

**Vehicle Research and Test Center
2005 Chrysler Town & Country
into Front of 2002 Ford Focus
TRC Inc. Test Number: 050906**

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**Final Report
September 2005**

**Prepared For:
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Section 1.0

Purpose and Test Procedure

Purpose

This 120.7 km/h (75.0 mph), full 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 with bullet vehicle moving at 48.8 km/h to impact the target vehicle moving at 71.8 km/h at an impact angle of 0 degrees. The purpose of this test was to evaluate the aggressiveness of the bullet vehicle, a 2005 Chrysler Town & Country MPV, and the vehicle and occupant response of the target vehicle, a 2002 Ford Focus SE 4-door, in this full frontal collinear vehicle-to-vehicle impact mode.

Test Procedure

This test was conducted in accordance with VRTC instructions for a full 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, was instrumented with seventeen (17) accelerometers to measure longitudinal, lateral and vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups. The vehicle's specified impact velocity range was 71.0 to 72.6 km/h.

The bullet vehicle, a 2005 Chrysler Town & Country, was instrumented with seventeen (17) accelerometers to measure longitudinal, lateral and vertical axis accelerations. The driver's and passenger's airbag signals were monitored with inductive pickups. The vehicle's specified impact velocity range was 48.1 to 49.7 km/h.

The bullet vehicle impacted the front of the target, at an impact angle of 0 degrees. The bullet vehicle's centerline was aligned with the target vehicle's 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, 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 nine (9) 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 chest). The target vehicle's driver dummy was also instrumented with upper and lower 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, and three (3) pelvis 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 front outboard designated seating positions 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 driver dummy was instrumented with nine (9) 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 chest). The bullet vehicle's driver dummy was also instrumented with upper and lower 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 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 bullet vehicle's passenger dummy was instrumented with three (3) accelerometers in the head, plus three (3) chest and three (3) pelvis accelerometers to measure longitudinal, lateral, and vertical accelerations. The bullet 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 291 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 eighteen (18) 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 are presented in Section 2.0. The summary of FMVSS 208 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 13 and 18 of this report.

Section 2.0

Car into Car Impact Test Summary

Test Results Summary

This 120.6 km/h 0° full frontal collinear vehicle-to-vehicle impact test was conducted by TRC Inc. on September 6, 2005.

The test vehicle, a 2002 Ford Focus SE 4-door, was equipped with a 4-cylinder engine, automatic transmission, power steering, and power brakes, and dual stage front airbags. The target vehicle's test weight was 1552.8 kg. The target vehicle's fuel system contained 46.2 liters of Stoddard for the test. The target vehicle's impact speed was 71.8 km/h. The bullet test vehicle, a 2005 Chrysler Town & Country MPV, was equipped with a 3.3-liter inline engine, Automatic transmission, power steering, power brakes, and dual stage front airbags. The bullet vehicle's test weight was 2273.0 kg. The bullet vehicle's fuel system contained 70.4 liters of Stoddard for the test. The bullet vehicle's impact speed was 48.8 km/h.

Injury Criteria Data Summary				
	Target Vehicle		Bullet Vehicle	
	Driver	Passenger	Driver	Passenger
HIC (15 ms)	1267	431	233	206
HIC (36 ms)	1394	789	333	245
Chest 3 ms (g)	72.7	50.2	35.1	37.5
Chest Deflection (mm)	32	29	23	29
Upper Neck				
NTF	0.26	0.31	0.24	0.34
NTE	0.57	0.64	0.30	0.37
NCF	0.17	0.24	0.04	0.17
NCE	0.28	0.43	0.06	0.14
Neck Tension (N)	3136	1234	1350	1016
Neck Compression (N)	1321	772	88	147
Left Femur (N)	4654	3874	1277	1570
Right Femur (N)	4470	3813	1565	44
Maximum Upper TI	1.01	1.17	0.46	N/A
Maximum Lower TI	1.01	1.39	0.75	N/A

Data Acquisition Explanations

The target vehicle driver's left foot Y-axis acceleration data channel, 11FOOTLELXH3ACYA, recorded an anomalous data spike at approximately 50 milliseconds. The resultant was also affected.

The target vehicle driver's right knee X-axis displacement data channel, 11KNSLRI00H3DSXA, did not record any useful data throughout the test. Post-test inspection found the cable had been dislodged from the guide.

The target vehicle driver's right lower tibia X-axis moment data channel, 11TIBIRLLXH3MOXA, recorded questionable data throughout the test with multiple data spikes. Post-test inspection found an intermittent connection in the plug that required repair.

The target vehicle passenger's neck Y-axis force data channel, 13NECKUP00HFFOYA, did not record any data between approximately 66 and 108 milliseconds.

The target vehicle passenger's right foot Y-axis acceleration data channel, 13FOOTRIFXHFACYA, recorded no useful data during the test. The resultant was also affected. The channel was identified as bad prior to test and the customer was informed.

The target vehicle's top of engine X-axis acceleration data channel, 12ENGNTTP0000ACXA, recorded questionable data throughout the test.

The target vehicle's left front brake caliper X-axis acceleration data channel, 11VEHCLE0000ACXA, exceeded full-scale at approximately 58 milliseconds.

The target vehicle's driver airbag secondary stage airbag fire sensor channel, 11SENS000002VO0A, did not record a fire event.

The bullet vehicle driver's right foot Y-axis acceleration data channel, 21FOOTRILXH3ACYA, was identified as bad prior to test and the customer was informed. The resultant was also affected.

The bullet vehicle's left rear seat crossmember X-axis acceleration data channel, 24CRME000000ACXA, recorded questionable data throughout the test.

The bullet vehicle's top of engine X-axis acceleration data channel, 22ENGNTTP0000ACXA, did not return to zero post-test.

The bullet vehicle's bottom of engine X-axis acceleration data channel, 22ENGNBO0000ACXA, recorded questionable data throughout the test.

The bullet vehicle's right front brake caliper X-axis acceleration data channel, 23VEHCRI0000ACXA, exceeded full-scale at approximately 225 milliseconds.

The bullet vehicle's left front brake caliper X-axis acceleration data channel, 21VEHCLE0000ACXA, exceeded full-scale at approximately 39 milliseconds.

The bullet vehicle's toe pan accelerator X-axis acceleration data channel, 21PEAC000000ACXA, recorded questionable data throughout the test.

The bullet vehicle's toe pan accelerator Z-axis acceleration data channel, 21PEAC000000ACZA, did not return to zero post-test.

The bullet vehicle's rear tunnel center X-axis acceleration data channel, 25TUNNCY0000ACXA, recorded questionable data throughout the test.

The bullet vehicle's IP center Y-axis acceleration data channel, 22DASH000000ACXA, did not return to zero post-test.

Table 1 Crash Test Summary

Test mode:	Left Front Oblique Impact		
Test date:	09/06/05		
Test time:	1639		
Ambient temperature:	26° C		
Target vehicle year/make/ model/body style:	2002/Ford Focus/SE/4-door		
Target vehicle test weight:	1552.8 kg		
Bullet vehicle year/make/ model/body style:	2005/Chrysler/Town & Country/MPV		
Bullet vehicle test weight:	2273.0 kg		
Impact angle ¹ :	0°		
Impact velocity ² :	Target vehicle = 71.8 km/h Bullet vehicle = 48.8 km/h		
Total number of data channels:	291		
Number of cameras:	High-speed	18	Real-time 1
<u>Target vehicle dummies:</u>	<u>Driver #110</u>		<u>Passenger #416</u>
Type:	Hybrid III 50th		Hybrid III 5th
Location:	Left front		Right front
Restraint:	3 pt. seat belt, airbag		3 pt. seat belt, airbag
<u>Bullet vehicle dummies:</u>	<u>Driver #090</u>		<u>Passenger #070</u>
Type:	Hybrid III 50th		Hybrid III 5th
Location:	Left front		Right front
Restraint:	3 pt. seat belt, airbag		3 pt. seat belt, airbag

¹ With respect to tow track centerline.

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

Table 1 Crash Test Summary, Continued

Target vehicle seat track position for test:

Driver: Middle; detent #9 of 17

Passenger: Full forward

Target vehicle seat back position for test:

Driver: 16.5°; measured at head restraint support post

Passenger: 9.7°; measured at head restraint support post

Target vehicle head restraint position for test:

Driver: Full up

Passenger: Full down

Target vehicle steering column

position for test: Middle of geometric range of travel

Target vehicle D-ring position for test:

Driver: Full up

Passenger: Full down

Bullet vehicle seat track position for test:

Driver: Middle; detent #12 of 23

Passenger: Full forward

Bullet vehicle seat back position for test:

Driver: 16.3°; measured at head restraint support post

Passenger: 10.0°; measured at head restraint support post

Bullet vehicle head restraint position for test:

Driver: Full up

Passenger: Full down

Bullet vehicle steering column

position for test: detent #6 of 11 from full up

Bullet vehicle D-ring position for test:

Driver: Full up

Passenger: Full down

Table 2 Target General Test and Vehicle Parameter Data

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

VIN: 1FAFP34322W215395

Model year: 2002

Body style: 4-door

Color: Gold

Engine data:
Cylinders: 4
Displacement 2 liters
Cylinder placement: Straight
Engine placement: Transverse

Transmission data: 3 speed, ___ manual, X automatic, X overdrive

Final drive: X FWD, ___ RWD, ___ 4WD

Date vehicle received: 8/30/2005

Odometer reading: 49,454 miles

Dealer's name
and address: Vehicle provided 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	Yes
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	No
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: 02/02

VIN: 1FAFP34322W215395

GVWR: 1651 kg (3640 lbs.)

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

Table 2 Target General Test and Vehicle Parameter Data, Continued

Tires on vehicle (mfr., line, size): Warrior, Fluent, 195/60R15

Tire pressure with maximum capacity vehicle load:

Front:	44 psi	(300 kPa)
Rear:	44 psi	(300 kPa)

Spare tire (mfr., line, size): Hankook, Temporary, 125/80R15

Type of seats:

Front	Bucket
Rear	Split bench

Maximum width: 1705 mm

Wheelbase: 2610 mm

Location of “Recommended Tire Pressure” label:

The label was located on the driver 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)

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):

Front	2
Mid	0
Rear	3
Total	5

Vehicle capacity weight: 375 kg (827 lbs.)

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

Test vehicle attitude:

Pre-test attitude:	LF 625 mm;	RF 634 mm;	LR 618 mm;	RR 624 mm
Post-test attitude:	LF 642 mm;	RF 675 mm;	LR 626 mm;	RR 644 mm

Table 2 Target General Test and Vehicle Parameter Data, Continued

Weight of test vehicle with required dummies and equipment:

Right front	415.6 kg	Right rear	350.2 kg
Left front	427.0 kg	Left rear	360.0 kg
Total front weight	842.6 kg	(54.3% of total vehicle weight)	
Total rear weight	710.2 kg	(45.7% of total vehicle weight)	
Total test weight	1552.8 kg		

Weight of ballast secured in vehicle: 0.0 kg

Components removed to meet target test weight: Rear fascia, left taillight

Location of Vehicle's CG: 1194 mm rearward of front wheel centerline

Fuel System Data:

Usable fuel system capacity 50.0 liters (from owner's manual)

Actual test volume: 46.2 liters (93% of usable)

Table 3 Bullet General Test and Vehicle Parameter Data

Vehicle year/make/
model/body style: 2005/Chrysler/Town & Country/MPV

VIN: 2C4GP44R05R548040

Model year: 2005

Body style: MPV

Color: Silver

Engine data:

 Cylinders: 6

 Displacement 3.3 liters

 Cylinder placement: V

 Engine placement: Transverse

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

 Final drive: X FWD, ___ RWD, ___ 4WD

Date vehicle received: 06/18/2005

Odometer reading: 204 miles

Dealer's name
and address: Vehicle provided 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: DaimlerChrysler Corporation

Date of manufacture: 05/05

VIN: 2C4GP44R05R548040

GVWR: 2586 kg (5700 lbs.)

GAWR: Front: 1293 kg (2850 lbs.)

 Rear: 1339 kg (2950 lbs.)

Table 3 Bullet General Test and Vehicle Parameter Data, Continued

Tires on vehicle (mfr., line, size): Goodyear, Integrity, P215/70R15

Tire pressure with maximum capacity vehicle load:

Front: 44 psi (300 kPa)

Rear: 44 psi (300 kPa)

Spare tire (mfr., line, size): Goodyear, Temp, T175/80D15

Type of seats:

Front Bucket

Rear Bucket

Maximum width: 1949 mm

Wheelbase: 3030 mm

Location of "Recommended Tire Pressure" label:

The label was located on the driver side B-pillar.

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

Recommended tire size: P215/70R15

Recommended cold tire pressure:

Front: 36 psi (250 kPa)

Rear: 36 psi (250 kPa)

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):

Front 2

Mid 2

Rear 3

Total 7

Vehicle capacity weight: 521 kg (1150 lbs.)

Rated cargo/luggage weight 87 kg (192 lbs.)

Test vehicle attitude:

Pre-test attitude: LF 742 mm; RF 742 mm; LR 730 mm; RR 728 mm

Post-test attitude: LF 756 mm; RF 806 mm; LR 727 mm; RR 737 mm

Table 3 Bullet General Test and Vehicle Parameter Data, Continued

Weight of test vehicle with required dummies and equipment:

Right front	572.8 kg	Right rear	534.2 kg
Left front	634.0 kg	Left rear	532.0 kg
Total front weight	1206.8 kg	(53.1% of total vehicle weight)	
Total rear weight	1066.2 kg	(46.9% of total vehicle weight)	
Total test weight	2273.0 kg		

Weight of ballast secured in vehicle: 188.2 kg

Components removed to meet target test weight: None

Location of Vehicle's CG: 1421 mm rearward of front wheel centerline

Fuel System Data:

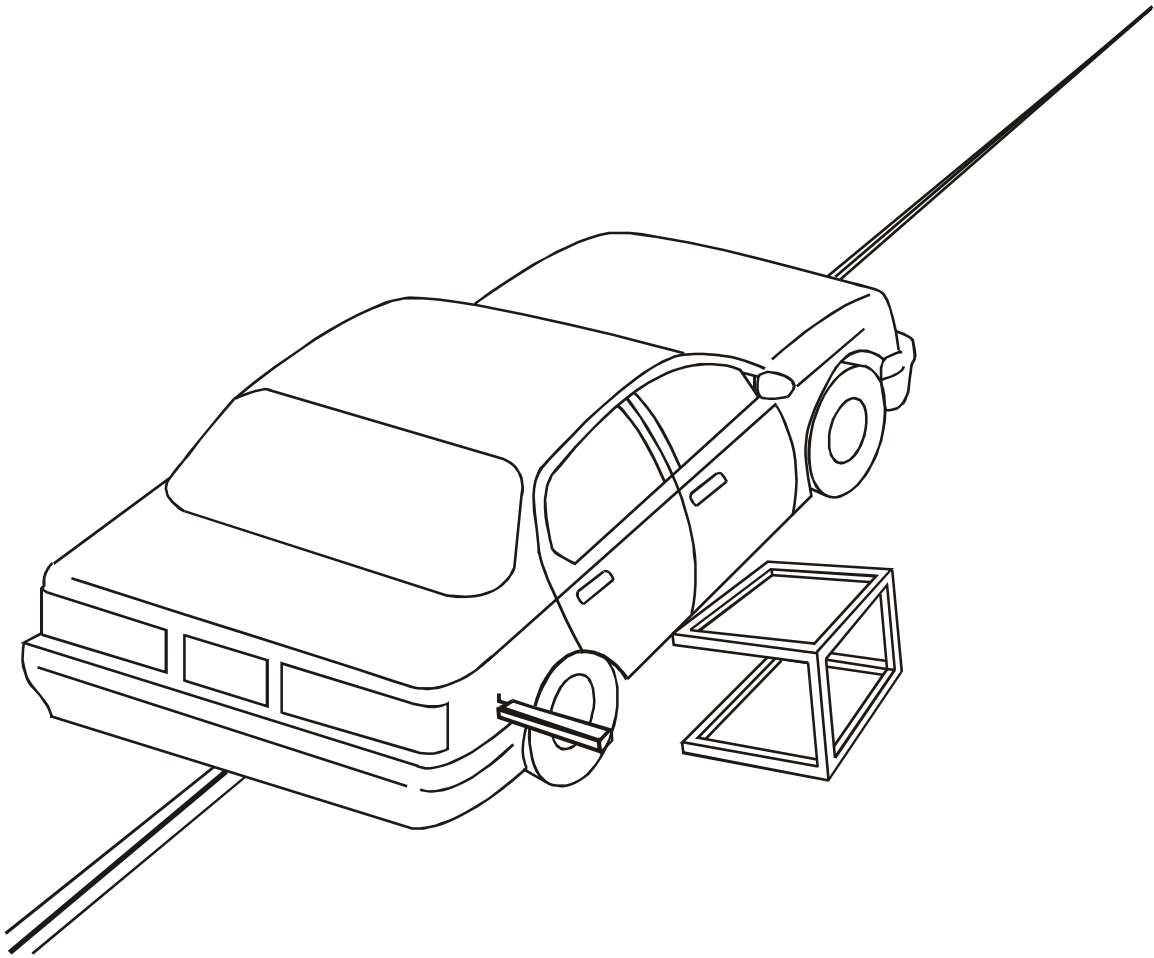
Usable fuel system capacity 75.7 liters (from owner's manual)

Actual test volume: 70.4 liters (93% of usable)

Table 4 Post-Impact Data

Test number:	050906
Test date:	09/06/05
Test time:	1639
Test type:	Full frontal collinear
Impact angle:	0°
Ambient temperature at impact area:	26° C
Impact velocity:	
Target vehicle:	71.8 km/h
Bullet vehicle:	48.8 km/h
Required impact velocity range:	48.1 to 49.7 km/h
Distance from each vehicle to intended impact point:	
Entering velocity trap:	661 mm
Exiting velocity trap:	51 mm, approximately
Impact point:	0 mm right of intended impact point (referenced to target vehicle coordinate system)

Figure 1 Impact Velocity Measurement System



The final vane clears the final emitter/receiver pair approximately 51 millimeters before impact.

The vanes 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	4.5	137.6	38.6	77.5
2	Right Rear Seat Cross-member	X	5.9	139.8	39.7	75.4
3	Top of Engine ¹	X	33.3	70.7	198.6	31.8
4	Bottom of Engine	X	49.8	36.8	201.4	22.6
5	Right Front Brake Caliper	X	57.2	53.1	194.3	40.2
6	Left Front Brake Caliper ¹	X	----	----	----	----
7	Toe Pan Accelerator	X	2.7	165.5	164.5	44.9
		Z	104.0	48.4	47.2	66.6
8	Toe Pan Footrest	X	19.2	32.7	152.5	47.0
		Z	80.8	44.1	49.2	32.7
9	Rear Tunnel Center	X	3.2	156.6	46.1	51.1
10	Vehicle Center of Gravity	X	28.2	50.2	88.3	55.0
		Y	22.5	84.2	19.2	90.7
		Z	19.9	45.4	24.4	51.8
	Resultant		90.5	55.0		
11	Vehicle Rear Deck	X	13.9	112.4	51.0	53.7
		Y	4.0	107.2	4.7	100.0
		Z	17.8	103.0	19.9	32.6
	Resultant		52.3	53.5		
12	IP Center	X	183.2	19.0	322.8	20.1

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 ¹	X	49.1	159.4	39.3	104.7
2	Right Rear Seat Cross-member	X	1.8	135.7	37.5	57.6
3	Top of Engine ¹	X	88.4	47.0	122.6	34.7
4	Bottom of Engine ¹	X	80.8	62.8	147.4	30.2
5	Right Front Brake Caliper ¹	X	----	----	----	----
6	Left Front Brake Caliper ¹	X	----	----	----	----
7	Toe Pan Accelerator ¹	X	26.4	59.7	133.4	33.7
		Z	98.7	43.0	72.4	38.2
8	Toe Pan Footrest	X	43.9	28.2	87.4	34.1
		Z	62.5	46.1	62.3	41.8
9	Rear Tunnel Center ¹	X	19.4	125.0	34.0	43.0
10	Vehicle Center of Gravity	X	2.8	134.3	36.2	57.3
		Y	12.3	37.4	8.2	51.0
		Z	12.9	43.4	5.7	95.8
		Resultant		36.5	57.3	
11	Vehicle Rear Deck	X	3.7	144.8	47.4	69.3
		Y	4.9	68.4	4.4	82.7
		Z	9.8	65.4	15.1	75.0
		Resultant		47.6	69.3	
12	IP Center ¹	X	280.0	33.4	283.2	47.3

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 FMVSS 208 Data

Table 7 Target Vehicle Dummy Injury Criteria Data

	<u>Maximum Acceleration¹</u>							
	Head				Chest			
	X	Y	Z	R	X	Y	Z	R
Driver	-139.5 g	-14.1 g	-34.4 g	144.0 g	-74.7 g	8.3 g	11.1 g	75.5 g
Passenger	-61.9 g	-15.8 g	23.6 g	62.5 g	-53.3 g	-4.6 g	18.5 g	53.5 g

	<u>Maximum Femur Compressive Force</u>	
	Left Femur	Right Femur
Driver	4654 N	4470 N
Passenger	3874 N	3813 N

	<u>Head Injury Criteria²</u>		
	36 millisecond		
	HIC	Start Time t ₁	End Time t ₂
Driver	1394	67.84 ms	91.20 ms
Passenger	789	50.72 ms	86.72 ms

	15 millisecond		
	HIC	Start Time t ₁	End Time t ₂
	Driver	1267	74.96 ms
Passenger	431	62.64 ms	77.68 ms

	<u>Chest Maximum Resultant Acceleration³</u>		
	Acceleration	Start Time t ₁	End Time t ₂
Driver	72.7 g	80.10 ms	83.10 ms
Passenger	50.2 g	63.41 ms	66.41 ms

Table 7 Target Vehicle Dummy Injury Criteria Data, Continued

Maximum Chest Deflection

Driver	32 mm
Passenger	29 mm

Neck Injury Calculations (Nij)²

	NTF	NTE	NCF	NCE
Driver	0.26	0.57	0.17	0.28
Passenger	0.31	0.64	0.24	0.43

Upper Neck Axial Force

	Tension	Compression
Driver	3136 N	1321 N
Passenger	1234 N	772 N

Tibia Index

	Upper Tibia	Lower Tibia
Driver-left	1.01	0.97
Driver-right	0.77	1.01
Passenger-left	1.17	1.39
Passenger-right	0.98	1.15

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

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

Table 8 Bullet Vehicle Dummy Injury Criteria Data

	<u>Maximum Acceleration¹</u>							
	Head				Chest			
	X	Y	Z	R	X	Y	Z	R
Driver	-47.2 g	-3.2 g	18.3 g	49.8 g	-34.1 g	2.9 g	13.6 g	35.4 g
Passenger	-50.8 g	10.4 g	18.2 g	51.9 g	-37.9 g	4.9 g	-9.7 g	38.4 g

	<u>Maximum Femur Compressive Force</u>	
	Left Femur	Right Femur
Driver	1277 N	1565 N
Passenger	1570 N	44 N

	<u>Head Injury Criteria²</u>		
	36 millisecond		
	HIC	Start Time t ₁	End Time t ₂
Driver	333	74.48 ms	105.68 ms
Passenger	245	54.24 ms	84.80 ms

	15 millisecond		
	HIC	Start Time t ₁	End Time t ₂
	Driver	233	82.80 ms
Passenger	206	57.60 ms	72.64 ms

	<u>Chest Maximum Resultant Acceleration³</u>		
	Acceleration	Start Time t ₁	End Time t ₂
Driver	35.1 g	92.49 ms	95.49 ms
Passenger	37.5 g	67.08 ms	70.08 ms

Table 8 Bullet Vehicle Dummy Injury Criteria Data, Continued

Maximum Chest Deflection

Driver	23 mm
Passenger	29 mm

Upper Neck Injury Calculations (Nij)²

	NTF	NTE	NCF	NCE
Driver	0.24	0.30	0.04	0.06
Passenger	0.34	0.37	0.17	0.14

Upper Neck Axial Force

	Tension	Compression
Driver	1350 N	88 N
Passenger	1016 N	147 N

Tibia Index

	Upper Tibia	Lower Tibia
Driver-left	0.38	0.29
Driver-right	0.46	0.75

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

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

Table 9 Target Vehicle Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, head restraint, B-pillar	Airbag, head restraint
Chest	Airbag	None
Abdomen	None	None
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: Windshield broken

Other notable impact effects: None

Table 10 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	None	None
Left knee	Knee bolster airbag	Glove box
Right knee	Knee bolster airbag	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

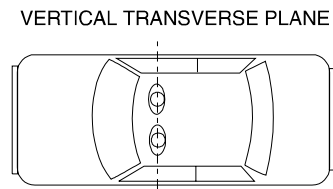
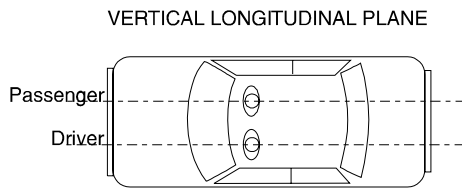
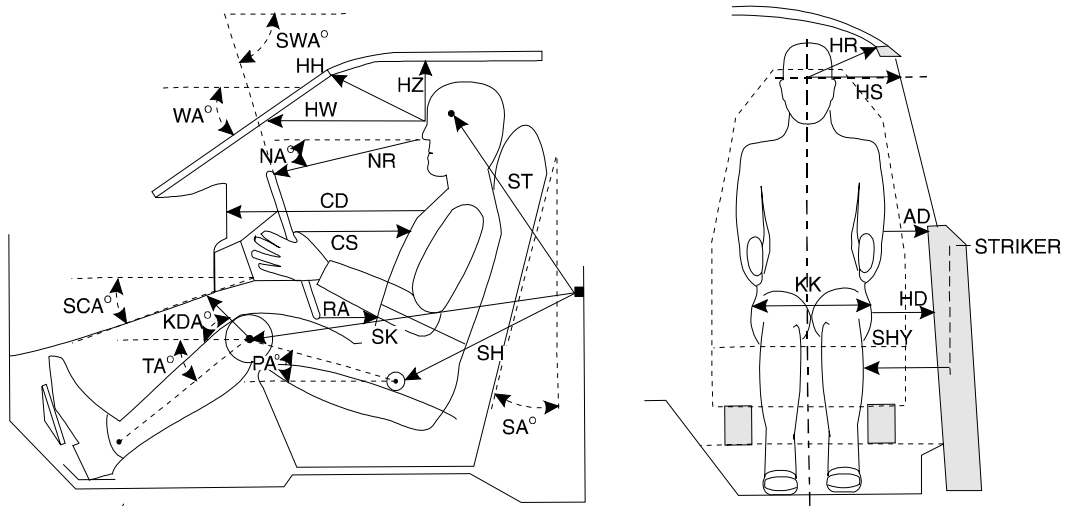


Table 11 Target Vehicle Dummy Measurement Data For Front Seat Occupants

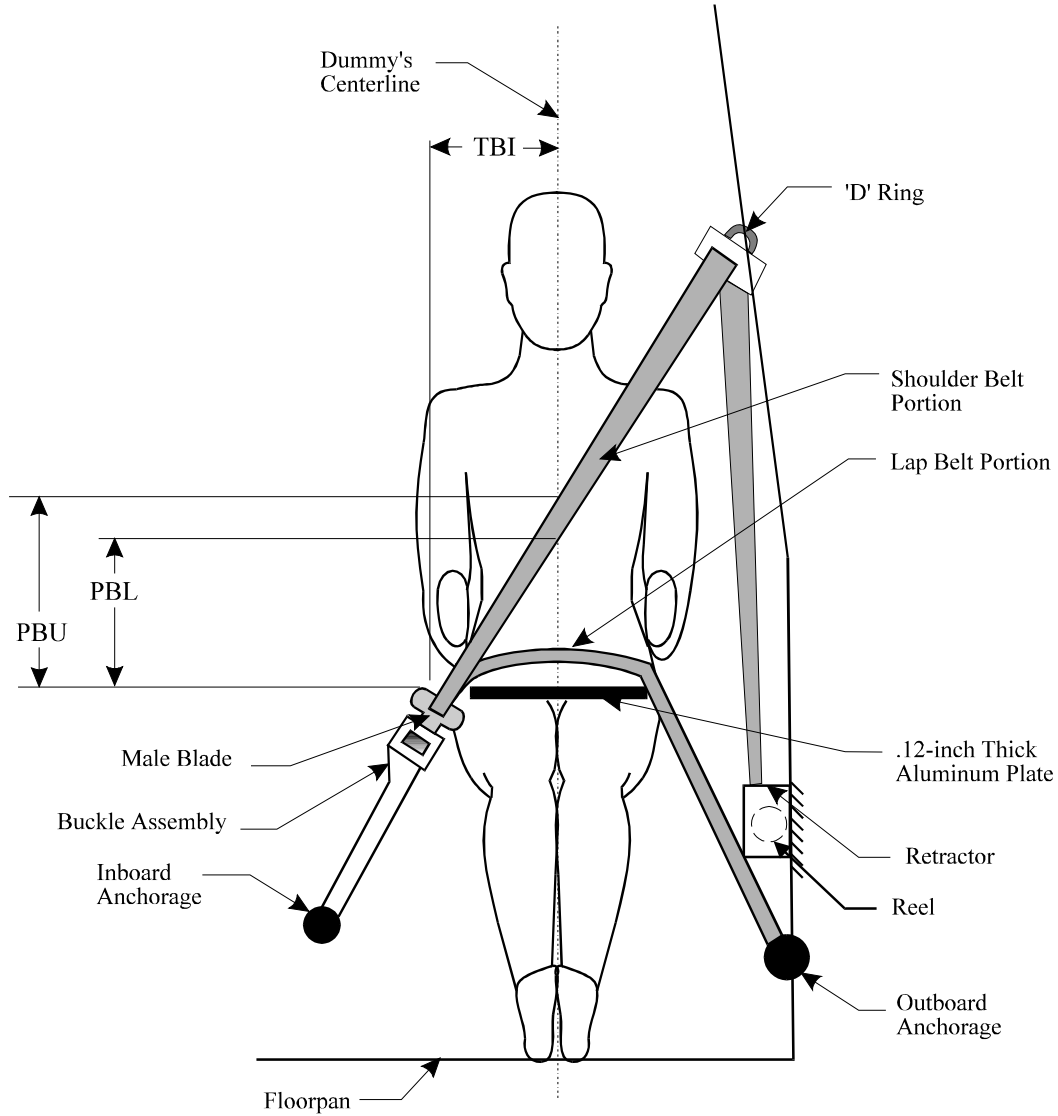
Designation	Type of Measurement	Driver (Serial # 110)	Passenger (Serial # 416)
WA	Windshield angle	24.1°	N/A
SWA	Steering wheel angle	66.4°	N/A
SCA	Steering column angle	23.6°	N/A
SA	Seat back angle	16.6°	9.9°
HZ	Head to roof	224 mm	254 mm
HH	Head to header	330 mm	274 mm
HW	Head to windshield	663 mm	635 mm
HR	Head to side header	216 mm	245 mm
NR	Nose to rim	404 mm	N/A
NA	Nose to rim angle	5.8°	N/A
CD	Chest to dash	555 mm	373 mm
CS	Steering wheel to chest	317 mm	N/A
RA	Rim to abdomen	206 mm	N/A
KDL	Left knee to dash	80 mm	23 mm
KDR	Right knee to dash	78 mm	20 mm
KDA	Outboard knee to dash angle	27.3°	56.8°
PA	Pelvic angle	24.4°	22.0°
TA	Tibia angle	51.5°	66.7°
KK	Knee to knee	242 mm	166 mm
ST ¹	Striker to head	512 mm	501 mm
	Striker to head angle	-82.8°	-66.2°
SK ¹	Striker to knee	628 mm	719 mm
	Striker to knee angle	-4.0°	-0.7°
SH ¹	Striker to H-point	233 mm	362 mm
	Striker to H-point angle	32.3°	16.1°
SHY	Striker to H-point (Y dir.)	208 mm	240 mm
HS	Head to side window	303 mm	340 mm
HD	H-point to door	96 mm	204 mm
AD	Arm to door	105 mm	90 mm

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

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

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

Figure 3 Target Vehicle Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
PBU - Top surface of aluminum plate to belt upper edge	365 mm	250 mm
PBL - Top surface of aluminum plate to belt lower edge	295 mm	170 mm
TBI - Dummy centerline to intersection of upper torso belt and lap belt	260 mm	260 mm
Total belt length	1720 mm	1820 mm
Lap belt length	880 mm	950 mm
Shoulder belt length	840 mm	870 mm

Table 12 Bullet Vehicle Dummy Measurement Data For Front Seat Occupants

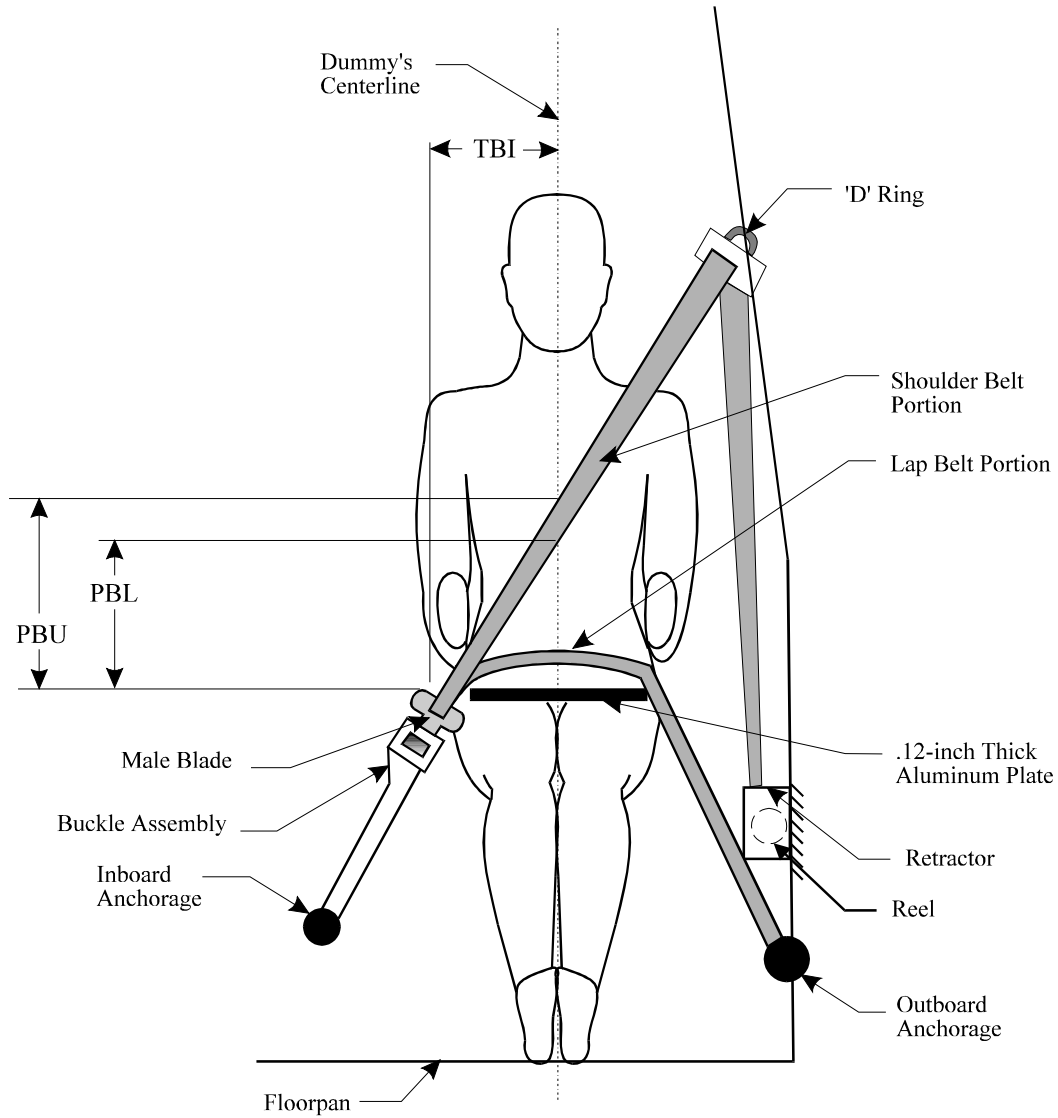
Designation	Type of Measurement	Driver (Serial # 90)	Passenger (Serial # 70)
WA	Windshield angle	26.7°	N/A
SWA	Steering wheel angle	56.3°	N/A
SCA	Steering column angle	33.7°	N/A
SA	Seat back angle	17.6°	18.4°
HZ	Head to roof	225 mm	227 mm
HH	Head to header	395 mm	305 mm
HW	Head to windshield	673 mm	656 mm
HR	Head to side header	213 mm	244 mm
NR	Nose to rim	471 mm	N/A
NA	Nose to rim angle	169.8°	N/A
CD	Chest to dash	627 mm	485 mm
CS	Steering wheel to chest	339 mm	N/A
RA	Rim to abdomen	193 mm	N/A
KDL	Left knee to dash	104 mm	63 mm
KDR	Right knee to dash	126 mm	71 mm
KDA	Outboard knee to dash angle	20.3°	12.6°
PA	Pelvic angle	23.5°	20.0°
TA	Tibia angle	116.0°	96.9°
KK	Knee to knee	252 mm	175 mm
ST ¹	Striker to head	652 mm	629 mm
	Striker to head angle	86.8°	67.3°
SK ¹	Striker to knee	637 mm	768 mm
	Striker to knee angle	12.9°	8.2°
SH ¹	Striker to H-point	187 mm	378 mm
	Striker to H-point angle	-1.1°	1.7°
SHY	Striker to H-point (Y dir.)	267 mm	241 mm
HS	Head to side window	333 mm	339 mm
HD	H-point to door	158 mm	196 mm
AD	Arm to door	155 mm	166 mm

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

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

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

Figure 4 Bullet Vehicle Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
PBU - Top surface of aluminum plate to belt upper edge	355 mm	290 mm
PBL - Top surface of aluminum plate to belt lower edge	275 mm	210 mm
TBI - Dummy centerline to intersection of upper torso belt and lap belt	285 mm	265 mm
Total belt length	3350 mm	3325 mm
Lap belt length	835 mm	878 mm
Shoulder belt length	1660 mm	1610 mm

Figure 5 Target Vehicle FMVSS 212 Test Data

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

Adhesive, plastic trim

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:

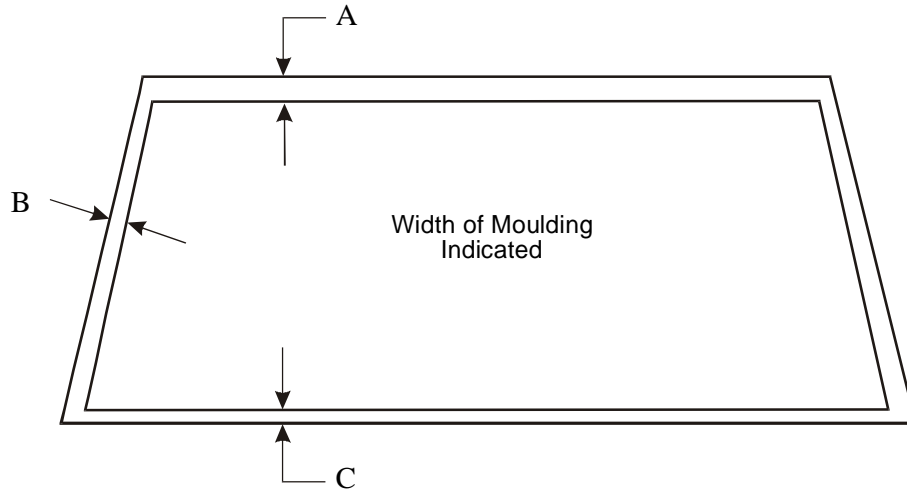
	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2110 mm	2080 mm	98.6 %
Left side	2110 mm	2140 mm	101.4 %
Total	4220 mm	4220 mm	100.0 %

Pre-test windshield mounting material temperature: 23° C

A = 7 mm

B = 7 mm

C = 12 mm



Front view of windshield

Loss of windshield retention lengths: N/A

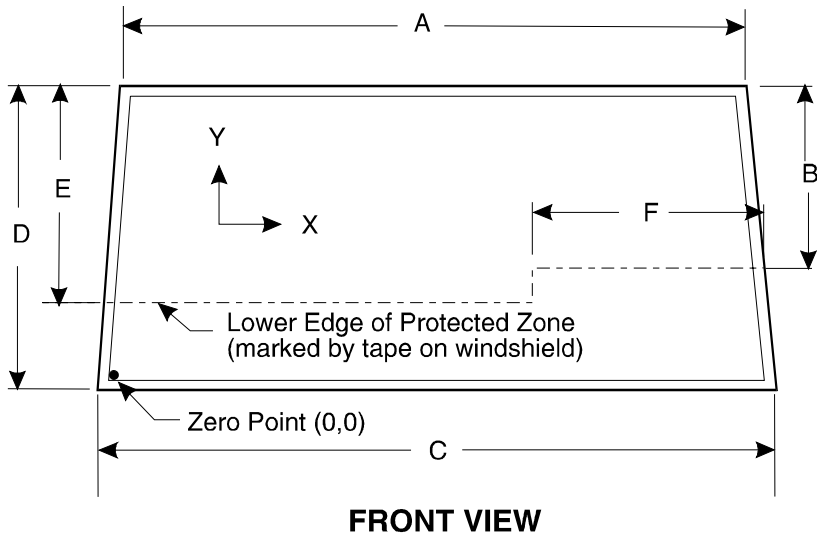
Figure 6 Target Vehicle FMVSS 219 Test Data

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 = 1095 mm
- B = 445 mm
- C = 1510 mm
- D = 810 mm
- E = 535 mm
- F = 690 mm



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

Areas of windshield template penetration greater than 6 mm: N/A

Coordinates, mm

	X	Y
--	---	---

- 1.
- 2.
- 3.

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield: N/A

- 1.
- 2.
- 3.

Figure 7 Bullet 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:

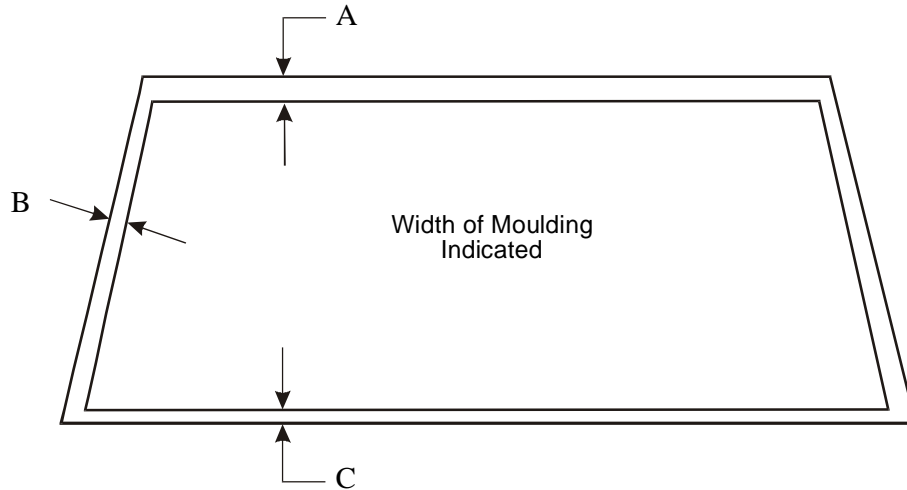
	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2342 mm	2342 mm	100.0 %
Left side	2342 mm	2342 mm	100.0 %
Total	4684 mm	4684 mm	100.0 %

Pre-test windshield mounting material temperature: 21° C

A = 5 mm

B = 5 mm

C = 15 mm



Front view of windshield

Loss of windshield retention lengths: N/A

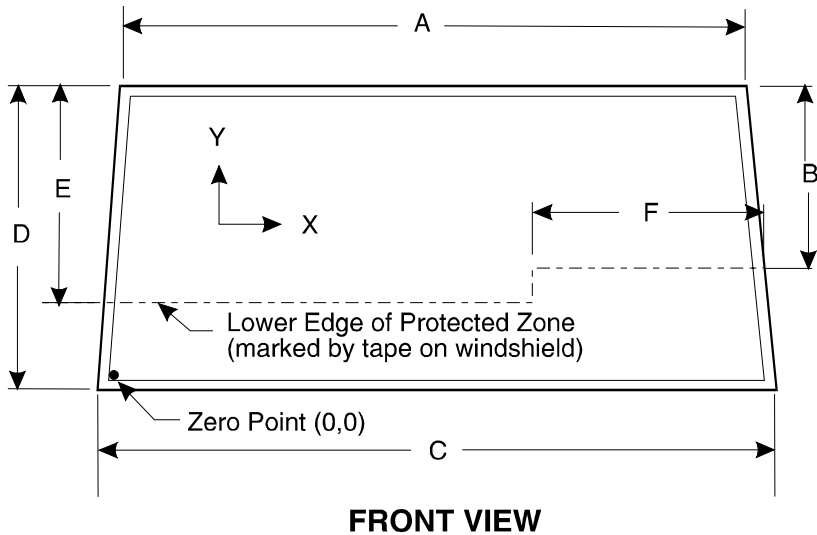
Figure 8 Bullet Vehicle FMVSS 219 Test Data

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 = 1270 mm
- B = 505 mm
- C = 1640 mm
- D = 880 mm
- E = 548 mm
- F = 626 mm



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

Areas of windshield template penetration greater than 6 mm: N/A

Coordinates, mm

	X	Y
--	---	---

- 1.
- 2.
- 3.

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield: N/A

- 1.
- 2.
- 3.

Table 13 Target Vehicle Structural Measurements¹

	Elements	Pre-Test
1	Total Length	4420 ²
2	Total Width	1705
3	Bumper Top Height	518
4	Bumper Bottom Height	368
5	Longitudinal Member Top Height	523
6	Longitudinal Member Bottom Height	373
7	Distance Between Longitudinal Members	1095
7'	Longitudinal Member Width	85
8	Engine Top Height	745
9	Engine Bottom Height	145
10	Engine and Gearbox Width	770
11	Front Bumper - Engine Distance	430
12	Front Shock Absorber Fixing Height	815
13	Bonnet Leading Edge Height	640
14	Front Shock Absorber Fixing Width	1100
15	Front Bumper - Front Axle Distance	865
16	Front Axle - A Pillar Distance	550
17	A Pillar - B Pillar Distance	950
18	B Pillar - Rear Axle Distance	1095
19	B Pillar - C Pillar Distance	870
20	Roof Sill Bottom Height	1302
21	Roof Sill Top Height	1365
22	Floor Sill Bottom Height	245
23	Floor Sill Top Height	293

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.

² Front fascia removed prior to measurement.

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

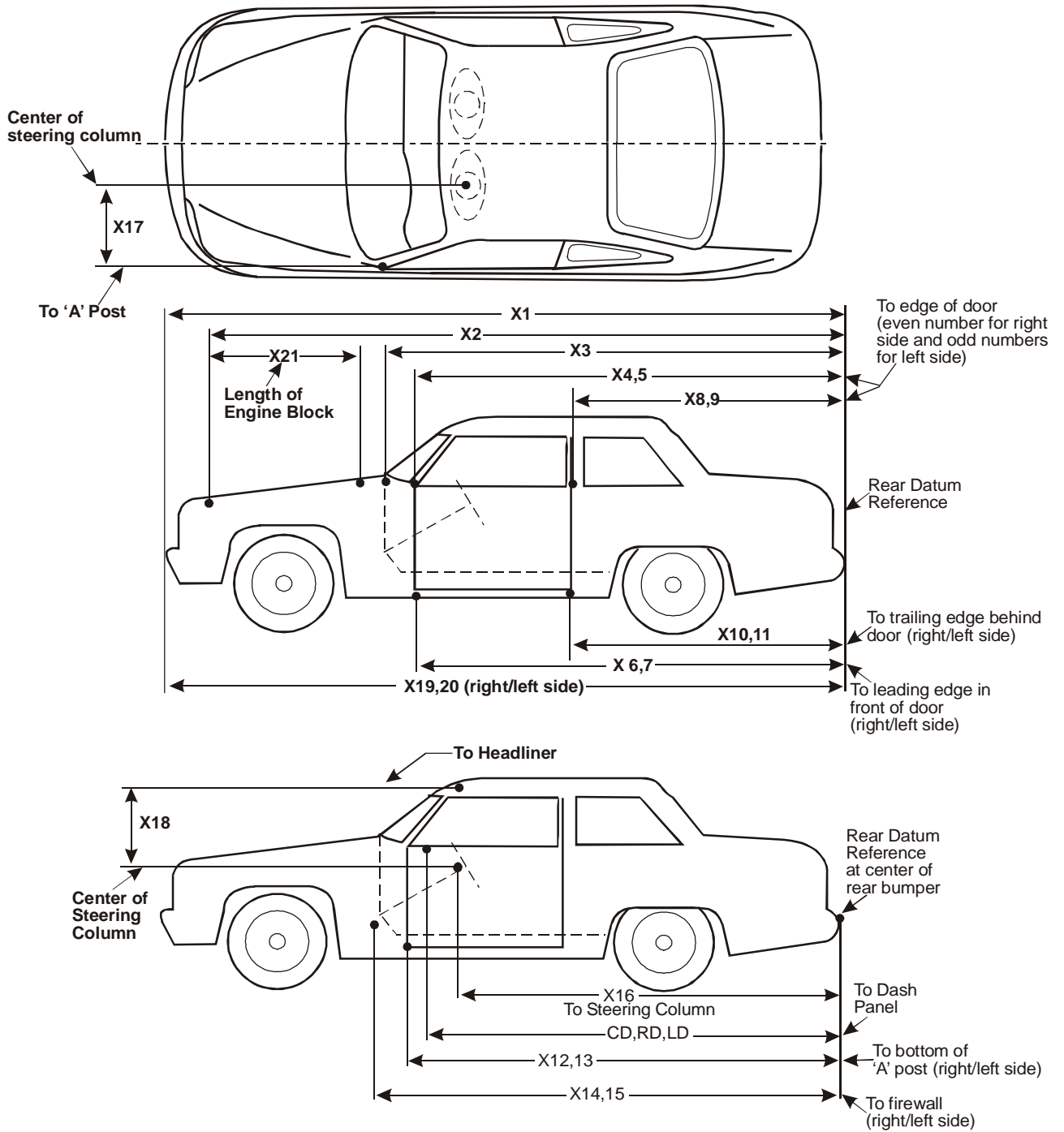


Table 14 Target Vehicle Impacted Measurements

Test number: 050906

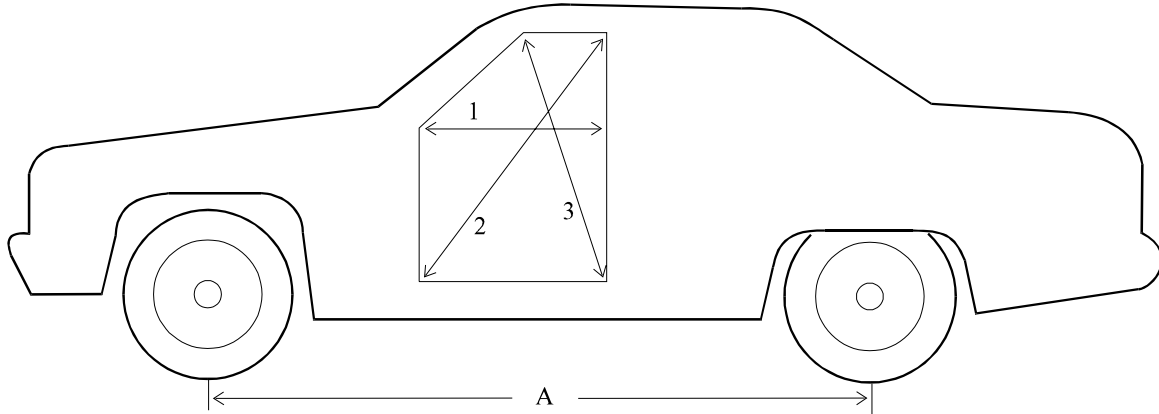
Vehicle year/make/model/body style: 2002/Ford/Focus SE/4-door

No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4420	3645	775
X2	Rear Surface of Vehicle to Front of Engine Block	3883	3545	338
X3	Rear Surface of Vehicle to Firewall	3485	3245	240
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	3081	3050	31
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	3083	3040	43
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	3028	2973	55
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	3032	2965	67
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	2060	2020	40
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	2065	2020	45
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	2054	1995	59
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	2055	1992	63
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	2995	2940	55
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	2995	2920	75
X14	Rear Surface of Vehicle to Firewall - Right Side	3540	3204	336
X15	Rear Surface of Vehicle to Firewall - Left Side	3555	3194	361
X16	Rear Surface of Vehicle to Steering Wheel Center	2640	2560	80
X17	Center of Steering Column to " A " Post	290	244	46
X18	Center of Steering Column to Headliner	425	444	-19
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4370	3585	785
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4370	3585	785
X21	Length of Engine Block	520	520	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2945	2839	106
CD	Rear Surface of Vehicle to Center of Dash Panel	2930	2815	115
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2945	2795	150

All distance measurements are in millimeters.

Figure 10 Target Vehicle Intrusion Measurements

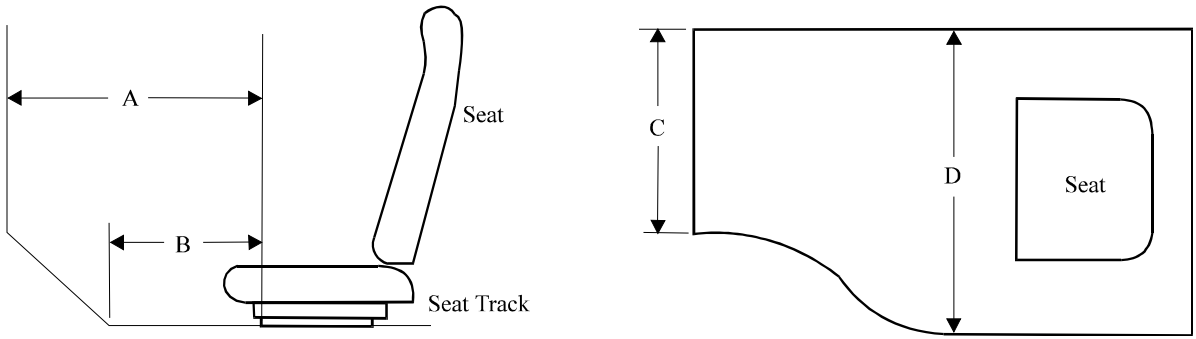
Door Opening Width



Units (mm)	Left			Right		
Measurement	1	2	3	1	2	3
Pre-Test	910 mm	1410 mm	1035 mm	903 mm	1415 mm	1033 mm
Post-Test	872 mm	1391 mm	1111 mm	875mm	1390 mm	1111 mm
Difference	38 mm	19 mm	-76 mm	28 mm	25 mm	-78 mm

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	2610 mm	2610 mm
Post-Test	2440 mm	2441 mm
Difference	170 mm	169 mm

Figure 11 Target Vehicle Intrusion Measurements
Static Footwell Deformation



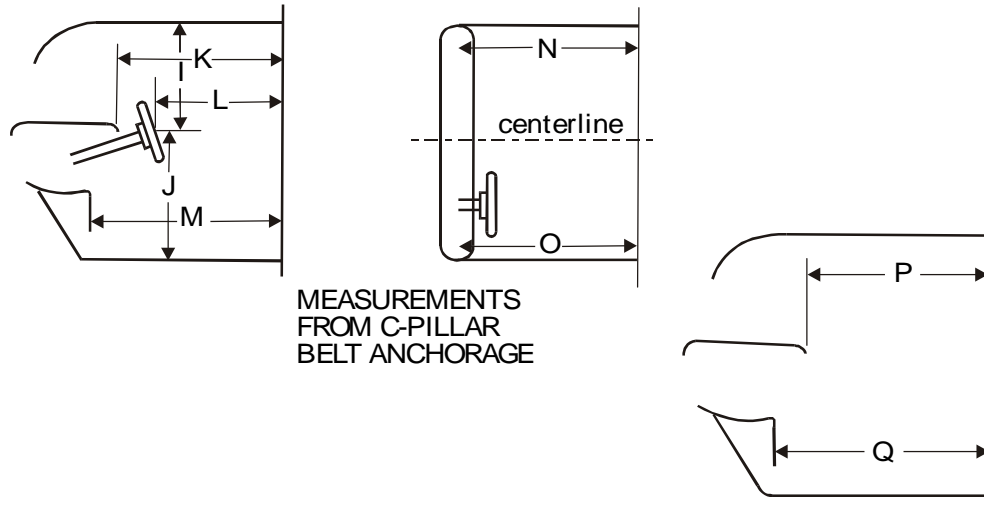
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	630 mm	550 mm	80 mm
B	490 mm	480 mm	10 mm
C	480 mm	462 mm	18 mm
D	480 mm	482 mm	-2 mm

Passenger's Side

Measurement	Pre-Test	Post-Test	Difference
A	620 mm	530 mm	90 mm
B	510 mm	495 mm	15 mm
C	475 mm	465 mm	10 mm
D	480 mm	495 mm	-15 mm

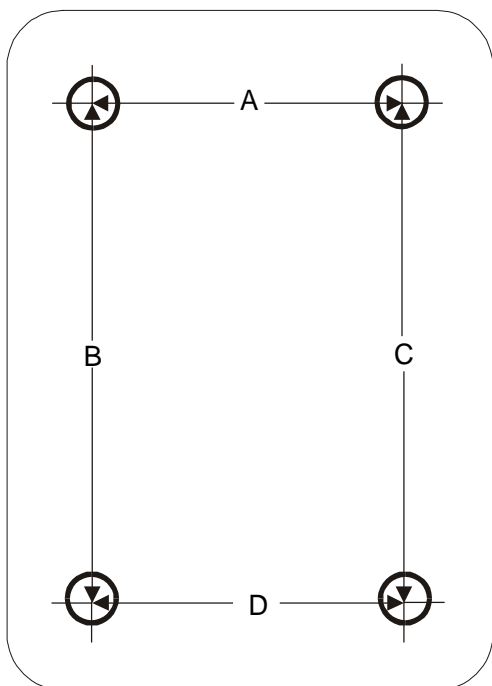
Figure 12 Target Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion



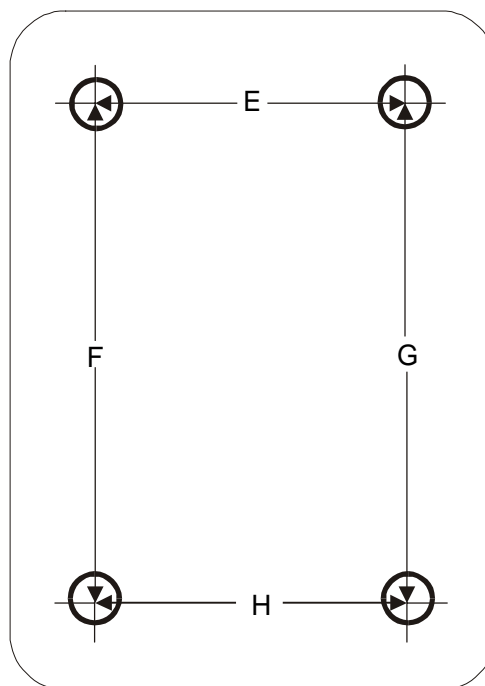
Measurement	Pre-Test	Post-Test	Difference
I	425 mm	444 mm	-19 mm
J	715 mm	760 mm	-45 mm
K (driver's side)	1982 mm	1862 mm	120 mm
L	1710 mm	1660 mm	50 mm
M (driver's side)	2012 mm	1965 mm	47 mm
N (passenger's side)	1997 mm	1930 mm	67 mm
O (driver's side)	1885 mm	1777 mm	108 mm
P (passenger's side)	1970 mm	1930 mm	40 mm
Q (passenger's side)	2020 mm	1976 mm	44 mm

Figure 13 Target Vehicle Floorboard Deformation

DRIVERS SIDE



PASSENGERS SIDE



Measurement	Pre-Test	Post-Test	Difference
A	480 mm	462 mm	18 mm
B	425 mm	432 mm	-7 mm
C	425 mm	413 mm	12 mm
D	480 mm	482 mm	-2 mm
E	475 mm	465 mm	10 mm
F	433 mm	424 mm	9 mm
G	430 mm	466 mm	-36 mm
H	480 mm	495 mm	-15 mm

Table 15 Target Vehicle Frontal Profile Measurements

Bottom of Front Bumper¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Top of Front Bumper¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Center of Grill¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Front of Hood²

Pre-Test

Index	Xmm	Ymm	Zmm
1	3930	-720	-744
2	4325	-380	-625
3	4335	-190	-626
4	4335	190	-633
5	4325	380	-617
6	3930	720	-755

Post-Test

Xmm	Ymm	Zmm
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²

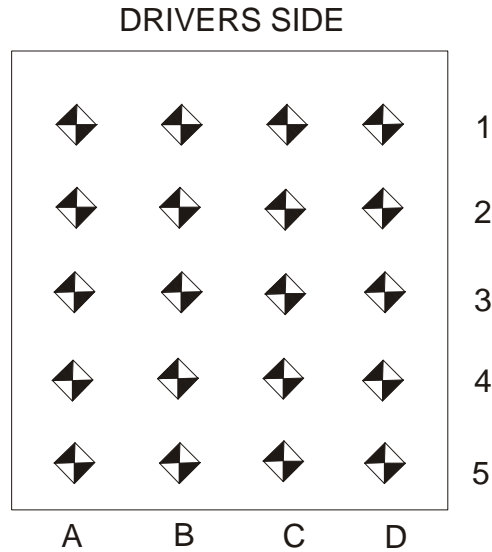
Difference

Xmm	Ymm	Zmm
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²
N/A ²	N/A ²	N/A ²

¹ Bumper fascia was removed for the test.

² 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	617	735	729	708	483	519	480	487	-134	-216	-249	-221
2	571	635	635	646	501	460	478	500	-70	-175	-157	-146
3	450	453	459	467	418	385	381	391	-32	-68	-78	-76
4	247	259	262	267	199	194	193	196	-48	-65	-69	-71
5	69	74	66	64	21	9	-4	-6	-48	-65	-70	-70

TARGET DRIVER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-7	162	325	473	-15	185	343	492	-8	23	18	19
2	-33	153	317	459	-32	174	330	464	1	21	13	5
3	-40	136	298	446	-35	137	297	442	5	1	-1	-4
4	-42	115	285	449	-23	112	281	443	19	-3	-4	-6
5	-27	123	299	454	-25	114	289	447	2	-9	-10	-7

TARGET DRIVER TOEPAN Z-AXIS

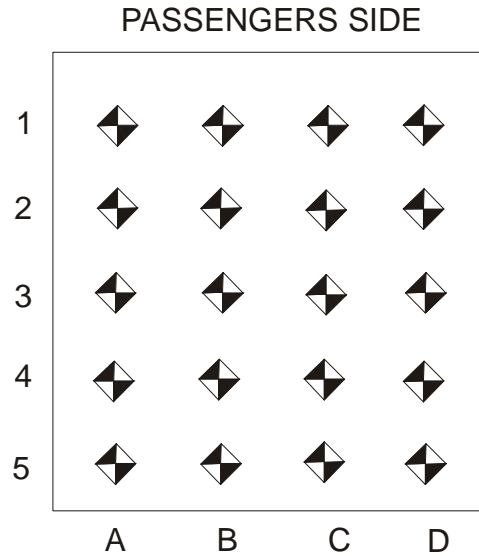
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-178	-157	-149	-140	-225	-236	-219	-219	-47	-79	-70	-79
2	-78	-37	-36	-39	-114	-109	-82	-97	-36	-72	-46	-58
3	70	70	69	66	49	80	78	62	-21	10	9	-4
4	73	74	73	67	63	74	96	79	-10	0	23	12
5	90	89	88	67	85	77	102	90	-5	-12	14	23

Pre- and post-test measurement reference: +X forward; +Y right; +Z down.

0,0,0 origin is front outboard seat bolt.

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

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	693	716	714	607	485	469	498	475	-208	-247	-216	-132
2	605	608	611	559	486	452	462	499	-119	-156	-149	-60
3	463	462	455	460	391	393	397	433	-72	-69	-58	-27
4	267	266	268	265	196	201	206	216	-71	-65	-62	-49
5	63	67	71	80	-6	4	9	33	-69	-63	-62	-47

TARGET PASSENGER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-373	-288	-129	11	-375	-302	-151	16	-2	-14	-22	5
2	-423	-272	-112	32	-426	-290	-134	22	-3	-18	-22	-10
3	-442	-276	-107	43	-450	-284	-121	28	-8	-8	-14	-15
4	-447	-285	-120	42	-451	-290	-126	19	-4	-5	-6	-23
5	-460	-281	-99	24	-460	-280	-99	19	0	1	0	-5

TARGET PASSENGER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-113	-118	-112	-139	-196	-210	-212	-195	-83	-92	-100	-56
2	-12	-14	-22	-51	-75	-77	-93	-95	-63	-63	-71	-44
3	70	72	72	71	53	73	69	36	-17	1	-3	-35
4	69	75	75	72	78	90	70	49	9	15	-5	-23
5	71	91	90	90	93	109	83	84	22	18	-7	-6

Pre- and post-test measurement reference: +X forward; +Y right; +Z down.

0,0,0 origin is front outboard seat bolt.

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

Table 16 Target Vehicle IIHS Measurements

TARGET IIHS MEASUREMENTS

Index	Description	Pre-Test			Post-Test			Difference		
		Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	Center of Steering Wheel on the Airbag Door	2620	-344	-338	2555	-363	-350	-65	-19	-12
2	Driver's Lower Left Instrument Panel	2866	-493	-80	2813	-511	-119	-53	-18	-39
3	Driver's Lower Right Instrument Panel	2857	-193	-80	2774	-215	-108	-83	-22	-28
4	Brake Pedal Center	3080	-325	165	2830	-366	26	-250	-41	-139
5	Center Left Toeboard 150 mm Left of the Brake Pedal Center at Height of Brake Pedal Center	3294	-475	167	3079	-446	90	-215	29	-77
6	Toeboard Behind the Center of the Brake Pedal at Height of Brake Pedal	3302	-324	162	3066	-306	86	-236	18	-76
8	Foot Rest 250 mm Left of the Brake Pedal Center at Height of Brake Pedal Center	3188	-577	165	3048	-586	116	-140	-9	-49
9	Left Front Driver's Seat Mounting Bolt	2578	-591	298	2563	-591	314	-15	0	16
10	Right Front Driver's Seat Mounting Bolt	2571	-138	274	2541	-137	297	-30	1	23
11	Left Rear Driver's Seat Mounting Bolt	2191	-624	314	2185	-626	315	-6	-2	1
12	Right Rear Driver's Seat Mounting Bolt	2142	-102	309	2110	-107	295	-32	-5	-14
17	Exterior A-Pillar at Height of Bottom of Front Window	2997	-698	-360	2947	-716	-377	-50	-18	-17
18	Exterior B-pillar at Height of A-Pillar Measurement Location	2038	-727	-359	2035	-724	-355	-3	3	4

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

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

Table 17 Target Vehicle Bumper Measurements

TARGET BUMPER PROFILE¹

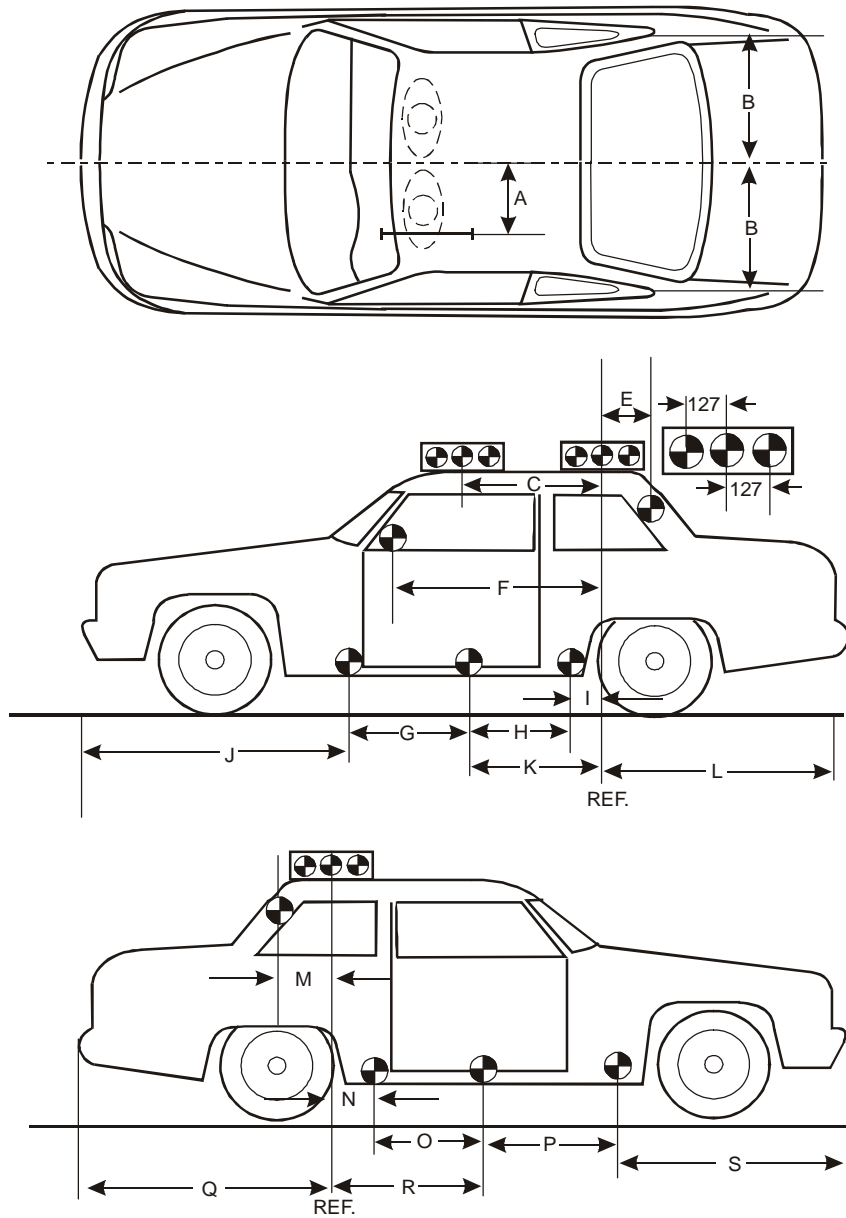
Pre-Test				Post-Test			Difference		
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	4307	-612	125	3582	-545	26	-725	67	-99
2	4329	-504	124	3640	-455	36	-689	49	-88
3	4330	-378	124	3652	-331	30	-678	47	-94
4	4330	-254	123	3651	-207	20	-679	47	-103
5	4331	-130	122	3653	-84	10	-678	46	-112
6	4332	-6	122	3644	34	-2	-688	40	-124
7	4332	117	122	3658	136	20	-674	19	-102
8	4333	240	119	3648	256	43	-685	16	-76
9	4334	364	119	3623	375	69	-711	11	-50
10	4334	490	118	3589	493	95	-745	3	-23
11	4312	608	118	3542	603	112	-770	-5	-6

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

Note: All measurements were recorded using TRC Inc.'s FARO Arm with a tolerance of \pm 0.1 mm.

¹ Points 1, 3, 5, 7, 9, and 11 are included in the NHTSA Database Submission as Damage Profile Distance 1-6.

Figure 15 Target Vehicle Reference Photo Target Locations



Measurement	Pre-Test
A	Left 322 mm Right 322 mm
B	Left 633 mm Right 633 mm
C	Left 610 mm Right 610 mm
E ¹	654 mm

Measurement	Pre-Test
F	1239 mm
G	923 mm
H	850 mm
I	-210 mm
J	1240 mm
K	641 mm
L	1566 mm

Measurement	Pre-Test
M	650 mm
N	-219 mm
O	892 mm
P	870 mm
Q	1574 mm
R	676 mm
S	1250 mm

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

Table 18 Bullet Vehicle Structural Measurements¹

	Elements	Pre-Test
1	Total Length	5070
2	Total Width	1949
3	Bumper Top Height	500
4	Bumper Bottom Height	386
5	Longitudinal Member Top Height	510
6	Longitudinal Member Bottom Height	388
7	Distance Between Longitudinal Members	1133
7'	Longitudinal Member Width	88
8	Engine Top Height	898
9	Engine Bottom Height	152
10	Engine and Gearbox Width	831
11	Front Bumper - Engine Distance	560
12	Front Shock Absorber Fixing Height	931
13	Bonnet Leading Edge Height	781
14	Front Shock Absorber Fixing Width	1288
15	Front Bumper - Front Axle Distance	923
16	Front Axle - A Pillar Distance	530
17	A Pillar - B Pillar Distance	970
18	B Pillar - Rear Axle Distance	1540
19	B Pillar - C Pillar Distance	990
20	Roof Sill Bottom Height	1550
21	Roof Sill Top Height	1574
22	Floor Sill Bottom Height	349
23	Floor Sill Top Height	364

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

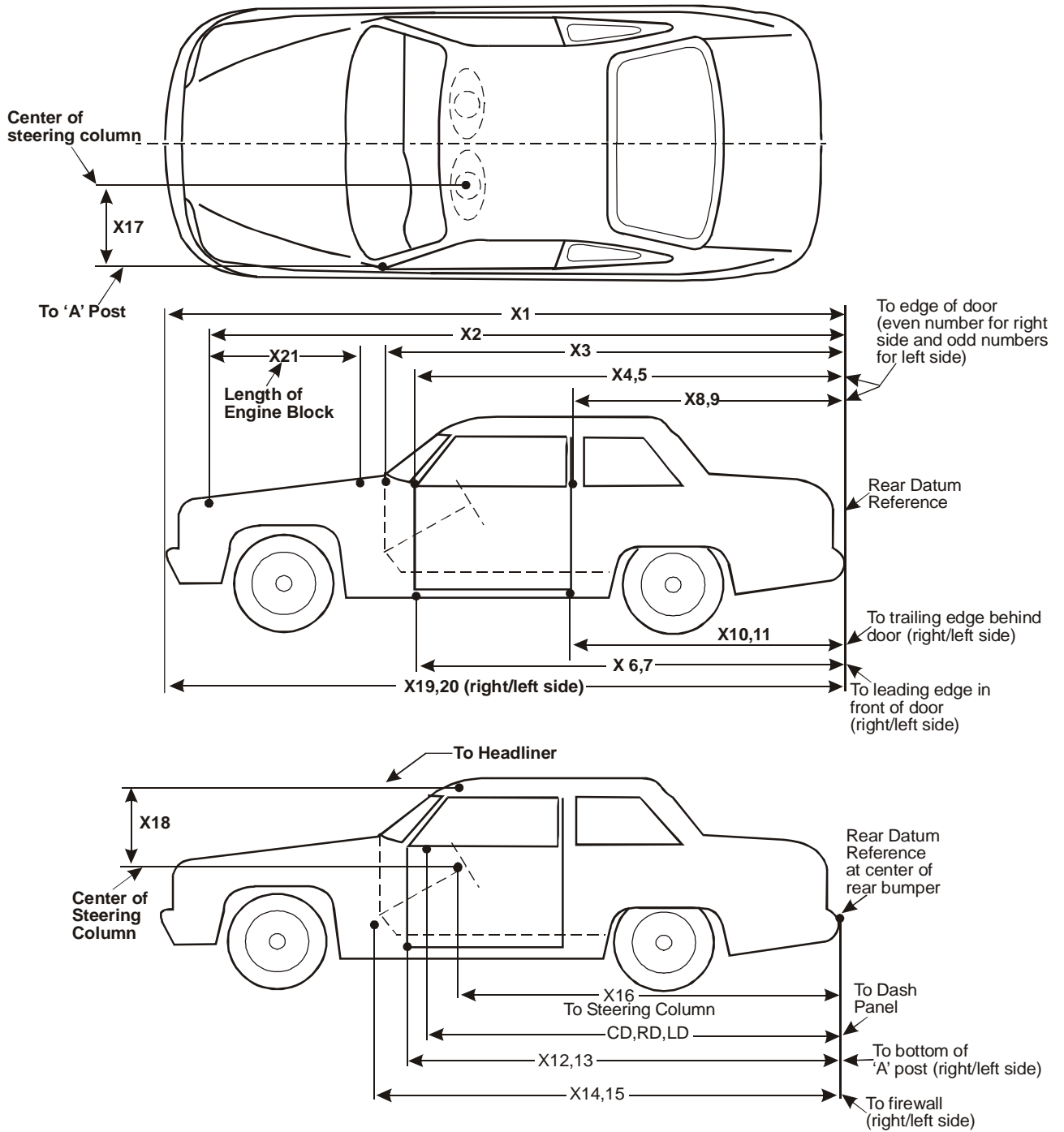


Table 19 Bullet Vehicle Impacted Measurements

Test number: 050906

Vehicle year/make/model/body style: 2005/Chrysler/Town & Country/MPV

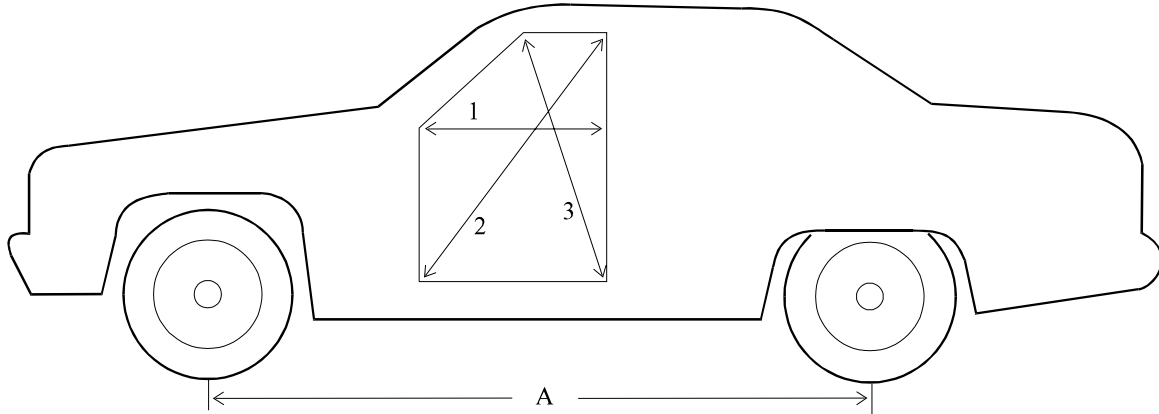
No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	5070	--- ¹	--- ¹
X2	Rear Surface of Vehicle to Front of Engine Block	4466	4283	183
X3	Rear Surface of Vehicle to Firewall	4305	4318	-13
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	3646	3660	-14
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	3640	3580	60
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	3630	3635	-5
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	3624	3564	60
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	2656	2670	-14
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	2650	2590	60
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	2663	2670	-7
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	2662	2595	67
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	3611	3617	-6
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	3614	3534	80
X14	Rear Surface of Vehicle to Firewall - Right Side	4135	4149	-14
X15	Rear Surface of Vehicle to Firewall - Left Side	4088	4160	-72
X16	Rear Surface of Vehicle to Steering Wheel Center	3203	3256	-53
X17	Center of Steering Column to " A " Post	335	305	30
X18	Center of Steering Column to Headliner	485	429	56
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4870	--- ¹	--- ¹
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4863	--- ¹	--- ¹
X21	Length of Engine Block	430	430	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3513	3508	5
CD	Rear Surface of Vehicle to Center of Dash Panel	3440	3421	19
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3500	3438	62

All distance measurements are in millimeters.

¹ Fascia was removed for test.

Figure 17 Bullet Vehicle Intrusion Measurements

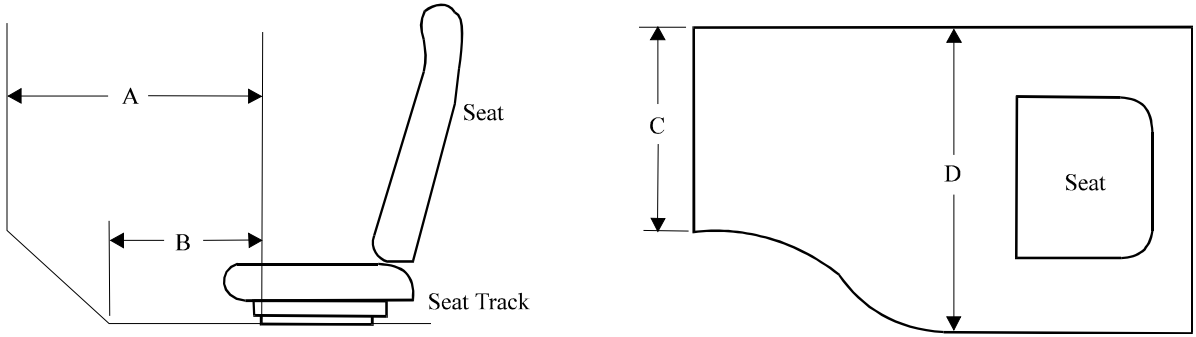
Door Opening Width



Units (mm)	Left			Right		
Measurement	1	2	3	1	2	3
Pre-Test	973 mm	1536 mm	1220 mm	969 mm	1535 mm	1215 mm
Post-Test	973 mm	1537 mm	1229 mm	967 mm	1529 mm	1218 mm
Difference	0 mm	-1 mm	-9 mm	2 mm	6 mm	-3 mm

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	3030 mm	3030 mm
Post-Test	2917 mm	2897 mm
Difference	113mm	133 mm

Figure 18 Bullet Vehicle Intrusion Measurements
Static Footwell Deformation



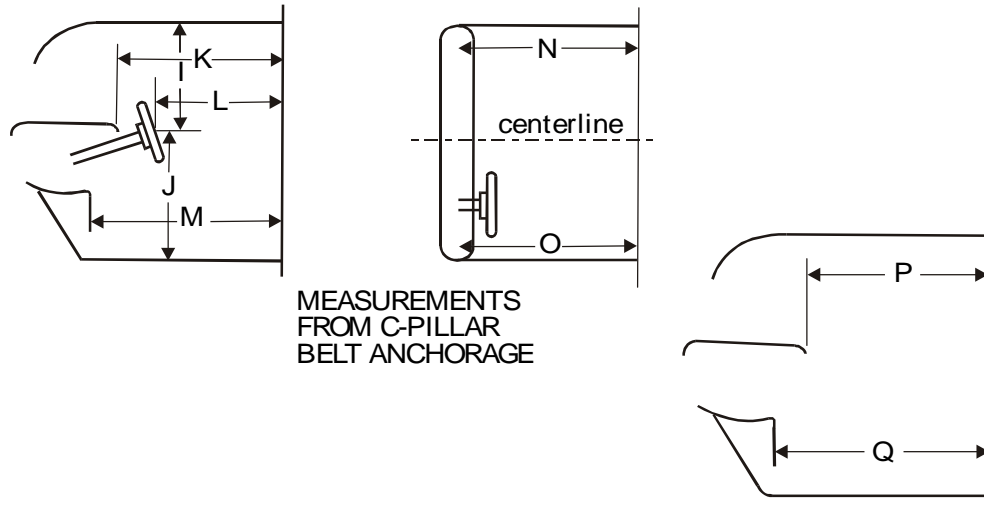
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	615 mm	590 mm	25 mm
B	505 mm	505 mm	0 mm
C	460 mm	500 mm	-40 mm
D	445 mm	438 mm	7 mm

Passenger's Side

Measurement	Pre-Test	Post-Test	Difference
A	625 mm	621 mm	4 mm
B	505 mm	498 mm	7 mm
C	370 mm	368 mm	2 mm
D	410 mm	407 mm	3 mm

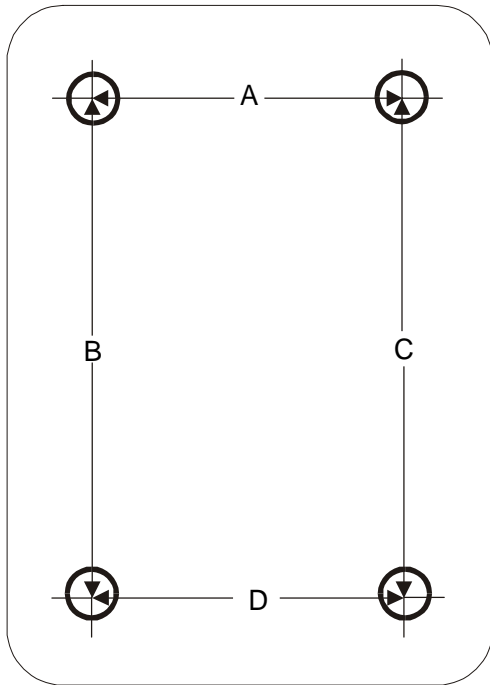
Figure 19 Bullet Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion



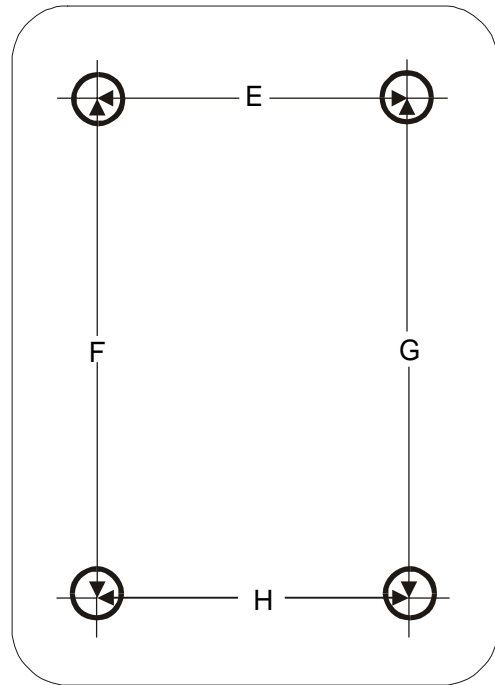
Measurement	Pre-Test	Post-Test	Difference
I	445 mm	420 mm	25 mm
J	720 mm	770 mm	-50 mm
K (driver's side)	1930 mm	1918 mm	12 mm
L	1678 mm	1696 mm	-18 mm
M (driver's side)	2076 mm	2074 mm	2 mm
N (passenger's side)	2003 mm	2004 mm	-1 mm
O (driver's side)	1932 mm	1921 mm	11 mm
P (passenger's side)	1920 mm	1923 mm	-3 mm
Q (passenger's side)	2079 mm	2078 mm	1 mm

Figure 20 Bullet Vehicle Floorboard Deformation

DRIVERS SIDE



PASSENGERS SIDE



Measurement	Pre-Test	Post-Test	Difference
A	500 mm	500 mm	0 mm
B	500 mm	498 mm	2 mm
C	460 mm	345 mm	115 mm
D	445 mm	438 mm	7 mm
E	370 mm	368 mm	2 mm
F	500 mm	407 mm	93 mm
G	480 mm	464 mm	16 mm
H	410 mm	407 mm	3 mm

Table 20 Bullet Vehicle Frontal Profile Measurements

Bottom of Front Bumper¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Top of Front Bumper¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Center of Grill¹

Pre-Test

Index	Xmm	Ymm	Zmm
1	N/A ¹	N/A ¹	N/A ¹
2	N/A ¹	N/A ¹	N/A ¹
3	N/A ¹	N/A ¹	N/A ¹
4	N/A ¹	N/A ¹	N/A ¹
5	N/A ¹	N/A ¹	N/A ¹
6	N/A ¹	N/A ¹	N/A ¹

Post-Test

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Difference

Xmm	Ymm	Zmm
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹
N/A ¹	N/A ¹	N/A ¹

Front of Hood

Pre-Test

Index	Xmm	Ymm	Zmm
1	4720	-732	-795
2	4880	-460	-790
3	4920	-150	-801
4	4920	150	-797
5	4880	460	-807
6	4720	732	-810

Post-Test

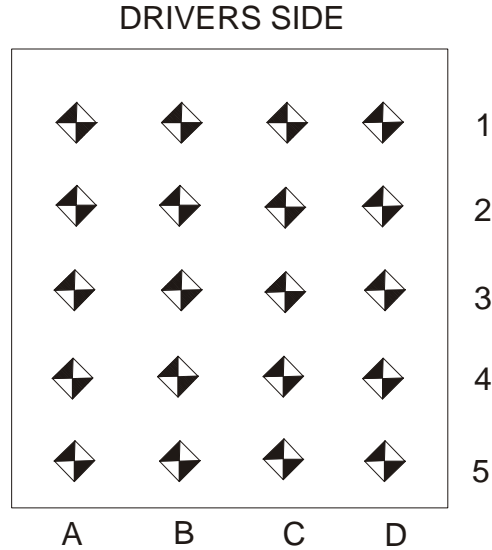
Xmm	Ymm	Zmm
4395	-720	-910
4456	-458	-798
4493	-149	-768
4495	147	-798
4505	450	-843
4465	723	-955

Difference

Xmm	Ymm	Zmm
-325	12	-115
-424	2	-8
-427	1	33
-425	-3	-1
-375	-10	-36
-255	-9	-145

¹ Bumper fascia was removed for the 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	708	787	815	778	665	644	643	570	-43	-143	-172	-208
2	605	695	674	667	581	576	508	486	-24	-119	-166	-181
3	562	504	491	488	545	497	461	402	-17	-7	-30	-86
4	325	302	301	299	321	297	289	280	-4	-5	-12	-19
5	97	100	98	96	94	95	90	90	-3	-5	-8	-6

BULLET DRIVER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-14	161	325	485	-4	172	341	476	10	11	16	-9
2	-40	159	324	468	-43	167	308	452	-3	8	-16	-16
3	-1	152	323	471	15	165	337	466	16	13	14	-5
4	4	173	336	480	15	181	344	489	11	8	8	9
5	-2	178	359	489	8	188	369	497	10	10	10	8

BULLET DRIVER TOEPAN Z-AXIS

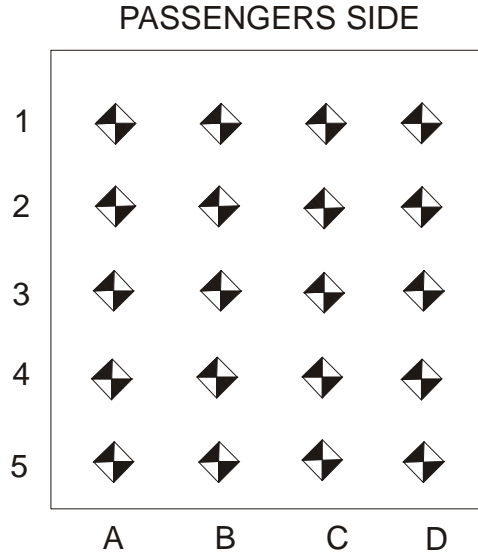
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-76	325	-25	16	-99	-83	-100	-115	-23	-408	-75	-131
2	33	324	133	122	19	37	18	8	-14	-287	-115	-114
3	214	323	204	197	196	212	212	170	-18	-111	8	-27
4	210	336	200	208	215	194	194	195	5	-142	-6	-13
5	204	359	217	202	210	202	235	223	6	-157	18	21

Pre- and post-test measurement reference: +X forward; +Y right; +Z down.

0,0,0 origin is front outboard seat bolt.

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

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	774	780	698	635	601	585	642	626	-173	-195	-56	-9
2	678	685	619	595	553	539	563	581	-125	-146	-56	-14
3	539	502	539	548	447	451	528	540	-92	-51	-11	-8
4	325	320	314	287	300	304	307	283	-25	-16	-7	-4
5	103	97	94	84	95	88	88	80	-8	-9	-6	-4

BULLET PASSENGER TOEPAN Y-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-369	-189	-33	117	-380	-204	-51	109	-11	-15	-18	-8
2	-351	-184	-25	113	-366	-199	-34	109	-15	-15	-9	-4
3	-332	-223	-37	55	-343	-238	-56	37	-11	-15	-19	-18
4	-469	-327	-168	-6	-481	-340	-183	-18	-12	-13	-15	-12
5	-478	-354	-197	42	-488	-366	-207	29	-10	-12	-10	-13

BULLET PASSENGER TOEPAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	24	17	-24	-42	-57	-65	-45	-49	-81	-82	-21	-7
2	121	120	67	31	70	68	44	26	-51	-52	-23	-5
3	203	207	211	226	186	203	214	219	-17	-4	3	-7
4	202	202	200	211	201	218	227	222	-1	16	27	11
5	212	220	196	213	238	245	219	222	26	25	23	9

Pre- and post-test measurement reference: +X forward; +Y right; +Z down.

0,0,0 origin is front outboard seat bolt.

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

Table 21 Bullet Vehicle IIHS Measurements

BULLET IIHS MEASUREMENTS

Index	Description	Pre-Test			Post-Test			Difference		
		Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm
1	Center of Steering Wheel on the Airbag Door	3225	-391	-617	3259	-397	-650	34	-6	-33
2	Driver's Lower Left Instrument Panel	3549	-540	-352	3524	-536	-354	-25	4	-2
3	Driver's Lower Right Instrument Panel	3550	-239	-351	3530	-239	-351	-20	0	0
4	Brake Pedal Center	3682	-399	-94	3599	-405	-163	-83	-6	-69
5	Center Left Toeboard 150 mm Left of the Brake Pedal Center at Height of Brake Pedal Center	3865	-550	-92	3780	-537	-145	-85	13	-53
6	Toeboard Behind the Center of the Brake Pedal at Height of Brake Pedal	3941	-401	-92	3788	-400	-185	-153	1	-93
7	Center Right Toeboard 150 mm Right of the Brake Pedal Center at Height of Brake Pedal Center	3941	-217	-92	3765	-223	-222	-176	-6	-130
8	Foot Rest 250 mm Left of the Brake Pedal Center at Height of Brake Pedal Center	3780	-650	-93	3752	-661	-110	-28	-11	-17
9	Left Front Driver's Seat Mounting Bolt	3158	-620	-101	3159	-623	-95	1	-3	6
10	Right Front Driver's Seat Mounting Bolt	3155	-216	-102	3163	-216	-82	8	0	20
11	Left Rear Driver's Seat Mounting Bolt	2845	-619	-58	2846	-614	-58	1	5	0
12	Right Rear Driver's Seat Mounting Bolt	2842	-217	-57	2848	-213	-61	6	4	-4
17	Exterior A-Pillar at Height of Bottom of Front Window	3605	-824	-556	3604	-818	-563	-1	6	-7
18	Exterior B-pillar at Height of A-Pillar Measurement Location	2684	-867	-555	2684	-862	-558	0	5	-3

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

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

Table 22 Bullet Vehicle Bumper Measurements

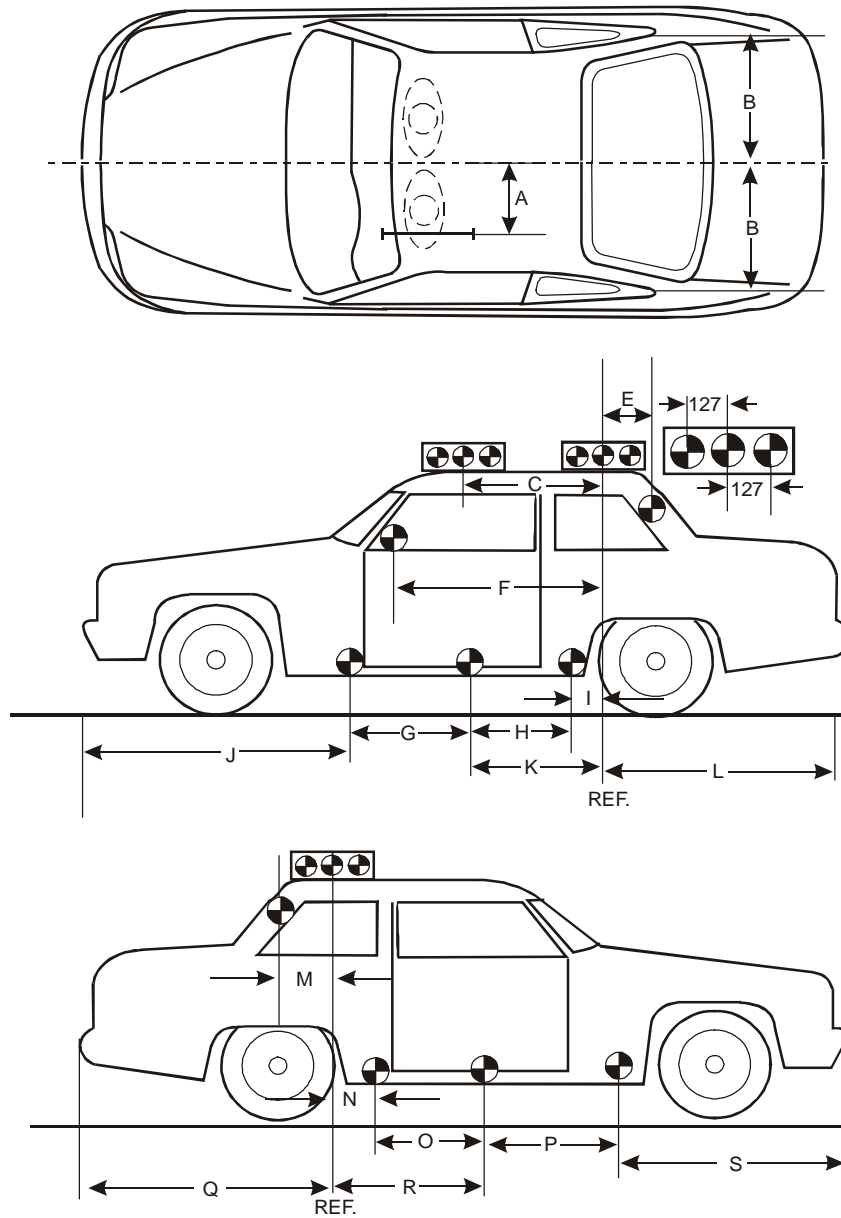
BULLET BUMPER PROFILE¹											
Pre-Test				Post-Test			Difference				
Index	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm	Xmm	Ymm	Zmm		
1	4925	-619	19	4465	-569	293	-460	50	274		
2	4988	-509	20	4447	-447	262	-541	62	242		
3	4999	-395	24	4416	-351	243	-583	44	219		
4	5012	-270	24	4409	-228	222	-603	42	198		
5	5020	-142	24	4425	-102	203	-595	40	179		
6	5023	-7	22	4409	28	176	-614	35	154		
7	5021	115	25	4450	140	180	-571	25	155		
8	5015	242	27	4481	263	180	-534	21	153		
9	5003	371	26	4500	390	174	-503	19	148		
10	4988	502	25	4557	480	171	-431	-22	146		
11	4927	611	20	4662	547	175	-265	-64	155		

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

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

¹ Measurement points 1, 3, 5, 7, 9, and 11 are included in the NHTSA Database Submission as Damage Profile Distance 1-6.

