

**Vehicle Research and Test Center
2007 Chevrolet Silverado into
Front of a 2002 Ford Focus
TRC Inc. Test Number: 080403**

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Section 1.0

Purpose and Test Procedure

Purpose

This 40% offset frontal collinear 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 as the bullet vehicle moving at 39.8 km/h to impact the target vehicle moving at 64.2 km/h at an impact angle of 0 degrees. The purpose of this test was to evaluate the aggressiveness of the bullet vehicle, a 2007 Chevrolet Silverado Pickup, and the vehicle and occupant response of the target vehicle, a 2002 Ford Focus 4-door, in this vehicle-to-vehicle impact mode.

Test Procedure

This test was conducted in accordance with VRTC instructions for a 40% offset frontal collinear vehicle-to-vehicle test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection" (December 18, 2001), FMVSS 212, "Windshield Mounting, and FMVSS 219 (partial), Windshield Zone Intrusion.

The target vehicle, a 2002 Ford Focus 4-door, was instrumented with twenty-two (22) accelerometers to measure longitudinal, lateral and vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups, and the lap and shoulder belts were monitored for pay-in and pay-out. The vehicle's specified impact velocity range was 63.4 to 65 km/h.

The bullet vehicle, a 2007 Chevrolet Silverado Pickup, was instrumented with twenty-two (22) accelerometers to measure longitudinal, lateral and vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups, and the lap and shoulder belts were monitored for pay-in and pay-out. The vehicle's specified impact velocity range was 38.9 to 40.6 km/h.

The bullet vehicle impacted the front of the target vehicle at an impact angle of 0 degrees. The intended impact point was the bullet vehicle's left front side aligned with the target vehicle's 40% offset centerline.

One (1) 50th percentile adult male Hybrid III dummy and one (1) 5th percentile adult female dummy were placed in the target vehicle's left front and right front designated seating positions, respectively. The Hybrid III 50th dummy was positioned according to the draft mid track based seating procedure while the Hybrid III 5th dummy was positioned according to NHTSA Laboratory Test Procedure TP-208-12. The driver dummy and passenger dummy were both belted and were restrained with front dual stage airbags.

The target vehicle's driver dummy was instrumented with an array of six (6) accelerometers in the head, plus six (6) chest, three (3) pelvis, three (3) left foot, and three (3) right foot

accelerometers to measure longitudinal, lateral and vertical accelerations (primary and redundant in the head and chest). The target vehicle's driver dummy was also instrumented with neck moment and force load cells, a chest deflection potentiometer, left and right femur load cells to measure moments and forces, and tibia to femur displacement potentiometers at each knee. The target vehicle's driver dummy was also equipped with THOR-LX lower legs and with upper and lower tibia load cells to measure forces and moments.

The target vehicle's passenger dummy was instrumented with an array of six (6) accelerometers in the head, plus six (6) chest, three (3) pelvis, three (3) left foot, and three (3) right foot accelerometers to measure longitudinal, lateral, and vertical accelerations (primary and redundant in the head and chest). The target vehicle's passenger dummy was also instrumented with upper and lower neck moment and force load cells, left and right femur load cells to measure axial forces, and a chest deflection potentiometer. The target vehicle's passenger dummy was also equipped with THOR-FLX lower legs, which included upper and lower tibia load cells to measure forces and moments, and a tibia to femur displacement potentiometer at each knee.

One (1) 50th percentile adult male Hybrid III dummy and one (1) 5th percentile adult female dummy were placed in the bullet vehicle's left front and right front designated seating positions, respectively. The Hybrid III 50th dummy was positioned according to the draft mid track based seating procedure while the Hybrid III 5th dummy was positioned according to NHTSA Laboratory Test Procedure TP-208-12. The driver dummy and passenger dummy were both belted and were restrained with front dual stage airbags.

The bullet vehicle's driver dummy was instrumented with an array of six (6) accelerometers in the head, plus six (6) chest and three (3) pelvis accelerometers to measure longitudinal, lateral and vertical accelerations (primary and redundant in the head and chest). The bullet vehicle's driver dummy was also instrumented with upper neck moment and force load cells, a chest deflection potentiometer, left and right femur load cells to measure moments and forces.

The bullet vehicle's passenger dummy was instrumented with three (3) accelerometers in the head, plus three (3) chest, three (3) pelvis, three (3) left foot, and three (3) right foot

accelerometers to measure longitudinal, lateral, and vertical accelerations. The bullet vehicle's passenger dummy was also instrumented with upper neck moment and force load cells, left and right femur load cells to measure axial forces, and a chest deflection potentiometer. The bullet vehicle's driver dummy was also equipped with THOR-LX lower legs and with upper and lower tibia load cells to measure forces and moments.

The 258 data channels were digitally sampled and recorded at 12,500 samples per second and processed per SAE J211 March 1995.

The crash event was recorded by one (1) real-time panning motion picture camera and nineteen (19) high-speed motion picture cameras. The pre-test and post-test conditions were recorded by one (1) real-time motion picture camera.

The test summary data is presented in Section 2.0. The summaries of data are presented in Section 3.0. The occupant, camera, and vehicle measurements are presented in Section 4.0. 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 an INSIA report that was the basis for the Structural Measurements presented in Tables 14 and 19 of this report.

Section 2.0

40% Offset Frontal Collinear Test Summary

Test Results Summary

This 104 km/h 0° 40% offset frontal collinear vehicle-to-vehicle impact test was conducted by TRC Inc. on April 3, 2008.

The target test vehicle, a 2002 Ford Focus 4-door, was equipped 2-liter transverse engine, automatic transmission, power steering, and power brakes, and dual stage front airbags. The target vehicle's test weight was 1503.6 kg. The target vehicle's impact speed was 64 km/h.

The bullet test vehicle, a 2007 Chevrolet Silverado Pickup, was equipped with a 4.8-liter inline engine, automatic transmission, power steering, power brakes, and dual stage front airbags. The bullet vehicle's test weight was 2423.6 kg. The bullet vehicle's impact speed was 39.9 km/h.

Injury Criteria Data Summary						
	Limits		Target Vehicle		Bullet Vehicle	
	Driver	Passenger	Driver	Passenger	Driver	Passenger
HIC (15 ms)	700	700	706	72	45	28
HIC (36 ms)	1000	---	1071	115	88	52
Chest 3 ms (g)	60	60	62.0	29.2	23.1	19.4
Chest Deflection (mm)	63	52	-29	-13	-15	-12
Upper Neck						
NTF	1.0	1.0	0.43	0.29	0.18	0.20
NTE	1.0	1.0	0.44	0.50	0.13	0.20
NCF	1.0	1.0	0.83	0.38	0.01	0.07
NCE	1.0	1.0	0.19	0.25	0.07	0.09

Test Results Summary, Continued

Injury Criteria Data Summary, Continued						
	Limits		Target Vehicle		Bullet Vehicle	
			Driver	Passenger	Driver	Passenger
Neck Tension (N)	4170	2620	2601	832	537	557
Neck Compression (N)	4000	2520	3197	1094	117	66
Left Femur (N)	10000	6805	-4650	-3462	-1743	-1609
Right Femur (N)	10000	6805	-490	-1404	-921	-514
Maximum Left Upper Tibia Index (SAE)	0.91	0.91	0.54	0.54		0.19
Maximum Right Upper Tibia Index (SAE)	0.91	0.91	0.69	0.34		0.10
Maximum Left Lower Tibia Index (SAE)	0.91	0.91	0.66	0.39		0.18
Maximum Right Lower Tibia Index (SAE)	0.91	0.91	0.78	0.33		0.09

Data Acquisition Explanations

The target vehicle driver dummy's head Y-axis redundant acceleration data channel, 21HEADCGRDH3ACYA, over scaled and recorded questionable data. This affected the resultant calculation.

The target vehicle's bottom of engine X-axis acceleration data channel, 22ENGNBO0000ACXA, recorded questionable data after 75 milliseconds.

The target vehicle's brake pedal X-, Y-, and Z-axis acceleration data channels, 21PEBR000000ACXA, 21PEBR000000ACYA, and 21PEBR000000ACZA, respectively, over scaled and recorded questionable data. This affected the resultant calculation.

The bullet vehicle driver dummy's chest Y-axis redundant acceleration data channel, 11CHSTCGRDH3ACYA, recorded questionable data throughout the event. This affected the resultant calculation.

The bullet vehicle passenger dummy's left lower tibia moment about X-axis data channel, 13TIBILLXHFMOXA, recorded questionable data throughout the event.

The bullet vehicle passenger dummy's left foot X-axis angular displacement data channel, 13FOOTLELXHFANXA, recorded questionable data throughout the event.

The bullet vehicle passenger dummy's right foot Y-axis acceleration data channel, 13FOOTRILXHFACYA, recorded questionable data throughout the event. This affected the resultant calculation.

The bullet vehicle's bottom of engine X-axis acceleration data channel, 12ENGNBO0000ACXA, over scaled and recorded questionable data.

Table 1 Crash Test Summary

Test mode:	40% Offset Frontal Collinear	
Test date:	04/03/08	
Test time:	17:04	
Ambient temperature:	12° C	
Target vehicle year/make/ model/body style:	2002/Ford/Focus/4-door	
Target vehicle test weight:	1503.6 kg	
Bullet vehicle year/make/ model/body style:	2007/Chevrolet/Silverado/Pickup	
Bullet vehicle test weight:	2423.6 kg	
Impact angle ¹ :	0°	
Impact velocity ² :	Target vehicle = 64 km/h Bullet vehicle = 39.9 km/h	
Total number of data channels:	258	
Number of cameras:		
High-speed digital:	19	
Real-time:	1	
<u>Target vehicle dummies:</u>	<u>Driver #001</u>	<u>Passenger #416</u>
Type:	Hybrid III 50 th	Hybrid III 5 th
Location:	Left Front	Right Front
Restraint:	3-pt. seat belt, dual-stage airbag	3-pt. seat belt, dual-stage airbag
<u>Bullet vehicle dummies:</u>	<u>Driver #855</u>	<u>Passenger #324</u>
Type:	Hybrid III 50 th	Hybrid III 5 th
Location:	Left Front	Right Front
Restraint:	3-pt. seat belt, dual-stage airbag	3-pt. seat belt, dual-stage airbag

¹ With respect to tow track centerline.

² Speed trap measurement (± .08 km/h accuracy)

Table 1 Crash Test Summary, Continued

Target vehicle seat track positions for test:

Driver: Full rear
Passenger: Full forward

Target vehicle seat back positions for test:

Driver: 14°; measured at head restraint support post
Passenger: 9°; measured at head restraint support post

Target vehicle head restraint positions for test:

Driver: Full up
Passenger: Full down

Target vehicle steering column

position for test: 24.6°; middle of geometric range of travel

Target vehicle D-ring positions for test:

Driver: Full up
Passenger: Full down

Bullet vehicle seat track positions for test:

Driver: Detent #10 of 25
Passenger: Full forward

Bullet vehicle seat back positions for test:

Driver: 10°; measured at head restraint support post
Passenger: 0°; measured at head restraint support post

Bullet vehicle head restraint positions for test:

Driver: Full up
Passenger: Full down

Bullet vehicle steering column

position for test: 26.5°; middle of geometric range of travel

Bullet vehicle D-ring positions for test:

Driver: Full up
Passenger: Full down

Table 2 Target Vehicle General Test and Vehicle Parameter Data

Vehicle year/make/
model/body style: 2002/Ford/Focus/4-door

VIN: 1FAFP343X2W168441

Model year: 2002

Body style: 4-door

Color: Green

Engine data:
Cylinders: 4
Displacement: 2.0 liters
Type: Straight
Placement: Transverse

Transmission data: 3 speed, manual, X automatic, X overdrive
Final drive: X FWD, RWD, 4WD

Date vehicle received: 04/03/2008

Odometer reading: 104,694 miles

Dealer's name
and address: Vehicle supplied by VRTC

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	No	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Other	None	Power door locks	Yes

Certification data from vehicle's label:

Vehicle manufactured by: Ford Motor Company

Date of manufacture: 11/01

VIN: 1FAFP343X2W168441

GVWR: 3640 lbs. (1651 kg)

GAWR: Front: 1975 lbs. (895 kg)
Rear: 1745 lbs. (791 kg)

Table 2 Target Vehicle General Test and Vehicle Parameter Data, Continued

Tires on vehicle (mfr., line, size): Lexington, ES-335, P195/60R15

Tire pressure with maximum capacity vehicle load:

Front: 44 psi (300 kPa)

Rear: 44 psi (300 kPa)

Spare tire (mfr., line, size): No spare tire

Type of seats:

Front Bucket

Rear Bench

Maximum width: 1700 mm

Wheelbase: 2610 mm

Location of "Recommended Tire Pressure" label:

Left front door

Data from vehicle's "Recommended Tire Pressure" label:

Recommended tire size: P195/60R15

Recommended cold tire pressure: Front: 32 psi (221 kPa)

Rear: 32 psi (221 kPa)

Seating capacity: Front: 2

Rear: 3

Total: 5

Vehicle capacity weight: 827 lbs. (375 kg)

Rated cargo/luggage weight: 77 lbs. (35 kg)

Test vehicle attitude:

Pre-test attitude: LF 642 mm; RF 644 mm; LR 627 mm; RR 625 mm

Post-test attitude: LF mm¹; RF 603 mm; LR 596 mm; RR 660 mm

¹ The left front tire flattened during the event.

Table 2 Target Vehicle General Test and Vehicle Parameter Data Continued

Weight of test vehicle with required dummies and cargo weight:

Right front	418.0 kg	Right rear	336.0 kg
Left front	416.2 kg	Left rear	333.4 kg
Total front weight	834.2 kg	(55.5% of total vehicle weight)	
Total rear weight	669.4 kg	(44.5% of total vehicle weight)	
Total test weight	1503.6 kg		

Weight of ballast secured in vehicle: None

Components removed to meet target test weight: Rear deck lid and seal, rear windows, panels, tracks, and door seals

Location of Vehicle's CG: 1162 mm rearward of front wheel centerline

Fuel System Data:

Usable fuel system capacity 50.1 liters (from owner's manual)

Actual test volume: 46.6 liters (93% of usable)

Table 3 Bullet Vehicle General Test and Vehicle Parameter Data

Vehicle year/make/
model/body style: 2007/Chevrolet/Silverado/Pickup

VIN: 2GCEC13C971587547

Model year: 2007

Body style: Pickup

Color: Silver

Engine data:
Cylinders: 8
Displacement 4.8 liters
Type: V
Placement: Inline

Transmission data: 4 speed, manual, X automatic, X overdrive

Final drive: FWD, X RWD, 4WD

Date vehicle received: 04/03/2008

Odometer reading: 115 miles

Dealer's name
and address: Vehicle supplied by VRTC

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	No	Tilting steering wheel	Yes
Power windows	No	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	No
Other	None	Power door locks	No

Certification data from vehicle's label:

Vehicle manufactured by: General Motors Corporation

Date of manufacture: 01/07

VIN: 2GCEC13C971587547

GVWR: 6800 lbs. (3085 kg)

GAWR: Front: 3650 lbs. (1656 kg)

Rear: 3950 lbs. (1792 kg)

Table 3 Bullet Vehicle General Test and Vehicle Parameter Data, Continued

Tires on vehicle (mfr., line, size):	General, Ameritrac, P245/70R17
Tire pressure with maximum capacity vehicle load:	
Front:	44 psi (300 kPa)
Rear:	44 psi (300 kPa)
Spare tire (mfr., line, size):	General, Ameritrac, P245/70R17
Type of seats:	
Front	Split bench
Rear	Split bench
Maximum width:	2022 mm
Wheelbase:	3660 mm

Location of "Recommended Tire Pressure" label:

Left B-pillar

Data from vehicle's "Recommended Tire Pressure" label:

Recommended tire size:	P245/70R17
Recommended cold tire pressure:	Front: 35 psi (240 kPa) Rear: 35 psi (240 kPa)
Seating capacity:	Front: 3 Rear: 3 Total: 6
Vehicle capacity weight:	1630 lbs. (739 kg)
Rated cargo/luggage weight: ¹	300 lbs. (136 kg)

Test vehicle attitude:

Pre-test attitude:	LF 920 mm;	RF 914 mm;	LR 975 mm;	RR 986 mm
Post-test attitude:	LF 865 mm;	RF 900 mm;	LR 934 mm;	RR 1032 mm

¹ Cargo weight for multipurpose passenger vehicles, trucks, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 136 kilograms, whichever is less.

Table 3 Bullet Vehicle General Test and Vehicle Parameter Data, Continued

Weight of test vehicle with required dummies and cargo weight:

Right front	701.0 kg	Right rear	504.0 kg
Left front	714.2 kg	Left rear	504.4 kg
Total front weight	1415.2 kg	(58.4% of total vehicle weight)	
Total rear weight	1008.4 kg	(41.6% of total vehicle weight)	
Total test weight	2423.6 kg		

Weight of ballast secured in vehicle: None

Components removed to meet target test weight: Tail lights, spare tire, tail gate, rear door glass, panels, window tracks, speakers, and hub caps

Location of Vehicle's CG: 1523 mm rearward of front wheel centerline

Fuel System Data:

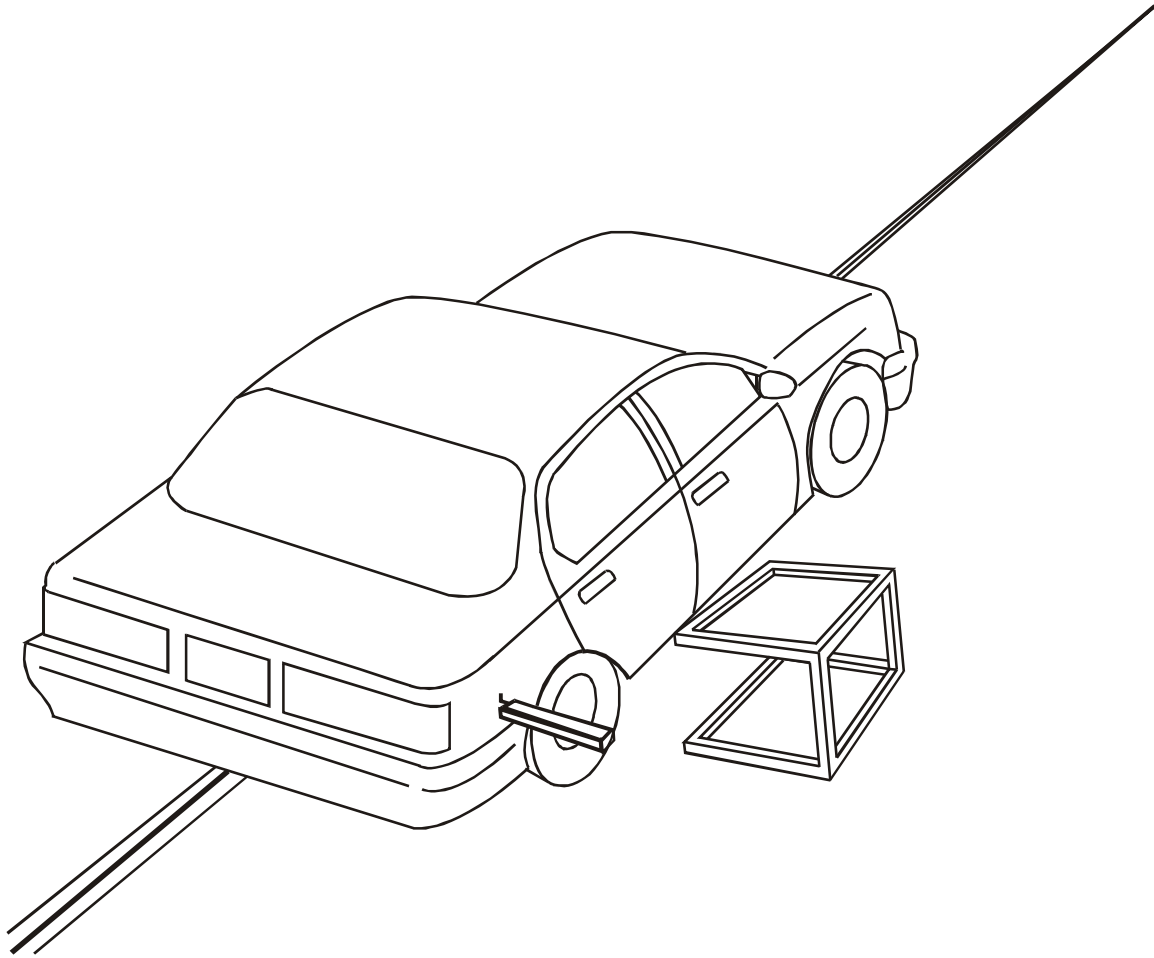
Usable fuel system capacity None

Actual test volume: None

Table 4 Post-Impact Data

Test number:	080403
Test date:	04/03/08
Test time:	17:04
Test type:	Car to car collinear
Impact angle:	0°
Ambient temperature at impact area: 12° C	
Impact velocity:	
Target vehicle:	64 km/h
Bullet vehicle:	39.9 km/h
Required impact velocity range:	
Target vehicle:	63.4 to 65.0 km/h
Bullet vehicle:	38.9 to 40.6 km/h
Distance from each vehicle to intended impact point:	
Entering velocity trap:	660 mm
Exiting velocity trap:	50 mm, approximately
Impact point:	N/A

Figure 1 Impact Velocity Measurement System



The vane clears the final emitter/receiver pair approximately 50 millimeters before impact.

The emitter/receiver pairs have 610-millimeter spacing.

Table 5 Target Vehicle Accelerometer Data Summary

Accel. No.	Location		Positive Direction		Negative Direction	
			Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	Left Rear Seat Cross-member	X	2.4	193.9	27.7	57.4
		Y	16.8	43.8	4.1	115.6
2	Right Rear Seat Cross-member	X	10.1	281.6	25.2	58.0
		Y	17.6	35.0	22.8	281.4
3	Vehicle Center of Gravity	X	4.9	40.6	31.0	61.3
		Y	21.0	53.8	18.8	112.4
		Z	25.4	59.2	20.6	118.6
		Resultant	R	38.5	59.8	
4	Top of Engine	X	11.0	65.4	53.8	49.0
5	Bottom of Engine ¹	X	39.7	77.4	52.0	47.9
6	Dash Center	X	77.9	121.7	57.1	109.4
7	Left Side Driver Mid Seat Track	X	3.3	207.0	35.5	98.6
8	Acceleration Pedal	X	35.2	59.4	80.8	54.5
		Y	38.8	86.6	23.5	91.5
		Z	50.6	59.6	53.0	55.0
		Resultant	R	96.4	54.6	
9	Brake Pedal ¹	X	73.7	128.6	2109.4	136.7
		Y	74.3	127.8	2136.6	136.2
		Z	29.5	53.0	192.2	132.2
		Resultant	R	3001.3	136.6	
10	Right Front Brake Caliper	X	14.3	34.9	50.3	69.1
11	Left Front Brake Caliper	X	307.6	46.7	253.4	32.0
12	Foot Rest	X	10.3	91.3	91.6	86.1
		Y	36.9	42.7	23.9	99.8
		Z	25.1	81.4	37.3	85.7
		Resultant	R	99.0	86.0	

Reference: X: + Forward From Rear Bumper
 Y: + Rightward From Vehicle Centerline
 Z: + Downward From Ground Level

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

¹ See Data Acquisition Explanations

Table 6 Bullet Vehicle Accelerometer Data Summary

Accel. No.	Location		Positive Direction		Negative Direction	
			Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	Left Rear Seat Cross-member	X	0.7	205.8	16.8	84.6
		Y	18.5	75.1	9.1	97.9
2	Right Rear Seat Cross-member	X	1.0	204.0	16.2	68.1
		Y	13.1	78.9	7.7	97.4
3	Vehicle Center of Gravity Resultant	X	0.3	203.4	15.7	82.9
		Y	14.9	67.4	6.6	94.2
		Z	2.5	103.4	13.1	73.1
		R	20.7	68.4		
4	Top of Engine	X	2.4	196.6	25.1	66.1
5	Bottom of Engine ¹	X	471.5	46.2	2043.0	107.8
6	Dash Center	X	2.8	141.2	32.9	85.9
7	Left Side Driver Mid Seat Track	X	0.6	211.6	20.3	82.3
8	Acceleration Pedal Resultant	X	0.6	236.2	18.4	68.4
		Y	11.8	74.0	7.1	89.5
		Z	8.7	54.7	9.5	68.6
		R	21.4	68.6		
9	Brake Pedal Resultant	X	0.4	232.6	19.9	67.0
		Y	16.2	73.9	6.3	89.6
		Z	33.4	70.8	68.2	65.4
		R	70.8	65.4		
10	Right Front Brake Caliper	X	14.3	37.4	29.0	70.6
11	Left Front Brake Caliper	X	47.5	75.2	93.7	51.6
12	Foot Rest Resultant	X	1.2	237.9	26.6	71.3
		Y	19.5	67.4	11.4	86.5
		Z	22.2	71.4	60.3	65.8
		R	64.8	66.0		

Reference: X: + Forward From Rear Bumper
 Y: + Rightward From Vehicle Centerline
 Z: + Downward From Ground Level

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

¹ See Data Acquisition Explanations

Section 3.0

Summary of Data

Table 7 Dummy Injury Criteria Data

	Limits		Target Vehicle		Bullet Vehicle	
	Driver	Passenger	Driver	Passenger	Driver	Passenger
HIC (15 ms)	700	700	706	72	45	28
Start time (ms)			108.3	57.5	97.4	78.9
End time (ms)			118.1	72.6	112.5	93.9
HIC (36 ms) ¹	1000	---	1071	115	88	52
Start time (ms)			83.2	52.6	91.8	71.4
End time (ms)			119.1	88.6	127.8	107.4
Chest 3 ms (g) ²	60	60	62.0	29.2	23.0	19.4
Start time (ms)			84.0	68.6	93.3	64.5
End time (ms)			87.0	71.6	96.3	67.5
Chest Deflection (mm)	63	52	-29	-13	-15	-12
Upper Neck						
Neck Tension-Flexion	1.0	1.0	0.43	0.29	0.18	0.20
Neck Tension-Extension	1.0	1.0	0.44	0.50	0.13	0.20
Neck Compression-Flexion	1.0	1.0	0.83	0.38	0.01	0.07
Neck Compression-Extension	1.0	1.0	0.19	0.25	0.07	0.09
Neck Tension (N)	4170	2620	2601	832	537	557
Neck Compression (N)	4000	2520	3197	1094	117	66
Left Femur (N)	10000	6805	-4650	-3462	-1743	-1609
Right Femur (N)	10000	6805	-490	-1404	-921	-514
Maximum Left Upper Tibia Index (SAE)	0.91	0.91	0.54	0.54		0.19
Maximum Right Upper Tibia Index (SAE)	0.91	0.91	0.69	0.34		0.10
Maximum Left Lower Tibia Index (SAE)	0.91	0.91	0.66	0.39		0.18
Maximum Right Lower Tibia Index (SAE)	0.91	0.91	0.78	0.33		0.09

¹ As defined in FMVSS No. 208.

² Defined as equal to or exceeding 0.003 sec. duration.

Table 8 Target Vehicle Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, B-pillar, A-pillar	Airbag, head restraint
Chest	Airbag	Airbag
Abdomen	Airbag	Airbag
Left knee	Knee bolster	Glove box
Right knee	Knee bolster	Glove box

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Tools required	Easy
Rear	Easy	Easy

Seat movement:

	<u>Seat back failure</u>	<u>Seat shift</u>
Left Front	None	None
Right Front	None	None
Left Rear	N/A	N/A
Right Rear	N/A	N/A

Glazing damage: A-pillar, bottom of cowl

Other notable impact effects: None

Table 9 Bullet Vehicle Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, head restraint	Airbag, head restraint
Chest	Airbag	Airbag
Abdomen	Airbag	Airbag
Left knee	Knee bolster	Glove box
Right knee	Knee bolster	Glove box

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Easy	Easy
Rear	Easy	Easy

Seat movement:

	<u>Seat back failure</u>	<u>Seat shift</u>
Left Front	None	None
Right Front	None	None
Left Rear	N/A	N/A
Right Rear	N/A	N/A

Glazing damage: None

Other notable impact effects: None

Section 4.0

Occupant, Camera, and Vehicle Information

Figure 2 Vehicle Dummy Measurement Locations for Front Seat Occupants

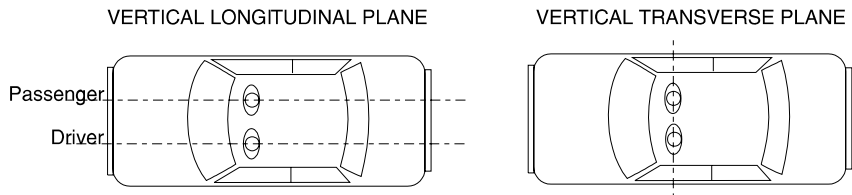
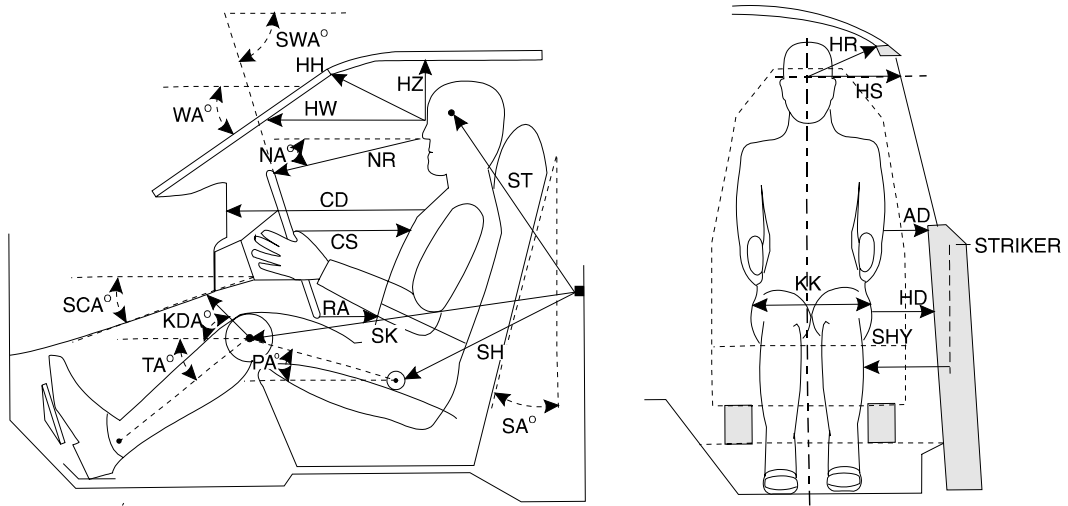


Table 10 Target Vehicle Dummy Measurement Data For Front Seat Occupants

<u>Designation</u>	<u>Type of Measurement</u>	<u>Driver (Serial # 001)</u>	<u>Passenger (Serial # 416)</u>
WA	Windshield angle	27.3°	N/A
SWA	Steering wheel angle	24.6°	N/A
SCA	Steering column angle	65.4°	N/A
SA	Seat back angle	14.0°	9.0°
HZ	Head to roof	243 mm	173 mm
HH	Head to header	437 mm	252 mm
HW	Head to windshield	785 mm	570 mm
HR	Head to side header	225 mm	205 mm
NR	Nose to rim	515 mm	N/A
NA	Nose to rim angle	5.5°	N/A
CD	Chest to dash	462 mm	359 mm
CS	Steering wheel to chest	430 mm	N/A
RA	Rim to abdomen	319 mm	N/A
KDL	Left knee to dash	249 mm	87 mm
KDR	Right knee to dash	242 mm	90 mm
KDA	Outboard knee to dash angle	21.5°	37.7°
PA	Pelvic angle	27.9°	16.9°
TA	Tibia angle	48.3°	50.1°
KK	Knee to knee	290 mm	222 mm
ST ¹	Striker to head	500 mm	505 mm
	Striker to head angle	-4.0°	-67.8°
SK ¹	Striker to knee	462 mm	670 mm
	Striker to knee angle	4.2°	2.1°
SH ¹	Striker to H-point	168 mm	355 mm
	Striker to H-point angle	52.4°	25.9°
SHY	Striker to H-point (Y dir.)	218 mm	235 mm
HS	Head to side window	259 mm	260 mm
HD	H-point to door	123 mm	175 mm
AD	Arm to door	90 mm	138 mm

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.

Table 11 Target Vehicle Raw FARO Front Seat Dummy Positioning Measurements

Location	DRIVER (Serial #001)			PASSENGER (Serial #416)		
	X	Y	Z	X	Y	Z
Head Center Of Gravity	2073.933	-399.453	-618.345	2327.539	431.2156	-606.077
Nose Bridge	2161.894	-323.132	-634.271	2415.049	368.8867	-615.565
Nose Tip	2183.823	-323.295	-585.667	2438.802	368.1004	-581.92
Head Chin	2169.071	-331.757	-515.803	2423.641	368.0583	-509.999
Arm	2076.383	-570.885	-338.198	2309.995	557.5714	-328.321
Hip-Point	2209.19	-596.317	32.8094	2457.935	622.9148	-24.3978
Pelvis Fore	2162.819	-602.359	-32.6556	2404.076	632.4707	-85.2072
Pelvis Aft	2108.519	-600.604	-4.2516	2337.421	632.1009	-65.3761
Knee Outboard	2591.477	-511.073	-98.7414	2845.292	445.5207	-107.176
Knee Inboard	2595.211	-163.08	-113.502	2831.979	265.2011	-116.578
Ankle Outboard	2914.353	-509.941	169.649	3013.186	477.8275	168.3586
Headrest Top	1812.824	-413.887	-553.235	2096.078	428.1593	-589.697
Headrest Bottom	1825.635	-415.228	-489.995	2106.814	427.6624	-525.466
Roof	2161.894	-323.132	-877.231	2415.049	368.8867	-803.353
Header Front	2577.168	-330.623	-809.414	2567.525	368.8778	-826.931
Window Front	2953.137	-323.132	-634.271	2989.599	368.8867	-615.565
Steering Wheel Rim Top	2699.833	-315.088	-536.713			
Dash Top	2816.854	-327.823	-500.779	2772.258	368.4249	-278.987
Steering Wheel Center	2607.384	-336.301	-372.916			
Chest Center	2193.722	-336.301	-372.916			
Steering Wheel Rim Bottom	2561.091	-336.985	-225.607			
Abdomen	2244.89	-336.985	-225.607			
Dash Bottom	2849.907	-449.783	-146.174	2871.058	437.9482	-122.809
Header Side	2168.237	-490.119	-797.037	2415.399	526.4996	-744.299
Window Side	2161.894	-654.118	-634.271	2415.049	657.8718	-615.565
Door Top	2076.383	-656.067	-338.198	2309.995	683.6709	-328.321
Door Bottom	2209.19	-630.024	32.8094	2457.935	695.3934	-24.3978
Striker	2126.828	-738.45	-116.74	2127.178	744.1815	-118.936
Seat Back Release Screw	2119.326	-603.727	129.6485	2358.895	607.7571	104.3456
Left Heel	2912.993	-478.293	306.6193			
Right Heel	2879.612	-215.571	298.8511	3017.378	460.6311	280.9829
Right Toe				3176.324	419.4587	88.9449

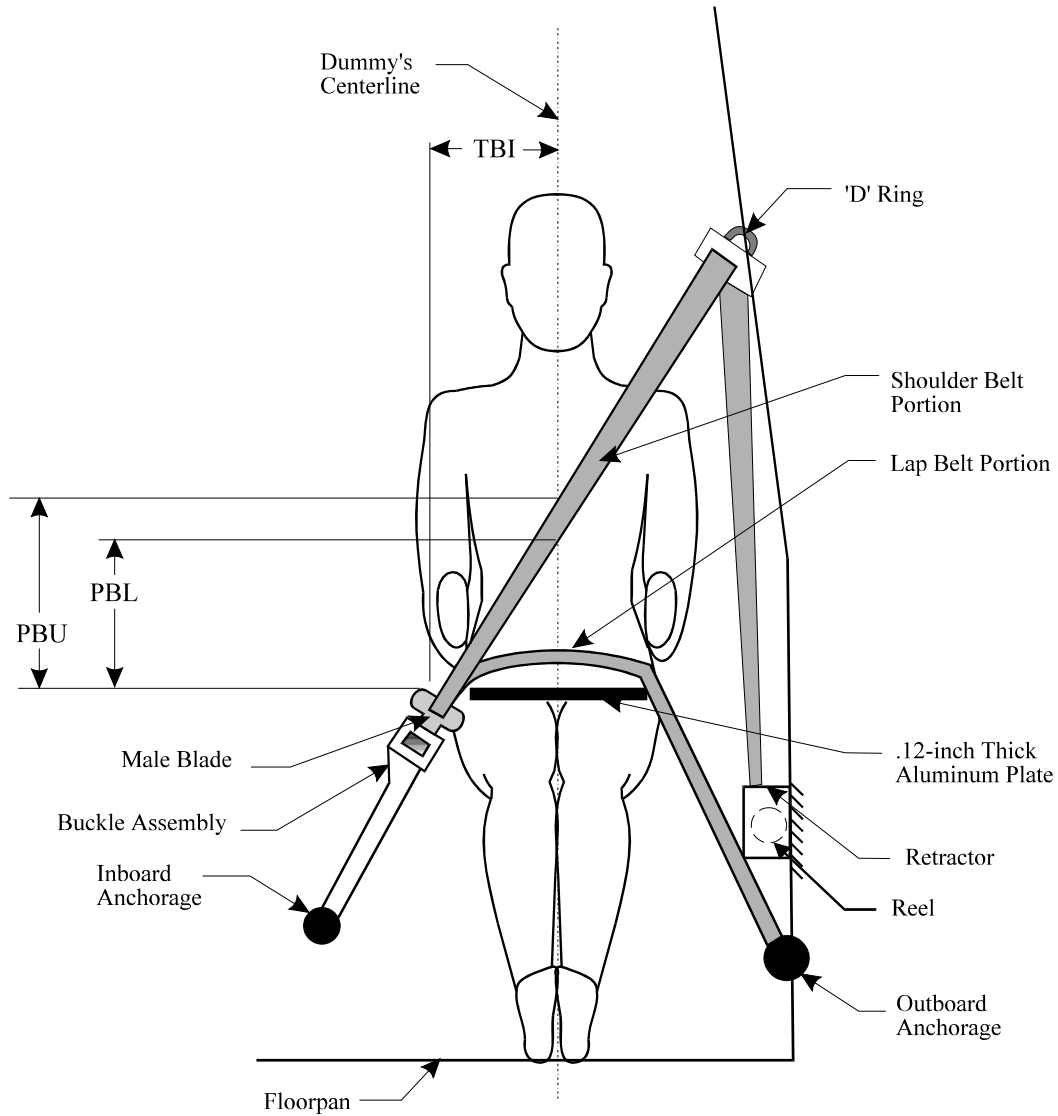
Table 12 Target Vehicle Dummy THOR Leg Zeroing Data

THOR LEG ZEROING DATA

Dummy Serial No. 001	X	Y	Z
Left Leg - 104	5.55837	12.1776	47.7368
Right Leg - 103	-0.4887	9.69538	-91.7591

Dummy Serial No. 416	X	Y	Z
Left Leg - 018	-14.799	0.44116	44.675
Right Leg - 017	-12.6773	0.5914	44.408

Figure 3 Target Vehicle Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
PBU - Top surface of aluminum plate to belt upper edge	310 mm	284 mm
PBL - Top surface of aluminum plate to belt lower edge	240 mm	202 mm
TBI - Dummy centerline to intersection of upper torso belt and lap belt	230 mm	210 mm
Total belt length	2430 mm	2430 mm
Lap belt length	800 mm	940 mm
Shoulder belt length	805 mm	900 mm

Table 13 Bullet Vehicle Dummy Measurement Data For Front Seat Occupants

<u>Designation</u>	<u>Type of Measurement</u>	<u>Driver (Serial # 855)</u>	<u>Passenger (Serial # 324)</u>
WA	Windshield angle	33.8°	N/A
SWA	Steering wheel angle	24.6°	N/A
SCA	Steering column angle	65.4°	N/A
SA	Seat back angle	10.0°	0°
HZ	Head to roof	250 mm	263 mm
HH	Head to header	463 mm	385 mm
HW	Head to windshield	660 mm	659 mm
HR	Head to side header	210 mm	264 mm
NR	Nose to rim	420 mm	N/A
NA	Nose to rim angle	9.0°	N/A
CD	Chest to dash	510 mm	366 mm
CS	Steering wheel to chest	330 mm	N/A
RA	Rim to abdomen	184 mm	N/A
KDL	Left knee to dash	127 mm	83 mm
KDR	Right knee to dash	120 mm	83 mm
KDA	Outboard knee to dash angle	31.9°	30.6°
PA	Pelvic angle	23.3°	20.0°
TA	Tibia angle	56.0°	64.5°
KK	Knee to knee	270 mm	215 mm
ST ¹	Striker to head	662 mm	674 mm
	Striker to head angle	-70.0°	-53.3°
SK ¹	Striker to knee	742 mm	796 mm
	Striker to knee angle	-5.5°	-4.8°
SH ¹	Striker to H-point	352 mm	475 mm
	Striker to H-point angle	-9.5°	-1.0°
SHY	Striker to H-point (Y dir.)	254 mm	275 mm
HS	Head to side window	271 mm	286 mm
HD	H-point to door	207 mm	176 mm
AD	Arm to door	137 mm	178 mm

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.

Table 14 Bullet Vehicle Raw FARO Front Seat Dummy Positioning Measurements

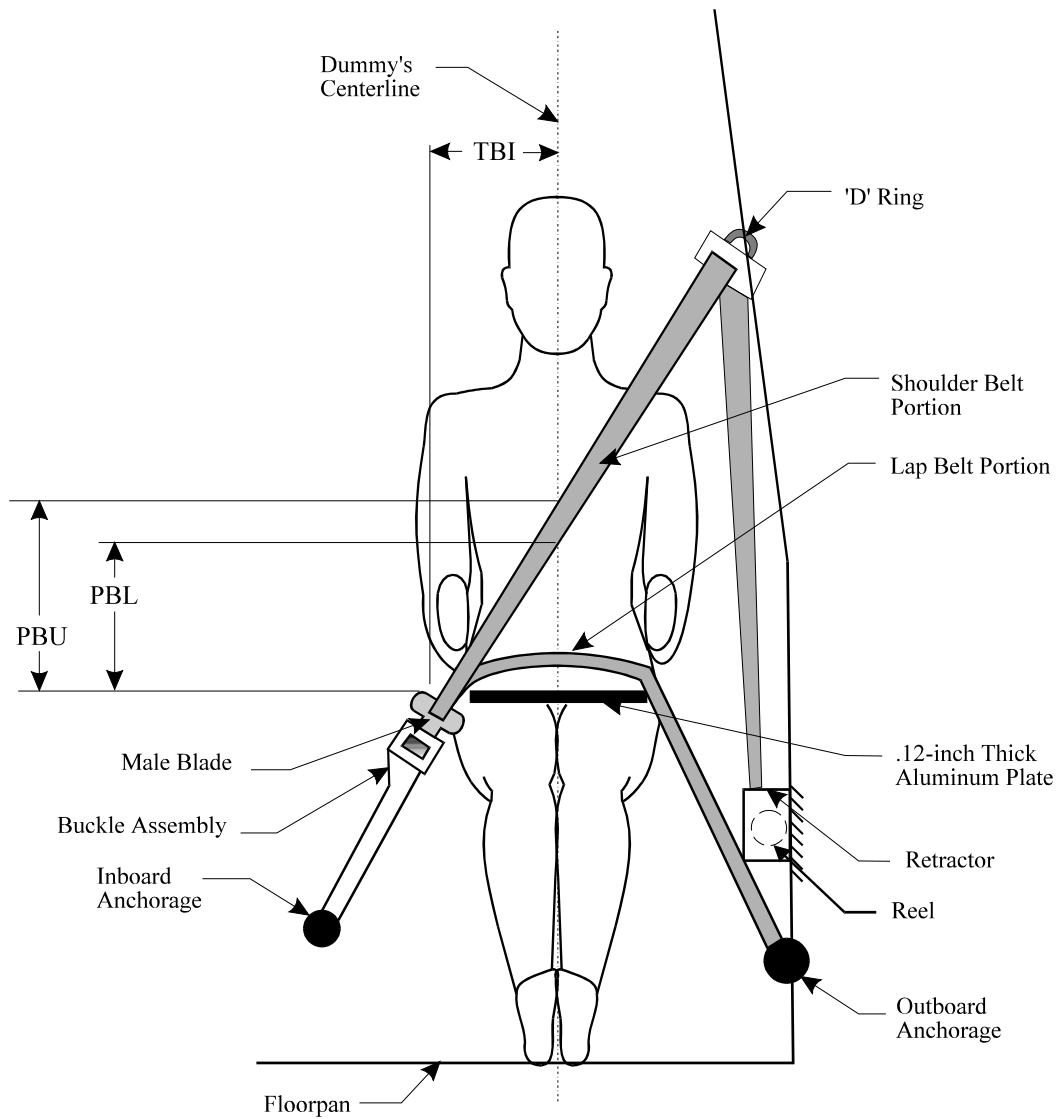
Location	DRIVER (Serial #855)			PASSENGER (Serial #324)		
	X	Y	Z	X	Y	Z
Head Center Of Gravity	3344.638	-531.761	-946.059	3490.265	522.2935	-877.264
Nose Bridge	3434.029	-455.959	-957.46	3583.147	463.5386	-882.497
Nose Tip	3455.426	-454.506	-912.463	3606.294	463.3304	-849.013
Head Chin	3433.092	-455.837	-841.636	3589.125	463.4796	-774.027
Arm	3341.864	-693.39	-642.217	3466.456	651.6783	-596.023
Hip-Point	3476.173	-699.036	-279.497	3604.603	721.7733	-301.244
Pelvis Fore	3436.902	-709.452	-348.198	3551.158	730.4414	-360.971
Pelvis Aft	3370.956	-709.395	-321.232	3482.357	729.7356	-338.473
Knee Outboard	3859.131	-596.183	-393.206	3943.148	583.9234	-357.604
Knee Inboard	3849.216	-256.125	-395.193	3944.911	320.4973	-352.073
Ankle Outboard	4116.77	-632.24	-79.2311	4118.639	592.7985	-71.573
Headrest Top	3087.531	-545.302	-863.369	3286.366	542.1579	-893.677
Headrest Bottom	3096.527	-544.198	-818.085	3286.078	542.8223	-845.902
Roof	3434.029	-455.959	-1213.34	3583.147	463.5386	-1150.32
Header Front	3879.804	-456.25	-1121.43	3870.041	463.81	-1113.21
Window Front	4132.995	-455.959	-957.46	4260.255	463.5386	-882.497
Steering Wheel Rim Top	3861.436	-420.051	-847.447			
Dash Top	3959.172	-425.648	-787.903	3941.091	460.7853	-566.653
Steering Wheel Center	3780.075	-432.029	-667.482			
Chest Center	3483.429	-432.029	-667.482			
Steering Wheel Rim Bottom	3698.093	-433.523	-521.85			
Abdomen	3509.666	-433.523	-521.85			
Dash Bottom	3994.483	-555.141	-412.671	4014.504	534.329	-395.704
Header Side	3434.446	-596.762	-1128.07	3584.377	612.7378	-1100.35
Window Side	3434.029	-792.698	-957.46	3583.147	811.2022	-882.497
Door Top	3341.864	-829.703	-642.217	3466.456	832.4535	-596.023
Door Bottom	3476.173	-837.531	-279.497	3604.603	790.879	-301.244
Striker	3131.949	-881.263	-309.951	3136.849	882.8979	-314.899
Left Heel	4127.232	-610.649	47.7044	4082.253	371.0629	39.7069
Left Toe	4328.44	-583.142	-180.446	4300.839	381.134	-79.9624
Right Heel	4122.743	-278.762	39.0706	4079.126	561.5369	40.0805
Right Toe				4299.66	550.9463	-73.9725
Seat Recline Center	3452.989	-736.888	-184.806	3546.785	738.5493	-185.214
Seat Height Knob Center	3734.083	-739.28	-180.017			

Table 15 Bullet Vehicle Dummy THOR Leg Zeroing Data

THOR LEG ZEROING DATA

Dummy Serial No. 324	X	Y	Z
Left Leg - 014	-1.051	14.985	54.213
Right Leg - 013	1.43	12.856	42.118

Figure 4 Bullet Vehicle Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
PBU - Top surface of aluminum plate to belt upper edge	362 mm	275 mm
PBL - Top surface of aluminum plate to belt lower edge	278 mm	185 mm
TBI - Dummy centerline to intersection of upper torso belt and lap belt	220 mm	225 mm
Total belt length	2800 mm	2800 mm
Lap belt length	600 mm	600 mm
Shoulder belt length	870 mm	940 mm

Figure 5 Target Vehicle FMVSS 212 Test Data

Details of windshield mounting such as retention method, trim type, etc.:

Adhesive, Plastic trim, N/A

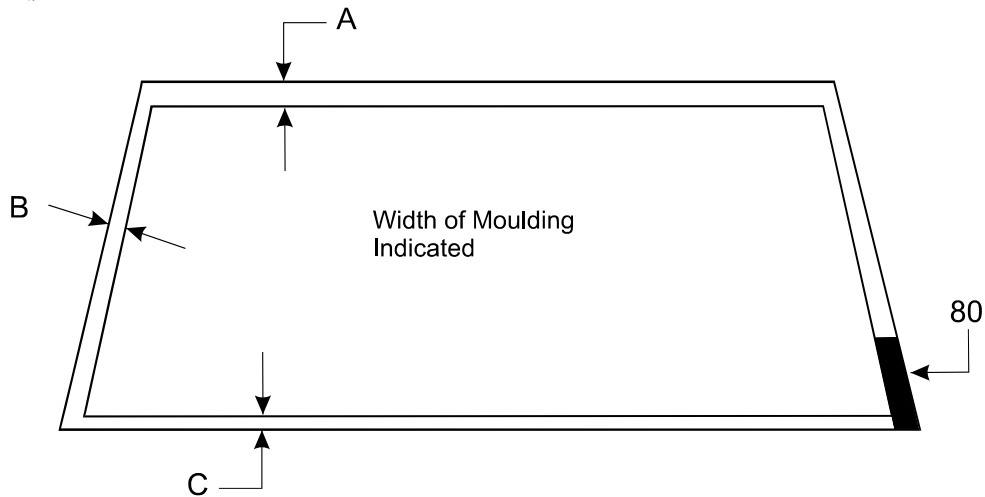
FMVSS 212 requirements: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

Windshield periphery measurements:

	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2135 mm	2135 mm	100.0%
Left side	2135 mm	2055 mm	96.3%
Total	4270 mm	4190 mm	98.1%

Pre-test windshield mounting material temperature: N/A

- A = 10 mm
- B = 10 mm
- C = N/A



Front view of windshield

Loss of windshield retention lengths: 80 mm bottom left side

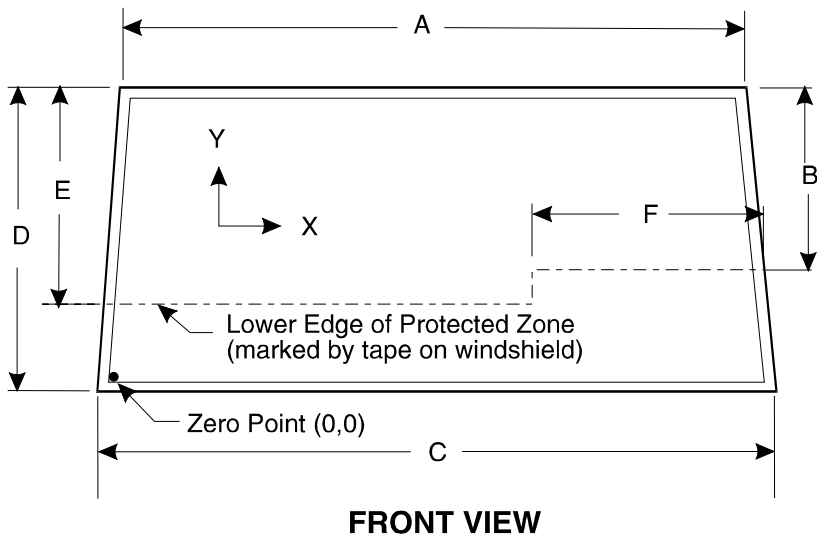
Figure 6 Target Vehicle FMVSS 219 Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 165-millimeter diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 13 millimeters from the locus line. The **lower edge of the protected zone** is the longitudinal projection onto the outer surface of the windshield of this line.

Windshield measurements:

- A = 1120 mm
- B = 410 mm
- C = 1530 mm
- D = 810 mm
- E = 530 mm
- F = 710 mm



Method of adhering protected zone template to windshield: N/A

Areas of windshield template penetration greater than 6 mm: None

Coordinates, mm	
X	Y
1.	
2.	
3.	

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield: None

- 1.
- 2.
- 3.

Figure 7 Bullet Vehicle FMVSS 212 Test Data

Details of windshield mounting such as retention method, trim type, etc.:

Adhesive, Rubber, N/A

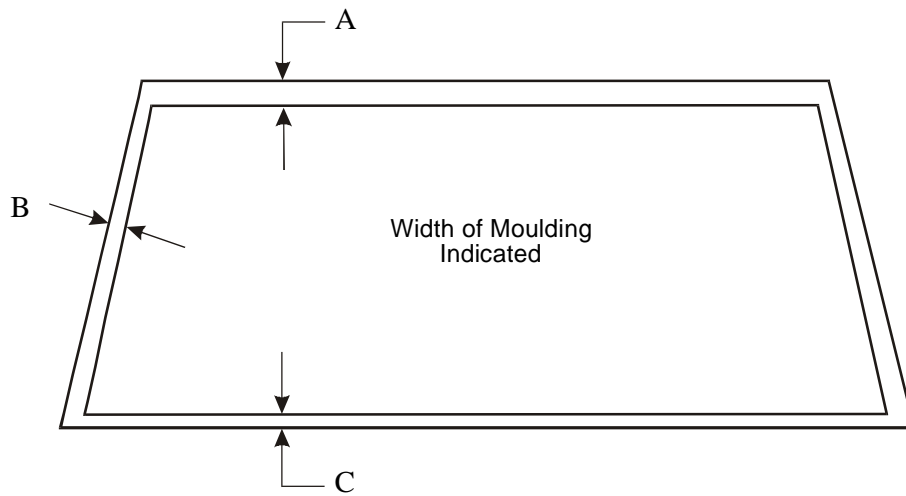
FMVSS 212 requirements: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

Windshield periphery measurements:

	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2320 mm	2320 mm	100.0%
Left side	2320 mm	2320 mm	100.0%
Total	4640 mm	4640 mm	100.0%

Pre-test windshield mounting material temperature: N/A

- A = None
- B = 20 mm
- C = 15 mm



Front view of windshield

Loss of windshield retention lengths: None

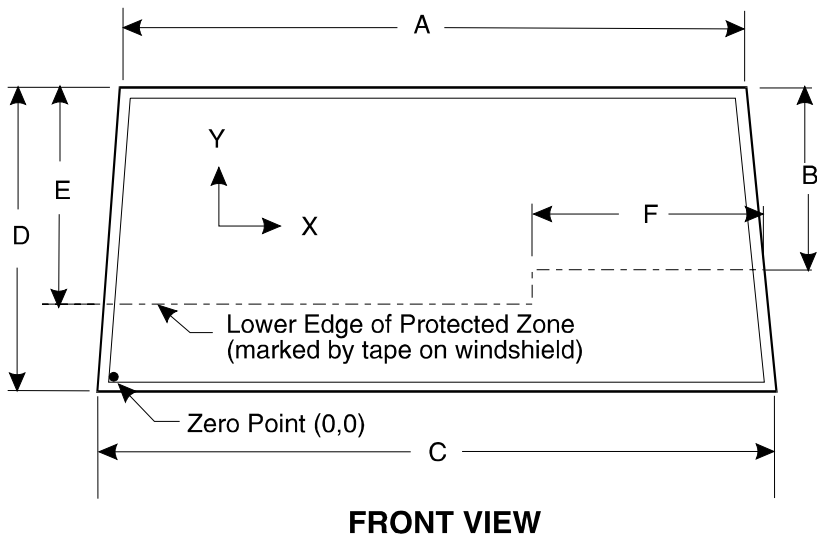
Figure 8 Bullet Vehicle FMVSS 219 Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 165-millimeter diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 13 millimeters from the locus line. The **lower edge of the protected zone** is the longitudinal projection onto the outer surface of the windshield of this line.

Windshield measurements:

- A = 1423 mm
- B = 424 mm
- C = 1725 mm
- D = 746 mm
- E = 500 mm
- F = 715 mm



Method of adhering protected zone template to windshield: N/A

Areas of windshield template penetration greater than 6 mm: None

	Coordinates, mm	
	X	Y
1.	N/A	N/A
2.		
3.		

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield: None

1.	None	None
2.		
3.		

Table 16 Target Vehicle Structural Measurements¹

	Elements	Pre-Test
1	Total Length	4314
2	Total Width	1721
3	Bumper Top Height	543
4	Bumper Bottom Height	387
5	Longitudinal Member Top Height	553
6	Longitudinal Member Bottom Height	400
7	Distance Between Longitudinal Members	1100
7'	Longitudinal Member Width	90
8	Engine Top Height	809
9	Engine Bottom Height	187
10	Engine and Gearbox Width	923
11	Front Bumper - Engine Distance	330
12	Front Shock Absorber Fixing Height	810
13	Bonnet Leading Edge Height	663
14	Front Shock Absorber Fixing Width	1070
15	Front Bumper - Front Axle Distance	730
16	Front Axle - A Pillar Distance	568
17	A Pillar - B Pillar Distance	950
18	B Pillar - Rear Axle Distance	1111
19	B Pillar - C Pillar Distance	865
20	Roof Sill Bottom Height	1330
21	Roof Sill Top Height	1382
22	Floor Sill Bottom Height	322
23	Floor Sill Top Height	359

All distance measurements are in millimeters.

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

Figure 9 Target Vehicle Pre-Test And Post-Test Measurement Points

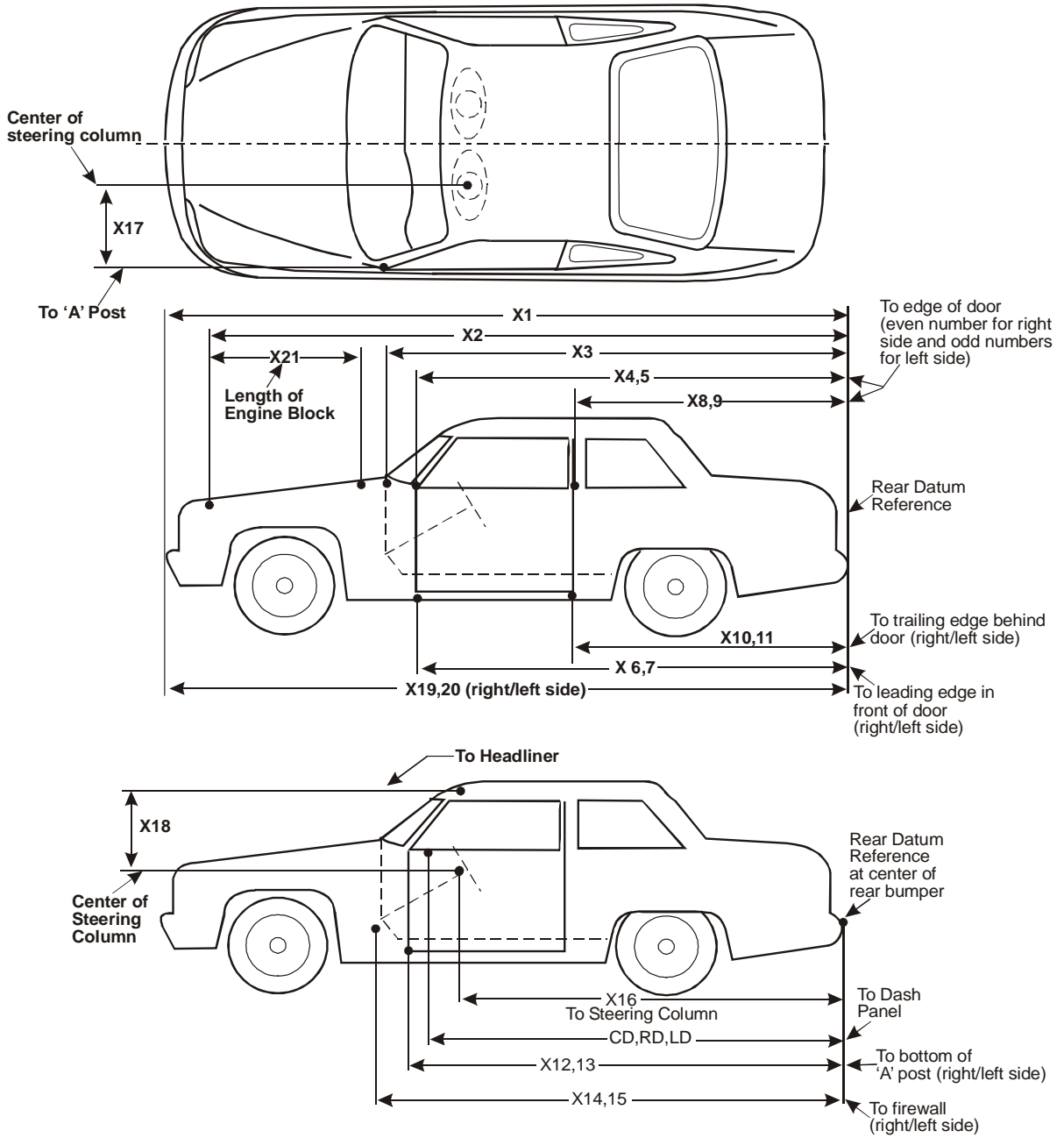


Table 17 Target Vehicle Impacted Measurements

Test number: 080403

Vehicle year/make/model/body style: 2002/Ford/Focus/4-door

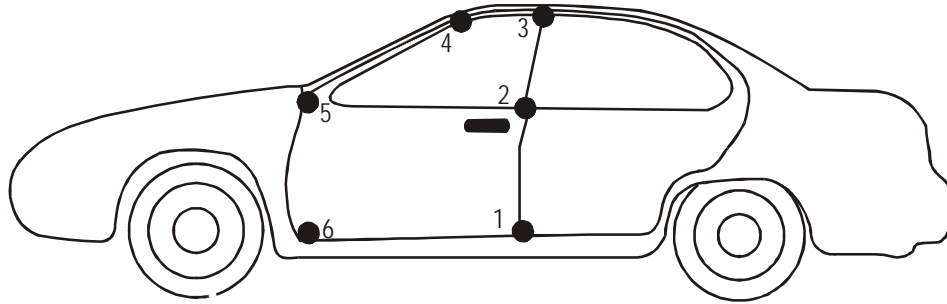
No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4314	3837	477
X2	Rear Surface of Vehicle to Front of Engine Block	3914	3700	214
X3	Rear Surface of Vehicle to Firewall	3424	3322	102
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	3058	3058	0
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	3064	N/A ¹	N/A
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	3028	2993	35
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	3030	N/A ¹	N/A
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	2059	2056	3
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	2054	N/A ¹	N/A
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	2057	2024	33
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	2057	N/A ¹	N/A
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	2984	2979	5
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	2984	2630	354
X14	Rear Surface of Vehicle to Firewall - Right Side	3444	3450	-6
X15	Rear Surface of Vehicle to Firewall - Left Side	3434	3137	297
X16	Rear Surface of Vehicle to Steering Wheel Center	2627	2350	277
X17	Center of Steering Column to " A " Post	290	382	-92
X18	Center of Steering Column to Headliner	435	627	-192
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4284	4268	16
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4284	3666	618
X21	Length of Engine Block	500	500	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2839	2813	26
CD	Rear Surface of Vehicle to Center of Dash Panel	2227	2745	-518
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2839	N/A ¹	N/A

All distance measurements are in millimeters.

¹ Data point missing post-test.

Figure 10 Target Vehicle Intrusion Measurements

Door Opening Width



Left Front

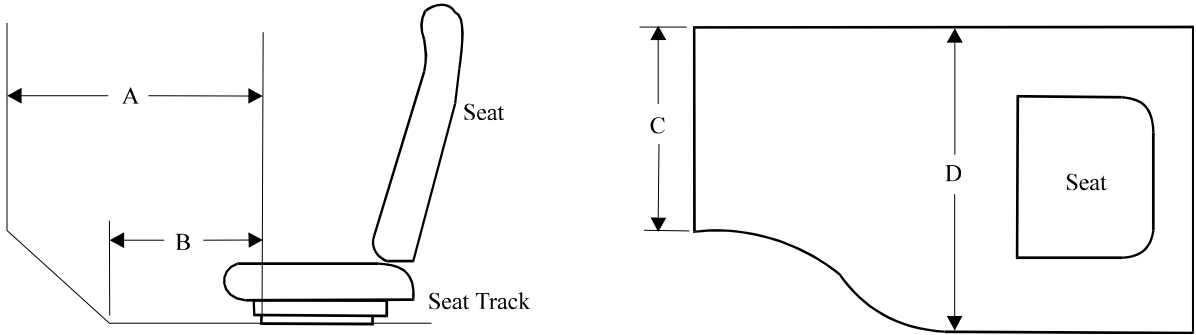
Point Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2978	-718	-223	2663	-665	-183	-315	53	40
2	2097	-737	-216	2091	-722	-193	-6	15	23
3	2942	-759	211	2860	-765	202	-82	-6	-9
4	2005	-554	-822	2006	-532	-797	1	22	25
5	2248	-766	210	2235	-754	237	-13	12	27
6	2497	-571	-744	2437	-538	-919	-60	33	-175

Right Front

Point Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
1	2978	722	-227	2976	730	-230	-2	8	-3
2	2098	742	-231	2099	744	-228	1	2	3
3	2941	766	209	2942	755	209	1	-11	0
4	1997	559	-820	1998	569	-821	1	10	-1
5	2227	769	191	2229	767	193	2	-2	2
6	2500	574	-745	2501	583	-753	1	9	-8

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	2610 mm	2610 mm
Post-Test	2244 mm	2670 mm
Difference	366 mm	-60 mm

Figure 11 Target Vehicle Intrusion Measurements
Static Footwell Deformation



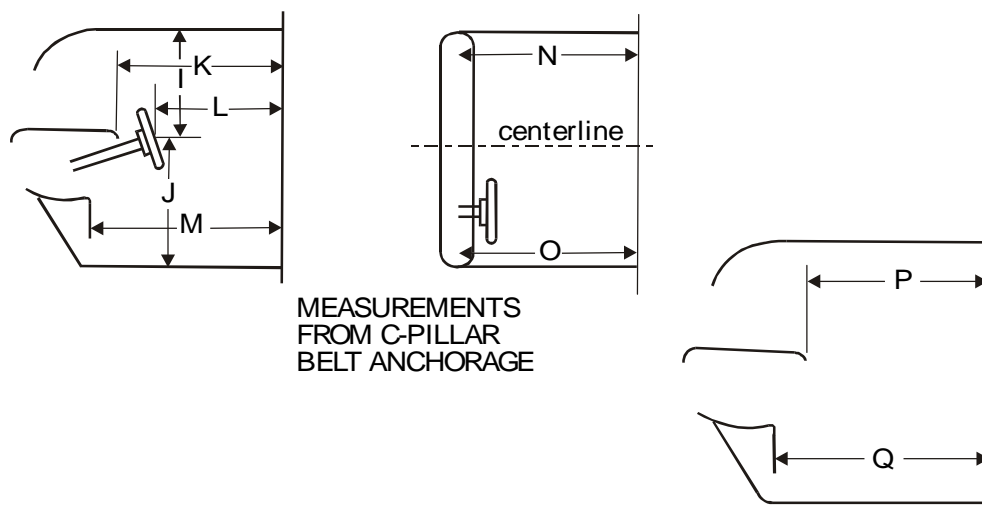
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	505 mm	323 mm	-182 mm
B	382 mm	368 mm	-14 mm
C	382 mm	317 mm	-65 mm
D	398 mm	348 mm	-50 mm

Passenger's Side

Measurement	Pre-Test	Post-Test	Difference
A	466 mm	459 mm	-7 mm
B	352 mm	351 mm	-1 mm
C	411 mm	412 mm	1 mm
D	430 mm	430 mm	0 mm

Figure 12 Target Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion

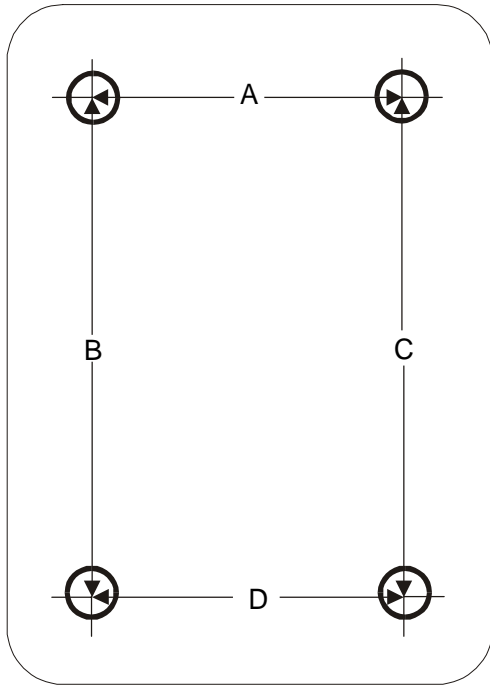


Measurement	Pre-Test	Post-Test	Difference
I	433 mm	628 mm	-195 mm
J	645 mm	627 mm	18 mm
K (driver's side)	1900 mm	N/A ¹	N/A
L	1717 mm	1486 mm	231 mm
M (driver's side)	2030 mm	1812 mm	218 mm
N (passenger's side)	1930 mm	1878 mm	52 mm
O (driver's side)	1897 mm	1609 mm	288 mm
P (passenger's side)	1900 mm	1880 mm	20 mm
Q (passenger's side)	2030 mm	2037 mm	-7 mm

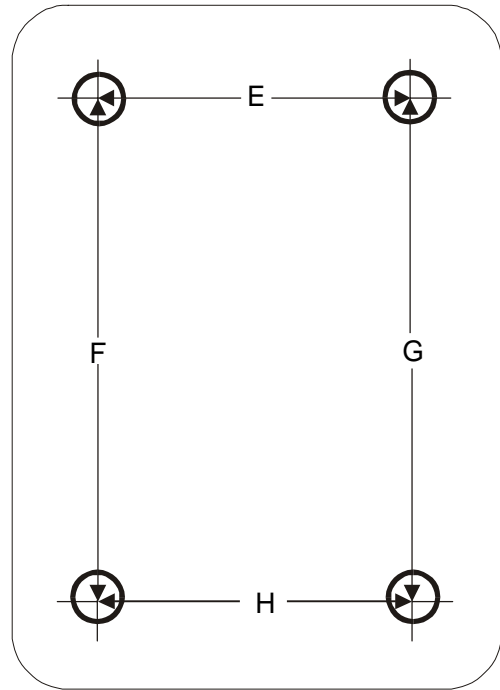
¹ Data point missing post-test.

Figure 13 Target Vehicle Floorboard Deformation

DRIVERS SIDE



PASSENGERS SIDE



Measurement	Pre-Test	Post-Test	Difference
A	403 mm	383 mm	-20 mm
B	382 mm	368 mm	-14 mm
C	365 mm	320 mm	-45 mm
D	398 mm	348 mm	-50 mm
E	422 mm	420 mm	-2 mm
F	352 mm	351 mm	-1 mm
G	380 mm	377 mm	-3 mm
H	430 mm	430 mm	0 mm

Table 18 Target Vehicle Frontal Profile Measurements

Bottom of Front Bumper

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	4310	-608	152	3593	-679	-188	-717	-71	-340
2	4334	-372	151	3619	-469	-213	-715	-97	-364
3	4334	-123	150	3791	-316	-208	-543	-193	-358
4	4334	119	149	3972	-155	-193	-362	-274	-342
5	4333	365	148	4150	14	-177	-183	-351	-325
6	4312	609	147	4309	198	-153	-3	-411	-300

Top of Front Bumper

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	4309	-609	7	3675	-671	-346	-634	-62	-353
2	4332	-369	8	3639	-463	-355	-693	-94	-363
3	4332	-121	8	3787	-293	-351	-545	-172	-359
4	4332	123	7	3961	-123	-333	-371	-246	-340
5	4333	367	4	4135	48	-317	-198	-319	-321
6	4309	607	1	4289	231	-296	-20	-376	-297

Center of Grill

Pre-Test				Post-Test ¹			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	4159	-709	-79	N/A	N/A	N/A	N/A	N/A	N/A
2	4315	-418	-59	N/A	N/A	N/A	N/A	N/A	N/A
3	4341	-138	-58	N/A	N/A	N/A	N/A	N/A	N/A
4	4340	154	-61	N/A	N/A	N/A	N/A	N/A	N/A
5	4314	445	-62	4332	340	-371	18	-105	-309
6	4161	713	-86	4141	578	-311	-20	-135	-225

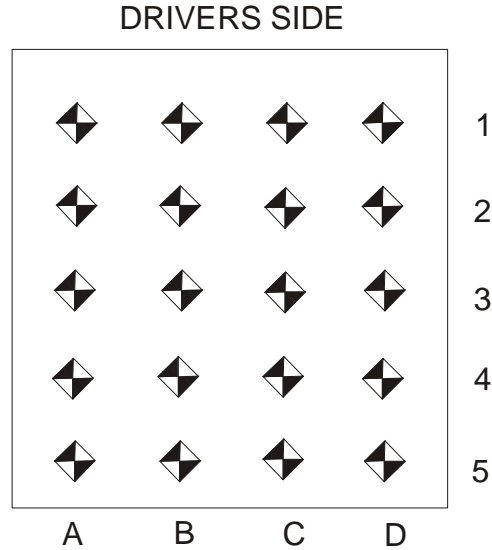
Front of Hood

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	3917	-711	-239	3127	-637	-545	-790	74	-306
2	4256	-421	-141	3532	-470	-532	-724	-49	-391
3	4316	-135	-124	3729	-340	-688	-587	-205	-564
4	4317	155	-123	3861	-109	-806	-456	-264	-683
5	4236	443	-157	3912	176	-891	-324	-267	-734
6	3916	713	-239	3770	564	-806	-146	-149	-567

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
0, 0, 0 origin is center of rear bumper.

¹ Measurement point could not be located post-test.

Figure 14 Target Vehicle Toeboard Measurements



TARGET DRIVER TOEPAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	3180	3248	3238	3240	2936	3052	3072	3104	-244	-196	-166	-136
2	3137	3146	3146	3141	2962	2996	3023	3075	-175	-150	-123	-66
3	3057	3046	3039	3050	2981	2970	2969	2985	-76	-76	-70	-65
4	2876	2881	2875	2863	2811	2815	2803	2803	-65	-66	-72	-60
5	2675	2678	2682	2685	2613	2610	2627	2665	-62	-68	-55	-20

TARGET DRIVER TOEPAN Y-AXIS

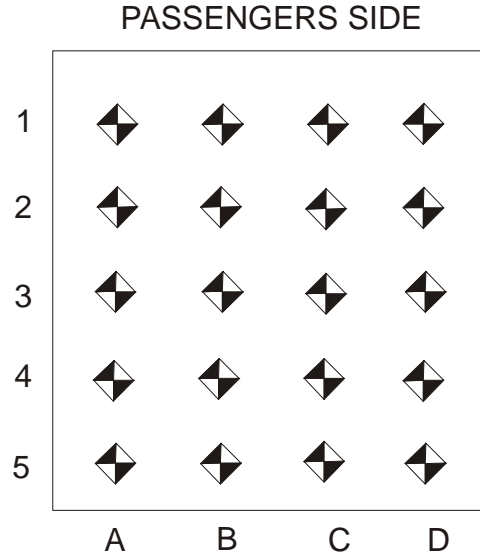
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-584	-485	-331	-202	-513	-459	-316	-196	71	26	15	6
2	-602	-468	-325	-198	-551	-449	-319	-214	51	19	6	-16
3	-598	-473	-319	-195	-588	-466	-322	-205	10	7	-3	-10
4	-589	-458	-321	-189	-580	-456	-322	-210	9	2	-1	-21
5	-579	-445	-302	-181	-561	-441	-312	-213	18	4	-10	-32

TARGET DRIVER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	139	193	205	209	99	106	137	126	-40	-87	-68	-83
2	238	258	270	273	197	207	230	214	-41	-51	-40	-59
3	323	321	328	327	292	312	305	266	-31	-9	-23	-61
4	326	327	331	327	262	287	305	245	-64	-40	-26	-82
5	345	343	344	326	298	279	265	292	-47	-64	-79	-34

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
 0, 0, 0 origin is center of rear bumper.

Figure 14 Target Vehicle Toeboard Measurements, Continued



TARGET PASSENGER TOEPAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	3177	3185	3187	3160	3149	3163	3173	3153	-28	-22	-14	-7
2	3122	3119	3121	3134	3097	3101	3111	3128	-25	-18	-10	-6
3	3063	3053	3060	3071	3041	3036	3051	3067	-22	-17	-9	-4
4	2866	2873	2873	2867	2844	2857	2864	2865	-22	-16	-9	-2
5	2711	2714	2707	2691	2690	2699	2700	2690	-21	-15	-7	-1

TARGET PASSENGER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	177	290	460	588	151	263	431	563	-26	-27	-29	-25
2	167	290	457	582	145	267	432	556	-22	-23	-25	-26
3	166	295	455	588	147	276	436	567	-19	-19	-19	-21
4	170	296	464	595	160	285	453	583	-10	-11	-11	-12
5	175	307	459	605	171	304	455	601	-4	-3	-4	-4

TARGET PASSENGER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	244	238	236	212	253	242	235	208	9	4	-1	-4
2	284	288	282	275	296	295	284	272	12	7	2	-3
3	317	323	320	316	334	334	325	316	17	11	5	0
4	324	329	326	325	353	347	338	332	29	18	12	7
5	324	340	341	340	361	366	360	347	37	26	19	7

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
 0, 0, 0 origin is center of rear bumper.

Table 19 Target Vehicle Bumper Measurements

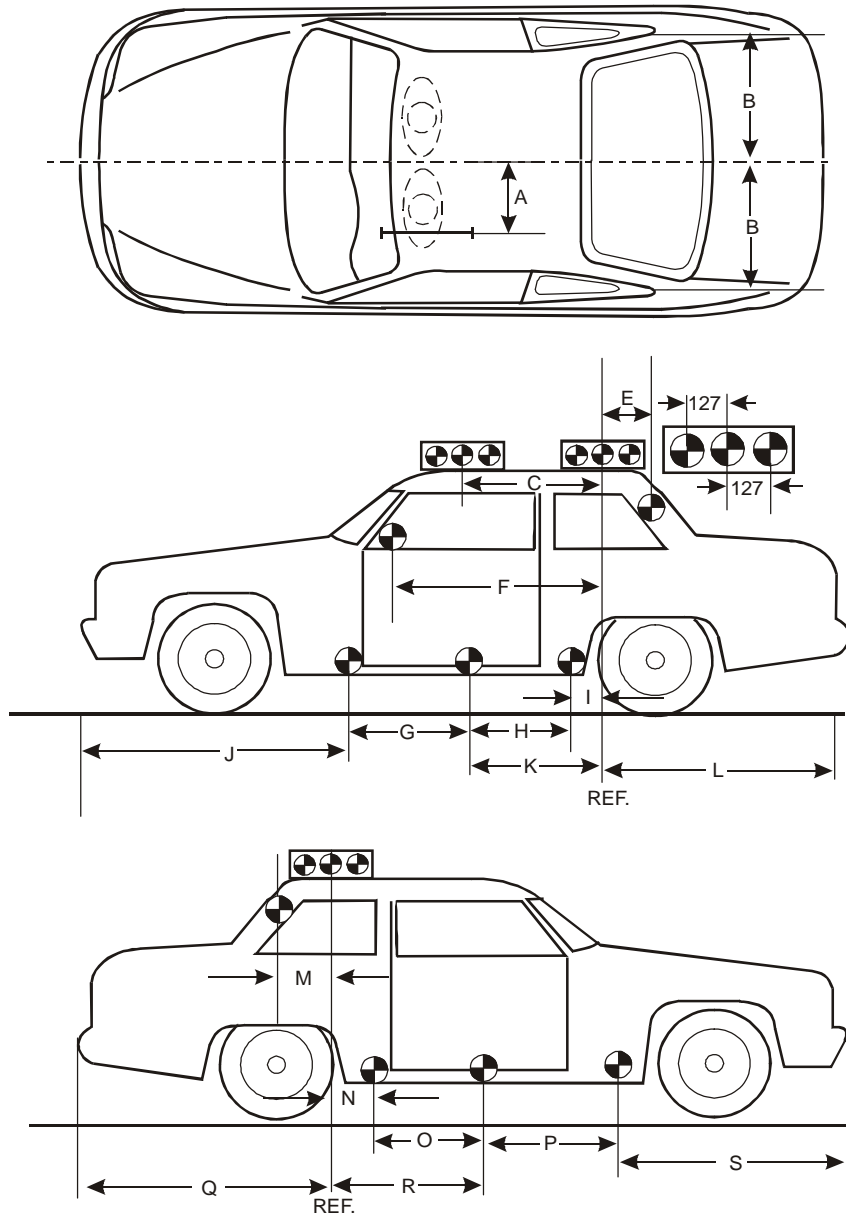
Index	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4309	-609	7	3675	-671	-346	-634	-62	-353
2	4332	-492	6	3577	-569	-358	-754	-77	-364
3	4332	-369	8	3639	-463	-355	-694	-94	-363
4	4332	-221	8	3721	-357	-350	-611	-136	-358
5	4332	-121	8	3787	-293	-351	-545	-172	-359
6	4332	3	7	3875	-206	-342	-477	-209	-349
7	4332	123	7	3961	-123	-333	-371	-245	-340
8	4333	220	7	4030	-56	-325	-303	-276	-332
9	4333	367	4	4135	48	-317	-198	-319	-321
10	4333	489	1	4221	133	-311	-112	-356	-312
11	4309	607	1	4289	231	-296	-20	-376	-297

Pre-test and post-test measurement references: +X, forward of rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level.

0, 0, 0 origin is center of rear bumper.

Measurements taken to bumper beam.

Figure 15 Target Vehicle Reference Photo Target Locations



Measurement	Pre-Test	Measurement	Pre-Test	Measurement	Pre-Test
A	Left 315 mm	F	1222 mm	M	418 mm
	Right 315 mm	G	863 mm	N	-258 mm
B	Left 580 mm	H	888 mm	O	898 mm
	Right 585 mm	I	-210 mm	P	870 mm
C	Left 610 mm	J	1167 mm	Q	1614 mm
	Right 610 mm	K	675 mm	R	640 mm
E	385 mm	L	1579 mm	S	4610 mm

¹ The first side target is placed 600 mm from front edge of bumper, and others are at 300 mm intervals

Table 20 Bullet Vehicle Structural Measurements¹

	Elements	Pre-Test
1	Total Length	5810
2	Total Width	1997
3	Bumper Top Height	708
4	Bumper Bottom Height	565
5	Longitudinal Member Top Height	575
6	Longitudinal Member Bottom Height	433
7	Distance Between Longitudinal Members	892
7'	Longitudinal Member Width	90
8	Engine Top Height	1165
9	Engine Bottom Height	342
10	Engine and Gearbox Width	640
11	Front Bumper - Engine Distance	795
12	Front Shock Absorber Fixing Height	750
13	Bonnet Leading Edge Height	1053
14	Front Shock Absorber Fixing Width	960
15	Front Bumper - Front Axle Distance	1005
16	Front Axle - A Pillar Distance	620
17	A Pillar - B Pillar Distance	1160
18	B Pillar - Rear Axle Distance	1910
19	B Pillar - C Pillar Distance	890
20	Roof Sill Bottom Height	1734
21	Roof Sill Top Height	1754
22	Floor Sill Bottom Height	510
23	Floor Sill Top Height	544

All distance measurements are in millimeters.

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

Figure 16 Bullet Pre-Test And Post-Test Measurement Points

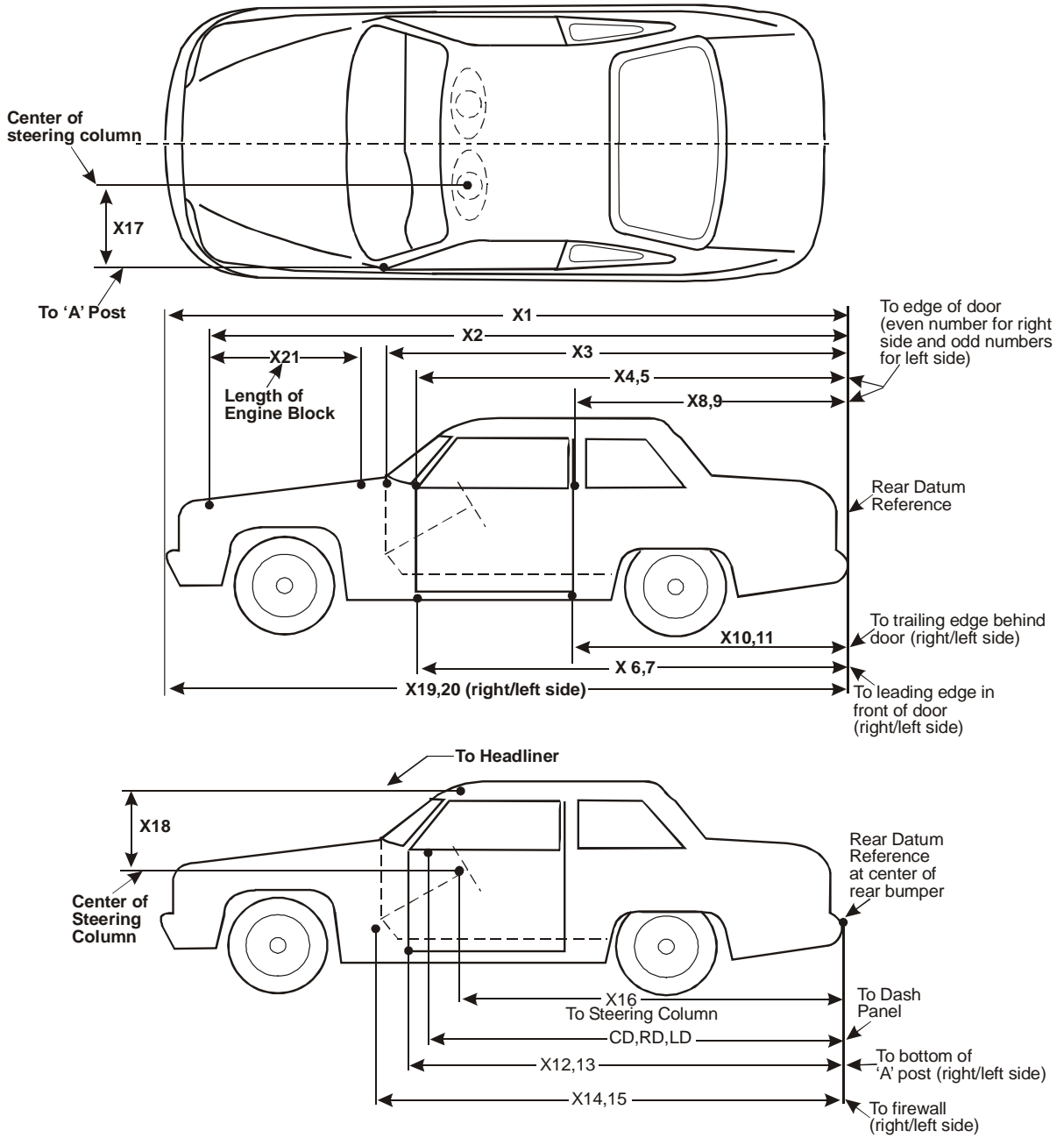


Table 21 Bullet Vehicle Impacted Measurements

Test number: 080403

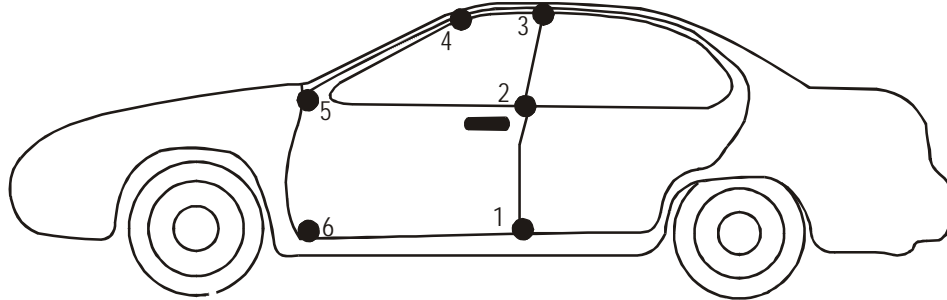
Vehicle year/make/model/body style: 2007/Chevrolet/Silverado/Pickup

No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5810	5606	204
X2	Rear Surface of Vehicle to Front of Engine Block	5045	5040	5
X3	Rear Surface of Vehicle to Firewall	4622	4625	-3
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	4267	4268	-1
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	4265	4273	-8
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	4205	4186	19
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	4202	4187	15
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	3129	3129	0
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	3120	3129	-9
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	3100	3088	12
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	3105	3091	14
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	4255	4264	-9
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	4255	4256	-1
X14	Rear Surface of Vehicle to Firewall - Right Side	4579	4584	-5
X15	Rear Surface of Vehicle to Firewall - Left Side	4588	4585	3
X16	Rear Surface of Vehicle to Steering Wheel Center	3770	3840	-70
X17	Center of Steering Column to " A " Post	292	328	-36
X18	Center of Steering Column to Headliner	463	440	23
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5736	5776	-40
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5730	5137	593
X21	Length of Engine Block	570	570	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	4010	3992	18
CD	Rear Surface of Vehicle to Center of Dash Panel	3995	4004	-9
LD	Rear Surface of Vehicle to Left Side of Dash Panel	4000	4020	-20

All distance measurements are in millimeters.

Figure 17 Bullet Vehicle Intrusion Measurements

Door Opening Width



Left Front

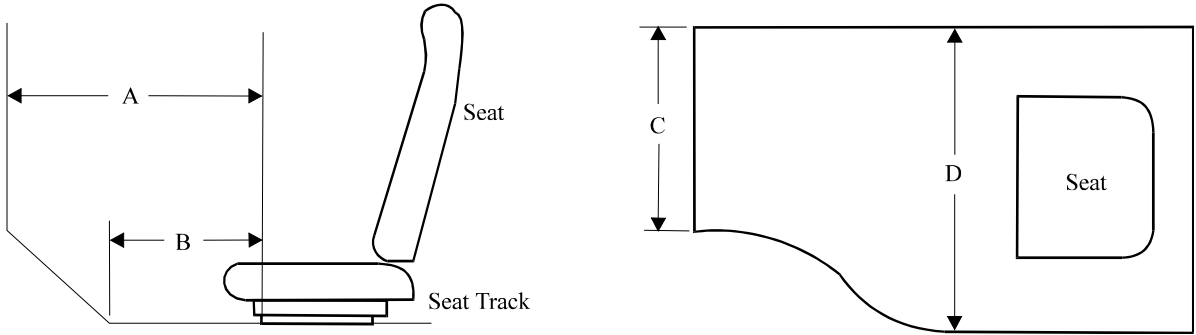
Point Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4248	-850	-496	4250	-825	39	2	25	535
2	3135	-867	-493	3145	-835	-507	10	32	-14
3	4182	-869	67	4187	-823	-1141	5	46	-1208
4	3183	-691	-1128	3195	-659	-1065	12	32	63
5	3190	-878	51	3199	-846	-503	9	32	-554
6	3762	-708	-1053	3774	-676	61	12	32	1114

Right Front

Point Location	PRE-TEST (mm)			POST-TEST (mm)			CHANGE (mm)		
	X	Y	Z	X	Y	Z	X	Y	Z
1	4254	851	-494	4258	885	-496	4	34	-2
2	3140	867	-497	3141	899	-499	1	32	-2
3	4166	865	81	4163	904	75	-3	39	-6
4	3183	688	-1129	3190	720	-1131	7	32	-2
5	3165	895	23	3161	926	21	-4	31	-2
6	3767	703	-1055	3773	736	-1058	6	33	-3

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	3660 mm	3660 mm
Post-Test	3331 mm	3793 mm
Difference	329 mm	-133 mm

Figure 18 Bullet Vehicle Intrusion Measurements
Static Footwell Deformation



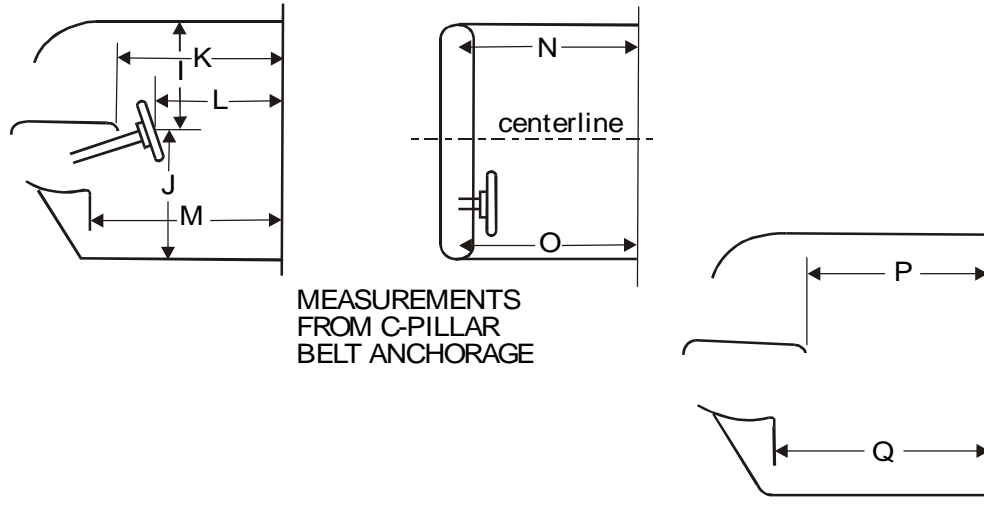
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	436 mm	-32 mm	-468 mm
B	275 mm	-260 mm	-535 mm
C	404 mm	398 mm	-6 mm
D	417 mm	273 mm	-144 mm

Passenger's Side

Measurement	Pre-Test	Post-Test	Difference
A	491 mm	483 mm	-8 mm
B	357 mm	355 mm	-2 mm
C	330 mm	330 mm	0 mm
D	344 mm	345 mm	1 mm

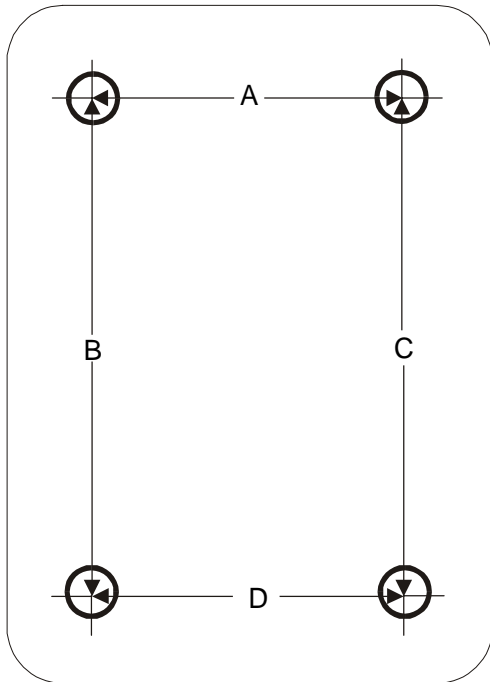
Figure 19 Bullet Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion



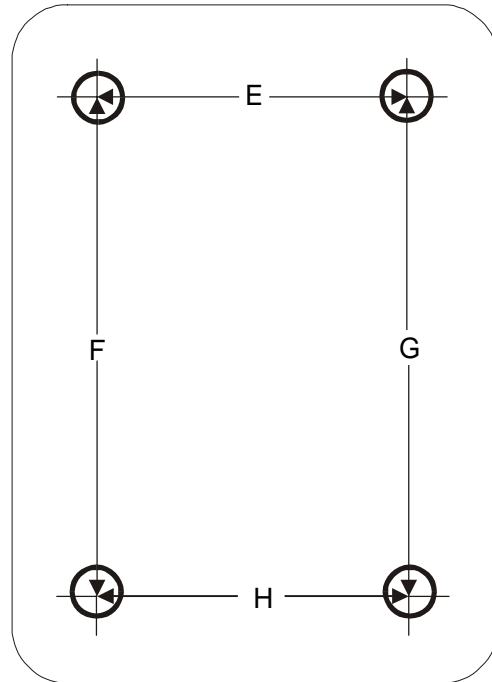
Measurement	Pre-Test	Post-Test	Difference
I	464 mm	429 mm	35 mm
J	644 mm	685 mm	-41 mm
K (driver's side)	1825 mm	1823 mm	2 mm
L	1640 mm	1635 mm	5 mm
M (driver's side)	1990 mm	1970 mm	20 mm
N (passenger's side)	1865 mm	1870 mm	-5 mm
O (driver's side)	1790 mm	1770 mm	20 mm
P (passenger's side)	1825 mm	1835 mm	-10 mm
Q (passenger's side)	2000 mm	1995 mm	5 mm

Figure 20 Bullet Vehicle Floorboard Deformation

DRIVERS SIDE



PASSENGERS SIDE



Measurement	Pre-Test	Post-Test	Difference
A	413 mm	412 mm	-1 mm
B	275 mm	-260 mm	-535 mm
C	321 mm	321 mm	0 mm
D	417 mm	273 mm	-144 mm
E	356 mm	357 mm	1 mm
F	357 mm	355 mm	-2 mm
G	356 mm	356 mm	0 mm
H	344 mm	345 mm	1 mm

Table 22 Bullet Vehicle Frontal Profile Measurements

Bottom of Front Bumper

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	5744	-692	43	5175	-637	-24	-569	55	-67
2	5795	-413	50	5458	-512	-86	-337	-99	-136
3	5822	-132	56	5591	-268	-37	-231	-136	-93
4	5822	136	55	5689	-21	-6	-133	-157	-61
5	5796	415	47	5770	246	26	-26	-169	-21
6	5747	684	37	5826	513	58	79	-171	21

Top of Front Bumper

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	5747	-697	-70	5174	-610	-136	-573	87	-66
2	5799	-421	-51	5384	-470	-138	-415	-49	-87
3	5826	-139	-46	5563	-251	-136	-263	-112	-90
4	5826	136	-48	5679	-3	-108	-147	-139	-60
5	5800	414	-57	5768	261	-77	-32	-153	-20
6	5747	690	-76	5831	535	-53	84	-155	23

Center of Grill

Pre-Test				Post-Test ¹			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	5589	-807	-275	N/A	N/A	N/A	N/A	N/A	N/A
2	5720	-507	-281	5553	-538	-345	-167	-31	-64
3	5762	-171	-278	5662	-221	-309	-100	-50	-31
4	5762	166	-277	5732	108	-282	-30	-58	-5
5	5722	497	-286	5762	439	-270	40	-58	16
6	5591	800	-289	N/A	N/A	N/A	N/A	N/A	N/A

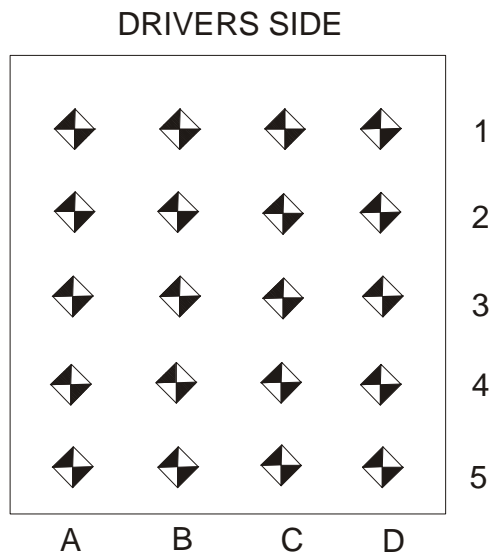
Front of Hood

Pre-Test				Post-Test			Difference		
Index	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm	X, mm	Y, mm	Z, mm
1	5570	-801	-449	5510	-803	-576	-60	-2	-127
2	5700	-505	-444	5651	-519	-530	-49	-14	-86
3	5743	-172	-444	5715	-191	-502	-28	-19	-58
4	5743	162	-446	5728	143	-478	-15	-19	-32
5	5703	492	-447	5698	474	-458	-5	-18	-11
6	5573	790	-454	5580	776	-448	7	-14	6

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
0, 0, 0 origin is center of rear bumper.

¹ Measurement point could not be located post-test.

Figure 21 Bullet Vehicle Toeboard Measurements



BULLET DRIVER TOEPAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	4383	4430	4419	4391	4322	4259	4390	4380	-61	-171	-29	-11
2	4303	4301	4302	4301	4224	4212	4288	4292	-79	-89	-14	-9
3	4222	4215	4214	4227	4094	3995	4208	4223	-128	-220	-6	-4
4	4093	4090	4064	4066	3949	4088	4061	4062	-144	-2	-3	-4
5	3947	3905	3906	3906	4354	3902	3901	3902	407	-3	-5	-4

BULLET DRIVER TOEPAN Y-AXIS

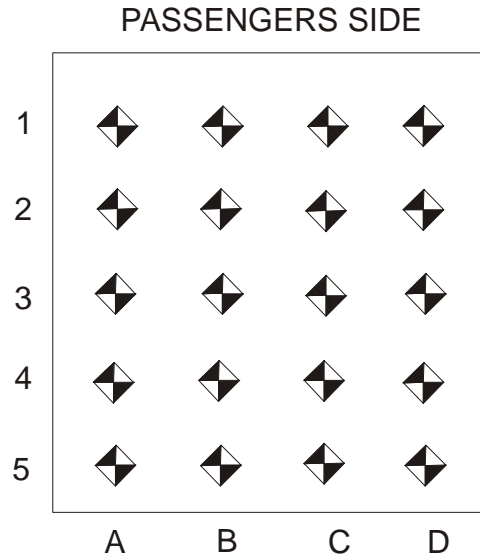
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-688	-541	-373	-284	-648	-497	-347	-250	40	44	26	34
2	-681	-542	-380	-273	-634	-492	-339	-230	47	50	41	43
3	-683	-539	-363	-270	-641	-489	-320	-229	42	50	43	41
4	-684	-540	-358	-267	-635	-495	-314	-224	49	45	44	43
5	-678	-527	-343	-261	-493	-484	-301	-220	185	43	42	41

BULLET DRIVER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-53	-8	3	-33	-115	24	-12	-35	-62	32	-15	-2
2	48	50	45	26	33	35	30	22	-15	-15	-15	-4
3	73	77	73	76	53	47	66	79	-20	-30	-7	3
4	73	75	72	73	68	41	63	71	-5	-34	-9	-2
5	74	68	68	64	-73	54	64	64	-147	-14	-4	0

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
 0, 0, 0 origin is center of rear bumper.

Figure 21 Bullet Vehicle Toeboard Measurements, Continued



BULLET PASSENGER TOEPAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	4350	4358	4359	4360	4341	4351	4354	4359	-9	-7	-5	-1
2	4286	4303	4302	4303	4284	4300	4299	4300	-2	-3	-3	-3
3	4216	4223	4224	4222	4213	4220	4220	4219	-3	-3	-4	-3
4	4036	4044	4051	4059	4034	4043	4048	4056	-2	-1	-3	-3
5	3859	3861	3862	3866	3858	3858	3859	3863	-1	-3	-3	-3

BULLET PASSENGER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	369	487	603	699	408	526	642	738	39	39	39	39
2	360	478	593	697	399	516	631	736	39	38	38	39
3	349	475	591	705	387	513	630	744	38	38	39	39
4	351	481	590	701	389	518	627	739	38	37	37	38
5	350	480	584	694	386	516	621	731	36	36	37	37

BULLET PASSENGER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-38	-36	-38	-40	-40	-37	-39	-41	-2	-1	-1	-1
2	-7	7	7	7	-10	5	5	5	-3	-2	-2	-2
3	68	69	71	74	66	66	66	71	-2	-3	-5	-3
4	73	65	72	73	69	62	68	70	-4	-3	-4	-3
5	68	60	68	70	64	56	63	67	-4	-4	-5	-3

Pre-test and post-test measurement reference: +X forward; +Y right; +Z down.
 0, 0, 0 origin is center of rear bumper.

Table 23 Bullet Vehicle Bumper Measurements

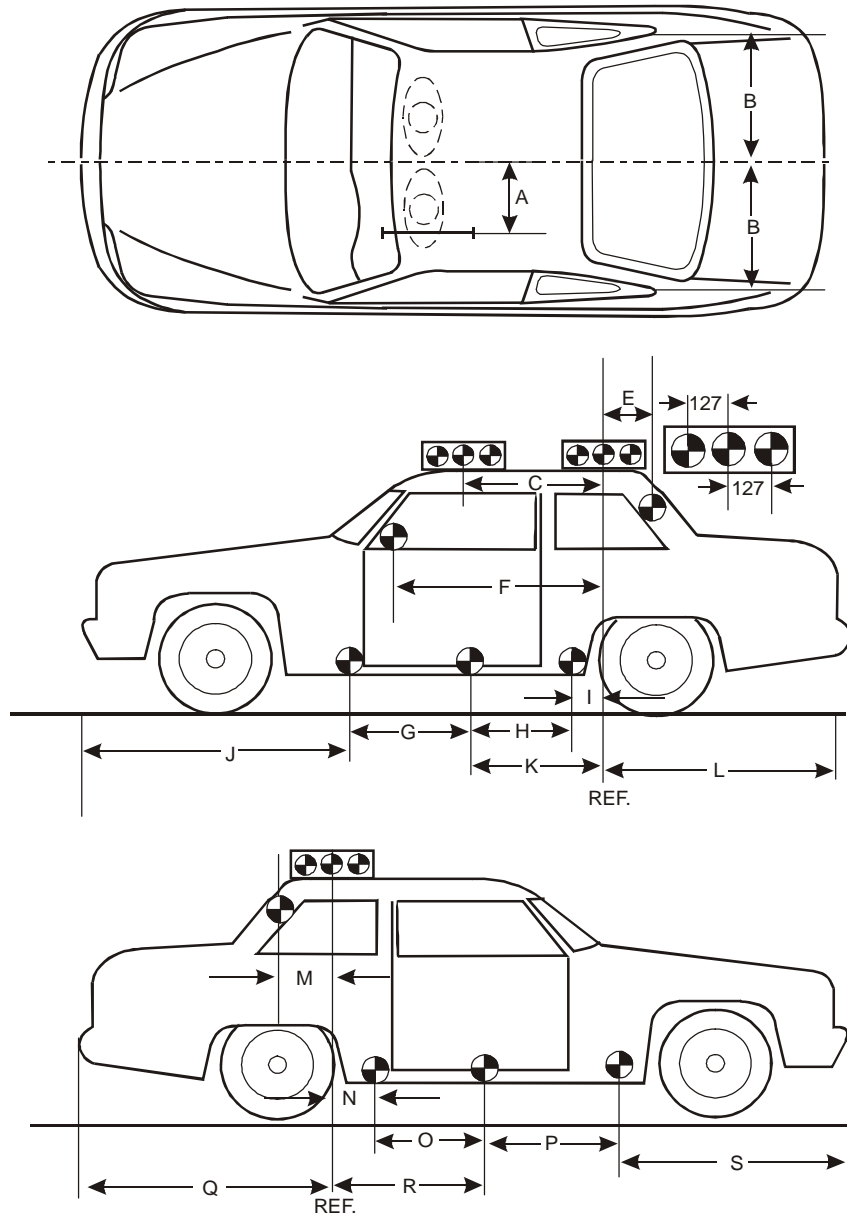
Index	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	5747	-697	-70	5174	-610	-136	-573	87	-66
2	5777	-559	-60	5261	-535	-117	-516	24	-57
3	5799	-421	-51	5384	-470	-138	-415	-49	-87
4	5815	-280	-49	5475	-361	-142	-340	-81	-92
5	5826	-139	-46	5563	-251	-136	-263	-112	-90
6	5834	-4	-45	5628	-133	-124	-206	-129	-79
7	5826	136	-48	5679	-3	-108	-147	-138	-60
8	5815	275	-53	5725	128	-95	-90	-146	-42
9	5800	414	-57	5768	261	-77	-32	-153	-20
10	5778	553	-63	5804	396	-63	26	-157	0
11	5747	690	-76	5831	535	-53	84	-155	23

Pre-test and post-test measurement references: +X, forward of rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level.

0, 0, 0 origin is center of rear bumper.

Measurements taken to bumper beam.

Figure 22 Bullet Vehicle Reference Photo Target Locations



Measurement	Pre-Test	Measurement	Pre-Test	Measurement	Pre-Test
A	Left 430 mm	F	4030 mm	M	2259 mm
	Right 430 mm		G		1292 mm
B	Left 705 mm	H		1300 mm	O
	Right 710 mm		I	1759 mm	
C	Left 610 mm	J		5789 mm	Q
	Right 610 mm		K	3064 mm	
E	2239 mm	L		2824 mm	S

¹ The first side target is placed 600 mm from front edge of bumper, and others are at 300 mm intervals.

Figure 23 Camera Positions

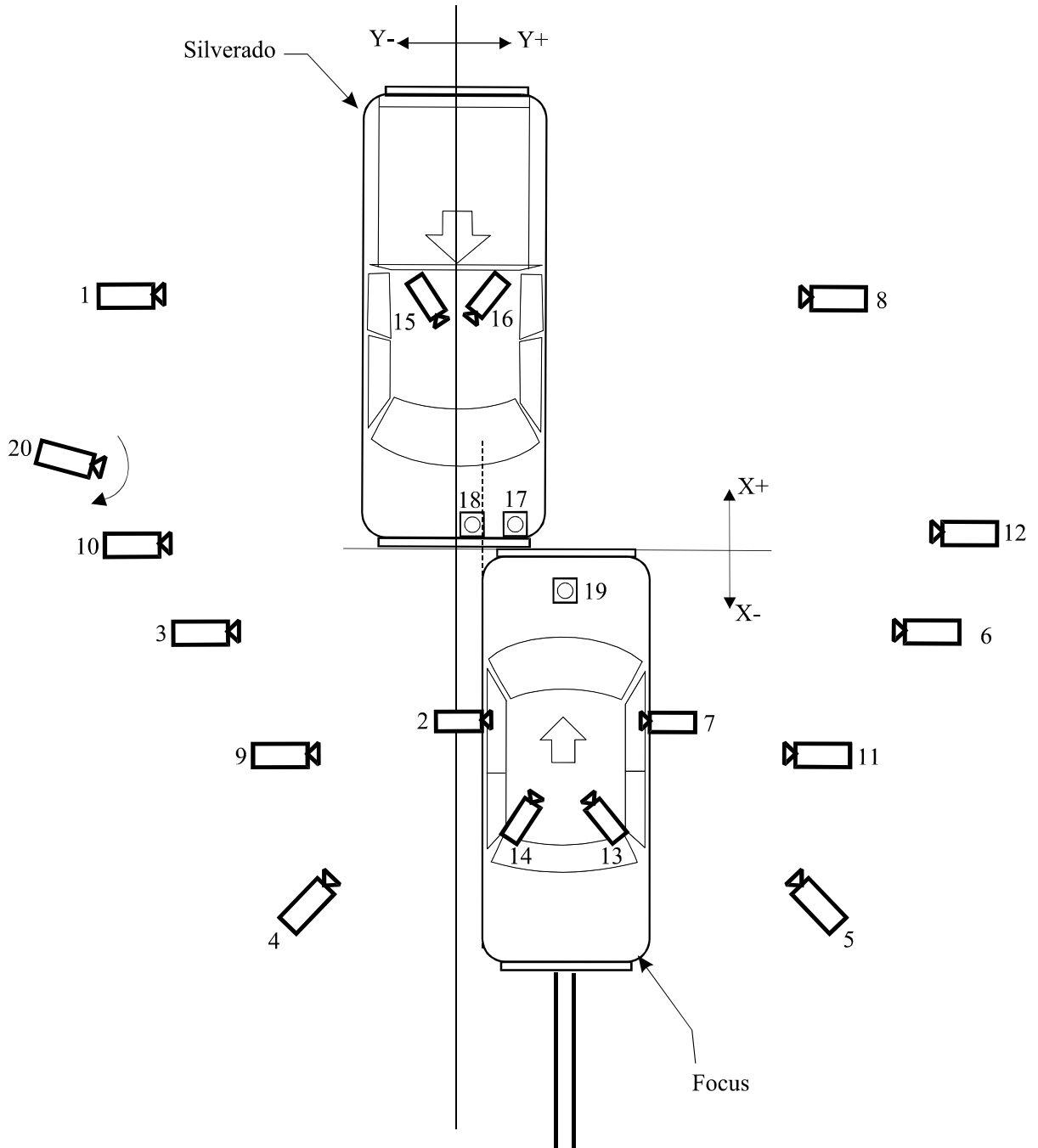


Table 24 Camera Information

Camera Number	Location	Location, mm			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Bullet passenger side	1070	-11160	-1330	-0.2°	25	500
2	Onboard target - driver	-1870	-700	-1130	-10.8°	4.8	500
3	Target left tight	-430	-8120	-970	4.0°	50	500
4	Target driver angled	-5220	-3550	-1700	-8.8°	25	500
5	Target passenger angled	-5370	3390	-1620	-7.7°	25	500
6	Target right tight	-100	10340	-650	-1.3°	50	500
7	Onboard target - passenger	-1870	700	-250	-16.9°	4.8	500
8	Bullet driver side	1940	5970	-1320	-4.6°	12.5	500
9	Target driver side wide	-1880	-13150	-1030	-0.9°	25	500
10	Target left overall	0	-12350	-1400	2.0°	12.5	500
11	Target passenger side wide	-450	8910	-1040	-0.4°	25	500
12	Target right overall	0	14750	-1290	-1.6°	12.5	500
13	Onboard target - driver over shoulder	2960	-350	-900	-2.0°	8.5	500
14	Onboard target - passenger over shoulder	-2900	-350	-1080	-3.3°	8.5	500
15	Onboard bullet - driver over shoulder	3370	450	1630	17.1°	10	1000
16	Onboard bullet - passenger over shoulder	3370	450	1540	5.9°	13	1000
17	Overhead wide	0	0	6150	-90.0°	12.5	500
18	Overhead tight	0	1620	6150	-90.0°	25	500
19	Underbody crush area of target vehicle	N/A	N/A	N/A	-90.0°	12.5	500
20	Panning/documentary	N/A	N/A	N/A	N/A	zoom	30

+X: Forward (referenced to Target) from impact point

+Y: Rightward (referenced to Target) from impact point

+Z: Downward from ground level

Appendix A

Photographs



Figure A-1 Pre-Test Overall - View 1



Figure A-2 Pre-Test Overall - View 2



Figure A-3 Pre-Test Impact Alignment - View 1



Figure A-4 Pre-Test Impact Alignment - View 2

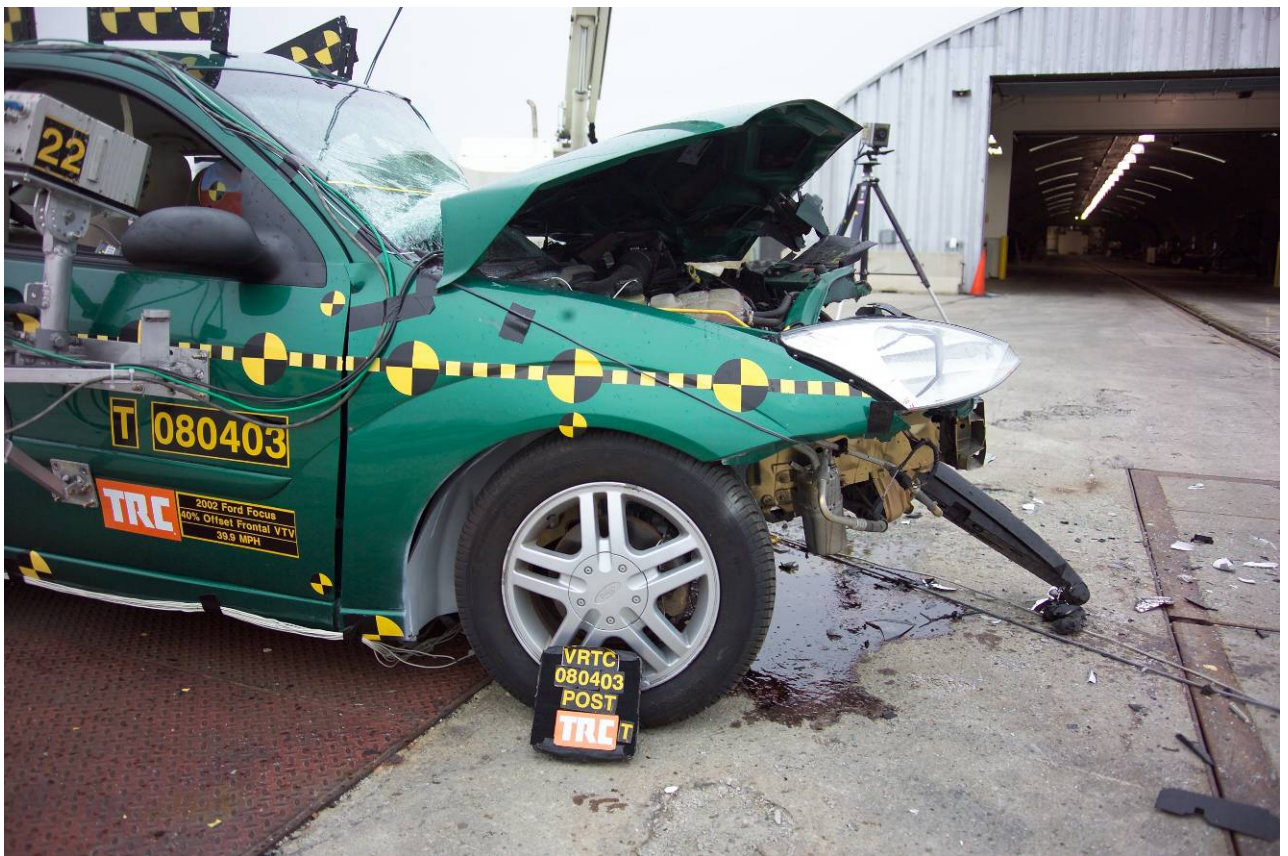


Figure A-5 Post-Test Target Vehicle Impact - View 1



Figure A-6 Post-Test Target Vehicle Impact - View 2



Figure A-7 Post-Test Bullet Vehicle Impact - View 1



Figure A-8 Post-Test Bullet Vehicle Impact - View 2



Figure A-9 Pre-Test Overhead View

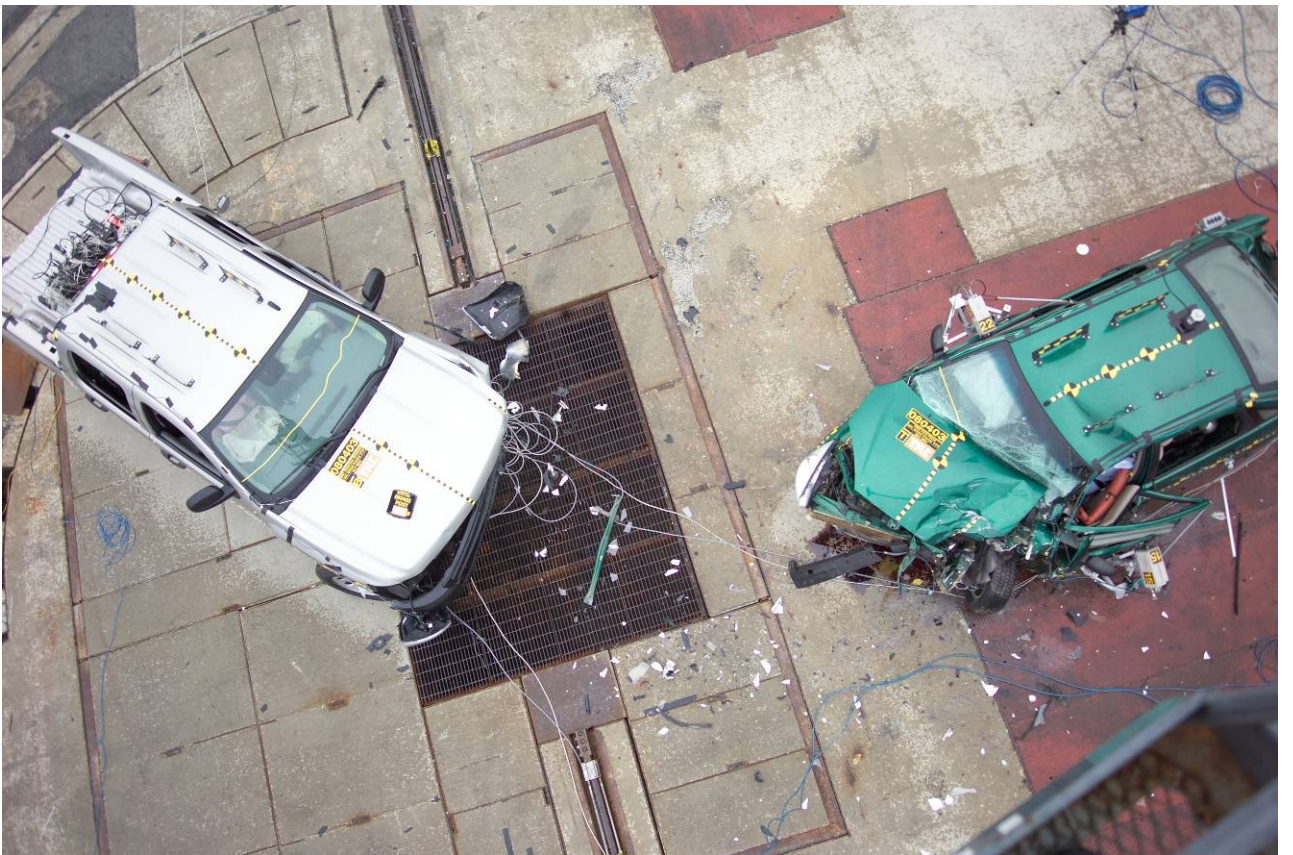


Figure A-10 Post-Test Overhead - View 1

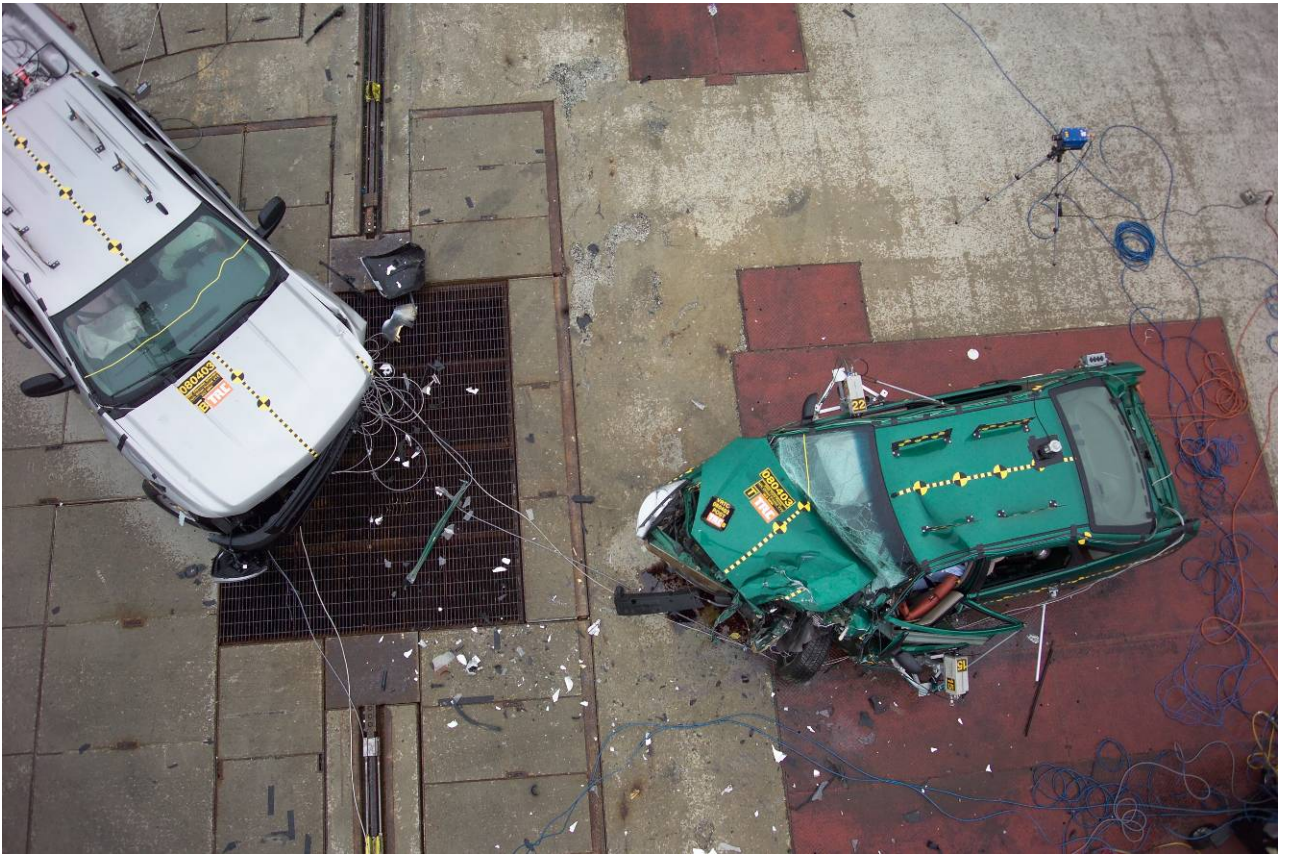


Figure A-11 Post-Test Overhead - View 2

Intentionally Left Blank

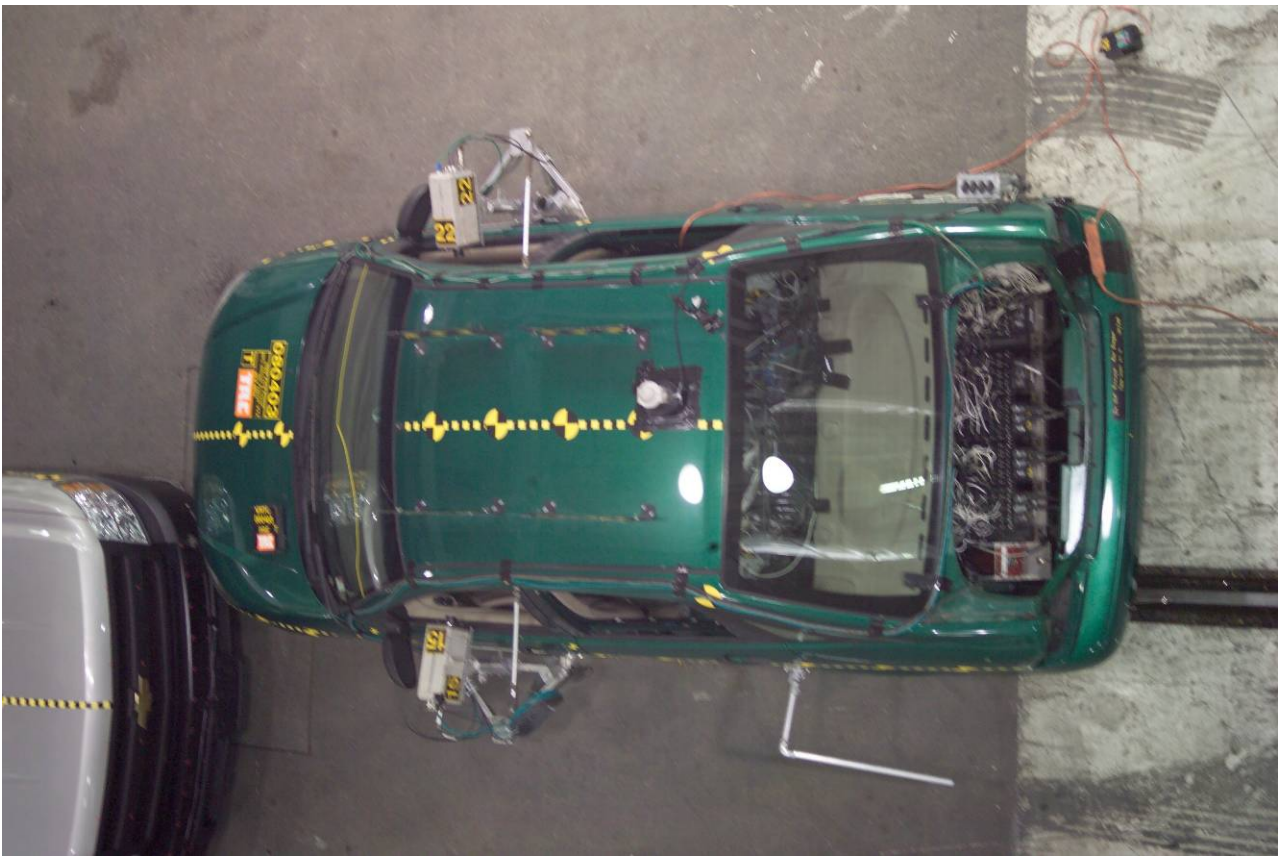


Figure A-12 Pre-Test Overhead Target Vehicle View



Figure A-13 Post-Test Overhead Target Vehicle View



Figure A-14 Pre-Test Overhead Bullet Vehicle View



Figure A-15 Post-Test Overhead Bullet Vehicle View



Figure A-16 Pre-Test Target Vehicle Front View

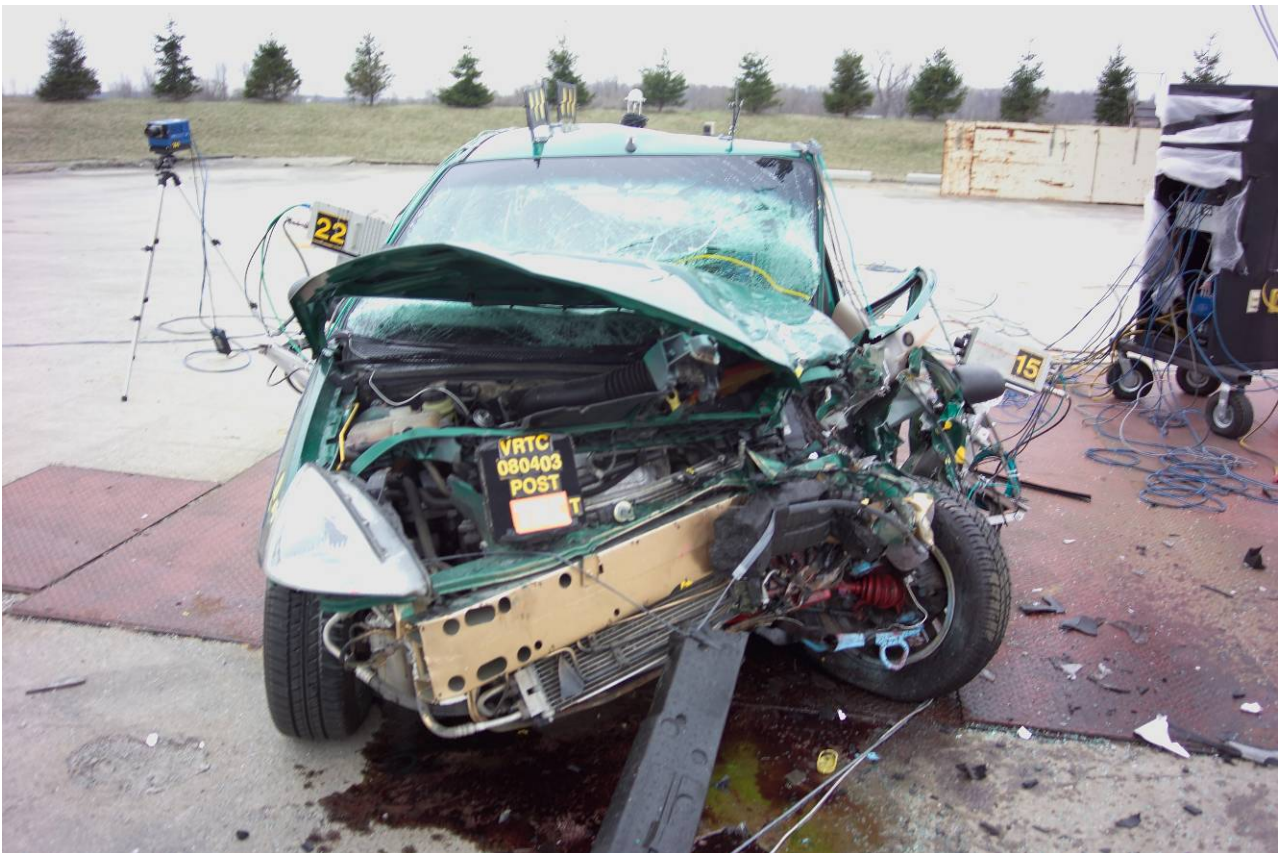


Figure A-17 Post-Test Target Vehicle Front View



Figure A-18 Pre-Test Target Vehicle Left Front View



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



Figure A-20 Pre-Test Target Vehicle Left Side View



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



Figure A-22 Pre-Test Target Vehicle Left Rear View



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

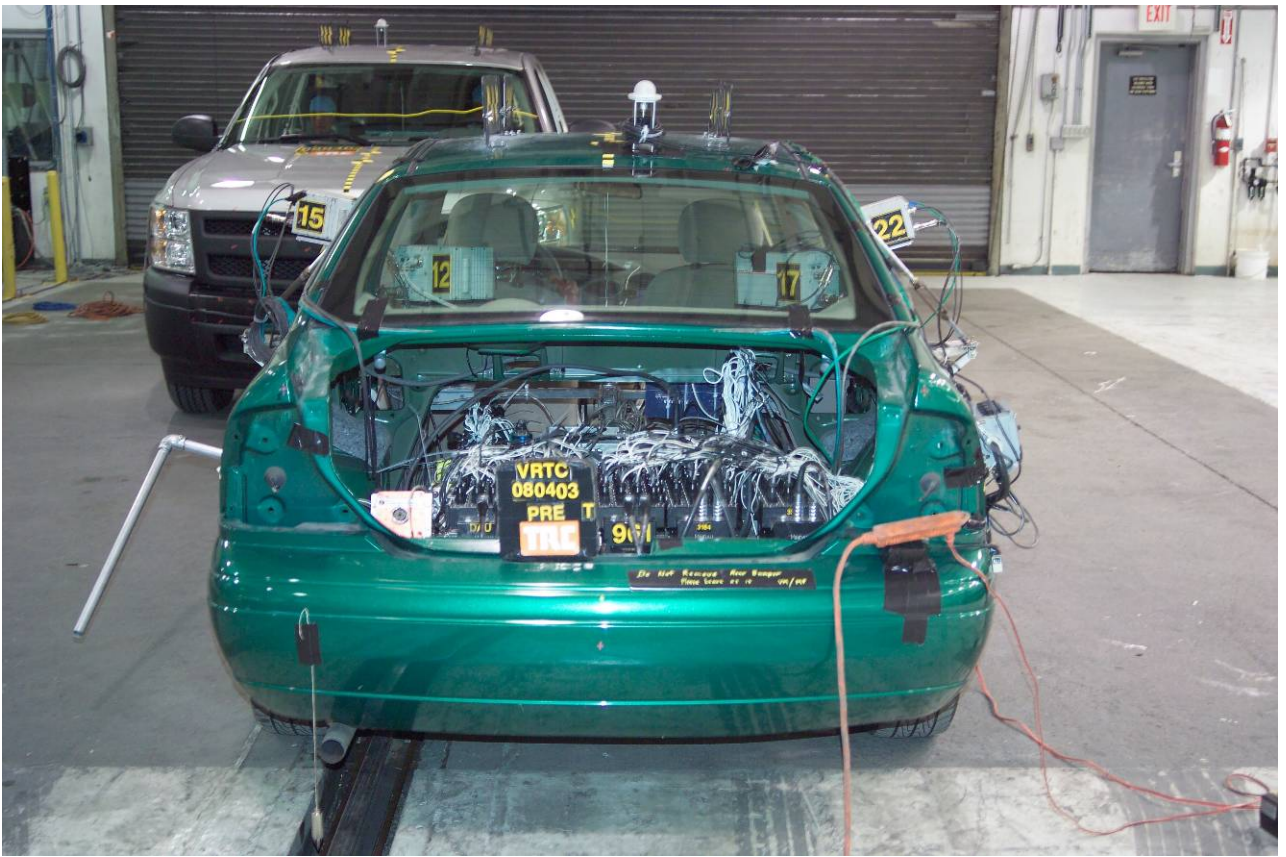


Figure A-24 Pre-Test Target Vehicle Rear View



Figure A-25 Post-Test Target Vehicle Rear View

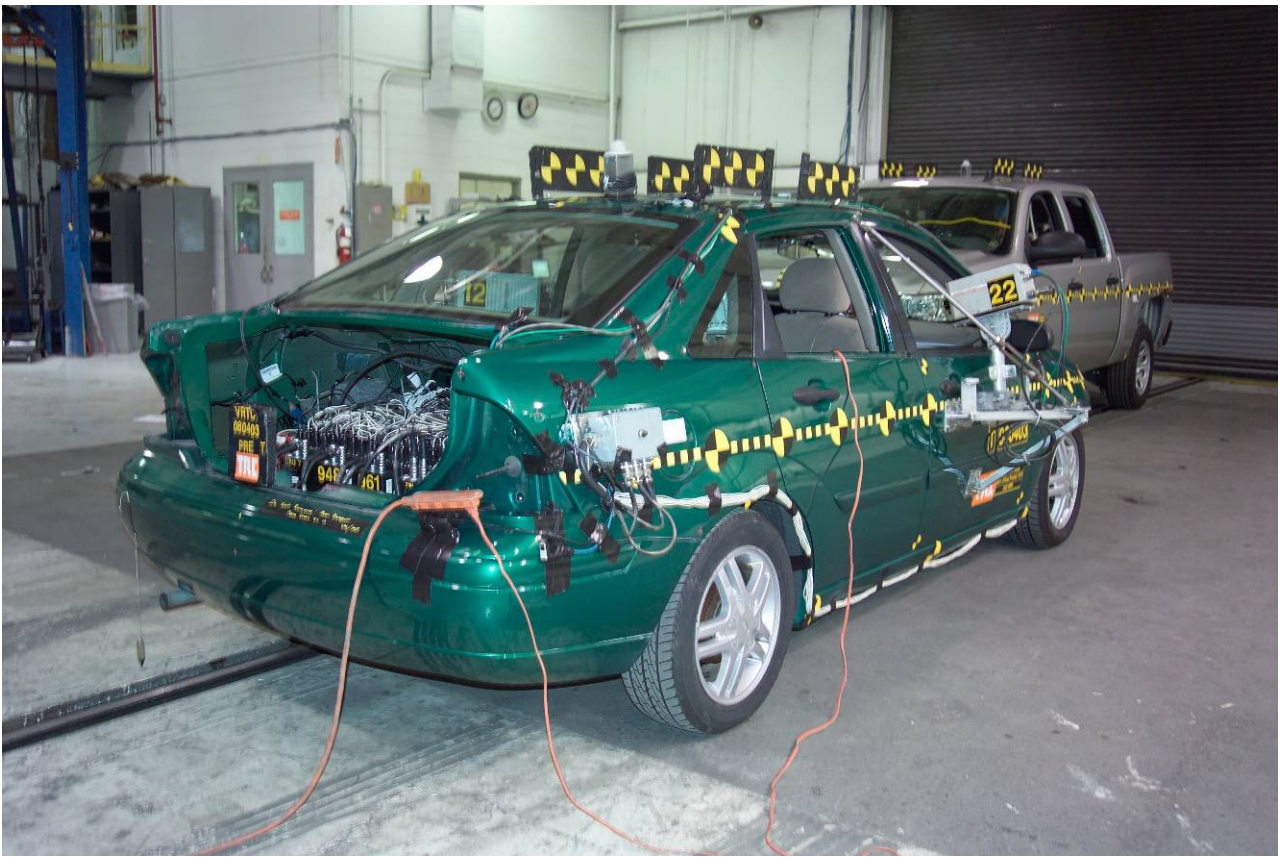


Figure A-26 Pre-Test Target Vehicle Right Rear View



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



Figure A-28 Pre-Test Target Vehicle Right Side View



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



Figure A-30 Pre-Test Target Vehicle Right Front View



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



Figure A-32 Pre-Test Target Vehicle Engine Compartment View

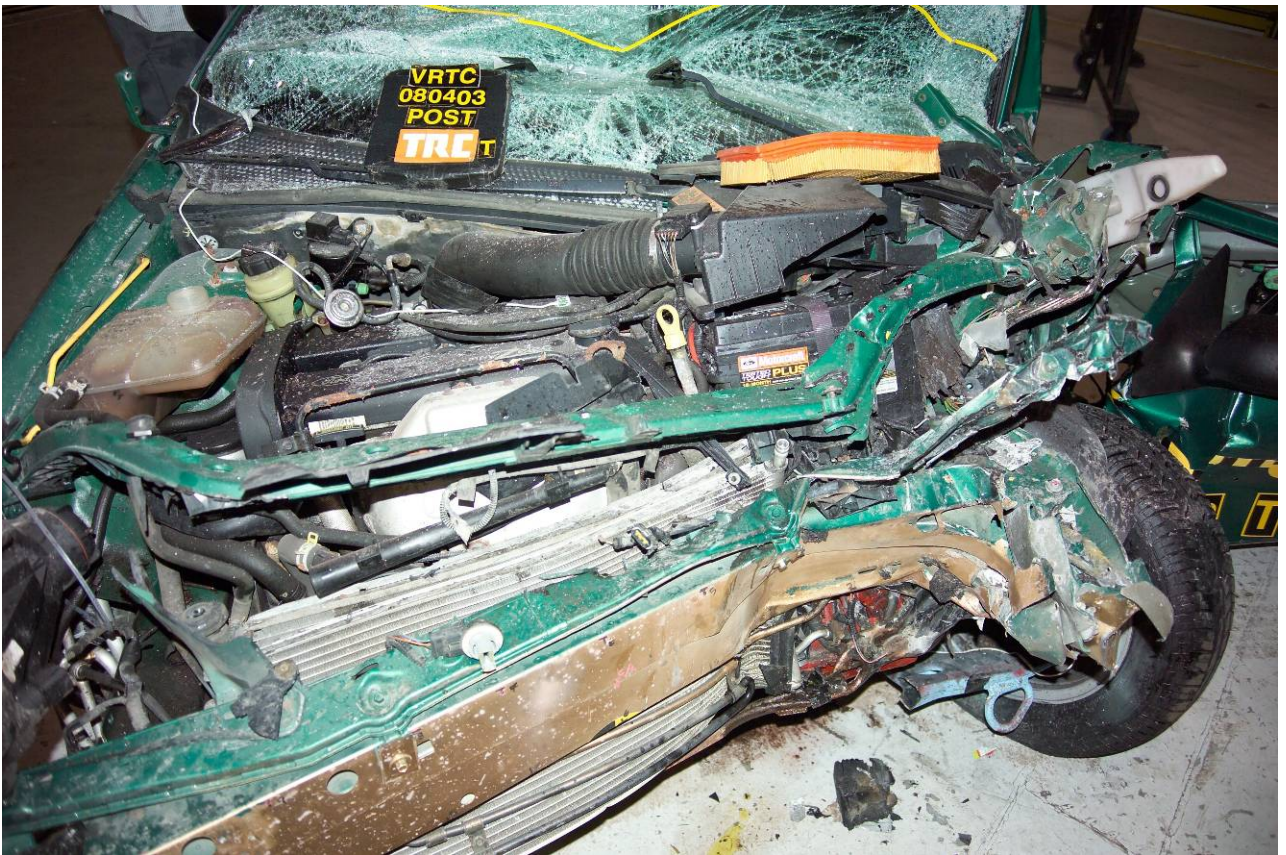


Figure A-33 Post-Test Target Vehicle Engine Compartment View



Figure A-34 Pre-Test Target Vehicle Front Underbody View

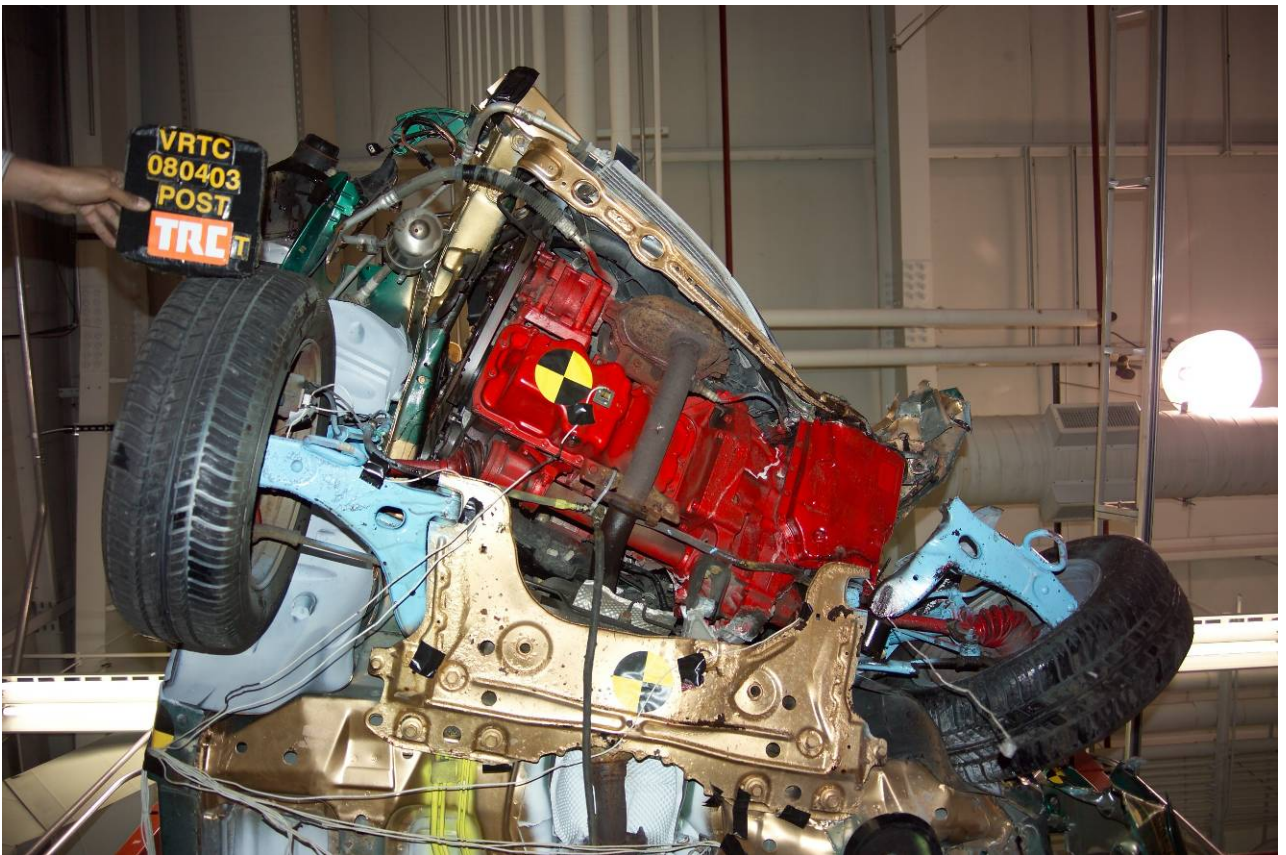


Figure A-35 Post-Test Target Vehicle Front Underbody View

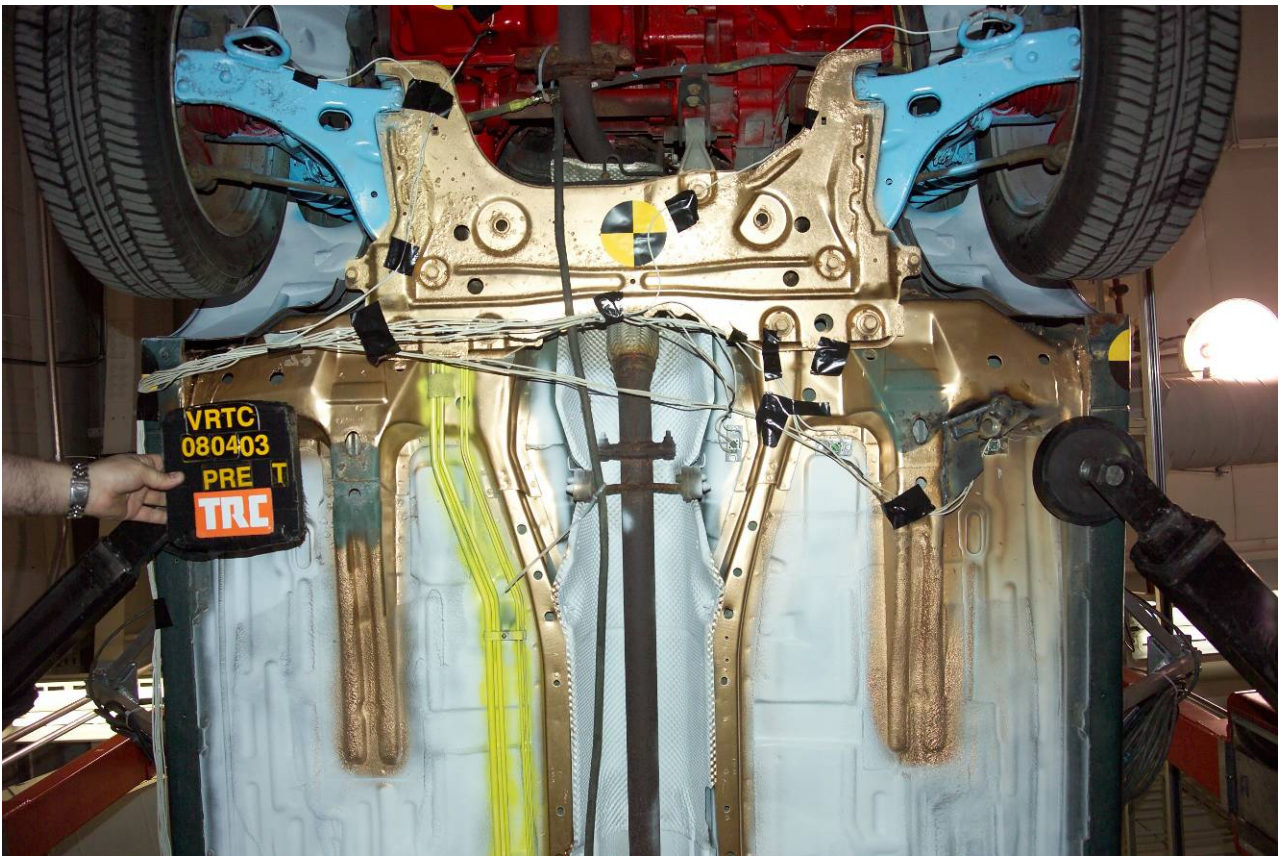


Figure A-36 Pre-Test Target Vehicle Mid Front Underbody View

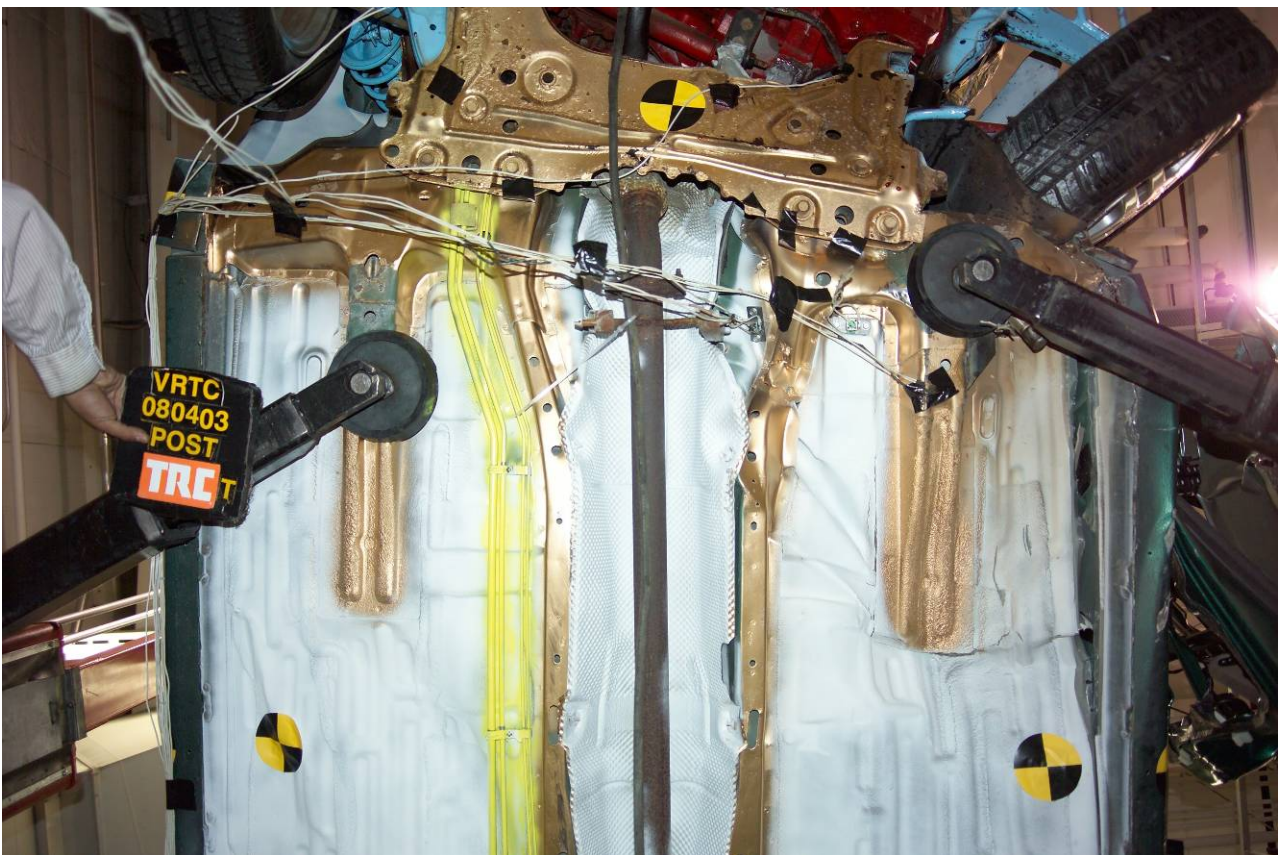


Figure A-37 Post-Test Target Vehicle Mid Front Underbody View

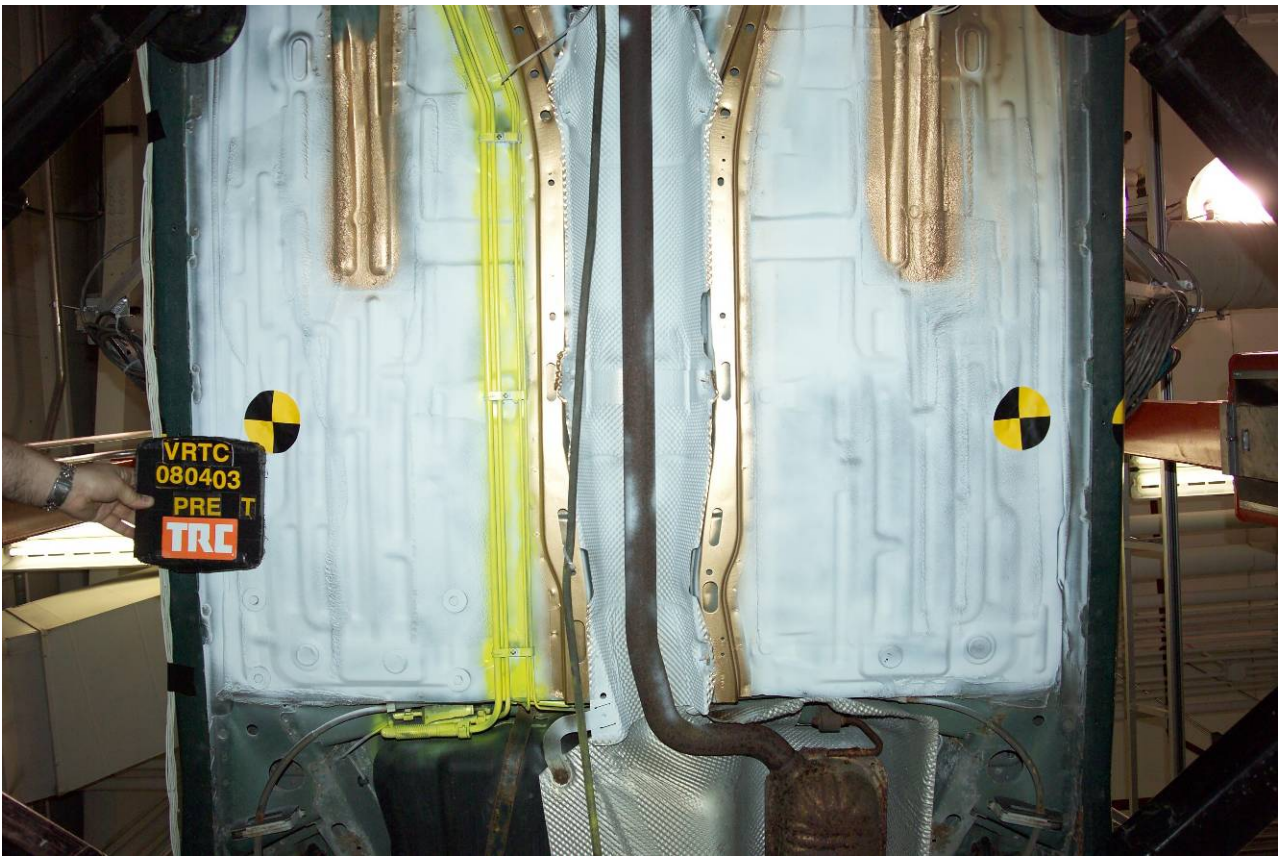


Figure A-38 Pre-Test Target Vehicle Mid Underbody View



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

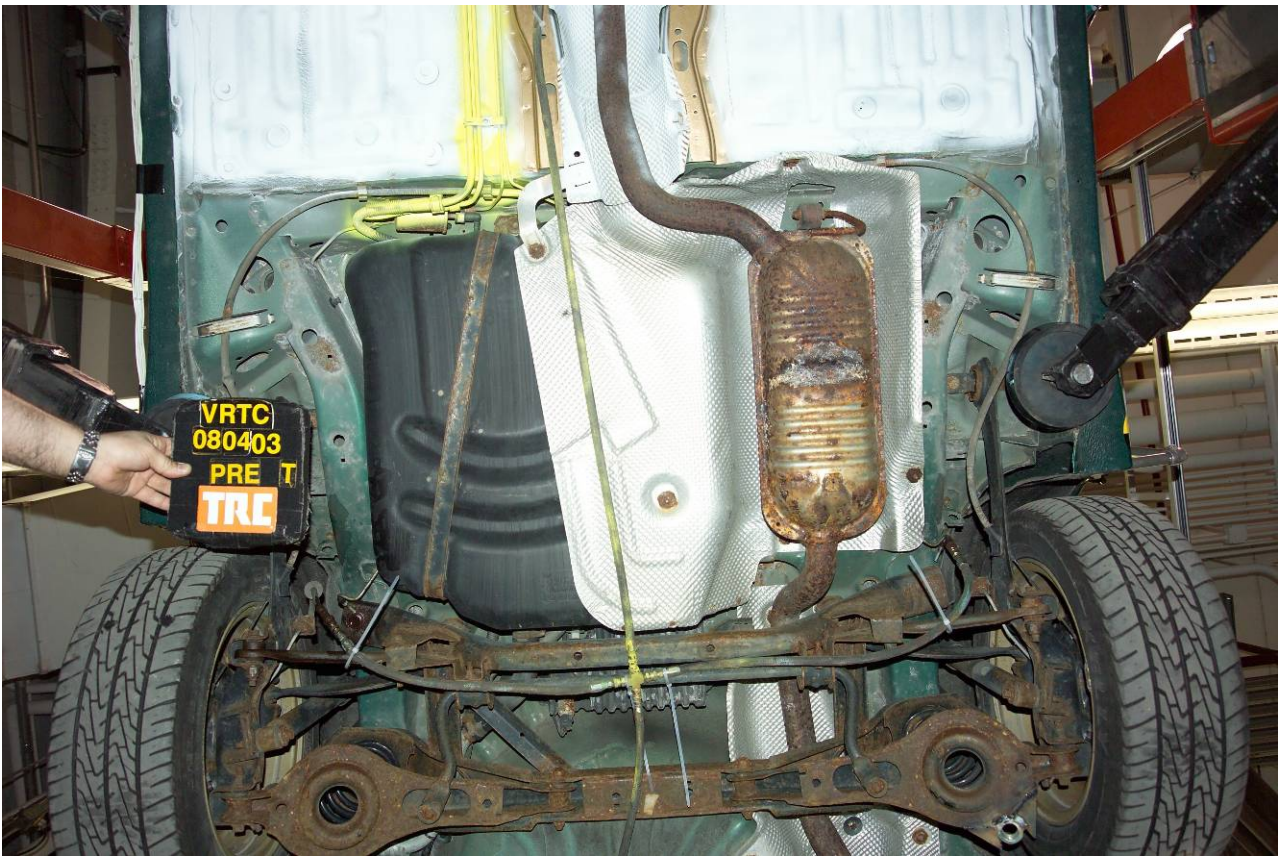


Figure A-40 Pre-Test Target Vehicle Mid Rear Underbody View

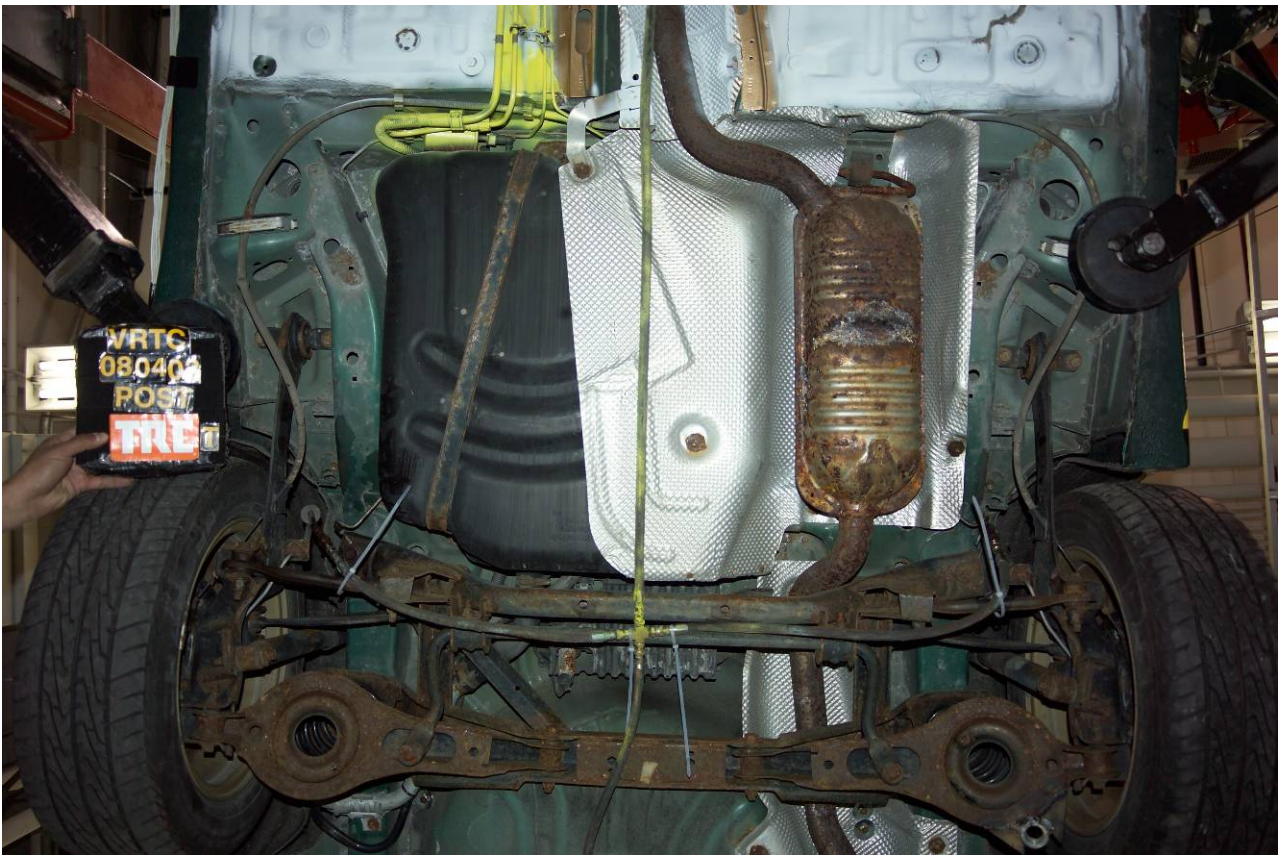


Figure A-41 Post-Test Target Vehicle Mid Rear Underbody View

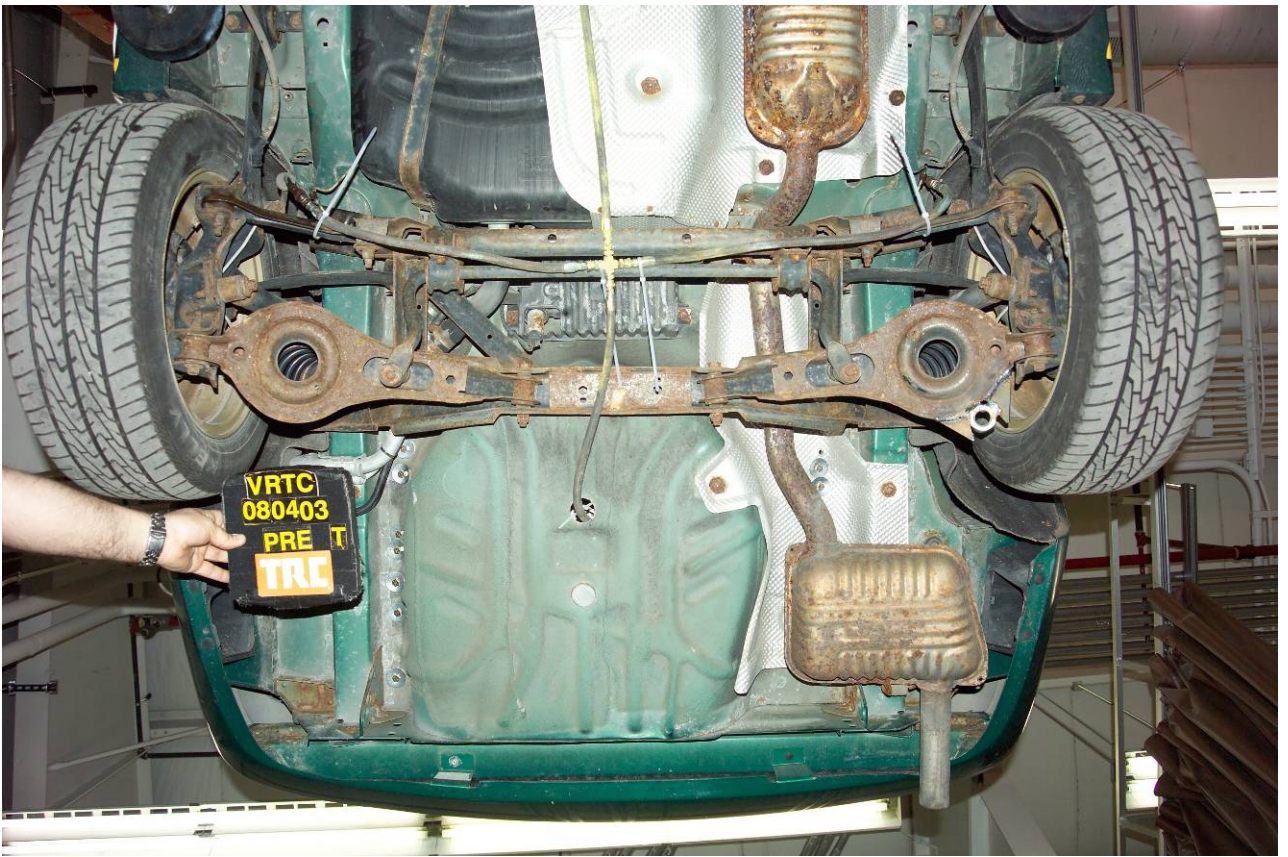


Figure A-42 Pre-Test Target Vehicle Rear Underbody View

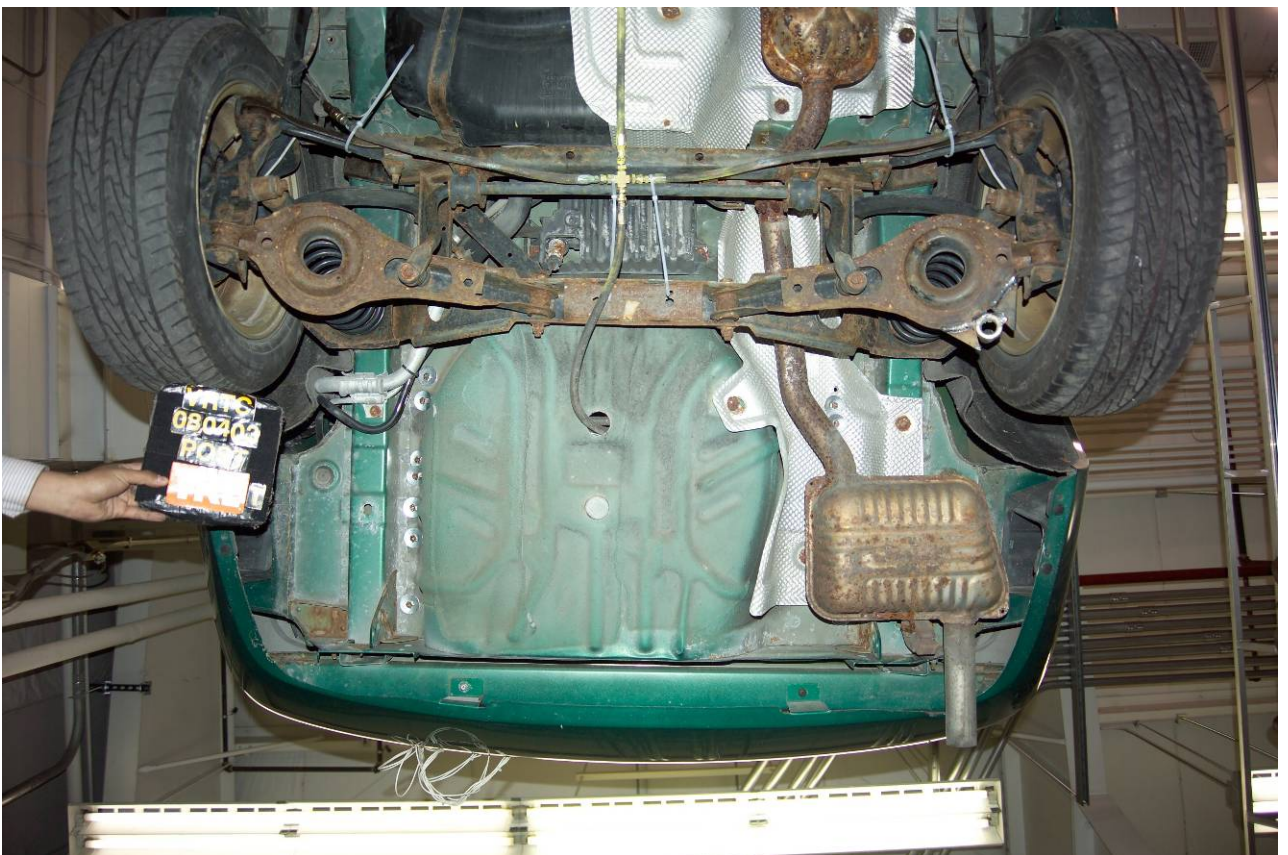


Figure A-43 Post-Test Target Vehicle Rear Underbody View



Figure A-44 Pre-Test Bullet Vehicle Front View



Figure A-45 Post-Test Bullet Vehicle Front View



Figure A-46 Pre-Test Bullet Vehicle Left Front View

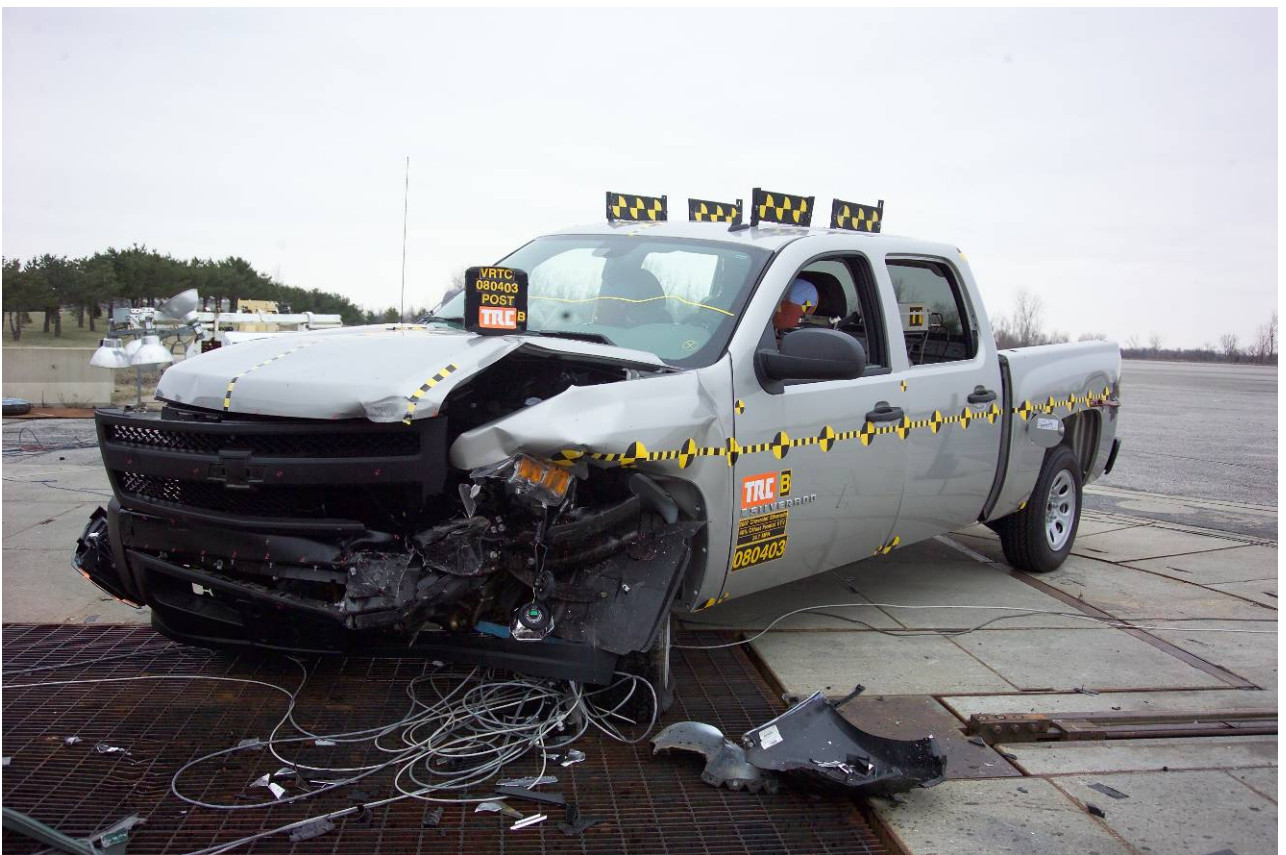


Figure A-47 Post-Test Bullet Vehicle Left Front View



Figure A-48 Pre-Test Bullet Vehicle Left Side View



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



Figure A-50 Pre-Test Bullet Vehicle Left Rear View



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



Figure A-52 Pre-Test Bullet Vehicle Rear View



Figure A-53 Post-Test Bullet Vehicle Rear View



Figure A-54 Pre-Test Bullet Vehicle Right Rear View



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



Figure A-56 Pre-Test Bullet Vehicle Right Side View



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



Figure A-58 Pre-Test Bullet Vehicle Right Front View



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



Figure A-60 Pre-Test Bullet Vehicle Engine Compartment View



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

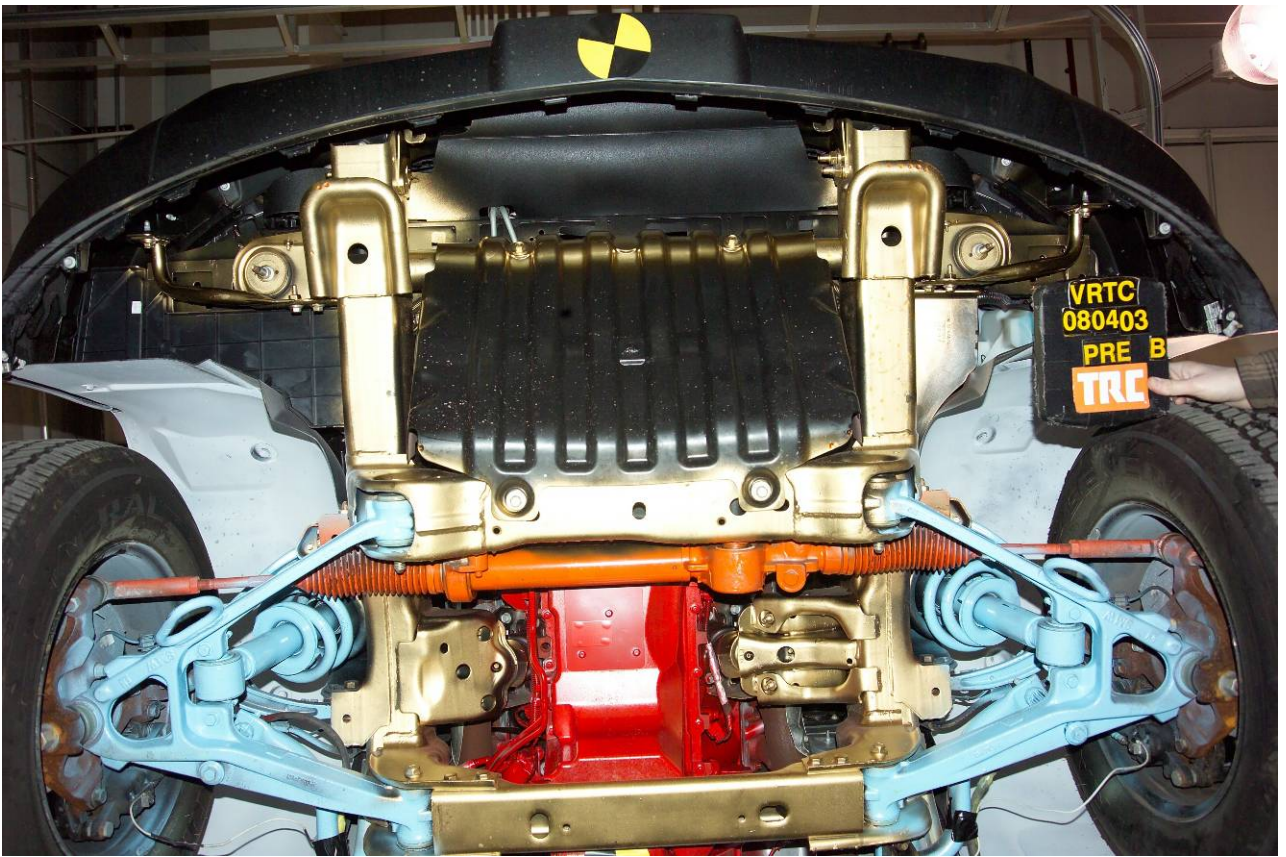


Figure A-62 Pre-Test Bullet Vehicle Front Underbody View

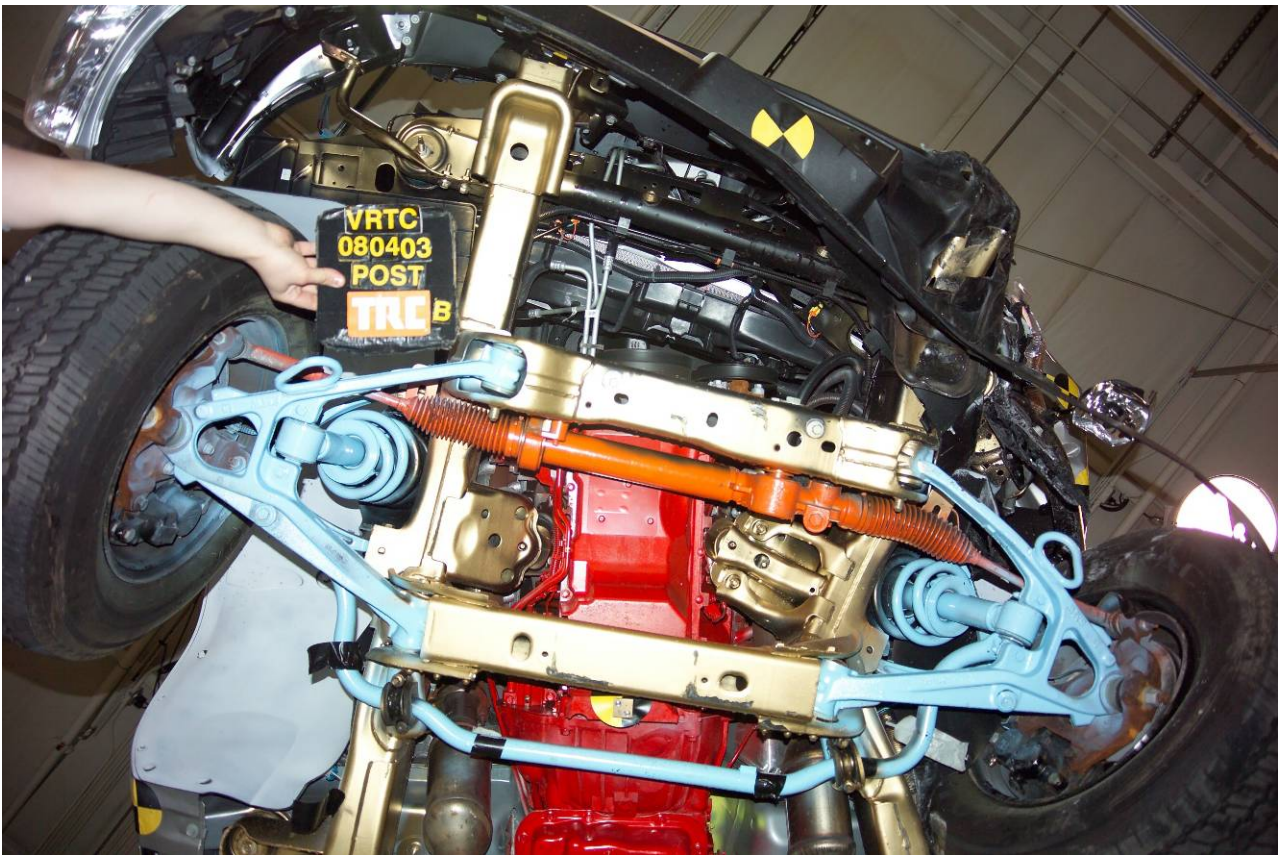


Figure A-63 Post-Test Bullet Vehicle Front Underbody View

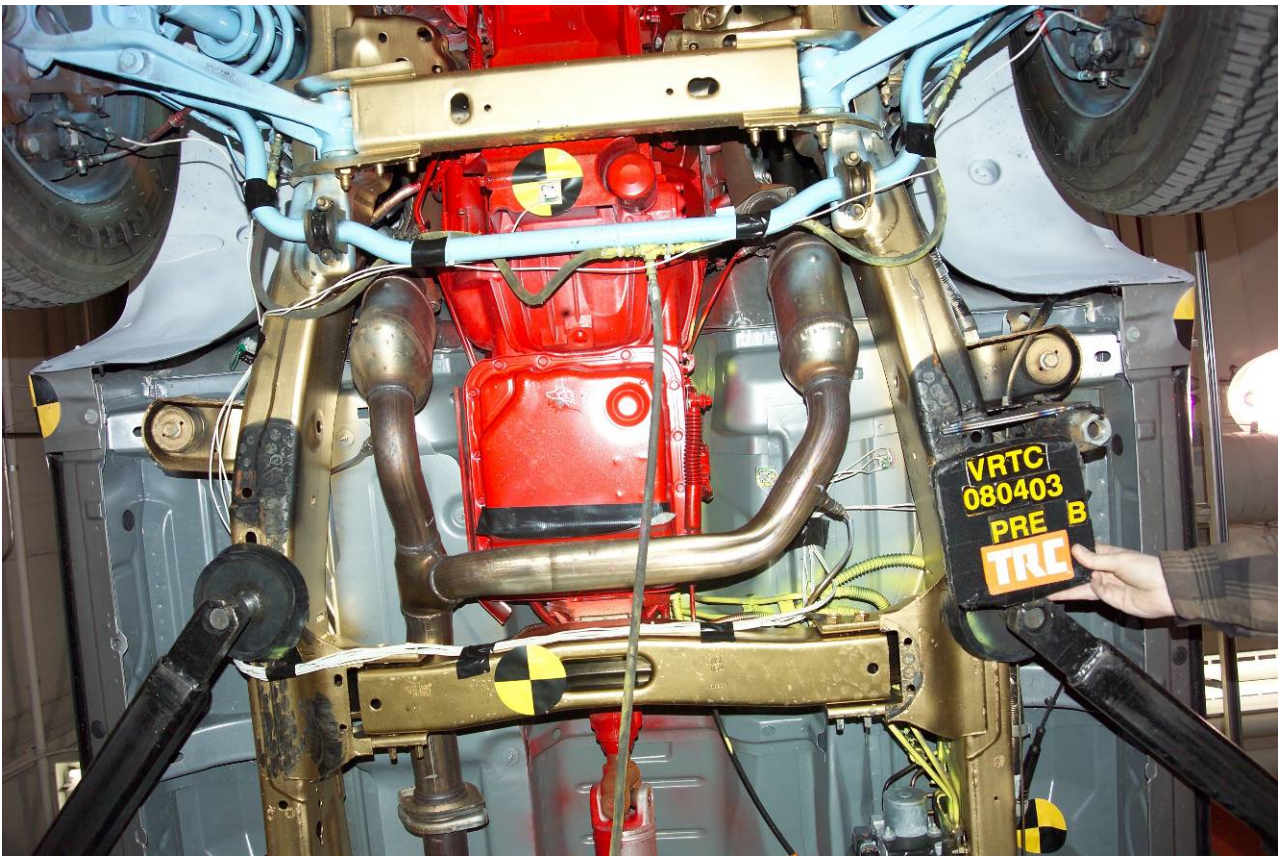


Figure A-64 Pre-Test Bullet Vehicle Mid Front Underbody View



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



Figure A-66 Pre-Test Bullet Vehicle Mid Underbody View

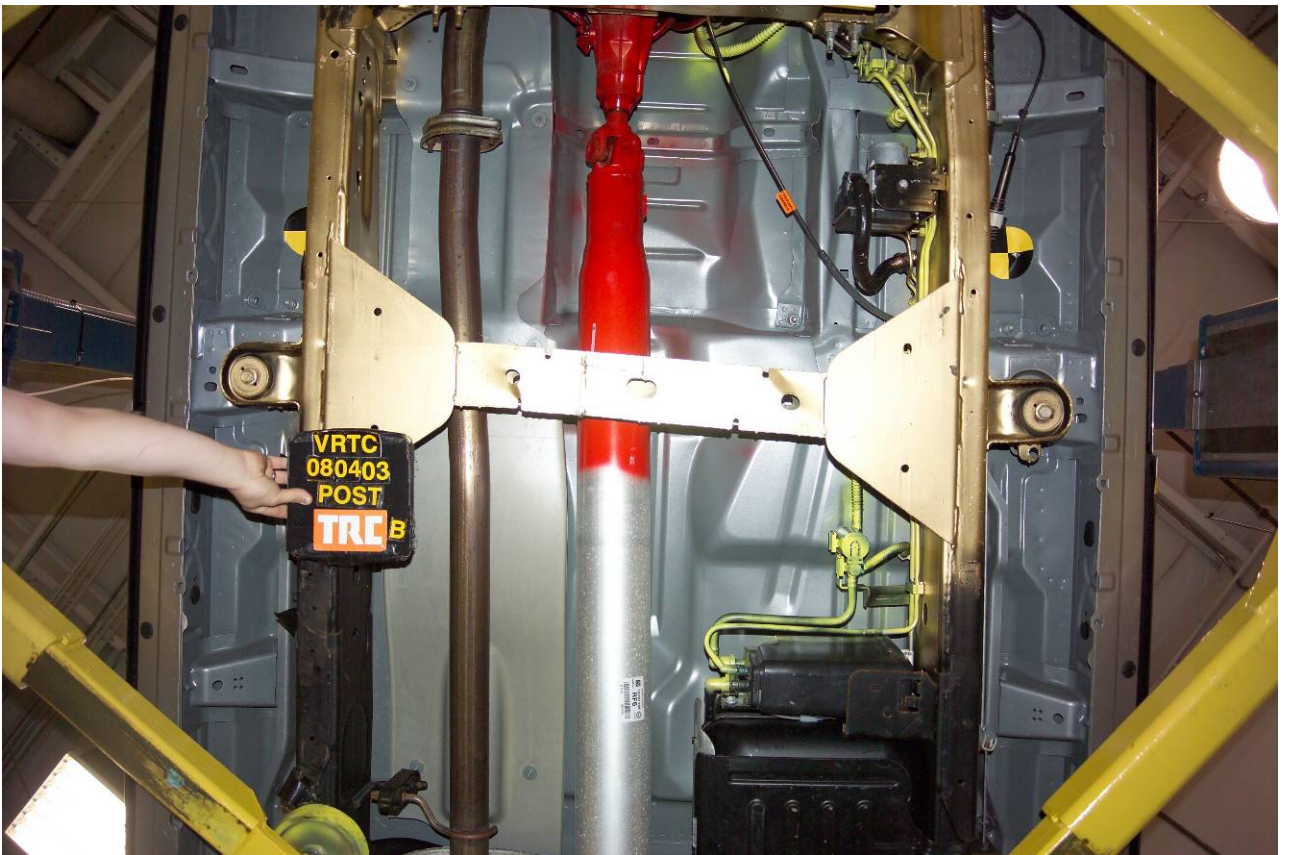


Figure A-67 Post-Test Bullet Vehicle Mid Underbody View

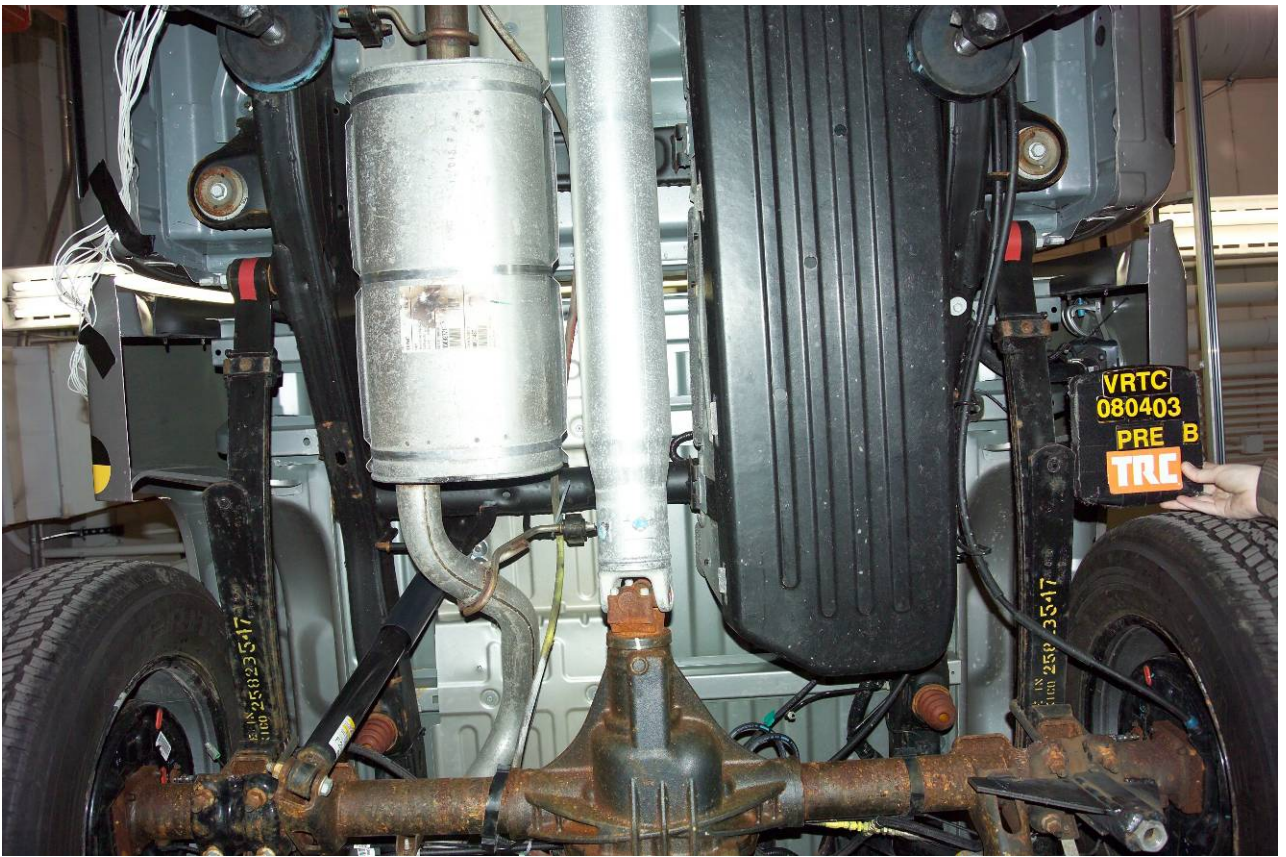


Figure A-68 Pre-Test Bullet Vehicle Mid Rear Underbody View

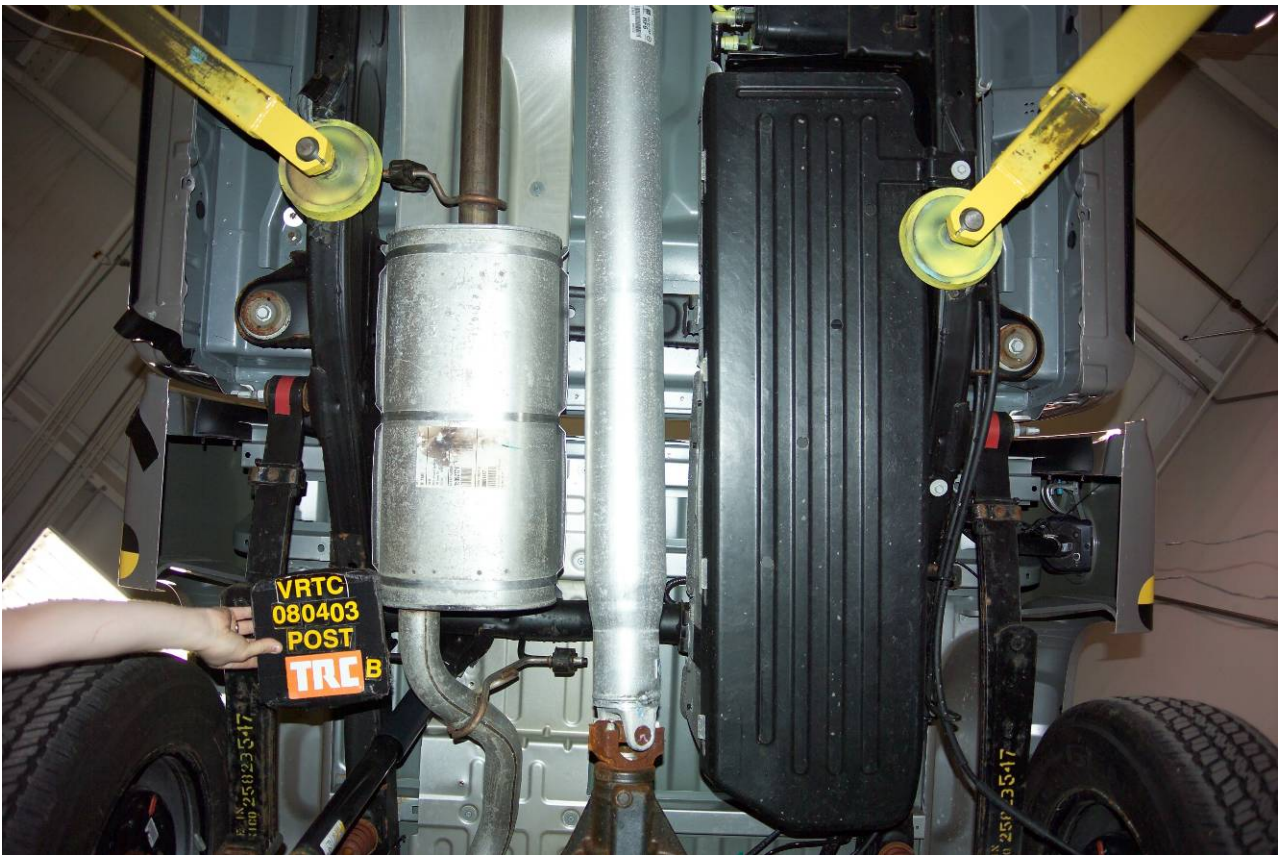


Figure A-69 Post-Test Bullet Vehicle Mid Rear Underbody View

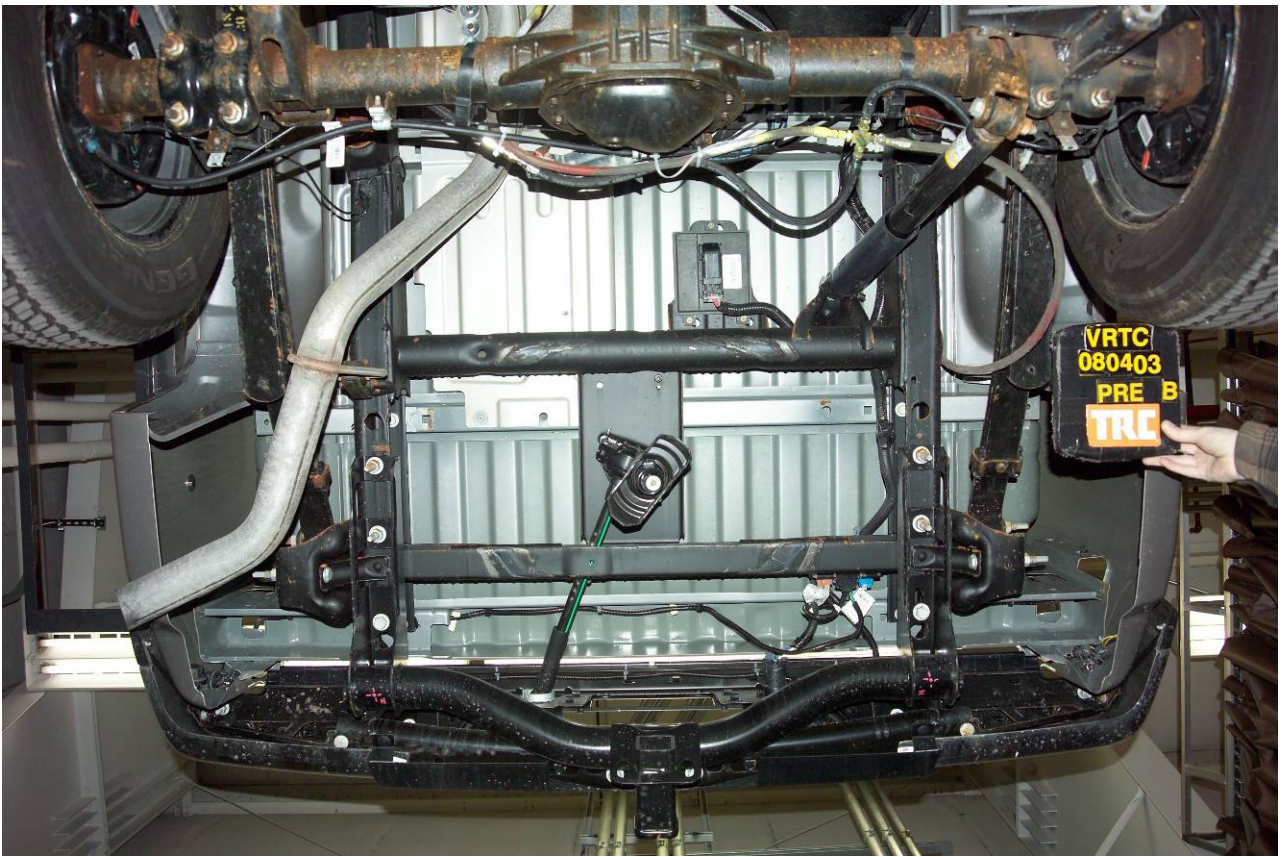


Figure A-70 Pre-Test Bullet Vehicle Rear Underbody View

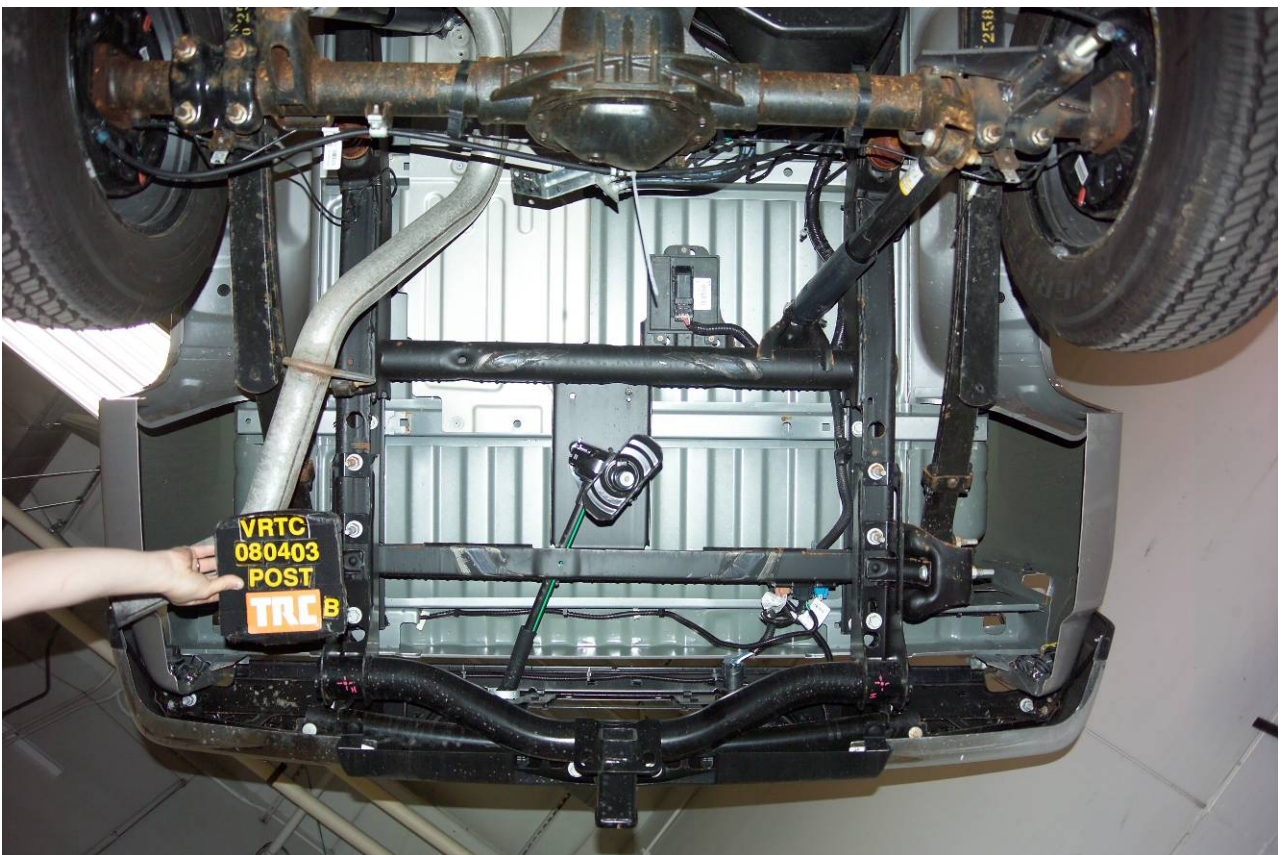


Figure A-71 Post-Test Bullet Vehicle Rear Underbody View

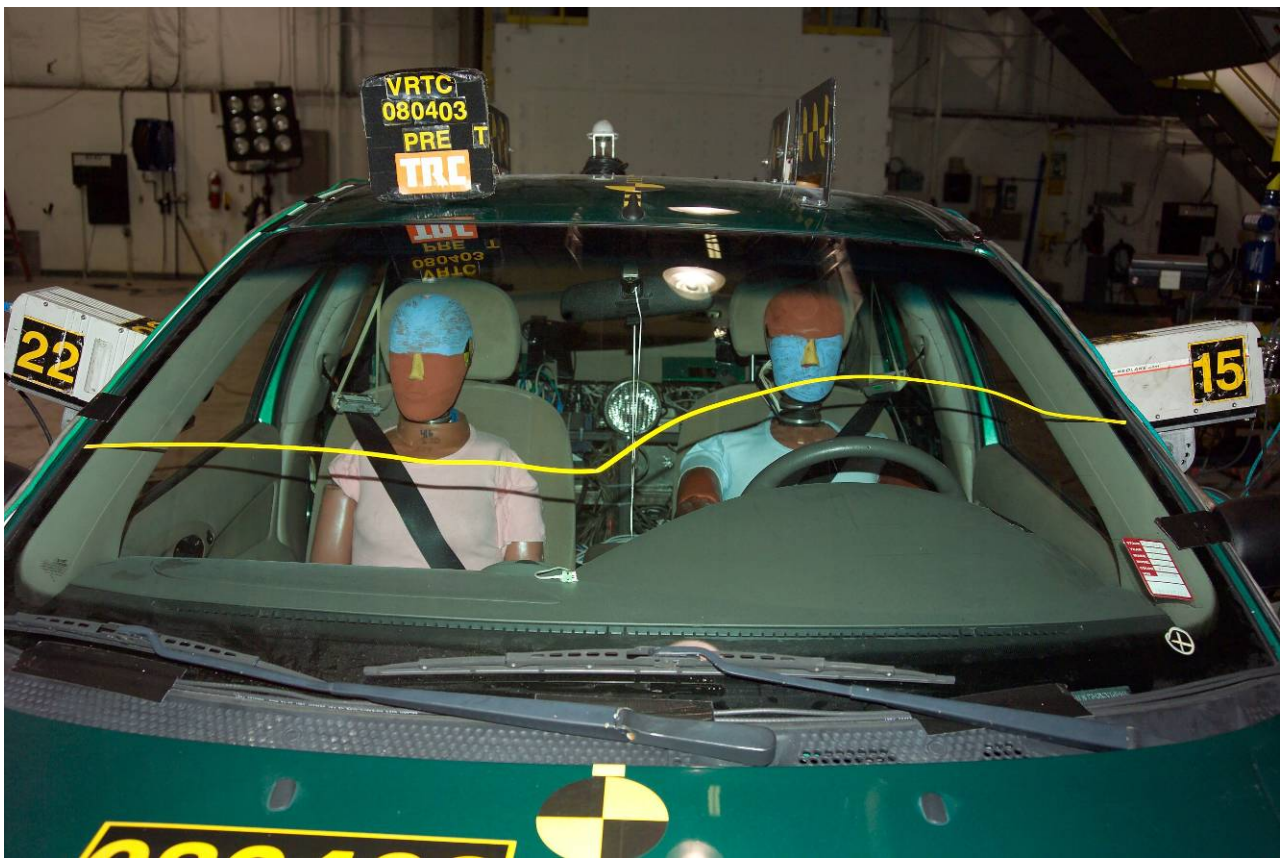


Figure A-72 Pre-Test Target Vehicle Windshield View



Figure A-73 Post-Test Target Vehicle Windshield View

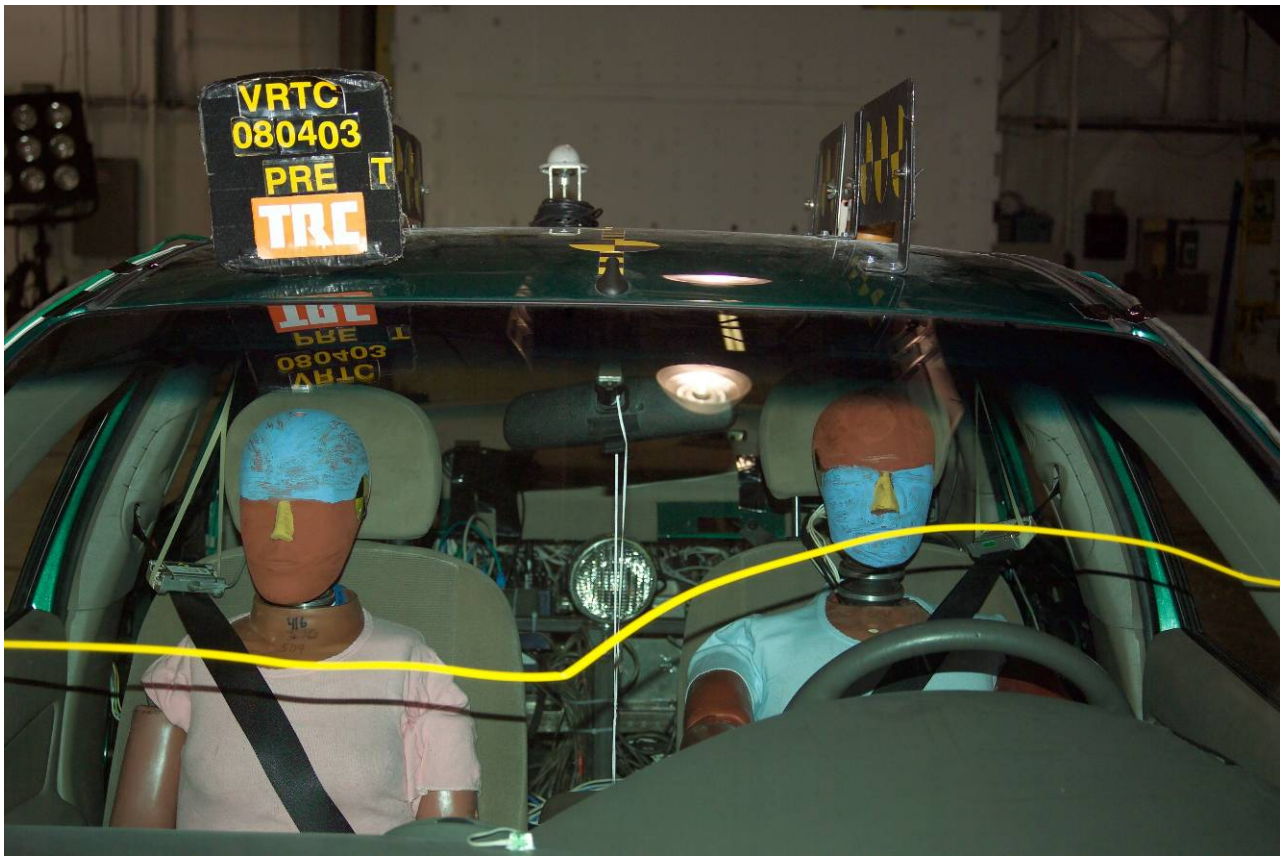


Figure A-74 Pre-Test Target Vehicle Driver and Passenger Dummies through Windshield View



Figure A-75 Post-Test Target Vehicle Driver and Passenger Dummies through Windshield View

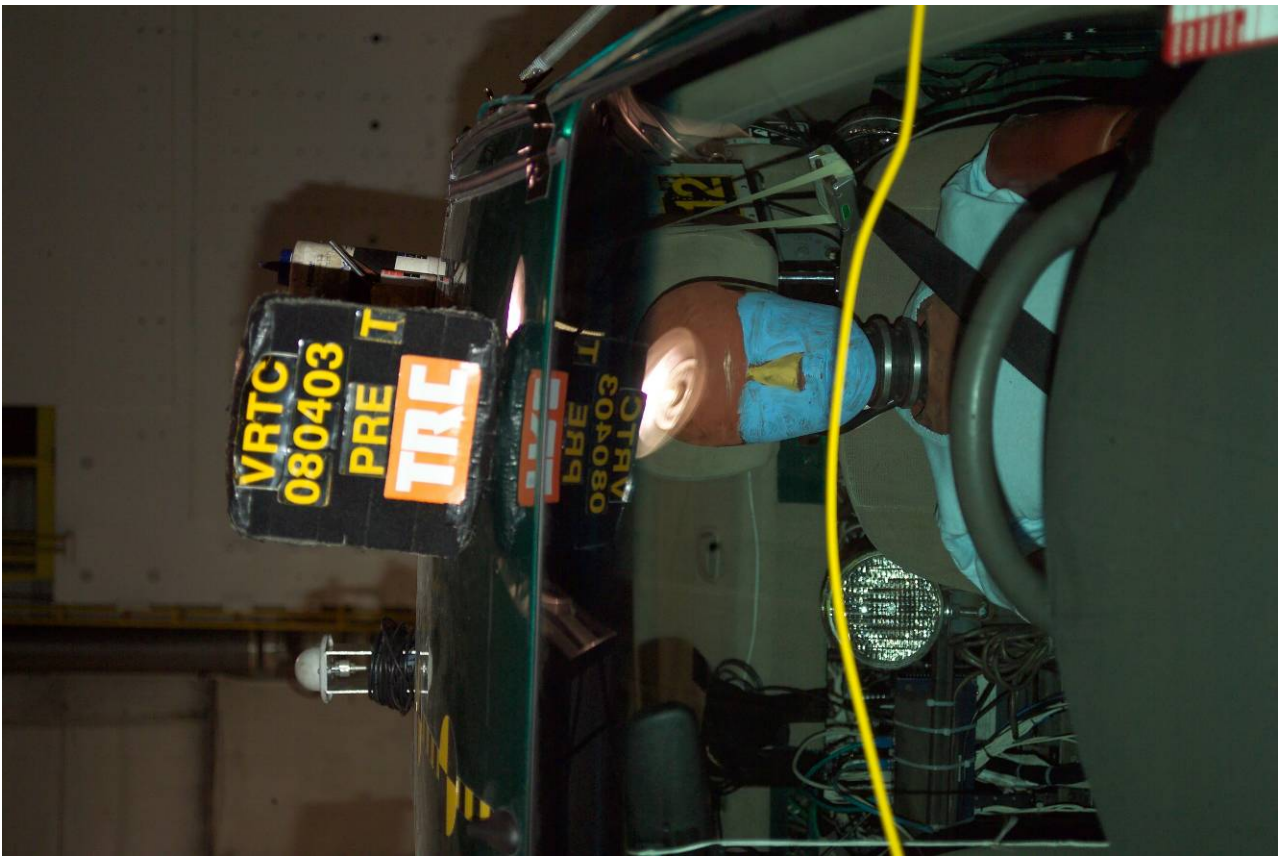


Figure A-76 Pre-Test Target Vehicle Driver Dummy - View 1



Figure A-77 Post-Test Target Vehicle Driver Dummy - View 1

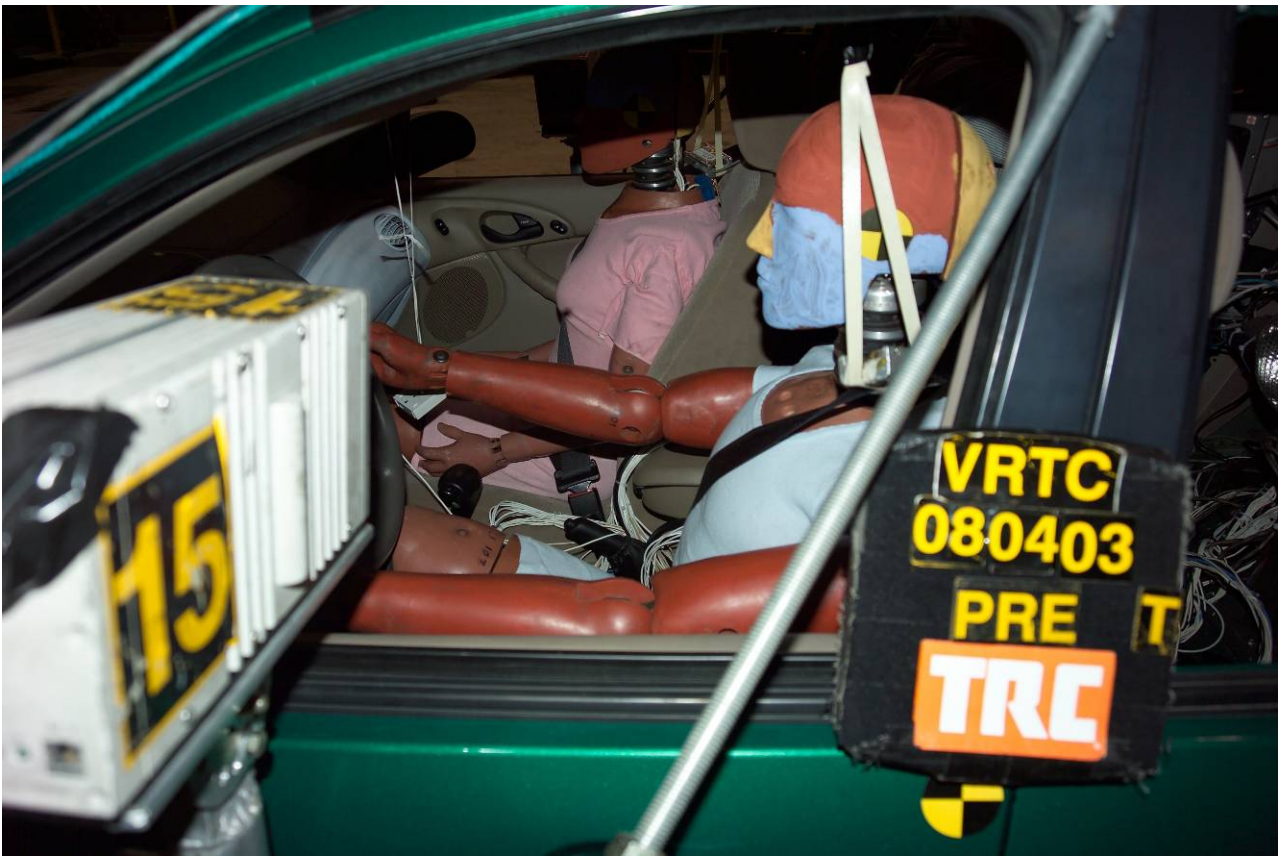


Figure A-78 Pre-Test Target Vehicle Driver Dummy - View 2



Figure A-79 Post-Test Target Vehicle Driver Dummy - View 2



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



Figure A-81 Post-Test Target Vehicle Driver Dummy - View 3



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



Figure A-83 Post-Test Target Vehicle Driver Dummy - View 4



Figure A-84 Pre-Test Target Vehicle Driver Dummy Foot Position View

Intentionally Left Blank

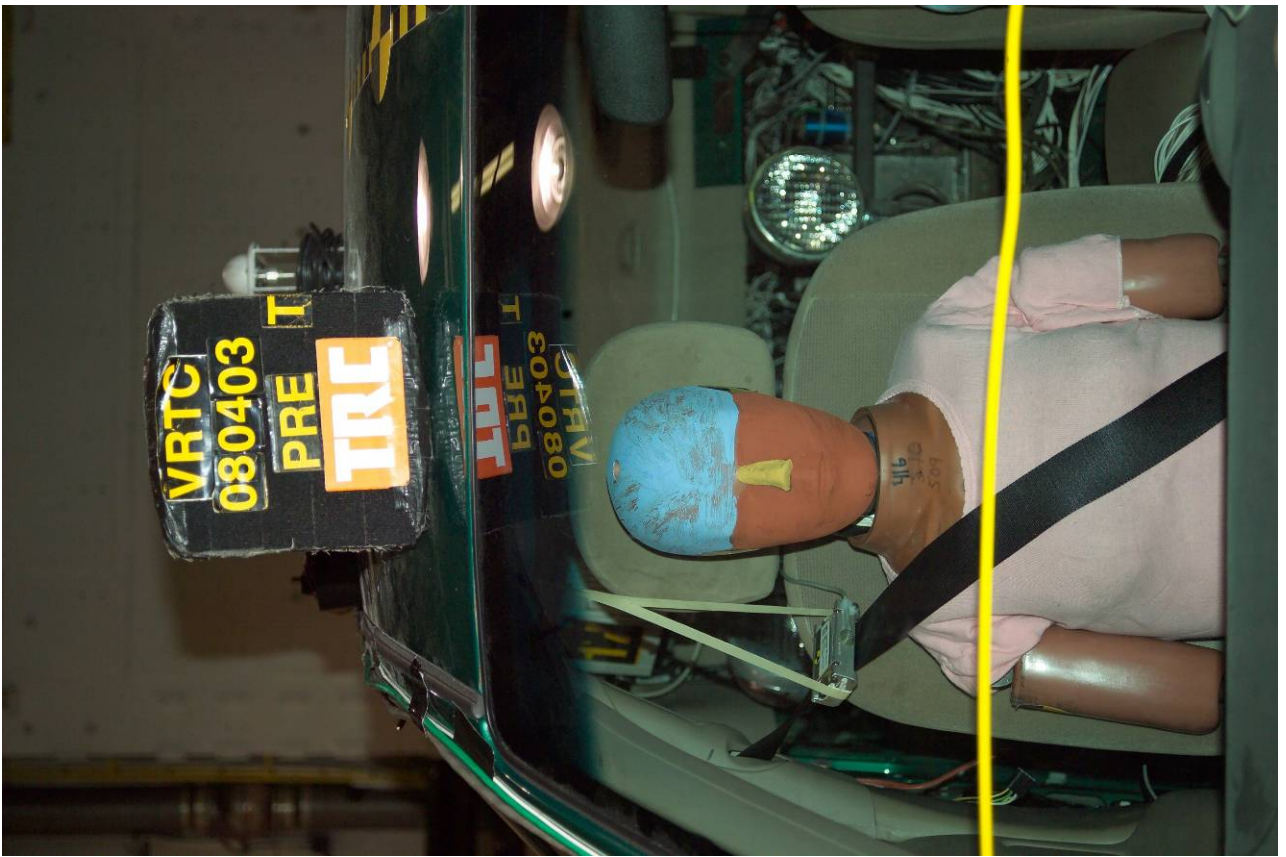


Figure A-85 Pre-Test Target Vehicle Passenger Dummy - View 1



Figure A-86 Post-Test Target Vehicle Passenger Dummy - View 1



Figure A-87 Pre-Test Target Vehicle Passenger Dummy - View 2



Figure A-88 Post-Test Target Vehicle Passenger Dummy - View 2



Figure A-89 Pre-Test Target Vehicle Passenger Dummy - View 3



Figure A-90 Post-Test Target Vehicle Passenger Dummy - View 3



Figure A-91 Pre-Test Target Vehicle Passenger Dummy - View 4



Figure A-92 Post-Test Target Vehicle Passenger Dummy - View 4



Figure A-93 Pre-Test Bullet Vehicle Windshield View



Figure A-94 Post-Test Bullet Vehicle Windshield View

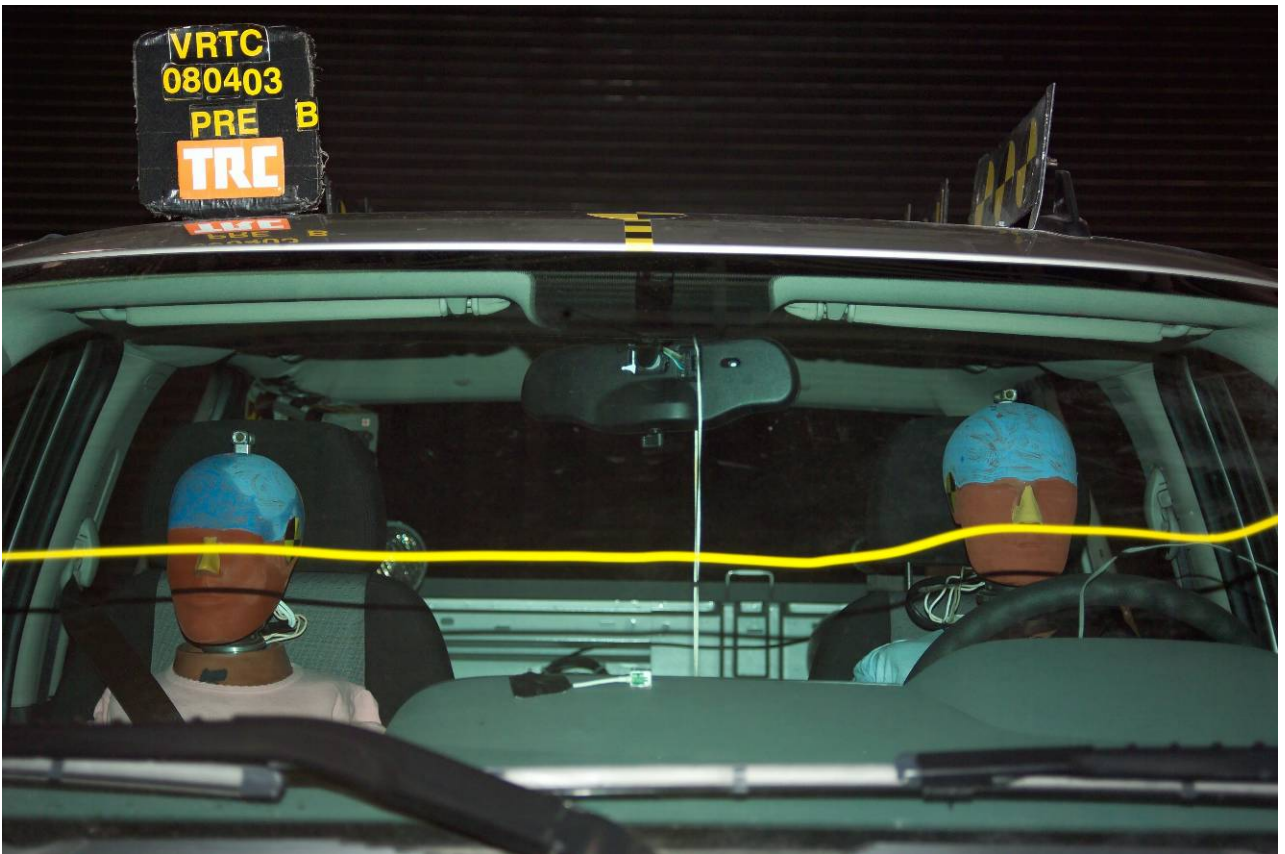


Figure A-95 Pre-Test Bullet Vehicle Driver and Passenger Dummies through Windshield View



Figure A-96 Post-Test Bullet Vehicle Driver and Passenger Dummies through Windshield View

