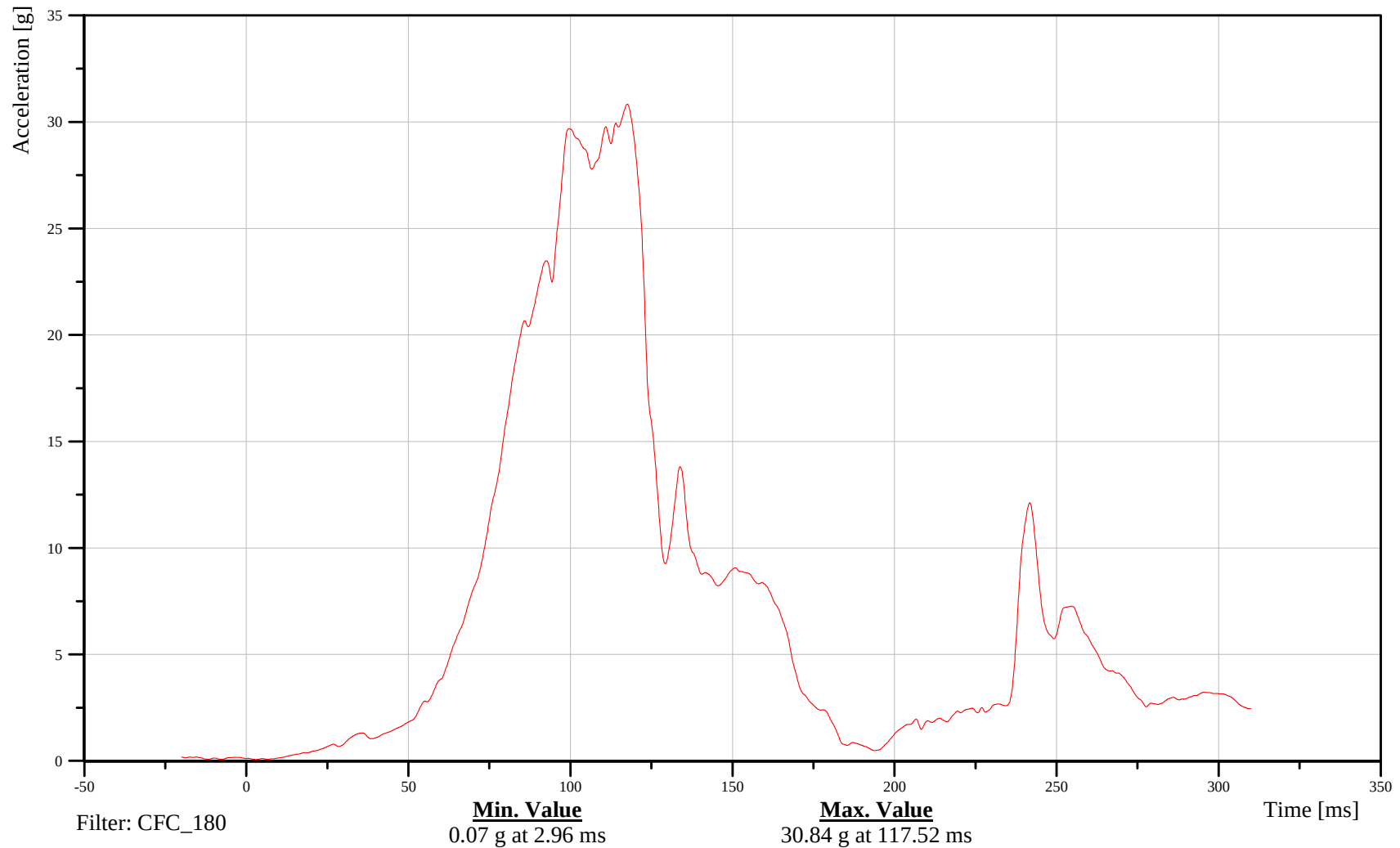
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14CHSTCGRDHFACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-185

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

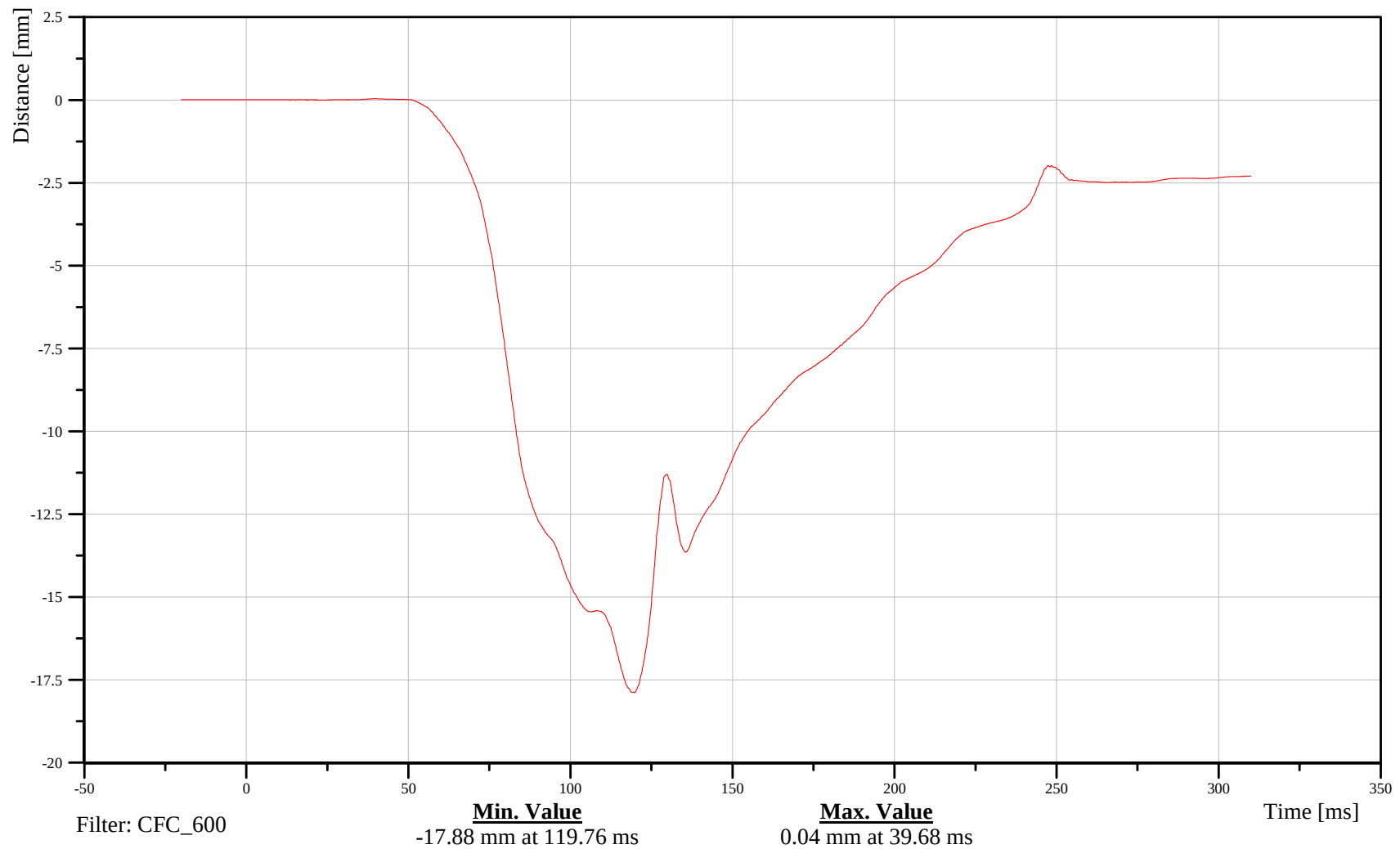
Bullet Vehicle Left Rear Passenger Chest X-Axis Displacement

Customer: VRTC

14CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-186

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Pelvis X-Axis Acceleration

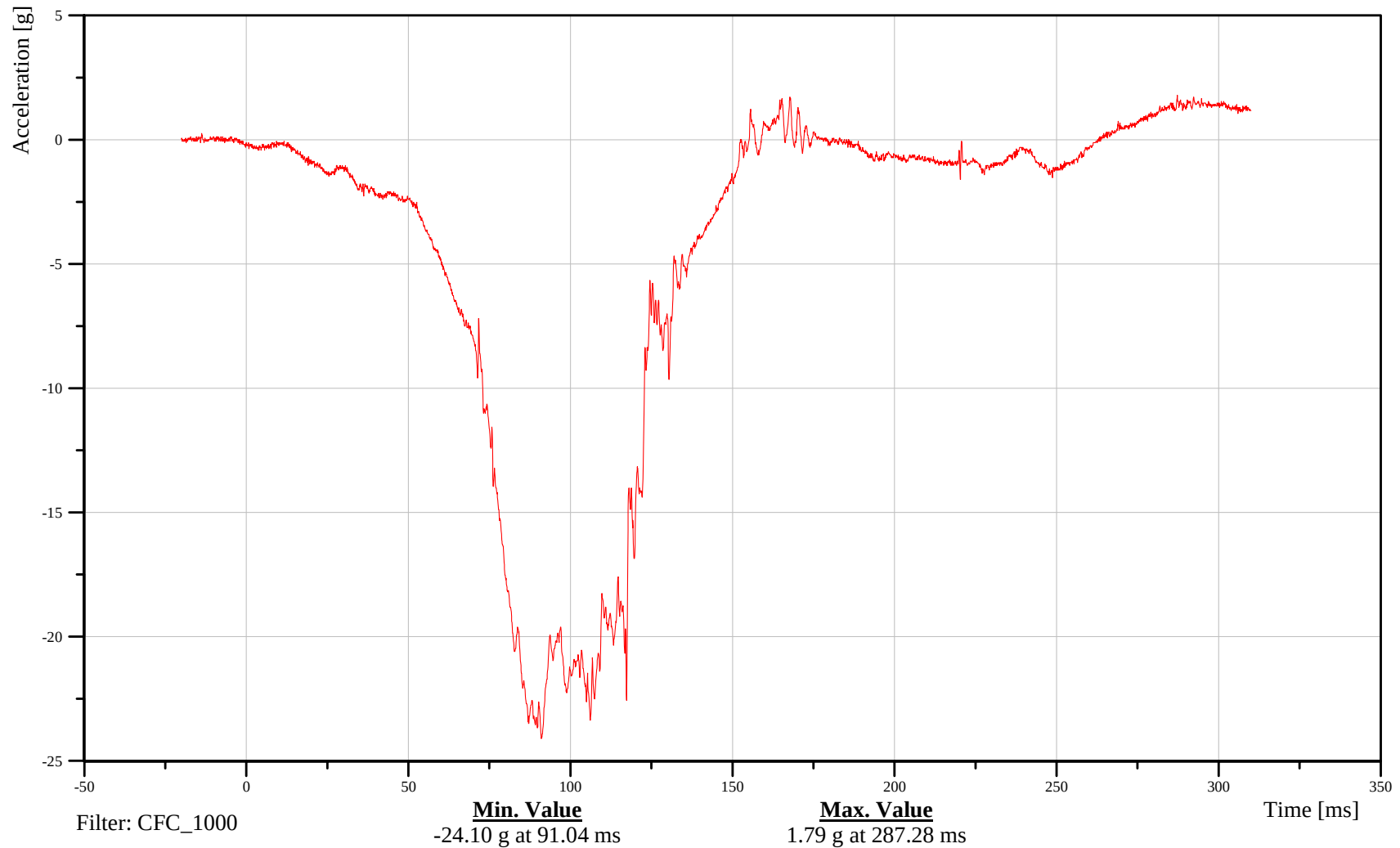
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-187

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Pelvis Y-Axis Acceleration

Date: 11/06/2009

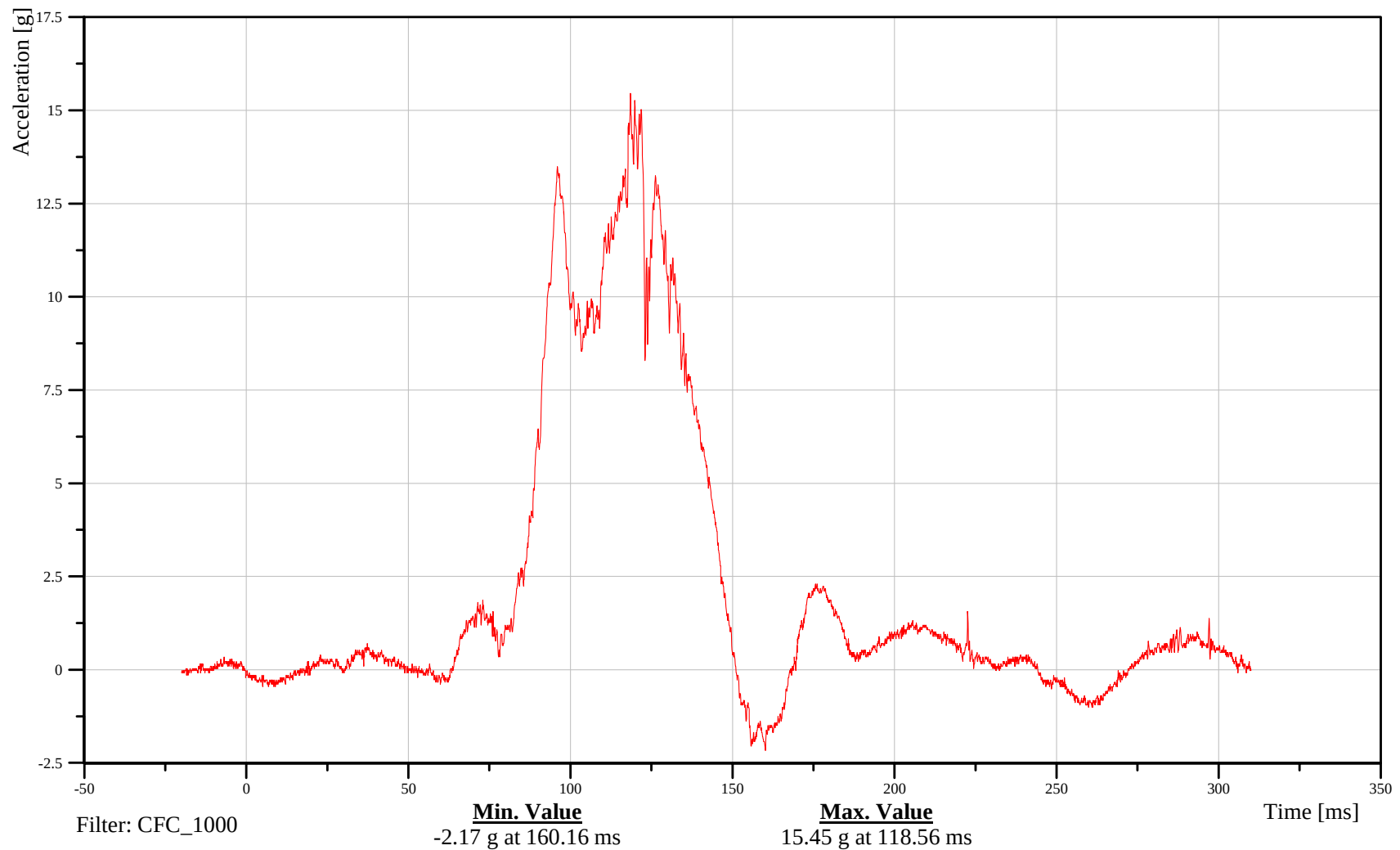
Time: 14:32

Customer: VRTC

14PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-188

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Pelvis Z-Axis Acceleration

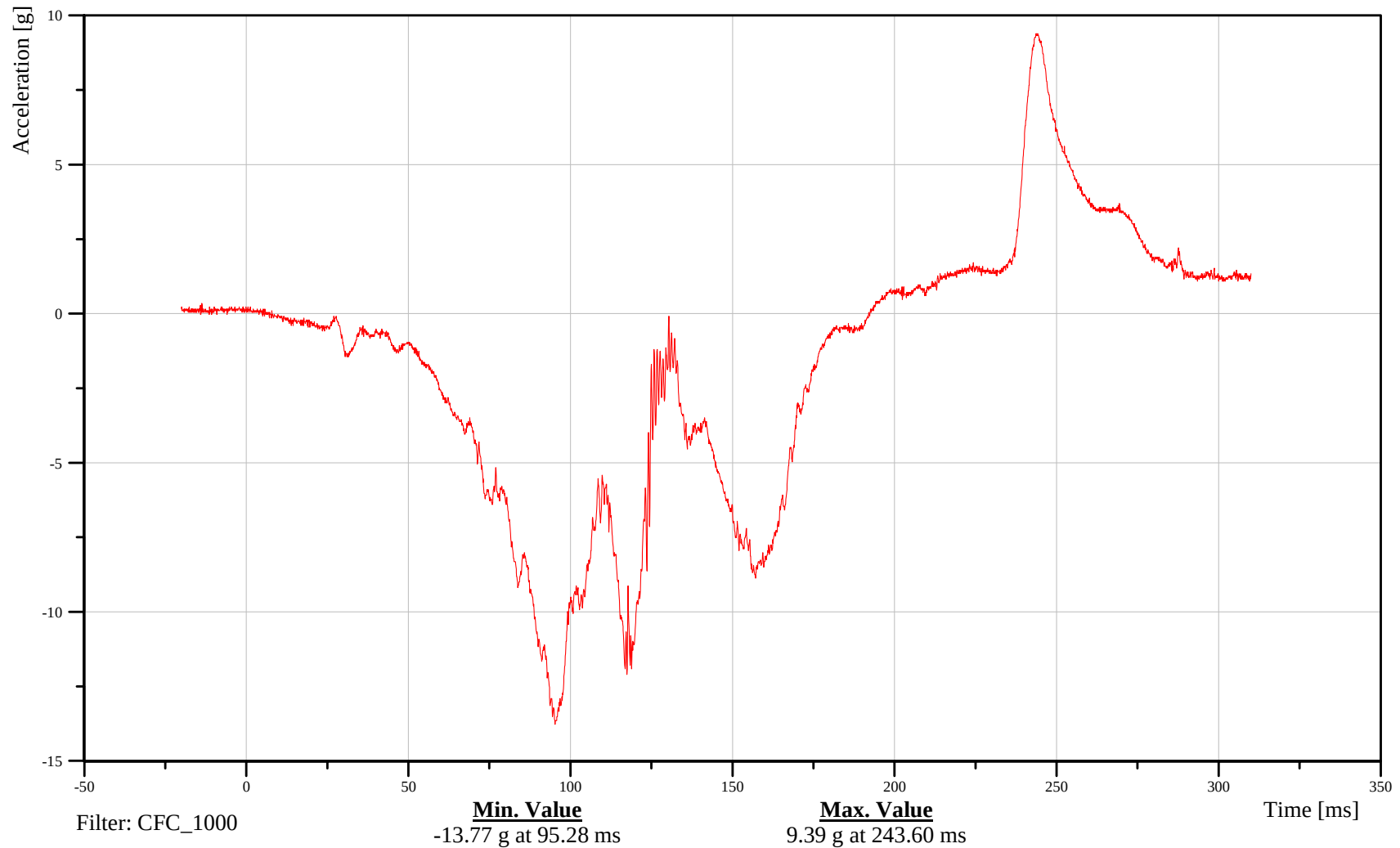
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-189

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Pelvis Resultant Acceleration

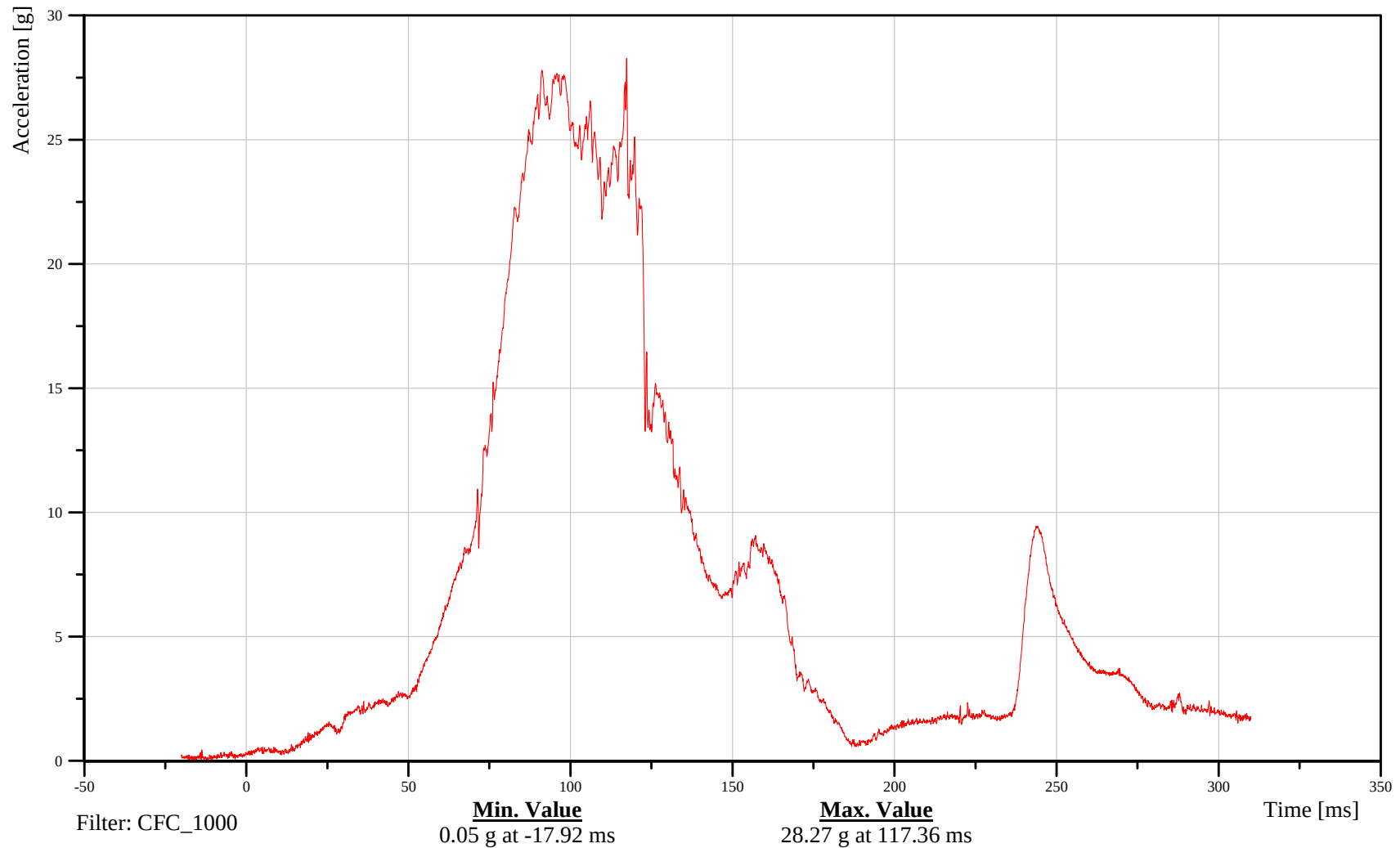
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-190

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Left Femur Z-Axis Force

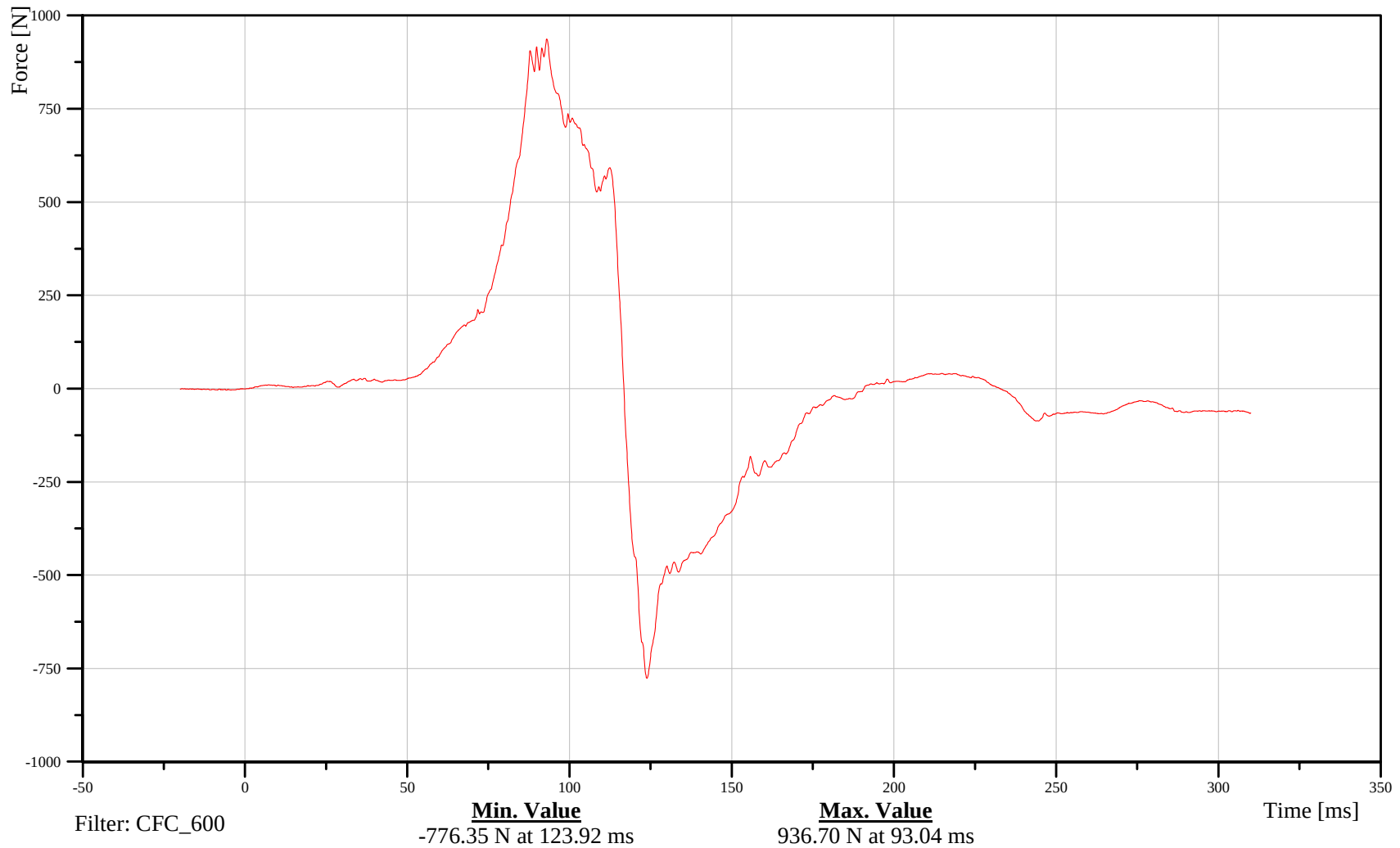
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14FEMRLL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-191

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

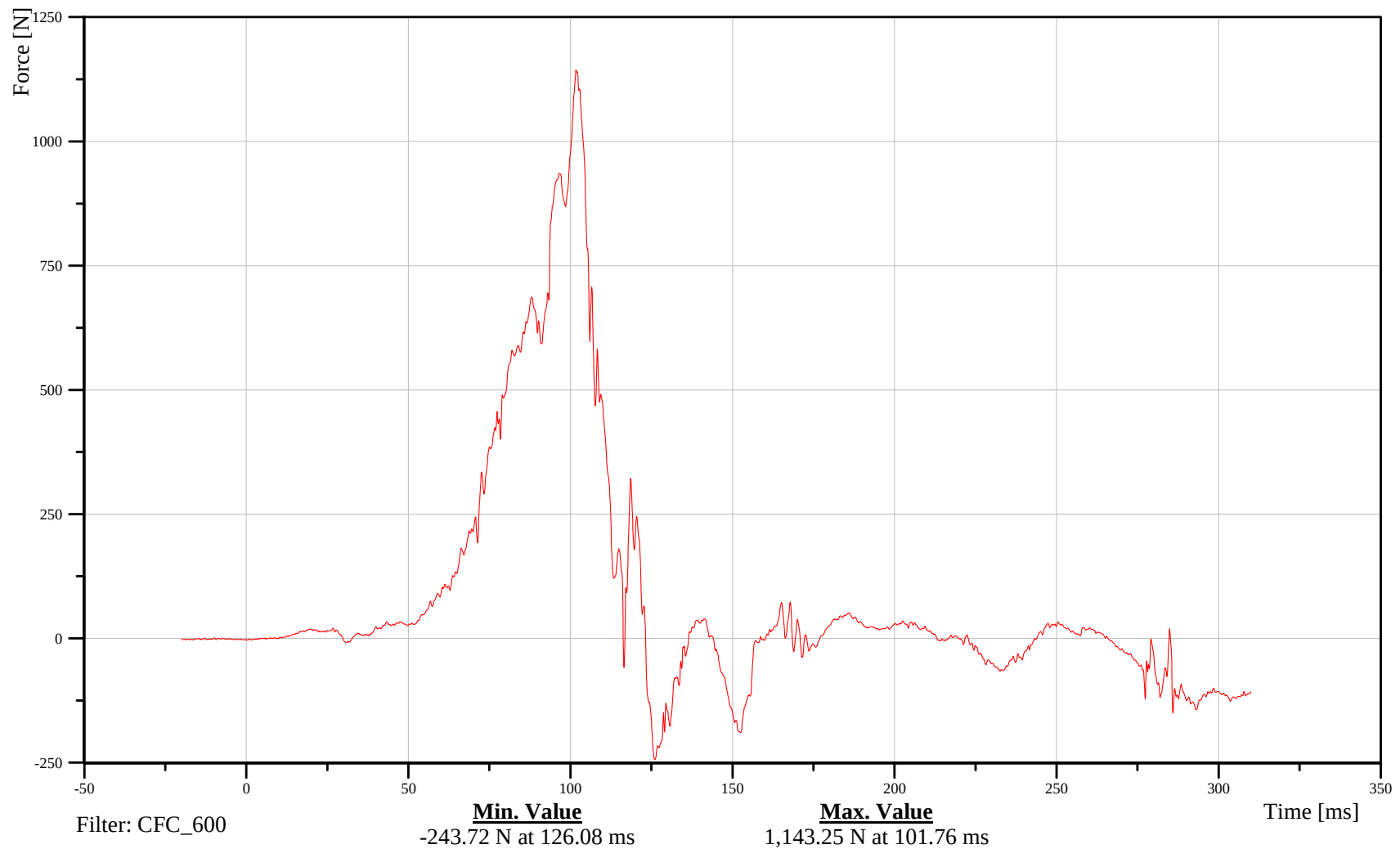
Bullet Vehicle Left Rear Passenger Right Femur Z-Axis Force

Customer: VRTC

14FEMRRL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-192

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

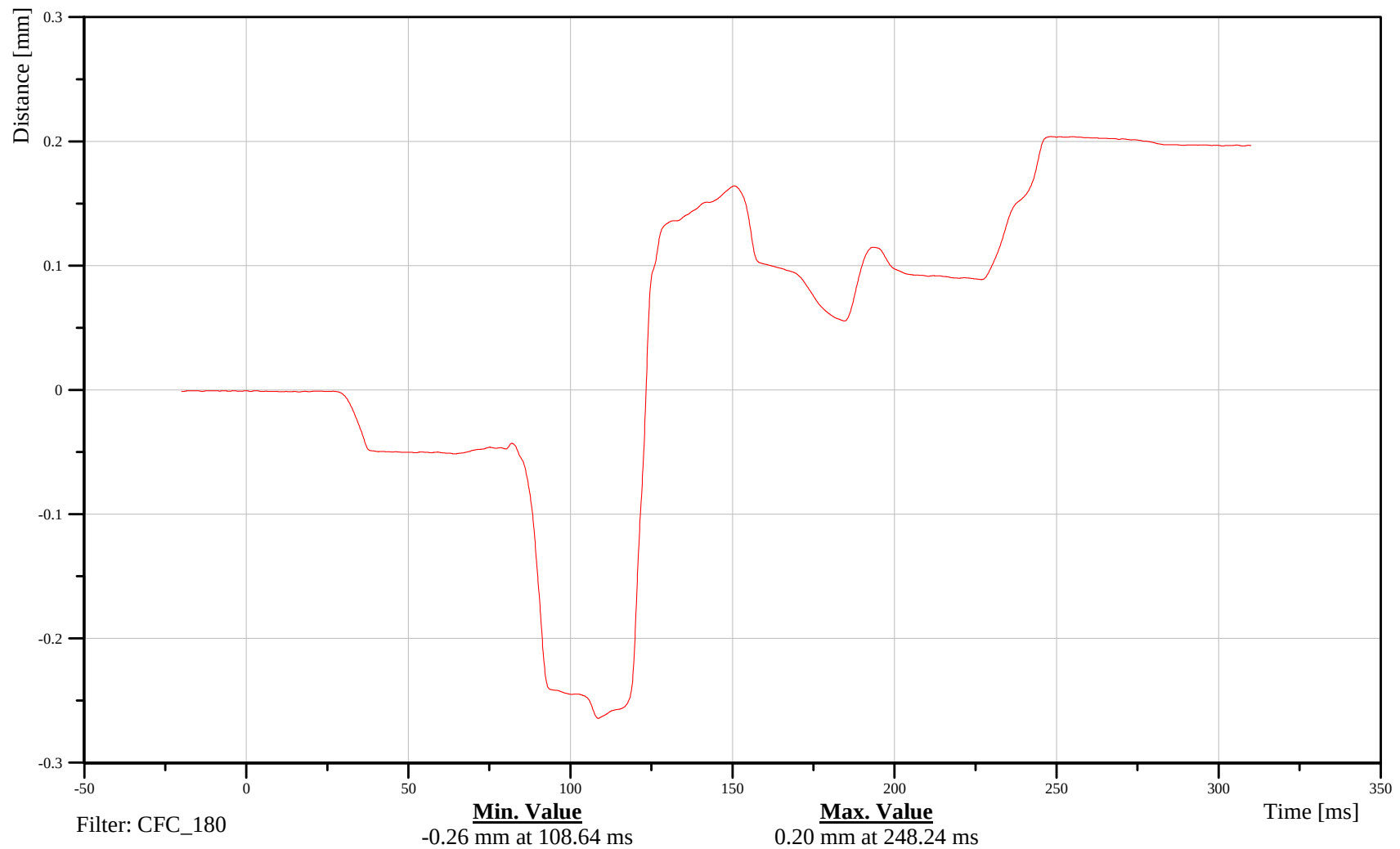
Bullet Vehicle Left Rear Passenger Left Knee X-Axis Displacement

Customer: VRTC

14KNSLLE00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-193

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Left Rear Passenger Right Knee X-Axis Displacement

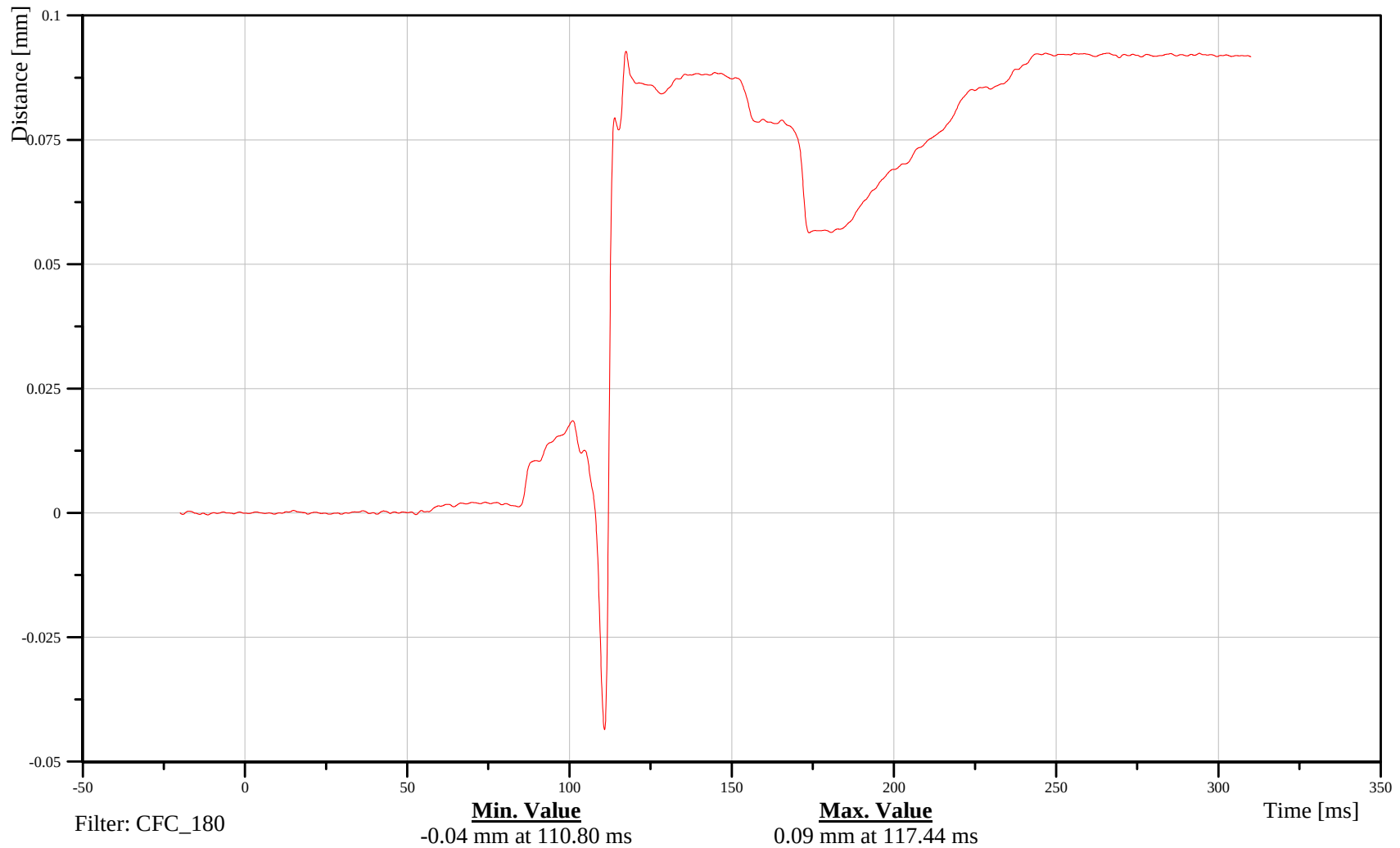
Date: 11/06/2009
Time: 14:32

Customer: VRTC

14KNSLRI00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-194

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

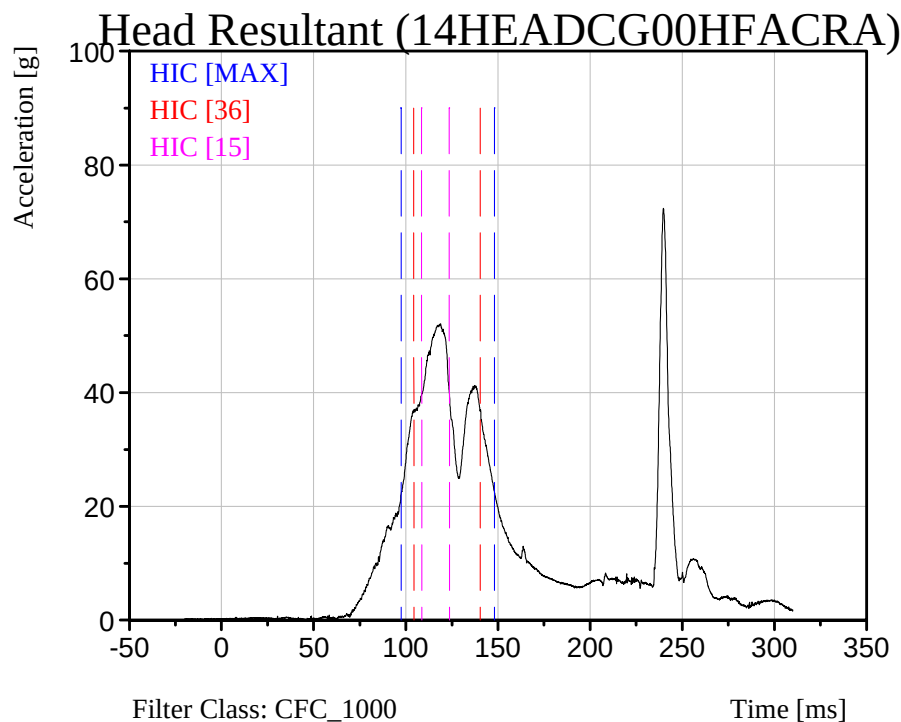
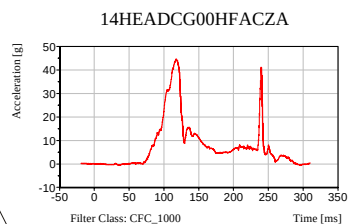
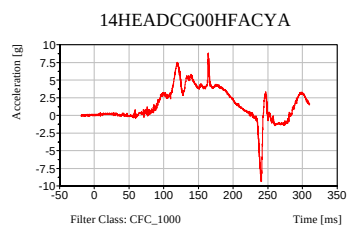
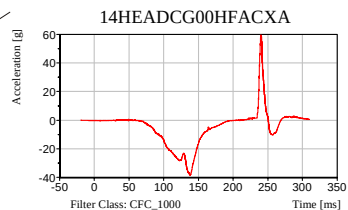
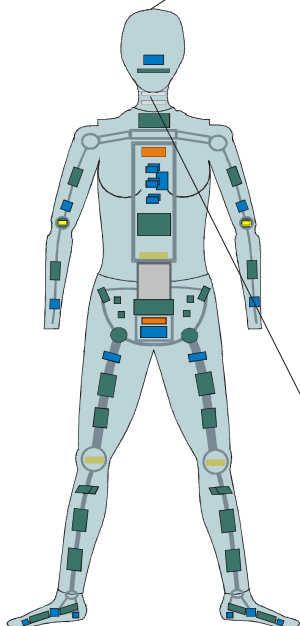
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 432.43	97.52 ms	148.16 ms	37.35 g
HIC [36] = 375.31	104.40 ms	140.40 ms	40.47 g
HIC [15] = 236.21	108.64 ms	123.68 ms	47.65 g

Dummy:HIII 5th Female
Seating Position:
Left Rear Passenger

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

B-195

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

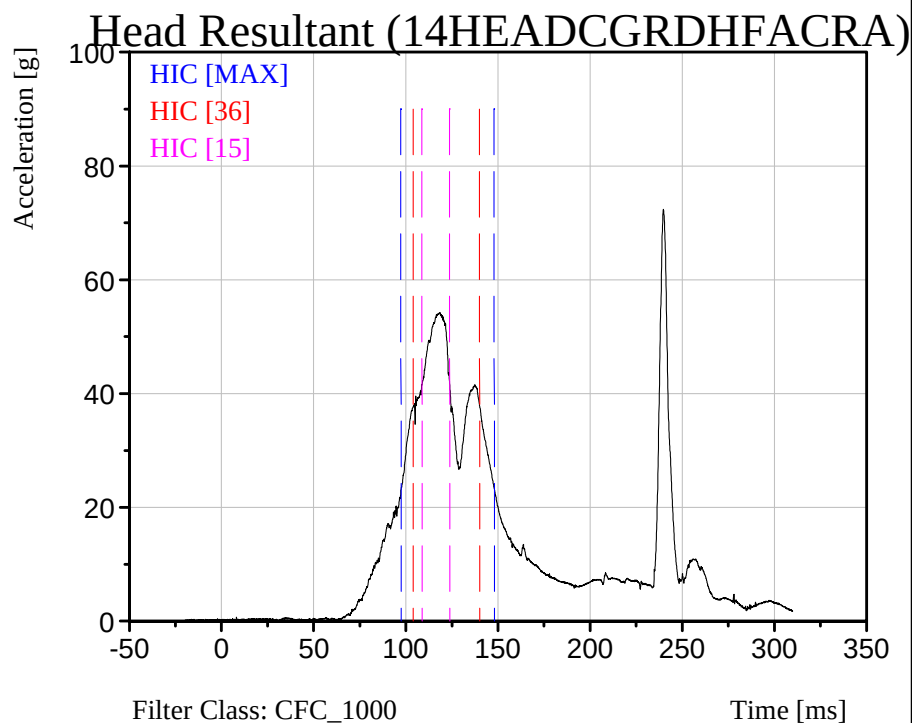
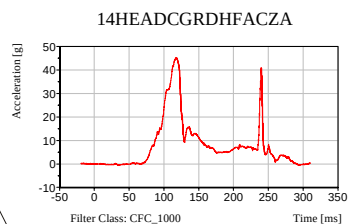
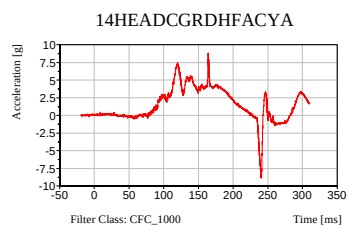
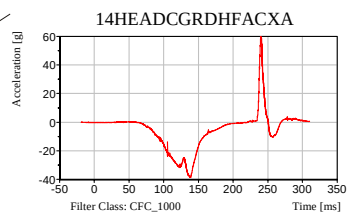
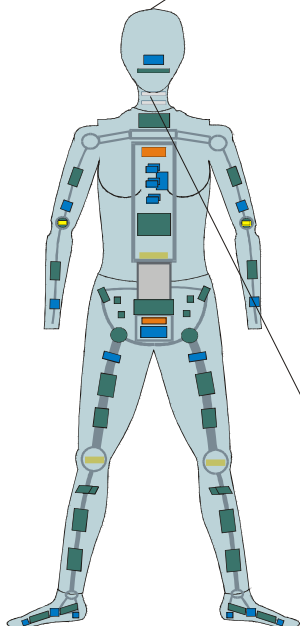
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 473.94	97.44 ms	148.00 ms	38.77 g
HIC [36] = 413.75	104.08 ms	140.08 ms	42.08 g
HIC [15] = 264.66	108.80 ms	123.84 ms	49.86 g

Dummy:HIII 5th Female
Seating Position:
Left Rear Passenger

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

B-196

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

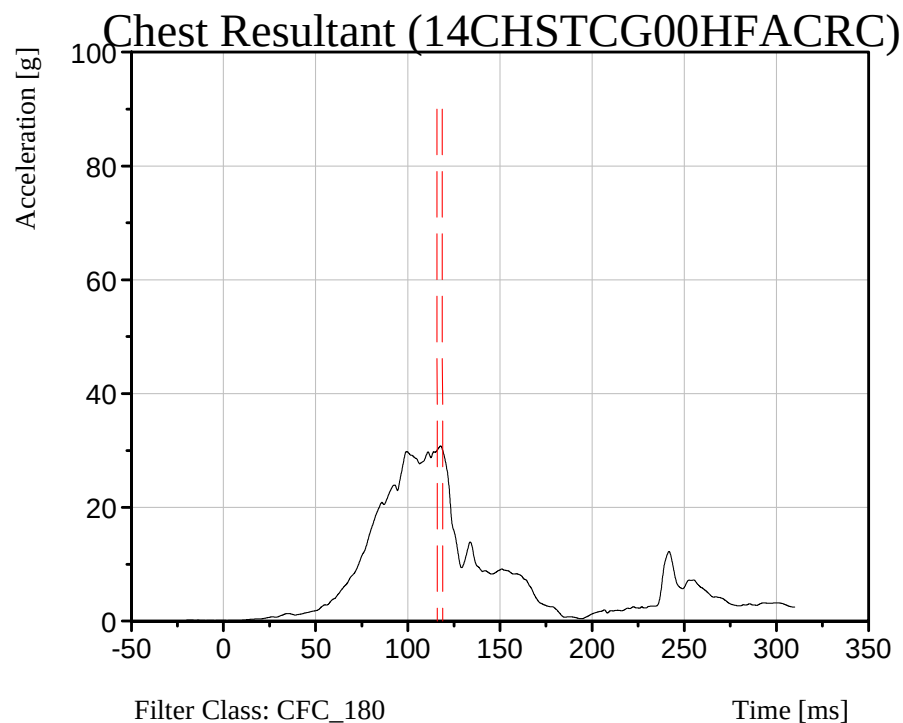
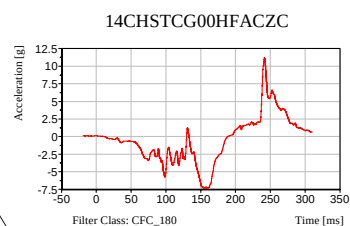
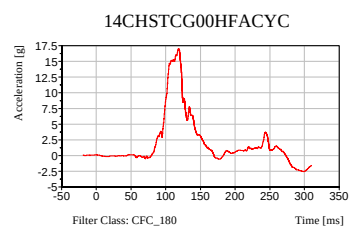
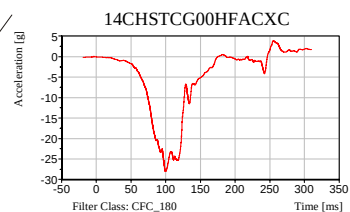
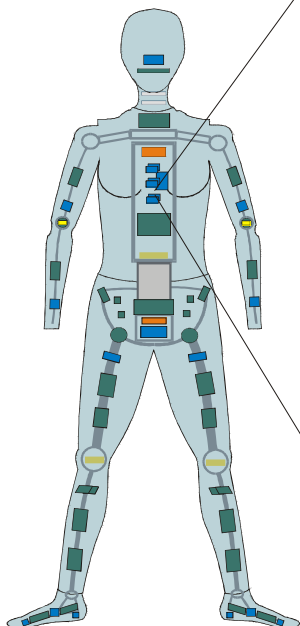
Time: 14:32

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 30.06 g
Chest Severity Index = 180.26

<u>T1</u> (Begin)	<u>T2</u> (End)
115.90 ms	118.90 ms

Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-197

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

3 ms Duration Acceleration (Chest)

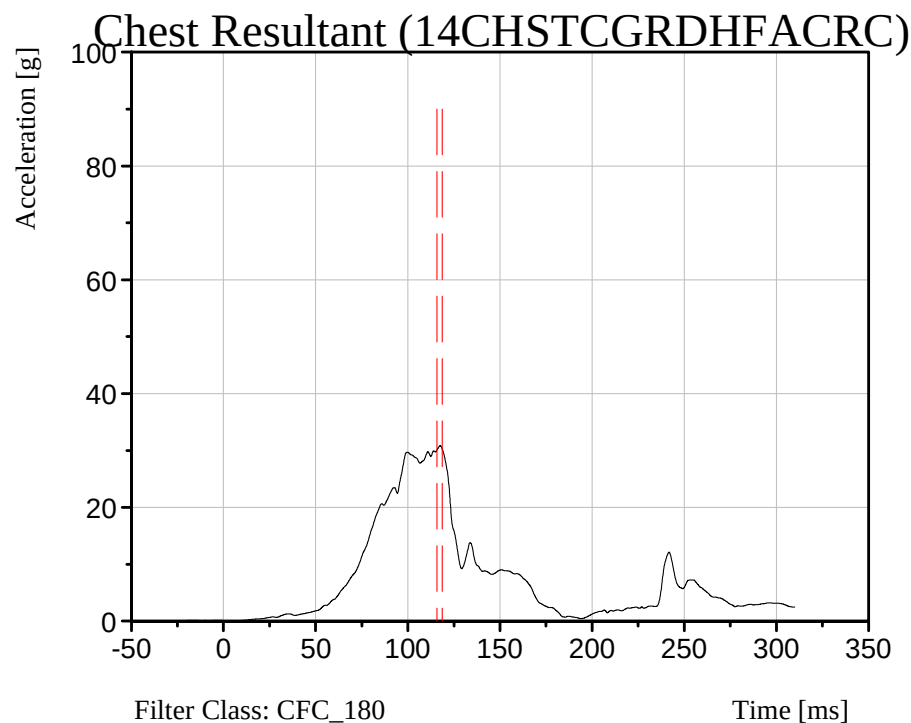
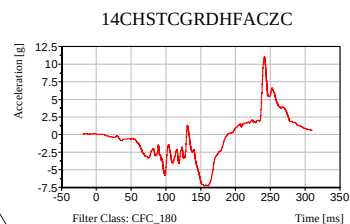
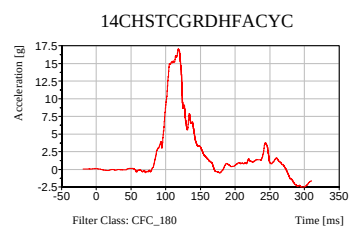
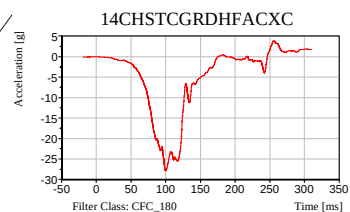
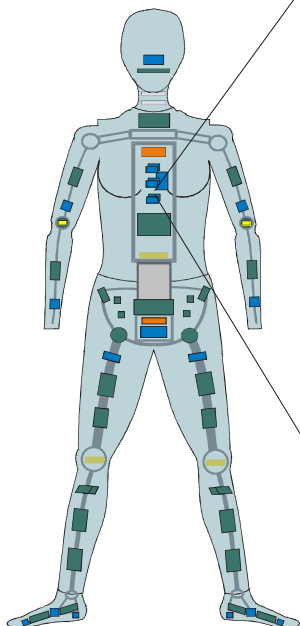
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



3 ms Duration Acceleration = 30.13 g
Chest Severity Index = 179.17

<u>T1</u> (Begin)	<u>T2</u> (End)
115.84 ms	118.84 ms

Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

3 ms Duration Acceleration Source Code : vbScript w/DIADEM 9.0

B-198

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

Chest Deflection

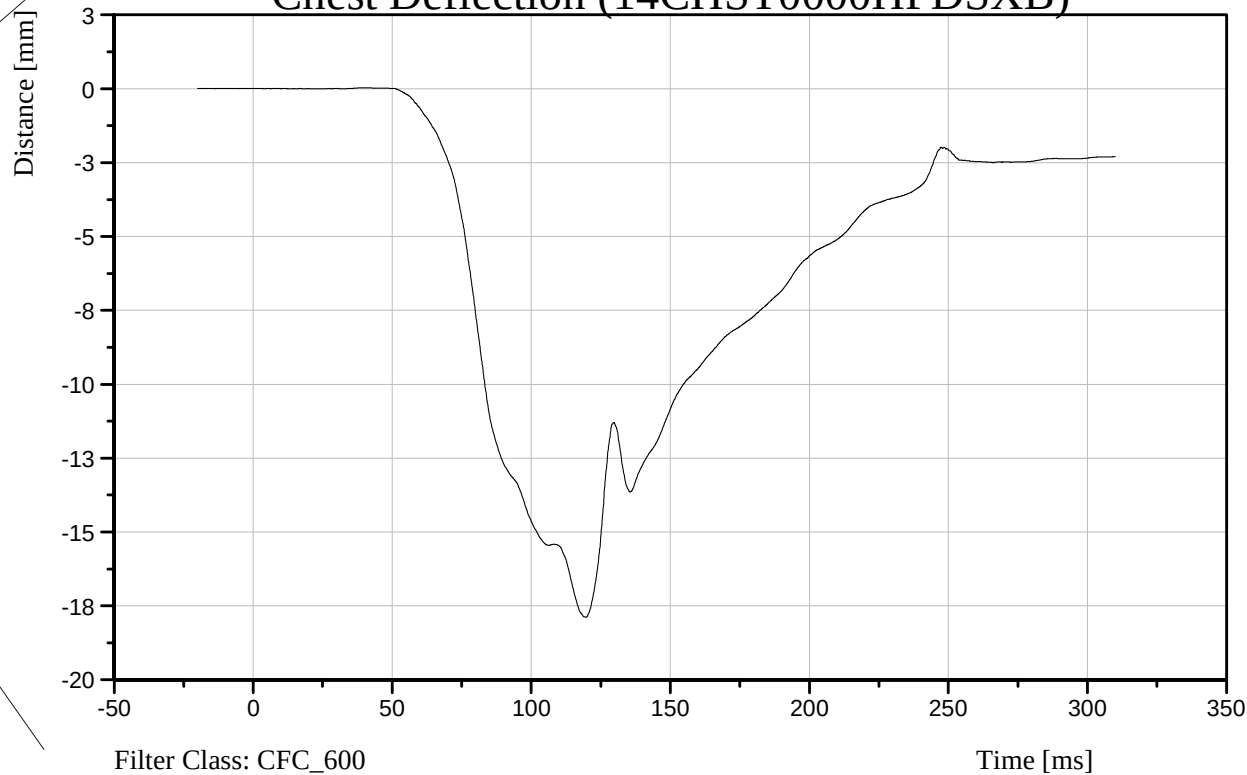
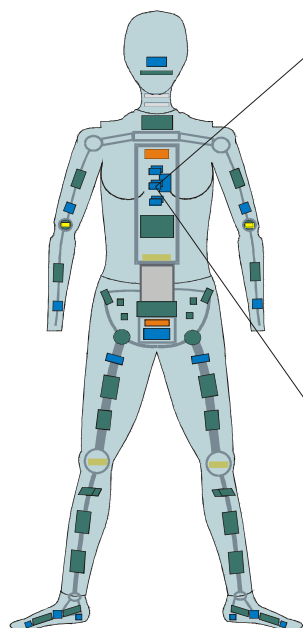
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Chest Deflection (14CHST0000HFDSXB)



Dummy: HIII 5th Female

Seating Position:

Left Rear Passenger

[Max.] 0.04 mm at 39.68 ms

[Min.] -17.88 mm at 119.76 ms

ChestDeflection Source Code : Min/Max of 14CHST0000HFDSXB (CFC_600)

B-199

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap Neck Moment about the Occipital Condyle (NECK OM)

Date: 11/06/2009
Time: 14:32

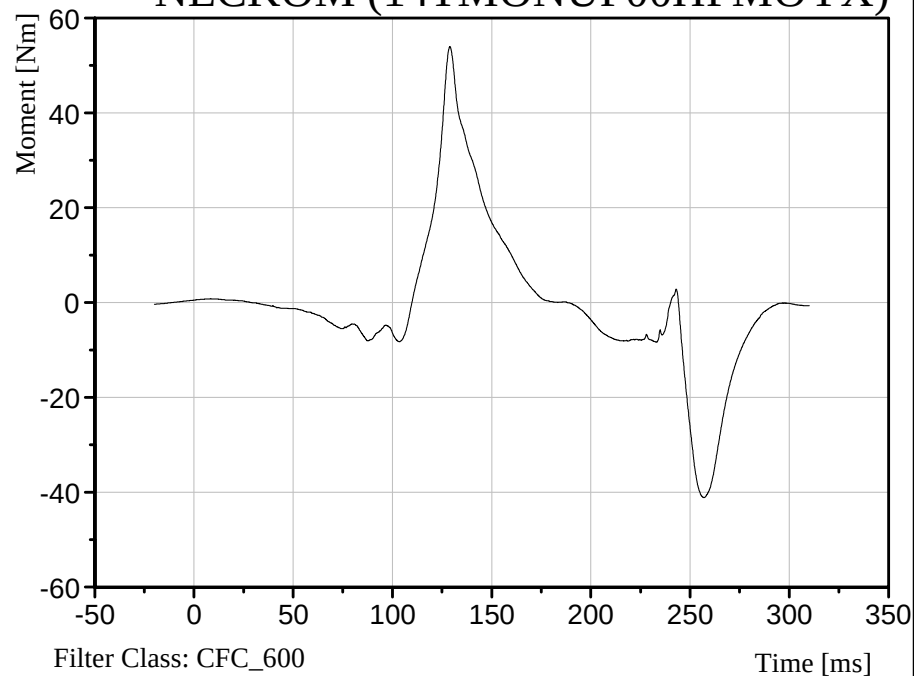
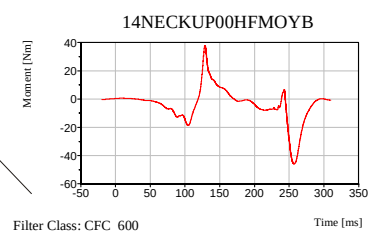
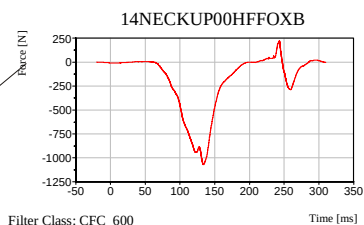
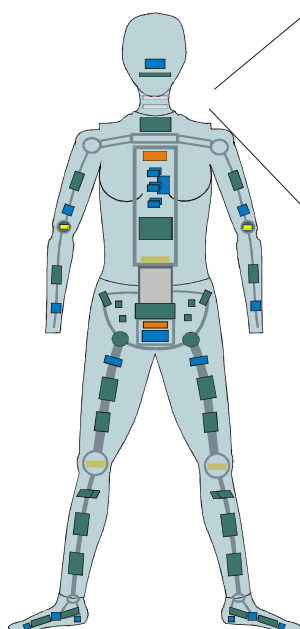
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

NECKOM (14TMONUP00HFM0YX)



Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

Neck OM Source Code: My - (D*Fx)

[Max.] 53.99 Nm at 128.96 ms

[Min.] -41.11 Nm at 257.04 ms

B-200

091106



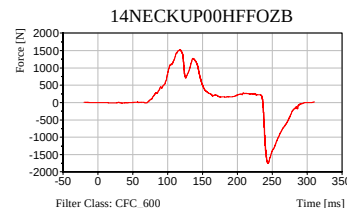
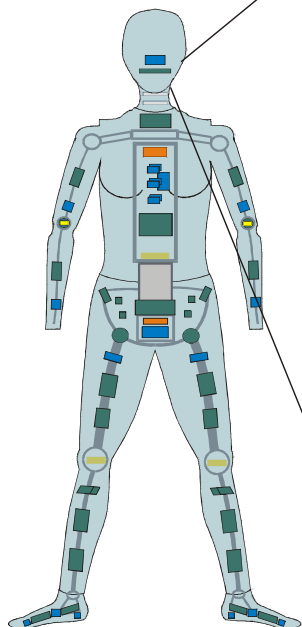
Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Injury Predictor (NIJ)

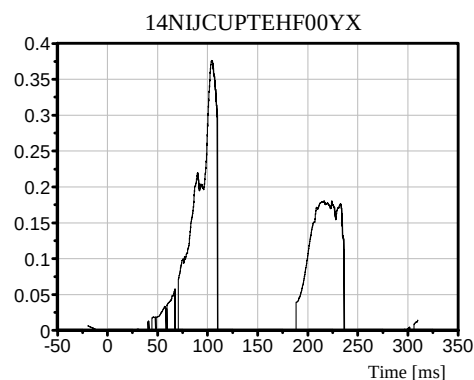
Date: 11/06/2009
Time: 14:32

Customer: VRTC

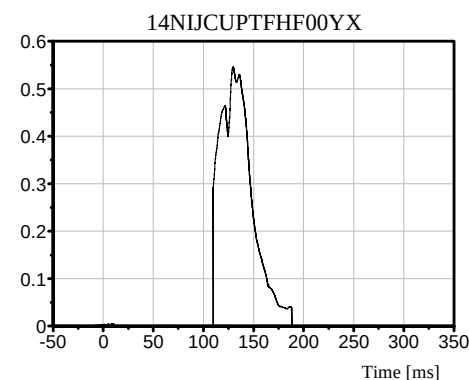
Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155



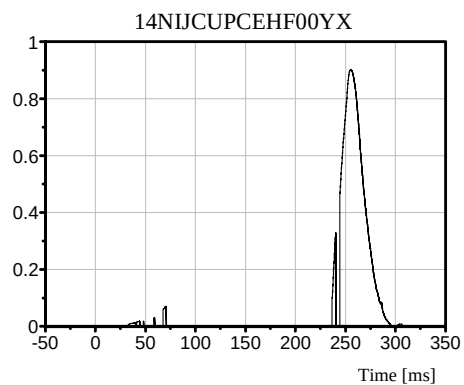
TRC Inc. Test Lab: CTF
Test Number: 091106



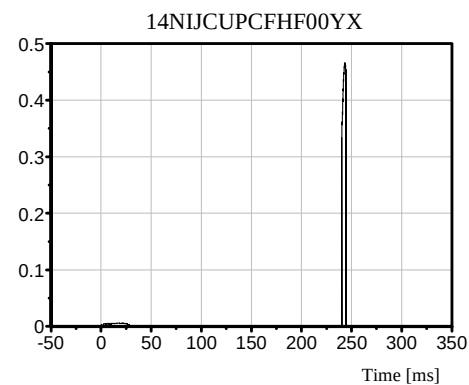
Max [NTE] 0.3763 at 103.76 ms



Max [NTF] 0.5460 at 129.60 ms



Max [NCE] 0.9025 at 254.96 ms



Max [NCF] 0.4660 at 243.28 ms

Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

NIJ Source Code: (Fz/Fzc)+(My/Myc)

B-201

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

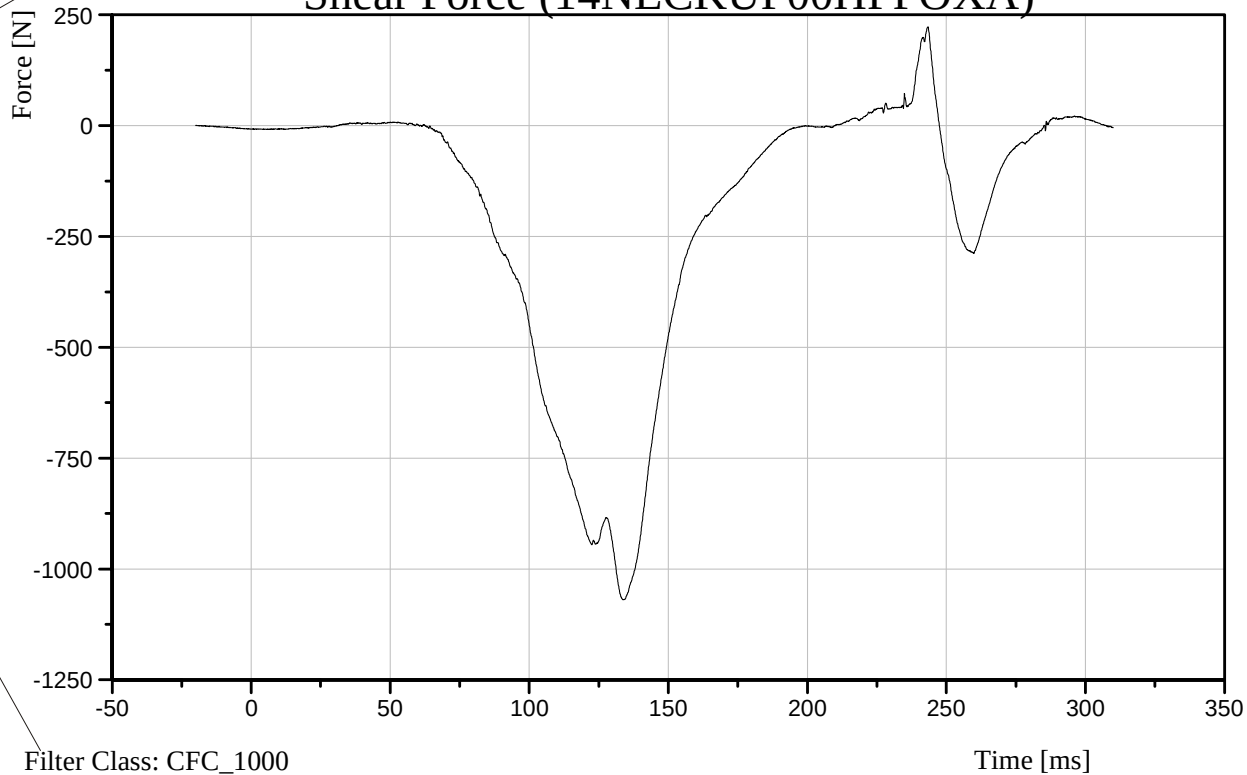
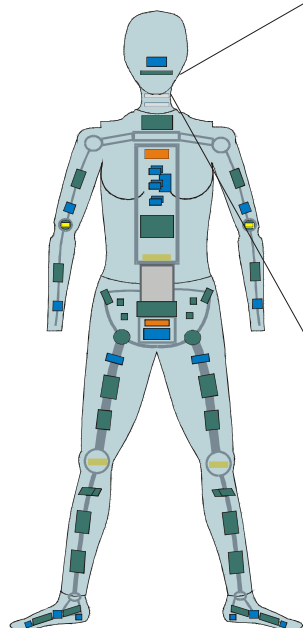
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (14NECKUP00HFFOXA)



Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

[Max.] 222.97 N at 243.36 ms
[Min.] -1,069.75 N at 133.68 ms

Neck Shear Force Source Code: Min/Max of 14NECKUP00HFFOXA

B-202

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009
Time: 14:32

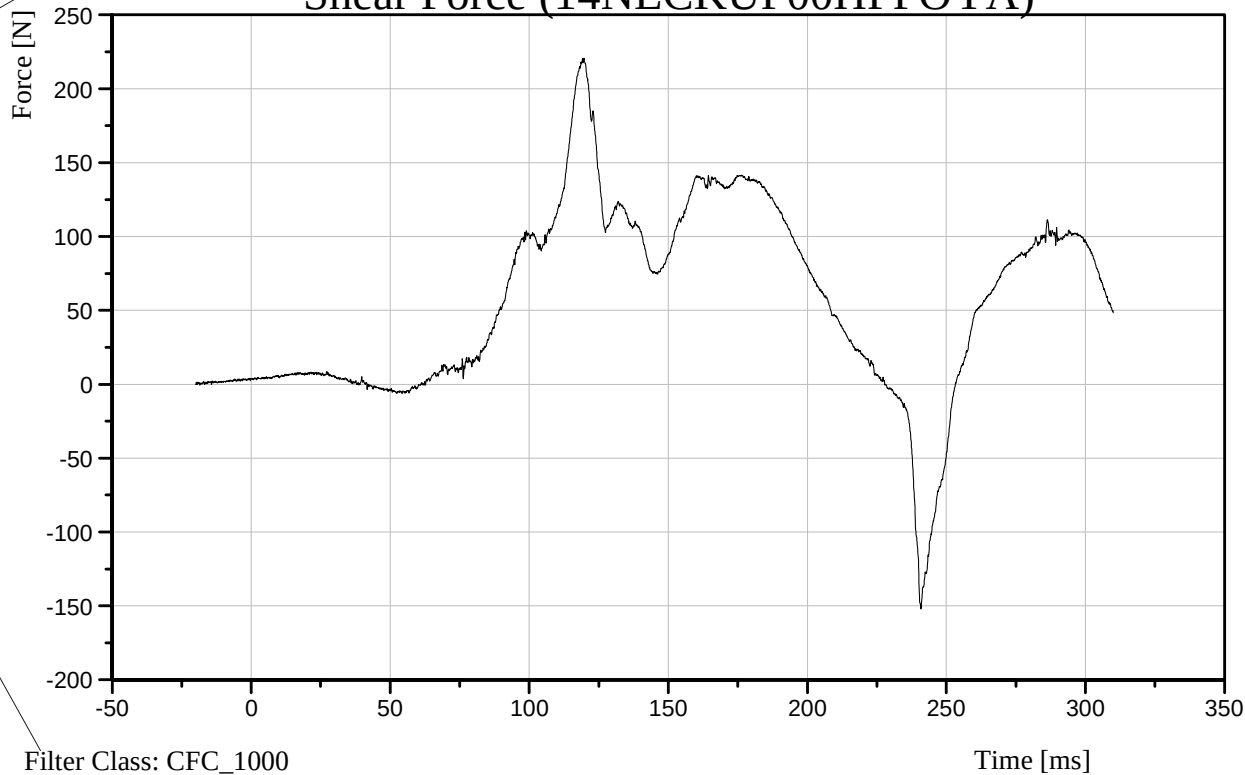
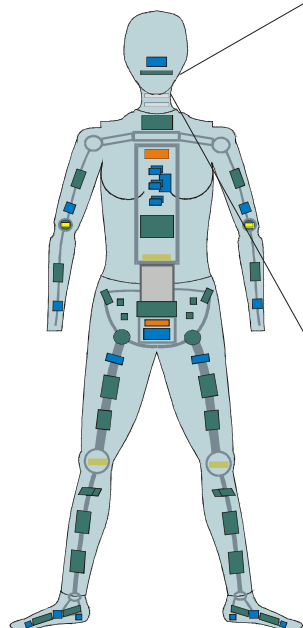
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (14NECKUP00HFFOYA)



Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

[Max.] 220.42 N at 119.12 ms

[Min.] -152.02 N at 240.88 ms

Neck Shear Force Source Code: Min/Max of 14NECKUP00HFFOYA

B-203

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Axial Force

Date: 11/06/2009

Time: 14:32

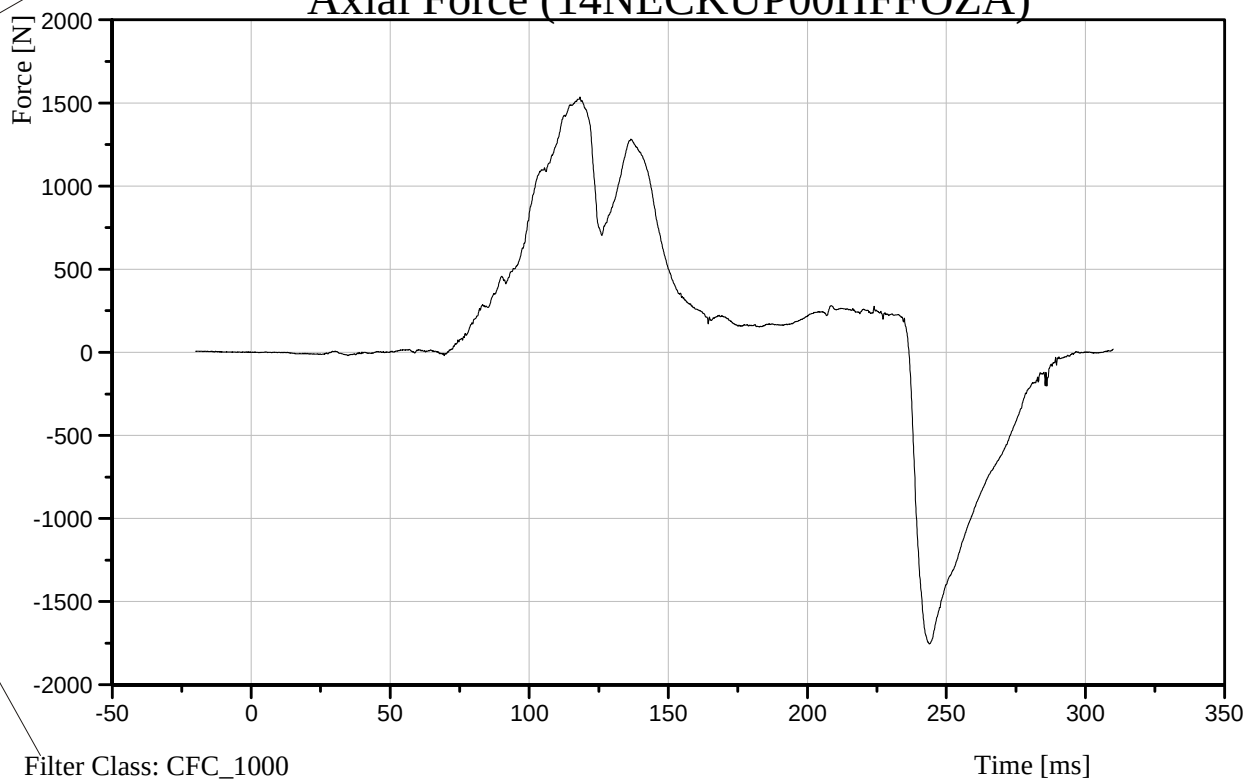
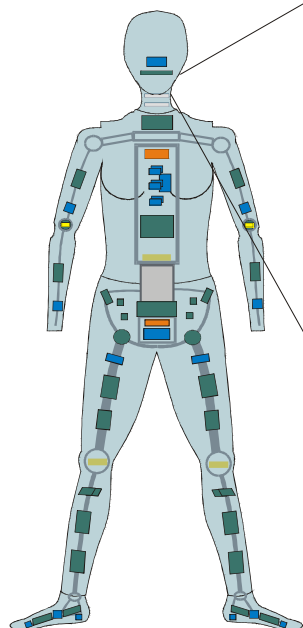
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Axial Force (14NECKUP00HFFOZA)



Dummy:HIII 5th Female
Seating Position:
Left Rear Passenger

[Max.] 1,534.84 N at 118.24 ms

[Min.] -1,754.01 N at 243.84 ms

Neck Axial Force Source Code: Min/Max of 14NECKUP00HFFOZA

B-204

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Femur Load

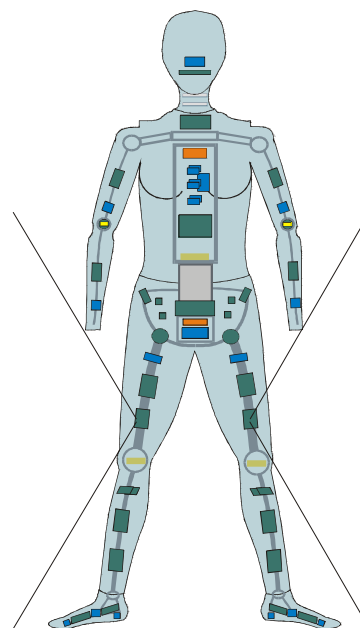
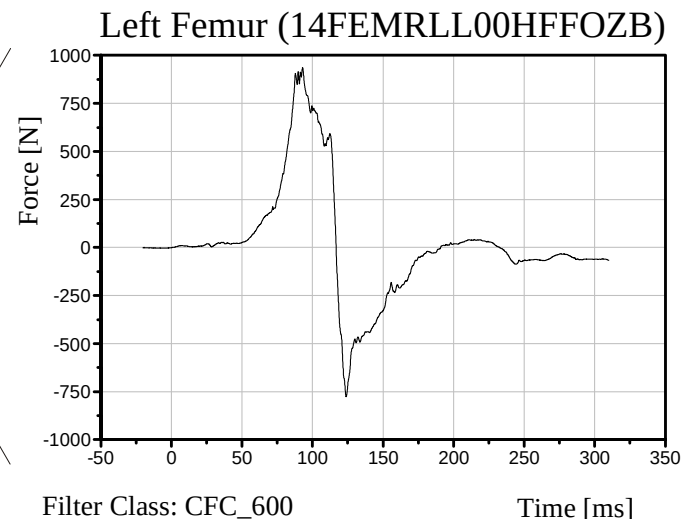
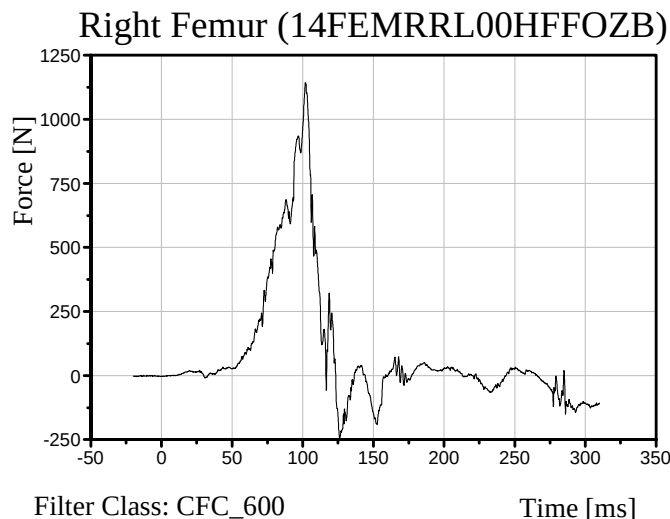
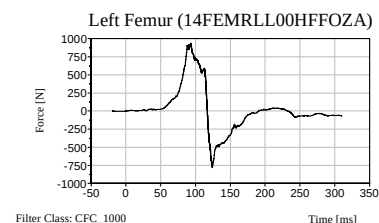
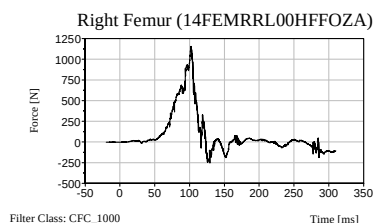
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Tension] 1,143.25 N at 101.76 ms
Min [Compression] -243.72 N at 126.08 ms

Dummy: HIII 5th Female
Seating Position:
Left Rear Passenger

Max [Tension] 936.70 N at 93.04 ms
Min [Compression] -776.35 N at 123.92 ms

Femur Load Source Code : Min/Max of 14FEMRRL00HFFOZB and 14FEMRLL00HFFOZB (CFC 600)

B-205

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

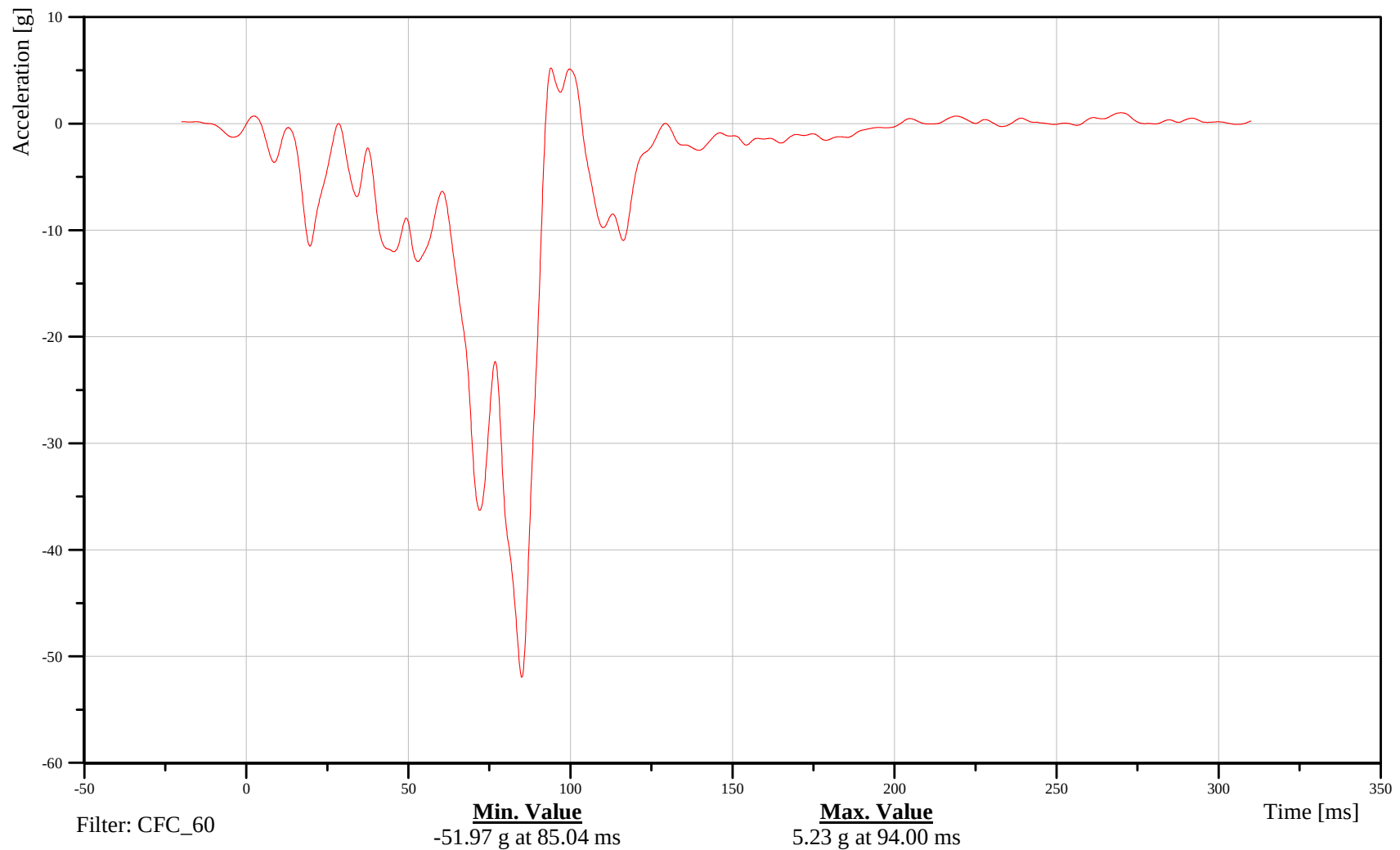
Bullet Vehicle Left Sill X-Axis Acceleration

Customer: VRTC

10SILLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-206

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

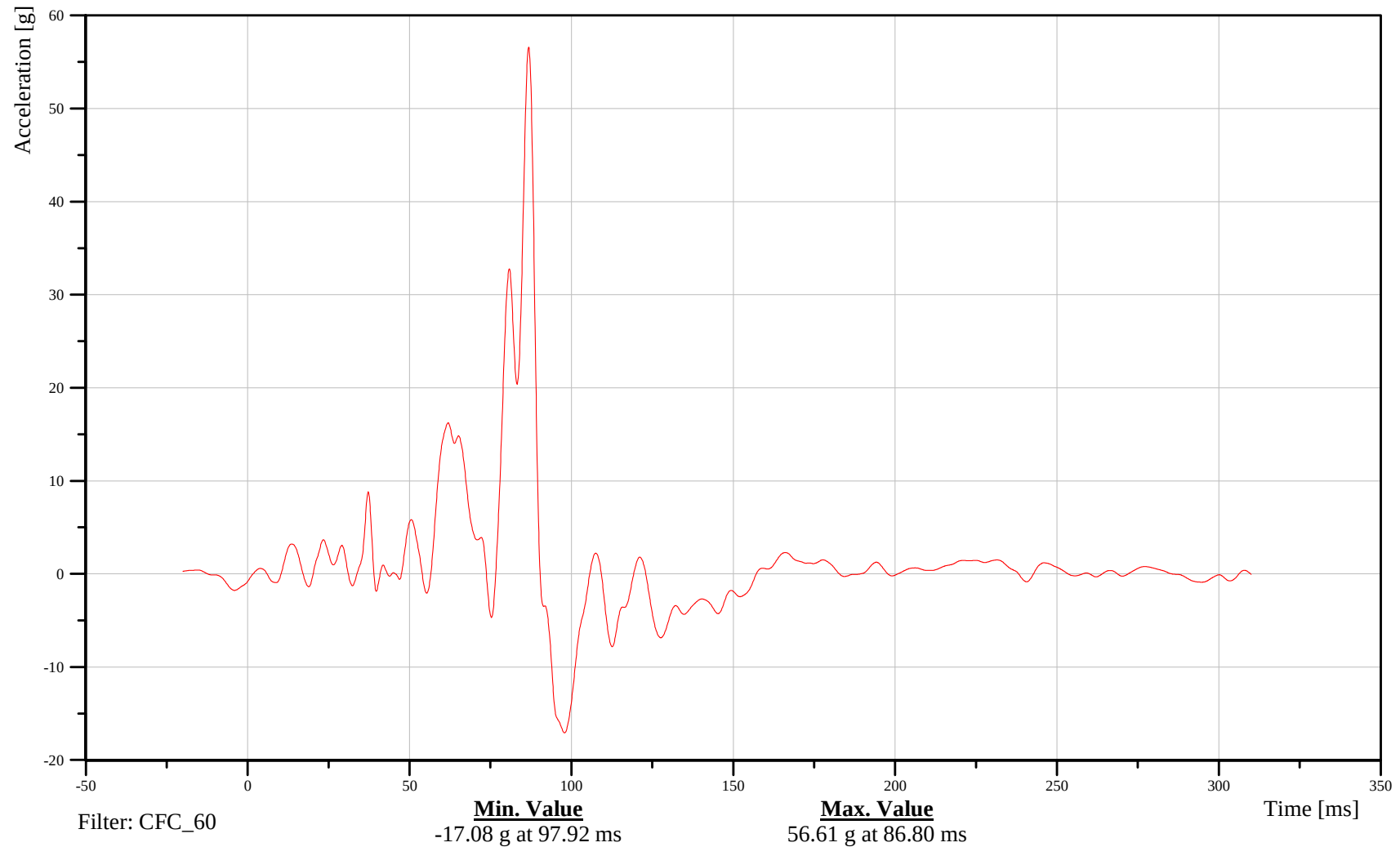
Bullet Vehicle Left Sill Y-Axis Acceleration

Customer: VRTC

10SILLE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-207

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Sill X-Axis Acceleration

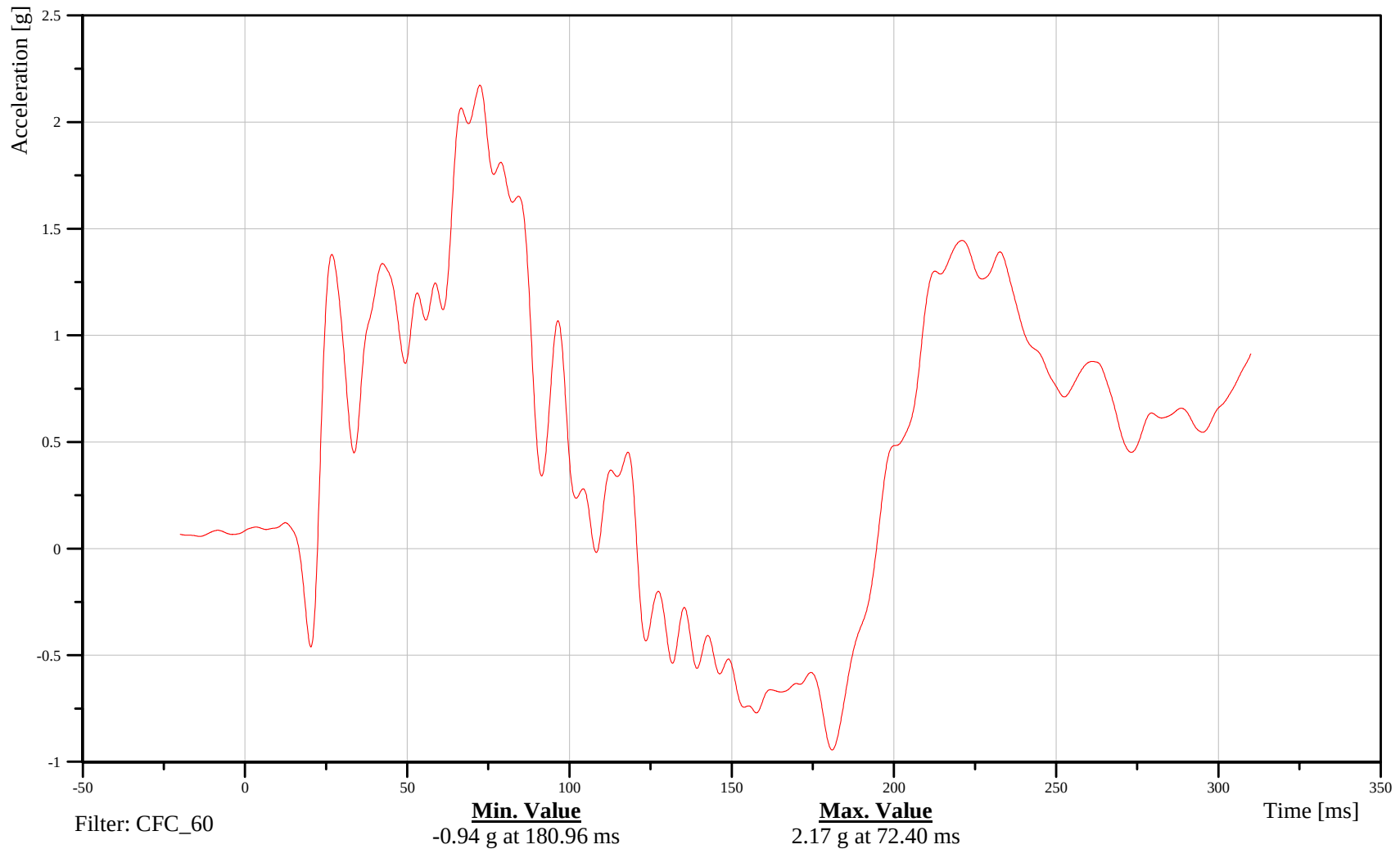
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10SILLRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-208

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

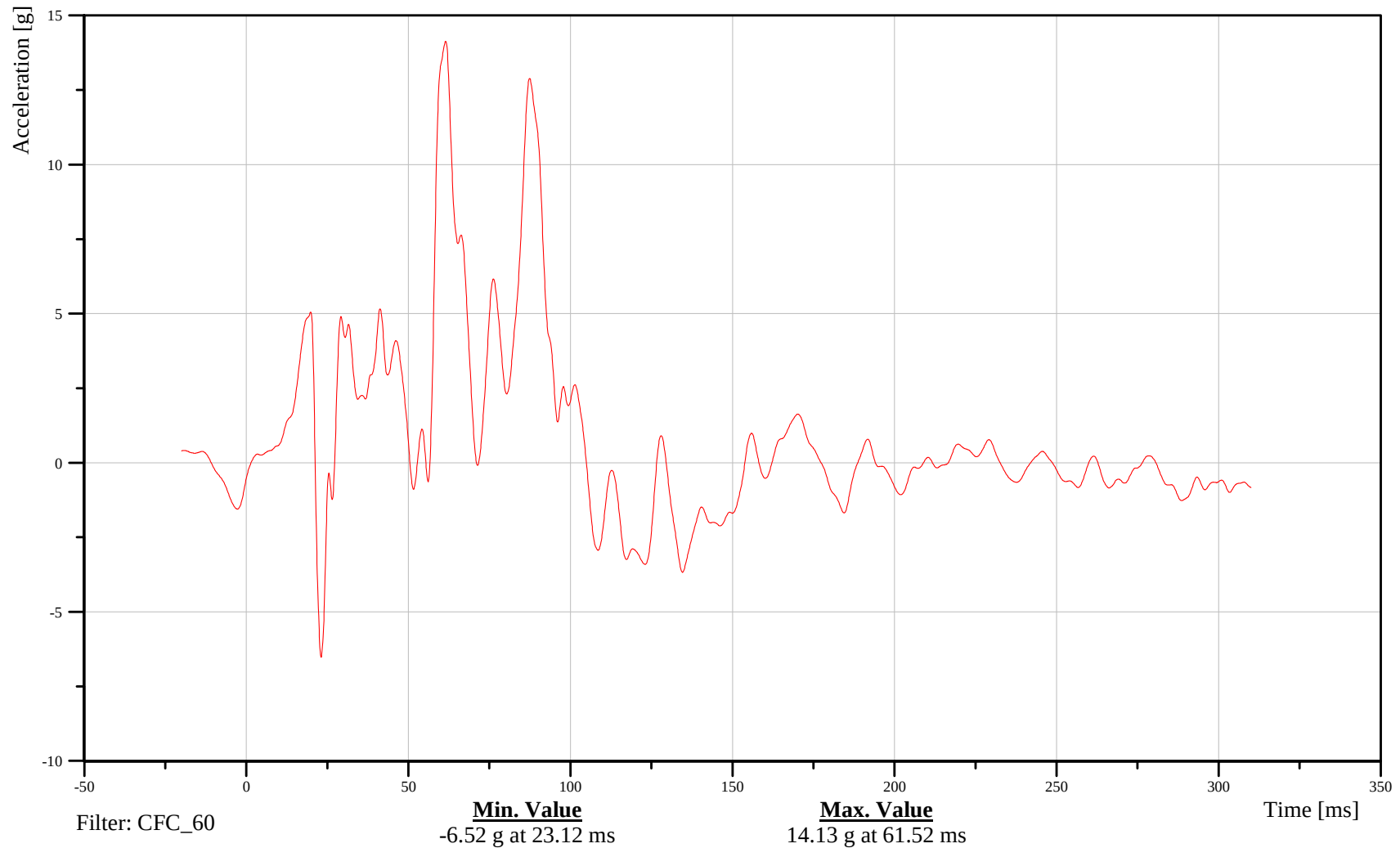
Bullet Vehicle Right Sill Y-Axis Acceleration

Customer: VRTC

10SILLRI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-209

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

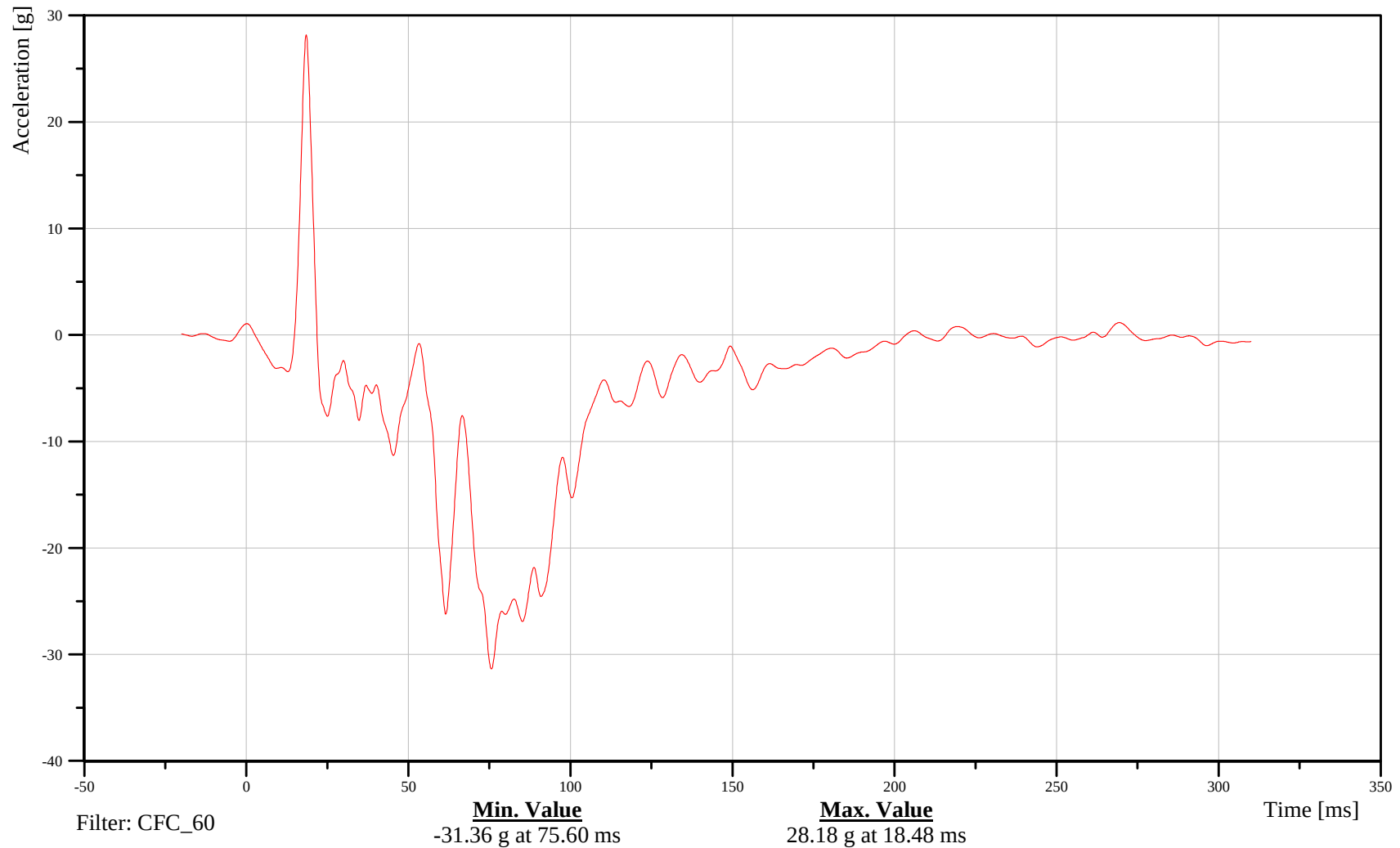
Bullet Vehicle Vehicle Center of Gravity X-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-210

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

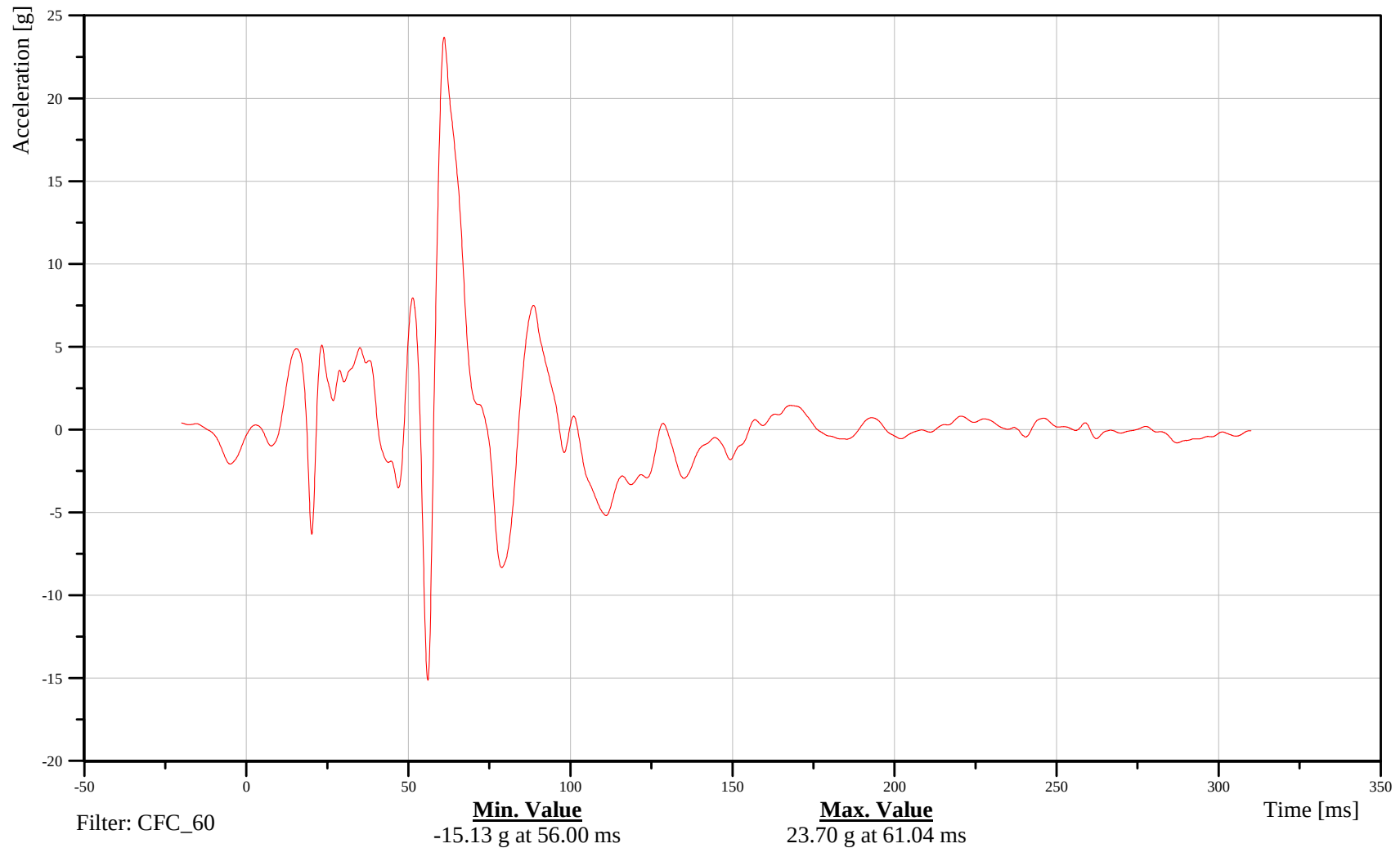
Bullet Vehicle Vehicle Center of Gravity Y-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-211

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

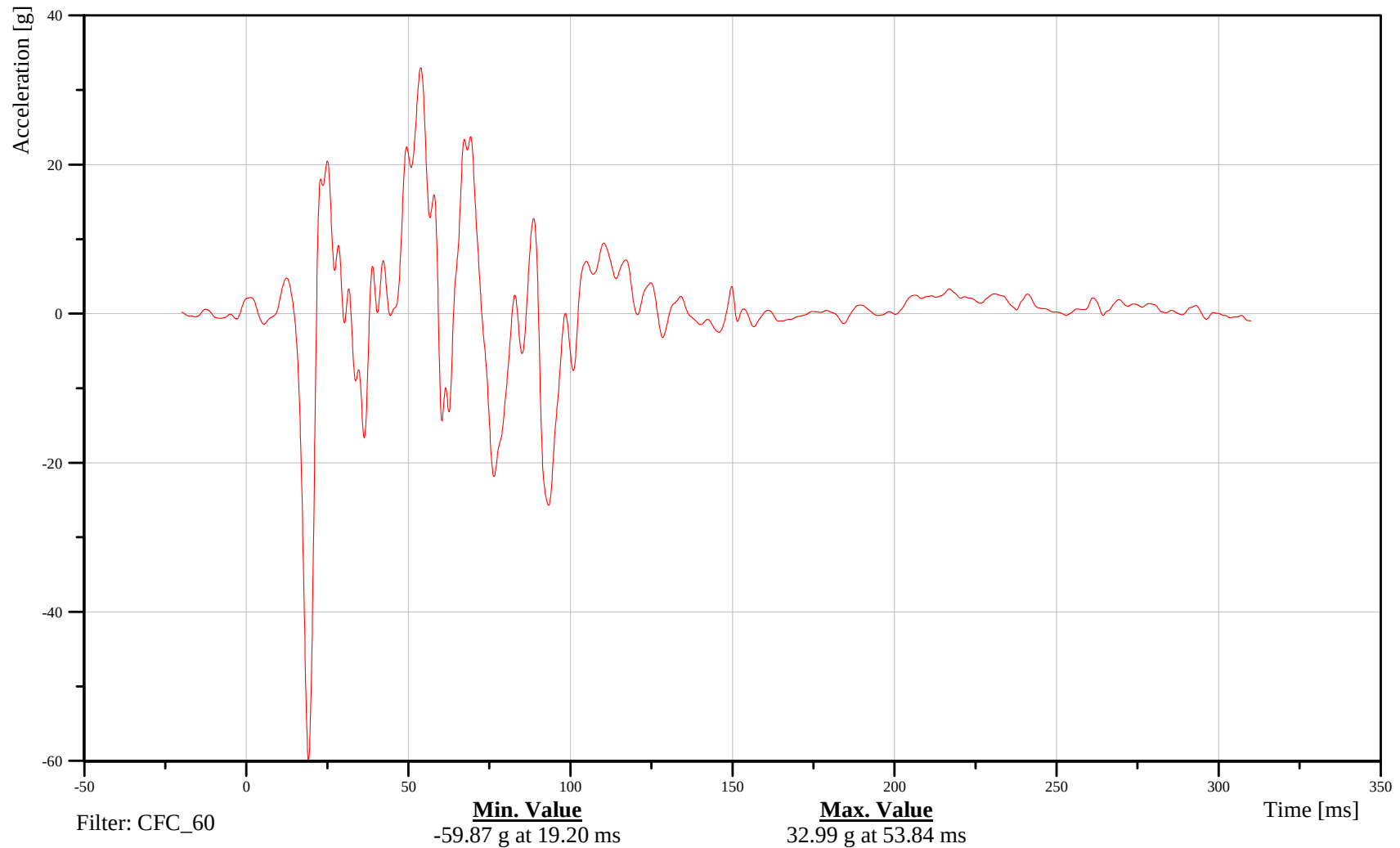
Bullet Vehicle Vehicle Center of Gravity Z-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-212

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

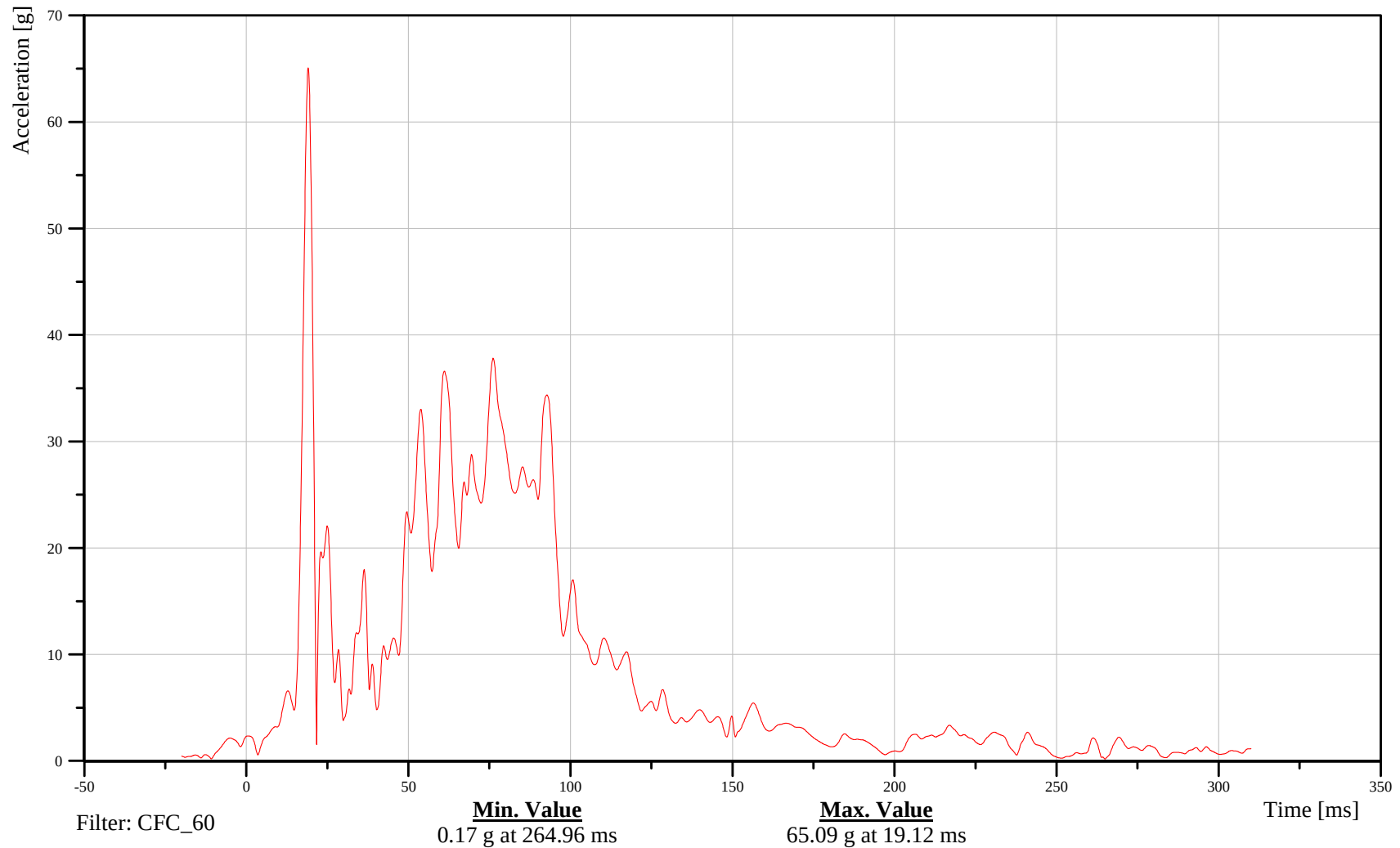
Bullet Vehicle Vehicle Center of Gravity Resultant Acceleration

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-213

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

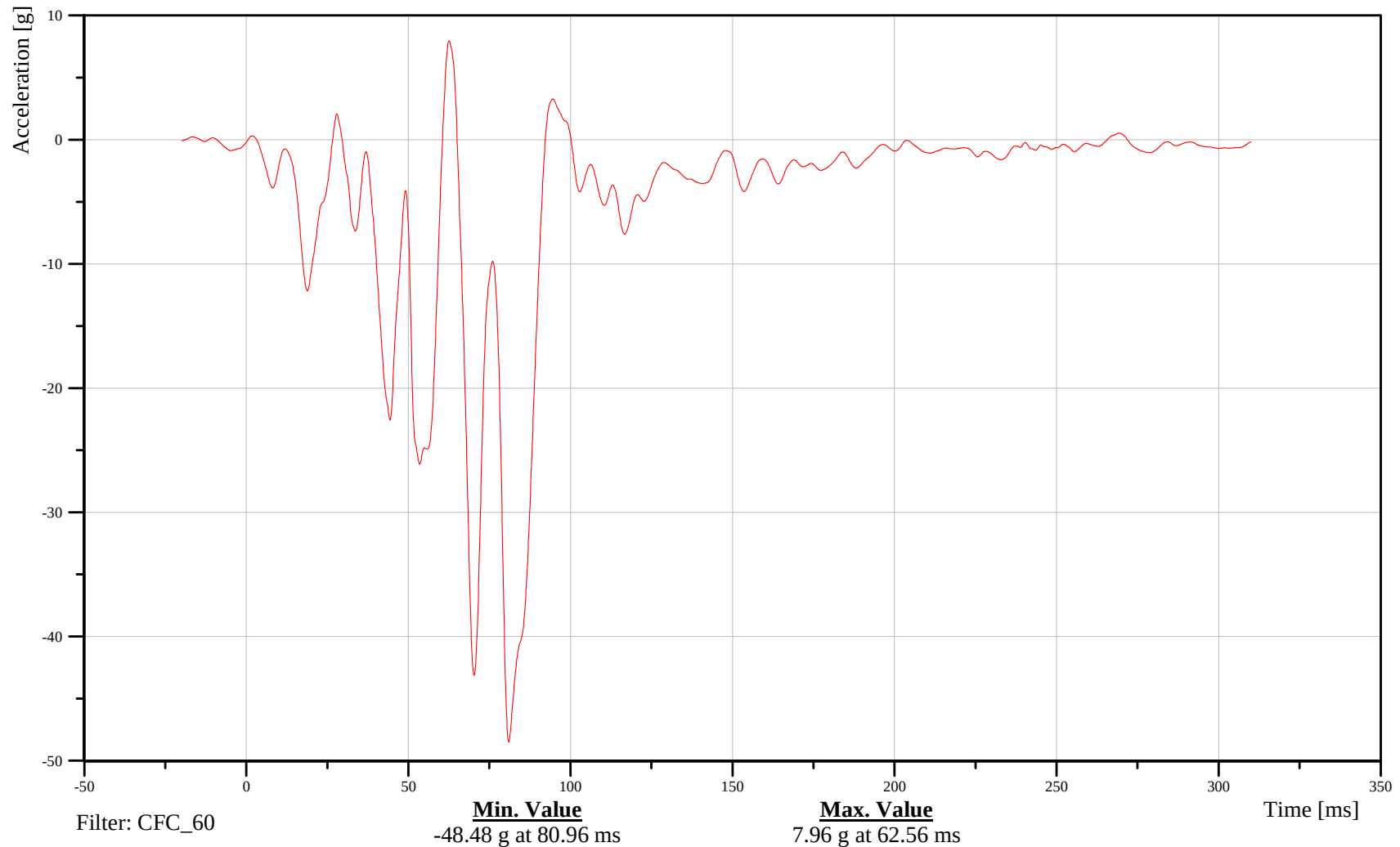
Bullet Vehicle Driver Footrest X-Axis Acceleration

Customer: VRTC

10FOOTLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-214

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Footrest Z-Axis Acceleration