Figure 22 Bullet Vehicle Reference Photo Target Locations



Measurement	Pre-Test
A	Left 400 mm Right 400 mm
B	Left 714 mm Right 714 mm
C	Left 610 mm Right 610 mm
E ¹	560 mm

Measurement	Pre-Test
F	1207 mm
G	1002 mm
H	1048 mm
I	-625 mm
J	1236 mm
K	425 mm
L	2200 mm

Measurement	Pre-Test
M	543 mm
N	-614 mm
O	1052 mm
P	980 mm
Q	2193 mm
R	430 mm
S	1267 mm

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

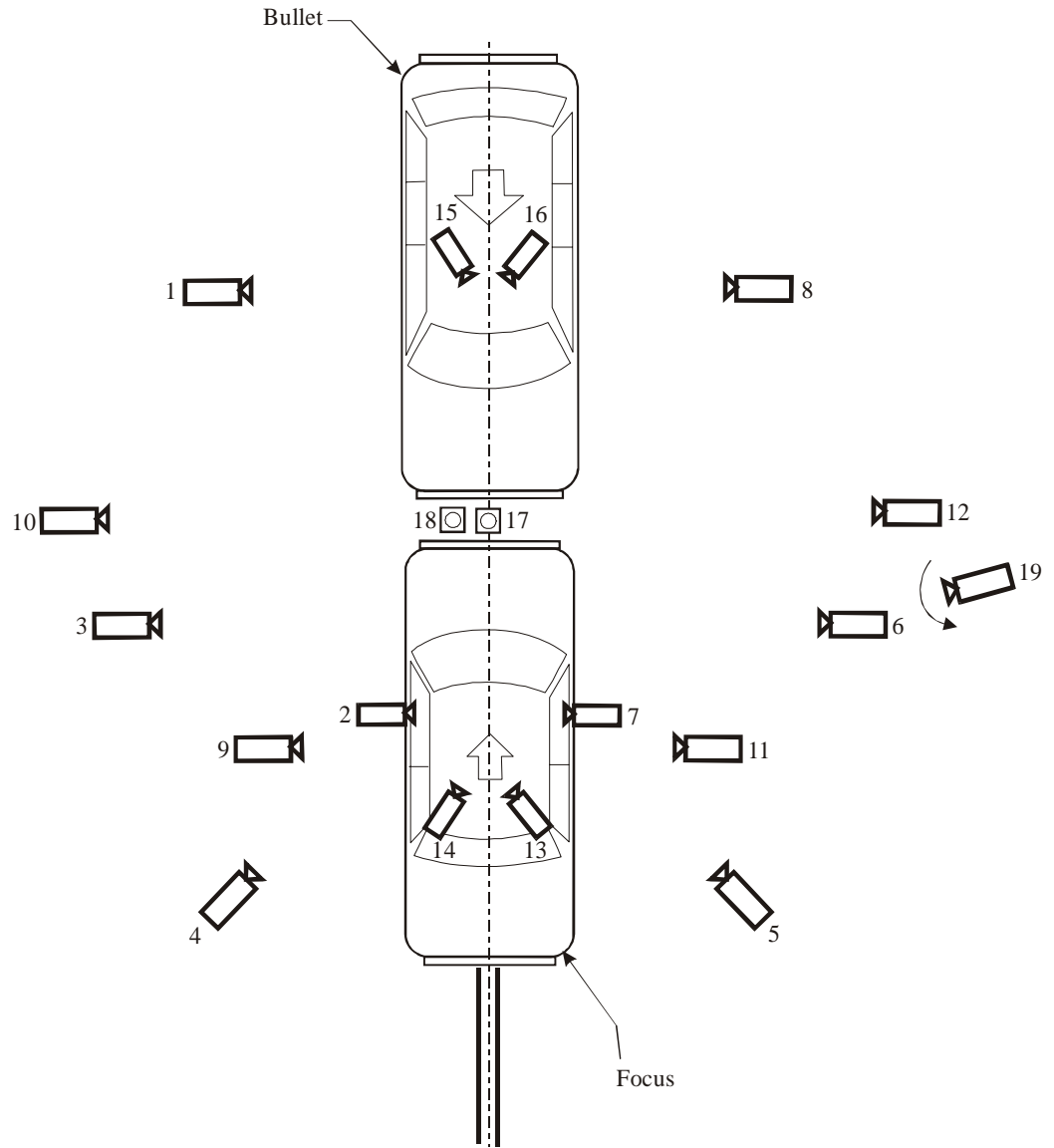


Table 23 Camera Information

Camera Number	Location	Location, mm			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Bullet vehicle passenger side	1900	-12200	-1000	-1.5	13	1000
2	Onboard target vehicle - driver	-900	-180	-1000	3.5	6.5	1000
3	Target vehicle left tight	0	-11000	-1030	-0.9	50	1000
4	Target vehicle driver angled	-5800	-4050	-2000	-9.8	50	1000
5	Target vehicle passenger angled	-5800	4050	-2000	-10.6	50	1000
6	Target vehicle right tight	0	10700	-550	-1.6	25	1000
7	Onboard target vehicle - passenger	-900	1800	-1000	-2.4	6.5	1000
8	Bullet vehicle driver side	1800	11750	-1000	-0.9	13	1000
9	Target vehicle driver side wide	-900	-11000	-1000	-0.5	12.5	1000
10	Left overall wide (reference to target vehicle)	0	-11700	-1350	-4.7	25	1000
11	Target vehicle passenger side wide	0	10700	-1300	0.2	25	1000
12	Right overall wide (reference to target vehicle)	2600	11400	-1050	-0.4	13	1000
13	Onboard target vehicle - driver over shoulder	-2400	300	-1200	-5.3	13	1000
14	Onboard target vehicle - passenger over shoulder	-2400	-300	-1200	-7.4	13	1000
15	Onboard bullet vehicle - driver over shoulder	2800	-300	-1600	-18.3	13	1000
16	Onboard bullet vehicle - passenger over shoulder	2800	300	-1600	-11.8	13	1000
17	Overhead wide	0	300	-16000	90.0	10	1000
18	Overhead tight	0	350	-16000	90.0	50	1000
19	Panning/documentary	N/A	N/A	N/A	N/A	Zoom	24

+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 Post-Test Overall - View 1



Figure A-3 Pre-Test Overall - View 2



Figure A-4 Post-Test Overall - View 2



Figure A-5 Pre-Test Overhead Wide View



Figure A-6 Post-Test Overhead Wide View



Figure A-7 Pre-Test Overhead Close-up View

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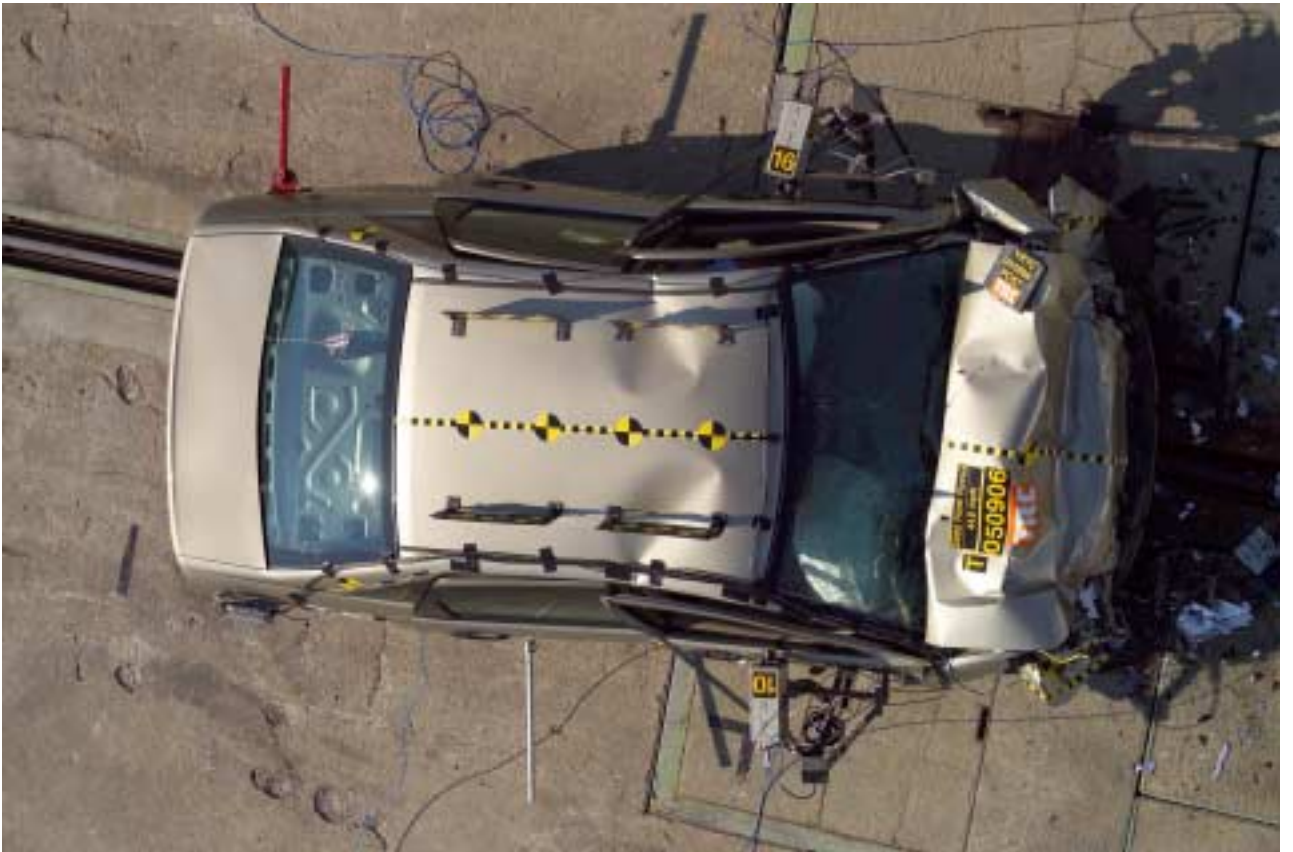


Figure A-8 Post-Test Overhead Target Vehicle View

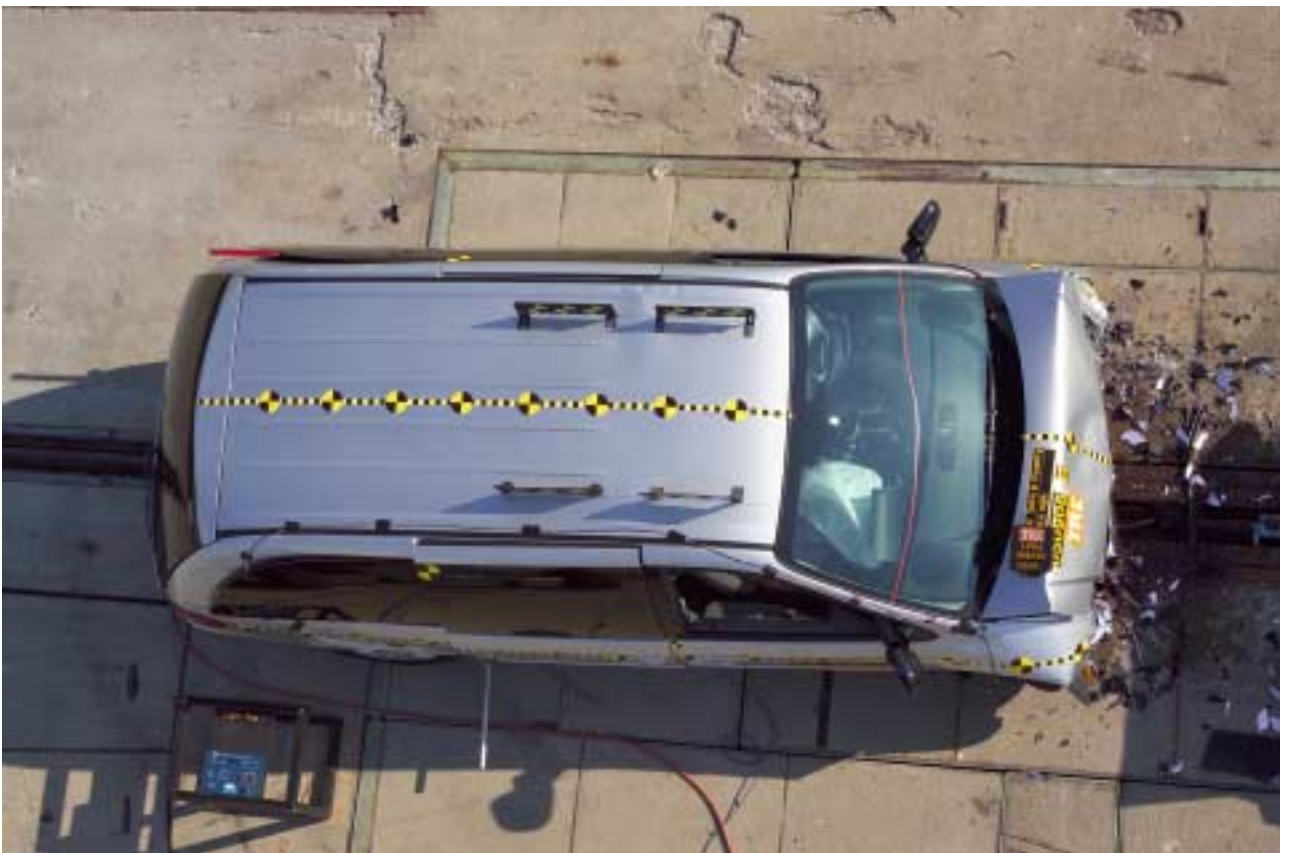


Figure A-9 Post-Test Overhead Bullet Vehicle View



Figure A-10 Pre-Test Left Side Impact Alignment View



Figure A-11 Pre-Test Right Side Impact Alignment View



Figure A-12 Pre-Test Target Vehicle Front View



Figure A-13 Post-Test Target Vehicle Front View



Figure A-14 Pre-Test Target Vehicle Left Front View



Figure A-15 Post-Test Target Vehicle Left Front View



Figure A-16 Pre-Test Target Vehicle Left Side View



Figure A-17 Post-Test Target Vehicle Left Side View



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



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



Figure A-20 Pre-Test Target Vehicle Rear View



Figure A-21 Post-Test Target Vehicle Rear View



Figure A-24 Pre-Test Target Vehicle Right Side View



Figure A-25 Post-Test Target Vehicle Right Side View



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



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



Figure A-28 Pre-Test Target Vehicle Engine Compartment View

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Figure A-29 Pre-Test Target Vehicle Front Underbody View



Figure A-30 Post-Test Target Vehicle Front Underbody View



Figure A-31 Pre-Test Target Vehicle Front Mid Underbody View



Figure A-32 Post-Test Target Vehicle Front Mid Underbody View



Figure A-33 Pre-Test Target Vehicle Mid Underbody View



Figure A-34 Post-Test Target Vehicle Mid Underbody View



Figure A-35 Pre-Test Target Vehicle Rear Mid Underbody View



Figure A-36 Post-Test Target Vehicle Rear Mid Underbody View



Figure A-37 Pre-Test Target Vehicle Rear Underbody View



Figure A-38 Post-Test Target Vehicle Rear Underbody View



Figure A-39 Pre-Test Target Vehicle Fuel Tank View



Figure A-40 Post-Test Target Vehicle Fuel Tank View



Figure A-41 Post-Test Target Vehicle Fuel Filler Neck View

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Figure A-42 Pre-Test Bullet Vehicle Front View

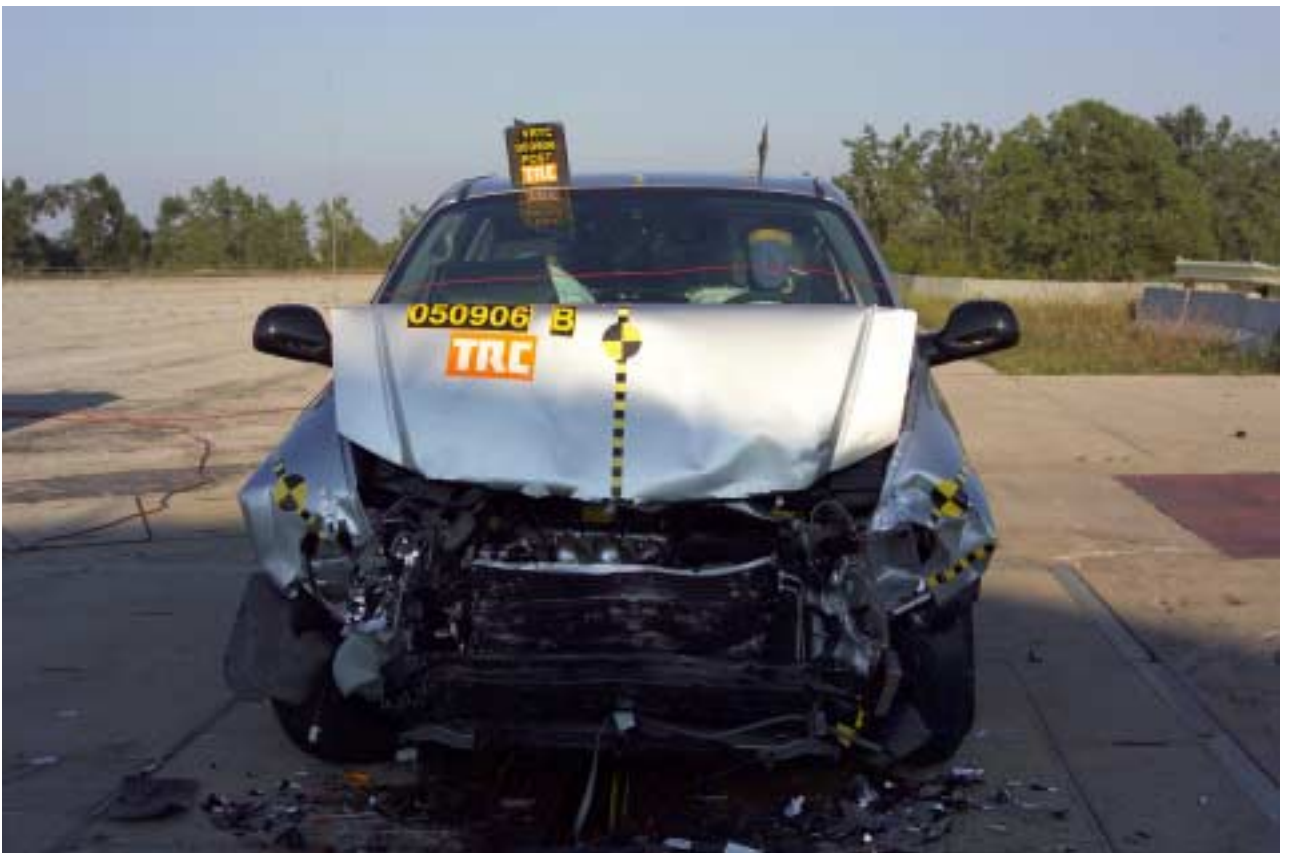


Figure A-43 Post-Test Bullet Vehicle Front View



Figure A-44 Pre-Test Bullet Vehicle Left Front View



Figure A-45 Post-Test Bullet Vehicle Left Front View



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



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



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



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



Figure A-50 Pre-Test Bullet Vehicle Rear View



Figure A-51 Post-Test Bullet Vehicle Rear View



Figure A-52 Pre-Test Bullet Vehicle Right Rear View



Figure A-53 Post-Test Bullet Vehicle Right Rear View



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



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



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



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



Figure A-58 Pre-Test Bullet Vehicle Engine Compartment View

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



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

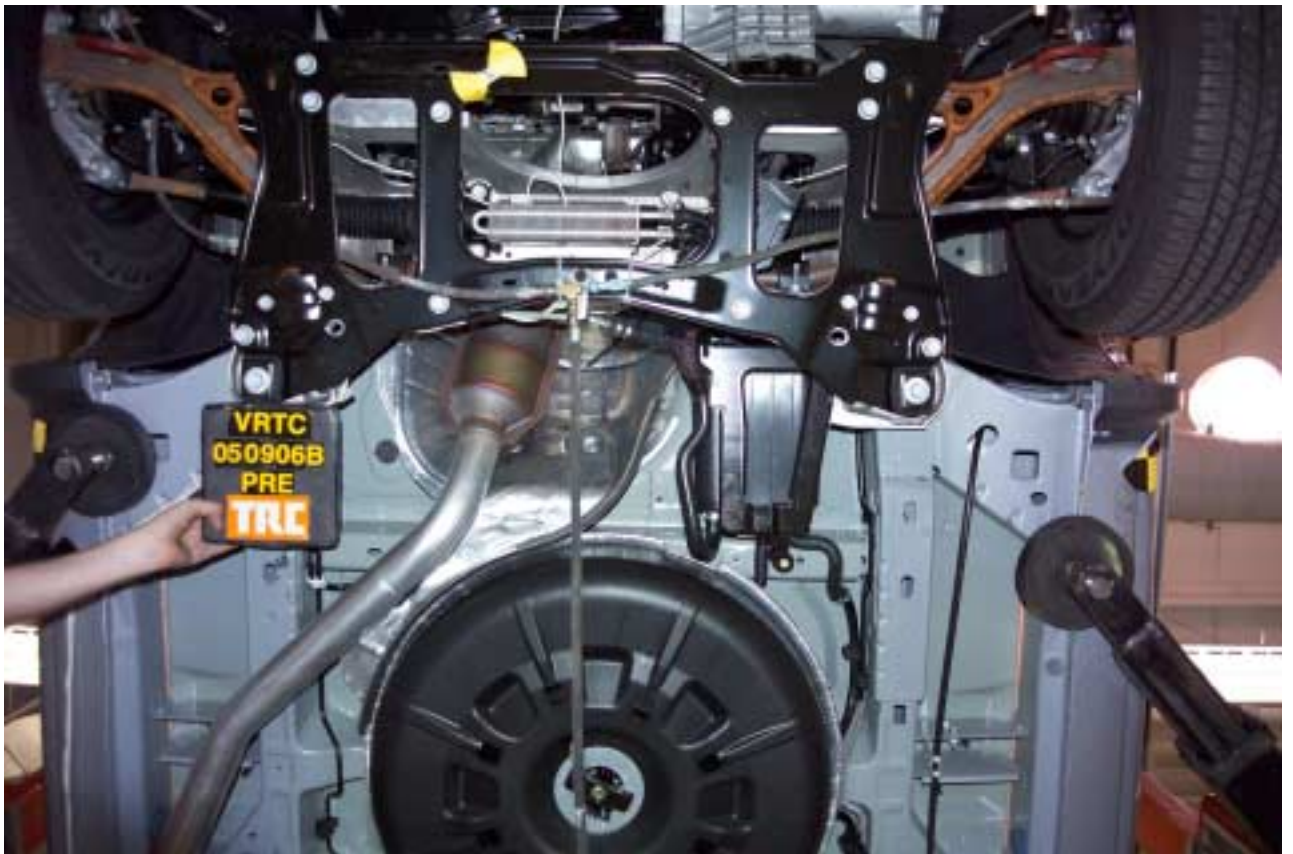


Figure A-61 Pre-Test Bullet Vehicle Front Mid Underbody View



Figure A-62 Post-Test Bullet Vehicle Front Mid Underbody View



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

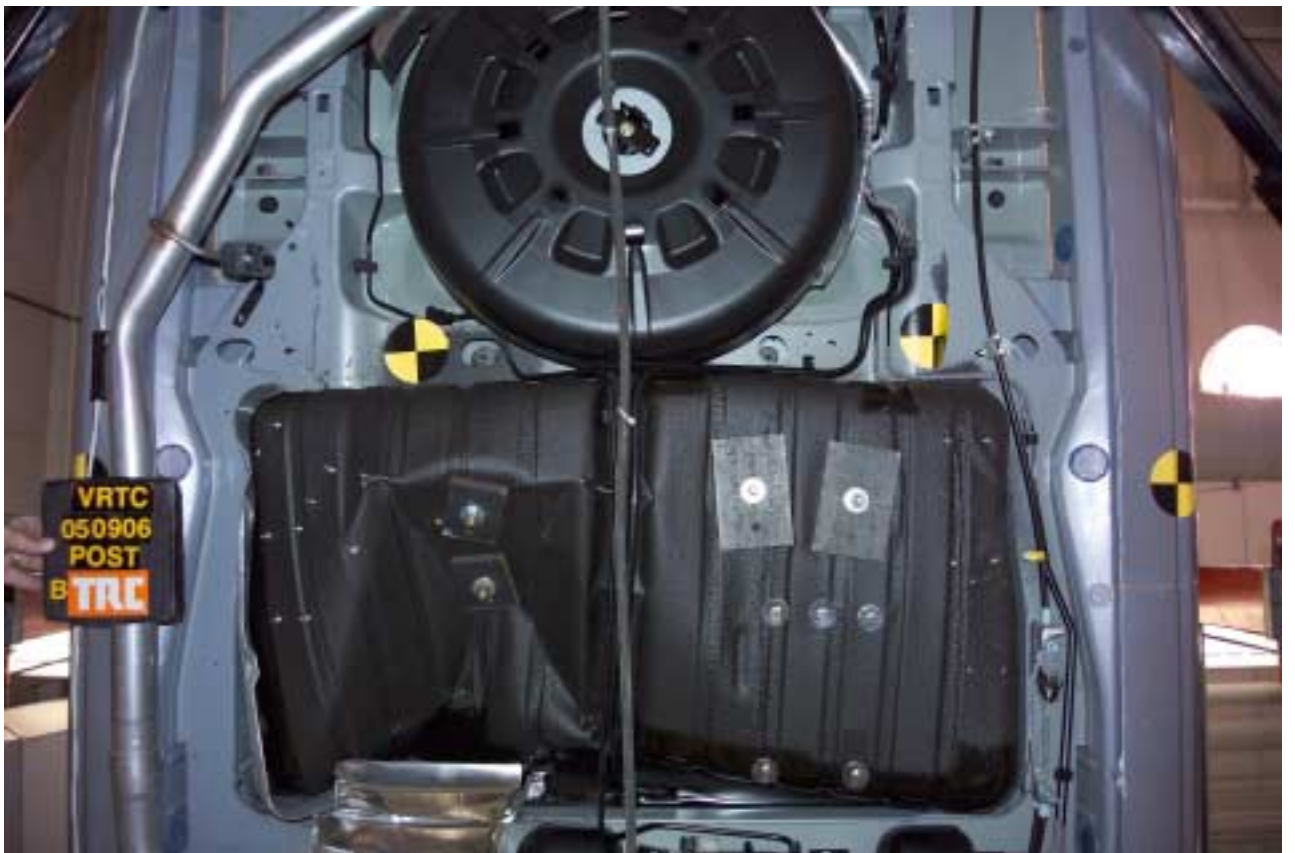


Figure A-64 Post-Test Bullet Vehicle Mid Underbody View



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



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



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



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



Figure A-69 Pre-Test Bullet Vehicle Fuel Tank View



Figure A-70 Post-Test Bullet Vehicle Fuel Tank View



Figure A-71 Post-Test Bullet Vehicle Fuel Filler Neck View

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Figure A-72 Pre-Test Target Vehicle Windshield View



Figure A-73 Post-Test Target Vehicle Windshield View

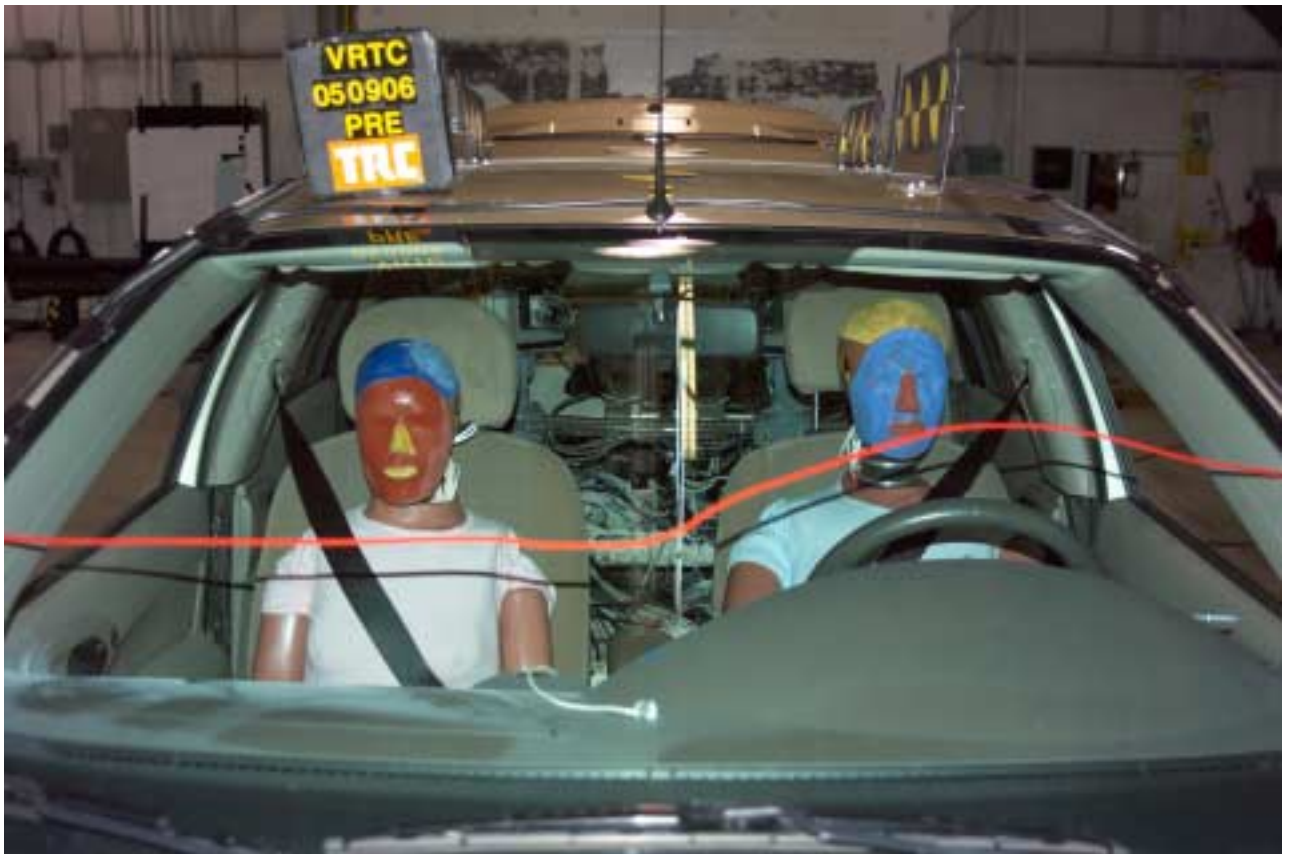


Figure A-74 Pre-Test Target Vehicle Driver and Passenger Dummies through Windshield View



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

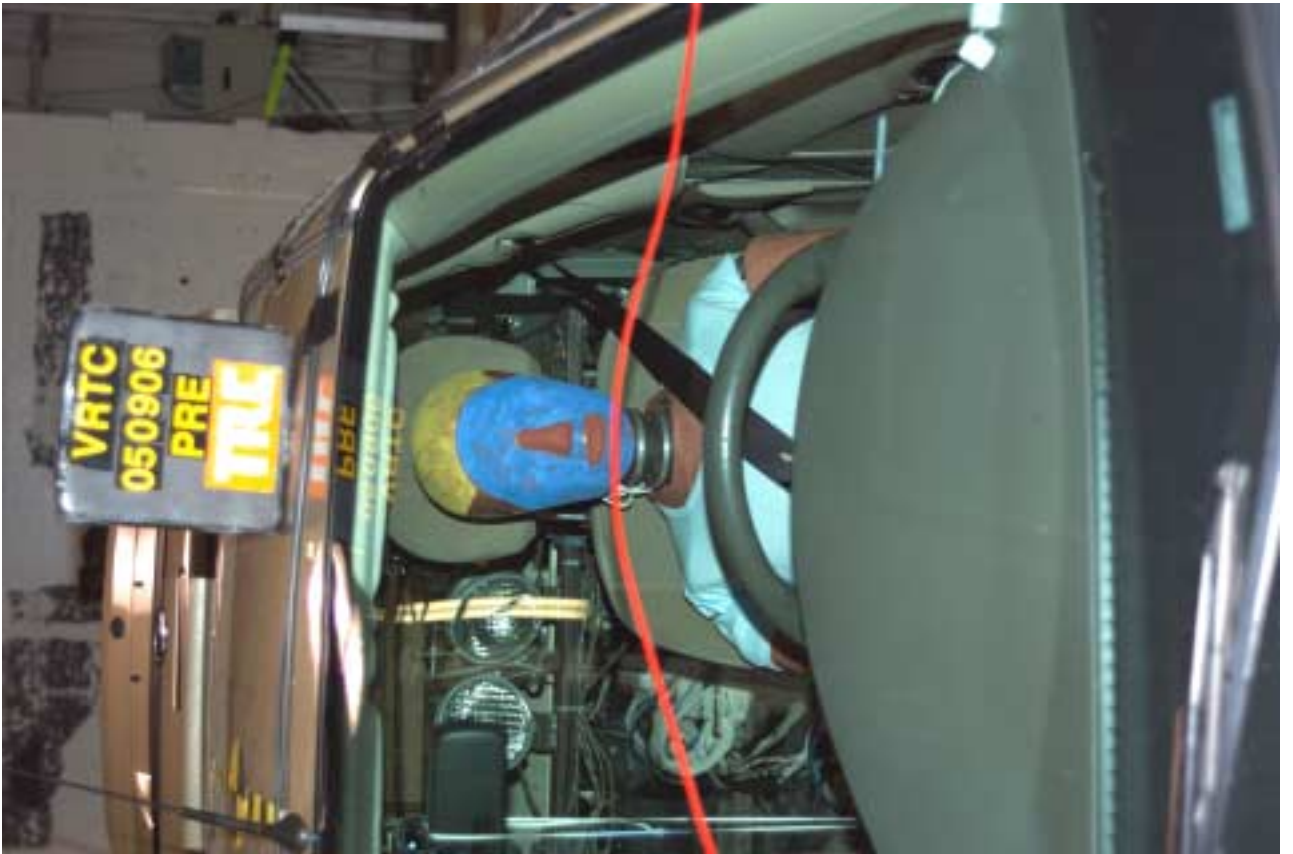


Figure A-76 Pre-Test Target Vehicle Driver Dummy - View 1



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

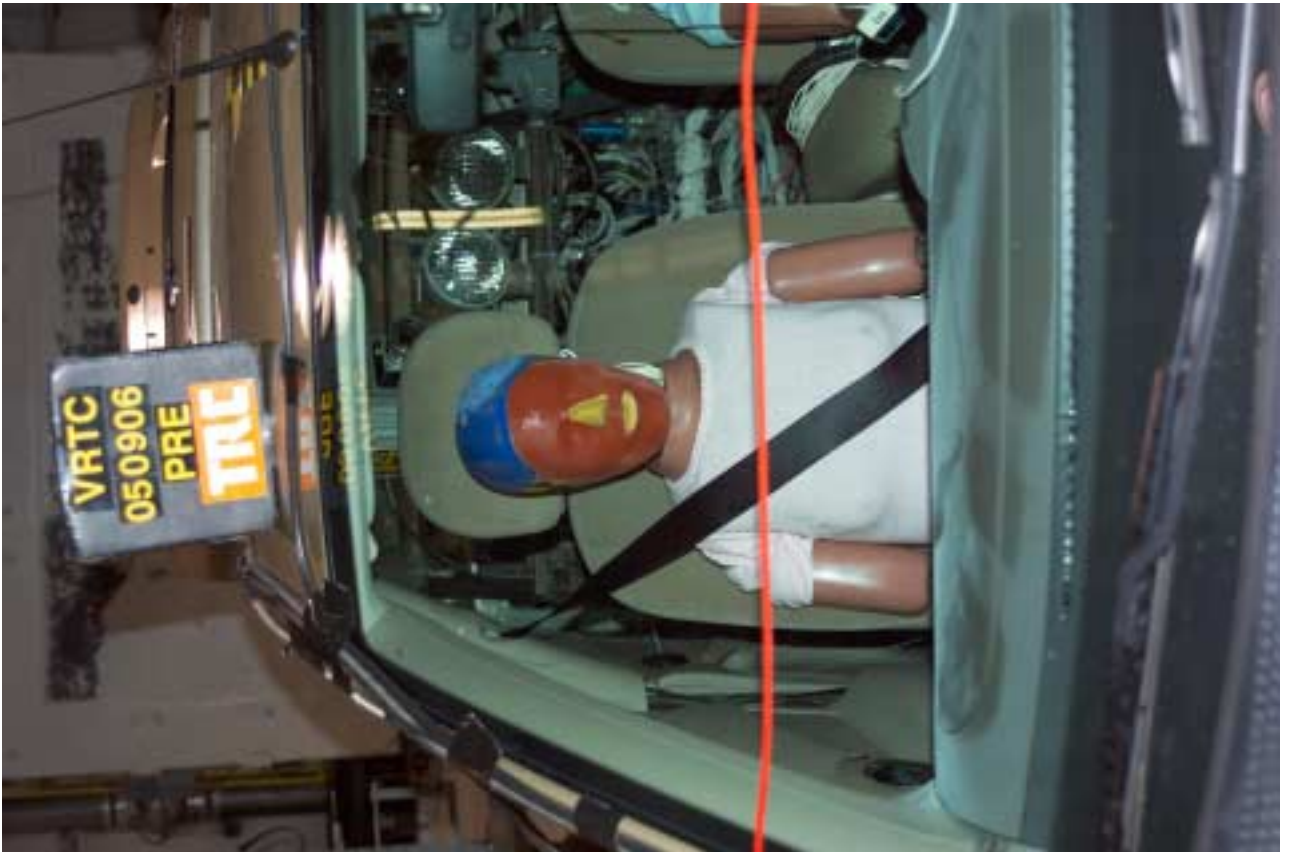


Figure A-84 Pre-Test Target Vehicle Passenger Dummy - View 1

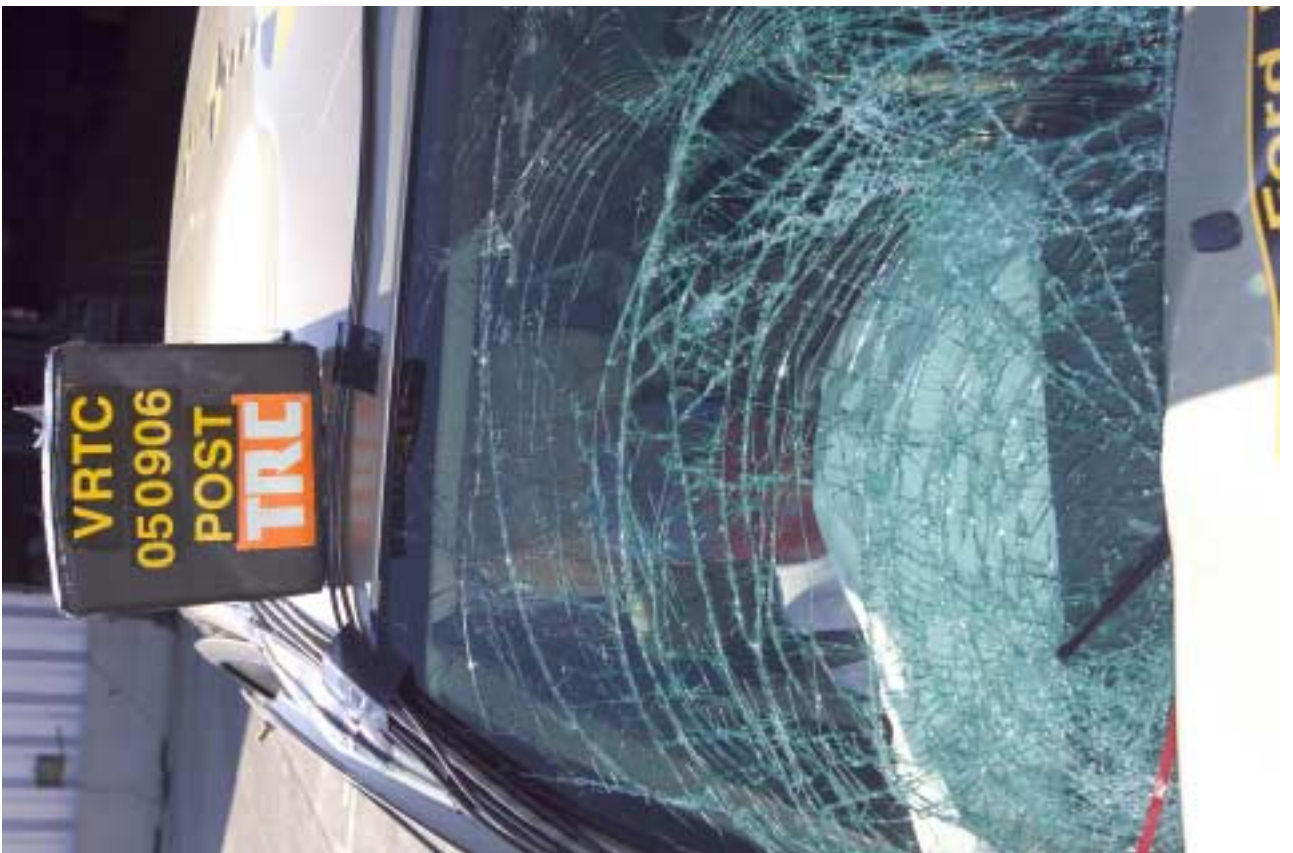


Figure A-85 Post-Test Target Vehicle Passenger Dummy - View 1



Figure A-86 Pre-Test Target Vehicle Passenger Dummy - View 2



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



Figure A-88 Pre-Test Target Vehicle Passenger Dummy - View 3



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



Figure A-90 Pre-Test Target Vehicle Passenger Dummy - View 4



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



Figure A-92 Pre-Test Bullet Vehicle Windshield View



Figure A-93 Post-Test Bullet Vehicle Windshield View



Figure A-94 Pre-Test Bullet Vehicle Driver and Passenger Dummies through Windshield View



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

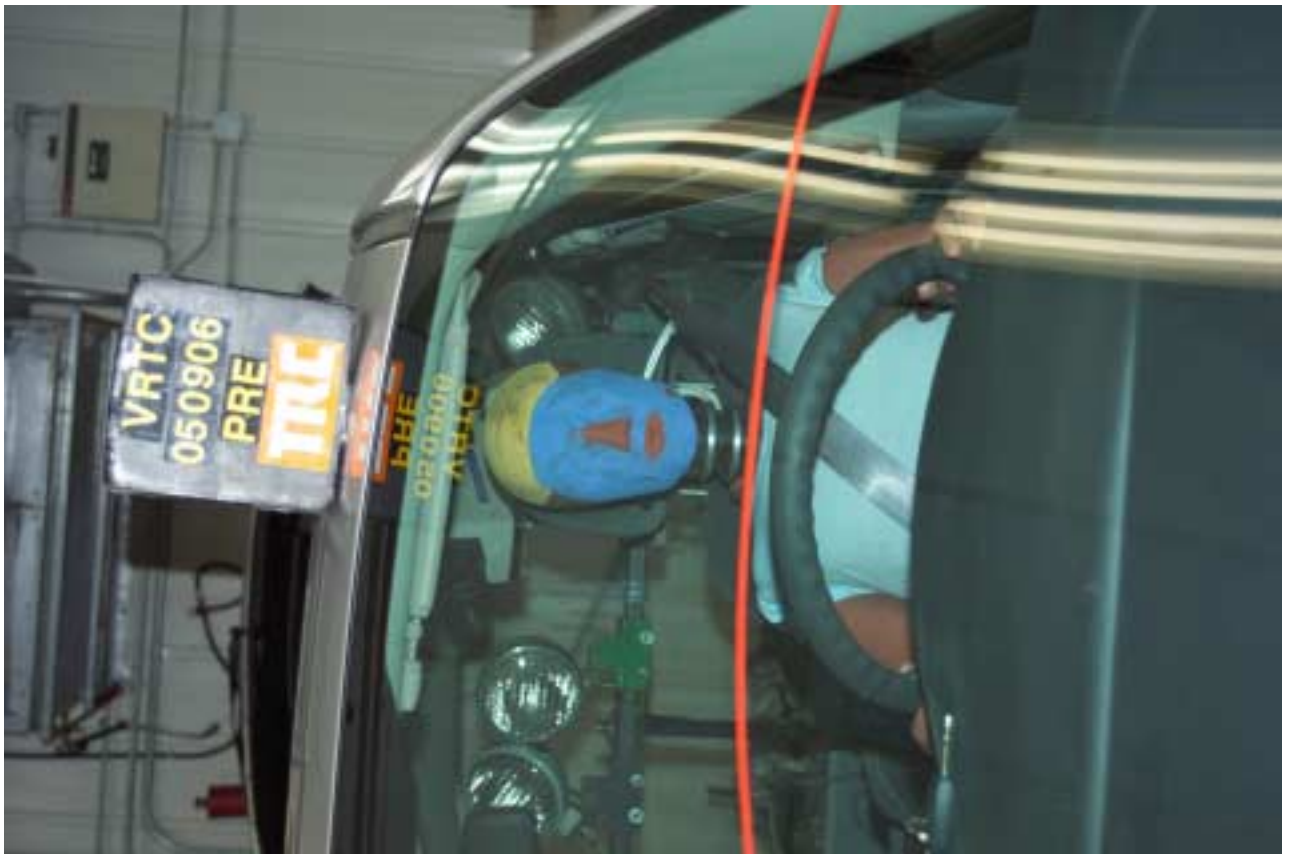


Figure A-96 Pre-Test Bullet Vehicle Driver Dummy - View 1



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



Figure A-98 Pre-Test Bullet Vehicle Driver Dummy - View 2



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



Figure A-100 Pre-Test Bullet Vehicle Driver Dummy - View 3



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



Figure A-102 Pre-Test Bullet Vehicle Driver Dummy - View 4



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



Figure A-104 Pre-Test Bullet Vehicle Passenger Dummy - View 1



Figure A-105 Post-Test Bullet Vehicle Passenger Dummy - View 1



Figure A-106 Pre-Test Bullet Vehicle Passenger Dummy - View 2



Figure A-107 Post-Test Bullet Vehicle Passenger Dummy - View 2



Figure A-108 Pre-Test Bullet Vehicle Passenger Dummy - View 3



Figure A-109 Post-Test Bullet Vehicle Passenger Dummy - View 3



Figure A-110 Pre-Test Bullet Vehicle Passenger Dummy - View 4

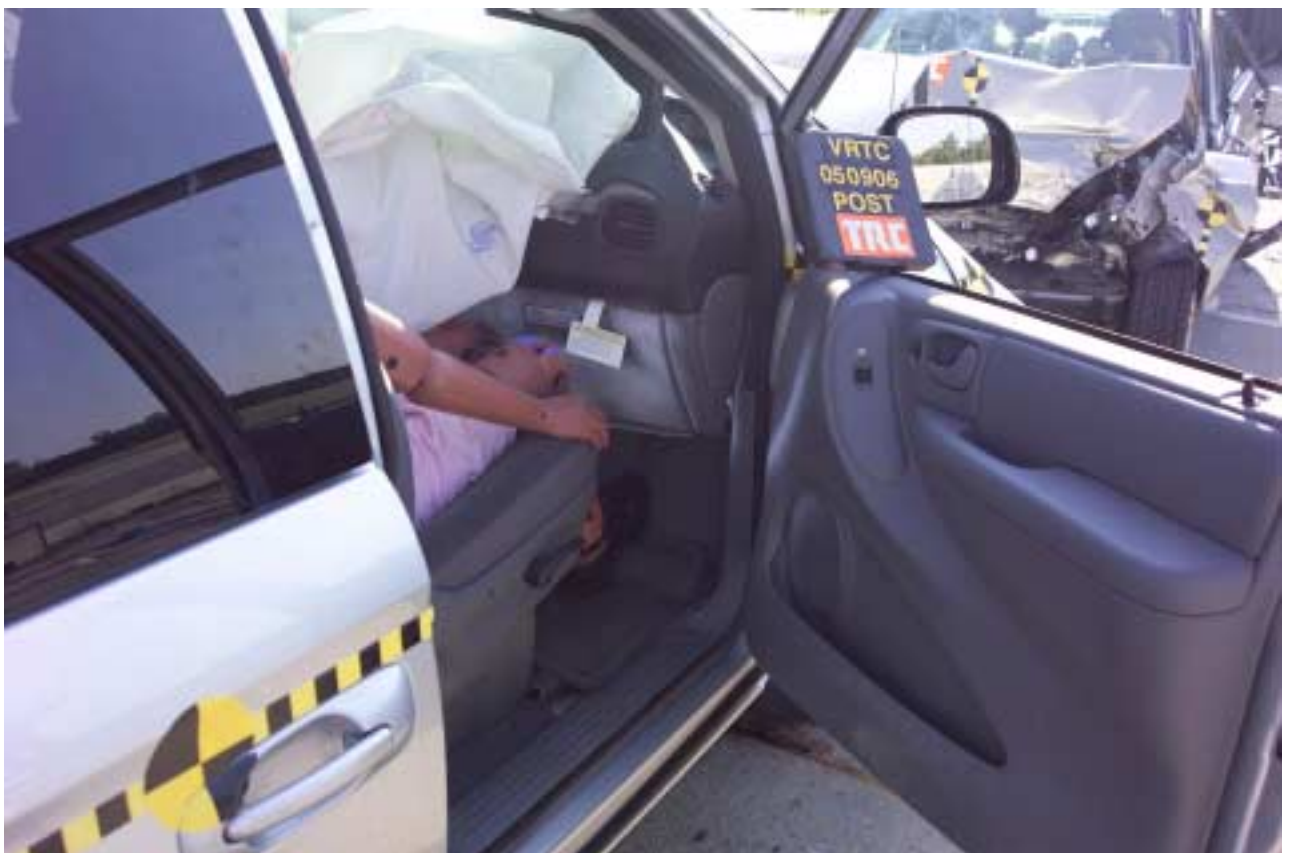


Figure A-111 Post-Test Bullet Vehicle Passenger Dummy - View 4



Figure A-112 Post-Test Target Vehicle Driver Dummy Overall Contact View



Figure A-113 Post-Test Target Vehicle Driver Dummy Head Contact - View 1



Figure A-114 Post-Test Target Vehicle Driver Dummy Head Contact - View 2



Figure A-115 Post-Test Target Vehicle Driver Dummy Head Contact - View 3



Figure A-116 Post-Test Target Vehicle Driver Dummy Knee Contact - View 1



Figure A-117 Post-Test Target Vehicle Driver Dummy Knee Contact - View 2



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



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



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



Figure A-121 Post-Test Target Vehicle Passenger Dummy Head Contact - View 3



Figure A-122 Post-Test Target Vehicle Passenger Dummy Knee Contact - View 1



Figure A-123 Post-Test Target Vehicle Passenger Dummy Knee Contact - View 2



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



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



Figure A-126 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 2



Figure A-127 Post-Test Bullet Vehicle Driver Dummy Head Contact - View 3



Figure A-128 Post-Test Bullet Vehicle Driver Dummy Knee Contact - View 1



Figure A-129 Post-Test Bullet Vehicle Driver Dummy Knee Contact - View 2



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



Figure A-131 Post-Test Bullet Vehicle Passenger Dummy Head Contact - View 1



Figure A-132 Post-Test Bullet Vehicle Passenger Dummy Head Contact - View 2



Figure A-133 Post-Test Bullet Vehicle Passenger Dummy Head Contact - View 3



Figure A-134 Post-Test Bullet Vehicle Passenger Dummy Knee Contact - View 1



Figure A-135 Post-Test Bullet Vehicle Passenger Dummy Knee Contact - View 2



Figure A-136 Post-Test Target Vehicle Driver Floorboard Deformation View



Figure A-137 Post-Test Target Vehicle Driver Toeboard Deformation View



Figure A-138 Post-Test Target Vehicle Passenger Floorboard Deformation View



Figure A-139 Post-Test Target Vehicle Passenger Toeboard Deformation View



Figure A-140 Post-Test Bullet Vehicle Driver Floorboard Deformation View



Figure A-141 Post-Test Bullet Vehicle Driver Toeboard Deformation View



Figure A-142 Post-Test Bullet Vehicle Passenger Floorboard Deformation View



Figure A-143 Post-Test Bullet Vehicle Passenger Toeboard Deformation View



Figure A-144 Pre-Test Target Vehicle Certification Label View



Figure A-145 Pre-Test Bullet Vehicle Certification Label View



Figure A-146 Pre-Test Bullet Vehicle Tire Pressure Label View

Intentionally Left Blank



Figure A-147 Pre-Test Bullet Vehicle Ballast - View 1



Figure A-148 Pre-Test Bullet Vehicle Ballast - View 2

Appendix B

Data Plots



2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

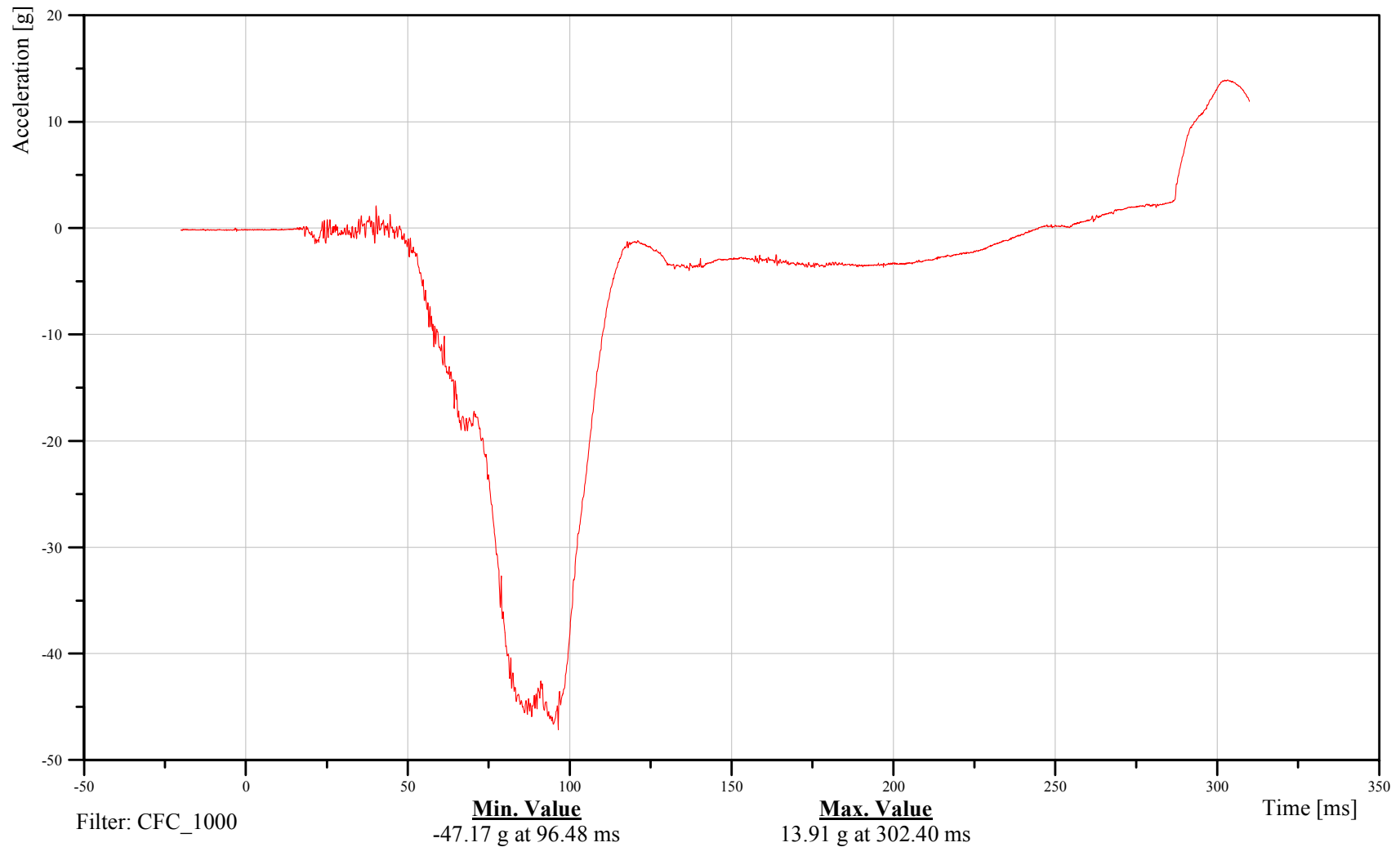
Bullet Driver Head X-Axis Acceleration

Customer: VRTC

21HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Head Y-Axis Acceleration

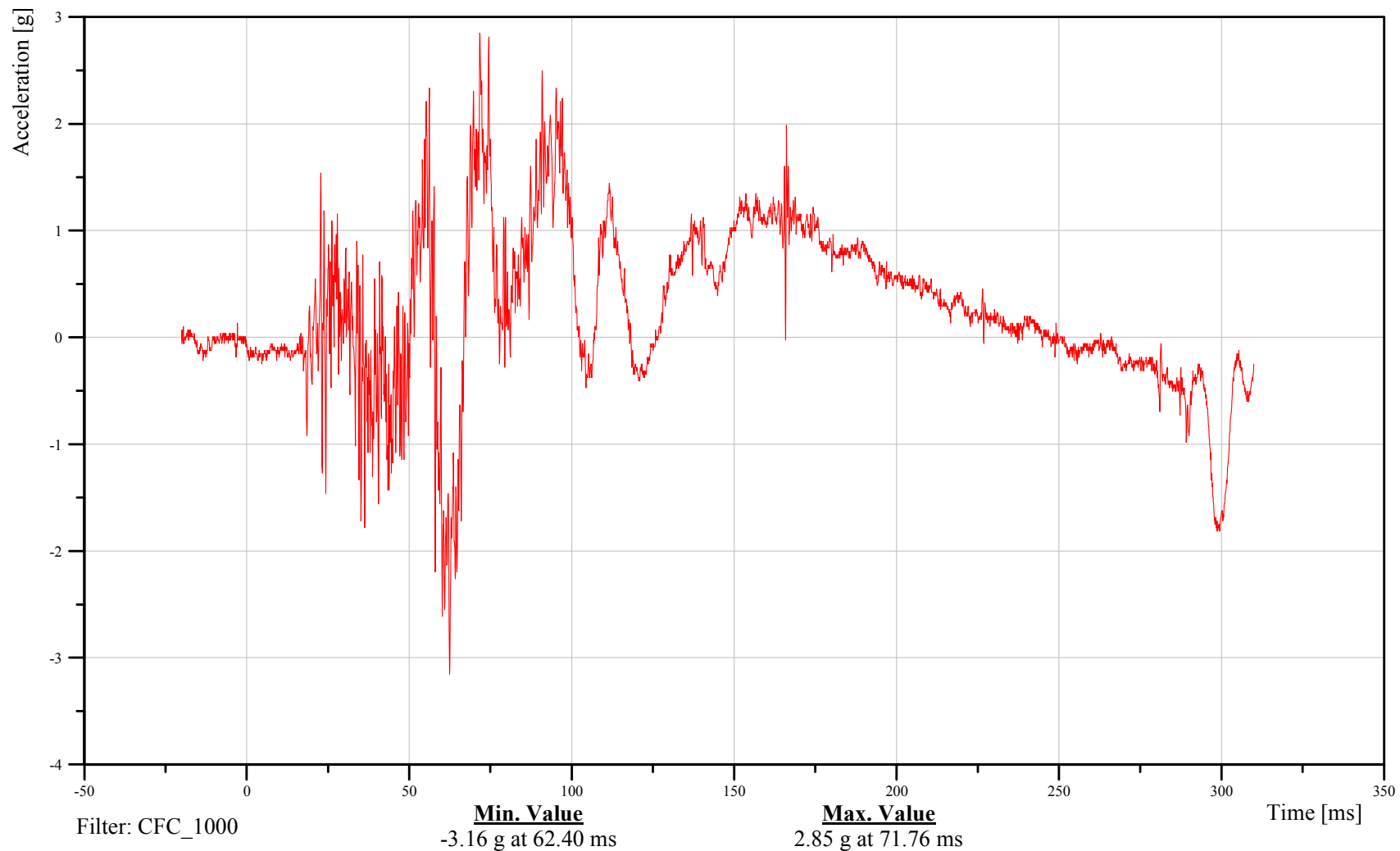
Time: 12:43

Customer: VRTC

21HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

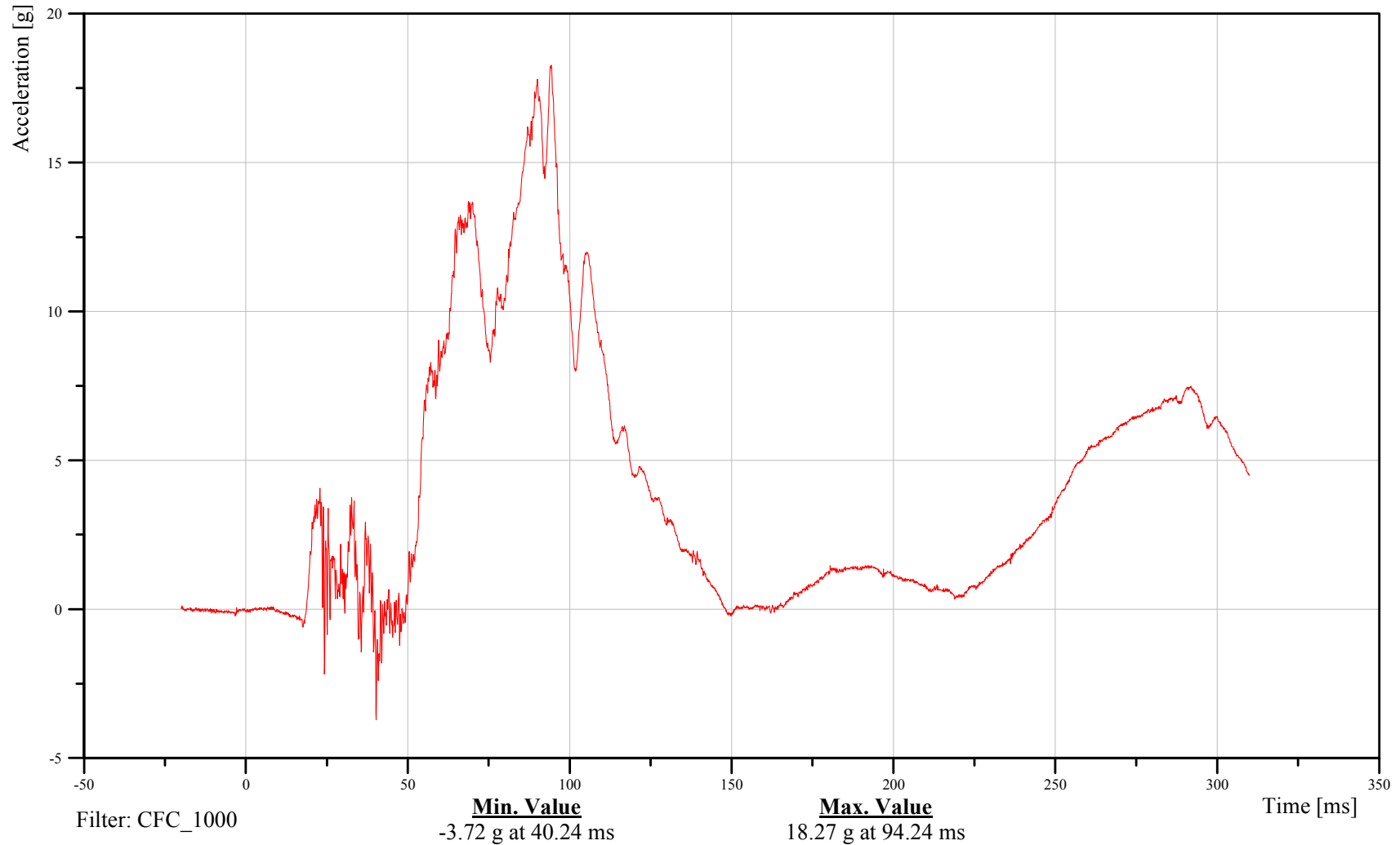
Bullet Driver Head Z-Axis Acceleration

Customer: VRTC

21HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





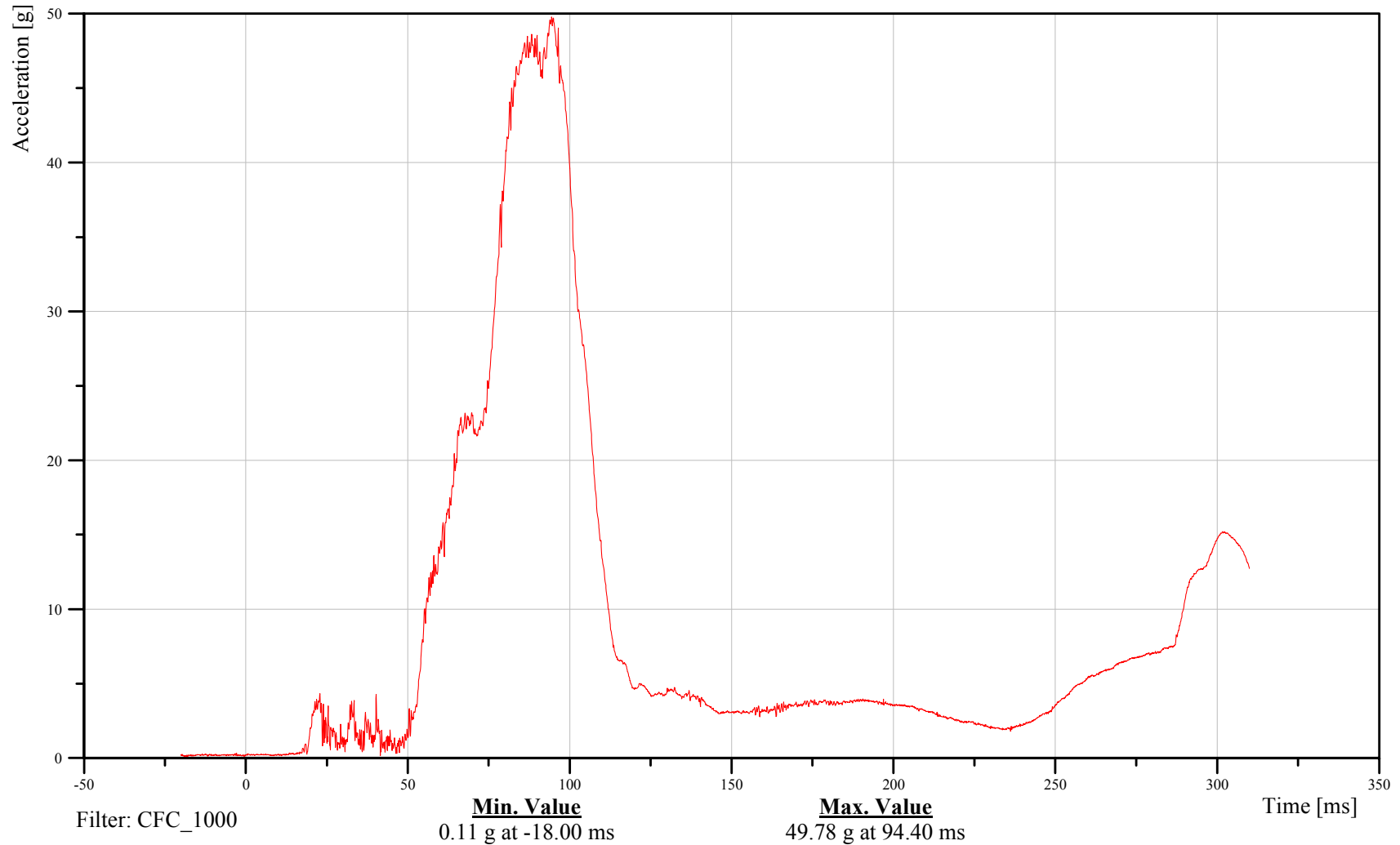
Bullet Driver Head Resultant Acceleration

Customer: VRTC

21HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

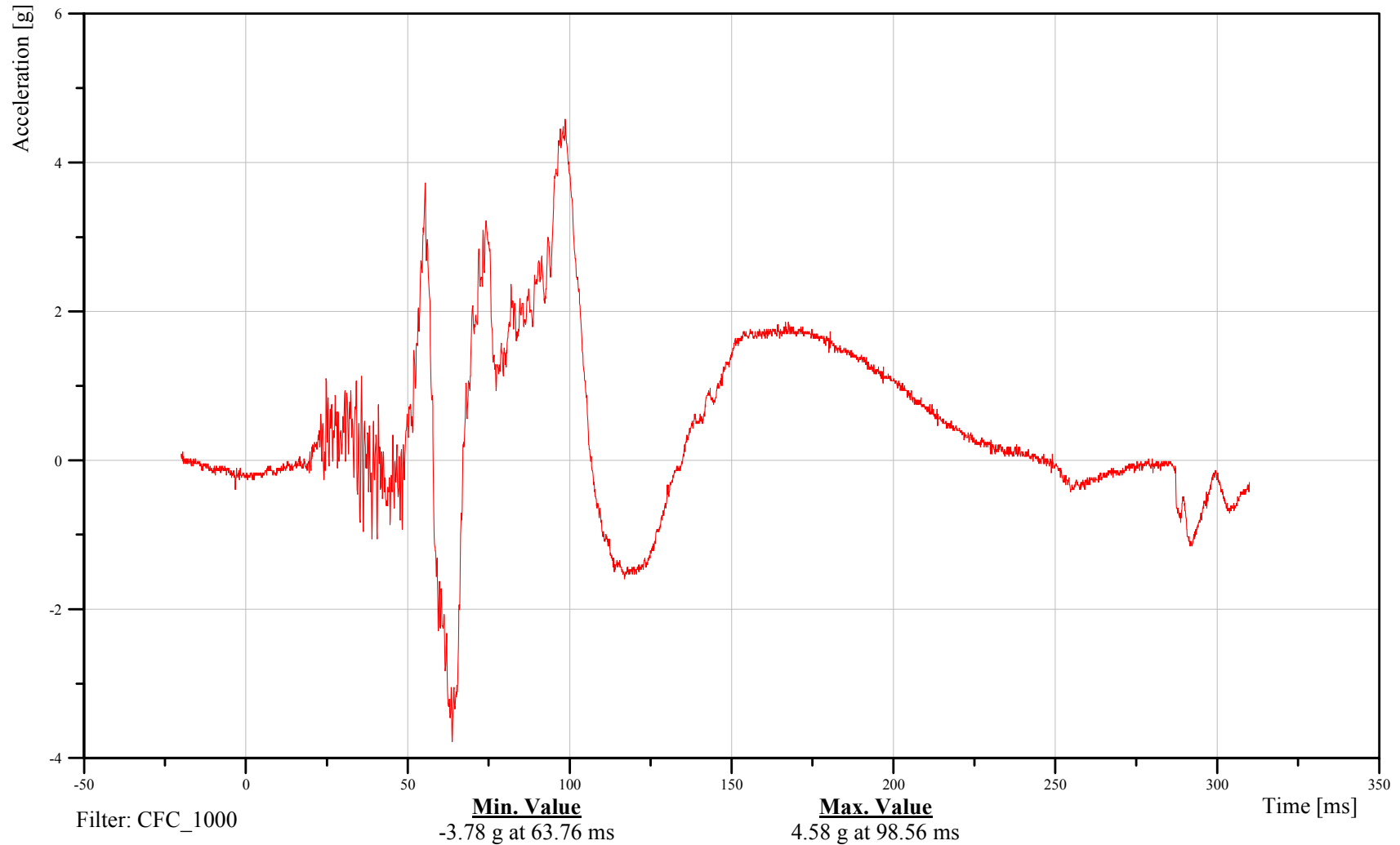
Bullet Driver Head Front Y-Axis Acceleration

Customer: VRTC

21HEADFR00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Head Front Z-Axis Acceleration

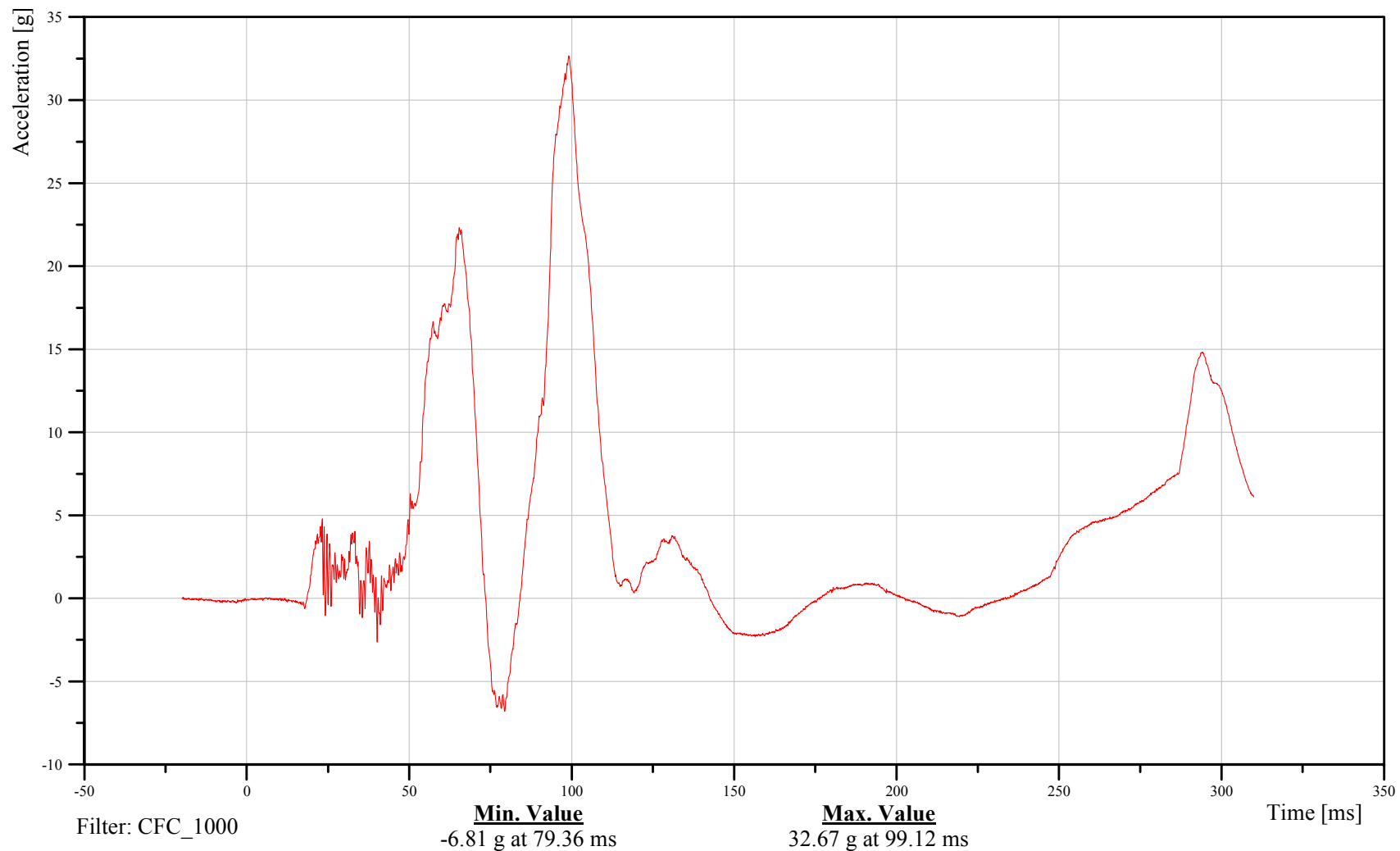
Time: 12:43

Customer: VRTC

21HEADFR00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

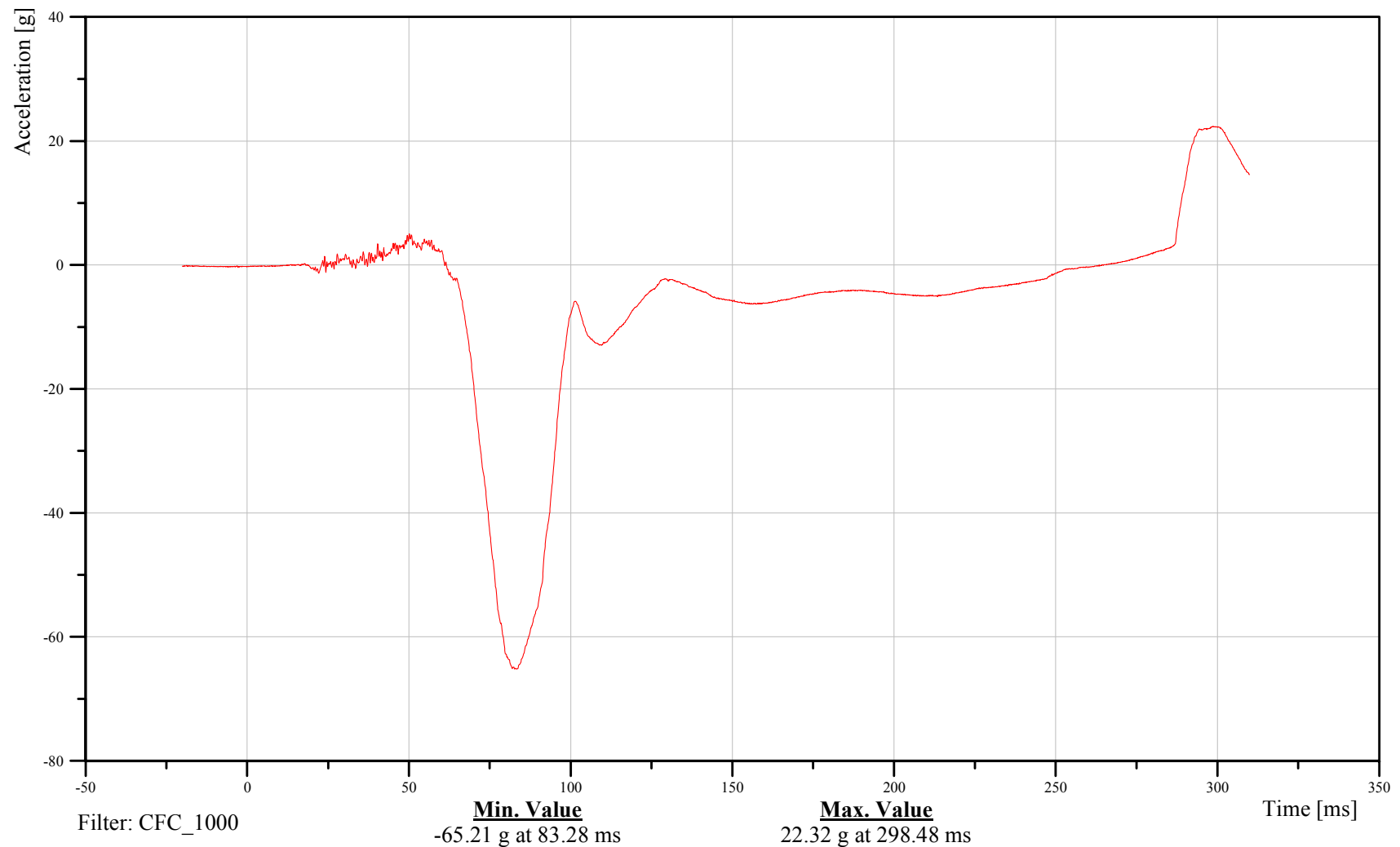
Bullet Driver Head Top X-Axis Acceleration

Customer: VRTC

21HEADUP00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

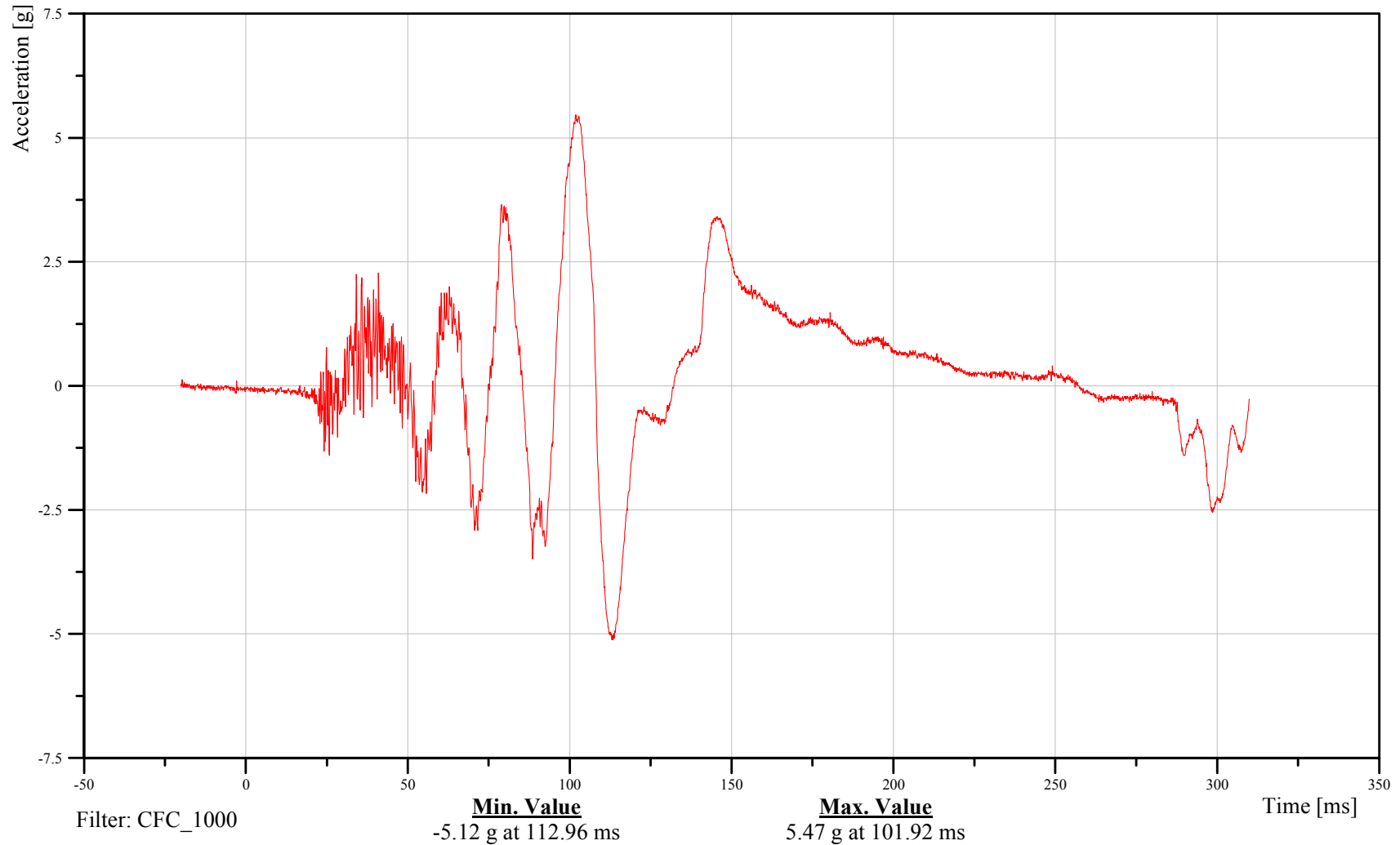
Bullet Driver Head Top Y-Axis Acceleration

Customer: VRTC

21HEADUP00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Head Side X-Axis Acceleration

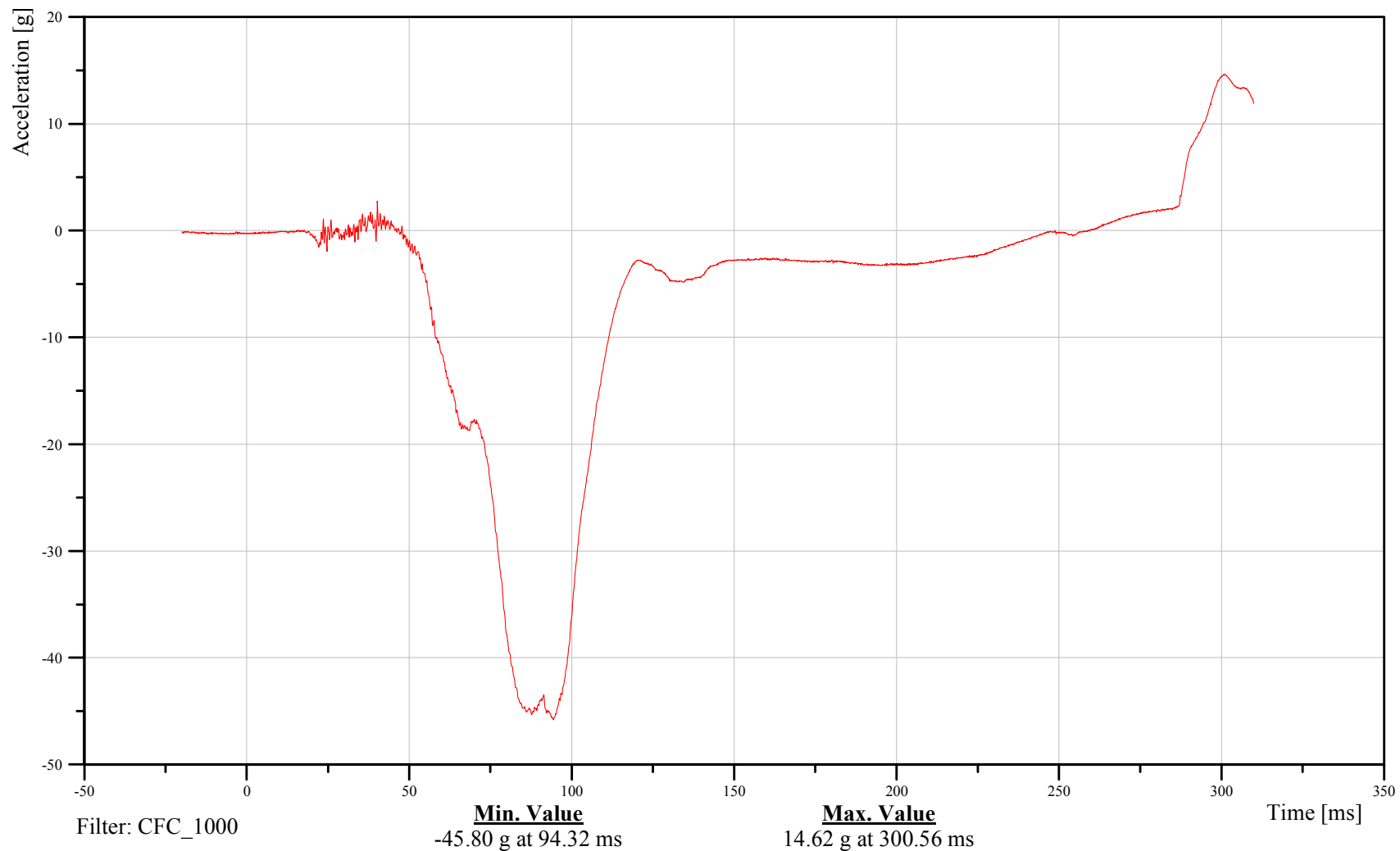
Time: 12:43

Customer: VRTC

21HEADLE00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

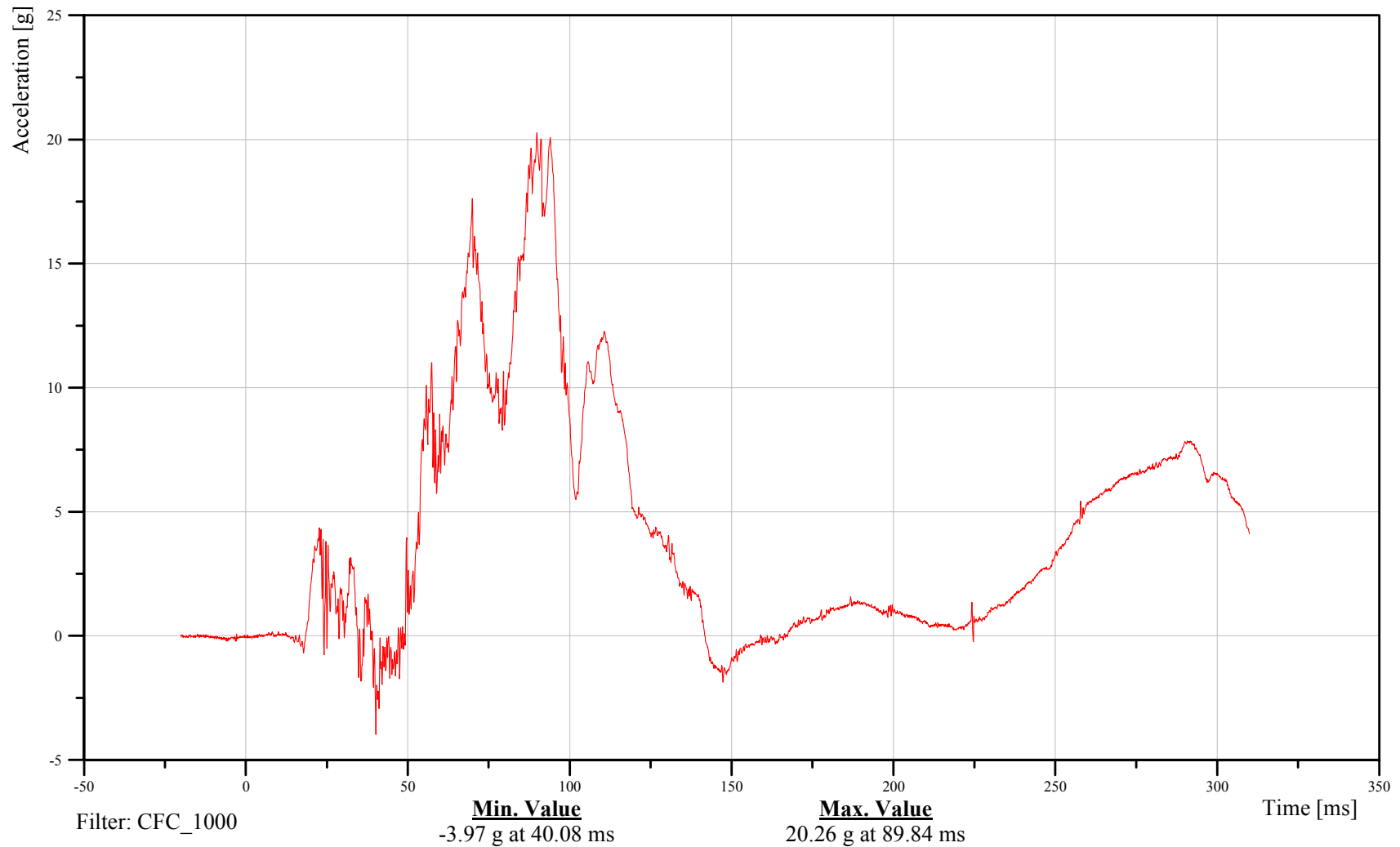
Bullet Driver Head Side Z-Axis Acceleration

Customer: VRTC

21HEADLE00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

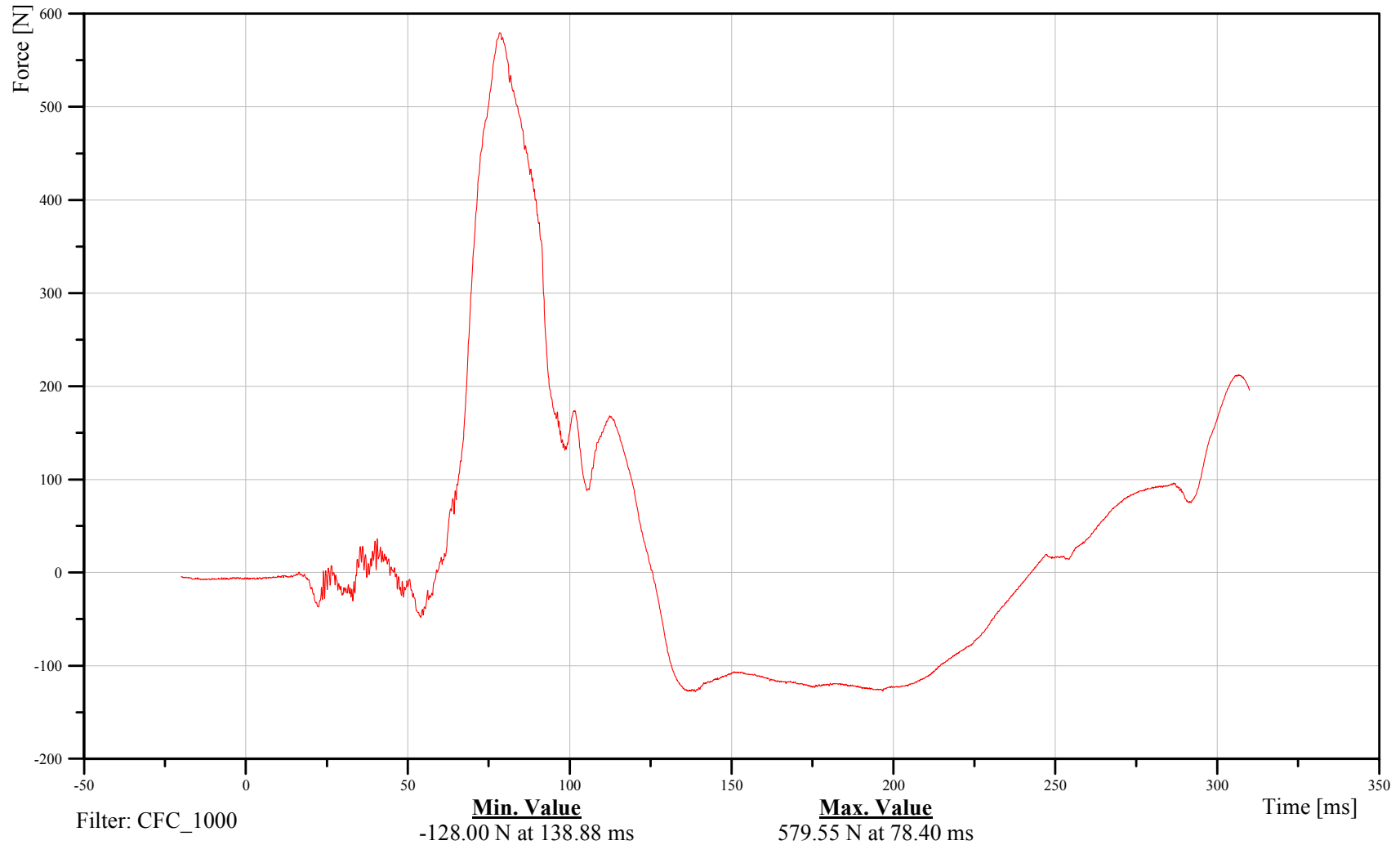
Bullet Driver Upper Neck X-Axis Force

Customer: VRTC

21NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

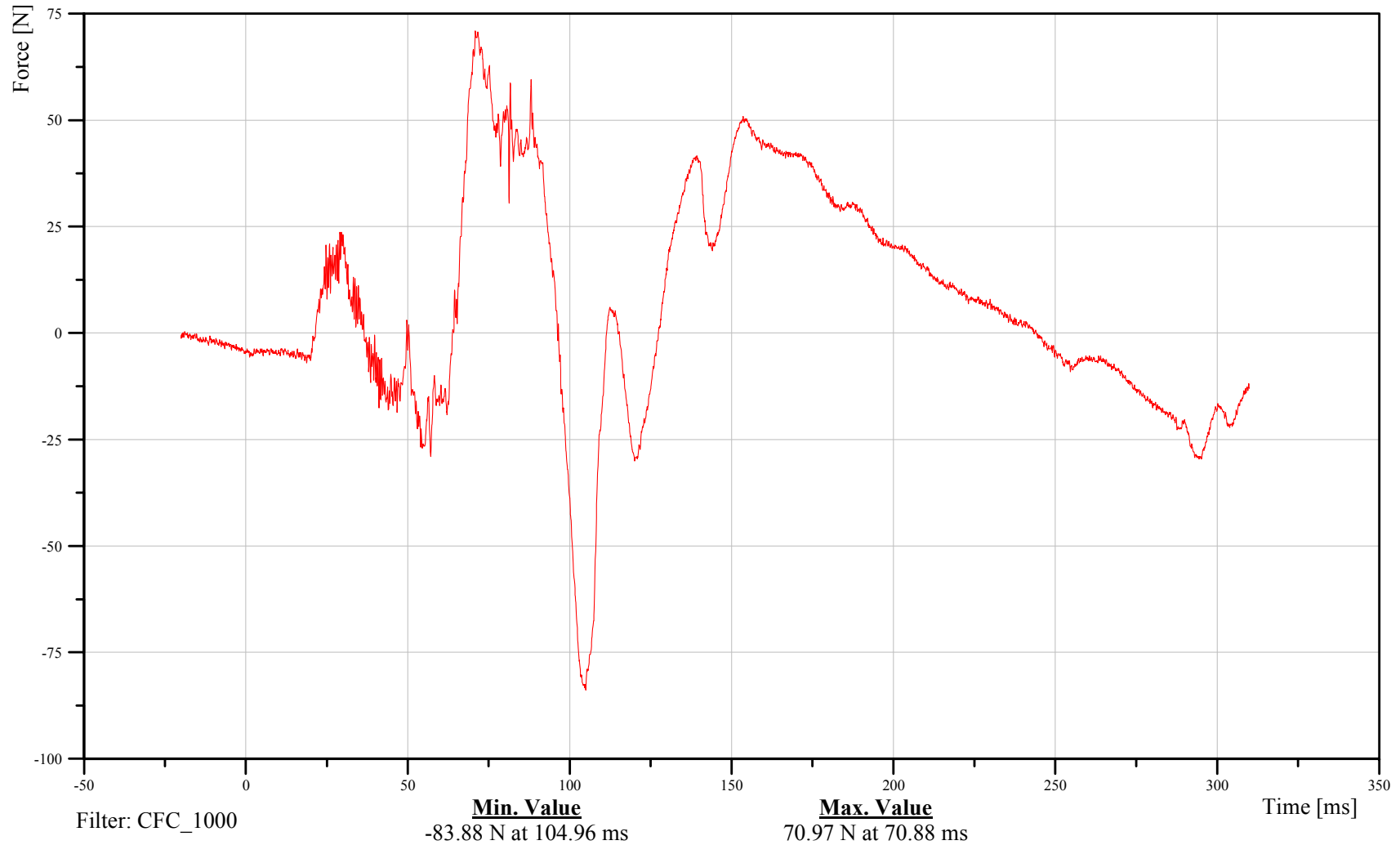
Bullet Driver Upper Neck Y-Axis Force

Customer: VRTC

21NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

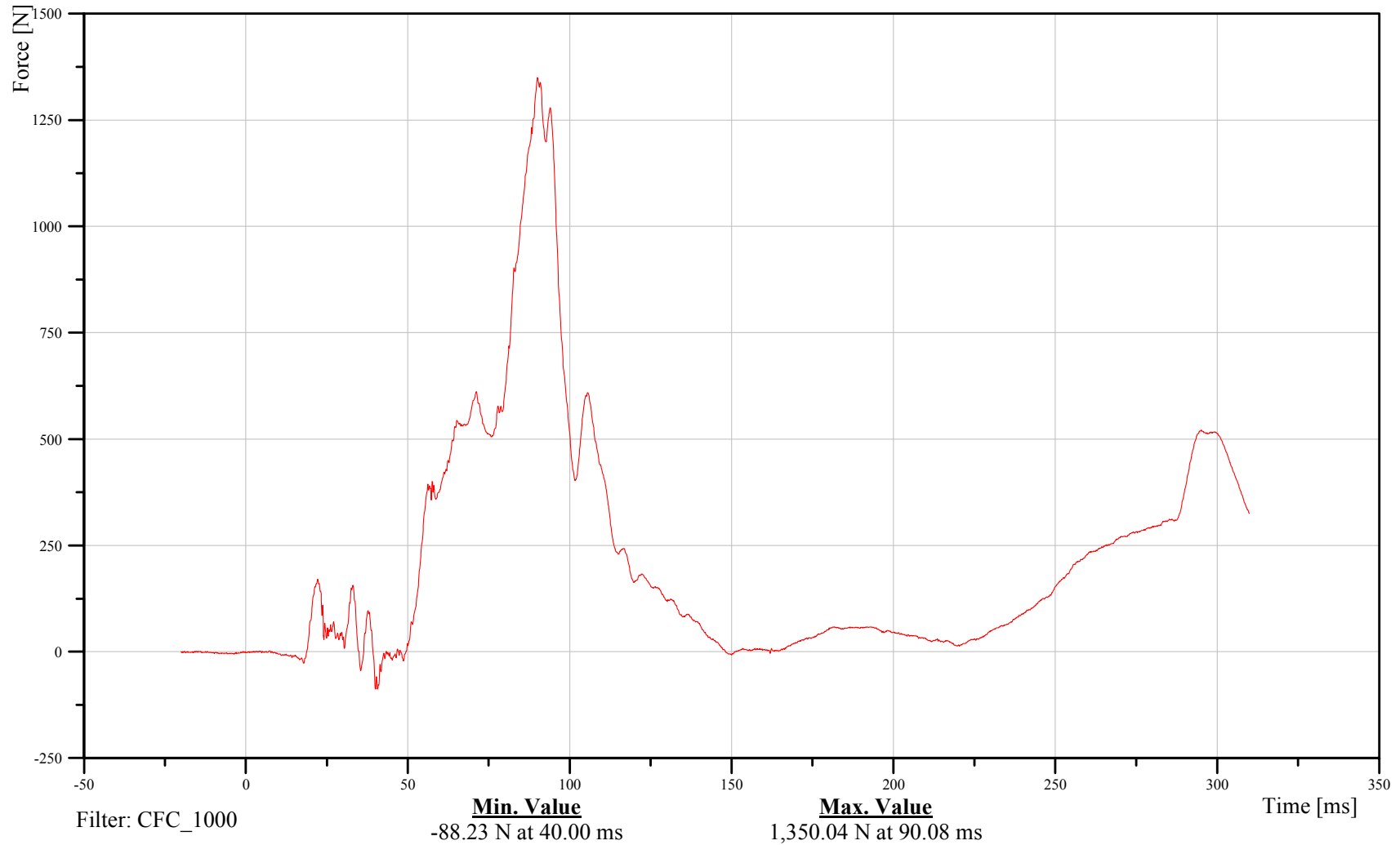
Bullet Driver Upper Neck Z-Axis Force

Customer: VRTC

21NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

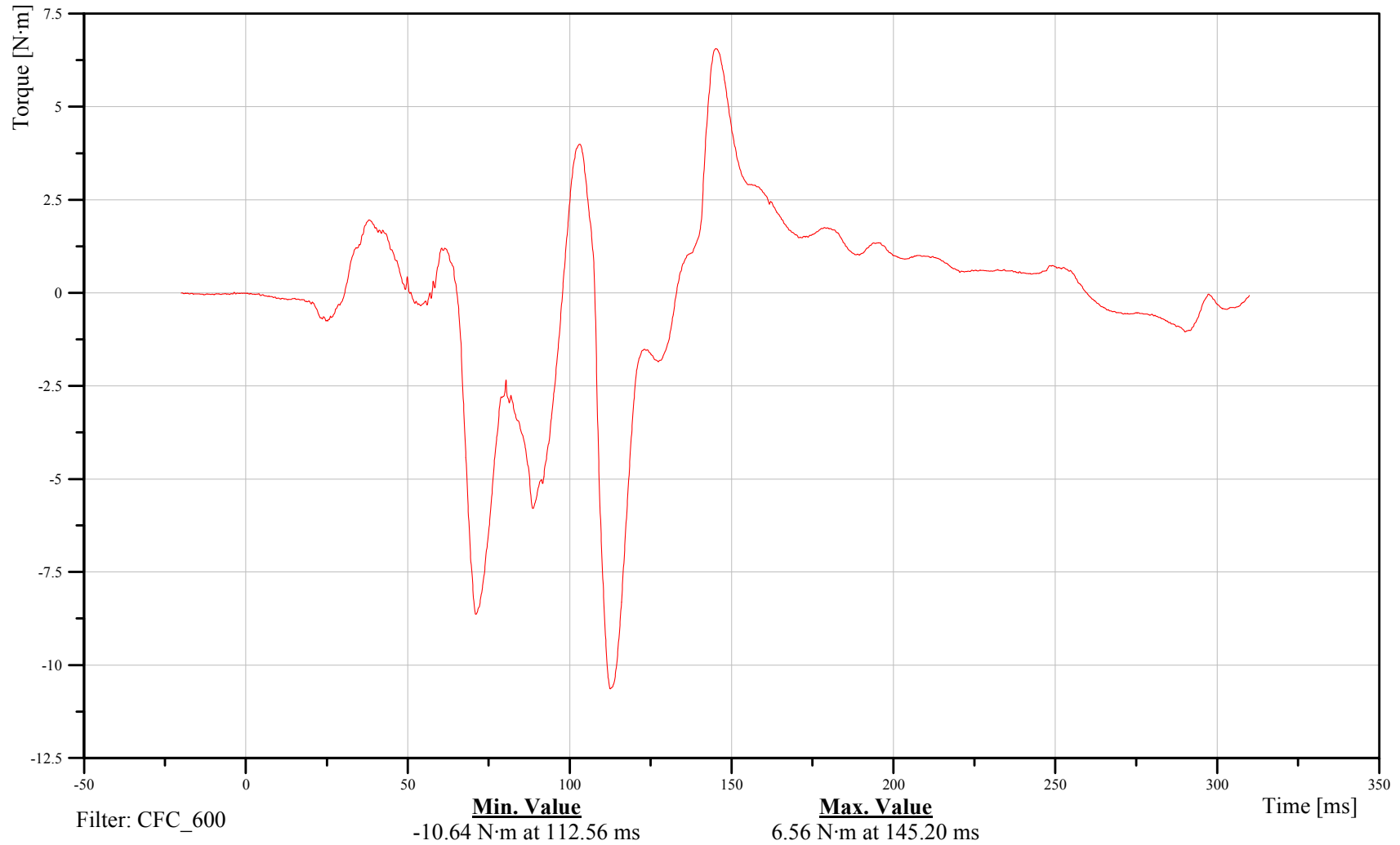
Bullet Driver Upper Neck Moment About X Axis