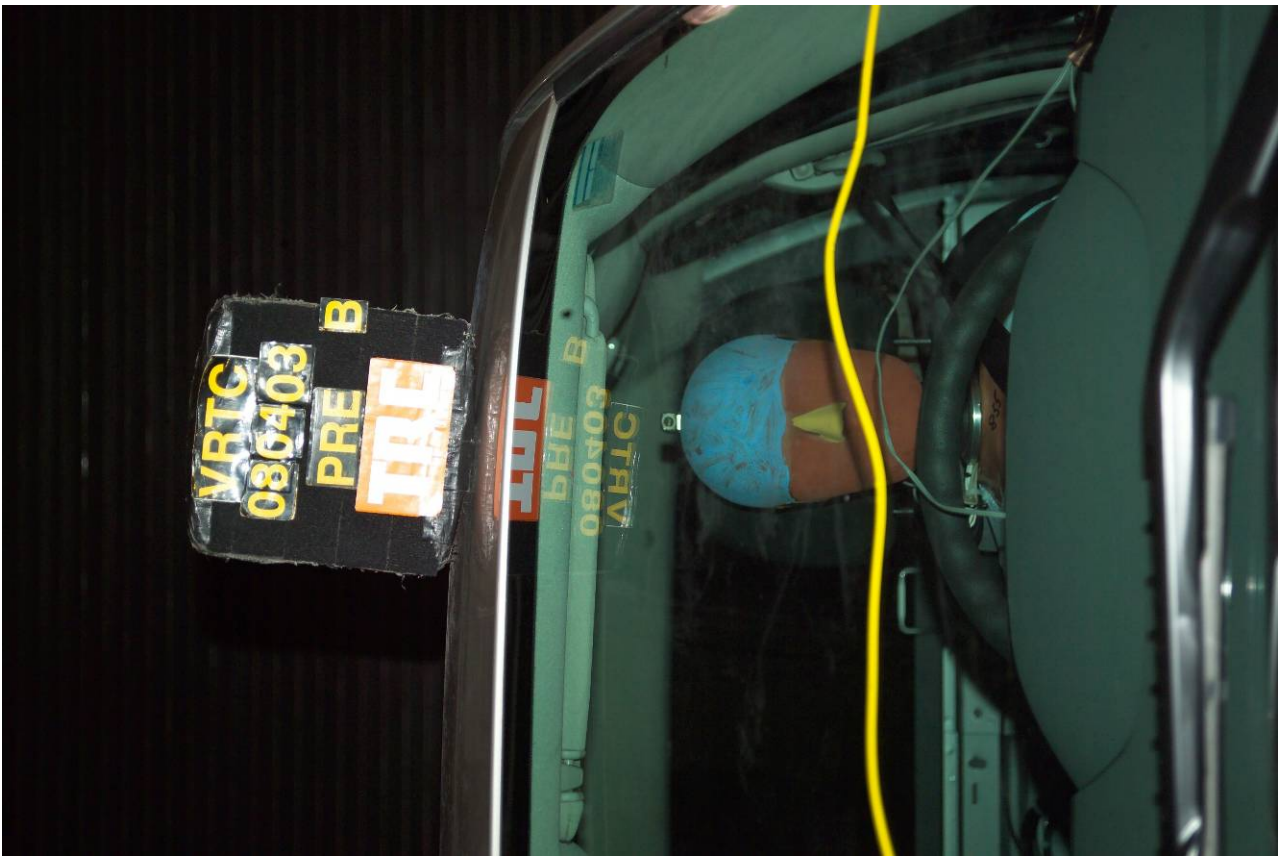


Figure A-97 Pre-Test Bullet Vehicle Driver Dummy - View 1



Figure A-98 Post-Test Bullet Vehicle Driver Dummy - View 1



Figure A-99 Pre-Test Bullet Vehicle Driver Dummy - View 2



Figure A-100 Post-Test Bullet Vehicle Driver Dummy - View 2



Figure A-101 Pre-Test Bullet Vehicle Driver Dummy - View 3



Figure A-102 Post-Test Bullet Vehicle Driver Dummy - View 3



Figure A-103 Pre-Test Bullet Vehicle Driver Dummy - View 4



Figure A-104 Post-Test Bullet Vehicle Driver Dummy - View 4

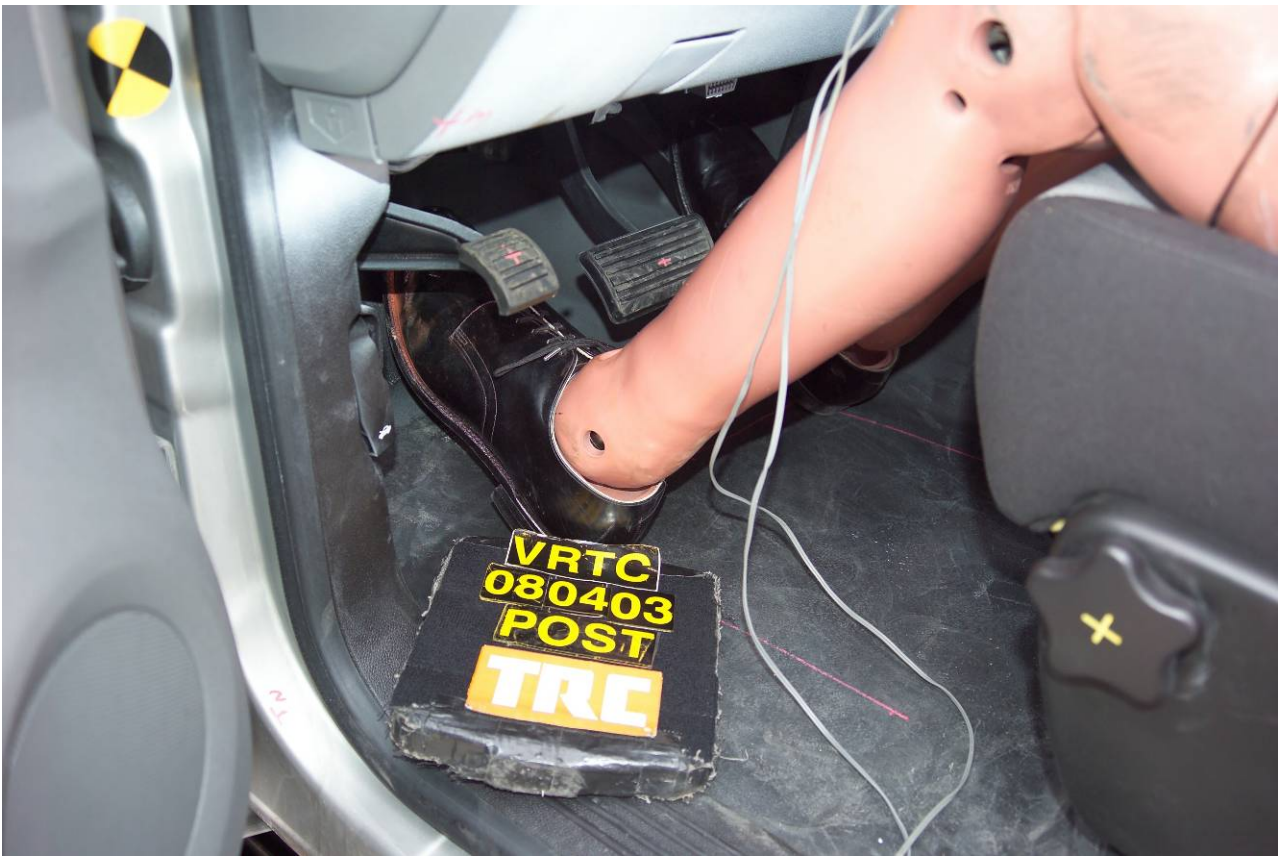


Figure A-105 Post-Test Bullet Vehicle Driver Dummy Foot Position View

Intentionally Left Blank

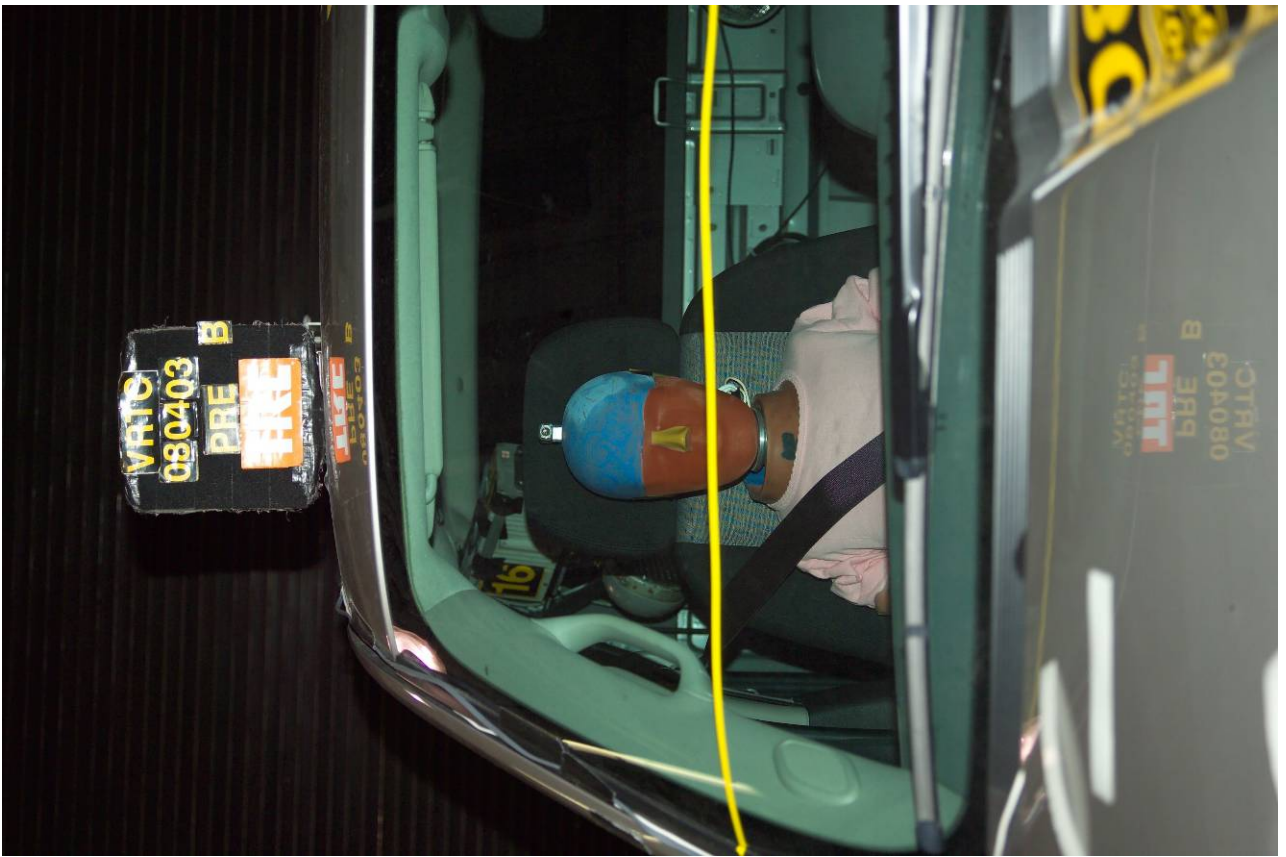


Figure A-106 Pre-Test Bullet Vehicle Passenger Dummy - View 1



Figure A-107 Post-Test Bullet Vehicle Passenger Dummy - View 1



Figure A-108 Pre-Test Bullet Vehicle Passenger Dummy - View 2



Figure A-109 Post-Test Bullet Vehicle Passenger Dummy - View 2



Figure A-110 Pre-Test Bullet Vehicle Passenger Dummy - View 3



Figure A-111 Post-Test Bullet Vehicle Passenger Dummy - View 3



Figure A-112 Pre-Test Bullet Vehicle Passenger Dummy - View 4



Figure A-113 Post-Test Bullet Vehicle Passenger Dummy - View 4



Figure A-114 Post-Test Target Vehicle Driver Dummy Overall Contact View



Figure A-115 Post-Test Target Vehicle Driver Dummy Head Contact - View 1



Figure A-116 Post-Test Target Vehicle Driver Dummy Head Contact - View 2



Figure A-117 Post-Test Target Vehicle Driver Dummy Head Contact - View 3



Figure A-118 Post-Test Target Vehicle Driver Dummy Knee Contact - View 1



Figure A-119 Post-Test Target Vehicle Driver Dummy Knee Contact - View 2



Figure A-120 Post-Test Target Vehicle Passenger Dummy Overall Contact View



Figure A-121 Post-Test Target Vehicle Passenger Dummy Head Contact - View 1



Figure A-122 Post-Test Target Vehicle Passenger Dummy Head Contact - View 2



Figure A-123 Post-Test Target Vehicle Passenger Dummy Knee Contact View



Figure A-124 Post-Test Target Vehicle Passenger Floorboard Deformation View



Figure A-125 Post-Test Target Vehicle Passenger Toeboard Deformation View

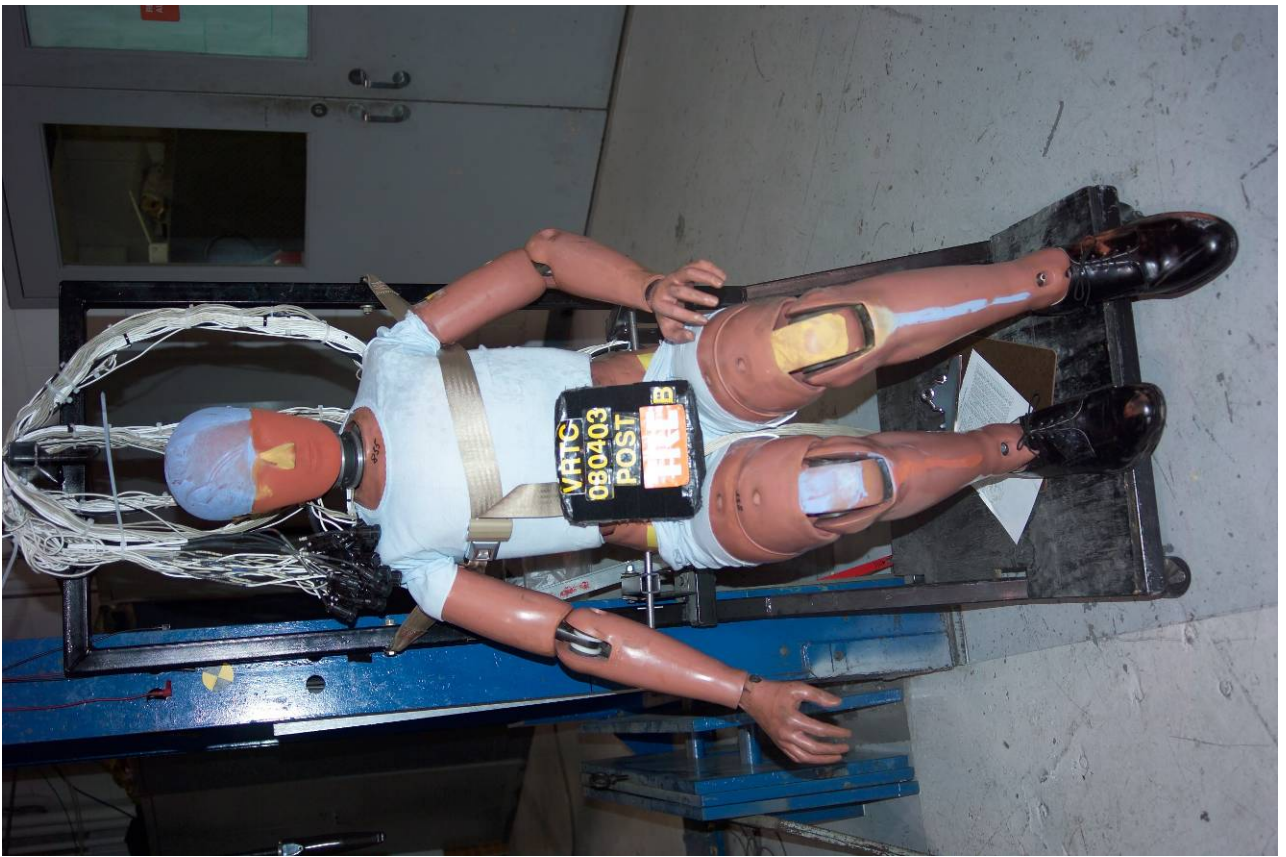


Figure A-126 Post-Test Bullet Vehicle Driver Dummy Overall Contact View



Figure A-127 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 1



Figure A-128 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 2



Figure A-129 Post-Test Bullet Vehicle Driver Dummy Knee Contact View



Figure A-130 Post-Test Bullet Vehicle Driver Floorboard Deformation View



Figure A-131 Post-Test Bullet Vehicle Driver Toeboard Deformation View



Figure A-132 Post-Test Bullet Vehicle Passenger Dummy Overall Contact View



Figure A-133 Post-Test Bullet Vehicle Passenger Dummy Head Contact - View 1



Figure A-134 Post-Test Bullet Vehicle Passenger Dummy Head Contact - View 2



Figure A-135 Post-Test Bullet Vehicle Passenger Dummy Knee Contact View



Figure A-136 Post-Test Bullet Vehicle Passenger Floorboard Deformation View



Figure A-137 Post-Test Bullet Vehicle Passenger Toeboard Deformation View



Figure A-138 Target Vehicle Certification and Recommended Tire Pressure Label View

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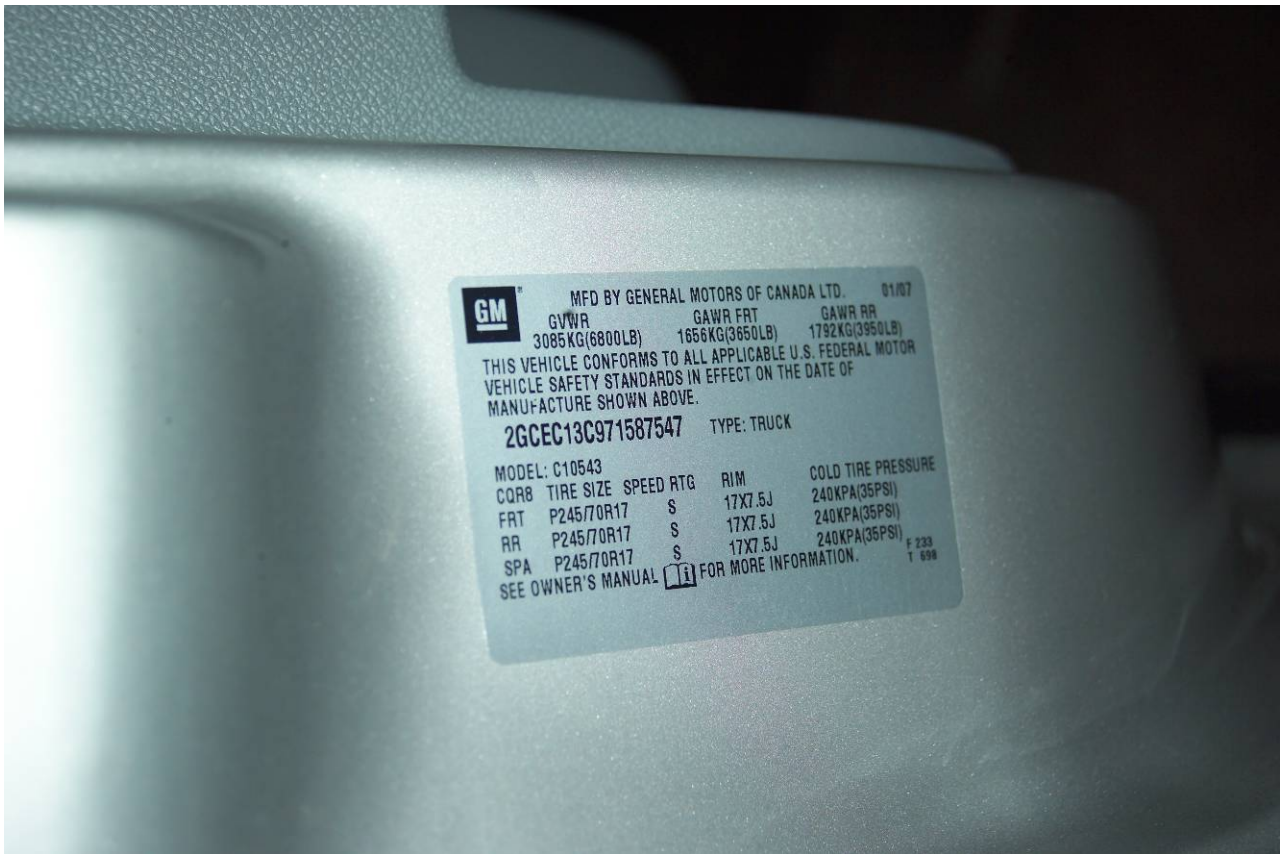


Figure A-139 Bullet Vehicle Certification Label View



Figure A-140 Bullet Vehicle Recommended Tire Pressure Label View



Figure A-141 Post-Test Target Vehicle Windshield Damage Front View

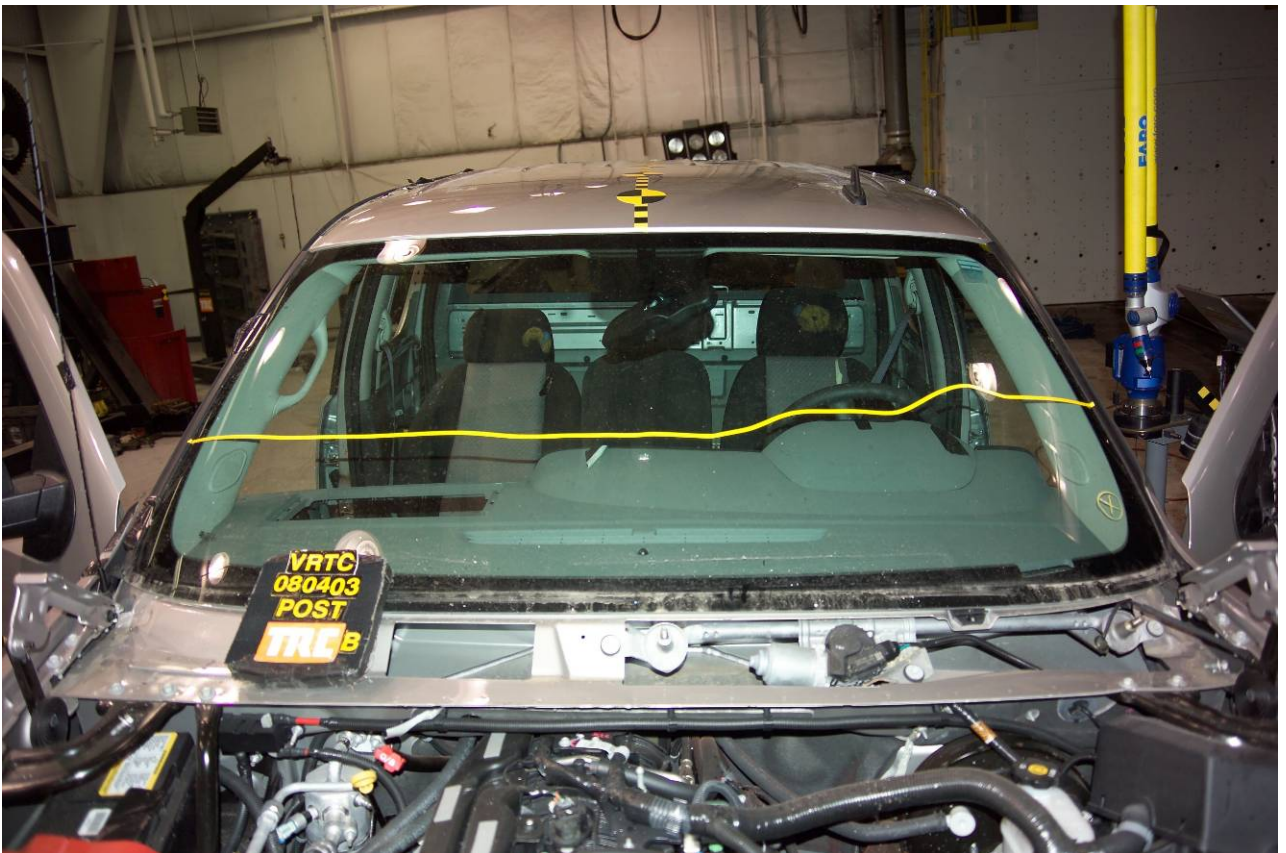


Figure A-142 Post-Test Bullet Vehicle Windshield Damage Front View

Appendix B

Data Plots



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

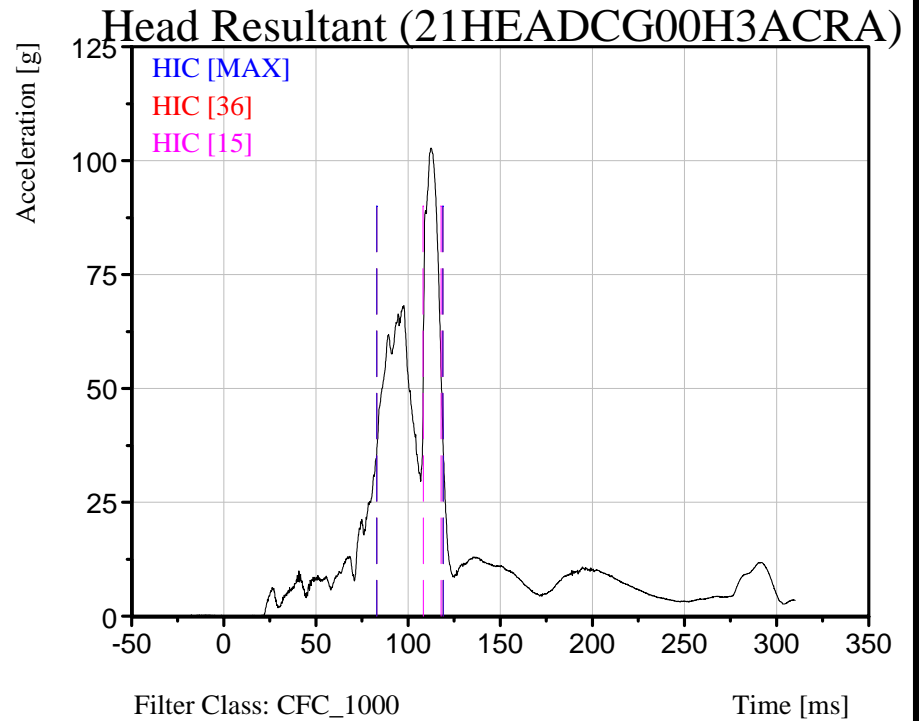
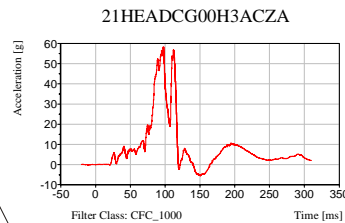
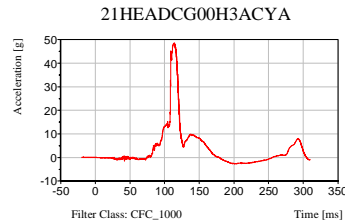
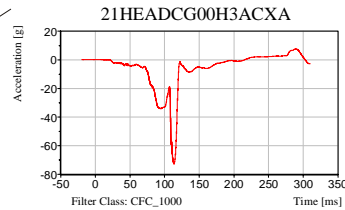
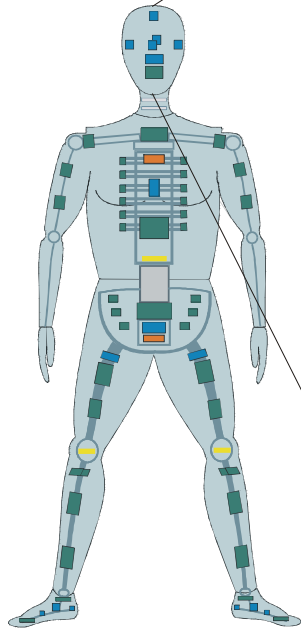
Date: 04/03/2008
Time: 17:14

Head Injury Criterion (HIC)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403

Dummy: HIII 50th Male
Seating Position:
Driver

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

	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 1,071.26	83.20 ms	119.12 ms	61.58 g
HIC [36] = 1,071.26	83.20 ms	119.12 ms	61.58 g
HIC [15] = 705.94	108.32 ms	118.08 ms	87.57 g



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

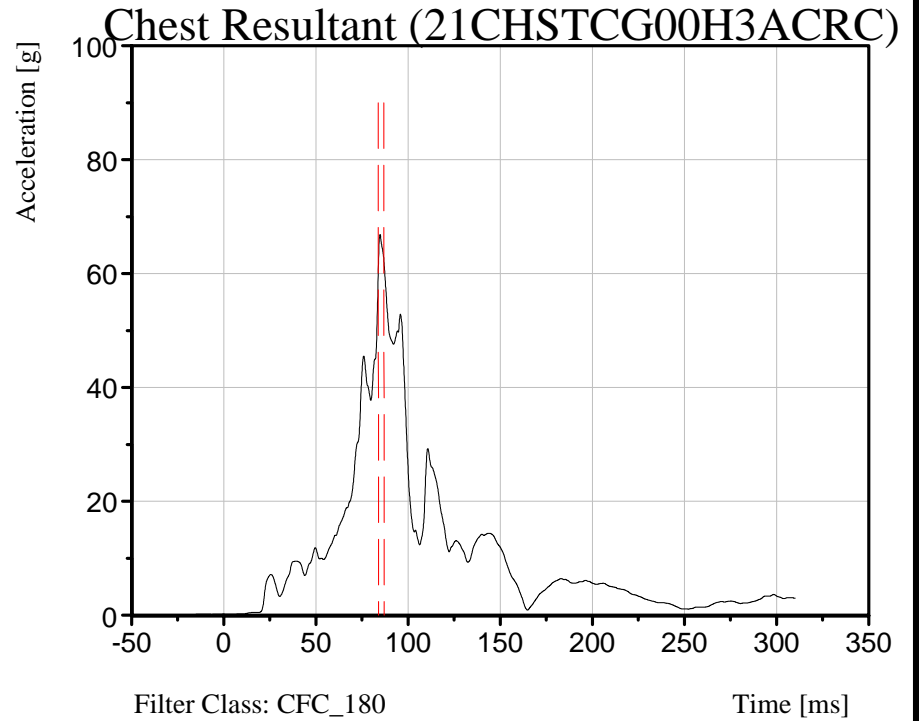
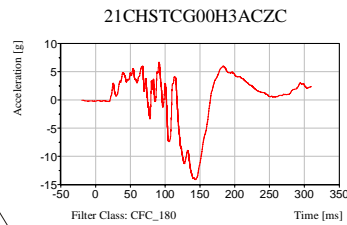
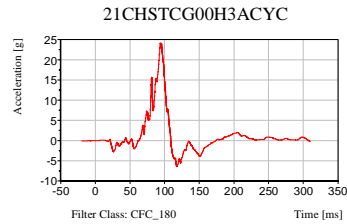
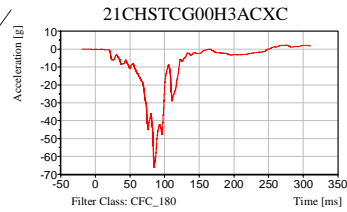
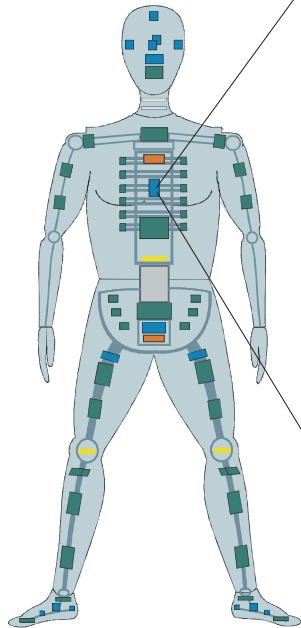
Date: 04/03/2008
Time: 17:14

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



3 ms Duration Acceleration = 61.95 g
Chest Severity Index = 547.49

<u>T1</u> (Begin)	<u>T2</u> (End)
84.02 ms	87.02 ms

Dummy: HIII 50th Male
Seating Position:

Driver

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

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

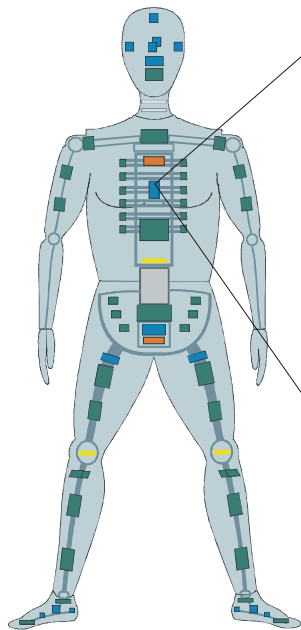
Chest Deflection

Customer: VRTC

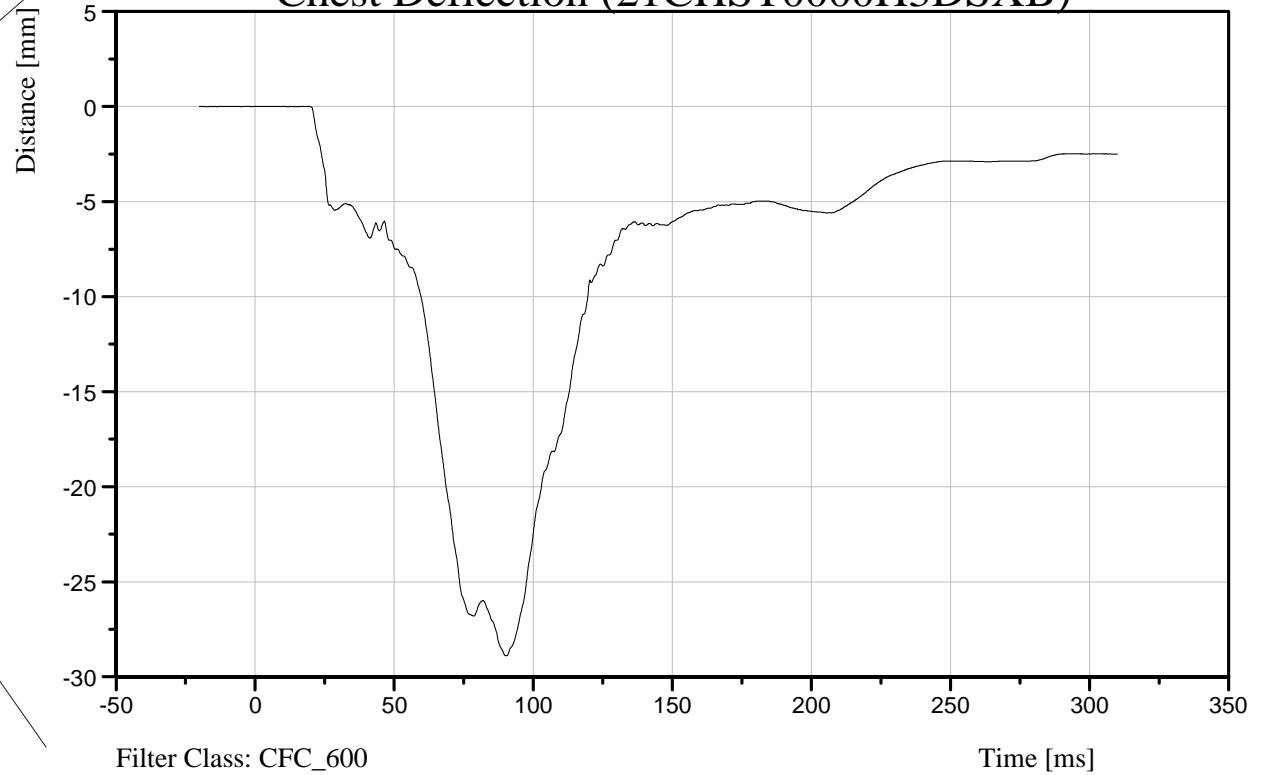
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



Chest Deflection (21CHST0000H3DSXB)



Dummy: HIII 50th Male

Seating Position:

Driver

[Max.] 0.01 mm at 3.60 ms

[Min.] -28.89 mm at 90.16 ms

ChestDeflection Source Code : Min/Max of 21CHST0000H3DSXB (CFC_600)

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV Neck Moment about the Occipital Condyle (NECK OM)

Date: 04/03/2008
Time: 17:14

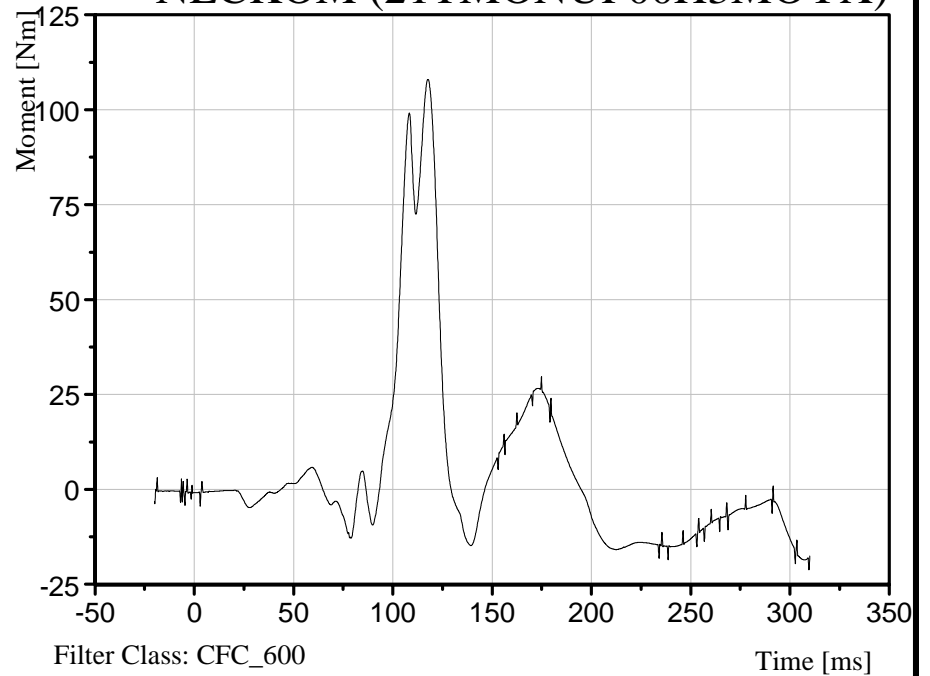
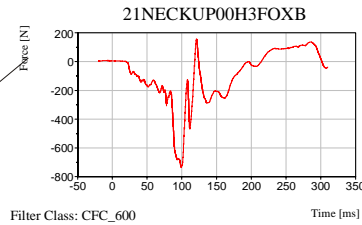
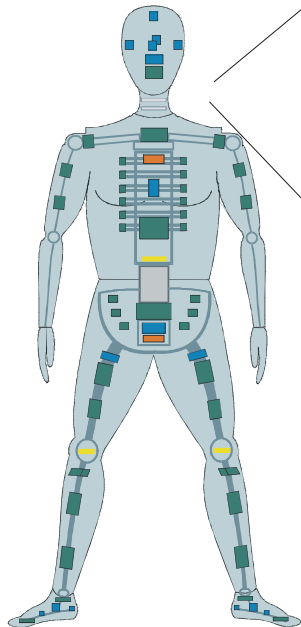
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal

NECKOM (21TMONUP00H3MOYX)



Dummy: HIII 50th Male

Seating Position:

Driver

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

[Max.] 108.02 Nm at 117.76 ms

[Min.] -21.23 Nm at 309.60 ms

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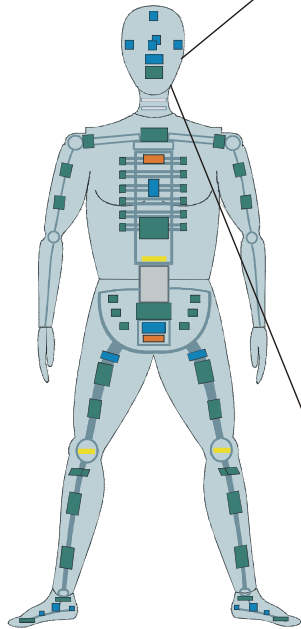
2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

Neck Injury Predictor (NIJ)

Customer: VRTC

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



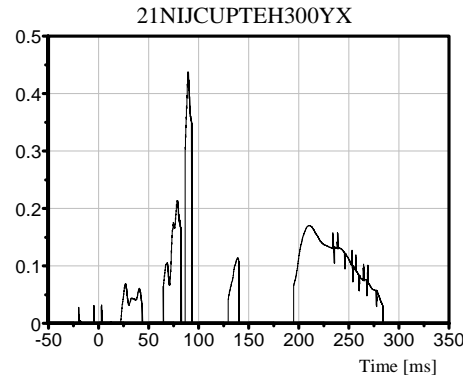
Dummy: HIII 50th Male
Seating Position:

Driver

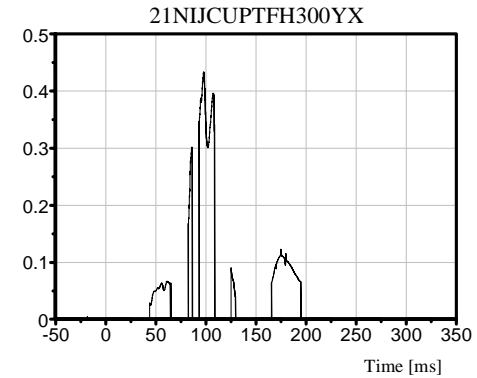
NIJ Source Code: (Fz/Fzc)+(My/Myc)



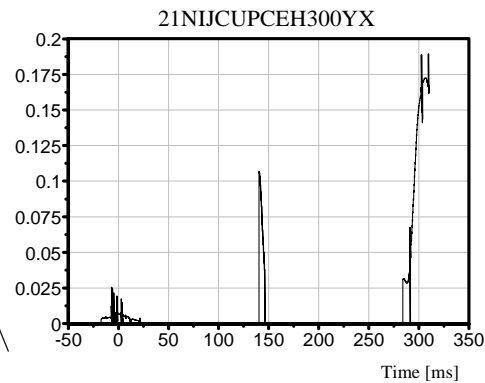
TRC Inc. Test Lab: CTF
Test Number: 080403



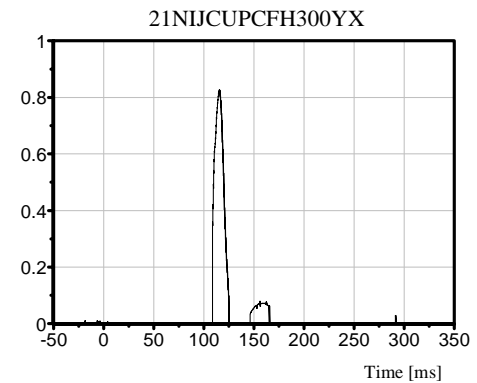
Max [NTE] 0.4379 at 89.52 ms



Max [NTF] 0.4338 at 97.68 ms



Max [NCE] 0.1893 at 309.60 ms



Max [NCF] 0.8268 at 115.60 ms

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

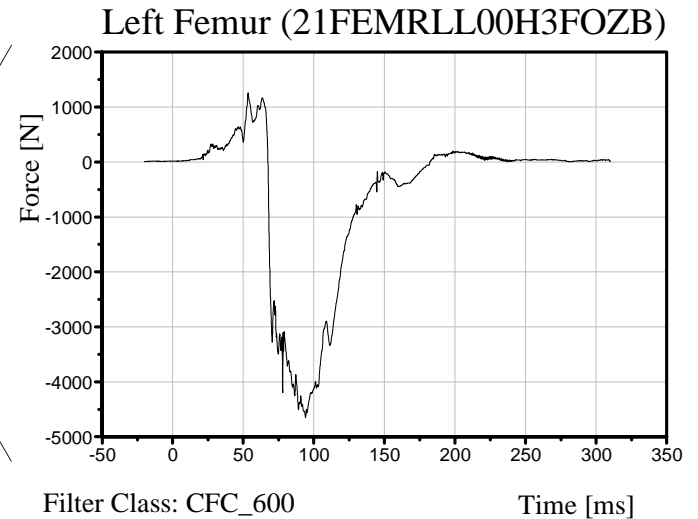
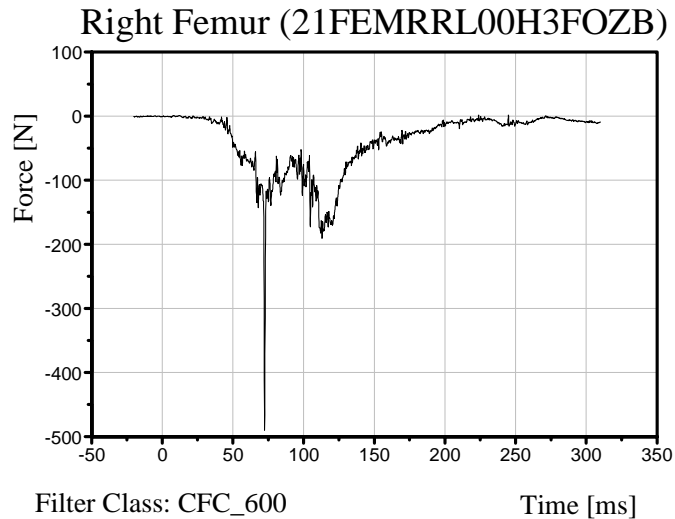
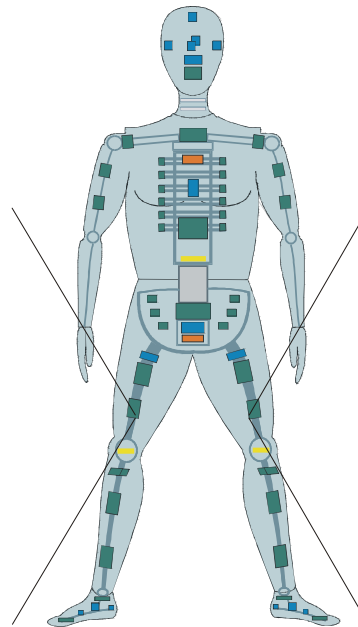
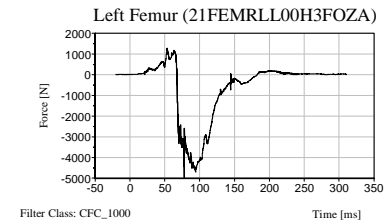
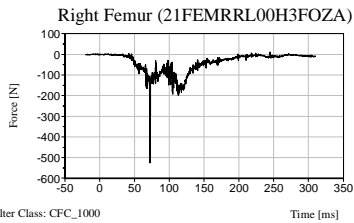
Date: 04/03/2008
Time: 17:14

Femur Load

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



Max [Tension] 2.04 N at 223.84 ms
 Min [Compression] -489.91 N at 72.48 ms

Dummy: HIII 50th Male
 Seating Position:
 Driver

Max [Tension] 1,262.73 N at 53.44 ms
 Min [Compression] -4,650.02 N at 94.16 ms

Femur Load Source Code : Min/Max of 21FEMRRL00H3FOZB and 21FEMRLL00H3FOZB (CFC 600)

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

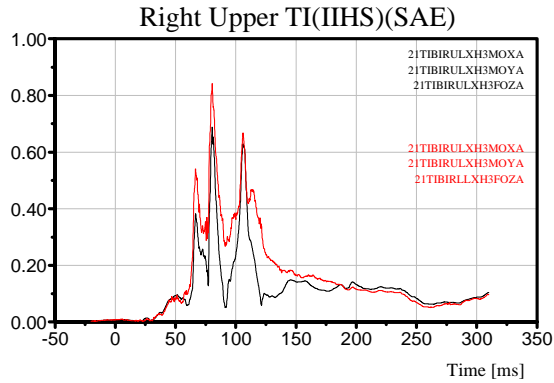
Tibia Index (TI)

Customer: VRTC

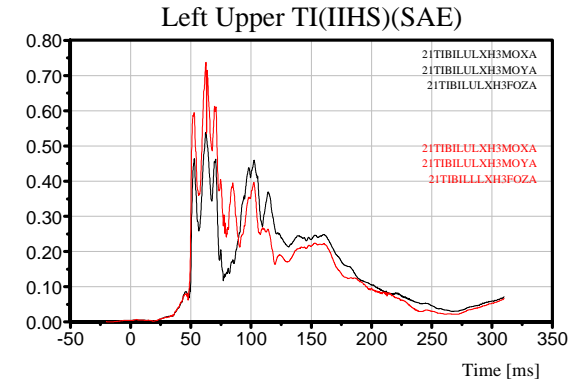
TRC Inc. Test Lab: CTF

Test Number: 080403

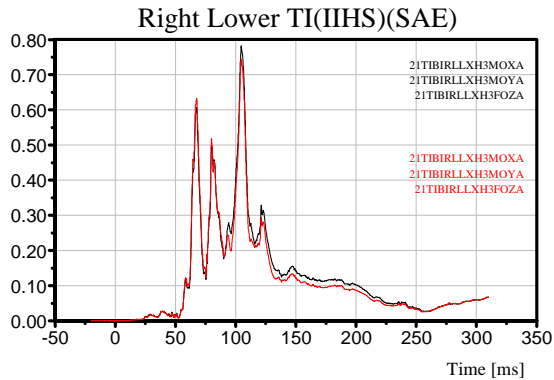
Critical Bending Moment = 240 N·m
Critical Compression Force = 12000 N



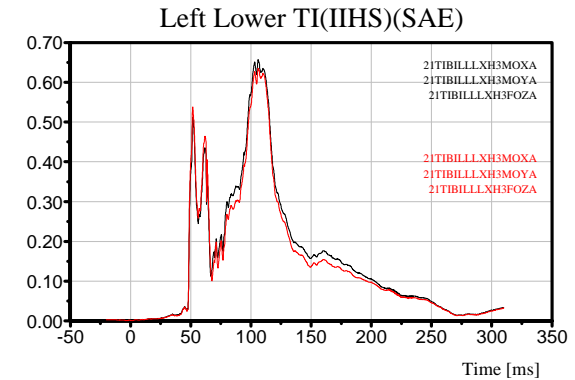
Max = 0.69 at 80.40 ms (SAE)
Max = 0.84 at 80.48 ms (IIHS)



Max = 0.54 at 62.48 ms (SAE)
Max = 0.74 at 62.56 ms (IIHS)



Max = 0.78 at 104.64 ms (SAE)
Max = 0.74 at 104.64 ms (IIHS)



Max = 0.66 at 106.08 ms (SAE)
Max = 0.64 at 106.08 ms (IIHS)

Dummy: HIII 50th Male
Seating Position:
Driver

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

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

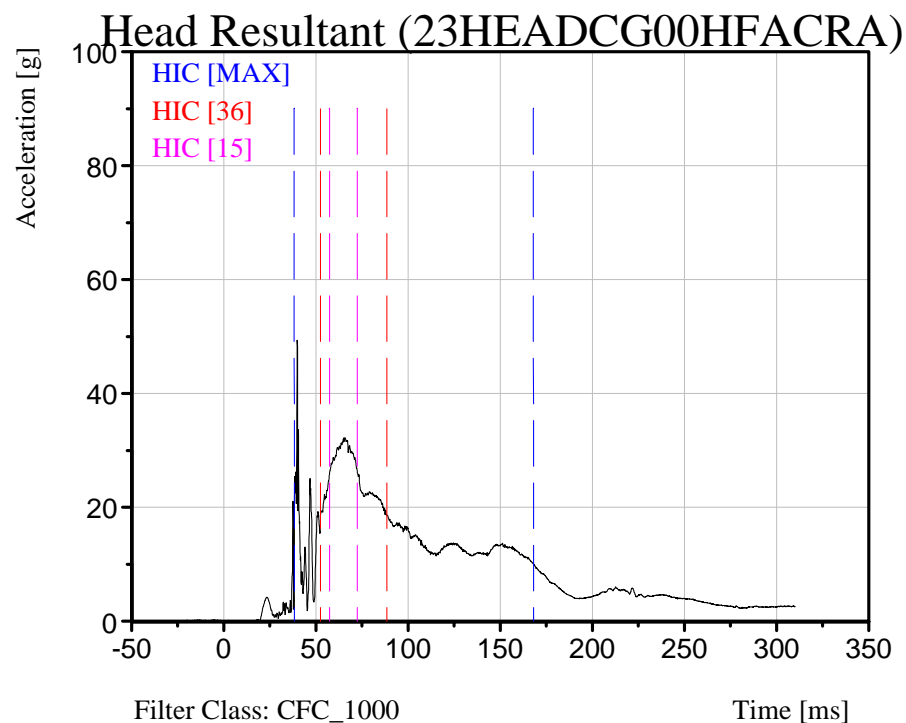
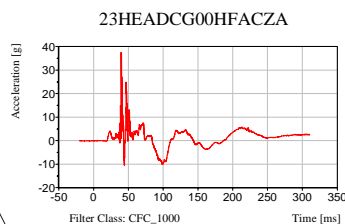
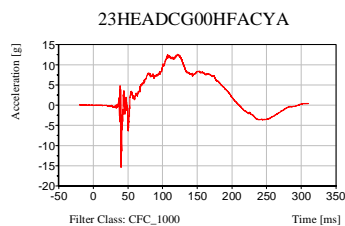
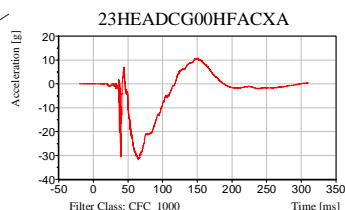
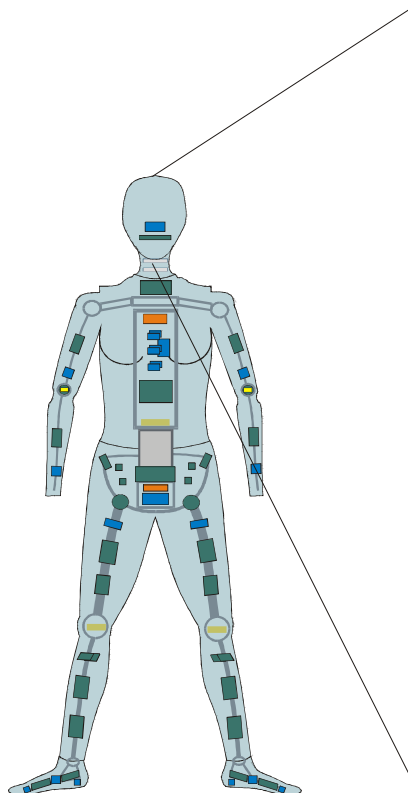
Date: 04/03/2008
Time: 17:14

Head Injury Criterion (HIC)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 148.32	38.32 ms	168.16 ms	16.71 g
HIC [36] = 114.61	52.64 ms	88.64 ms	25.17 g
HIC [15] = 72.30	57.52 ms	72.56 ms	29.68 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)

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

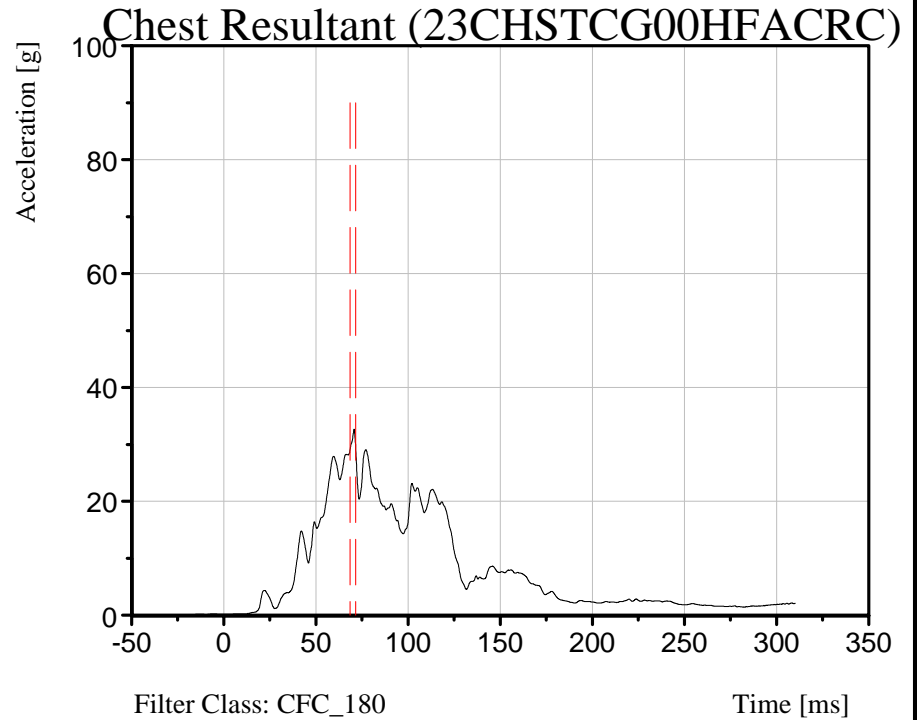
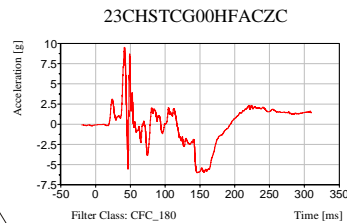
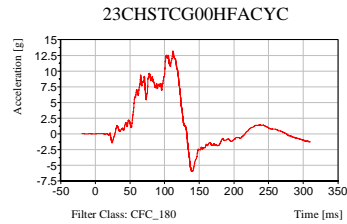
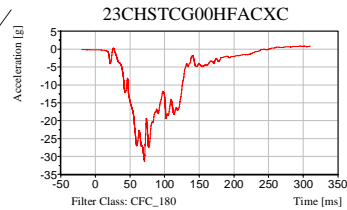
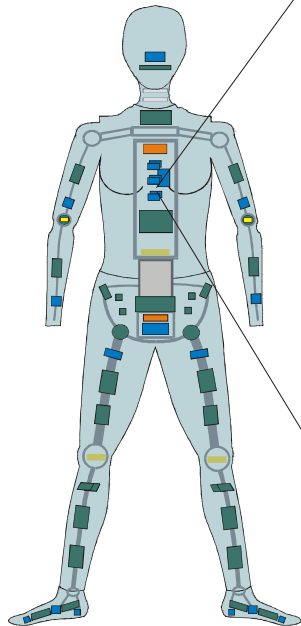
Date: 04/03/2008
Time: 17:14

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



3 ms Duration Acceleration = 29.21 g
Chest Severity Index = 185.41

<u>T1</u> (Begin)	<u>T2</u> (End)
68.65 ms	71.65 ms

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

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

B-10

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

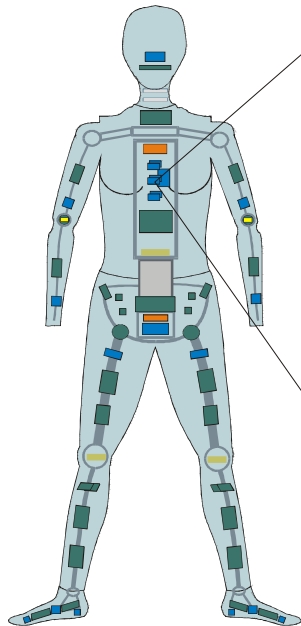
Chest Deflection

Customer: VRTC

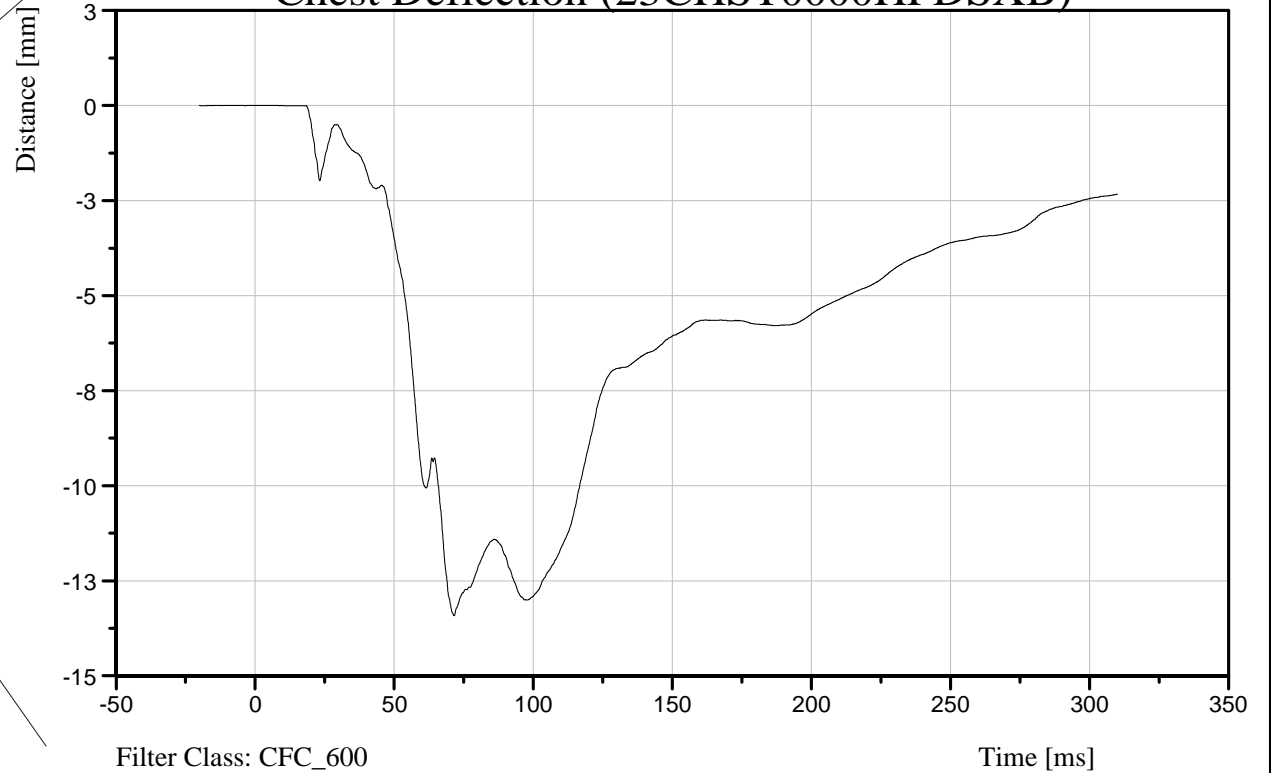
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



Chest Deflection (23CHST0000HFDSXB)



Dummy: HIII 5th Female

Seating Position:

Right Front Passenger

[Max.] 0.00 mm at 0.88 ms

[Min.] -13.42 mm at 71.52 ms

ChestDeflection Source Code : Min/Max of 23CHST0000HFDSXB (CFC_600)

B-11

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV Neck Moment about the Occipital Condyle (NECK OM)

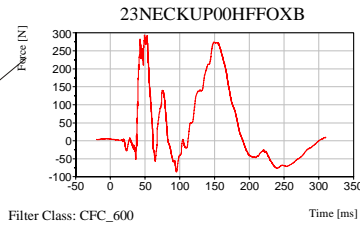
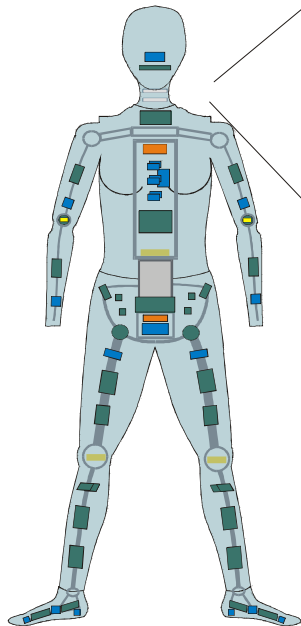
Date: 04/03/2008
Time: 17:14

Customer: VRTC

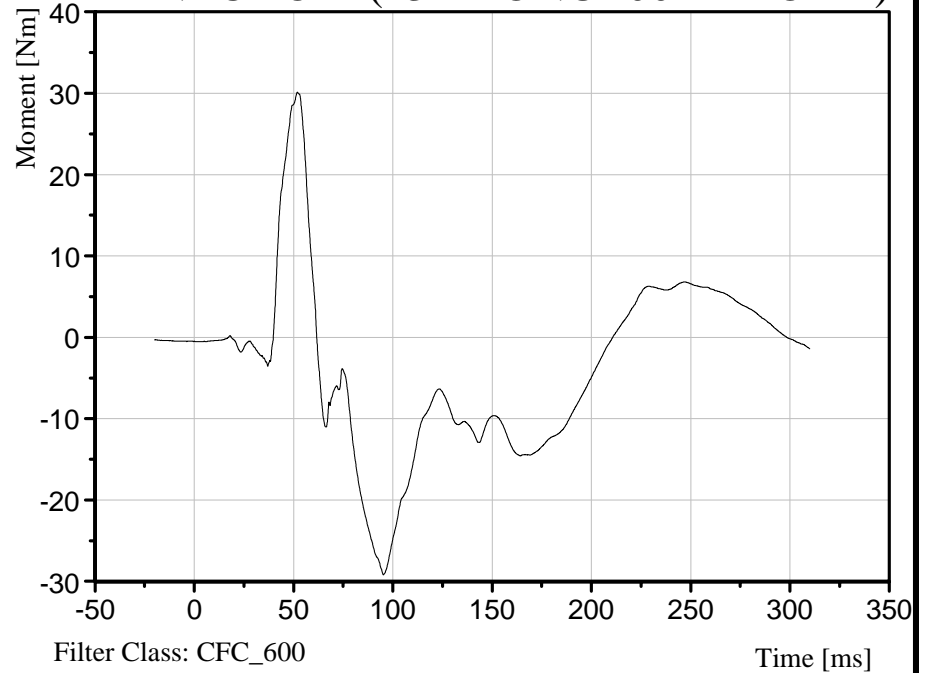
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



NECKOM (23TMONUP00HFMOYX)



[Max.] 30.13 Nm at 51.92 ms

[Min.] -29.20 Nm at 95.28 ms

Dummy: HIII 5th Female
Seating Position:

Right Front Passenger

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

B-12

080403



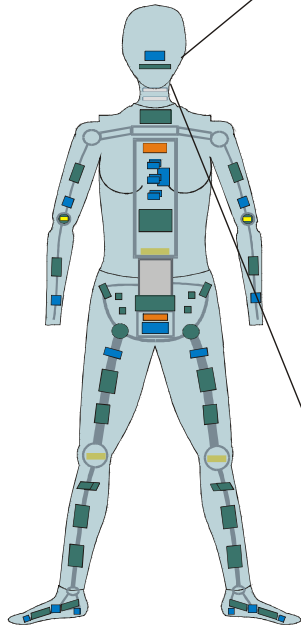
2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

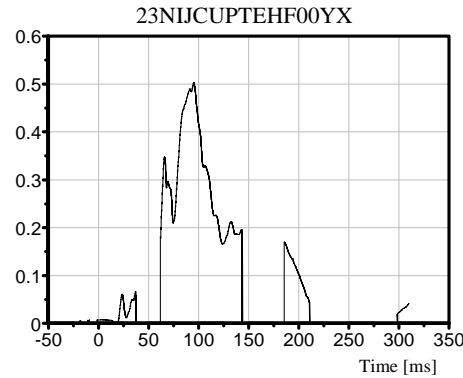
Neck Injury Predictor (NIJ)

Customer: VRTC

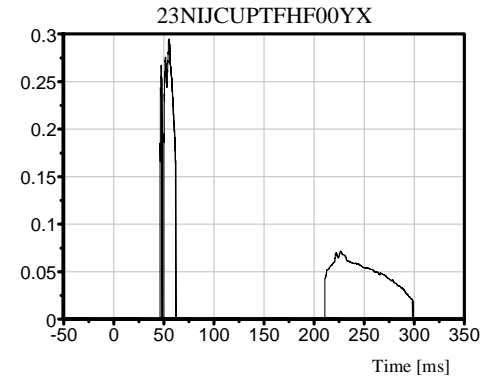
Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155



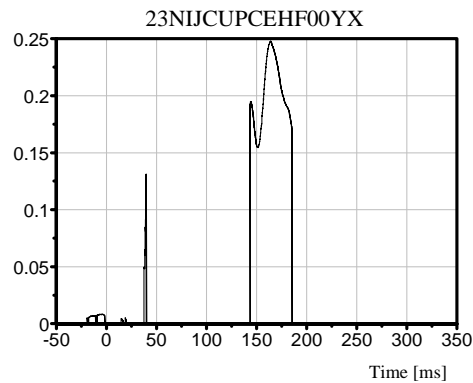
TRC Inc. Test Lab: CTF
Test Number: 080403



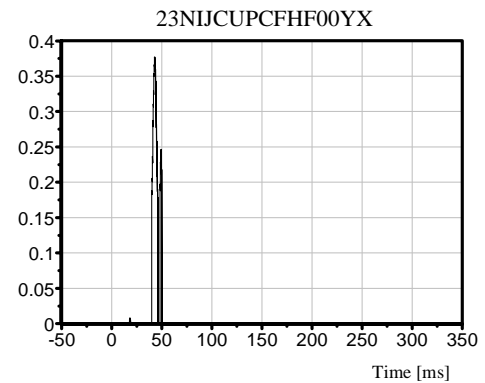
Max [NTE] 0.5040 at 95.04 ms



Max [NTF] 0.2948 at 55.04 ms



Max [NCE] 0.2479 at 164.16 ms



Max [NCF] 0.3771 at 42.96 ms

Dummy: HIII 5th Female
Seating Position:

Right Front Passenger

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

B-13

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008

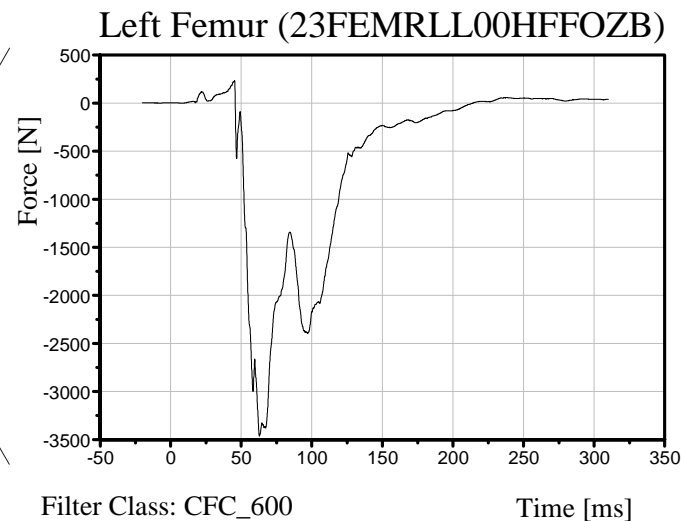
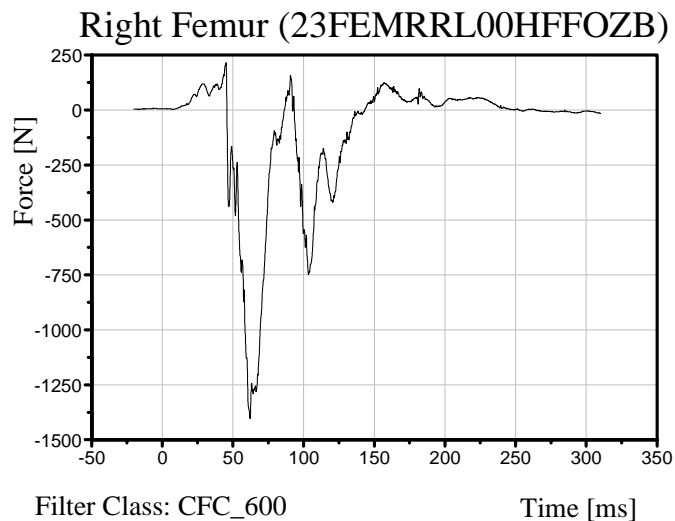
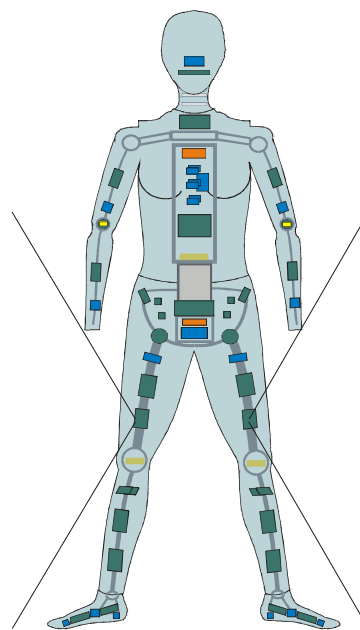
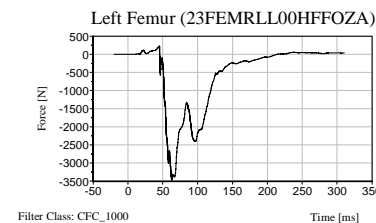
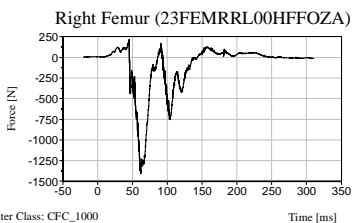
Time: 17:14

Femur Load

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



Max [Tension] 216.55 N at 45.20 ms
 Min [Compression] -1,404.42 N at 62.16 ms

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

Max [Tension] 236.78 N at 45.20 ms
 Min [Compression] -3,461.68 N at 62.88 ms

Femur Load Source Code : Min/Max of 23FEMRRL00HFFOZB and 23FEMRLL00HFFOZB (CFC 600)

B-14

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

Tibia Index (TI)

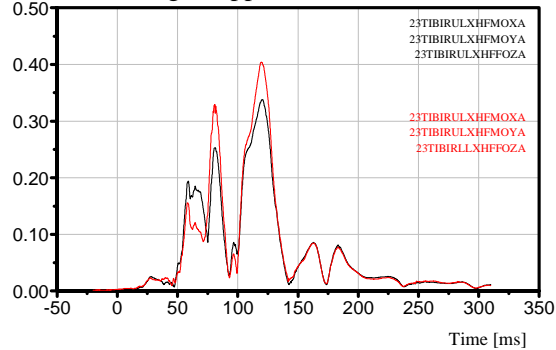
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403

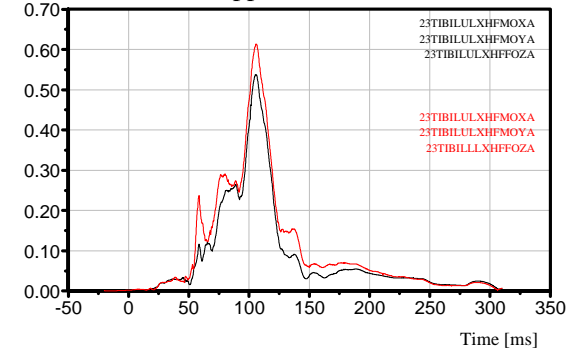
Critical Bending Moment = 240 N-m
Critical Compression Force = 12000 N

Right Upper TI(IIHS)(SAE)



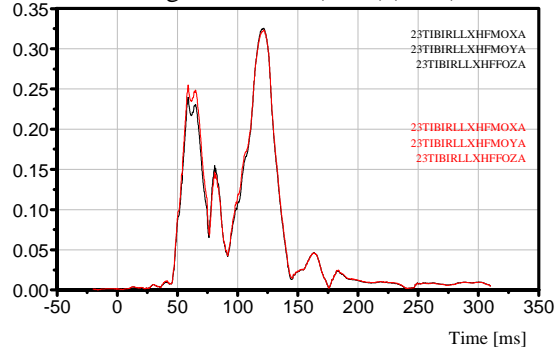
Max = 0.34 at 120.64 ms (SAE)
Max = 0.40 at 119.68 ms (IIHS)

Left Upper TI(IIHS)(SAE)



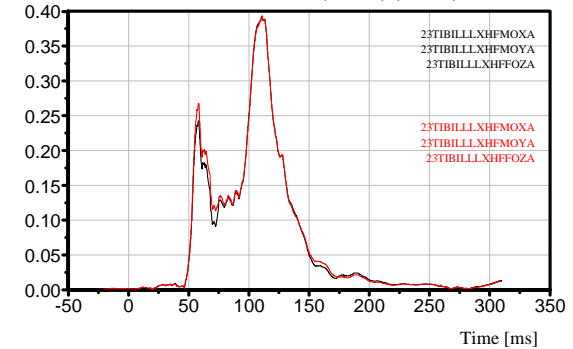
Max = 0.54 at 105.36 ms (SAE)
Max = 0.61 at 105.84 ms (IIHS)

Right Lower TI(IIHS)(SAE)



Max = 0.33 at 121.76 ms (SAE)
Max = 0.32 at 121.84 ms (IIHS)

Left Lower TI(IIHS)(SAE)



Max = 0.39 at 111.04 ms (SAE)
Max = 0.39 at 111.04 ms (IIHS)

Dummy: III 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-15

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

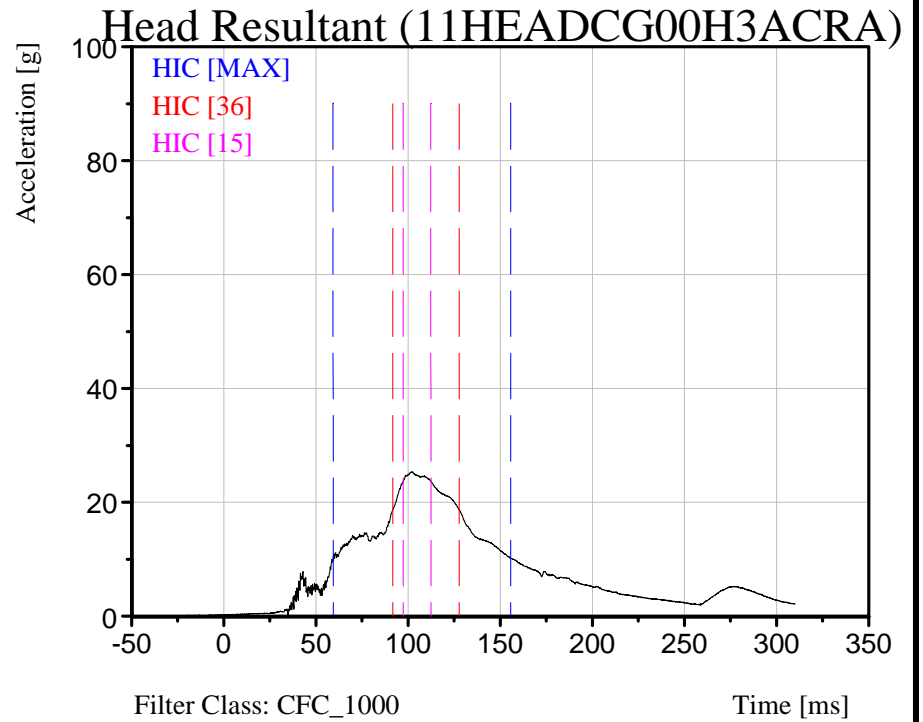
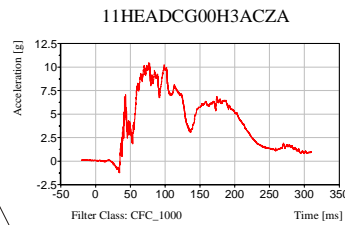
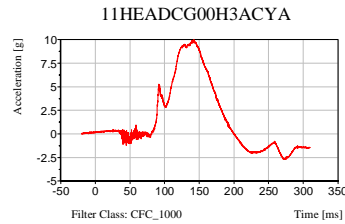
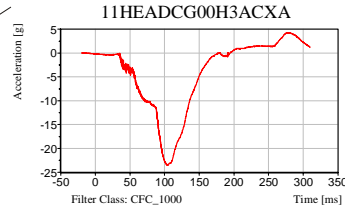
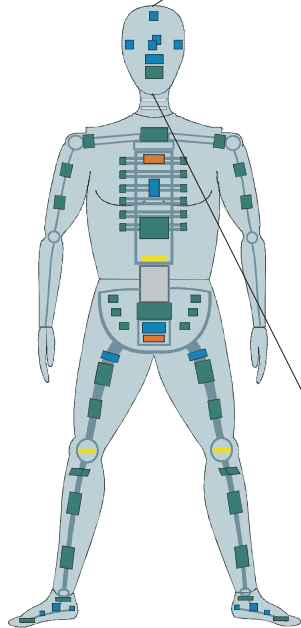
Date: 04/03/2008
Time: 17:14

Head Injury Criterion (HIC)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 115.10	59.44 ms	155.76 ms	17.01 g
HIC [36] = 88.31	91.84 ms	127.84 ms	22.68 g
HIC [15] = 45.32	97.44 ms	112.48 ms	24.63 g

Dummy: HIII 50th Male
Seating Position:
Driver

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

B-16

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

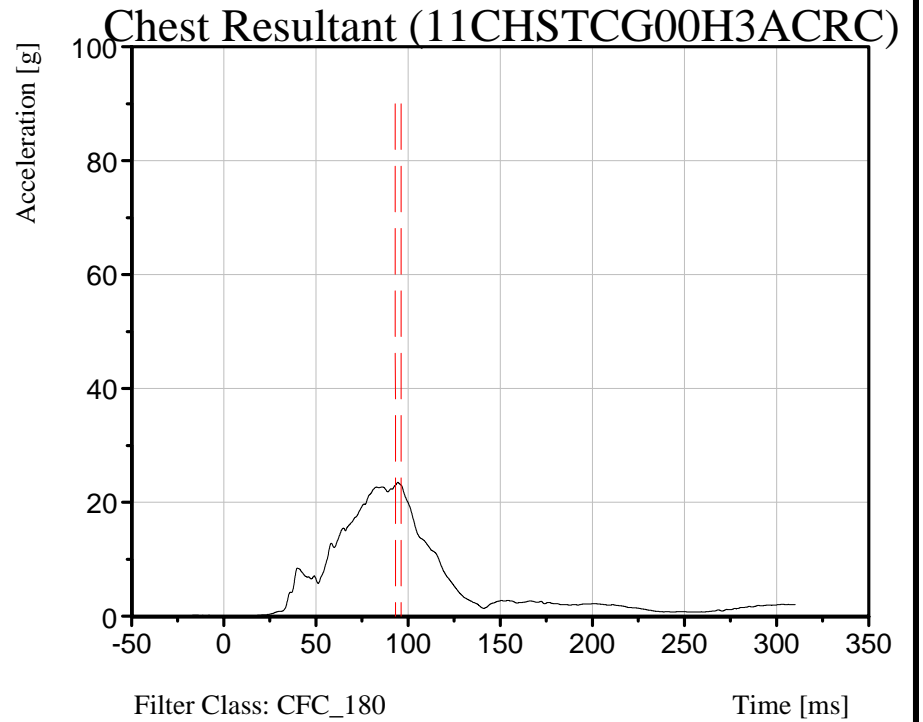
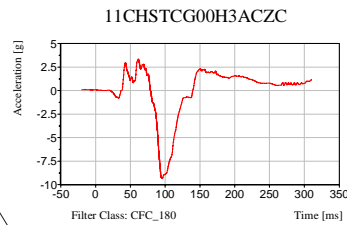
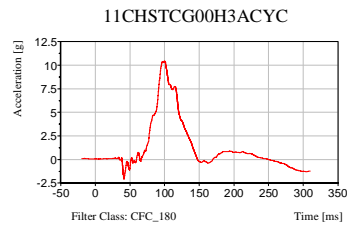
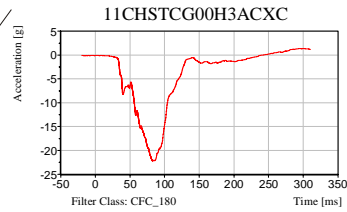
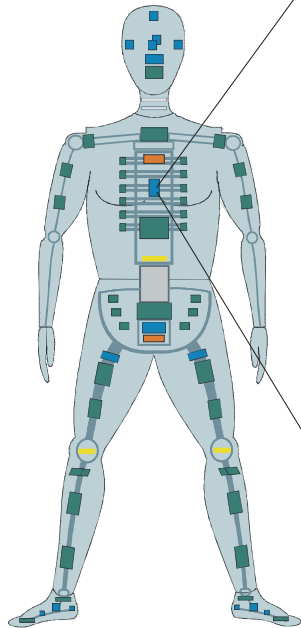
Date: 04/03/2008
Time: 17:14

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



3 ms Duration Acceleration = 23.05 g
Chest Severity Index = 92.59

<u>T1</u> (Begin)	<u>T2</u> (End)
93.31 ms	96.31 ms

Dummy: HIII 50th Male
Seating Position:
Driver

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

B-17

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

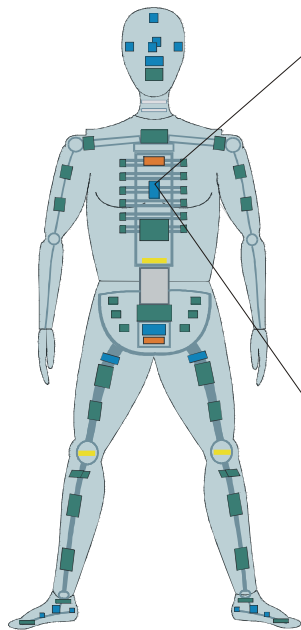
Chest Deflection

Customer: VRTC

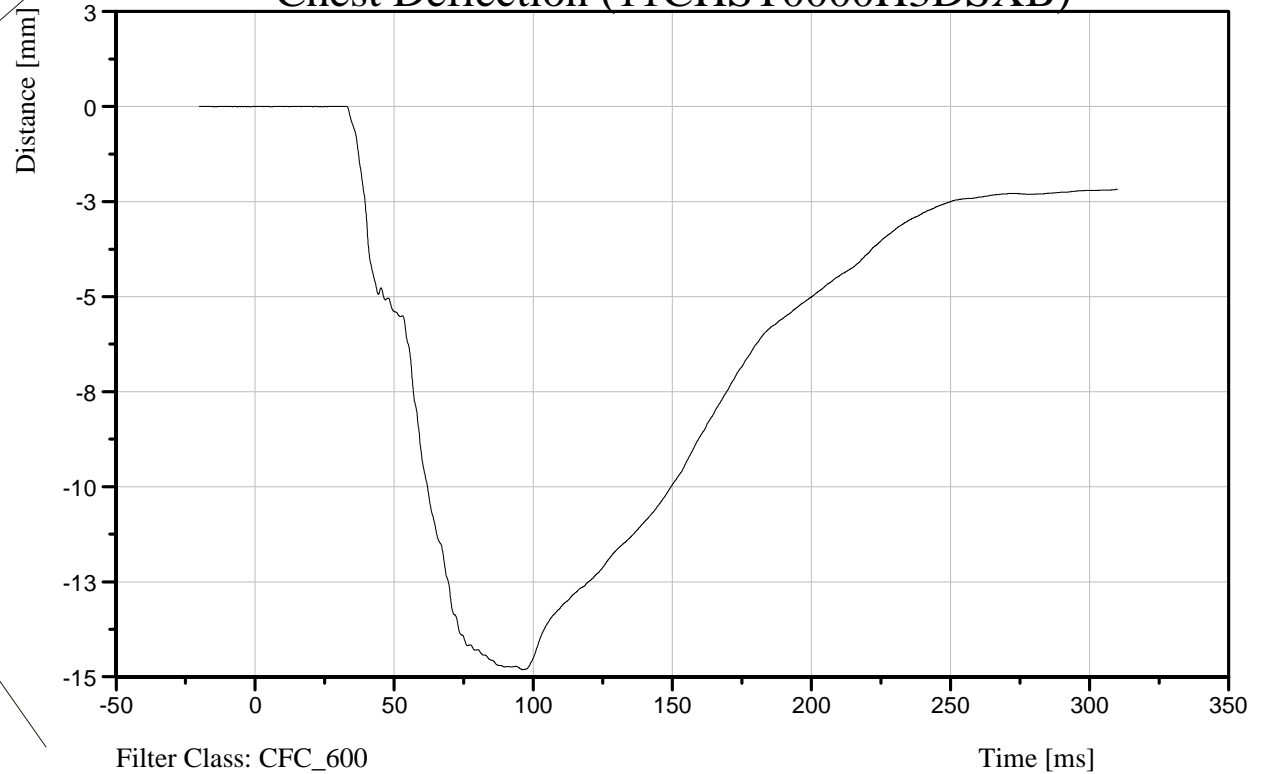
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



Chest Deflection (11CHST0000H3DSXB)



Dummy: HIII 50th Male

Seating Position:

Driver

[Max.] 0.01 mm at 31.52 ms

[Min.] -14.81 mm at 96.16 ms

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

B-18

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV Neck Moment about the Occipital Condyle (NECK OM)

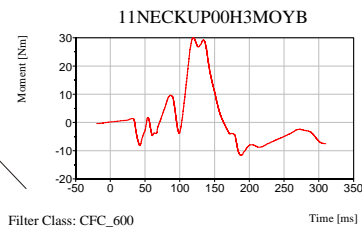
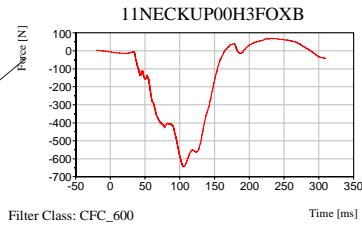
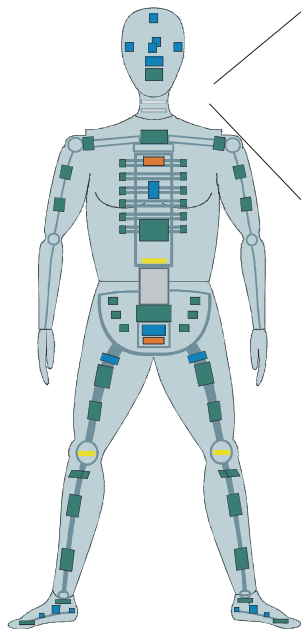
Date: 04/03/2008
Time: 17:14

Customer: VRTC

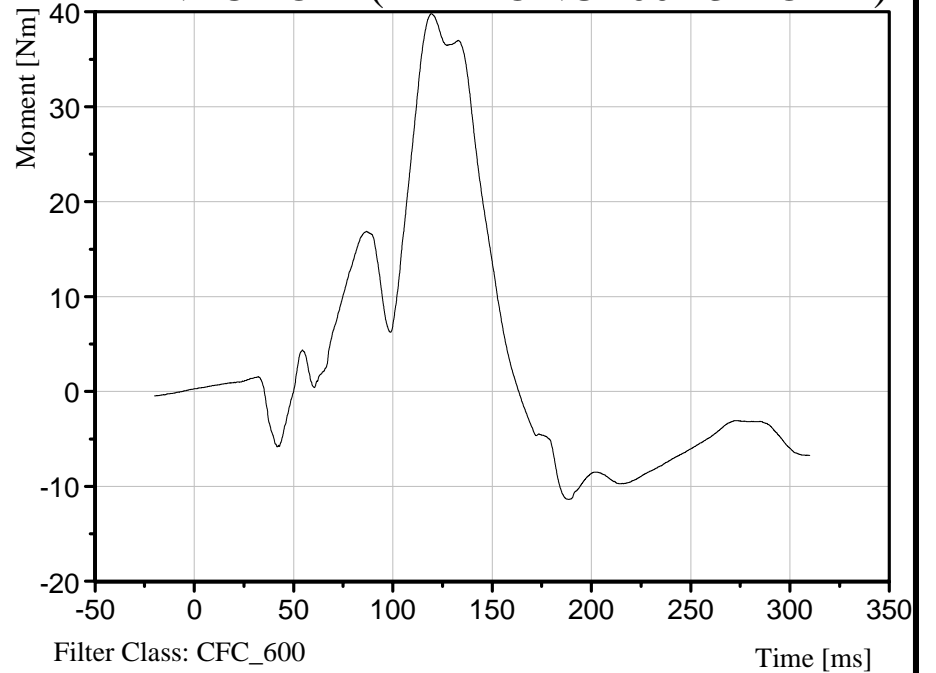
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



NECKOM (11TMONUP00H3MOYX)



Dummy: HIII 50th Male

Seating Position:

Driver

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

[Max.] 39.81 Nm at 119.36 ms

[Min.] -11.37 Nm at 188.80 ms

B-19

080403



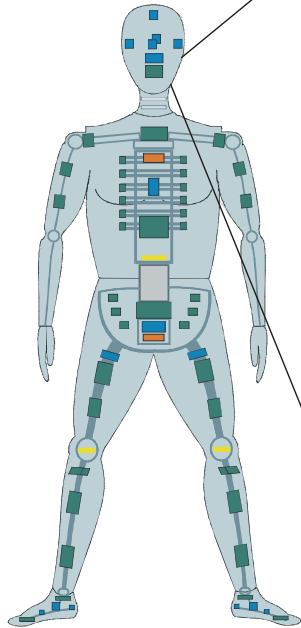
2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

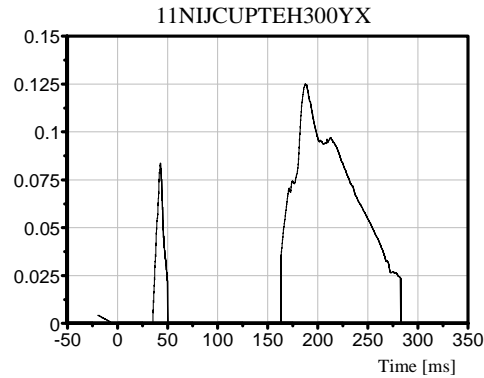
Neck Injury Predictor (NIJ)

Customer: VRTC

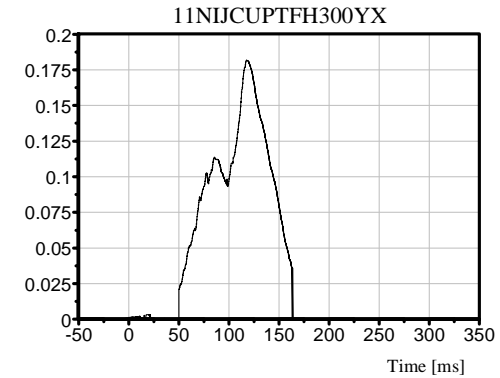
Test Orientation = Frontal
Fzc(Tension) = 6806
Fzc(Compression) = 6160
Myc(Extension) = 135
Myc(Flexion) = 310



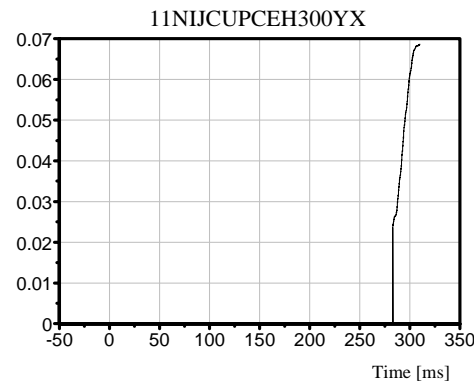
TRC Inc. Test Lab: CTF
Test Number: 080403



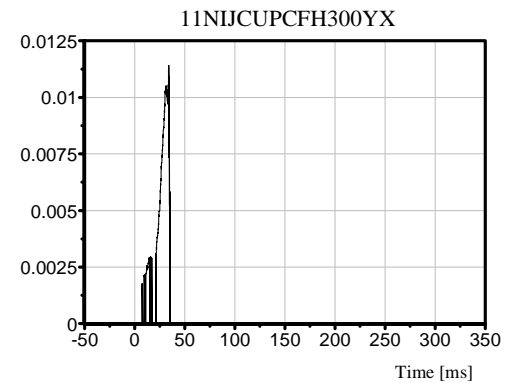
Max [NTE] 0.1251 at 187.52 ms



Max [NTF] 0.1818 at 117.36 ms



Max [NCE] 0.0687 at 310.00 ms



Max [NCF] 0.0114 at 34.00 ms

Dummy: HIII 50th Male
Seating Position:

Driver

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

B-20

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

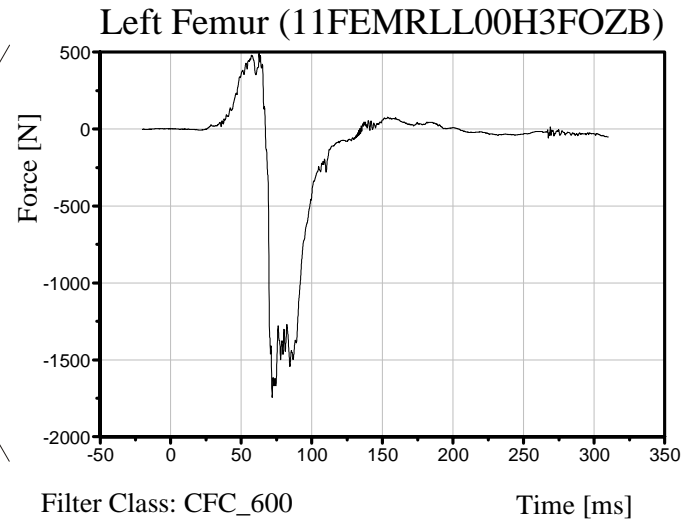
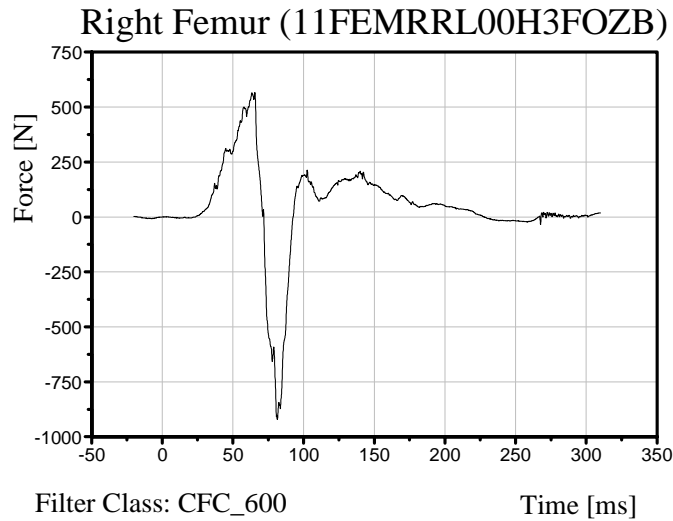
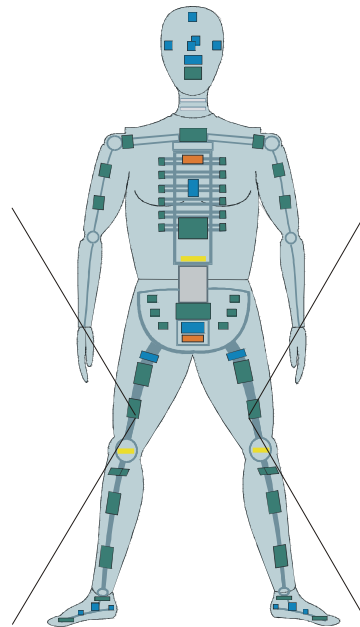
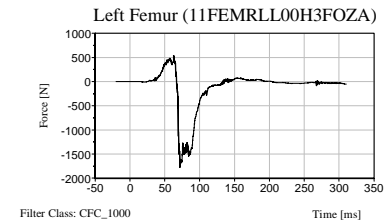
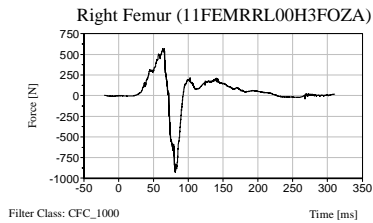
Date: 04/03/2008
Time: 17:14

Femur Load

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



Max [Tension] 567.20 N at 65.52 ms
 Min [Compression] -920.91 N at 81.52 ms

Dummy: HIII 50th Male
 Seating Position:
 Driver

Max [Tension] 494.24 N at 62.64 ms
 Min [Compression] -1,743.30 N at 71.84 ms

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

B-21

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

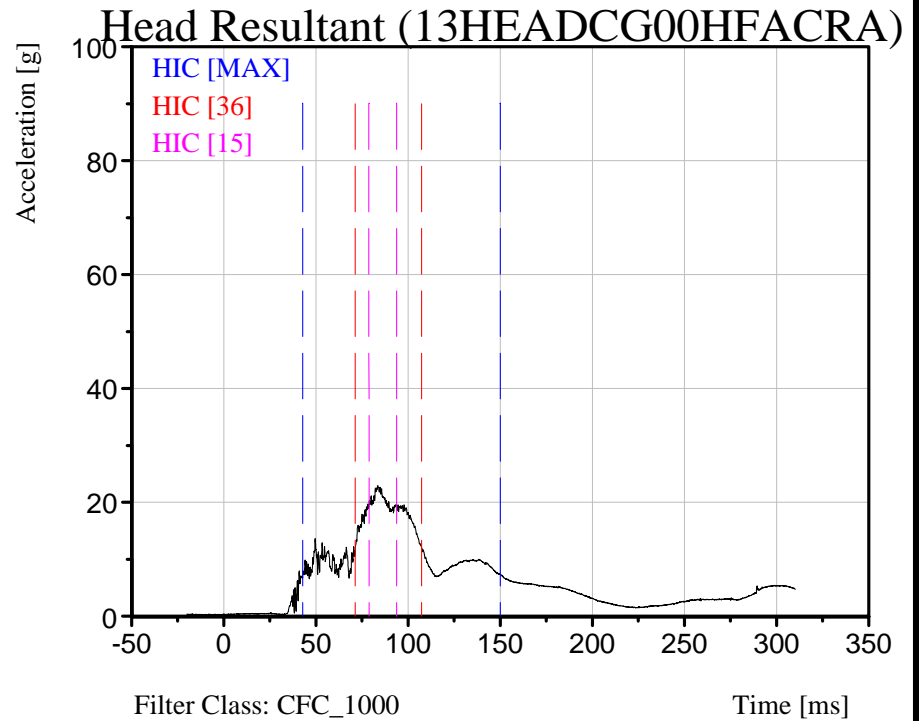
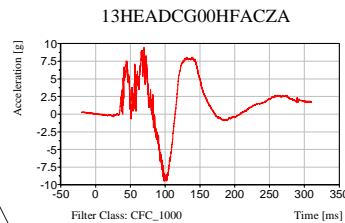
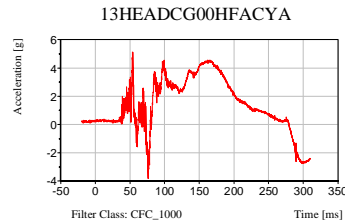
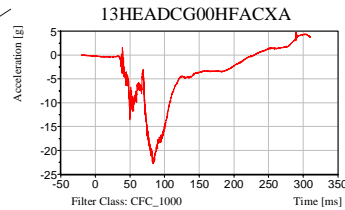
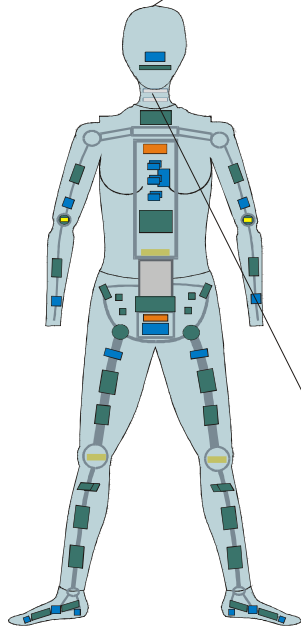
Date: 04/03/2008
Time: 17:14

Head Injury Criterion (HIC)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



	<u>T1</u> (Begin)	<u>T2</u> (End)	<u>Avg. g T1 to T2</u>
HIC [Max.] = 56.06	42.96 ms	150.16 ms	12.22 g
HIC [36] = 51.82	71.44 ms	107.44 ms	18.32 g
HIC [15] = 28.30	78.88 ms	93.92 ms	20.40 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-22

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

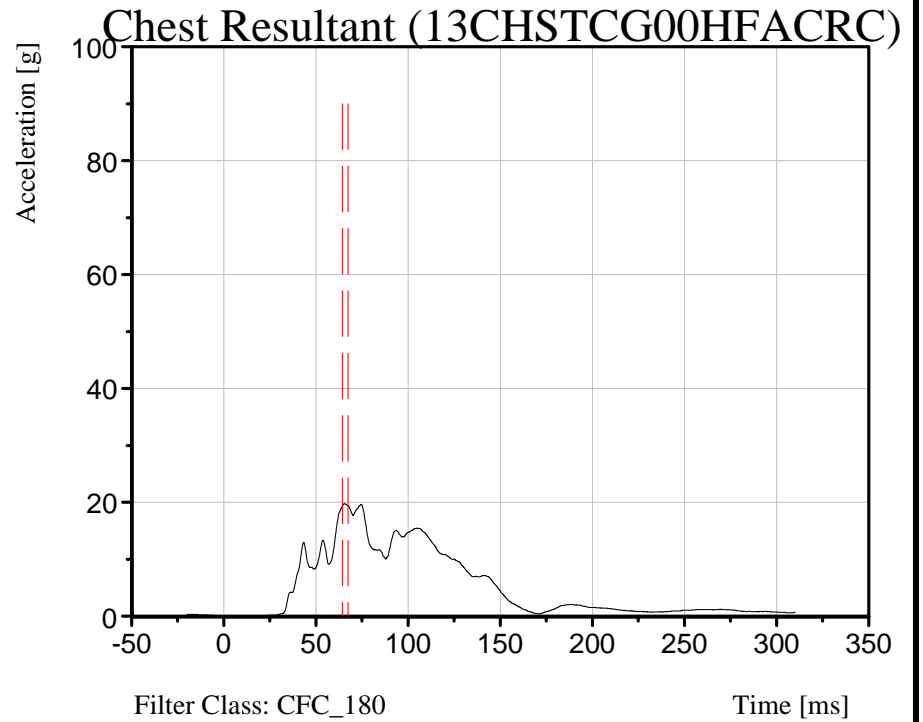
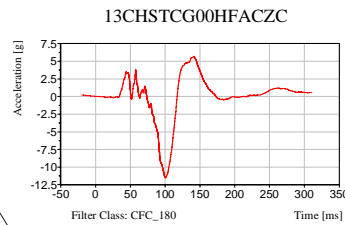
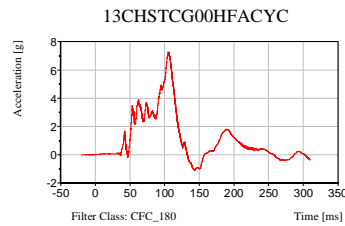
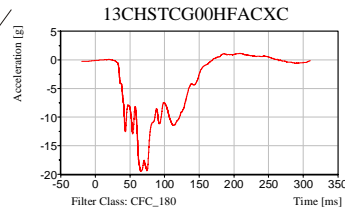
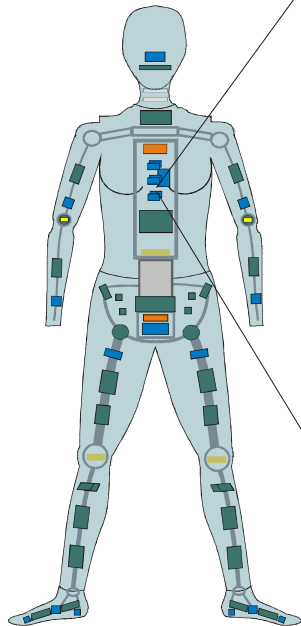
Date: 04/03/2008
Time: 17:14

3 ms Duration Acceleration (Chest)

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



3 ms Duration Acceleration = 19.40 g
Chest Severity Index = 66.66

<u>T1</u> (Begin)	<u>T2</u> (End)
64.50 ms	67.50 ms

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

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

B-23

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

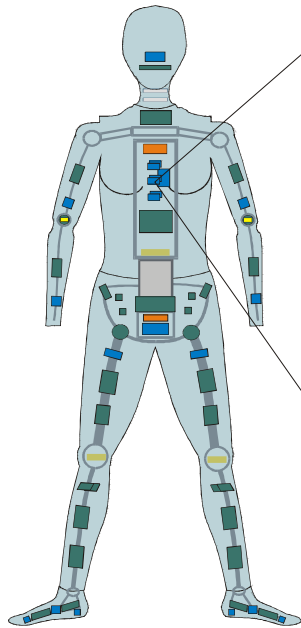
Chest Deflection

Customer: VRTC

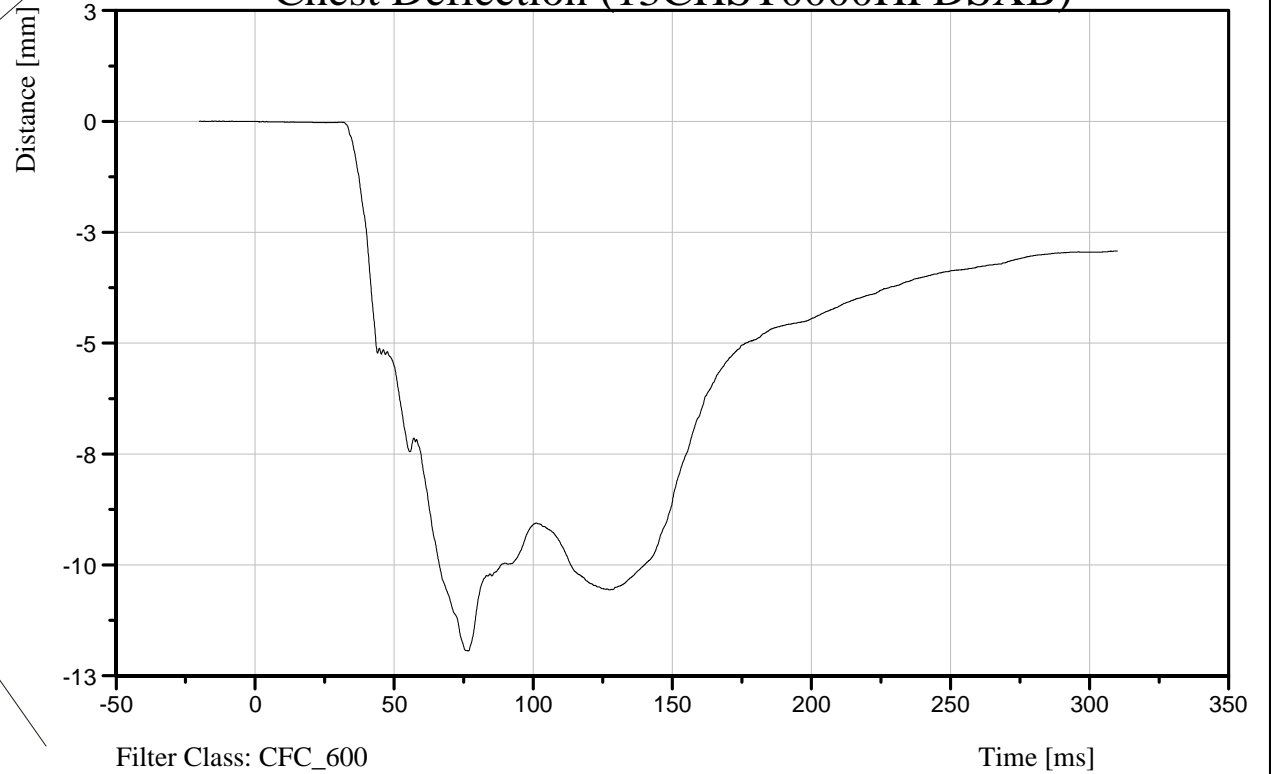
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



Chest Deflection (13CHST0000HFDSXB)



Dummy: HIII 5th Female

Seating Position:

Right Front Passenger

[Max.] 0.01 mm at -15.52 ms

[Min.] -11.94 mm at 76.64 ms

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

B-24

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV Neck Moment about the Occipital Condyle (NECK OM)

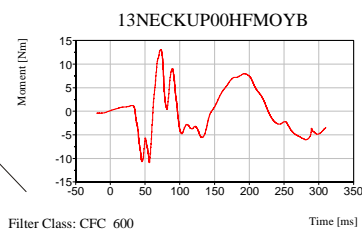
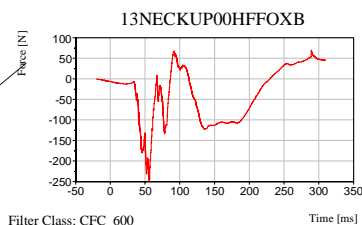
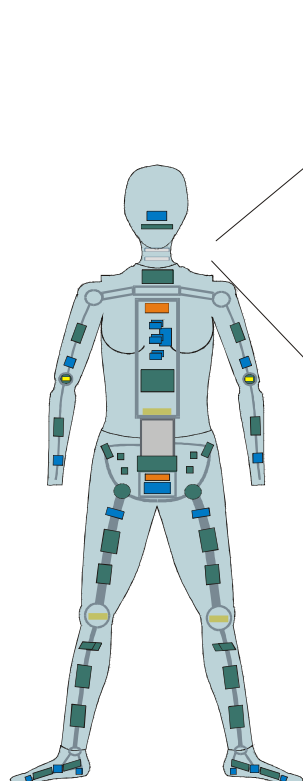
Date: 04/03/2008
Time: 17:14

Customer: VRTC

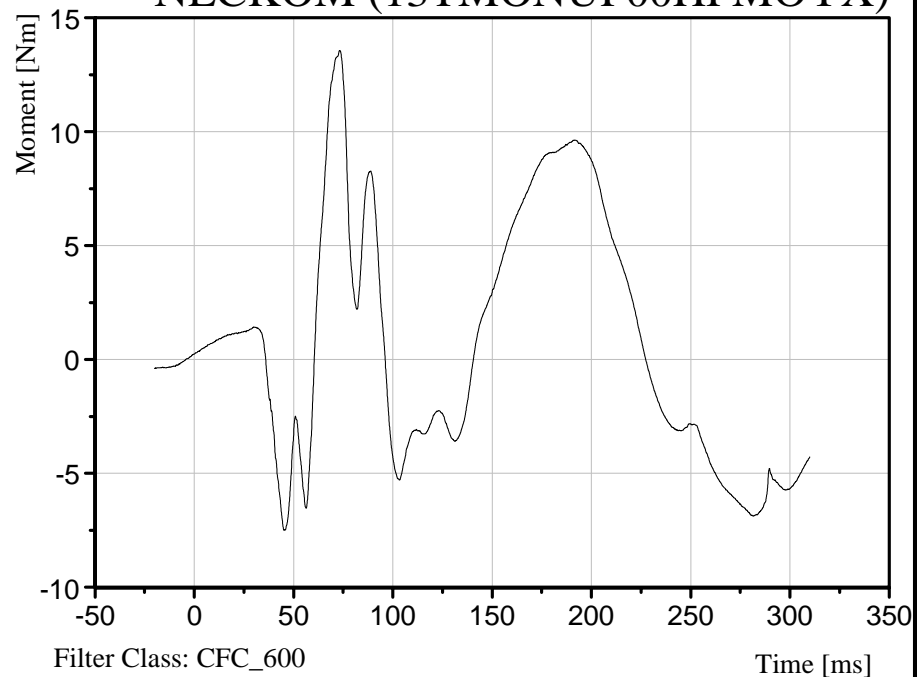
TRC Inc. Test Lab: CTF

Test Number: 080403

Test Orientation = Frontal



NECKOM (13TMONUP00HFMOYX)



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

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

[Max.] 13.57 Nm at 73.20 ms

[Min.] -7.50 Nm at 45.12 ms

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080403



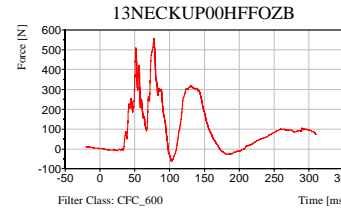
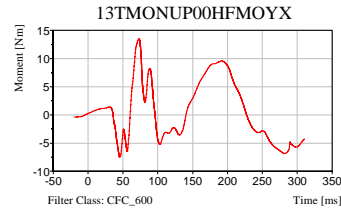
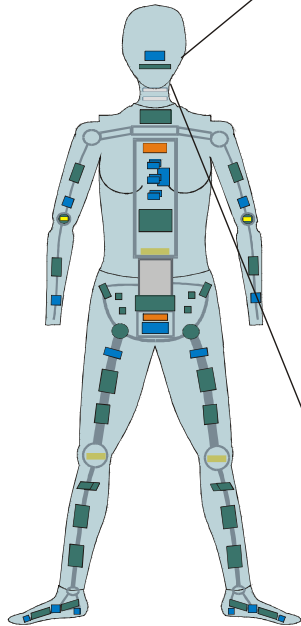
2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

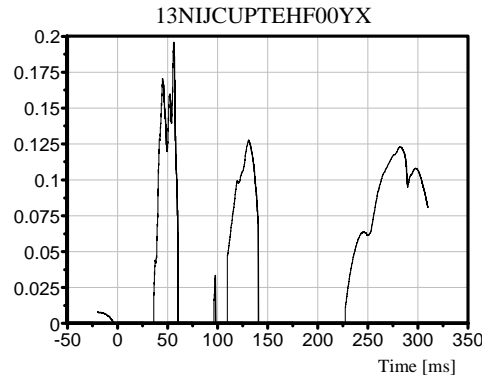
Neck Injury Predictor (NIJ)

Customer: VRTC

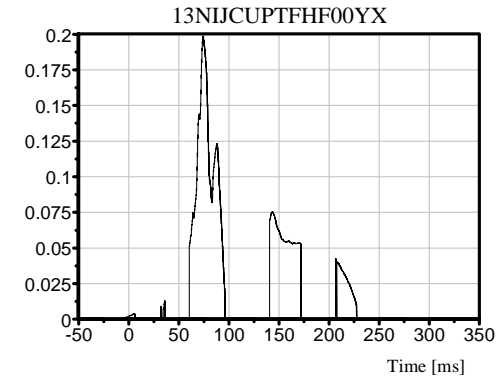
Test Orientation = Frontal
Fzc(Tension) = 4287
Fzc(Compression) = 3880
Myc(Extension) = 67
Myc(Flexion) = 155



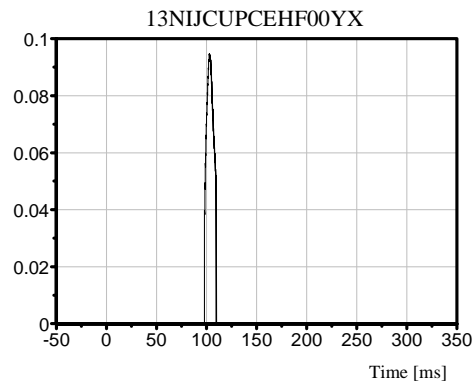
TRC Inc. Test Lab: CTF
Test Number: 080403



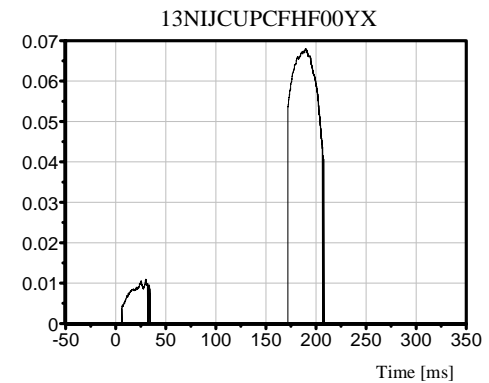
Max [NTE] 0.1959 at 56.24 ms



Max [NTF] 0.1986 at 74.24 ms



Max [NCE] 0.0947 at 102.72 ms



Max [NCF] 0.0681 at 189.36 ms

Dummy: HIII 5th Female
Seating Position:

Right Front Passenger

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

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

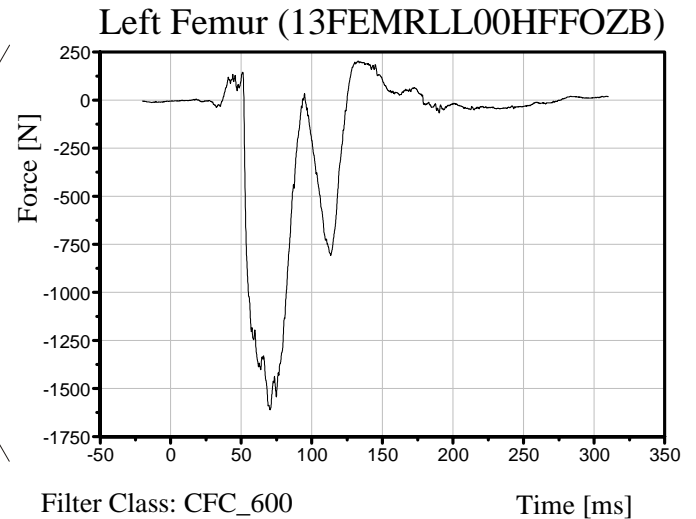
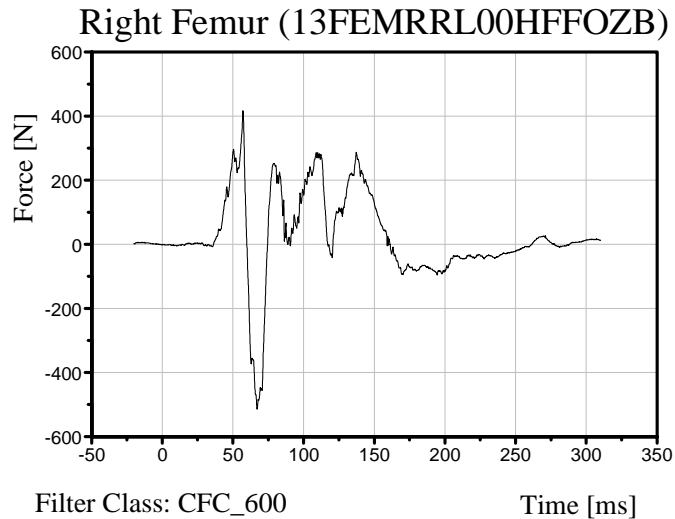
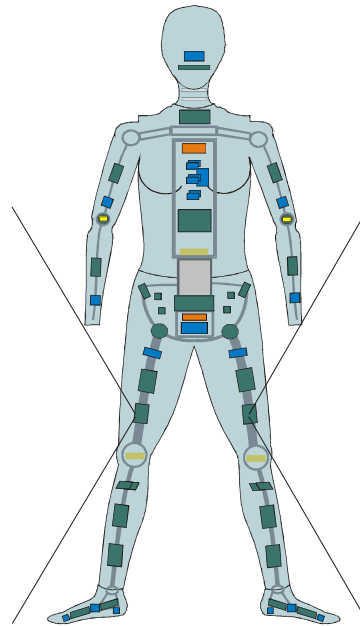
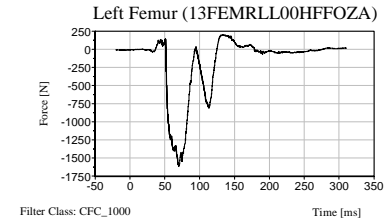
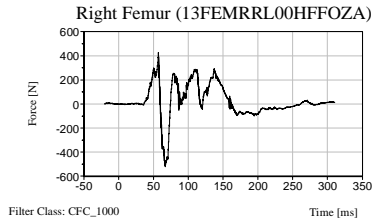
Date: 04/03/2008
Time: 17:14

Femur Load

Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403



Max [Tension] 416.65 N at 57.12 ms
 Min [Compression] -513.59 N at 67.04 ms

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

Max [Tension] 204.55 N at 132.72 ms
 Min [Compression] -1,608.78 N at 70.32 ms

Femur Load Source Code : Min/Max of 13FEMRRL00HFFOZB and 13FEMRLL00HFFOZB (CFC 600)

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

Tibia Index (TI)

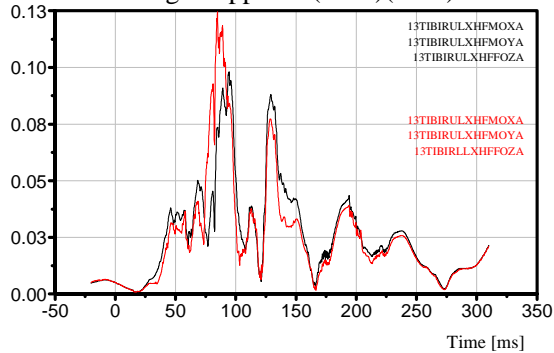
Customer: VRTC

TRC Inc. Test Lab: CTF

Test Number: 080403

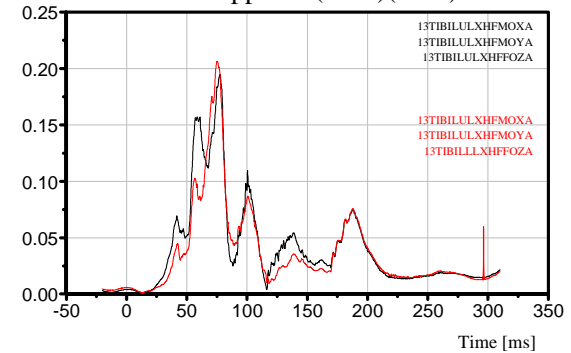
Critical Bending Moment = 240 N-m
Critical Compression Force = 12000 N

Right Upper TI(IIHS)(SAE)



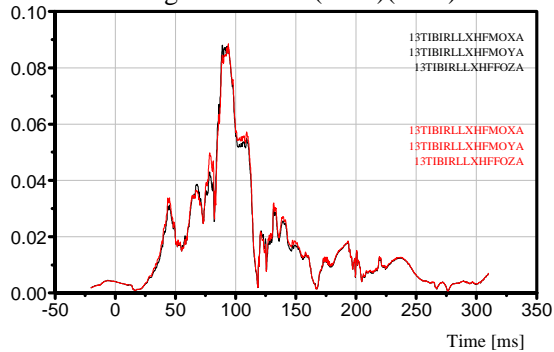
Max = 0.10 at 94.48 ms (SAE)
Max = 0.12 at 84.80 ms (IIHS)

Left Upper TI(IIHS)(SAE)



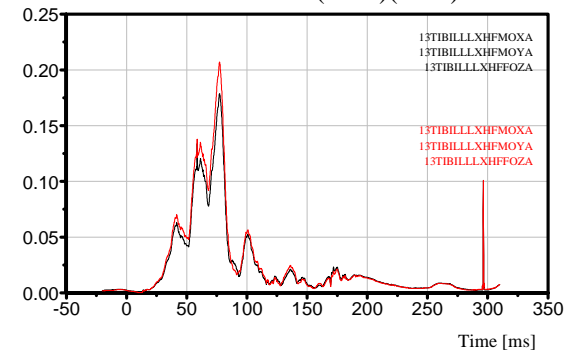
Max = 0.19 at 77.52 ms (SAE)
Max = 0.21 at 75.36 ms (IIHS)

Right Lower TI(IIHS)(SAE)

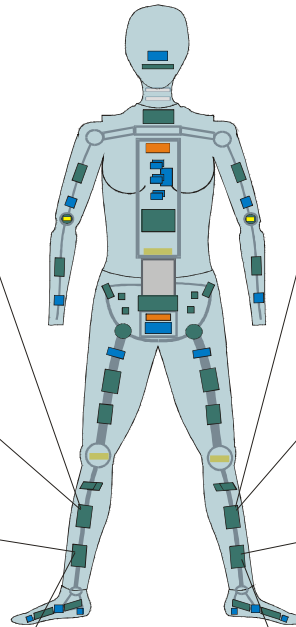


Max = 0.09 at 88.96 ms (SAE)
Max = 0.09 at 93.84 ms (IIHS)

Left Lower TI(IIHS)(SAE)



Max = 0.18 at 77.36 ms (SAE)
Max = 0.21 at 77.36 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)

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2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

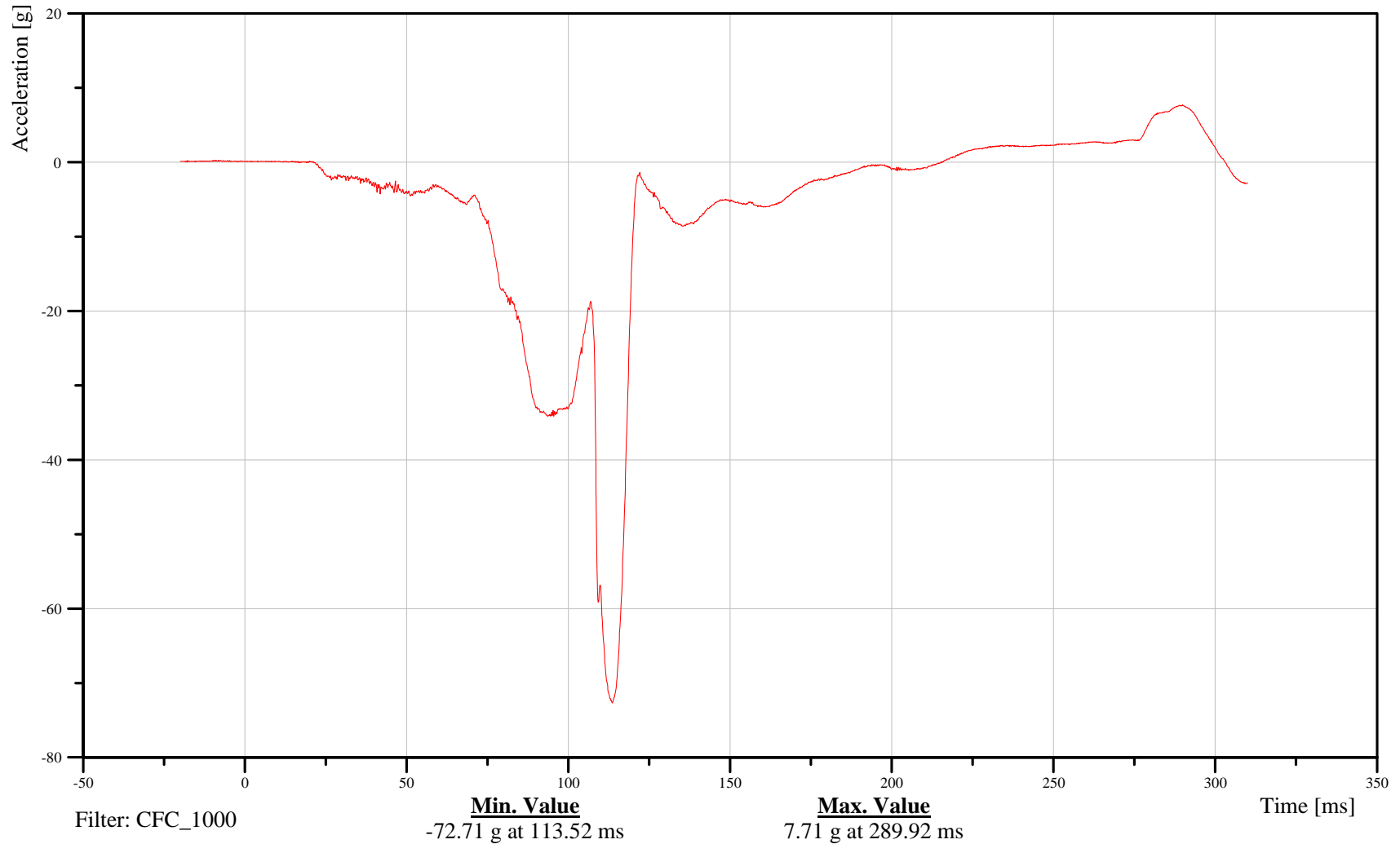
Target Vehicle Driver Head X-Axis Acceleration

Customer: VRTC

21HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

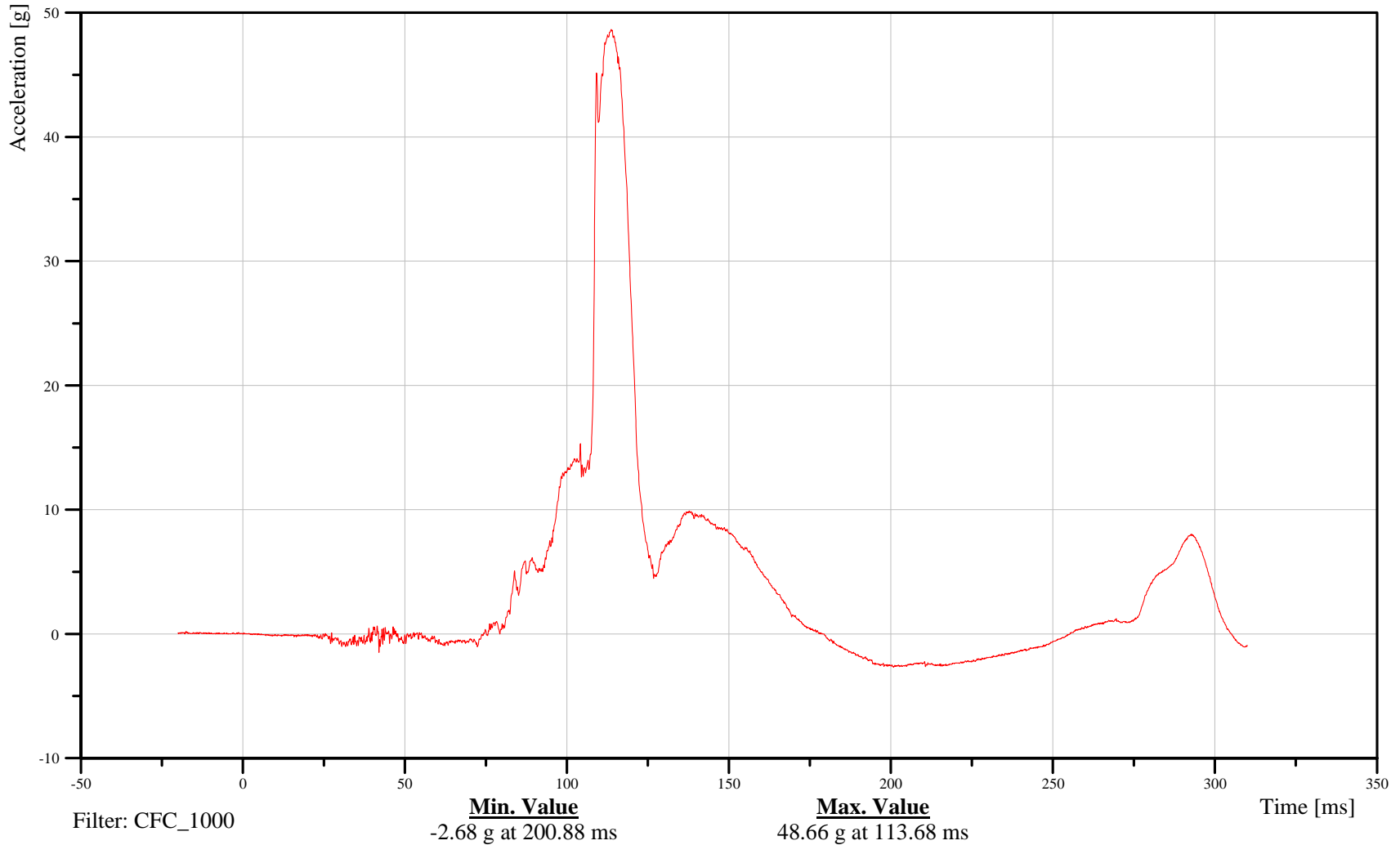
Target Vehicle Driver Head Y-Axis Acceleration

Customer: VRTC

21HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

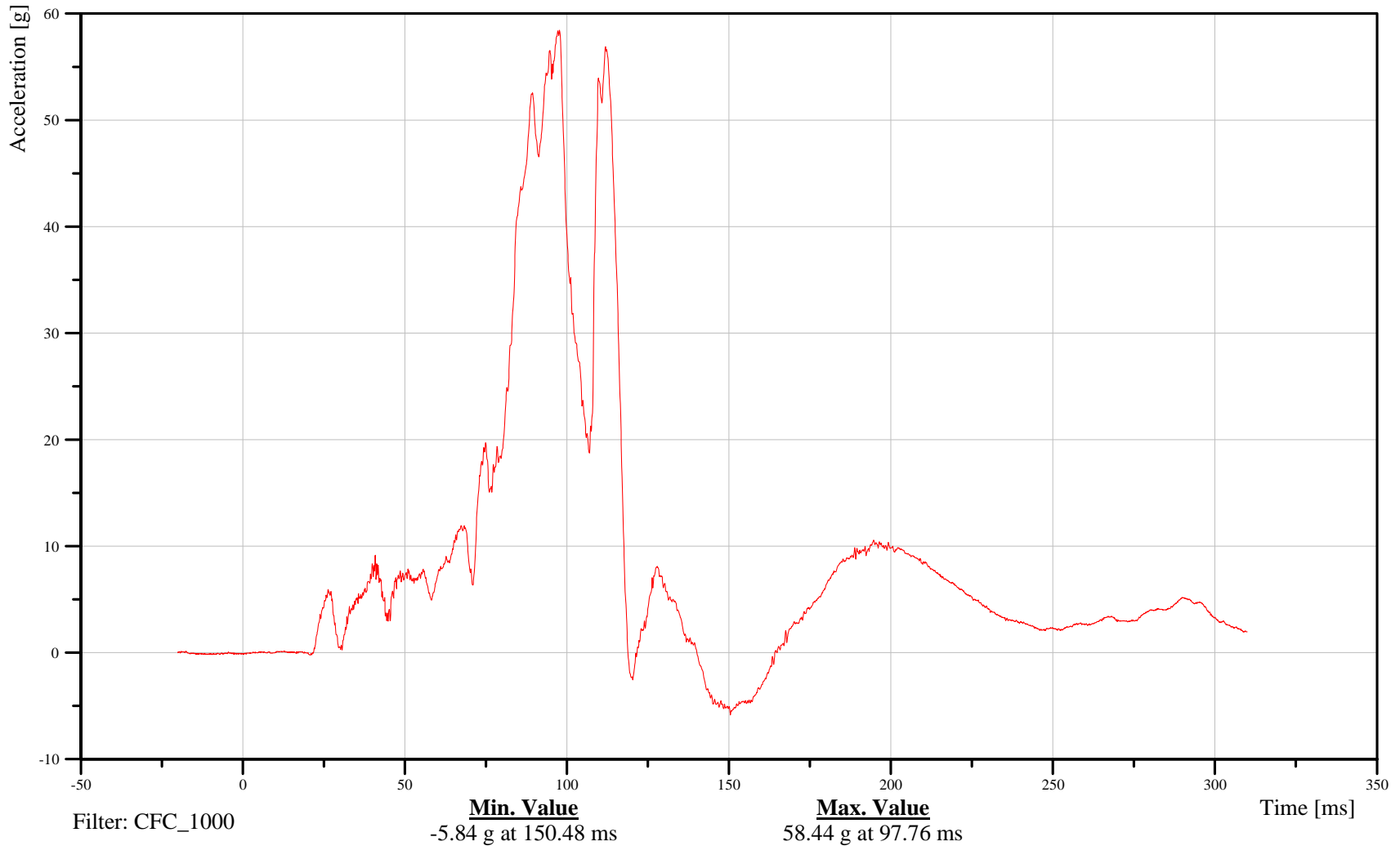
Target Vehicle Driver Head Z-Axis Acceleration

Customer: VRTC

21HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

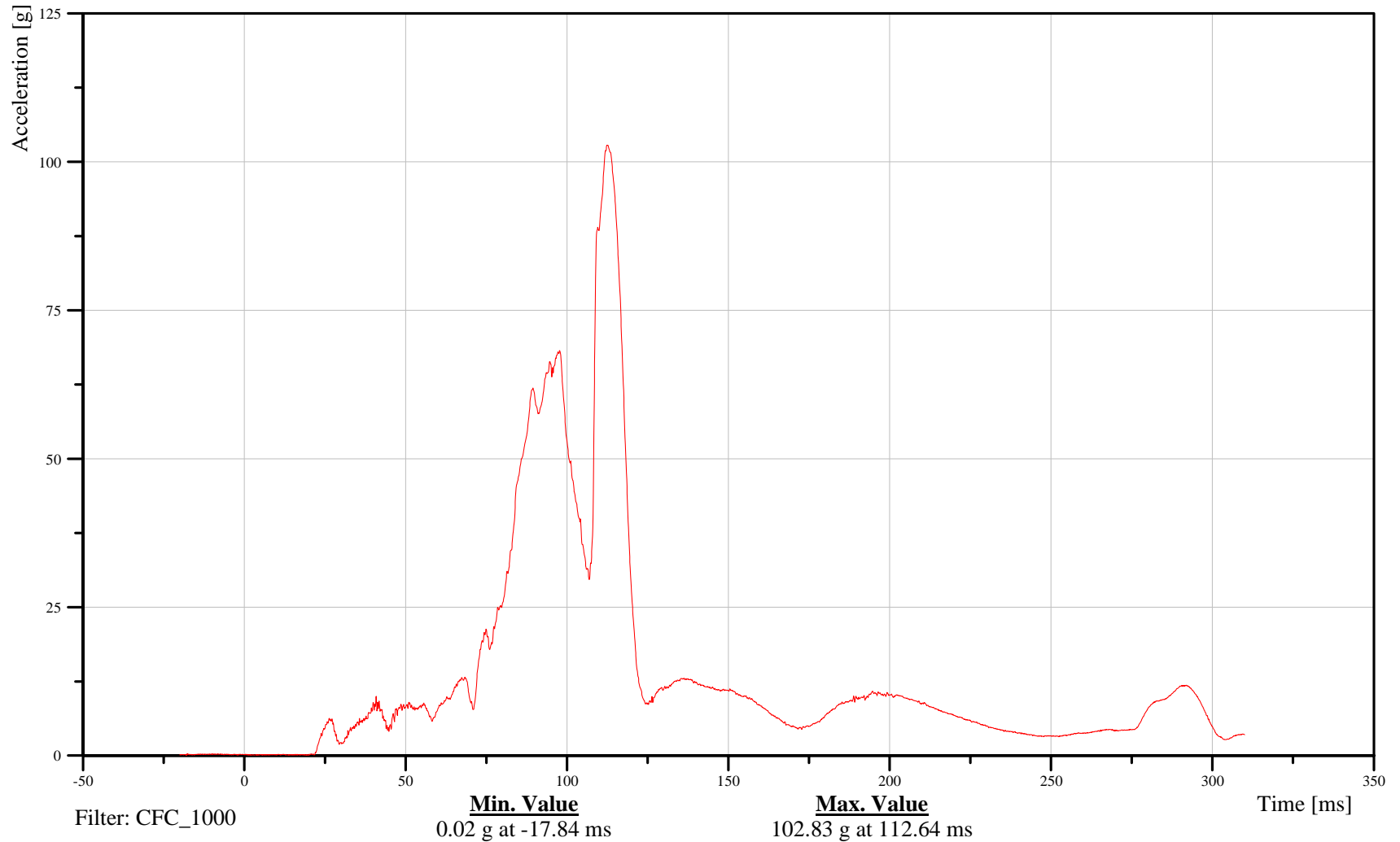
Target Vehicle Driver Head Resultant Acceleration

Customer: VRTC

21HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

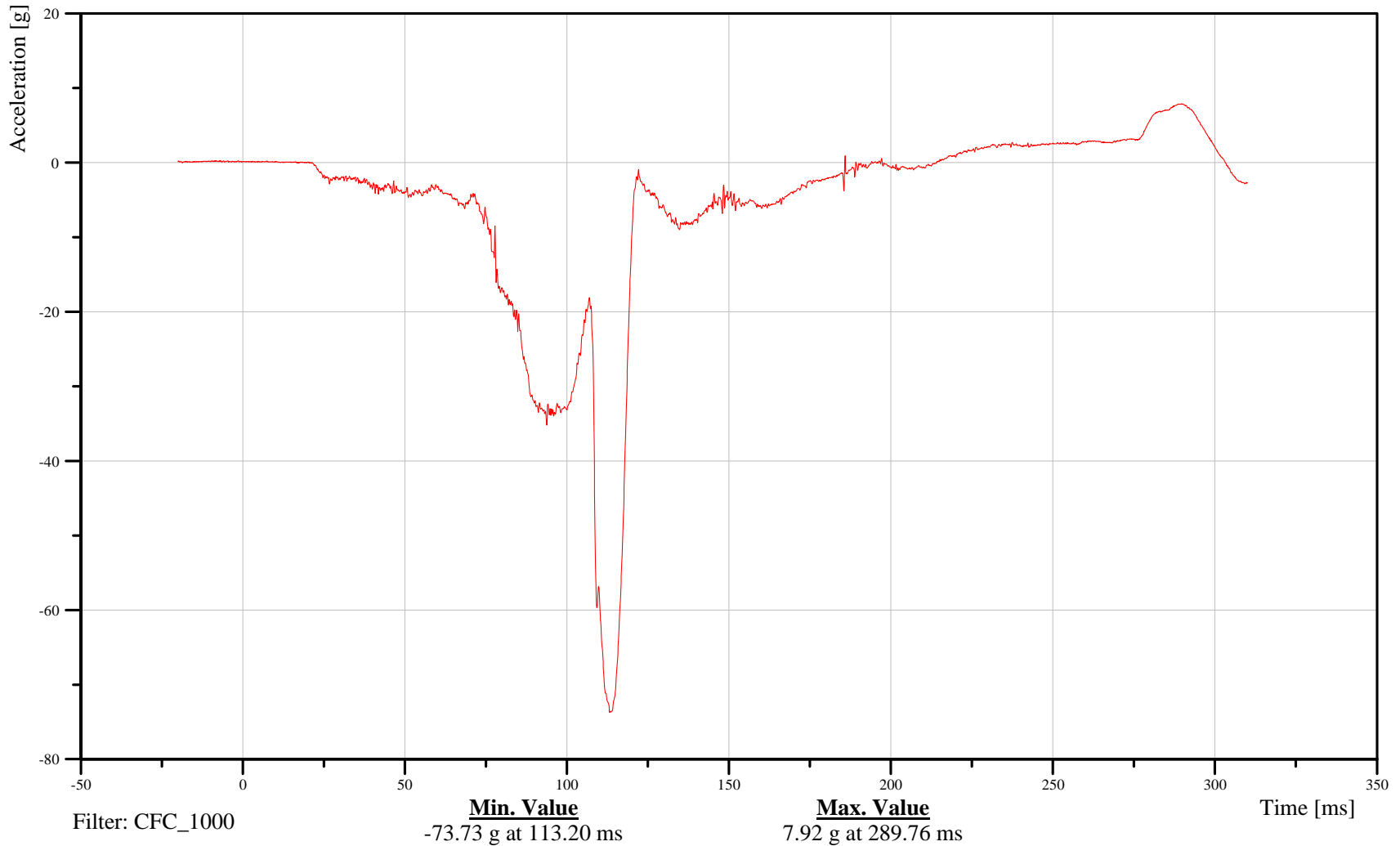
Target Vehicle Driver Head X-Axis Acceleration Redundant

Customer: VRTC

21HEADCGRDH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

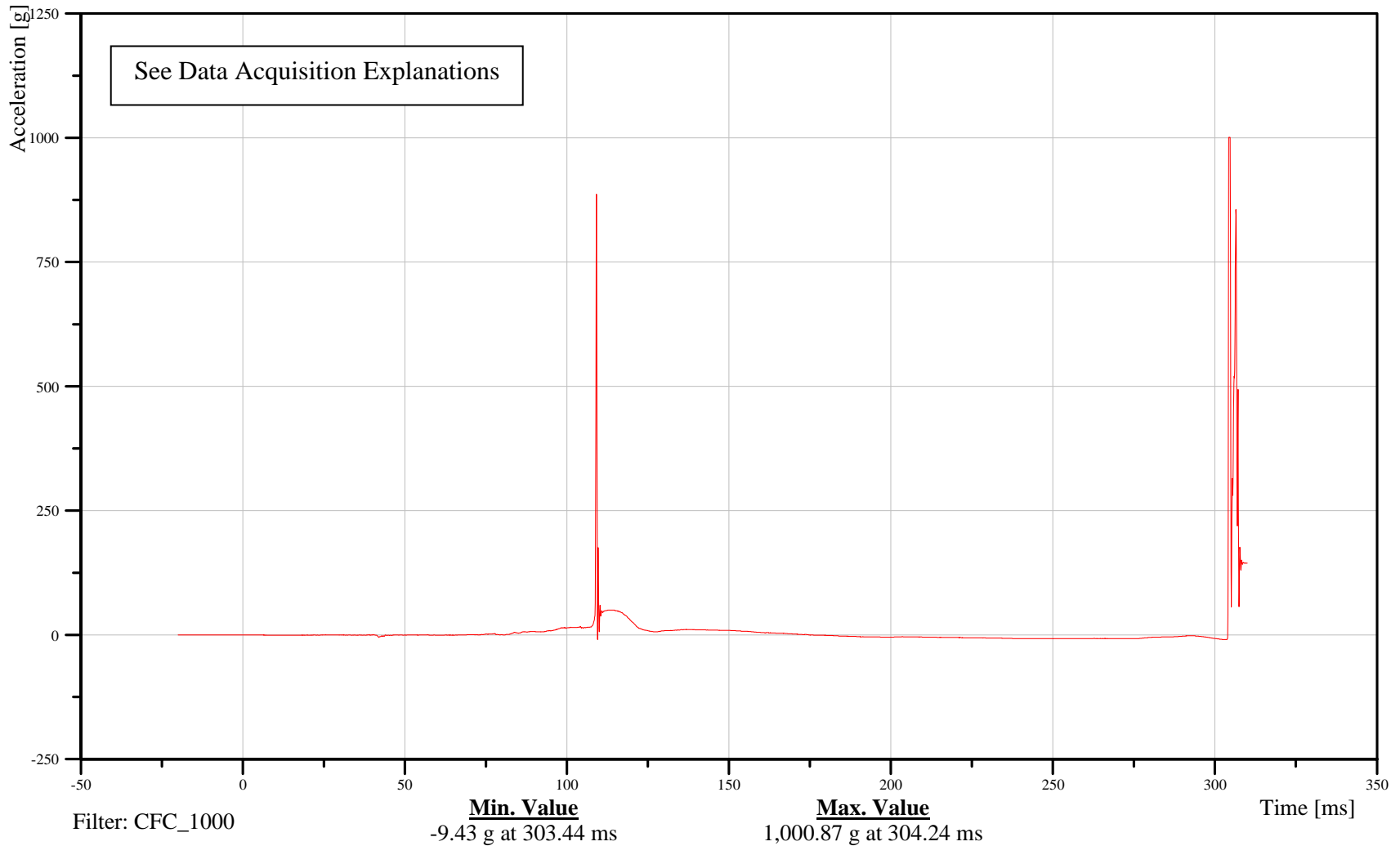
Target Vehicle Driver Head Y-Axis Acceleration Redundant

Customer: VRTC

21HEADCGRDH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

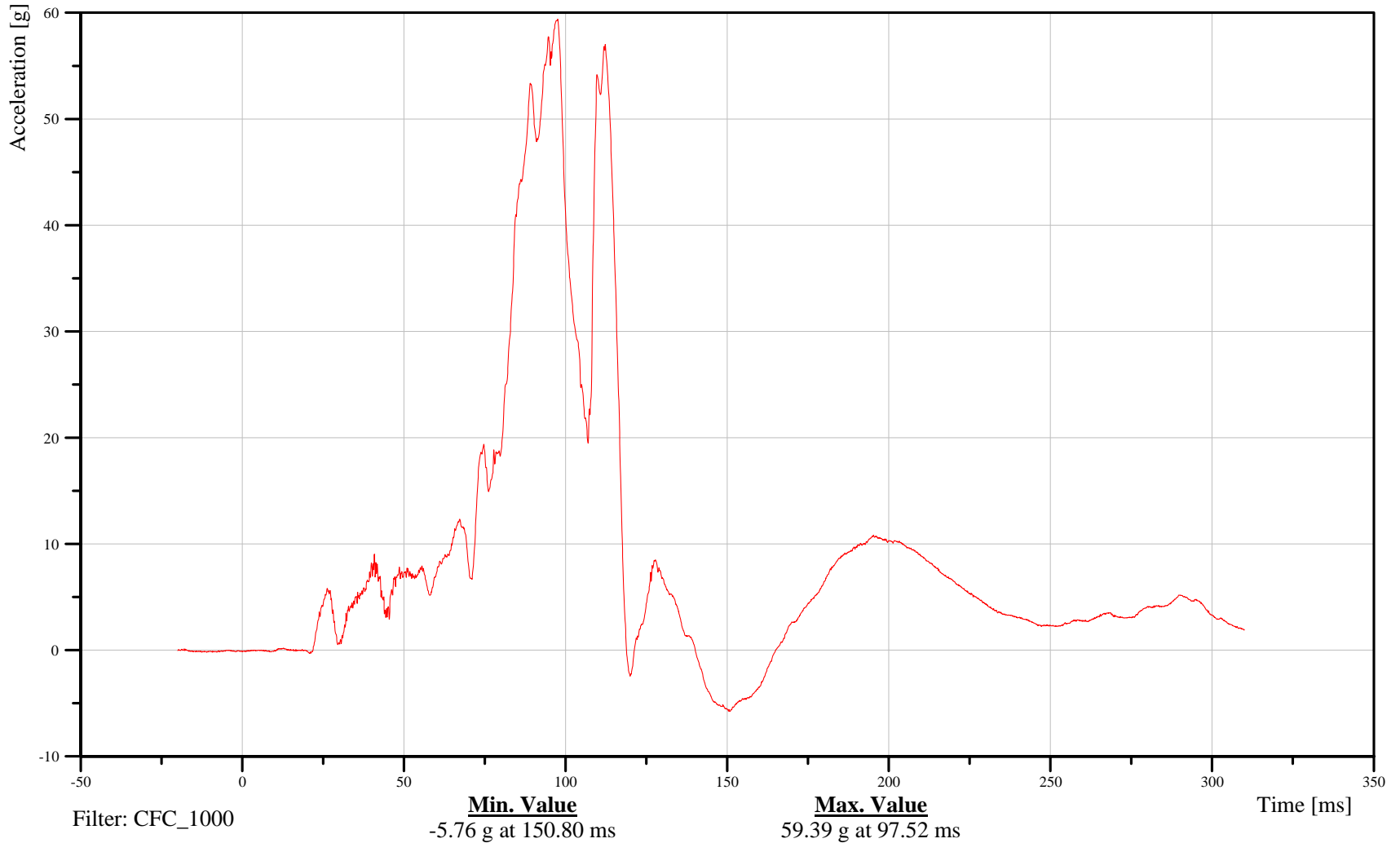
Target Vehicle Driver Head Z-Axis Acceleration Redundant

Customer: VRTC

21HEADCGRDH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

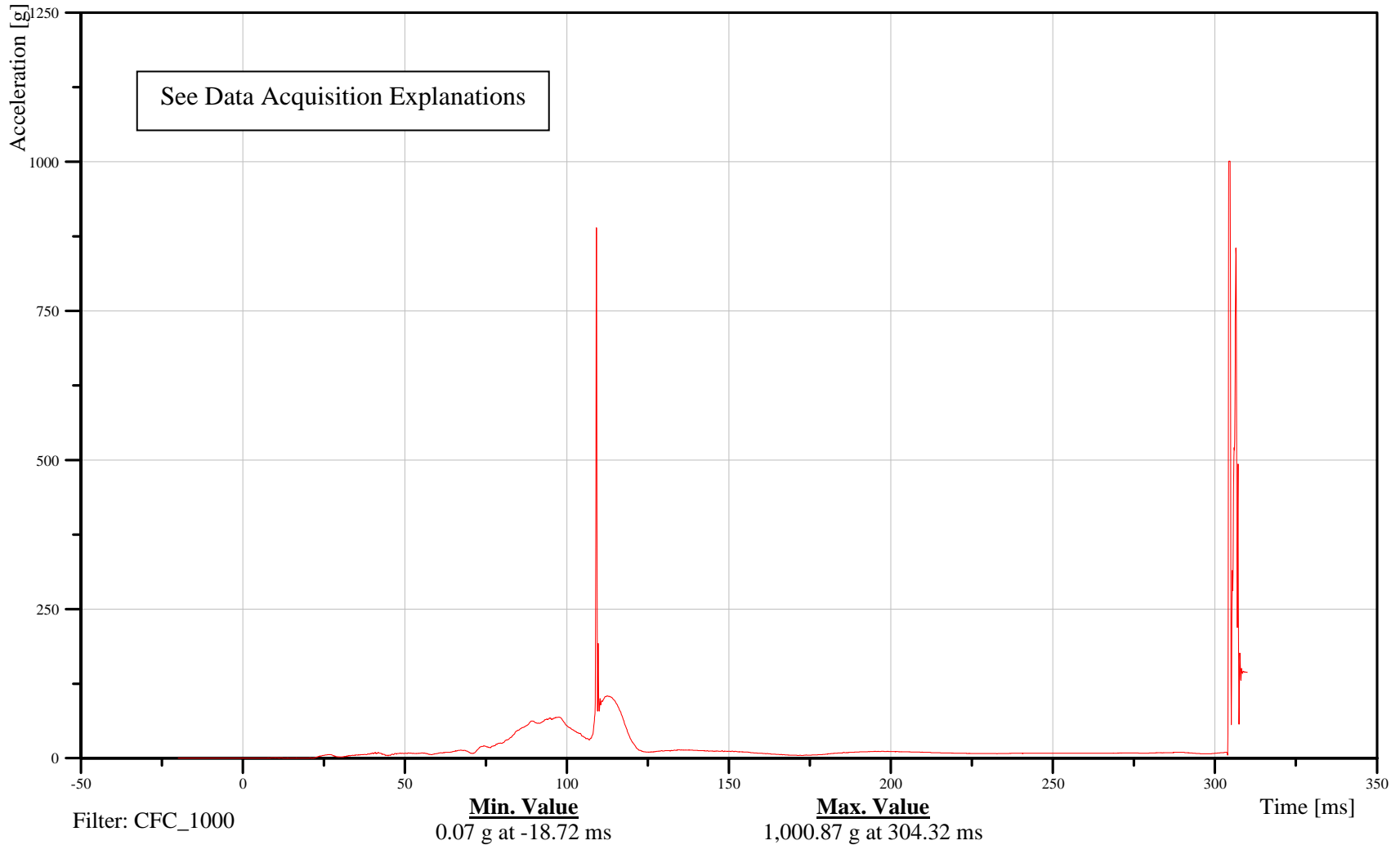
Target Vehicle Driver Head Resultant Acceleration Redundant

Customer: VRTC

21HEADCGRDH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

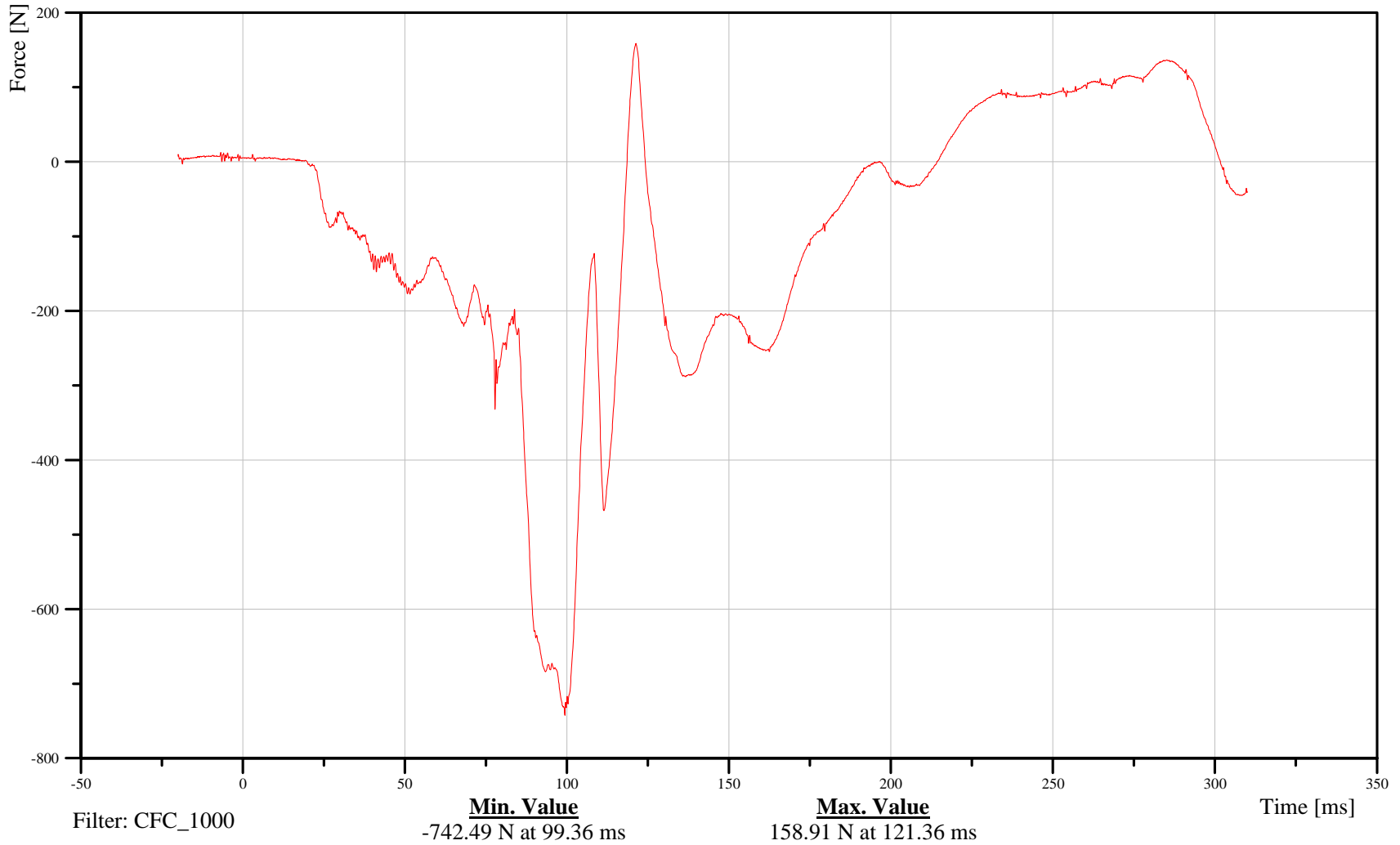
Target Vehicle Driver Neck X-Axis Force

Customer: VRTC

21NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

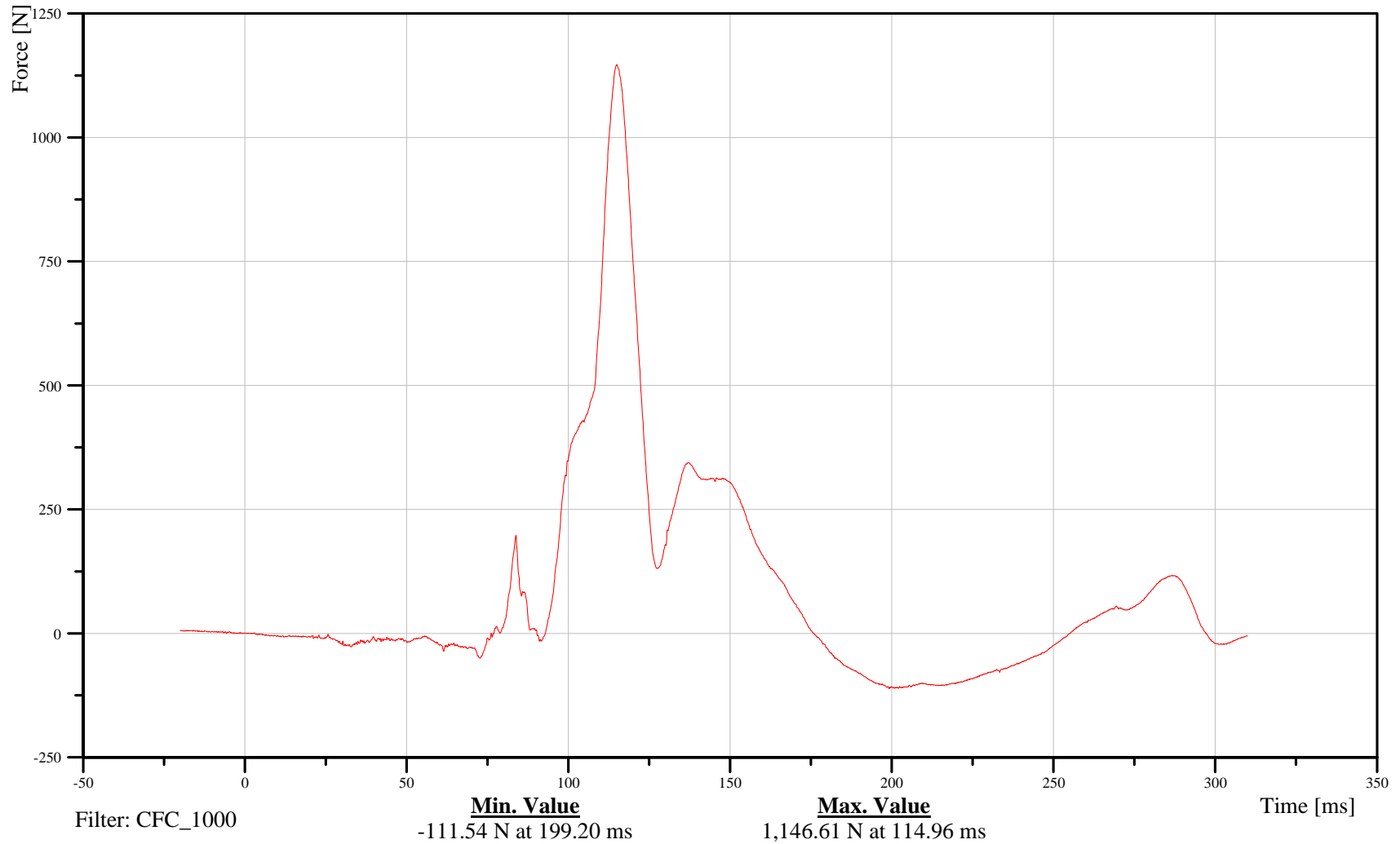
Target Vehicle Driver Neck Y-Axis Force

Customer: VRTC

21NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

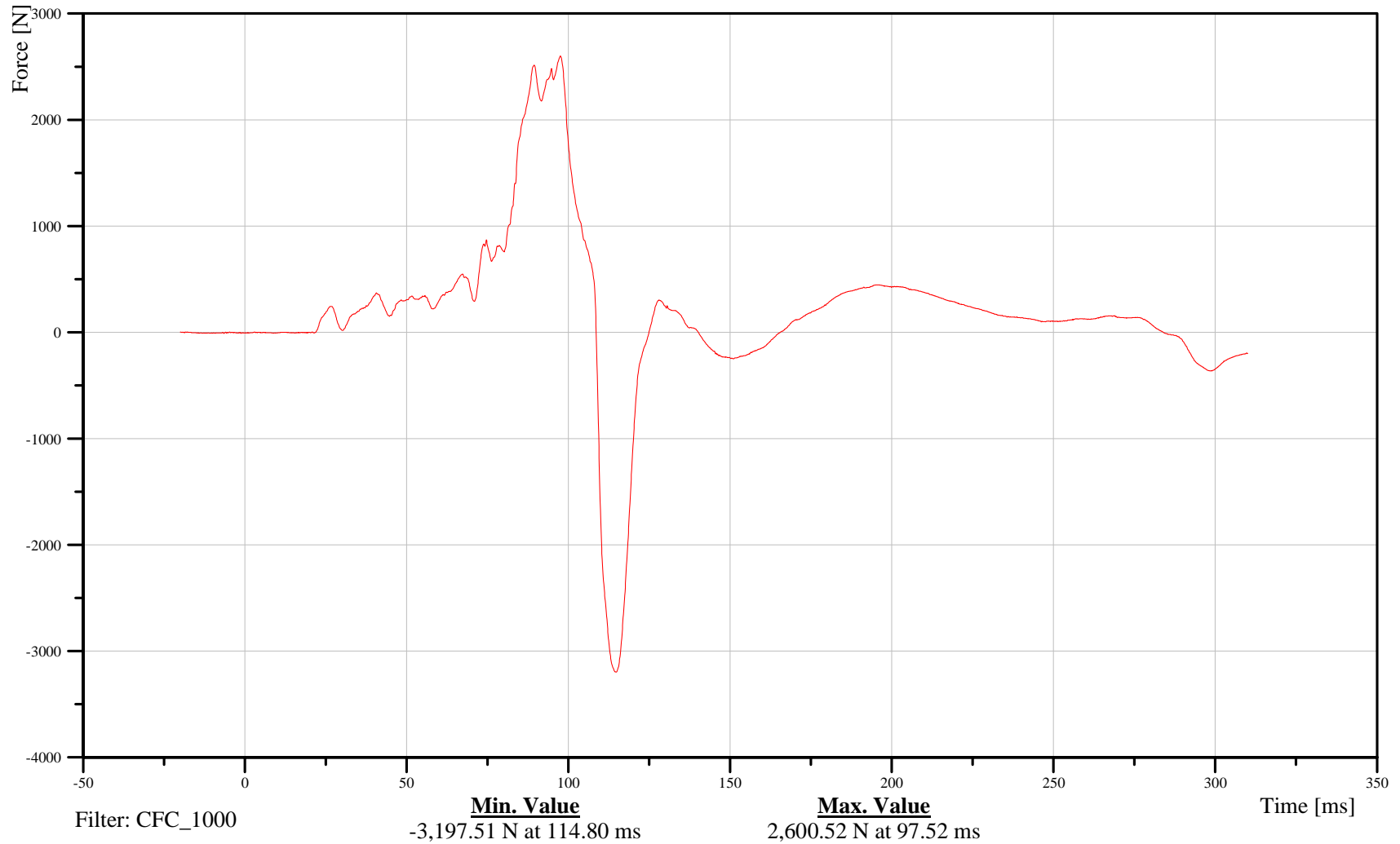
Target Vehicle Driver Neck Z-Axis Force

Customer: VRTC

21NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

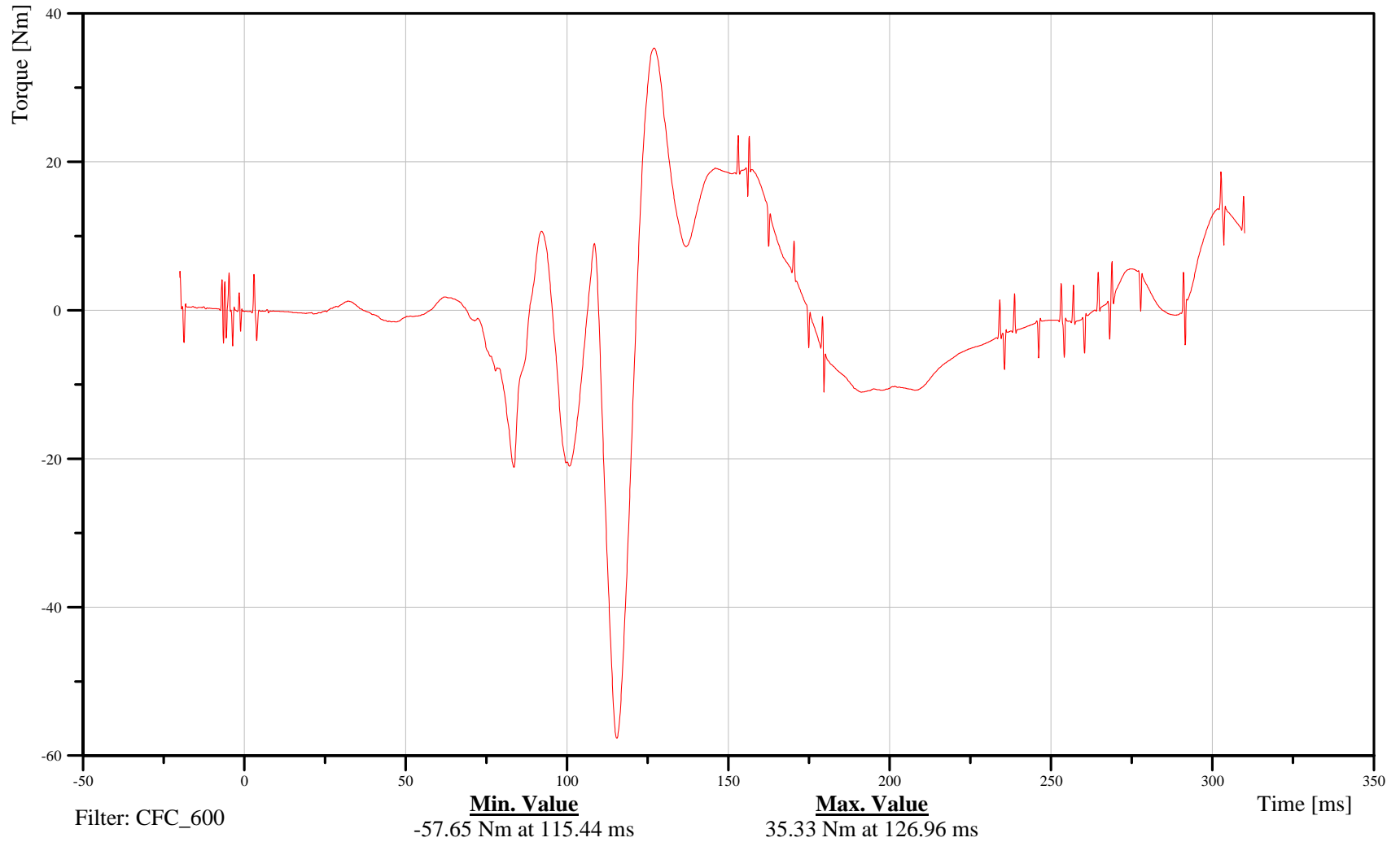
Target Vehicle Driver Neck Moment About X Axis

Customer: VRTC

21NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

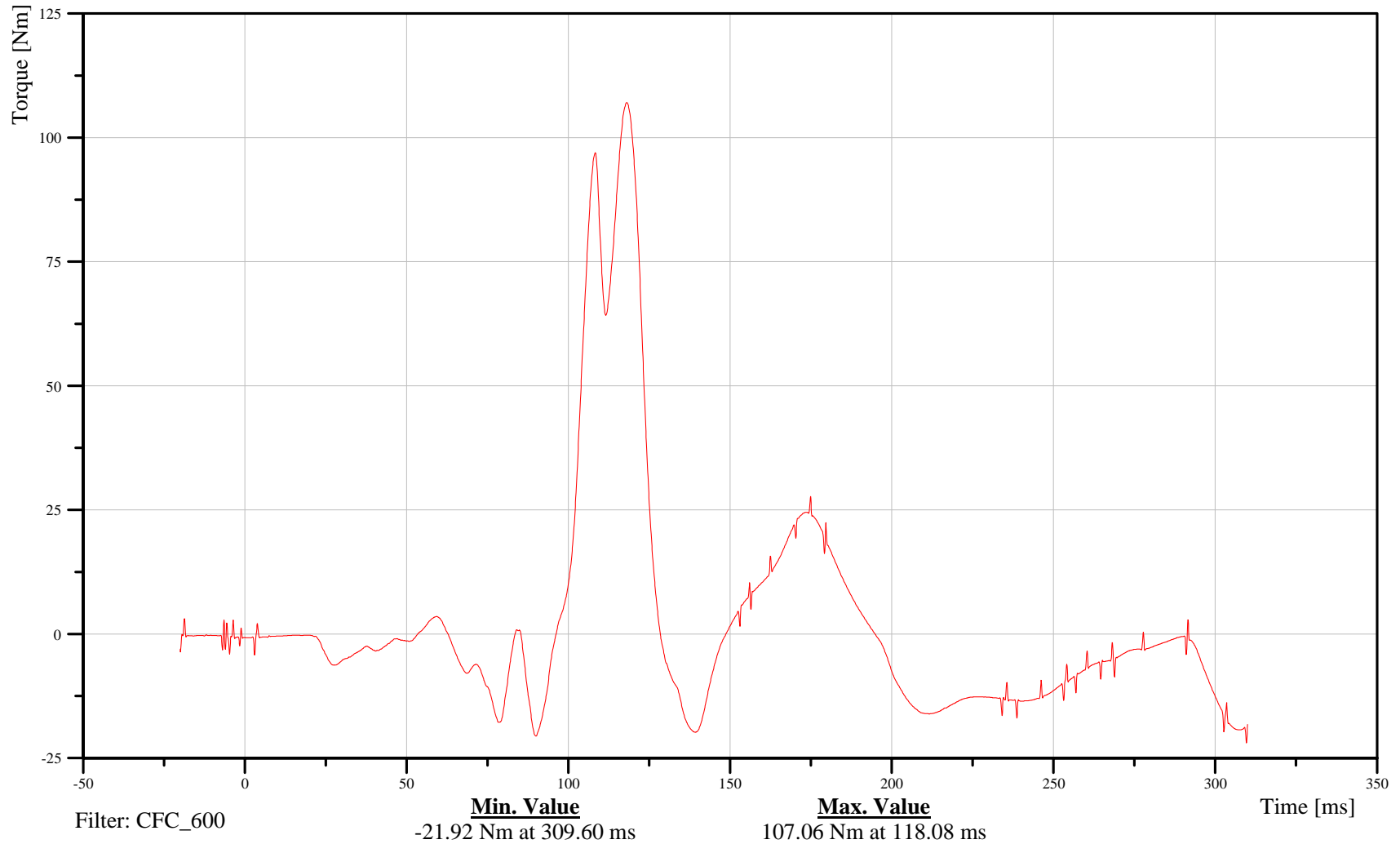
Target Vehicle Driver Neck Moment About Y Axis

Customer: VRTC

21NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

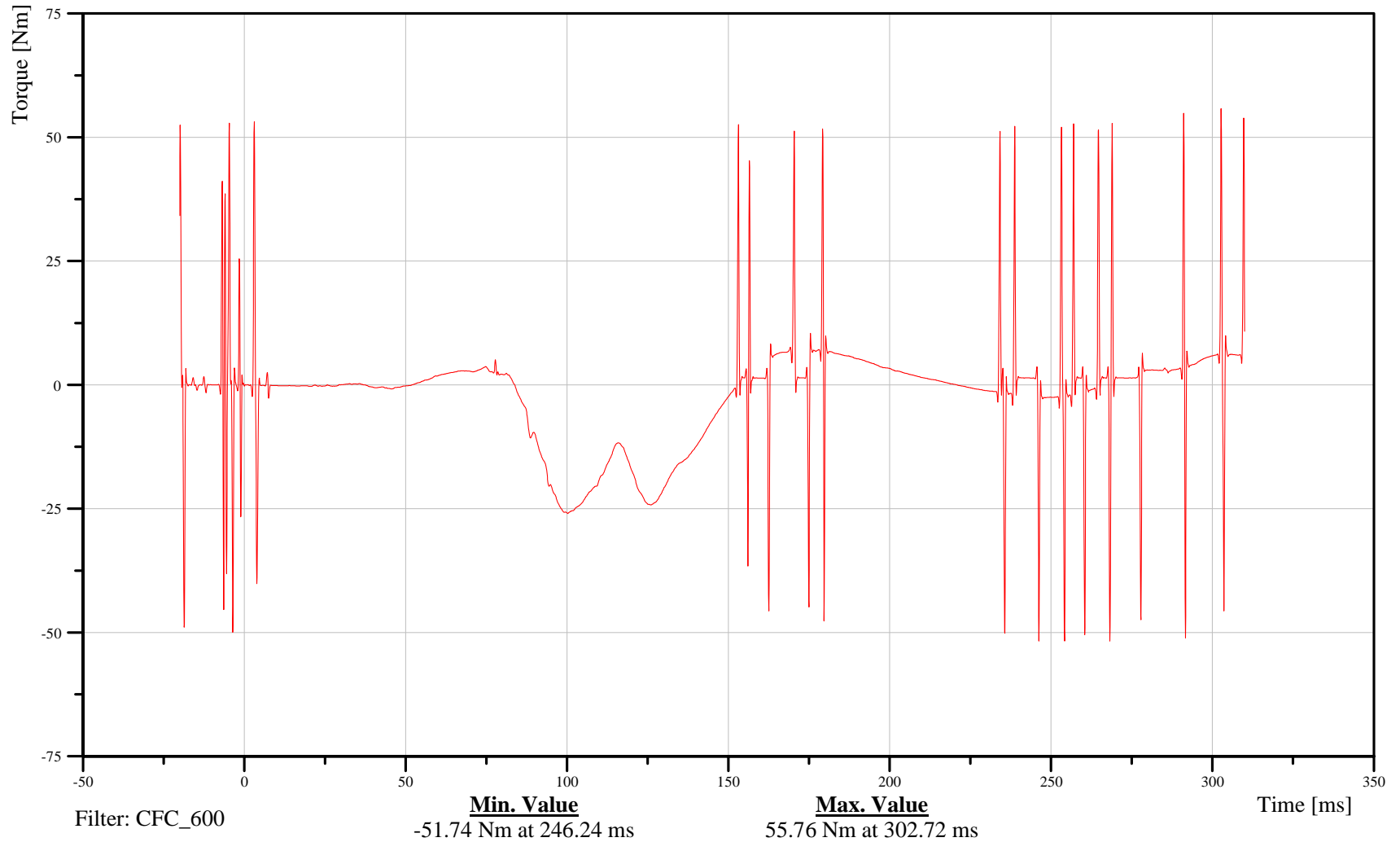
Target Vehicle Driver Neck Moment About Z Axis

Customer: VRTC

21NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

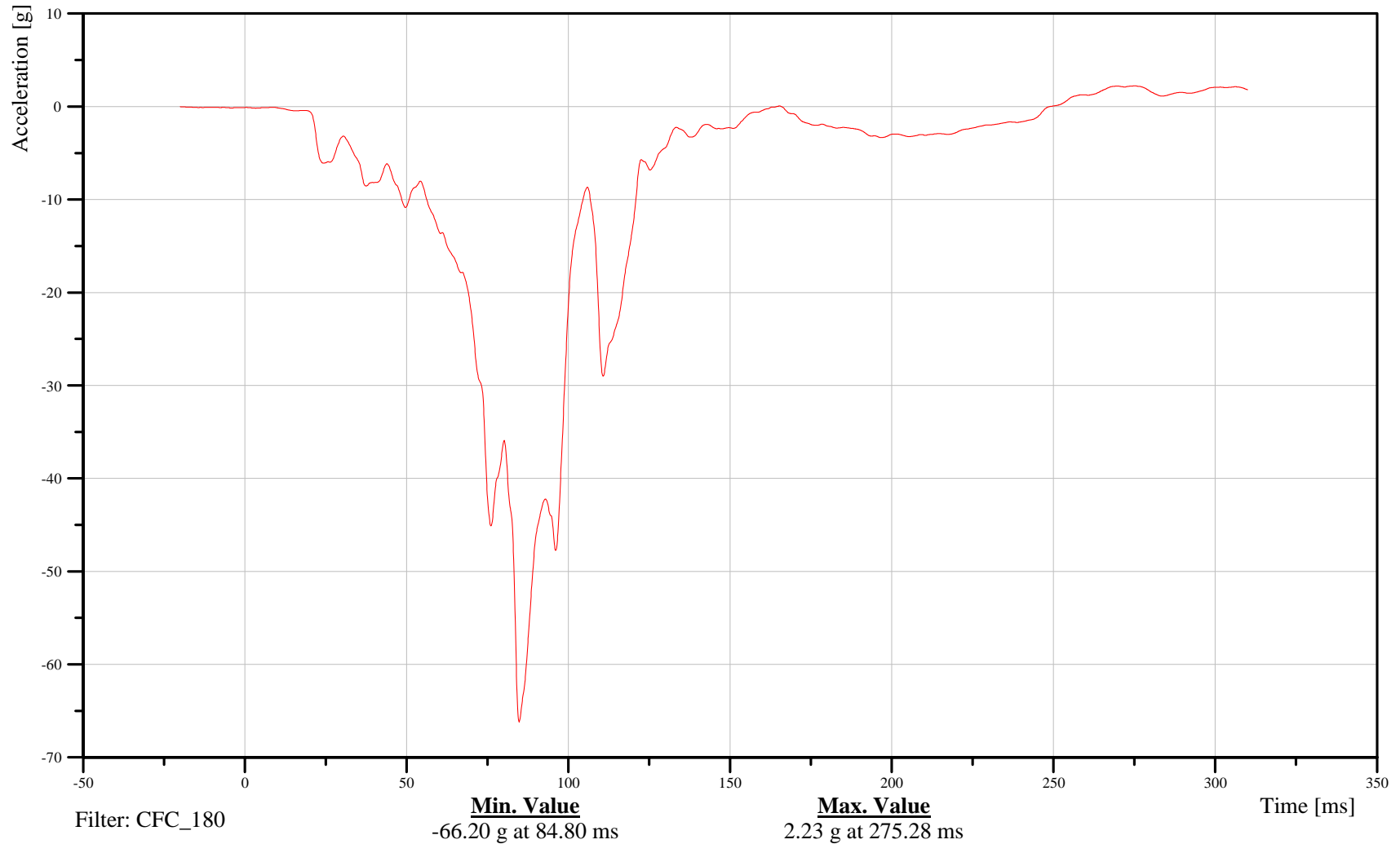
Target Vehicle Driver Chest X-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

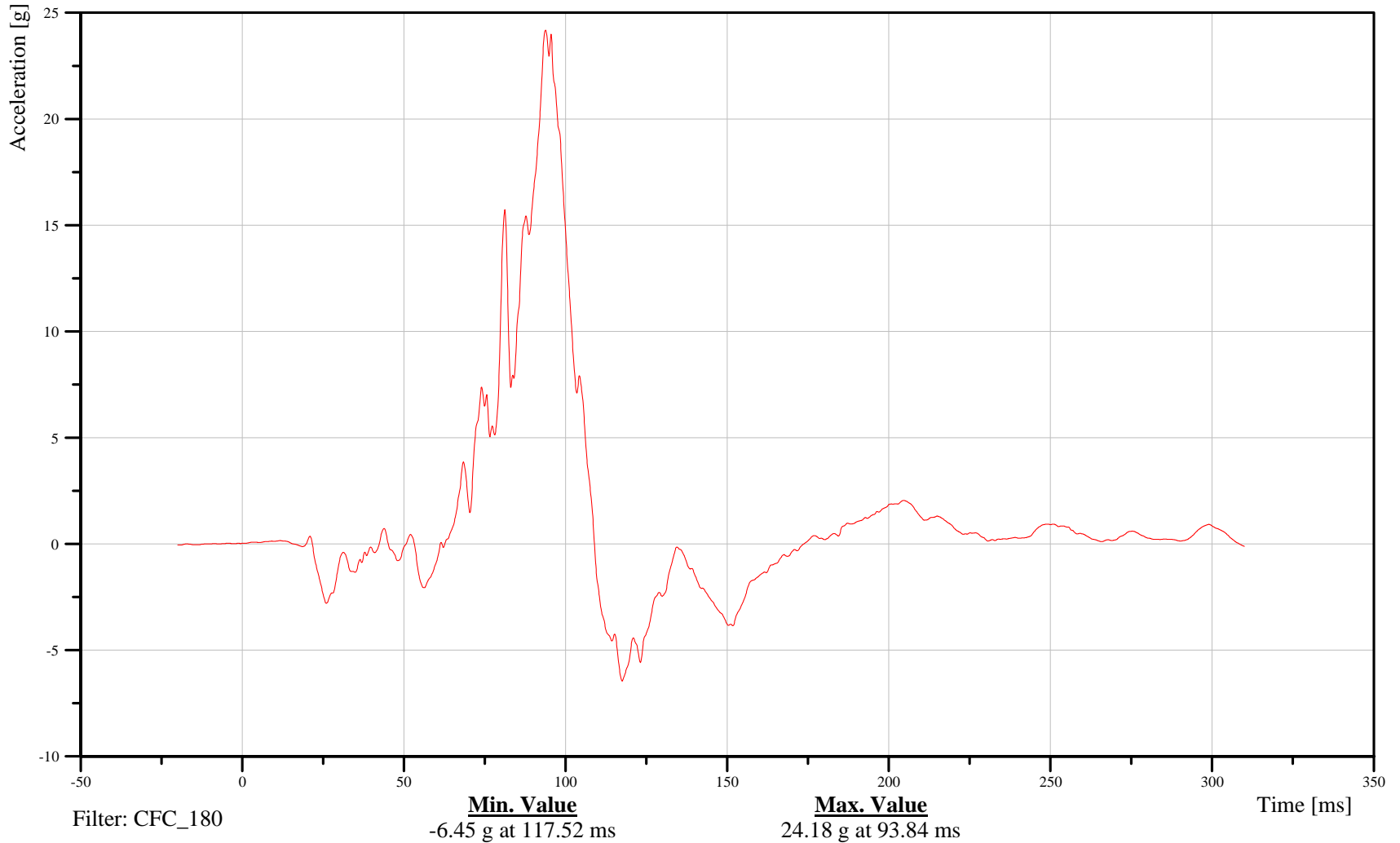
Target Vehicle Driver Chest Y-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

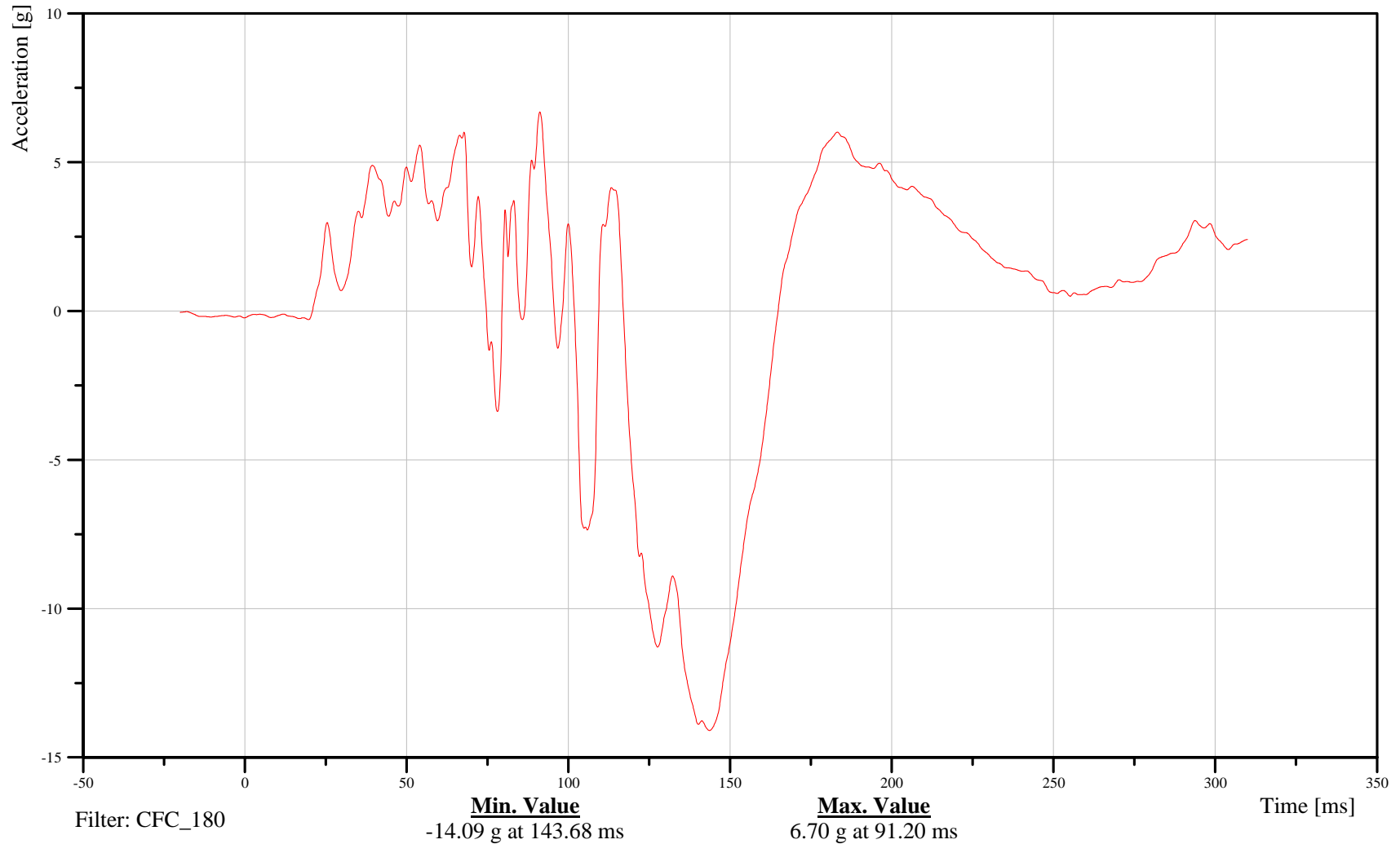
Target Vehicle Driver Chest Z-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

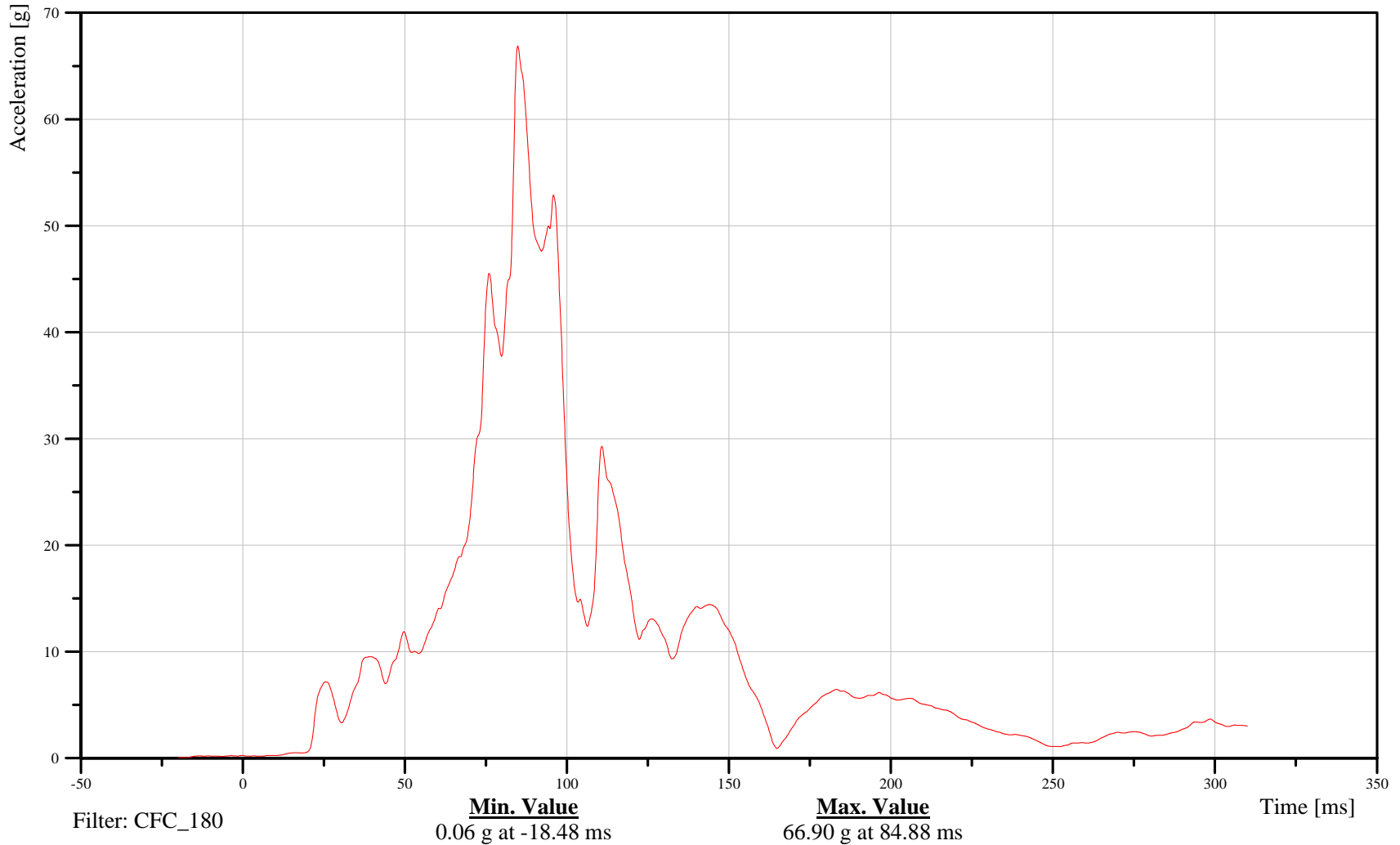
Target Vehicle Driver Chest Resultant Acceleration

Customer: VRTC

21CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

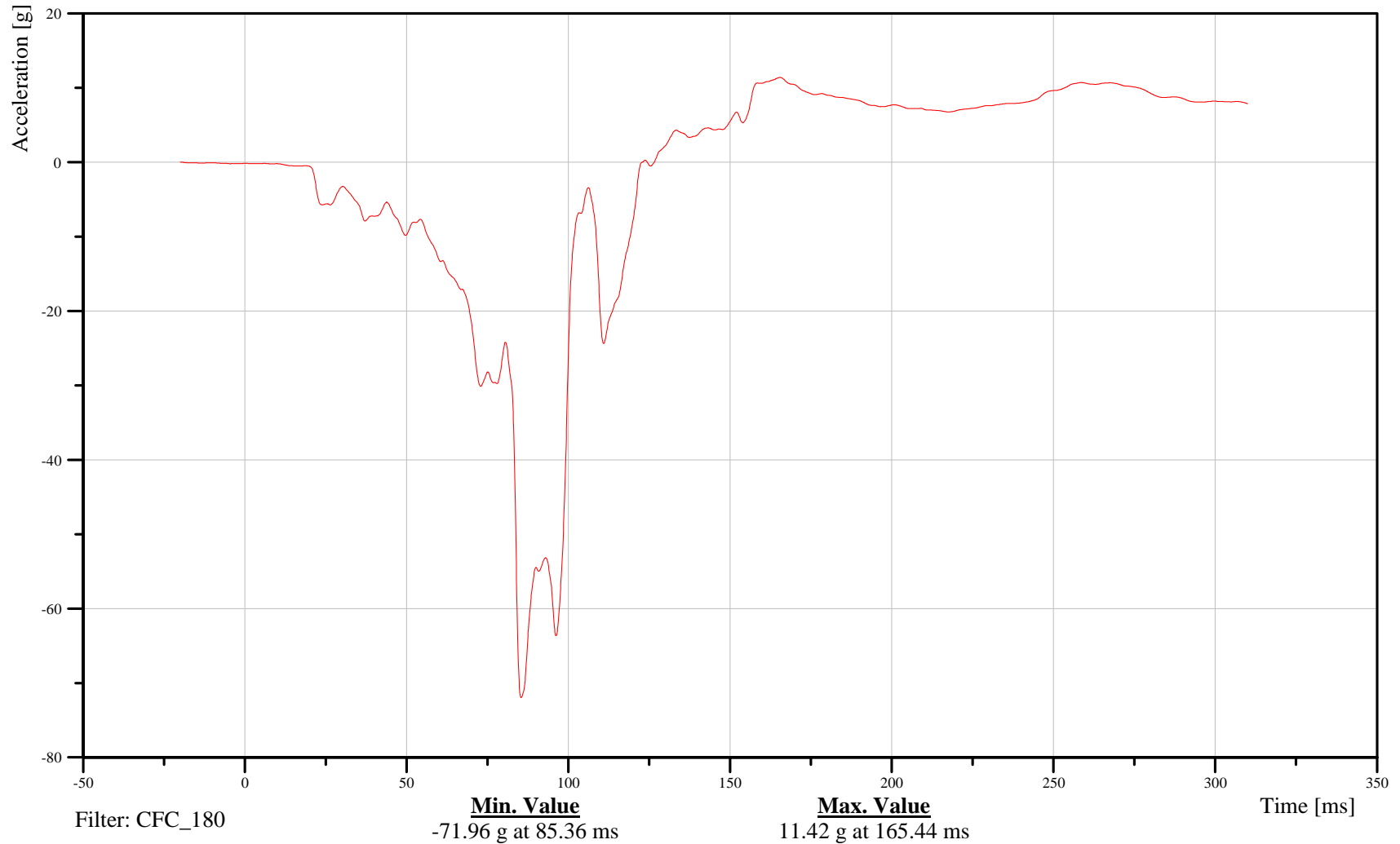
Target Vehicle Driver Chest X-Axis Acceleration Redundant

Customer: VRTC

21CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

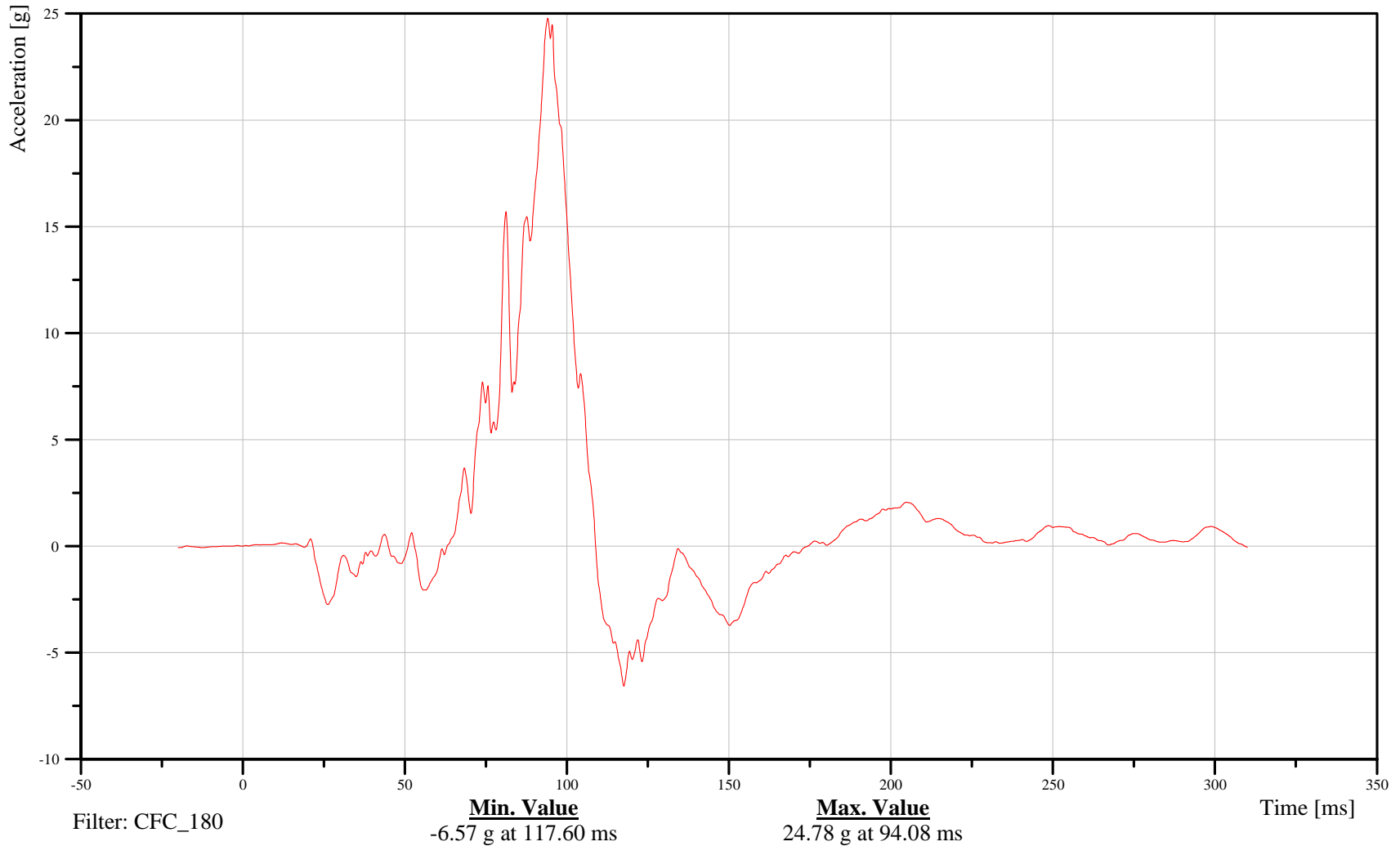
Target Vehicle Driver Chest Y-Axis Acceleration Redundant

Customer: VRTC

21CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

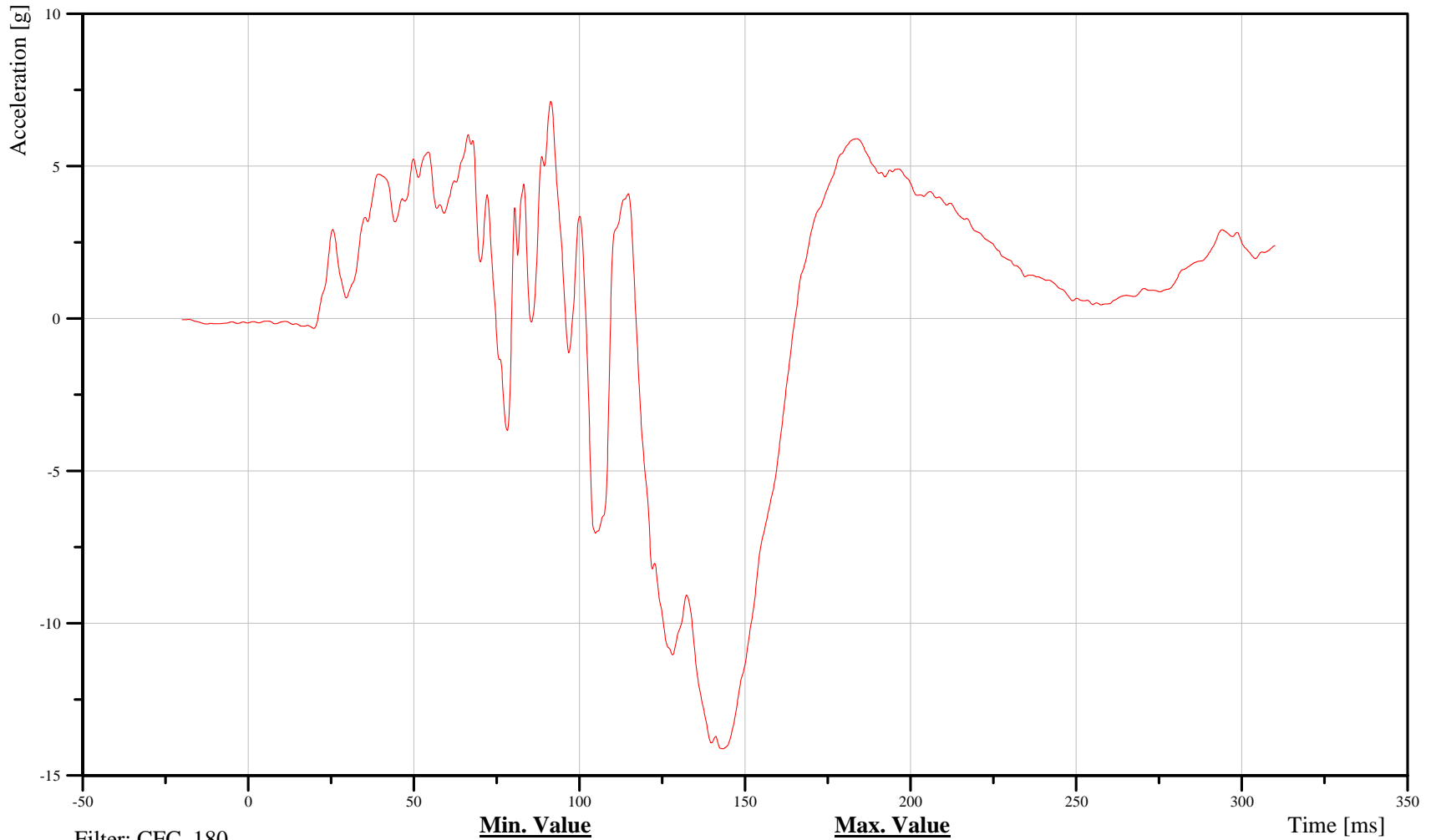
Target Vehicle Driver Chest Z-Axis Acceleration Redundant

Customer: VRTC

21CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



Min. Value
-14.12 g at 143.36 ms

Max. Value
7.13 g at 91.36 ms

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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

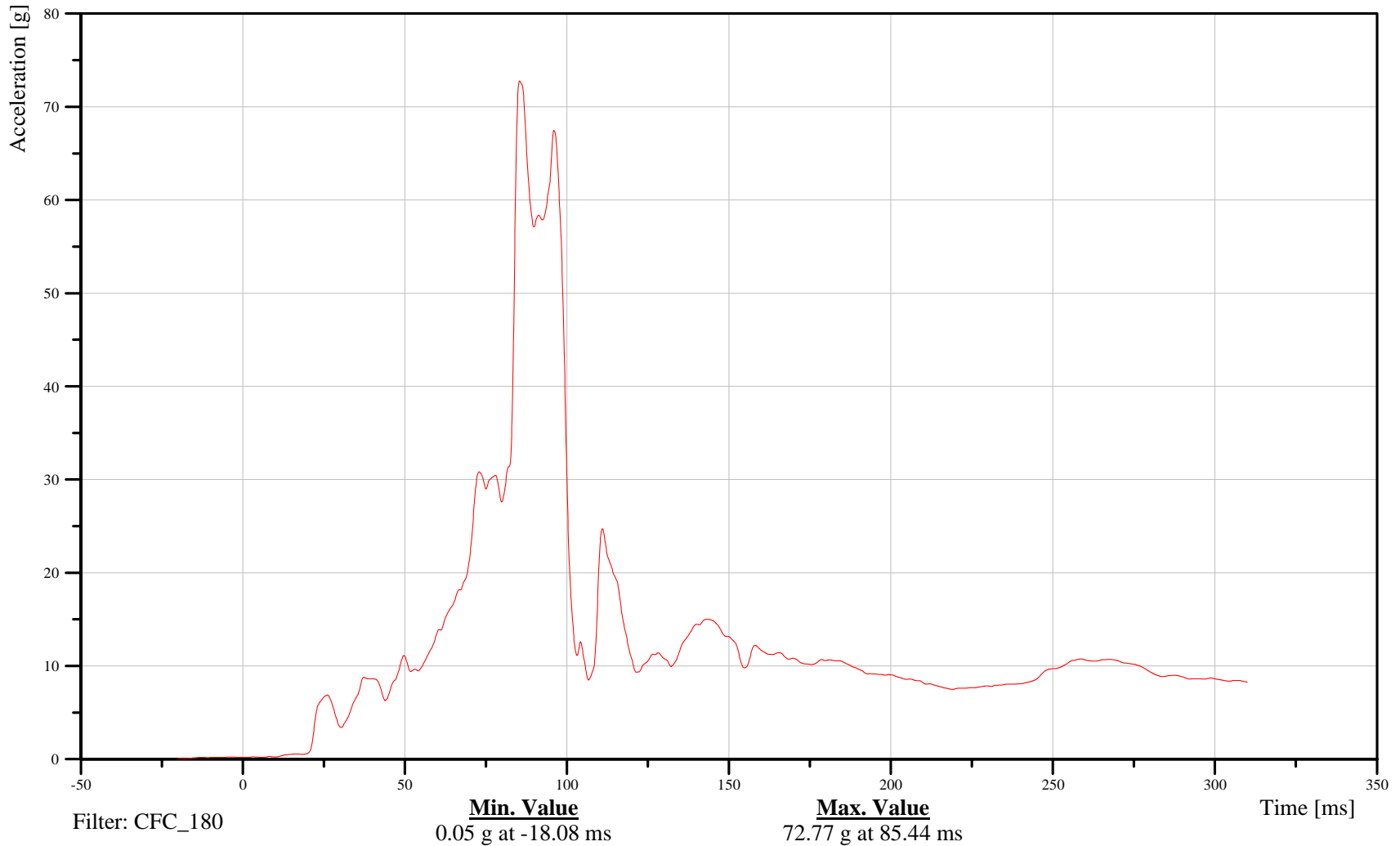
Target Vehicle Driver Chest Resultant Acceleration Redundant

Customer: VRTC

21CHSTCGRDH3ACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

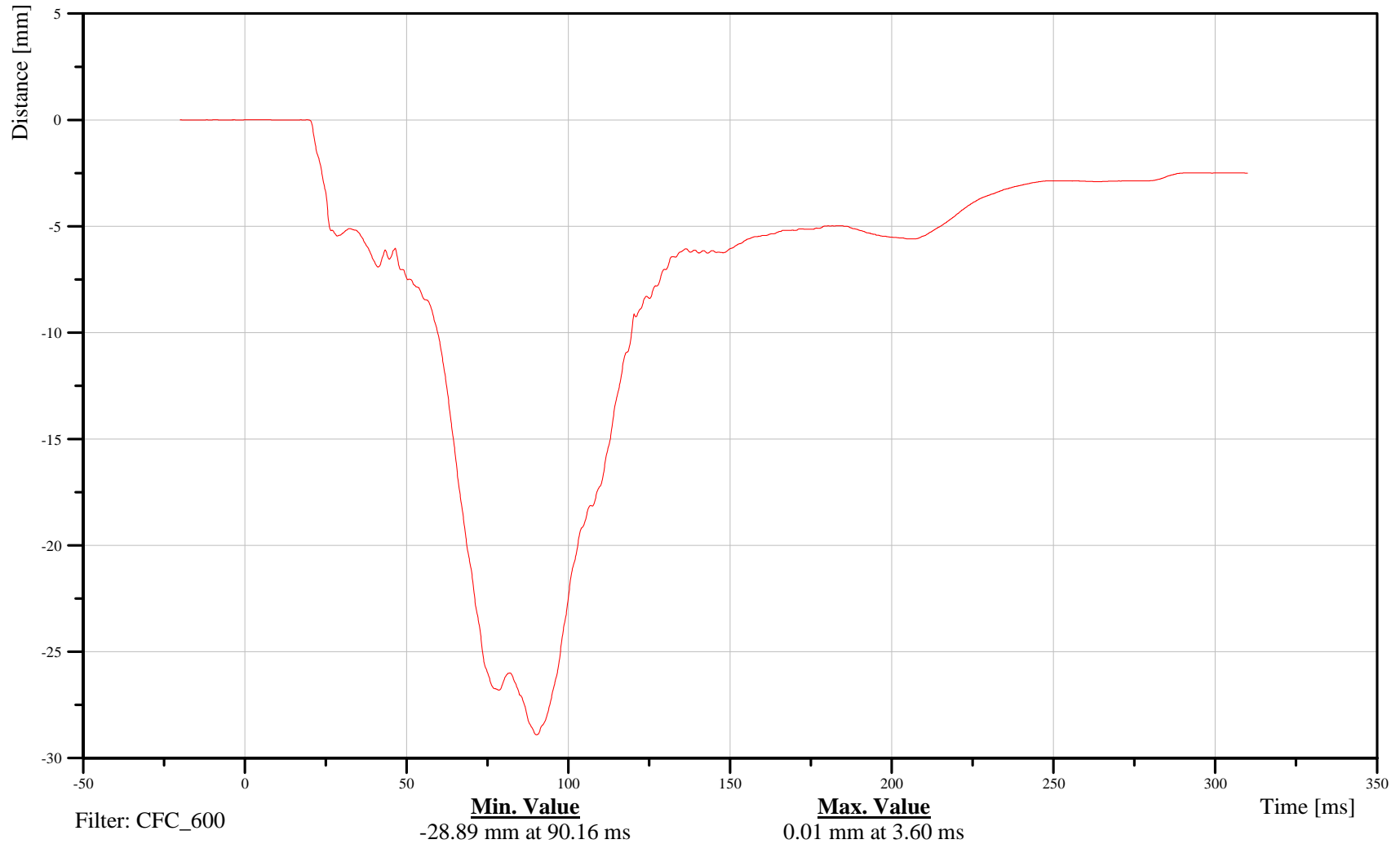
Target Vehicle Driver Chest X-Axis Displacement

Customer: VRTC

21CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

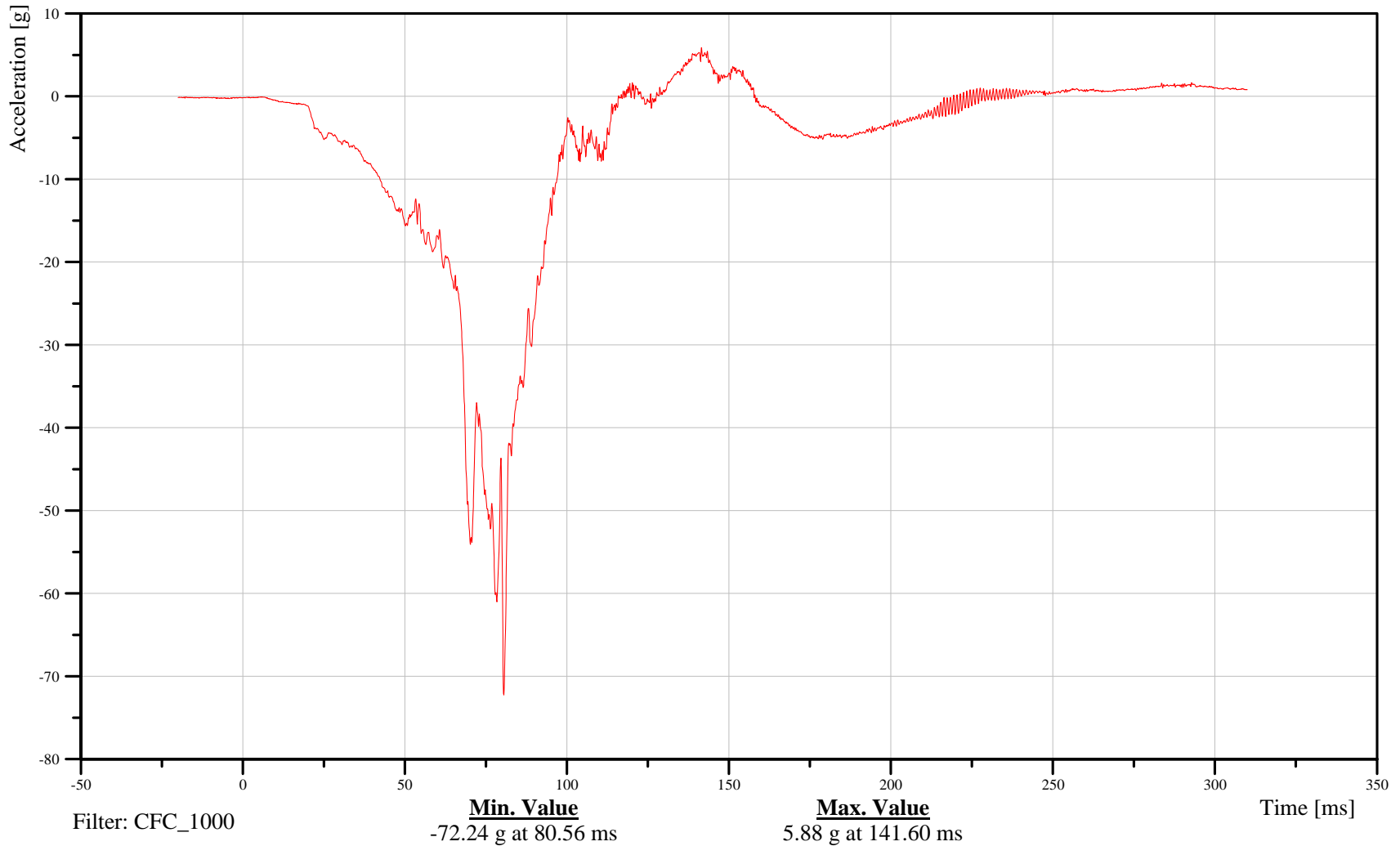
Target Vehicle Driver Pelvis X-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

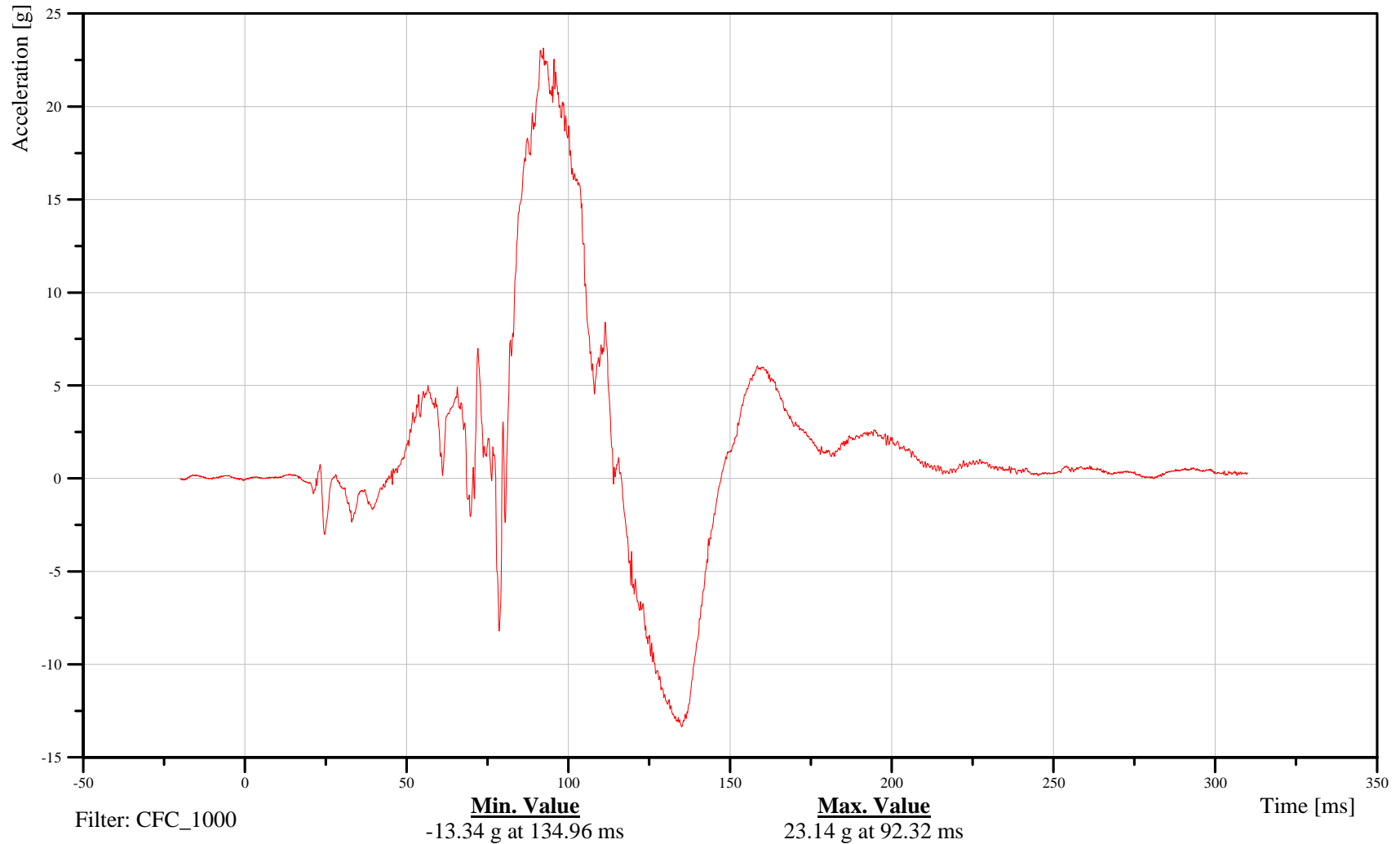
Target Vehicle Driver Pelvis Y-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

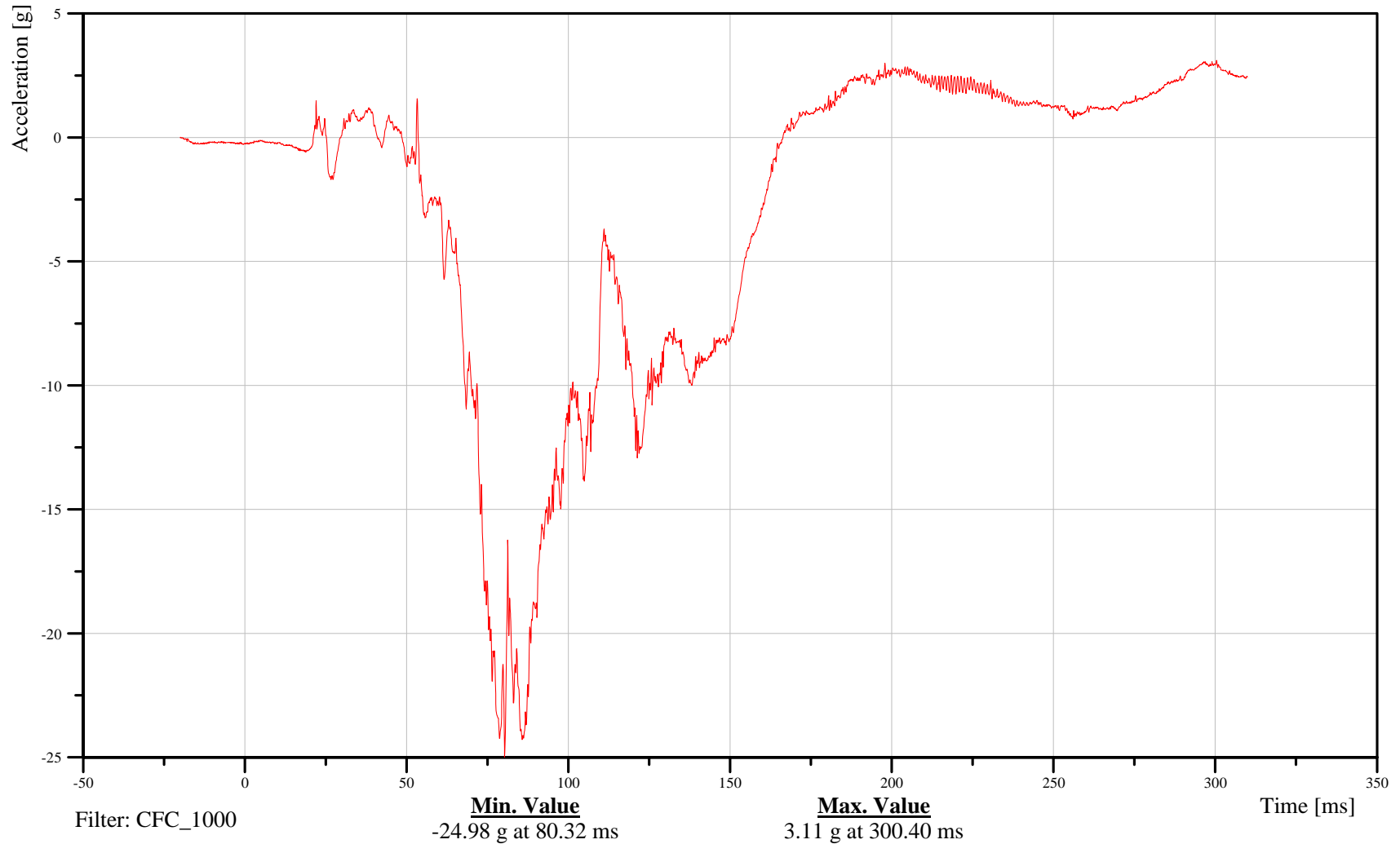
Target Vehicle Driver Pelvis Z-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

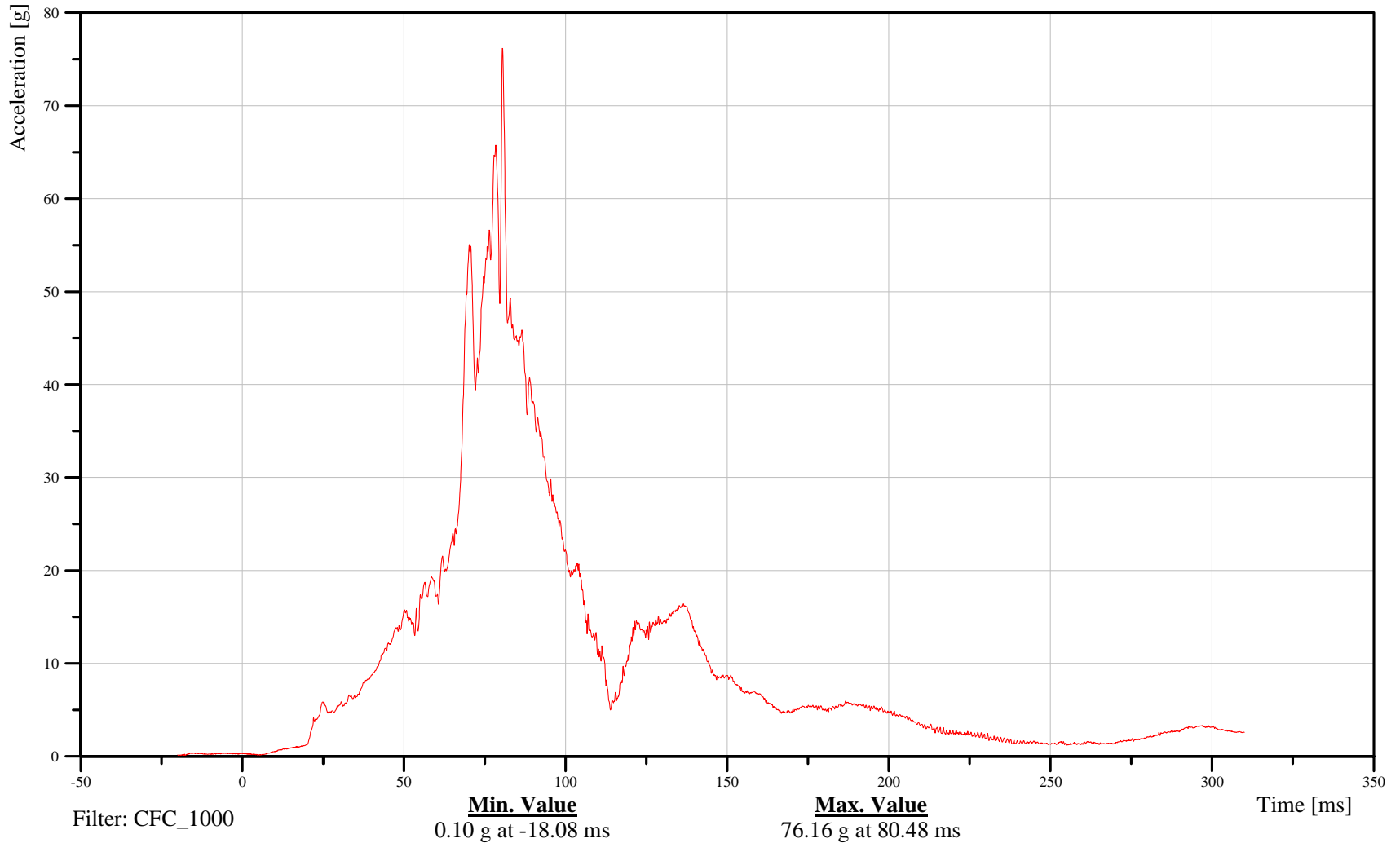
Target Vehicle Driver Pelvis Resultant Acceleration

Customer: VRTC

21PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

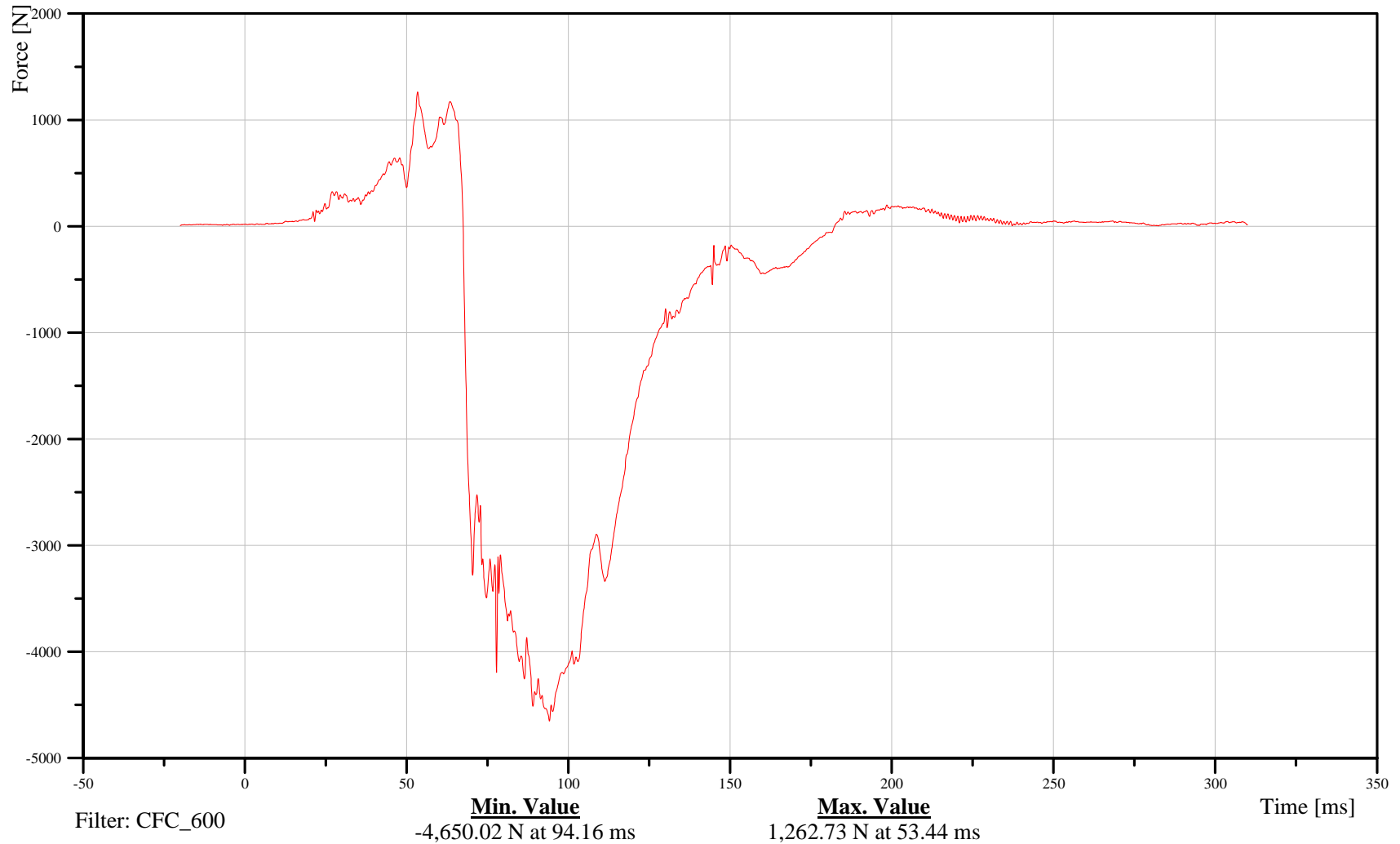
Target Vehicle Driver Left Femur Z-Axis Force

Customer: VRTC

21FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

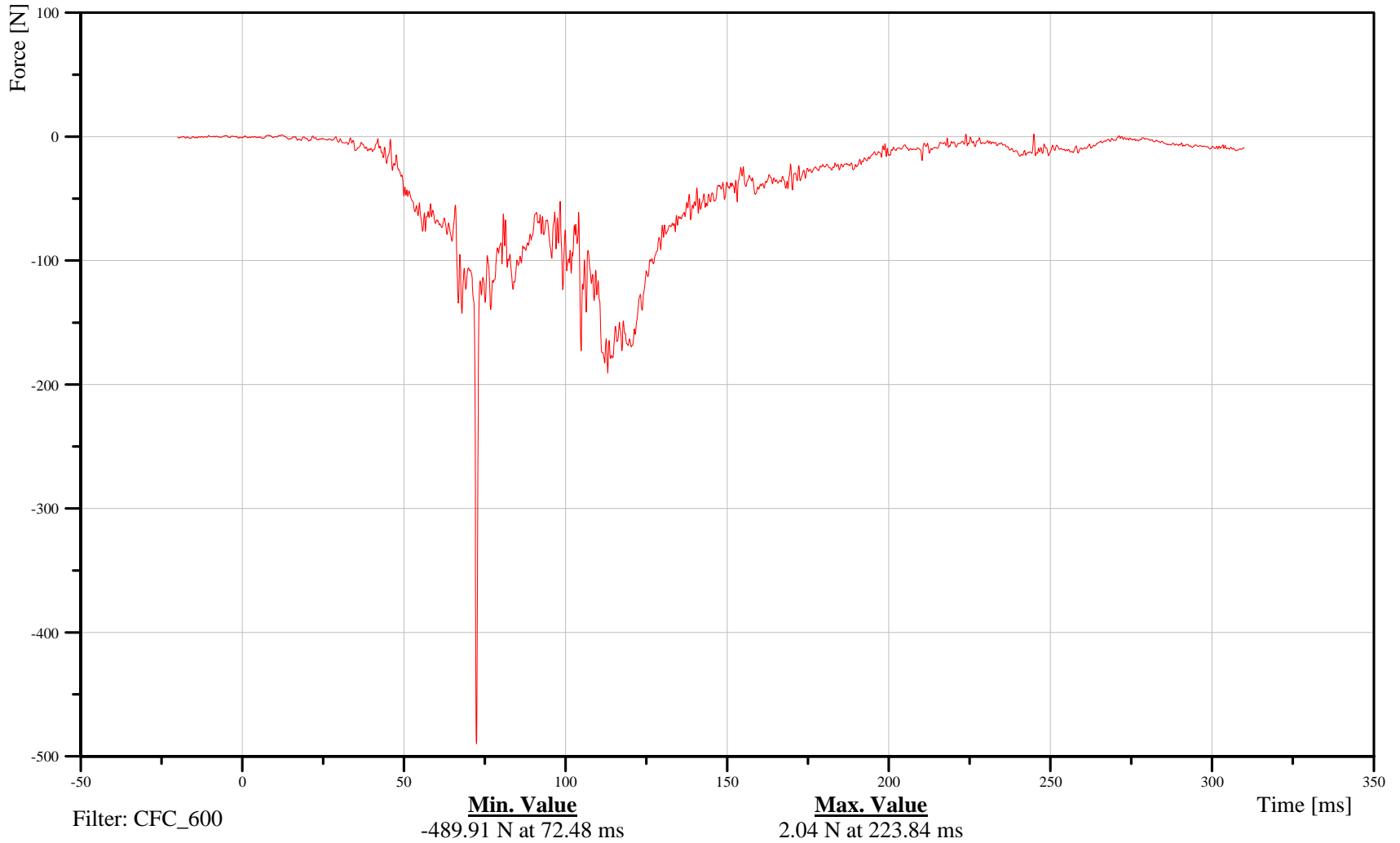
Target Vehicle Driver Right Femur Z-Axis Force

Customer: VRTC

21FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

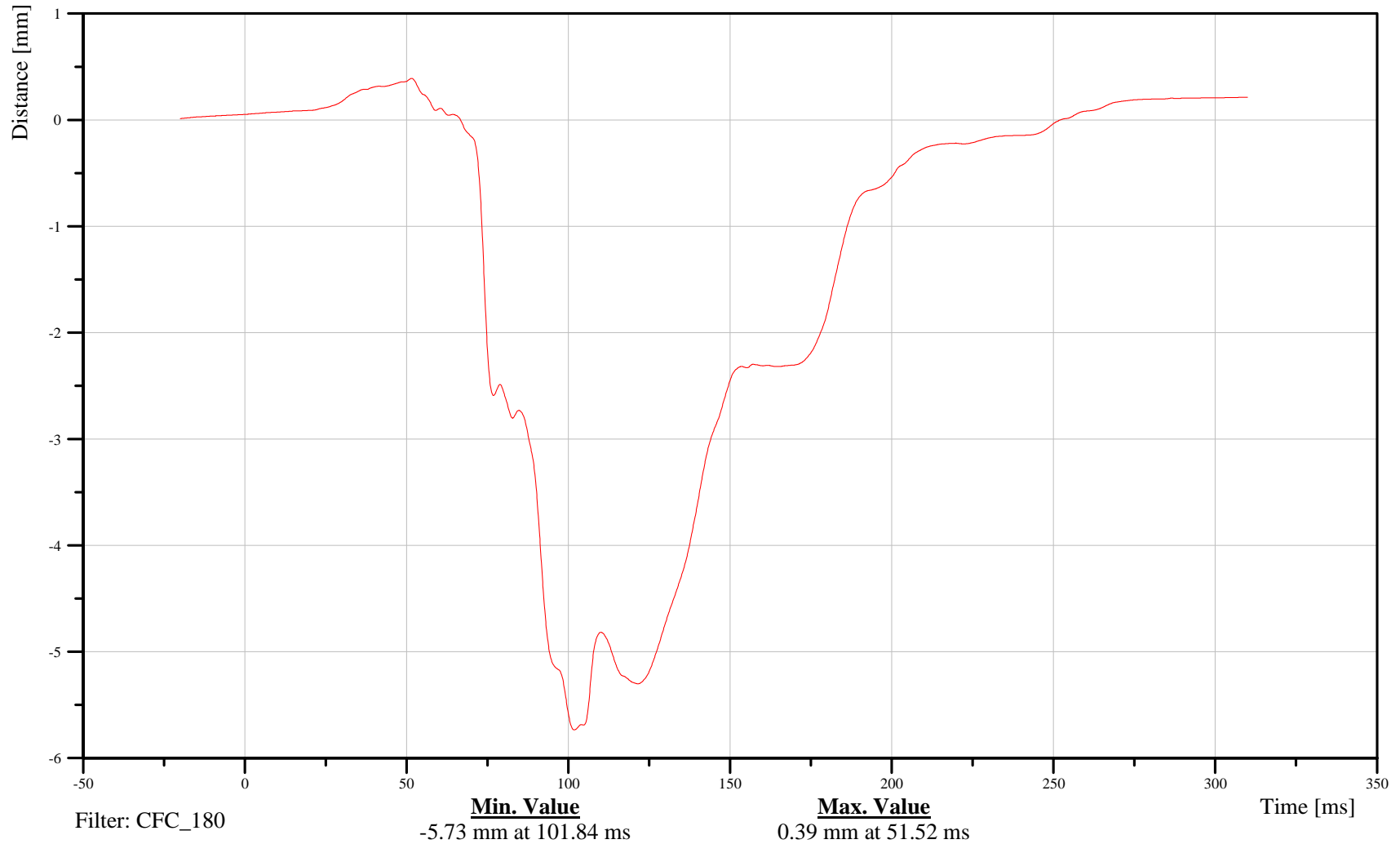
Target Vehicle Driver Left Knee X-Axis Displacement