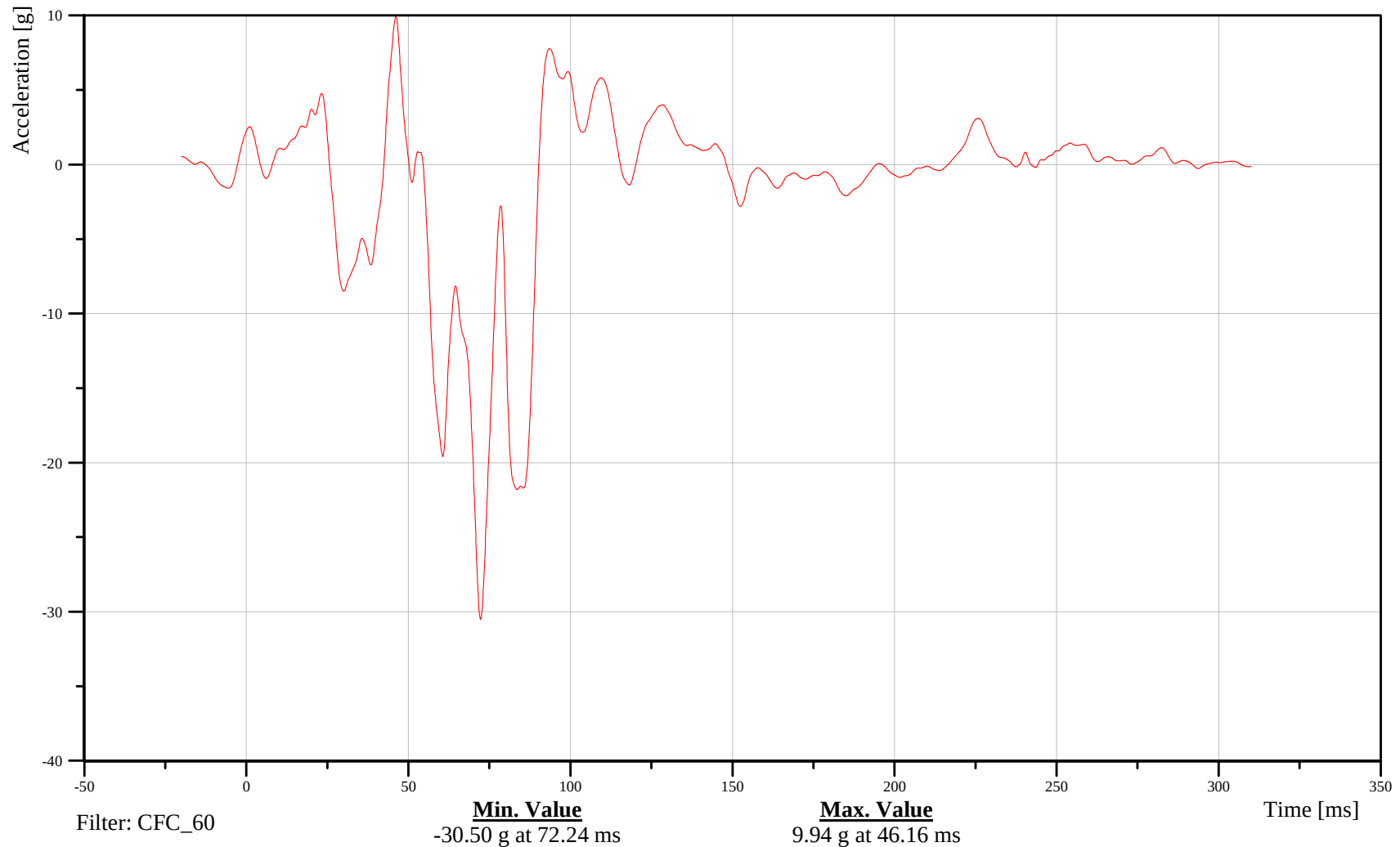
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10FOOTLE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-215

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Toepan Behind Center of Accelerator X-Axis Acceleration

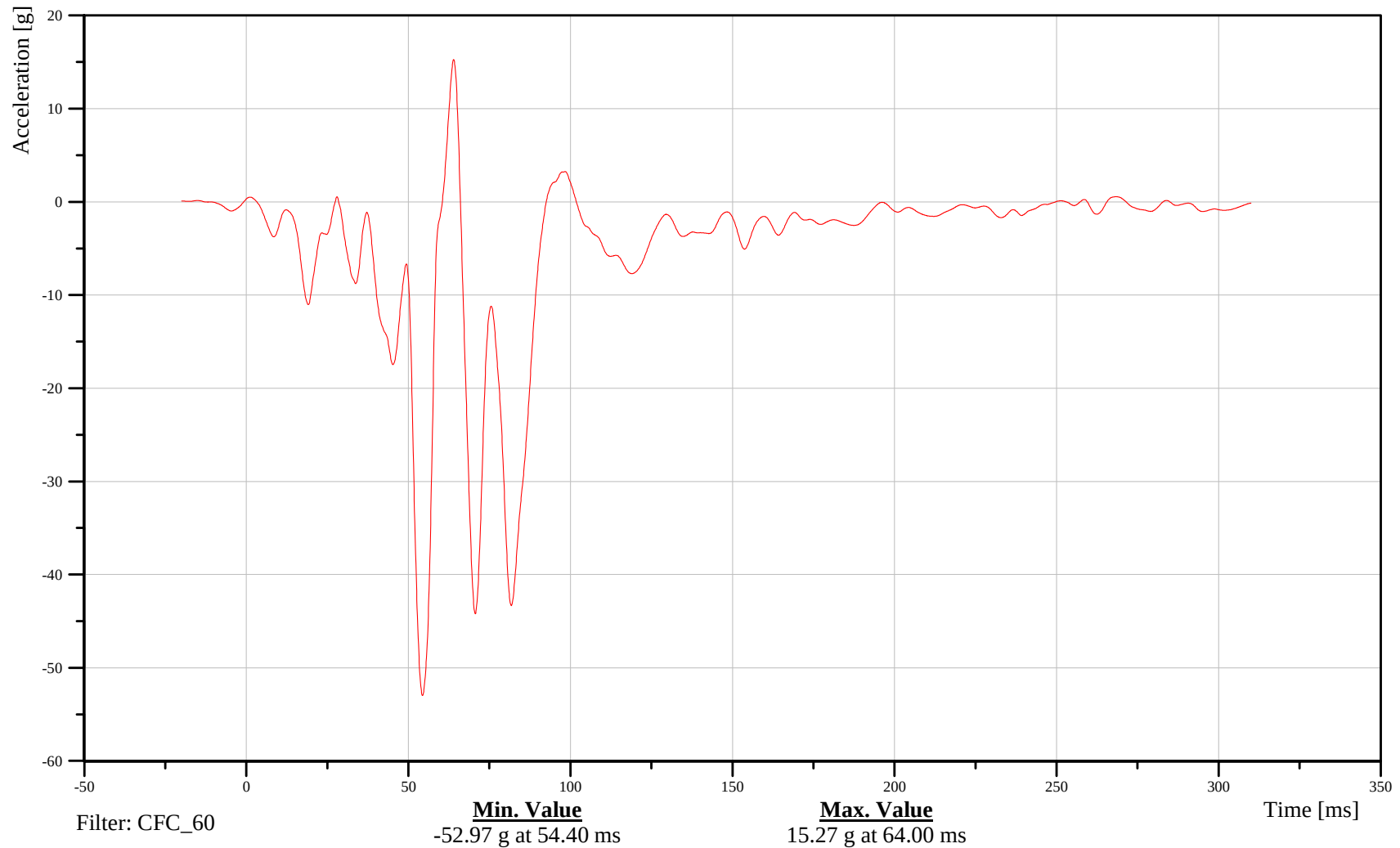
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10TPANLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-216

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Toepan Behind Center of Accelerator Z-Axis Acceleration

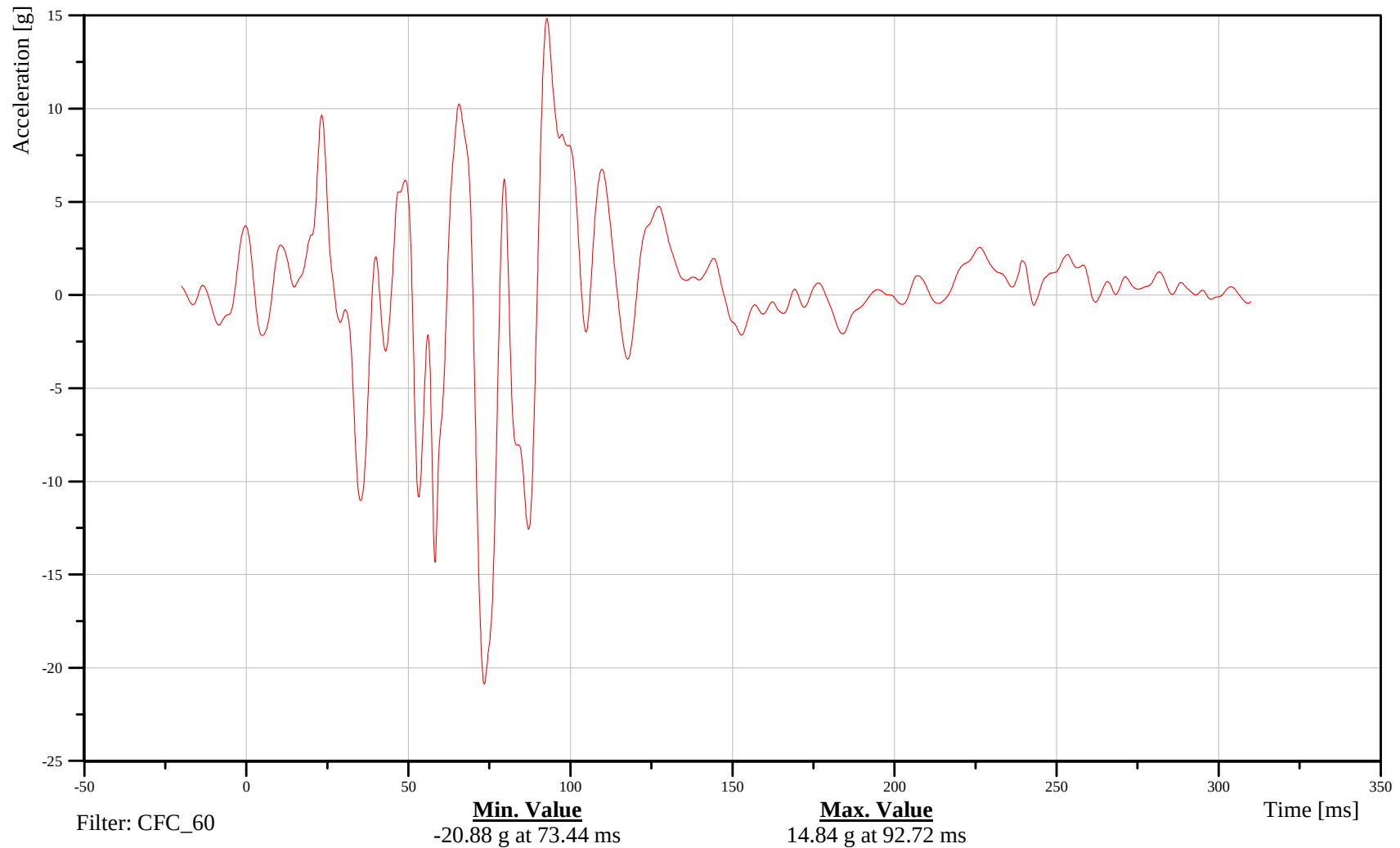
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10TPANLE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-217

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

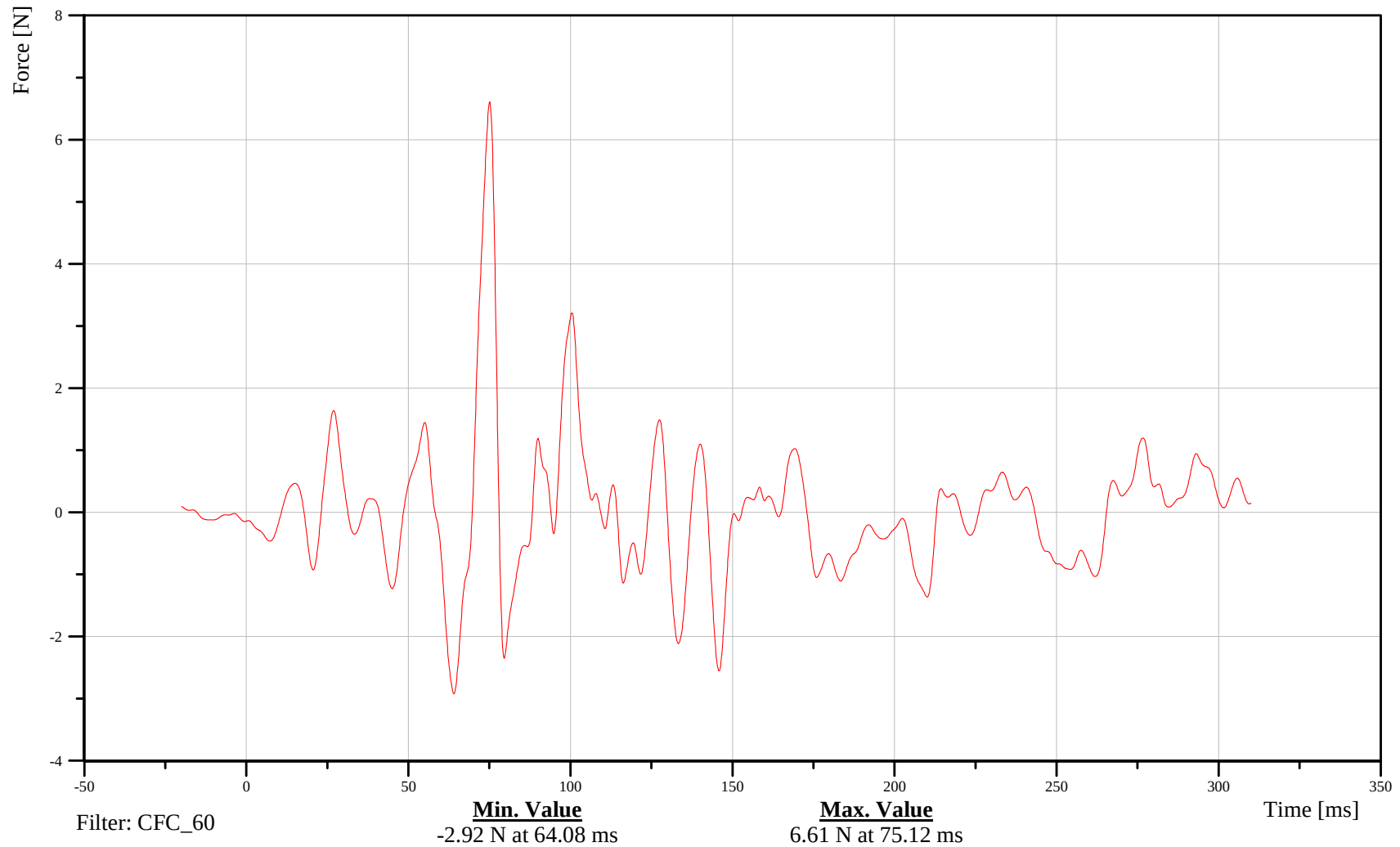
Bullet Vehicle Driver Lap Belt Force

Customer: VRTC

11SEBE0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-218

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Lap Belt Force

Date: 11/06/2009

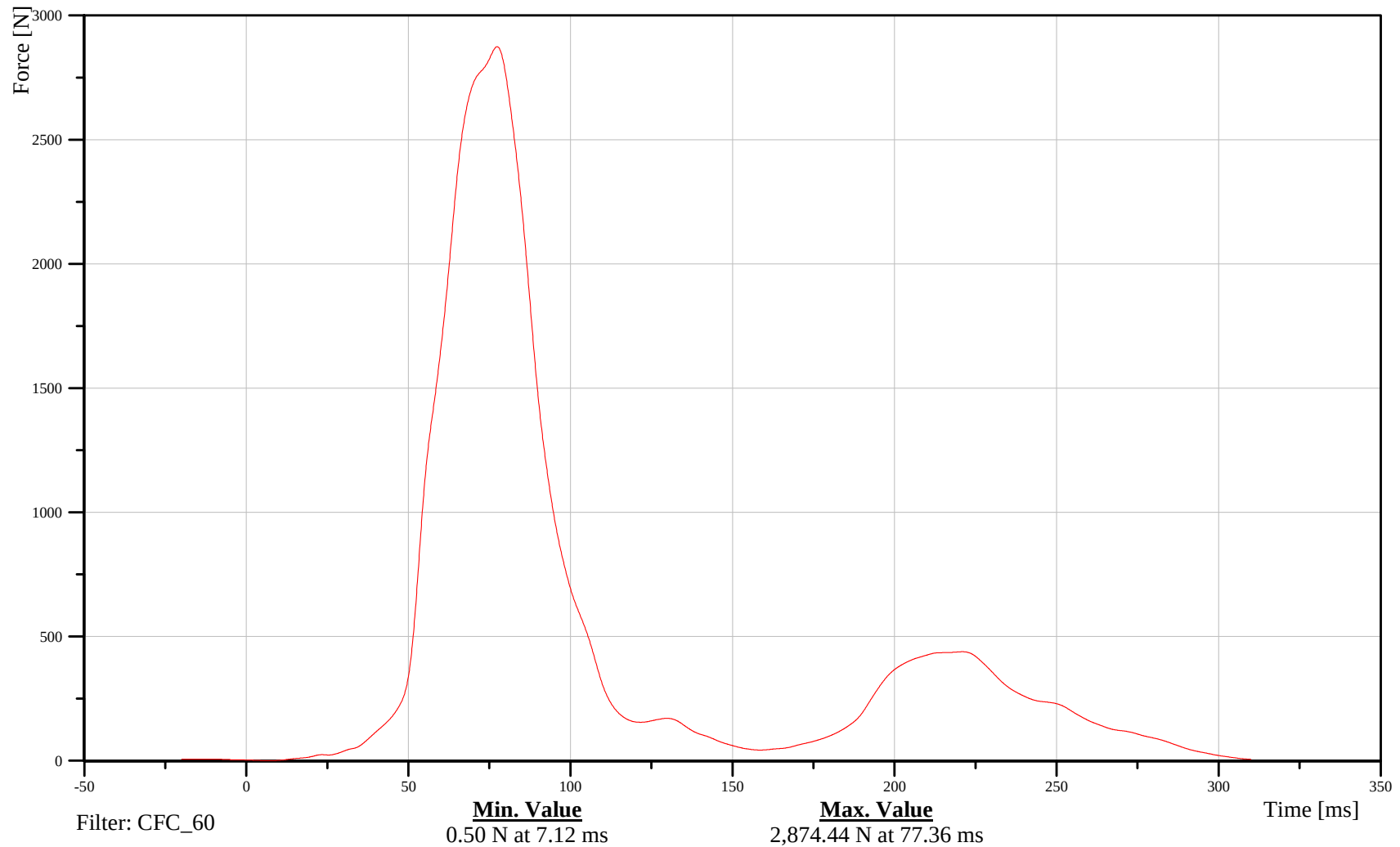
Time: 14:32

Customer: VRTC

13SEBE0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-219

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

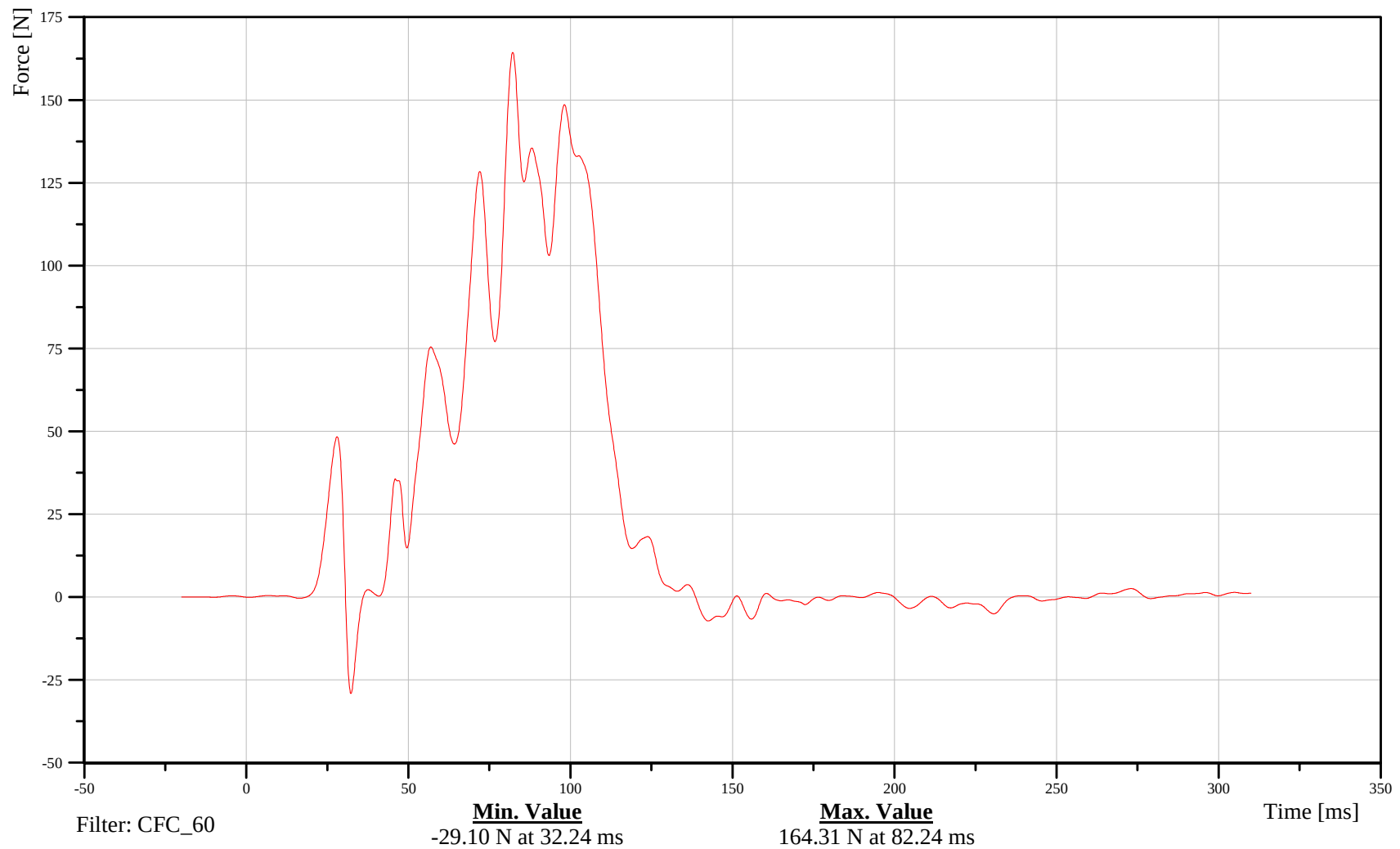
Bullet Vehicle Driver Shoulder Belt Force

Customer: VRTC

11SEBE0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-220

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

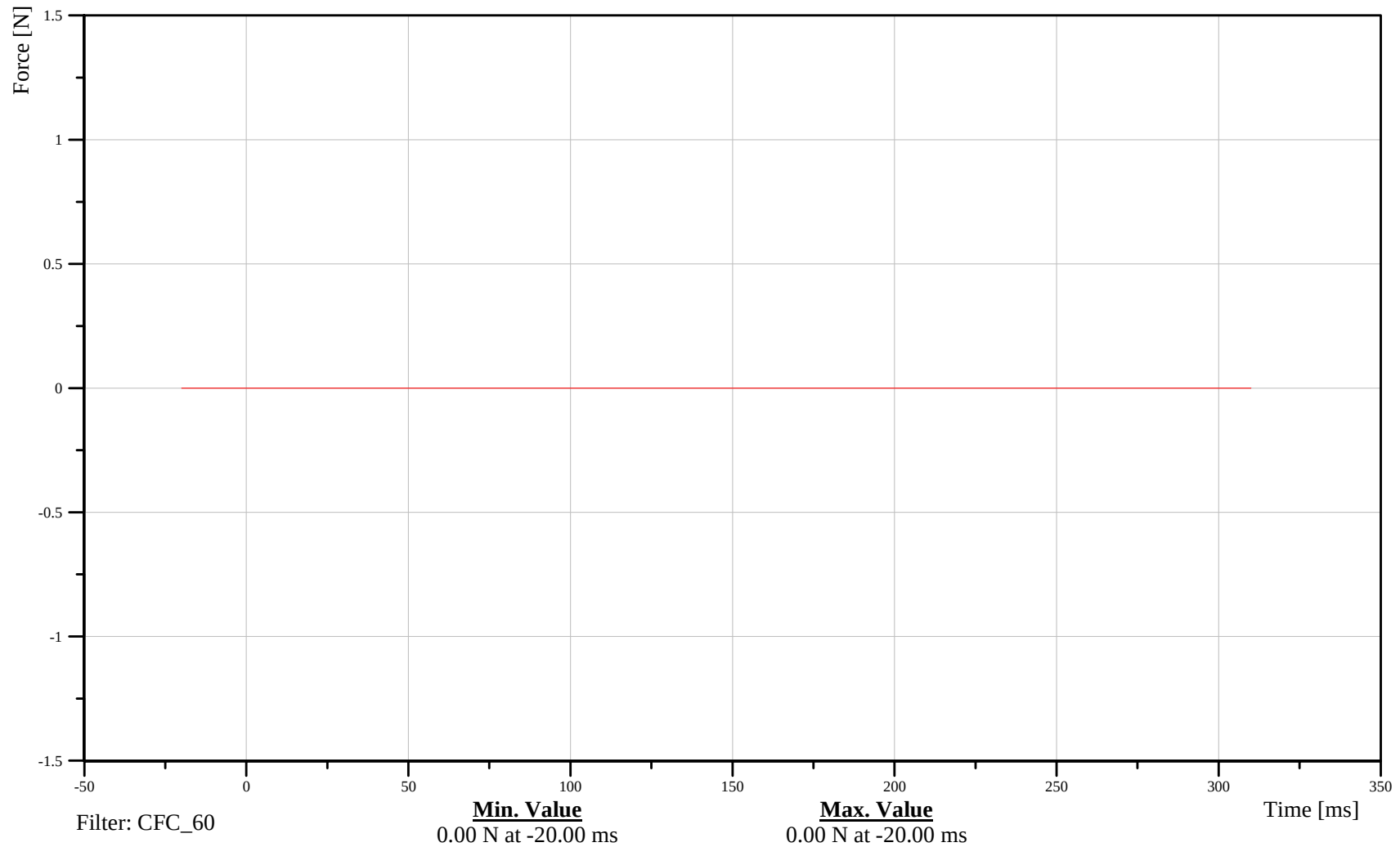
Bullet Vehicle Right Front Passenger Shoulder Belt Force

Customer: VRTC

13SEBE0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-221

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Airbag 1st Stage Fire Time

Date: 11/06/2009

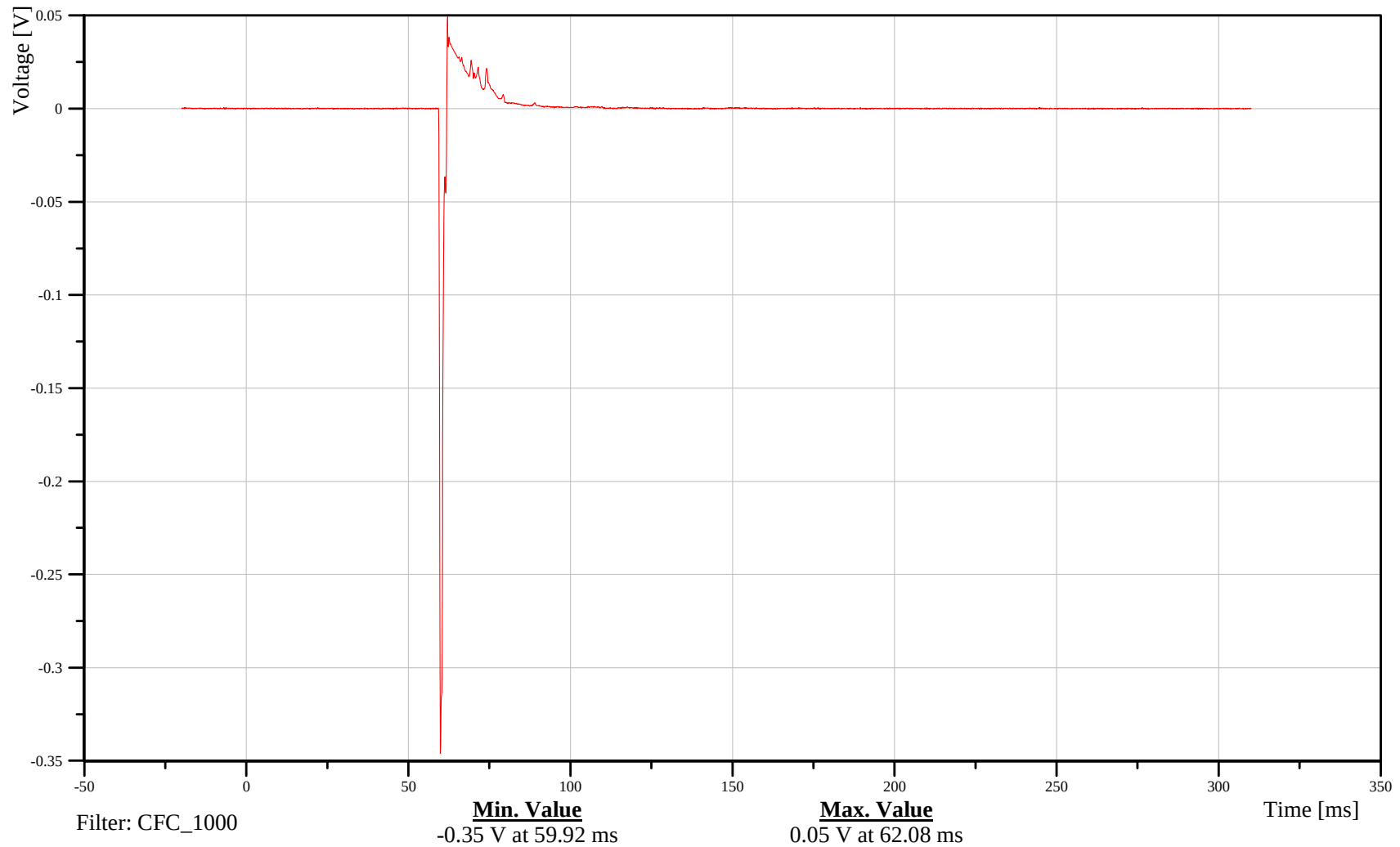
Time: 14:32

Customer: VRTC

10AIRBLEFR25VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-222

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Driver Airbag 2nd Stage Fire Time

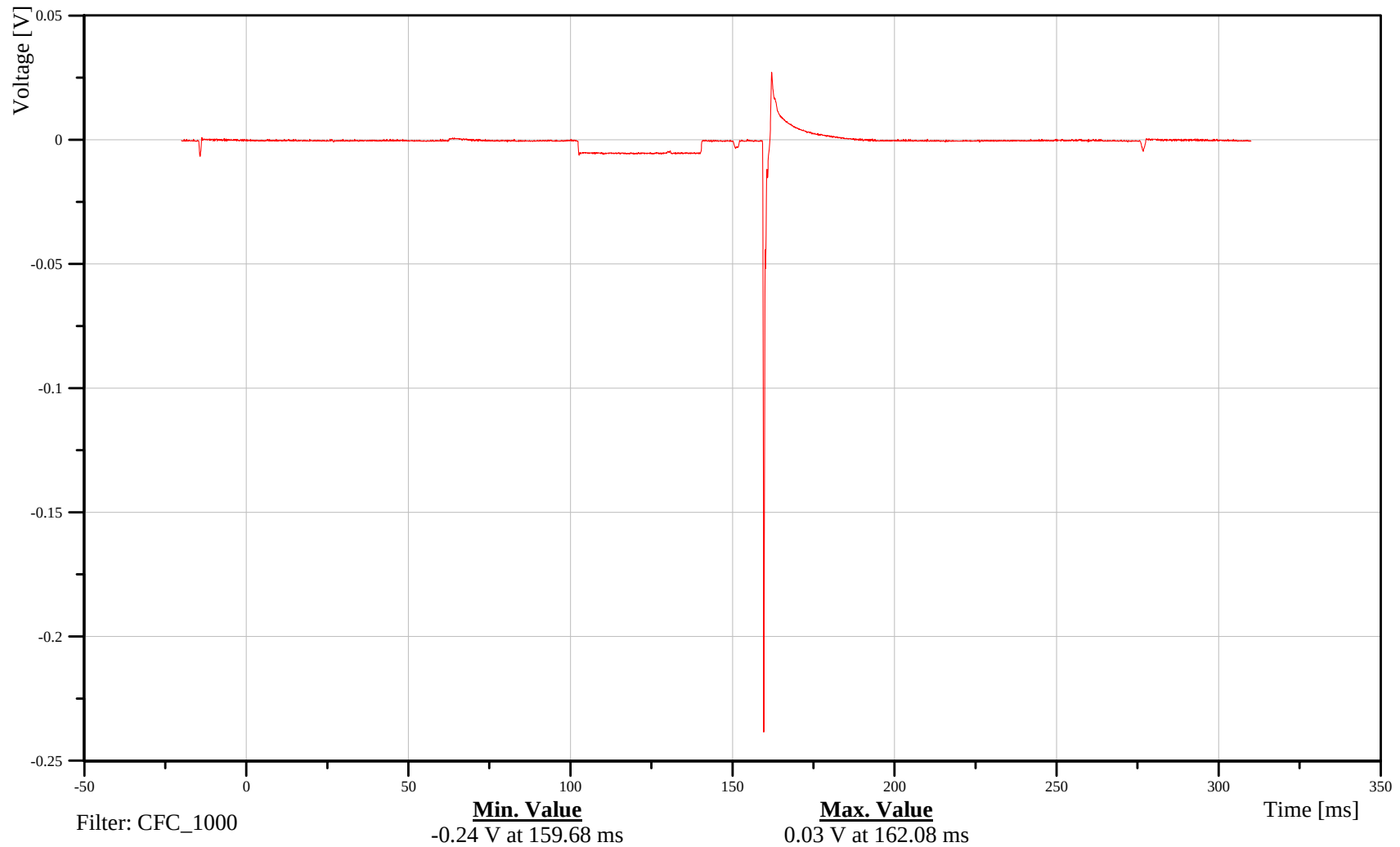
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10AIRBLEFR26VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-223

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Airbag 1st Stage Fire Time

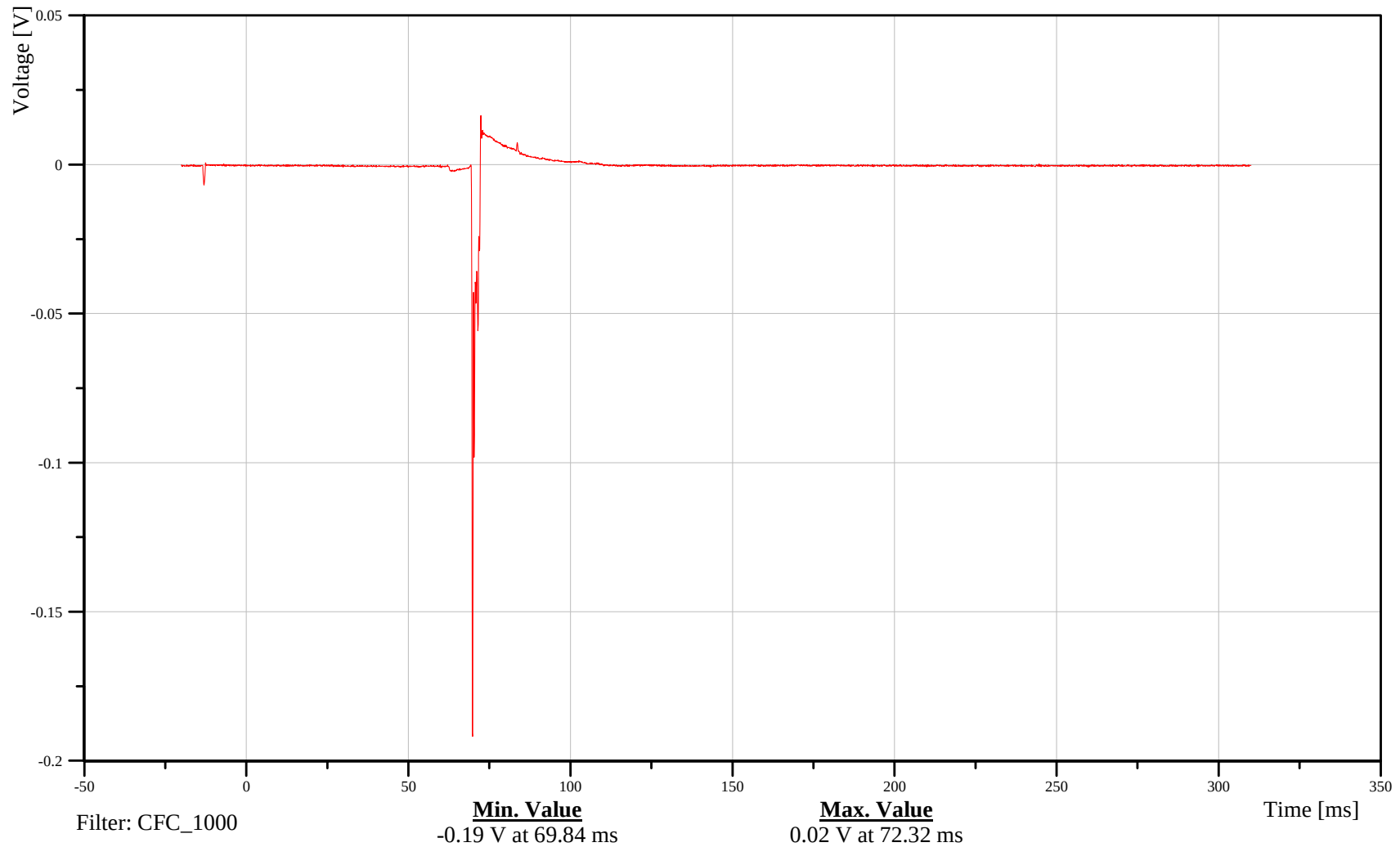
Date: 11/06/2009
Time: 14:32

Customer: VRTC

10AIRBRIFR25VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-224

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Bullet Vehicle Right Front Passenger Airbag 2nd Stage Fire Time

Date: 11/06/2009

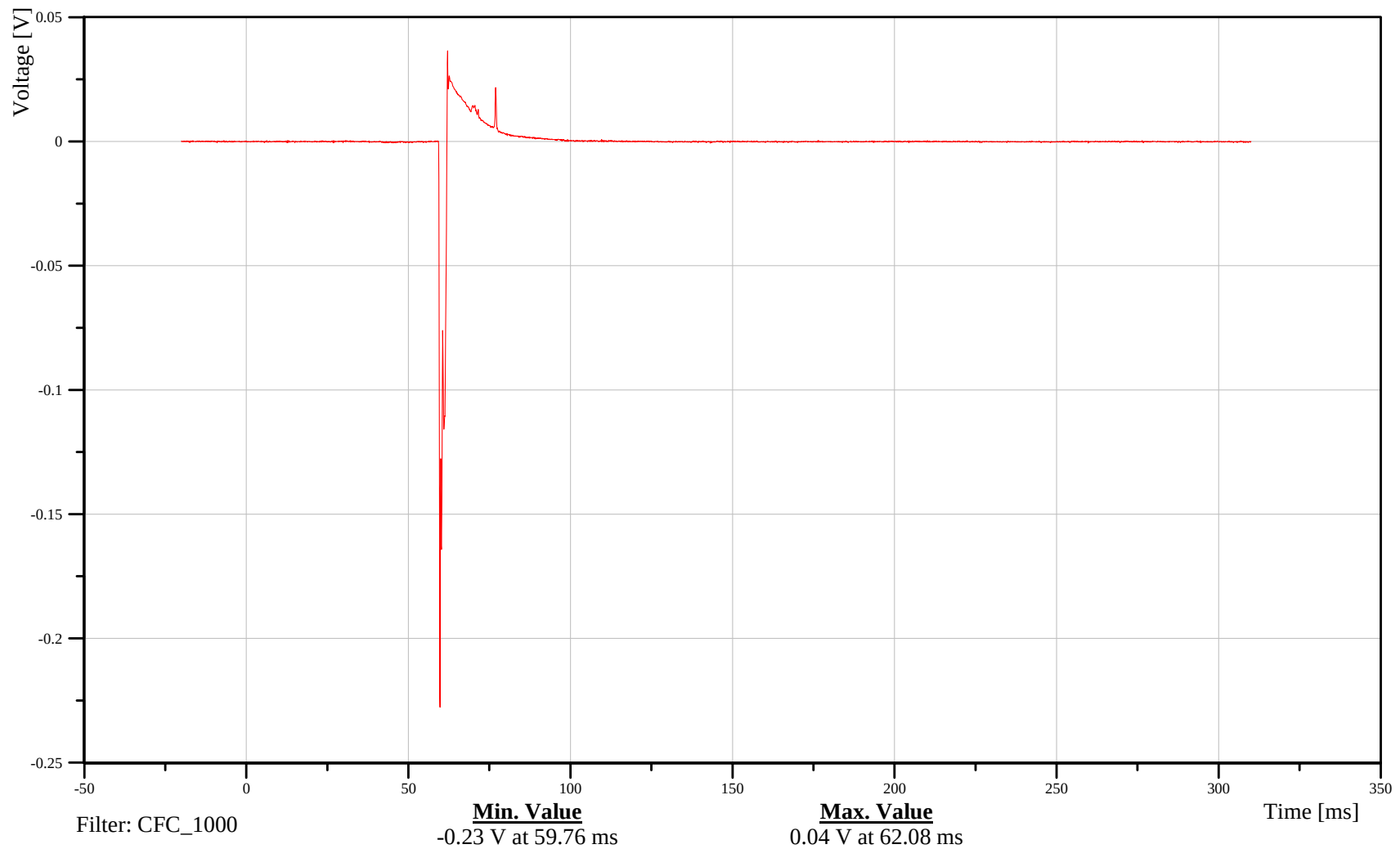
Time: 14:32

Customer: VRTC

10AIRBRIFR26VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-225

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Head X-Axis Acceleration

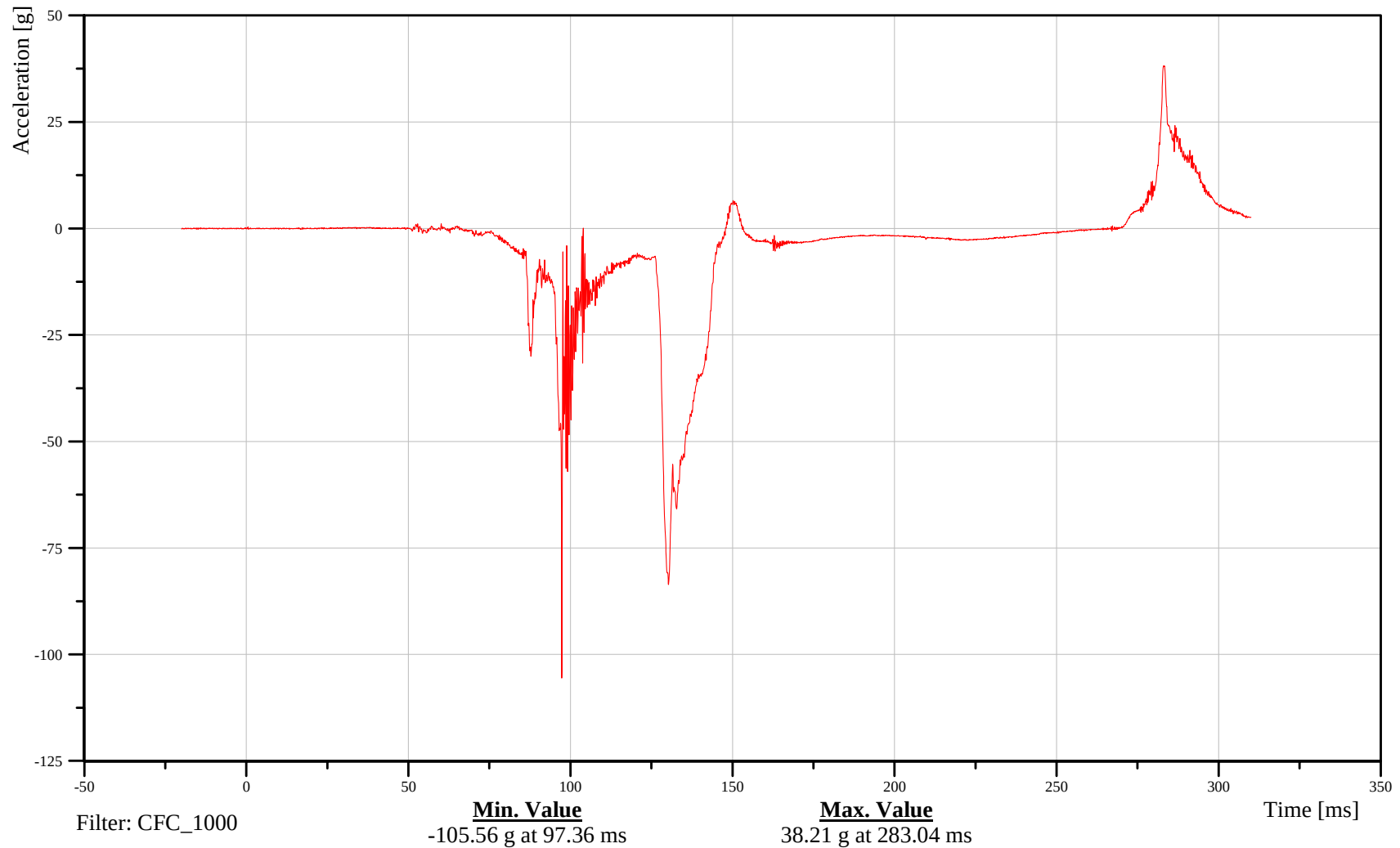
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21HEADCG00THACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-226

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

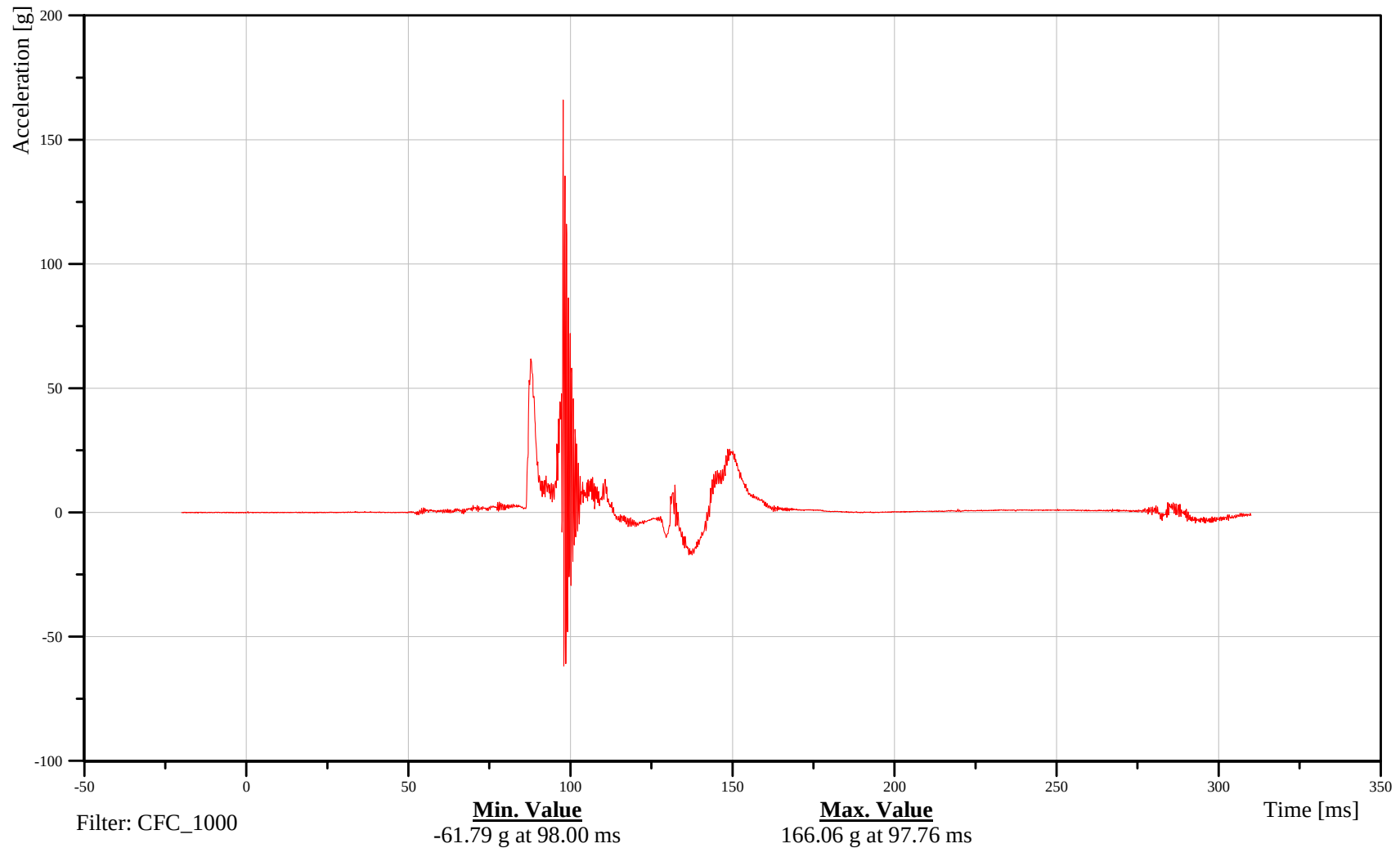
Target Vehicle Driver Head Y-Axis Acceleration

Customer: VRTC

21HEADCG00THACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-227

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

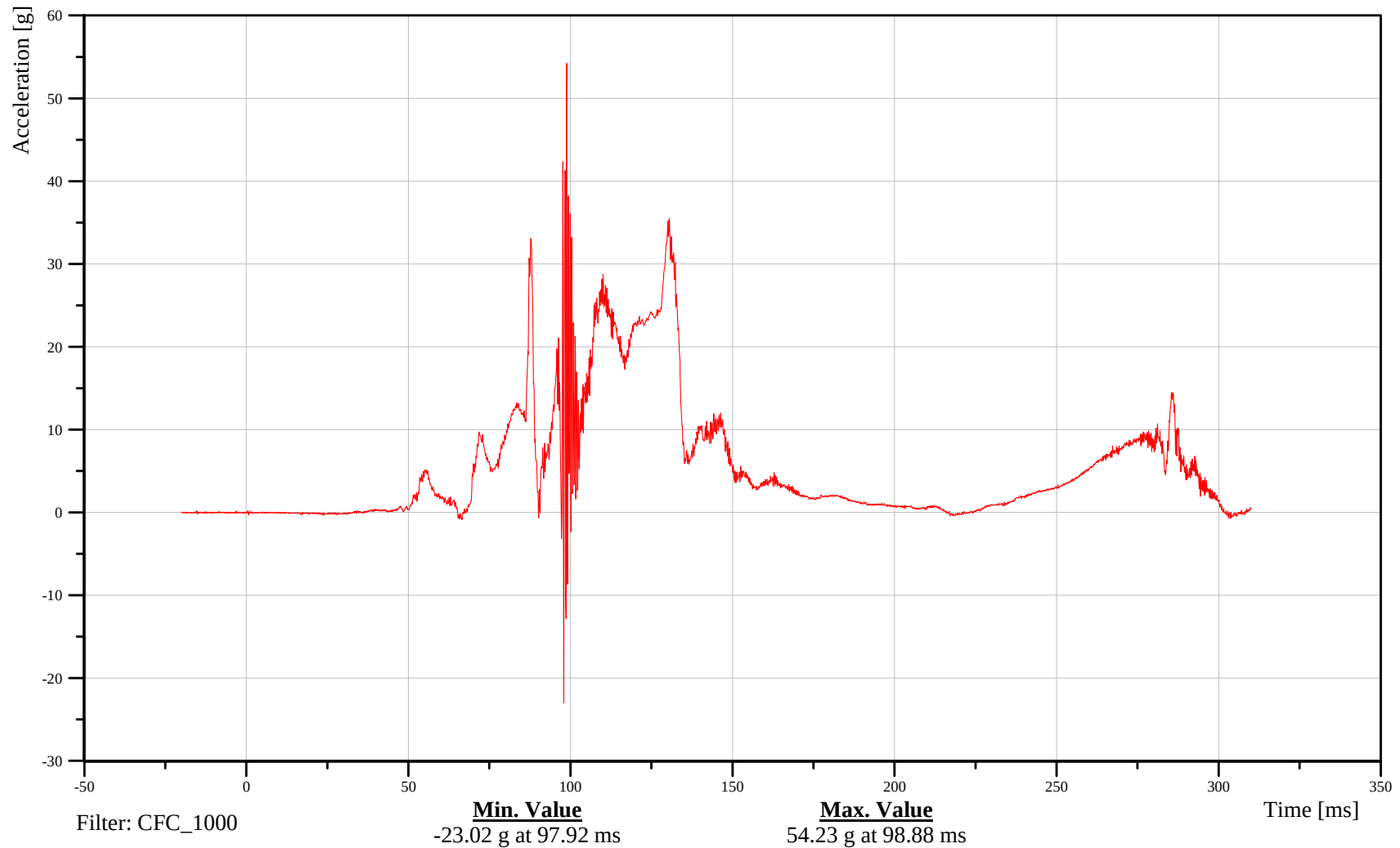
Target Vehicle Driver Head Z-Axis Acceleration

Customer: VRTC

21HEADCG00THACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-228

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

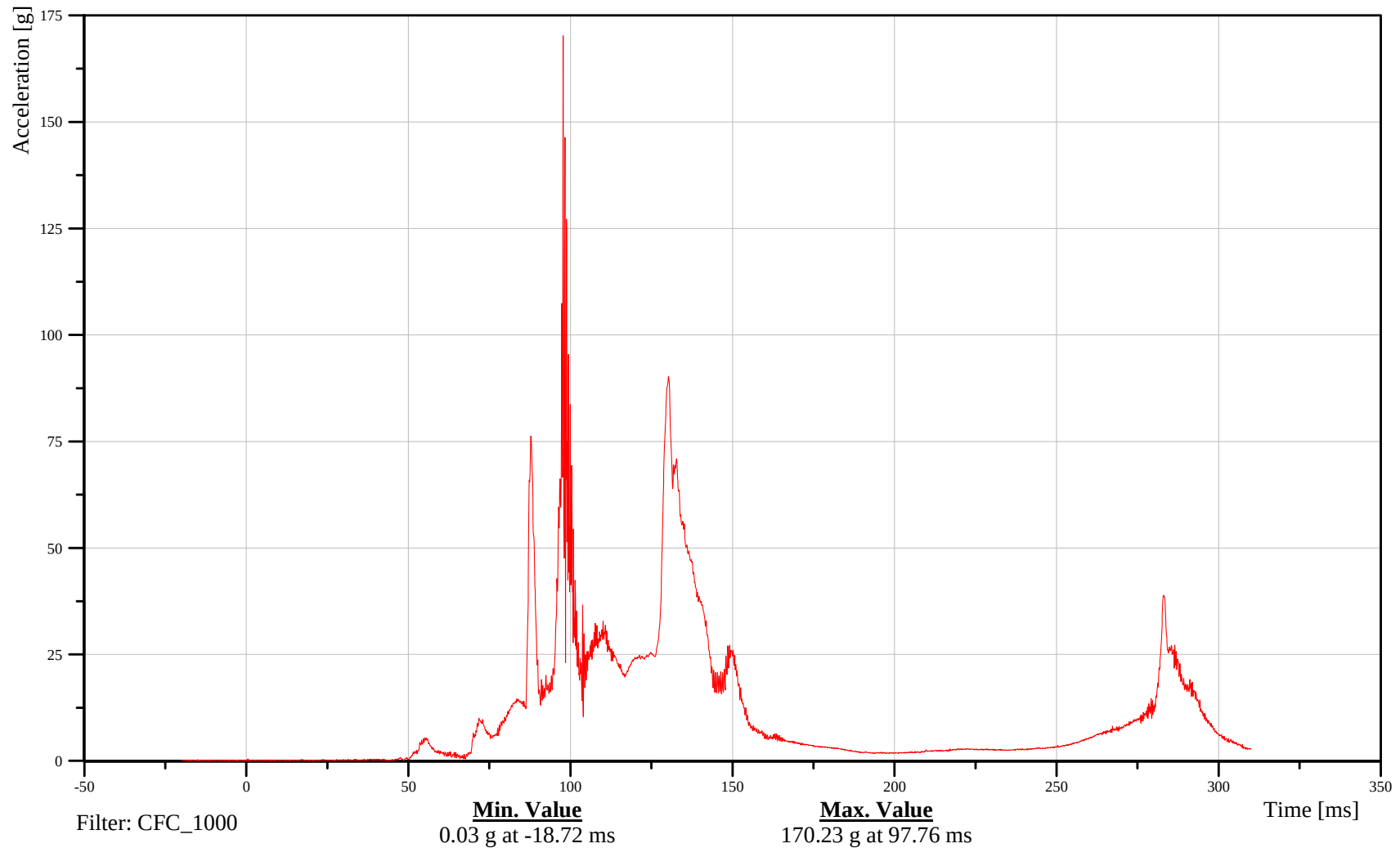
Target Vehicle Driver Head Resultant Acceleration

Customer: VRTC

21HEADCG00THACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-229

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

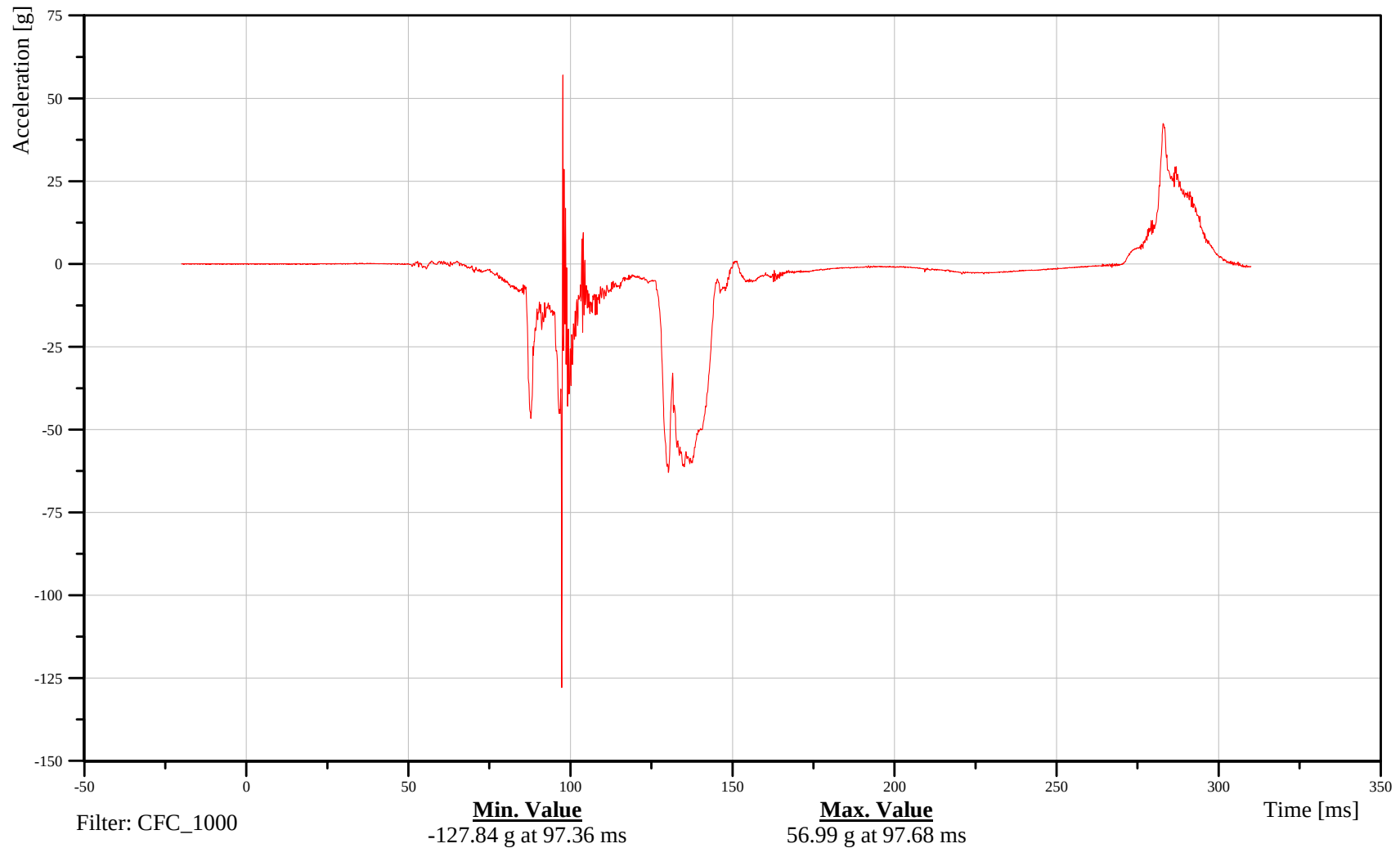
Target Vehicle Driver Head Left X-Axis Acceleration

Customer: VRTC

21HEADLE00THACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-230

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

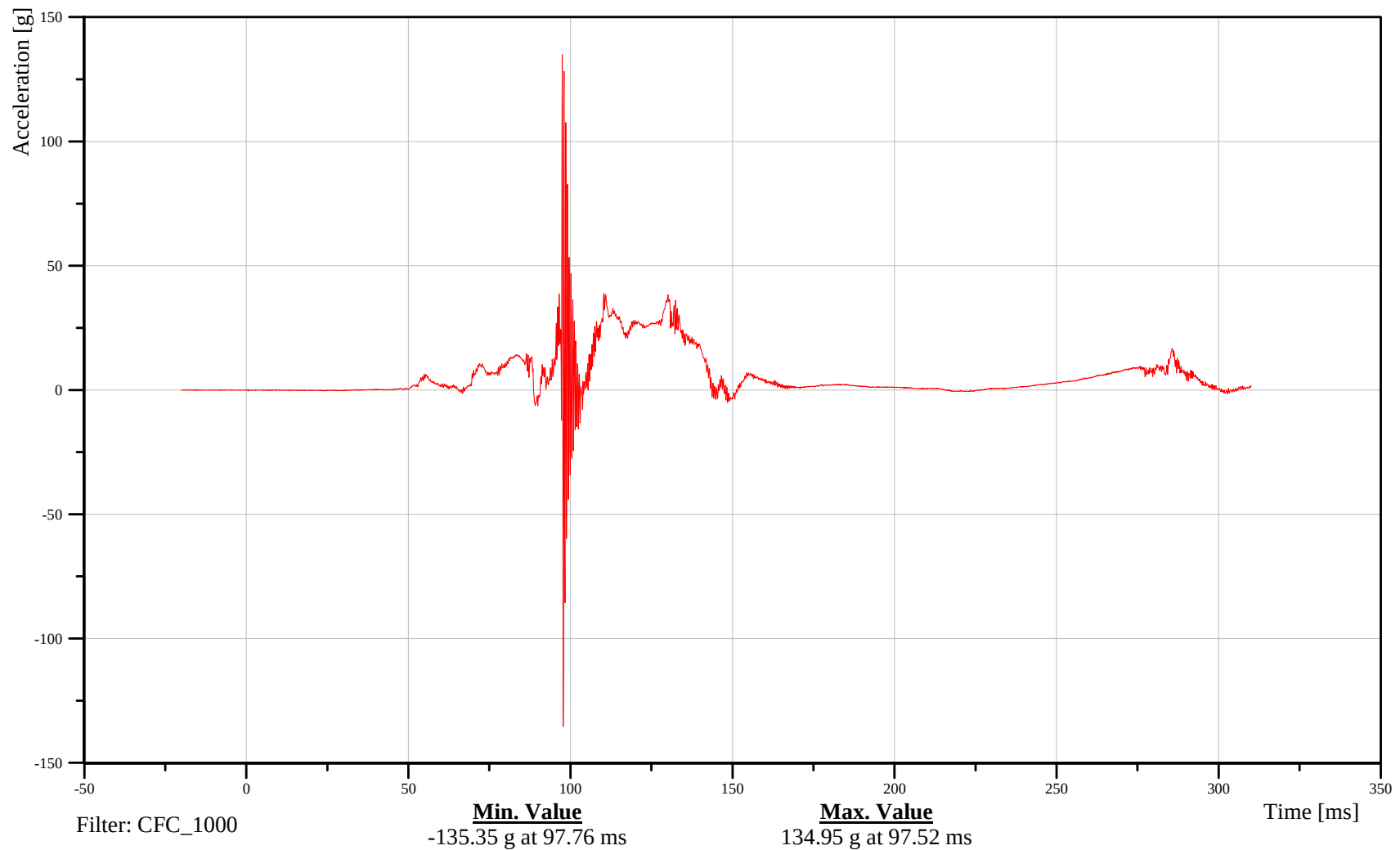
Target Vehicle Driver Head Left Z-Axis Acceleration

Customer: VRTC

21HEADLE00THACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-231

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

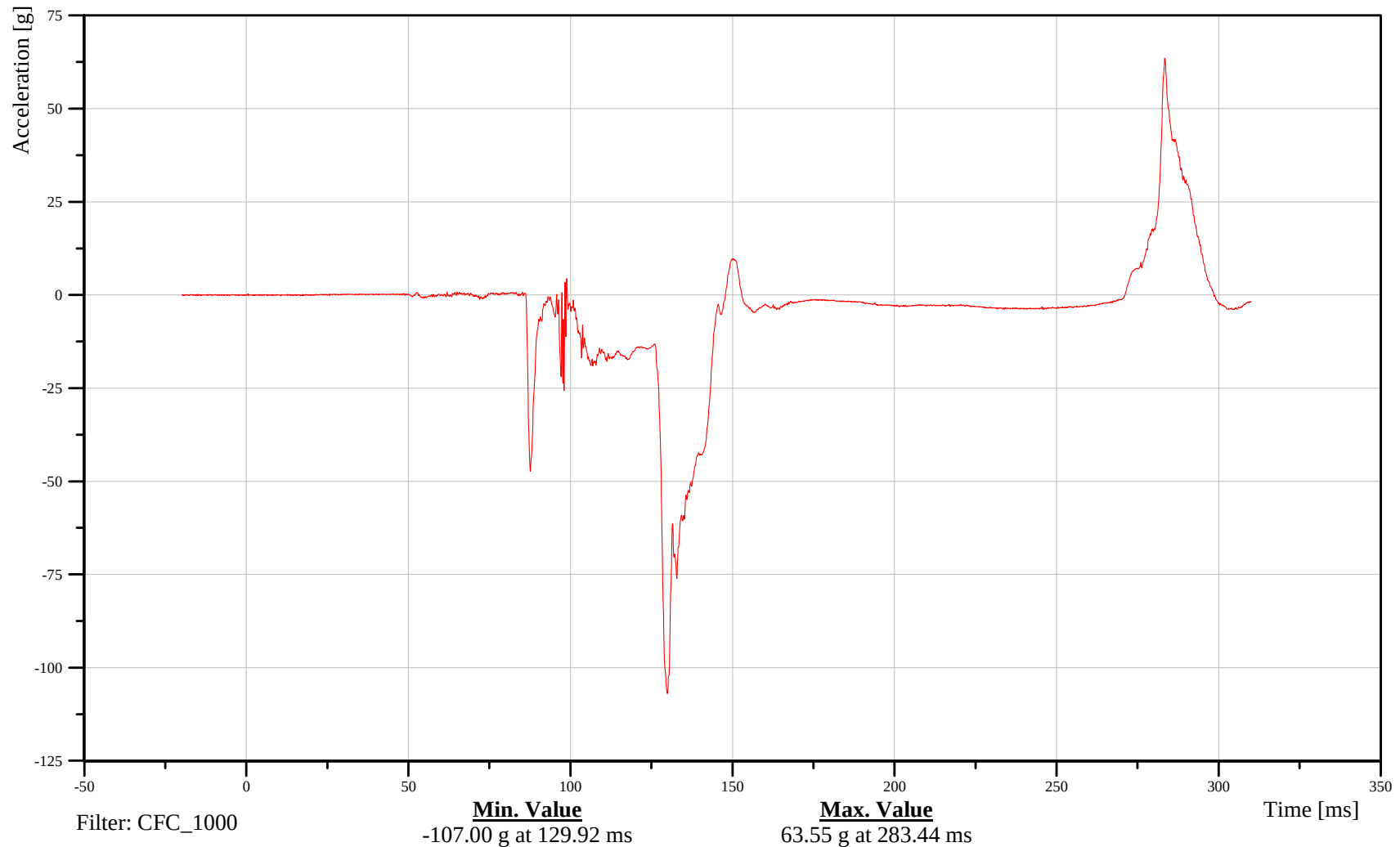
Target Vehicle Driver Head Top X-Axis Acceleration

Customer: VRTC

21HEADUP00THACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-232

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

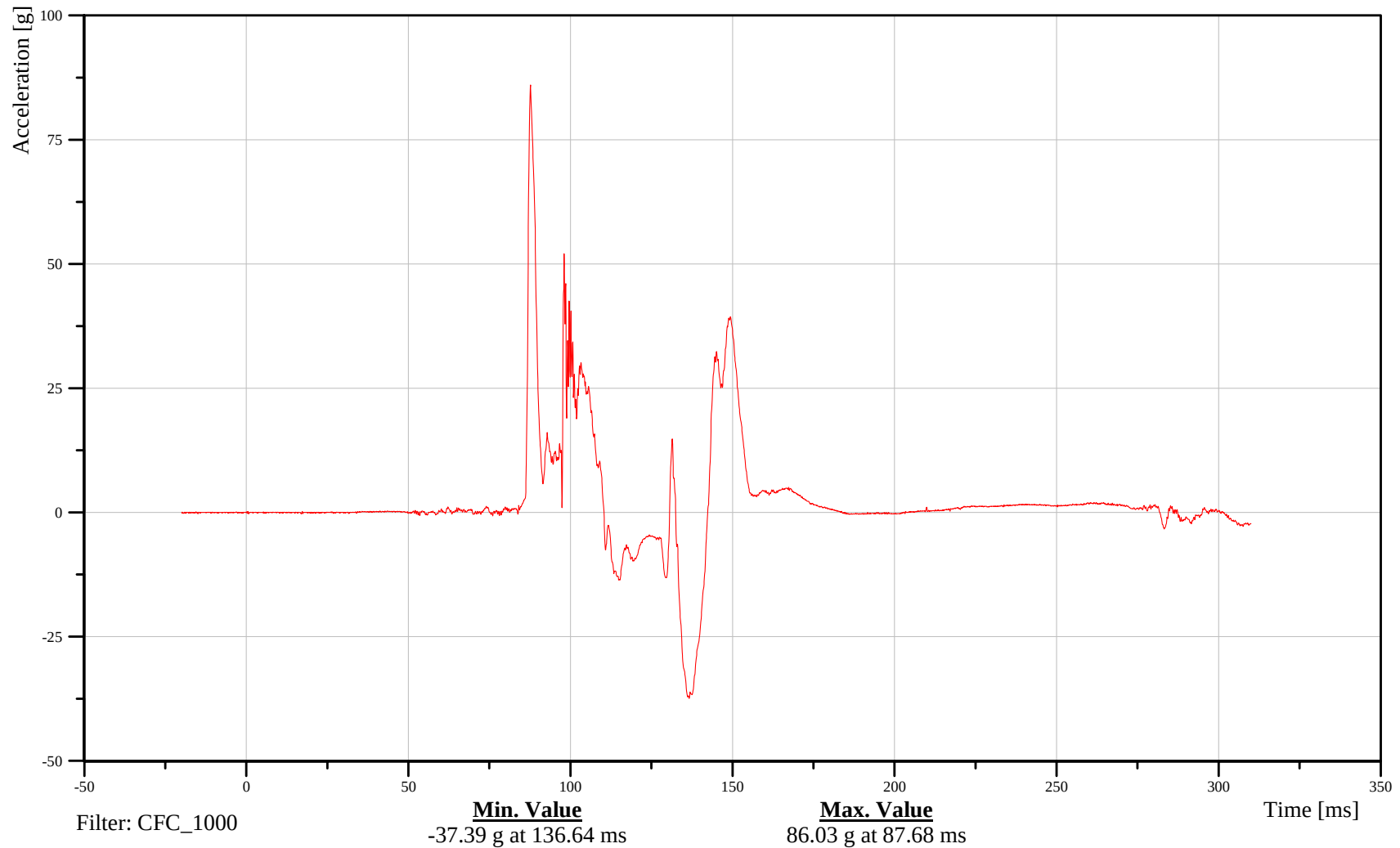
Target Vehicle Driver Head Top Y-Axis Acceleration

Customer: VRTC

21HEADUP00THACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-233

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

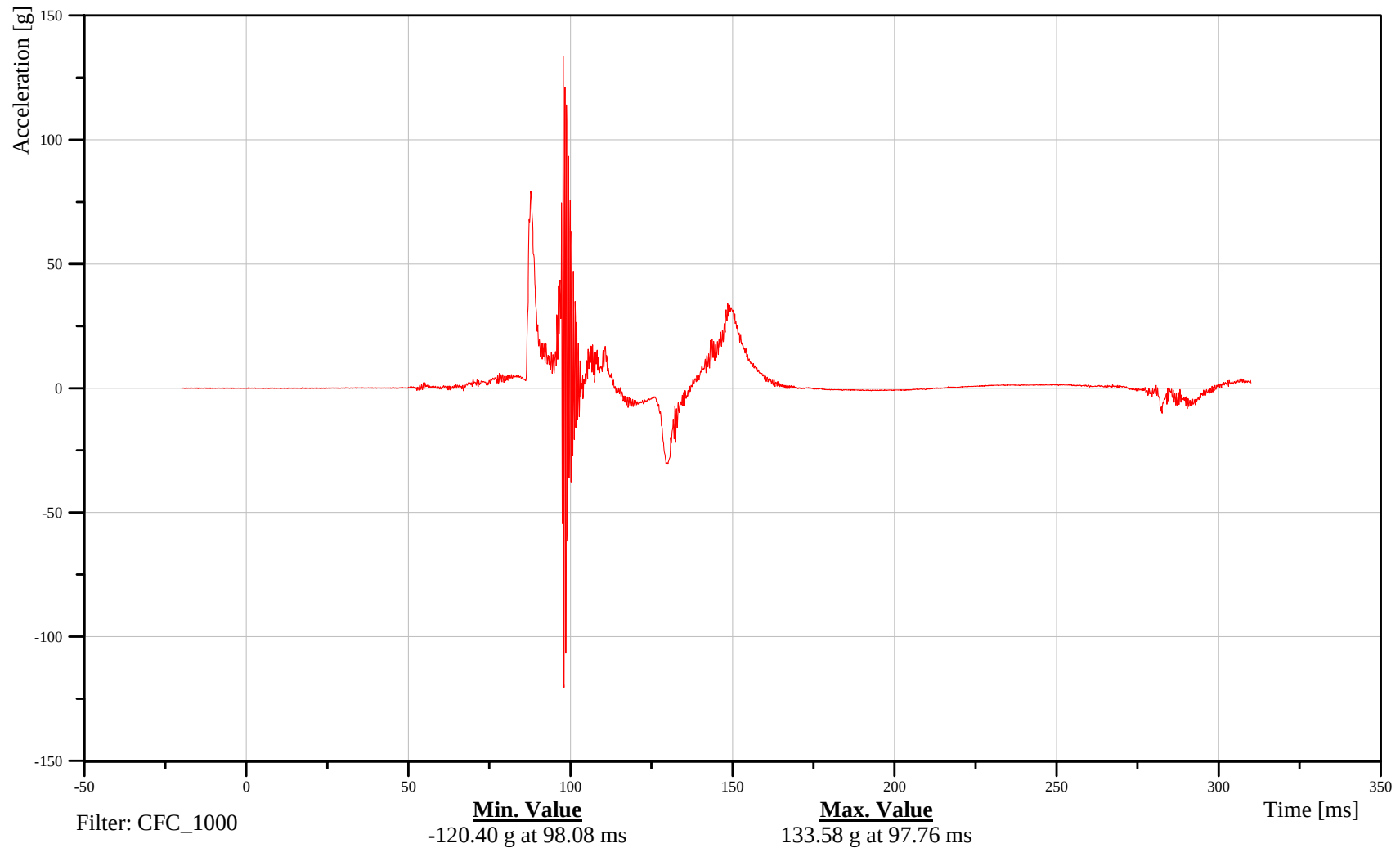
Target Vehicle Driver Head Rear Y-Axis Acceleration

Customer: VRTC

21HEADRE00THACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-234

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Head Rear Z-Axis Acceleration

Date: 11/06/2009

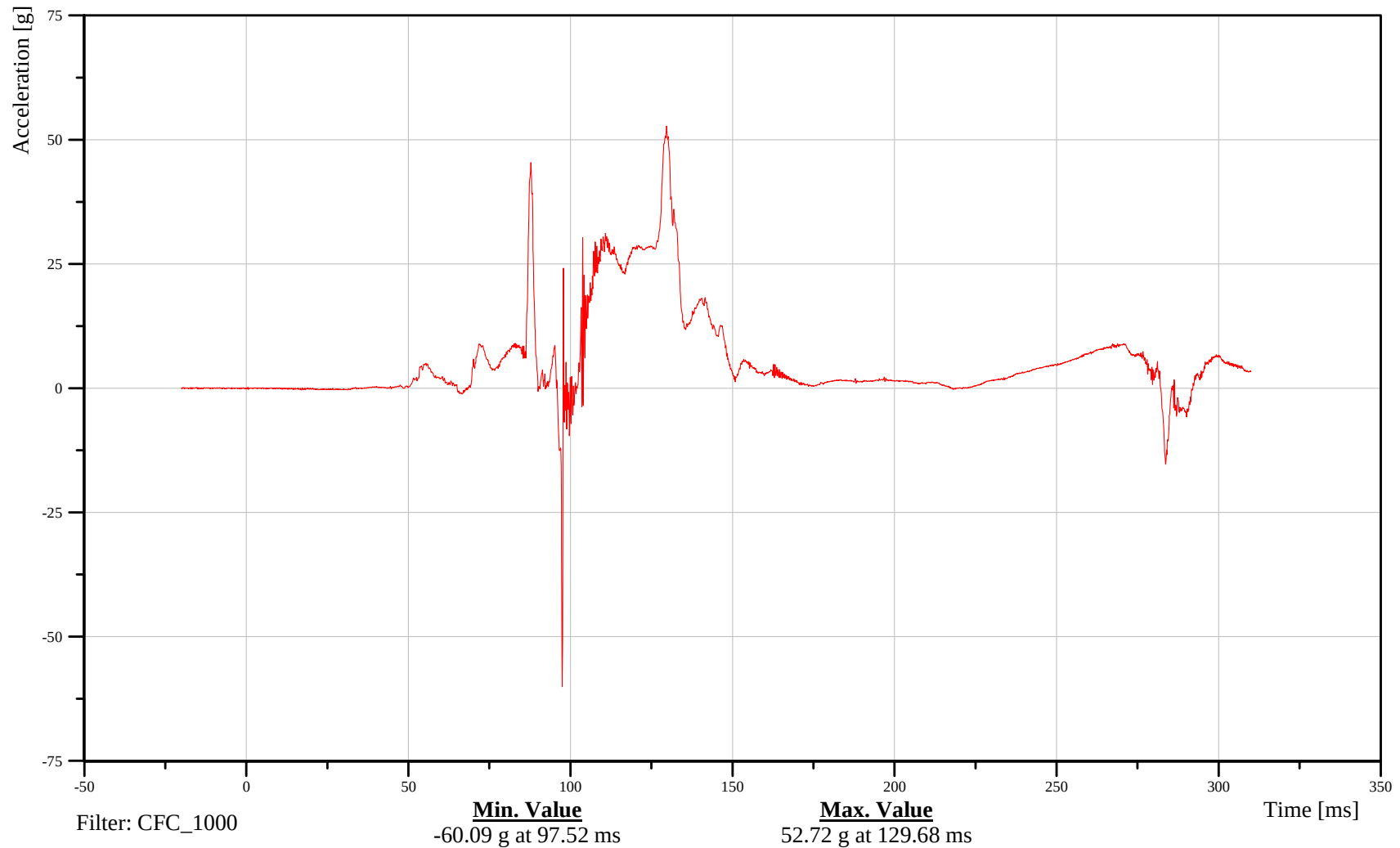
Time: 14:32

Customer: VRTC

21HEADRE00THACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-235

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

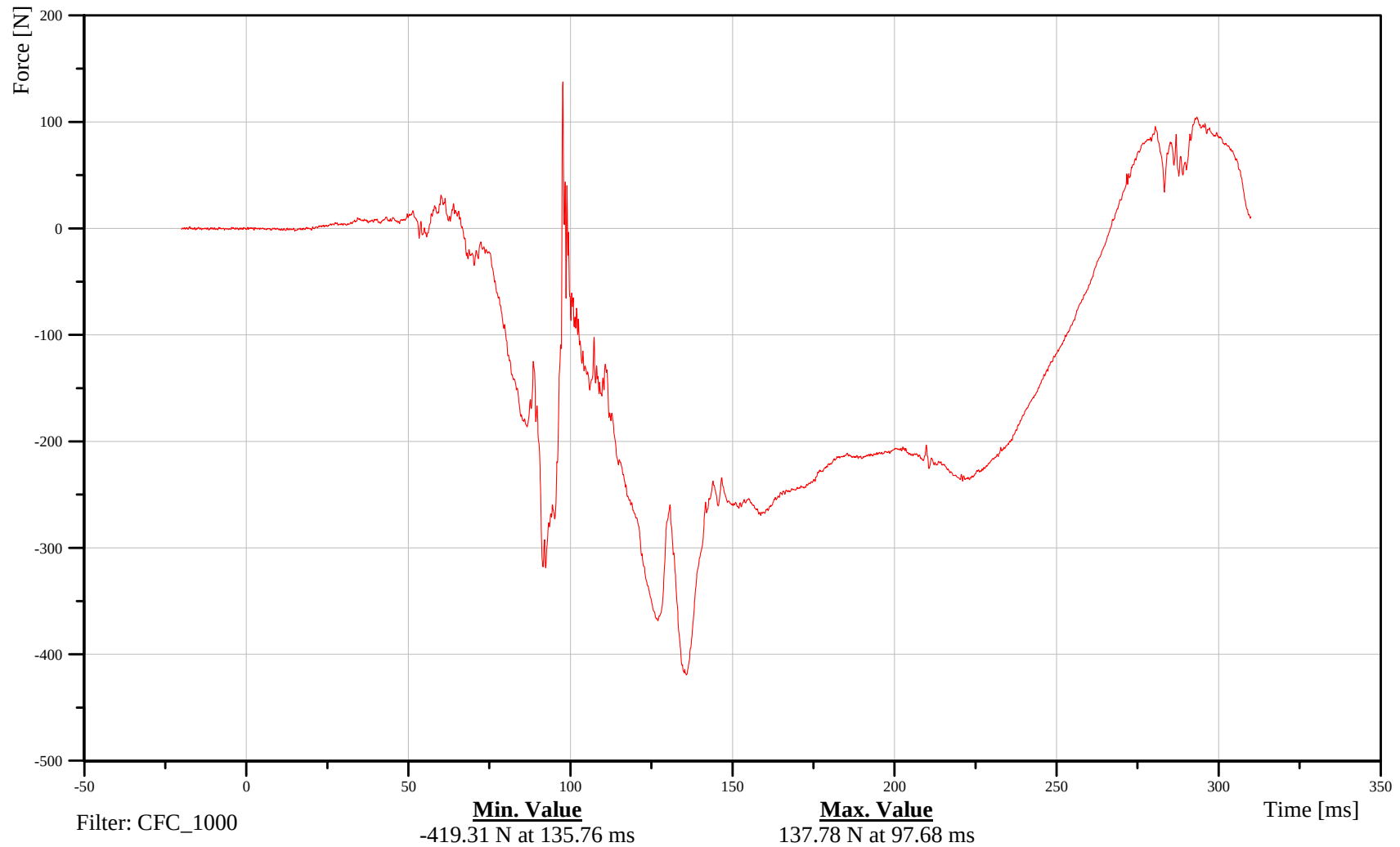
Target Vehicle Driver Upper Neck X-Axis Force

Customer: VRTC

21NECKUP00THFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-236

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

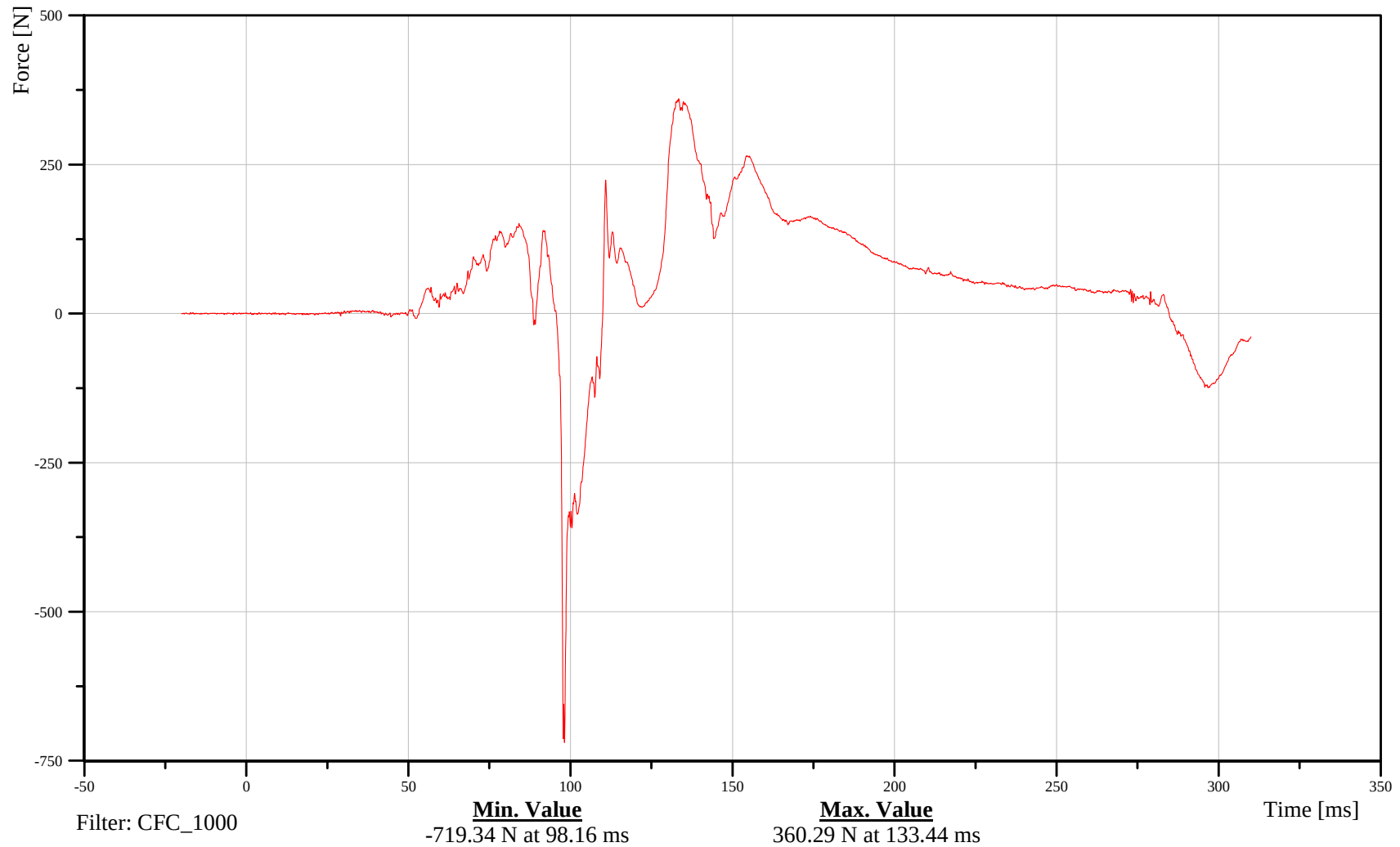
Target Vehicle Driver Upper Neck Y-Axis Force

Customer: VRTC

21NECKUP00THFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-237

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

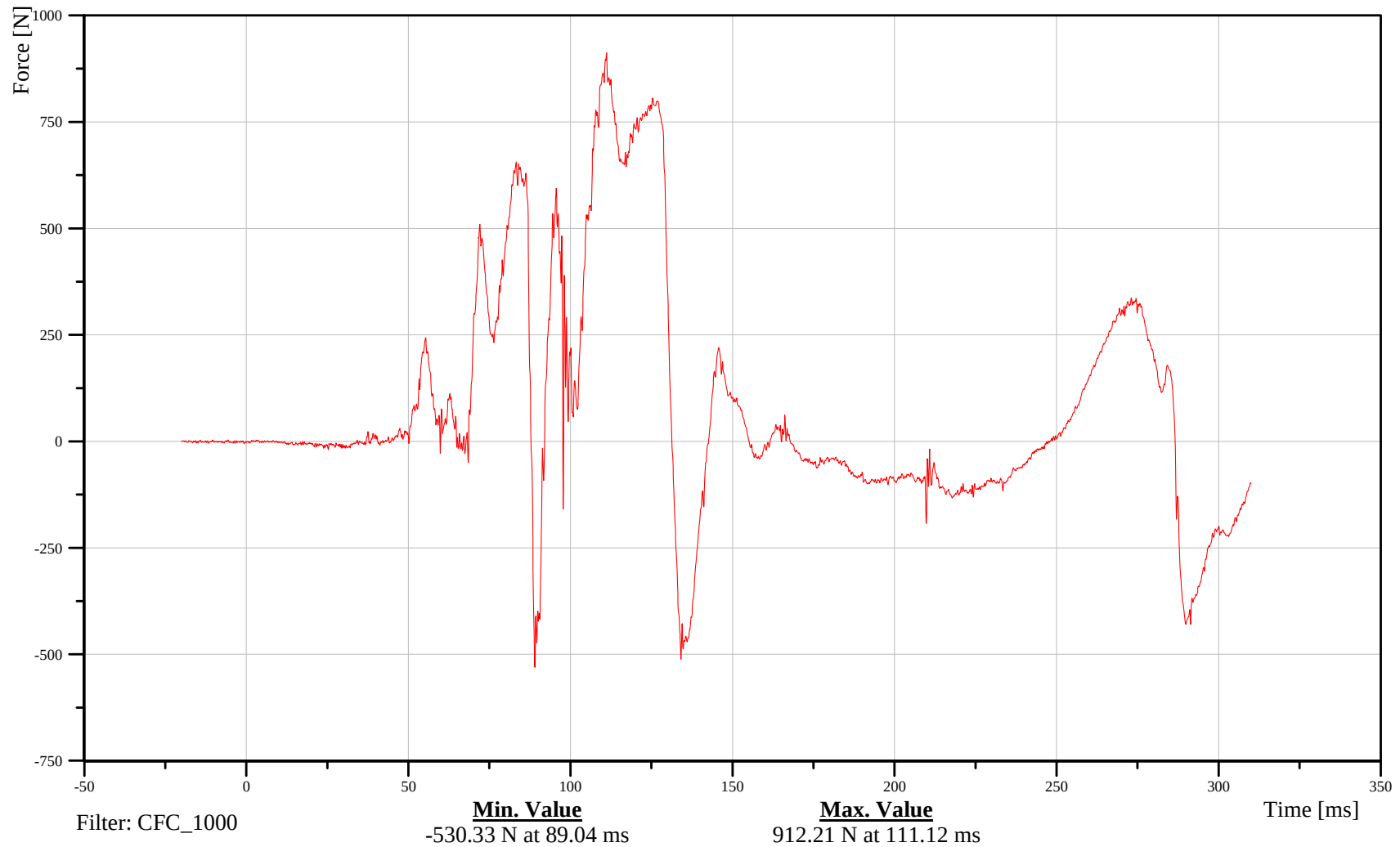
Target Vehicle Driver Upper Neck Z-Axis Force

Customer: VRTC

21NECKUP00THFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-238

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

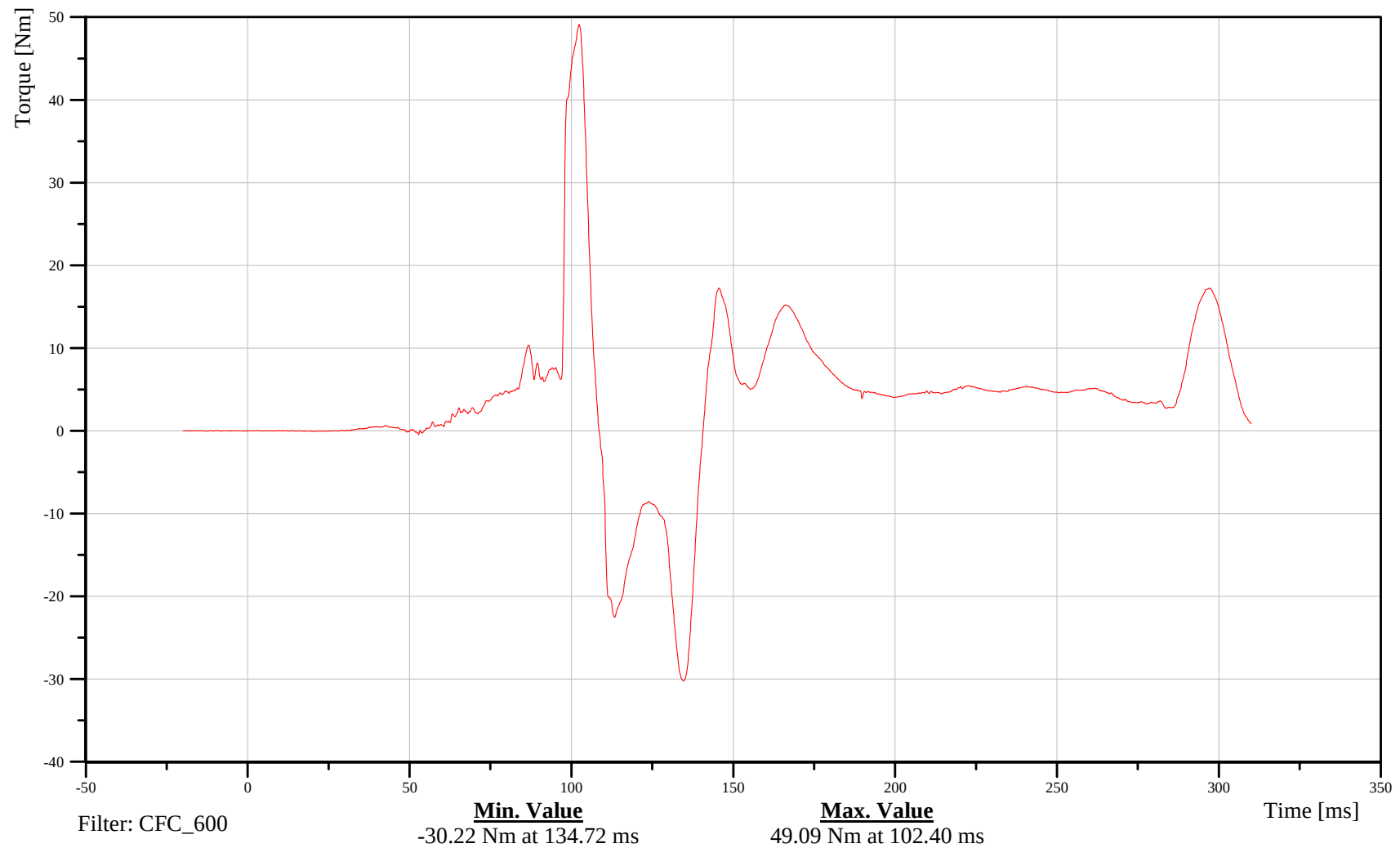
Target Vehicle Driver Upper Neck Moment About X Axis

Customer: VRTC

21NECKUP00THMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-239

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

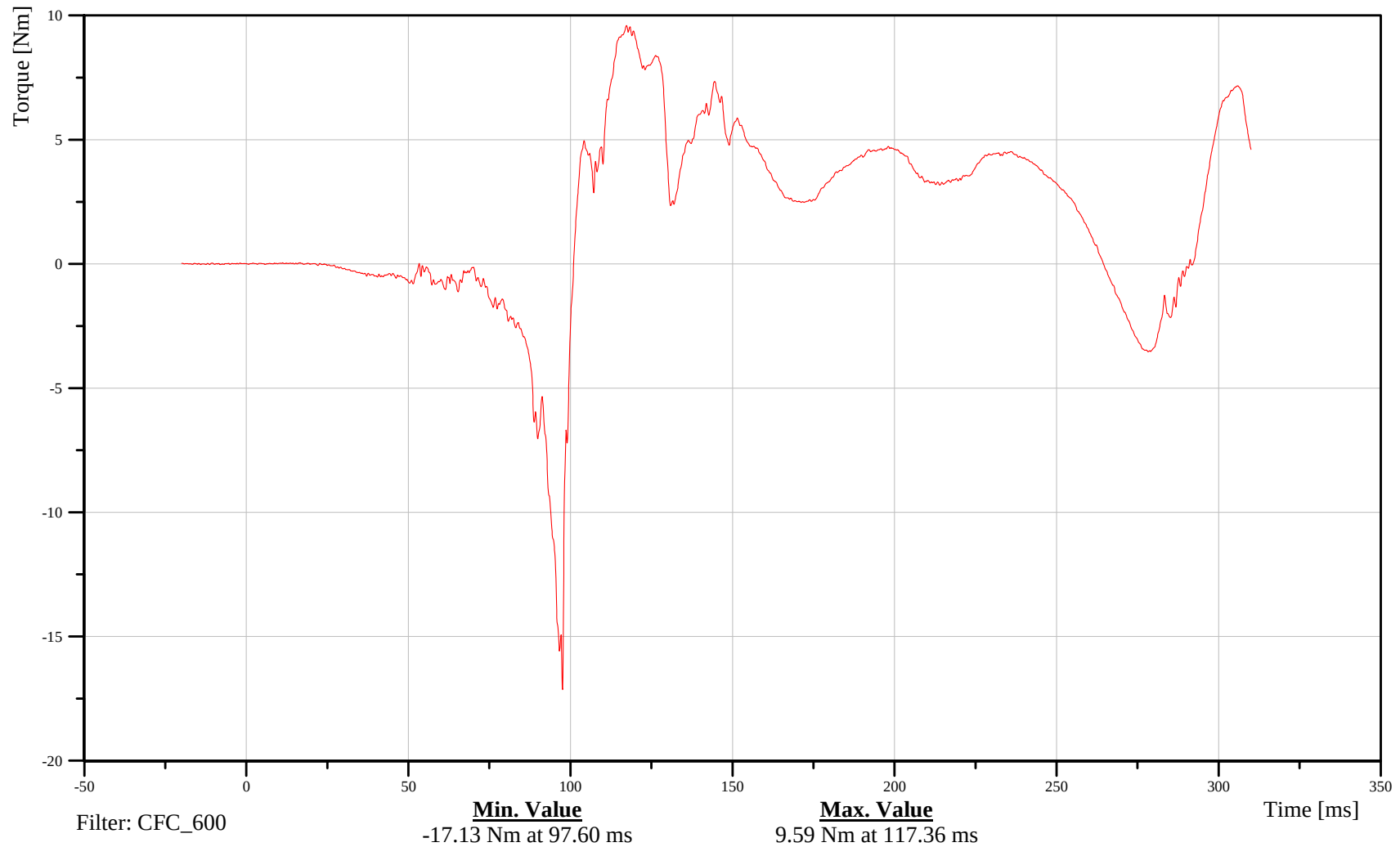
Target Vehicle Driver Upper Neck Moment About Y Axis

Customer: VRTC

21NECKUP00THMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-240

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Upper Neck Moment About Z Axis

Date: 11/06/2009

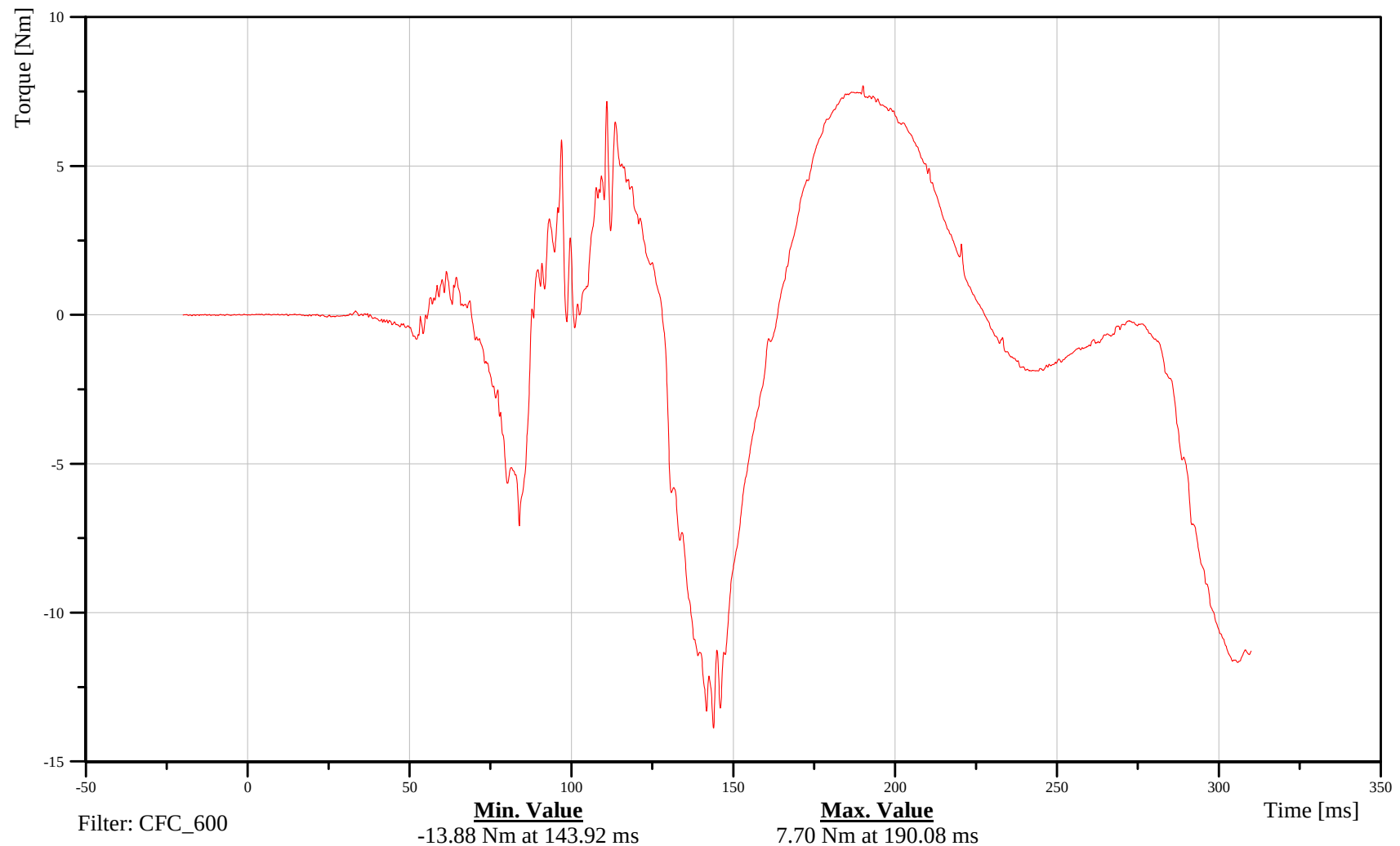
Time: 14:32

Customer: VRTC

21NECKUP00THMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-241

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Lower Neck X-Axis Force

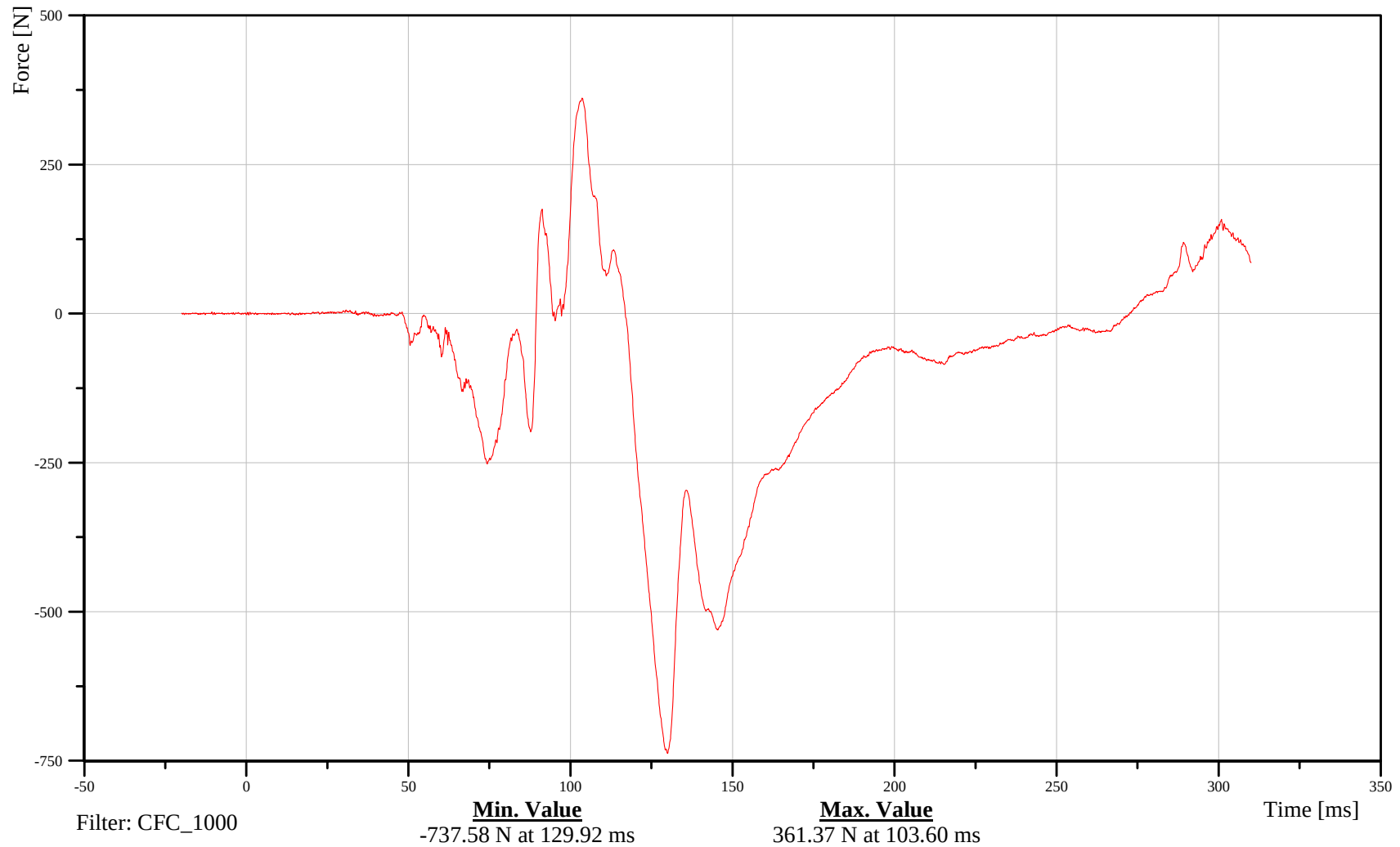
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21NECKLO00THFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-242

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Lower Neck Y-Axis Force

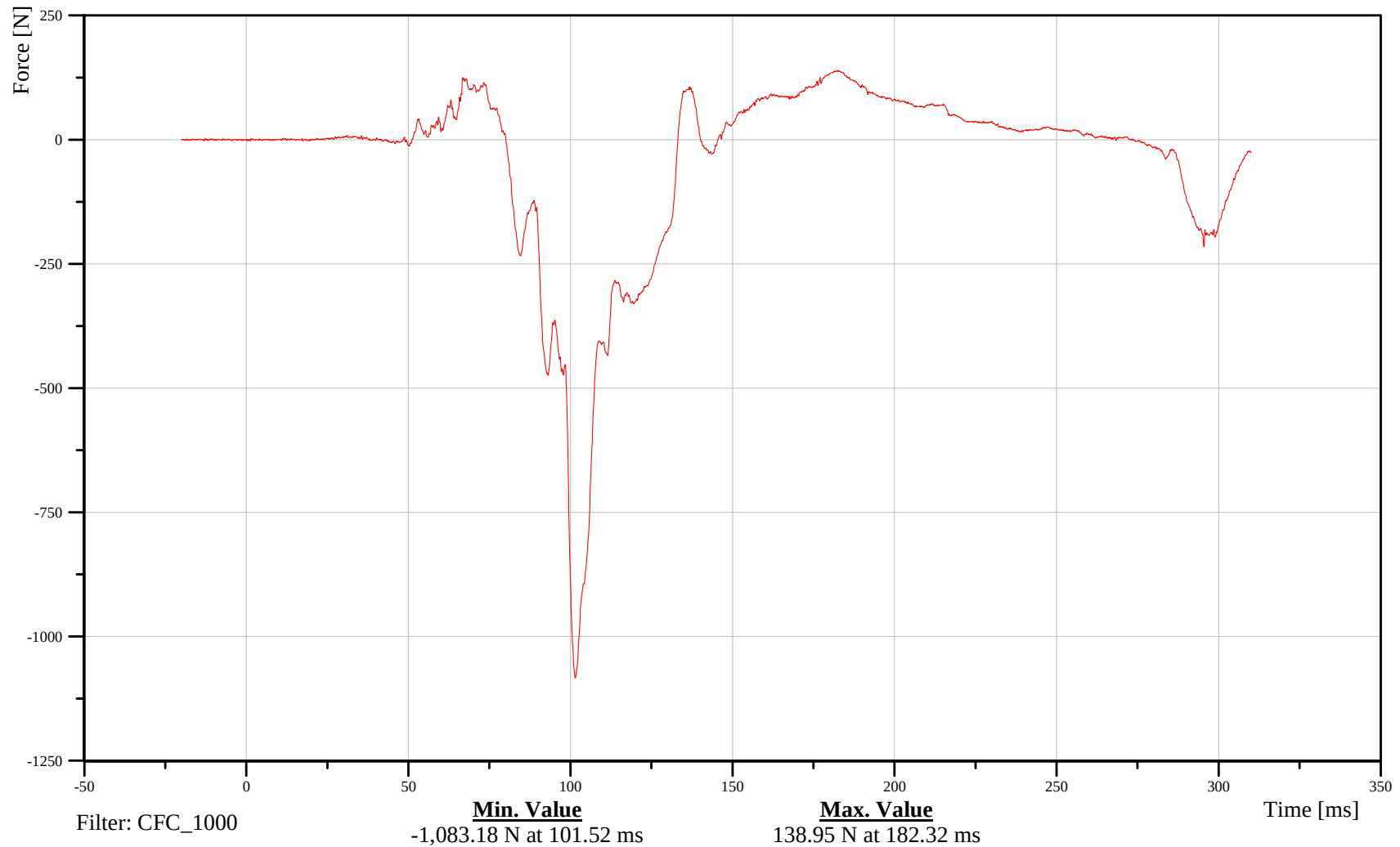
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21NECKLO00THFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-243

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Lower Neck Z-Axis Force

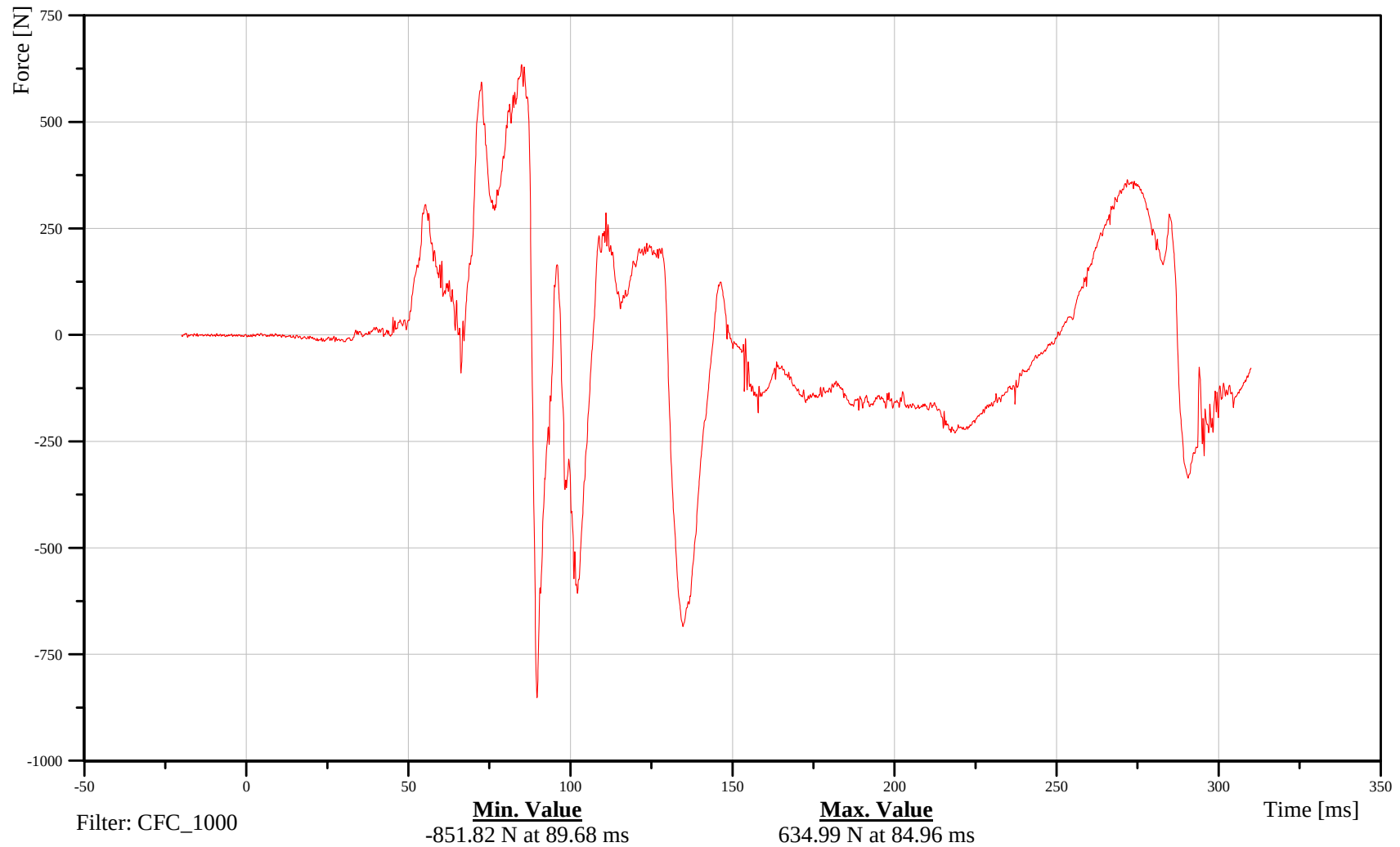
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21NECKLO00THFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-244

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

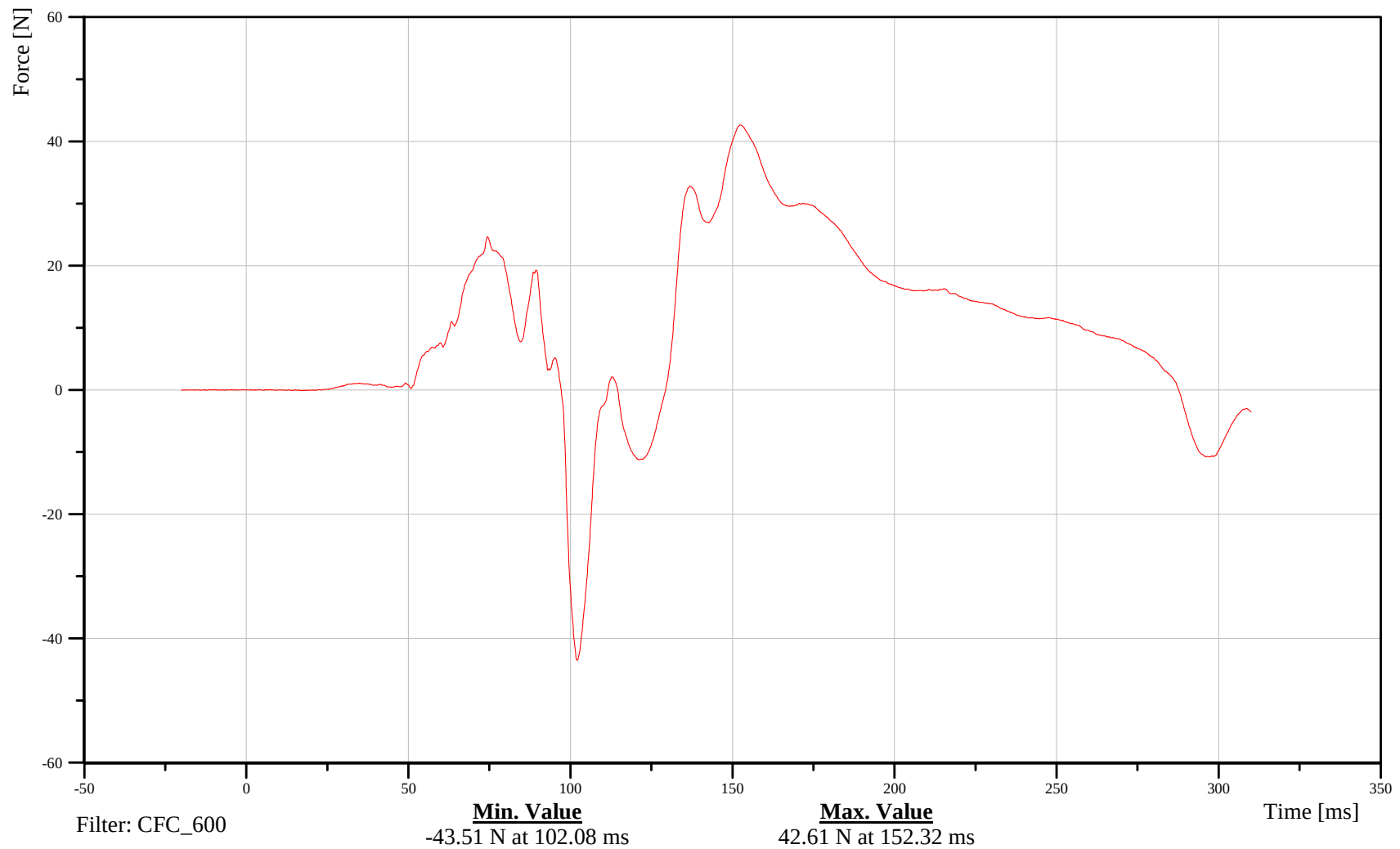
Target Vehicle Driver Lower Neck Moment About X Axis