Customer: VRTC

21NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





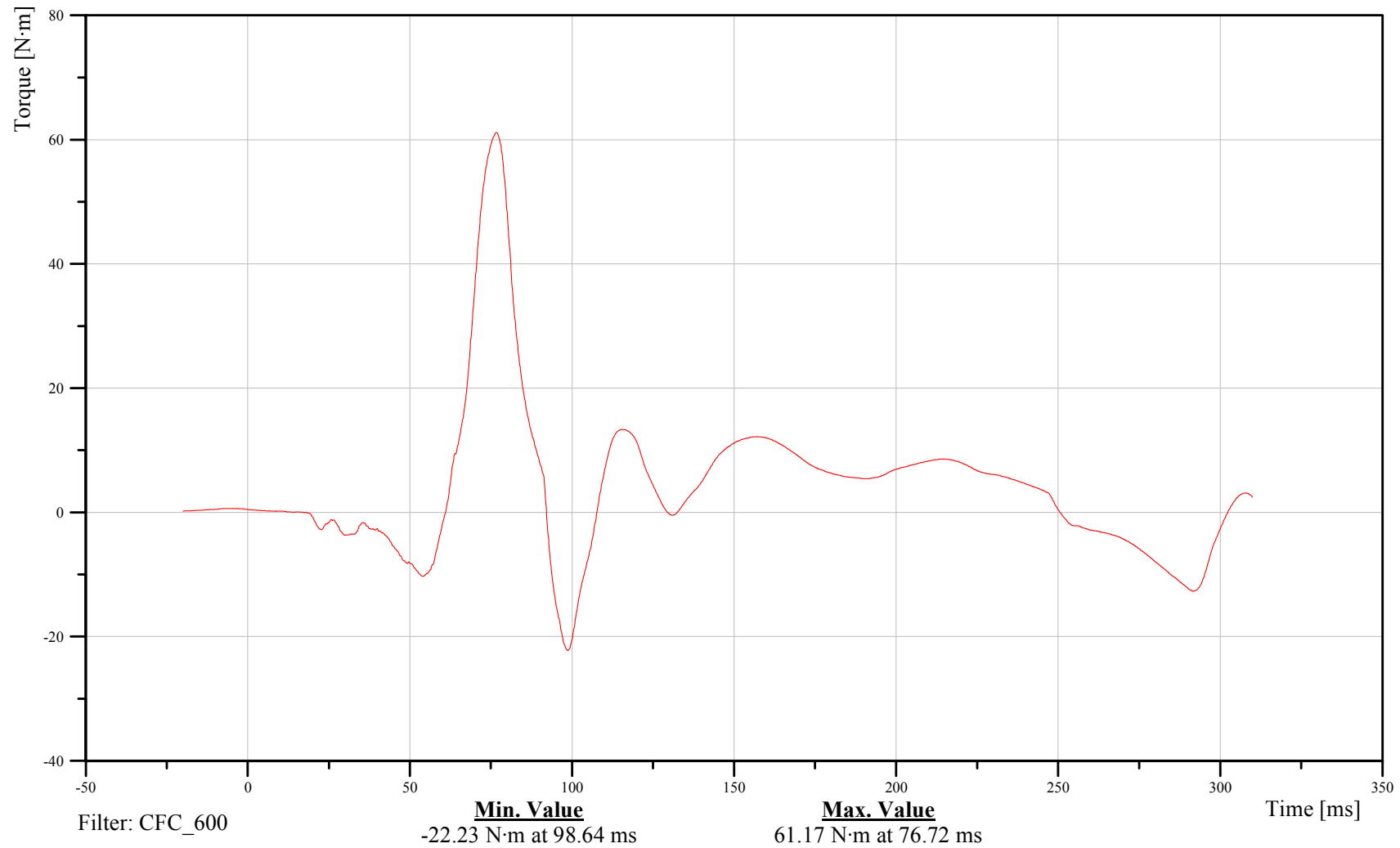
Bullet Driver Upper Neck Moment About Y Axis

Customer: VRTC

21NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





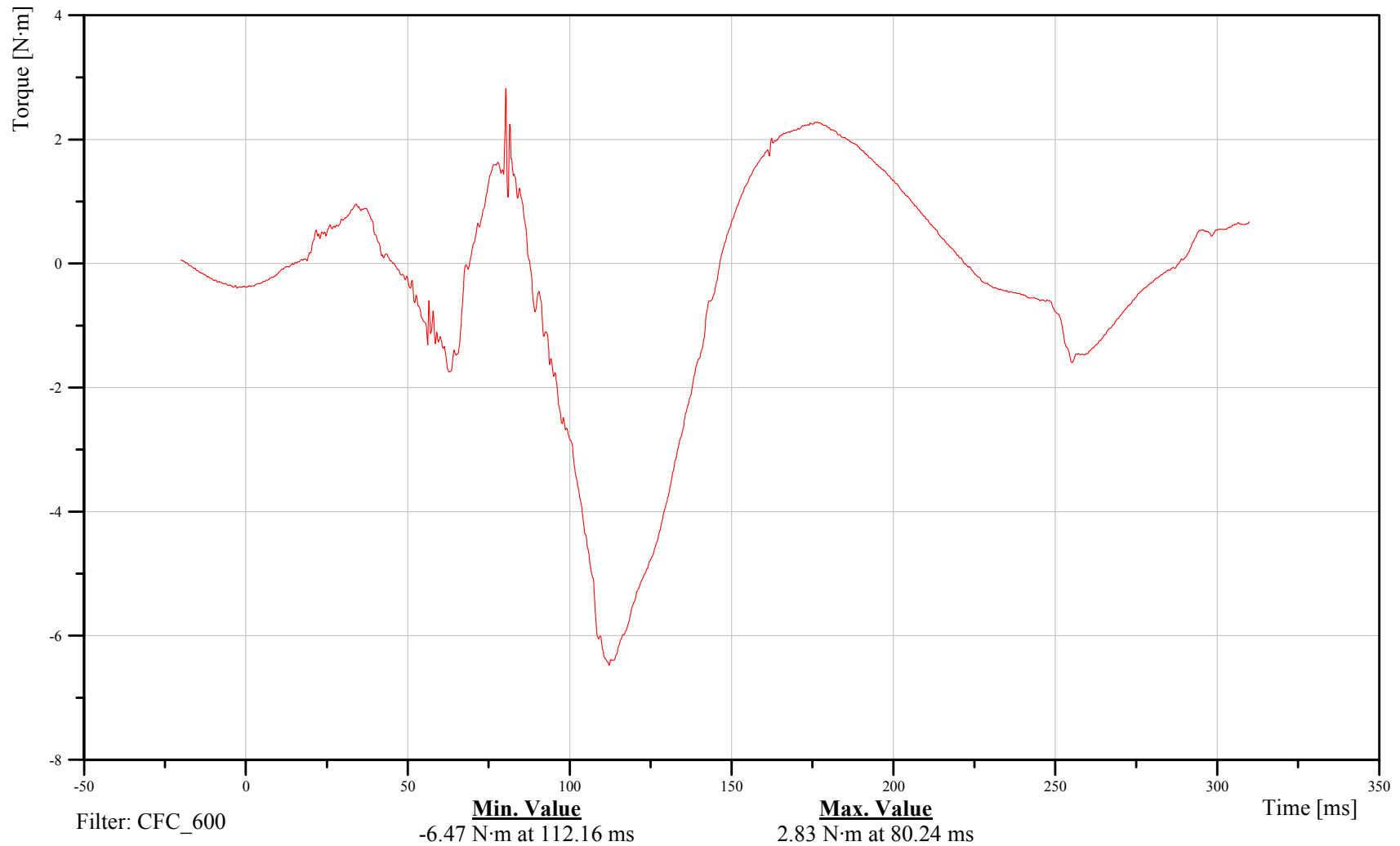
Bullet Driver Upper Neck Moment About Z Axis

Customer: VRTC

21NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

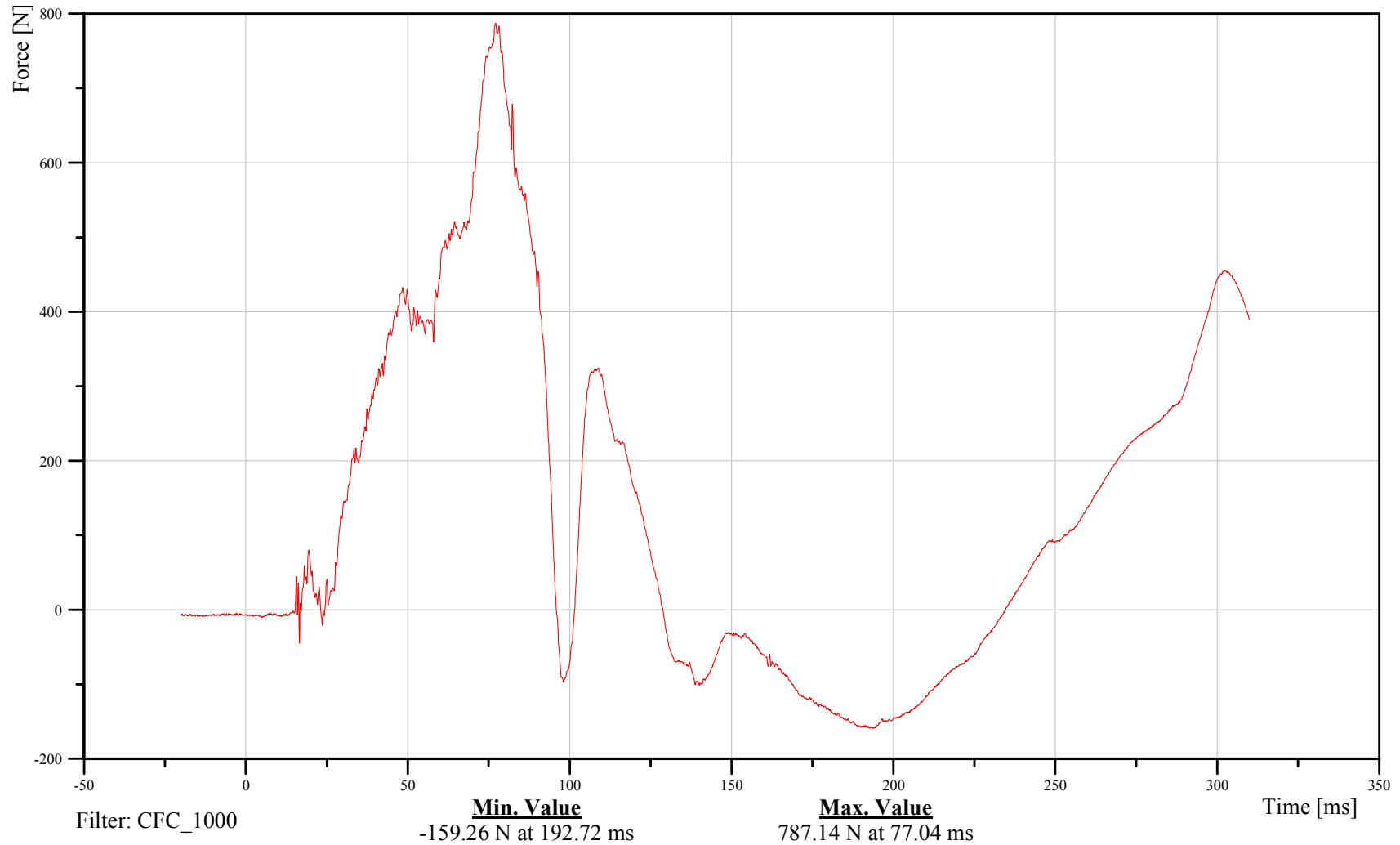
Bullet Driver Lower Neck X-Axis Force

Customer: VRTC

21NECKLO00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

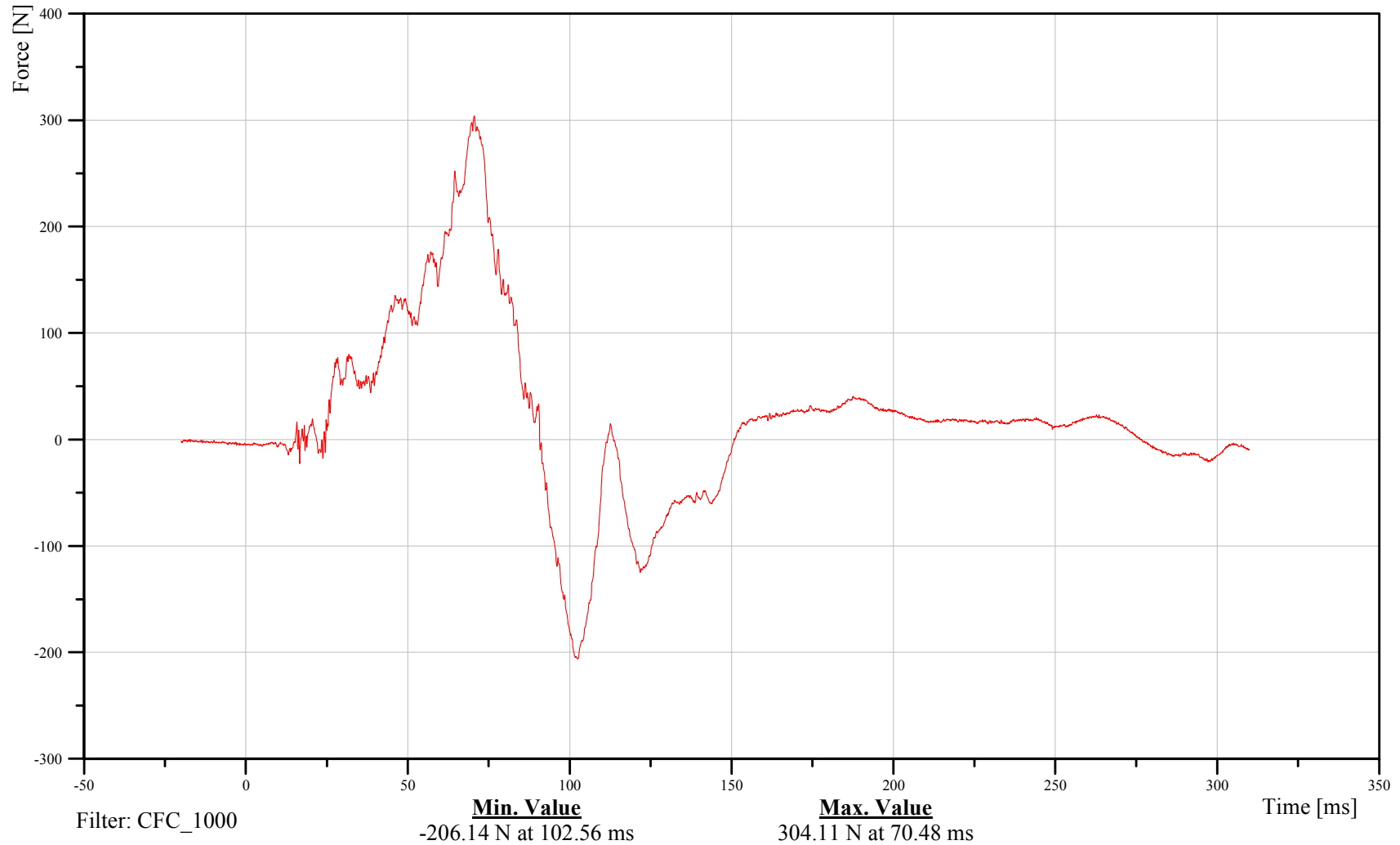
Bullet Driver Lower Neck Y-Axis Force

Customer: VRTC

21NECKLO00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

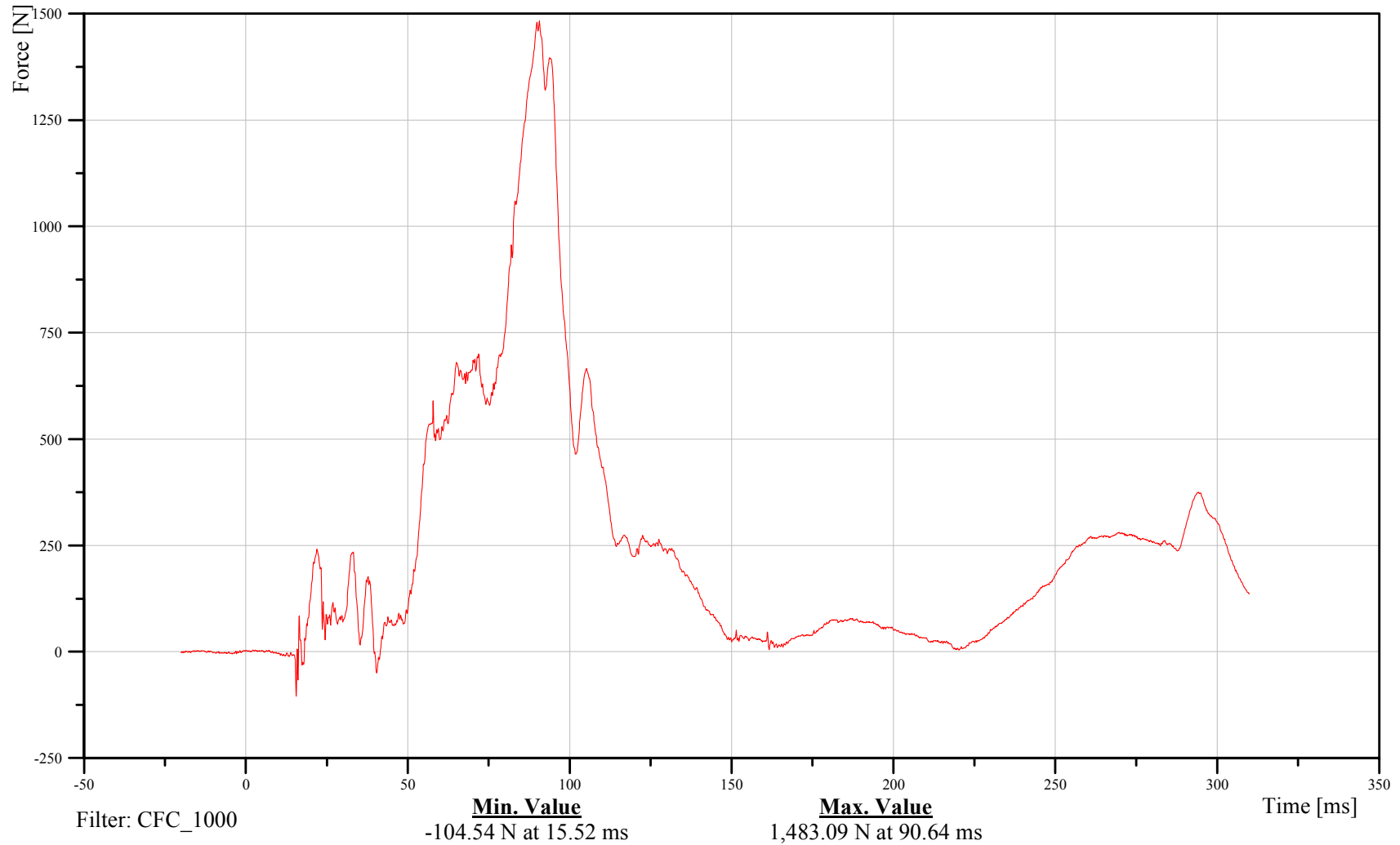
Bullet Driver Lower Neck Z-Axis Force

Customer: VRTC

21NECKLO00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





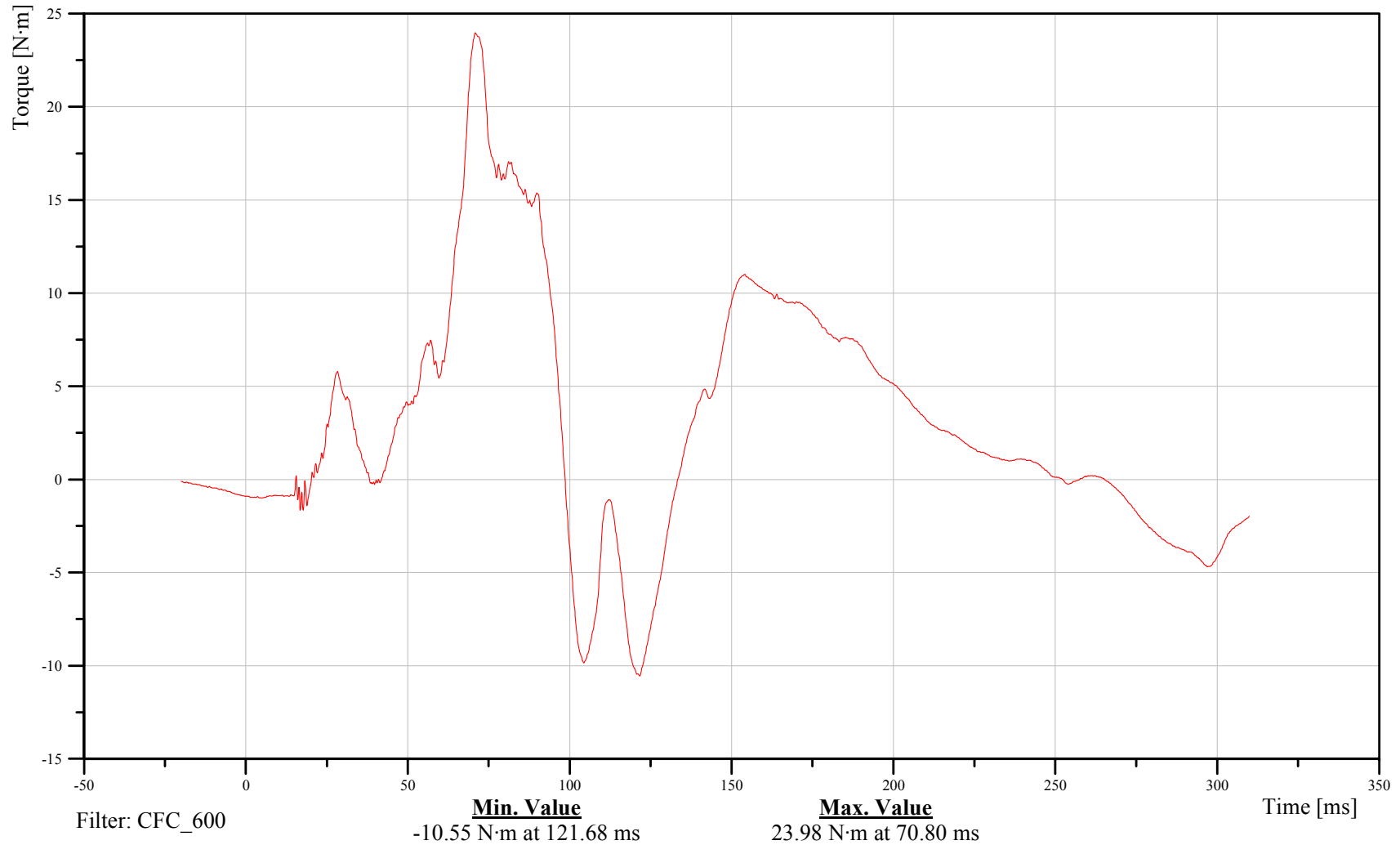
Bullet Driver Lower Neck Moment About X Axis

Customer: VRTC

21NECKLO00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

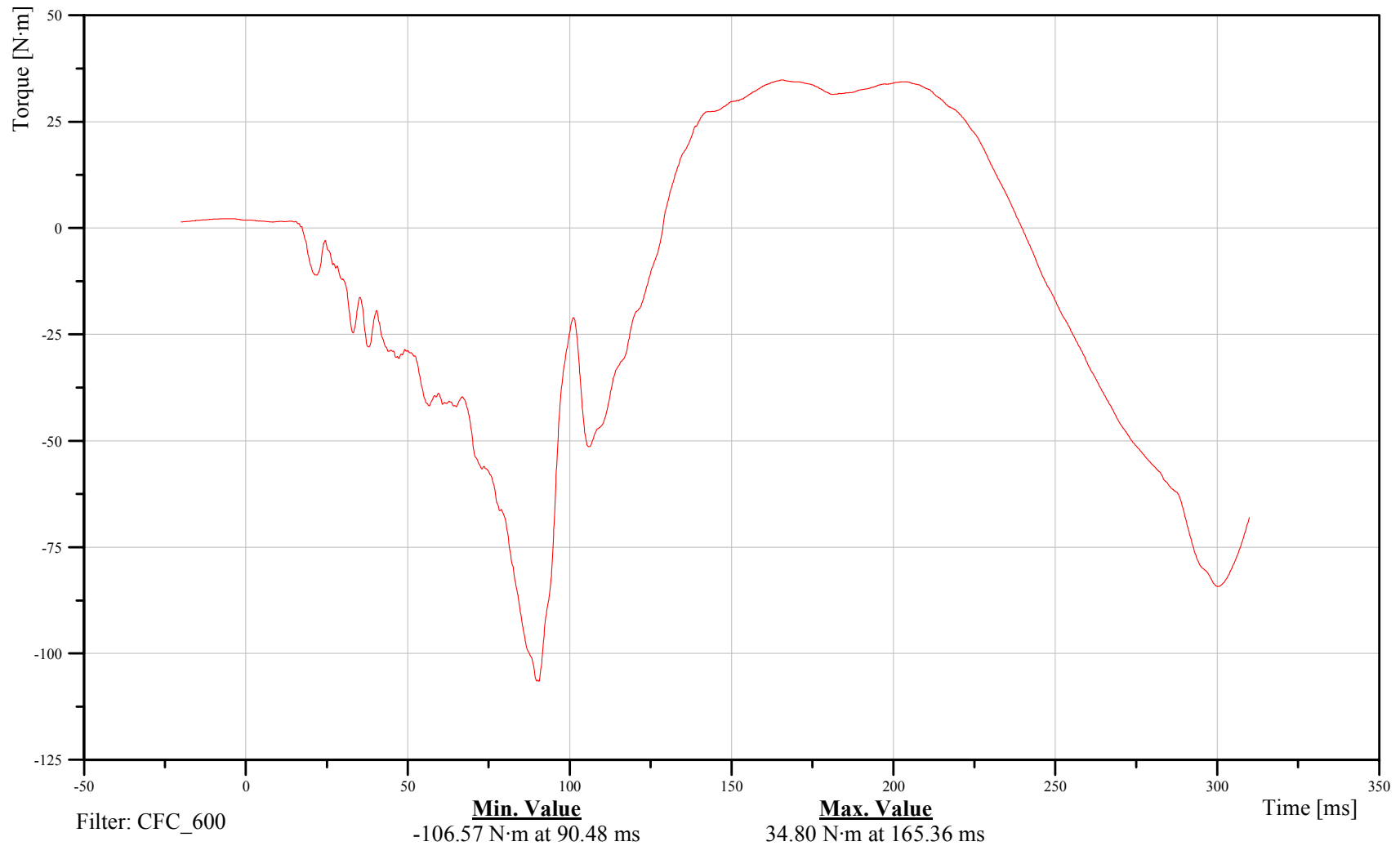
Bullet Driver Lower Neck Moment About Y Axis

Customer: VRTC

21NECKLO00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

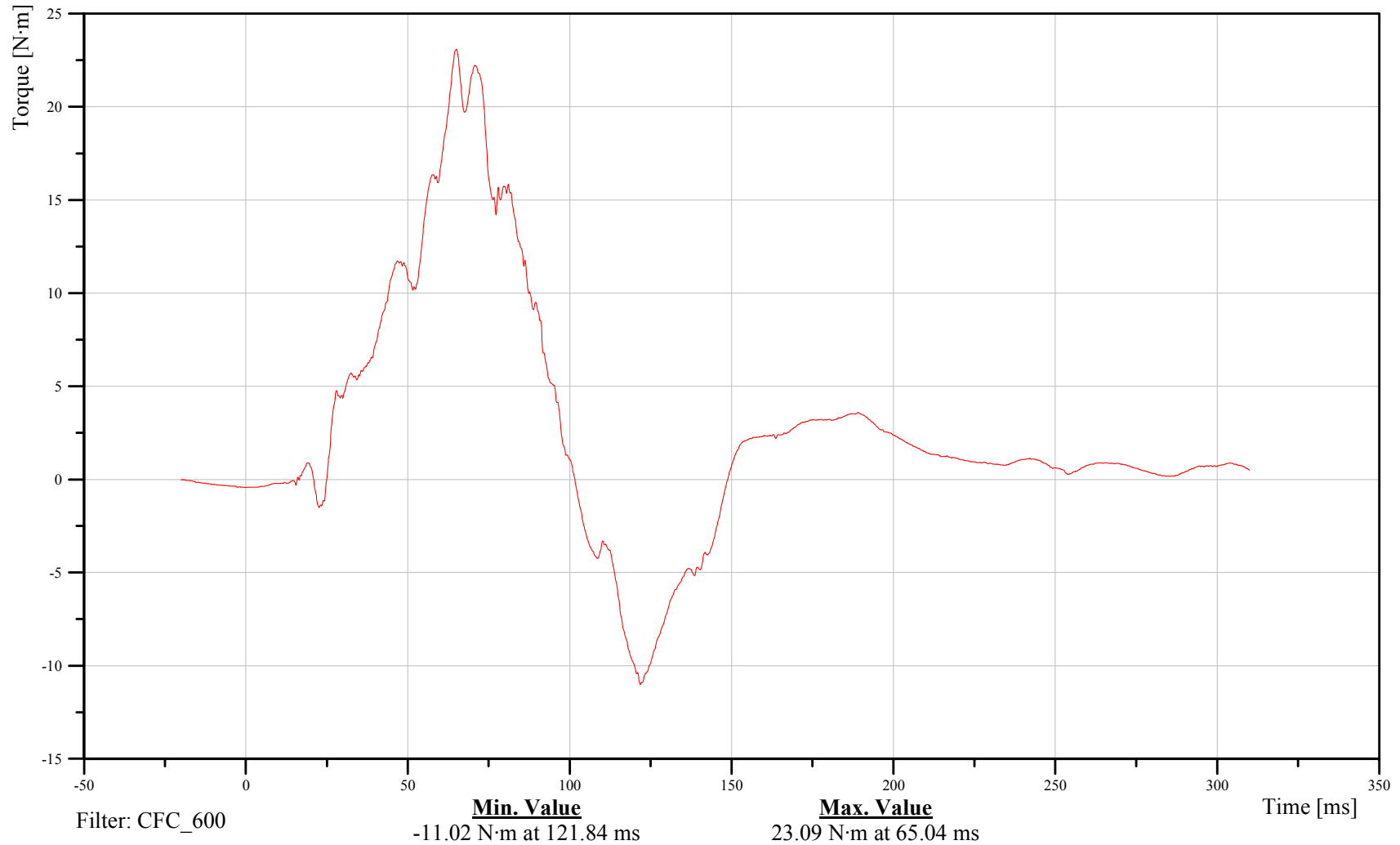
Bullet Driver Lower Neck Moment About Z Axis

Customer: VRTC

21NECKLO00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

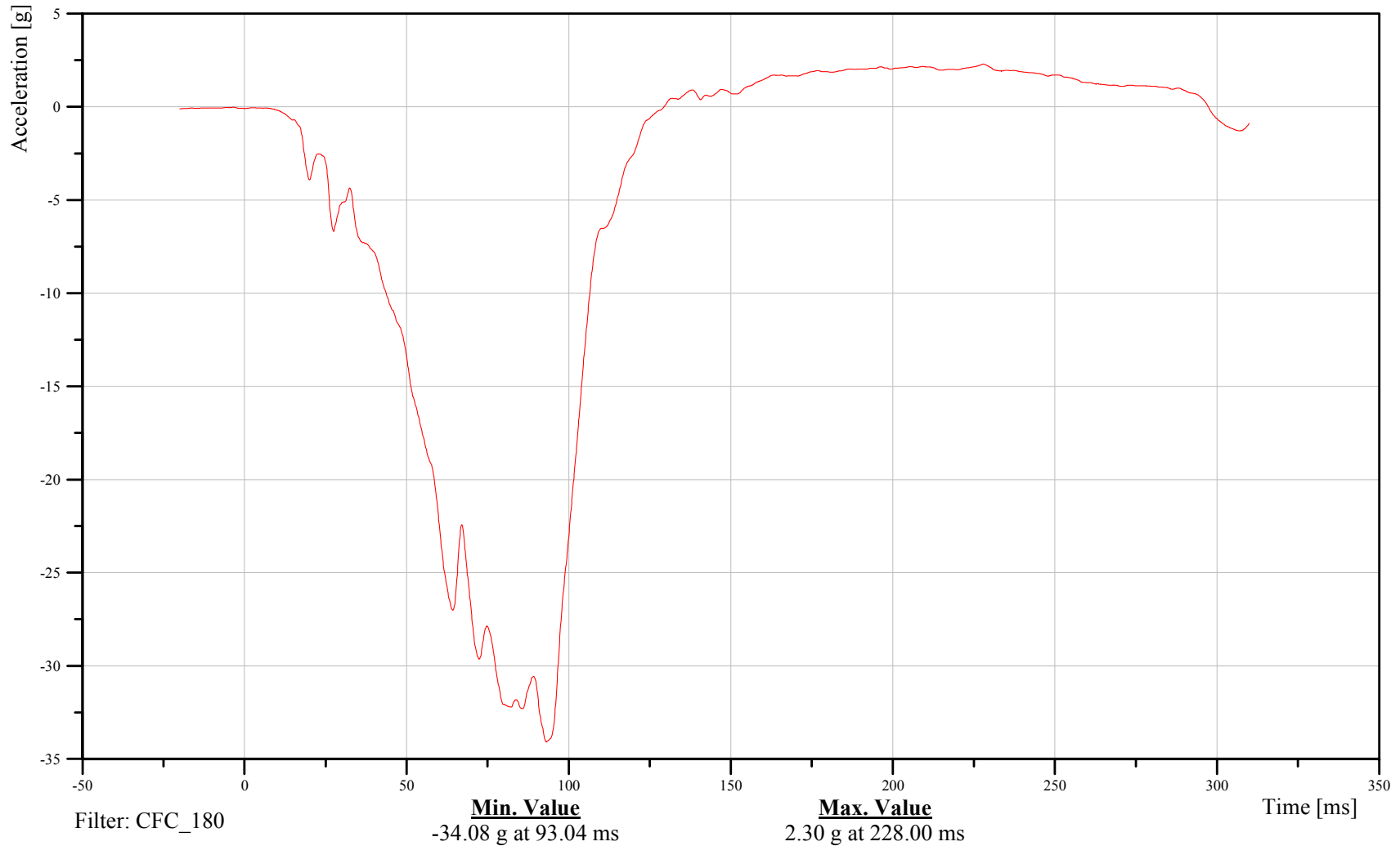
Bullet Driver Chest CG X-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Time: 12:43

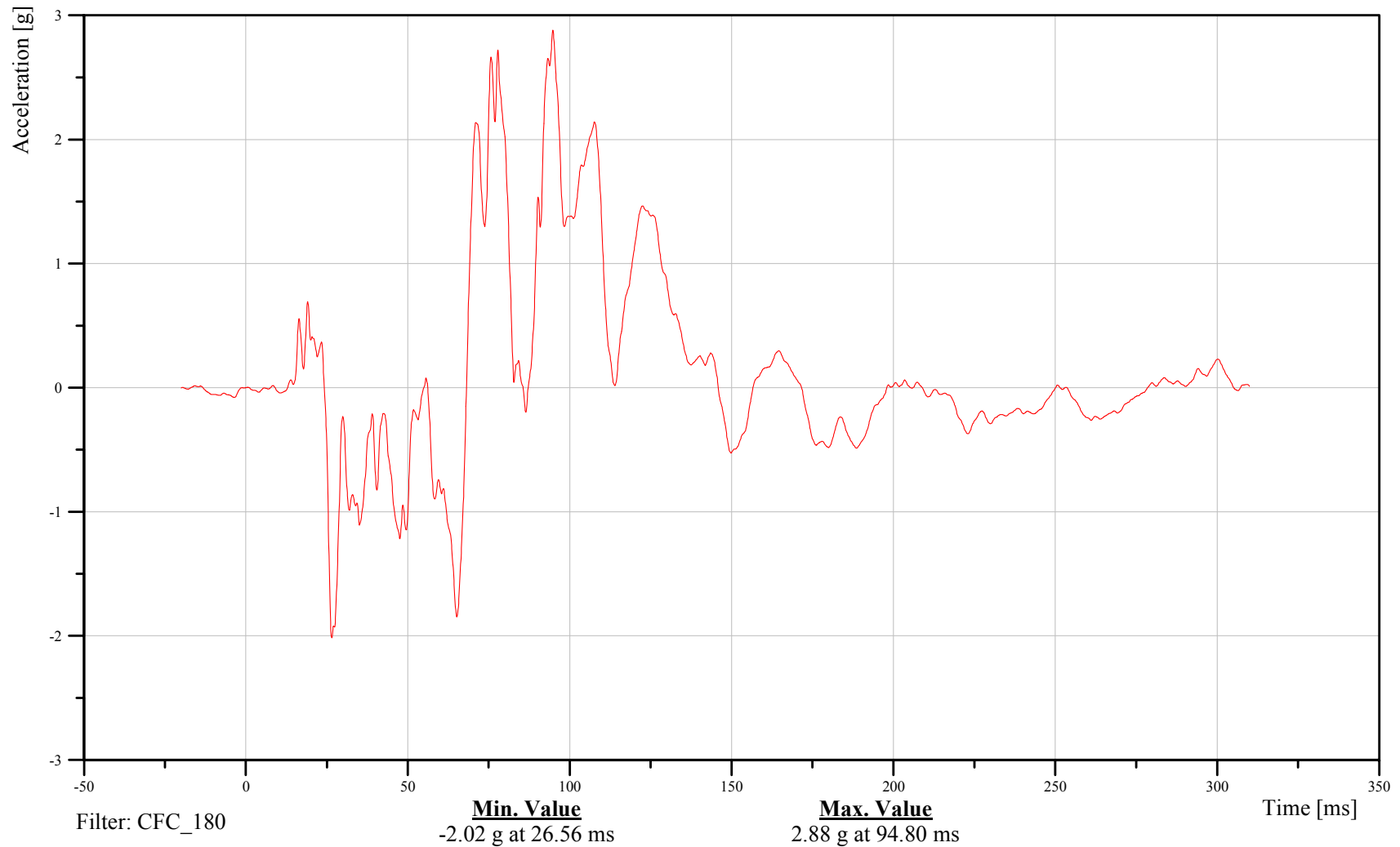
Bullet Driver Chest CG Y-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

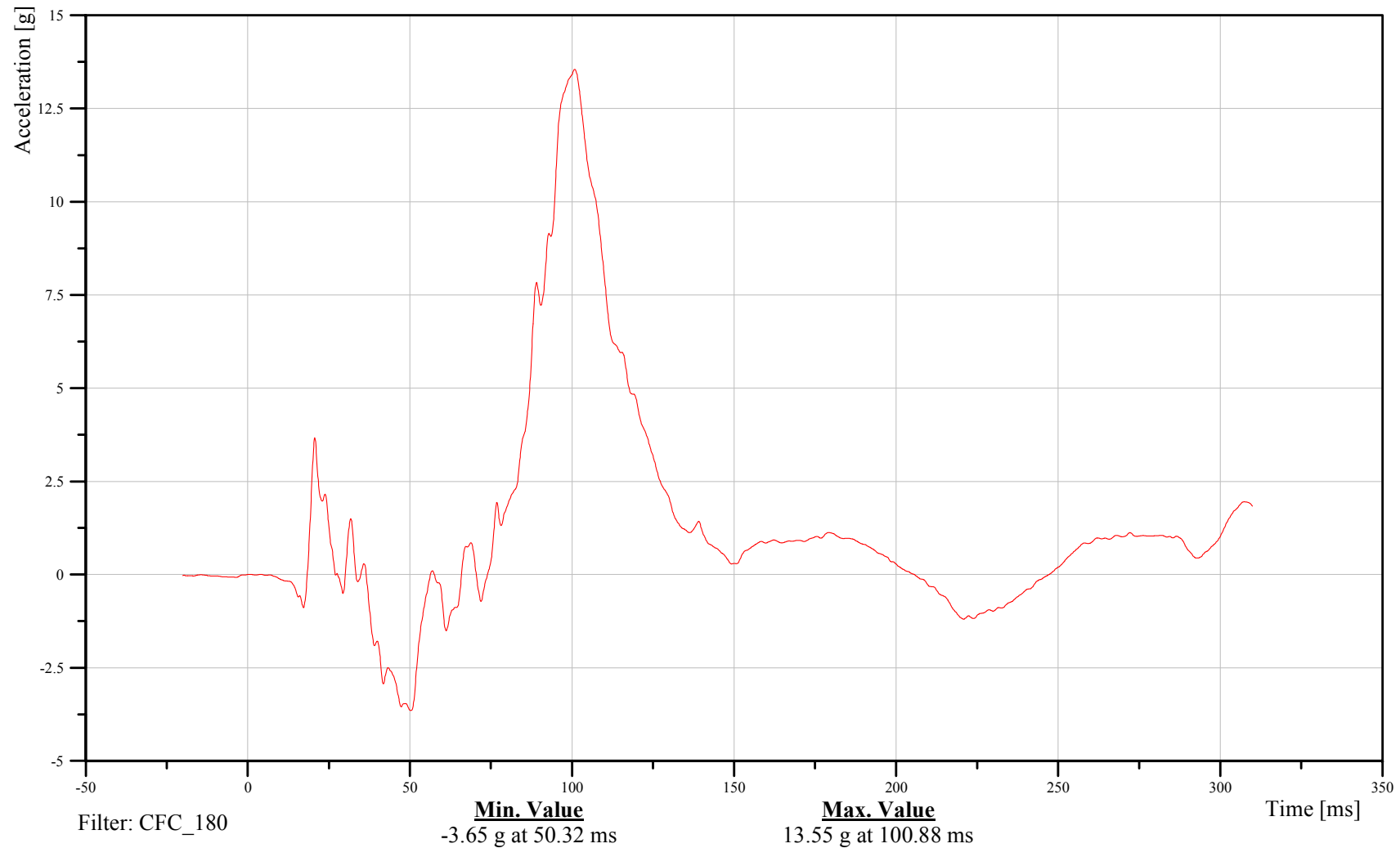
Bullet Driver Chest CG Z-Axis Acceleration

Customer: VRTC

21CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

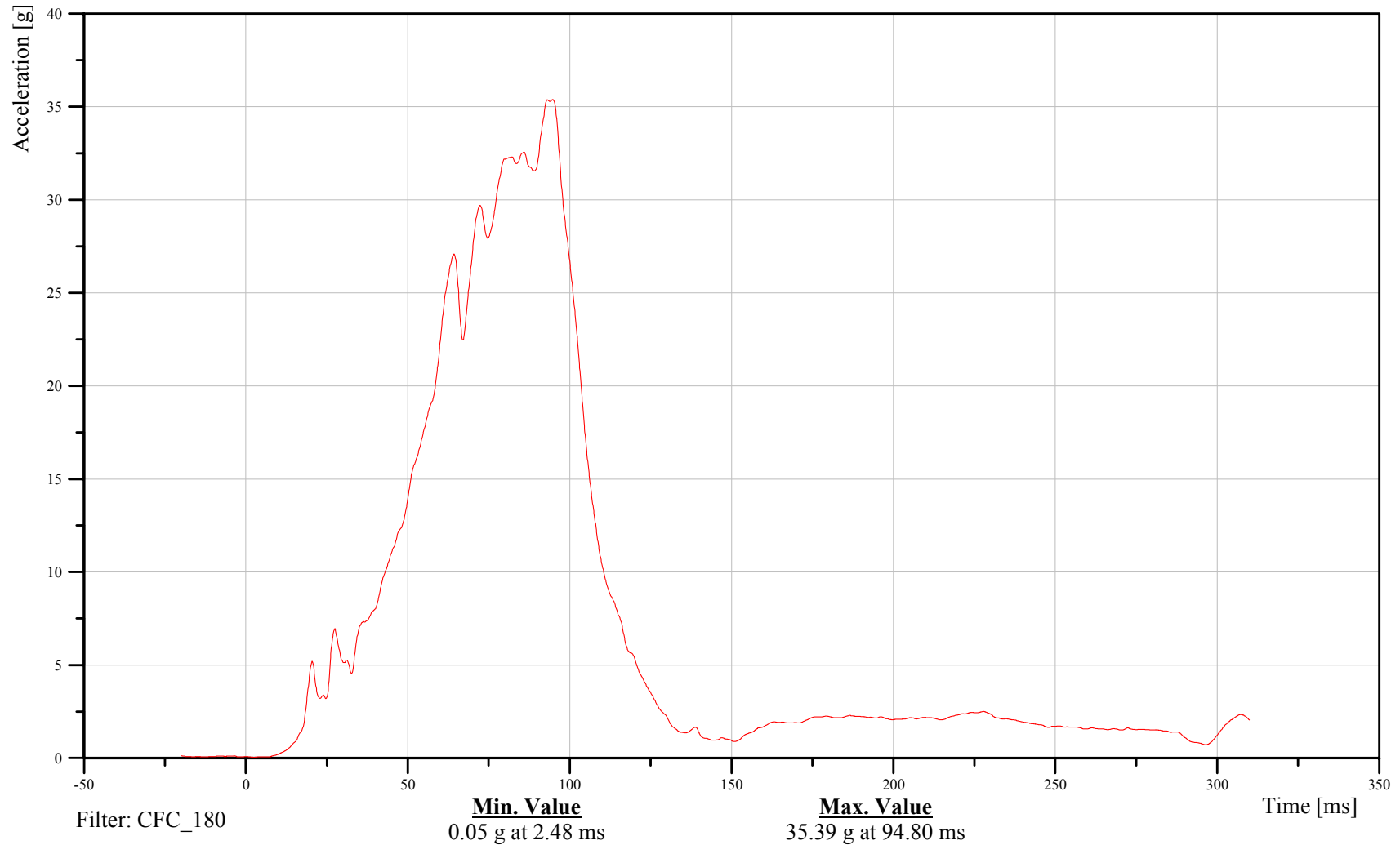
Bullet Driver Chest CG Resultant Acceleration

Customer: VRTC

21CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

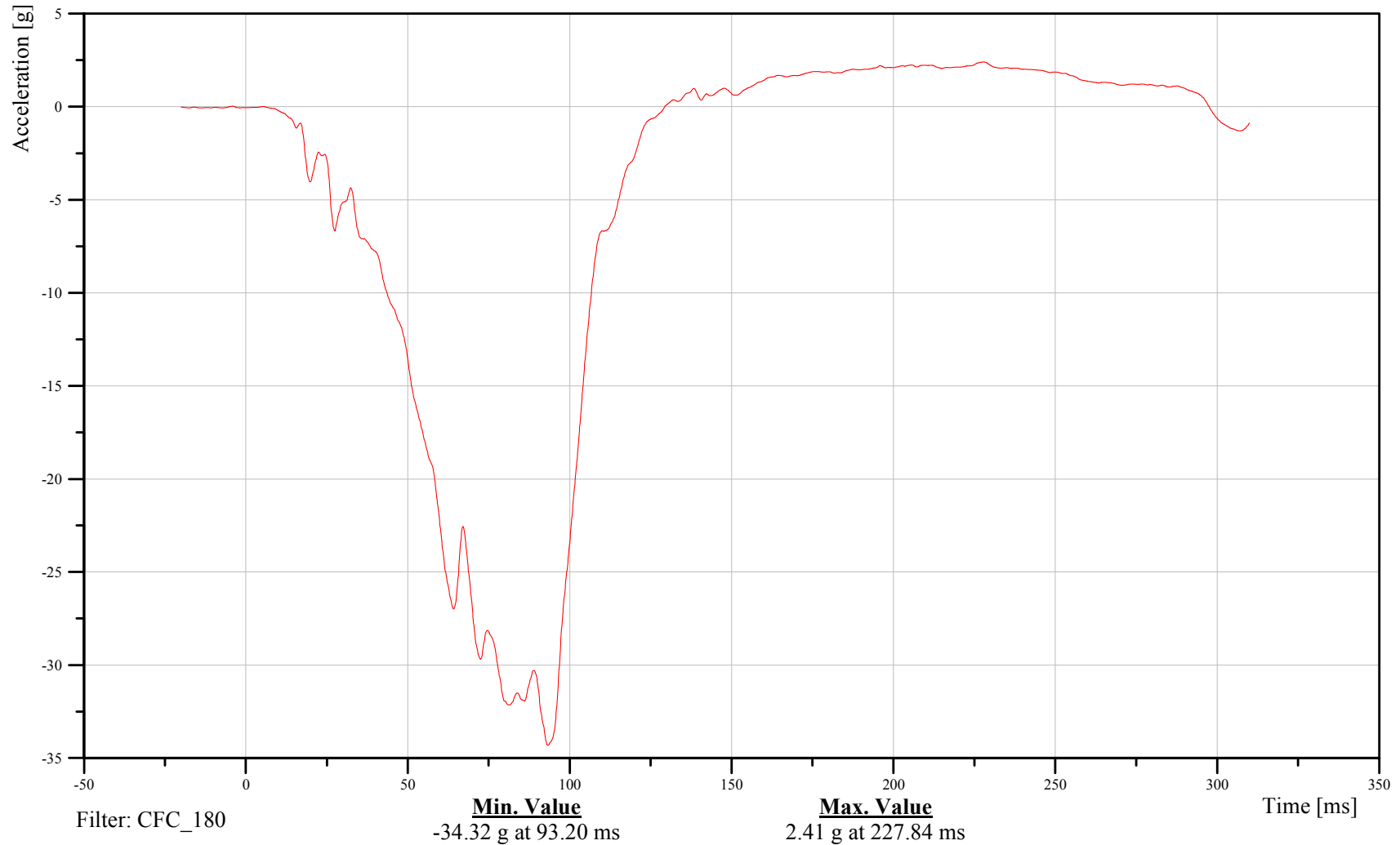
Bullet Driver Redundant Chest CG X-Axis Acceleration

Customer: VRTC

21CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

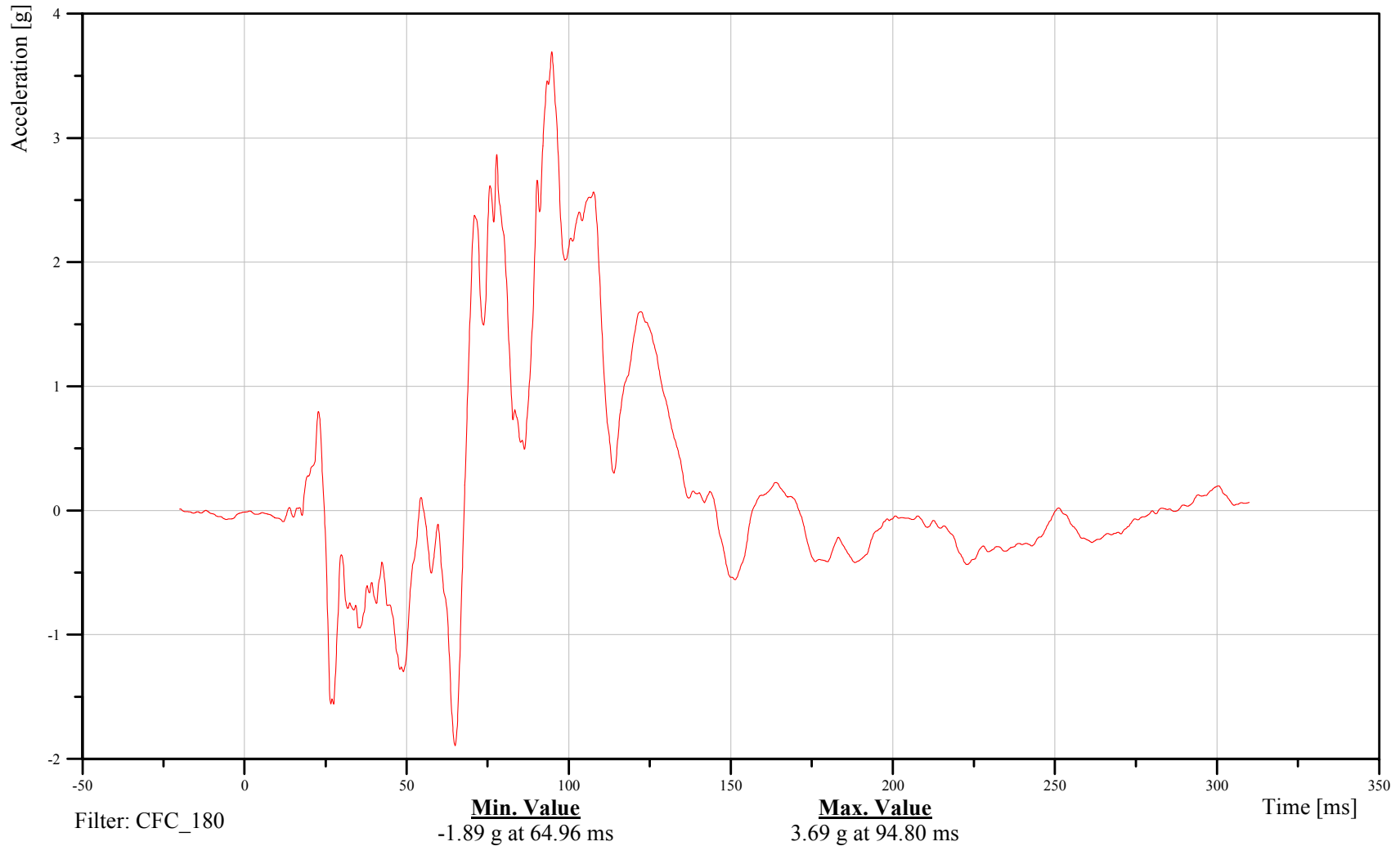
Bullet Driver Redundant Chest CG Y-Axis Acceleration

Customer: VRTC

21CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Redundant Chest CG Z-Axis Acceleration

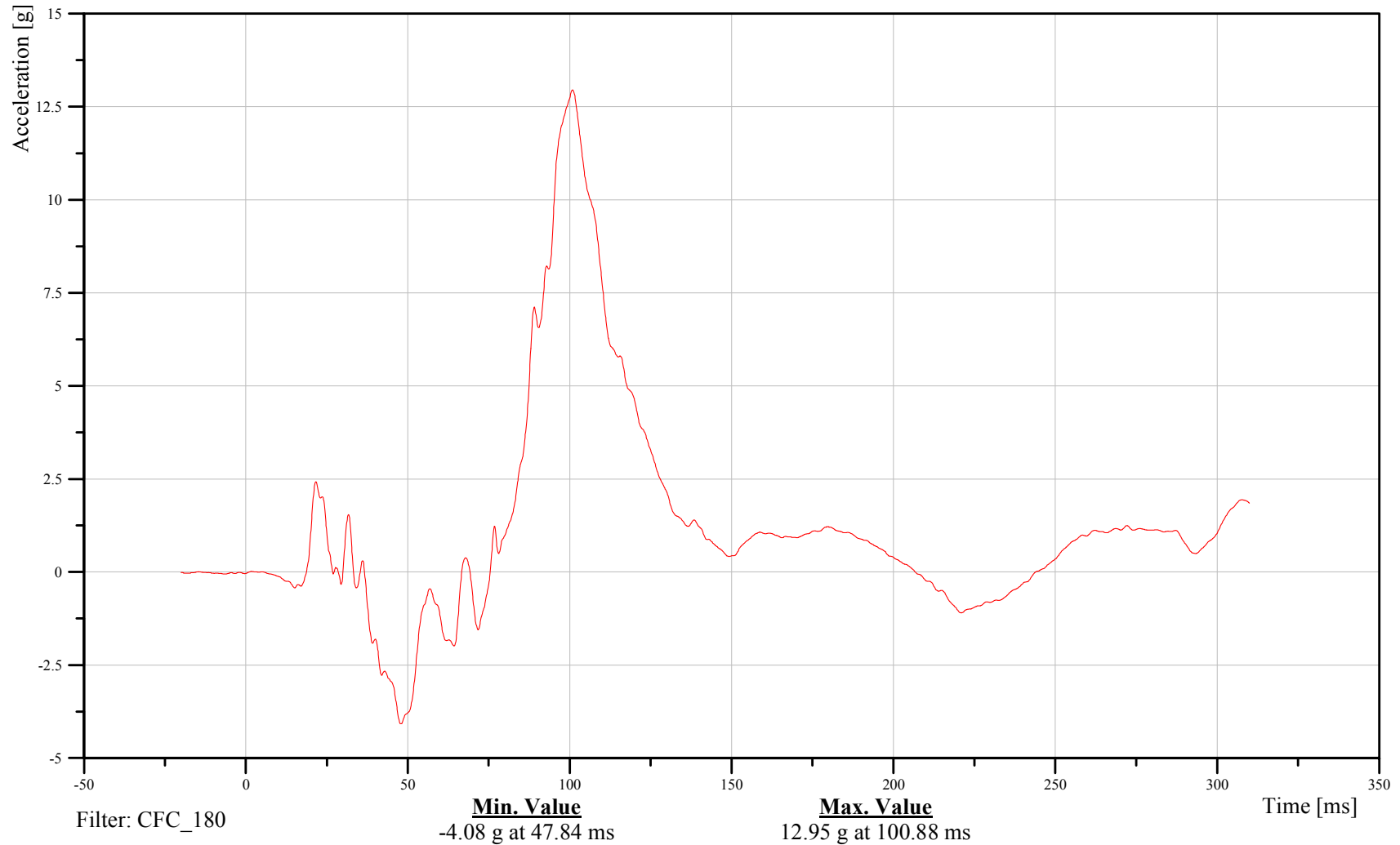
Time: 12:43

Customer: VRTC

21CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

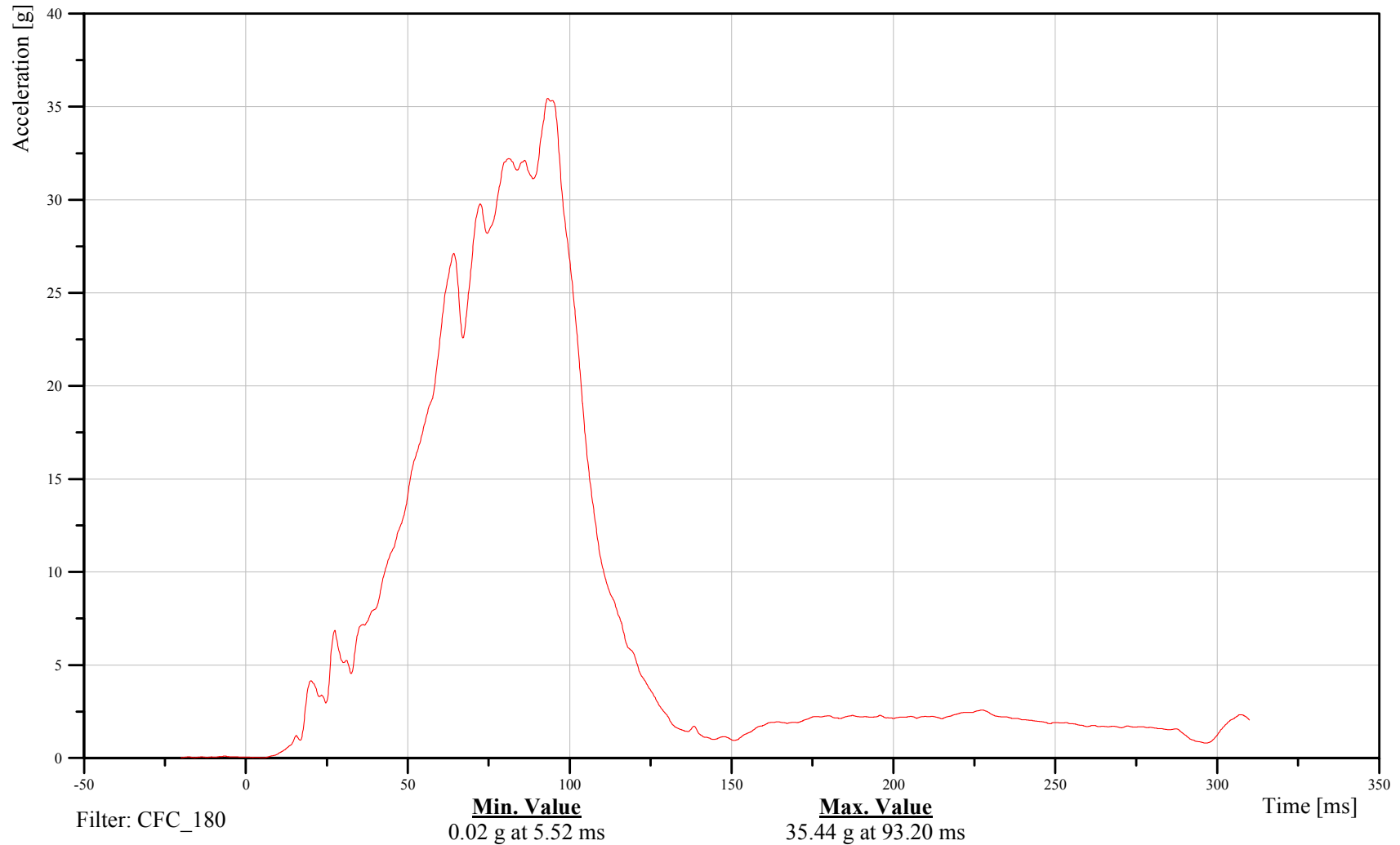
Bullet Driver Redundant Chest CG Resultant Acceleration

Customer: VRTC

21CHSTCGRDH3ACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

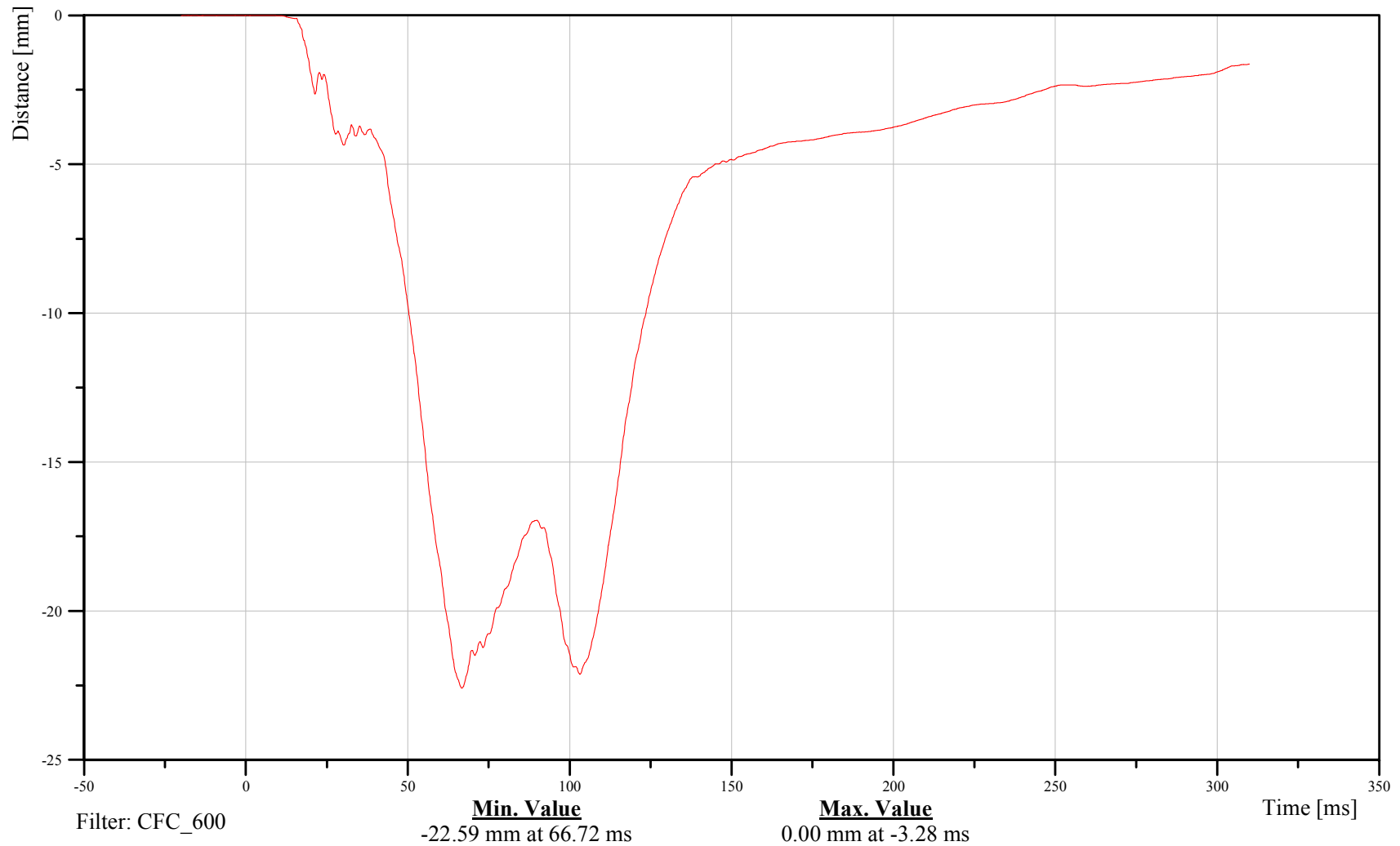
Bullet Driver Chest Displacement

Customer: VRTC

21CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

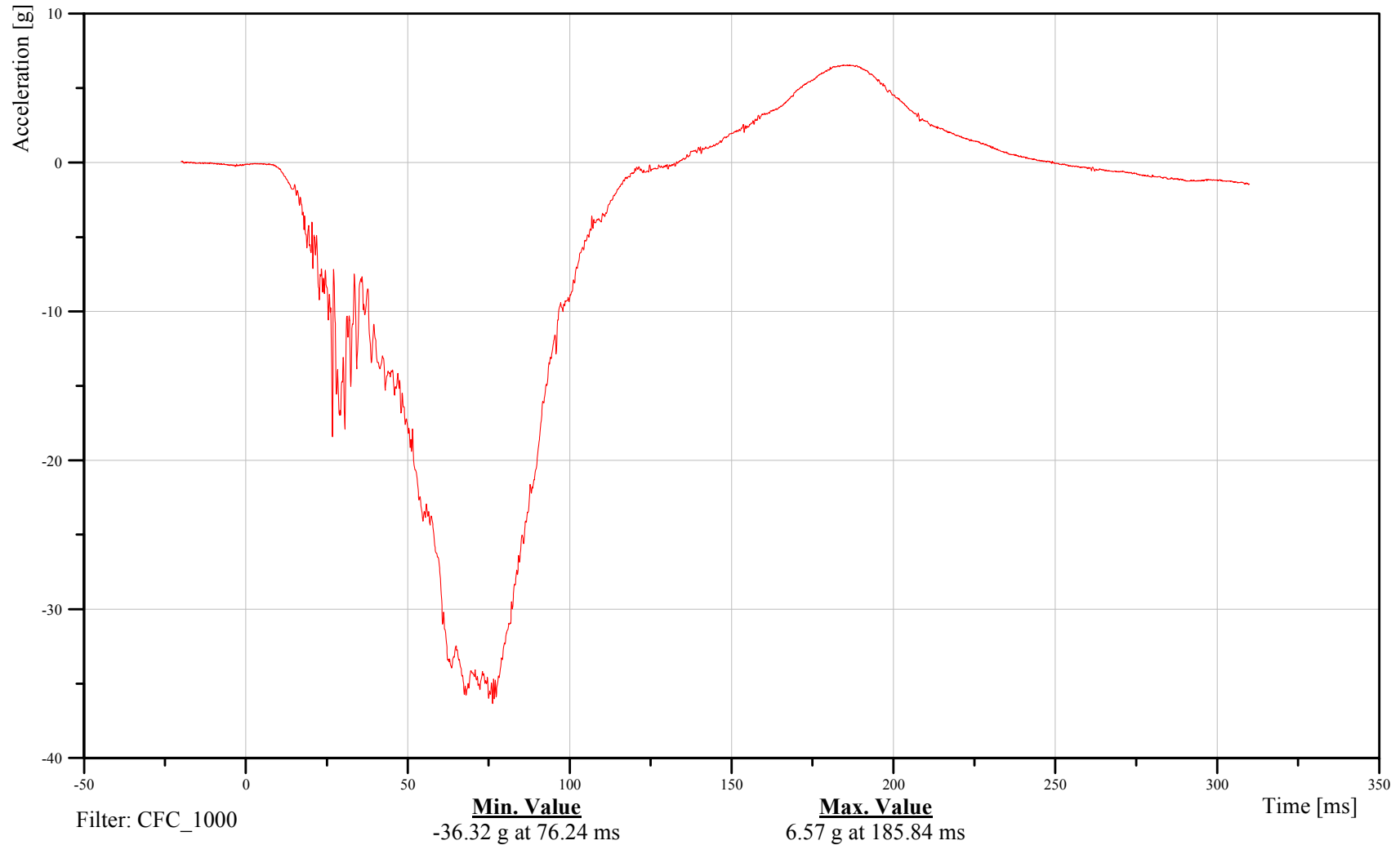
Bullet Driver Pelvis CG X-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

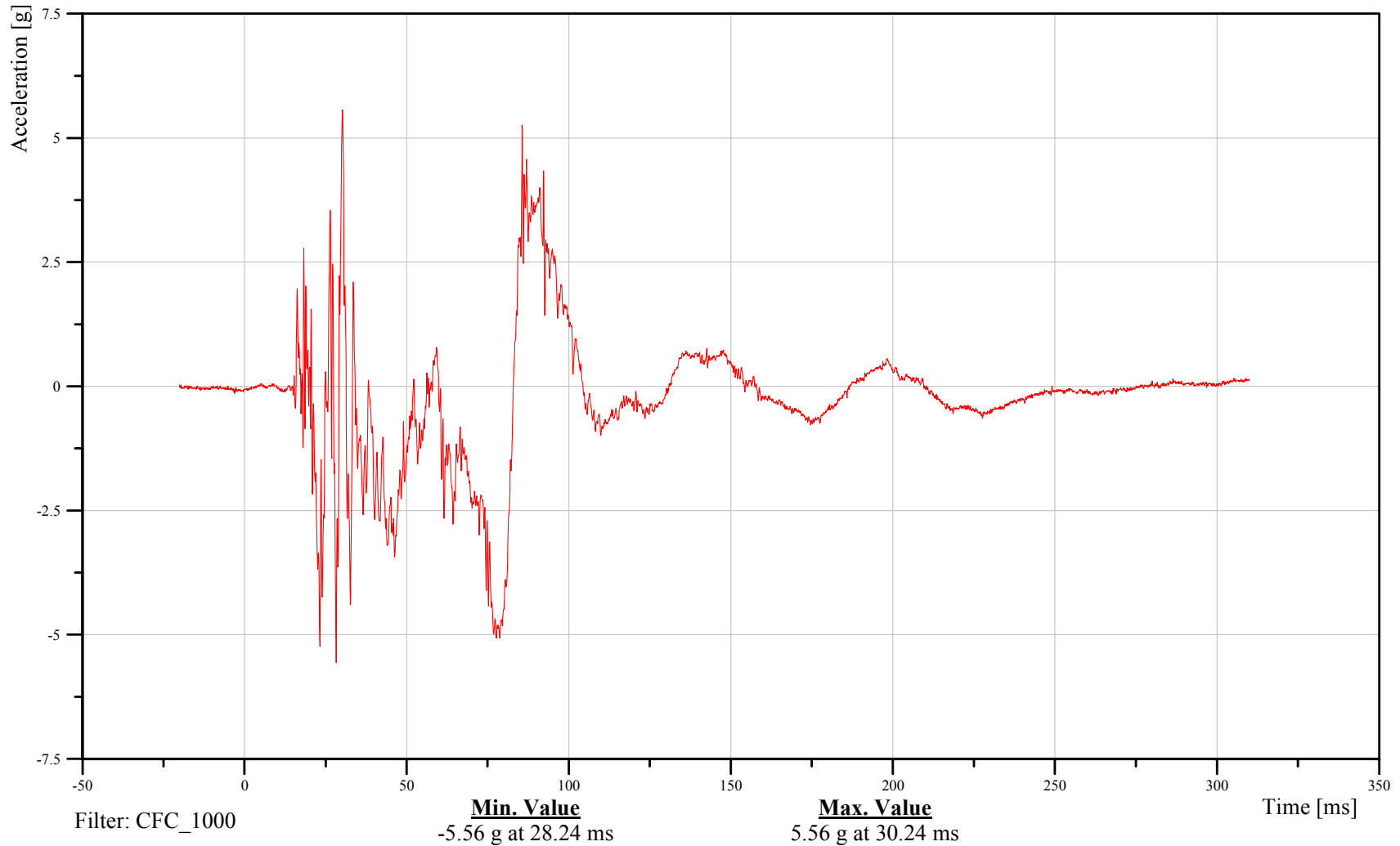
Bullet Driver Pelvis CG Y-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

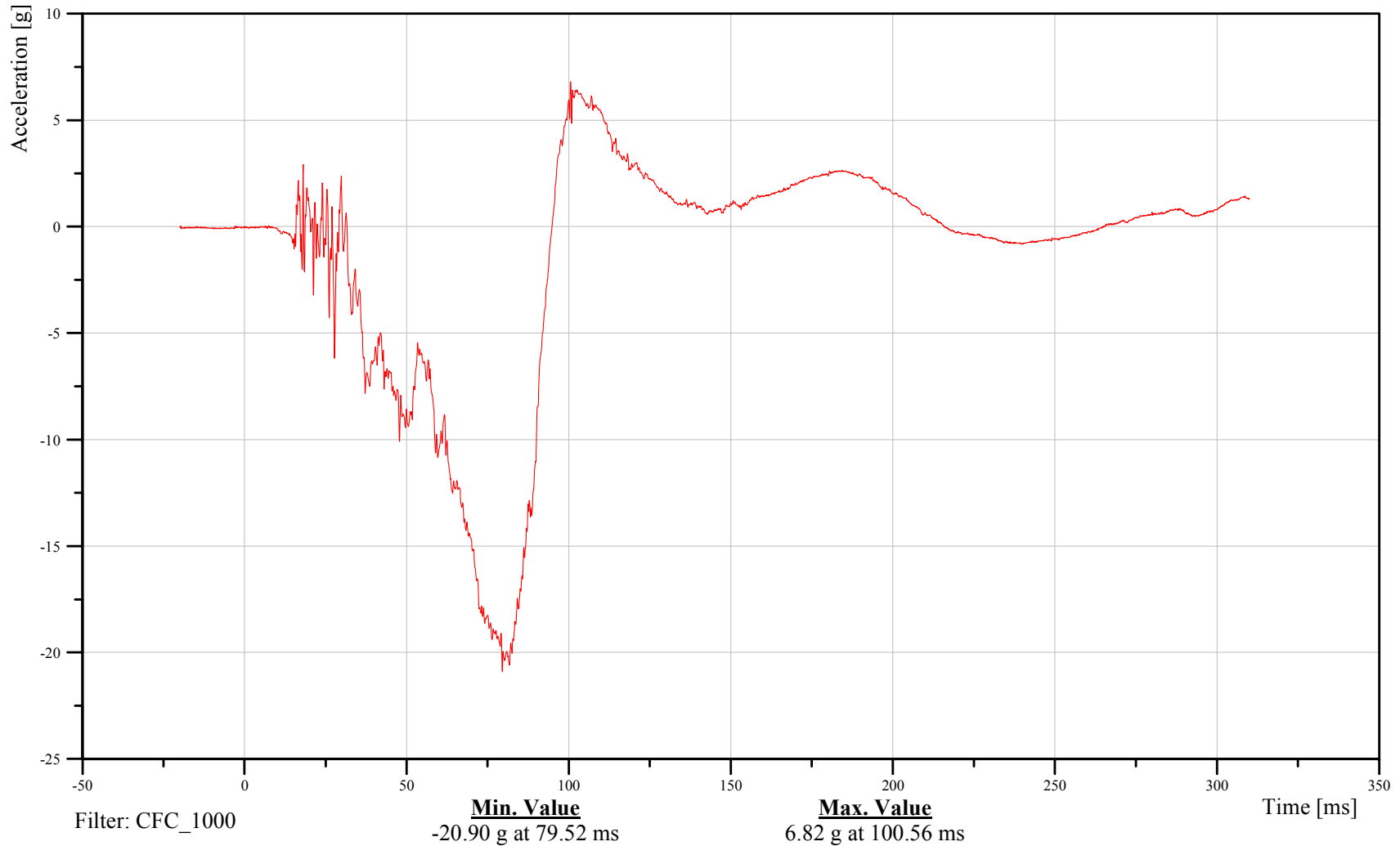
Bullet Driver Pelvis CG Z-Axis Acceleration

Customer: VRTC

21PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





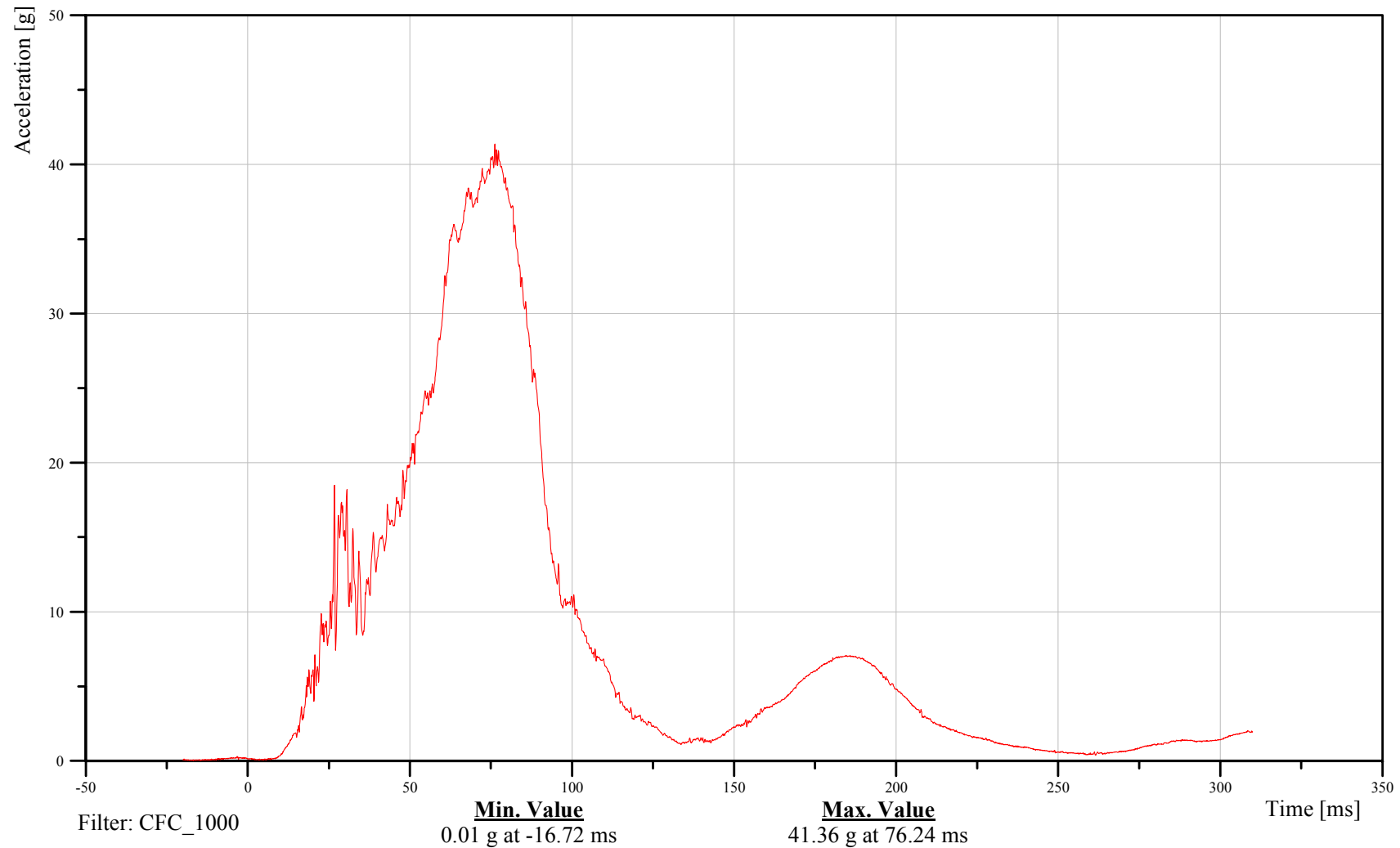
Bullet Driver Pelvis CG Resultant Acceleration

Customer: VRTC

21PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

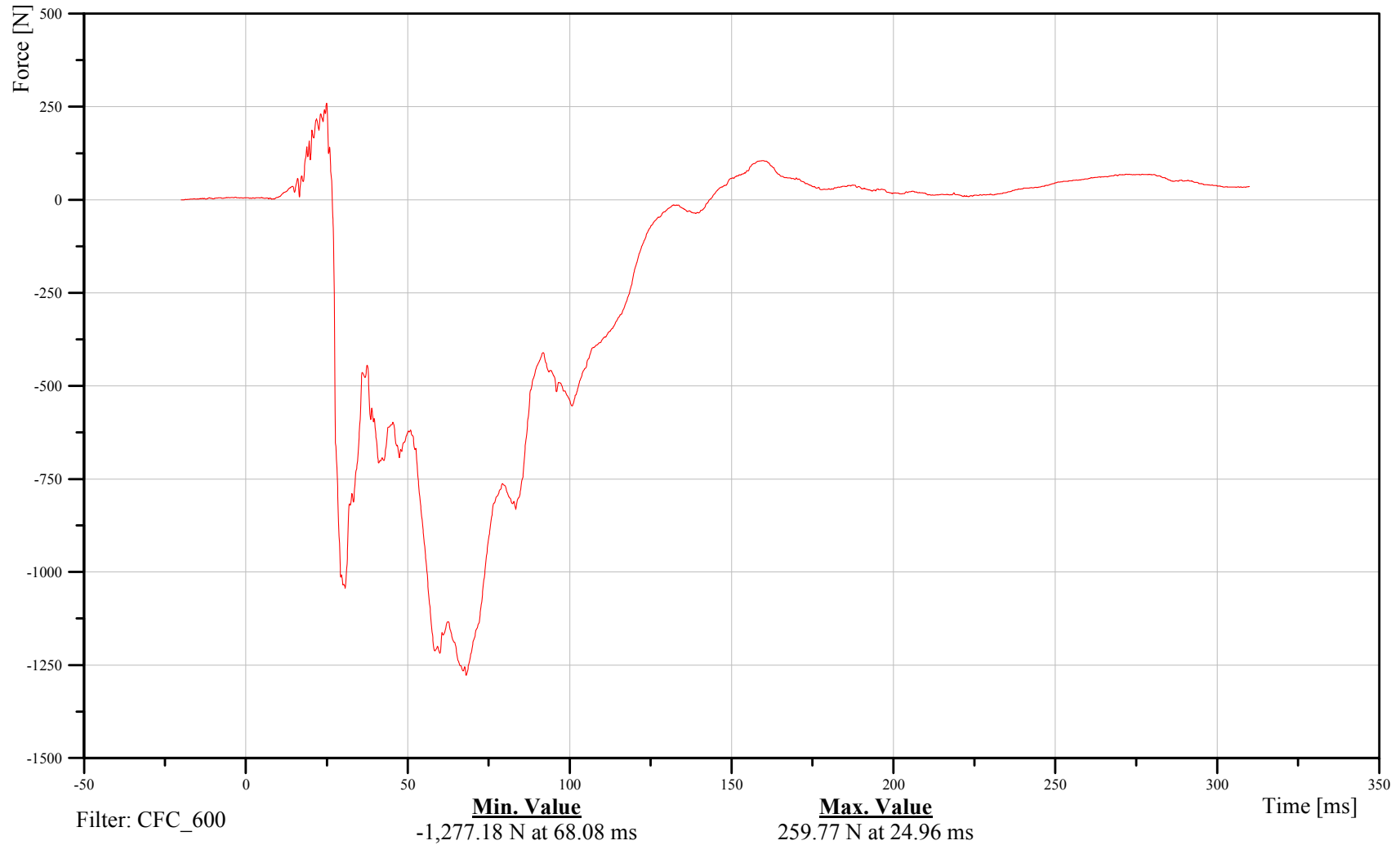
Bullet Driver Left Femur Z-Axis Force

Customer: VRTC

21FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

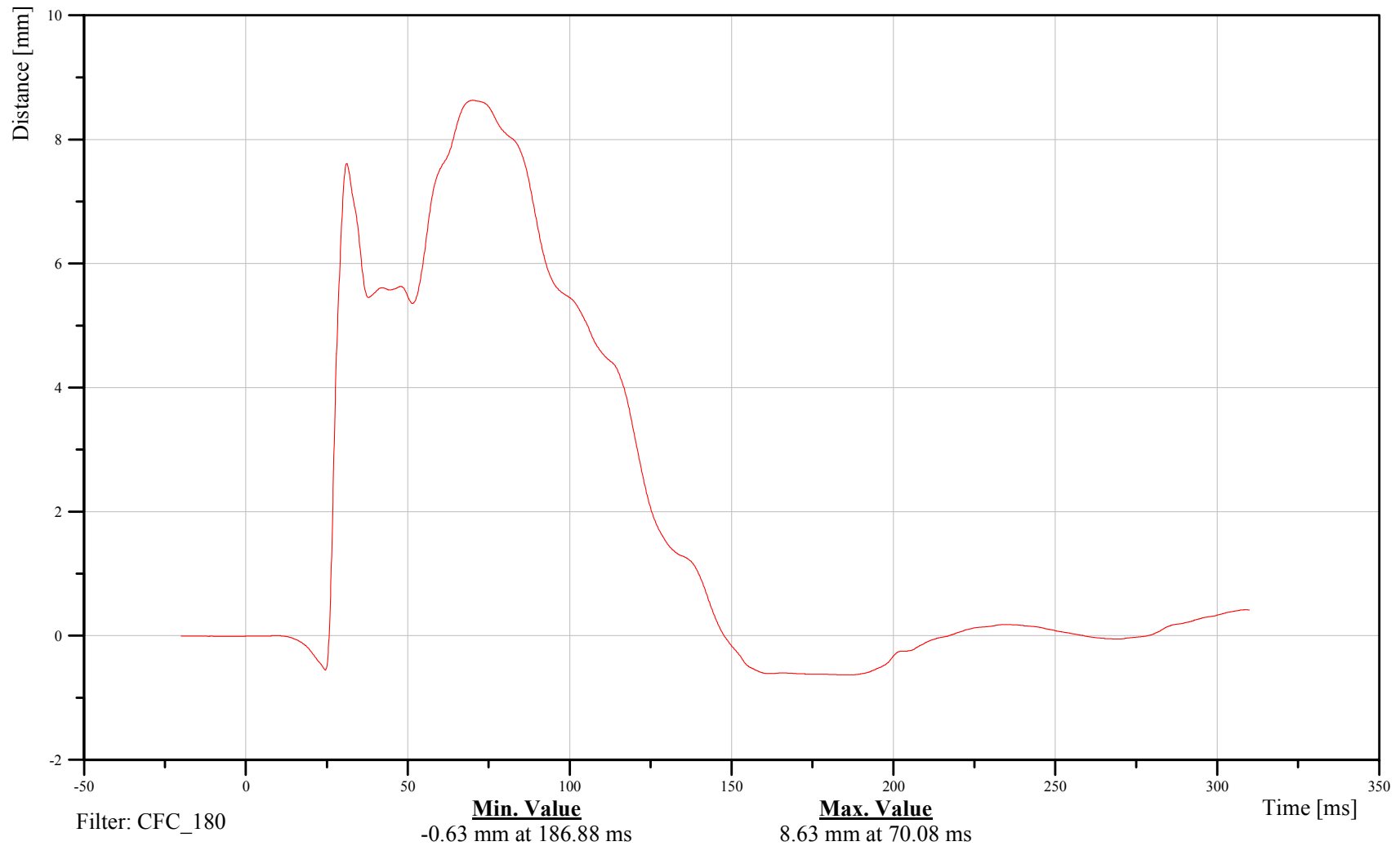
Bullet Driver Left Knee Displacement

Customer: VRTC

21KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

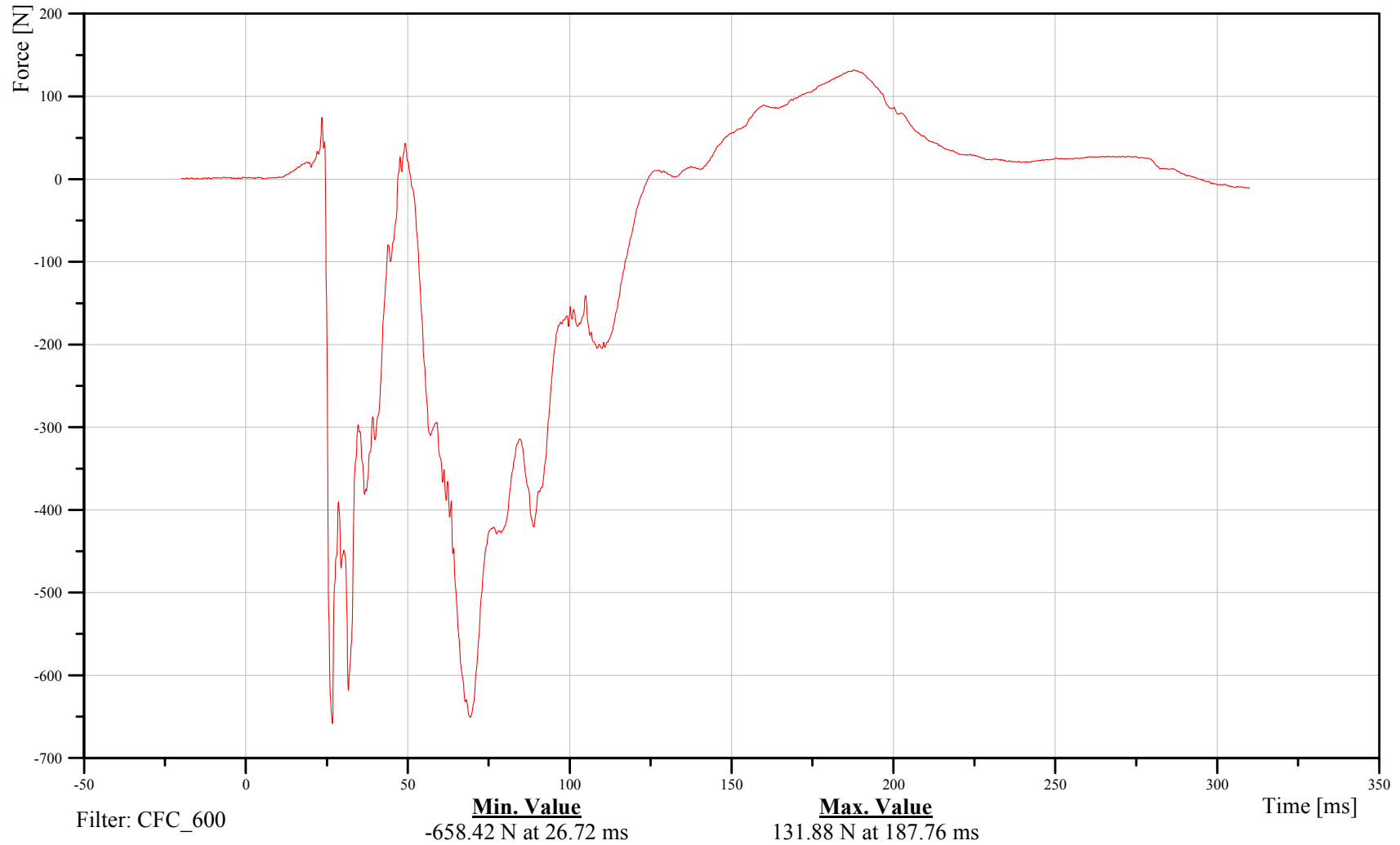
Bullet Driver Left Upper Tibia X-Axis Force

Customer: VRTC

21TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

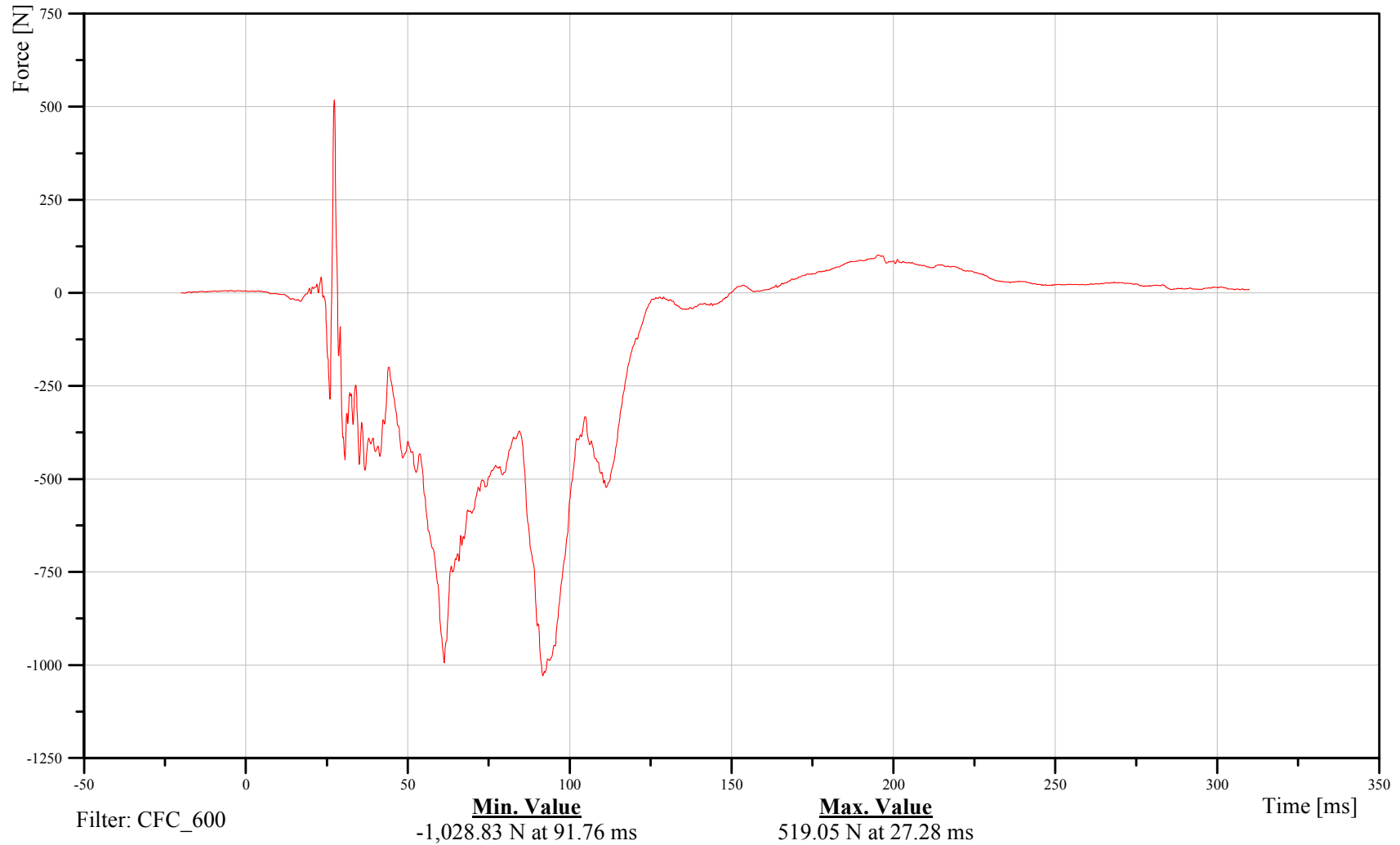
Bullet Driver Left Upper Tibia Z-Axis Force