Customer: VRTC

21KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

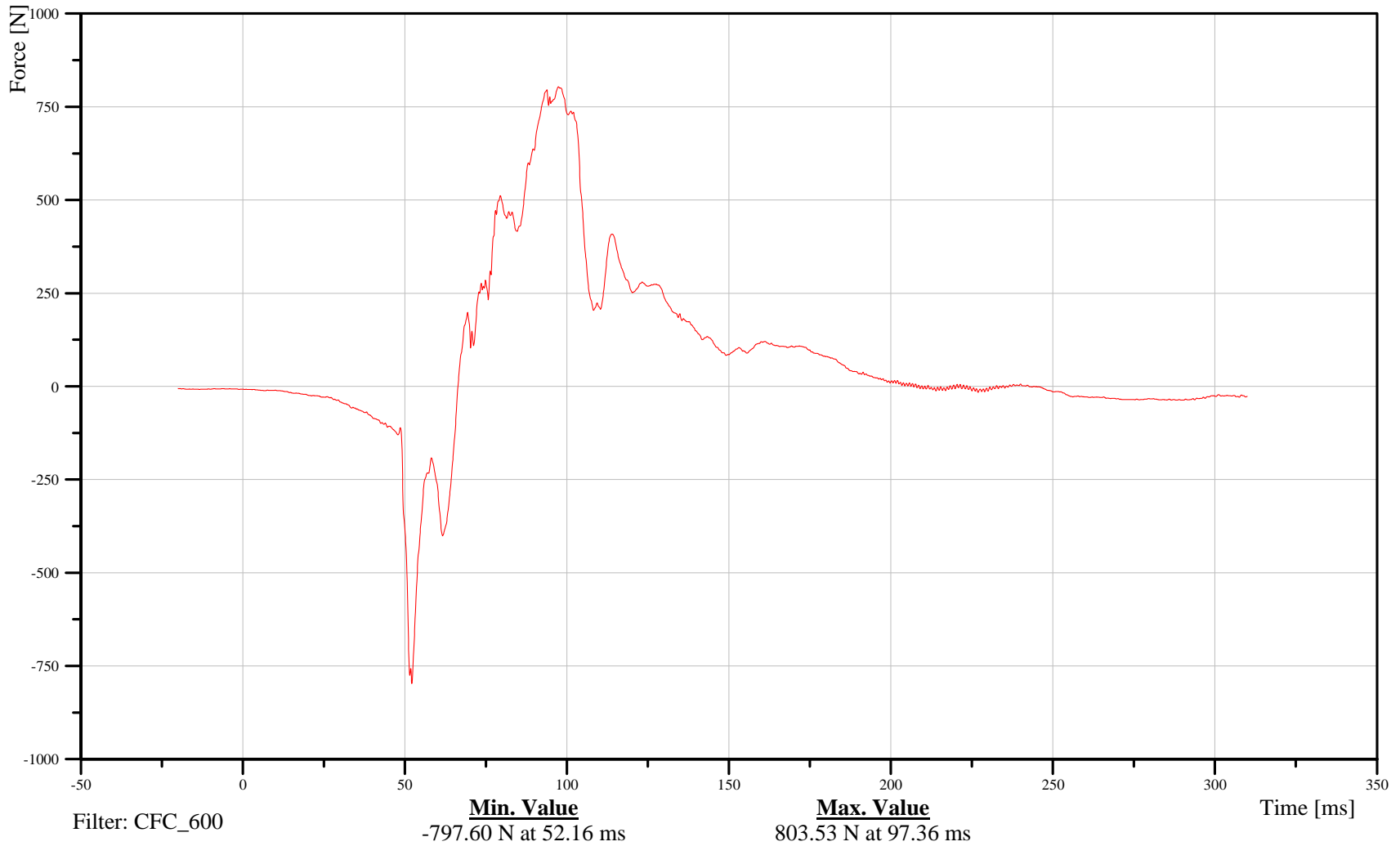
Target Vehicle Driver Left Upper Tibia X-Axis Force

Customer: VRTC

21TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-59

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

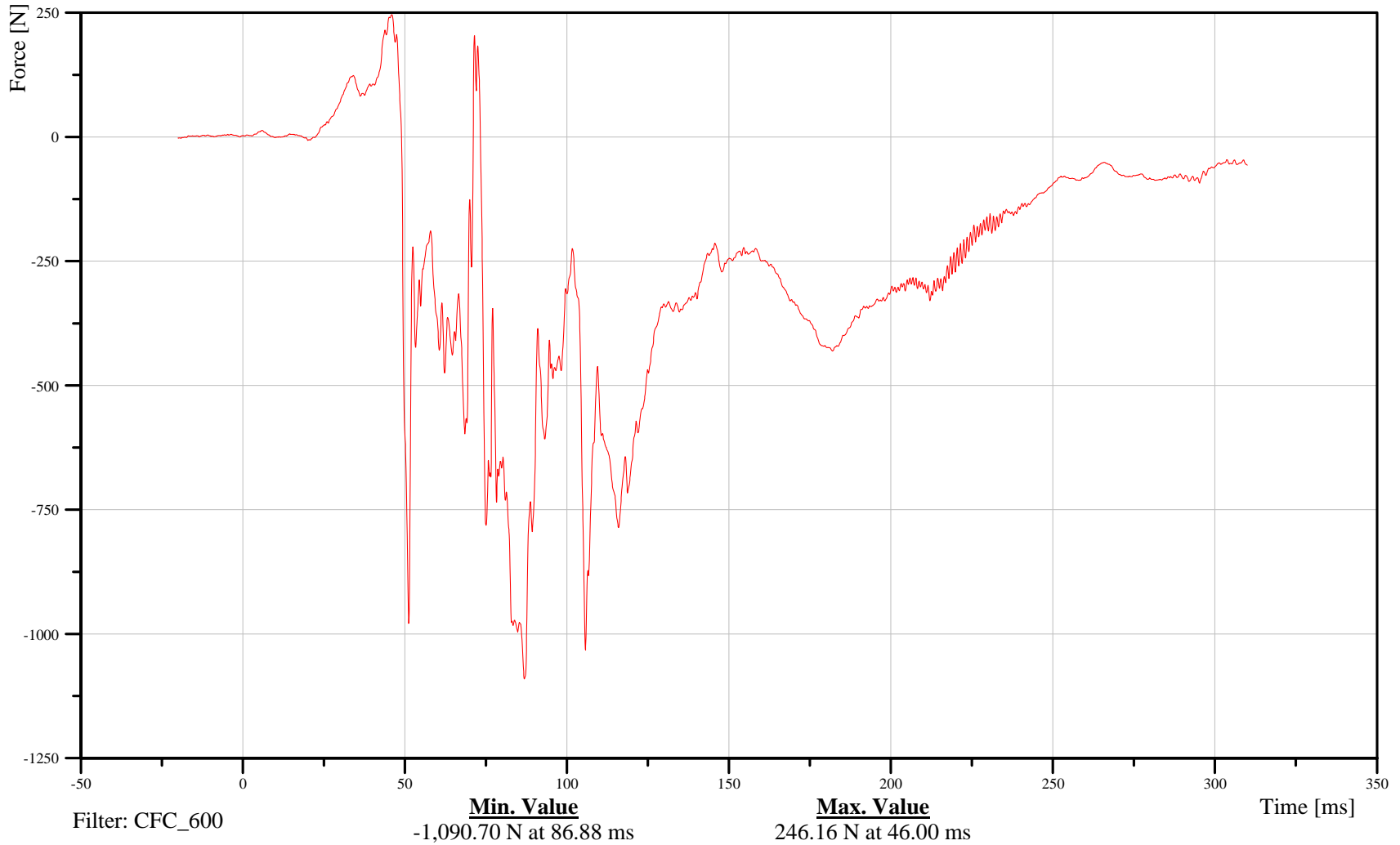
Target Vehicle Driver Left Upper Tibia Z-Axis Force

Customer: VRTC

21TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-60

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

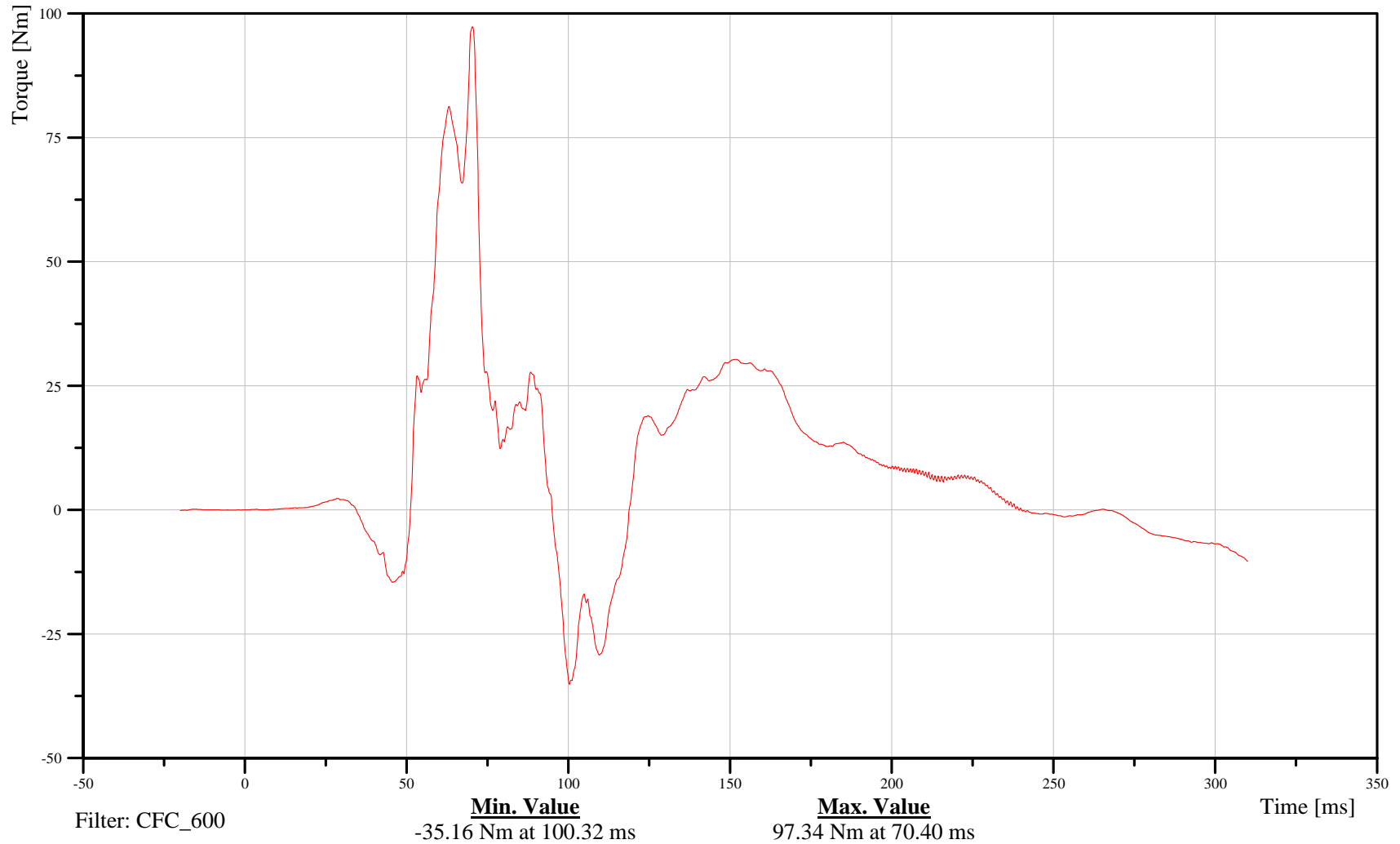
Target Vehicle Driver Left Upper Tibia Moment About X Axis

Customer: VRTC

21TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-61

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

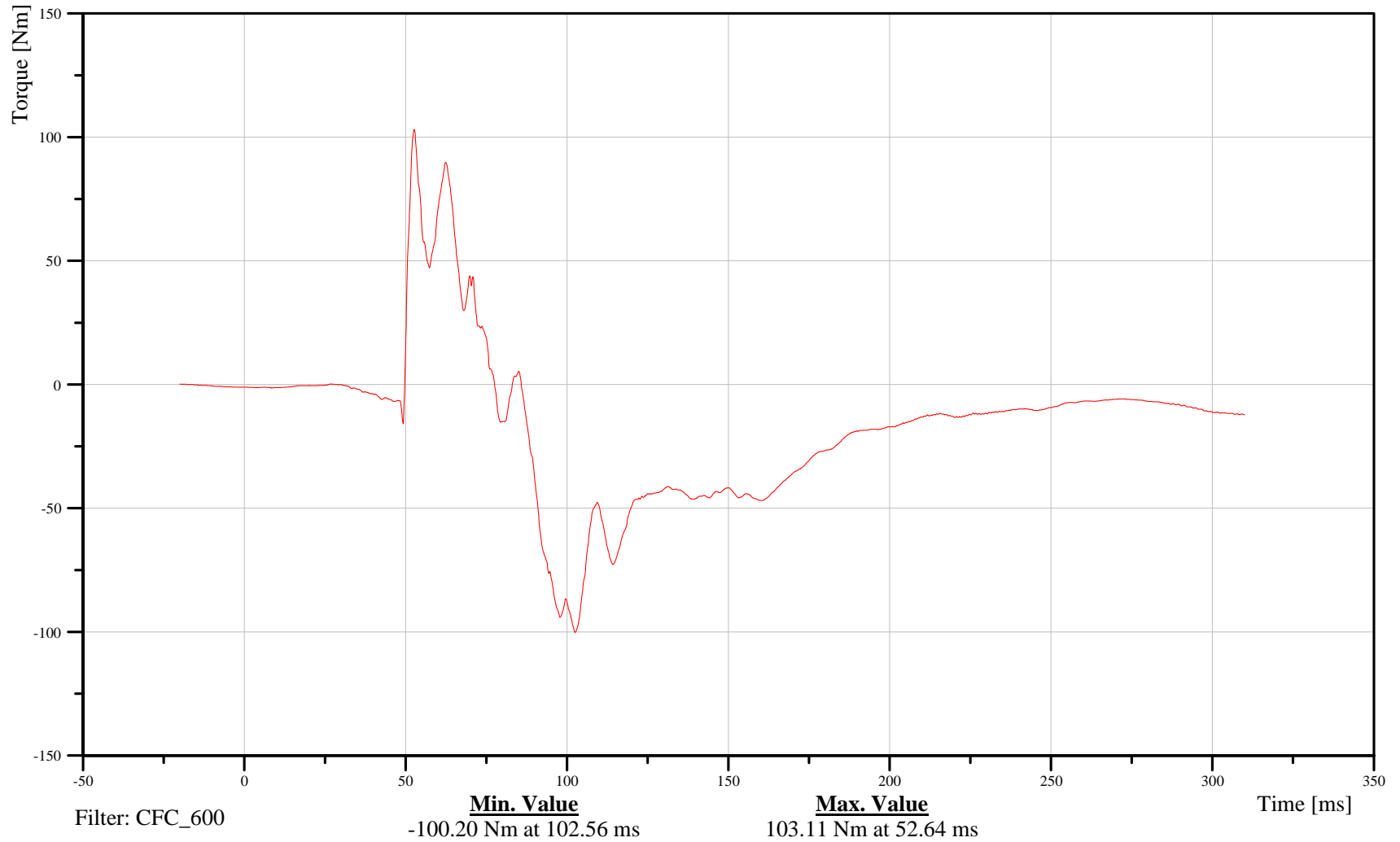
Target Vehicle Driver Left Upper Tibia Moment About Y Axis

Customer: VRTC

21TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-62

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

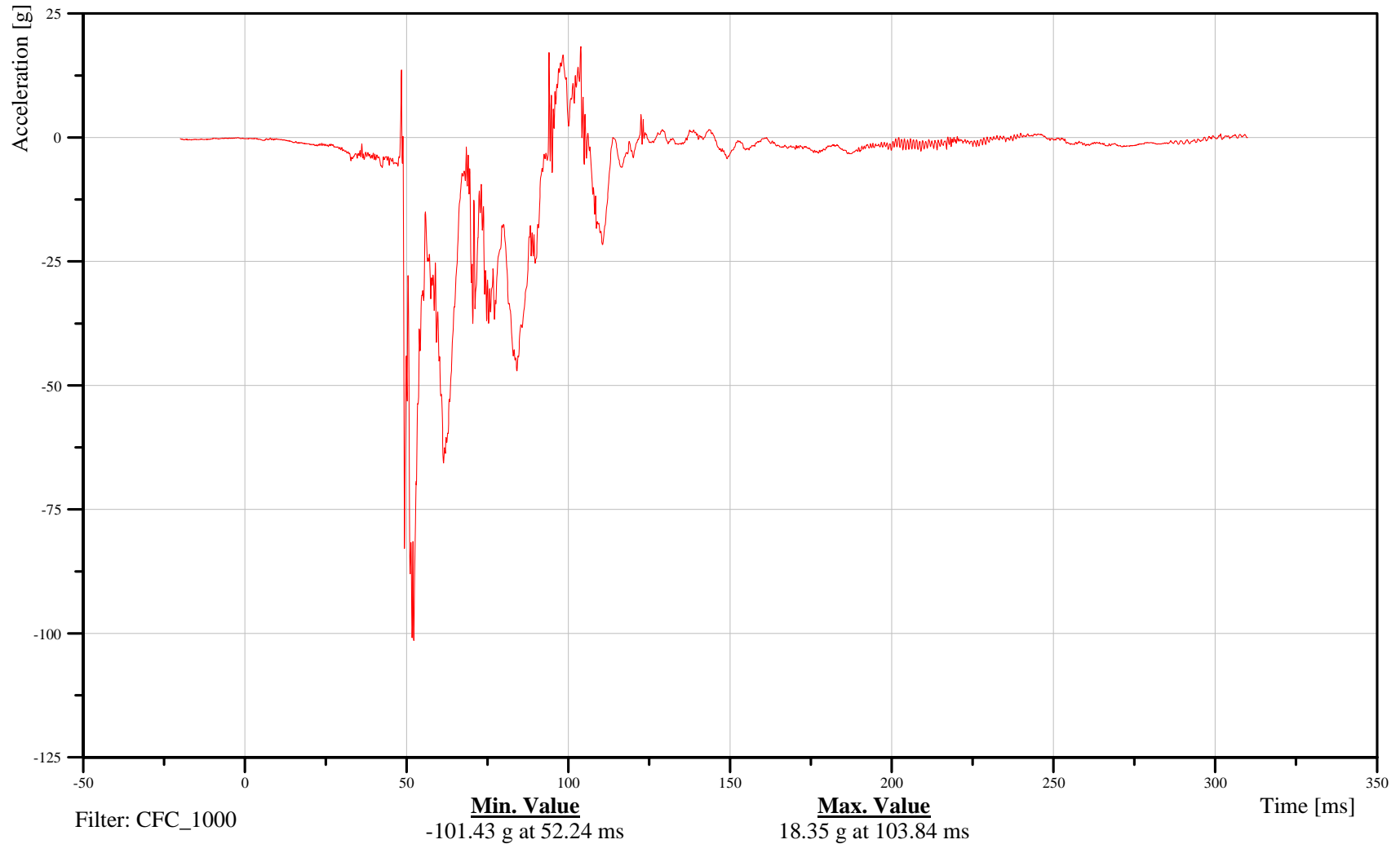
Target Vehicle Driver Left Tibia X-Axis Acceleration

Customer: VRTC

21TIBILELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-63

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

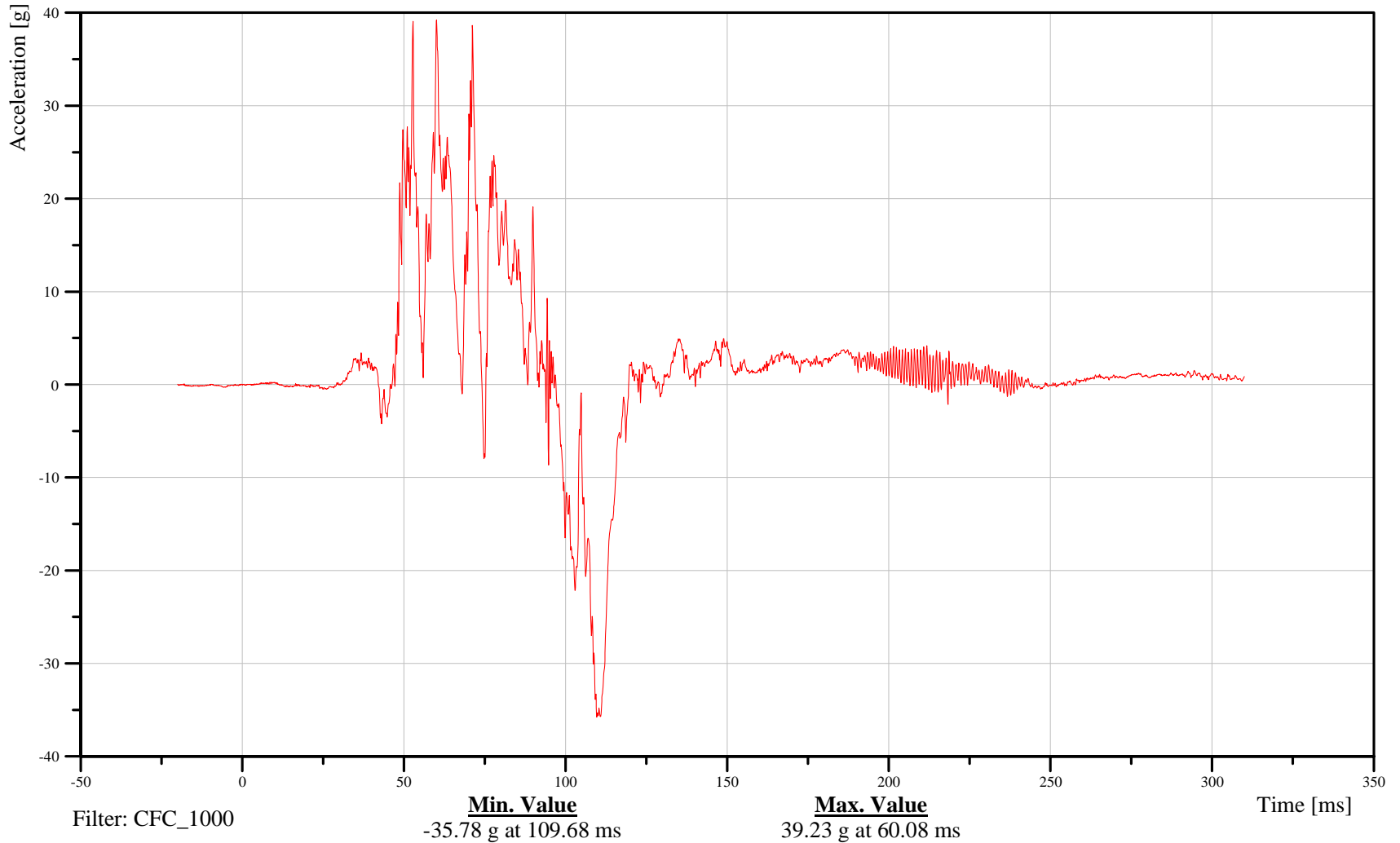
Target Vehicle Driver Left Tibia Y-Axis Acceleration

Customer: VRTC

21TIBILELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-64

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

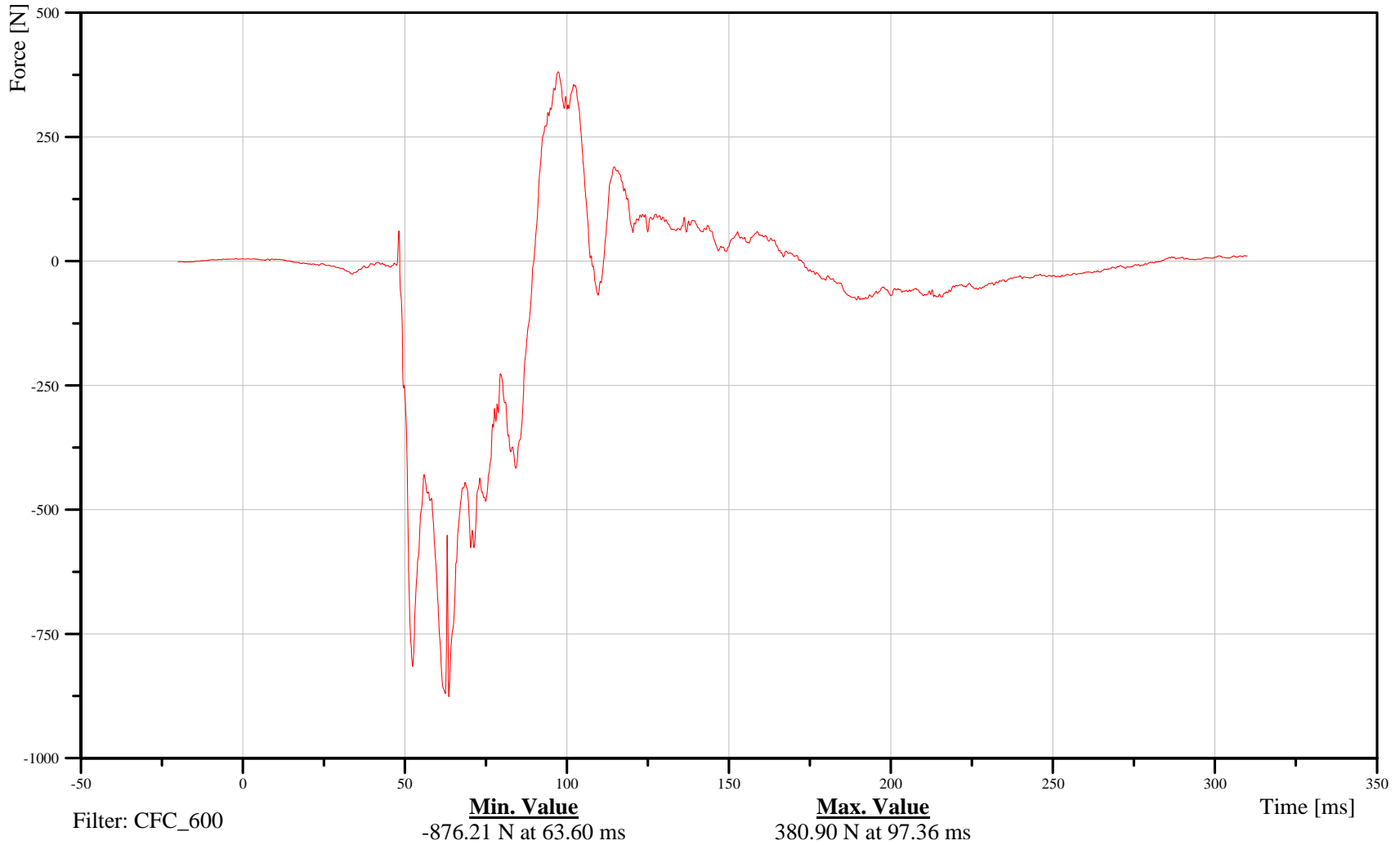
Target Vehicle Driver Left Lower Tibia X-Axis Force

Customer: VRTC

21TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-65

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

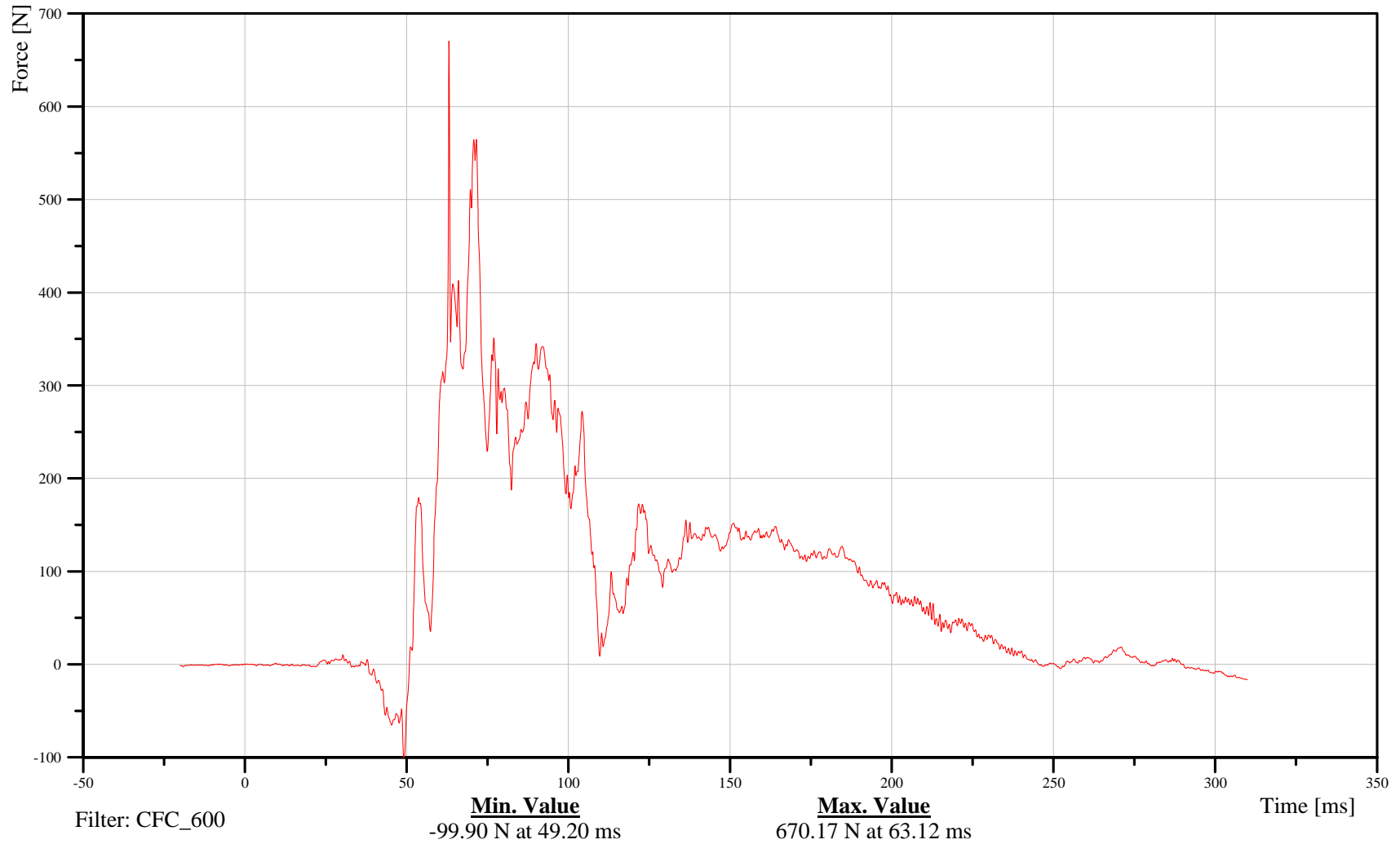
Target Vehicle Driver Left Lower Tibia Y-Axis Force

Customer: VRTC

21TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-66

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

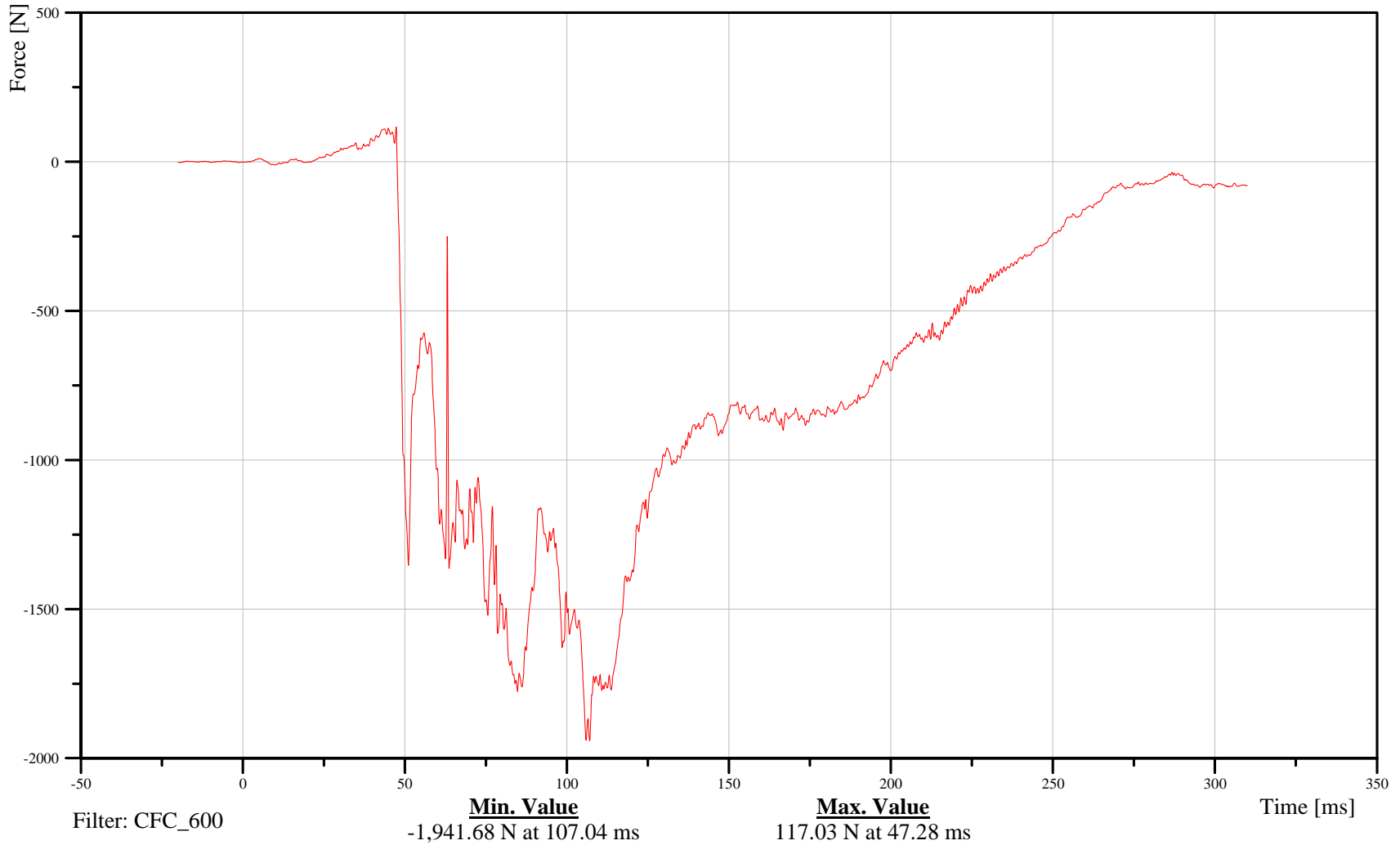
Target Vehicle Driver Left Lower Tibia Z-Axis Force

Customer: VRTC

21TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-67

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

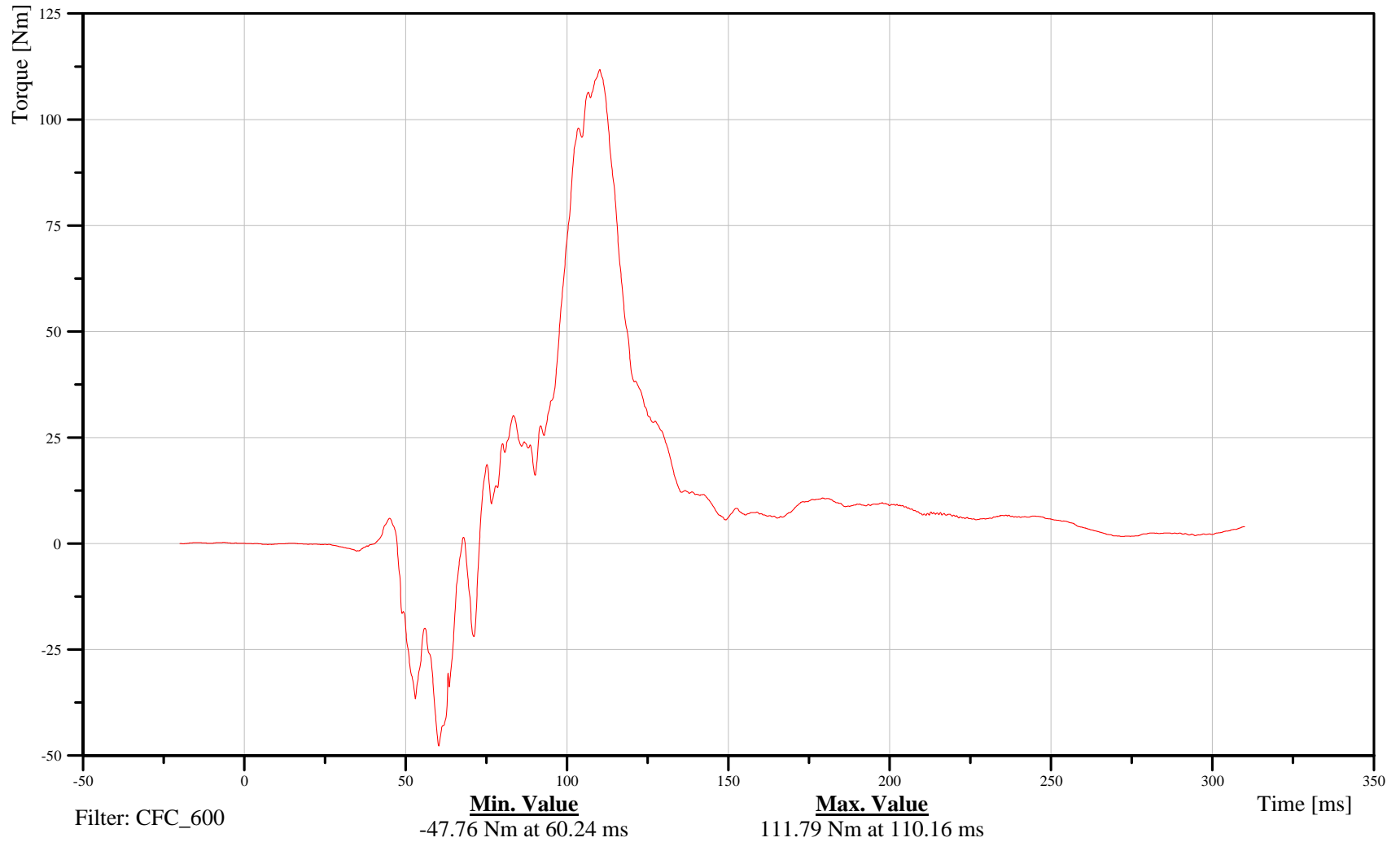
Target Vehicle Driver Left Lower Tibia Moment About X Axis

Customer: VRTC

21TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-68

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

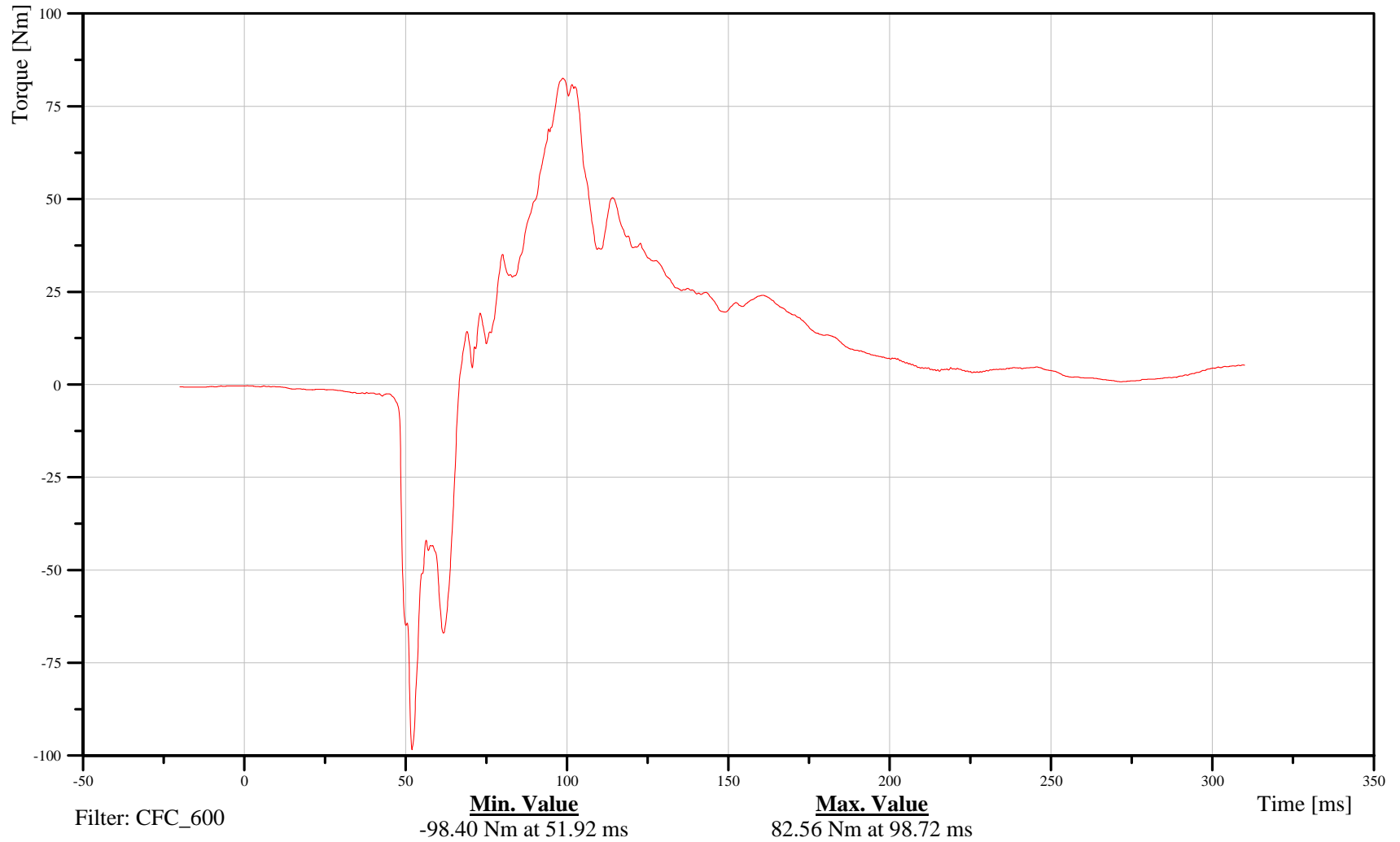
Target Vehicle Driver Left Lower Tibia Moment About Y Axis

Customer: VRTC

21TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-69

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

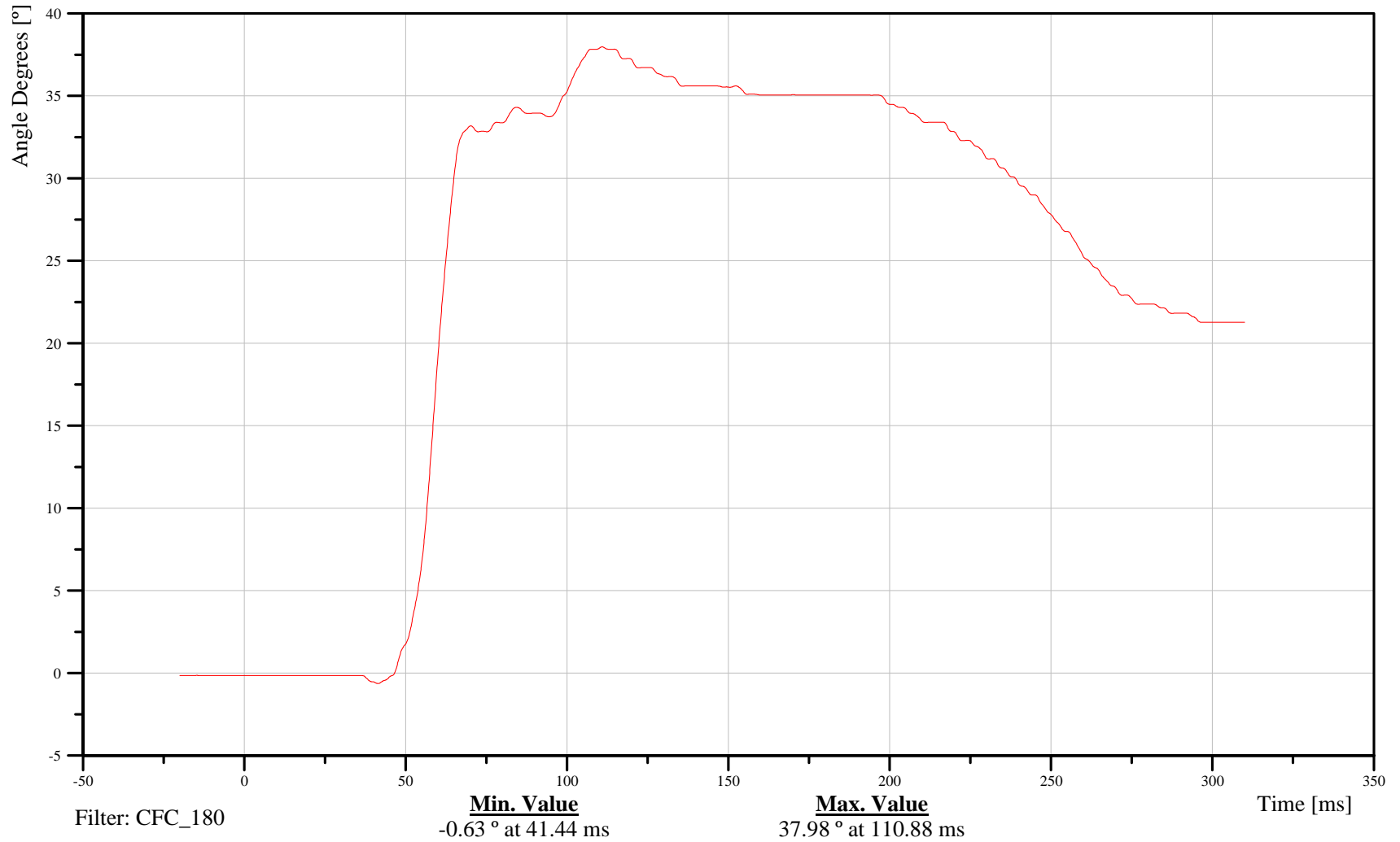
Target Vehicle Driver Left Foot X-Axis Angular Displacement

Customer: VRTC

21FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-70

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

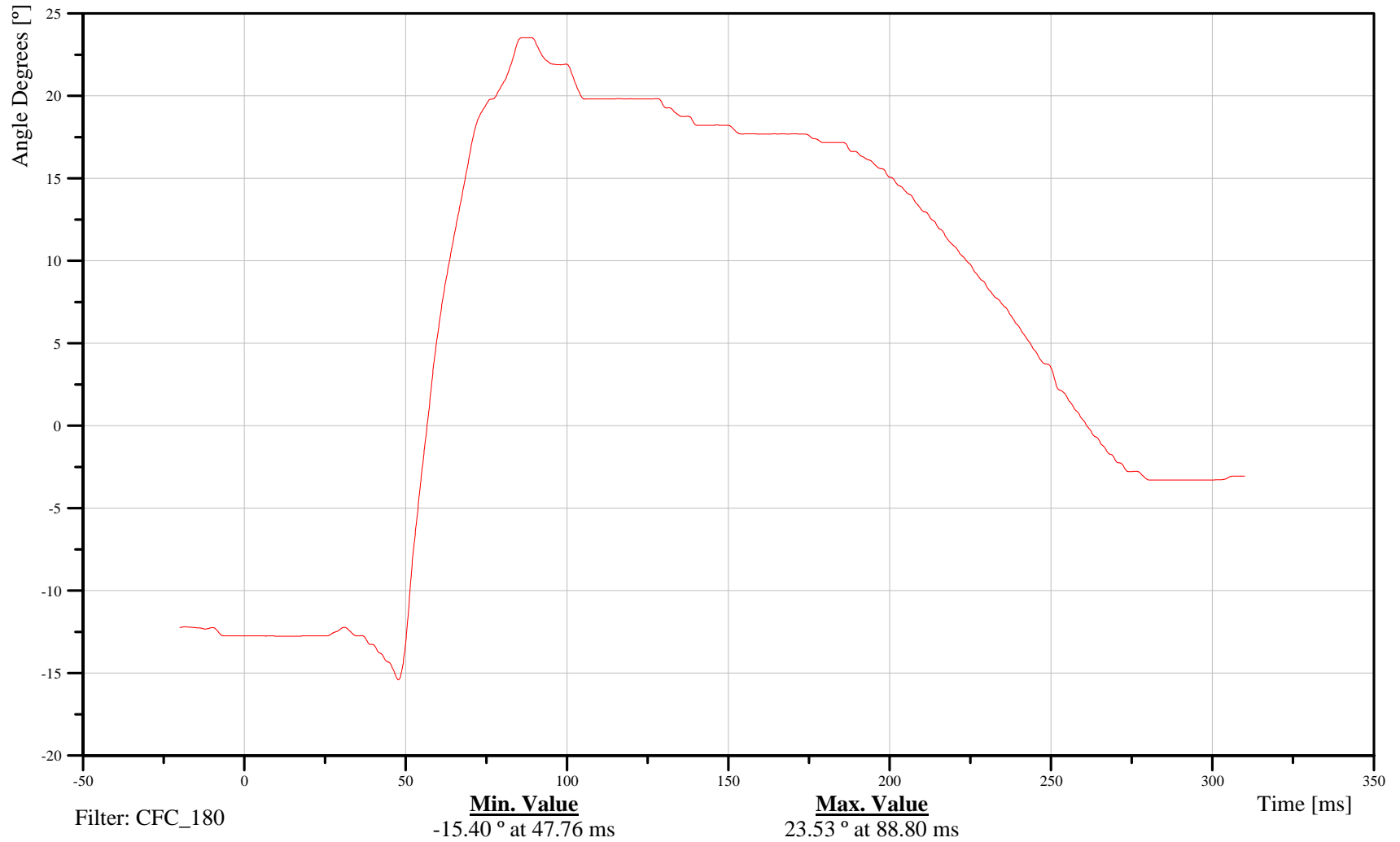
Target Vehicle Driver Left Foot Y-Axis Angular Displacement

Customer: VRTC

21FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-71

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

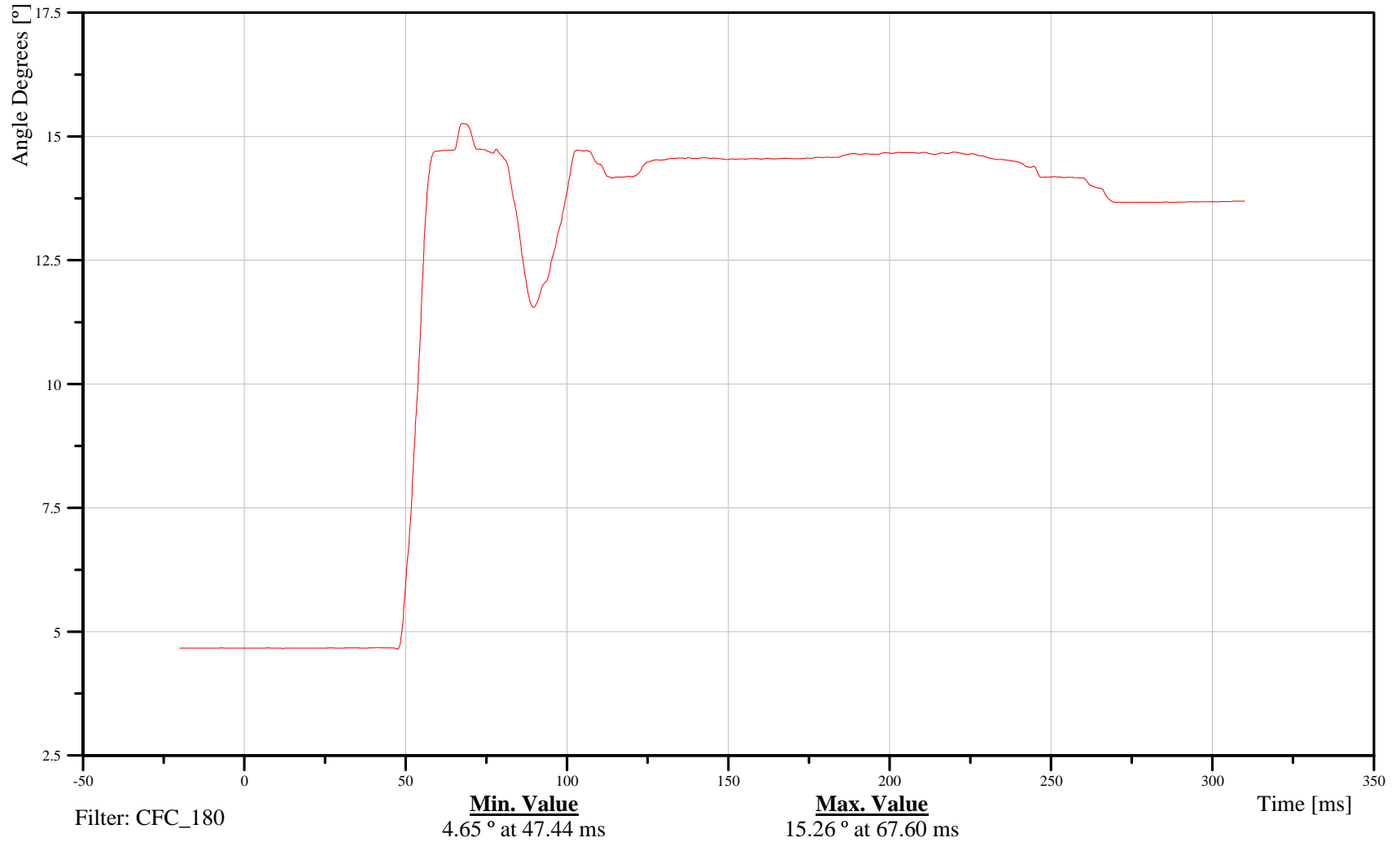
Target Vehicle Driver Left Foot Z-Axis Angular Displacement

Customer: VRTC

21FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-72

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

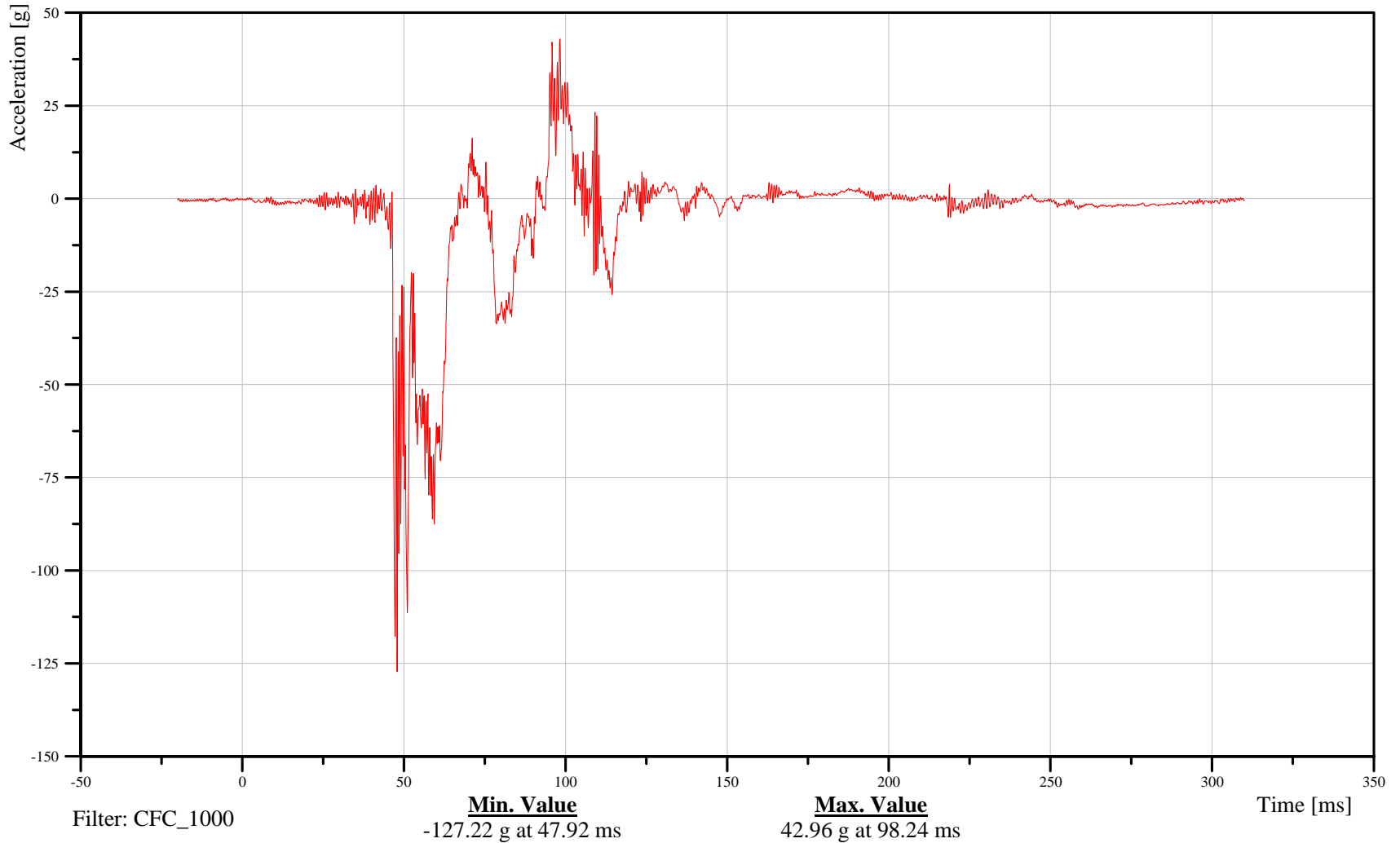
Target Vehicle Driver Left Foot X-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-73

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

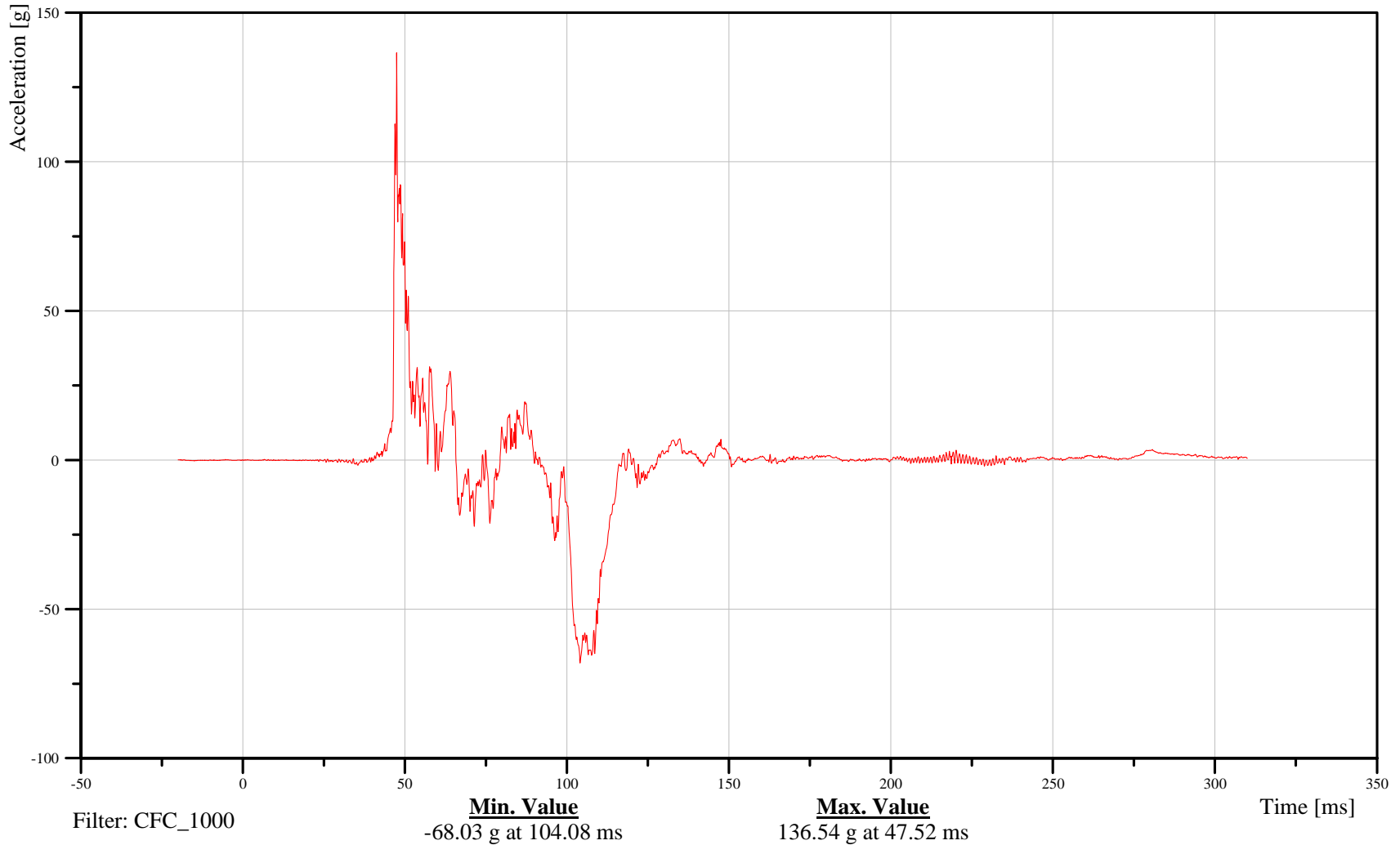
Target Vehicle Driver Left Foot Y-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-74

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

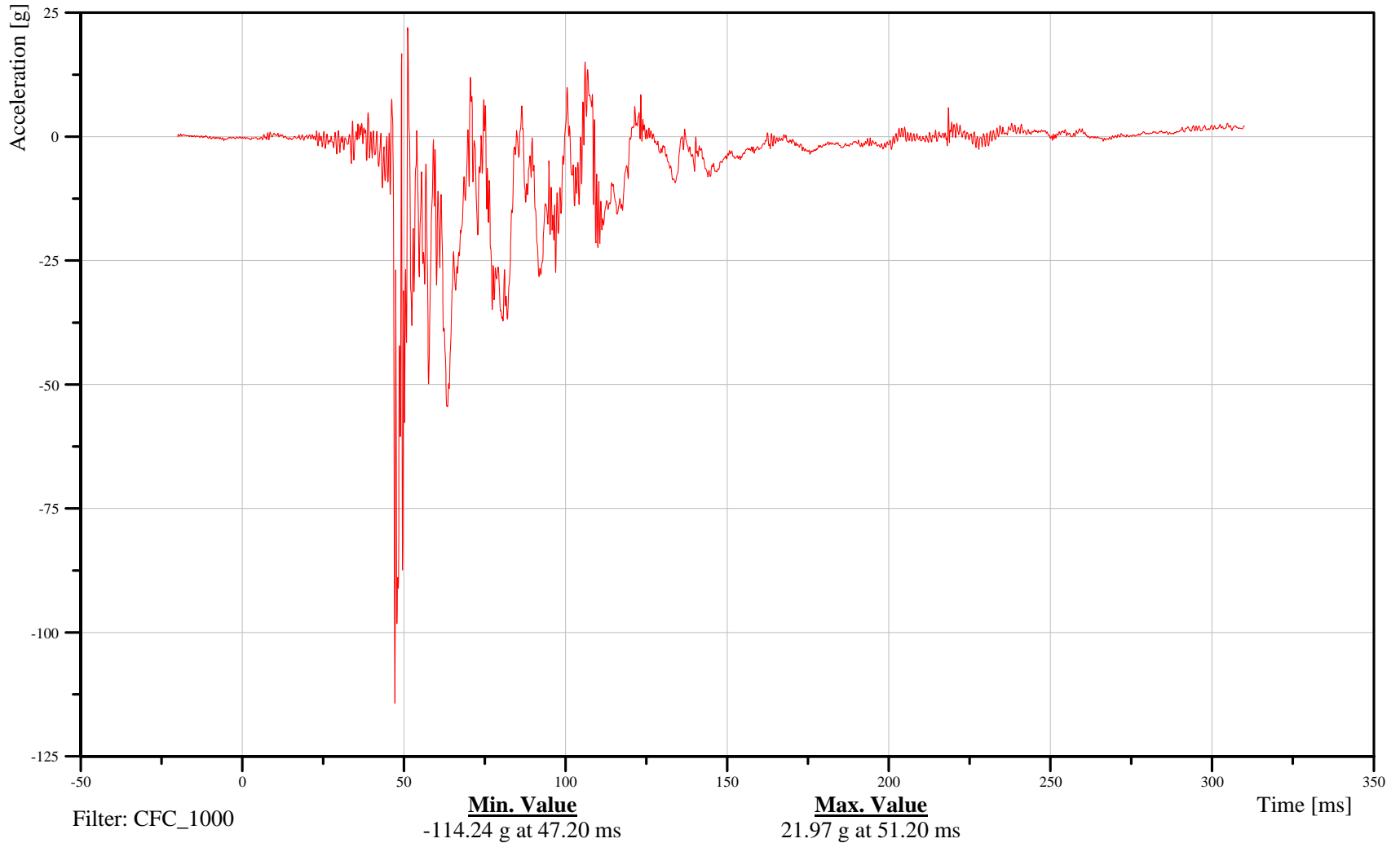
Target Vehicle Driver Left Foot Z-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-75

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

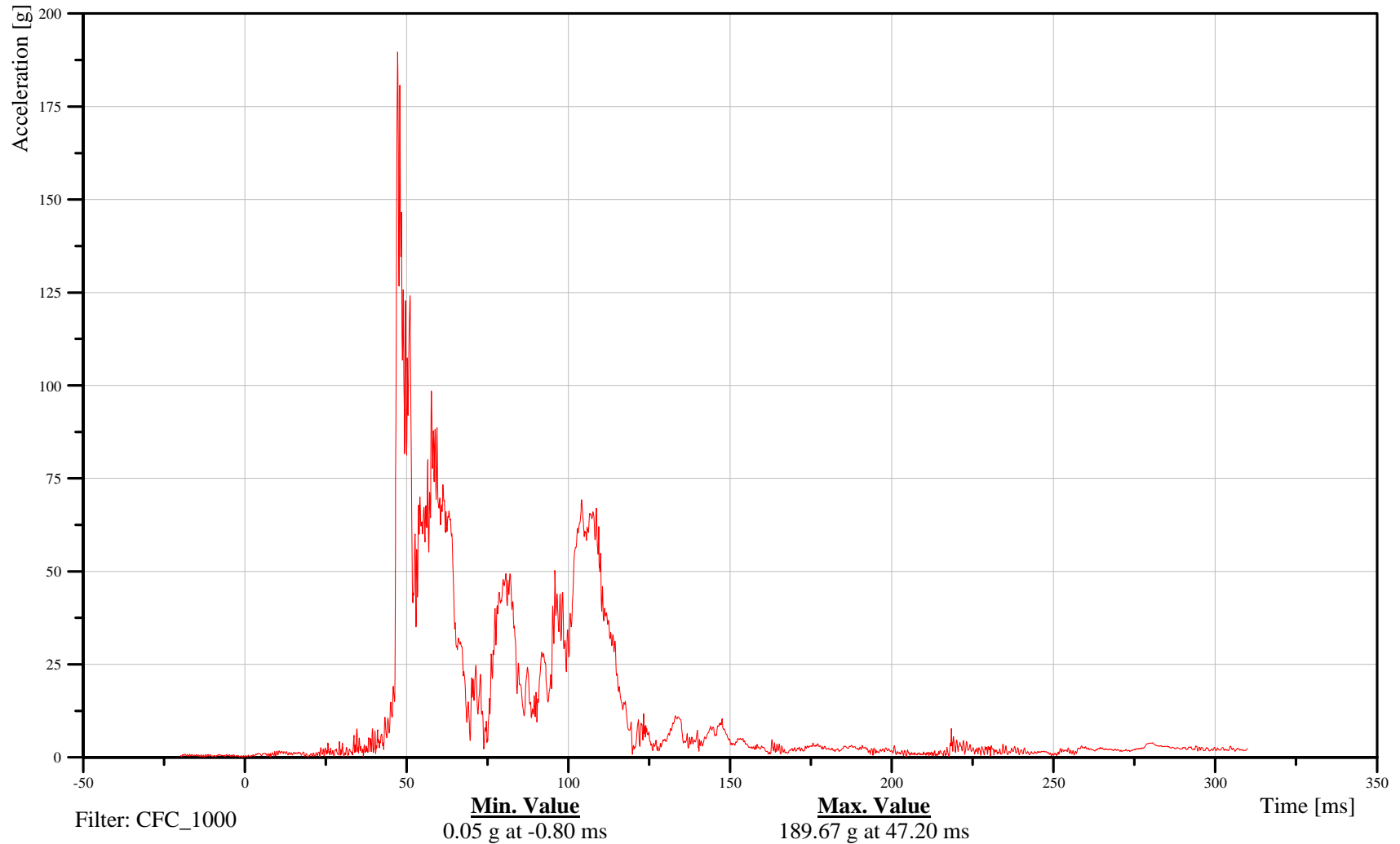
Target Vehicle Driver Left Foot Resultant Acceleration

Customer: VRTC

21FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-76

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

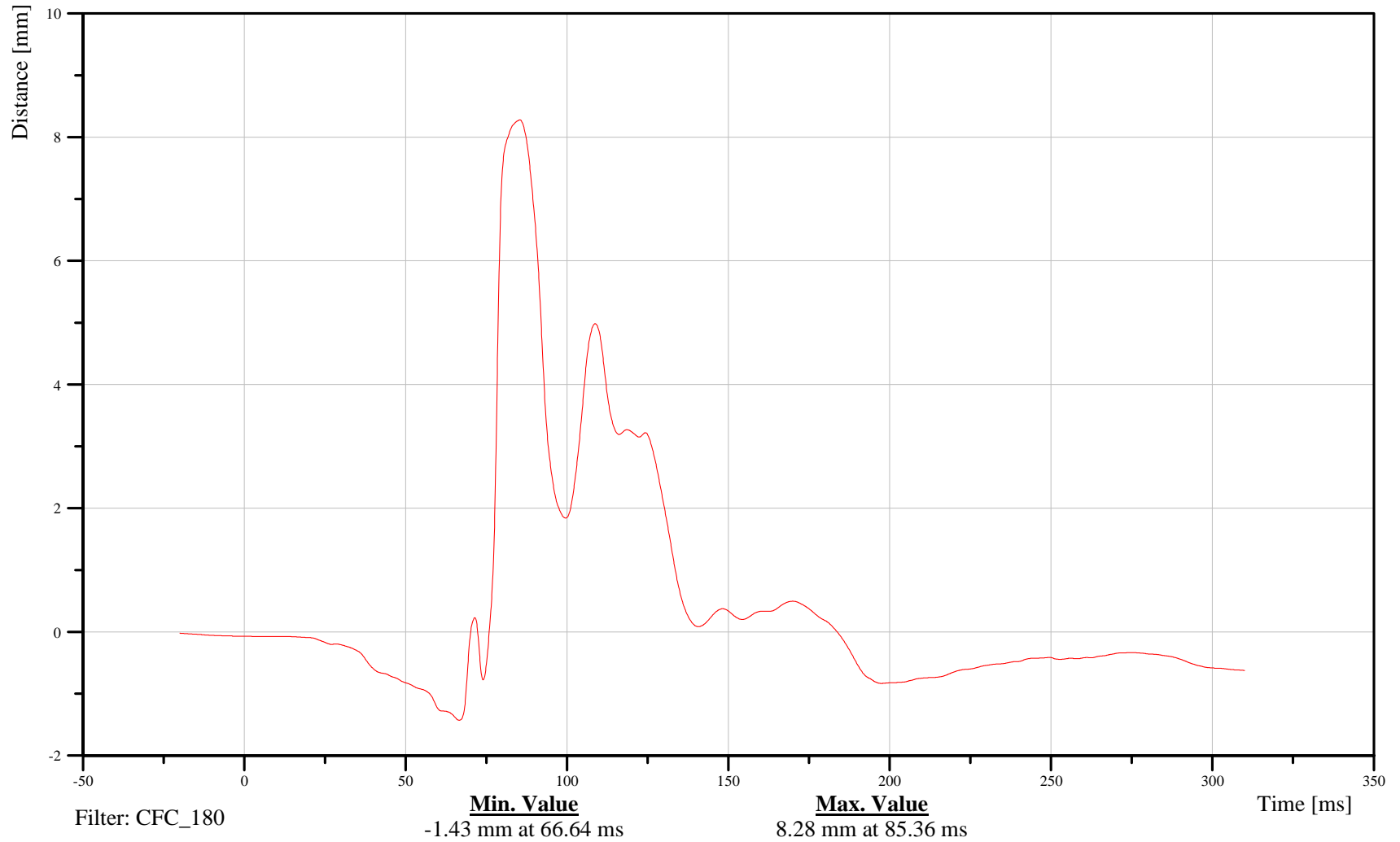
Target Vehicle Driver Right Knee X-Axis Displacement

Customer: VRTC

21KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-77

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

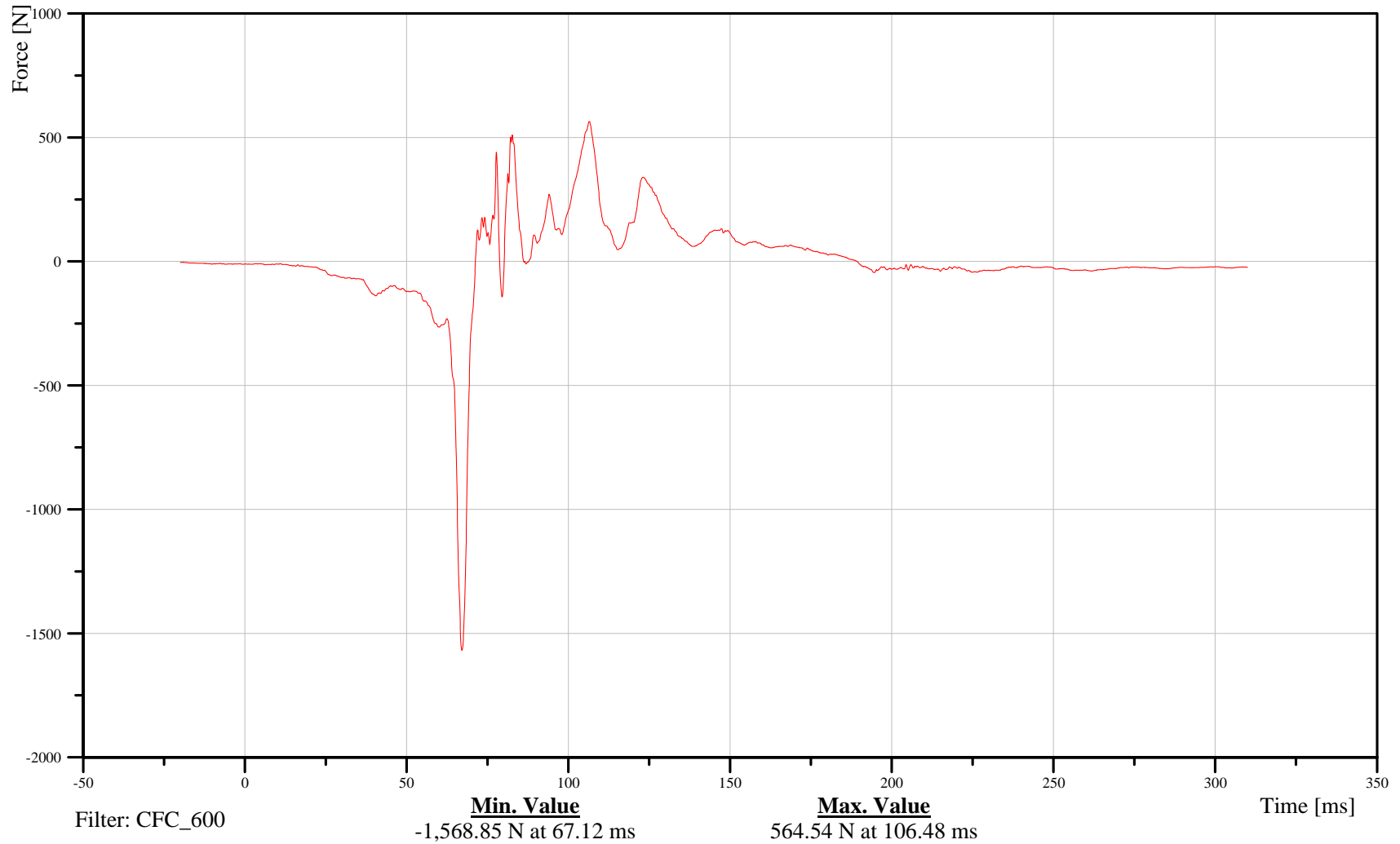
Target Vehicle Driver Right Upper Tibia X-Axis Force

Customer: VRTC

21TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-78

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

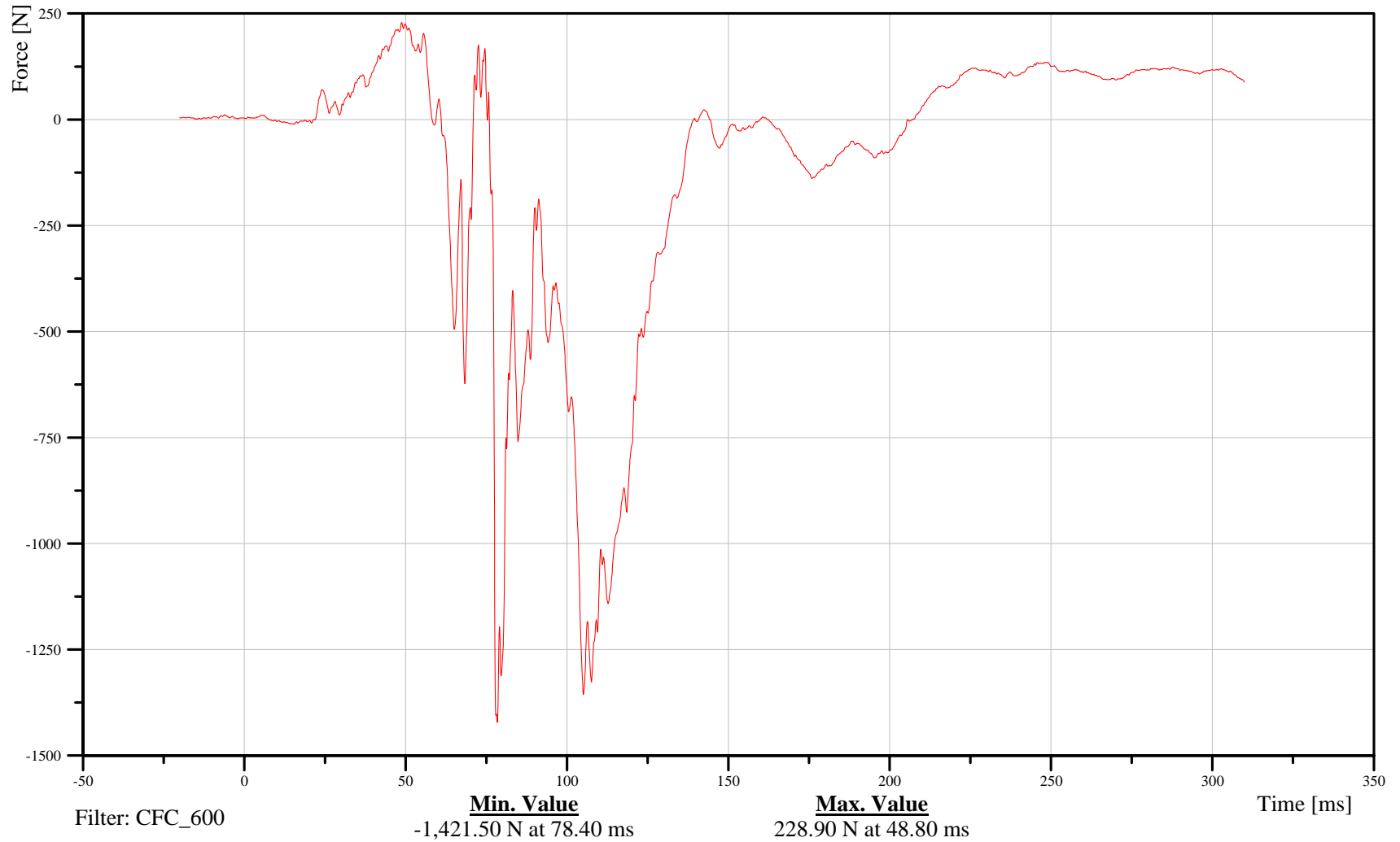
Target Vehicle Driver Right Upper Tibia Z-Axis Force

Customer: VRTC

21TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-79

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

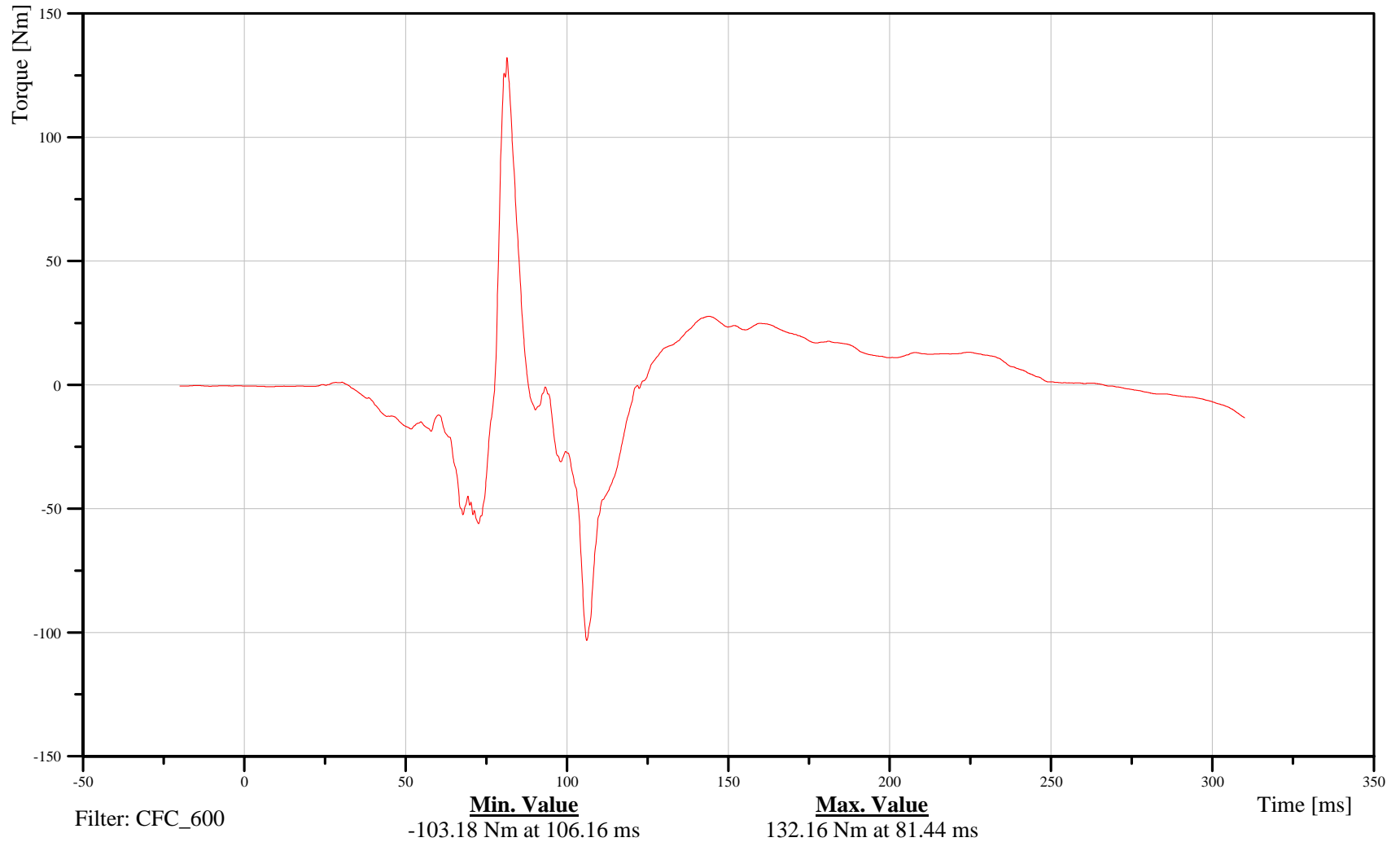
Target Vehicle Driver Right Upper Tibia Moment About X Axis

Customer: VRTC

21TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-80

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

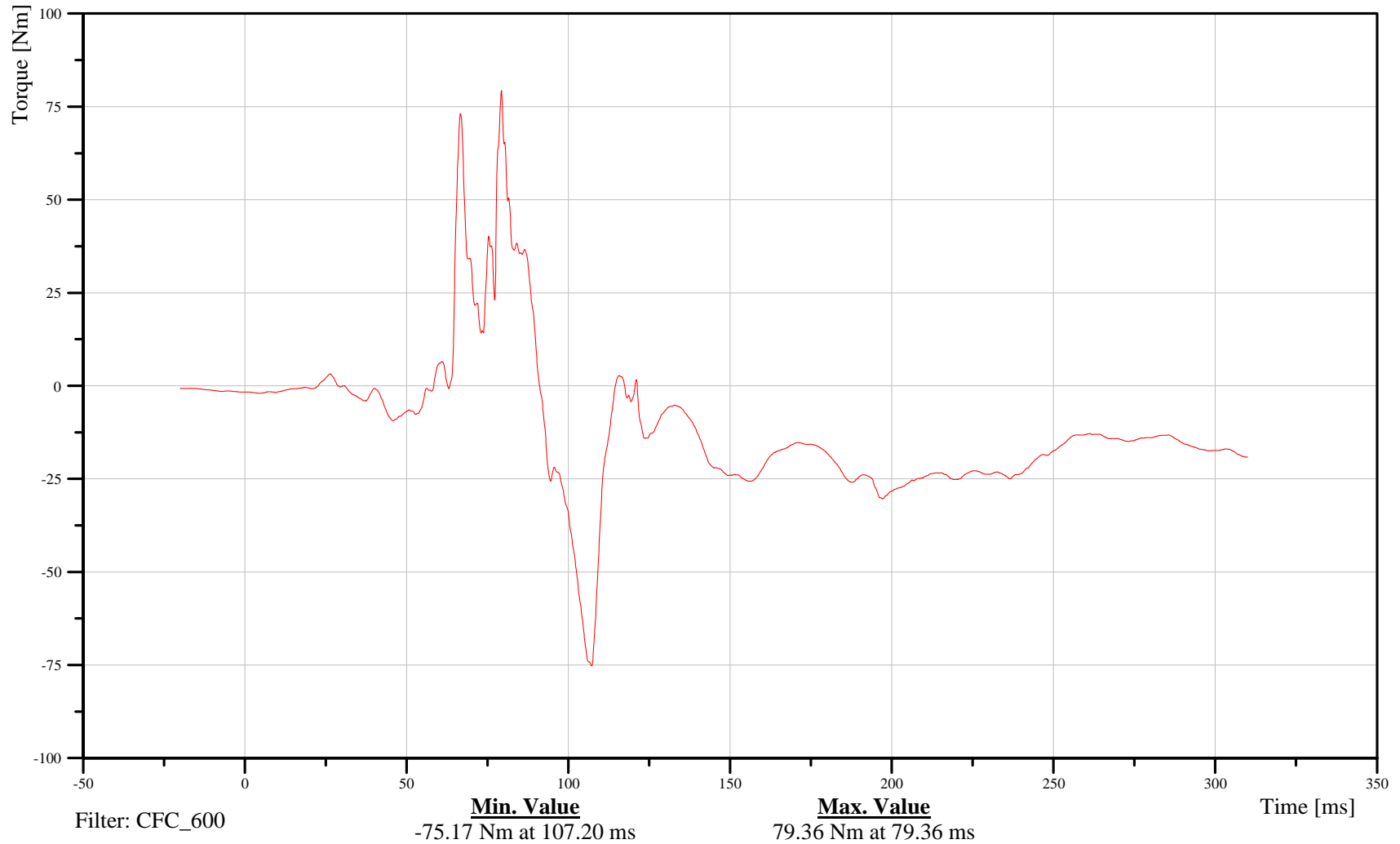
Target Vehicle Driver Right Upper Tibia Moment About Y Axis

Customer: VRTC

21TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-81

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

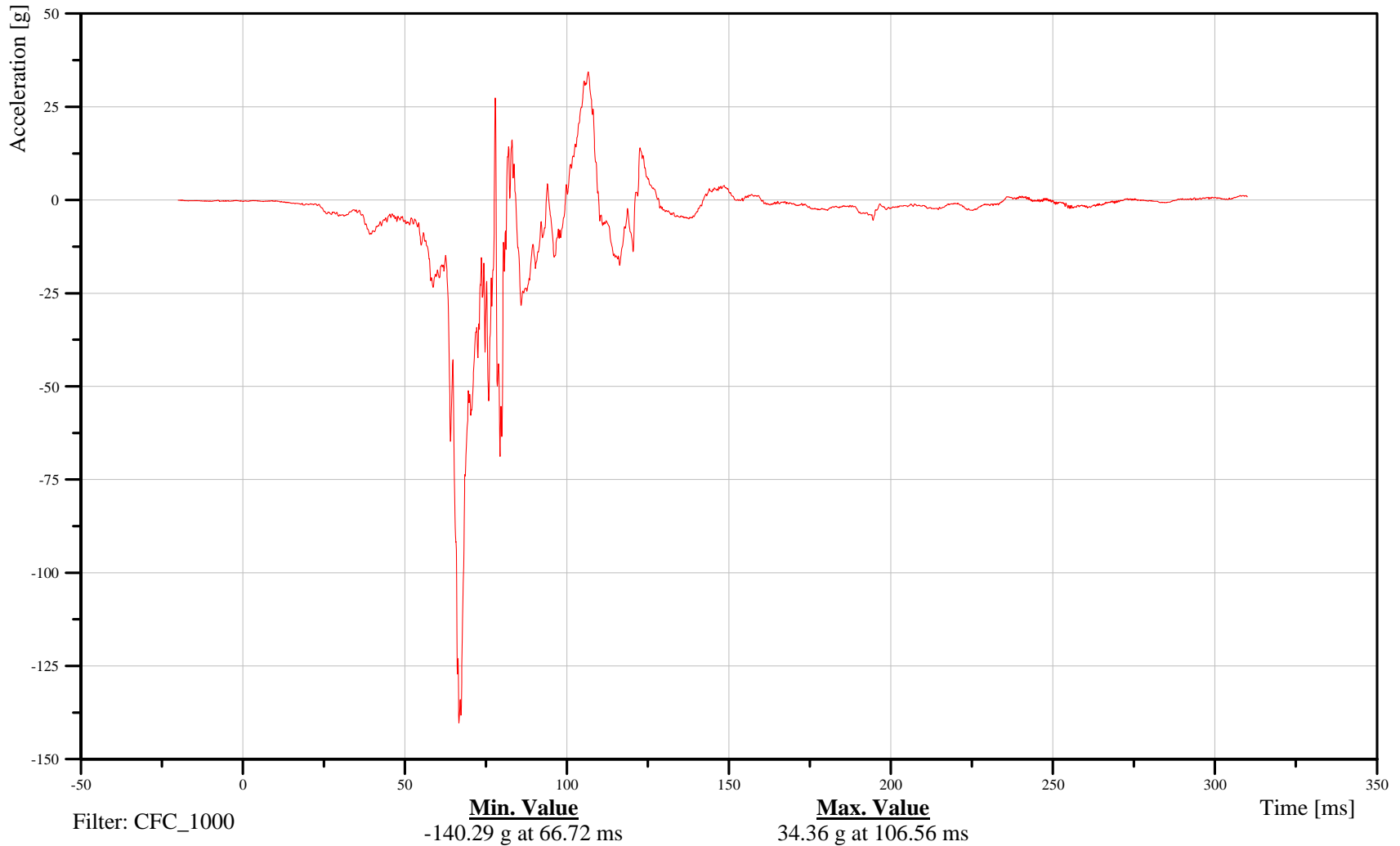
Target Vehicle Driver Right Tibia X-Axis Acceleration

Customer: VRTC

21TIBIRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-82

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

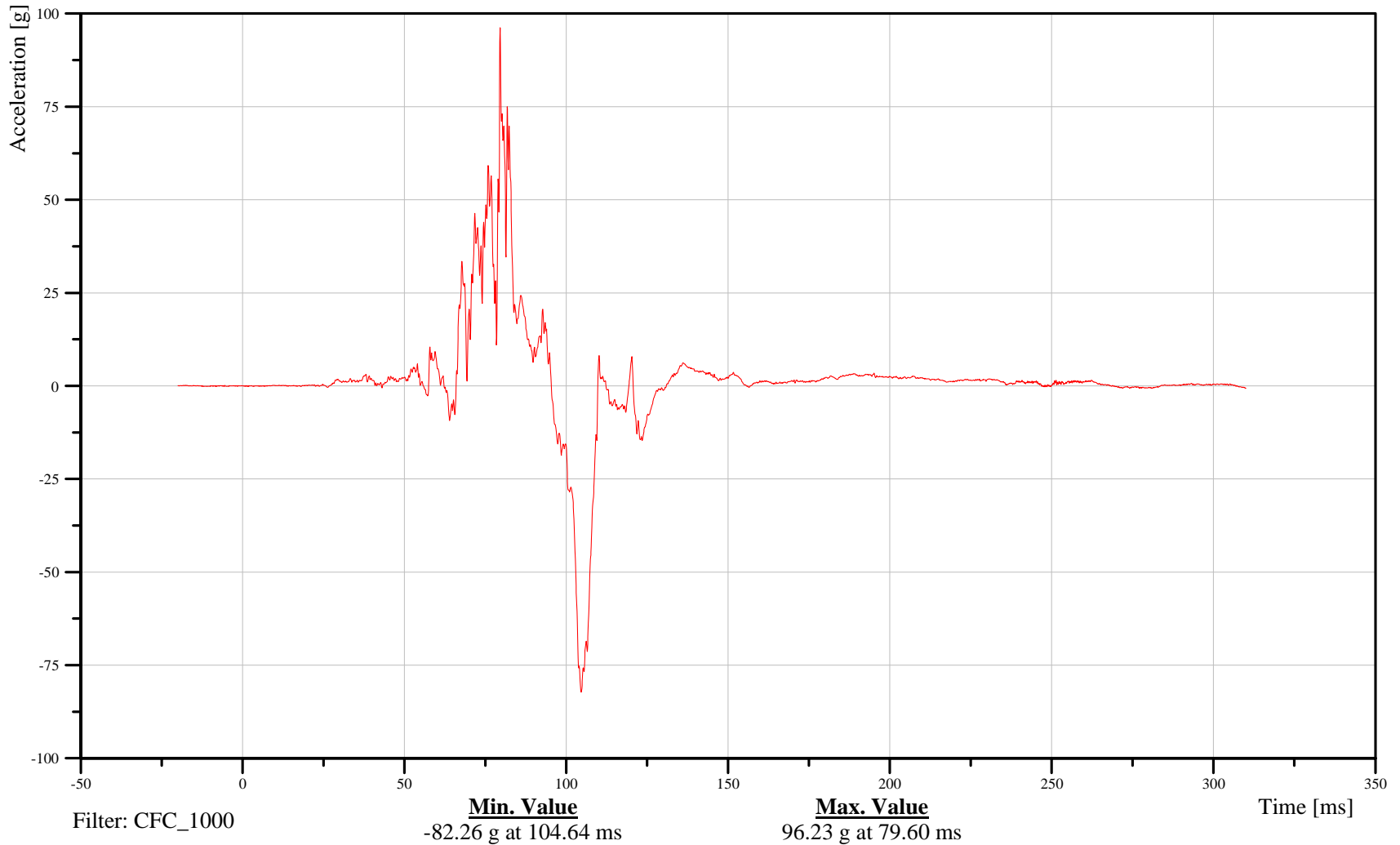
Target Vehicle Driver Right Tibia Y-Axis Acceleration

Customer: VRTC

21TIBIRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-83

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

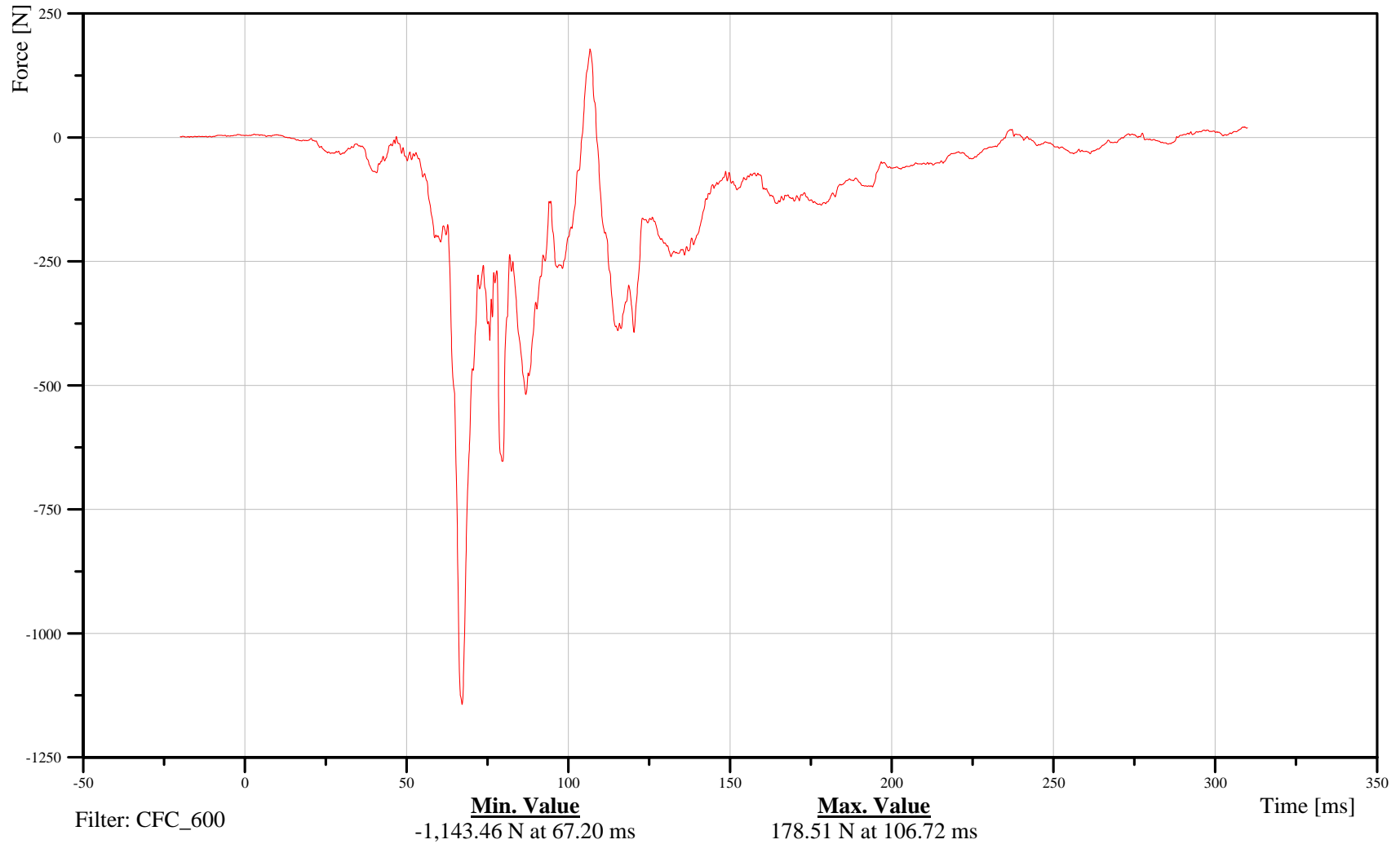
Target Vehicle Driver Right Lower Tibia X-Axis Force

Customer: VRTC

21TIBIRLLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-84

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

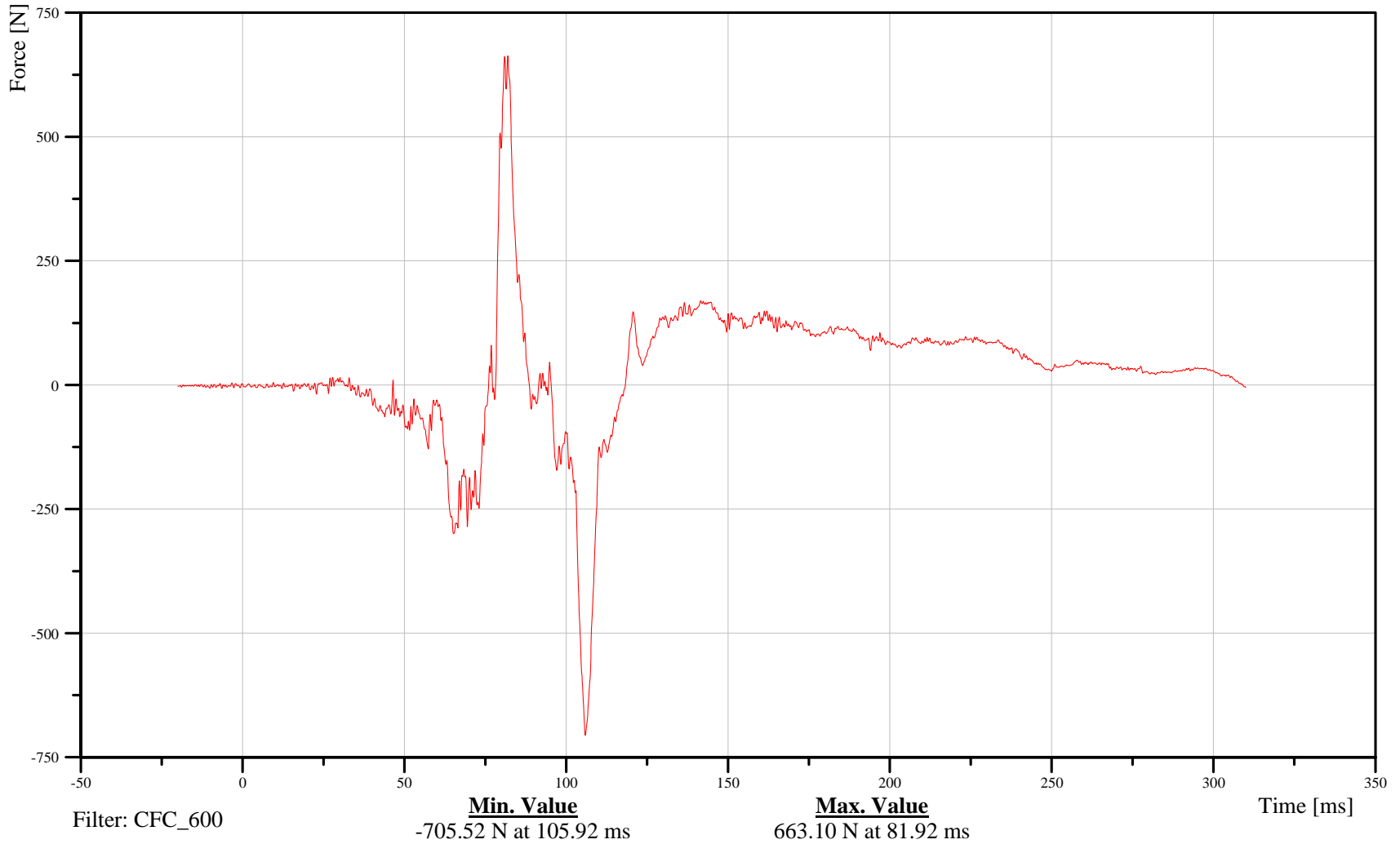
Target Vehicle Driver Right Lower Tibia Y-Axis Force

Customer: VRTC

21TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-85

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

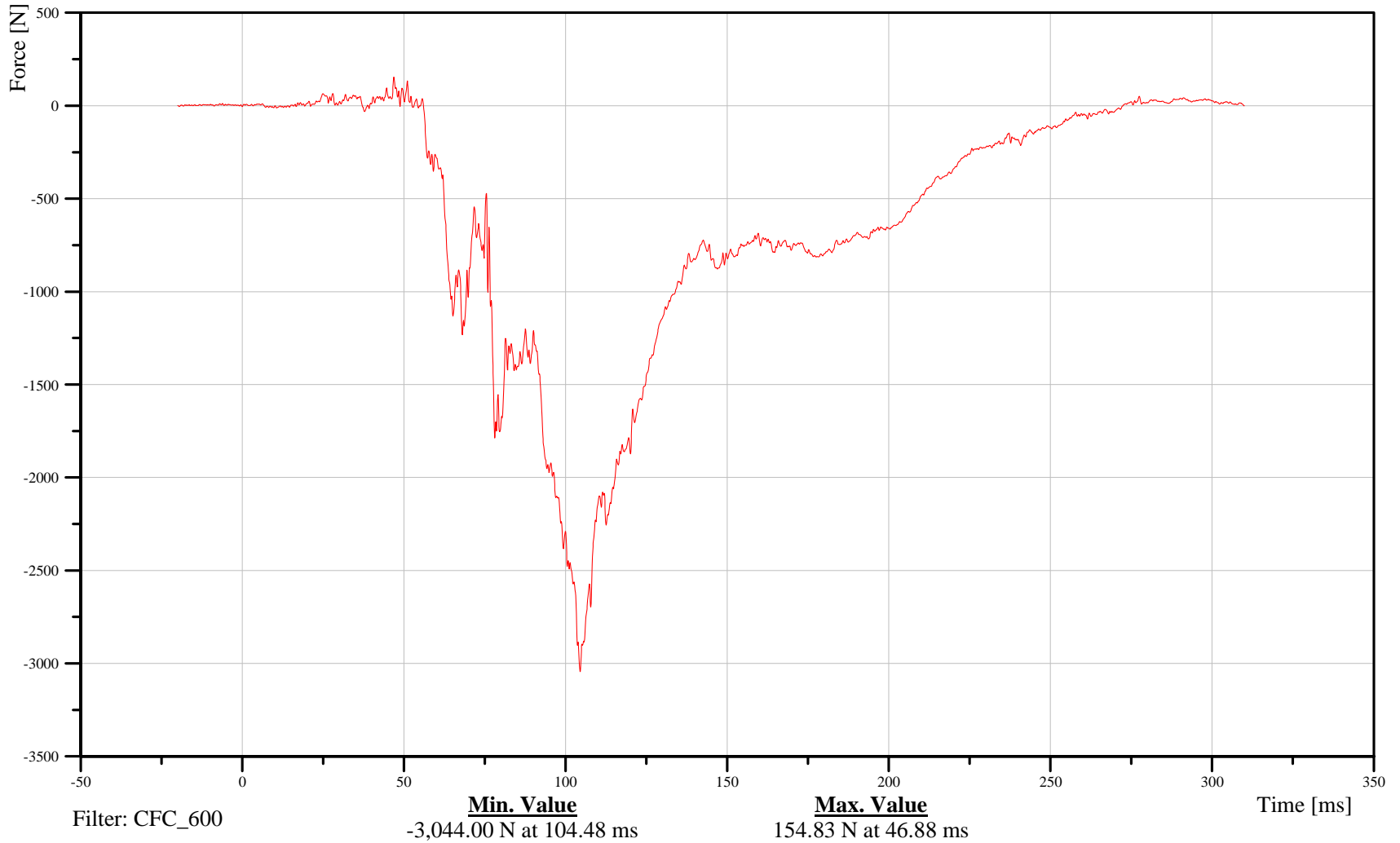
Target Vehicle Driver Right Lower Tibia Z-Axis Force

Customer: VRTC

21TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-86

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

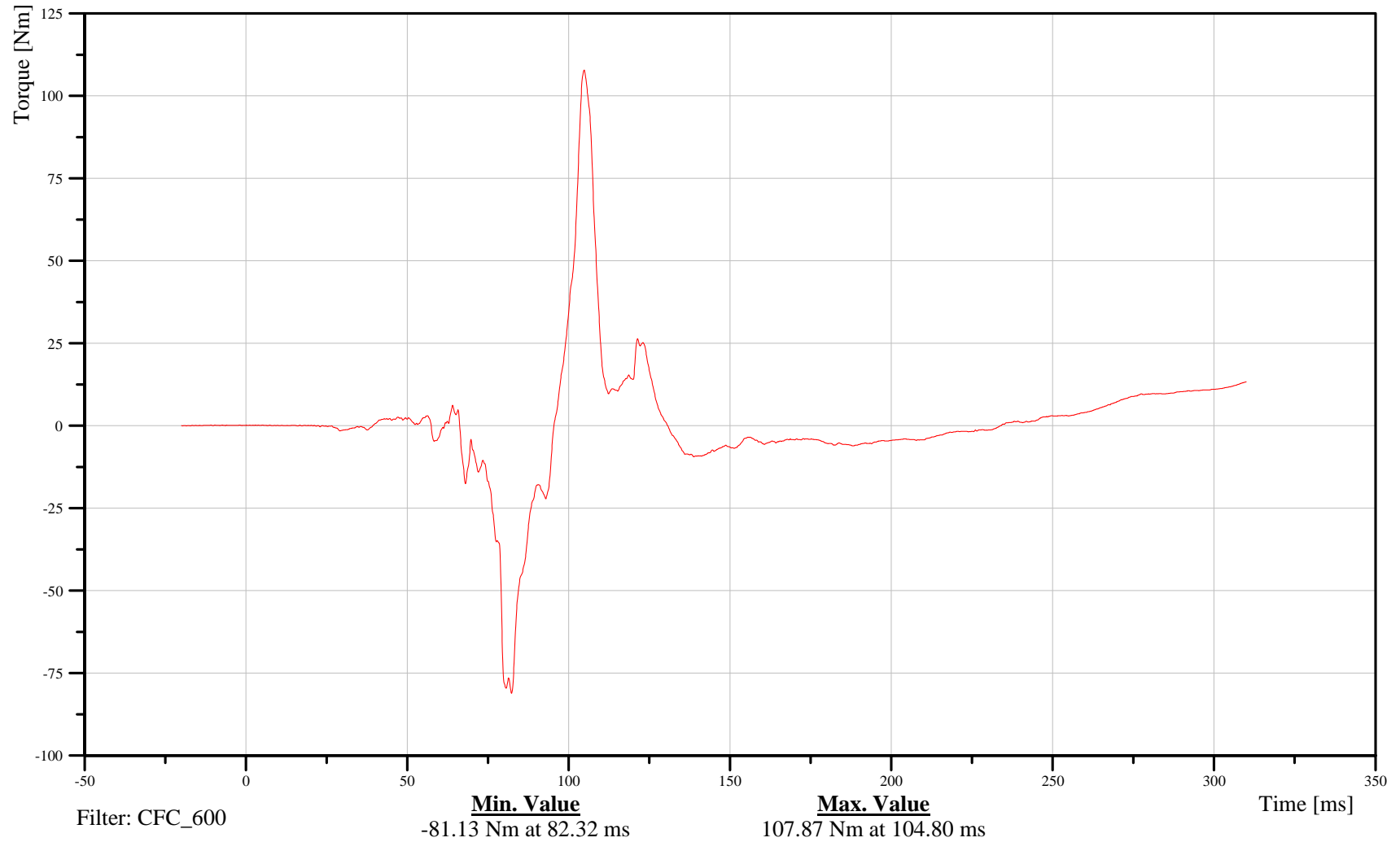
Target Vehicle Driver Right Lower Tibia Moment About X Axis

Customer: VRTC

21TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-87

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

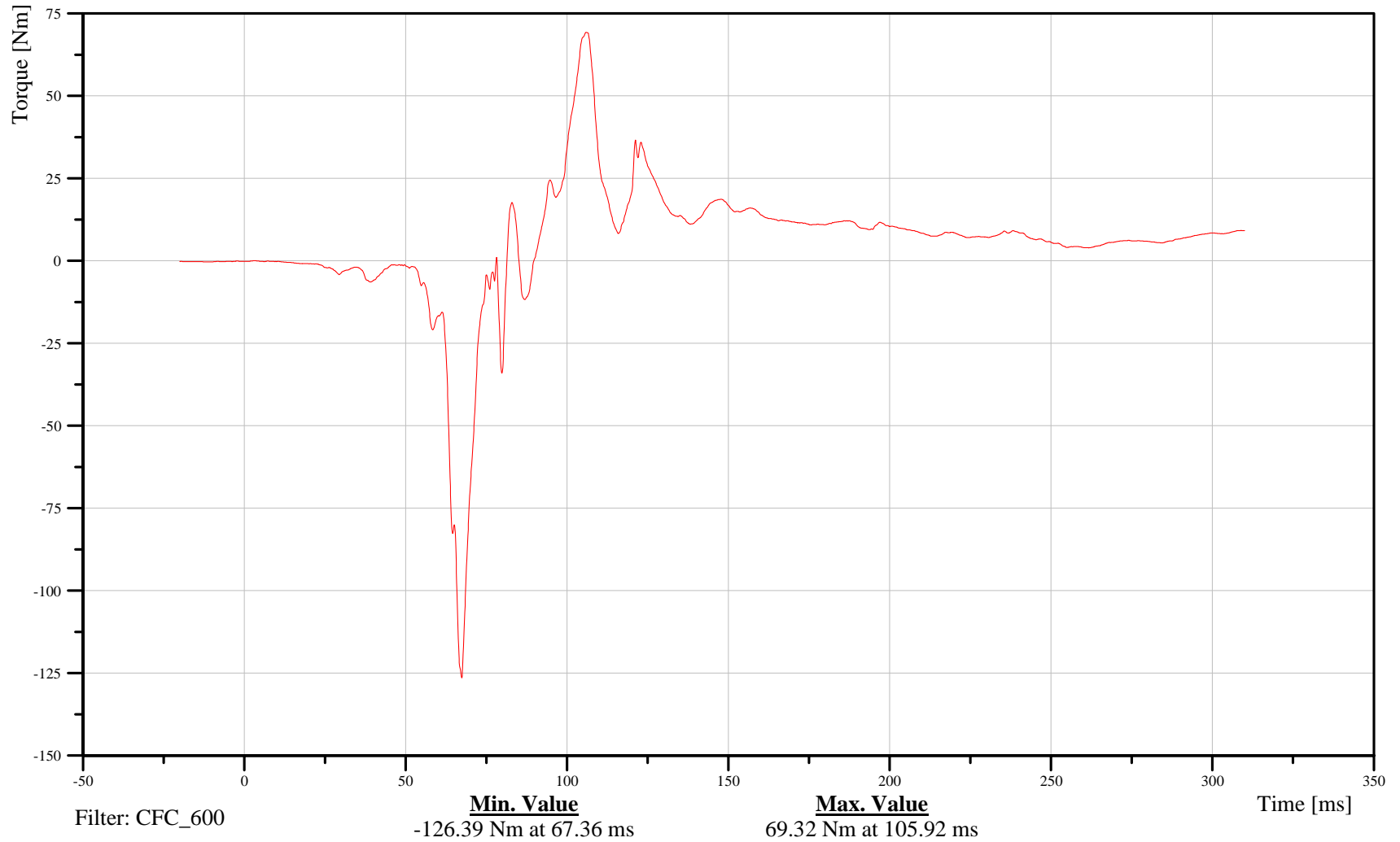
Target Vehicle Driver Right Lower Tibia Moment About Y Axis

Customer: VRTC

21TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-88

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

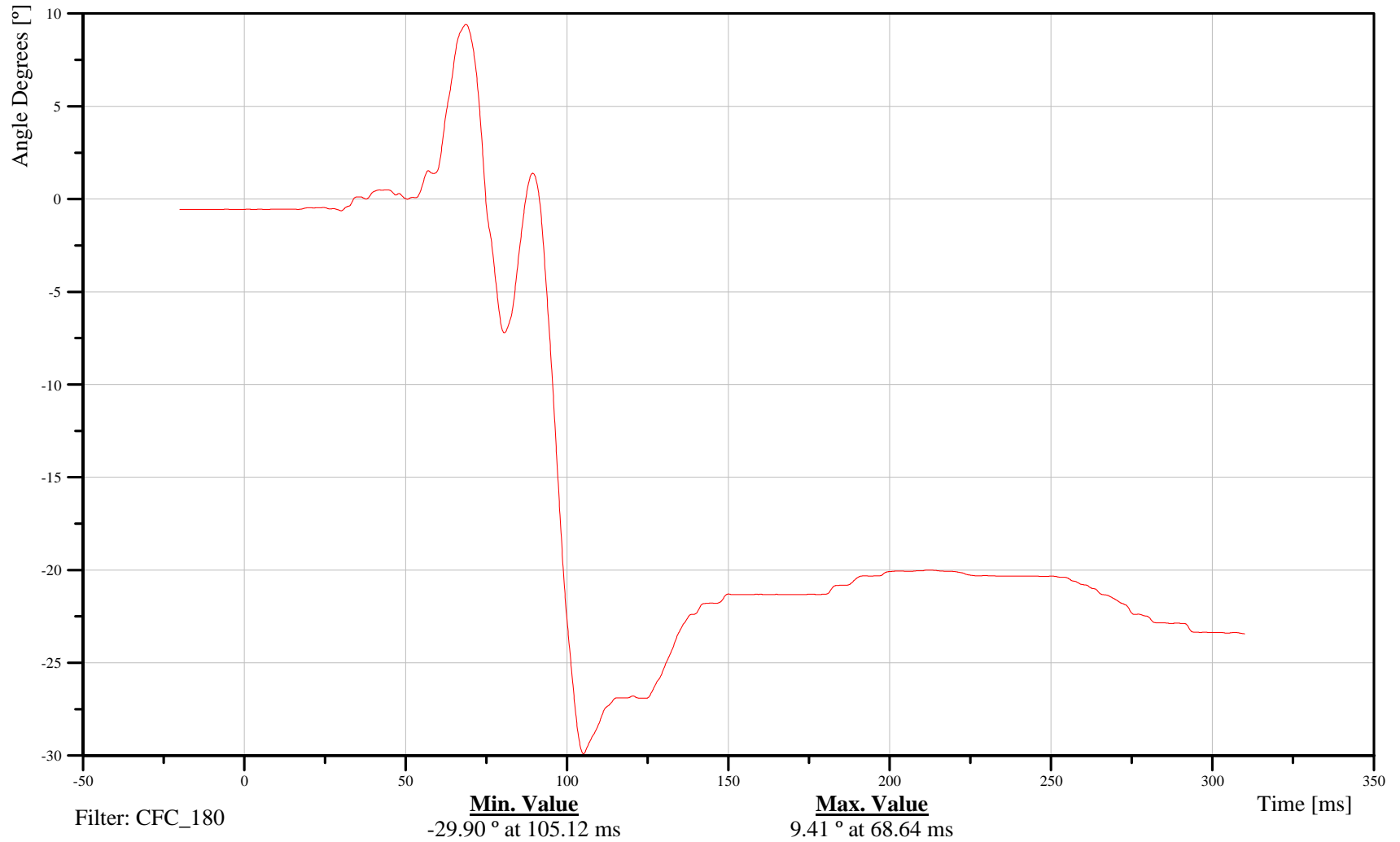
Target Vehicle Driver Right Foot X-Axis Angular Displacement

Customer: VRTC

21FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-89

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

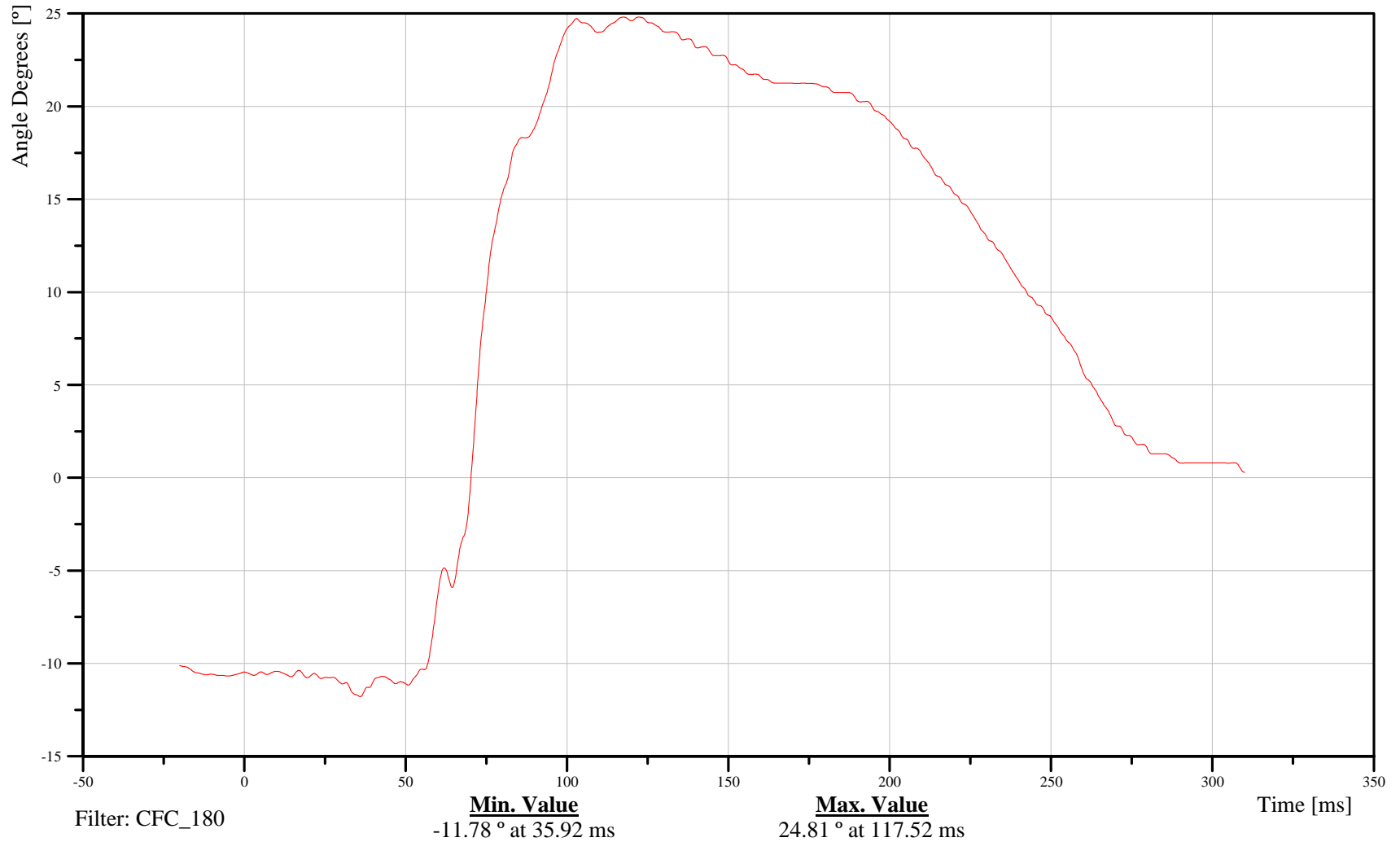
Target Vehicle Driver Right Foot Y-Axis Angular Displacement

Customer: VRTC

21FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-90

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

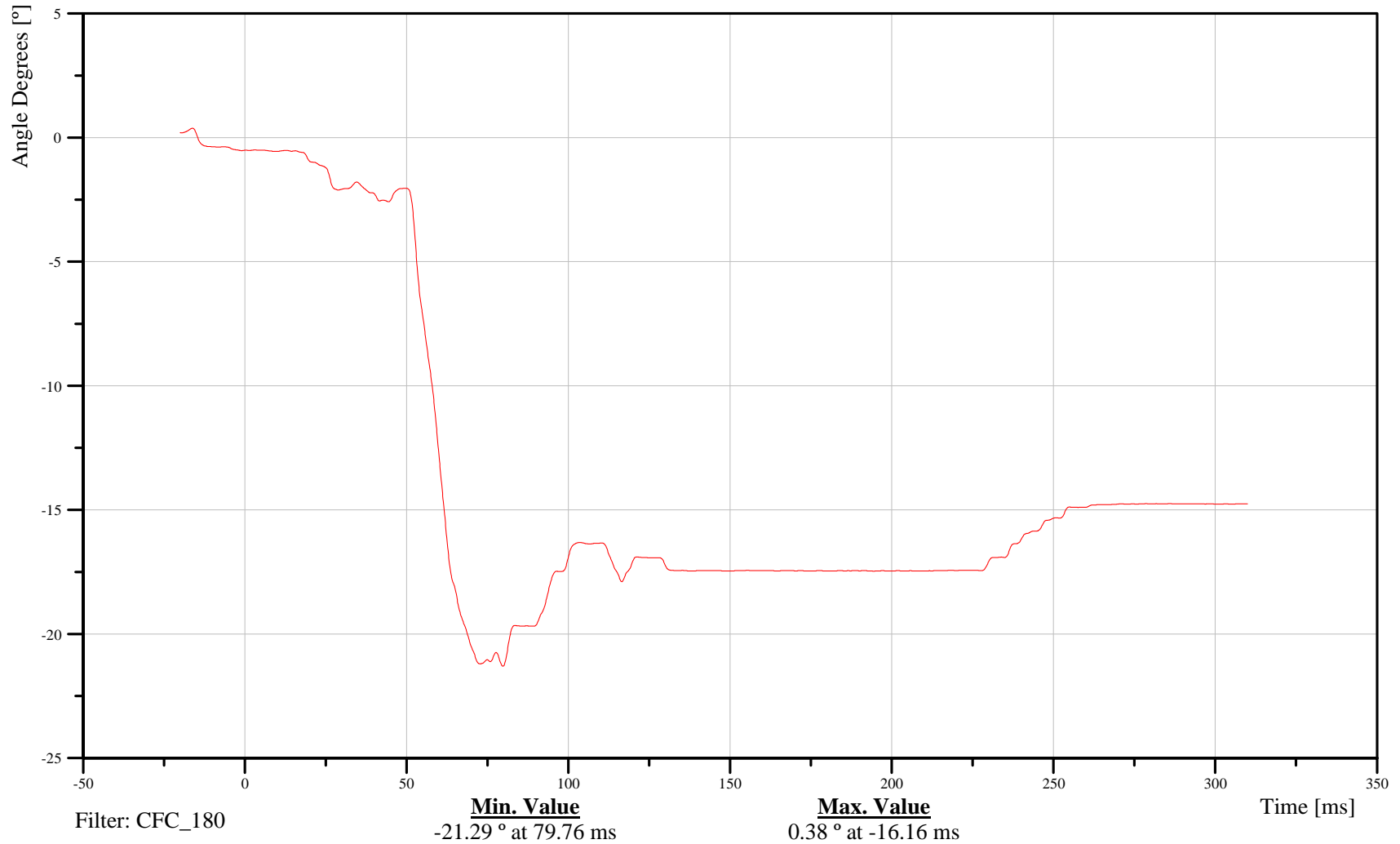
Target Vehicle Driver Right Foot Z-Axis Angular Displacement

Customer: VRTC

21FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-91

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

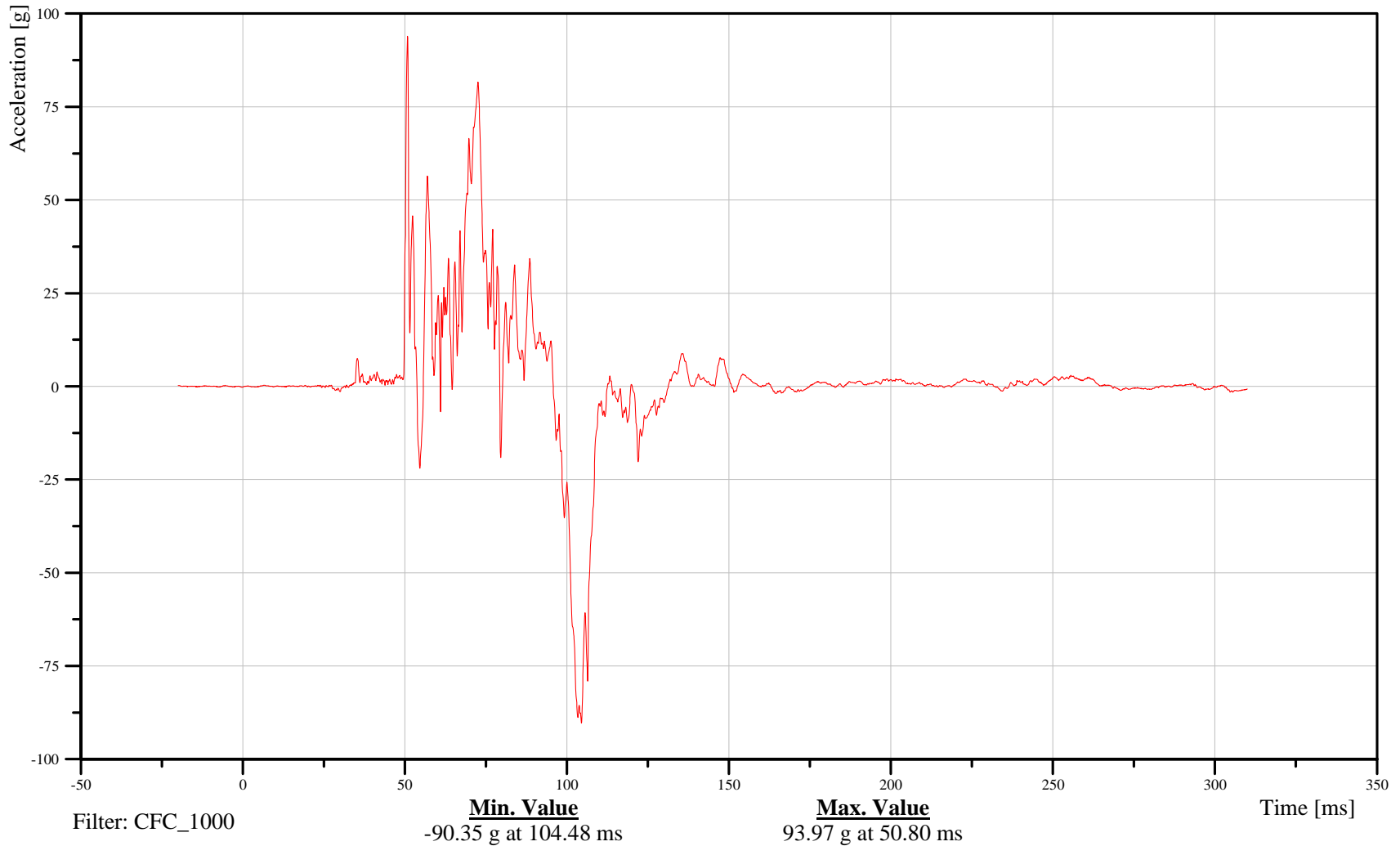
Target Vehicle Driver Right Foot X-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-92

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

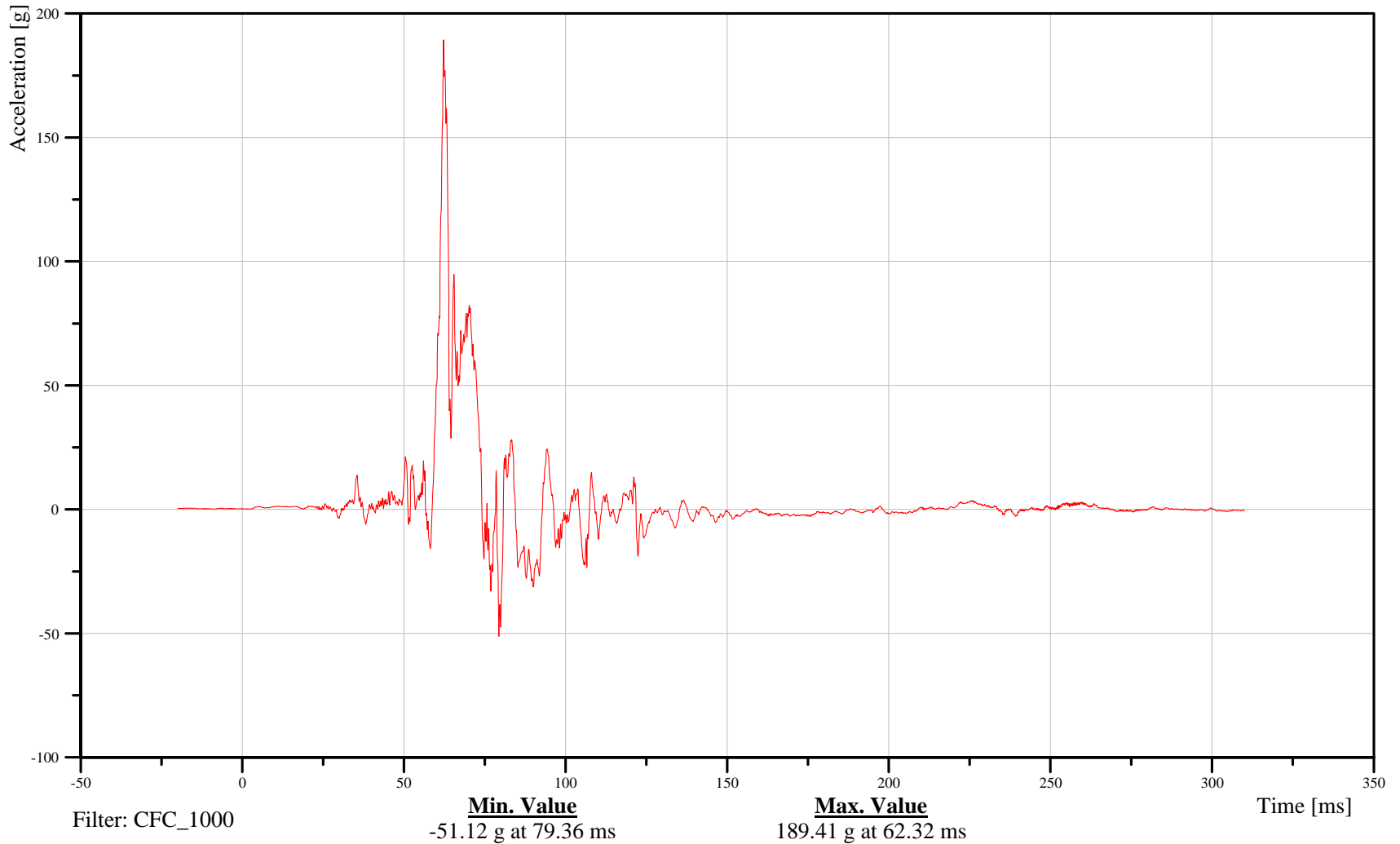
Target Vehicle Driver Right Foot Y-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-93

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

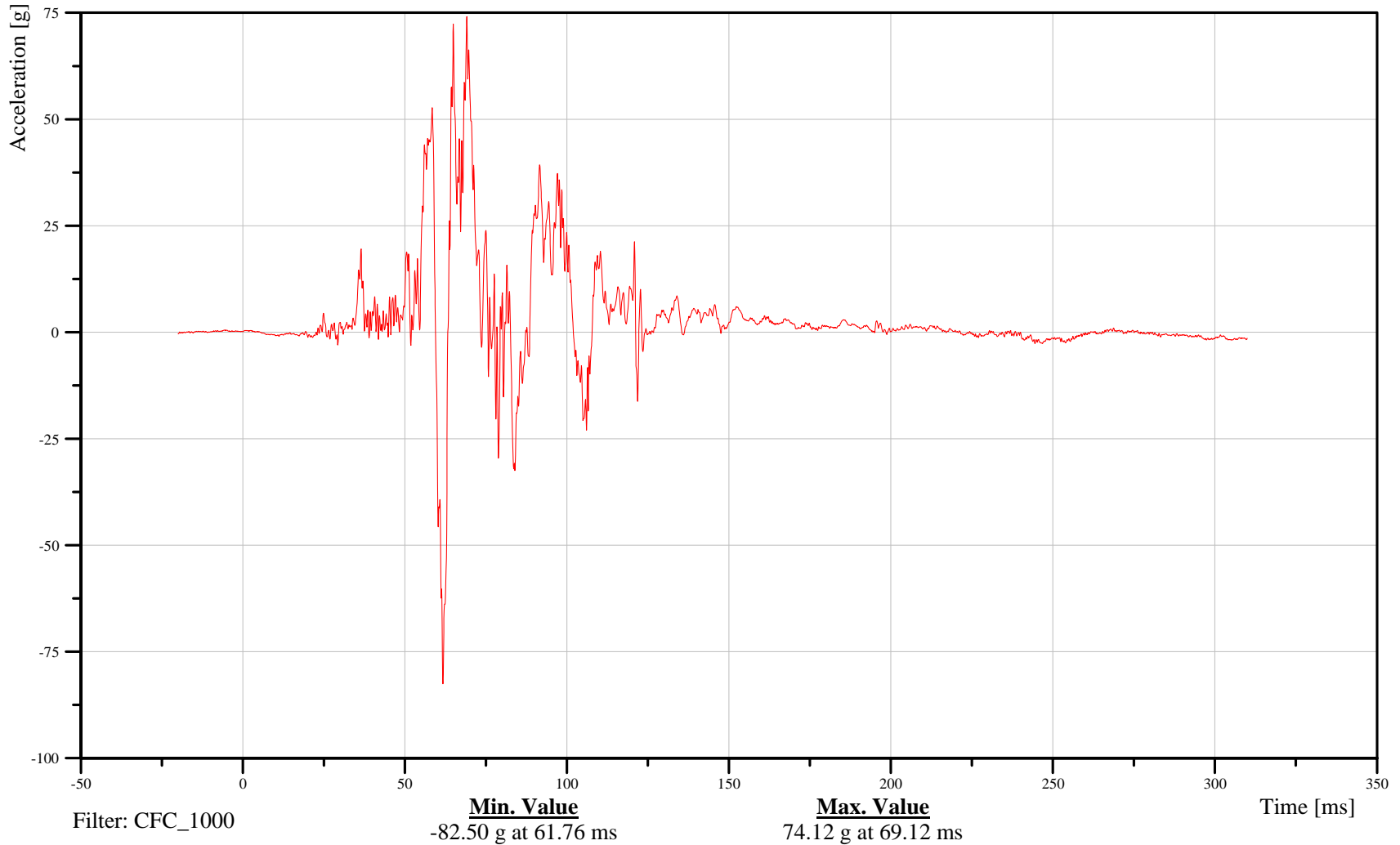
Target Vehicle Driver Right Foot Z-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-94

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

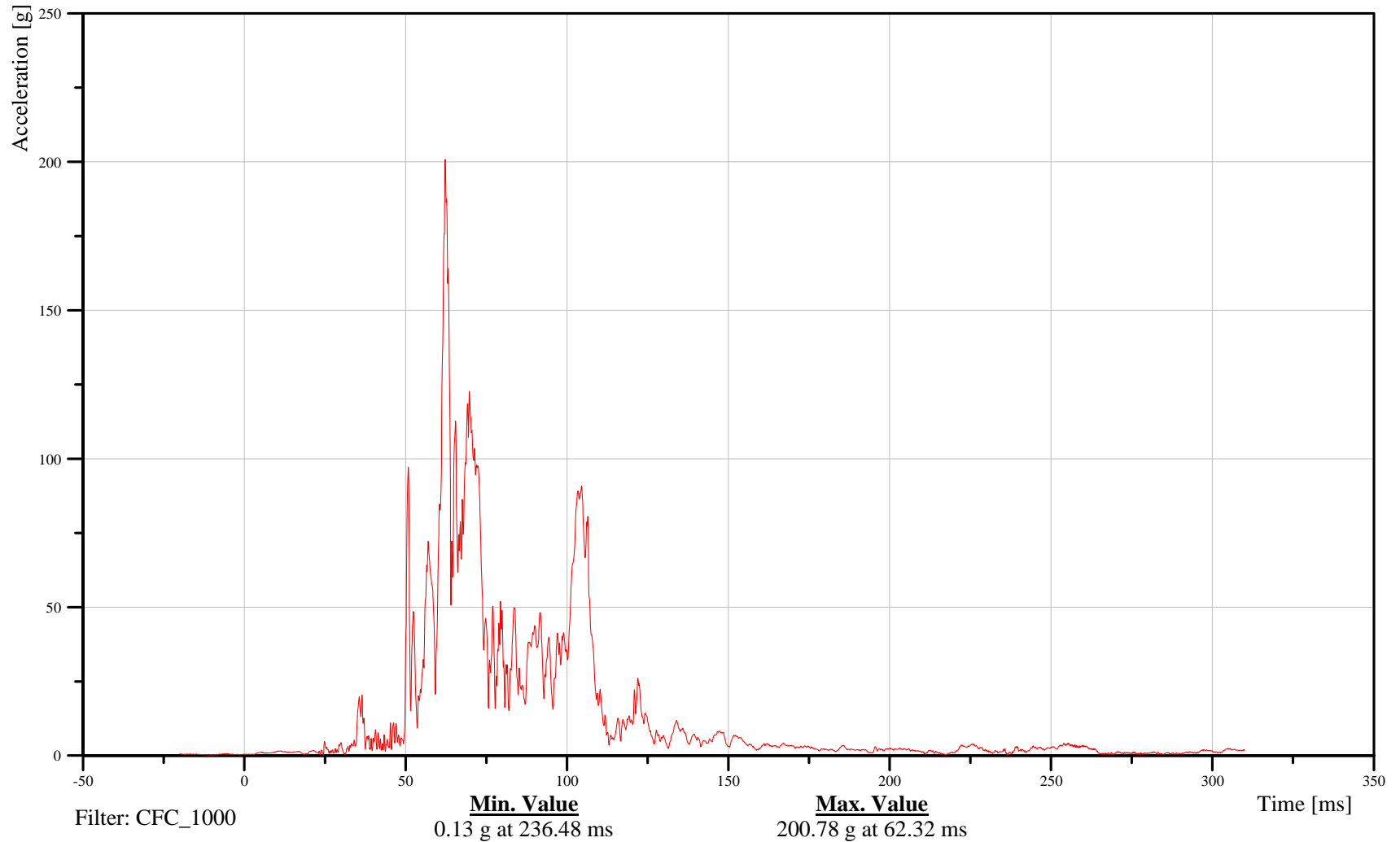
Target Vehicle Driver Right Foot Resultant Acceleration

Customer: VRTC

21FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-95

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

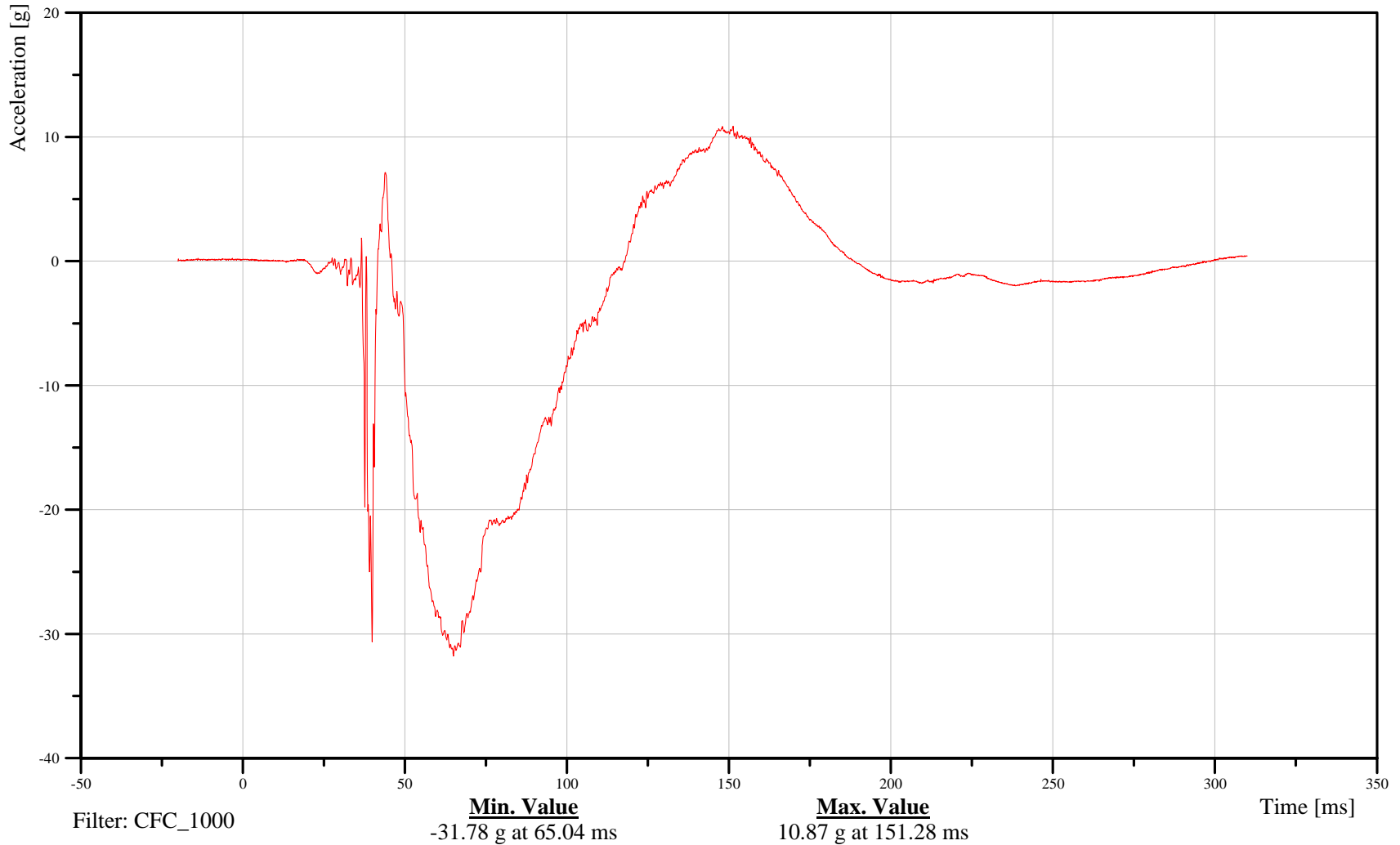
Target Vehicle Passenger Head X-Axis Acceleration

Customer: VRTC

23HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-96

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

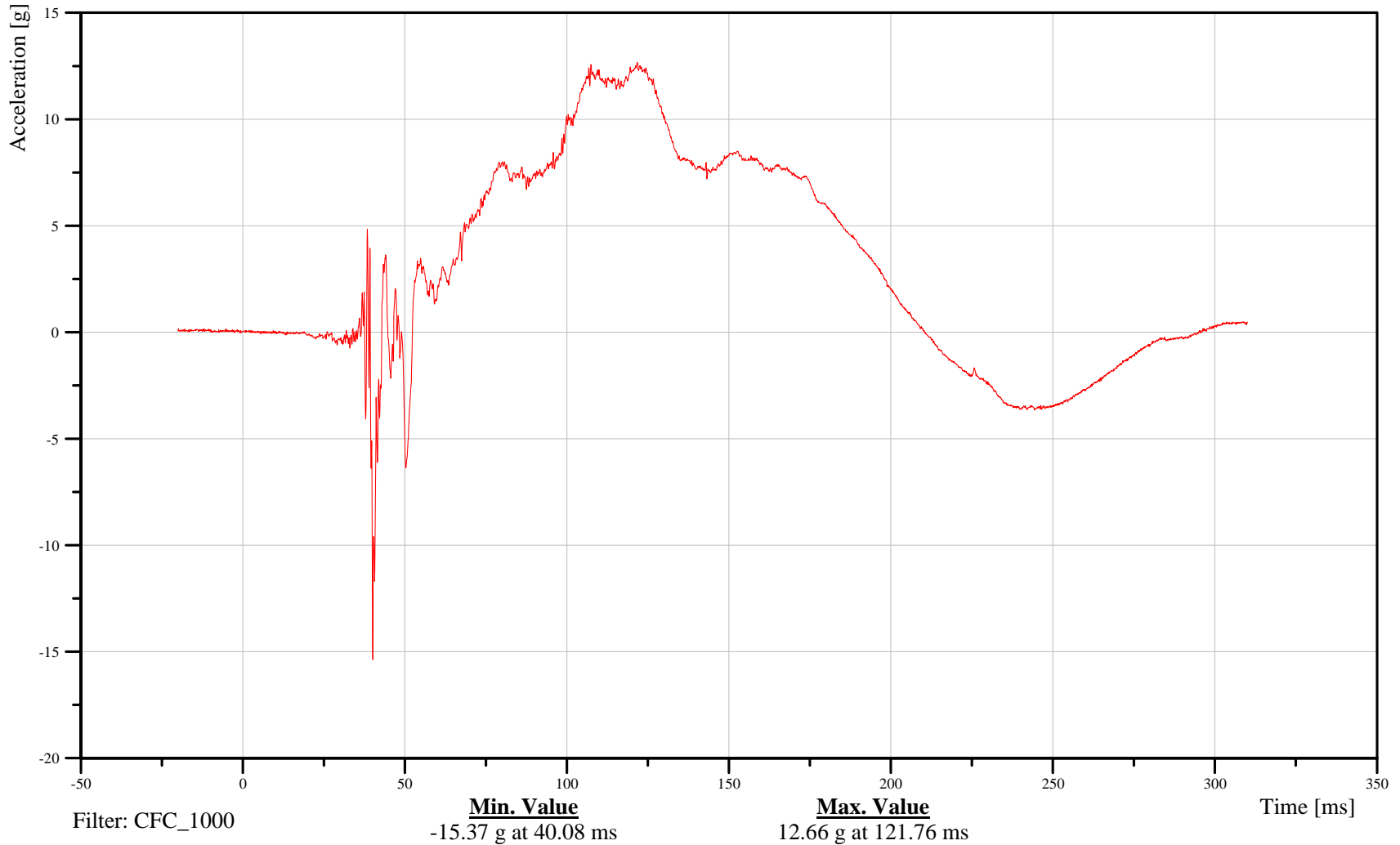
Target Vehicle Passenger Head Y-Axis Acceleration

Customer: VRTC

23HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-97

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

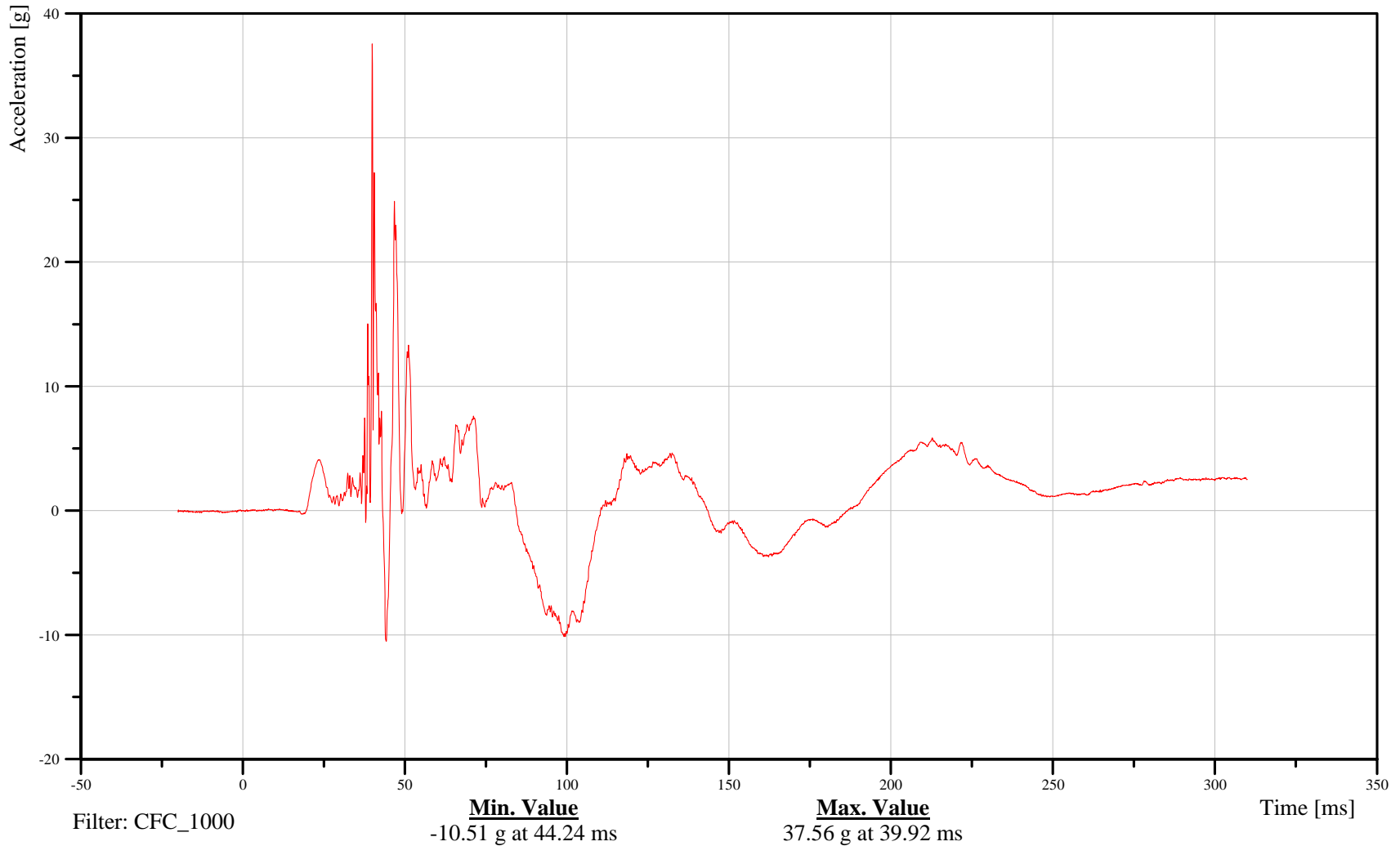
Target Vehicle Passenger Head Z-Axis Acceleration

Customer: VRTC

23HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-98

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

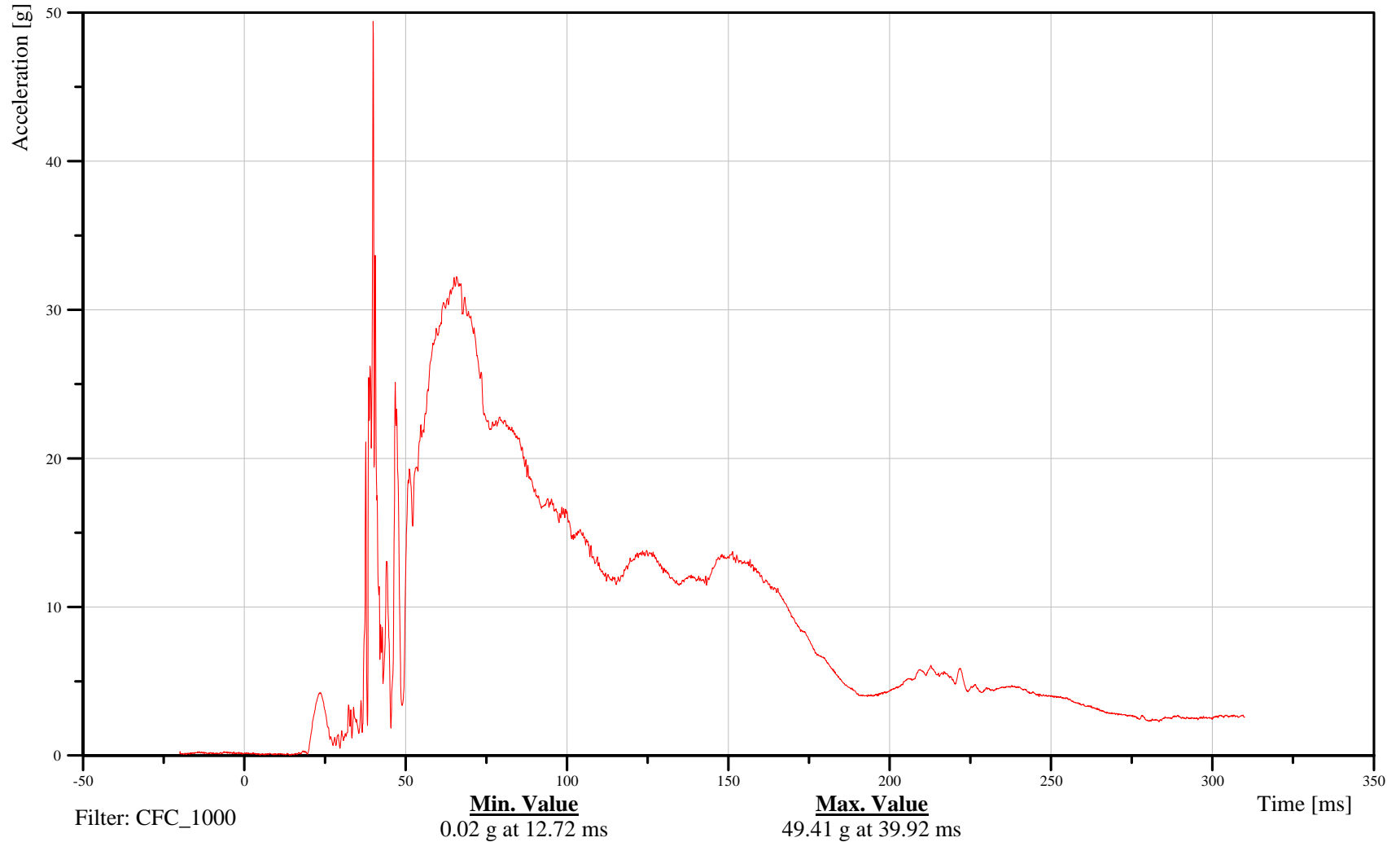
Target Vehicle Passenger Head Resultant Acceleration

Customer: VRTC

23HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-99

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

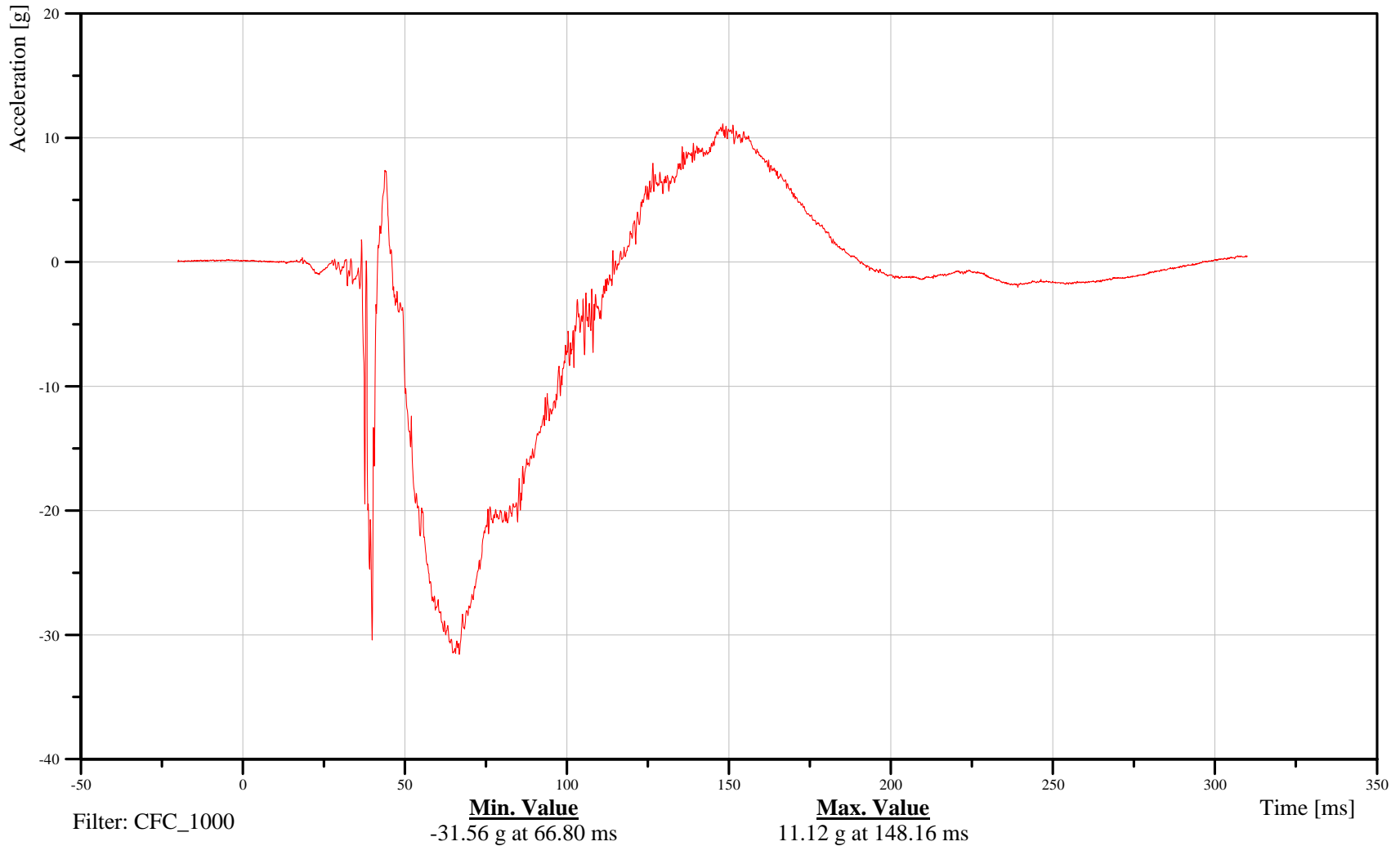
Target Vehicle Passenger Head X-Axis Acceleration Redundant

Customer: VRTC

23HEADCGRDHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-100

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

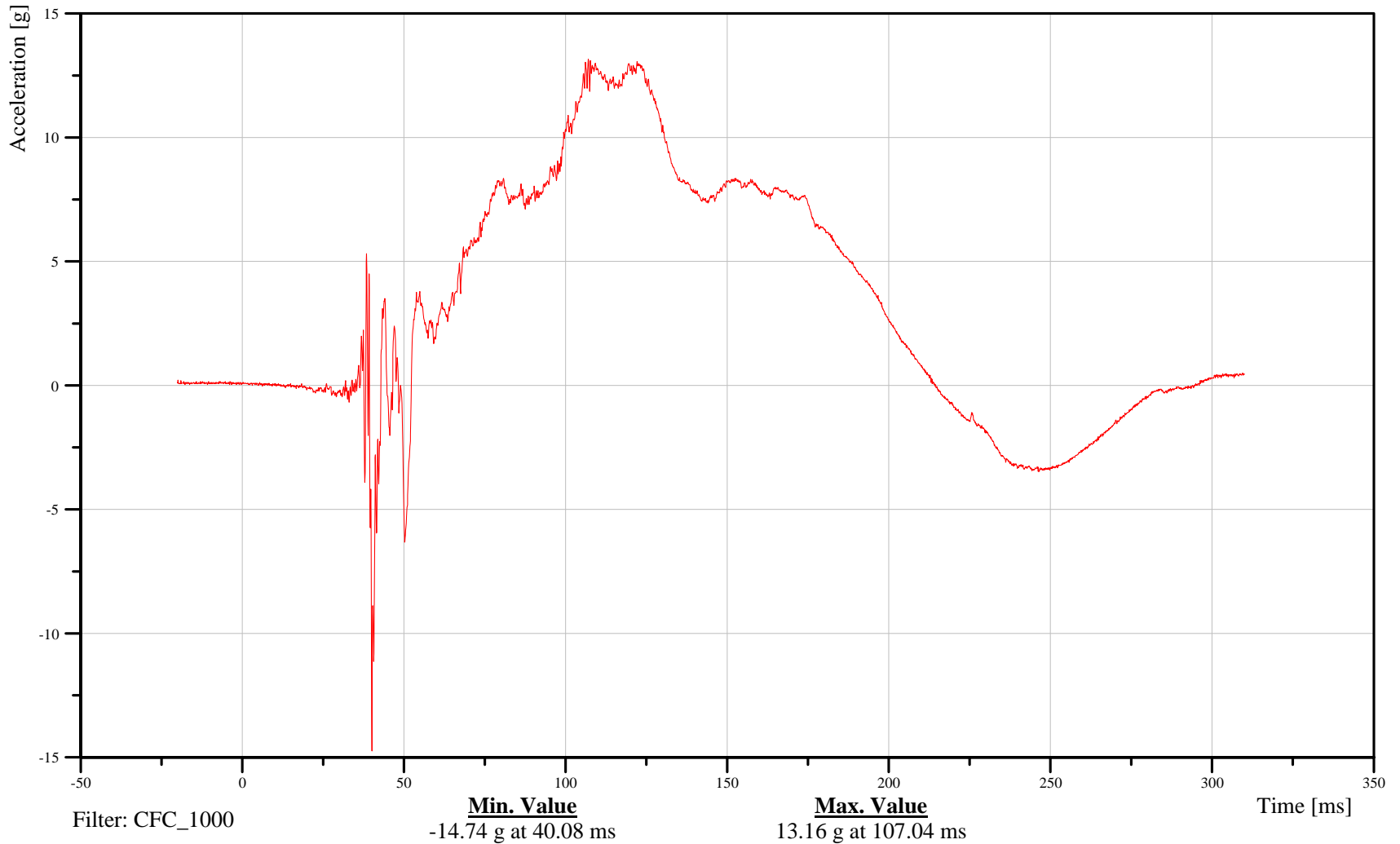
Target Vehicle Passenger Head Y-Axis Acceleration Redundant

Customer: VRTC

23HEADCGRDHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-101

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

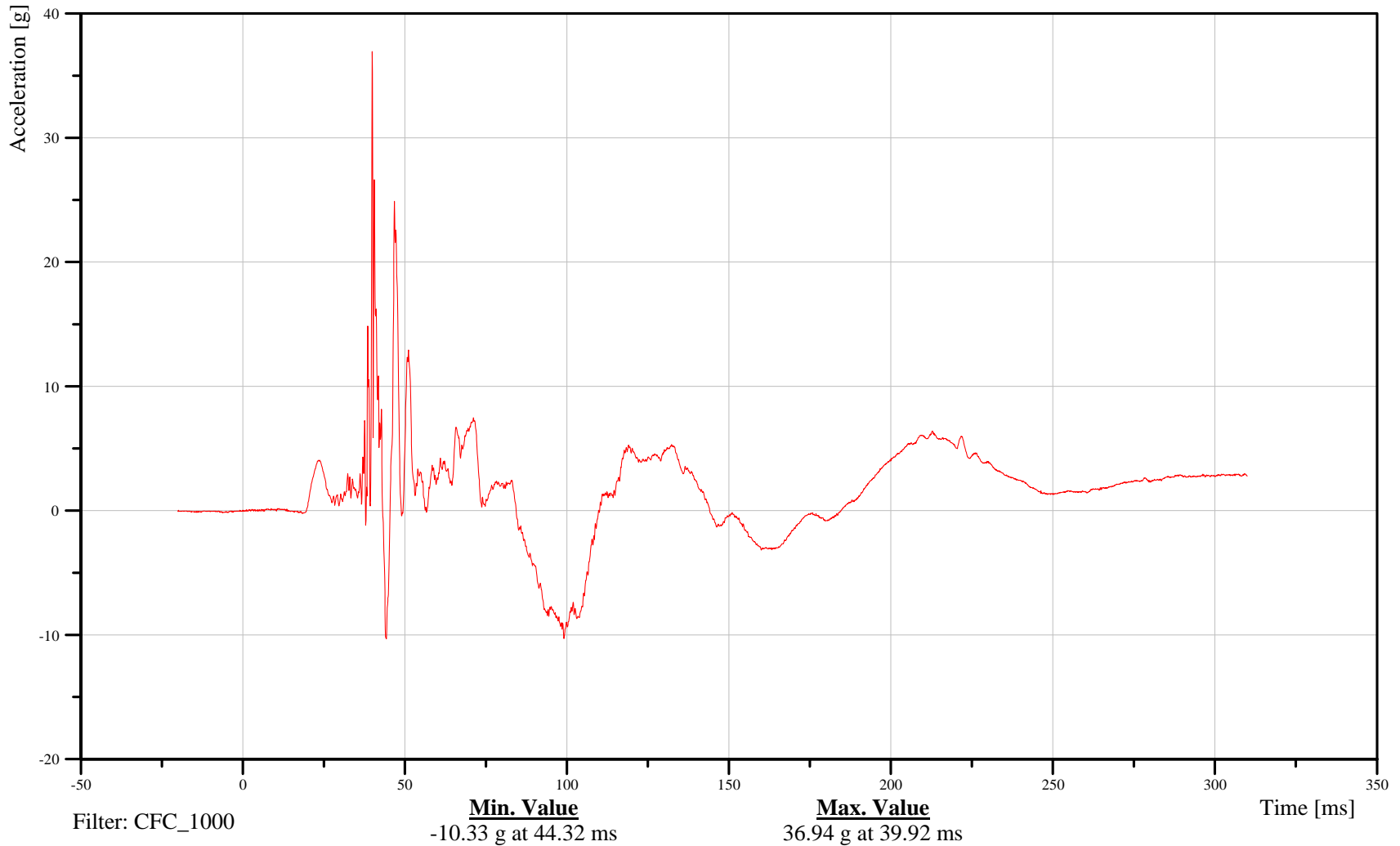
Target Vehicle Passenger Head Z-Axis Acceleration Redundant

Customer: VRTC

23HEADCGRDHFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-102

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

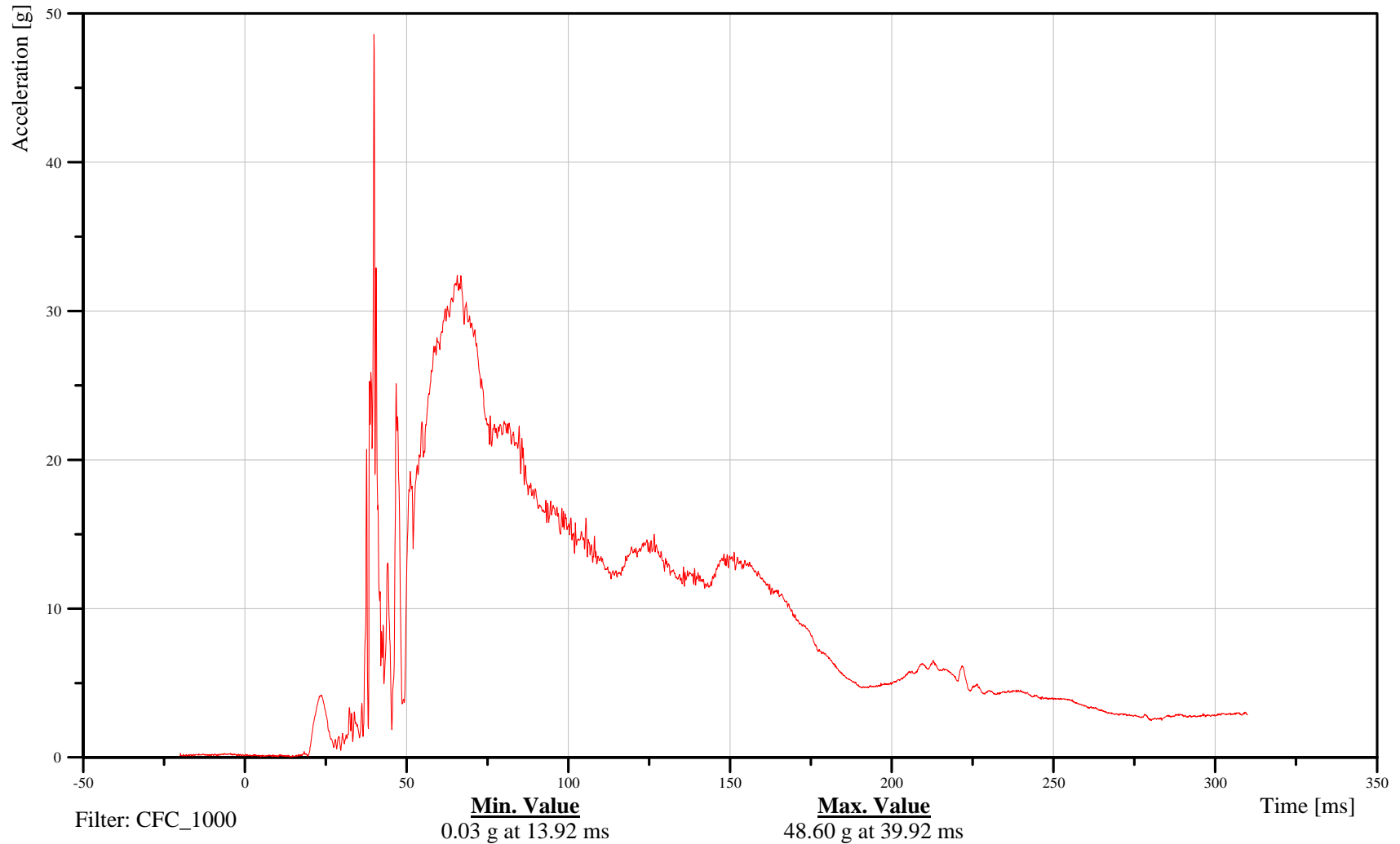
Target Vehicle Passenger Head Resultant Acceleration Redundant

Customer: VRTC

23HEADCGRDHFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-103

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

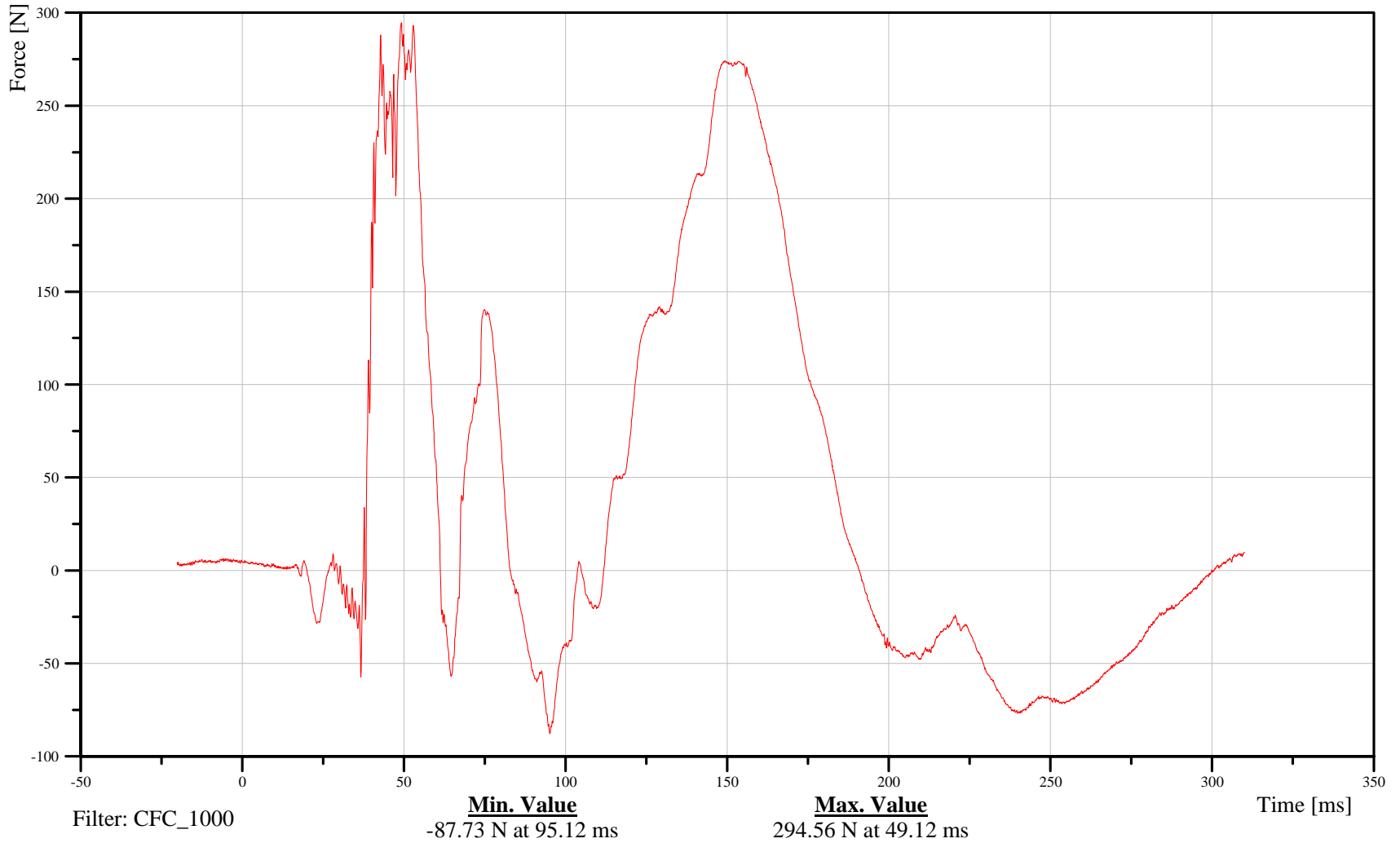
Target Vehicle Passenger Neck X-Axis Force

Customer: VRTC

23NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-104

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

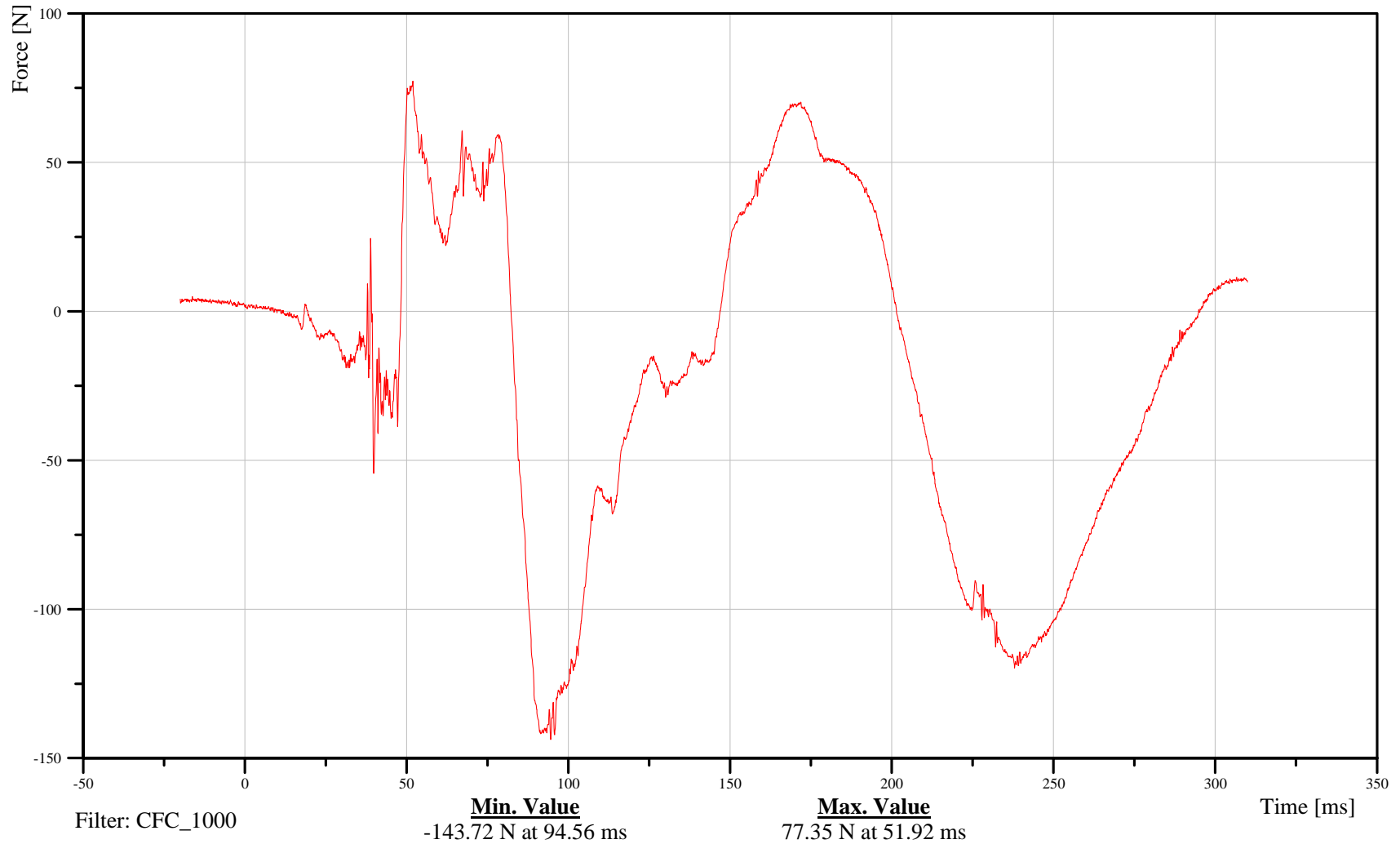
Target Vehicle Passenger Neck Y-Axis Force

Customer: VRTC

23NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-105

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

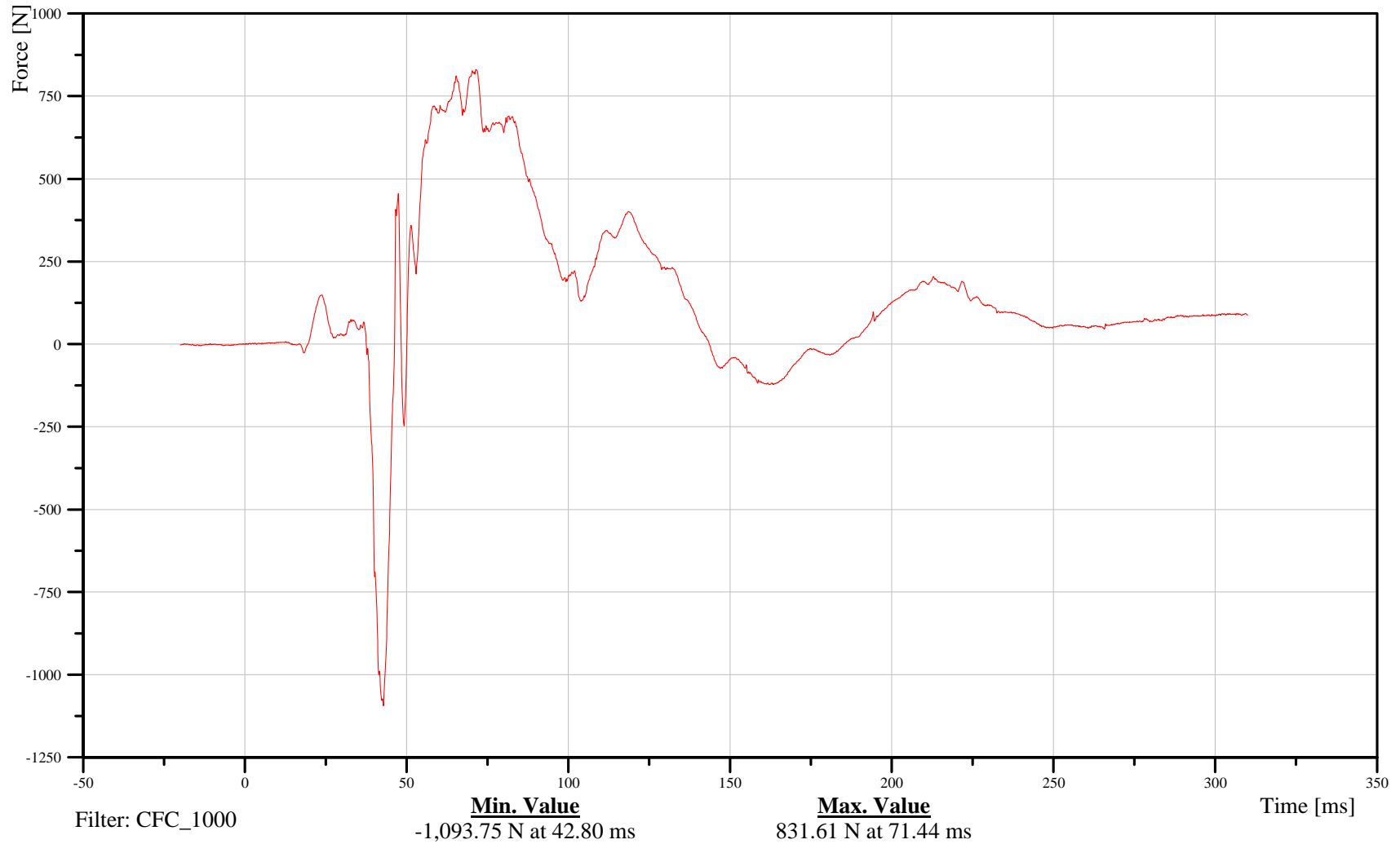
Target Vehicle Passenger Neck Z-Axis Force

Customer: VRTC

23NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-106

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

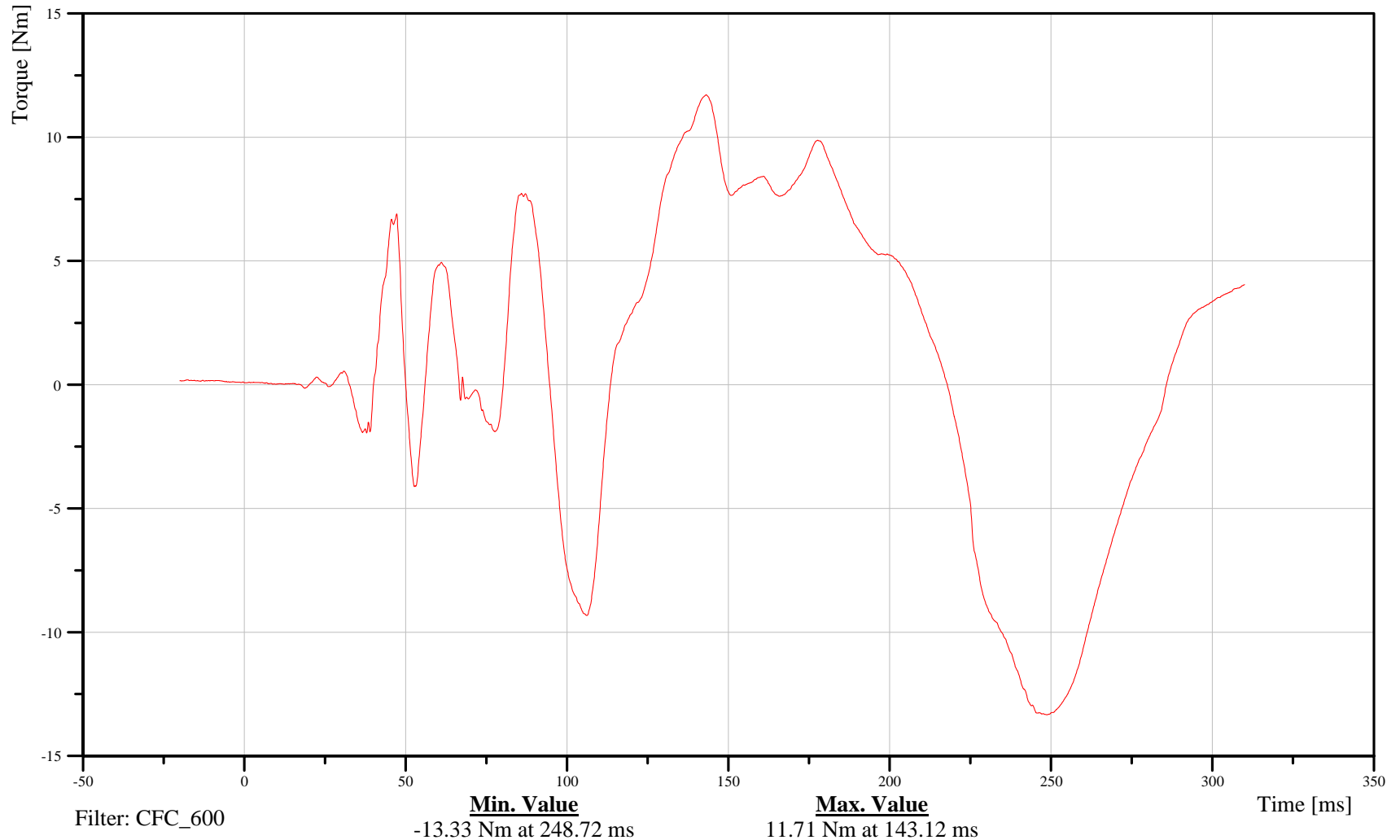
Target Vehicle Passenger Neck Moment About X Axis

Customer: VRTC

23NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-107

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

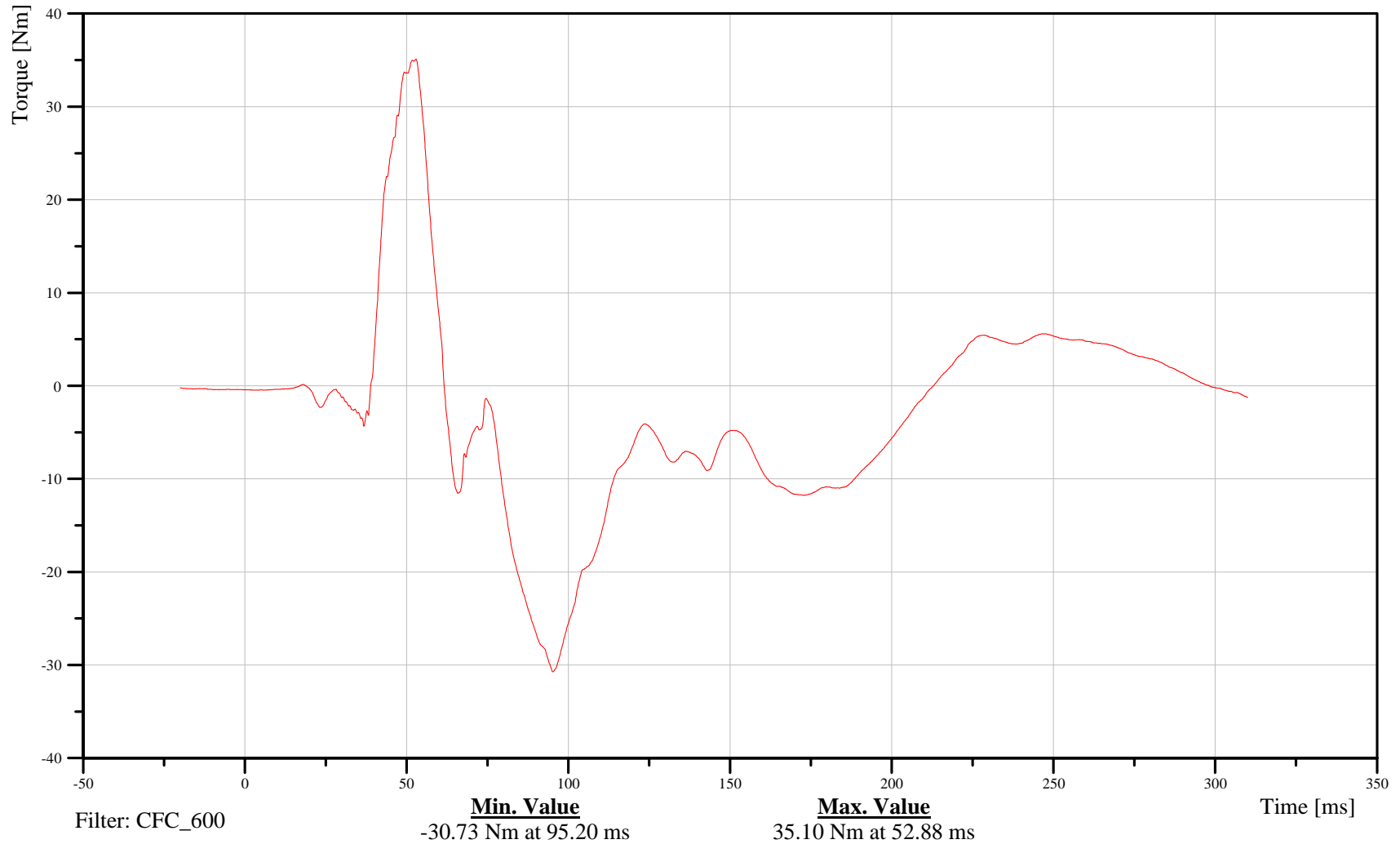
Target Vehicle Passenger Neck Moment About Y Axis

Customer: VRTC

23NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-108

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

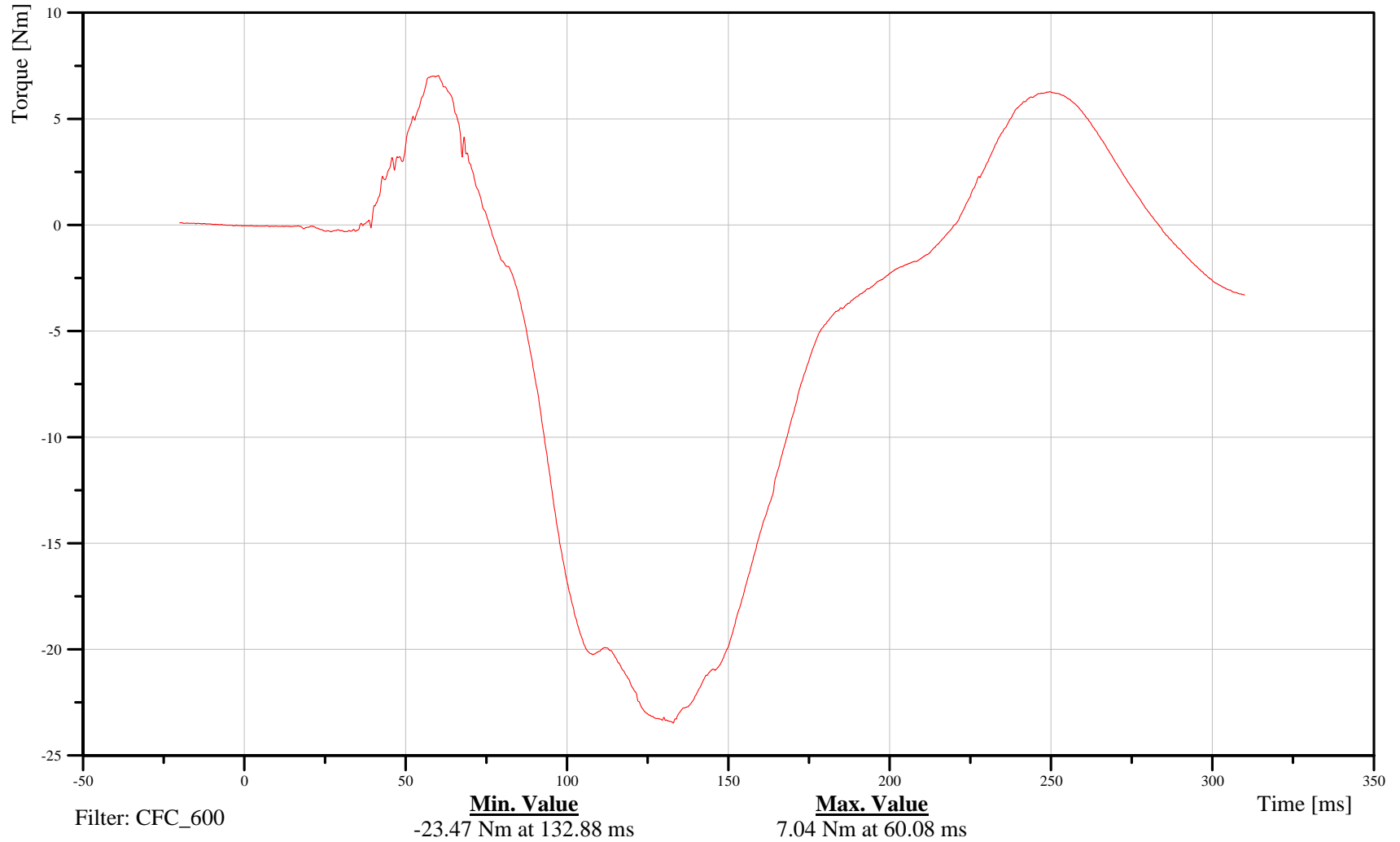
Target Vehicle Passenger Neck Moment About Z Axis

Customer: VRTC

23NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-109

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

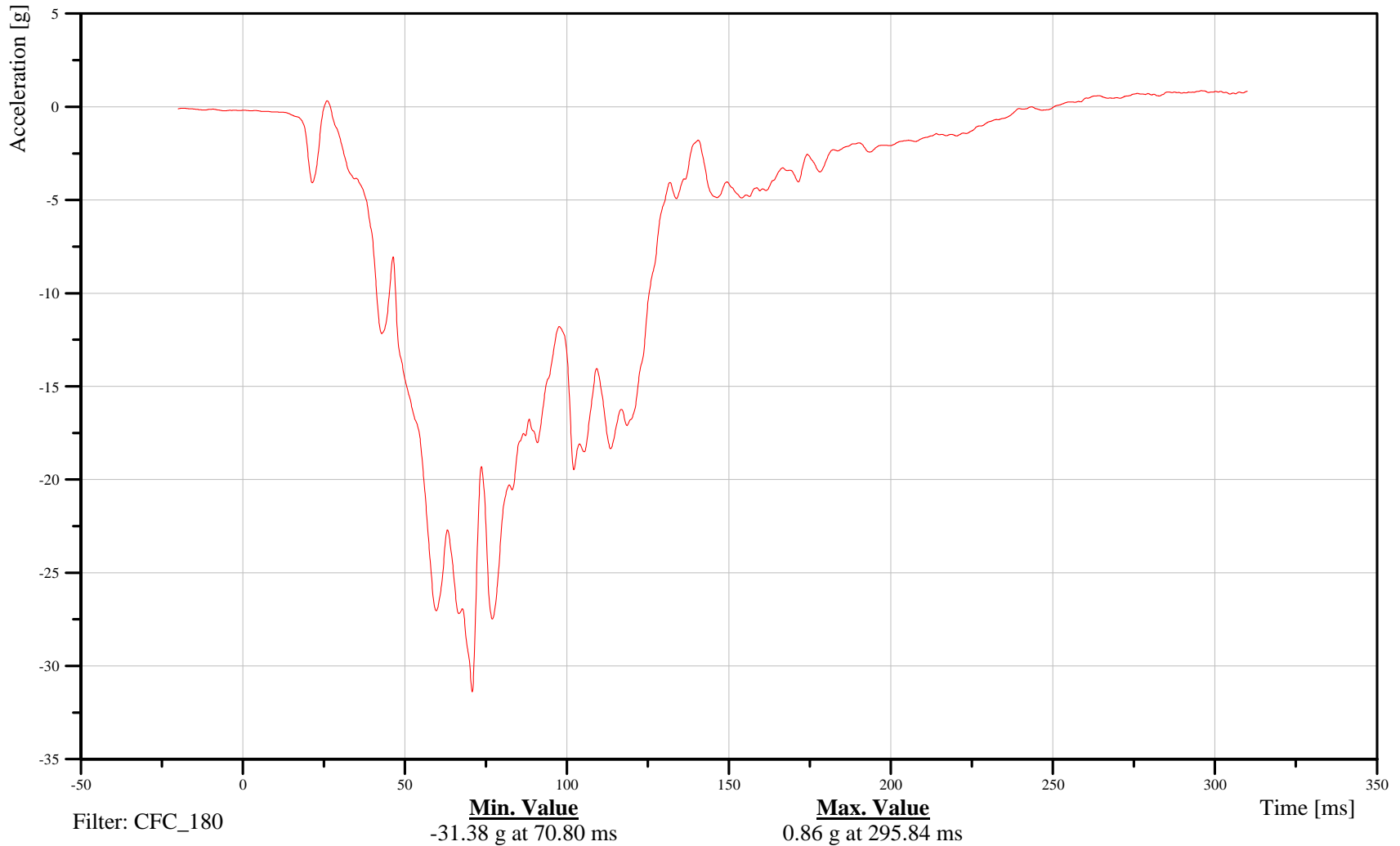
Target Vehicle Passenger Chest X-Axis Acceleration

Customer: VRTC

23CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-110

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

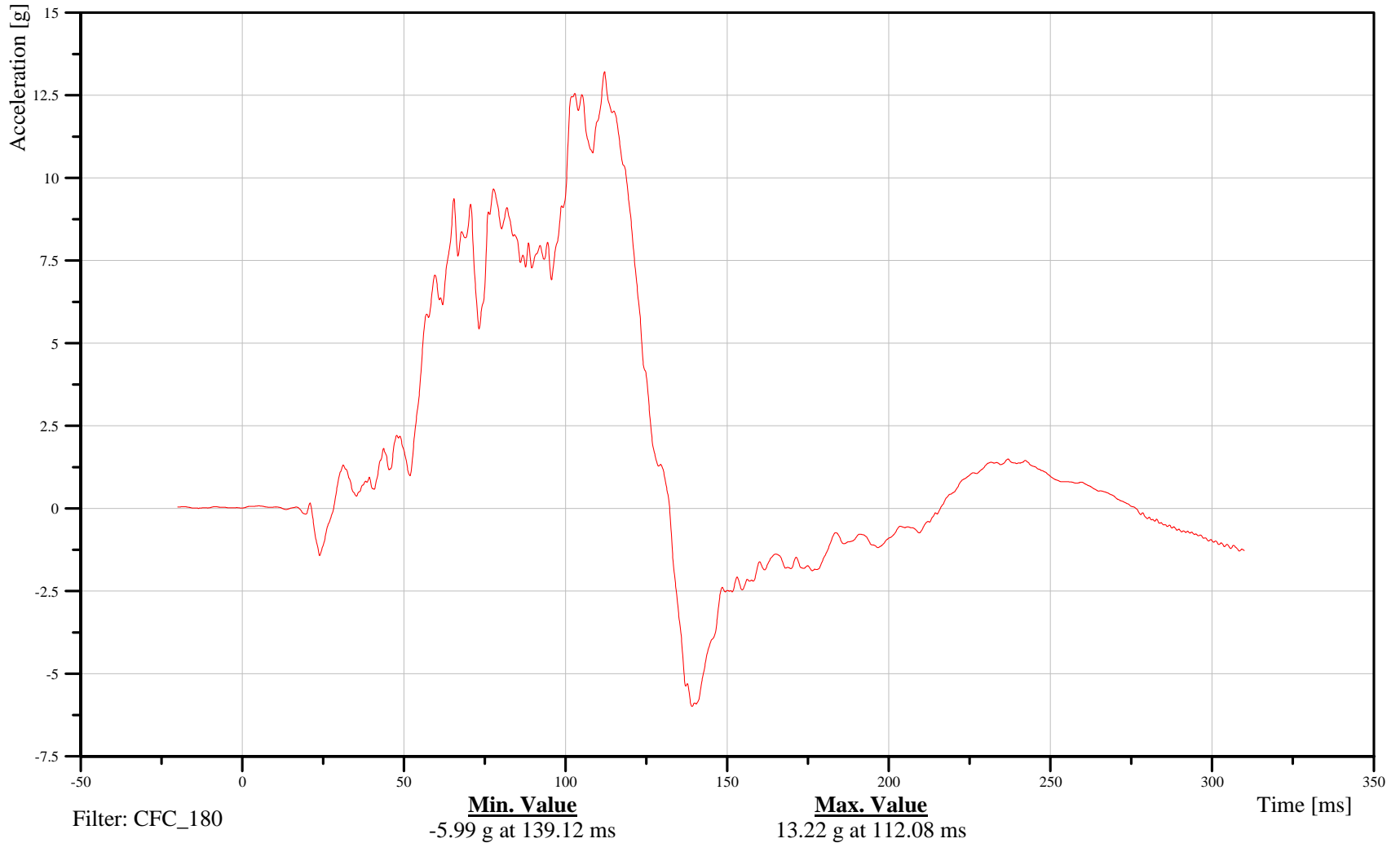
Target Vehicle Passenger Chest Y-Axis Acceleration

Customer: VRTC

23CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-111

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

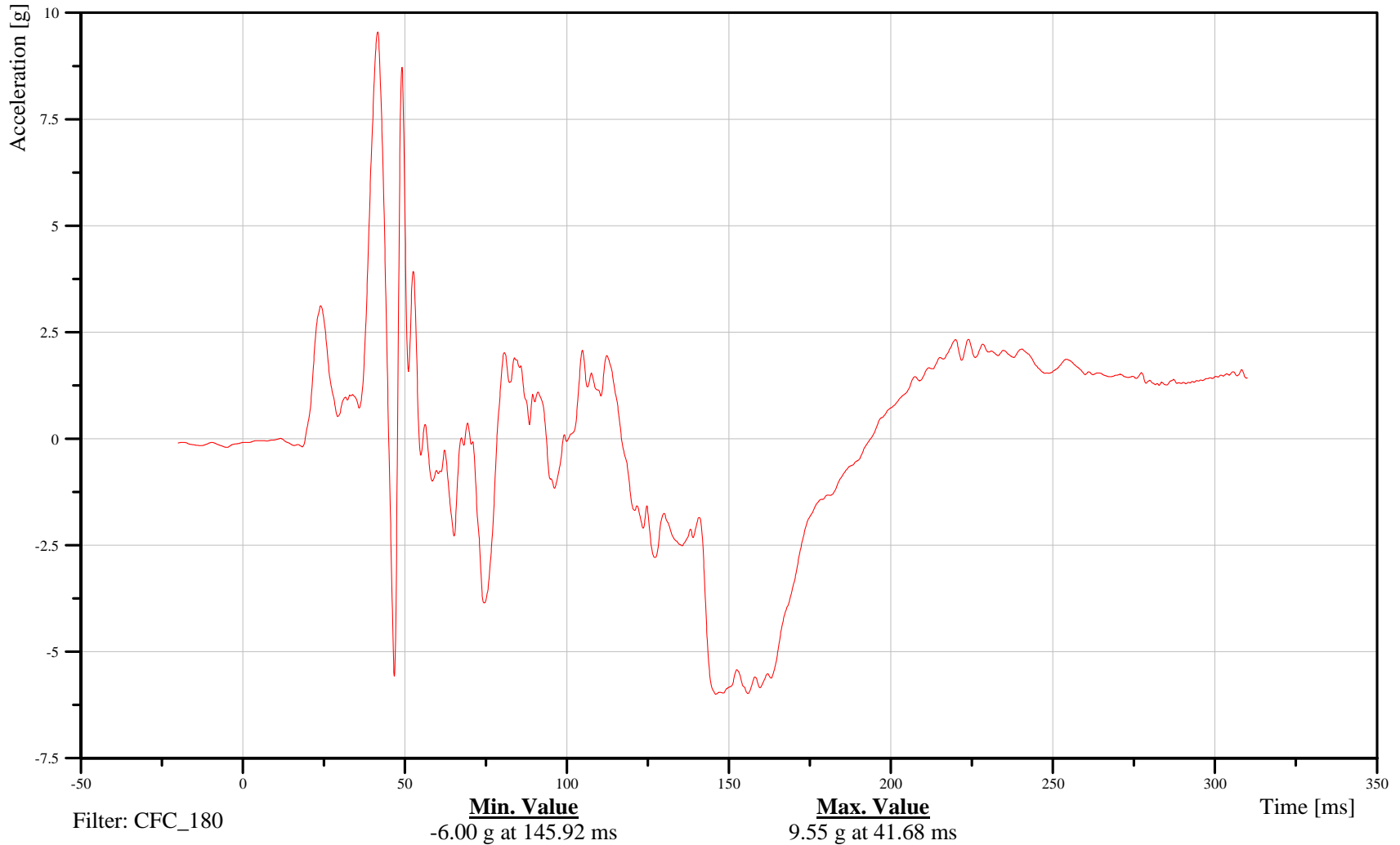
Target Vehicle Passenger Chest Z-Axis Acceleration

Customer: VRTC

23CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-112

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

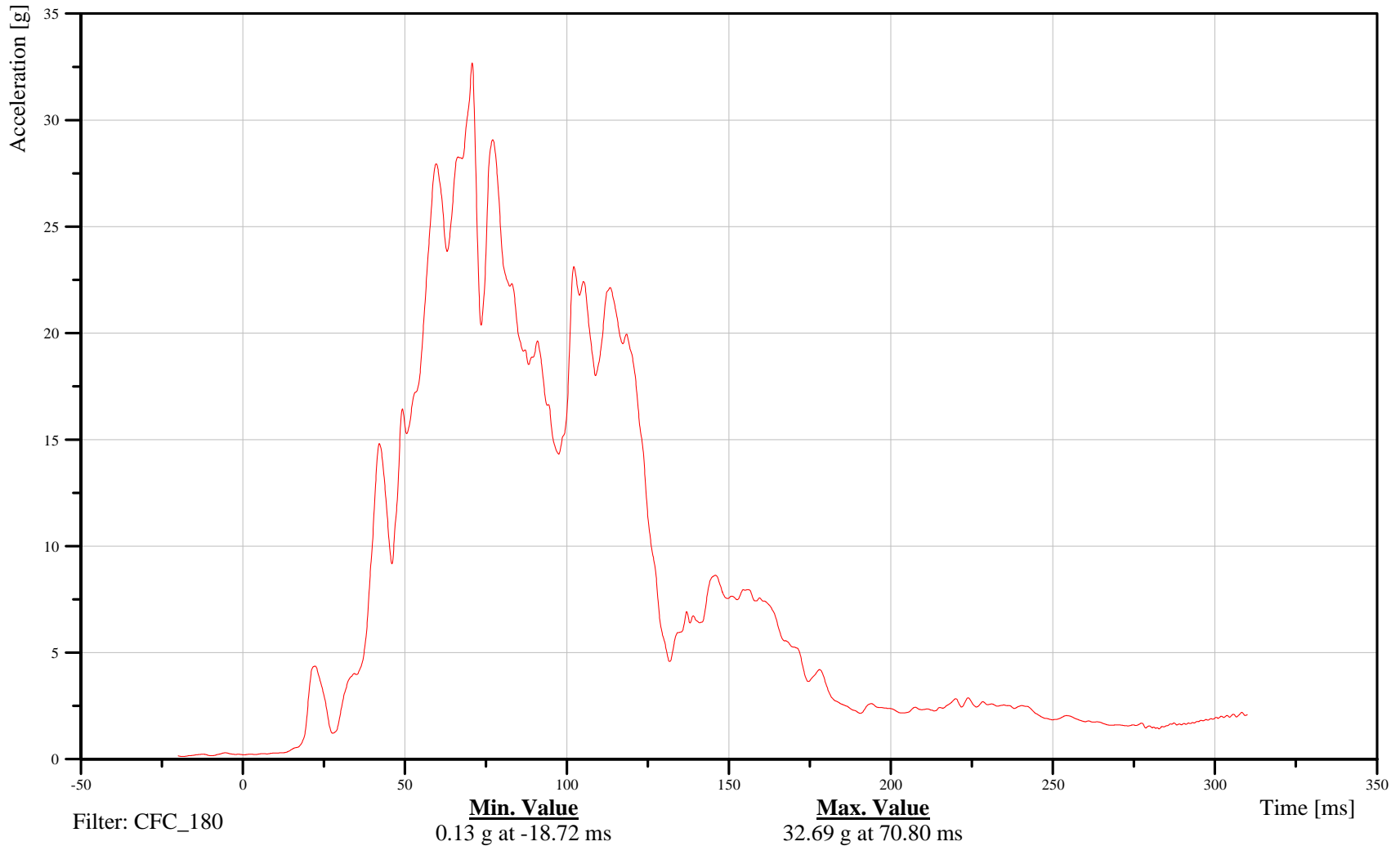
Target Vehicle Passenger Chest Resultant Acceleration

Customer: VRTC

23CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-113

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

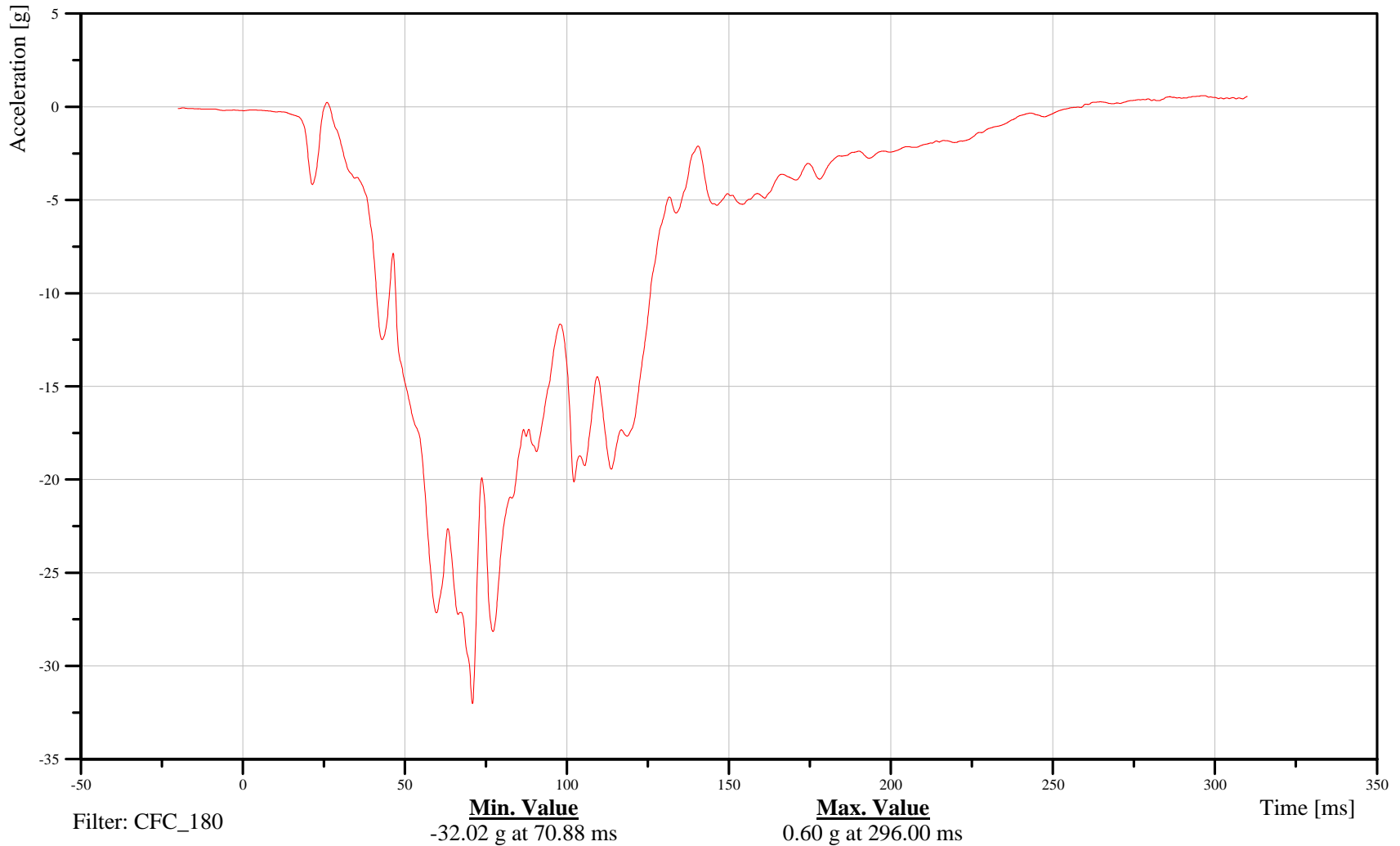
Target Vehicle Passenger Chest X-Axis Acceleration Redundant

Customer: VRTC

23CHSTCGRDHFACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-114

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

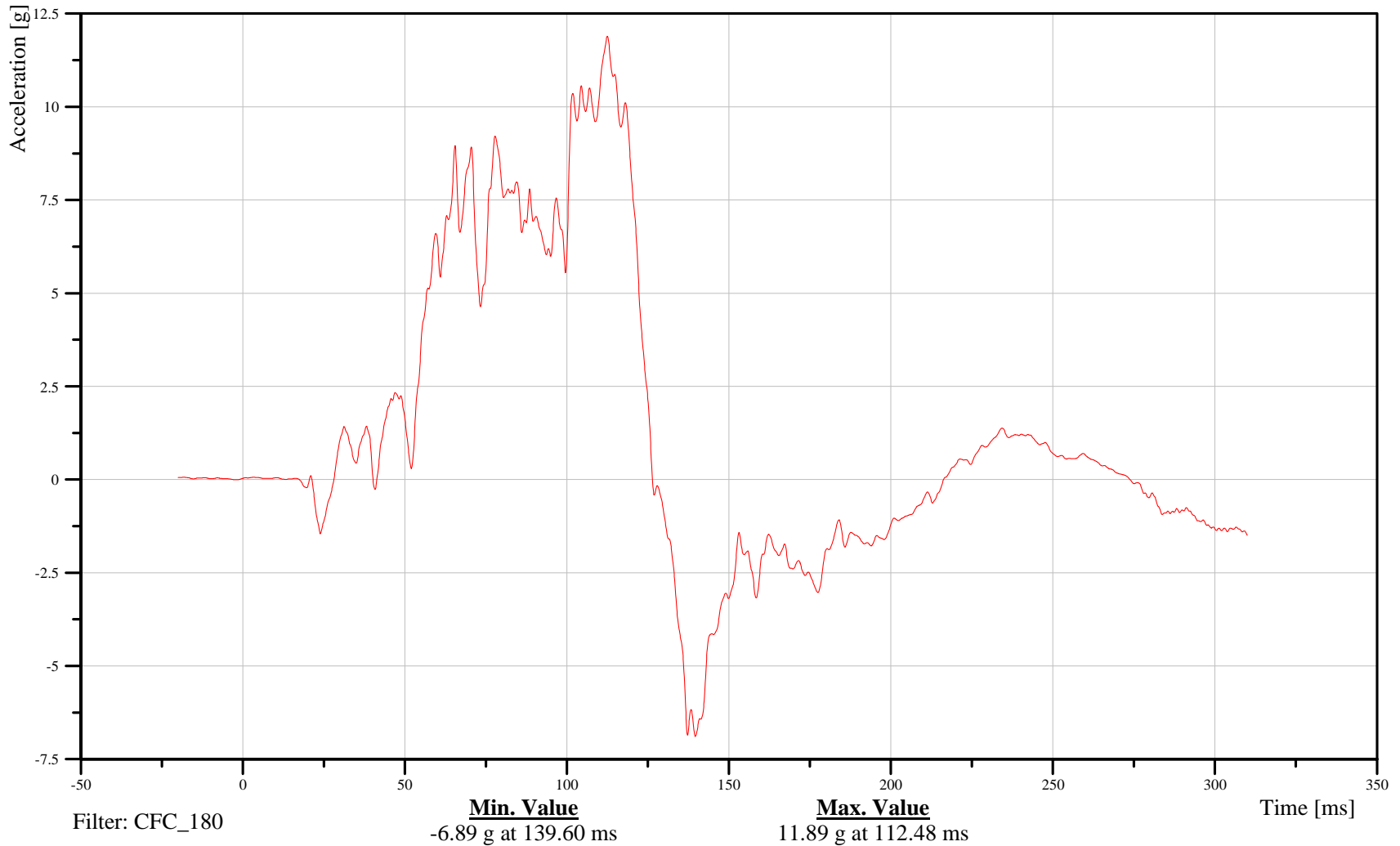
Target Vehicle Passenger Chest Y-Axis Acceleration Redundant

Customer: VRTC

23CHSTCGRDHFACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-115

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

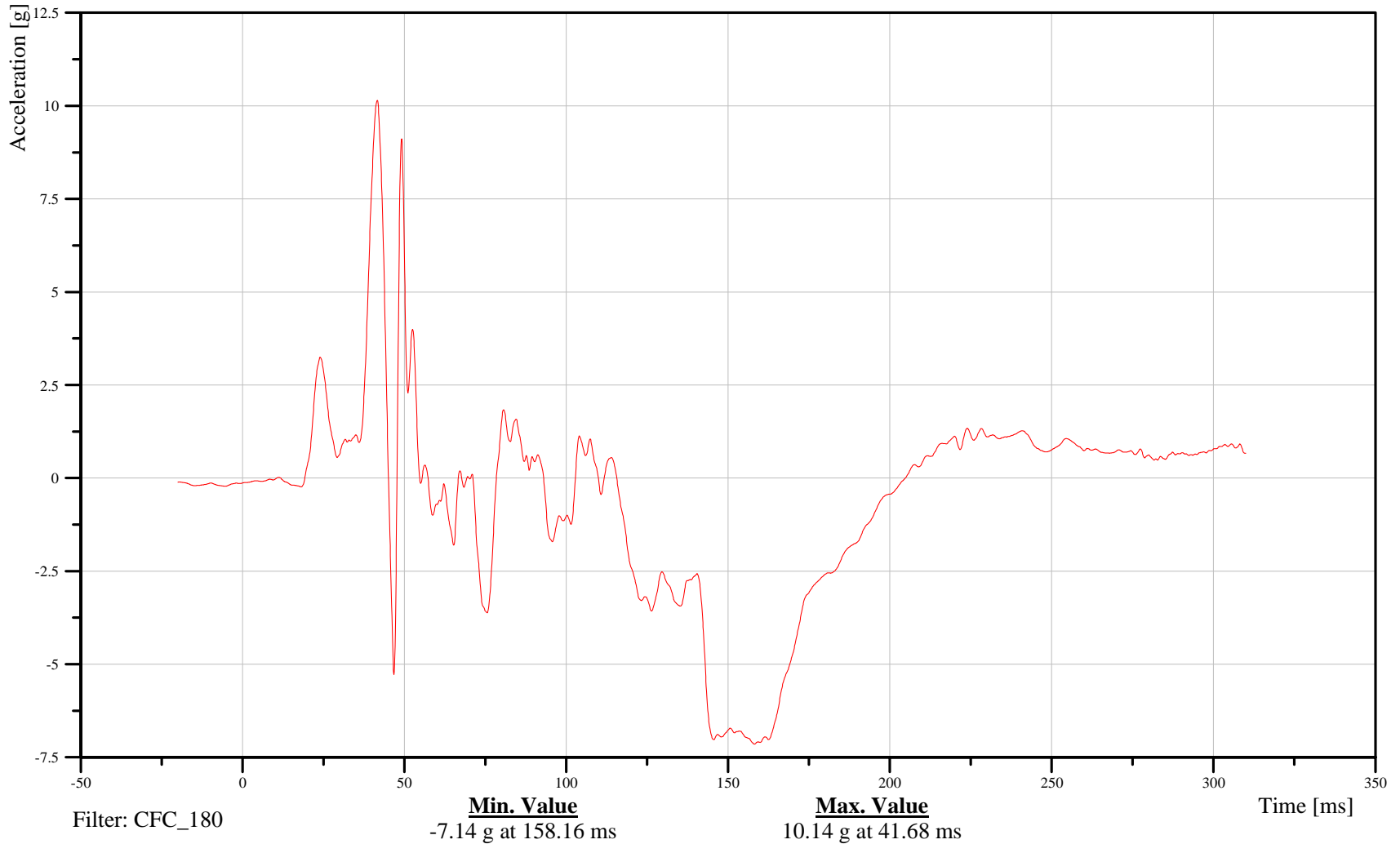
Target Vehicle Passenger Chest Z-Axis Acceleration Redundant

Customer: VRTC

23CHSTCGRDHFACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

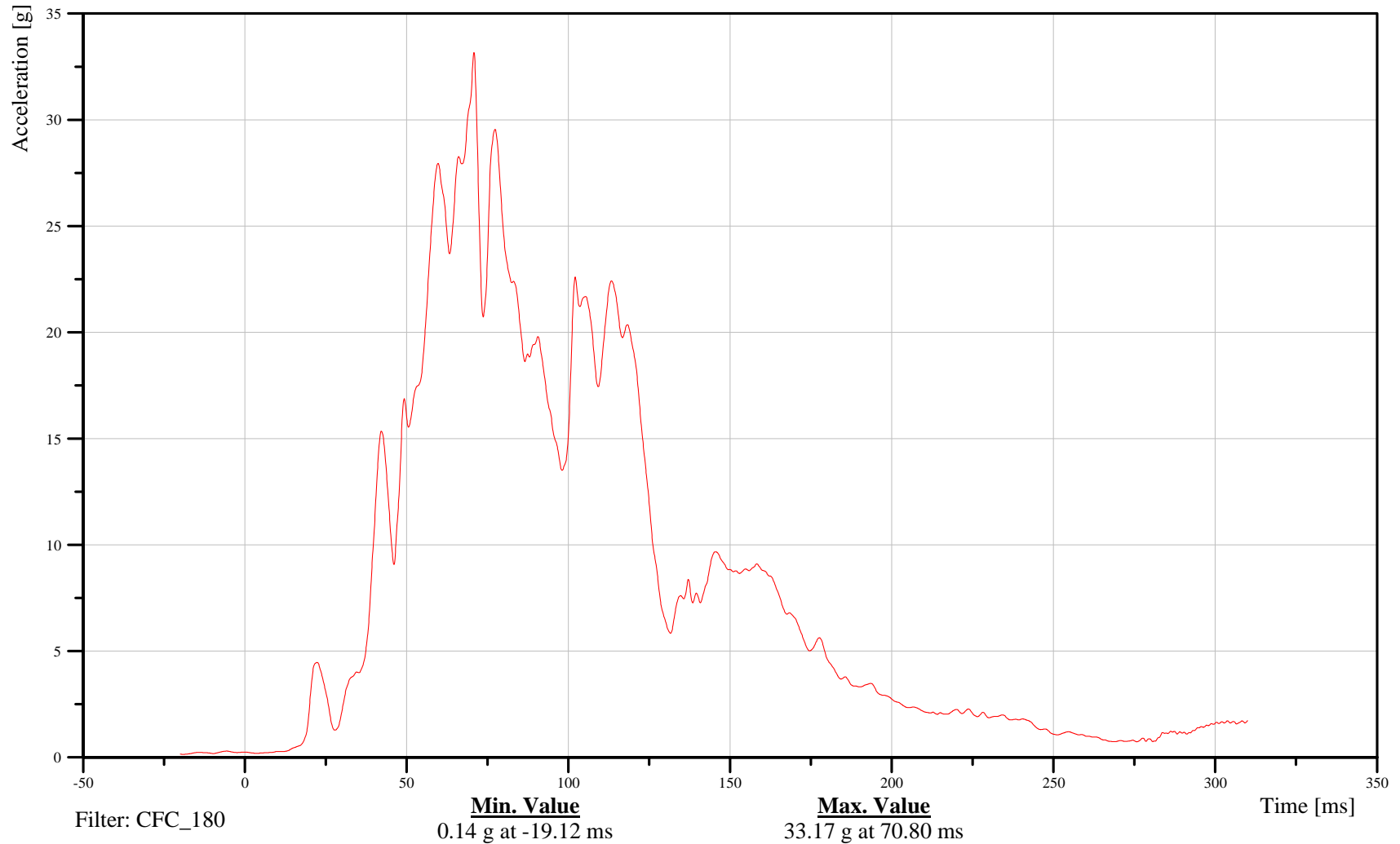
Target Vehicle Passenger Chest Resultant Acceleration Redundant

Customer: VRTC

23CHSTCGRDHFACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-117

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

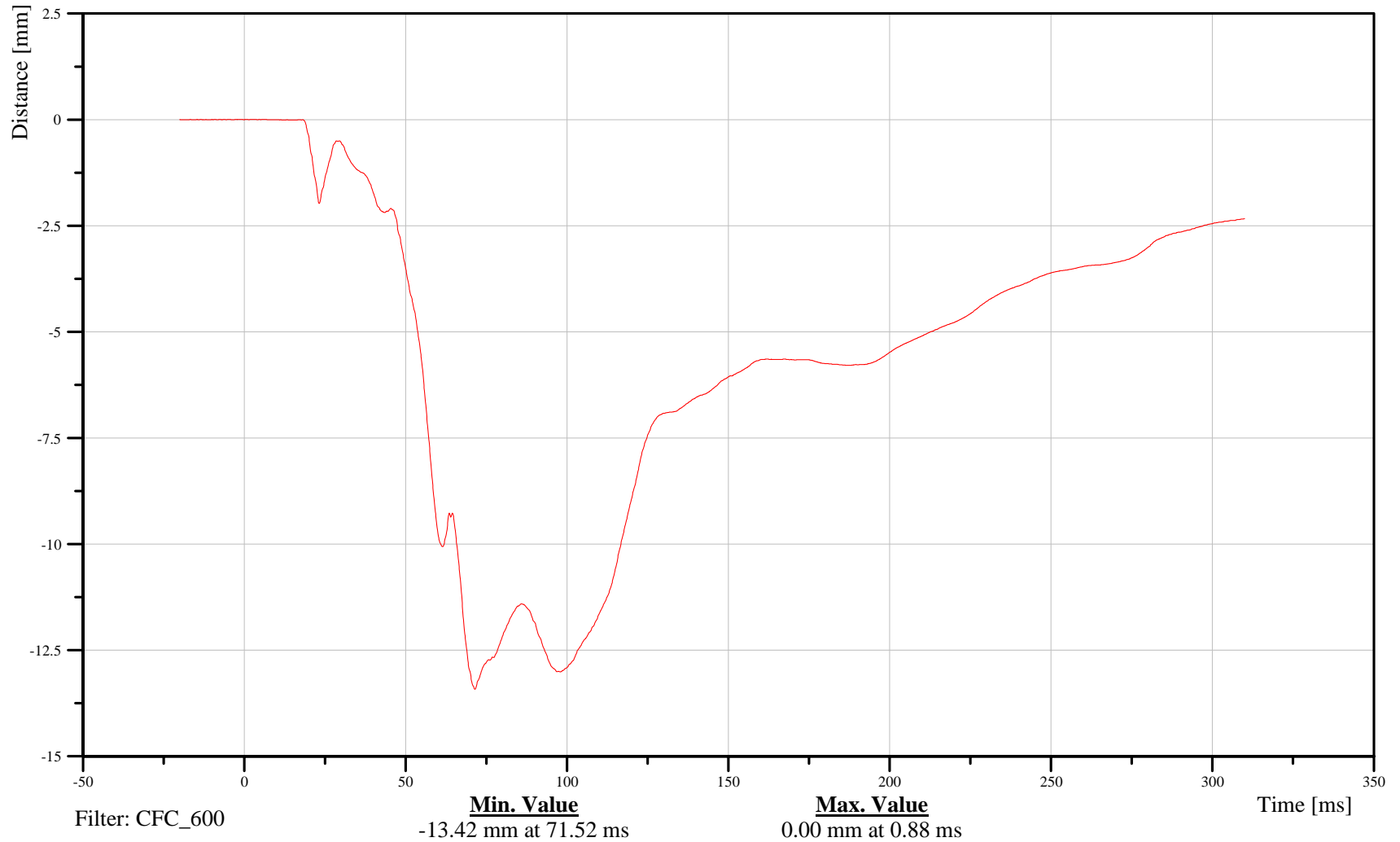
Target Vehicle Passenger Chest X-Axis Displacement

Customer: VRTC

23CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-118

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

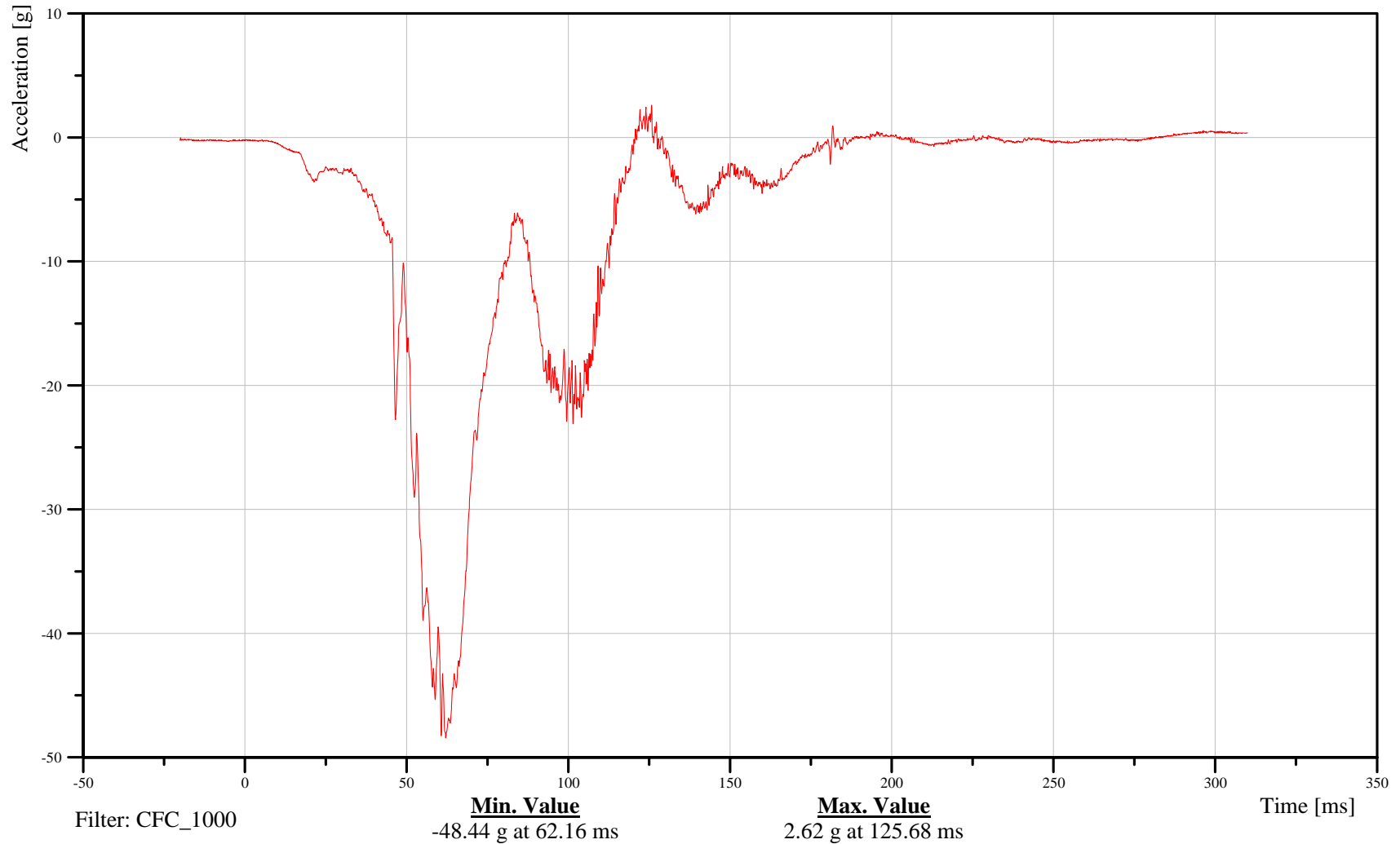
Target Vehicle Passenger Pelvis X-Axis Acceleration