Customer: VRTC

21NECKLO00THMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-245

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

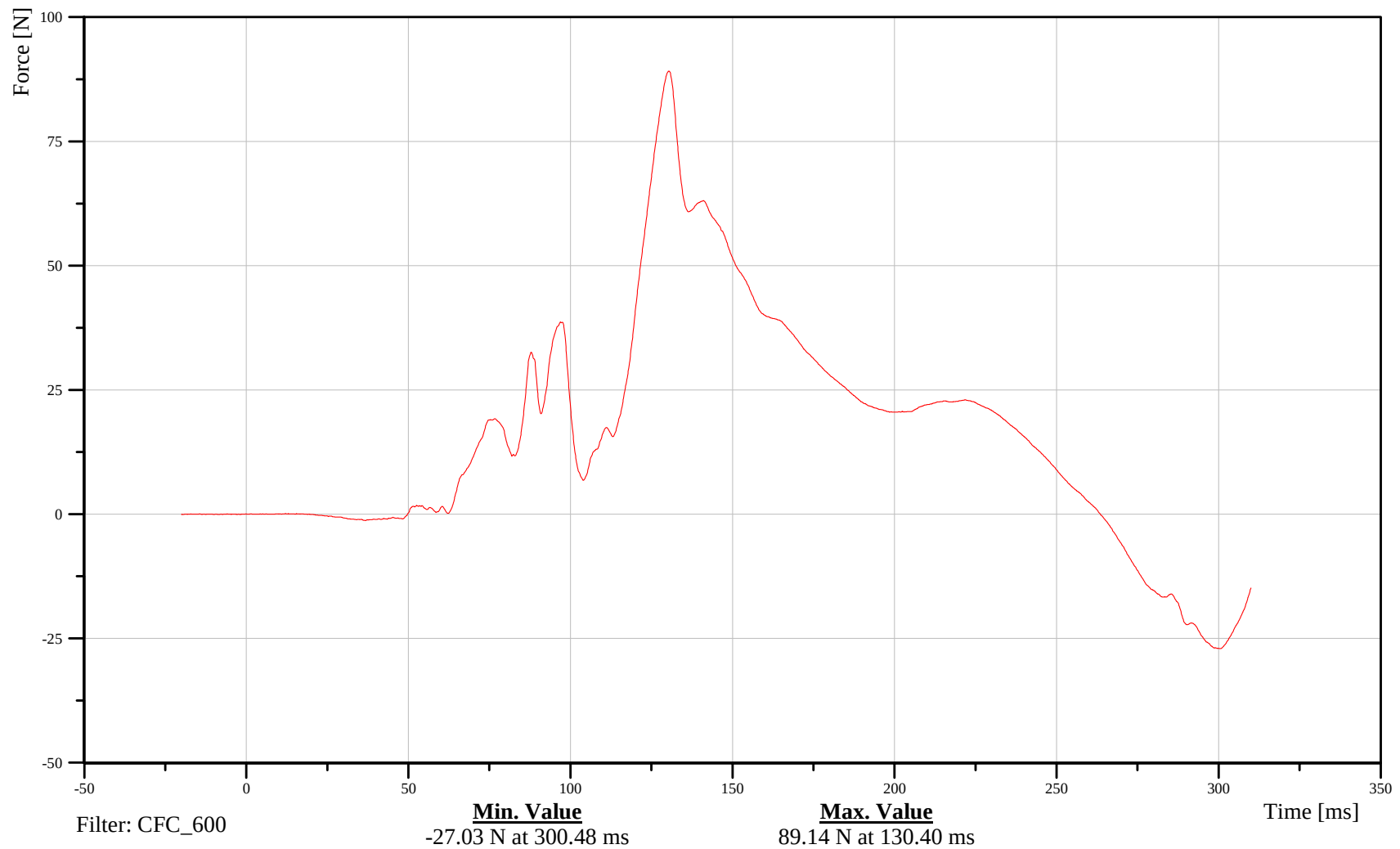
Target Vehicle Driver Lower Neck Moment About Y Axis

Customer: VRTC

21NECKLO00THMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-246

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

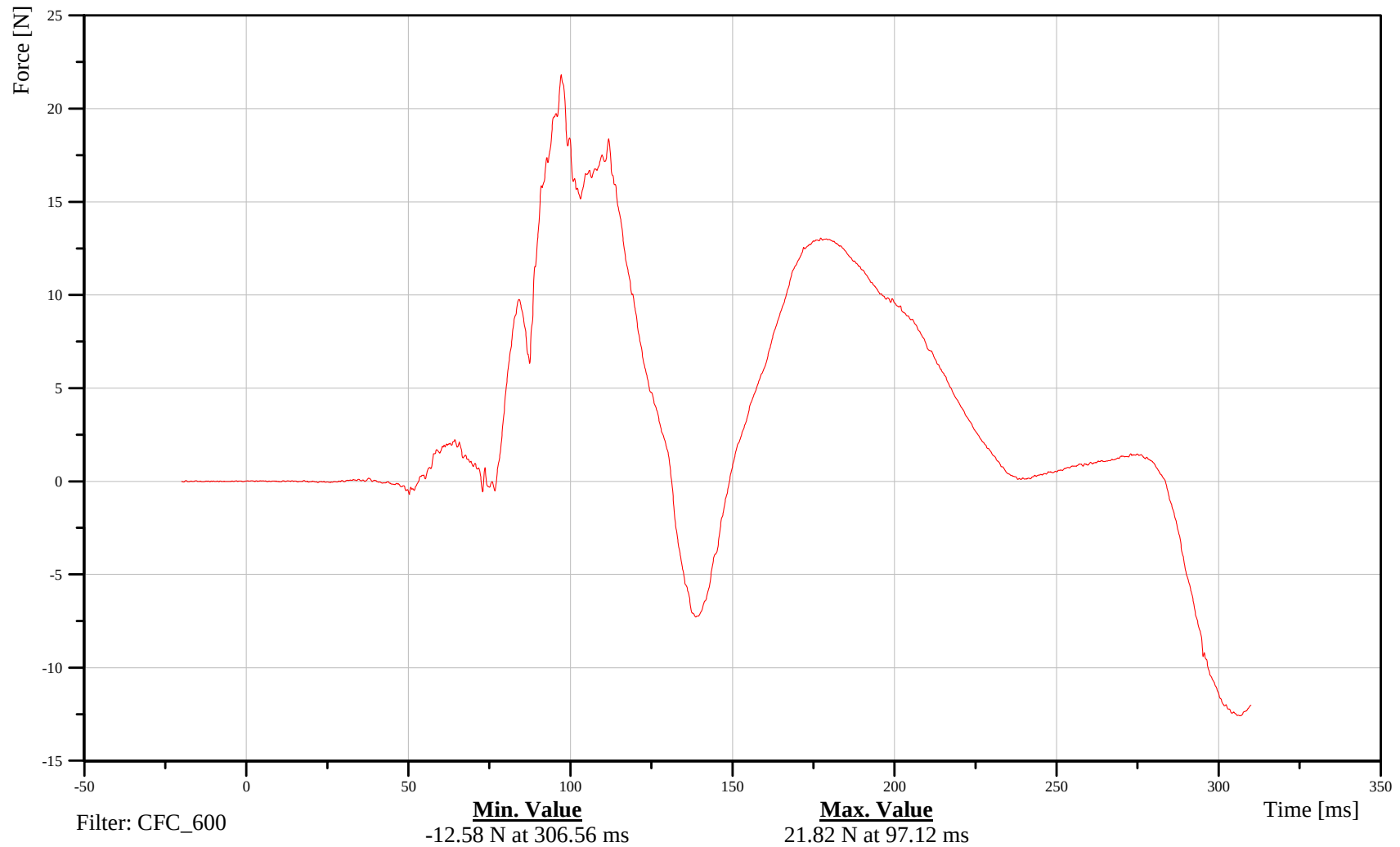
Target Vehicle Driver Lower Neck Moment About Z Axis

Customer: VRTC

21NECKLO00THMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-247

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

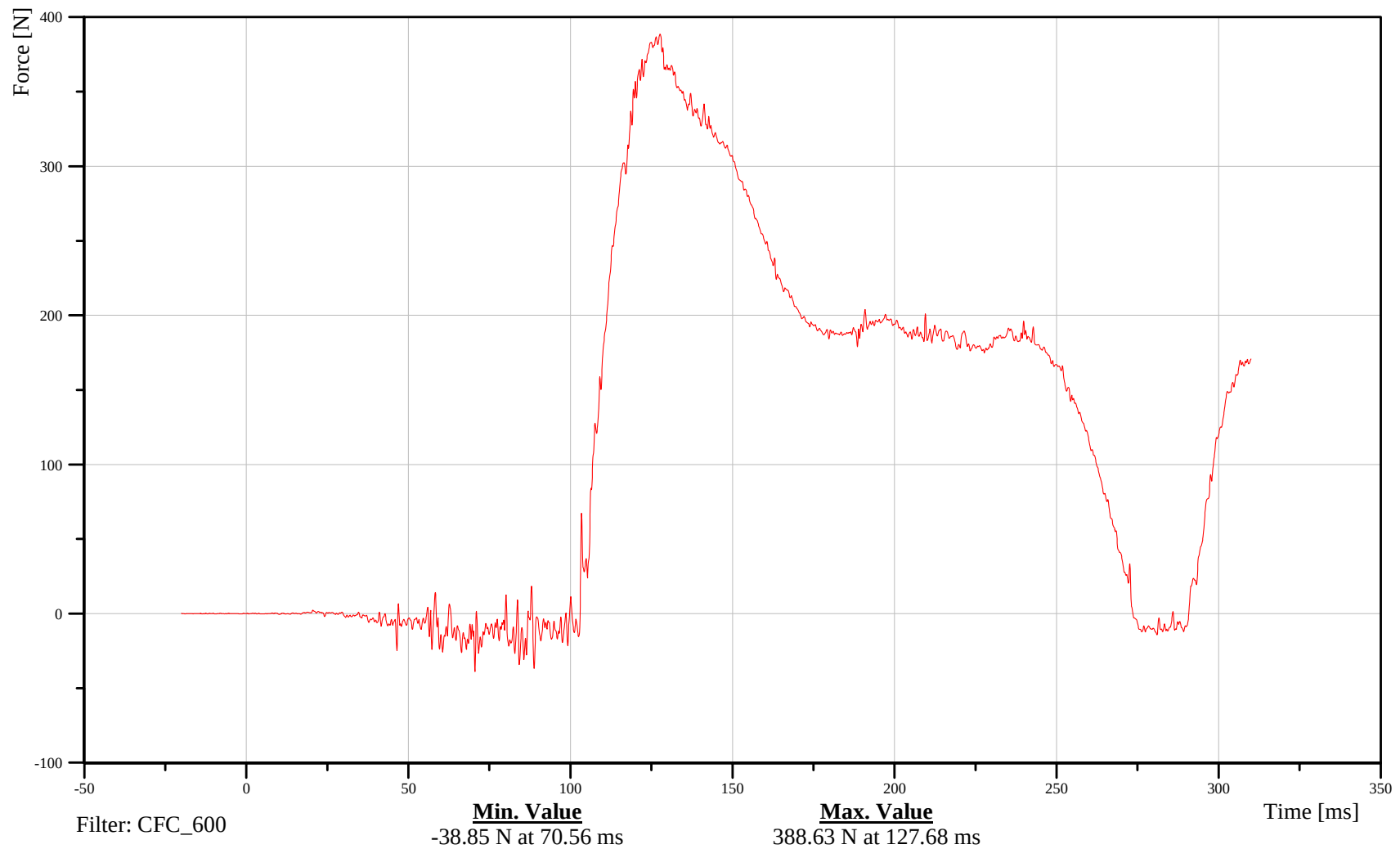
Target Vehicle Driver Rear Skull Spring Z-Axis Force

Customer: VRTC

21NECKRE00THFO0B

TRC Inc. Test Lab: CTF

Test Number: 091106



B-248

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

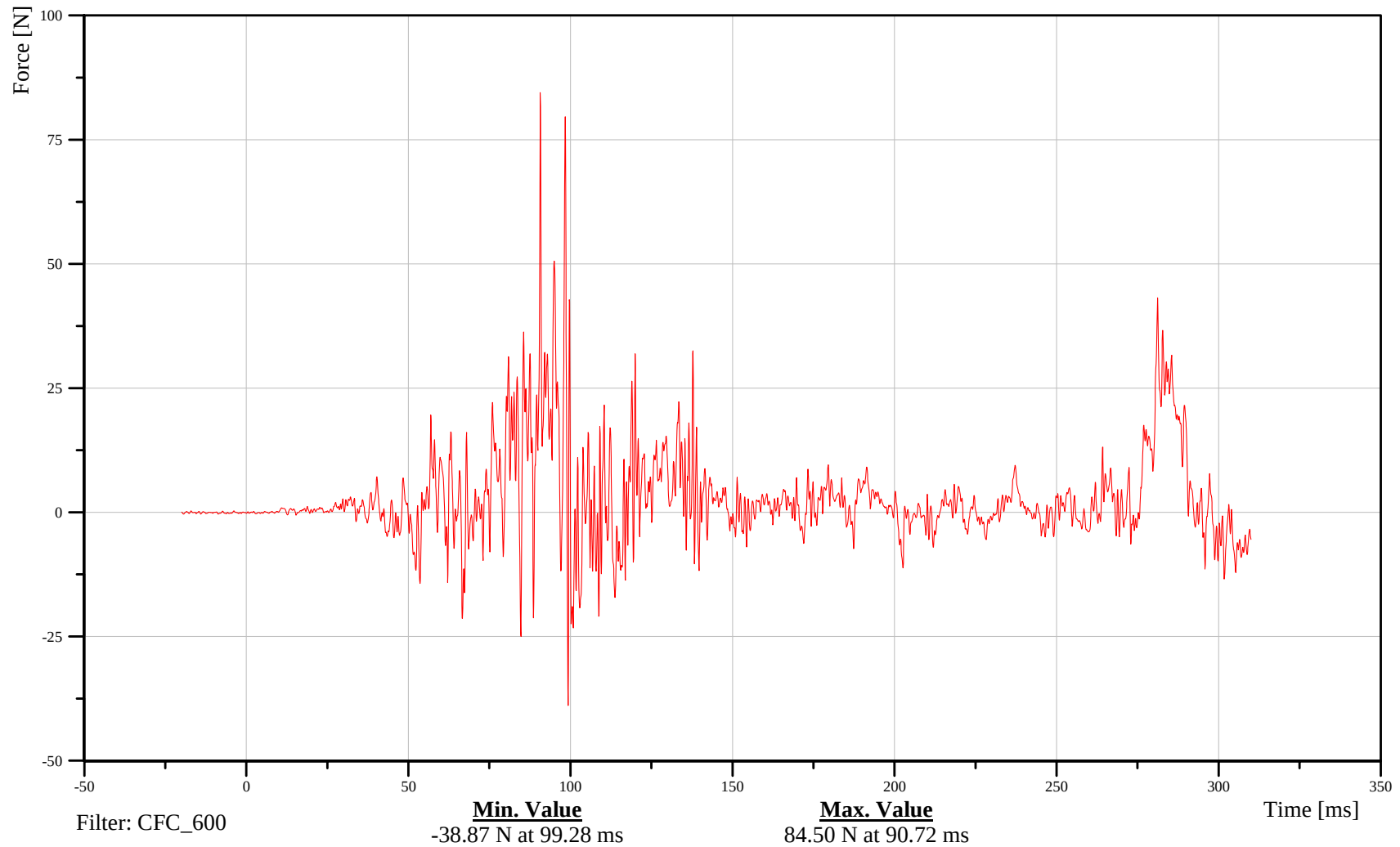
Target Vehicle Driver Front Skull Spring Z-Axis Force

Customer: VRTC

21NECKFR00THFO0B

TRC Inc. Test Lab: CTF

Test Number: 091106



B-249

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

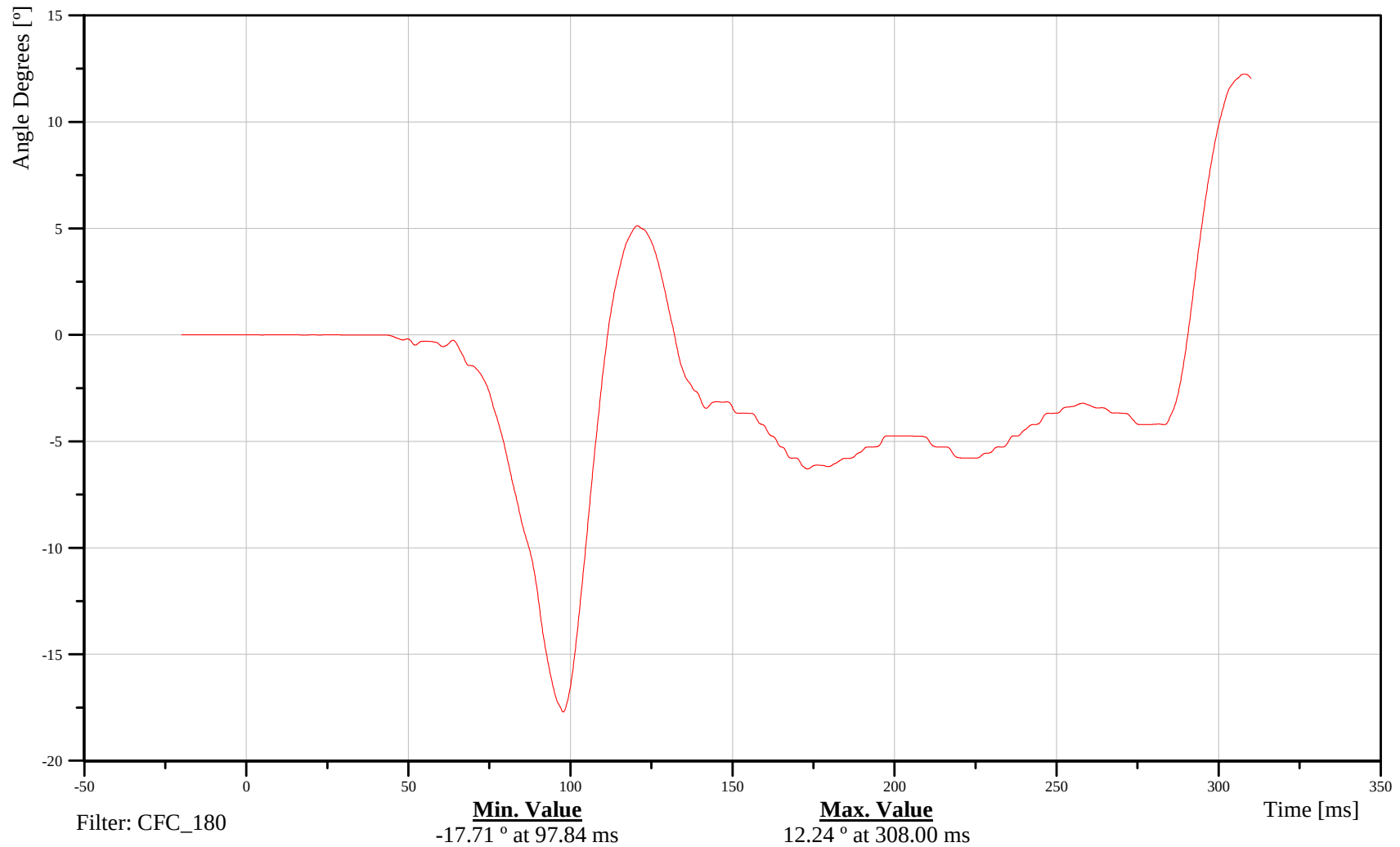
Target Vehicle Driver Occipital Condyle Rotary Pot

Customer: VRTC

21NECKUP00THANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-250

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

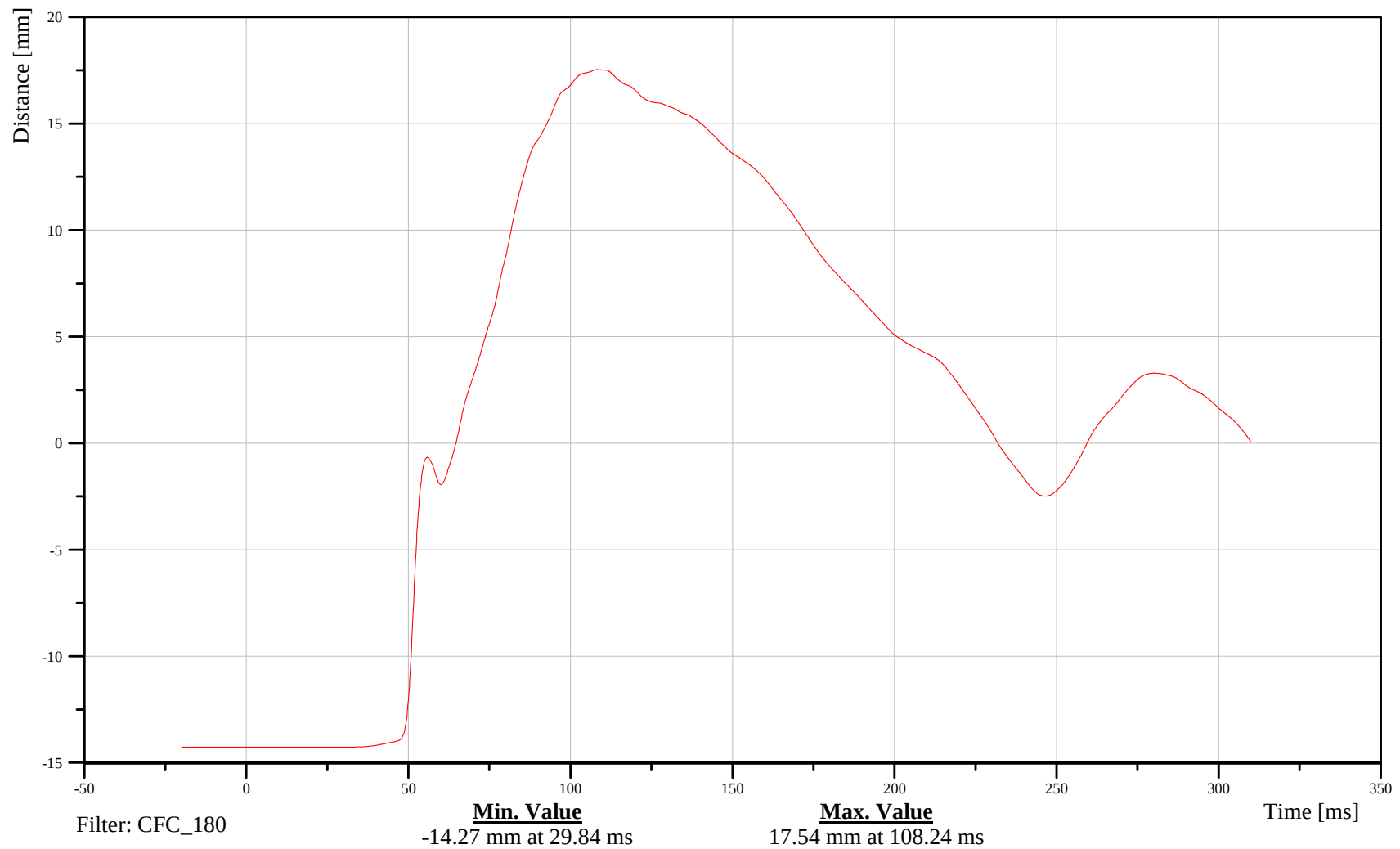
Target Vehicle Driver Lower Abdomen DGSP Right Displacement

Customer: VRTC

21ABDORL00THDS0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-251

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Lower Abdomen DGSP Right Pitch

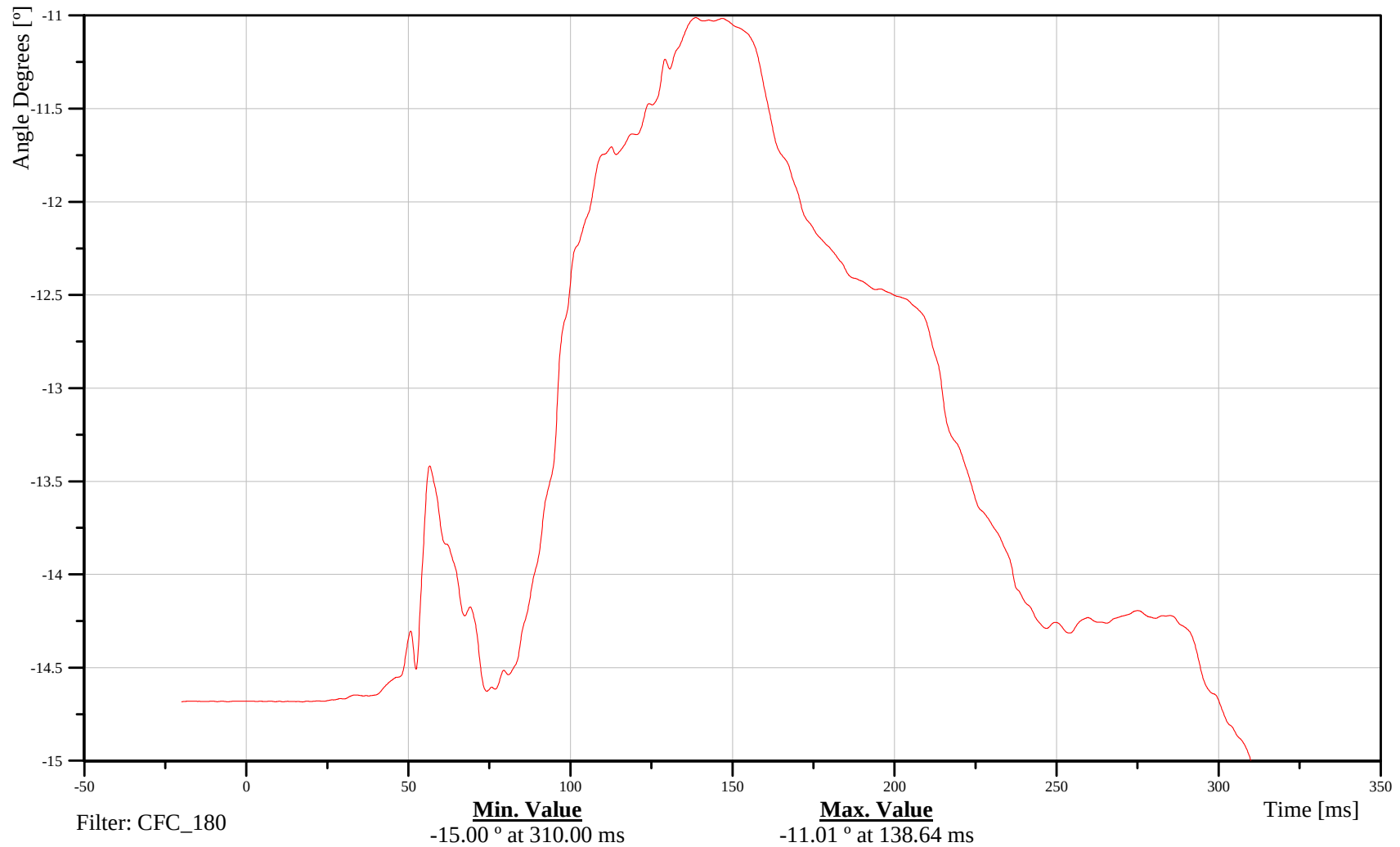
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21ABDORL00THANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-252

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Lower Abdomen DGSP Right Yaw

Date: 11/06/2009

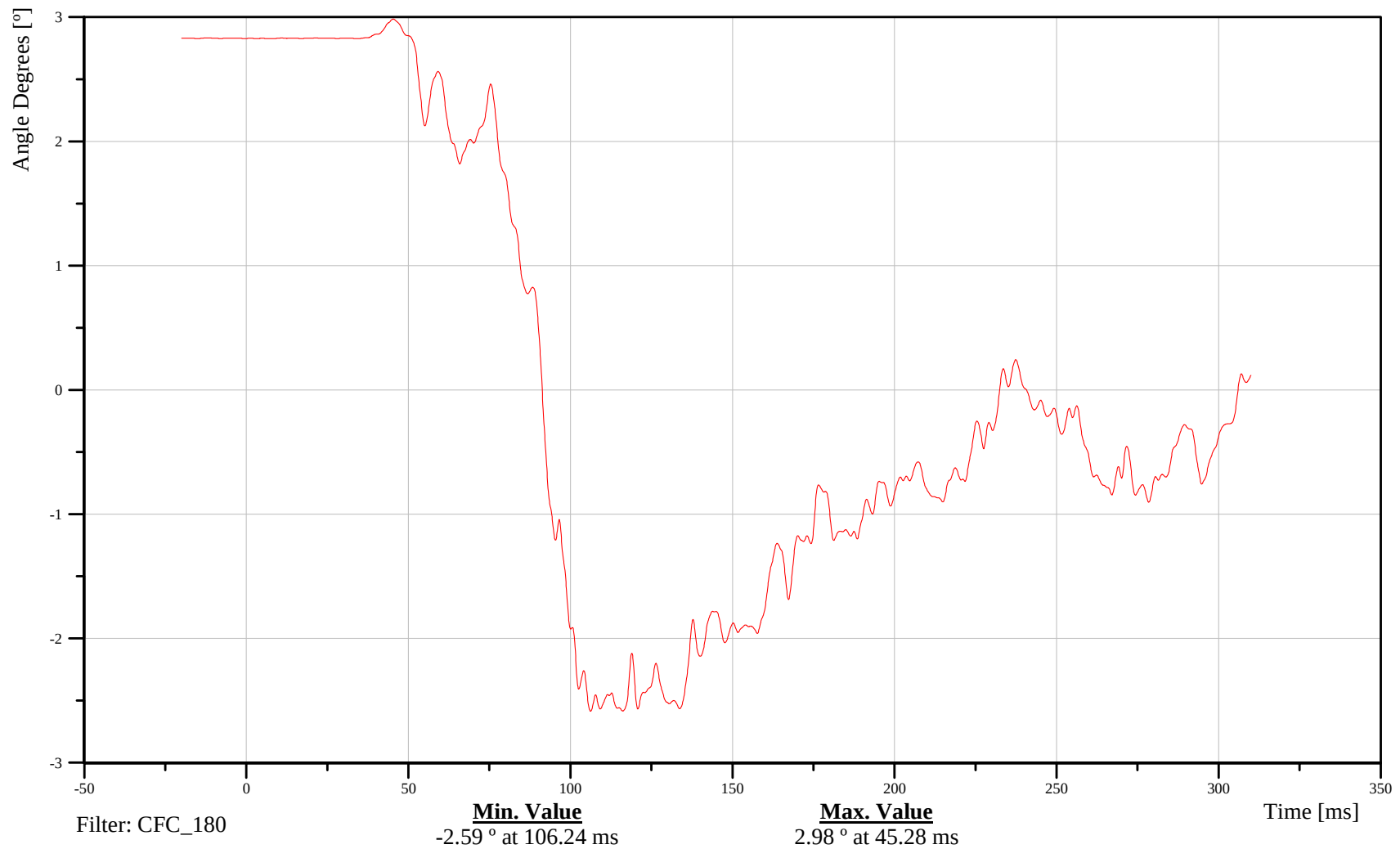
Time: 14:32

Customer: VRTC

21ABDORL00THANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-253

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

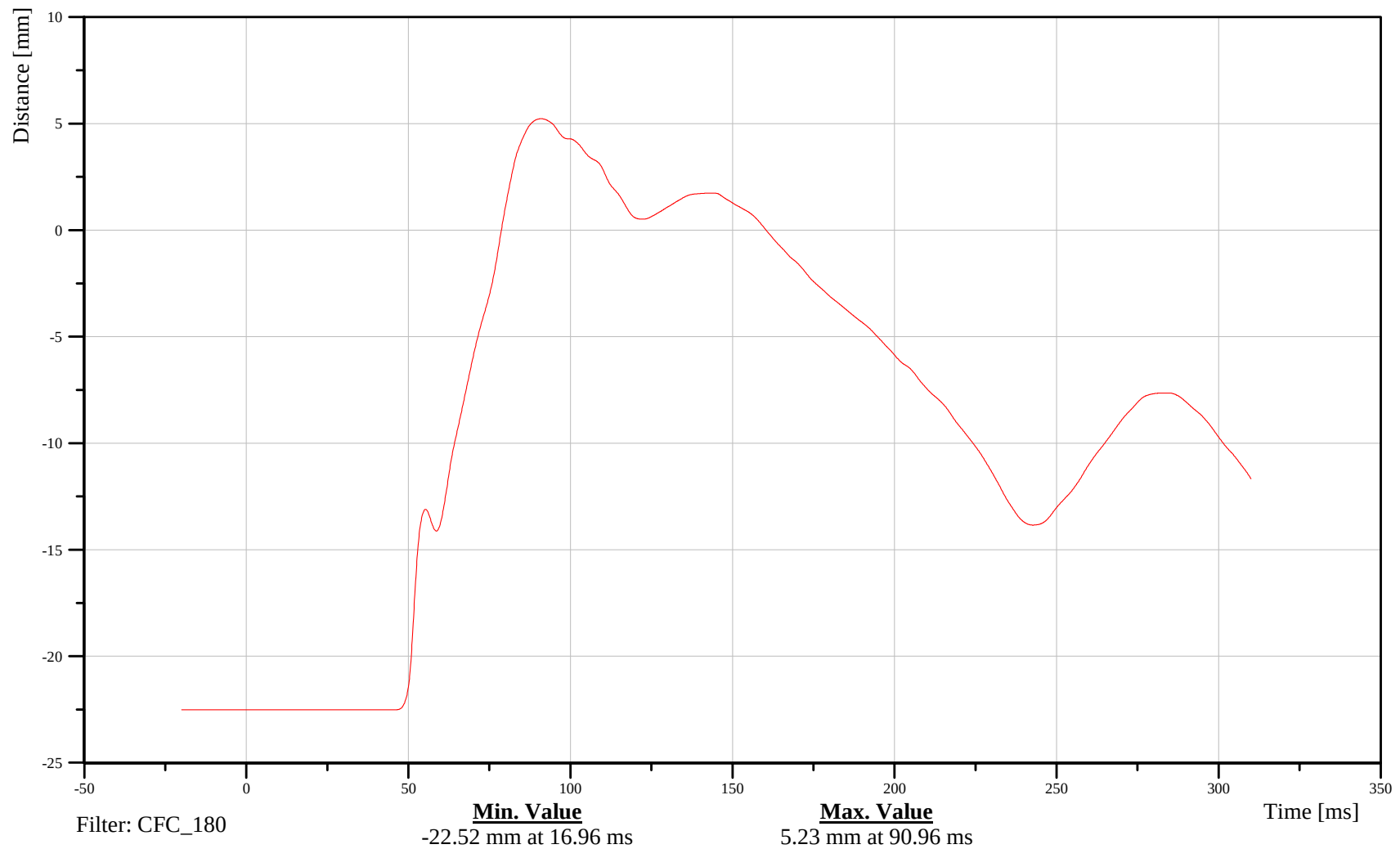
Target Vehicle Driver Lower Abdomen DGSP Left Displacement

Customer: VRTC

21ABDOLL00THDS0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-254

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

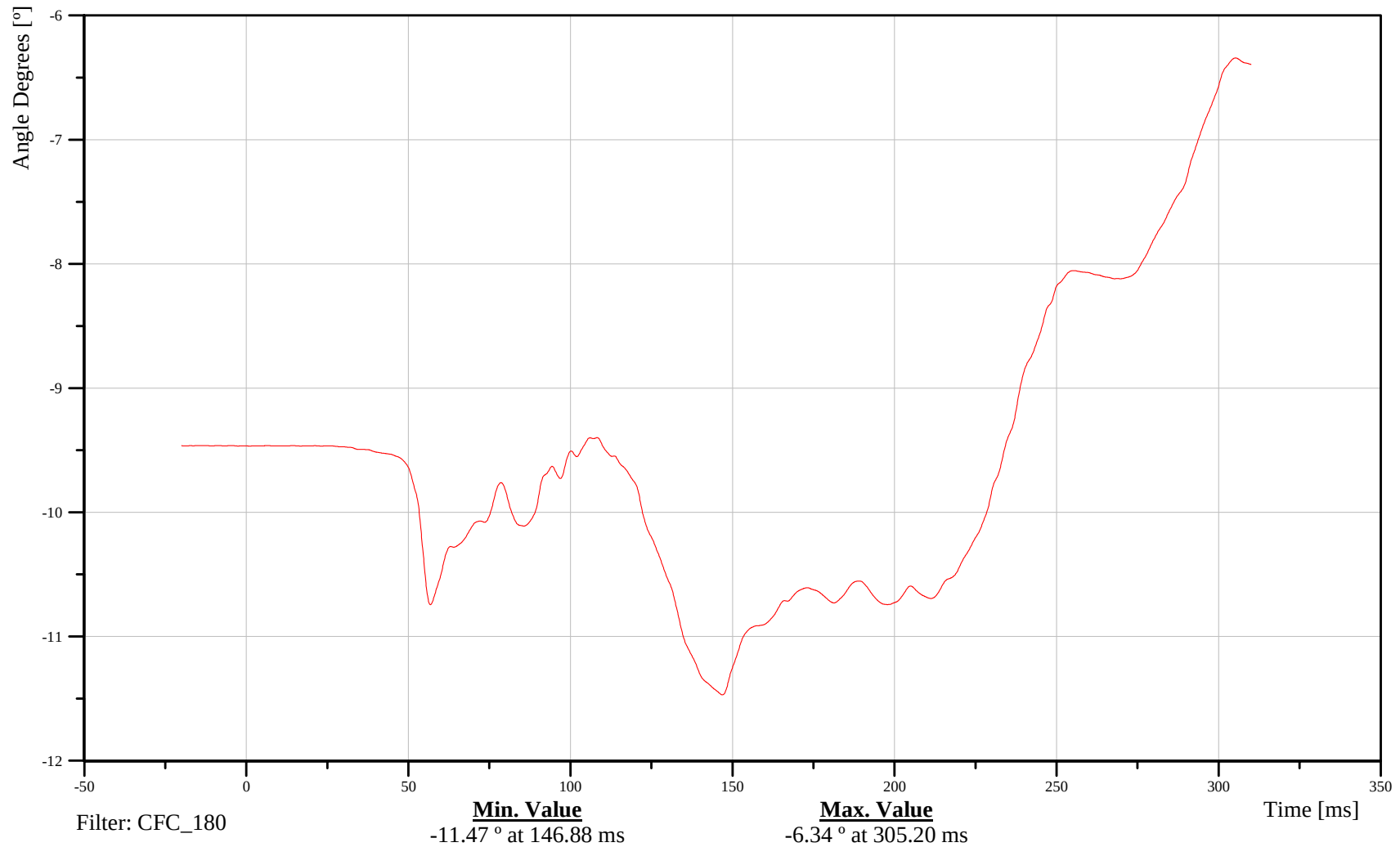
Target Vehicle Driver Lower Abdomen DGSP Left Pitch

Customer: VRTC

21ABDOLL00THANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-255

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

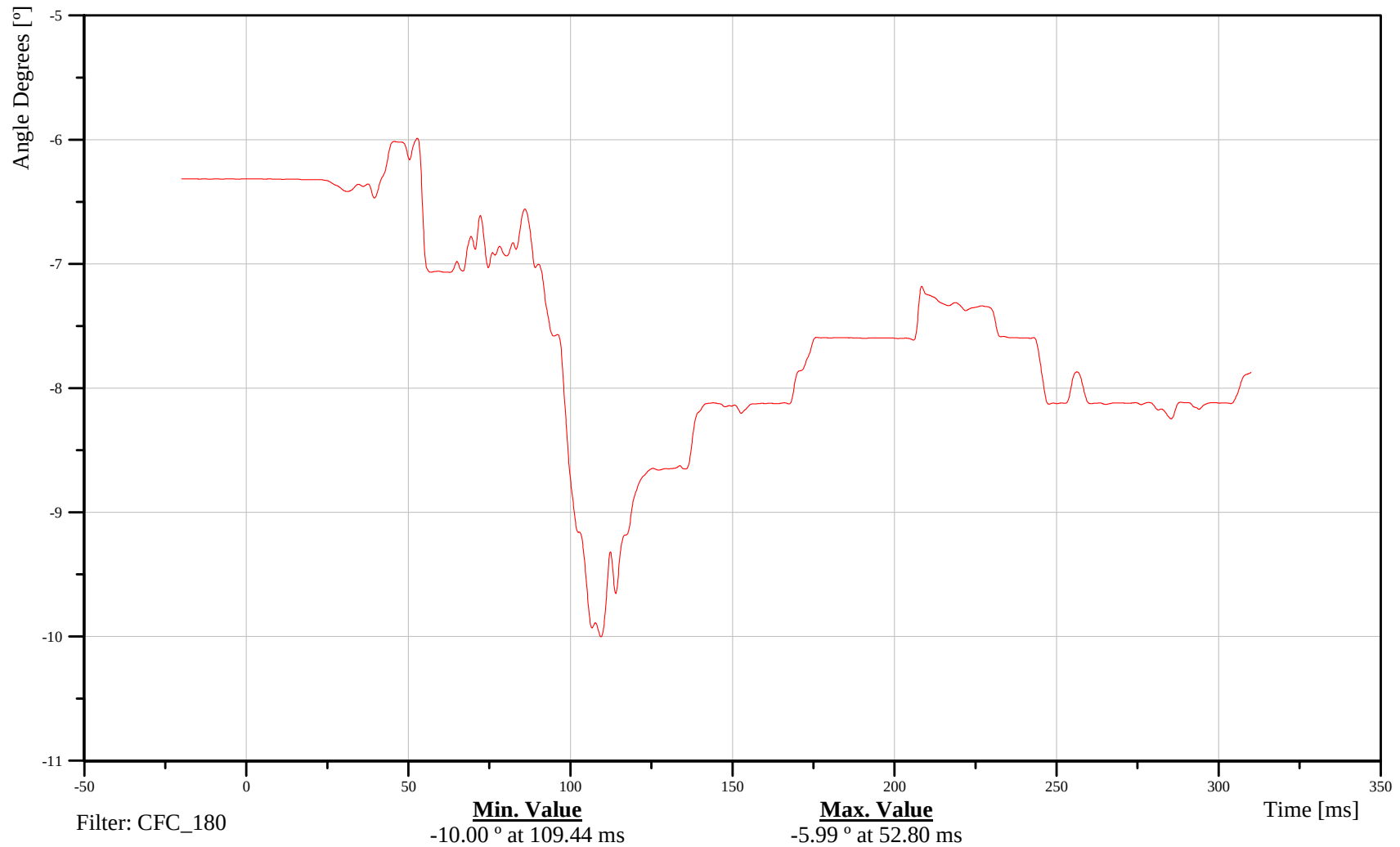
Target Vehicle Driver Lower Abdomen DGSP Left Yaw

Customer: VRTC

21ABDOLL00THANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-256

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

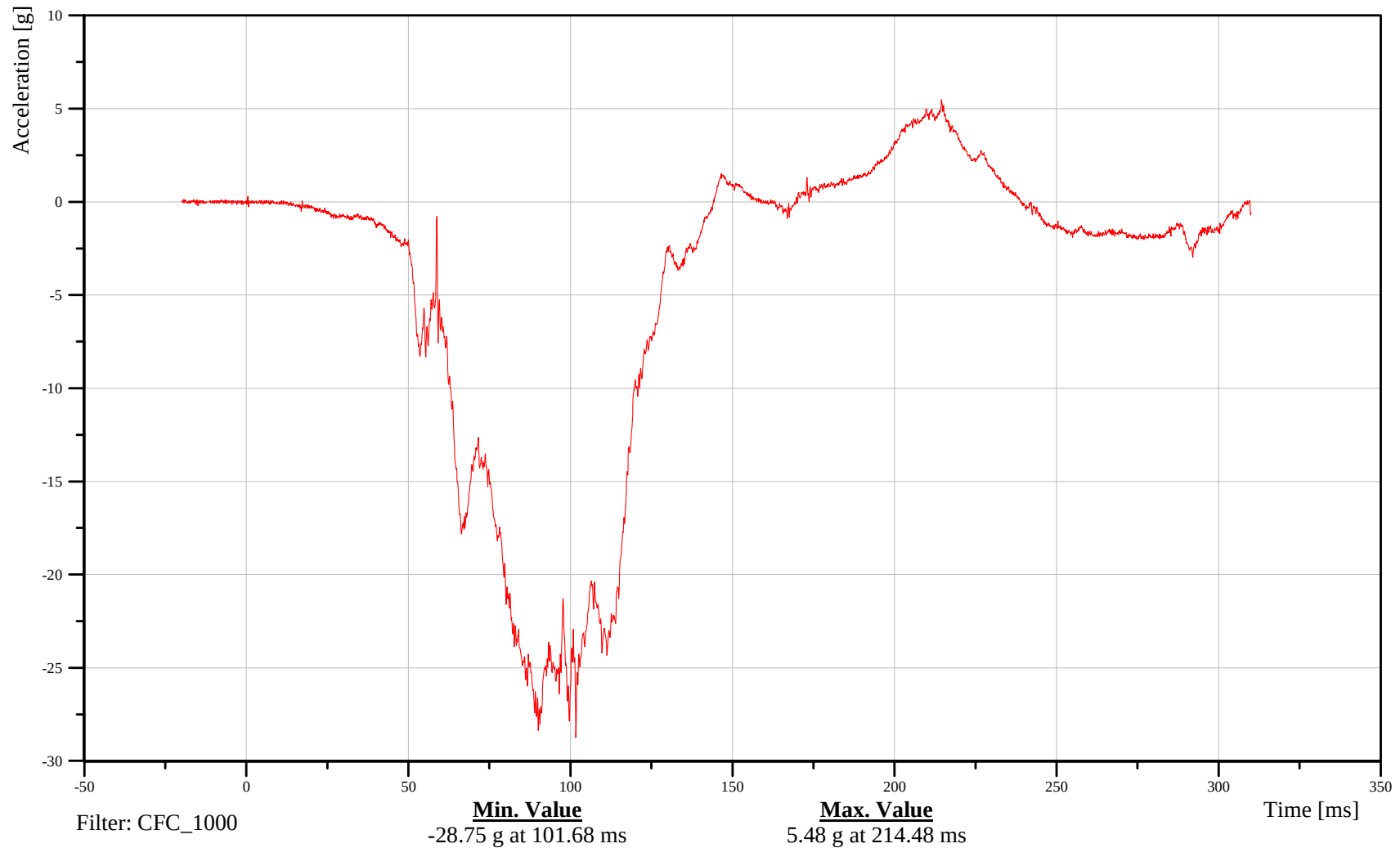
Target Vehicle Driver Thorax CG X-Axis Acceleration

Customer: VRTC

21TRRICG00THACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-257

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Thorax CG Y-Axis Acceleration

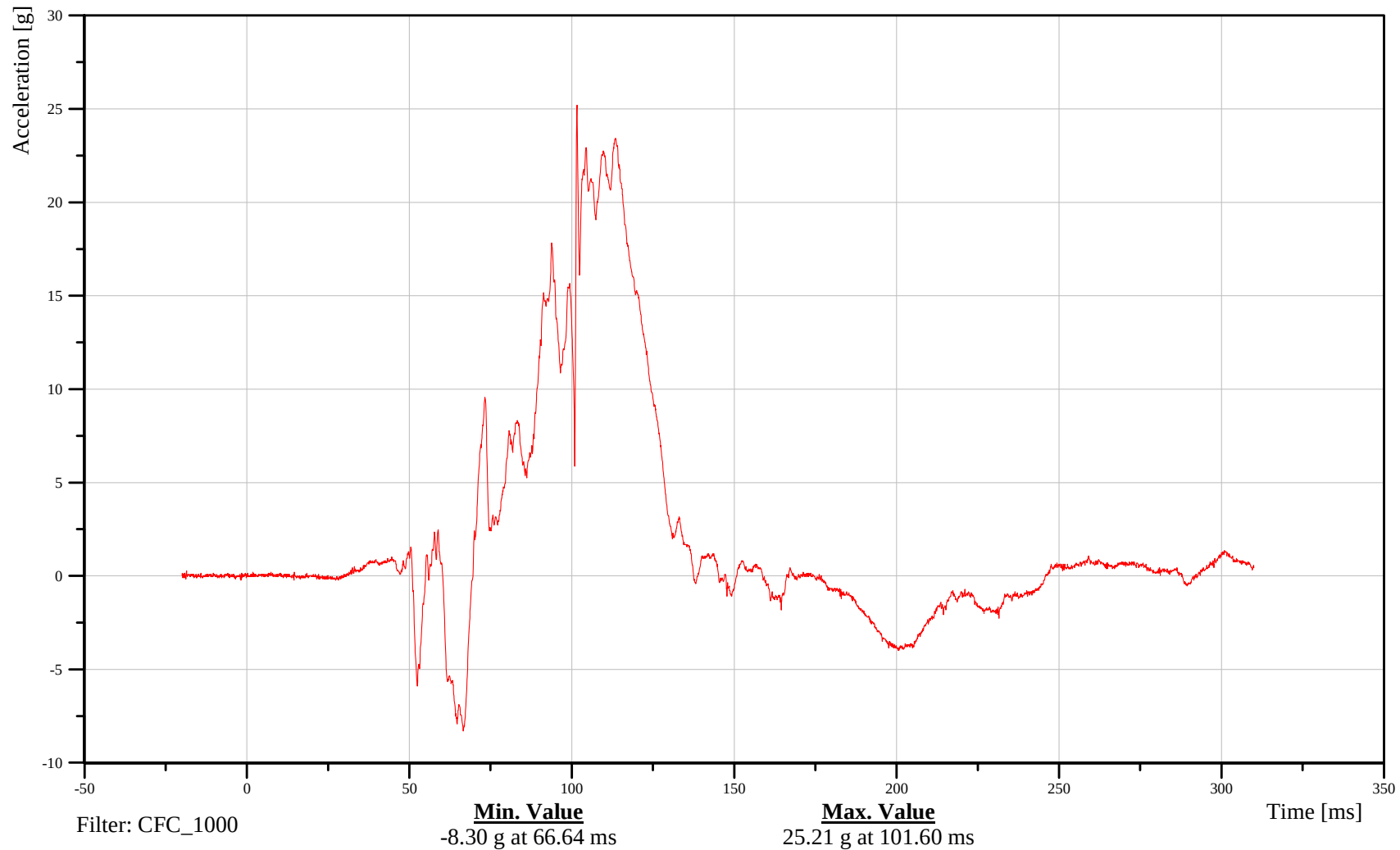
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TRRICG00THACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-258

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Thorax CG Z-Axis Acceleration

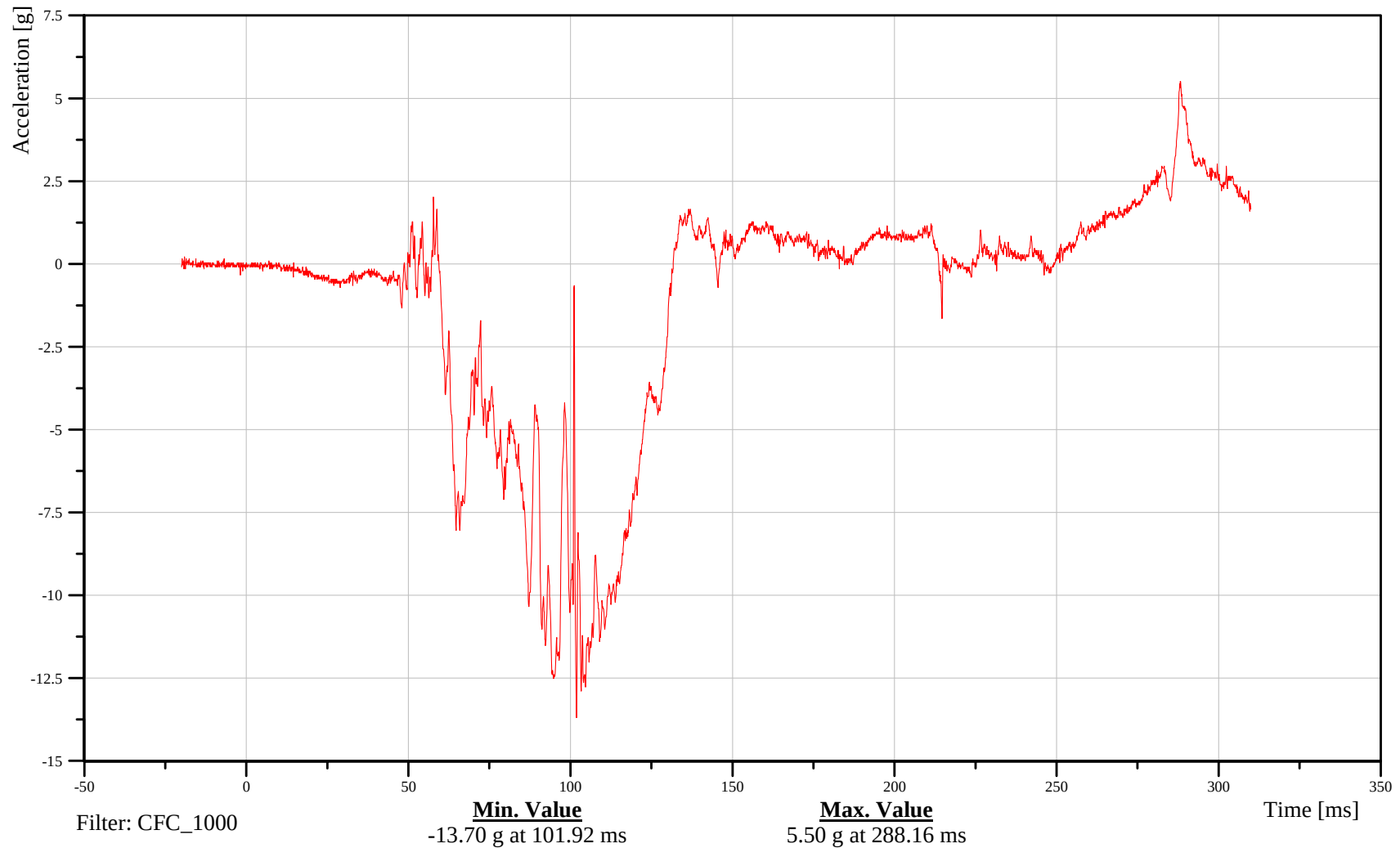
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TRRICG00THACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-259

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

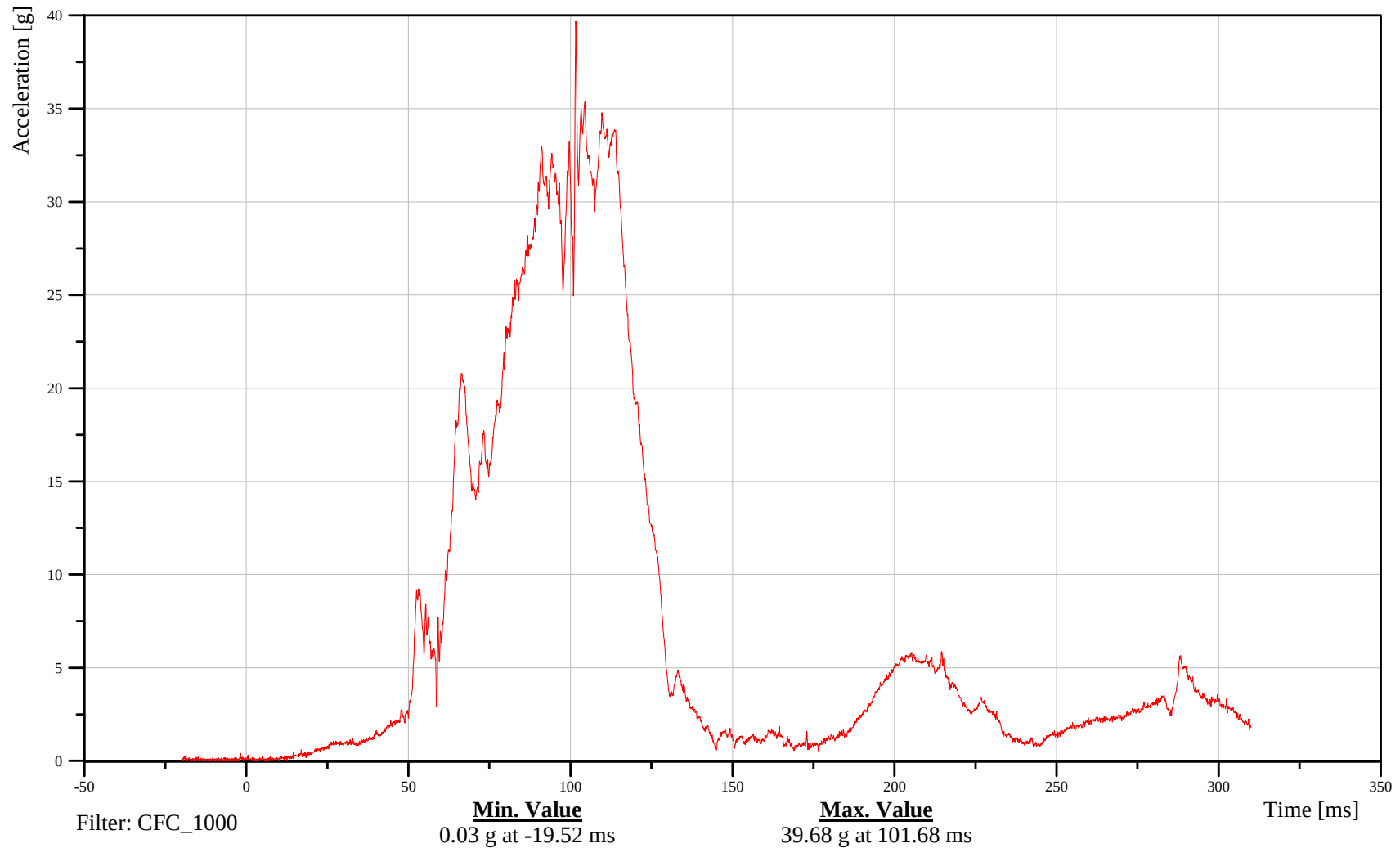
Target Vehicle Driver Thorax CG Resultant Acceleration

Customer: VRTC

21TRRICG00THACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-260

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Base Upper Left Thorax Pot

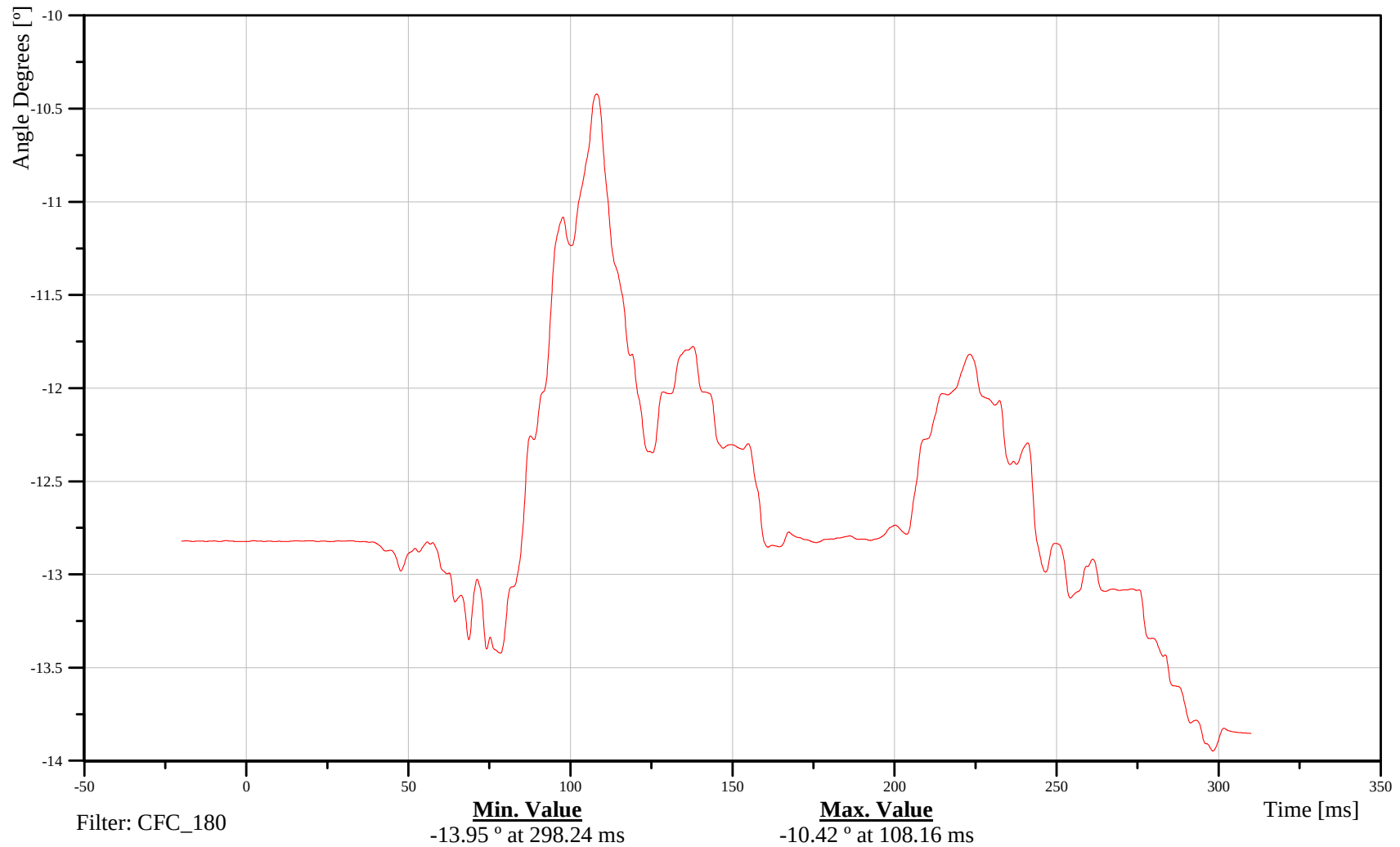
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21CHRILU01THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-261

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Mid Upper Left Thorax Pot

Date: 11/06/2009

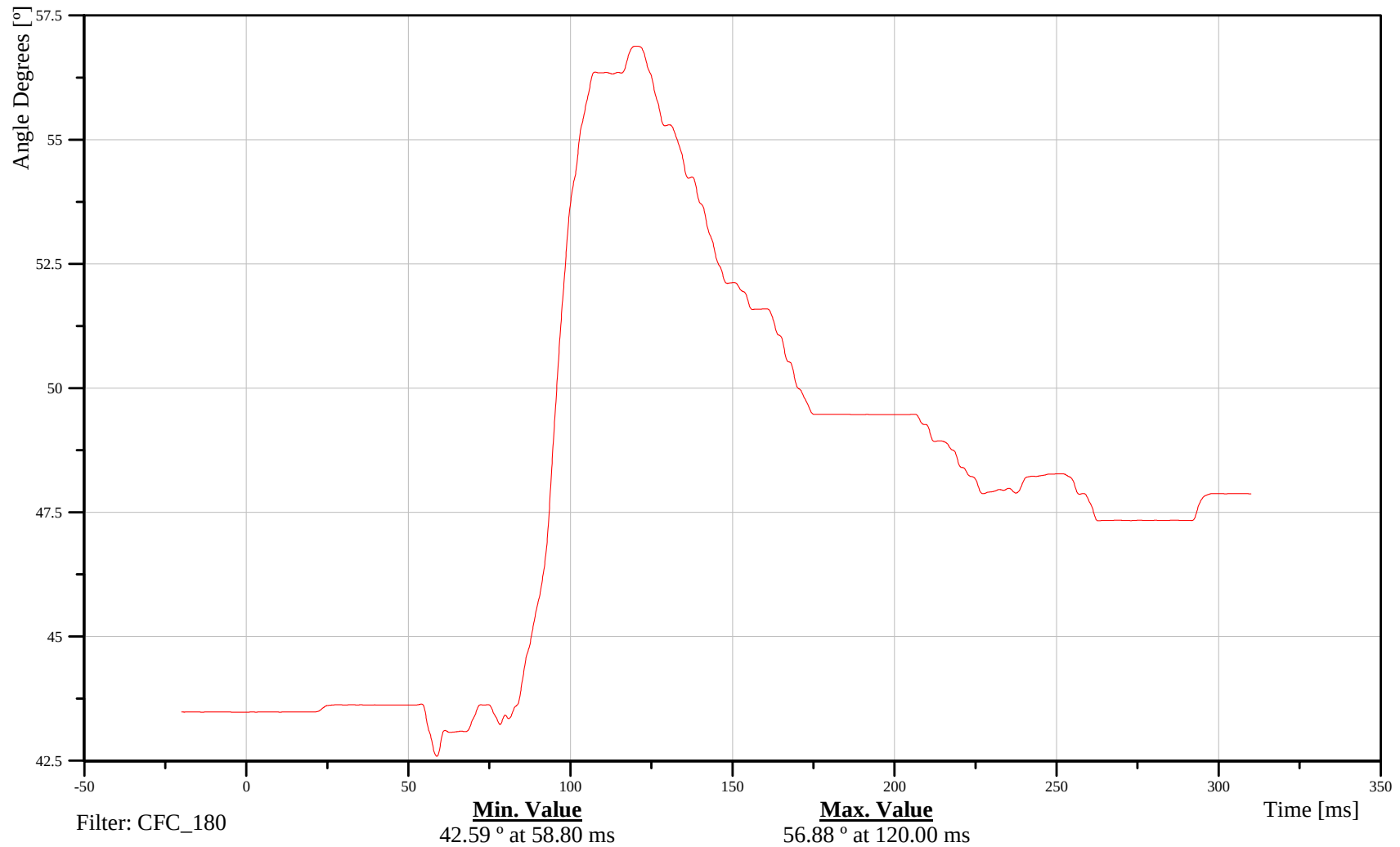
Time: 14:32

Customer: VRTC

21CHRILU02THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-262

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Elbow Upper Left Thorax Pot

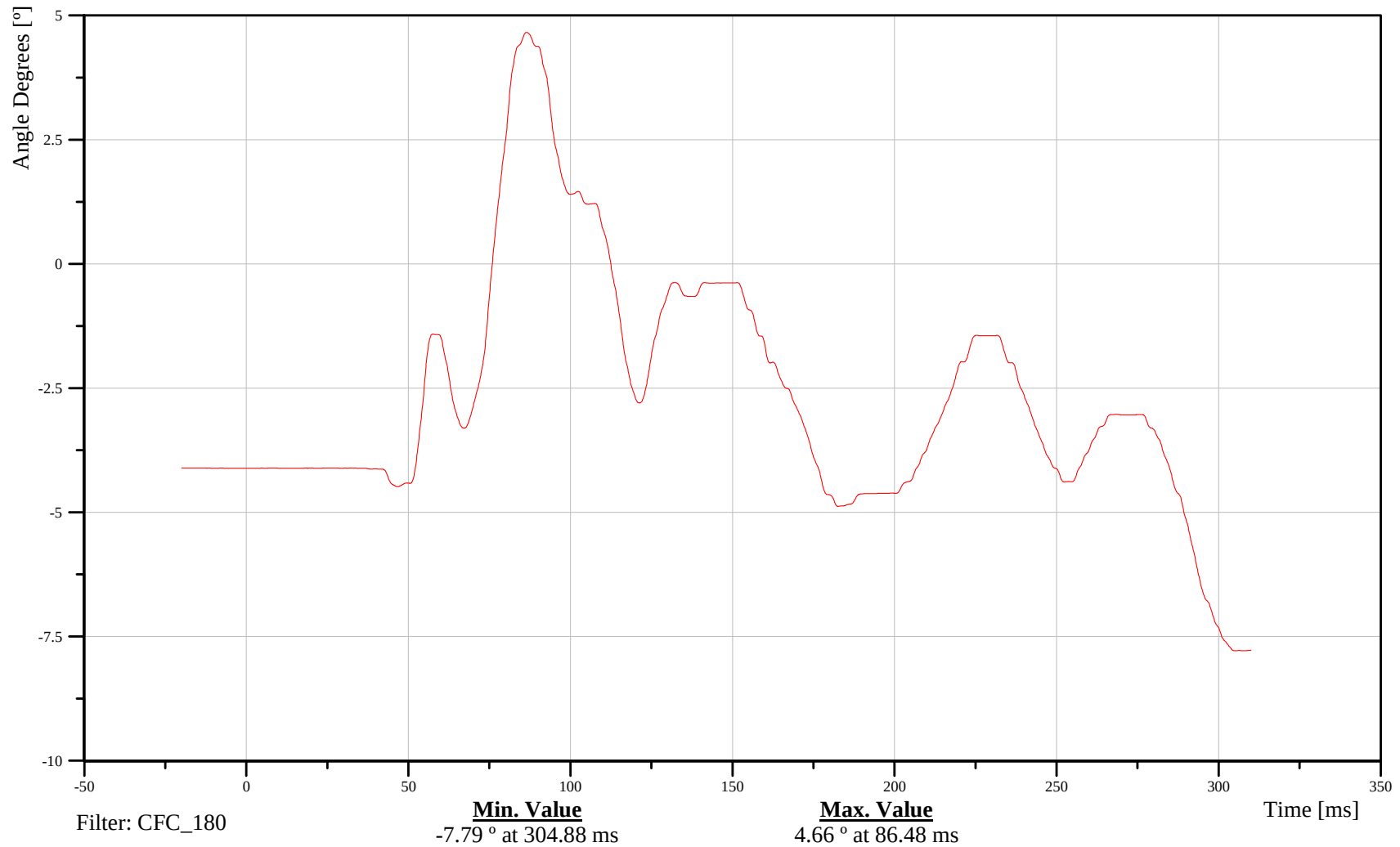
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21CHRILU03THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-263

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Base Upper Right Thorax Pot

Date: 11/06/2009

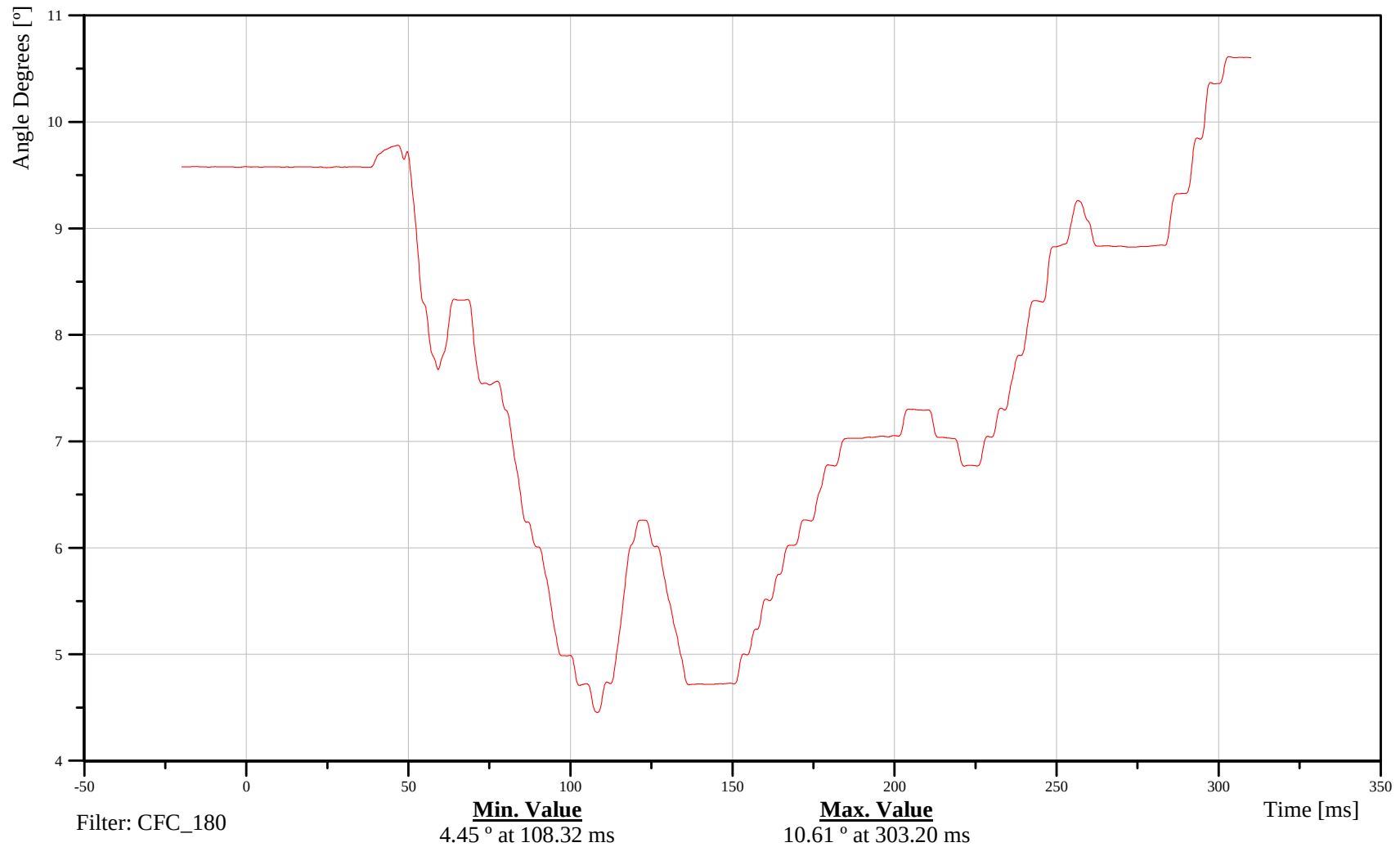
Time: 14:32

Customer: VRTC

21CHRIRU01THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-264

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Mid Upper Right Thorax Pot

Date: 11/06/2009

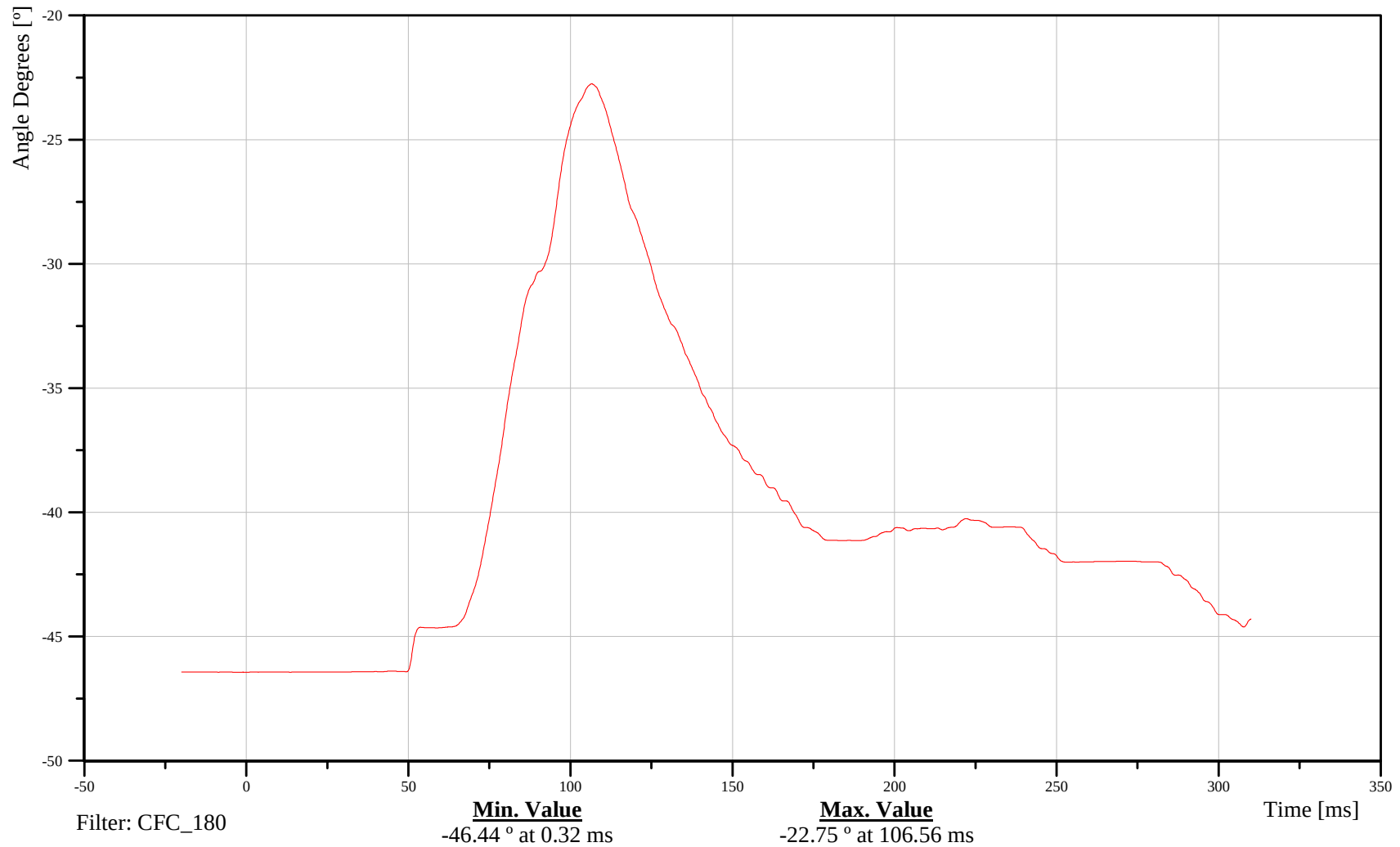
Time: 14:32

Customer: VRTC

21CHRIRU02THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-265

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Elbow Upper Right Thorax Pot

Date: 11/06/2009

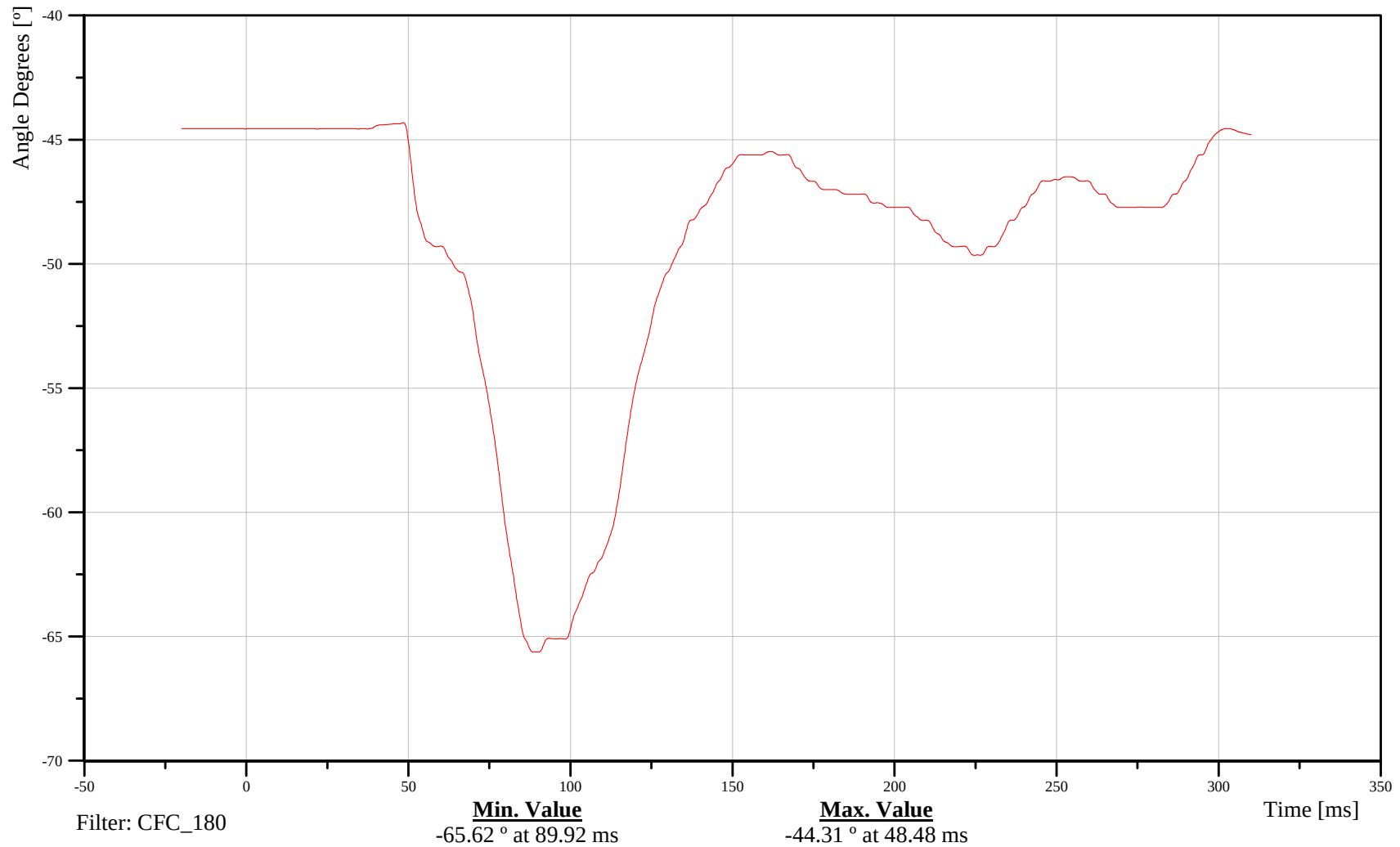
Time: 14:32

Customer: VRTC

21CHRIRU03THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-266

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Base Lower Left Thorax Pot

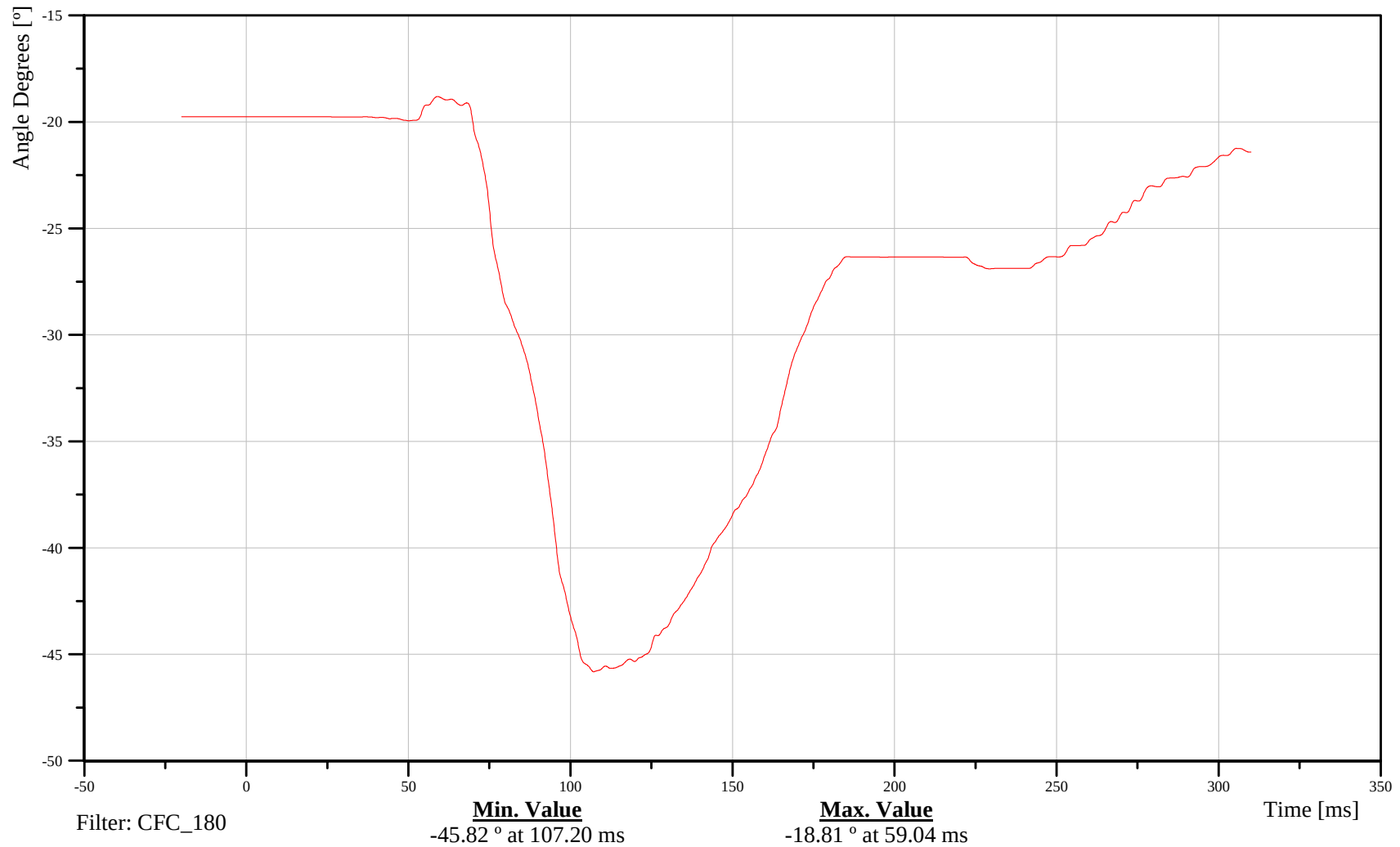
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21CHRILL01THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-267

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Mid Lower Left Thorax Pot

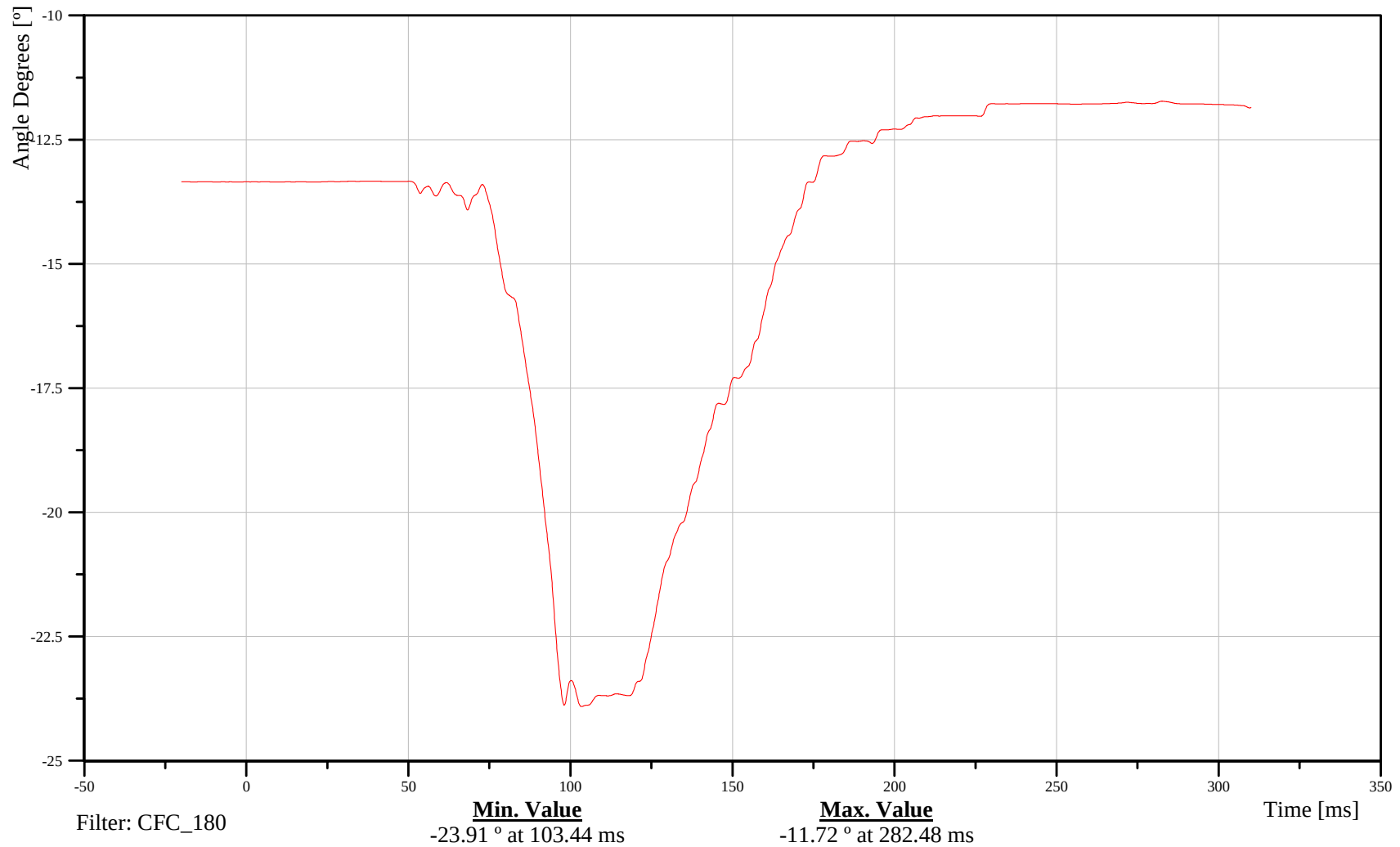
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21CHRILL02THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-268

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Elbow Lower Left Thorax Pot

Date: 11/06/2009

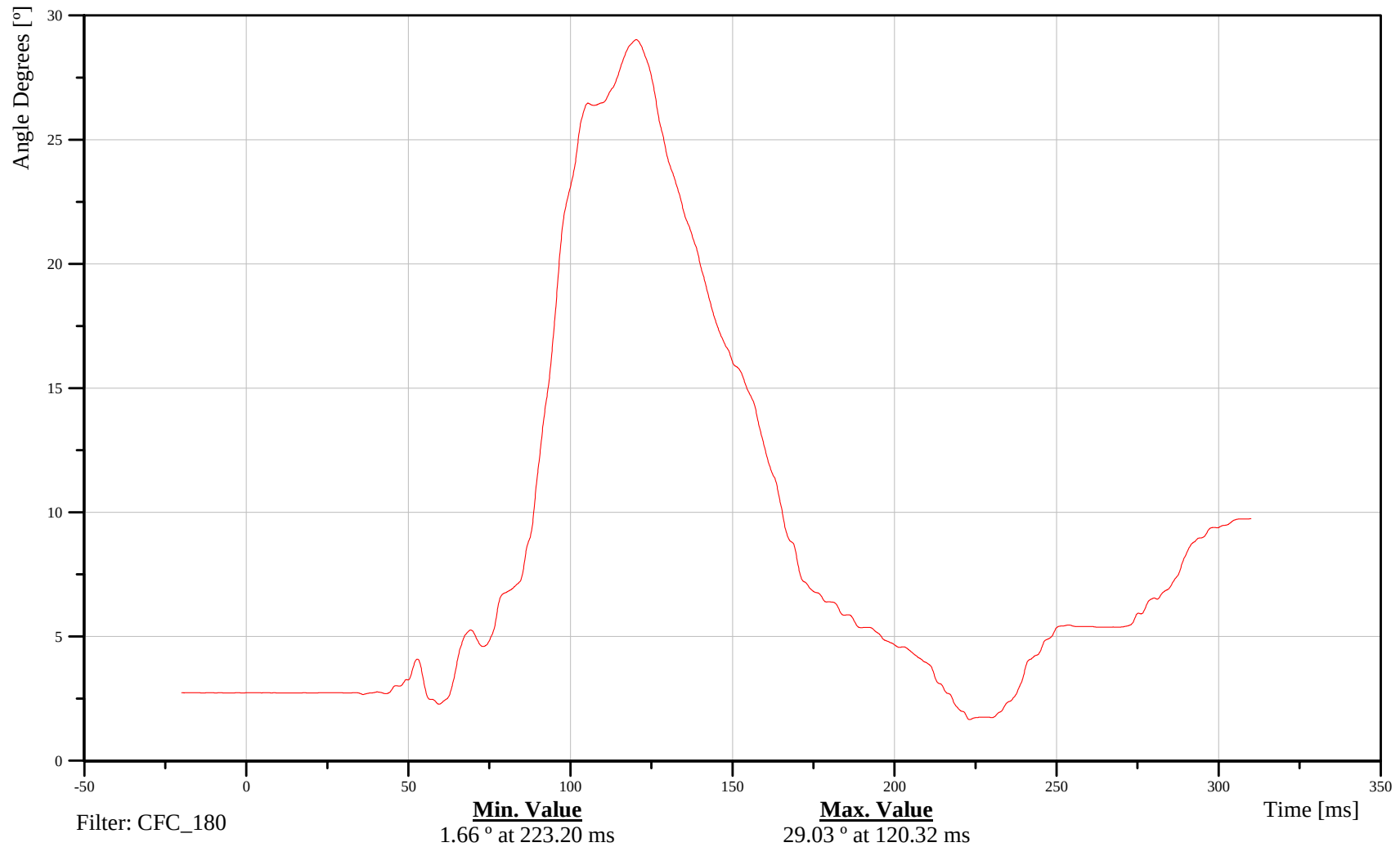
Time: 14:32

Customer: VRTC

21CHRILL03THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-269

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Base Lower Right Thorax Pot

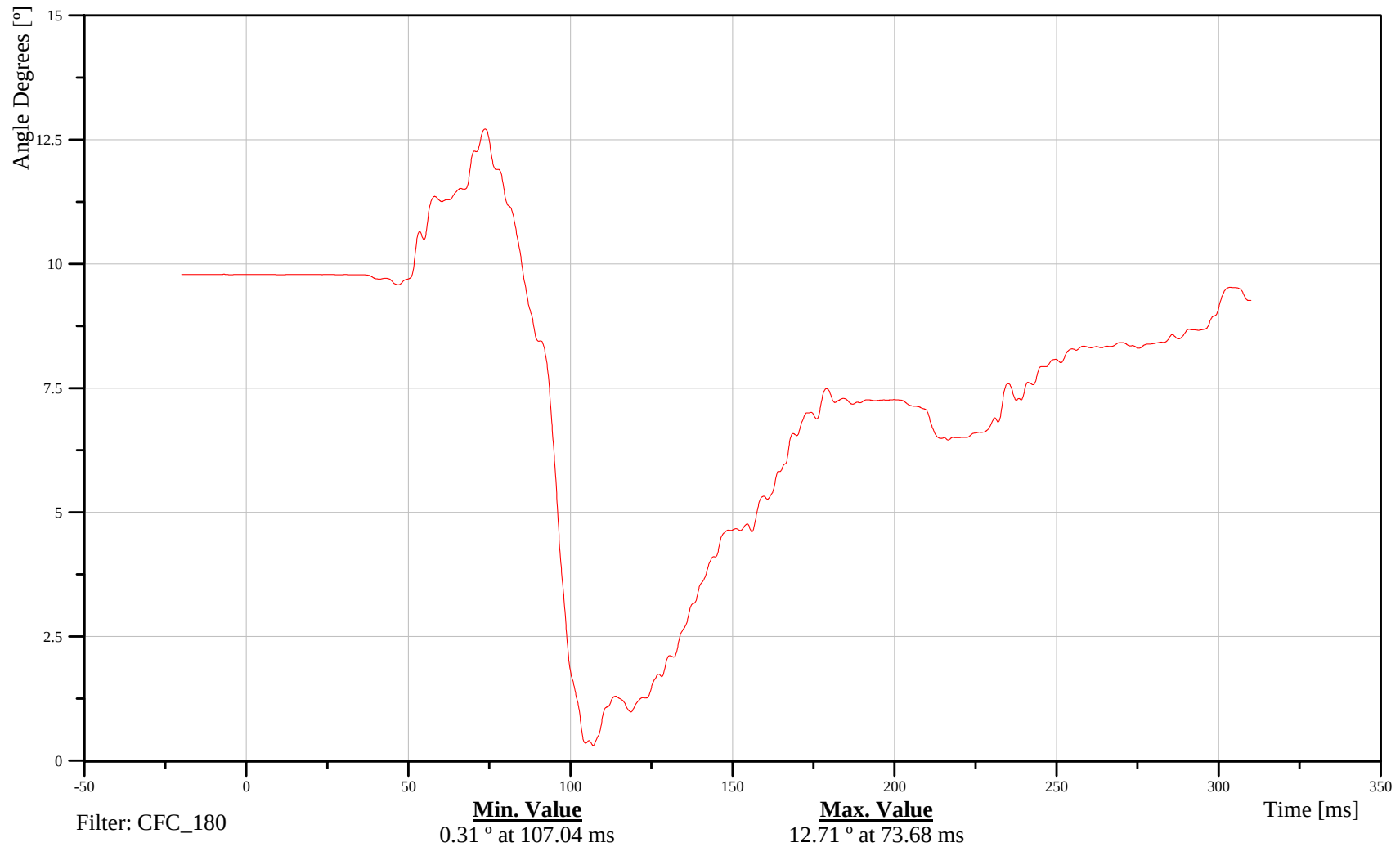
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21CHRIRL01THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-270

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver CRUX T015 Mid Lower Right Thorax Pot

Date: 11/06/2009

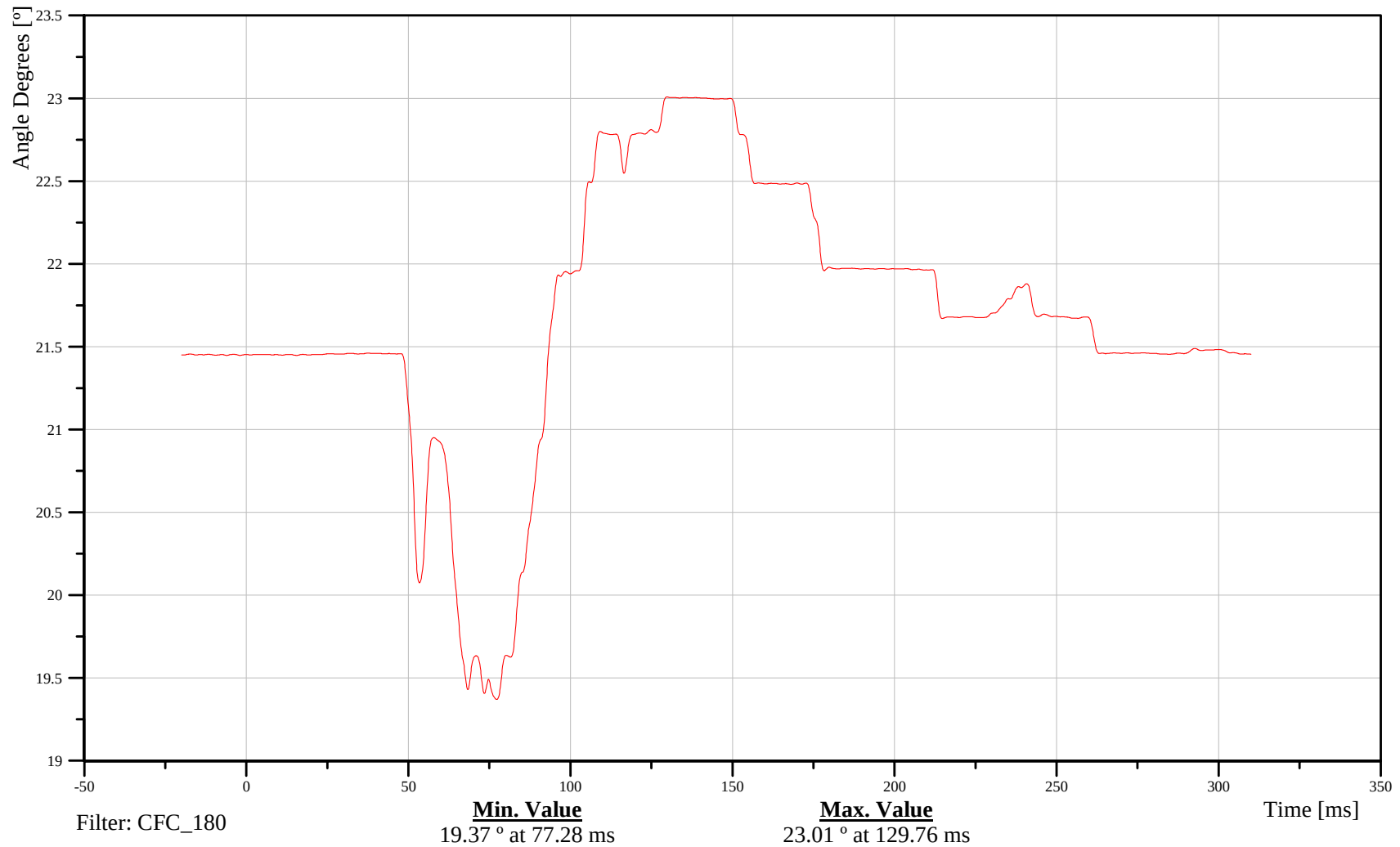
Time: 14:32

Customer: VRTC

21CHRIRL02THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-271

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

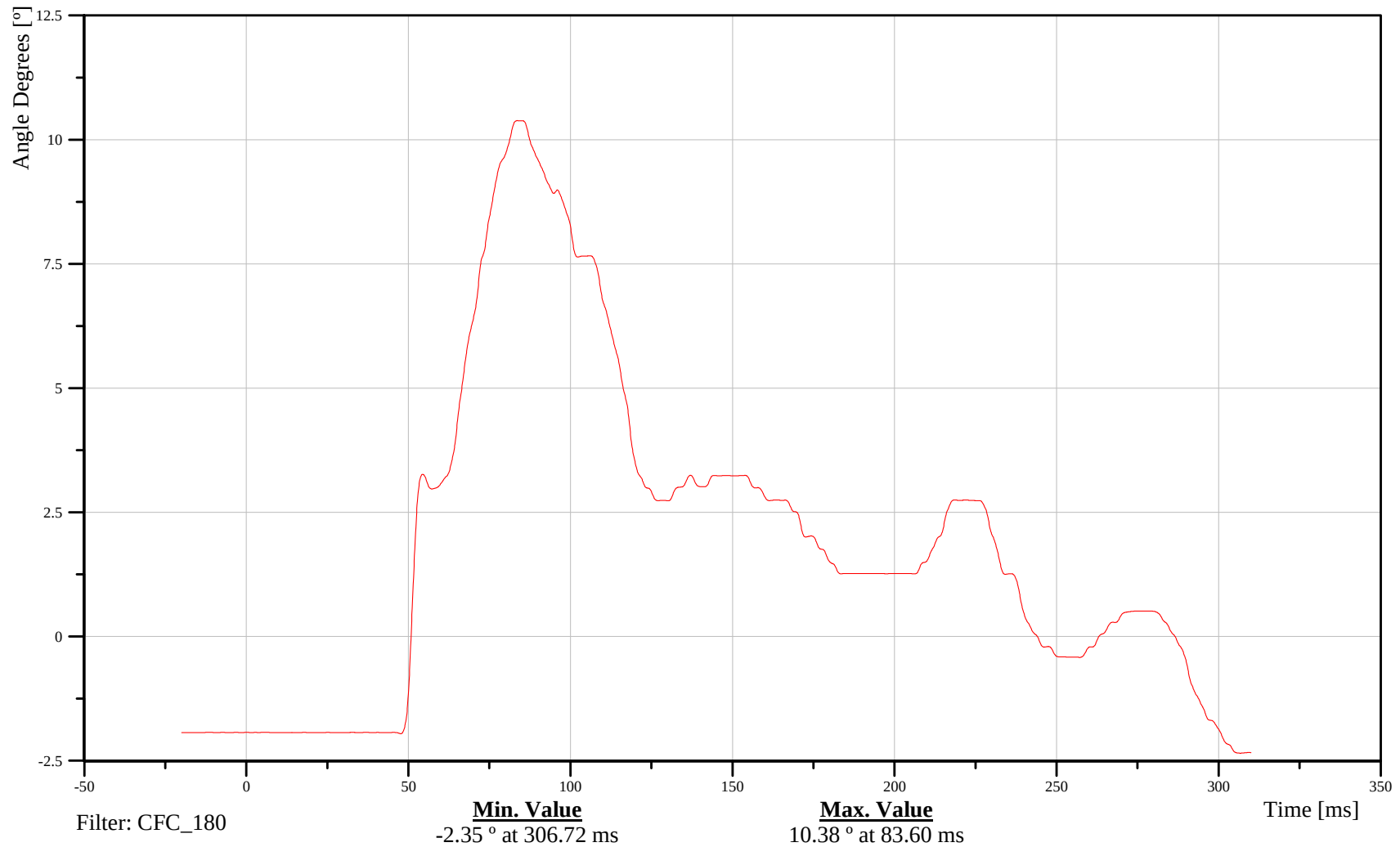
Target Vehicle Driver CRUX T015 Elbow Lower Right Thorax Pot

Customer: VRTC

21CHRIRL03THAN0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-272

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

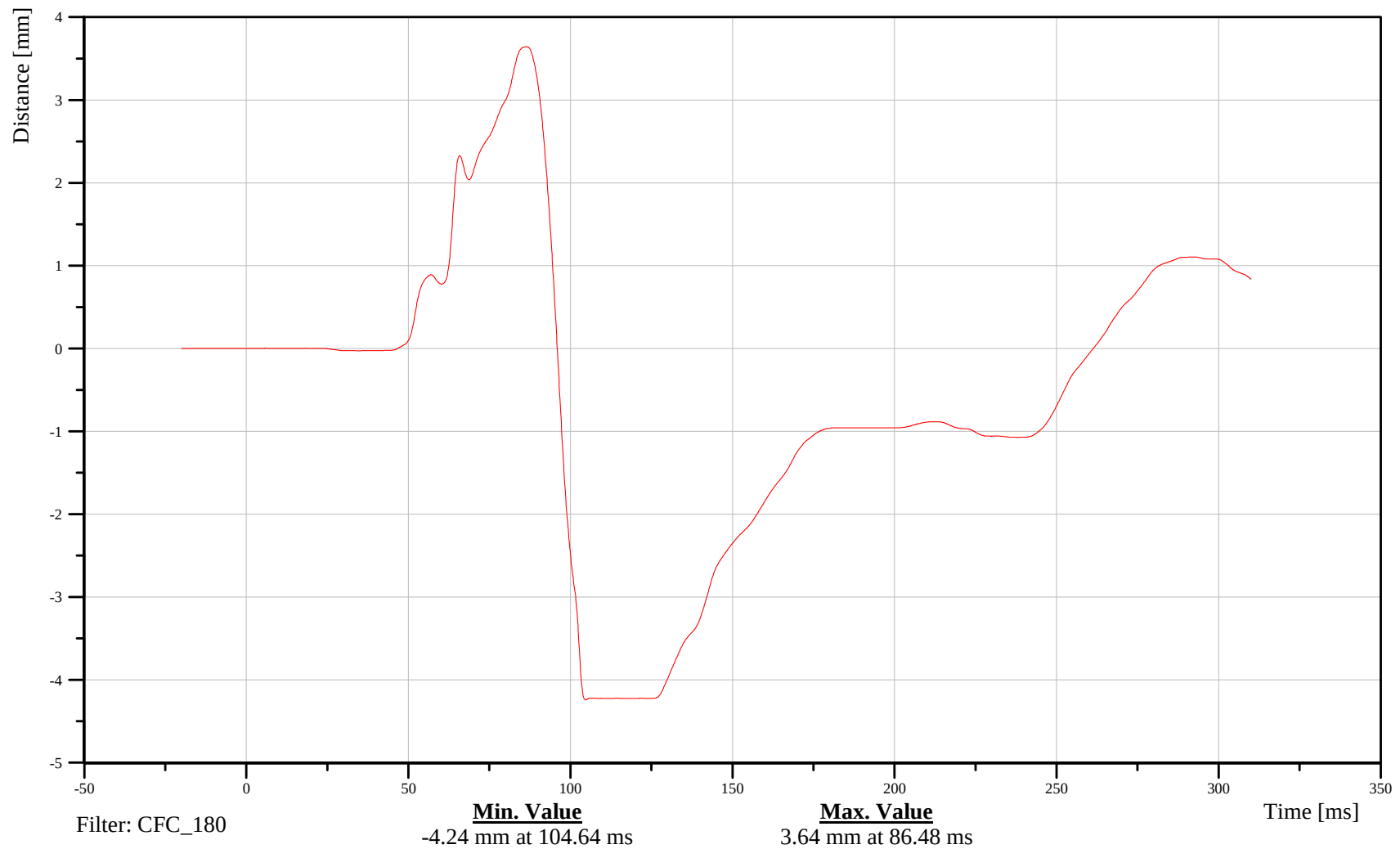
Target Vehicle Driver Upper Abdomen String Pot

Customer: VRTC

21ABDOUP00THDS0C

TRC Inc. Test Lab: CTF

Test Number: 091106



B-273

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

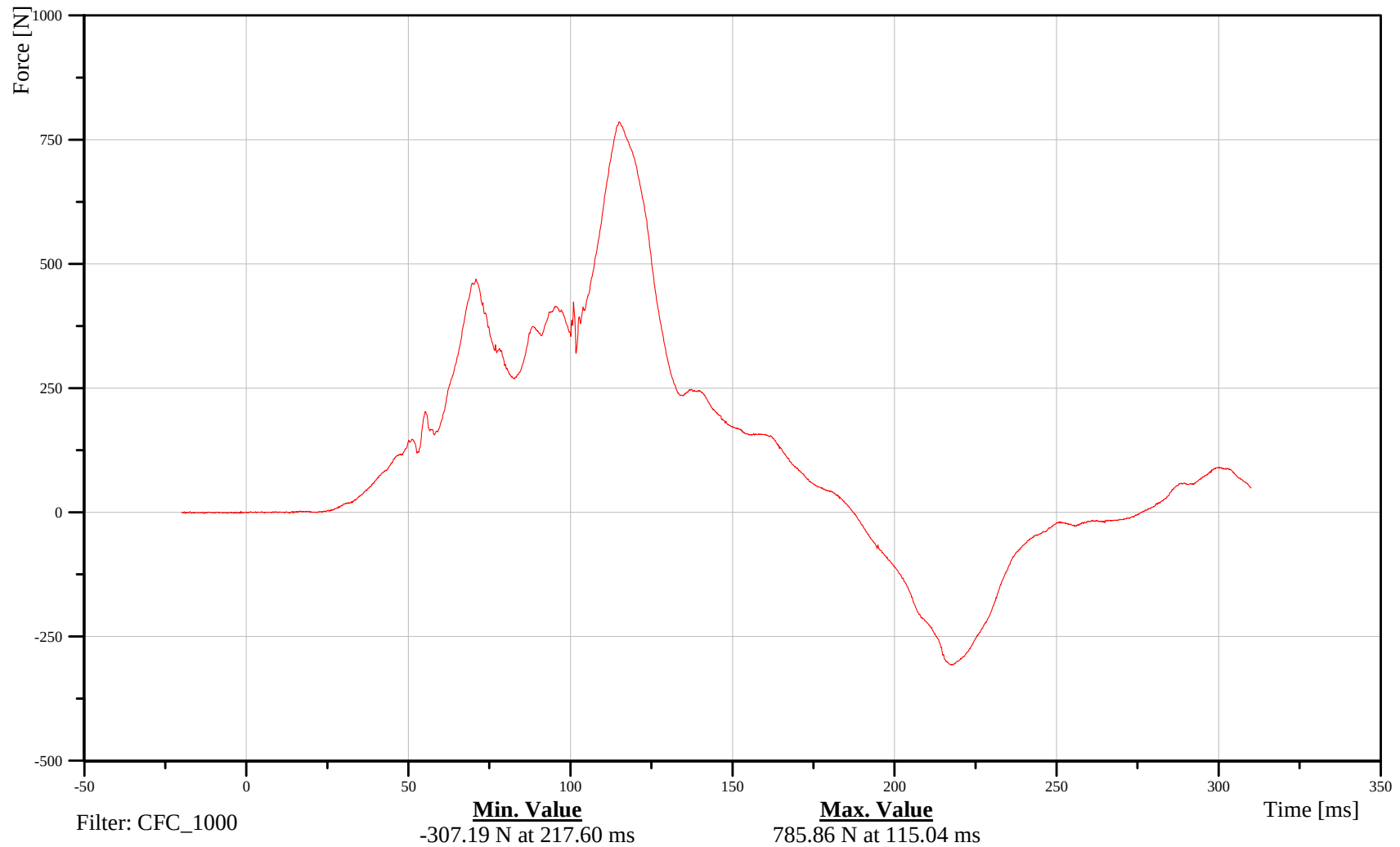
Target Vehicle Driver T12 Thoracic Spine X-Axis Force

Customer: VRTC

21THSP1200THFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-274

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

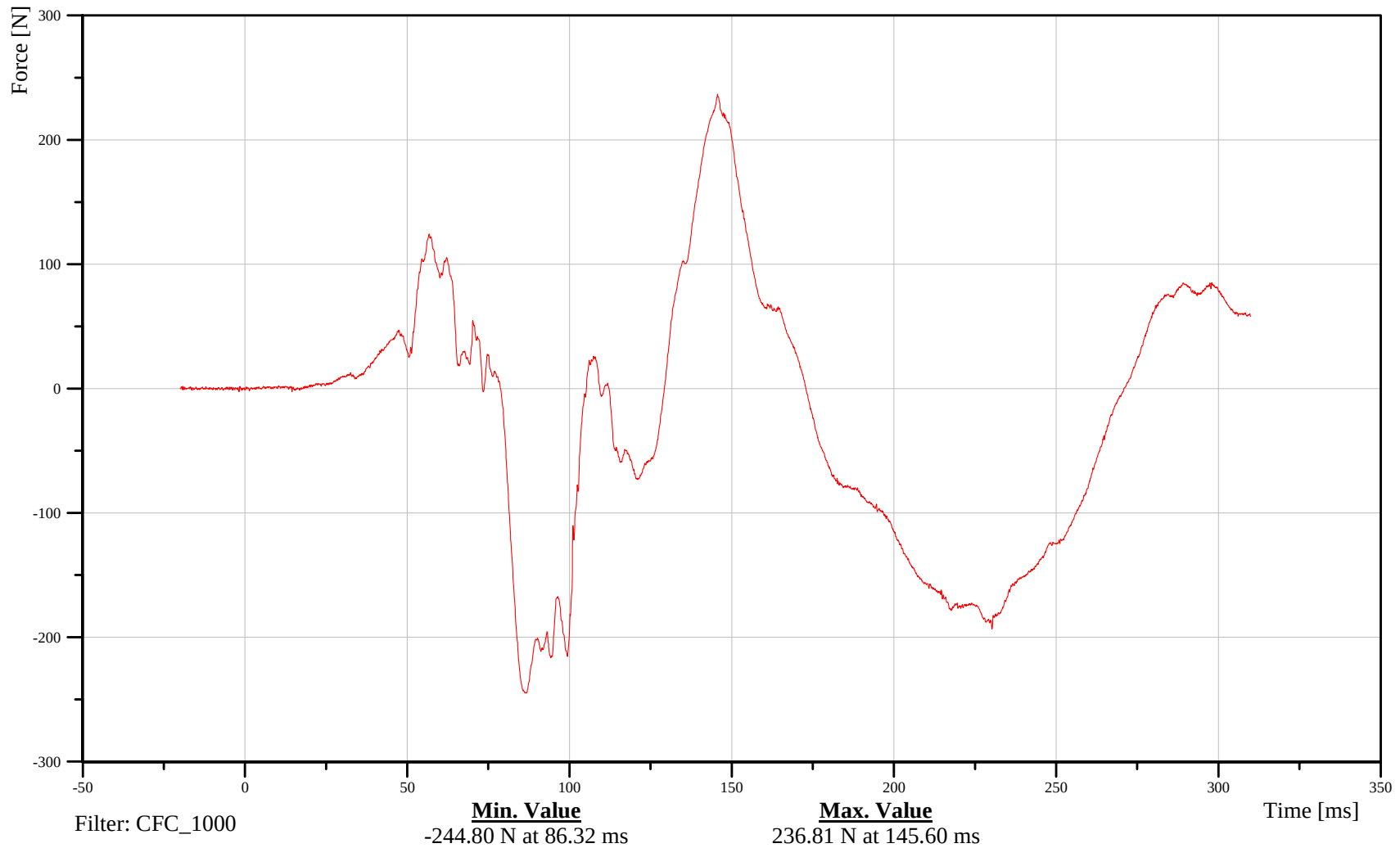
Target Vehicle Driver T12 Thoracic Spine Y-Axis Force