Customer: VRTC

21TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

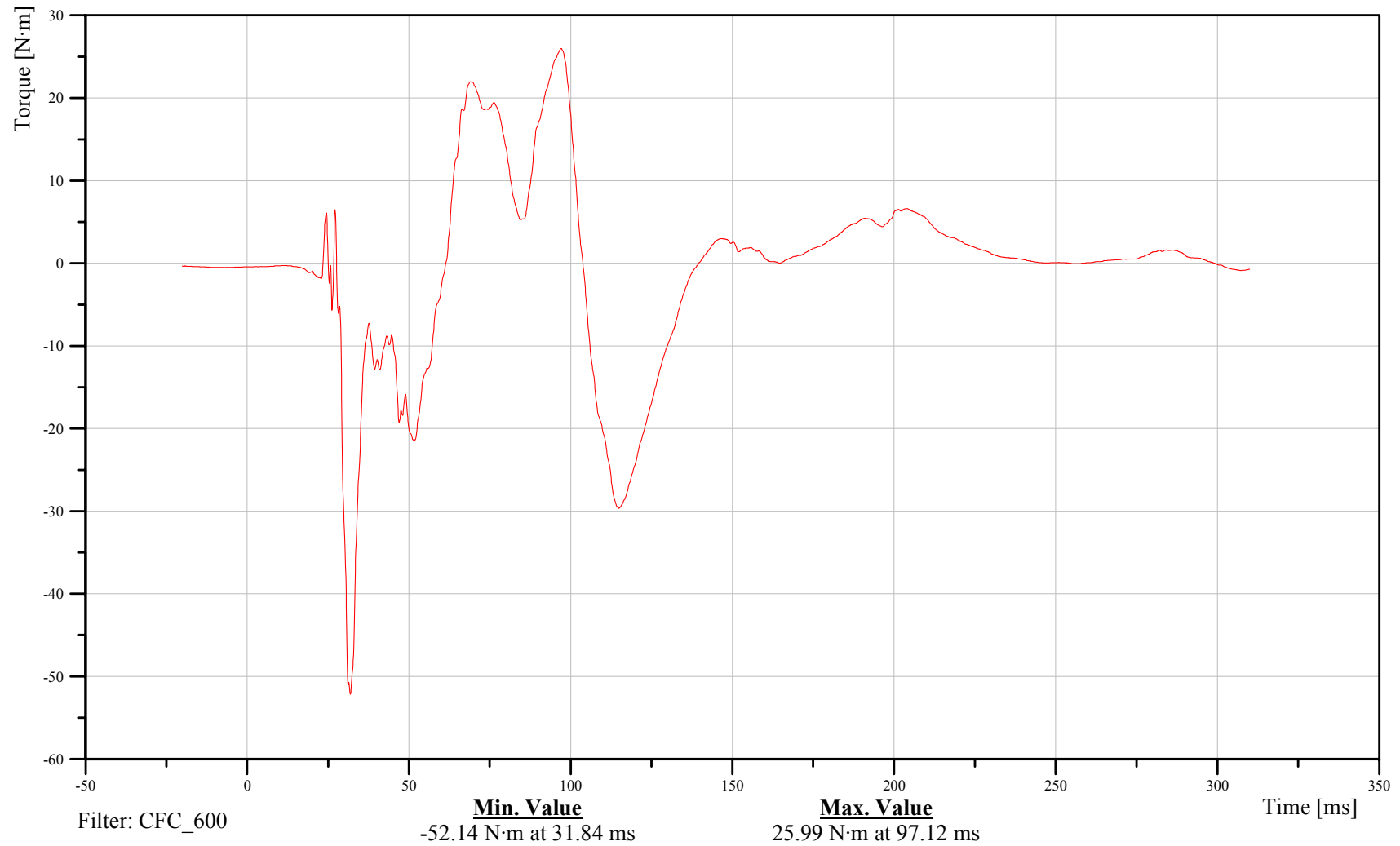
Bullet Driver Left Upper Tibia Moment About X Axis

Customer: VRTC

21TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

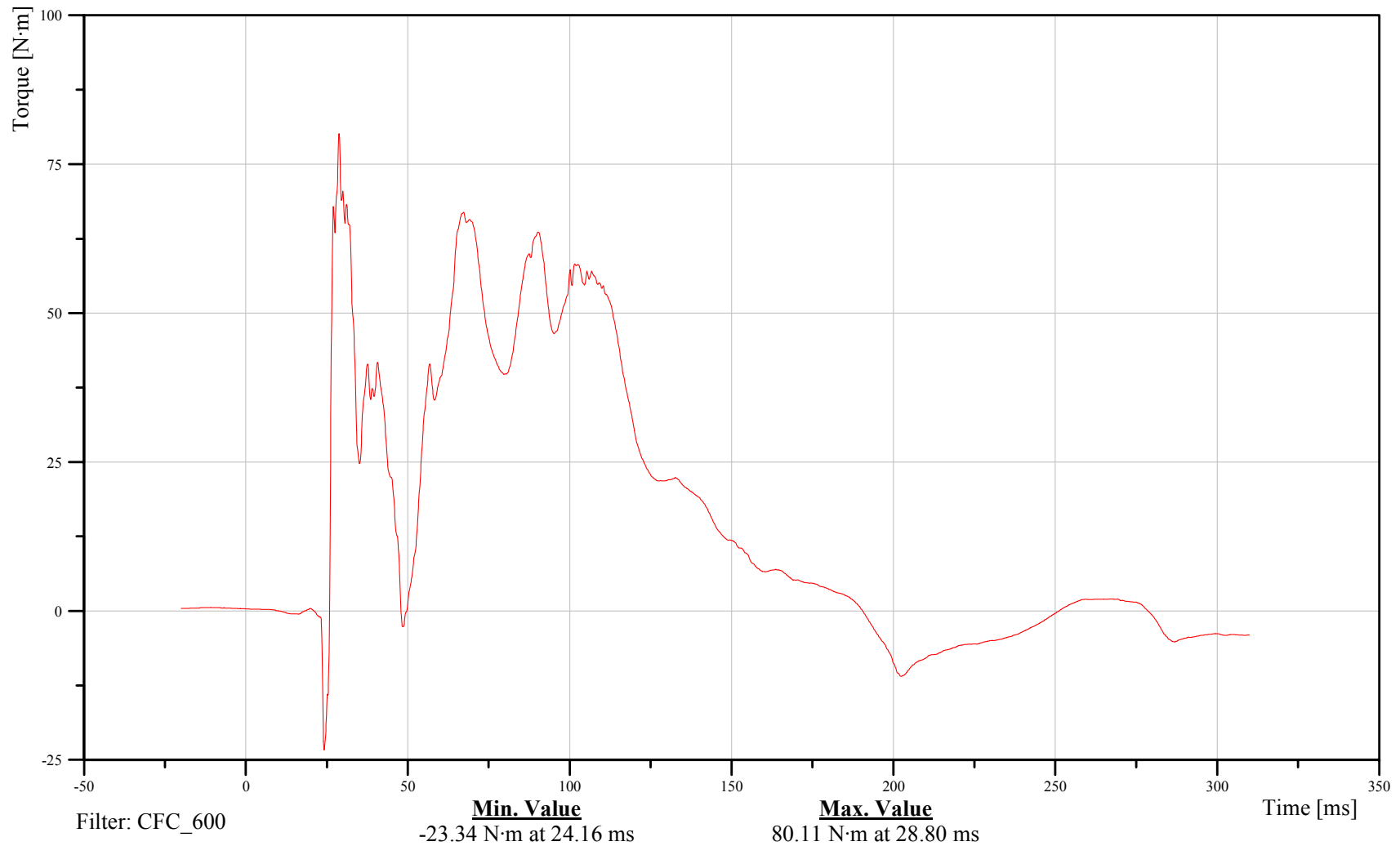
Bullet Driver Left Upper Tibia Moment About Y Axis

Customer: VRTC

21TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

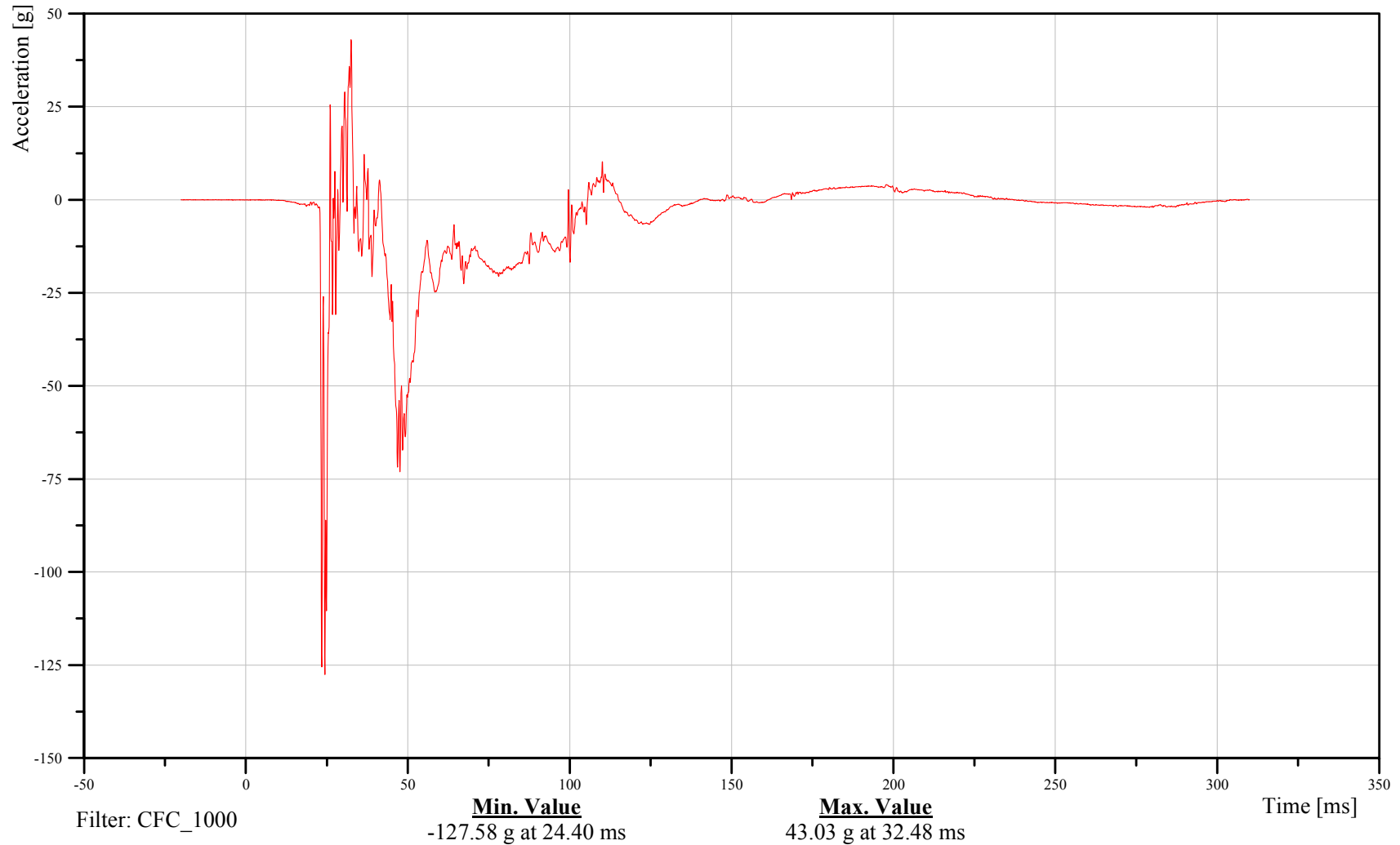
Bullet Driver Left Tibia X-Axis Acceleration

Customer: VRTC

21TIBILELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

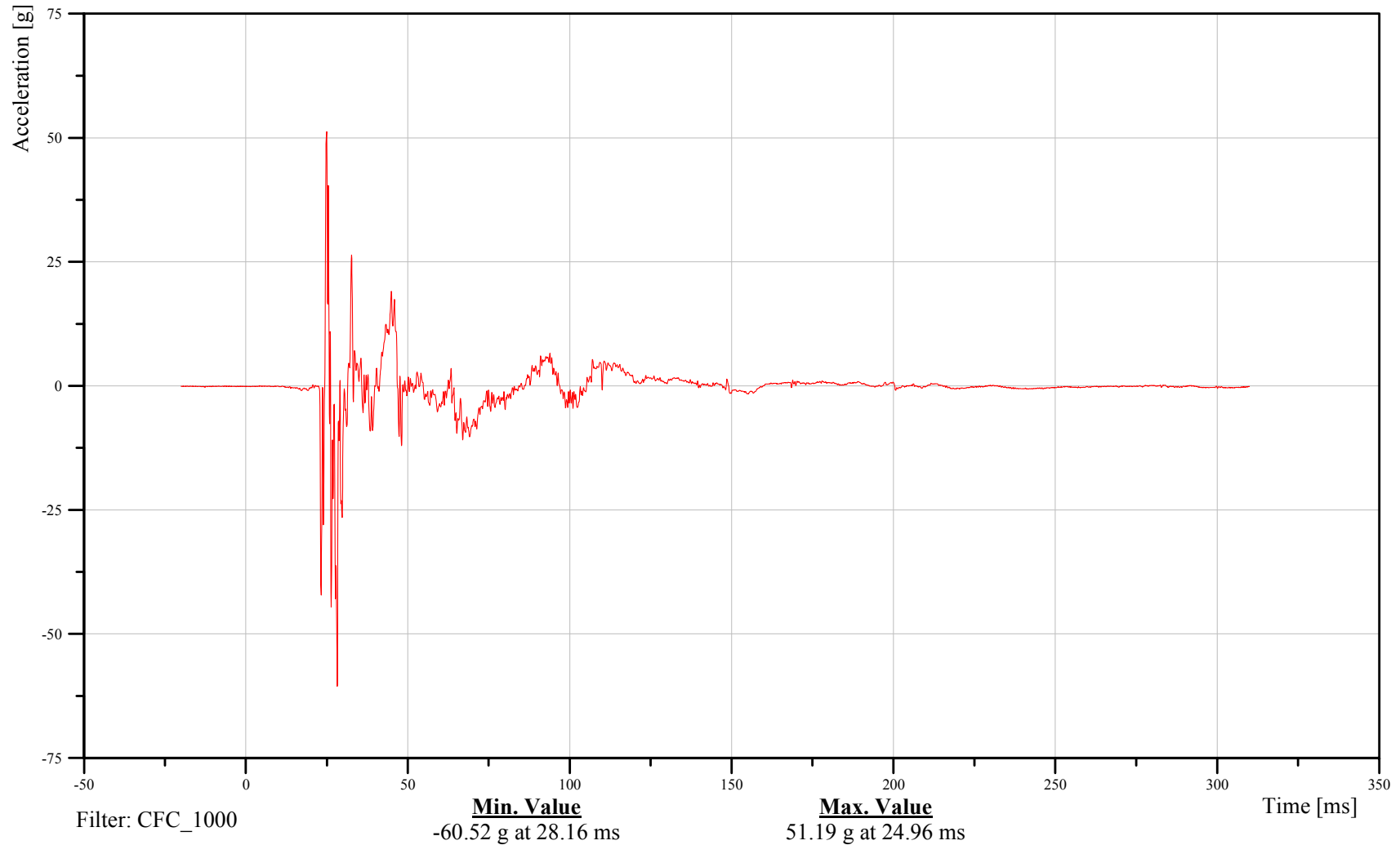
Bullet Driver Left Tibia Y-Axis Acceleration

Customer: VRTC

21TIBILELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

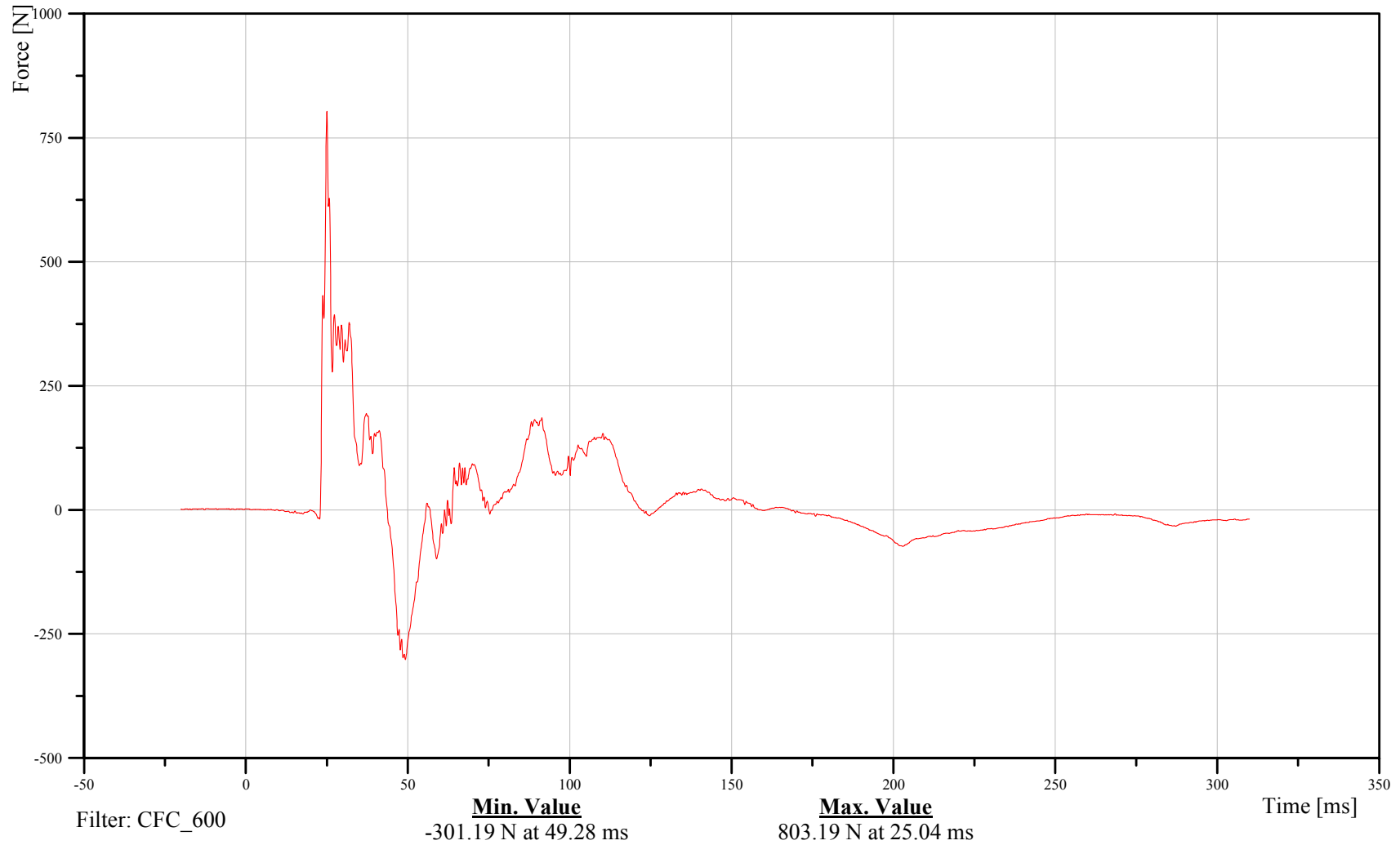
Bullet Driver Left Lower Tibia X-Axis Force

Customer: VRTC

21TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

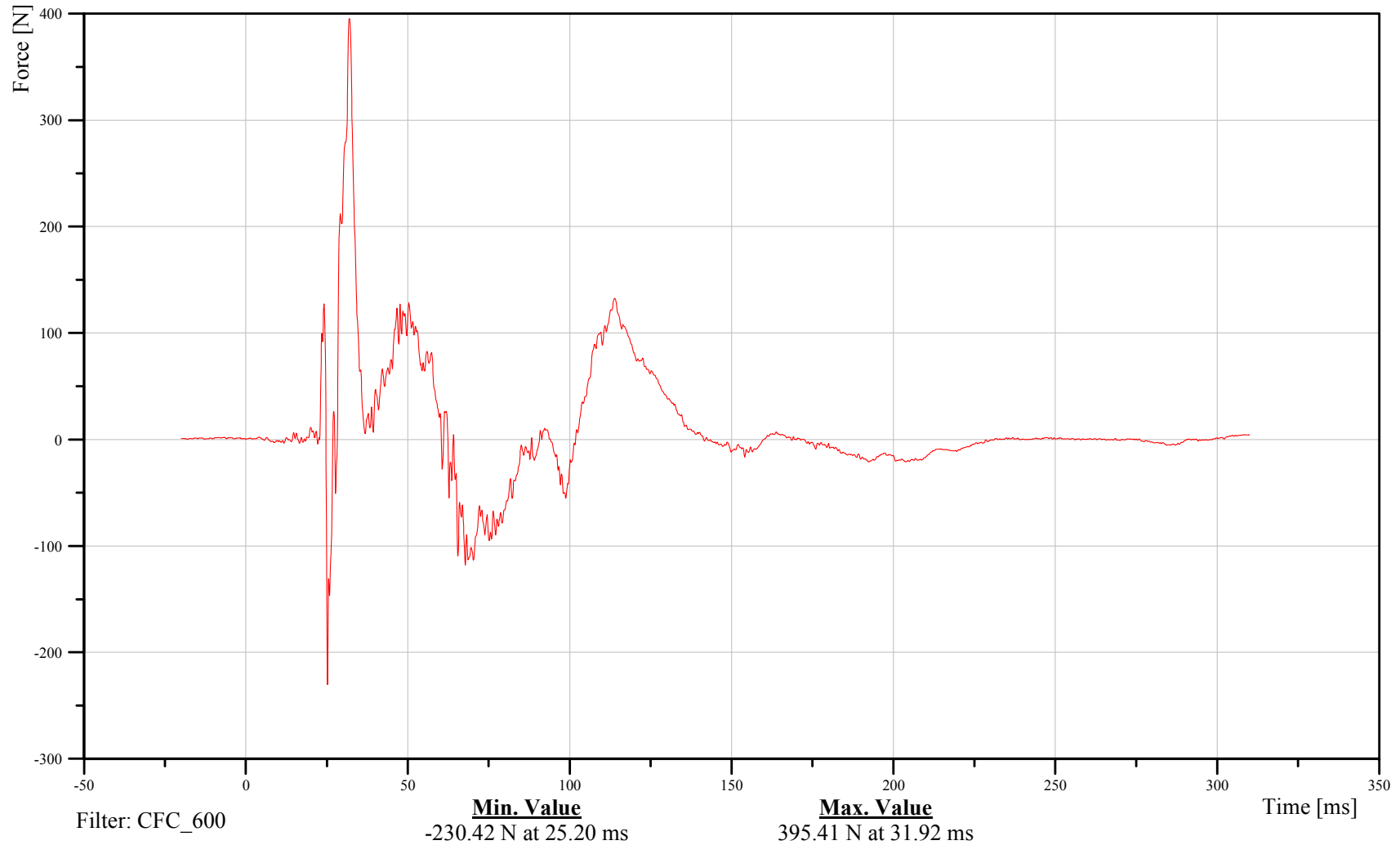
Bullet Driver Left Lower Tibia Y-Axis Force

Customer: VRTC

21TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

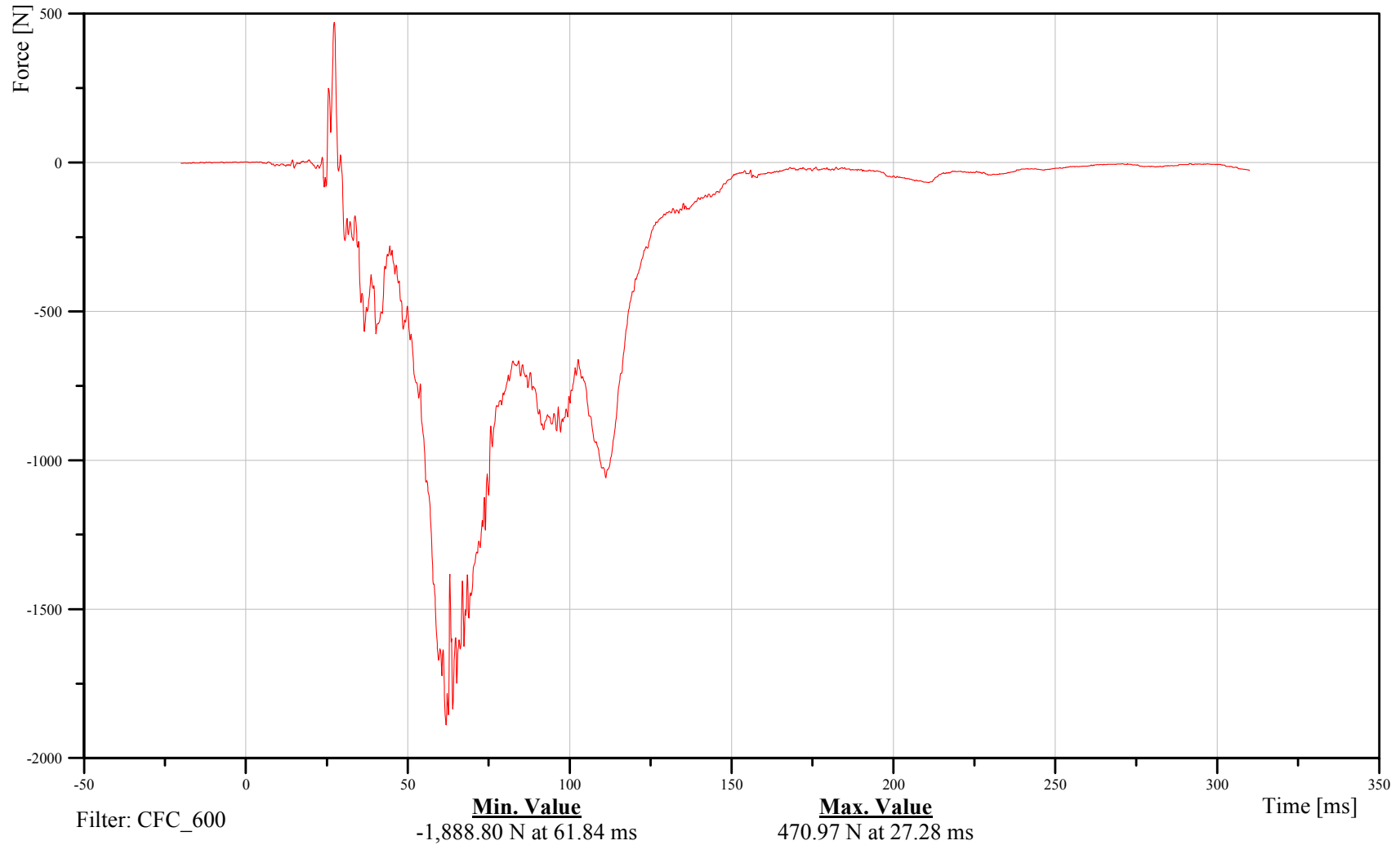
Bullet Driver Left Lower Tibia Z-Axis Force

Customer: VRTC

21TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

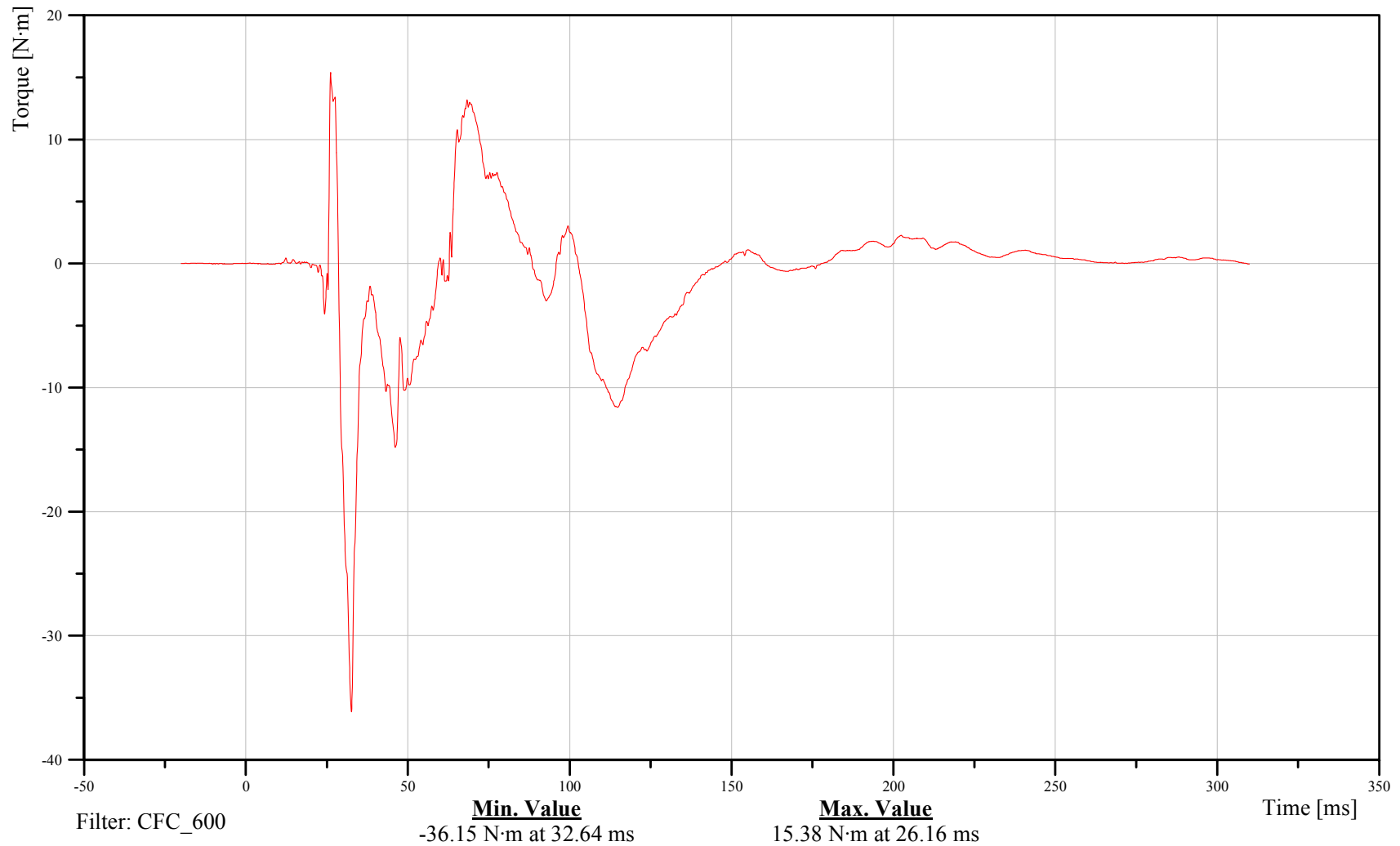
Bullet Driver Left Lower Tibia Moment About X Axis

Customer: VRTC

21TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

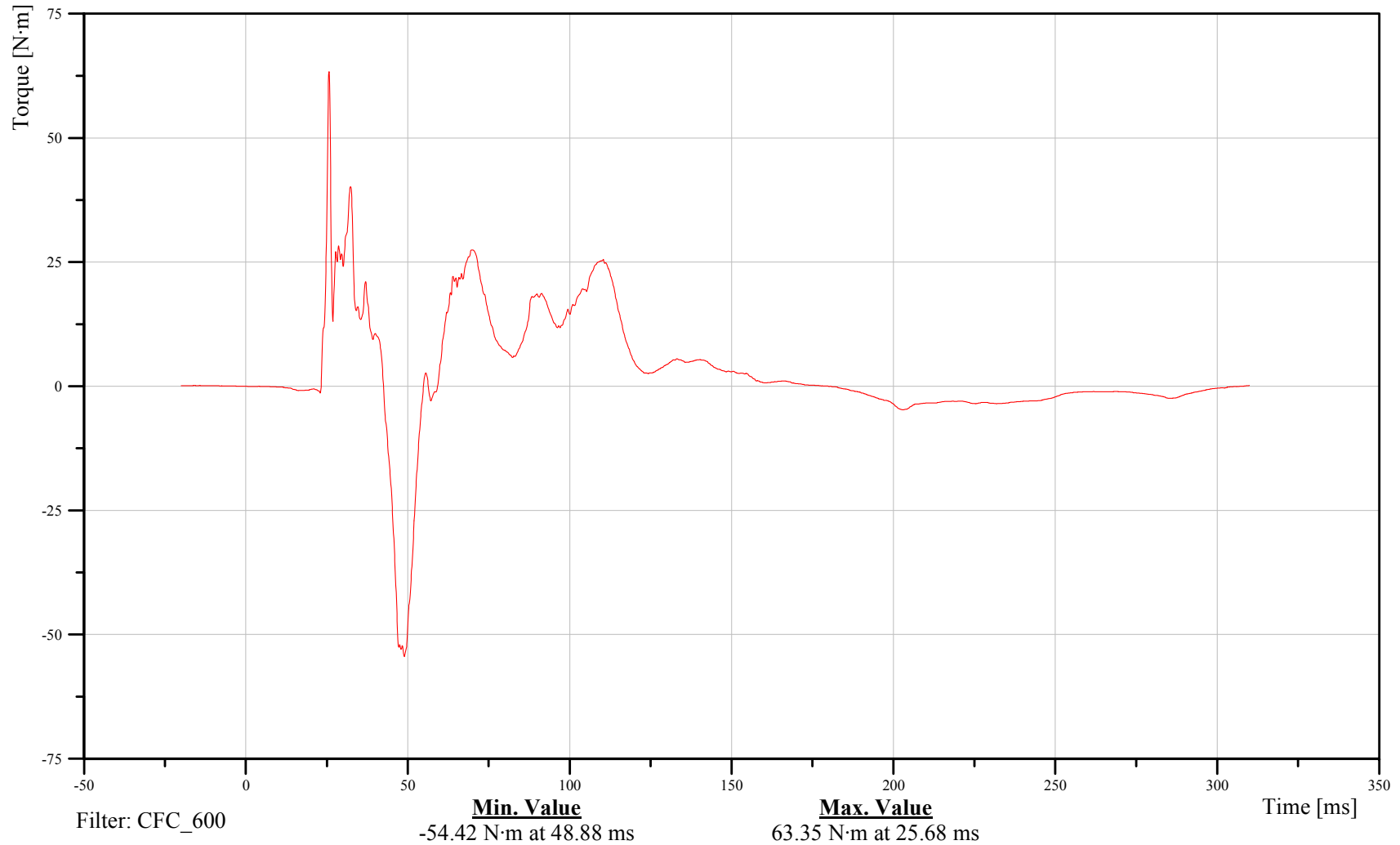
Bullet Driver Left Lower Tibia Moment About Y Axis

Customer: VRTC

21TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

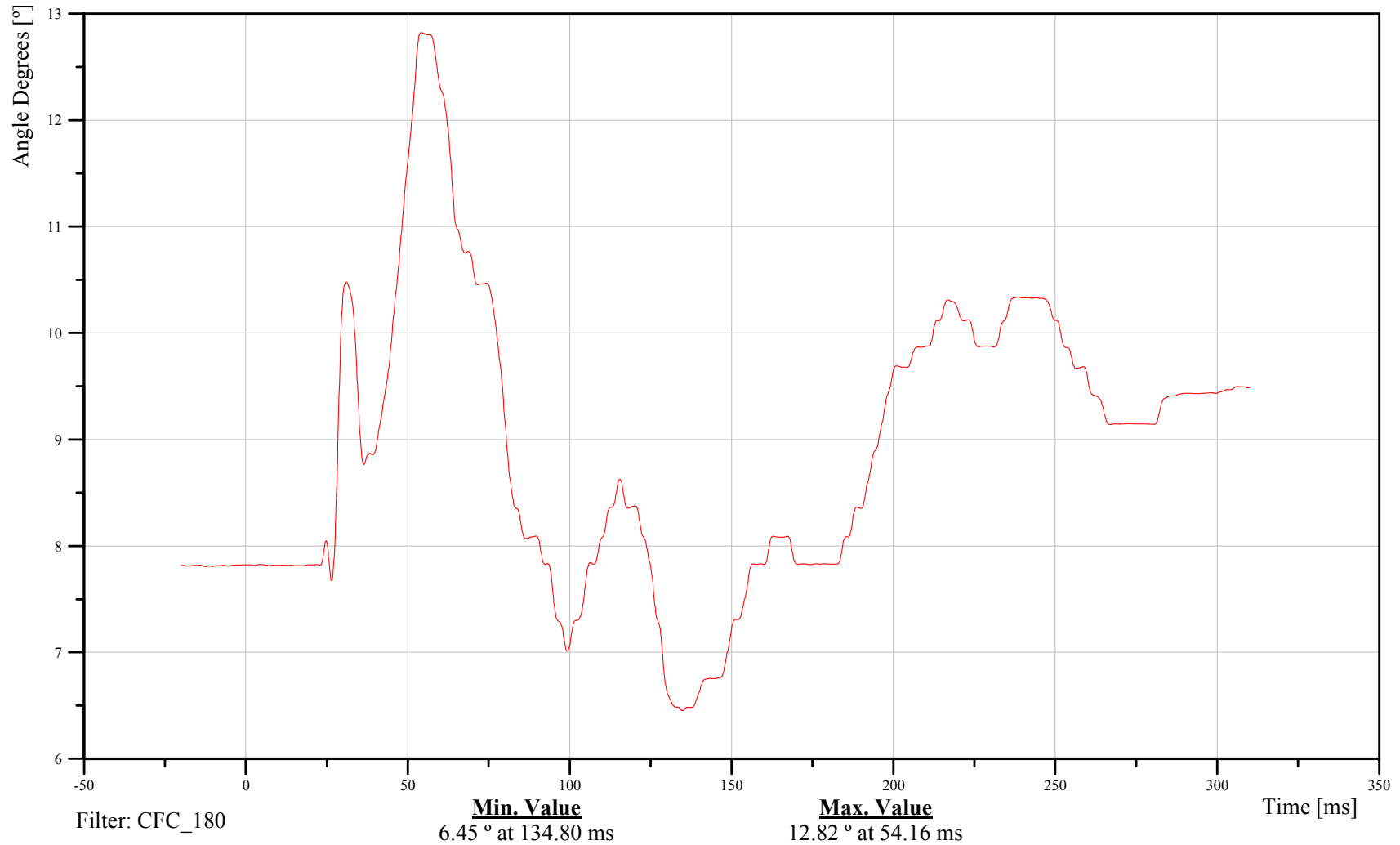
Bullet Driver Left Foot X-Axis Rotation

Customer: VRTC

21FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

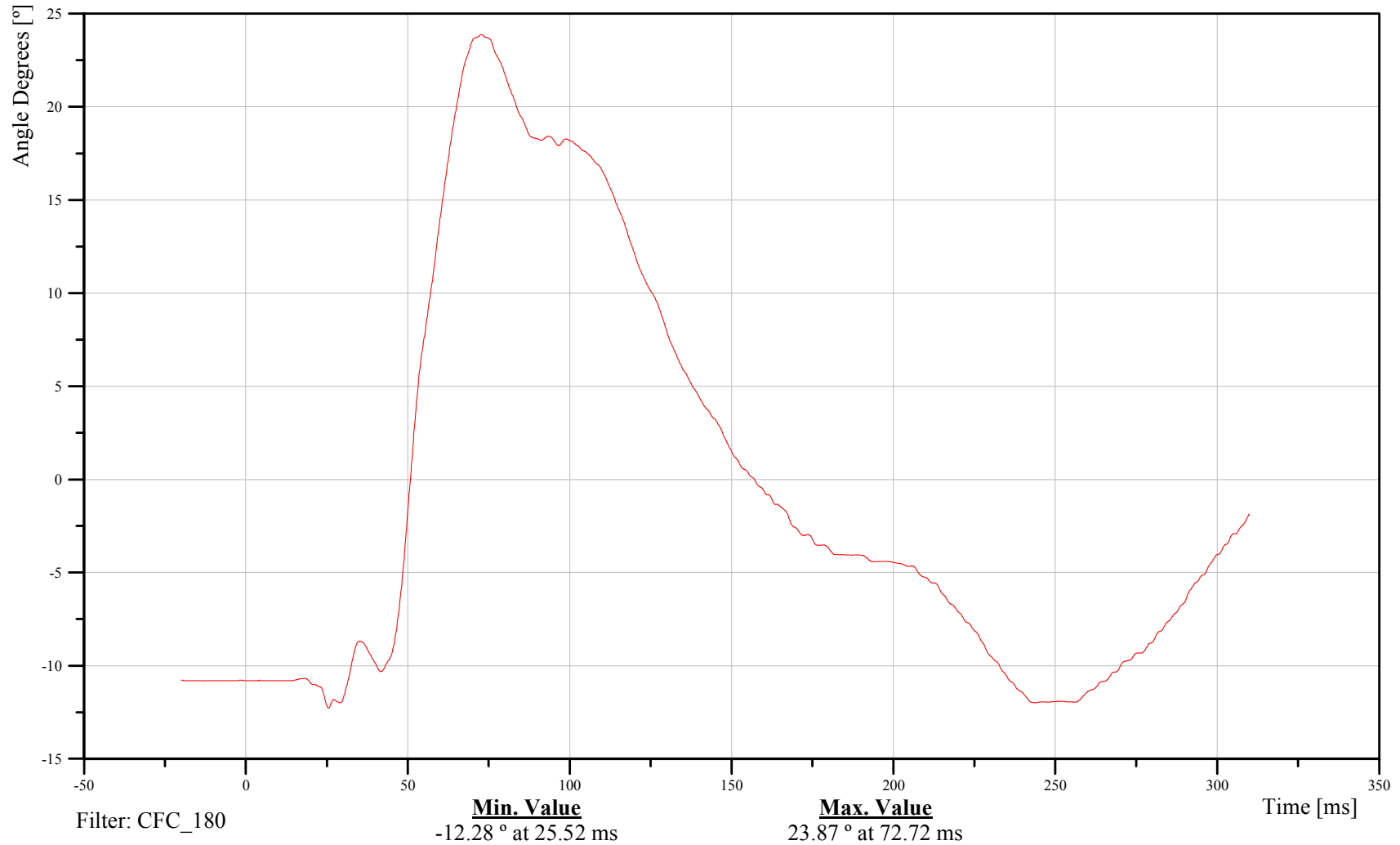
Bullet Driver Left Foot Y-Axis Rotation

Customer: VRTC

21FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Left Foot Z-Axis Rotation

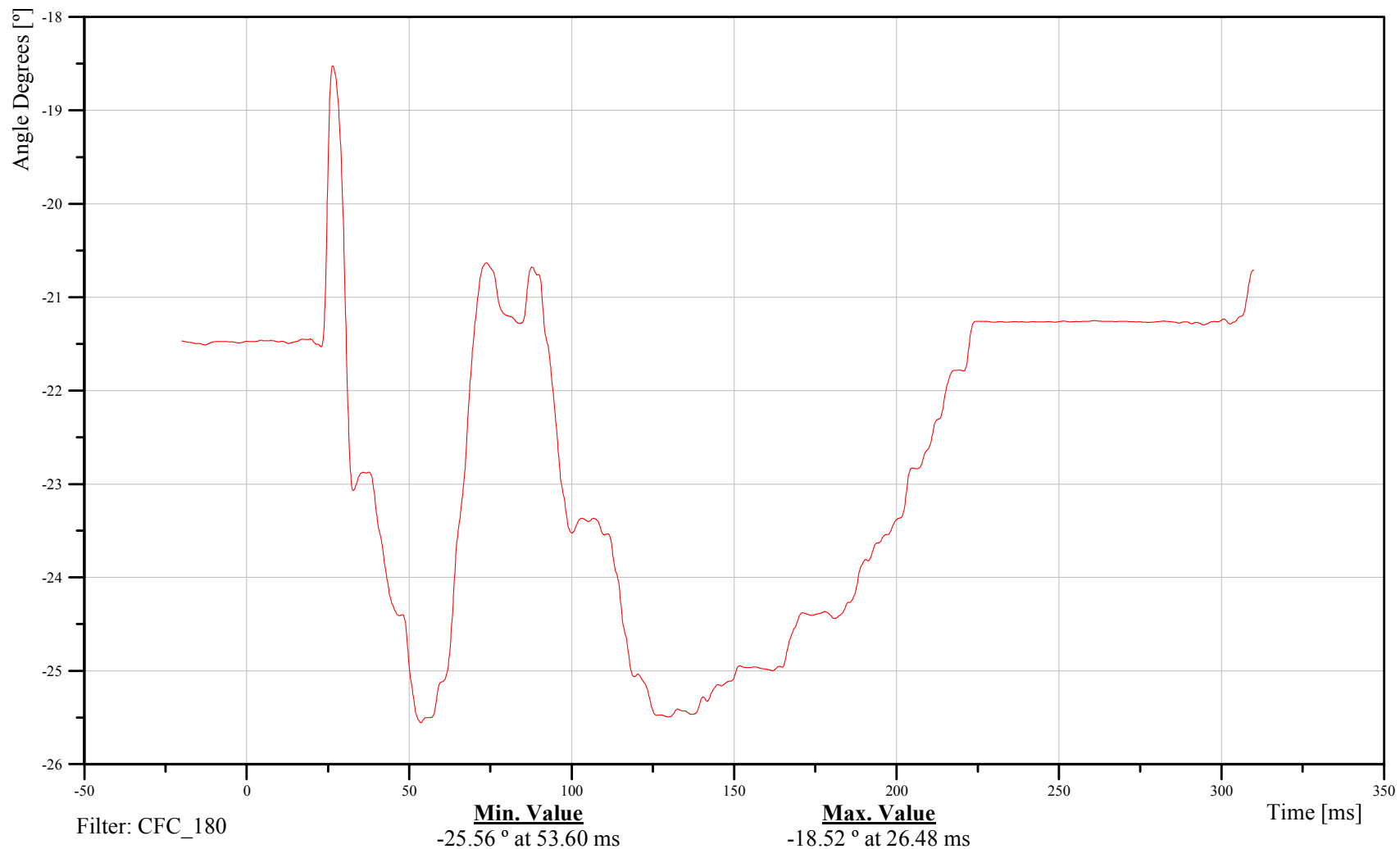
Time: 12:43

Customer: VRTC

21FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

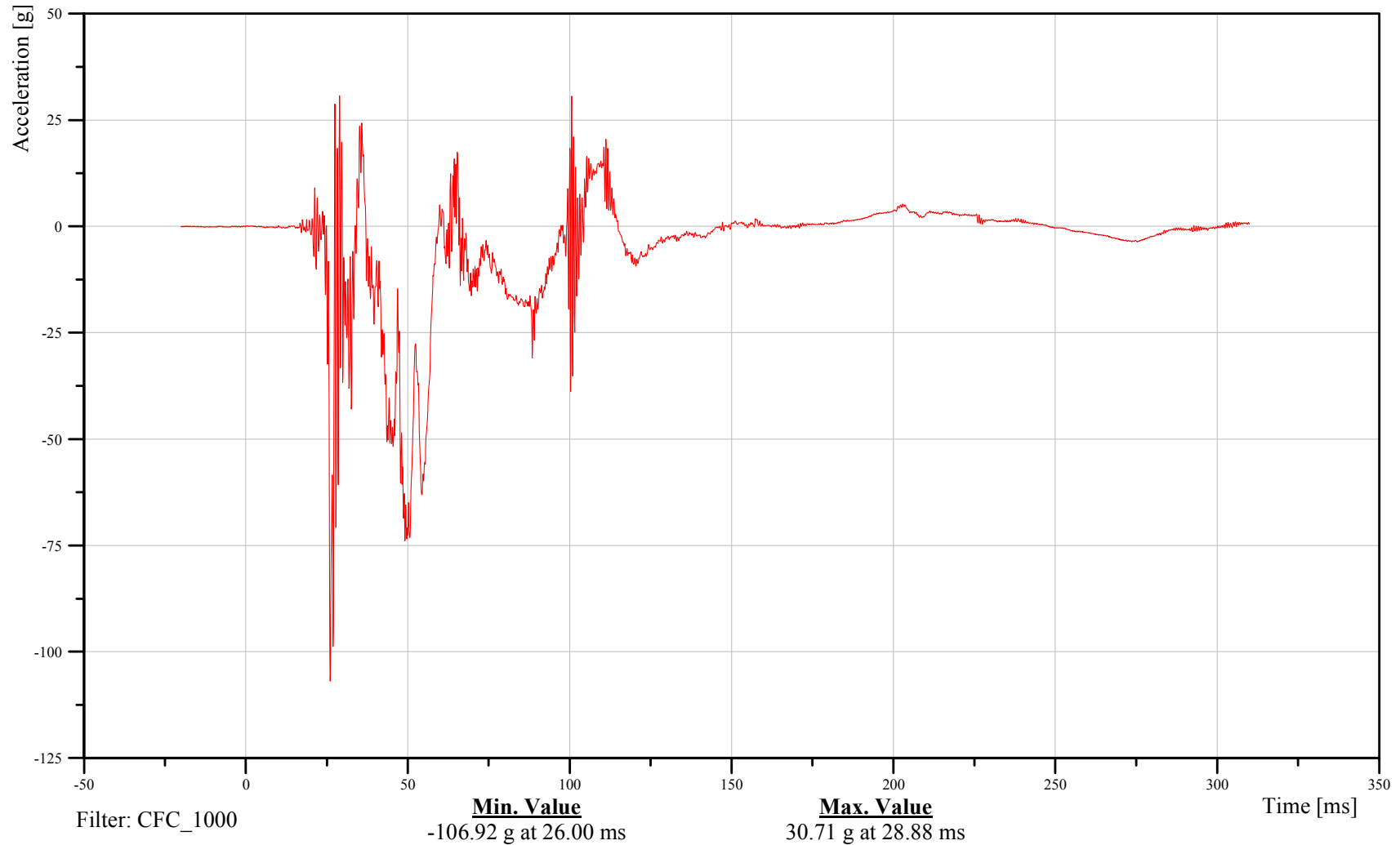
Bullet Driver Left Foot X-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

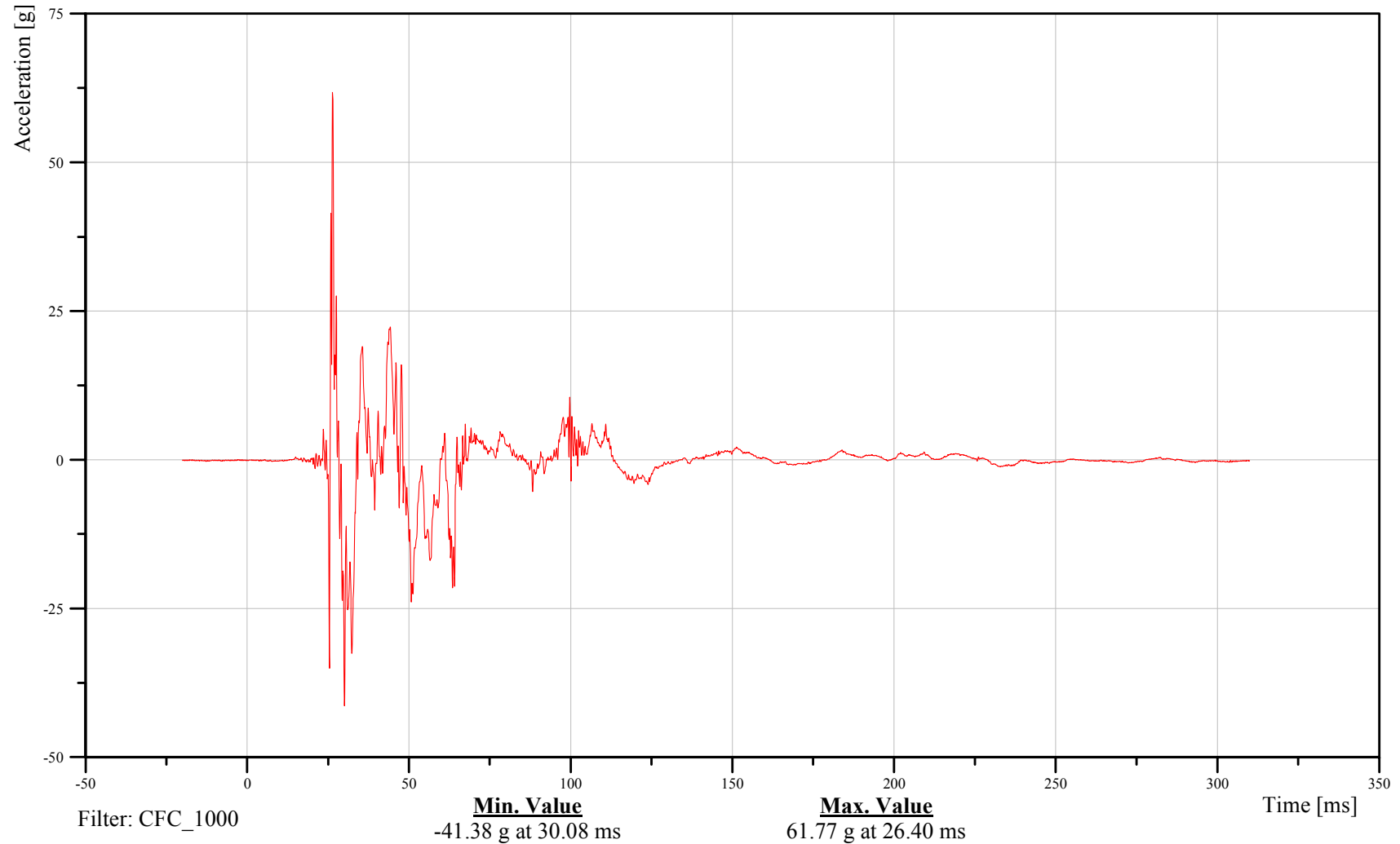
Bullet Driver Left Foot Y-Axis Acceleration

Customer: VRTC

21FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Left Foot Z-Axis Acceleration

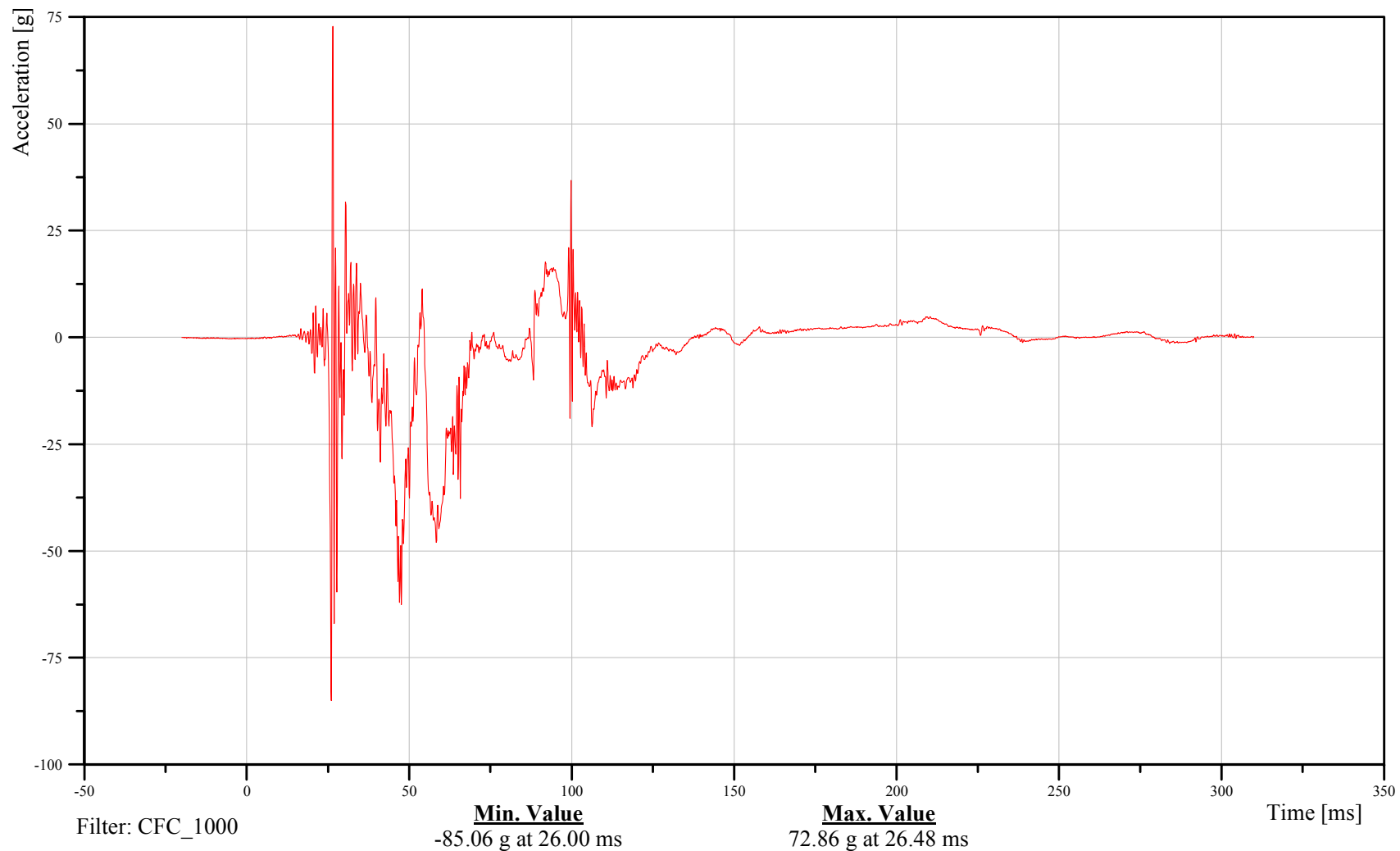
Time: 12:43

Customer: VRTC

21FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

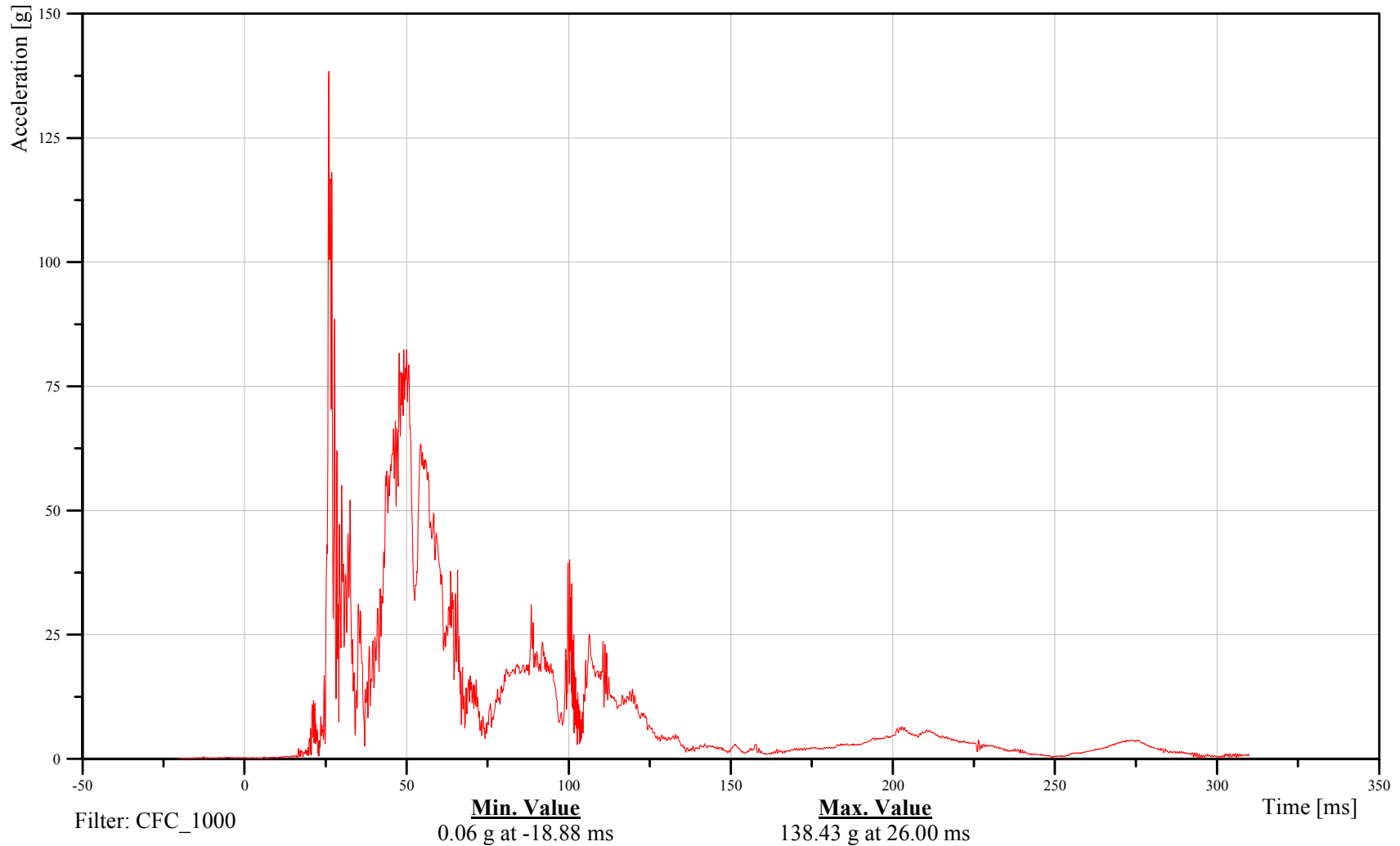
Bullet Driver Left Foot Resultant Acceleration

Customer: VRTC

21FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

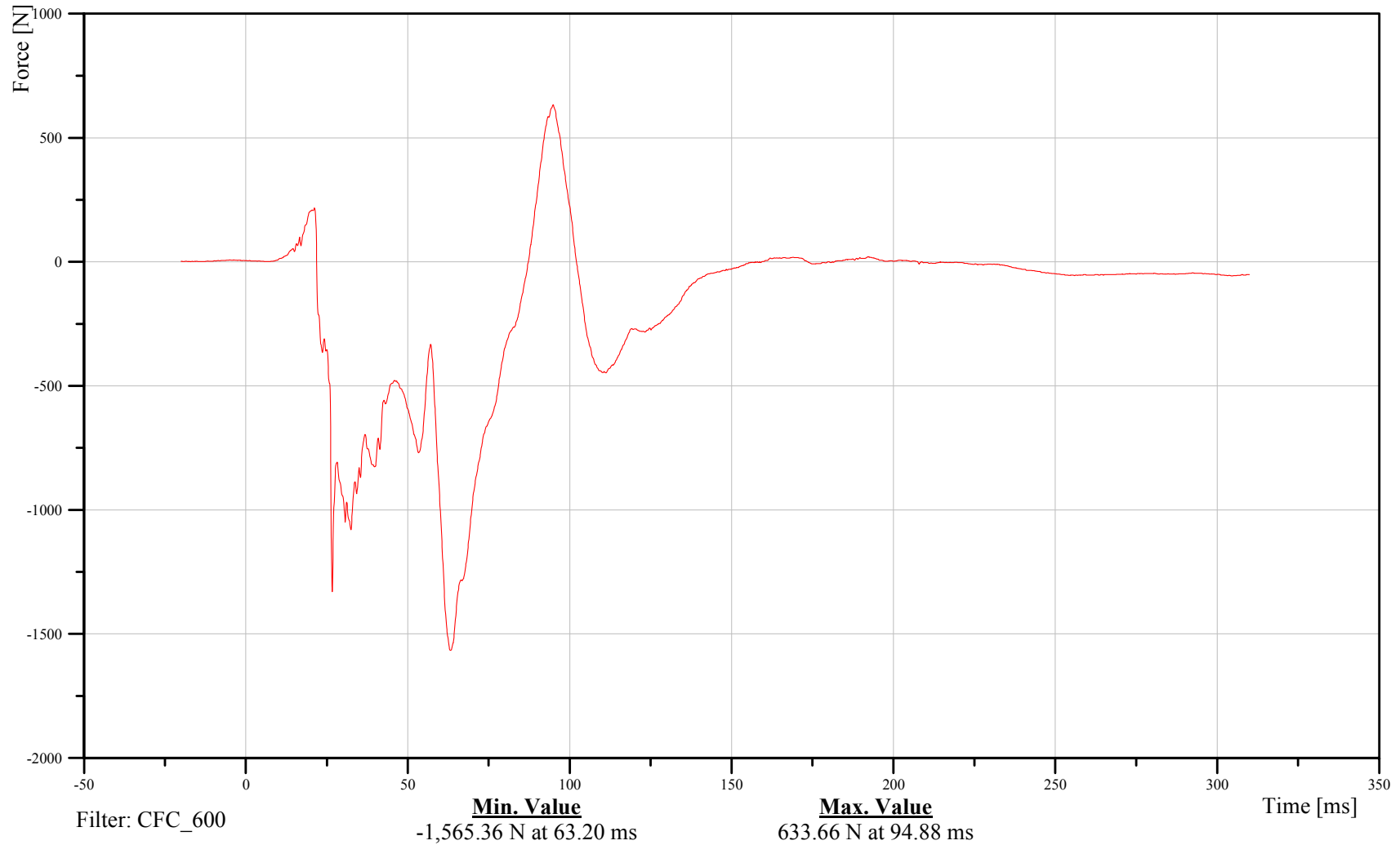
Bullet Driver Right Femur Z-Axis Force

Customer: VRTC

21FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

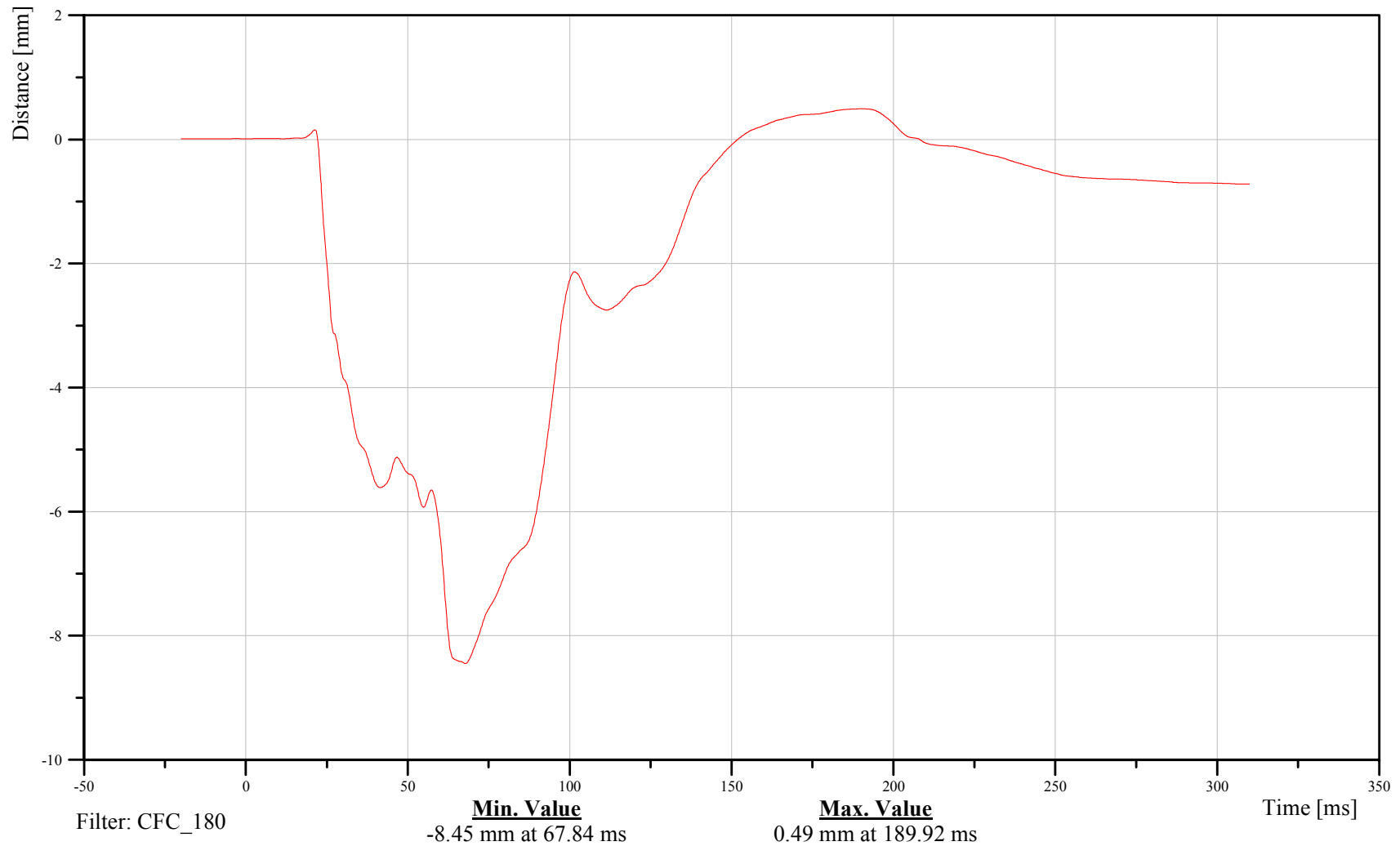
Bullet Driver Right Knee Displacement

Customer: VRTC

21KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Right Upper Tibia X-Axis Force

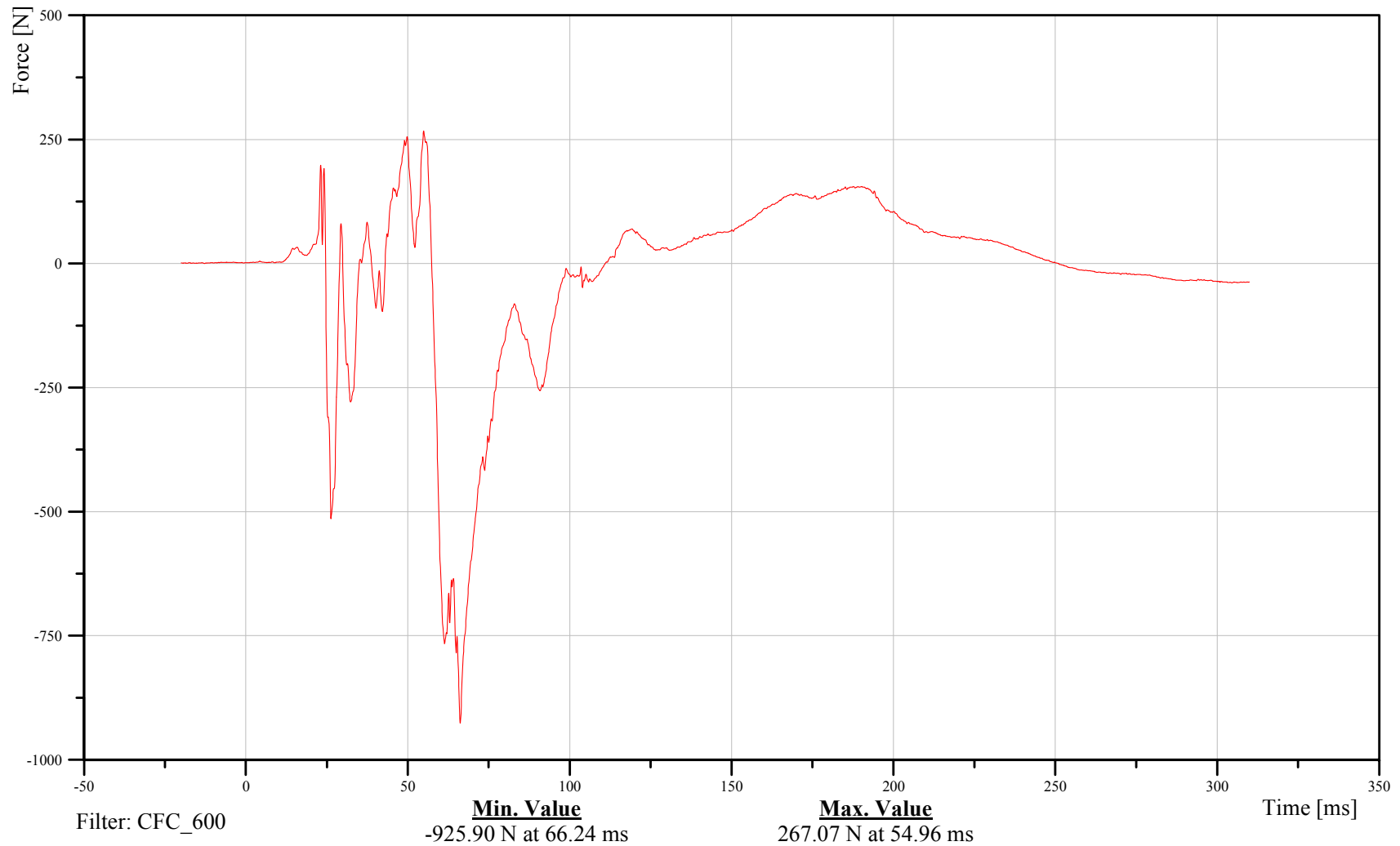
Time: 12:43

Customer: VRTC

21TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

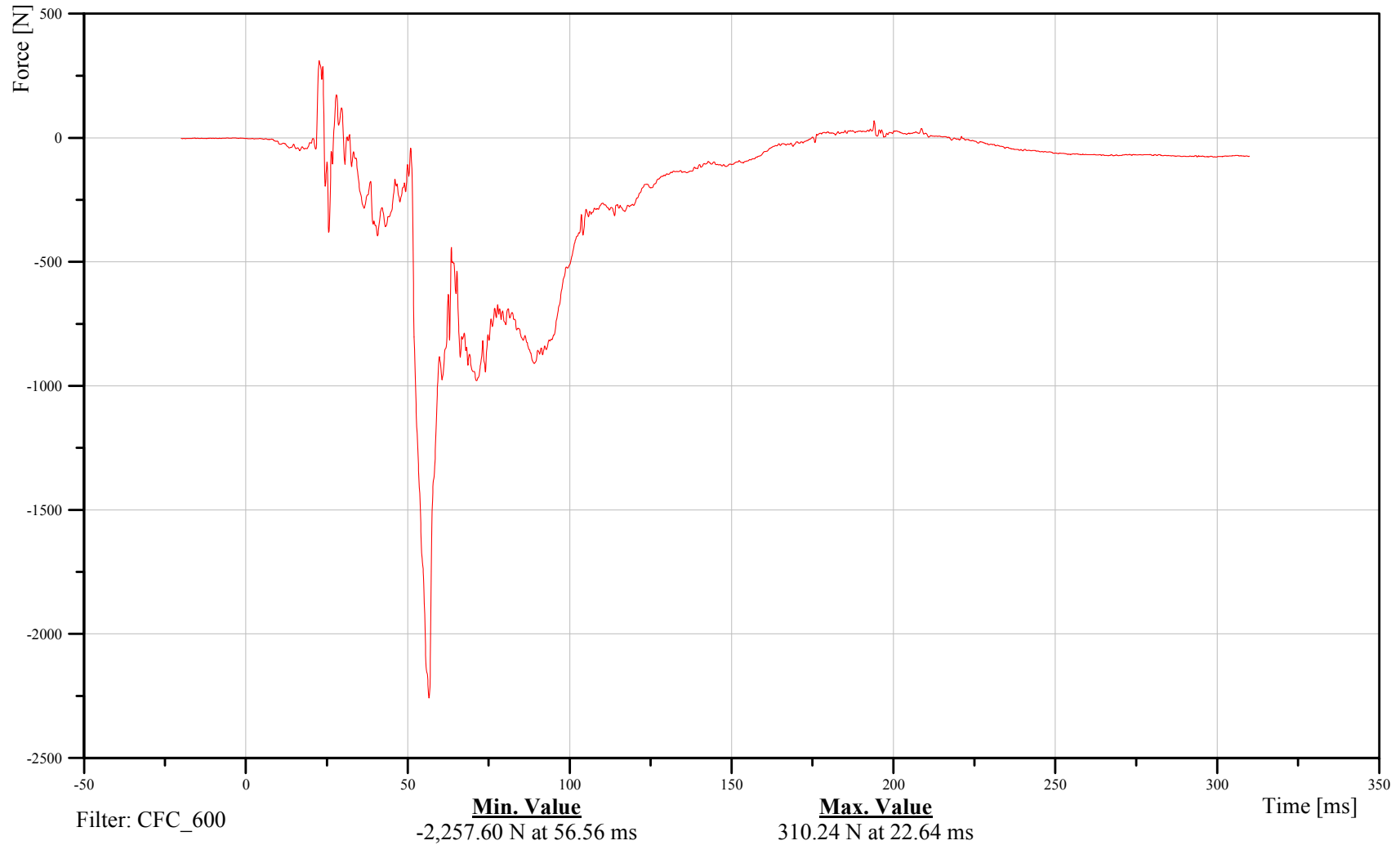
Bullet Driver Right Upper Tibia Z-Axis Force

Customer: VRTC

21TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906



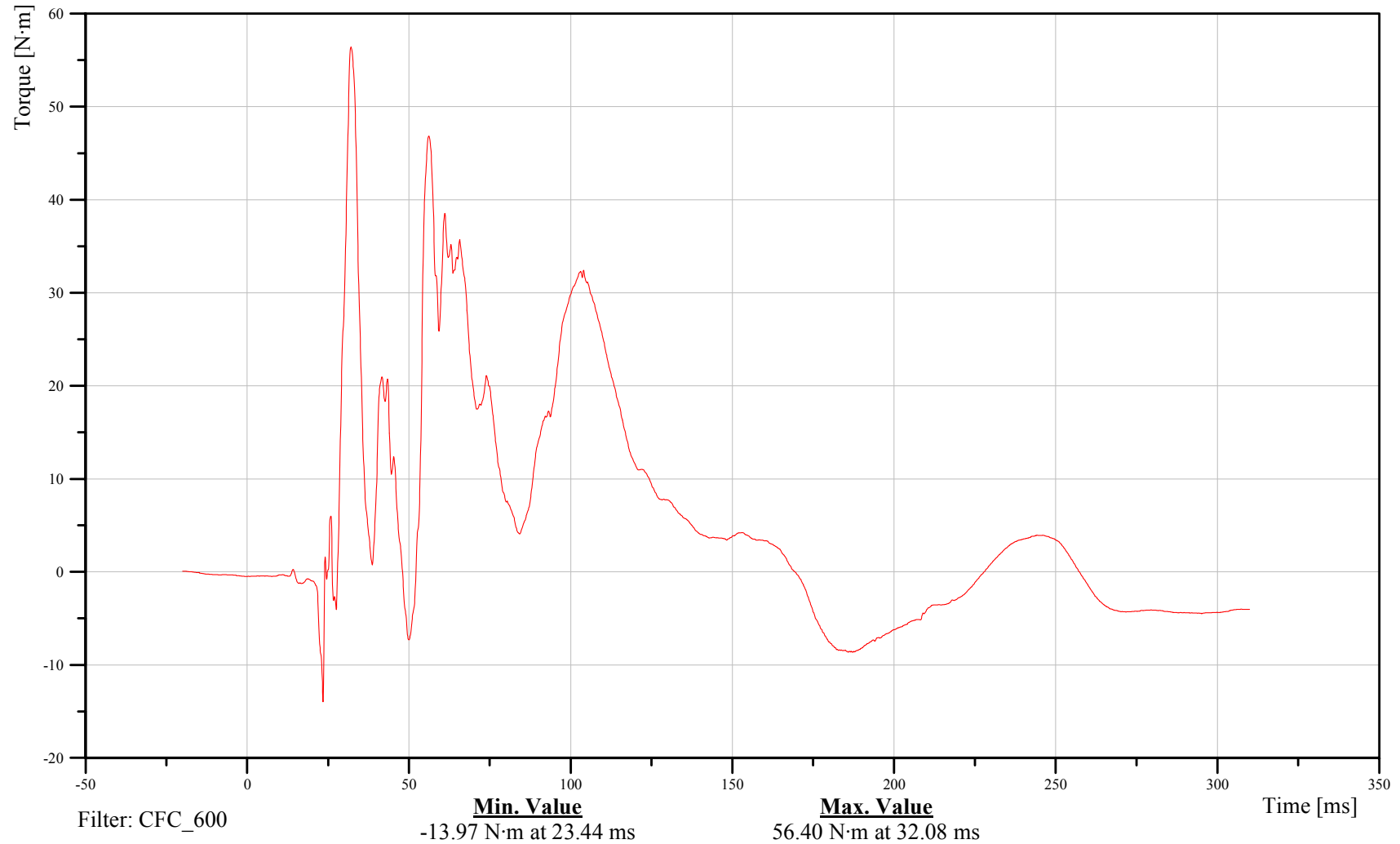


Customer: VRTC

21TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





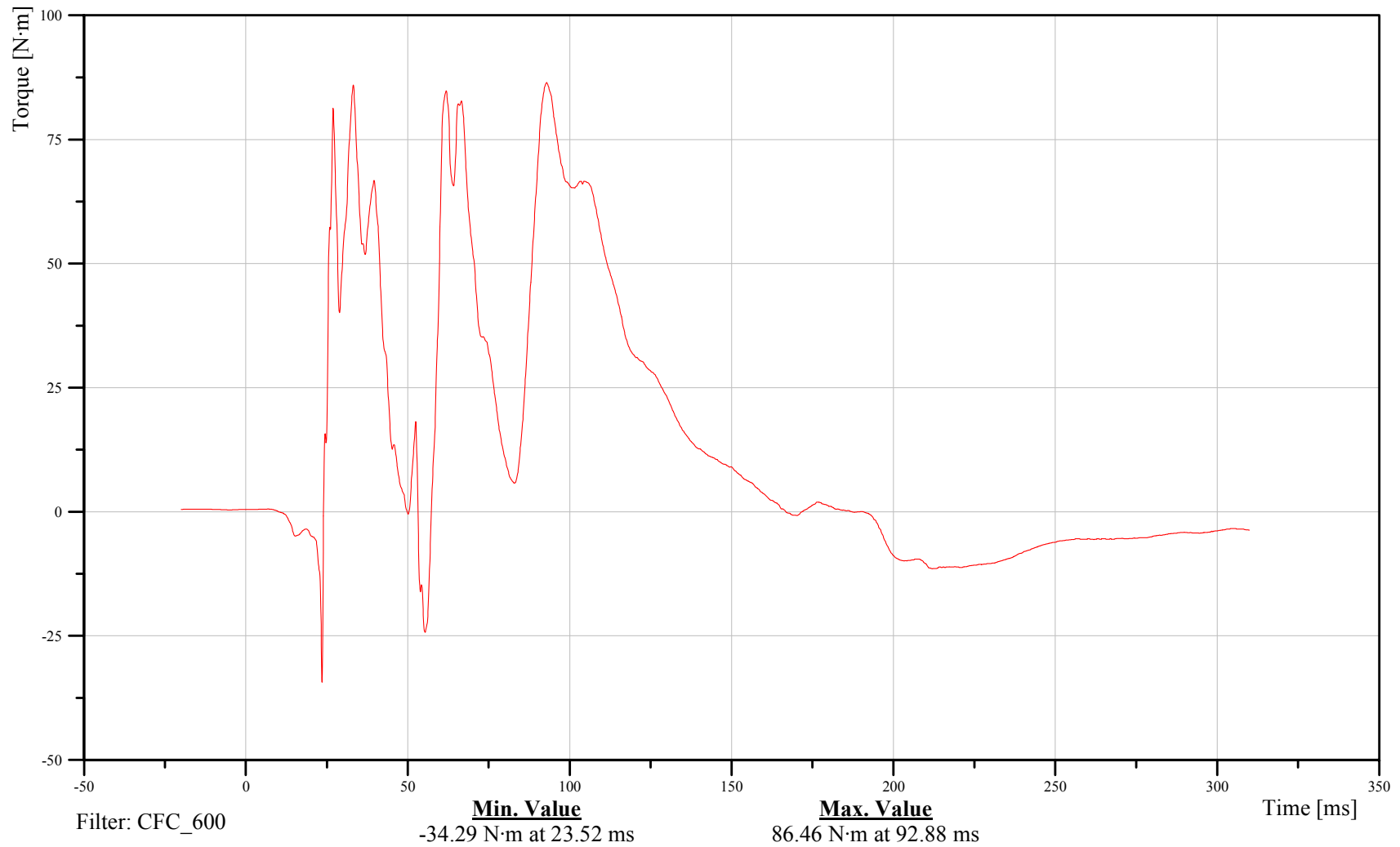
Bullet Driver Right Upper Tibia Moment About Y Axis

Customer: VRTC

21TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

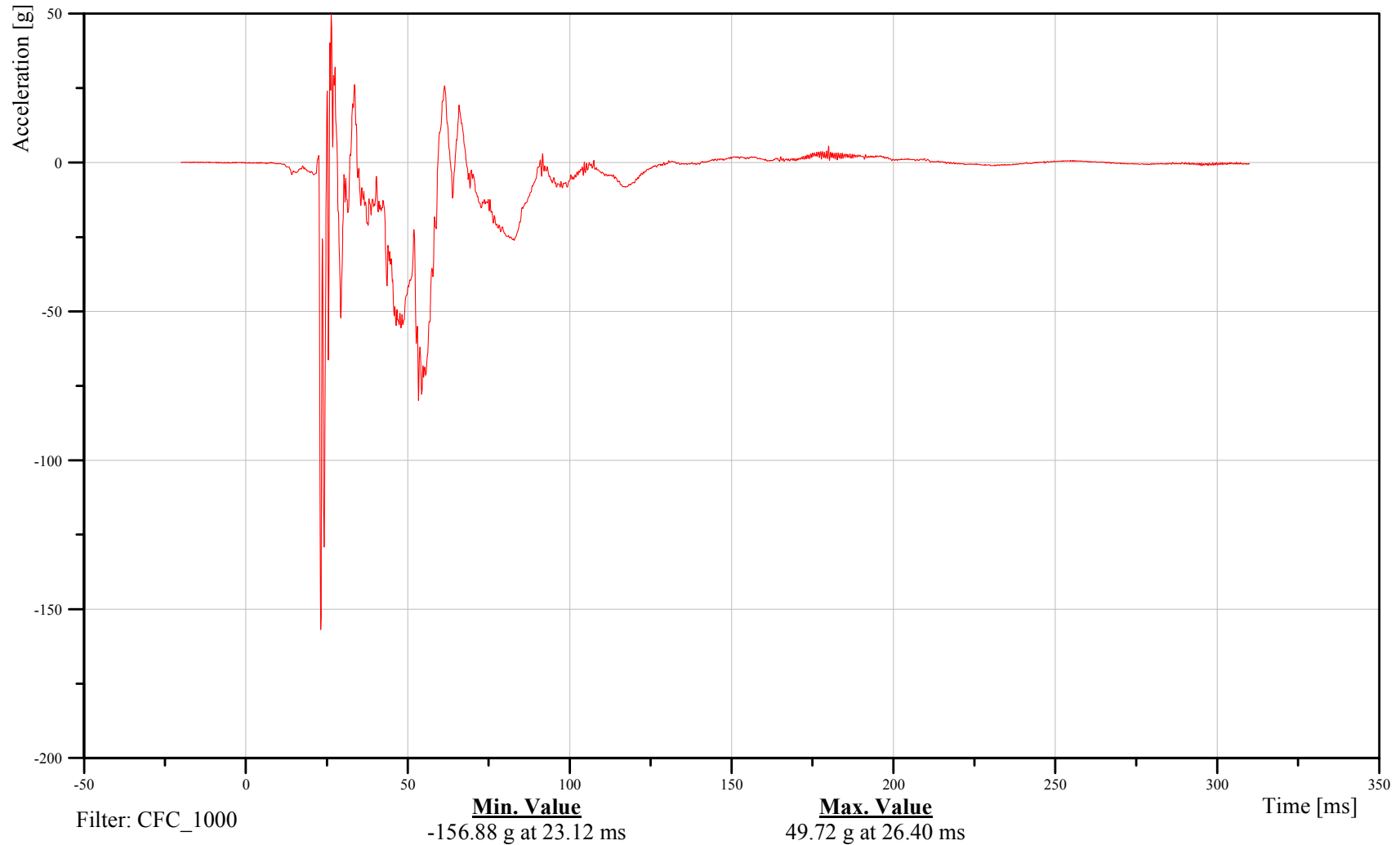
Bullet Driver Right Tibia X-Axis Acceleration

Customer: VRTC

21TIBIRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

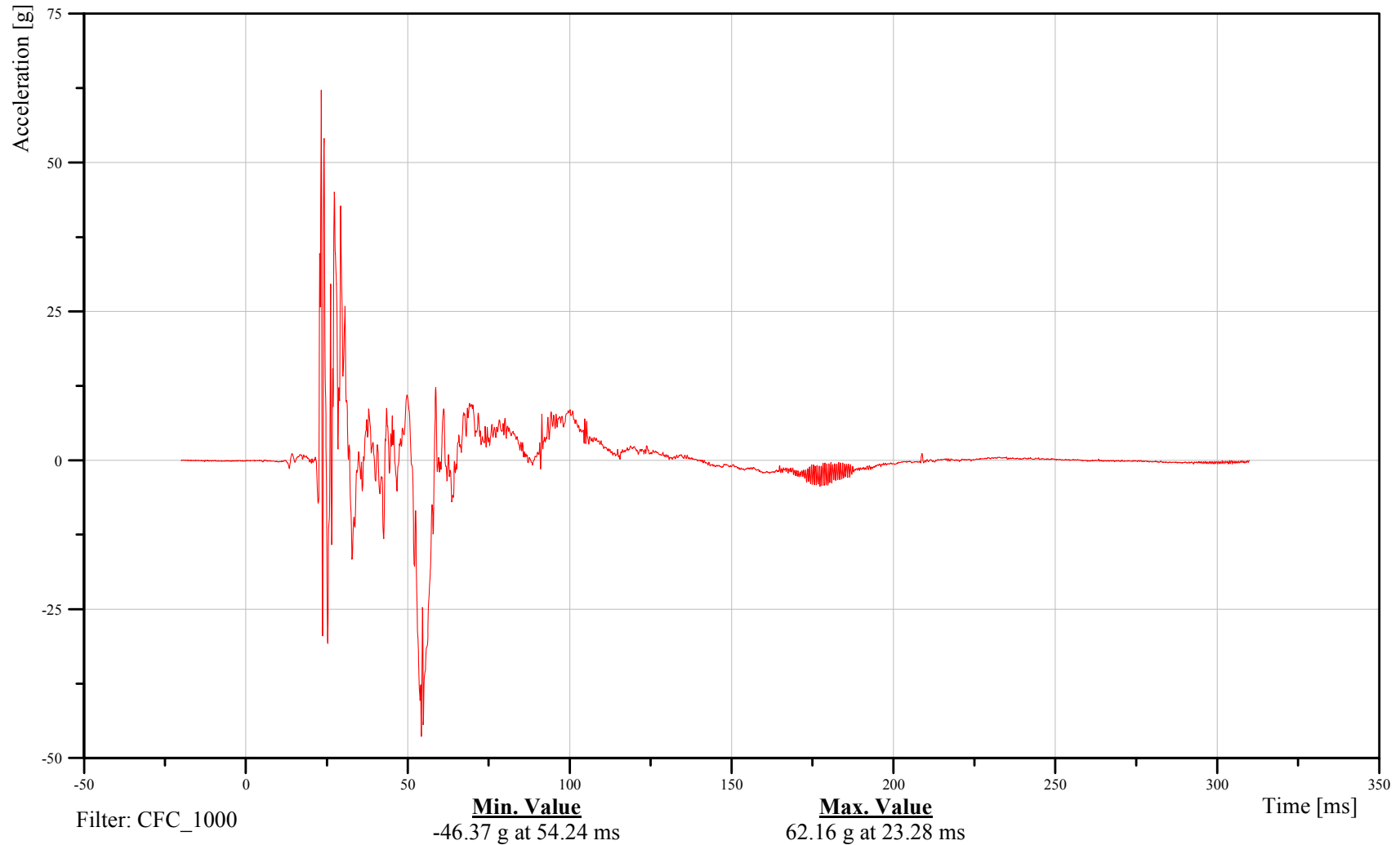
Bullet Driver Right Tibia Y-Axis Acceleration

Customer: VRTC

21TIBIRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

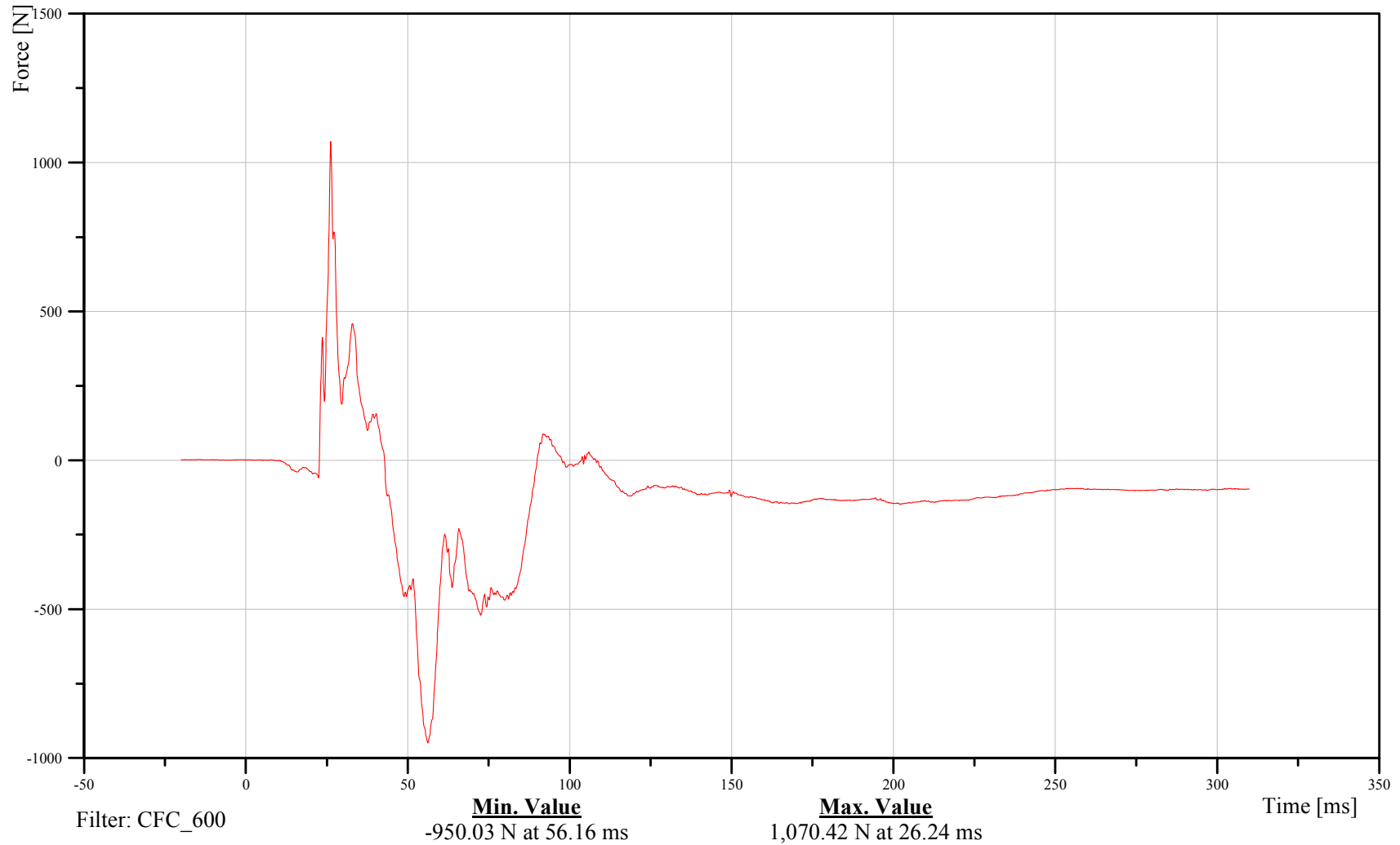
Bullet Driver Right Lower Tibia X-Axis Force

Customer: VRTC

21TIBIRLLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

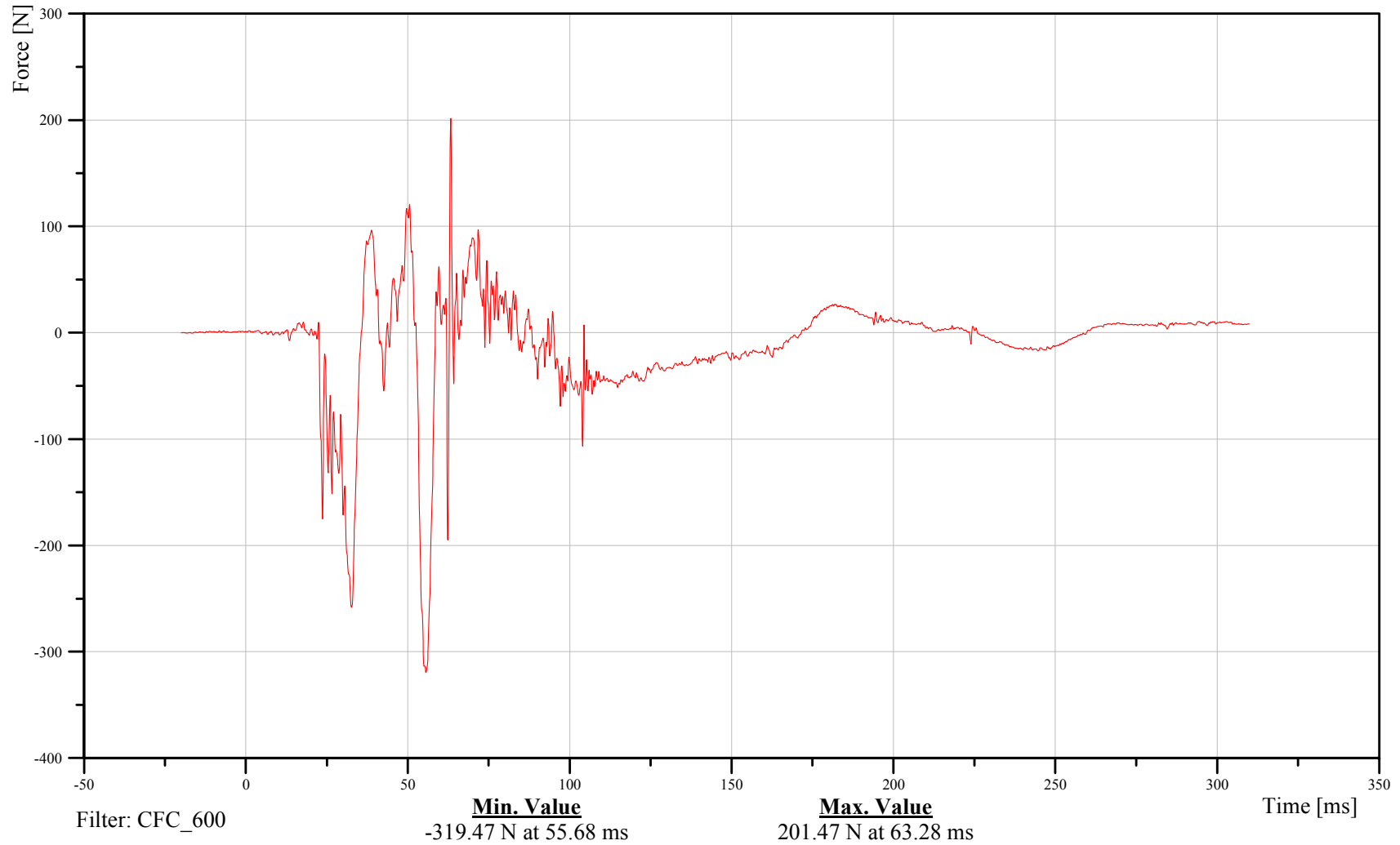
Bullet Driver Right Lower Tibia Y-Axis Force