Customer: VRTC

23PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-119

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

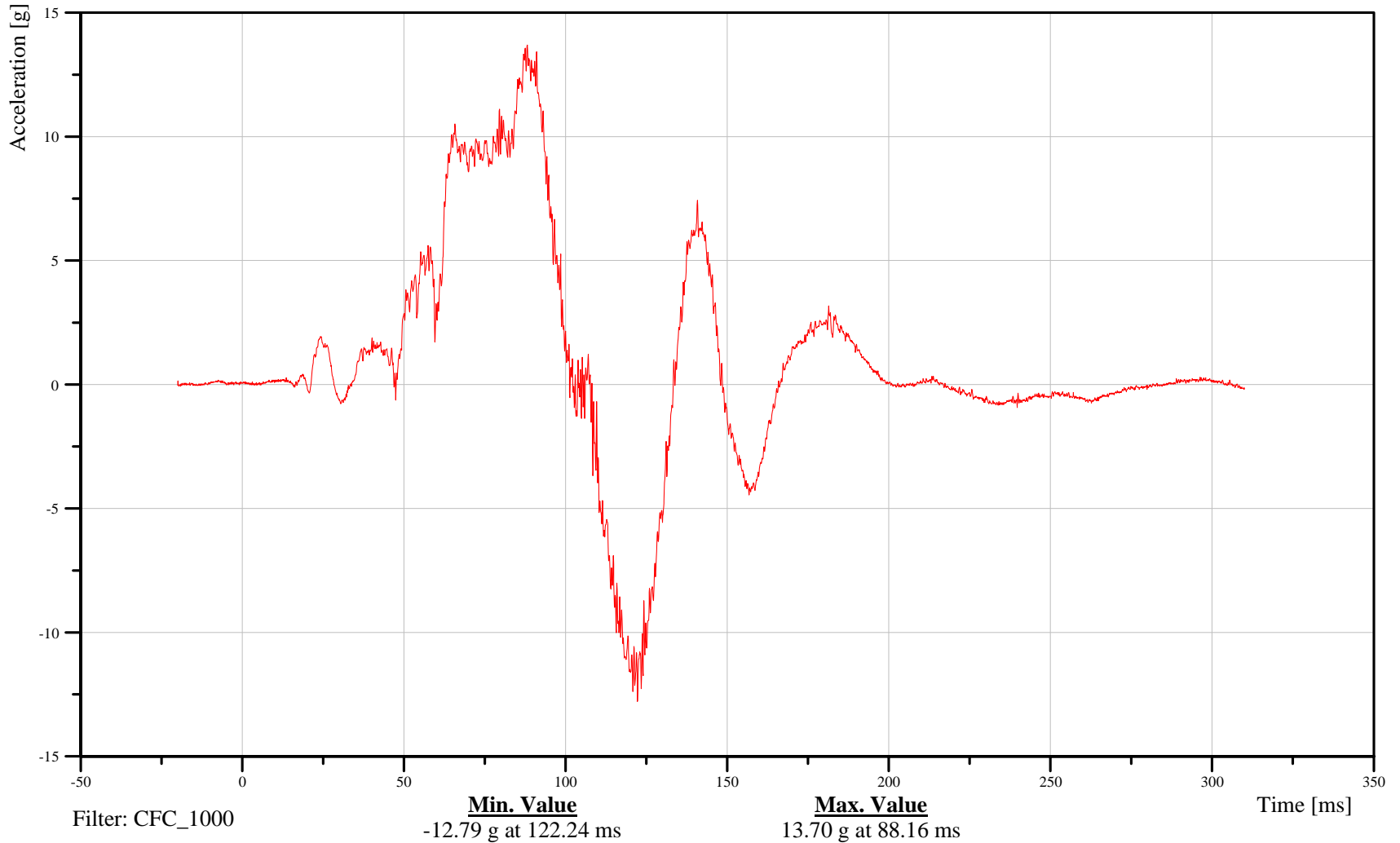
Target Vehicle Passenger Pelvis Y-Axis Acceleration

Customer: VRTC

23PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

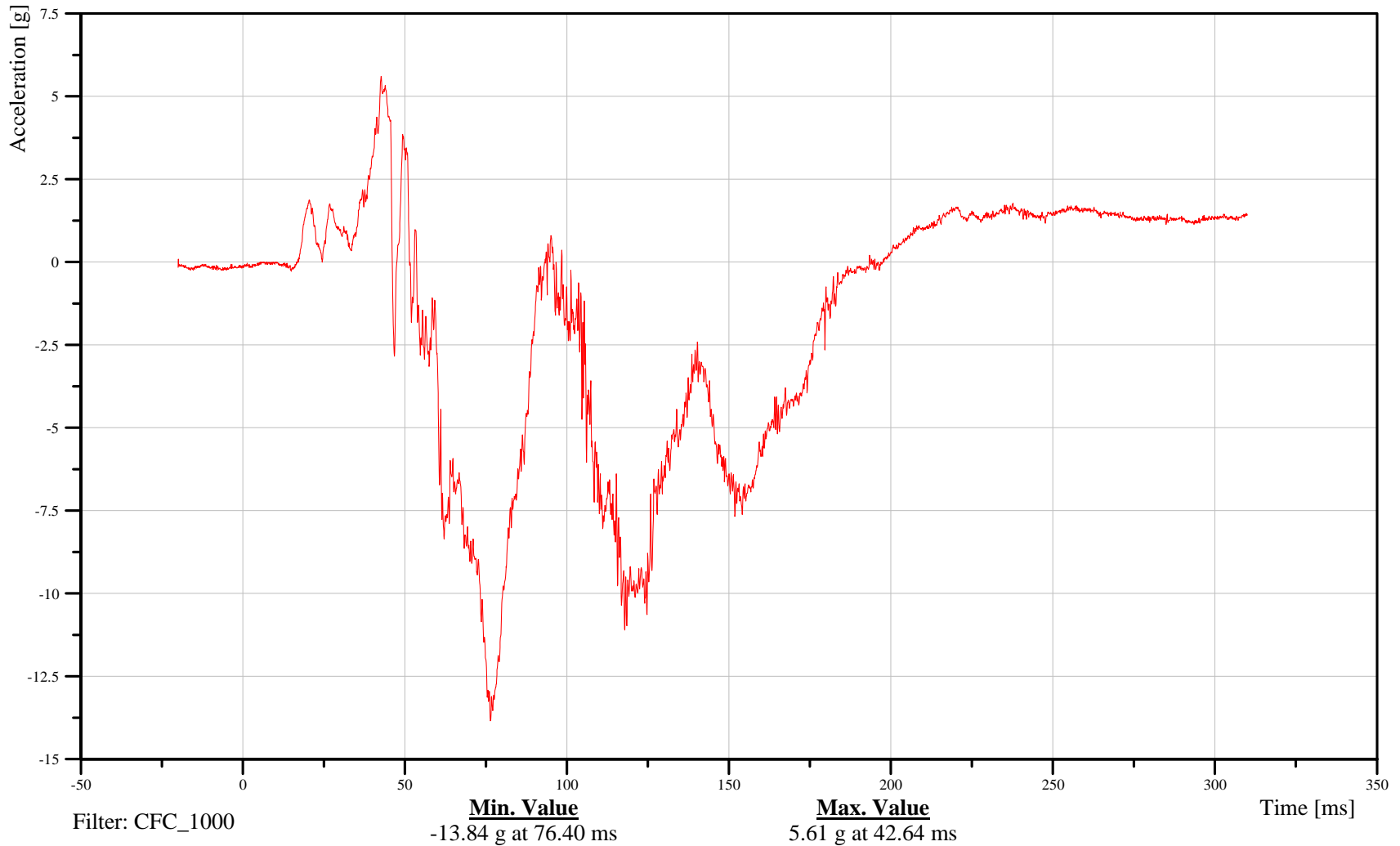
Target Vehicle Passenger Pelvis Z-Axis Acceleration

Customer: VRTC

23PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-121

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

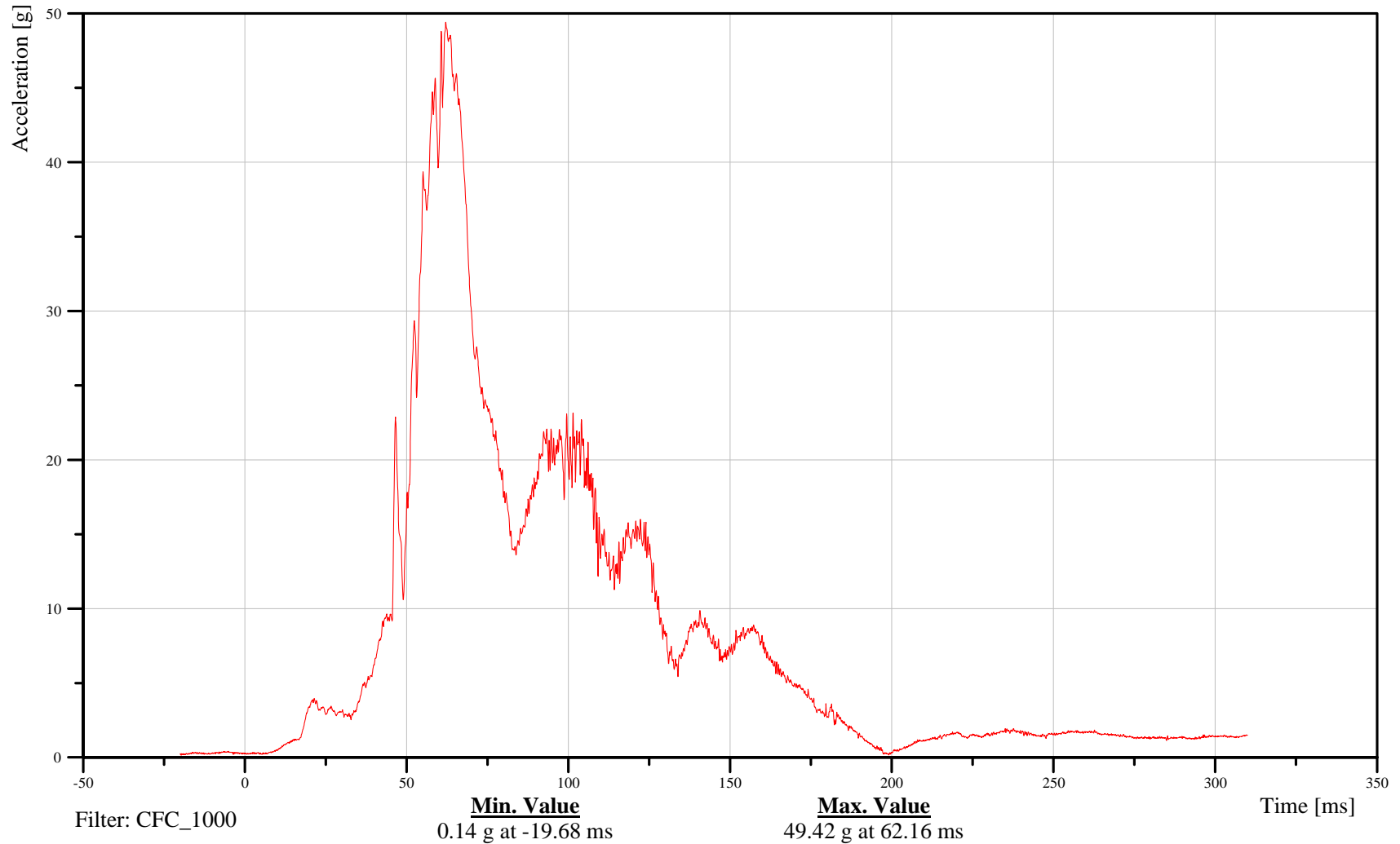
Target Vehicle Passenger Pelvis Resultant Acceleration

Customer: VRTC

23PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-122

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

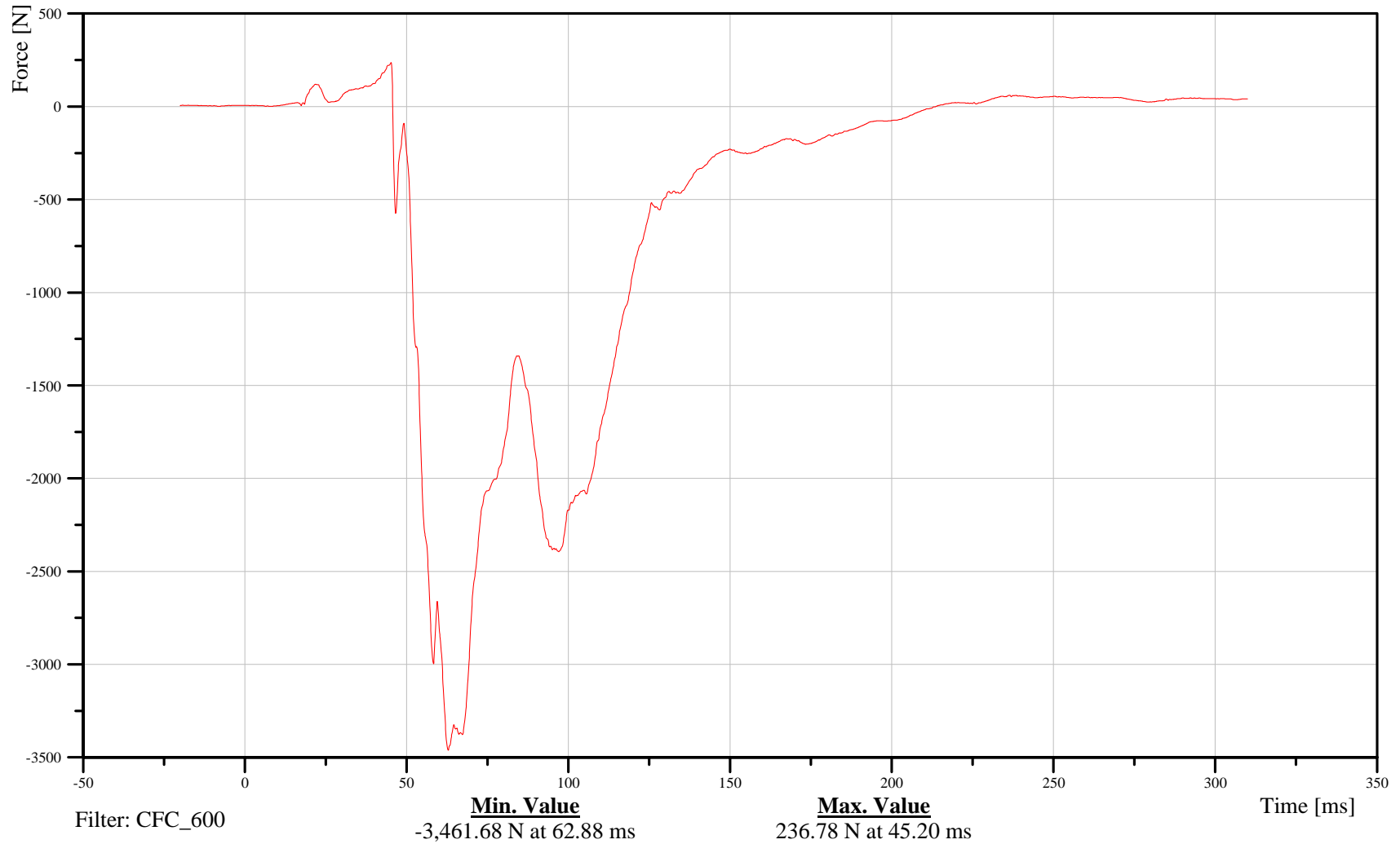
Target Vehicle Passenger Left Femur Z-Axis Force

Customer: VRTC

23FEMRLL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

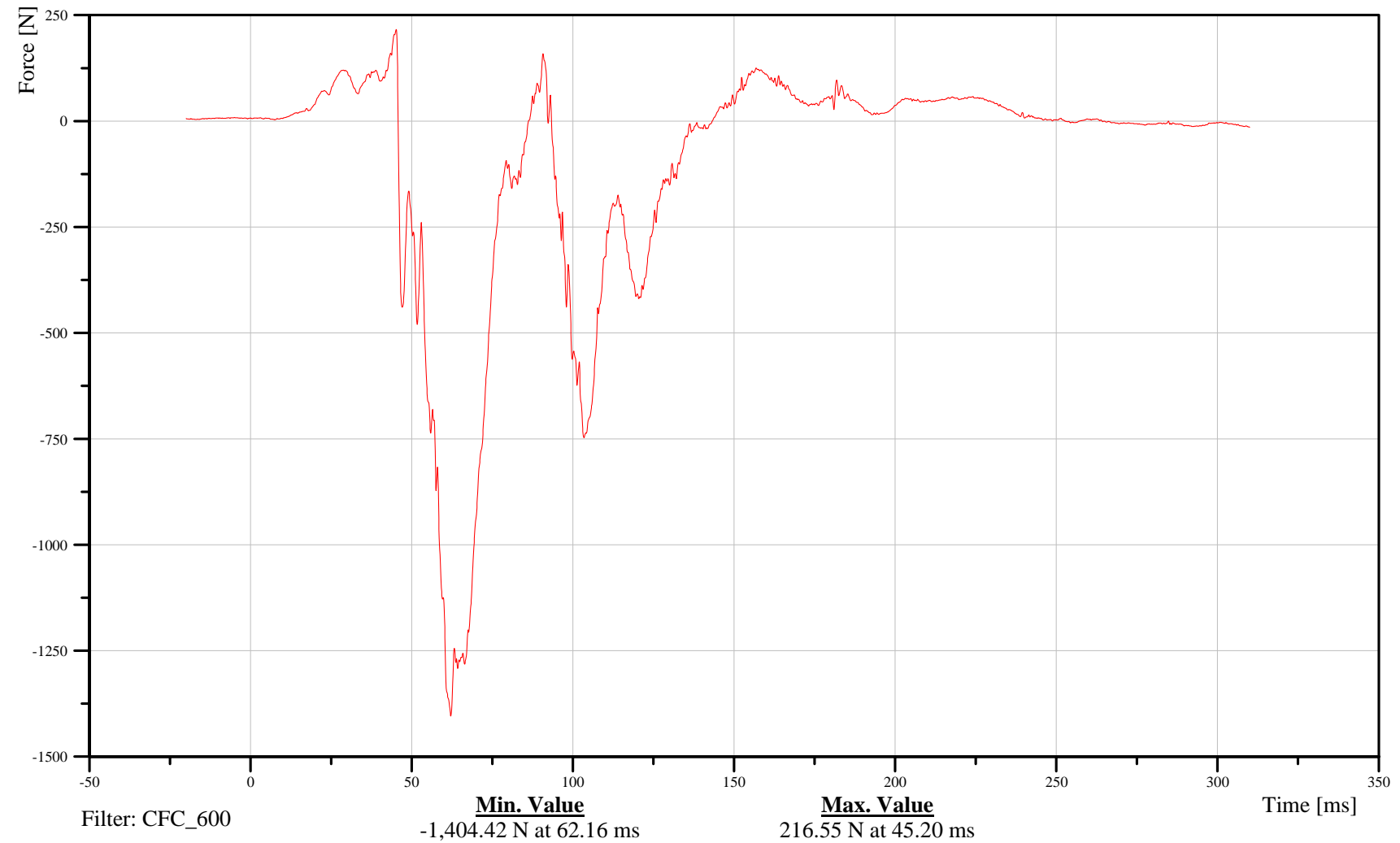
Date: 04/03/2008
Time: 17:14

Target Vehicle Passenger Right Femur Z-Axis Force

Customer: VRTC

23FEMRRL00HFFOZB

TRC Inc. Test Lab: CTF
Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

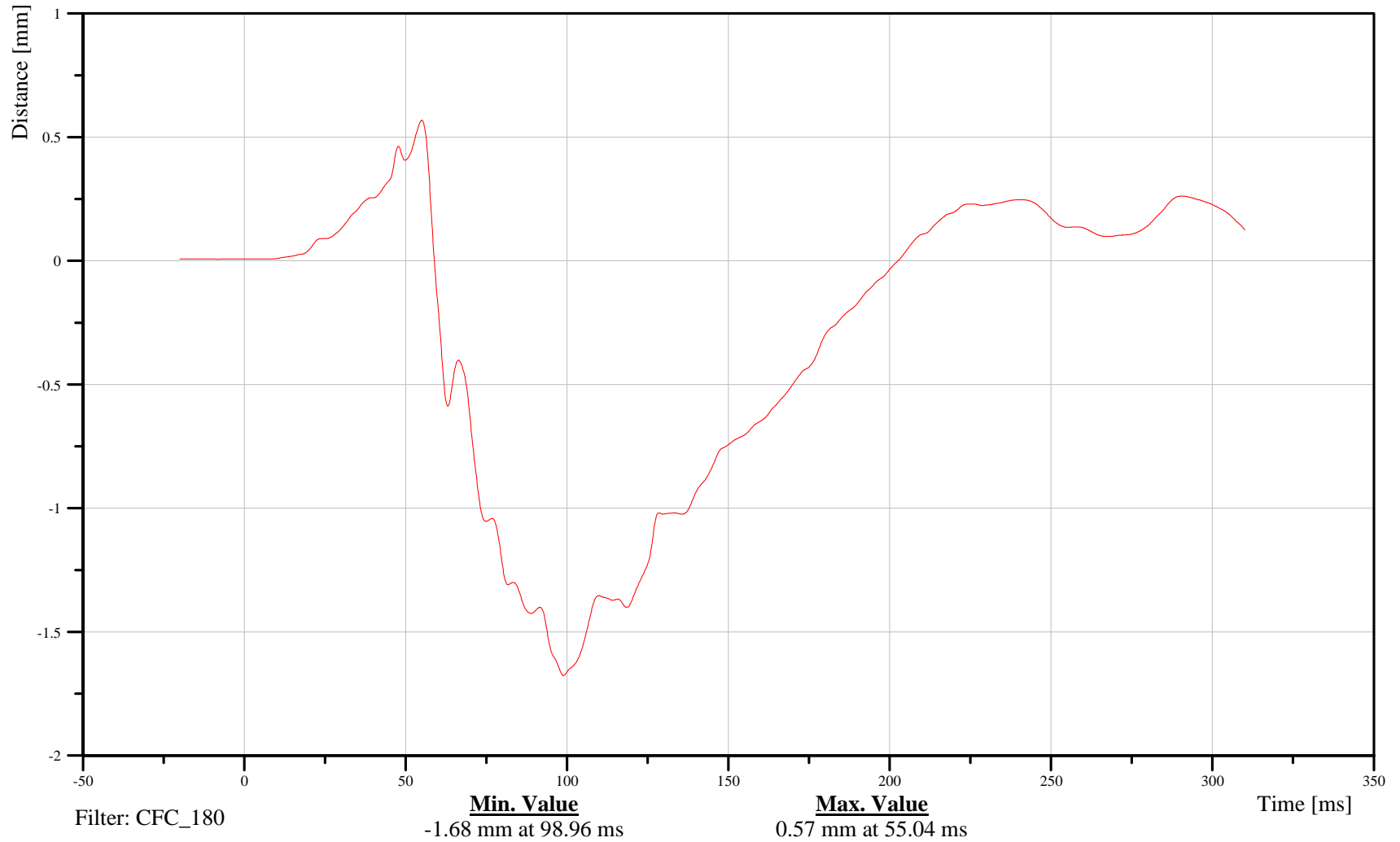
Target Vehicle Passenger Left Knee X-Axis Displacement

Customer: VRTC

23KNSLLE00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

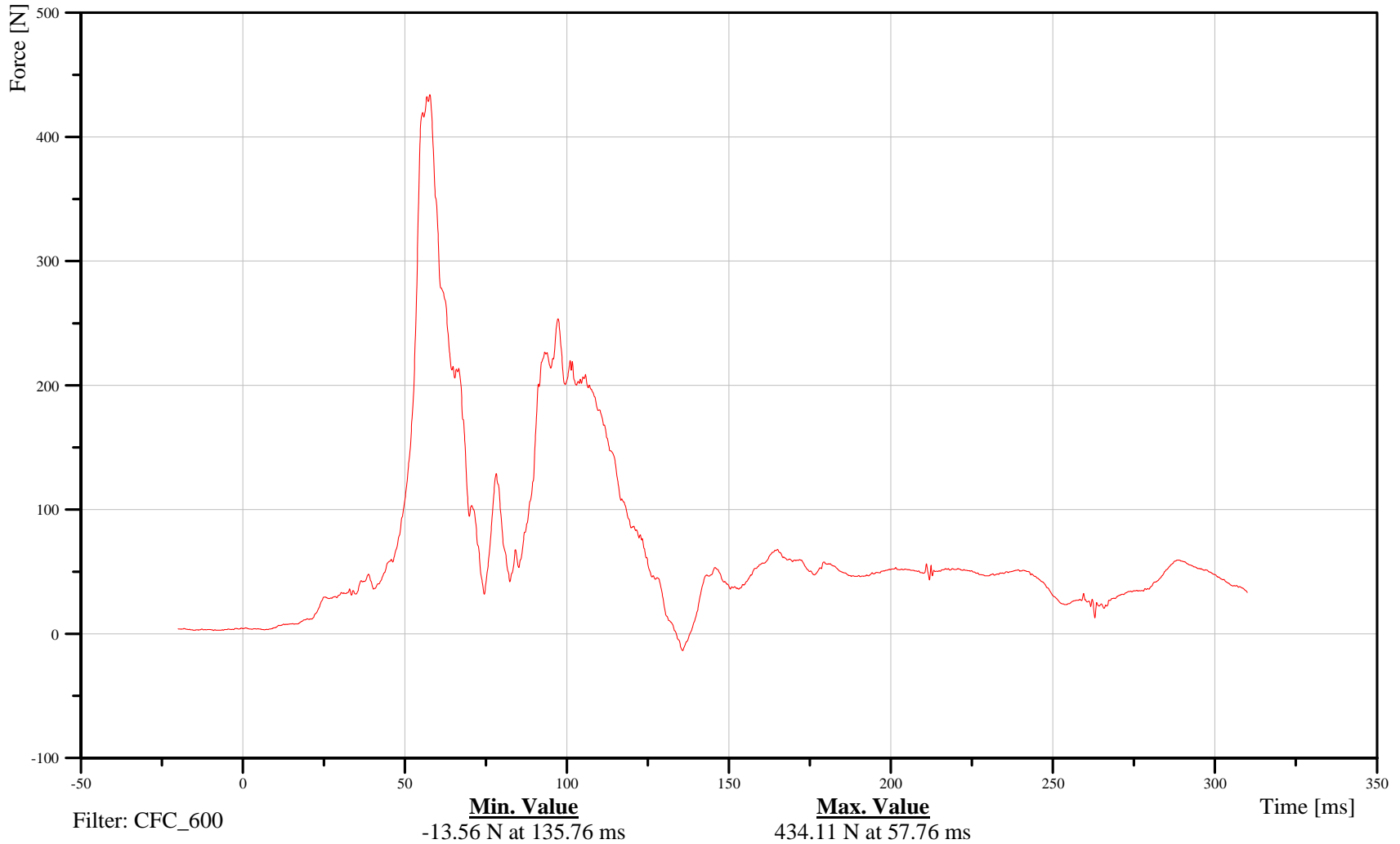
Target Vehicle Passenger Left Upper Tibia X-Axis Force

Customer: VRTC

23TIBILULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

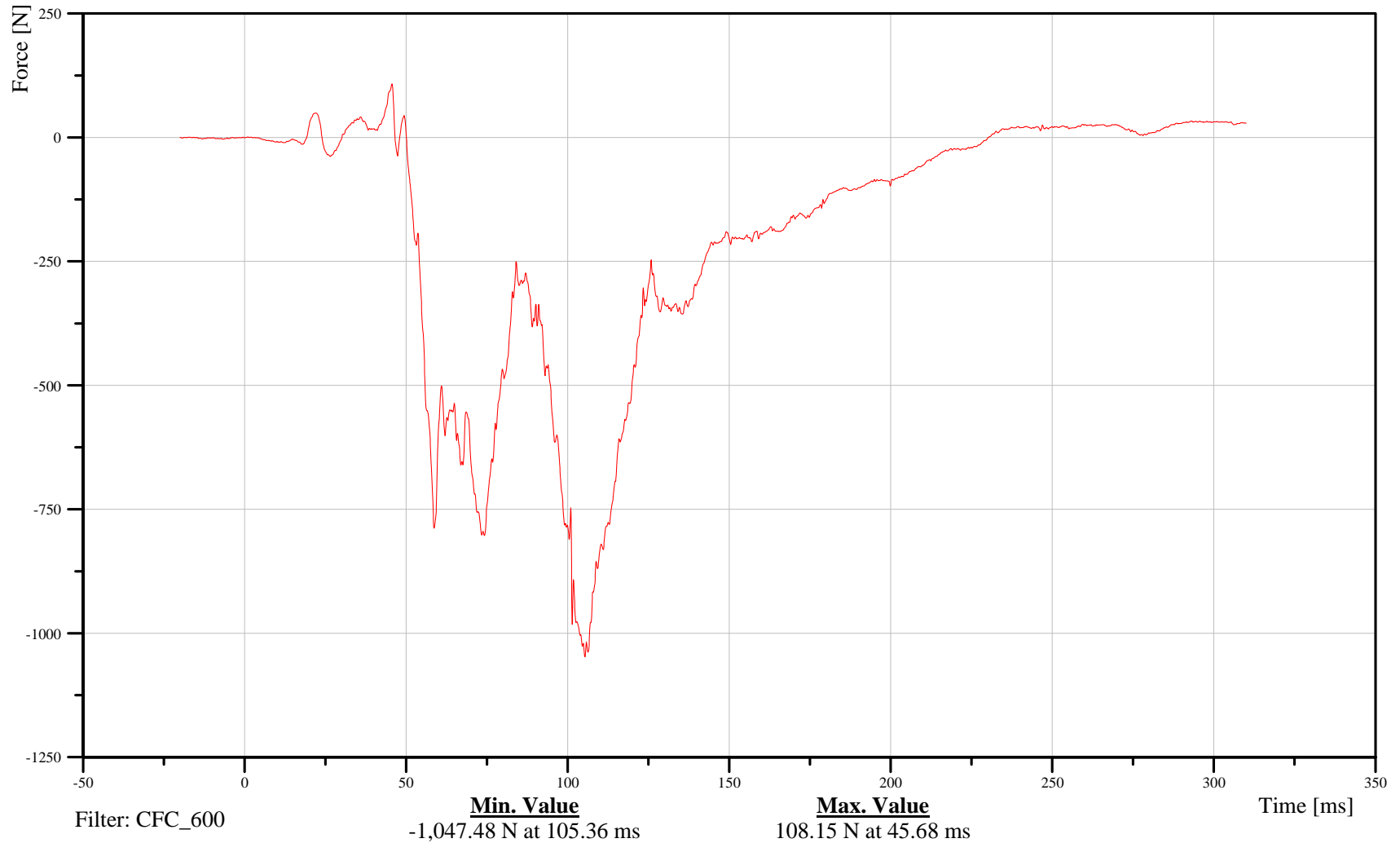
Target Vehicle Passenger Left Upper Tibia Z-Axis Force

Customer: VRTC

23TIBILULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

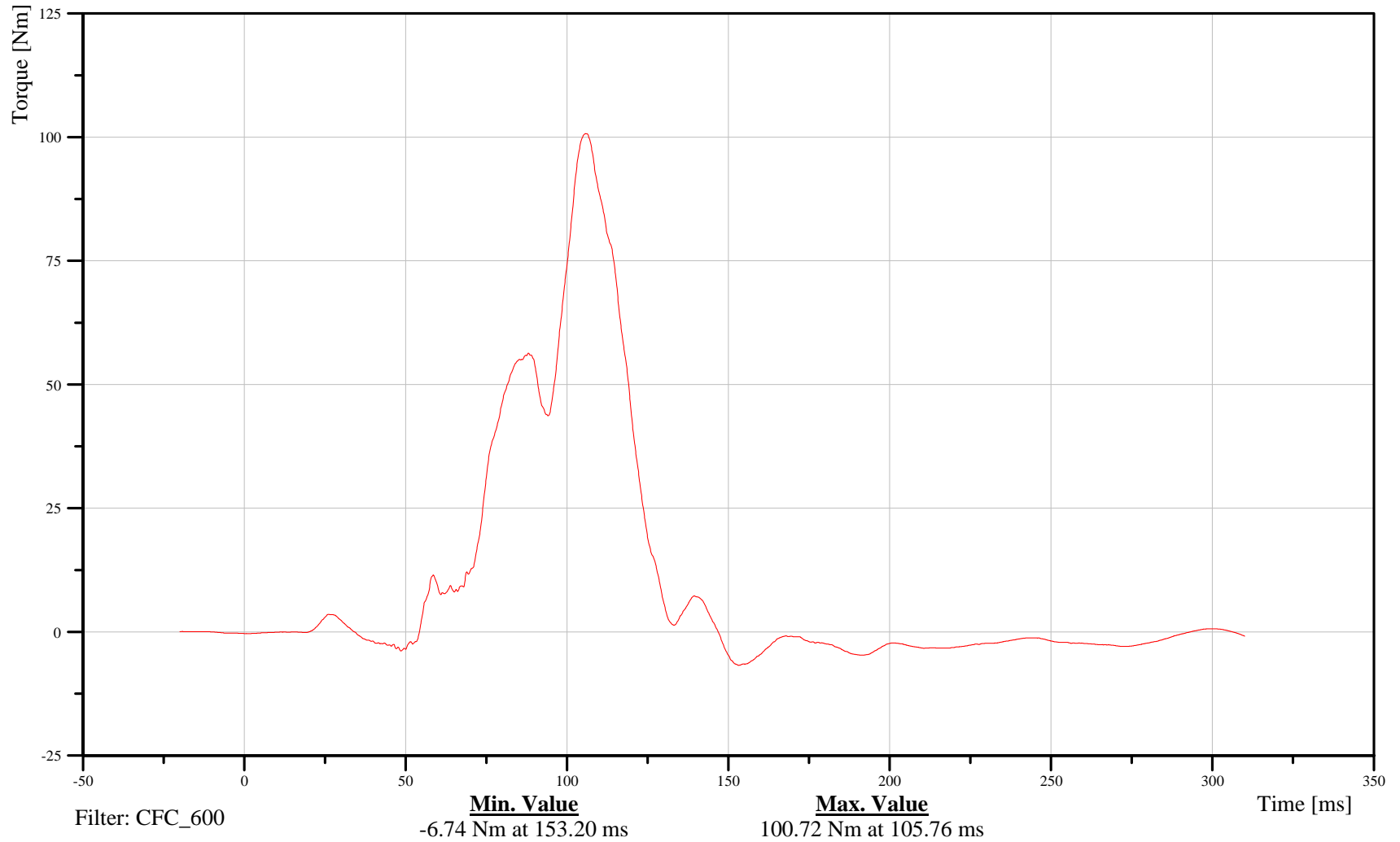
Target Vehicle Passenger Left Upper Tibia Moment About X Axis

Customer: VRTC

23TIBILULXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

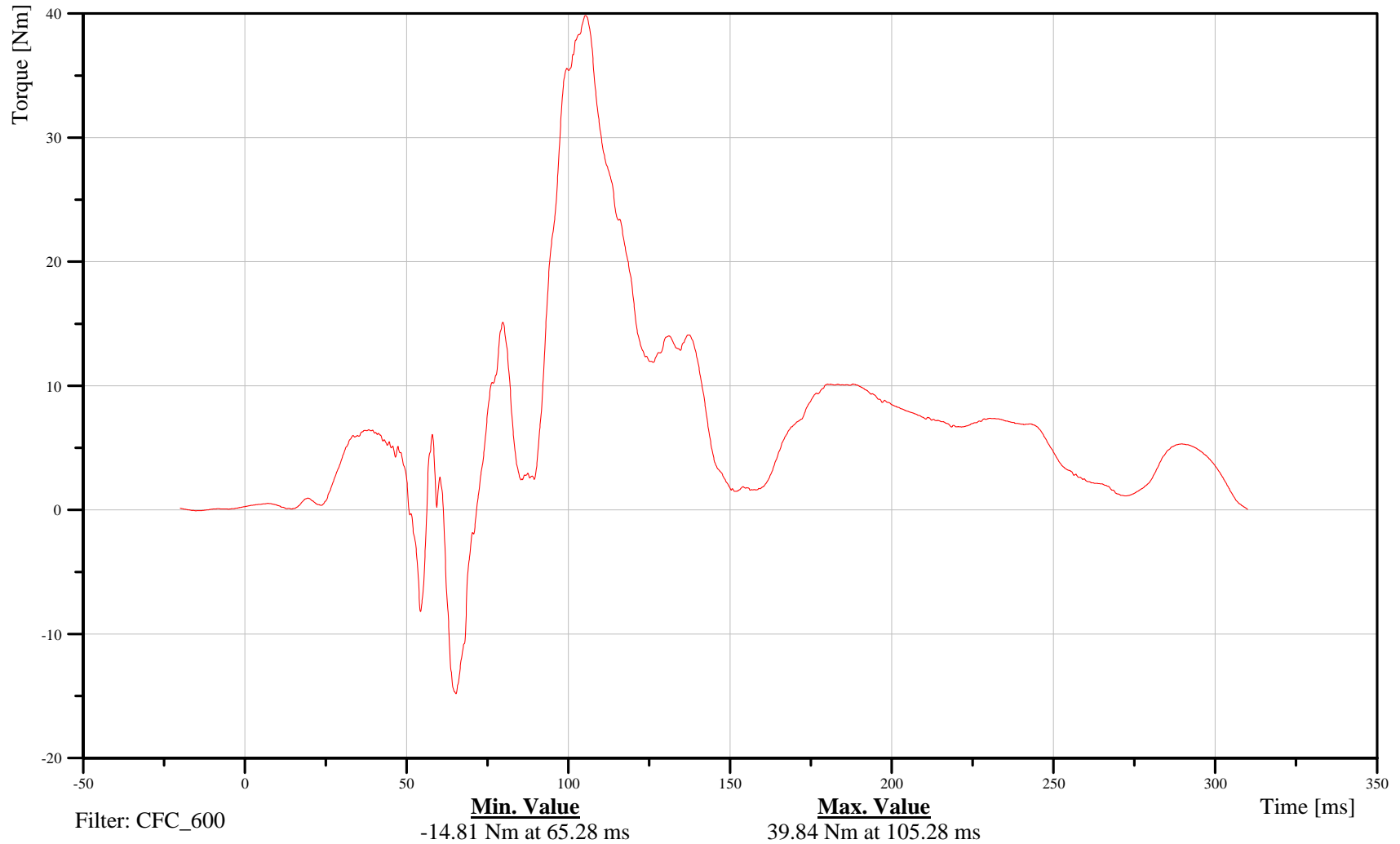
Target Vehicle Passenger Left Upper Tibia Moment About Y Axis

Customer: VRTC

23TIBILULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

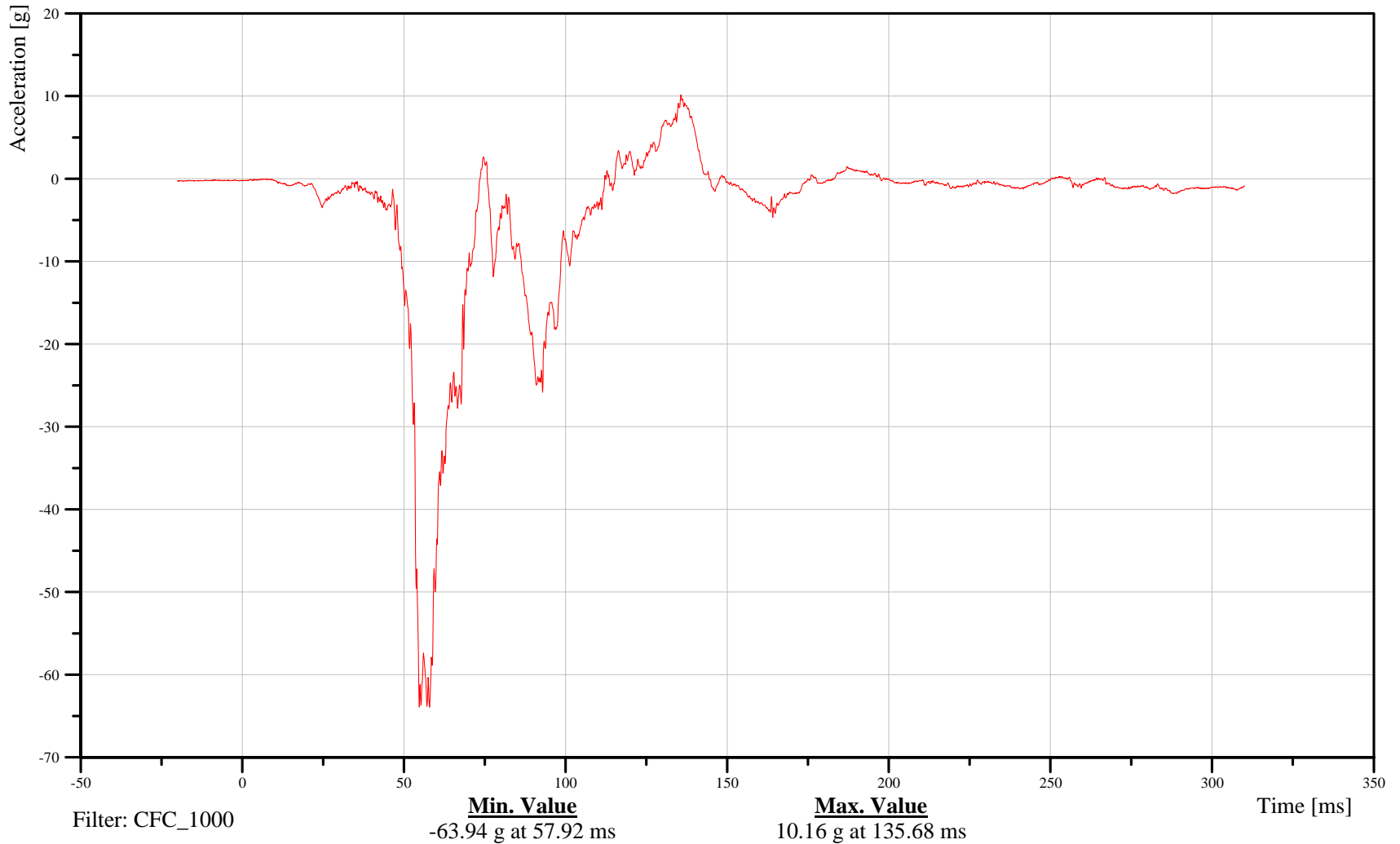
Target Vehicle Passenger Left Tibia X-Axis Acceleration

Customer: VRTC

23TIBILELXHFA CXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

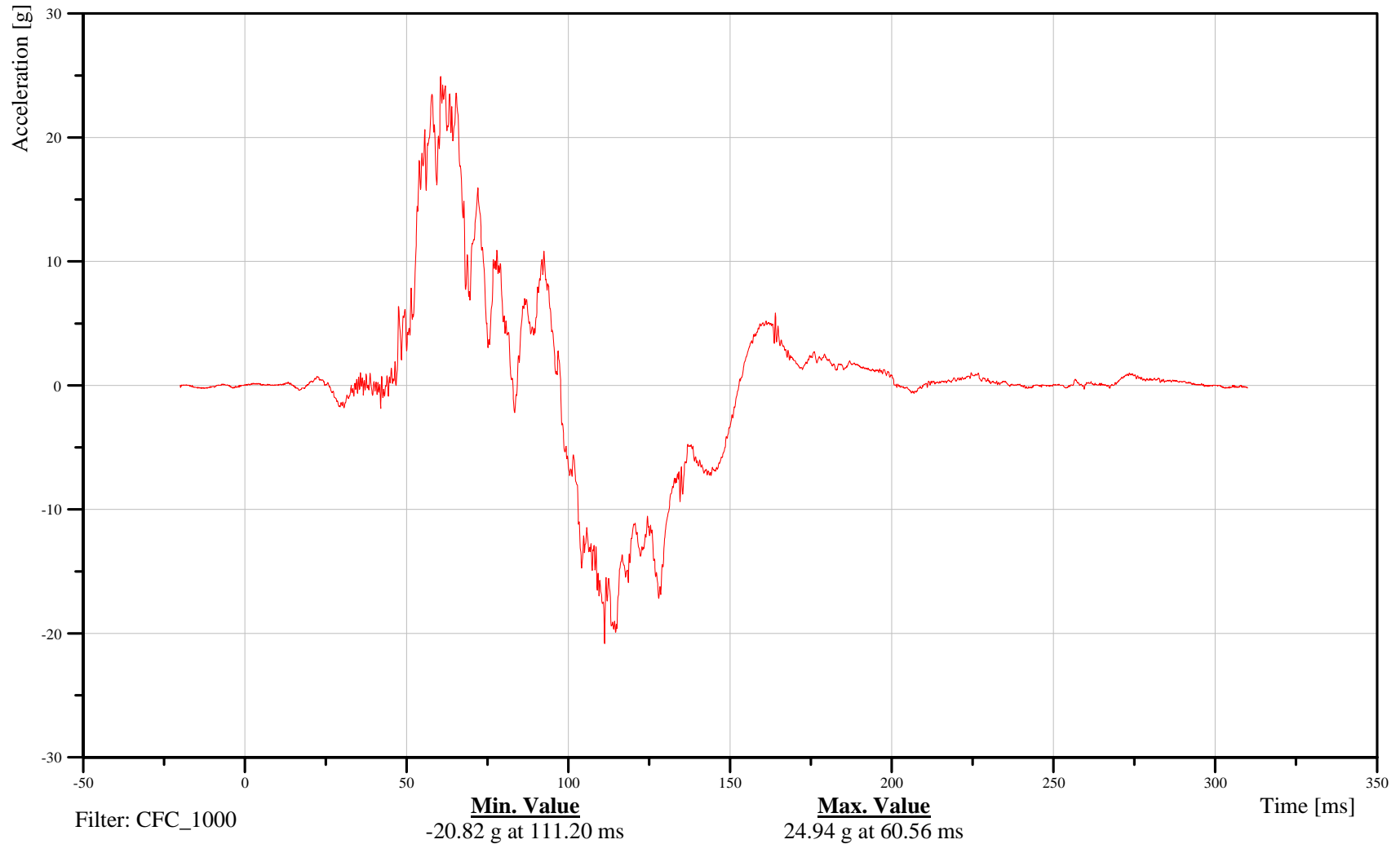
Target Vehicle Passenger Left Tibia Y-Axis Acceleration

Customer: VRTC

23TIBILELXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

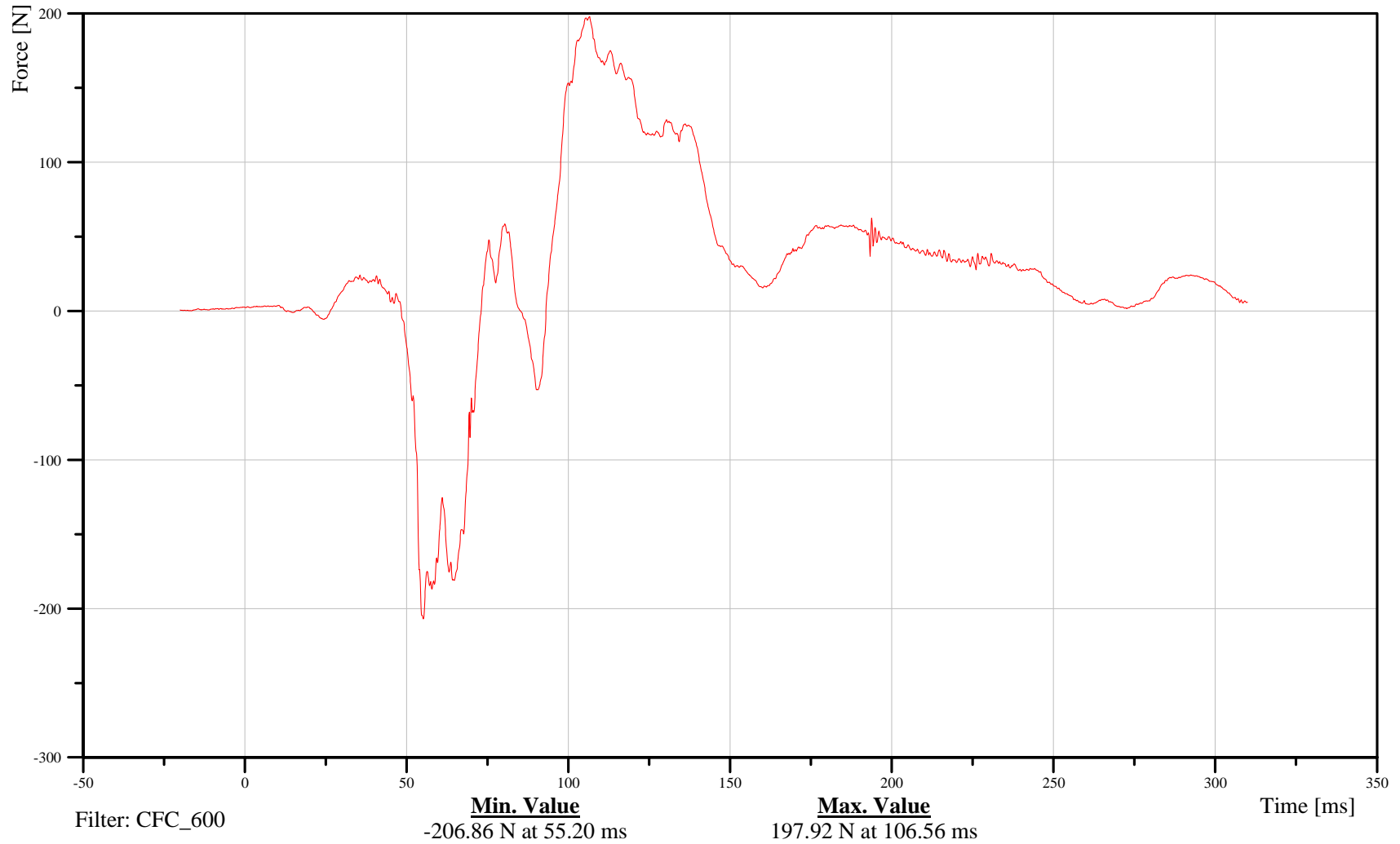
Target Vehicle Passenger Left Lower Tibia X-Axis Force

Customer: VRTC

23TIBILLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-132

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

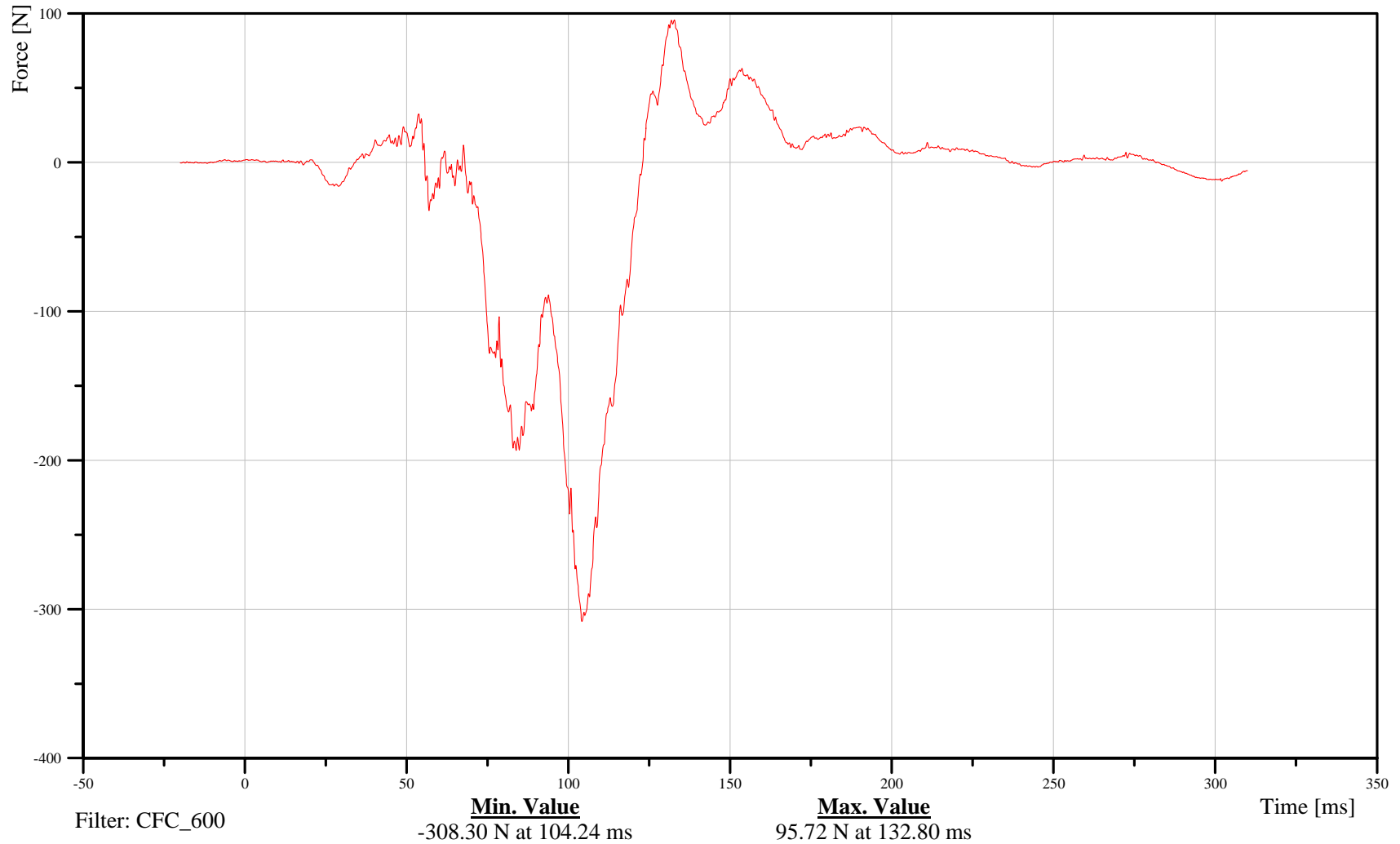
Target Vehicle Passenger Left Lower Tibia Y-Axis Force

Customer: VRTC

23TIBILLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-133

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

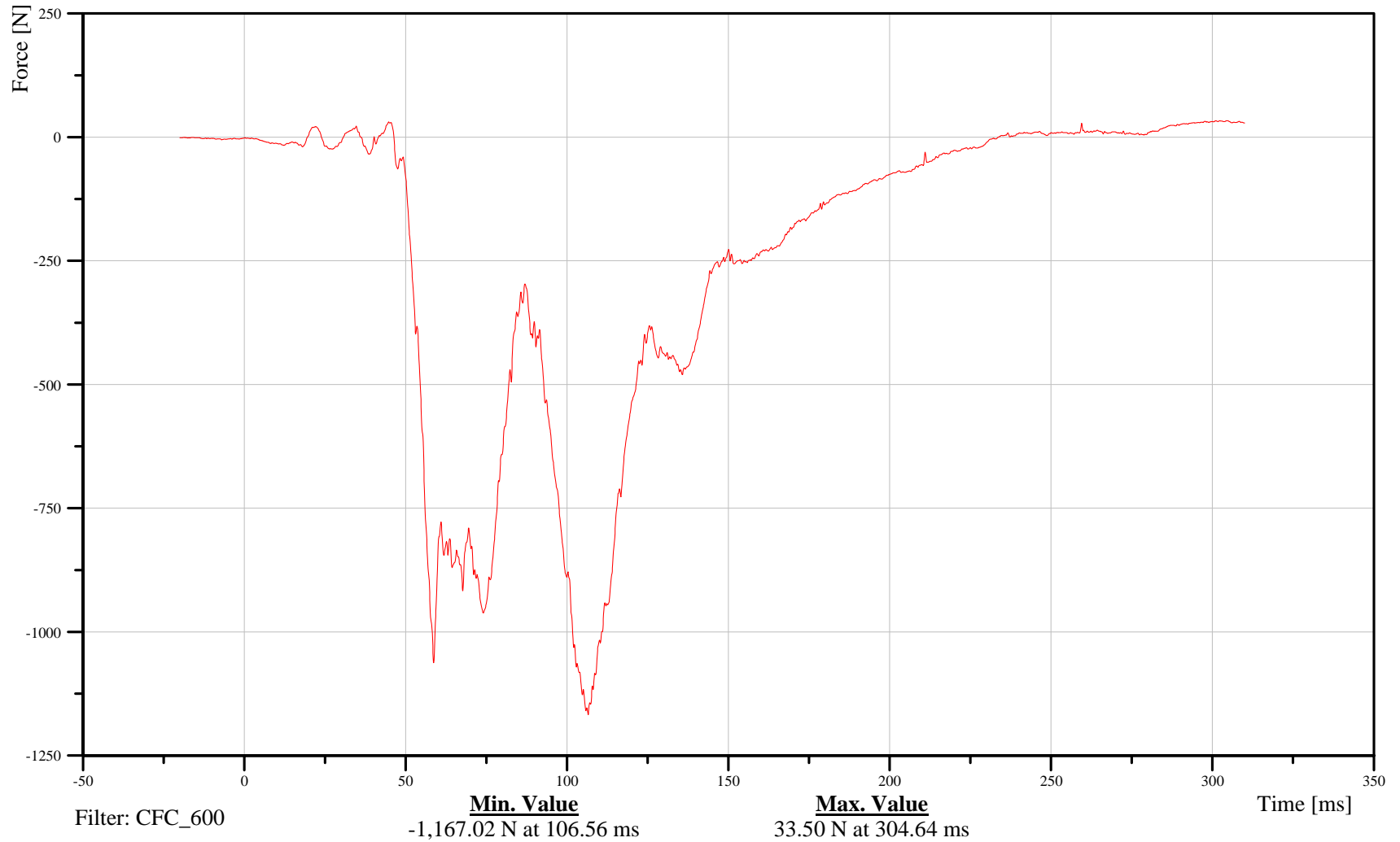
Target Vehicle Passenger Left Lower Tibia Z-Axis Force

Customer: VRTC

23TIBILLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-134

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

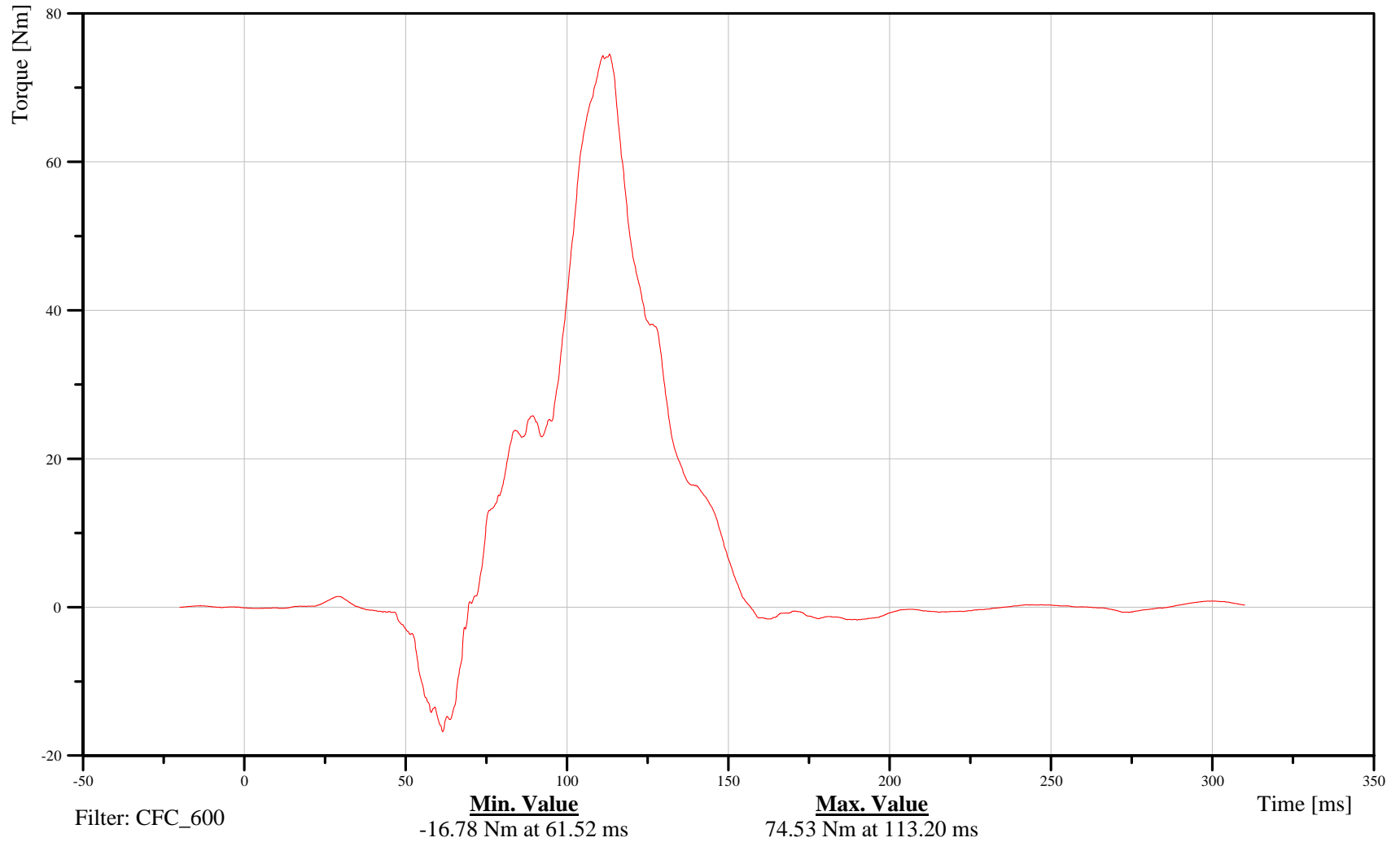
Target Vehicle Passenger Left Lower Tibia Moment About X Axis

Customer: VRTC

23TIBILLXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-135

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

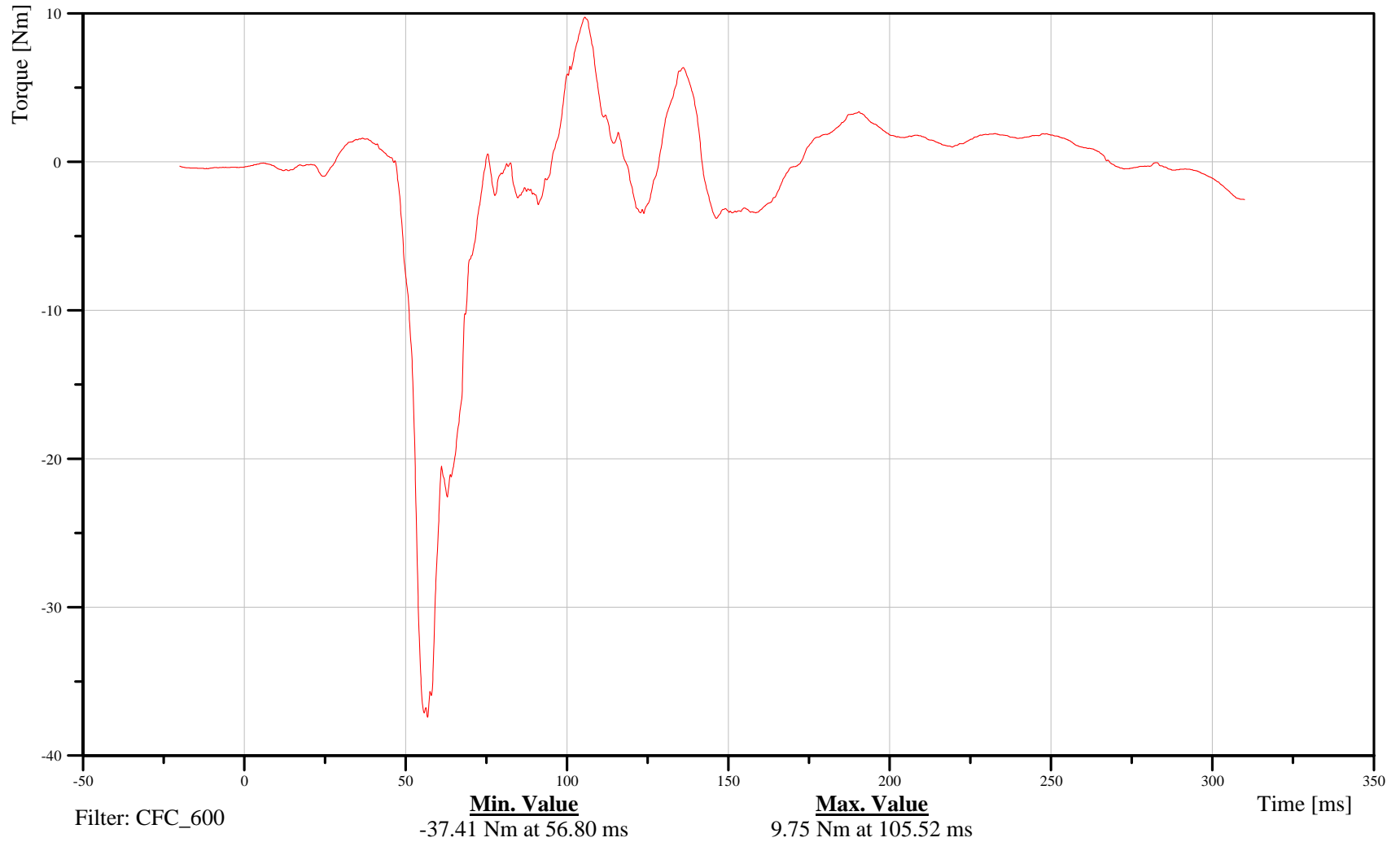
Target Vehicle Passenger Left Lower Tibia Moment About Y Axis

Customer: VRTC

23TIBILLXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

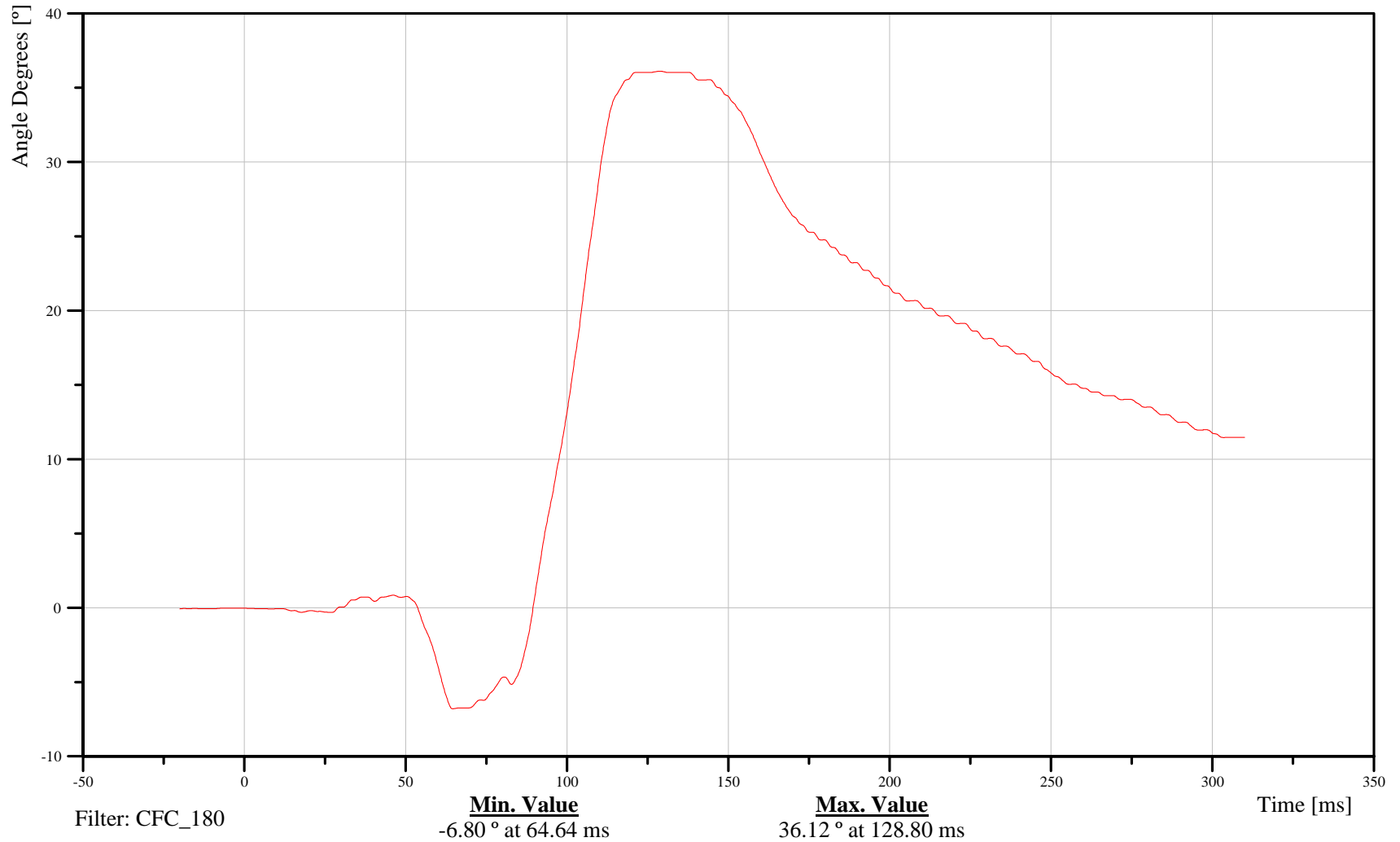
Target Vehicle Passenger Left Foot X-Axis Angular Displacement

Customer: VRTC

23FOOTLELXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-137

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

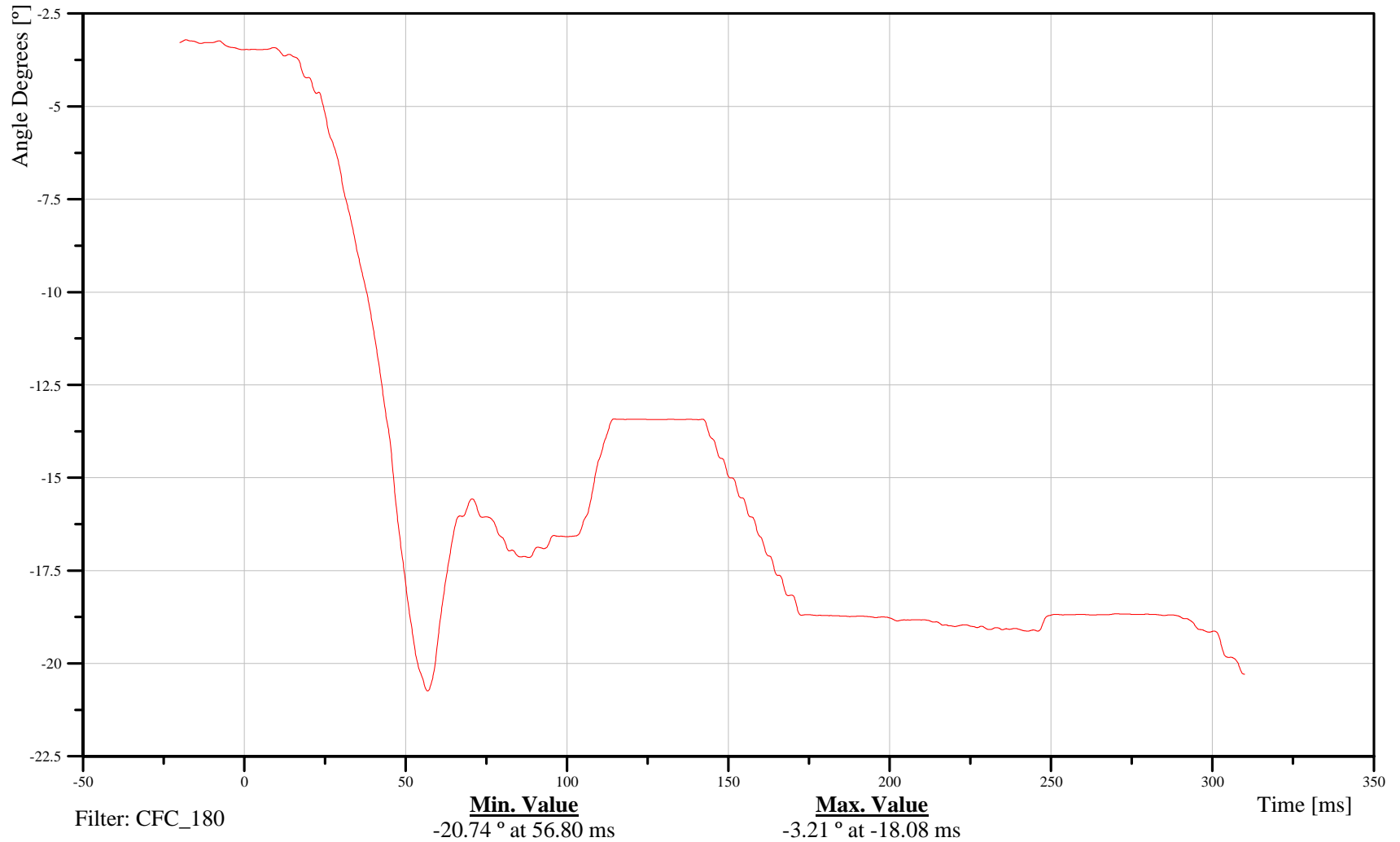
Target Vehicle Passenger Left Foot Y-Axis Angular Displacement

Customer: VRTC

23FOOTLELXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-138

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

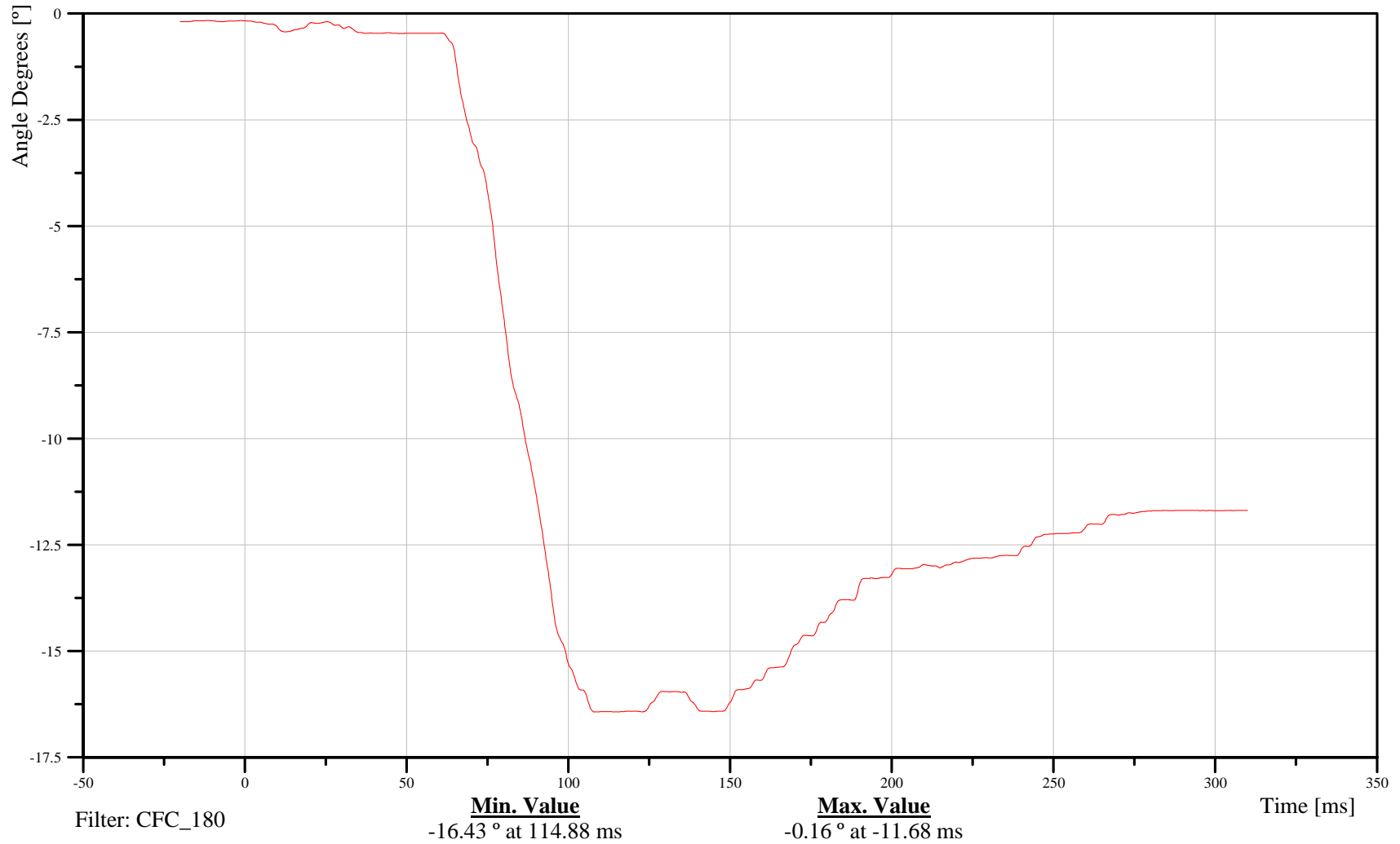
Target Vehicle Passenger Left Foot Z-Axis Angular Displacement

Customer: VRTC

23FOOTLELXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-139

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

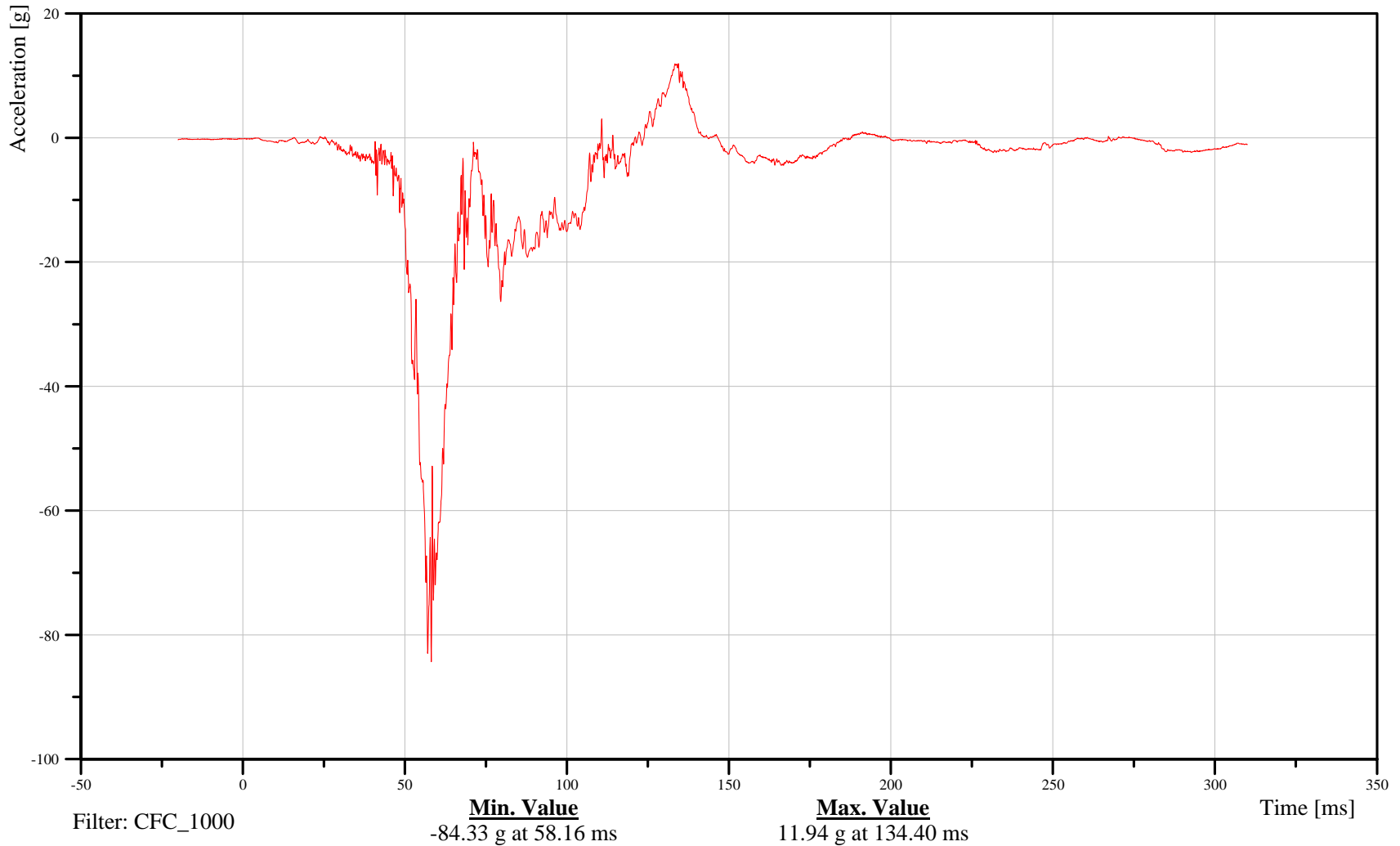
Target Vehicle Passenger Left Foot X-Axis Acceleration

Customer: VRTC

23FOOTLELXHACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-140

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

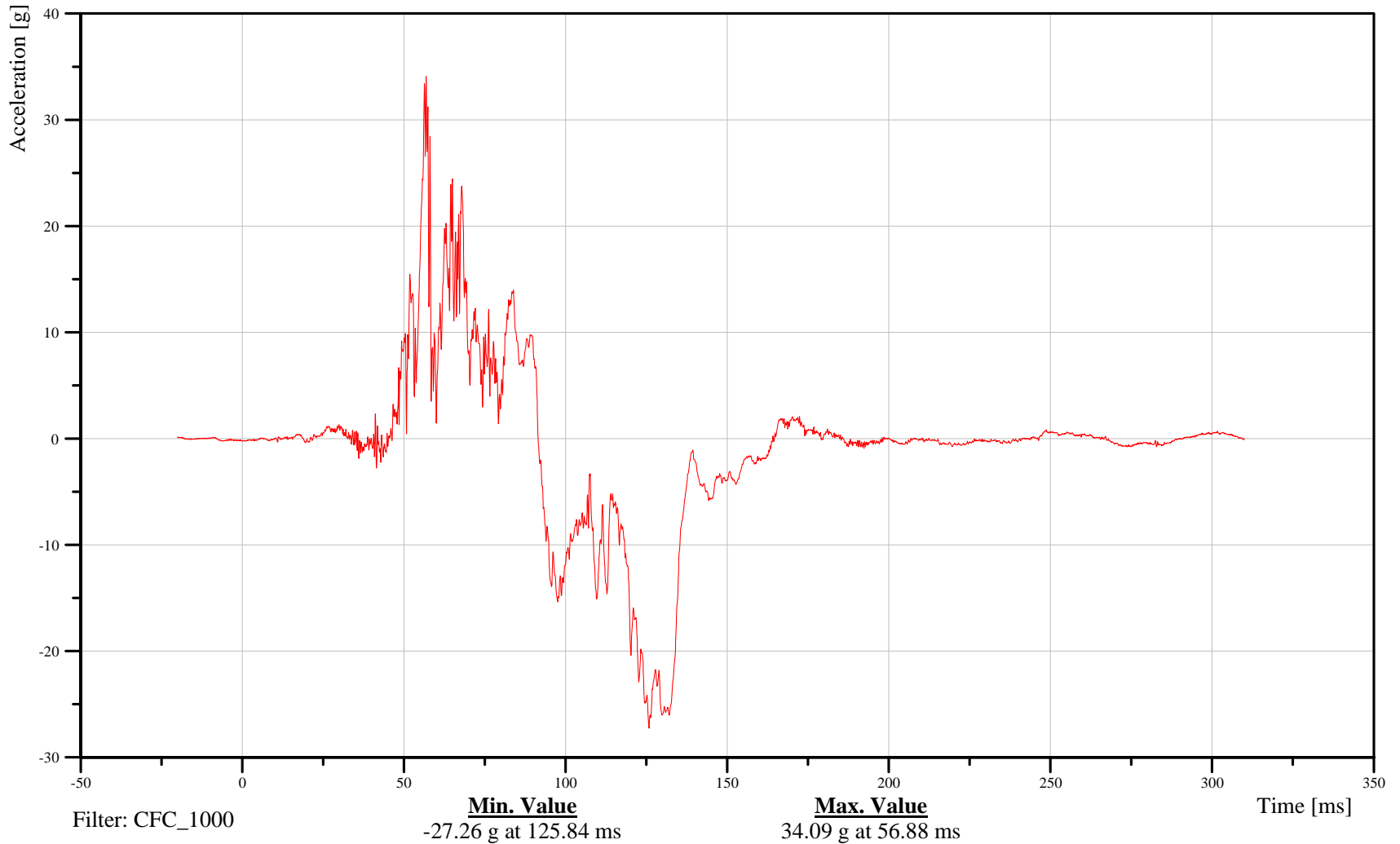
Target Vehicle Passenger Left Foot Y-Axis Acceleration

Customer: VRTC

23FOOTLELXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-141

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

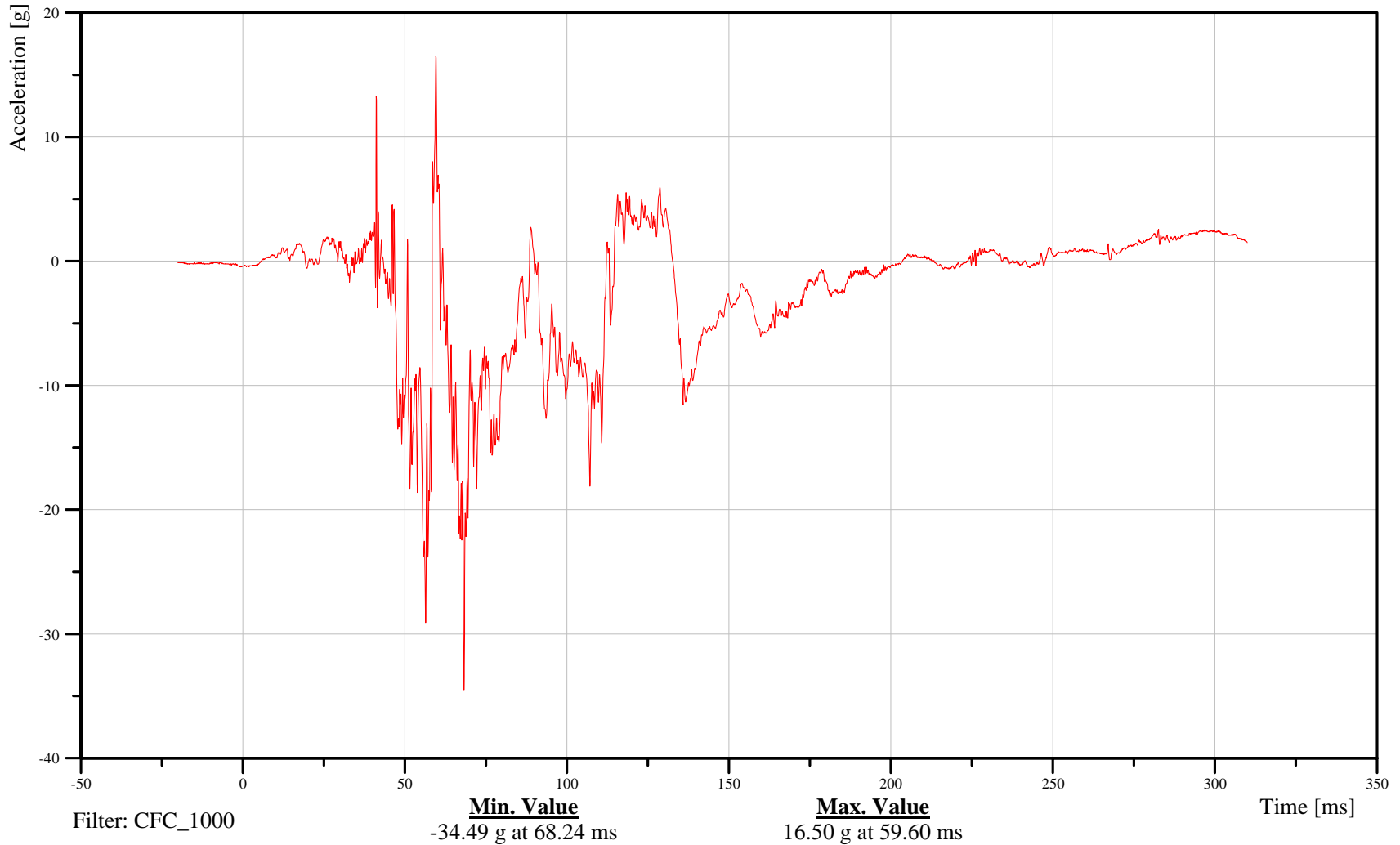
Target Vehicle Passenger Left Foot Z-Axis Acceleration

Customer: VRTC

23FOOTLELXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-142

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

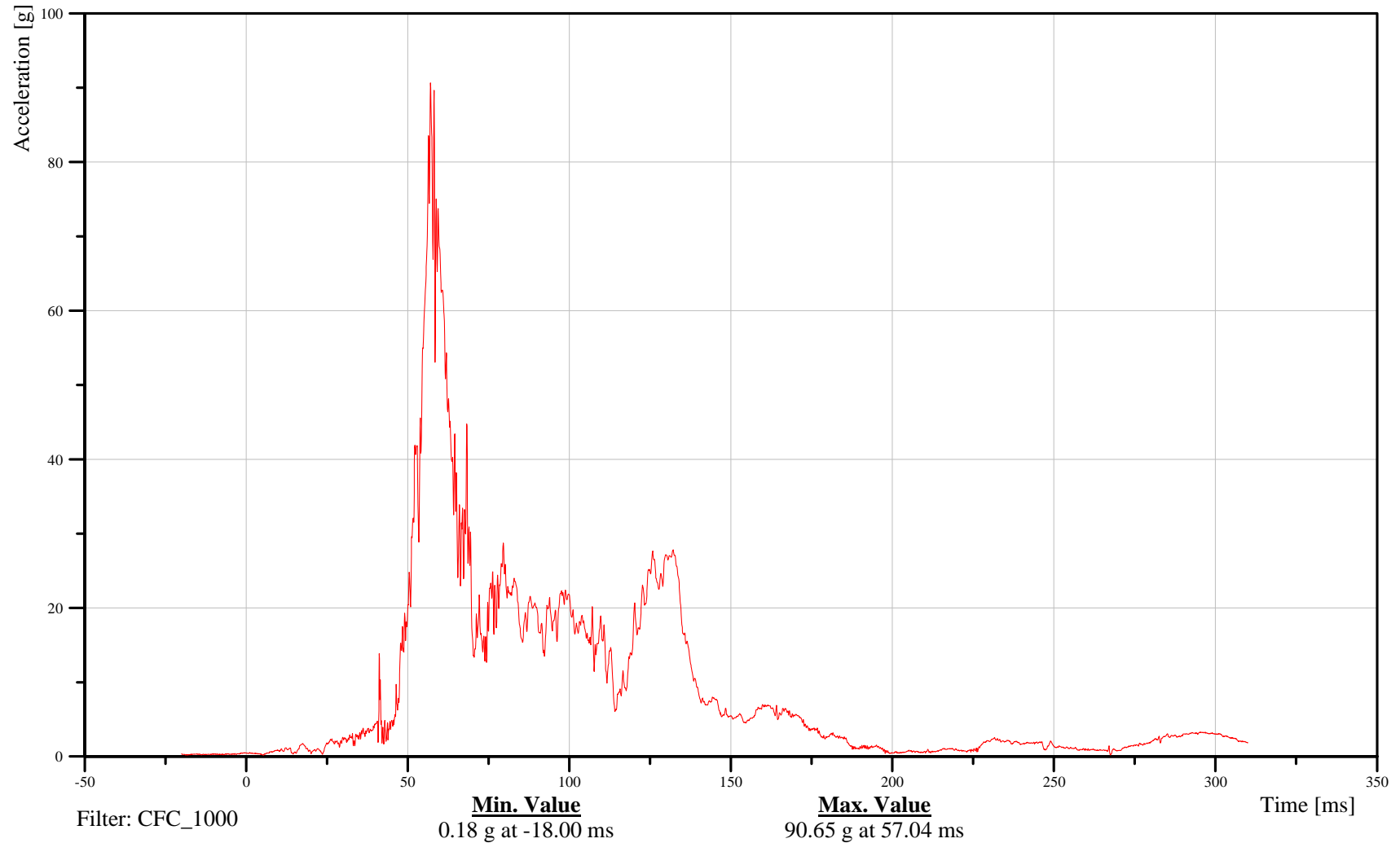
Target Vehicle Passenger Left Foot Resultant Acceleration

Customer: VRTC

23FOOTLELXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-143

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

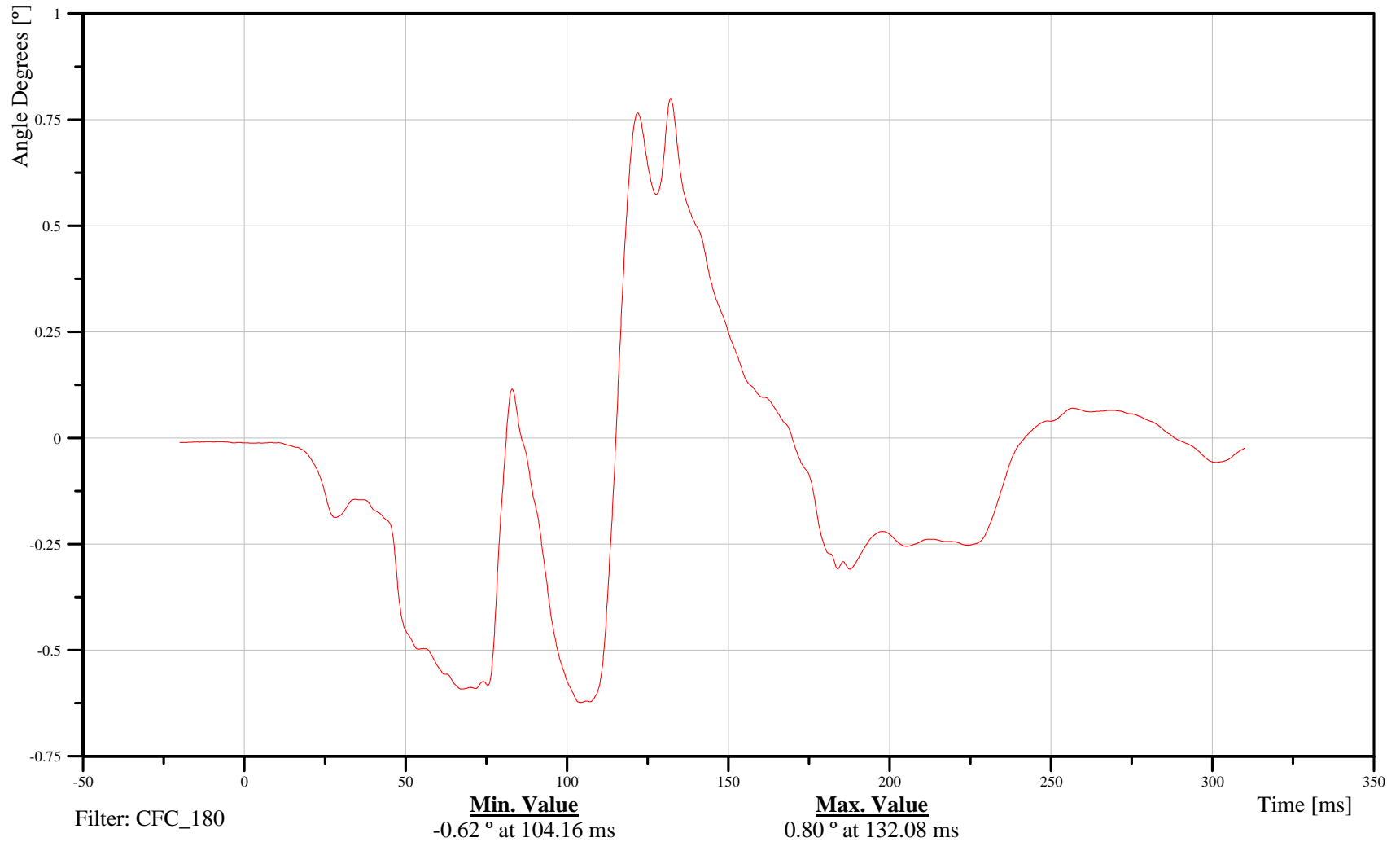
Target Vehicle Passenger Right Knee X-Axis Displacement

Customer: VRTC

23KNSLRI00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

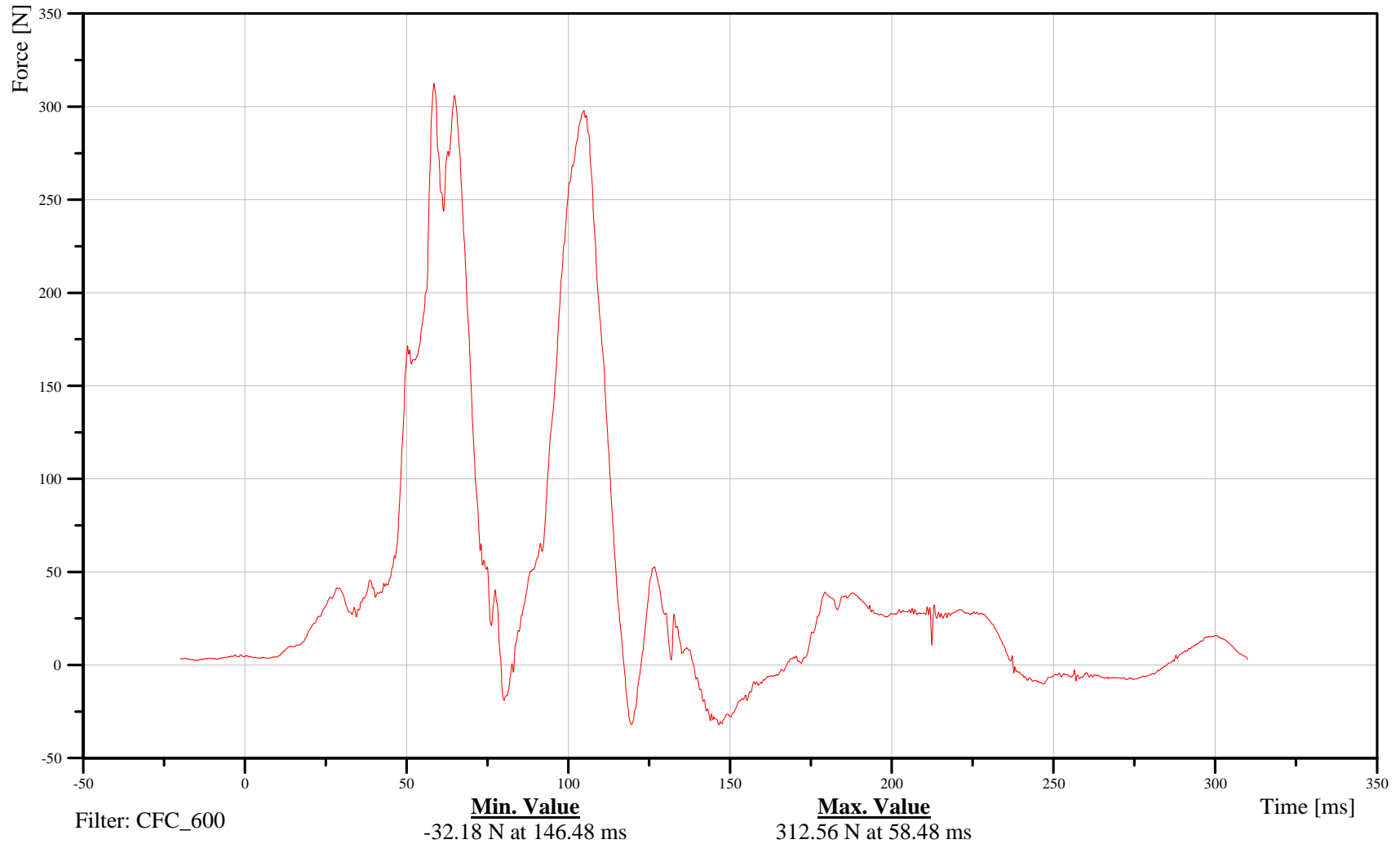
Target Vehicle Passenger Right Upper Tibia X-Axis Force

Customer: VRTC

23TIBIRULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-145

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

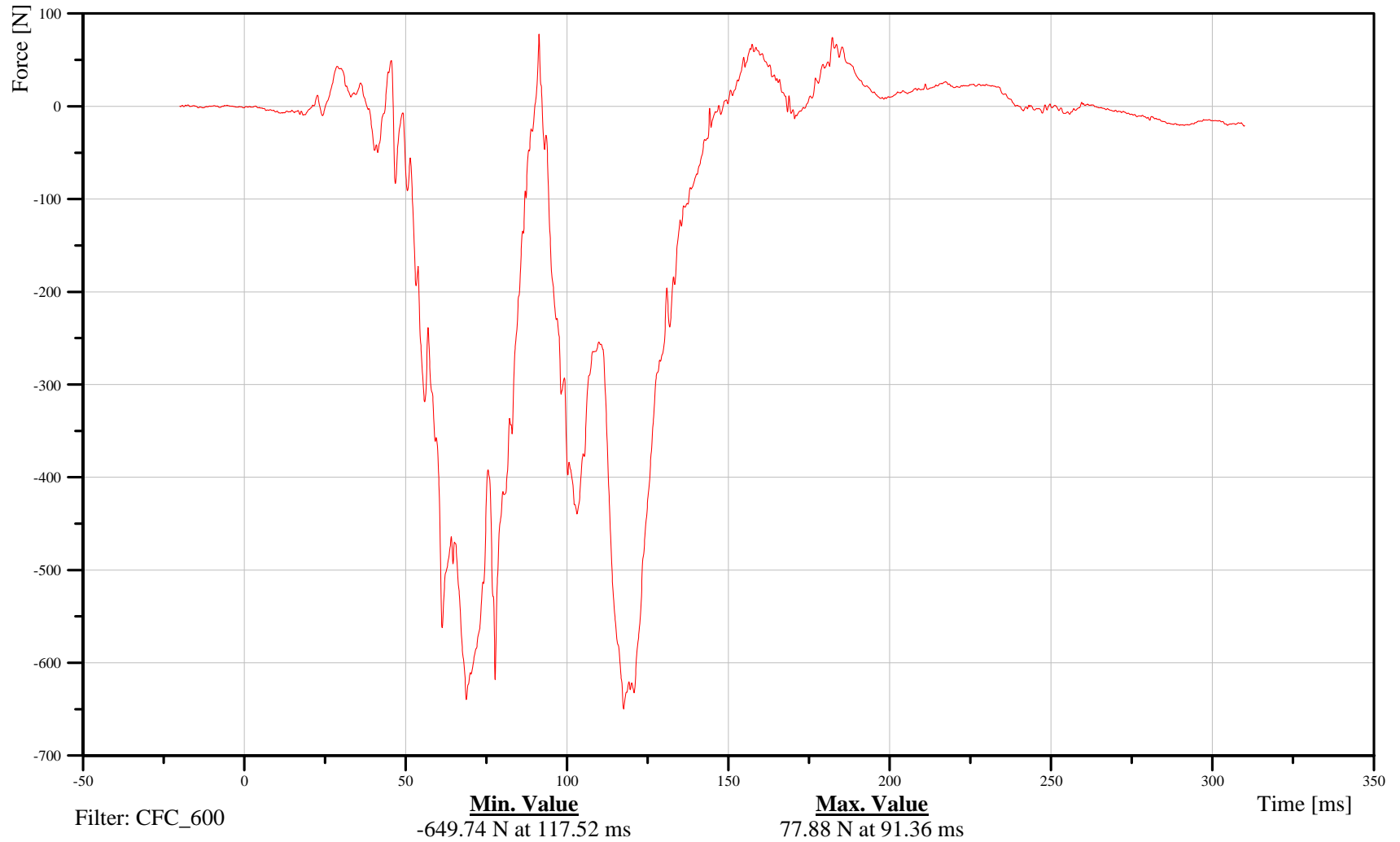
Target Vehicle Passenger Right Upper Tibia Z-Axis Force

Customer: VRTC

23TIBIRULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-146

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

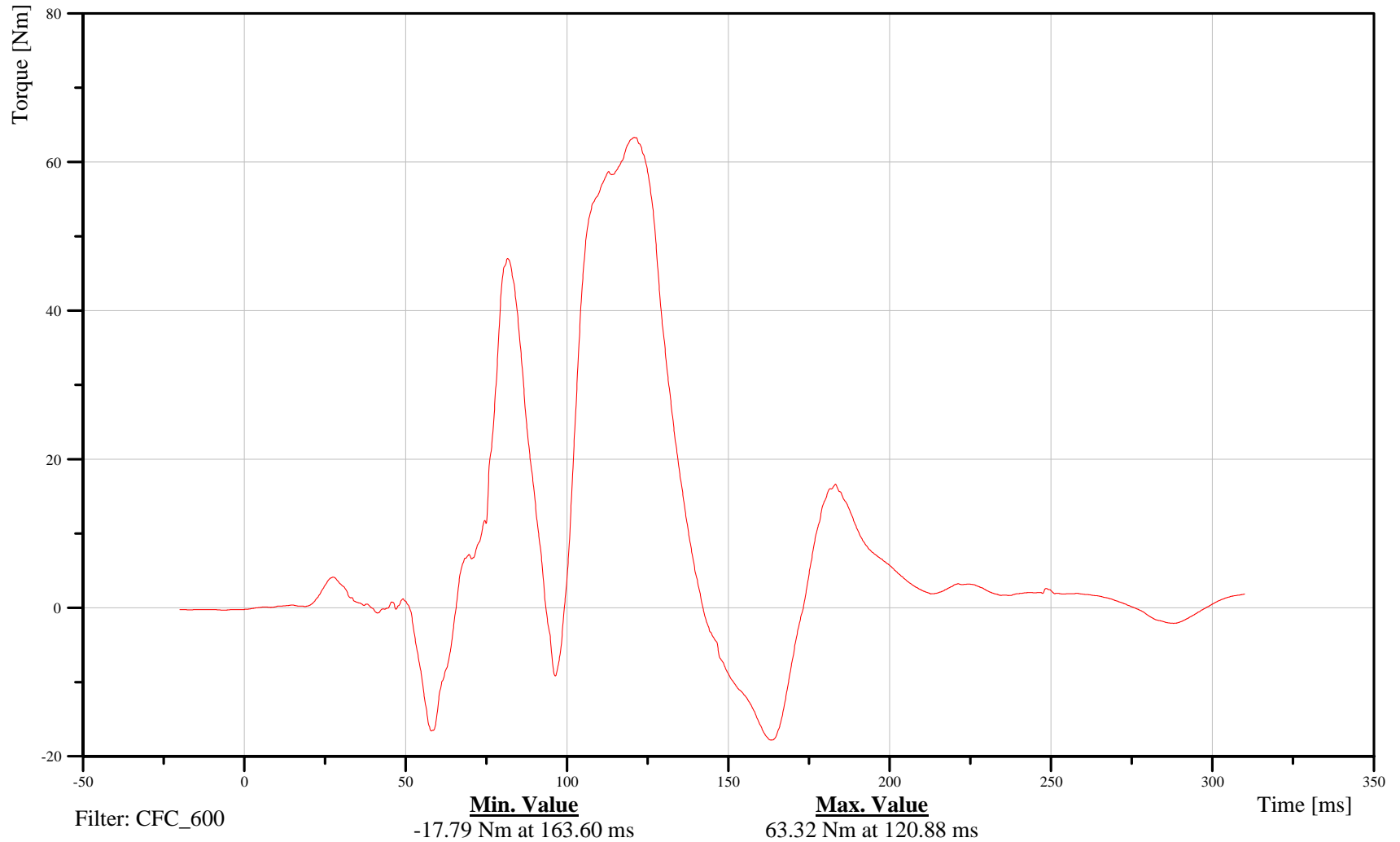
Target Vehicle Passenger Right Upper Tibia Moment About X Axis

Customer: VRTC

23TIBIRULXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-147

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

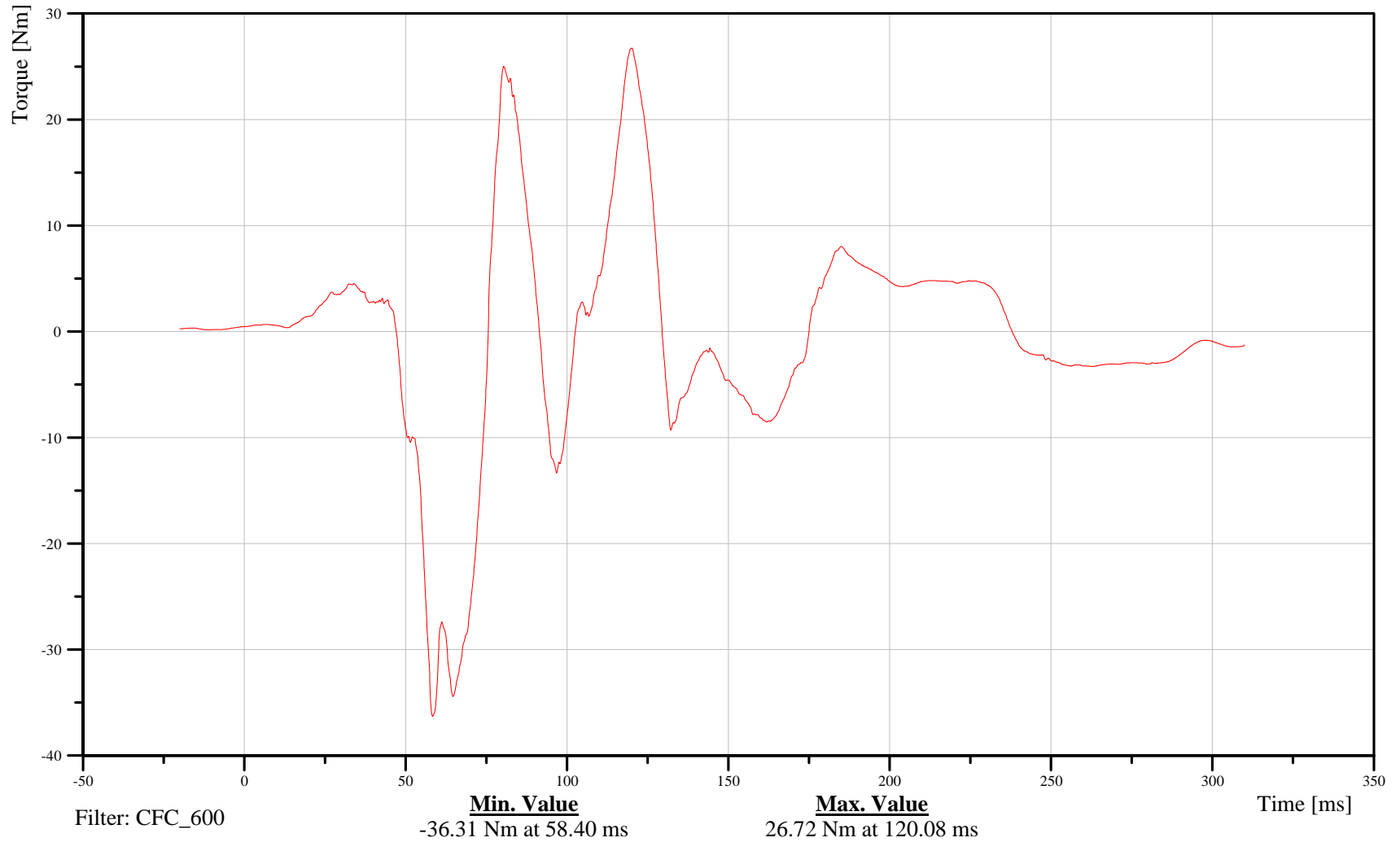
Target Vehicle Passenger Right Upper Tibia Moment About Y Axis

Customer: VRTC

23TIBIRULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

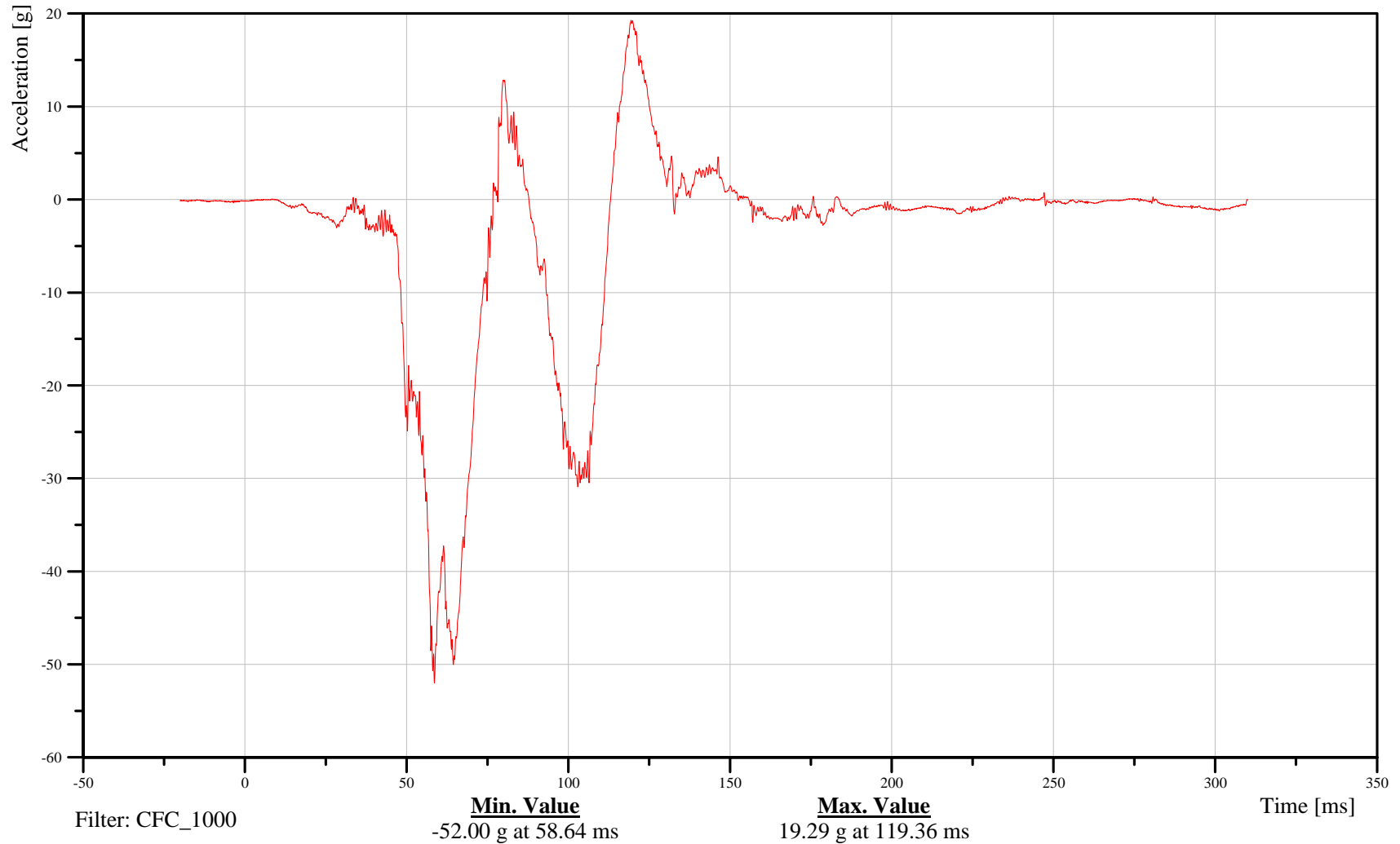
Target Vehicle Passenger Right Tibia X-Axis Acceleration

Customer: VRTC

23TIBIRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-149

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

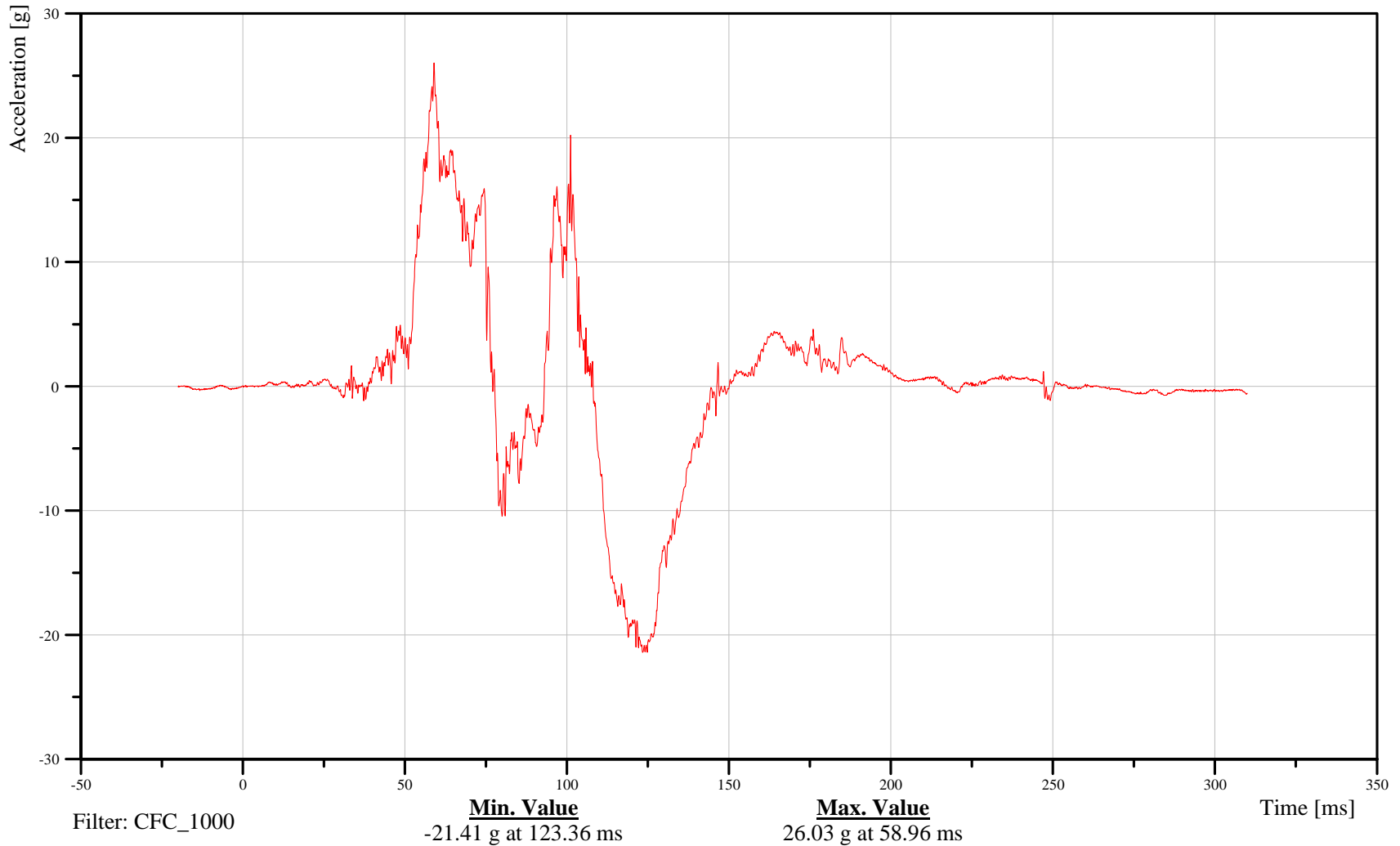
Target Vehicle Passenger Right Tibia Y-Axis Acceleration

Customer: VRTC

23TIBIRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-150

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

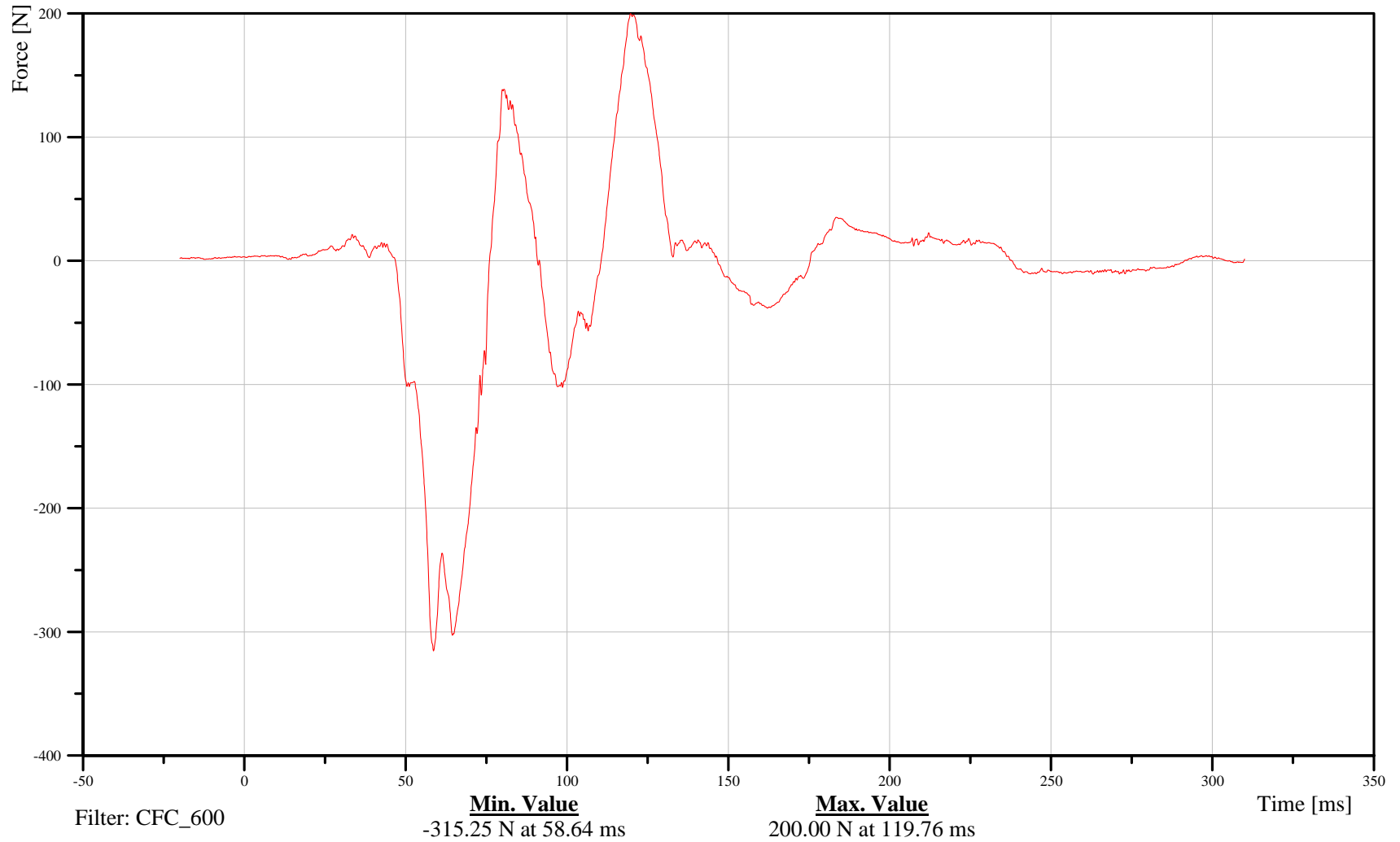
Target Vehicle Passenger Right Lower Tibia X-Axis Force

Customer: VRTC

23TIBIRLLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

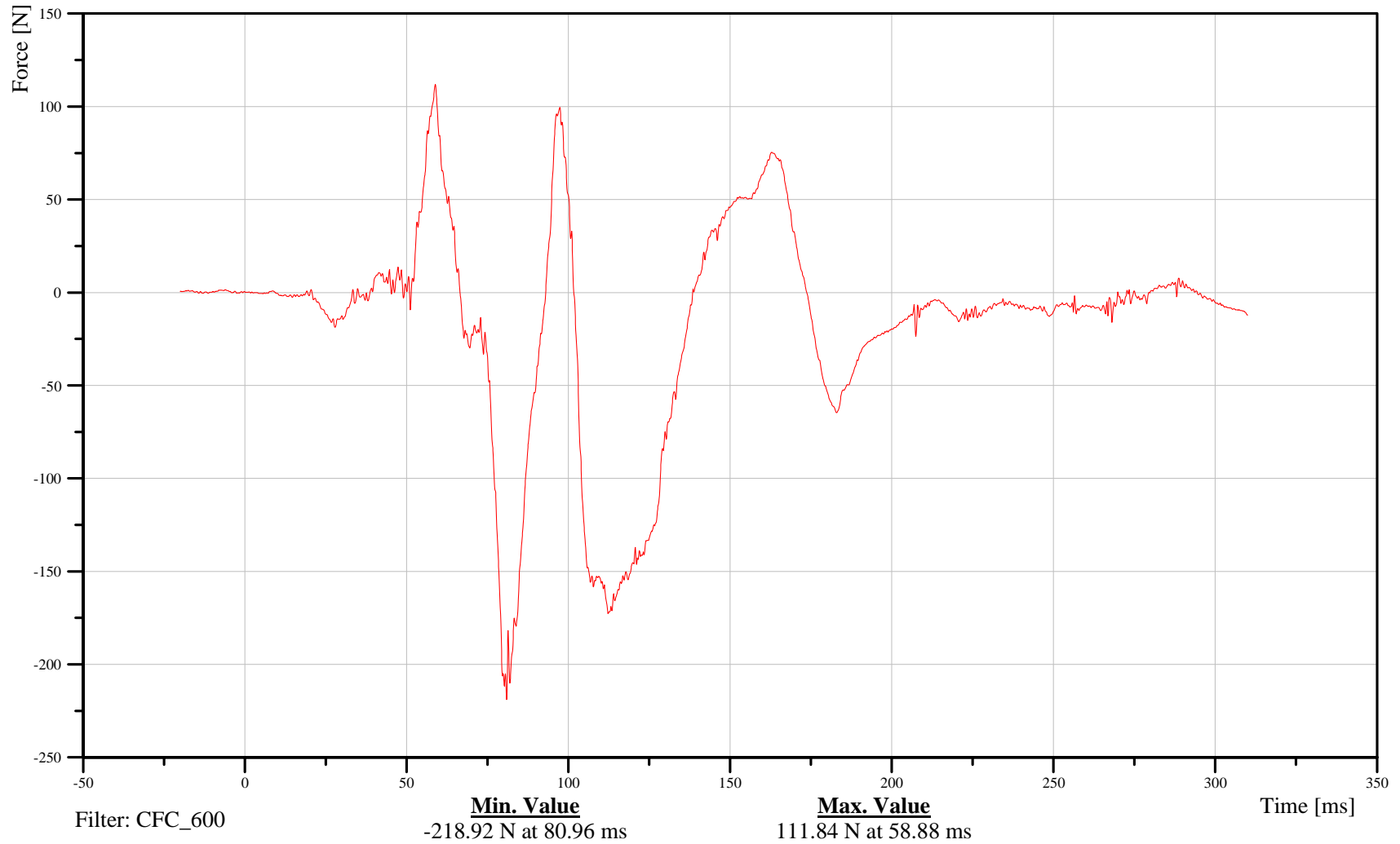
Target Vehicle Passenger Right Lower Tibia Y-Axis Force

Customer: VRTC

23TIBIRLLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-152

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

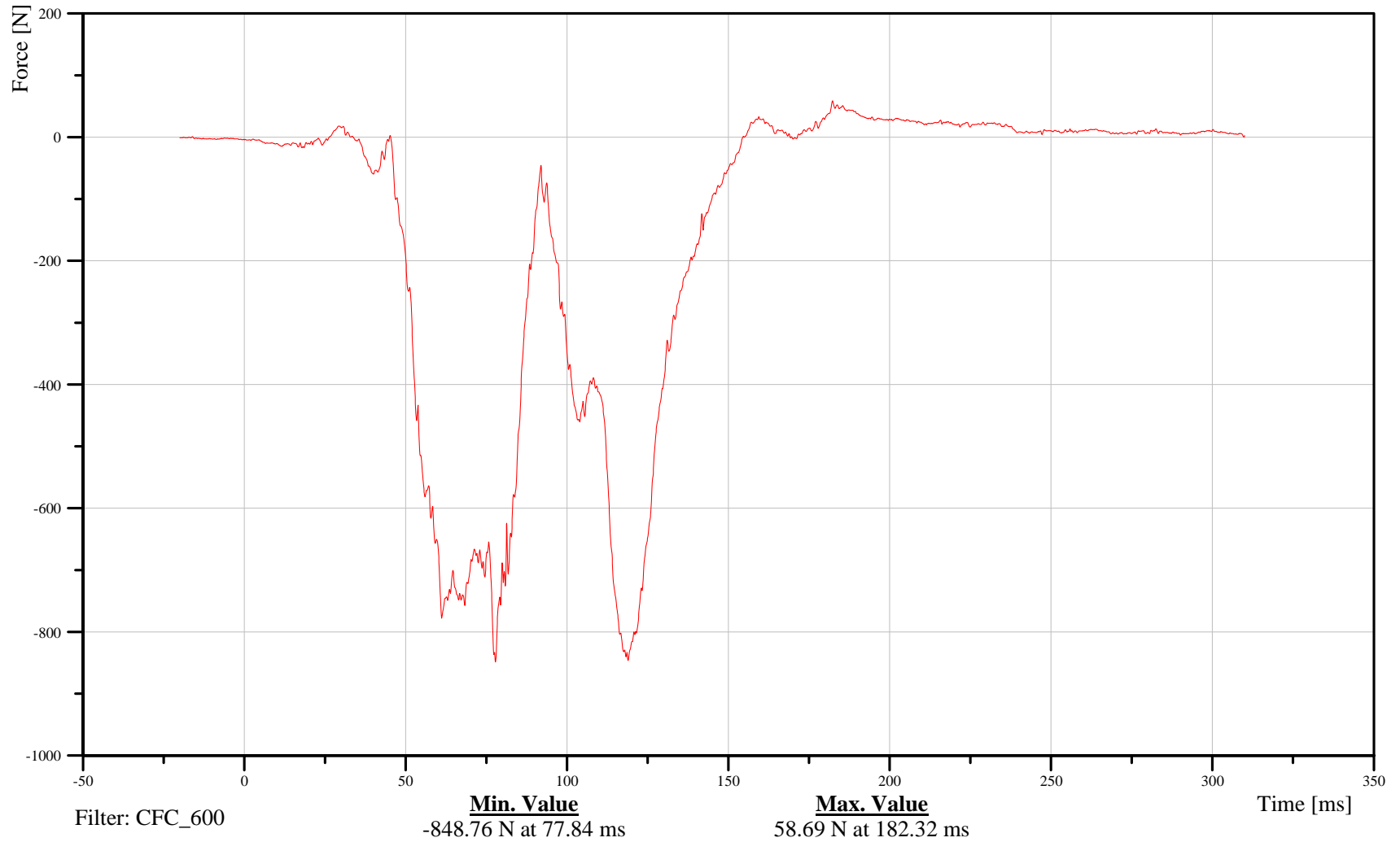
Target Vehicle Passenger Right Lower Tibia Z-Axis Force

Customer: VRTC

23TIBIRLLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-153

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

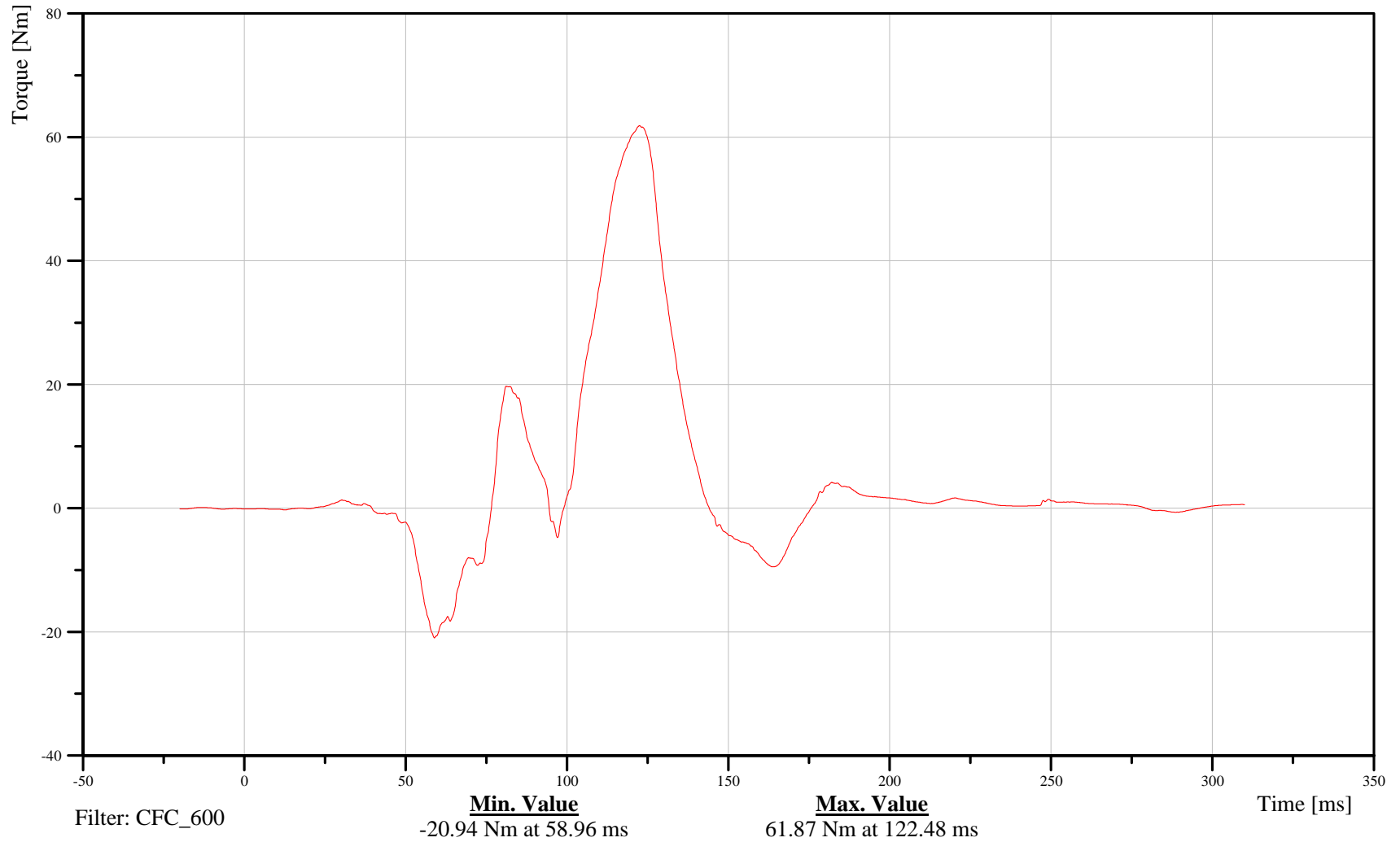
Target Vehicle Passenger Right Lower Tibia Moment About X Axis

Customer: VRTC

23TIBIRLLXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-154

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

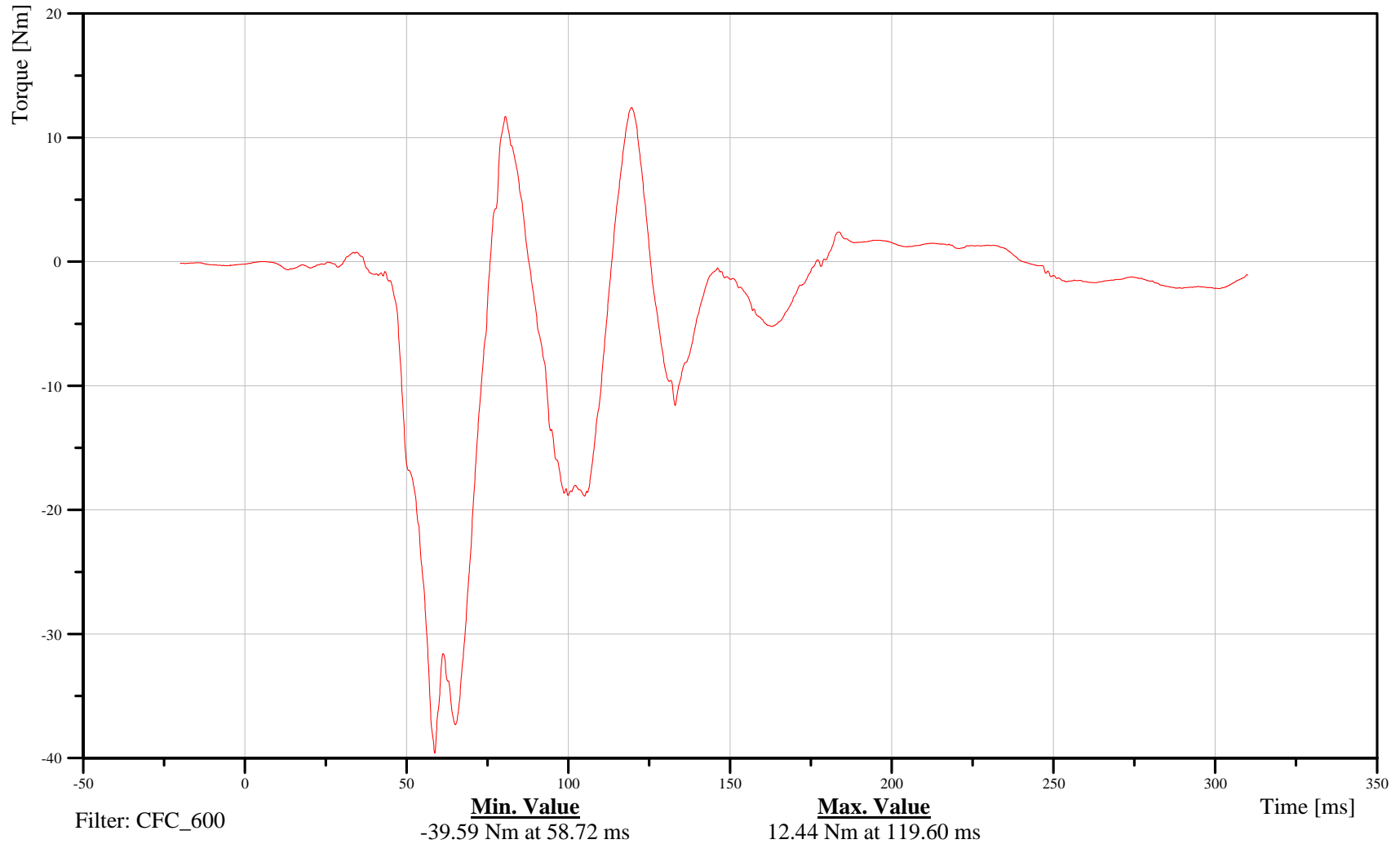
Target Vehicle Passenger Right Lower Tibia Moment About Y Axis

Customer: VRTC

23TIBIRLLXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-155

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

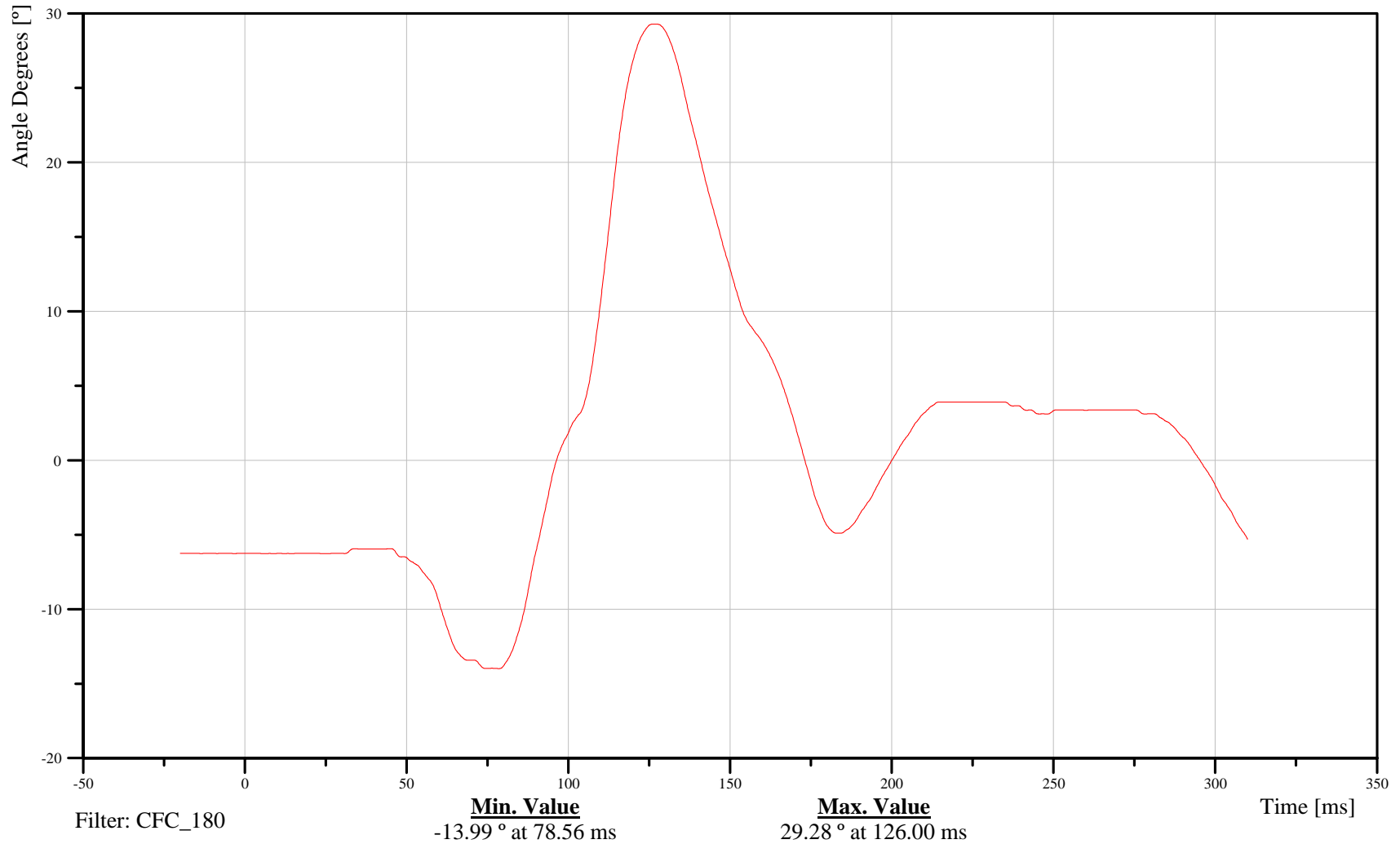
Target Vehicle Passenger Right Foot X-Axis Angular Displacement

Customer: VRTC

23FOOTRILXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

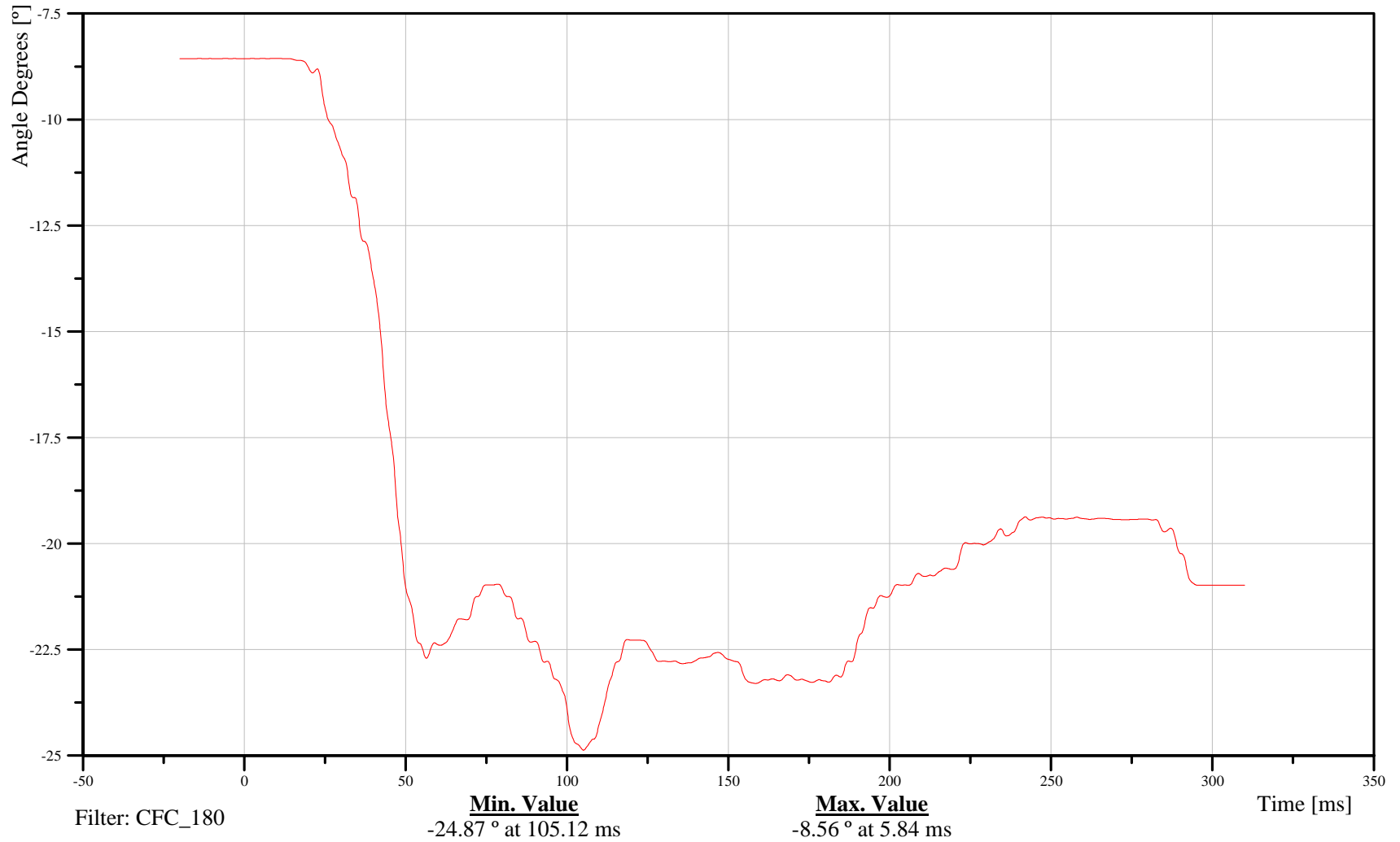
Target Vehicle Passenger Right Foot Y-Axis Angular Displacement

Customer: VRTC

23FOOTRILXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

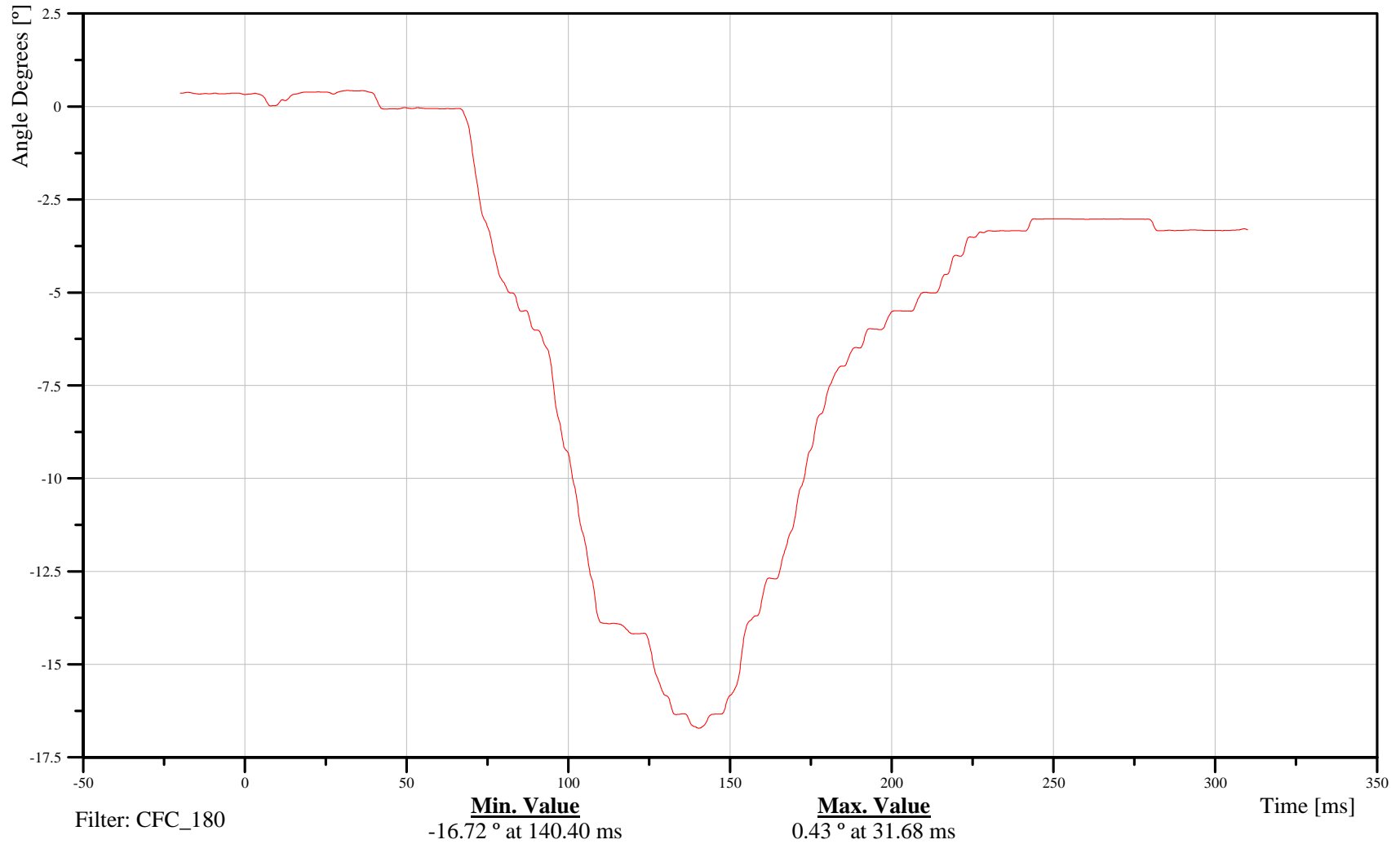
Target Vehicle Passenger Right Foot Z-Axis Angular Displacement

Customer: VRTC

23FOOTRILXFANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-158

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

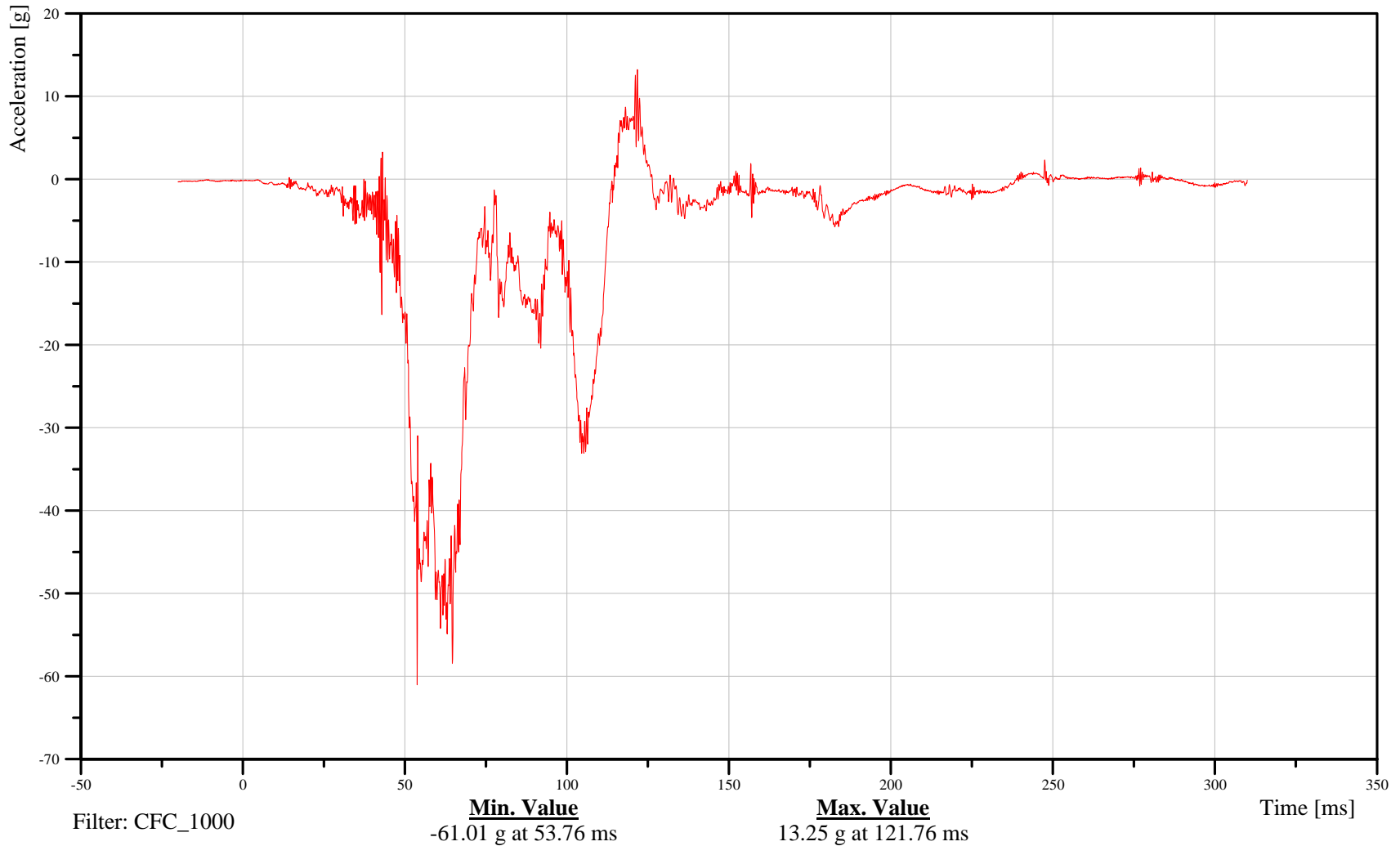
Target Vehicle Passenger Right Foot X-Axis Acceleration

Customer: VRTC

23FOOTRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

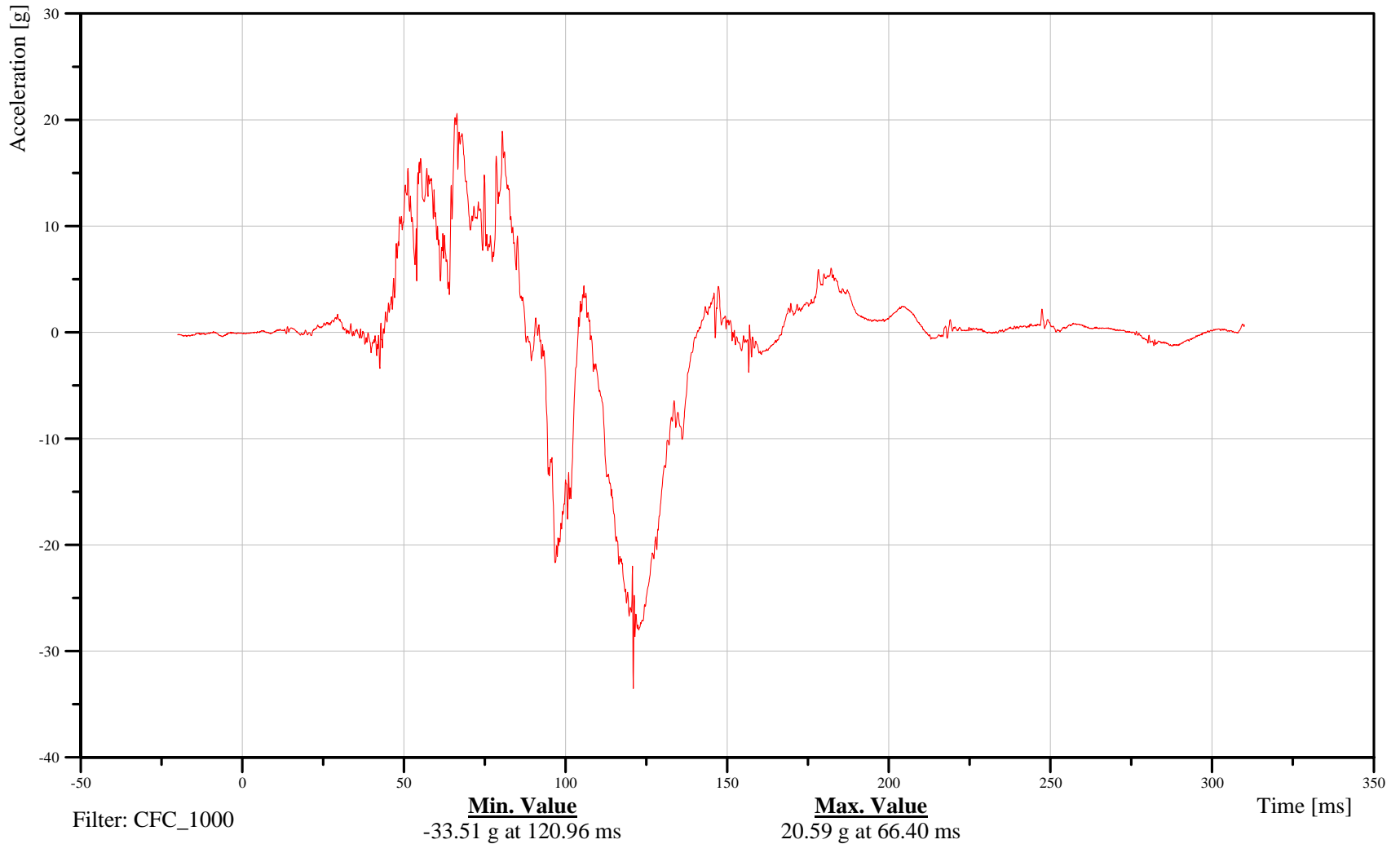
Target Vehicle Passenger Right Foot Y-Axis Acceleration

Customer: VRTC

23FOOTRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

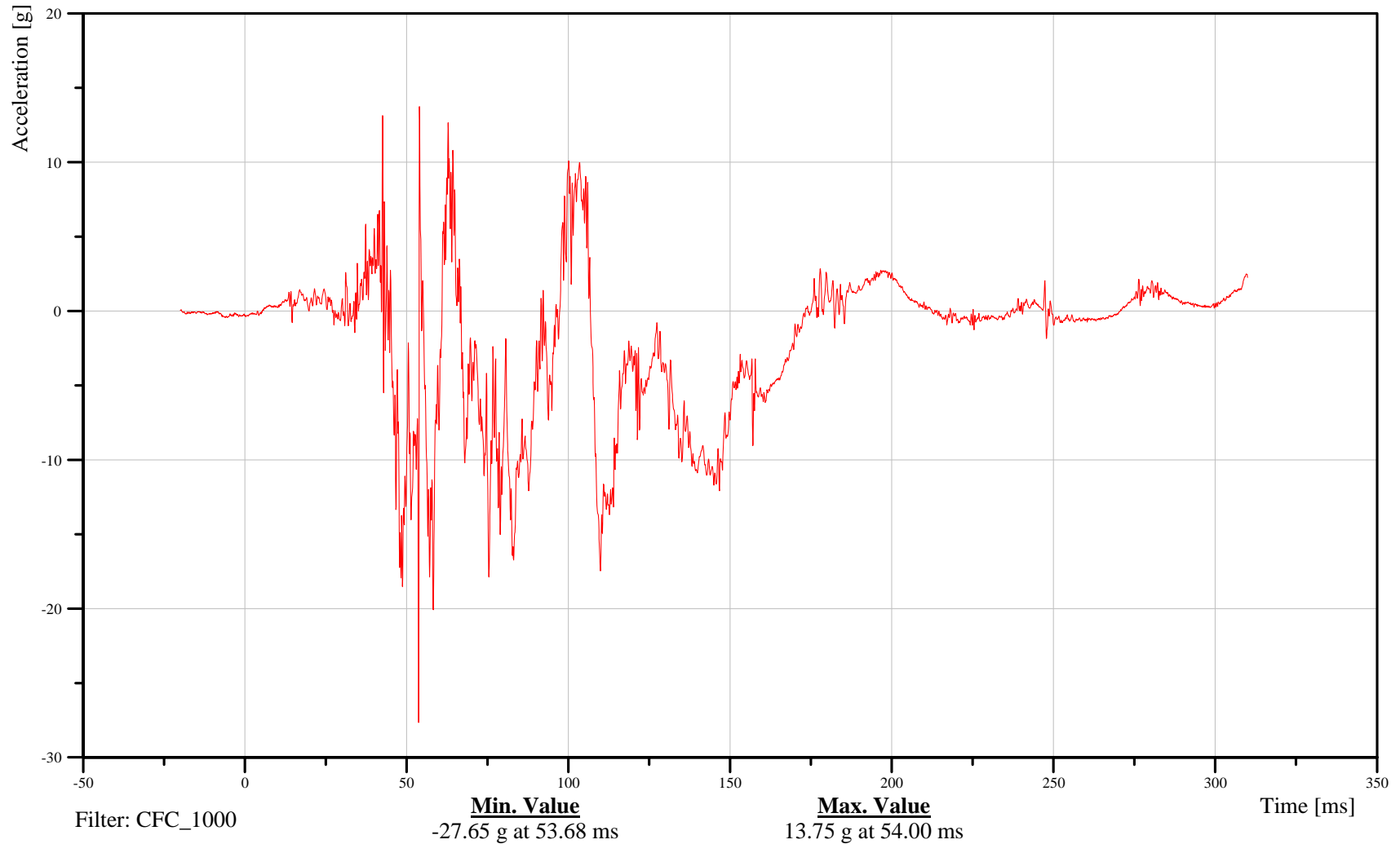
Target Vehicle Passenger Right Foot Z-Axis Acceleration

Customer: VRTC

23FOOTRILXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

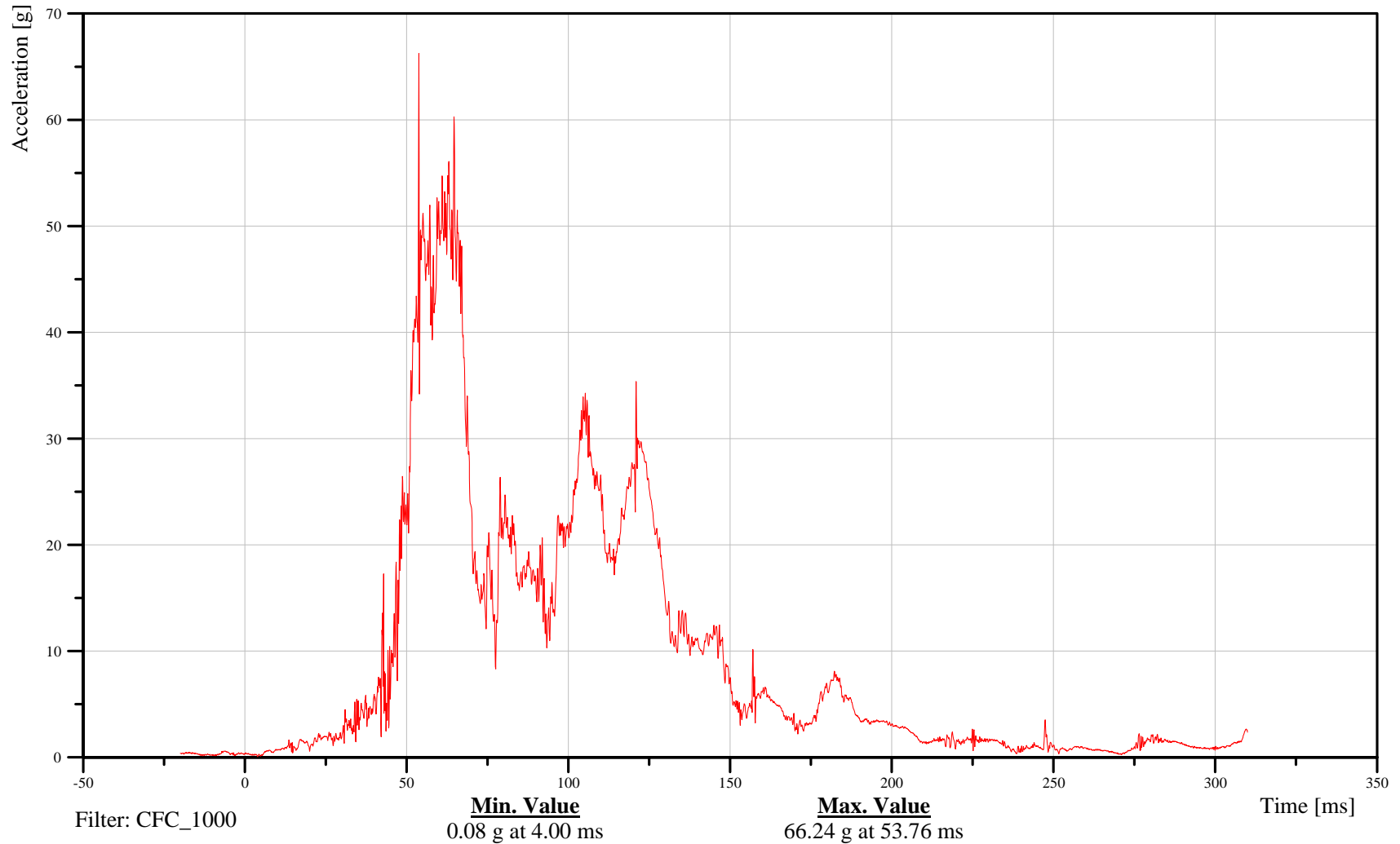
Target Vehicle Passenger Right Foot Resultant Acceleration

Customer: VRTC

23FOOTRILXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-162

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

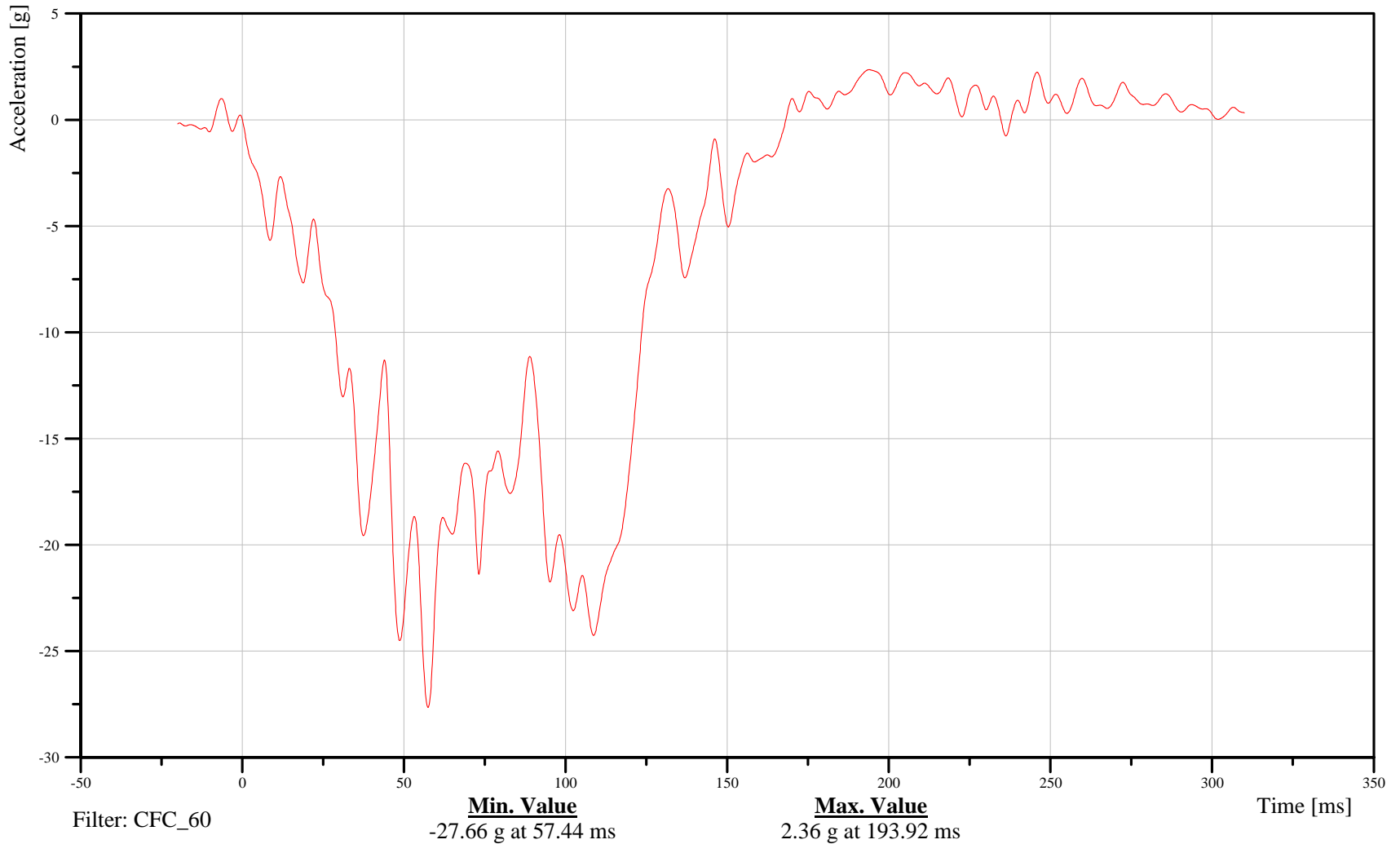
Target Vehicle Left Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

24CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

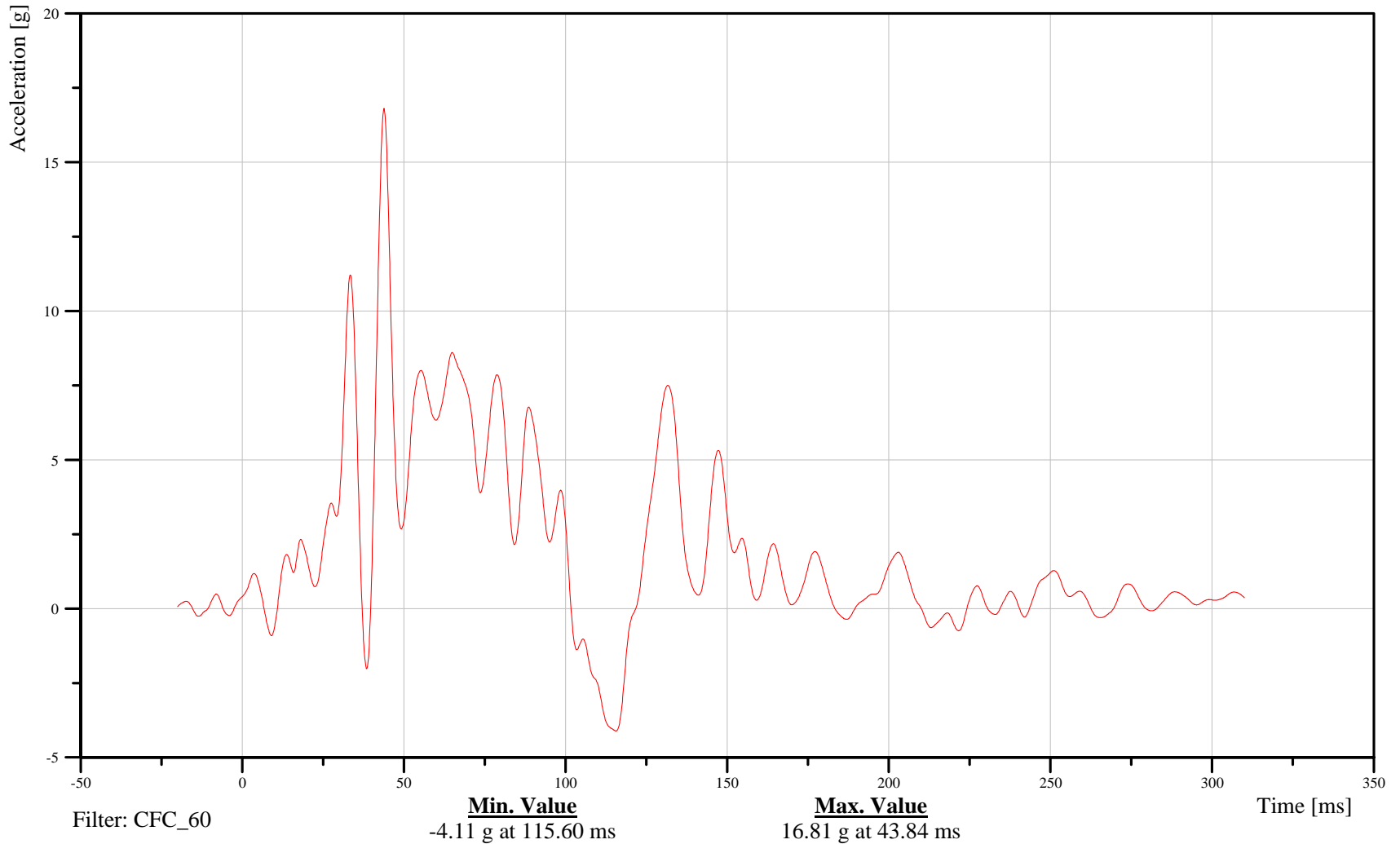
Target Vehicle Left Rear Seat Crossmember Y-Axis Acceleration

Customer: VRTC

24CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

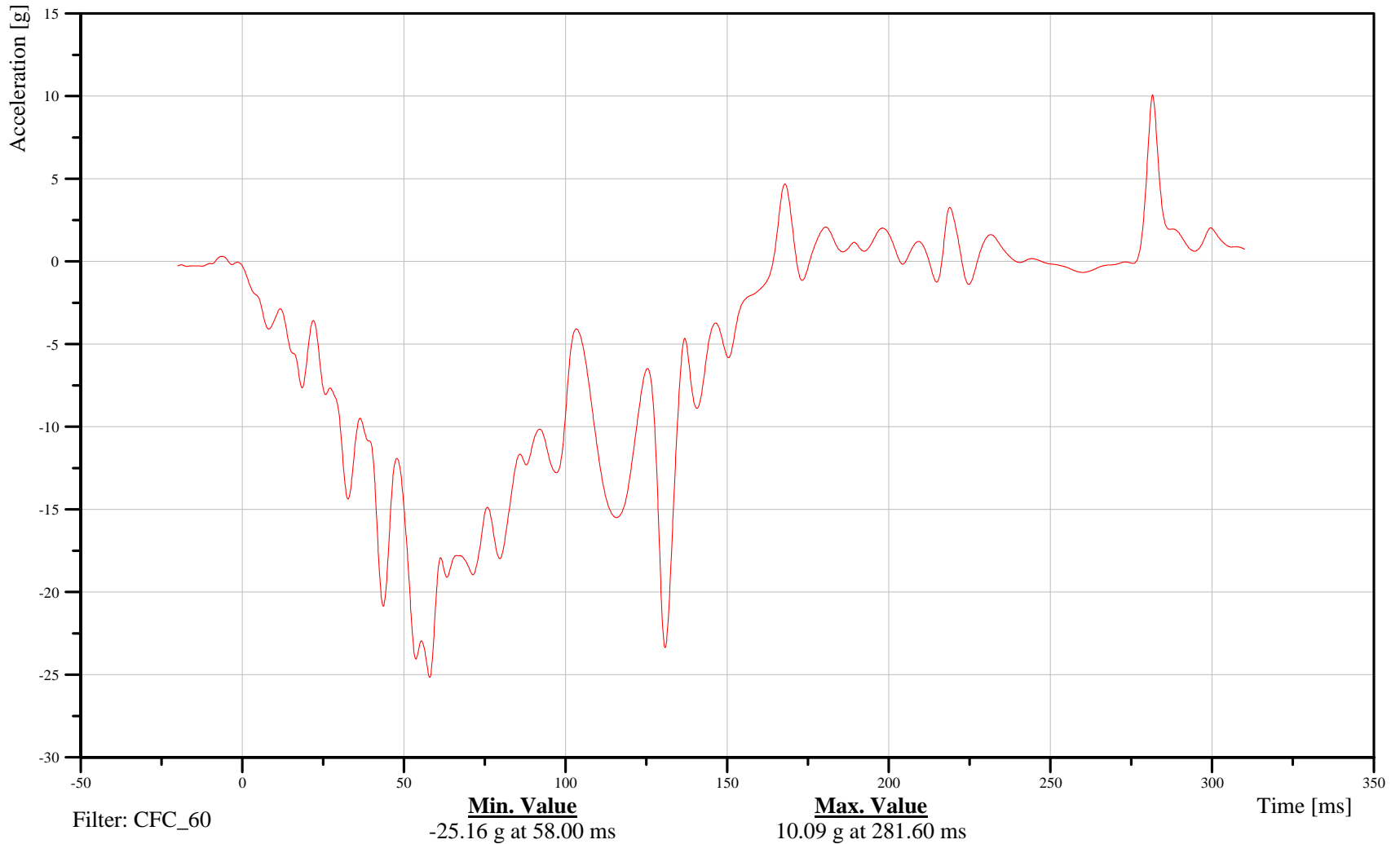
Target Vehicle Right Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

26CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

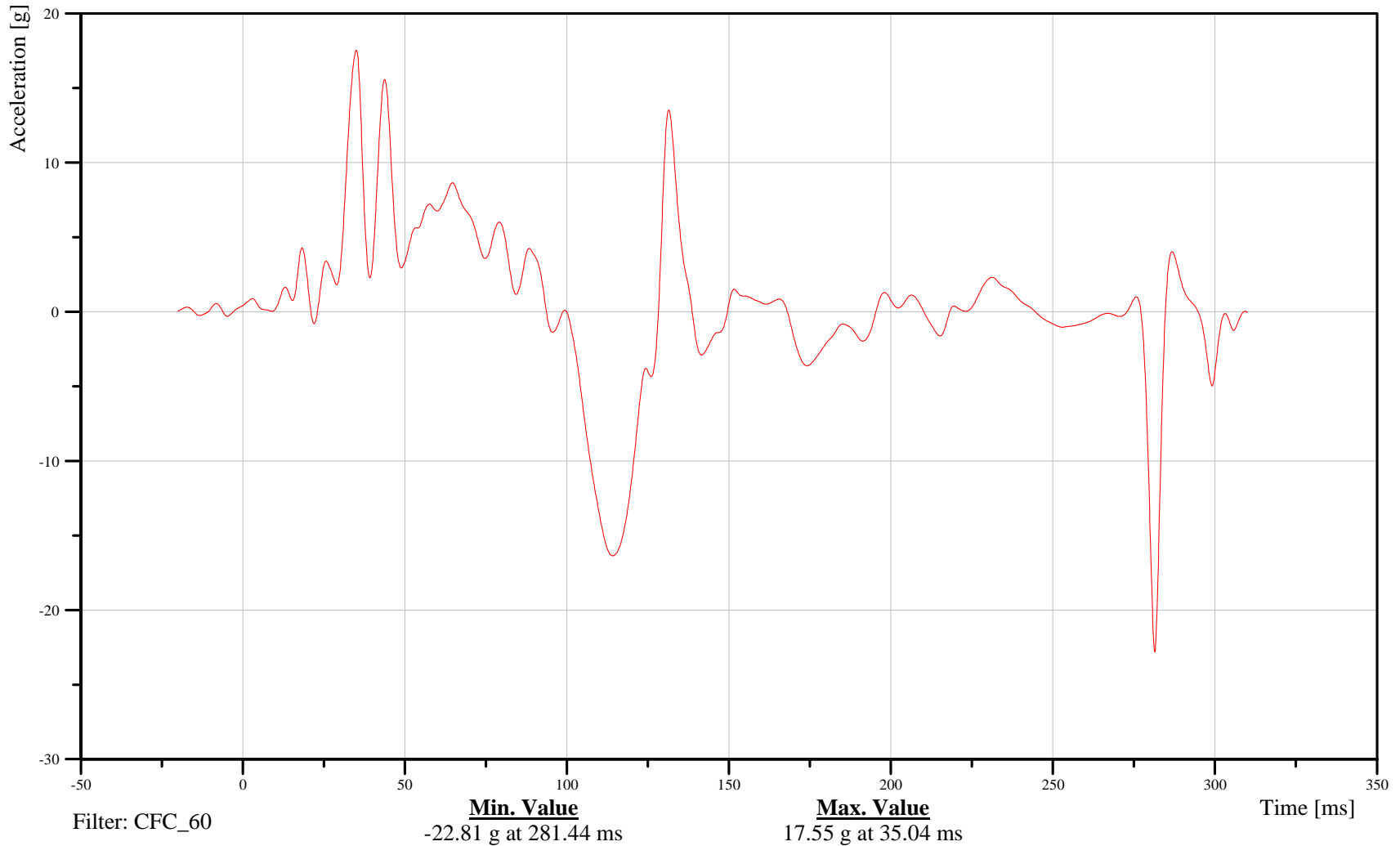
Target Vehicle Right Rear Seat Crossmember Y-Axis Acceleration

Customer: VRTC

26CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

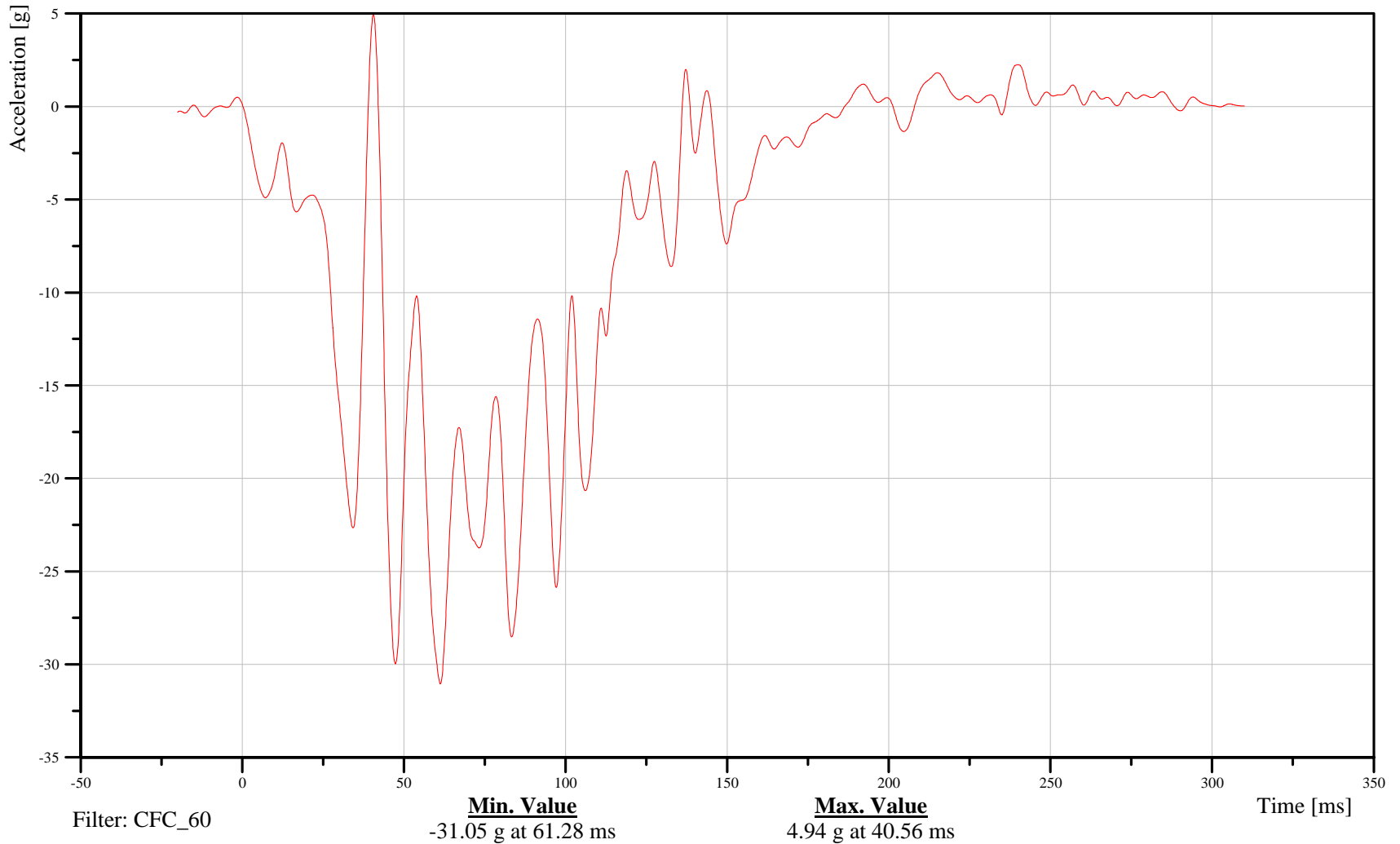
Target Vehicle CG X-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

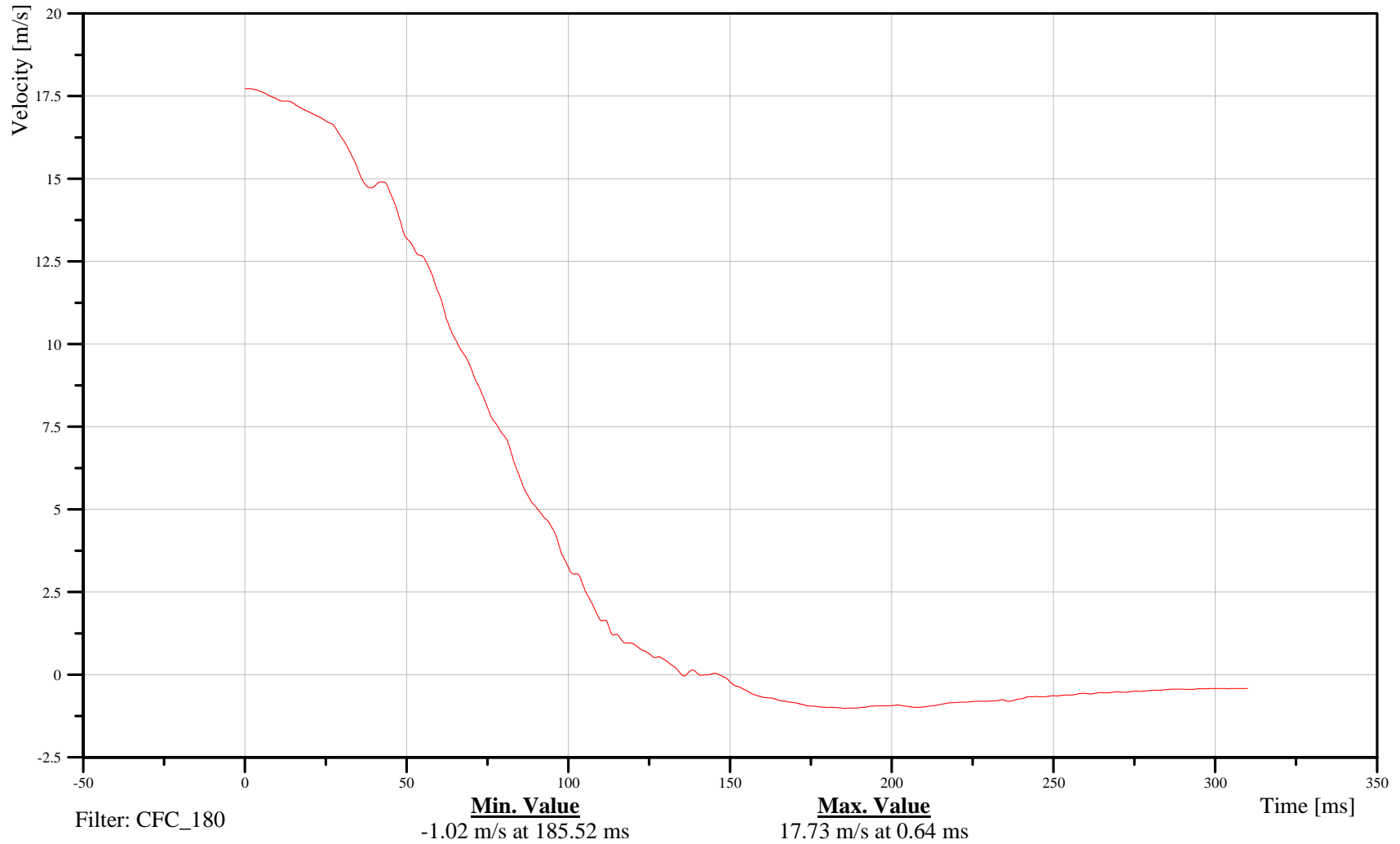
Target Vehicle CG X-Axis Velocity

Customer: VRTC

20VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

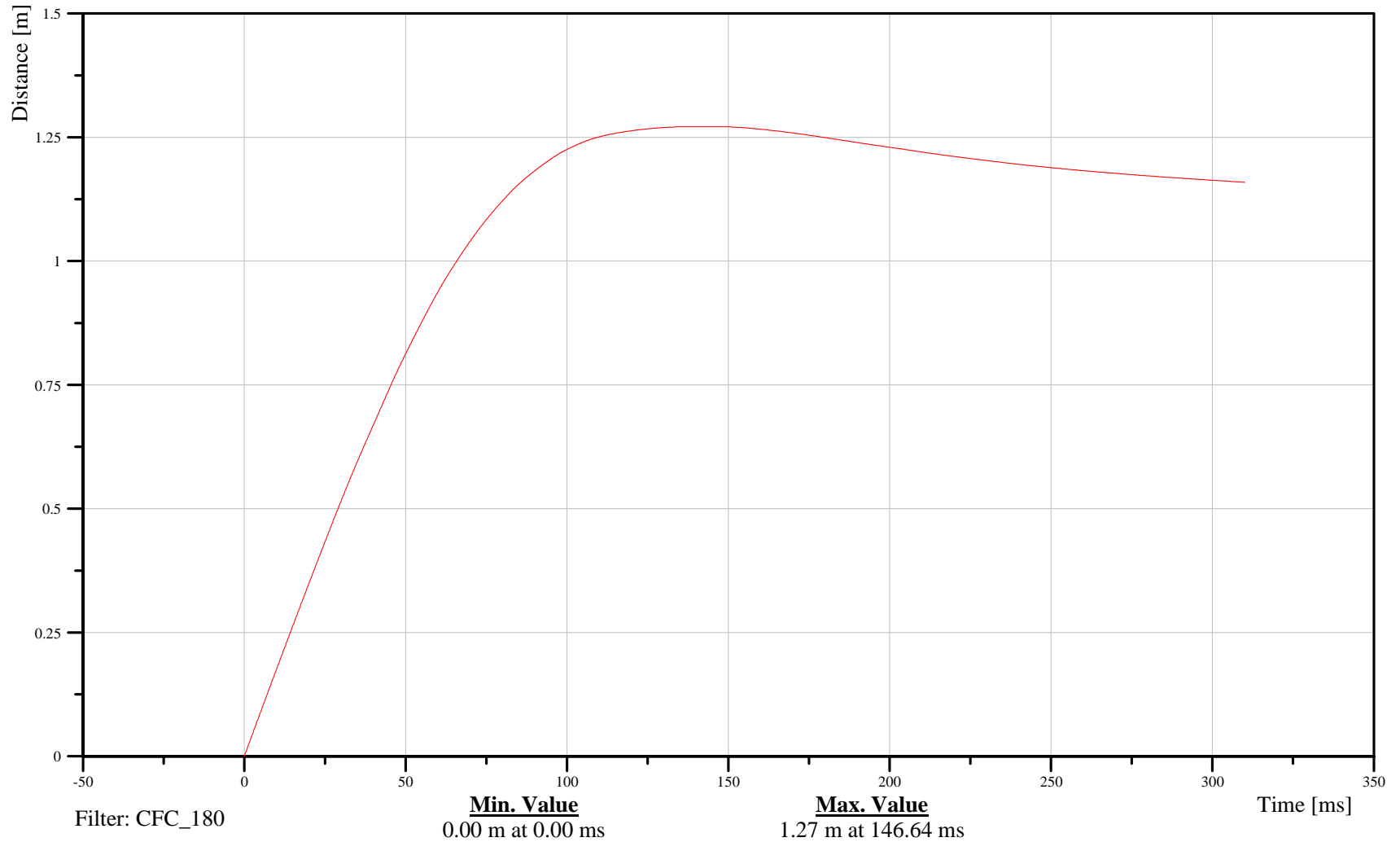
Target Vehicle CG X-Axis Displacement

Customer: VRTC

20VEHCCG0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

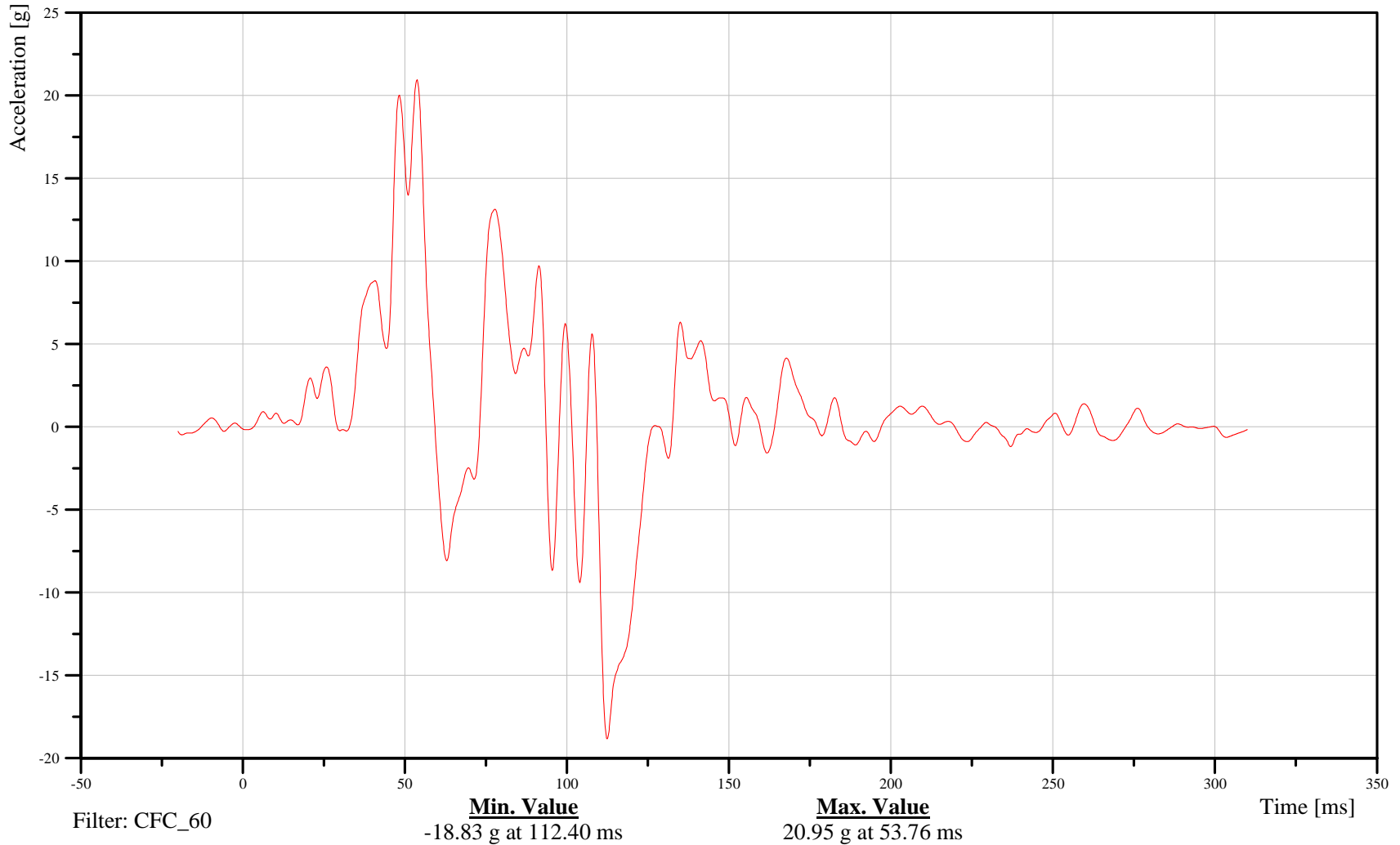
Target Vehicle CG Y-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

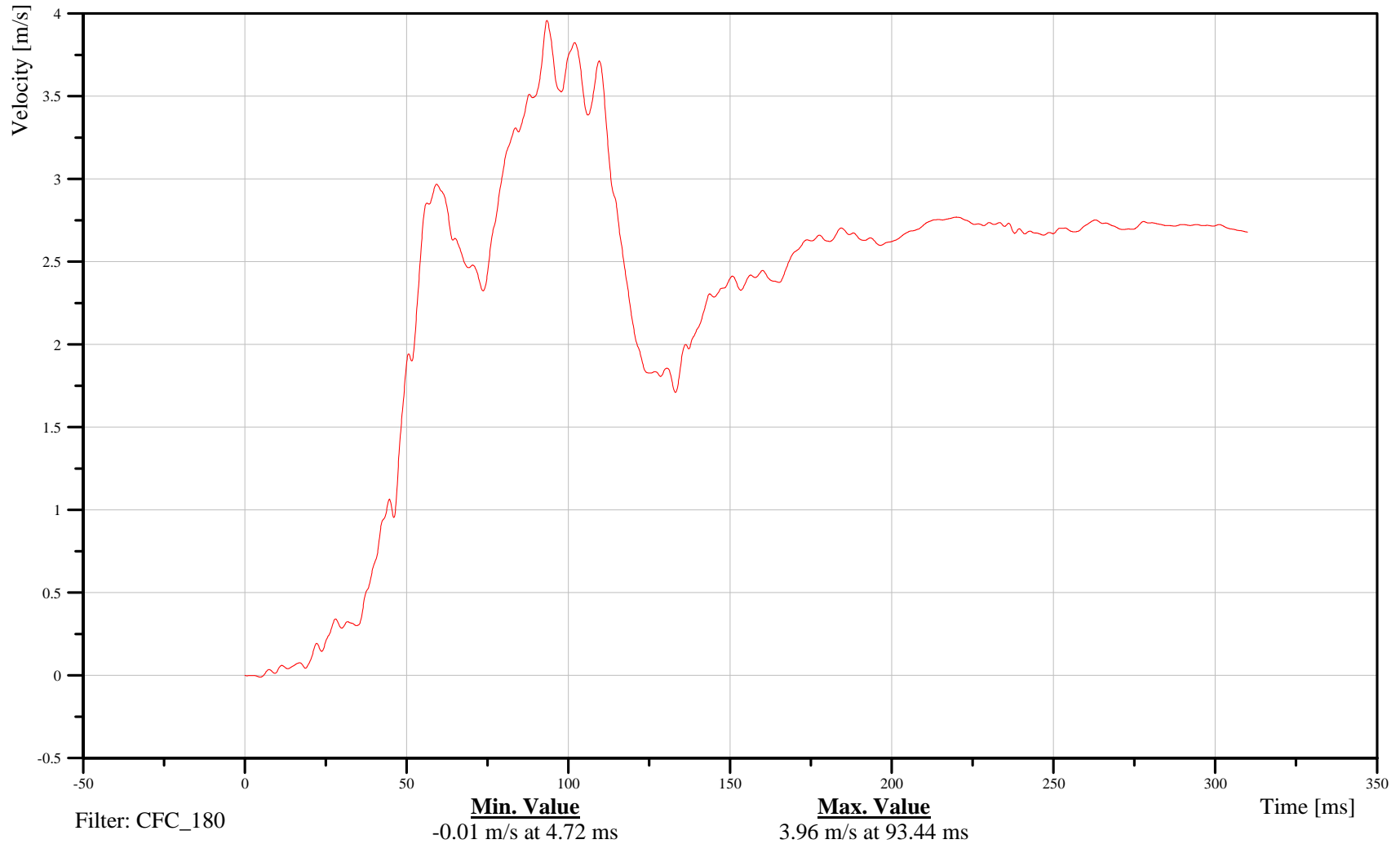
Target Vehicle CG Y-Axis Velocity

Customer: VRTC

20VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

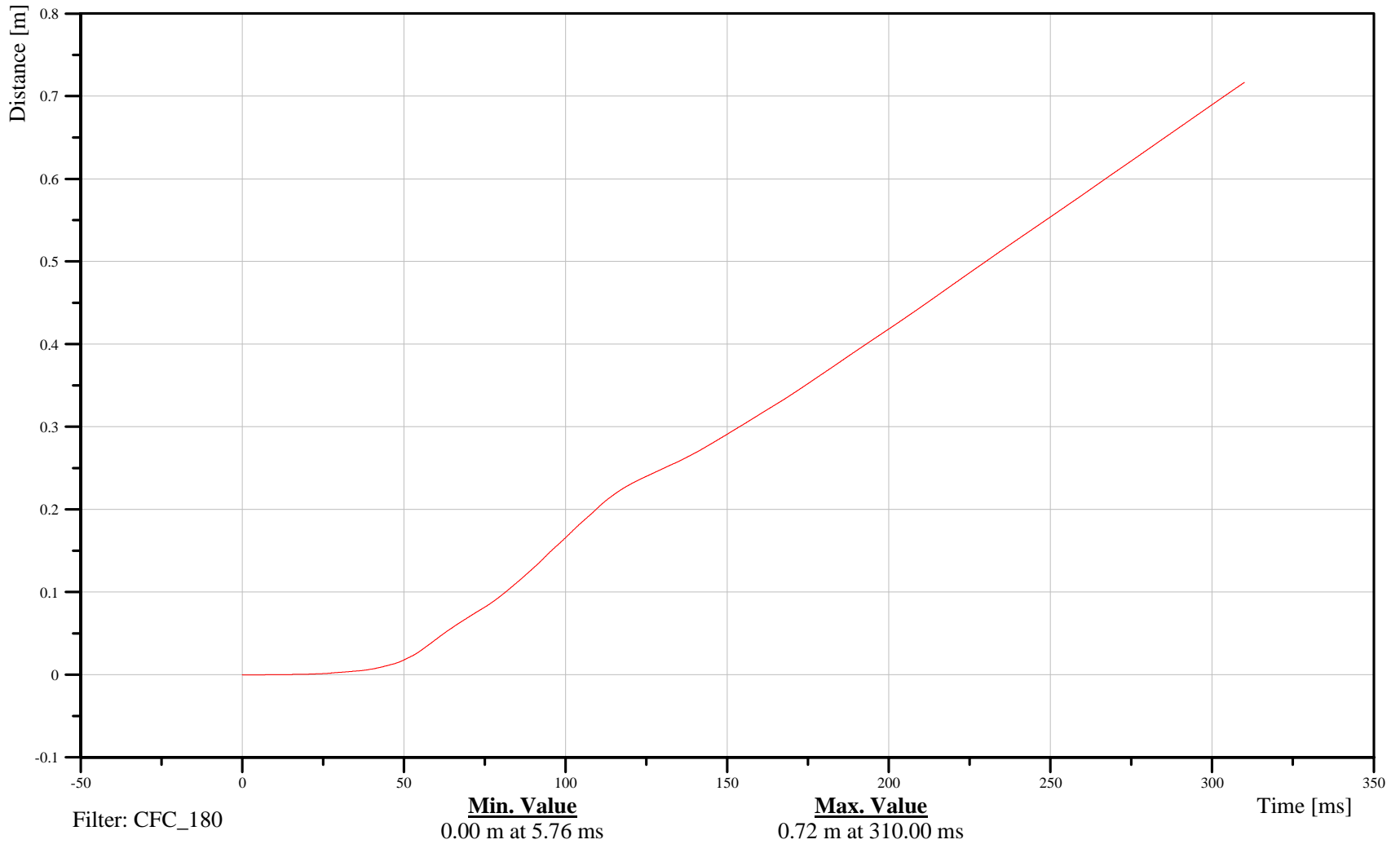
Target Vehicle CG Y-Axis Displacement

Customer: VRTC

20VEHCCG0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

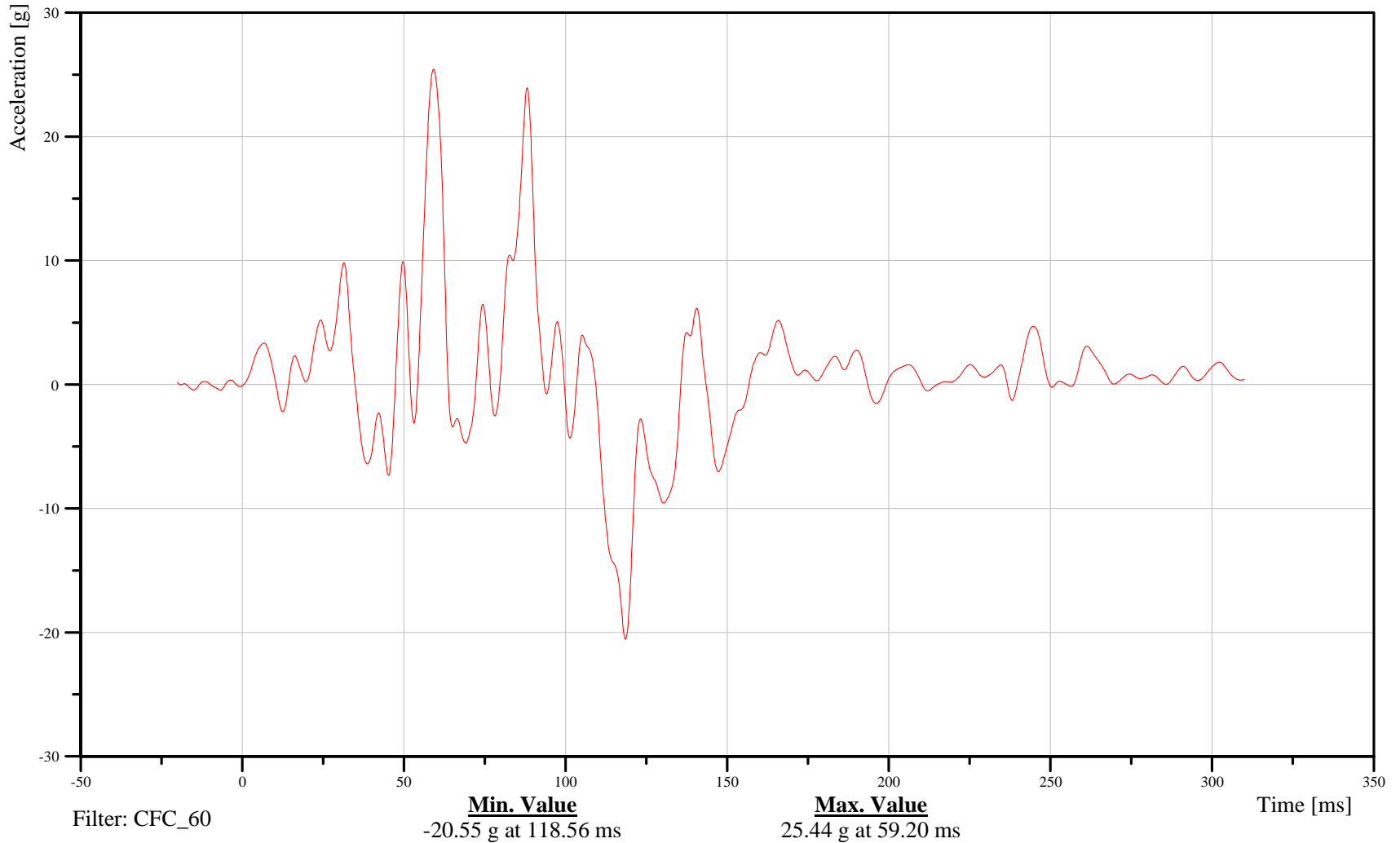
Target Vehicle CG Z-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

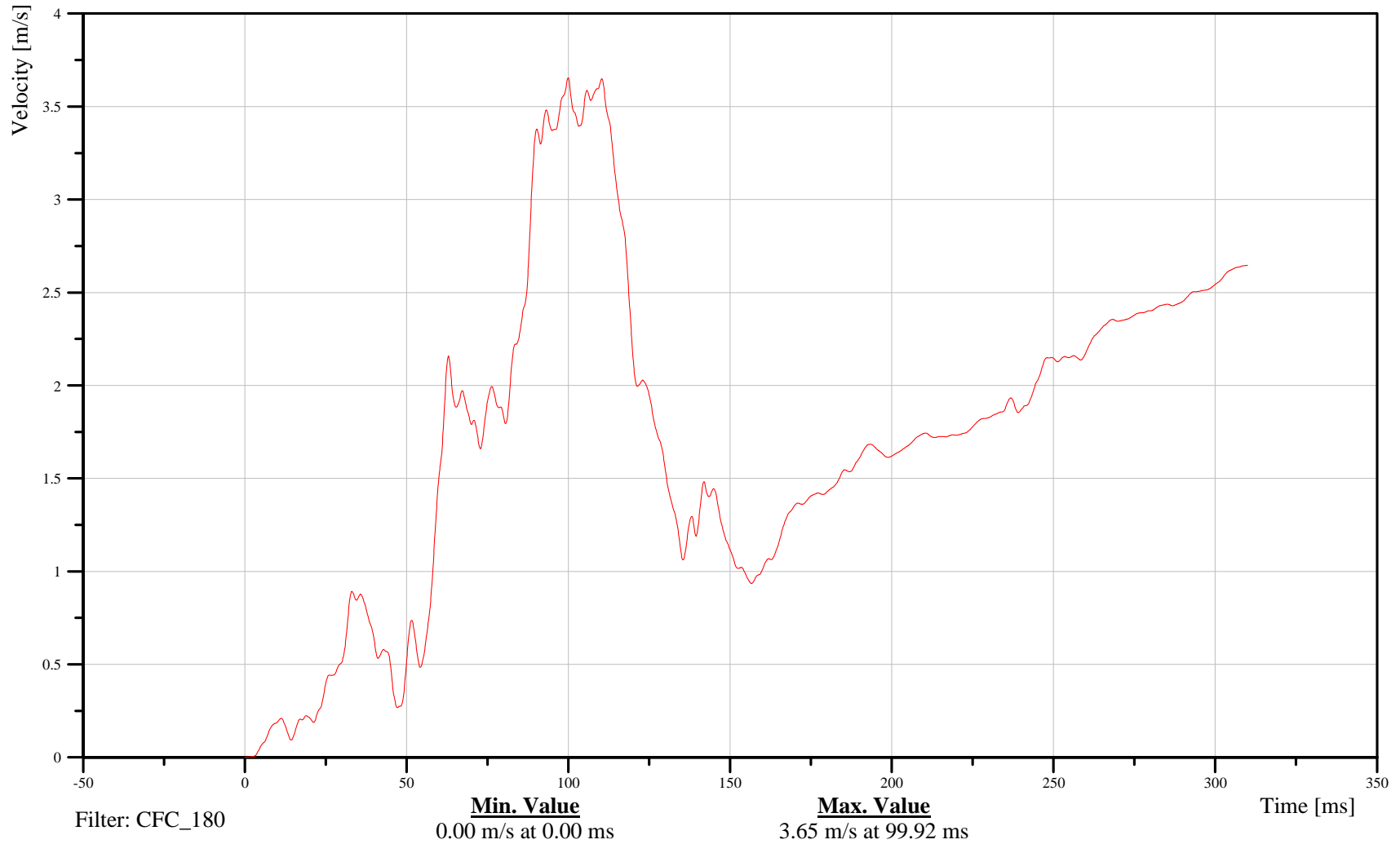
Target Vehicle CG Z-Axis Velocity

Customer: VRTC

20VEHCCG0000VEZC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

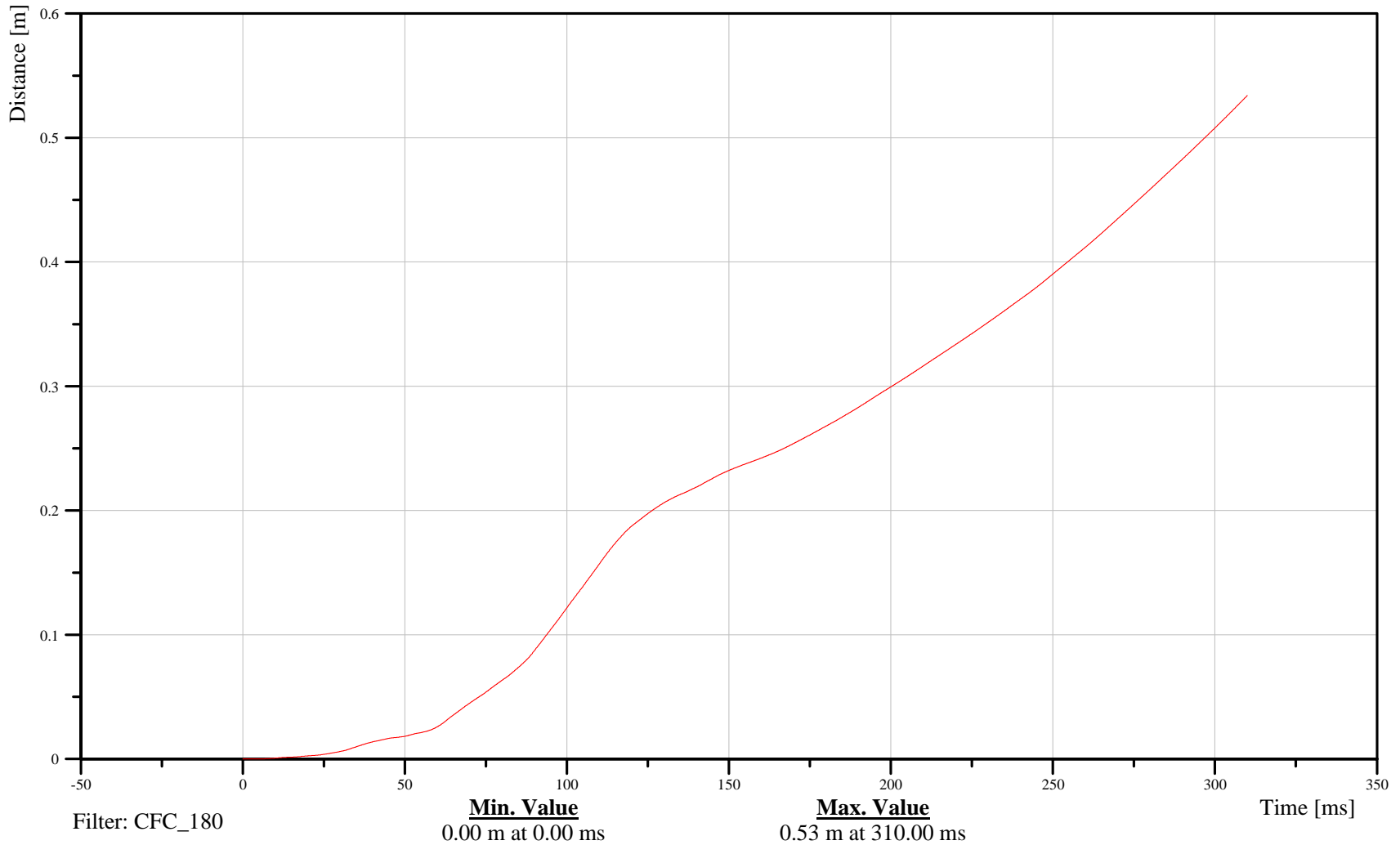
Target Vehicle CG Z-Axis Displacement

Customer: VRTC

20VEHCCG0000DCZC

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

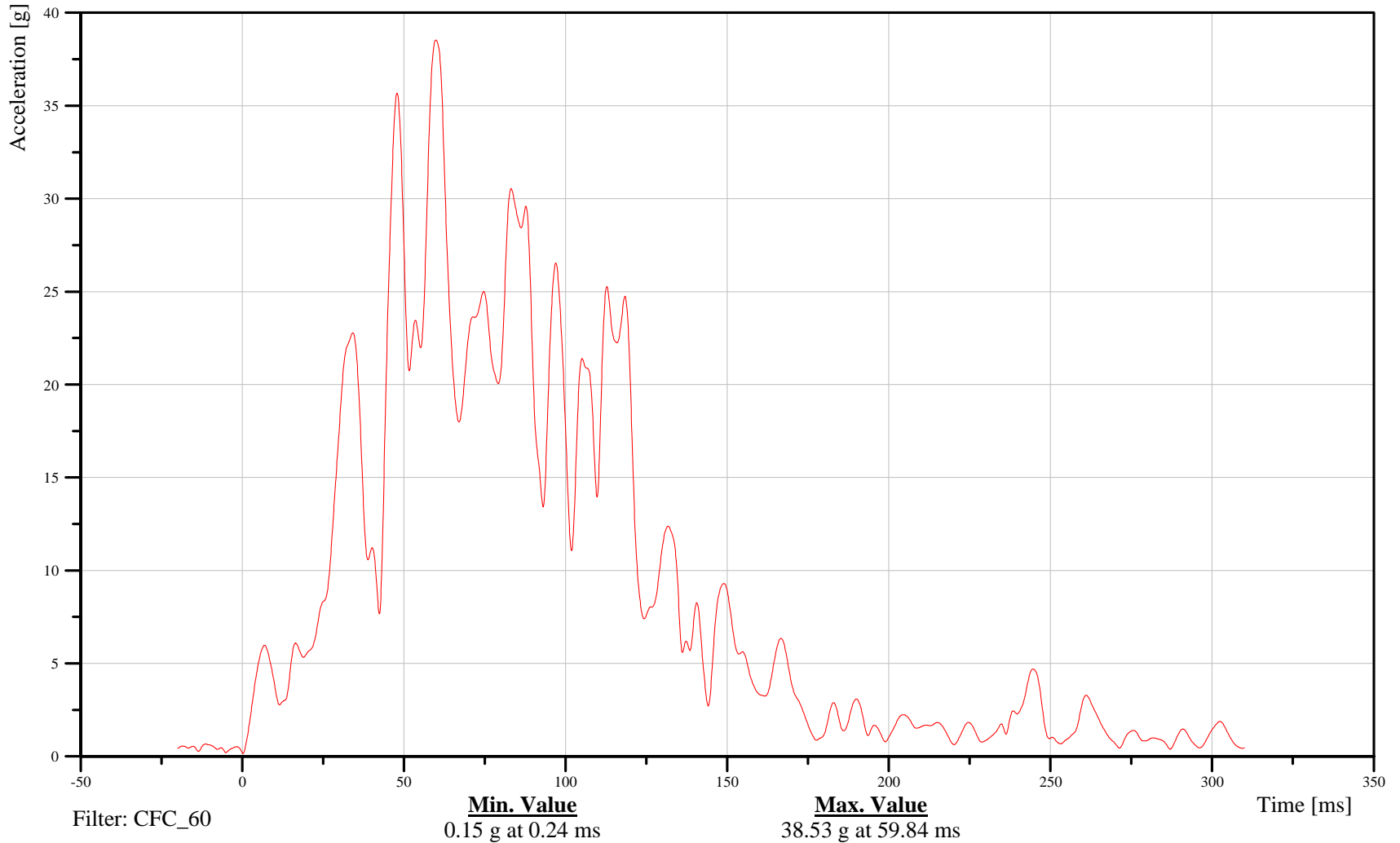
Target Vehicle CG Resultant Acceleration

Customer: VRTC

20VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

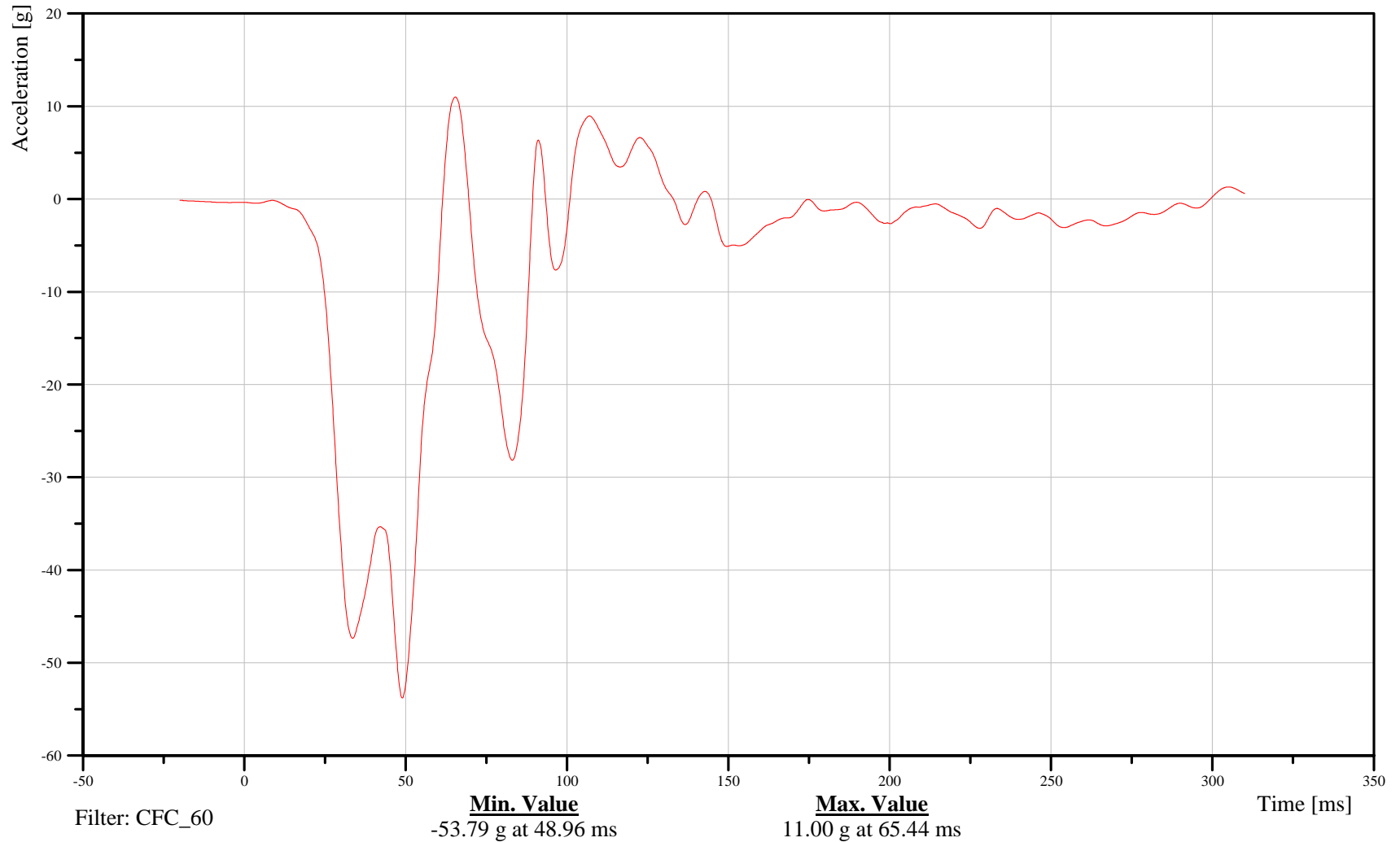
Target Vehicle Top of Engine X-Axis Acceleration

Customer: VRTC

22ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

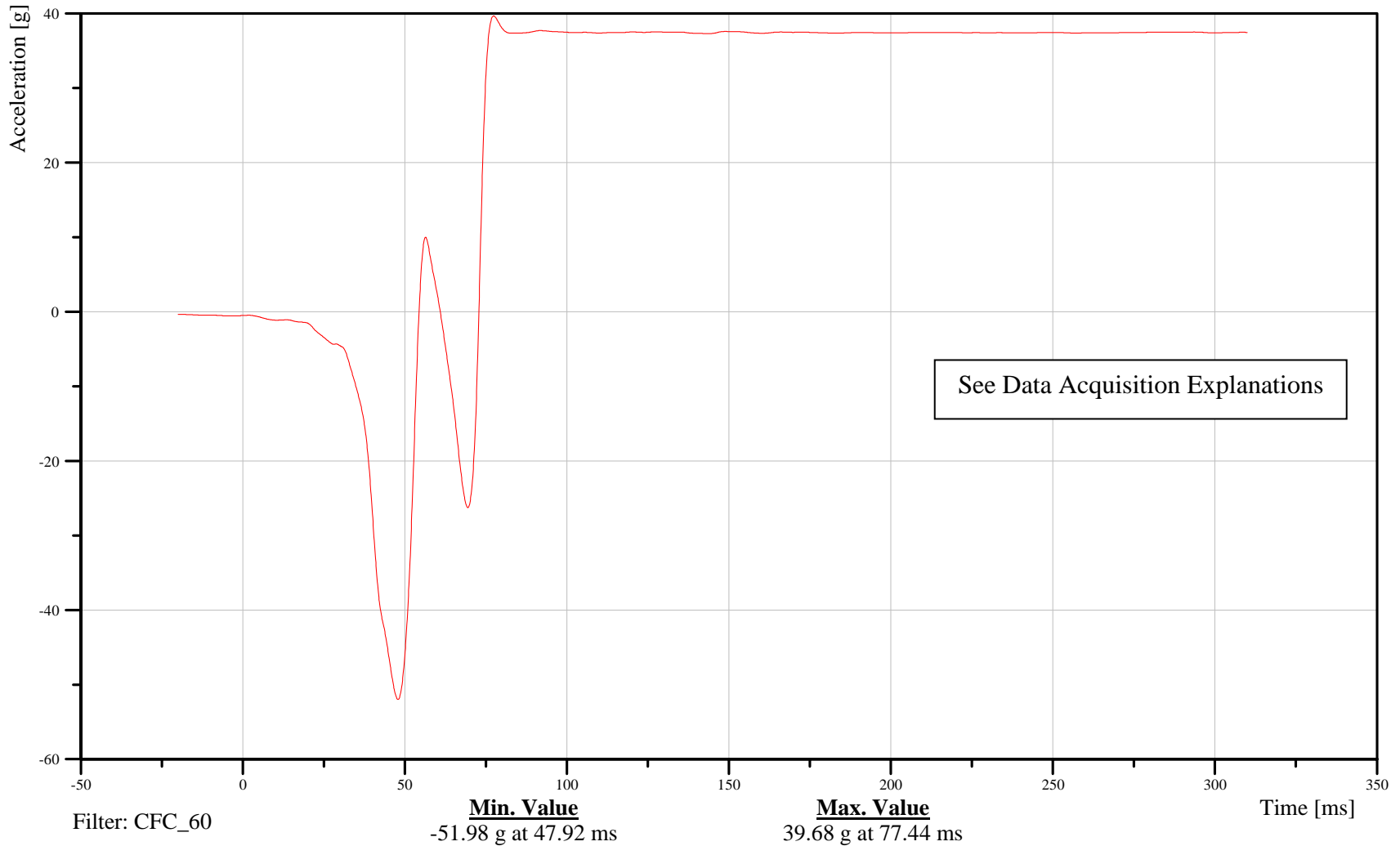
Target Vehicle Bottom of Engine X-Axis Acceleration

Customer: VRTC

22ENGNB00000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

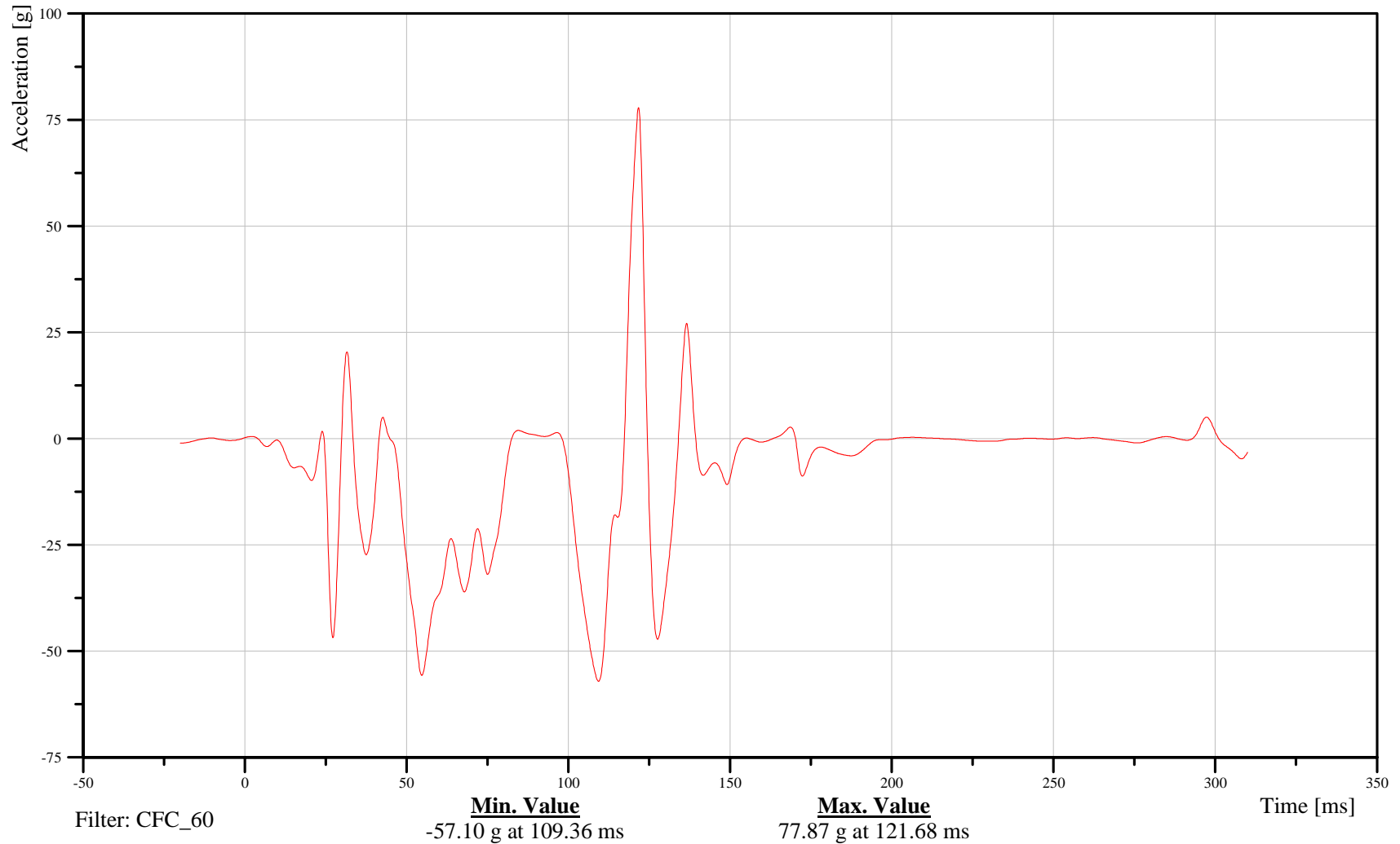
Target Vehicle Dash Center X-Axis Acceleration

Customer: VRTC

22DASH000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

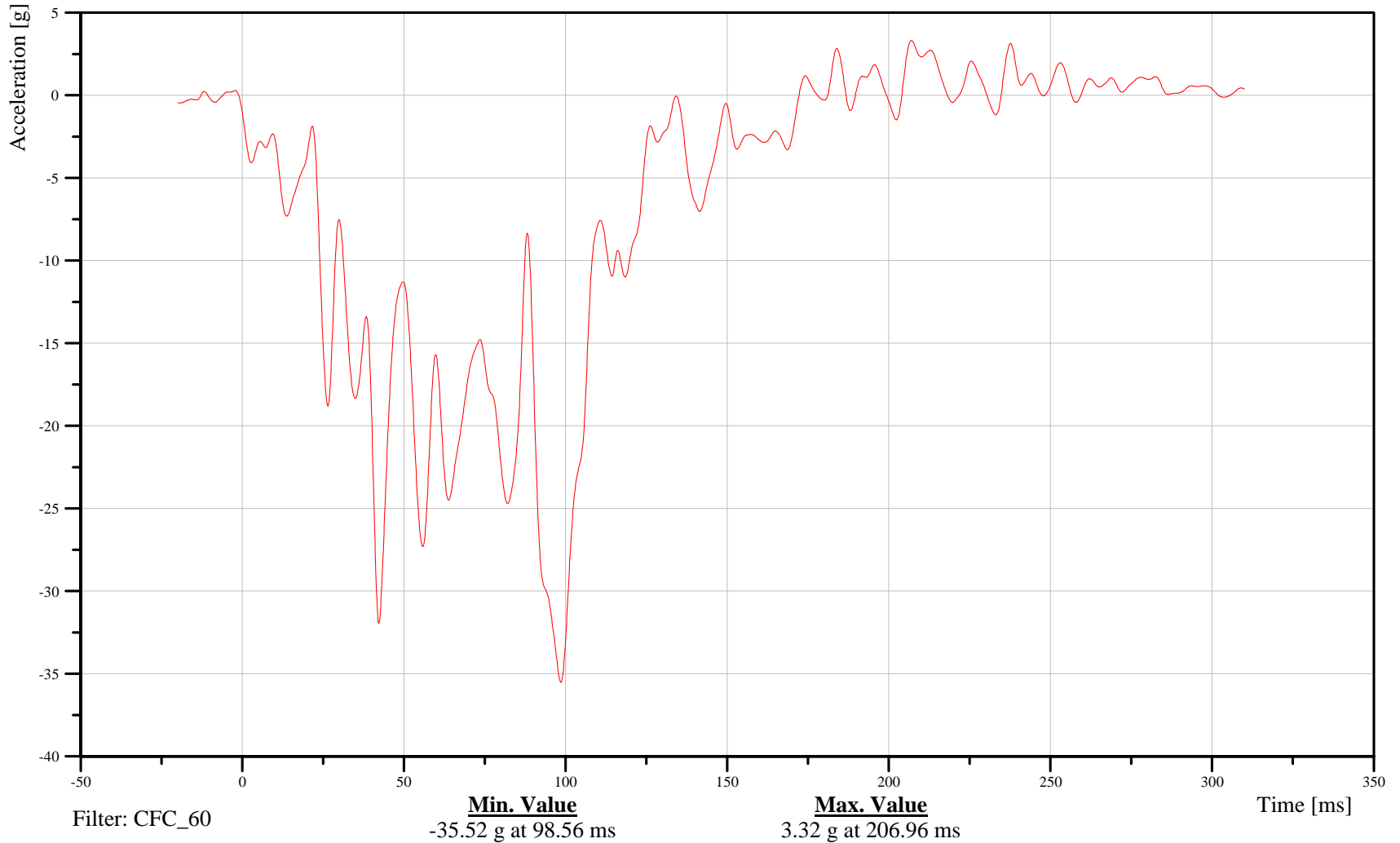
Target Vehicle Left Side Driver Mid Seat Track X-axis Acceleration