Customer: VRTC

21THSP1200THFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-275

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

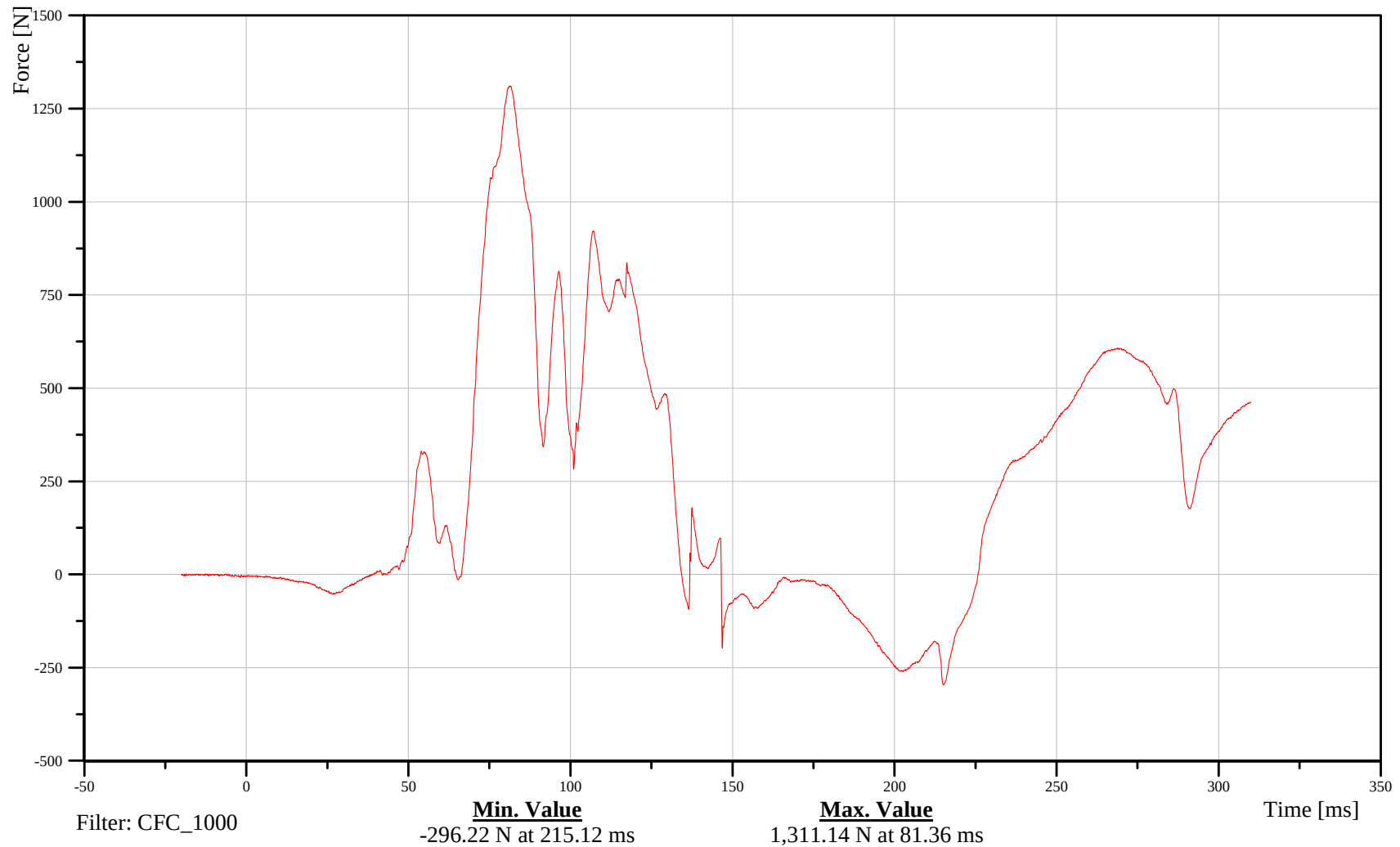
Target Vehicle Driver T12 Thoracic Spine Z-Axis Force

Customer: VRTC

21THSP1200THFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-276

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

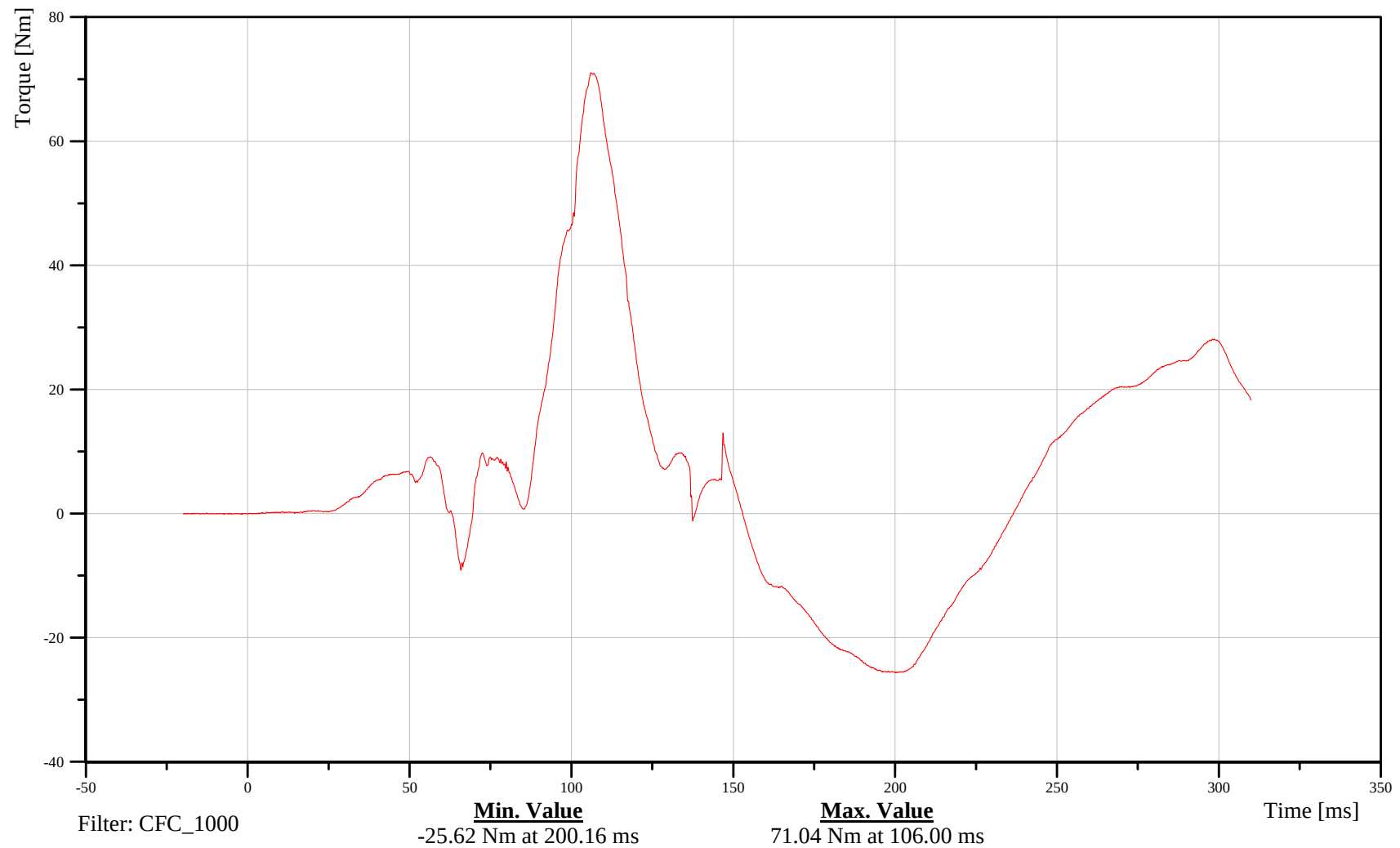
Target Vehicle Driver T12 Thoracic Moment About X Axis

Customer: VRTC

21THSP12000HMOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-277

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver T12 Thoracic Moment About Y Axis

Date: 11/06/2009

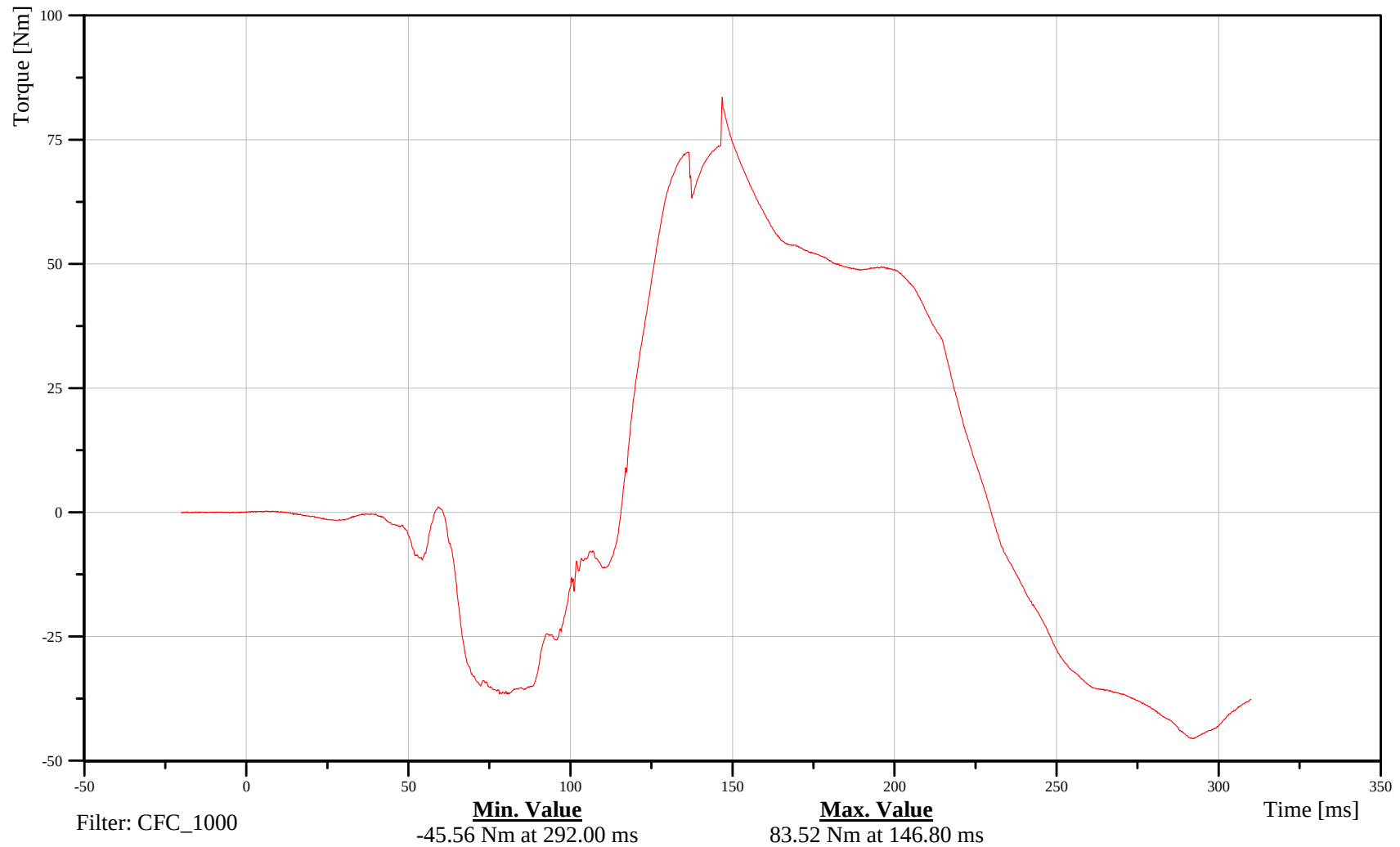
Time: 14:32

Customer: VRTC

21THSP12000HMOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-278

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver T1 Upper Spine X-Axis Acceleration

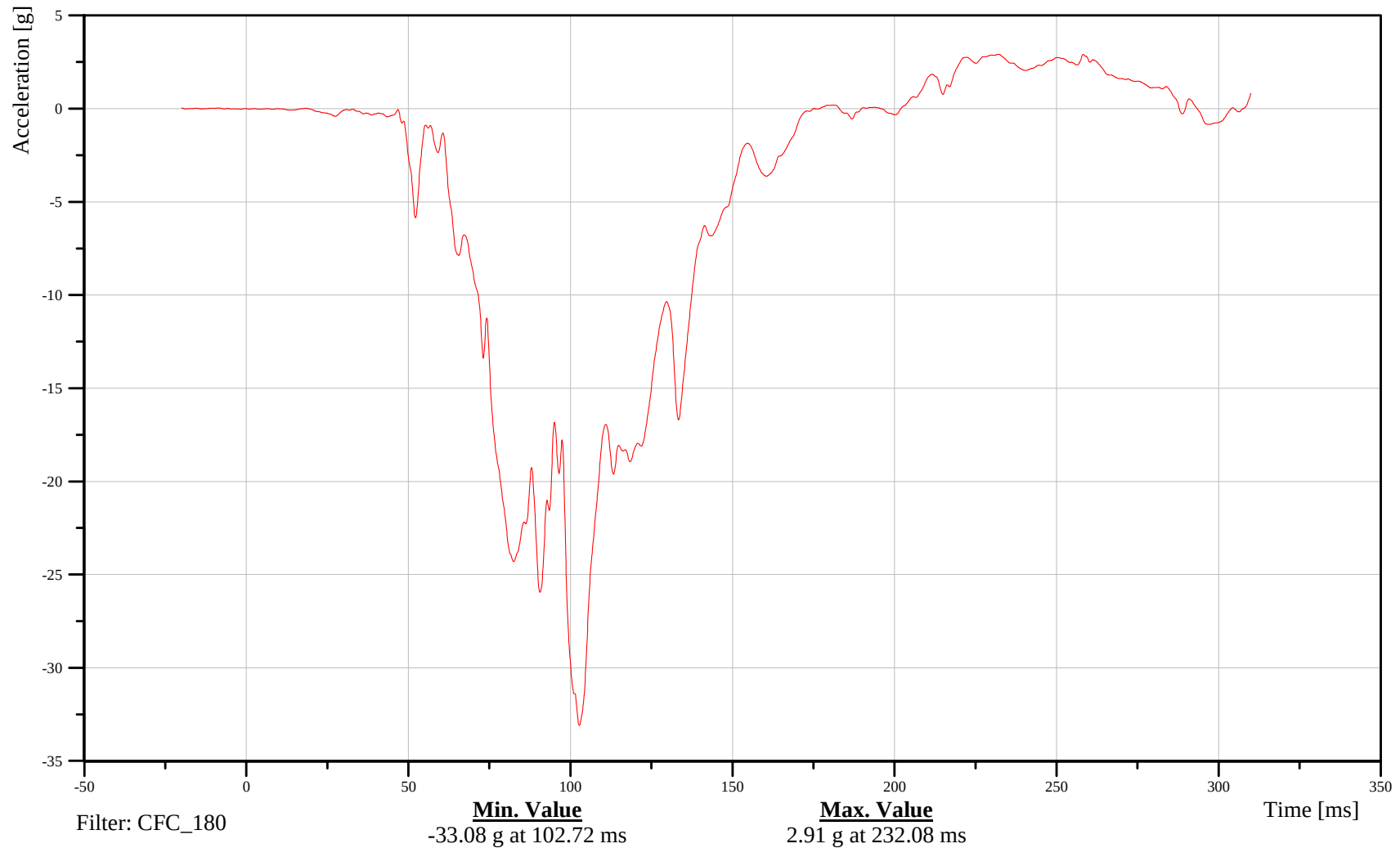
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21SPINUP00THACXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-279

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver T1 Upper Spine Y-Axis Acceleration

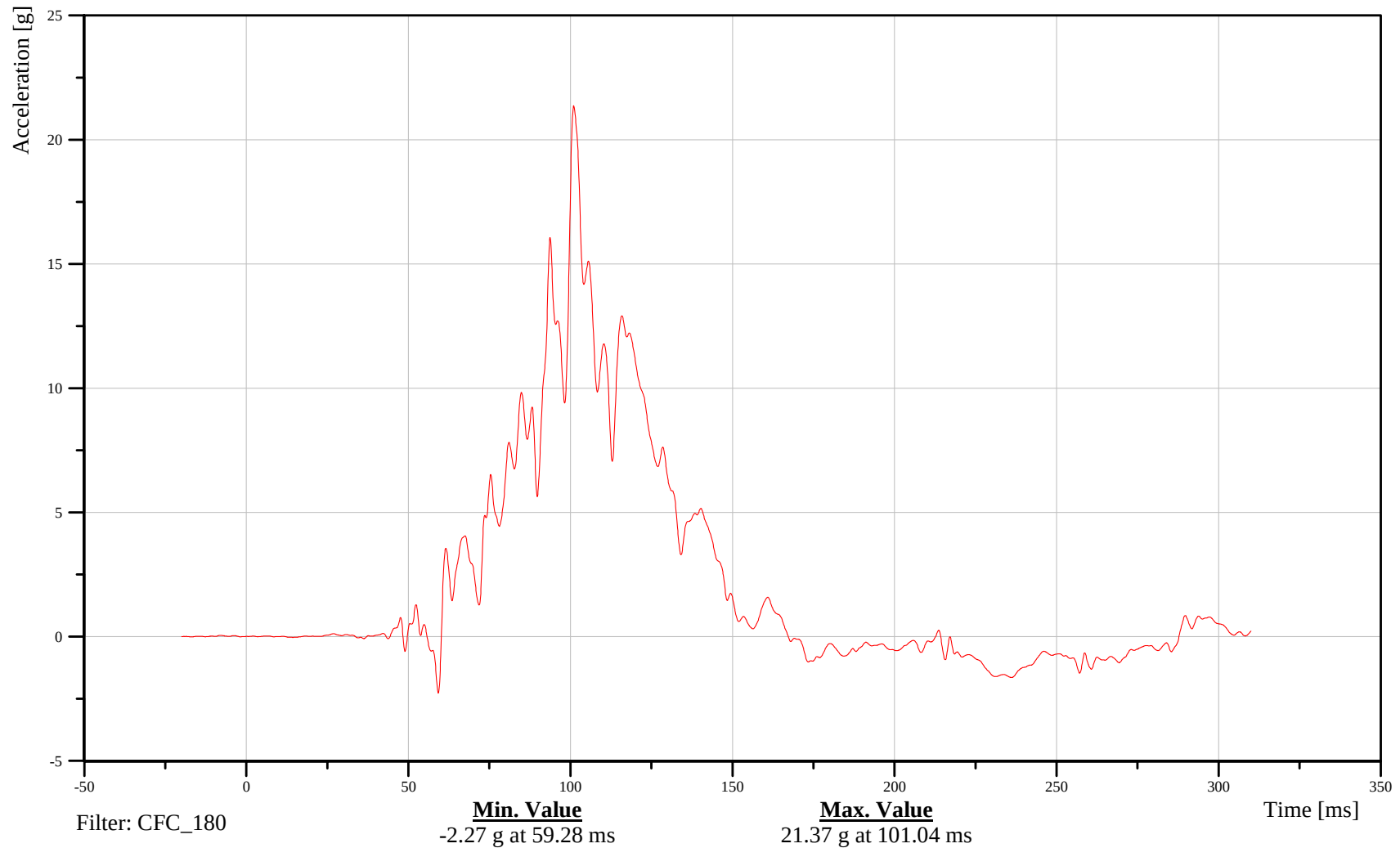
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21SPINUP00THACYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-280

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

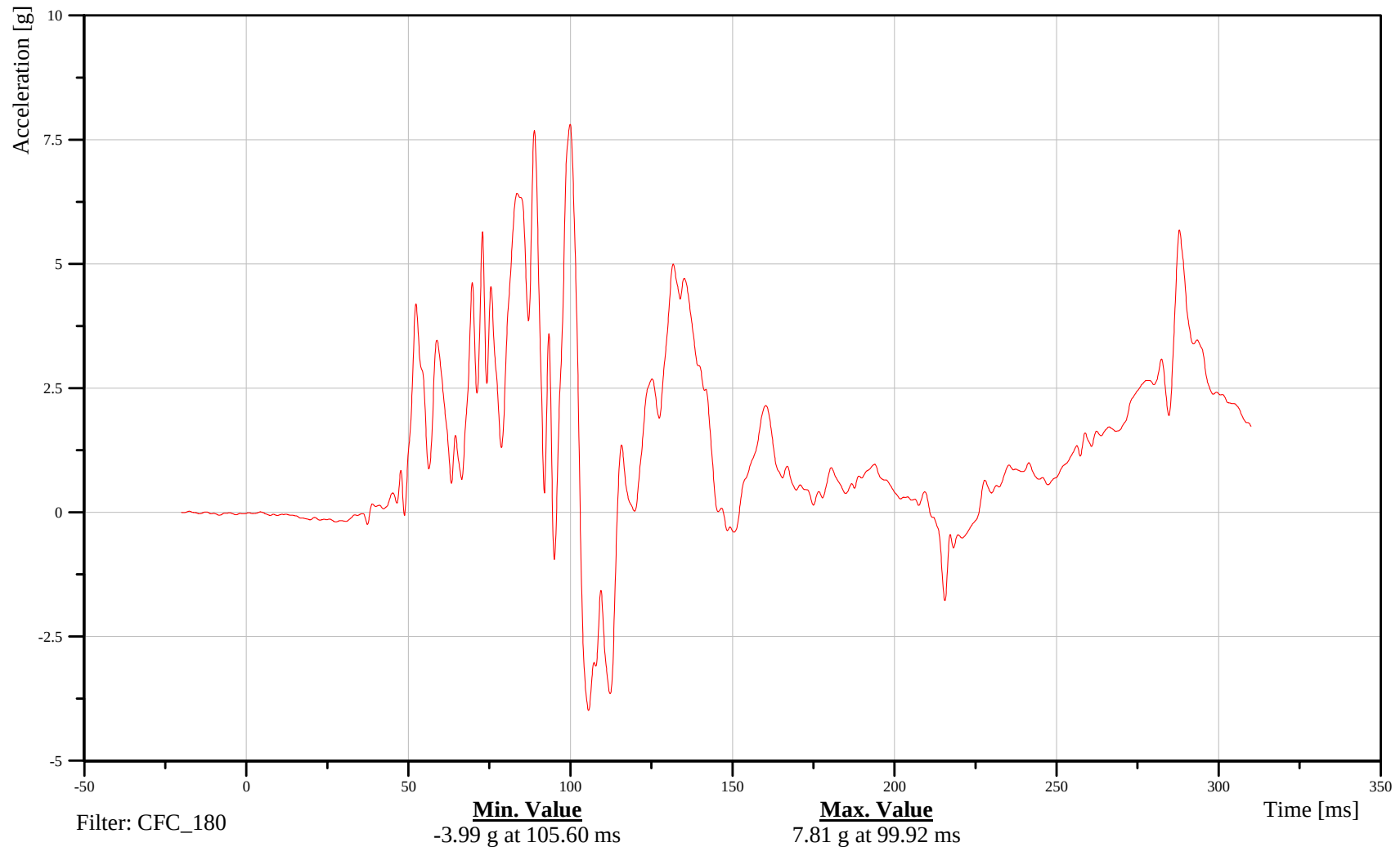
Target Vehicle Driver T1 Upper Spine Z-Axis Acceleration

Customer: VRTC

21SPINUP00THACZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-281

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

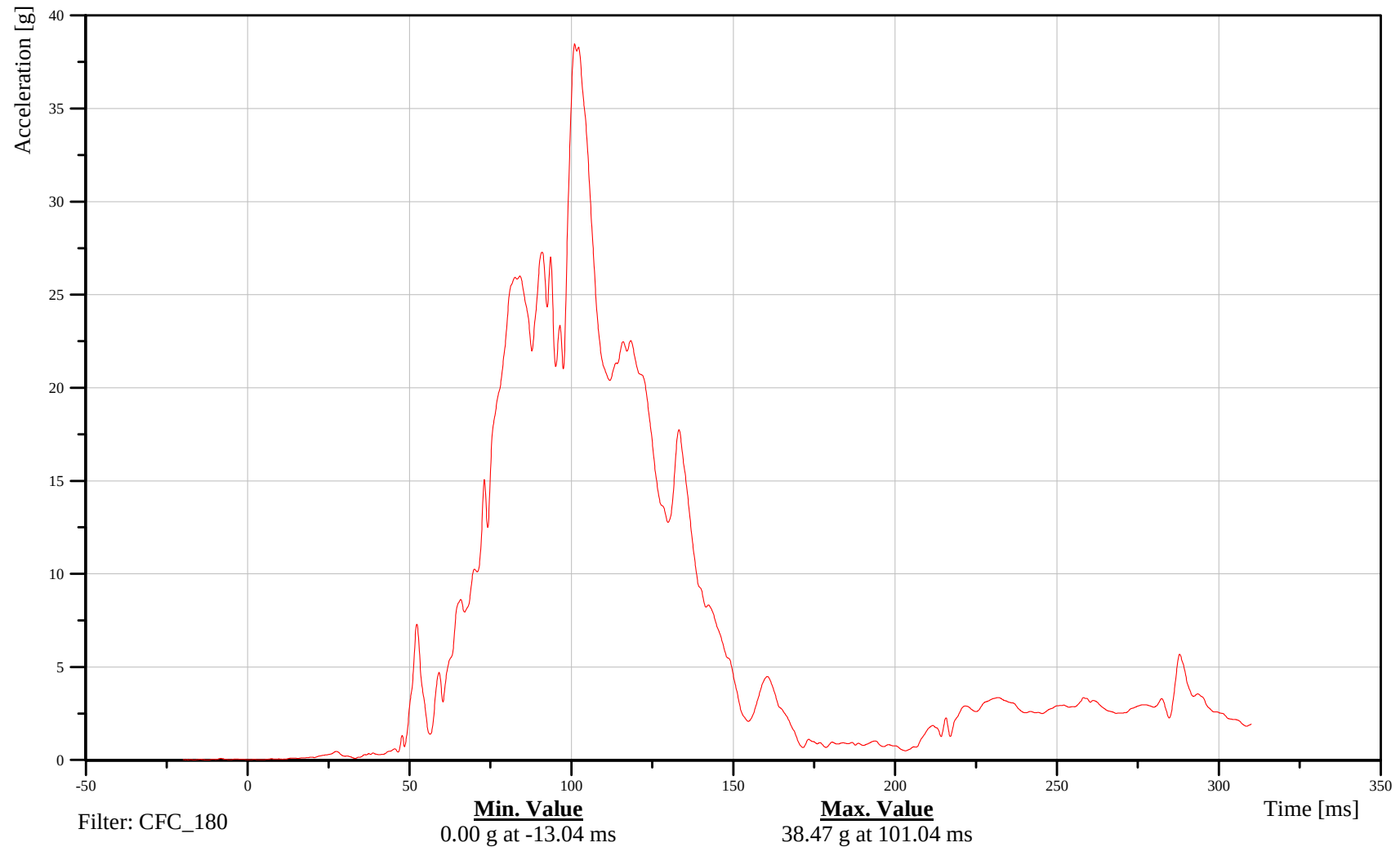
Target Vehicle Driver T1 Upper Spine Resultant Acceleration

Customer: VRTC

21SPINUP00THACRC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-282

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

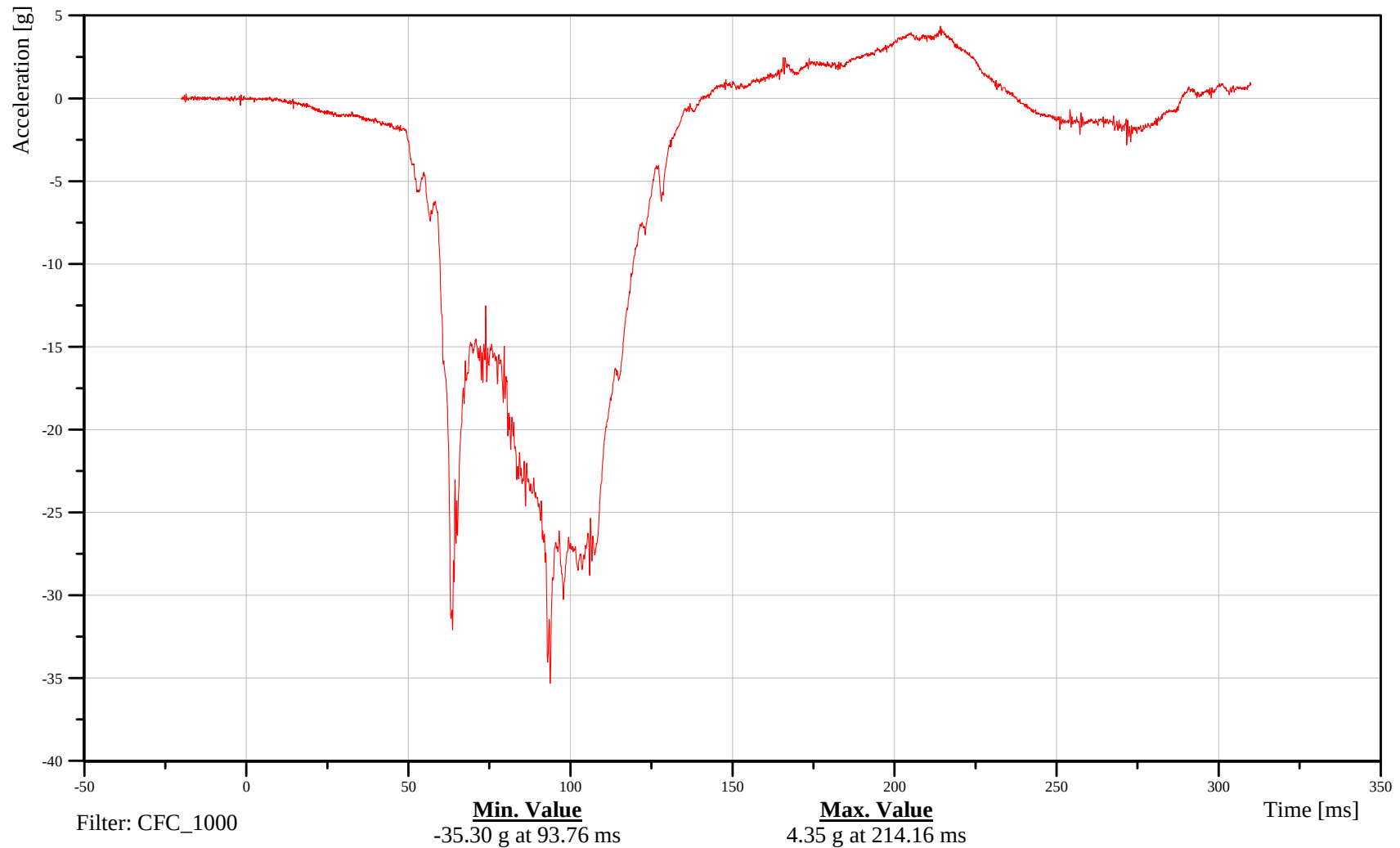
Target Vehicle Driver Pelvis X-Axis Acceleration

Customer: VRTC

21PELV0000THACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-283

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

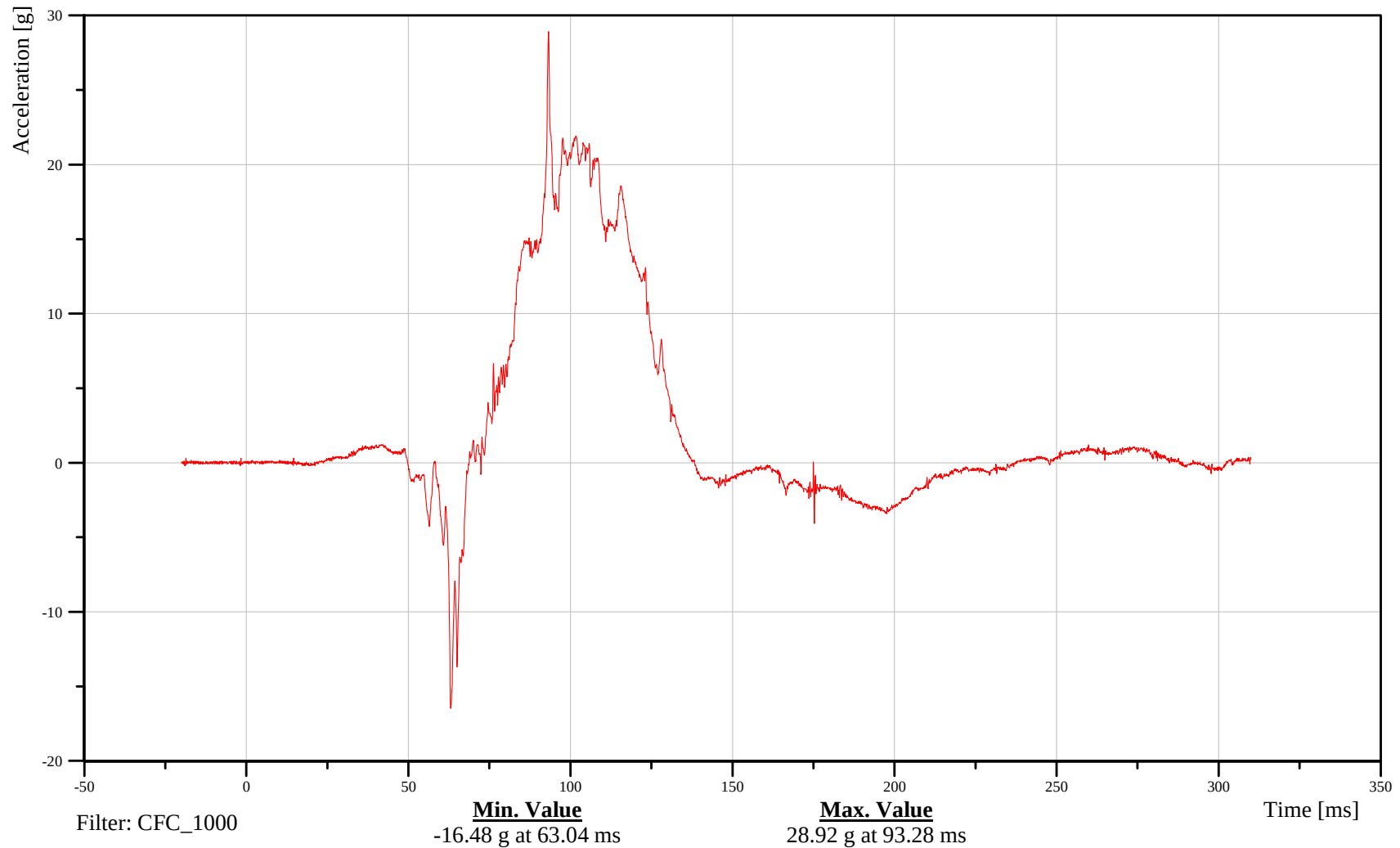
Target Vehicle Driver Pelvis Y-Axis Acceleration

Customer: VRTC

21PELV0000THACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-284

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

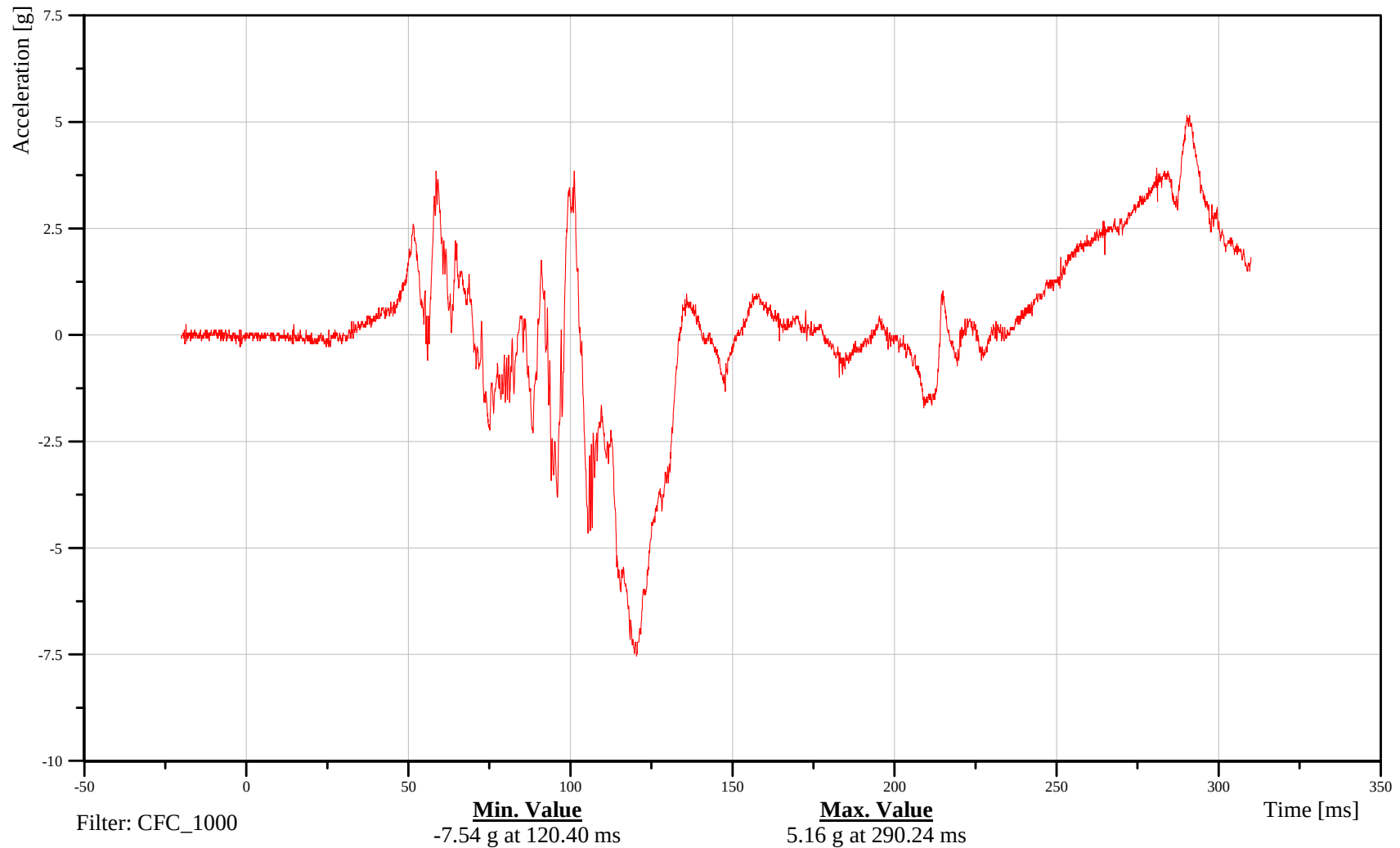
Target Vehicle Driver Pelvis Z-Axis Acceleration

Customer: VRTC

21PELV0000THACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-285

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

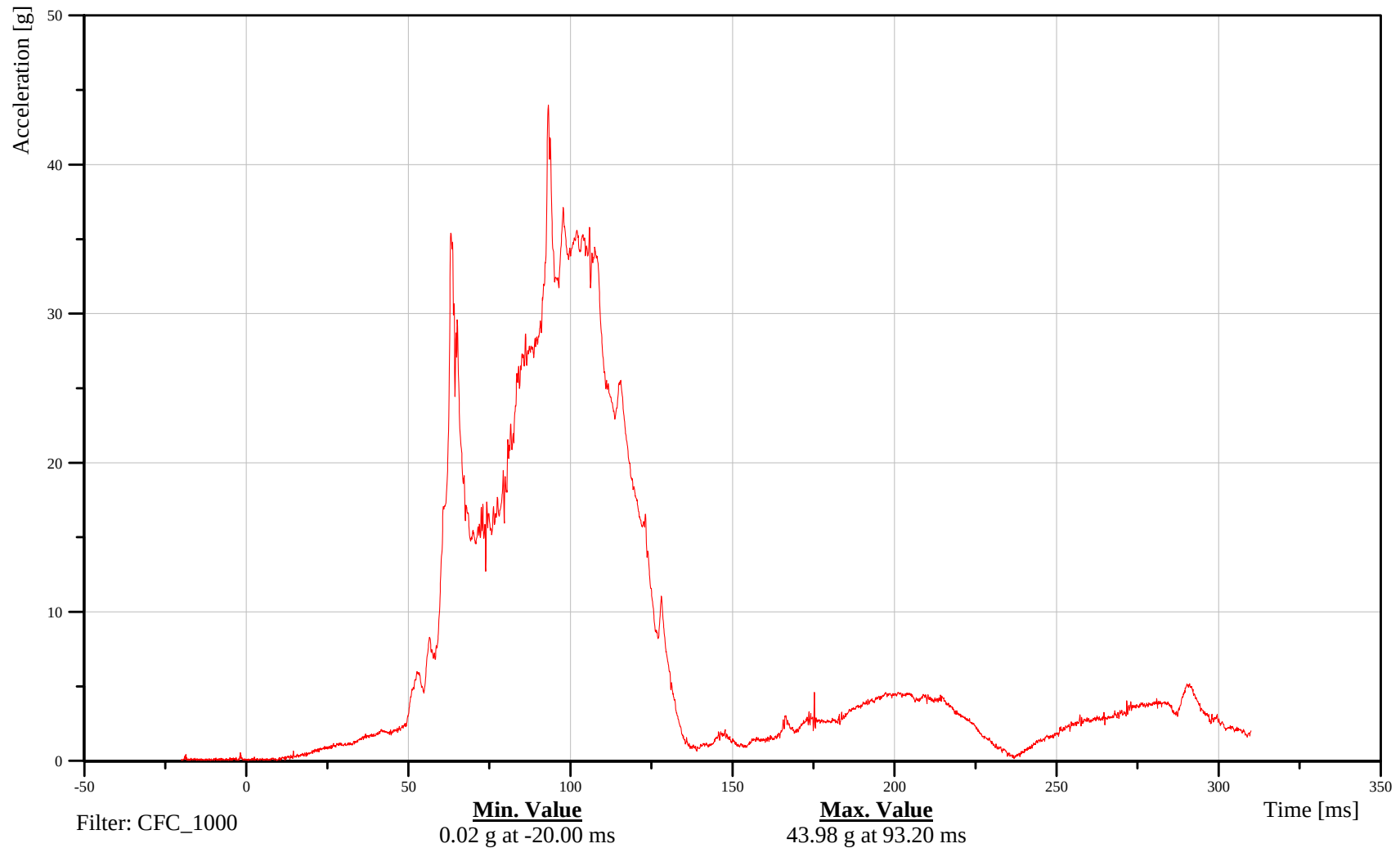
Target Vehicle Driver Pelvis Resultant Acceleration

Customer: VRTC

21PELV0000THACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-286

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Pelvis/Acetabulum Left X-Axis Force

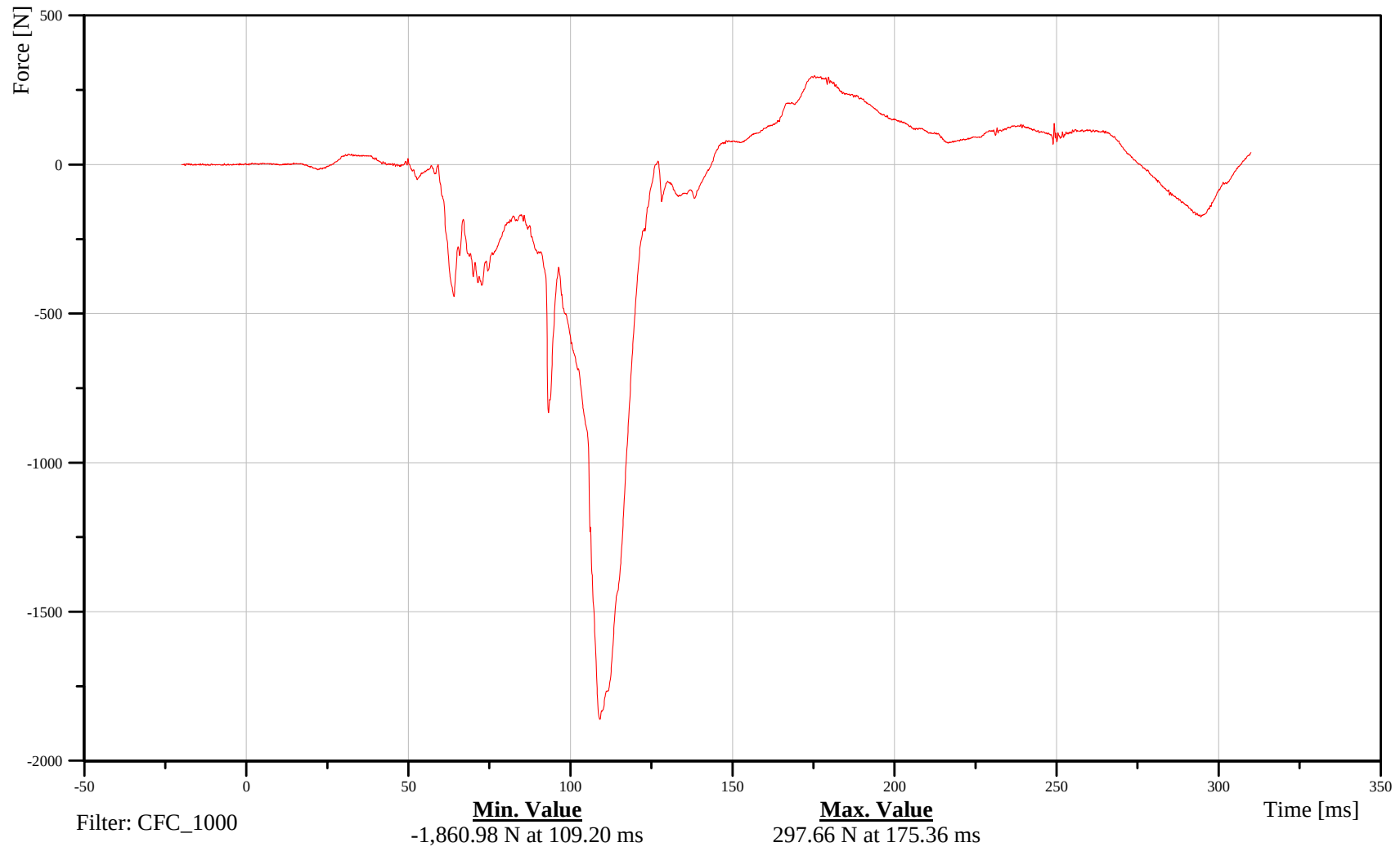
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21ACTBLE00THFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-287

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

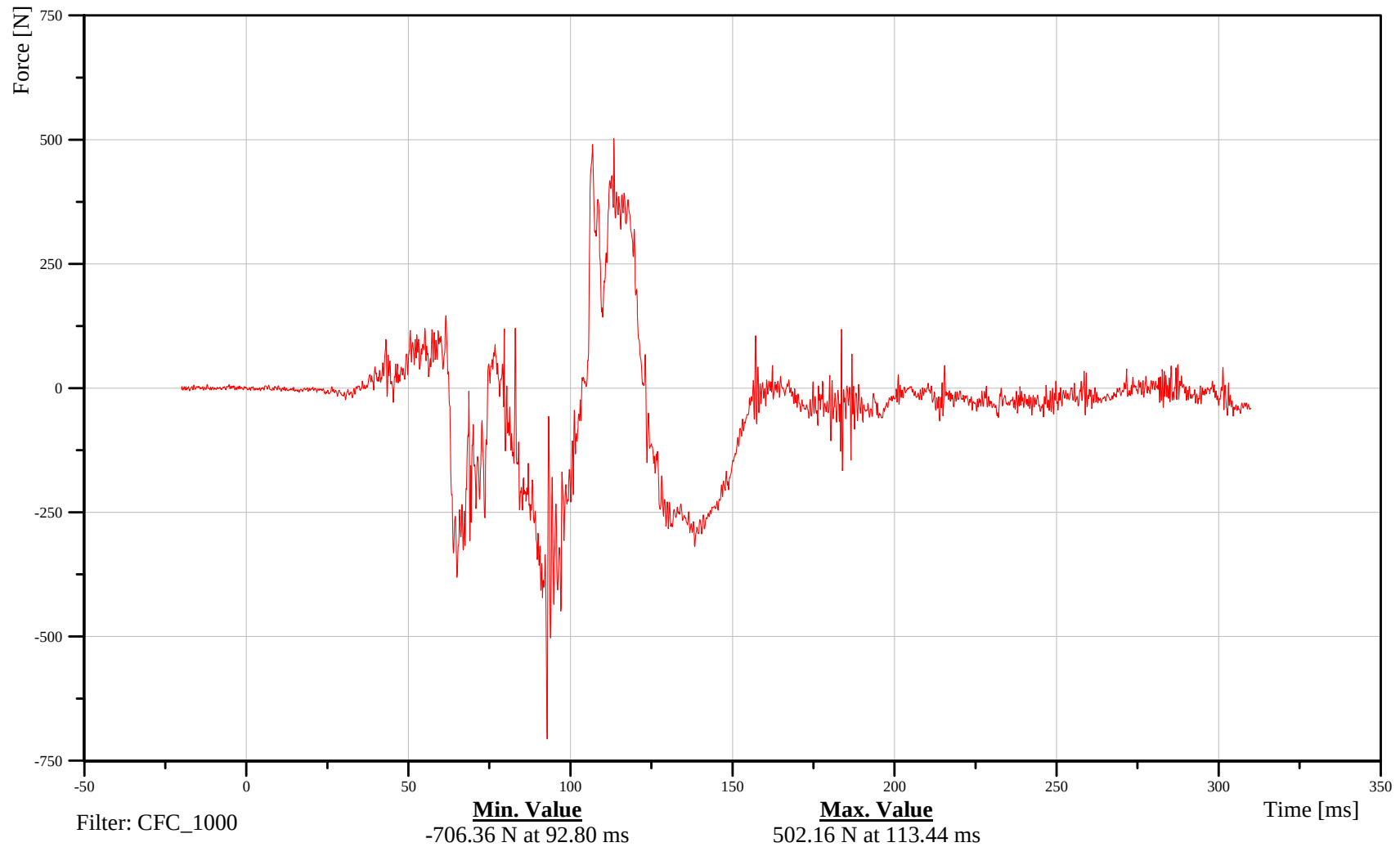
Target Vehicle Driver Pelvis/Acetabulum Left Y-Axis Force

Customer: VRTC

21ACTBLE00THFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-288

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

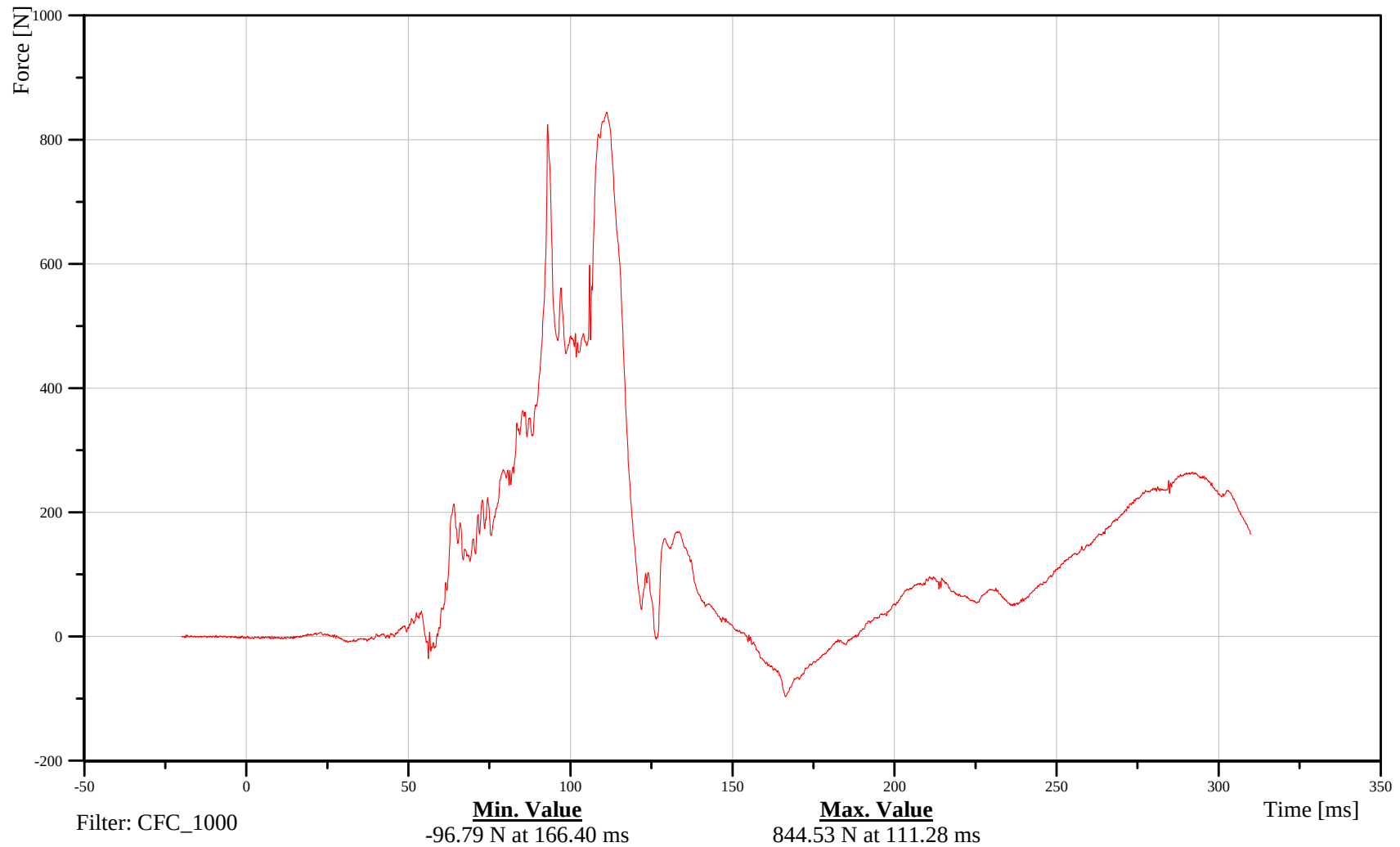
Target Vehicle Driver Pelvis/Acetabulum Left Z-Axis Force

Customer: VRTC

21ACTBLE00THFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-289

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Pelvis/Acetabulum Right X-Axis Force

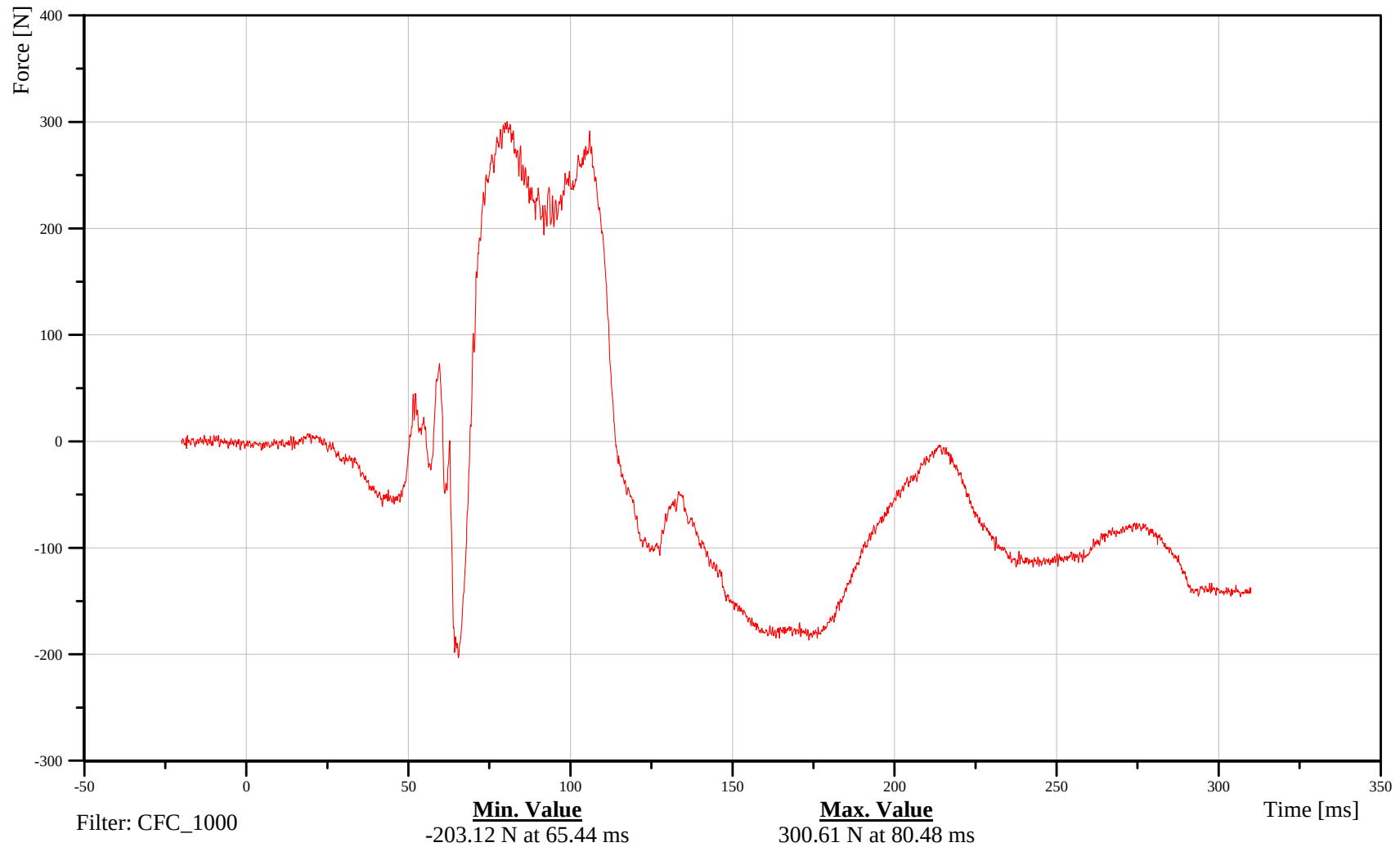
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21ACTBRI00THFOXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-290

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

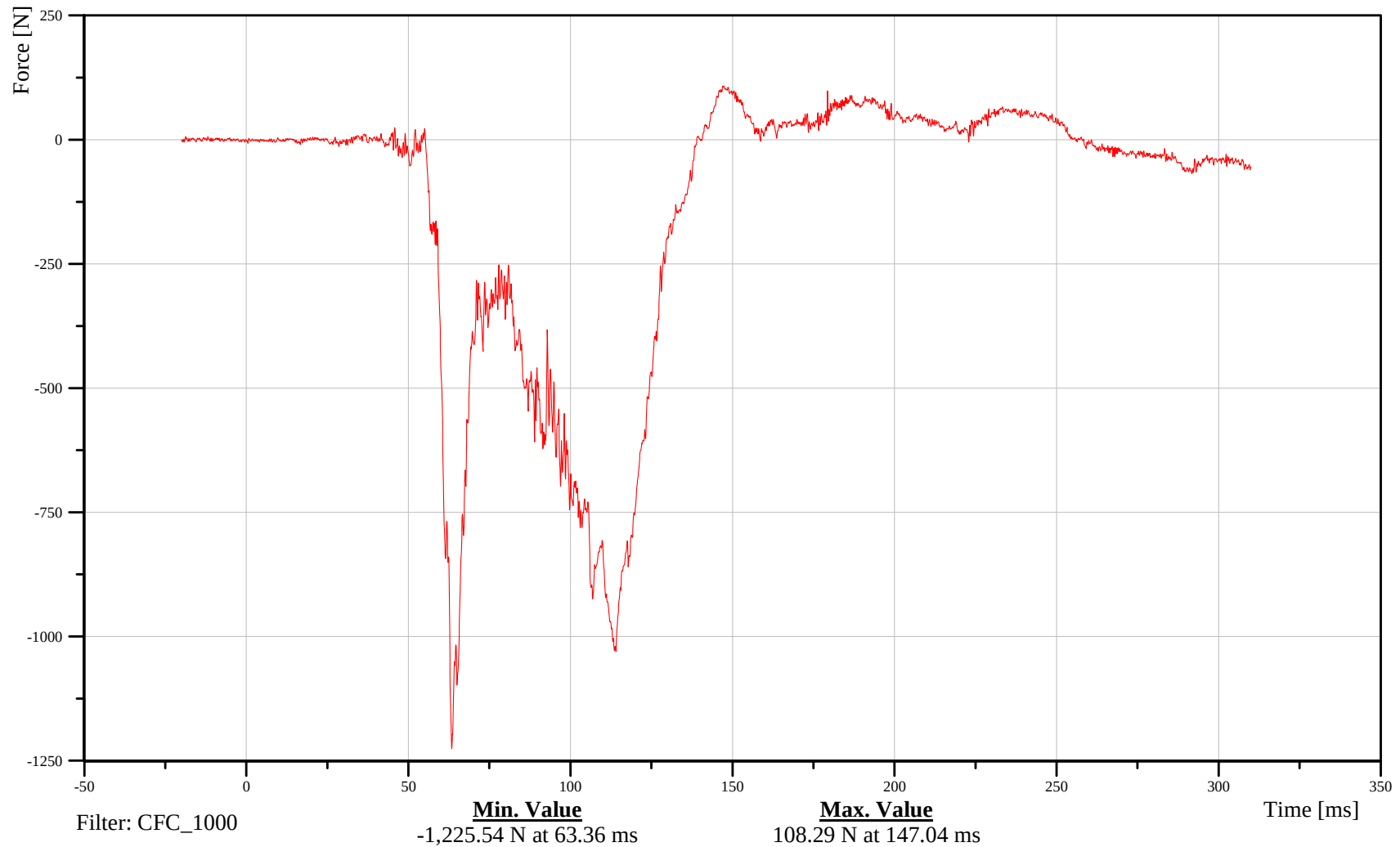
Target Vehicle Driver Pelvis/Acetabulum Right Y-Axis Force

Customer: VRTC

21ACTBRI00THFOYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-291

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

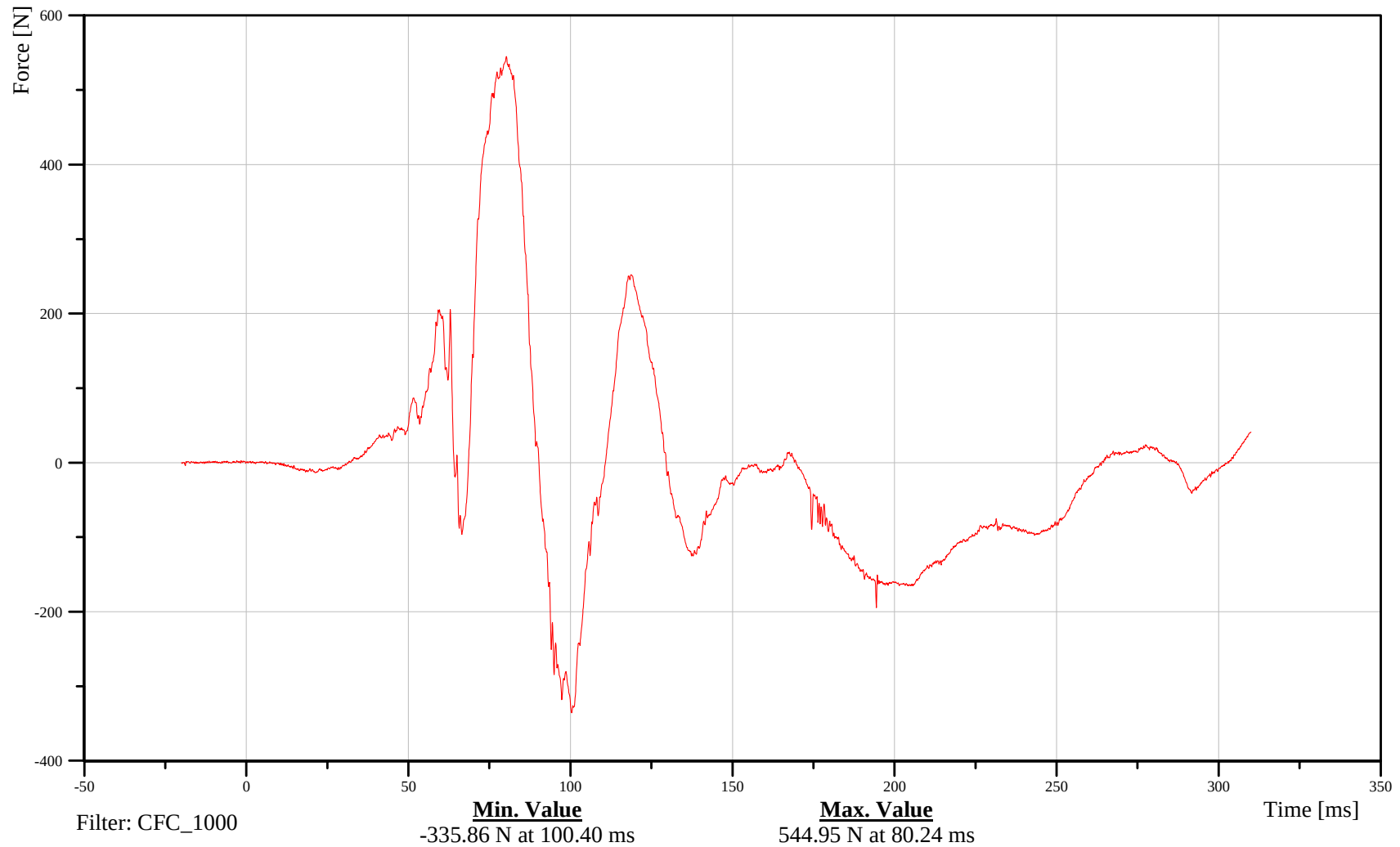
Target Vehicle Driver Pelvis/Acetabulum Right Z-Axis Force

Customer: VRTC

21ACTBRI00THFOZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-292

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Femur X-Axis Force

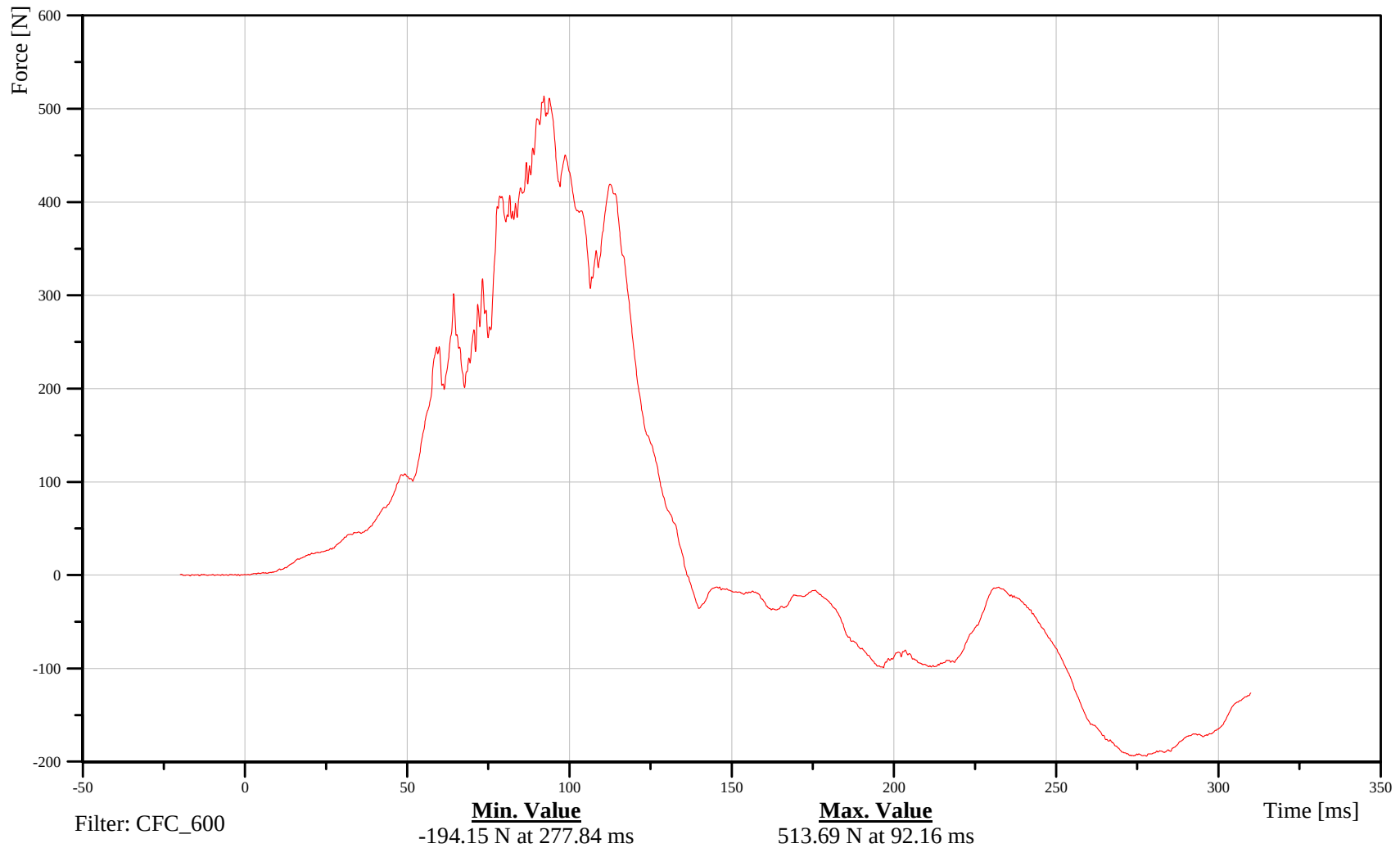
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRLL00THFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-293

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Femur Y-Axis Force

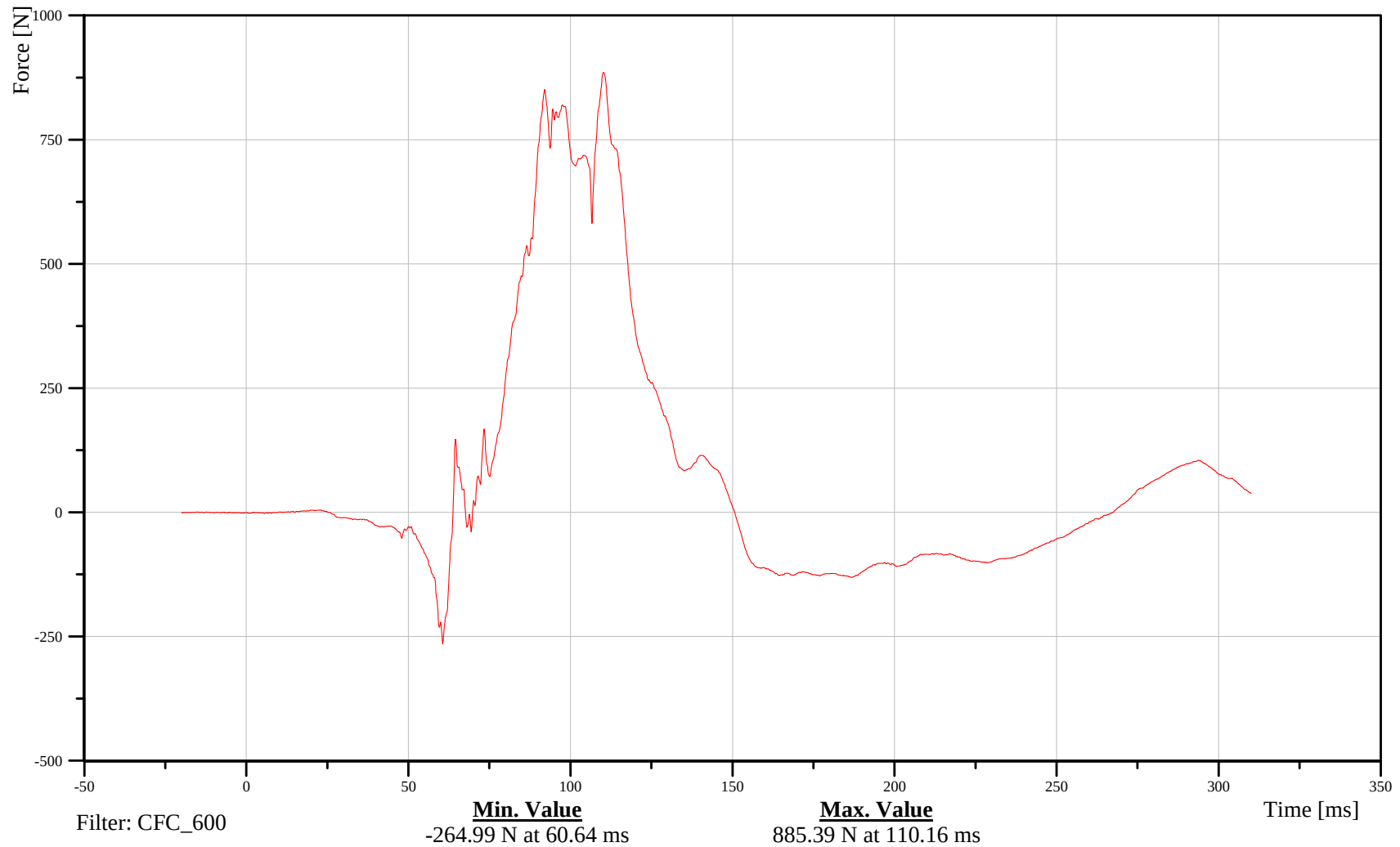
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRLL00THFOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-294

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

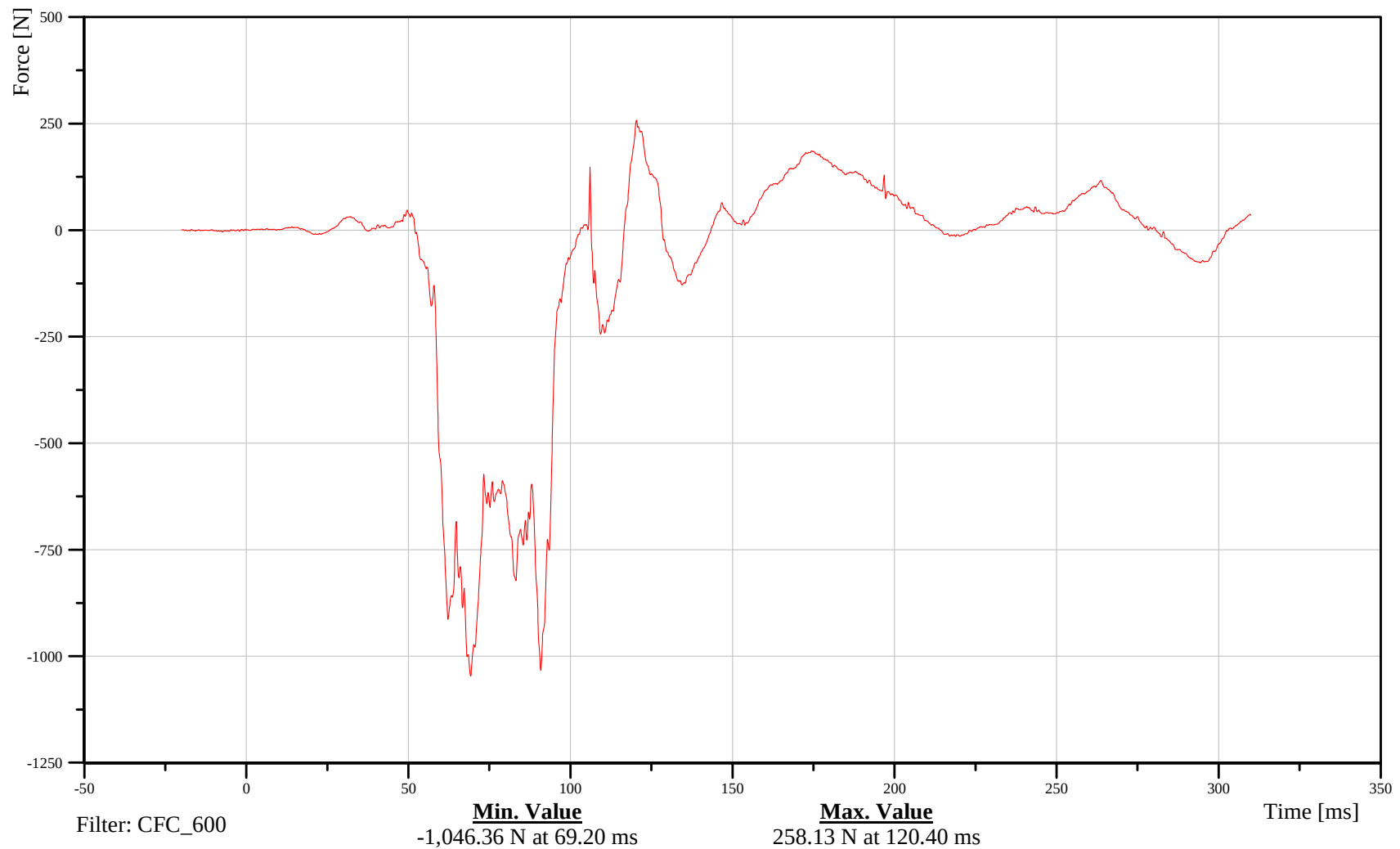
Target Vehicle Driver Left Femur Z-Axis Force

Customer: VRTC

21FEMRLL00THFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-295

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

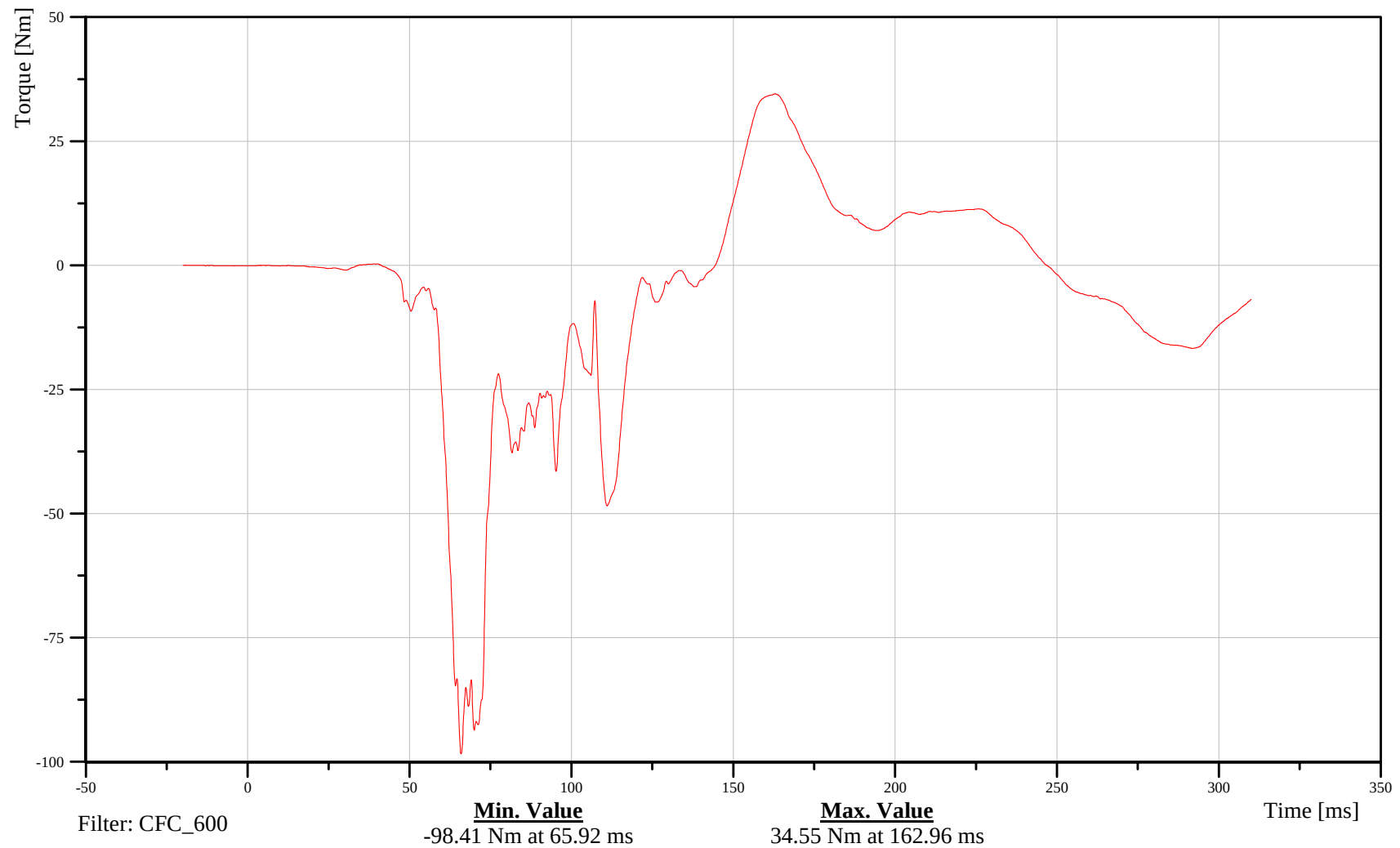
Target Vehicle Driver Left Femur Moment About X-Axis

Customer: VRTC

21FEMRLL00THMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-296

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Femur Moment About Y-Axis

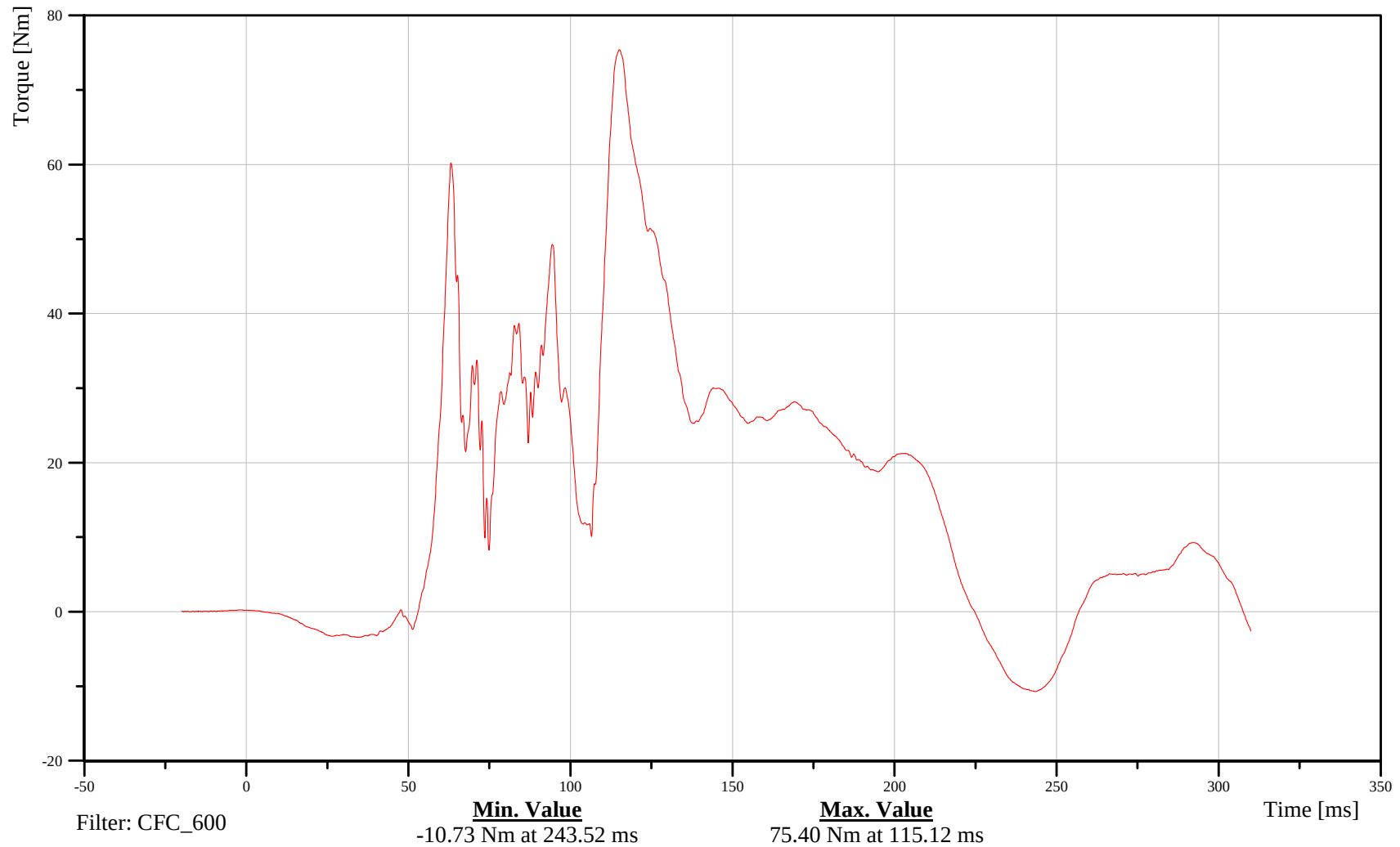
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRLL00THMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-297

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

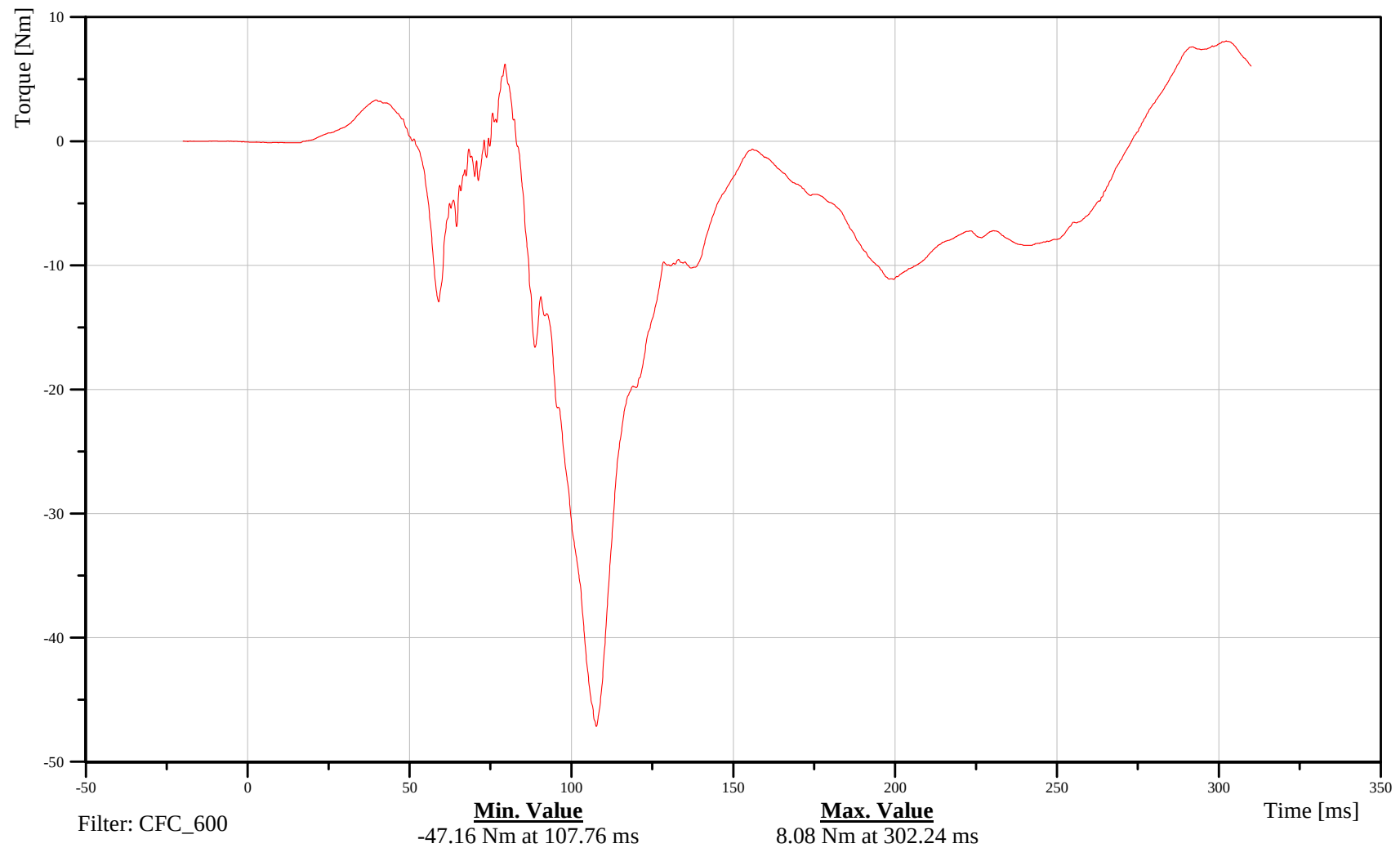
Target Vehicle Driver Left Femur Moment About Z-Axis

Customer: VRTC

21FEMRLL00THMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-298

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur X-Axis Force

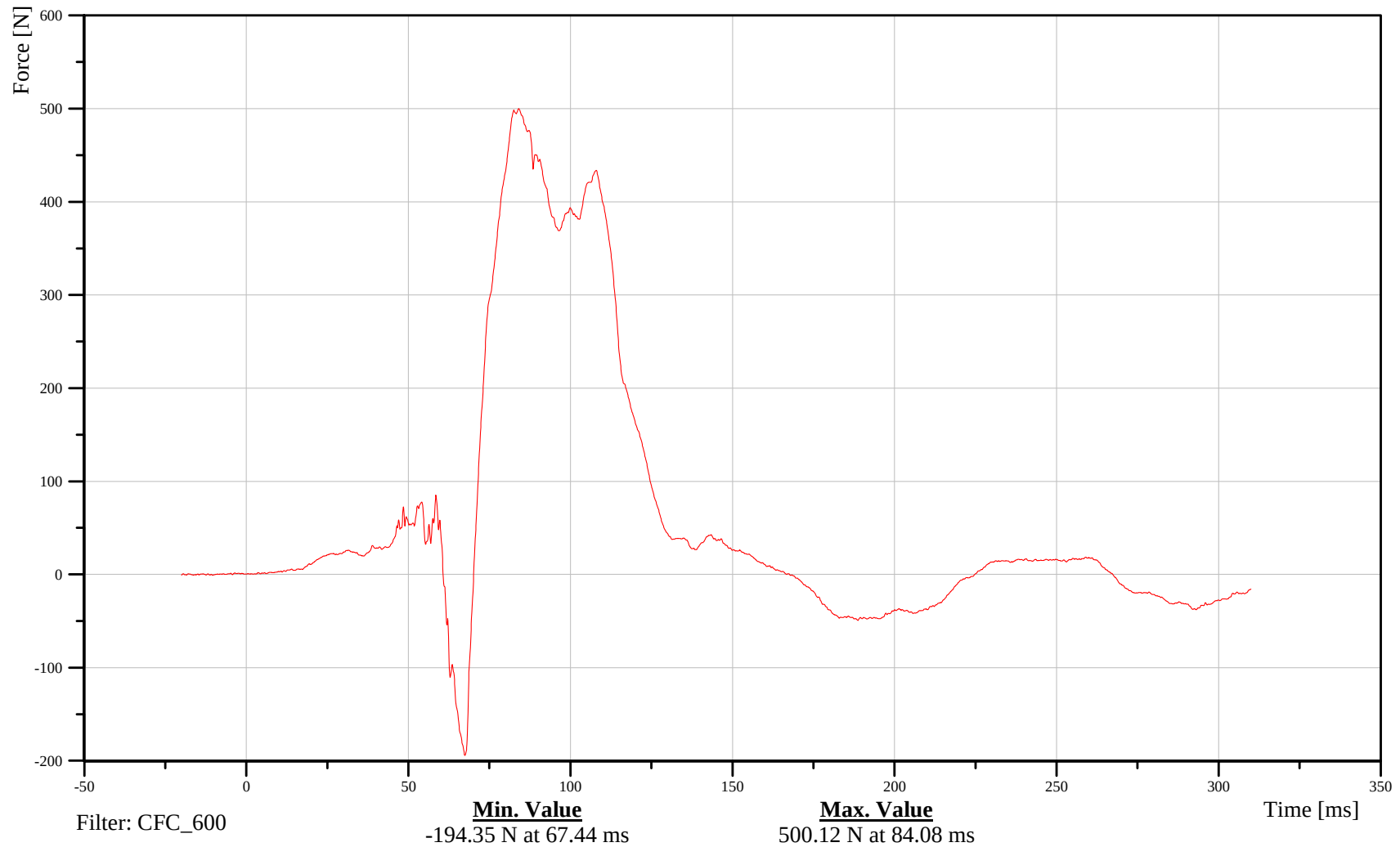
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THFOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-299

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur Y-Axis Force

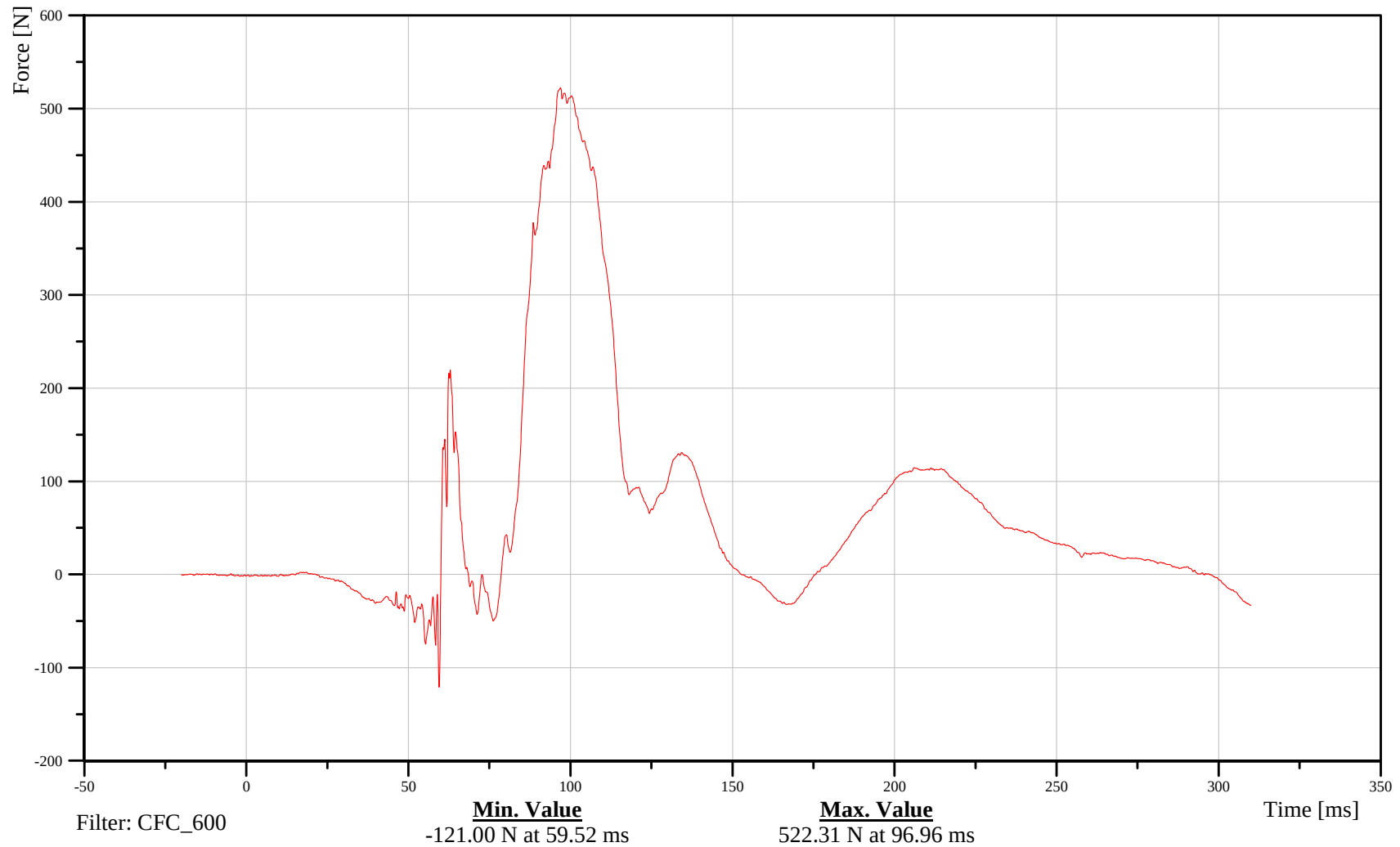
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THFOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-300

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur Z-Axis Force

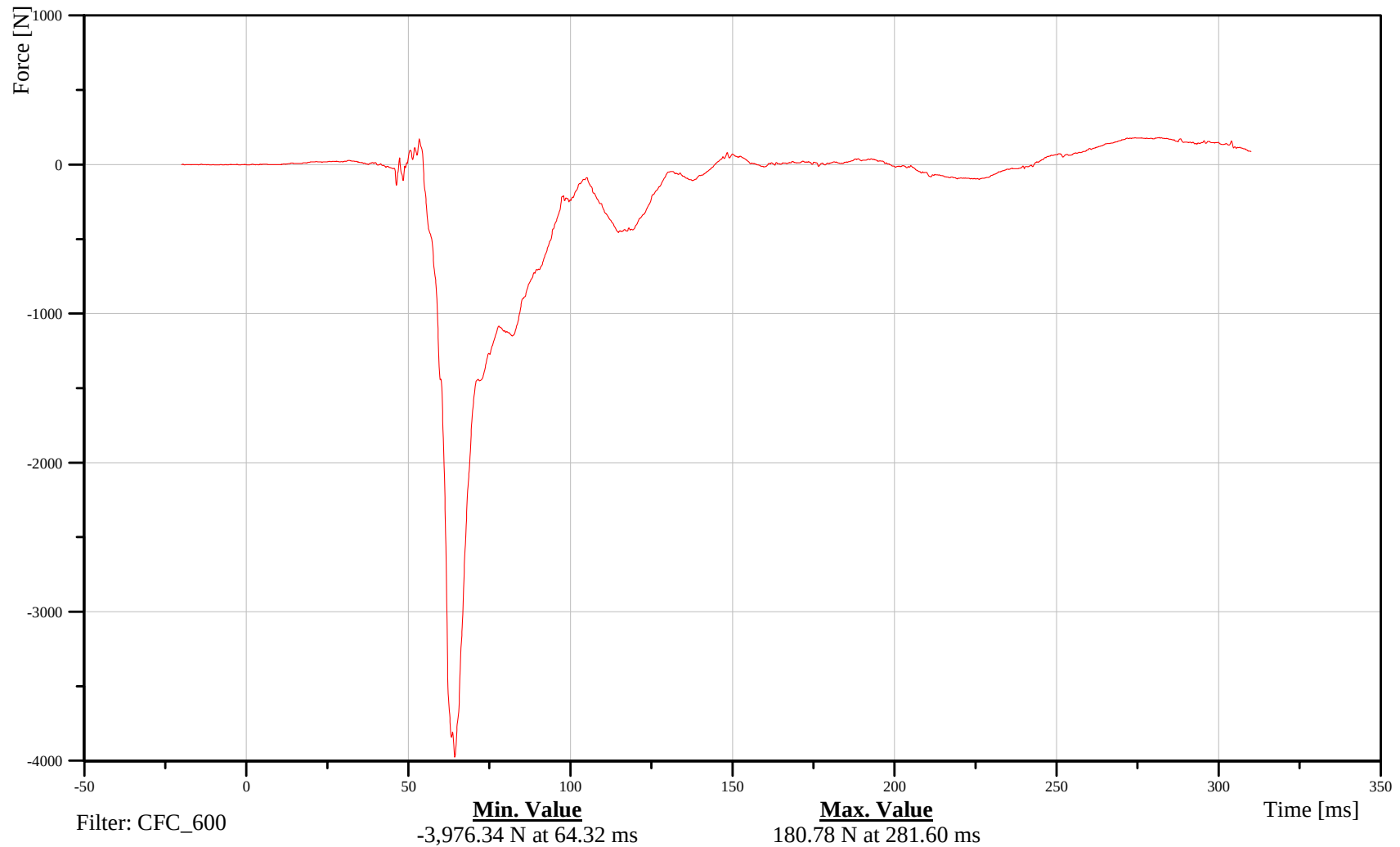
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THFOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-301

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur Moment About X-Axis

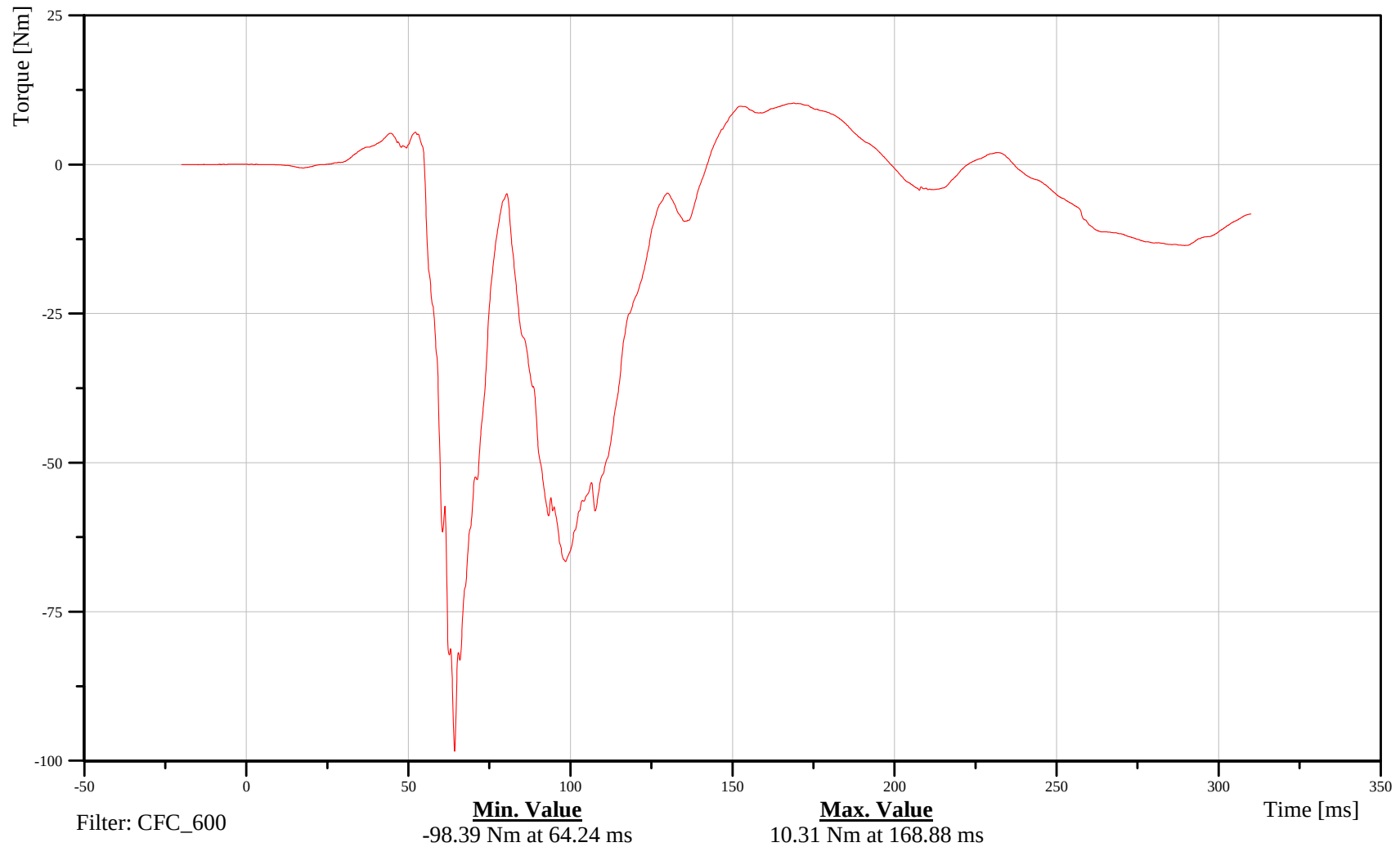
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THMOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-302

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur Moment About Y-Axis

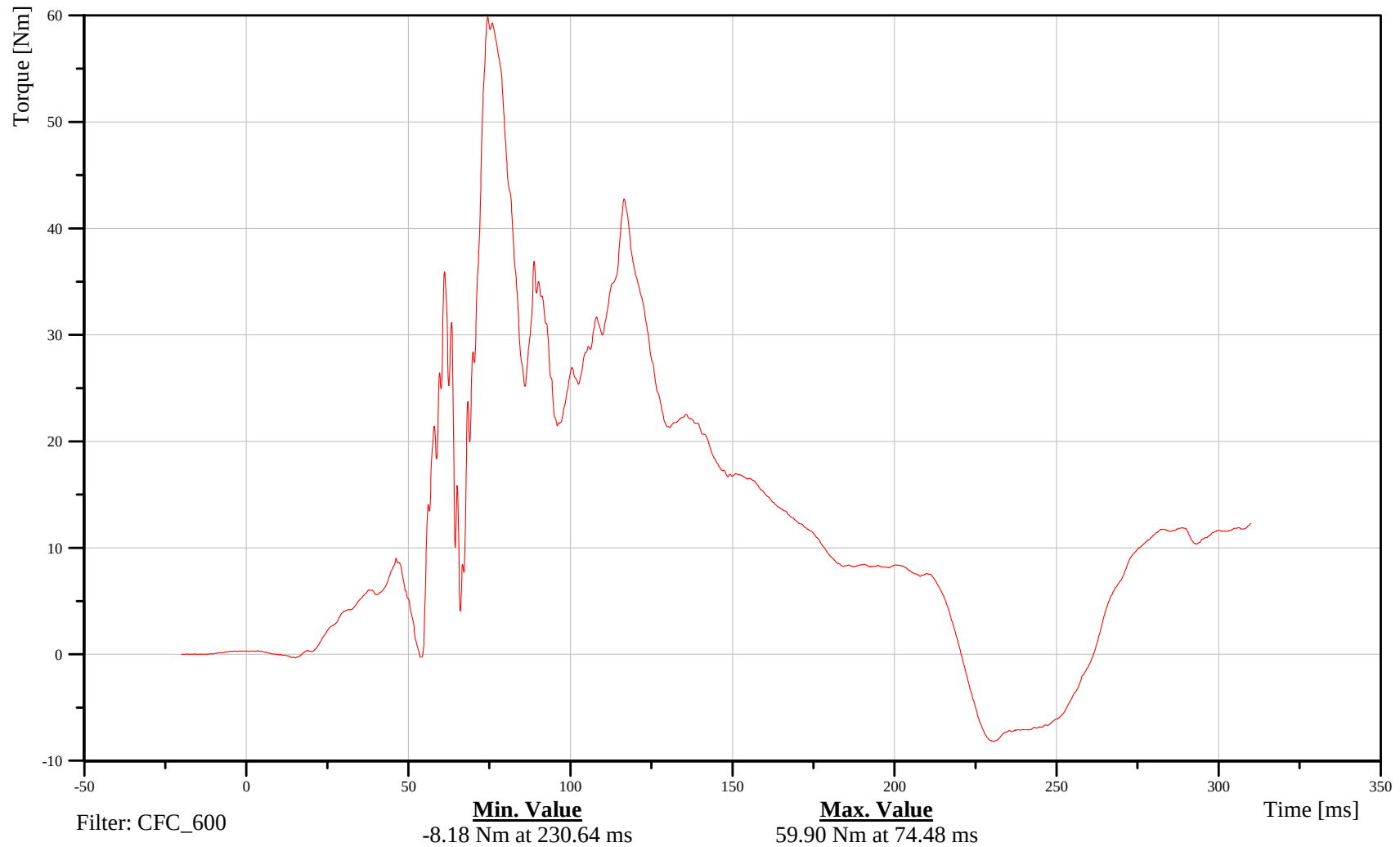
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THMOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-303

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Femur Moment About Z-Axis

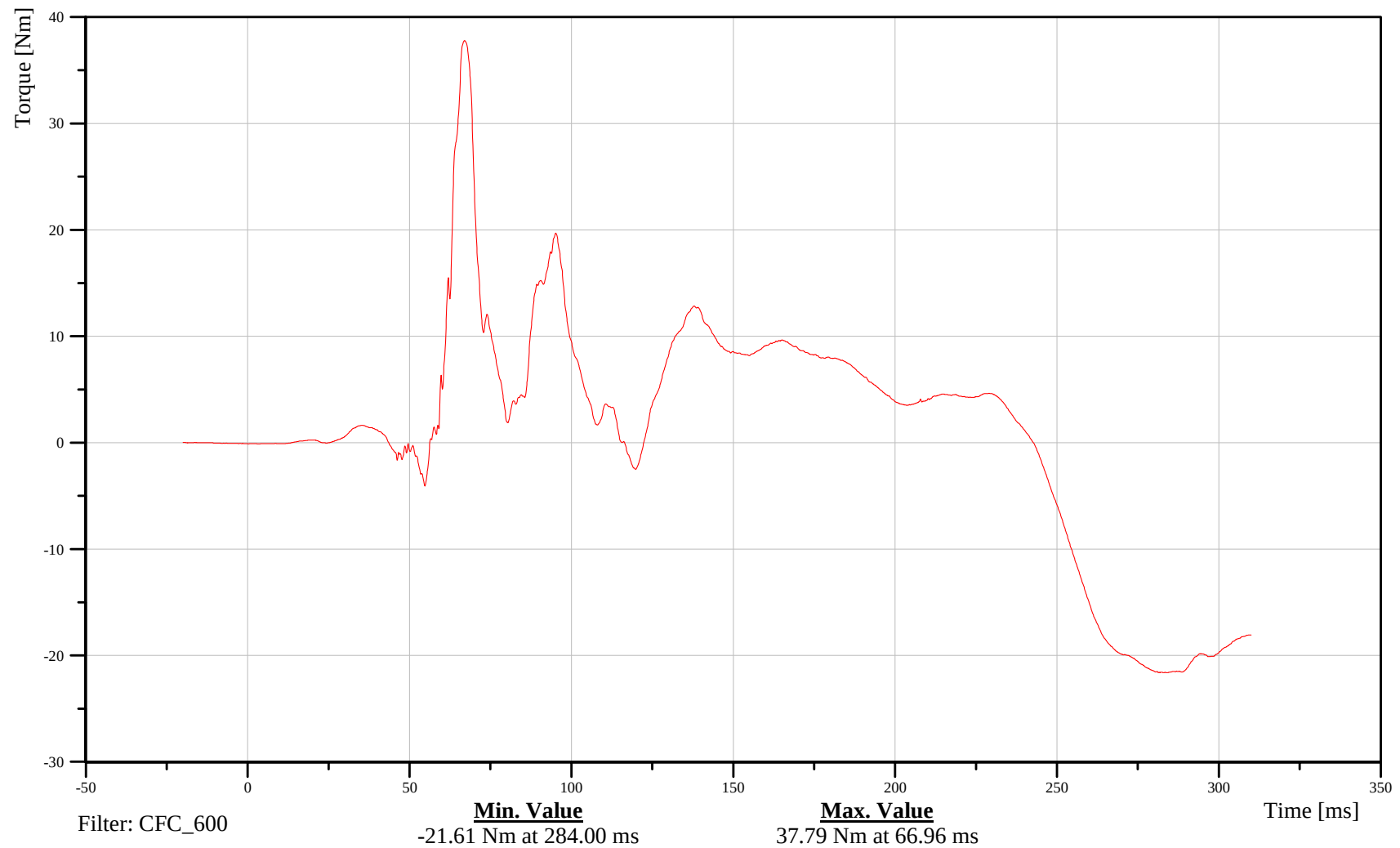
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FEMRRL00THMOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-304

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

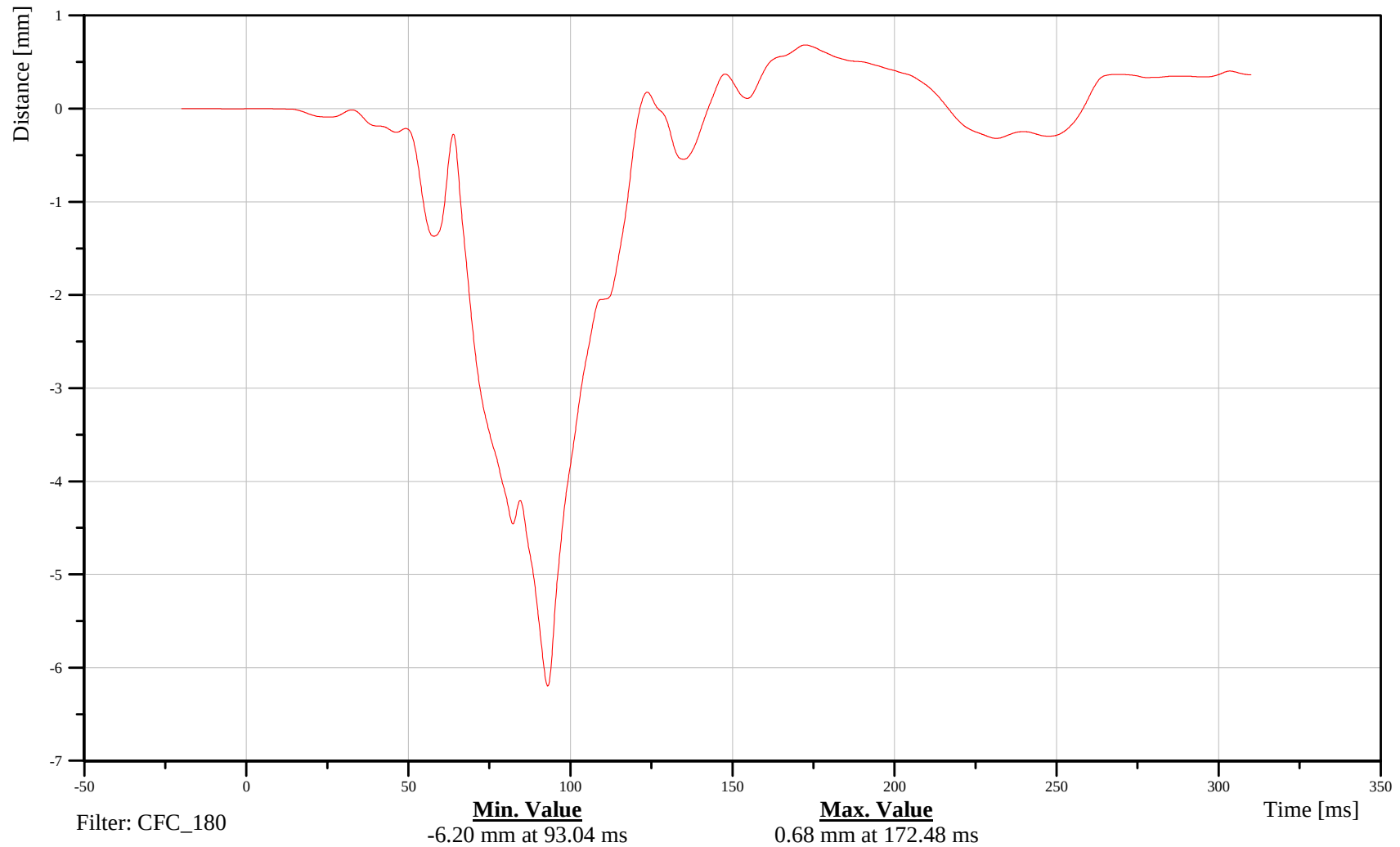
Target Vehicle Driver Left Knee X-Axis Displacement