Customer: VRTC

21TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

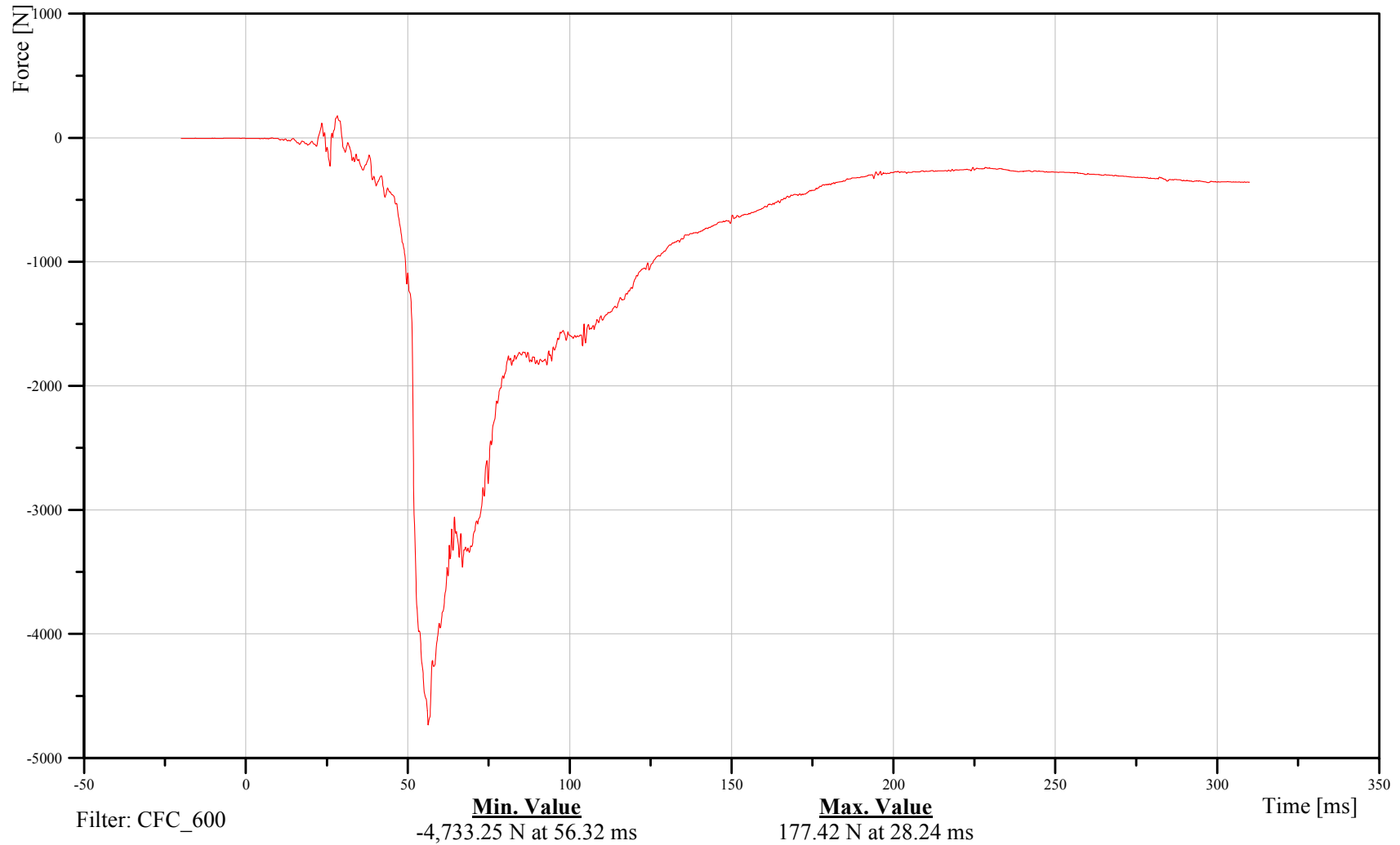
Bullet Driver Right Lower Tibia Z-Axis Force

Customer: VRTC

21TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906



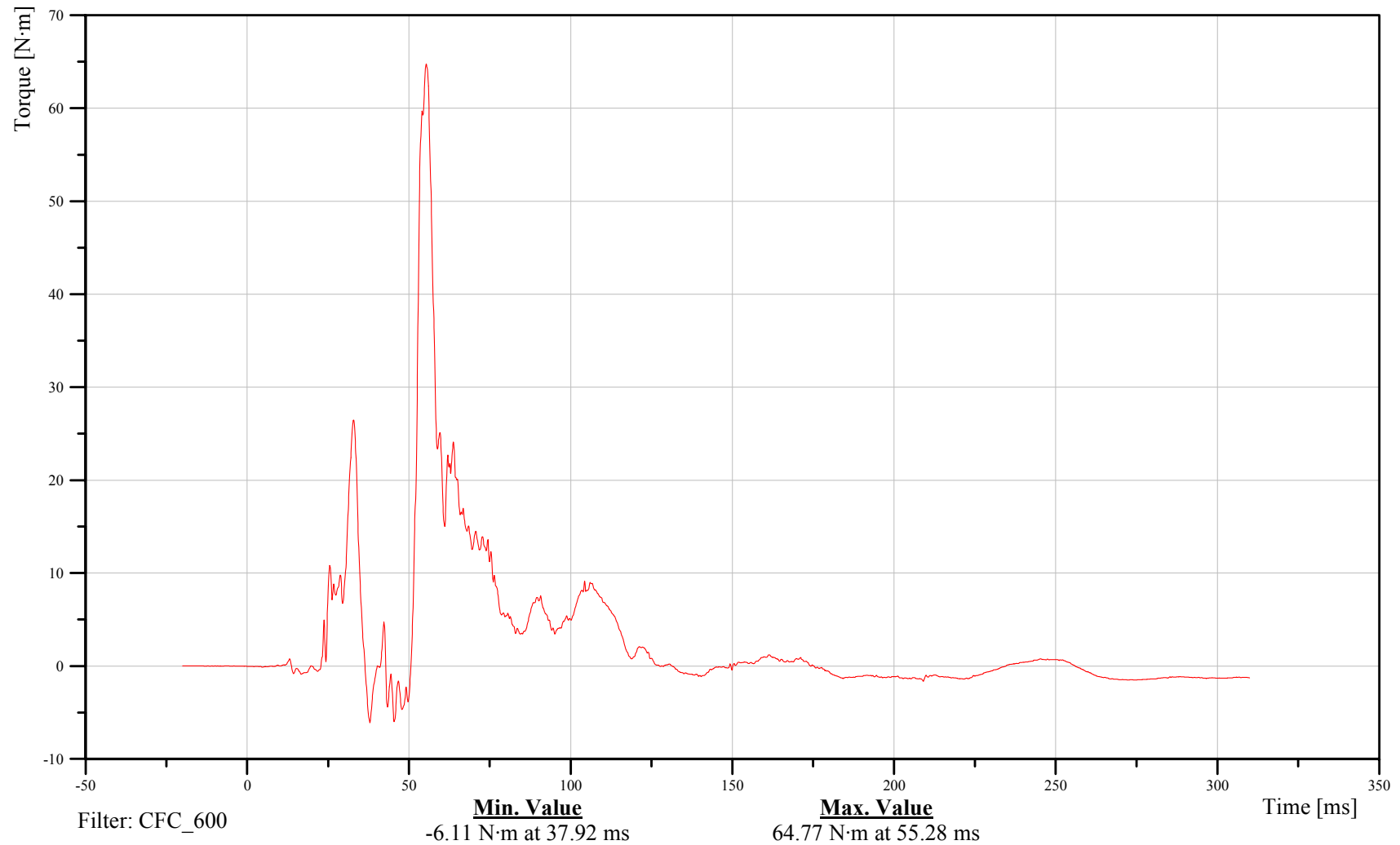


Customer: VRTC

21TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906



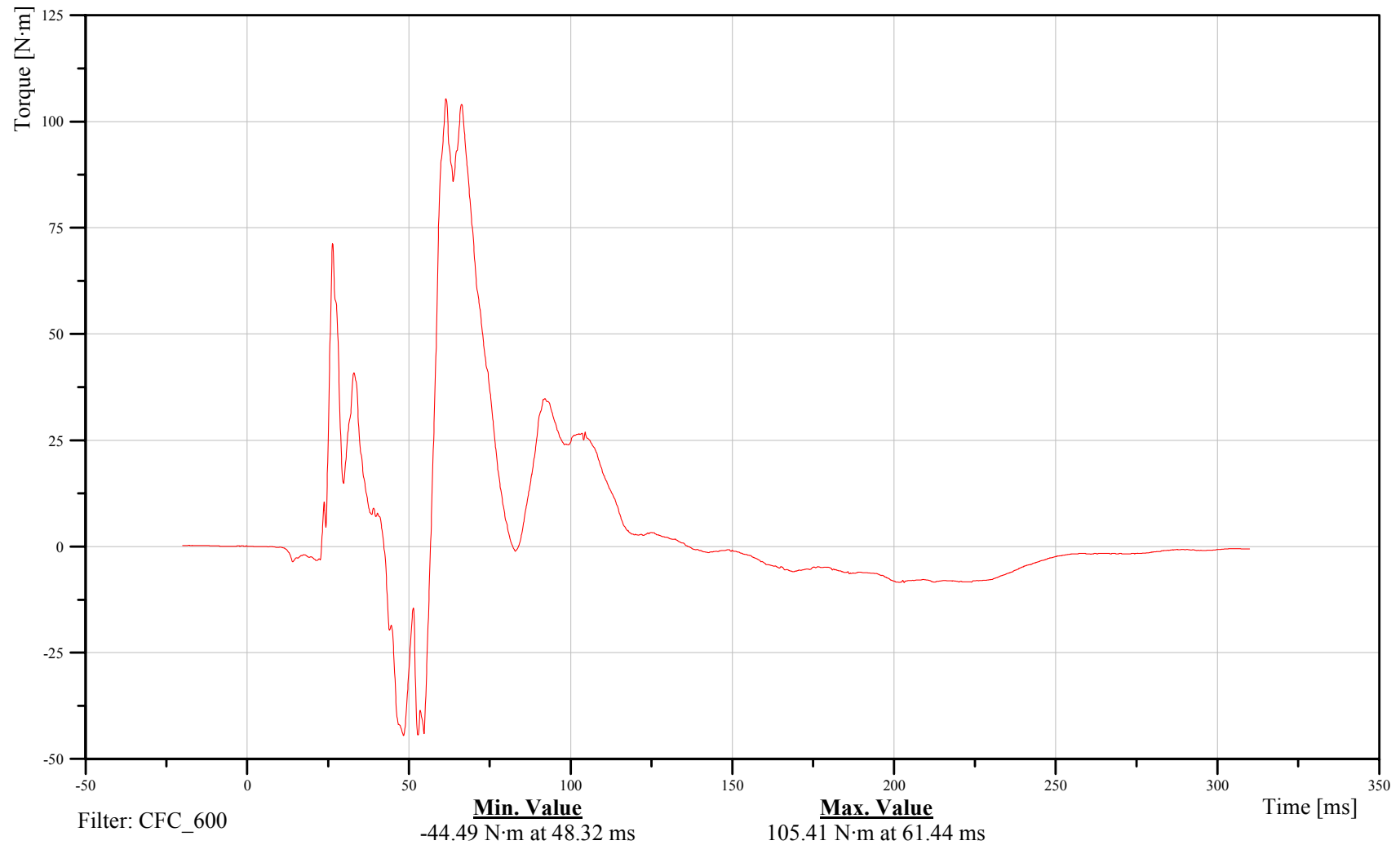


Customer: VRTC

21TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





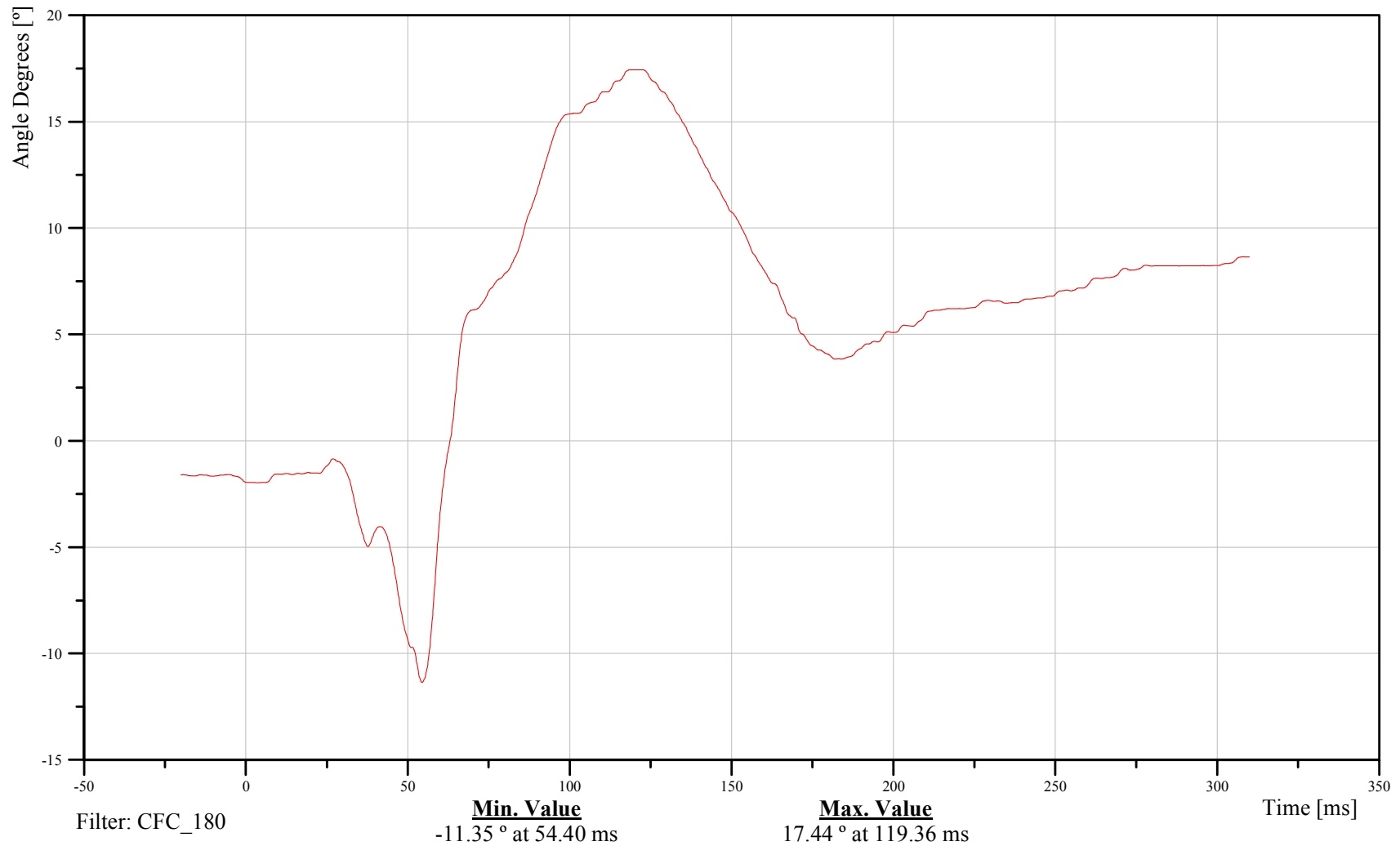
Bullet Driver Right Foot X-Axis Rotation

Customer: VRTC

21FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

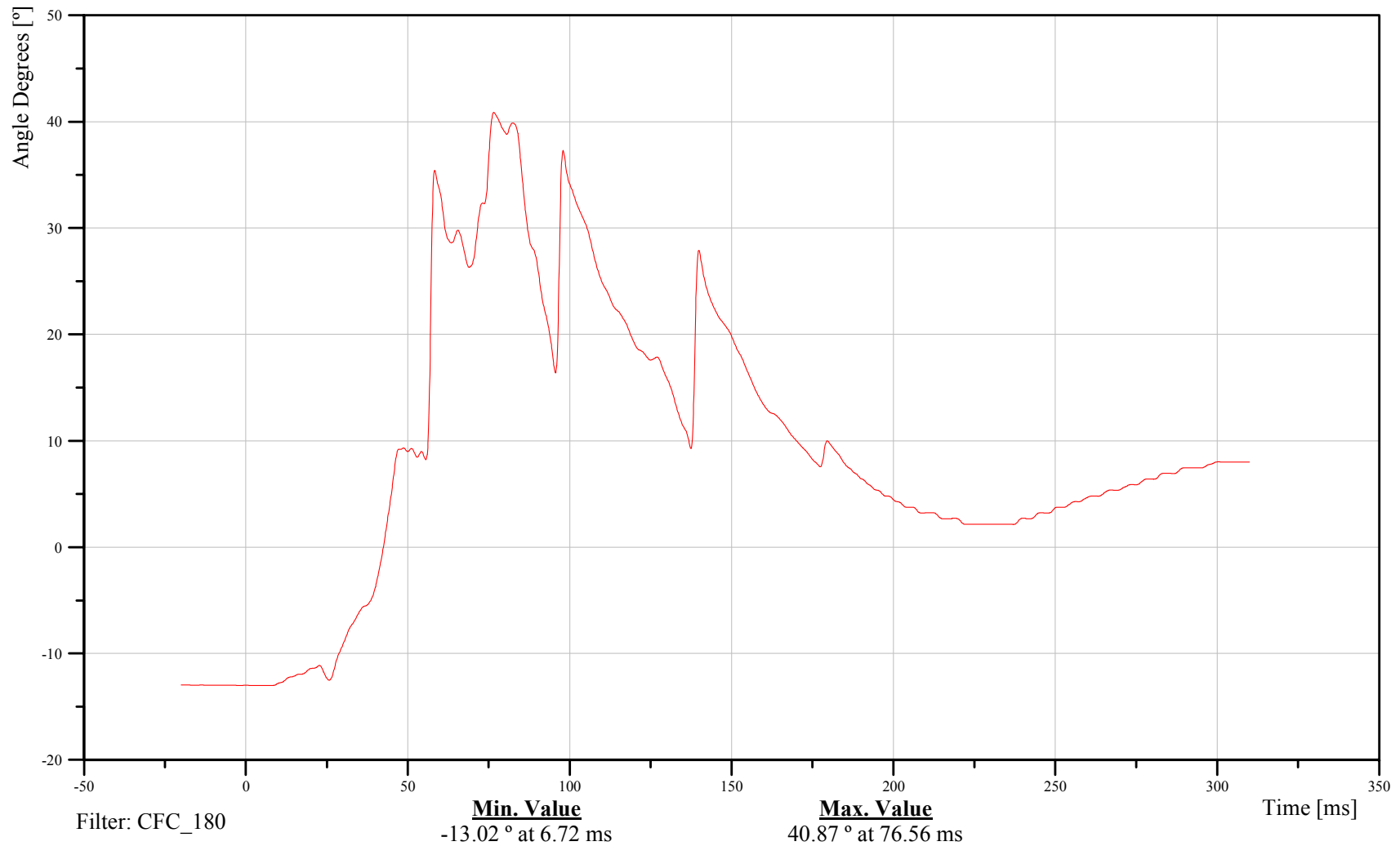
Bullet Driver Right Foot Y-Axis Rotation

Customer: VRTC

21FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

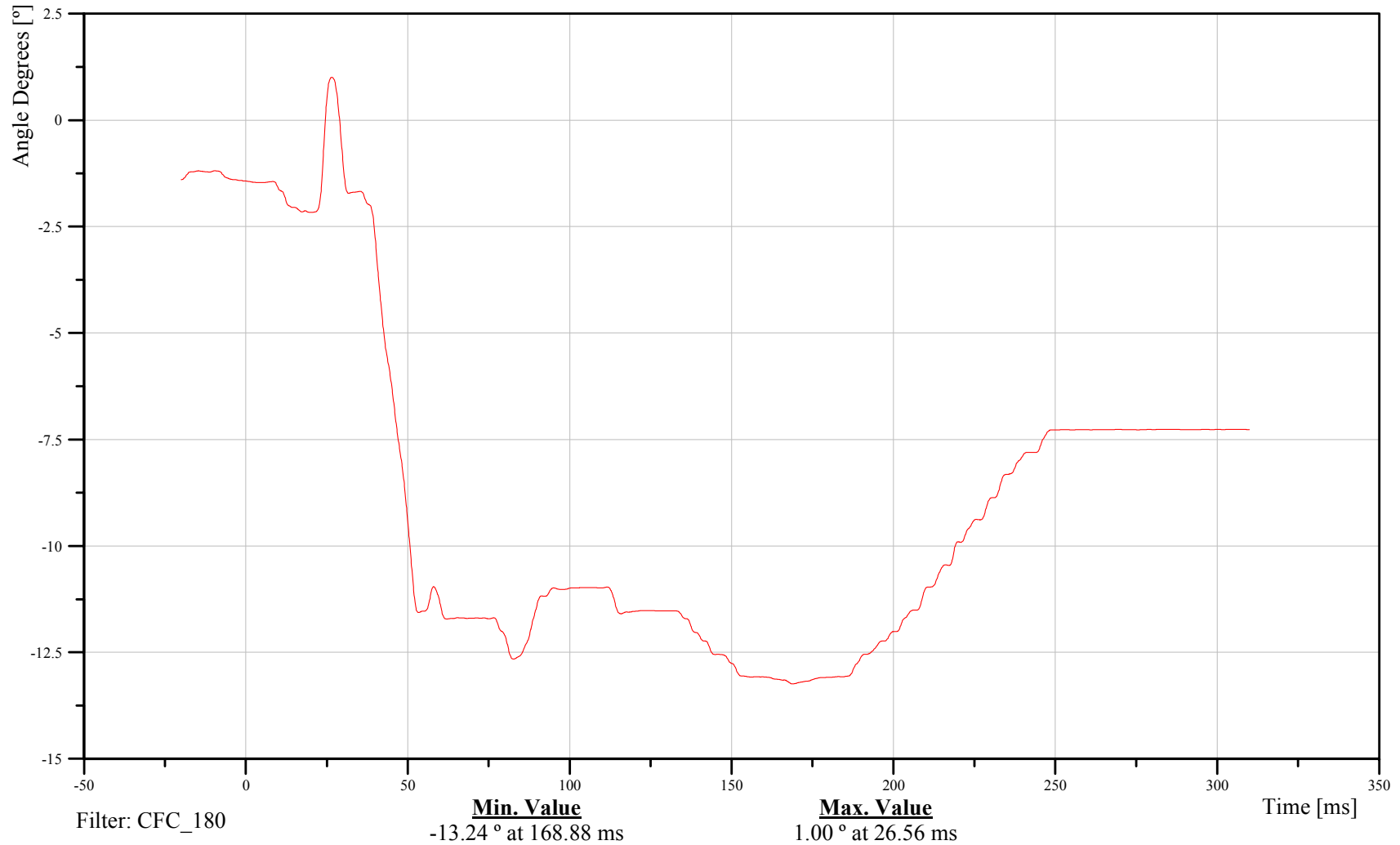
Bullet Driver Right Foot Z-Axis Rotation

Customer: VRTC

21FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Driver Right Foot X-Axis Acceleration

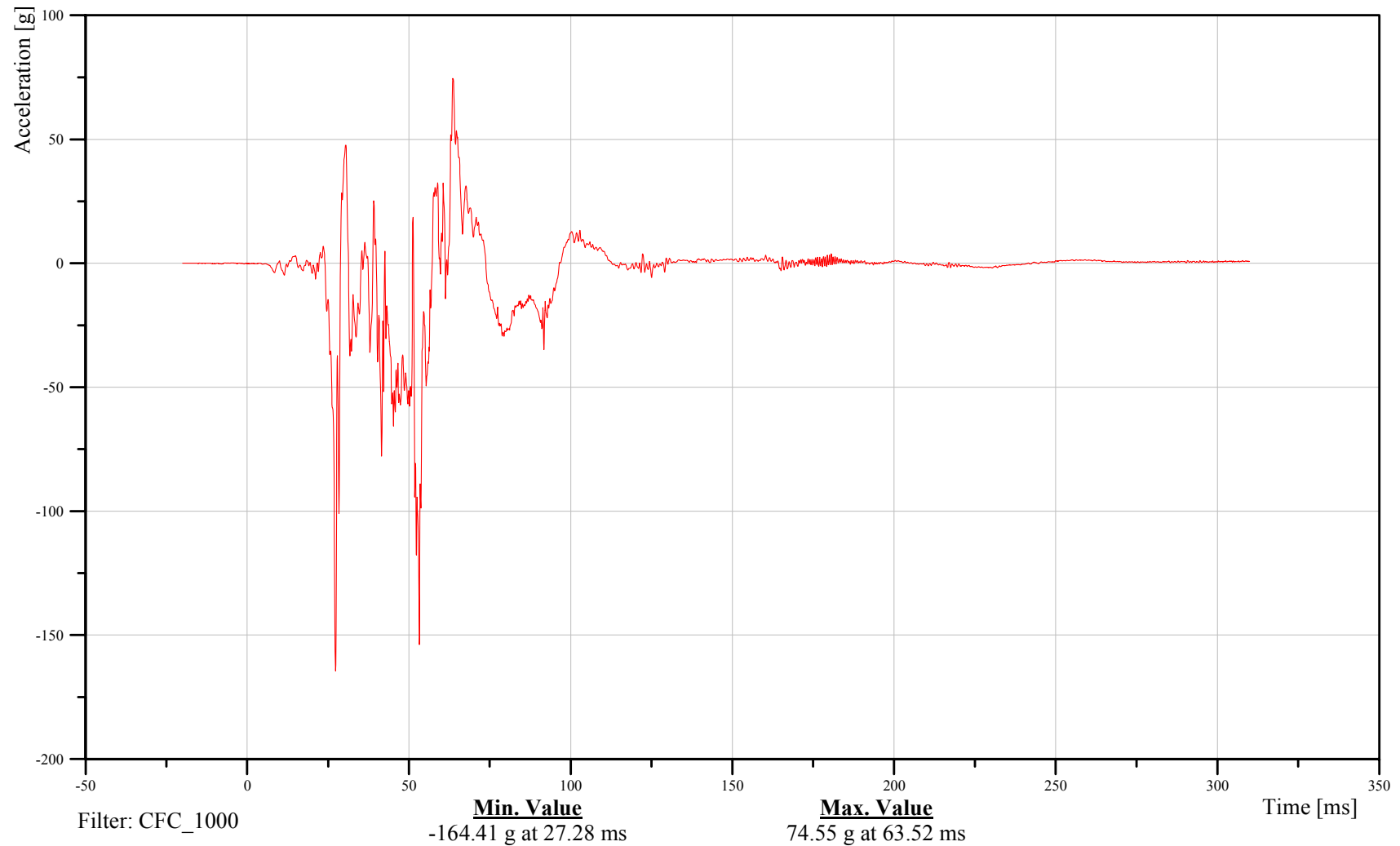
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Customer: VRTC

21FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





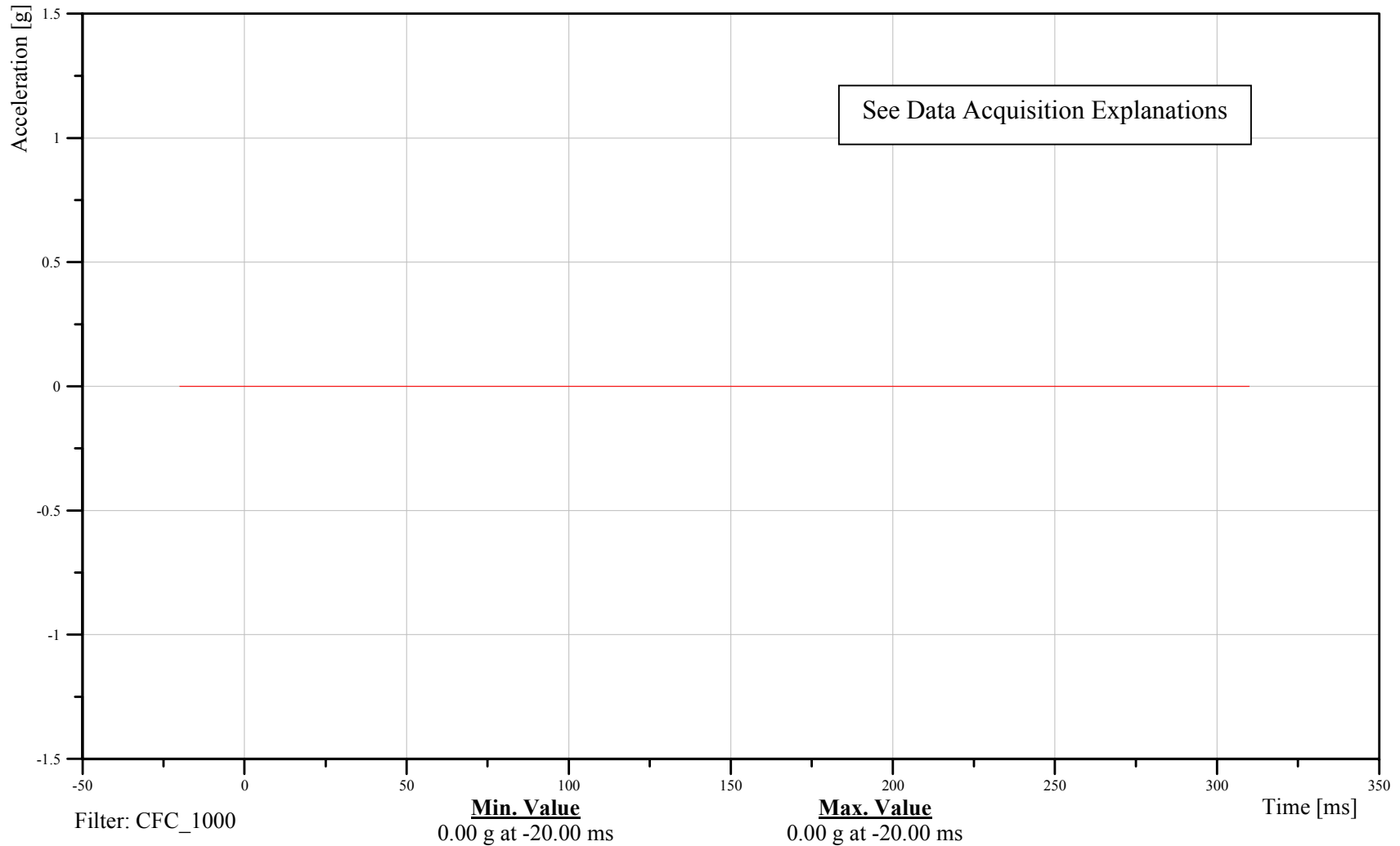
Bullet Driver Right Foot Y-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

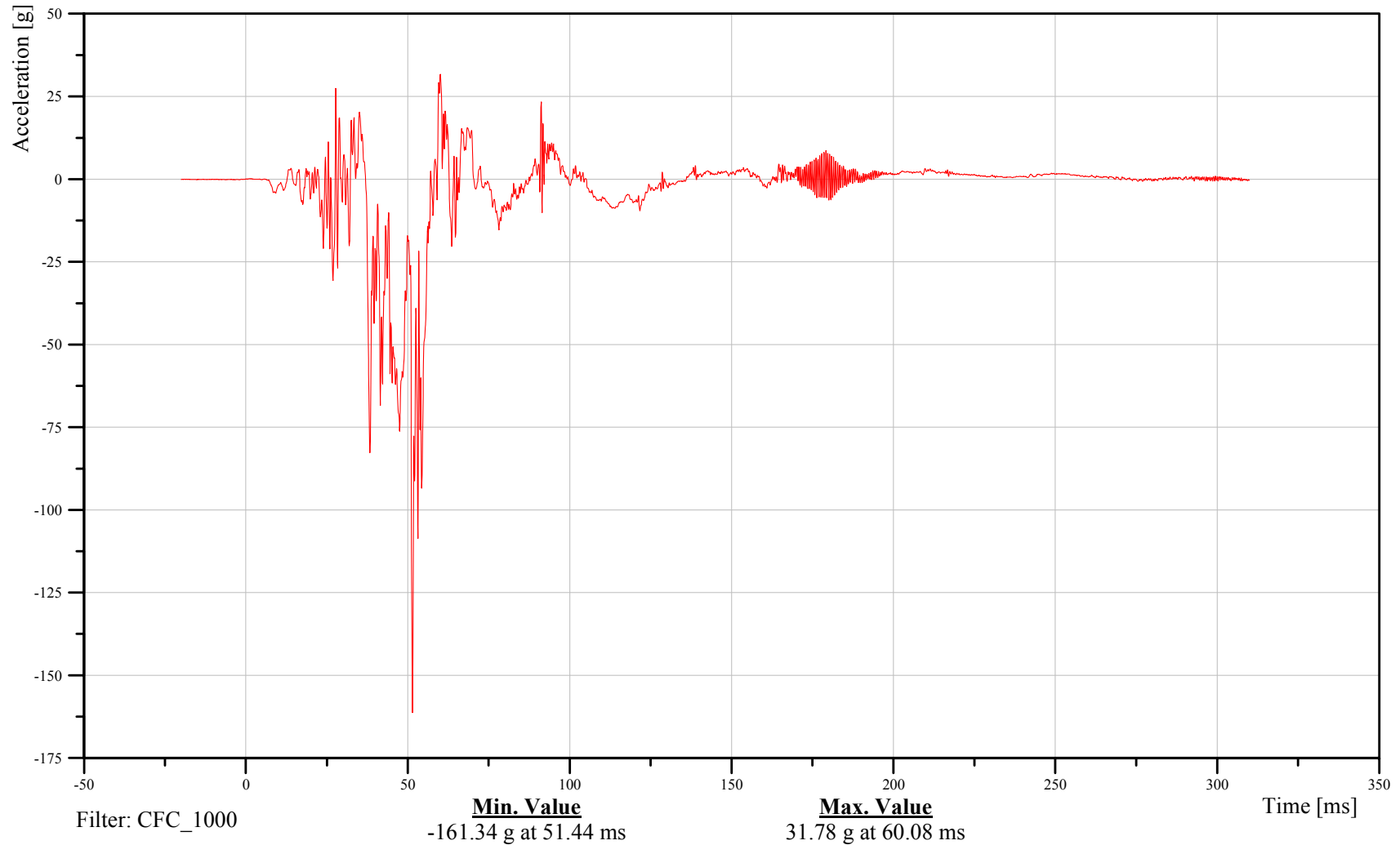
Bullet Driver Right Foot Z-Axis Acceleration

Customer: VRTC

21FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





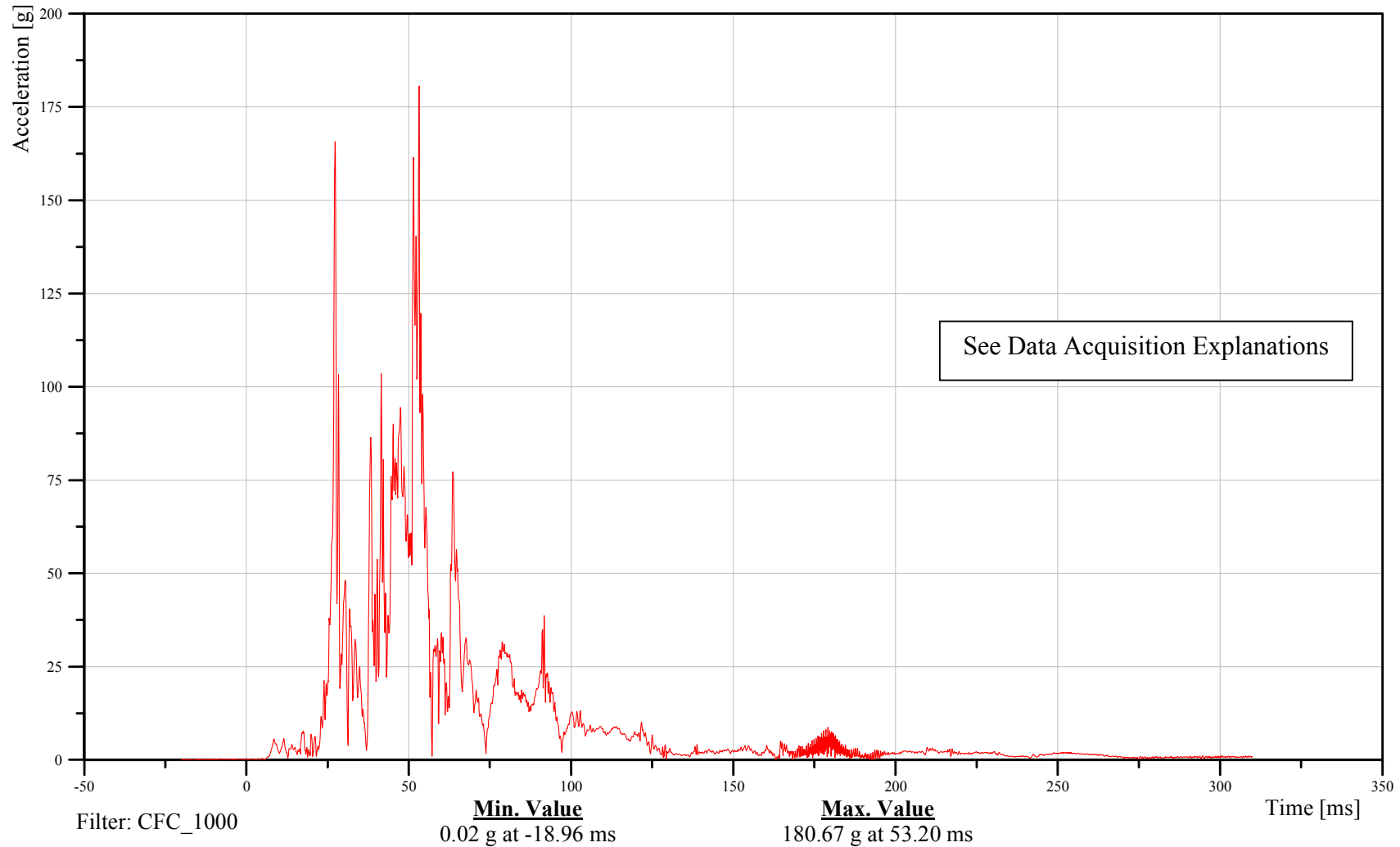
Bullet Driver Right Foot Resultant Acceleration

Customer: VRTC

21FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

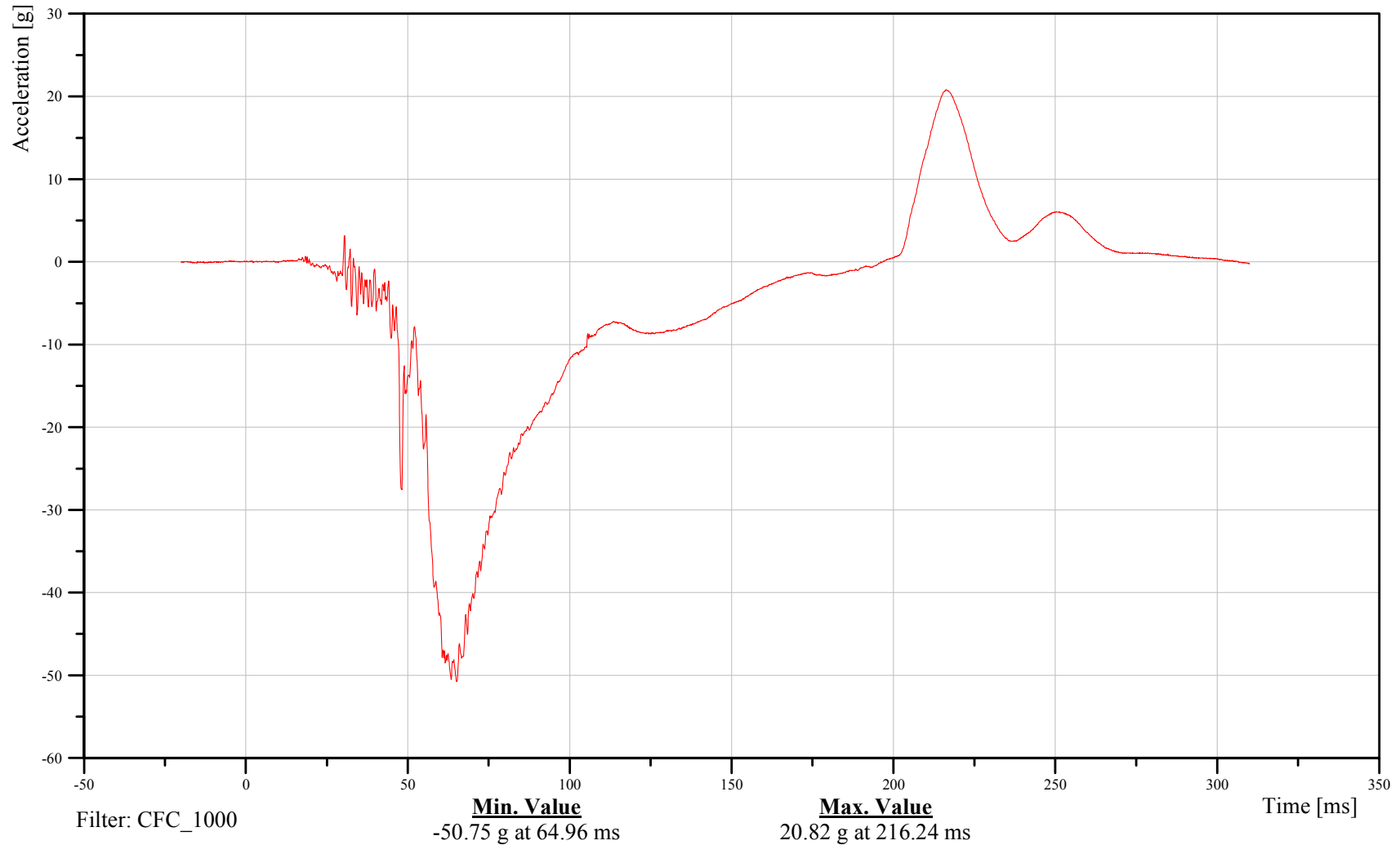
Bullet Passenger Head CG X-Axis Acceleration

Customer: VRTC

23HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

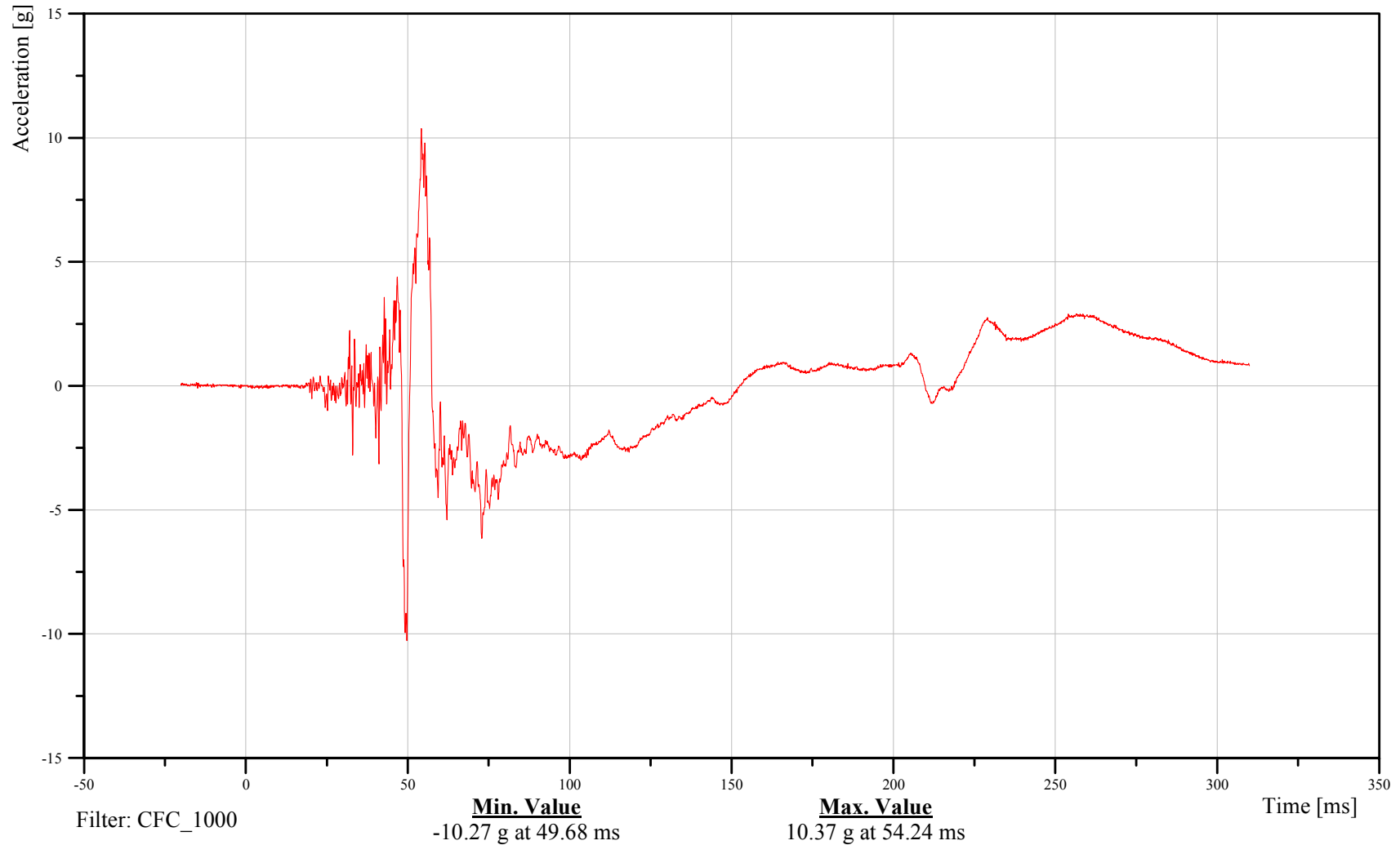
Bullet Passenger Head CG Y-Axis Acceleration

Customer: VRTC

23HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





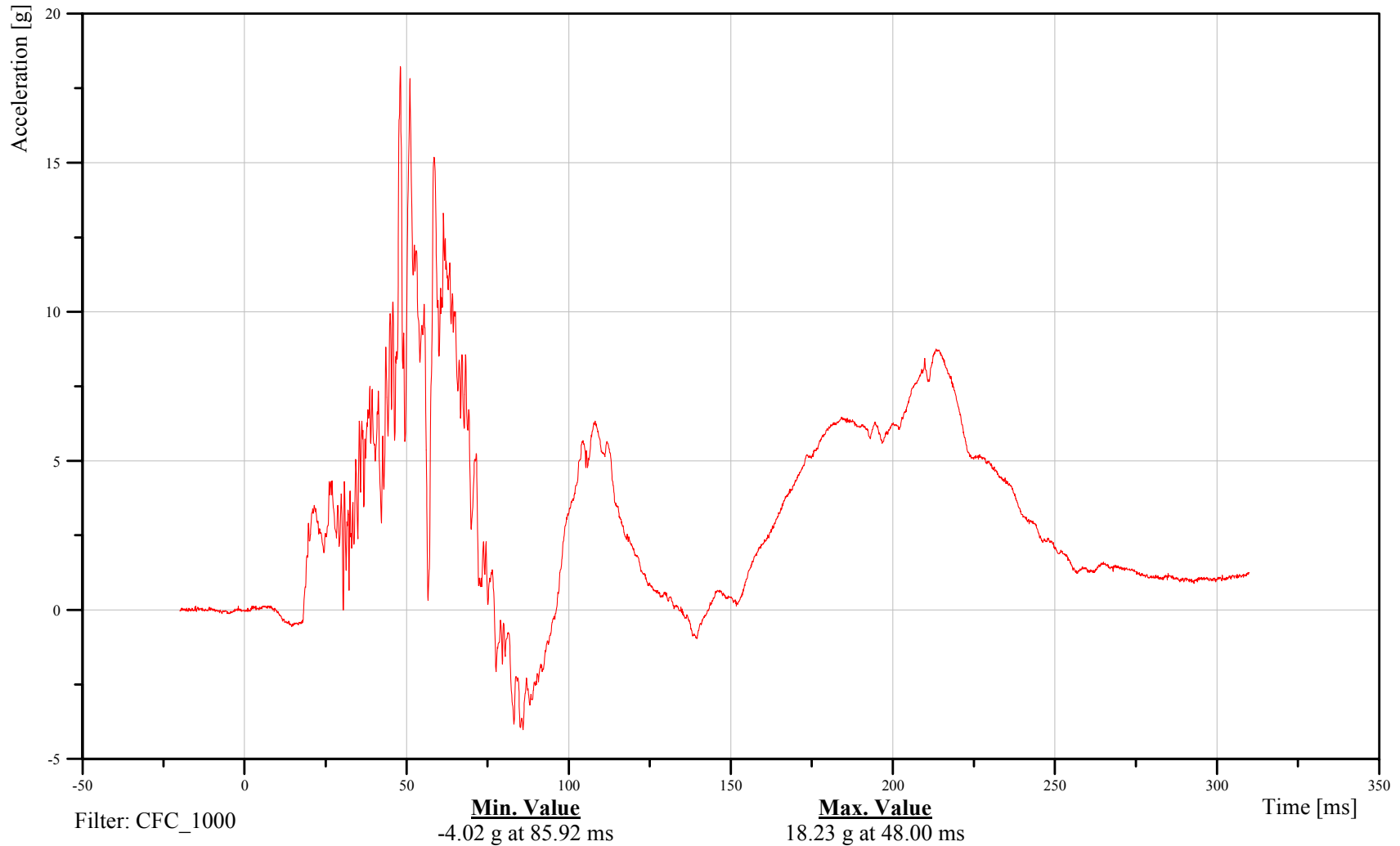
Bullet Passenger Head CG Z-Axis Acceleration

Customer: VRTC

23HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

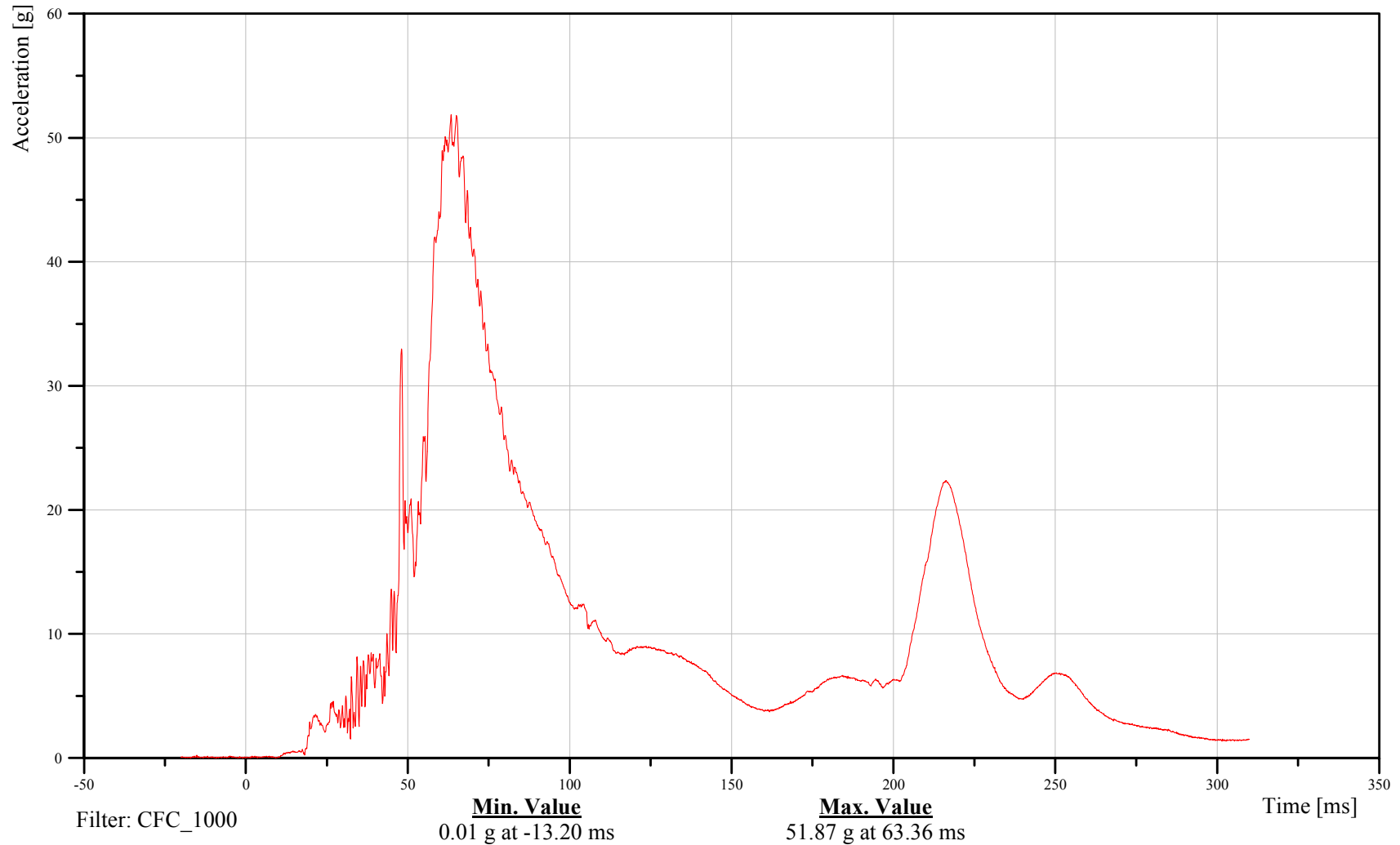
Bullet Passenger Head CG Resultant Acceleration

Customer: VRTC

23HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

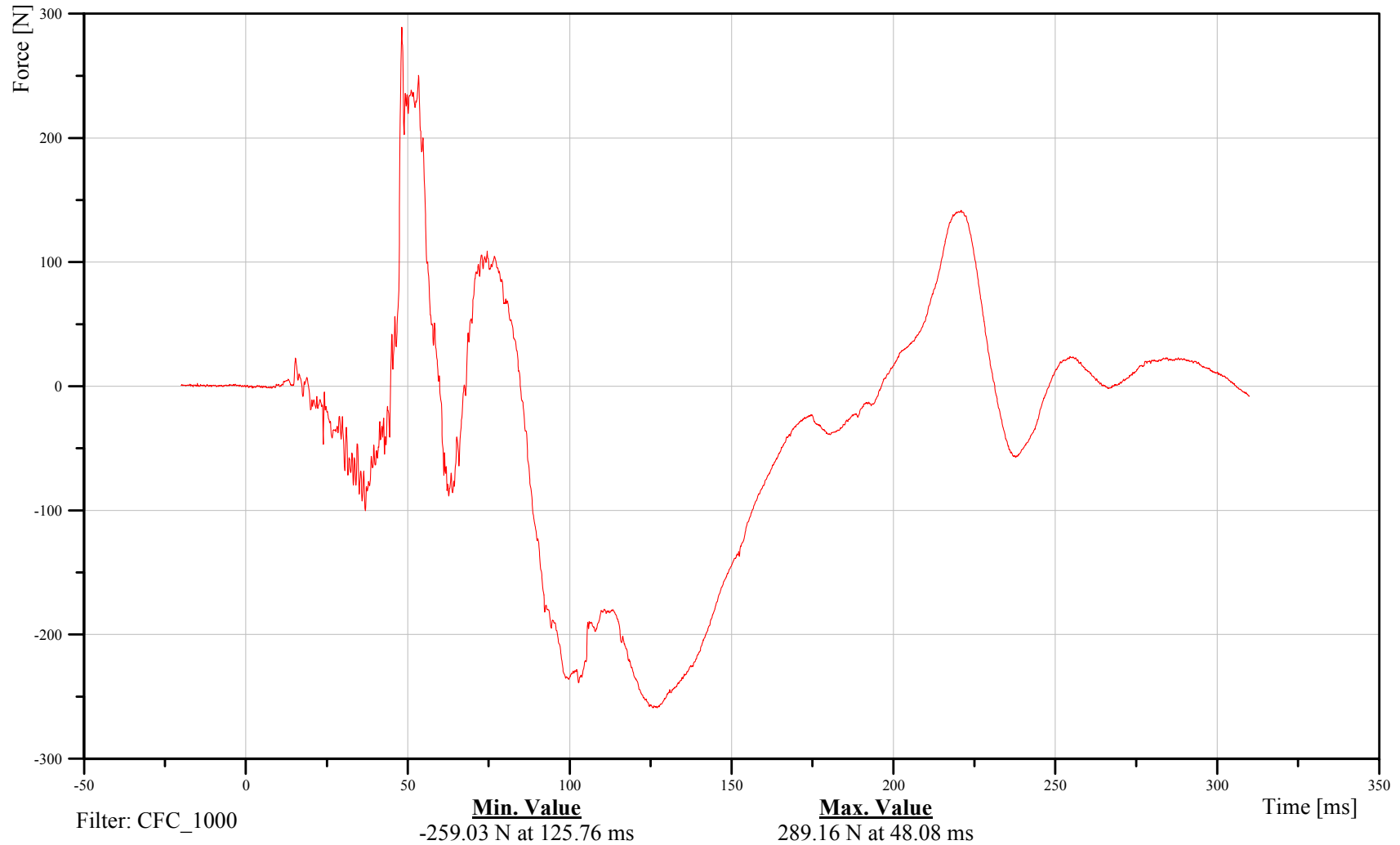
Bullet Passenger Upper Neck X-Axis Force

Customer: VRTC

23NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

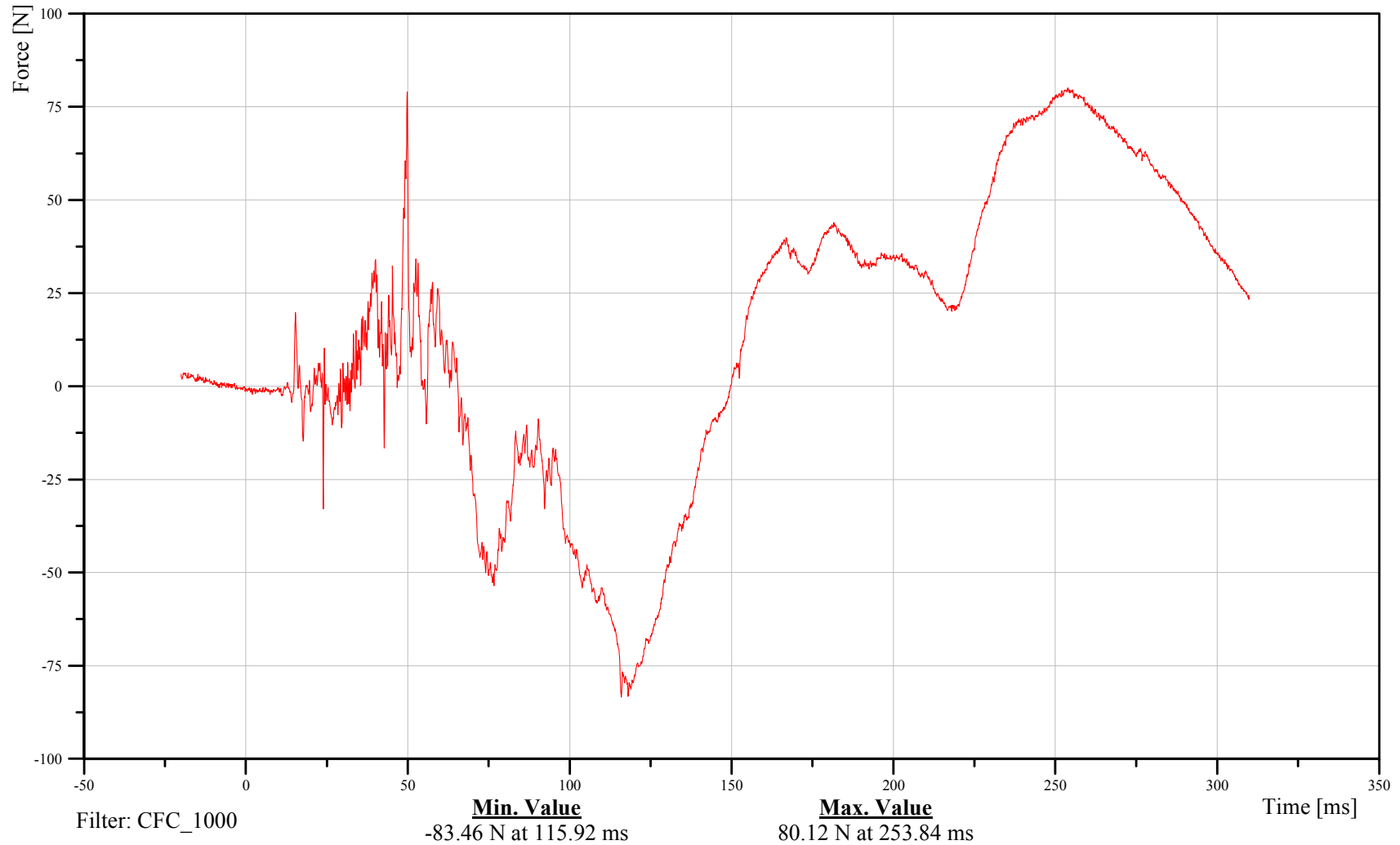
Bullet Passenger Upper Neck Y-Axis Force

Customer: VRTC

23NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

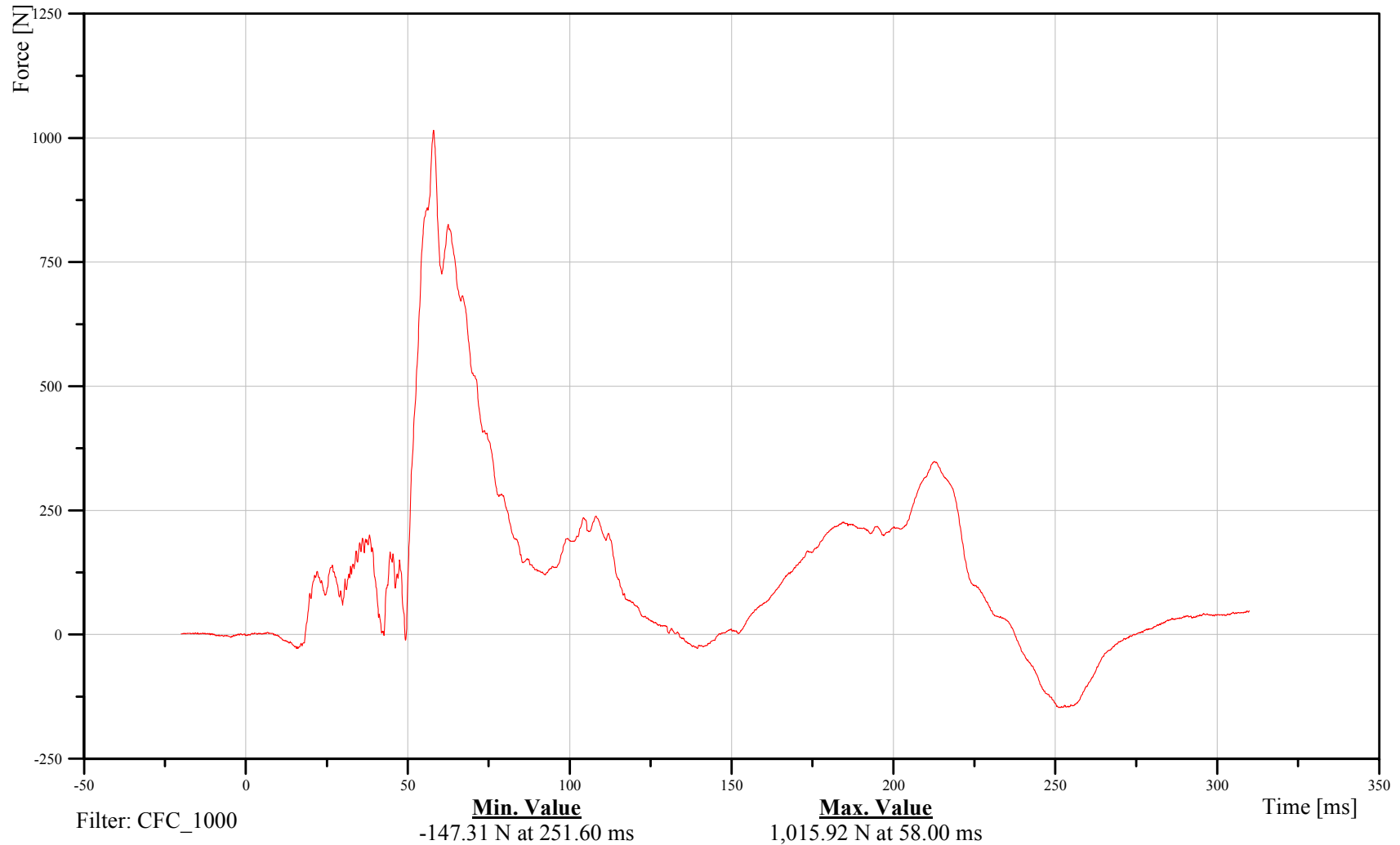
Bullet Passenger Upper Neck Z-Axis Force

Customer: VRTC

23NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





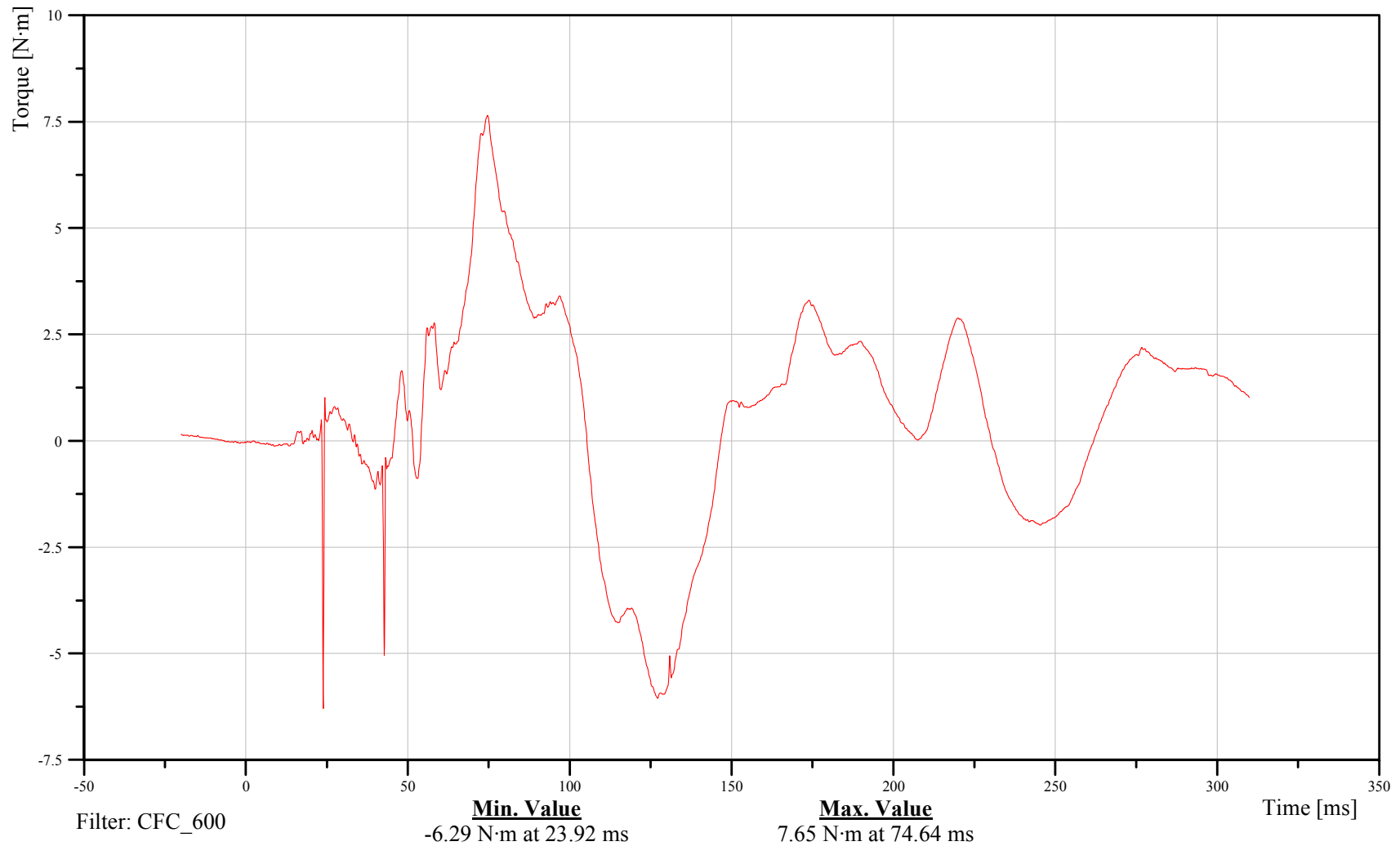
Bullet Passenger Upper Neck Moment About X Axis

Customer: VRTC

23NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





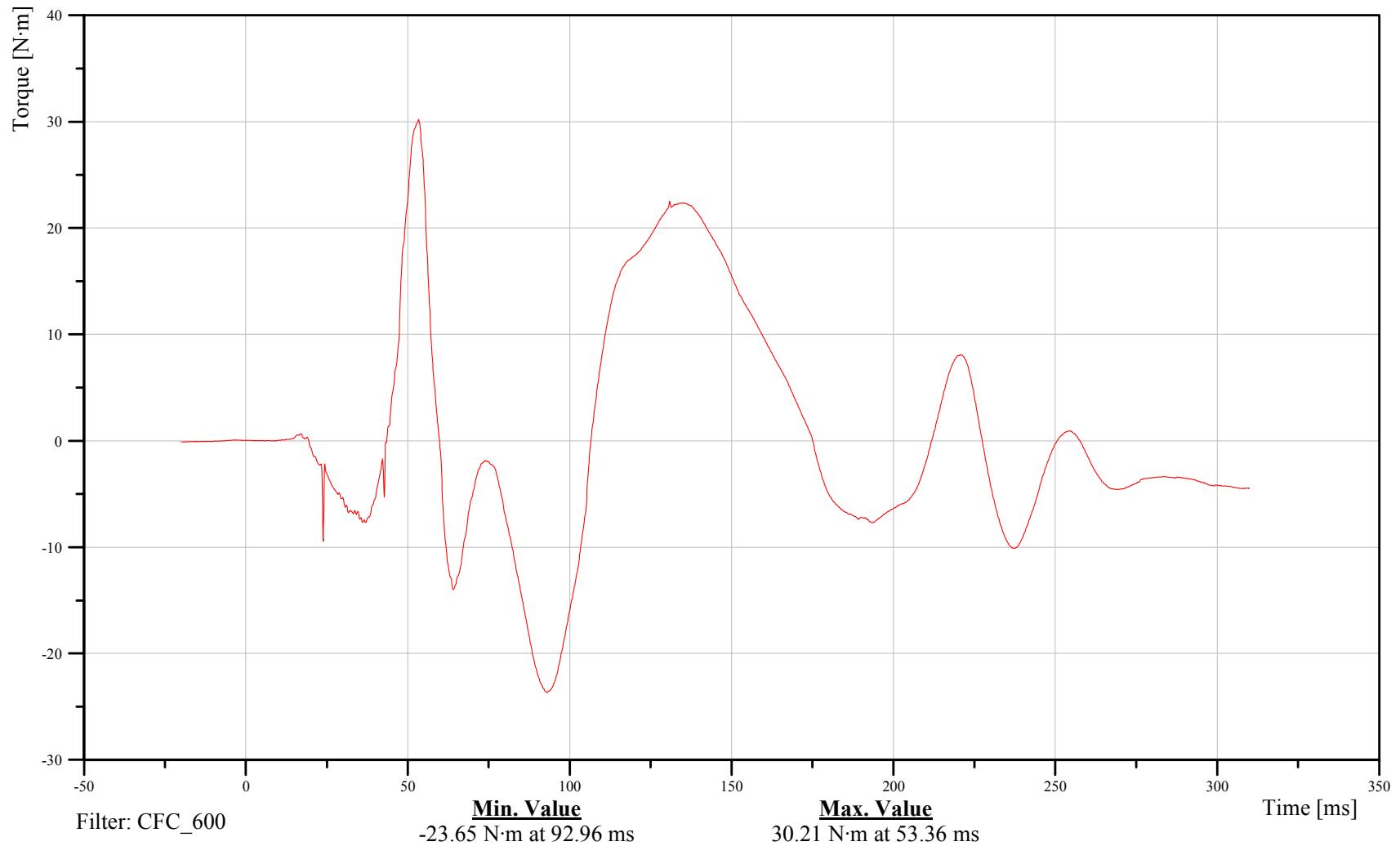
Bullet Passenger Upper Neck Moment About Y Axis

Customer: VRTC

23NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Passenger Upper Neck Moment About Z Axis

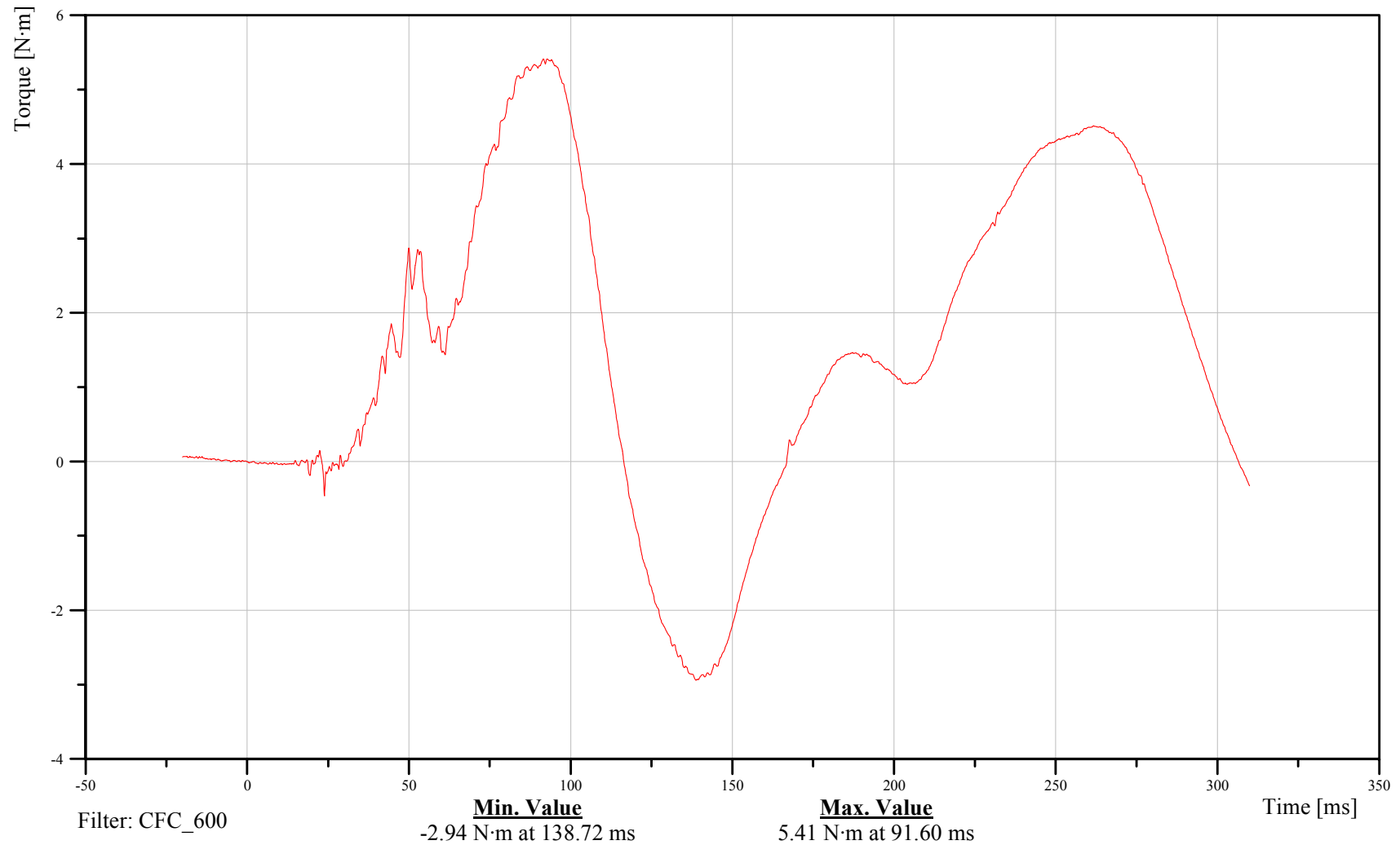
Time: 12:43

Customer: VRTC

23NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

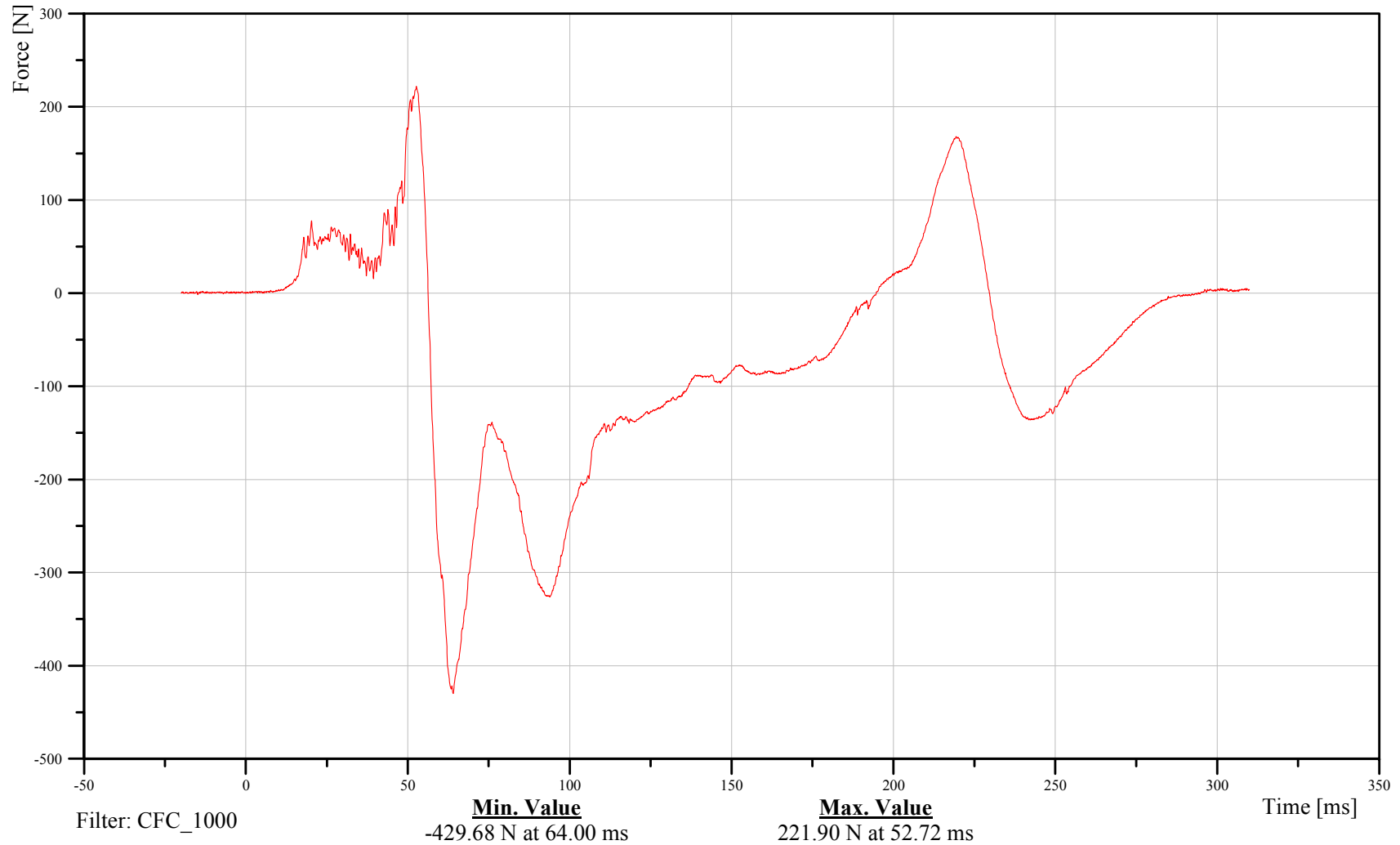
Bullet Passenger Lower Neck X-Axis Force

Customer: VRTC

23NECKLO00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

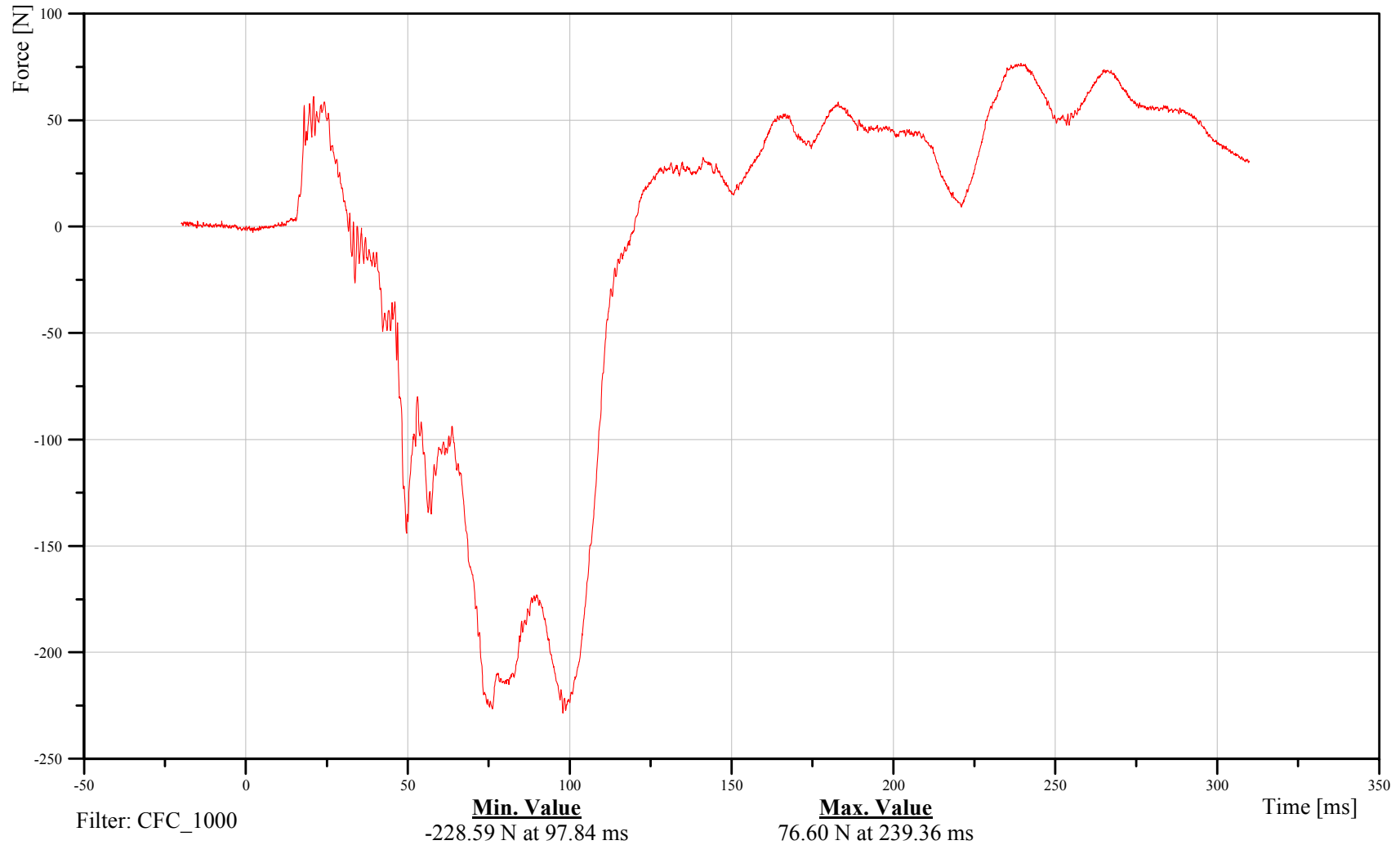
Bullet Passenger Lower Neck Y-Axis Force

Customer: VRTC

23NECKLO00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

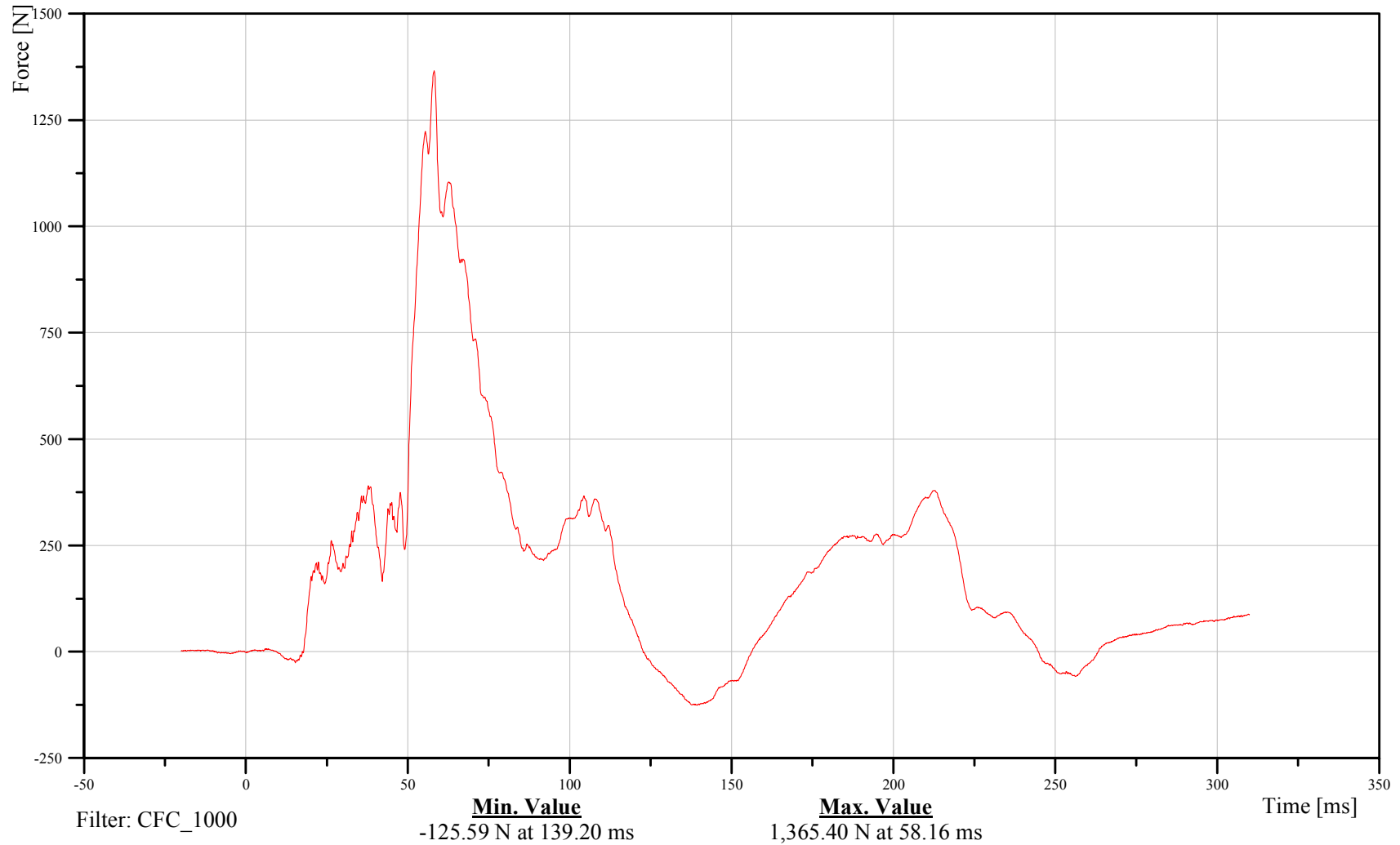
Bullet Passenger Lower Neck Z-Axis Force

Customer: VRTC

23NECKLO00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





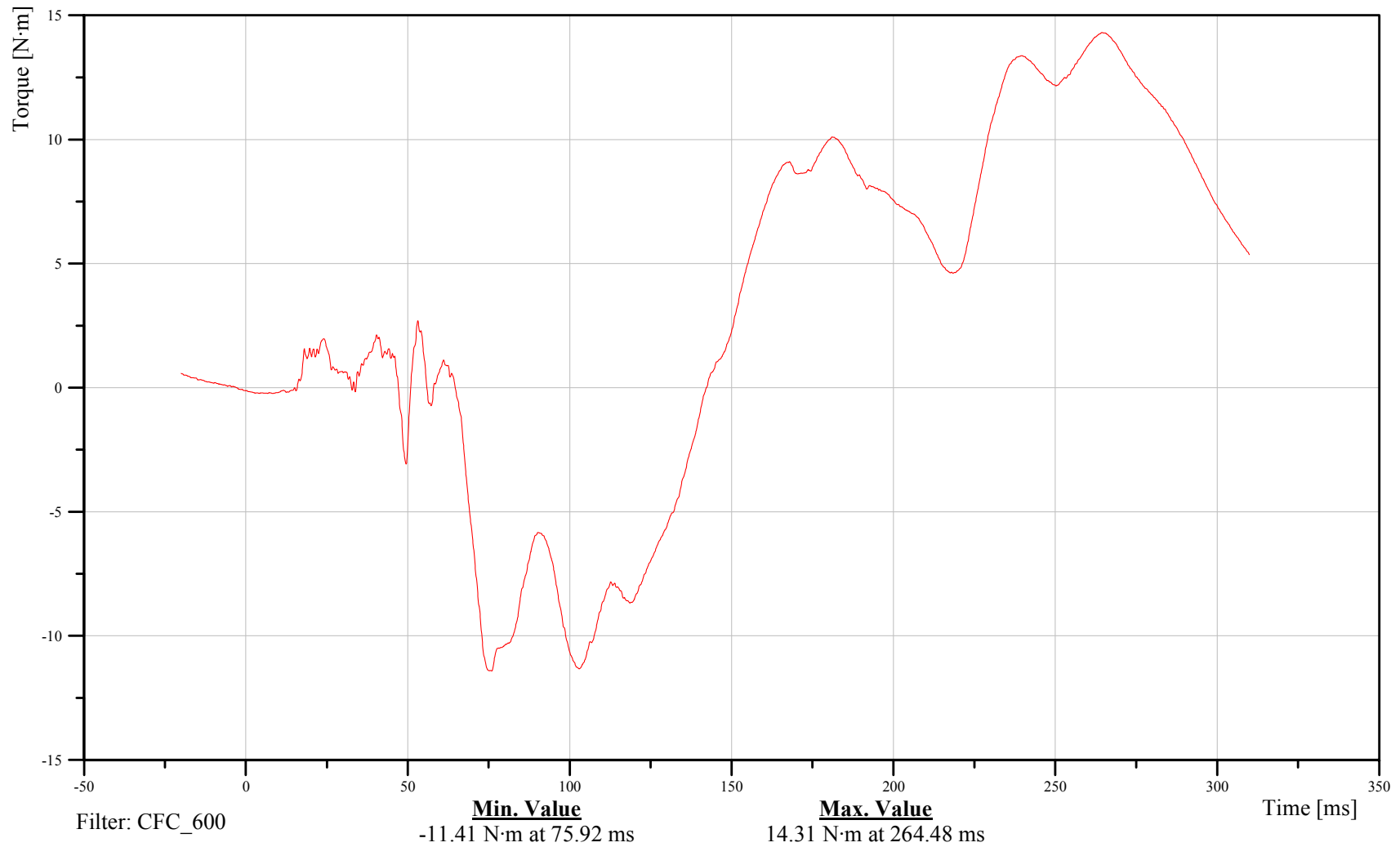
Bullet Passenger Lower Neck Moment About X Axis

Customer: VRTC

23NECKLO00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





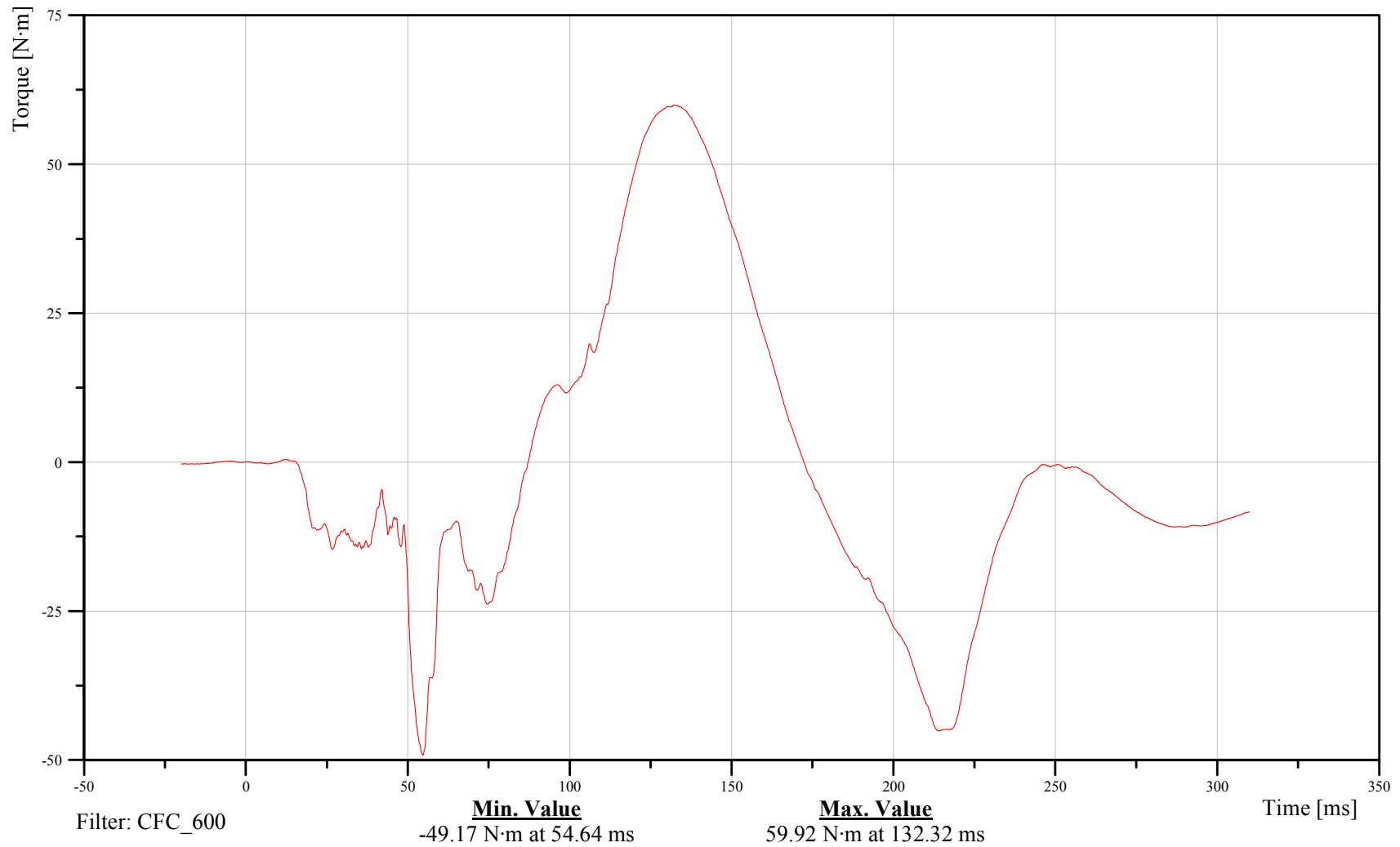
Bullet Passenger Lower Neck Moment About Y Axis

Customer: VRTC

23NECKLO00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

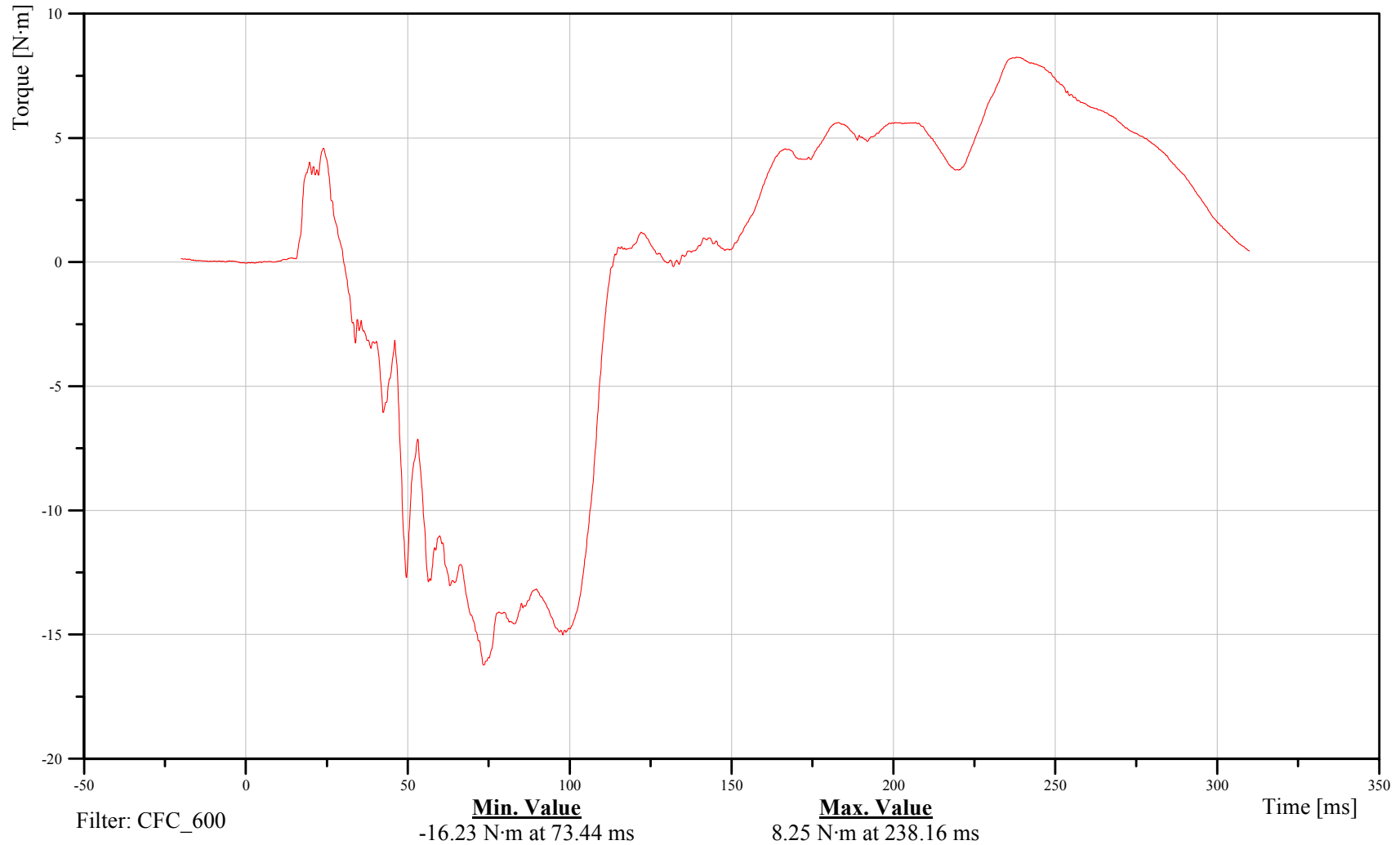
Bullet Passenger Lower Neck Moment About Z Axis