Customer: VRTC

21SETRMI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

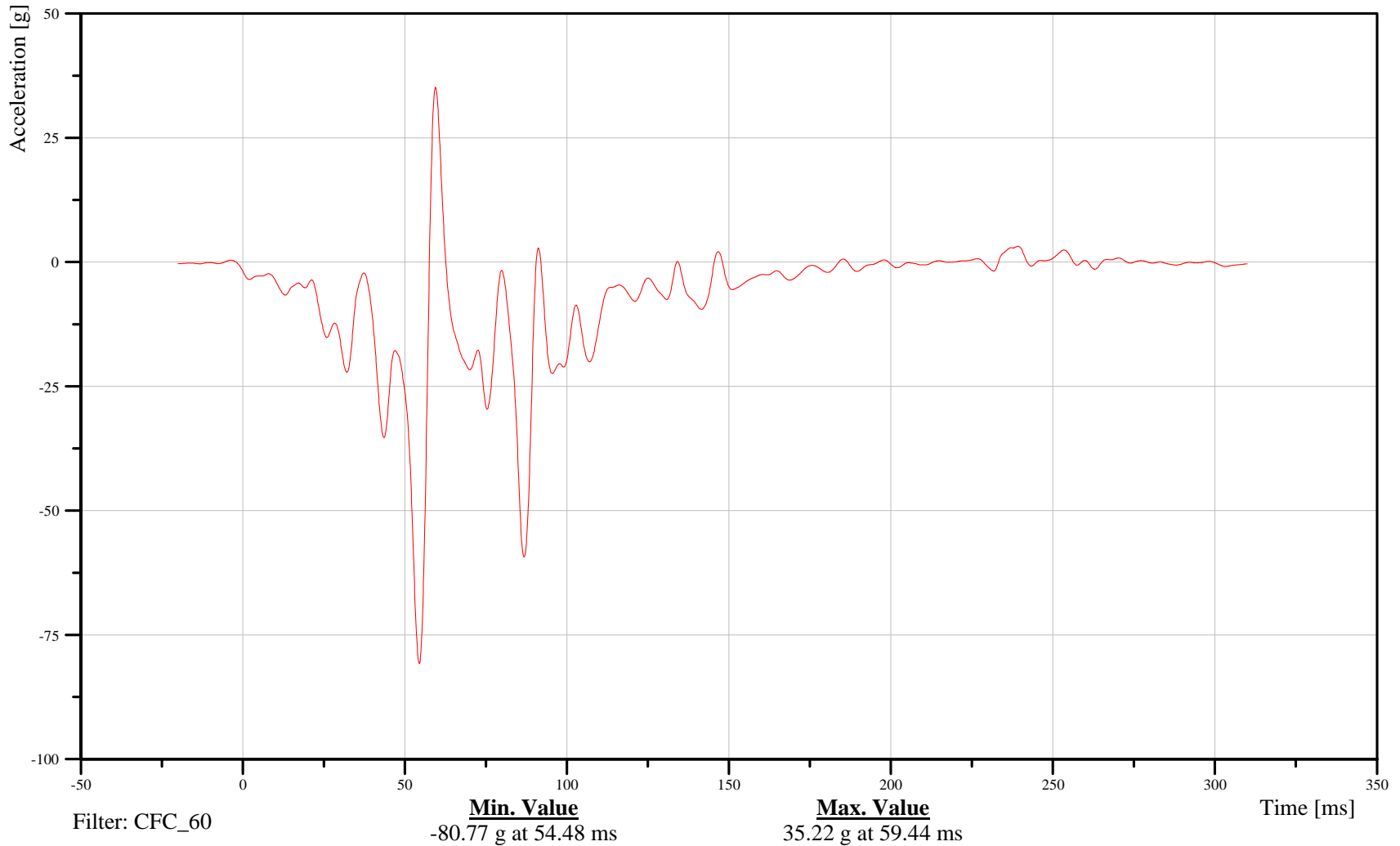
Target Vehicle Acceleration Pedal X-Axis Acceleration

Customer: VRTC

21PEAC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

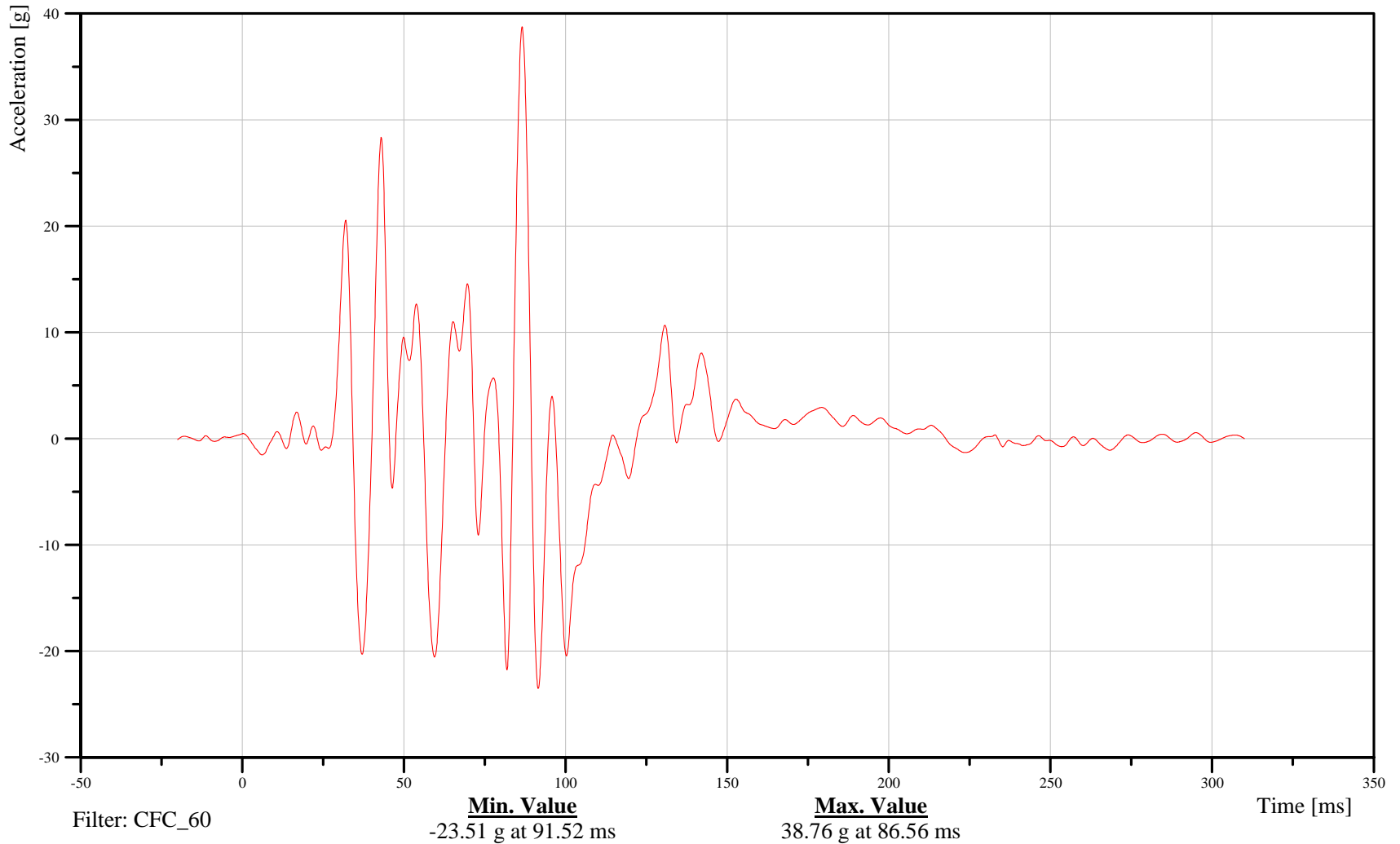
Target Vehicle Acceleration Pedal Y-Axis Acceleration

Customer: VRTC

21PEAC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

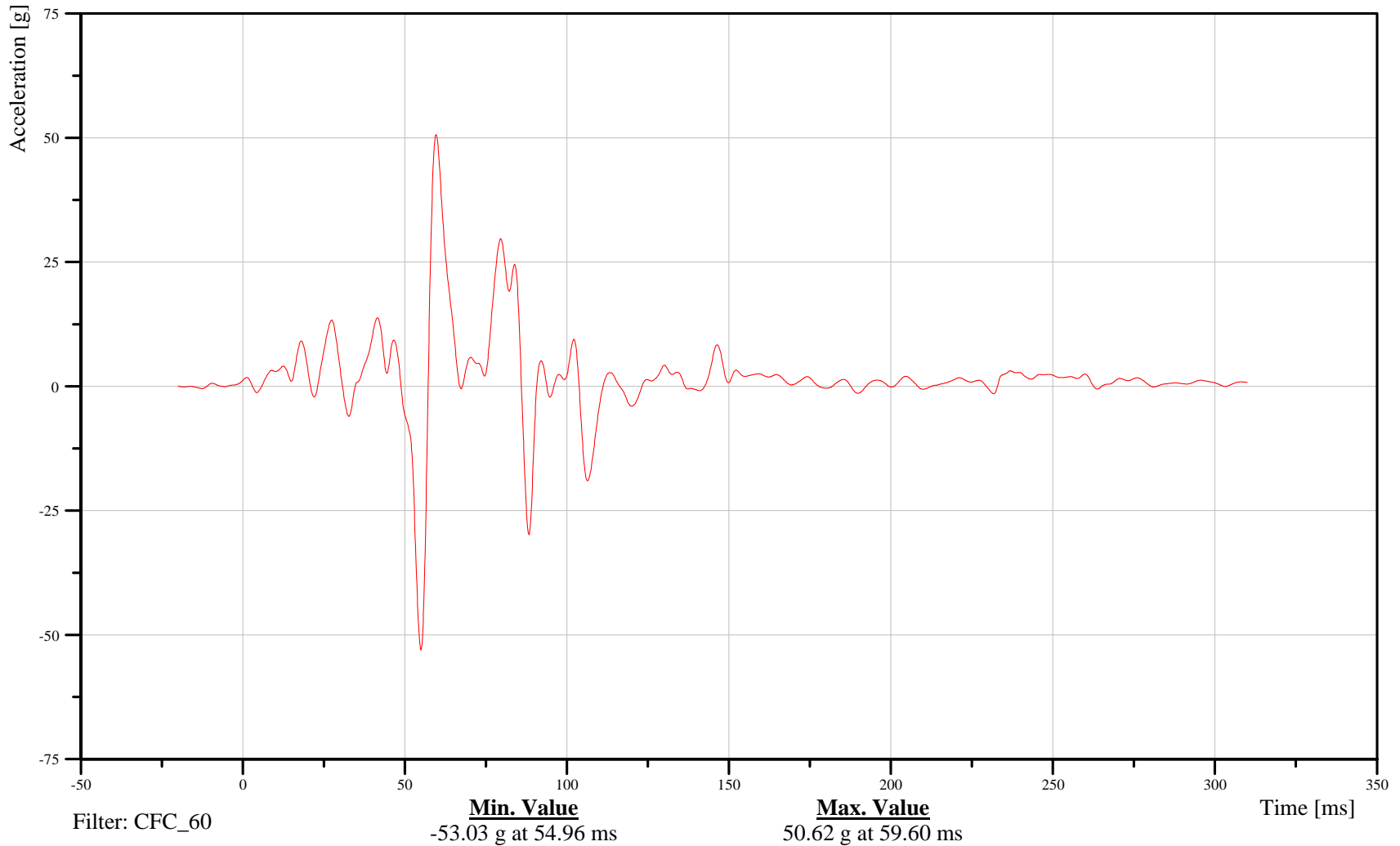
Target Vehicle Acceleration Pedal Z-Axis Acceleration

Customer: VRTC

21PEAC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

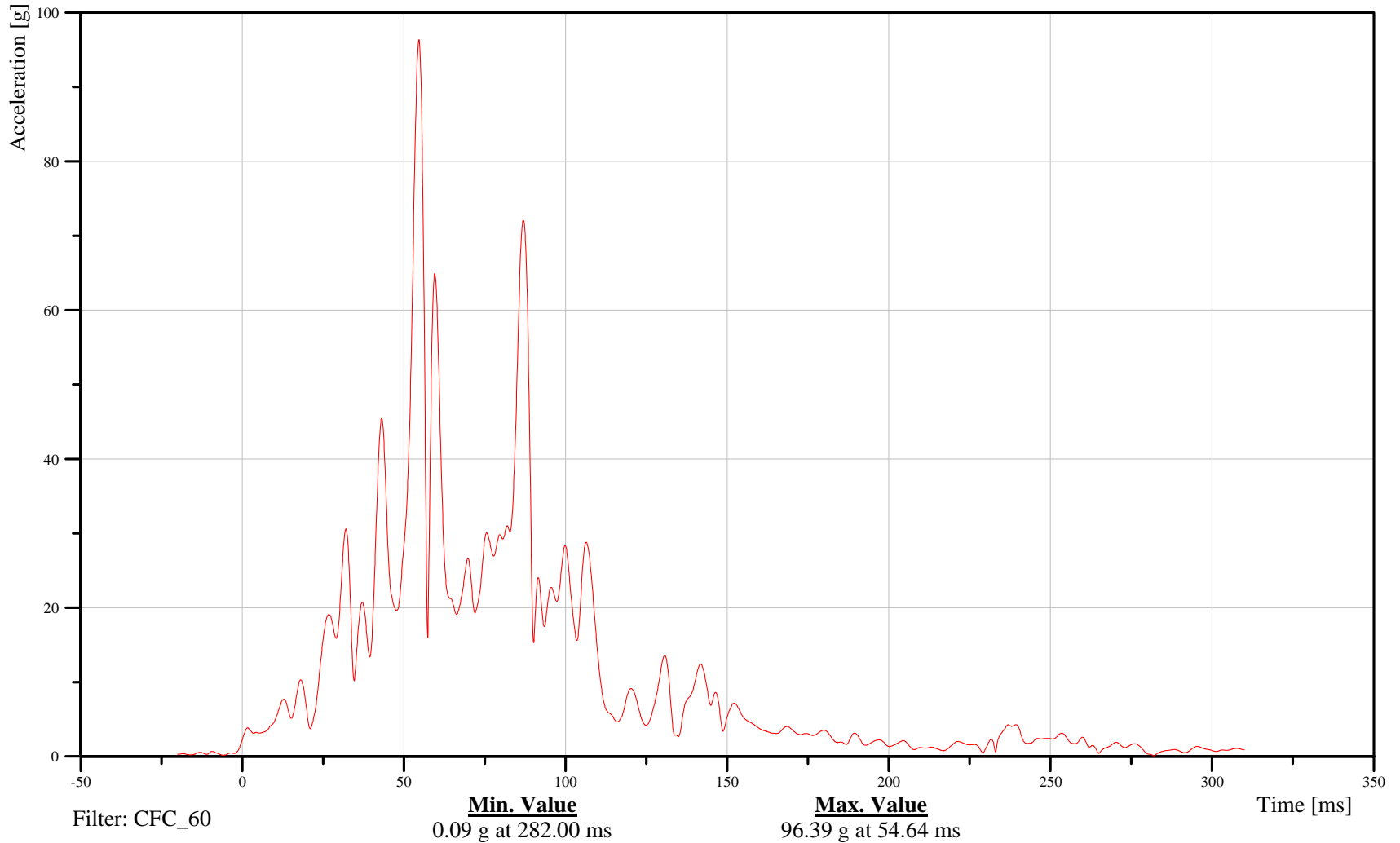
Target Vehicle Acceleration Pedal Resultant Acceleration

Customer: VRTC

21PEAC000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

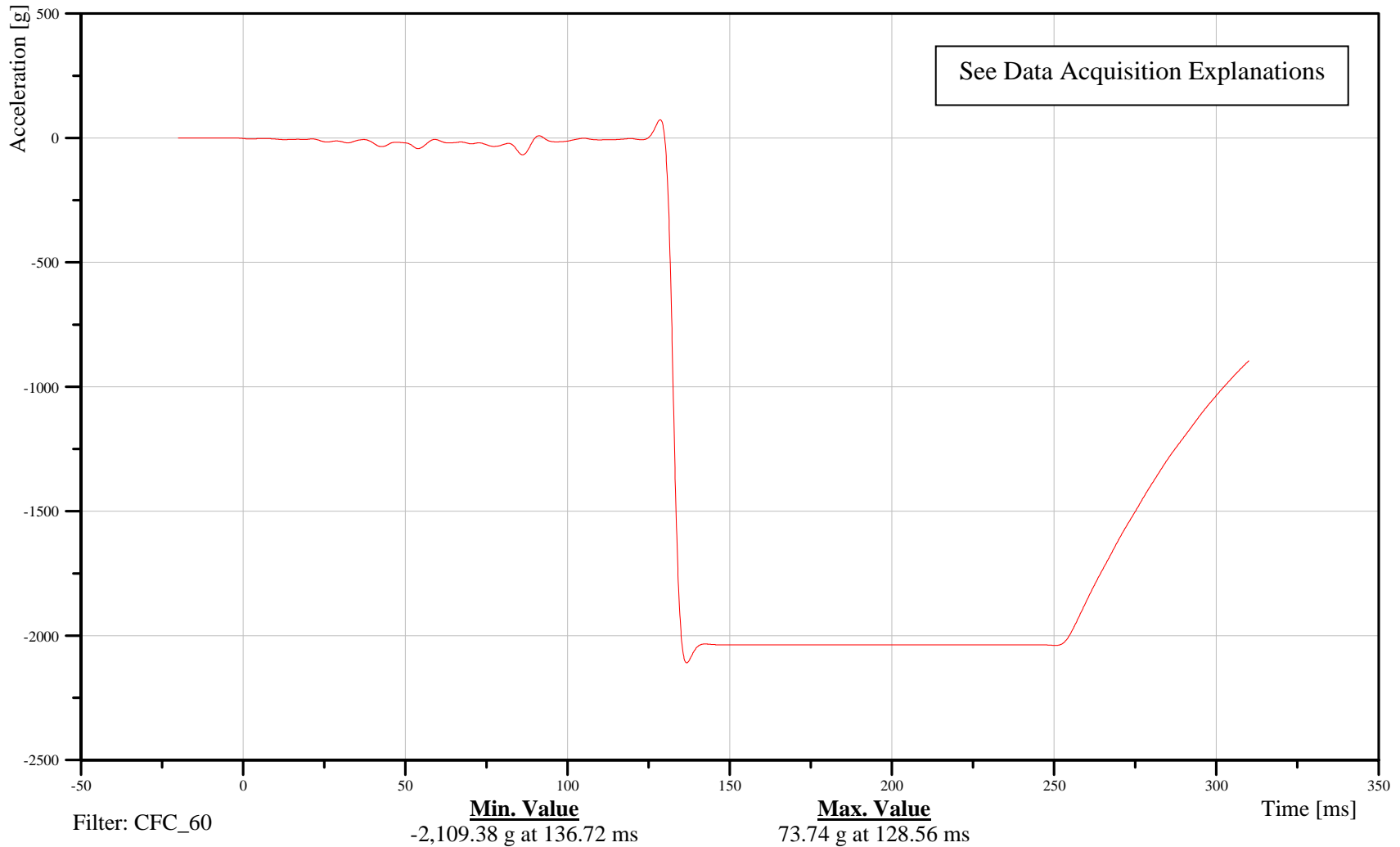
Target Vehicle Brake Pedal X-Axis Acceleration

Customer: VRTC

21PEBR000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

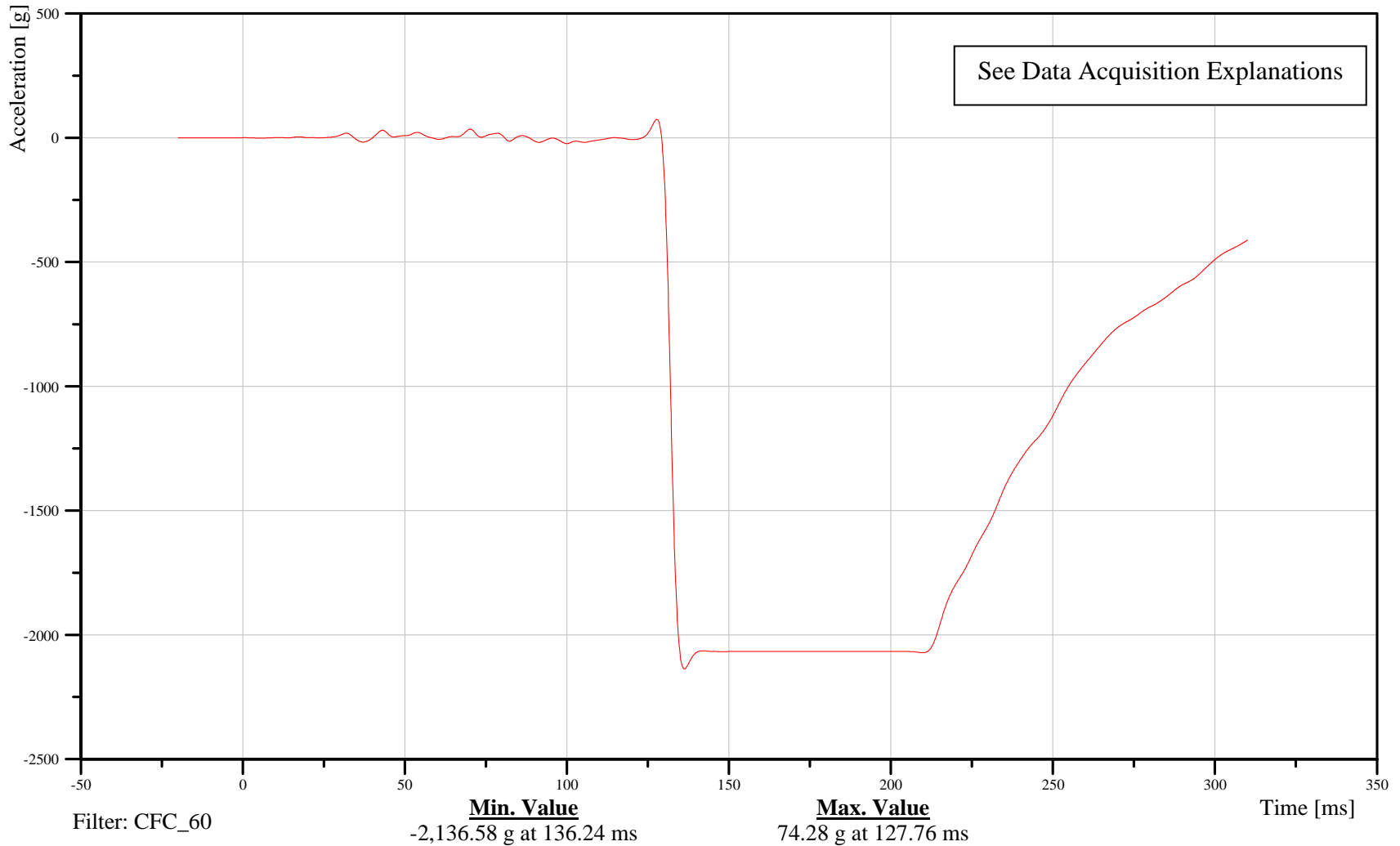
Target Vehicle Brake Pedal Y-Axis Acceleration

Customer: VRTC

21PEBR000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

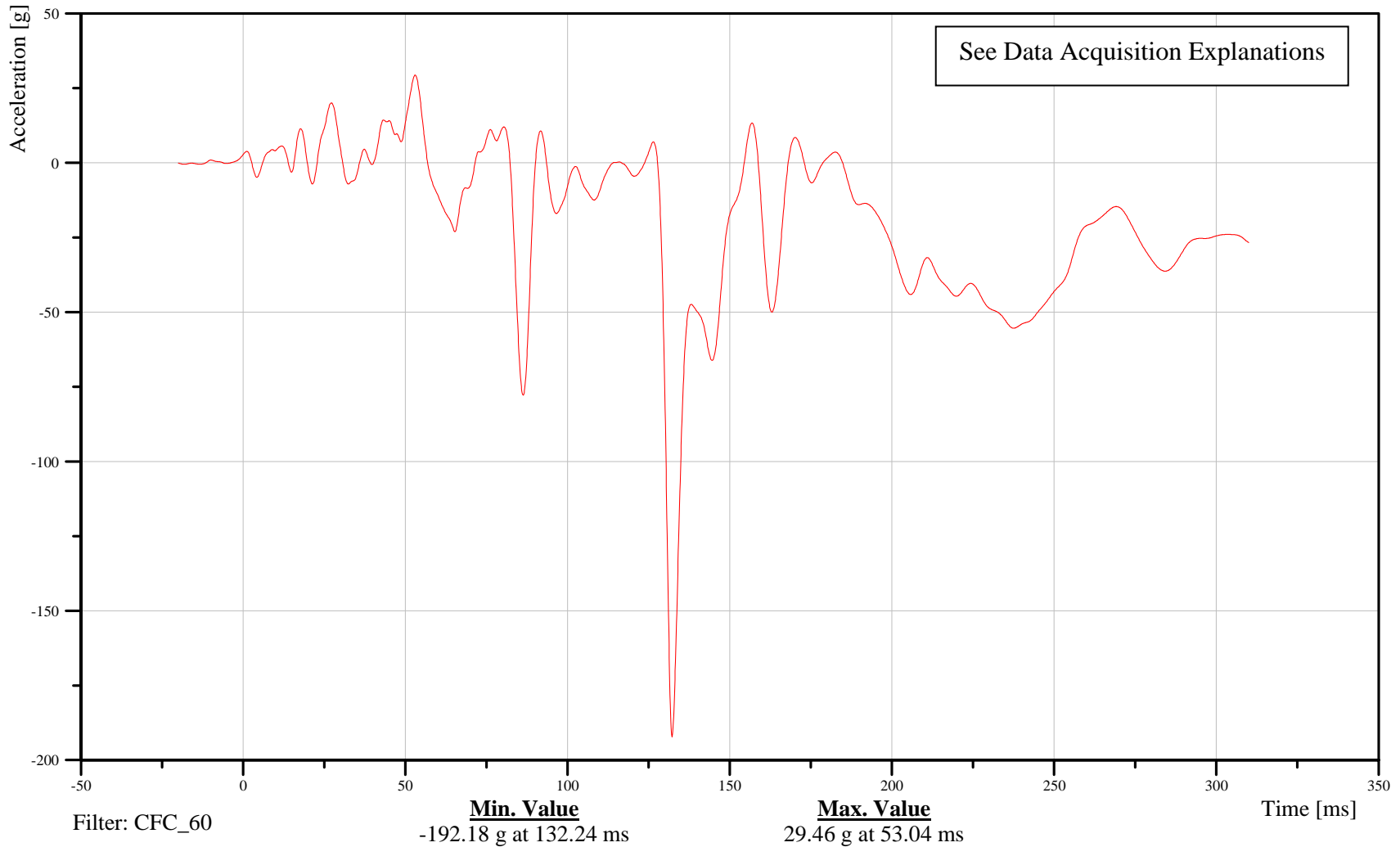
Target Vehicle Brake Pedal Z-Axis Acceleration

Customer: VRTC

21PEBR000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

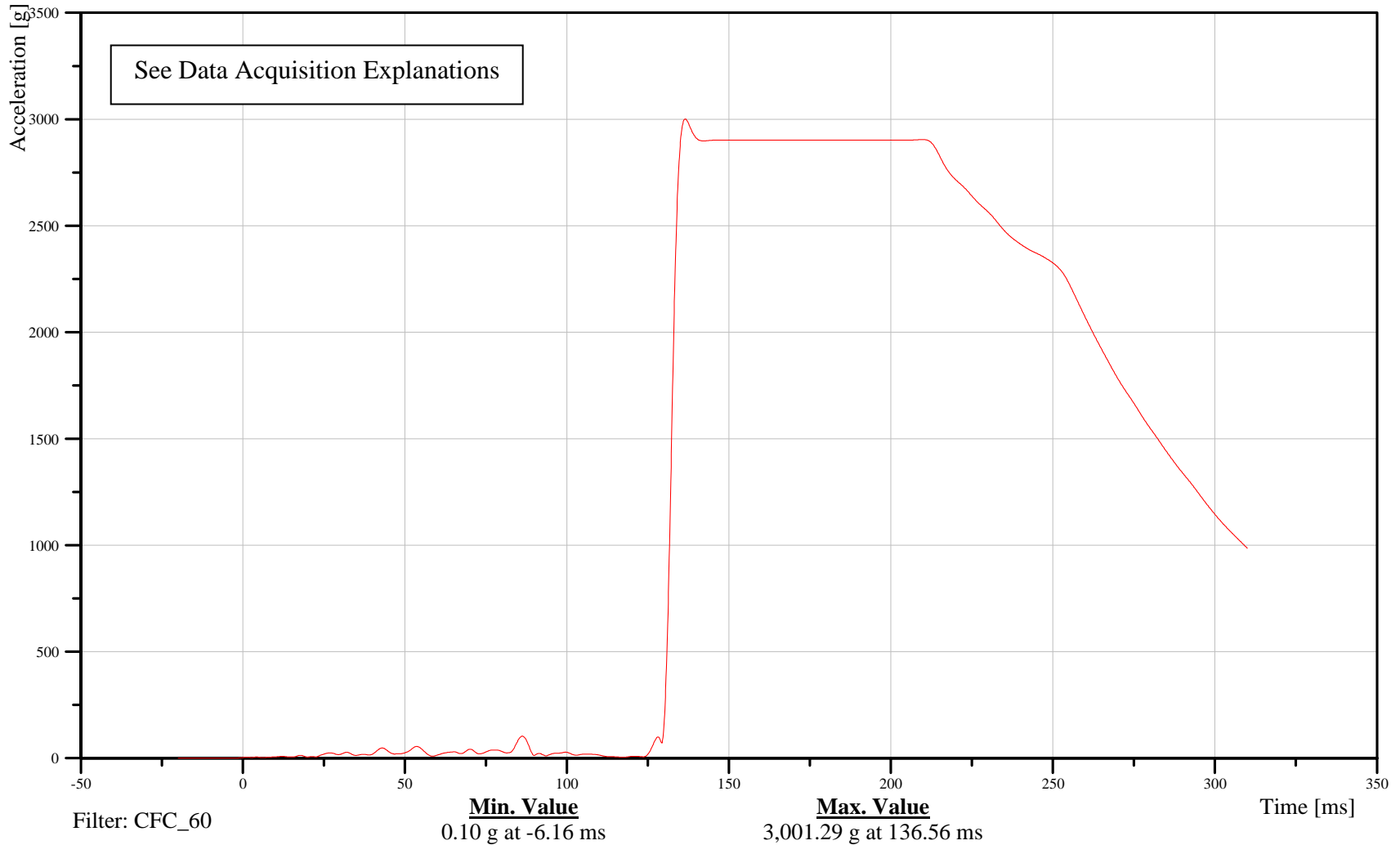
Target Vehicle Brake Pedal Resultant Acceleration

Customer: VRTC

21PEBR000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

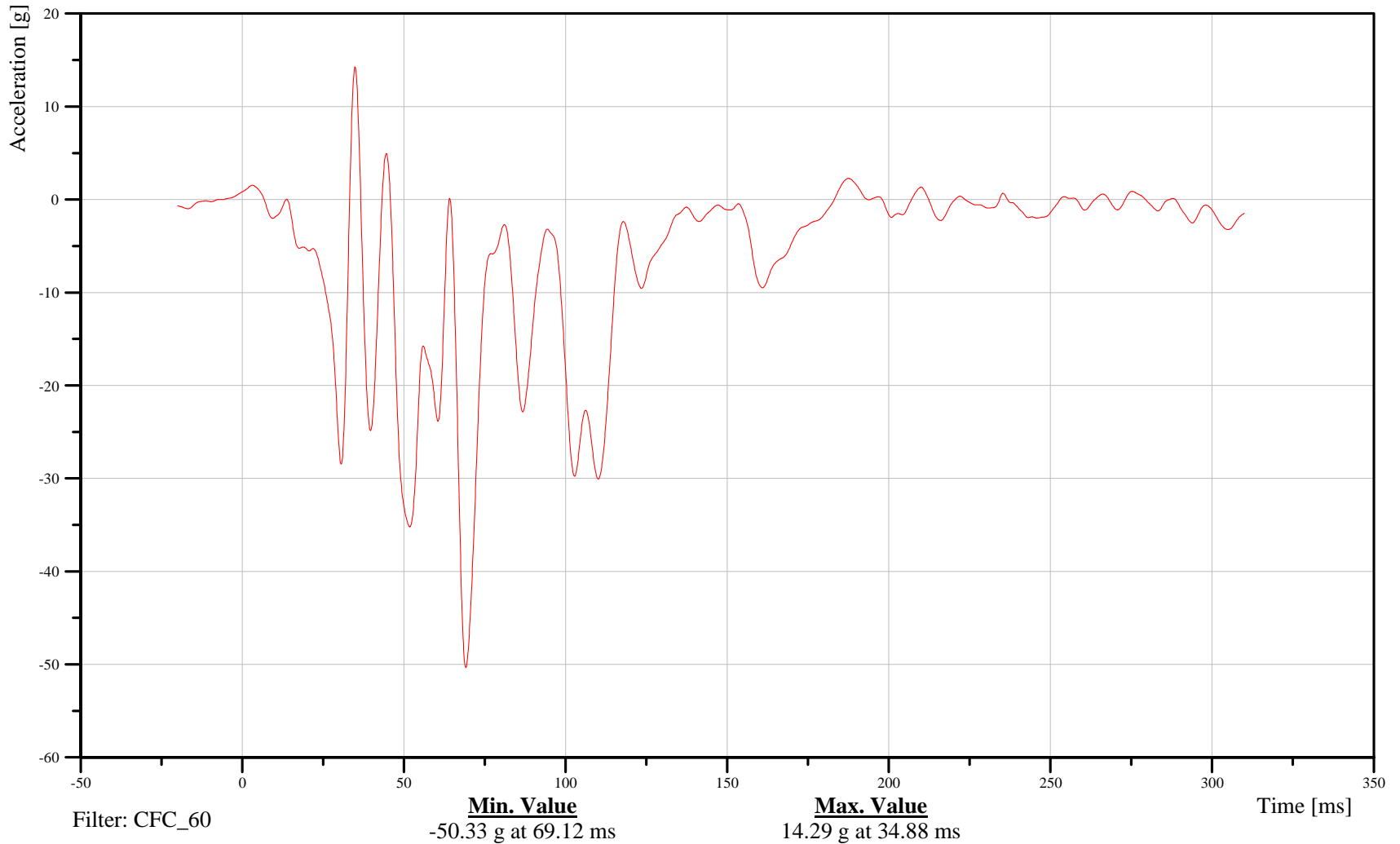
Target Vehicle Right Front Brake Caliper X-Axis Acceleration

Customer: VRTC

23VEHCRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

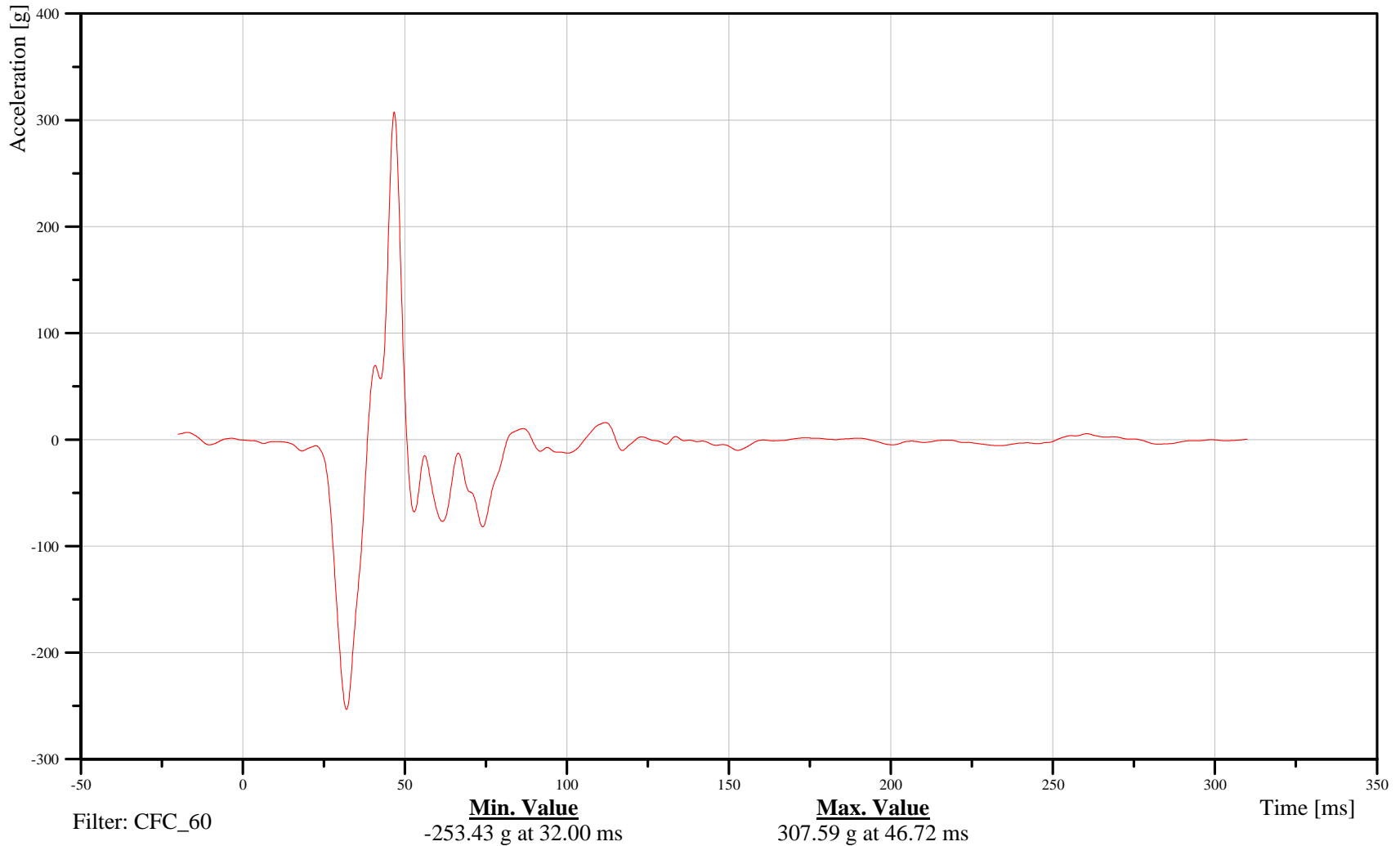
Target Vehicle Left Front Brake Caliper X-Axis Acceleration

Customer: VRTC

21VEHICLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

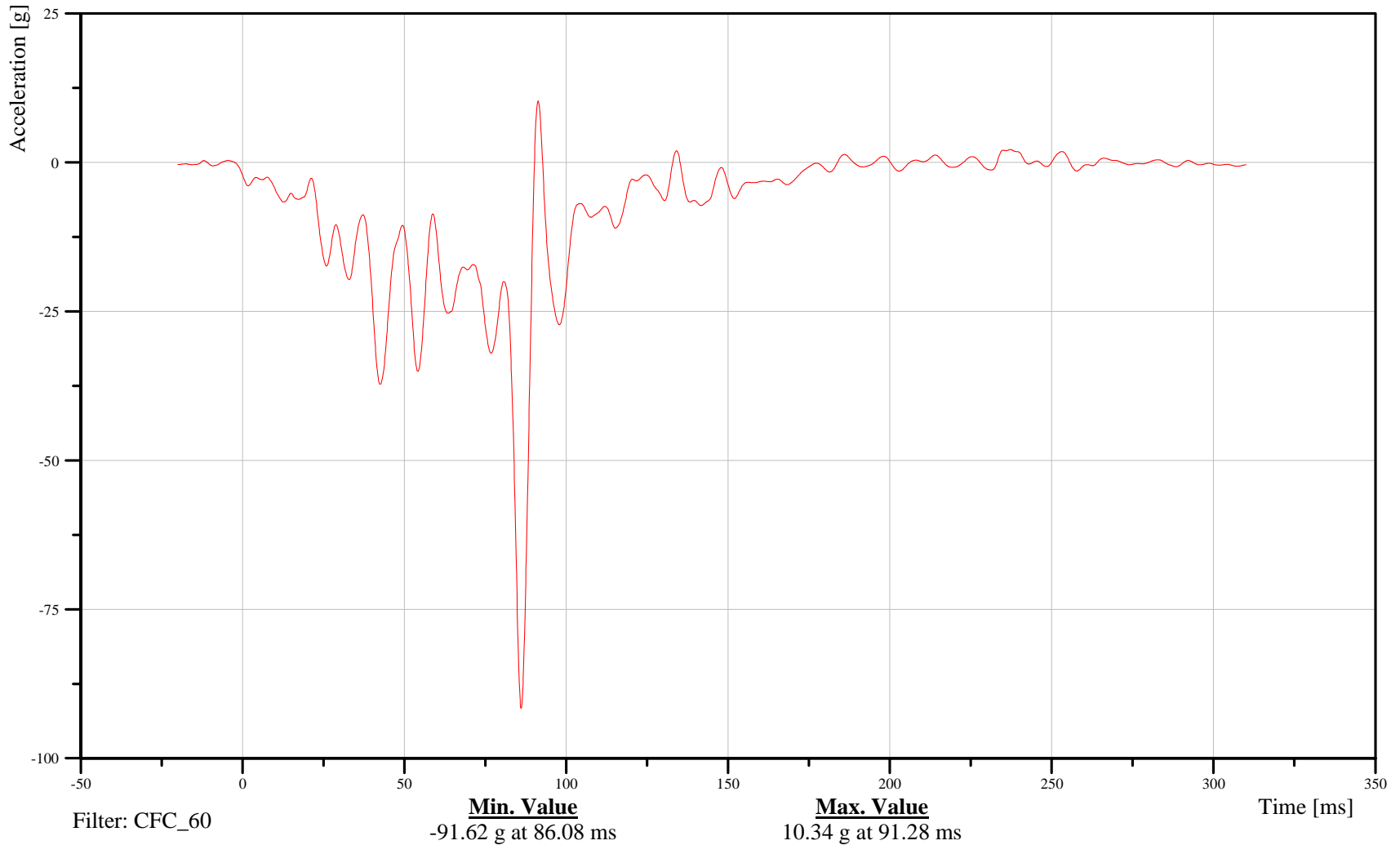
Target Vehicle Foot Rest X-Axis Acceleration

Customer: VRTC

21VEHC000001ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

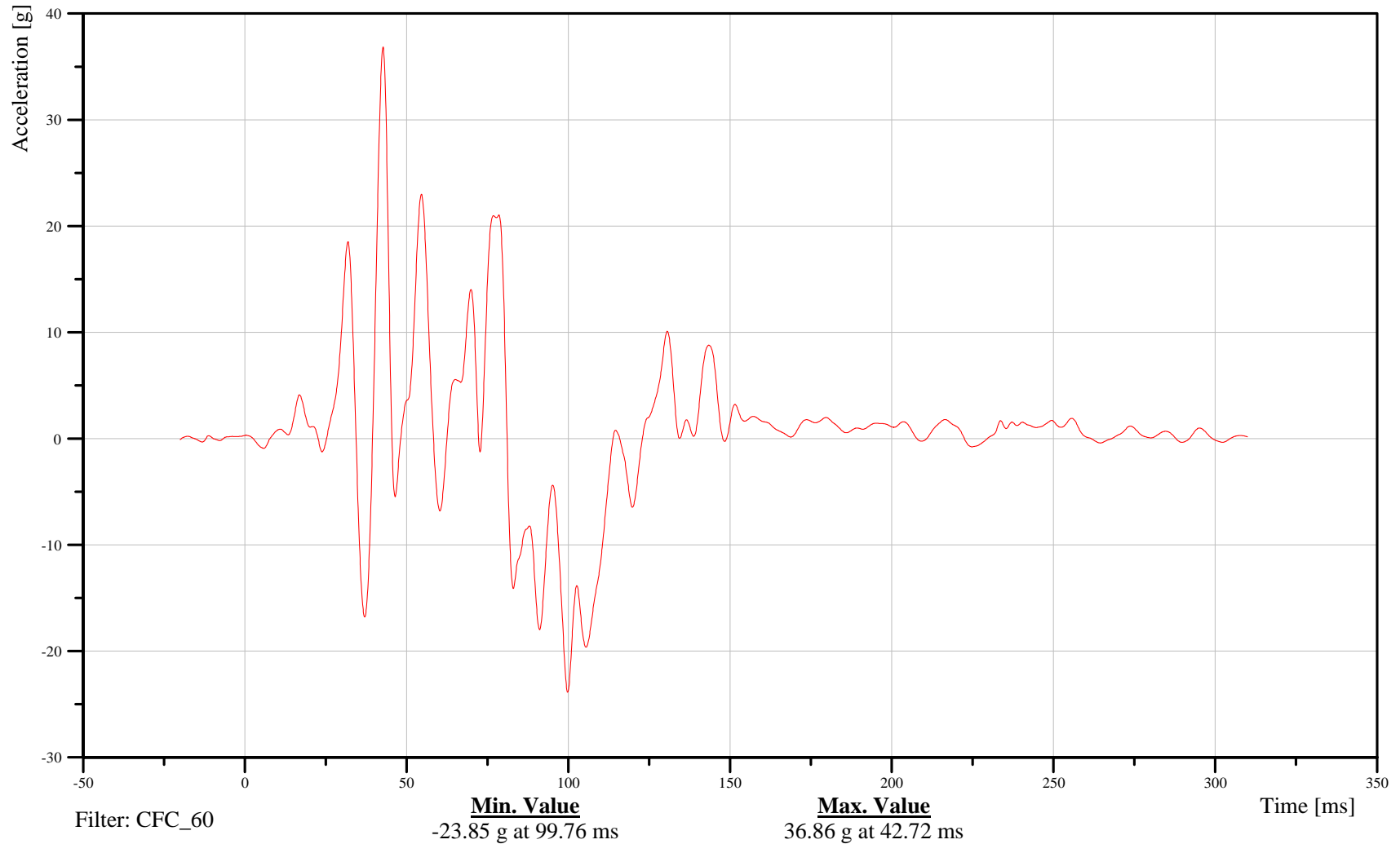
Target Vehicle Foot Rest Y-Axis Acceleration

Customer: VRTC

21VEHC000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

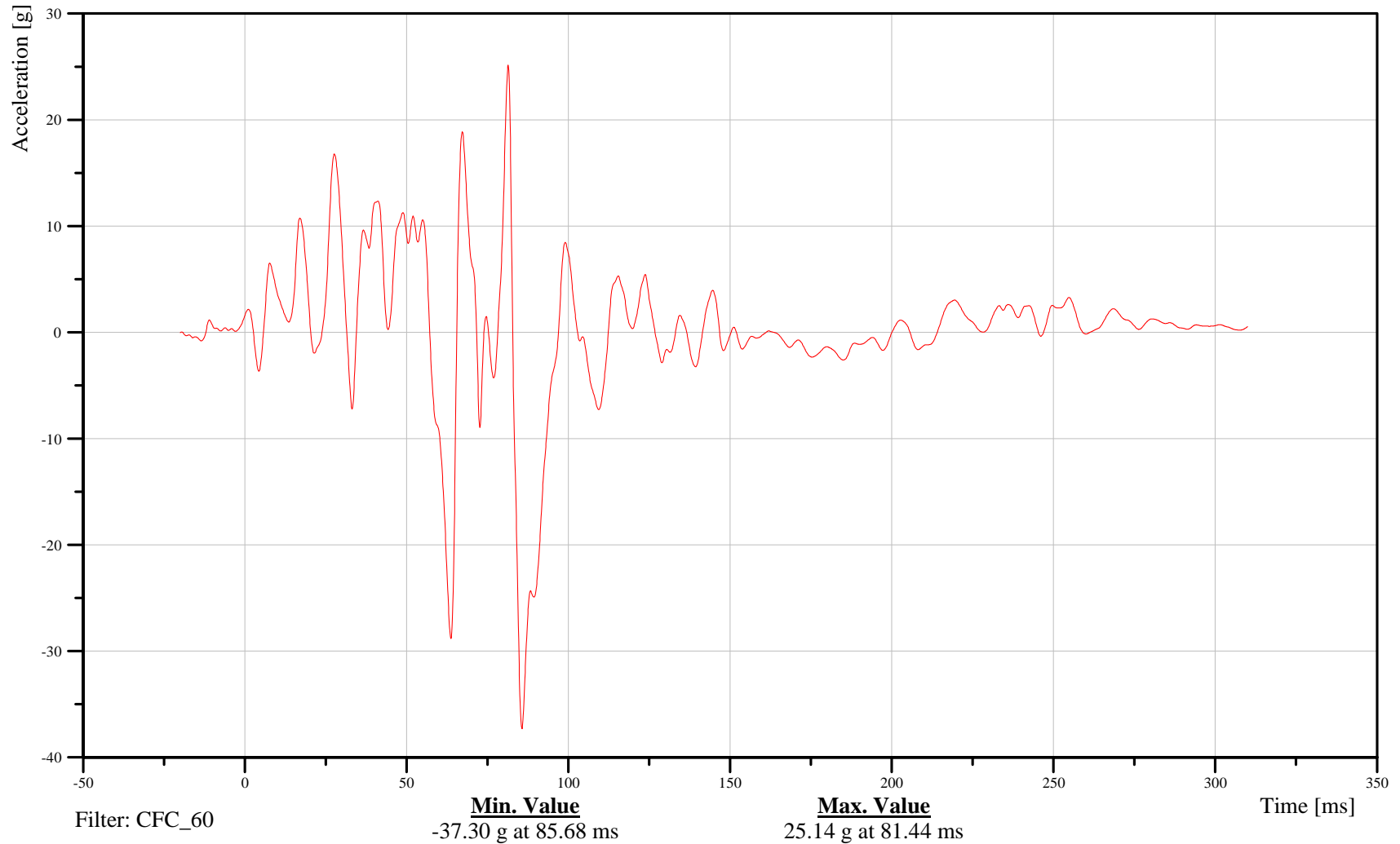
Target Vehicle Foot Rest Z-Axis Acceleration

Customer: VRTC

21VEHC000001ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

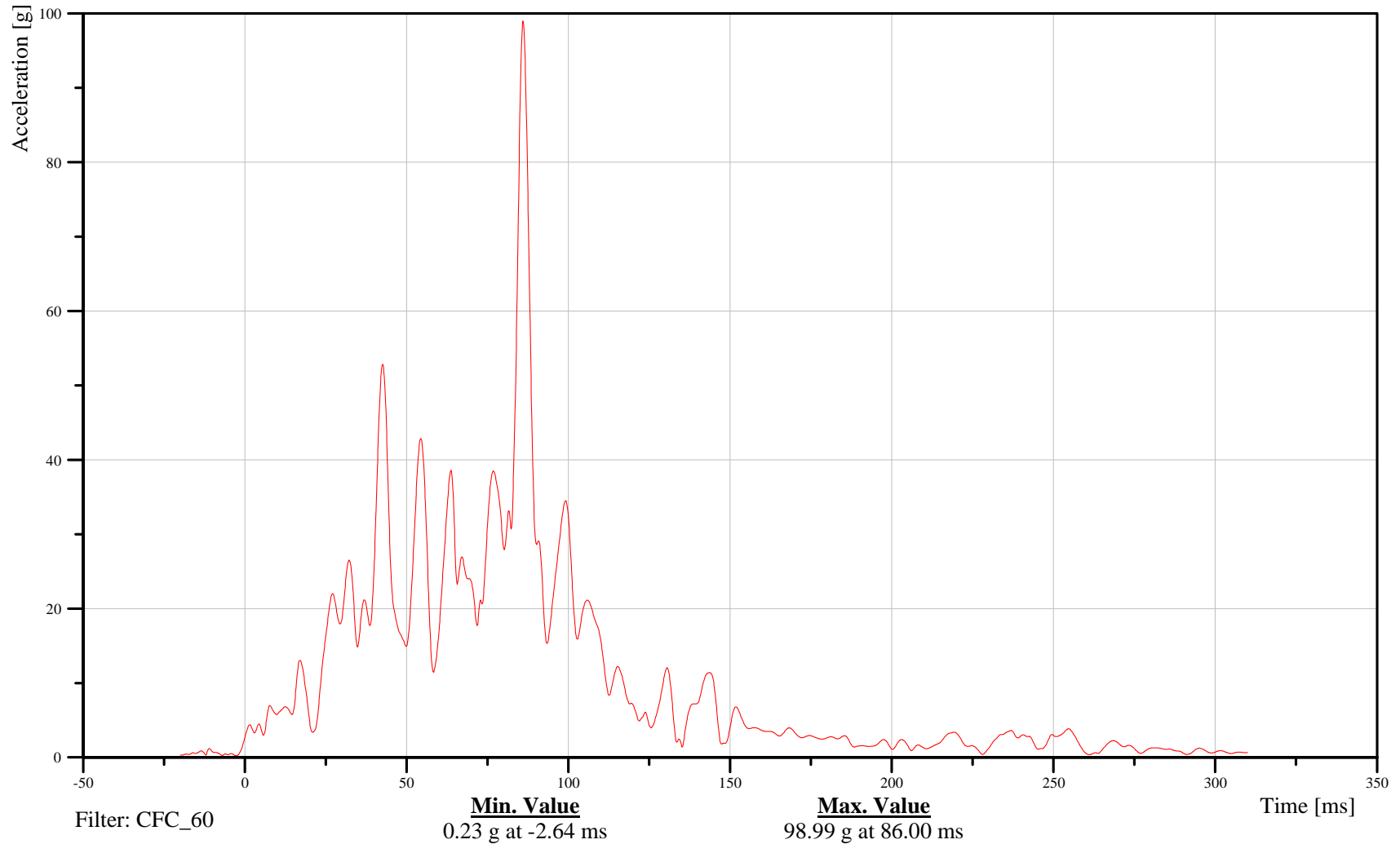
Target Vehicle Foot Rest Resultant Acceleration

Customer: VRTC

21VEHC000001ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

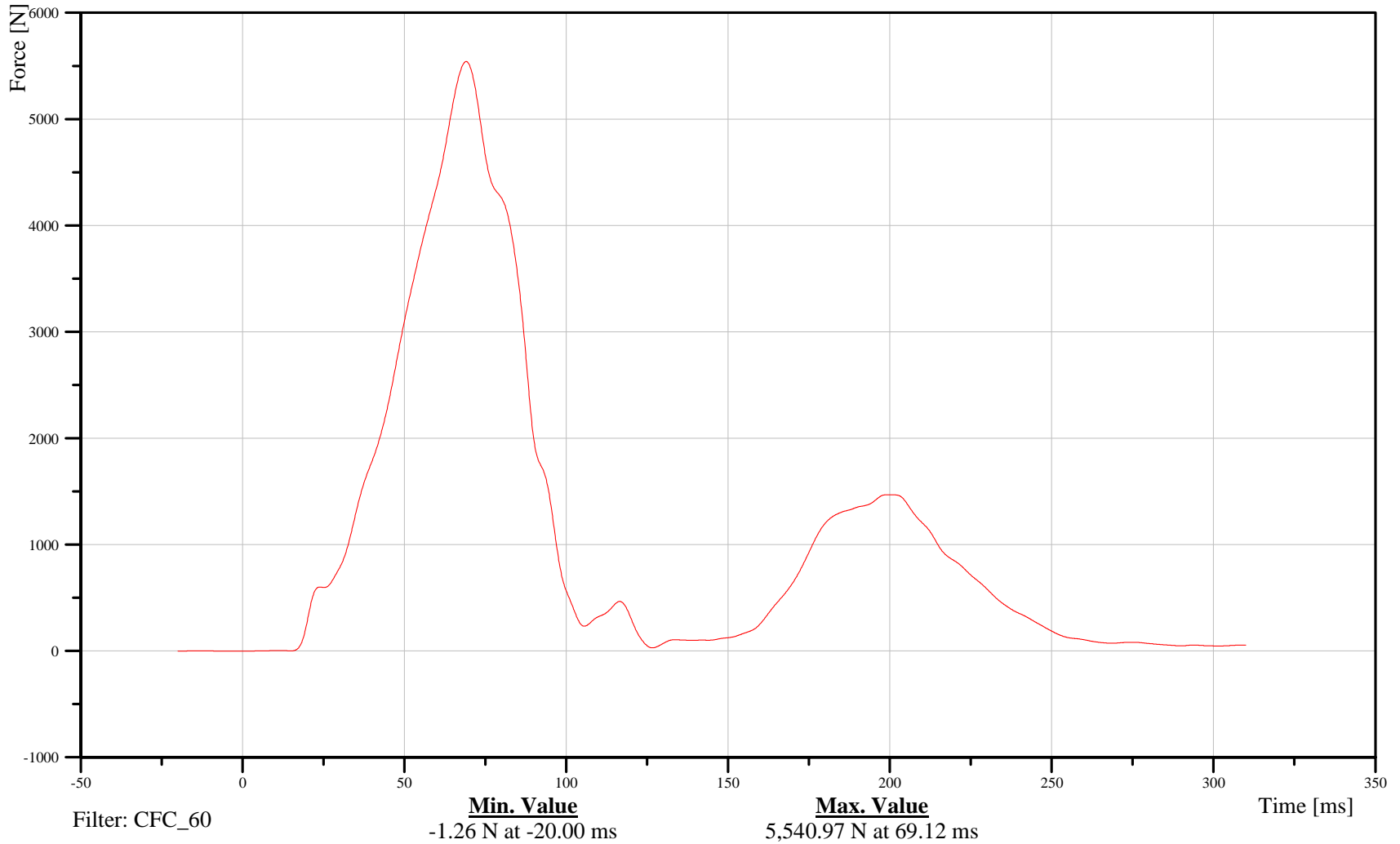
Target Vehicle Driver Lap Belt Force

Customer: VRTC

21SEBA0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

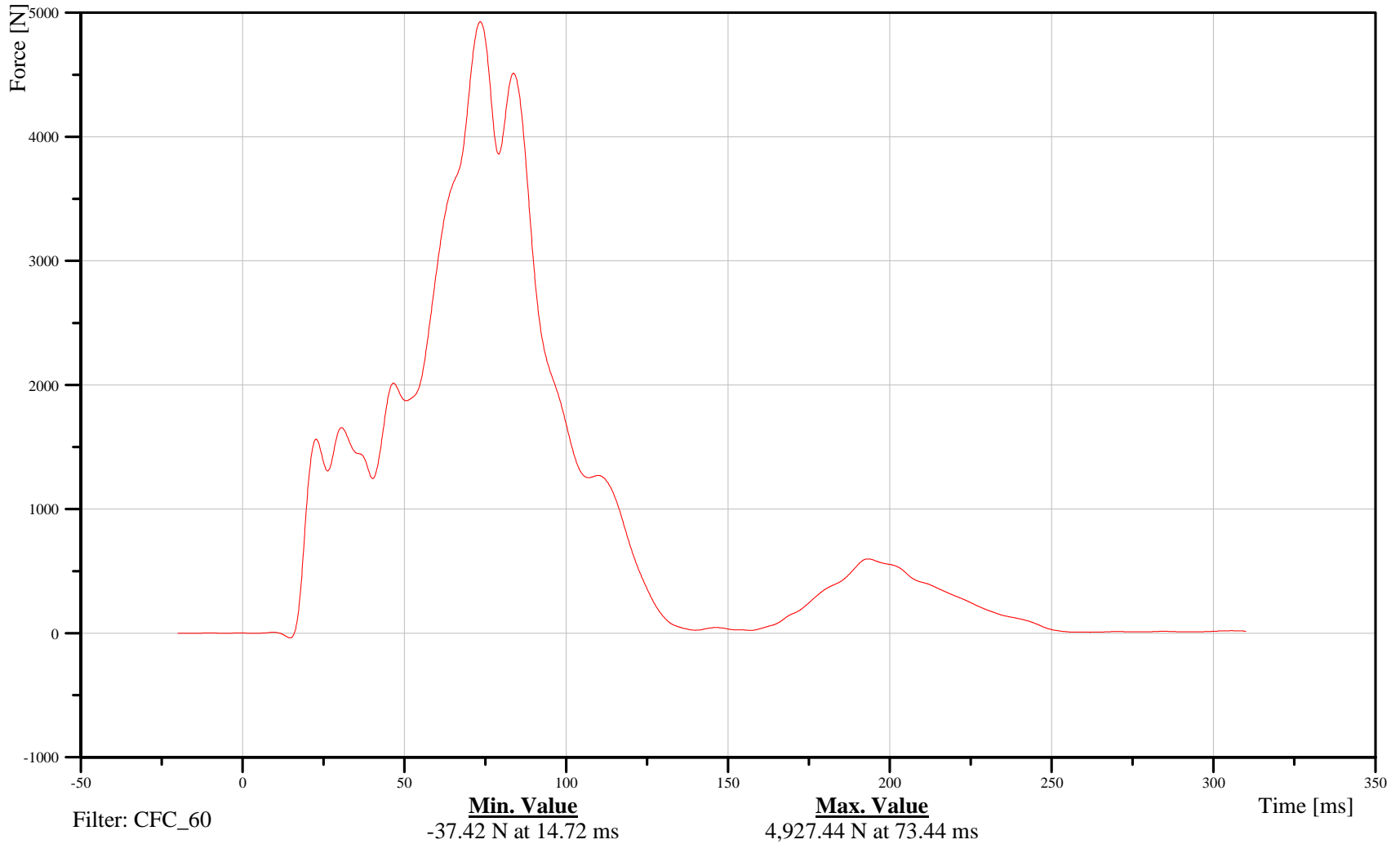
Target Vehicle Driver Shoulder Belt Force

Customer: VRTC

21SEBA0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

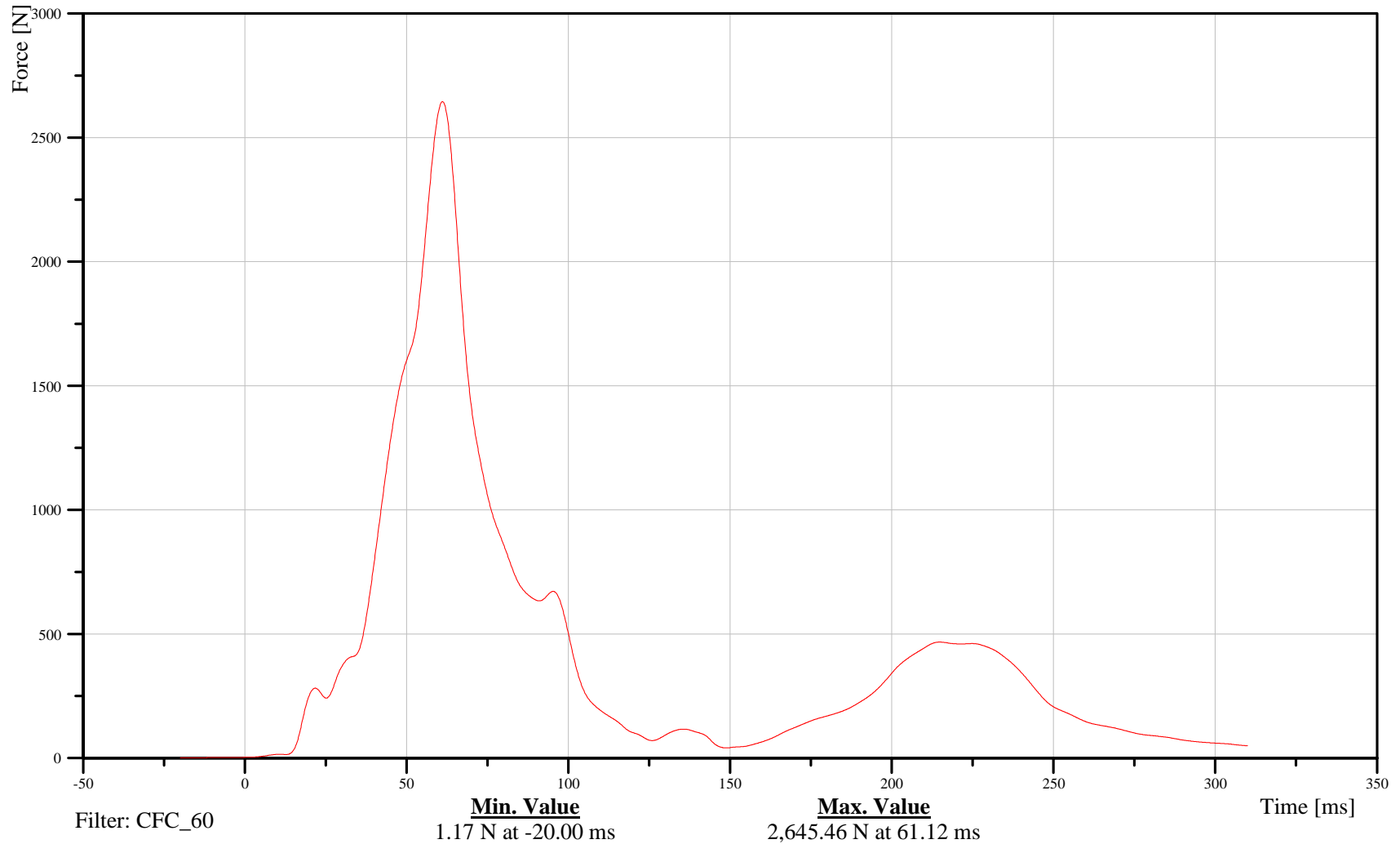
Target Vehicle Passenger Lap Belt Force

Customer: VRTC

23SEBA0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

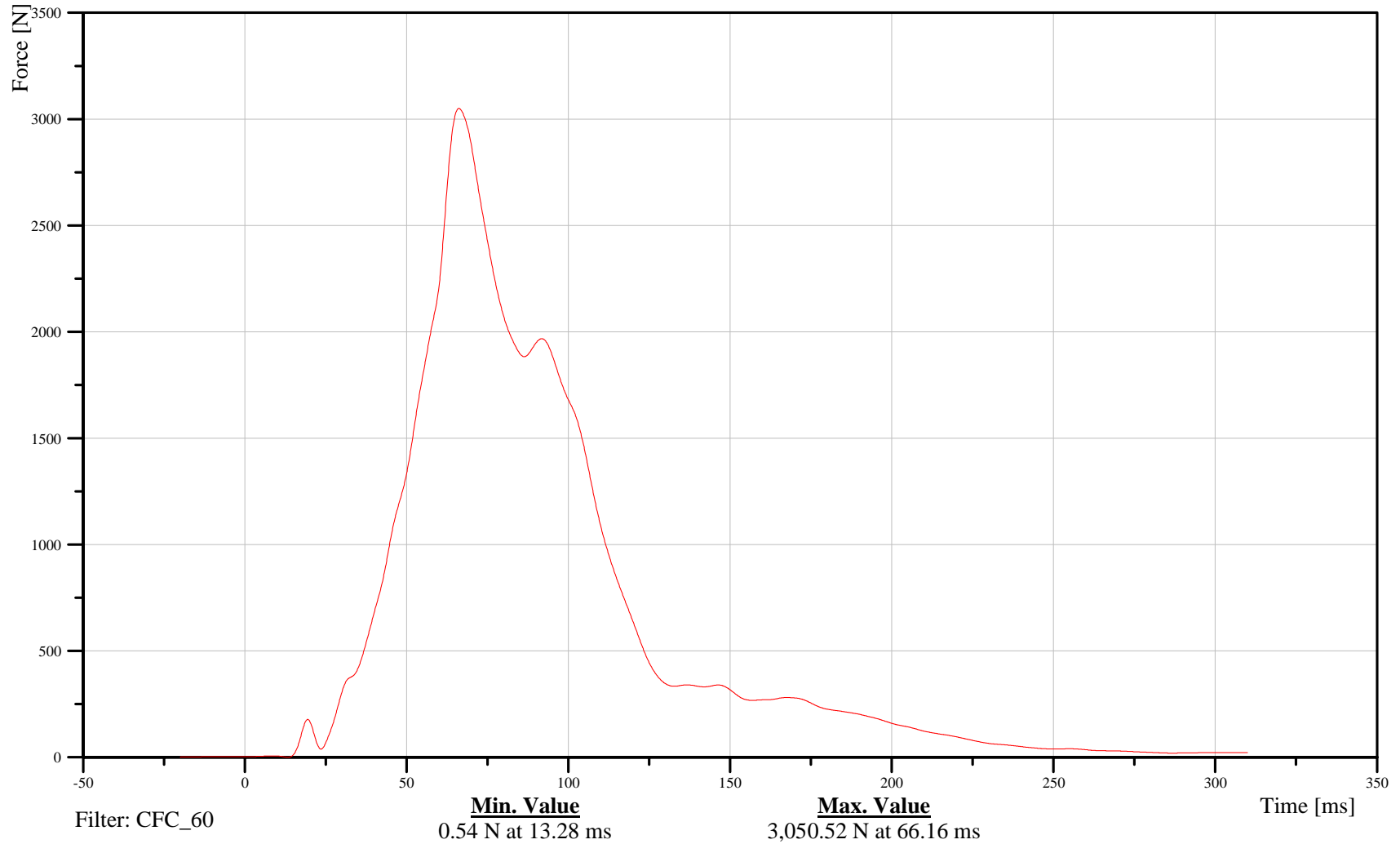
Target Vehicle Passenger Shoulder Belt Force

Customer: VRTC

23SEBA0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



B-198

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

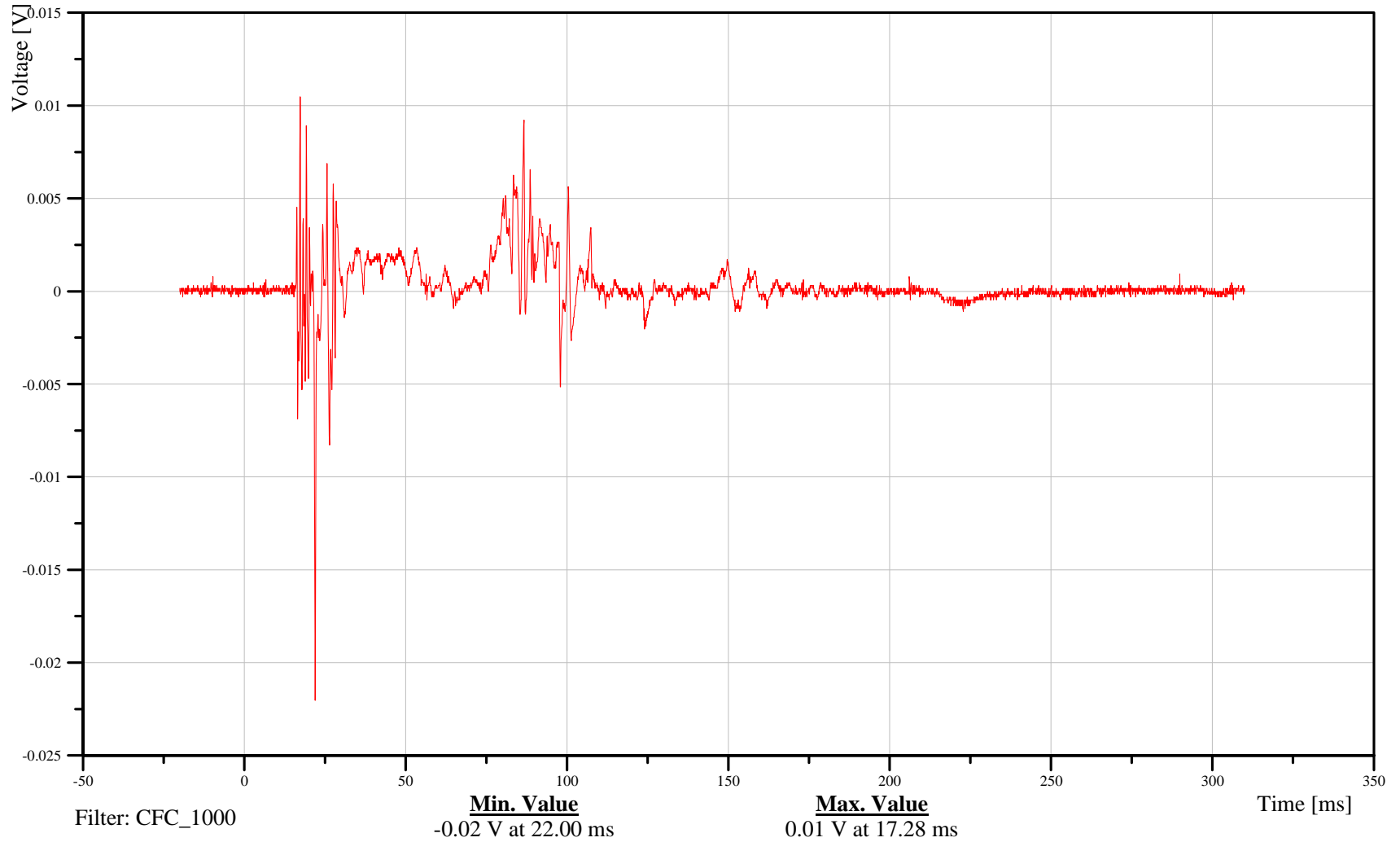
Target Vehicle Driver Front Airbag 1 Inductor

Customer: VRTC

21AIRBFR0100EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-199

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

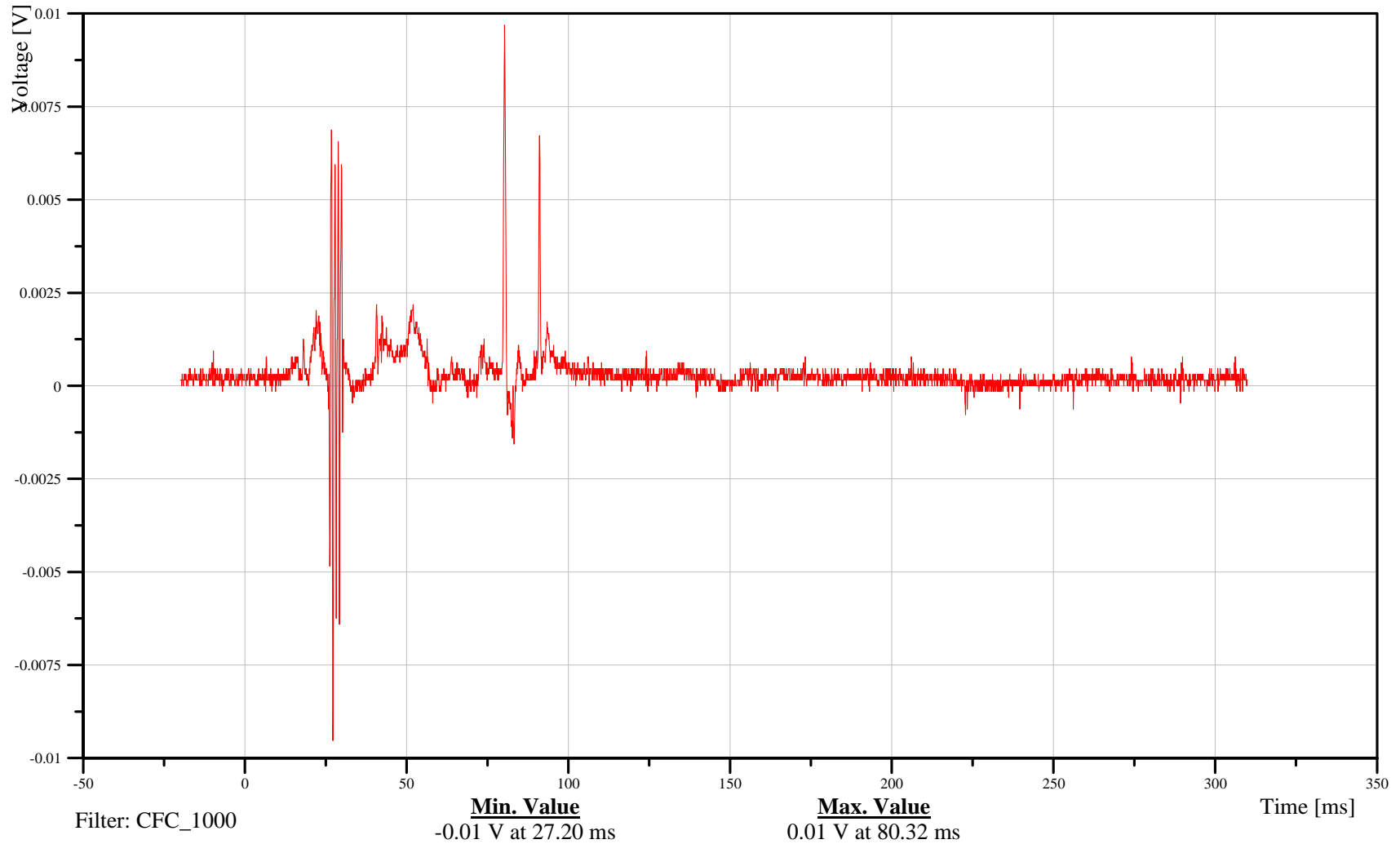
Target Vehicle Driver Front Airbag 2 Inductor

Customer: VRTC

21AIRBFR0200EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-200

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

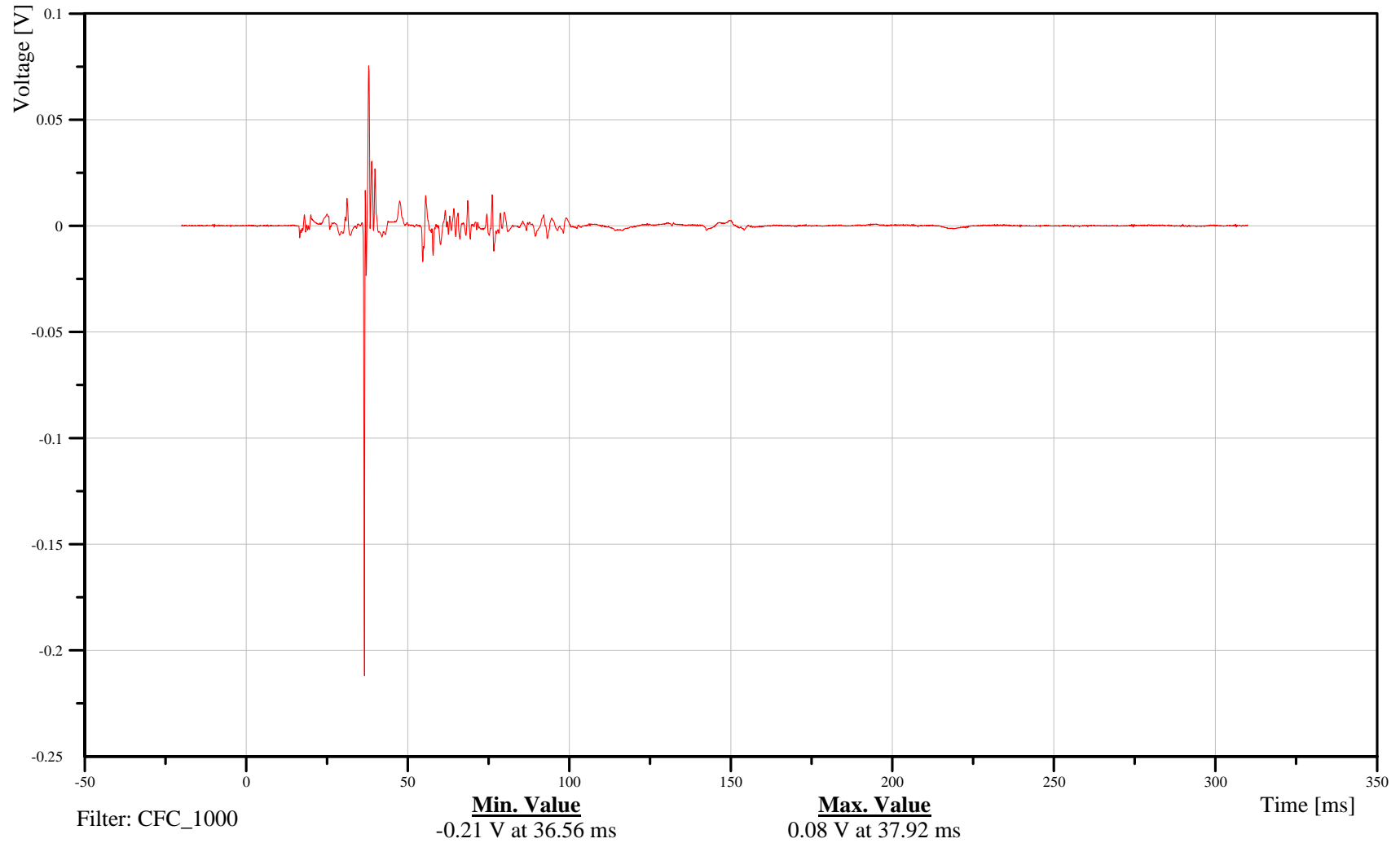
Target Vehicle Passenger Front Airbag 1 Inductor

Customer: VRTC

23AIRBFR0100EV0A

TRC Inc. Test Lab: CTF

Test Number: 080403



B-201

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

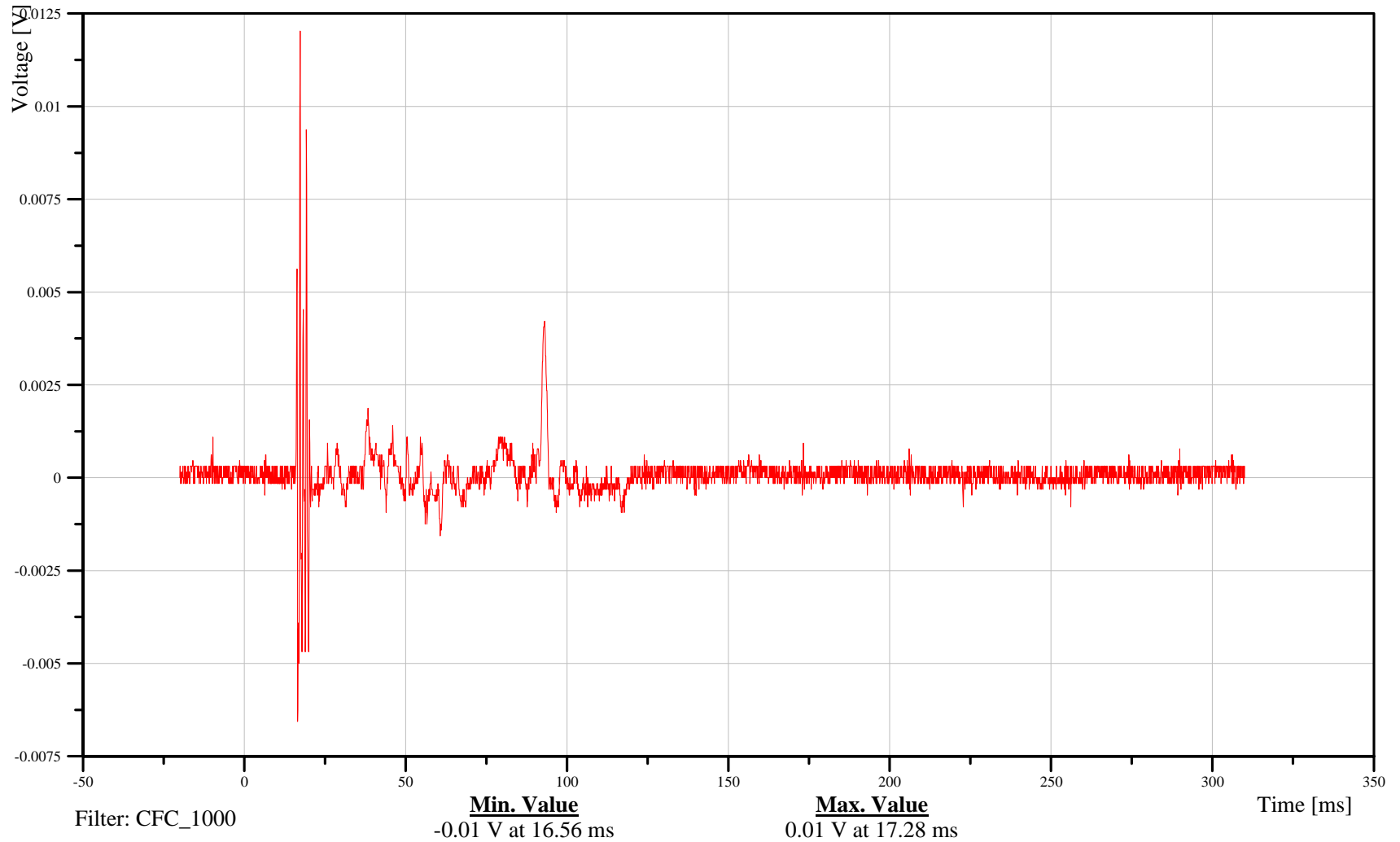
Target Vehicle Passenger Front Airbag 2 Inductor

Customer: VRTC

23AIRBFR0200EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-202

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

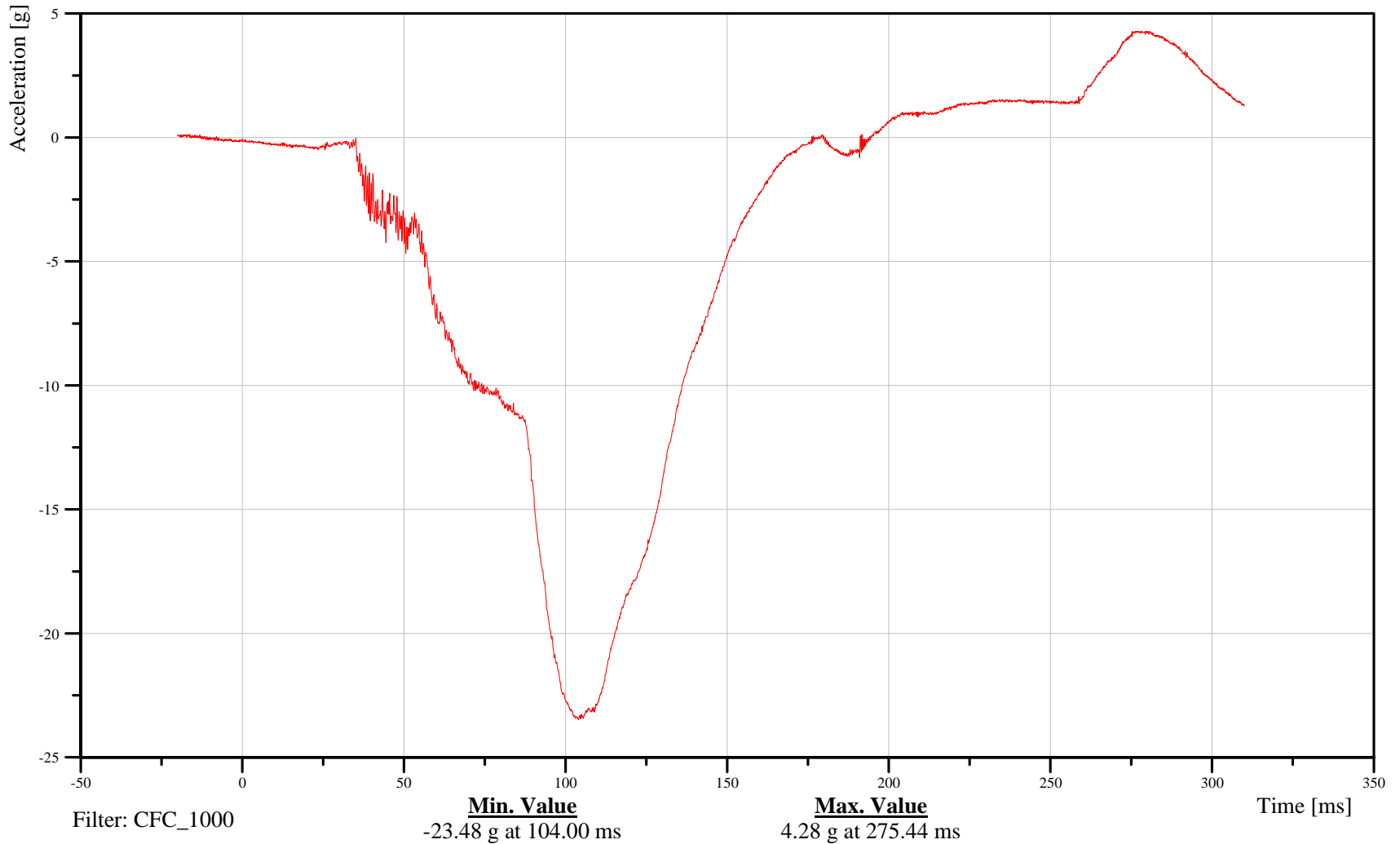
Bullet Vehicle Driver Head X-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-203

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

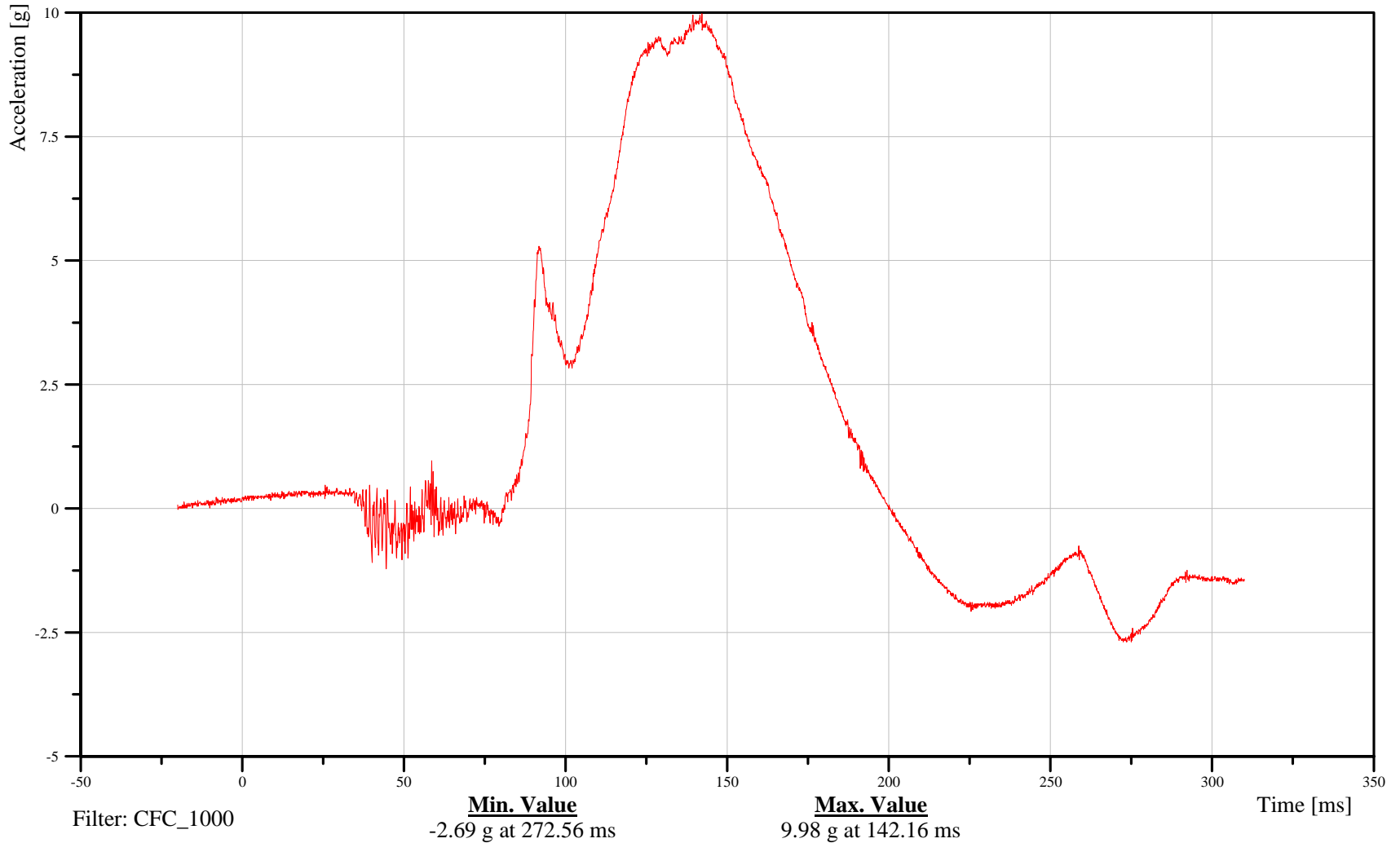
Bullet Vehicle Driver Head Y-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-204

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

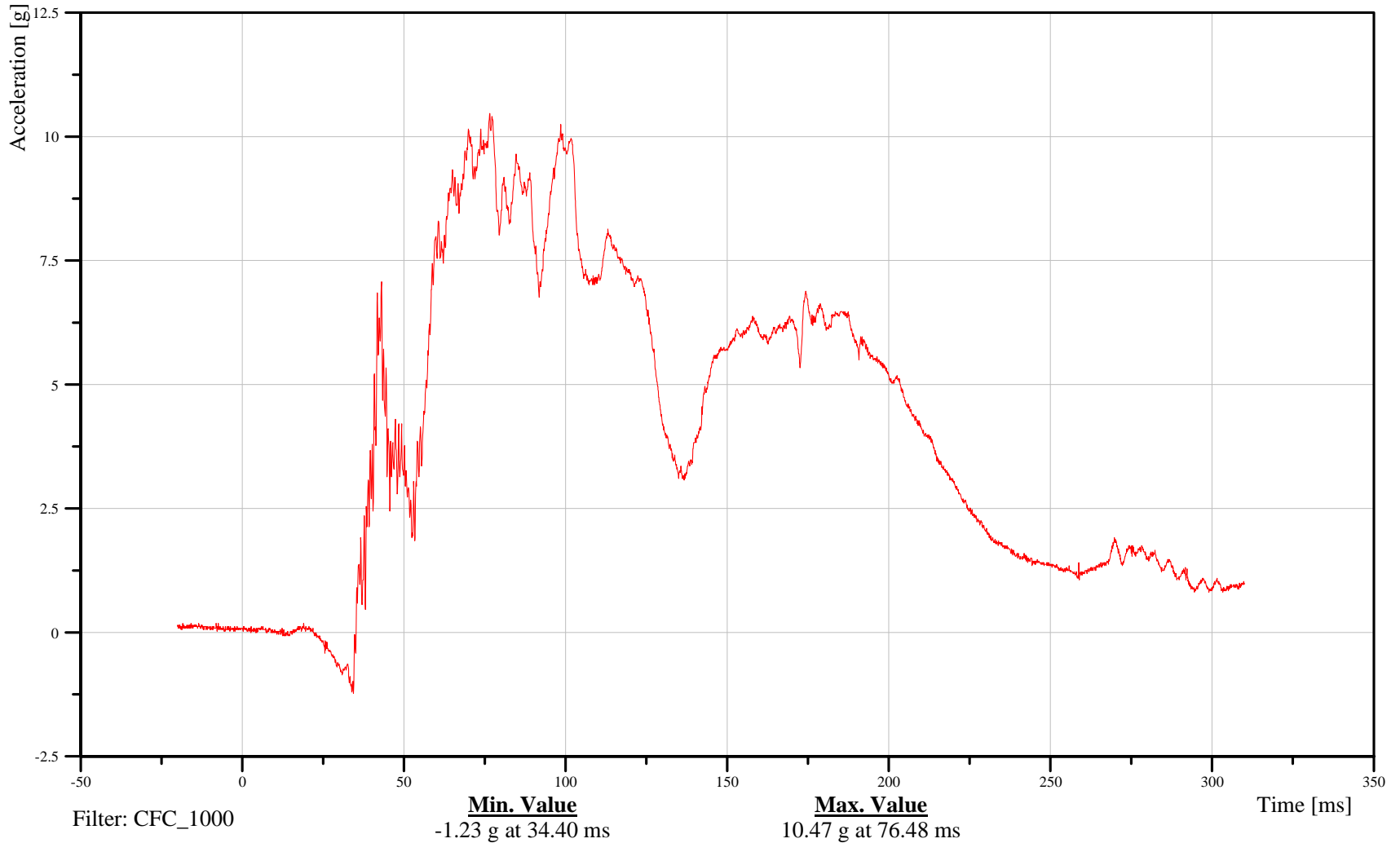
Bullet Vehicle Driver Head Z-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-205

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

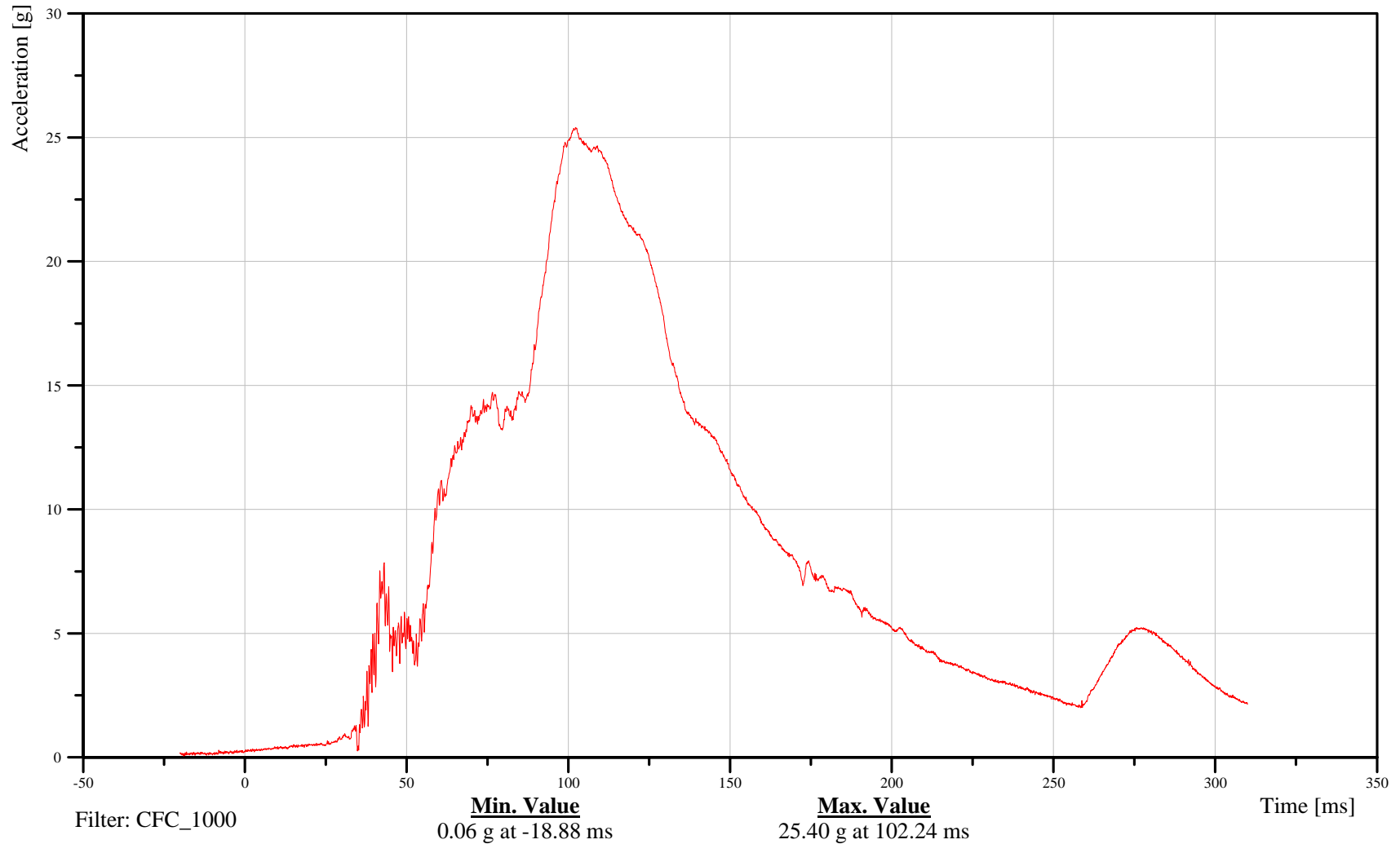
Bullet Vehicle Driver Head Resultant Acceleration

Customer: VRTC

11HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-206

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

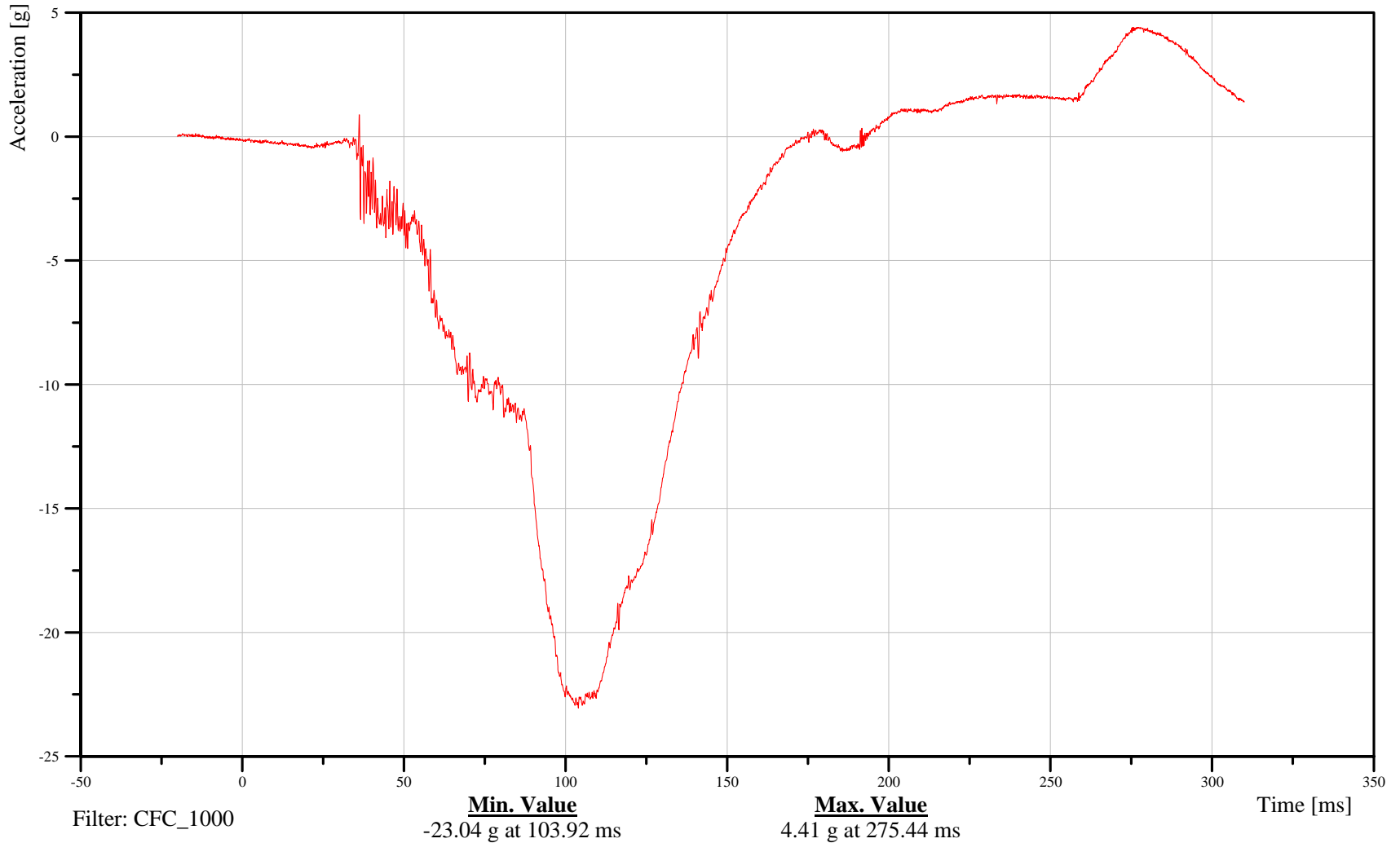
Bullet Vehicle Driver Head X-Axis Acceleration Redundant

Customer: VRTC

11HEADCGRDH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-207

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

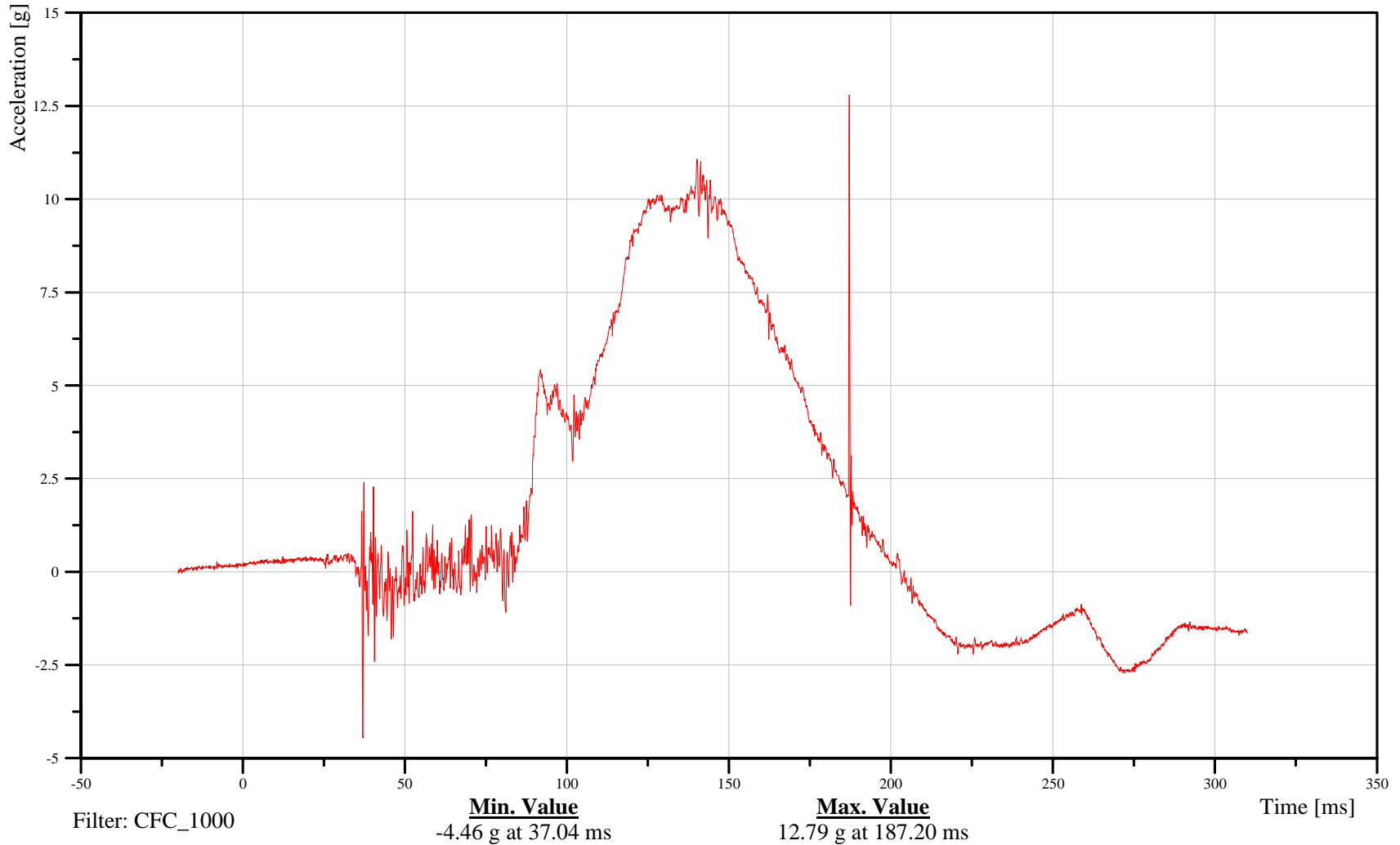
Bullet Vehicle Driver Head Y-Axis Acceleration Redundant

Customer: VRTC

11HEADCGRDH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-208

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

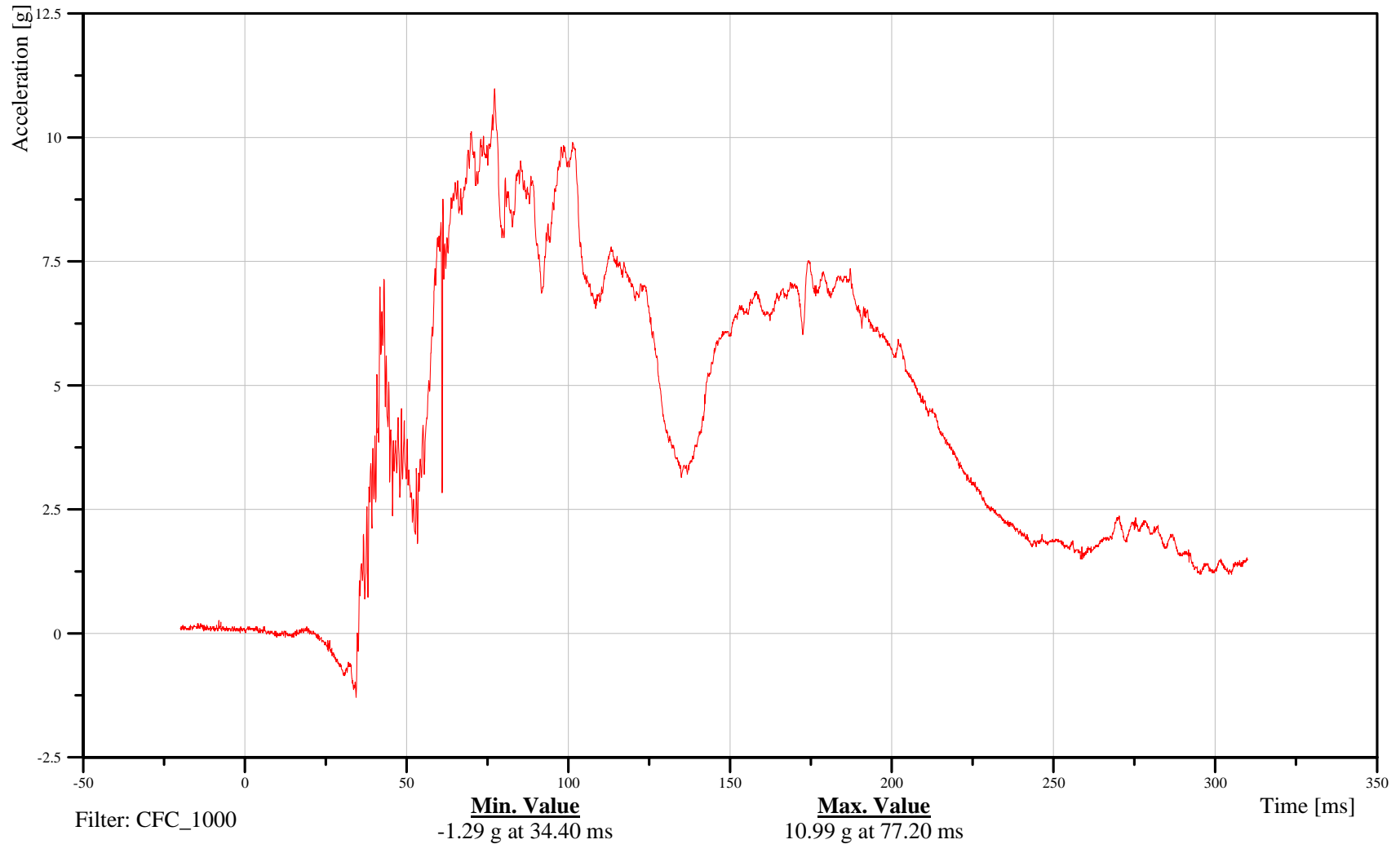
Bullet Vehicle Driver Head Z-Axis Acceleration Redundant

Customer: VRTC

11HEADCGRDH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-209

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

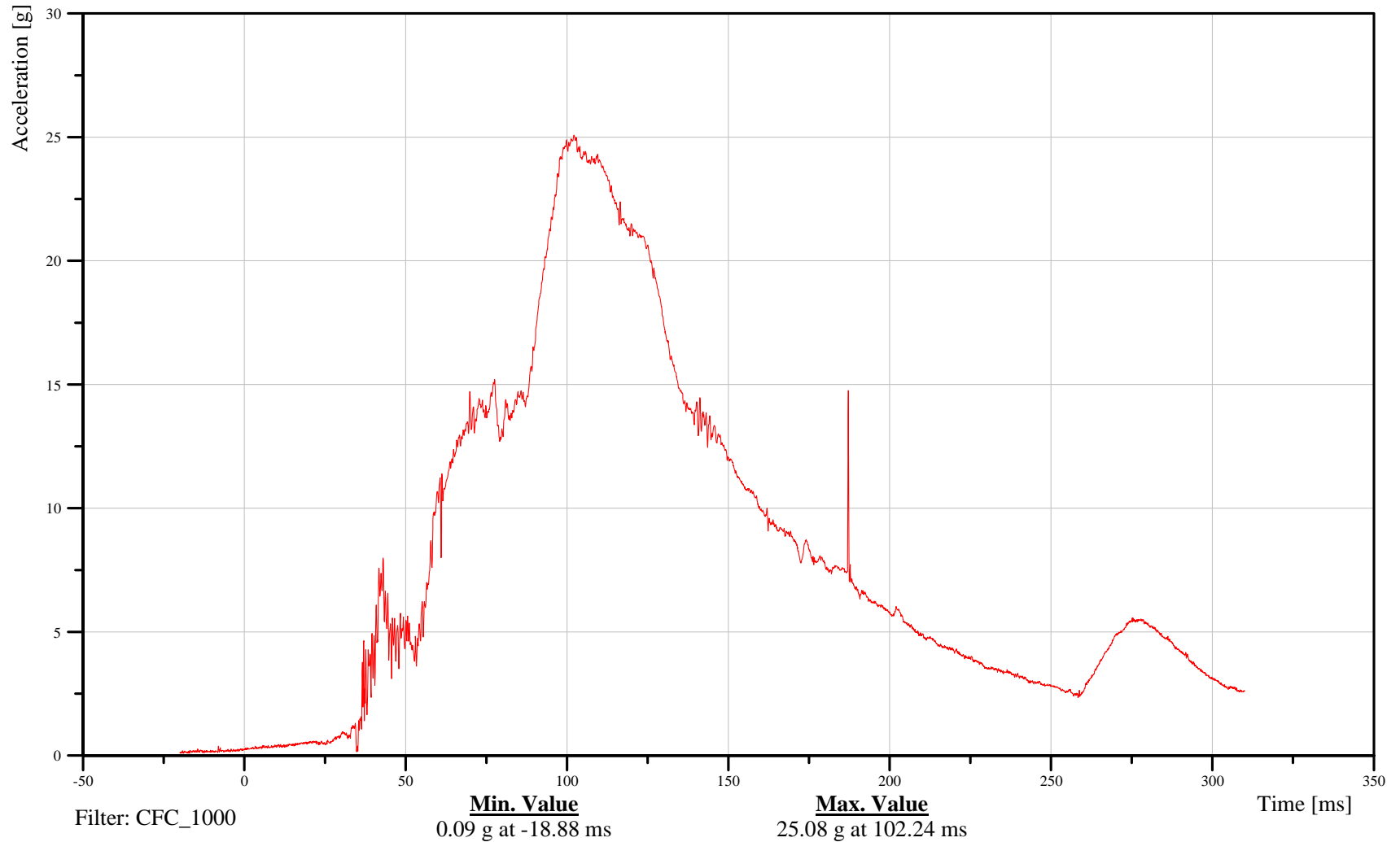
Bullet Vehicle Driver Head Resultant Acceleration Redundant

Customer: VRTC

11HEADCGRDH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-210

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

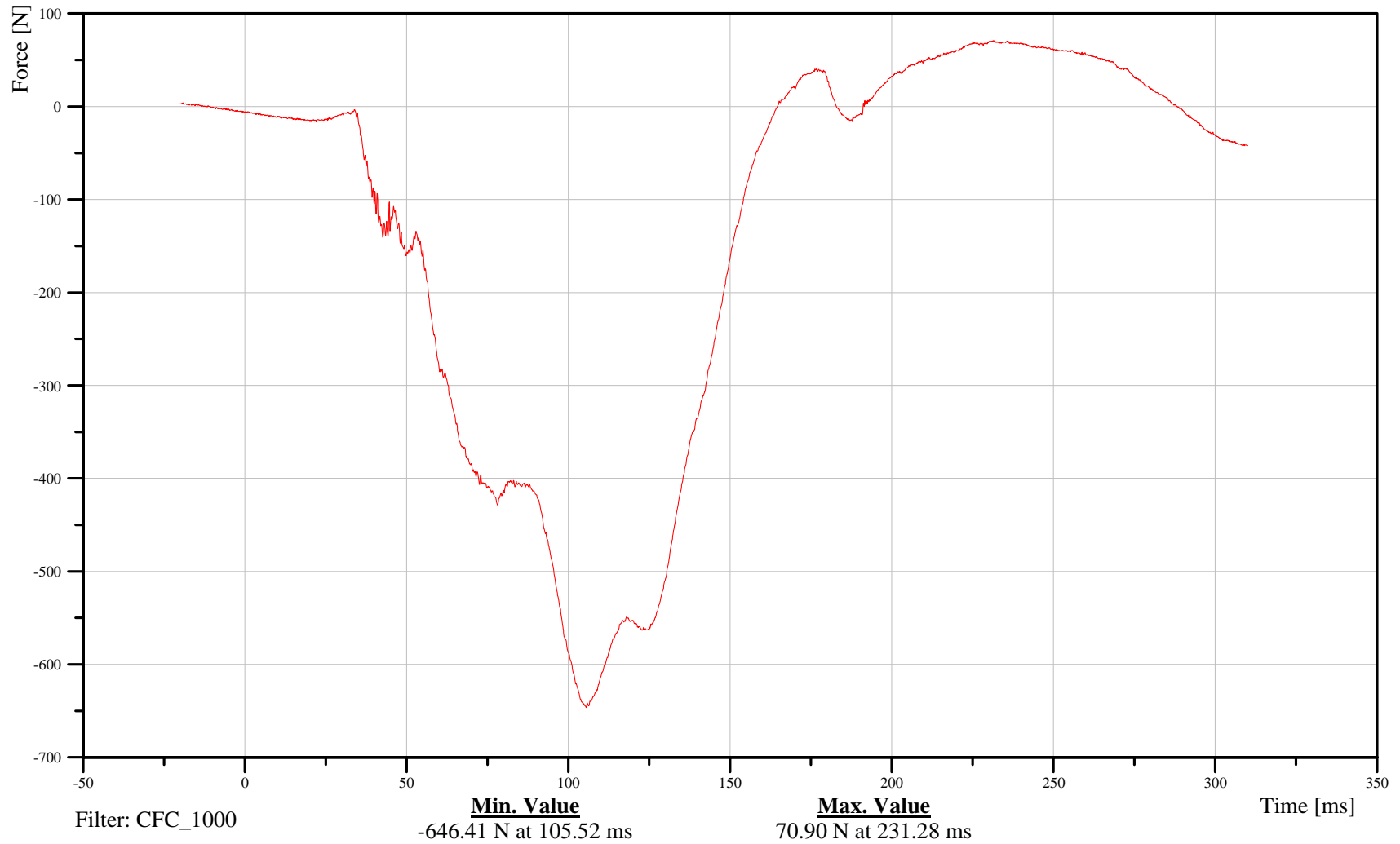
Bullet Vehicle Driver Neck X-Axis Force

Customer: VRTC

11NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-211

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

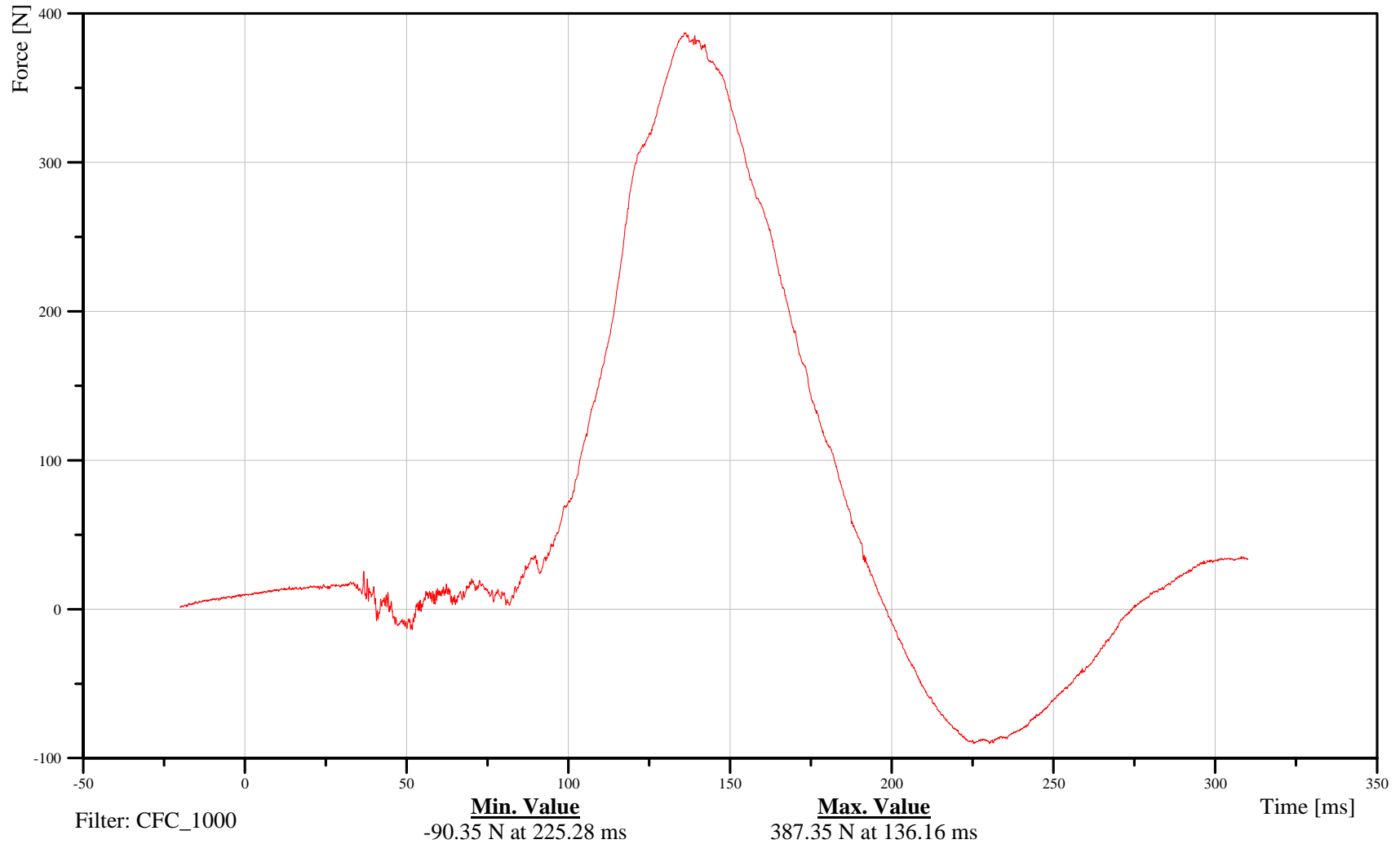
Bullet Vehicle Driver Neck Y-Axis Force

Customer: VRTC

11NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-212

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

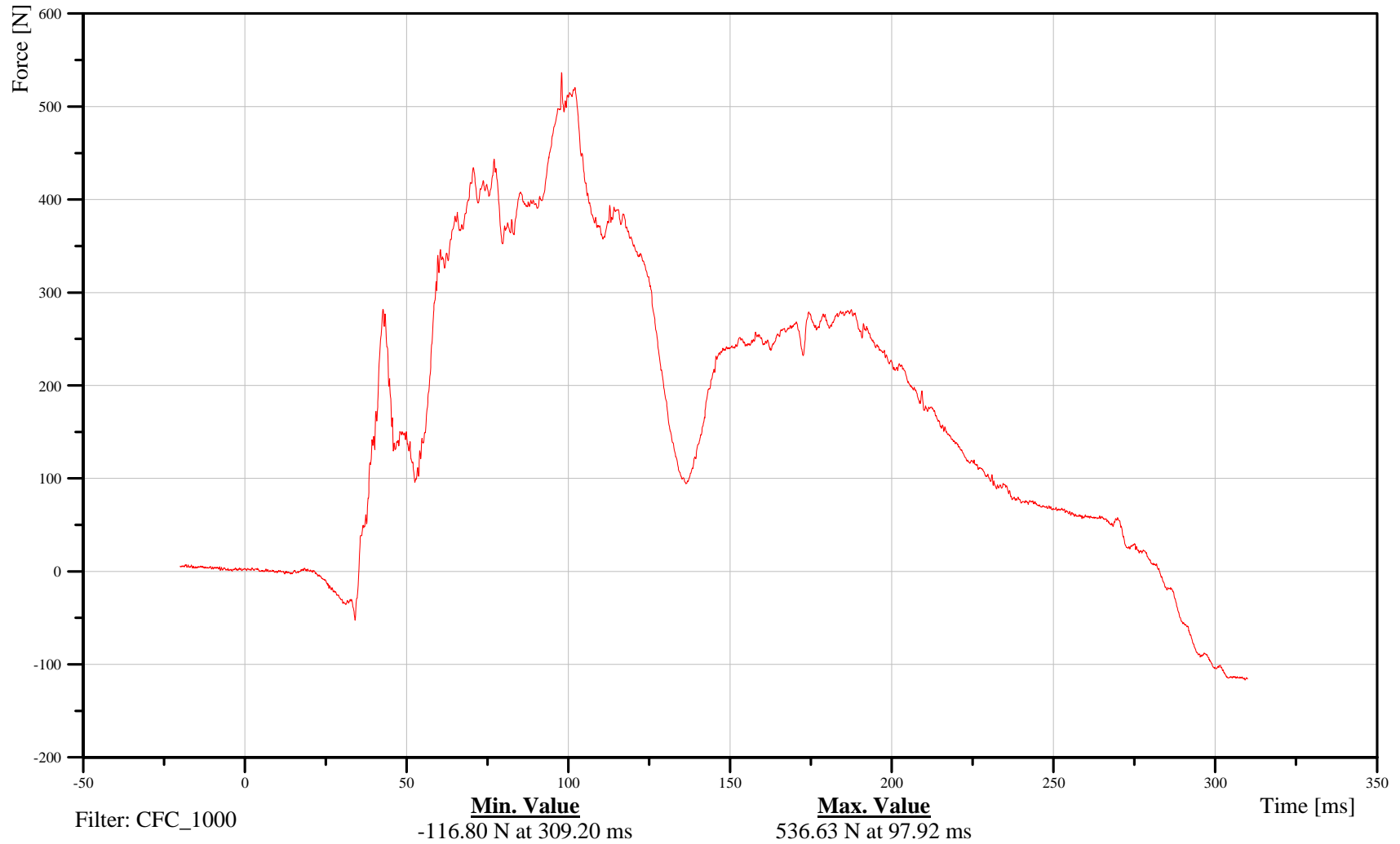
Bullet Vehicle Driver Neck Z-Axis Force

Customer: VRTC

11NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-213

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

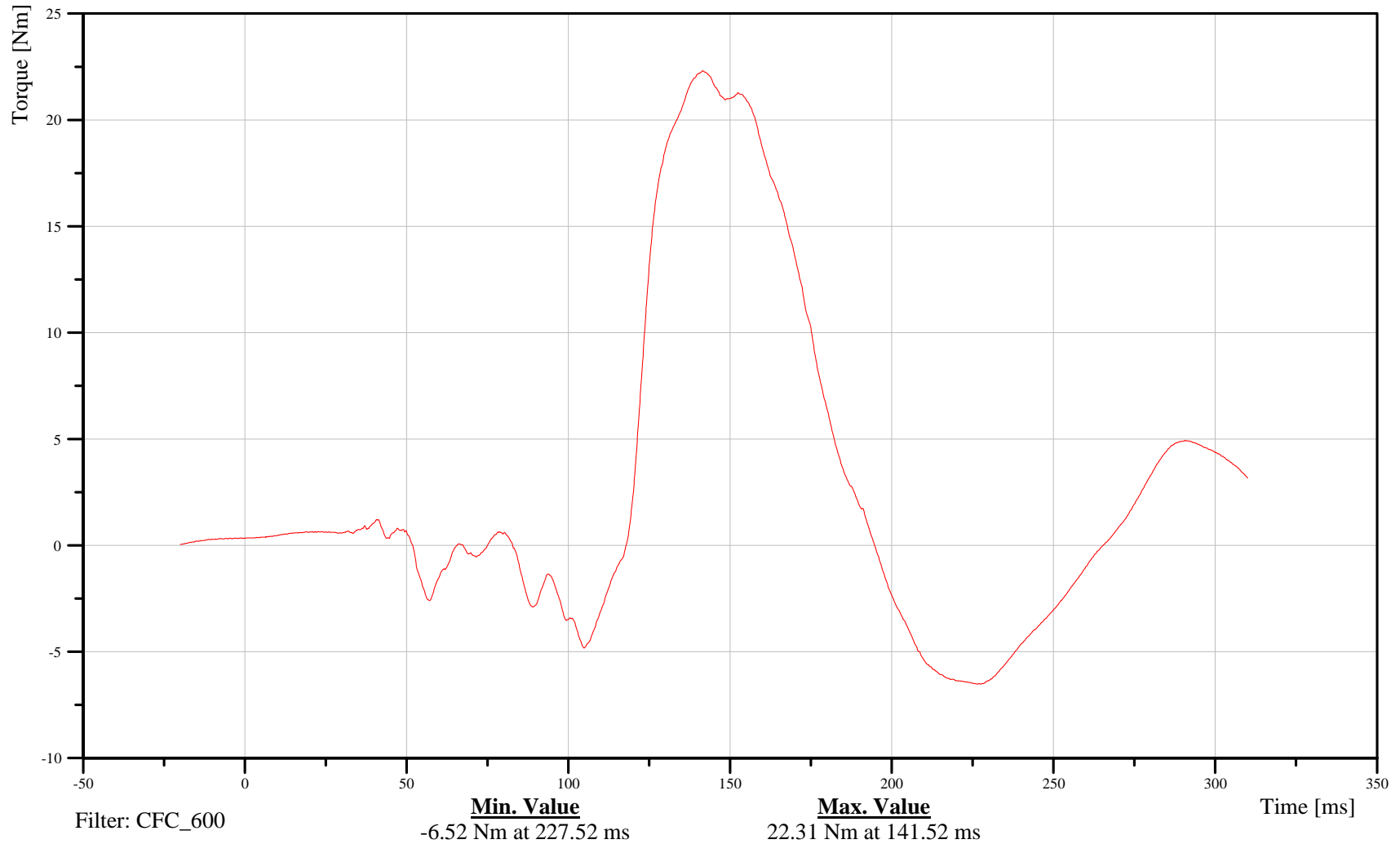
Bullet Vehicle Driver Neck Moment About X Axis

Customer: VRTC

11NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-214

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

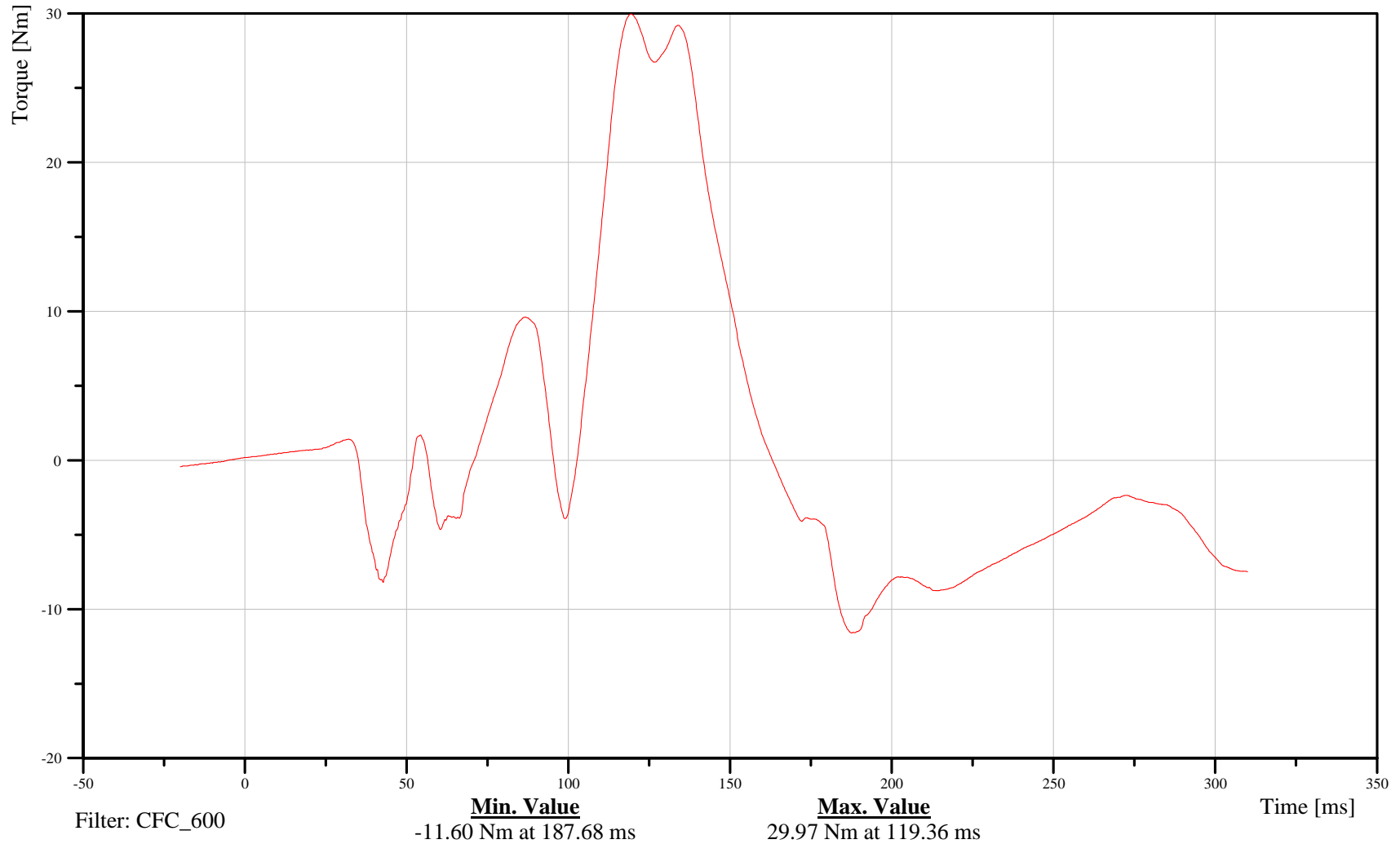
Bullet Vehicle Driver Neck Moment About Y Axis

Customer: VRTC

11NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-215

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

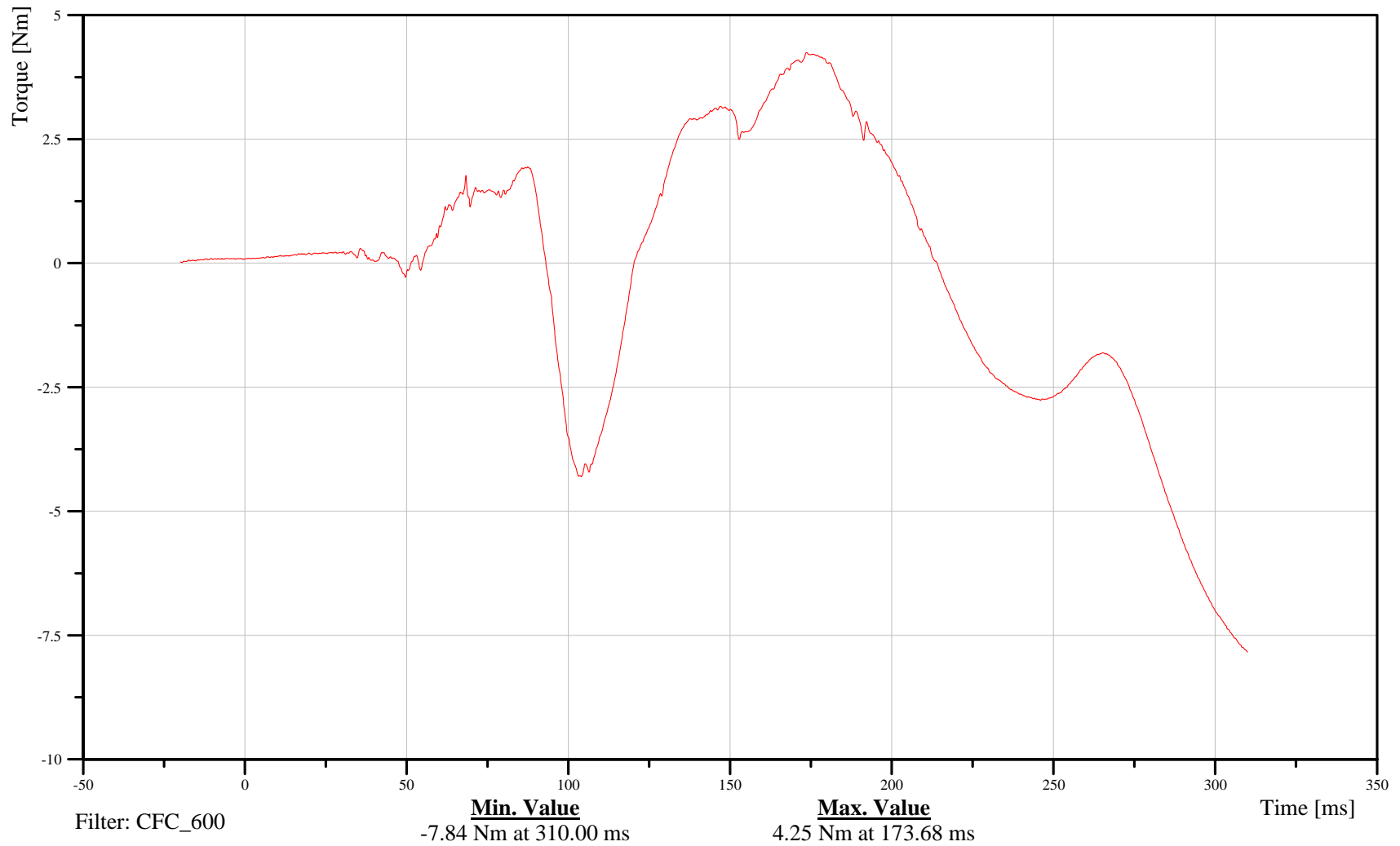
Bullet Vehicle Driver Neck Moment About Z Axis

Customer: VRTC

11NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-216

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

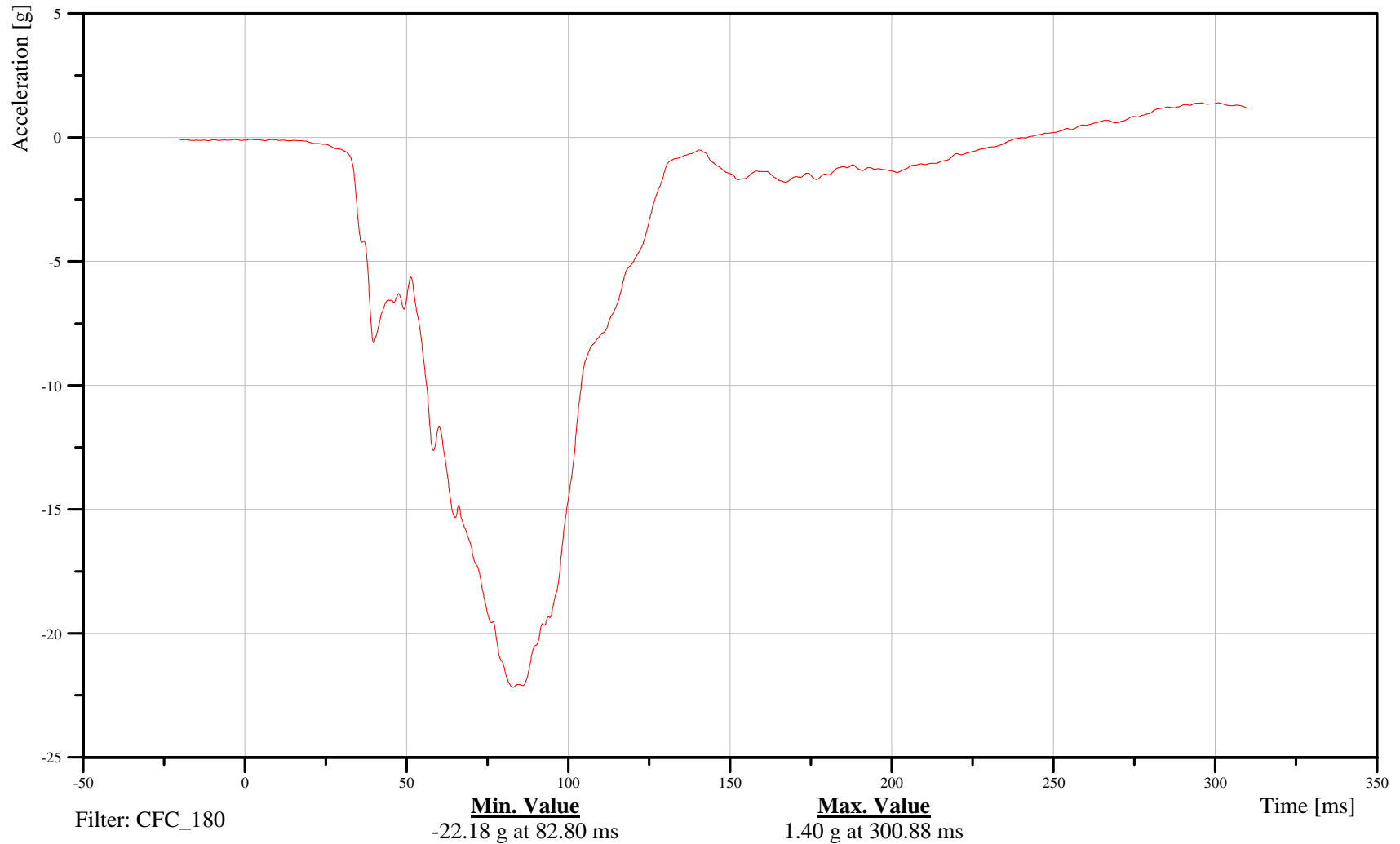
Bullet Vehicle Driver Chest X-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-217

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

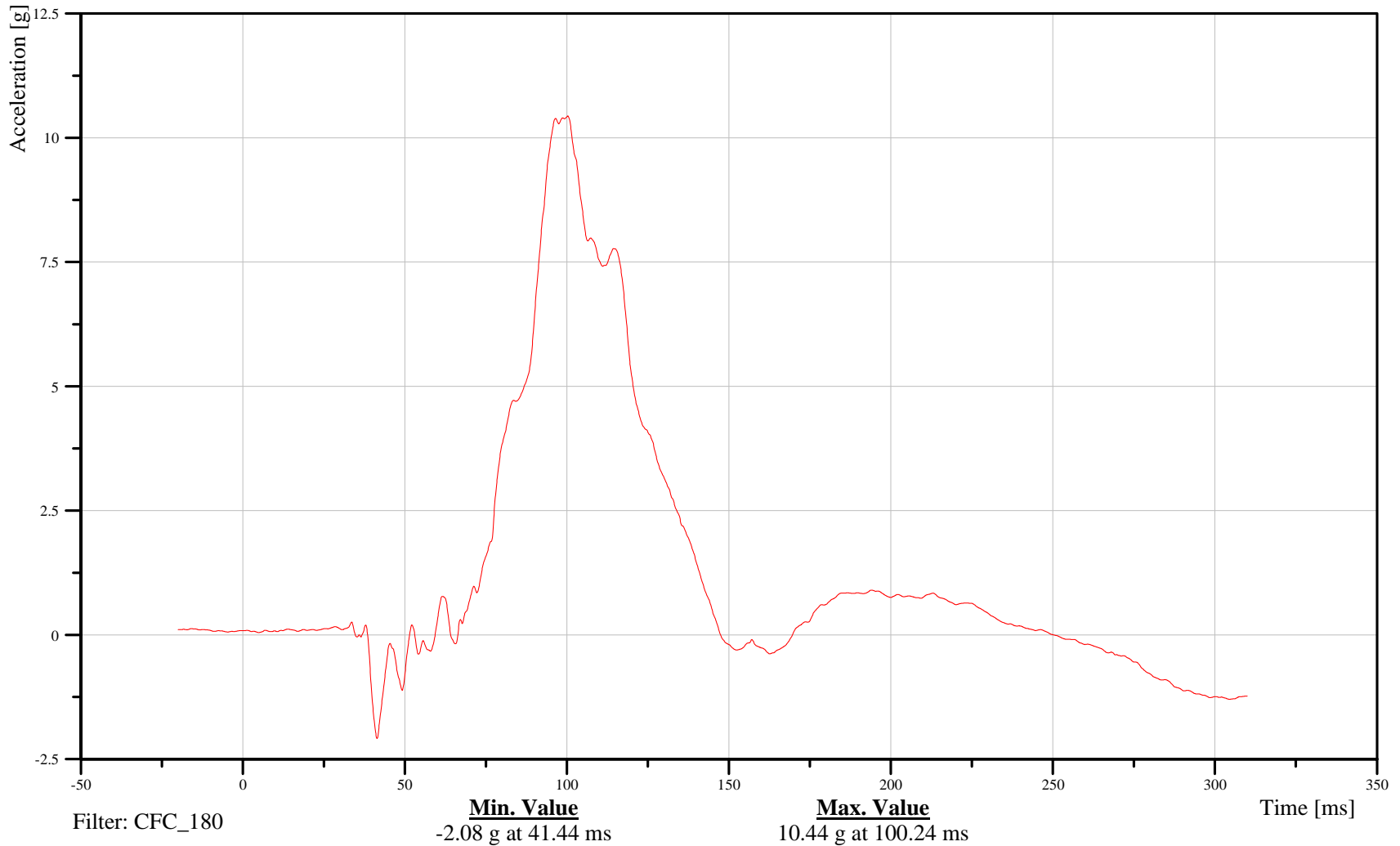
Bullet Vehicle Driver Chest Y-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-218

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

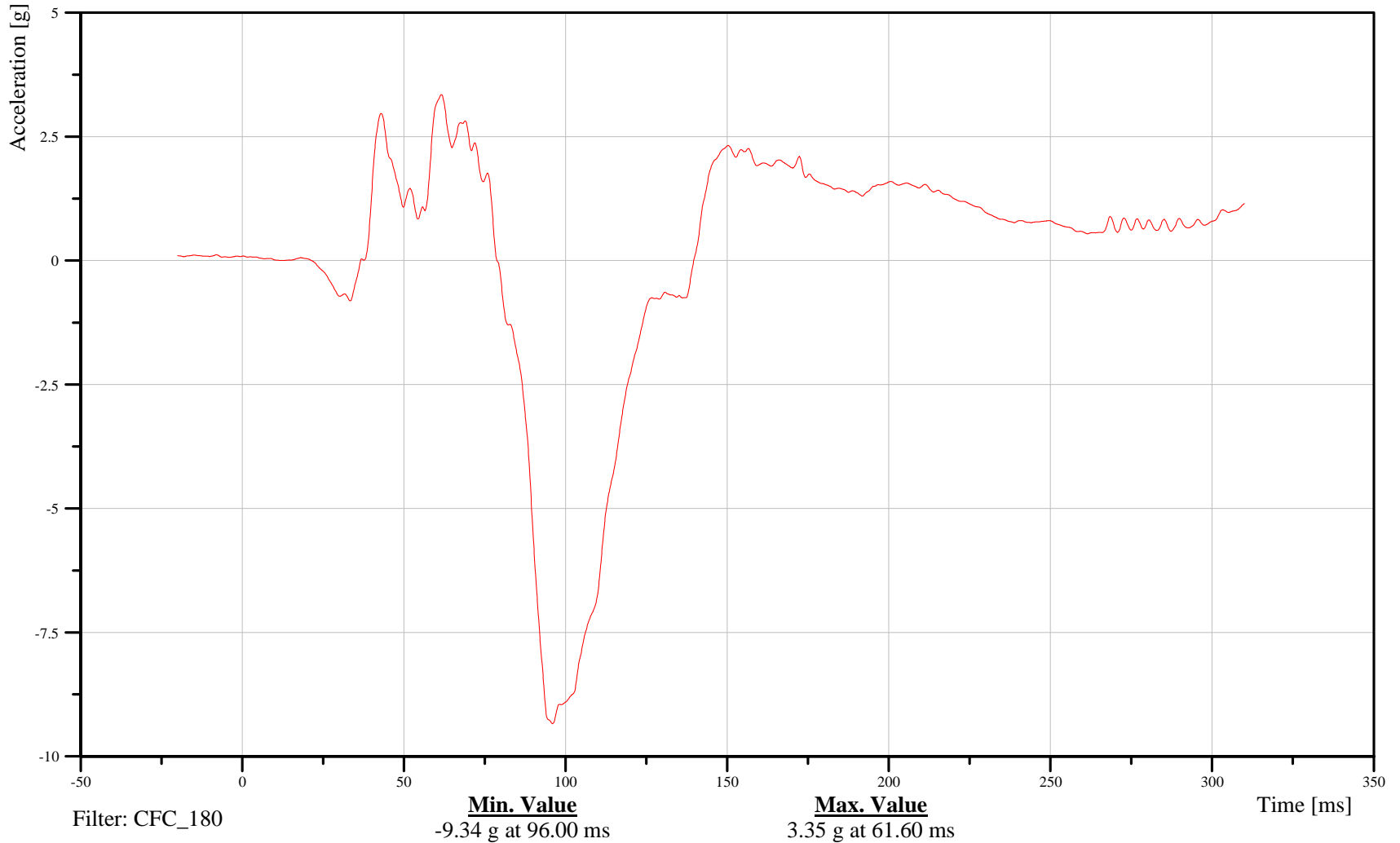
Bullet Vehicle Driver Chest Z-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-219

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

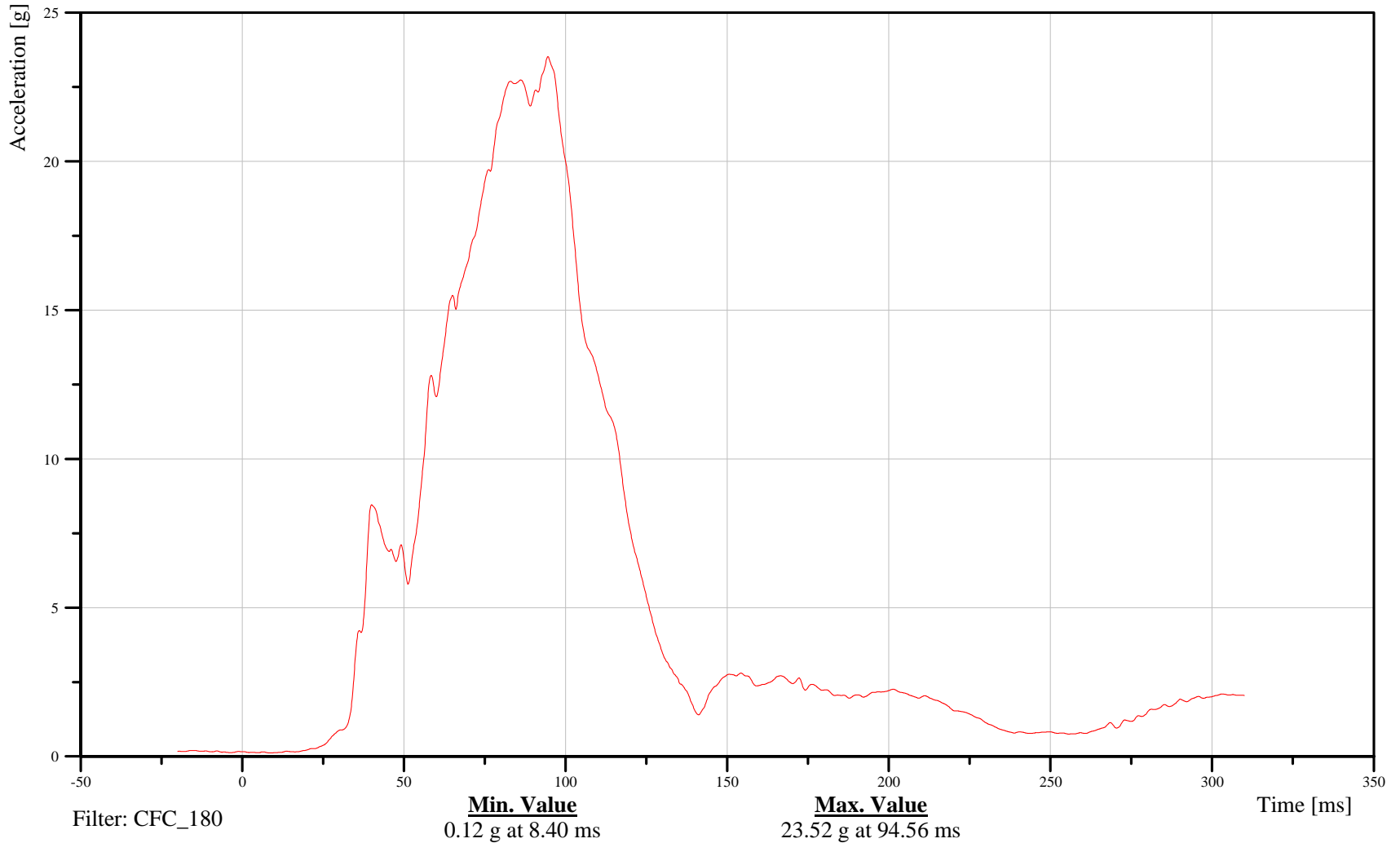
Bullet Vehicle Driver Chest Resultant Acceleration

Customer: VRTC

11CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-220

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

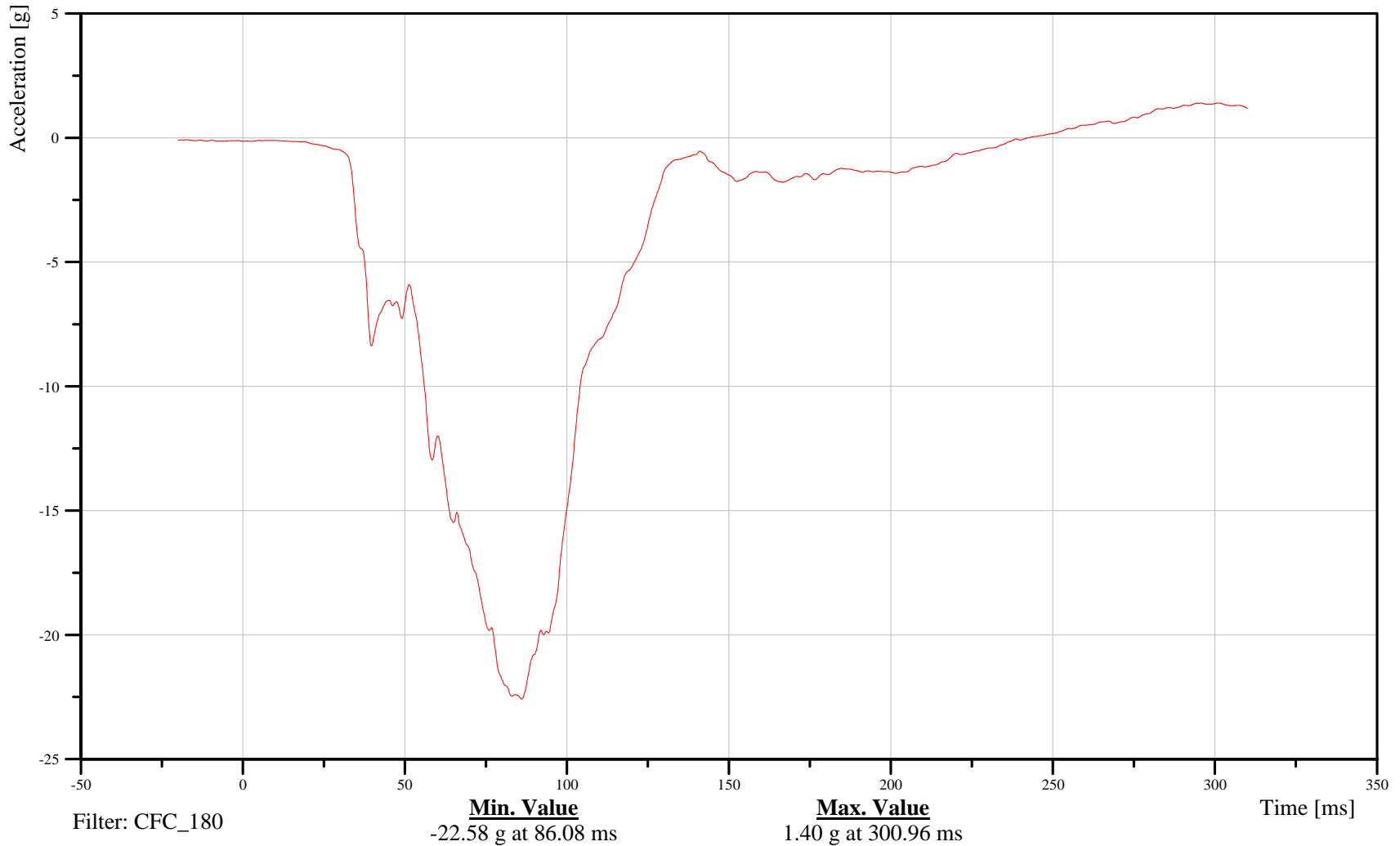
Bullet Vehicle Driver Chest X-Axis Acceleration Redundant

Customer: VRTC

11CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-221

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

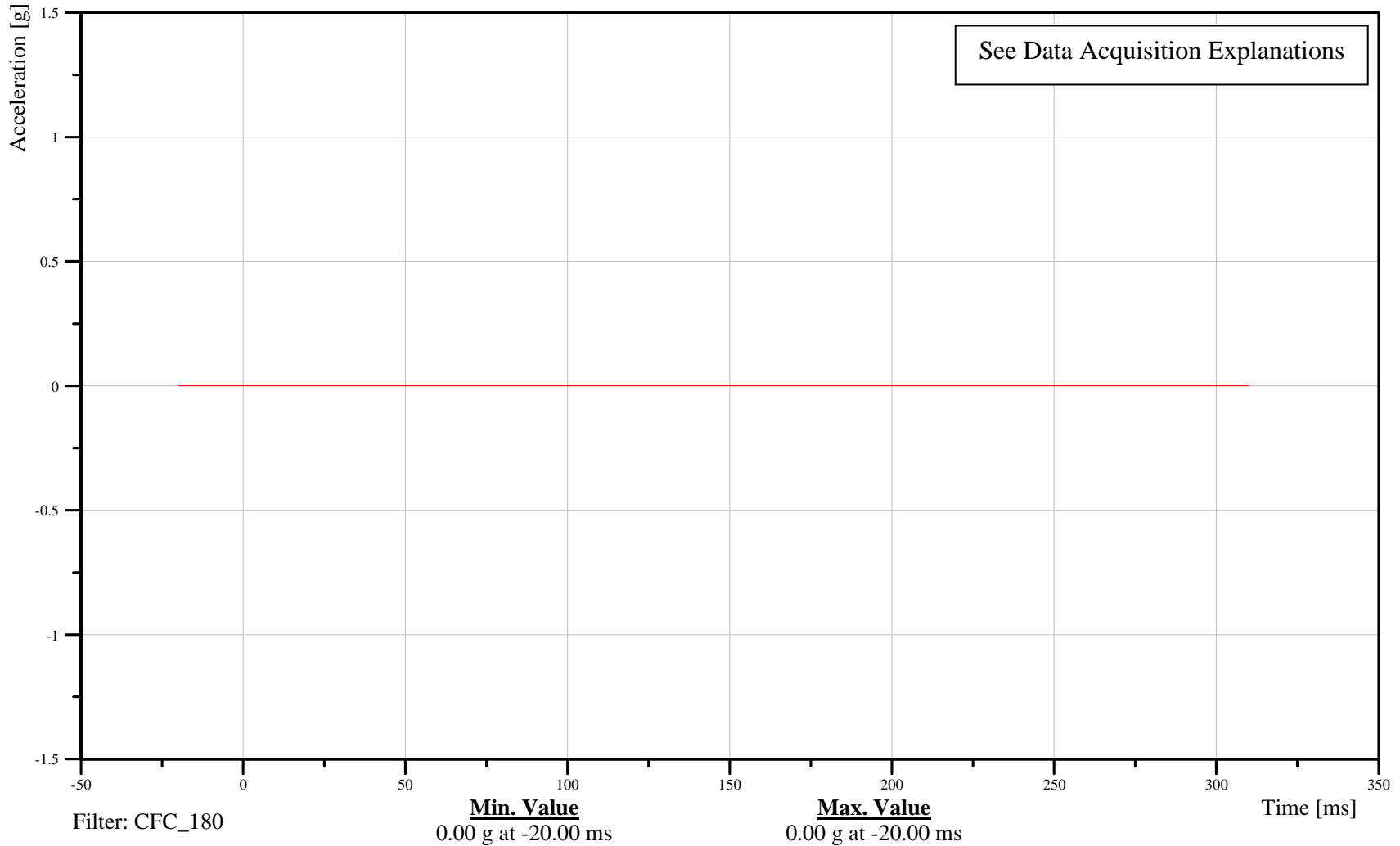
Bullet Vehicle Driver Chest Y-Axis Acceleration Redundant

Customer: VRTC

11CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-222

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

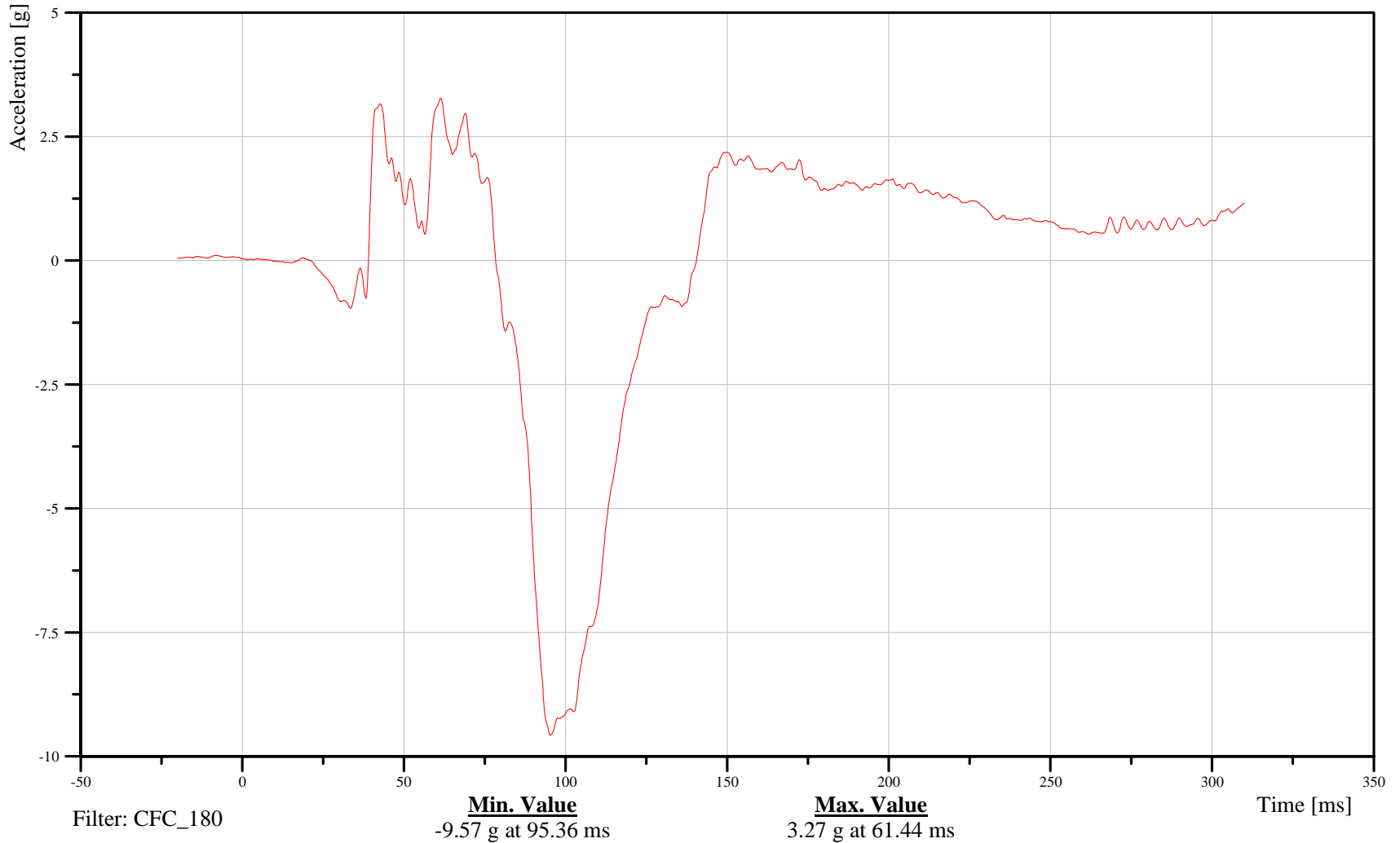
Bullet Vehicle Driver Chest Z-Axis Acceleration Redundant

Customer: VRTC

11CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-223

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

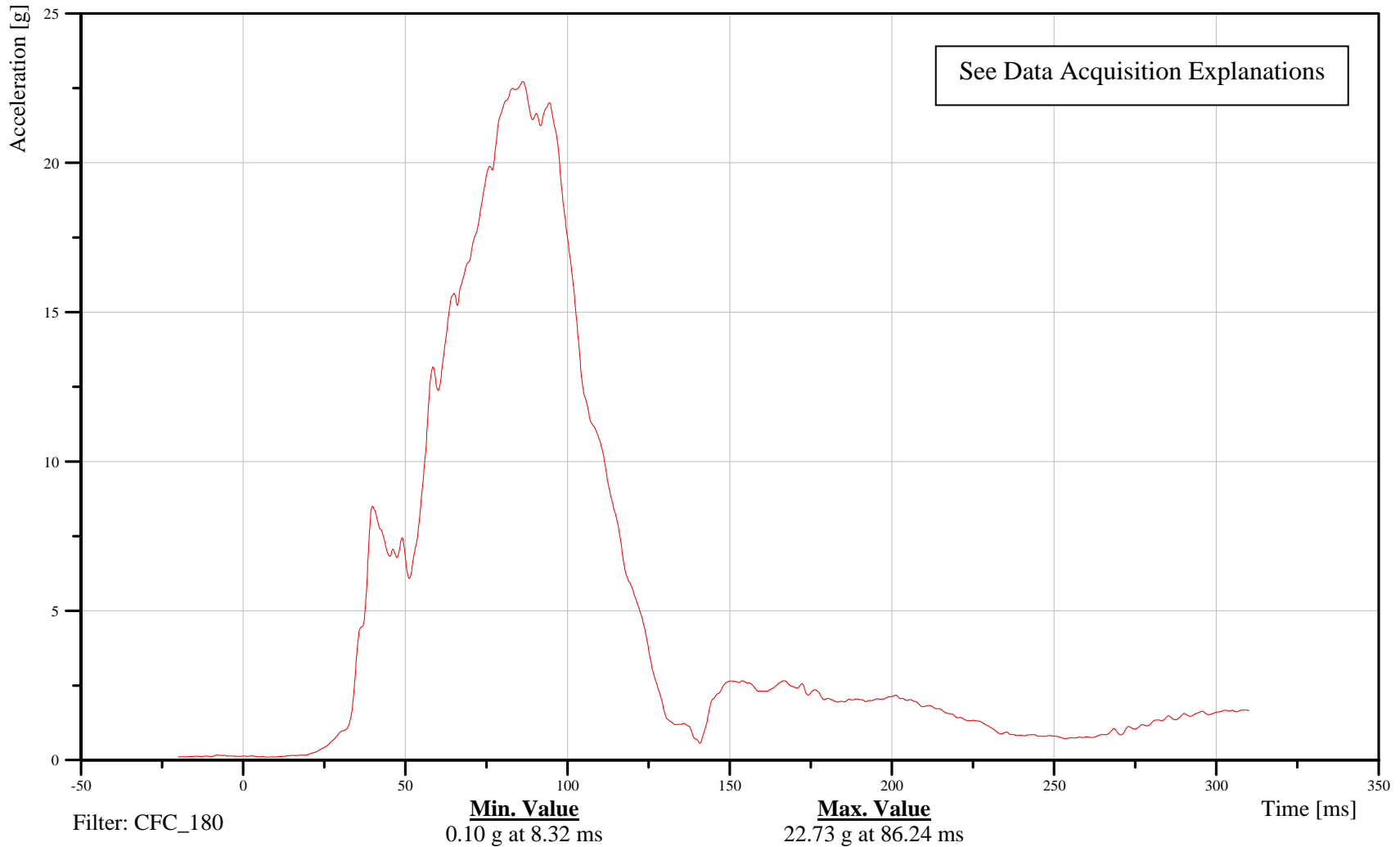
Bullet Vehicle Driver Chest Resultant Acceleration Redundant

Customer: VRTC

11CHSTCGRDH3ACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-224

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

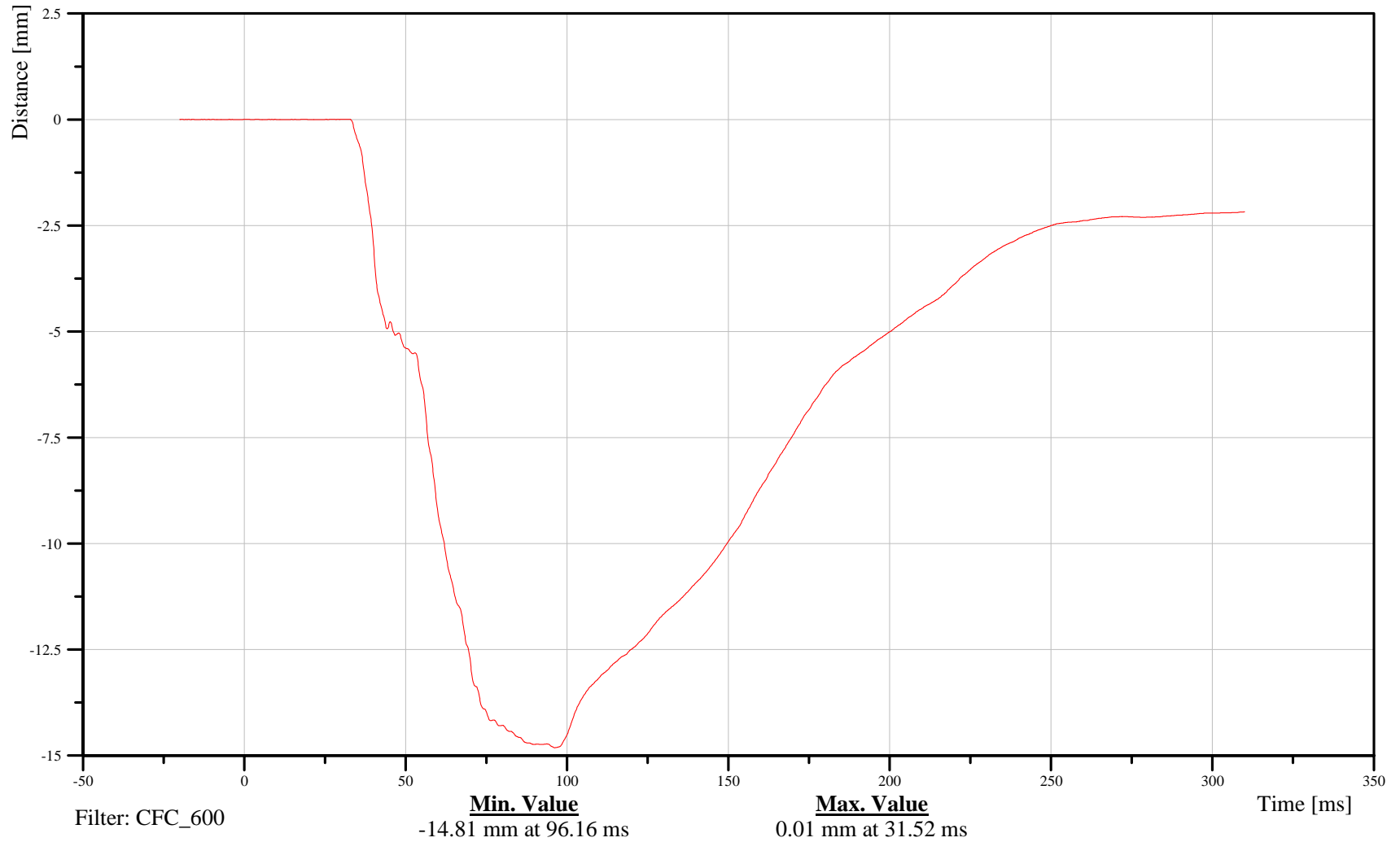
Bullet Vehicle Driver Chest X-Axis Displacement

Customer: VRTC

11CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-225

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

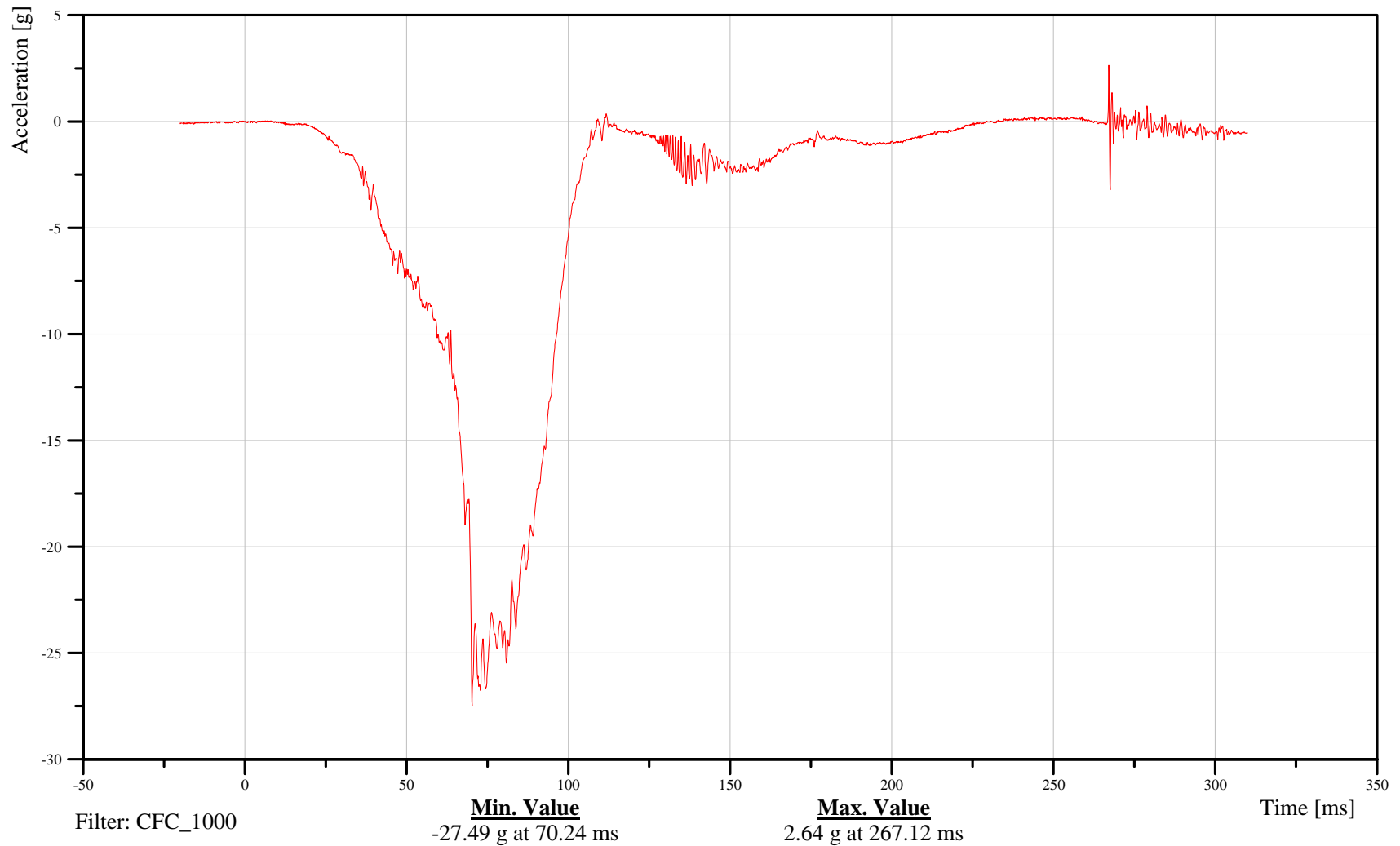
Bullet Vehicle Driver Pelvis X-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-226

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

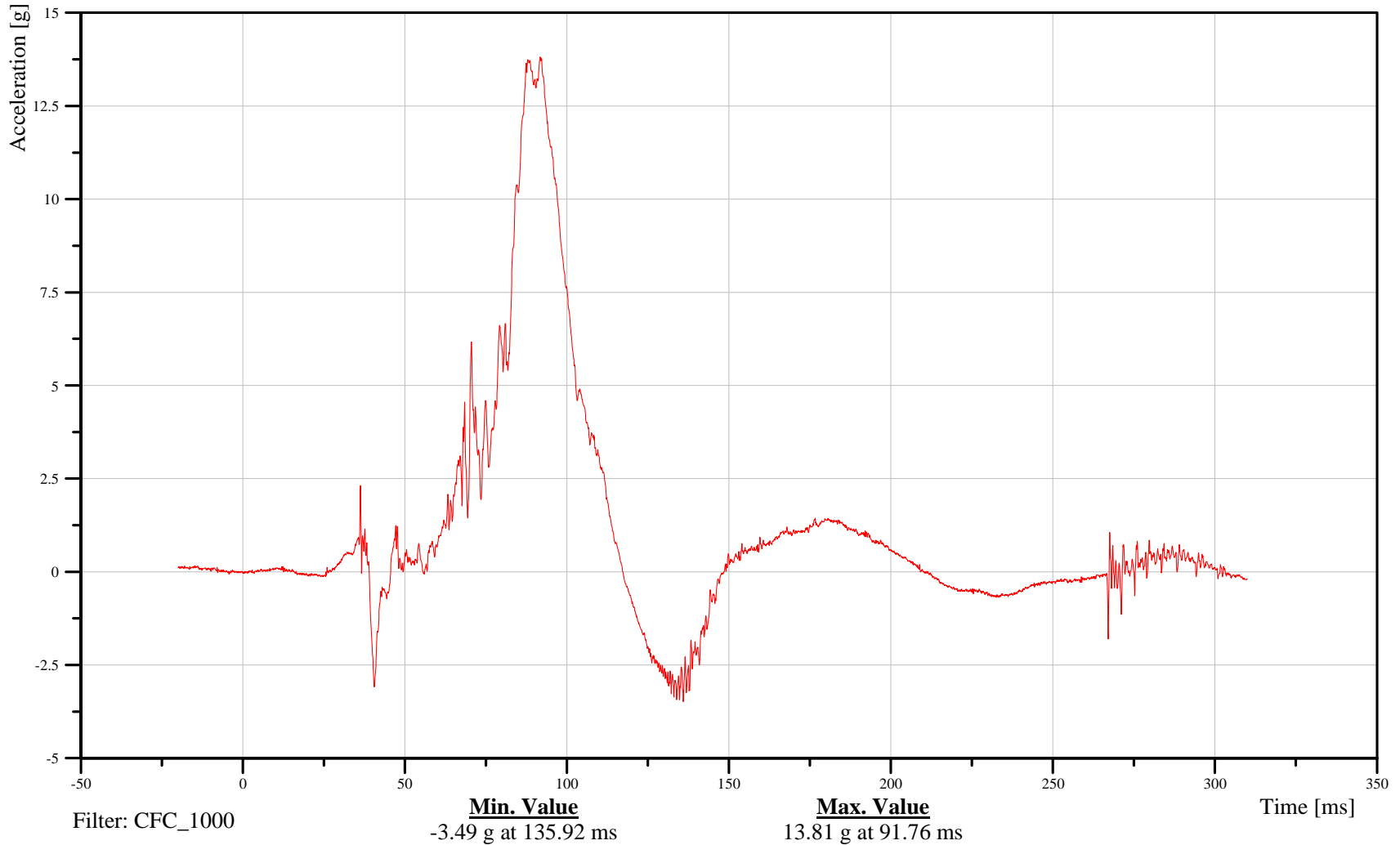
Bullet Vehicle Driver Pelvis Y-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-227

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

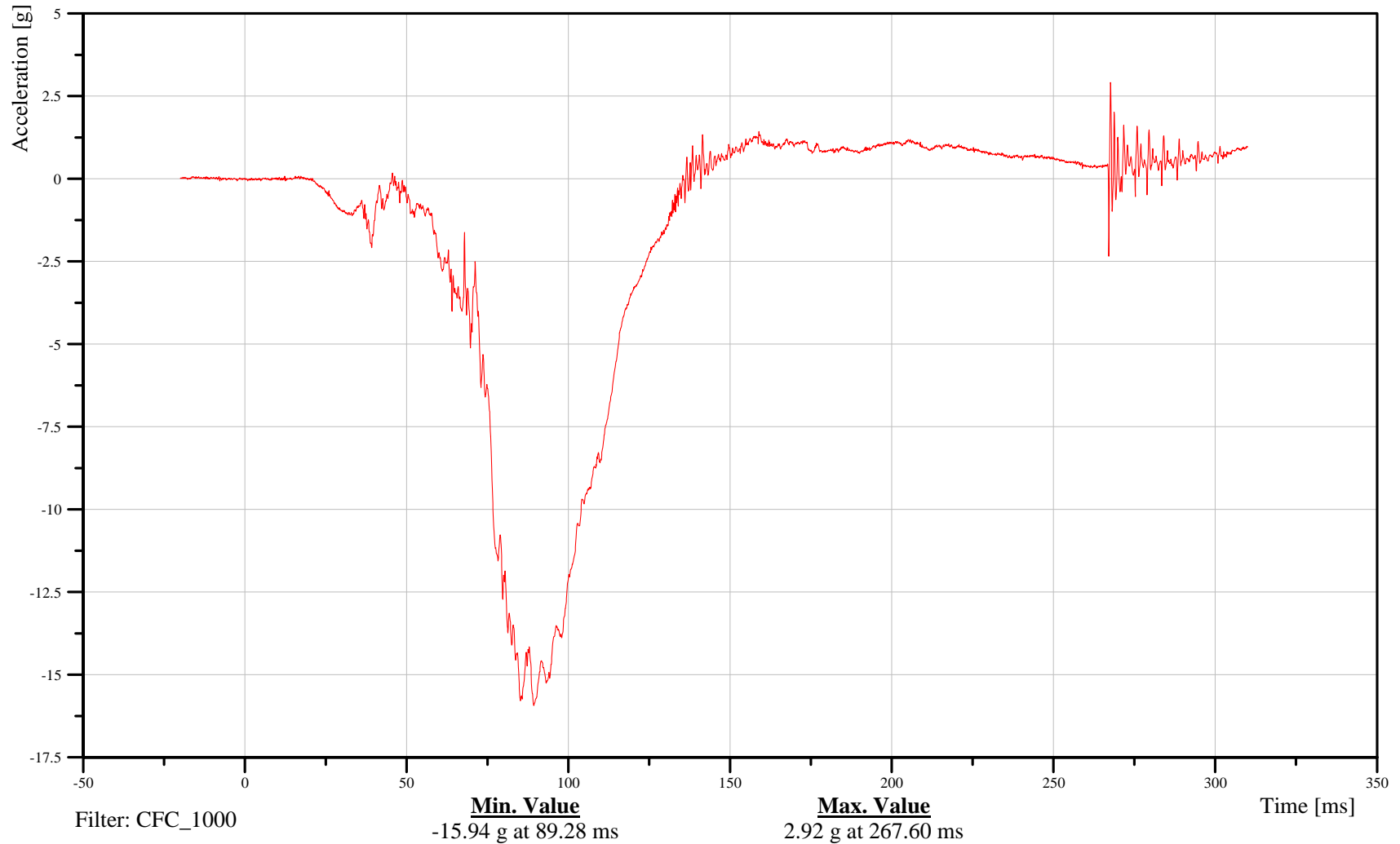
Bullet Vehicle Driver Pelvis Z-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-228

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

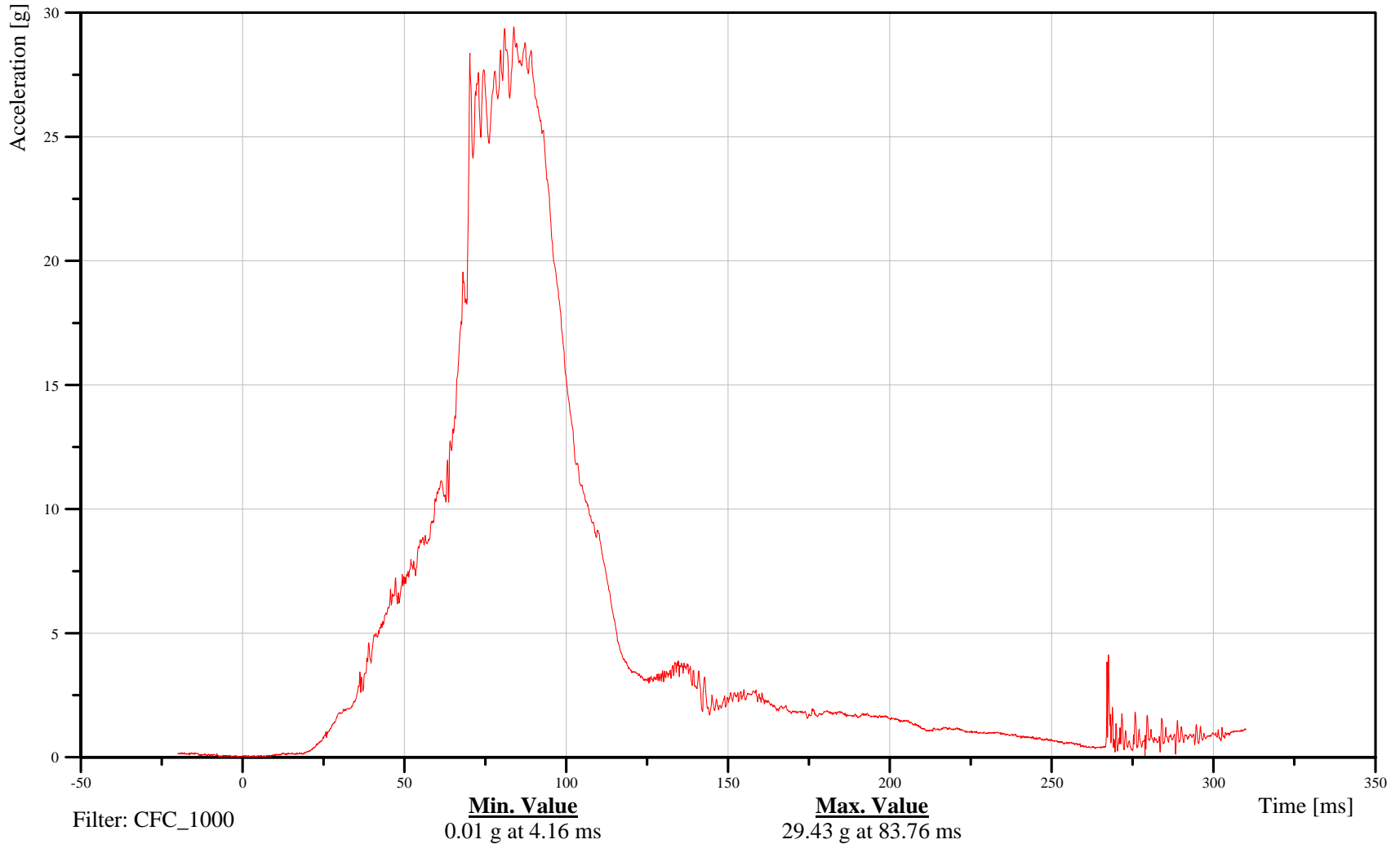
Bullet Vehicle Driver Pelvis Resultant Acceleration

Customer: VRTC

11PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-229

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

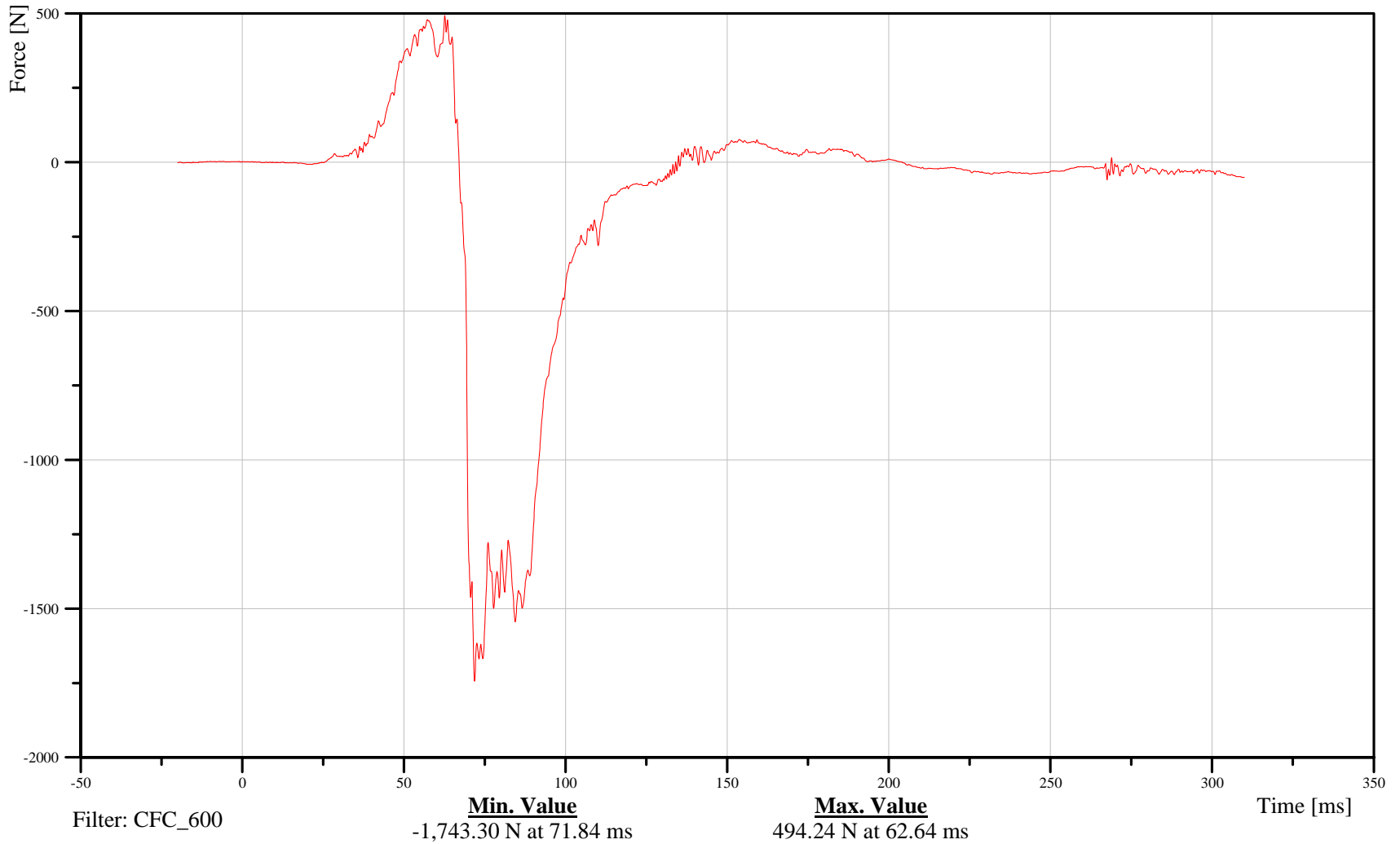
Bullet Vehicle Driver Left Femur Z-Axis Force

Customer: VRTC

11FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-230

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

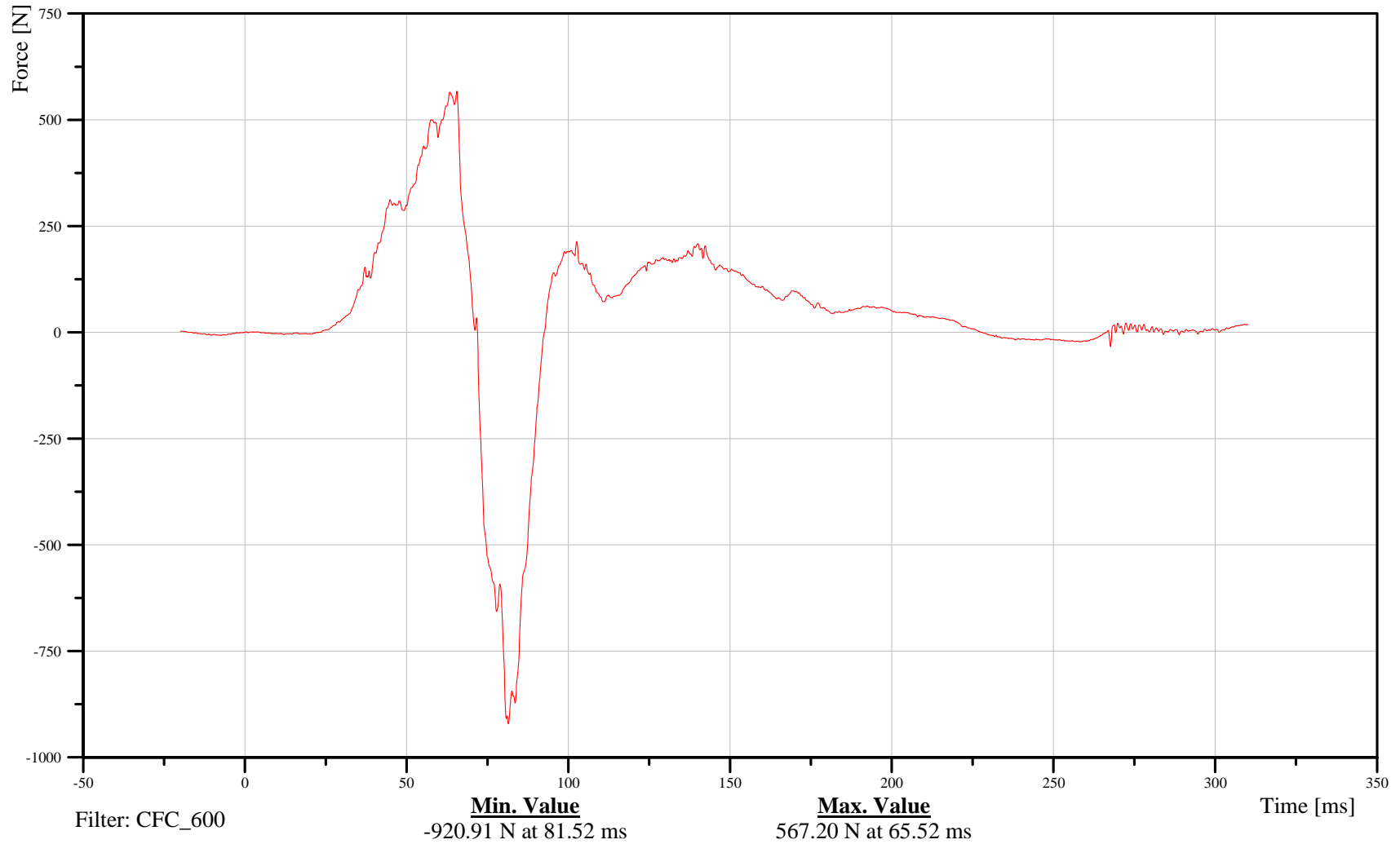
Bullet Vehicle Driver Right Femur Z-Axis Force

Customer: VRTC

11FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-231

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

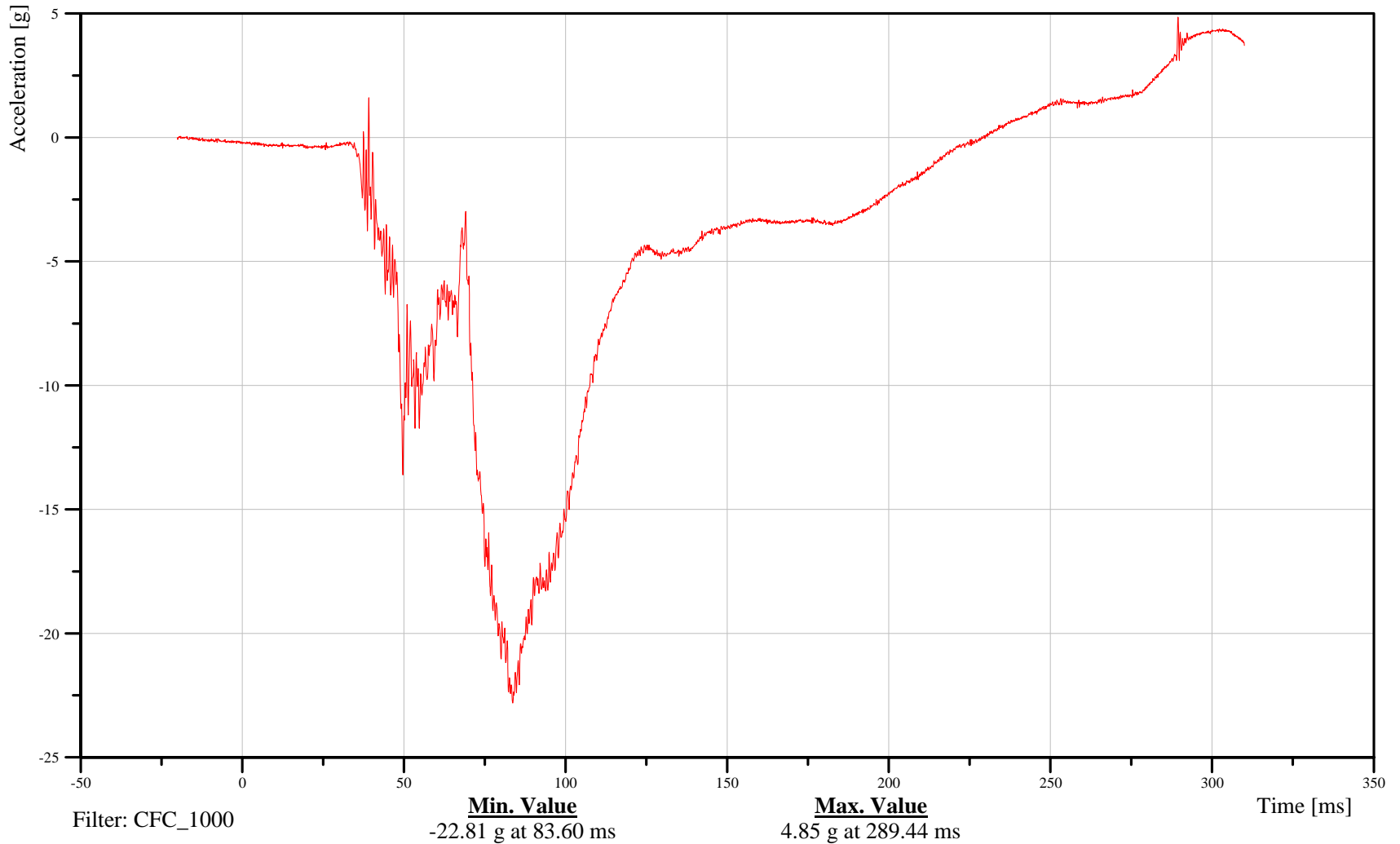
Bullet Vehicle Passenger Head X-Axis Acceleration

Customer: VRTC

13HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-232

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

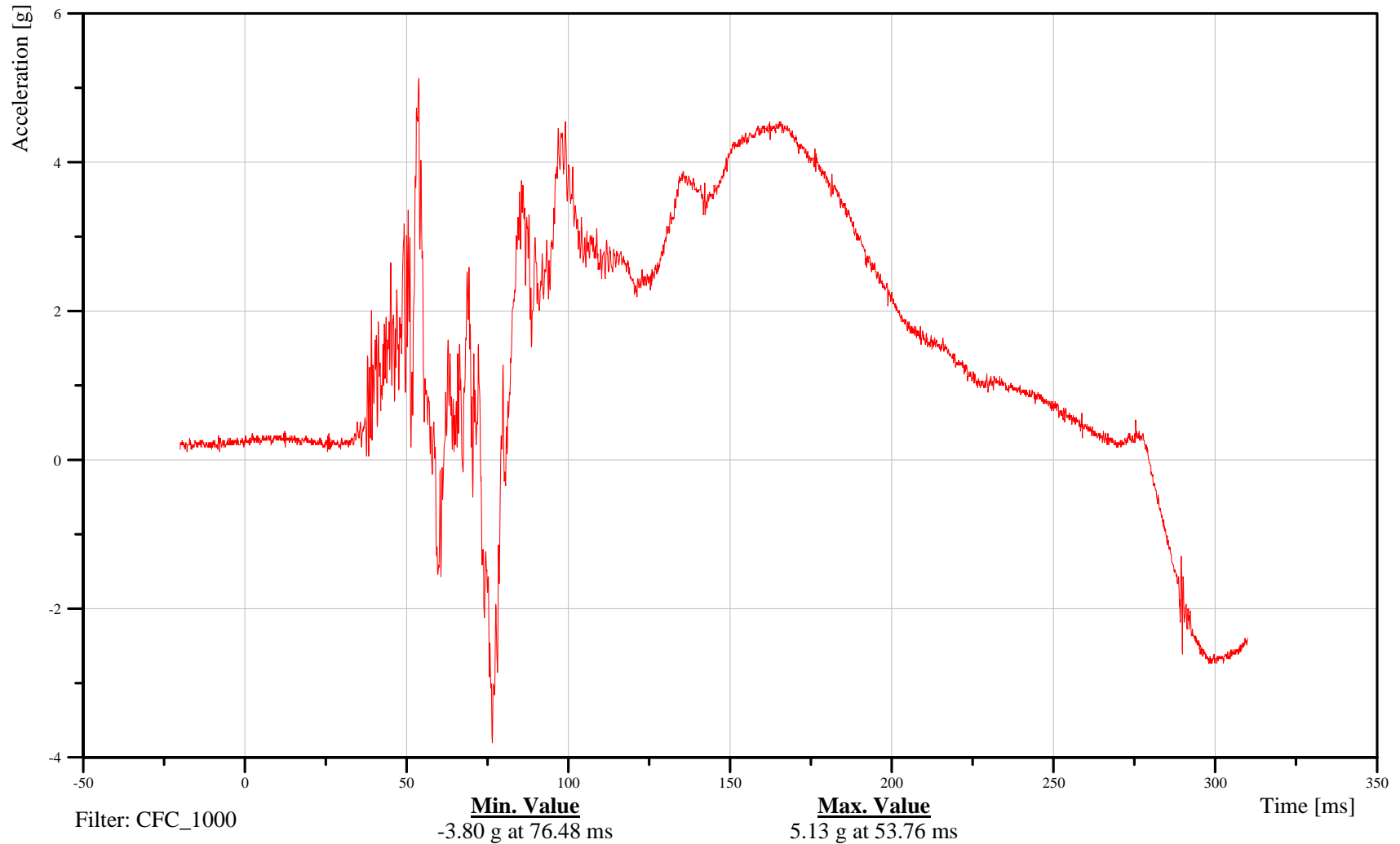
Bullet Vehicle Passenger Head Y-Axis Acceleration

Customer: VRTC

13HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-233

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

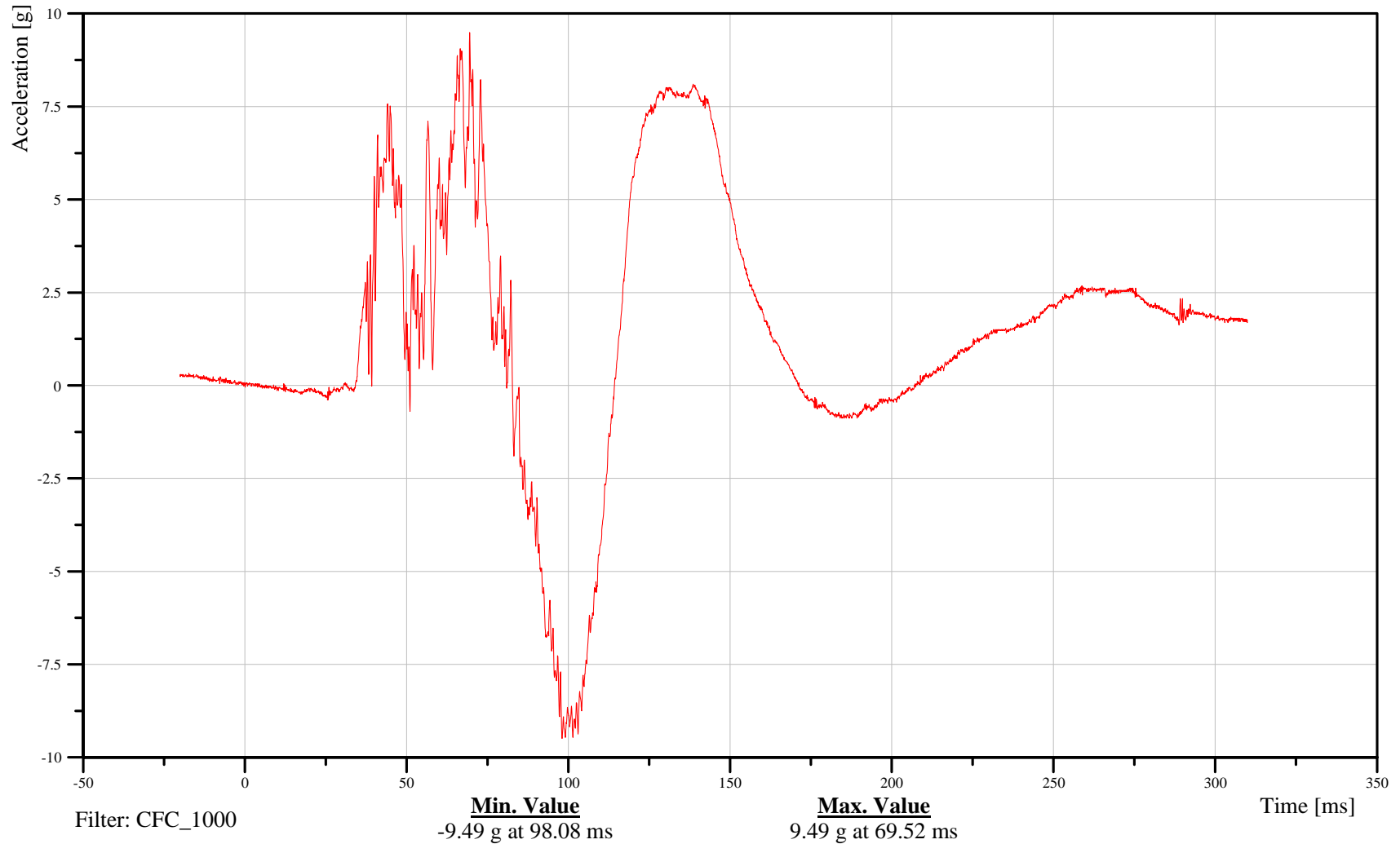
Bullet Vehicle Passenger Head Z-Axis Acceleration

Customer: VRTC

13HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-234

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

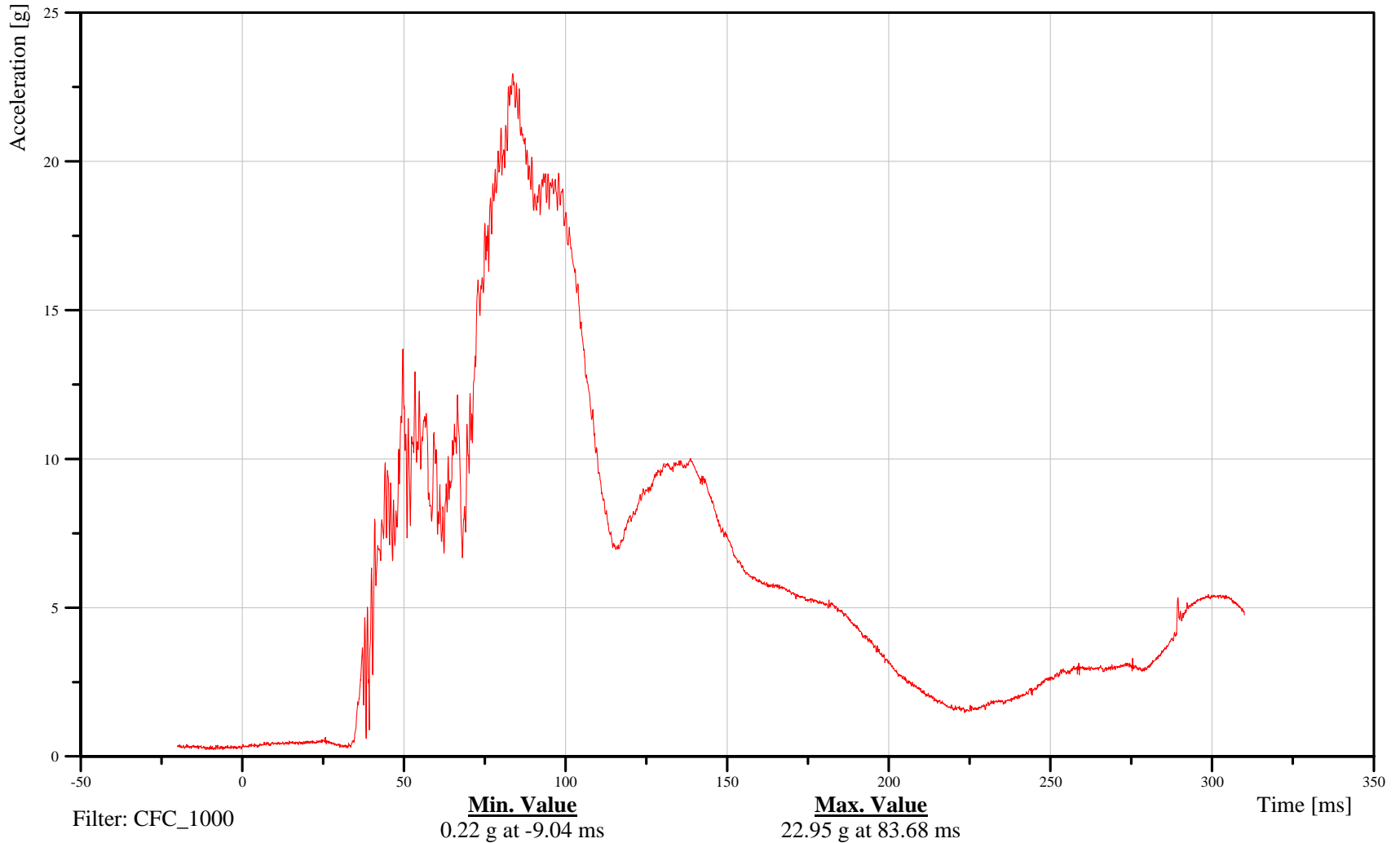
Bullet Vehicle Passenger Head Resultant Acceleration

Customer: VRTC

13HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-235

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

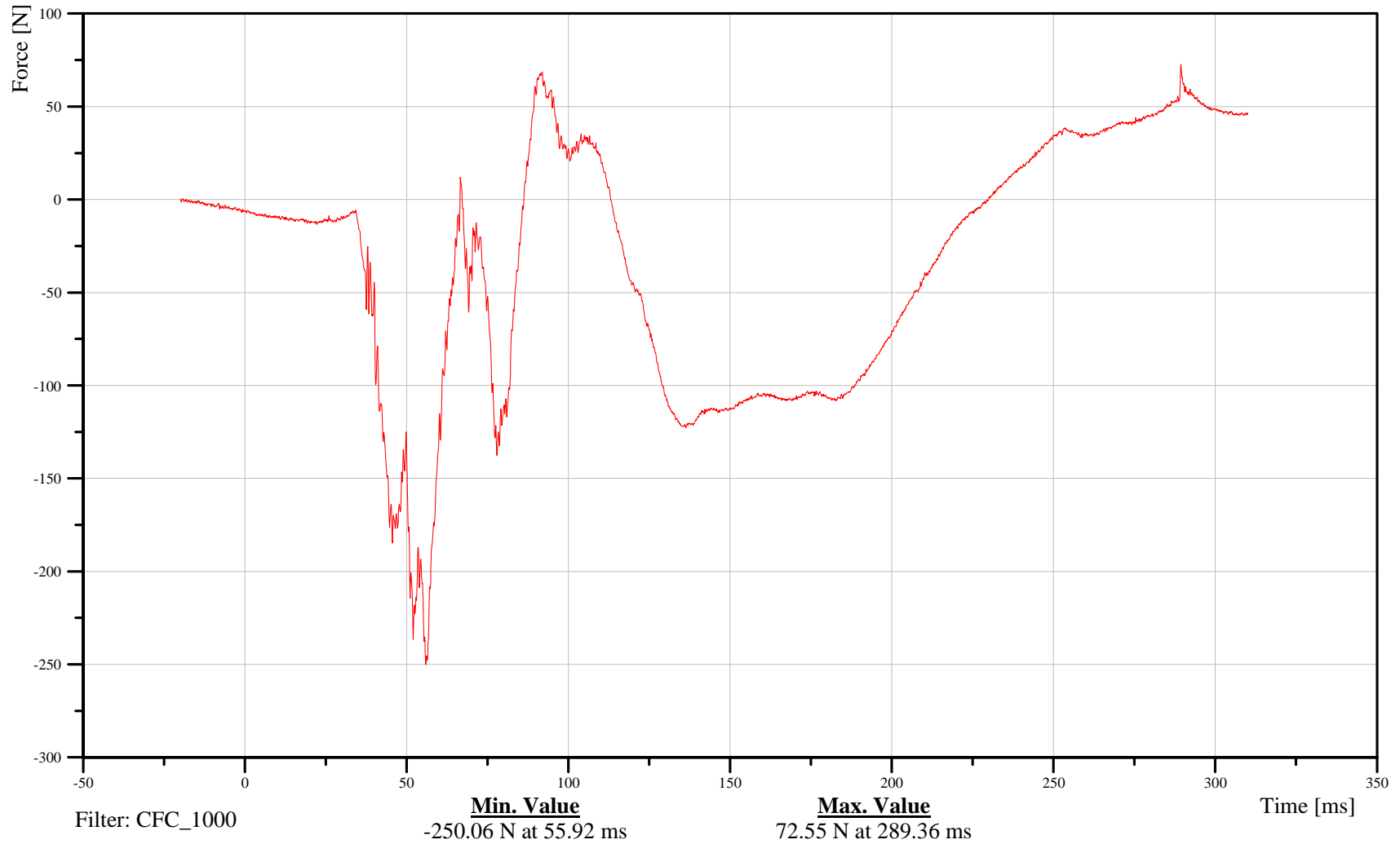
Bullet Vehicle Passenger Neck X-Axis Force

Customer: VRTC

13NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-236

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

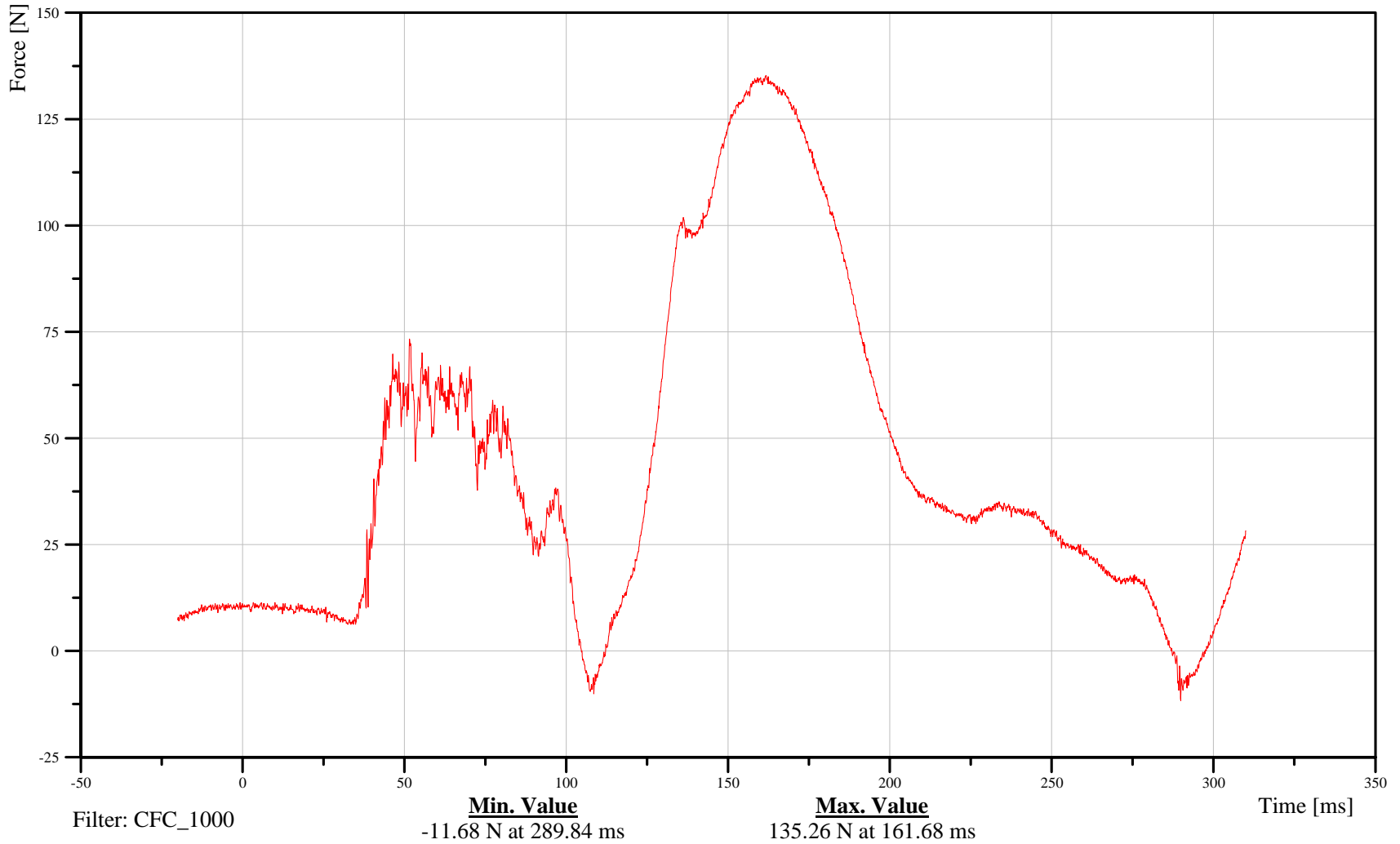
Bullet Vehicle Passenger Neck Y-Axis Force

Customer: VRTC

13NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-237

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

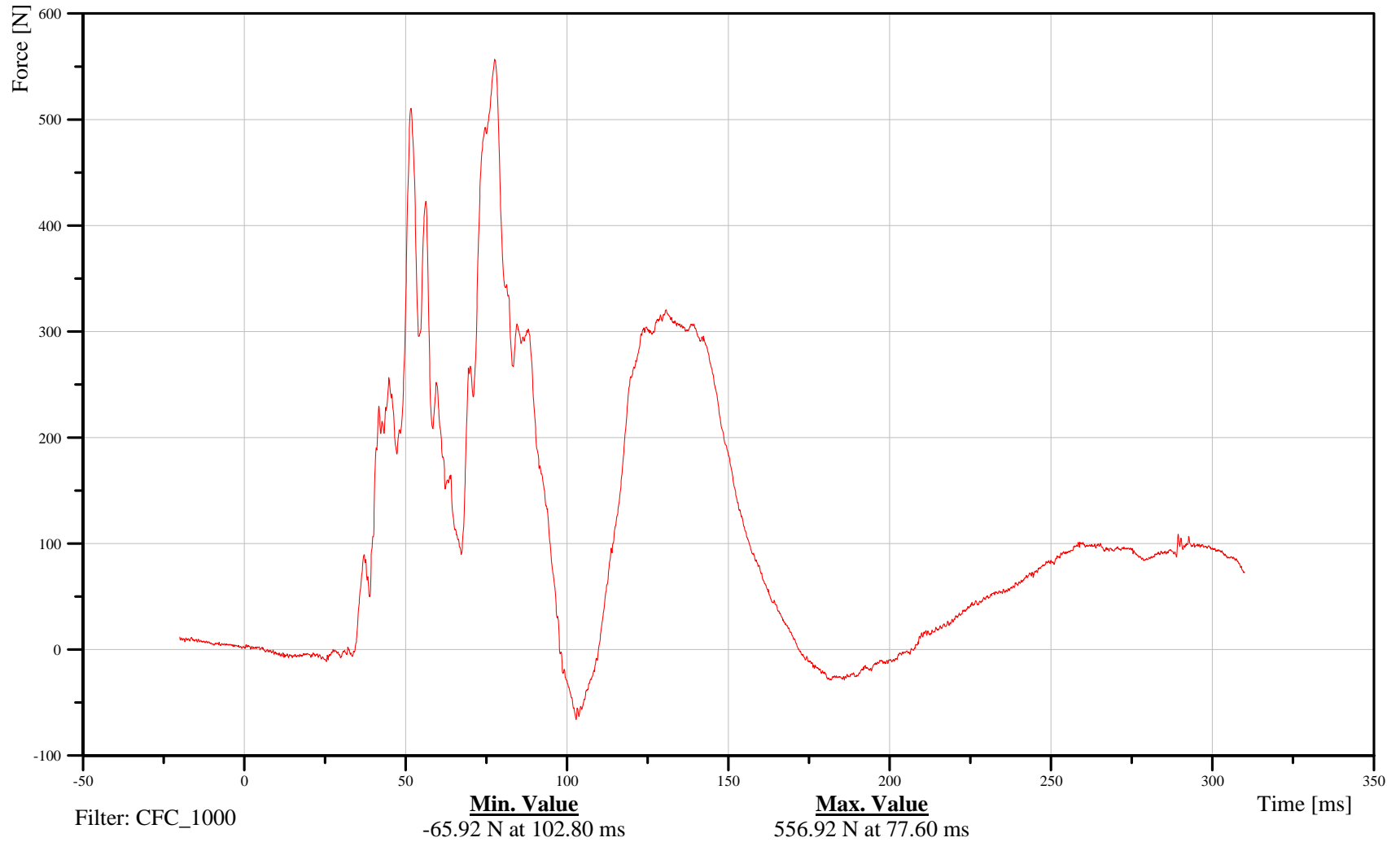
Bullet Vehicle Passenger Neck Z-Axis Force

Customer: VRTC

13NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-238

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

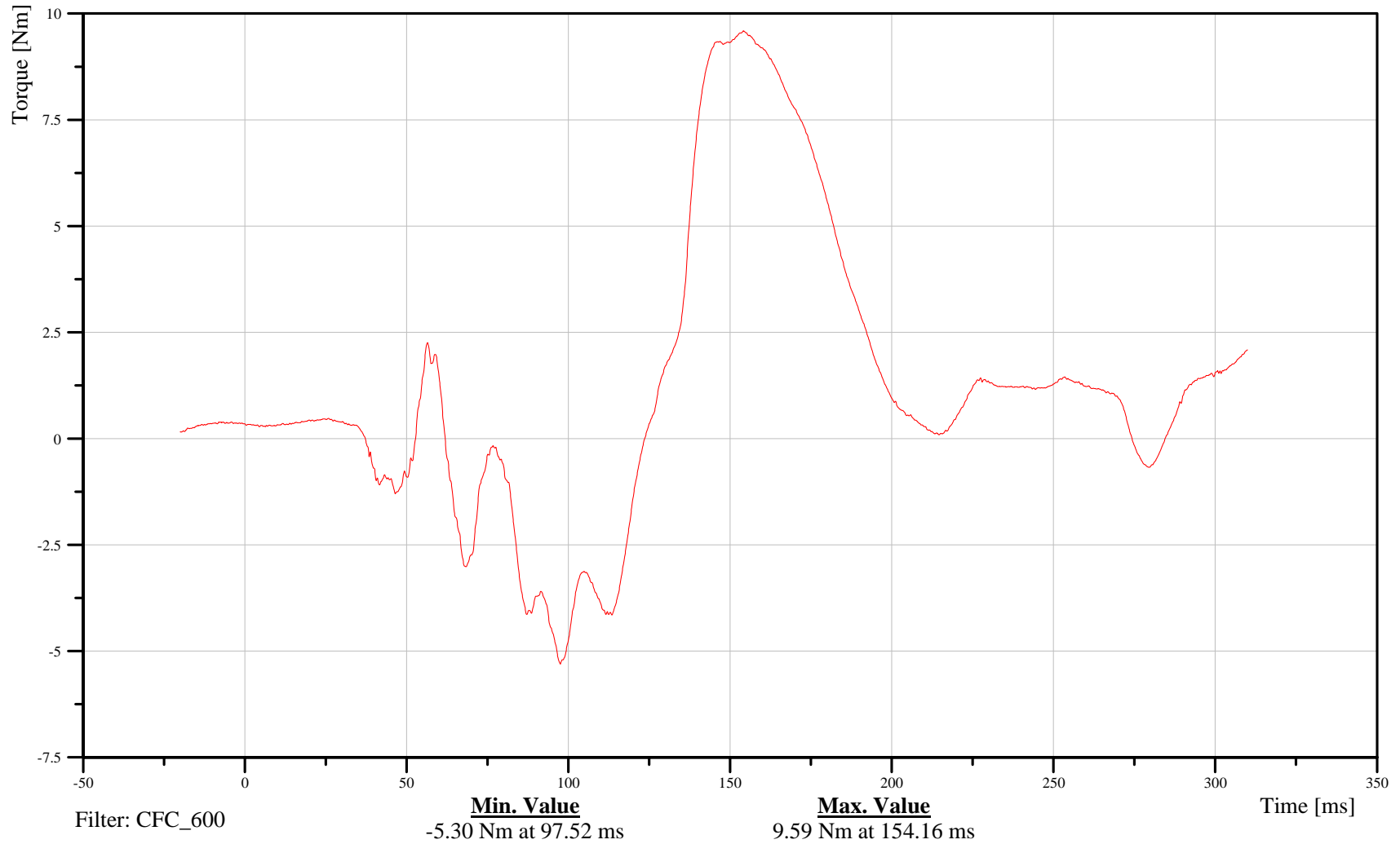
Bullet Vehicle Passenger Neck Moment About X Axis

Customer: VRTC

13NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-239

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

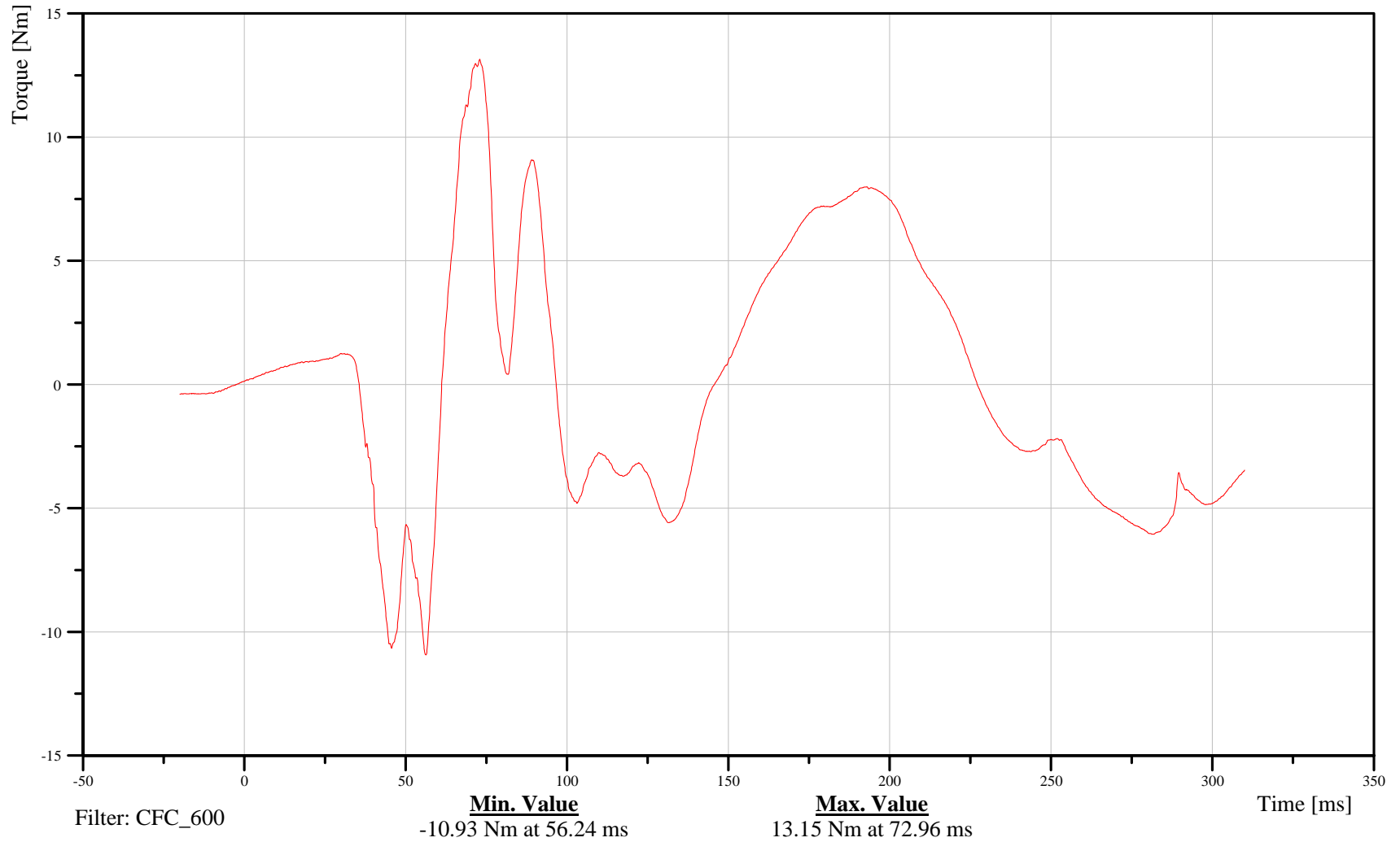
Bullet Vehicle Passenger Neck Moment About Y Axis

Customer: VRTC

13NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-240

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

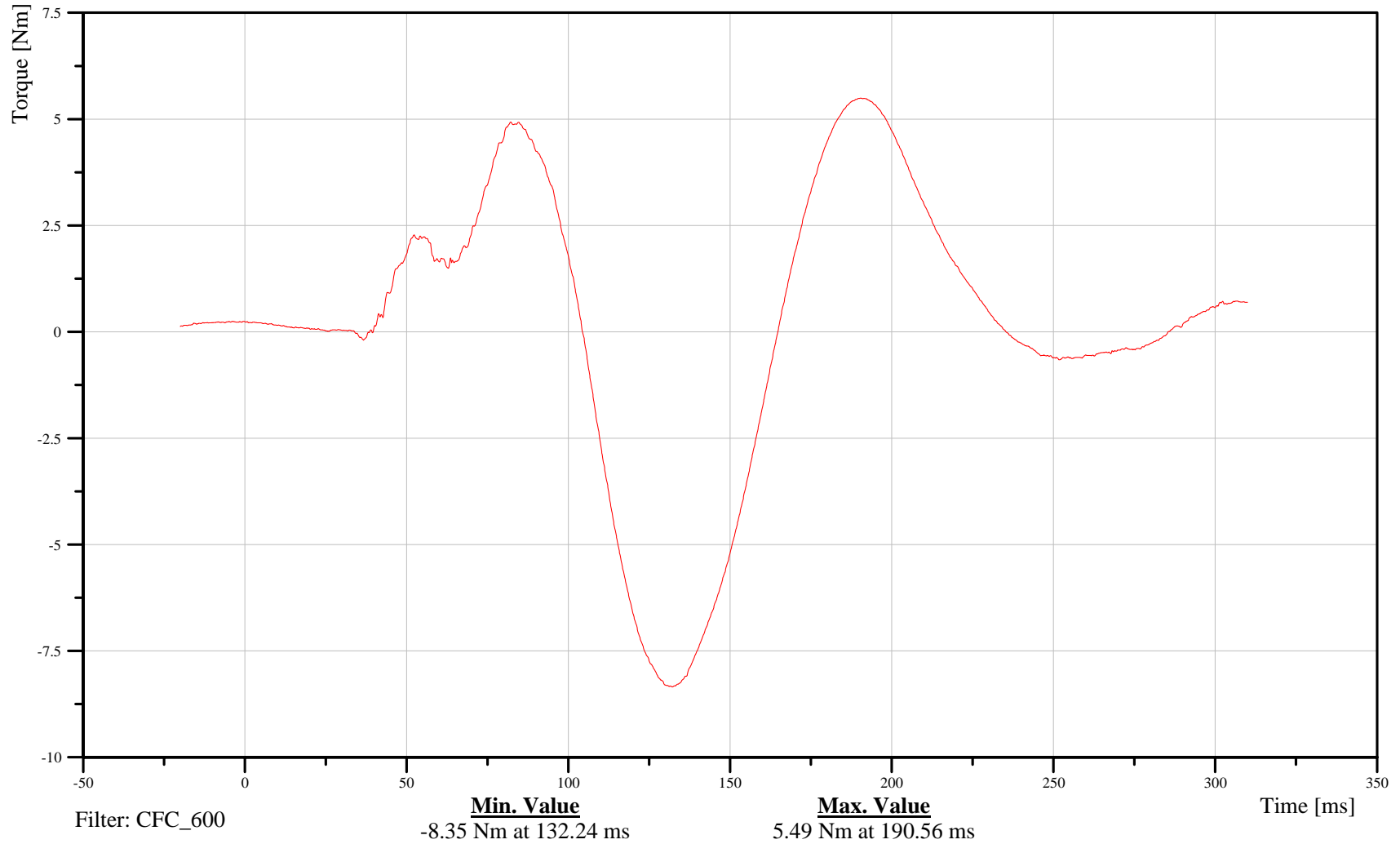
Bullet Vehicle Passenger Neck Moment About Z Axis