Customer: VRTC

21KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-305

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

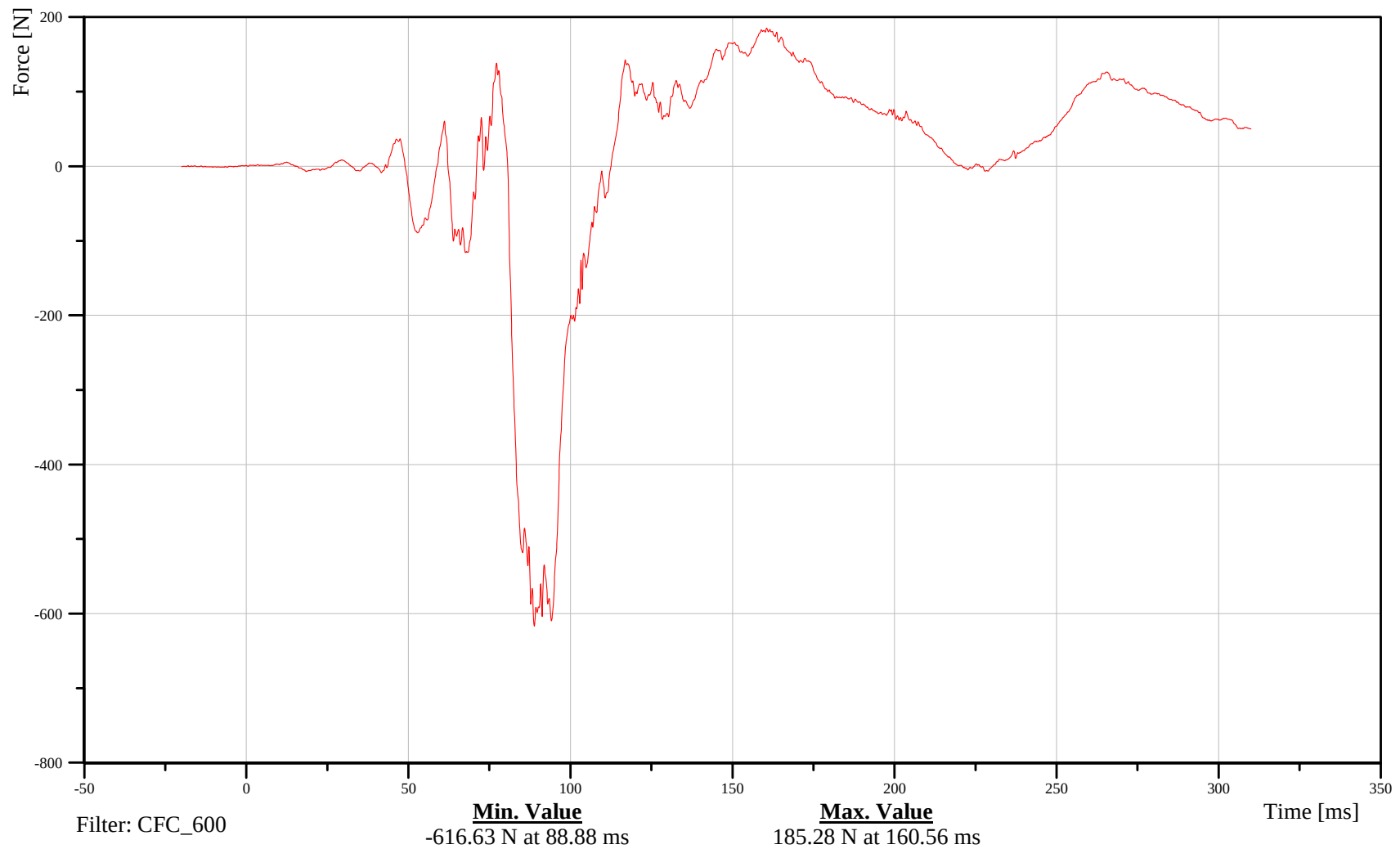
Target Vehicle Driver Left Upper Tibia X-Axis Force

Customer: VRTC

21TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-306

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

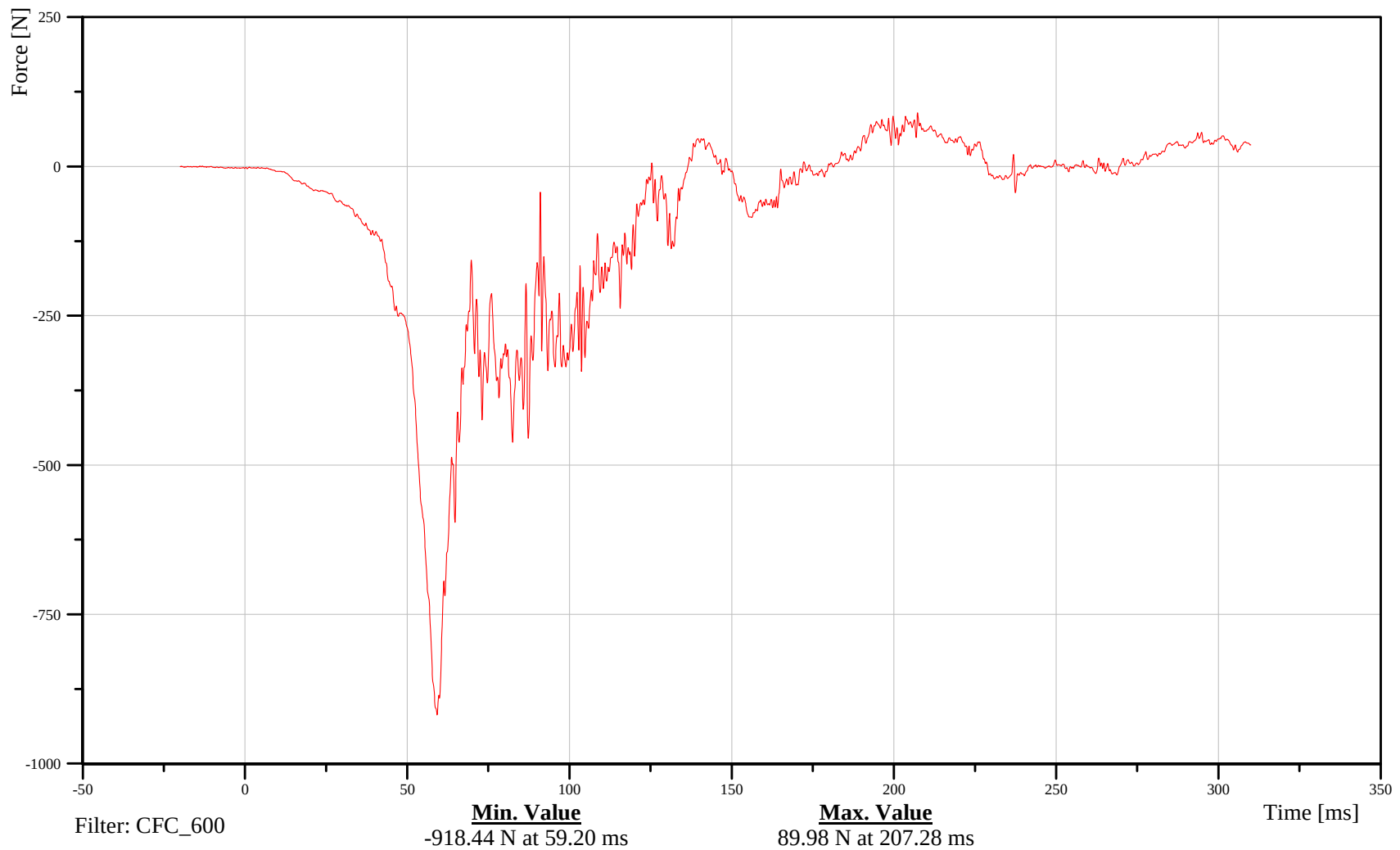
Target Vehicle Driver Left Upper Tibia Z-Axis Force

Customer: VRTC

21TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-307

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Upper Tibia Moment About X Axis

Date: 11/06/2009

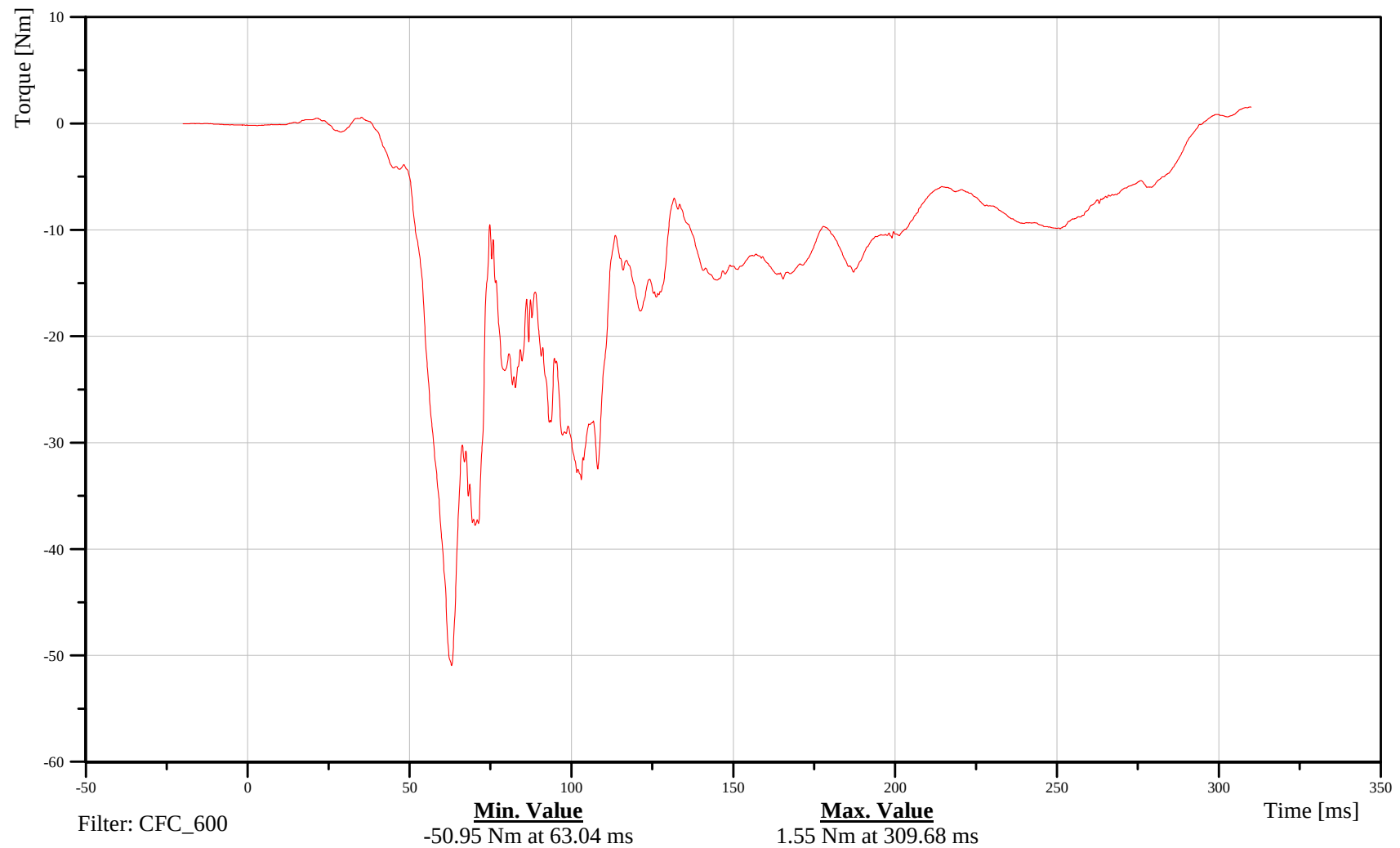
Time: 14:32

Customer: VRTC

21TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-308

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Upper Tibia Moment About Y Axis

Date: 11/06/2009

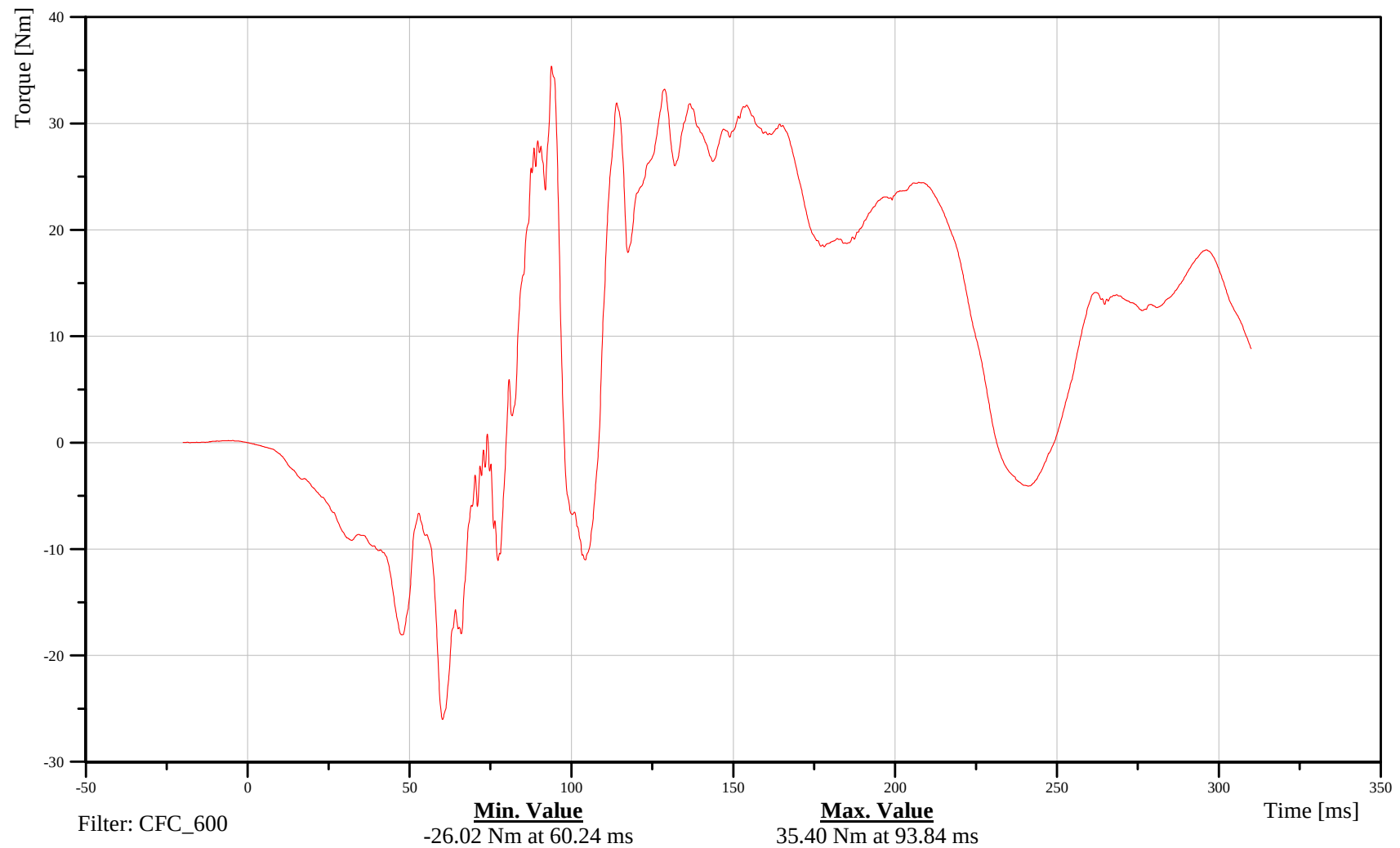
Time: 14:32

Customer: VRTC

21TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-309

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

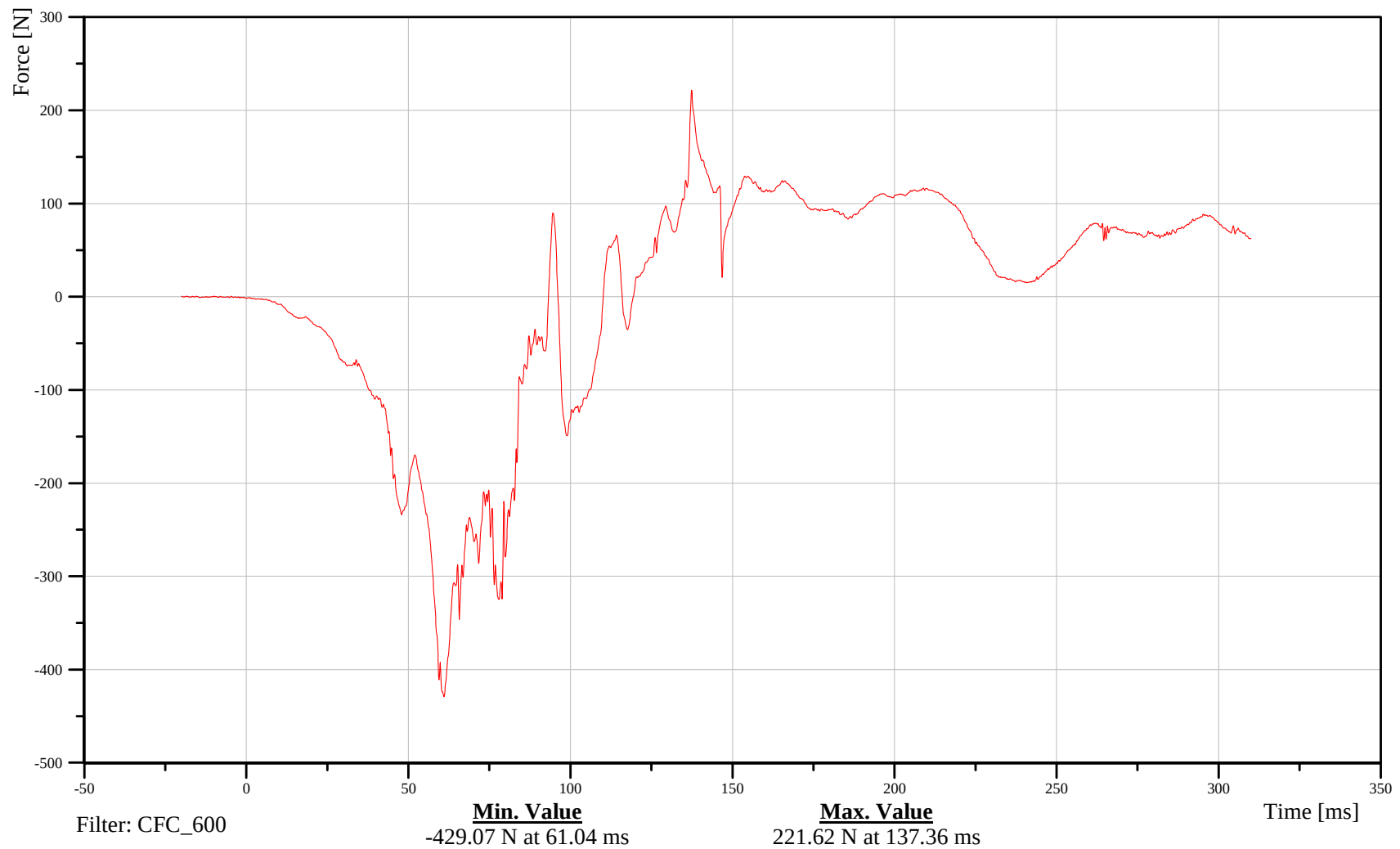
Target Vehicle Driver Left Lower Tibia X-Axis Force

Customer: VRTC

21TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-310

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Lower Tibia Y-Axis Force

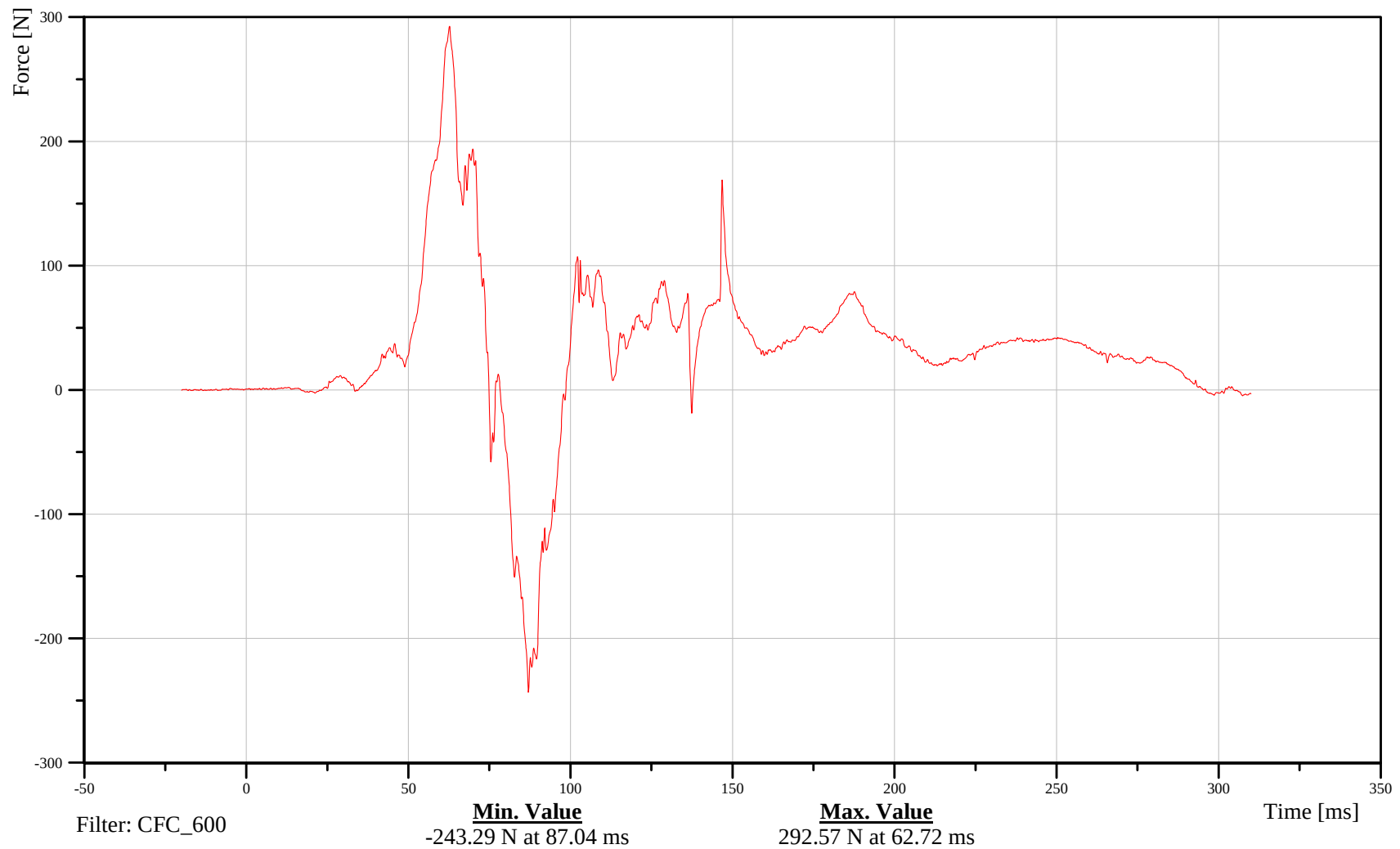
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-311

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

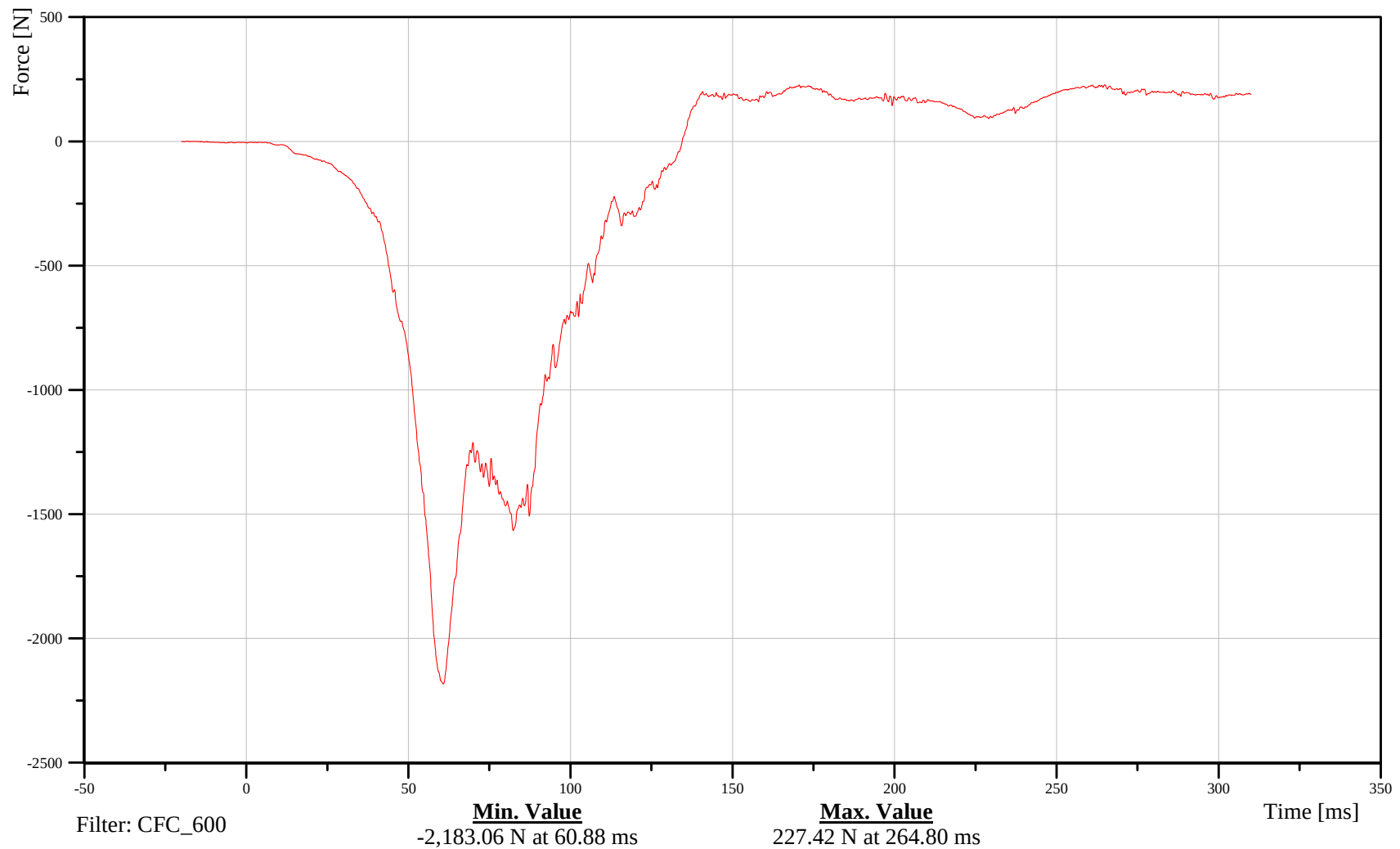
Target Vehicle Driver Left Lower Tibia Z-Axis Force

Customer: VRTC

21TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-312

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Lower Tibia Moment About X Axis

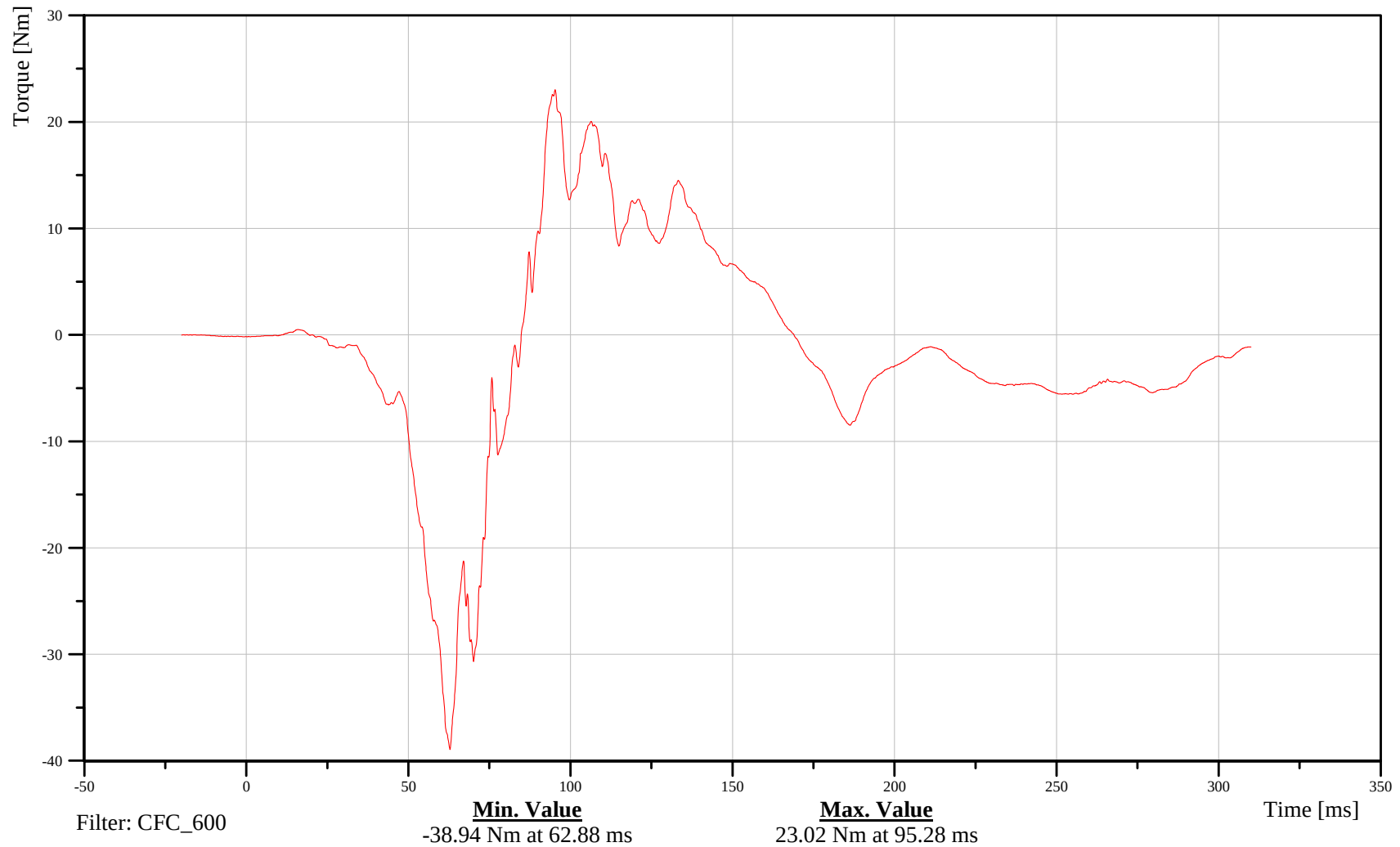
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-313

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Lower Tibia Moment About Y Axis

Date: 11/06/2009

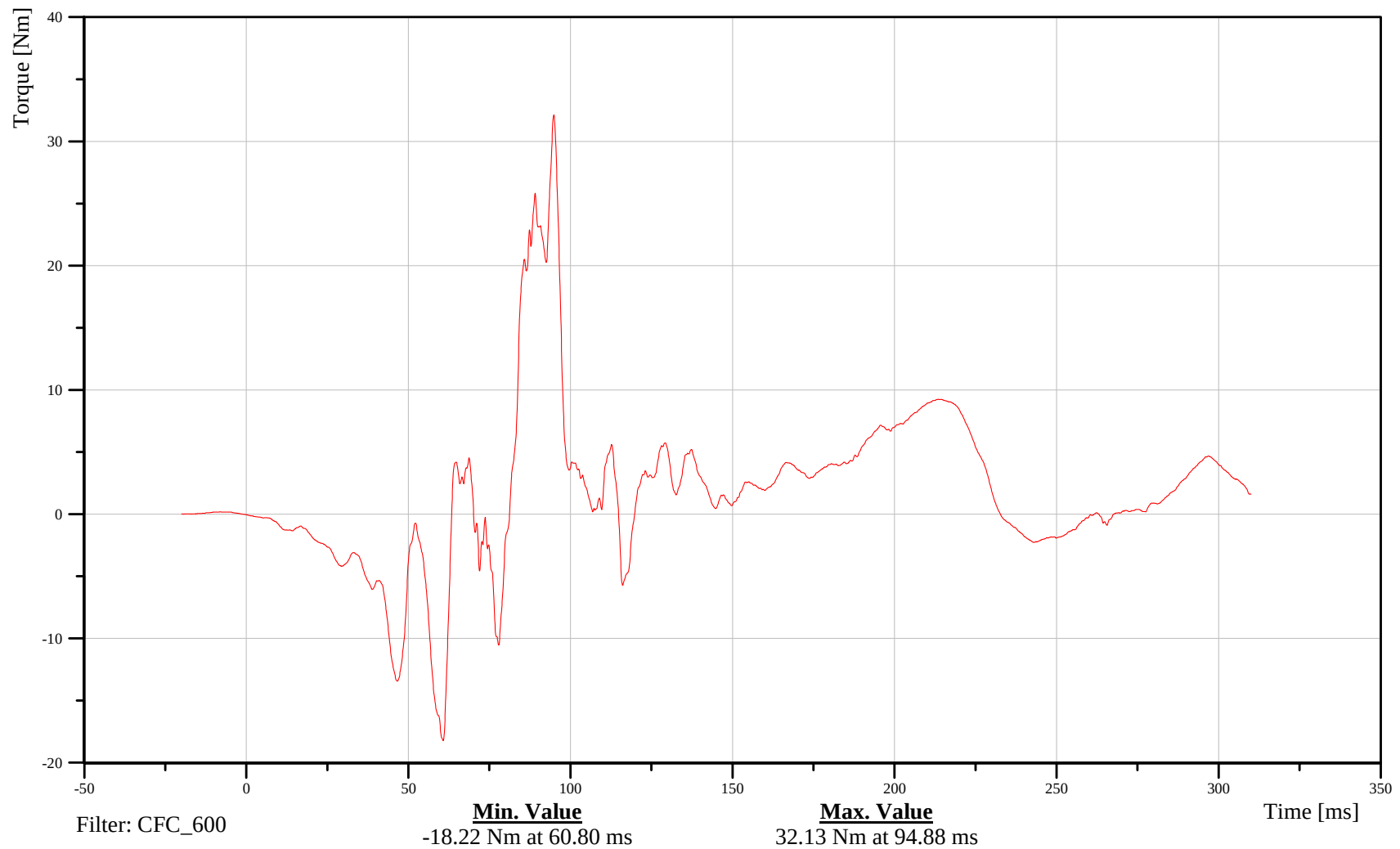
Time: 14:32

Customer: VRTC

21TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-314

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Foot Angular X-Axis Displacement

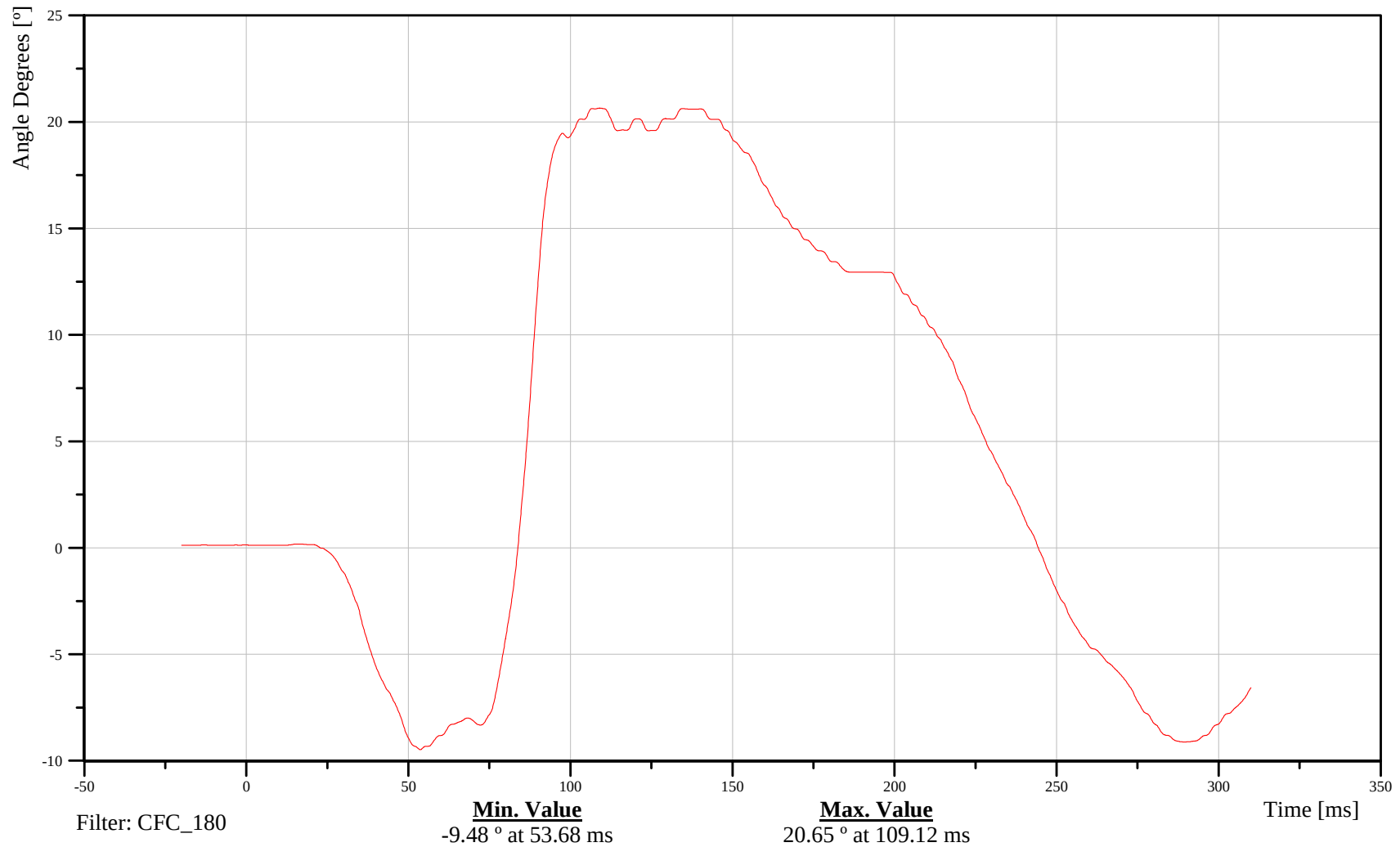
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-315

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Foot Angular Y-Axis Displacement

Date: 11/06/2009

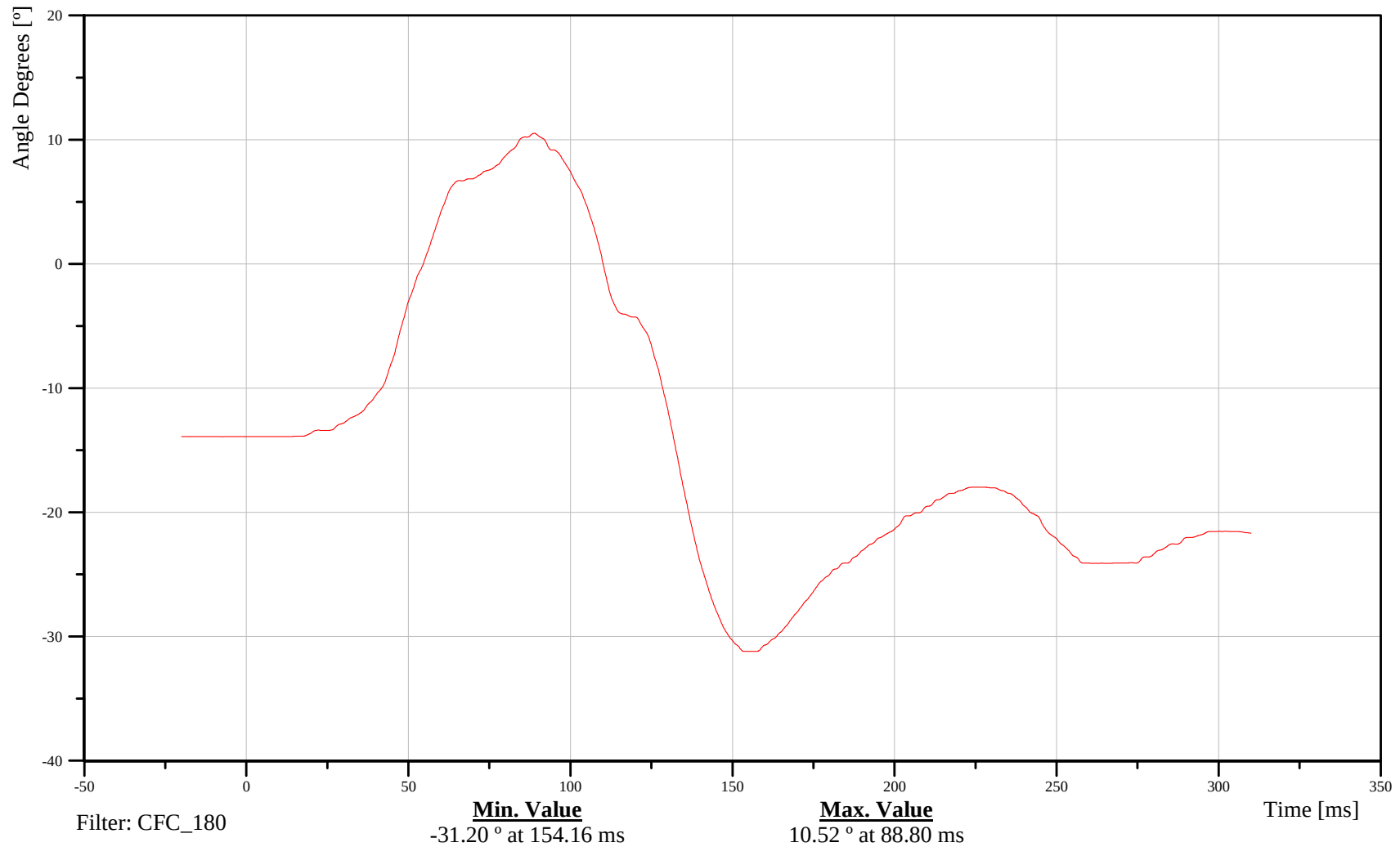
Time: 14:32

Customer: VRTC

21FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-316

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

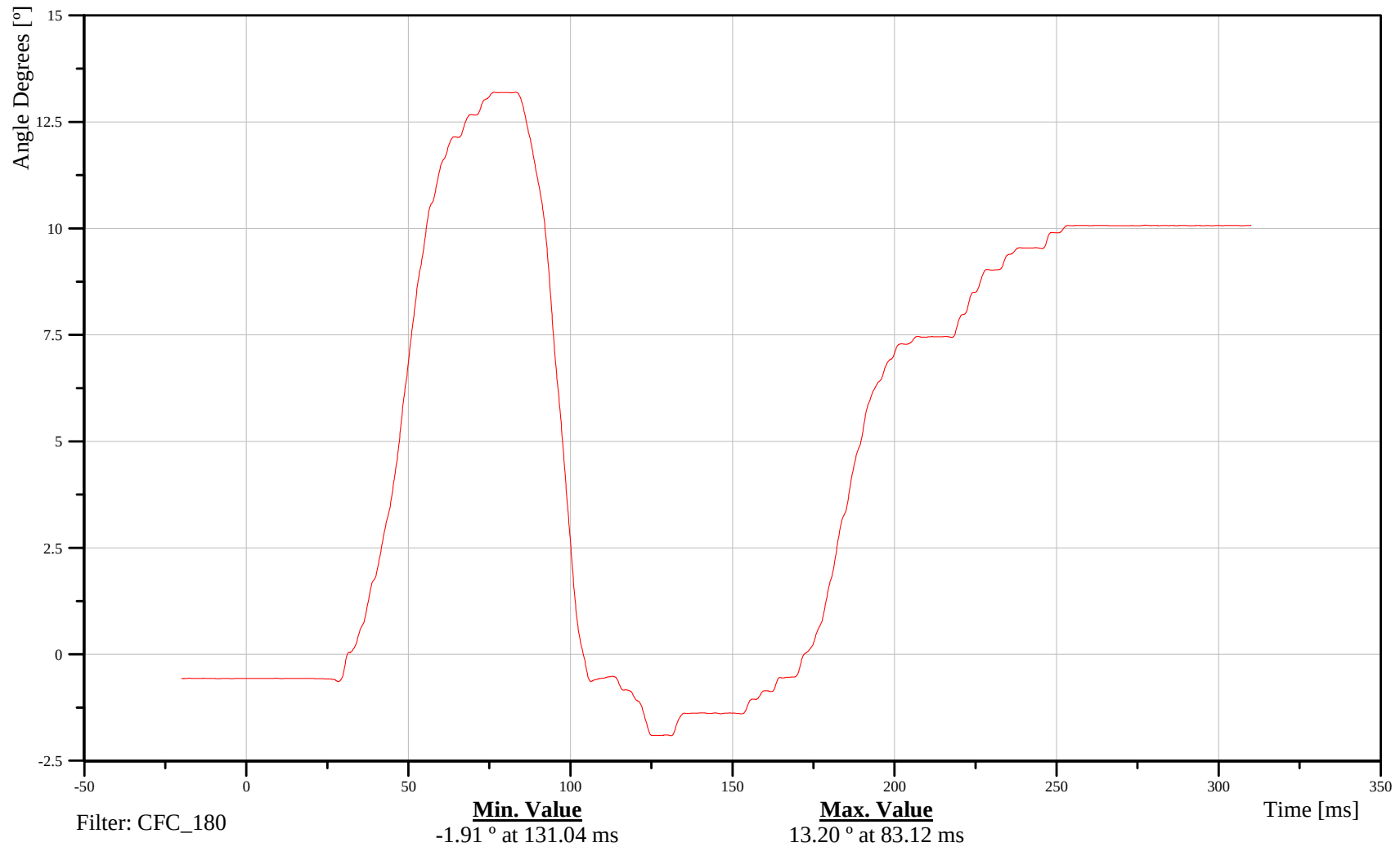
Target Vehicle Driver Left Foot Angular Z-Axis Displacement

Customer: VRTC

21FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-317

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

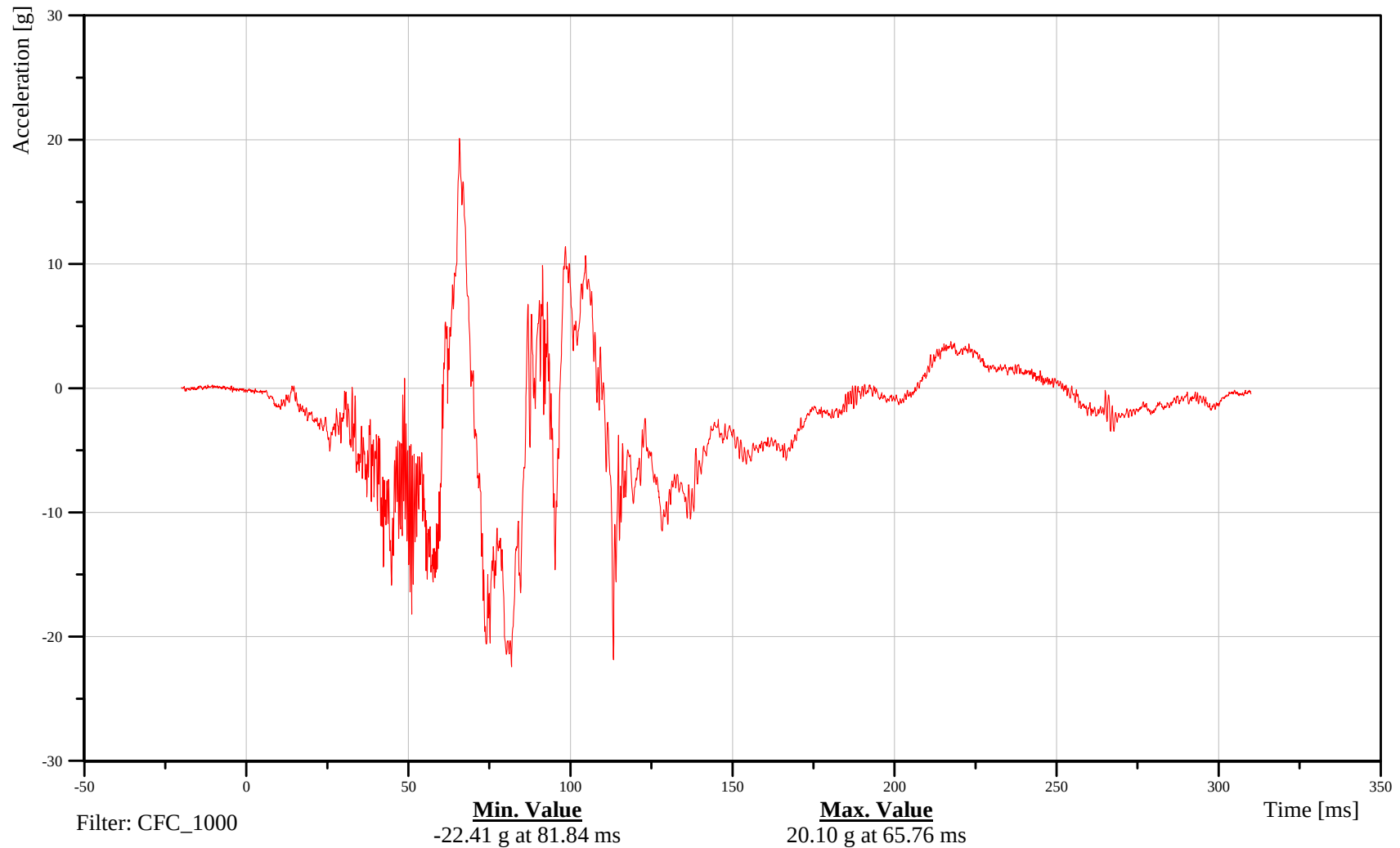
Target Vehicle Driver Left Foot X-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-318

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Foot Y-Axis Acceleration

Date: 11/06/2009

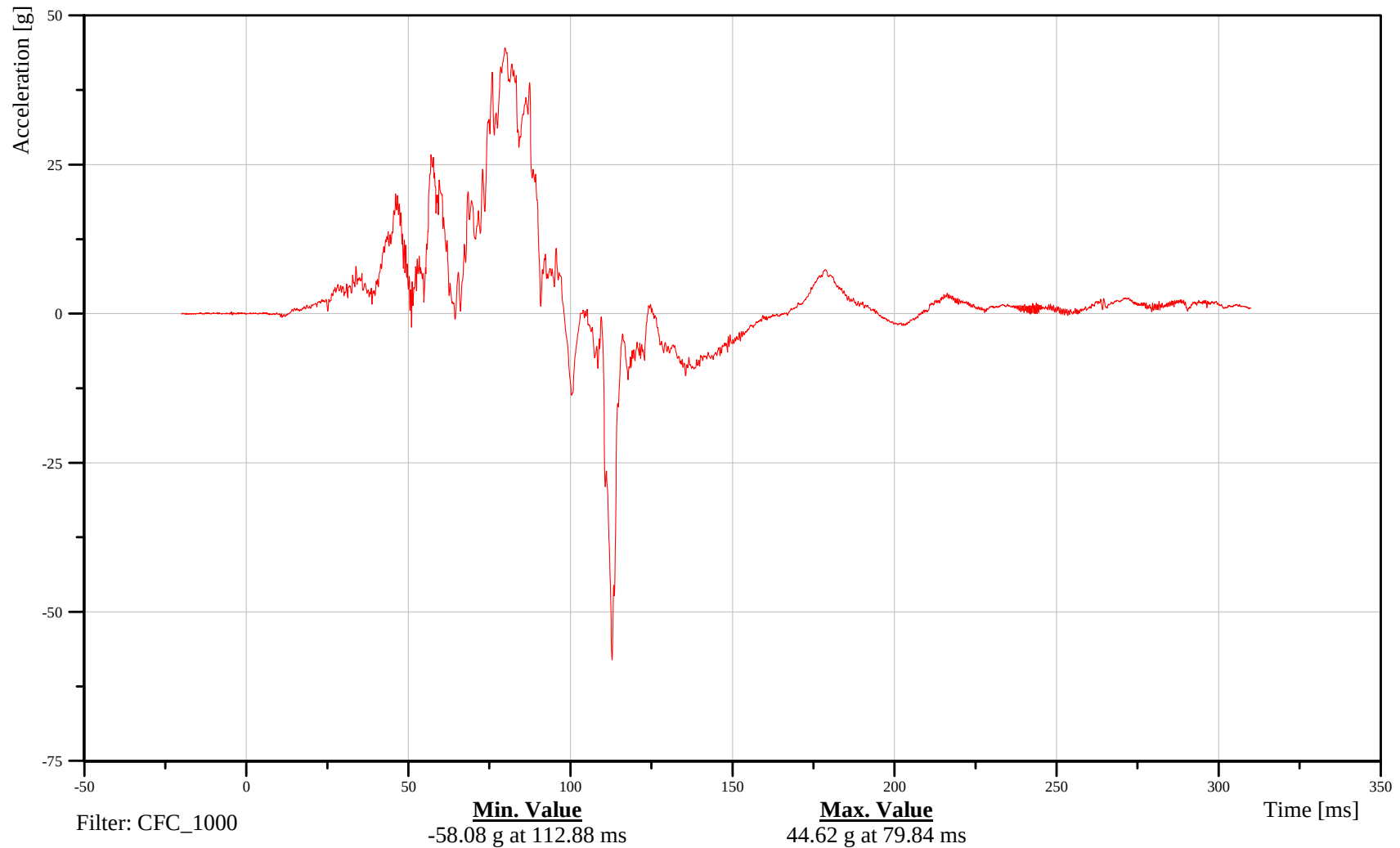
Time: 14:32

Customer: VRTC

21FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-319

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Left Foot Z-Axis Acceleration

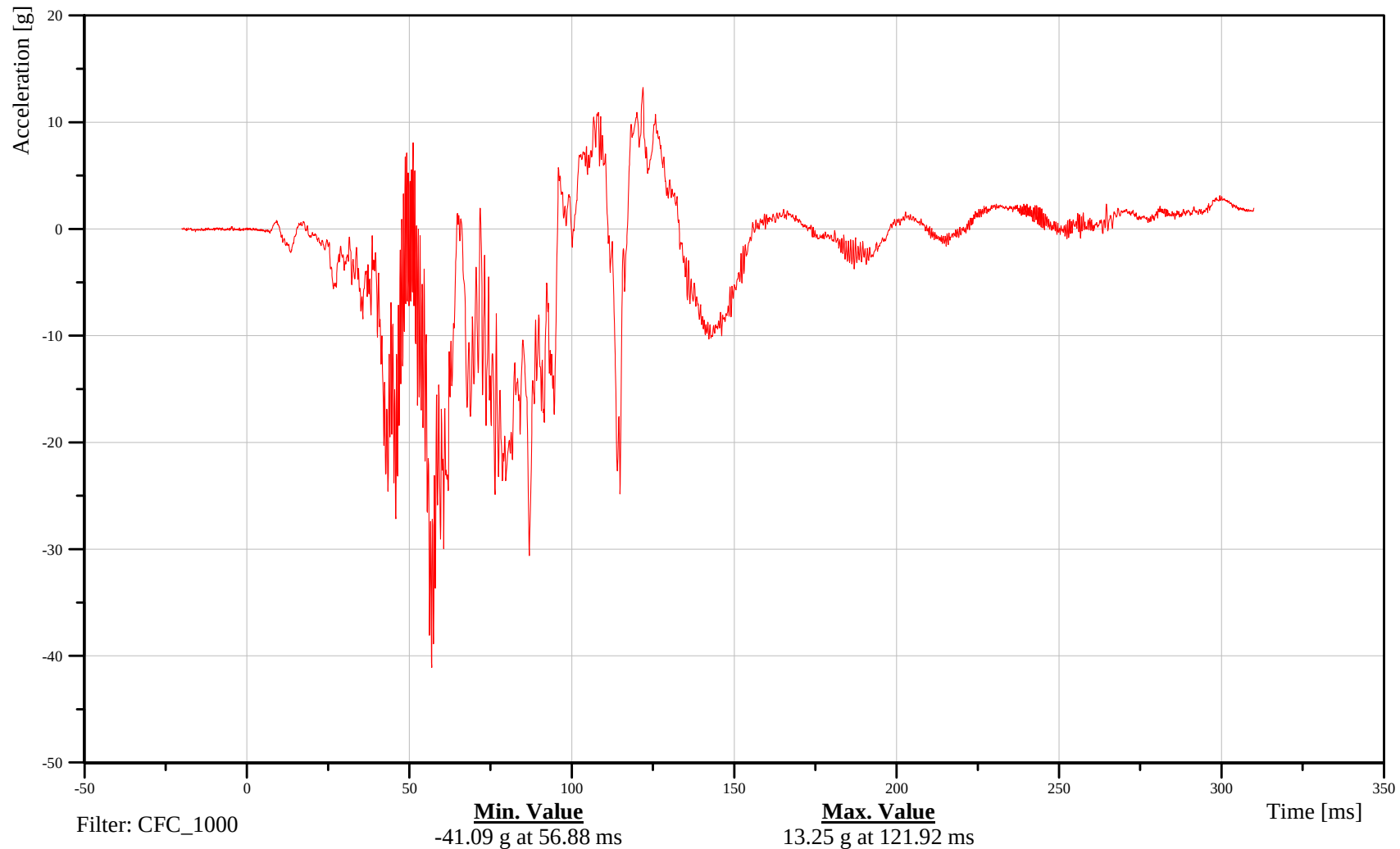
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-320

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

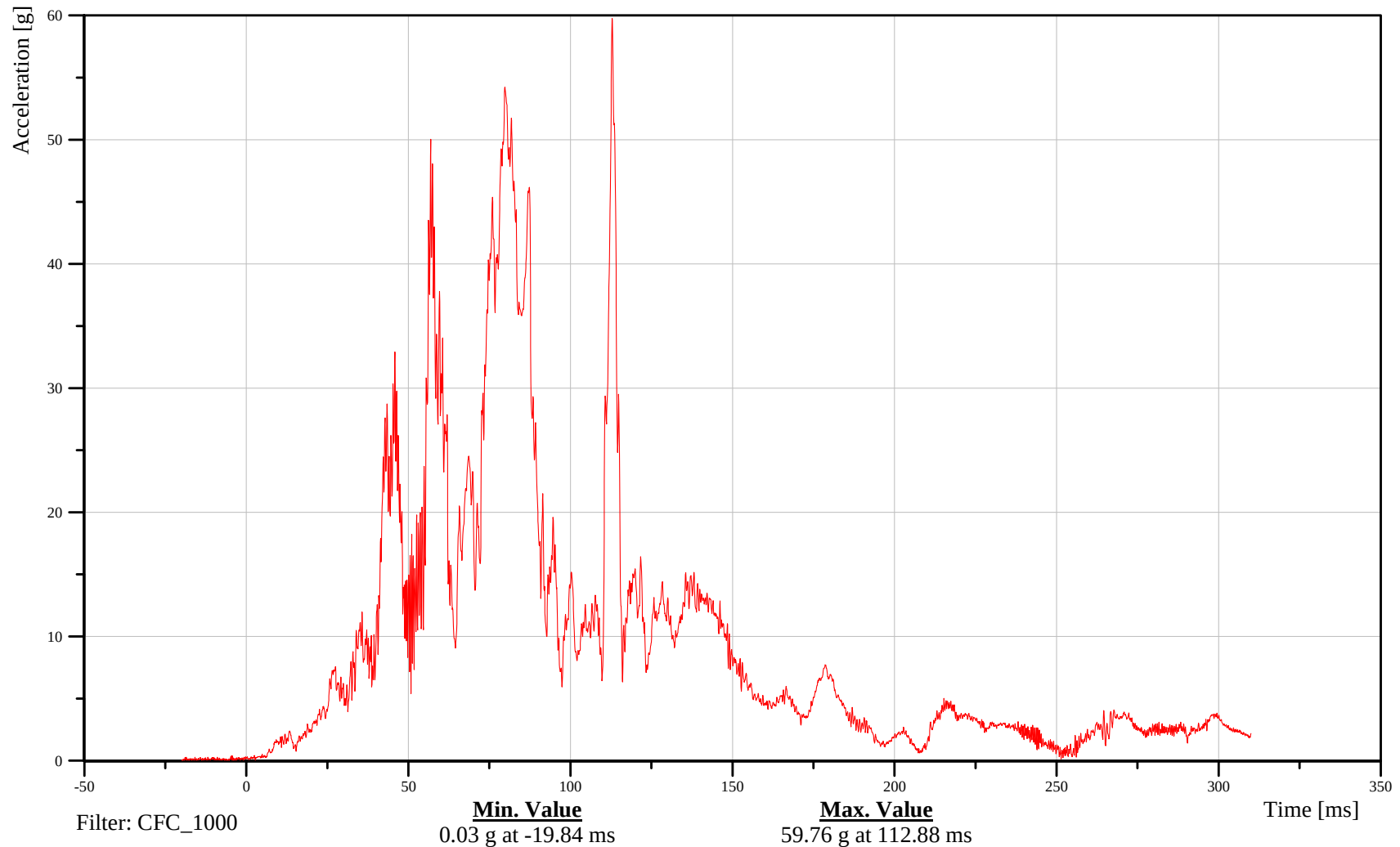
Target Vehicle Driver Left Foot Resultant Acceleration

Customer: VRTC

21FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-321

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

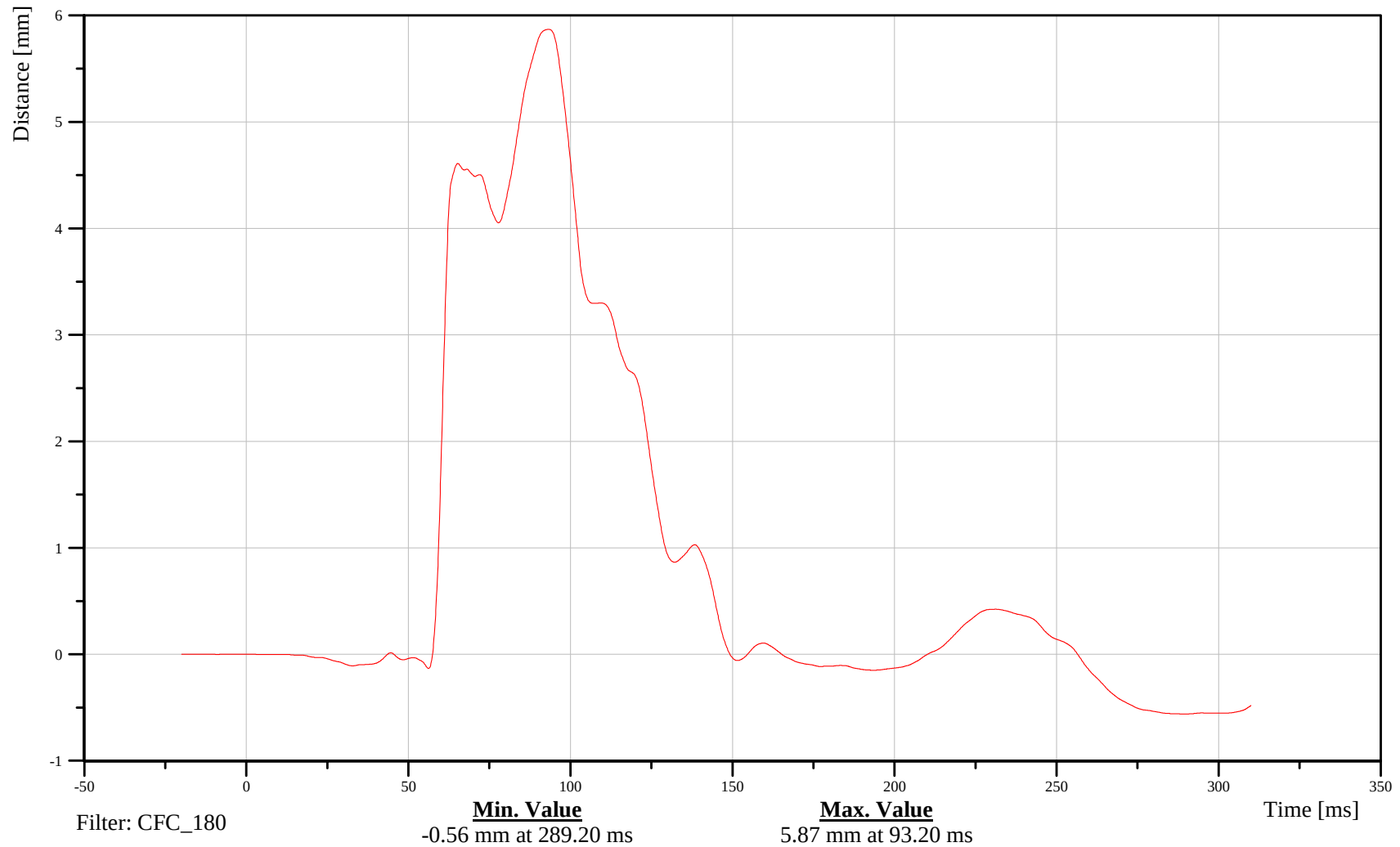
Target Vehicle Driver Right Knee X-Axis Displacement

Customer: VRTC

21KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-322

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

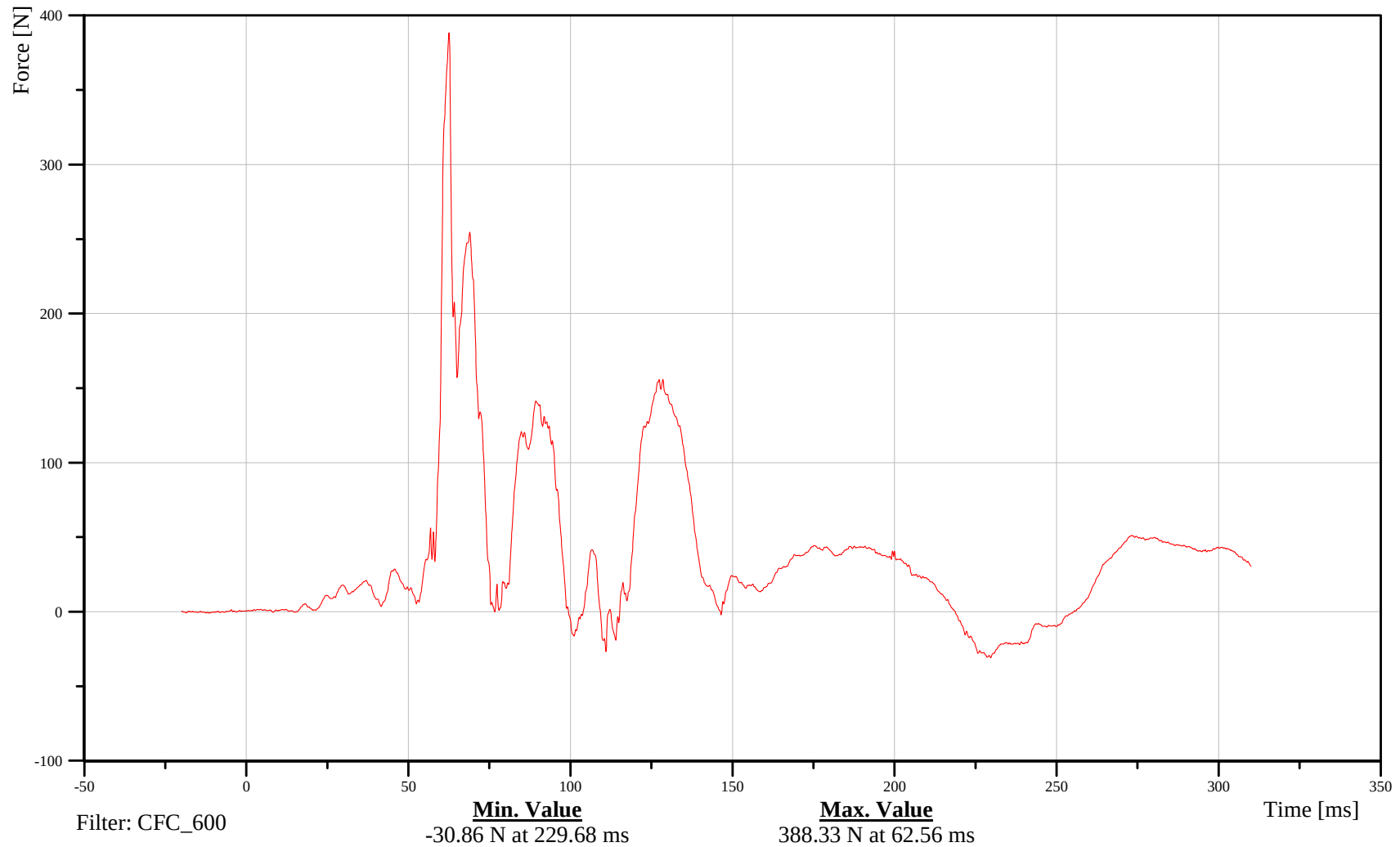
Target Vehicle Driver Right Upper Tibia X-Axis Force

Customer: VRTC

21TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-323

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

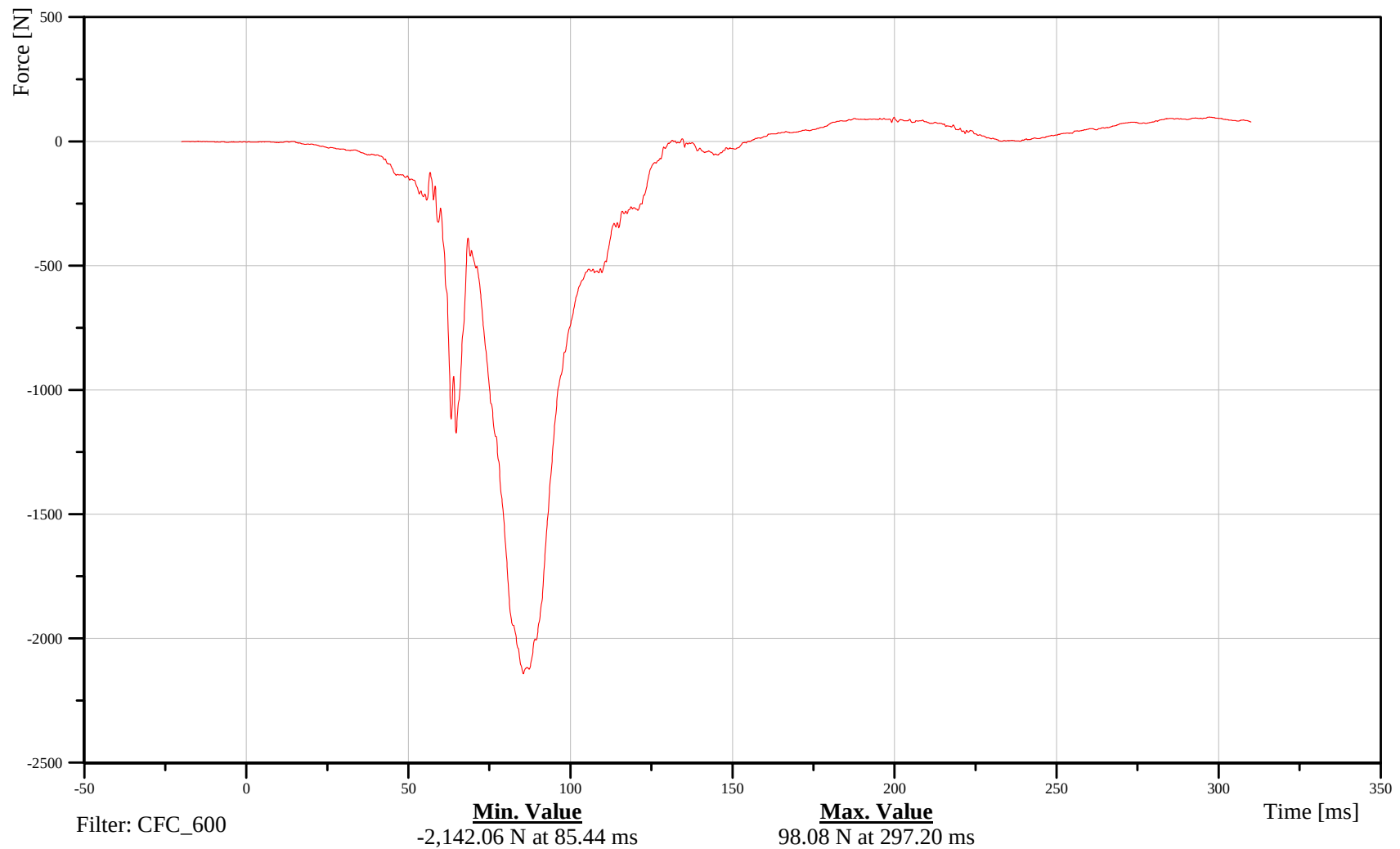
Target Vehicle Driver Right Upper Tibia Z-Axis Force

Customer: VRTC

21TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-324

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Upper Tibia Moment About X Axis

Date: 11/06/2009

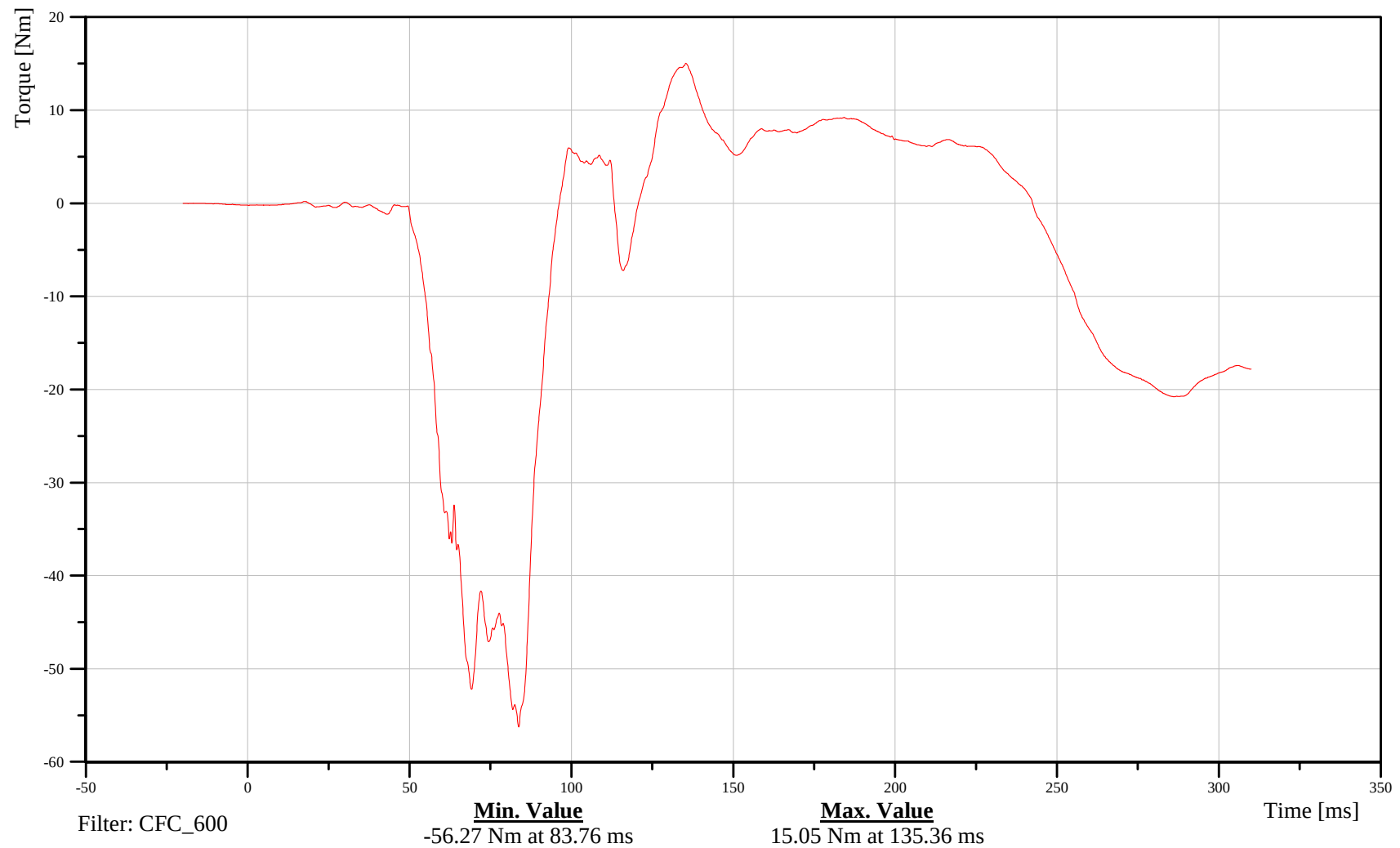
Time: 14:32

Customer: VRTC

21TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-325

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Upper Tibia Moment About Y Axis

Date: 11/06/2009

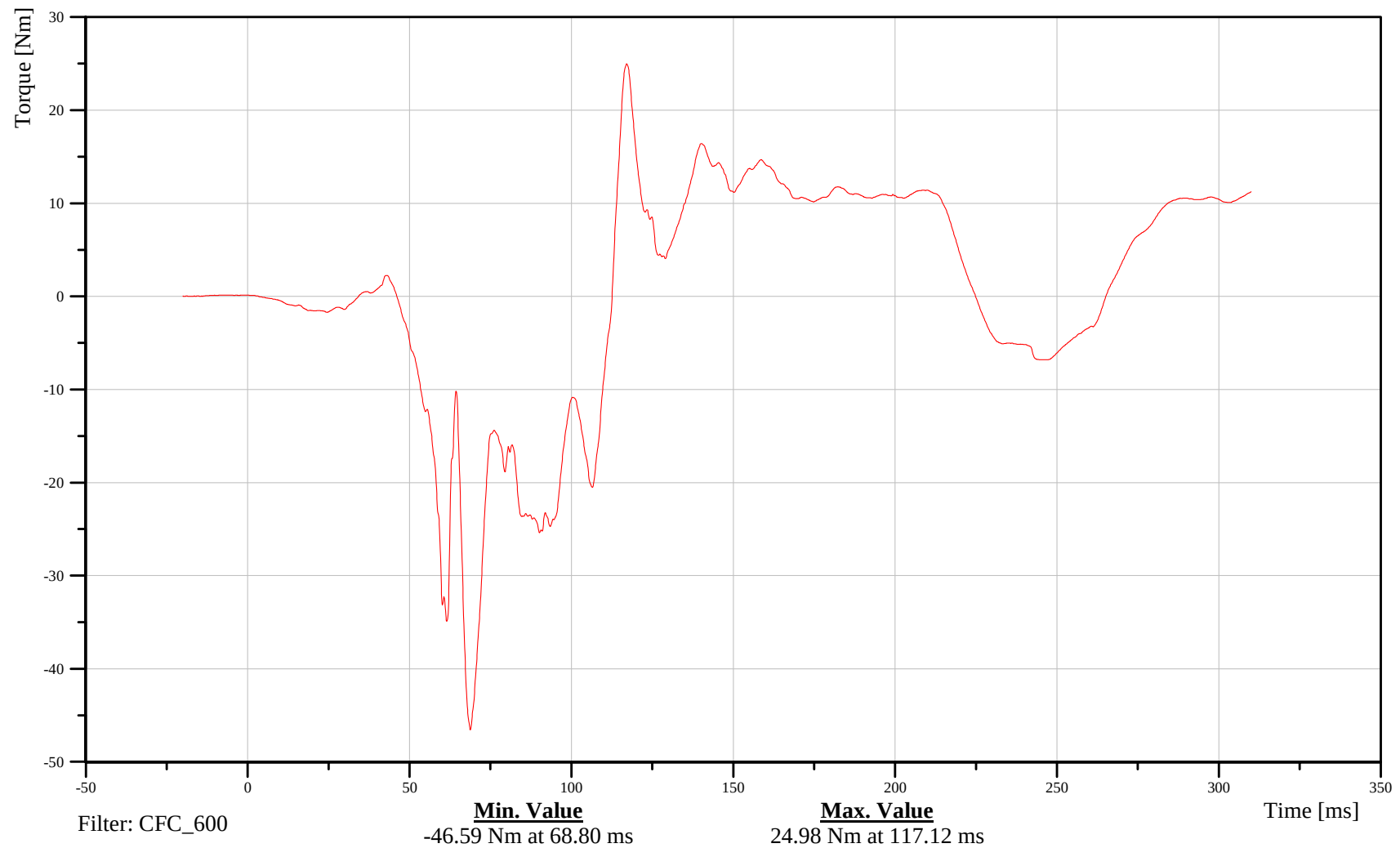
Time: 14:32

Customer: VRTC

21TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-326

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Lower Tibia X-Axis Force

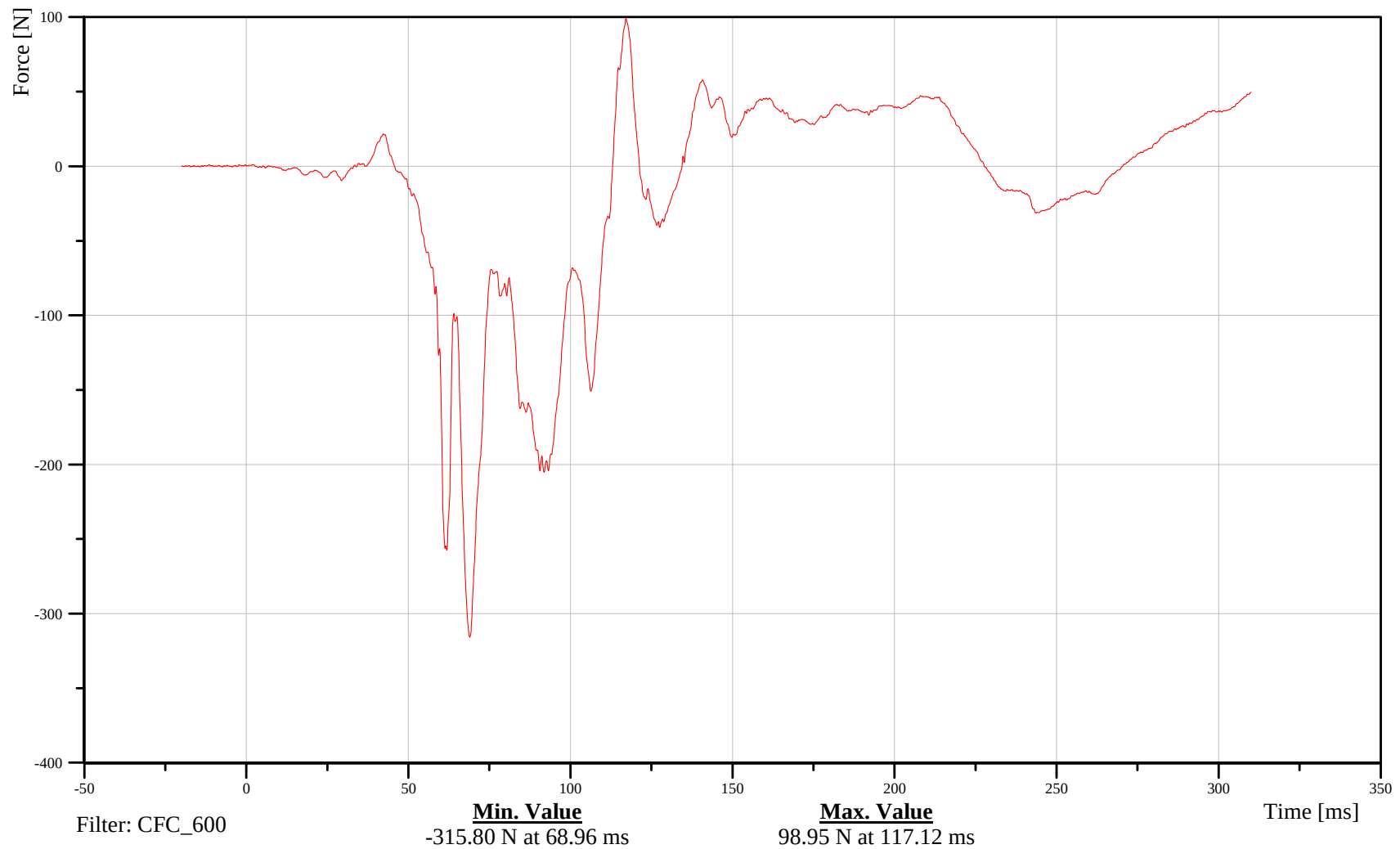
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TIBIRLLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-327

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

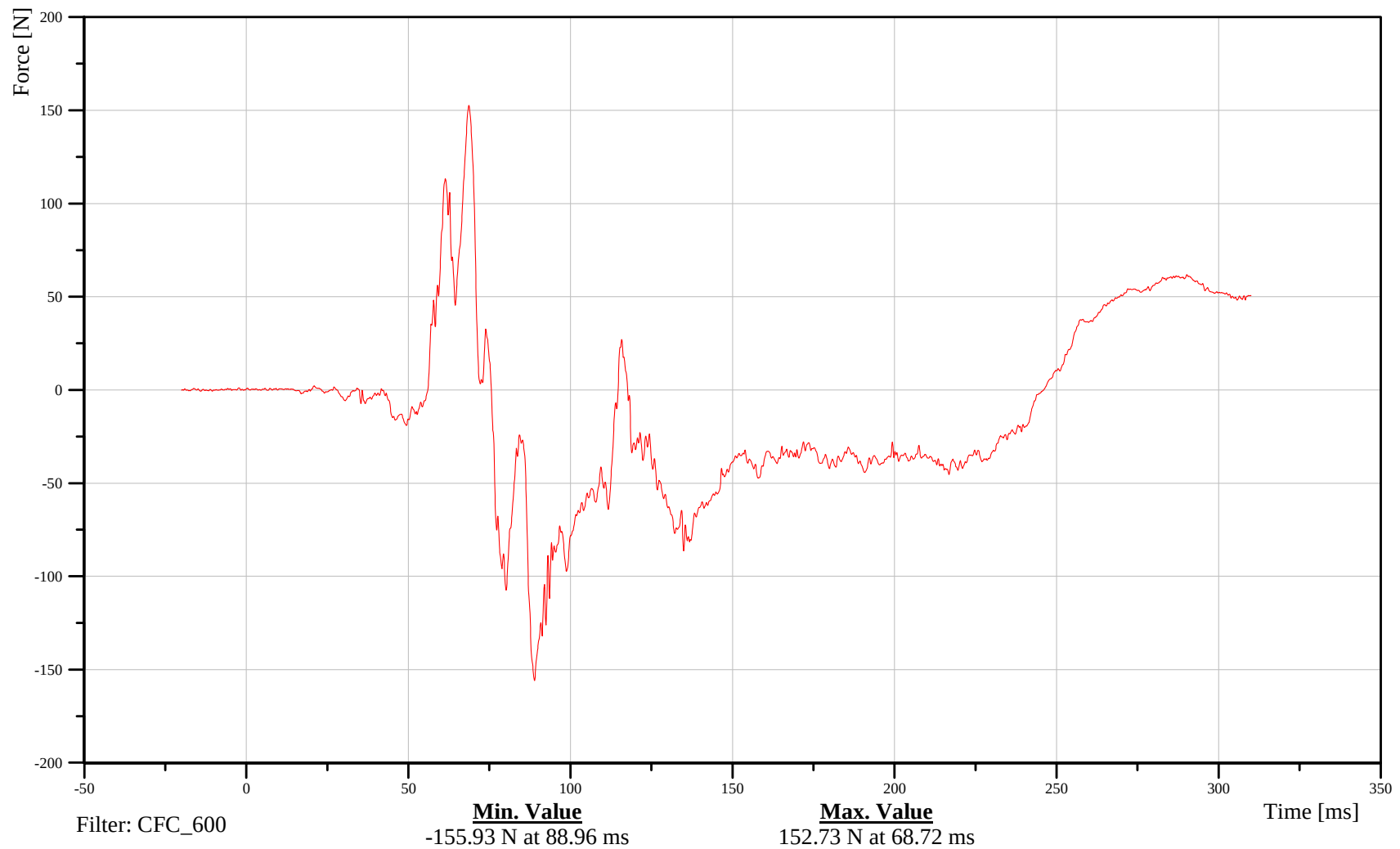
Target Vehicle Driver Right Lower Tibia Y-Axis Force

Customer: VRTC

21TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-328

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Lower Tibia Z-Axis Force

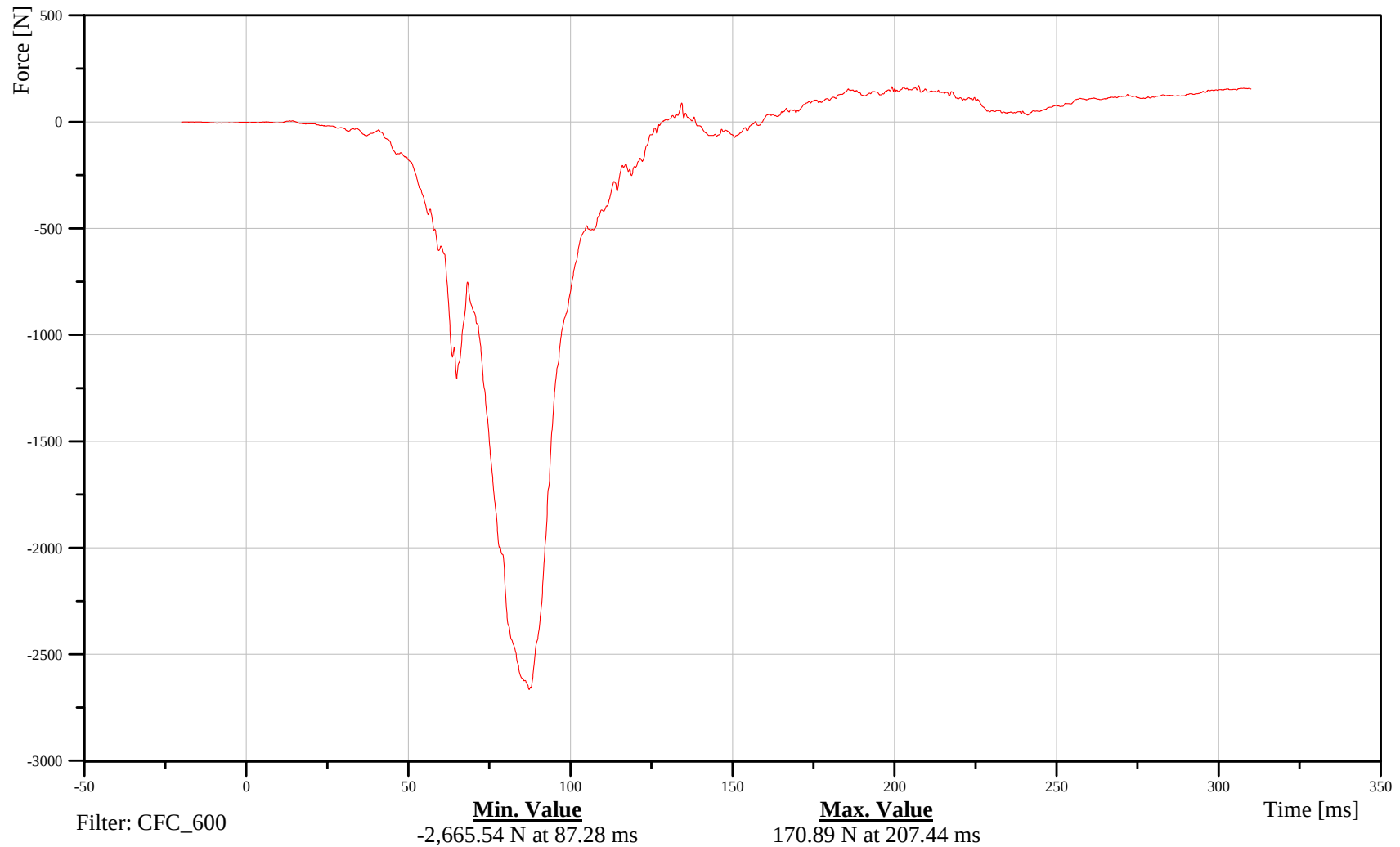
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-329

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Lower Tibia Moment About X Axis

Date: 11/06/2009

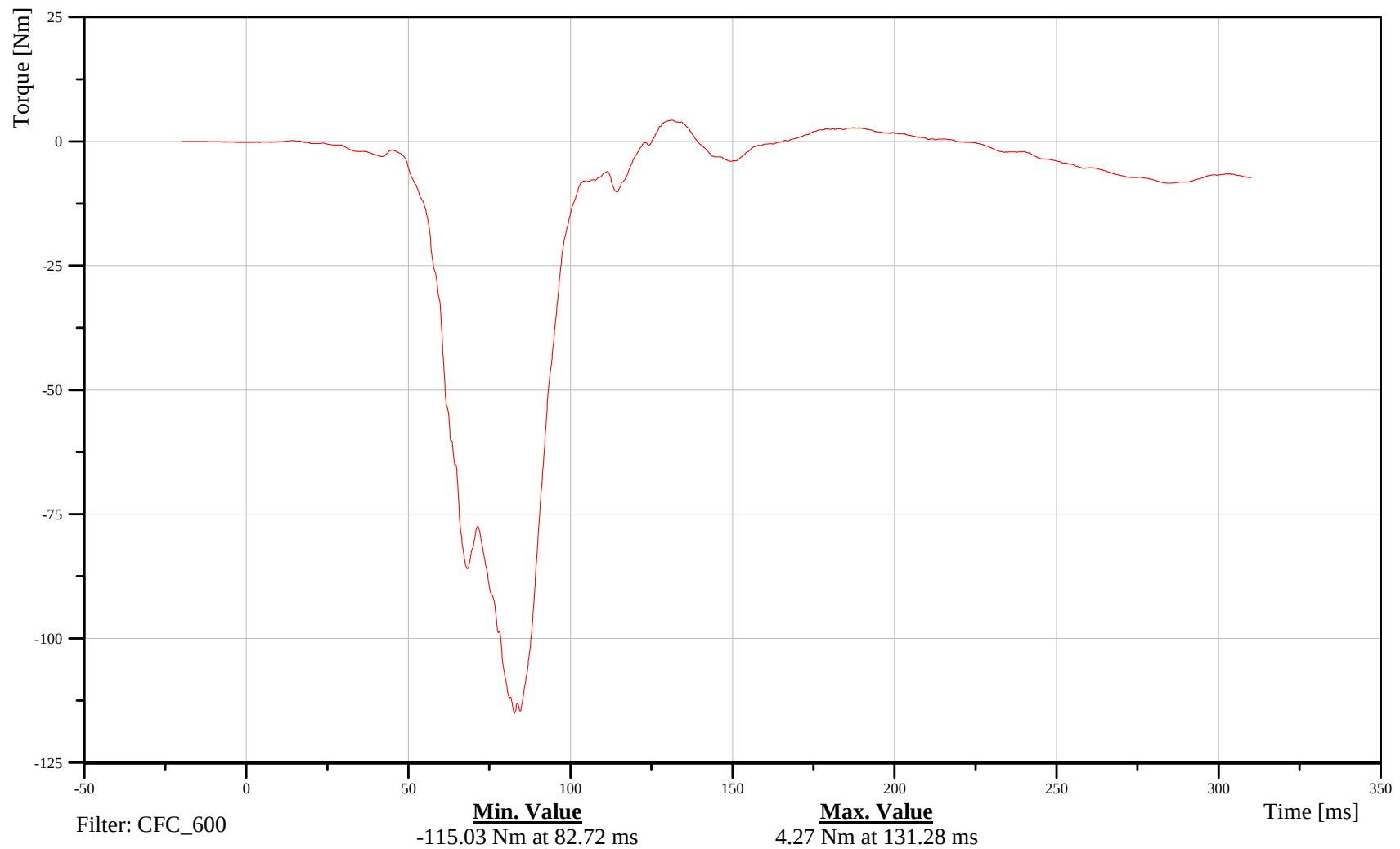
Time: 14:32

Customer: VRTC

21TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-330

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Lower Tibia Moment About Y Axis

Date: 11/06/2009

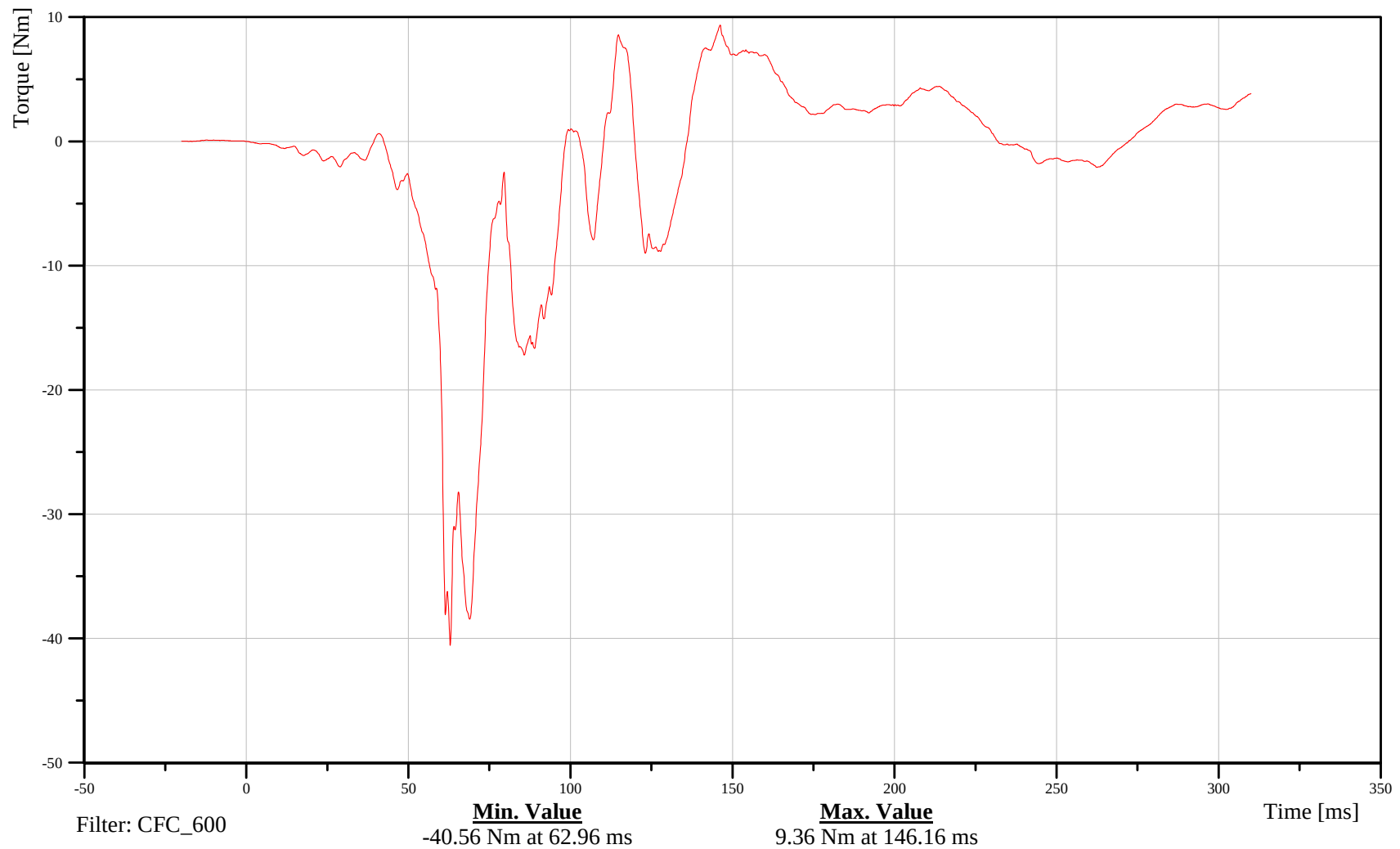
Time: 14:32

Customer: VRTC

21TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 091106



B-331

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Right Foot Angular X-Axis Displacement

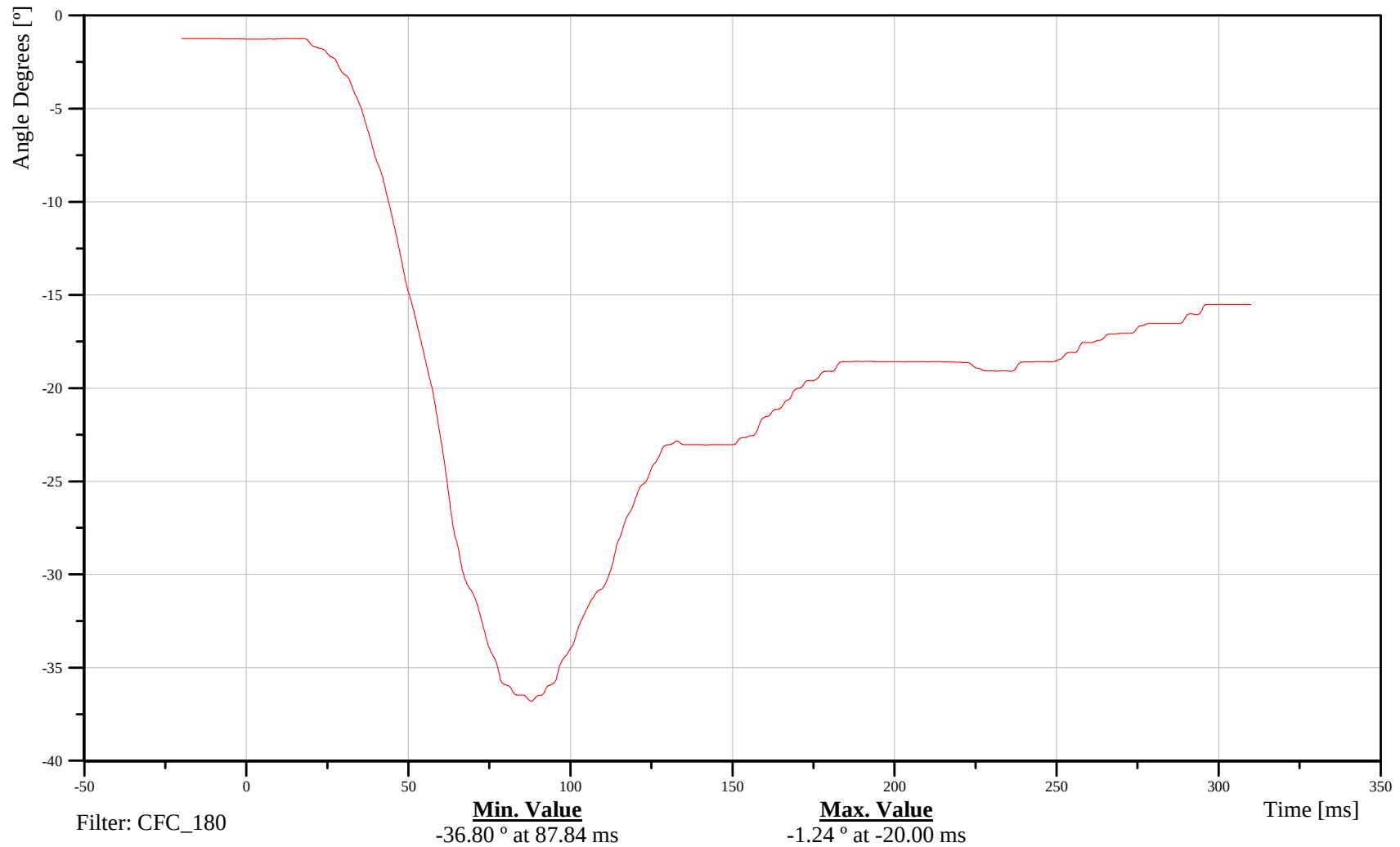
Date: 11/06/2009
Time: 14:32

Customer: VRTC

21FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-332

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

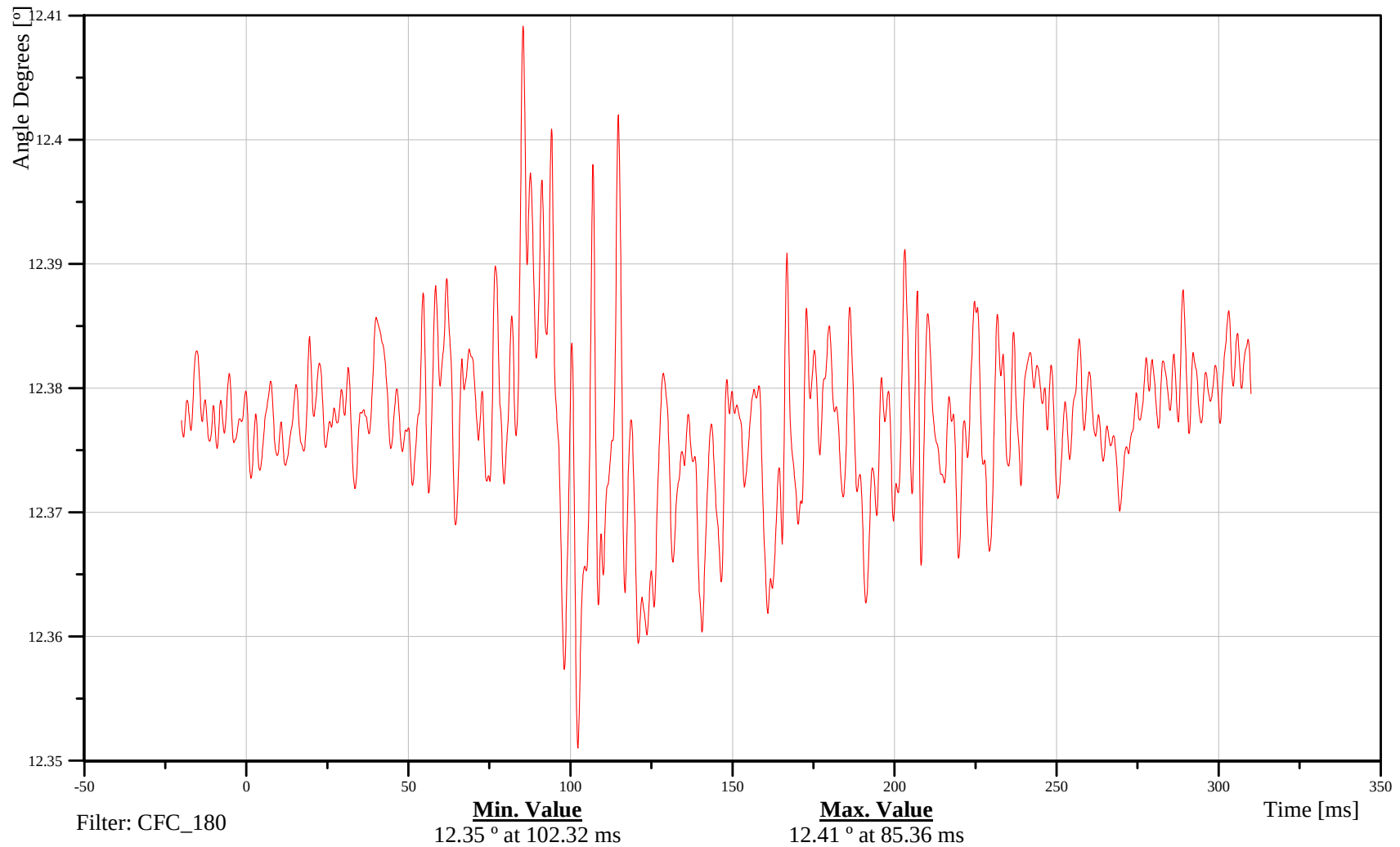
Target Vehicle Driver Right Foot Angular Y-Axis Displacement

Customer: VRTC

21FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-333

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

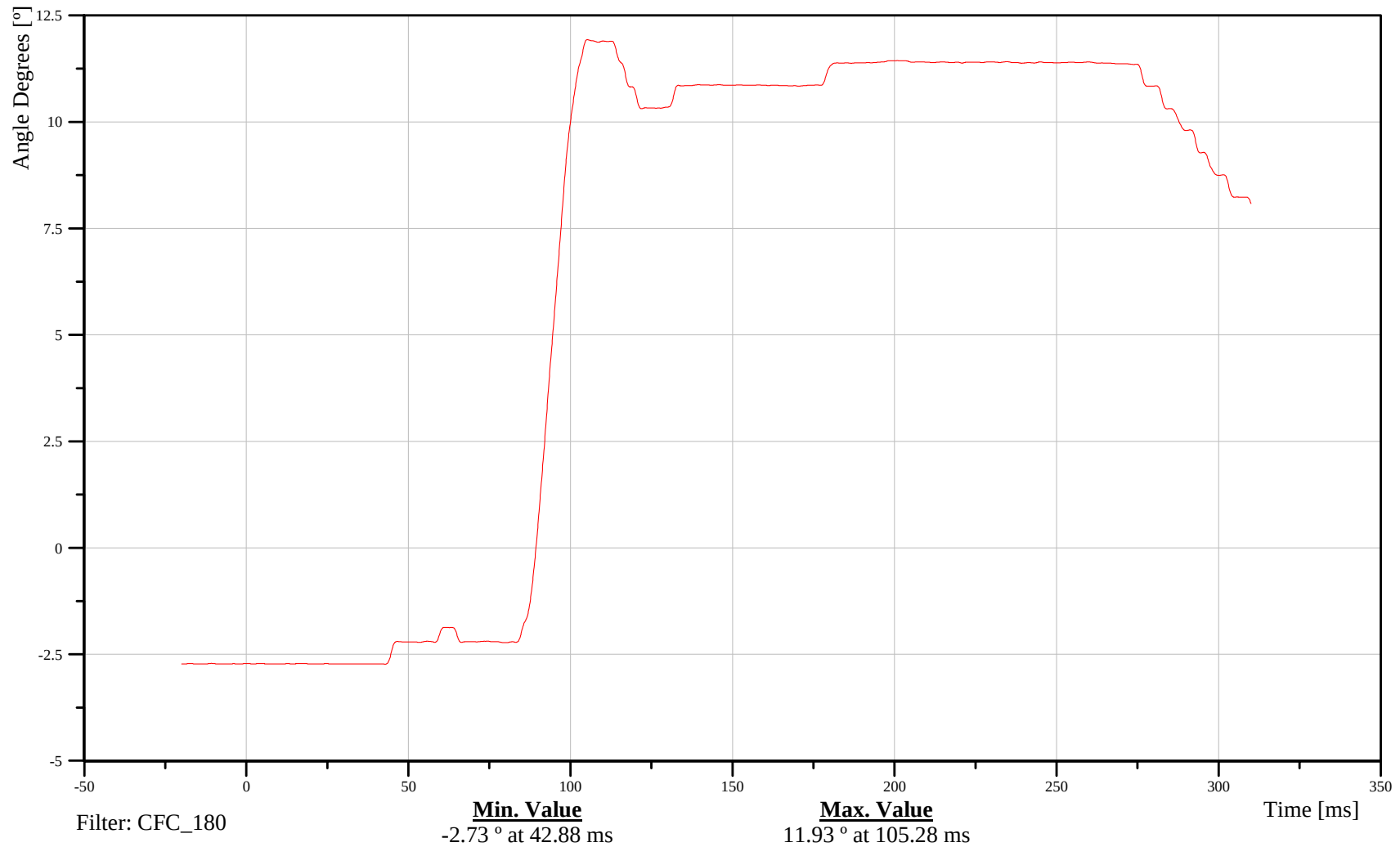
Target Vehicle Driver Right Foot Angular Z-Axis Displacement

Customer: VRTC

21FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 091106



B-334

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

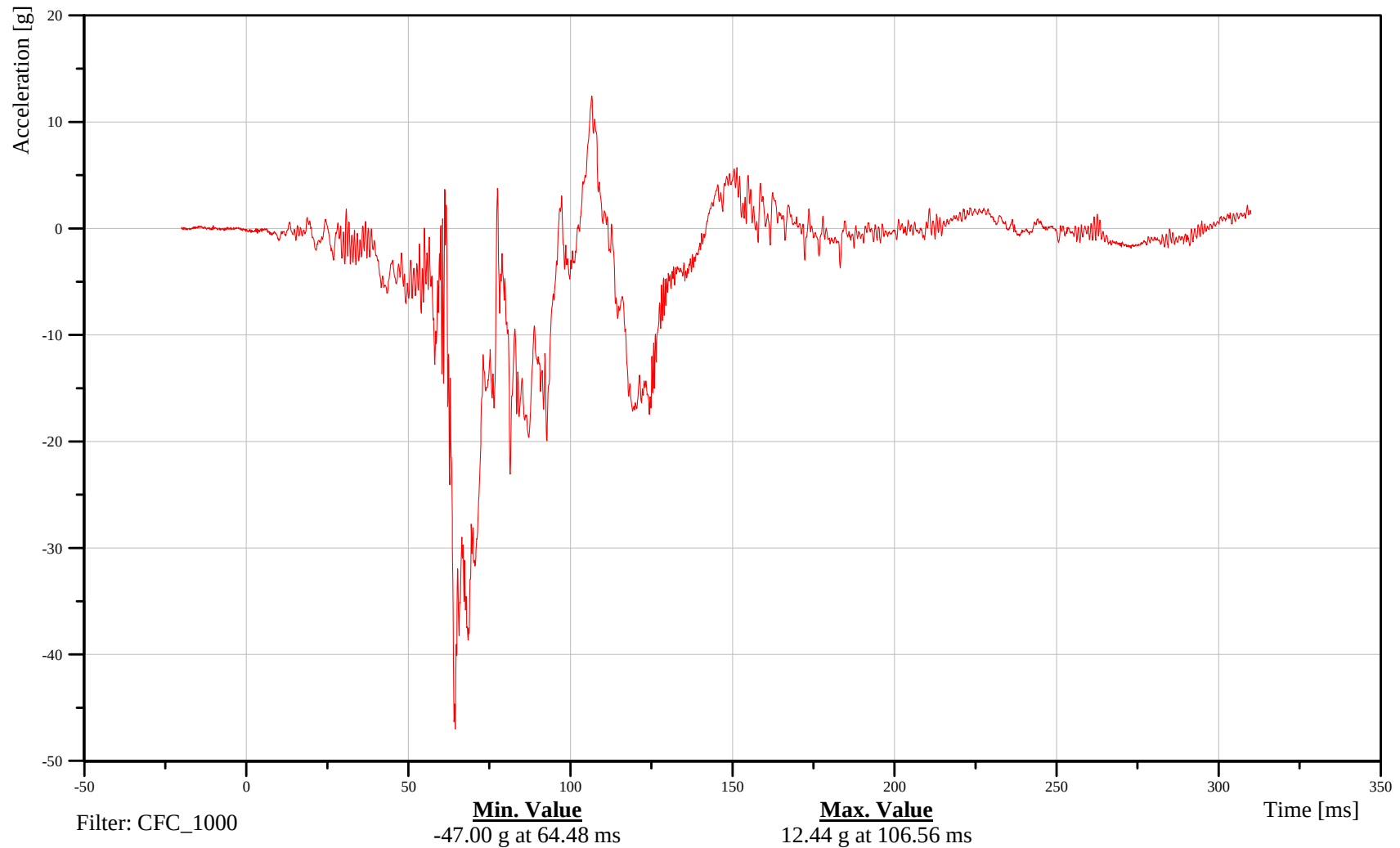
Target Vehicle Driver Right Foot X-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-335

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

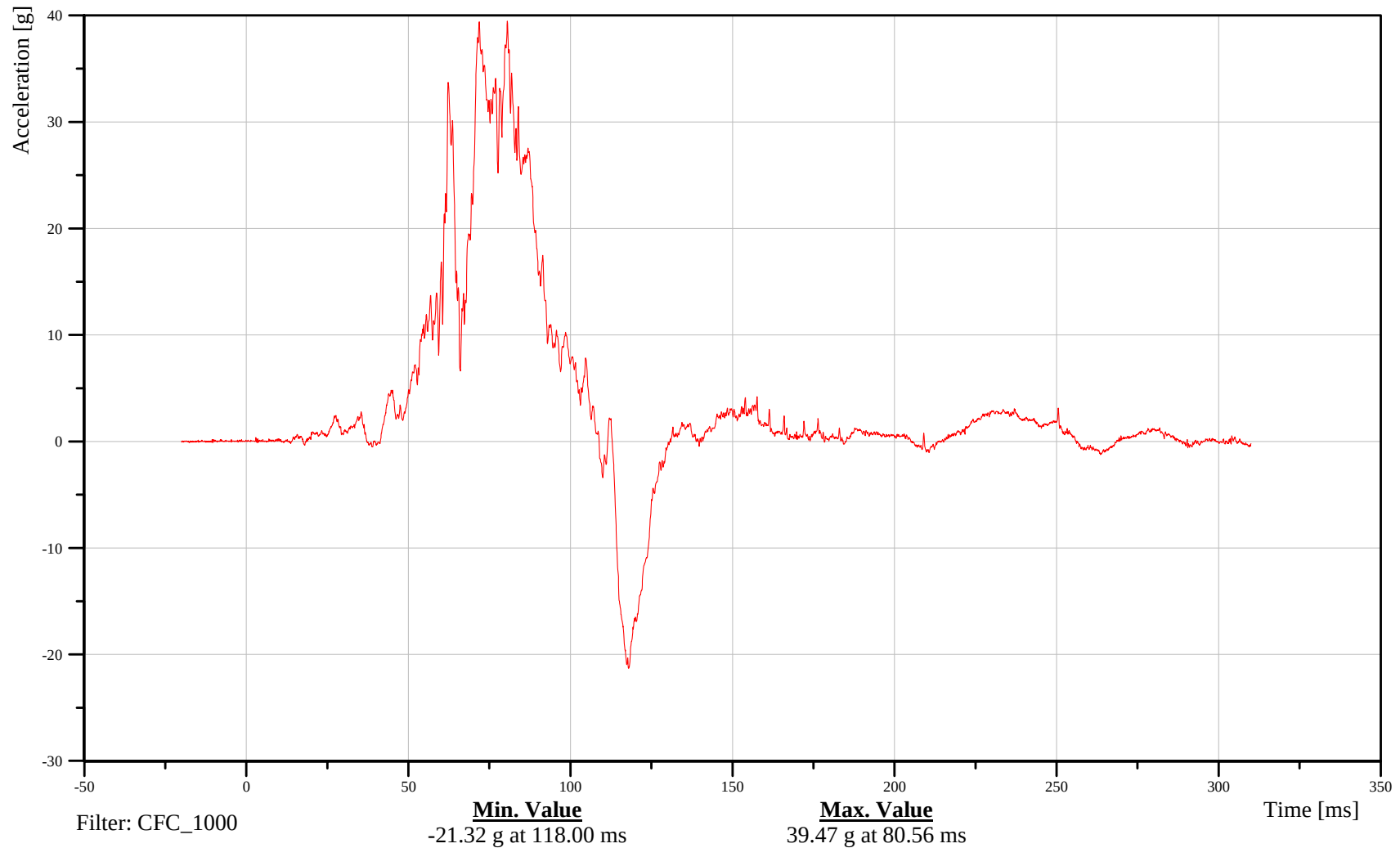
Target Vehicle Driver Right Foot Y-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-336