Customer: VRTC

23NECKLO00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

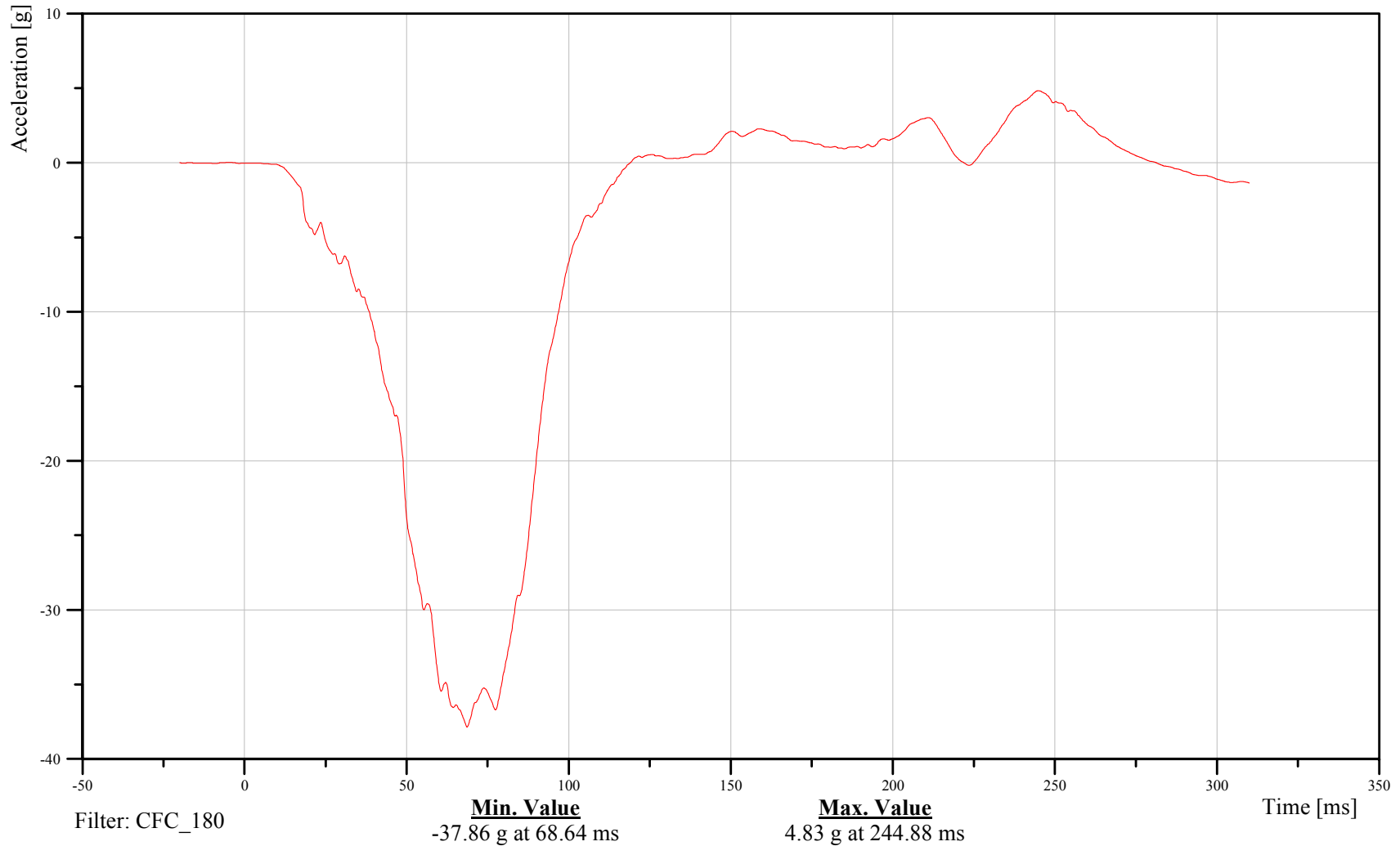
Bullet Passenger Chest CG X-Axis Acceleration

Customer: VRTC

23CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

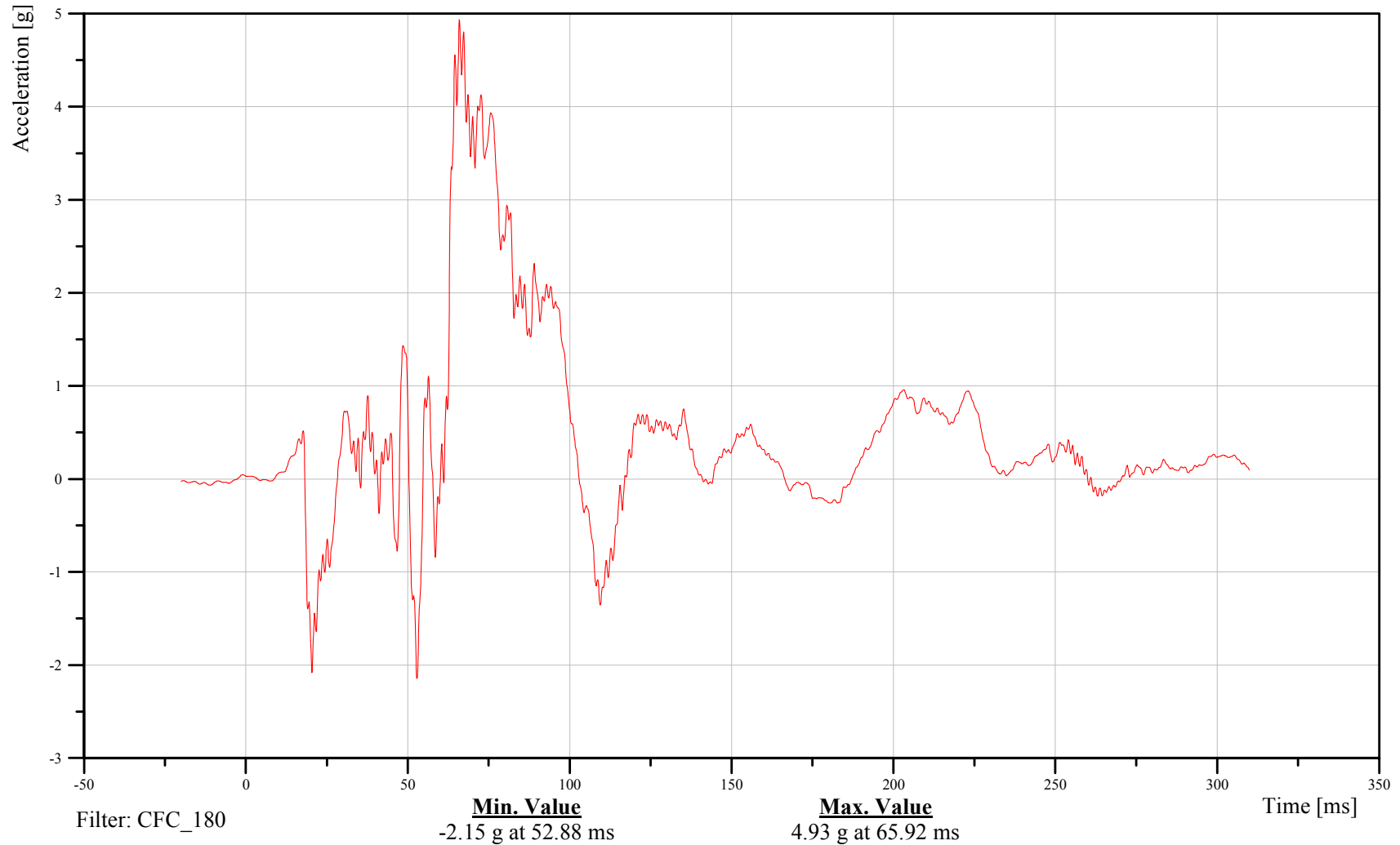
Bullet Passenger Chest CG Y-Axis Acceleration

Customer: VRTC

23CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Passenger Chest CG Z-Axis Acceleration

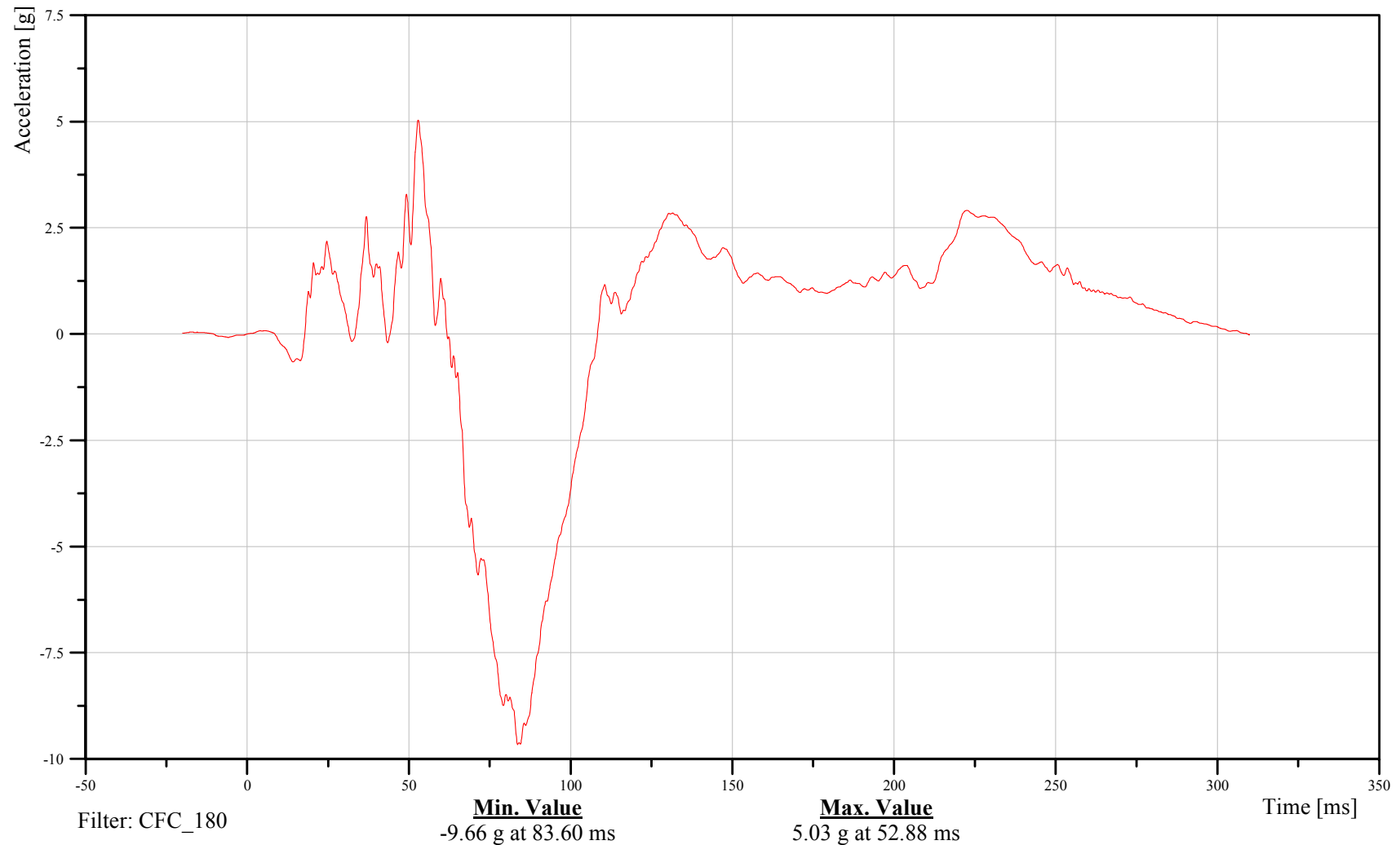
Time: 12:43

Customer: VRTC

23CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

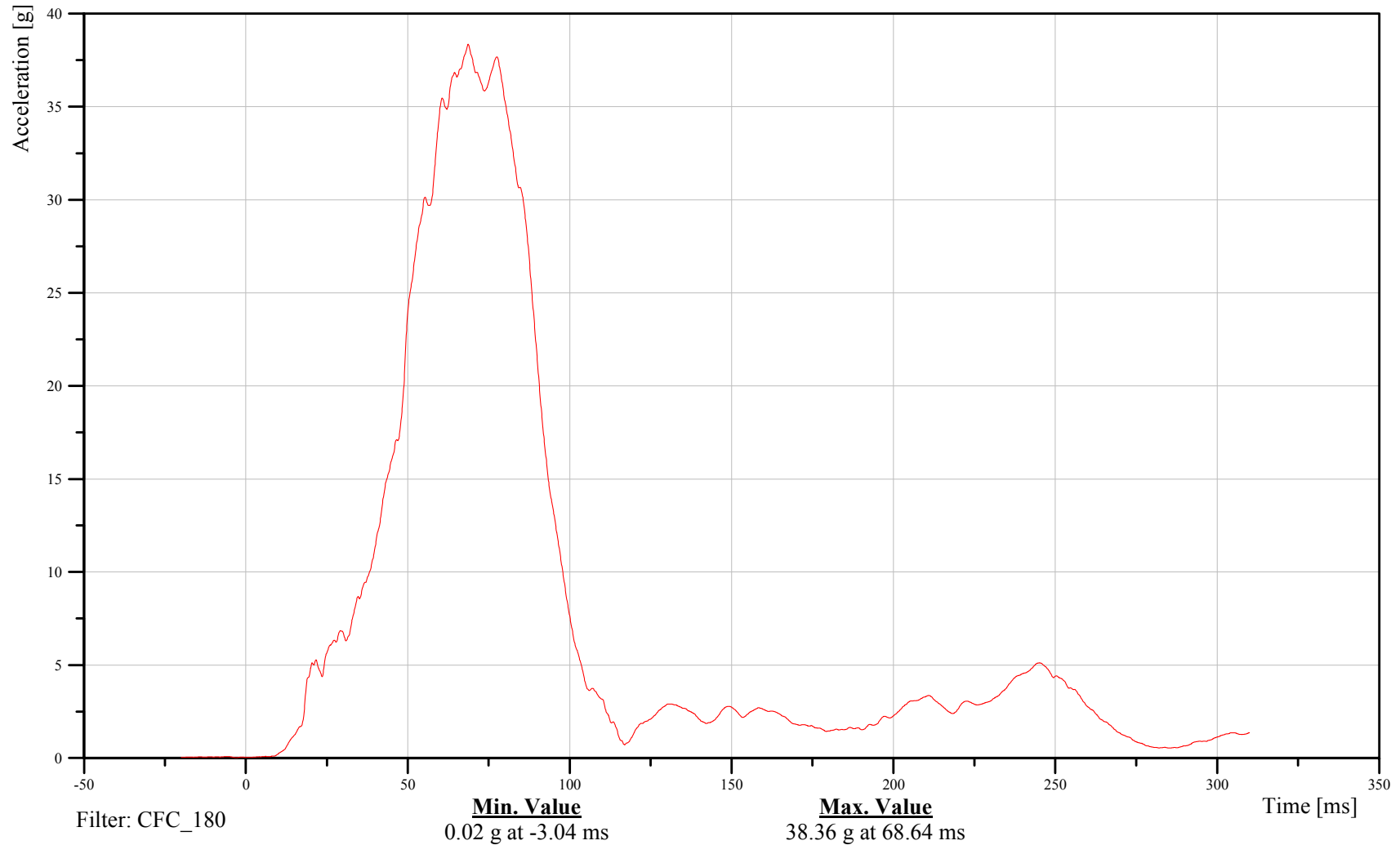
Bullet Passenger Chest CG Resultant Acceleration

Customer: VRTC

23CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

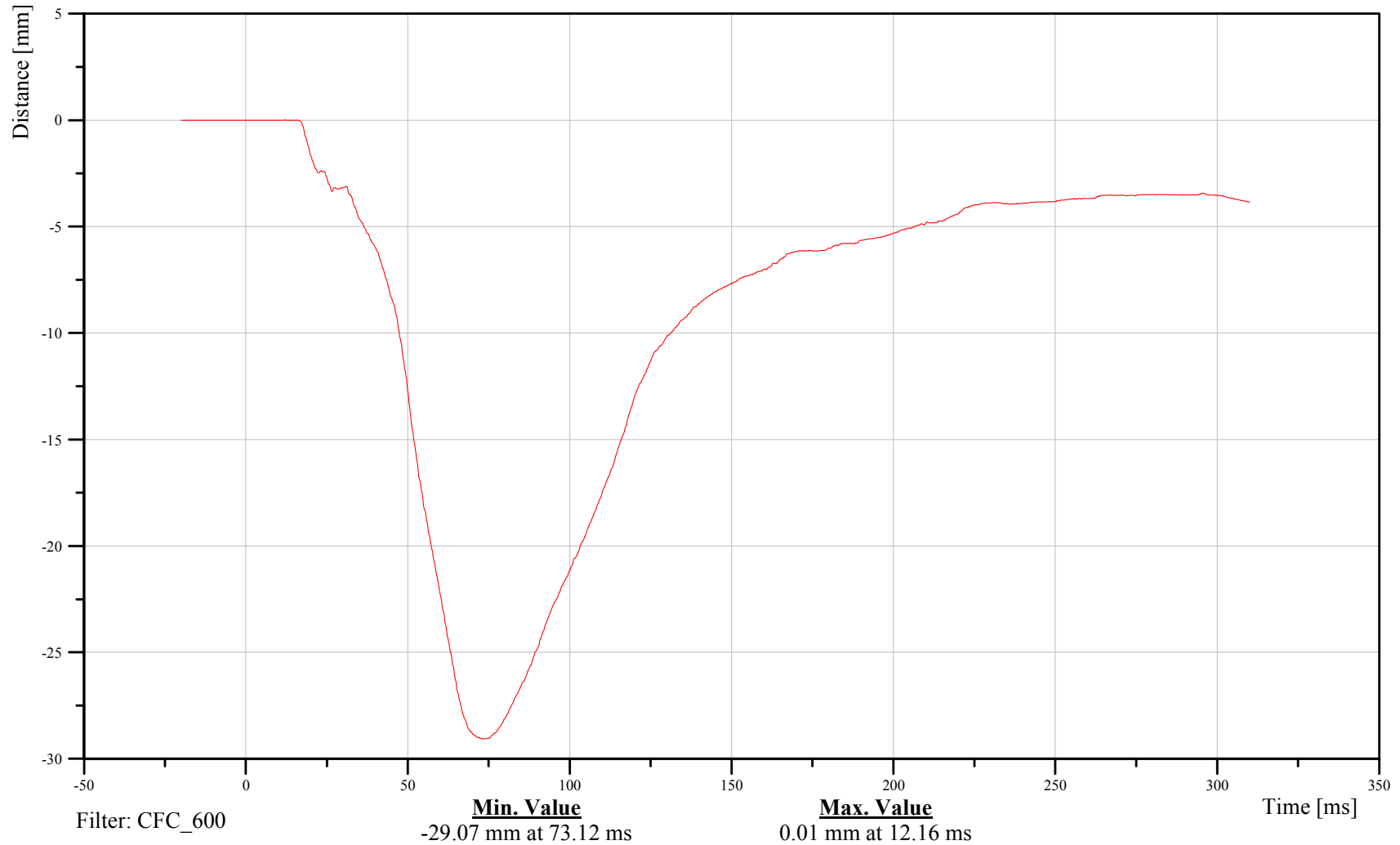
Bullet Passenger Chest Displacement

Customer: VRTC

23CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

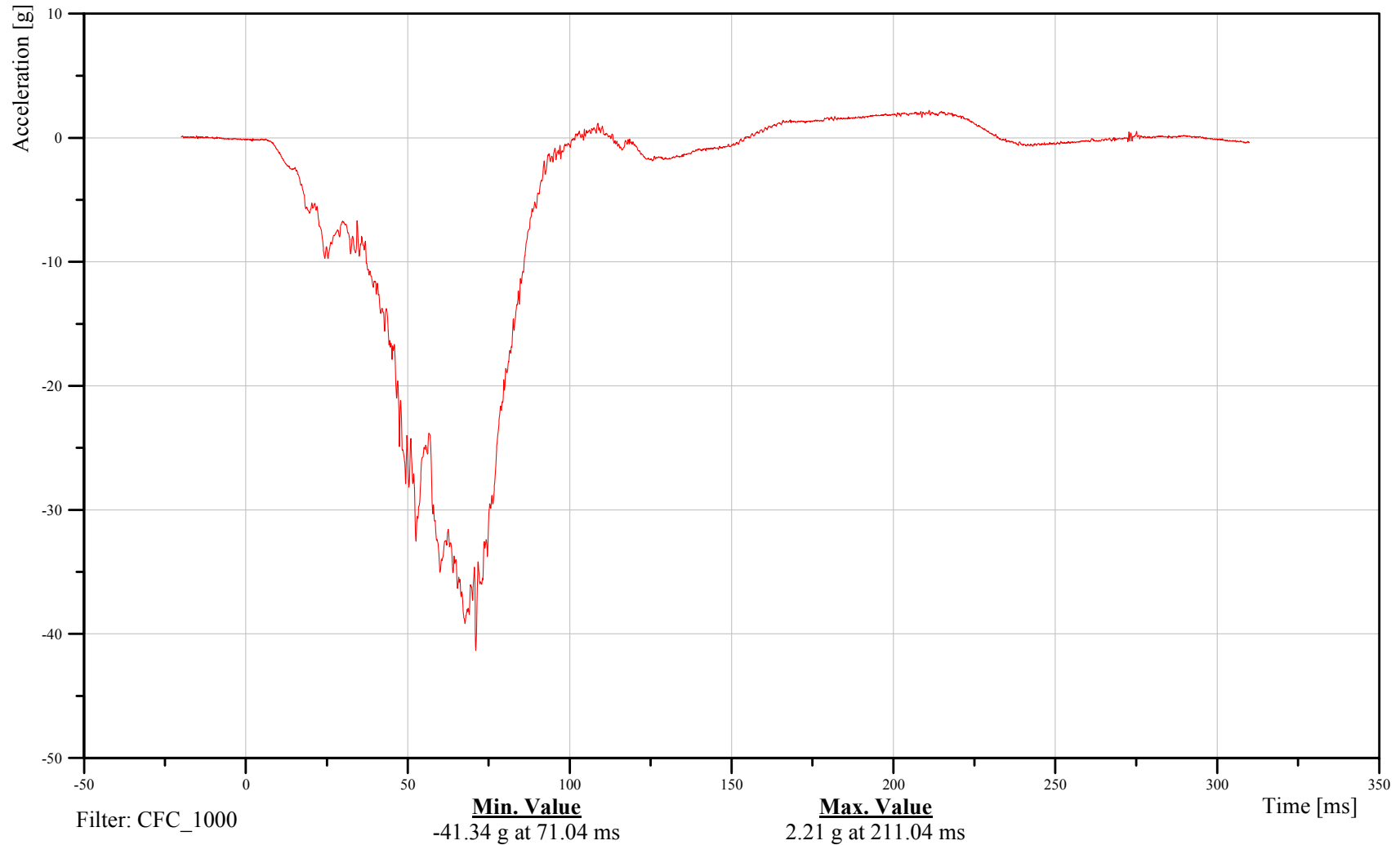
Bullet Passenger Pelvis CG X-Axis Acceleration

Customer: VRTC

23PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

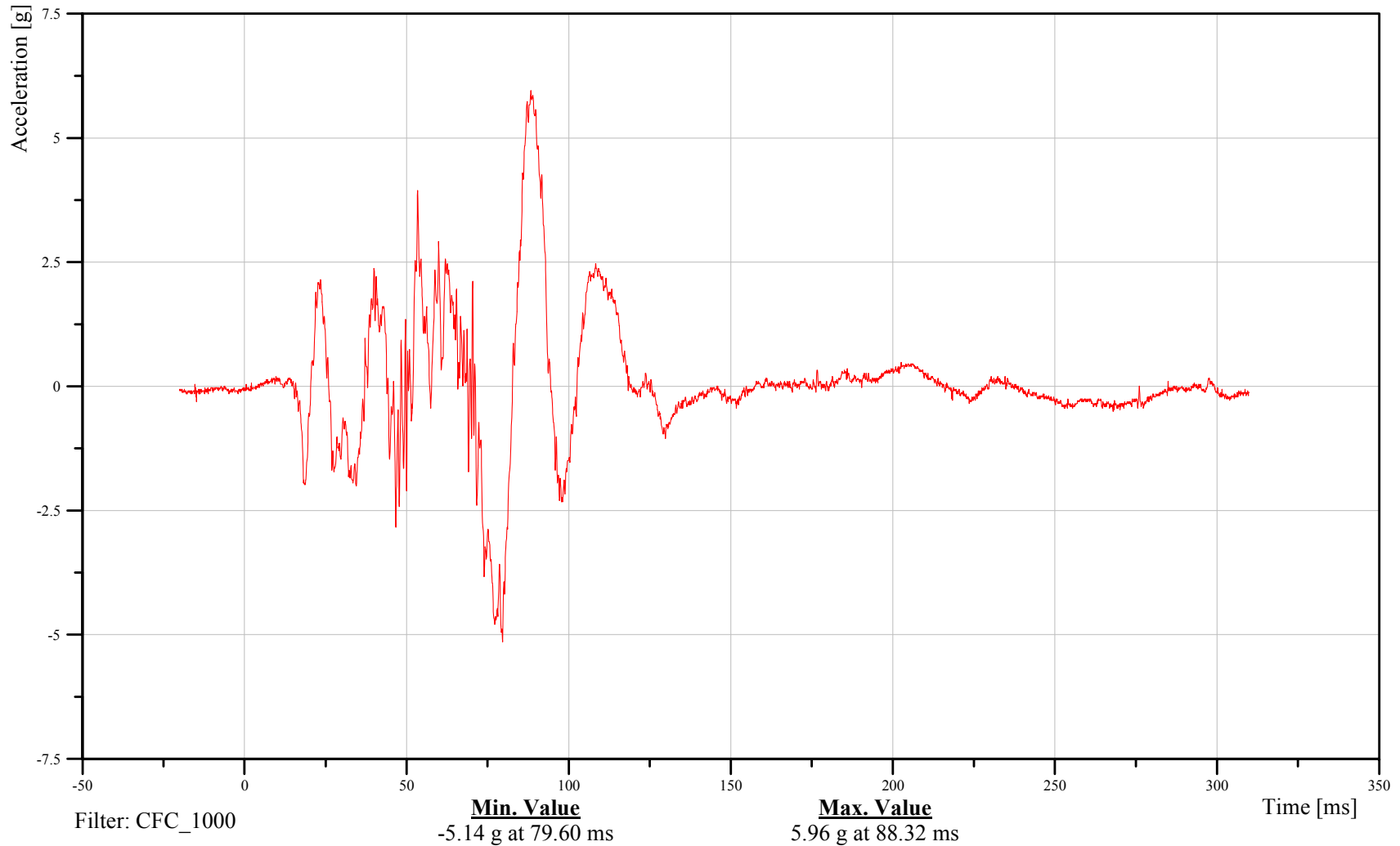
Bullet Passenger Pelvis CG Y-Axis Acceleration

Customer: VRTC

23PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

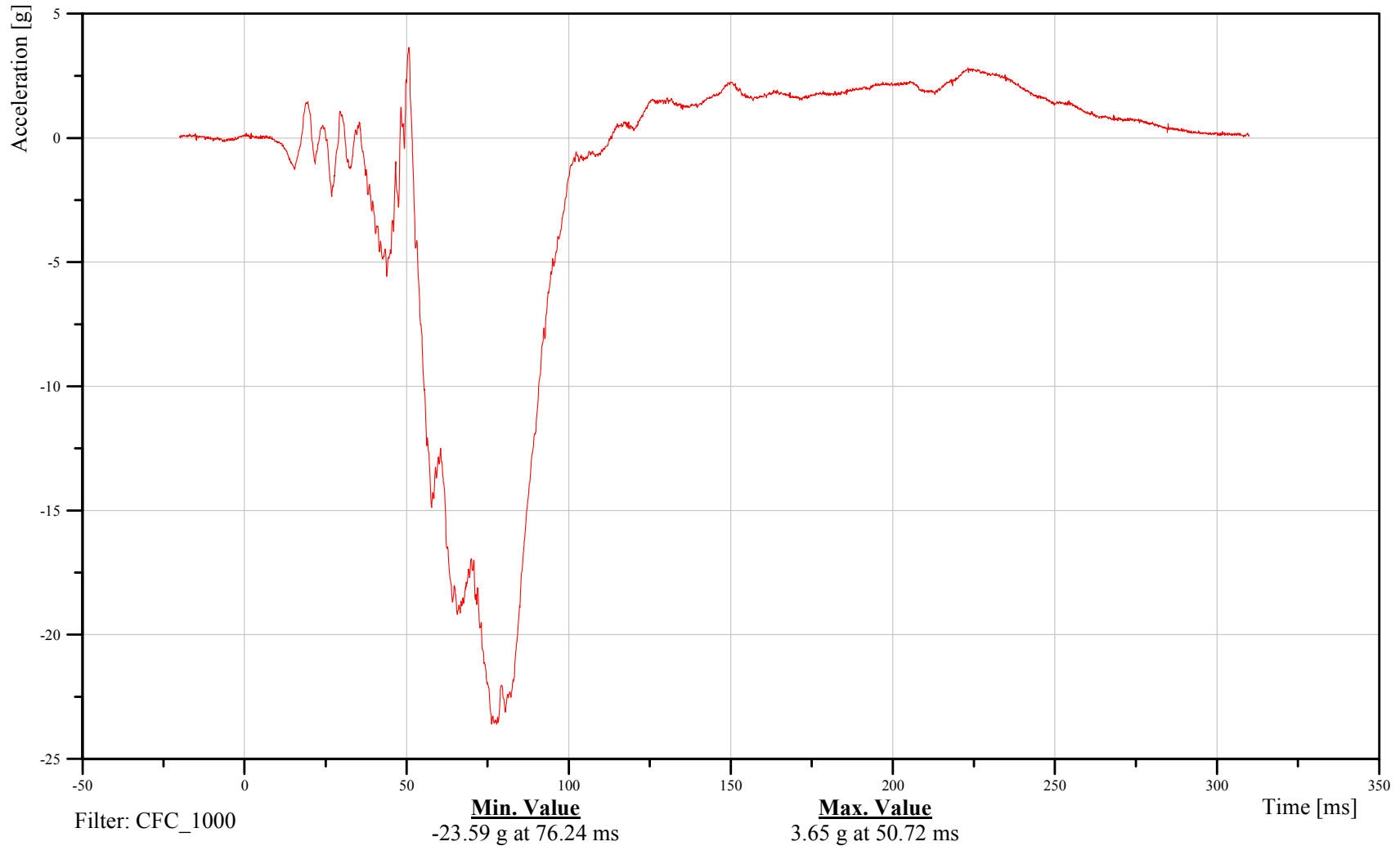
Bullet Passenger Pelvis CG Z-Axis Acceleration

Customer: VRTC

23PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





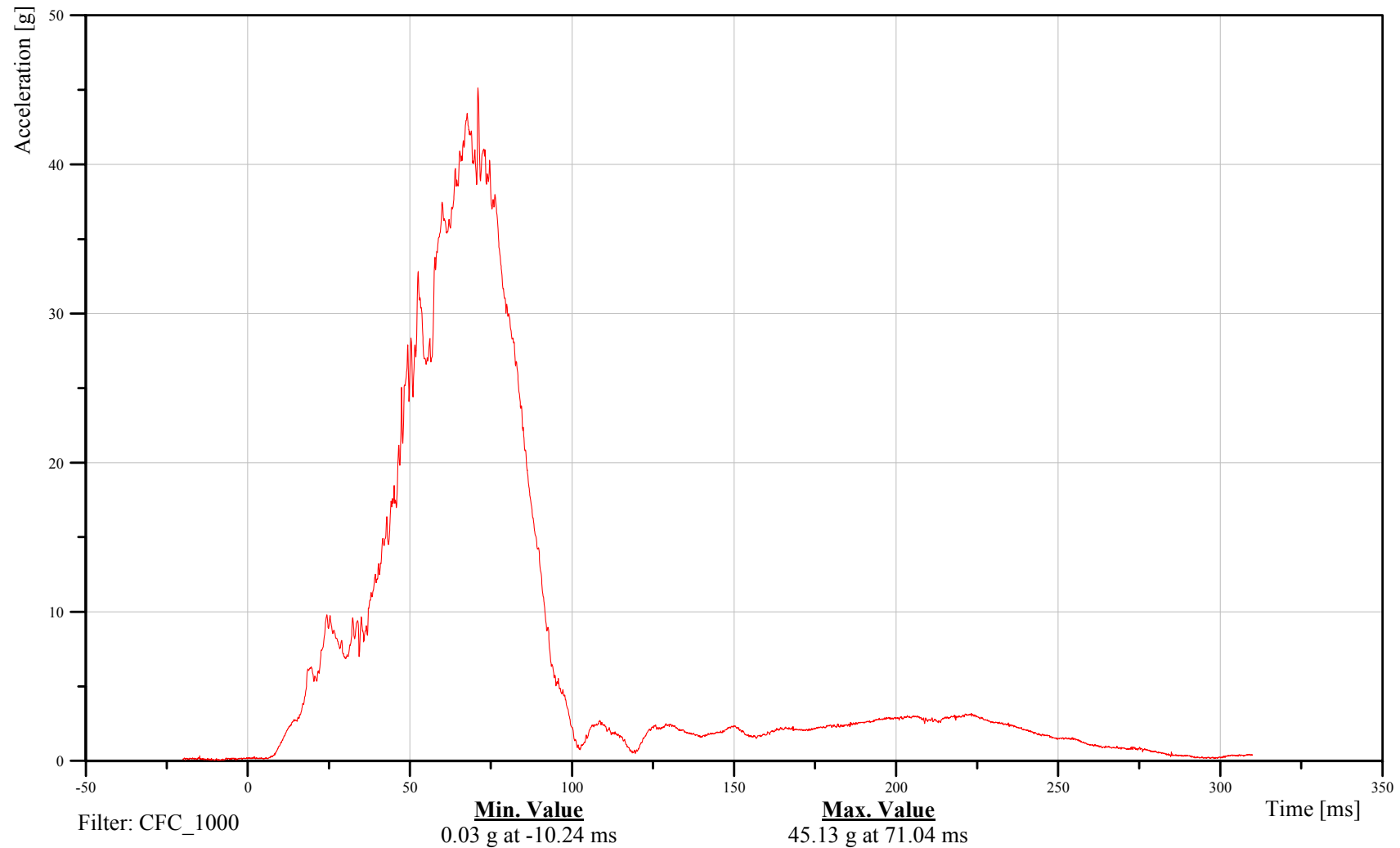
Bullet Passenger Pelvis CG Resultant Acceleration

Customer: VRTC

23PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906



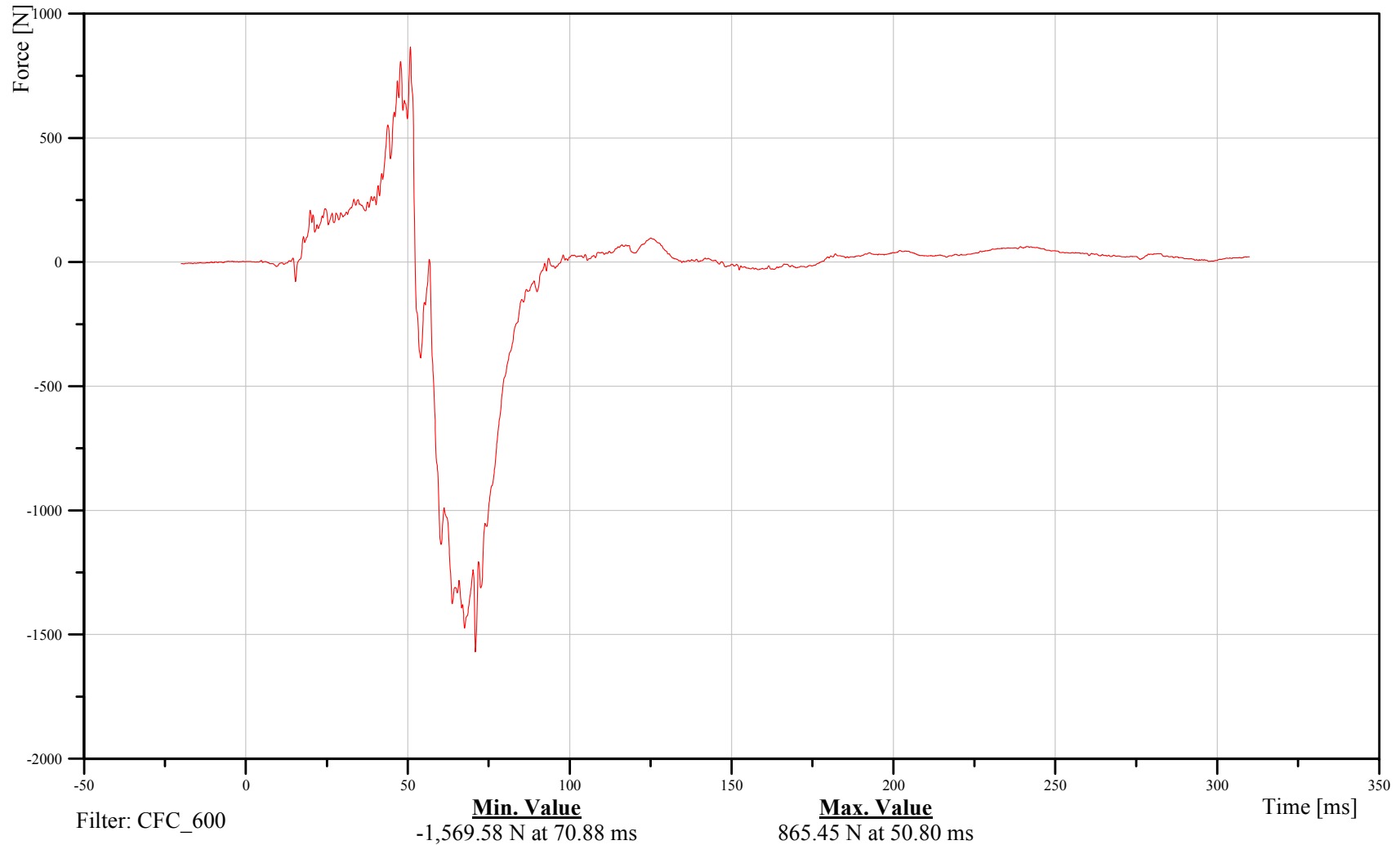


Customer: VRTC

23FEMRLL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

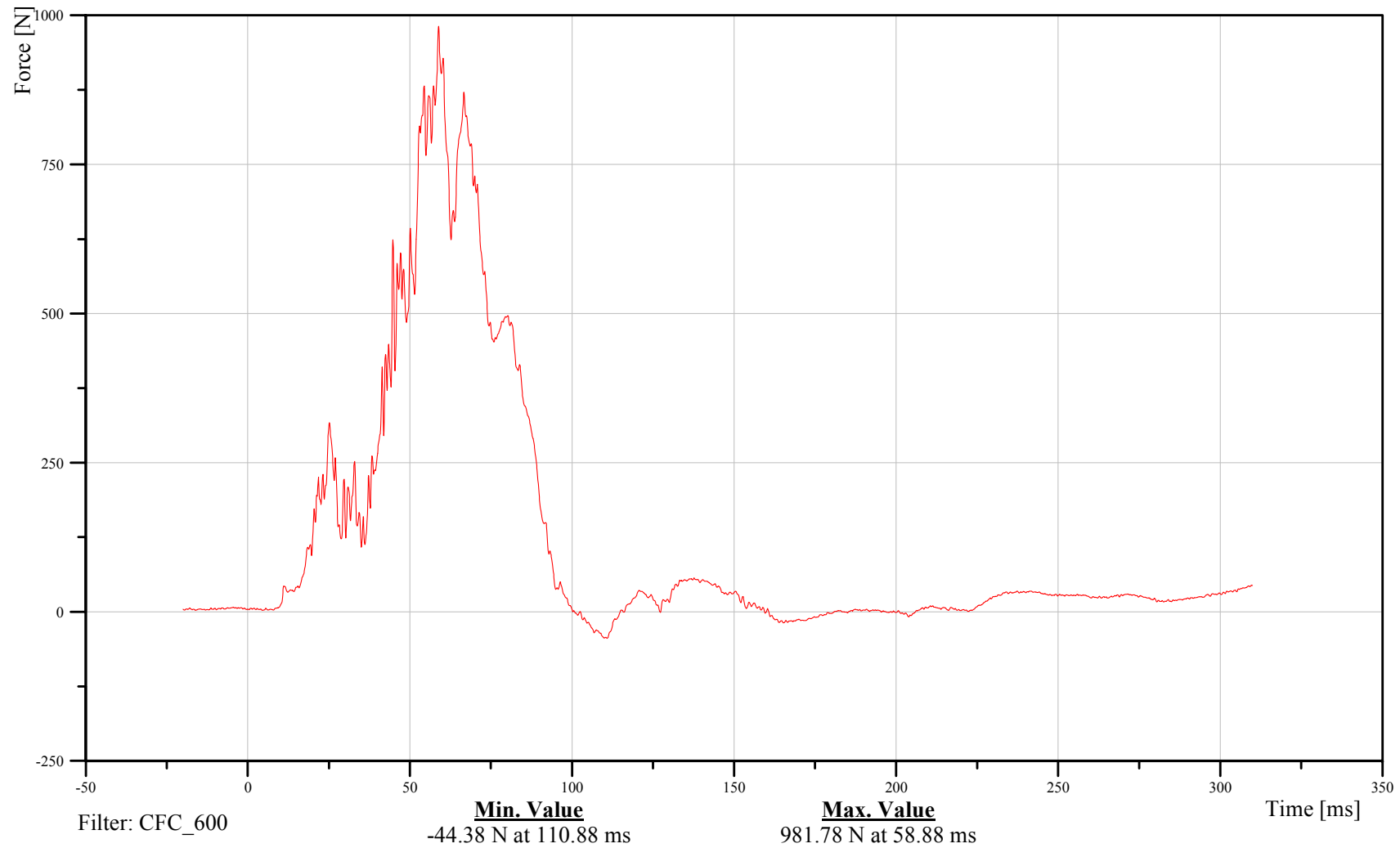
Bullet Passenger Right Femur Z-Axis Force

Customer: VRTC

23FEMRRL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Vehicle Left Rear Seat Crossmember X-Axis Acceleration

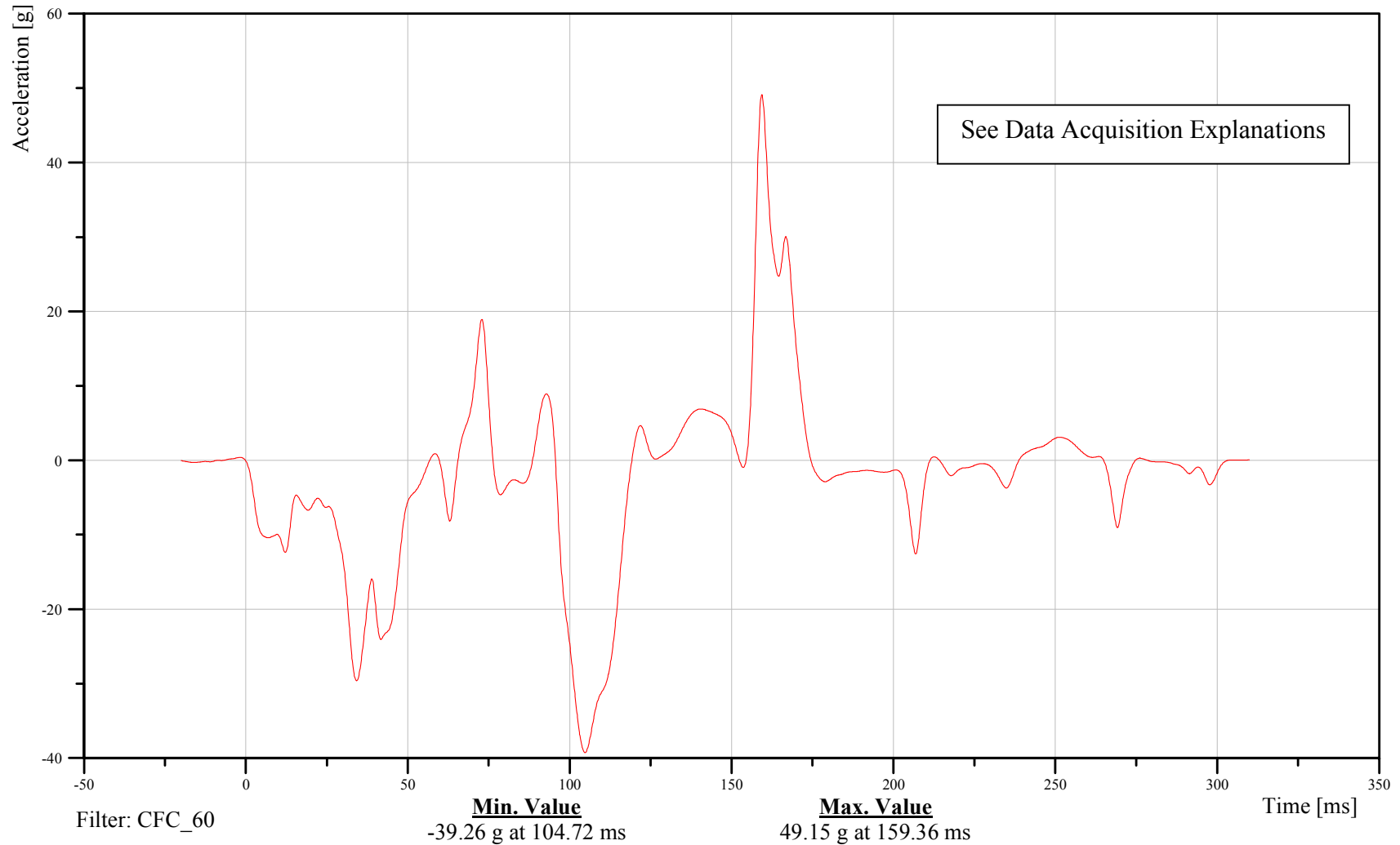
Time: 12:43

Customer: VRTC

24CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

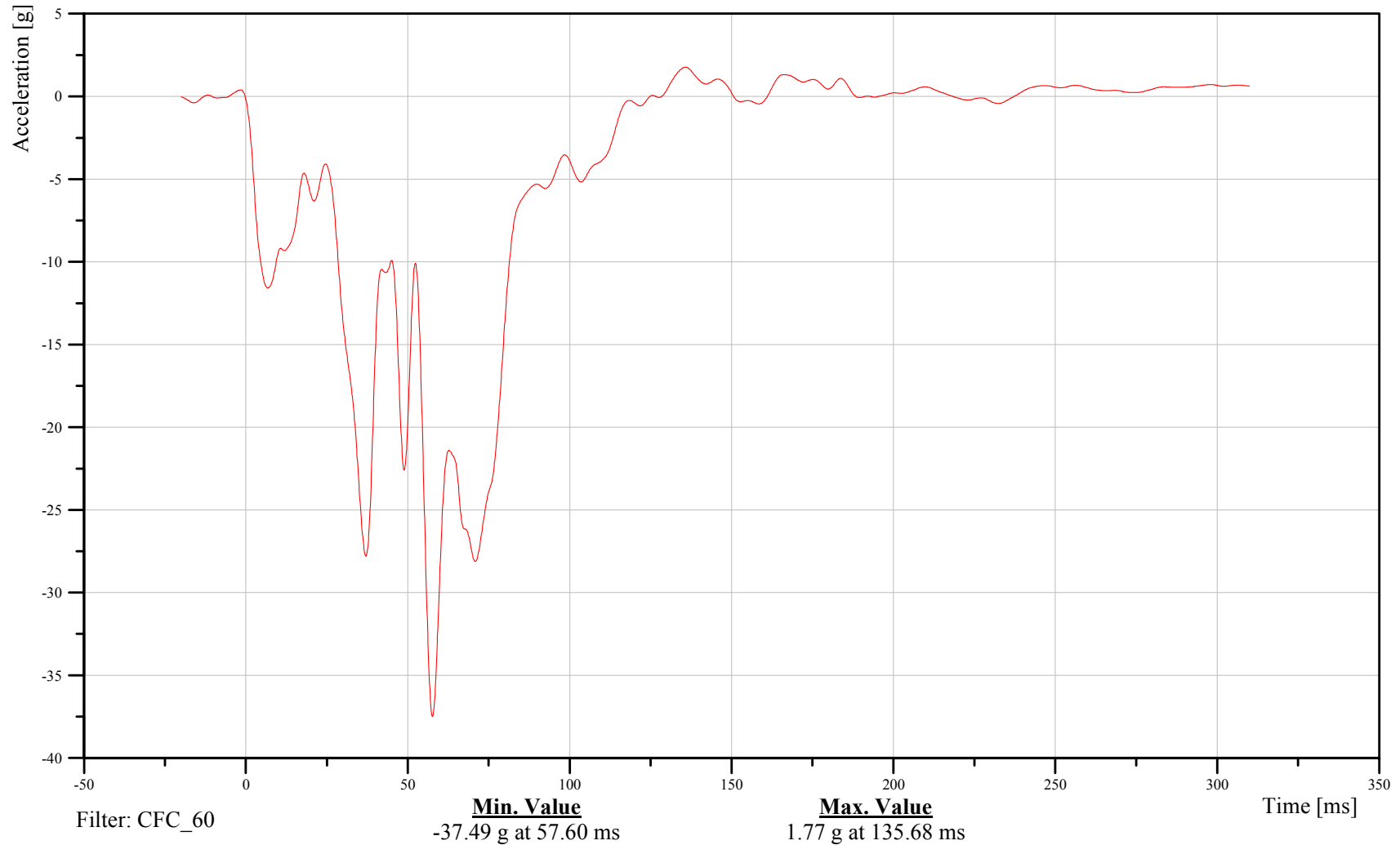
Bullet Vehicle Right Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

26CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Vehicle Top of Engine X-Axis Acceleration

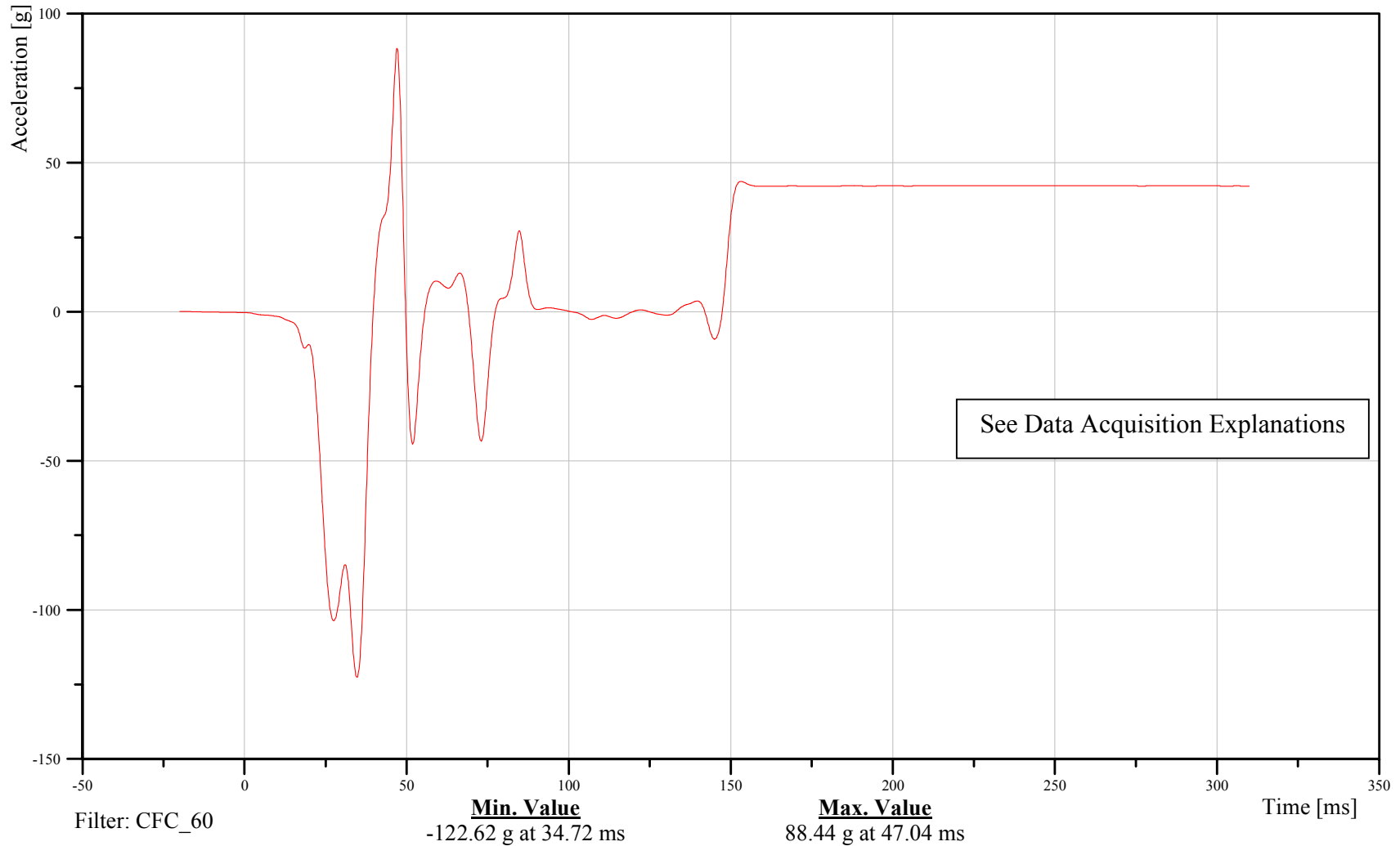
Time: 12:43

Customer: VRTC

22ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

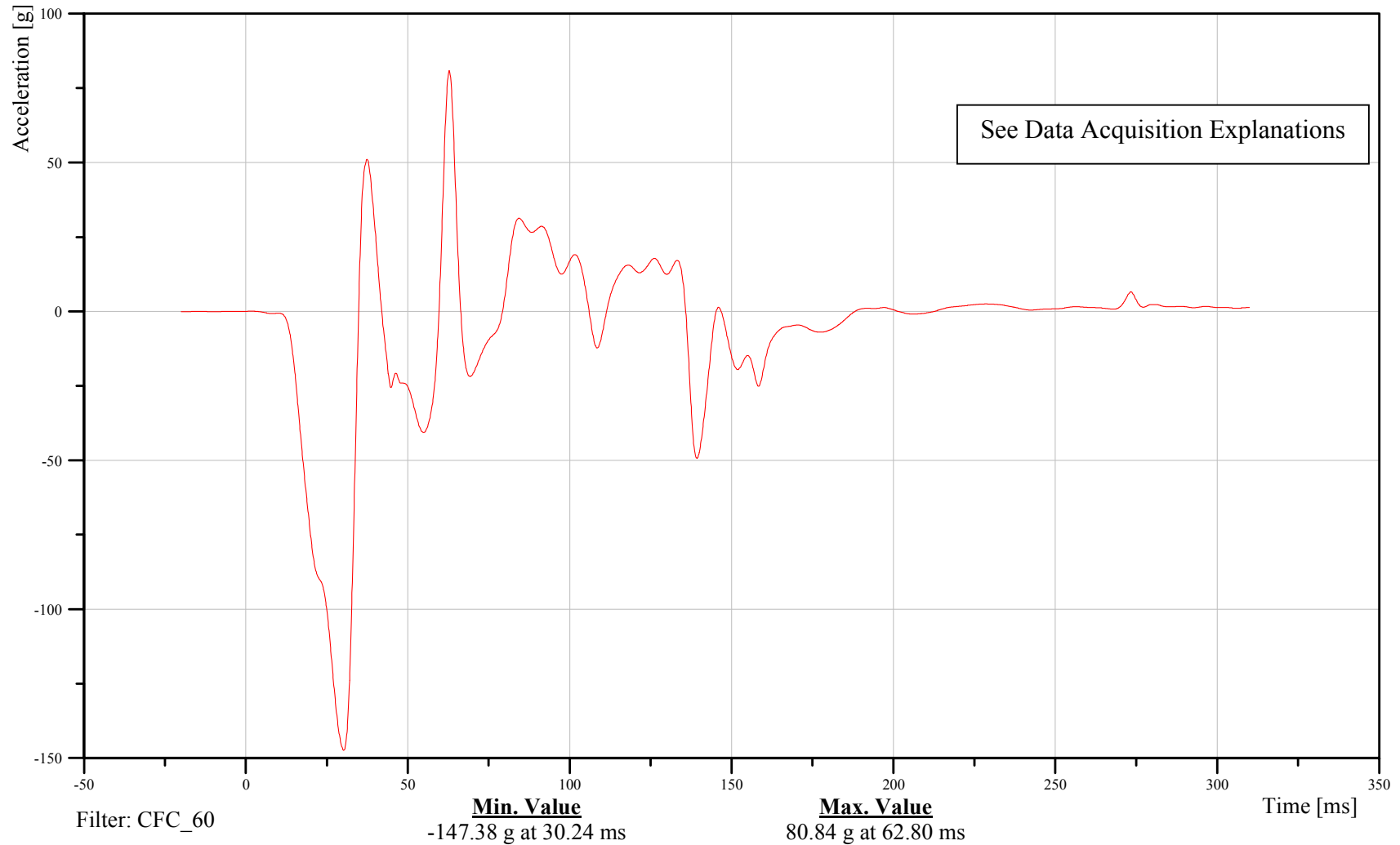
Bullet Vehicle Bottom of Engine X-Axis Acceleration

Customer: VRTC

22ENGNBO0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

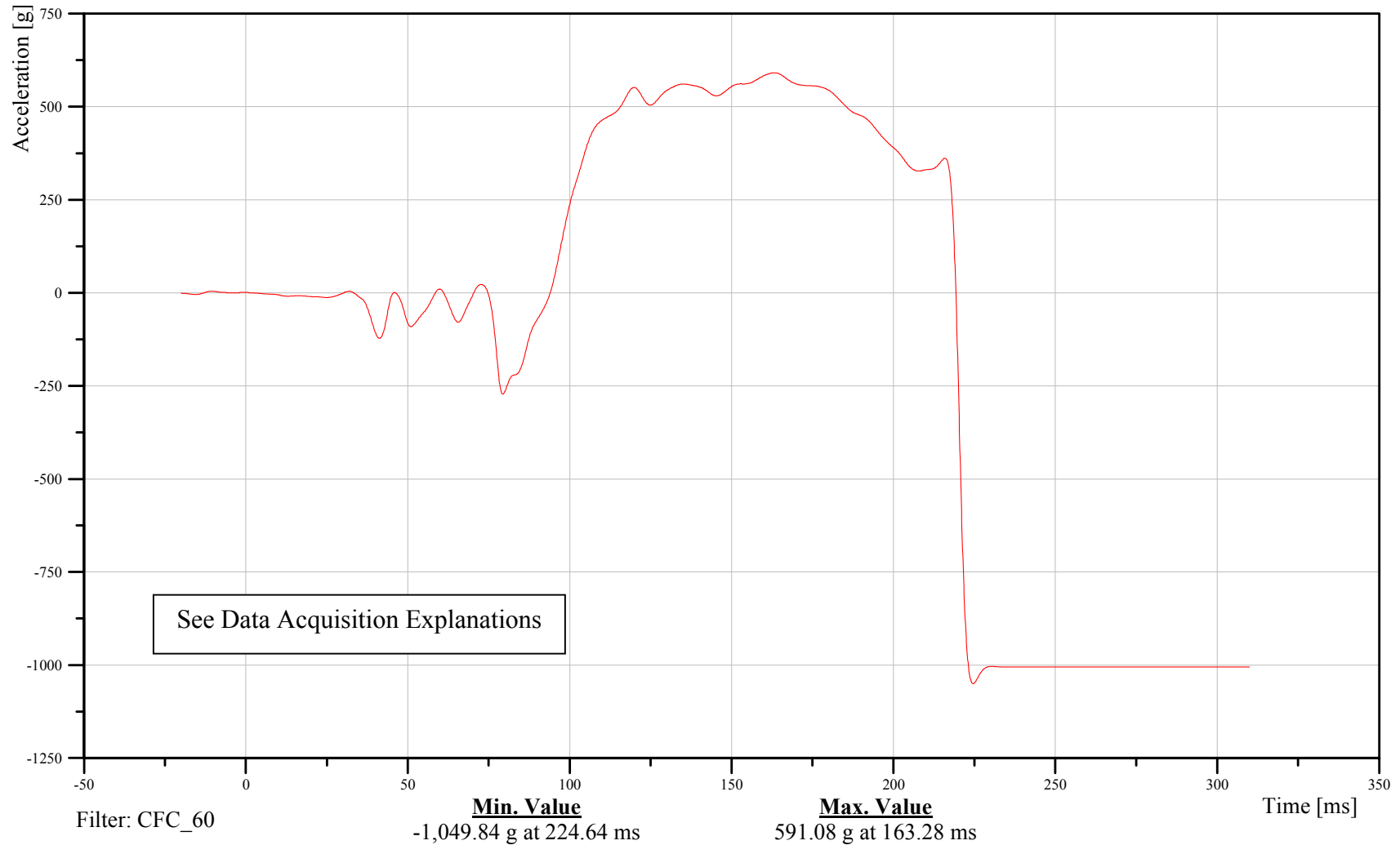
Bullet Vehicle Right Front Brake Caliper X-Axis Acceleration

Customer: VRTC

23VEHCRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

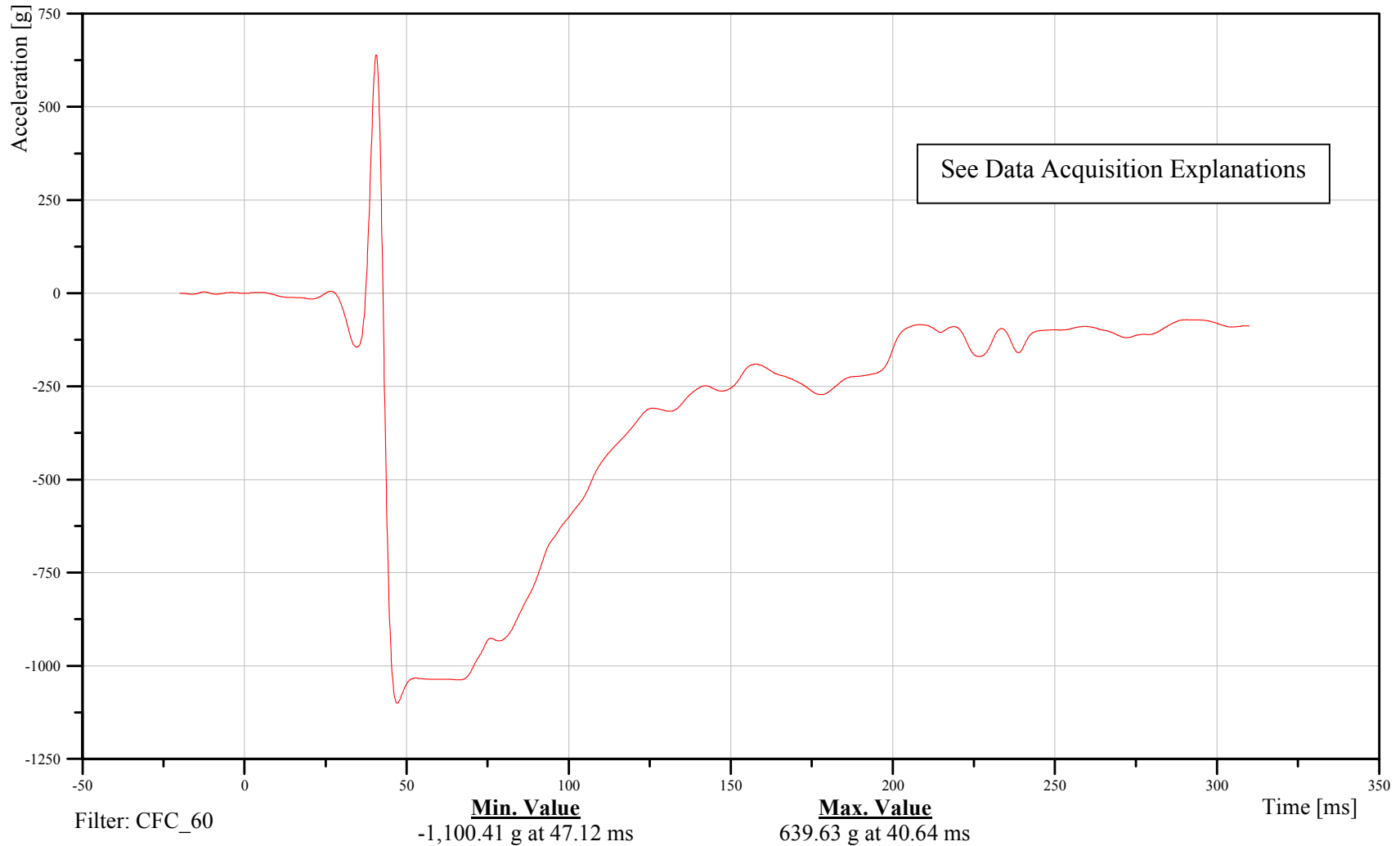
Bullet Vehicle Left Front Brake Caliper X-Axis Acceleration

Customer: VRTC

21VEHICLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Vehicle Toe Pan Accelerator X-Axis Acceleration

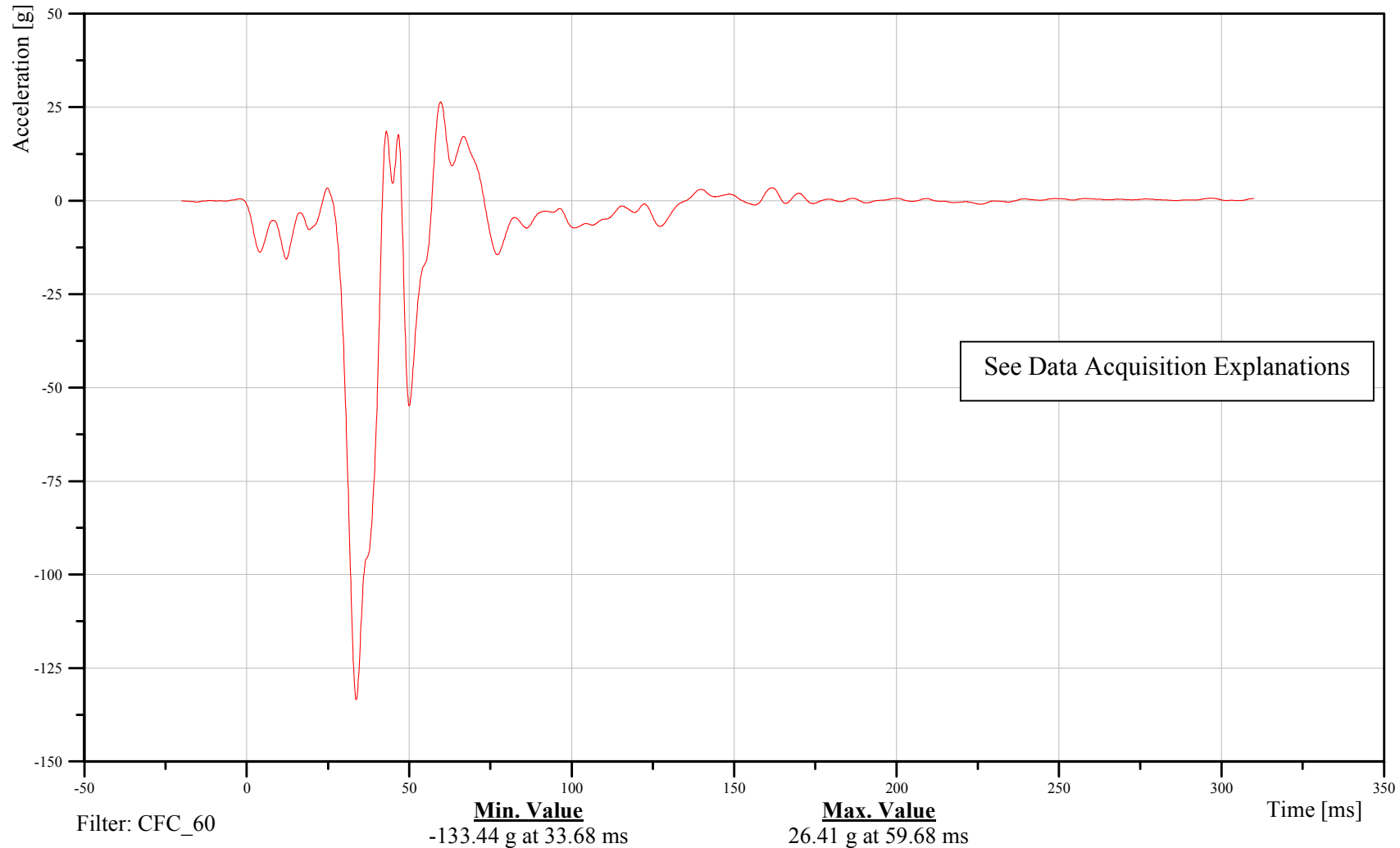
Time: 12:43

Customer: VRTC

21PEAC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Vehicle Toe Pan Accelerator Z-Axis Acceleration

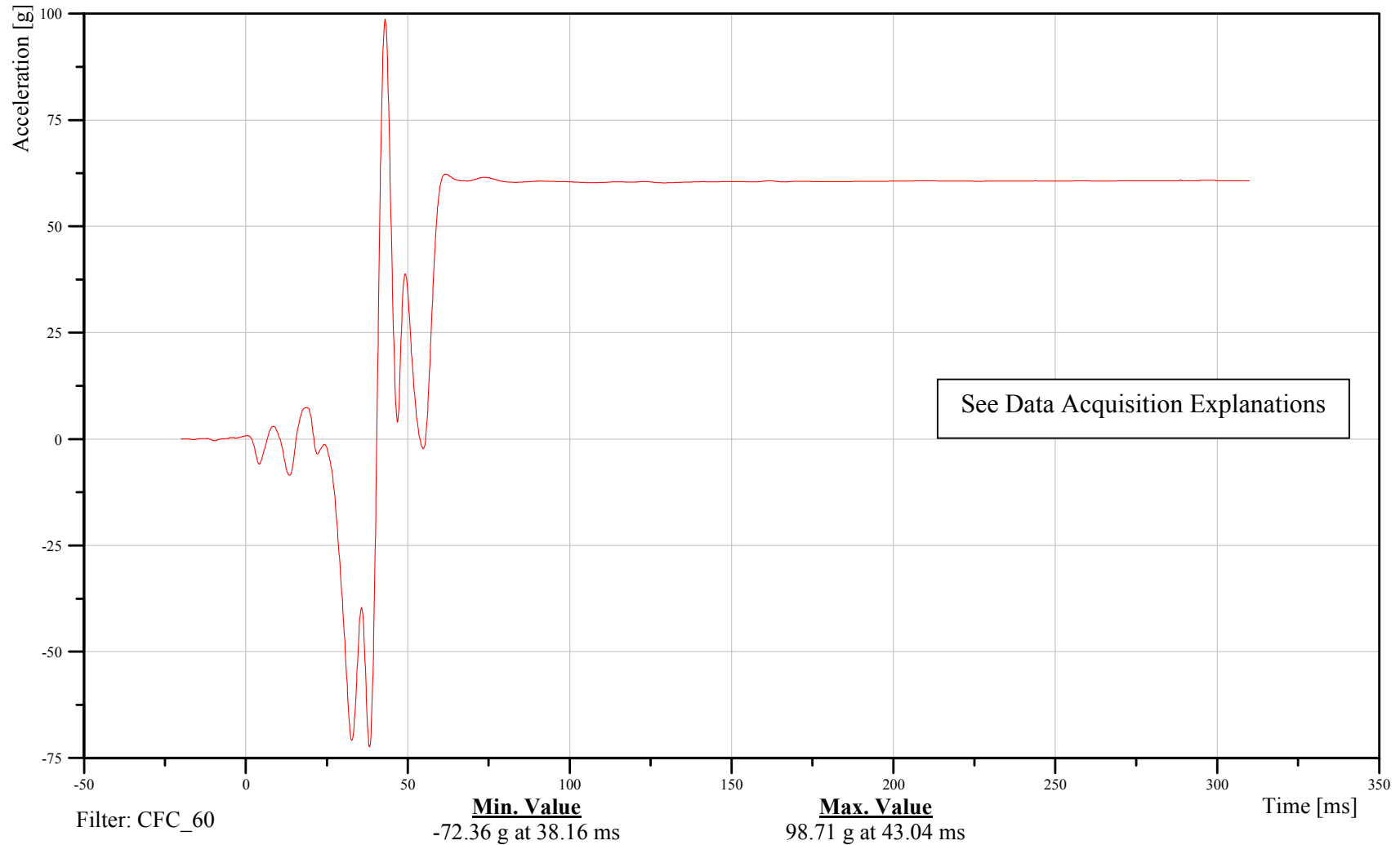
Time: 12:43

Customer: VRTC

21PEAC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

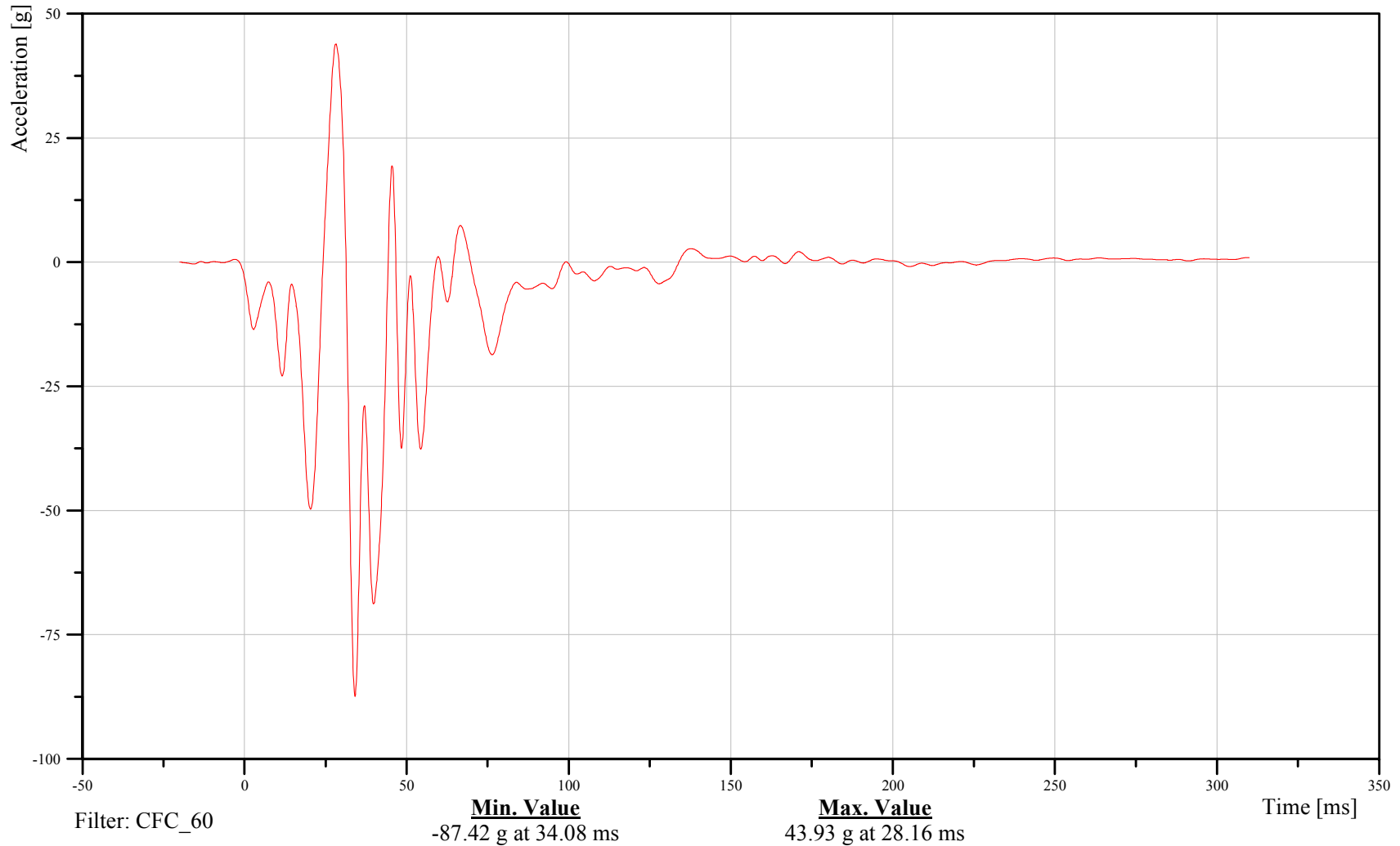
Bullet Vehicle Toe Pan Footrest X-Axis Acceleration

Customer: VRTC

21VEHC000001ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

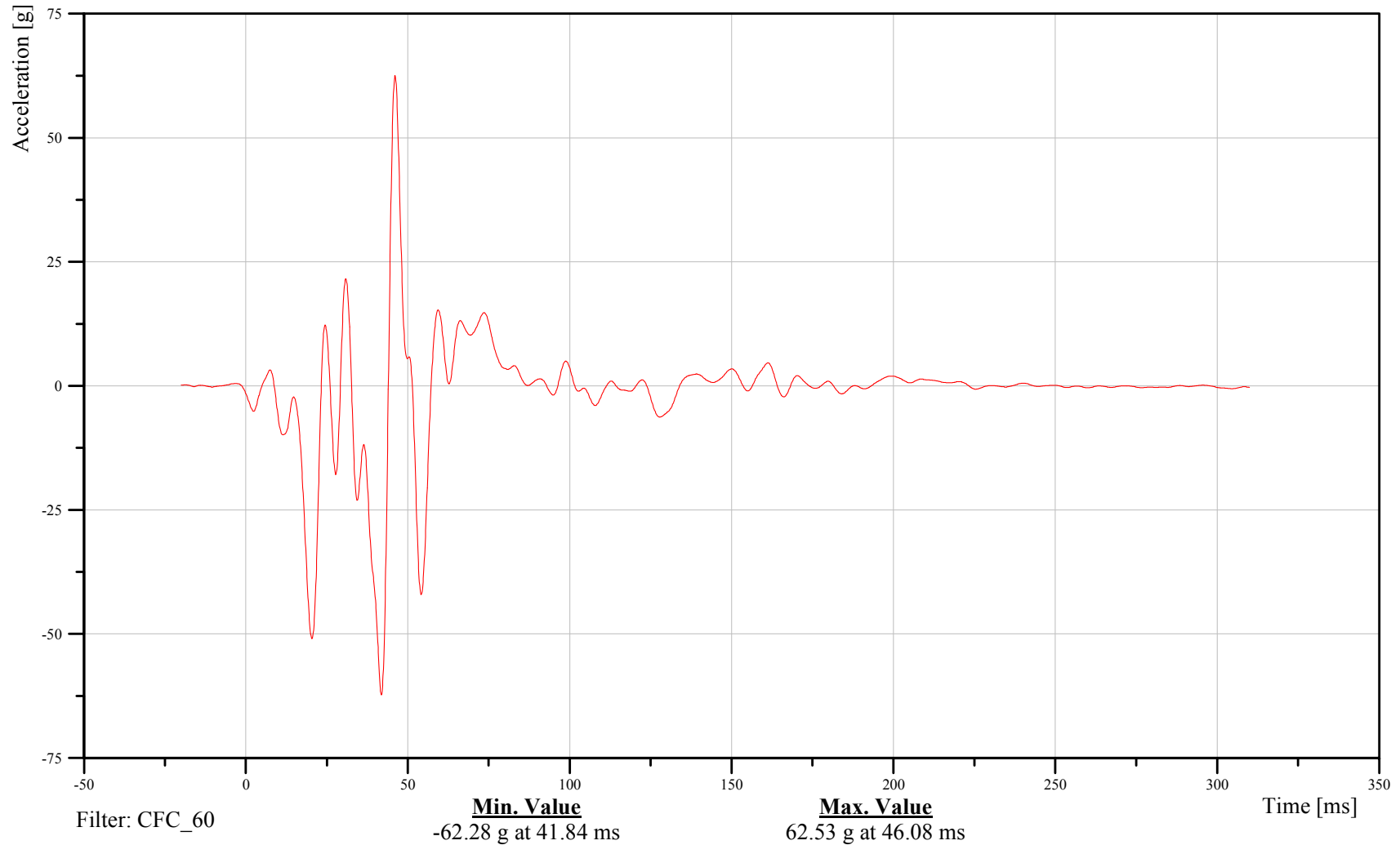
Bullet Vehicle Toe Pan Footrest Z-Axis Acceleration

Customer: VRTC

21VEHC000001ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Bullet Vehicle Rear Tunnel Center X-Axis Acceleration

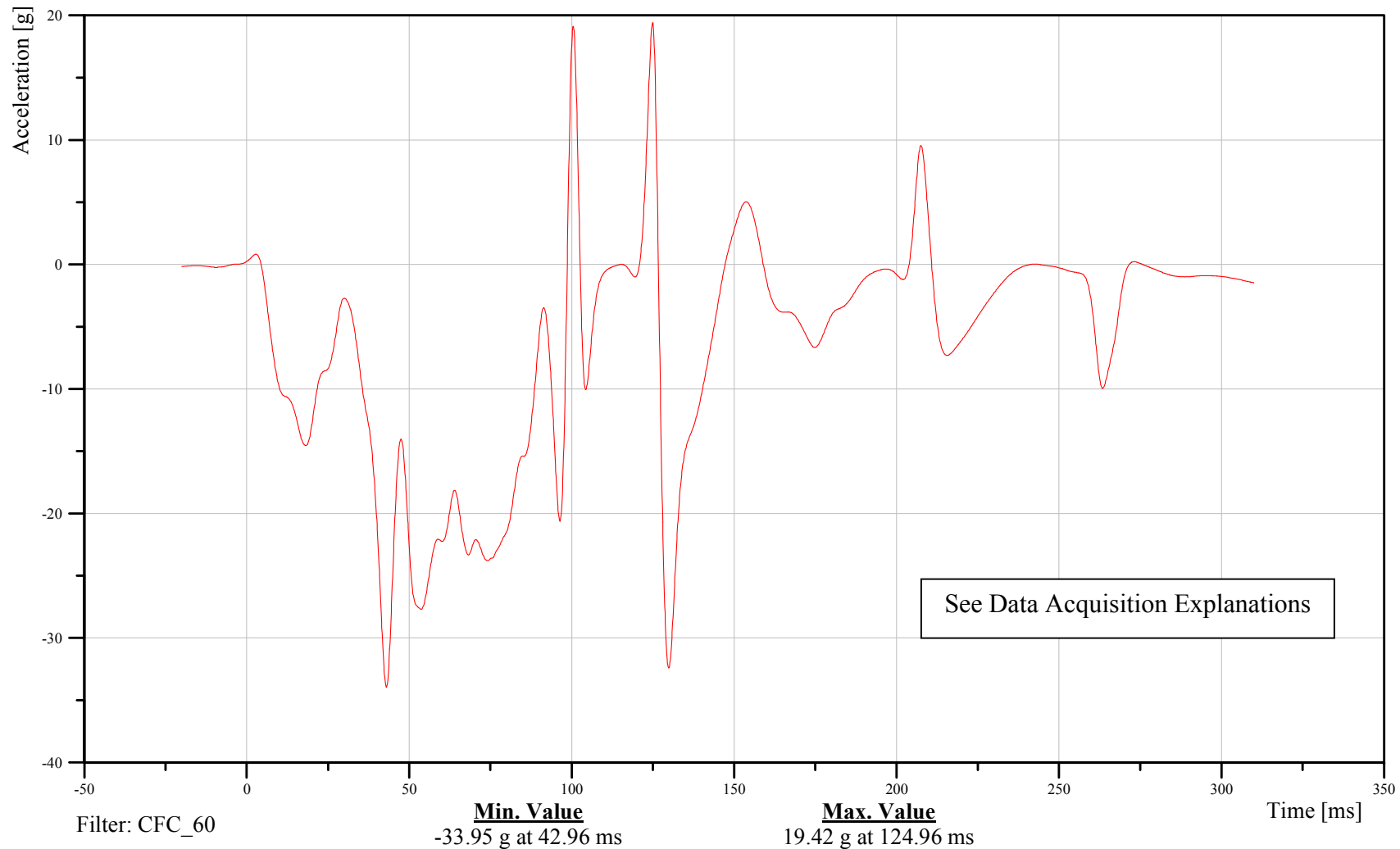
Time: 12:43

Customer: VRTC

25TUNNCY0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

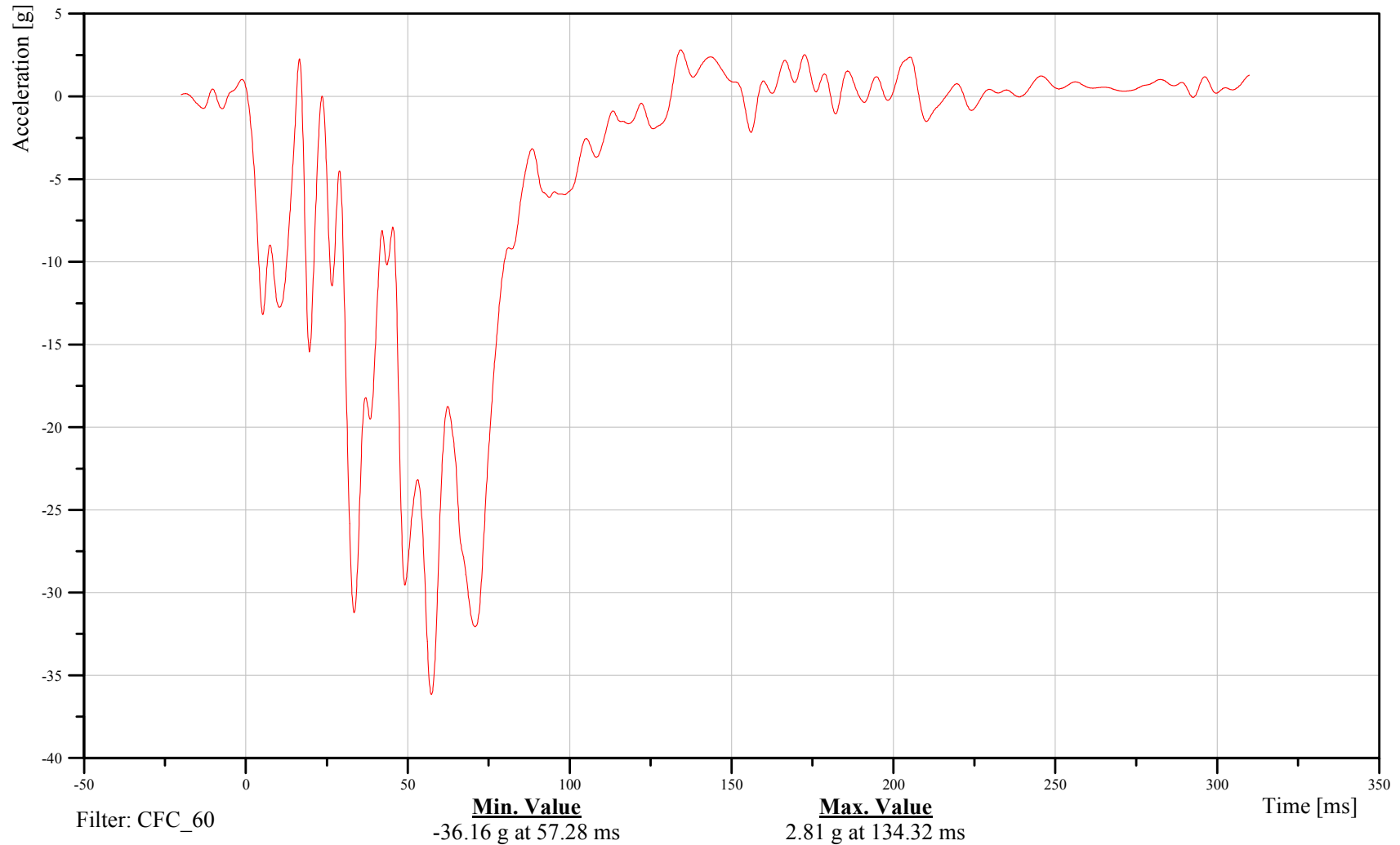
Bullet Vehicle CG X-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

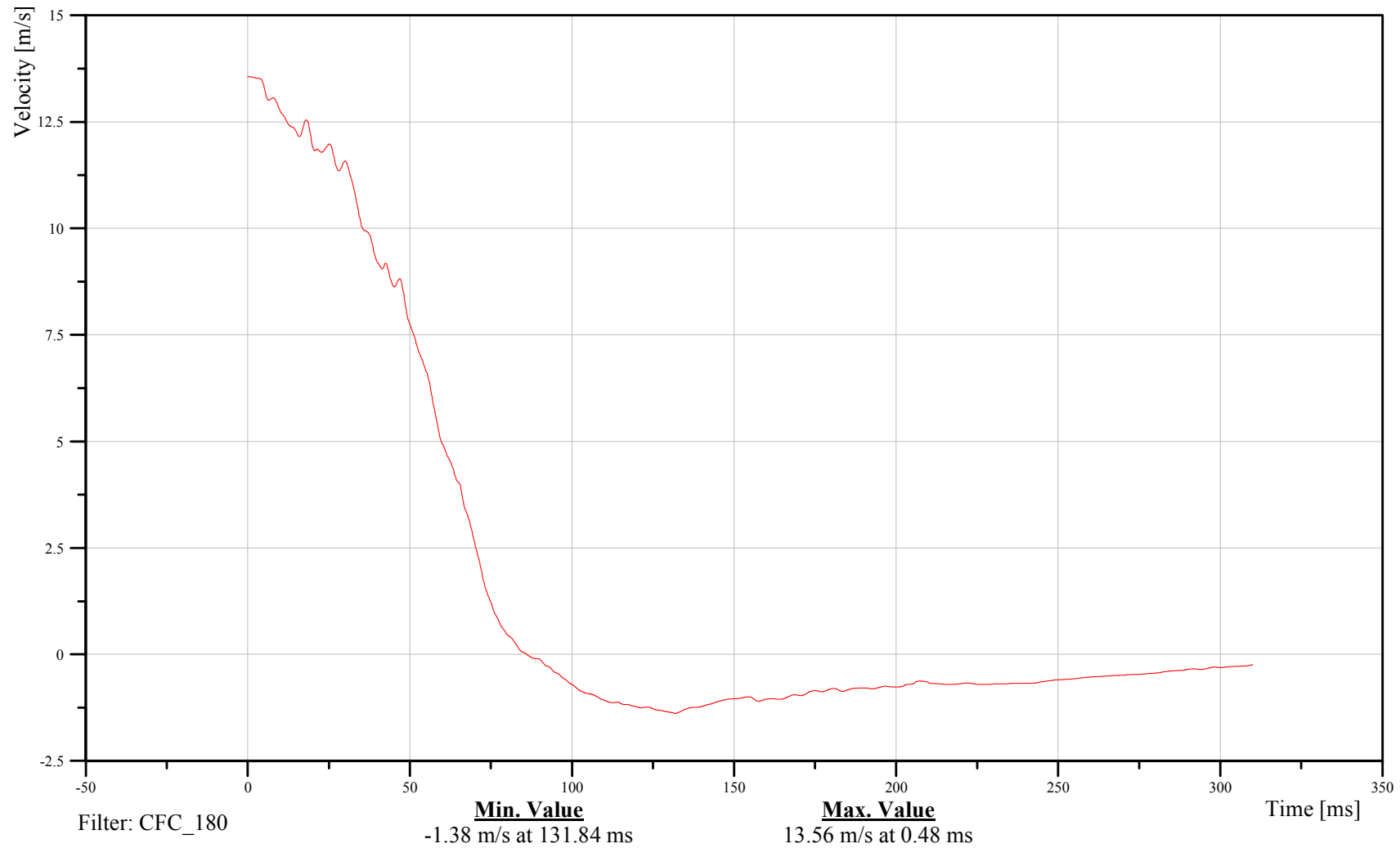
Bullet Vehicle CG X-Axis Velocity

Customer: VRTC

20VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

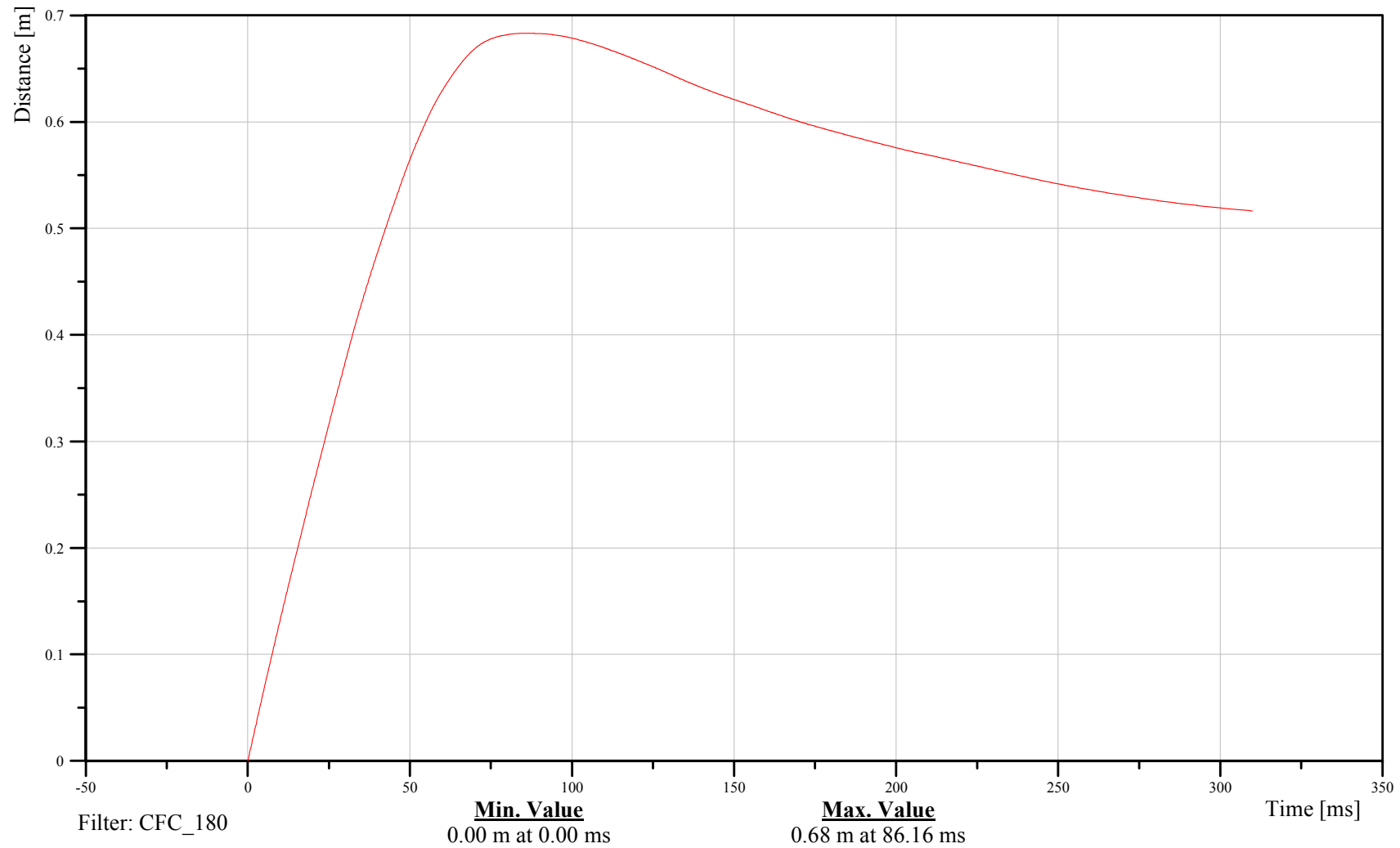
Bullet Vehicle CG X-Axis Displacement

Customer: VRTC

20VEHCCG0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

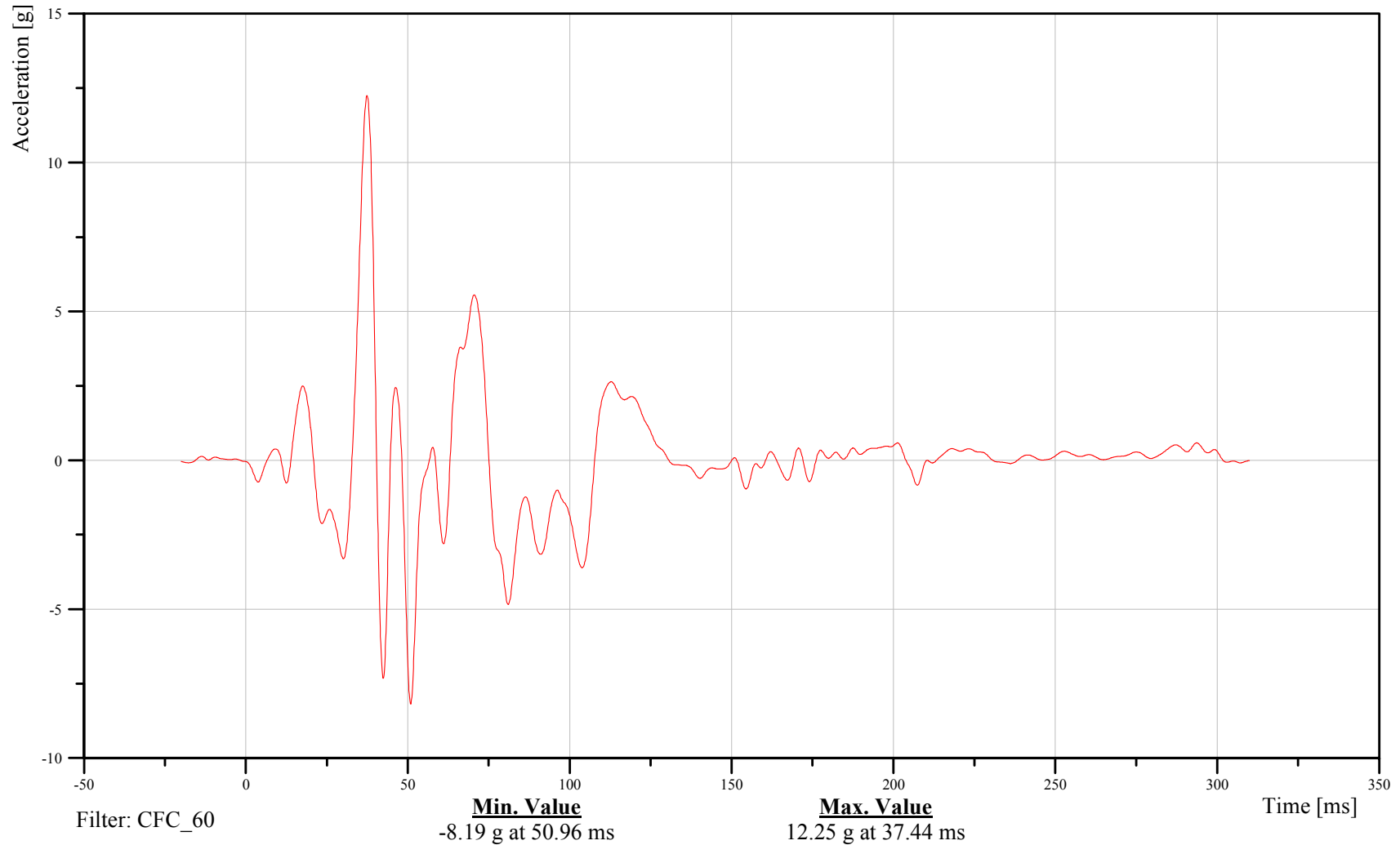
Bullet Vehicle CG Y-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