Customer: VRTC

13NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-241

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

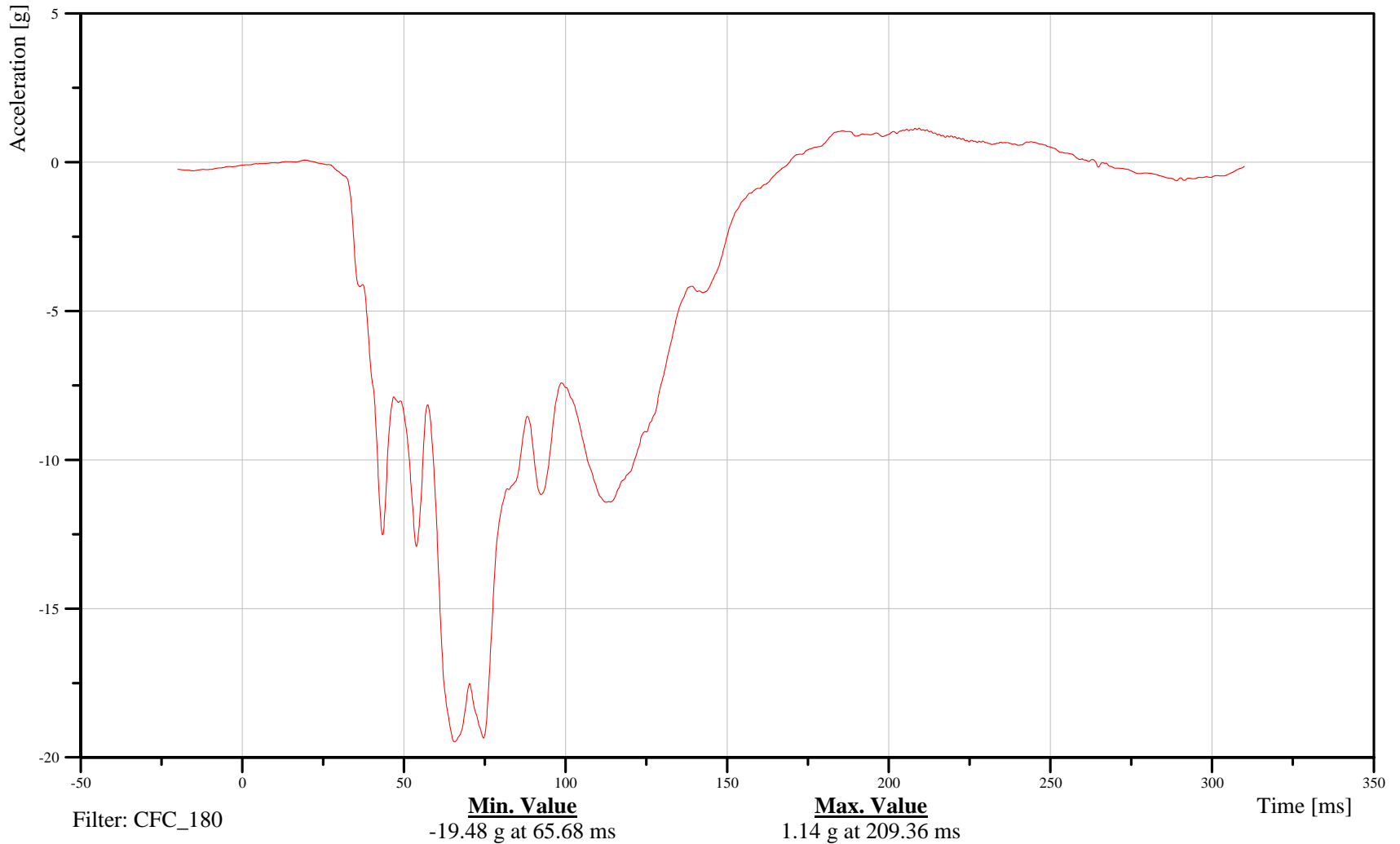
Bullet Vehicle Passenger Chest X-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-242

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

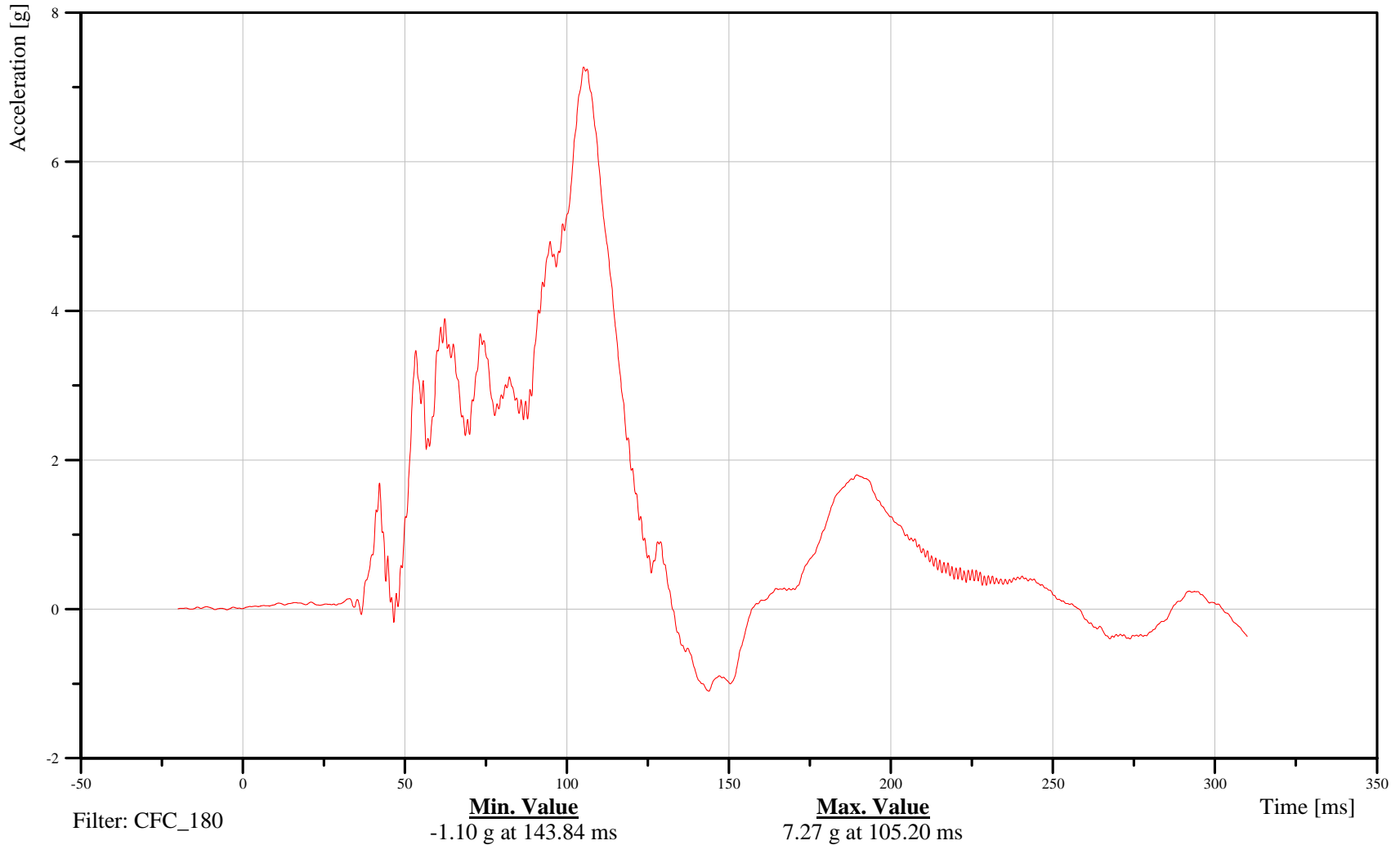
Bullet Vehicle Passenger Chest Y-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-243

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

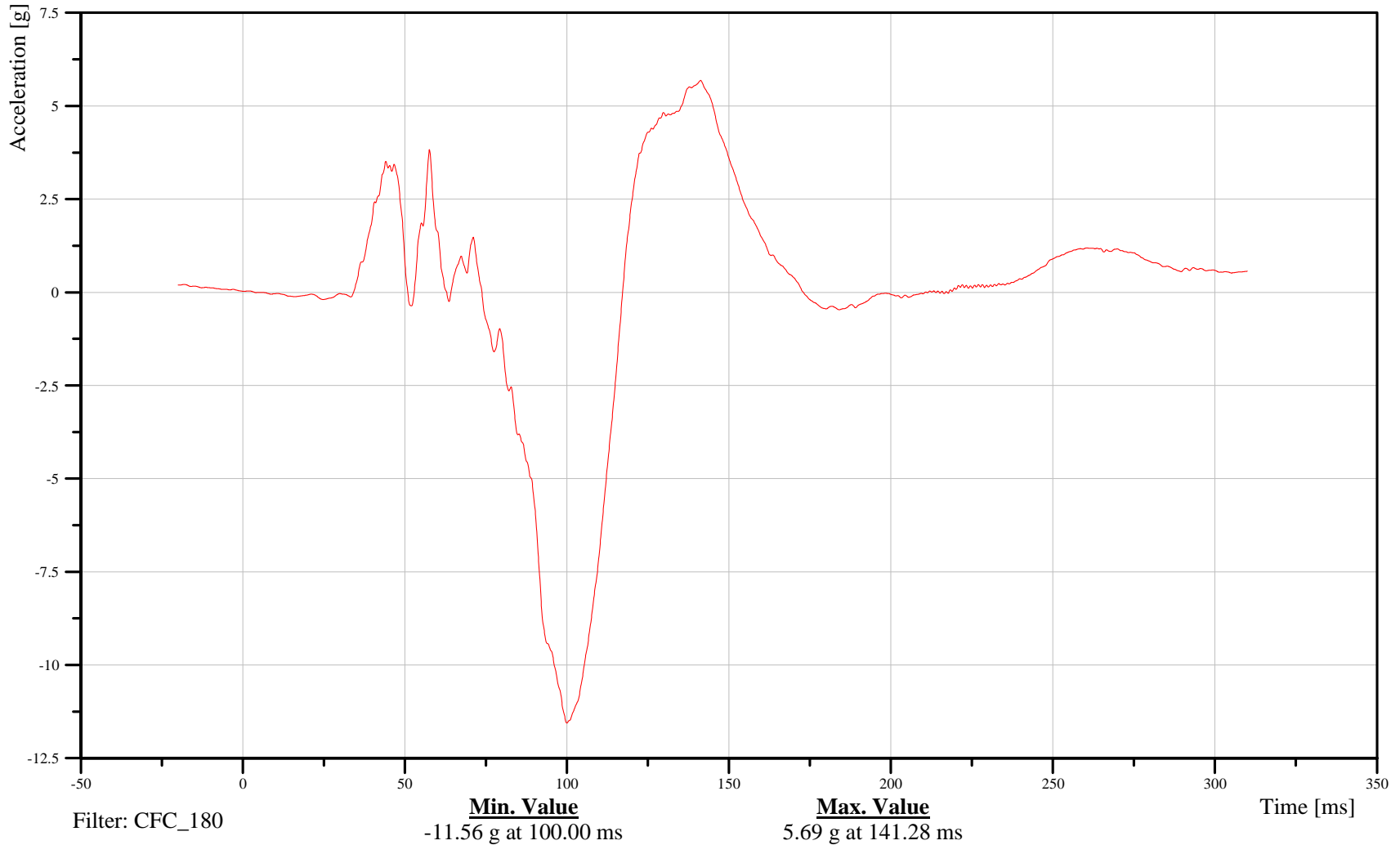
Bullet Vehicle Passenger Chest Z-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-244

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

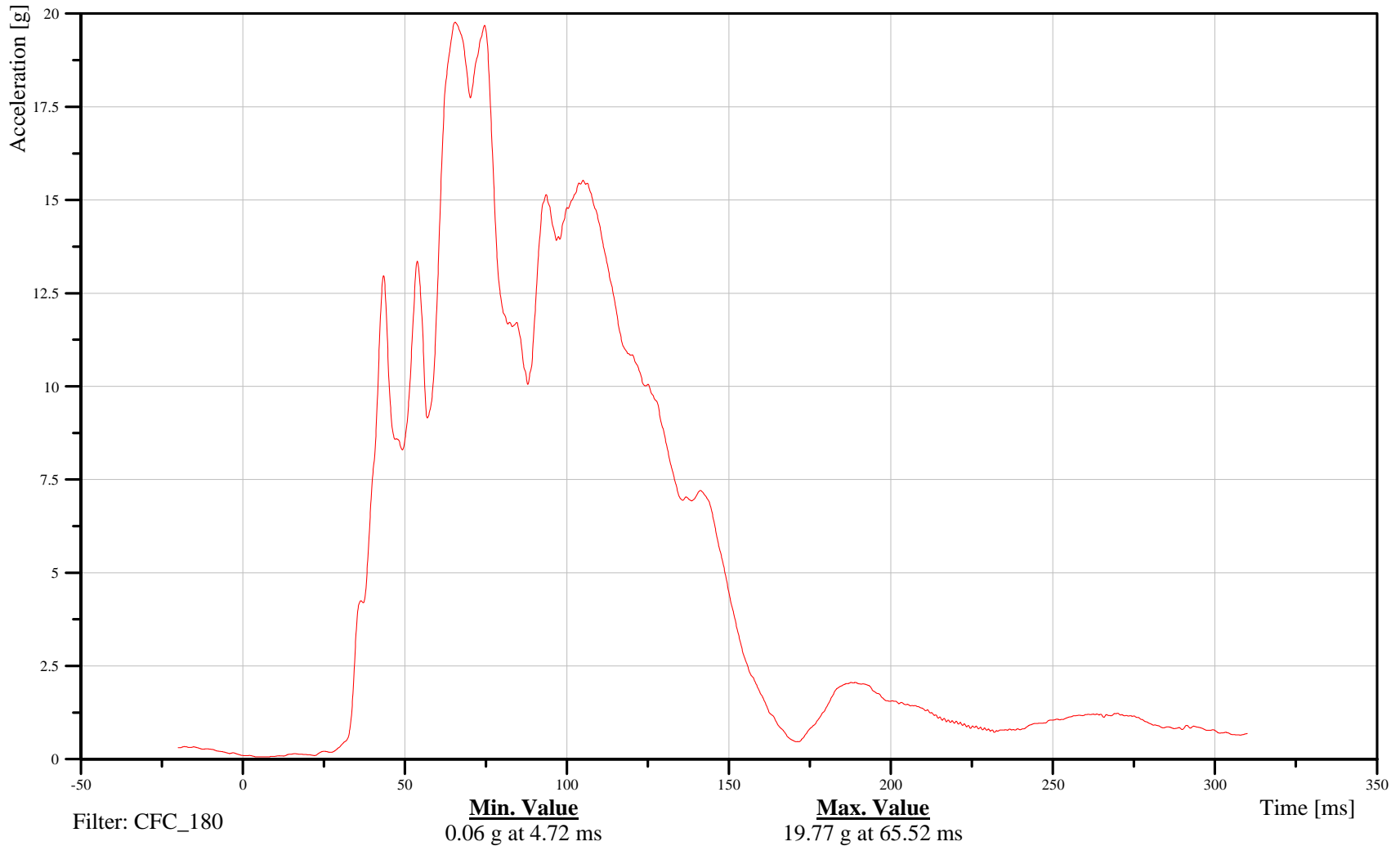
Bullet Vehicle Passenger Chest Resultant Acceleration

Customer: VRTC

13CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-245

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

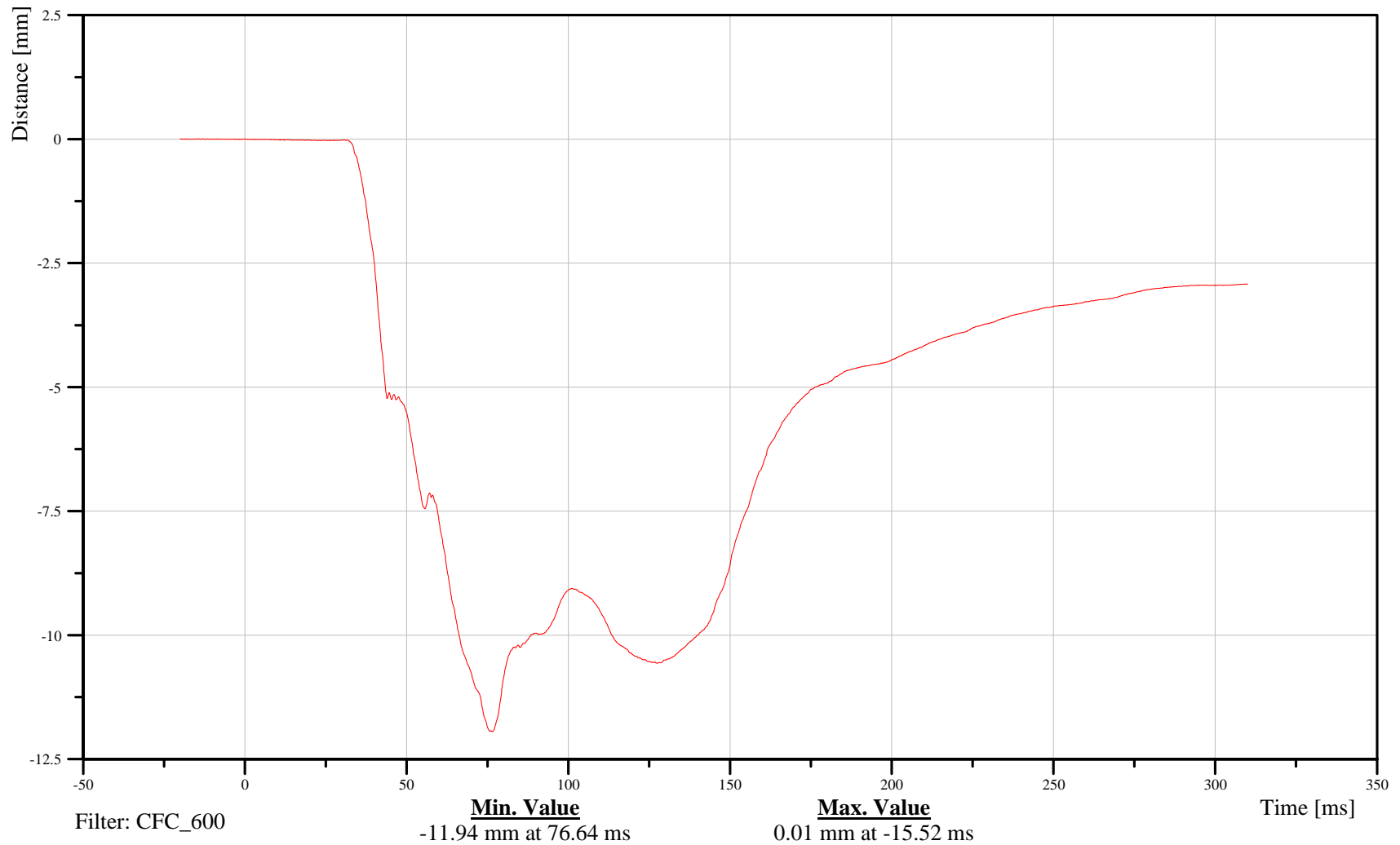
Bullet Vehicle Passenger Chest X-Axis Displacement

Customer: VRTC

13CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-246

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

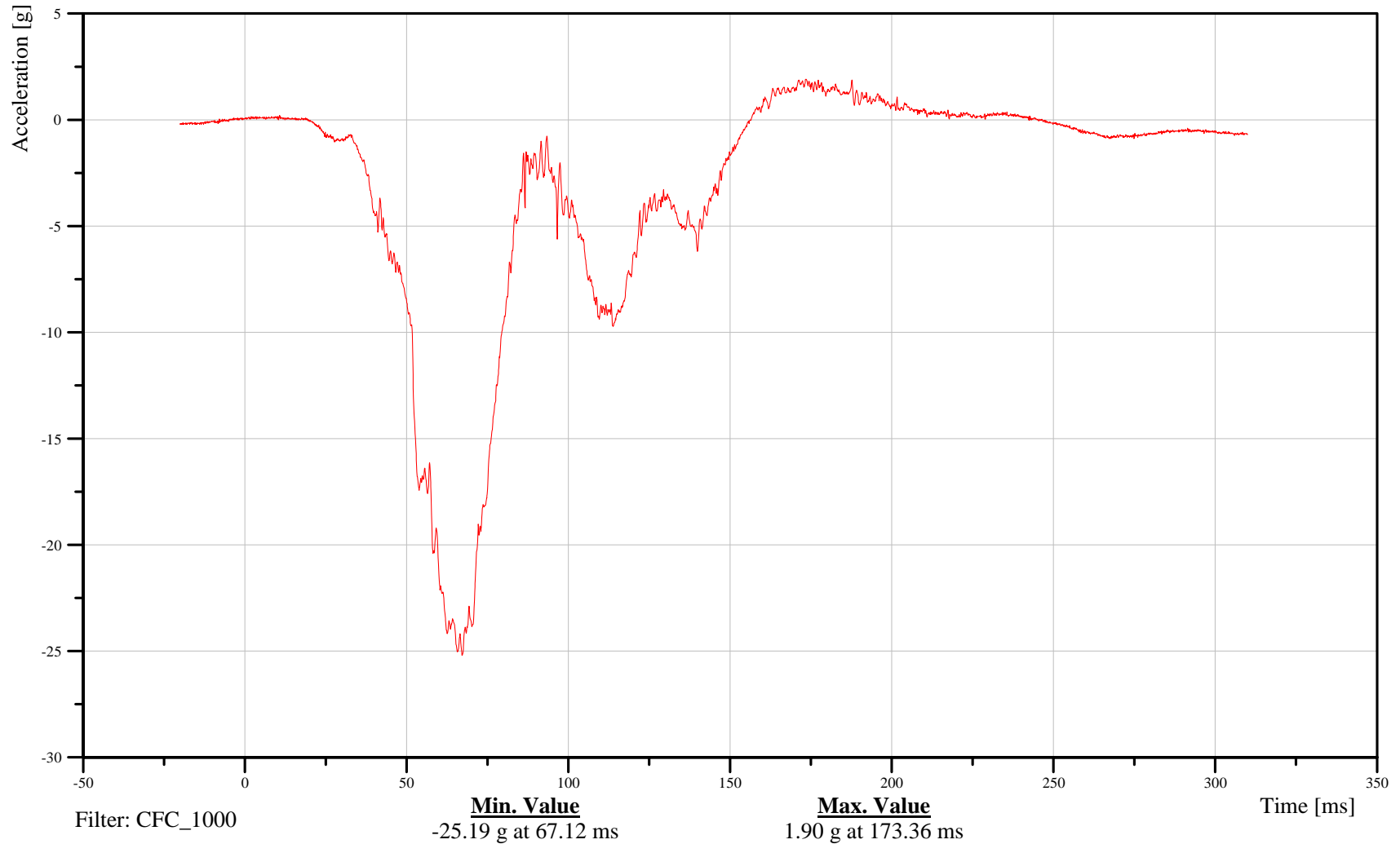
Bullet Vehicle Passenger Pelvis X-Axis Acceleration

Customer: VRTC

13PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-247

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

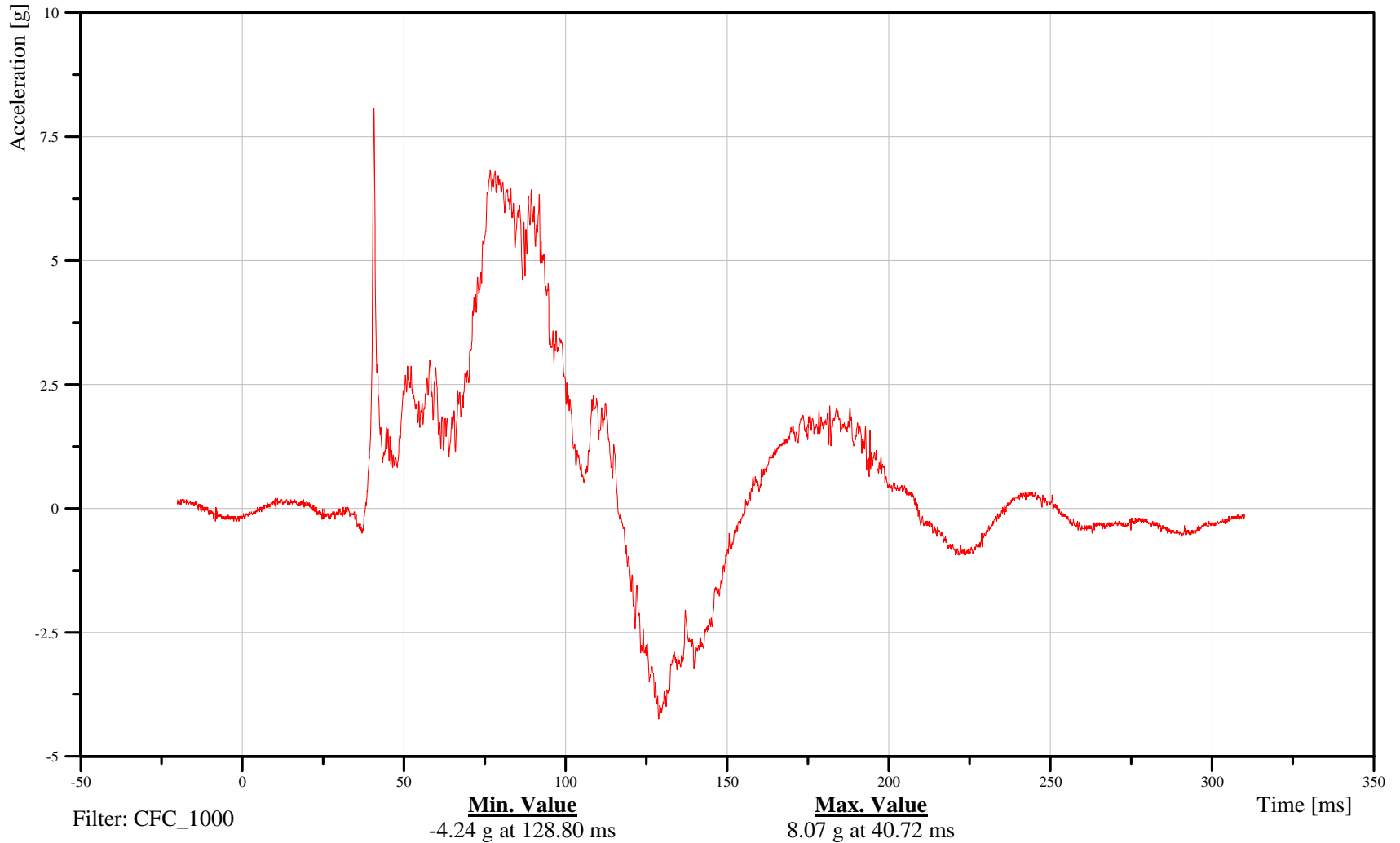
Bullet Vehicle Passenger Pelvis Y-Axis Acceleration

Customer: VRTC

13PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-248

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

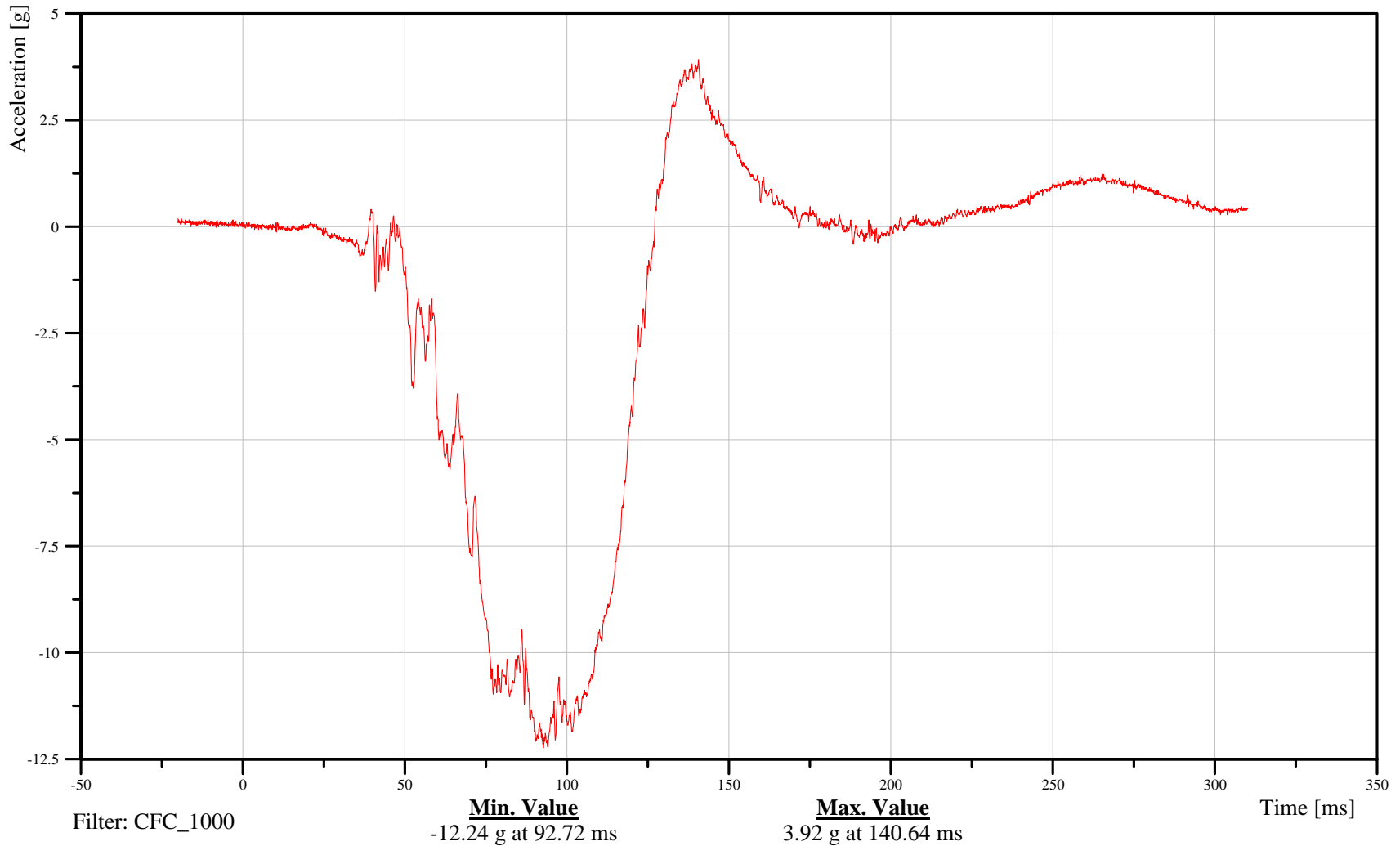
Bullet Vehicle Passenger Pelvis Z-Axis Acceleration

Customer: VRTC

13PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-249

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

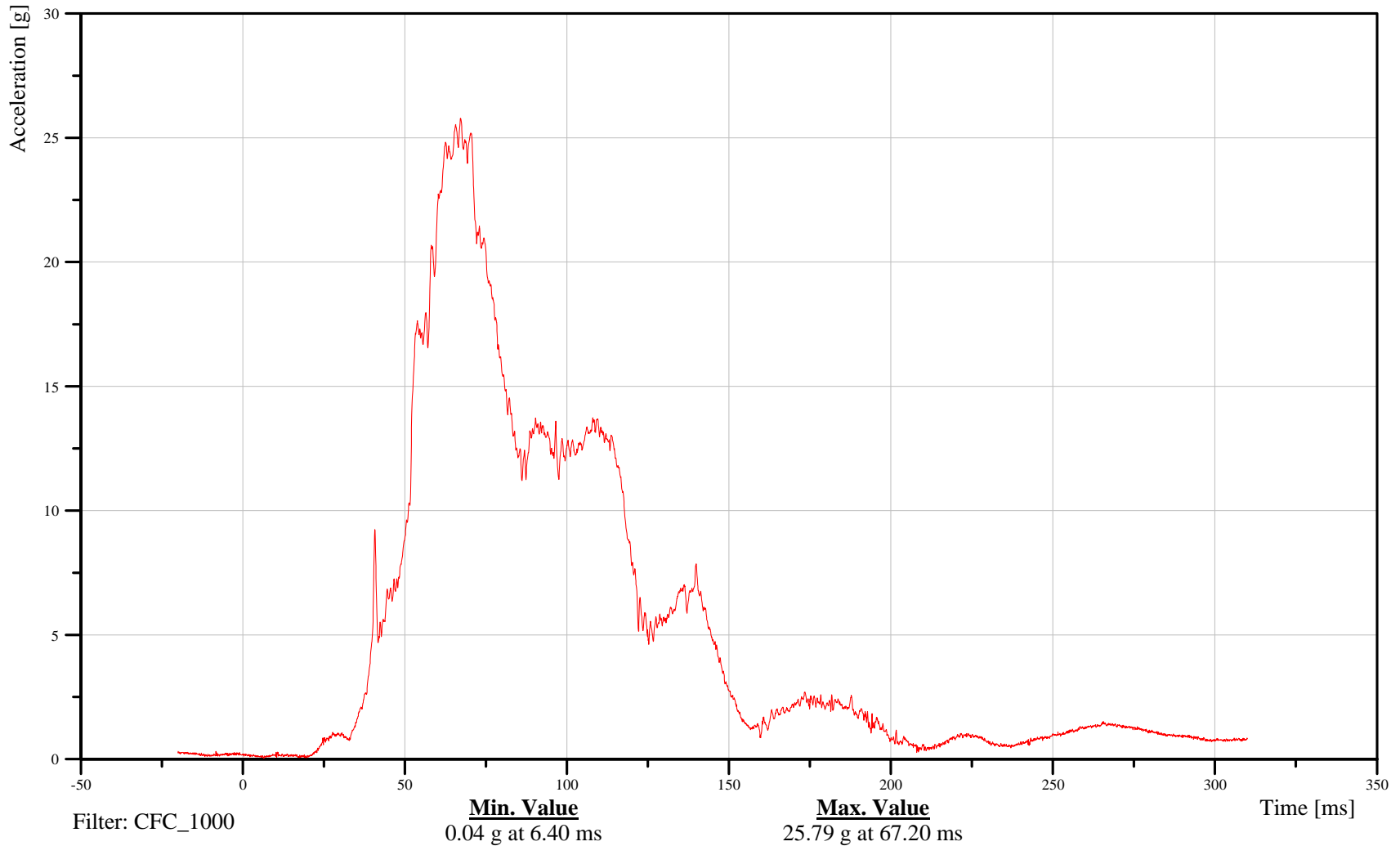
Bullet Vehicle Passenger Pelvis Resultant Acceleration

Customer: VRTC

13PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-250

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

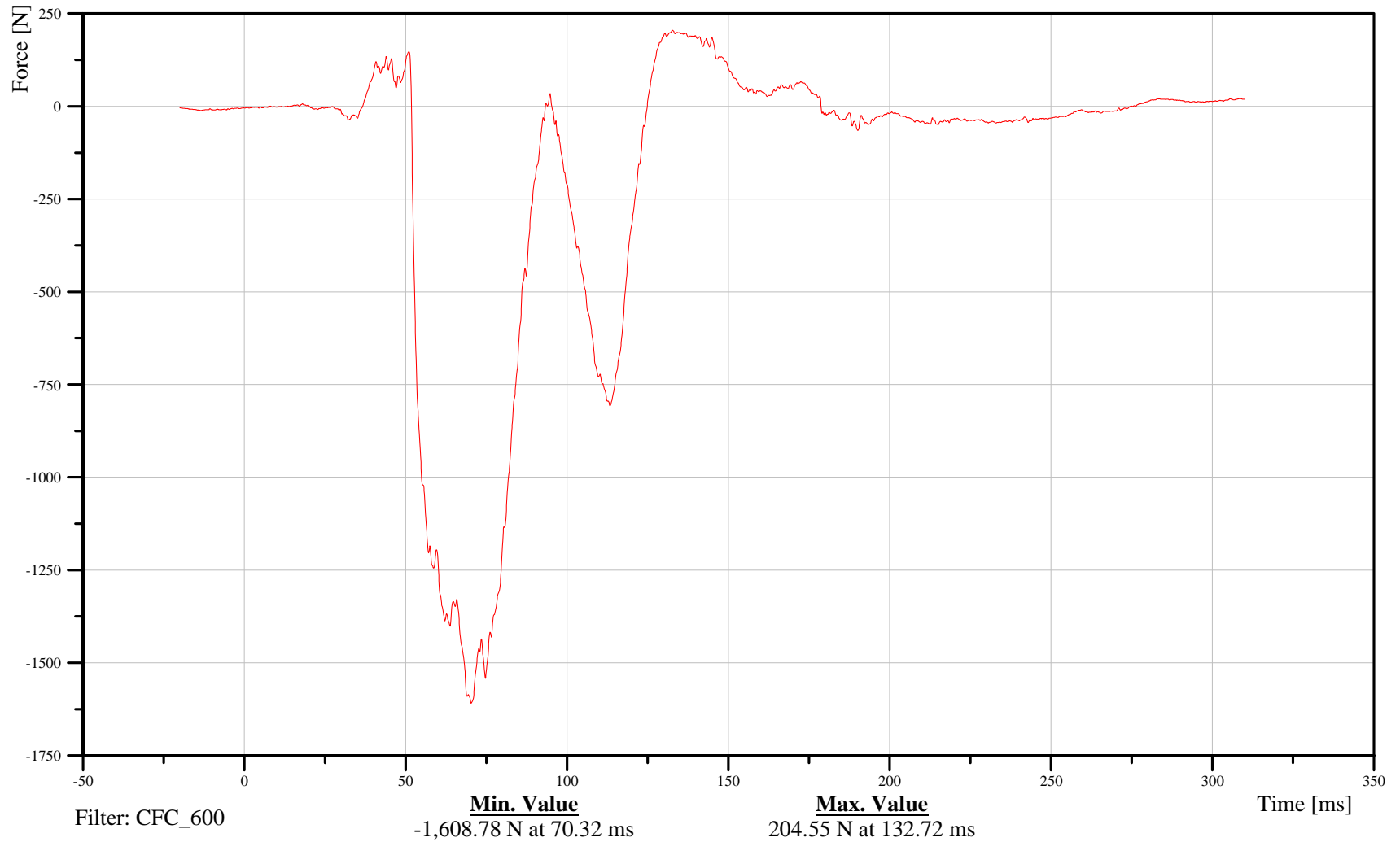
Bullet Vehicle Passenger Left Femur Z-Axis Force

Customer: VRTC

13FEMRLL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-251

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

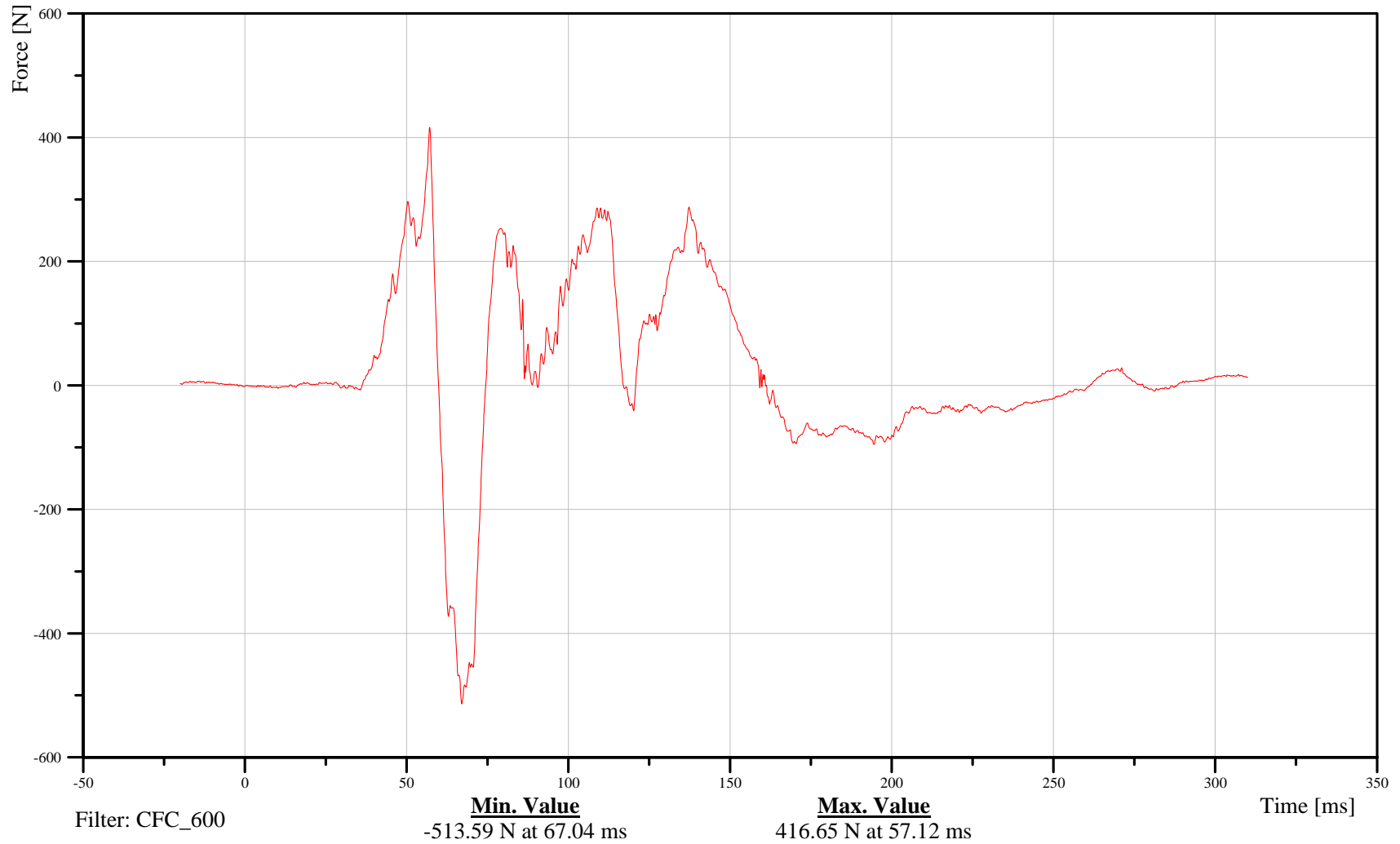
Bullet Vehicle Passenger Right Femur Z-Axis Force

Customer: VRTC

13FEMRRL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-252

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

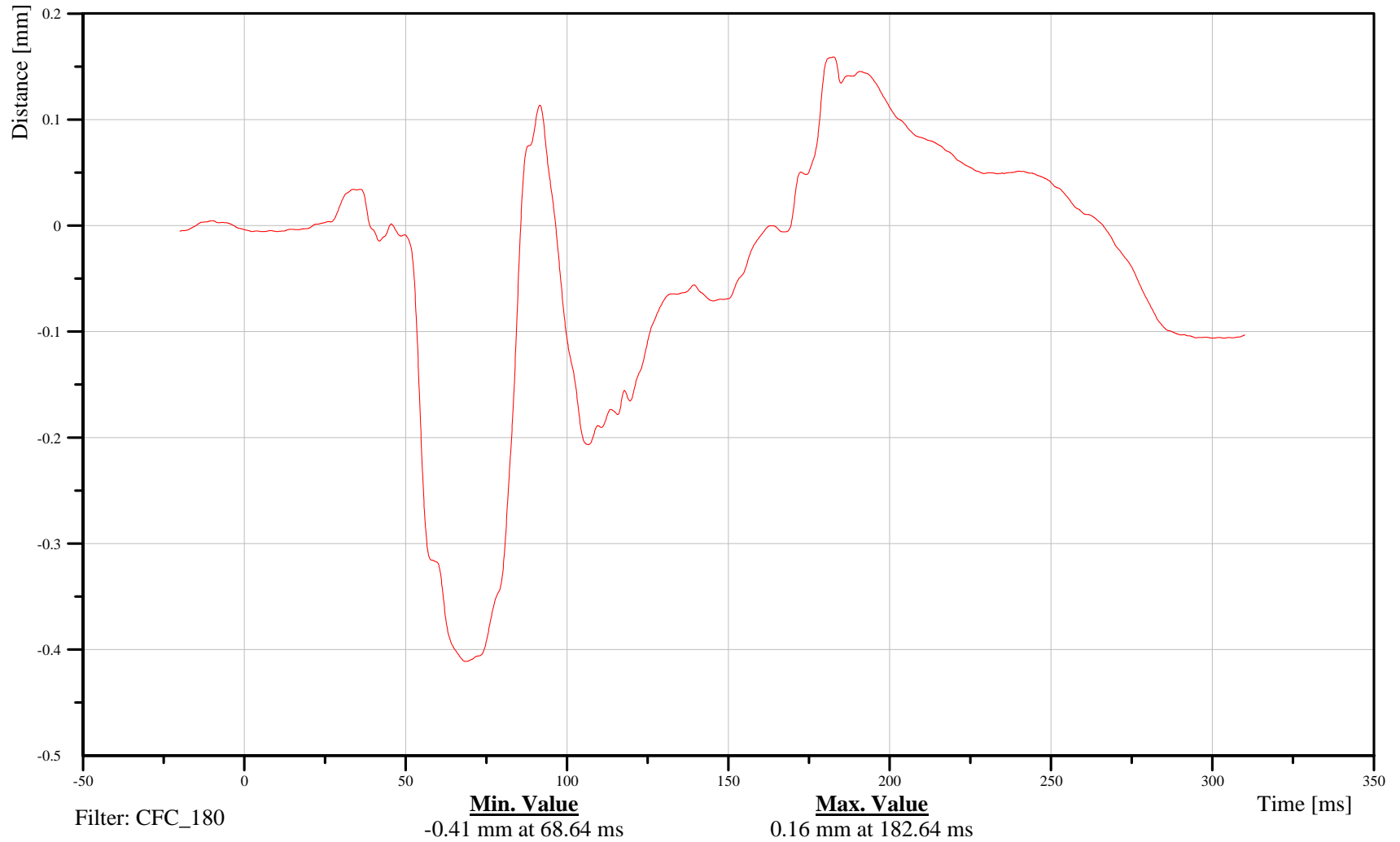
Bullet Vehicle Passenger Left Knee X-Axis Displacement

Customer: VRTC

13KNSLLE00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-253

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

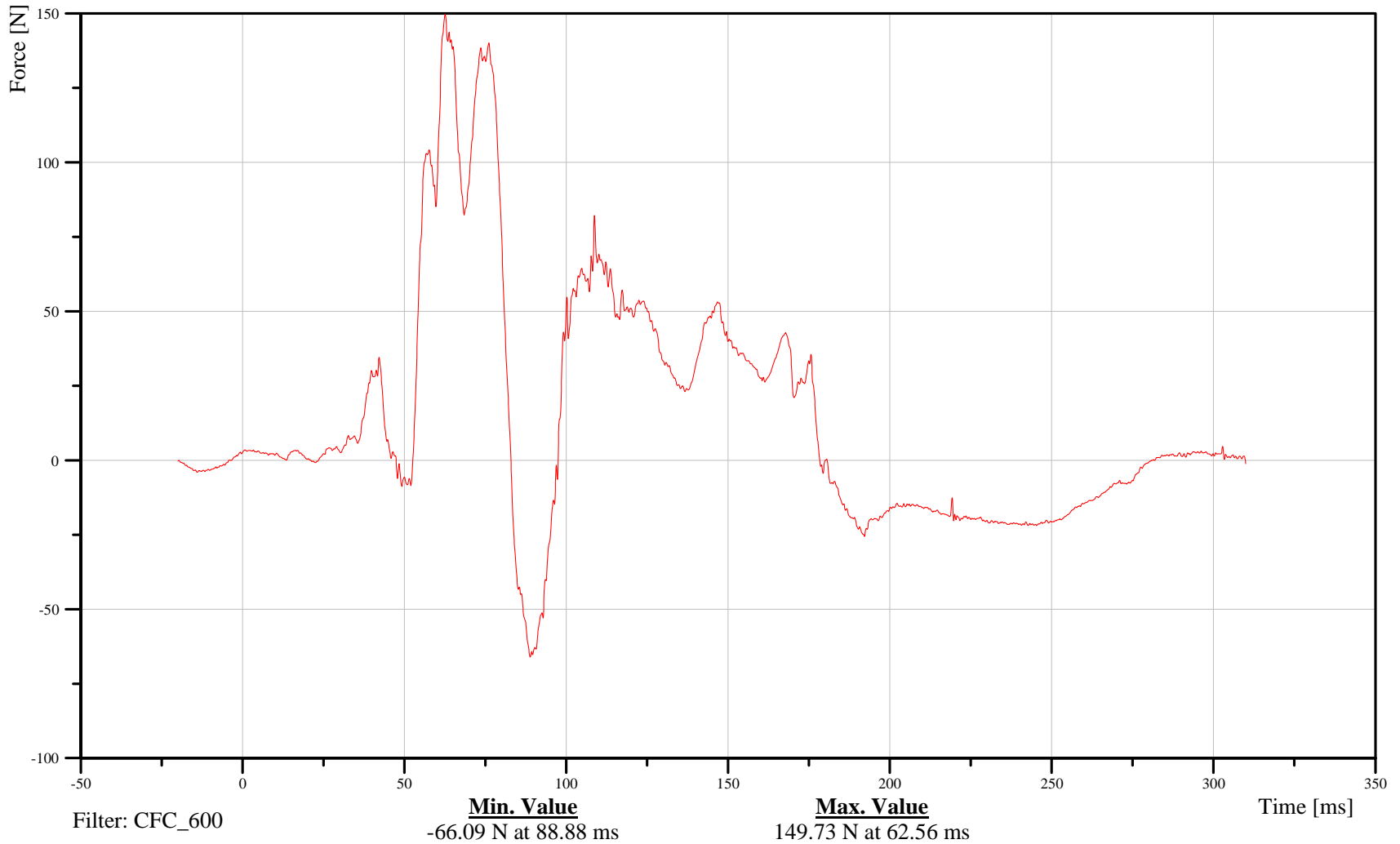
Bullet Vehicle Passenger Left Upper Tibia X-Axis Force

Customer: VRTC

13TIBILULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-254

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

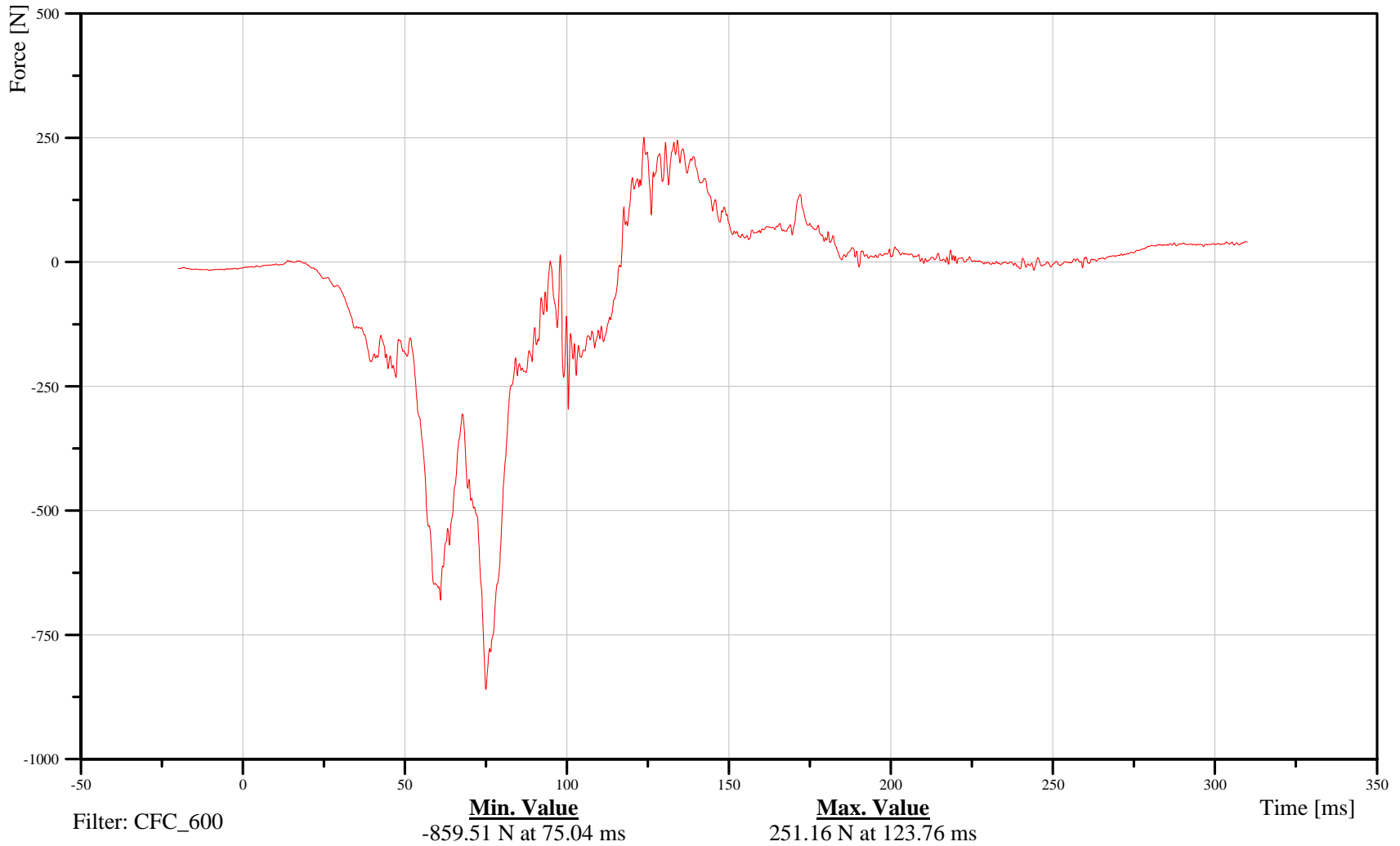
Bullet Vehicle Passenger Left Upper Tibia Z-Axis Force

Customer: VRTC

13TIBILULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-255

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

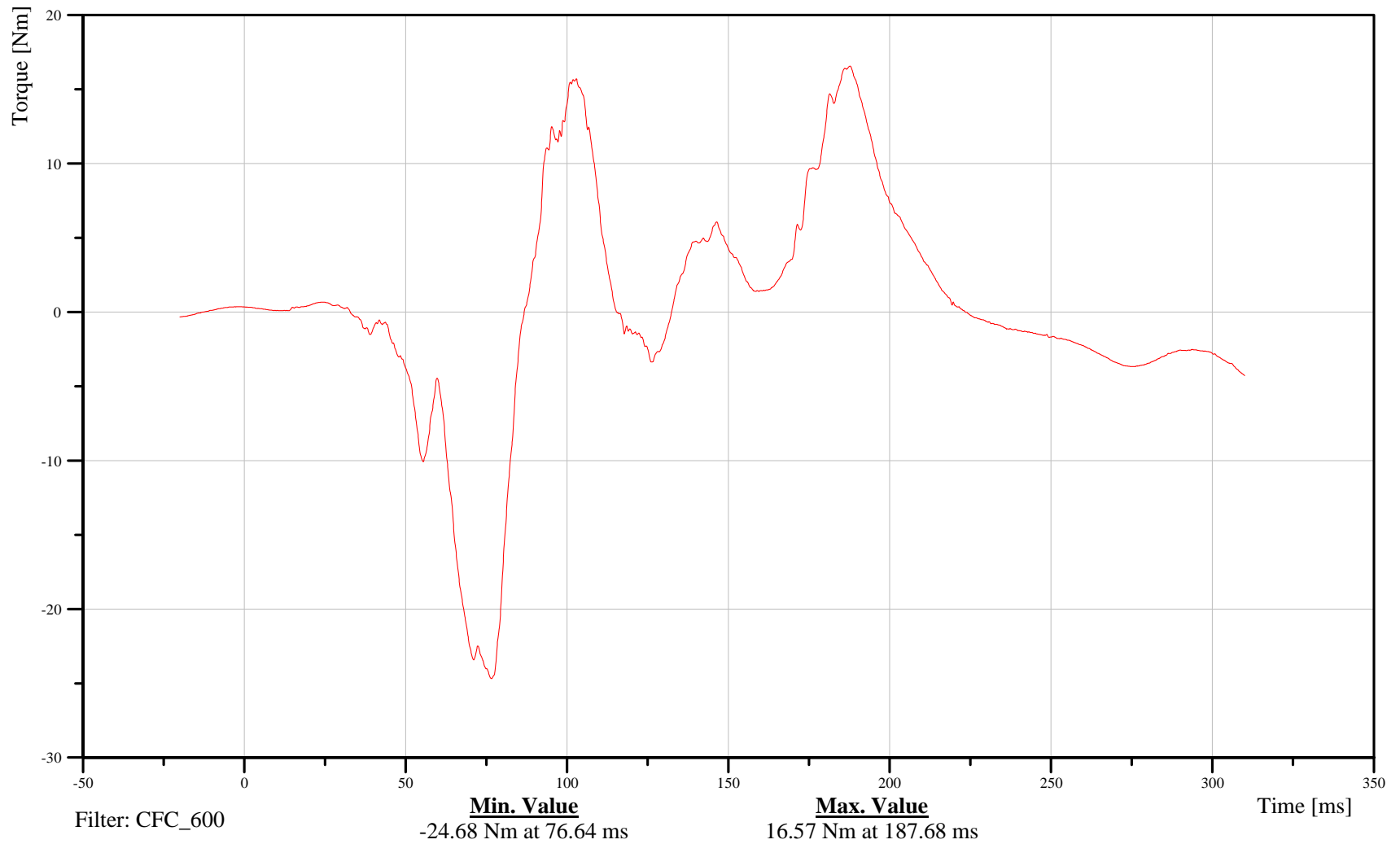
Bullet Vehicle Passenger Left Upper Tibia Moment About X Axis

Customer: VRTC

13TIBILULXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-256

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

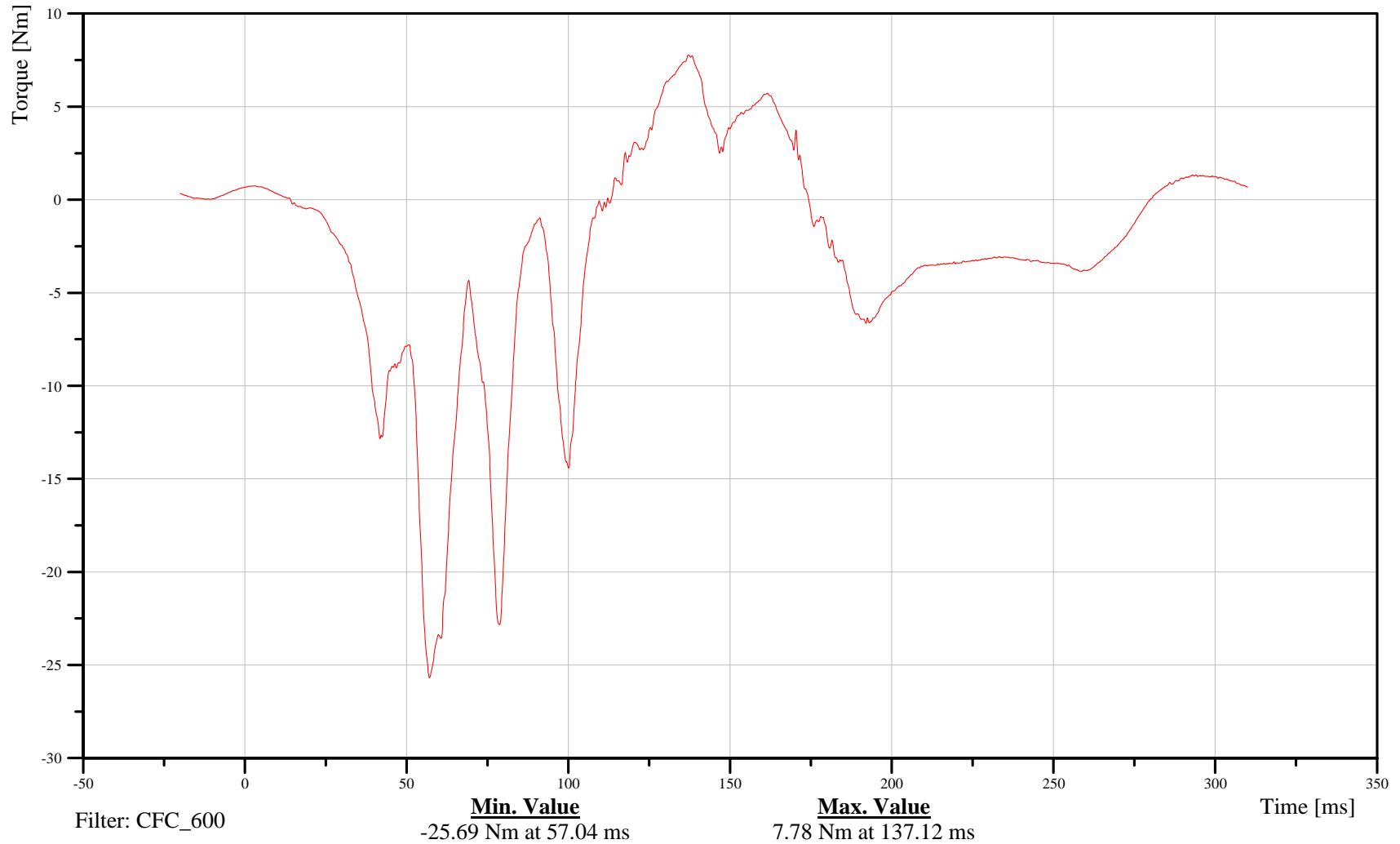
Bullet Vehicle Passenger Left Upper Tibia Moment About Y Axis

Customer: VRTC

13TIBILULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-257

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

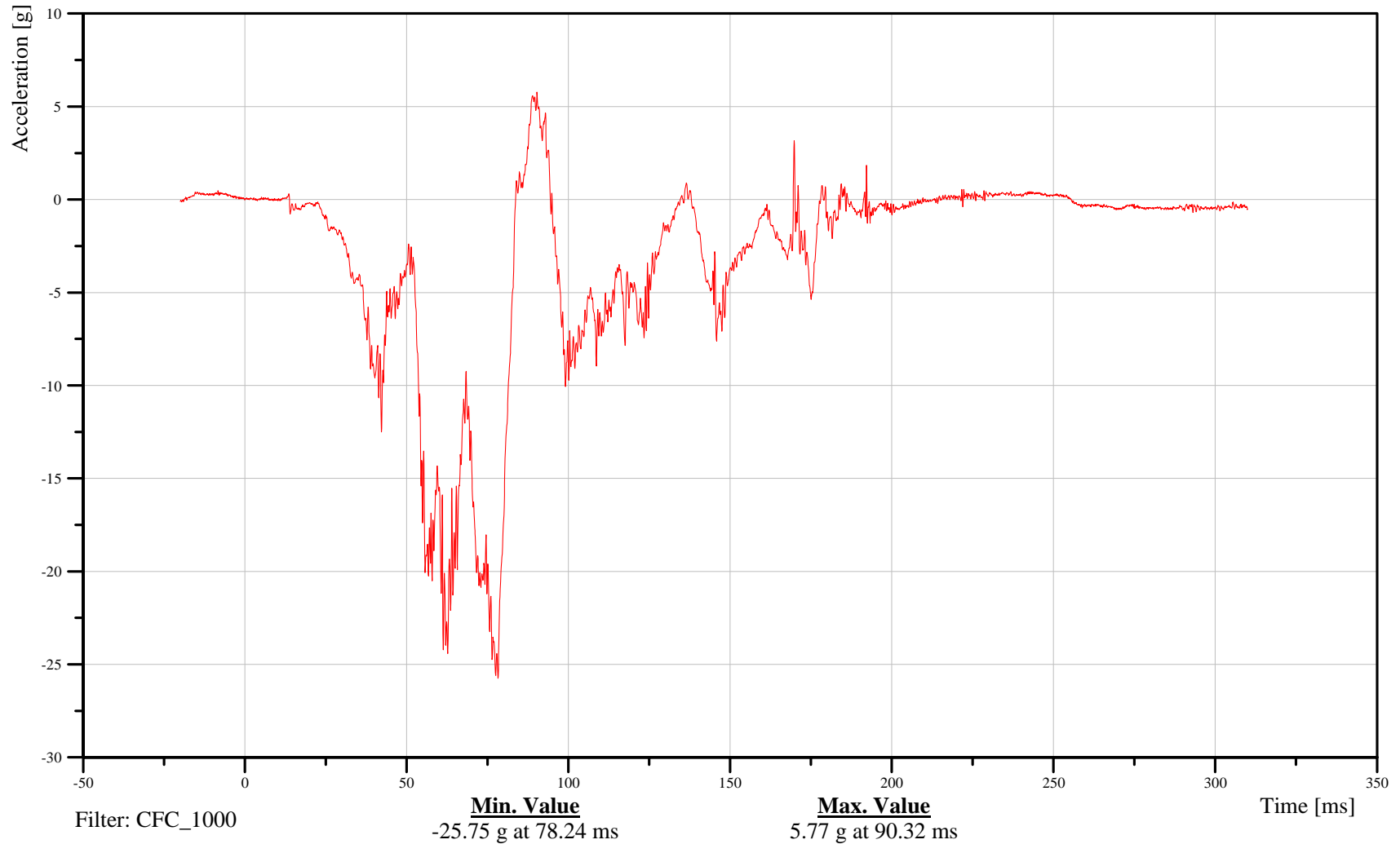
Bullet Vehicle Passenger Left Tibia X-Axis Acceleration

Customer: VRTC

13TIBILELXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-258

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

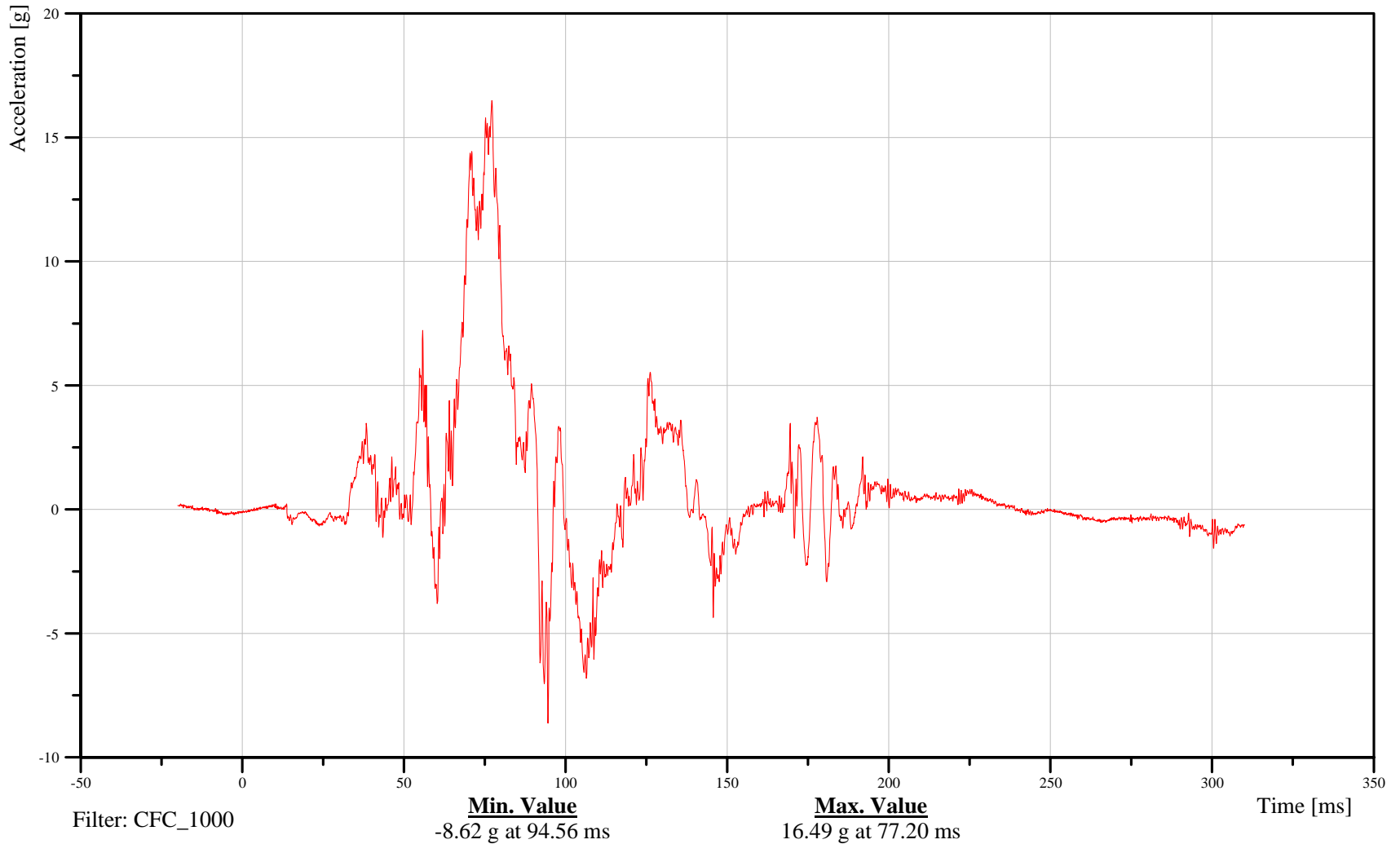
Bullet Vehicle Passenger Left Tibia Y-Axis Acceleration

Customer: VRTC

13TIBILELXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-259

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

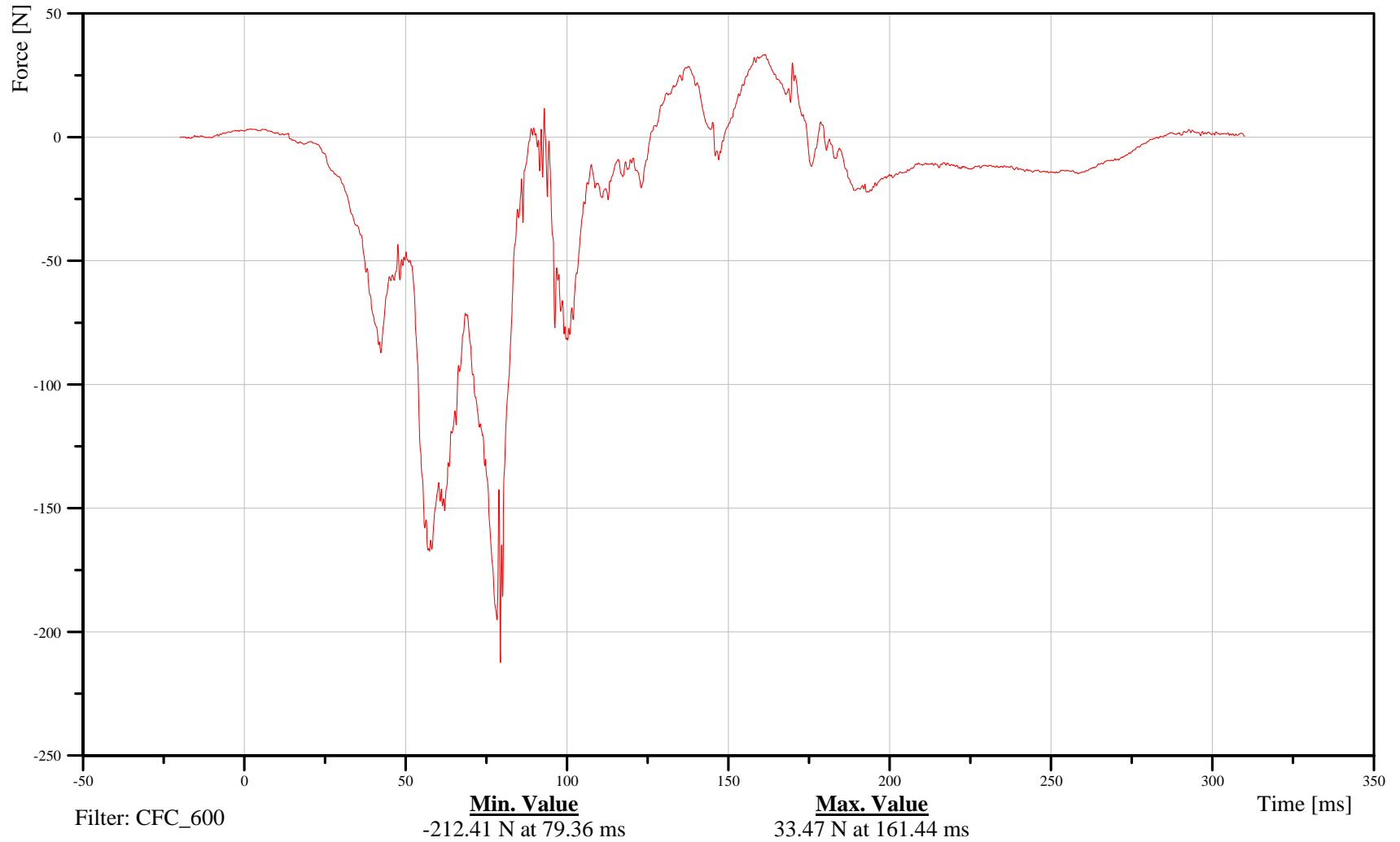
Bullet Vehicle Passenger Left Lower Tibia X-Axis Force

Customer: VRTC

13TIBILLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-260

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

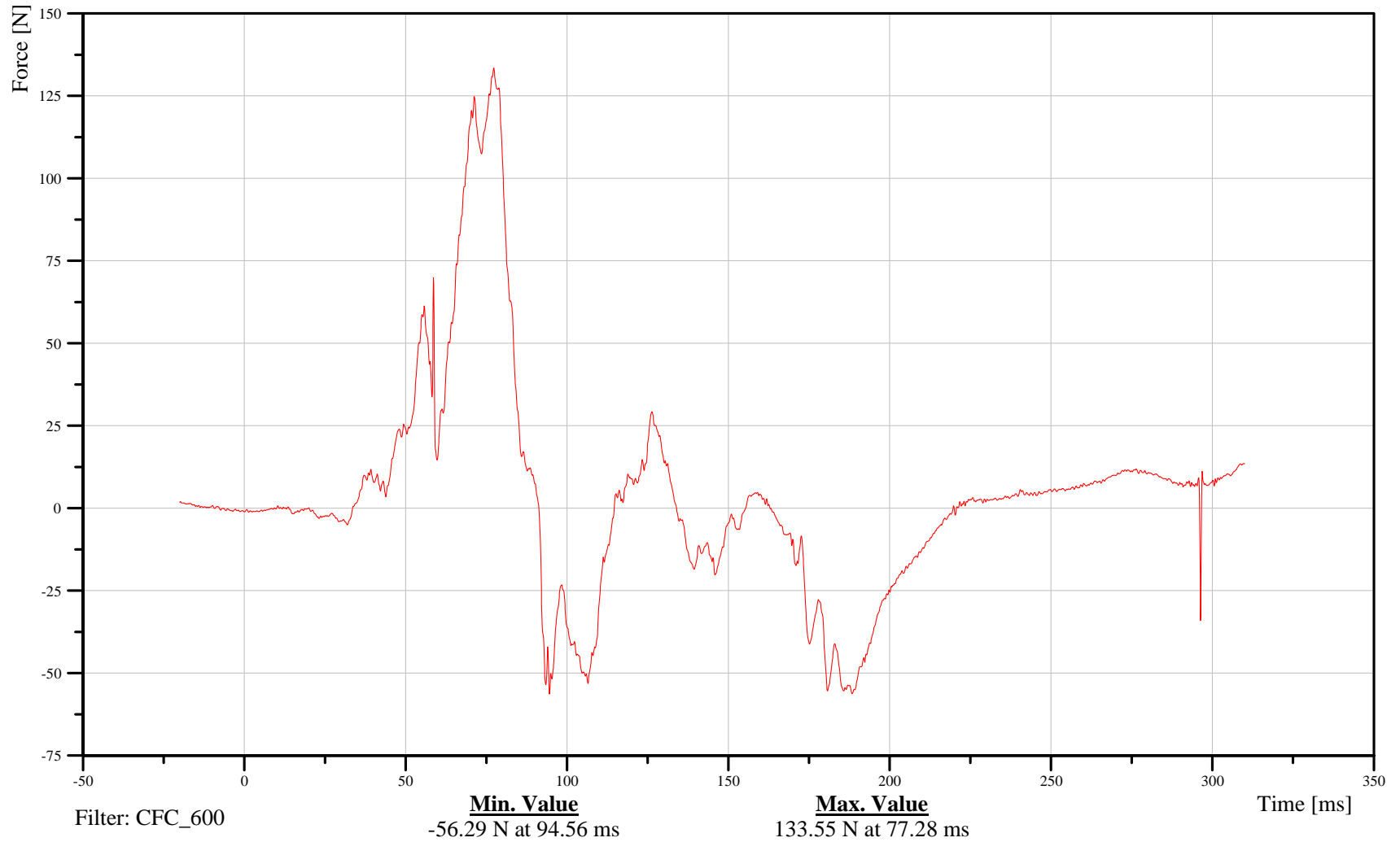
Bullet Vehicle Passenger Left Lower Tibia Y-Axis Force

Customer: VRTC

13TIBILLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



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080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

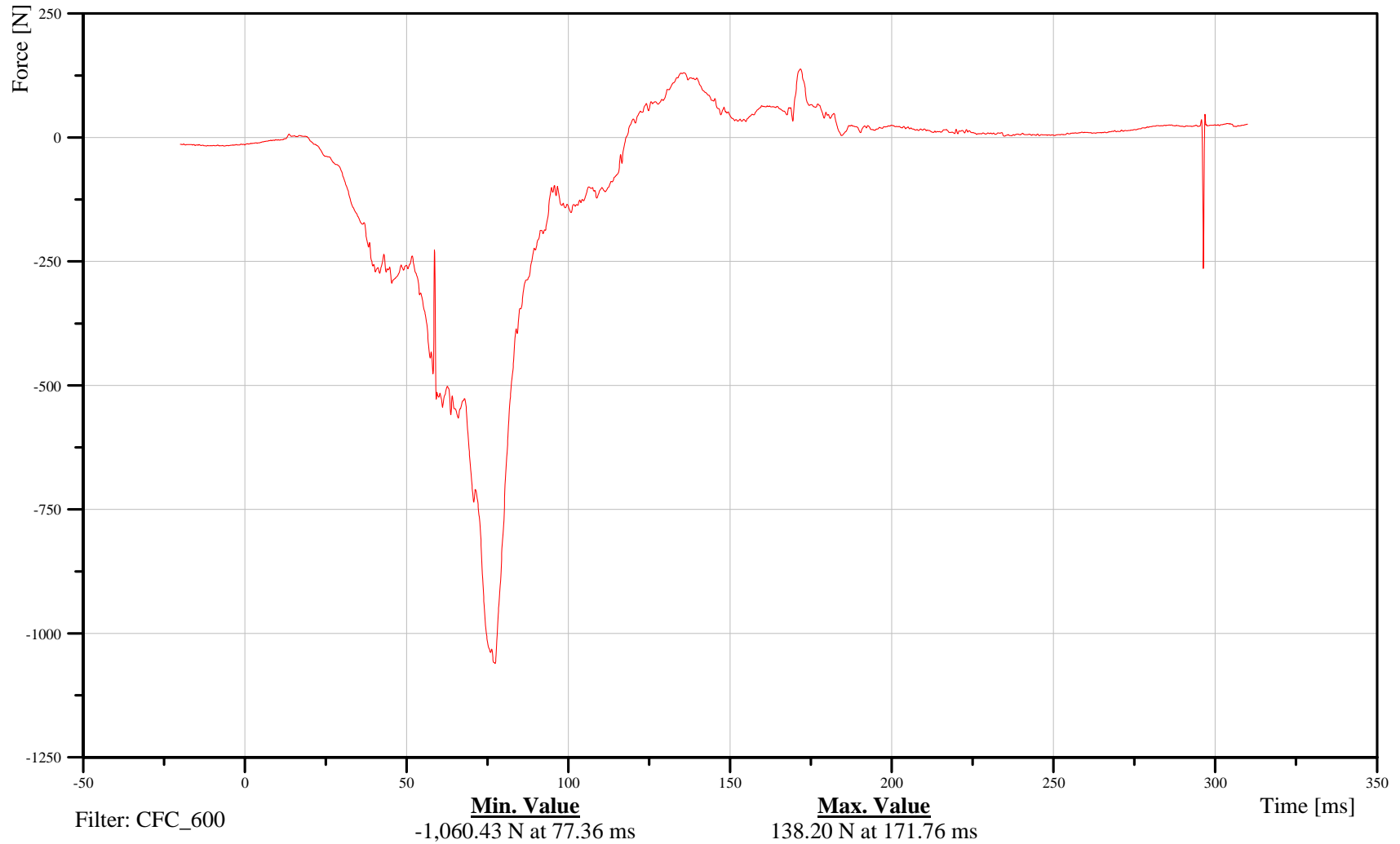
Bullet Vehicle Passenger Left Lower Tibia Z-Axis Force

Customer: VRTC

13TIBILLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-262

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

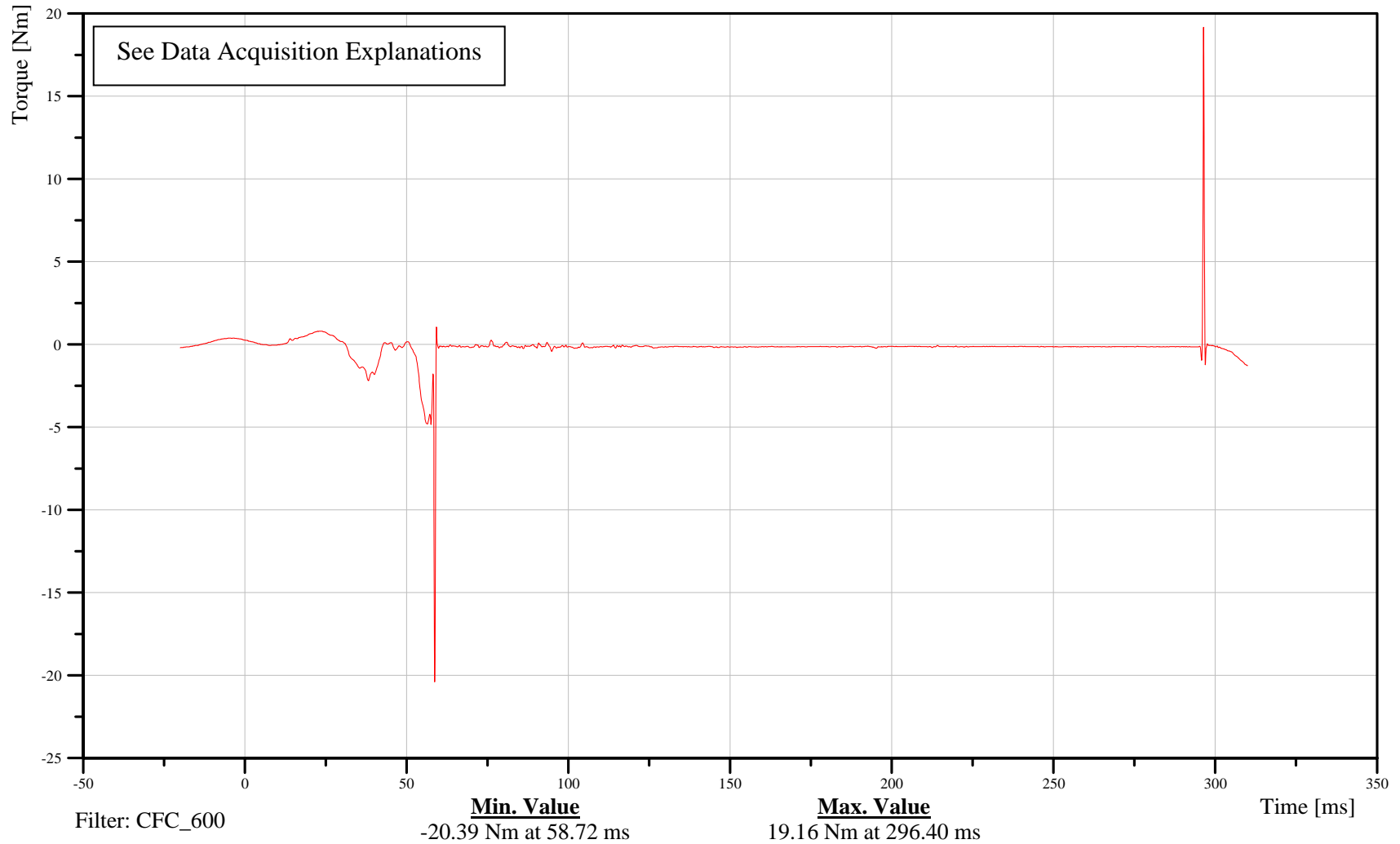
Bullet Vehicle Passenger Left Lower Tibia Moment About X Axis

Customer: VRTC

13TIBILLXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-263

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

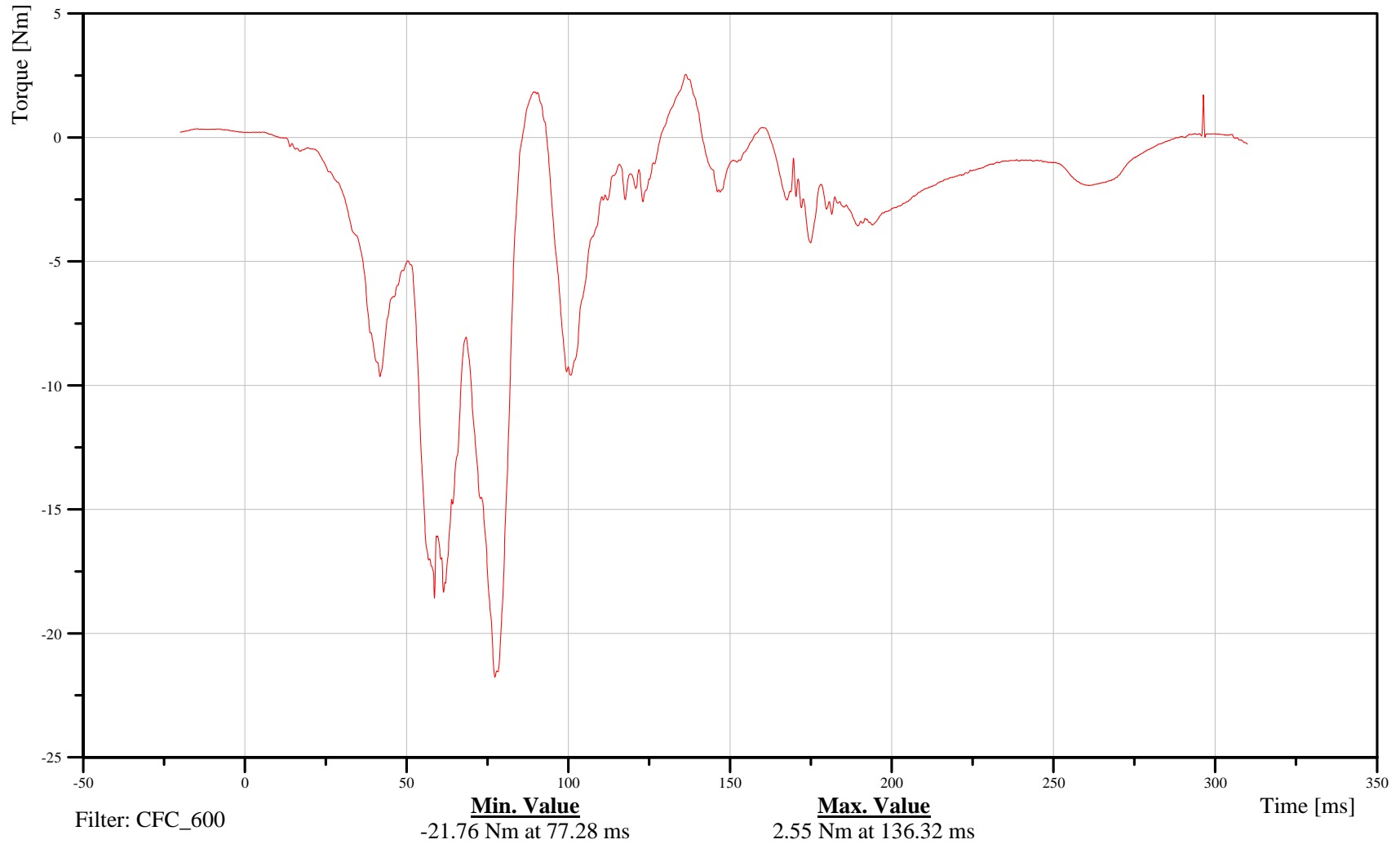
Bullet Vehicle Passenger Left Lower Tibia Moment About Y Axis

Customer: VRTC

13TIBILLXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-264

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

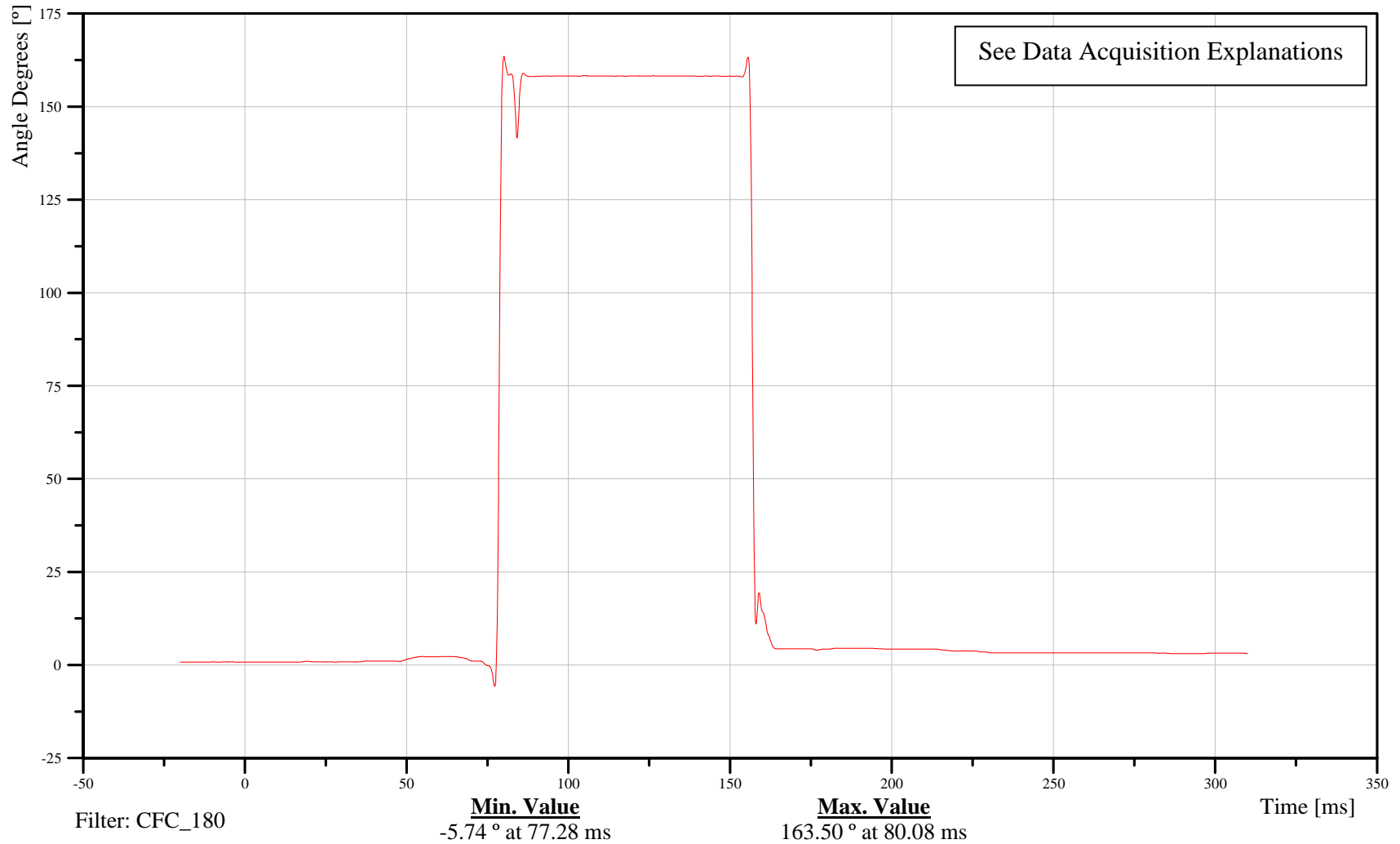
Bullet Vehicle Passenger Left Foot X-Axis Angular Displacement

Customer: VRTC

13FOOTLELXHFXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-265

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

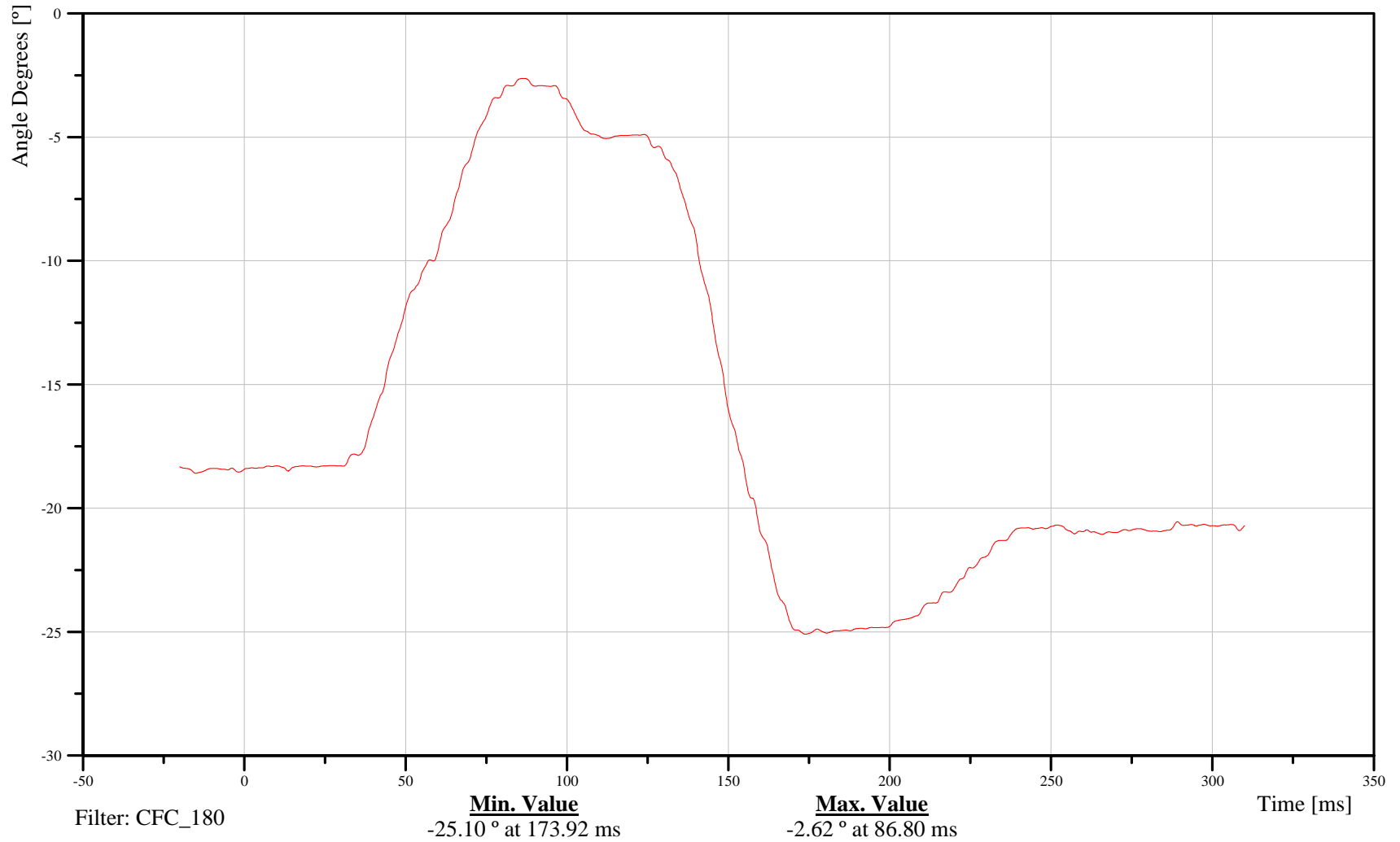
Bullet Vehicle Passenger Left Foot Y-Axis Angular Displacement

Customer: VRTC

13FOOTLELXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-266

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

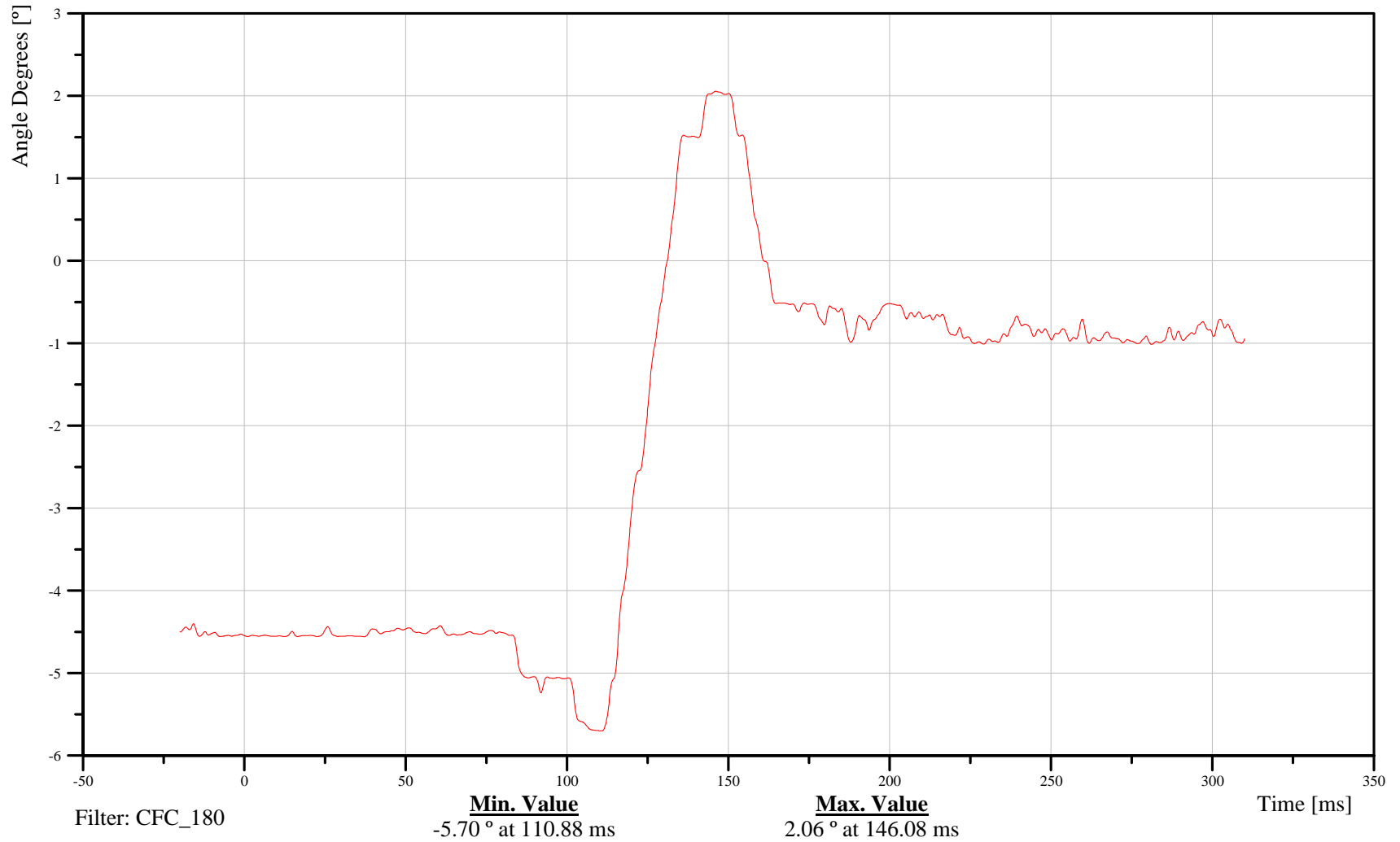
Bullet Vehicle Passenger Left Foot Z-Axis Angular Displacement

Customer: VRTC

13FOOTLELXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-267

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

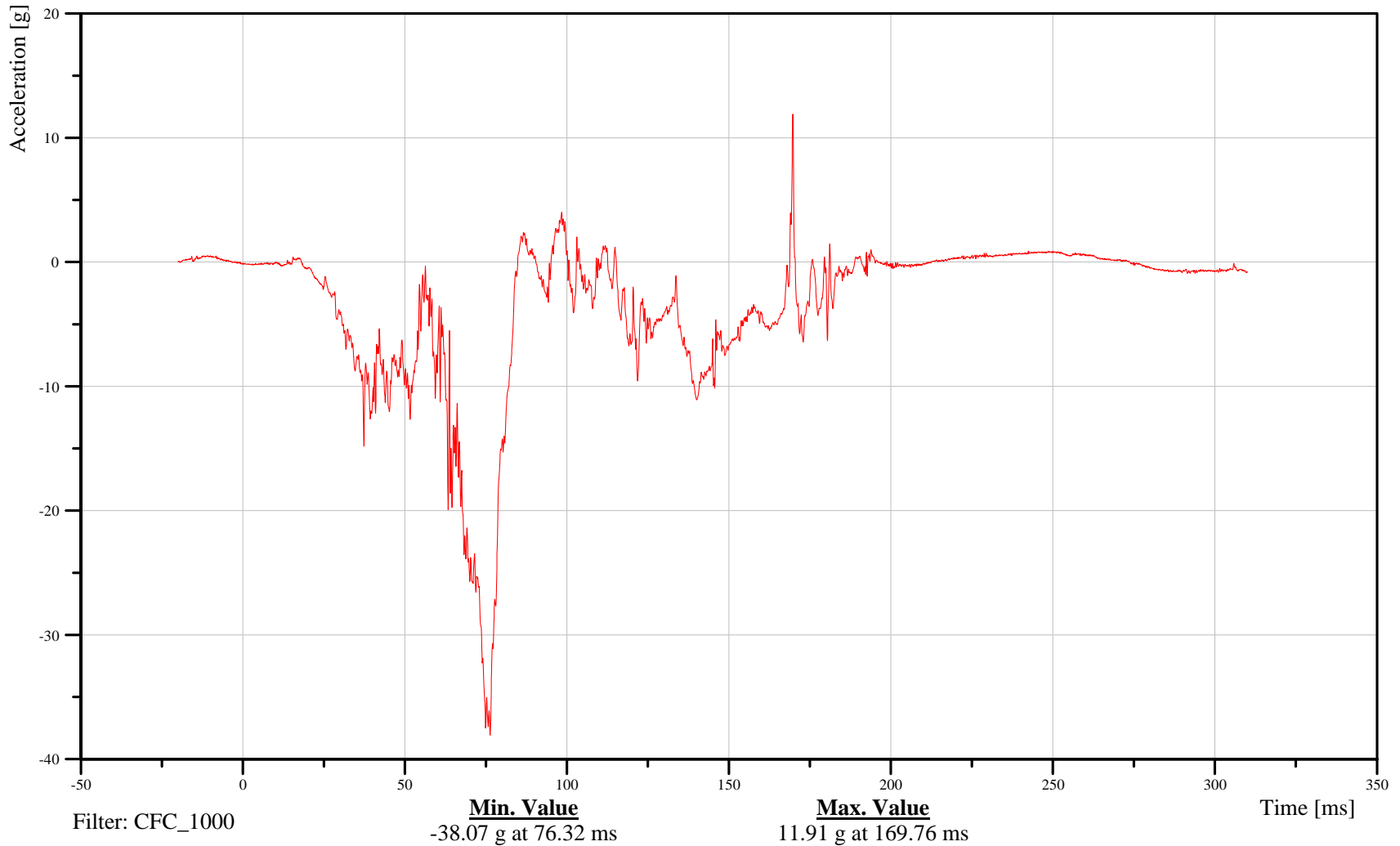
Bullet Vehicle Passenger Left Foot X-Axis Acceleration

Customer: VRTC

13FOOTLELXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-268

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

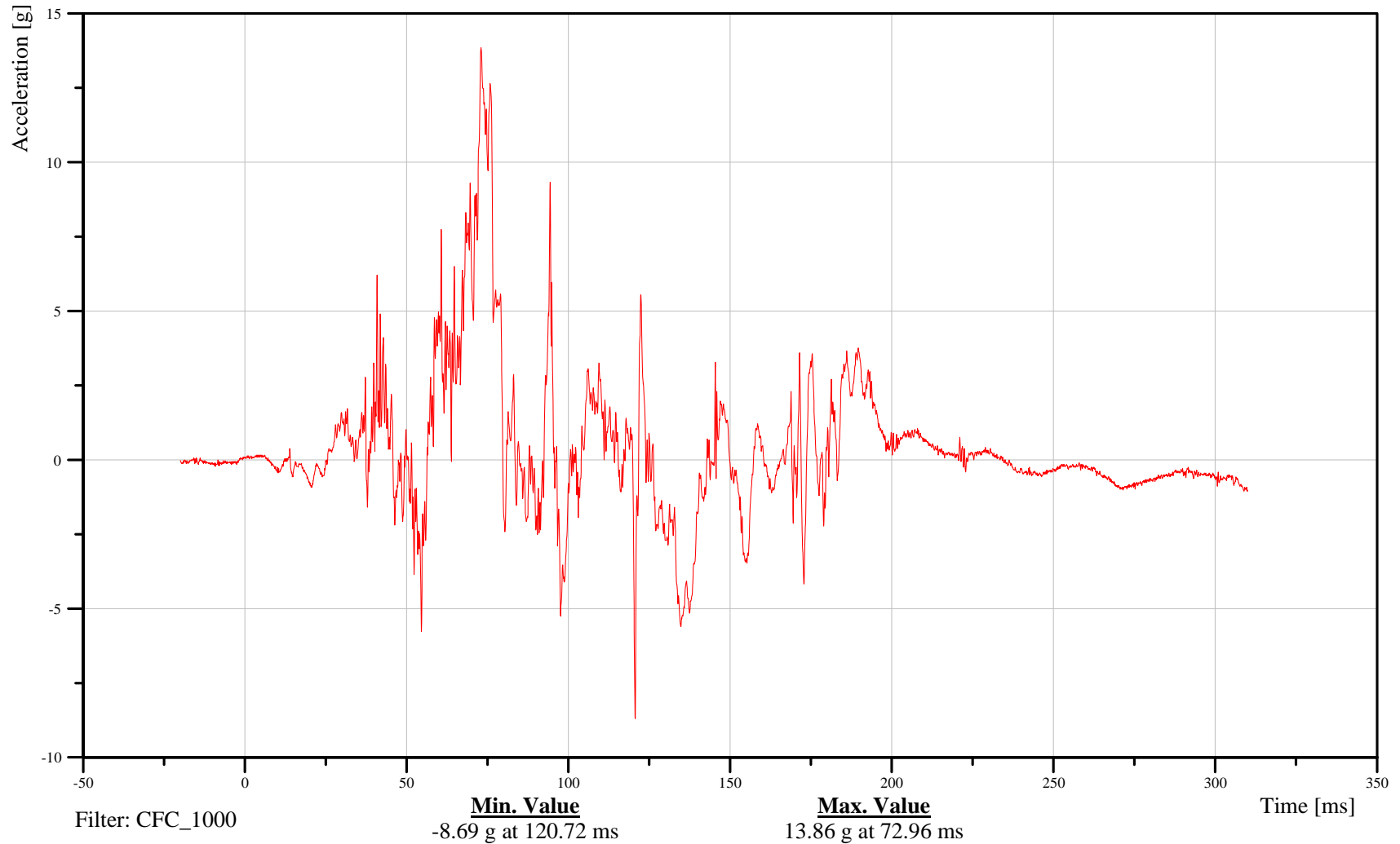
Bullet Vehicle Passenger Left Foot Y-Axis Acceleration

Customer: VRTC

13FOOTLELXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-269

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

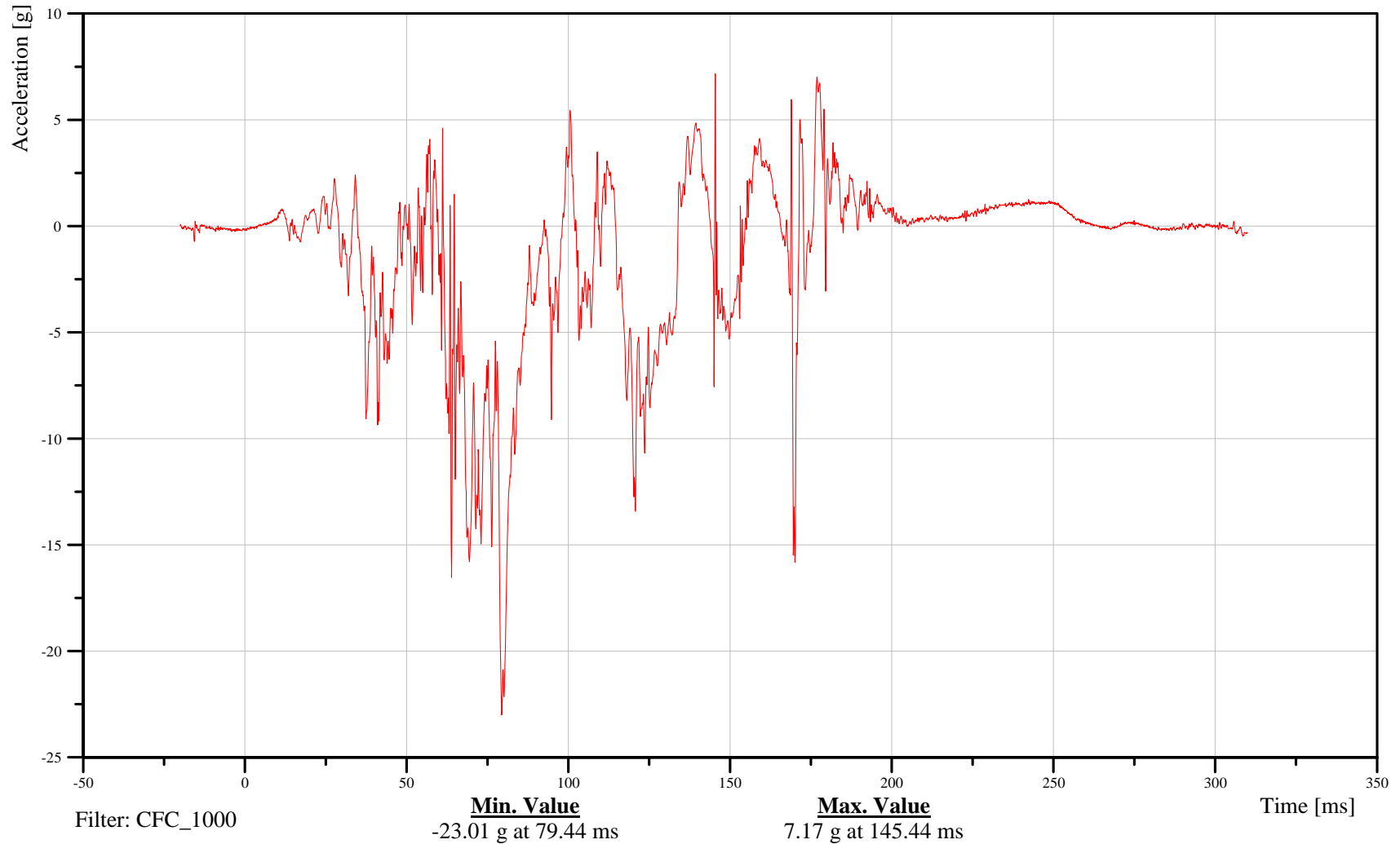
Bullet Vehicle Passenger Left Foot Z-Axis Acceleration

Customer: VRTC

13FOOTLELXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-2770

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

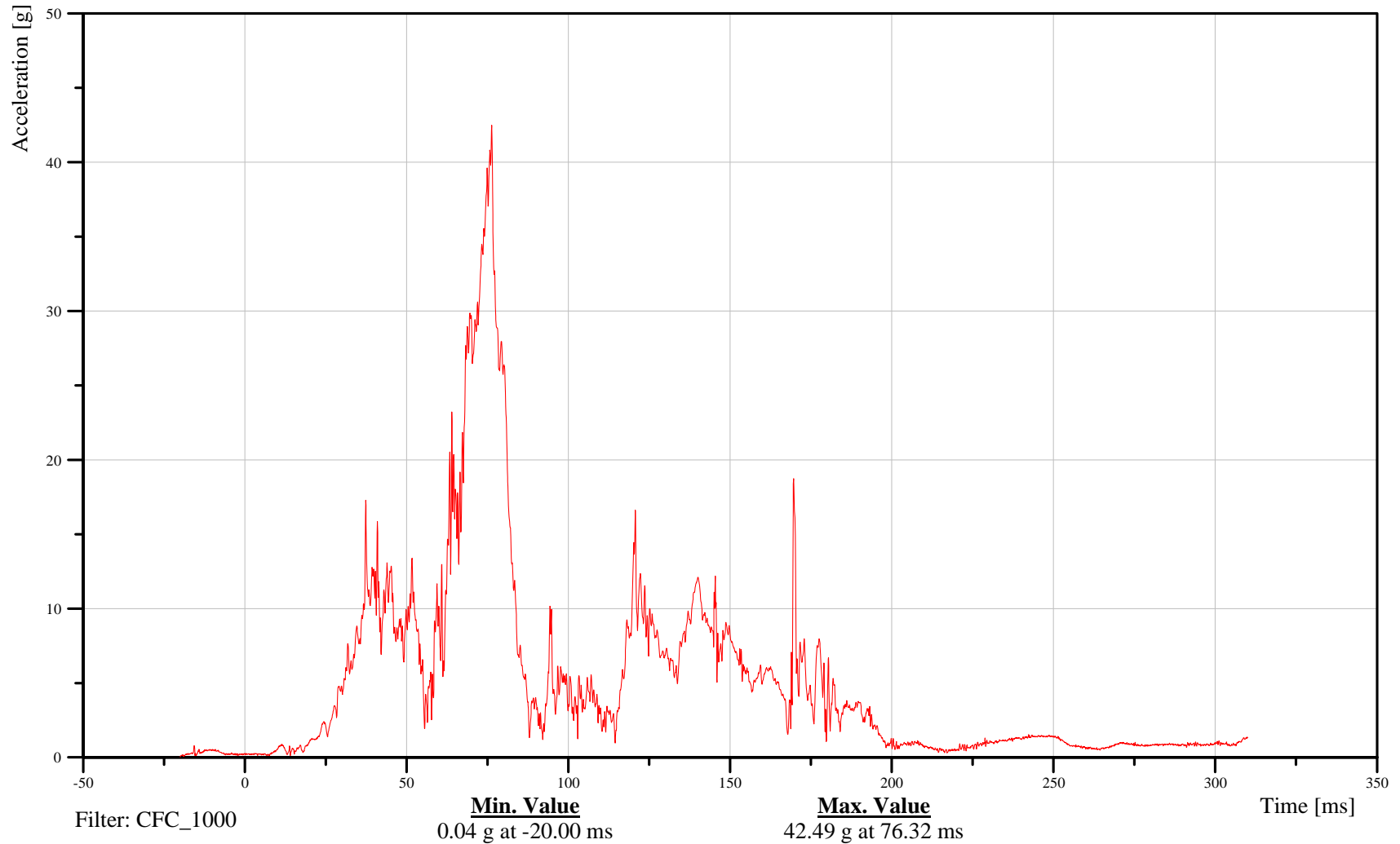
Bullet Vehicle Passenger Left Foot Resultant Acceleration

Customer: VRTC

13FOOTLELXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-271

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

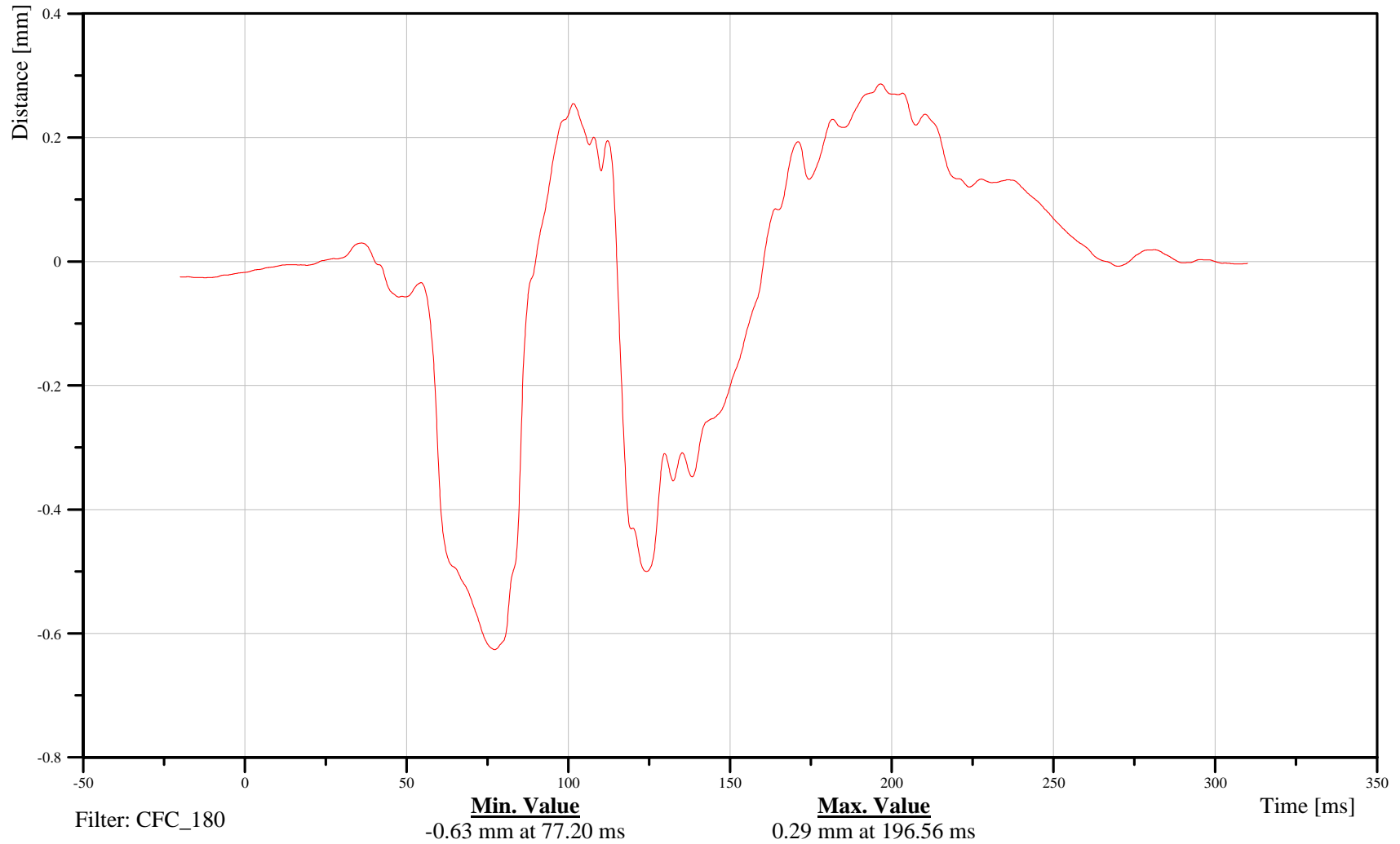
Bullet Vehicle Passenger Right Knee X-Axis Displacement

Customer: VRTC

13KNSLRI00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-2772

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

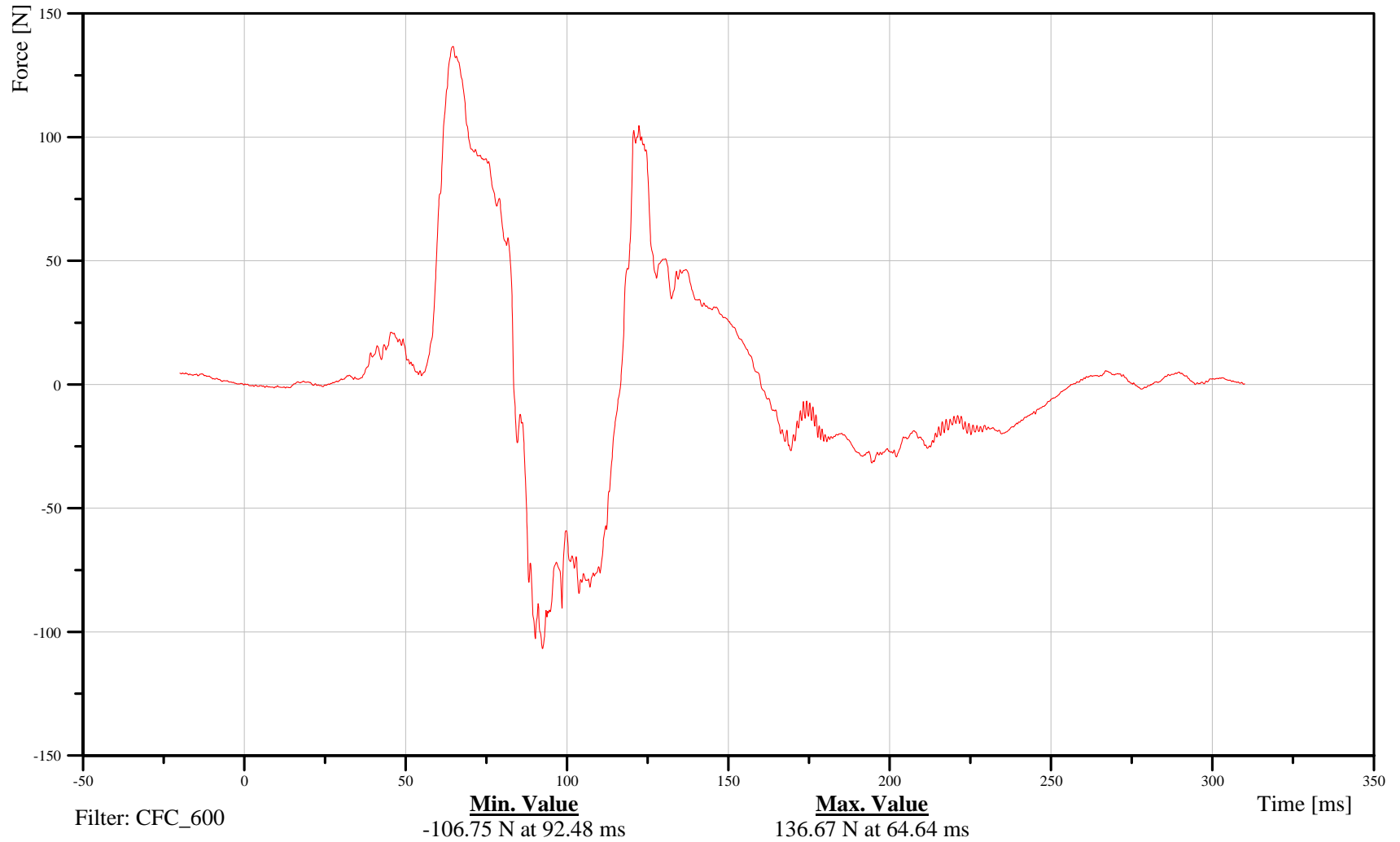
Bullet Vehicle Passenger Right Upper Tibia X-Axis Force

Customer: VRTC

13TIBIRULXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-273

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

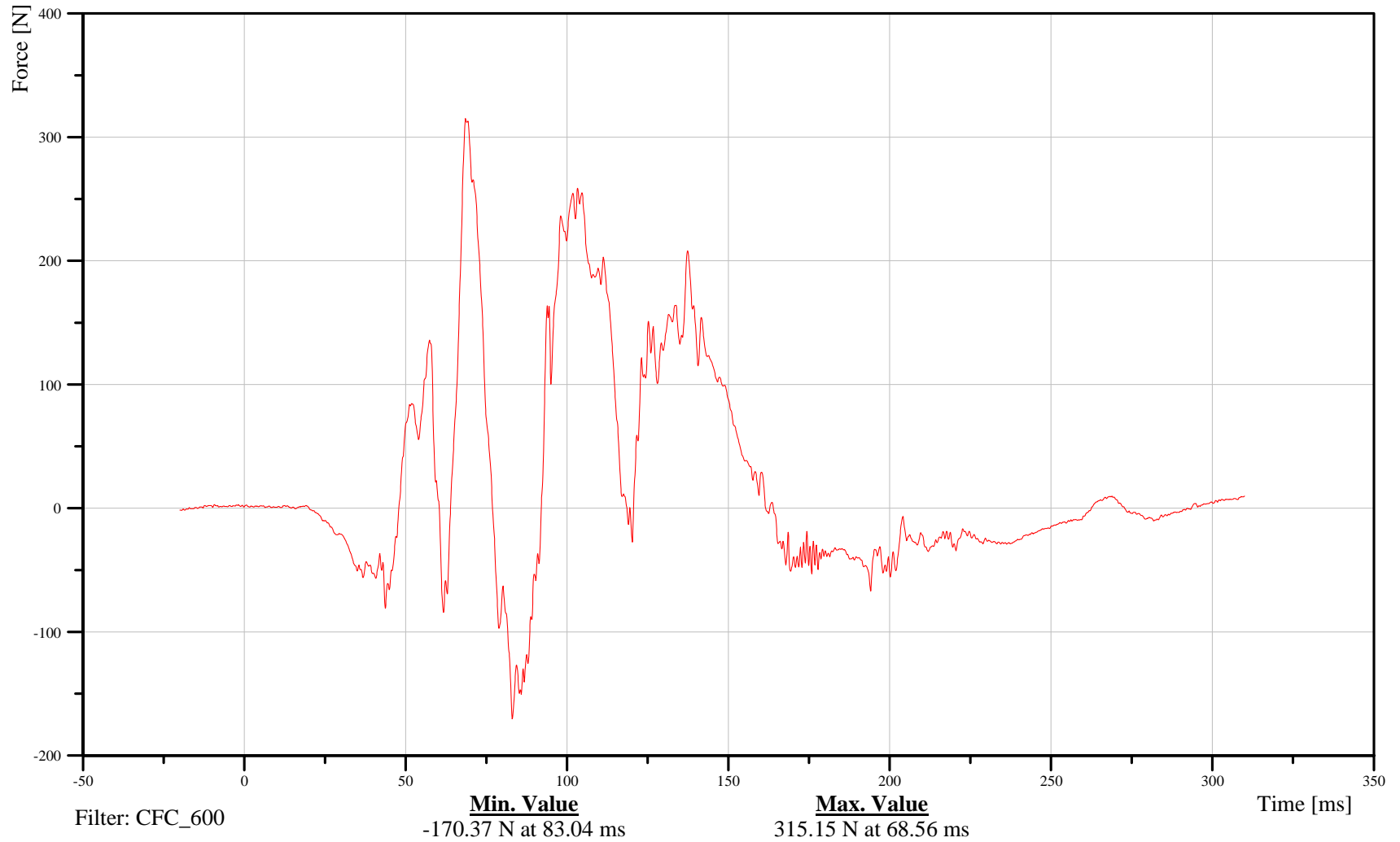
Bullet Vehicle Passenger Right Upper Tibia Z-Axis Force

Customer: VRTC

13TIBIRULXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-274

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

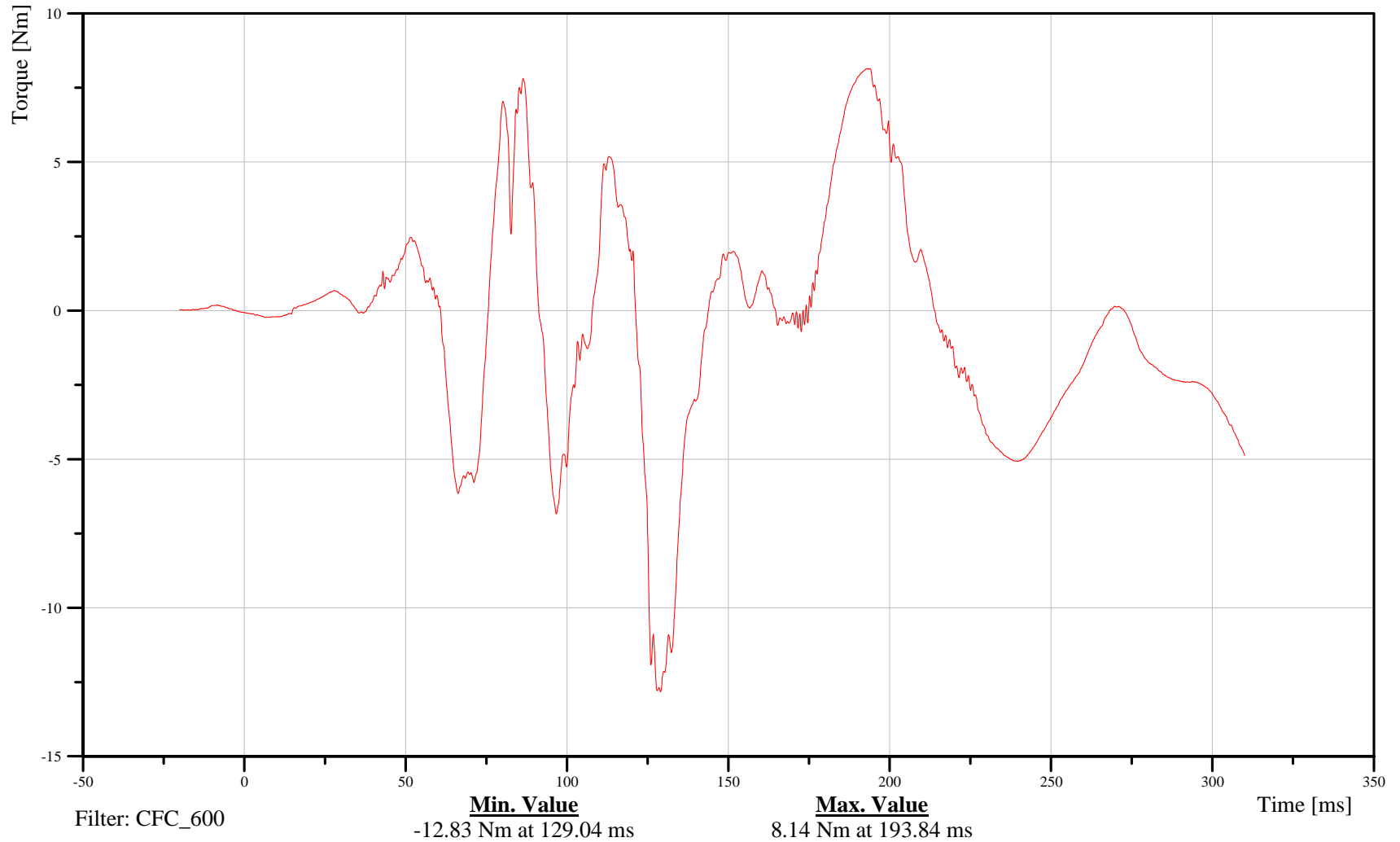
Bullet Vehicle Passenger Right Upper Tibia Moment About X Axis

Customer: VRTC

13TIBIRULXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-275

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

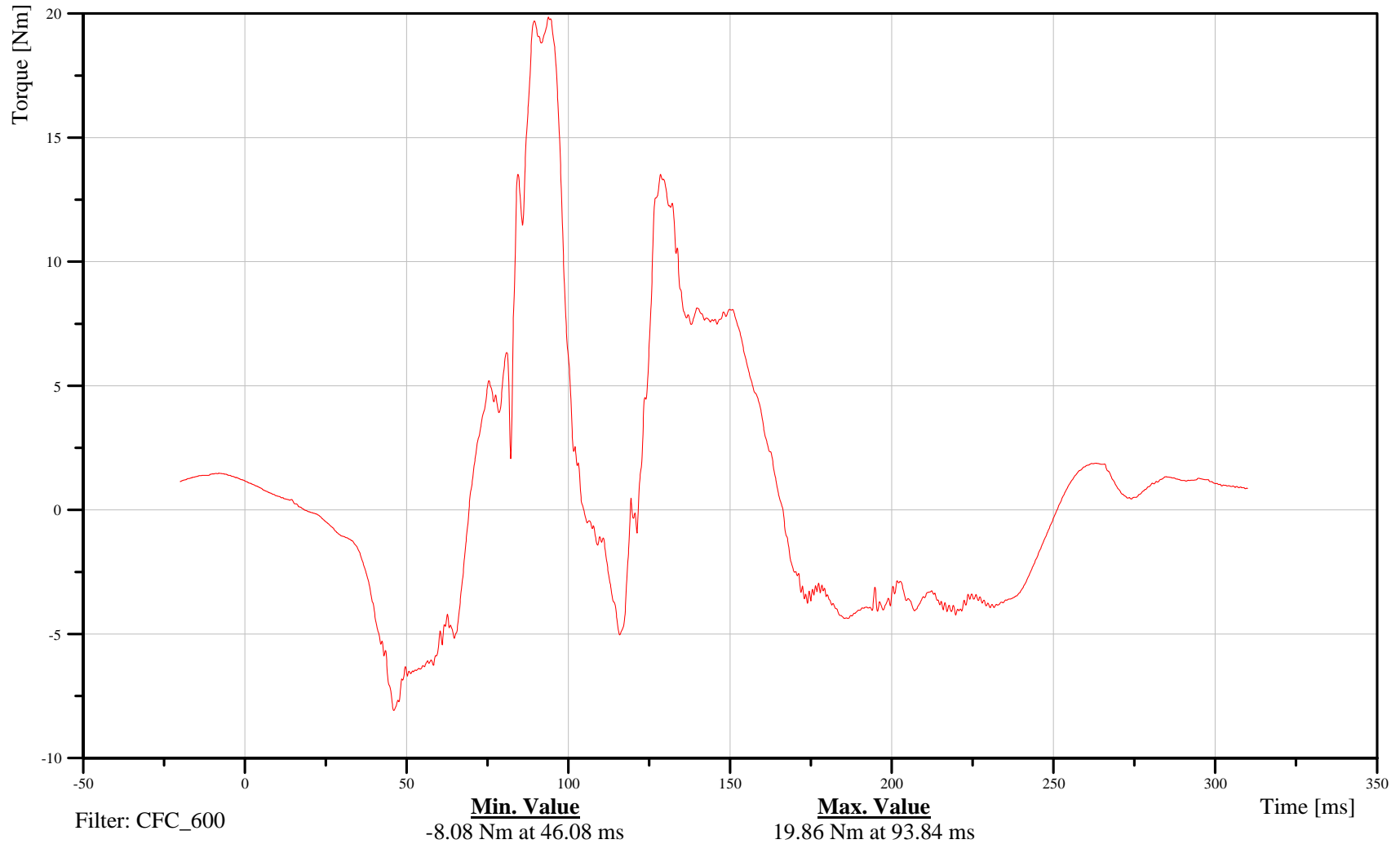
Bullet Vehicle Passenger Right Upper Tibia Moment About Y Axis

Customer: VRTC

13TIBIRULXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-276

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

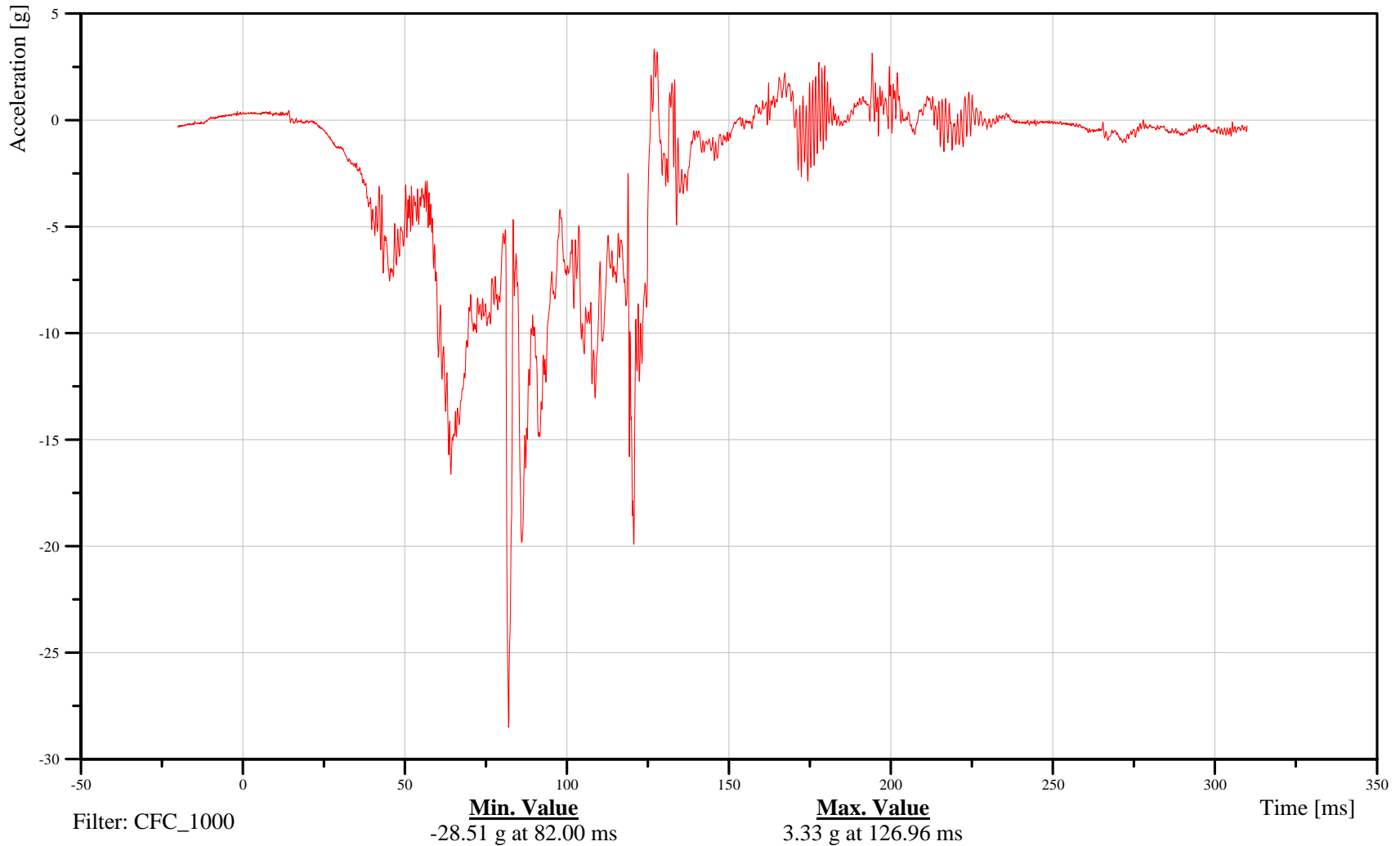
Bullet Vehicle Passenger Right Tibia X-Axis Acceleration

Customer: VRTC

13TIBIRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-277

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

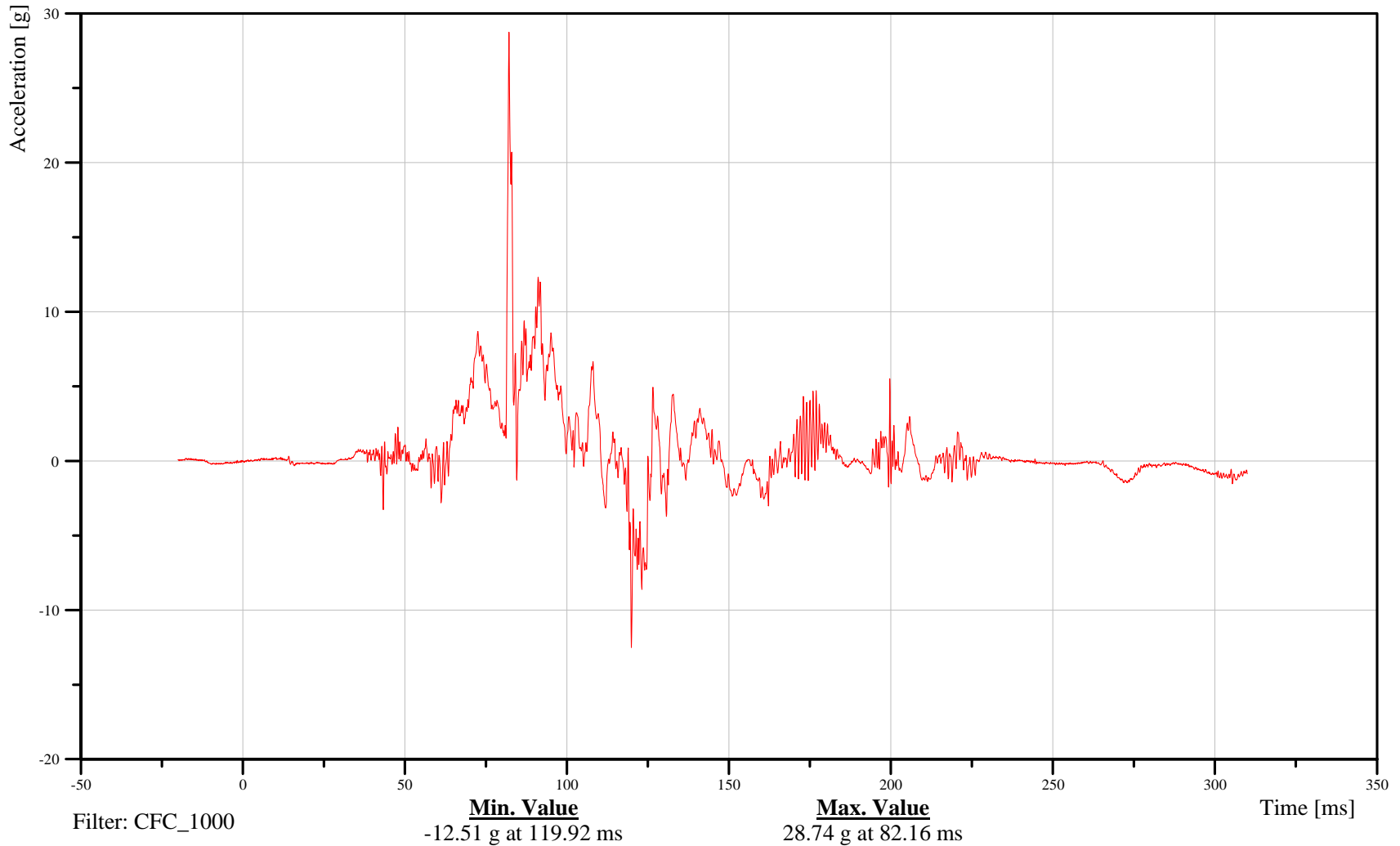
Bullet Vehicle Passenger Right Tibia Y-Axis Acceleration

Customer: VRTC

13TIBIRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-278

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

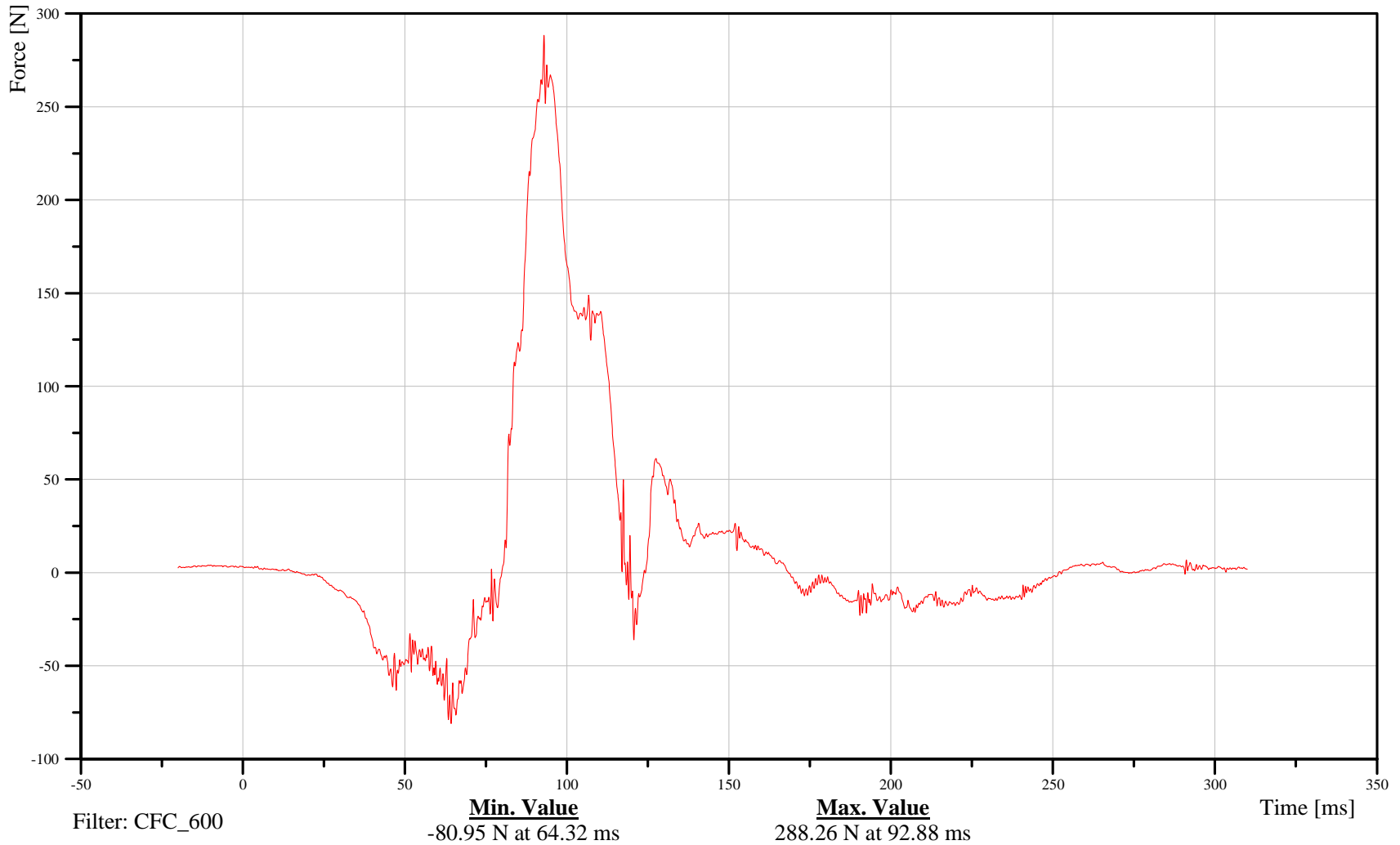
Bullet Vehicle Passenger Right Lower Tibia X-Axis Force

Customer: VRTC

13TIBIRLLXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-279

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

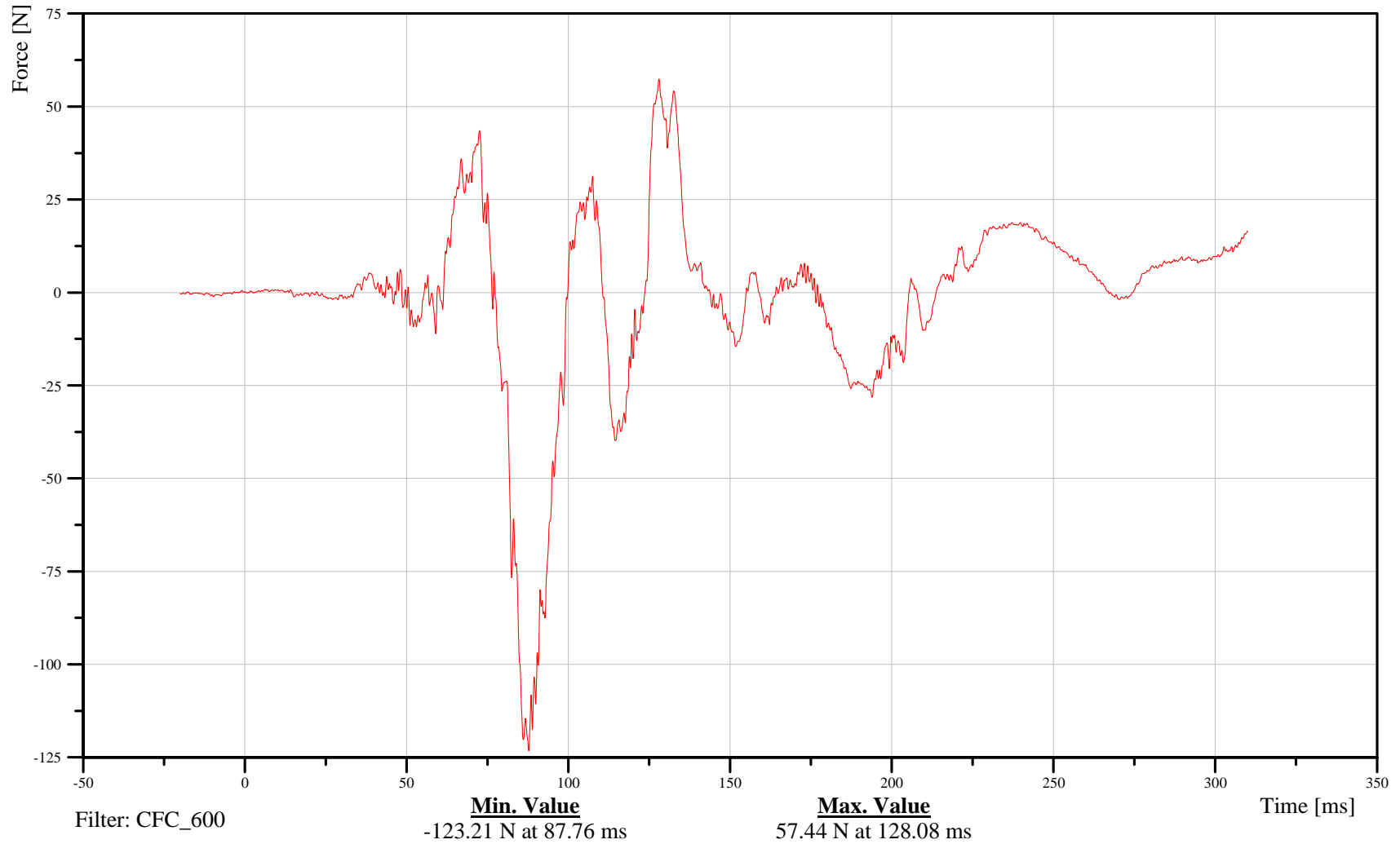
Bullet Vehicle Passenger Right Lower Tibia Y-Axis Force

Customer: VRTC

13TIBIRLLXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-280

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

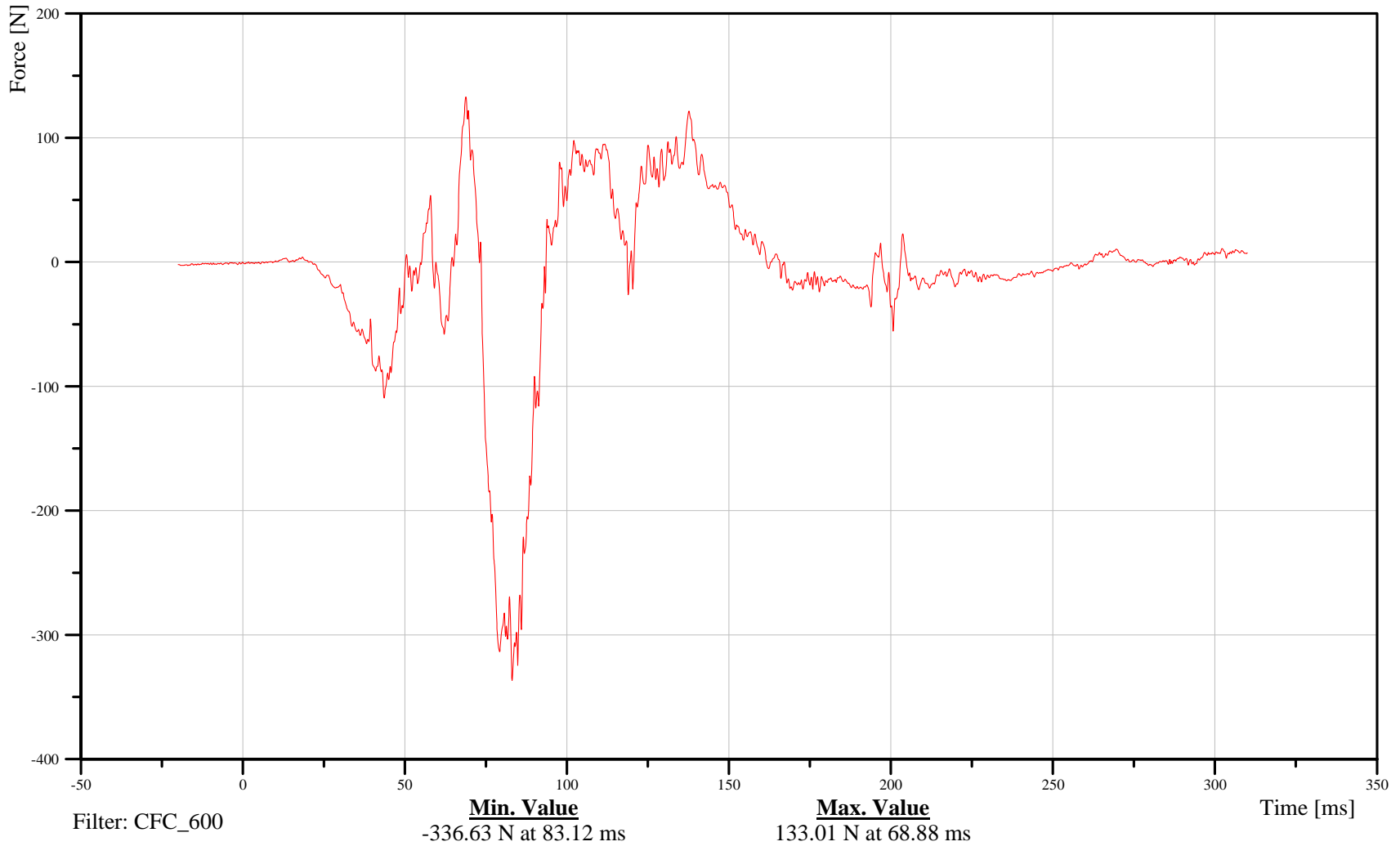
Bullet Vehicle Passenger Right Lower Tibia Z-Axis Force

Customer: VRTC

13TIBIRLLXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-281

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

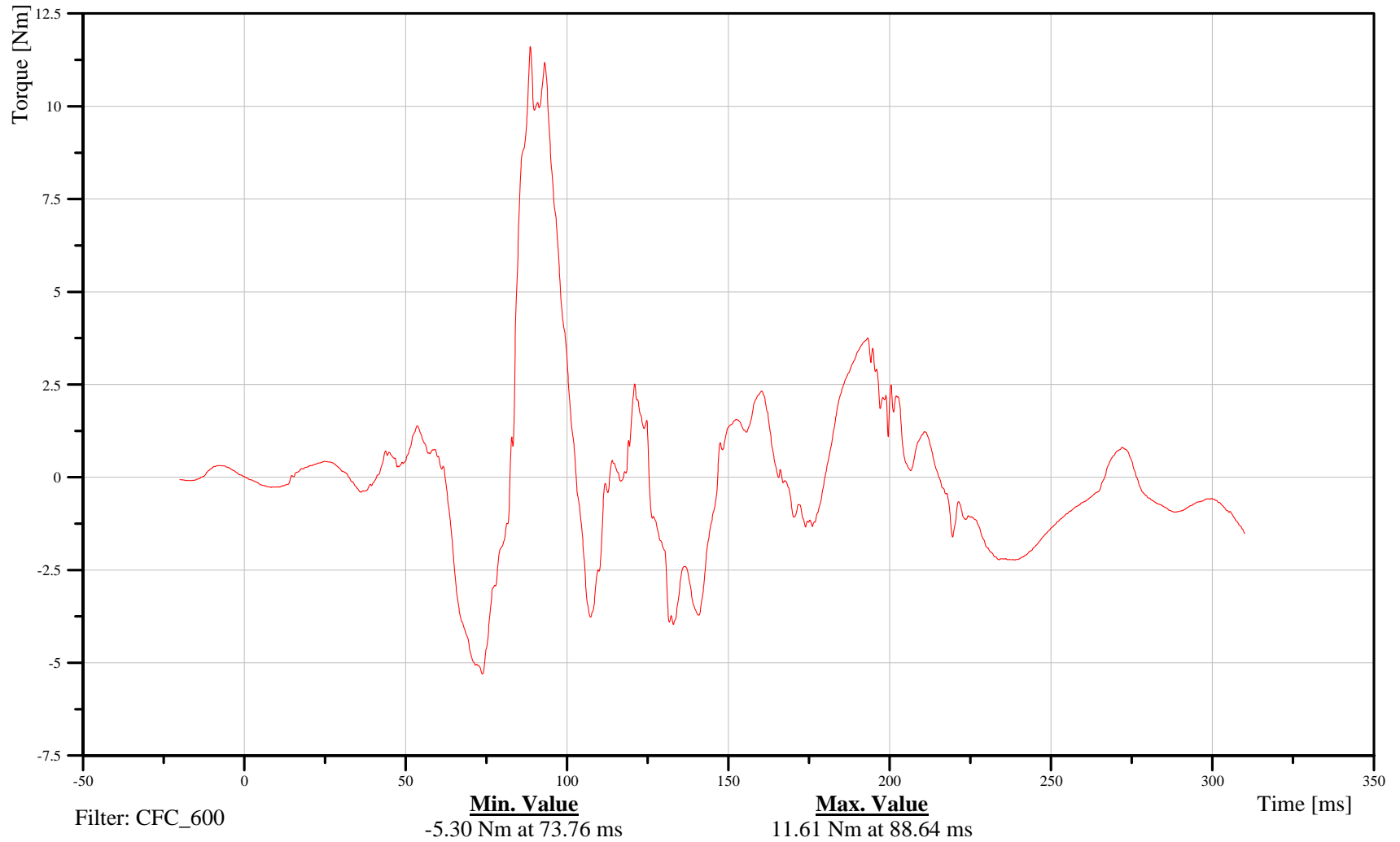
Bullet Vehicle Passenger Right Lower Tibia Moment About X Axis

Customer: VRTC

13TIBIRLLXHFM0XB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-282

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

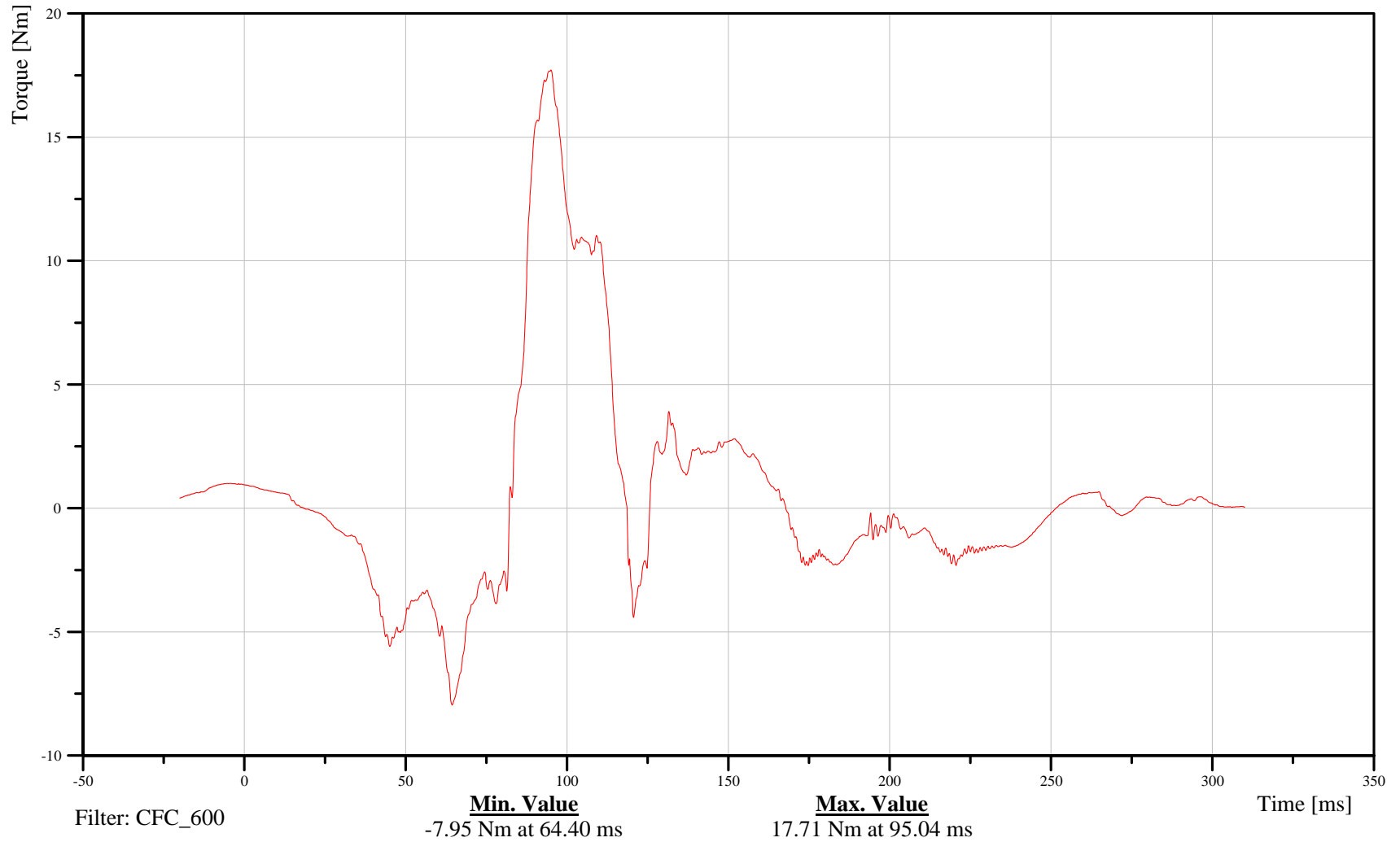
Bullet Vehicle Passenger Right Lower Tibia Moment About Y Axis

Customer: VRTC

13TIBIRLLXHFM0YB

TRC Inc. Test Lab: CTF

Test Number: 080403



B-283

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

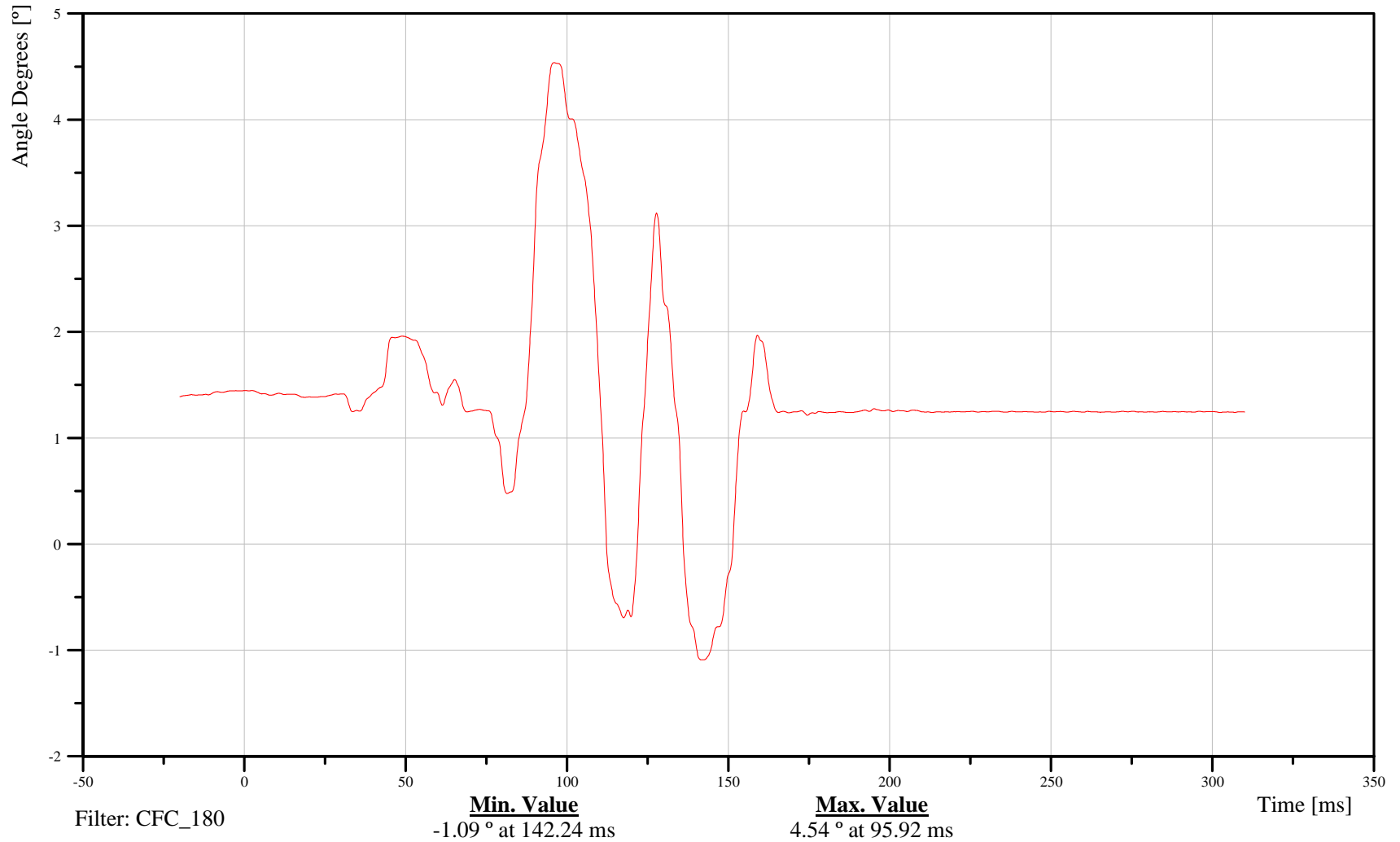
Bullet Vehicle Passenger Right Foot X-Axis Angular Displacement

Customer: VRTC

13FOOTRILXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-284

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

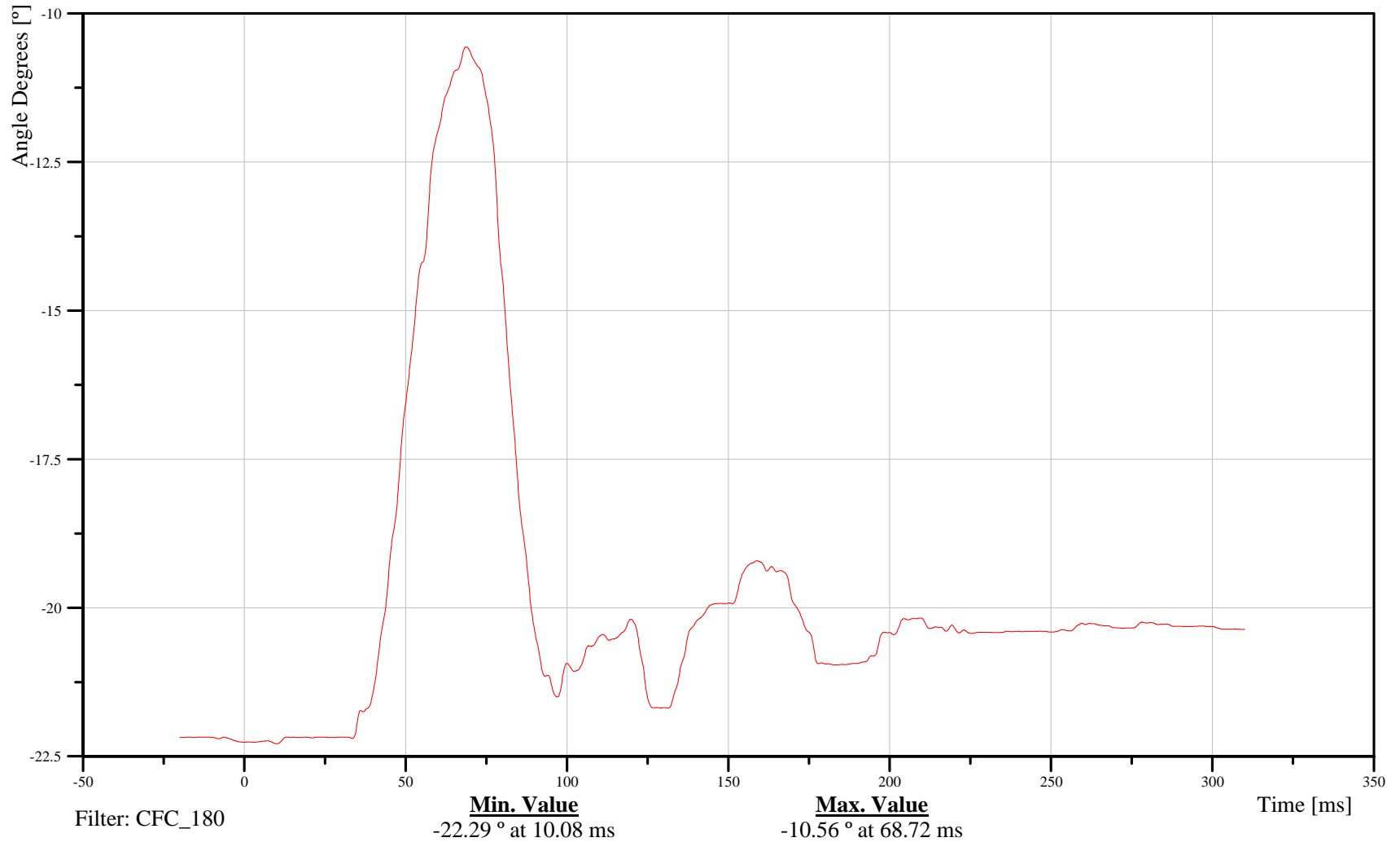
Bullet Vehicle Passenger Right Foot Y-Axis Angular Displacement

Customer: VRTC

13FOOTRILXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-285

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

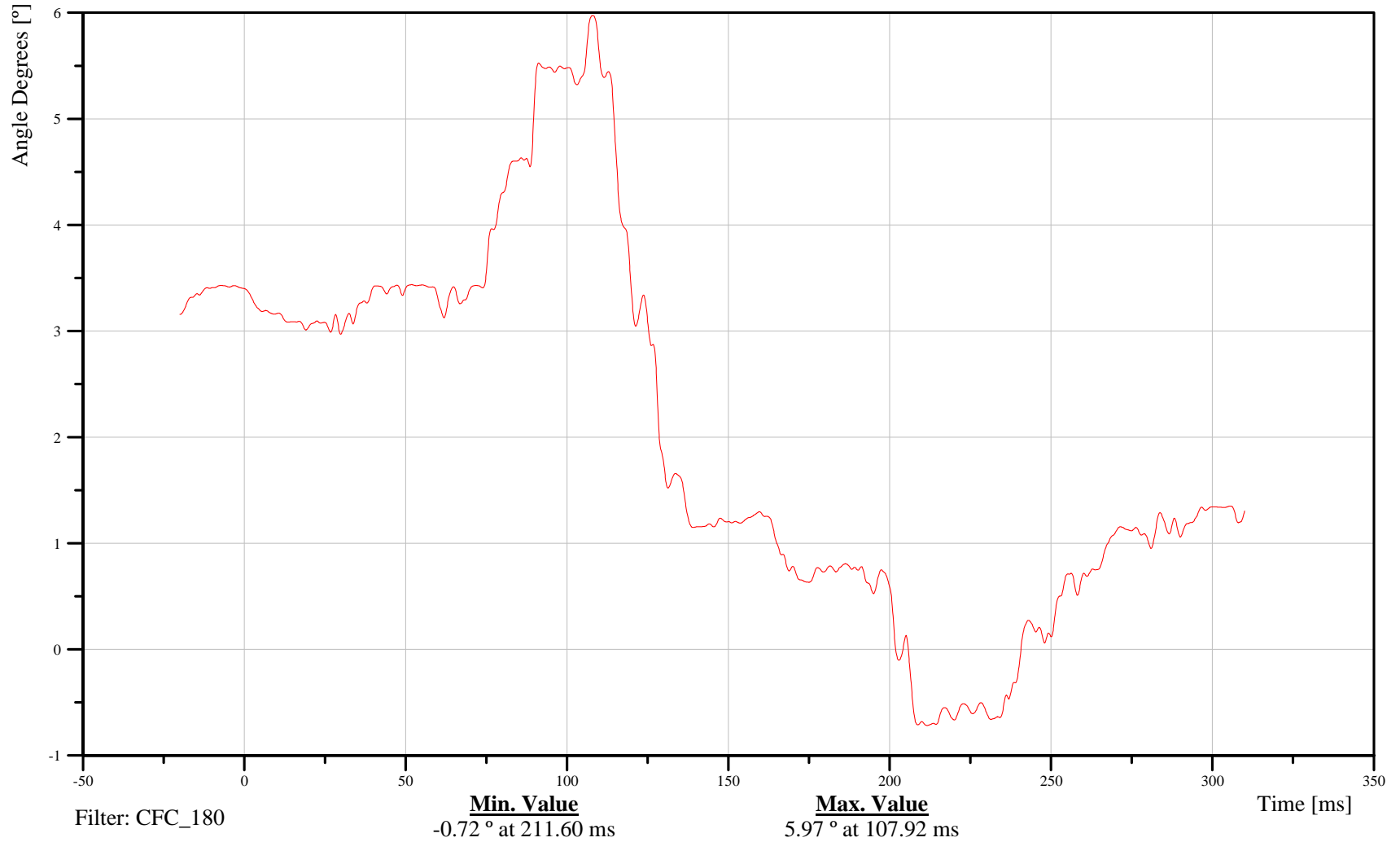
Bullet Vehicle Passenger Right Foot Z-Axis Angular Displacement

Customer: VRTC

13FOOTRILXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-286

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

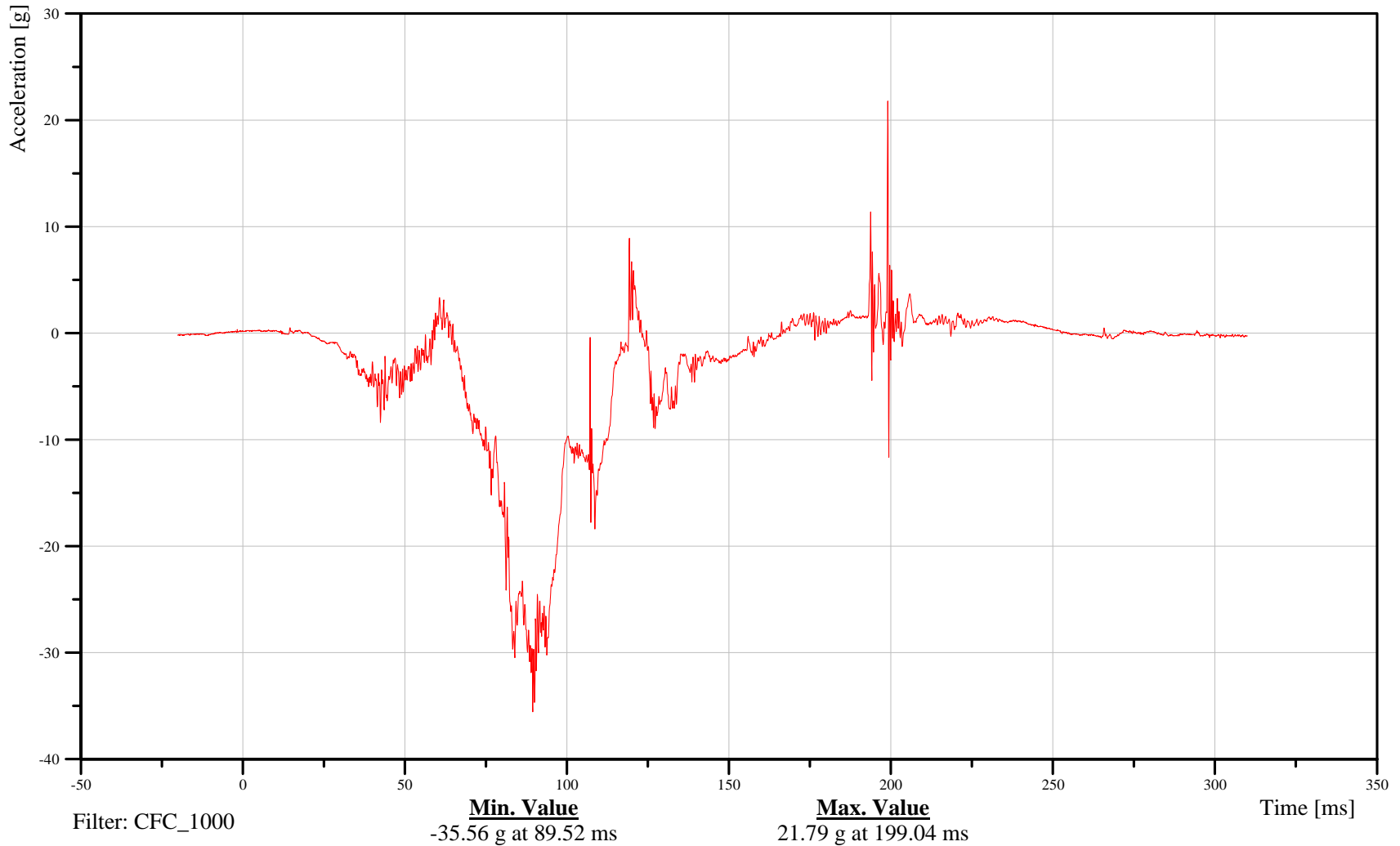
Bullet Vehicle Passenger Right Foot X-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-287

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

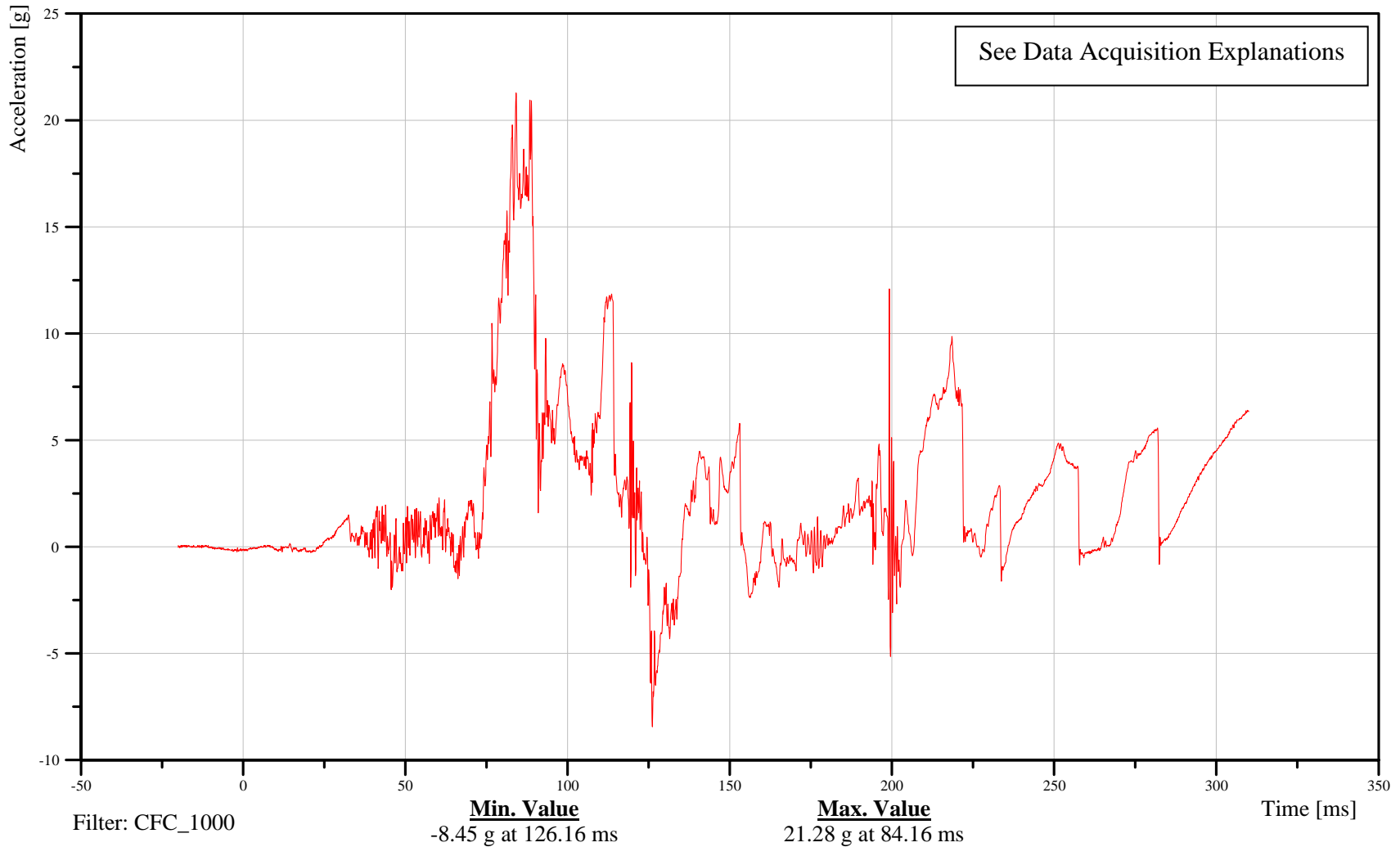
Bullet Vehicle Passenger Right Foot Y-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-288

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

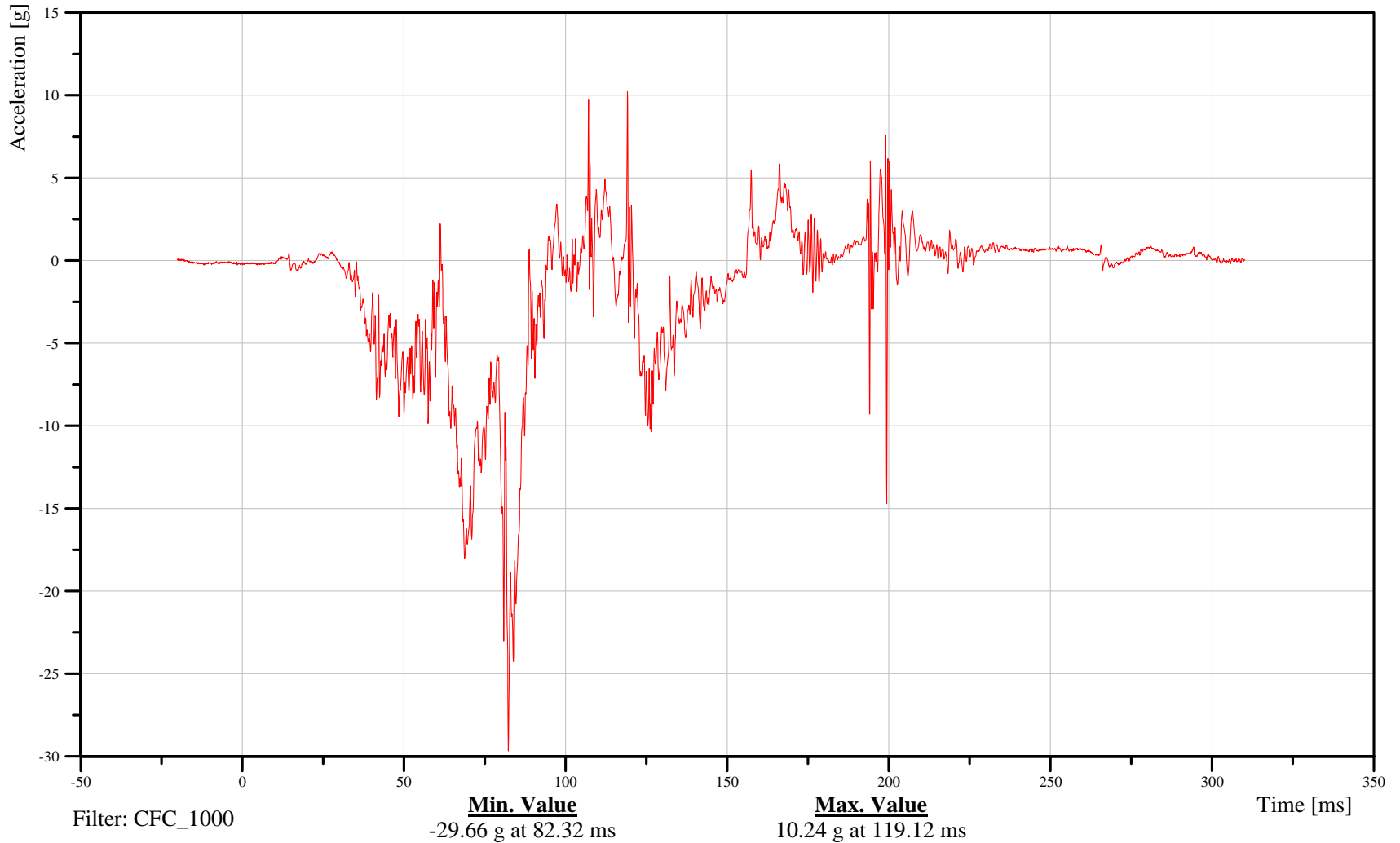
Bullet Vehicle Passenger Right Foot Z-Axis Acceleration

Customer: VRTC

13FOOTRILXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-289

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

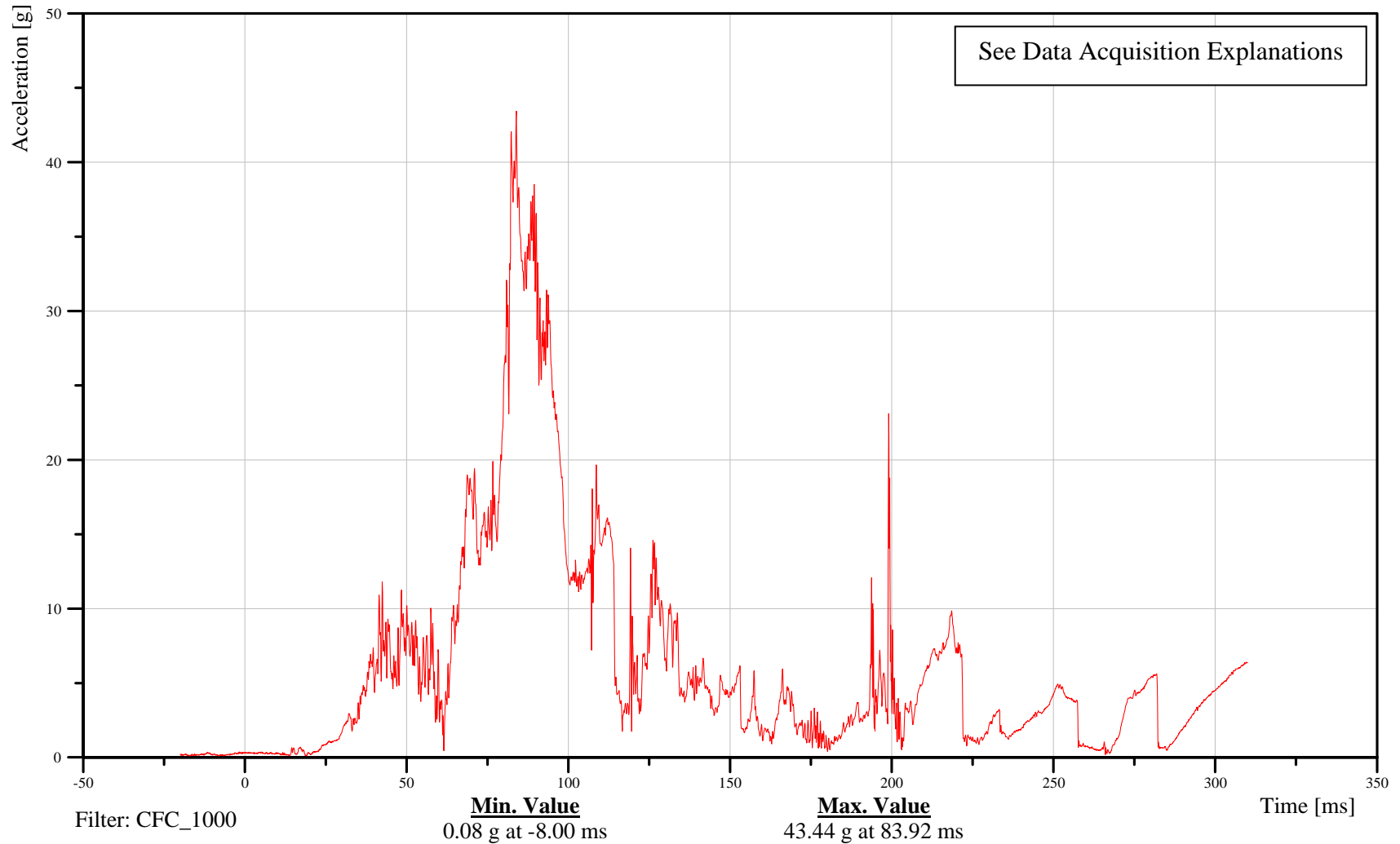
Bullet Vehicle Passenger Right Foot Resultant Acceleration

Customer: VRTC

13FOOTRILXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-290

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

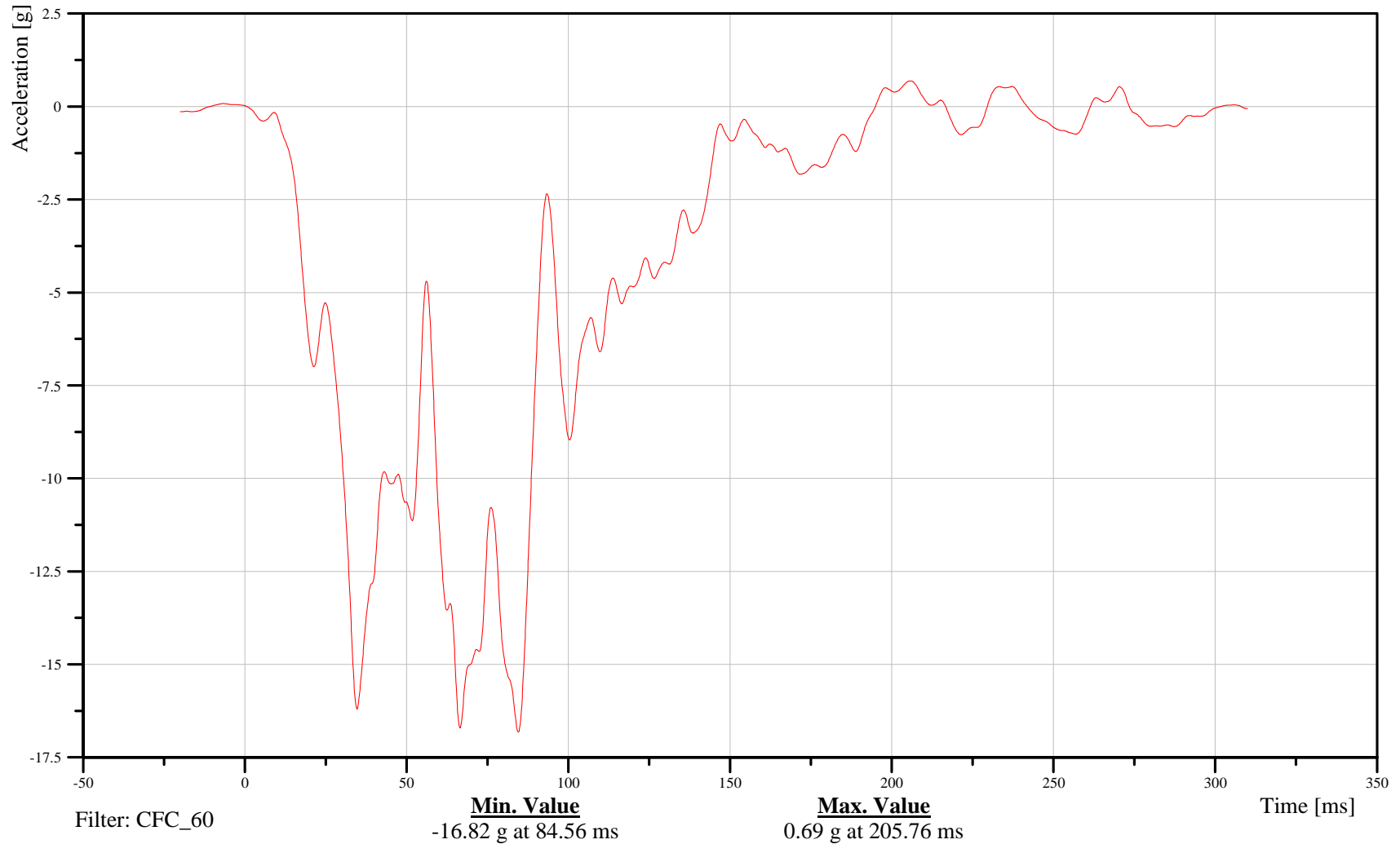
Bullet Vehicle Left Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

14CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-291

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

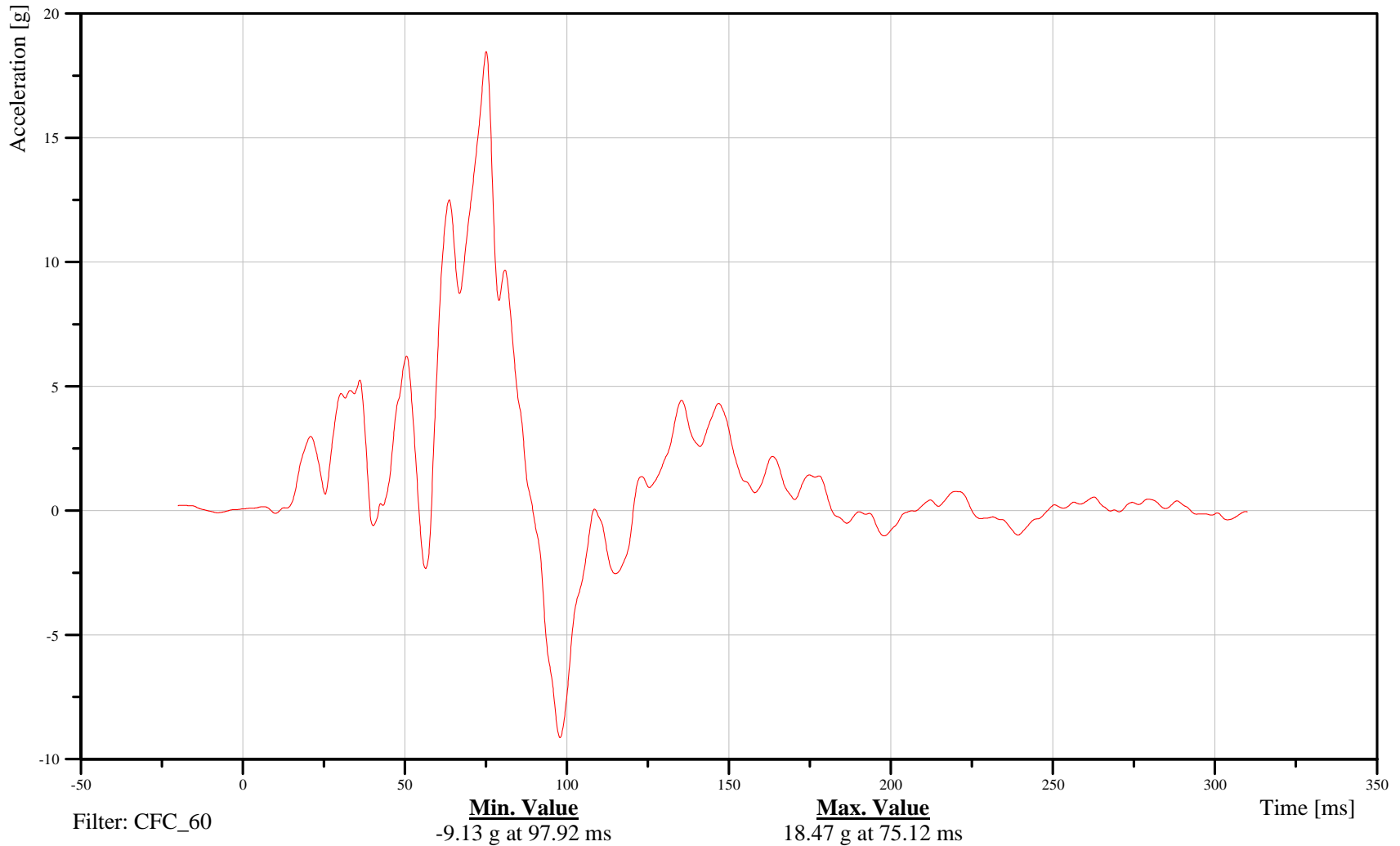
Bullet Vehicle Left Rear Seat Crossmember Y-Axis Acceleration

Customer: VRTC

14CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-292

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

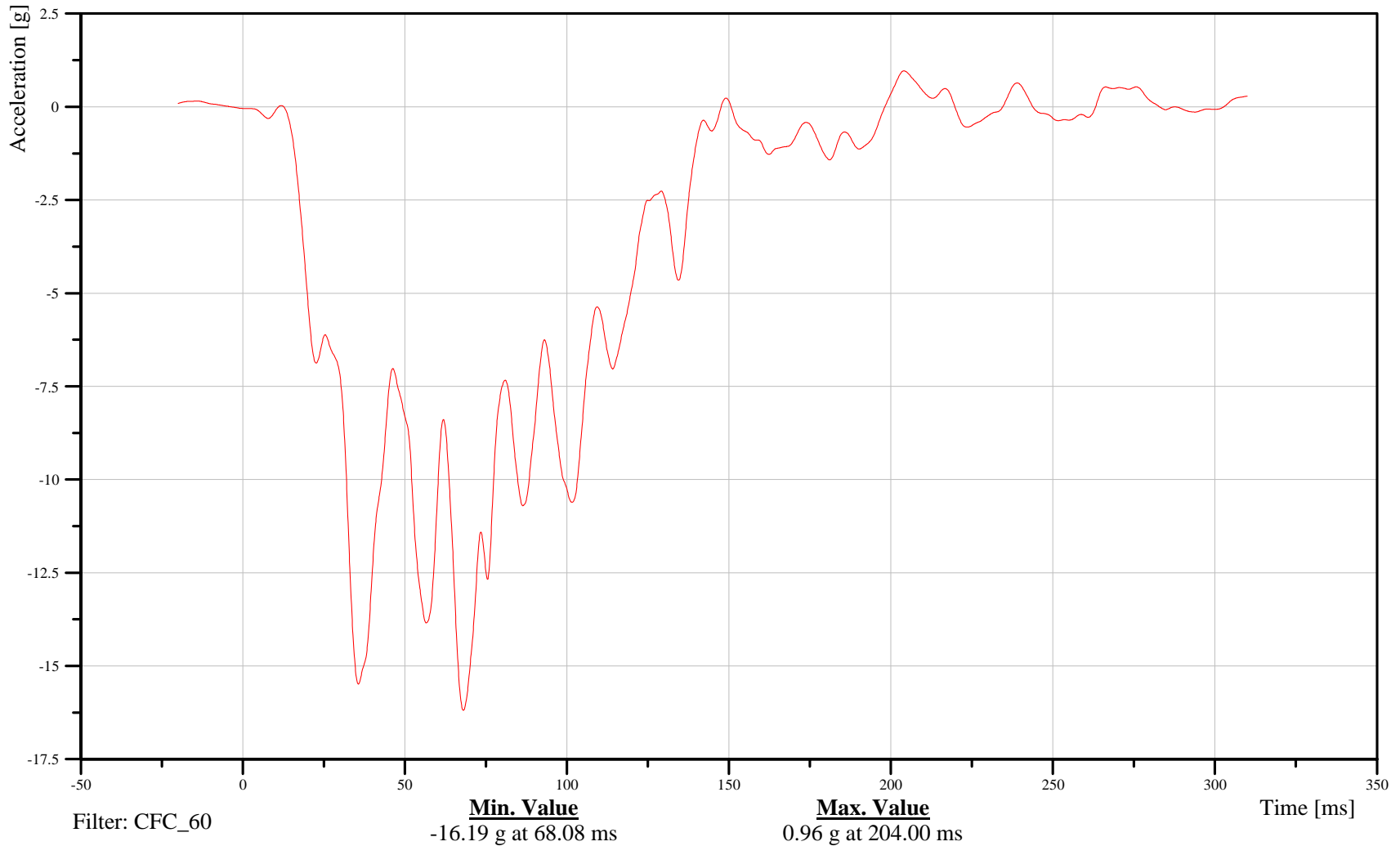
Bullet Vehicle Right Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

16CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-293

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

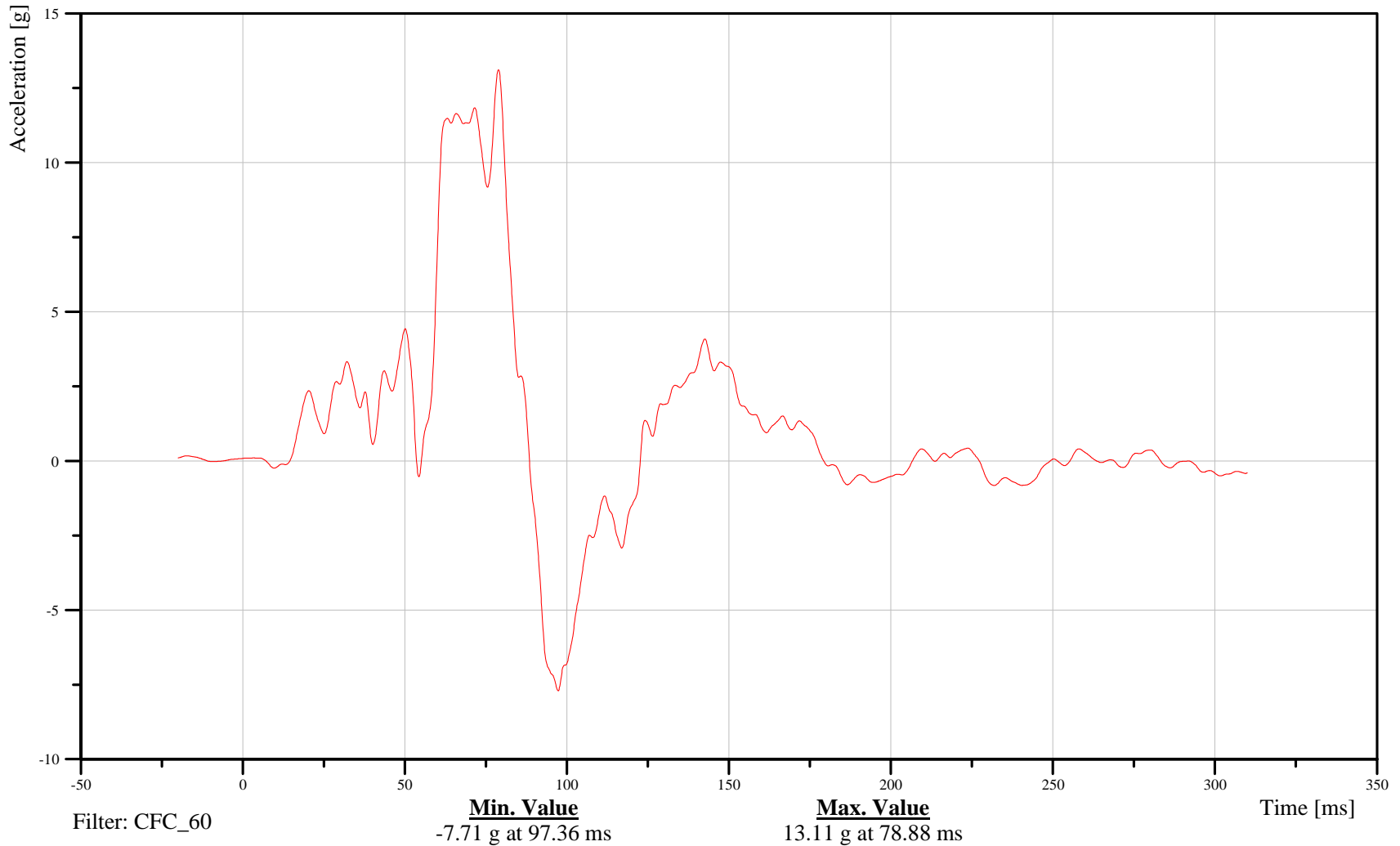
Bullet Vehicle Right Rear Seat Crossmember Y-Axis Acceleration

Customer: VRTC

16CRME000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-294

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

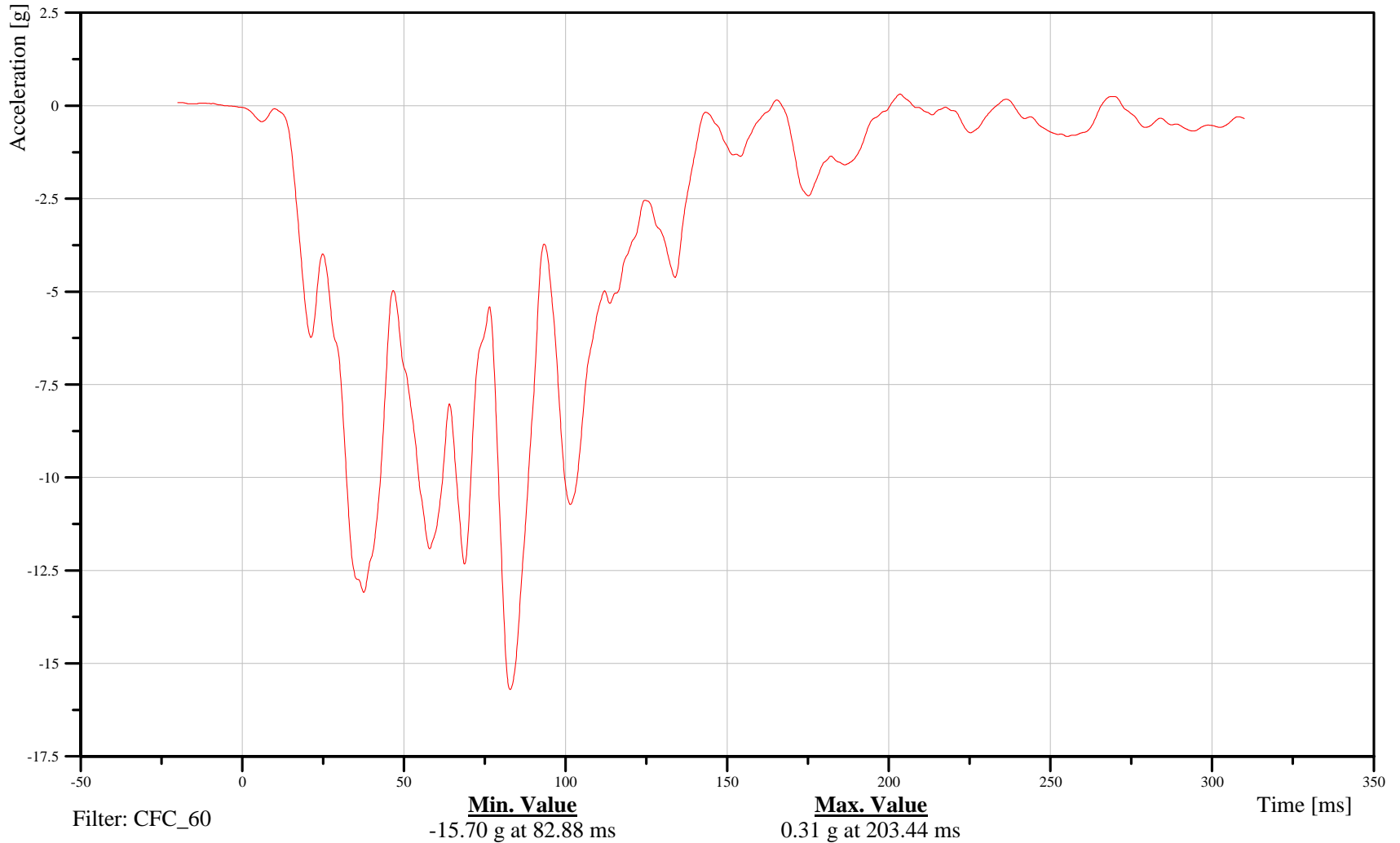
Bullet Vehicle CG X-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-295

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

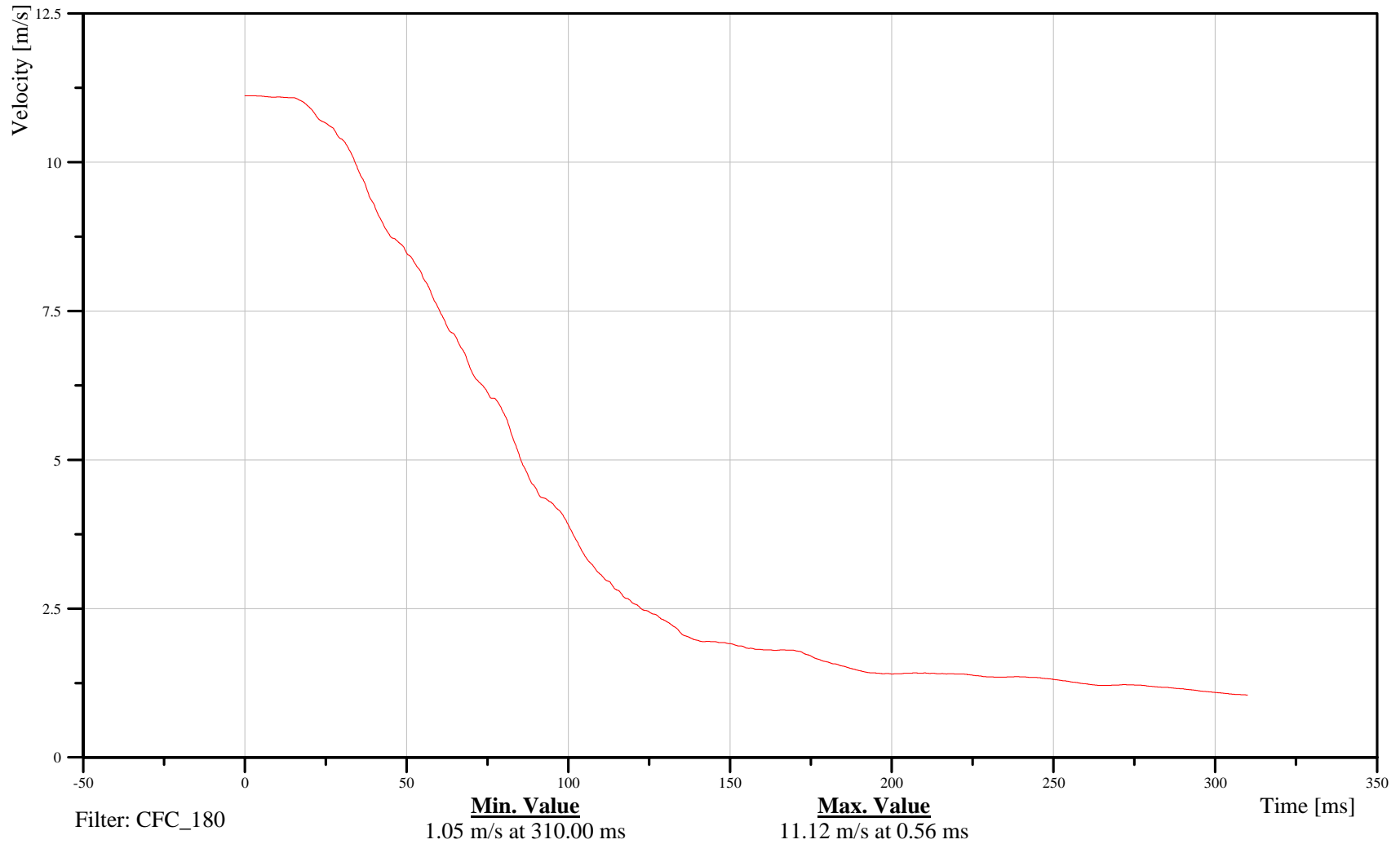
Bullet Vehicle CG X-Axis Velocity

Customer: VRTC

10VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-296

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

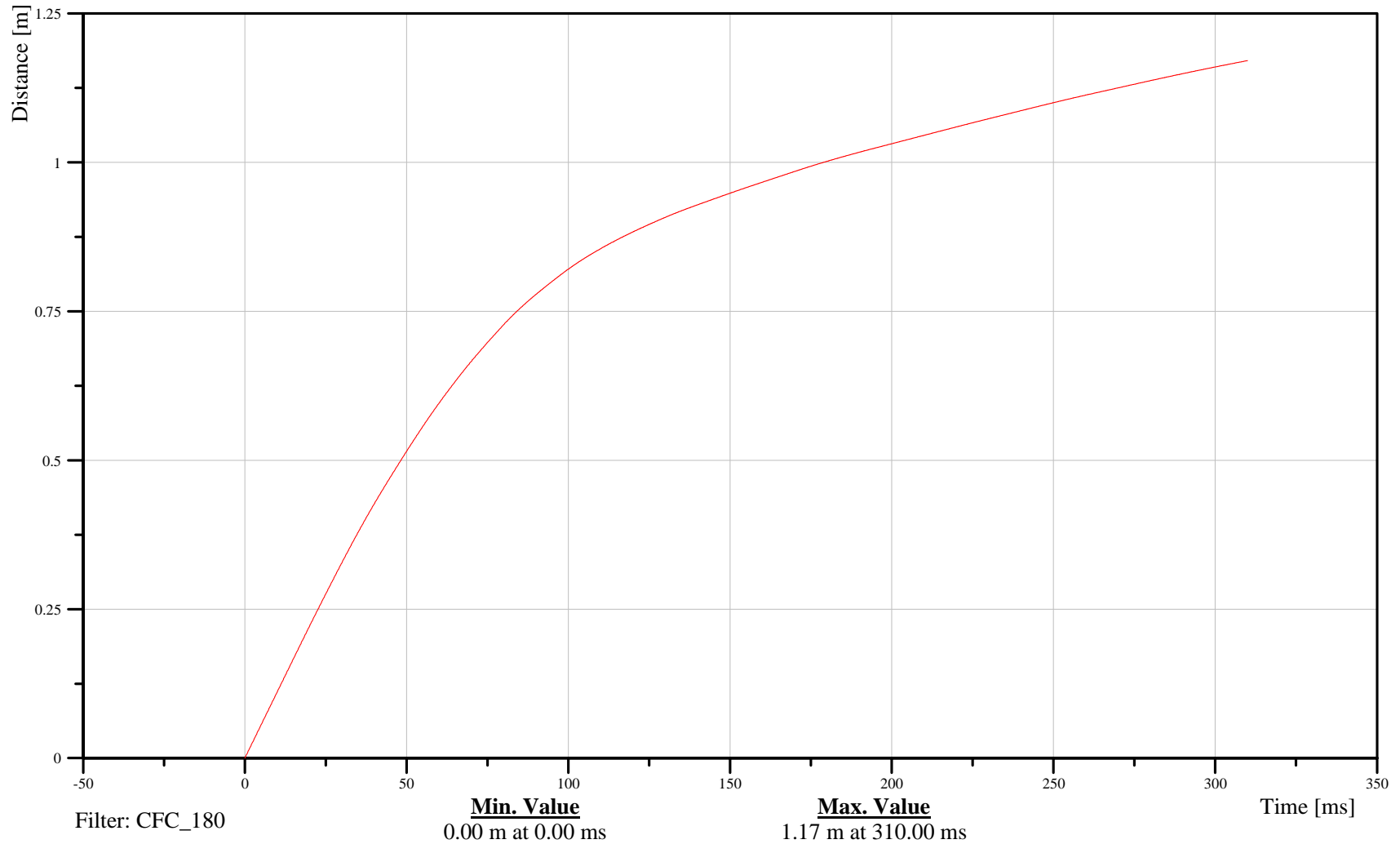
Bullet Vehicle CG X-Axis Displacement

Customer: VRTC

10VEHCCG0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-297

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

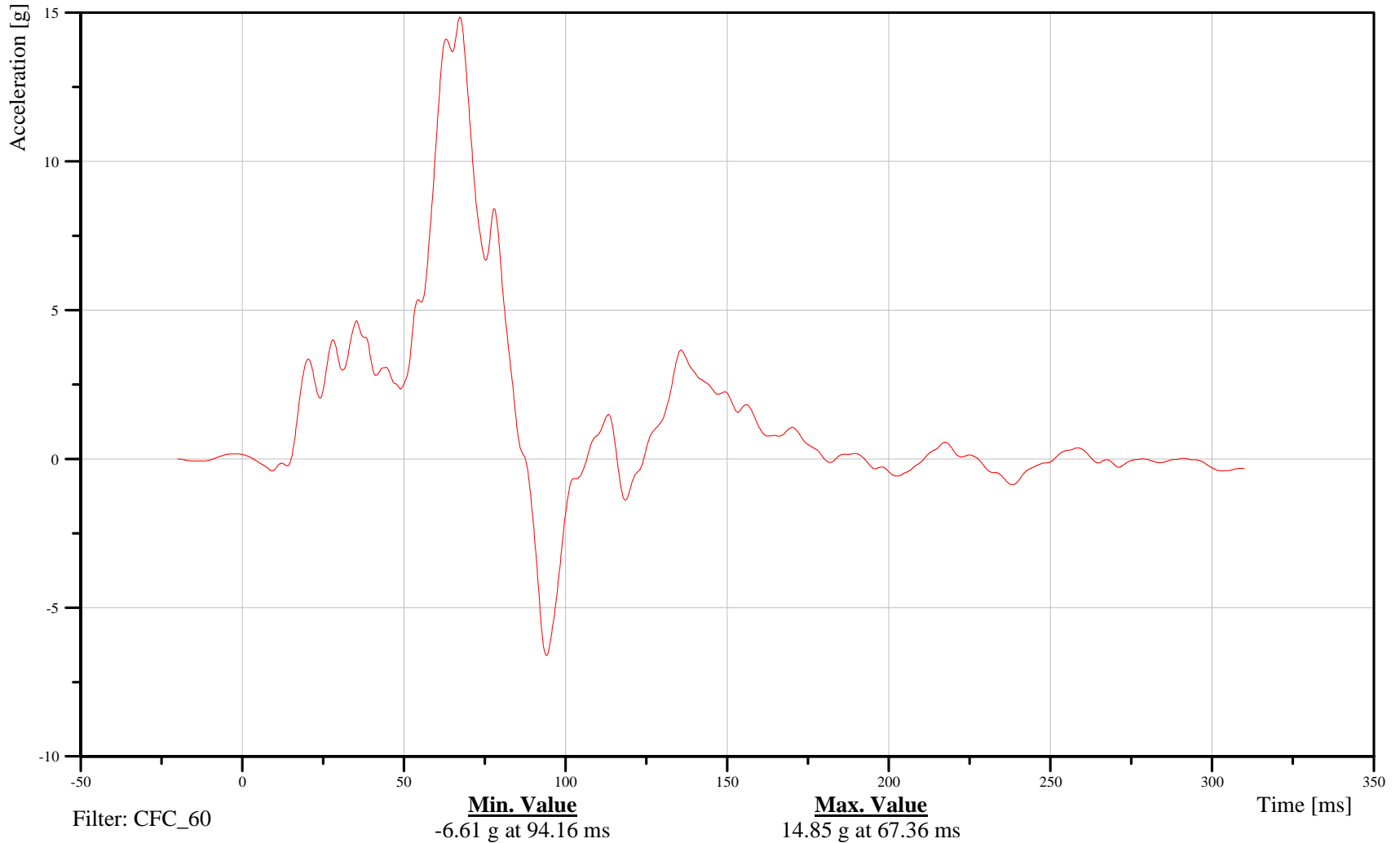
Bullet Vehicle CG Y-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-298

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

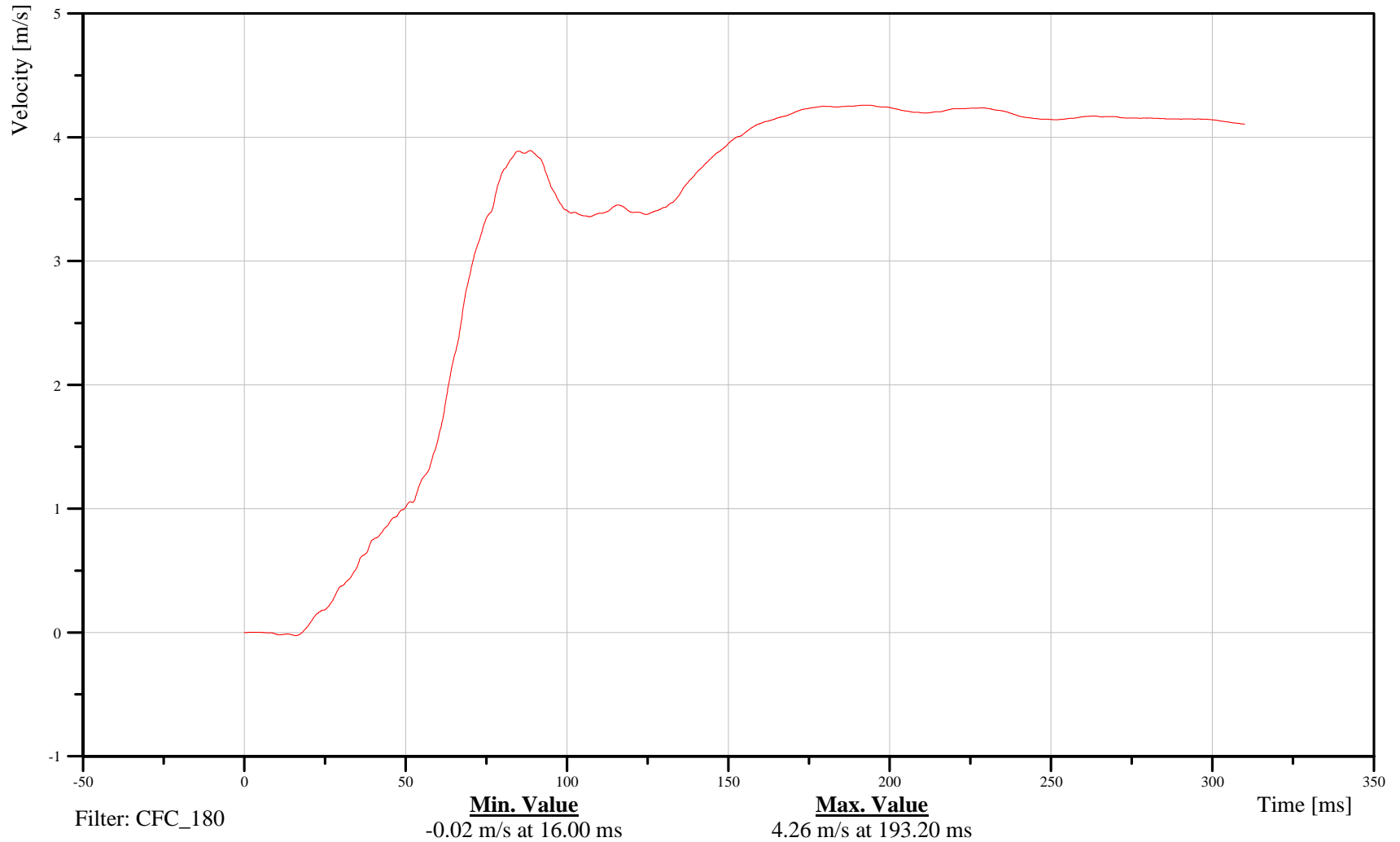
Bullet Vehicle CG Y-Axis Velocity

Customer: VRTC

10VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-299

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

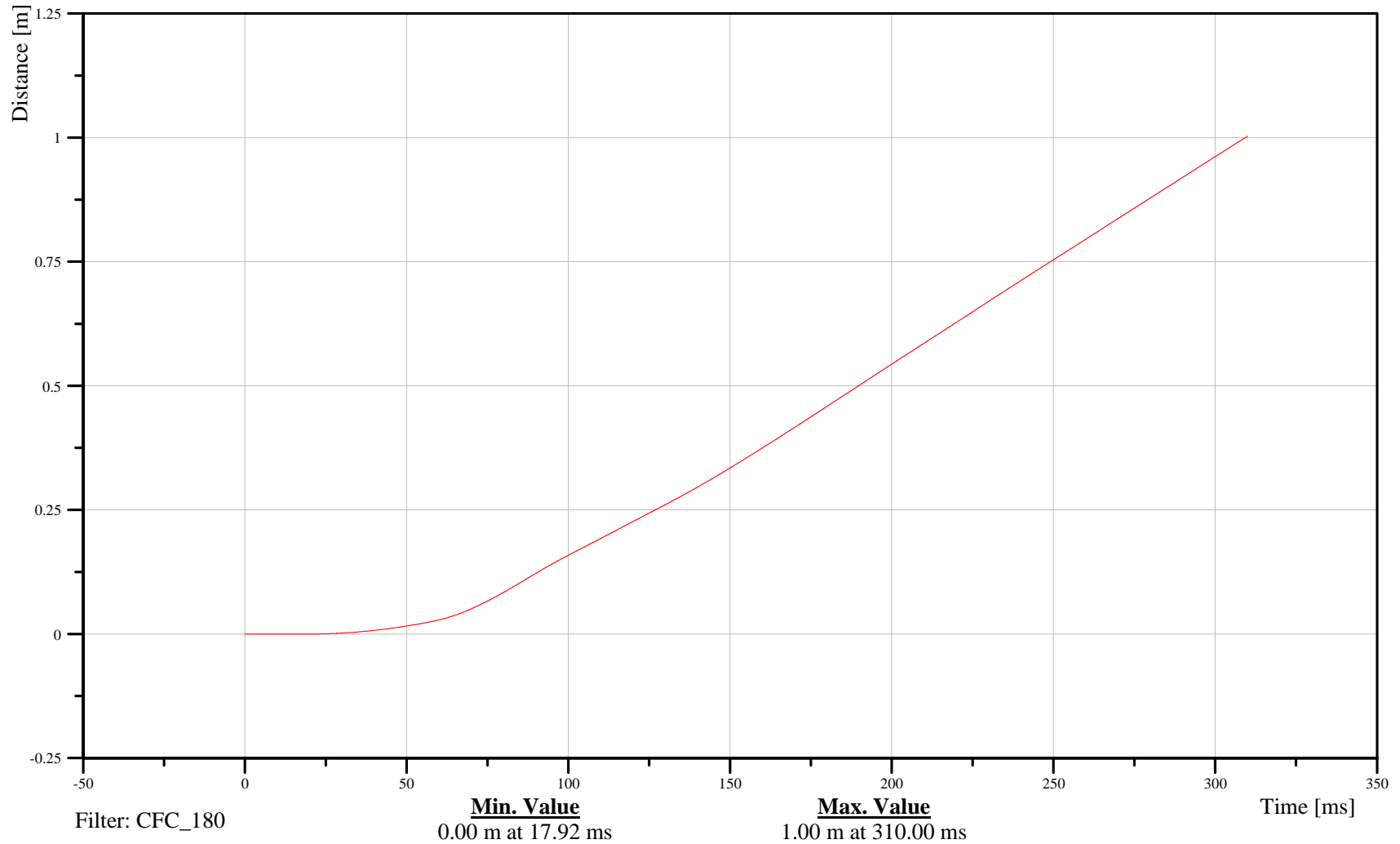
Bullet Vehicle CG Y-Axis Displacement

Customer: VRTC

10VEHCCG0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-300

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

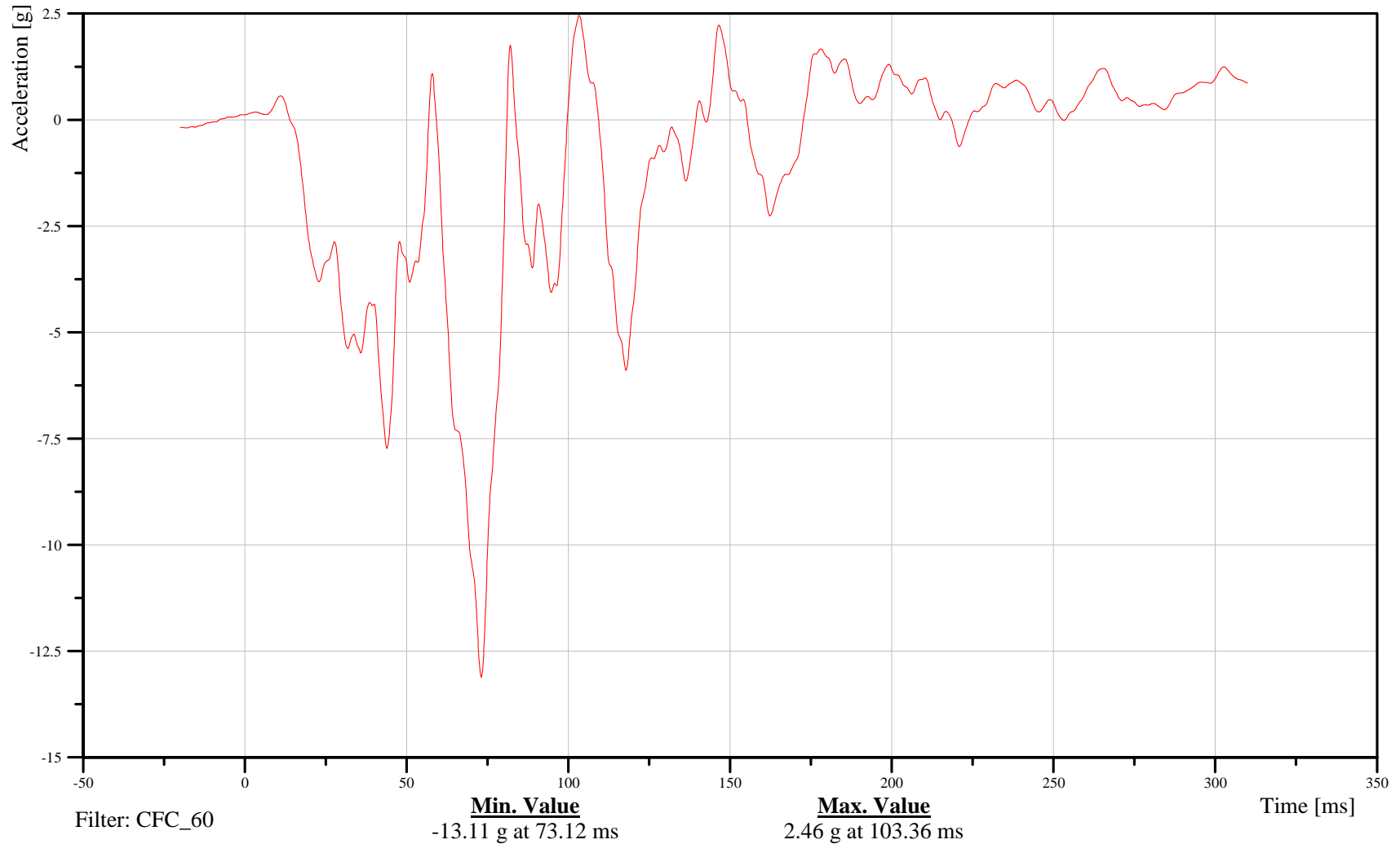
Bullet Vehicle CG Z-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-301