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

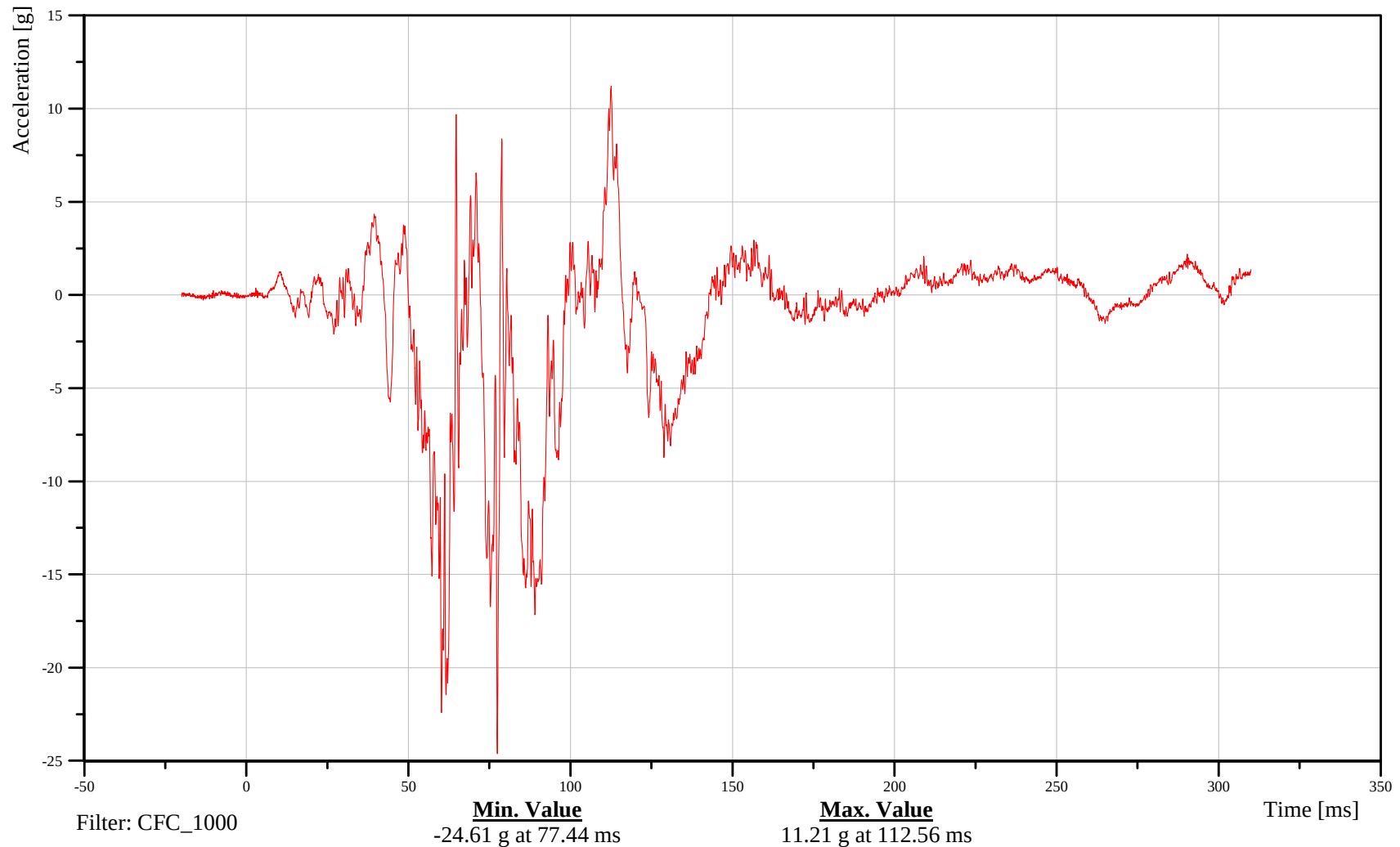
Target Vehicle Driver Right Foot Z-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-337

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

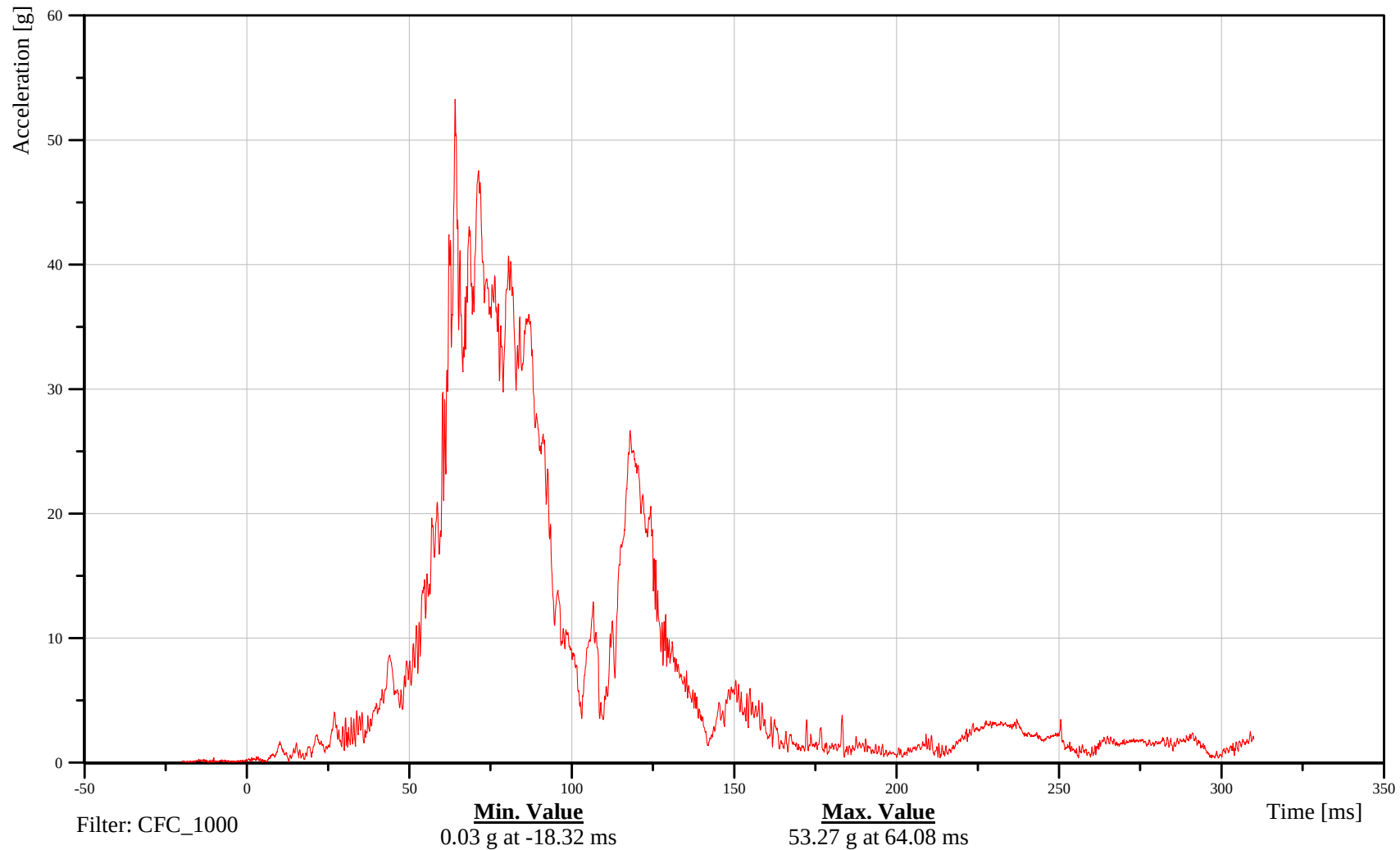
Target Vehicle Driver Right Foot Resultant Acceleration

Customer: VRTC

21FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 091106



B-338

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Head Injury Criterion (HIC)

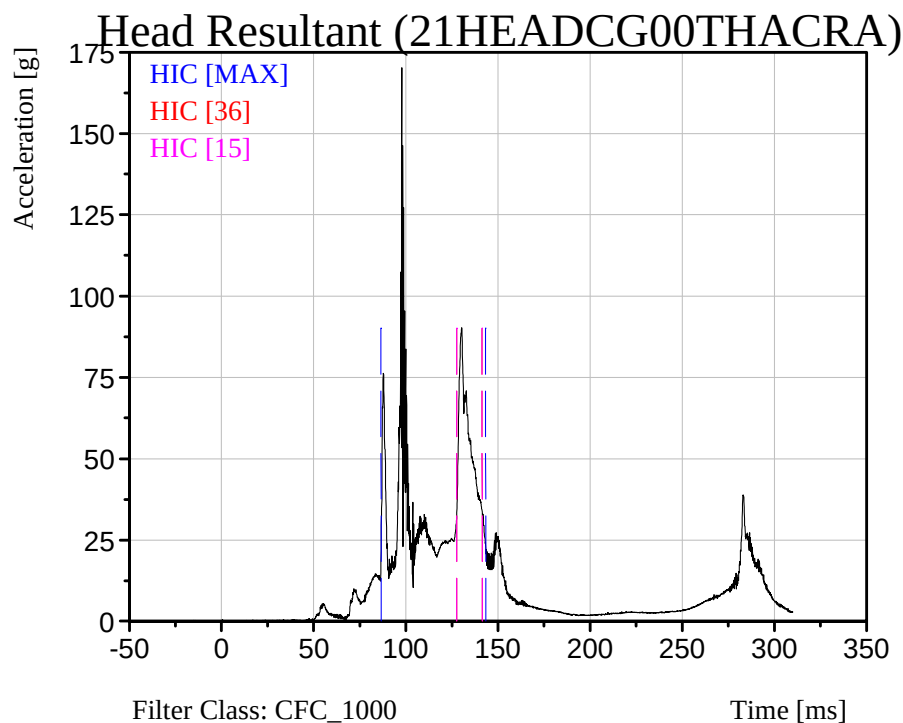
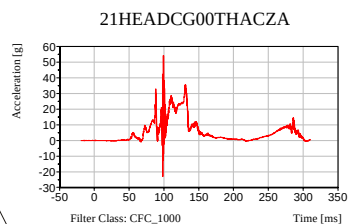
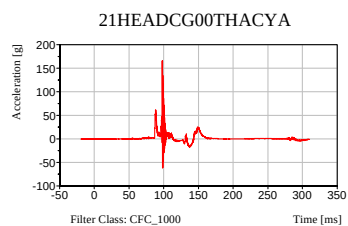
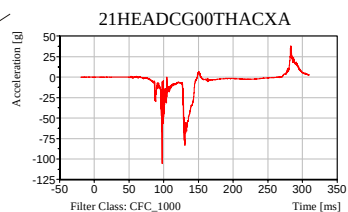
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 486.70	86.56 ms	143.36 ms	37.40 g
HIC [36] = 323.88	127.68 ms	141.44 ms	55.94 g
HIC [15] = 323.88	127.68 ms	141.44 ms	55.94 g

Dummy:THOR Male
Seating Position:
Driver

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

B-339

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap Neck Moment about the Occipital Condyle (NECK OM)

Date: 11/06/2009
Time: 14:32

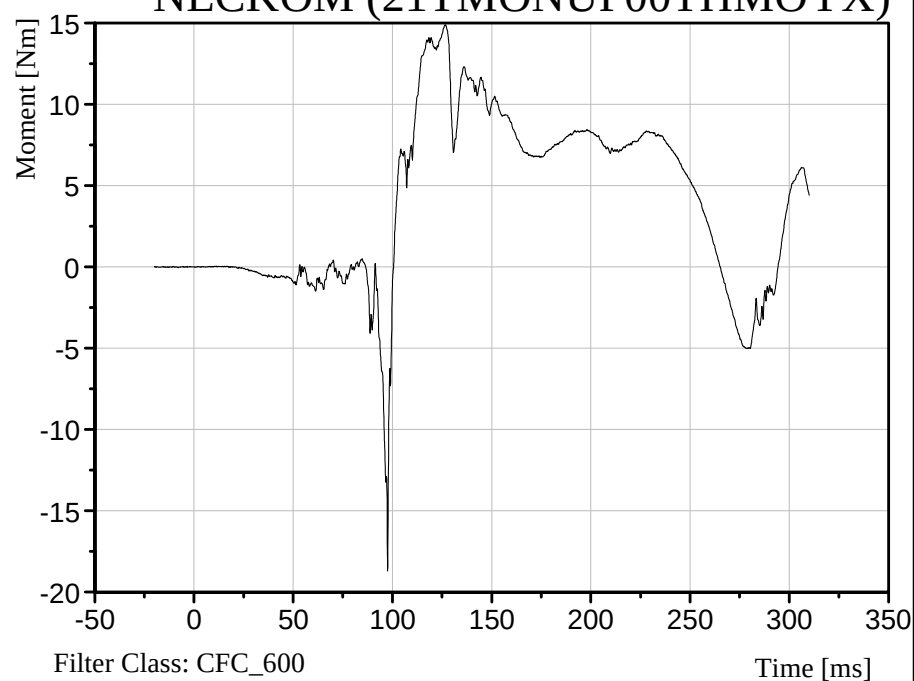
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

NECKOM (21TMONUP00THMOYX)



Dummy: THOR Male
Seating Position:
Driver

Neck OM Source Code: My - (D*Fx)

[Max.] 14.88 Nm at 126.40 ms

[Min.] -18.69 Nm at 97.60 ms

B-340

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

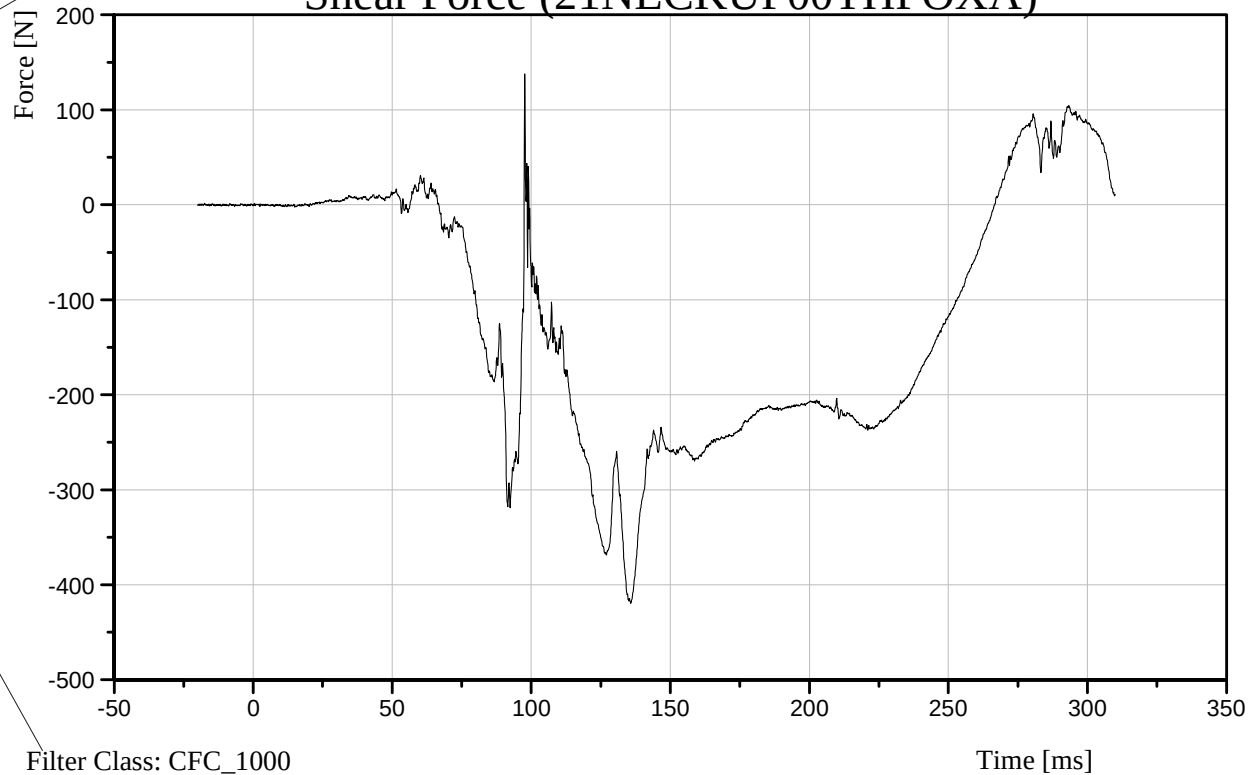
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (21NECKUP00THFOXA)



Dummy: THOR Male

Seating Position:

Driver

[Max.] 137.78 N at 97.68 ms

[Min.] -419.31 N at 135.76 ms

Neck Shear Force Source Code: Min/Max of 21NECKUP00THFOXA

B-341

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Shear Force

Date: 11/06/2009

Time: 14:32

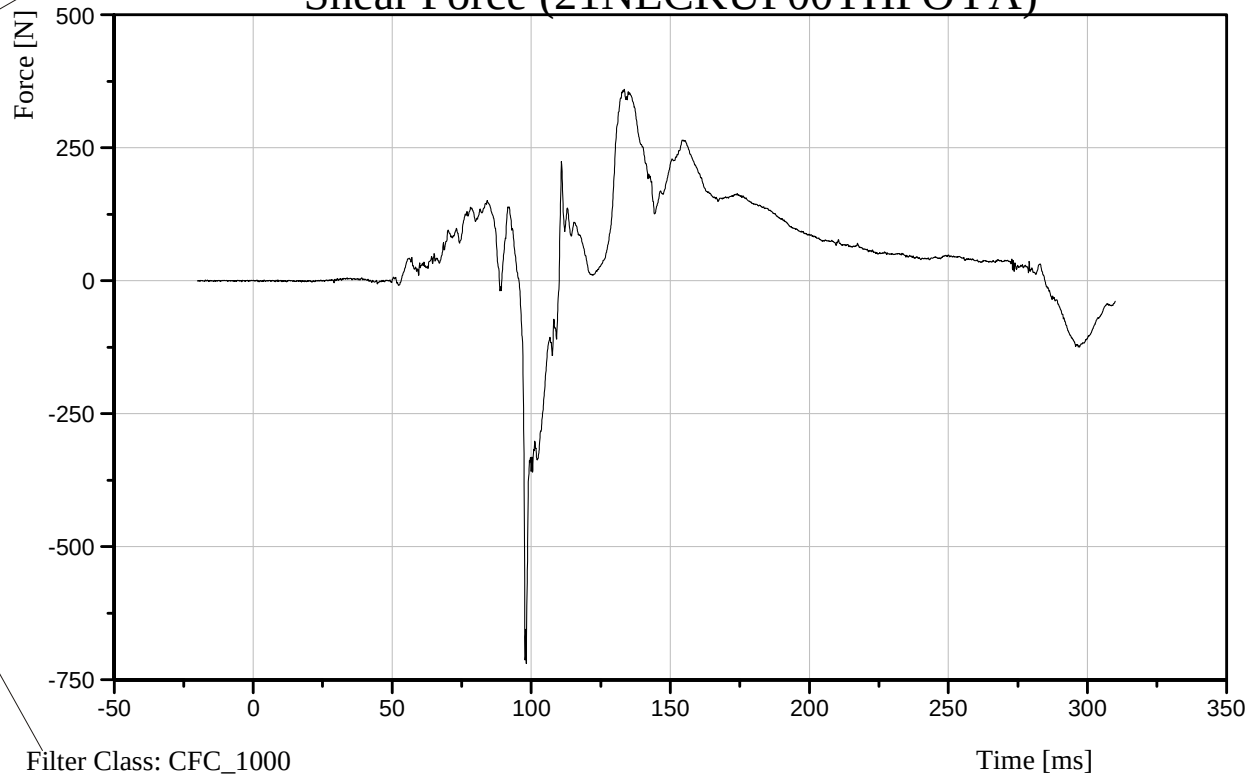
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Shear Force (21NECKUP00THFOYA)



Dummy: THOR Male

Seating Position:

Driver

[Max.] 360.29 N at 133.44 ms

[Min.] -719.34 N at 98.16 ms

Neck Shear Force Source Code: Min/Max of 21NECKUP00THFOYA

B-342

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Neck Axial Force

Date: 11/06/2009
Time: 14:32

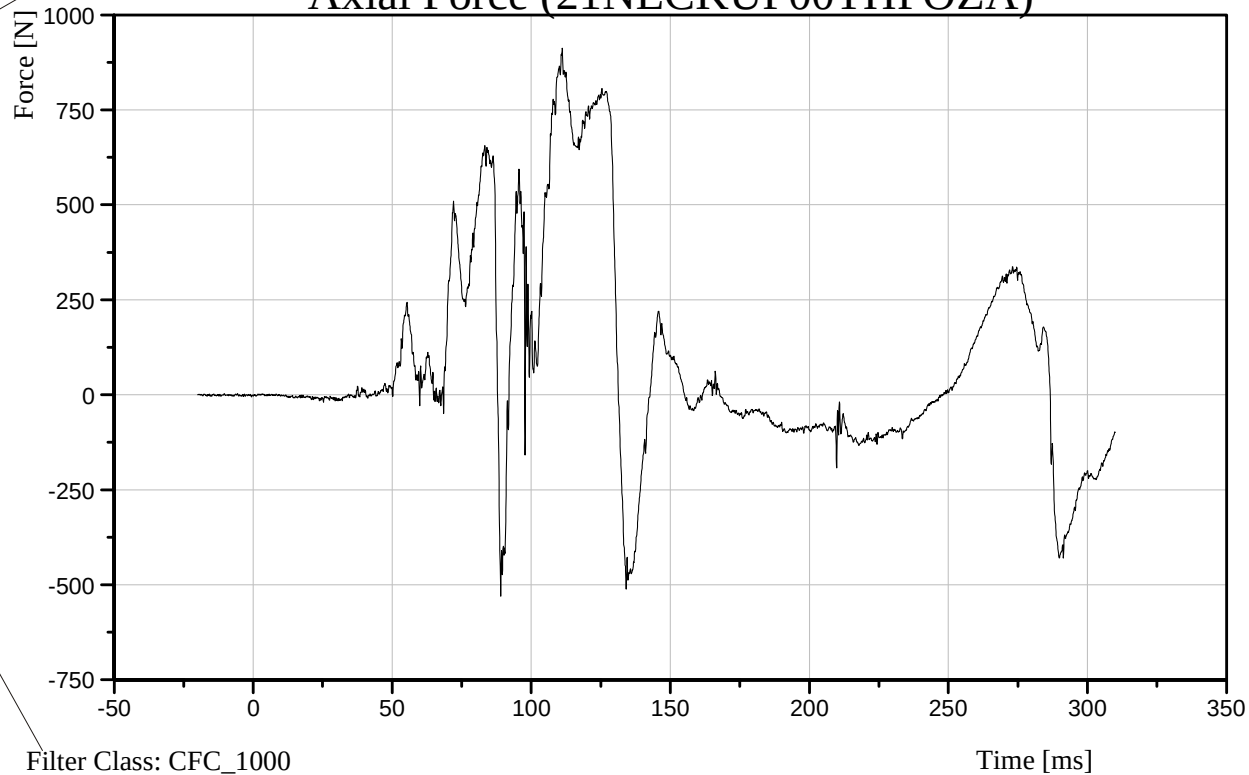
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106

Test Orientation = Frontal

Axial Force (21NECKUP00THFOZA)



Dummy: THOR Male
Seating Position:
Driver

[Max.] 912.21 N at 111.12 ms
[Min.] -530.33 N at 89.04 ms

Neck Axial Force Source Code: Min/Max of 21NECKUP00THFOZA

B-343

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Femur Load

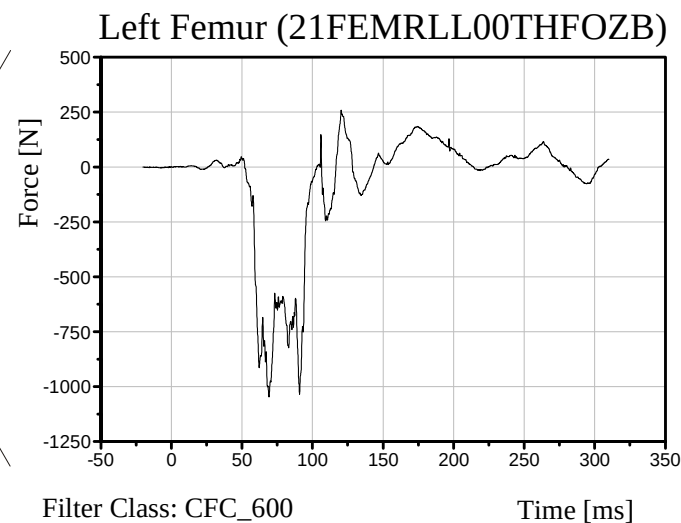
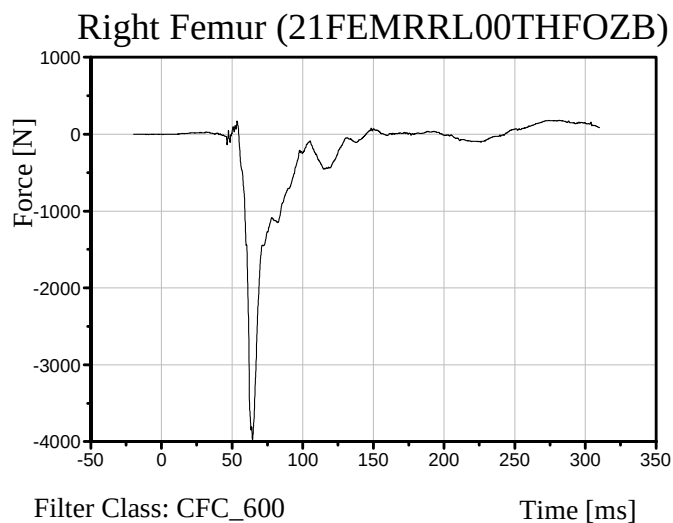
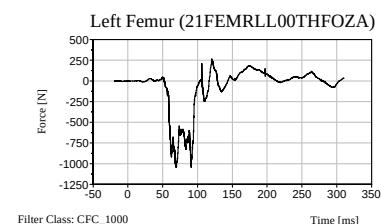
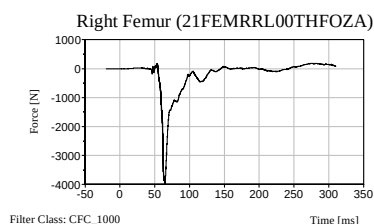
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Tension] 180.78 N at 281.60 ms
Min [Compression] -3,976.34 N at 64.32 ms

Dummy:THOR Male
Seating Position:
Driver

Max [Tension] 258.13 N at 120.40 ms
Min [Compression] -1,046.36 N at 69.20 ms

Femur Load Source Code : Min/Max of 21FEMRRL00THFOZB and 21FEMRLL00THFOZB (CFC 600)

B-344

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

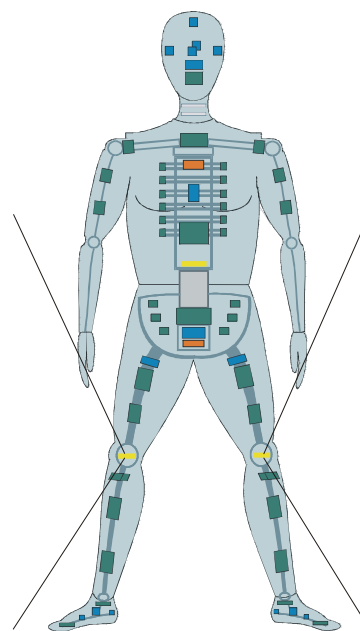
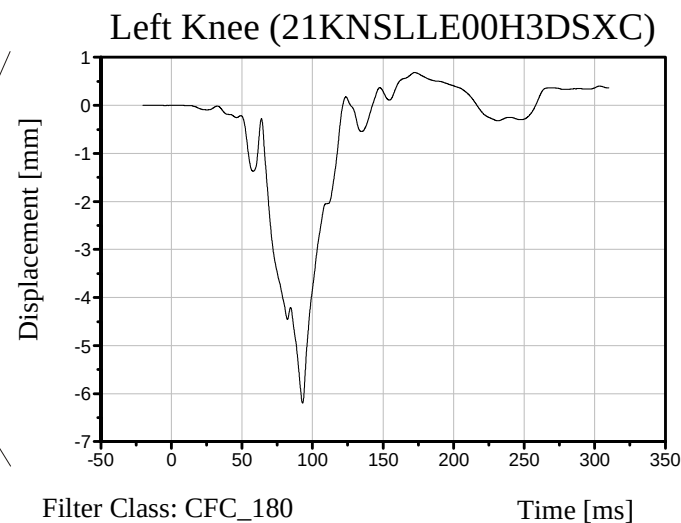
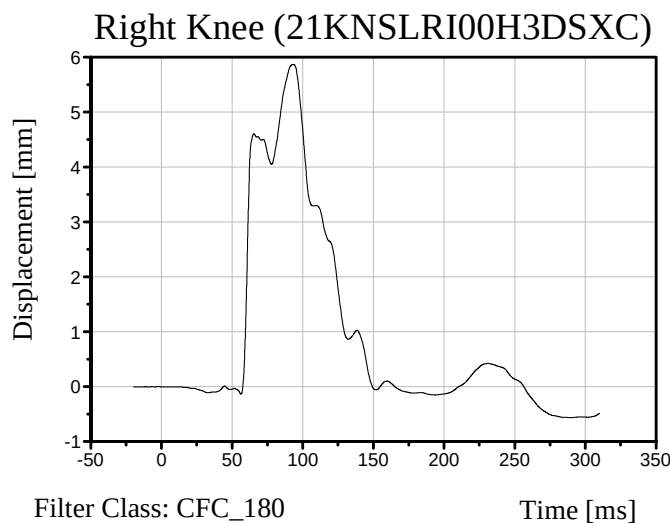
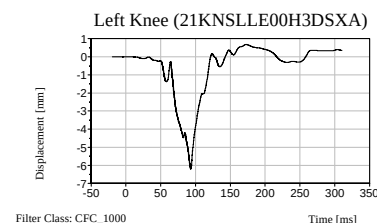
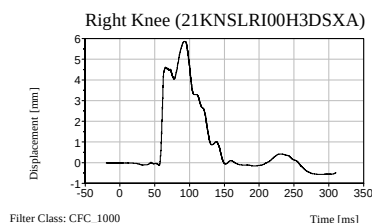
Knee Slider Displacement

Date: 11/06/2009
Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max. [Tension] 5.87 mm at 93.20 ms
Min. [Compression] -0.56 mm at 289.20 ms

Dummy: HIII 50th Male
Seating Position:
Driver

Max. [Tension] 0.68 mm at 172.48 ms
Min. [Compression] -6.20 mm at 93.04 ms

Knee Displacement Source Code : Min/Max of 21KNSLRI00H3DSXC and 21KNSLLE00H3DSXC (CFC 600)

B-345

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Tibia Index (TI)

Date: 11/06/2009

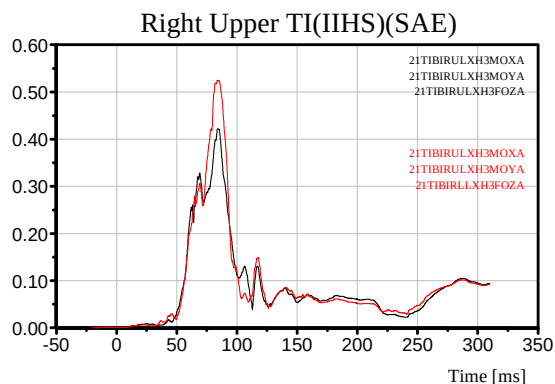
Time: 14:32

Customer: VRTC

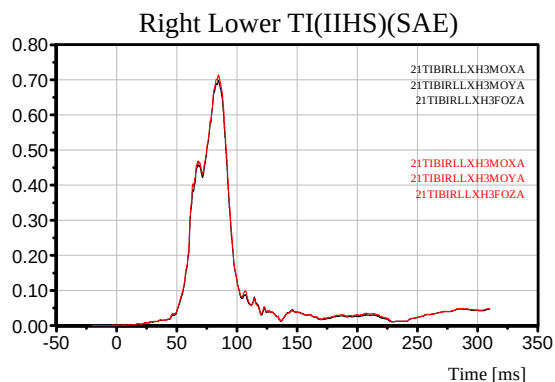
TRC Inc. Test Lab: CTF

Test Number: 091106

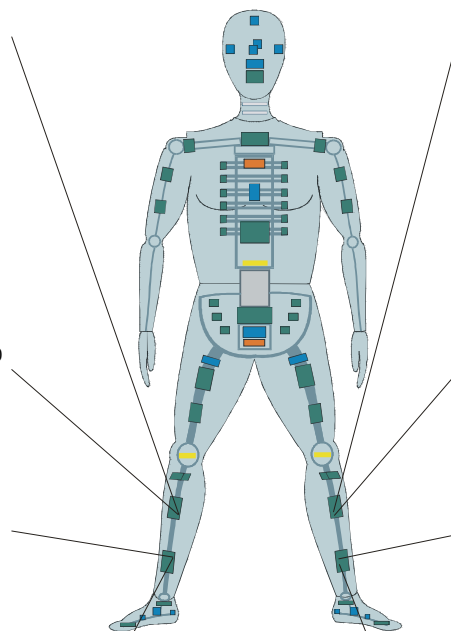
Critical Bending Moment = 240 N·m
Critical Compression Force = 12000 N



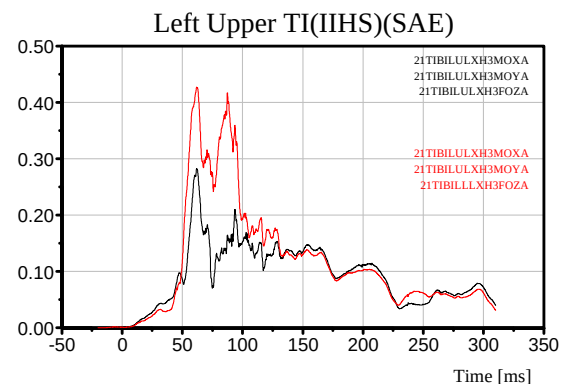
Max = 0.42 at 83.84 ms (SAE)
Max = 0.52 at 83.68 ms (IIHS)



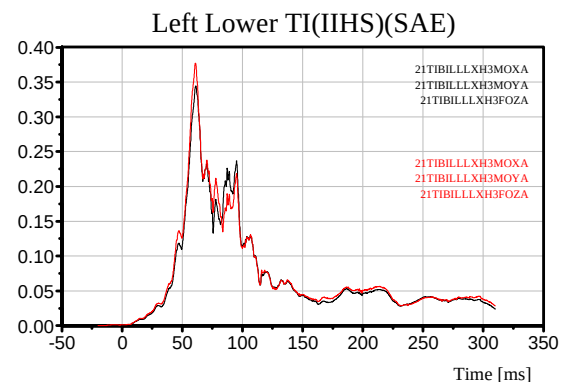
Max = 0.70 at 84.64 ms (SAE)
Max = 0.71 at 84.64 ms (IIHS)



Dummy: HIII 50th Male
Seating Position:
Driver



Max = 0.28 at 61.76 ms (SAE)
Max = 0.43 at 61.84 ms (IIHS)



Max = 0.34 at 61.36 ms (SAE)
Max = 0.38 at 60.96 ms (IIHS)

Tibia Index Source Code : Guideline 96/79/EC; SAE J1727 AUG96; and IIHS Crashworthiness Evaluation Offset Barrier Crash Test Protocol (Version X)

B-346

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Foot Acceleration

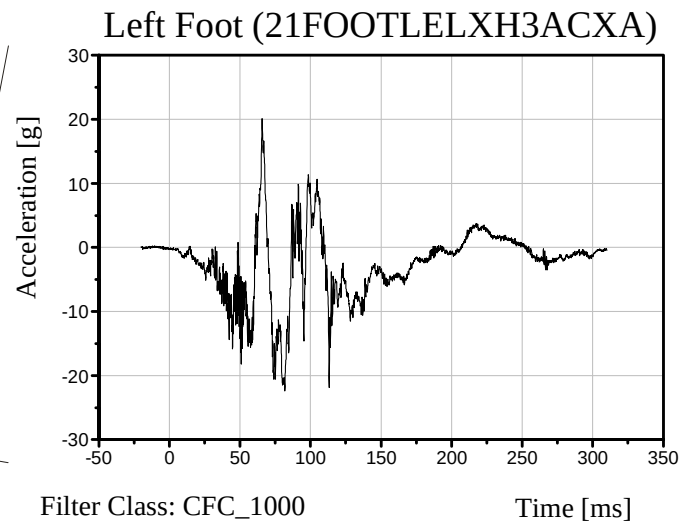
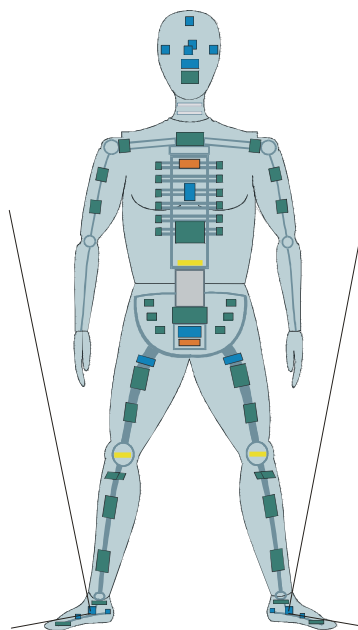
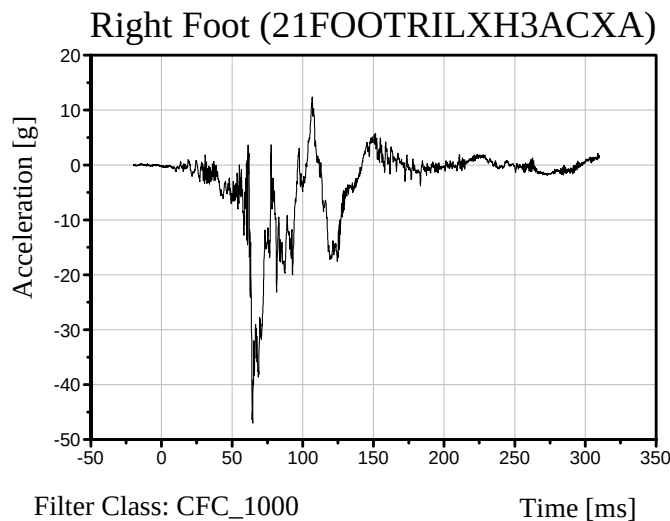
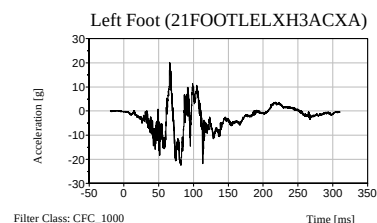
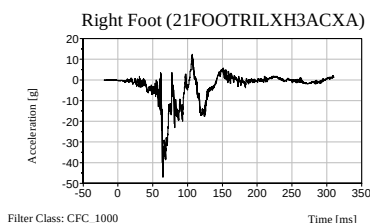
Date: 11/06/2009

Time: 14:32

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 091106



Max [Acceleration] 12.44 g at 106.56 ms
Min [Acceleration] -47.00 g at 64.48 ms

Dummy:HIII 50th Male
Seating Position:
Driver

Max [Acceleration] 20.10 g at 65.76 ms
Min [Acceleration] -22.41 g at 81.84 ms

Foot Acceleration Source Code : Min/Max of 21FOOTRILXH3ACXA and 21FOOTLELXH3ACXA

B-347

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

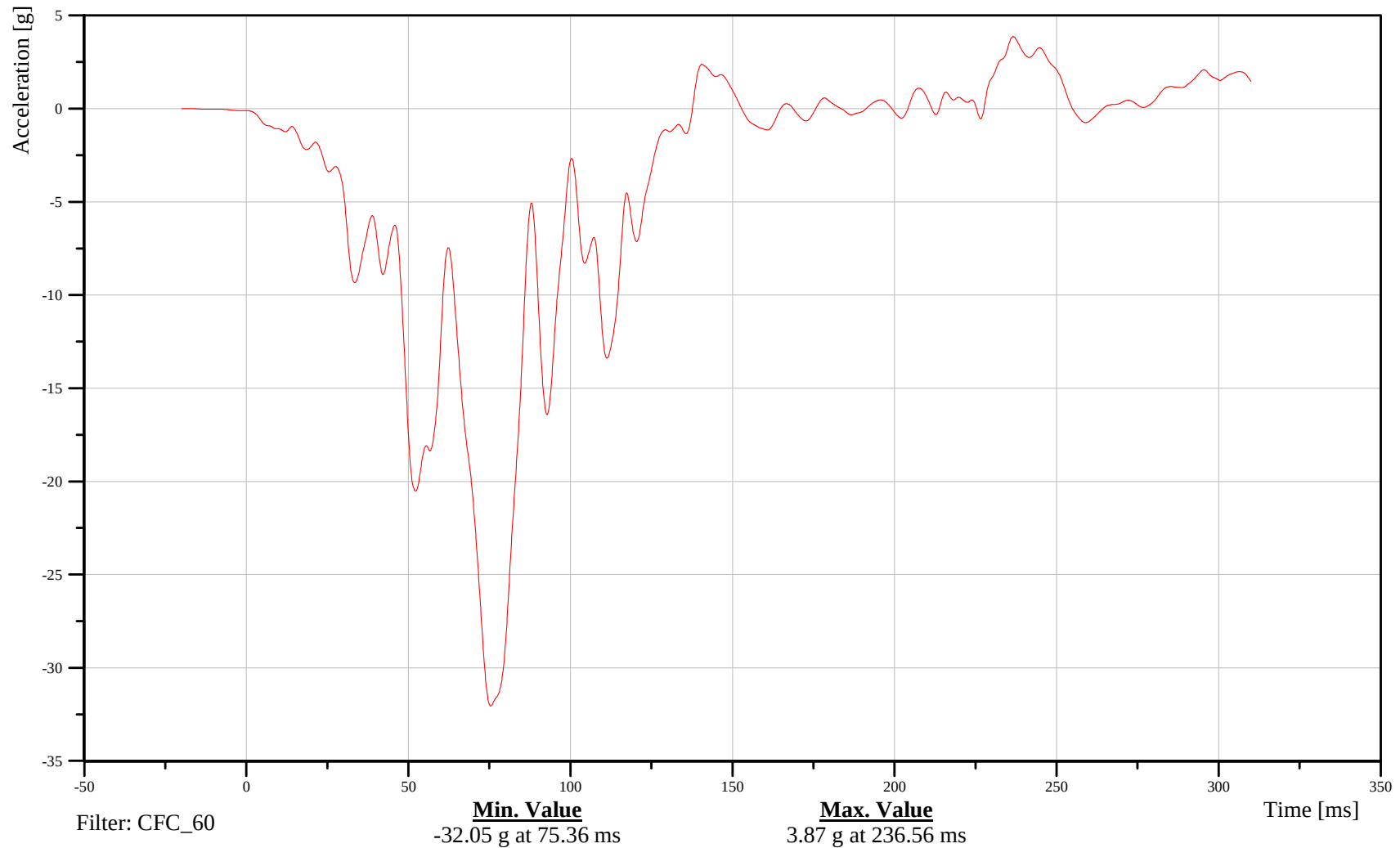
Target Vehicle Left Sill X-Axis Acceleration

Customer: VRTC

20SILLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-348

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

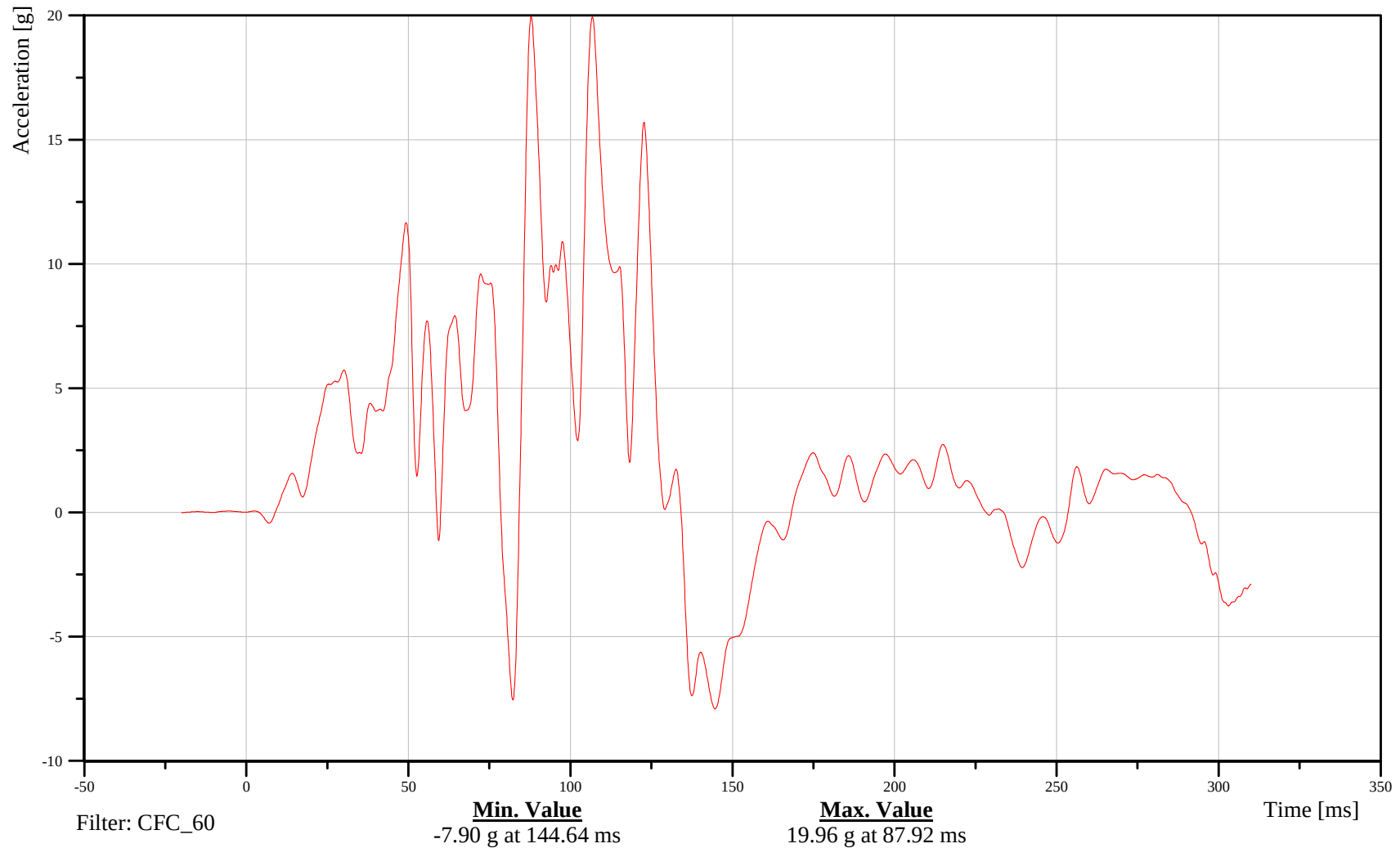
Target Vehicle Left Sill Y-Axis Acceleration

Customer: VRTC

20SILLE0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-349

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

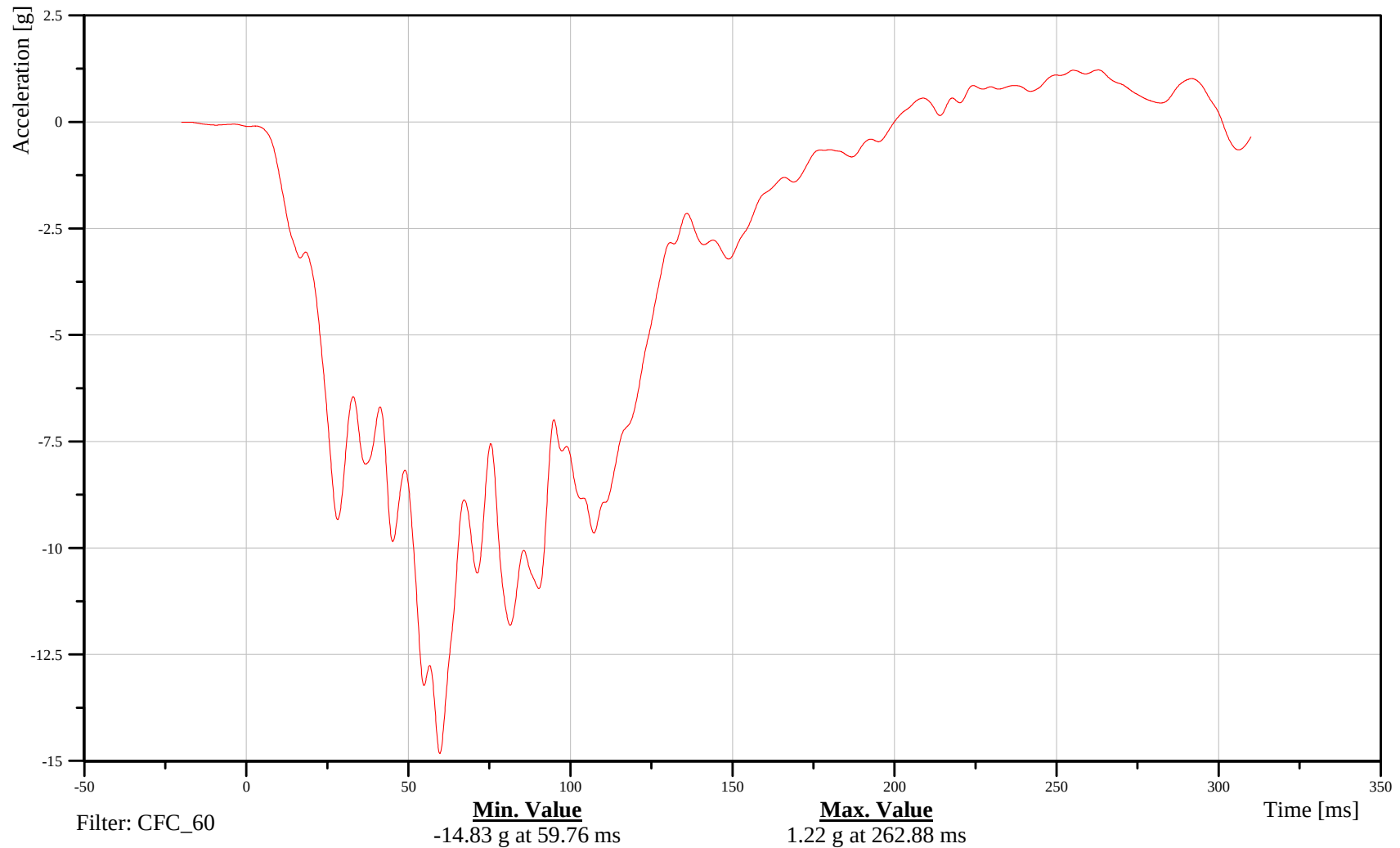
Target Vehicle Right Sill X-Axis Acceleration

Customer: VRTC

20SILLRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-350

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

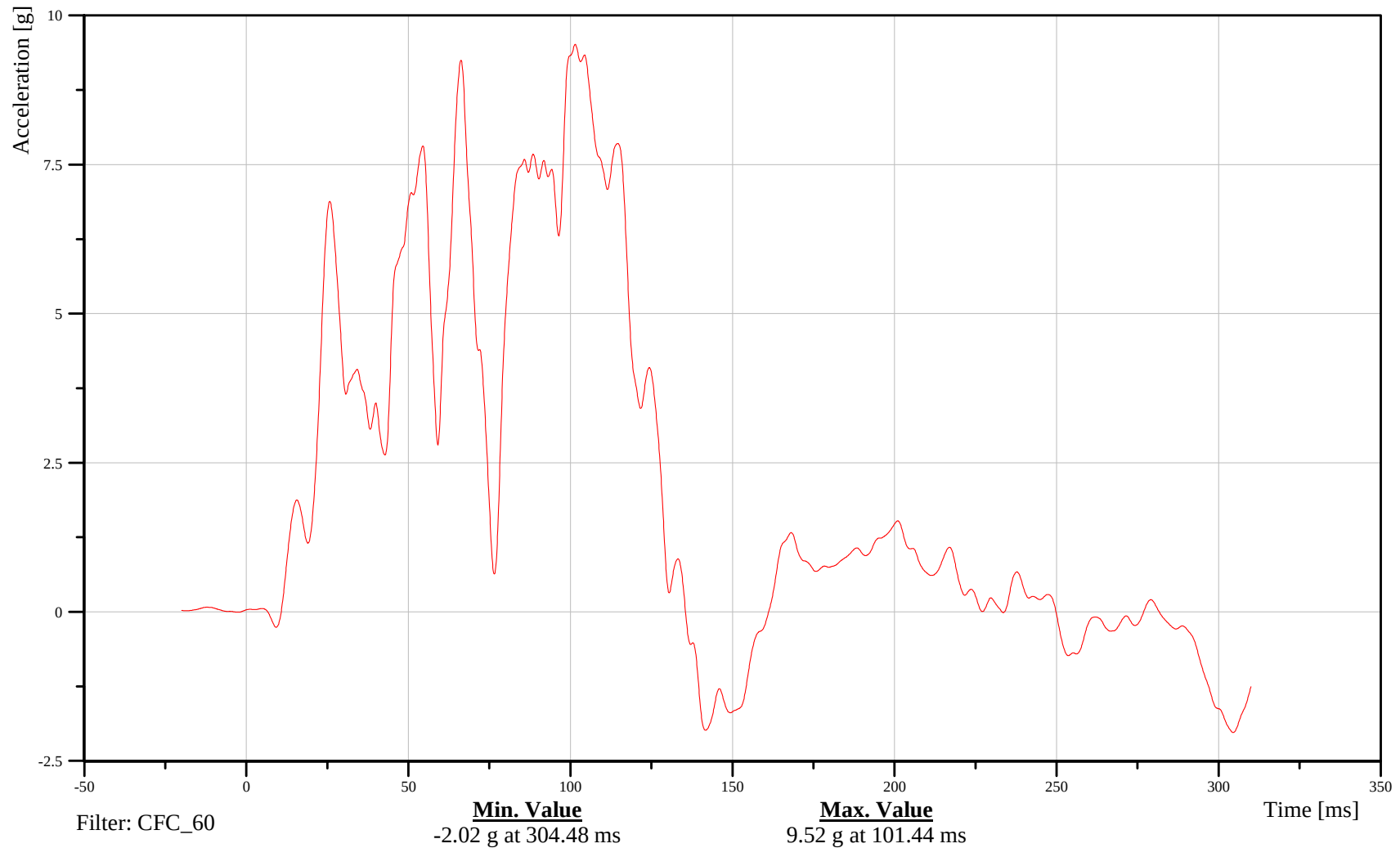
Target Vehicle Right Sill Y-Axis Acceleration

Customer: VRTC

20SILLRI0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-351

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

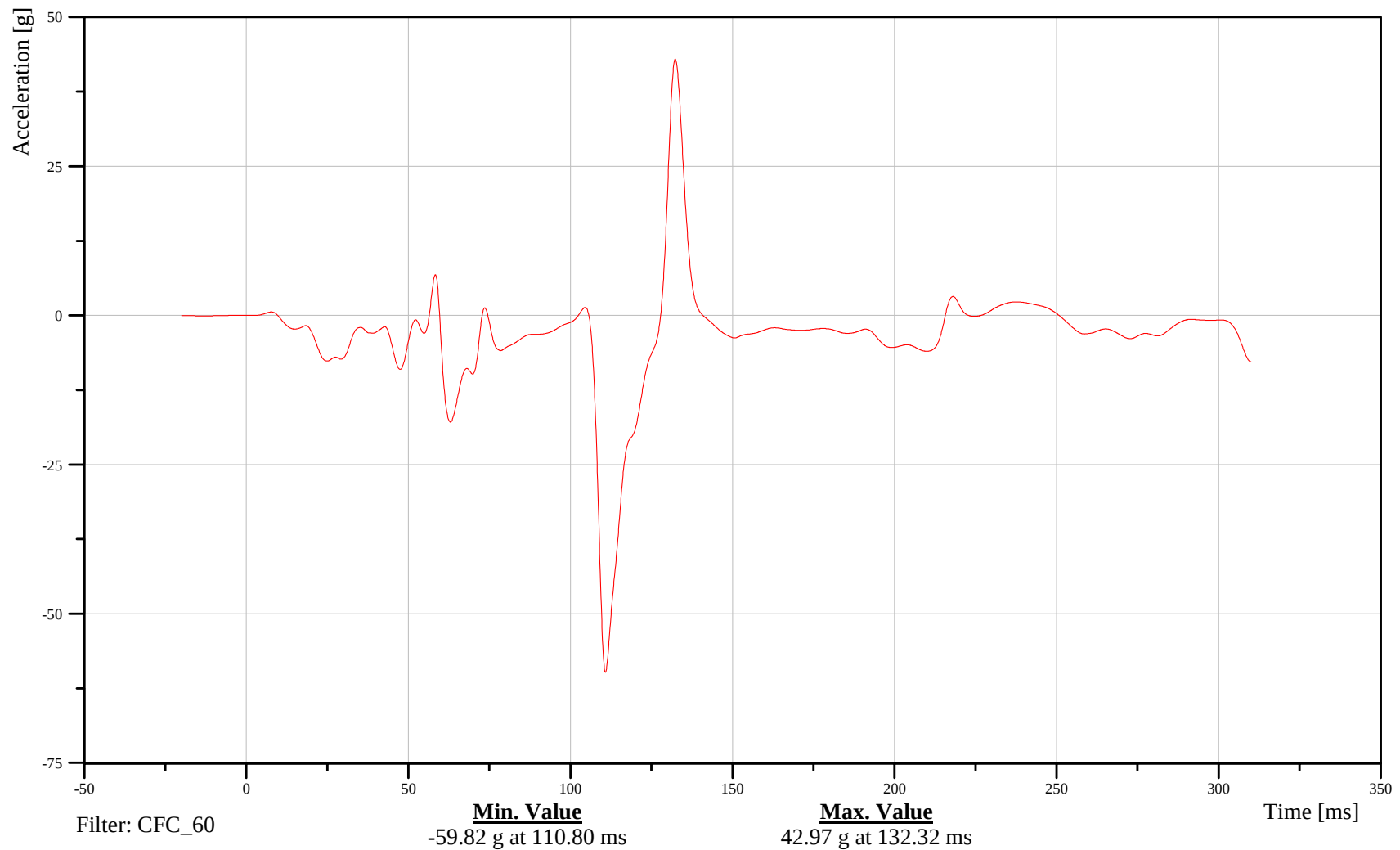
Target Vehicle Vehicle Center of Gravity X-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-352

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Vehicle Center of Gravity Y-Axis Acceleration

Date: 11/06/2009

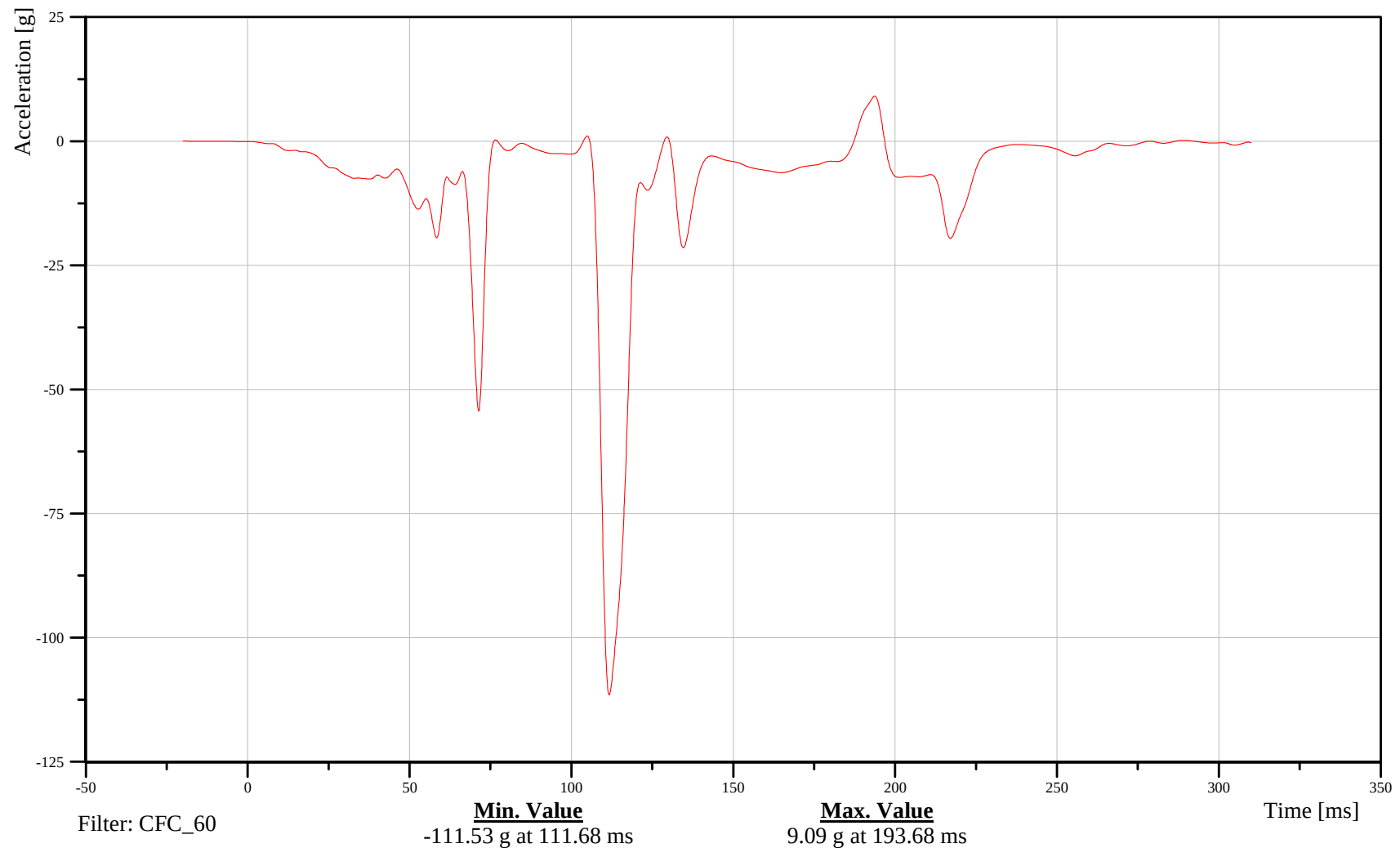
Time: 14:32

Customer: VRTC

20VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-353

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

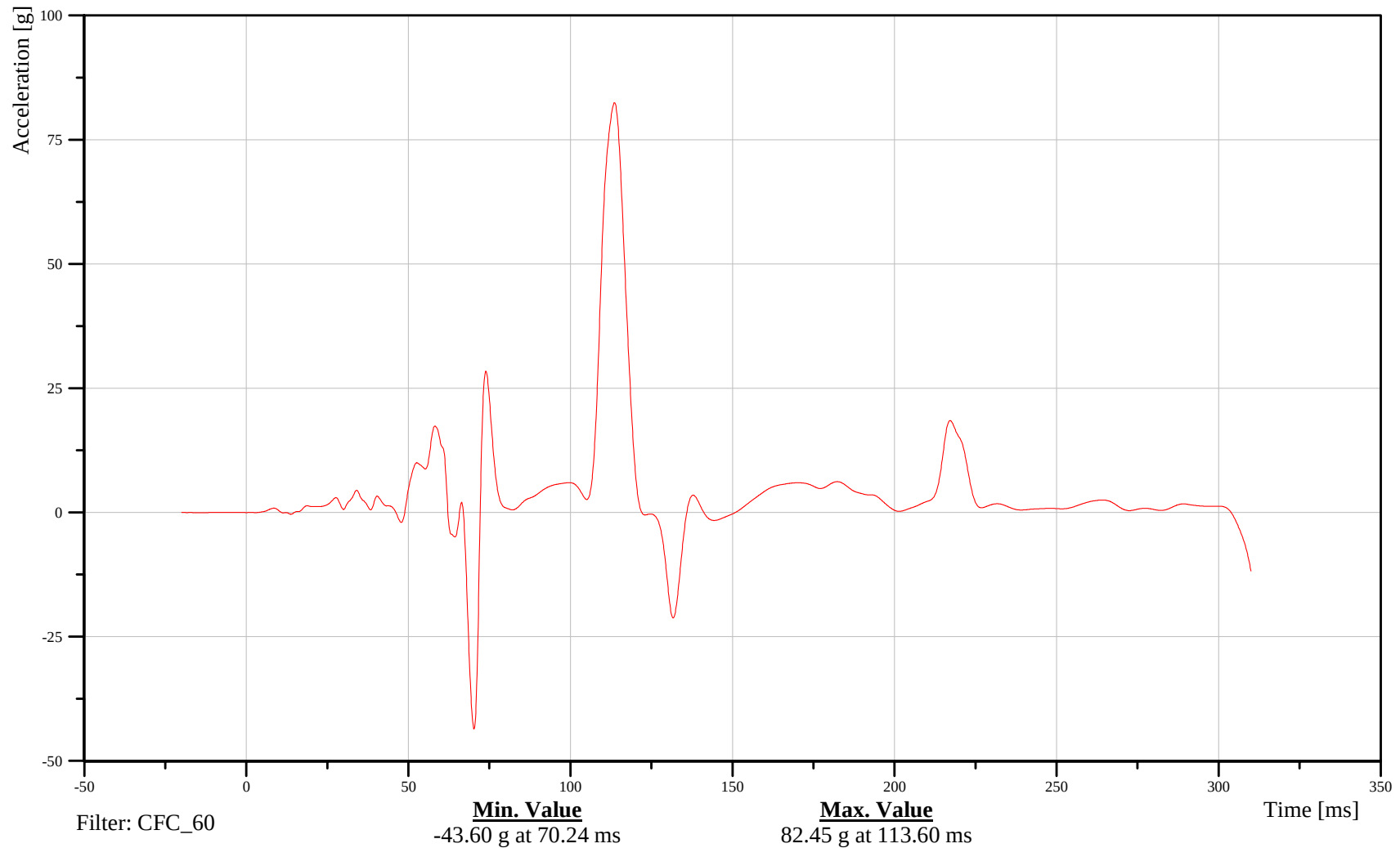
Target Vehicle Vehicle Center of Gravity Z-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-354

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

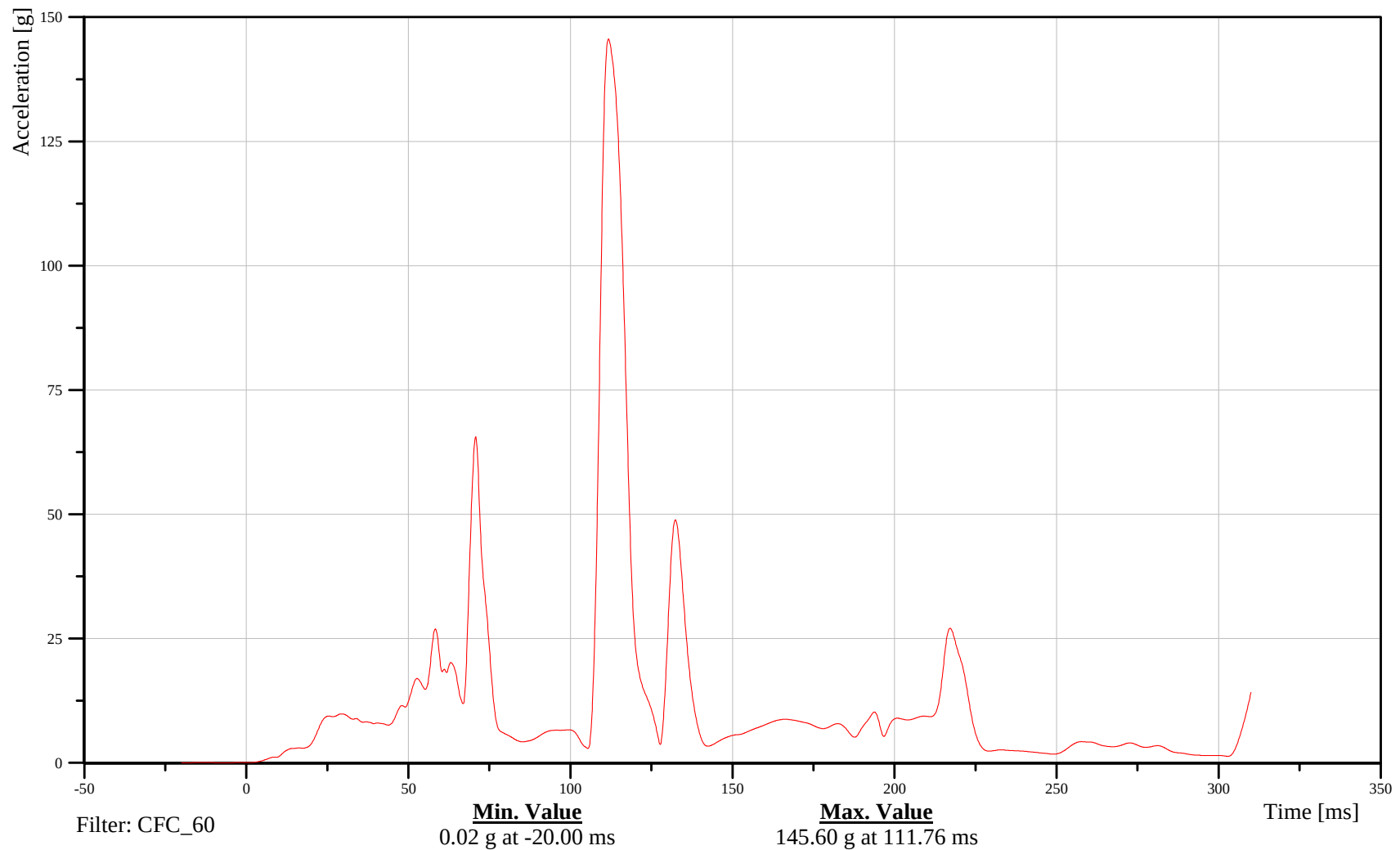
Target Vehicle Vehicle Center of Gravity Resultant Acceleration

Customer: VRTC

20VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-355

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

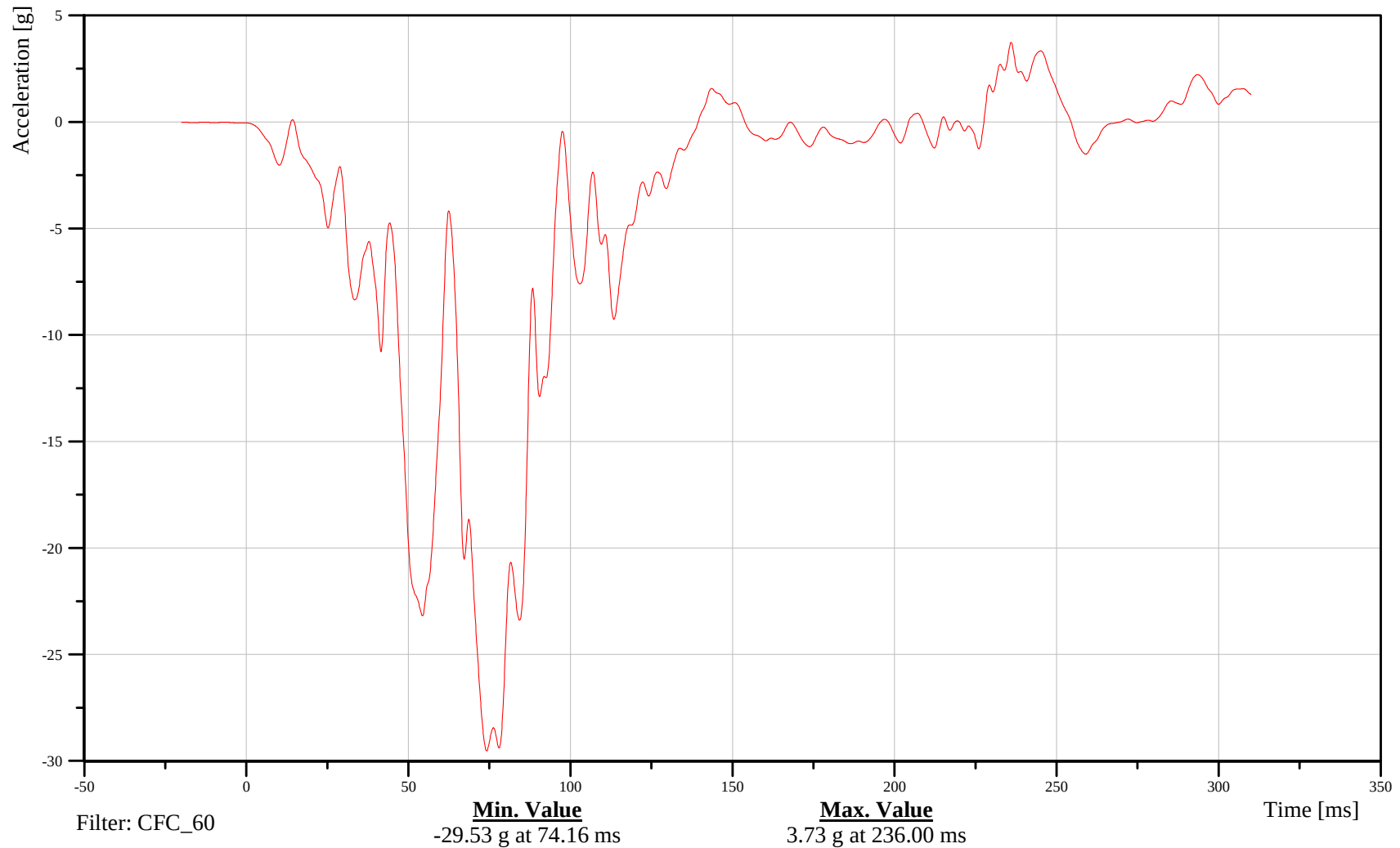
Target Vehicle Driver Footrest X-Axis Acceleration

Customer: VRTC

20FOOTLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-356

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

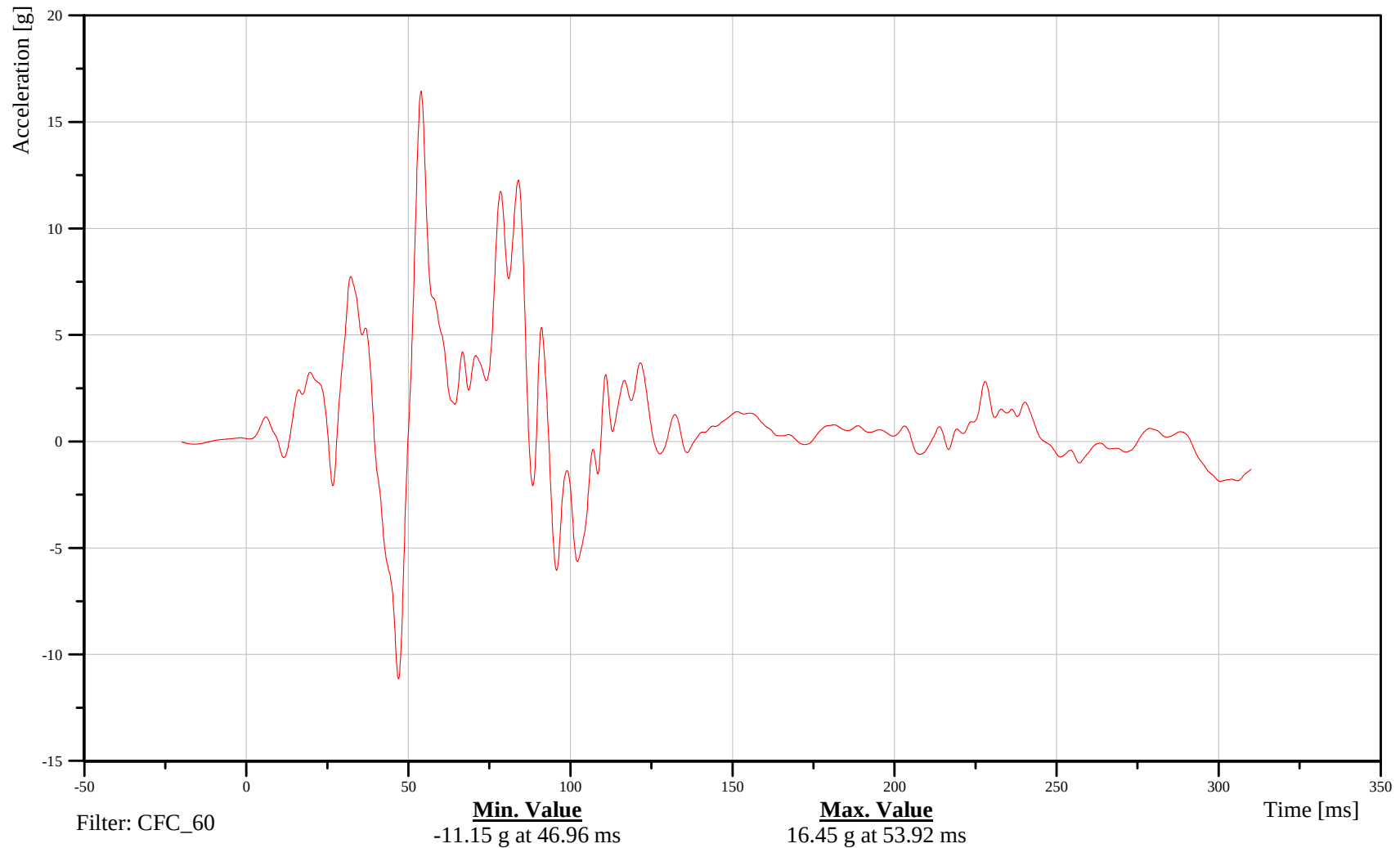
Target Vehicle Driver Footrest Z-Axis Acceleration

Customer: VRTC

20FOOTLE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-357

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Toepan Behind Center of Accelerator X-Axis Acceleration

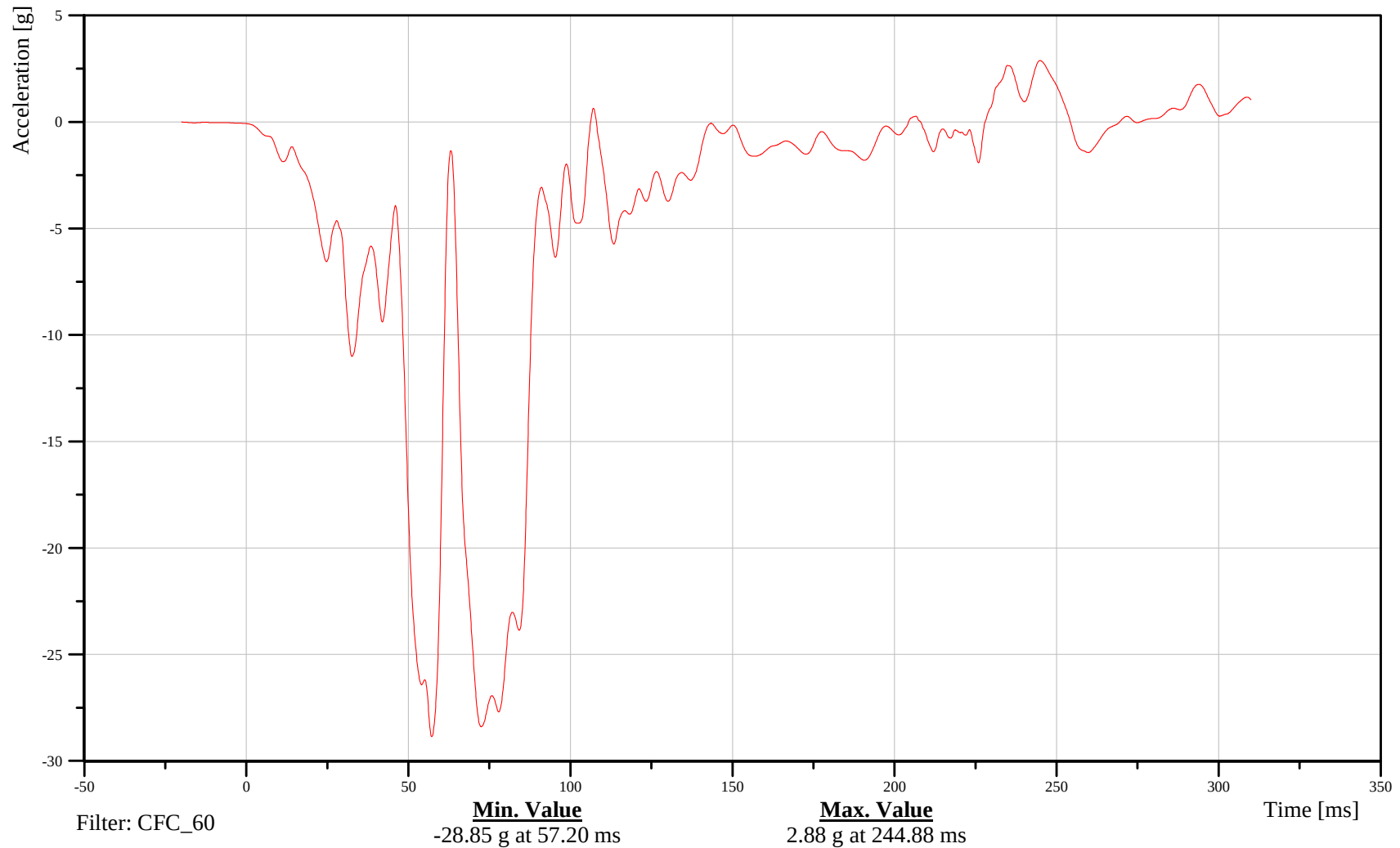
Date: 11/06/2009
Time: 14:32

Customer: VRTC

20TPANLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-358

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Toepan Behind Center of Accelerator Z-Axis Acceleration

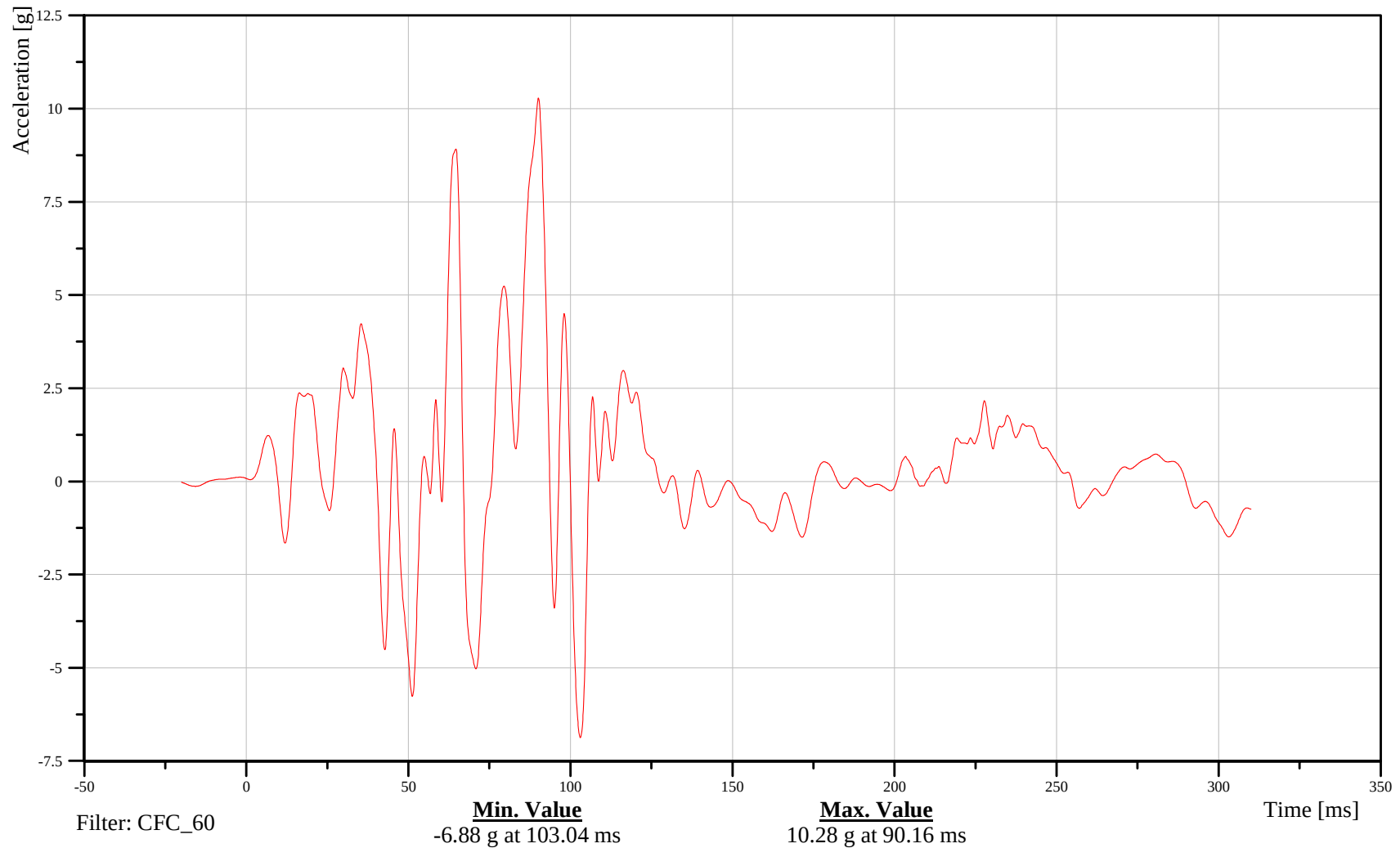
Date: 11/06/2009
Time: 14:32

Customer: VRTC

20TPANLE0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 091106



B-359

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

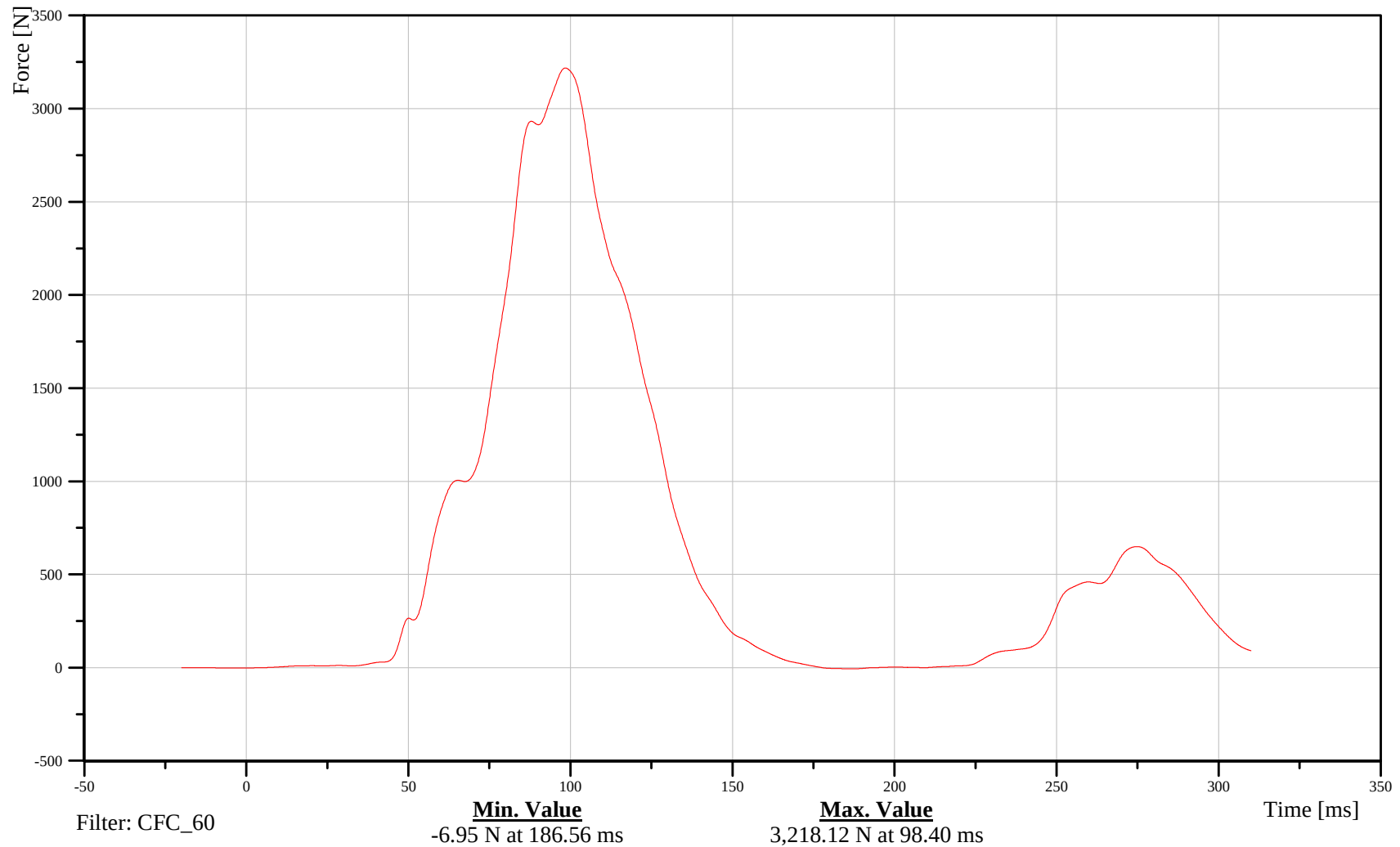
Target Vehicle Driver Lap Belt Force

Customer: VRTC

21SEBE0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-360

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009
Time: 14:32

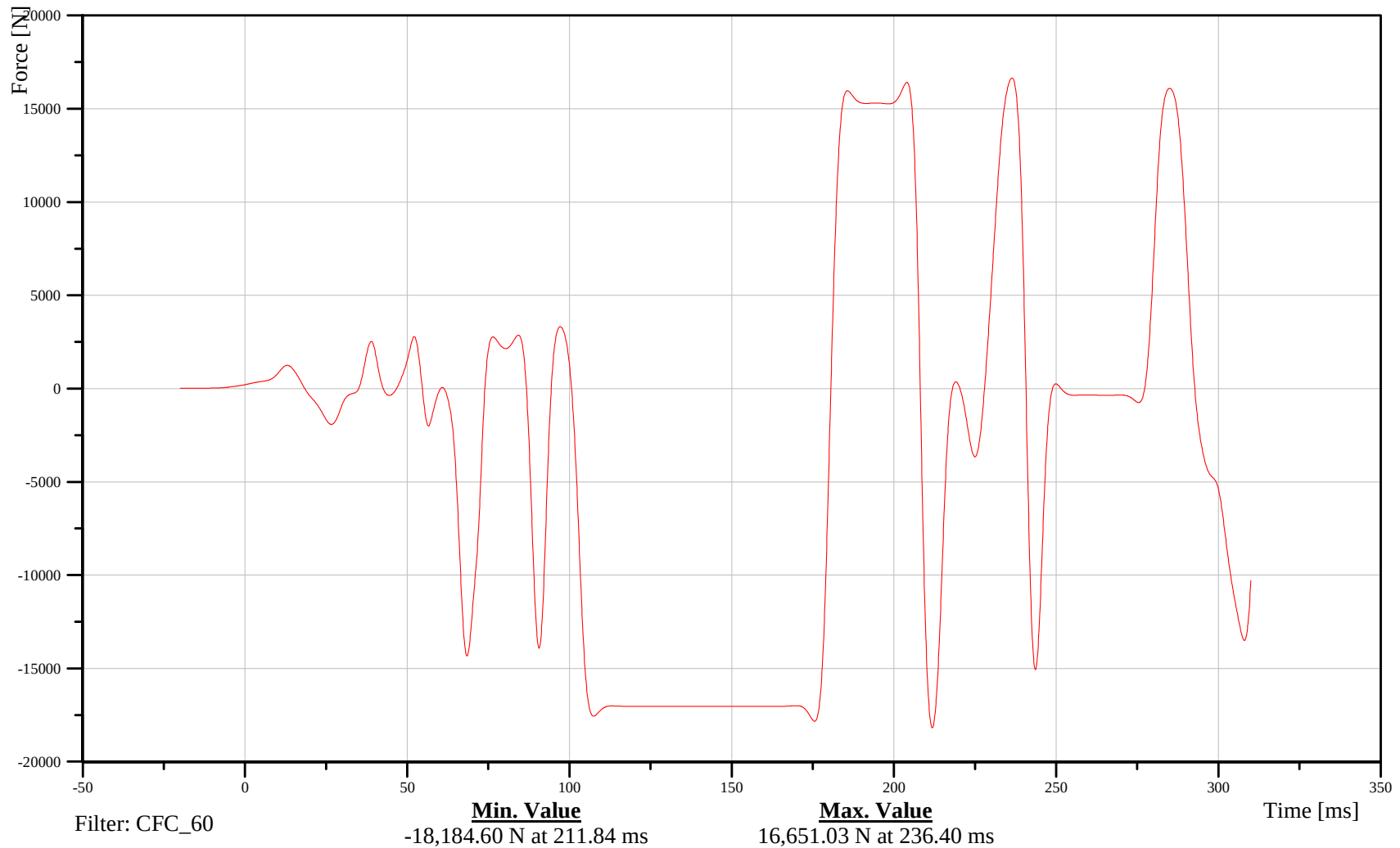
Target Vehicle Driver Shoulder Belt Force

Customer: VRTC

21SEBE0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 091106



B-361

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Target Vehicle Driver Airbag 1st Stage Fire Time

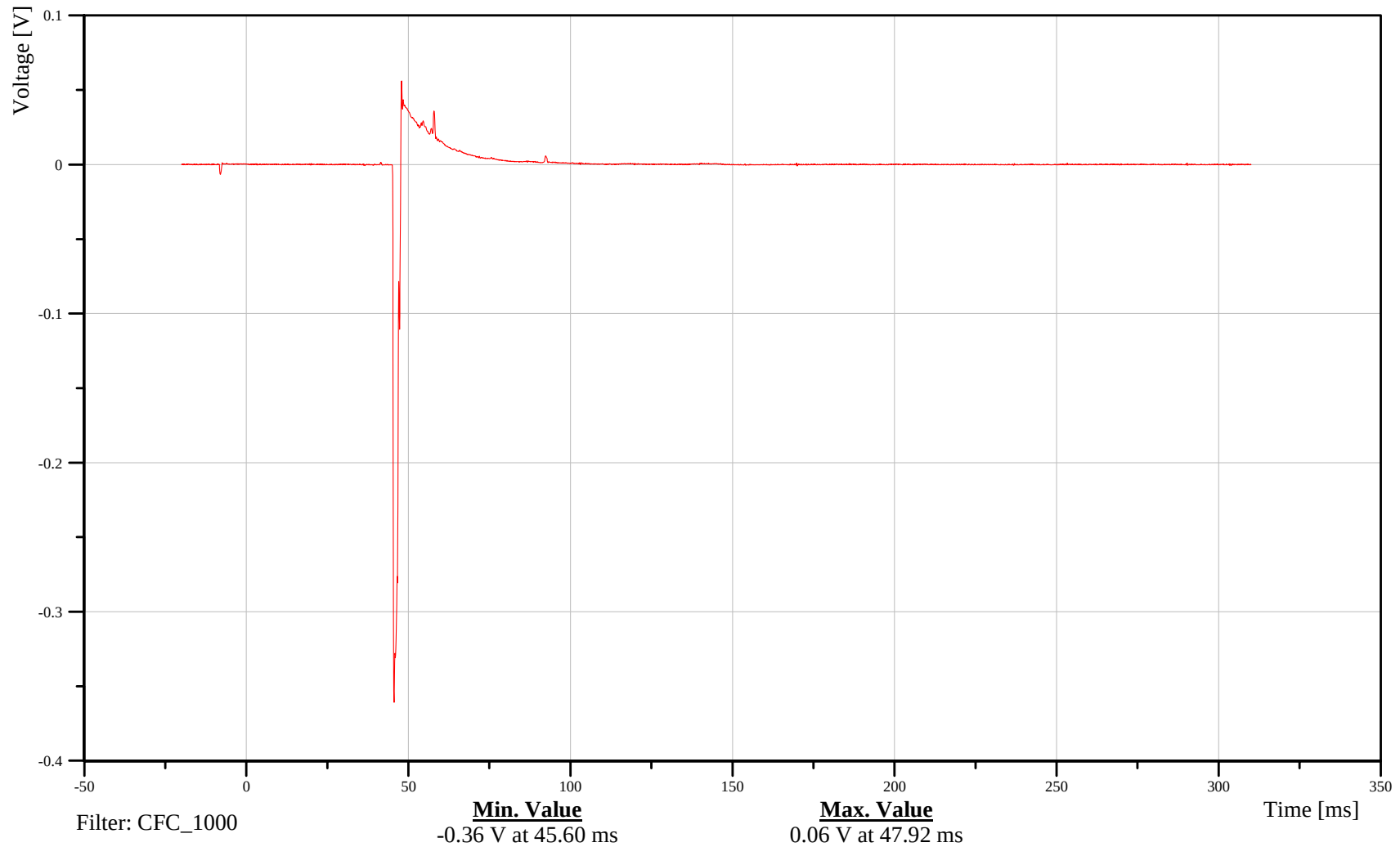
Date: 11/06/2009
Time: 14:32

Customer: VRTC

20AIRBLEFR25VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-362

091106



Taurus into Taurus at 15 Degrees, No Frame Rail Overlap

Date: 11/06/2009

Time: 14:32

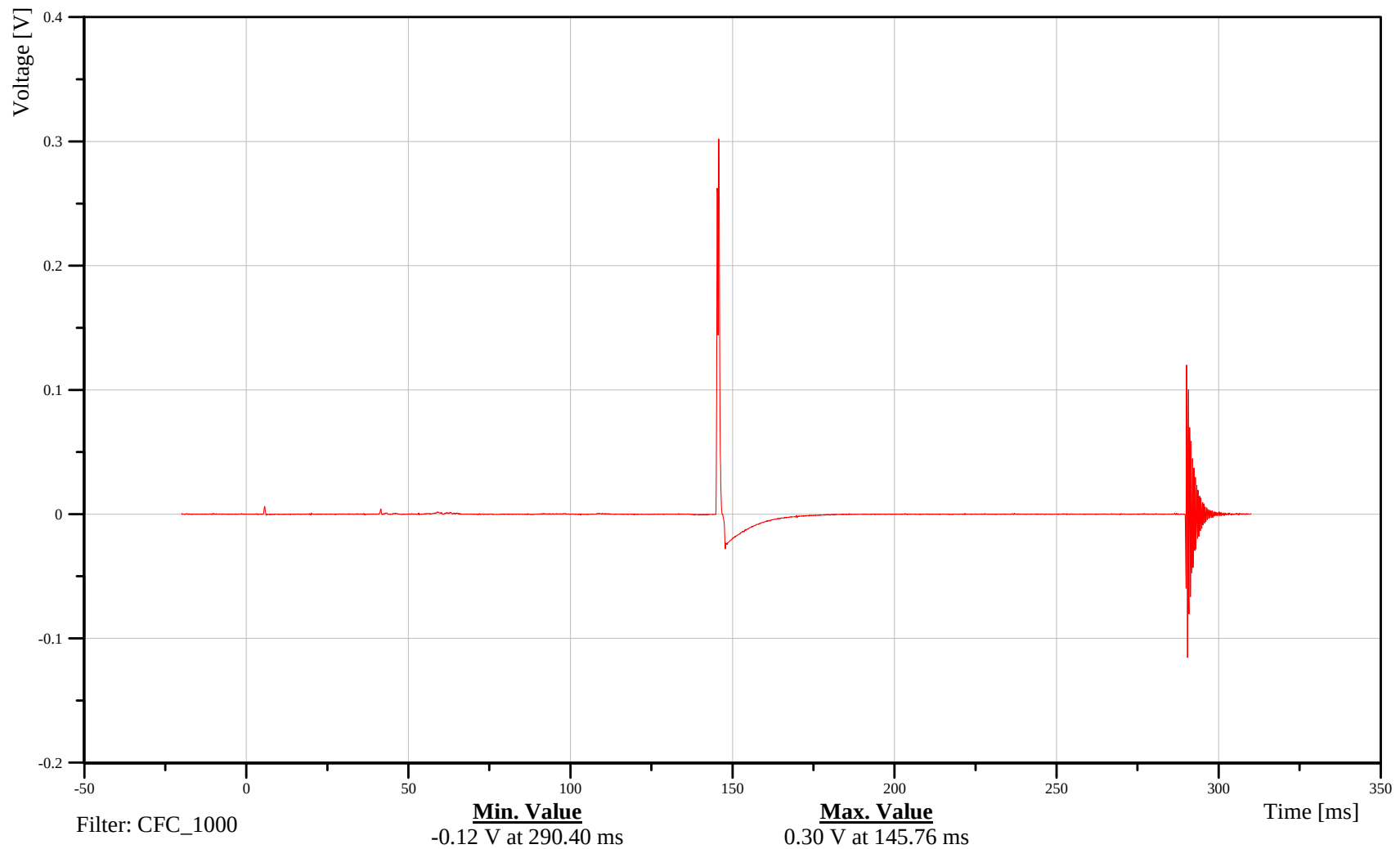
Target Vehicle Driver Airbag 2nd Stage Fire Time

Customer: VRTC

20AIRBLEFR26VO0A

TRC Inc. Test Lab: CTF

Test Number: 091106



B-363

091106

Appendix C

Dummy Configuration and Performance Verification Data

Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Driver Dummy S/N: 206

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 206 Certification No. 21-1

Test Date: 8/31/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	267.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	4.9 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

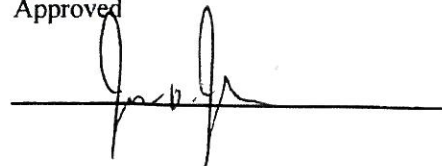
Test meets specifications.

Comments:

Technician



Approved

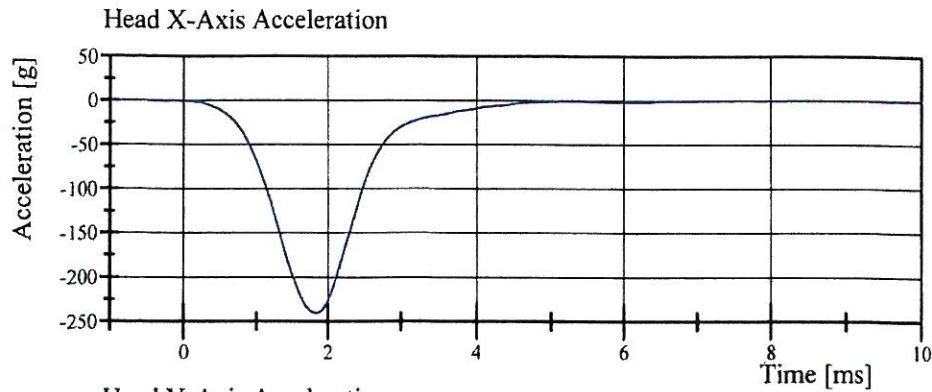


Transportation Research Center Inc.

Front Head Drop

HIH 50th Serial No. 206 Certification No. 21-1

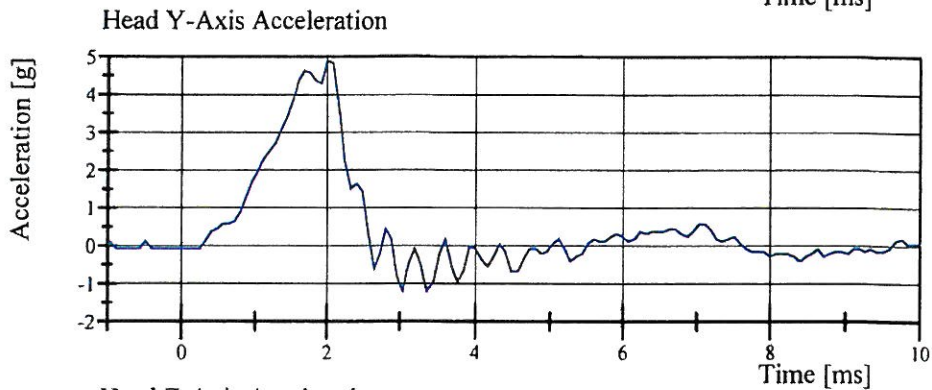
Test Date: 8/31/2009



Filter Class: CFC_1000

Max: 0.1 g at 7.4 ms

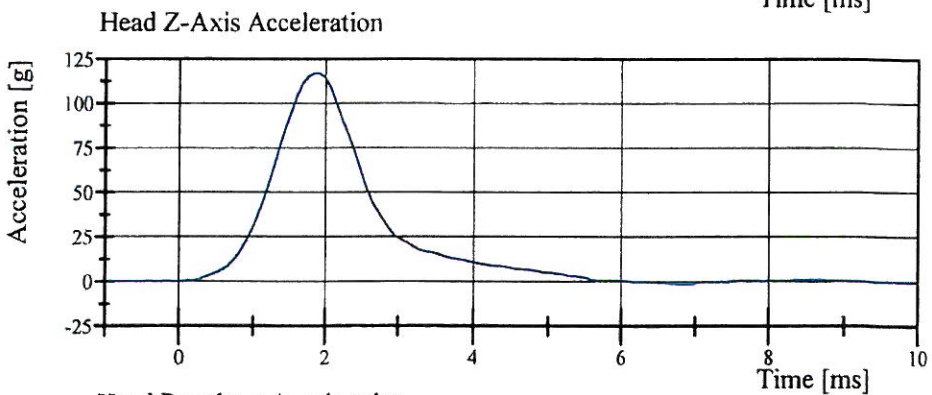
Min: -240.7 g at 1.8 ms



Filter Class: CFC_1000

Max: 4.9 g at 2.0 ms

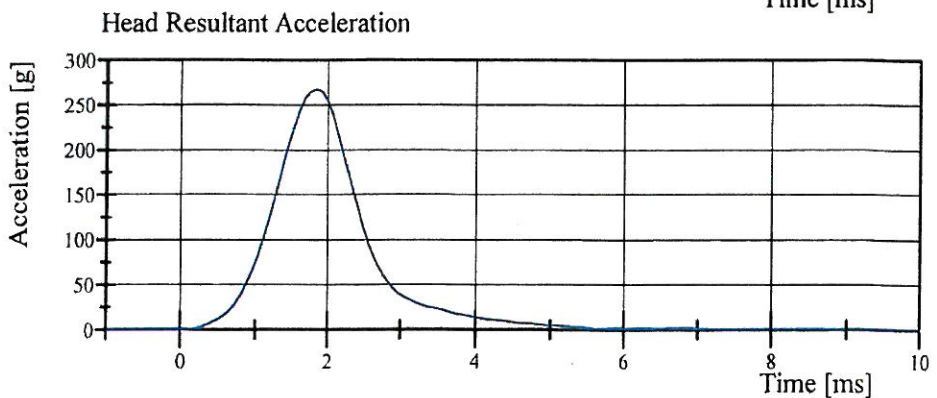
Min: -1.2 g at 3.0 ms



Filter Class: CFC_1000

Max: 117.1 g at 1.8 ms

Min: -1.8 g at 6.9 ms



Filter Class: CFC_1000

Max: 267.7 g at 1.8 ms

Min: 0.1 g at -0.9 ms

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 206 Certification No. 21-1

Test Date: 8/31/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.937 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	41.1 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-26.24 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-20.90 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-14.79 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-14.79 g	Yes
Total Head D-Plane Rotation Peak	(-64) - (-78) °	-75.4 °	Yes
Time of Peak	57 - 64 ms	60.6 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	118.5 ms	Yes
Total Neck Occipital Condyles Moment Peak	88 - 108 N·m	97.2 N·m	Yes
Time of Peak	47 - 58 ms	53.5 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	106.7 ms	Yes

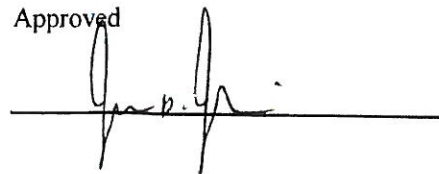
Test meets specifications.

Comments:

Technician



Approved

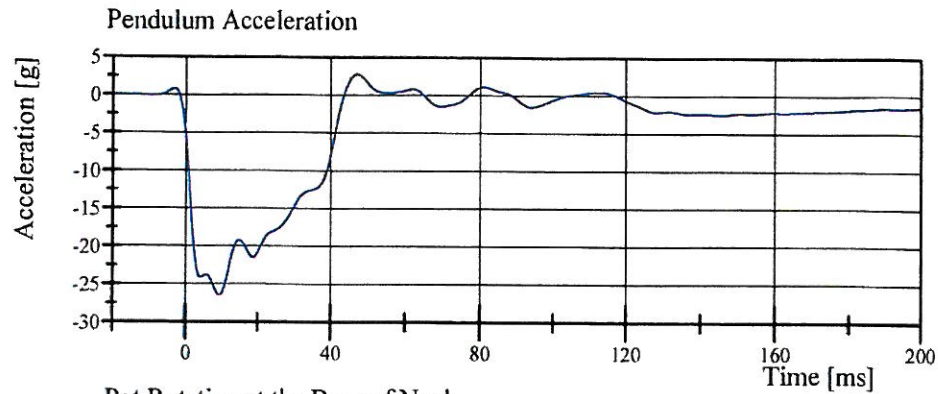


Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 206 Certification No. 21-1

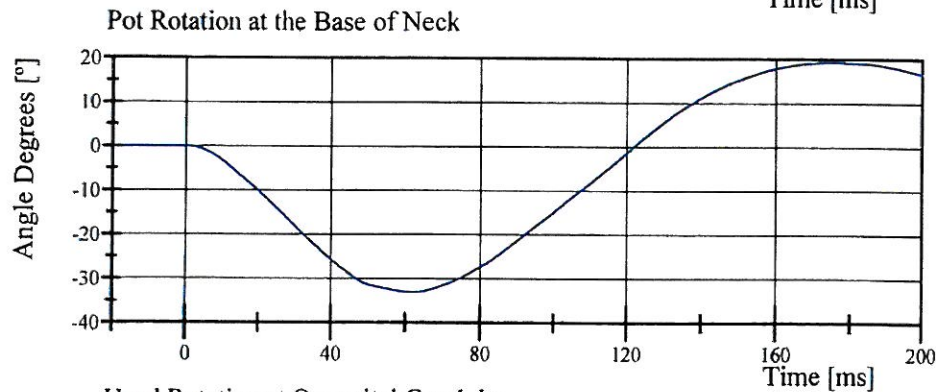
Test Date: 8/31/2009



Filter Class: CFC_60

Max: 2.8 g at 47.1 ms

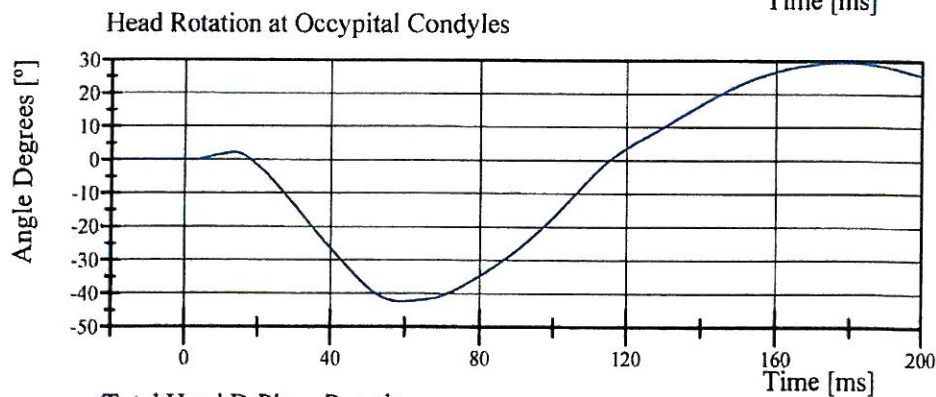
Min: -26.4 g at 9.5 ms



Filter Class: CFC_60

Max: 19.3 ° at 174.6 ms

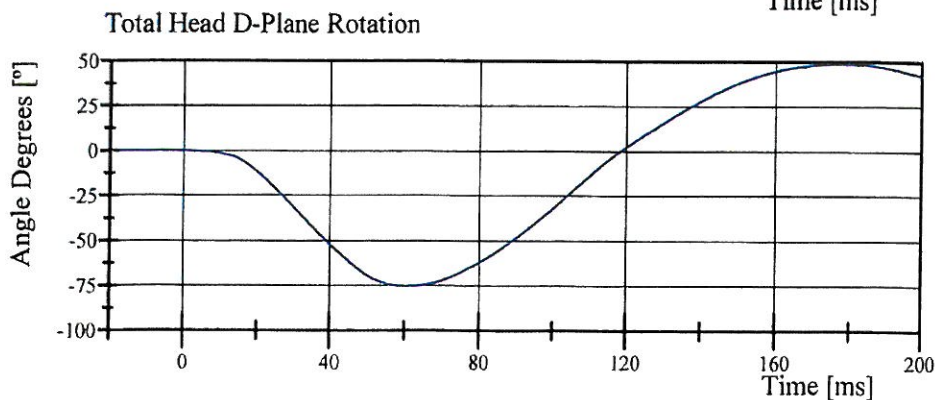
Min: -33.1 ° at 62.0 ms



Filter Class: CFC_60

Max: 29.6 ° at 178.8 ms

Min: -42.4 ° at 59.2 ms



Filter Class: CFC_60

Max: 48.9 ° at 177.8 ms

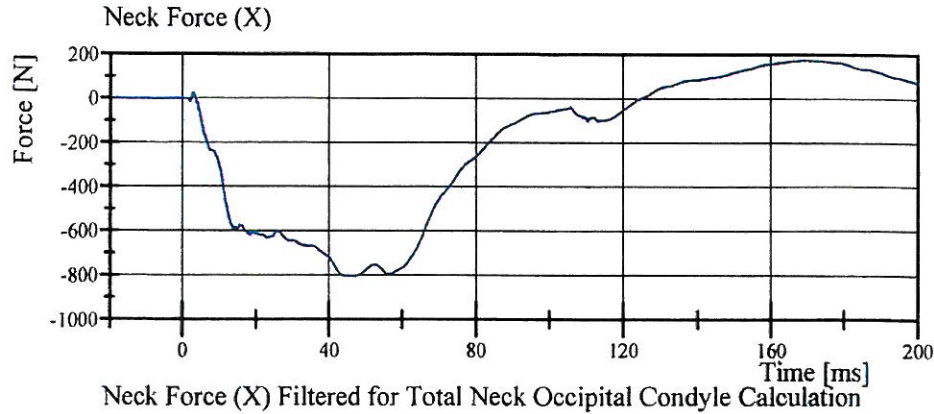
Min: -75.4 ° at 60.6 ms

Transportation Research Center Inc.