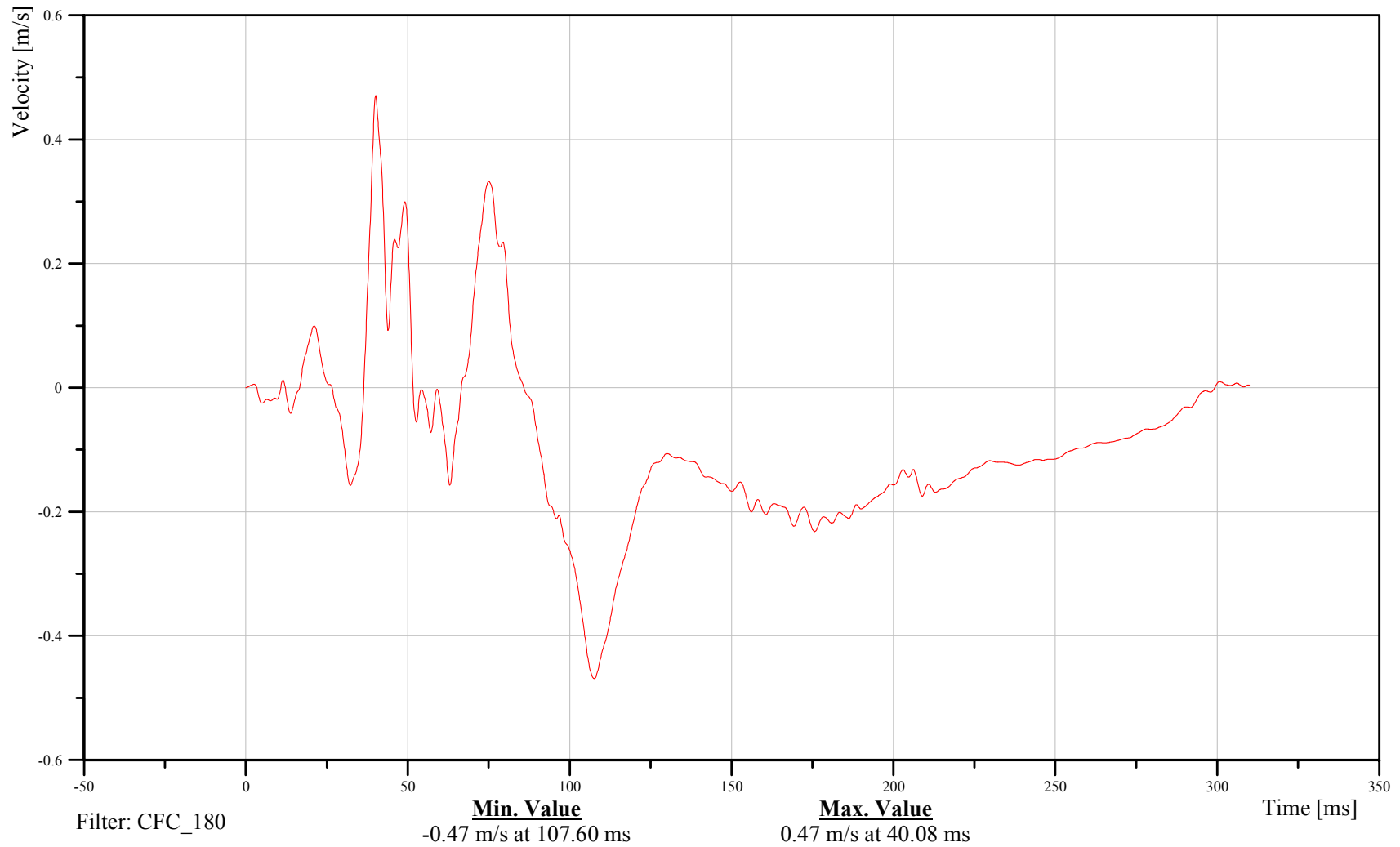
Bullet Vehicle CG Y-Axis Velocity

Customer: VRTC

20VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

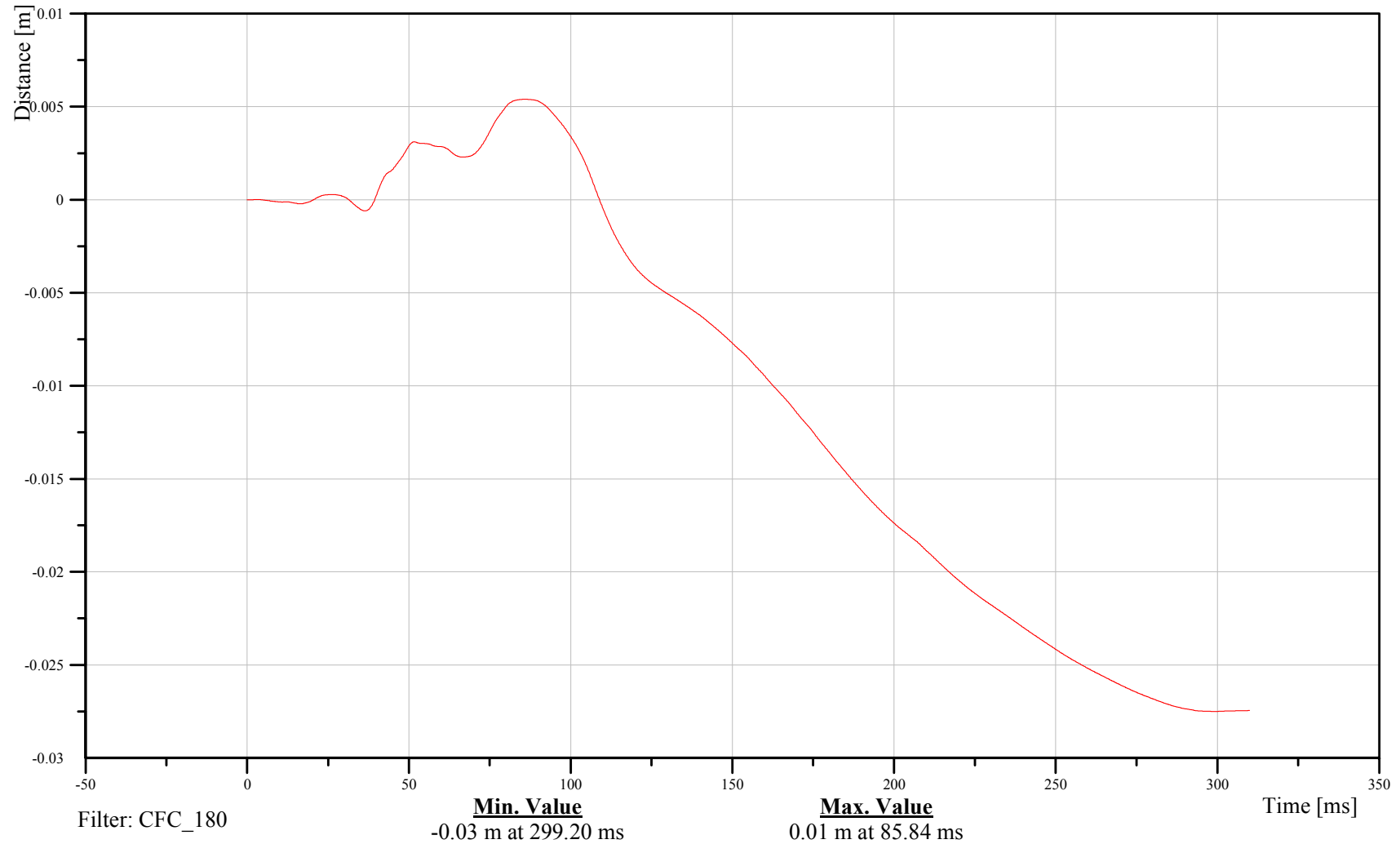
Bullet Vehicle CG Y-Axis Displacement

Customer: VRTC

20VEHCCG0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

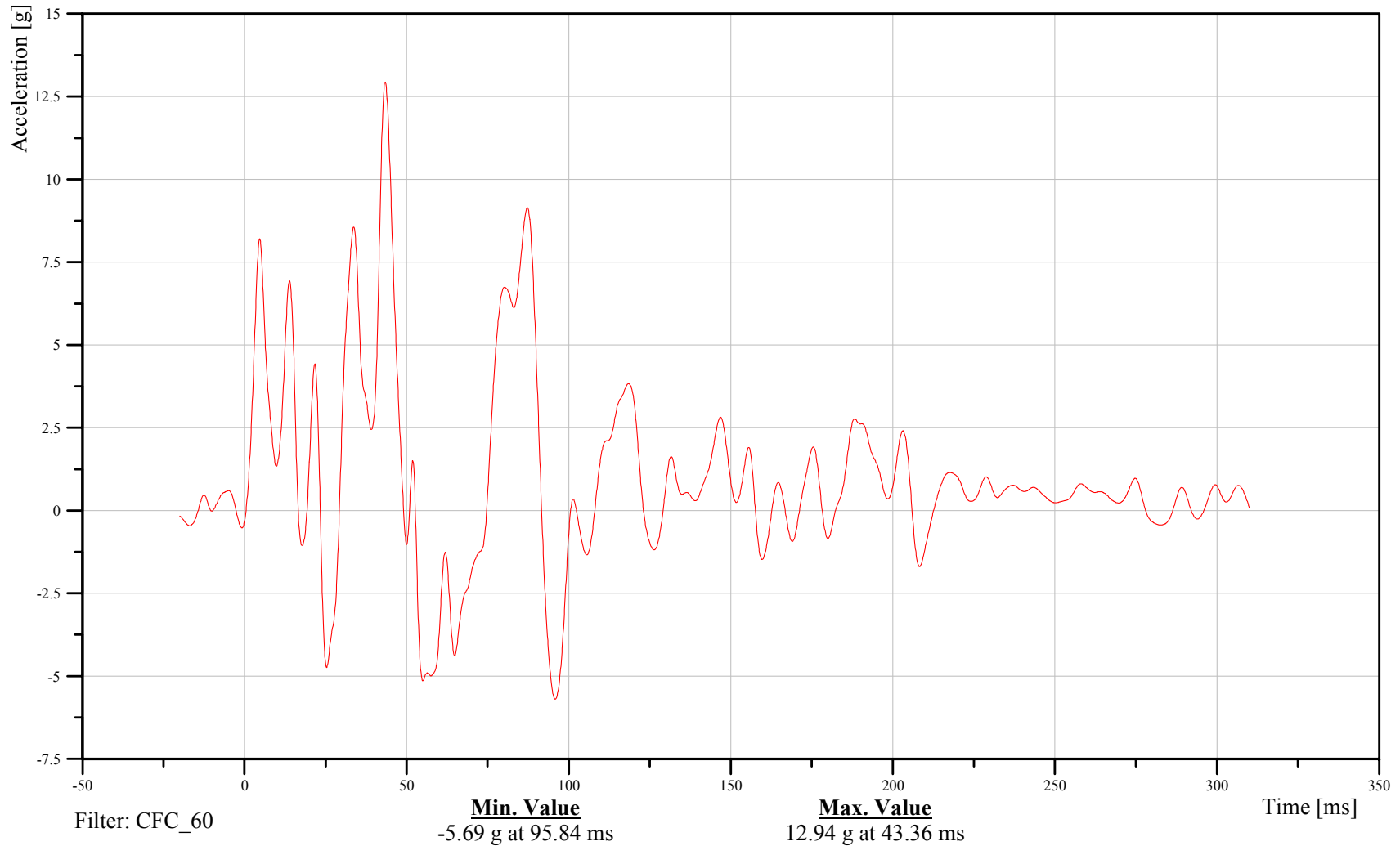
Bullet Vehicle CG Z-Axis Acceleration

Customer: VRTC

20VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

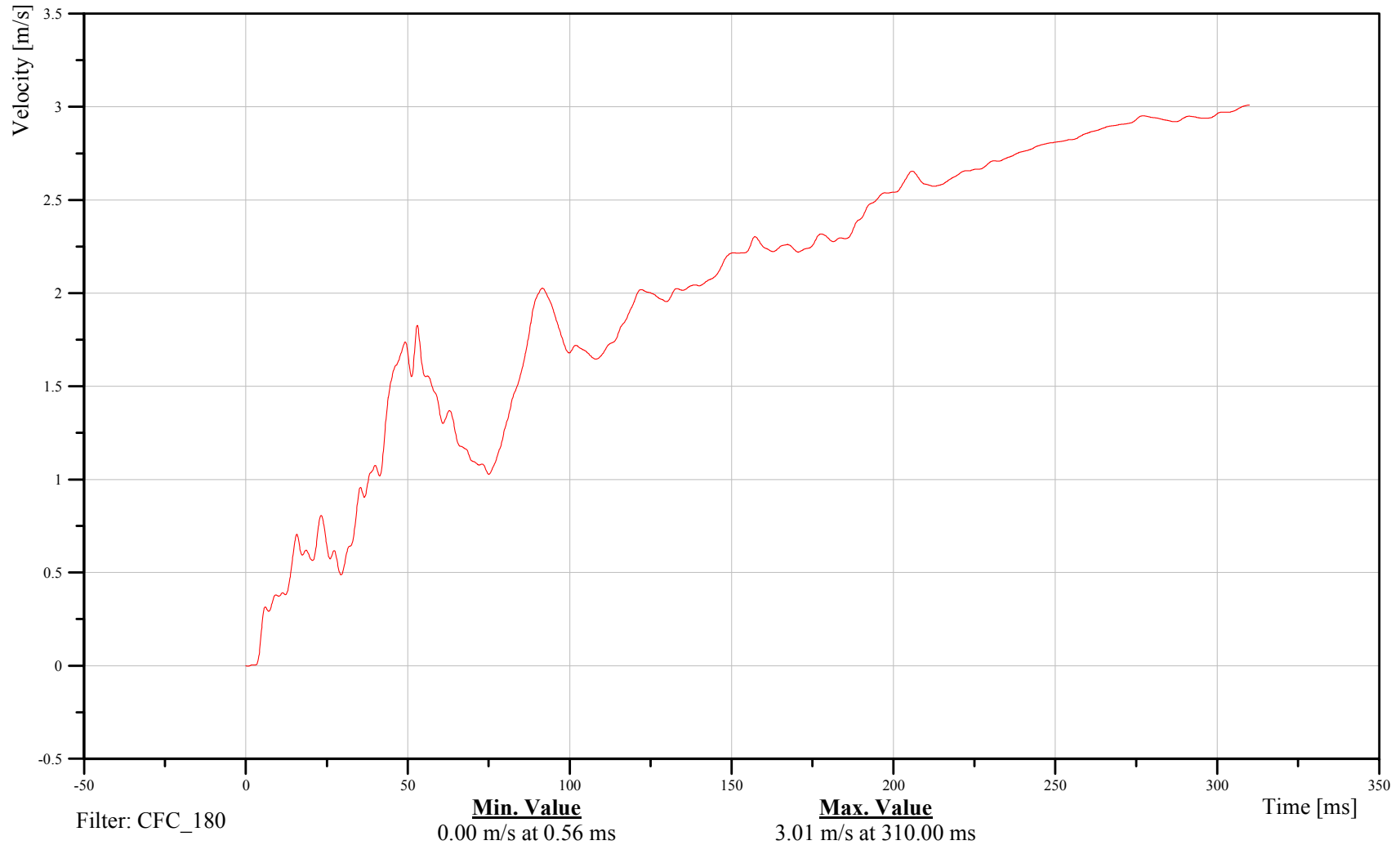
Bullet Vehicle CG Z-Axis Velocity

Customer: VRTC

20VEHCCG0000VEZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

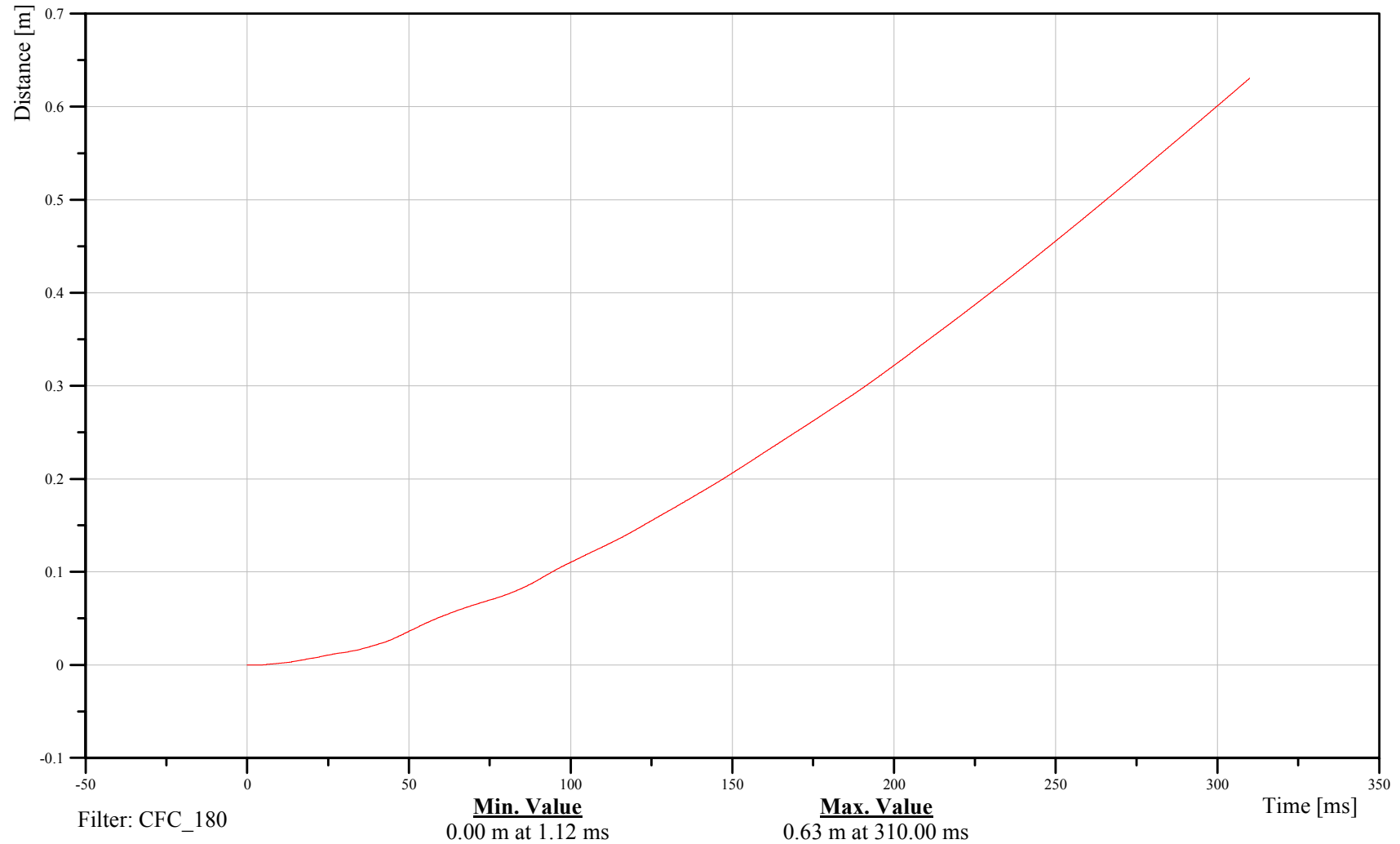
Bullet Vehicle CG Z-Axis Displacement

Customer: VRTC

20VEHCCG0000DCZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

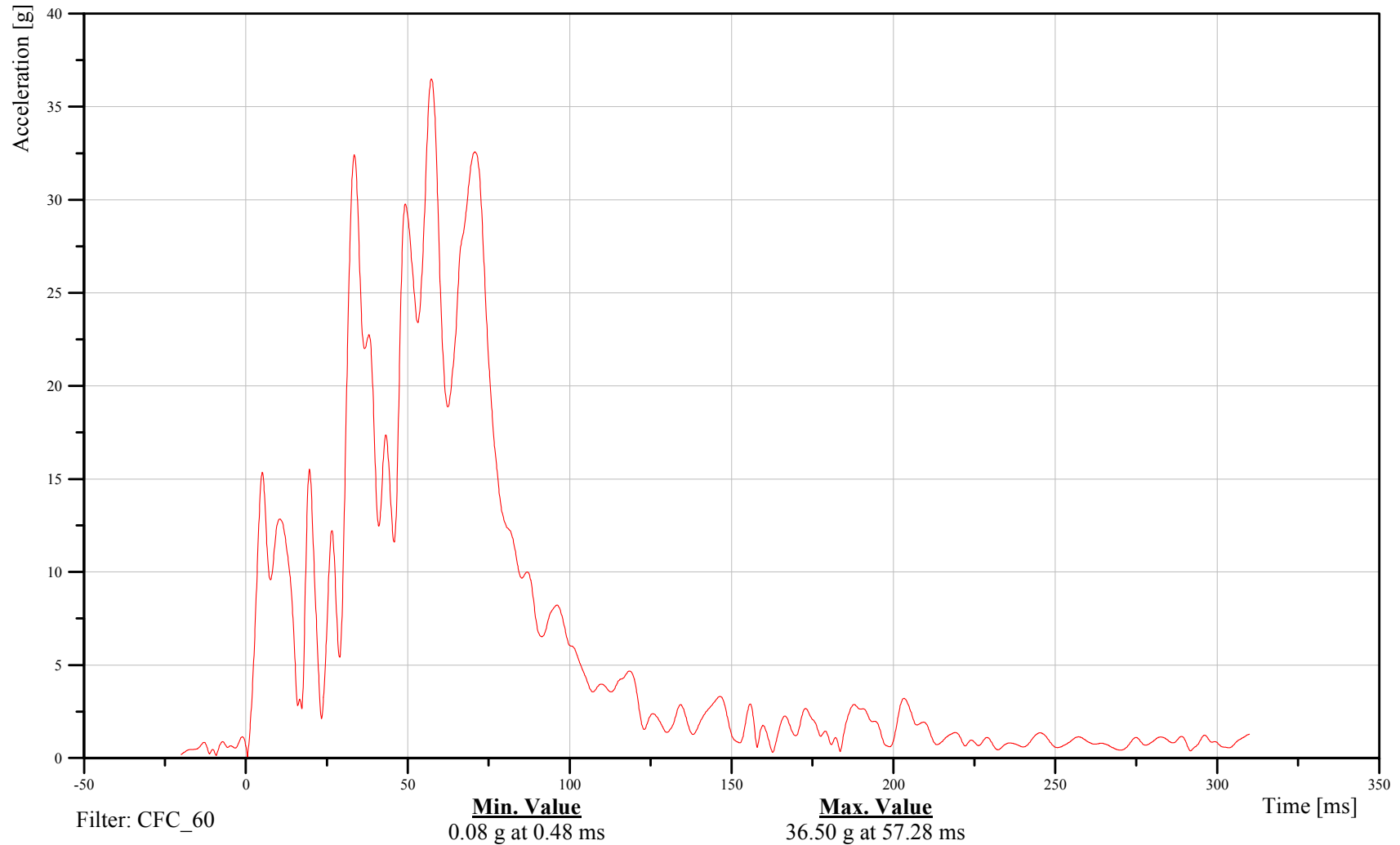
Bullet Vehicle CG Resultant Acceleration

Customer: VRTC

20VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

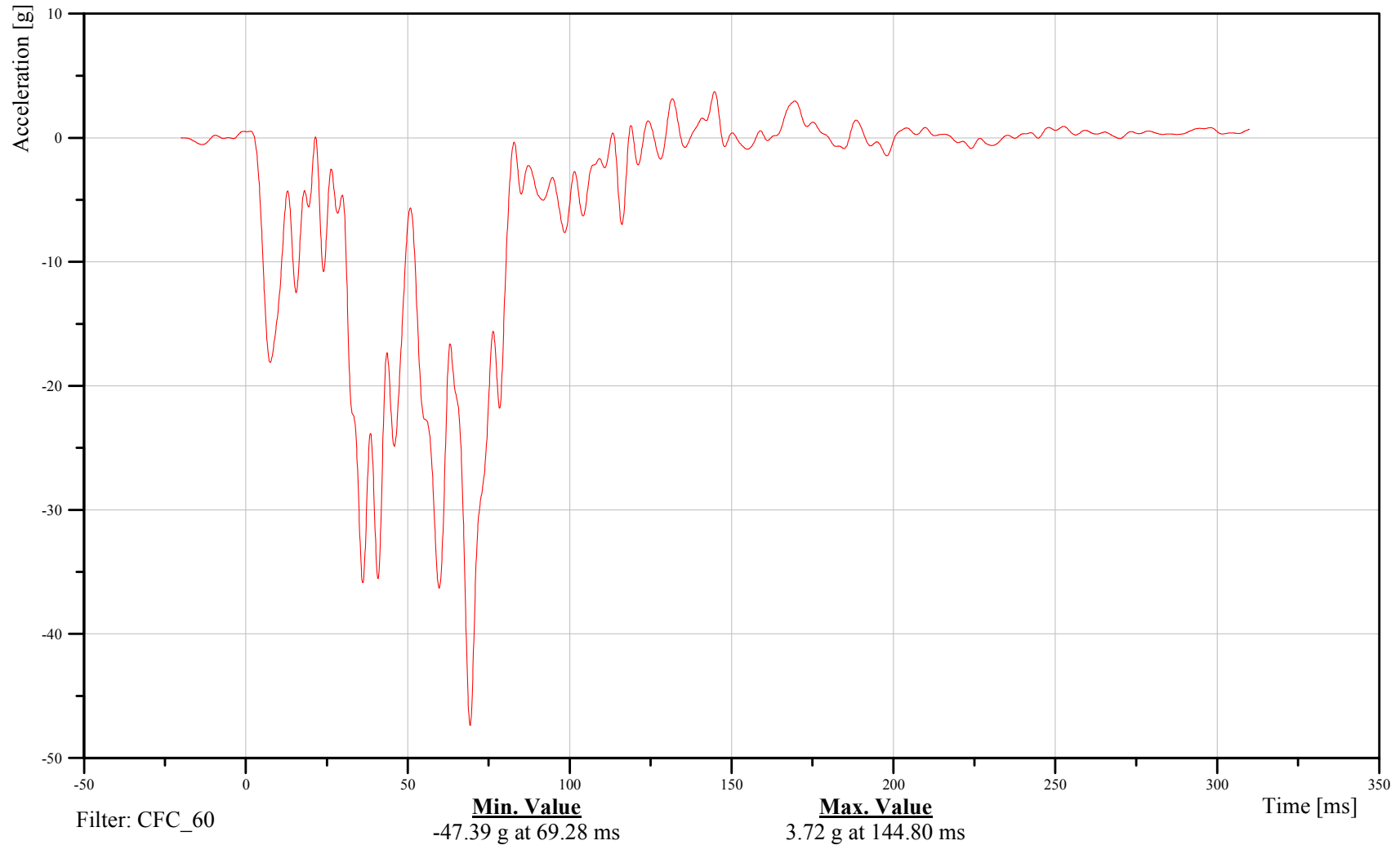
Bullet Vehicle Rear Deck X-Axis Acceleration

Customer: VRTC

28VEHC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

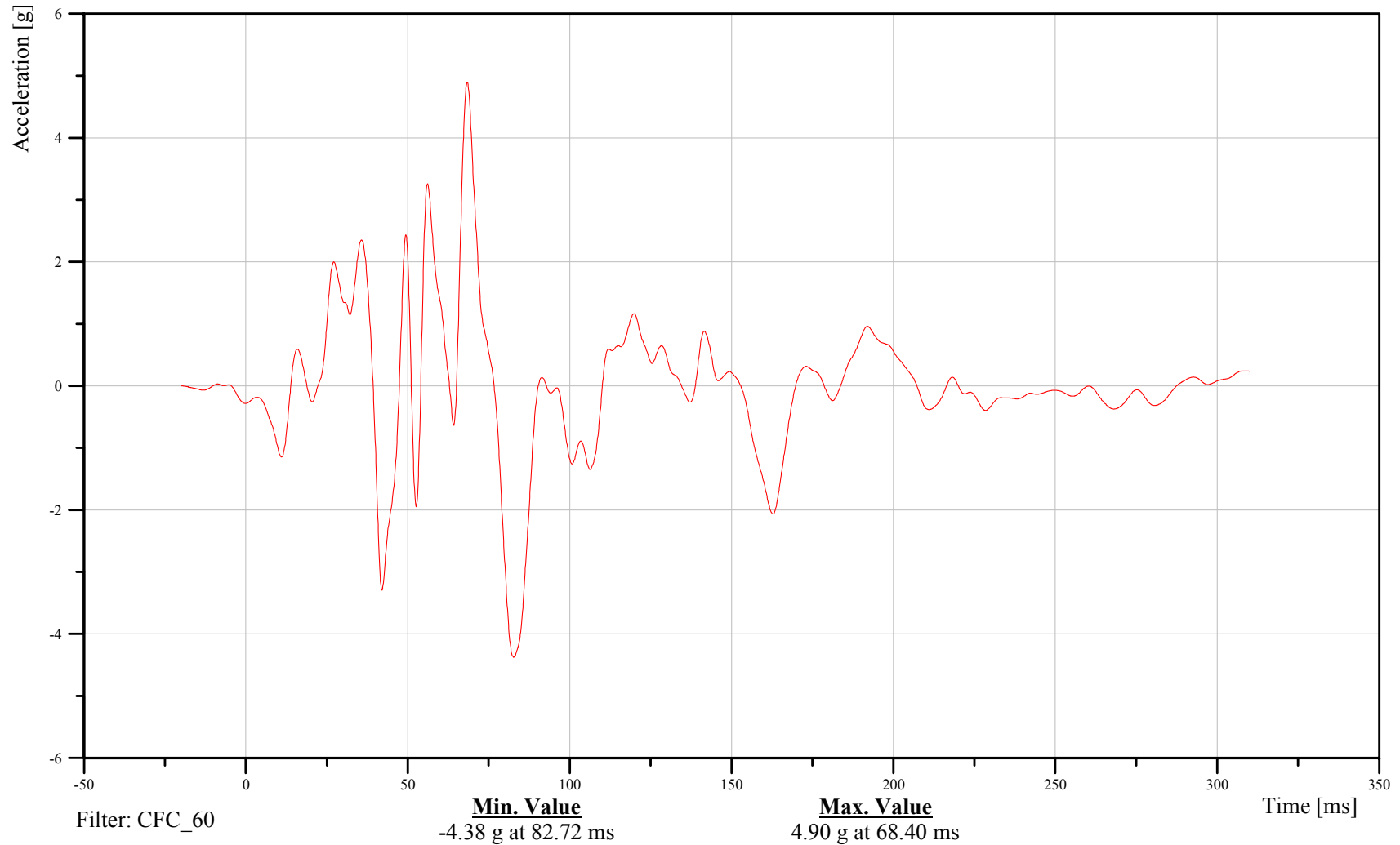
Bullet Vehicle Rear Deck Y-Axis Acceleration

Customer: VRTC

28VEHC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

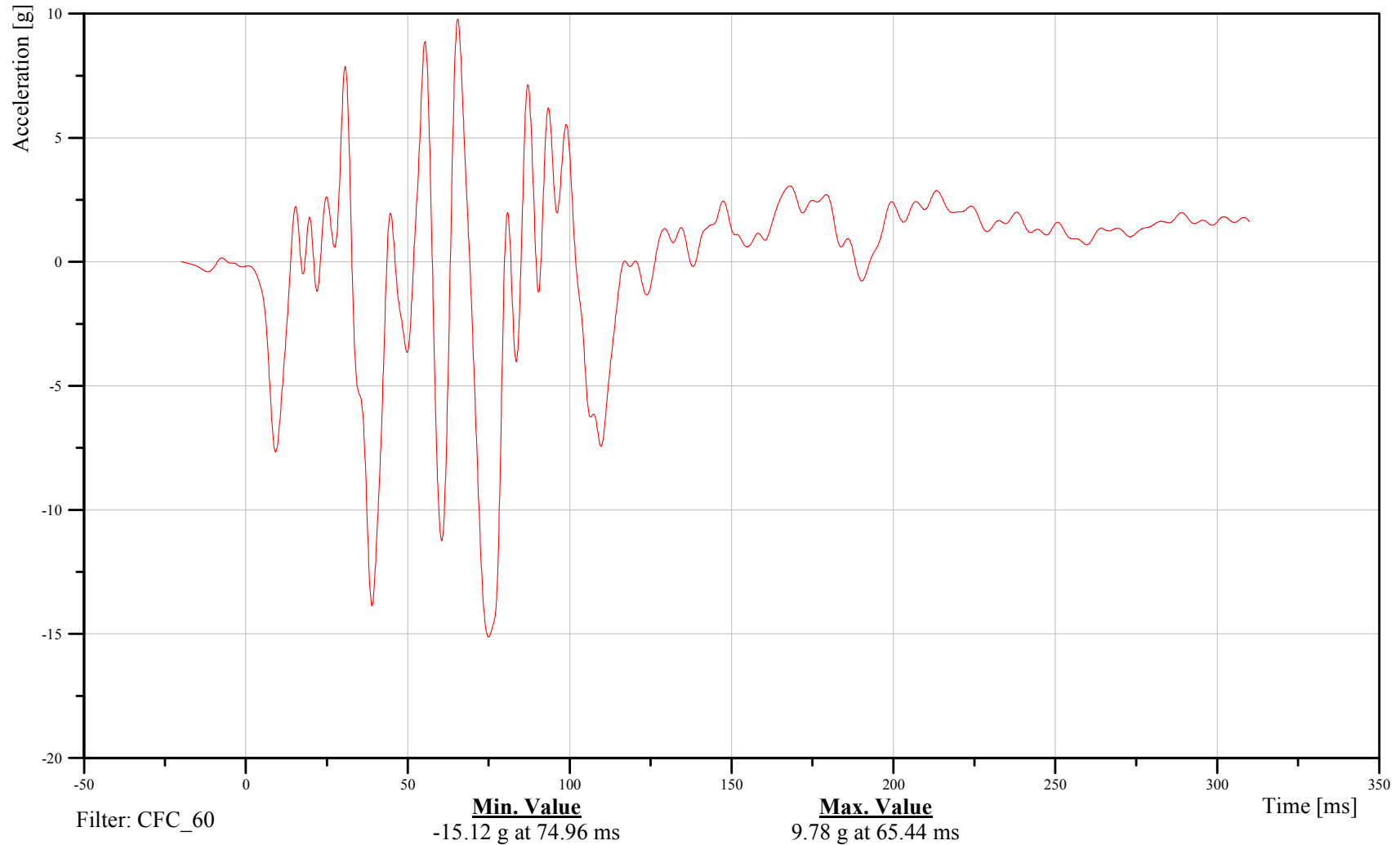
Bullet Vehicle Rear Deck Z-Axis Acceleration

Customer: VRTC

28VEHC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

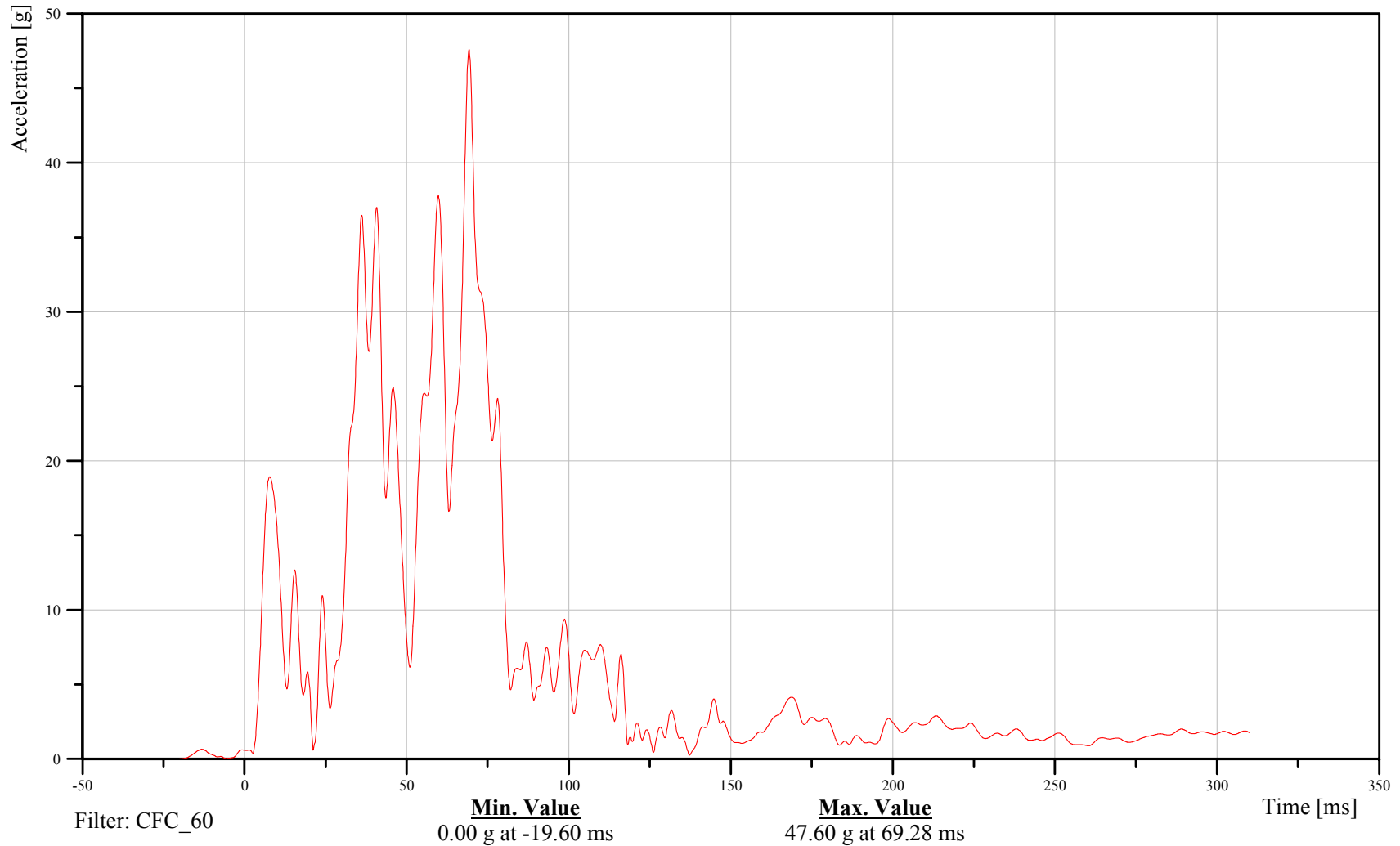
Bullet Vehicle Rear Deck Resultant Acceleration

Customer: VRTC

28VEHC000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

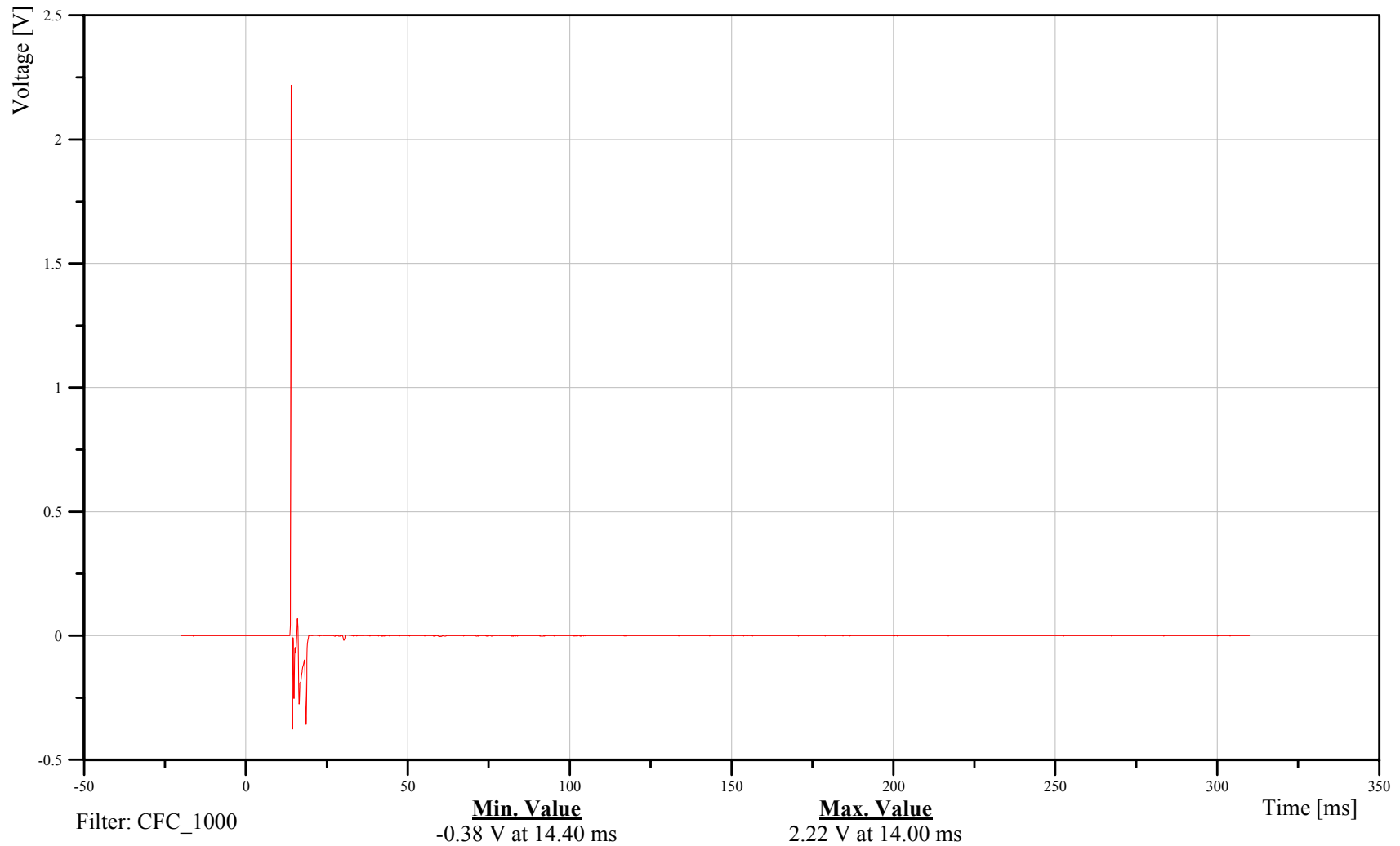
Bullet Vehicle Driver Airbag - Primary

Customer: VRTC

21SENS000001VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906



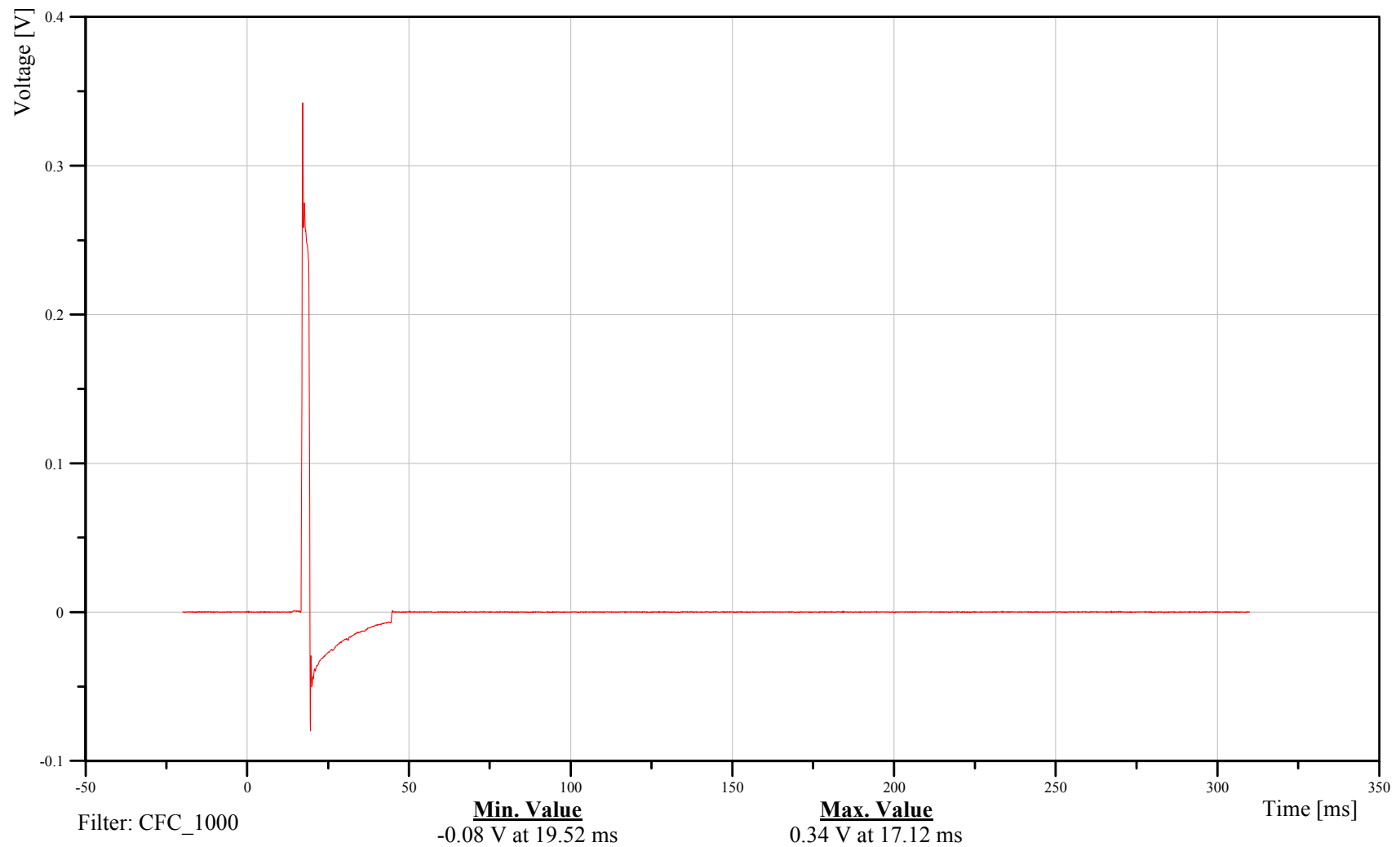


Customer: VRTC

21SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906





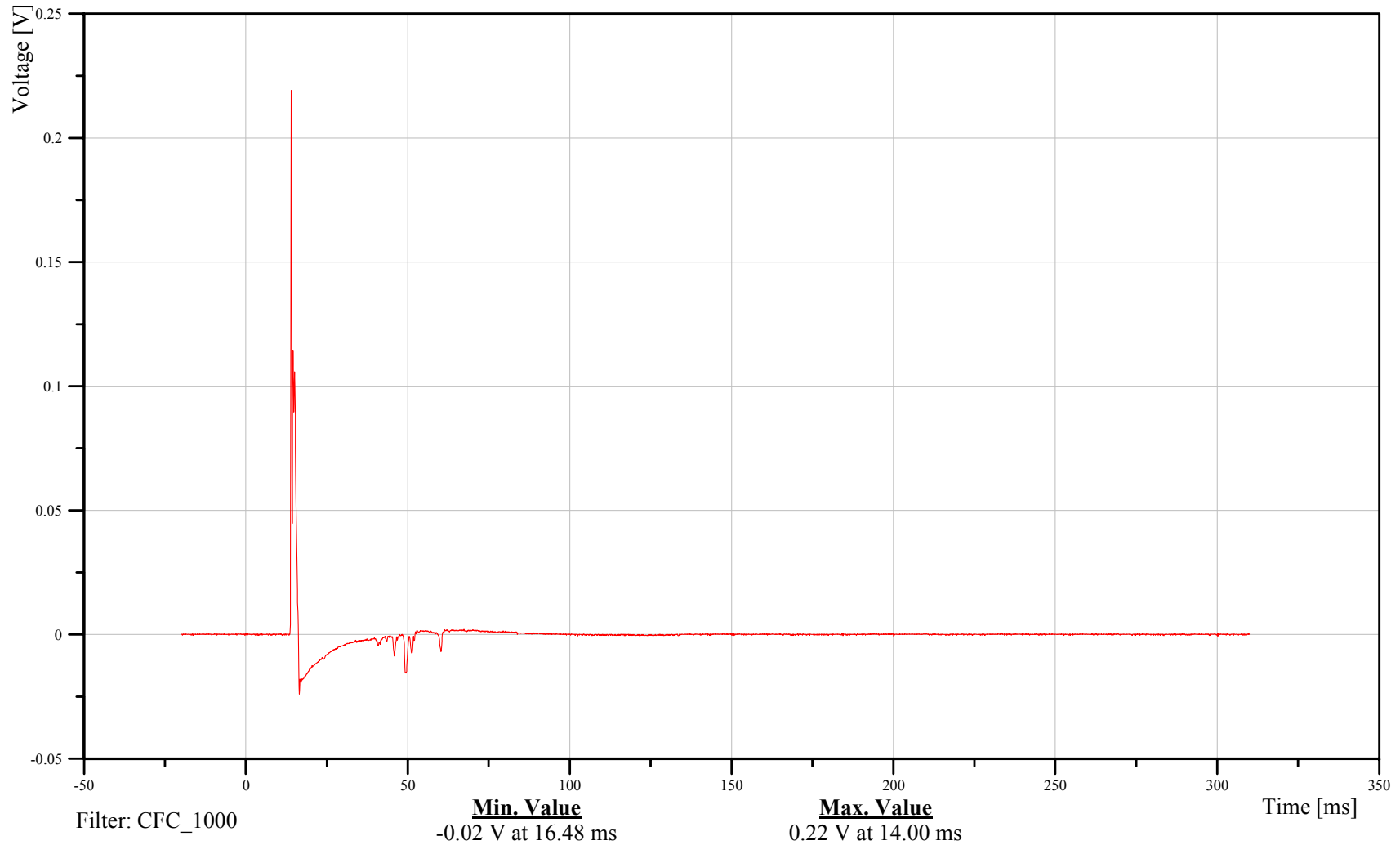
Bullet Vehicle Passenger Airbag - Primary

Customer: VRTC

23SENS000001VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906





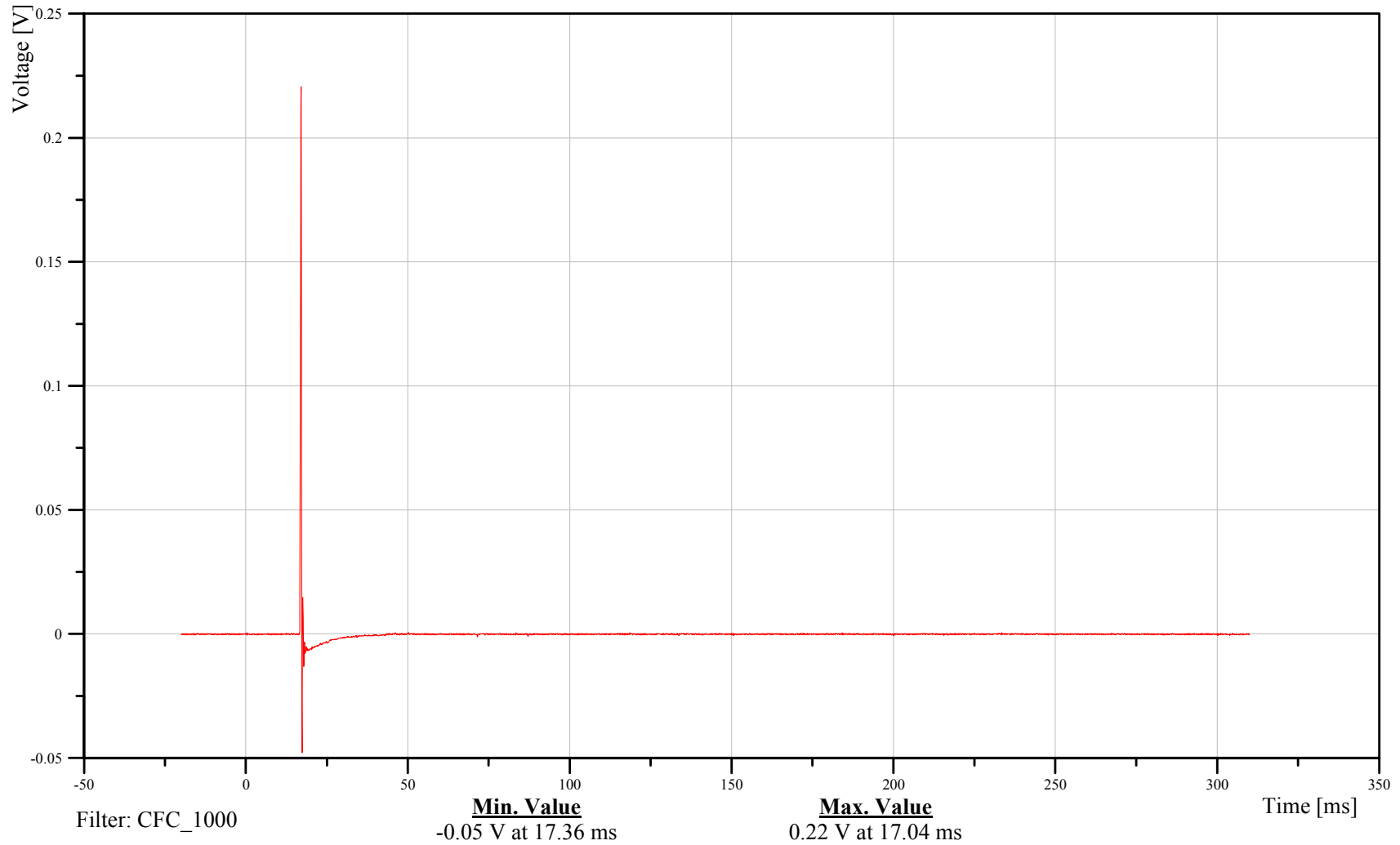
Bullet Vehicle Passenger Airbag - Secondary

Customer: VRTC

23SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

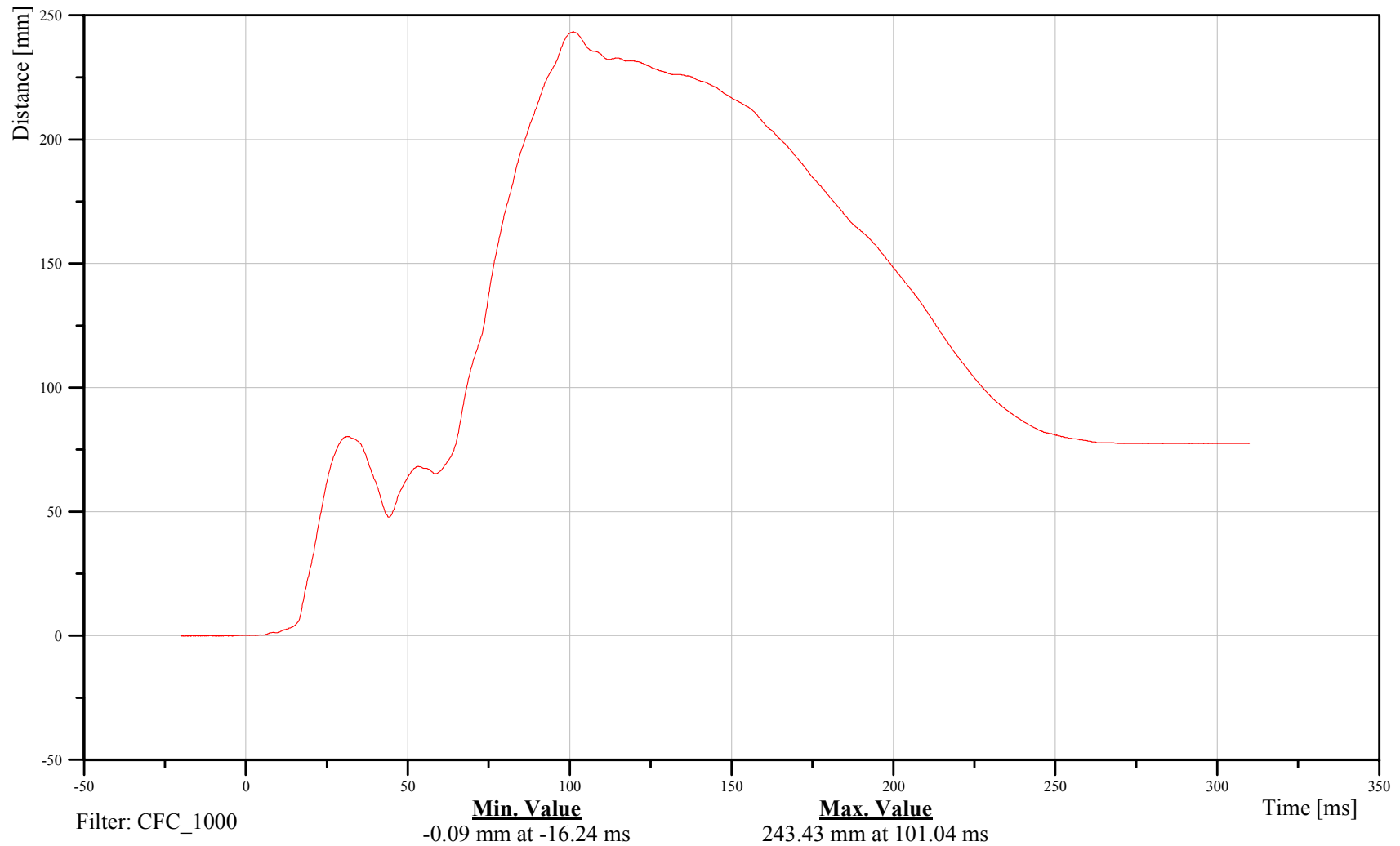
Bullet Vehicle Driver lap belt spool

Customer: VRTC

21SEBA0000B5DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

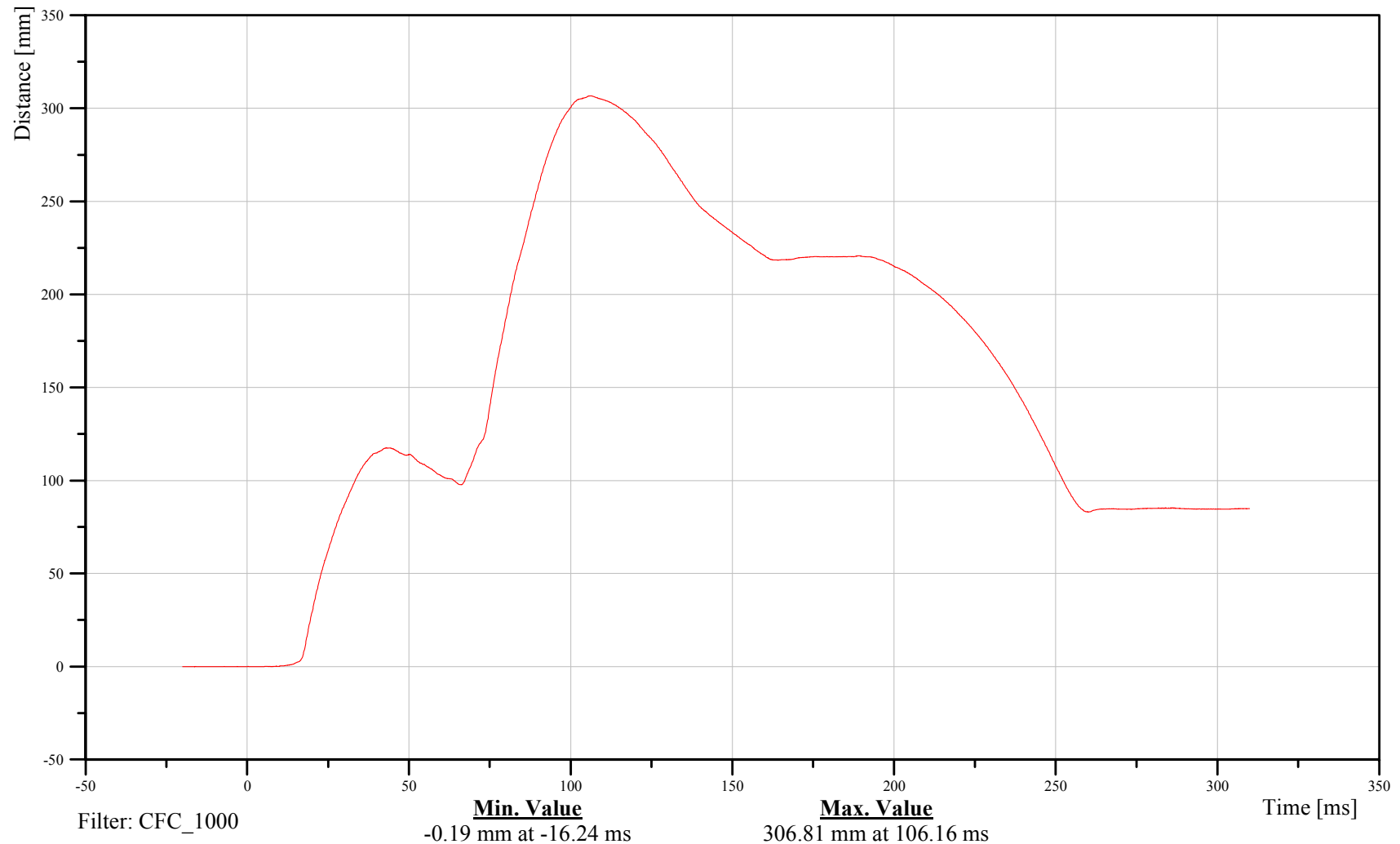
Bullet Vehicle Driver shoulder belt spool and retraction

Customer: VRTC

21SEBA0000B3DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

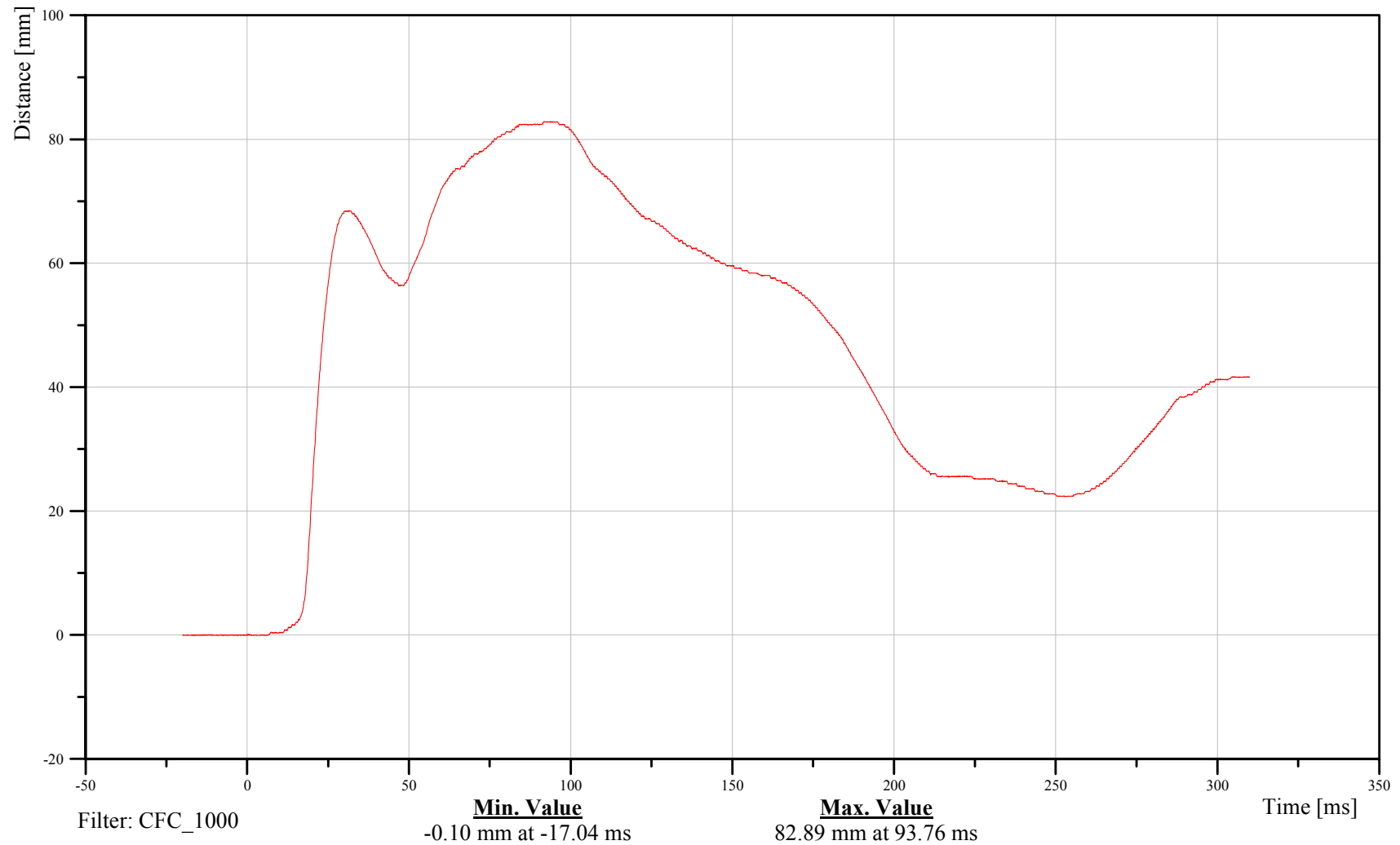
Bullet Vehicle RF Pass lap belt spool

Customer: VRTC

23SEBA0000B5DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

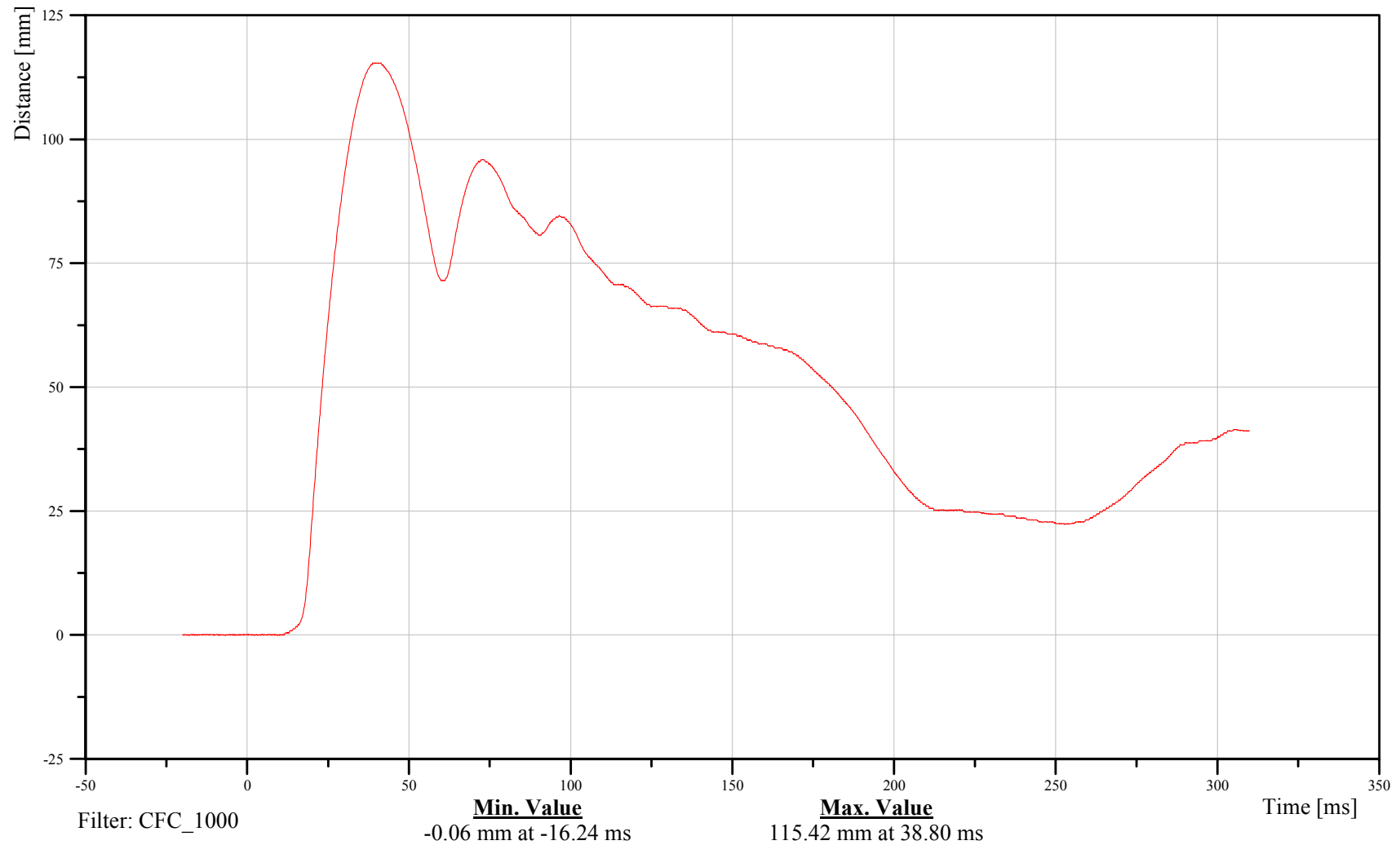
Bullet Vehicle RF Pass shoulder belt spool and retraction

Customer: VRTC

23SEBA0000B3DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

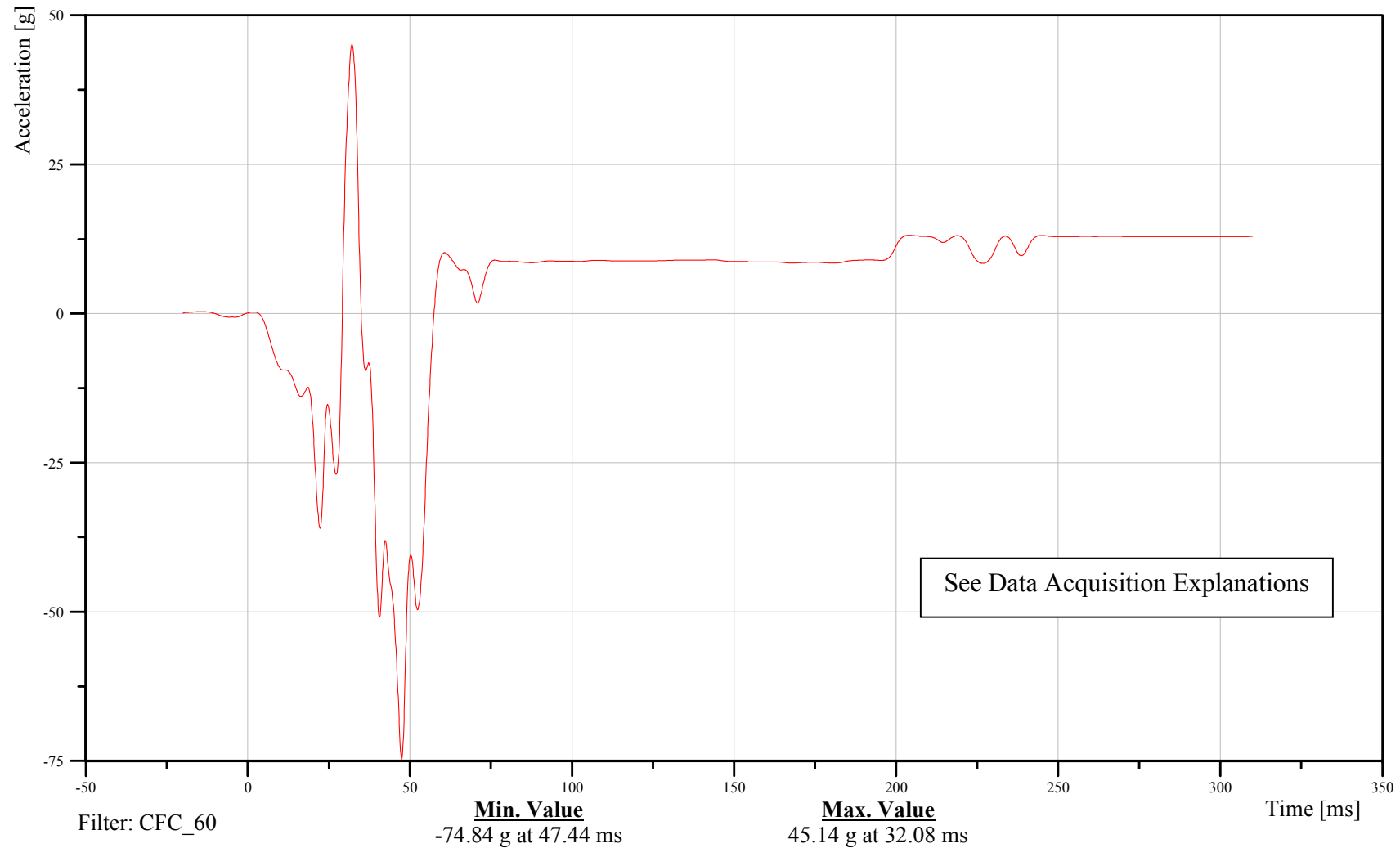
Bullet Vehicle IP Center

Customer: VRTC

22DASH000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

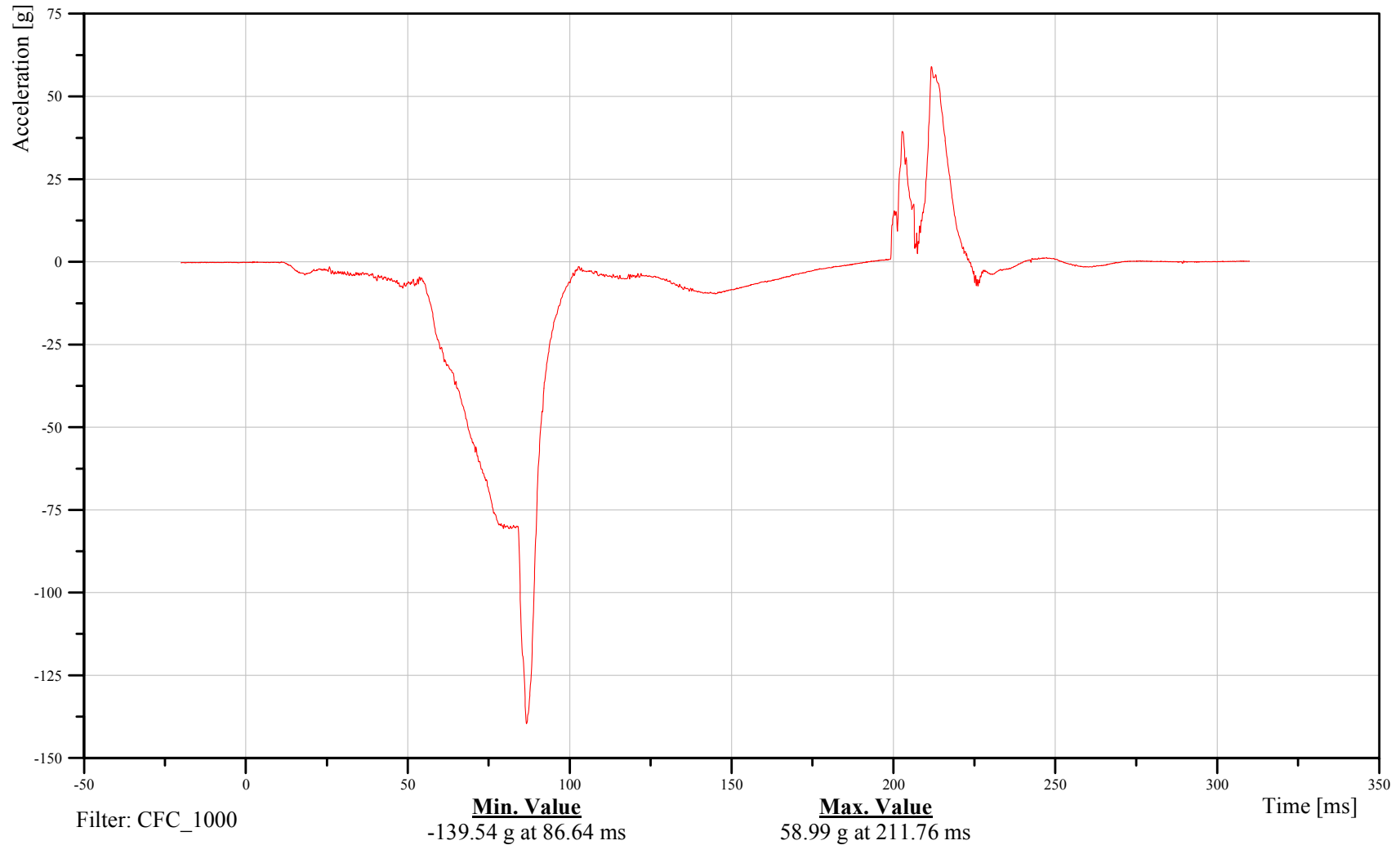
Target Driver Head X-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

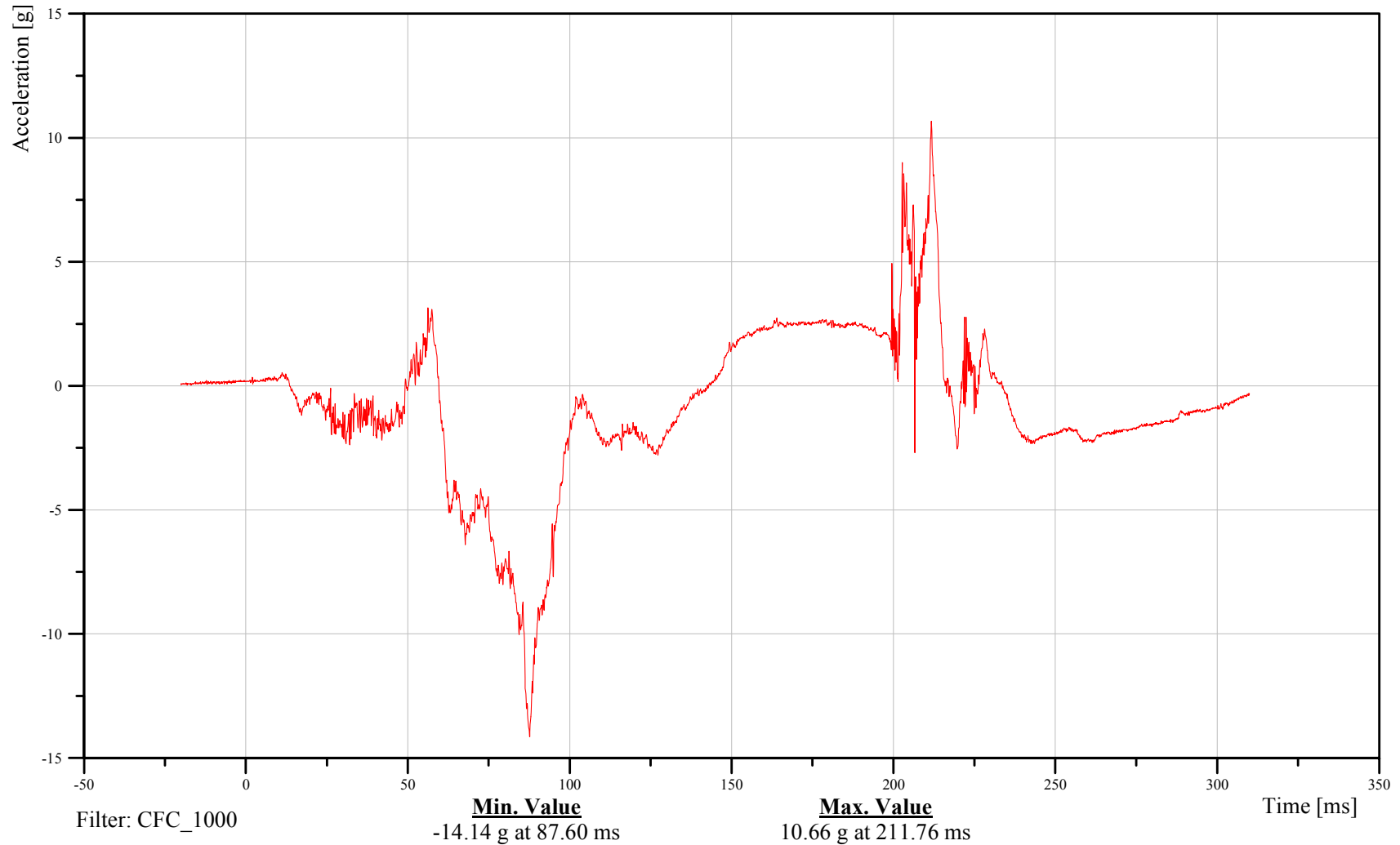
Target Driver Head Y-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

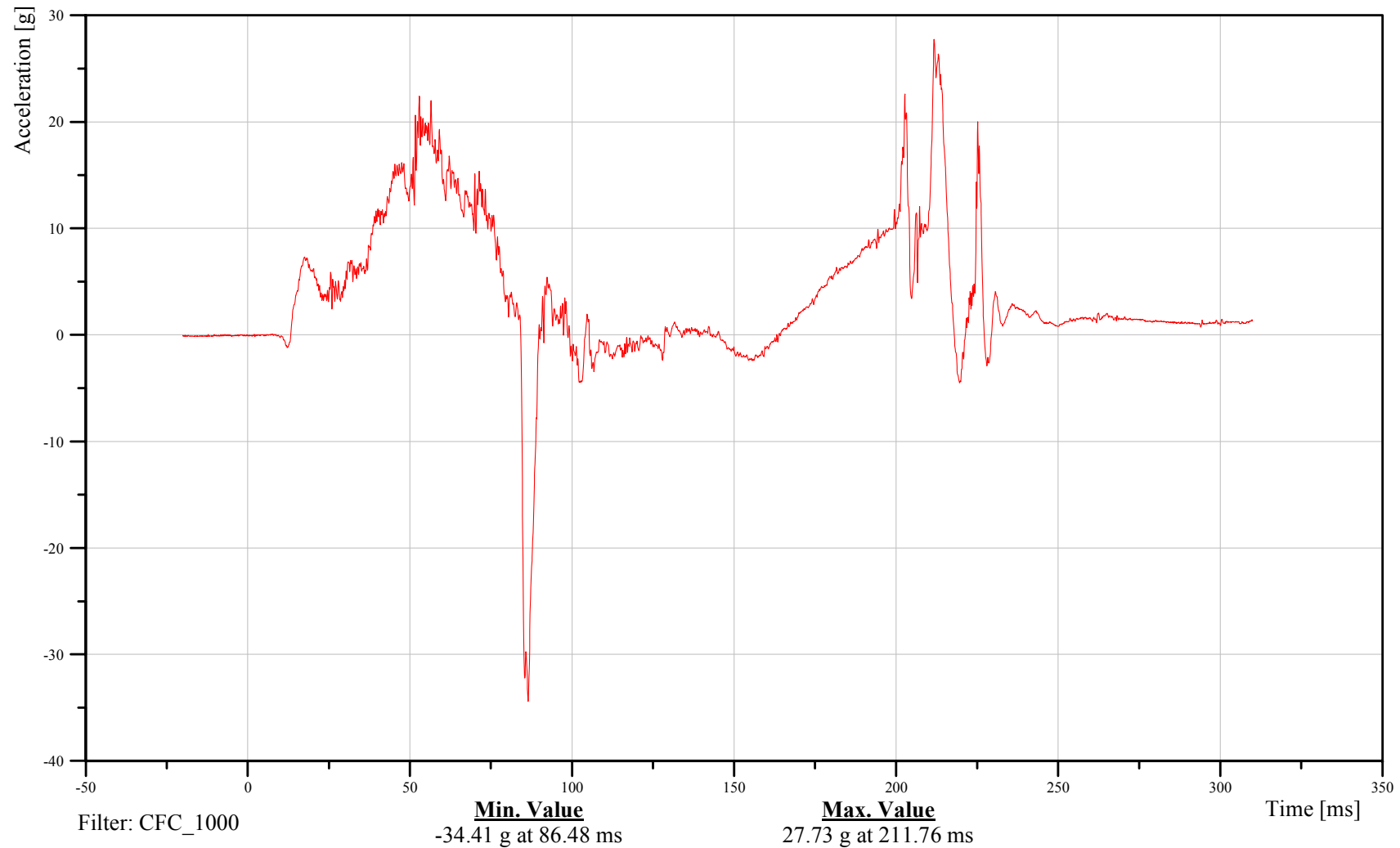
Target Driver Head Z-Axis Acceleration

Customer: VRTC

11HEADCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

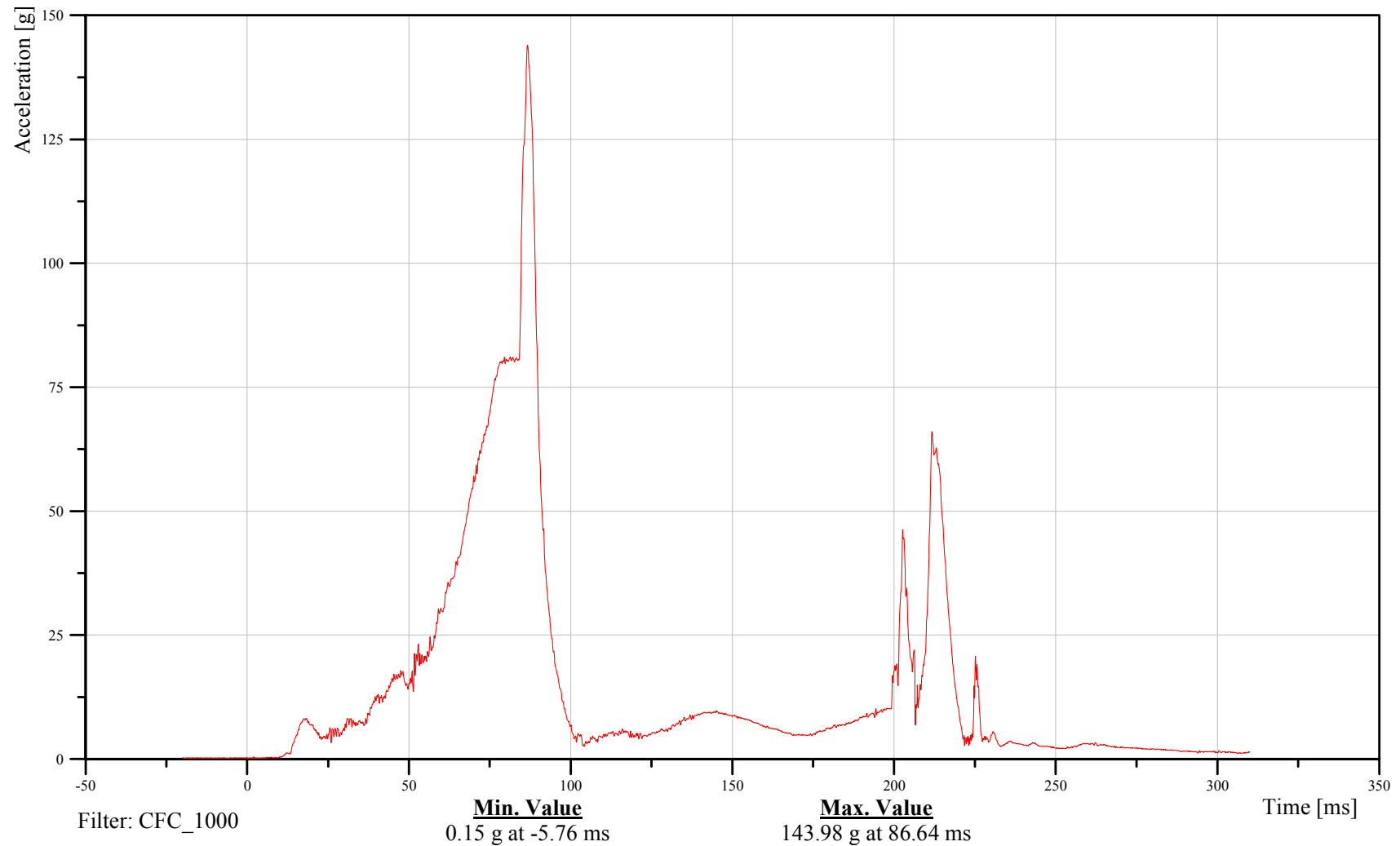
Target Driver Head Resultant Acceleration

Customer: VRTC

11HEADCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Driver Head Front Y-Axis Acceleration

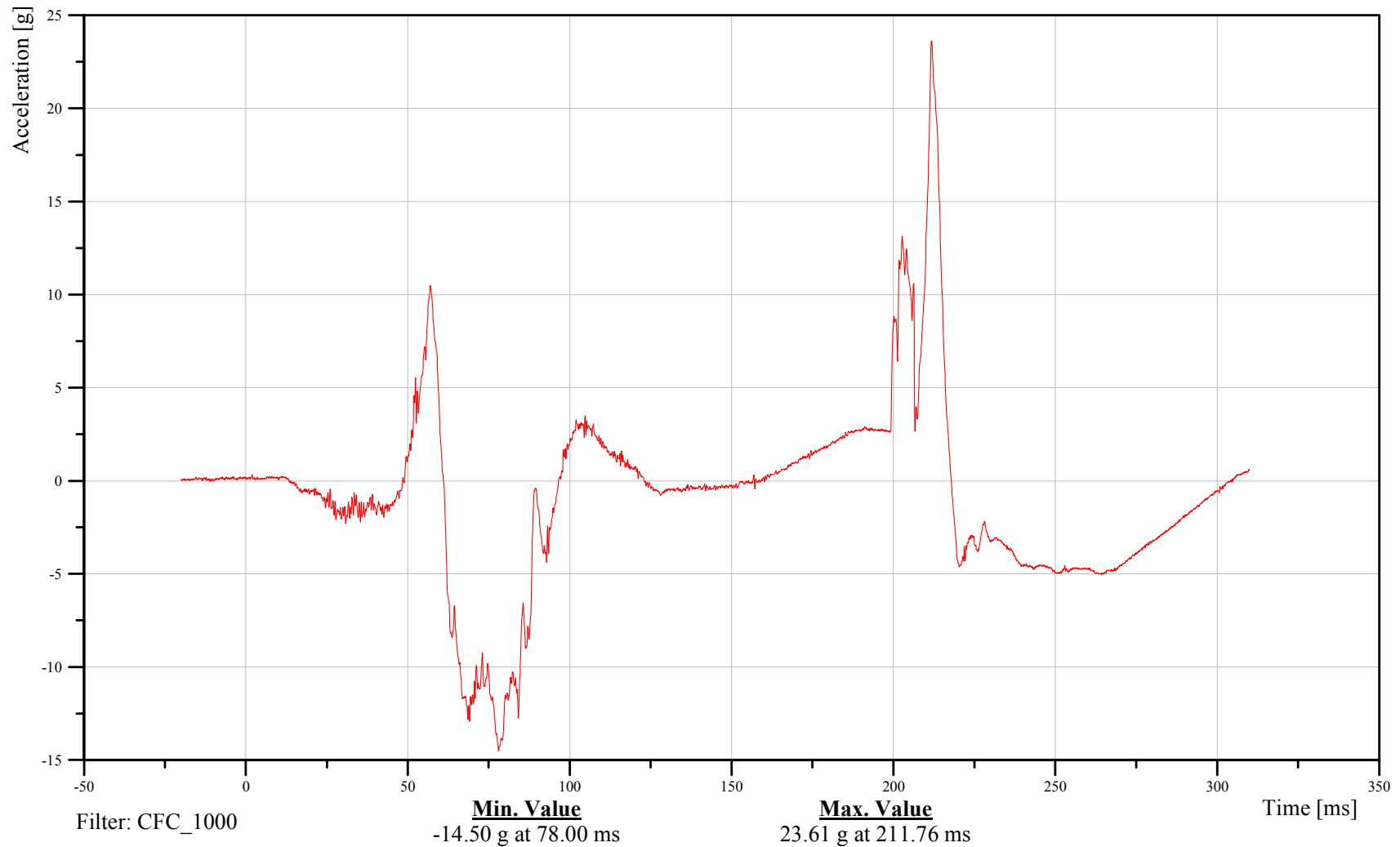
Time: 12:43

Customer: VRTC

11HEADFR00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

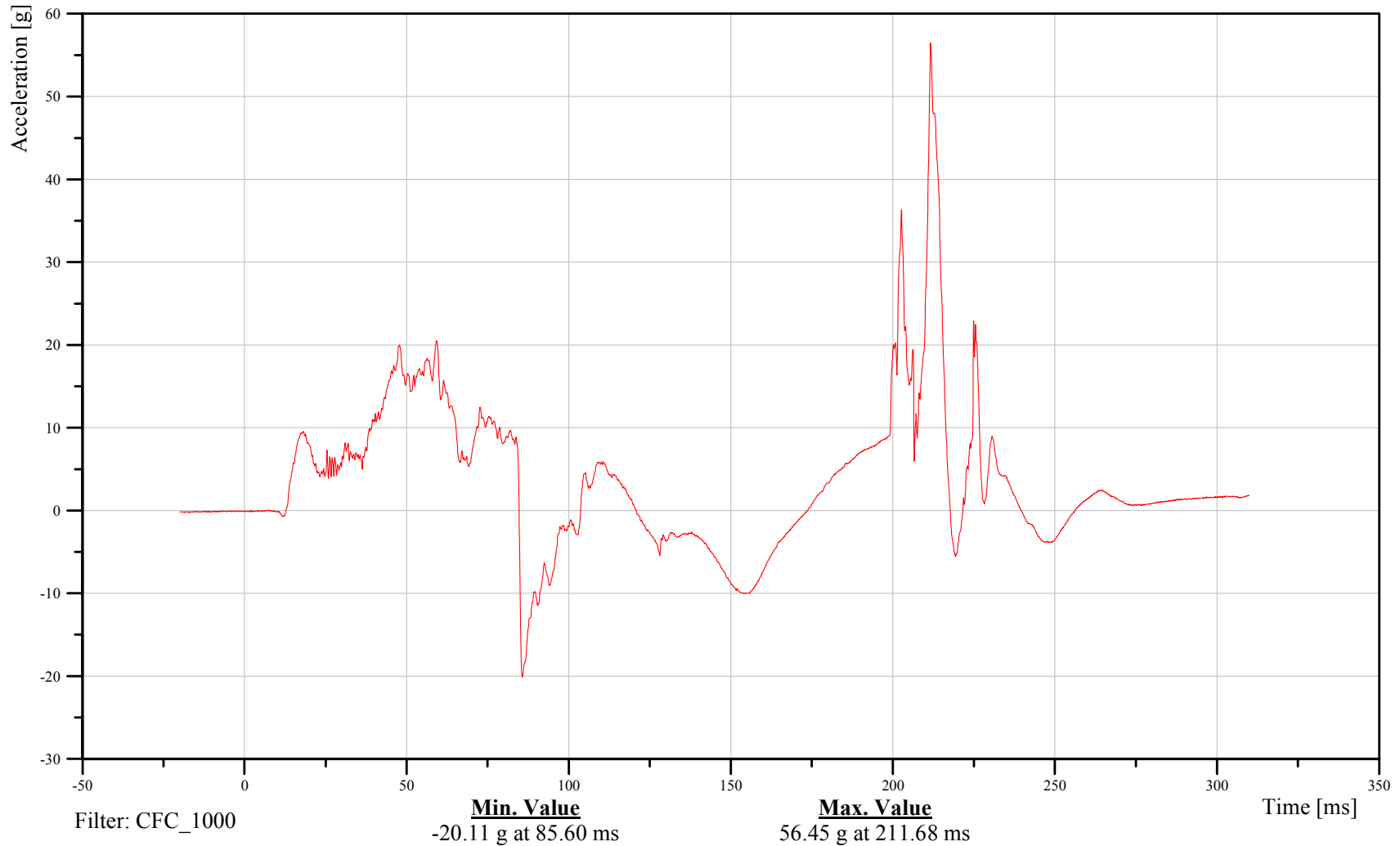
Target Driver Head Front Z-Axis Acceleration

Customer: VRTC

11HEADFR00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

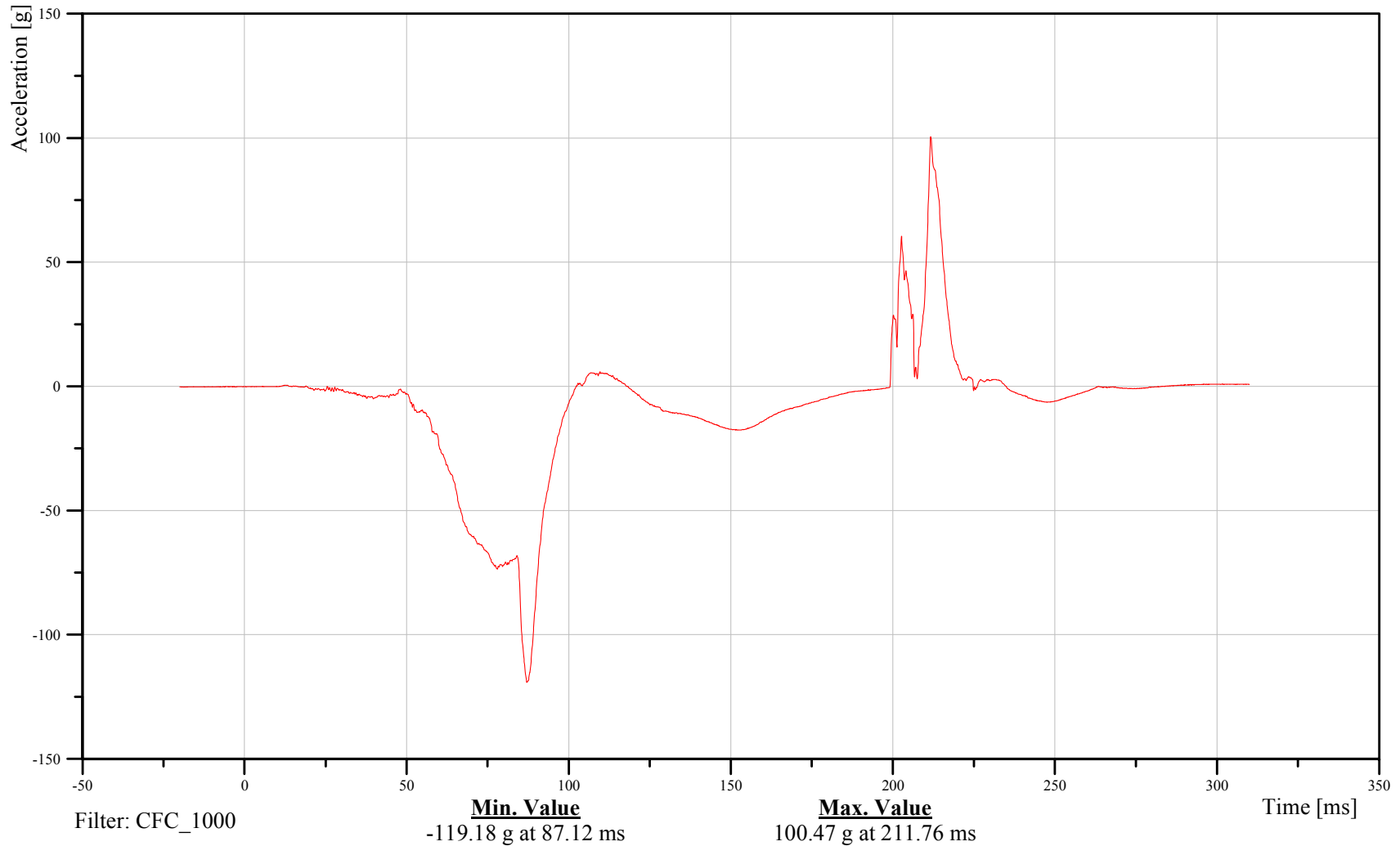
Target Driver Head Top X-Axis Acceleration

Customer: VRTC

11HEADUP00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

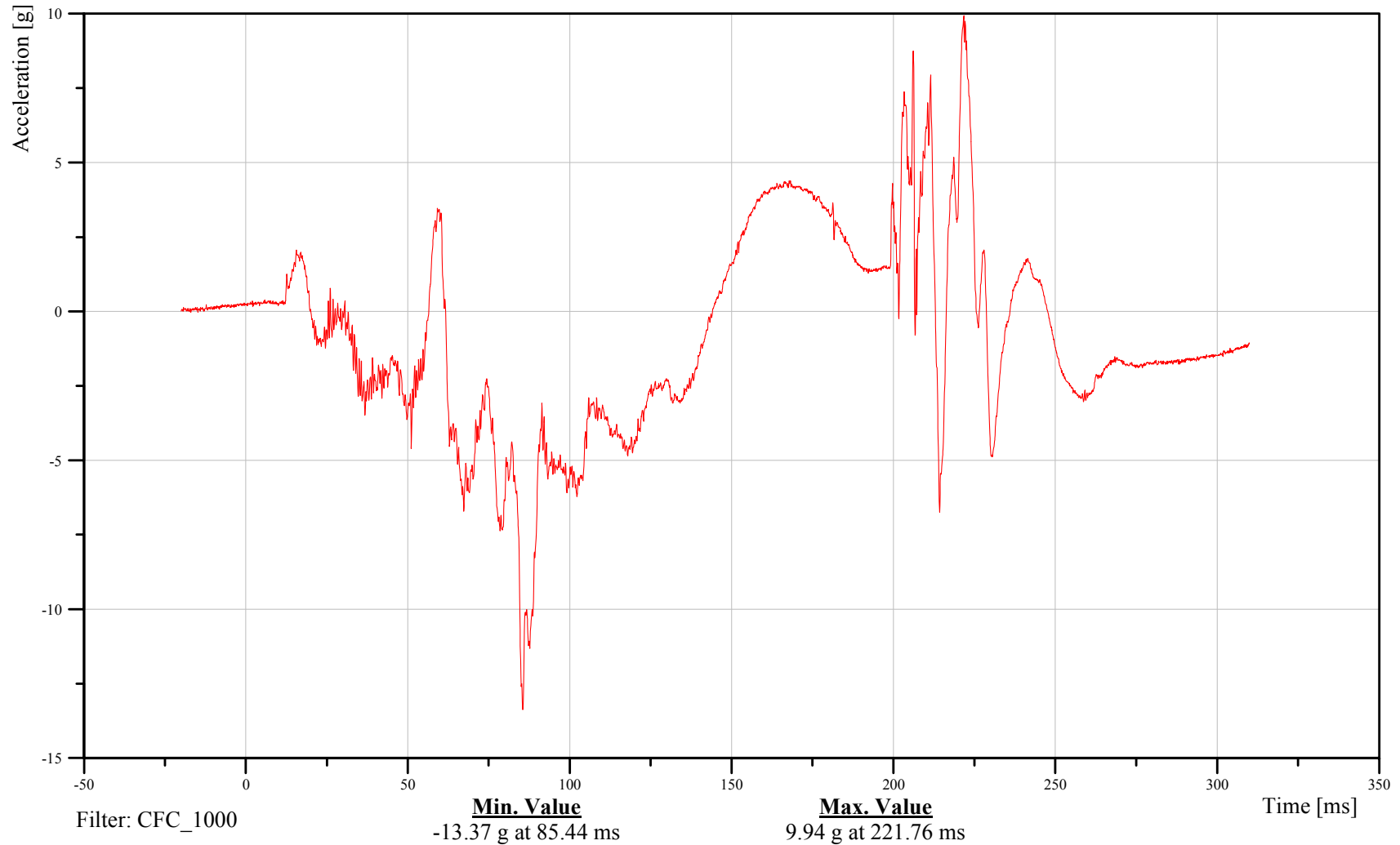
Target Driver Head Top Y-Axis Acceleration