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

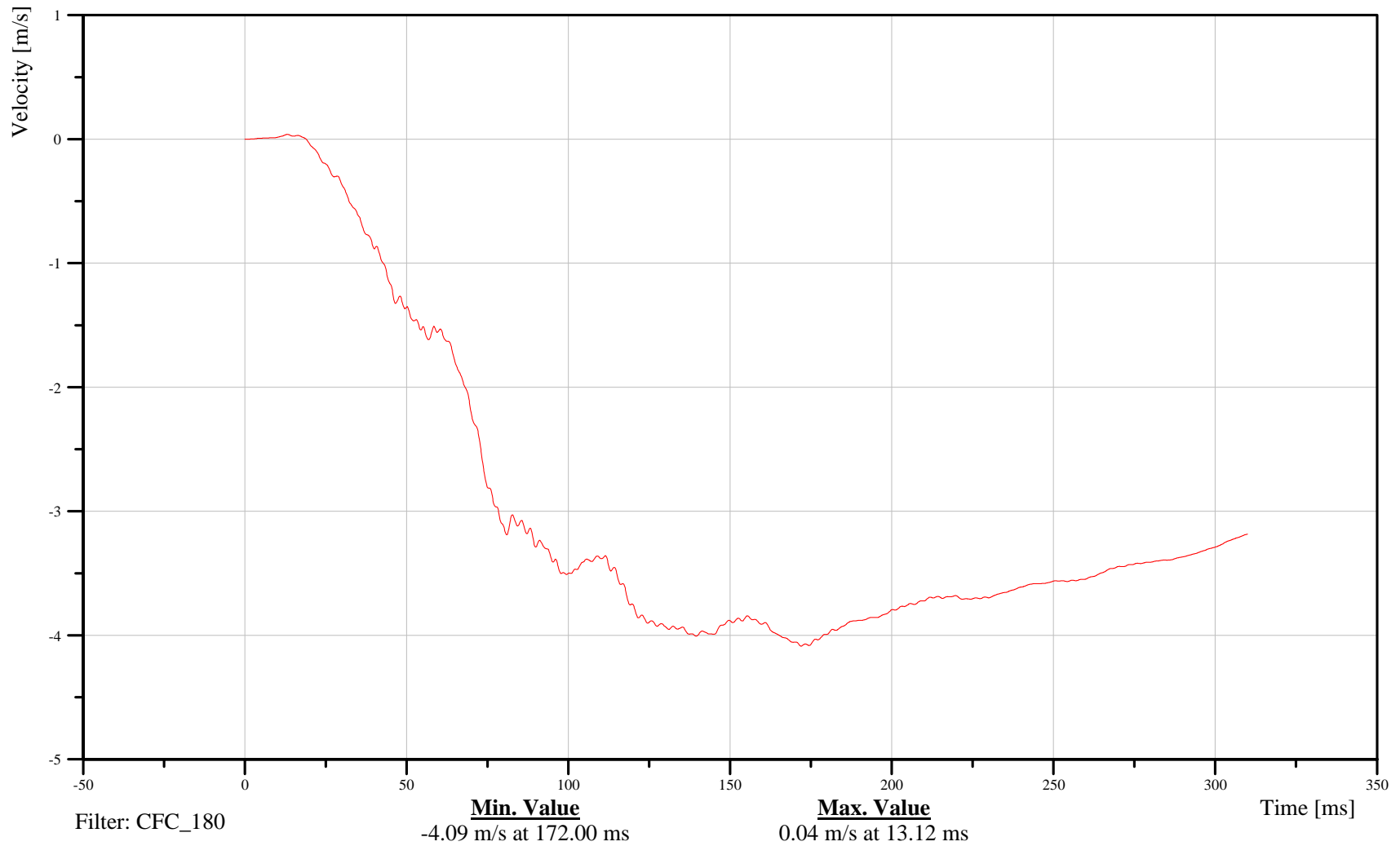
Bullet Vehicle CG Z-Axis Velocity

Customer: VRTC

10VEHCCG0000VEZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-302

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

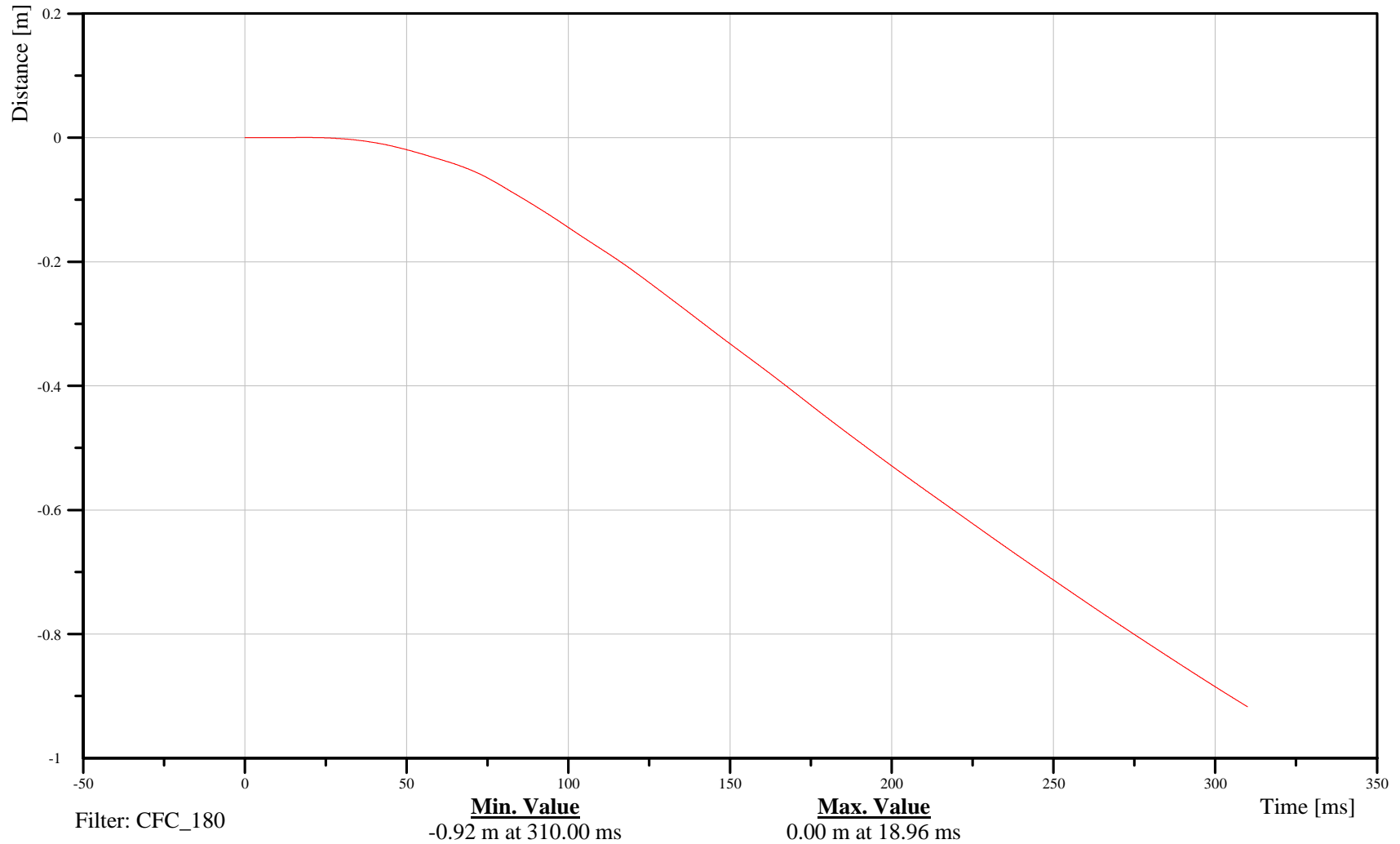
Bullet Vehicle CG Z-Axis Displacement

Customer: VRTC

10VEHCCG0000DCZC

TRC Inc. Test Lab: CTF

Test Number: 080403



B-303

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

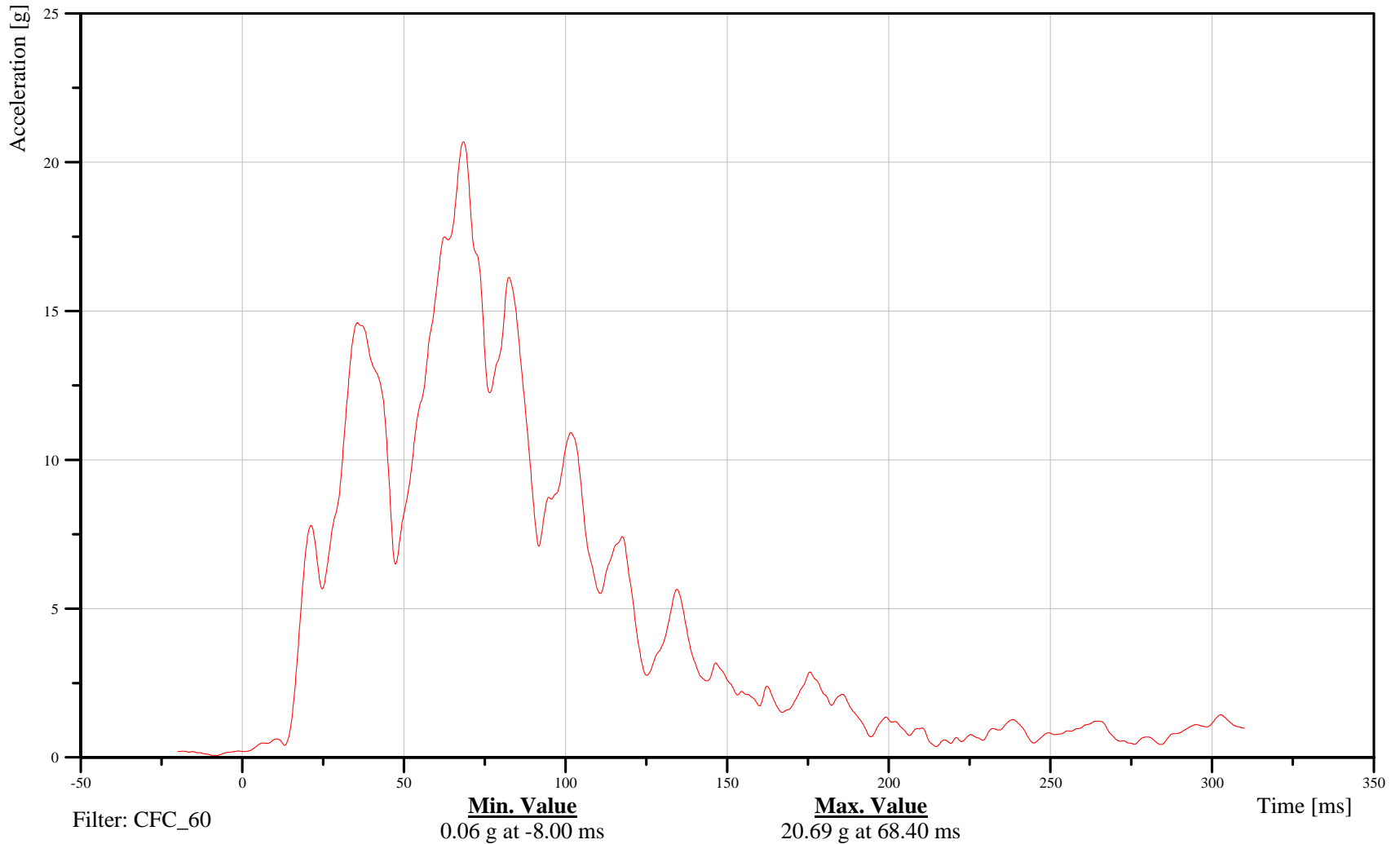
Bullet Vehicle CG Resultant Acceleration

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-304

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

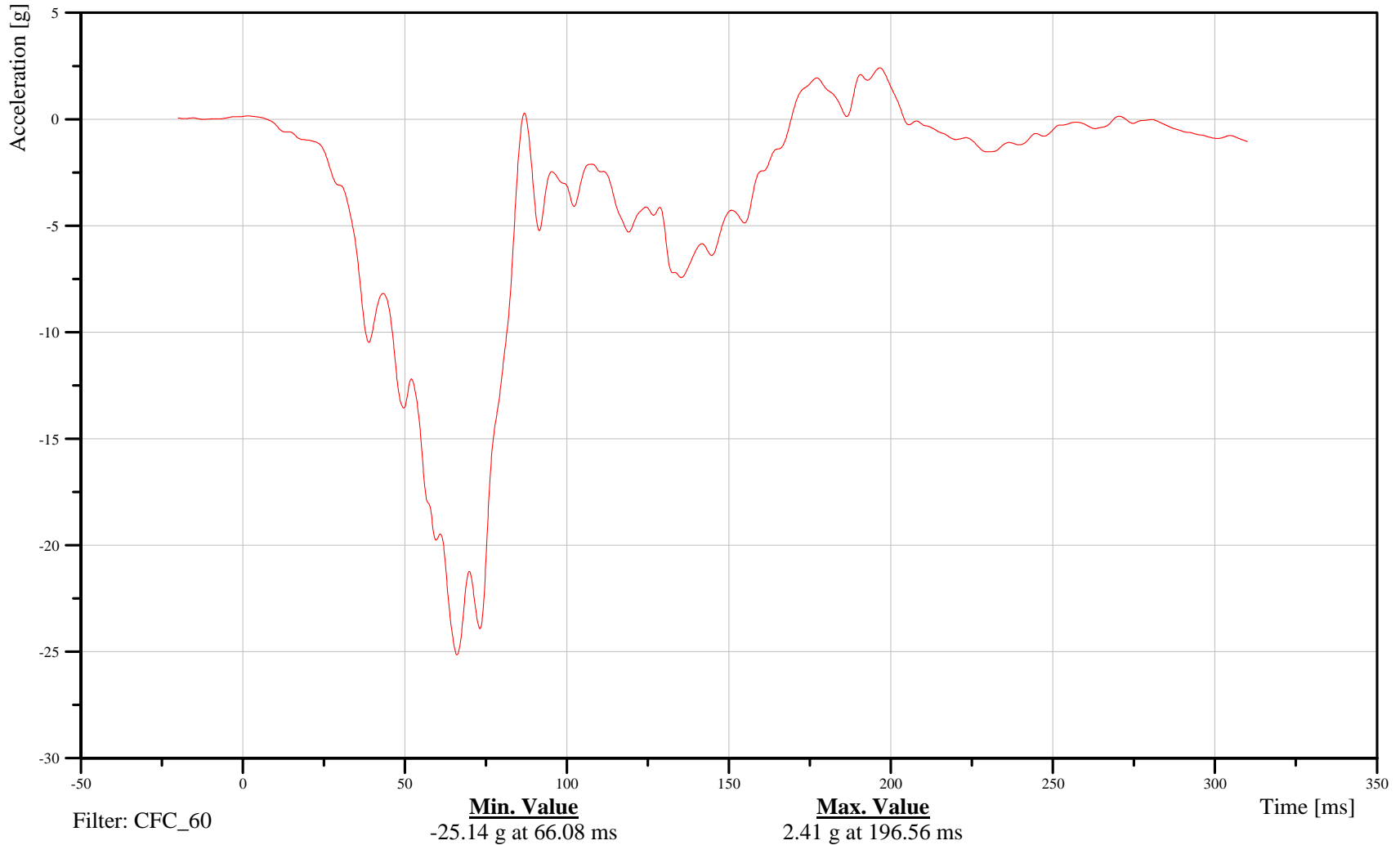
Bullet Vehicle Top of Engine X-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-305

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

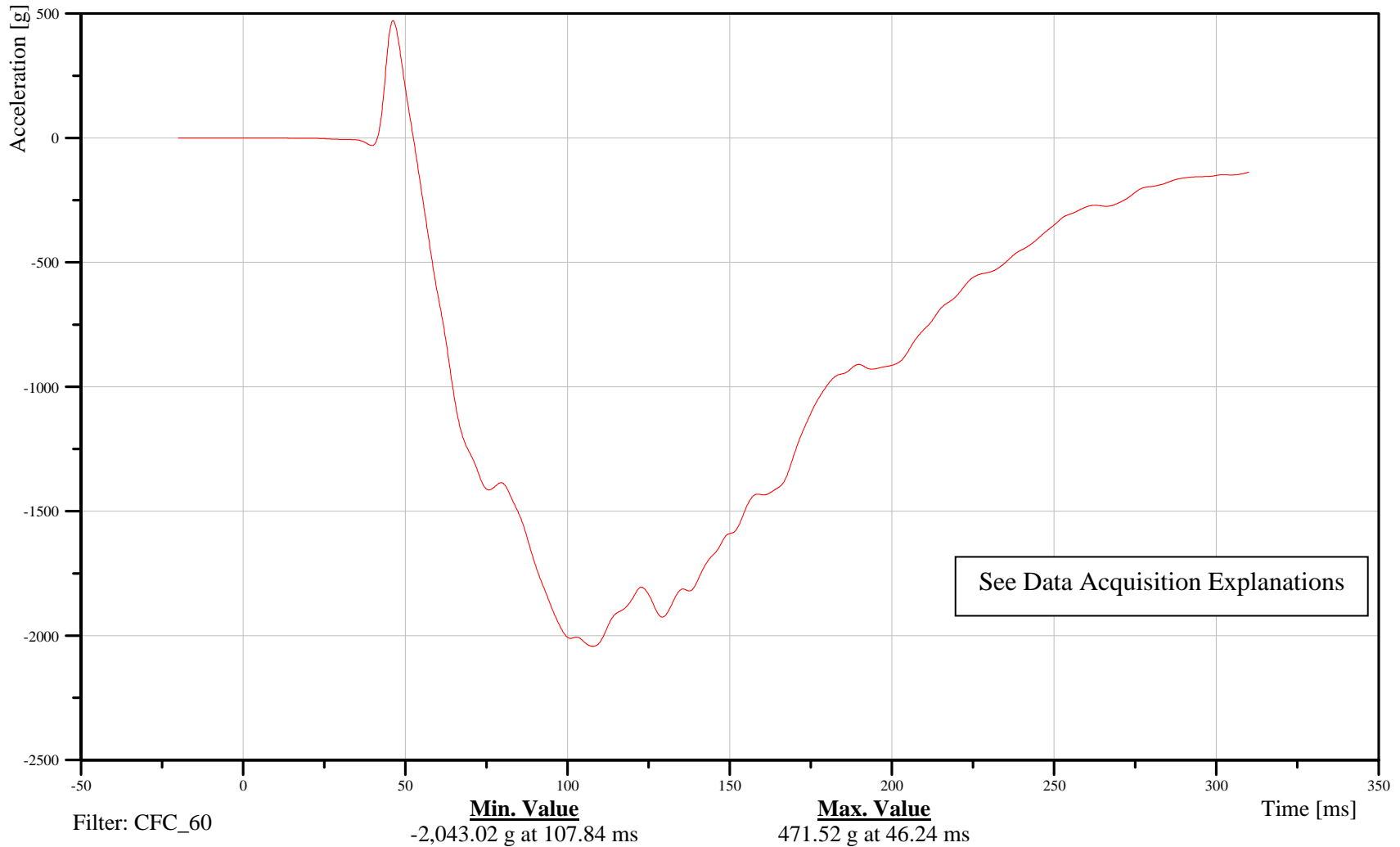
Bullet Vehicle Bottom of Engine X-Axis Acceleration

Customer: VRTC

12ENGNB00000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-306

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

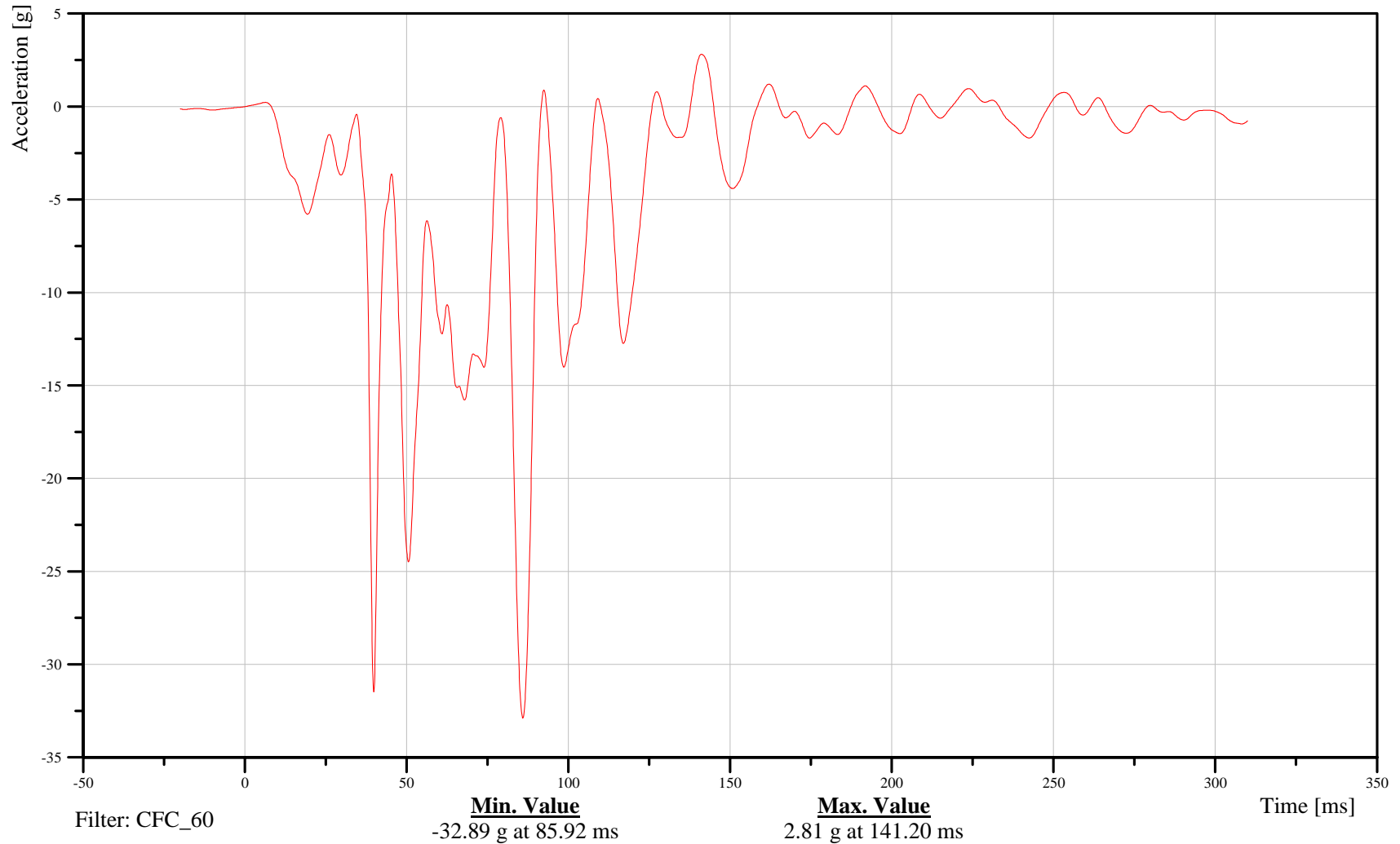
Bullet Vehicle Dash Center X-Axis Acceleration

Customer: VRTC

12DASH000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-307

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

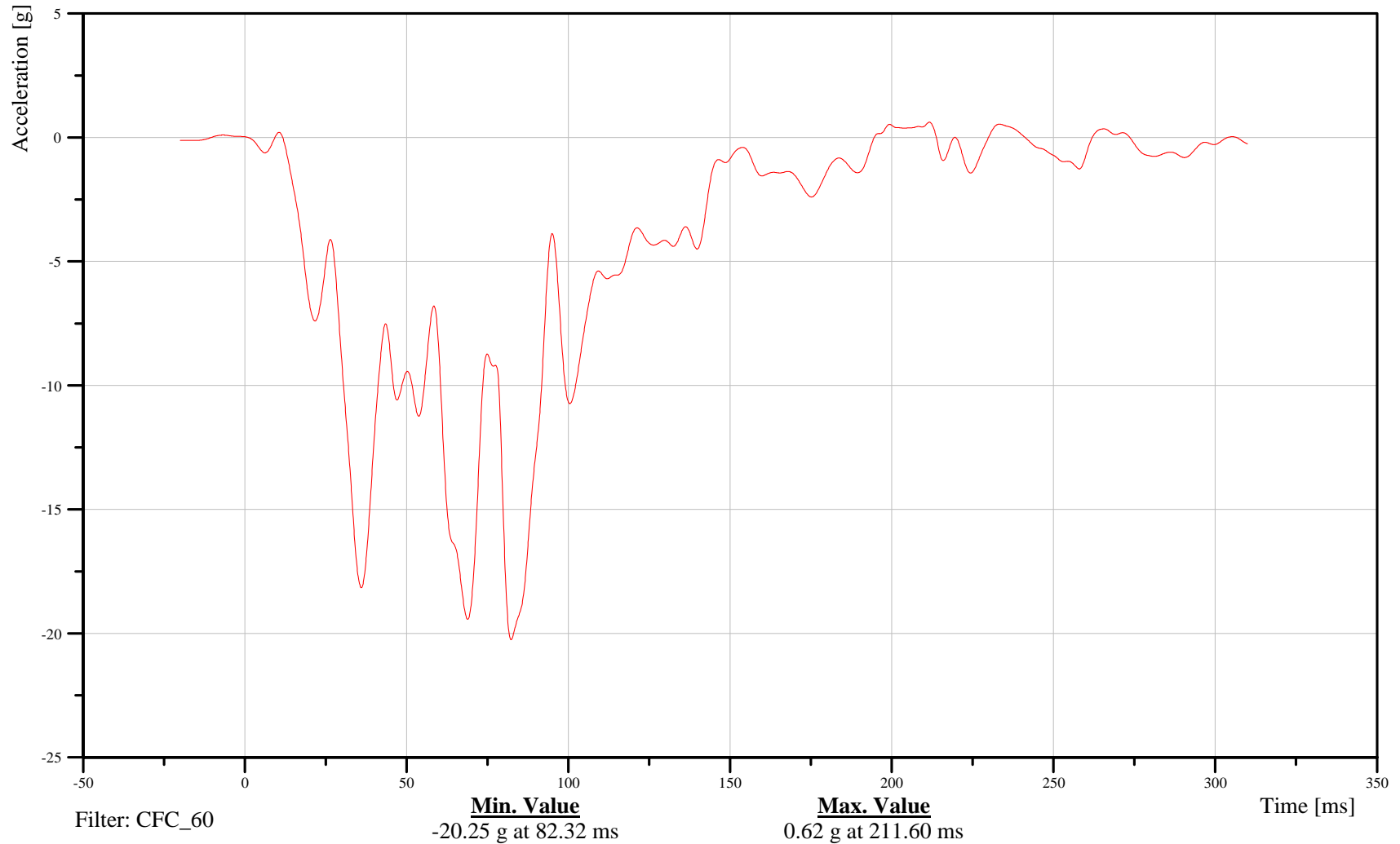
Bullet Vehicle Left Side Driver Mid Seat Track X-Axis Acceleration

Customer: VRTC

11SETRMI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-308

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

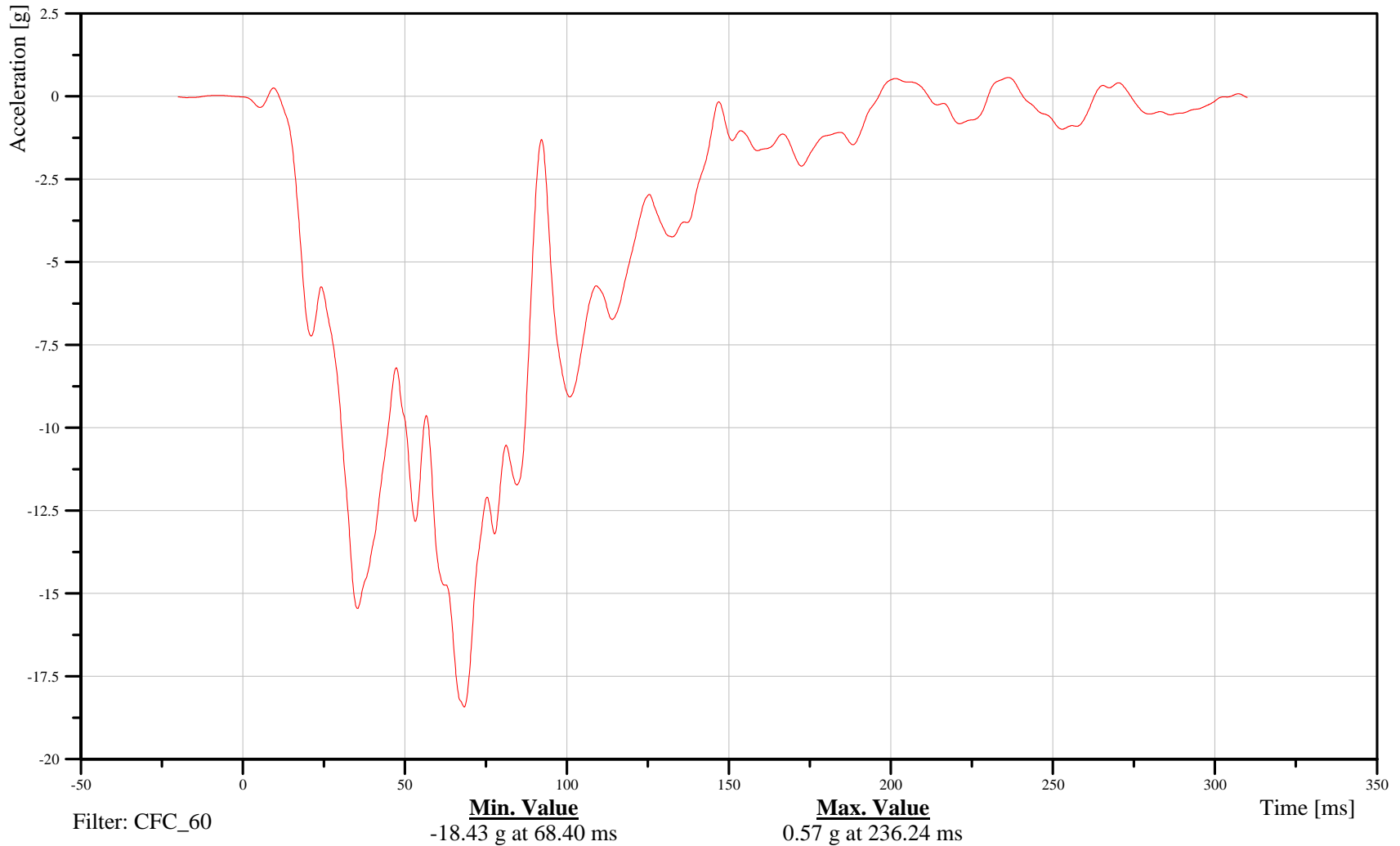
Bullet Vehicle Acceleration Pedal X-Axis Acceleration

Customer: VRTC

11PEAC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-309

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

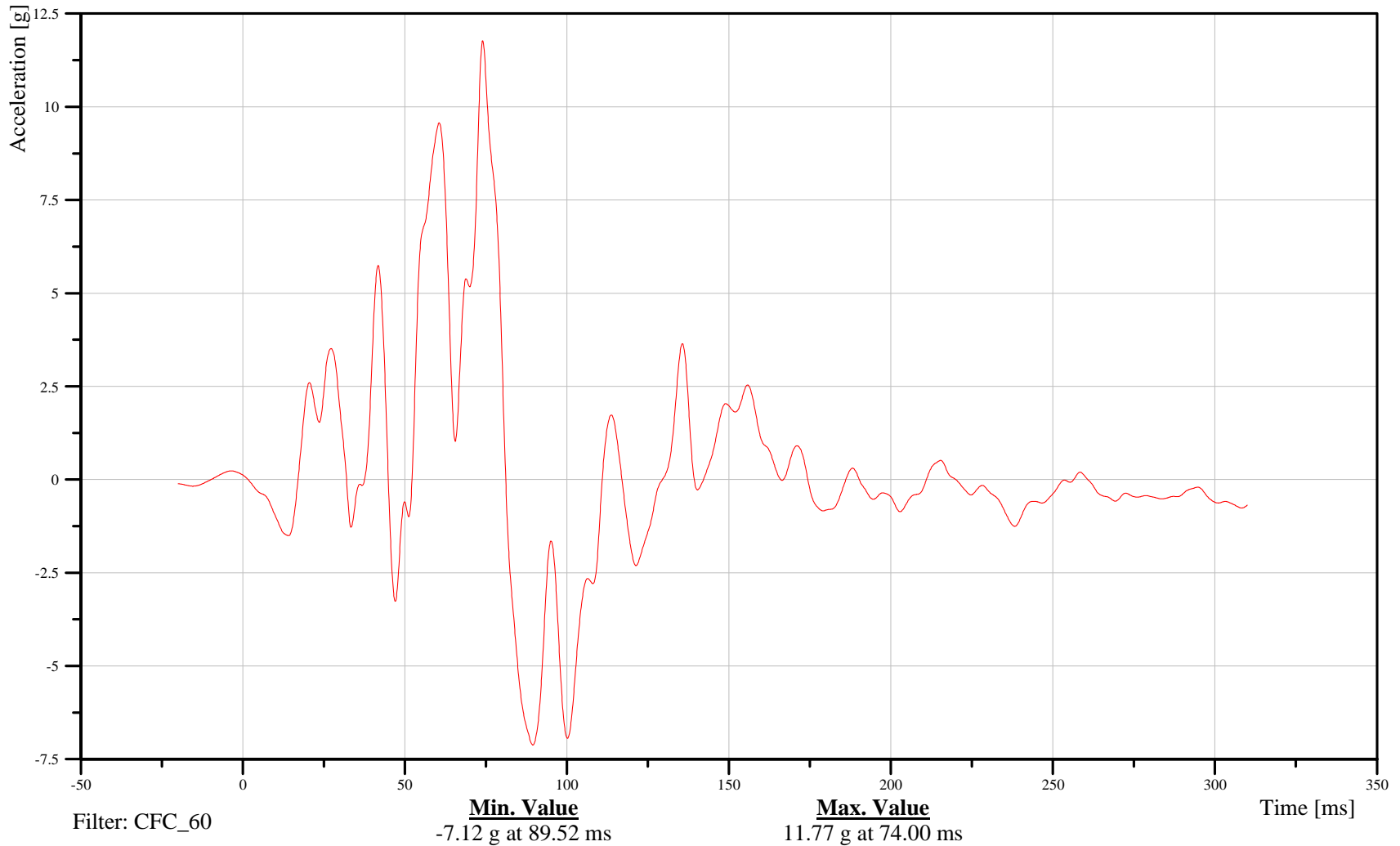
Bullet Vehicle Acceleration Pedal Y-Axis Acceleration

Customer: VRTC

11PEAC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-310

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

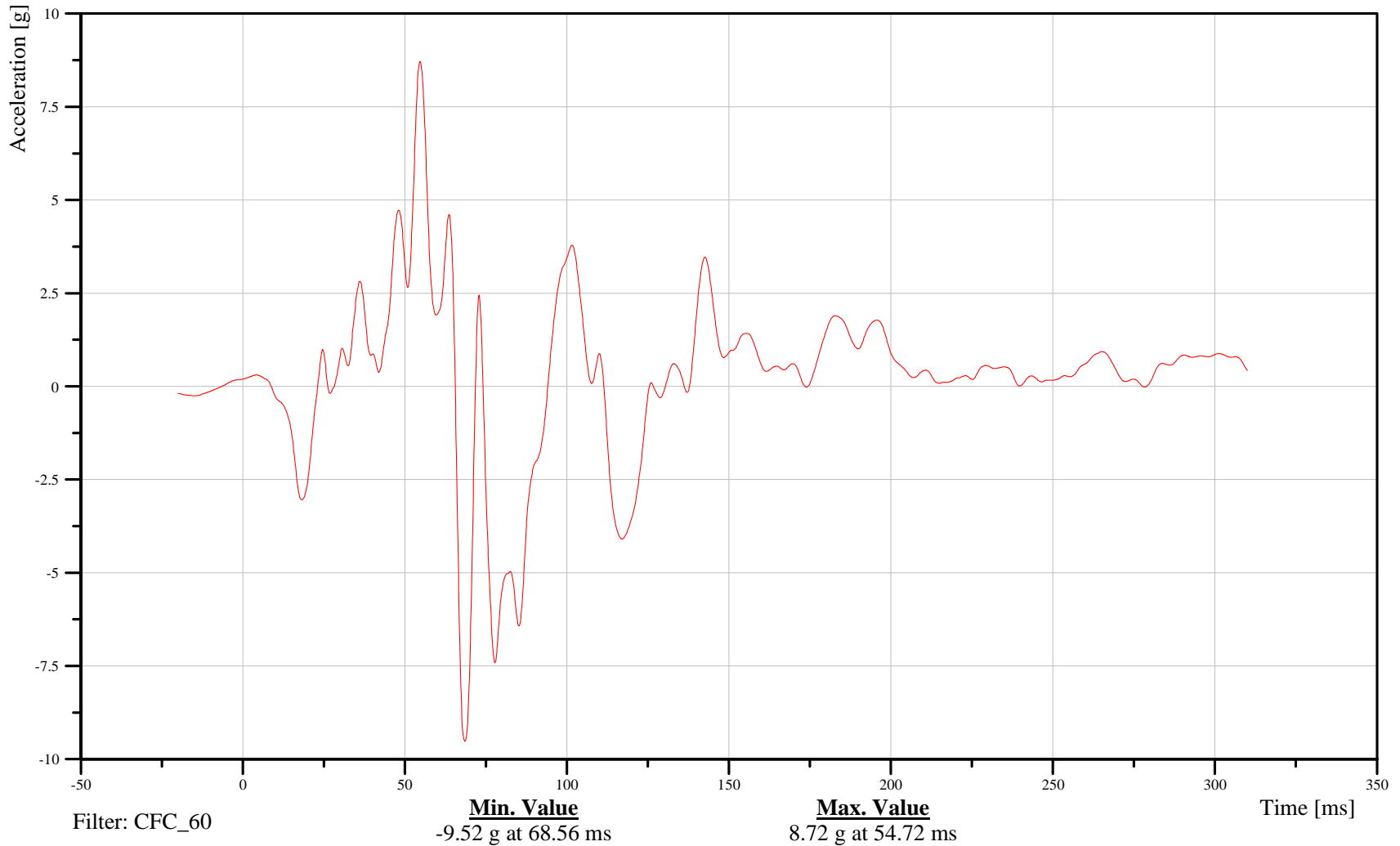
Bullet Vehicle Acceleration Pedal Z-Axis Acceleration

Customer: VRTC

11PEAC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-311

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

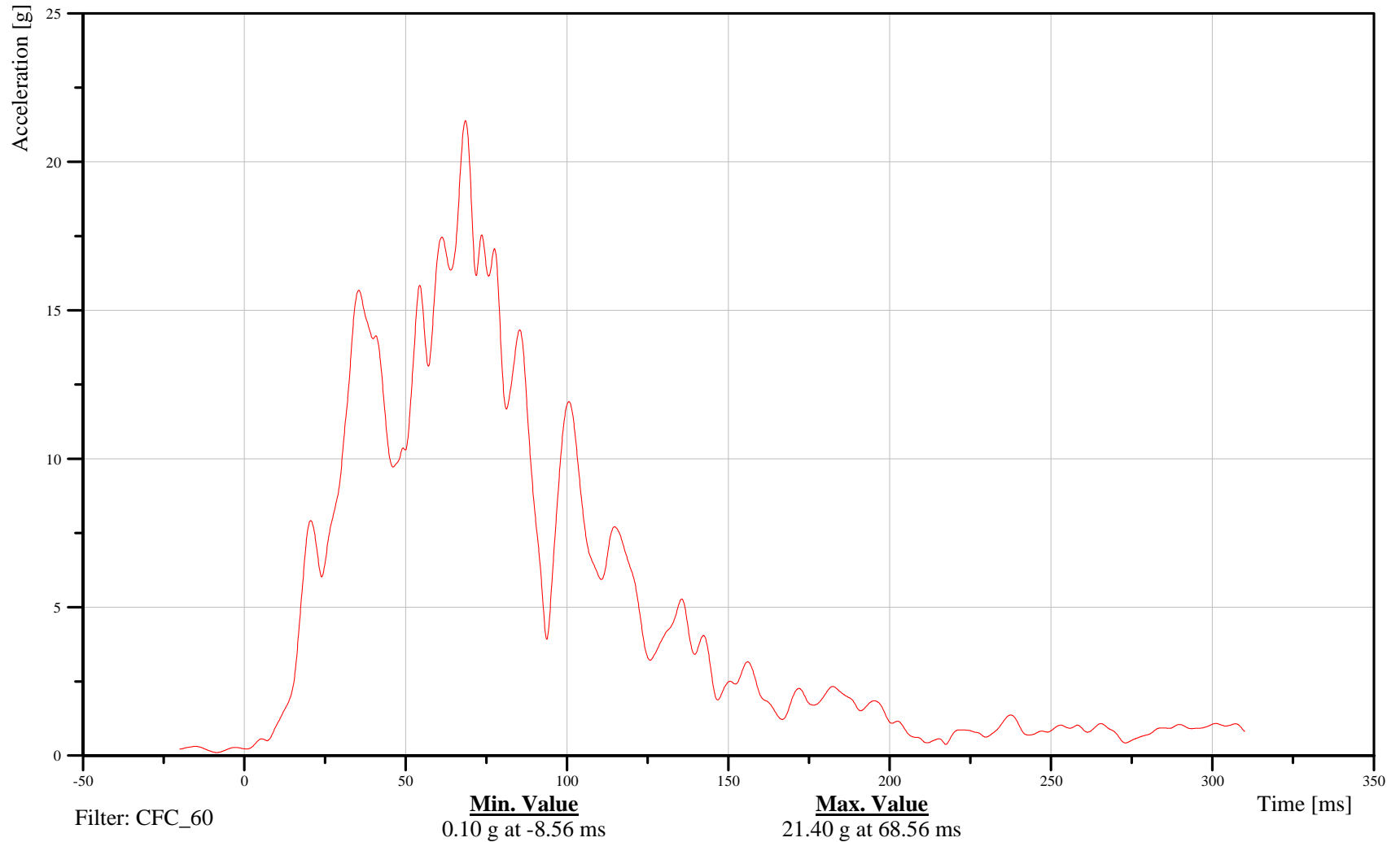
Bullet Vehicle Acceleration Pedal Resultant Acceleration

Customer: VRTC

11PEAC000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-312

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

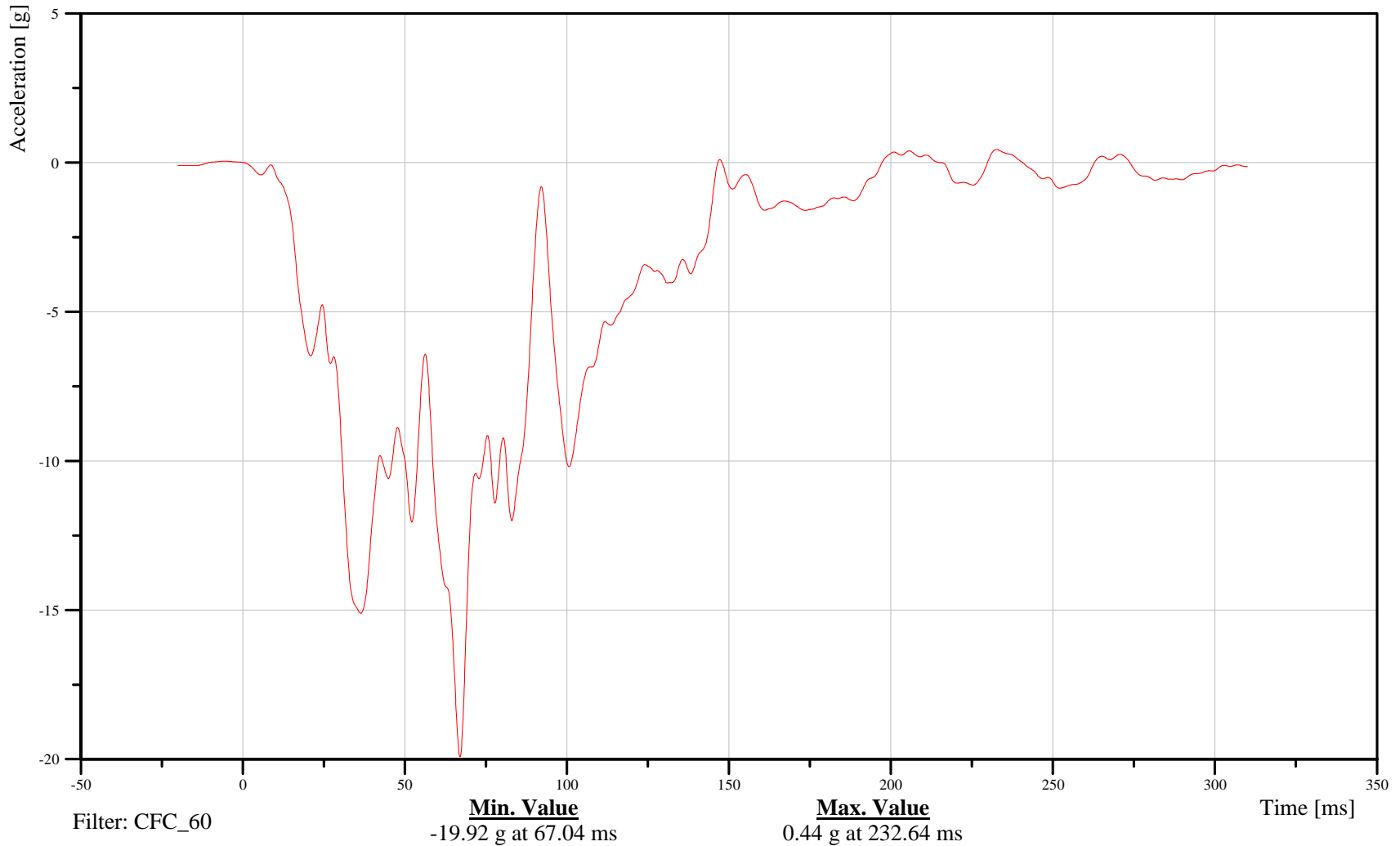
Bullet Vehicle Brake Pedal X-Axis Acceleration

Customer: VRTC

11PEBR000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-313

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

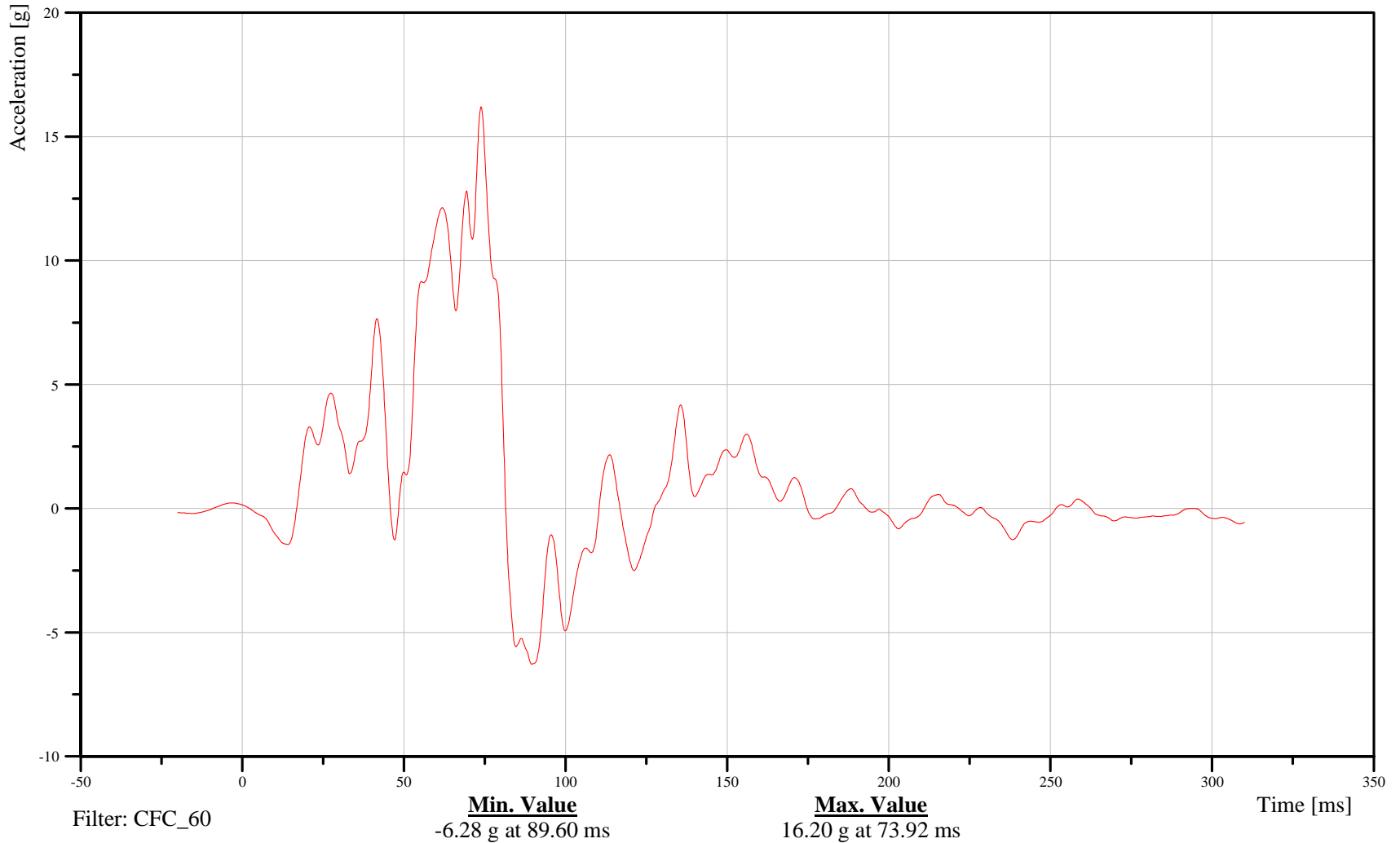
Bullet Vehicle Brake Pedal Y-Axis Acceleration

Customer: VRTC

11PEBR000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-314

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

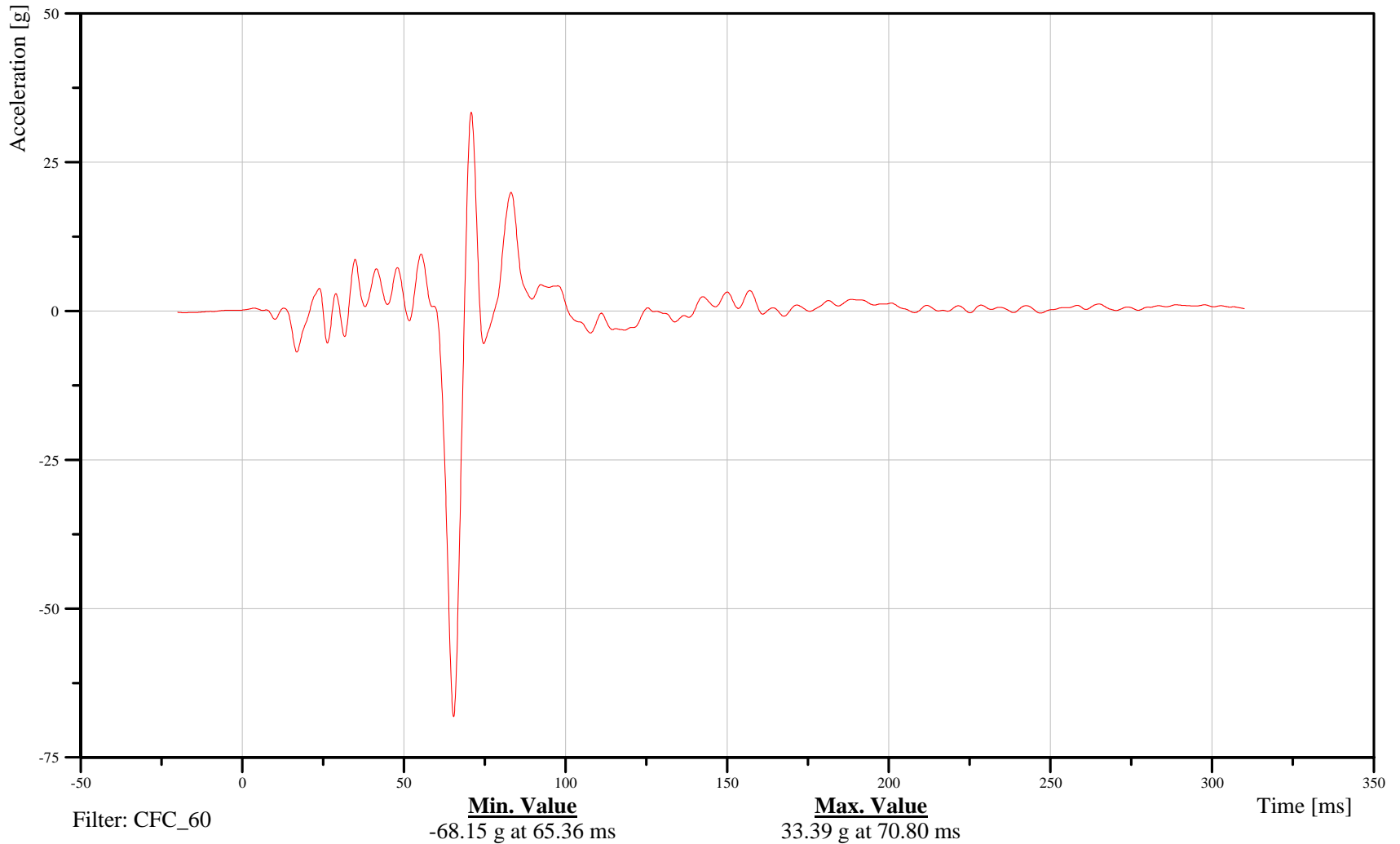
Bullet Vehicle Brake Pedal Z-Axis Acceleration

Customer: VRTC

11PEBR000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-315

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

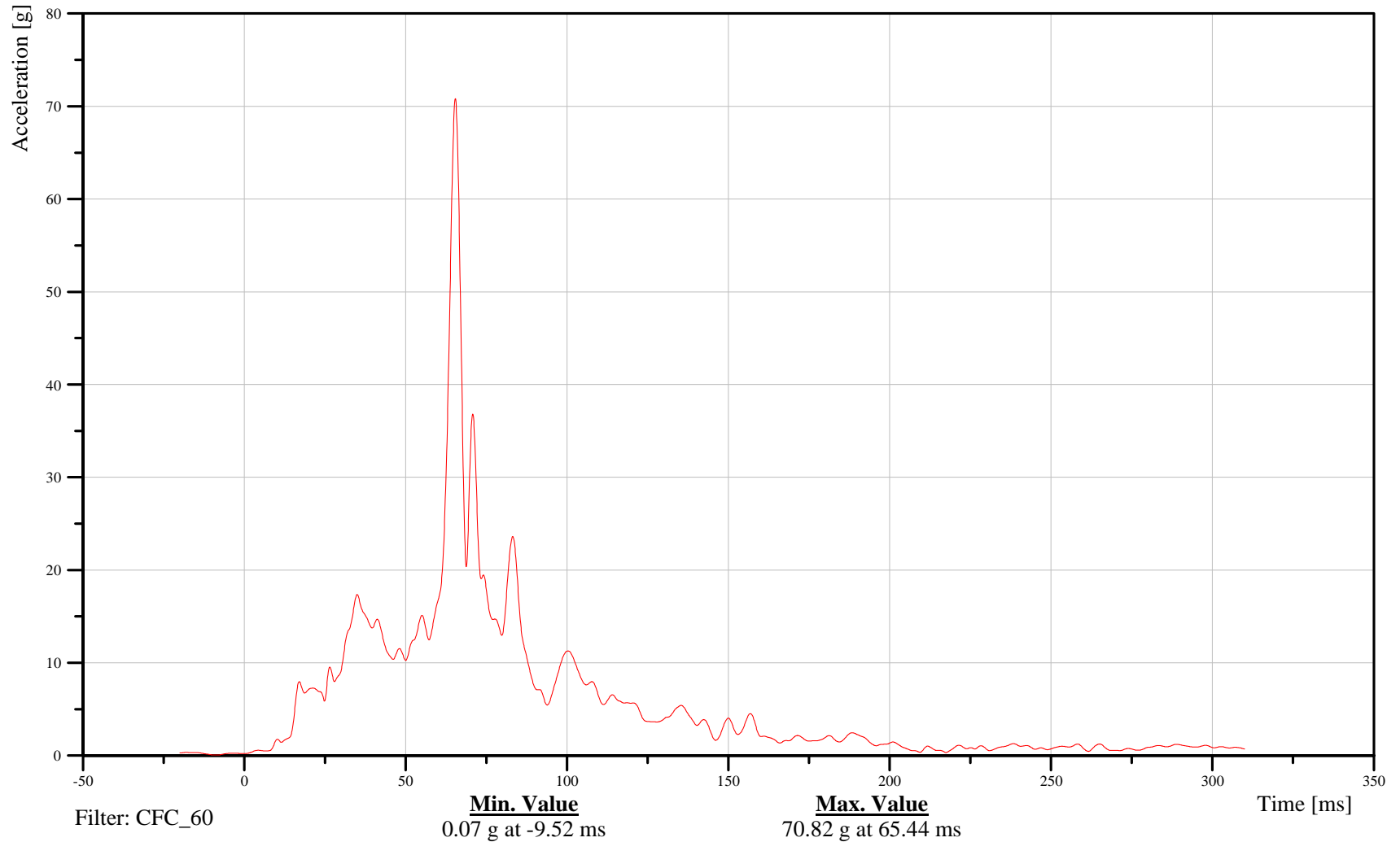
Bullet Vehicle Brake Pedal Resultant Acceleration

Customer: VRTC

11PEBR000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-316

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

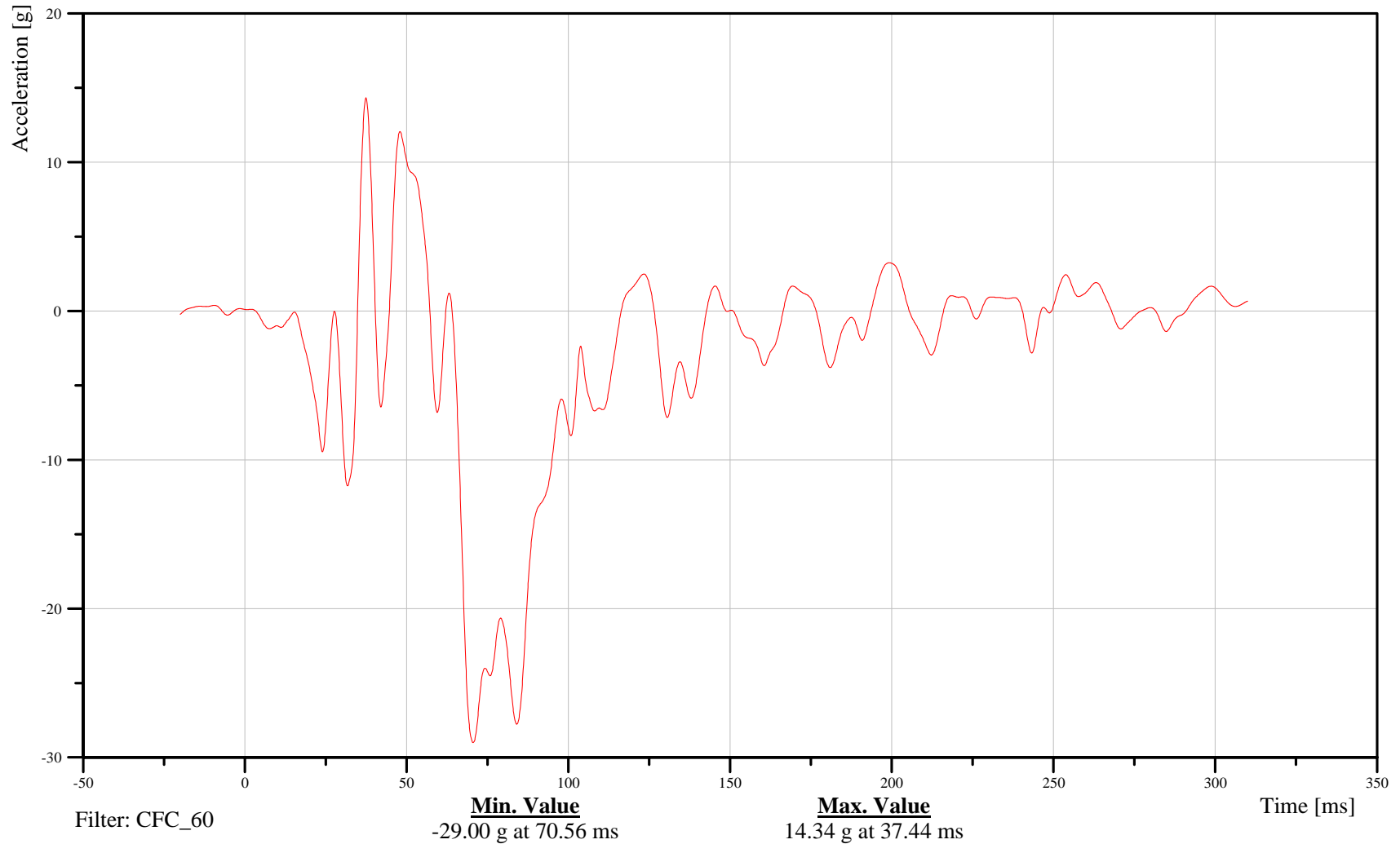
Bullet Vehicle Right Front Brake Caliper X-Axis Acceleration

Customer: VRTC

13VEHCRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-317

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

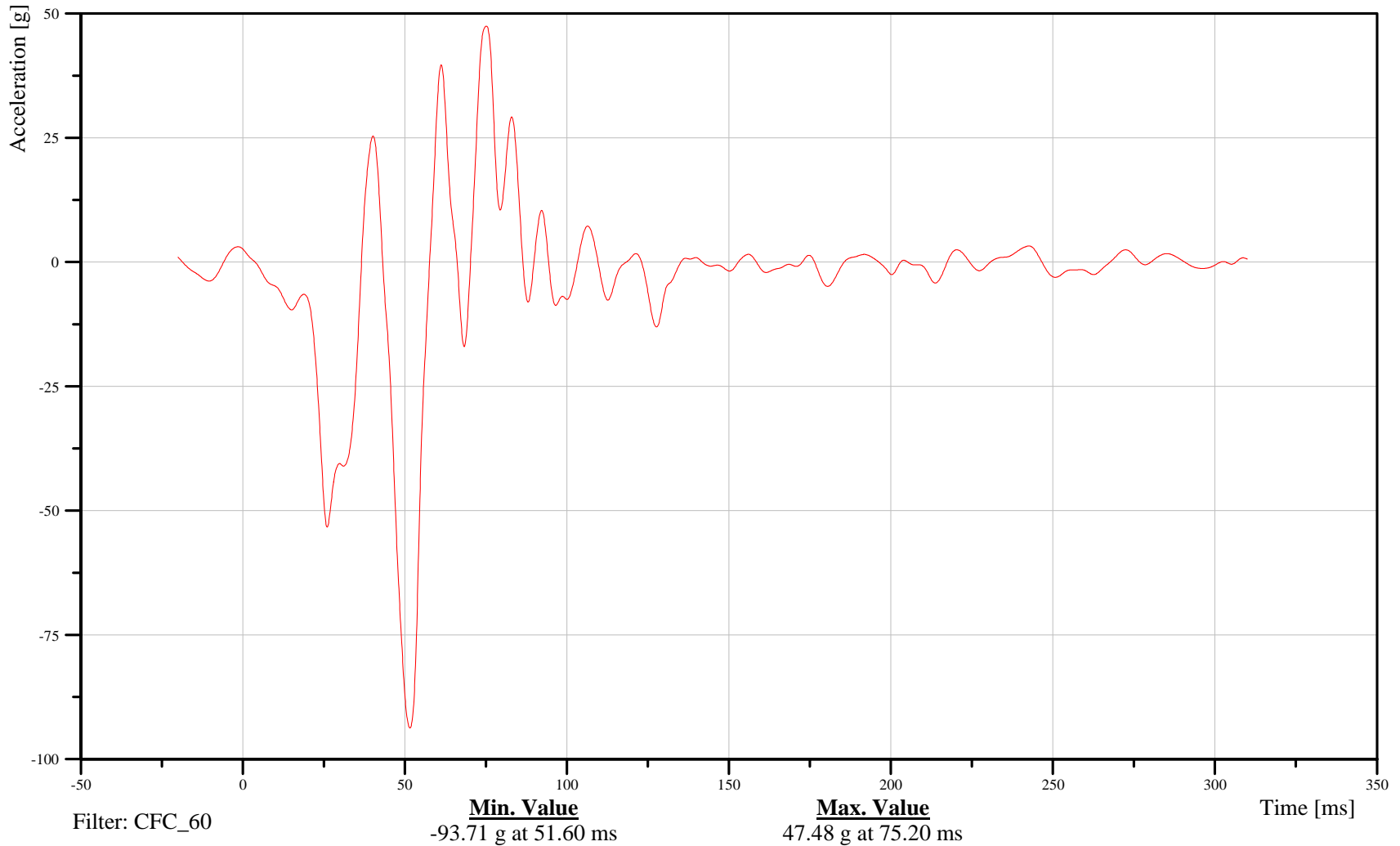
Bullet Vehicle Left Front Brake Caliper X-Axis Acceleration

Customer: VRTC

11VEHICLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-318

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

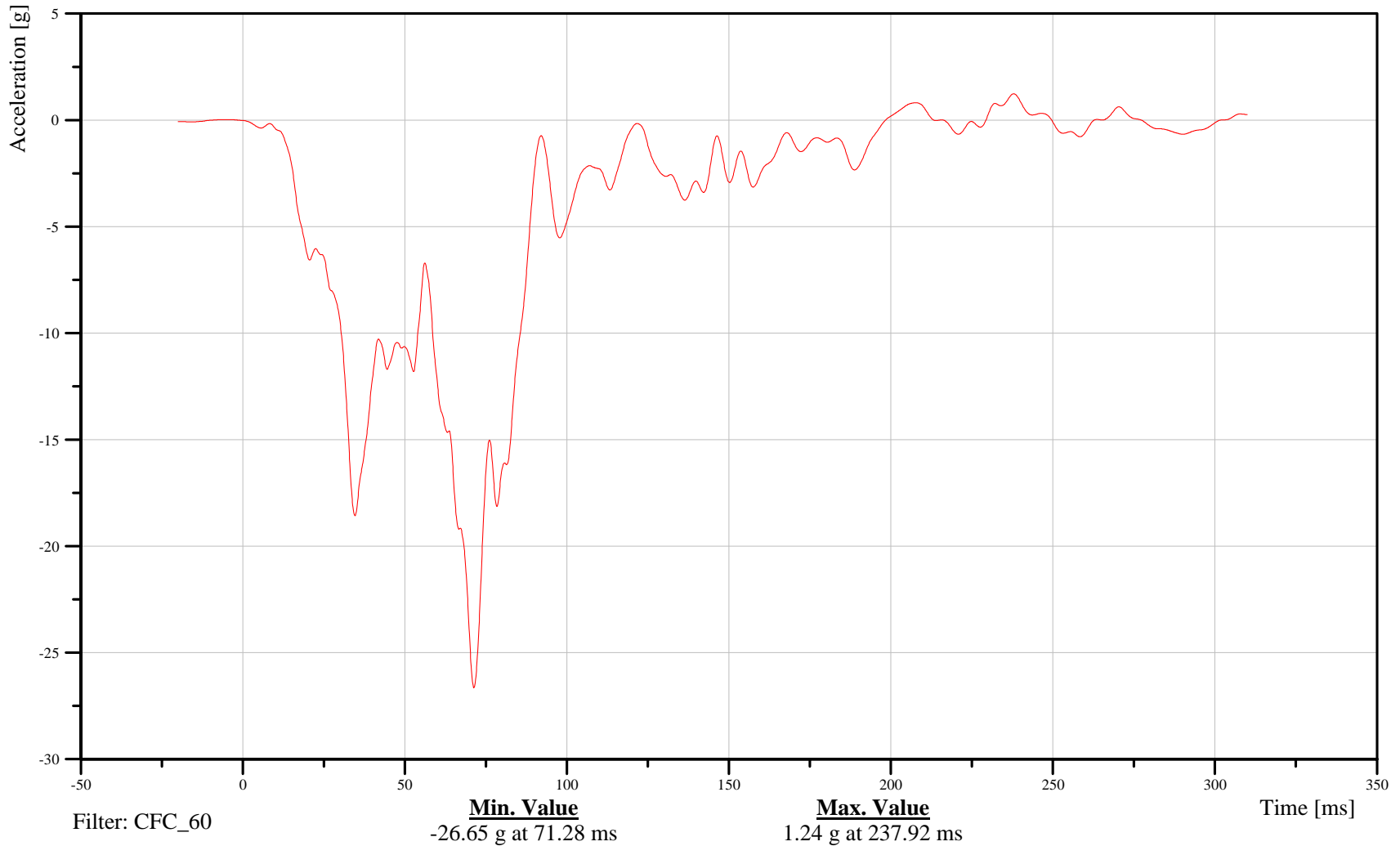
Bullet Vehicle Foot Rest X-Axis Acceleration

Customer: VRTC

11VEHC000001ACXD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-319

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

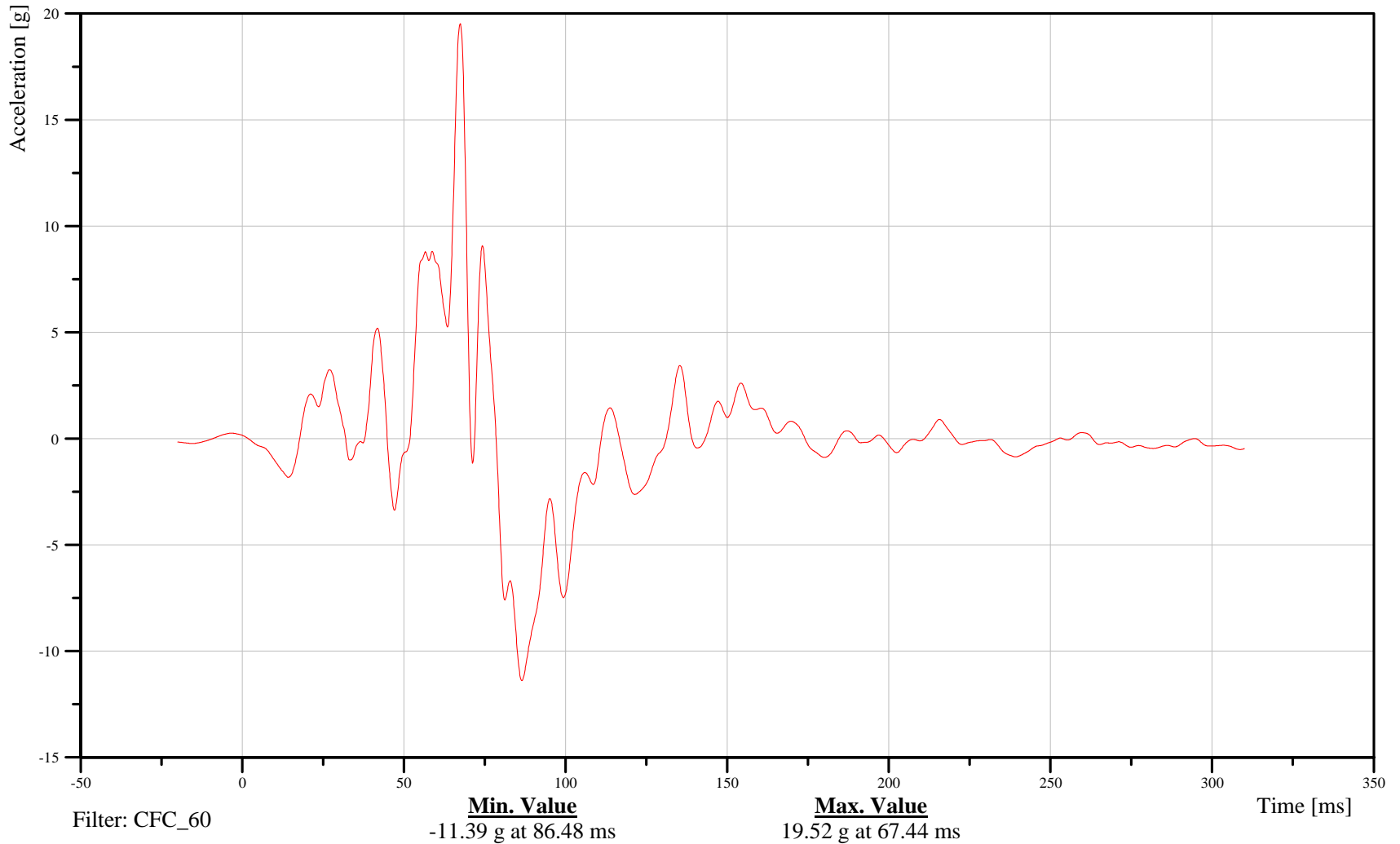
Bullet Vehicle Foot Rest Y-Axis Acceleration

Customer: VRTC

11VEHC000001ACYD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-320

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

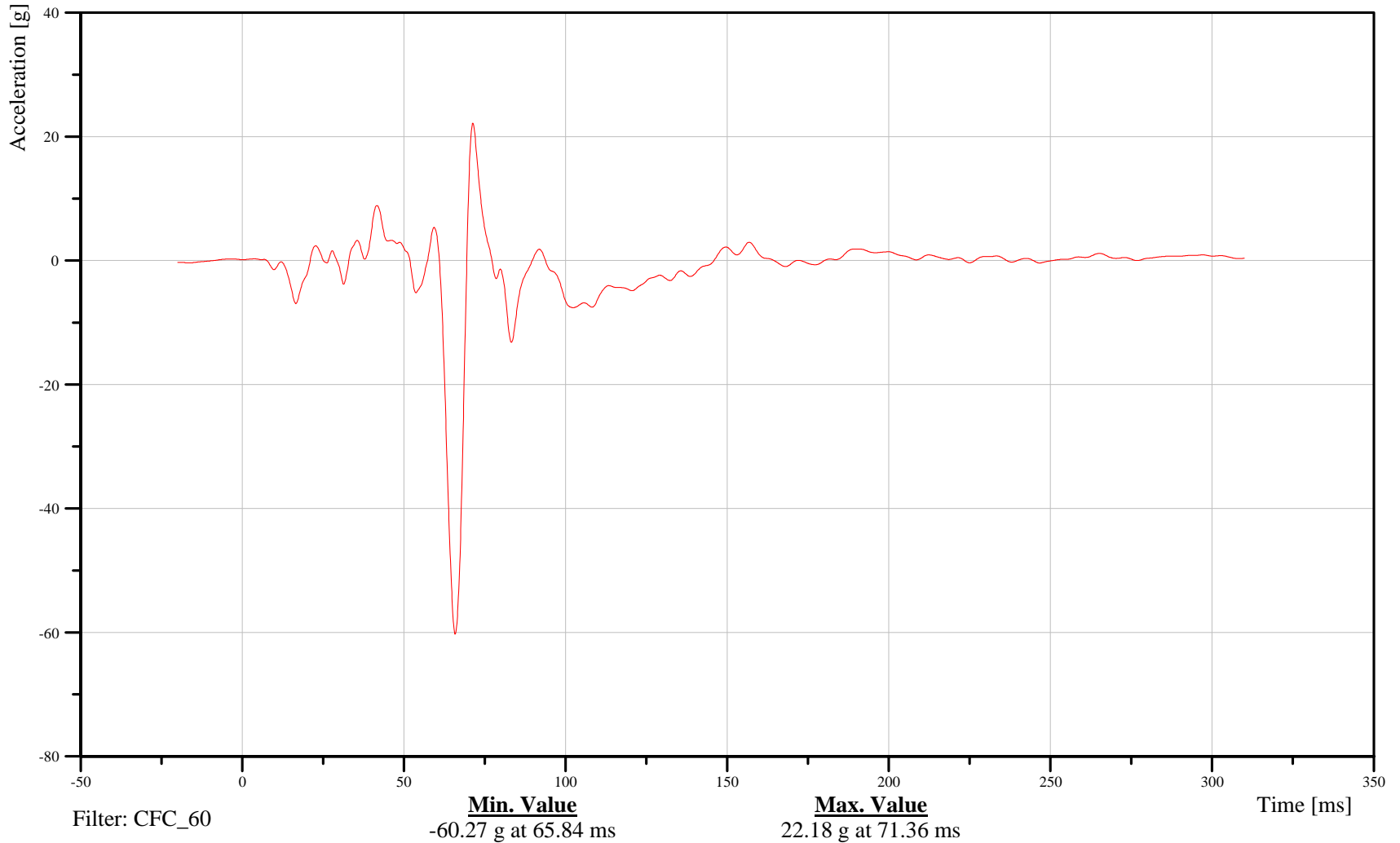
Bullet Vehicle Foot Rest Z-Axis Acceleration

Customer: VRTC

11VEHC000001ACZD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-321

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

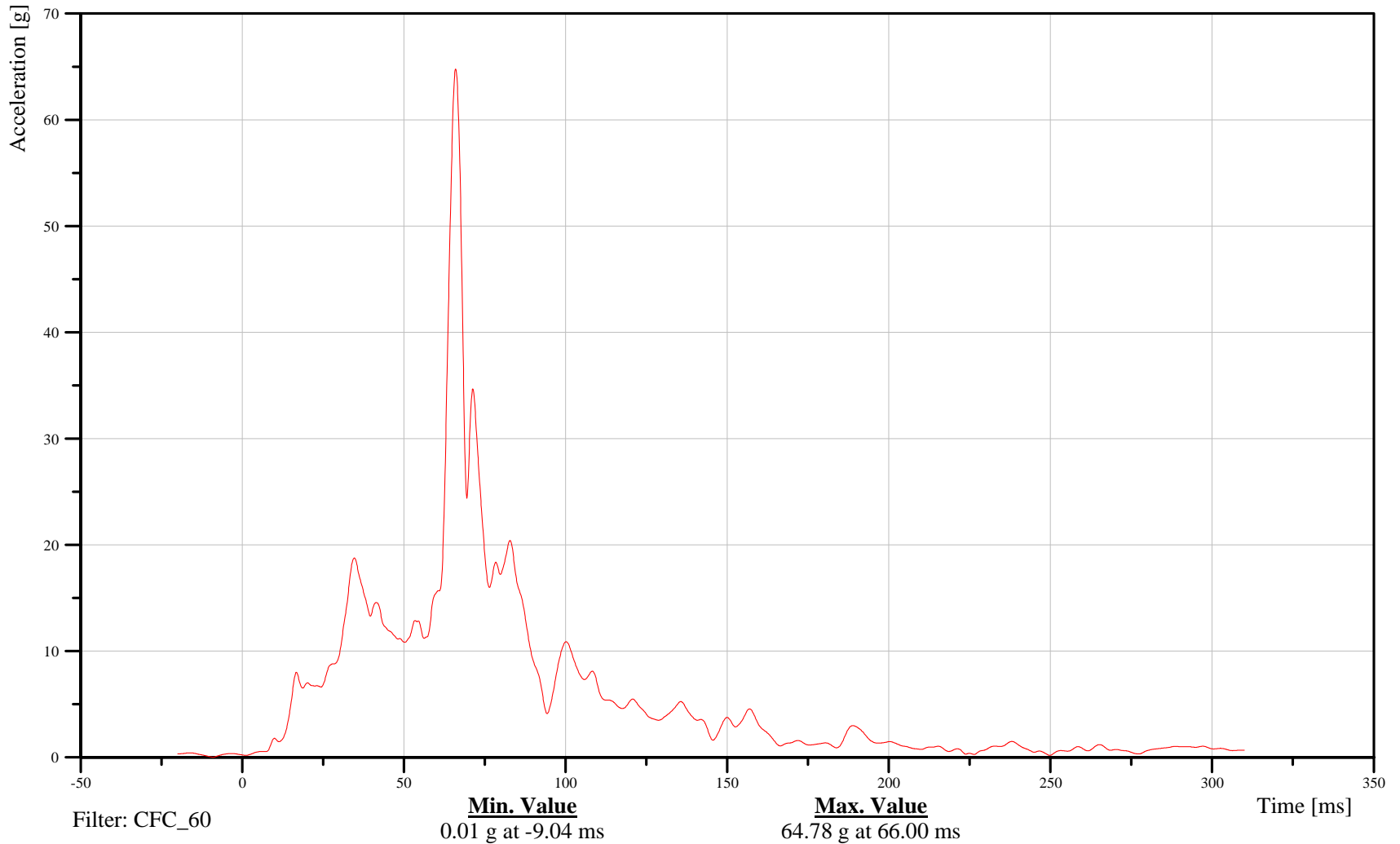
Bullet Vehicle Foot Rest Resultant Acceleration

Customer: VRTC

11VEHC000001ACRD

TRC Inc. Test Lab: CTF

Test Number: 080403



B-322

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

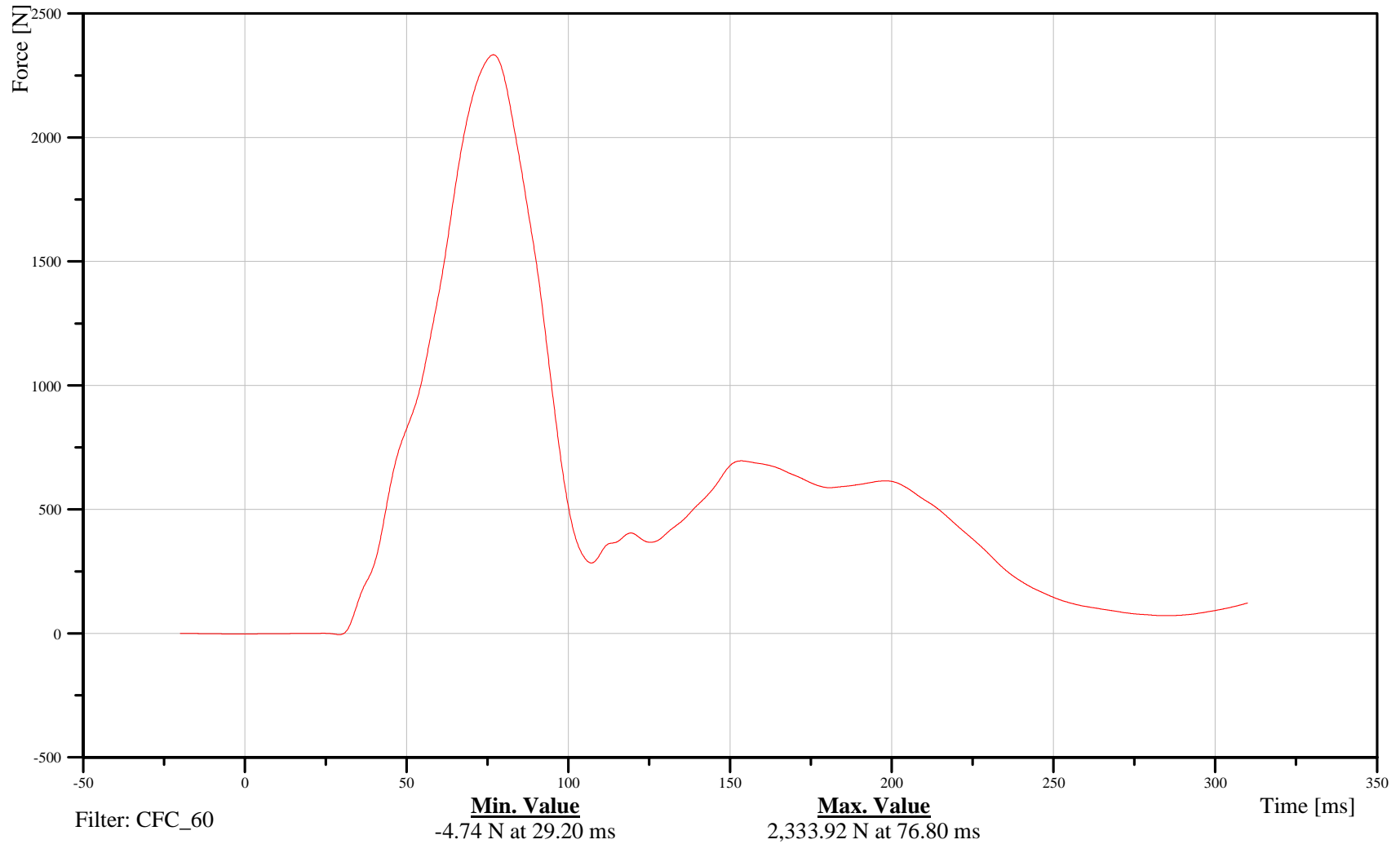
Bullet Vehicle Driver Lap Belt Force

Customer: VRTC

11SEBA0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



B-323

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

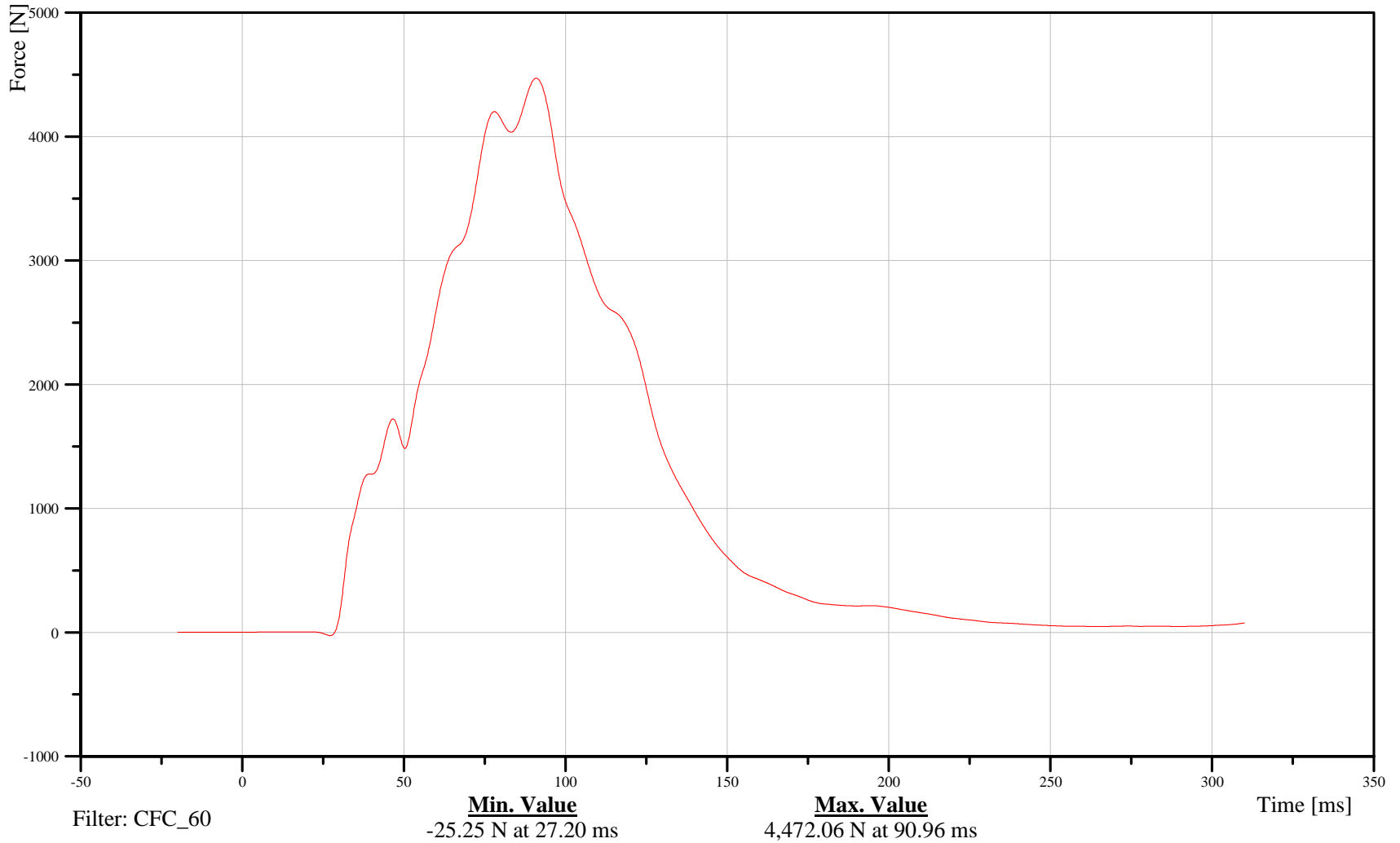
Bullet Vehicle Driver Shoulder Belt Force

Customer: VRTC

11SEBA0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



B-324

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

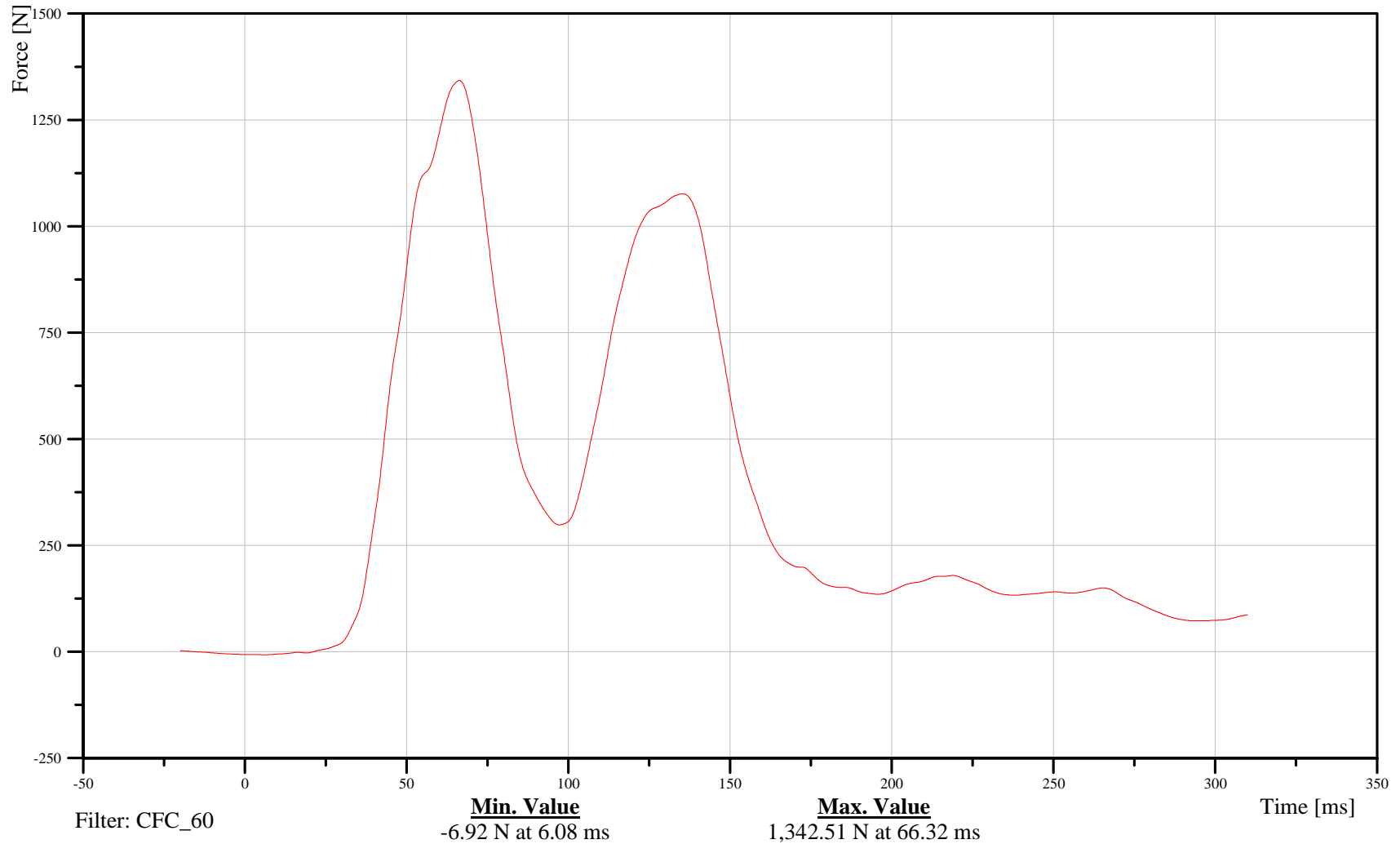
Bullet Vehicle Passenger Lap Belt Force

Customer: VRTC

13SEBA0000B5FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



B-325

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

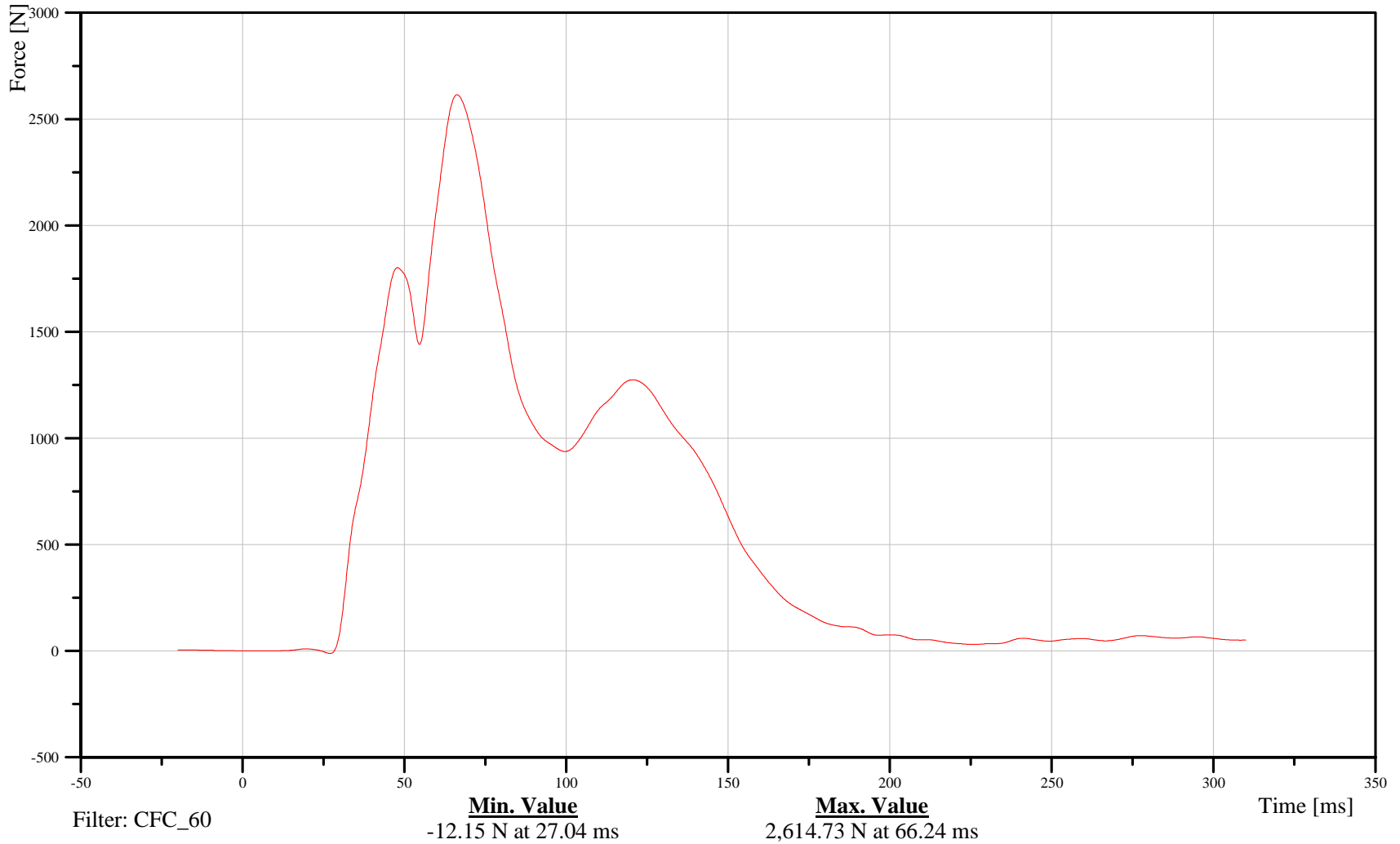
Bullet Vehicle Passenger Shoulder Belt Force

Customer: VRTC

13SEBA0000B3FO0D

TRC Inc. Test Lab: CTF

Test Number: 080403



B-326

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

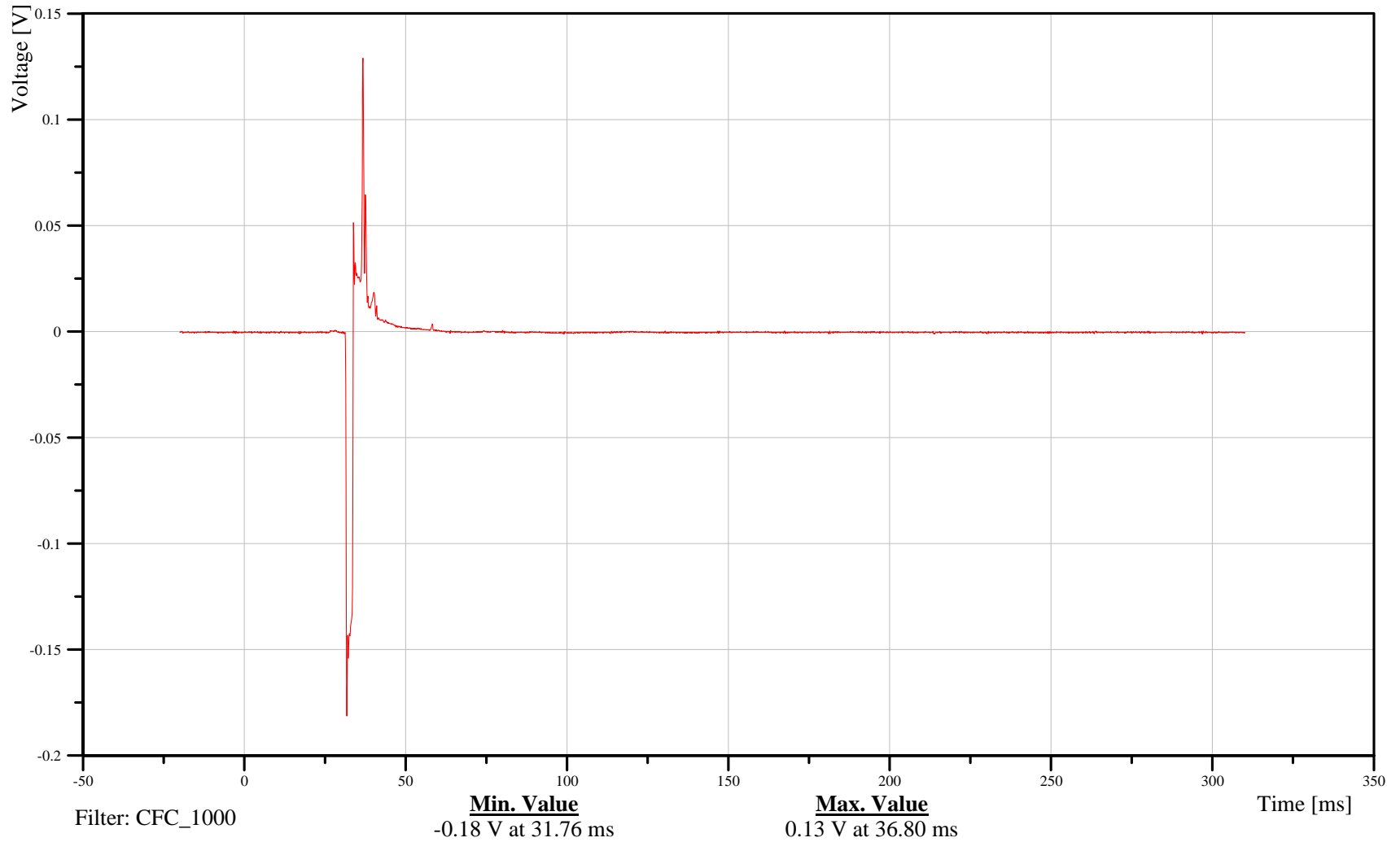
Bullet Vehicle Driver Front Airbag 1 Inductor

Customer: VRTC

11AIRBFR0100EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-327

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

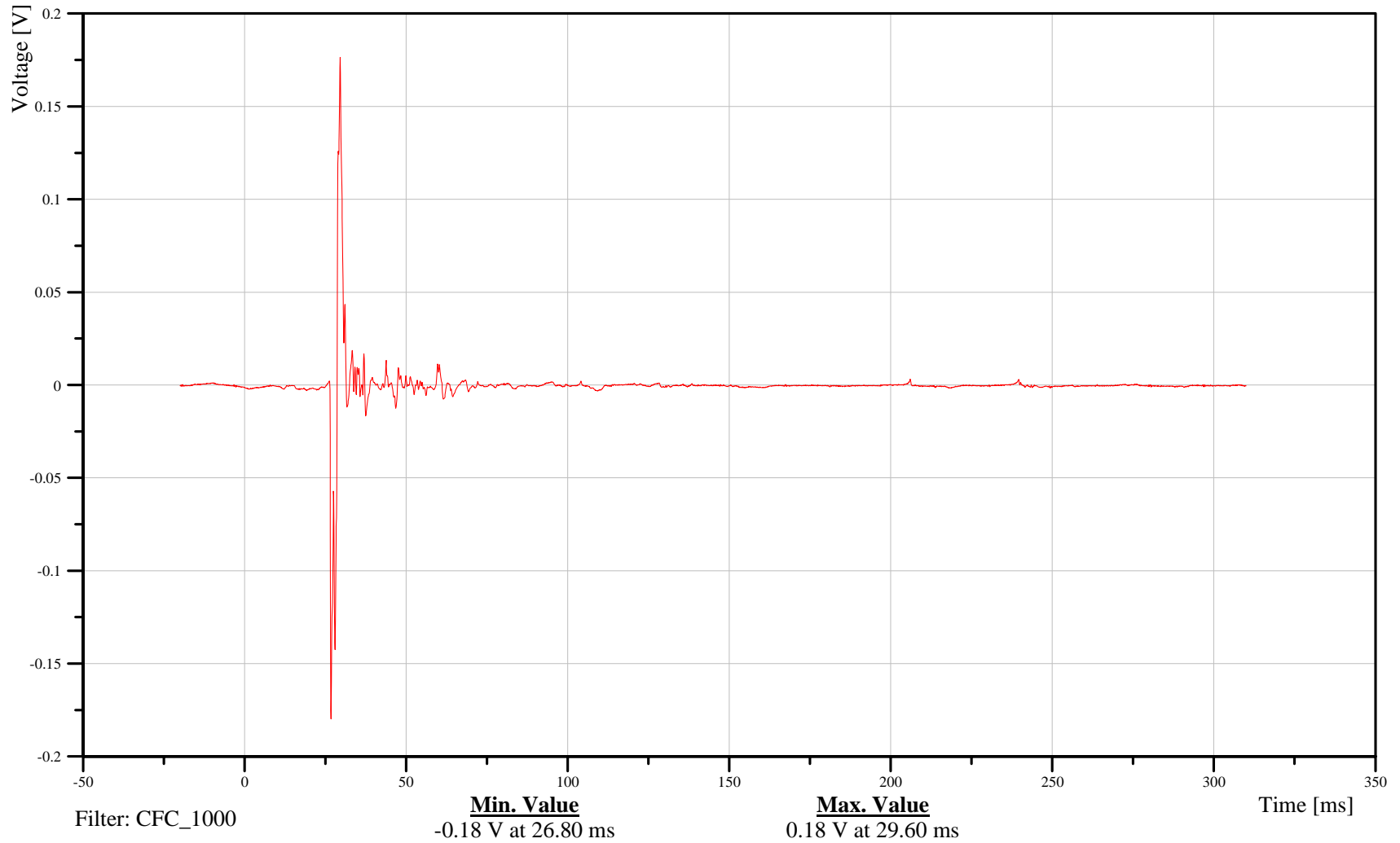
Bullet Vehicle Driver Front Airbag 2 Inductor

Customer: VRTC

11AIRBFR0200EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-328

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

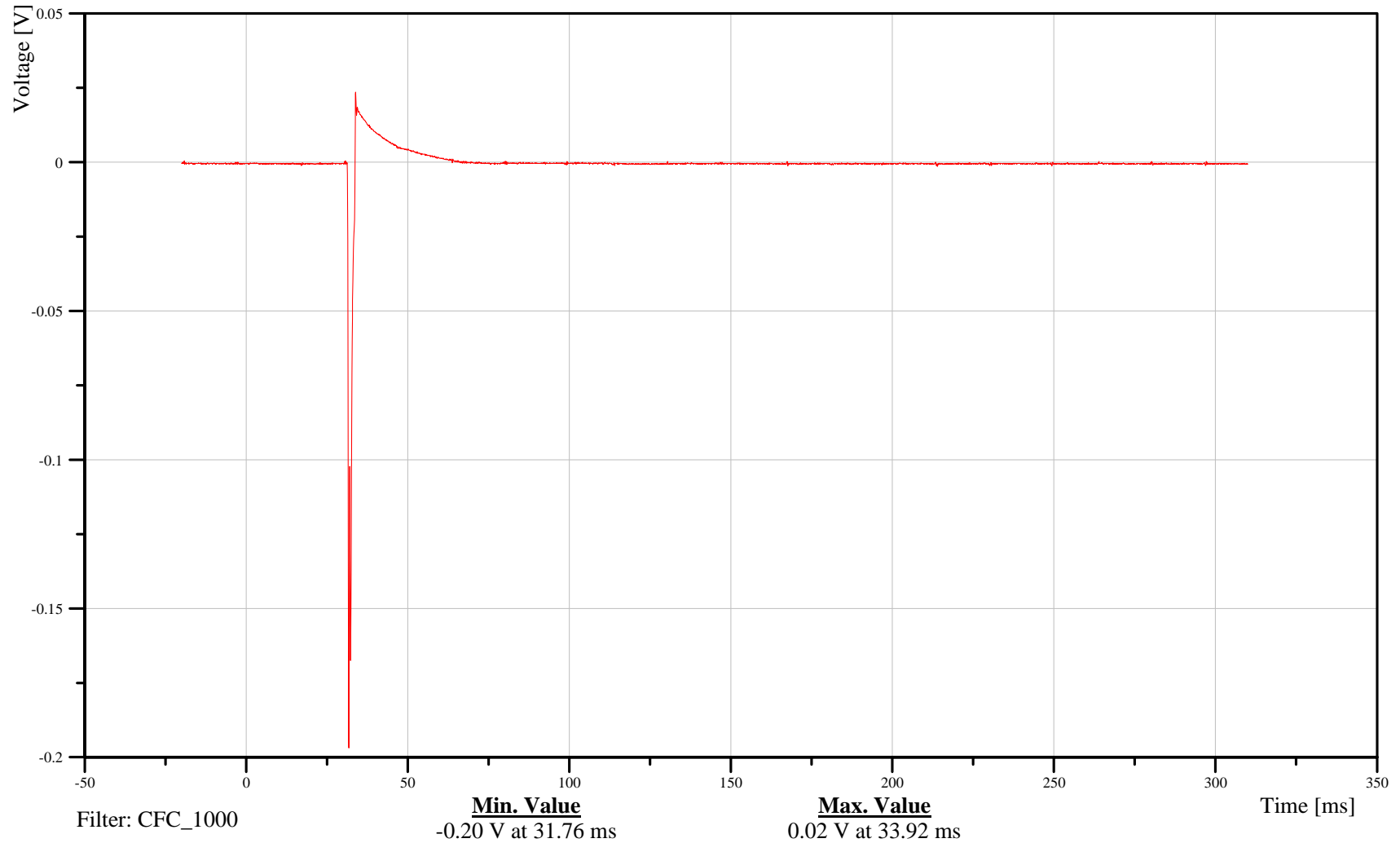
Bullet Vehicle Passenger Front Airbag 1 Inductor

Customer: VRTC

13AIRBFR0100EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-329

080403



2007 Chevrolet Silverado into 2002 Ford Focus 40% Offset Frontal VTV

Date: 04/03/2008
Time: 17:14

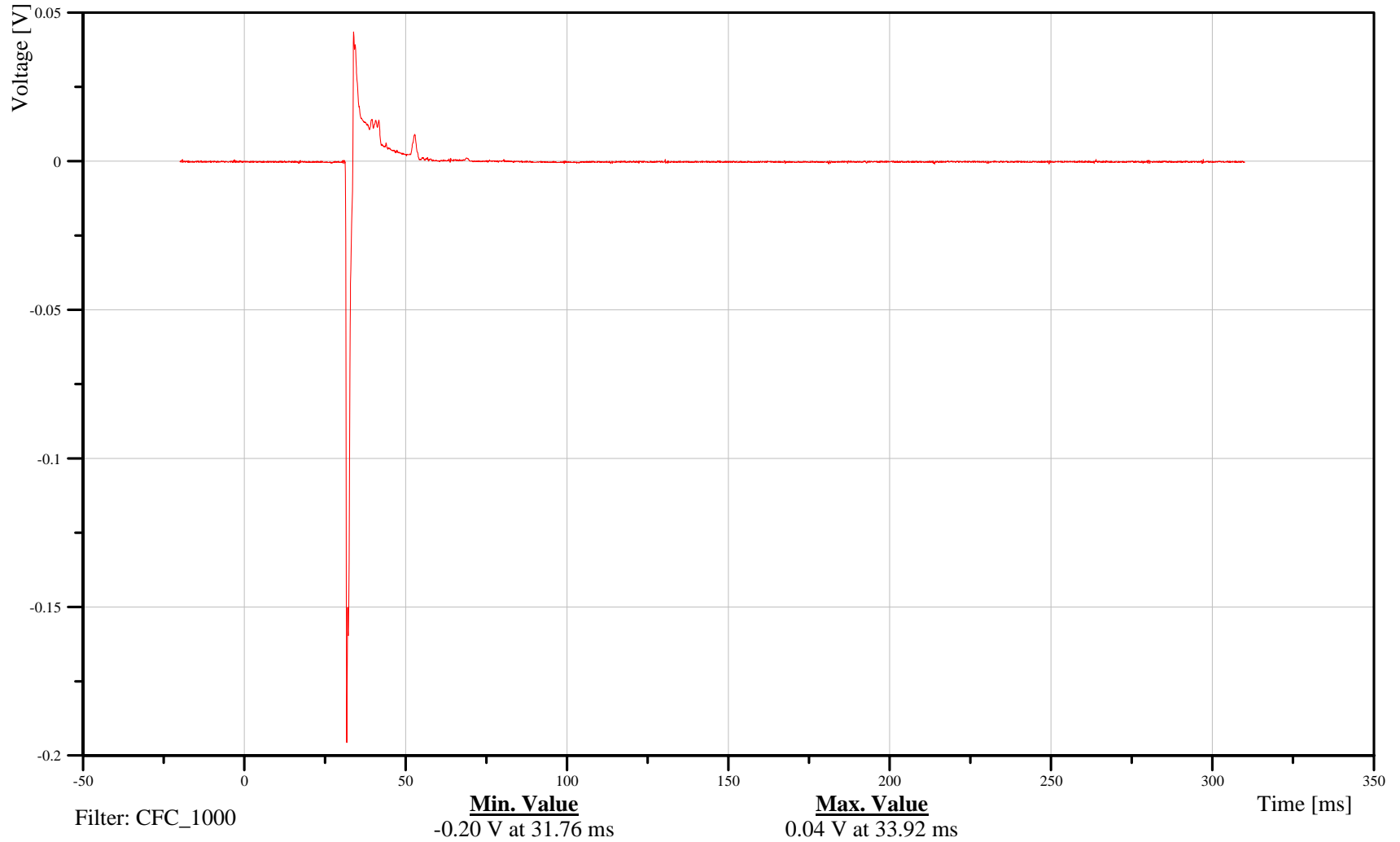
Bullet Vehicle Passenger Front Airbag 2 Inductor

Customer: VRTC

13AIRBFR0200EVOA

TRC Inc. Test Lab: CTF

Test Number: 080403



B-330

080403

Appendix C

Dummy Configuration and Performance Verification Data

Pre-Test Dummy Configuration and Performance Verification Data

Target Vehicle Driver Dummy S/N: 001

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 001 Calibration No. 07

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	516	Yes
C	H-Point Height	83.8 - 88.9	87	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	94	Yes
F	Thigh Clearance	139.7 - 154.9	153	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	299	Yes
H	Skull Cap To Backline	40.6 - 45.7	45	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	341	Yes
J	Elbow Rest Height	190.5 - 210.8	200	Yes
K	Buttock Knee Length	579.1 - 604.5	595	Yes
L	Popliteal Height	429.3 - 454.7	431	Yes
M	Knee Pivot Height	485.1 - 500.4	498	Yes
N	Buttock Popliteal Length	452.1 - 477.5	460	Yes
O	Chest Depth	213.4 - 228.6	227	Yes
P	Foot Length	251.5 - 266.7	260	Yes
V	Shoulder Breadth	421.6 - 436.9	425	Yes
W	Foot Breadth	91.4 - 106.7	99	Yes
Y	Chest Circumference	970.3 - 1000.8	991	Yes
Z	Waist Circumference	835.7 - 866.1	856	Yes
AA	Location For Chest Circumference	429.3 - 434.3	432	Yes
BB	Location For Waist Circumference	226.1 - 231.1	229	Yes

Technician

Approved

Charles W. Bell

Ron Stover

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 001 Certification No. 8-1

Test Date: 3/4/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	243.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	4.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Raul Bevilacqua

Approved

Ken Stoner

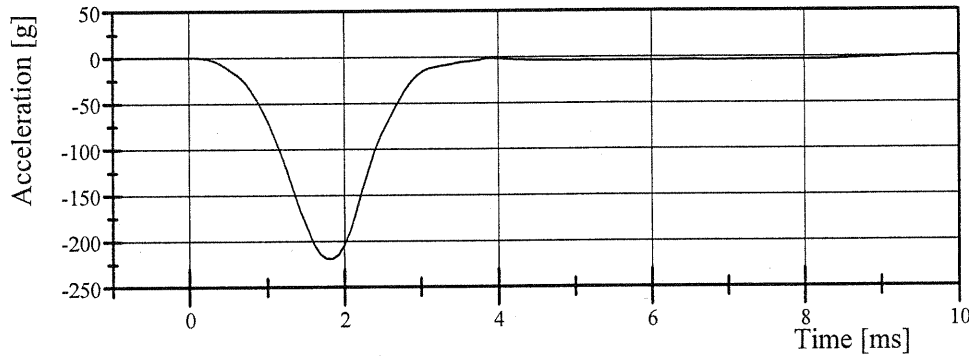
Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 001 Certification No. 8-1

Test Date: 3/4/2008

Head X-Axis Acceleration

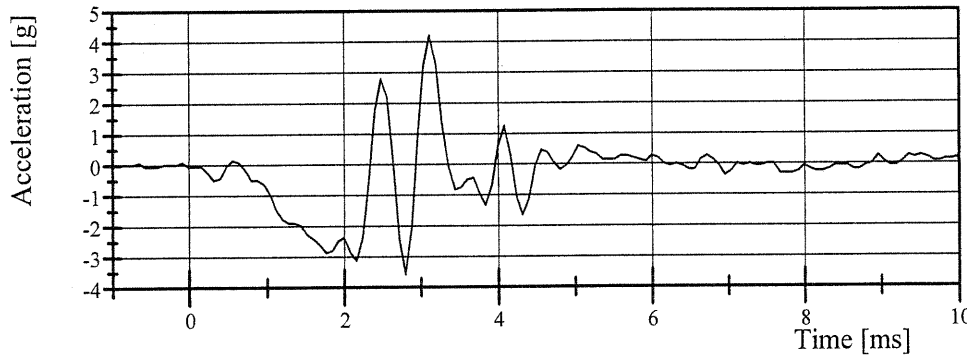


Filter Class: CFC_1000

Max: 0.8 g at 9.9 ms

Min: -219.1 g at 1.8 ms

Head Y-Axis Acceleration

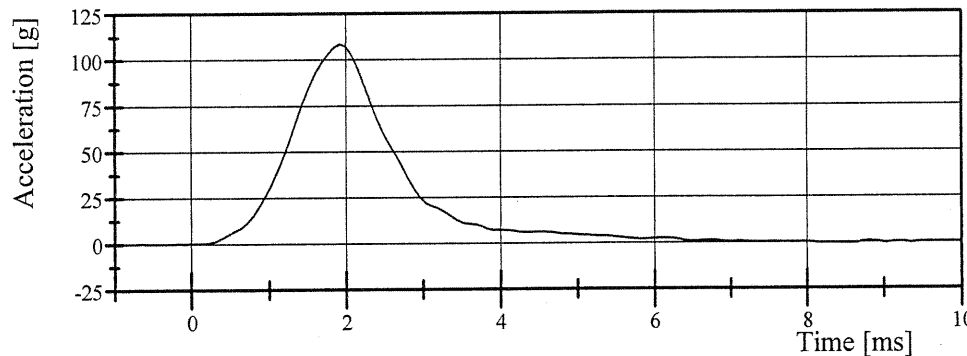


Filter Class: CFC_1000

Max: 4.2 g at 3.1 ms

Min: -3.6 g at 2.8 ms

Head Z-Axis Acceleration

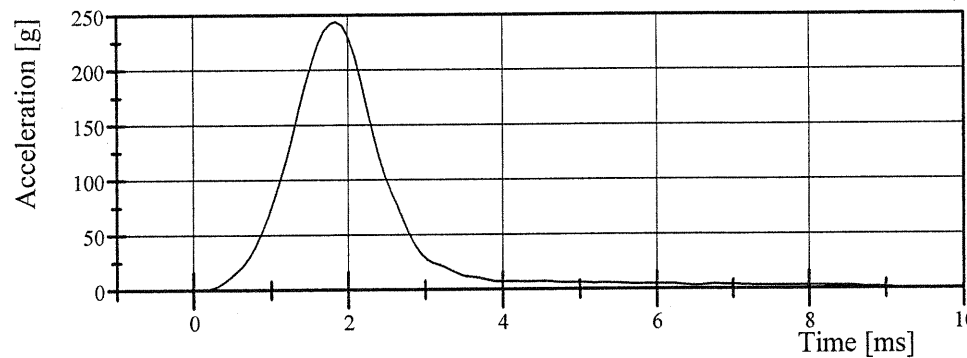


Filter Class: CFC_1000

Max: 108.6 g at 1.9 ms

Min: -0.8 g at 8.6 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 243.7 g at 1.8 ms

Min: 0.0 g at -0.2 ms

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 001 Certification No. 8-9

Test Date: 3/5/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.920 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	36.2 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-25.65 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-21.14 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-15.83 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-15.83 g	Yes
Total Head D-Plane Rotation Peak	(-64) - (-78) °	-74.7 °	Yes
Time of Peak	57 - 64 ms	58.4 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	115.0 ms	Yes
Total Neck Occipital Condyles Moment Peak	88 - 108 N·m	102.4 N·m	Yes
Time of Peak	47 - 58 ms	49.5 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	98.3 ms	Yes


Test meets specifications.

Comments:

Technician



Approved



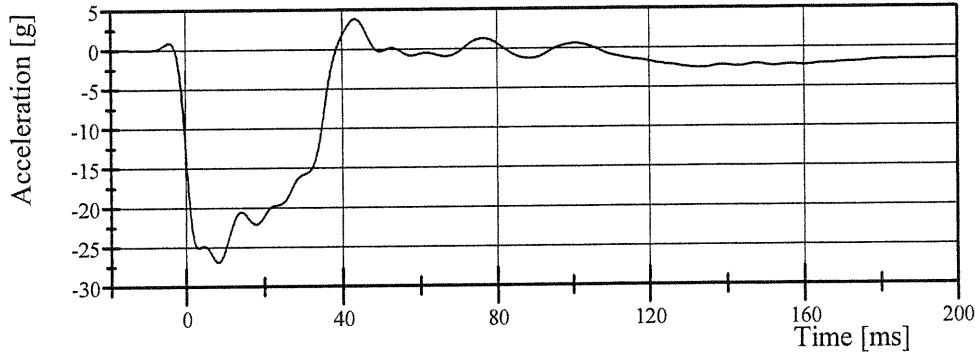
Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 001 Certification No. 8-9

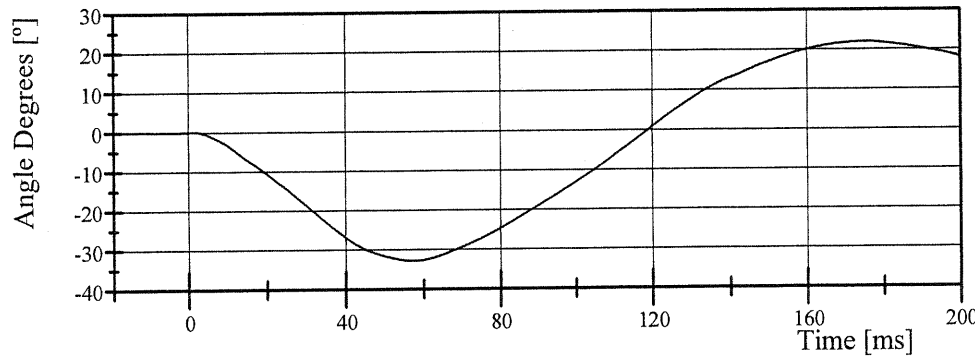
Test Date: 3/5/2008

Pendulum Acceleration



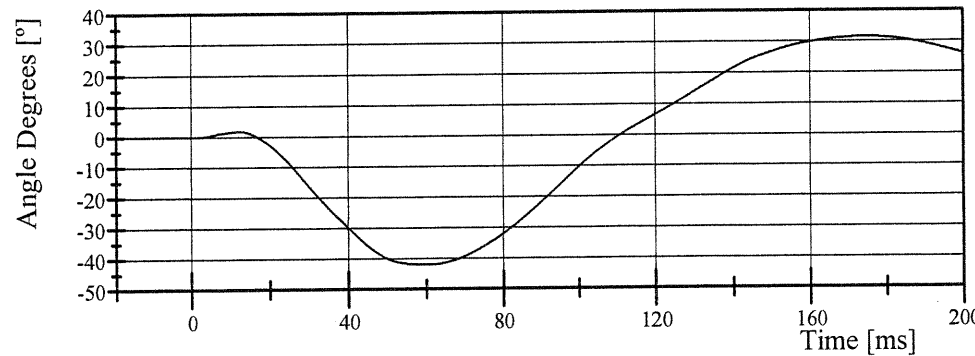
Filter Class: CFC_60
Max: 3.9 g at 43.4 ms
Min: -26.9 g at 8.3 ms

Pot Rotation at the Base of Neck



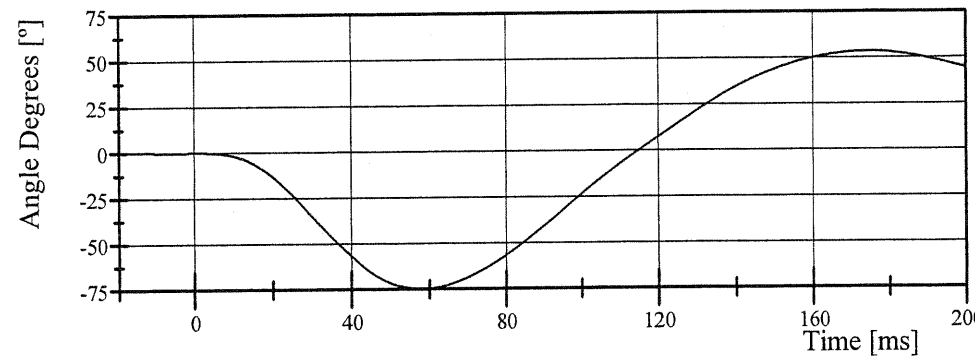
Filter Class: CFC_60
Max: 21.9 ° at 175.4 ms
Min: -32.8 ° at 57.5 ms

Head Rotation at Occipital Condyles



Filter Class: CFC_60
Max: 31.5 ° at 174.6 ms
Min: -42.0 ° at 60.6 ms

Total Head D-Plane Rotation



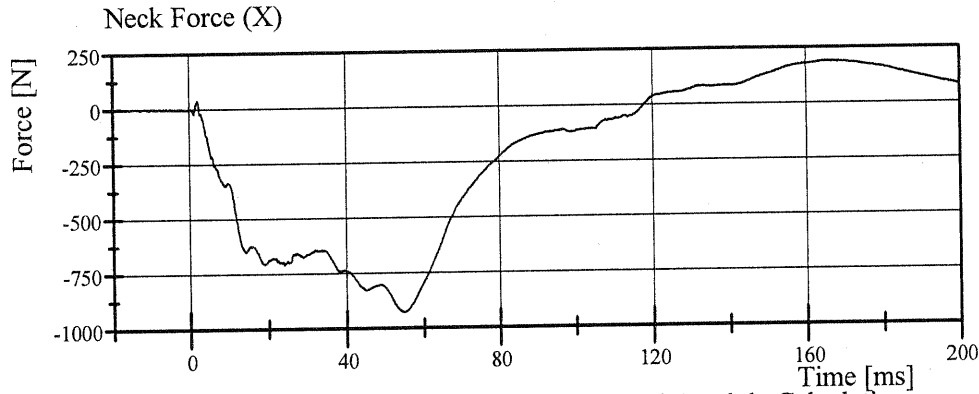
Filter Class: CFC_60
Max: 53.4 ° at 175.0 ms
Min: -74.7 ° at 58.4 ms

Transportation Research Center Inc.

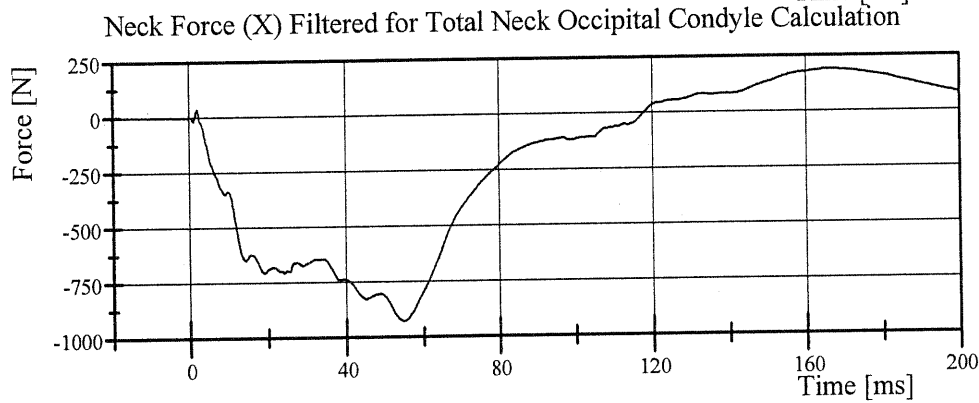
Neck Flexion

HIII 50th Serial No. 001 Certification No. 8-9

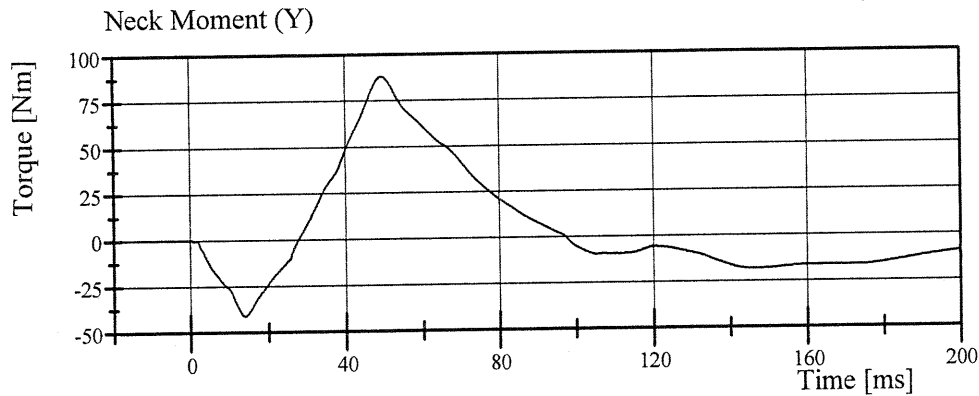
Test Date: 3/5/2008



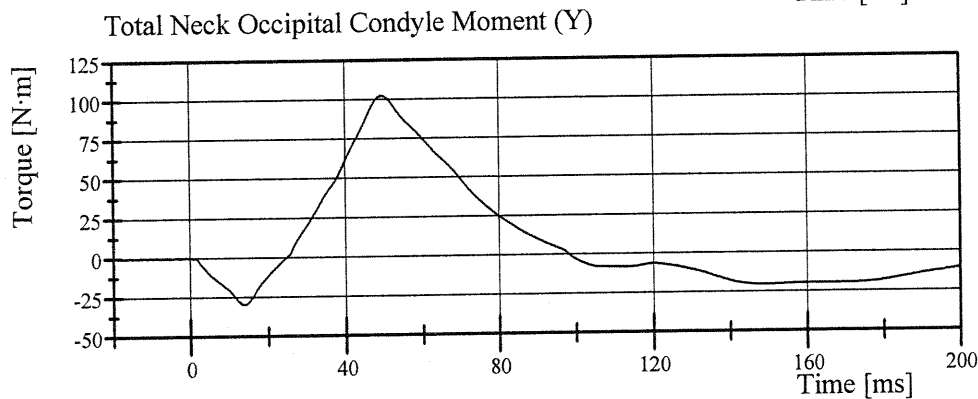
Filter Class: CFC_1000
Max: 189.6 N at 165.2 ms
Min: -927.5 N at 54.9 ms



Filter Class: CFC_600
Max: 189.2 N at 165.1 ms
Min: -927.5 N at 54.9 ms



Filter Class: CFC_600
Max: 88.1 Nm at 49.4 ms
Min: -41.2 Nm at 14.1 ms



Filter Class: CFC_600
Max: 102.4 N·m at 49.5 ms
Min: -29.7 N·m at 13.9 ms

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 001 Certification No. 8-1

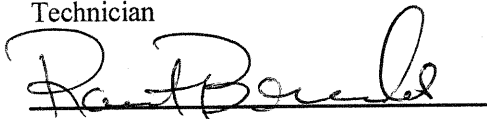
Test Date: 3/5/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-5.990 m/s	Yes
Pendulum Acceleration Decay			
Crossing 5g	38 - 46 ms	39.4 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	19.99 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	16.98 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	14.00 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	15.18 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	98.0 °	Yes
Time of Peak	72 - 82 ms	75.4 ms	Yes
Total Head D-Plane Rotation			
Decay to 0°	147 - 174 ms	153.4 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-53) - (-80) N·m	-70.3 N·m	Yes
Time of Peak	65 - 79 ms	71.0 ms	Yes
Total Neck Occipital Condyles Moment			
Decay to 0 N·m	120 - 148 ms	143.0 ms	Yes

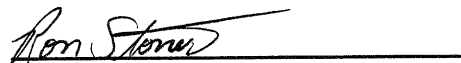
Test meets specifications.

Comments:

Technician



Approved



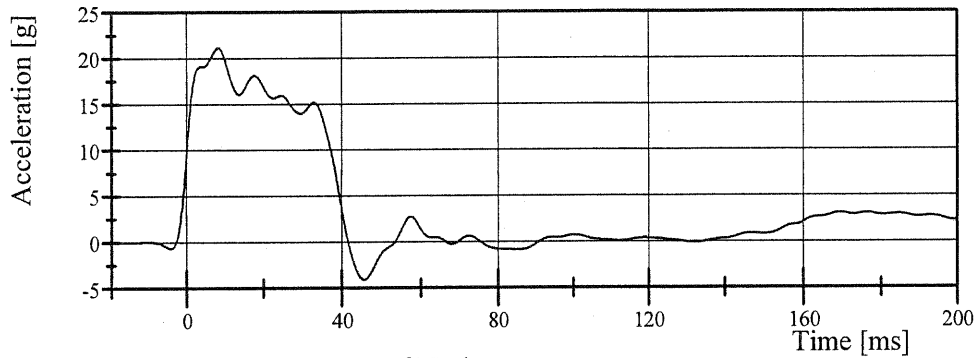
Transportation Research Center Inc.

Neck Extension

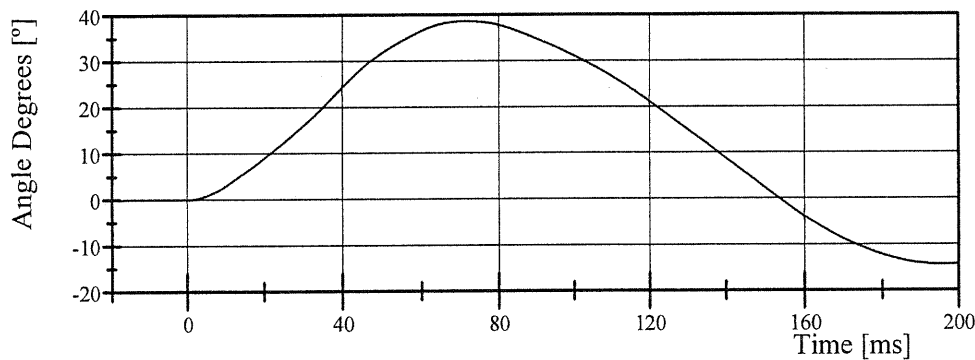
HIII 50th Serial No. 001 Certification No. 8-1

Test Date: 3/5/2008

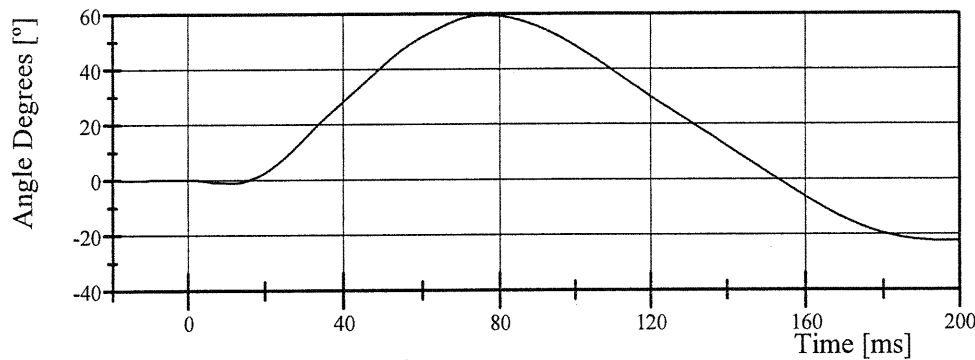
Pendulum Acceleration



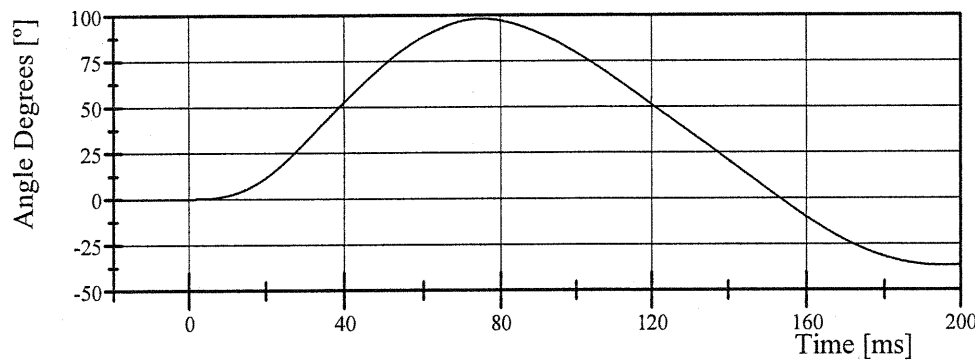
Pot Rotation at the Base of Neck



Head Rotation at Occypital Condyles



Total Head D-Plane Rotation

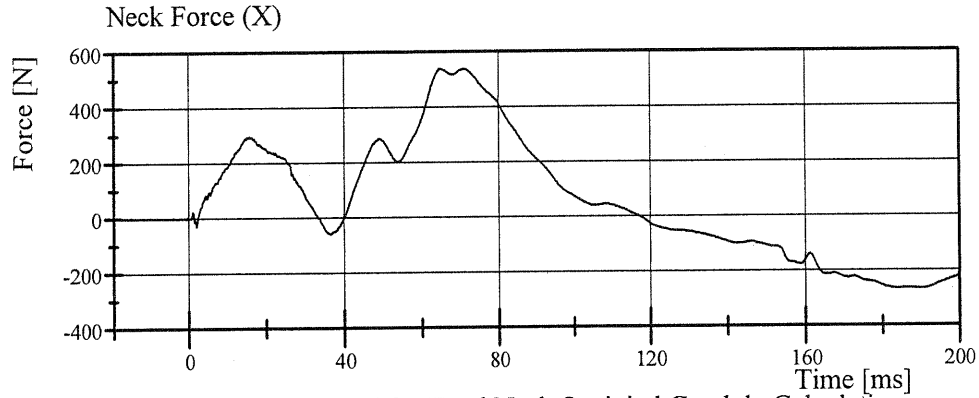


Transportation Research Center Inc.

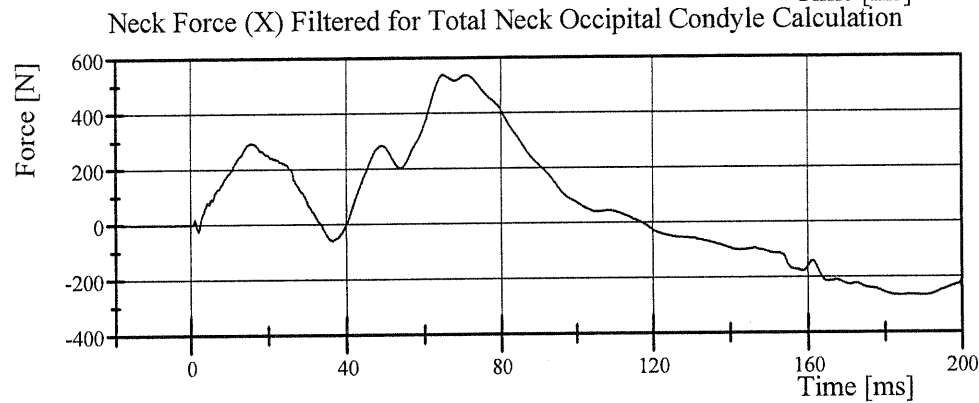
Neck Extension

HIII 50th Serial No. 001 Certification No. 8-1

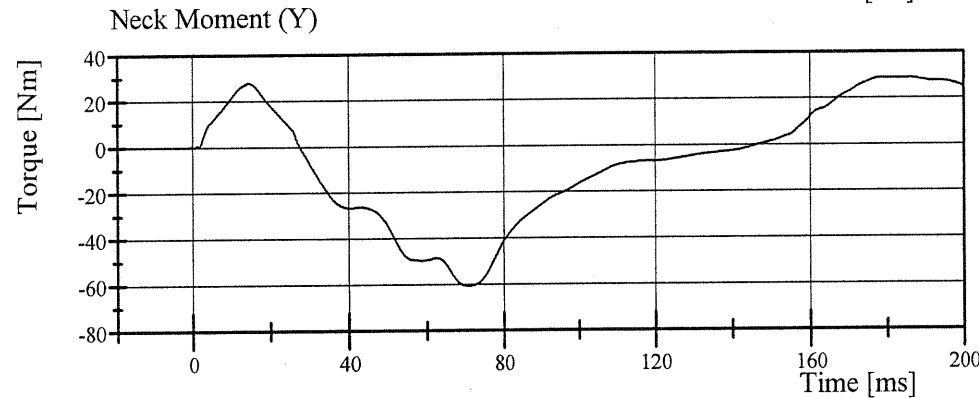
Test Date: 3/5/2008



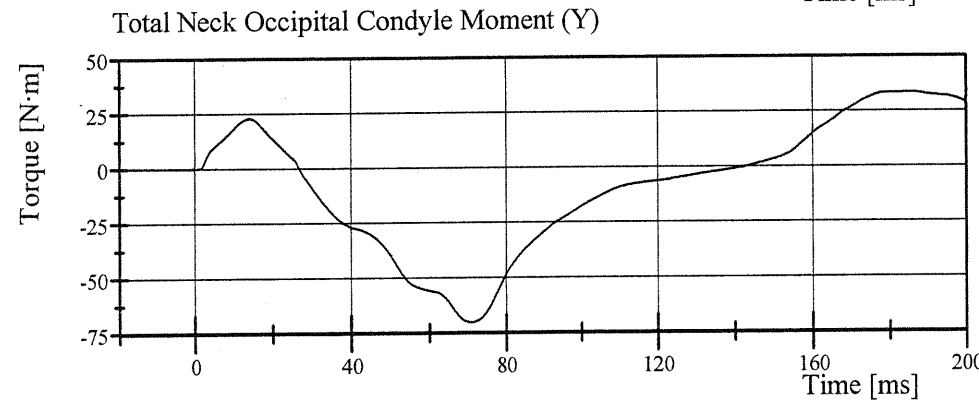
Filter Class: CFC_1000
Max: 539.2 N at 64.8 ms
Min: -266.9 N at 189.6 ms



Filter Class: CFC_600
Max: 538.9 N at 64.9 ms
Min: -266.8 N at 190.2 ms



Filter Class: CFC_600
Max: 28.9 Nm at 178.6 ms
Min: -60.7 Nm at 71.0 ms



Filter Class: CFC_600
Max: 33.5 N·m at 185.8 ms
Min: -70.3 N·m at 71.0 ms

Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 001 Certification No. 8-2

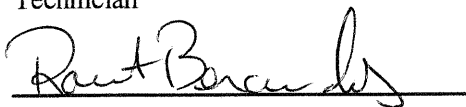
Test Date: 3/4/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.594 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,887.2 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-67.22 mm	Yes
Internal Hysteresis	65 - 85 %	73.6 %	Yes

Test meets specifications.

Comments:

Technician



Approved



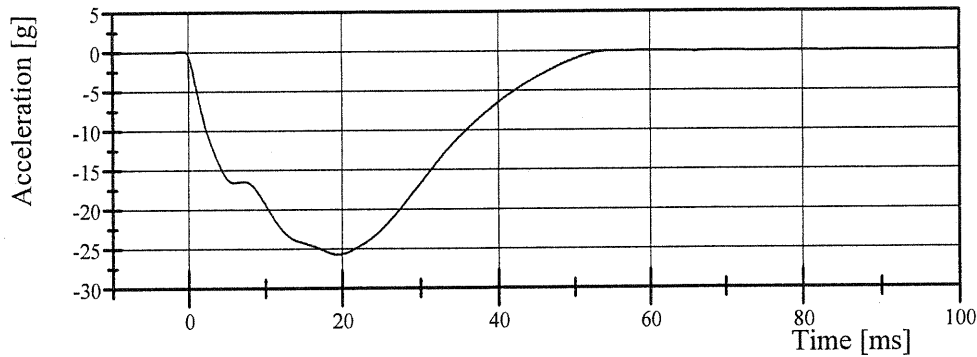
Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 001 Certification No. 8-2

Test Date: 3/4/2008

Pendulum Acceleration

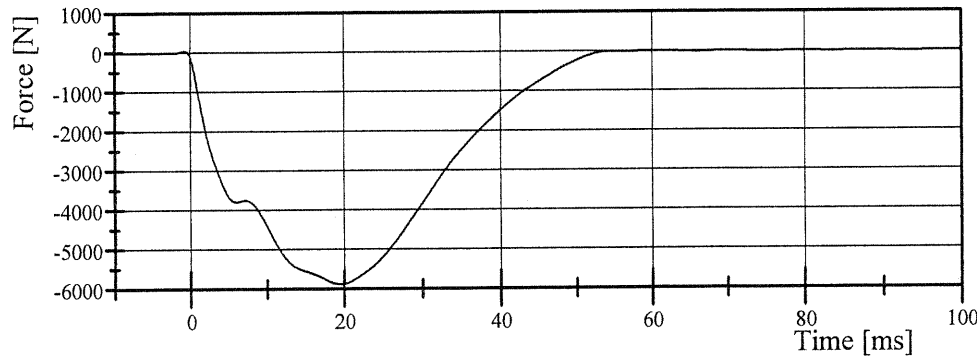


Filter Class: CFC_180

Max: 0.1 g at -0.7 ms

Min: -25.7 g at 19.5 ms

Pendulum Force

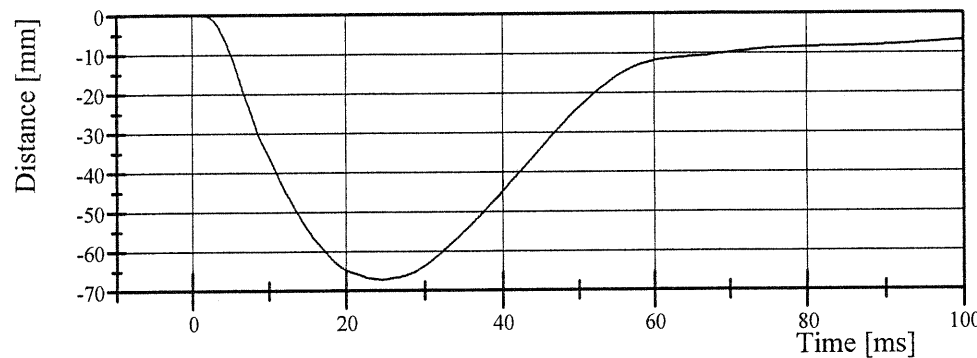


Filter Class: CFC_180

Max: 34.0 N at -0.7 ms

Min: -5,887.2 N at 19.5 ms

Thorax Displacement X-Axis

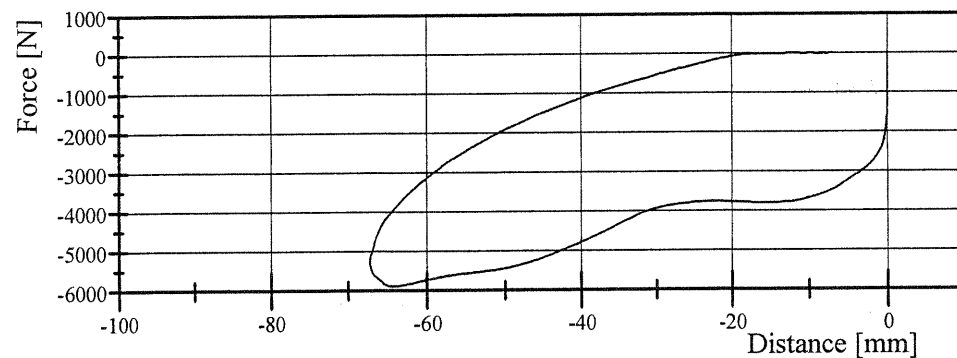


Filter Class: CFC_600

Max: 0.0 mm at -9.6 ms

Min: -67.2 mm at 24.6 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180

Max: 34.0 N at -0.0 mm

Min: -5,887.2 N at -64.2 mm



Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

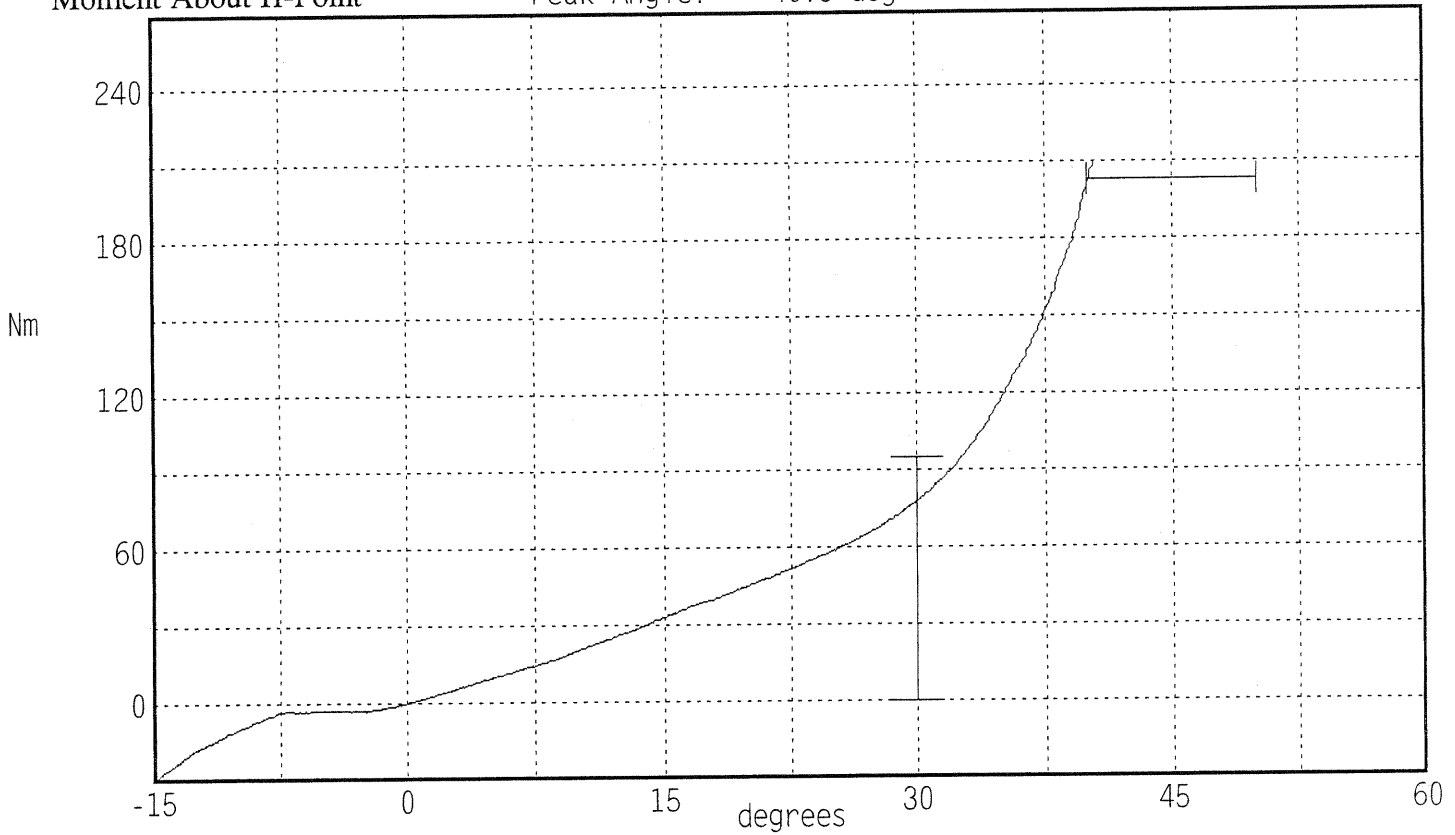
Serial Number: 001L
 Test Number: 001C07
 Comments:

Date: 01/02/2008
 Time: 13:33

TEST PARAMETER	SPECIFICATION	TEST RESULTS	
Temperature	18.9 - 25.6	21.4 °C	Pass
Humidity	10 - 70	19 %	Pass
Moment at 30 deg	<= 94.9	78.0 Nm	Pass
Angle at 203 Nm	40.0 - 50.0	40.1 deg	Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec	Pass

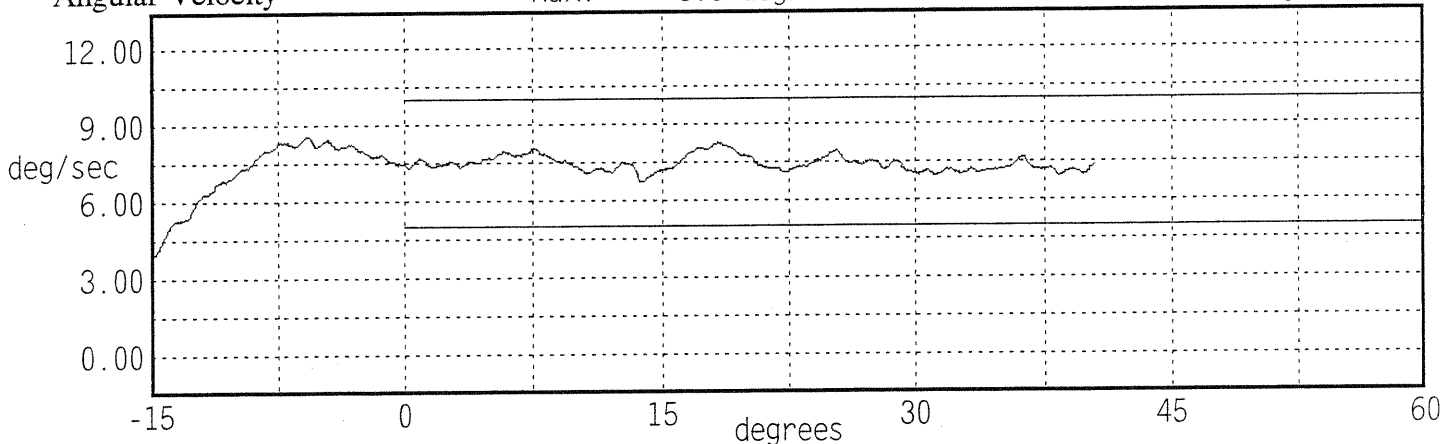
Peak Moment: 210.2 Nm at 40.5 deg
 Peak Angle: 40.5 deg at 210.2 Nm

Moment About H-Point



Angular Velocity

Max: 8.3 deg/sec Min: 6.8 deg/sec



Applied Safety Technologies Corp.

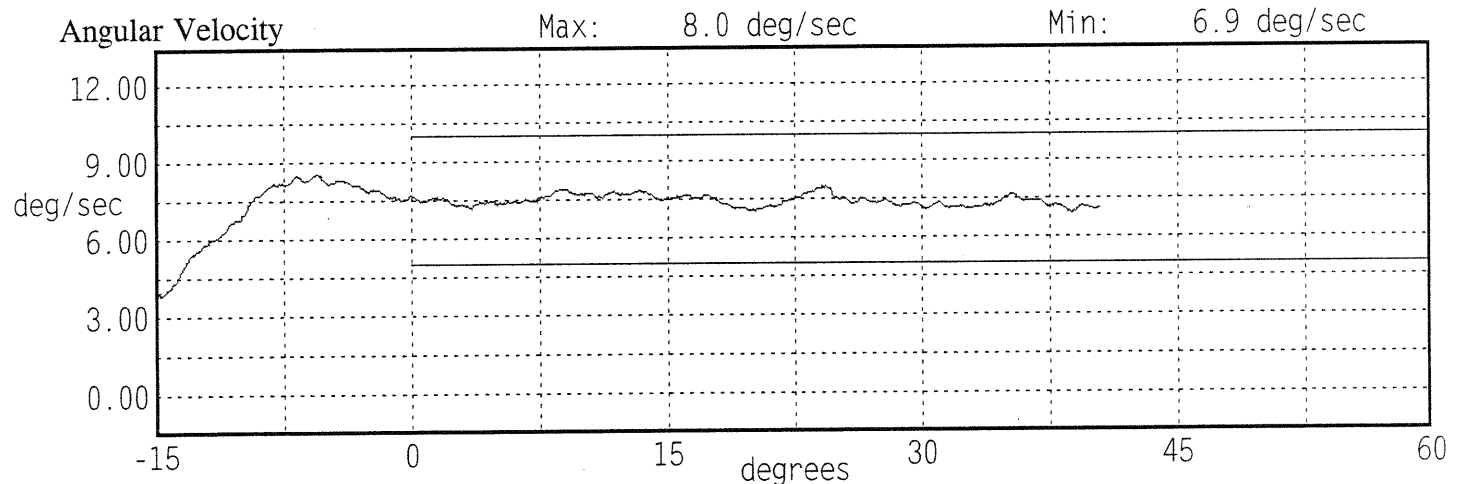
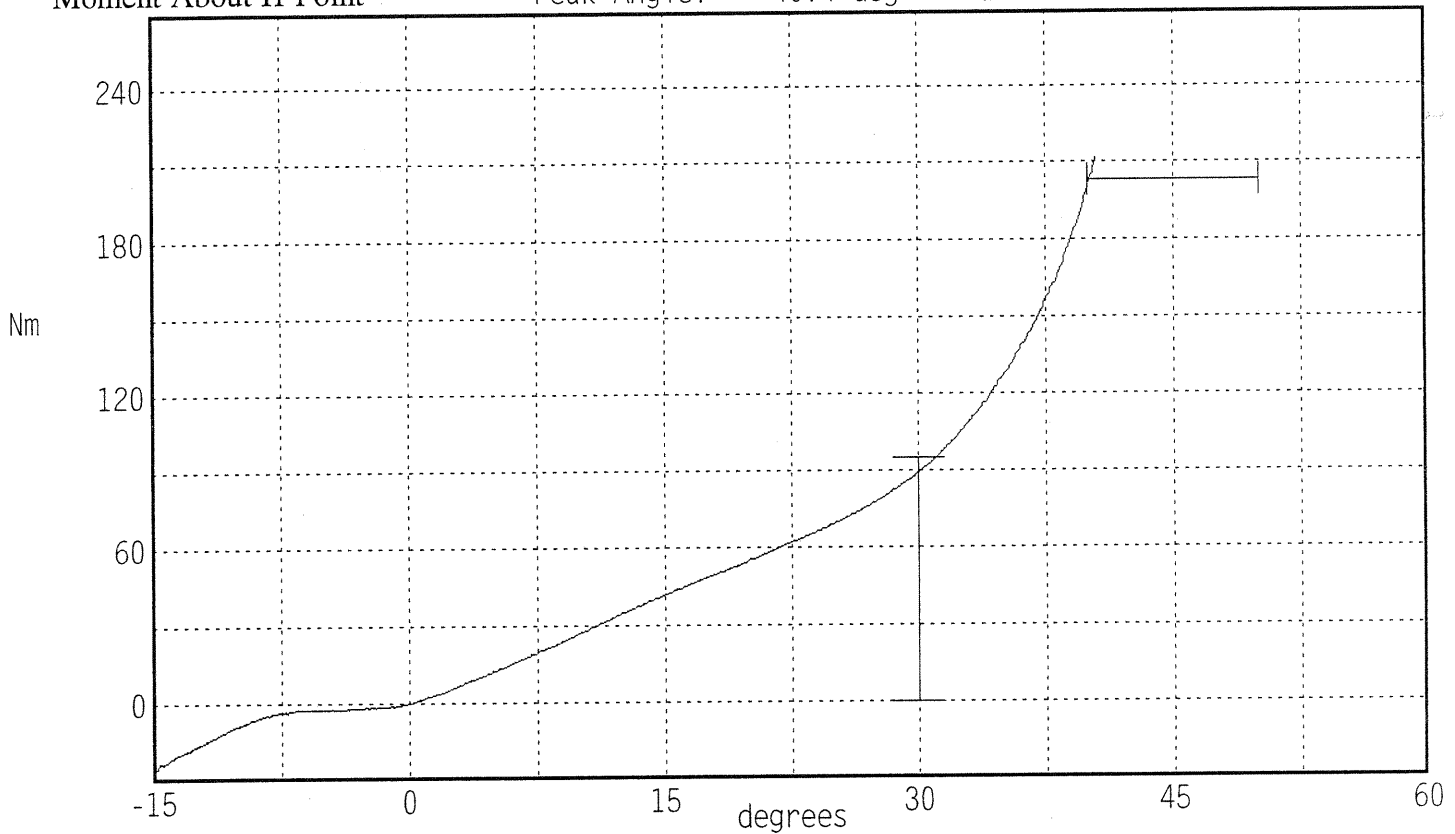
Hybrid III Hip Range of Motion

Serial Number: 001R
Test Number: 001C07
Comments:

Date: 01/02/2008
Time: 14:24

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.4 °C Pass
Humidity	10 - 70	19 % Pass
Moment at 30 deg	<= 94.9	89.3 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.2 deg Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec Pass

Moment About H-Point
Peak Moment: 211.3 Nm at 40.4 deg
Peak Angle: 40.4 deg at 211.3 Nm



Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. LX103104 Certification No. 5-4

Test Date: 1/29/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	23 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.106 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,736.93 N	Yes

Test meets specifications.

Comments:

Technician

Charles Bell

Approved

Ron Stokes

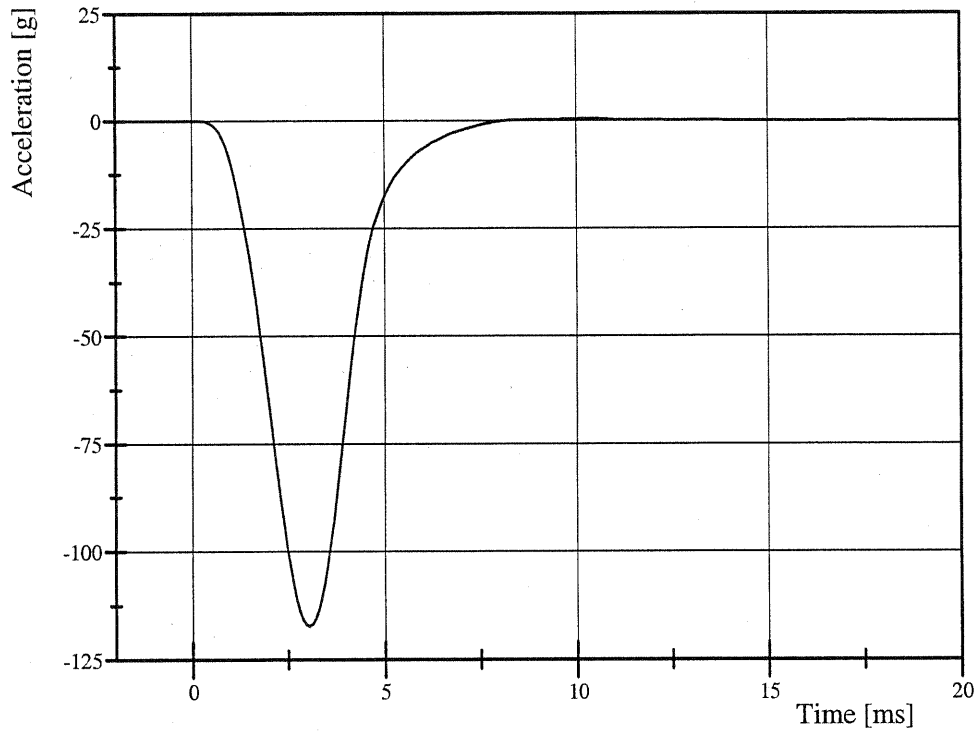
Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. LX103104 Certification No. 5-4

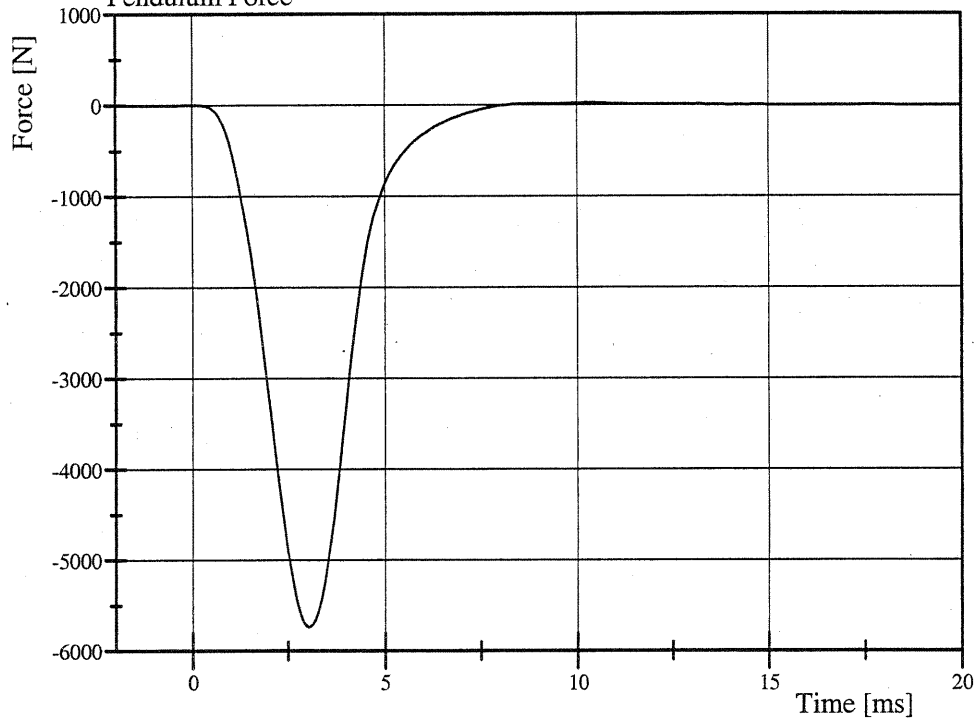
Test Date: 1/29/2007

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.5 g at 10.3 ms
Min: -117.2 g at 3.0 ms

Pendulum Force



Filter Class: CFC_600
Max: 23.8 N at 10.3 ms
Min: -5,736.9 N at 3.0 ms

Transportation Research Center Inc.

Right Knee Femur Response Test

HIII 50th Serial No. LX103104 Certification No. 5-5

Test Date: 1/30/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	26 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.102 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,532.65 N	Yes

Test meets specifications.

Comments:

Technician

Charles Bell

Approved

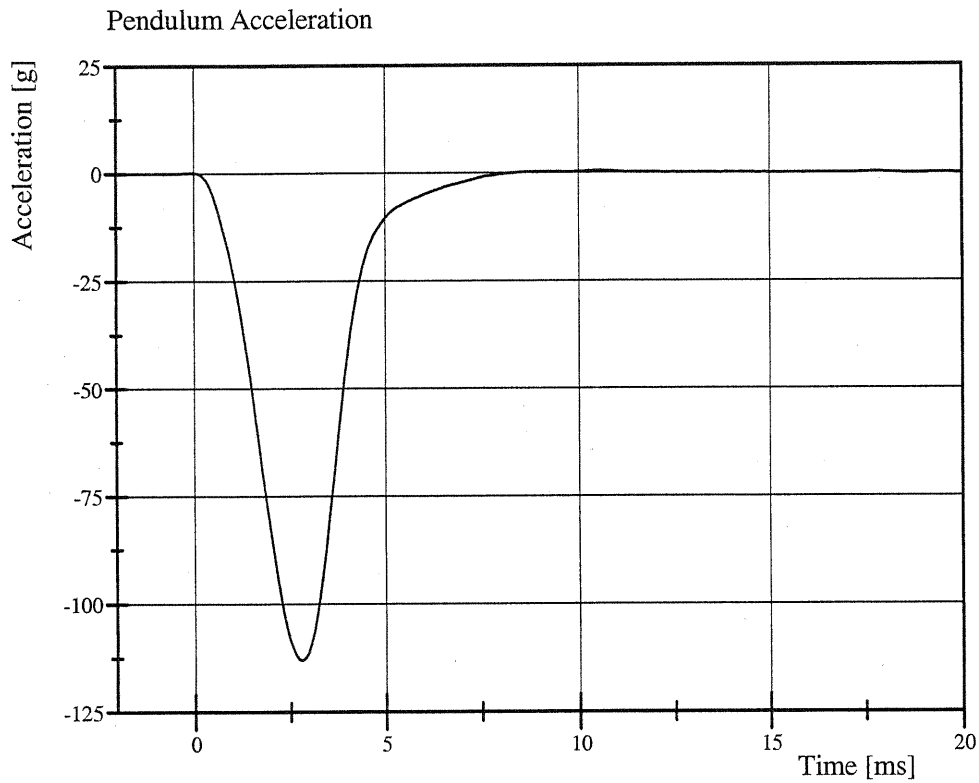
Ron Stone

Transportation Research Center Inc.

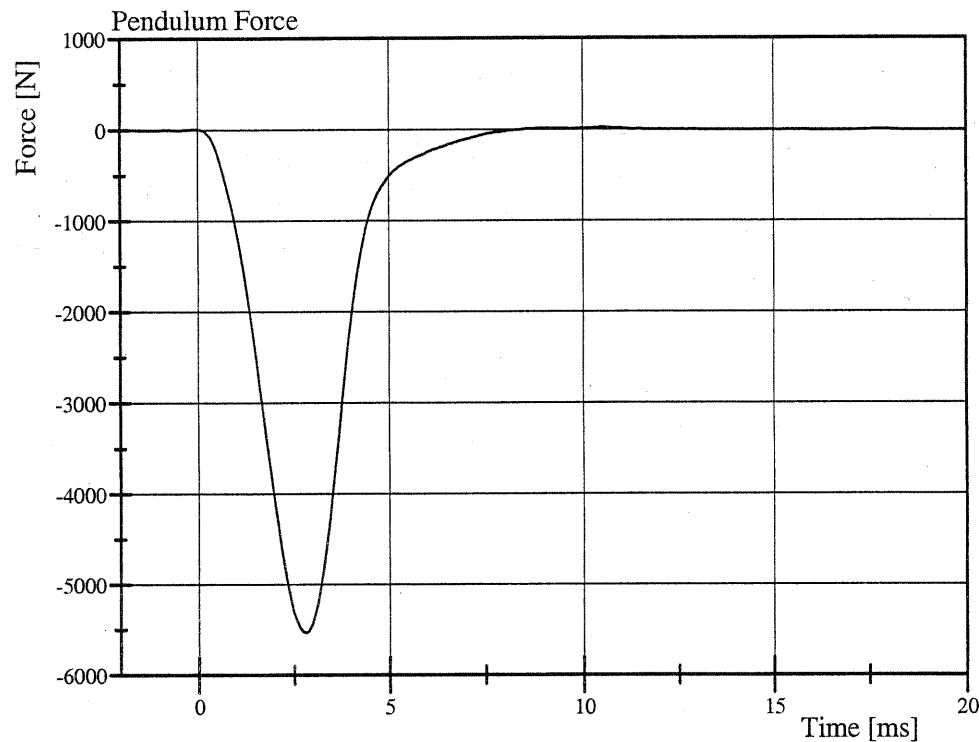
Right Knee Femur Response Test

HIII 50th Serial No. LX103104 Certification No. 5-5

Test Date: 1/30/2007



Filter Class: CFC_600
Max: 0.5 g at 10.5 ms
Min: -113.1 g at 2.8 ms



Filter Class: CFC_600
Max: 22.6 N at 10.5 ms
Min: -5,532.7 N at 2.8 ms

Transportation Research Center Inc.

Left Knee Slider

HIII 50th Serial No. LX103104 Certification No. 5-3

Test Date: 2/1/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Probe Velocity	2.70 - 2.80 m/s	2.746 m/s	Yes
Force Peak at 10.0 mm Deflection	(-1,260) - (-1,720) N	-1,504.2 N	Yes
Force Peak at 18.0 mm Deflection	(-2,270) - (-3,100) N	-2,846.8 N	Yes

Test meets specifications.

Comments:

Technician

Charles Dell

Approved

Ron Stone



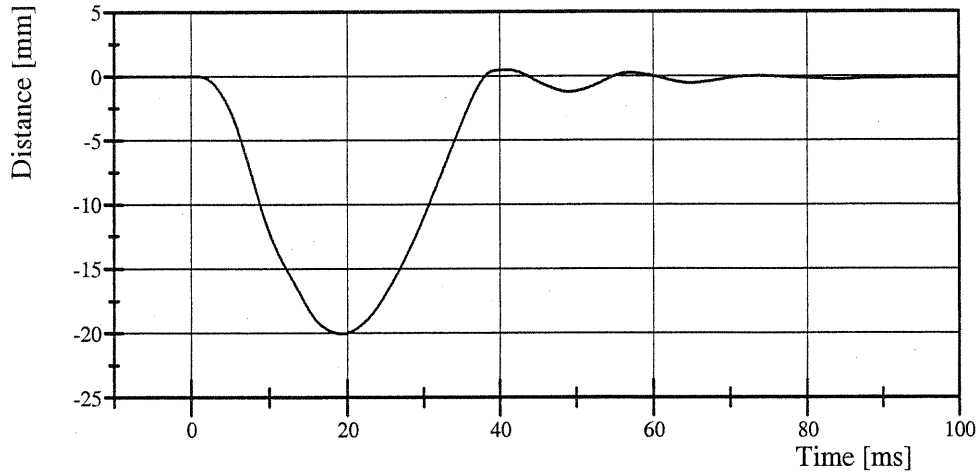
Transportation Research Center Inc.

Left Knee Slider

HIII 50th Serial No. LX103104 Certification No. 5-3

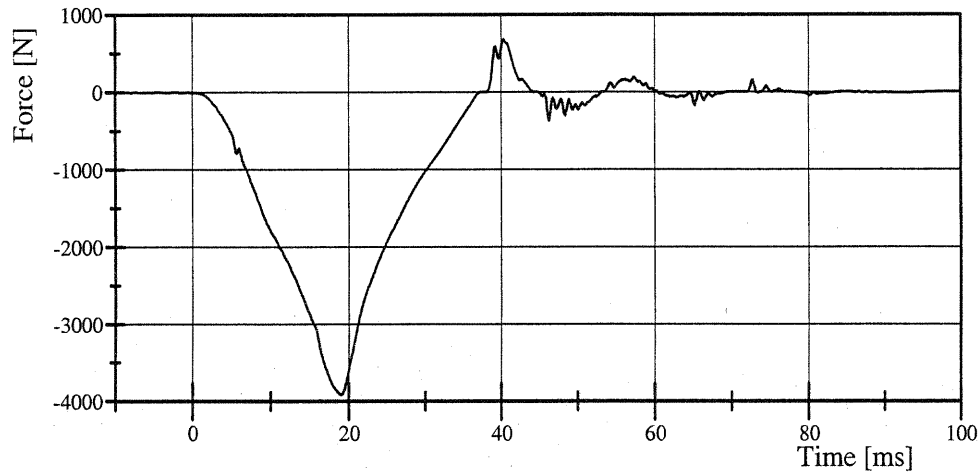
Test Date: 2/1/2007

Knee Slider Displacement



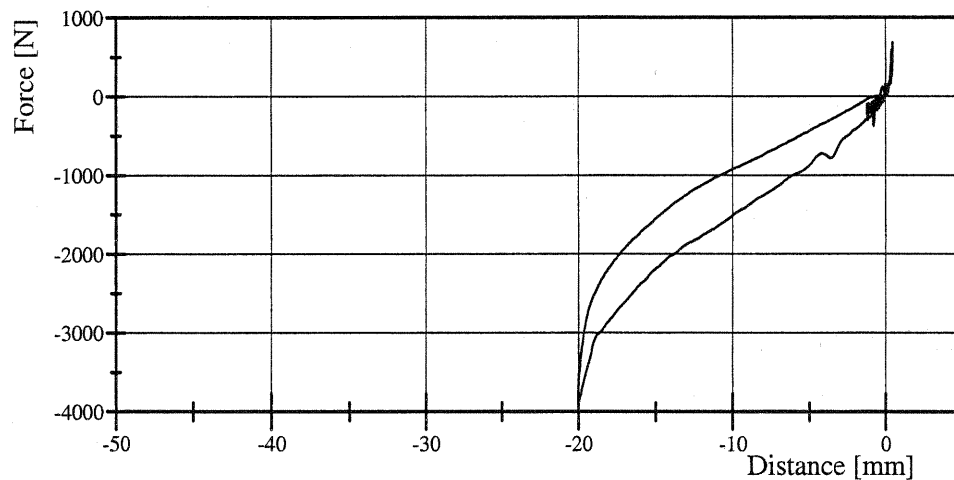
Filter Class: CFC_180
Max: 0.5 mm at 40.9 ms
Min: -20.1 mm at 19.3 ms

Femur Force



Filter Class: CFC_600
Max: 683.1 N at 40.3 ms
Min: -3,913.6 N at 19.0 ms

Femur Force vs. Knee Slider Displacement



Filter Class: CFC_600
Max: 683.1 N at 0.5 mm
Min: -3,913.6 N at -20.0 mm

Transportation Research Center Inc.

Right Knee Slider

HIII 50th Serial No. LX103104 Certification No. 5-1

Test Date: 1/31/2007

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	21 %	Yes
Probe Velocity	2.70 - 2.80 m/s	2.749 m/s	Yes
Force Peak at 10.0 mm Deflection	(-1,260) - (-1,720) N	-1,581.7 N	Yes
Force Peak at 18.0 mm Deflection	(-2,270) - (-3,100) N	-2,937.3 N	Yes

Test meets specifications.

Comments:

Technician

Charles Hall

Approved

Ron Stoner

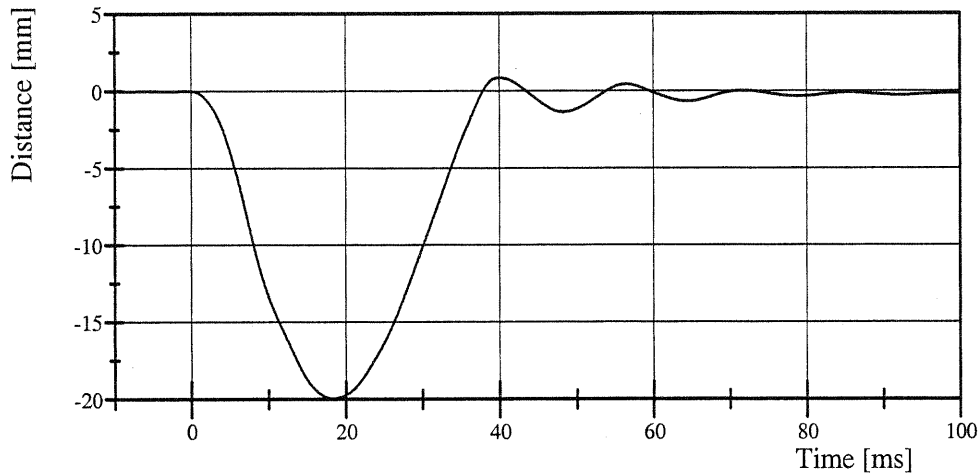
Transportation Research Center Inc.

Right Knee Slider

HIII 50th Serial No. LX103104 Certification No. 5-1

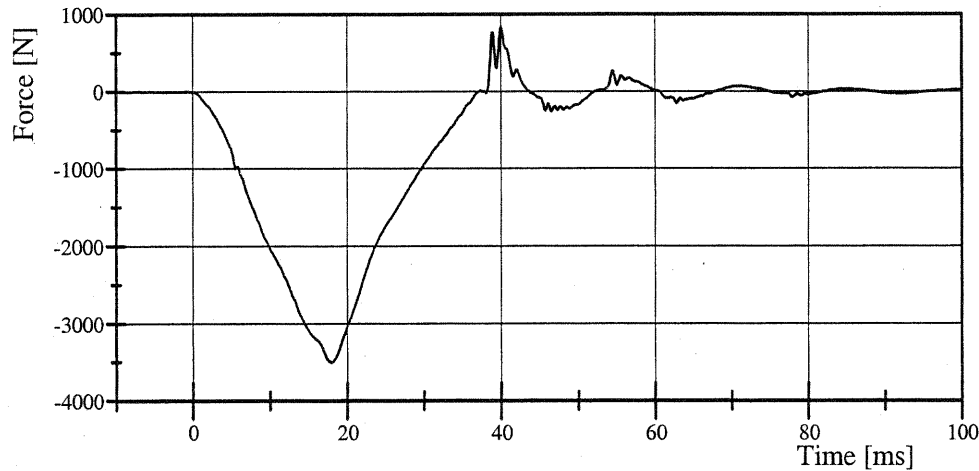
Test Date: 1/31/2007

Knee Slider Displacement



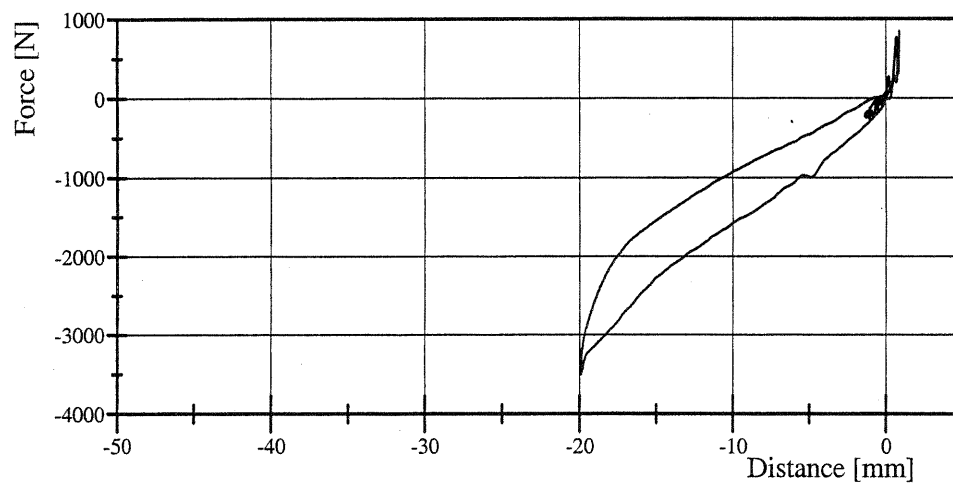
Filter Class: CFC_180
Max: 0.9 mm at 40.0 ms
Min: -19.9 mm at 18.3 ms

Femur Force



Filter Class: CFC_600
Max: 840.9 N at 40.0 ms
Min: -3,500.6 N at 17.9 ms

Femur Force vs. Knee Slider Displacement



Filter Class: CFC_600
Max: 840.9 N at 0.9 mm
Min: -3,500.6 N at -19.9 mm

Post-Test Dummy Configuration and Performance Verification Data

Target Vehicle Driver Dummy S/N: 001

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 001 Certification No. 9-2

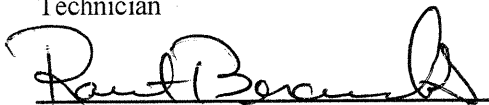
Test Date: 4/8/2008

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	225 - 275 g	270.3 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	8.0 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

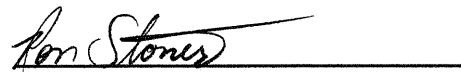
Test meets specifications.

Comments:

Technician



Approved



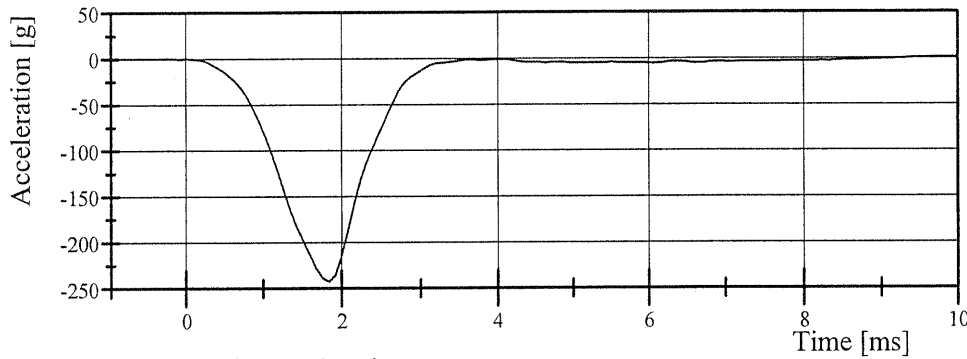
Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 001 Certification No. 9-2

Test Date: 4/8/2008

Head X-Axis Acceleration

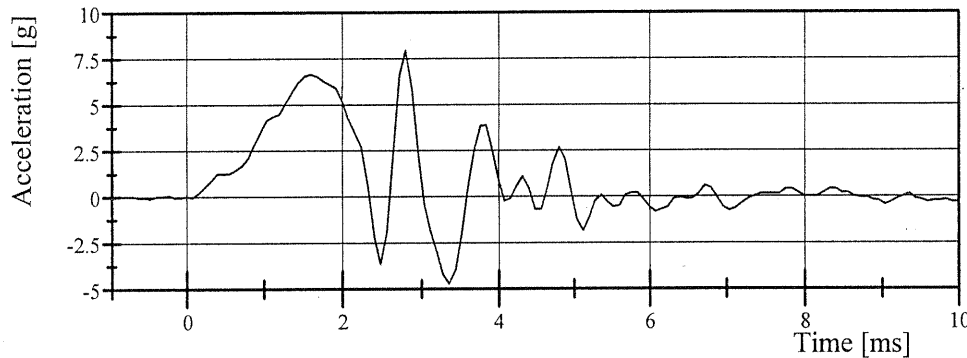


Filter Class: CFC_1000

Max: 1.1 g at 10.0 ms

Min: -242.7 g at 1.8 ms

Head Y-Axis Acceleration

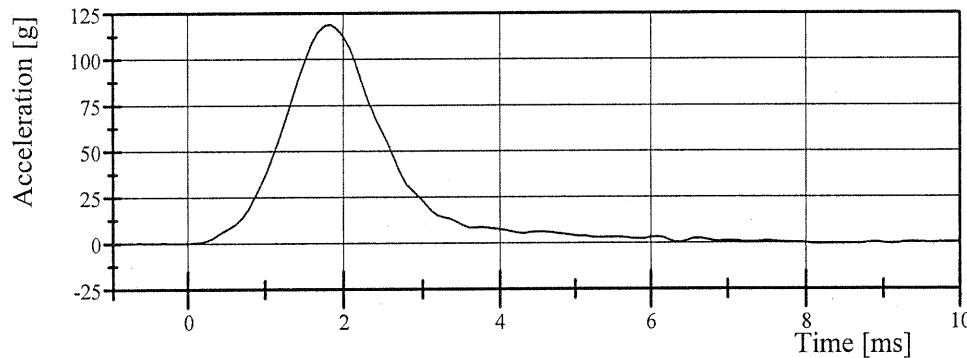


Filter Class: CFC_1000

Max: 8.0 g at 2.8 ms

Min: -4.7 g at 3.4 ms

Head Z-Axis Acceleration

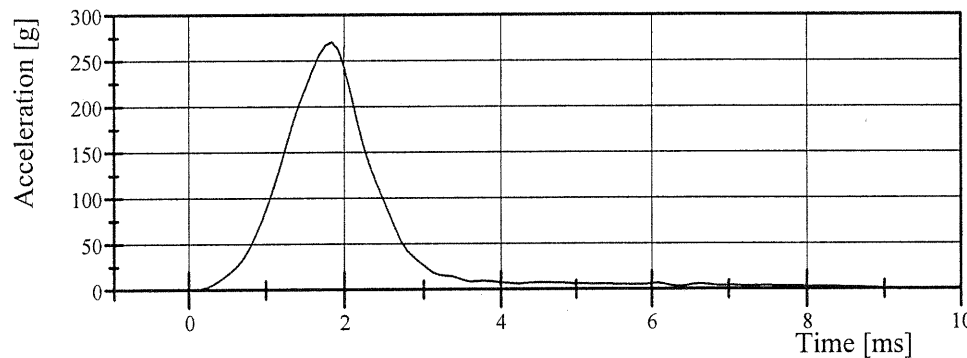


Filter Class: CFC_1000

Max: 118.8 g at 1.8 ms

Min: -0.6 g at 8.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 270.3 g at 1.8 ms

Min: 0.1 g at -1.0 ms



Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 001 Certification No. 9-1

Test Date: 4/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.607 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,821.5 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-69.96 mm	Yes
Internal Hysteresis	65 - 85 %	72.6 %	Yes

Test meets specifications.

Comments:

Technician

Charles W. Hall

Approved

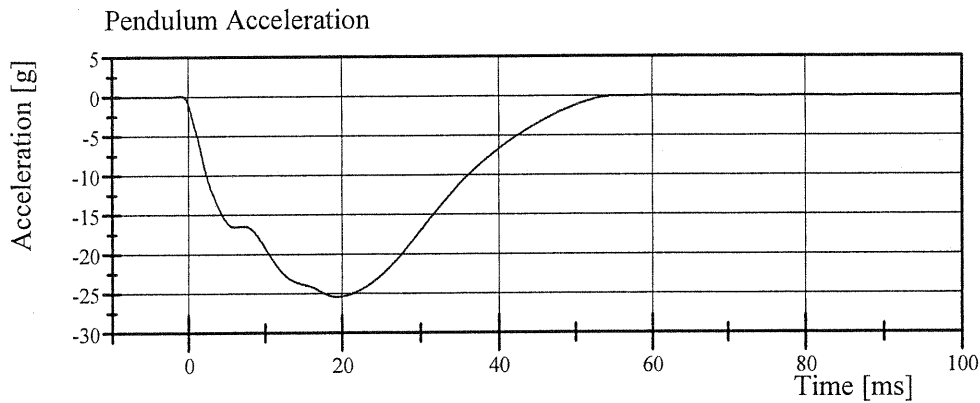
Ron Stonus

Transportation Research Center Inc.

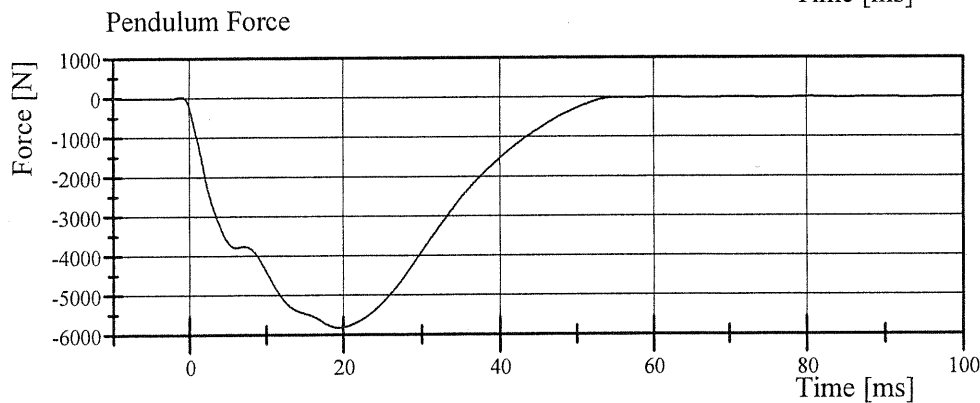
Front Thorax

HIII 50th Serial No. 001 Certification No. 9-1

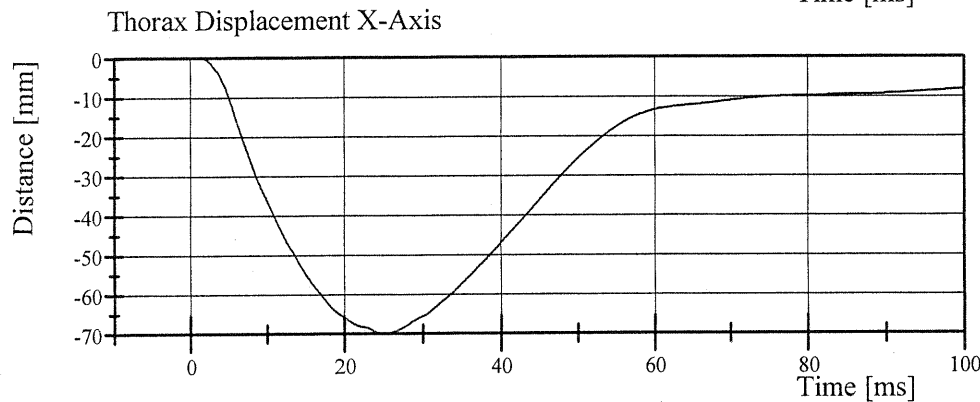
Test Date: 4/8/2008



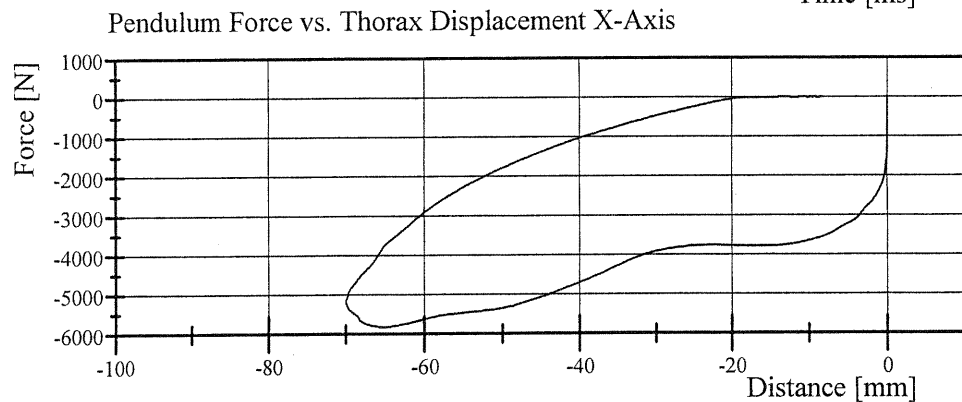
Filter Class: CFC_180
Max: 0.1 g at -1.0 ms
Min: -25.4 g at 19.4 ms



Filter Class: CFC_180
Max: 25.8 N at -1.0 ms
Min: -5,821.5 N at 19.4 ms



Filter Class: CFC_600
Max: 0.0 mm at -9.4 ms
Min: -70.0 mm at 25.1 ms



Filter Class: CFC_180
Max: 25.8 N at -0.0 mm
Min: -5,821.5 N at -65.2 mm

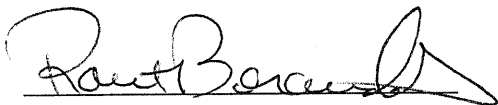
Pre-Test Dummy Configuration and Performance Verification Data

Target Vehicle Passenger Dummy S/N: 416

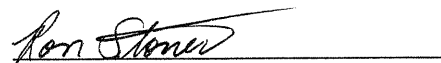
Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 416 Calibration No. 45

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	780	Yes
B	Shoulder Pivot Height	431.8 - 457.2	444	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	146	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	83	Yes
F	Thigh Clearance	119.4 - 134.6	125	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	253	Yes
H	Head Back to Backline	43.2 - 48.2	46	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	282	Yes
J	Elbow Rest Height	182.8 - 203.2	183	Yes
K	Buttock Knee Length	520.7 - 546.1	540	Yes
L	Popliteal Height	355.6 - 376.0	370	Yes
M	Knee Pivot Height	393.7 - 419.1	415	Yes
N	Buttock Popliteal Height	414.0 - 439.4	432	Yes
O	Chest Depth without Jacket	175.3 - 190.5	181	Yes
P	Foot Length	218.5 - 233.7	221	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	467	Yes
S	Head Breadth	137.1 - 147.3	140	Yes
T	Head Depth	177.8 - 188.0	180	Yes
U	Hip Breadth	299.7 - 314.9	301	Yes
V	Shoulder Breadth	350.5 - 365.7	352	Yes
W	Foot Breadth	78.8 - 94.0	88	Yes
X	Head Circumference	528.3 - 548.7	534	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	865	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




Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	286.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	3.2 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Charles W. Hall

Approved

Ron Stoner



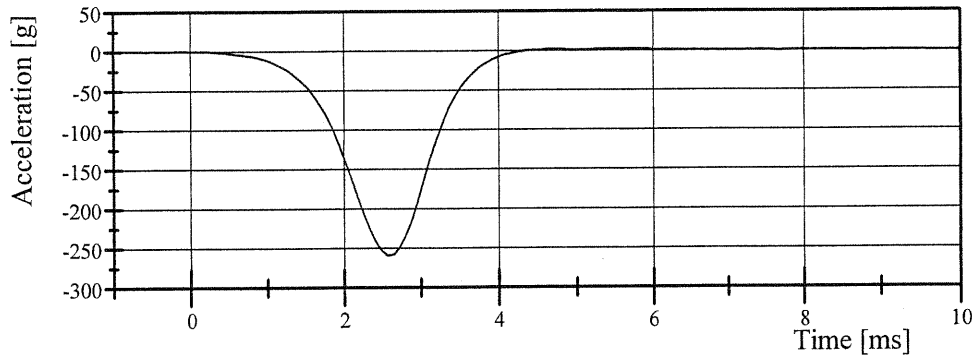
Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Head X-Axis Acceleration

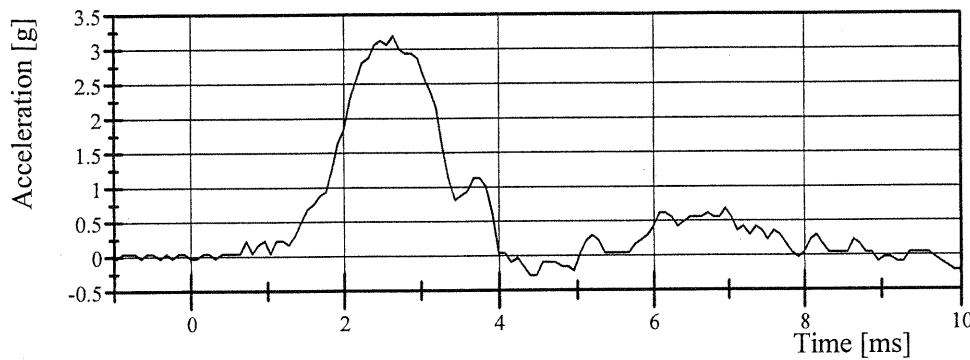


Filter Class: CFC_1000

Max: 1.9 g at 5.6 ms

Min: -258.7 g at 2.6 ms

Head Y-Axis Acceleration

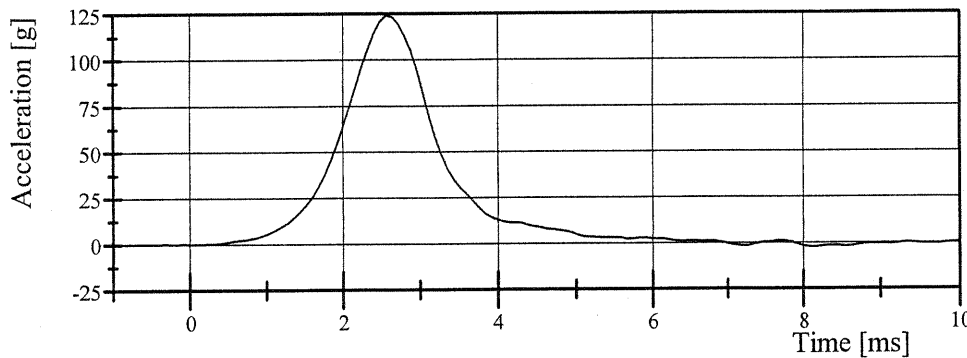


Filter Class: CFC_1000

Max: 3.2 g at 2.6 ms

Min: -0.3 g at 4.4 ms

Head Z-Axis Acceleration

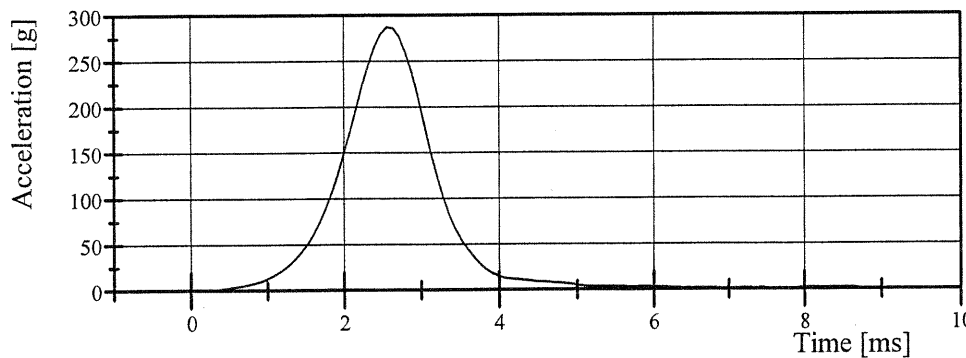


Filter Class: CFC_1000

Max: 124.0 g at 2.6 ms

Min: -2.2 g at 8.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 286.9 g at 2.6 ms

Min: 0.0 g at -0.2 ms

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 46-2

Test Date: 3/6/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.055 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.42 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.76 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.85 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-80.7 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	76.0 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	86.3 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ron Stoner

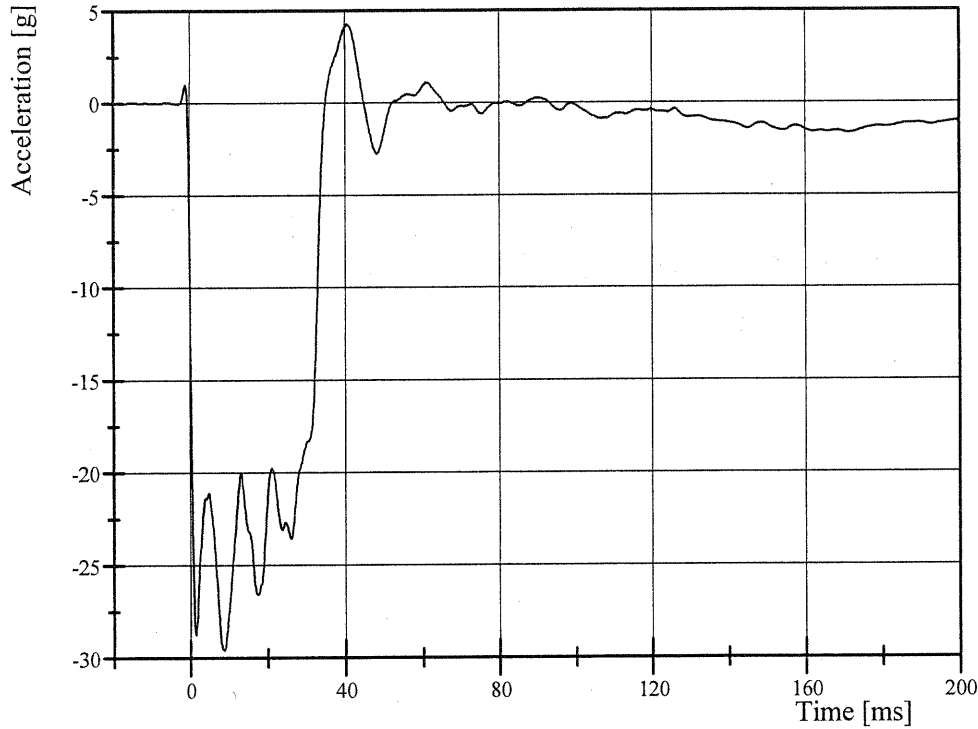
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 46-2

Test Date: 3/6/2008

Pendulum Acceleration

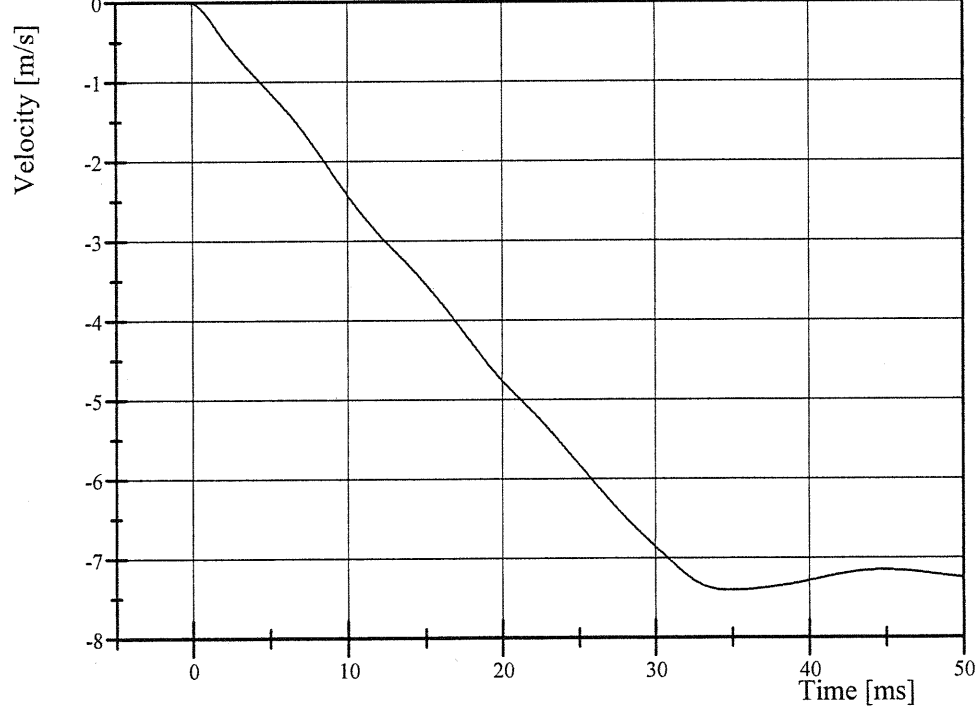


Filter Class: CFC_180

Max: 4.3 g at 40.6 ms

Min: -29.6 g at 8.8 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 0.0 m/s at 0.0 ms

Min: -7.4 m/s at 35.0 ms



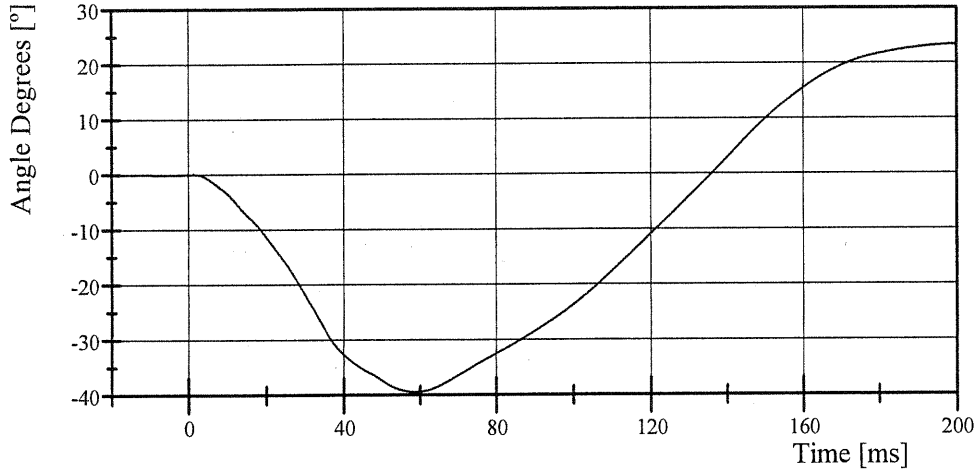
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 416 Certification No. 46-2

Test Date: 3/6/2008

Pot Rotation at the Base of Neck

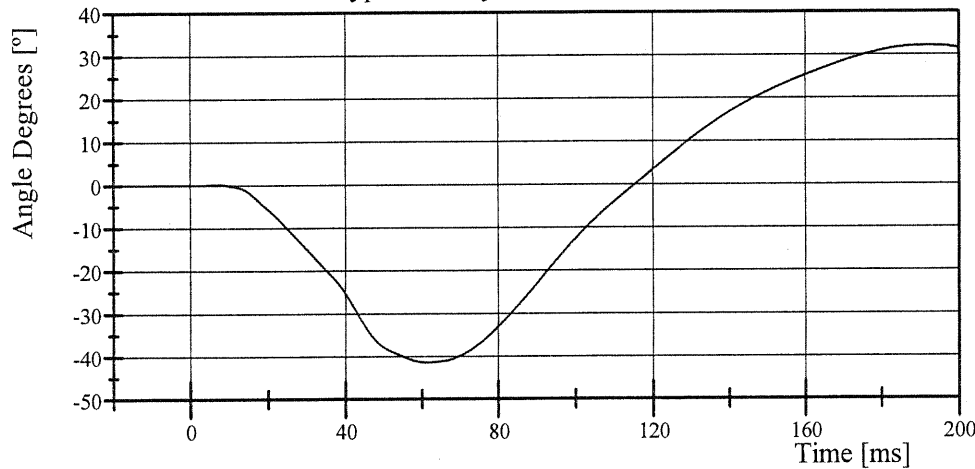


Filter Class: CFC_60

Max: 23.4 ° at 200.0 ms

Min: -39.4 ° at 58.7 ms

Head Rotation at Occypital Condyles

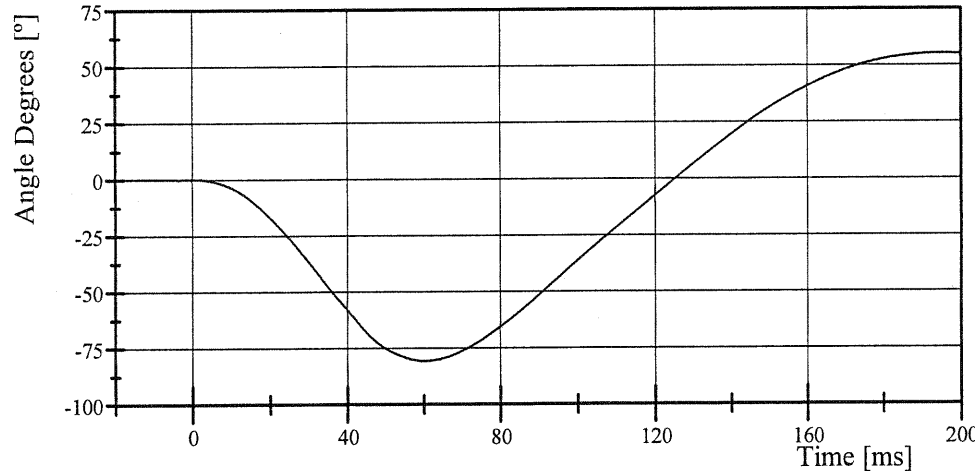


Filter Class: CFC_60

Max: 32.1 ° at 192.4 ms

Min: -41.4 ° at 61.5 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 55.2 ° at 195.2 ms

Min: -80.7 ° at 60.3 ms

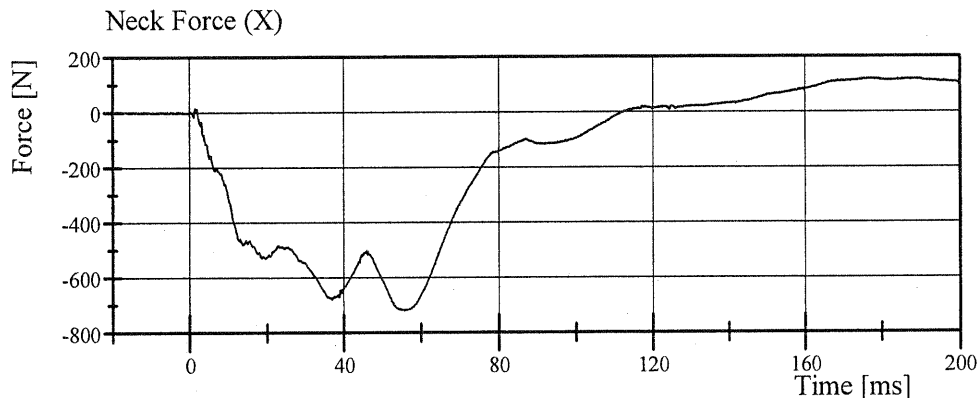


Transportation Research Center Inc.

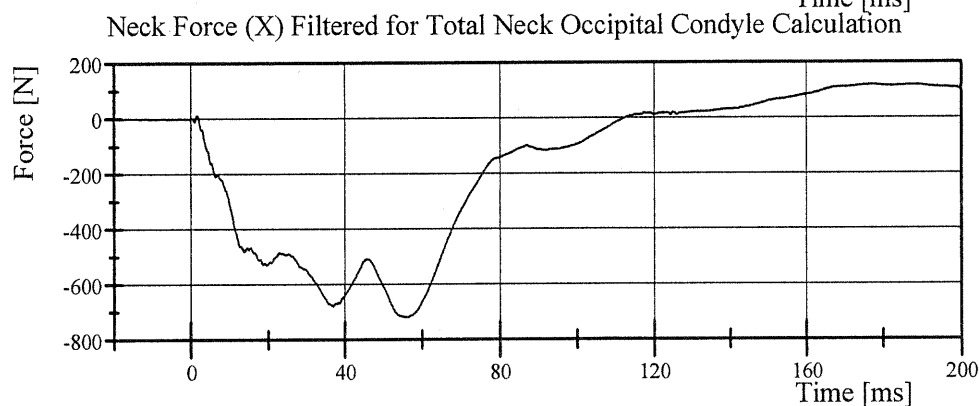
Neck Flexion

HIII 5th Serial No. 416 Certification No. 46-2

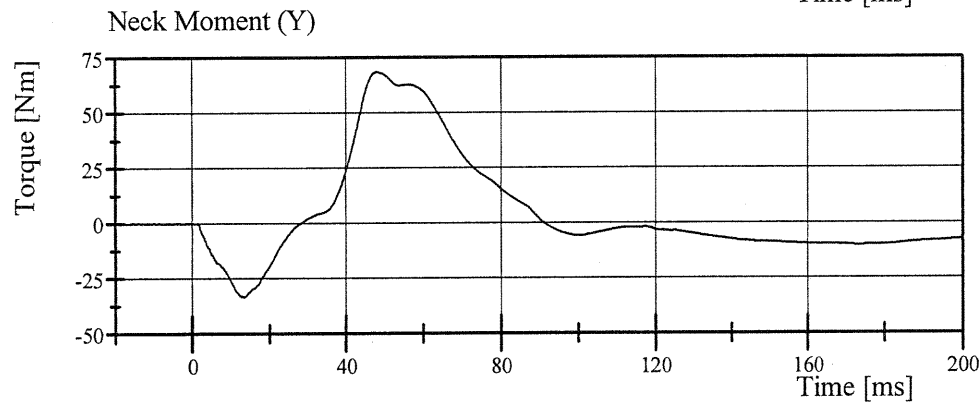
Test Date: 3/6/2008



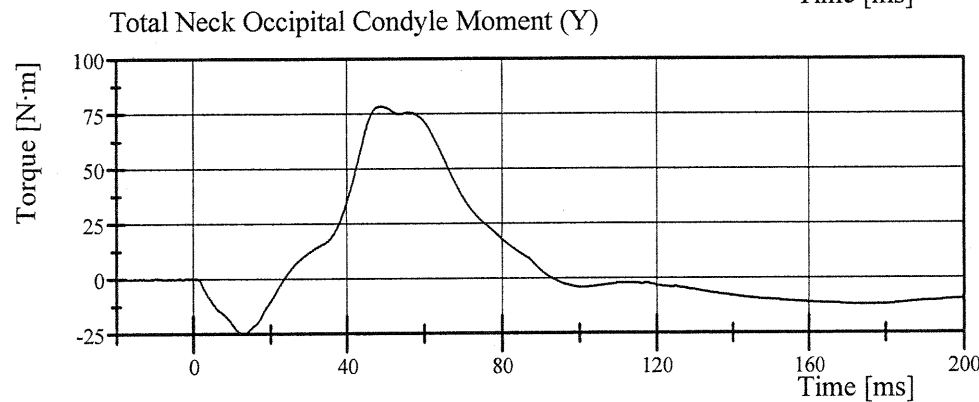
Filter Class: CFC_1000
Max: 120.2 N at 177.4 ms
Min: -718.7 N at 55.8 ms



Filter Class: CFC_600
Max: 119.8 N at 177.4 ms
Min: -718.3 N at 55.8 ms



Filter Class: CFC_600
Max: 68.5 Nm at 48.2 ms
Min: -33.3 Nm at 13.5 ms



Filter Class: CFC_600
Max: 78.4 N·m at 49.0 ms
Min: -24.8 N·m at 12.9 ms

Transportation Research Center Inc.

Neck Extension

HIH 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	22.0 °C	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.006 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.73 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.46 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 °	106.8 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-56.6 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	105.3 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ron Stoner

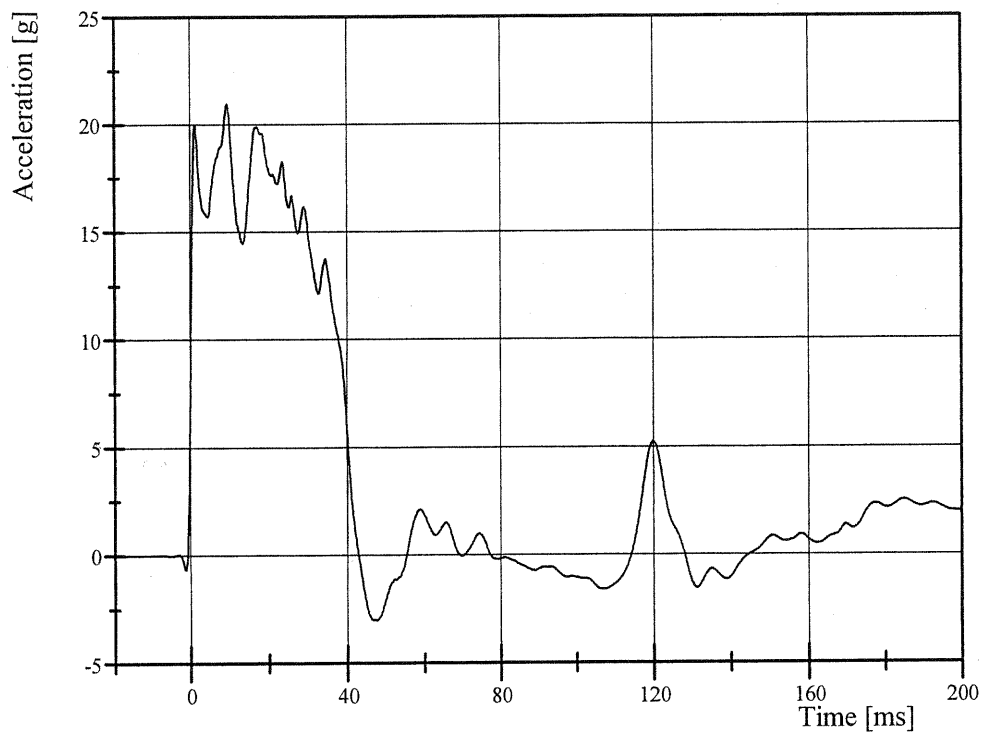
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Pendulum Acceleration

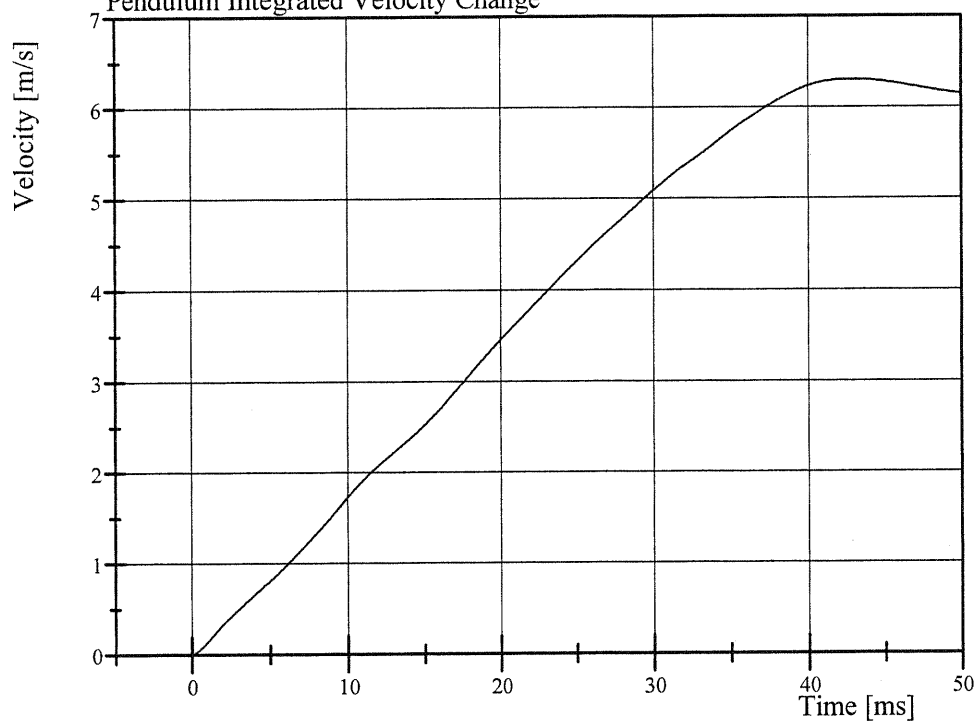


Filter Class: CFC_180

Max: 20.9 g at 9.5 ms

Min: -3.0 g at 47.7 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 6.3 m/s at 43.0 ms

Min: 0.0 m/s at 0.0 ms



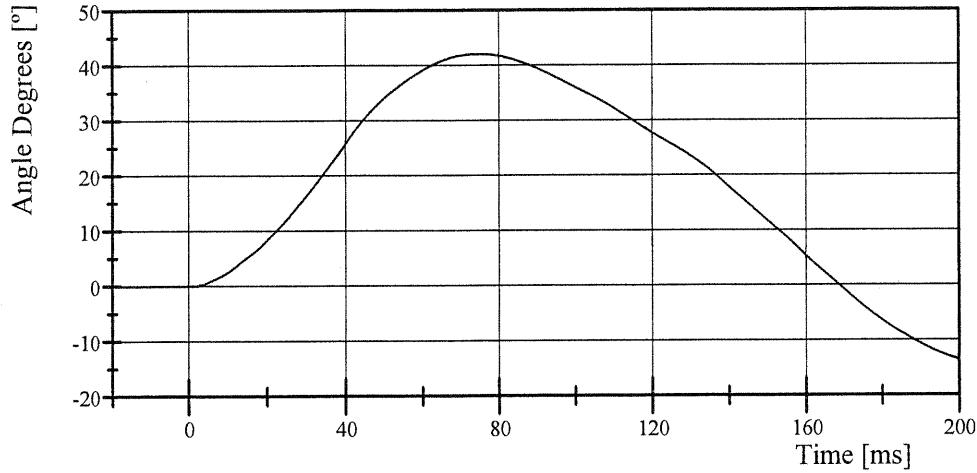
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Pot Rotation at the Base of Neck

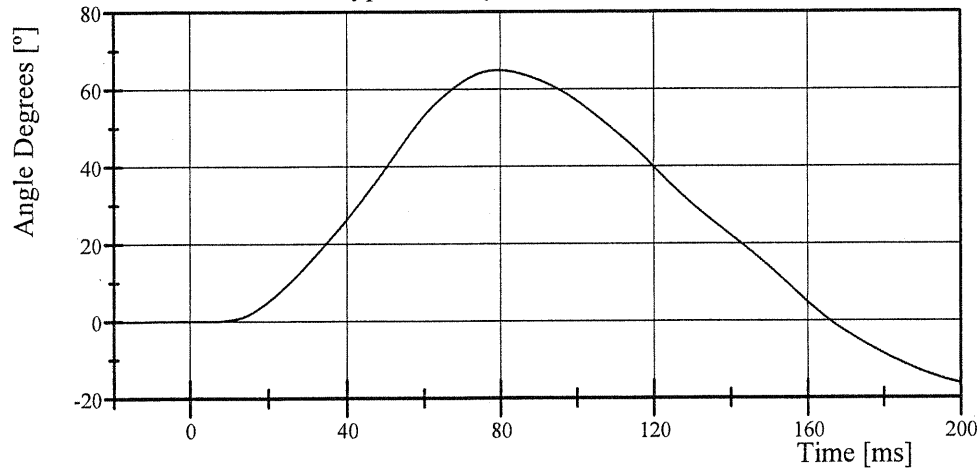


Filter Class: CFC_60

Max: 42.1 ° at 75.0 ms

Min: -13.6 ° at 200.0 ms

Head Rotation at Occypital Condyles

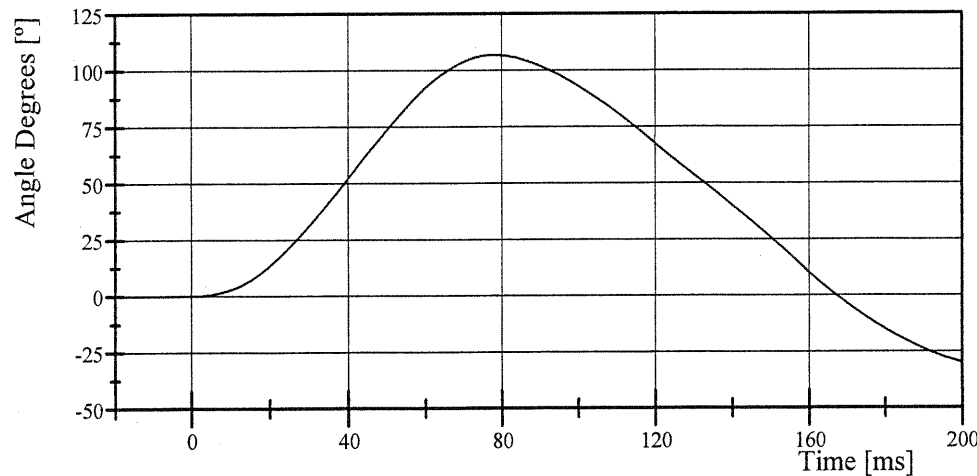


Filter Class: CFC_60

Max: 64.9 ° at 79.6 ms

Min: -16.2 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 106.8 ° at 78.2 ms

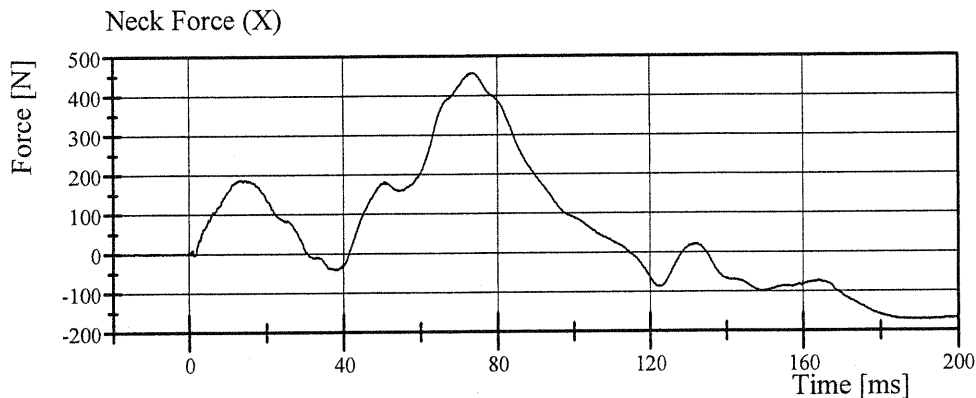
Min: -29.8 ° at 200.0 ms

Transportation Research Center Inc.

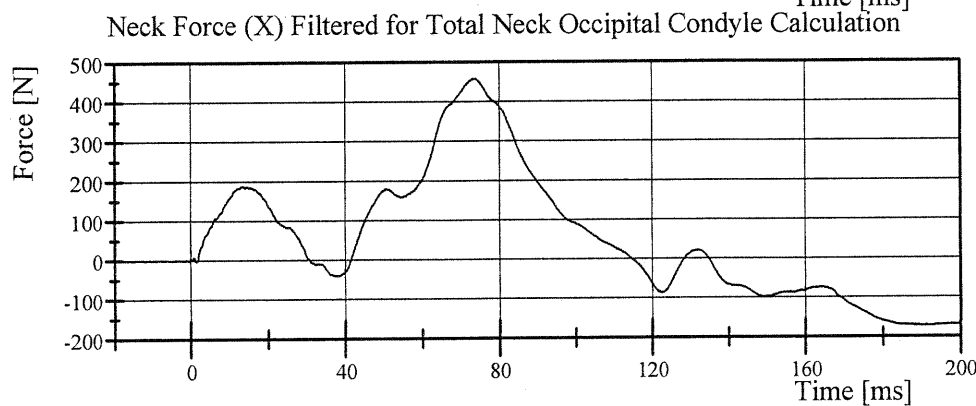
Neck Extension

HIII 5th Serial No. 416 Certification No. 46-1

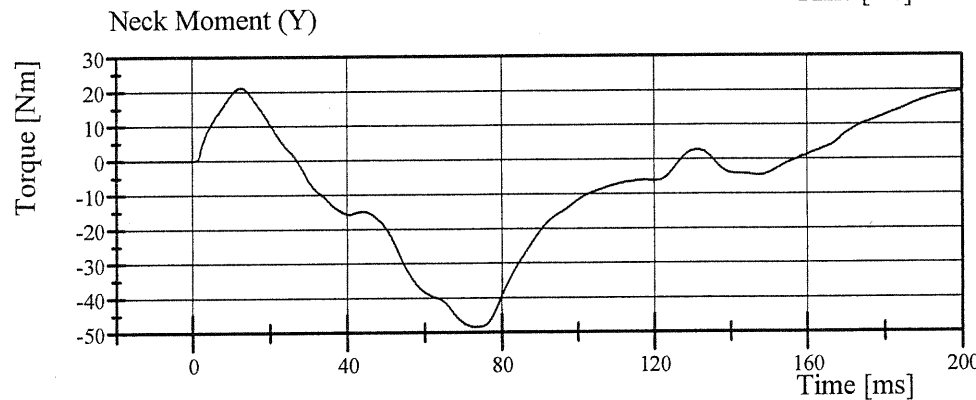
Test Date: 3/6/2008



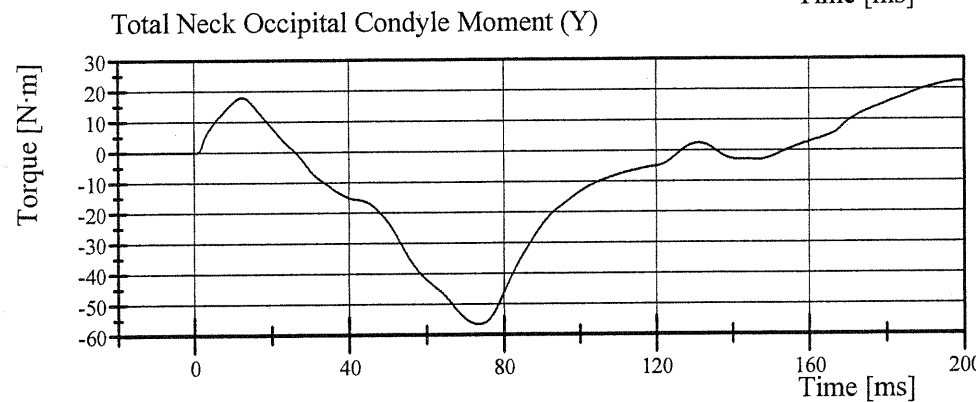
Filter Class: CFC_1000
Max: 457.9 N at 73.6 ms
Min: -172.3 N at 190.4 ms



Filter Class: CFC_600
Max: 457.8 N at 73.8 ms
Min: -171.7 N at 192.6 ms



Filter Class: CFC_600
Max: 21.2 Nm at 12.7 ms
Min: -48.4 Nm at 73.3 ms



Filter Class: CFC_600
Max: 22.4 N·m at 200.0 ms
Min: -56.6 N·m at 73.6 ms



Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 416 Certification No. 46-1

Test Date: 3/6/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.600 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-3,971.2 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	\geq (-4,600) N	-3,979.0 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-52.6 mm	Yes
Internal Hysteresis	69 - 85 %	72.4 %	Yes

Test meets specifications.

Comments:

Technician

Rant B...

Approved

Ken Stoner

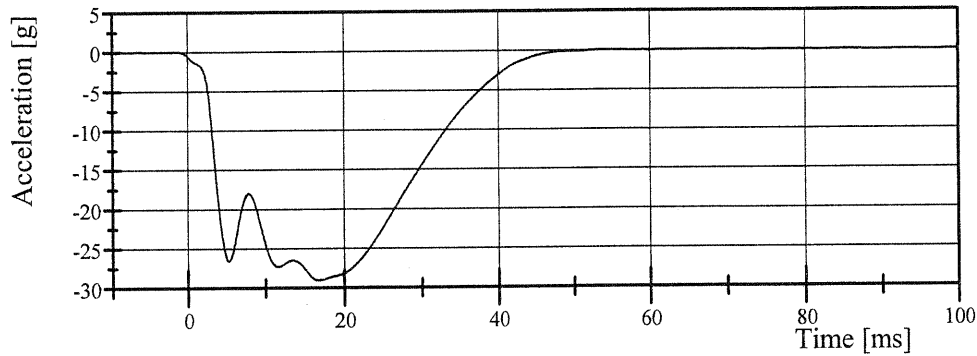
Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 416 Certification No. 46-1

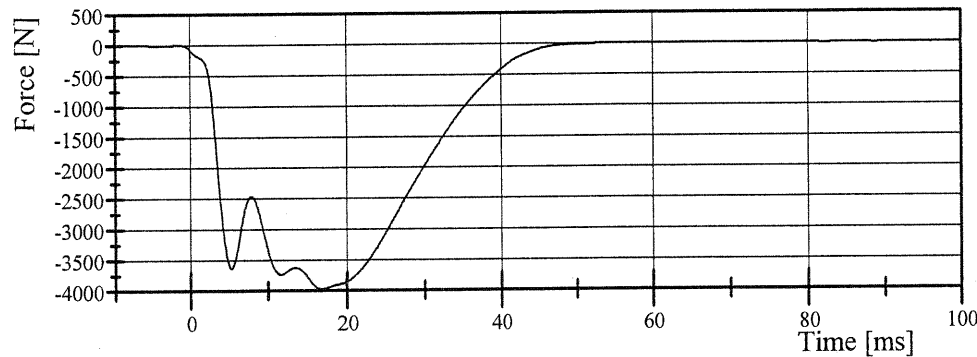
Test Date: 3/6/2008

Pendulum Acceleration



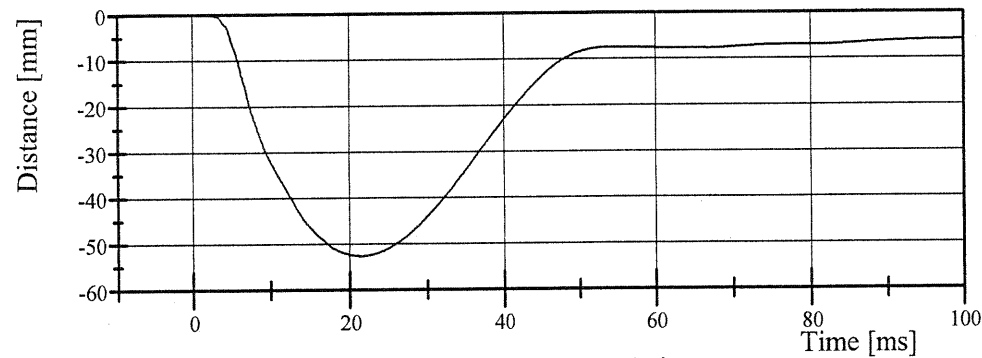
Filter Class: CFC_180
Max: 0.0 g at 70.5 ms
Min: -29.0 g at 16.8 ms

Pendulum Force



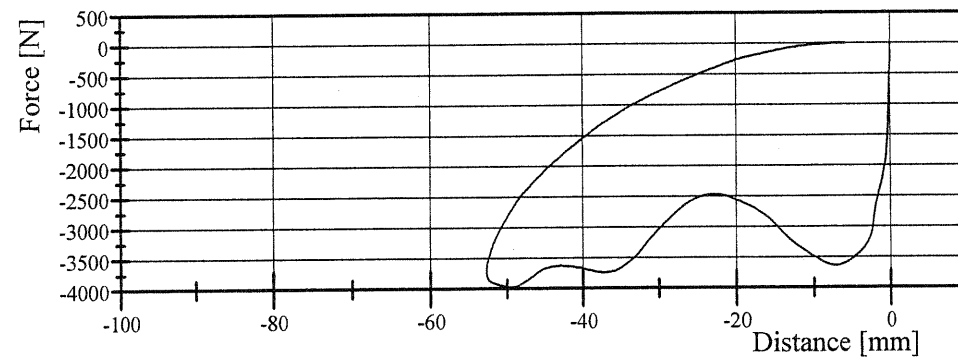
Filter Class: CFC_180
Max: 4.6 N at 70.5 ms
Min: -3,979.0 N at 16.8 ms

Thorax Displacement X-Axis



Filter Class: CFC_600
Max: 0.0 mm at -5.2 ms
Min: -52.6 mm at 21.4 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180
Max: 4.6 N at -7.4 mm
Min: -3,979.0 N at -49.3 mm

TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 15-Feb-08

TRC, INC. TEST NO: TOFL-02 572 O SN416 TORSO FLEX CAL 45

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.9° C
RELATIVE HUMIDITY	10 – 70 %	35 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	<= 20° REFERENCED TO VERTICAL	18.3°
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	383.6 N
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	3.2 °
RATE	0.5° - 1.5°/sec	0.97 °/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN

Charles W. Bell

Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 5th Serial No. 416 Certification No. 45-8

Test Date: 2/12/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	27 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.126 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,474.4 N	Yes

Test meets specifications.

Comments:

Technician

Raoul Berardo

Approved

Ron Stone



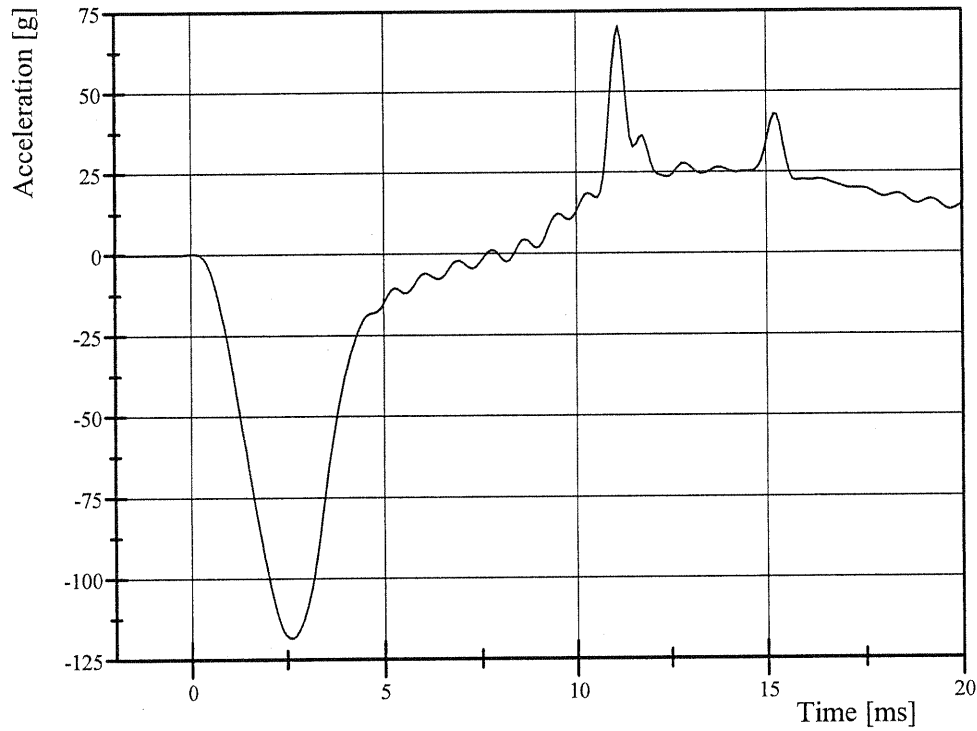
Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 5th Serial No. 416 Certification No. 45-8

Test Date: 2/12/2008

Pendulum Acceleration

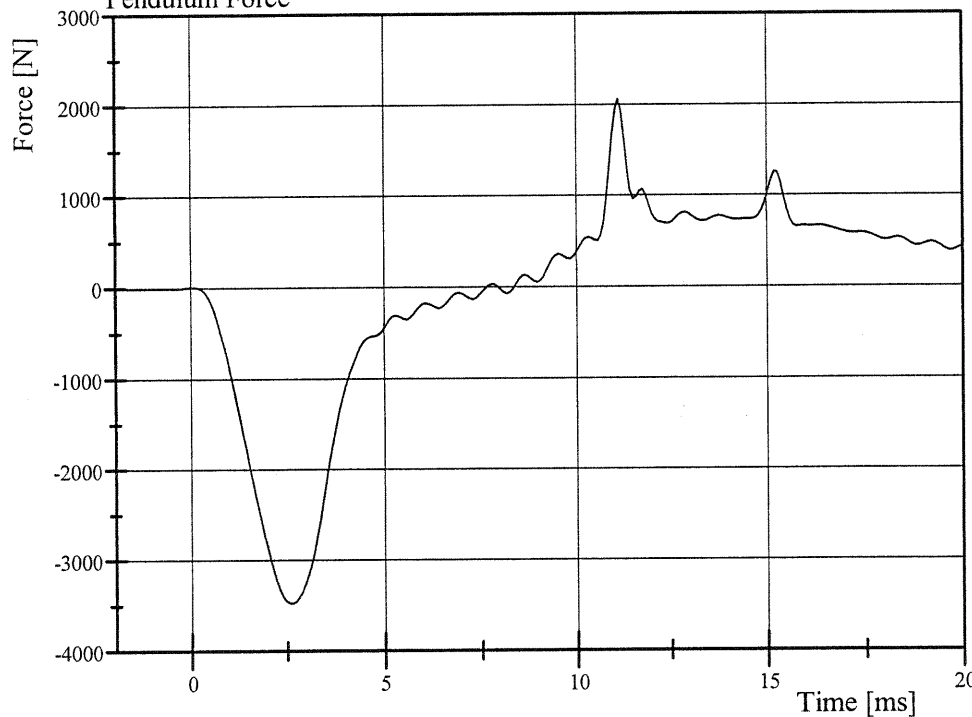


Filter Class: CFC_600

Max: 70.2 g at 11.1 ms

Min: -118.5 g at 2.6 ms

Pendulum Force



Filter Class: CFC_600

Max: 2,057.4 N at 11.1 ms

Min: -3,474.4 N at 2.6 ms

Transportation Research Center Inc.