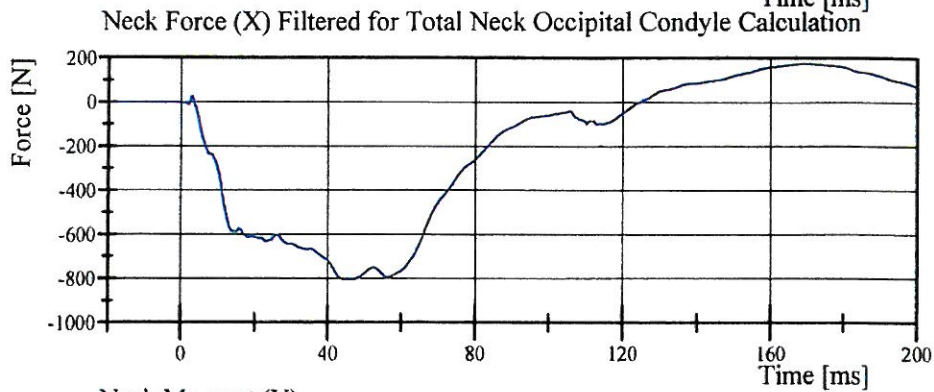
Neck Flexion

HIH 50th Serial No. 206 Certification No. 21-1

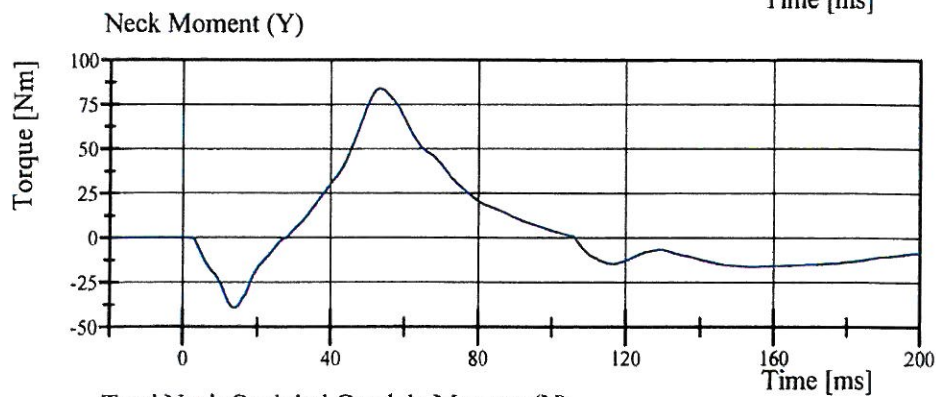
Test Date: 8/31/2009



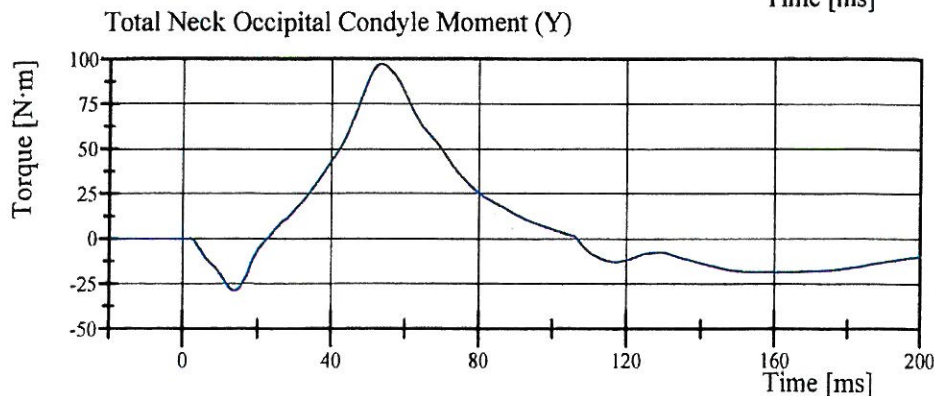
Filter Class: CFC_1000
Max: 175.6 N at 170.1 ms
Min: -804.9 N at 46.7 ms



Filter Class: CFC_600
Max: 175.2 N at 170.1 ms
Min: -804.6 N at 46.7 ms



Filter Class: CFC_600
Max: 83.9 Nm at 53.3 ms
Min: -39.3 Nm at 13.9 ms



Filter Class: CFC_600
Max: 97.2 N·m at 53.5 ms
Min: -29.0 N·m at 13.8 ms

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 206 Certification No. 21-1

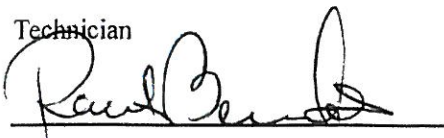
Test Date: 8/31/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	45 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.968 m/s	Yes
Pendulum Acceleration Decay Crossing 5g	38 - 46 ms	39.7 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	20.55 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	17.51 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	13.43 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	13.43 g	Yes
Total Head D-Plane Rotation Peak	81 - 106 °	96.5 °	Yes
Time of Peak	72 - 82 ms	75.2 ms	Yes
Total Head D-Plane Rotation Decay to 0°	147 - 174 ms	153.9 ms	Yes
Total Neck Occipital Condyles Moment Peak	(-53) - (-80) N·m	-67.2 N·m	Yes
Time of Peak	65 - 79 ms	70.4 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	120 - 148 ms	141.1 ms	Yes

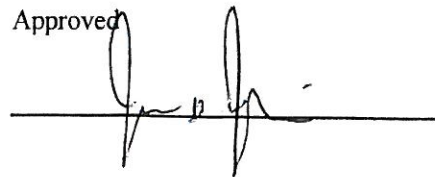
Test meets specifications.

Comments:

Technician



Approved



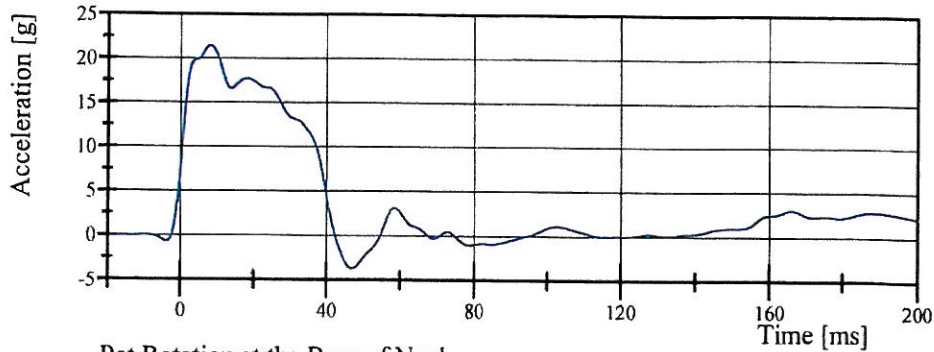
Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 206 Certification No. 21-1

Test Date: 8/31/2009

Pendulum Acceleration

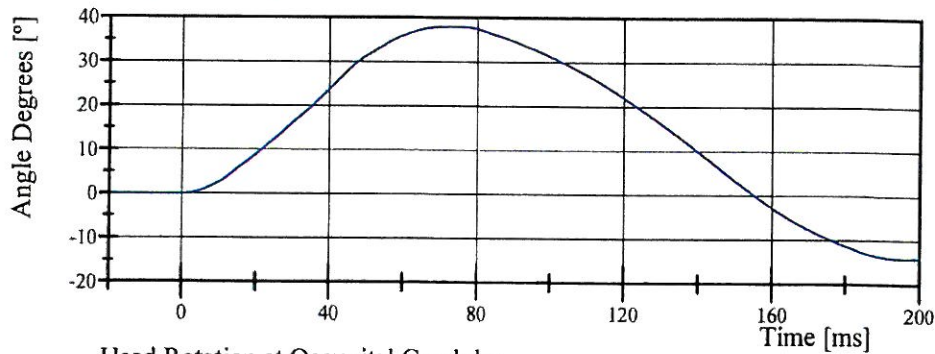


Filter Class: CFC_60

Max: 21.5 g at 8.2 ms

Min: -3.7 g at 47.0 ms

Pot Rotation at the Base of Neck

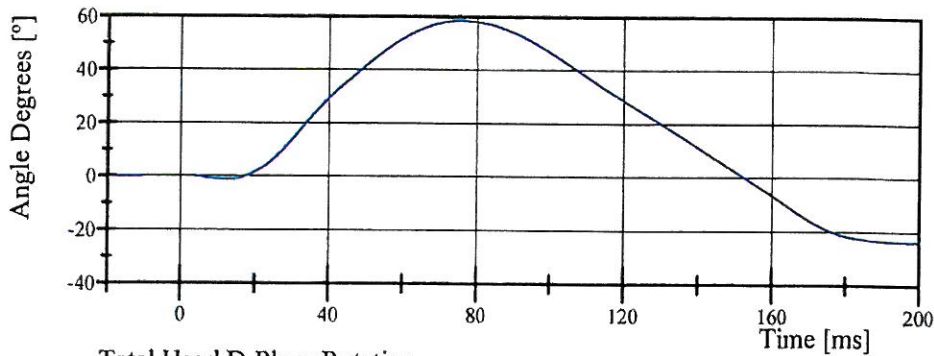


Filter Class: CFC_60

Max: 38.0 ° at 73.5 ms

Min: -14.1 ° at 196.8 ms

Head Rotation at Occypital Condyles

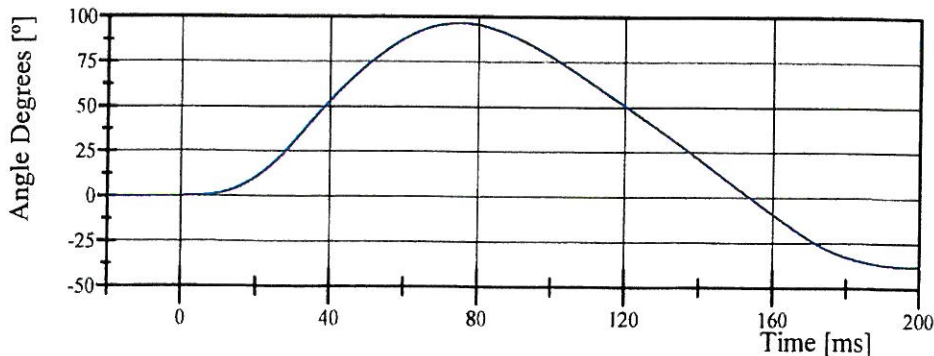


Filter Class: CFC_60

Max: 58.6 ° at 75.6 ms

Min: -23.7 ° at 197.8 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 96.5 ° at 75.2 ms

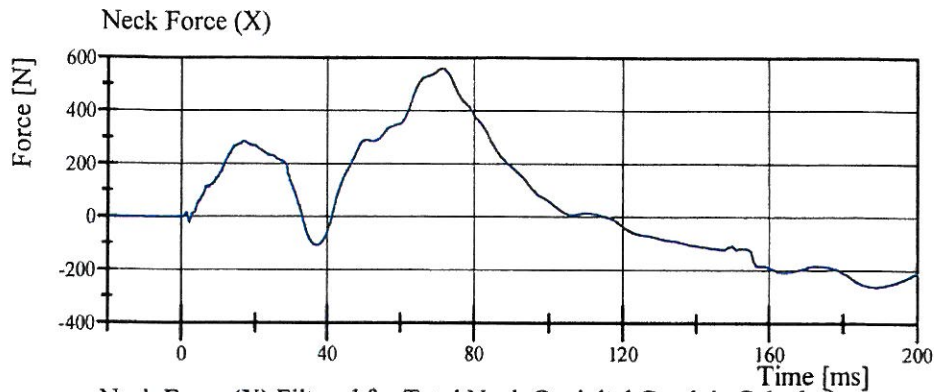
Min: -37.8 ° at 197.3 ms

Transportation Research Center Inc.

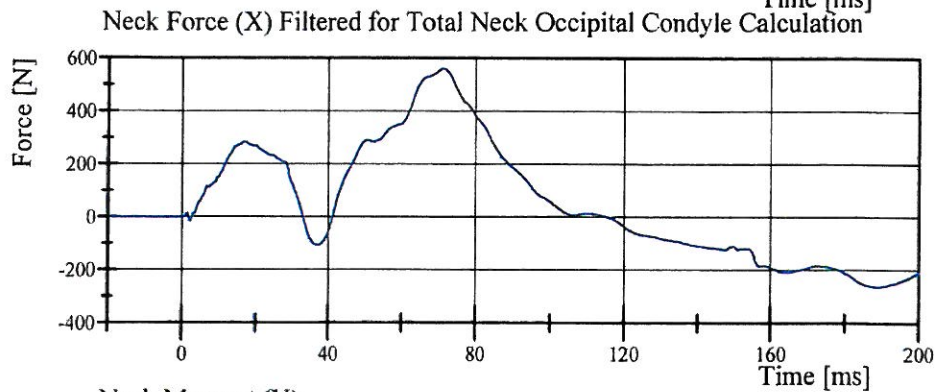
Neck Extension

HIH 50th Serial No. 206 Certification No. 21-1

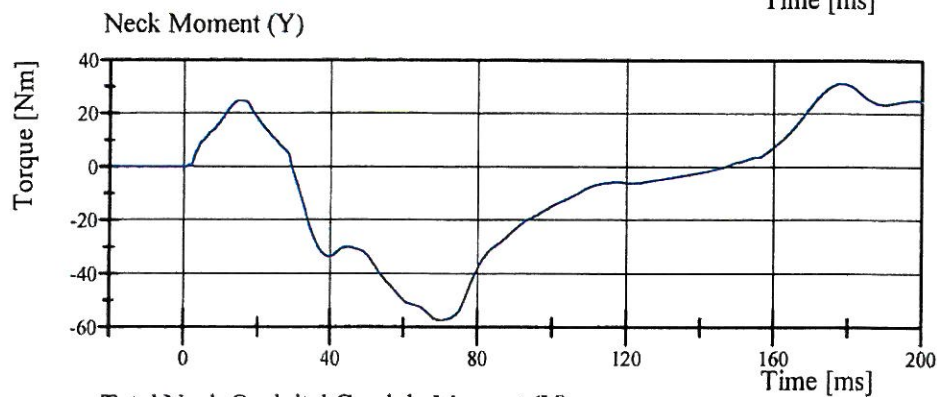
Test Date: 8/31/2009



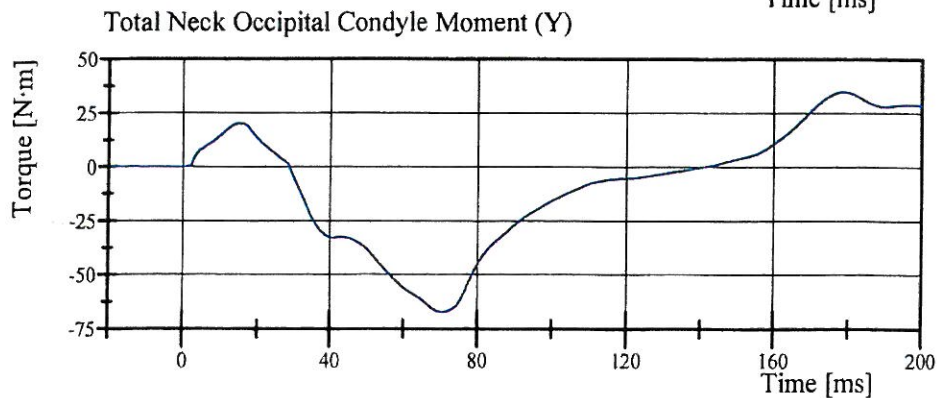
Filter Class: CFC_1000
Max: 561.6 N at 71.1 ms
Min: -263.3 N at 189.4 ms



Filter Class: CFC_600
Max: 561.3 N at 71.2 ms
Min: -262.9 N at 189.3 ms



Filter Class: CFC_600
Max: 31.4 Nm at 178.3 ms
Min: -57.4 Nm at 70.1 ms



Filter Class: CFC_600
Max: 34.9 N·m at 178.8 ms
Min: -67.2 N·m at 70.4 ms

Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 206 Certification No. 21-1

Test Date: 9/1/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.741 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,740.3 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-70.11 mm	Yes
Internal Hysteresis	65 - 85 %	71.3 %	Yes

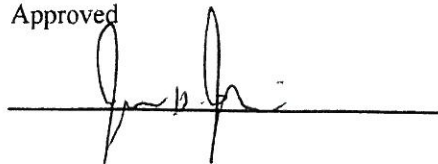
Test meets specifications.

Comments:

Technician



Approved



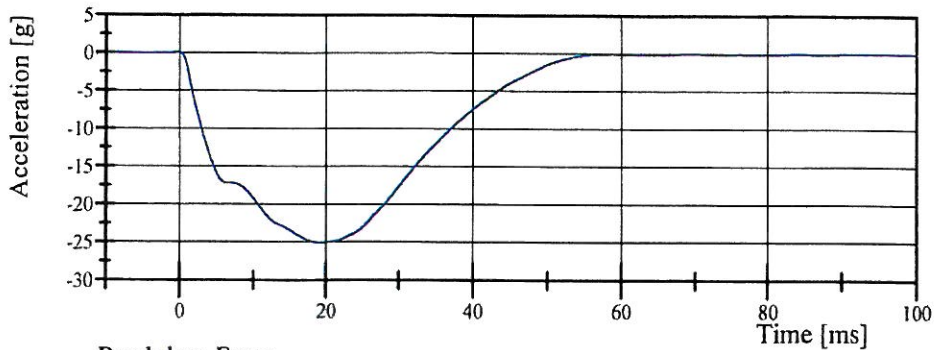
Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 206 Certification No. 21-1

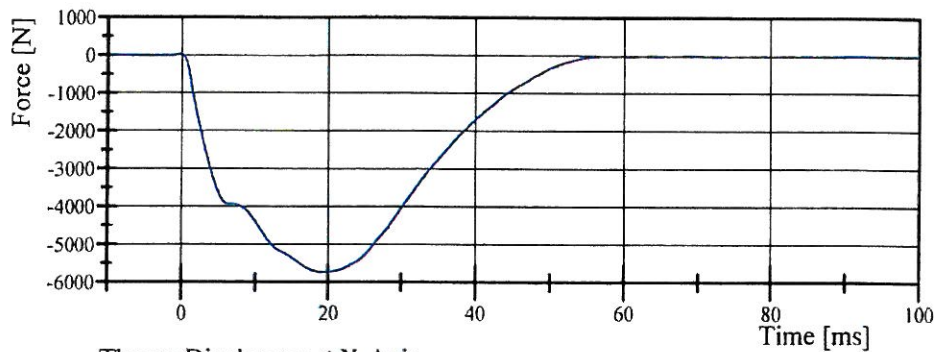
Test Date: 9/1/2009

Pendulum Acceleration



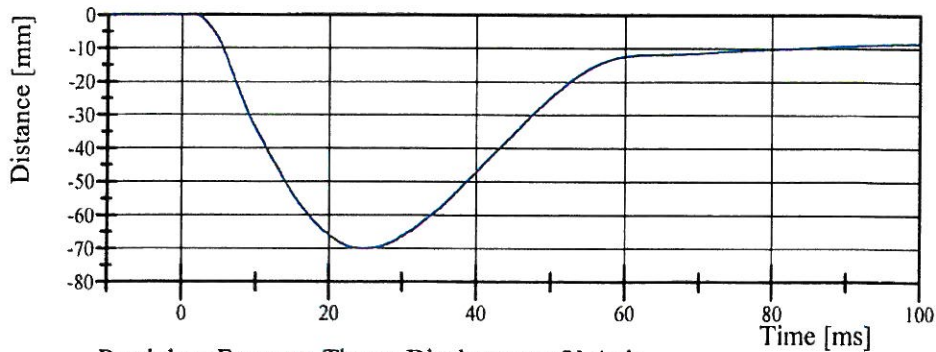
Filter Class: CFC_180
Max: 0.1 g at -0.2 ms
Min: -25.0 g at 19.0 ms

Pendulum Force



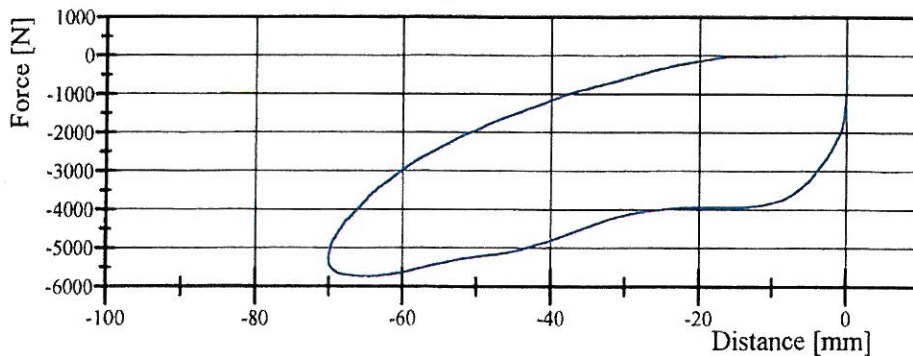
Filter Class: CFC_180
Max: 31.2 N at -0.2 ms
Min: -5,740.3 N at 19.0 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -9.0 ms
Min: -70.1 mm at 25.0 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 31.2 N at -0.0 mm
Min: -5,740.3 N at -64.4 mm

Transportation Research Center Inc

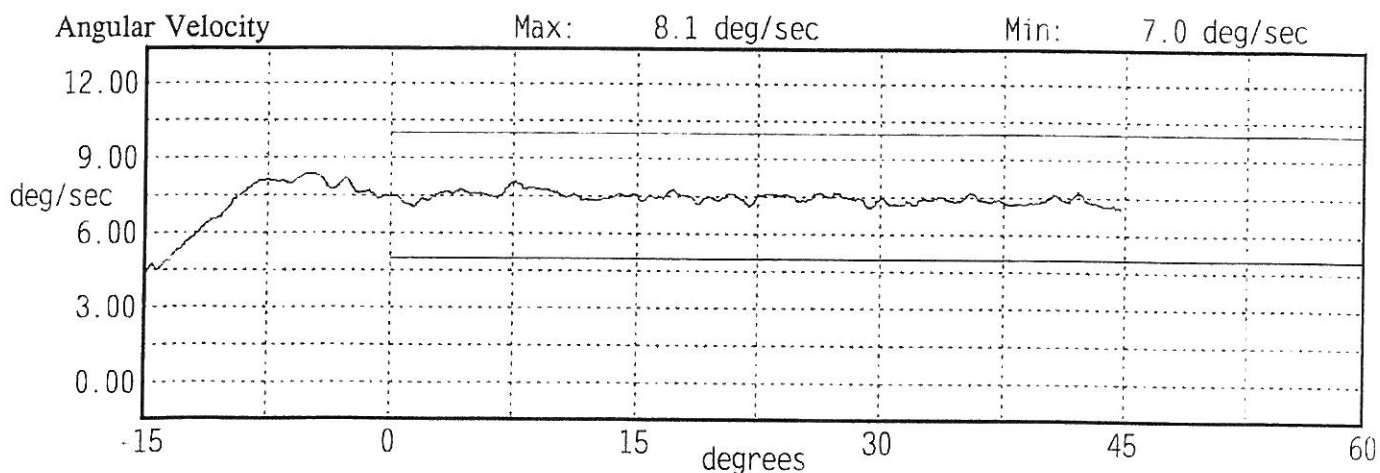
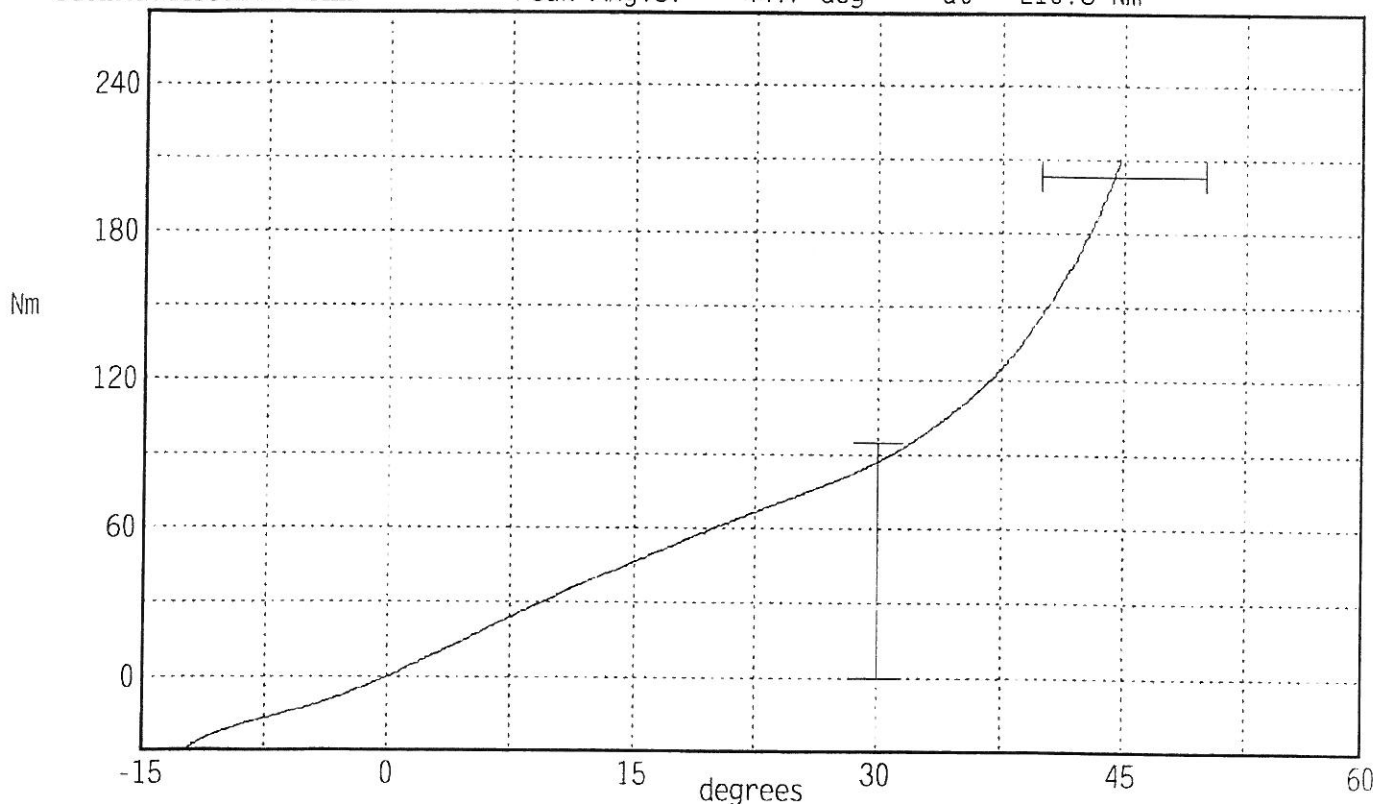
Hybrid III Hip Range of Motion

Serial Number: 206L
Test Number: 206C21
Comments:

Date: 08/31/2009
Time: 16:59

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.6 °C Pass
Humidity	10 - 70	45 % Pass
Moment at 30 deg	<= 94.9	87.3 Nm Pass
Angle at 203 Nm	40.0 - 50.0	44.4 deg Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec Pass

Moment About H-Point
Peak Moment: 210.3 Nm at 44.7 deg
Peak Angle: 44.7 deg at 210.3 Nm



Transportation Research Center Inc

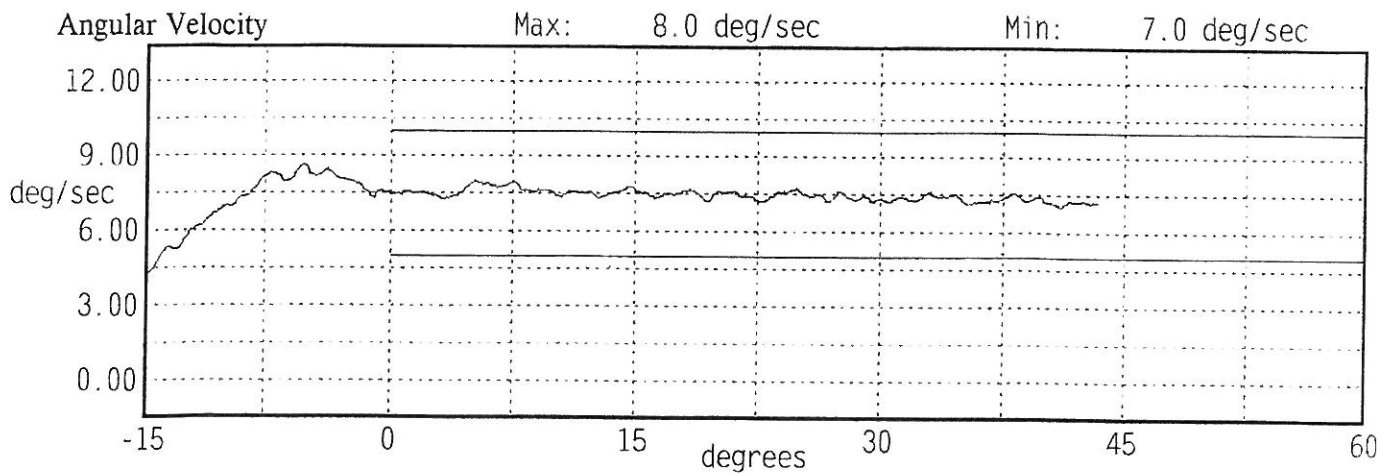
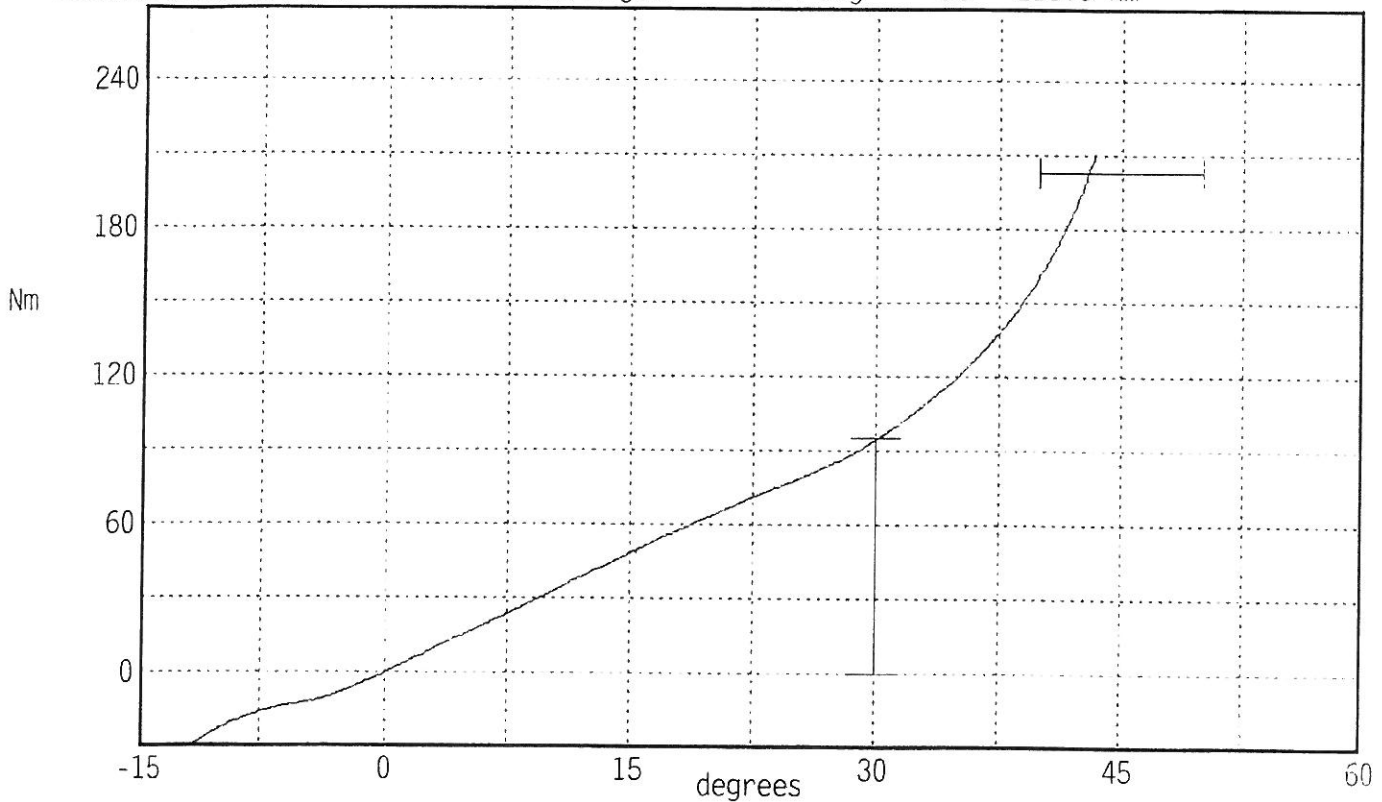
Hybrid III Hip Range of Motion

Serial Number: 206R
Test Number: 206C21
Comments:

Date: 08/31/2009
Time: 17:35

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.6 °C	Pass
Humidity	10 - 70	45 %	Pass
Moment at 30 deg	<= 94.9	94.1 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	43.0 deg	Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec	Pass

Moment About H-Point
Peak Moment: 210.5 Nm at 43.4 deg
Peak Angle: 43.4 deg at 210.5 Nm

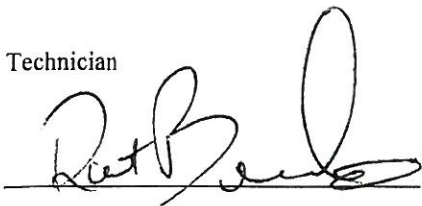


Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 206 Calibration No. 21

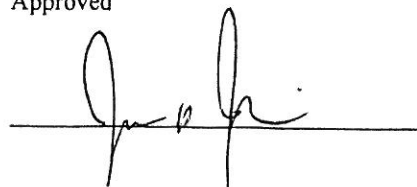
Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	880	Yes
B	Shoulder Pivot Height	505.5 - 520.7	510	Yes
C	H-Point Height	83.8 - 88.9	88	Yes
D	H-Point From Seatback	134.6 - 139.7	138	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	93	Yes
F	Thigh Clearance	139.7 - 154.9	152	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	292	Yes
H	Skull Cap To Backline	40.6 - 45.7	45	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	331	Yes
J	Elbow Rest Height	190.5 - 210.8	198	Yes
K	Buttock Knee Length	579.1 - 604.5	600	Yes
L	Popliteal Height	429.3 - 454.7	420	No
M	Knee Pivot Height	485.1 - 500.4	490	Yes
N	Buttock Popliteal Length	452.1 - 477.5	475	Yes
O	Chest Depth	213.4 - 228.6	220	Yes
P	Foot Length	251.5 - 266.7	252	Yes
V	Shoulder Breadth	421.6 - 436.9	422	Yes
W	Foot Breadth	91.4 - 106.7	100	Yes
Y	Chest Circumference	970.3 - 1000.8	990	Yes
Z	Waist Circumference	835.7 - 866.1	860	Yes
AA	Location For Chest Circumference	429.3 - 434.3	430	Yes
BB	Location For Waist Circumference	226.1 - 231.1	230	Yes

Thor leg used

Technician



Approved



Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Right Front Passenger Dummy S/N: 329

Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 329 Certification No. 12-3

Test Date: 5/5/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	274.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	2.6 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Robert Beranides

Approved

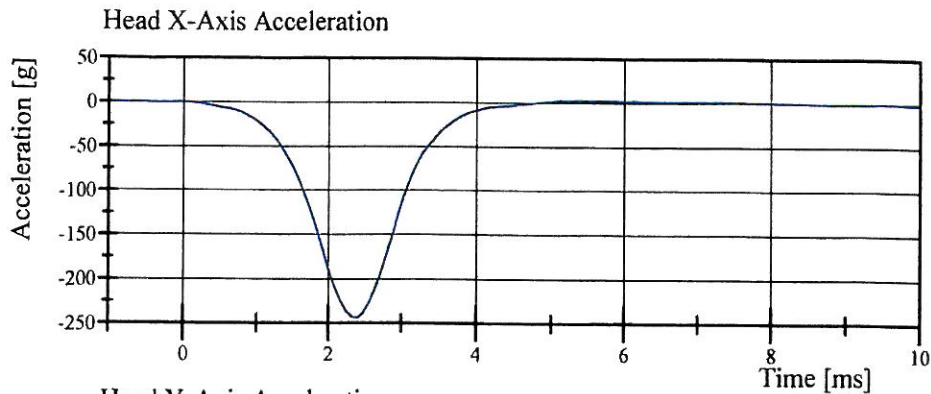
James J. [Signature]

Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 329 Certification No. 12-3

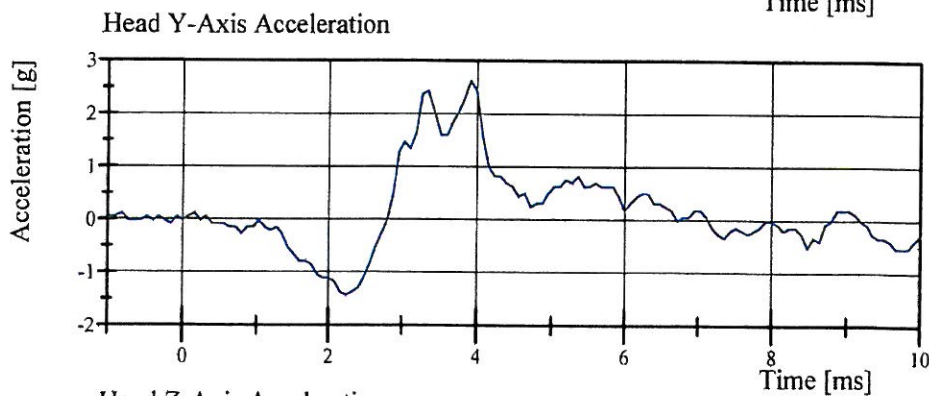
Test Date: 5/5/2009



Filter Class: CFC_1000

Max: 2.7 g at 5.8 ms

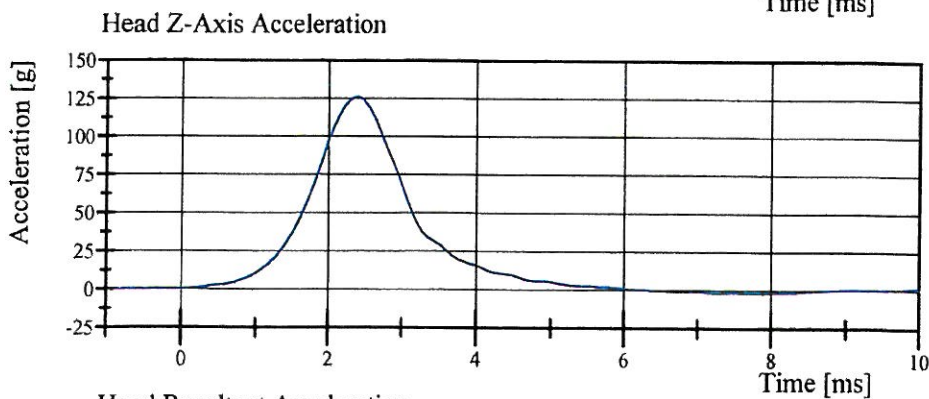
Min: -244.2 g at 2.4 ms



Filter Class: CFC_1000

Max: 2.6 g at 3.9 ms

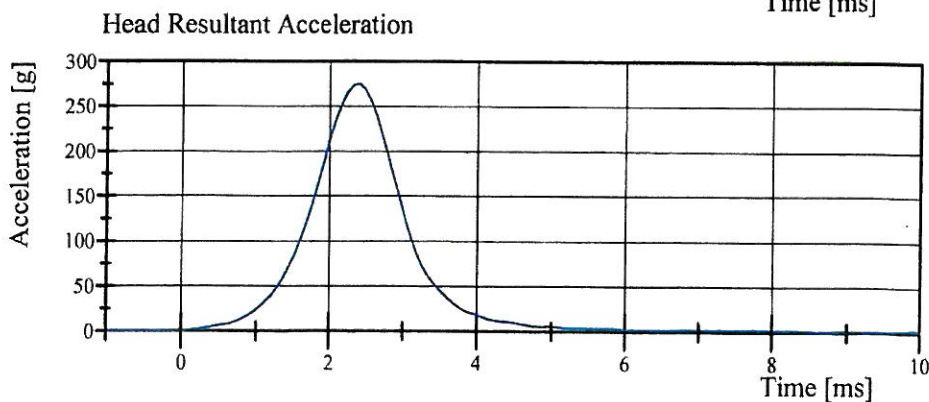
Min: -1.4 g at 2.2 ms



Filter Class: CFC_1000

Max: 126.4 g at 2.4 ms

Min: -1.9 g at 7.8 ms



Filter Class: CFC_1000

Max: 274.9 g at 2.4 ms

Min: 0.0 g at -0.4 ms

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 329 Certification No. 12-4

Test Date: 5/5/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	41 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.010 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.26 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.31 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.02 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-78.4 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	81.2 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	85.8 ms	Yes

Test meets specifications.

Comments:

Technician

Robert Bonavides

Approved

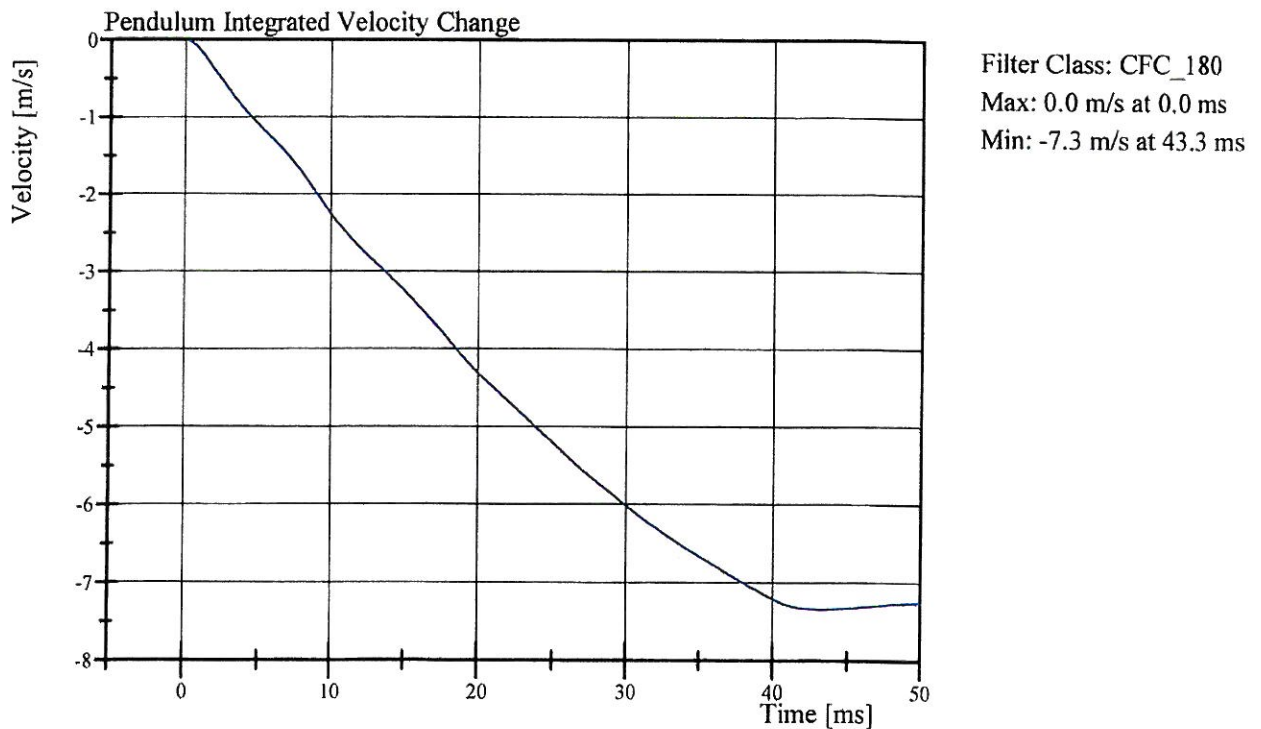
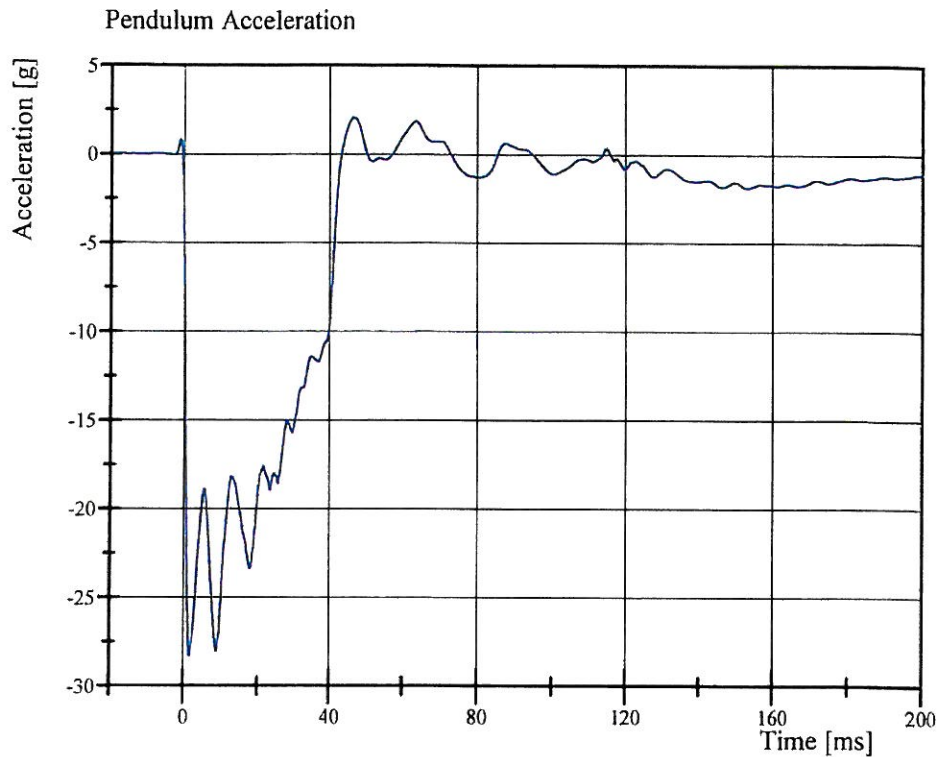
[Signature]

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 329 Certification No. 12-4

Test Date: 5/5/2009



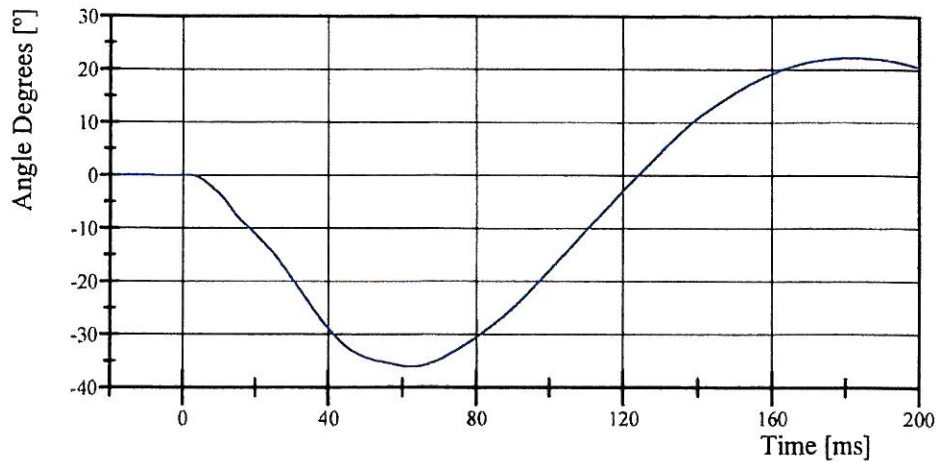
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 329 Certification No. 12-4

Test Date: 5/5/2009

Pot Rotation at the Base of Neck

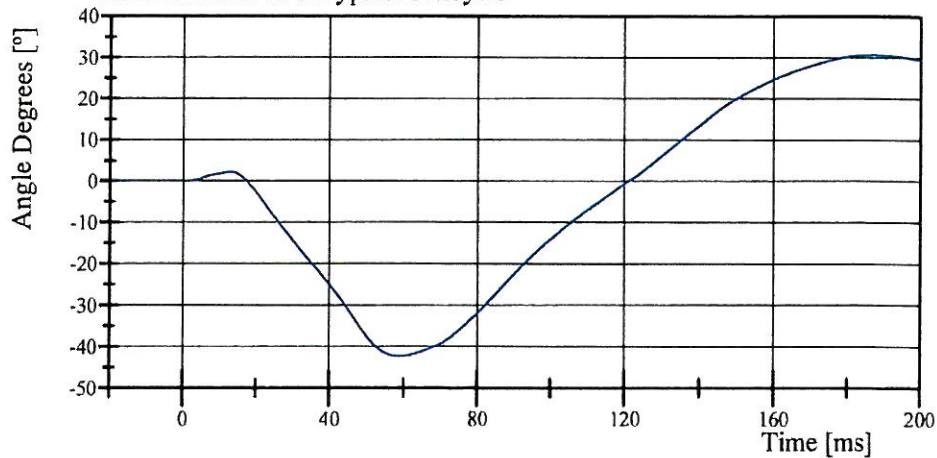


Filter Class: CFC_60

Max: 22.3 ° at 182.6 ms

Min: -36.1 ° at 62.8 ms

Head Rotation at Occypital Condyles

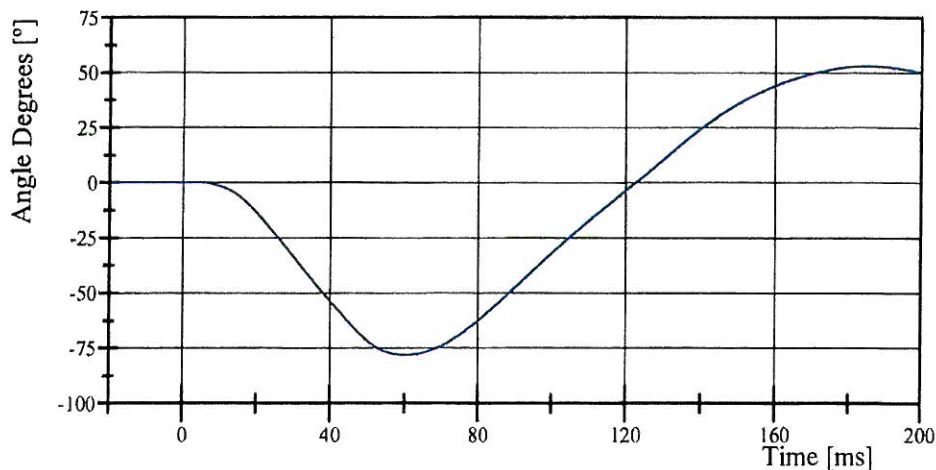


Filter Class: CFC_60

Max: 30.7 ° at 187.8 ms

Min: -42.4 ° at 58.9 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 52.9 ° at 185.8 ms

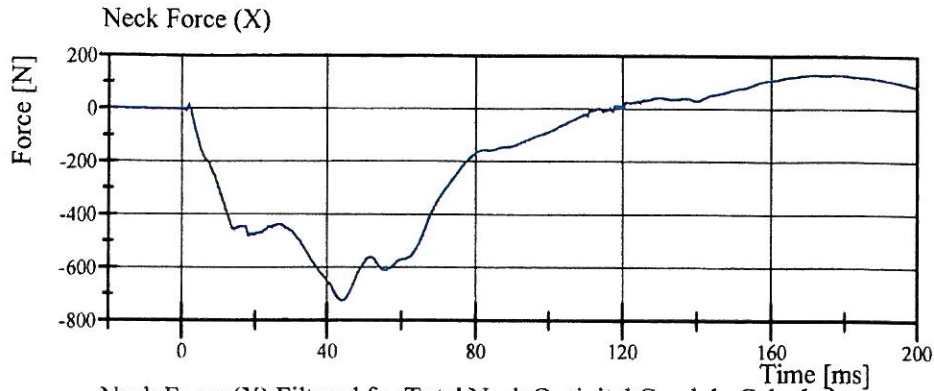
Min: -78.4 ° at 60.3 ms

Transportation Research Center Inc.

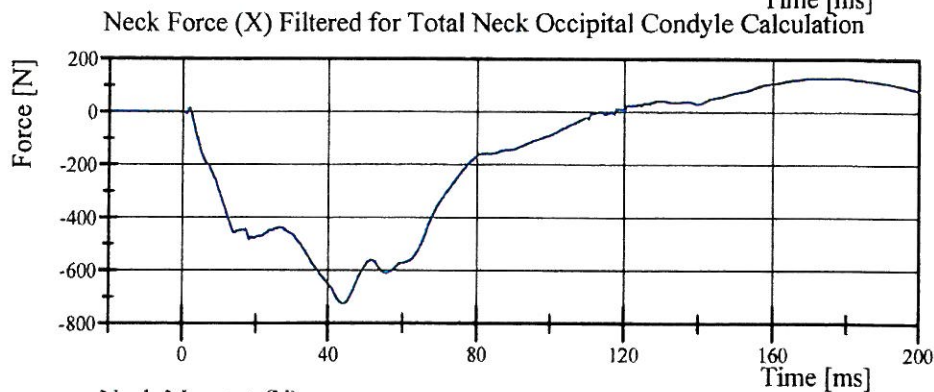
Neck Flexion

HIII 5th Serial No. 329 Certification No. 12-4

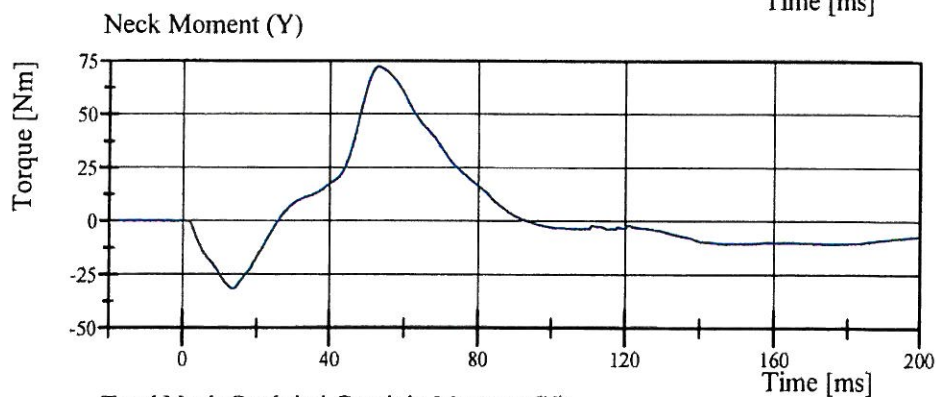
Test Date: 5/5/2009



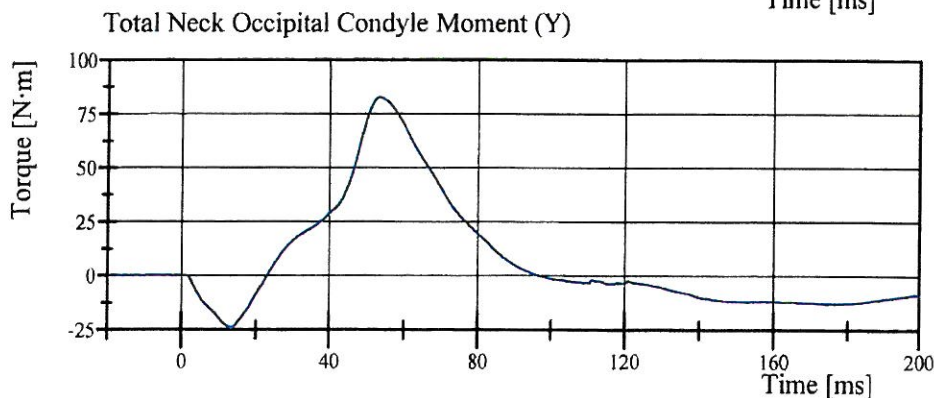
Filter Class: CFC_1000
Max: 130.2 N at 171.6 ms
Min: -726.2 N at 44.0 ms



Filter Class: CFC_600
Max: 129.7 N at 171.6 ms
Min: -725.5 N at 44.0 ms



Filter Class: CFC_600
Max: 72.3 Nm at 53.2 ms
Min: -31.9 Nm at 13.7 ms



Filter Class: CFC_600
Max: 82.6 N·m at 53.5 ms
Min: -24.0 N·m at 13.4 ms

Transportation Research Center Inc.

Neck Extension

HIIL 5th Serial No. 329 Certification No. 12-2

Test Date: 5/5/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	42 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.042 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.88 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.65 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	4.6 - 5.6 m/s	5.28 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	106.8 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-59.0 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	102.3 ms	Yes

Test meets specifications.

Comments:

Technician

Robert Borawski

Approved

James J. [Signature]

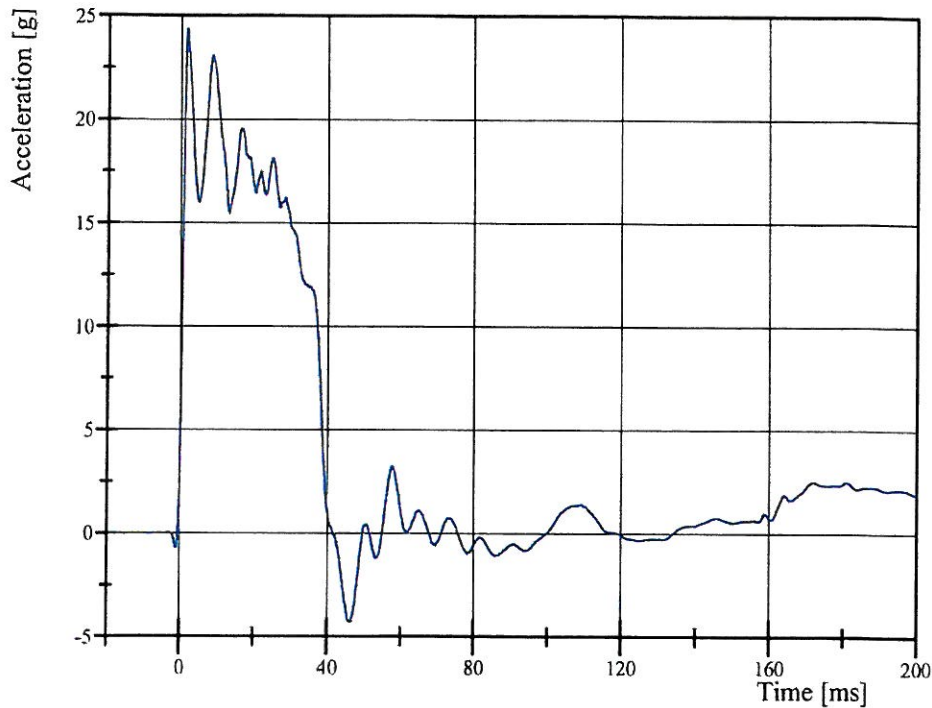
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 329 Certification No. 12-2

Test Date: 5/5/2009

Pendulum Acceleration



Filter Class: CFC_180

Max: 24.4 g at 1.8 ms

Min: -4.3 g at 46.4 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 6.3 m/s at 41.7 ms

Min: 0.0 m/s at 0.0 ms

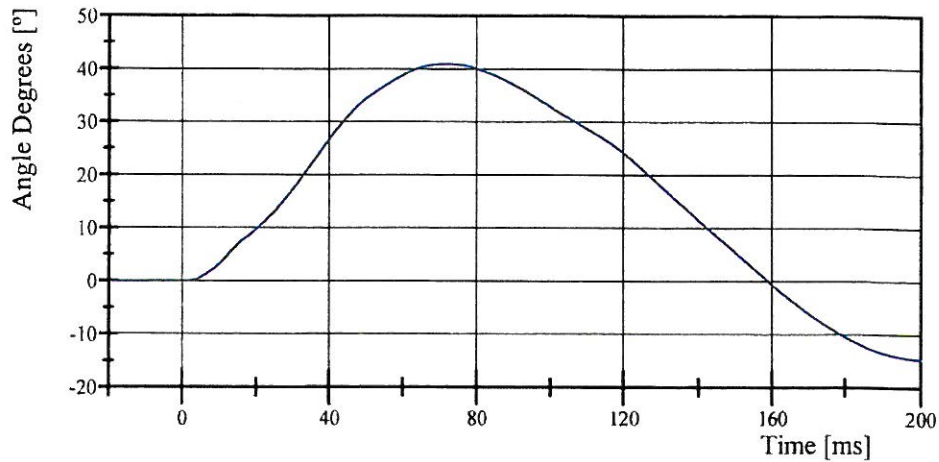
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 329 Certification No. 12-2

Test Date: 5/5/2009

Pot Rotation at the Base of Neck

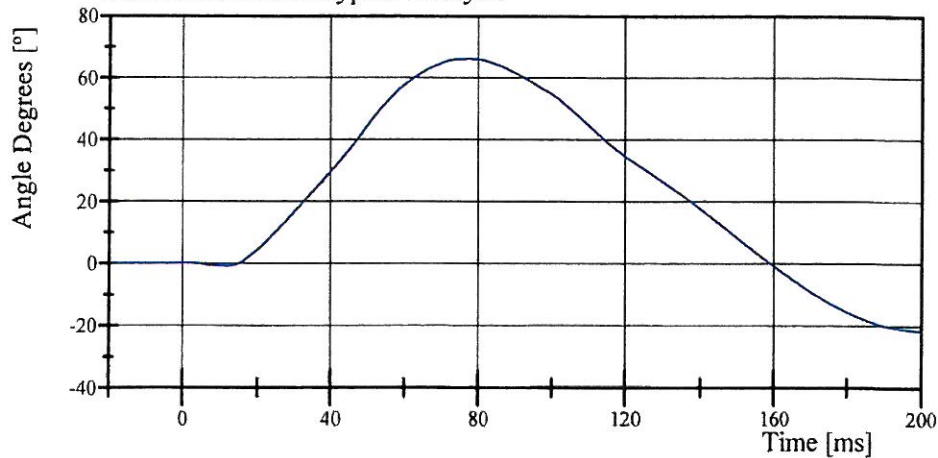


Filter Class: CFC_60

Max: 41.0 ° at 71.9 ms

Min: -14.7 ° at 200.0 ms

Head Rotation at Occypital Condyles

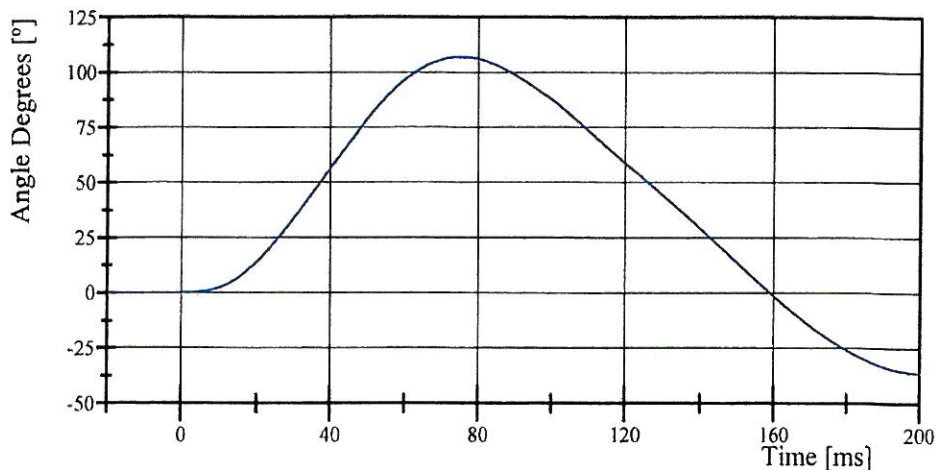


Filter Class: CFC_60

Max: 66.1 ° at 77.8 ms

Min: -21.7 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 106.8 ° at 75.0 ms

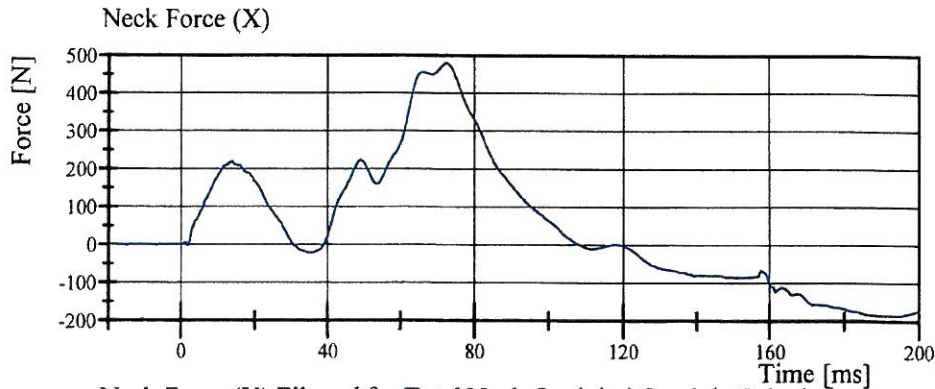
Min: -36.4 ° at 200.0 ms

Transportation Research Center Inc.

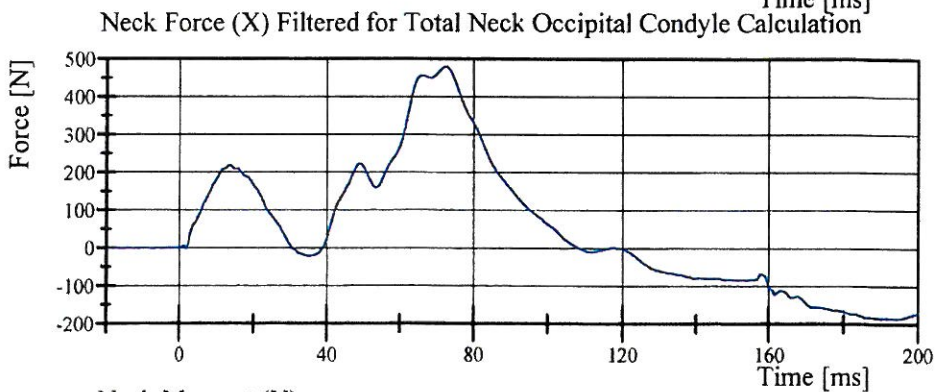
Neck Extension

HIII 5th Serial No. 329 Certification No. 12-2

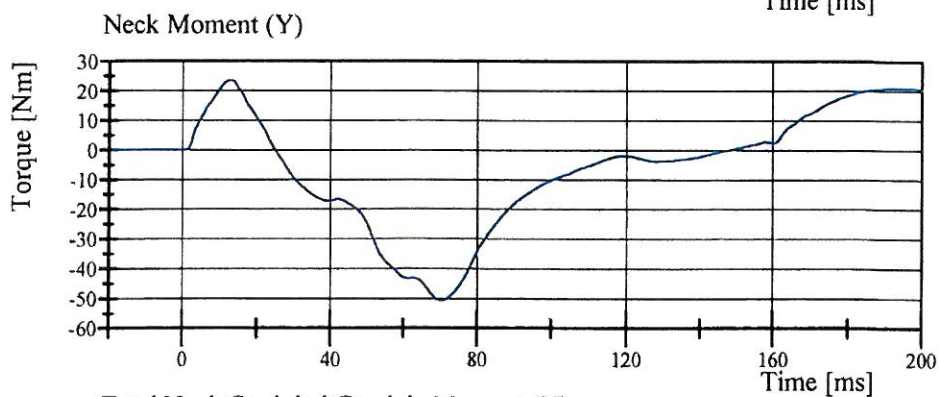
Test Date: 5/5/2009



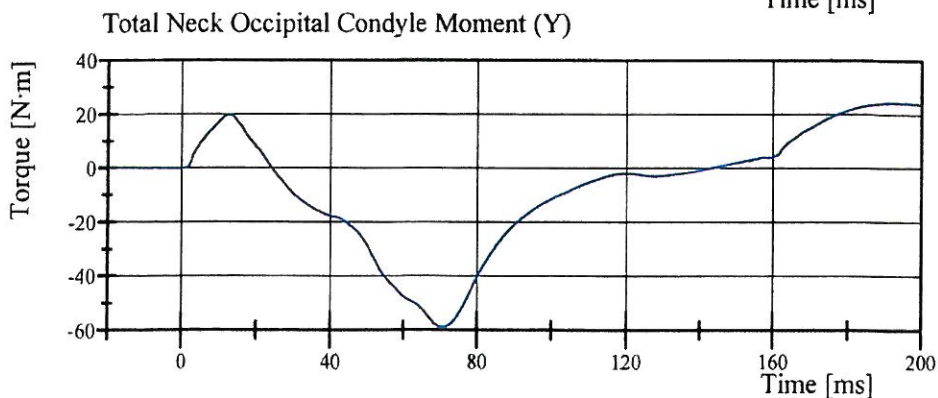
Filter Class: CFC_1000
Max: 480.1 N at 72.2 ms
Min: -186.2 N at 193.8 ms



Filter Class: CFC_600
Max: 480.0 N at 72.4 ms
Min: -185.8 N at 193.7 ms



Filter Class: CFC_600
Max: 23.5 Nm at 13.2 ms
Min: -50.7 Nm at 70.4 ms



Filter Class: CFC_600
Max: 24.2 N·m at 192.6 ms
Min: -59.0 N·m at 70.7 ms

Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 329 Certification No. 12-2

Test Date: 5/6/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.712 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,263.1 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	$\geq$ (-4,600) N	-4,263.0 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-52.1 mm	Yes
Internal Hysteresis	69 - 85 %	72.0 %	Yes

Test meets specifications.

Comments:

Technician

Robert Barauds

Approved

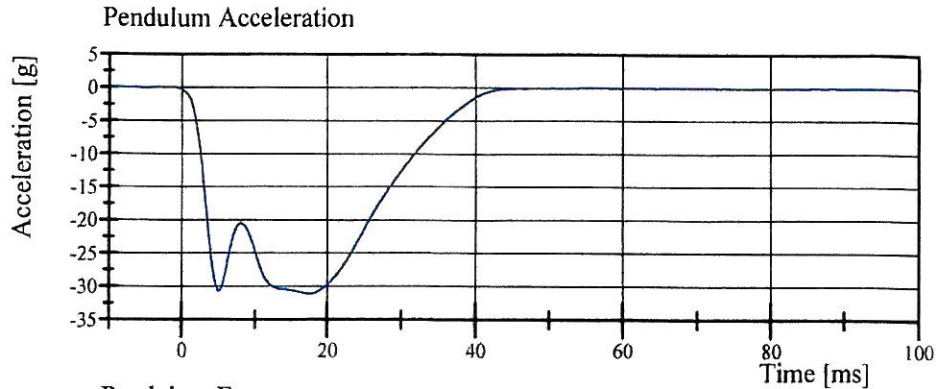
[Signature]

Transportation Research Center Inc.

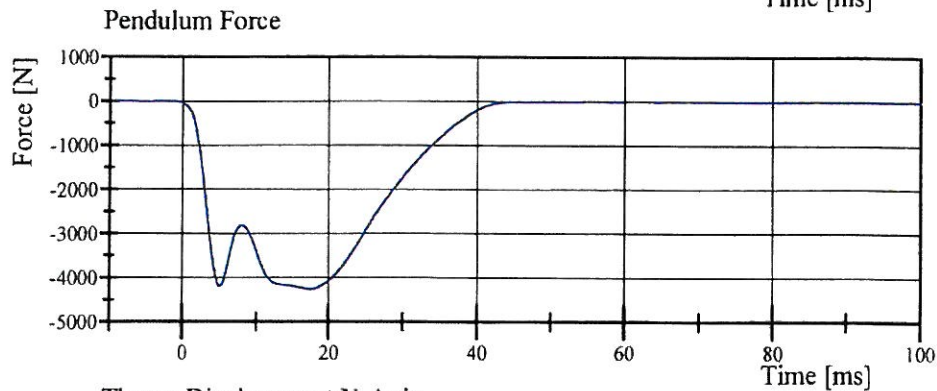
Front Thorax

HIII 5th Serial No. 329 Certification No. 12-2

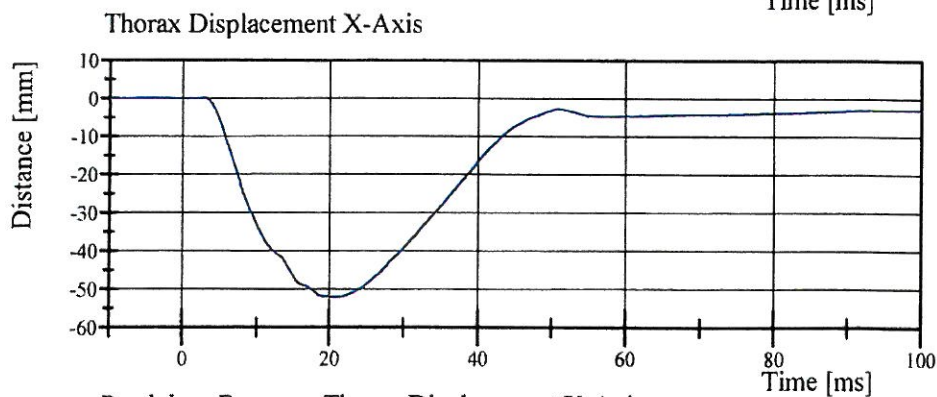
Test Date: 5/6/2009



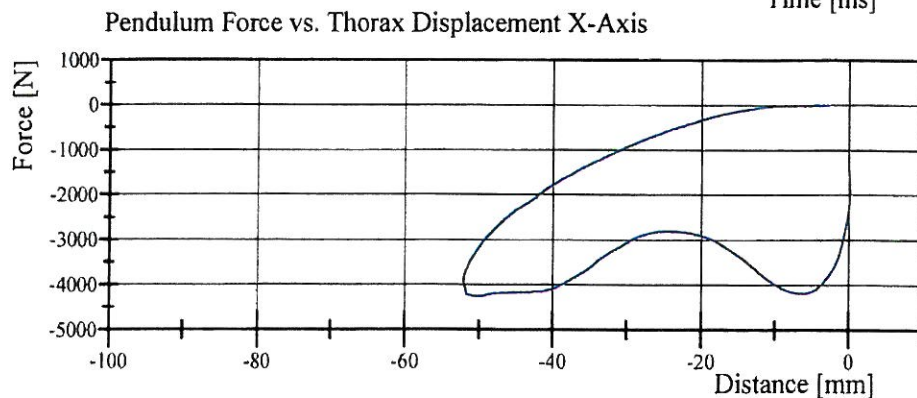
Filter Class: CFC_180
Max: 0.0 g at 63.0 ms
Min: -31.1 g at 17.6 ms



Filter Class: CFC_180
Max: 1.9 N at 63.0 ms
Min: -4,263.1 N at 17.6 ms



Filter Class: CFC_600
Max: 0.2 mm at 3.0 ms
Min: -52.1 mm at 20.9 ms



Filter Class: CFC_180
Max: 1.9 N at -4.5 mm
Min: -4,263.1 N at -50.1 mm

TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 05-May-09

TRC, INC. TEST NO: TOFL-01 572 O SN329 TORSO FLEX CAL 12

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TIME		1607
TEMPERATURE	20.6 – 22.2° C	21.3 ° C
RELATIVE HUMIDITY	10 – 70 %	41 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY <u>START ANGLE</u>	<= 20° REFERENCED TO VERTICAL	196 °
DIFFERENCE BETWEEN <u>RETURN</u> <u>ANGLE</u> & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	4.4 °
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	373.3 N
RATE	0.5° - 1.5 °/sec	.97°/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

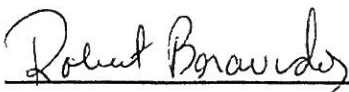
Left Knee Femur Response Test
HIII 5th Serial No. 329 Certification No. 12-1
Test Date: 5/4/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.099 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,999.2 N	Yes

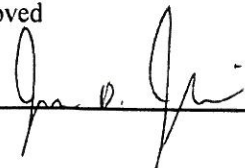
Test meets specifications.

Comments:

Technician

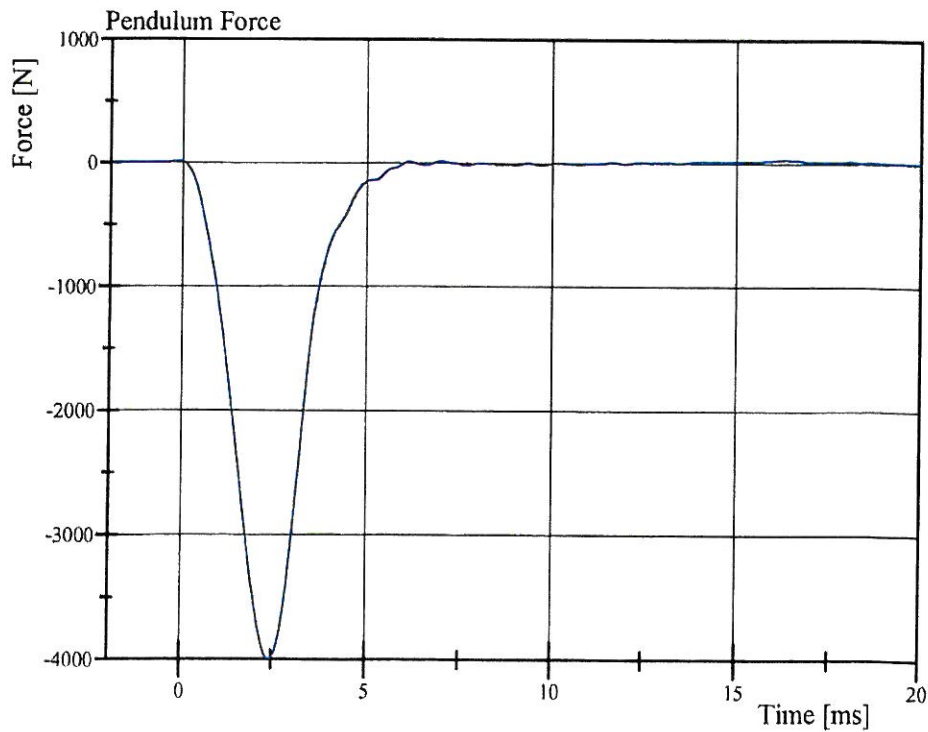
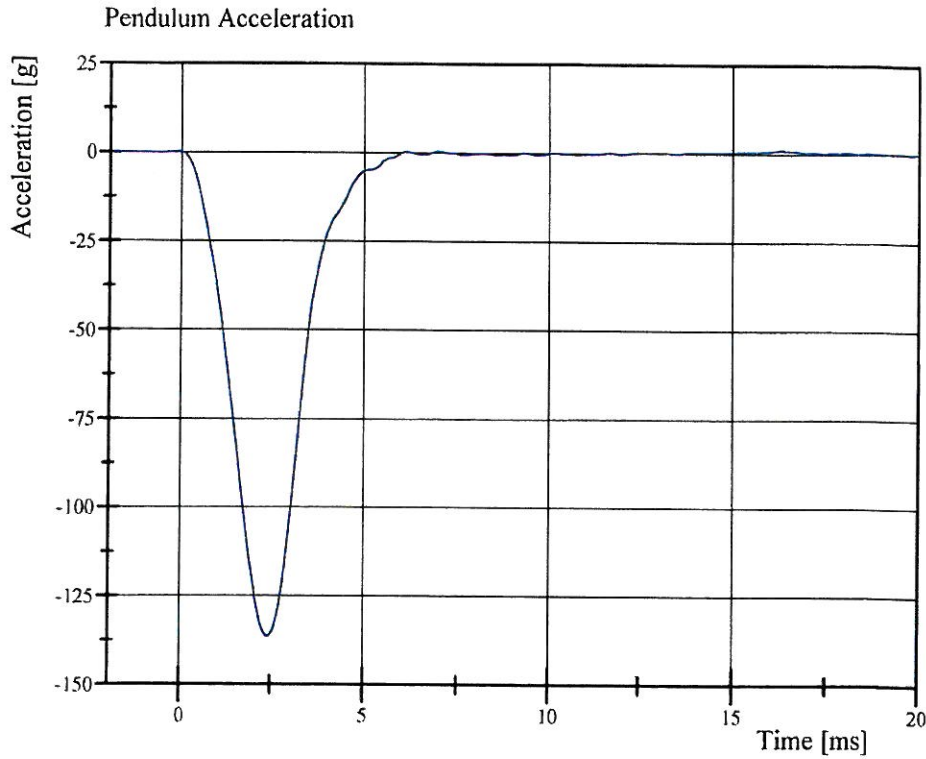


Approved



Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 329 Certification No. 12-1
Test Date: 5/4/2009



Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 329 Certification No. 12-1
Test Date: 5/4/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.096 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,903.4 N	Yes

Test meets specifications.

Comments:

Technician

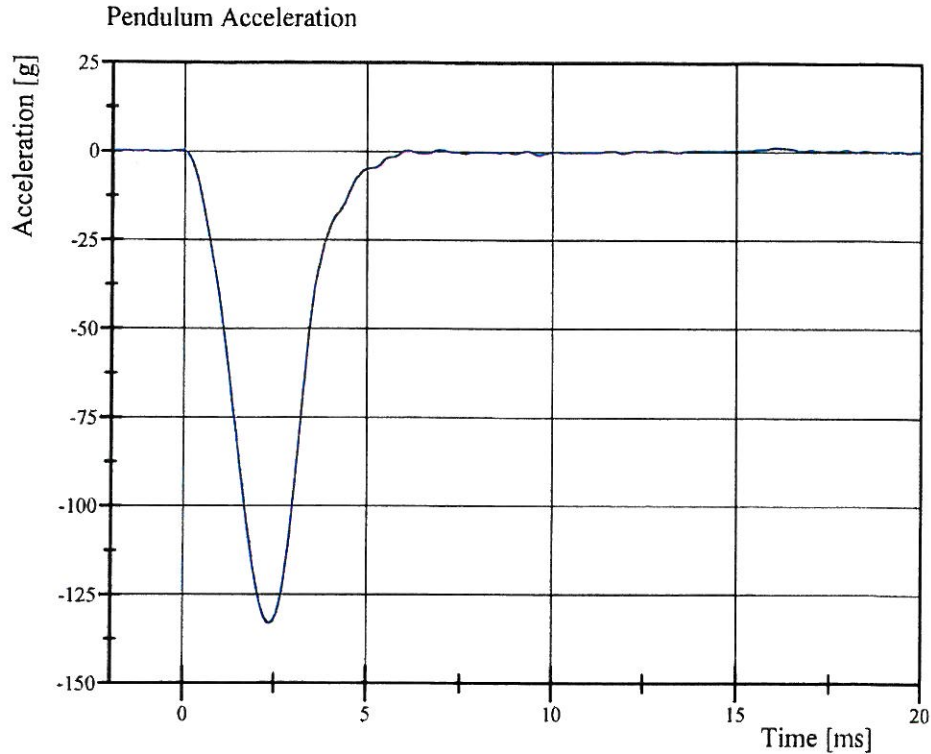
Roland Barauds

Approved

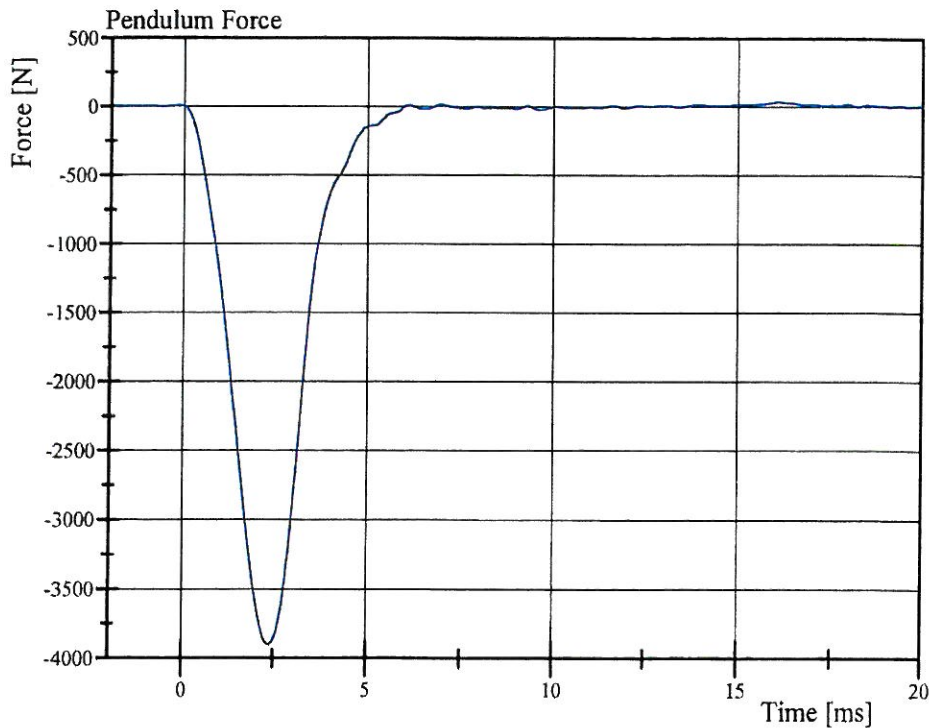
J. D. Jari

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 329 Certification No. 12-1
Test Date: 5/4/2009



Filter Class: CFC_600
Max: 1.2 g at 16.1 ms
Min: -133.1 g at 2.4 ms



Filter Class: CFC_600
Max: 35.6 N at 16.1 ms
Min: -3,903.4 N at 2.4 ms

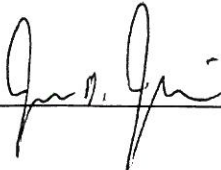
Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 329 Calibration No. 12

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	777	Yes
B	Shoulder Pivot Height	431.8 - 457.2	450	Yes
C	Hip Pivot Height	81.3 - 86.3	83	Yes
D	Hip Pivot from Backline	144.8 - 149.8	147	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	75	Yes
F	Thigh Clearance	119.4 - 134.6	128	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	245	Yes
H	Head Back to Backline	43.2 - 48.2	45	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	281	Yes
J	Elbow Rest Height	182.8 - 203.2	183	Yes
K	Buttock Knee Length	520.7 - 546.1	543	Yes
L	Popliteal Height	355.6 - 376.0	357	Yes
M	Knee Pivot Height	393.7 - 419.1	395	Yes
N	Buttock Popliteal Length	414.0 - 439.4	430	Yes
O	Chest Depth without Jacket	175.3 - 190.5	184	Yes
P	Foot Length	218.5 - 233.7	225	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	471	Yes
S	Head Breadth	137.1 - 147.3	141	Yes
T	Head Depth	177.8 - 188.0	182	Yes
U	Hip Breadth	299.7 - 314.9	306	Yes
V	Shoulder Breadth	350.5 - 365.7	361	Yes
W	Foot Breadth	78.8 - 94.0	85	Yes
X	Head Circumference	528.3 - 548.7	532	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	870	Yes
Z	Waist Circumference	759.5 - 789.9	773	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	340	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved



Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Left Rear Passenger Dummy S/N: 416

Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 416 Certification No. 48-1

Test Date: 7/20/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	268.1 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-0.8 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

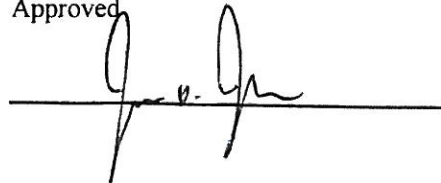
Test meets specifications.

Comments:

Technician



Approved

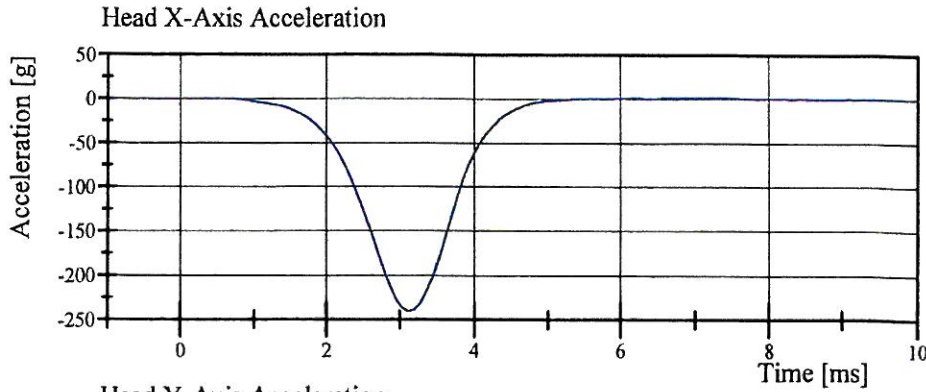


Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 416 Certification No. 48-1

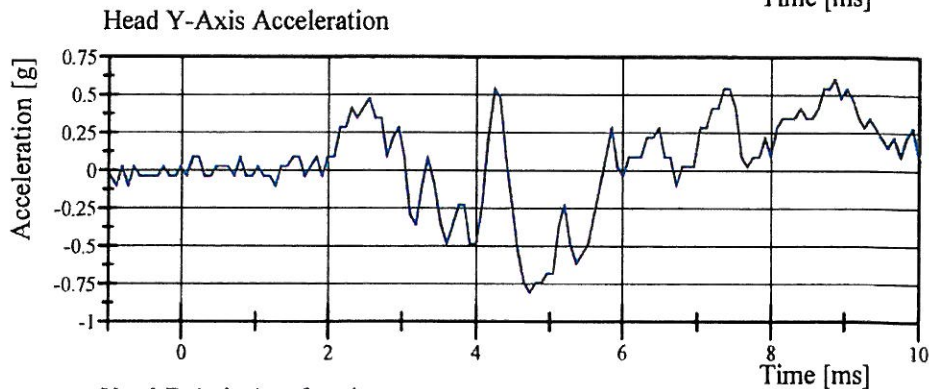
Test Date: 7/20/2009



Filter Class: CFC_1000

Max: 1.4 g at 7.1 ms

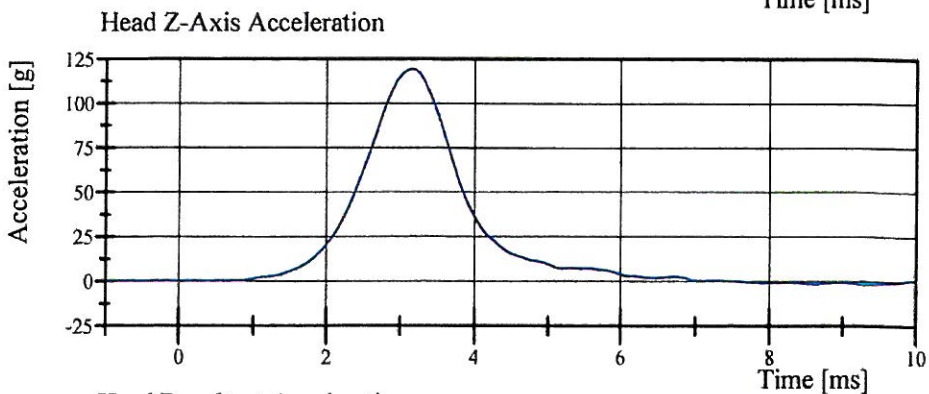
Min: -240.2 g at 3.1 ms



Filter Class: CFC_1000

Max: 0.6 g at 8.9 ms

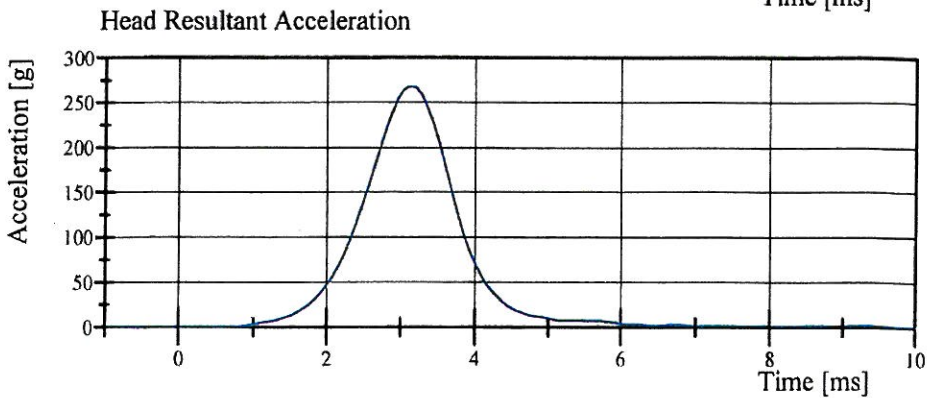
Min: -0.8 g at 4.7 ms



Filter Class: CFC_1000

Max: 119.3 g at 3.2 ms

Min: -1.8 g at 9.4 ms



Filter Class: CFC_1000

Max: 268.1 g at 3.1 ms

Min: 0.0 g at 0.0 ms

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 48-2

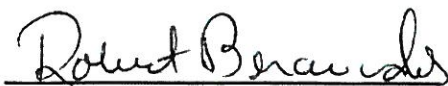
Test Date: 7/21/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.070 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.44 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.84 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.77 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-80.9 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	77.9 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	86.0 ms	Yes

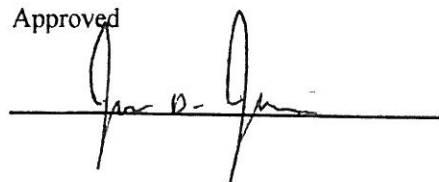
Test meets specifications.

Comments:

Technician



Approved

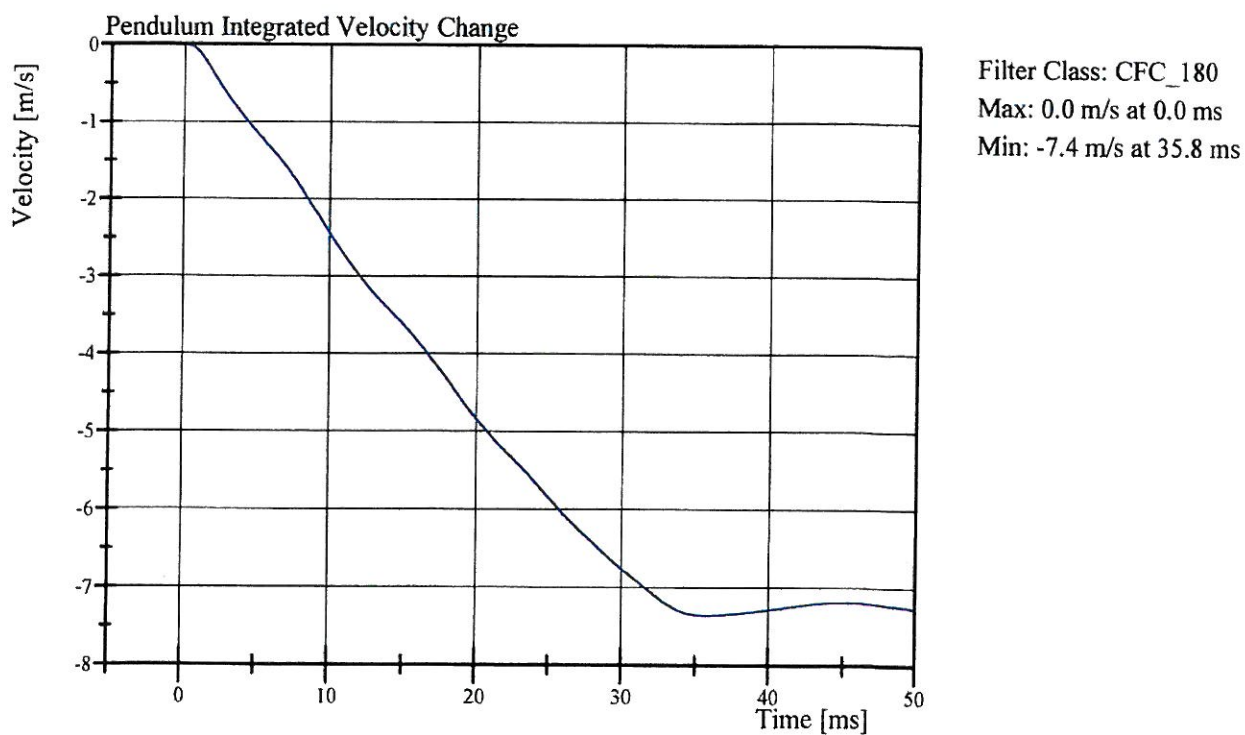
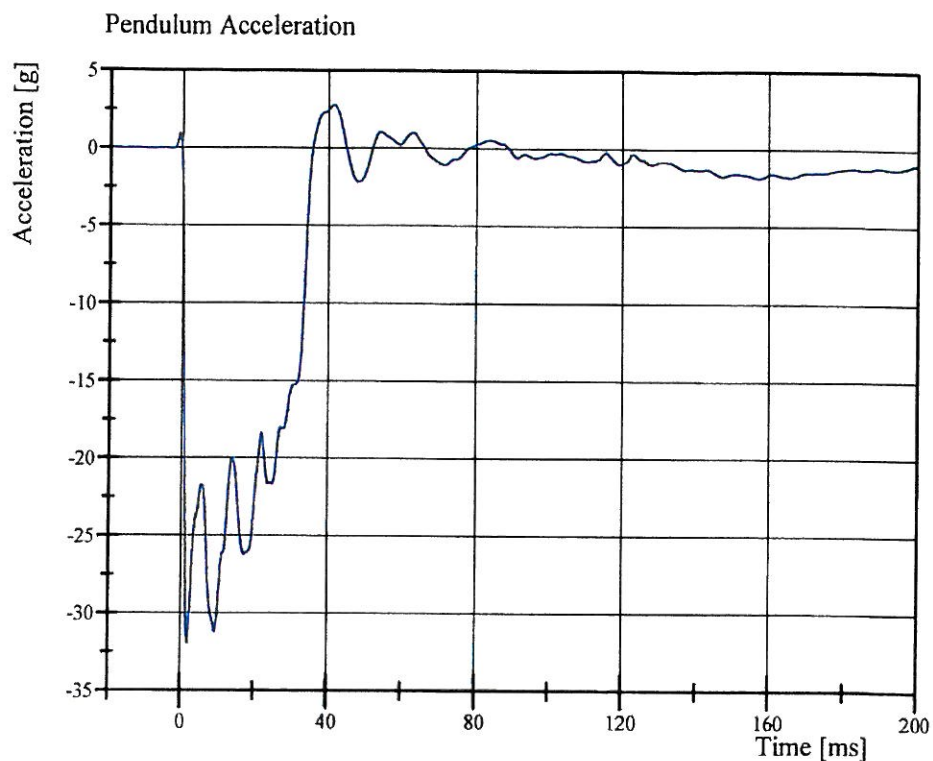


Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 48-2

Test Date: 7/21/2009



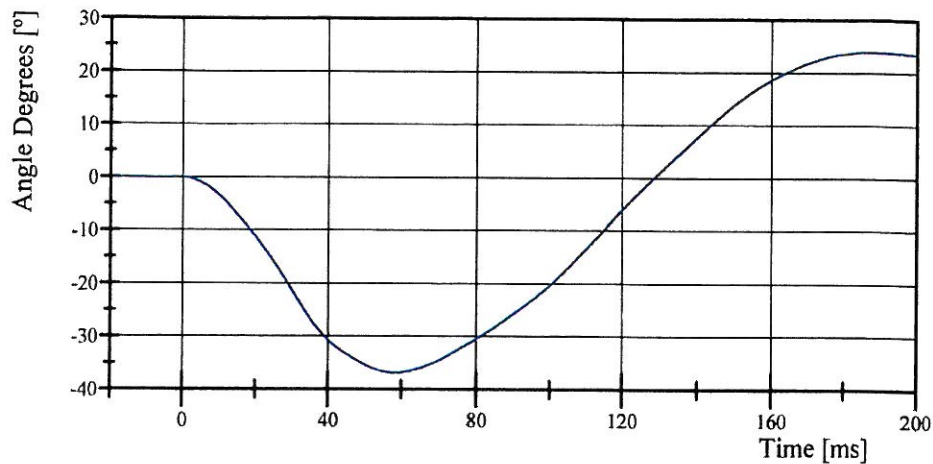
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 48-2

Test Date: 7/21/2009

Pot Rotation at the Base of Neck

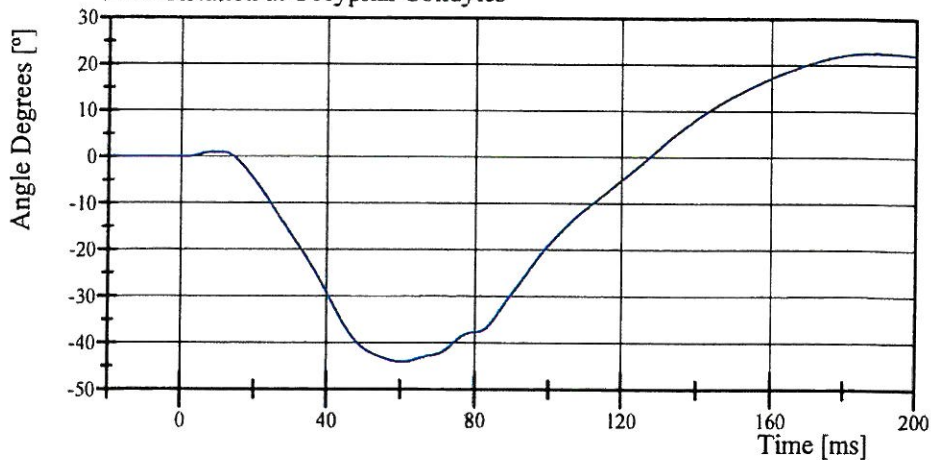


Filter Class: CFC_60

Max: 24.1 ° at 187.8 ms

Min: -36.8 ° at 58.4 ms

Head Rotation at Occypital Condyles

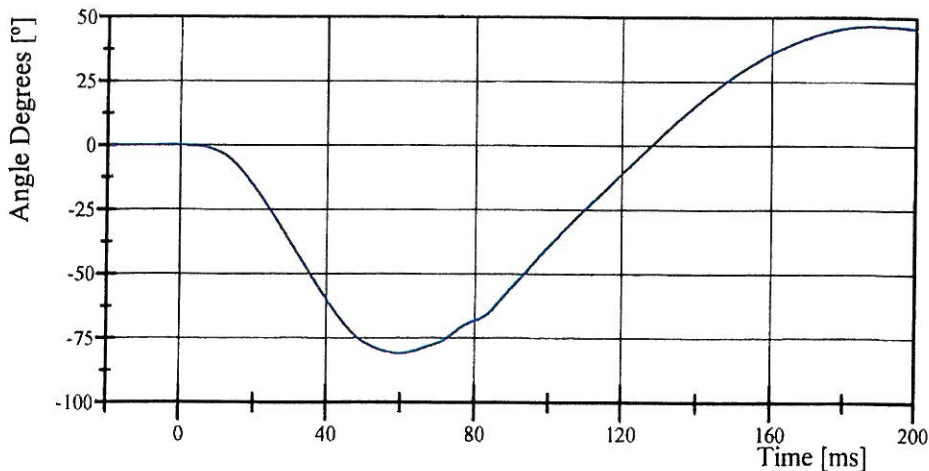


Filter Class: CFC_60

Max: 22.7 ° at 189.7 ms

Min: -44.1 ° at 60.4 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 46.8 ° at 188.7 ms

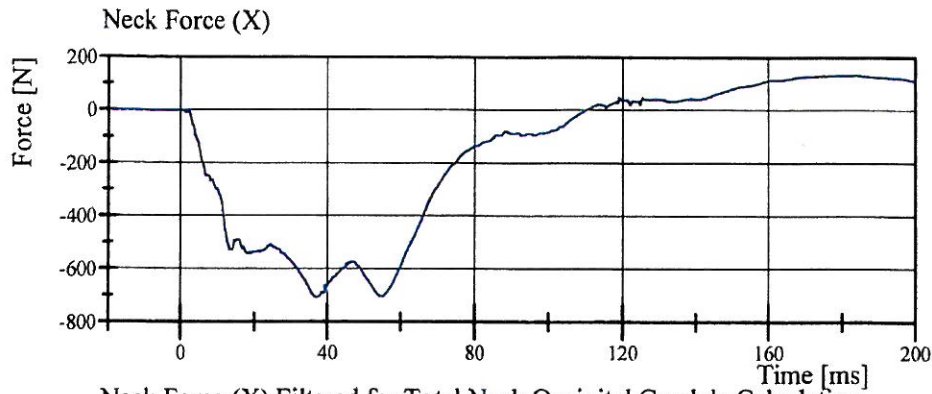
Min: -80.9 ° at 59.8 ms

Transportation Research Center Inc.

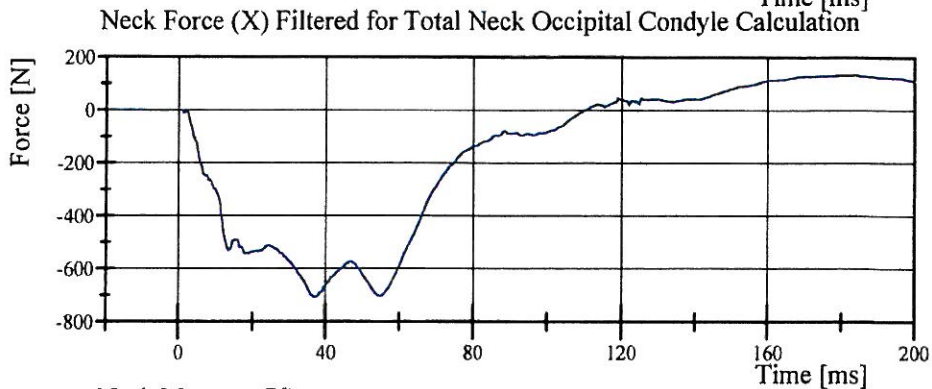
Neck Flexion

Hill 5th Serial No. 416 Certification No. 48-2

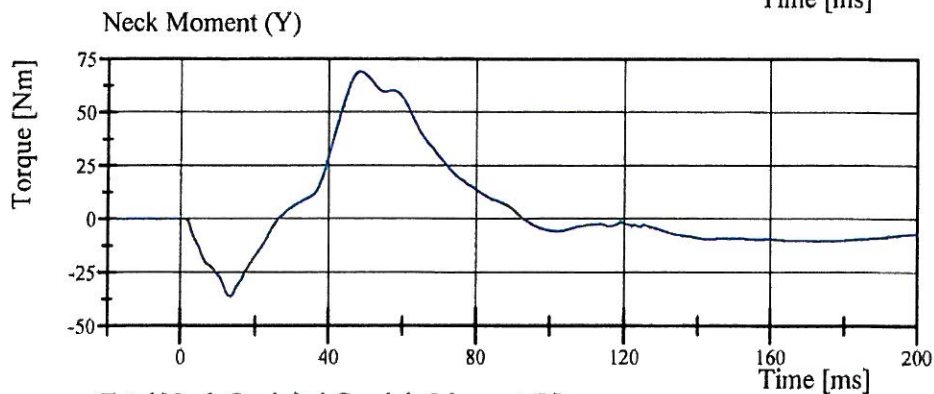
Test Date: 7/21/2009



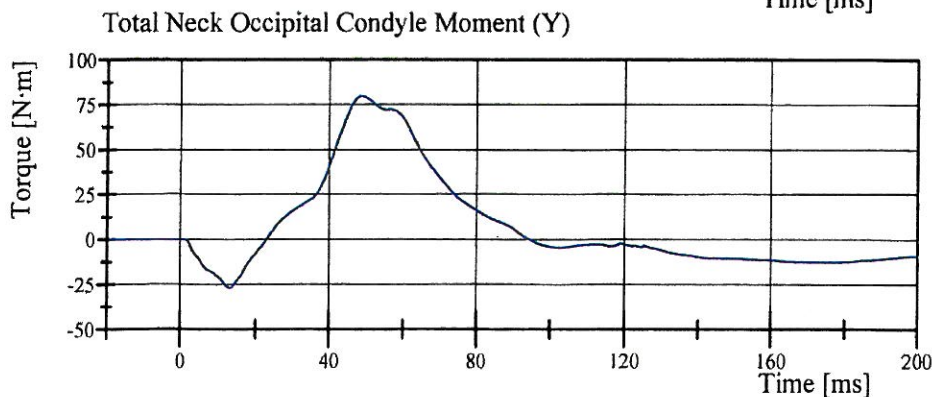
Filter Class: CFC_1000
Max: 136.2 N at 183.7 ms
Min: -707.7 N at 37.0 ms



Filter Class: CFC_600
Max: 136.0 N at 183.8 ms
Min: -707.3 N at 37.0 ms



Filter Class: CFC_600
Max: 69.1 Nm at 48.4 ms
Min: -36.3 Nm at 13.5 ms



Filter Class: CFC_600
Max: 79.6 N·m at 48.7 ms
Min: -27.0 N·m at 13.4 ms

Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 48-2

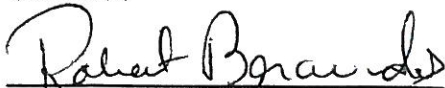
Test Date: 7/21/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.001 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.80 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.57 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	4.6 - 5.6 m/s	5.09 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	105.5 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-55.7 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	104.7 ms	Yes

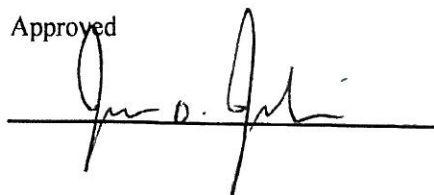
Test meets specifications.

Comments:

Technician



Approved



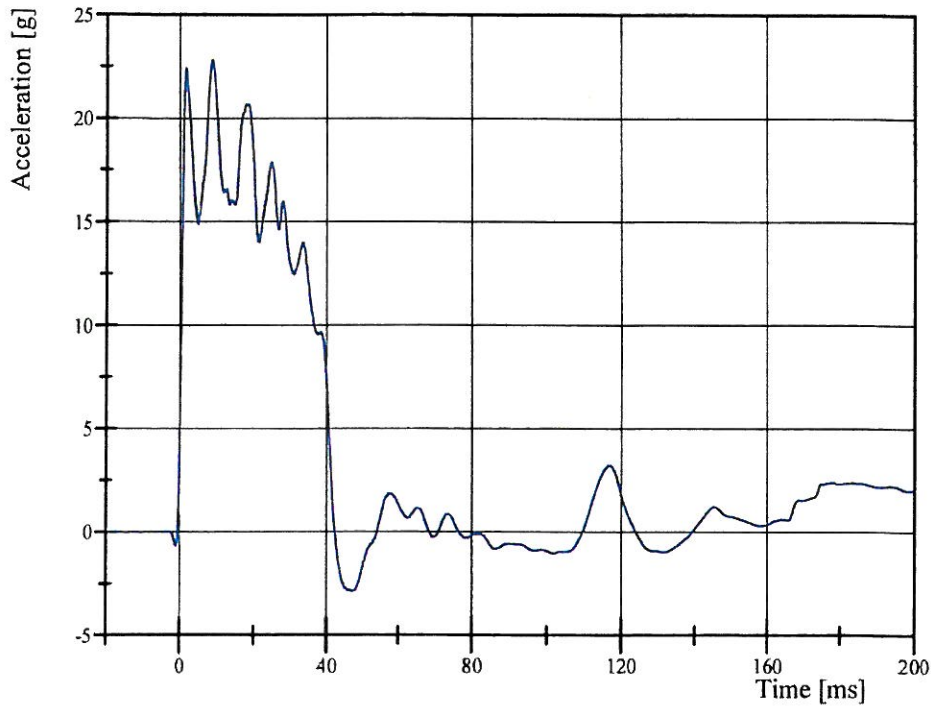
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 48-2

Test Date: 7/21/2009

Pendulum Acceleration

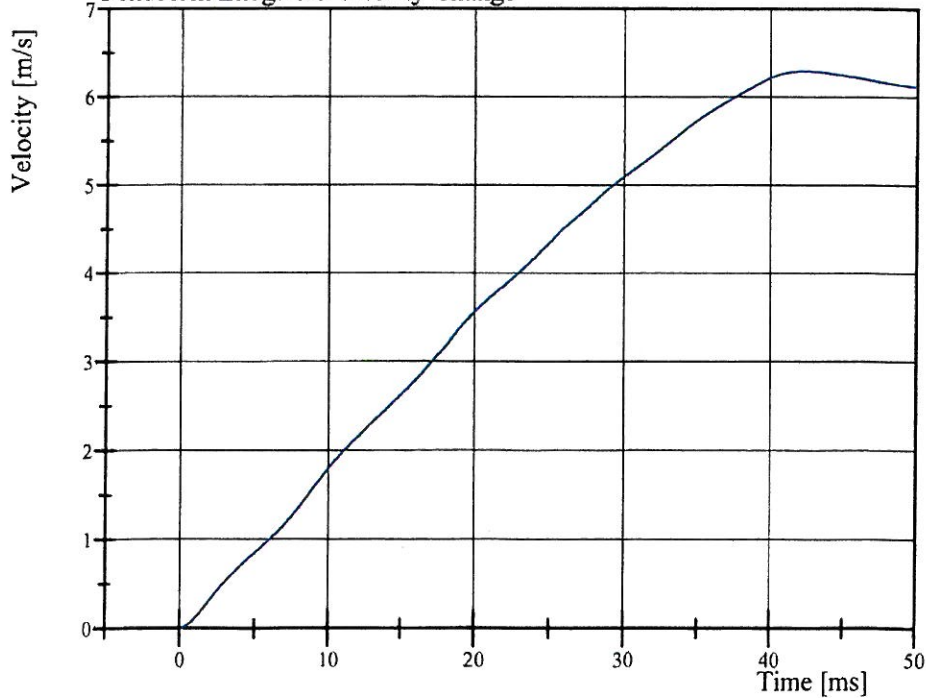


Filter Class: CFC_180

Max: 22.8 g at 8.8 ms

Min: -2.9 g at 47.2 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 6.3 m/s at 42.3 ms

Min: 0.0 m/s at 0.0 ms

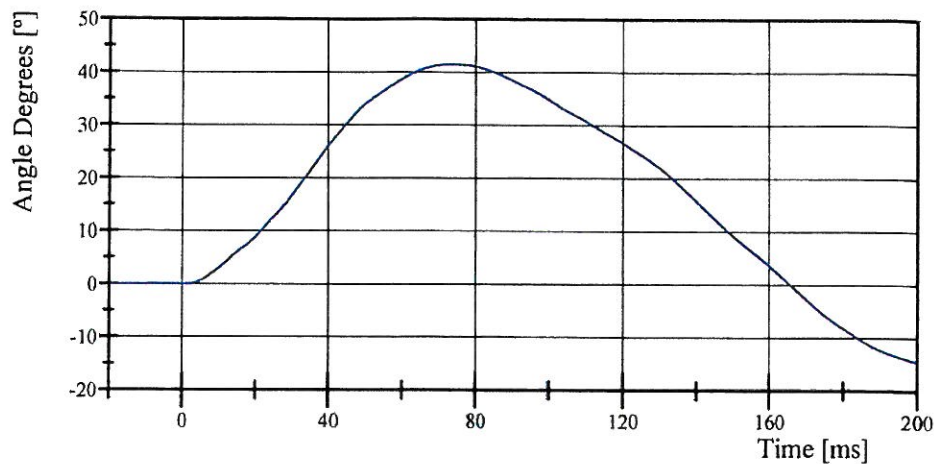
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 48-2

Test Date: 7/21/2009

Pot Rotation at the Base of Neck

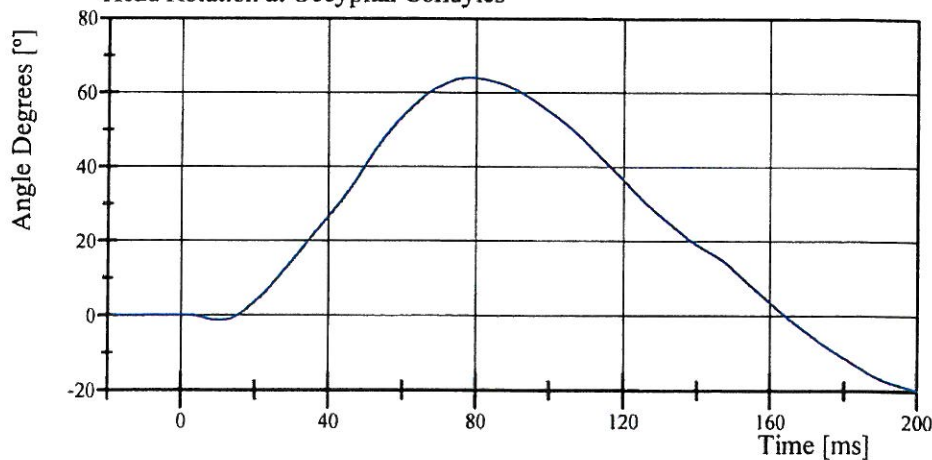


Filter Class: CFC_60

Max: 41.6 ° at 73.3 ms

Min: -14.4 ° at 200.0 ms

Head Rotation at Occypital Condyles

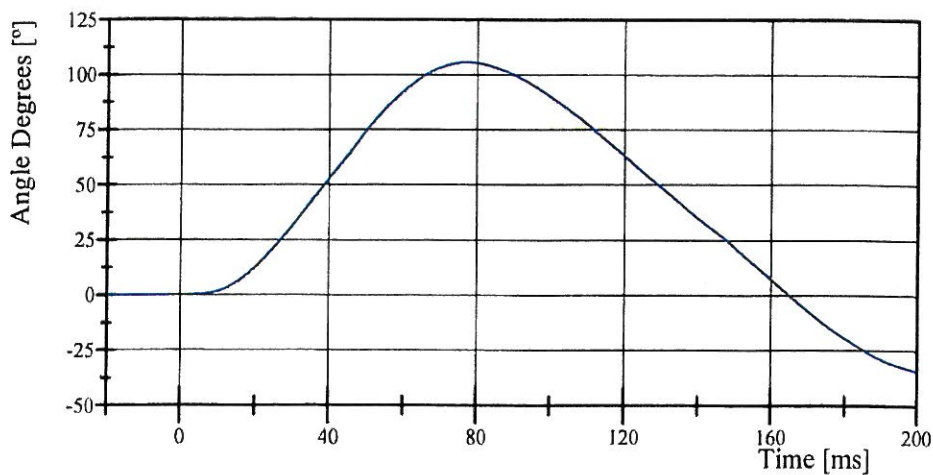


Filter Class: CFC_60

Max: 64.1 ° at 78.4 ms

Min: -19.7 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 105.5 ° at 77.4 ms

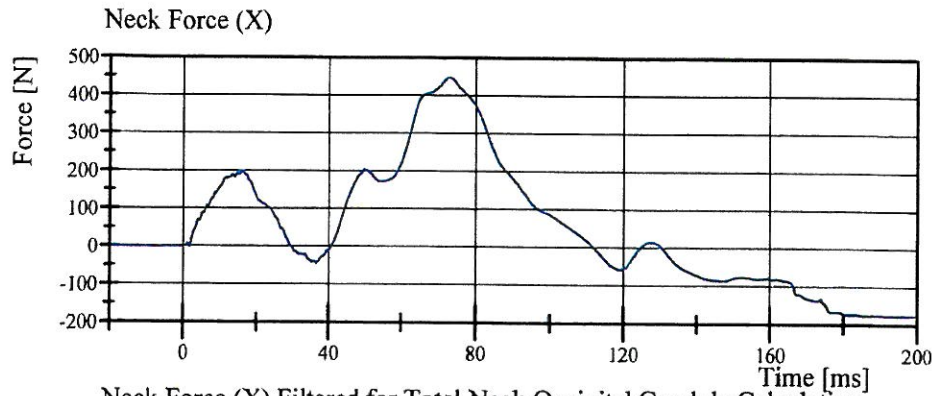
Min: -34.2 ° at 200.0 ms

Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 48-2

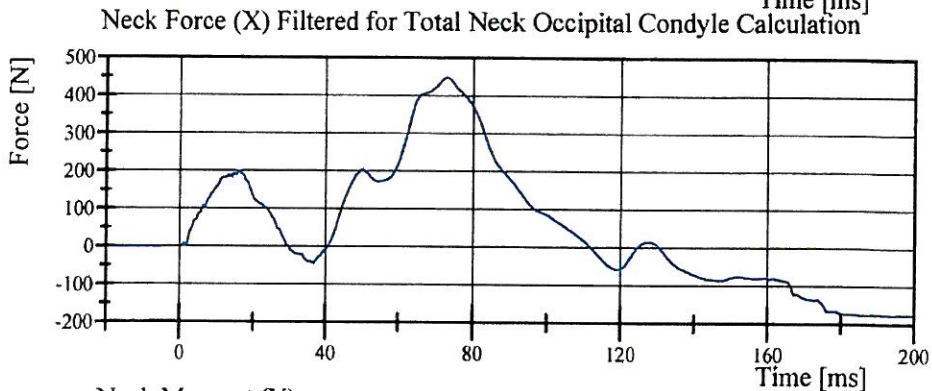
Test Date: 7/21/2009



Filter Class: CFC_1000

Max: 449.2 N at 72.8 ms

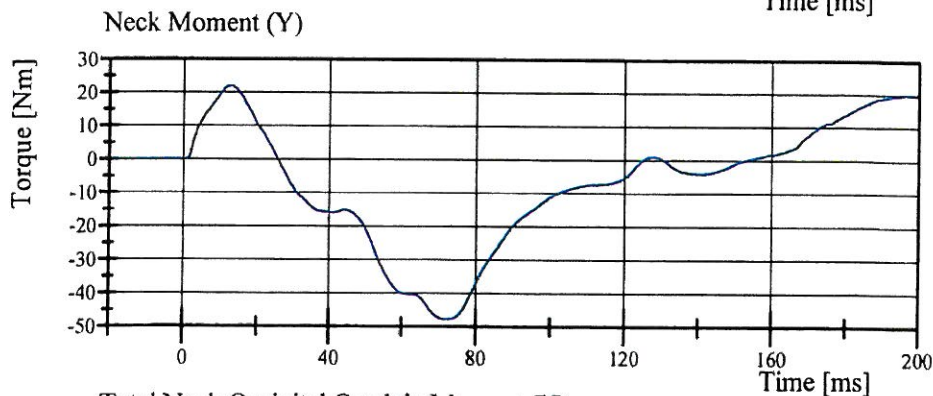
Min: -176.8 N at 193.6 ms



Filter Class: CFC_600

Max: 448.9 N at 72.9 ms

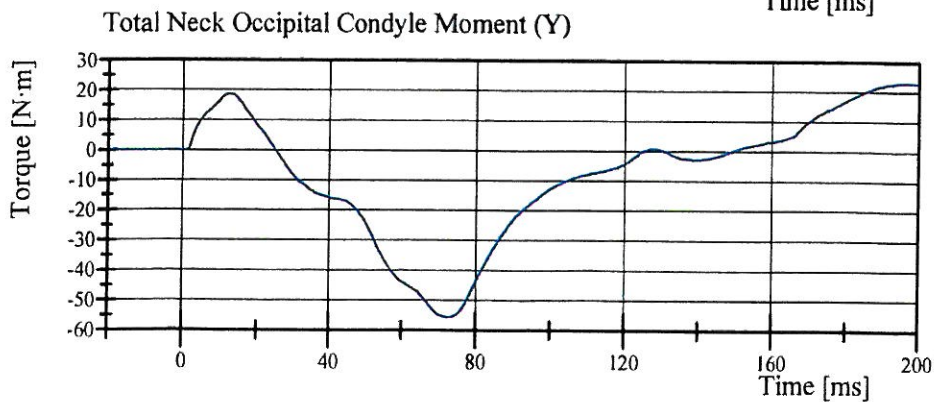
Min: -176.4 N at 194.5 ms



Filter Class: CFC_600

Max: 22.0 Nm at 13.2 ms

Min: -47.7 Nm at 72.1 ms



Filter Class: CFC_600

Max: 23.0 N·m at 196.9 ms

Min: -55.7 N·m at 72.5 ms

Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 416 Certification No. 48-1

Test Date: 7/21/2009

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.691 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,021.6 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	$\geq$ (-4,600) N	-4,003.8 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-54.7 mm	Yes
Internal Hysteresis	69 - 85 %	72.0 %	Yes

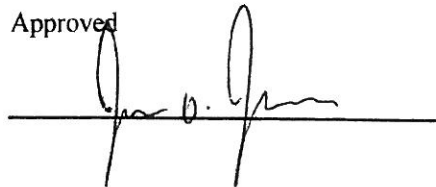
Test meets specifications.