Right Knee Femur Response Test

HIII 5th Serial No. 416 Certification No. 45-4

Test Date: 2/11/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	25 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.133 m/s	No
Peak Femur Force	(-3,450) - (-4,060) N	-4,024.5 N	Yes

Test does not meet specifications.

Comments:

Technician

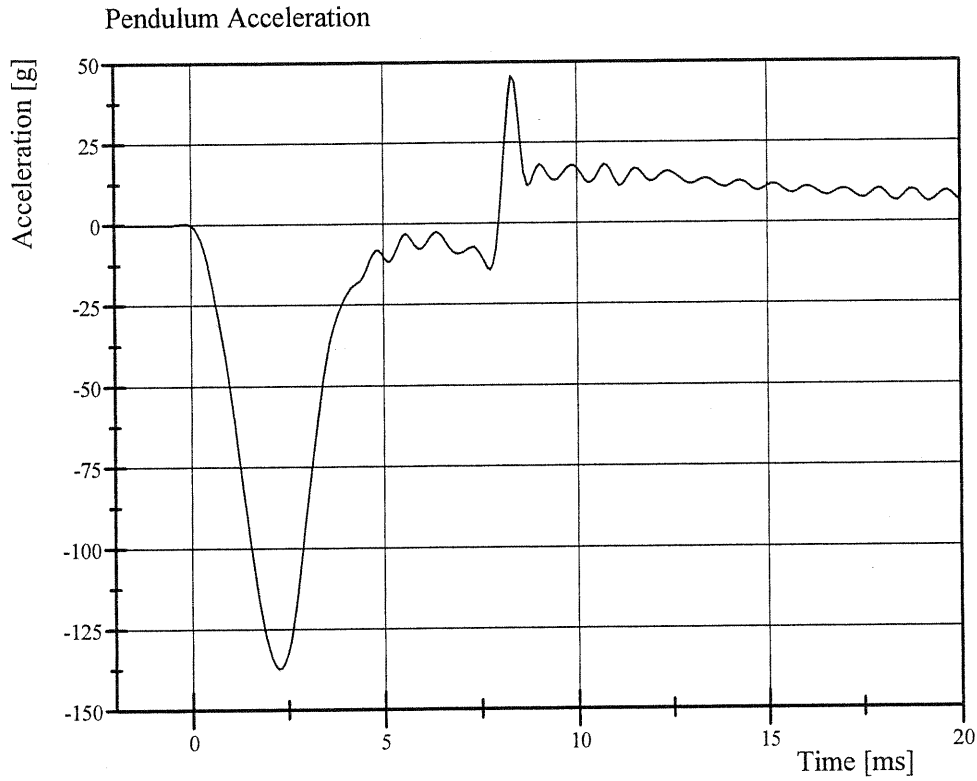
Robert Doran

Approved

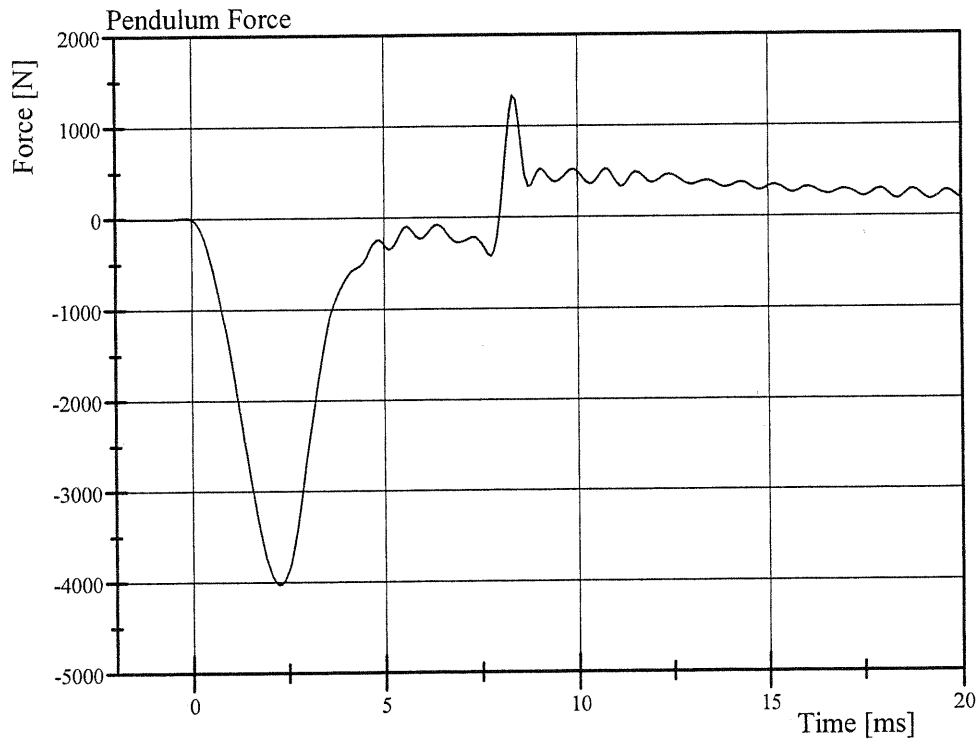
Ken Stone

Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 416 Certification No. 45-4
Test Date: 2/11/2008



Filter Class: CFC_600
Max: 45.6 g at 8.3 ms
Min: -137.3 g at 2.2 ms



Filter Class: CFC_600
Max: 1,336.2 N at 8.3 ms
Min: -4,024.5 N at 2.2 ms



Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Driver Dummy S/N: 855

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 855
Calibration No. 10

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	886	Yes
B	Shoulder Pivot Height	505.5 - 520.7	508	Yes
C	H-Point Height	83.8 - 88.9	87	Yes
D	H-Point From Seatback	134.6 - 139.7	139	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	89	Yes
F	Thigh Clearance	139.7 - 154.9	151	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	298	Yes
H	Skull Cap To Backline	40.6 - 45.7	44	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	333	Yes
J	Elbow Rest Height	190.5 - 210.8	196	Yes
K	Buttock Knee Length	579.1 - 604.5	599	Yes
L	Popliteal Height	429.3 - 454.7	432	Yes
M	Knee Pivot Height	485.1 - 500.4	490	Yes
N	Buttock Popliteal Length	452.1 - 477.5	476	Yes
O	Chest Depth	213.4 - 228.6	226	Yes
P	Foot Length	251.5 - 266.7	260	Yes
V	Shoulder Breadth	421.6 - 436.9	425	Yes
W	Foot Breadth	91.4 - 106.7	95	Yes
Y	Chest Circumference	970.3 - 1000.8	997	Yes
Z	Waist Circumference	835.7 - 866.1	845	Yes
AA	Location For Chest Circumference	429.3 - 434.3	430	Yes
BB	Location For Waist Circumference	226.1 - 231.1	230	Yes

Comment:

Technician

Rout Beranda

Approved

Ron Stoner

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 855 Certification No. 10-1

Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	26 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	254.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	2.7 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Rout Berard

Approved

Ron Stone



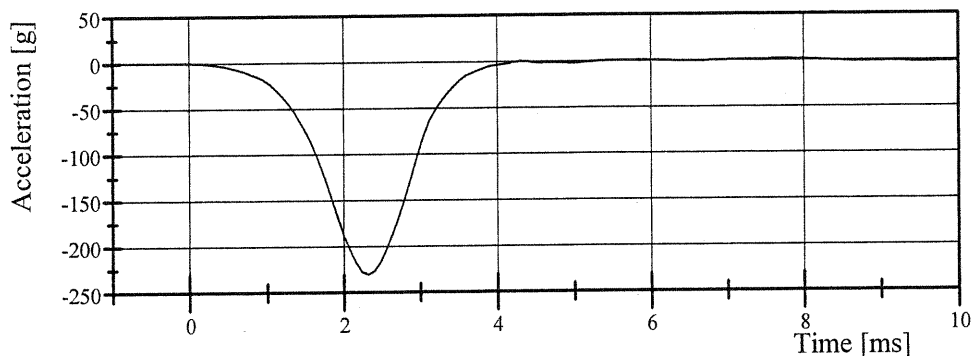
Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 855 Certification No. 10-1

Test Date: 2/8/2008

Head X-Axis Acceleration

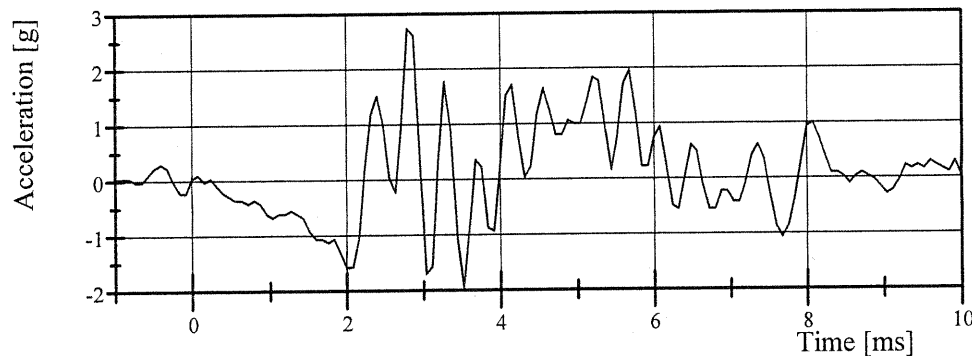


Filter Class: CFC_1000

Max: 1.3 g at 7.7 ms

Min: -230.5 g at 2.3 ms

Head Y-Axis Acceleration

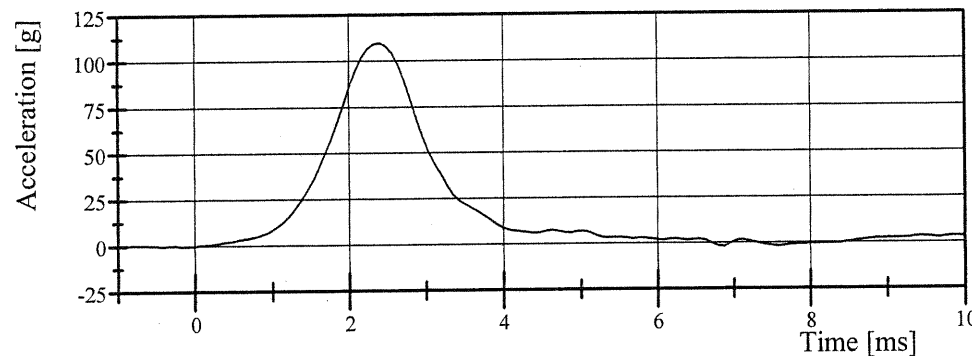


Filter Class: CFC_1000

Max: 2.7 g at 2.8 ms

Min: -2.0 g at 3.5 ms

Head Z-Axis Acceleration

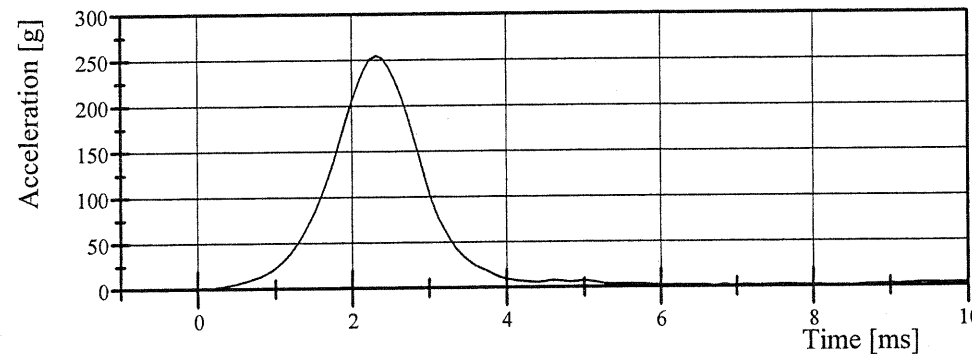


Filter Class: CFC_1000

Max: 109.7 g at 2.4 ms

Min: -1.9 g at 6.9 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 254.9 g at 2.3 ms

Min: 0.1 g at -0.9 ms

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 855 Certification No. 10-2

Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	22.0 °C	Yes
Relative Humidity	10 - 70 %	27 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	6.984 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	39.0 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-24.92 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-21.45 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-16.20 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-16.20 g	Yes
Total Head D-Plane Rotation Peak	(-64) - (-78) °	-64.6 °	Yes
Time of Peak	57 - 64 ms	59.5 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	121.5 ms	Yes
Total Neck Occipital Condyles Moment Peak	88 - 108 N·m	99.0 N·m	Yes
Time of Peak	47 - 58 ms	52.1 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	101.2 ms	Yes

Test meets specifications.

Comments:

Technician

Ronit Baranovsk

Approved

Ron Stone

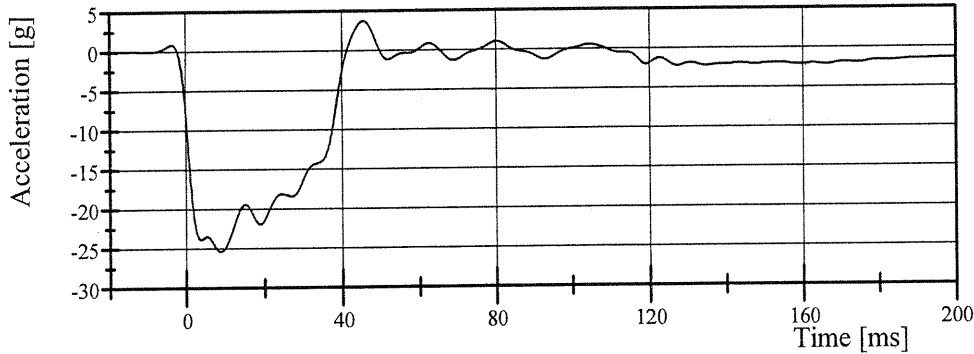
Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 855 Certification No. 10-2

Test Date: 2/8/2008

Pendulum Acceleration

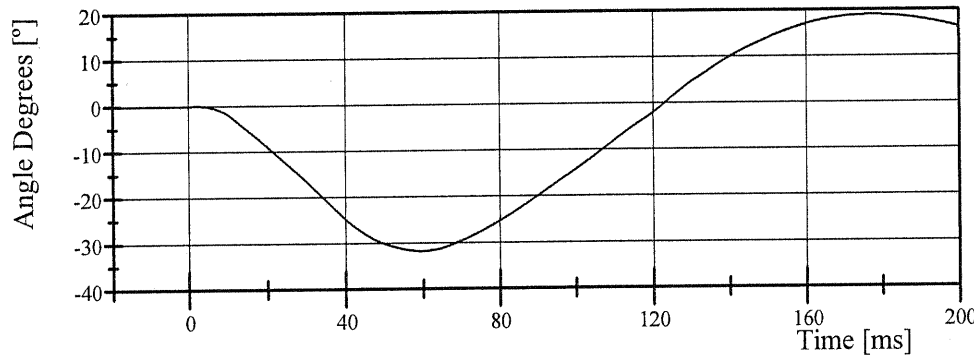


Filter Class: CFC_60

Max: 3.8 g at 45.5 ms

Min: -25.4 g at 8.8 ms

Pot Rotation at the Base of Neck

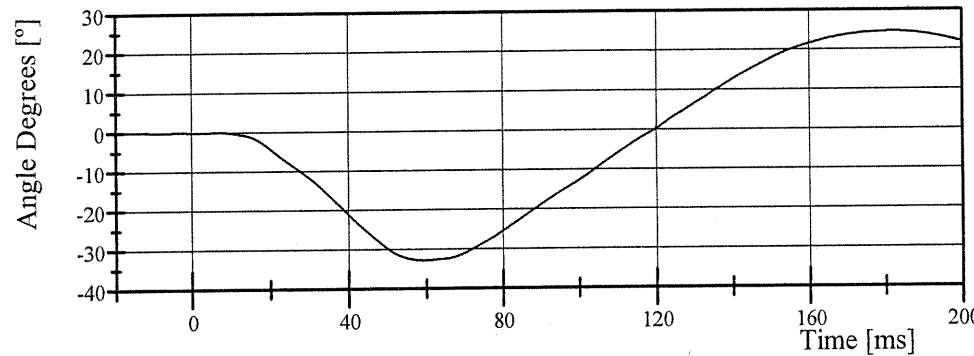


Filter Class: CFC_60

Max: 18.9 ° at 177.9 ms

Min: -31.8 ° at 59.7 ms

Head Rotation at Occypital Condyles

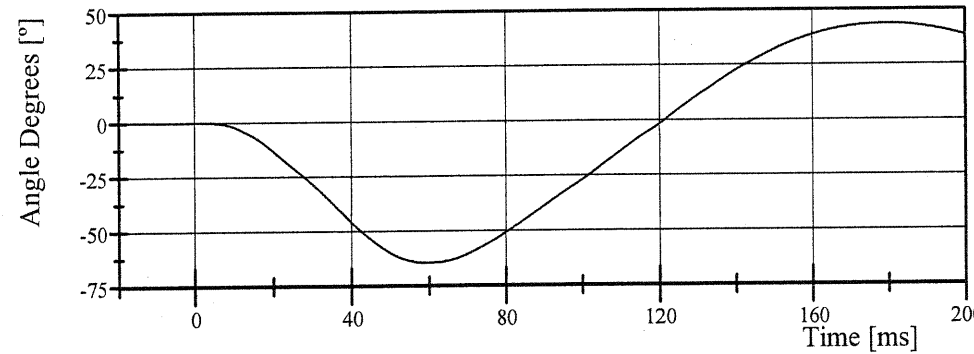


Filter Class: CFC_60

Max: 24.6 ° at 182.4 ms

Min: -32.8 ° at 59.4 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 43.5 ° at 180.2 ms

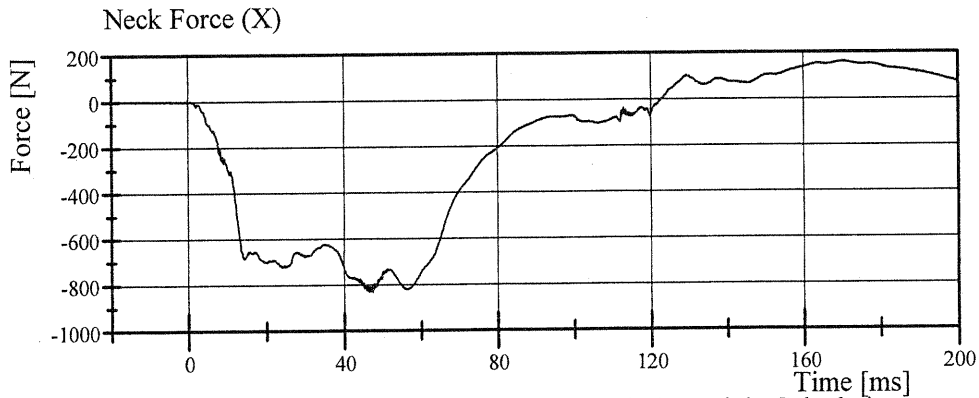
Min: -64.6 ° at 59.5 ms

Transportation Research Center Inc.

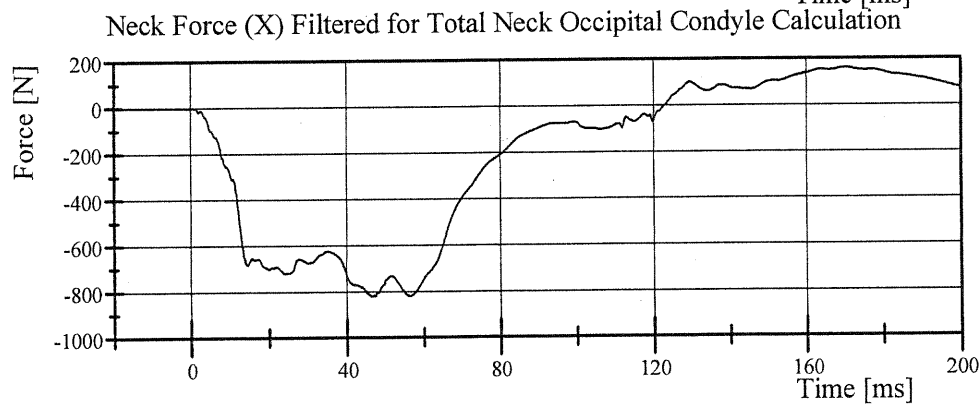
Neck Flexion

HIII 50th Serial No. 855 Certification No. 10-2

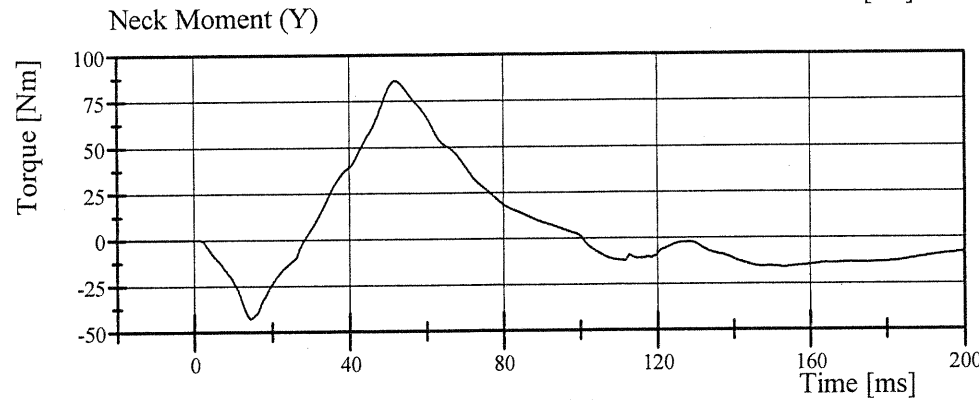
Test Date: 2/8/2008



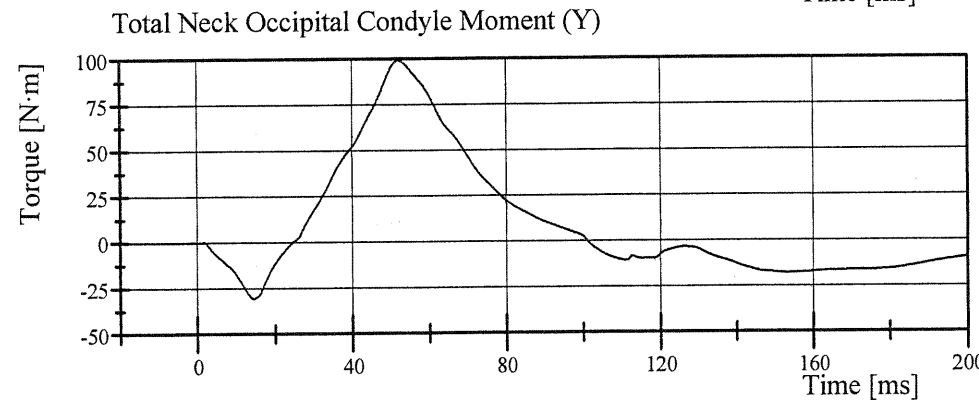
Filter Class: CFC_1000
Max: 161.6 N at 170.5 ms
Min: -831.5 N at 47.4 ms



Filter Class: CFC_600
Max: 161.2 N at 170.4 ms
Min: -821.7 N at 47.4 ms



Filter Class: CFC_600
Max: 86.0 Nm at 52.0 ms
Min: -42.7 Nm at 14.6 ms



Filter Class: CFC_600
Max: 99.0 N·m at 52.1 ms
Min: -30.6 N·m at 14.6 ms

Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 855 Certification No. 10-1

Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	27 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-6.011 m/s	Yes
Pendulum Acceleration Decay Crossing 5g	38 - 46 ms	41.0 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	18.66 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	17.38 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	14.10 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	14.10 g	Yes
Total Head D-Plane Rotation Peak	81 - 106 °	91.8 °	Yes
Time of Peak	72 - 82 ms	78.1 ms	Yes
Total Head D-Plane Rotation Decay to 0°	147 - 174 ms	160.8 ms	Yes
Total Neck Occipital Condyles Moment Peak	(-53) - (-80) N·m	-64.3 N·m	Yes
Time of Peak	65 - 79 ms	71.0 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	120 - 148 ms	143.2 ms	Yes

Test meets specifications.

Comments:

Technician

Rand Beraud

Approved

Ron Stoner

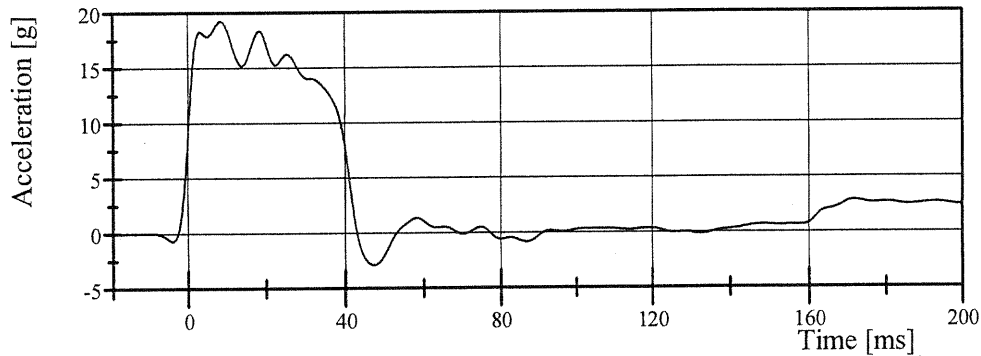
Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 855 Certification No. 10-1

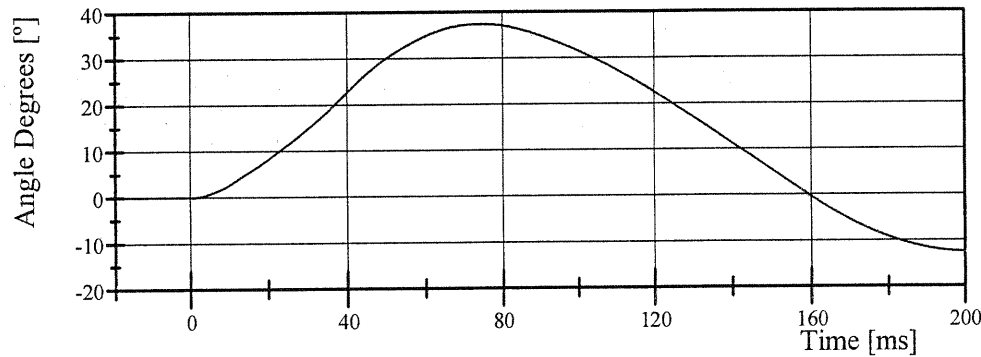
Test Date: 2/8/2008

Pendulum Acceleration



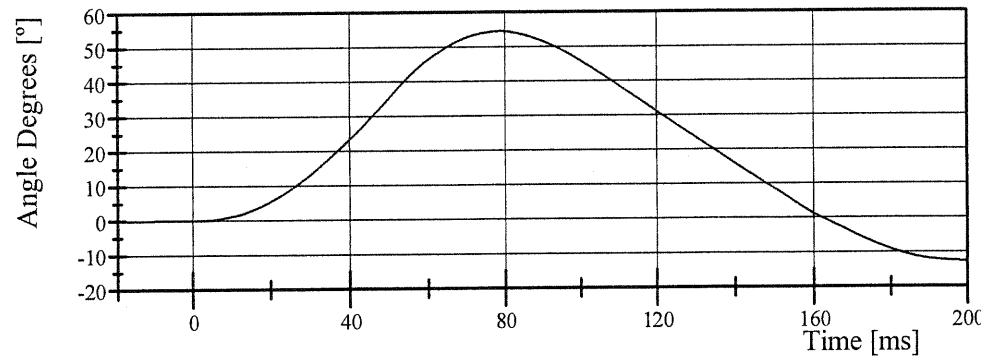
Filter Class: CFC_60
Max: 19.3 g at 8.6 ms
Min: -2.9 g at 47.3 ms

Pot Rotation at the Base of Neck



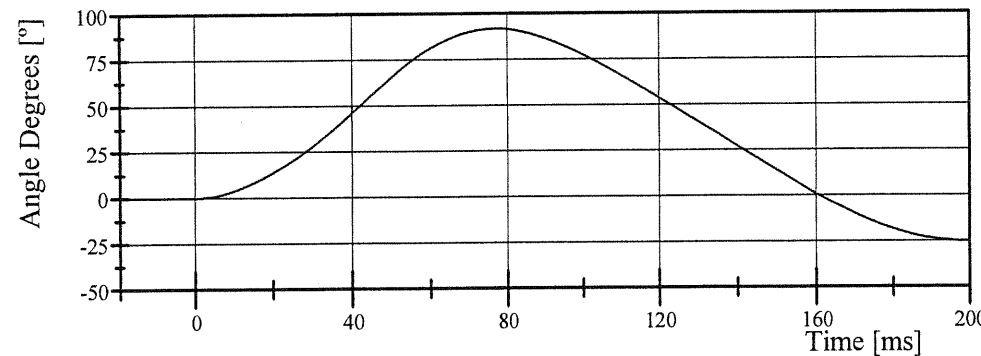
Filter Class: CFC_60
Max: 37.4 ° at 74.5 ms
Min: -12.5 ° at 200.0 ms

Head Rotation at Occypital Condyles



Filter Class: CFC_60
Max: 54.5 ° at 79.1 ms
Min: -12.6 ° at 200.0 ms

Total Head D-Plane Rotation



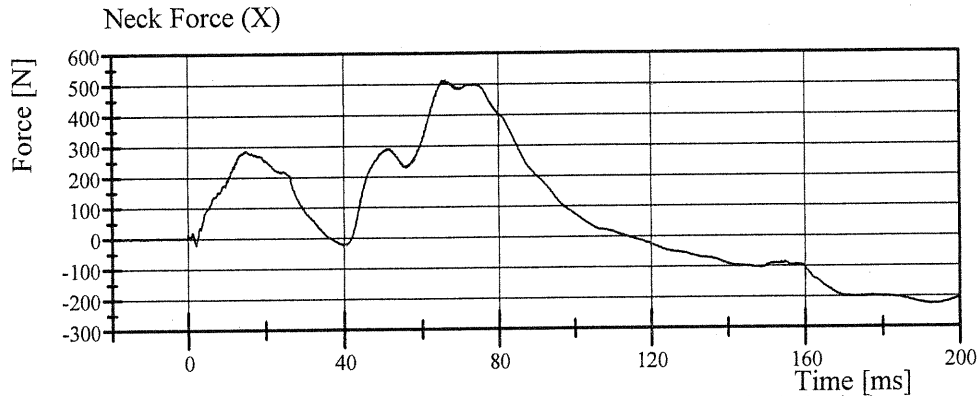
Filter Class: CFC_60
Max: 91.8 ° at 78.1 ms
Min: -25.1 ° at 200.0 ms

Transportation Research Center Inc.

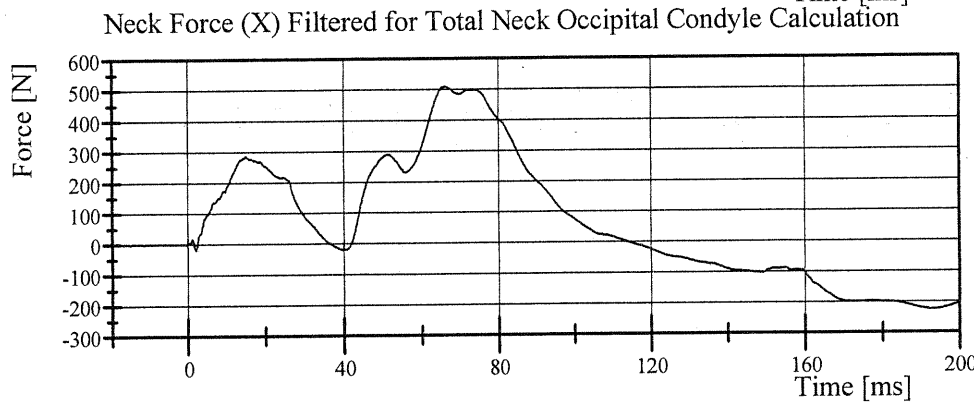
Neck Extension

HIII 50th Serial No. 855 Certification No. 10-1

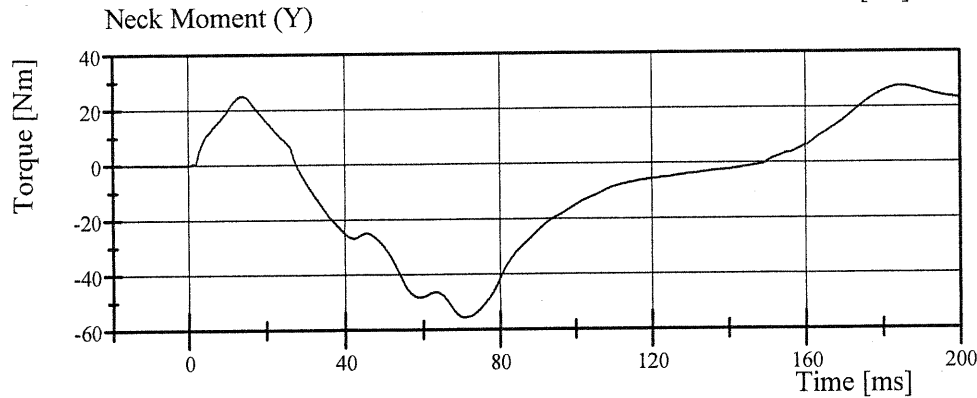
Test Date: 2/8/2008



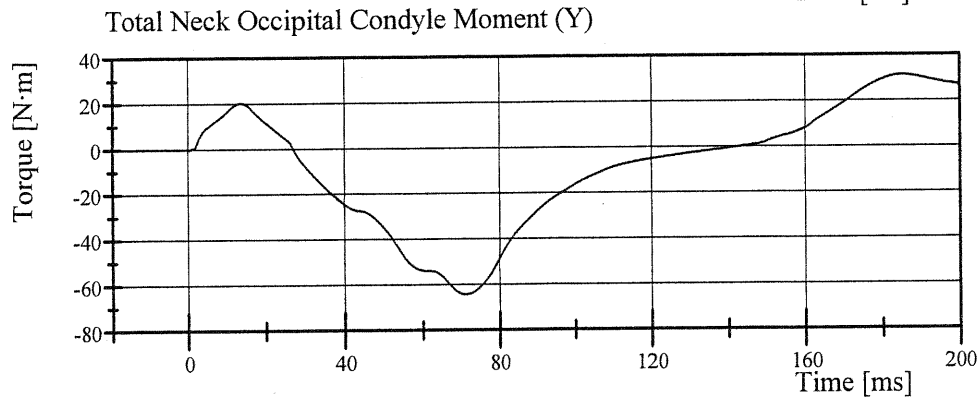
Filter Class: CFC_1000
Max: 513.3 N at 66.3 ms
Min: -225.8 N at 192.6 ms



Filter Class: CFC_600
Max: 510.6 N at 66.2 ms
Min: -225.3 N at 192.6 ms



Filter Class: CFC_600
Max: 27.5 Nm at 185.2 ms
Min: -55.6 Nm at 70.6 ms



Filter Class: CFC_600
Max: 31.2 N·m at 185.4 ms
Min: -64.3 N·m at 71.0 ms

Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 855 Certification No. 10-2

Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.705 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,809.0 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-65.69 mm	Yes
Internal Hysteresis	65 - 85 %	74.9 %	Yes


Test meets specifications.

Comments:

Technician



Approved



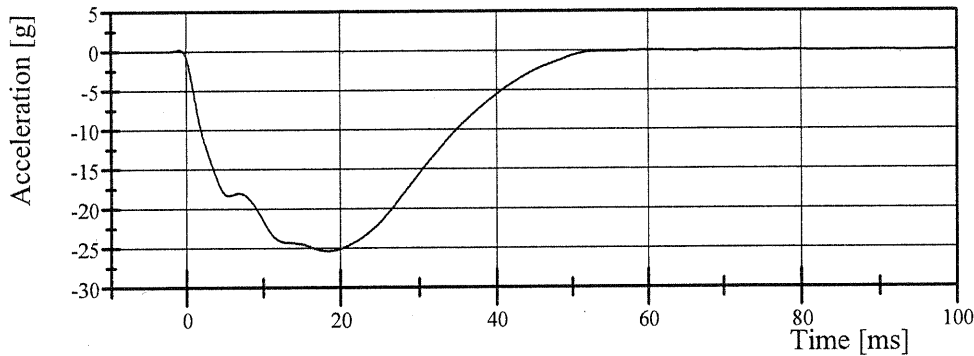
Transportation Research Center Inc.

Front Thorax

HIII 50th Serial No. 855 Certification No. 10-2

Test Date: 2/8/2008

Pendulum Acceleration

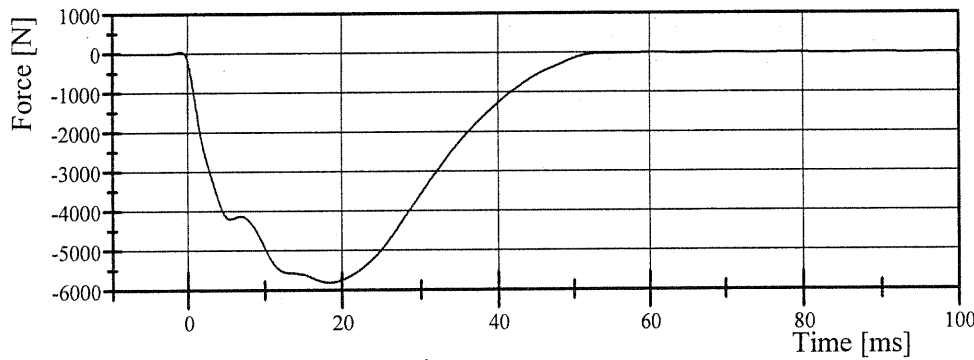


Filter Class: CFC_180

Max: 0.2 g at -0.9 ms

Min: -25.4 g at 18.5 ms

Pendulum Force

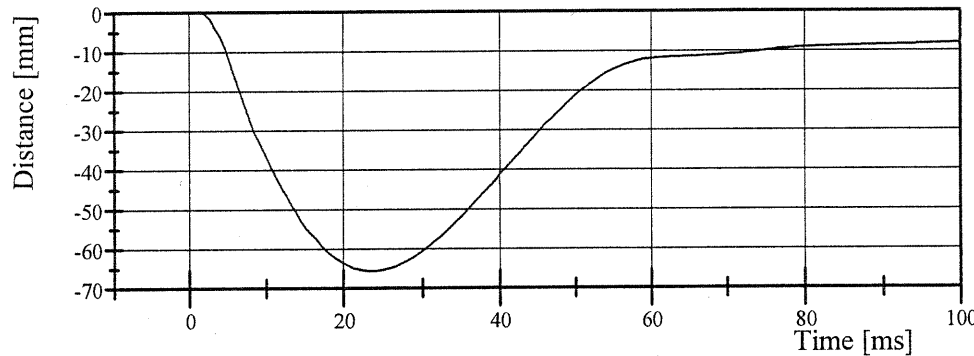


Filter Class: CFC_180

Max: 40.7 N at -0.9 ms

Min: -5,809.0 N at 18.5 ms

Thorax Displacement X-Axis

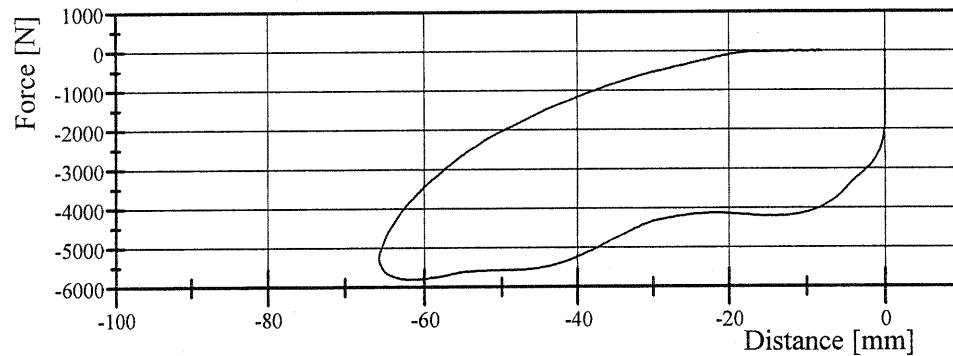


Filter Class: CFC_600

Max: 0.0 mm at -4.7 ms

Min: -65.7 mm at 23.8 ms

Pendulum Force vs. Thorax Displacement X-Axis



Filter Class: CFC_180

Max: 40.7 N at -0.0 mm

Min: -5,809.0 N at -61.6 mm



Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

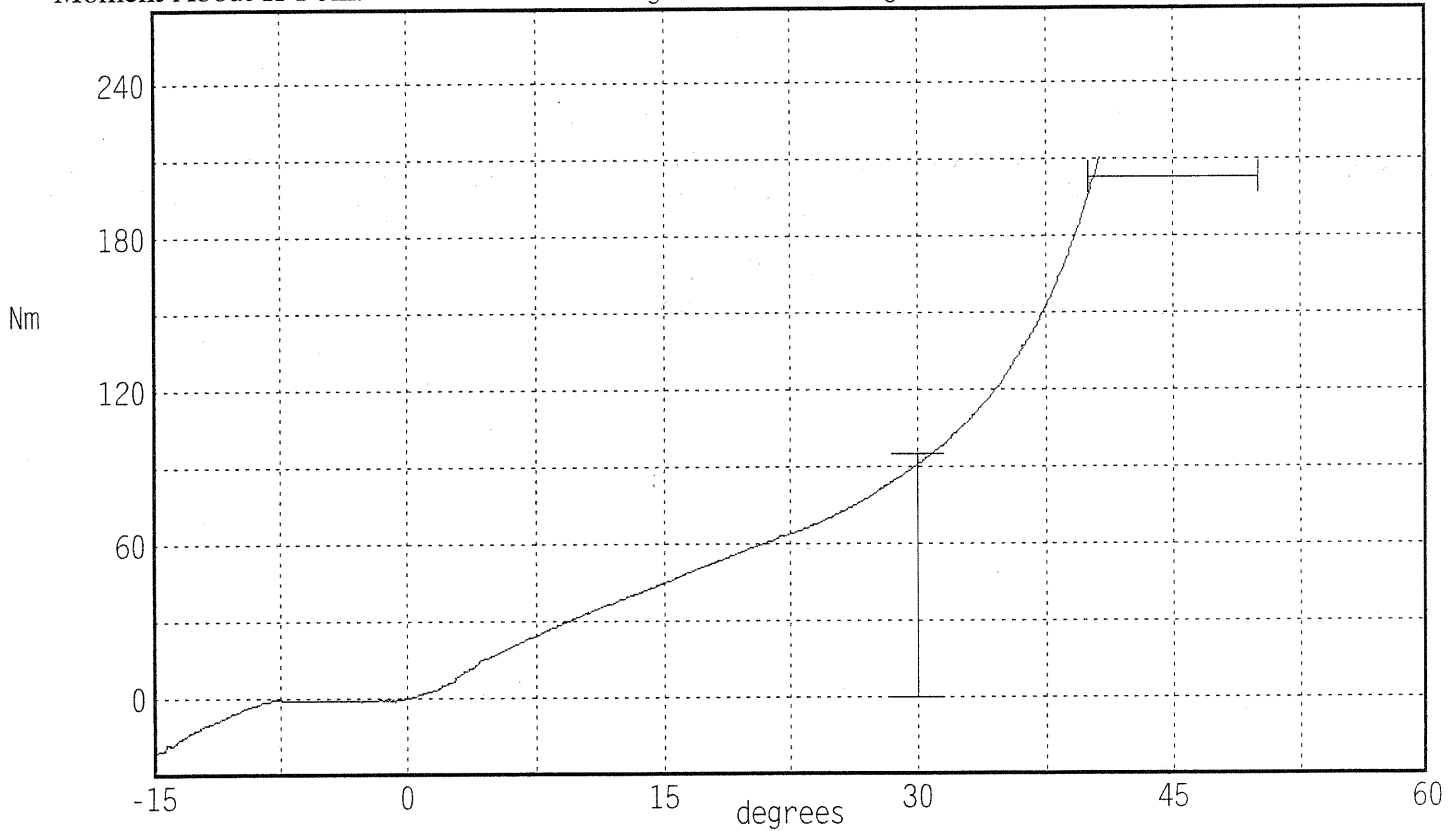
Serial Number: 855L
Test Number: 855C10
Comments:

Date: 02/11/2008
Time: 09:48

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.8 °C Pass
Humidity	10 - 70	26 % Pass
Moment at 30 deg	<= 94.9	91.0 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.3 deg Pass
Average Velocity	5.0 - 10.0	7.3 deg/sec Pass

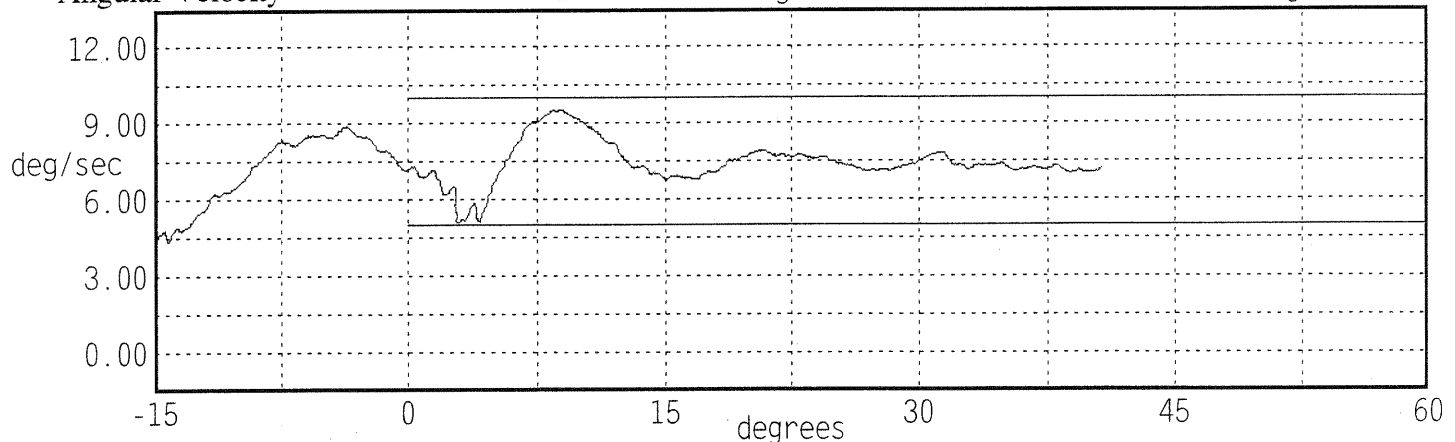
Peak Moment: 210.4 Nm at 40.7 deg
Peak Angle: 40.7 deg at 210.4 Nm

Moment About H-Point



Angular Velocity

Max: 9.5 deg/sec Min: 5.1 deg/sec



Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

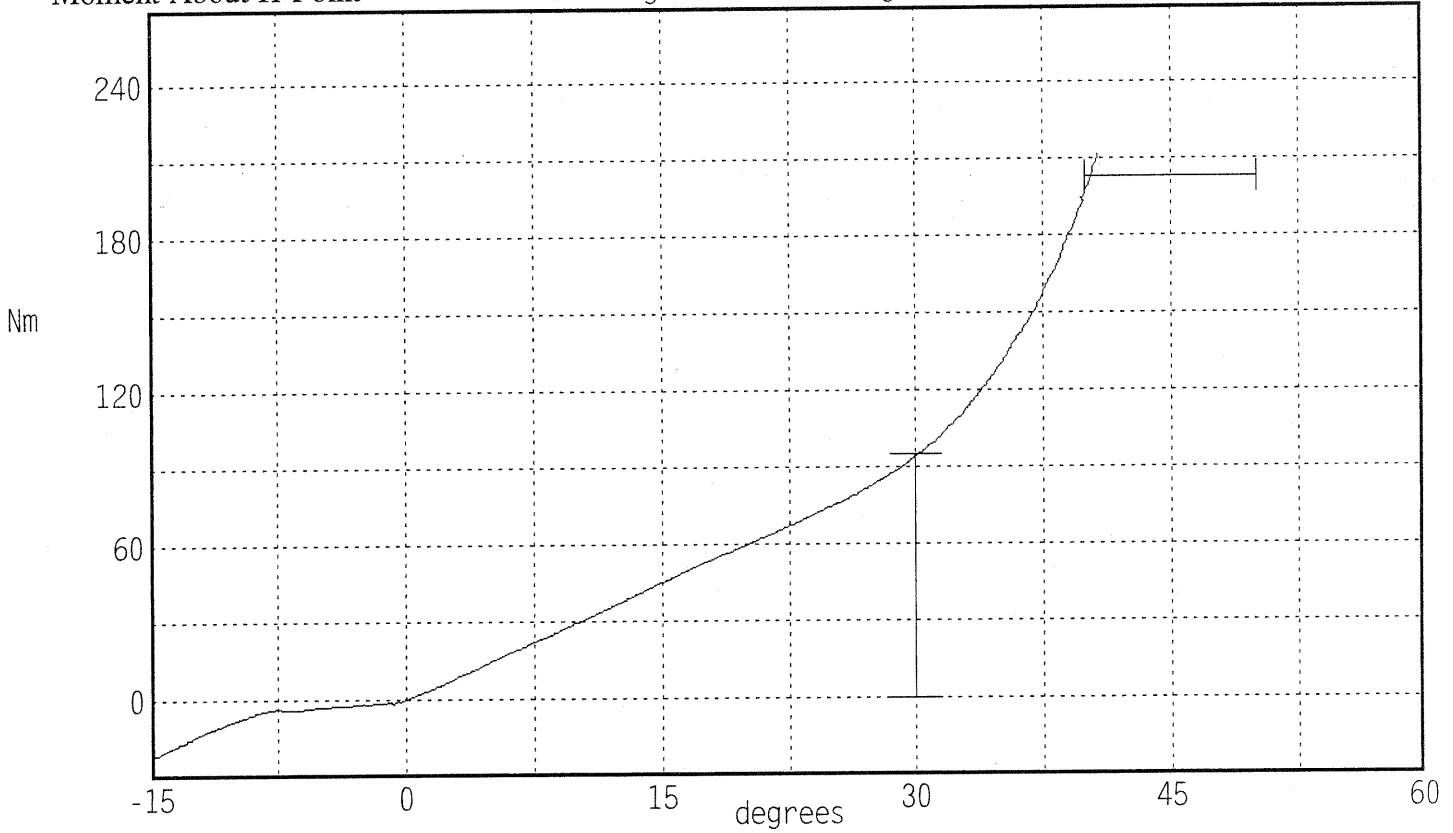
Serial Number: 855R
Test Number: 855C10
Comments:

Date: 02/08/2008
Time: 08:28

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.8 °C Pass
Humidity	10 - 70	26 % Pass
Moment at 30 deg	<= 94.9	94.4 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.3 deg Pass
Average Velocity	5.0 - 10.0	7.4 deg/sec Pass

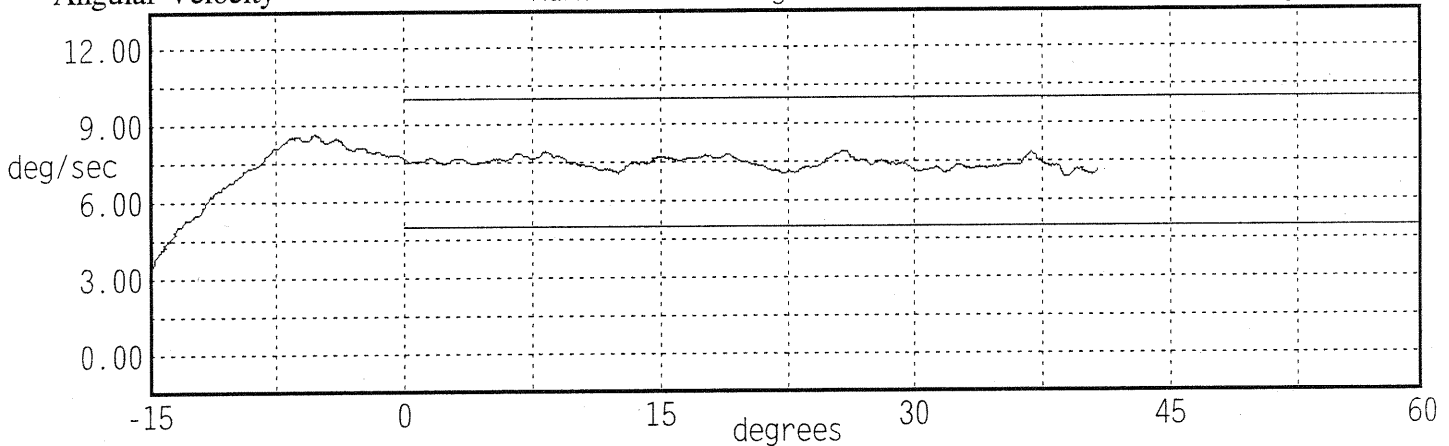
Peak Moment: 211.4 Nm at 40.7 deg
Peak Angle: 40.7 deg at 211.4 Nm

Moment About H-Point



Angular Velocity

Max: 7.9 deg/sec Min: 6.9 deg/sec



Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. 855 Certification No. 10-1

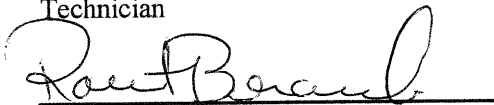
Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	26 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.098 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,685.43 N	Yes

Test meets specifications.

Comments:

Technician



Approved

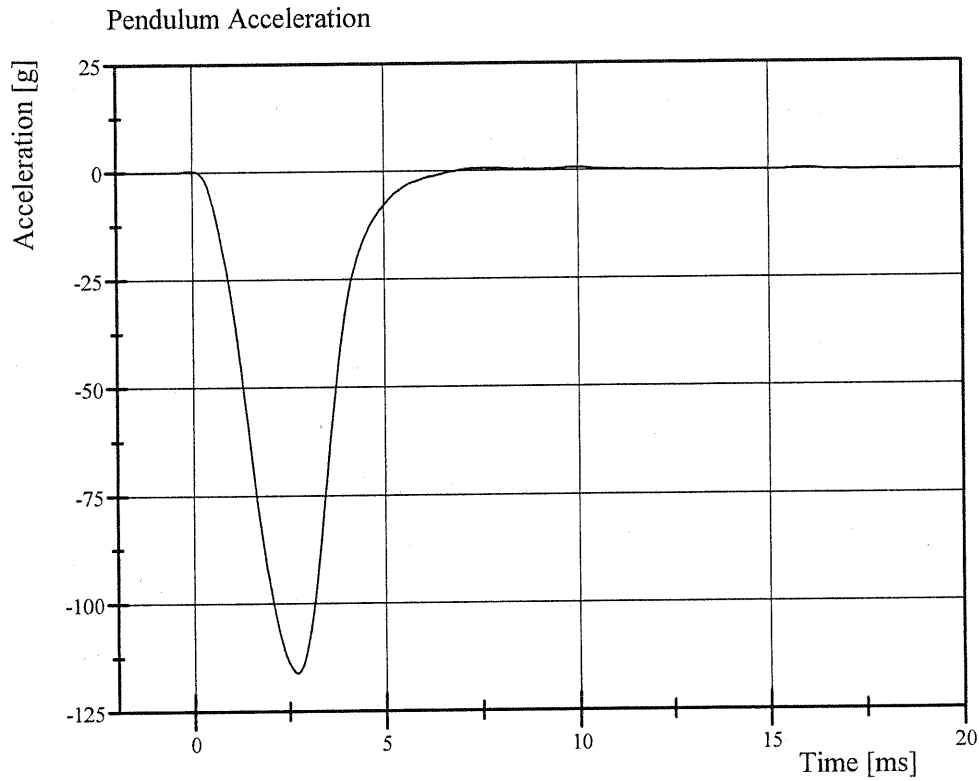


Transportation Research Center Inc.

Left Knee Femur Response Test

HIII 50th Serial No. 855 Certification No. 10-1

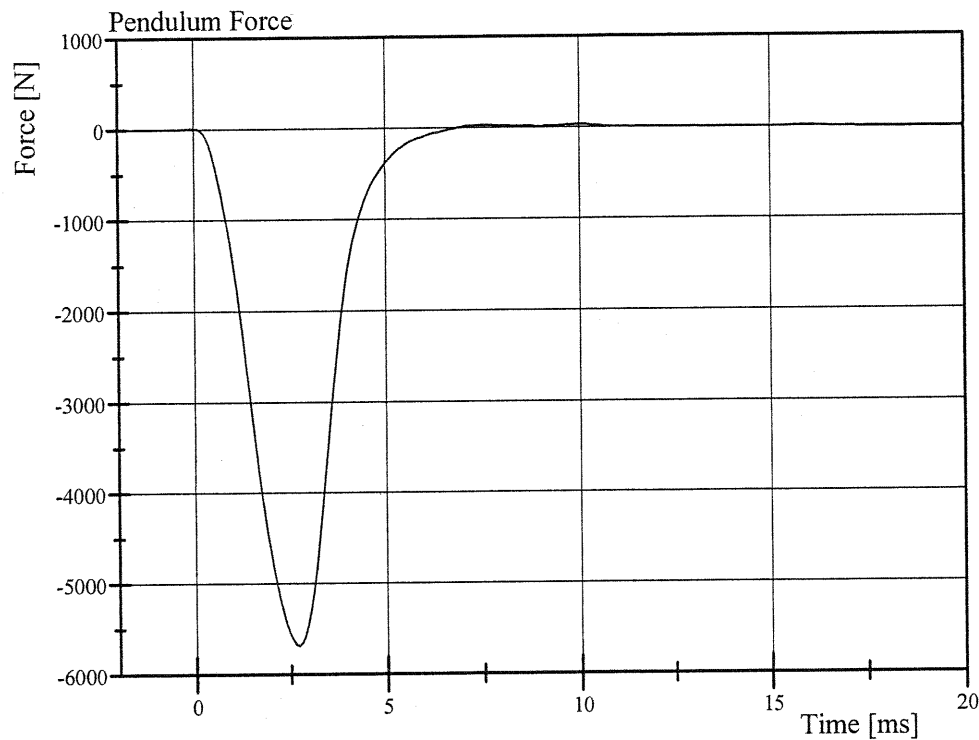
Test Date: 2/8/2008



Filter Class: CFC_600

Max: 0.7 g at 10.1 ms

Min: -116.2 g at 2.7 ms



Filter Class: CFC_600

Max: 32.8 N at 10.1 ms

Min: -5,685.4 N at 2.7 ms

Transportation Research Center Inc.

Right Knee Femur Response Test

HIII 50th Serial No. 855 Certification No. 10-1

Test Date: 2/8/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	26 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.099 m/s	Yes
Peak Femur Force	(-4,715.2) - (-5,782.6) N	-5,456.32 N	Yes

Test meets specifications.

Comments:

Technician

Rout Boran

Approved

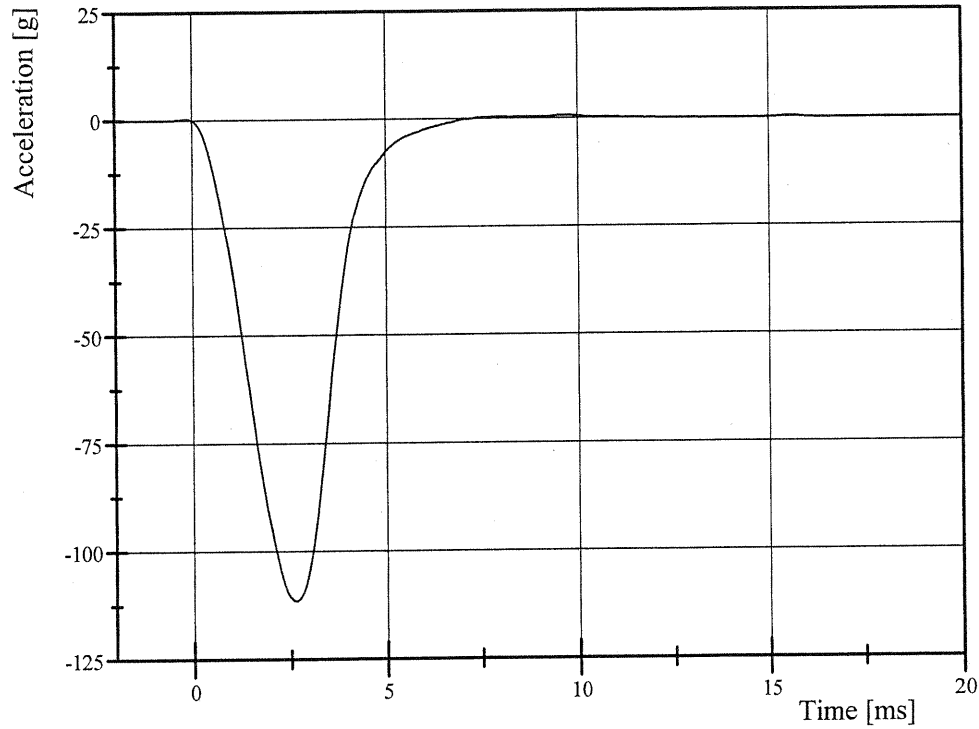
Ron Stover



Transportation Research Center Inc.

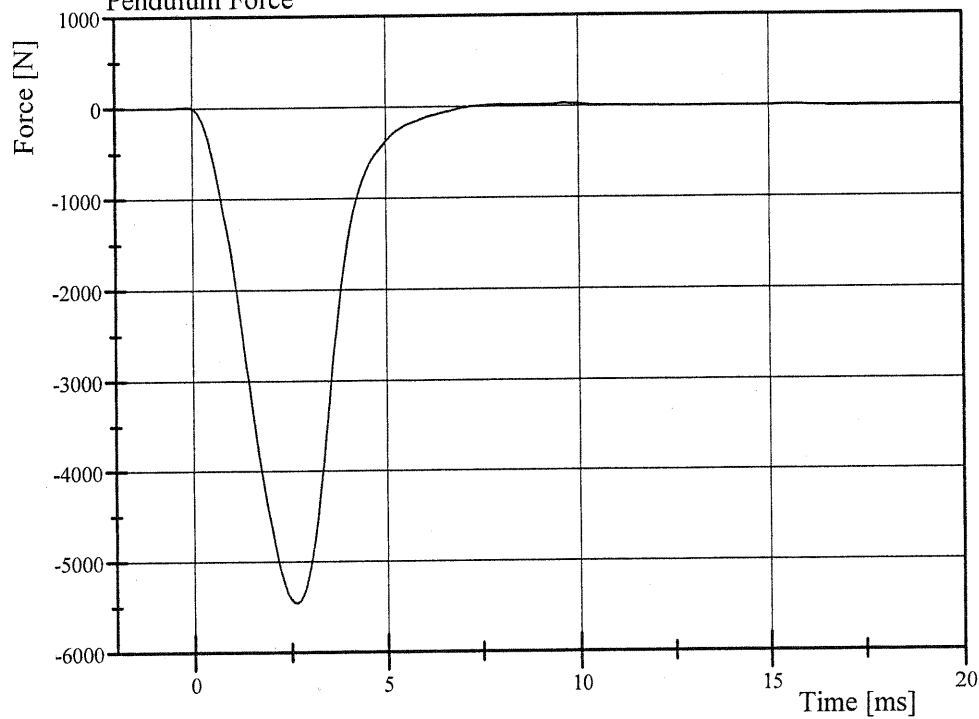
Right Knee Femur Response Test
HIII 50th Serial No. 855 Certification No. 10-1
Test Date: 2/8/2008

Pendulum Acceleration



Filter Class: CFC_600
Max: 0.6 g at 9.7 ms
Min: -111.5 g at 2.6 ms

Pendulum Force



Filter Class: CFC_600
Max: 31.4 N at 9.7 ms
Min: -5,456.3 N at 2.6 ms



Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Passenger Dummy S/N: 324

Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 324 Calibration No. 11

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	776	Yes
B	Shoulder Pivot Height	431.8 - 457.2	446	Yes
C	Hip Pivot Height	81.3 - 86.3	85	Yes
D	Hip Pivot from Backline	144.8 - 149.8	146	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	79	Yes
F	Thigh Clearance	119.4 - 134.6	134	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	245	Yes
H	Head Back to Backline	43.2 - 48.2	44	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	287	Yes
J	Elbow Rest Height	182.8 - 203.2	184	Yes
K	Buttock Knee Length	520.7 - 546.1	535	Yes
L	Popliteal Height	355.6 - 376.0	370	Yes
M	Knee Pivot Height	393.7 - 419.1	396	Yes
N	Buttock Popliteal Height	414.0 - 439.4	438	Yes
O	Chest Depth without Jacket	175.3 - 190.5	178	Yes
P	Foot Length	218.5 - 233.7	221	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	480	Yes
S	Head Breadth	137.1 - 147.3	142	Yes
T	Head Depth	177.8 - 188.0	181	Yes
U	Hip Breadth	299.7 - 314.9	300	Yes
V	Shoulder Breadth	350.5 - 365.7	362	Yes
W	Foot Breadth	78.8 - 94.0	88	Yes
X	Head Circumference	528.3 - 548.7	532	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	878	Yes
Z	Waist Circumference	759.5 - 789.9	780	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	357	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	161	Yes

Technician

Paul Berault

Approved

Ken Stovick



Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 324 Certification No. 11-1

Test Date: 2/15/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.9 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Peak Head Resultant Acceleration	250 - 300 g	256.7 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	11.9 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Rout Barab

Approved

Ron Stoner

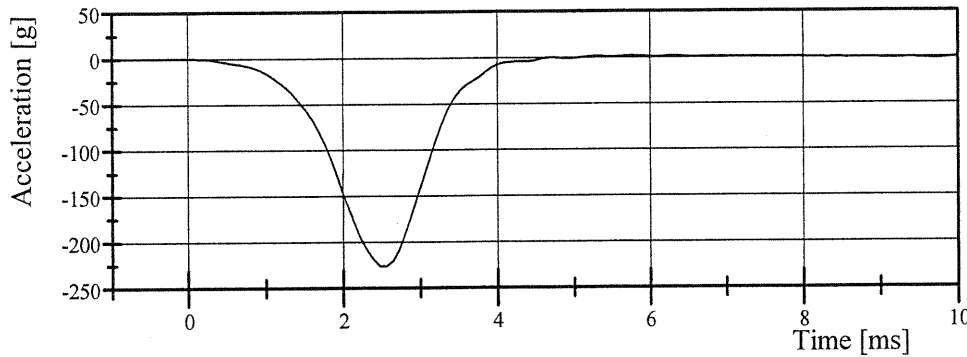
Transportation Research Center Inc.

Front Head Drop

HIII 5th Serial No. 324 Certification No. 11-1

Test Date: 2/15/2008

Head X-Axis Acceleration

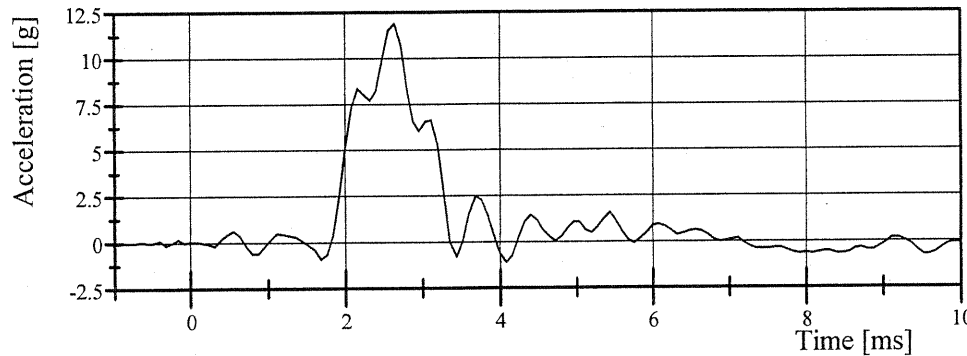


Filter Class: CFC_1000

Max: 1.7 g at 5.8 ms

Min: -226.3 g at 2.6 ms

Head Y-Axis Acceleration

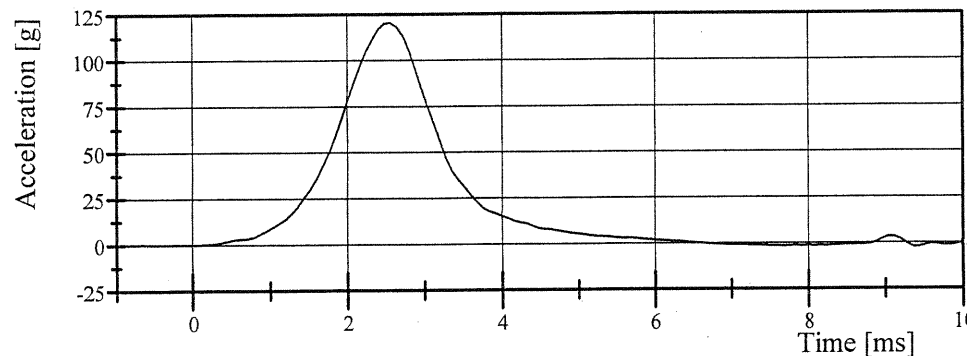


Filter Class: CFC_1000

Max: 11.9 g at 2.6 ms

Min: -1.1 g at 4.1 ms

Head Z-Axis Acceleration

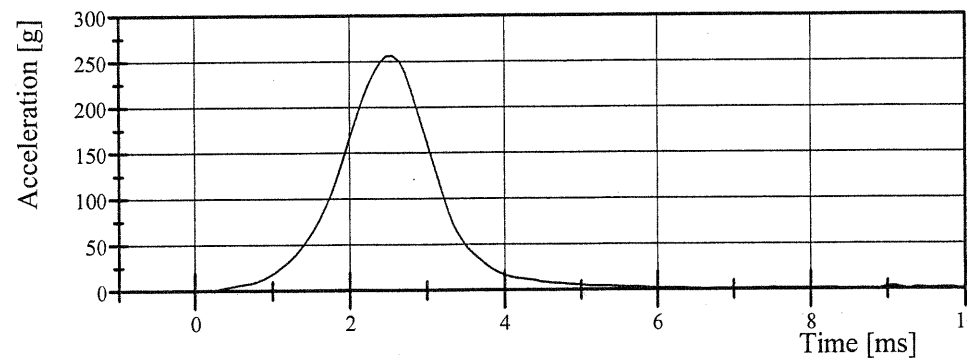


Filter Class: CFC_1000

Max: 120.5 g at 2.6 ms

Min: -2.2 g at 9.4 ms

Head Resultant Acceleration



Filter Class: CFC_1000

Max: 256.7 g at 2.6 ms

Min: 0.0 g at -0.7 ms

Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 324 Certification No. 11-1

Test Date: 2/15/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	22.0 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.016 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	(-2.1) - (-2.5) m/s	-2.50 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	(-4.0) - (-5.0) m/s	-4.77 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	(-5.8) - (-7.0) m/s	-6.65 m/s	Yes
Total Head D-Plane Rotation	(-77) - (-91) °	-81.9 °	Yes
Total Neck Occipital Condyles Moment Between -77° and -91° Rotation	69 - 83 N·m	72.7 N·m	Yes
Total Neck Occipital Condyles Moment Decay to 10 N·m	80 - 100 ms	86.6 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ron Stoner

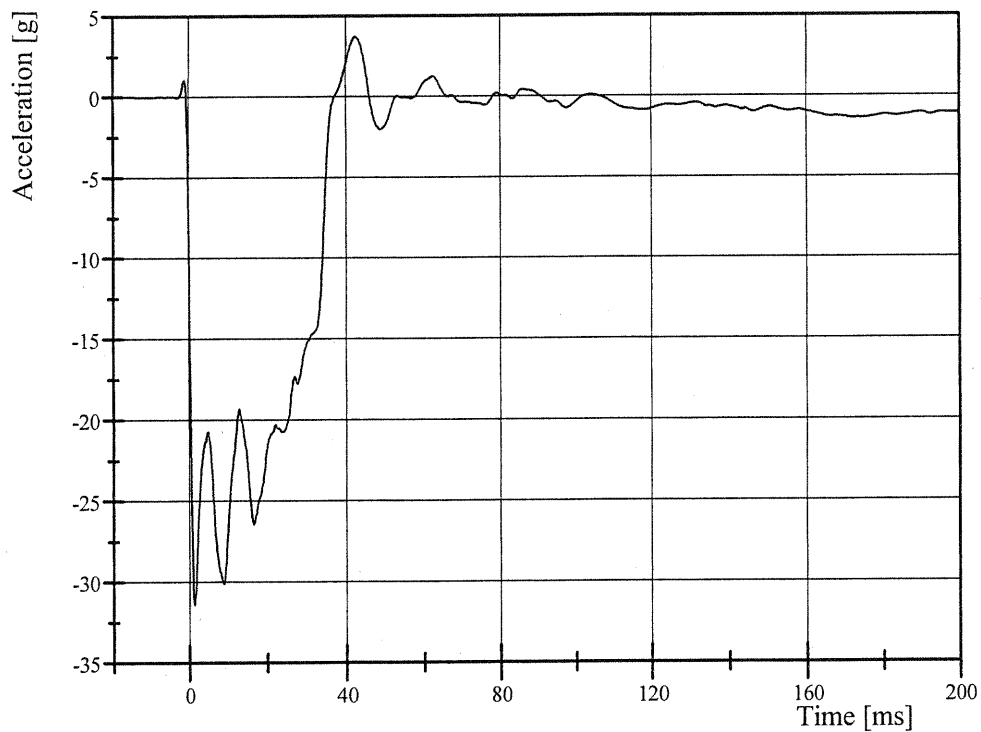
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 324 Certification No. 11-1

Test Date: 2/15/2008

Pendulum Acceleration

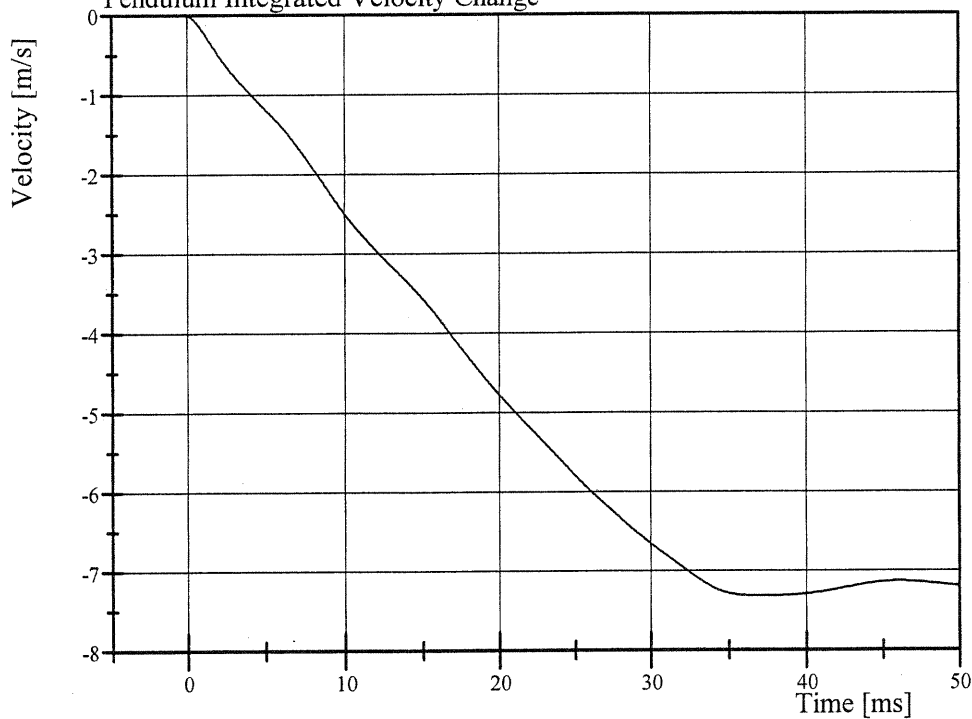


Filter Class: CFC_180

Max: 3.7 g at 42.5 ms

Min: -31.4 g at 1.4 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 0.0 m/s at 0.0 ms

Min: -7.3 m/s at 37.1 ms



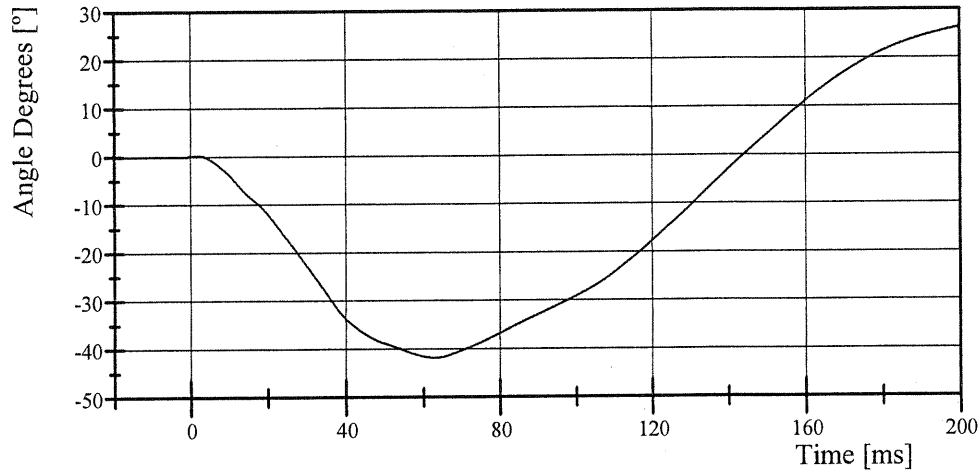
Transportation Research Center Inc.

Neck Flexion

HIII 5th Serial No. 324 Certification No. 11-1

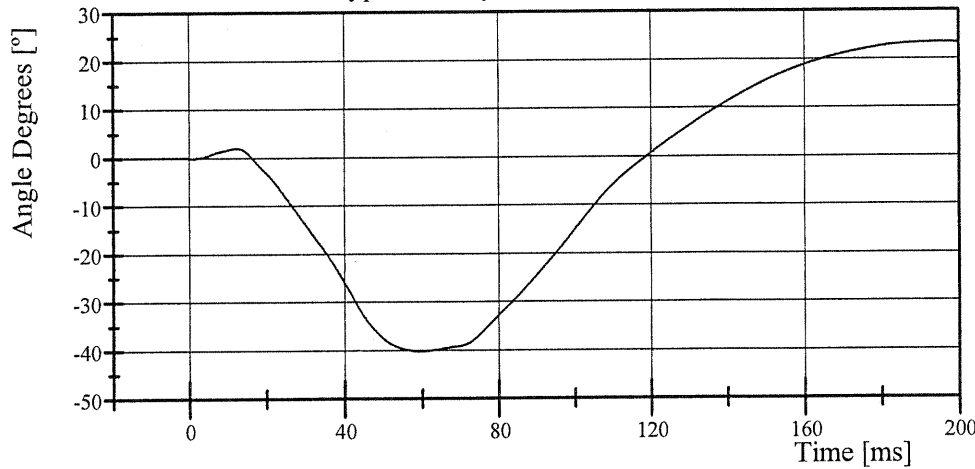
Test Date: 2/15/2008

Pot Rotation at the Base of Neck



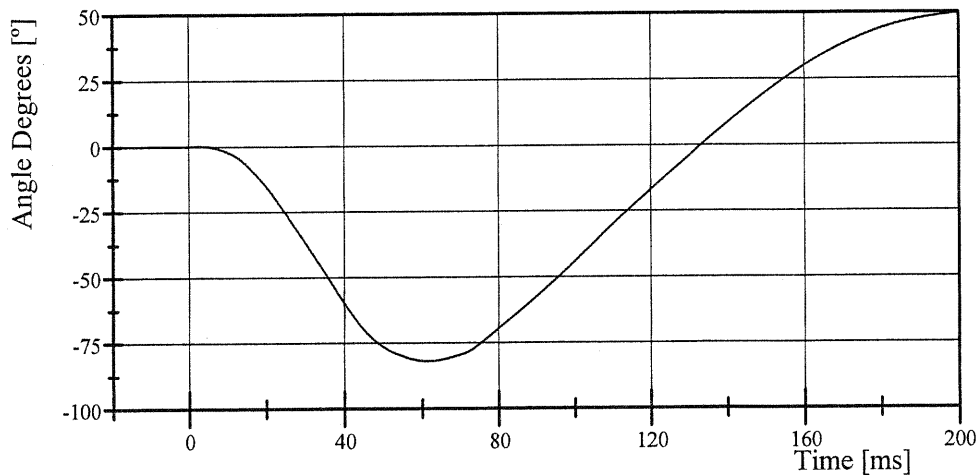
Filter Class: CFC_60
Max: 26.3 ° at 200.0 ms
Min: -41.8 ° at 63.1 ms

Head Rotation at Occipital Condyles



Filter Class: CFC_60
Max: 23.4 ° at 194.8 ms
Min: -40.2 ° at 59.7 ms

Total Head D-Plane Rotation



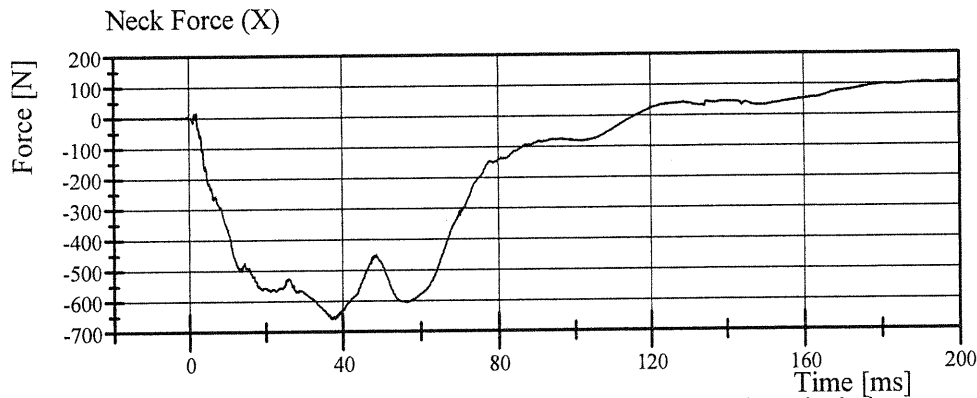
Filter Class: CFC_60
Max: 49.6 ° at 200.0 ms
Min: -81.9 ° at 61.7 ms

Transportation Research Center Inc.

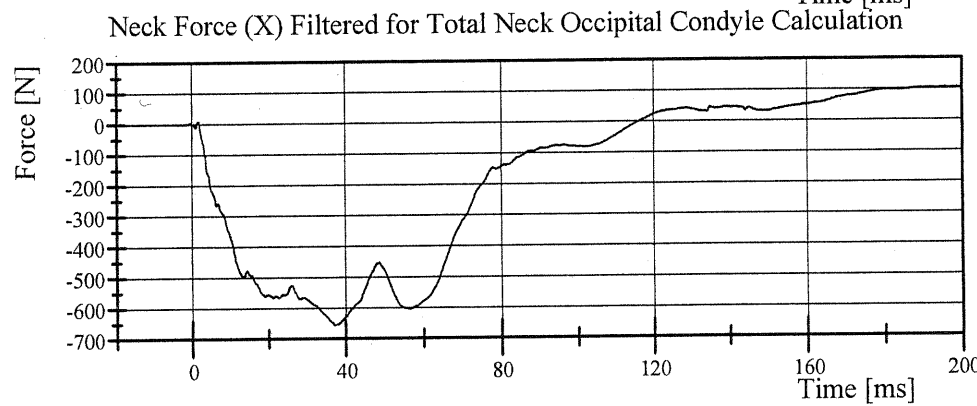
Neck Flexion

HIII 5th Serial No. 324 Certification No. 11-1

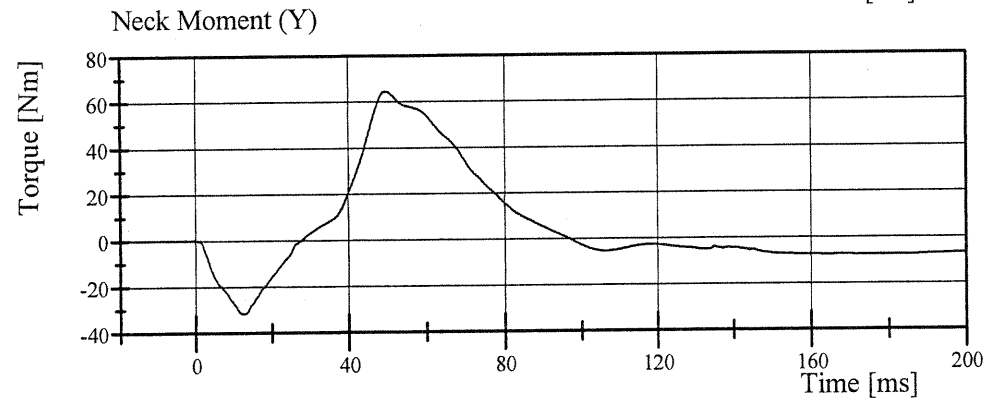
Test Date: 2/15/2008



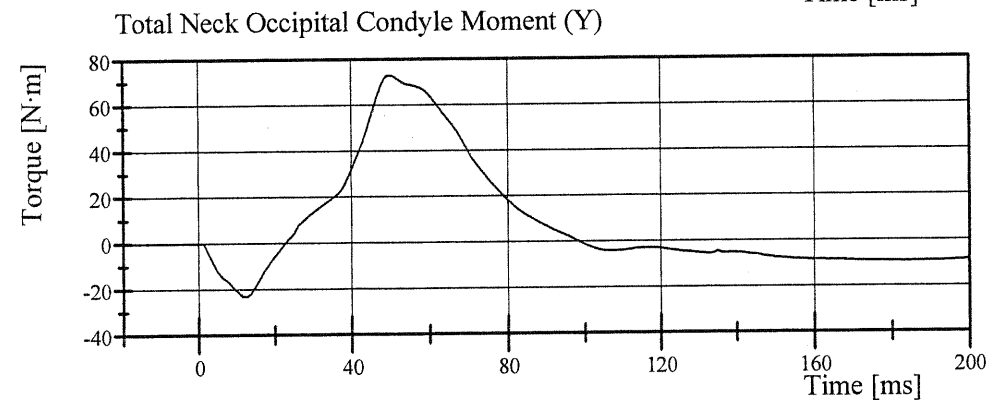
Filter Class: CFC_1000
Max: 106.1 N at 196.1 ms
Min: -657.1 N at 37.4 ms



Filter Class: CFC_600
Max: 105.6 N at 196.0 ms
Min: -656.0 N at 37.1 ms



Filter Class: CFC_600
Max: 64.6 Nm at 49.7 ms
Min: -31.7 Nm at 12.7 ms



Filter Class: CFC_600
Max: 73.0 N·m at 49.8 ms
Min: -23.1 N·m at 12.2 ms

Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 324 Certification No. 11-5

Test Date: 2/15/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	22.0 °C	Yes
Relative Humidity	10 - 70 %	34 %	Yes
Pendulum Velocity	(-5.95) - (-6.19) m/s	-6.051 m/s	Yes
Pendulum Integrated Velocity Change at 10ms	1.5 - 1.9 m/s	1.69 m/s	Yes
Pendulum Integrated Velocity Change at 20ms	3.1 - 3.9 m/s	3.29 m/s	Yes
Pendulum Integrated Velocity Change at 30ms	4.6 - 5.6 m/s	4.79 m/s	Yes
Total Head D-Plane Rotation	99 - 114 °	108.1 °	Yes
Total Neck Occipital Condyles Moment Between 99° and 114° Rotation	(-53) - (-65) N·m	-53.1 N·m	Yes
Total Neck Occipital Condyles Moment Decay to -10 N·m	94 - 114 ms	105.4 ms	Yes

Test meets specifications.

Comments:

Technician

Charles W. Bell

Approved

Ken Stoner

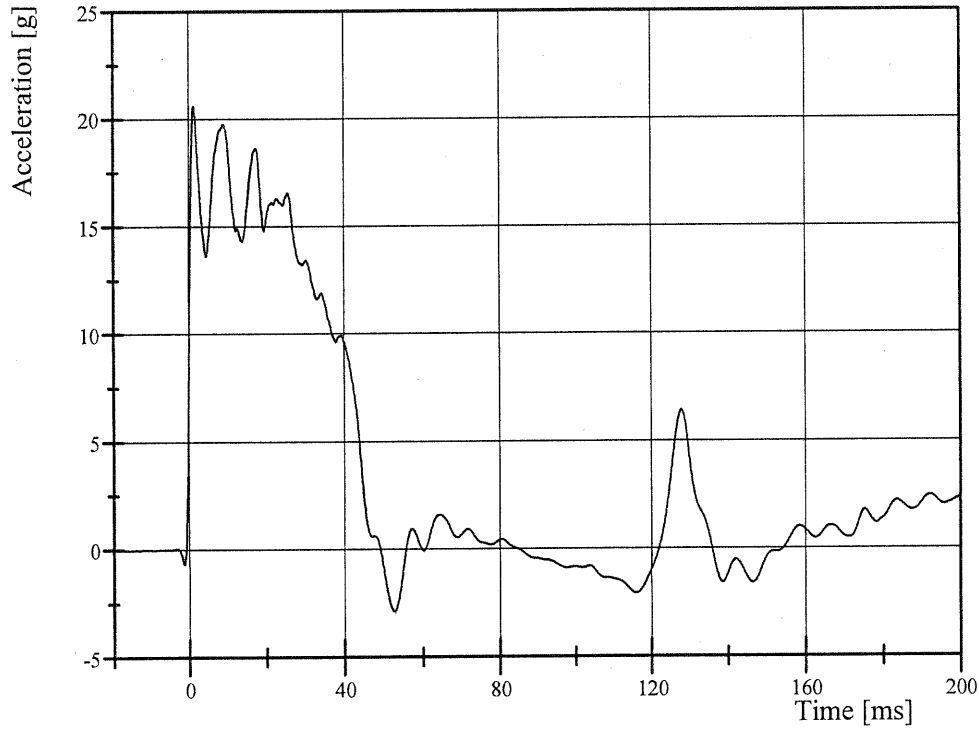
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 324 Certification No. 11-5

Test Date: 2/15/2008

Pendulum Acceleration

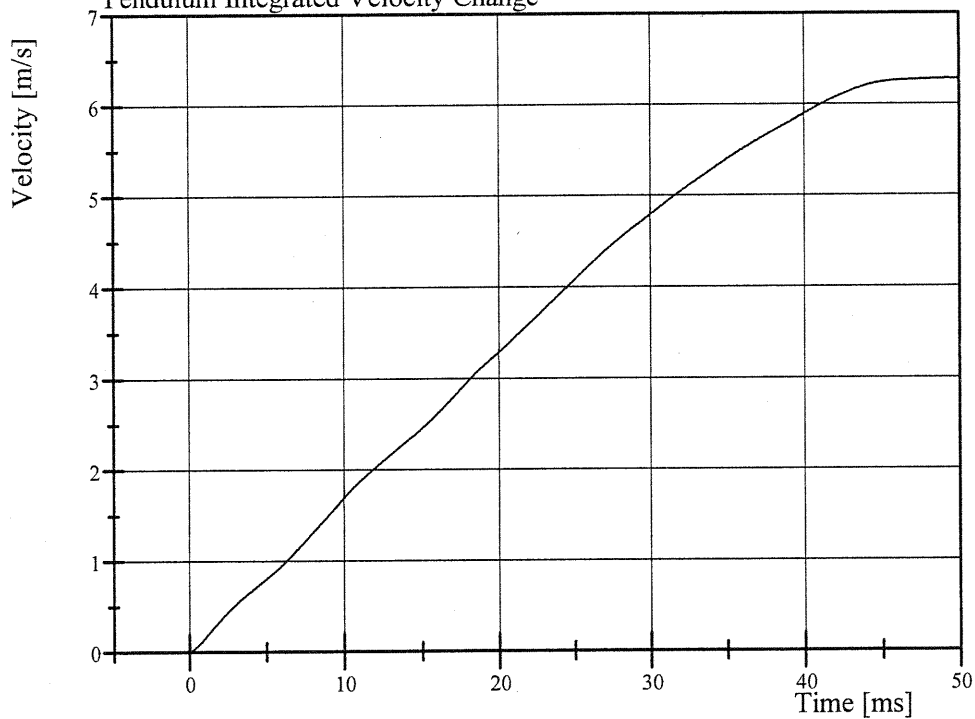


Filter Class: CFC_180

Max: 20.6 g at 1.4 ms

Min: -2.9 g at 52.7 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180

Max: 6.3 m/s at 49.3 ms

Min: 0.0 m/s at 0.0 ms

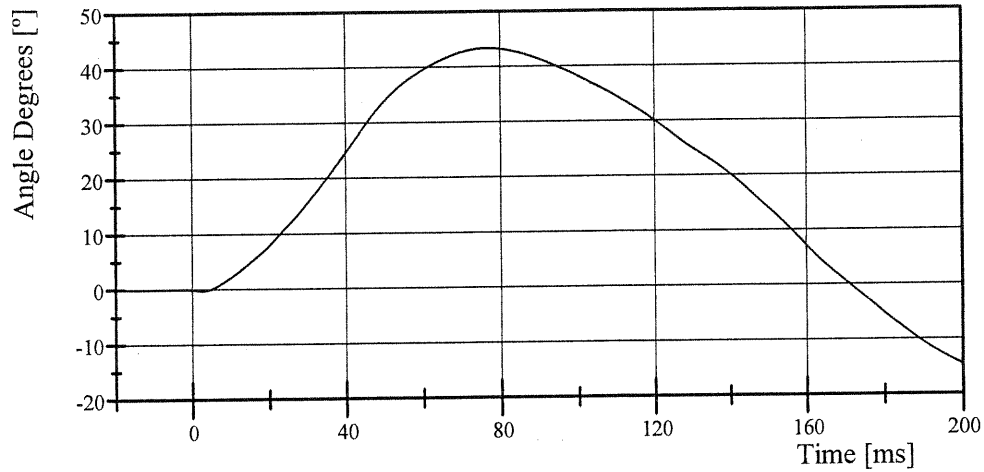
Transportation Research Center Inc.

Neck Extension

HIII 5th Serial No. 324 Certification No. 11-5

Test Date: 2/15/2008

Pot Rotation at the Base of Neck

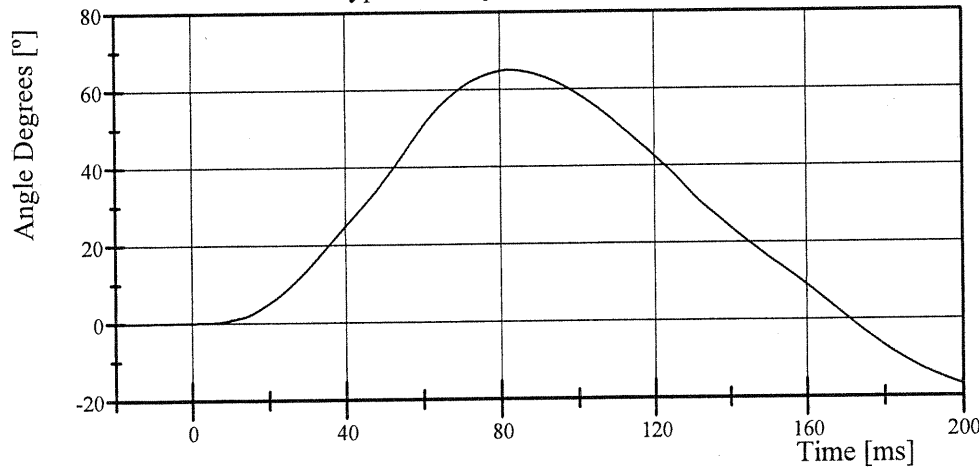


Filter Class: CFC_60

Max: 43.3 ° at 77.0 ms

Min: -14.5 ° at 200.0 ms

Head Rotation at Occipital Condyles

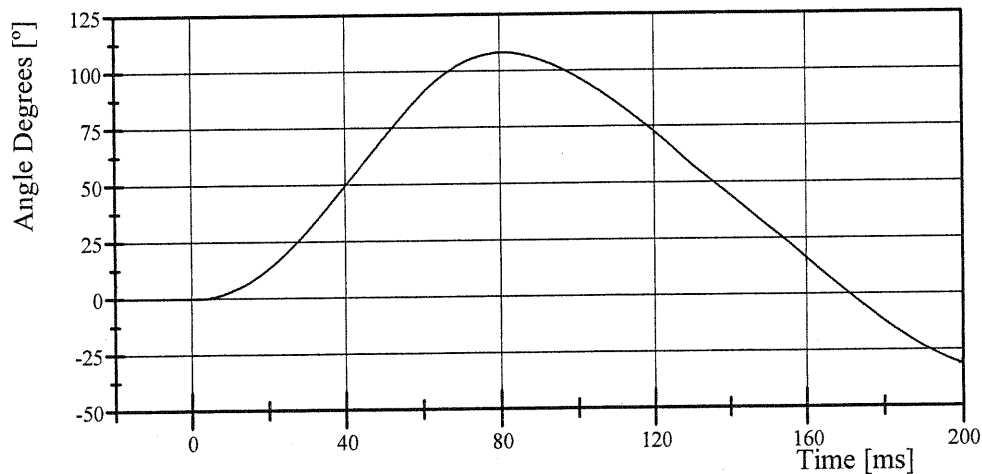


Filter Class: CFC_60

Max: 65.1 ° at 82.6 ms

Min: -16.9 ° at 200.0 ms

Total Head D-Plane Rotation



Filter Class: CFC_60

Max: 108.1 ° at 81.1 ms

Min: -31.5 ° at 200.0 ms

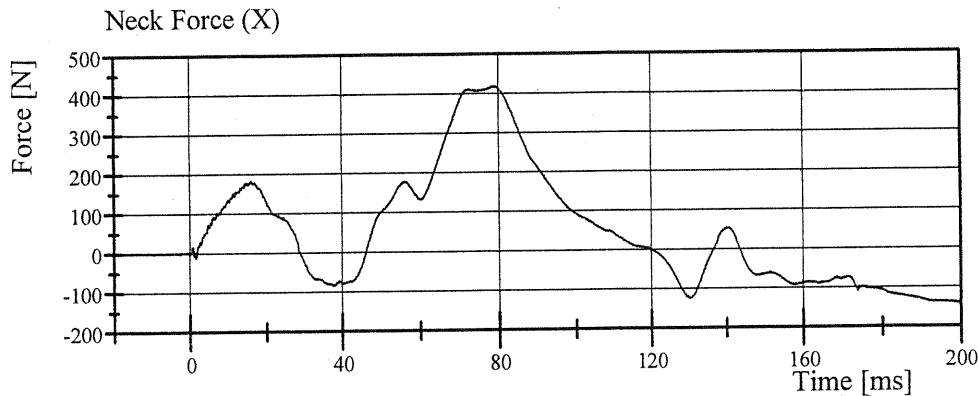


Transportation Research Center Inc.

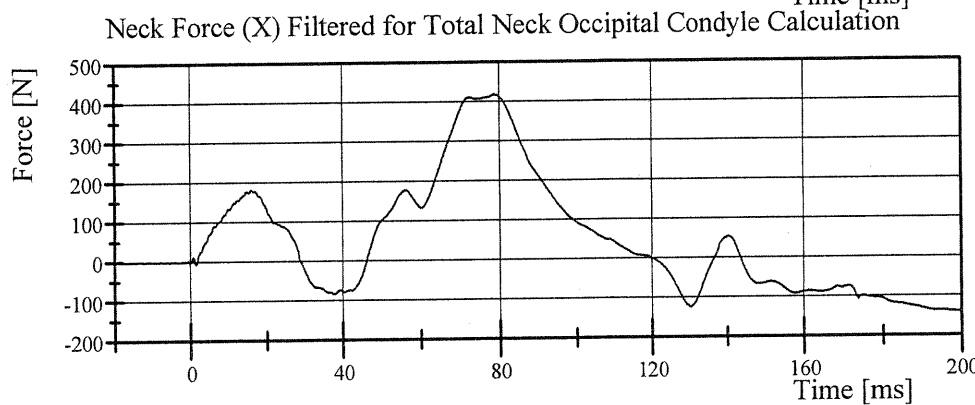
Neck Extension

HIII 5th Serial No. 324 Certification No. 11-5

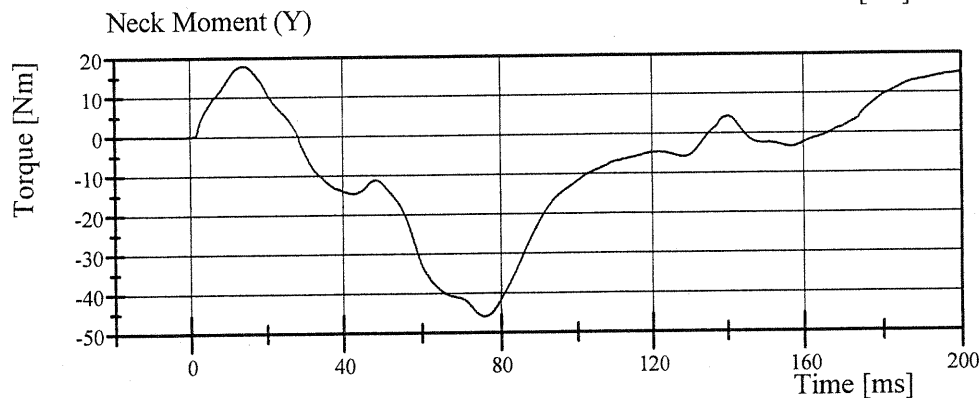
Test Date: 2/15/2008



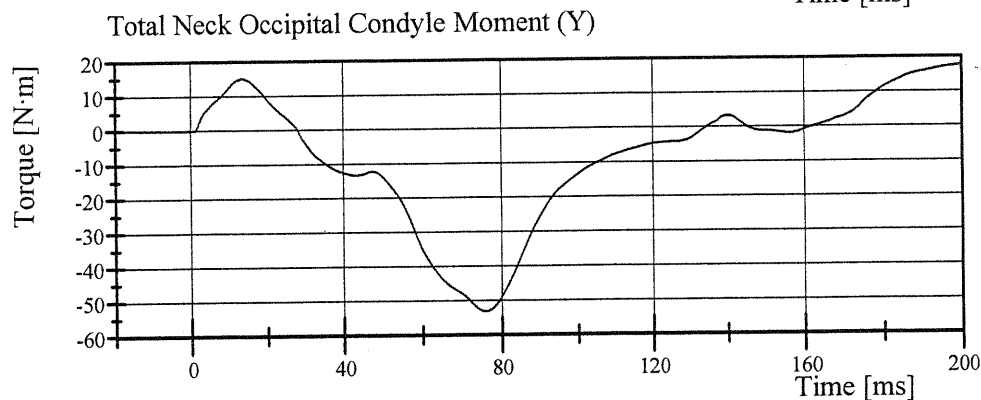
Filter Class: CFC_1000
Max: 418.9 N at 78.8 ms
Min: -139.9 N at 199.1 ms



Filter Class: CFC_600
Max: 418.2 N at 78.8 ms
Min: -139.9 N at 199.4 ms



Filter Class: CFC_600
Max: 18.0 Nm at 13.9 ms
Min: -45.8 Nm at 75.8 ms



Filter Class: CFC_600
Max: 17.7 N·m at 200.0 ms
Min: -53.1 N·m at 76.0 ms

Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 324 Certification No. 11-3

Test Date: 2/18/2008

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.8 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.599 m/s	Yes
Probe Force Peak Between 50.0 mm and 58.0 mm Chest Deflection	(-3,900) - (-4,400) N	-4,118.1 N	Yes
Probe Force Peak Between 18.0 mm and 50.0 mm Chest Deflection	\geq (-4,600) N	-3,858.1 N	Yes
Maximum Chest Compression	(-50) - (-58) mm	-57.9 mm	Yes
Internal Hysteresis	69 - 85 %	70.2 %	Yes

Test meets specifications.

Comments:

Technician

Rant Bera

Approved

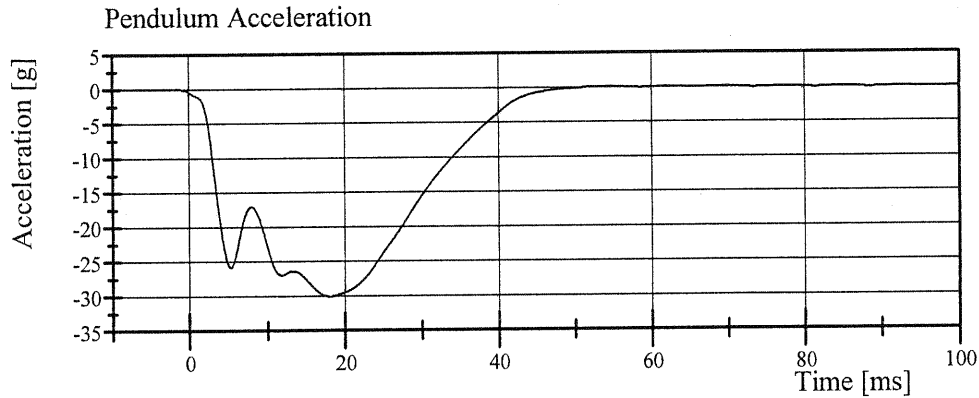
Ron Stoner

Transportation Research Center Inc.

Front Thorax

HIII 5th Serial No. 324 Certification No. 11-3

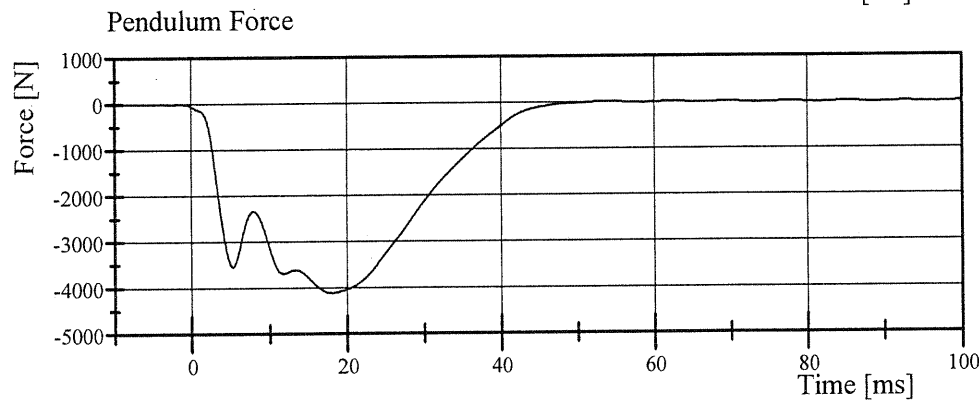
Test Date: 2/18/2008



Filter Class: CFC_180

Max: 0.1 g at 69.8 ms

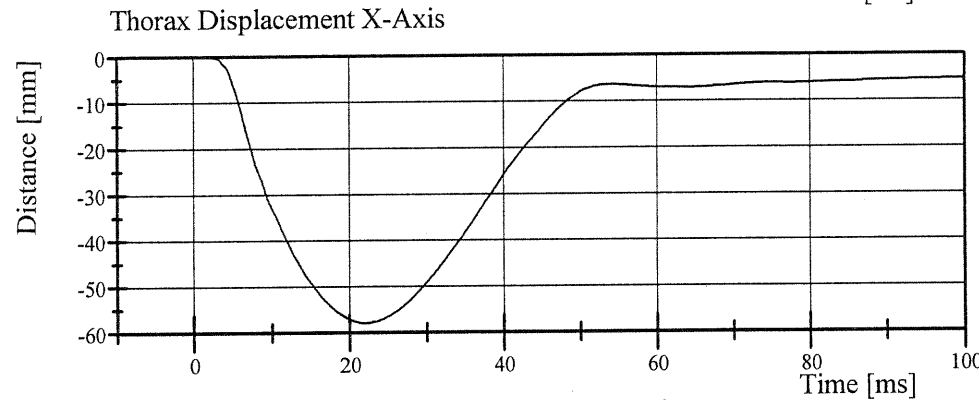
Min: -30.1 g at 18.1 ms



Filter Class: CFC_180

Max: 13.0 N at 69.8 ms

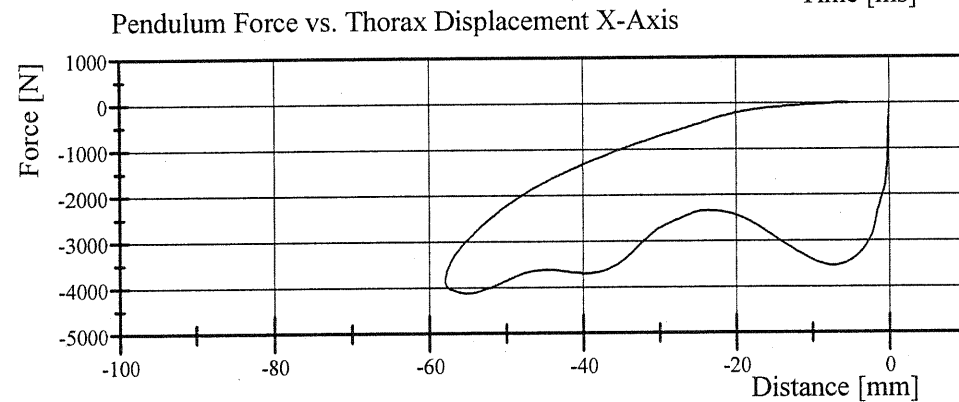
Min: -4,118.1 N at 18.1 ms



Filter Class: CFC_600

Max: 0.0 mm at -5.4 ms

Min: -57.9 mm at 22.0 ms



Filter Class: CFC_180

Max: 13.0 N at -6.6 mm

Min: -4,118.1 N at -55.1 mm

TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 15-Feb-08

TRC, INC. TEST NO: TOFL-01 572 O SN 324 TORSO FLEX CAL 11

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	22.0 ° C P
RELATIVE HUMIDITY	10 – 70 %	36 % P
INITIAL ANGLE OF UNSUPPORTRED DUMMY	<= 20° REFERENCED TO VERTICAL	17.8 ° P
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	362.1 N P
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	4.6 ° P
RATE	0.5° - 1.5 °/sec	0.98°/sec P

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN Charles W. Ball

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 324 Certification No. 11-1
Test Date: 2/14/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.117 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,848.6 N	Yes

Test meets specifications.

Comments:

Technician

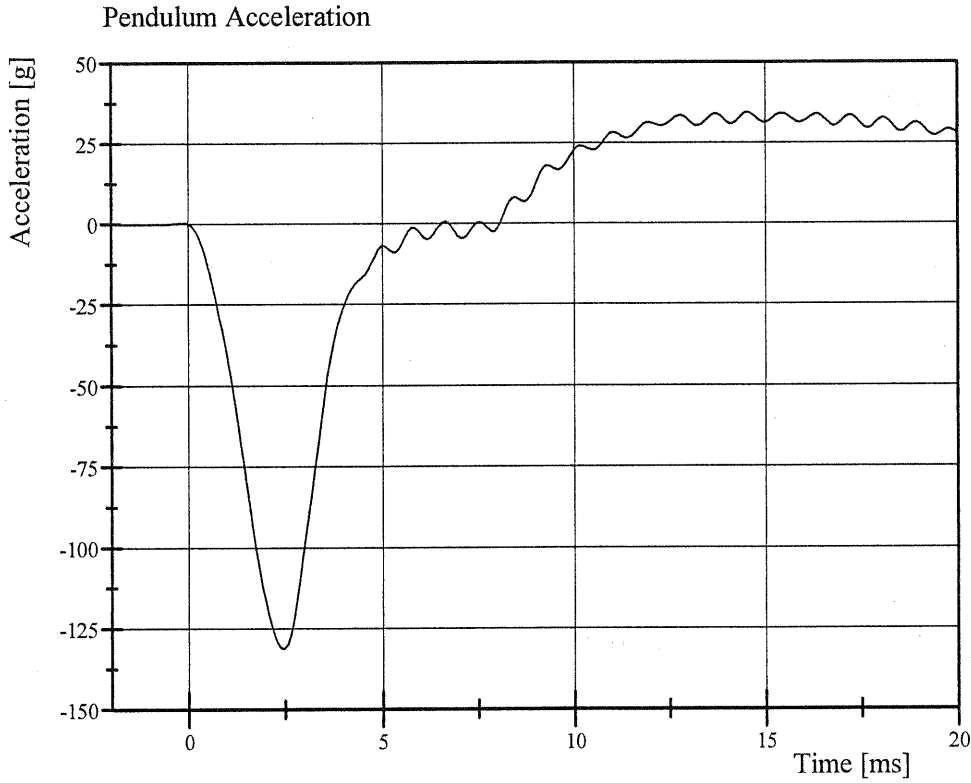
Charles W. Bell

Approved

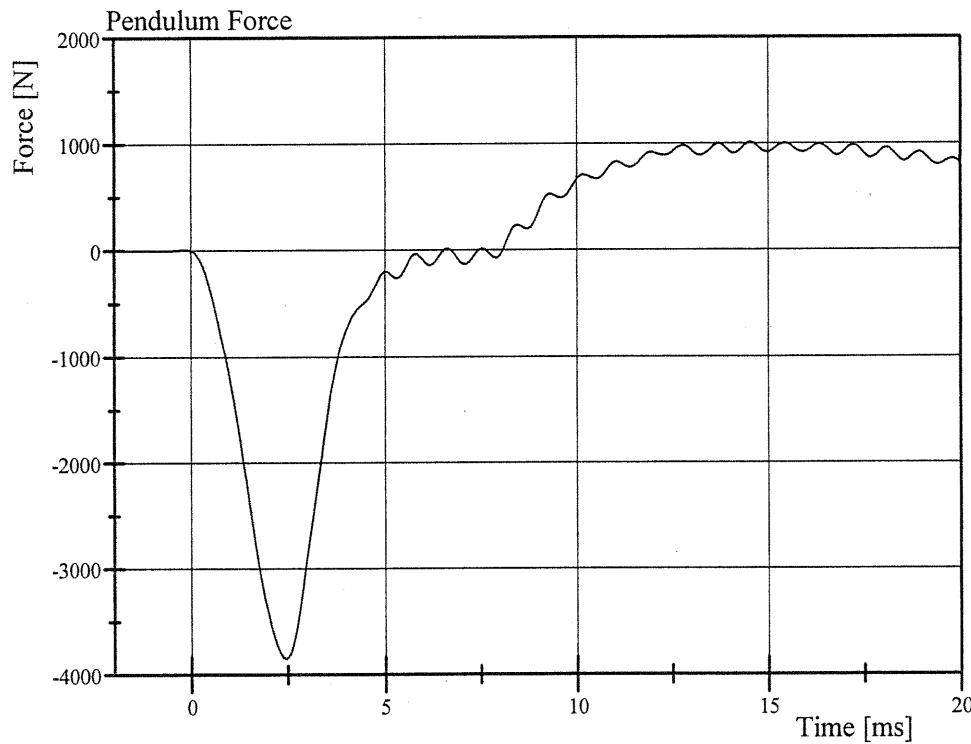
Ron Stokes

Transportation Research Center Inc.

Left Knee Femur Response Test
HIII 5th Serial No. 324 Certification No. 11-1
Test Date: 2/14/2008



Filter Class: CFC_600
Max: 34.4 g at 14.6 ms
Min: -131.3 g at 2.5 ms



Filter Class: CFC_600
Max: 1,009.5 N at 14.6 ms
Min: -3,848.6 N at 2.5 ms



Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 324 Certification No. 11-1
Test Date: 2/14/2008

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Probe Velocity	2.08 - 2.13 m/s	2.121 m/s	Yes
Peak Femur Force	(-3,450) - (-4,060) N	-3,666.3 N	Yes

Test meets specifications.

Comments:

Technician

Rout Baral

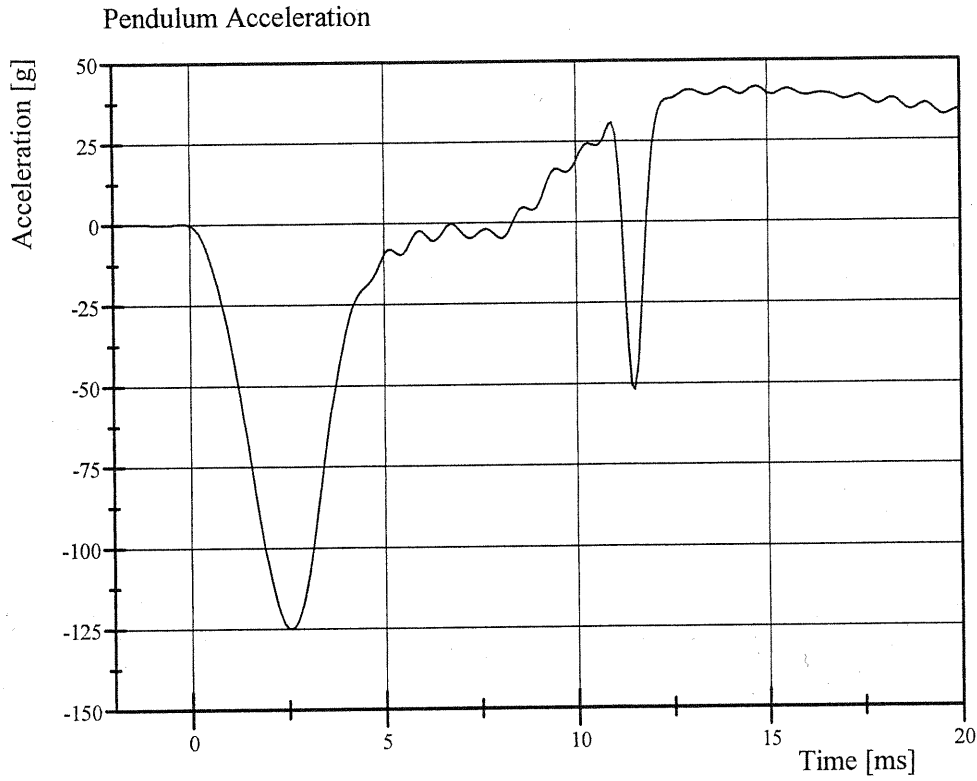
Approved

Ron Storus

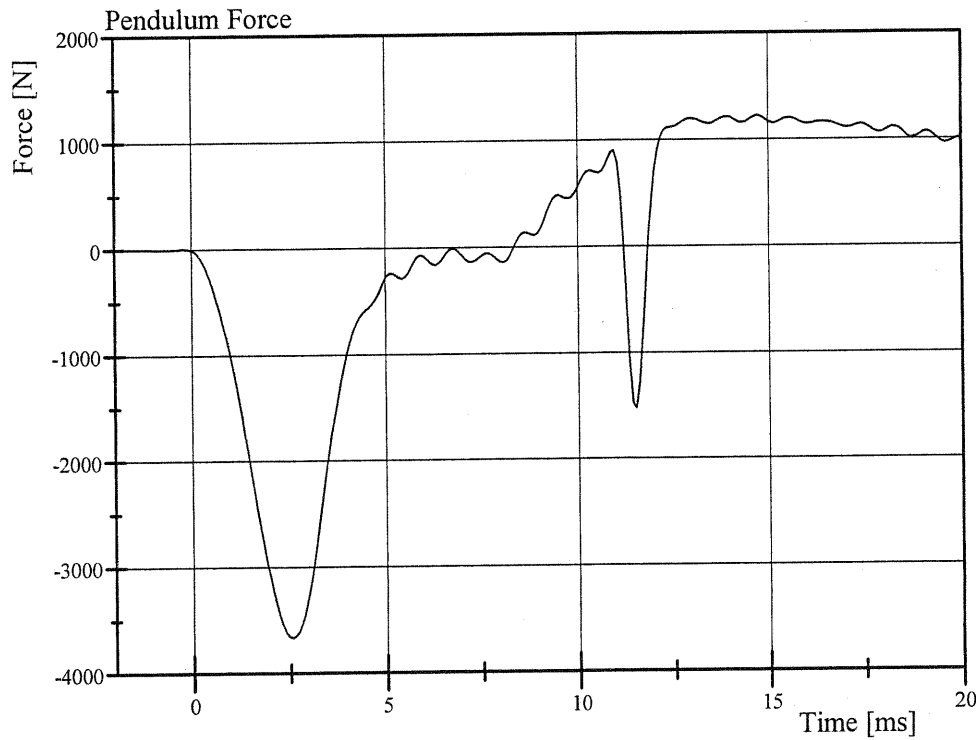


Transportation Research Center Inc.

Right Knee Femur Response Test
HIII 5th Serial No. 324 Certification No. 11-1
Test Date: 2/14/2008



Filter Class: CFC_600
Max: 41.7 g at 14.7 ms
Min: -125.0 g at 2.6 ms



Filter Class: CFC_600
Max: 1,222.0 N at 14.7 ms
Min: -3,666.3 N at 2.6 ms



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 080403

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
1	Trig D1	20ZERO000000VO0A	EVENT		1 Logic	Bipolar	
2	P15345	21HEADCG00H3ACXA	Head Accel X	1000 g		-Bipolar	1-001 VRTC H3 50th.001
3	P46524	21HEADCG00H3ACYA	Head Accel Y	1000 g		-Bipolar	1-001 VRTC H3 50th.002
4	J32220	21HEADCG00H3ACZA	Head Accel Z	1000 g		-Bipolar	1-001 VRTC H3 50th.003
5	J23914	21HEADCGRDH3ACXA	Head Accel X Redundant	1000 g		-Bipolar	1-001 VRTC H3 50th.004
6	AE833	21HEADCGRDH3ACYA	Head Accel Y Redundant	1000 g		-Bipolar	1-001 VRTC H3 50th.005
7	J18730	21HEADCGRDH3ACZA	Head Accel Z Redundant	1000 g		-Bipolar	1-001 VRTC H3 50th.006
8	1716A-1872-FX	21NECKUP00H3FOXA	Neck Force X	8896 N		-Bipolar	1-001 VRTC H3 50th.007
9	1716A-1872-FY	21NECKUP00H3FOYA	Neck Force Y	8896 N		Bipolar	1-001 VRTC H3 50th.008
10	1716A-1872-FZ	21NECKUP00H3FOZA	Neck Force Z	13344 N		Bipolar	1-001 VRTC H3 50th.009
11	1716A-1872-MX	21NECKUP00H3MOXA	Neck Moment X	282 Nm		-Bipolar	1-001 VRTC H3 50th.010
12	1716A-1872-MY	21NECKUP00H3MOYA	Neck Moment Y	282 Nm		Bipolar	1-001 VRTC H3 50th.011
13	1716A-1872-MZ	21NECKUP00H3MOZA	Neck Moment Z	282 Nm		Bipolar	1-001 VRTC H3 50th.012
14	03E03D30-N22	21CHSTCG00H3ACXA	Chest Accel X	1000 g		Bipolar	1-001 VRTC H3 50th.013
15	J32100	21CHSTCG00H3ACYA	Chest Accel Y	1000 g		-Bipolar	1-001 VRTC H3 50th.014
16	P52159	21CHSTCG00H3ACZA	Chest Accel Z	1000 g		-Bipolar	1-001 VRTC H3 50th.015
17	ACCY2	21CHSTCGRDH3ACXA	Chest Accel X Redundant	1000 g		Bipolar	1-001 VRTC H3 50th.016
18	J20125	21CHSTCGRDH3ACYA	Chest Accel Y Redundant	1000 g		-Bipolar	1-001 VRTC H3 50th.017
19	J35562	21CHSTCGRDH3ACZA	Chest Accel Z Redundant	1000 g		-Bipolar	1-001 VRTC H3 50th.018
20	CST001	21CHST0000H3DSXA	Chest Deflection X	100 mm		Bipolar	1-001 VRTC H3 50th.019
21	P52154	21PELVCG00H3ACXA	Pelvis Accel X	600 g		-Bipolar	1-001 VRTC H3 50th.020
22	P49192	21PELVCG00H3ACYA	Pelvis Accel Y	600 g		-Bipolar	1-001 VRTC H3 50th.021
23	P49170	21PELVCG00H3ACZA	Pelvis Accel Z	600 g		-Bipolar	1-001 VRTC H3 50th.022
24	1914A-362-FZ	21FEMRLL00H3FOZA	Left Femur Force Z	13344 N		Bipolar	1-001 VRTC H3 50th.023
25	2121A-1420	21FEMRRL00H3FOZA	Right Femur Force Z	13344 N		Bipolar	1-001 VRTC H3 50th.024
26	150-0121VR-022701	21KNSLLE00H3DSXA	Left Knee Displacement X	33 mm		-Bipolar	1-LX103-104.001
27	4509-110-FX	21TIBILULXH3FOXA	Left Upper Tibia Force X	11120.5 N		Bipolar	1-LX103-104.002
28	4509-110-FZ	21TIBILULXH3FOZA	Left Upper Tibia Force Z	11120.5 N		Bipolar	1-LX103-104.004
29	4509-110-MX	21TIBILULXH3MOXA	Left Upper Tibia Moment X	395.4 Nm		Bipolar	1-LX103-104.005
30	4509-110-MY	21TIBILULXH3MOYA	Left Upper Tibia Moment Y	395.4 Nm		Bipolar	1-LX103-104.006
31	03E03E20-N14	21TIBILELXH3ACXA	Left Tibia Accel X	1000 g		Bipolar	1-LX103-104.007
32	P49166	21TIBILELXH3ACYA	Left Tibia Accel Y	1000 g		Bipolar	1-LX103-104.008
33	4929J-78-FX	21TIBILLLXH3FOXA	Left Lower Tibia Force X	11120 N		Bipolar	1-LX103-104.009
34	4929J-78-FY	21TIBILLLXH3FOYA	Left Lower Tibia Force Y	11120 N		Bipolar	1-LX103-104.010
35	4929J-78-FZ	21TIBILLLXH3FOZA	Left Lower Tibia Force Z	11120 N		Bipolar	1-LX103-104.011
36	4929J-78-MX	21TIBILLLXH3MOXA	Left Lower Tibia Moment X	395.4 Nm		Bipolar	1-LX103-104.012
37	4929J-78-MY	21TIBILLLXH3MOYA	Left Lower Tibia Moment Y	395.4 Nm		Bipolar	1-LX103-104.013
38	PD210-4B-7921-0118	21FOOTLELXH3ANXA	Left Foot Angular Dis. X LX104X	318 °		Bipolar	1-LX103-104.014

D-5

080403

Channel Report Test Number 080403

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
39	PD210-4B-7921-0229	21FOOTLELXH3ANYA	Left Foot Angular Dis. Y LX104Y	318	°	Bipolar	1-LX103-104.015
40	PD210-4B-7921-0224	21FOOTLELXH3ANZA	Left Foot Angular Dis. Z LX104Z	318	°	Bipolar	1-LX103-104.016
41	P51275	21FOOTLELXH3ACXA	Left Foot Accel X	1000	g	Bipolar	1-LX103-104.017
42	P52150	21FOOTLELXH3ACYA	Left Foot Accel Y	1000	g	Bipolar	1-LX103-104.018
43	P52158	21FOOTLELXH3ACZA	Left Foot Accel Z	1000	g	Bipolar	1-LX103-104.019
44	150-0121VL-013723	21KNSLRIO0H3DSXA	Right Knee Displacement X	33	mm	-Bipolar	1-LX103-104.020
45	4509-108-FX	21TIBIRULXH3FOXA	Right Upper Tibia Force X	11120	N	Bipolar	1-LX103-104.021
46	4509-108-FZ	21TIBIRULXH3FOZA	Right Upper Tibia Force Z	11120	N	Bipolar	1-LX103-104.023
47	4509-108-MX	21TIBIRULXH3MOXA	Right Upper Tibia Moment X	395.4	Nm	Bipolar	1-LX103-104.024
48	4509-108-MY	21TIBIRULXH3MOYA	Right Upper Tibia Moment Y	395.4	Nm	Bipolar	1-LX103-104.025
49	P52153	21TIBIRILXH3ACXA	Right Tibia Accel X	1000	g	Bipolar	1-LX103-104.026
50	P51304	21TIBIRILXH3ACYA	Right Tibia Accel Y	1000	g	Bipolar	1-LX103-104.027
51	4929J-76-FX	21TIBIRLLXH3FOXA	Right Lower Tibia Force X	11120	N	Bipolar	1-LX103-104.028
52	4929J-76-FY	21TIBIRLLXH3FOYA	Right Lower Tibia Force Y	11120	N	Bipolar	1-LX103-104.029
53	4929J-76-FZ	21TIBIRLLXH3FOZA	Right Lower Tibia Force Z	11120	N	Bipolar	1-LX103-104.030
54	4929J-76-MX	21TIBIRLLXH3MOXA	Right Lower Tibia Moment X	395.4	Nm	Bipolar	1-LX103-104.031
55	4929J-76-MY	21TIBIRLLXH3MOYA	Right Lower Tibia Moment Y	395.4	Nm	Bipolar	1-LX103-104.032
56	PD210-4B-7921-0037	21FOOTRILXH3ANXA	Right Foot Angular Dis. X AK037X	318	°	Bipolar	1-LX103-104.033
57	PD210-4B-7921-0225	21FOOTRILXH3ANYA	Right Foot Angular Dis. Y AK225Y	318	°	Bipolar	1-LX103-104.034
58	PD210-4B-7921-0039	21FOOTRILXH3ANZA	Right Foot Angular Dis. Z AK039Z	318	°	Bipolar	1-LX103-104.035
59	P51290	21FOOTRILXH3ACXA	Right Foot Accel X	1000	g	Bipolar	1-LX103-104.036
60	P49159	21FOOTRILXH3ACYA	Right Foot Accel Y	1000	g	Bipolar	1-LX103-104.037
61	05H25-L15	21FOOTRILXH3ACZA	Right Foot Accel Z	1000	g	Bipolar	1-LX103-104.038
62	P51209	23HEADCG00HFACXA	Head Accel X	1000	g	-Bipolar	3-416 HIII 5th FTSS.001
63	02I02I05-F11	23HEADCG00HFACYA	Head Accel Y	1000	g	-Bipolar	3-416 HIII 5th FTSS.002
64	05H06-L20	23HEADCG00HFACZA	Head Accel Z	1000	g	-Bipolar	3-416 HIII 5th FTSS.003
65	J27466	23HEADCGRDHFACXA	Head Accel X Redundant	1000	g	-Bipolar	3-416 HIII 5th FTSS.004
66	04J04I01-R10	23HEADCGRDHFACYA	Head Accel Y Redundant	1000	g	-Bipolar	3-416 HIII 5th FTSS.005
67	01G19-F03	23HEADCGRDHFACZA	Head Accel Z Redundant	1000	g	-Bipolar	3-416 HIII 5th FTSS.006
68	1716A-0440-FX	23NECKUP00HFFOXA	Neck Force X	8896	N	-Bipolar	3-416 HIII 5th FTSS.007
69	1716A-0440-FY	23NECKUP00HFFOYA	Neck Force Y	8896	N	Bipolar	3-416 HIII 5th FTSS.008
70	1716A-0440-FZ	23NECKUP00HFFOZA	Neck Force Z	13344	N	Bipolar	3-416 HIII 5th FTSS.009
71	1716A-0440-MX	23NECKUP00HFMOXA	Neck Moment X	282	Nm	-Bipolar	3-416 HIII 5th FTSS.010
72	1716A-0440-MY	23NECKUP00HFMOYA	Neck Moment Y	282	Nm	Bipolar	3-416 HIII 5th FTSS.011
73	1716A-0440-MZ	23NECKUP00HFMOZA	Neck Moment Z	282	Nm	Bipolar	3-416 HIII 5th FTSS.012
74	P52155	23CHSTCG00HFACXA	Chest Accel X	1000	g	Bipolar	3-416 HIII 5th FTSS.013
75	P52160	23CHSTCG00HFACYA	Chest Accel Y	1000	g	-Bipolar	3-416 HIII 5th FTSS.014
76	P52152	23CHSTCG00HFACZA	Chest Accel Z	1000	g	-Bipolar	3-416 HIII 5th FTSS.015

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
77	03E03E20-N08	23CHSTCGRDHFACXA	Chest Accel X Redundant	1000	g	Bipolar	3-416 HIII 5th FTSS.016
78	J19227	23CHSTCGRDHFACYA	Chest Accel Y Redundant	1000	g	-Bipolar	3-416 HIII 5th FTSS.017
79	01J02-F03	23CHSTCGRDHFACZA	Chest Accel Z Redundant	1000	g	-Bipolar	3-416 HIII 5th FTSS.018
80	14CB1-2897-CST416	23CHST0000HFDSXA	Chest Deflection X 516	84	mm	Bipolar	3-416 HIII 5th FTSS.019
81	P52161	23PELVCG00HFACXA	Pelvis Accel X	1000	g	-Bipolar	3-416 HIII 5th FTSS.020
82	P52151	23PELVCG00HFACYA	Pelvis Accel Y	1000	g	-Bipolar	3-416 HIII 5th FTSS.021
83	P52156	23PELVCG00HFACZA	Pelvis Accel Z	1000	g	-Bipolar	3-416 HIII 5th FTSS.022
84	2121AJ-1517	23FEMRLL00HFFOZA	Left Femur Force Z #8	13344	N	Bipolar	3-416 HIII 5th FTSS.023
85	2121A-1421	23FEMRRL00HFFOZA	Right Femur Force Z 507	13344	N	Bipolar	3-416 HIII 5th FTSS.024
86	150-0121VR-025664	23KNSLLE00HFDSXA	Left Knee Displacement X	33	mm	-Bipolar	3-FLX017 & 018 VRTC.001
87	4825J-94-FX	23TIBILULXHFFOXA	Left Upper Tibia Force X	8896	N	Bipolar	3-FLX017 & 018 VRTC.002
88	4825J-94-FZ	23TIBILULXHFFOZA	Left Upper Tibia Force Z	8896	N	Bipolar	3-FLX017 & 018 VRTC.003
89	4825J-94-MX	23TIBILULXHFM0XA	Left Upper Tibia Moment X	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.004
90	4825J-94-MY	23TIBILULXHFM0YA	Left Upper Tibia Moment Y	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.005
91	06A04-R12	23TIBILELXHFCAXA	Left Tibia Accel X	1000	g	Bipolar	3-FLX017 & 018 VRTC.006
92	01G25-N04	23TIBILELXHFCAYA	Left Tibia Accel Y	1000	g	Bipolar	3-FLX017 & 018 VRTC.007
93	4826J-105-FX	23TIBILLLXHFFOXA	Left Lower Tibia Force X	8896	N	Bipolar	3-FLX017 & 018 VRTC.008
94	4826J-105-FY	23TIBILLLXHFFOYA	Left Lower Tibia Force Y	8896	N	Bipolar	3-FLX017 & 018 VRTC.009
95	4826J-105-FZ	23TIBILLLXHFFOZA	Left Lower Tibia Force Z	8896	N	Bipolar	3-FLX017 & 018 VRTC.010
96	4826J-105-MX	23TIBILLLXHFM0XA	Left Lower Tibia Moment X	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.011
97	4826J-105-MY	23TIBILLLXHFM0YA	Left Lower Tibia Moment Y	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.012
98	PD210-4B-7921-0407	23FOOTLELXHFNAXA	Left Foot Angular Dis. X LX104X	318	°	-Bipolar	3-FLX017 & 018 VRTC.013
99	PD210-4B-7921-0392	23FOOTLELXHFNAYA	Left Foot Angular Dis. Y LX104Y	318	°	Bipolar	3-FLX017 & 018 VRTC.014
100	PD210-4B-7921-0408	23FOOTLELXHFNZA	Left Foot Angular Dis. Z LX104Z	318	°	-Bipolar	3-FLX017 & 018 VRTC.015
101	05I07-Z14	23FOOTLELXHFCAXA	Left Foot Accel X	1000	g	Bipolar	3-FLX017 & 018 VRTC.016
102	02I02I05-F09	23FOOTLELXHFCAYA	Left Foot Accel Y	1000	g	Bipolar	3-FLX017 & 018 VRTC.017
103	05I07-Z13	23FOOTLELXHFCZA	Left Foot Accel Z	1000	g	Bipolar	3-FLX017 & 018 VRTC.018
104	150-0121VL-033650	23KNSLRIO0HFDSXA	Right Knee Displacement X	40	°	-Bipolar	3-FLX017 & 018 VRTC.019
105	4825J-99-FX	23TIBIRULXHFFOXA	Right Upper Tibia Force X	8896	N	Bipolar	3-FLX017 & 018 VRTC.020
106	4825J-99-FZ	23TIBIRULXHFFOZA	Right Upper Tibia Force Z	8896	N	Bipolar	3-FLX017 & 018 VRTC.021
107	4825J-99-MX	23TIBIRULXHFM0XA	Right Upper Tibia Moment X	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.022
108	4825J-99-MY	23TIBIRULXHFM0YA	Right Upper Tibia Moment Y	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.023
109	05G20-L14	23TIBIRILXHFCAXA	Right Tibia Accel X	1000	g	Bipolar	3-FLX017 & 018 VRTC.024
110	98H13-F19	23TIBIRILXHFCAYA	Right Tibia Accel Y	1000	g	Bipolar	3-FLX017 & 018 VRTC.025
111	4826J-106-FX	23TIBIRLLXHFFOXA	Right Lower Tibia Force X	8896	N	Bipolar	3-FLX017 & 018 VRTC.026
112	4826J-106-FY	23TIBIRLLXHFFOYA	Right Lower Tibia Force Y	8896	N	Bipolar	3-FLX017 & 018 VRTC.027
113	4826J-106-FZ	23TIBIRLLXHFFOZA	Right Lower Tibia Force Z	8896	N	Bipolar	3-FLX017 & 018 VRTC.028
114	4826J-106-MX	23TIBIRLLXHFM0XA	Right Lower Tibia Moment X	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.029

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
115	4826J-106-MY	23TIBIRLLXHFMOYA	Right Lower Tibia Moment Y	282.5	Nm	Bipolar	3-FLX017 & 018 VRTC.030
116	PD210-4B-7921-0398	23FOOTRILXHFANXA	Right Foot Angular Dis. X AK037X	318	°	-Bipolar	3-FLX017 & 018 VRTC.031
117	PD210-4B-7921-0400	23FOOTRILXHFANYA	Right Foot Angular Dis. Y AK225Y	317	°	Bipolar	3-FLX017 & 018 VRTC.032
118	PD210-4B-7921-0399	23FOOTRILXHFANZA	Right Foot Angular Dis. Z AK039Z	318	°	-Bipolar	3-FLX017 & 018 VRTC.033
119	06A07-R14	23FOOTRILXHFACXA	Right Foot Accel X	1000	g	Bipolar	3-FLX017 & 018 VRTC.034
120	05G20-L12	23FOOTRILXHFACYA	Right Foot Accel Y	1000	g	Bipolar	3-FLX017 & 018 VRTC.035
121	98H10-F03	23FOOTRILXHFACZA	Right Foot Accel Z	1000	g	Bipolar	3-FLX017 & 018 VRTC.036
122	P59117	24CRME000000ACXA	Left Rear Seat Cross-member X-axis Acceleration	1000	g	Bipolar	
123	P59056	24CRME000000ACYA	Left Rear Seat Cross-member Y-axis Acceleration	1000	g	-Bipolar	
124	P59061	26CRME000000ACXA	Right Rear Seat Cross-member X-axis Acceleration	1000	g	Bipolar	
125	P59060	26CRME000000ACYA	Right Rear Seat Cross-member Y-axis Acceleration	1000	g	Bipolar	
126	P48074	20VEHCCG0000ACXA	Vehicle CG X-axis acceleration	1500	g	Bipolar	
127	P57814	20VEHCCG0000ACYA	Vehicle CG Y-axis acceleration	1500	g	-Bipolar	
128	P56936	20VEHCCG0000ACZA	Vehicle CG Z-axis acceleration	1500	g	-Bipolar	
129	P59705	22ENGNTP0000ACXA	Top of Engine X-axis Acceleration	2000	g	Bipolar	
130	P57021	22ENGNBO0000ACXA	Bottom of Engine X-axis Acceleration	2000	g	Bipolar	
131	P59725	22DASH000000ACXA	Instrument Panel X-axis acceleration	1500	g	Bipolar	
132	P59062	21SETRMI0000ACXA	Left Side Driver Mid Seat Track X-axis Acceleration	1500	g	-Bipolar	
133	P47556	21PEAC000000ACXA	Acceleration Pedal X-axis acceleration	2000	g	-Bipolar	
134	P57161	21PEAC000000ACYA	Acceleration Pedal Y-axis acceleration	2000	g	-Bipolar	
135	P56964	21PEAC000000ACZA	Acceleration Pedal Z-axis acceleration	2000	g	Bipolar	
136	P49021	21PEBR000000ACXA	Brake Pedal X-axis acceleration	2000	g	-Bipolar	
137	p54293	21PEBR000000ACYA	Brake Pedal Y-axis acceleration	2000	g	-Bipolar	
138	P57824	21PEBR000000ACZA	Brake Pedal Z-axis acceleration	2000	g	Bipolar	
139	P59063	23VEHCRI0000ACXA	Right Front Brake Caliper X-axis acceleration	2000	g	-Bipolar	
140	P57844	21VEHCLE0000ACXA	Left Front Brake Caliper X-axis acceleration	2000	g	-Bipolar	
141	P56981	21VEHC000001ACXA	Foot Rest X-axis acceleration	2000	g	-Bipolar	
142	P56999	21VEHC000001ACYA	Foot Rest Y-axis acceleration	2000	g	-Bipolar	
143	p54421	21VEHC000001ACZA	Foot Rest Z-axis acceleration	2000	g	Bipolar	
144	3419T-828	21SEBA0000B5FO0A	Driver lap belt	15568	N	Bipolar	
145	3419-829	21SEBA0000B3FO0A	Driver shoulder belt	15568	N	Bipolar	
146	3419T-842	23SEBA0000B5FO0A	RF Pass lap belt	15568	N	Bipolar	
147	3419T-739	23SEBA0000B3FO0A	RF Pass shoulder belt	15568	N	Bipolar	
148	ABFire1	21AIRBFR0100EV0A	DRIV. FRONT AIRBAG1 IND (IP 31)	5	V	Bipolar	
149	ABFire2	21AIRBFR0200EV0A	DRIV. FRONT AIRBAG2 IND (IP 011)	5	V	Bipolar	
150	ABFire3	23AIRBFR0100EV0A	PASS. FRONT AIRBAG1 IND (IP 62) (J19)	5	V	Bipolar	
151	ABFire4	23AIRBFR0200EV0A	PASS. FRONT AIRBAG2 IND (IP 012)	5	V	Bipolar	

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
1	Trig D1	10ZERO00000VO0A	Event		1 Logic	Bipolar	
2	05H06-L26	11HEADCG00H3ACXA	Head Accel X	1000	g	-Bipolar	1-855 HIII 50th FTSS.001
3	05G20-L20	11HEADCG00H3ACYA	Head Accel Y	1000	g	-Bipolar	1-855 HIII 50th FTSS.002
4	05G15-L02	11HEADCG00H3ACZA	Head Accel Z	1000	g	-Bipolar	1-855 HIII 50th FTSS.003
5	J23772	11HEADCGRDH3ACXA	Head Accel X Redundant	1000	g	-Bipolar	1-855 HIII 50th FTSS.004
6	J14668	11HEADCGRDH3ACYA	Head Accel Y Redundant	1000	g	-Bipolar	1-855 HIII 50th FTSS.005
7	BD88J	11HEADCGRDH3ACZA	Head Accel Z Redundant	1000	g	-Bipolar	1-855 HIII 50th FTSS.006
8	1716A-1037-FX	11NECKUP00H3FOXA	Neck Force X	8896	N	-Bipolar	1-855 HIII 50th FTSS.007
9	1716A-1037-FY	11NECKUP00H3FOYA	Neck Force Y	8896	N	Bipolar	1-855 HIII 50th FTSS.008
10	1716A-1037-FZ	11NECKUP00H3FOZA	Neck Force Z	13344	N	Bipolar	1-855 HIII 50th FTSS.009
11	1716A-1037-MX	11NECKUP00H3MOXA	Neck Moment X	282.5	Nm	-Bipolar	1-855 HIII 50th FTSS.010
12	1716A-1037-MY	11NECKUP00H3MOYA	Neck Moment Y	282.5	Nm	Bipolar	1-855 HIII 50th FTSS.011
13	1716A-1037-MZ	11NECKUP00H3MOZA	Neck Moment Z	282.5	Nm	Bipolar	1-855 HIII 50th FTSS.012
14	01G19-F02	11CHSTCG00H3ACXA	Chest Accel X	1000	g	Bipolar	1-855 HIII 50th FTSS.013
15	01G25-N10	11CHSTCG00H3ACYA	Chest Accel Y	1000	g	-Bipolar	1-855 HIII 50th FTSS.014
16	01H02-N07	11CHSTCG00H3ACZA	Chest Accel Z	1000	g	-Bipolar	1-855 HIII 50th FTSS.015
17	J14189	11CHSTCGRDH3ACXA	Chest Accel X Redundant	1000	g	Bipolar	1-855 HIII 50th FTSS.016
18	BR34J	11CHSTCGRDH3ACYA	Chest Accel Y Redundant	1000	g	-Bipolar	1-855 HIII 50th FTSS.017
19	J19611	11CHSTCGRDH3ACZA	Chest Accel Z Redundant	1000	g	-Bipolar	1-855 HIII 50th FTSS.018
20	CST855	11CHST0000H3DSXA	Chest Deflection X	100	mm	Bipolar	1-855 HIII 50th FTSS.019
21	05G20-L21	11PELVCG00H3ACXA	Pelvis Accel X	600	g	-Bipolar	1-855 HIII 50th FTSS.020
22	02I02I10-N24	11PELVCG00H3ACYA	Pelvis Accel Y	600	g	-Bipolar	1-855 HIII 50th FTSS.021
23	05G11-X33	11PELVCG00H3ACZA	Pelvis Accel Z	600	g	-Bipolar	1-855 HIII 50th FTSS.022
24	2121A-1394-FZ	11FEMRLL00H3FOZA	Left Femur Force Z	13344	N	Bipolar	1-855 HIII 50th FTSS.023
25	2121A-1396	11FEMRRL00H3FOZA	Right Femur Force Z	13344	N	Bipolar	1-855 HIII 50th FTSS.024
26	05G20-L18	13HEADCG00HFACXA	Head Accel X	1000	g	-Bipolar	3-324 HIII 5th FTSS.001
27	00L20-A20	13HEADCG00HFACYA	Head Accel Y	1000	g	-Bipolar	3-324 HIII 5th FTSS.002
28	03D03C27-N07	13HEADCG00HFACZA	Head Accel Z	1000	g	-Bipolar	3-324 HIII 5th FTSS.003
29	IF-205-287-FX	13NECKUP00HFFOXA	Upper Neck Force X	8896	N	-Bipolar	3-324 HIII 5th FTSS.004
30	IF-205-287-FY	13NECKUP00HFFOYA	Upper Neck Force Y	8896	N	Bipolar	3-324 HIII 5th FTSS.005
31	IF-205-287-FZ	13NECKUP00HFFOZA	Upper Neck Force Z	13344	N	Bipolar	3-324 HIII 5th FTSS.006
32	IF-205-287-MX	13NECKUP00HFMOXA	Upper Neck Moment X	282.5	Nm	-Bipolar	3-324 HIII 5th FTSS.007
33	IF-205-287-MY	13NECKUP00HFMOYA	Upper Neck Moment Y	282.5	Nm	Bipolar	3-324 HIII 5th FTSS.008
34	IF-205-287-MZ	13NECKUP00HFMOZA	Upper Neck Moment Z	282.5	Nm	Bipolar	3-324 HIII 5th FTSS.009
35	05G20-L01	13CHSTCG00HFACXA	Chest Accel X	1000	g	Bipolar	3-324 HIII 5th FTSS.010
36	05I07-Z12	13CHSTCG00HFACYA	Chest Accel Y	1000	g	-Bipolar	3-324 HIII 5th FTSS.011
37	05G15-L04	13CHSTCG00HFACZA	Chest Accel Z	1000	g	-Bipolar	3-324 HIII 5th FTSS.012

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
38	CST324	13CHST0000HFDSXA	Chest Deflection X	100	mm	Bipolar	3-324 HIII 5th FTSS.013
39	P52157	13PELVCG00HFACXA	Pelvis Accel X	1000	g	-Bipolar	3-324 HIII 5th FTSS.014
40	P58773	13PELVCG00HFACYA	Pelvis Accel Y	1000	g	-Bipolar	3-324 HIII 5th FTSS.015
41	03E03E20-N13	13PELVCG00HFACZA	Pelvis Accel Z	1000	g	-Bipolar	3-324 HIII 5th FTSS.016
42	1914A-376-FZ	13FEMRLL00HFFOZA	Left Femur Force Z	13344	N	Bipolar	3-324 HIII 5th FTSS.019
43	1914A-412-FZ	13FEMRRL00HFFOZA	Right Femur Force Z	13344	N	Bipolar	3-324 HIII 5th FTSS.025
44	150-0121VR-028849	13KNSLLE00HFDSXA	Left Knee Displacement X	40	mm	-Bipolar	3-FLX013 &014 VRTC.001
45	4825J-97-FX	13TIBILULXHFFOXA	Left Upper Tibia Force X	8896	N	Bipolar	3-FLX013 &014 VRTC.002
46	4825J-97-FZ	13TIBILULXHFFOZA	Left Upper Tibia Force Z	8896	N	Bipolar	3-FLX013 &014 VRTC.003
47	4825J-97-MX	13TIBILULXHFMOMA	Left Upper Tibia Moment X	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.004
48	4825J-97-MY	13TIBILULXHFMOMA	Left Upper Tibia Moment Y	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.005
49	03D03D09-N02	13TIBILELXHAFACXA	Left Tibia Accel X	1000	g	Bipolar	3-FLX013 &014 VRTC.006
50	01G25-N18	13TIBILELXHAFACYA	Left Tibia Accel Y	1000	g	Bipolar	3-FLX013 &014 VRTC.007
51	4826J-107-FX	13TIBILLXHFFOXA	Left Lower Tibia Force X	8896	N	Bipolar	3-FLX013 &014 VRTC.008
52	4826J-107-FY	13TIBILLXHFFOYA	Left Lower Tibia Force Y	8896	N	Bipolar	3-FLX013 &014 VRTC.009
53	4826J-107-FZ	13TIBILLXHFFOZA	Left Lower Tibia Force Z	8896	N	Bipolar	3-FLX013 &014 VRTC.010
54	4826J-107-MX	13TIBILLXHFMOMA	Left Lower Tibia Moment X	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.011
55	4826J-107-MY	13TIBILLXHFMOMA	Left Lower Tibia Moment Y	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.012
56	PD210-4B-7921-0381	13FOOTLELXHAFANXA	Left Foot Angular Dis. X LX104X	318	°	-Bipolar	3-FLX013 &014 VRTC.013
57	PD210-4B-7921-0374	13FOOTLELXHAFANYA	Left Foot Angular Dis. Y LX104Y	318	°	Bipolar	3-FLX013 &014 VRTC.014
58	PD210-4B-7921-0373	13FOOTLELXHAFANZA	Left Foot Angular Dis. Z LX104Z	318	°	-Bipolar	3-FLX013 &014 VRTC.015
59	04J04I10-H10	13FOOTLELXHAFACXA	Left Foot Accel X	1000	g	Bipolar	3-FLX013 &014 VRTC.016
60	AAMF2	13FOOTLELXHAFACYA	Left Foot Accel Y	1000	g	Bipolar	3-FLX013 &014 VRTC.017
61	05107-Z23	13FOOTLELXHAFACZA	Left Foot Accel Z	1000	g	Bipolar	3-FLX013 &014 VRTC.018
62	150-0121VL-028866	13KNSLRI00HFDSXA	Right Knee Displacement X	40	mm	-Bipolar	3-FLX013 &014 VRTC.019
63	4825J-96-FX	13TIBIRULXHFFOXA	Right Upper Tibia Force X	8896	N	Bipolar	3-FLX013 &014 VRTC.020
64	4825J-96-FZ	13TIBIRULXHFFOZA	Right Upper Tibia Force Z	8896	N	Bipolar	3-FLX013 &014 VRTC.021
65	4825J-96-MX	13TIBIRULXHFMOMA	Right Upper Tibia Moment X	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.022
66	4825J-96-MY	13TIBIRULXHFMOMA	Right Upper Tibia Moment Y	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.023
67	05107-Z07	13TIBIRILXHAFACXA	Right Tibia Accel X	1000	g	Bipolar	3-FLX013 &014 VRTC.024
68	04J04I01-R11	13TIBIRILXHAFACYA	Right Tibia Accel Y	1000	g	Bipolar	3-FLX013 &014 VRTC.025
69	4826J-104-FX	13TIBIRLLXHFFOXA	Right Lower Tibia Force X	8896	N	Bipolar	3-FLX013 &014 VRTC.026
70	4826J-104-FY	13TIBIRLLXHFFOYA	Right Lower Tibia Force Y	8896	N	Bipolar	3-FLX013 &014 VRTC.027
71	4826J-104-FZ	13TIBIRLLXHFFOZA	Right Lower Tibia Force Z	8896	N	Bipolar	3-FLX013 &014 VRTC.028
72	4826J-104-MX	13TIBIRLLXHFMOMA	Right Lower Tibia Moment X	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.029
73	4826J-104-MY	13TIBIRLLXHFMOMA	Right Lower Tibia Moment Y	282.5	Nm	Bipolar	3-FLX013 &014 VRTC.030
74	PD210-4B-7921-0372	13FOOTRILXHAFANXA	Right Foot Angular Dis. X AK037X	318	°	-Bipolar	3-FLX013 &014 VRTC.031

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Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Polarity	Assembly
75	PD210-4B-7921-0334	13FOOTRILXHFANYA	Right Foot Angular Dis. Y AK225Y	318	°	Bipolar	3-FLX013 &014 VRTC.032
76	PD210-4B-7921-0336	13FOOTRILXHFANZA	Right Foot Angular Dis. Z AK039Z	318	°	-Bipolar	3-FLX013 &014 VRTC.033
77	03E03E18-F09	13FOOTRILXHFACXA	Right Foot Accel X	1000	g	Bipolar	3-FLX013 &014 VRTC.034
78	01G18-F05	13FOOTRILXHFACYA	Right Foot Accel Y	1000	g	Bipolar	3-FLX013 &014 VRTC.035
79	02A18-N04	13FOOTRILXHFACZA	Right Foot Accel Z	1000	g	Bipolar	3-FLX013 &014 VRTC.036
80	P57007	14CRME000000ACXA	Left Rear Seat Cross-member X-axis Acceleration	1000	g	Bipolar	
81	P57013	14CRME000000ACYA	Left Rear Seat Cross-member Y-axis Acceleration	1000	g	Bipolar	
82	P59058	16CRME000000ACXA	Right Rear Seat Cross-member X-axis Acceleration	1000	g	Bipolar	
83	P59052	16CRME000000ACYA	Right Rear Seat Cross-member Y-axis Acceleration	1000	g	-Bipolar	
84	P57787	10VEHCCG0000ACXA	Vehicle CG X-axis acceleration	1500	g	Bipolar	
85	P56432	10VEHCCG0000ACYA	Vehicle CG Y-axis acceleration	1500	g	-Bipolar	
86	P59051	10VEHCCG0000ACZA	Vehicle CG Z-axis acceleration	1500	g	-Bipolar	
87	P57789	12ENGNTP0000ACXA	Top of Engine X-axis Acceleration	2000	g	Bipolar	
88	P57957	12ENGNBO0000ACXA	Bottom of Engine X-axis Acceleration	2000	g	-Bipolar	
89	P57998	12DASH000000ACXA	Instrument Panel X-axis acceleration	1500	g	Bipolar	
90	P59055	11SETRMI0000ACXA	Left Side Driver Mid Seat Track X-axis Acceleration	1500	g	Bipolar	
91	P57851	11PEAC000000ACXA	Acceleration Pedal X-axis acceleration	2000	g	Bipolar	
92	P57849	11PEAC000000ACYA	Acceleration Pedal Y-axis acceleration	2000	g	Bipolar	
93	P56425	11PEAC000000ACZA	Acceleration Pedal Z-axis acceleration	2000	g	Bipolar	
94	P58030	11PEBR000000ACXA	Brake Pedal X-axis acceleration	2000	g	-Bipolar	
95	P57993	11PEBR000000ACYA	Brake Pedal Y-axis acceleration	2000	g	-Bipolar	
96	P57987	11PEBR000000ACZA	Brake Pedal Z-axis acceleration	2000	g	Bipolar	
97	P50910	13VEHCRI0000ACXA	Right Front Brake Caliper X-axis acceleration	2000	g	Bipolar	
98	P59050	11VEHCLE0000ACXA	Left Front Brake Caliper X-axis acceleration	2000	g	Bipolar	
99	P57938	11VEHC000001ACXA	Foot Rest X-axis acceleration	2000	g	Bipolar	
100	P57826	11VEHC000001ACYA	Foot Rest Y-axis acceleration	2000	g	Bipolar	
101	P49940	11VEHC000001ACZA	Foot Rest Z-axis acceleration	2000	g	Bipolar	
102	3419T-808	11SEBA0000B5FO0A	Driver lap belt	15568	N	Bipolar	
103	3419T-843	11SEBA0000B3FO0A	Driver shoulder belt (p19)	15568	N	Bipolar	
104	3419-830	13SEBA0000B5FO0A	RF Pass lap belt	15568	N	Bipolar	
105	3419T-1136020	13SEBA0000B3FO0A	RF Pass shoulder belt	15568	N	Bipolar	
106	ABFire1	11AIRBFR0100EV0A	DRIV. FRONT AIRBAG1 IND IP40	5	V	Bipolar	
107	ABFire2	11AIRBFR0200EV0A	DRIV. FRONT AIRBAG2 IND IP02	5	V	Bipolar	
108	ABFire3	13AIRBFR0100EV0A	PASS. FRONT AIRBAG1 IND IP05	5	V	Bipolar	
109	ABFire4	13AIRBFR0200EV0A	PASS. FRONT AIRBAG2 IND IP06	5	V	Bipolar	

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
1	21HEADCG00H3ACXA	Target Vehicle Driver Head X-Axis Acceleration	1000 +	yes		1000
2	21HEADCG00H3ACYA	Target Vehicle Driver Head Y-Axis Acceleration	1000 +	yes		1000
3	21HEADCG00H3ACZA	Target Vehicle Driver Head Z-Axis Acceleration	1000 +	yes		1000
3A	21HEADCG00H3ACRA	Target Vehicle Driver Head Resultant Acceleration	1000			
4	21HEADCGRDH3ACXA	Target Vehicle Driver Head X-Axis Acceleration Redundant	1000 +	yes		1000
5	21HEADCGRDH3ACYA	Target Vehicle Driver Head Y-Axis Acceleration Redundant	1000 +	yes		1000
6	21HEADCGRDH3ACZA	Target Vehicle Driver Head Z-Axis Acceleration Redundant	1000 +	yes		1000
6A	21HEADCGRDH3ACRA	Target Vehicle Driver Head Resultant Acceleration Redundant	1000			
7	21NECKUP00H3FOXA	Target Vehicle Driver Neck X-Axis Force	1000 +	yes		8896
8	21NECKUP00H3FOYA	Target Vehicle Driver Neck Y-Axis Force	1000 +	yes		8896
9	21NECKUP00H3FOZA	Target Vehicle Driver Neck Z-Axis Force	1000 +	yes		13344
10	21NECKUP00H3MOXA	Target Vehicle Driver Neck Moment About X Axis	600 +	yes		282
11	21NECKUP00H3MOYA	Target Vehicle Driver Neck Moment About Y Axis	600 +	yes		282
12	21NECKUP00H3MOZA	Target Vehicle Driver Neck Moment About Z Axis	600 +	yes		282
13	21CHSTCG00H3ACXA	Target Vehicle Driver Chest X-Axis Acceleration	180 +	yes		1000
14	21CHSTCG00H3ACYA	Target Vehicle Driver Chest Y-Axis Acceleration	180 +	yes		1000
15	21CHSTCG00H3ACZA	Target Vehicle Driver Chest Z-Axis Acceleration	180 +	yes		1000
15A	21CHSTCG00H3ACRA	Target Vehicle Driver Chest Resultant Acceleration	180			
16	21CHSTCGRDH3ACXA	Target Vehicle Driver Chest X-Axis Acceleration Redundant	180 +	yes		1000
17	21CHSTCGRDH3ACYA	Target Vehicle Driver Chest Y-Axis Acceleration Redundant	180 +	yes		1000
18	21CHSTCGRDH3ACZA	Target Vehicle Driver Chest Z-Axis Acceleration Redundant	180 +	yes		1000
18A	21CHSTCGRDH3ACRA	Target Vehicle Driver Chest Resultant Acceleration Redundant	180			
19	21CHST0000H3DSXA	Target Vehicle Driver Chest X-Axis Displacement	600 +	yes		100
20	21PELVCG00H3ACXA	Target Vehicle Driver Pelvis X-Axis Acceleration	1000 +	yes		600
21	21PELVCG00H3ACYA	Target Vehicle Driver Pelvis Y-Axis Acceleration	1000 +	yes		600
22	21PELVCG00H3ACZA	Target Vehicle Driver Pelvis Z-Axis Acceleration	1000 +	yes		600
22A	21PELVCG00H3ACRA	Target Vehicle Driver Pelvis Resultant Acceleration	1000			
23	21FEMRLL00H3FOZA	Target Vehicle Driver Left Femur Z-Axis Force	600 +	yes		13344
24	21FEMRRL00H3FOZA	Target Vehicle Driver Right Femur Z-Axis Force	600 +	yes		13344
25	21KNSLLE00H3DSXA	Target Vehicle Driver Left Knee X-Axis Displacement	180 +	yes		33
26	21TIBILULXH3FOXA	Target Vehicle Driver Left Upper Tibia X-Axis Force	600 +	yes		11120.5
27	21TIBILULXH3FOZA	Target Vehicle Driver Left Upper Tibia Z-Axis Force	600 +	yes		11120.5
28	21TIBILULXH3MOXA	Target Vehicle Driver Left Upper Tibia Moment About X Axis	600 +	yes		395.4
29	21TIBILULXH3MOYA	Target Vehicle Driver Left Upper Tibia Moment About Y Axis	600 +	yes		395.4
30	21TIBILELXH3ACXA	Target Vehicle Driver Left Tibia X-Axis Acceleration	1000 +	yes		1000
31	21TIBILELXH3ACYA	Target Vehicle Driver Left Tibia Y-Axis Acceleration	1000 +	yes		1000
32	21TIBILLXH3FOXA	Target Vehicle Driver Left Lower Tibia X-Axis Force	600 +	yes		11120

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Channel	ISO mnemonic	Channel Title	Filter	Class	Flip	Zero	Full Scale
33	21TIBILLXH3FOYA	Target Vehicle Driver Left Lower Tibia Y-Axis Force	600	+	yes		11120
34	21TIBILLXH3FOZA	Target Vehicle Driver Left Lower Tibia Z-Axis Force	600	+	yes		11120
35	21TIBILLXH3MOXA	Target Vehicle Driver Left Lower Tibia Moment About X Axis	600	+	yes		395.4
36	21TIBILLXH3MOYA	Target Vehicle Driver Left Lower Tibia Moment About Y Axis	600	+	yes		395.4
37	21FOOTLELXH3ANXA	Target Vehicle Driver Left Foot X-Axis Angular Displacement	180	+	no		318
38	21FOOTLELXH3ANYA	Target Vehicle Driver Left Foot Y-Axis Angular Displacement	180	+	no		318
39	21FOOTLELXH3ANZA	Target Vehicle Driver Left Foot Z-Axis Angular Displacement	180	+	no		318
40	21FOOTLELXH3ACXA	Target Vehicle Driver Left Foot X-Axis Acceleration	1000	+	yes		1000
41	21FOOTLELXH3ACYA	Target Vehicle Driver Left Foot Y-Axis Acceleration	1000	+	yes		1000
42	21FOOTLELXH3ACZA	Target Vehicle Driver Left Foot Z-Axis Acceleration	1000	+	yes		1000
42A	21FOOTLELXH3ACRA	Target Vehicle Driver Left Foot Resultant Acceleration	1000				
43	21KNSLRIO0H3DSXA	Target Vehicle Driver Right Knee X-Axis Displacement	180	+	yes		33
44	21TIBIRULXH3FOXA	Target Vehicle Driver Right Upper Tibia X-Axis Force	600	+	yes		11120
45	21TIBIRULXH3FOZA	Target Vehicle Driver Right Upper Tibia Z-Axis Force	600	+	yes		11120
46	21TIBIRULXH3MOXA	Target Vehicle Driver Right Upper Tibia Moment About X Axis	600	+	yes		395.4
47	21TIBIRULXH3MOYA	Target Vehicle Driver Right Upper Tibia Moment About Y Axis	600	+	yes		395.4
48	21TIBIRILXH3ACXA	Target Vehicle Driver Right Tibia X-Axis Acceleration	1000	+	yes		1000
49	21TIBIRILXH3ACYA	Target Vehicle Driver Right Tibia Y-Axis Acceleration	1000	+	yes		1000
50	21TIBIRLLXH3FOXA	Target Vehicle Driver Right Lower Tibia X-Axis Force	600	+	yes		11120
51	21TIBIRLLXH3FOYA	Target Vehicle Driver Right Lower Tibia Y-Axis Force	600	+	yes		11120
52	21TIBIRLLXH3FOZA	Target Vehicle Driver Right Lower Tibia Z-Axis Force	600	+	yes		11120
53	21TIBIRLLXH3MOXA	Target Vehicle Driver Right Lower Tibia Moment About X Axis	600	+	yes		395.4
54	21TIBIRLLXH3MOYA	Target Vehicle Driver Right Lower Tibia Moment About Y Axis	600	+	yes		395.4
55	21FOOTRILXH3ANXA	Target Vehicle Driver Right Foot X-Axis Angular Displacement	180	+	no		318
56	21FOOTRILXH3ANYA	Target Vehicle Driver Right Foot Y-Axis Angular Displacement	180	+	no		318
57	21FOOTRILXH3ANZA	Target Vehicle Driver Right Foot Z-Axis Angular Displacement	180	+	no		318
58	21FOOTRILXH3ACXA	Target Vehicle Driver Right Foot X-Axis Acceleration	1000	+	yes		1000
59	21FOOTRILXH3ACYA	Target Vehicle Driver Right Foot Y-Axis Acceleration	1000	+	yes		1000
60	21FOOTRILXH3ACZA	Target Vehicle Driver Right Foot Z-Axis Acceleration	1000	+	yes		1000
60A	21FOOTRILXH3ACRA	Target Vehicle Driver Right Foot Resultant Acceleration	1000				
61	23HEADCG00HFACXA	Target Vehicle Passenger Head X-Axis Acceleration	1000	+	yes		1000
62	23HEADCG00HFACYA	Target Vehicle Passenger Head Y-Axis Acceleration	1000	+	yes		1000
63	23HEADCG00HFACZA	Target Vehicle Passenger Head Z-Axis Acceleration	1000	+	yes		1000
63A	23HEADCG00HFACRA	Target Vehicle Passenger Head Resultant Acceleration	1000				
64	23HEADCGRDHFACXA	Target Vehicle Passenger Head X-Axis Acceleration Redundant	1000	+	yes		1000
65	23HEADCGRDHFACYA	Target Vehicle Passenger Head Y-Axis Acceleration Redundant	1000	+	yes		1000
66	23HEADCGRDHFACZA	Target Vehicle Passenger Head Z-Axis Acceleration Redundant	1000	+	yes		1000

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
66A	23HEADGRDHFACRA	Target Vehicle Passenger Head Resultant Acceleration Redundant	1000			
67	23NECKUP00HFFOXA	Target Vehicle Passenger Neck X-Axis Force	1000 +	yes		8896
68	23NECKUP00HFFOYA	Target Vehicle Passenger Neck Y-Axis Force	1000 +	yes		8896
69	23NECKUP00HFFOZA	Target Vehicle Passenger Neck Z-Axis Force	1000 +	yes		13344
70	23NECKUP00HFMOXA	Target Vehicle Passenger Neck Moment About X Axis	600 +	yes		282
71	23NECKUP00HFMOYA	Target Vehicle Passenger Neck Moment About Y Axis	600 +	yes		282
72	23NECKUP00HFMOZA	Target Vehicle Passenger Neck Moment About Z Axis	600 +	yes		282
73	23CHSTCG00HFACXA	Target Vehicle Passenger Chest X-Axis Acceleration	180 +	yes		1000
74	23CHSTCG00HFACYA	Target Vehicle Passenger Chest Y-Axis Acceleration	180 +	yes		1000
75	23CHSTCG00HFACZA	Target Vehicle Passenger Chest Z-Axis Acceleration	180 +	yes		1000
75A	23CHSTCG00HFACRA	Target Vehicle Passenger Chest Resultant Acceleration	180			
76	23CHSTCGRDHFACXA	Target Vehicle Passenger Chest X-Axis Acceleration Redundant	180 +	yes		1000
77	23CHSTCGRDHFACYA	Target Vehicle Passenger Chest Y-Axis Acceleration Redundant	180 +	yes		1000
78	23CHSTCGRDHFACZA	Target Vehicle Passenger Chest Z-Axis Acceleration Redundant	180 +	yes		1000
78A	23CHSTCGRDHFACRA	Target Vehicle Passenger Chest Resultant Acceleration Redundant	180			
79	23CHST0000HFDSXA	Target Vehicle Passenger Chest X-Axis Displacement	600 +	yes		84
80	23PELVCG00HFACXA	Target Vehicle Passenger Pelvis X-Axis Acceleration	1000 +	yes		1000
81	23PELVCG00HFACYA	Target Vehicle Passenger Pelvis Y-Axis Acceleration	1000 +	yes		1000
82	23PELVCG00HFACZA	Target Vehicle Passenger Pelvis Z-Axis Acceleration	1000 +	yes		1000
82A	23PELVCG00HFACRA	Target Vehicle Passenger Pelvis Resultant Acceleration	1000			
83	23FEMRLL00HFFOZA	Target Vehicle Passenger Left Femur Z-Axis Force	600 +	yes		13344
84	23FEMRRL00HFFOZA	Target Vehicle Passenger Right Femur Z-Axis Force	600 +	yes		13344
85	23KNSLLE00HFDSXA	Target Vehicle Passenger Left Knee X-Axis Displacement	180 +	yes		33
86	23TIBILULXHFFOXA	Target Vehicle Passenger Left Upper Tibia X-Axis Force	600 +	yes		8896
87	23TIBILULXHFFOZA	Target Vehicle Passenger Left Upper Tibia Z-Axis Force	600 +	yes		8896
88	23TIBILULXHFMOMA	Target Vehicle Passenger Left Upper Tibia Moment About X Axis	600 +	yes		282.5
89	23TIBILULXHFMOMA	Target Vehicle Passenger Left Upper Tibia Moment About Y Axis	600 +	yes		282.5
90	23TIBILELXHFFOXA	Target Vehicle Passenger Left Tibia X-Axis Acceleration	1000 +	yes		1000
91	23TIBILELXHFFOYA	Target Vehicle Passenger Left Tibia Y-Axis Acceleration	1000 +	yes		1000
92	23TIBILLLXHFFOXA	Target Vehicle Passenger Left Lower Tibia X-Axis Force	600 +	yes		8896
93	23TIBILLLXHFFOYA	Target Vehicle Passenger Left Lower Tibia Y-Axis Force	600 +	yes		8896
94	23TIBILLLXHFFOZA	Target Vehicle Passenger Left Lower Tibia Z-Axis Force	600 +	yes		8896
95	23TIBILLLXHFMOMA	Target Vehicle Passenger Left Lower Tibia Moment About X Axis	600 +	yes		282.5
96	23TIBILLLXHFMOMA	Target Vehicle Passenger Left Lower Tibia Moment About Y Axis	600 +	yes		282.5
97	23FOOTLELXHFFANXA	Target Vehicle Passenger Left Foot X-Axis Angular Displacement	180 +	no		318
98	23FOOTLELXHFFANYA	Target Vehicle Passenger Left Foot Y-Axis Angular Displacement	180 +	no		318
99	23FOOTLELXHFFANZA	Target Vehicle Passenger Left Foot Z-Axis Angular Displacement	180 +	no		318

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Channel	ISO mnemonic	Channel Title	Filter	Class	Flip	Zero	Full Scale
100	23FOOTLELXHFACXA	Target Vehicle Passenger Left Foot X-Axis Acceleration	1000	+	yes	1000	1000
101	23FOOTLELXHFACYA	Target Vehicle Passenger Left Foot Y-Axis Acceleration	1000	+	yes	1000	1000
102	23FOOTLELXHFACZA	Target Vehicle Passenger Left Foot Z-Axis Acceleration	1000	+	yes	1000	1000
102A	23FOOTLELXHFACRA	Target Vehicle Passenger Left Foot Resultant Acceleration	1000				
103	23KNSLRIO0HFDSXA	Target Vehicle Passenger Right Knee X-Axis Displacement	180	+	yes		40
104	23TIBIRULXHFFOXA	Target Vehicle Passenger Right Upper Tibia X-Axis Force	600	+	yes		8896
105	23TIBIRULXHFFOZA	Target Vehicle Passenger Right Upper Tibia Z-Axis Force	600	+	yes		8896
106	23TIBIRULXHFMOMA	Target Vehicle Passenger Right Upper Tibia Moment About X Axis	600	+	yes		282.5
107	23TIBIRULXHFMOMA	Target Vehicle Passenger Right Upper Tibia Moment About Y Axis	600	+	yes		282.5
108	23TIBIRILXHFACXA	Target Vehicle Passenger Right Tibia X-Axis Acceleration	1000	+	yes		1000
109	23TIBIRILXHFACYA	Target Vehicle Passenger Right Tibia Y-Axis Acceleration	1000	+	yes		1000
110	23TIBIRLLXHFFOXA	Target Vehicle Passenger Right Lower Tibia X-Axis Force	600	+	yes		8896
111	23TIBIRLLXHFFOYA	Target Vehicle Passenger Right Lower Tibia Y-Axis Force	600	+	yes		8896
112	23TIBIRLLXHFFOZA	Target Vehicle Passenger Right Lower Tibia Z-Axis Force	600	+	yes		8896
113	23TIBIRLLXHFMOMA	Target Vehicle Passenger Right Lower Tibia Moment About X Axis	600	+	yes		282.5
114	23TIBIRLLXHFMOMA	Target Vehicle Passenger Right Lower Tibia Moment About Y Axis	600	+	yes		282.5
115	23FOOTRILXHFANXA	Target Vehicle Passenger Right Foot X-Axis Angular Displacement	180	+	no		318
116	23FOOTRILXHFANYA	Target Vehicle Passenger Right Foot Y-Axis Angular Displacement	180	+	no		317
117	23FOOTRILXHFANZA	Target Vehicle Passenger Right Foot Z-Axis Angular Displacement	180	+	no		318
118	23FOOTRILXHFACXA	Target Vehicle Passenger Right Foot X-Axis Acceleration	1000	+	yes		1000
119	23FOOTRILXHFACYA	Target Vehicle Passenger Right Foot Y-Axis Acceleration	1000	+	yes		1000
120	23FOOTRILXHFACZA	Target Vehicle Passenger Right Foot Z-Axis Acceleration	1000	+	yes		1000
120A	23FOOTRILXHFACRA	Target Vehicle Passenger Right Foot Resultant Acceleration	1000				
121	24CRME000000ACXA	Target Vehicle Left Rear Seat Crossmember X-Axis Acceleration	60	+	yes		1000
122	24CRME000000ACYA	Target Vehicle Left Rear Seat Crossmember Y-Axis Acceleration	60	+	yes		1000
123	26CRME000000ACXA	Target Vehicle Right Rear Seat Crossmember X-Axis Acceleration	60	+	yes		1000
124	26CRME000000ACYA	Target Vehicle Right Rear Seat Crossmember Y-Axis Acceleration	60	+	yes		1000
125	20VEHCCG0000ACXA	Target Vehicle CG X-Axis Acceleration	60	+	yes		1500
125A	20VEHCCG0000VEXC	Target Vehicle CG X-Axis Velocity	180				
125B	20VEHCCG0000DCXC	Target Vehicle CG X-Axis Displacement	180				
126	20VEHCCG0000ACYA	Target Vehicle CG Y-Axis Acceleration	60	+	yes		1500
126A	20VEHCCG0000VEYC	Target Vehicle CG Y-Axis Velocity	180				
126B	20VEHCCG0000DCYC	Target Vehicle CG Y-Axis Displacement	180				
127	20VEHCCG0000ACZA	Target Vehicle CG Z-Axis Acceleration	60	+	yes		1500
127A	20VEHCCG0000VEZC	Target Vehicle CG Z-Axis Velocity	180				
127B	20VEHCCG0000DCZC	Target Vehicle CG Z-Axis Displacement	180				
127C	20VEHCCG0000ACRA	Target Vehicle CG Resultant Acceleration	60				

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Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
128	22ENGNTP0000ACXA	Target Vehicle Top of Engine X-Axis Acceleration	60 +	yes		2000
129	22ENGNBO0000ACXA	Target Vehicle Bottom of Engine X-Axis Acceleration	60 +	yes		2000
130	22DASH000000ACXA	Target Vehicle Dash Center X-Axis Acceleration	60 +	yes		1500
131	21SETRMI0000ACXA	Target Vehicle Left Side Driver Mid Seat Track X-axis Acceleration	60 +	yes		1500
132	21PEAC000000ACXA	Target Vehicle Acceleration Pedal X-Axis Acceleration	60 +	yes		2000
133	21PEAC000000ACYA	Target Vehicle Acceleration Pedal Y-Axis Acceleration	60 +	yes		2000
134	21PEAC000000ACZA	Target Vehicle Acceleration Pedal Z-Axis Acceleration	60 +	yes		2000
134A	21PEAC000000ACRA	Target Vehicle Acceleration Pedal Resultant Acceleration	60			
135	21PEBR000000ACXA	Target Vehicle Brake Pedal X-Axis Acceleration	60 +	yes		2000
136	21PEBR000000ACYA	Target Vehicle Brake Pedal Y-Axis Acceleration	60 +	yes		2000
137	21PEBR000000ACZA	Target Vehicle Brake Pedal Z-Axis Acceleration	60 +	yes		2000
137A	21PEBR000000ACRA	Target Vehicle Brake Pedal Resultant Acceleration	60			
138	23VEHCRI0000ACXA	Target Vehicle Right Front Brake Caliper X-Axis Acceleration	60 +	yes		2000
139	21VEHCLE0000ACXA	Target Vehicle Left Front Brake Caliper X-Axis Acceleration	60 +	yes		2000
140	21VEHC000001ACXA	Target Vehicle Foot Rest X-Axis Acceleration	60 +	yes		2000
141	21VEHC000001ACYA	Target Vehicle Foot Rest Y-Axis Acceleration	60 +	yes		2000
142	21VEHC000001ACZA	Target Vehicle Foot Rest Z-Axis Acceleration	60 +	yes		2000
142A	21VEHC000001ACRA	Target Vehicle Foot Rest Resultant Acceleration	60			
143	21SEBA0000B5FO0A	Target Vehicle Driver Lap Belt Force	60 +	yes		15568
144	21SEBA0000B3FO0A	Target Vehicle Driver Shoulder Belt Force	60 +	yes		15568
145	23SEBA0000B5FO0A	Target Vehicle Passenger Lap Belt Force	60 +	yes		15568
146	23SEBA0000B3FO0A	Target Vehicle Passenger Shoulder Belt Force	60 +	yes		15568
147	21AIRBFR0100EV0A	Target Vehicle Driver Front Airbag 1 Inductor	1000 +	no		5
148	21AIRBFR0200EV0A	Target Vehicle Driver Front Airbag 2 Inductor	1000 +	no		5
149	23AIRBFR0100EV0A	Target Vehicle Passenger Front Airbag 1 Inductor	1000 +	no		5
150	23AIRBFR0200EV0A	Target Vehicle Passenger Front Airbag 2 Inductor	1000 +	no		5
151	11HEADCG00H3ACXA	Bullet Vehicle Driver Head X-Axis Acceleration	1000 +	yes		1000
152	11HEADCG00H3ACYA	Bullet Vehicle Driver Head Y-Axis Acceleration	1000 +	yes		1000
153	11HEADCG00H3ACZA	Bullet Vehicle Driver Head Z-Axis Acceleration	1000 +	yes		1000
153A	11HEADCG00H3ACRA	Bullet Vehicle Driver Head Resultant Acceleration	1000			
154	11HEADCGRDH3ACXA	Bullet Vehicle Driver Head X-Axis Acceleration Redundant	1000 +	yes		1000
155	11HEADCGRDH3ACYA	Bullet Vehicle Driver Head Y-Axis Acceleration Redundant	1000 +	yes		1000
156	11HEADCGRDH3ACZA	Bullet Vehicle Driver Head Z-Axis Acceleration Redundant	1000 +	yes		1000
156A	11HEADCGRDH3ACRA	Bullet Vehicle Driver Head Resultant Acceleration Redundant	1000			
157	11NECKUP00H3FOXA	Bullet Vehicle Driver Neck X-Axis Force	1000 +	yes		8896
158	11NECKUP00H3FOYA	Bullet Vehicle Driver Neck Y-Axis Force	1000 +	yes		8896
159	11NECKUP00H3FOZA	Bullet Vehicle Driver Neck Z-Axis Force	1000 +	yes		13344

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Channel	ISO mnemonic	Channel Title	Filter	Class	Flip	Zero	Full Scale
160	11NECKUP00H3MOXA	Bullet Vehicle Driver Neck Moment About X Axis	600	+	yes	282.5	
161	11NECKUP00H3MOYA	Bullet Vehicle Driver Neck Moment About Y Axis	600	+	yes	282.5	
162	11NECKUP00H3MOZA	Bullet Vehicle Driver Neck Moment About Z Axis	600	+	yes	282.5	
163	11CHSTCG00H3ACXA	Bullet Vehicle Driver Chest X-Axis Acceleration	180	+	yes	1000	
164	11CHSTCG00H3ACYA	Bullet Vehicle Driver Chest Y-Axis Acceleration	180	+	yes	1000	
165	11CHSTCG00H3ACZA	Bullet Vehicle Driver Chest Z-Axis Acceleration	180	+	yes	1000	
165A	11CHSTCG00H3ACRA	Bullet Vehicle Driver Chest Resultant Acceleration	180				
166	11CHSTCGRDH3ACXA	Bullet Vehicle Driver Chest X-Axis Acceleration Redundant	180	+	yes	1000	
167	11CHSTCGRDH3ACYA	Bullet Vehicle Driver Chest Y-Axis Acceleration Redundant	180	+	yes	1000	
168	11CHSTCGRDH3ACZA	Bullet Vehicle Driver Chest Z-Axis Acceleration Redundant	180	+	yes	1000	
168A	11CHSTCGRDH3ACRA	Bullet Vehicle Driver Chest Resultant Acceleration Redundant	180				
169	11CHST0000H3DSXA	Bullet Vehicle Driver Chest X-Axis Displacement	600	+	yes	100	
170	11PELVCG00H3ACXA	Bullet Vehicle Driver Pelvis X-Axis Acceleration	1000	+	yes	600	
171	11PELVCG00H3ACYA	Bullet Vehicle Driver Pelvis Y-Axis Acceleration	1000	+	yes	600	
172	11PELVCG00H3ACZA	Bullet Vehicle Driver Pelvis Z-Axis Acceleration	1000	+	yes	600	
172A	11PELVCG00H3ACRA	Bullet Vehicle Driver Pelvis Resultant Acceleration	1000				
173	11FEMRLL00H3FOZA	Bullet Vehicle Driver Left Femur Z-Axis Force	600	+	yes	13344	
174	11FEMRRL00H3FOZA	Bullet Vehicle Driver Right Femur Z-Axis Force	600	+	yes	13344	
175	13HEADCG00HFACXA	Bullet Vehicle Passenger Head X-Axis Acceleration	1000	+	yes	1000	
176	13HEADCG00HFACYA	Bullet Vehicle Passenger Head Y-Axis Acceleration	1000	+	yes	1000	
177	13HEADCG00HFACZA	Bullet Vehicle Passenger Head Z-Axis Acceleration	1000	+	yes	1000	
177A	13HEADCG00HFACRA	Bullet Vehicle Passenger Head Resultant Acceleration	1000				
178	13NECKUP00HFFOXA	Bullet Vehicle Passenger Neck X-Axis Force	1000	+	yes	8896	
179	13NECKUP00HFFOYA	Bullet Vehicle Passenger Neck Y-Axis Force	1000	+	yes	8896	
180	13NECKUP00HFFOZA	Bullet Vehicle Passenger Neck Z-Axis Force	1000	+	yes	13344	
181	13NECKUP00HFMOXA	Bullet Vehicle Passenger Neck Moment About X Axis	600	+	yes	282.5	
182	13NECKUP00HFMOYA	Bullet Vehicle Passenger Neck Moment About Y Axis	600	+	yes	282.5	
183	13NECKUP00HFMOZA	Bullet Vehicle Passenger Neck Moment About Z Axis	600	+	yes	282.5	
184	13CHSTCG00HFACXA	Bullet Vehicle Passenger Chest X-Axis Acceleration	180	+	yes	1000	
185	13CHSTCG00HFACYA	Bullet Vehicle Passenger Chest Y-Axis Acceleration	180	+	yes	1000	
186	13CHSTCG00HFACZA	Bullet Vehicle Passenger Chest Z-Axis Acceleration	180	+	yes	1000	
186A	13CHSTCG00HFACRA	Bullet Vehicle Passenger Chest Resultant Acceleration	180				
187	13CHST0000HFDSXA	Bullet Vehicle Passenger Chest X-Axis Displacement	600	+	yes	100	
188	13PELVCG00HFACXA	Bullet Vehicle Passenger Pelvis X-Axis Acceleration	1000	+	yes	1000	
189	13PELVCG00HFACYA	Bullet Vehicle Passenger Pelvis Y-Axis Acceleration	1000	+	yes	1000	
190	13PELVCG00HFACZA	Bullet Vehicle Passenger Pelvis Z-Axis Acceleration	1000	+	yes	1000	
190A	13PELVCG00HFACRA	Bullet Vehicle Passenger Pelvis Resultant Acceleration	1000				

Command File Test Number 080403

Channel	ISO mnemonic	Channel Title	Filter	Class	Flip	Zero	Full Scale
191	13FEMRLL00HFFOZA	Bullet Vehicle Passenger Left Femur Z-Axis Force	600	+	yes	13344	
192	13FEMRRL00HFFOZA	Bullet Vehicle Passenger Right Femur Z-Axis Force	600	+	yes	13344	
193	13KNSLLE00HFDSXA	Bullet Vehicle Passenger Left Knee X-Axis Displacement	180	+	yes	40	
194	13TIBILULXHFFOXA	Bullet Vehicle Passenger Left Upper Tibia X-Axis Force	600	+	yes	8896	
195	13TIBILULXHFFOZA	Bullet Vehicle Passenger Left Upper Tibia Z-Axis Force	600	+	yes	8896	
196	13TIBILULXHFMOXA	Bullet Vehicle Passenger Left Upper Tibia Moment About X Axis	600	+	yes	282.5	
197	13TIBILULXHFMOYA	Bullet Vehicle Passenger Left Upper Tibia Moment About Y Axis	600	+	yes	282.5	
198	13TIBILELXHFCAXA	Bullet Vehicle Passenger Left Tibia X-Axis Acceleration	1000	+	yes	1000	
199	13TIBILELXHFCAYA	Bullet Vehicle Passenger Left Tibia Y-Axis Acceleration	1000	+	yes	1000	
200	13TIBILLLXHFFOXA	Bullet Vehicle Passenger Left Lower Tibia X-Axis Force	600	+	yes	8896	
201	13TIBILLLXHFFOYA	Bullet Vehicle Passenger Left Lower Tibia Y-Axis Force	600	+	yes	8896	
202	13TIBILLLXHFFOZA	Bullet Vehicle Passenger Left Lower Tibia Z-Axis Force	600	+	yes	8896	
203	13TIBILLLXHFMOXA	Bullet Vehicle Passenger Left Lower Tibia Moment About X Axis	600	+	yes	282.5	
204	13TIBILLLXHFMOYA	Bullet Vehicle Passenger Left Lower Tibia Moment About Y Axis	600	+	yes	282.5	
205	13FOOTLELXHFNANXA	Bullet Vehicle Passenger Left Foot X-Axis Angular Displacement	180	+	no	318	
206	13FOOTLELXHFNANYA	Bullet Vehicle Passenger Left Foot Y-Axis Angular Displacement	180	+	no	318	
207	13FOOTLELXHFNANZA	Bullet Vehicle Passenger Left Foot Z-Axis Angular Displacement	180	+	no	318	
208	13FOOTLELXHFCAXA	Bullet Vehicle Passenger Left Foot X-Axis Acceleration	1000	+	yes	1000	
209	13FOOTLELXHFCAYA	Bullet Vehicle Passenger Left Foot Y-Axis Acceleration	1000	+	yes	1000	
210	13FOOTLELXHFCAZA	Bullet Vehicle Passenger Left Foot Z-Axis Acceleration	1000	+	yes	1000	
210A	13FOOTLELXHFCARA	Bullet Vehicle Passenger Left Foot Resultant Acceleration	1000				
211	13KNSLRI00HFDSXA	Bullet Vehicle Passenger Right Knee X-Axis Displacement	180	+	yes	40	
212	13TIBIRULXHFFOXA	Bullet Vehicle Passenger Right Upper Tibia X-Axis Force	600	+	yes	8896	
213	13TIBIRULXHFFOZA	Bullet Vehicle Passenger Right Upper Tibia Z-Axis Force	600	+	yes	8896	
214	13TIBIRULXHFMOXA	Bullet Vehicle Passenger Right Upper Tibia Moment About X Axis	600	+	yes	282.5	
215	13TIBIRULXHFMOYA	Bullet Vehicle Passenger Right Upper Tibia Moment About Y Axis	600	+	yes	282.5	
216	13TIBIRILXHFCAXA	Bullet Vehicle Passenger Right Tibia X-Axis Acceleration	1000	+	yes	1000	
217	13TIBIRILXHFCAYA	Bullet Vehicle Passenger Right Tibia Y-Axis Acceleration	1000	+	yes	1000	
218	13TIBIRLLXHFFOXA	Bullet Vehicle Passenger Right Lower Tibia X-Axis Force	600	+	yes	8896	
219	13TIBIRLLXHFFOYA	Bullet Vehicle Passenger Right Lower Tibia Y-Axis Force	600	+	yes	8896	
220	13TIBIRLLXHFFOZA	Bullet Vehicle Passenger Right Lower Tibia Z-Axis Force	600	+	yes	8896	
221	13TIBIRLLXHFMOXA	Bullet Vehicle Passenger Right Lower Tibia Moment About X Axis	600	+	yes	282.5	
222	13TIBIRLLXHFMOYA	Bullet Vehicle Passenger Right Lower Tibia Moment About Y Axis	600	+	yes	282.5	
223	13FOOTRILXHFNANXA	Bullet Vehicle Passenger Right Foot X-Axis Angular Displacement	180	+	no	318	
224	13FOOTRILXHFNANYA	Bullet Vehicle Passenger Right Foot Y-Axis Angular Displacement	180	+	no	318	
225	13FOOTRILXHFNANZA	Bullet Vehicle Passenger Right Foot Z-Axis Angular Displacement	180	+	no	318	
226	13FOOTRILXHFCAXA	Bullet Vehicle Passenger Right Foot X-Axis Acceleration	1000	+	yes	1000	

Command File Test Number 080403

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
227	13FOOTRILXHFACYA	Bullet Vehicle Passenger Right Foot Y-Axis Acceleration	1000	+	yes	1000
228	13FOOTRILXHFACZA	Bullet Vehicle Passenger Right Foot Z-Axis Acceleration	1000	+	yes	1000
228A	13FOOTRILXHFACRA	Bullet Vehicle Passenger Right Foot Resultant Acceleration	1000			
229	14CRME000000ACXA	Bullet Vehicle Left Rear Seat Crossmember X-Axis Acceleration	60	+	yes	1000
230	14CRME000000ACYA	Bullet Vehicle Left Rear Seat Crossmember Y-Axis Acceleration	60	+	yes	1000
231	16CRME000000ACXA	Bullet Vehicle Right Rear Seat Crossmember X-Axis Acceleration	60	+	yes	1000
232	16CRME000000ACYA	Bullet Vehicle Right Rear Seat Crossmember Y-Axis Acceleration	60	+	yes	1000
233	10VEHCCG0000ACXA	Bullet Vehicle CG X-Axis Acceleration	60	+	yes	1500
233A	10VEHCCG0000VEXC	Bullet Vehicle CG X-Axis Velocity	180			
233B	10VEHCCG0000DCXC	Bullet Vehicle CG X-Axis Displacement	180			
234	10VEHCCG0000ACYA	Bullet Vehicle CG Y-Axis Acceleration	60	+	yes	1500
234A	10VEHCCG0000VEYC	Bullet Vehicle CG Y-Axis Velocity	180			
234B	10VEHCCG0000DCYC	Bullet Vehicle CG Y-Axis Displacement	180			
235	10VEHCCG0000ACZA	Bullet Vehicle CG Z-Axis Acceleration	60	+	yes	1500
235A	10VEHCCG0000VEZC	Bullet Vehicle CG Z-Axis Velocity	180			
235B	10VEHCCG0000DCZC	Bullet Vehicle CG Z-Axis Displacement	180			
235C	10VEHCCG0000ACRA	Bullet Vehicle CG Resultant Acceleration	60			
236	12ENGNTP0000ACXA	Bullet Vehicle Top of Engine X-Axis Acceleration	60	+	yes	2000
237	12ENGNBO0000ACXA	Bullet Vehicle Bottom of Engine X-Axis Acceleration	60	+	yes	2000
238	12DASH000000ACXA	Bullet Vehicle Dash Center X-Axis Acceleration	60	+	yes	1500
239	11SETRMI0000ACXA	Bullet Vehicle Left Side Driver Mid Seat Track X-Axis Acceleration	60	+	yes	1500
240	11PEAC000000ACXA	Bullet Vehicle Acceleration Pedal X-Axis Acceleration	60	+	yes	2000
241	11PEAC000000ACYA	Bullet Vehicle Acceleration Pedal Y-Axis Acceleration	60	+	yes	2000
242	11PEAC000000ACZA	Bullet Vehicle Acceleration Pedal Z-Axis Acceleration	60	+	yes	2000
242A	11PEAC000000ACRA	Bullet Vehicle Acceleration Pedal Resultant Acceleration	60			
243	11PEBR000000ACXA	Bullet Vehicle Brake Pedal X-Axis Acceleration	60	+	yes	2000
244	11PEBR000000ACYA	Bullet Vehicle Brake Pedal Y-Axis Acceleration	60	+	yes	2000
245	11PEBR000000ACZA	Bullet Vehicle Brake Pedal Z-Axis Acceleration	60	+	yes	2000
245A	11PEBR000000ACRA	Bullet Vehicle Brake Pedal Resultant Acceleration	60			
246	13VEHCRI0000ACXA	Bullet Vehicle Right Front Brake Caliper X-Axis Acceleration	60	+	yes	2000
247	11VEHCLE0000ACXA	Bullet Vehicle Left Front Brake Caliper X-Axis Acceleration	60	+	yes	2000
248	11VEHC000001ACXA	Bullet Vehicle Foot Rest X-Axis Acceleration	60	+	yes	2000
249	11VEHC000001ACYA	Bullet Vehicle Foot Rest Y-Axis Acceleration	60	+	yes	2000
250	11VEHC000001ACZA	Bullet Vehicle Foot Rest Z-Axis Acceleration	60	+	yes	2000
250A	11VEHC000001ACRA	Bullet Vehicle Foot Rest Resultant Acceleration	60			
251	11SEBA0000B5FO0A	Bullet Vehicle Driver Lap Belt Force	1000	+	yes	15568
252	11SEBA0000B3FO0A	Bullet Vehicle Driver Shoulder Belt Force	1000	+	yes	15568

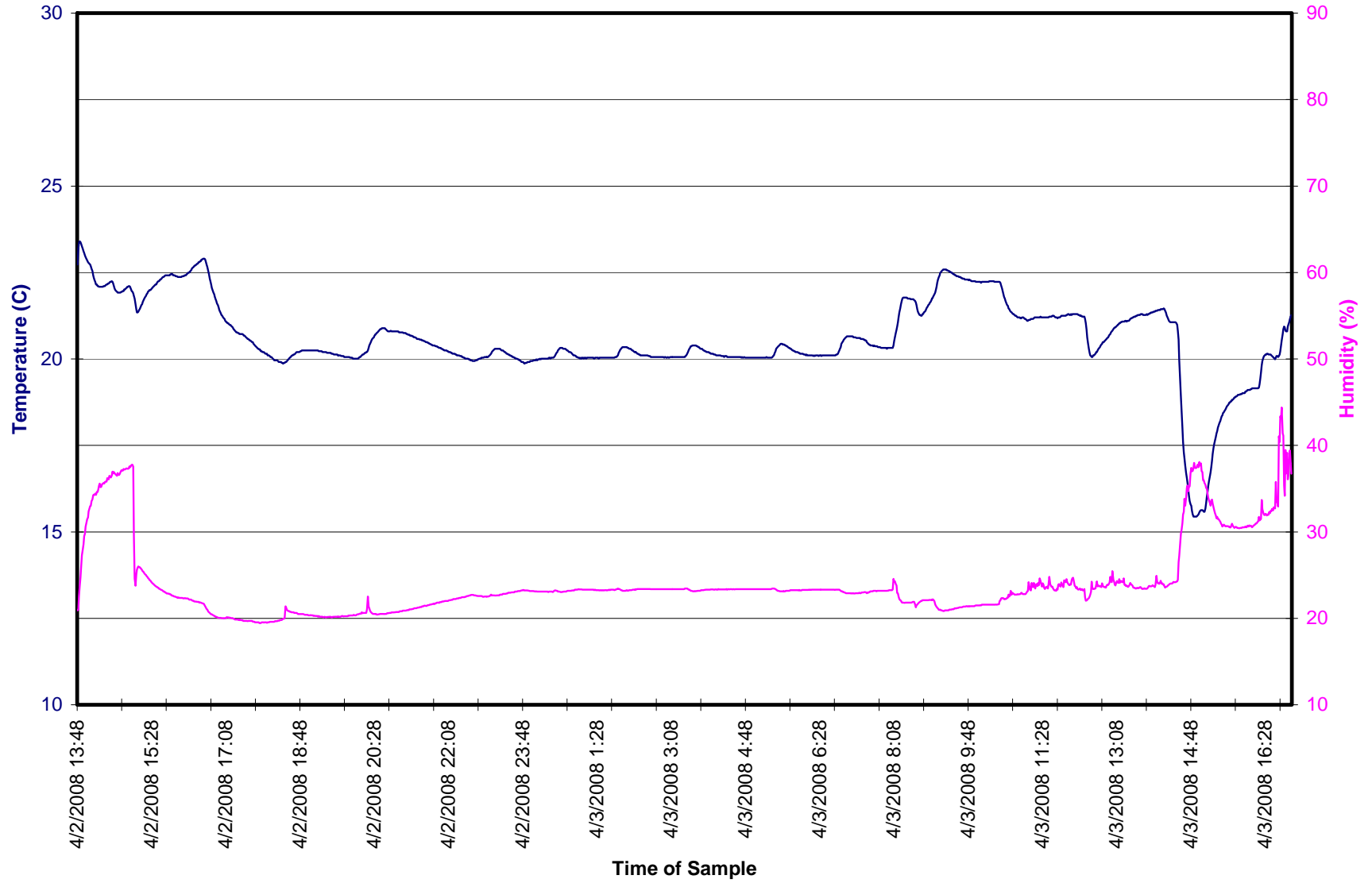
Command File Test Number 080403

Channel	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
253	13SEBA0000B5FO0A	Bullet Vehicle Passenger Lap Belt Force	1000	+	yes	15568
254	13SEBA0000B3FO0A	Bullet Vehicle Passenger Shoulder Belt Force	1000	+	yes	15568
255	11AIRBFR0100EV0A	Bullet Vehicle Driver Front Airbag 1 Inductor	1000	+	no	5
256	11AIRBFR0200EV0A	Bullet Vehicle Driver Front Airbag 2 Inductor	1000	+	no	5
257	13AIRBFR0100EV0A	Bullet Vehicle Passenger Front Airbag 1 Inductor	1000	+	no	5
258	13AIRBFR0200EV0A	Bullet Vehicle Passenger Front Airbag 2 Inductor	1000	+	no	5

2002 FORD FOCUS

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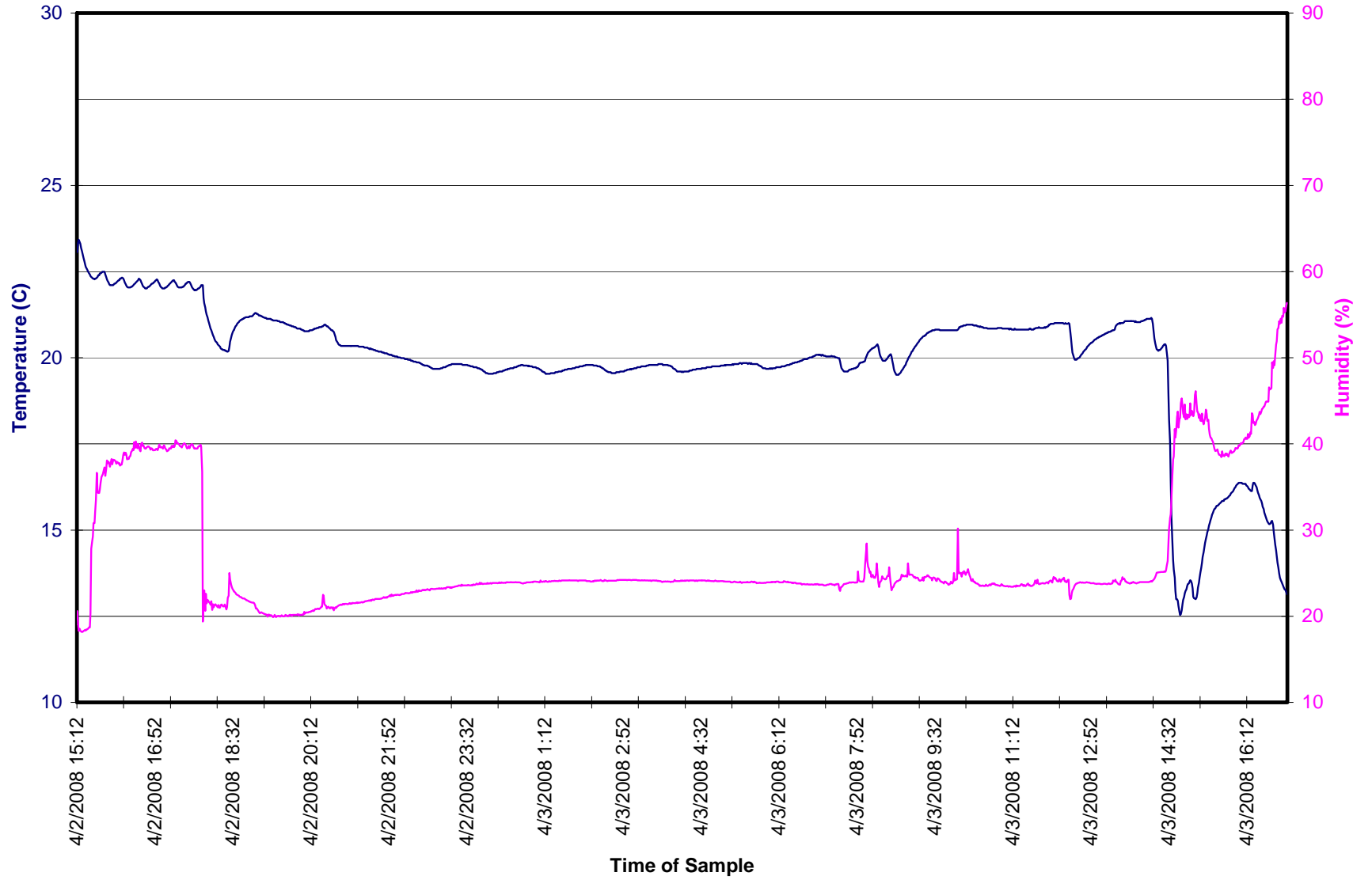
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2007 CHEVROLET SILVERADO

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Appendix E

INSIA Report on Structural Measurements

STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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March, 1999

REPORT DOCUMENTATION PAGE**Title:**

STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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28031 – Madrid – Spain

Supplementary notes:

Under contract to:

THE EUROPEAN COMMUNITY

Project: “Improvement of Crash Compatibility between Cars”
Contract N°: RO – 97 – SC.1064

Abstract:

The main aim of this working package -*Structural Survey of Cars*- is the reduction of incompatibilities, both structural and geometric, between passenger vehicles and their potential collision partners. The understanding of these incompatibilities needs a previous step for the knowledge of the existing car fleet.

Firstly, it is necessary to select the main resistant elements in the car body. These elements have to be chosen from the point of view of the sort of collision that we want to study, that is to say, frontal and side impacts.

Detailed measurements have been taken from exterior and interior elements, spread to a total number of 74 models selected from the main vehicle manufacturers at Spain. All of them are being sold this year. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars will be defined.

This report shows the methodology followed to get these measurements.

Subject terms:

Crash compatibility, geometric compatibility, resistant elements, measure methodology

Date:

March, 1999

1.- METHODOLOGY.

Detailed measurements have been taken from exterior and interior elements. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars have been defined. These elements are presented in the following figures, and have been divided in two main groups according to the vehicle zones studied in this project.

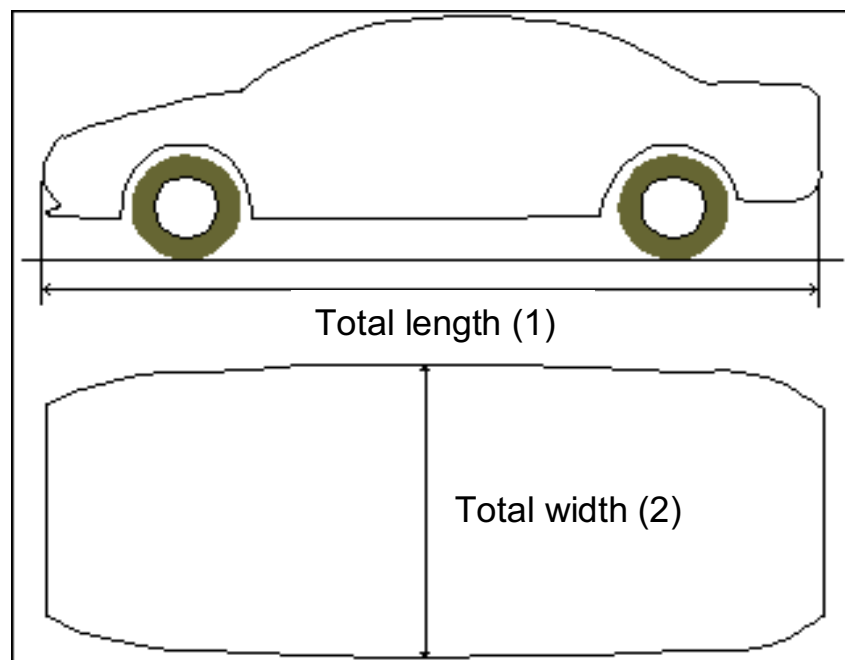


Figure 1.- Definition of the main resistant elements. General dimensions.

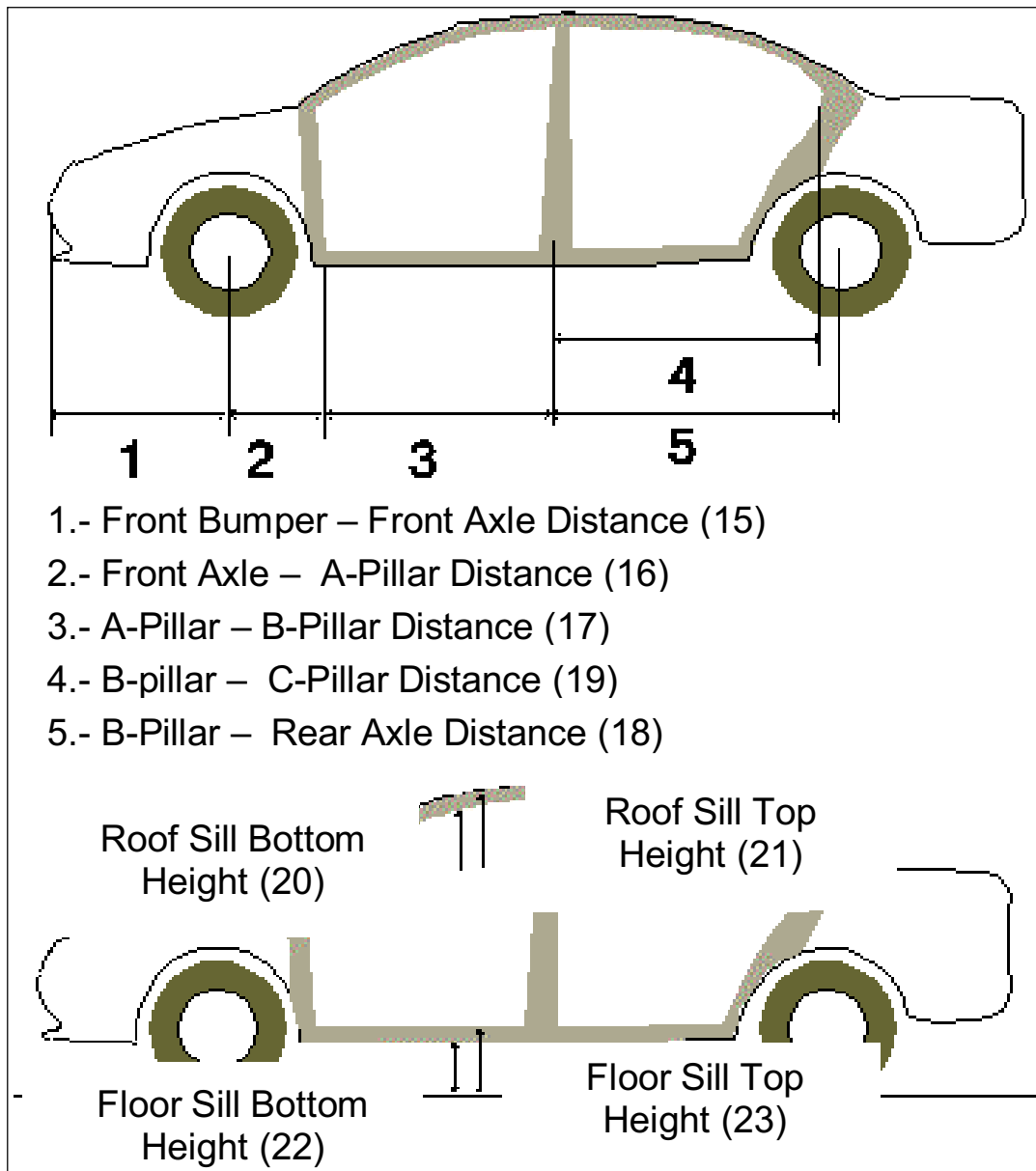


Figure 2.- Definition of the main resistant elements. Side elements.

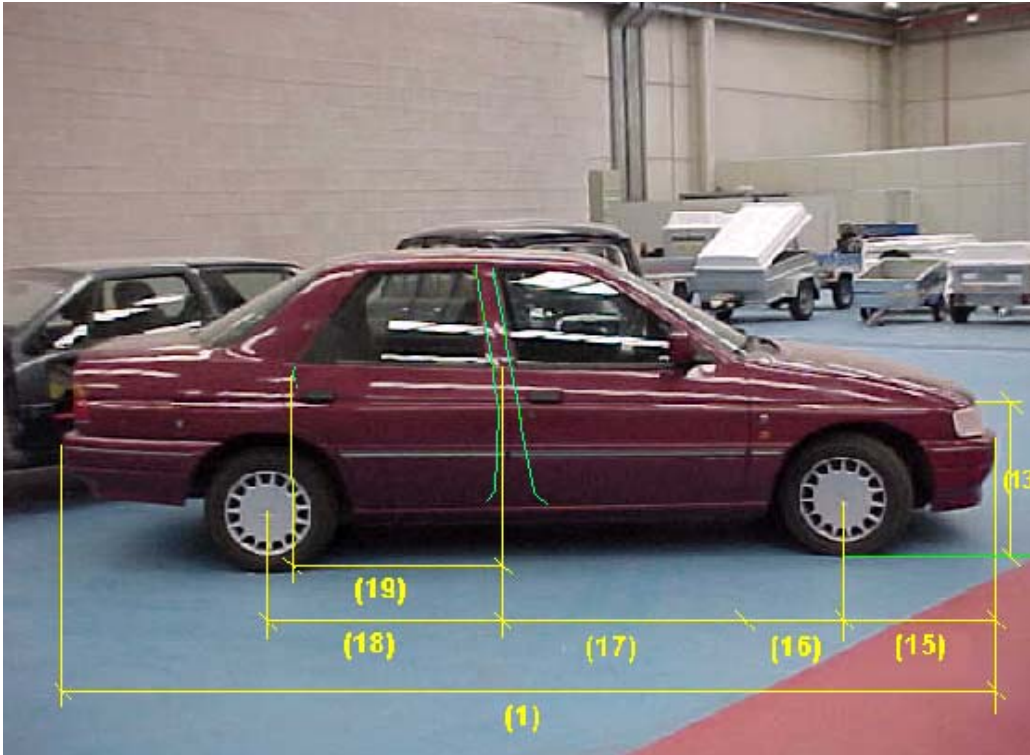
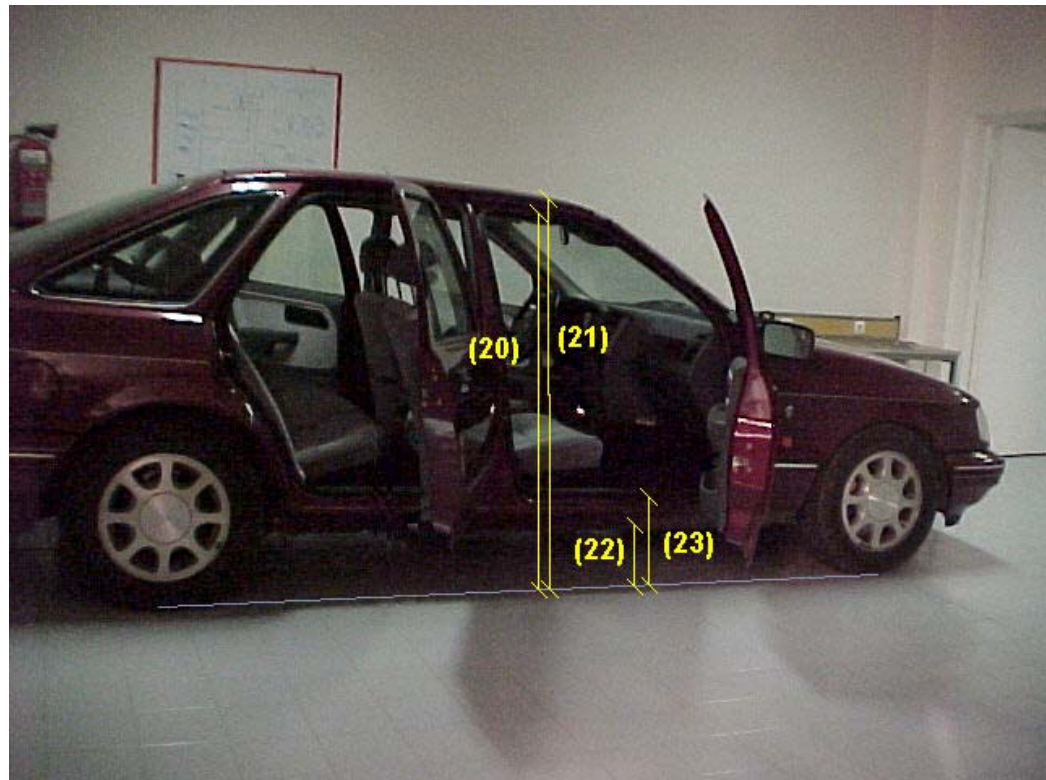


Figure 3.-
Measurements of
the side resistant
elements (outer).

Figure 4.- Measurements
of the side resistant
elements (inner).



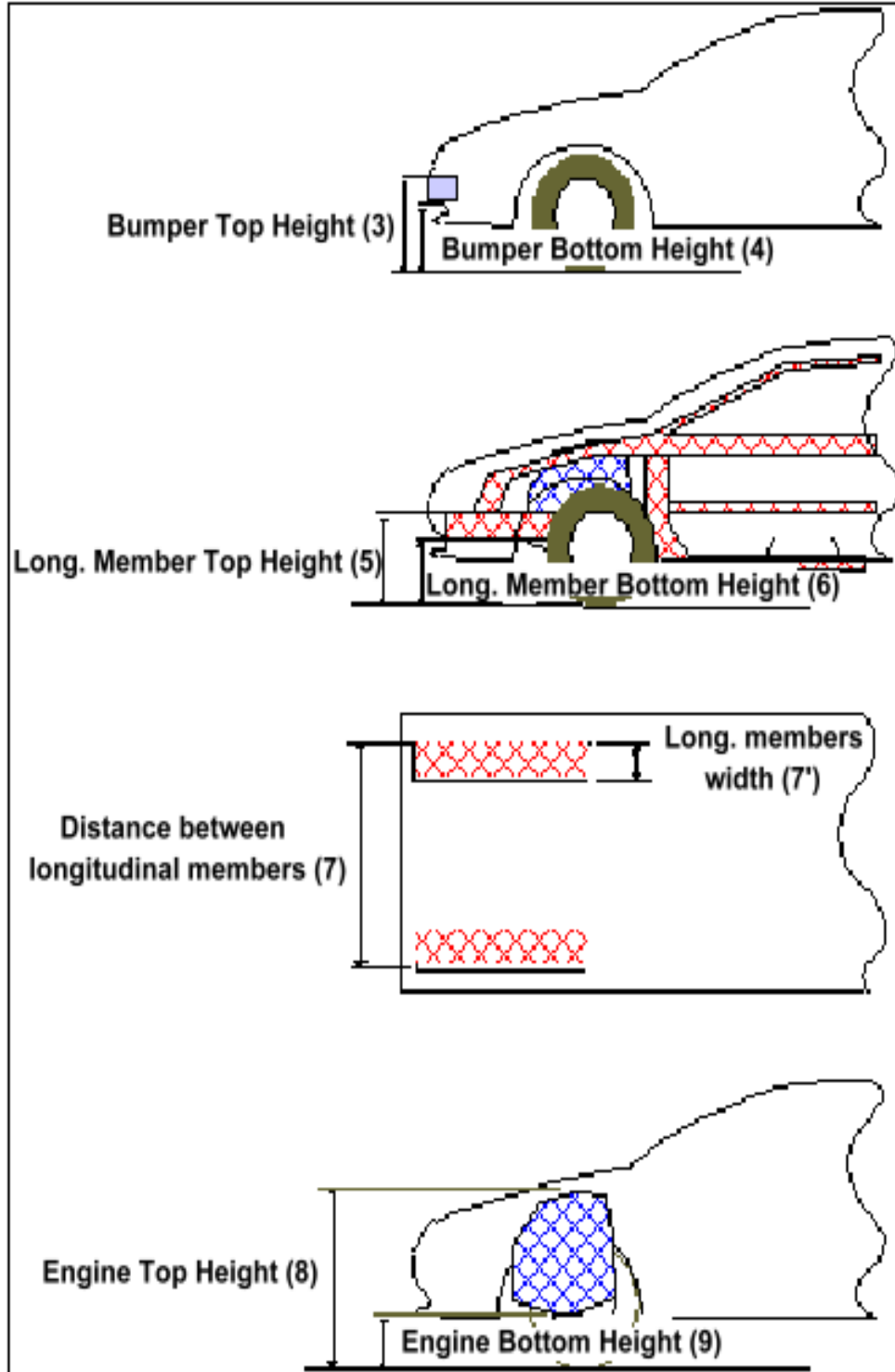


Figure 5.- Definition of the main resistant elements. Front elements.

Figure 6.-
Measurements of the
main resistant elements.
Front elements 1.

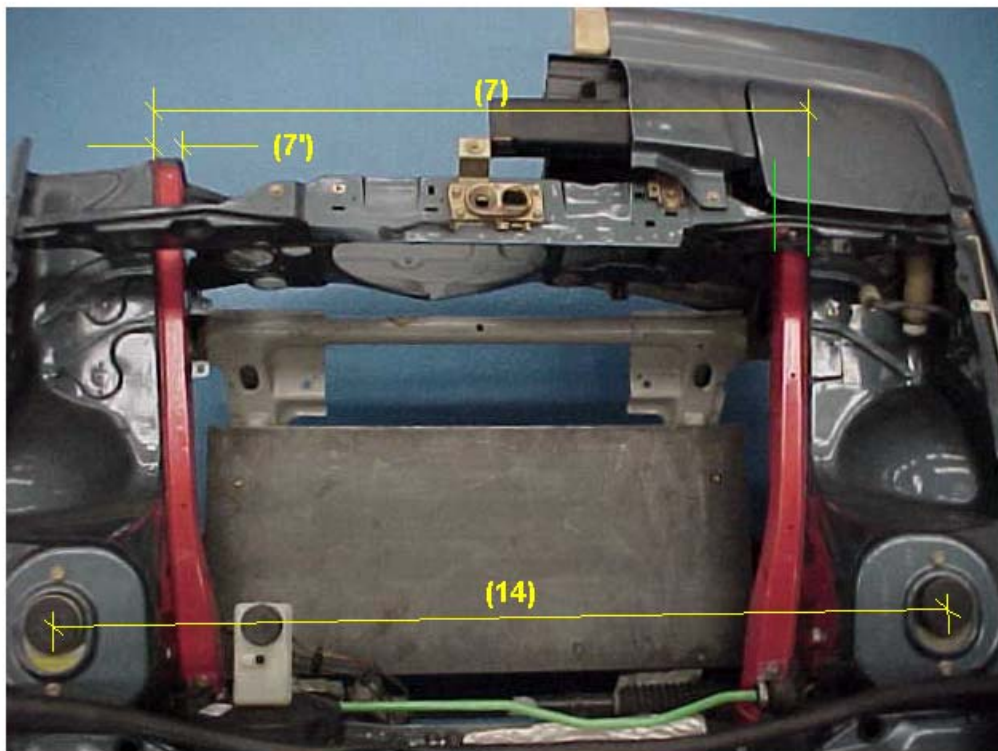
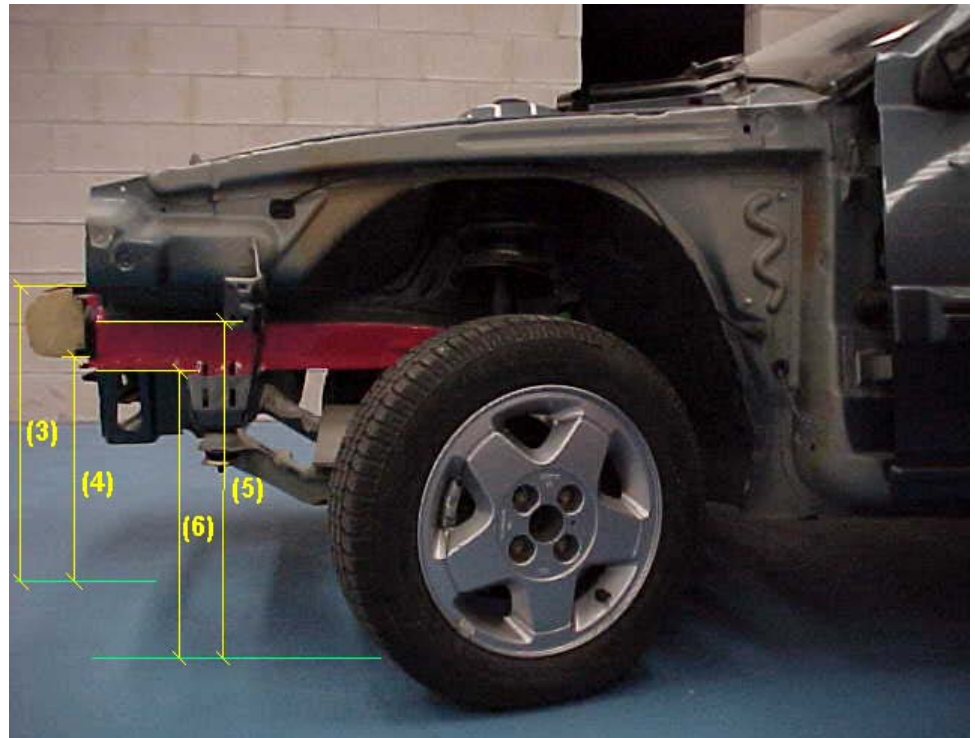


Figure 7.-
Measurements
of the main
resistant
elements. Front
elements 2.

Figure 8.-
Measurements of
the main resistant
elements. Front
elements 3.

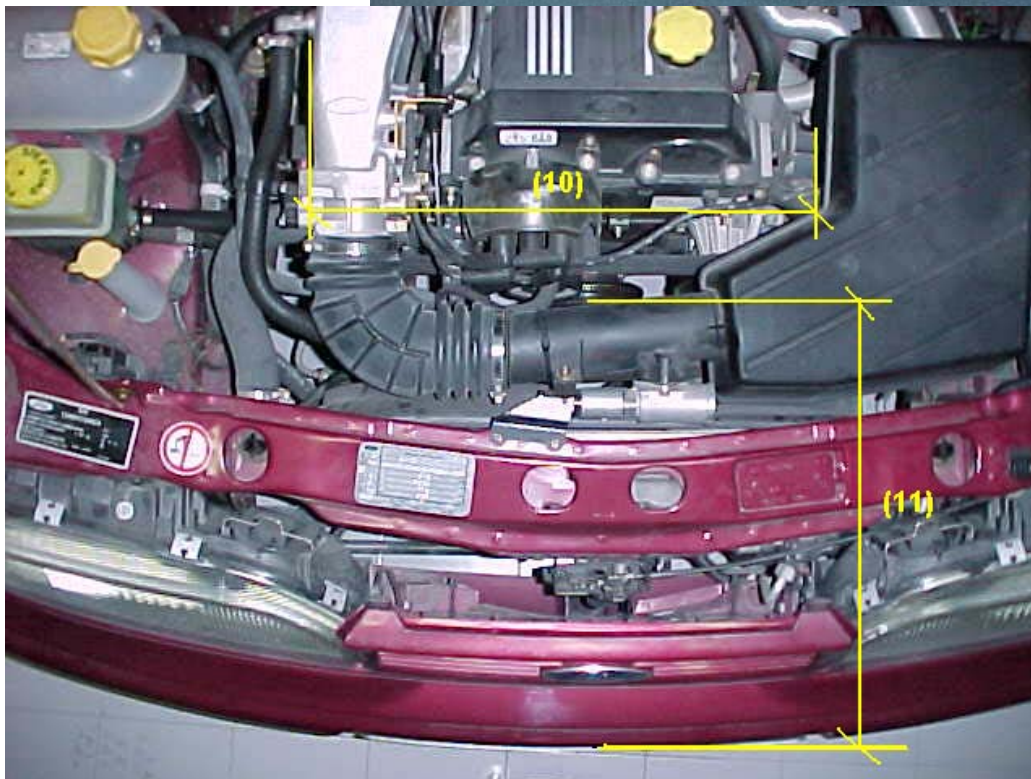
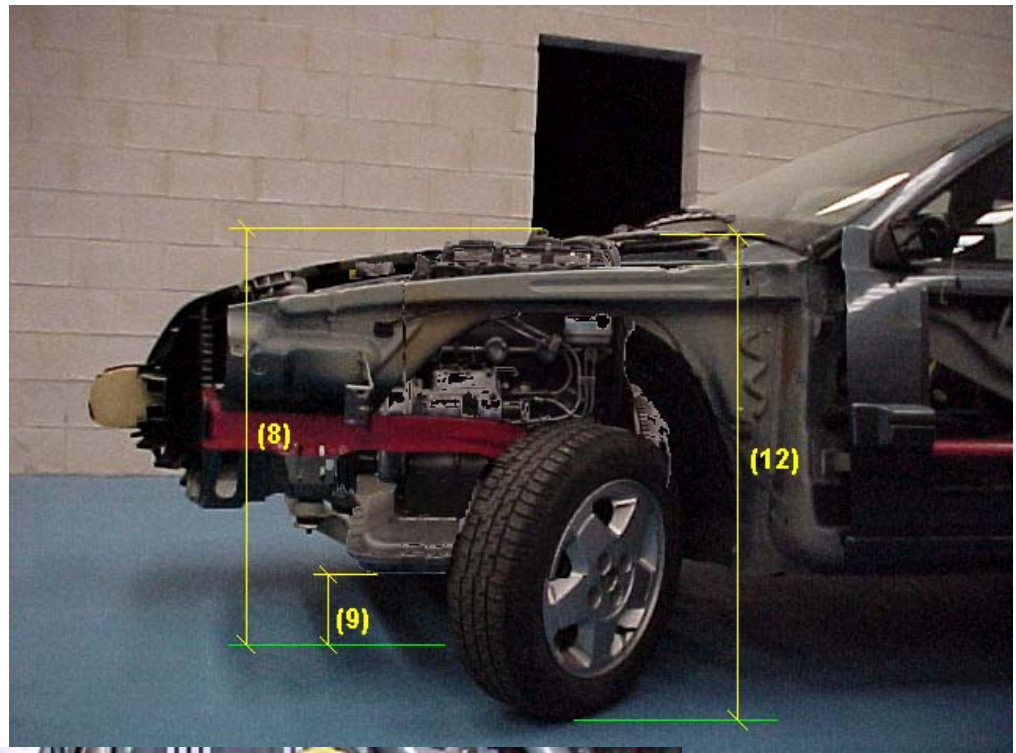


Figure 9.-
Definition of
the main
resistant
elements. Front
elements
(Longitudinal
engine).

The procedure considered to measure these elements is described as follows, where it is indicated the location of these ones in the Excel Sheet (SURVEY.XLS) into brackets:

FRONT ELEMENTS

- **Total Length –(1)- (Side & Front Sheets - C column):** distance between the point in the front bumper further on and the point in the rear bumper further back.
- **Weight (Side & Front Sheets - D column):** mass, including an average driver weight (70 kg), and the fuel tank mass (at half-capacity).
- **Total Width –(2)- (Side & Front Sheets - E column):** distance between the outer side points in a transverse plane of the vehicle (middle plane between the front and rear axles).
- **Bumper bottom height –(4)- (Front Sheet G column):** distance between the ground and the lowest point on the front bumper, being a resistant member (aerodynamic elements under the front bumper are not considered).
- **Bumper top height –(3)- (Front Sheet H column):** distance between the ground and the highest point on the front bumper, being a resistant member (aerodynamic elements are not considered).
- **Longitudinal member top height –(5)- (Front Sheet I column):** distance between the ground and the highest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint (when accessible).
- **Longitudinal member bottom height –(6)- (Front Sheet J column):** distance between the ground and the lowest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint.
- **Distance between longitudinal members (Front Sheet K column):** transverse distance between extreme points in longitudinal members, measured approximately in the front bumper-longitudinal member joint.

Depending on the accessibility of these members, the extreme points are the inner points (I) or the outer points (O).

- **Longitudinal member width -7'- (Front Sheet L column):** width of one of the longitudinal members, measured approximately in the front bumper-longitudinal member joint.

-
- **Engine top height (8) (Front Sheet N column):** distance between the ground and the highest point on the engine that can be a resistant member in case of accident (usually, the highest point on the head, or the highest point of the inlet or exhaust manifolds).
 - **Engine bottom height (9) (Front Sheet M column):** distance between the ground and the lowest point on the engine (usually, the lowest point on the crankcase).
 - **Engine and Gearbox width (10) (Front Sheet O & P columns):**
 - *Transverse configuration engine:* distance between extreme points in the gearbox-cylinder block unit or others resistant members attached to the cylinder block unit, i.e. fan belts (from a front point of view).
 - *Longitudinal configuration engine:* distance between extreme points in the cylinder block unit (from a front point of view).
 - **Front bumper - Engine distance (11) (Front Sheet Q column):** distance between the point in the front bumper further on and the point in the engine further on that is a resistant element, i.e. the further on point of the exhaust manifold placed in the front of the engine.
 - **Front shock absorber fixing width (14) (Front Sheet R column):** transverse distance between the front shock absorber - body car joints.
 - **Front shock absorber fixing height (12) (Front Sheet S column):** distance between the ground and the front shock absorber-body car joint.
 - **Bonnet leading edge height (Front Sheet T column):** distance between the ground and the bonnet edge further on.

SIDE ELEMENTS

- **Front bumper - Front axle distance (15) (Side Sheet G column):** distance between the point in the front bumper further on and the middle point in the front tyre-road contact patch.
- **Front axle - A Pillar distance (16) (Side Sheet H column):** distance between the middle point in the front tyre-road contact patch and the point in the A-pillar further back.
- **A Pillar - B Pillar distance (17) (Side Sheet I column):** distance between the point in the A-pillar further back and the middle point in the B-pillar.
- **B Pillar - C Pillar distance (19) (Side Sheet J column):** distance between the middle point in the B-pillar and the point in the C-pillar further back (only 4/5-door vehicles).
- **B Pillar - Rear axle distance (18) (Side Sheet K column):** distance between the middle point in the B-pillar and the middle point in the rear tyre-road contact patch.
- **Roof sill bottom height (20) (Side Sheet L column):** distance between the ground and the lowest point on the roof sill, measured in the front door middle point.
- **Roof sill top height (21) (Side Sheet M column):** distance between the ground and the highest point on the roof sill (usually located in the sill-roof joint), measured in the front door middle point.
- **Floor sill bottom height (22) (Side Sheet N column):** distance between the ground and the lowest point on the floor sill, measured in the front door middle point.
- **Floor sill top height (23) (Side Sheet O column):** distance between the ground and the highest point on the floor sill, measured in the front door middle point.

NOTE

- N/A: dimension not available.