Comments:

Technician



Approved

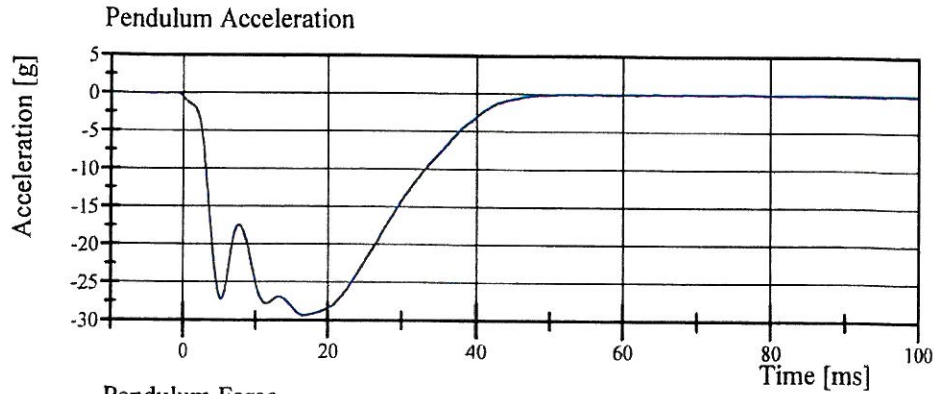


Transportation Research Center Inc.

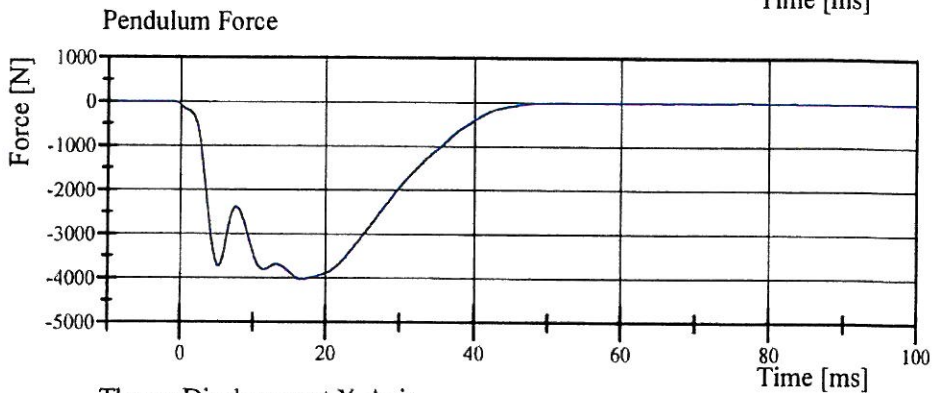
Front Thorax

HIII 5th Serial No. 416 Certification No. 48-1

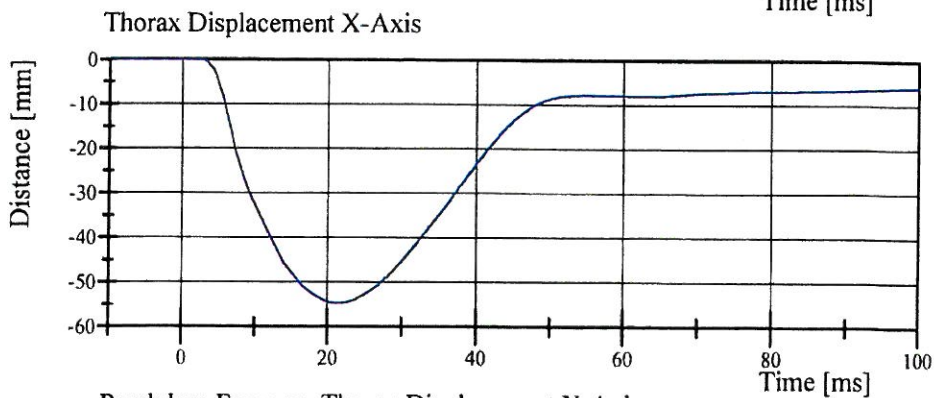
Test Date: 7/21/2009



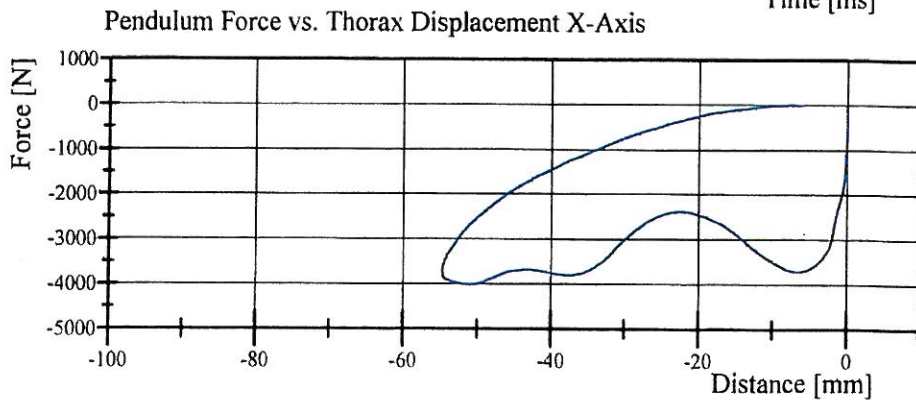
Filter Class: CFC_180
Max: 0.1 g at 76.7 ms
Min: -29.4 g at 16.7 ms



Filter Class: CFC_180
Max: 9.3 N at 76.7 ms
Min: -4,021.6 N at 16.7 ms



Filter Class: CFC_600
Max: 0.0 mm at -2.3 ms
Min: -54.7 mm at 21.6 ms



Filter Class: CFC_180
Max: 9.3 N at -7.0 mm
Min: -4,021.6 N at -51.1 mm

TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 20-Jul-09

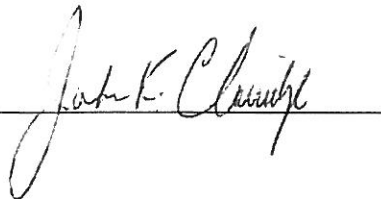
TRC, INC. TEST NO: TOFL-01 572 O SN416 TORSO FLEX CAL 48

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.3° C
RELATIVE HUMIDITY	10 – 70 %	49 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY	<= 20° REFERENCED TO VERTICAL	14.2°
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	369.4 N
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	4.4 °
RATE	0.5° - 1.5°/sec	0.97 °/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

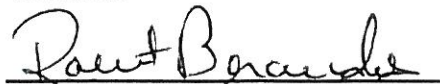
Left Knee Femur Response Test
HIII 5th Serial No. 416 Certification No. 48-1
Test Date: 7/21/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.130 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,719.3 N	Yes

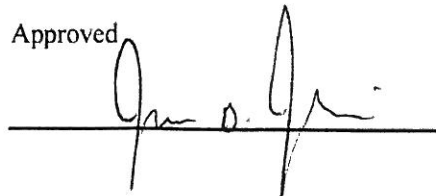
Test meets specifications.

Comments:

Technician

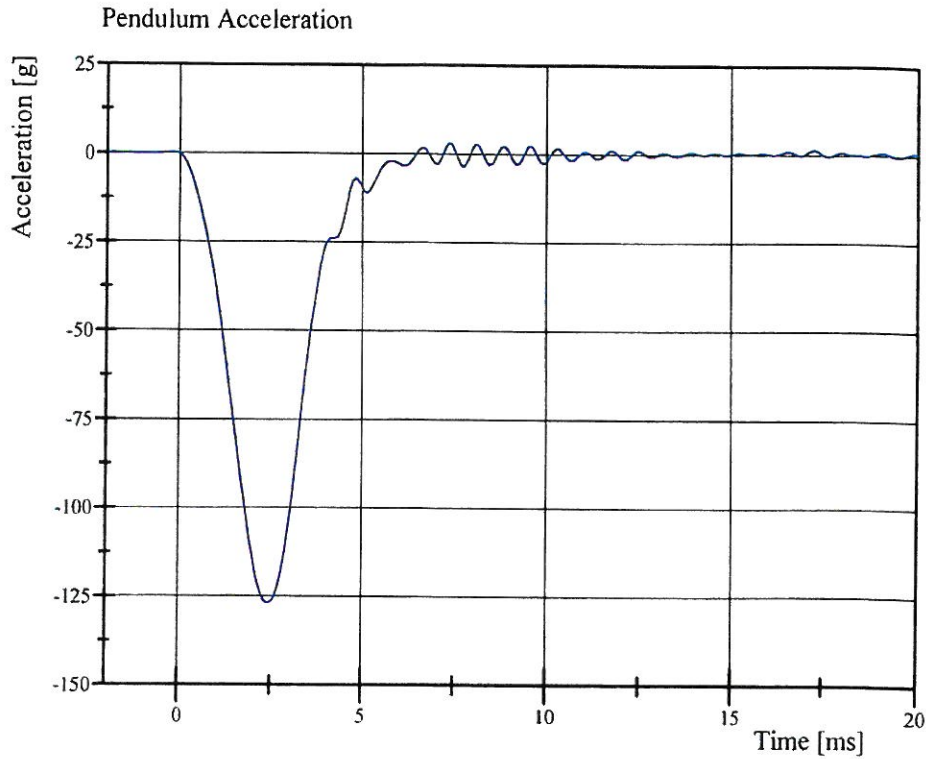


Approved

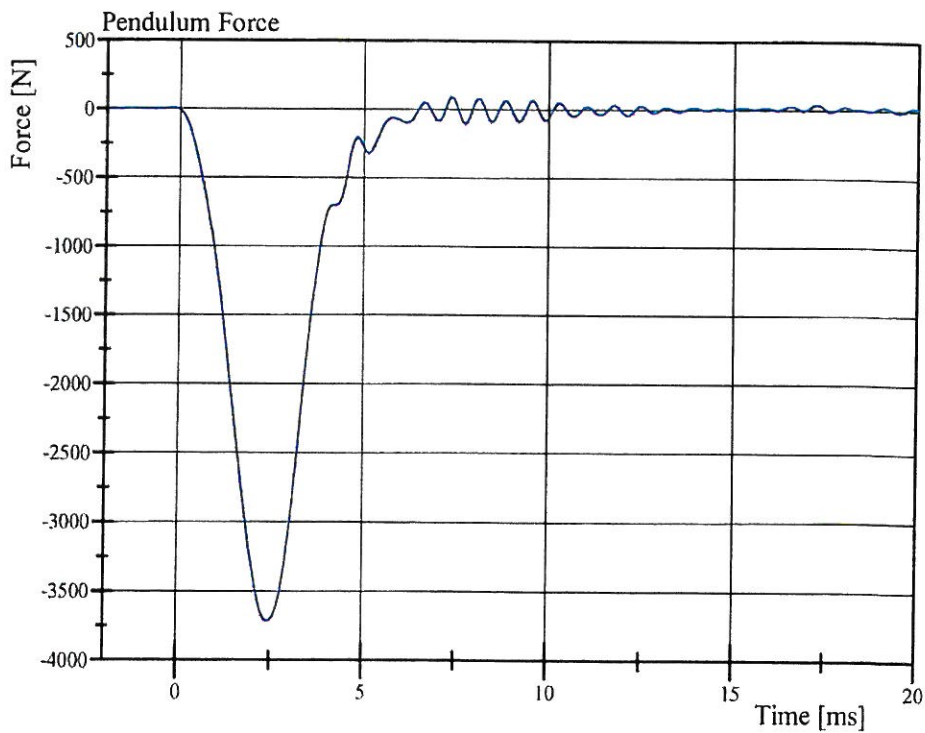


Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 416 Certification No. 48-1
Test Date: 7/21/2009



Filter Class: CFC_600
Max: 3.1 g at 7.4 ms
Min: -126.8 g at 2.4 ms



Filter Class: CFC_600
Max: 91.2 N at 7.4 ms
Min: -3,719.3 N at 2.4 ms

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 416 Certification No. 48-1
Test Date: 7/21/2009

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.122 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,614.2 N	Yes

Test meets specifications.

Comments:

Technician

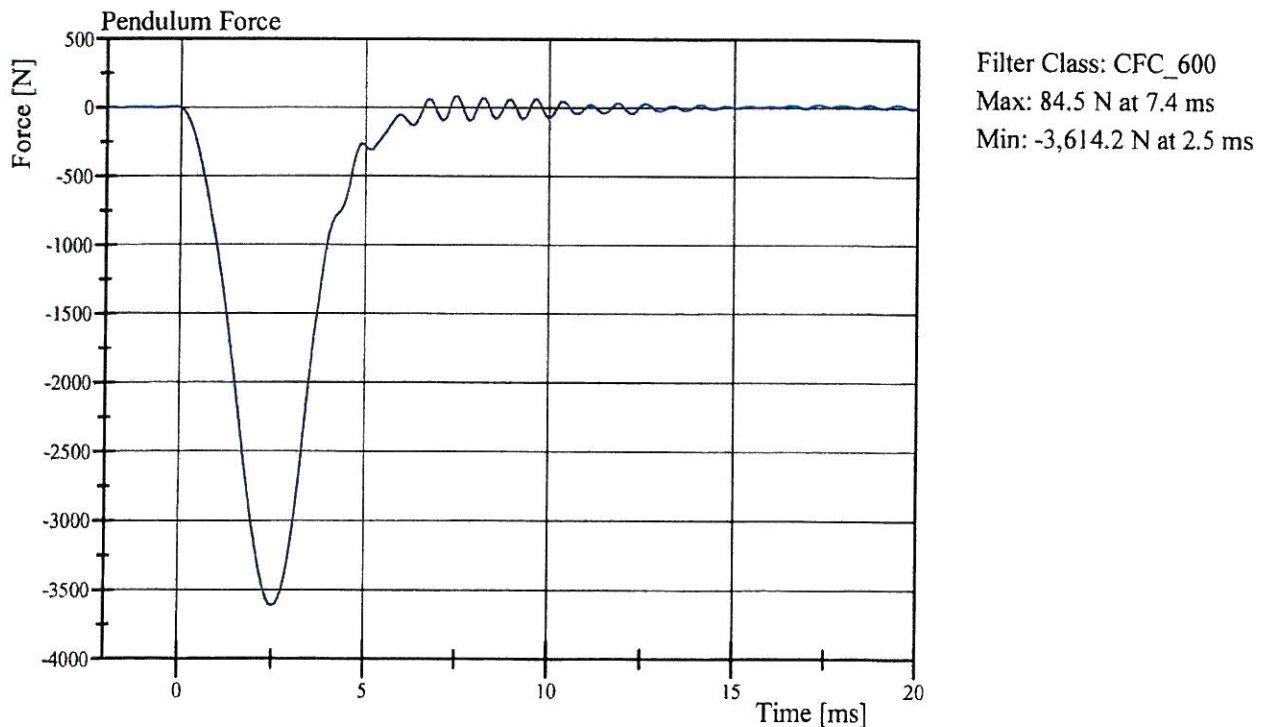
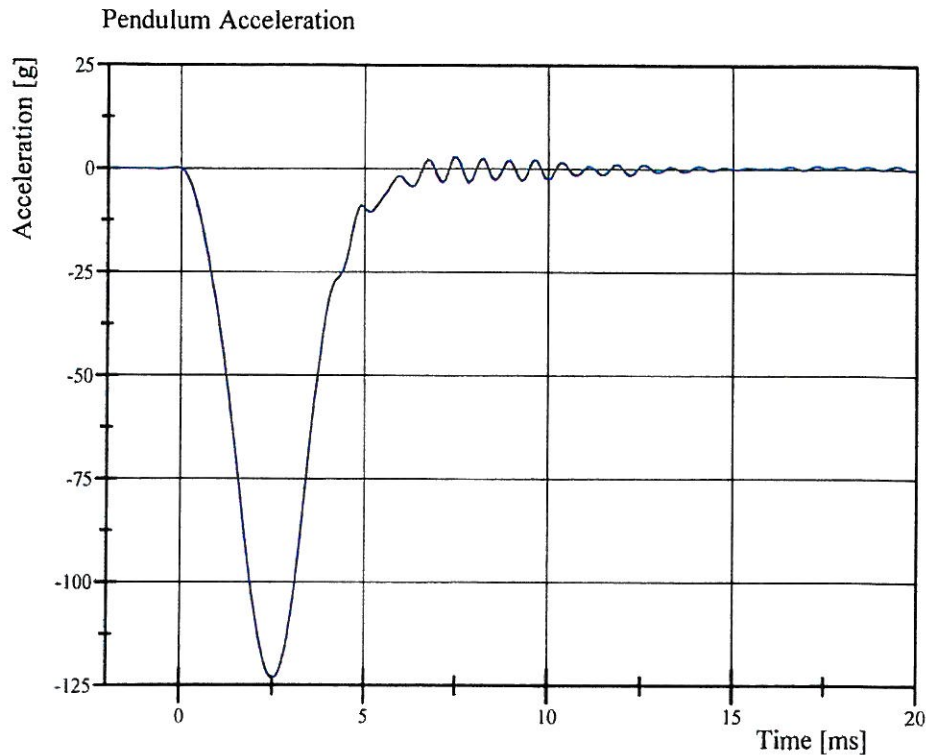
Raul Berandez

Approved

J. P. G. Jr.

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 416 Certification No. 48-1
Test Date: 7/21/2009



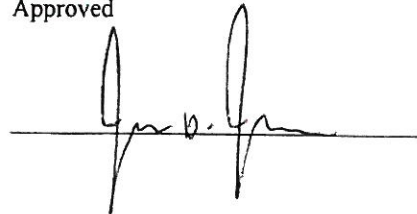
Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 416 Calibration No. 48

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	782	Yes
B	Shoulder Pivot Height	431.8 - 457.2	447	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	145	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	83	Yes
F	Thigh Clearance	119.4 - 134.6	128	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	254	Yes
H	Head Back to Backline	43.2 - 48.2	46	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	284	Yes
J	Elbow Rest Height	182.8 - 203.2	184	Yes
K	Buttock Knee Length	520.7 - 546.1	540	Yes
L	Popliteal Height	355.6 - 376.0	369	Yes
M	Knee Pivot Height	393.7 - 419.1	415	Yes
N	Buttock Popliteal Height	414.0 - 439.4	433	Yes
O	Chest Depth without Jacket	175.3 - 190.5	183	Yes
P	Foot Length	218.5 - 233.7	221	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	468	Yes
S	Head Breadth	137.1 - 147.3	139	Yes
T	Head Depth	177.8 - 188.0	180	Yes
U	Hip Breadth	299.7 - 314.9	302	Yes
V	Shoulder Breadth	350.5 - 365.7	351	Yes
W	Foot Breadth	78.8 - 94.0	88	Yes
X	Head Circumference	528.3 - 548.7	535	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	866	Yes
Z	Waist Circumference	759.5 - 789.9	771	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	354	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	167	Yes

Technician



Approved



Appendix D

Test Equipment and Instrumentation Calibration Information

Sign Convention
SAE J211 MAR95

Accelerometers:

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

Potentiometers:

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

Rotation potentiometers:

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

Load cells:

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

Neck load cells:

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

Tibia load cells:

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

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 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
1	Trig D1	10ZERO000000VO0A	EVENT		1 Bipolar	Logic	
2	J32100	11HEADCG00H3ACXA	Head Accel X	2000	-Bipolar	g	1-206 HIII 50th ASTC.001
3	J36741	11HEADCG00H3ACYA	Head Accel Y	2000	-Bipolar	g	1-206 HIII 50th ASTC.002
4	J19925	11HEADCG00H3ACZA	Head Accel Z	2000	-Bipolar	g	1-206 HIII 50th ASTC.003
5	J14189	11HEADCGRDH3ACXA	Head Accel X Red	2000	Bipolar	g	1-206 HIII 50th ASTC.004
6	P58719	11HEADCGRDH3ACYA	Head Accel Y Red	2000	-Bipolar	g	1-206 HIII 50th ASTC.005
7	ACC62	11HEADCGRDH3ACZA	Head Accel Z Red	2000	-Bipolar	g	1-206 HIII 50th ASTC.006
8	1716A-2192-FX	11NECKUP00H3FOXA	Neck Force X	8896	-Bipolar	N	1-206 HIII 50th ASTC.007
9	1716A-2192-FY	11NECKUP00H3FOYA	Neck Force Y	8896	Bipolar	N	1-206 HIII 50th ASTC.008
10	1716A-2192-FZ	11NECKUP00H3FOZA	Neck Force Z	13344	Bipolar	N	1-206 HIII 50th ASTC.009
11	1716A-2192-MX	11NECKUP00H3MOXA	Neck Moment X	282	-Bipolar	Nm	1-206 HIII 50th ASTC.010
12	1716A-2192-MY	11NECKUP00H3MOYA	Neck Moment Y	282	Bipolar	Nm	1-206 HIII 50th ASTC.011
13	1716A-2192-MZ	11NECKUP00H3MOZA	Neck Moment Z	282	Bipolar	Nm	1-206 HIII 50th ASTC.012
14	J18662	11CHSTCG00H3ACXA	Chest Accel X	2000	Bipolar	g	1-206 HIII 50th ASTC.013
15	J23997	11CHSTCG00H3ACYA	Chest Accel Y	2000	-Bipolar	g	1-206 HIII 50th ASTC.014
16	J20209	11CHSTCG00H3ACZA	Chest Accel Z	2000	-Bipolar	g	1-206 HIII 50th ASTC.015
17	ACC82	11CHSTCGRDH3ACXA	Chest Accel X Red.	2000	-Bipolar	g	1-206 HIII 50th ASTC.016
18	J27366	11CHSTCGRDH3ACYA	Chest Accel Y Red.	2000	-Bipolar	g	1-206 HIII 50th ASTC.017
19	ACC63	11CHSTCGRDH3ACZA	Chest Accel Z Red.	2000	-Bipolar	g	1-206 HIII 50th ASTC.018
20	14CB1-2897-CST206	11CHST0000H3DSXA	Chest Deflection X	84	Bipolar	mm	1-206 HIII 50th ASTC.019
21	P17912	11PELVCG00H3ACXA	Pelvis Accel X	2000	-Bipolar	g	1-206 HIII 50th ASTC.020
22	J18059	11PELVCG00H3ACYA	Pelvis Accel Y	2000	-Bipolar	g	1-206 HIII 50th ASTC.021
23	ACC59	11PELVCG00H3ACZA	Pelvis Accel Z	2000	-Bipolar	g	1-206 HIII 50th ASTC.022
24	2430-741	11FEMRLL00H3FOZA	Left Femur Force Z	13344	Bipolar	N	1-206 HIII 50th ASTC.023
25	2430 726	11FEMRRL00H3FOZA	Right Femur Force Z	13344	Bipolar	N	1-206 HIII 50th ASTC.024
26	150-0121VR-022689	11KNSLLE00H3DSXA	Left Knee Displacement X	33	-Bipolar	mm	1-LX045-046 VOLPE THOR LEGS.001
27	4509J- 88-FX	11TIBILULXH3FOXA	Left Upper Tibia Force X	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.002
28	4509J-88-FZ	11TIBILULXH3FOZA	Left Upper Tibia Force Z	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.004
29	4509J-88MX	11TIBILULXH3MOXA	Left Upper Tibia Moment X	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.005
30	4509J-88-MY	11TIBILULXH3MOYA	Left Upper Tibia Moment Y	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.006
31	4929J-139-FX	11TIBILLXH3FOXA	Left Lower Tibia Force X	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.009
32	4929J-139-FY	11TIBILLXH3FOYA	Left Lower Tibia Force Y	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.010
33	4929J-139-FZ	11TIBILLXH3FOZA	Left Lower Tibia Force Z	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.011
34	4929J-139-MX	11TIBILLXH3MOXA	Left Lower Tibia Moment X	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.012
35	4929J-139-MY	11TIBILLXH3MOYA	Left Lower Tibia Moment Y	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.013
36	J19440	11TIBILELXH3ACXA	Left Tibia Accel X	1000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.007

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
37	J29006	11TIBILELXH3ACYA	Left Tibia Accel Y	1000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.008
38	AJ5R0	11FOOTLELXH3ACXA	Left Foot Accel X	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.017
39	J18733	11FOOTLELXH3ACYA	Left Foot Accel Y	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.018
40	J19927	11FOOTLELXH3ACZA	Left Foot Accel Z	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.019
41	PD210-4B-7921-0525	11FOOTLELXH3ANXA	Left Foot Angular Dis. X	180	-Bipolar	°	1-LX045-046 VOLPE THOR LEGS.014
42	PD210-4B-7921-0524	11FOOTLELXH3ANYA	Left Foot Angular Dis. Y	180	Bipolar	°	1-LX045-046 VOLPE THOR LEGS.015
43	PD210-4B-7921-0523	11FOOTLELXH3ANZA	Left Foot Angular Dis. Z	180	-Bipolar	°	1-LX045-046 VOLPE THOR LEGS.016
44	150-0121VL-033646	11KNSLRIO0H3DSXA	Right Knee Displacement	33	-Bipolar	mm	1-LX045-046 VOLPE THOR LEGS.020
45	4509J-95-FX	11TIBIRULXH3FOXA	Right Upper Tibia Force X	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.021
46	4509J-95-FZ	11TIBIRULXH3FOZA	Right Upper Tibia Force Z	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.023
47	4509J-95-MX	11TIBIRULXH3MOXA	Right Upper Tibia Moment	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.024
48	4509J-95-MY	11TIBIRULXH3MOYA	Right Upper Tibia Moment	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.025
49	4929J-138-FX	11TIBIRLLXH3FOXA	Right Lower Tibia Force X	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.028
50	4929J-138-FY	11TIBIRLLXH3FOYA	Right Lower Tibia Force Y	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.029
51	4929J-138-FZ	11TIBIRLLXH3FOZA	Right Lower Tibia Force Z	11120.5	Bipolar	N	1-LX045-046 VOLPE THOR LEGS.030
52	4929J-138-MX	11TIBIRLLXH3MOXA	Right Lower Tibia Moment	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.031
53	4929J-138-MY	11TIBIRLLXH3MOYA	Right Lower Tibia Moment	395.4	Bipolar	Nm	1-LX045-046 VOLPE THOR LEGS.032
54	J14688	11TIBIRILXH3ACYA	Right Tibia Accel Y	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.027
55	J35987	11TIBIRILXH3ACXA	Right Tibia Accel X	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.026
56	J36611	11FOOTRILXH3ACXA	Right Foot Accel X	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.036
57	ACB45	11FOOTRILXH3ACYA	Right Foot Accel Y	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.037
58	00L13-F25	11FOOTRILXH3ACZA	Right Foot Accel Z	2000	Bipolar	g	1-LX045-046 VOLPE THOR LEGS.038
59	PD210-4B-7921-0528	11FOOTRILXH3ANXA	Right Foot Angular Dis. X	180	-Bipolar	°	1-LX045-046 VOLPE THOR LEGS.033
60	PD210-4B-7921-0526	11FOOTRILXH3ANYA	Right Foot Angular Dis. Y	180	Bipolar	°	1-LX045-046 VOLPE THOR LEGS.034
61	PD210-4B-7921-0527	11FOOTRILXH3ANZA	Right Foot Angular Dis. Z	180	-Bipolar	°	1-LX045-046 VOLPE THOR LEGS.035
62	02I02I05-F07	13HEADCG00HFACXA	Head Accel X	2000	-Bipolar	g	?-329 HIII 5th VRTC.001
63	P63985	13HEADCG00HFACYA	Head Accel Y	2000	-Bipolar	g	?-329 HIII 5th VRTC.002
64	05H06-L14	13HEADCG00HFACZA	Head Accel Z	2000	-Bipolar	g	?-329 HIII 5th VRTC.003
65	P59000	13HEADCGRDHFACXA	Head Accel Redundant X	2000	-Bipolar	g	?-329 HIII 5th VRTC.004
66	P58787	13HEADCGRDHFACYA	Head Accel Redundant Y	2000	-Bipolar	g	?-329 HIII 5th VRTC.005
67	P58786	13HEADCGRDHFACZA	Head Accel Redundant Z	2000	-Bipolar	g	3-329 VRTC 5th Female.006
68	1716A-1911-FX	13NECKUP00HFFOXA	Neck Force X	8896	-Bipolar	N	?-329 HIII 5th VRTC.007
69	1716A-1911-FY	13NECKUP00HFFOYA	Neck Force Y	8896	Bipolar	N	?-329 HIII 5th VRTC.008
70	1716A-1911-FZ	13NECKUP00HFFOZA	Neck Force Z	13344	Bipolar	N	?-329 HIII 5th VRTC.009
71	1716A-1911-MX	13NECKUP00HFMOMA	Neck Moment X	282.5	-Bipolar	Nm	?-329 HIII 5th VRTC.010
72	1716A-1911-MY	13NECKUP00HFMOMYA	Neck Moment Y	282.5	Bipolar	Nm	?-329 HIII 5th VRTC.011

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
73	1716A-1911-MZ	13NECKUP00HFMOZA	Neck Moment Z	282.5	Bipolar	Nm	?-329 HIII 5th VRTC.012
74	P52154	13CHSTCG00HFACXA	Chest Accel X	2000	Bipolar	g	?-329 HIII 5th VRTC.013
75	01G25-N16	13CHSTCG00HFACYA	Chest Accel Y	2000	-Bipolar	g	?-329 HIII 5th VRTC.014
76	02I02I05-F01	13CHSTCG00HFACZA	Chest Accel Z	2000	-Bipolar	g	?-329 HIII 5th VRTC.015
77	P52069	13CHSTCGRDHFACXA	Chest Accel Redundant X	2000	-Bipolar	g	?-329 HIII 5th VRTC.016
78	P51668	13CHSTCGRDHFACYA	Chest Accel Redundant Y	2000	-Bipolar	g	?-329 HIII 5th VRTC.017
79	P58883	13CHSTCGRDHFACZA	Chest Accel Redundant Z	2000	-Bipolar	g	?-329 HIII 5th VRTC.018
80	14CB1-2897-CST329	13CHST0000HFDSXA	Chest Deflection X	75	Bipolar	mm	?-329 HIII 5th VRTC.019
81	P50062	13PELVCG00HFACXA	Pelvis Accel X	2000	Bipolar	g	?-329 HIII 5th VRTC.020
82	P50073	13PELVCG00HFACYA	Pelvis Accel Y	2000	Bipolar	g	?-329 HIII 5th VRTC.021
83	P58885	13PELVCG00HFACZA	Pelvis Accel Z	2000	Bipolar	g	?-329 HIII 5th VRTC.022
84	2121AJ-1702	13FEMRLU00HFFOZA	Left Femur Force Z	13344	Bipolar	N	?-329 HIII 5th VRTC.023
85	2121A-1396	13FEMRRU00HFFOZA	Right Femur Force Z	13344	Bipolar	N	?-329 HIII 5th VRTC.024
86	150-0121VR-030587	13KNSLLE00HFDSXA	Left Knee Displacement X	33	-Bipolar	mm	3-FLX001A & FLX001B VRTC.001
87	4825J-75-FX	13TIBILULXHFFOXA	Left Upper Tibia Force X	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.002
88	4825J-75-FZ	13TIBILULXHFFOZA	Left Upper Tibia Force Z	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.003
89	4825J-75-MX	13TIBILULXHFMOMA	Left Upper Tibia Moment X	282.5	Bipolar	Nm	3-FLX001A & FLX001B VRTC.004
90	4825J-75-MY	13TIBILULXHFMOMA	Left Upper Tibia Moment Y	282.5	Bipolar	Nm	3-FLX001A & FLX001B VRTC.005
91	J32157	13TIBILELXHFAACXA	Left Tibia Accel X	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.006
92	AGR67	13TIBILELXHFAACYA	Left Tibia Accel Y	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.007
93	4826J-75-FX	13TIBILLLXHFFOXA	Left Lower Tibia Force X	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.008
94	4826J-75-FY	13TIBILLLXHFFOYA	Left Lower Tibia Force Y	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.009
95	4826J-75-FZ	13TIBILLLXHFFOZA	Left Lower Tibia Force Z	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.010
96	4826J-75-MX	13TIBILLLXHFMOMA	Left Lower Tibia Moment X	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.011
97	4826J-75-MY	13TIBILLLXHFMOMA	Left Lower Tibia Moment Y	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.012
98	PD210-4B-7921-P011	13FOOTLELXHAFANXA	Left Foot Angular Dis. X	318	Bipolar	°	3-FLX001A & FLX001B VRTC.013
99	PD210-4B-7921-P012	13FOOTLELXHAFANYA	Left Foot Angular Dis. Y	318	Bipolar	°	3-FLX001A & FLX001B VRTC.014
100	PD210-4B-7921-P013	13FOOTLELXHAFANZA	Left Foot Angular Dis. Z	318	Bipolar	°	3-FLX001A & FLX001B VRTC.015
101	J20382	13FOOTLELXHFAACXA	Left Foot Accel X	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.016
102	J14667	13FOOTLELXHFAACYA	Left Foot Accel Y	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.017
103	AAKD0	13FOOTLELXHFAACZA	Left Foot Accel Z	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.018
104	150-0121VL-023435	13KNSLRI00HFDSXA	Right Knee Displacement X	33	-Bipolar	mm	3-FLX001A & FLX001B VRTC.019
105	4825J-88-FX	13TIBIRULXHFFOXA	Right Upper Tibia Force X	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.020
106	4825J-88-FZ	13TIBIRULXHFFOZA	Right Upper Tibia Force Z	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.021
107	4825J-88-MX	13TIBIRULXHFMOMA	Right Upper Tibia Moment X	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.022
108	4825J-88-MY	13TIBIRULXHFMOMA	Right Upper Tibia Moment Y	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.023

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
109	ACCW9	13TIBIRILXHFACTXA	Right Tibia Accel X	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.024
110	J28708	13TIBIRILXHFACTYA	Right Tibia Accel Y	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.025
111	4826J-88-FX	13TIBIRLLXHFFOXA	Right Lower Tibia Force X	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.026
112	4826J-88-FY	13TIBIRLLXHFFOYA	Right Lower Tibia Force Y	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.027
113	4826J-88-FZ	13TIBIRLLXHFFOZA	Right Lower Tibia Force Z	8896	Bipolar	N	3-FLX001A & FLX001B VRTC.028
114	4826J-88-MX	13TIBIRLLXHFMOXA	Right Lower Tibia Moment	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.029
115	4826J-88-MY	13TIBIRLLXHFMOYA	Right Lower Tibia Moment	282	Bipolar	Nm	3-FLX001A & FLX001B VRTC.030
116	PD210-4B-7921-P008	13FOOTRILXHFANXA	Right Foot Angular Dis. X	318	Bipolar	D	3-FLX001A & FLX001B VRTC.031
117	PD210-4B-7921-P009	13FOOTRILXHFANYA	Right Foot Angular Dis. Y	318	Bipolar	D	3-FLX001A & FLX001B VRTC.032
118	PD210-4B-7921-P010	13FOOTRILXHFANZA	Right Foot Angular Dis. Z	318	Bipolar	D	3-FLX001A & FLX001B VRTC.033
119	J35562	13FOOTRILXHFACXA	Right Foot Accel X	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.034
120	J34330	13FOOTRILXHFACYA	Right Foot Accel Y	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.035
121	P15334	13FOOTRILXHFACZA	Right Foot Accel Z	2000	Bipolar	g	3-FLX001A & FLX001B VRTC.036
122	P50097	14HEADCG00HFACXA	Head Accel X	2000	-Bipolar	g	4-416 HIII 5th FTSS.001
123	P52123	14HEADCG00HFACYA	Head Accel Y	2000	-Bipolar	g	4-416 HIII 5th FTSS.002
124	P50089	14HEADCG00HFACZA	Head Accel Z	2000	-Bipolar	g	4-416 HIII 5th FTSS.003
125	P58799	14HEADCGRDHFACXA	Head Accel X Redundant	2000	Bipolar	g	4-416 HIII 5th FTSS.004
126	P49211	14HEADCGRDHFACYA	Head Accel Y Redundant	2000	-Bipolar	g	4-416 HIII 5th FTSS.005
127	P59002	14HEADCGRDHFACZA	Head Accel Z Redundant	2000	-Bipolar	g	4-416 HIII 5th FTSS.006
128	1716A-499-FX	14NECKUP00HFFOXA	Neck Force X	8896	-Bipolar	N	4-416 HIII 5th FTSS.007
129	1716A-499-FY	14NECKUP00HFFOYA	Neck Force Y	8896	Bipolar	N	4-416 HIII 5th FTSS.008
130	1716A-499-FZ	14NECKUP00HFFOZA	Neck Force Z	13344	Bipolar	N	4-416 HIII 5th FTSS.009
131	1716A-499-MX	14NECKUP00HFMOXA	Neck Moment X	282.5	-Bipolar	Nm	4-416 HIII 5th FTSS.010
132	1716A-499-MY	14NECKUP00HFMOYA	Neck Moment Y	282.5	Bipolar	Nm	4-416 HIII 5th FTSS.011
133	1716A-499-MZ	14NECKUP00HFMOZA	Neck Moment Z	282.5	Bipolar	Nm	4-416 HIII 5th FTSS.012
134	P49463	14CHSTCG00HFACXA	Chest Accel X	2000	Bipolar	g	4-416 HIII 5th FTSS.013
135	P50065	14CHSTCG00HFACYA	Chest Accel Y	2000	-Bipolar	g	4-416 HIII 5th FTSS.014
136	P49186	14CHSTCG00HFACZA	Chest Accel Z	2000	-Bipolar	g	4-416 HIII 5th FTSS.015
137	P52040	14CHSTCGRDHFACXA	Chest Accel X Redundant	2000	-Bipolar	g	4-416 HIII 5th FTSS.016
138	P51979	14CHSTCGRDHFACYA	Chest Accel Y Redundant	2000	-Bipolar	g	4-416 HIII 5th FTSS.017
139	P51280	14CHSTCGRDHFACZA	Chest Accel Z Redundant	2000	-Bipolar	g	4-416 HIII 5th FTSS.018
140	14CB1-2897-CST416	14CHST0000HFDSXA	Chest Deflection X-S30	80	Bipolar	mm	4-416 HIII 5th FTSS.019
141	J14234	14PELVCG00HFACXA	Pelvis Accel X	2000	-Bipolar	g	4-416 HIII 5th FTSS.020
142	J23914	14PELVCG00HFACYA	Pelvis Accel Y	2000	-Bipolar	g	4-416 HIII 5th FTSS.021
143	P64004	14PELVCG00HFACZA	Pelvis Accel Z	2000	-Bipolar	g	4-416 HIII 5th FTSS.022
144	2121AJ-1700	14FEMRLL00HFFOZA	Left Femur Force Z #8	13344	Bipolar	N	4-416 HIII 5th FTSS.023

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
145	2430-560	14FEMRRLO0HFFOZA	Right Femur Force Z Ext F	13344	Bipolar	N	4-416 HIII 5th FTSS.024
146	08TC1-2702-9242A	14KNSLLE00HFDSXA	Left slider	25.4	Bipolar	mm	4-416 HIII 5th FTSS.025
147	08TC1-2702-9803-877	14KNSLRI00HFDSXA	right slider	25.4	Bipolar	mm	4-416 HIII 5th FTSS.026
148	P63131	10SILLLE0000ACXA	Left Sill X Acceleration	2000	Bipolar	g	
149	P34982	10SILLLE0000ACYA	Left Sill Y Acceleration	2000	Bipolar	g	
150	P61405	10SILLRI0000ACXA	Right Sill X Acceleration	2000	Bipolar	g	
151	P61384	10SILLRI0000ACYA	Right Sill Y Acceleration	2000	-Bipolar	g	
152	P63133	10VEHCCG0000ACXA	Vehicle Center of Gravity X	2000	Bipolar	g	
153	P62233	10VEHCCG0000ACYA	Vehicle Center of Gravity Y	2000	Bipolar	g	
154	P62232	10VEHCCG0000ACZA	Vehicle Center of Gravity Z	2000	-Bipolar	g	
155	P62573	10FOOTLE0000ACXA	Driver Foot Rest X Accele	2000	Bipolar	g	
156	P62630	10FOOTLE0000ACZA	Driver Foot Rest Z Accele	2000	-Bipolar	g	
157	P63147	10TPANLE0000ACXA	Toe Pan Behind Center of	2000	Bipolar	g	
158	P63139	10TPANLE0000ACZA	Toe Pan Behind Center of	2000	-Bipolar	g	
159	X08010	11SEBE0000B5FO0A	Driver Lap Belt Force (J1)	16000	Bipolar	N	
160	X08012	13SEBE0000B5FO0A	Right Front Passenger Lap	16000	Bipolar	N	
161	X08014	11SEBE0000B3FO0A	Driver Shoulder Belt Force	16000	Bipolar	N	
162	X08013	13SEBE0000B3FO0A	Right Front Passenger Shc	16000	Bipolar	N	
163	ABFire1	10AIRBLEFR25VO0A	Driver Airbag 1st Stage Fir	5	Bipolar	V	
164	ABFire2	10AIRBLEFR26VO0A	Driver Airbag 2nd Stage Fi	5	Bipolar	V	
165	ABFire3	10AIRBRIFR25VO0A	Right Front Passenger Airt	5	Bipolar	V	
166	ABFire4	10AIRBRIFR26VO0A	Right Front Passenger Air	5	Bipolar	V	
167	P63991	21HEADCG00THACXA	Head Accel X	2000	Bipolar	g	1-VRTC Thor NT T 015.001
168	P64001	21HEADCG00THACYA	Head Accel Y	2000	Bipolar	g	1-VRTC Thor NT T 015.002
169	P64002	21HEADCG00THACZA	Head Accel Z	2000	Bipolar	g	1-VRTC Thor NT T 015.003
170	P63847	21HEADLE00THACXA	Head (LT) Accel X	2000	Bipolar	g	1-VRTC Thor NT T 015.004
171	P63954	21HEADLE00THACZA	Head (LT) Accel Z	2000	Bipolar	g	1-VRTC Thor NT T 015.005
172	P63988	21HEADUP00THACXA	Head (TP) Accel X	2000	Bipolar	g	1-VRTC Thor NT T 015.006
173	P63987	21HEADUP00THACYA	Head (TP) Accel Y	2000	Bipolar	g	1-VRTC Thor NT T 015.007
174	P63989	21HEADRE00THACYA	Head (RR) Accel Y	2000	Bipolar	g	1-VRTC Thor NT T 015.008
175	P64008	21HEADRE00THACZA	Head (RR) Accel Z	2000	Bipolar	g	1-VRTC Thor NT T 015.009
176	3454-77-FX	21NECKUP00THFOXA	Upr Neck Force X	8900	Bipolar	N	1-VRTC Thor NT T 015.010
177	3454-77-FY	21NECKUP00THFOYA	Upr Neck Force Y	8900	Bipolar	N	1-VRTC Thor NT T 015.011
178	3454-77-FZ	21NECKUP00THFOZA	Upr Neck Force Z	13340	Bipolar	N	1-VRTC Thor NT T 015.012
179	3454-77-MX	21NECKUP00THMOXA	Upr Neck Moment X	282	Bipolar	Nm	1-VRTC Thor NT T 015.013
180	3454-77-MY	21NECKUP00THMOYA	Upr Neck Moment Y	282	Bipolar	Nm	1-VRTC Thor NT T 015.014

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
181	3454-77-MZ	21NECKUP00THMOZA	Upr Neck Moment Z	282	Bipolar	Nm	1-VRTC Thor NT T 015.015
182	4366J-79-FX	21NECKLO00THFOXA	Lwr Neck Force X	13340	Bipolar	N	1-VRTC Thor NT T 015.016
183	4366J-79-FY	21NECKLO00THFOYA	Lwr Neck Force Y	13340	Bipolar	N	1-VRTC Thor NT T 015.017
184	4366J-79-FZ	21NECKLO00THFOZA	Lwr Neck Force Z	13340	Bipolar	N	1-VRTC Thor NT T 015.018
185	4366J-79-MX	21NECKLO00THMOXA	Lwr Neck Moment X	452	Bipolar	N	1-VRTC Thor NT T 015.019
186	4366J-79-MY	21NECKLO00THMOYA	Lwr Neck Moment Y	452	Bipolar	N	1-VRTC Thor NT T 015.020
187	4366J-79-MZ	21NECKLO00THMOZA	Lwr Neck Moment Z	226	Bipolar	N	1-VRTC Thor NT T 015.021
188	6005J-76	21NECKRE00THFO0A	Rear Skull Spring Comp F	4448	Bipolar	N	1-VRTC Thor NT T 015.022
189	6005J-79	21NECKFR00THFO0A	Front Skull Spring Comp F	4448	Bipolar	N	1-VRTC Thor NT T 015.023
190	PD210-4B-0392	21NECKUP00THANYA	Occipital Condile Rotary P	180	Bipolar	I	1-VRTC Thor NT T 015.024
191	DGSP-029489	21ABDORL00THDS0A	Lwr Abd DGSP Rgt Disp	100	Bipolar	mm	1-VRTC Thor NT T 015.025
192	DGSP-0108	21ABDORL00THANYA	Lwr Abd DGSP Rgt Ptch	180	Bipolar	I	1-VRTC Thor NT T 015.026
193	DGSP-0353	21ABDORL00THANZA	Lwr Abd DGSP Rgt Yaw	180	Bipolar	I	1-VRTC Thor NT T 015.027
194	DGSP-029174	21ABDOLL00THDS0A	Lwr Abd DGSP Lft Disp	100	Bipolar	mm	1-VRTC Thor NT T 015.028
195	DGSP-0111	21ABDOLL00THANYA	Lwr Abd DGSP Lft Ptch	180	Bipolar	I	1-VRTC Thor NT T 015.029
196	DGSP-0419-1	21ABDOLL00THANZA	Lwr Abd DGSP Lft Yaw	180	Bipolar	I	1-VRTC Thor NT T 015.030
197	P58836	21TRRICG00THACXA	Thorax CG X	2000	Bipolar	g	1-VRTC Thor NT T 015.031
198	P51925	21TRRICG00THACYA	Thorax CG Y	2000	Bipolar	g	1-VRTC Thor NT T 015.032
199	P52061	21TRRICG00THACZA	Thorax CG Z	2000	Bipolar	g	1-VRTC Thor NT T 015.033
200	CRUX-0366	21CHRILU01THAN0A	CRUX T015 Base Upper L	180	Bipolar	I	1-VRTC Thor NT T 015.034
201	CRUX-0367	21CHRILU02THAN0A	CRUX T105 Mid Upper Le	180	Bipolar	I	1-VRTC Thor NT T 015.035
202	CRUX-0369	21CHRILU03THAN0A	CRUX T105 Elbow Upper	180	Bipolar	I	1-VRTC Thor NT T 015.036
203	CRUX-0253	21CHRIRU01THAN0A	CRUX T105 Base Upper F	180	Bipolar	I	1-VRTC Thor NT T 015.037
204	CRUX-0303	21CHRIRU02THAN0A	CRUX T105 Mid Upper Ri	180	Bipolar	I	1-VRTC Thor NT T 015.038
205	CRUX-0304	21CHRIRU03THAN0A	CRUX T105 Elbow Upper	180	Bipolar	I	1-VRTC Thor NT T 015.039
206	CRUX-0312	21CHRILL01THAN0A	CRUX T015 Base Lower L	180	Bipolar	I	1-VRTC Thor NT T 015.040
207	CRUX-0319	21CHRILL02THAN0A	CRUX T015 Mid Lower Le	180	Bipolar	I	1-VRTC Thor NT T 015.041
208	CRUX-0397	21CHRILL03THAN0A	CRUX T015 Elbow Lower	180	Bipolar	I	1-VRTC Thor NT T 015.042
209	CRUX-0390	21CHRIRL01THAN0A	CRUX T015 Base Lower F	180	Bipolar	I	1-VRTC Thor NT T 015.043
210	CRUX-0354	21CHRIRL02THAN0A	CRUX T015 Mid Lower Ri	180	Bipolar	I	1-VRTC Thor NT T 015.044
211	CRUX-0377	21CHRIRL03THAN0A	CRUX T015 Elbow Lower	180	Bipolar	I	1-VRTC Thor NT T 015.045
212	300647-034644	21ABDOUP00THDS0A	Upper Abdomen Sring Pot	100	Bipolar	mm	1-VRTC Thor NT T 015.046
213	1911A-173-FX	21THSP1200THFOXA	T12 Thoracic Spine FX	13344	Bipolar	N	1-VRTC Thor NT T 015.047
214	1911A-173-FY	21THSP1200THFOYA	T12 Thoracic Spine FY	13344	Bipolar	N	1-VRTC Thor NT T 015.048
215	1911A-173-FZ	21THSP1200THFOZA	T12 Thoracic Spine FZ	20000	Bipolar	N	1-VRTC Thor NT T 015.049
216	1911A-173-MX	21THSP12000HMOXA	T12 Thoracic Moment X	565	Bipolar	Nm	1-VRTC Thor NT T 015.050

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
217	1911A-173-MY	21THSP12000HMOYA	T12 Thoracic Moment Y	904	Bipolar	Nm	1-VRTC Thor NT T 015.051
218	P51921	21SPINUP00THACXA	T1 Upper Spine X	2000	Bipolar	g	1-VRTC Thor NT T 015.052
219	P52068	21SPINUP00THACYA	T1 Upper Spine Y	2000	Bipolar	g	1-VRTC Thor NT T 015.053
220	P51884	21SPINUP00THACZA	T1 Upper Spine Z	2000	-Bipolar	g	1-VRTC Thor NT T 015.054
221	P59001	21PELV0000THACXA	Pelvis Accel X	2000	Bipolar	g	1-VRTC Thor NT T 015.055
222	P51635	21PELV0000THACYA	Pelvis Accel Y	2000	Bipolar	g	1-VRTC Thor NT T 015.056
223	P51947	21PELV0000THACZA	Pelvis Accel Z	2000	Bipolar	g	1-VRTC Thor NT T 015.057
224	3855-81-FX	21ACTBLE00THFOXA	Pelvis/Acetabulum Left FX	22240	Bipolar	N	1-VRTC Thor NT T 015.058
225	3855-81-FY	21ACTBLE00THFOYA	Pelvis/Acetabulum Left FY	13340	Bipolar	N	1-VRTC Thor NT T 015.059
226	3855-81-FZ	21ACTBLE00THFOZA	Pelvis/Acetabulum Left FZ	13340	Bipolar	N	1-VRTC Thor NT T 015.060
227	3455J-84-FX	21ACTBRI00THFOXA	Pelvis/Acetabulum Right F	22240	Bipolar	N	1-VRTC Thor NT T 015.061
228	3455J-84-FY	21ACTBRI00THFOYA	Pelvis/Acetabulum Right F	13340	Bipolar	N	1-VRTC Thor NT T 015.062
229	3455J-84-FZ	21ACTBRI00THFOZA	Pelvis/Acetabulum Right F	13340	Bipolar	N	1-VRTC Thor NT T 015.063
230	1914A-362-FX	21FEMRLL00THFOXA	Left Femur FX	13344	Bipolar	N	1-VRTC Thor NT T 015.064
231	1914A-362-FY	21FEMRLL00THFOYA	Left Femur FY	13344	Bipolar	N	1-VRTC Thor NT T 015.065
232	1914A-362-FZ	21FEMRLL00THFOZA	Left Femur FZ	22240	Bipolar	N	1-VRTC Thor NT T 015.066
233	1914A-362-MX	21FEMRLL00THMOXA	Left Femur MX	339	Bipolar	Nm	1-VRTC Thor NT T 015.067
234	1914A-362-MY	21FEMRLL00THMOYA	Left Femur MY	339	Bipolar	Nm	1-VRTC Thor NT T 015.068
235	1914A-362-MZ	21FEMRLL00THMOZA	Left Femur MZ	339	Bipolar	Nm	1-VRTC Thor NT T 015.069
236	1914A-383-FX	21FEMRRL00THFOXA	Right Femur FX	13344	Bipolar	N	1-VRTC Thor NT T 015.070
237	1914A-383-FY	21FEMRRL00THFOYA	Right Femur FY	13344	Bipolar	N	1-VRTC Thor NT T 015.071
238	1914A-383-FZ	21FEMRRL00THFOZA	Right Femur FZ	22240	Bipolar	N	1-VRTC Thor NT T 015.072
239	1914A-383-MX	21FEMRRL00THMOXA	Right Femur MX	339	Bipolar	Nm	1-VRTC Thor NT T 015.073
240	1914A-383-MY	21FEMRRL00THMOYA	Right Femur MY	339	Bipolar	Nm	1-VRTC Thor NT T 015.074
241	1914A-383-MZ	21FEMRRL00THMOZA	Right Femur MZ	339	Bipolar	Nm	1-VRTC Thor NT T 015.075
242	150-0121VR-019664	21KNSLLE00H3DSXA	Left Knee Displacement X	30	-Bipolar	mm	1-LX0018 & 0019 VRTC.001
243	4509J-89-FX	21TIBILULXH3FOXA	Left Upper Tibia Force X	11120	Bipolar	N	1-LX0018 & 0019 VRTC.002
244	4509J-89-FZ	21TIBILULXH3FOZA	Left Upper Tibia Force Z	11120	Bipolar	N	1-LX0018 & 0019 VRTC.004
245	4509J-89-MX	21TIBILULXH3MOXA	Left Upper Tibia Moment X	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.005
246	4509J-89-MY	21TIBILULXH3MOYA	Left Upper Tibia Moment Y	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.006
247	4929J-127-FX	21TIBILLLXH3FOXA	Left Lower Tibia Force X	11120	Bipolar	N	1-LX0018 & 0019 VRTC.009
248	4929J-127-FY	21TIBILLLXH3FOYA	Left Lower Tibia Force Y	11120	Bipolar	N	1-LX0018 & 0019 VRTC.010
249	4929J-127-FZ	21TIBILLLXH3FOZA	Left Lower Tibia Force Z	11120	Bipolar	N	1-LX0018 & 0019 VRTC.011
250	4929J-127-MX	21TIBILLLXH3MOXA	Left Lower Tibia Moment X	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.012
251	4929J-127-MY	21TIBILLLXH3MOYA	Left Lower Tibia Moment Y	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.013
252	PD210-4B-7921-LX0019X	21FOOTLELXH3ANXA	Left Foot Angular Dis. X	318	-Bipolar	N	1-LX0018 & 0019 VRTC.014

Channel Report Test Number 091106

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Polarity	Units	Assembly
253	PD210-4B-7921-LX0019Y	21FOOTLELXH3ANYA	Left Foot Angular Dis. Y	318	Bipolar	l	1-LX0018 & 0019 VRTC.015
254	PD210-4B-7921-LX0019Z	21FOOTLELXH3ANZA	Left Foot Angular Dis. Z	318	-Bipolar	l	1-LX0018 & 0019 VRTC.016
255	P63853	21FOOTLELXH3ACXA	Left Foot Accel X	2000	Bipolar	g	1-LX0018 & 0019 VRTC.017
256	P51924	21FOOTLELXH3ACYA	Left Foot Accel Y	2000	Bipolar	g	1-LX0018 & 0019 VRTC.018
257	P52017	21FOOTLELXH3ACZA	Left Foot Accel Z	2000	Bipolar	g	1-LX0018 & 0019 VRTC.019
258	150-0121VL-019597	21KNSLRIO0H3DSXA	Right Knee Displacement	33	-Bipolar	mm	1-LX0018 & 0019 VRTC.020
259	4353-77-FX	21TIBIRULXH3FOXA	Right Upper Tibia Force X	11120	Bipolar	N	1-LX0018 & 0019 VRTC.021
260	4353-77-FZ	21TIBIRULXH3FOZA	Right Upper Tibia Force Z	11120	Bipolar	N	1-LX0018 & 0019 VRTC.023
261	4353-77-MX	21TIBIRULXH3MOXA	Right Upper Tibia Moment	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.024
262	4353-77-MY	21TIBIRULXH3MOYA	Right Upper Tibia Moment	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.025
263	4929J-120-FX	21TIBIRLLXH3FOXA	Right Lower Tibia Force X	11120	Bipolar	N	1-LX0018 & 0019 VRTC.028
264	4929J-120-FY	21TIBIRLLXH3FOYA	Right Lower Tibia Force Y	11120	Bipolar	N	1-LX0018 & 0019 VRTC.029
265	4929J-120-FZ	21TIBIRLLXH3FOZA	Right Lower Tibia Force Z	11120	Bipolar	N	1-LX0018 & 0019 VRTC.030
266	4929J-120-MX	21TIBIRLLXH3MOXA	Right Lower Tibia Moment	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.031
267	4929J-120-MY	21TIBIRLLXH3MOYA	Right Lower Tibia Moment	395	Bipolar	Nm	1-LX0018 & 0019 VRTC.032
268	PD210-4B-7921-LX0018X	21FOOTRILXH3ANXA	Right Foot Angular Dis. X	318	-Bipolar	l	1-LX0018 & 0019 VRTC.033
269	PD210-4B-7921-LX0018Y	21FOOTRILXH3ANYA	Right Foot Angular Dis. Y	318	Bipolar	l	1-LX0018 & 0019 VRTC.034
270	PD210-4B-7921-LX0018Z	21FOOTRILXH3ANZA	Right Foot Angular Dis. Z	318	-Bipolar	l	1-LX0018 & 0019 VRTC.035
271	P52050	21FOOTRILXH3ACXA	Right Foot Accel X	2000	Bipolar	g	1-LX0018 & 0019 VRTC.036
272	P52037	21FOOTRILXH3ACYA	Right Foot Accel Y	2000	Bipolar	g	1-LX0018 & 0019 VRTC.037
273	P51913	21FOOTRILXH3ACZA	Right Foot Accel Z	2000	Bipolar	g	1-LX0018 & 0019 VRTC.038
274	P63158	20SILLLE0000ACXA	Left Sill X Acceleration	2000	Bipolar	g	
275	P61767	20SILLLE0000ACYA	Left Sill Y Acceleration	2000	Bipolar	g	
276	P62225	20SILLRI0000ACXA	Right Sill X Acceleration	2000	Bipolar	g	
277	P62197	20SILLRI0000ACYA	Right Sill Y Acceleration	2000	-Bipolar	g	
278	P45012	20VEHCCG0000ACXA	Vehicle Center of Gravity X	2000	Bipolar	g	
279	P62213	20VEHCCG0000ACYA	Vehicle Center of Gravity Y	2000	Bipolar	g	
280	P61394	20VEHCCG0000ACZA	Vehicle Center of Gravity Z	2000	-Bipolar	g	
281	P61325	20FOOTLE0000ACXA	Driver Foot Rest X Accel	2000	Bipolar	g	
282	P62627	20FOOTLE0000ACZA	Driver Foot Rest Z Accel	2000	-Bipolar	g	
283	P64806	20TPANLE0000ACXA	Toe Pan Behind Center of	2000	Bipolar	g	
284	P63123	20TPANLE0000ACZA	Toe Pan Behind Center of	2000	-Bipolar	g	
285	3419-830	21SEBE0000B5FO0A	Driver Lap Belt Force (20"	15568	Bipolar	N	
286	3419-829	21SEBE0000B3FO0A	Driver Shoulder Belt Force	15568	Bipolar	N	
287	ABFire5	20AIRBLEFR25VO0A	Driver Airbag 1st Stage Fir	5	Bipolar	V	
288	ABFire6	20AIRBLEFR26VO0A	Driver Airbag 2nd Stage F	5	Bipolar	V	

Command File Test Number 091106

Chan	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
1	11HEADCG00H3ACXA	Bullet Vehicle Driver Head X-Axis Acceleration	1000 +	yes	2000
2	11HEADCG00H3ACYA	Bullet Vehicle Driver Head Y-Axis Acceleration	1000 +	yes	2000
3	11HEADCG00H3ACZA	Bullet Vehicle Driver Head Z-Axis Acceleration	1000 +	yes	2000
3A	11HEADCG00H3ACRA	Bullet Vehicle Driver Head Resultant Acceleration	1000		
4	11HEADCGRDH3ACXA	Bullet Vehicle Driver Head Redundant X-Axis Acceleration	1000 +	yes	2000
5	11HEADCGRDH3ACYA	Bullet Vehicle Driver Head Redundant Y-Axis Acceleration	1000 +	yes	2000
6	11HEADCGRDH3ACZA	Bullet Vehicle Driver Head Redundant Z-Axis Acceleration	1000 +	yes	2000
6A	11HEADCGRDH3ACRA	Bullet Vehicle Driver Head Redundant Resultant Acceleration	1000		
7	11NECKUP00H3FOXA	Bullet Vehicle Driver Upper Neck X-Axis Force	1000 +	yes	8896
8	11NECKUP00H3FOYA	Bullet Vehicle Driver Upper Neck Y-Axis Force	1000 +	yes	8896
9	11NECKUP00H3FOZA	Bullet Vehicle Driver Upper Neck Z-Axis Force	1000 +	yes	13340
10	11NECKUP00H3MOXA	Bullet Vehicle Driver Upper Neck Moment About X Axis	600 +	yes	282
11	11NECKUP00H3MOYA	Bullet Vehicle Driver Upper Neck Moment About Y Axis	600 +	yes	282
12	11NECKUP00H3MOZA	Bullet Vehicle Driver Upper Neck Moment About Z Axis	600 +	yes	282
13	11CHSTCG00H3ACXA	Bullet Vehicle Driver Chest X-Axis Acceleration	180 +	yes	2000
14	11CHSTCG00H3ACYA	Bullet Vehicle Driver Chest Y-Axis Acceleration	180 +	yes	2000
15	11CHSTCG00H3ACZA	Bullet Vehicle Driver Chest Z-Axis Acceleration	180 +	yes	2000
15A	11CHSTCG00H3ACRA	Bullet Vehicle Driver Chest Resultant Acceleration	180		
16	11CHSTCGRDH3ACXA	Bullet Vehicle Driver Chest Redundant X-Axis Acceleration	180 +	yes	2000
17	11CHSTCGRDH3ACYA	Bullet Vehicle Driver Chest Redundant Y-Axis Acceleration	180 +	yes	2000
18	11CHSTCGRDH3ACZA	Bullet Vehicle Driver Chest Redundant Z-Axis Acceleration	180 +	yes	2000
18A	11CHSTCGRDH3ACRA	Bullet Vehicle Driver Chest Redundant Resultant Acceleratio	180		
19	11CHST0000H3DSXA	Bullet Vehicle Driver Chest X-Axis Displacement	600 +	yes	84
20	11PELVCG00H3ACXA	Bullet Vehicle Driver Pelvis X-Axis Acceleration	1000 +	yes	2000
21	11PELVCG00H3ACYA	Bullet Vehicle Driver Pelvis Y-Axis Acceleration	1000 +	yes	2000
22	11PELVCG00H3ACZA	Bullet Vehicle Driver Pelvis Z-Axis Acceleration	1000 +	yes	2000
22A	11PELVCG00H3ACRA	Bullet Vehicle Driver Pelvis Resultant Acceleration	1000		
23	11FEMRLL00H3FOZA	Bullet Vehicle Driver Left Femur Z-Axis Force	600 +	yes	13344
24	11FEMRRL00H3FOZA	Bullet Vehicle Driver Right Femur Z-Axis Force	600 +	yes	13344
25	11KNSLLE00H3DSXA	Bullet Vehicle Driver Left Knee X-Axis Displacement	180 +	yes	33
26	11TIBILULXH3FOXA	Bullet Vehicle Driver Left Upper Tibia X-Axis Force	600 +	yes	11120.5
27	11TIBILULXH3FOZA	Bullet Vehicle Driver Left Upper Tibia Z-Axis Force	600 +	yes	11120.5
28	11TIBILULXH3MOXA	Bullet Vehicle Driver Left Upper Tibia Moment About X Axis	600 +	yes	395.4
29	11TIBILULXH3MOYA	Bullet Vehicle Driver Left Upper Tibia Moment About Y Axis	600 +	yes	395.4
30	11TIBILLLXH3FOXA	Bullet Vehicle Driver Left Lower Tibia X-Axis Force	600 +	yes	11120.5
31	11TIBILLLXH3FOYA	Bullet Vehicle Driver Left Lower Tibia Y-Axis Force	600 +	yes	11120.5
32	11TIBILLLXH3FOZA	Bullet Vehicle Driver Left Lower Tibia Z-Axis Force	600 +	yes	11120.5
33	11TIBILLLXH3MOXA	Bullet Vehicle Driver Left Lower Tibia Moment About X Axis	600 +	yes	395.4
34	11TIBILLLXH3MOYA	Bullet Vehicle Driver Left Lower Tibia Moment About Y Axis	600 +	yes	395.4
35	11TIBILELXH3ACXA	Bullet Vehicle Driver Left Tibia X-Axis Acceleration	1000 +	yes	1000
36	11TIBILELXH3ACYA	Bullet Vehicle Driver Left Tibia Y-Axis Acceleration	1000 +	yes	1000

Command File Test Number 091106

Chan	ISO mnemonic	Channel Title	Filter	C Flip	Zero	Full Scale
37	11FOOTLELXH3ACXA	Bullet Vehicle Driver Left Foot X-Axis Acceleration	1000	+	yes	2000
38	11FOOTLELXH3ACYA	Bullet Vehicle Driver Left Foot Y-Axis Acceleration	1000	+	yes	2000
39	11FOOTLELXH3ACZA	Bullet Vehicle Driver Left Foot Z-Axis Acceleration	1000	+	yes	2000
39A	11FOOTLELXH3ACRA	Bullet Vehicle Driver Left Foot Resultant Acceleration	1000			
40	11FOOTLELXH3ANXA	Bullet Vehicle Driver Left Foot X-Axis Angular Displacement	180	+	no	180
41	11FOOTLELXH3ANYA	Bullet Vehicle Driver Left Foot Y-Axis Angular Displacement	180	+	no	180
42	11FOOTLELXH3ANZA	Bullet Vehicle Driver Left Foot Z-Axis Angular Displacement	180	+	no	180
43	11KNSLRIO0H3DSXA	Bullet Vehicle Driver Right Knee X-Axis Displacement	180	+	yes	33
44	11TIBIRULXH3FOXA	Bullet Vehicle Driver Right Upper Tibia X-Axis Force	600	+	yes	11120.5
45	11TIBIRULXH3FOZA	Bullet Vehicle Driver Right Upper Tibia Z-Axis Force	600	+	yes	11120.5
46	11TIBIRULXH3MOXA	Bullet Vehicle Driver Right Upper Tibia Moment About X Axis	600	+	yes	395.4
47	11TIBIRULXH3MOYA	Bullet Vehicle Driver Right Upper Tibia Moment About Y Axis	600	+	yes	395.4
48	11TIBIRLLXH3FOXA	Bullet Vehicle Driver Right Lower Tibia X-Axis Force	600	+	yes	11120.5
49	11TIBIRLLXH3FOYA	Bullet Vehicle Driver Right Lower Tibia Y-Axis Force	600	+	yes	11120.5
50	11TIBIRLLXH3FOZA	Bullet Vehicle Driver Right Lower Tibia Z-Axis Force	600	+	yes	11120.5
51	11TIBIRLLXH3MOXA	Bullet Vehicle Driver Right Lower Tibia Moment About X Axis	600	+	yes	395.4
52	11TIBIRLLXH3MOYA	Bullet Vehicle Driver Right Lower Tibia Moment About Y Axis	600	+	yes	395.4
53	11TIBIRILXH3ACXA	Bullet Vehicle Driver Right Tibia X-Axis Acceleration	1000	+	yes	2000
54	11TIBIRILXH3ACYA	Bullet Vehicle Driver Right Tibia Y-Axis Acceleration	1000	+	yes	2000
55	11FOOTRILXH3ACXA	Bullet Vehicle Driver Right Foot X-Axis Acceleration	1000	+	yes	2000
56	11FOOTRILXH3ACYA	Bullet Vehicle Driver Right Foot Y-Axis Acceleration	1000	+	yes	2000
57	11FOOTRILXH3ACZA	Bullet Vehicle Driver Right Foot Z-Axis Acceleration	1000	+	yes	2000
57A	11FOOTRILXH3ACRA	Bullet Vehicle Driver Right Foot Resultant Acceleration	1000			
58	11FOOTRILXH3ANXA	Bullet Vehicle Driver Right Foot X-Axis Angular Displacement	180	+	no	180
59	11FOOTRILXH3ANYA	Bullet Vehicle Driver Right Foot Y-Axis Angular Displacement	180	+	no	180
60	11FOOTRILXH3ANZA	Bullet Vehicle Driver Right Foot Z-Axis Angular Displacement	180	+	no	180
61	13HEADCG00HFACXA	Bullet Vehicle Right Front Passenger Head X-Axis Acceleration	1000	+	yes	2000
62	13HEADCG00HFACYA	Bullet Vehicle Right Front Passenger Head Y-Axis Acceleration	1000	+	yes	2000
63	13HEADCG00HFACZA	Bullet Vehicle Right Front Passenger Head Z-Axis Acceleration	1000	+	yes	2000
63A	13HEADCG00HFACRA	Bullet Vehicle Right Front Passenger Head Resultant Acceleration	1000			
64	13HEADCGRDHFACXA	Bullet Vehicle Right Front Passenger Head Redundant X-Axis	1000	+	yes	2000
65	13HEADCGRDHFACYA	Bullet Vehicle Right Front Passenger Head Redundant Y-Axis	1000	+	yes	2000
66	13HEADCGRDHFACZA	Bullet Vehicle Right Front Passenger Head Redundant Z-Axis	1000	+	yes	2000
66A	13HEADCGRDHFACRA	Bullet Vehicle Right Front Passenger Head Redundant Resultant	1000			
67	13NECKUP00HFFOXA	Bullet Vehicle Right Front Passenger Upper Neck X-Axis Force	1000	+	yes	8896
68	13NECKUP00HFFOYA	Bullet Vehicle Right Front Passenger Upper Neck Y-Axis Force	1000	+	yes	8896
69	13NECKUP00HFFOZA	Bullet Vehicle Right Front Passenger Upper Neck Z-Axis Force	1000	+	yes	13344
70	13NECKUP00HFMOXA	Bullet Vehicle Right Front Passenger Upper Neck Moment About X Axis	600	+	yes	282.5
71	13NECKUP00HFMOYA	Bullet Vehicle Right Front Passenger Upper Neck Moment About Y Axis	600	+	yes	282.5
72	13NECKUP00HFMOZA	Bullet Vehicle Right Front Passenger Upper Neck Moment About Z Axis	600	+	yes	282.5
73	13CHSTCG00HFACXA	Bullet Vehicle Right Front Passenger Chest X-Axis Acceleration	180	+	yes	2000

Command File Test Number 091106

Chan	ISO mnemonic	Channel Title						Filter (Flip	Zero	Full Scale
74	13CHSTCG00HFACYA	Bullet	Vehicle	Right	Front	Passenger	Chest Y-Axis Accelerat	180 +	yes	2000
75	13CHSTCG00HFACZA	Bullet	Vehicle	Right	Front	Passenger	Chest Z-Axis Accelerat	180 +	yes	2000
75A	13CHSTCG00HFACRA	Bullet	Vehicle	Right	Front	Passenger	Chest Resultant Accele	180		
76	13CHSTCGRDHFACXA	Bullet	Vehicle	Right	Front	Passenger	Chest Redundant X-Axis	180 +	yes	2000
77	13CHSTCGRDHFACYA	Bullet	Vehicle	Right	Front	Passenger	Chest Redundant Y-Axis	180 +	yes	2000
78	13CHSTCGRDHFACZA	Bullet	Vehicle	Right	Front	Passenger	Chest Redundant Z-Axis	180 +	yes	2000
78A	13CHSTCGRDHFACRA	Bullet	Vehicle	Right	Front	Passenger	Chest Redundant Result	180		
79	13CHST0000HFDSXA	Bullet	Vehicle	Right	Front	Passenger	Chest X-Axis Displacem	600 +	yes	75
80	13PELVCG00HFACXA	Bullet	Vehicle	Right	Front	Passenger	Pelvis X-Axis Accelerat	1000 +	yes	2000
81	13PELVCG00HFACYA	Bullet	Vehicle	Right	Front	Passenger	Pelvis Y-Axis Accelerat	1000 +	yes	2000
82	13PELVCG00HFACZA	Bullet	Vehicle	Right	Front	Passenger	Pelvis Z-Axis Accelerat	1000 +	yes	2000
82A	13PELVCG00HFACRA	Bullet	Vehicle	Right	Front	Passenger	Pelvis Resultant Accel	1000		
83	13FEMRLU00HFFOZA	Bullet	Vehicle	Right	Front	Passenger	Left Femur Z-Axis Forc	600 +	yes	13344
84	13FEMRRU00HFFOZA	Bullet	Vehicle	Right	Front	Passenger	Right Femur Z-Axis For	600 +	yes	13344
85	13KNSLLE00HFDSXA	Bullet	Vehicle	Right	Front	Passenger	Left Knee X-Axis Displ	180 +	yes	33
86	13TIBILULXHFFOXA	Bullet	Vehicle	Right	Front	Passenger	Left Upper Tibia X-Axi	600 +	yes	8896
87	13TIBILULXHFFOZA	Bullet	Vehicle	Right	Front	Passenger	Left Upper Tibia Z-Axi	600 +	yes	8896
88	13TIBILULXHFMOXA	Bullet	Vehicle	Right	Front	Passenger	Left Upper Tibia Momen	600 +	yes	282.5
89	13TIBILULXHFMOYA	Bullet	Vehicle	Right	Front	Passenger	Left Upper Tibia Momen	600 +	yes	282.5
90	13TIBILELXHFACXA	Bullet	Vehicle	Right	Front	Passenger	Left Tibia X-Axis Acce	1000 +	yes	2000
91	13TIBILELXHFACYA	Bullet	Vehicle	Right	Front	Passenger	Left Tibia Y-Axis Acce	1000 +	yes	2000
92	13TIBILLLXHFFOXA	Bullet	Vehicle	Right	Front	Passenger	Left Lower Tibia X-Axi	600 +	yes	8896
93	13TIBILLLXHFFOYA	Bullet	Vehicle	Right	Front	Passenger	Left Lower Tibia Y-Axi	600 +	yes	8896
94	13TIBILLLXHFFOZA	Bullet	Vehicle	Right	Front	Passenger	Left Lower Tibia Z-Axi	600 +	yes	8896
95	13TIBILLLXHFMOMA	Bullet	Vehicle	Right	Front	Passenger	Left Lower Tibia Momen	600 +	yes	282
96	13TIBILLLXHFMOMA	Bullet	Vehicle	Right	Front	Passenger	Left Lower Tibia Momen	600 +	yes	282
97	13FOOTLELXHFANXA	Bullet	Vehicle	Right	Front	Passenger	Left Foot X-Axis Angul	180 +	no	318
98	13FOOTLELXHFANXA	Bullet	Vehicle	Right	Front	Passenger	Left Foot Y-Axis Angul	180 +	no	318
99	13FOOTLELXHFANZA	Bullet	Vehicle	Right	Front	Passenger	Left Foot Z-Axis Angul	180 +	no	318
100	13FOOTLELXHFACXA	Bullet	Vehicle	Right	Front	Passenger	Left Foot X-Axis Accel	1000 +	yes	2000
101	13FOOTLELXHFACYA	Bullet	Vehicle	Right	Front	Passenger	Left Foot Y-Axis Accel	1000 +	yes	2000
102	13FOOTLELXHFACZA	Bullet	Vehicle	Right	Front	Passenger	Left Foot Z-Axis Accel	1000 +	yes	2000
102A	13FOOTLELXHFACRA	Bullet	Vehicle	Right	Front	Passenger	Left Foot Resultant Ac	1000		
103	13KNSLRI00HFDSXA	Bullet	Vehicle	Right	Front	Passenger	Right Knee X-Axis Disp	180 +	yes	33
104	13TIBIRULXHFFOXA	Bullet	Vehicle	Right	Front	Passenger	Right Upper Tibia X-Ax	600 +	yes	8896
105	13TIBIRULXHFFOZA	Bullet	Vehicle	Right	Front	Passenger	Right Upper Tibia Z-Ax	600 +	yes	8896
106	13TIBIRULXHFMOXA	Bullet	Vehicle	Right	Front	Passenger	Right Upper Tibia Mome	600 +	yes	282
107	13TIBIRULXHFMOYA	Bullet	Vehicle	Right	Front	Passenger	Right Upper Tibia Mome	600 +	yes	282
108	13TIBIRILXHFACXA	Bullet	Vehicle	Right	Front	Passenger	Right Tibia X-Axis Acc	1000 +	yes	2000
109	13TIBIRILXHFACYA	Bullet	Vehicle	Right	Front	Passenger	Right Tibia Y-Axis Acc	1000 +	yes	2000
110	13TIBIRLLXHFFOXA	Bullet	Vehicle	Right	Front	Passenger	Right Lower Tibia X-Ax	600 +	yes	8896

Command File Test Number 091106

Channel	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
111	13TIBIRLLXHHFOYA	Bullet Vehicle Right Front Passenger Right Lower Tibia Y-Ax	600 +	yes	8896
112	13TIBIRLLXHHFOZA	Bullet Vehicle Right Front Passenger Right Lower Tibia Z-Ax	600 +	yes	8896
113	13TIBIRLLXHHFMOXA	Bullet Vehicle Right Front Passenger Right Lower Tibia Mome	600 +	yes	282
114	13TIBIRLLXHHFMOYA	Bullet Vehicle Right Front Passenger Right Lower Tibia Mome	600 +	yes	282
115	13FOOTRILXHFANXA	Bullet Vehicle Right Front Passenger Right Foot X-Axis Angu	180 +	no	318
116	13FOOTRILXHFANYA	Bullet Vehicle Right Front Passenger Right Foot Y-Axis Angu	180 +	no	318
117	13FOOTRILXHFANZA	Bullet Vehicle Right Front Passenger Right Foot Z-Axis Angu	180 +	no	318
118	13FOOTRILXHFACXA	Bullet Vehicle Right Front Passenger Right Foot X-Axis Acce	1000 +	yes	2000
119	13FOOTRILXHFACYA	Bullet Vehicle Right Front Passenger Right Foot Y-Axis Acce	1000 +	yes	2000
120	13FOOTRILXHFACZA	Bullet Vehicle Right Front Passenger Right Foot Z-Axis Acce	1000 +	yes	2000
120A	13FOOTRILXHFACRA	Bullet Vehicle Right Front Passenger Right Foot Resultant A	1000		
121	14HEADCG00HFACXA	Bullet Vehicle Left Rear Passenger Head X-Axis Acceleration	1000 +	yes	2000
122	14HEADCG00HFACYA	Bullet Vehicle Left Rear Passenger Head Y-Axis Acceleration	1000 +	yes	2000
123	14HEADCG00HFACZA	Bullet Vehicle Left Rear Passenger Head Z-Axis Acceleration	1000 +	yes	2000
123A	14HEADCG00HFACRA	Bullet Vehicle Left Rear Passenger Head Resultant Accelerat	1000		
124	14HEADCGRDHFACXA	Bullet Vehicle Left Rear Passenger Head Redundant X-Axis Ac	1000 +	yes	2000
125	14HEADCGRDHFACYA	Bullet Vehicle Left Rear Passenger Head Redundant Y-Axis Ac	1000 +	yes	2000
126	14HEADCGRDHFACZA	Bullet Vehicle Left Rear Passenger Head Redundant Z-Axis Ac	1000 +	yes	2000
126A	14HEADCGRDHFACRA	Bullet Vehicle Left Rear Passenger Head Redundant Resultant	1000		
127	14NECKUP00HHFFOXA	Bullet Vehicle Left Rear Passenger Upper Neck X-Axis Force	1000 +	yes	8896
128	14NECKUP00HHFFOYA	Bullet Vehicle Left Rear Passenger Upper Neck Y-Axis Force	1000 +	yes	8896
129	14NECKUP00HHFFOZA	Bullet Vehicle Left Rear Passenger Upper Neck Z-Axis Force	1000 +	yes	13344
130	14NECKUP00HHFMOXA	Bullet Vehicle Left Rear Passenger Upper Neck Moment About	600 +	yes	282.5
131	14NECKUP00HHFMOYA	Bullet Vehicle Left Rear Passenger Upper Neck Moment About	600 +	yes	282.5
132	14NECKUP00HHFMOZA	Bullet Vehicle Left Rear Passenger Upper Neck Moment About	600 +	yes	282.5
133	14CHSTCG00HFACXA	Bullet Vehicle Left Rear Passenger Chest X-Axis Acceleratio	180 +	yes	2000
134	14CHSTCG00HFACYA	Bullet Vehicle Left Rear Passenger Chest Y-Axis Acceleratio	180 +	yes	2000
135	14CHSTCG00HFACZA	Bullet Vehicle Left Rear Passenger Chest Z-Axis Acceleratio	180 +	yes	2000
135A	14CHSTCG00HFACRA	Bullet Vehicle Left Rear Passenger Chest Resultant Accelera	180		
136	14CHSTCGRDHFACXA	Bullet Vehicle Left Rear Passenger Chest Redundant X-Axis A	180 +	yes	2000
137	14CHSTCGRDHFACYA	Bullet Vehicle Left Rear Passenger Chest Redundant Y-Axis A	180 +	yes	2000
138	14CHSTCGRDHFACZA	Bullet Vehicle Left Rear Passenger Chest Redundant Z-Axis A	180 +	yes	2000
138A	14CHSTCGRDHFACRA	Bullet Vehicle Left Rear Passenger Chest Redundant Resultan	180		
139	14CHST0000HFDSDXA	Bullet Vehicle Left Rear Passenger Chest X-Axis Displacemen	600 +	yes	80
140	14PELVCG00HFACXA	Bullet Vehicle Left Rear Passenger Pelvis X-Axis Accelerati	1000 +	yes	2000
141	14PELVCG00HFACYA	Bullet Vehicle Left Rear Passenger Pelvis Y-Axis Accelerati	1000 +	yes	2000
142	14PELVCG00HFACZA	Bullet Vehicle Left Rear Passenger Pelvis Z-Axis Accelerati	1000 +	yes	2000
142A	14PELVCG00HFACRA	Bullet Vehicle Left Rear Passenger Pelvis Resultant Acceler	1000		
143	14FEMRLL00HHFFOZA	Bullet Vehicle Left Rear Passenger Left Femur Z-Axis Force	600 +	yes	13344
144	14FEMRRL00HHFFOZA	Bullet Vehicle Left Rear Passenger Right Femur Z-Axis Force	600 +	yes	13344
145	14KNSLLE00HFDSDXA	Bullet Vehicle Left Rear Passenger Left Knee X-Axis Displac	180 +	yes	25.4

Command File Test Number 091106

Chan	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
146	14KNSLR100HFDSXA	Bullet Vehicle Left Rear Passenger Right Knee X-Axis Displa	180 +	yes	25.4
147	10SILLLE0000ACXA	Bullet Vehicle Left Sill X-Axis Acceleration	60 +	yes	2000
148	10SILLLE0000ACYA	Bullet Vehicle Left Sill Y-Axis Acceleration	60 +	yes	2000
149	10SILLRI0000ACXA	Bullet Vehicle Right Sill X-Axis Acceleration	60 +	yes	2000
150	10SILLRI0000ACYA	Bullet Vehicle Right Sill Y-Axis Acceleration	60 +	yes	2000
151	10VEHCCG0000ACXA	Bullet Vehicle Vehicle Center of Gravity X-Axis Acceleratio	60 +	yes	2000
152	10VEHCCG0000ACYA	Bullet Vehicle Vehicle Center of Gravity Y-Axis Acceleratio	60 +	yes	2000
153	10VEHCCG0000ACZA	Bullet Vehicle Vehicle Center of Gravity Z-Axis Acceleratio	60 +	yes	2000
153A	10VEHCCG0000ACRA	Bullet Vehicle Vehicle Center of Gravity Resultant Accelera	60		
154	10FOOTLE0000ACXA	Bullet Vehicle Driver Footrest X-Axis Acceleration	60 +	yes	2000
155	10FOOTLE0000ACZA	Bullet Vehicle Driver Footrest Z-Axis Acceleration	60 +	yes	2000
156	10TPANLE0000ACXA	Bullet Vehicle Toepan Behind Center of Accelerator X-Axis A	60 +	yes	2000
157	10TPANLE0000ACZA	Bullet Vehicle Toepan Behind Center of Accelerator Z-Axis A	60 +	yes	2000
158	11SEBE0000B5FO0A	Bullet Vehicle Driver Lap Belt Force	60 +	yes	16000
159	13SEBE0000B5FO0A	Bullet Vehicle Right Front Passenger Lap Belt Force	60 +	yes	16000
160	11SEBE0000B3FO0A	Bullet Vehicle Driver Shoulder Belt Force	60 +	yes	16000
161	13SEBE0000B3FO0A	Bullet Vehicle Right Front Passenger Shoulder Belt Force	60 +	yes	16000
162	10AIRBLEFR25VO0A	Bullet Vehicle Driver Airbag 1st Stage Fire Time	1000 +	no	5
163	10AIRBLEFR26VO0A	Bullet Vehicle Driver Airbag 2nd Stage Fire Time	1000 +	no	5
164	10AIRBRIFR25VO0A	Bullet Vehicle Right Front Passenger Airbag 1st Stage Fire	1000 +	no	5
165	10AIRBRIFR26VO0A	Bullet Vehicle Right Front Passenger Airbag 2nd Stage Fire	1000 +	no	5
166	21HEADCG00THACXA	Target Vehicle Driver Head X-Axis Acceleration	1000 +	yes	2000
167	21HEADCG00THACYA	Target Vehicle Driver Head Y-Axis Acceleration	1000 +	yes	2000
168	21HEADCG00THACZA	Target Vehicle Driver Head Z-Axis Acceleration	1000 +	yes	2000
168A	21HEADCG00THACRA	Target Vehicle Driver Head Resultant Acceleration	1000		
169	21HEADLE00THACXA	Target Vehicle Driver Head Left X-Axis Acceleration	1000 +	yes	2000
170	21HEADLE00THACZA	Target Vehicle Driver Head Left Z-Axis Acceleration	1000 +	yes	2000
171	21HEADUP00THACXA	Target Vehicle Driver Head Top X-Axis Acceleration	1000 +	yes	2000
172	21HEADUP00THACYA	Target Vehicle Driver Head Top Y-Axis Acceleration	1000 +	yes	2000
173	21HEADRE00THACYA	Target Vehicle Driver Head Rear Y-Axis Acceleration	1000 +	yes	2000
174	21HEADRE00THACZA	Target Vehicle Driver Head Rear Z-Axis Acceleration	1000 +	yes	2000
175	21NECKUP00THFOXA	Target Vehicle Driver Upper Neck X-Axis Force	1000 +	yes	8900
176	21NECKUP00THFOYA	Target Vehicle Driver Upper Neck Y-Axis Force	1000 +	yes	8900
177	21NECKUP00THFOZA	Target Vehicle Driver Upper Neck Z-Axis Force	1000 +	yes	13340
178	21NECKUP00THMOXA	Target Vehicle Driver Upper Neck Moment About X Axis	600 +	yes	282
179	21NECKUP00THMOYA	Target Vehicle Driver Upper Neck Moment About Y Axis	600 +	yes	282
180	21NECKUP00THMOZA	Target Vehicle Driver Upper Neck Moment About Z Axis	600 +	yes	282
181	21NECKLO00THFOXA	Target Vehicle Driver Lower Neck X-Axis Force	1000 +	yes	13340
182	21NECKLO00THFOYA	Target Vehicle Driver Lower Neck Y-Axis Force	1000 +	yes	13340
183	21NECKLO00THFOZA	Target Vehicle Driver Lower Neck Z-Axis Force	1000 +	yes	13340

Command File Test Number 091106

Channel	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
184	21NECKLO00THMOXA	Target Vehicle Driver Lower Neck Moment About X Axis	600 +	yes	452
185	21NECKLO00THMOYA	Target Vehicle Driver Lower Neck Moment About Y Axis	600 +	yes	452
186	21NECKLO00THMOZA	Target Vehicle Driver Lower Neck Moment About Z Axis	600 +	yes	226
187	21NECKRE00THFO0A	Target Vehicle Driver Rear Skull Spring Z-Axis Force	600 +	yes	4448
188	21NECKFR00THFO0A	Target Vehicle Driver Front Skull Spring Z-Axis Force	600 +	yes	4448
189	21NECKUP00THANYA	Target Vehicle Driver Occipital Condyle Rotary Pot	180 +	yes	180
190	21ABDORL00THDS0A	Target Vehicle Driver Lower Abdomen DGSP Right Displacement	180 +	no	100
191	21ABDORL00THANYA	Target Vehicle Driver Lower Abdomen DGSP Right Pitch	180 +	no	180
192	21ABDORL00THANZA	Target Vehicle Driver Lower Abdomen DGSP Right Yaw	180 +	no	180
193	21ABDOLL00THDS0A	Target Vehicle Driver Lower Abdomen DGSP Left Displacement	180 +	no	100
194	21ABDOLL00THANYA	Target Vehicle Driver Lower Abdomen DGSP Left Pitch	180 +	no	180
195	21ABDOLL00THANZA	Target Vehicle Driver Lower Abdomen DGSP Left Yaw	180 +	no	180
196	21TRRICG00THACXA	Target Vehicle Driver Thorax CG X-Axis Acceleration	1000 +	yes	2000
197	21TRRICG00THACYA	Target Vehicle Driver Thorax CG Y-Axis Acceleration	1000 +	yes	2000
198	21TRRICG00THACZA	Target Vehicle Driver Thorax CG Z-Axis Acceleration	1000 +	yes	2000
198A	21TRRICG00THACRA	Target Vehicle Driver Thorax CG Resultant Acceleration	1000		
199	21CHRILU01THAN0A	Target Vehicle Driver CRUX T015 Base Upper Left Thorax Pot	180 +	no	180
200	21CHRILU02THAN0A	Target Vehicle Driver CRUX T015 Mid Upper Left Thorax Pot	180 +	no	180
201	21CHRILU03THAN0A	Target Vehicle Driver CRUX T015 Elbow Upper Left Thorax Pot	180 +	no	180
202	21CHRIRU01THAN0A	Target Vehicle Driver CRUX T015 Base Upper Right Thorax Pot	180 +	no	180
203	21CHRIRU02THAN0A	Target Vehicle Driver CRUX T015 Mid Upper Right Thorax Pot	180 +	no	180
204	21CHRIRU03THAN0A	Target Vehicle Driver CRUX T015 Elbow Upper Right Thorax Po	180 +	no	180
205	21CHRILL01THAN0A	Target Vehicle Driver CRUX T015 Base Lower Left Thorax Pot	180 +	no	180
206	21CHRILL02THAN0A	Target Vehicle Driver CRUX T015 Mid Lower Left Thorax Pot	180 +	no	180
207	21CHRILL03THAN0A	Target Vehicle Driver CRUX T015 Elbow Lower Left Thorax Pot	180 +	no	180
208	21CHRIRL01THAN0A	Target Vehicle Driver CRUX T015 Base Lower Right Thorax Pot	180 +	no	180
209	21CHRIRL02THAN0A	Target Vehicle Driver CRUX T015 Mid Lower Right Thorax Pot	180 +	no	180
210	21CHRIRL03THAN0A	Target Vehicle Driver CRUX T015 Elbow Lower Right Thorax Po	180 +	no	180
211	21ABDOUP00THDS0A	Target Vehicle Driver Upper Abdomen String Pot	180 +	yes	100
212	21THSP1200THFOXA	Target Vehicle Driver T12 Thoracic Spine X-Axis Force	1000 +	yes	13344
213	21THSP1200THFOYA	Target Vehicle Driver T12 Thoracic Spine Y-Axis Force	1000 +	yes	13344
214	21THSP1200THFOZA	Target Vehicle Driver T12 Thoracic Spine Z-Axis Force	1000 +	yes	20000
215	21THSP12000HMOXA	Target Vehicle Driver T12 Thoracic Moment About X Axis	1000 +	yes	565
216	21THSP12000HMOYA	Target Vehicle Driver T12 Thoracic Moment About Y Axis	1000 +	yes	904
217	21SPINUP00THACXA	Target Vehicle Driver T1 Upper Spine X-Axis Acceleration	180 +	yes	2000
218	21SPINUP00THACYA	Target Vehicle Driver T1 Upper Spine Y-Axis Acceleration	180 +	yes	2000
219	21SPINUP00THACZA	Target Vehicle Driver T1 Upper Spine Z-Axis Acceleration	180 +	yes	2000
219A	21SPINUP00THACRA	Target Vehicle Driver T1 Upper Spine Resultant Acceleration	180		
220	21PELV0000THACXA	Target Vehicle Driver Pelvis X-Axis Acceleration	1000 +	yes	2000
221	21PELV0000THACYA	Target Vehicle Driver Pelvis Y-Axis Acceleration	1000 +	yes	2000
222	21PELV0000THACZA	Target Vehicle Driver Pelvis Z-Axis Acceleration	1000 +	yes	2000

Command File Test Number 091106

Channel	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
222A	21PELV0000THACRA	Target Vehicle Driver Pelvis Resultant Acceleration	1000		
223	21ACTBLE00THFOXA	Target Vehicle Driver Pelvis/Acetabulum Left X-Axis Force	1000 +	yes	22240
224	21ACTBLE00THFOYA	Target Vehicle Driver Pelvis/Acetabulum Left Y-Axis Force	1000 +	yes	13340
225	21ACTBLE00THFOZA	Target Vehicle Driver Pelvis/Acetabulum Left Z-Axis Force	1000 +	yes	13340
226	21ACTBRI00THFOXA	Target Vehicle Driver Pelvis/Acetabulum Right X-Axis Force	1000 +	yes	22240
227	21ACTBRI00THFOYA	Target Vehicle Driver Pelvis/Acetabulum Right Y-Axis Force	1000 +	yes	13340
228	21ACTBRI00THFOZA	Target Vehicle Driver Pelvis/Acetabulum Right Z-Axis Force	1000 +	yes	13340
229	21FEMRLL00THFOXA	Target Vehicle Driver Left Femur X-Axis Force	600 +	yes	13344
230	21FEMRLL00THFOYA	Target Vehicle Driver Left Femur Y-Axis Force	600 +	yes	13344
231	21FEMRLL00THFOZA	Target Vehicle Driver Left Femur Z-Axis Force	600 +	yes	22240
232	21FEMRLL00THMOXA	Target Vehicle Driver Left Femur Moment About X-Axis	600 +	yes	339
233	21FEMRLL00THMOYA	Target Vehicle Driver Left Femur Moment About Y-Axis	600 +	yes	339
234	21FEMRLL00THMOZA	Target Vehicle Driver Left Femur Moment About Z-Axis	600 +	yes	339
235	21FEMRRL00THFOXA	Target Vehicle Driver Right Femur X-Axis Force	600 +	yes	13344
236	21FEMRRL00THFOYA	Target Vehicle Driver Right Femur Y-Axis Force	600 +	yes	13344
237	21FEMRRL00THFOZA	Target Vehicle Driver Right Femur Z-Axis Force	600 +	yes	22240
238	21FEMRRL00THMOXA	Target Vehicle Driver Right Femur Moment About X-Axis	600 +	yes	339
239	21FEMRRL00THMOYA	Target Vehicle Driver Right Femur Moment About Y-Axis	600 +	yes	339
240	21FEMRRL00THMOZA	Target Vehicle Driver Right Femur Moment About Z-Axis	600 +	yes	339
241	21KNSLLE00H3DSXA	Target Vehicle Driver Left Knee X-Axis Displacement	180 +	yes	30
242	21TIBILULXH3FOXA	Target Vehicle Driver Left Upper Tibia X-Axis Force	600 +	yes	11120
243	21TIBILULXH3FOZA	Target Vehicle Driver Left Upper Tibia Z-Axis Force	600 +	yes	11120
244	21TIBILULXH3MOXA	Target Vehicle Driver Left Upper Tibia Moment About X Axis	600 +	yes	395
245	21TIBILULXH3MOYA	Target Vehicle Driver Left Upper Tibia Moment About Y Axis	600 +	yes	395
246	21TIBILLLXH3FOXA	Target Vehicle Driver Left Lower Tibia X-Axis Force	600 +	yes	11120
247	21TIBILLLXH3FOYA	Target Vehicle Driver Left Lower Tibia Y-Axis Force	600 +	yes	11120
248	21TIBILLLXH3FOZA	Target Vehicle Driver Left Lower Tibia Z-Axis Force	600 +	yes	11120
249	21TIBILLLXH3MOXA	Target Vehicle Driver Left Lower Tibia Moment About X Axis	600 +	yes	395
250	21TIBILLLXH3MOYA	Target Vehicle Driver Left Lower Tibia Moment About Y Axis	600 +	yes	395
251	21FOOTLELXH3ANXA	Target Vehicle Driver Left Foot Angular X-Axis Displacement	180 +	no	318
252	21FOOTLELXH3ANYA	Target Vehicle Driver Left Foot Angular Y-Axis Displacement	180 +	no	318
253	21FOOTLELXH3ANZA	Target Vehicle Driver Left Foot Angular Z-Axis Displacement	180 +	no	318
254	21FOOTLELXH3ACXA	Target Vehicle Driver Left Foot X-Axis Acceleration	1000 +	yes	2000
255	21FOOTLELXH3ACYA	Target Vehicle Driver Left Foot Y-Axis Acceleration	1000 +	yes	2000
256	21FOOTLELXH3ACZA	Target Vehicle Driver Left Foot Z-Axis Acceleration	1000 +	yes	2000
256A	21FOOTLELXH3ACRA	Target Vehicle Driver Left Foot Resultant Acceleration	1000		
257	21KNSLRI00H3DSXA	Target Vehicle Driver Right Knee X-Axis Displacement	180 +	yes	33
258	21TIBIRULXH3FOXA	Target Vehicle Driver Right Upper Tibia X-Axis Force	600 +	yes	11120
259	21TIBIRULXH3FOZA	Target Vehicle Driver Right Upper Tibia Z-Axis Force	600 +	yes	11120
260	21TIBIRULXH3MOXA	Target Vehicle Driver Right Upper Tibia Moment About X Axis	600 +	yes	395
261	21TIBIRULXH3MOYA	Target Vehicle Driver Right Upper Tibia Moment About Y Axis	600 +	yes	395

Command File Test Number 091106

Chan	ISO mnemonic	Channel Title	Filter (Flip	Zero	Full Scale
262	21TIBIRLLXH3FOXA	Target Vehicle Driver Right Lower Tibia X-Axis Force	600 +	yes	11120
263	21TIBIRLLXH3FOYA	Target Vehicle Driver Right Lower Tibia Y-Axis Force	600 +	yes	11120
264	21TIBIRLLXH3FOZA	Target Vehicle Driver Right Lower Tibia Z-Axis Force	600 +	yes	11120
265	21TIBIRLLXH3MOXA	Target Vehicle Driver Right Lower Tibia Moment About X Axis	600 +	yes	395
266	21TIBIRLLXH3MOYA	Target Vehicle Driver Right Lower Tibia Moment About Y Axis	600 +	yes	395
267	21FOOTRILXH3ANXA	Target Vehicle Driver Right Foot Angular X-Axis Displacemen	180 +	no	318
268	21FOOTRILXH3ANYA	Target Vehicle Driver Right Foot Angular Y-Axis Displacemen	180 +	no	318
269	21FOOTRILXH3ANZA	Target Vehicle Driver Right Foot Angular Z-Axis Displacemen	180 +	no	318
270	21FOOTRILXH3ACXA	Target Vehicle Driver Right Foot X-Axis Acceleration	1000 +	yes	2000
271	21FOOTRILXH3ACYA	Target Vehicle Driver Right Foot Y-Axis Acceleration	1000 +	yes	2000
272	21FOOTRILXH3ACZA	Target Vehicle Driver Right Foot Z-Axis Acceleration	1000 +	yes	2000
272A	21FOOTRILXH3ACRA	Target Vehicle Driver Right Foot Resultant Acceleration	1000		
273	20SILLLE0000ACXA	Target Vehicle Left Sill X-Axis Acceleration	60 +	yes	2000
274	20SILLLE0000ACYA	Target Vehicle Left Sill Y-Axis Acceleration	60 +	yes	2000
275	20SILLRI0000ACXA	Target Vehicle Right Sill X-Axis Acceleration	60 +	yes	2000
276	20SILLRI0000ACYA	Target Vehicle Right Sill Y-Axis Acceleration	60 +	yes	2000
277	20VEHCCG0000ACXA	Target Vehicle Vehicle Center of Gravity X-Axis Acceleratio	60 +	yes	2000
278	20VEHCCG0000ACYA	Target Vehicle Vehicle Center of Gravity Y-Axis Acceleratio	60 +	yes	2000
279	20VEHCCG0000ACZA	Target Vehicle Vehicle Center of Gravity Z-Axis Acceleratio	60 +	yes	2000
279A	20VEHCCG0000ACRA	Target Vehicle Vehicle Center of Gravity Resultant Accelera	60		
280	20FOOTLE0000ACXA	Target Vehicle Driver Footrest X-Axis Acceleration	60 +	yes	2000
281	20FOOTLE0000ACZA	Target Vehicle Driver Footrest Z-Axis Acceleration	60 +	yes	2000
282	20TPANLE0000ACXA	Target Vehicle Toepan Behind Center of Accelerator X-Axis A	60 +	yes	2000
283	20TPANLE0000ACZA	Target Vehicle Toepan Behind Center of Accelerator Z-Axis A	60 +	yes	2000
284	21SEBE0000B5FO0A	Target Vehicle Driver Lap Belt Force	60 +	yes	15568
285	21SEBE0000B3FO0A	Target Vehicle Driver Shoulder Belt Force	60 +	yes	15568
286	20AIRBLEFR25VO0A	Target Vehicle Driver Airbag 1st Stage Fire Time	1000 +	no	5
287	20AIRBLEFR26VO0A	Target Vehicle Driver Airbag 2nd Stage Fire Time	1000 +	no	5

Appendix E

Dummy FARO Measurements

Bullet Vehicle Dummy FARO Measurements

Driver	Xmm	Ymm	Zmm
M_HEAD_CENTER_OF_GRAVITY1	2516.6	-428.4	-637.0
M_NOSE_BRIDGE1	2604.7	-360.0	-655.7
M_NOSE_TIP1	2627.1	-359.0	-608.2
M_HEAD_CHIN1	2605.8	-360.1	-535.6
M_ARM1	2508.7	-590.3	-335.3
M_HIP_POINT1	2645.5	-552.8	11.2
M_PELV_FORE1	2602.7	-562.2	-52.1
M_PELV_AFT1	2545.3	-562.2	-24.9
M_KNEE_OUTBOARD1	3025.1	-528.2	-118.1
M_KNEE_INBOARD1	3029.4	-183.1	-102.6
M_ANKLE_OUTBOARD1	3352.0	-556.5	149.6
M_HEADRESTTOP1	2231.9	-450.3	-532.9
M_HEADRESTBOTTOM1	2262.1	-451.6	-452.5
M_ROOF1	2604.7	-360.0	-855.0
M_HEADER_FRONT1	2924.1	-360.7	-803.8
M_WINDOW_FRONT1	3287.7	-360.0	-655.7
M_STEERING_WHEEL_RIM_TOP1	3030.3	-360.4	-542.2
M_DASH_TOP1	3186.2	-360.1	-496.6
M_STEERING_WHEEL_CENTER1	2973.1	-358.4	-359.3
M_CHEST_CENTER1	2646.9	-358.4	-359.3
M_STEERING_WHEEL_RIM_BOTTOM1	2902.4	-360.2	-208.1
M ABDOMEN1	2675.2	-360.2	-208.1
M_DASH_BOTTOM1	3212.6	-474.4	-178.3
M_HEADER_SIDE1	2607.6	-523.2	-768.9
M_WINDOW_SIDE1	2604.7	-682.8	-655.7
M_DOOR_TOP1	2508.7	-737.7	-335.3
M_DOOR_BOTTOM1	2645.5	-706.2	11.2
M_STRIKER1	2472.1	-798.1	-111.1

Front Passenger

M_HEAD_CENTER_OF_GRAVITY3	2643.2	439.7	-566.3
M_NOSE_BRIDGE3	2737.8	378.9	-584.6
M_NOSE_TIP3	2761.0	378.5	-555.0
M_HEAD_CHIN3	2747.0	370.2	-481.6
M_ARM3	2648.3	557.0	-288.9
M_HIP_POINT3	2834.5	614.8	-17.5
M_PELV_FORE3	2775.3	627.0	-67.6
M_PELV_AFT3	2711.1	626.2	-40.4
M_KNEE_OUTBOARD3	3160.8	496.2	-100.4
M_KNEE_INBOARD3	3169.7	242.4	-103.7

M_ANKLE_OUTBOARD3	3377.4	491.0	159.0
M_HEADRESTTOP3	2392.9	457.9	-551.3
M_HEADRESTBOTTOM3	2420.1	458.0	-485.8
M_ROOF3	2737.8	378.9	-772.0
M_HEADER_FRONT3	2913.5	381.2	-795.9
M_WINDOW_FRONT3	3459.0	378.9	-584.6
M_DASH_TOP3	3137.5	380.3	-370.1
M_DASH_BOTTOM3	3254.4	445.2	-148.1
M_HEADER_SIDE3	2739.9	541.0	-750.9
M_WINDOW_SIDE3	2737.8	715.5	-584.6
M_DOOR_TOP3	2648	721.5	-289
M_DOOR_BOTTOM3	2834.5	715.2	-17.5
M_STRIKER3	2473.6	795.3	-109.5

Left Rear Passenger

M_HEAD_CENTER_OF_GRAVITY4	1555.8	-402.1	-550.1
M_NOSE_BRIDGE4	1641.7	-330.2	-551.5
M_NOSE_TIP4	1665.6	-331.2	-517.9
M_HEAD_CHIN4	1651.1	-334.5	-446.4
M_ARM4	1537.7	-544.4	-267.7
M_HIP_POINT4	1746.7	-573.3	0.3
M_PELV_FORE4	1881.6	-739.0	142.7
M_PELV_AFT4	1798.1	-739.8	134.7
M_KNEE_OUTBOARD4	2070.7	-523.4	-87.5
M_KNEE_INBOARD4	2088.7	-245.6	-69.3
M_ANKLE_OUTBOARD4	2210.8	-494.5	203.9
M_HEADRESTTOP4	1365.9	-478.5	-448.2
M_HEADRESTBOTTOM4	1451.5	-481.1	-287.9
M_ROOF4	1641.7	-330.2	-869.9
M_HEADER_FRONT4	2200.9	-330.5	-554.0
M_WINDOW_FRONT4	2201.8	-330.2	-551.5
M_DASH_TOP4	2261.5	-359.3	-305.3
M_DASH_BOTTOM4	2336.0	-484.5	-129.5
M_HEADER_SIDE4	1638.3	-584.7	-688.9
M_WINDOW_SIDE4	1641.7	-740.4	-551.5
M_DOOR_TOP4	1537.7	-714.9	-267.7
M_DOOR_BOTTOM4	1746.7	-720.6	0.3
M_STRIKER4	1446.4	-792.0	-296.0

Target Driver	Xmm	Ymm	Zmm
M_HEAD_CENTER_OF_GRAVITY1	2264.2	-424.4	-526.1
M_NOSE_BRIDGE1	2366.0	-360.1	-528.6
M_NOSE_TIP1	2366.7	-358.9	-490.3
M_HEAD_CHIN1	2364.7	-361.9	-403.8
M_ARM1	2308.7	-512.6	-293.7
M_HIP_POINT1	2441.5	-551.2	157.8
M_KNEE_OUTBOARD1	2835.9	-551.6	-3.5
M_KNEE_INBOARD1	2846.9	-142.0	9.4
M_ANKLE_OUTBOARD1	3120.8	-562.4	308.4
M_HEADRESTTOP1	2033.9	-440.8	-382.3
M_HEADRESTBOTTOM1	2063.4	-444.3	-302.7
M_ROOF1	2366.0	-360.1	-695.4
M_HEADER_FRONT1	2680.2	-375.0	-630.4
M_WINDOW_FRONT1	2958.2	-360.1	-528.6
M_STEERING_WHEEL_RIM_TOP1	2791.5	-358.2	-373.3
M_DASH_TOP1	2949.7	-358.7	-335.6
M_STEERING_WHEEL_CENTER1	2735.8	-358.7	-192.3
M_CHEST_CENTER1	2410.5	-358.7	-192.3
M_STEERING_WHEEL_RIM_BOTTOM1	2664.9	-359.1	-41.5
M_ABDOMEN1	2484.8	-359.1	-41.5
M_DASH_BOTTOM1	2962.7	-500.4	-41.7
M_HEADER_SIDE1	2363.7	-507.0	-616.4
M_WINDOW_SIDE1	2366.0	-656.5	-528.6
M_DOOR_TOP1	2308.7	-738.5	-293.7
M_DOOR_BOTTOM1	2441.5	-714.4	157.8
M_STRIKER1	2233.2	-799.4	41.2
M_S1	2754.7	-632.2	236.5
M_S2	2380.9	-599.9	197.8
M_S3	2067.8	-440.6	-303.5
M_HEAD PIVOT	2253.9	-392.4	-468.5
M_LEFT KNEE TOP	2823.5	-493.9	-67.7
M_RIGHT KNEE TOP	2857.8	-181.1	-40.6
M_UPPER TIBIA TARGET	2873.4	-537.4	41.2
M_DRIVER LEFT SHOE LACE	3205.9	-525.9	239.2
M_DRIVER LEFT HEEL	3126.6	-544.4	438.7
M_RIGHT ANKLE	3169.6	-233.5	316.0
M_RIGHT UPPER TIBIA	2902.0	-230.1	61.8