Customer: VRTC

11HEADUP00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

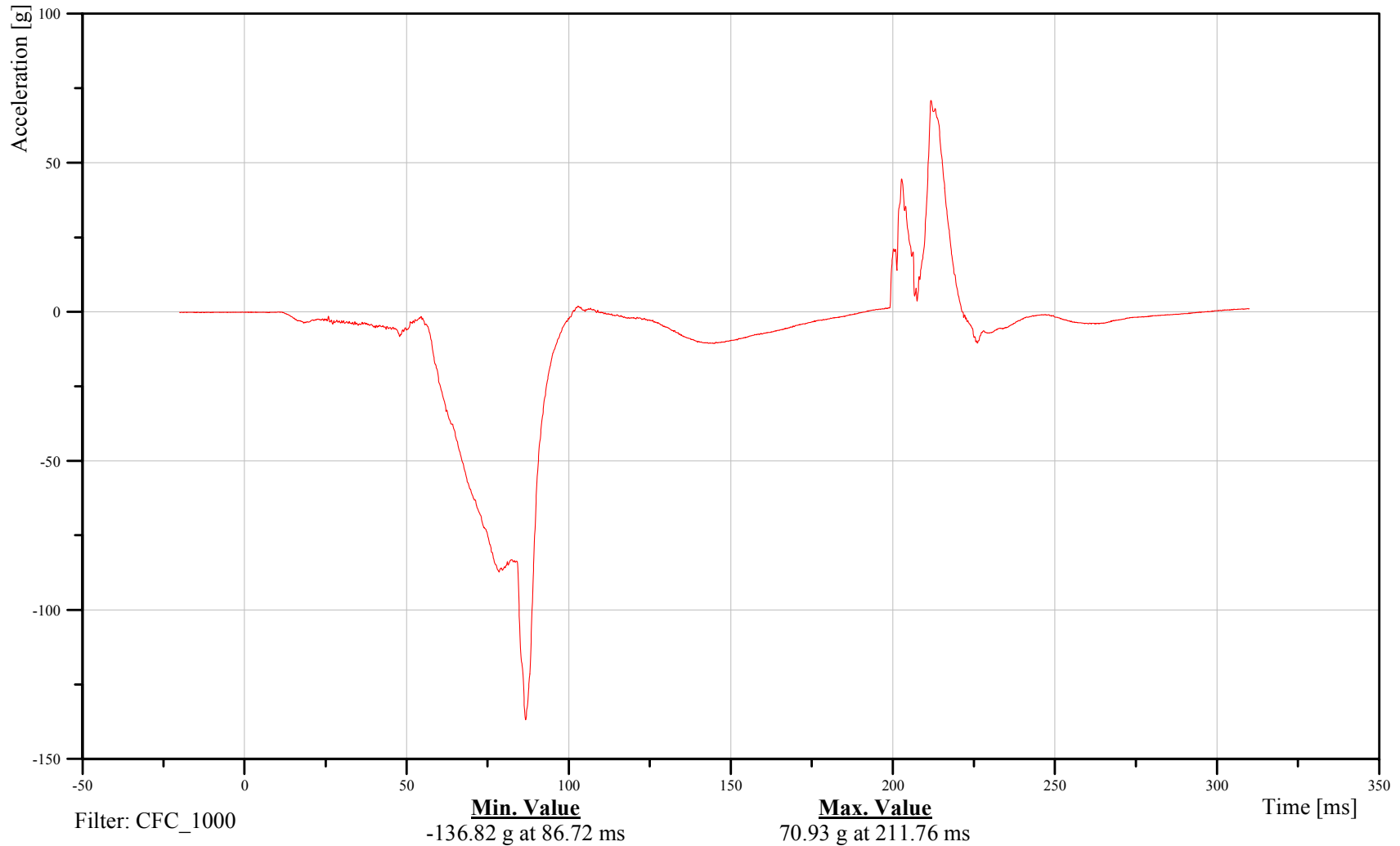
Target Driver Head Side X-Axis Acceleration

Customer: VRTC

11HEADLE00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

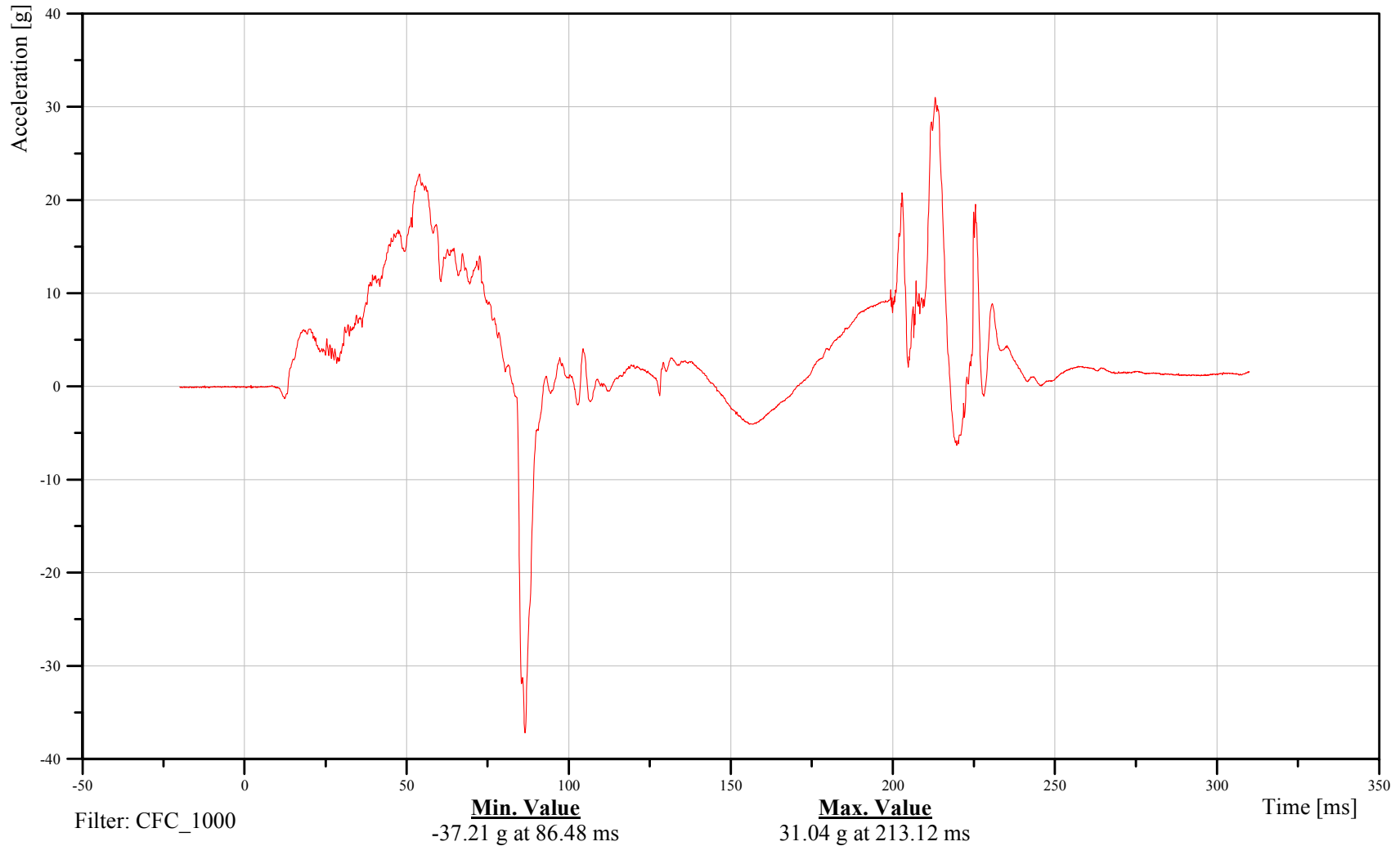
Target Driver Head Side Z-Axis Acceleration

Customer: VRTC

11HEADLE00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

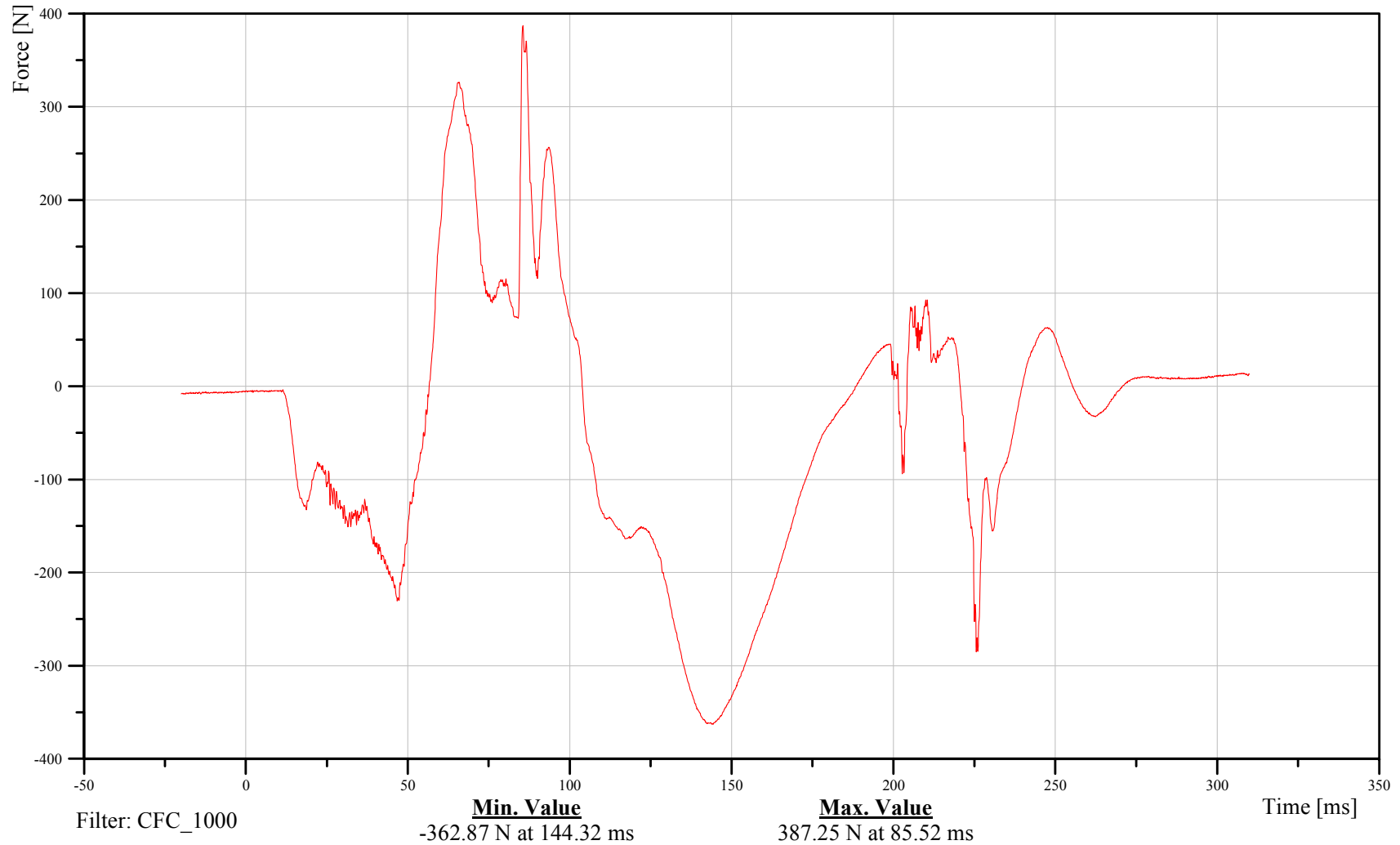
Target Driver Upper Neck X-Axis Force

Customer: VRTC

11NECKUP00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

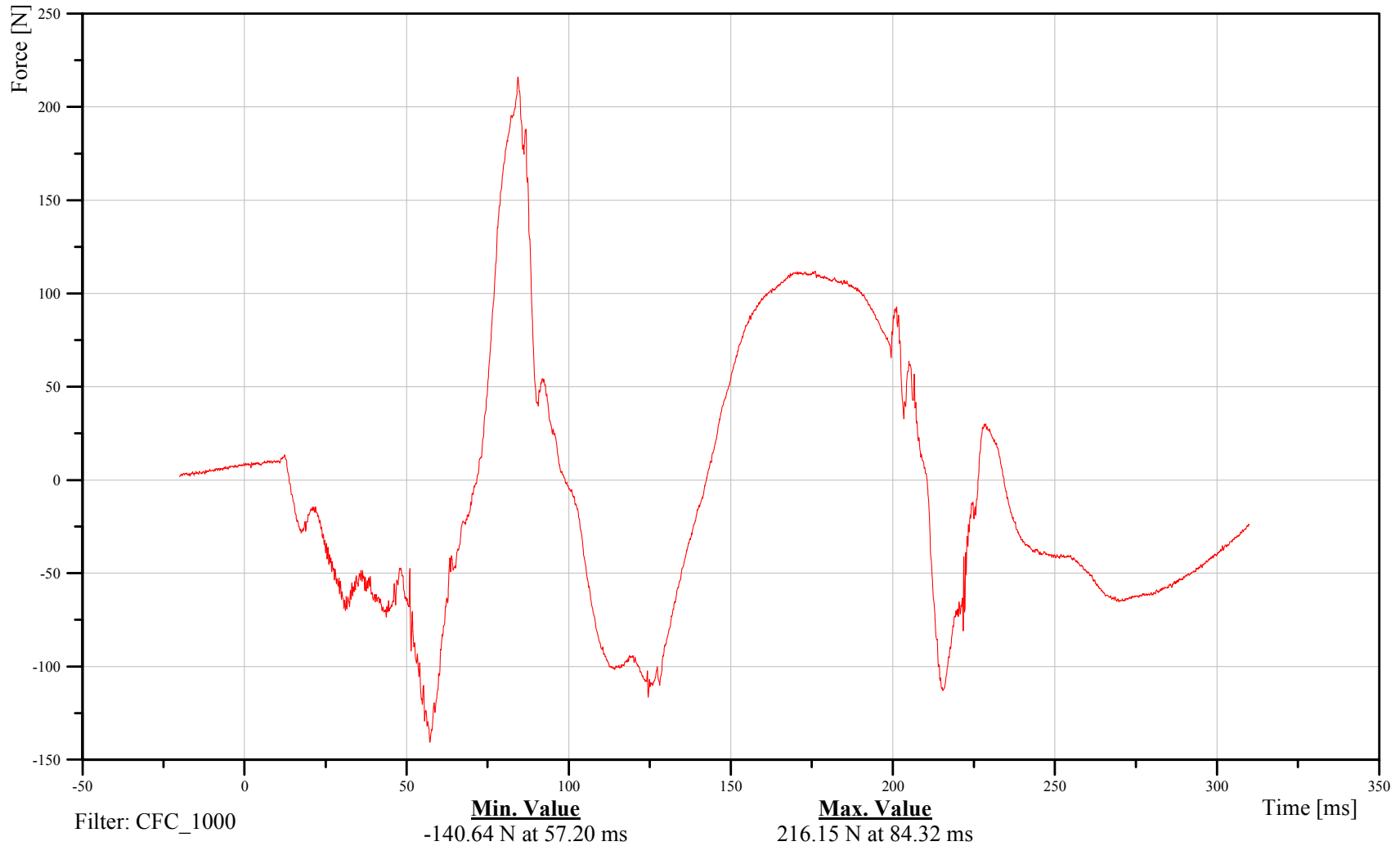
Target Driver Upper Neck Y-Axis Force

Customer: VRTC

11NECKUP00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

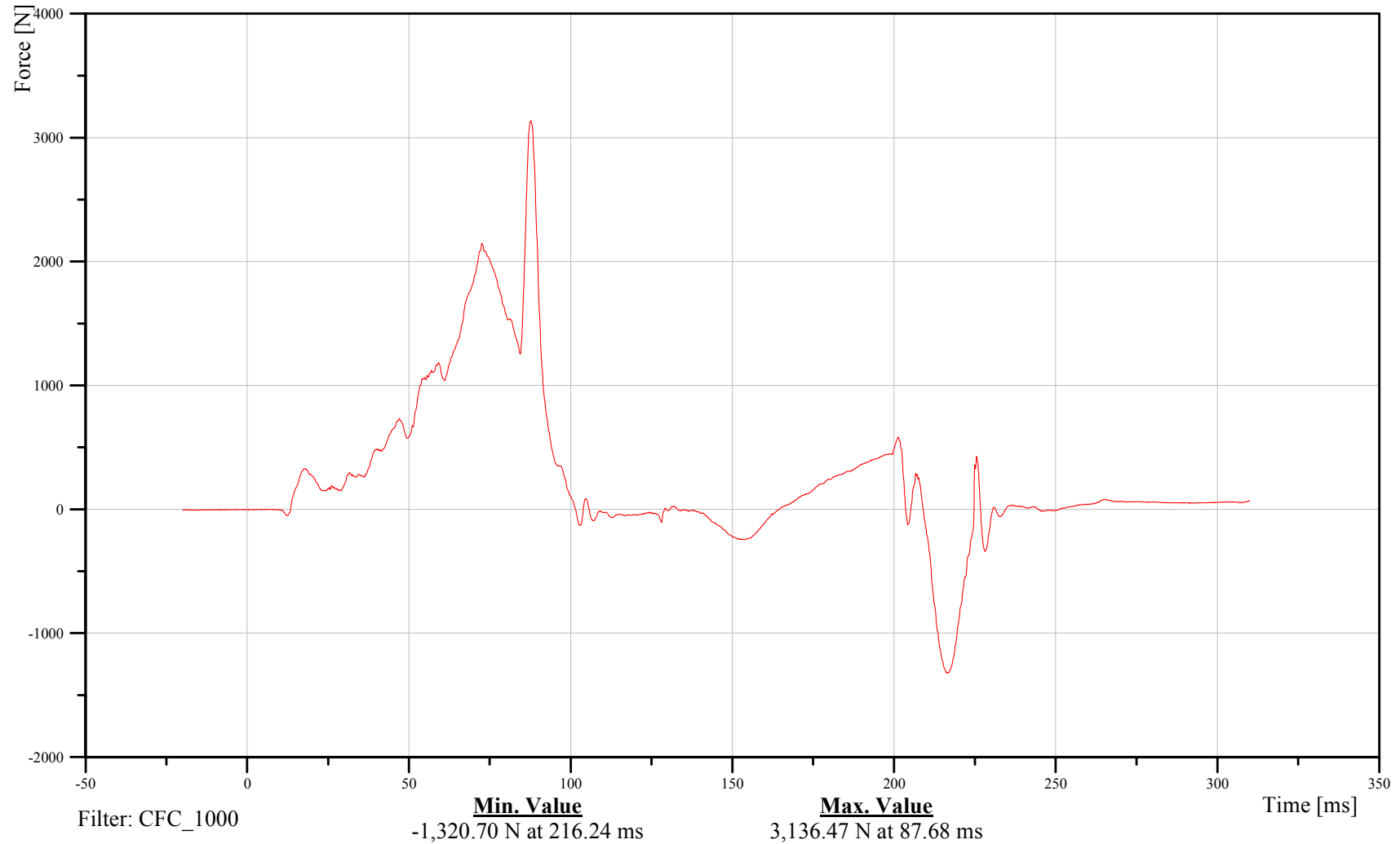
Target Driver Upper Neck Z-Axis Force

Customer: VRTC

11NECKUP00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





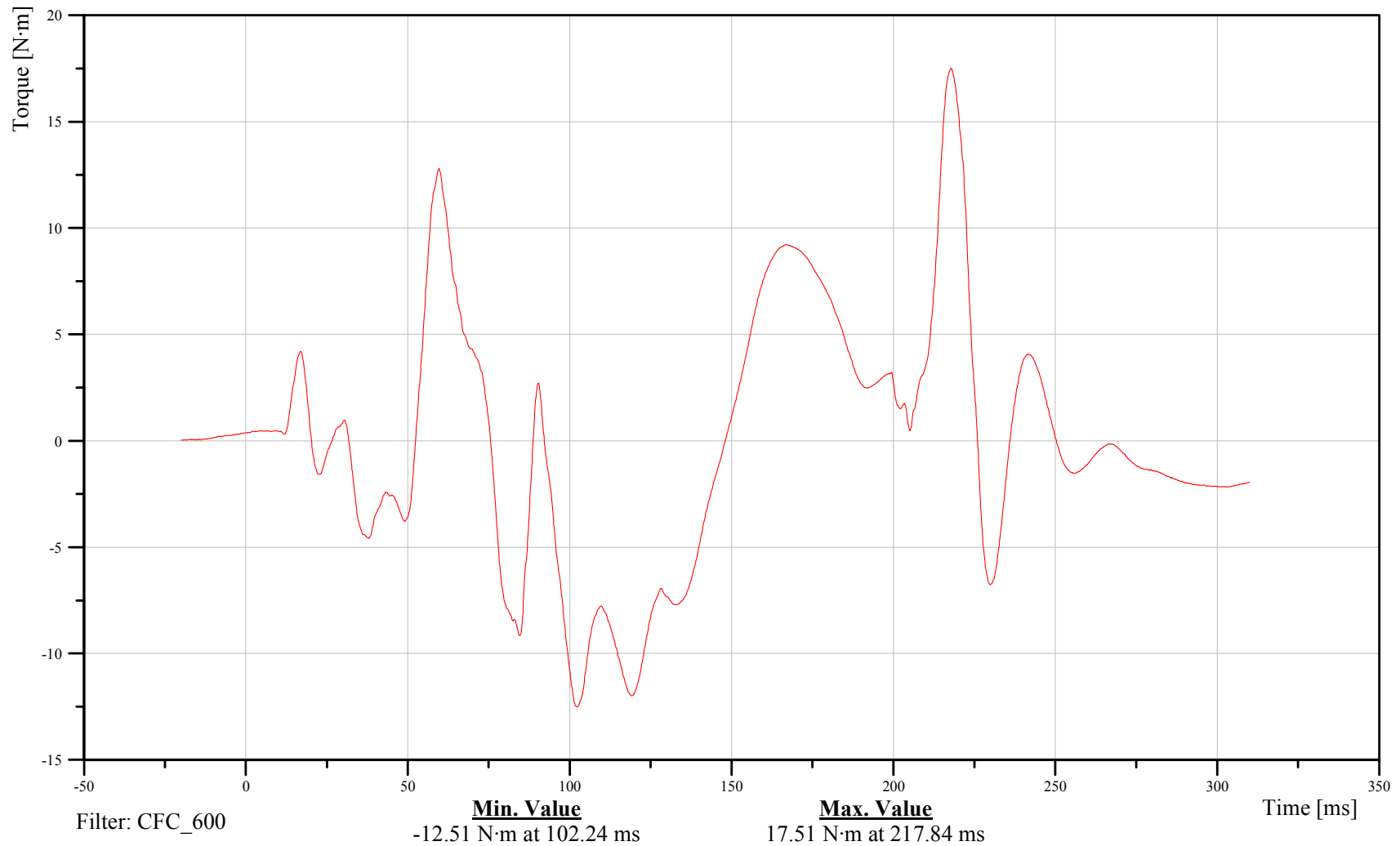
Target Driver Upper Neck Moment About X Axis

Customer: VRTC

11NECKUP00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

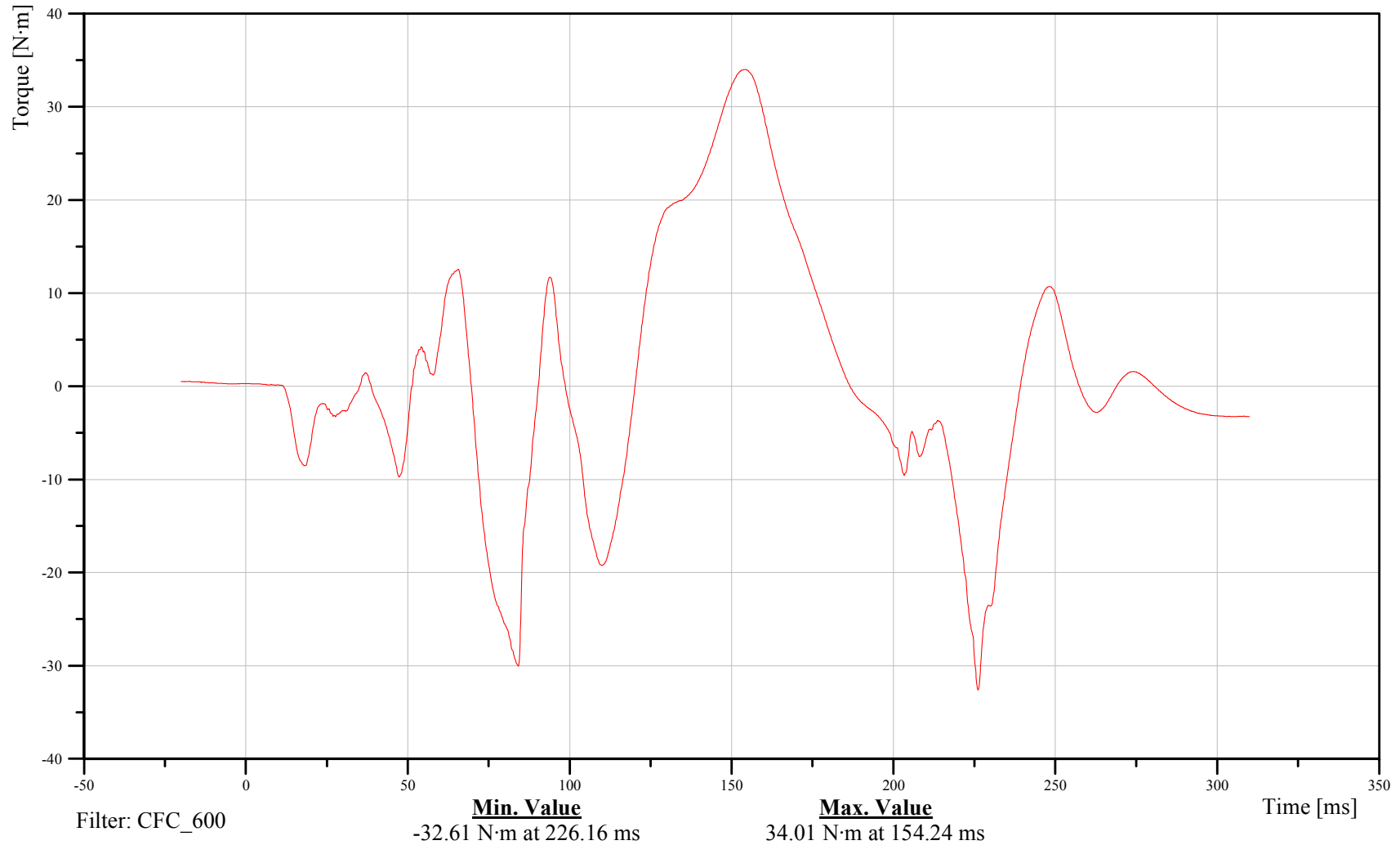
Target Driver Upper Neck Moment About Y Axis

Customer: VRTC

11NECKUP00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

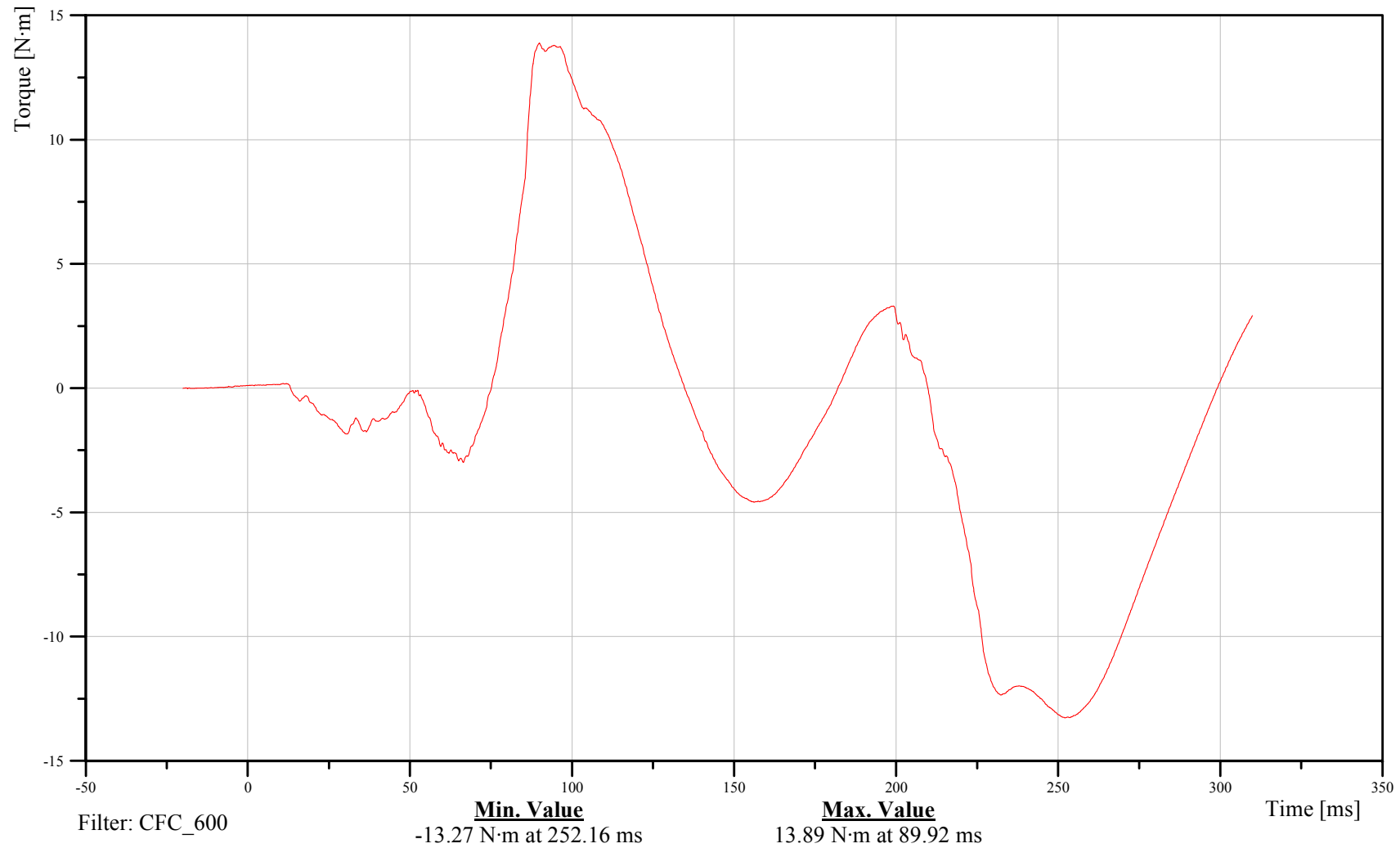
Target Driver Upper Neck Moment About Z Axis

Customer: VRTC

11NECKUP00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

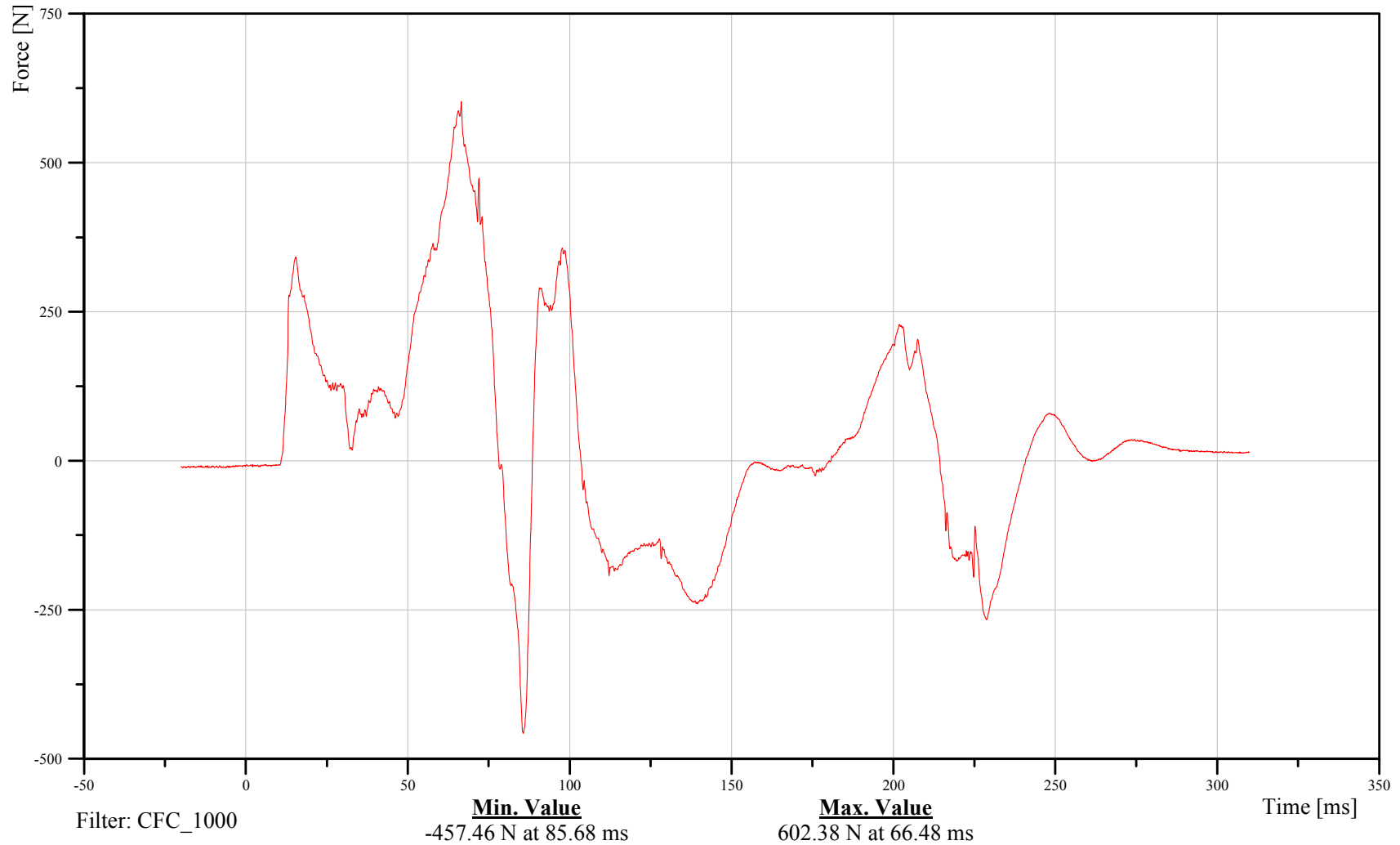
Target Driver Lower Neck X-Axis Force

Customer: VRTC

11NECKLO00H3FOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

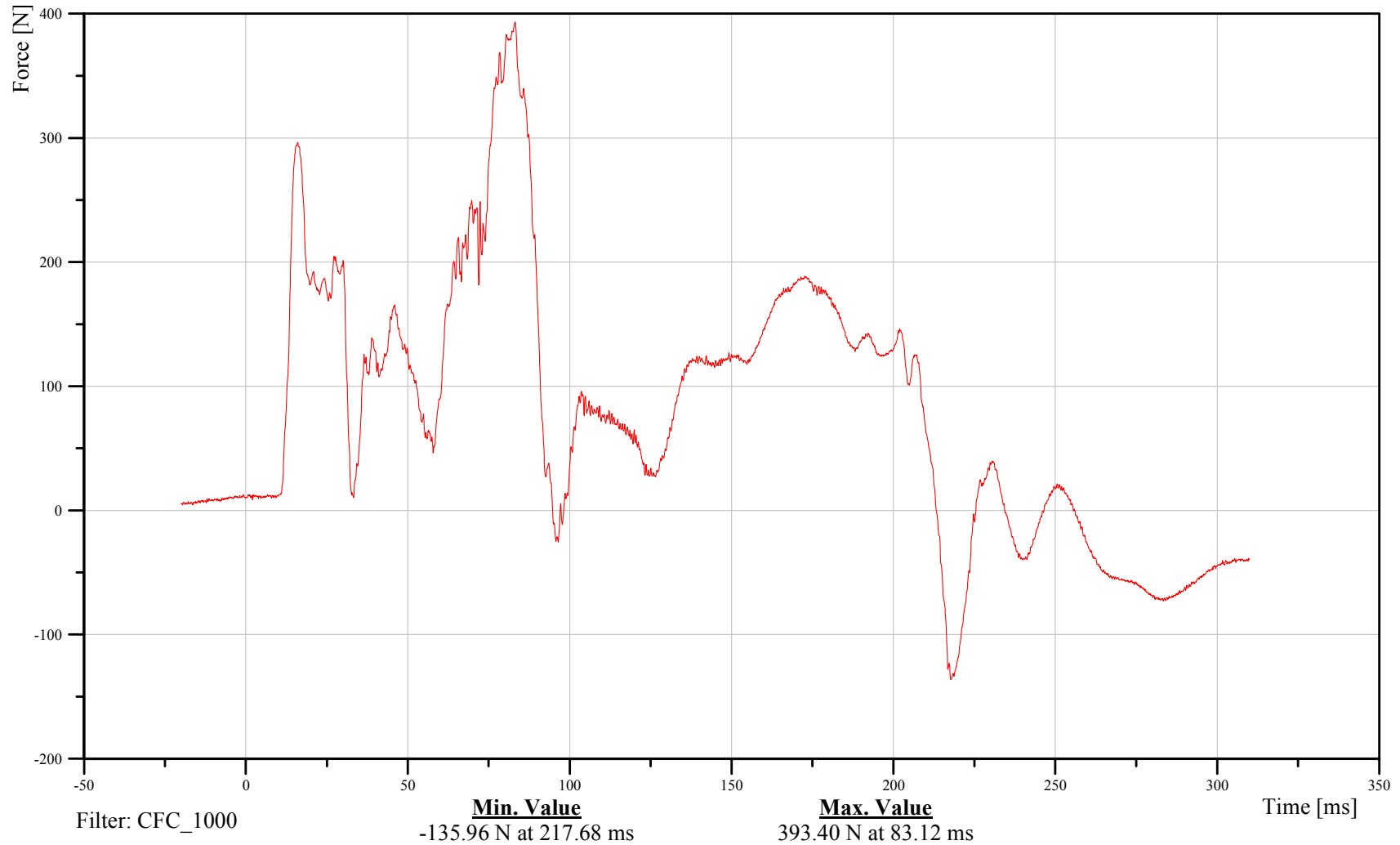
Target Driver Lower Neck Y-Axis Force

Customer: VRTC

11NECKLO00H3FOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

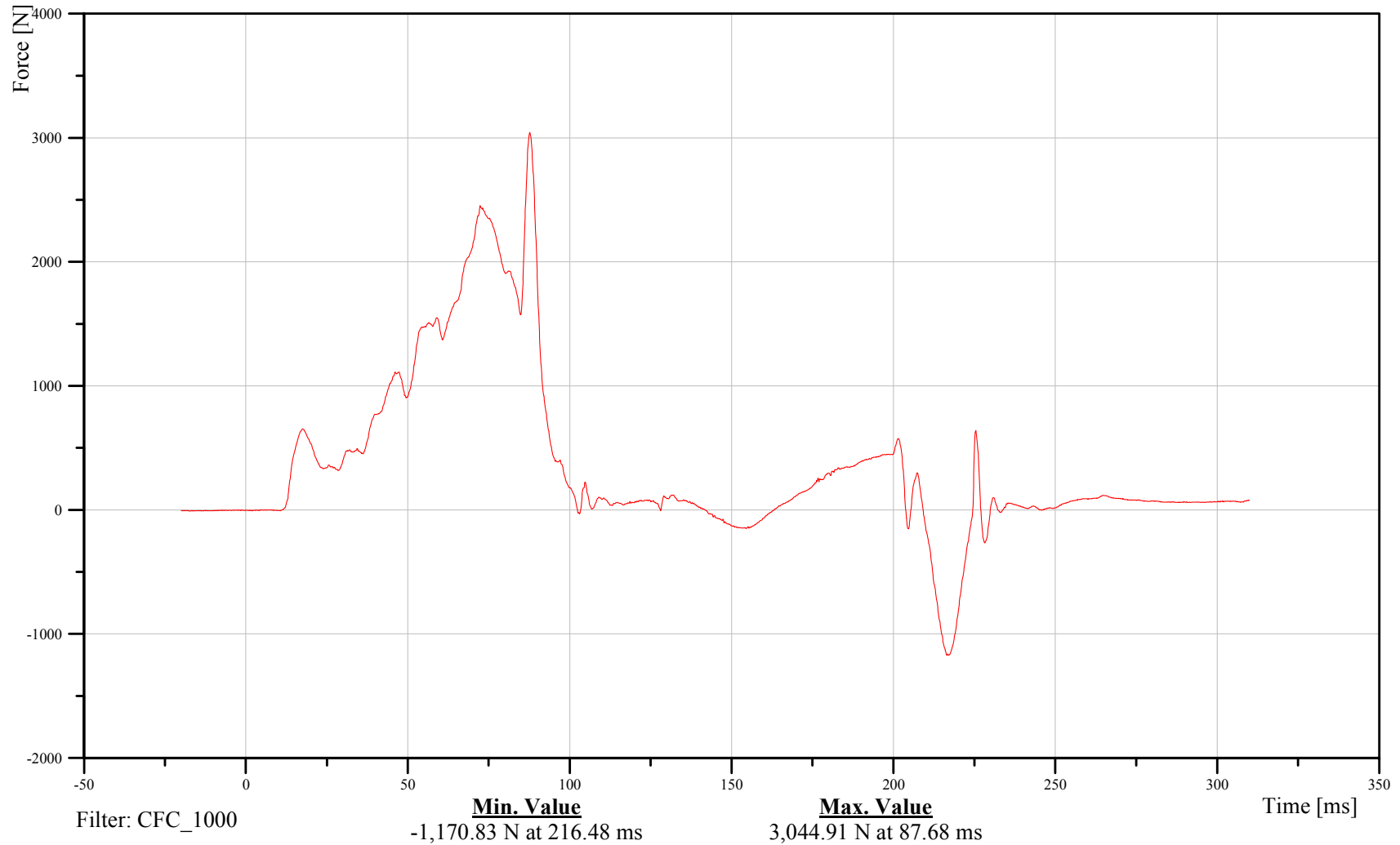
Target Driver Lower Neck Z-Axis Force

Customer: VRTC

11NECKLO00H3FOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

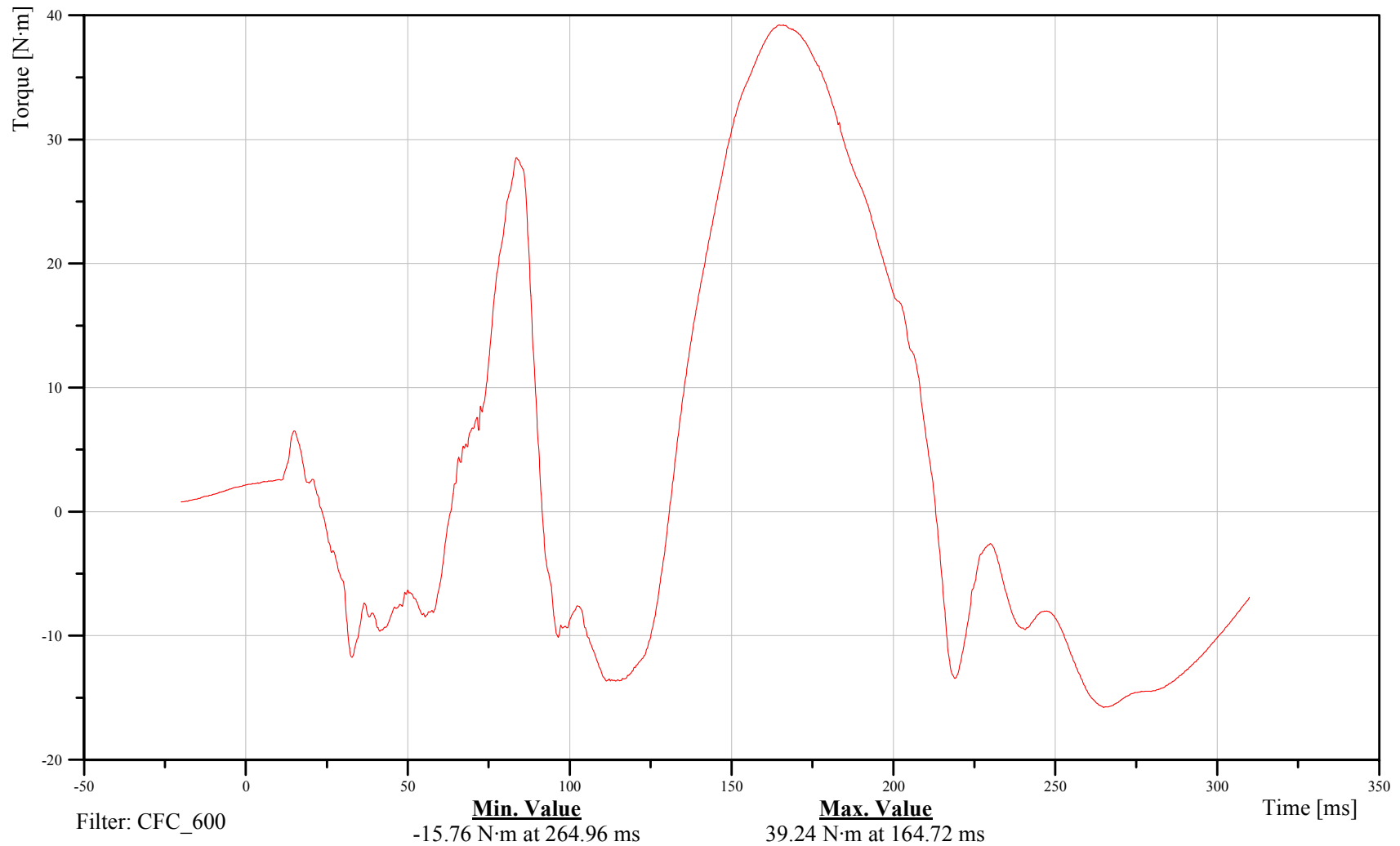
Target Driver Lower Neck Moment About X Axis

Customer: VRTC

11NECKLO00H3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

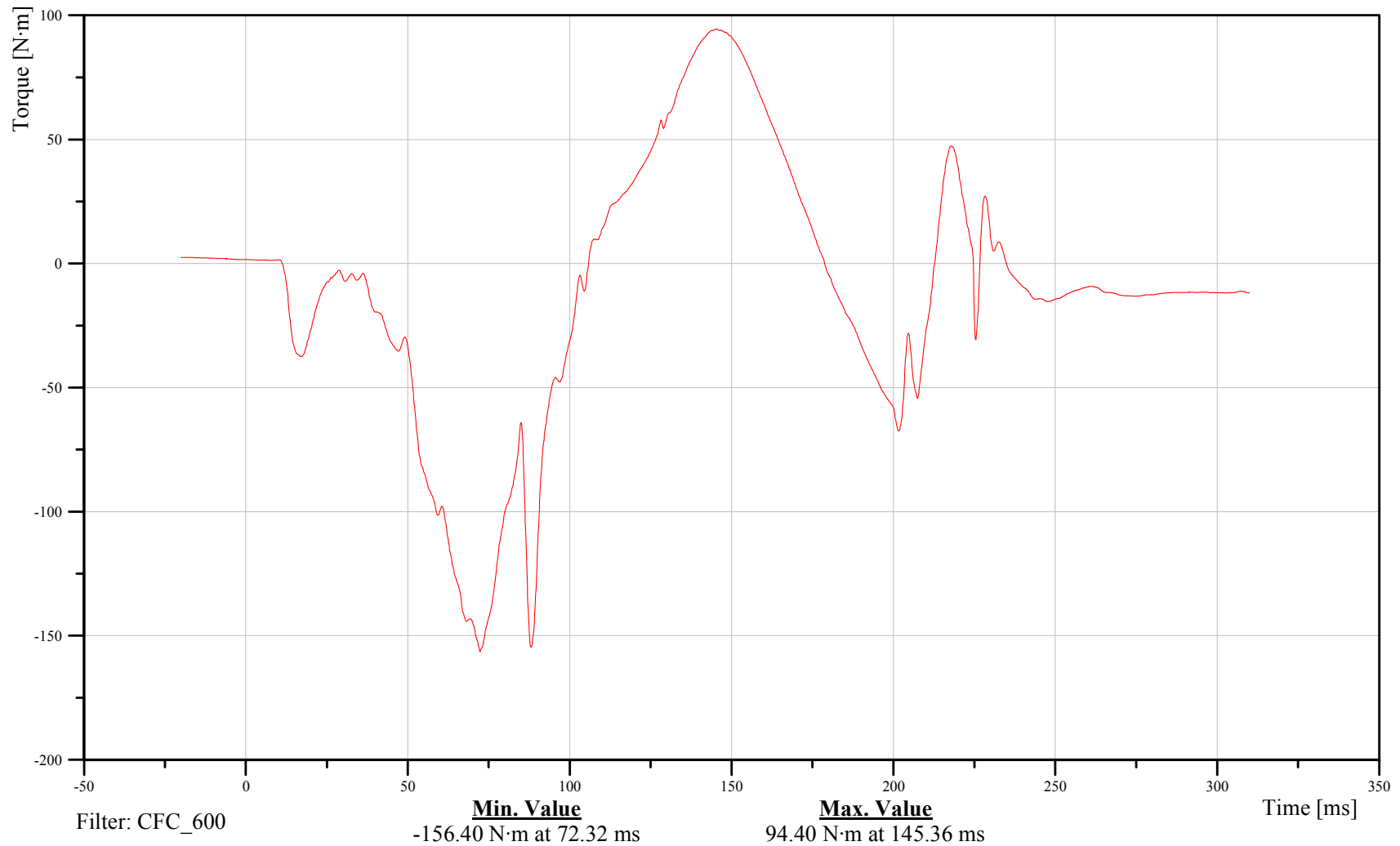
Target Driver Lower Neck Moment About Y Axis

Customer: VRTC

11NECKLO00H3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





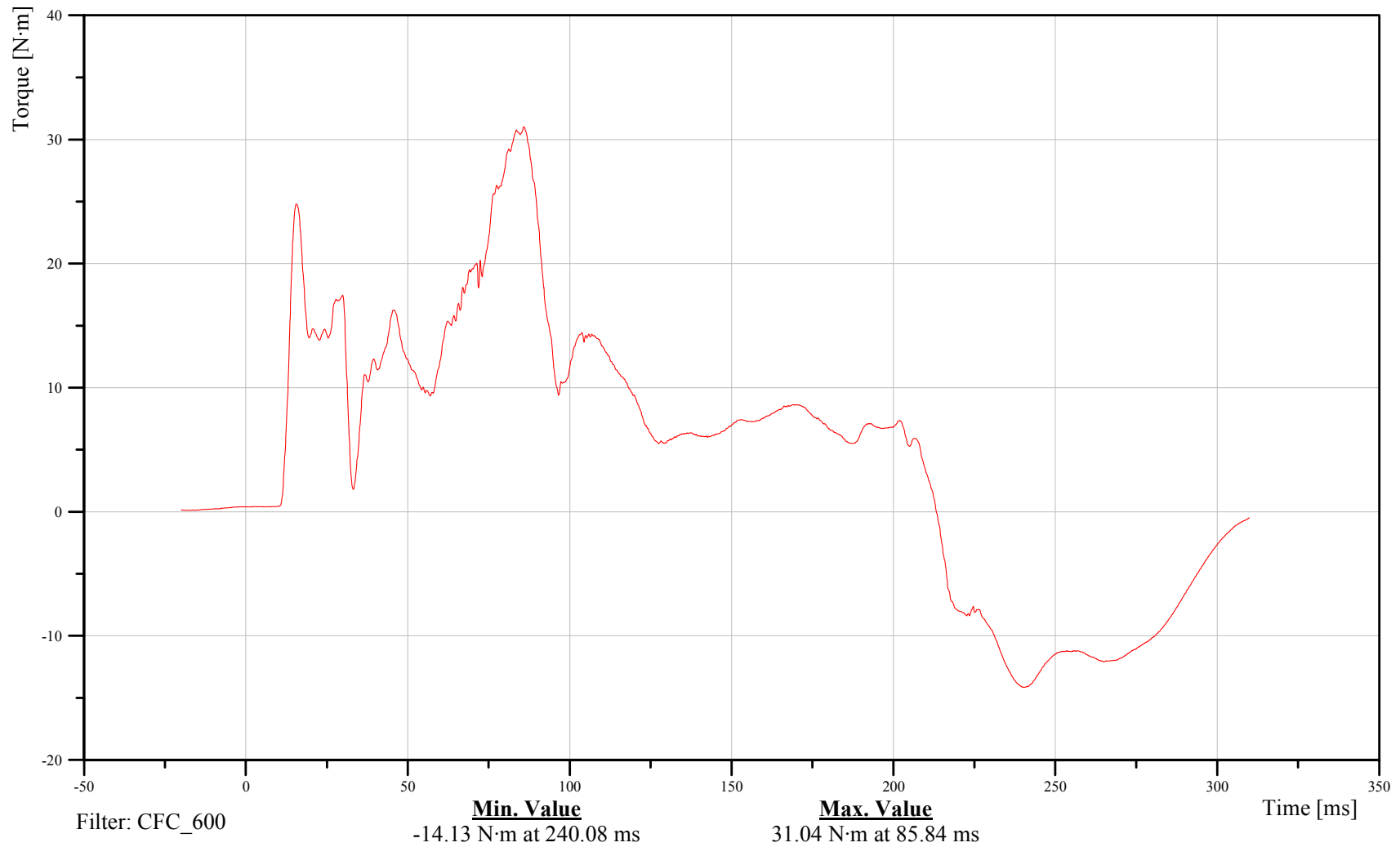
Target Driver Lower Neck Moment About Z Axis

Customer: VRTC

11NECKLO00H3MOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

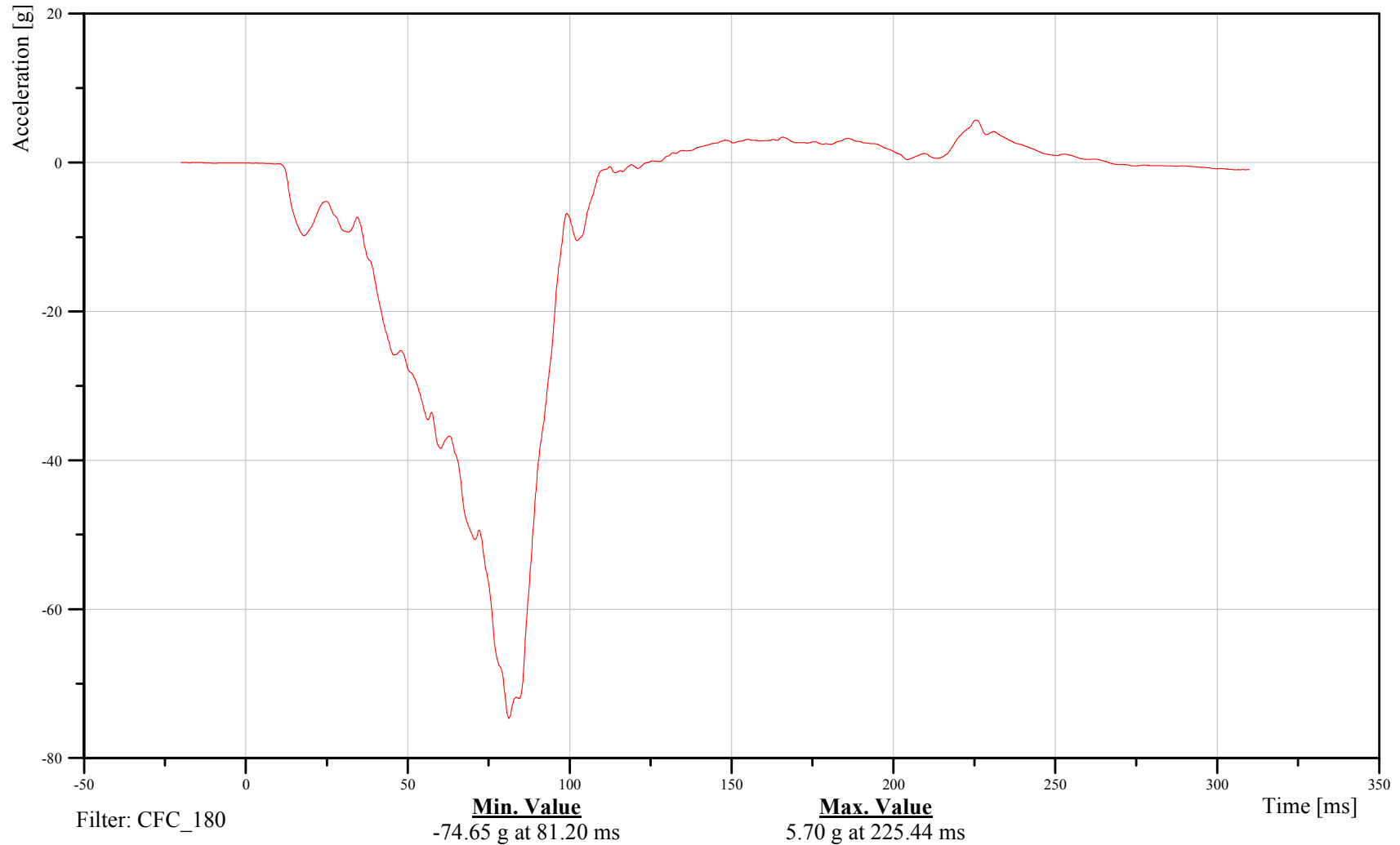
Target Driver Chest CG X-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

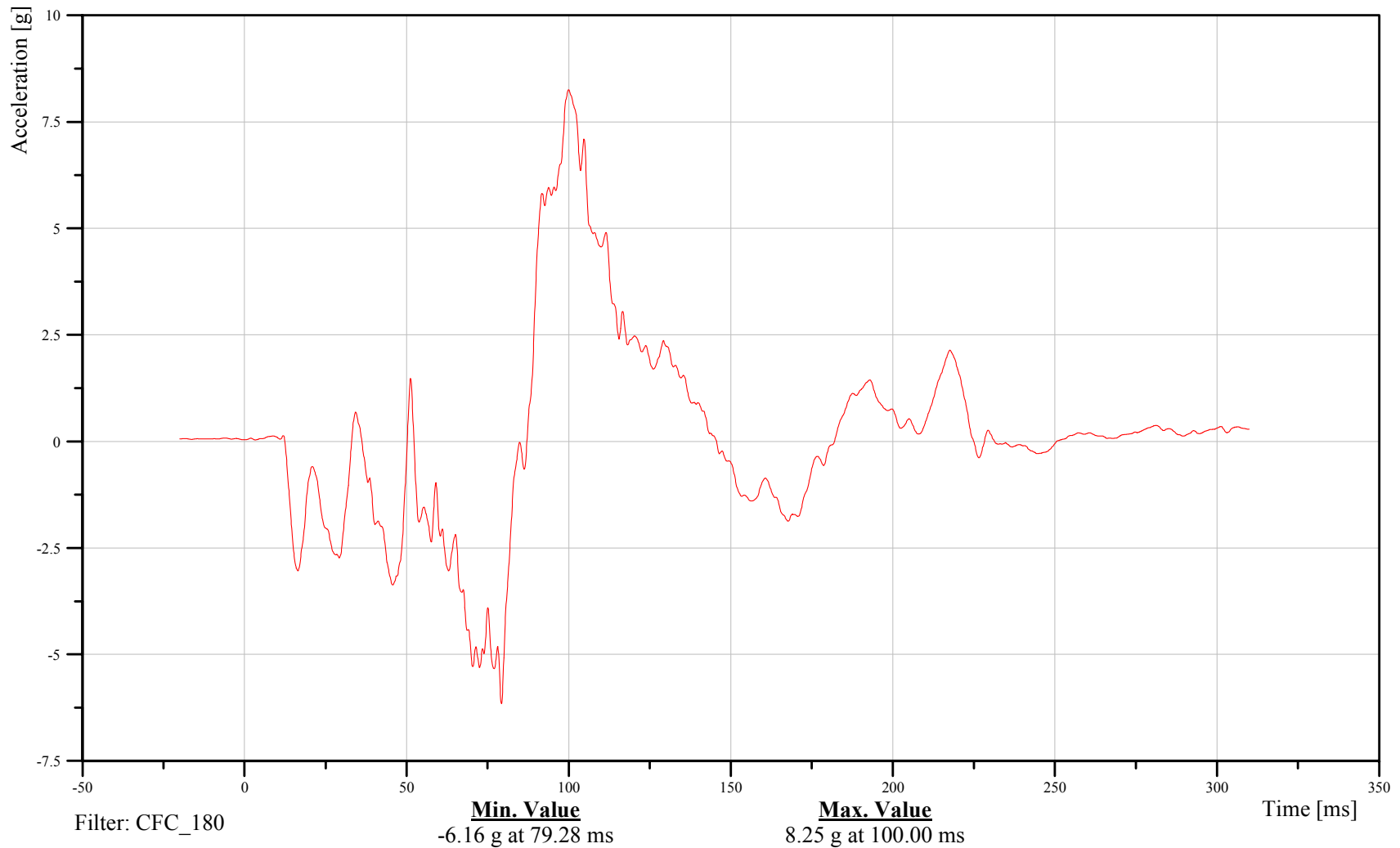
Target Driver Chest CG Y-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

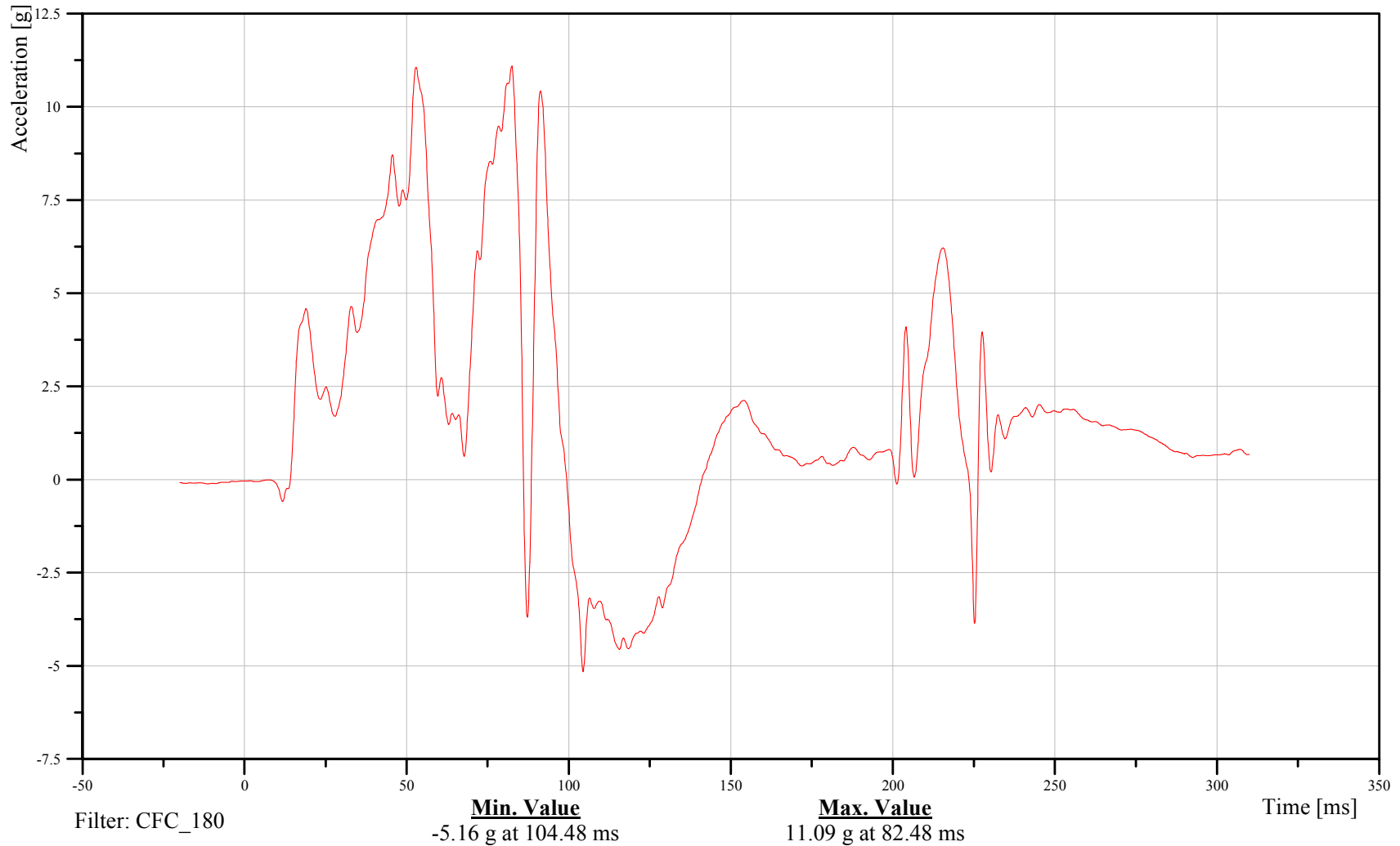
Target Driver Chest CG Z-Axis Acceleration

Customer: VRTC

11CHSTCG00H3ACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

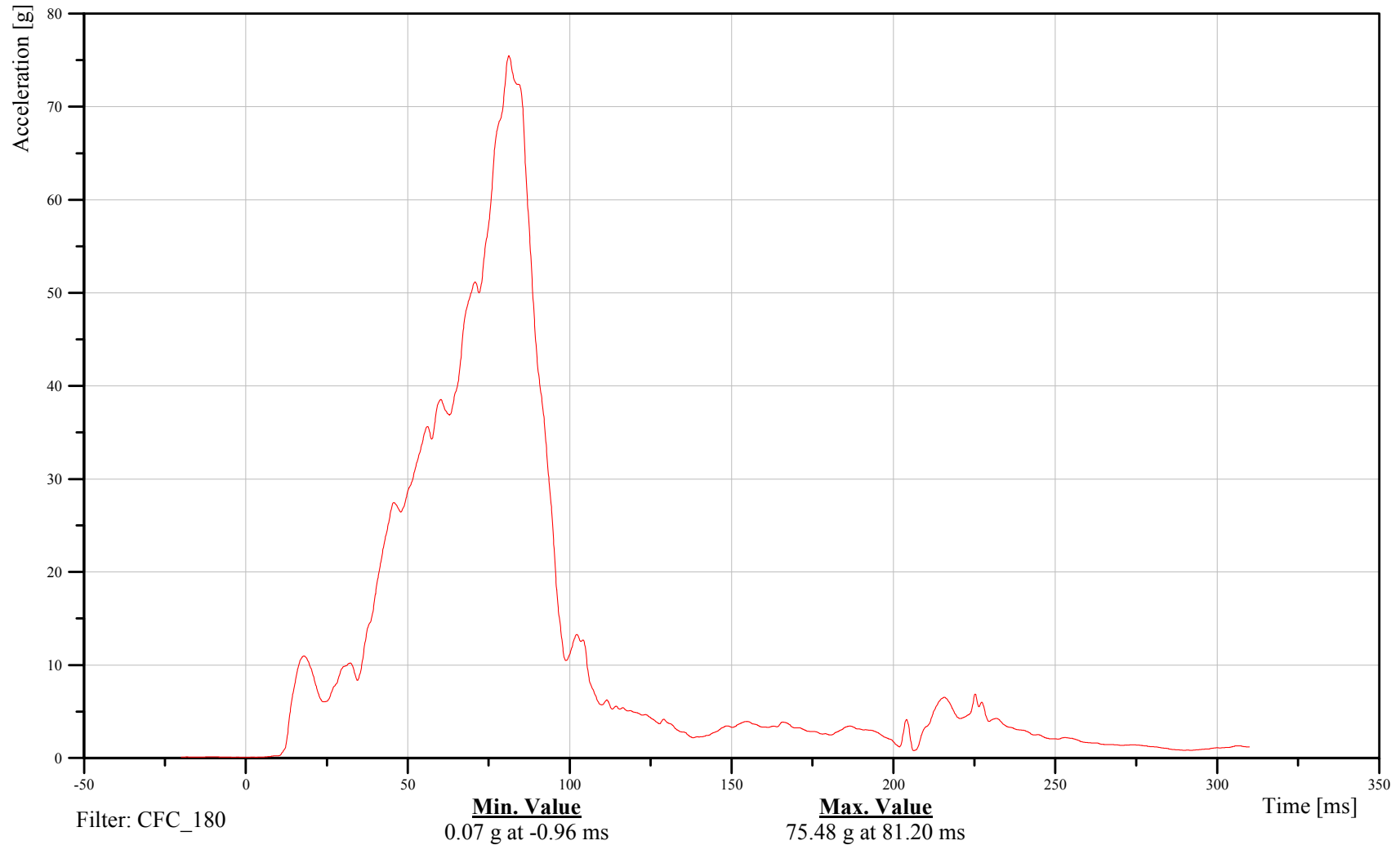
Target Driver Chest CG Resultant Acceleration

Customer: VRTC

11CHSTCG00H3ACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

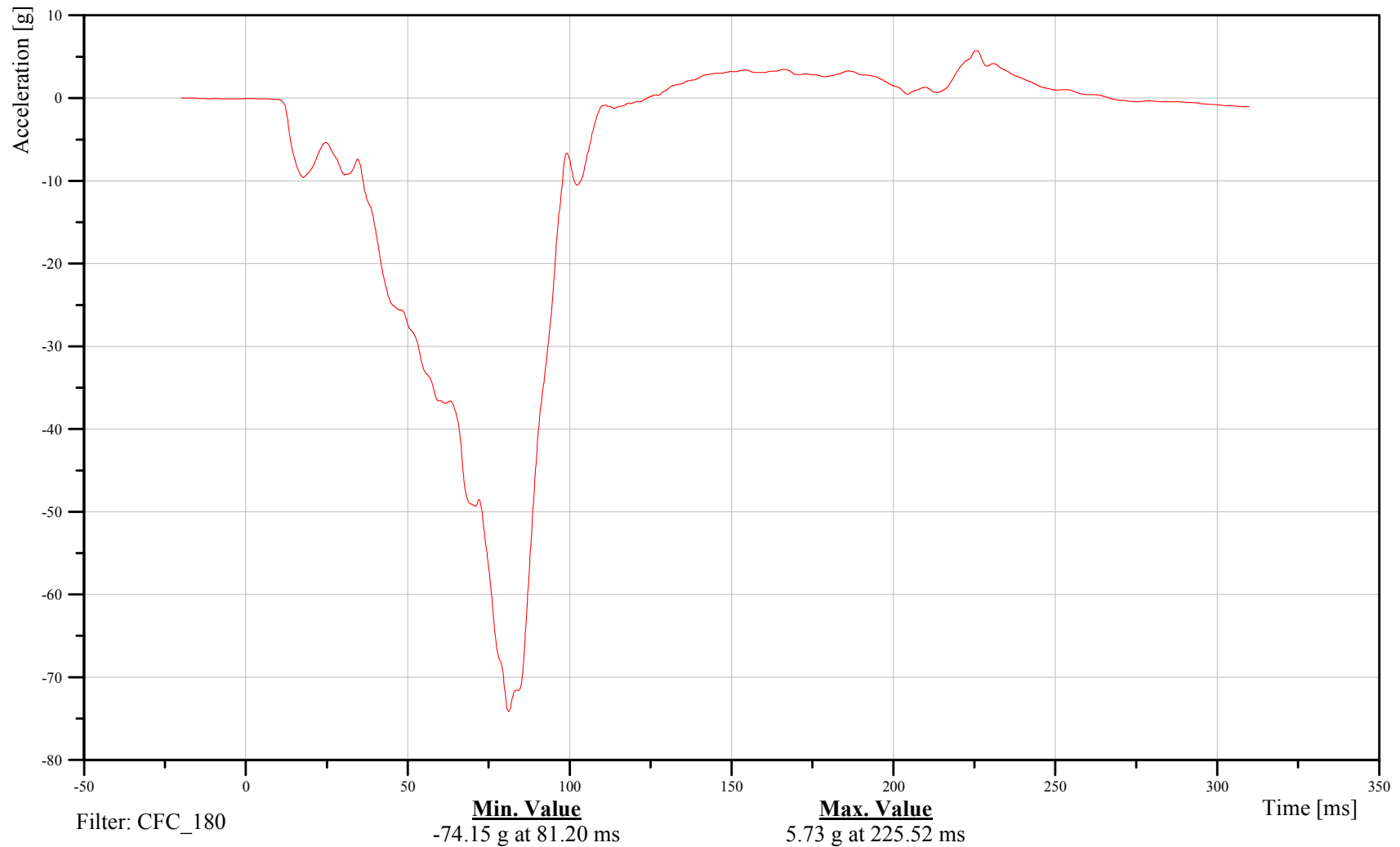
Target Driver Redundant Chest CG X-Axis Acceleration

Customer: VRTC

11CHSTCGRDH3ACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

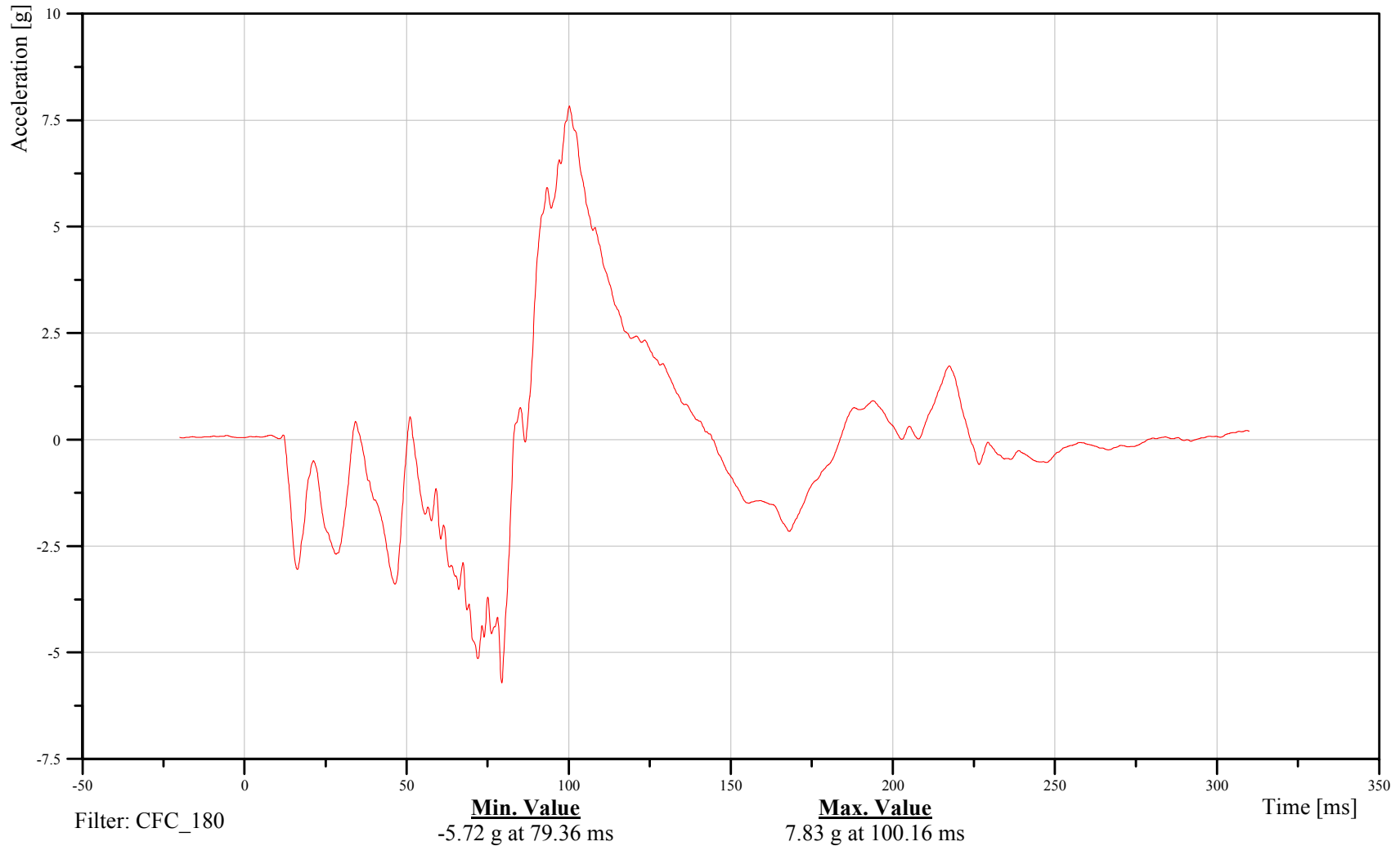
Target Driver Redundant Chest CG Y-Axis Acceleration

Customer: VRTC

11CHSTCGRDH3ACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

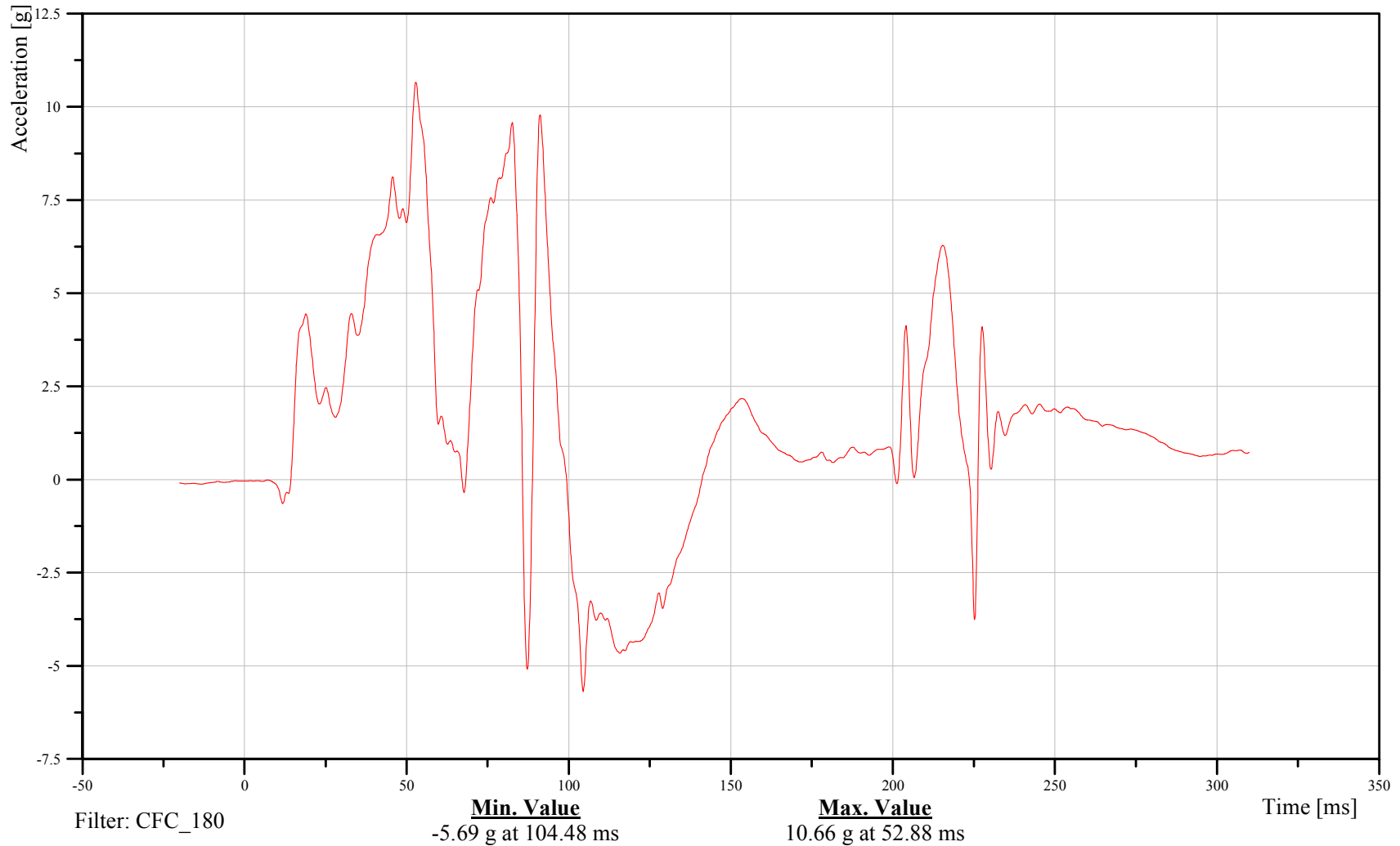
Target Driver Redundant Chest CG Z-Axis Acceleration

Customer: VRTC

11CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

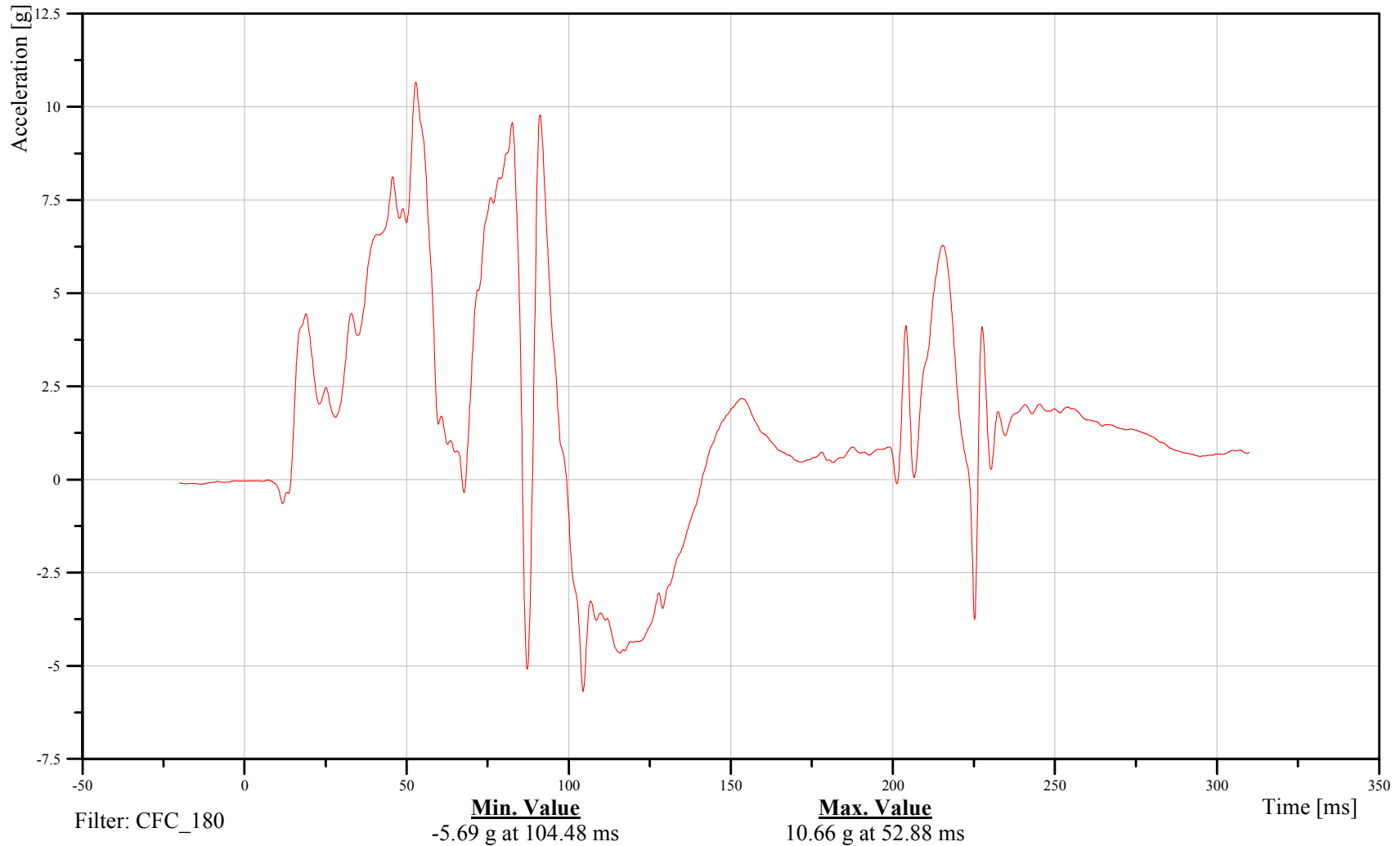
Target Driver Redundant Chest CG Resultant Acceleration

Customer: VRTC

11CHSTCGRDH3ACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

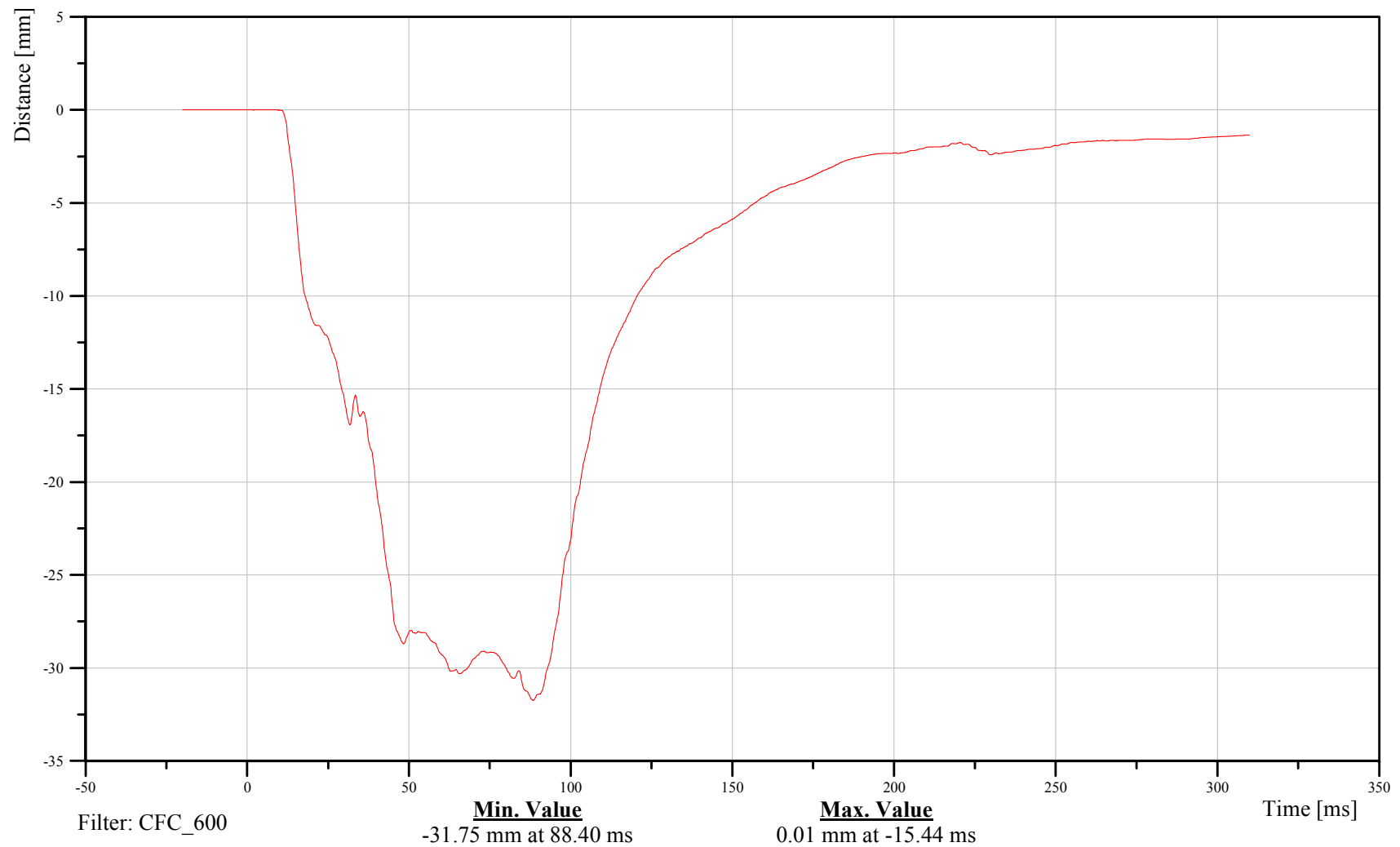
Target Driver Chest Displacement

Customer: VRTC

11CHST0000H3DSXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

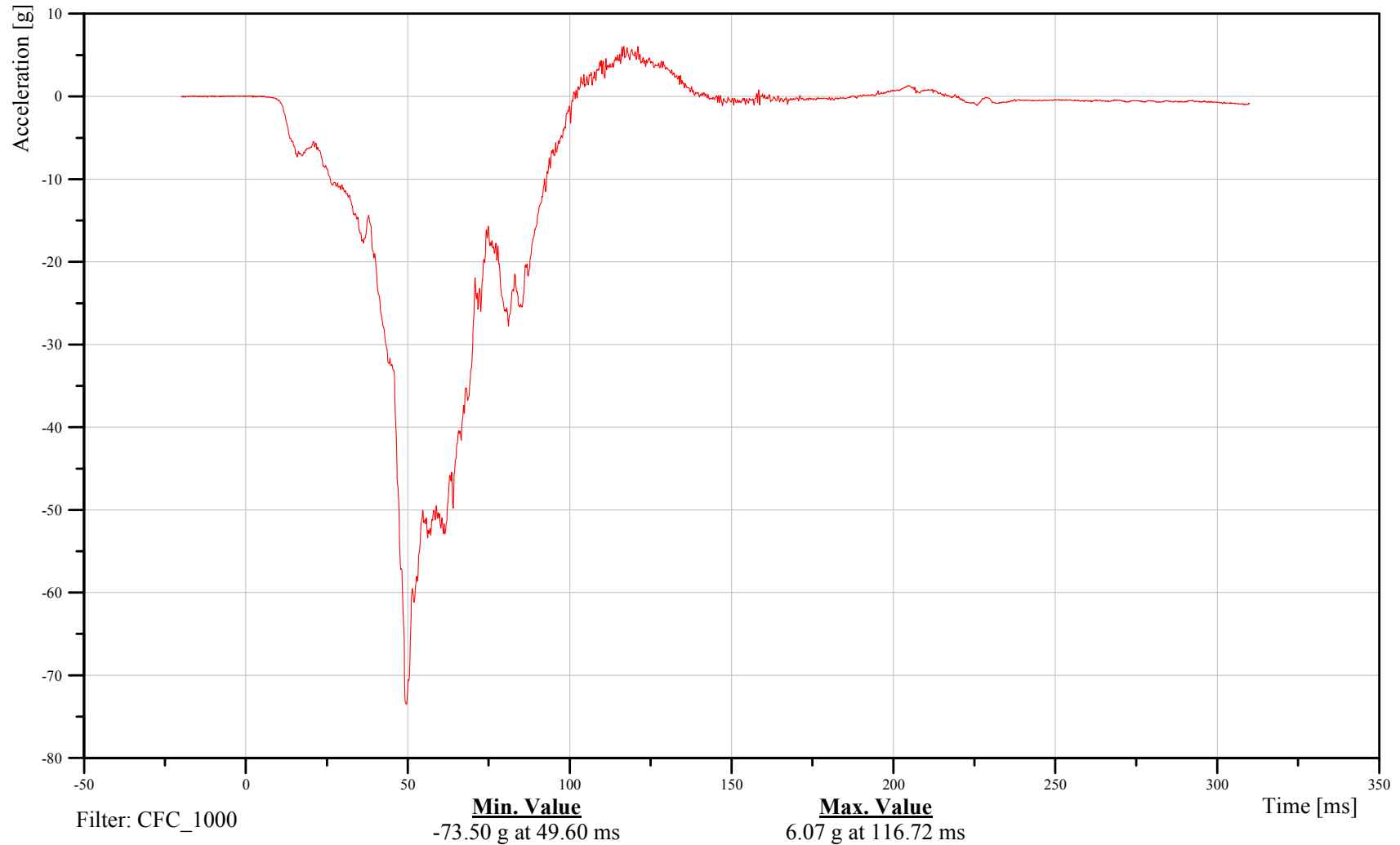
Target Driver Pelvis CG X-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

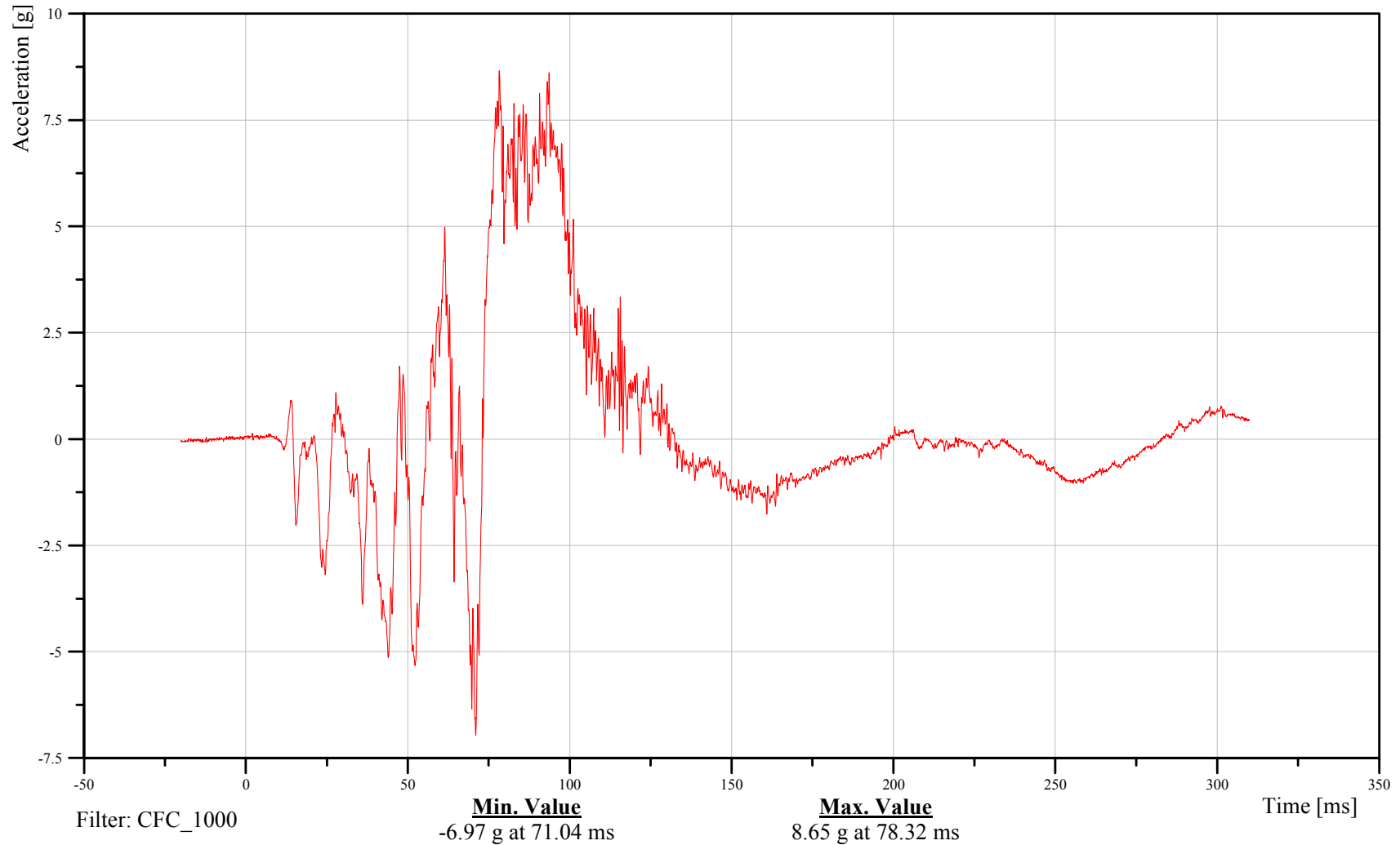
Target Driver Pelvis CG Y-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

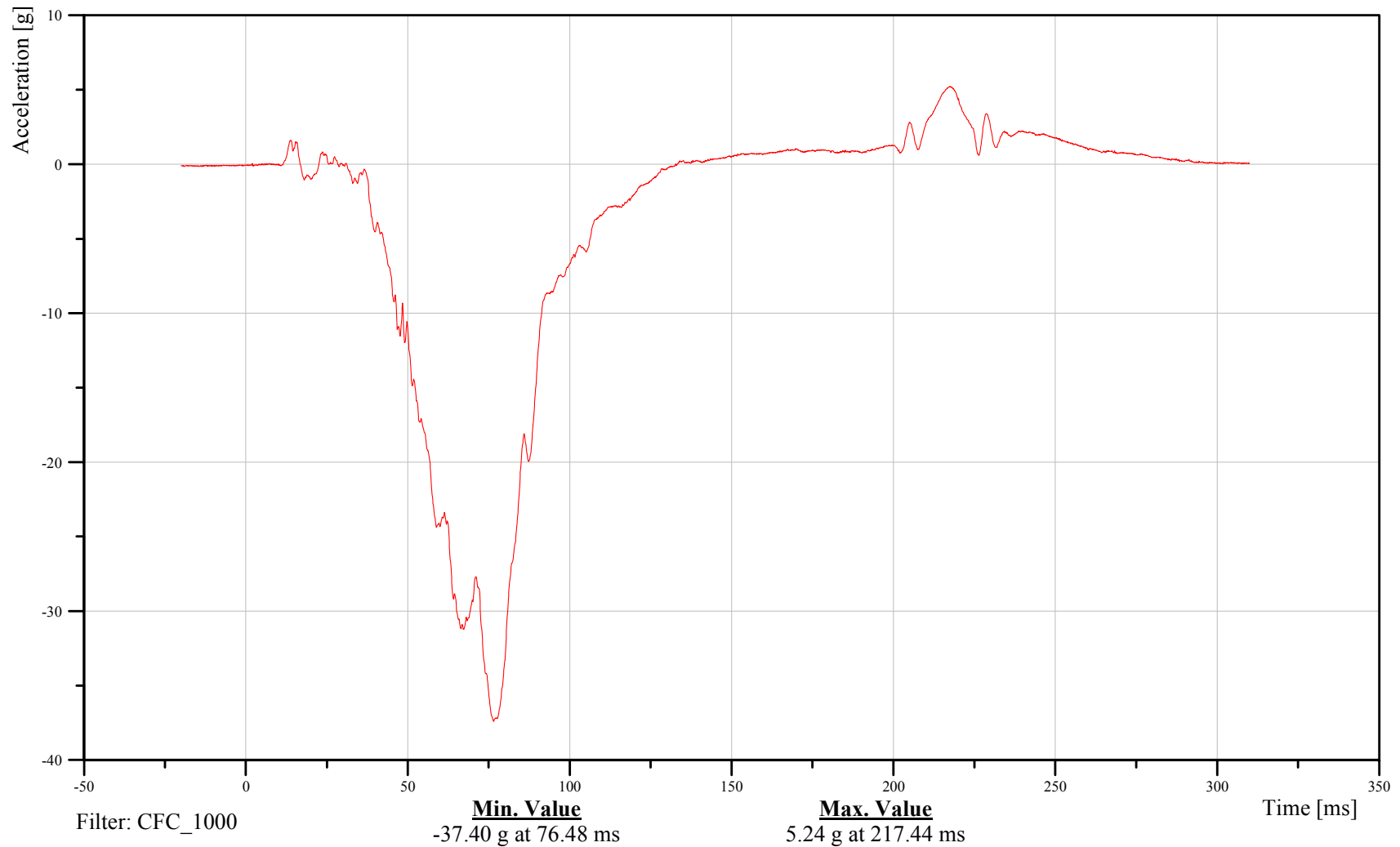
Target Driver Pelvis CG Z-Axis Acceleration

Customer: VRTC

11PELVCG00H3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

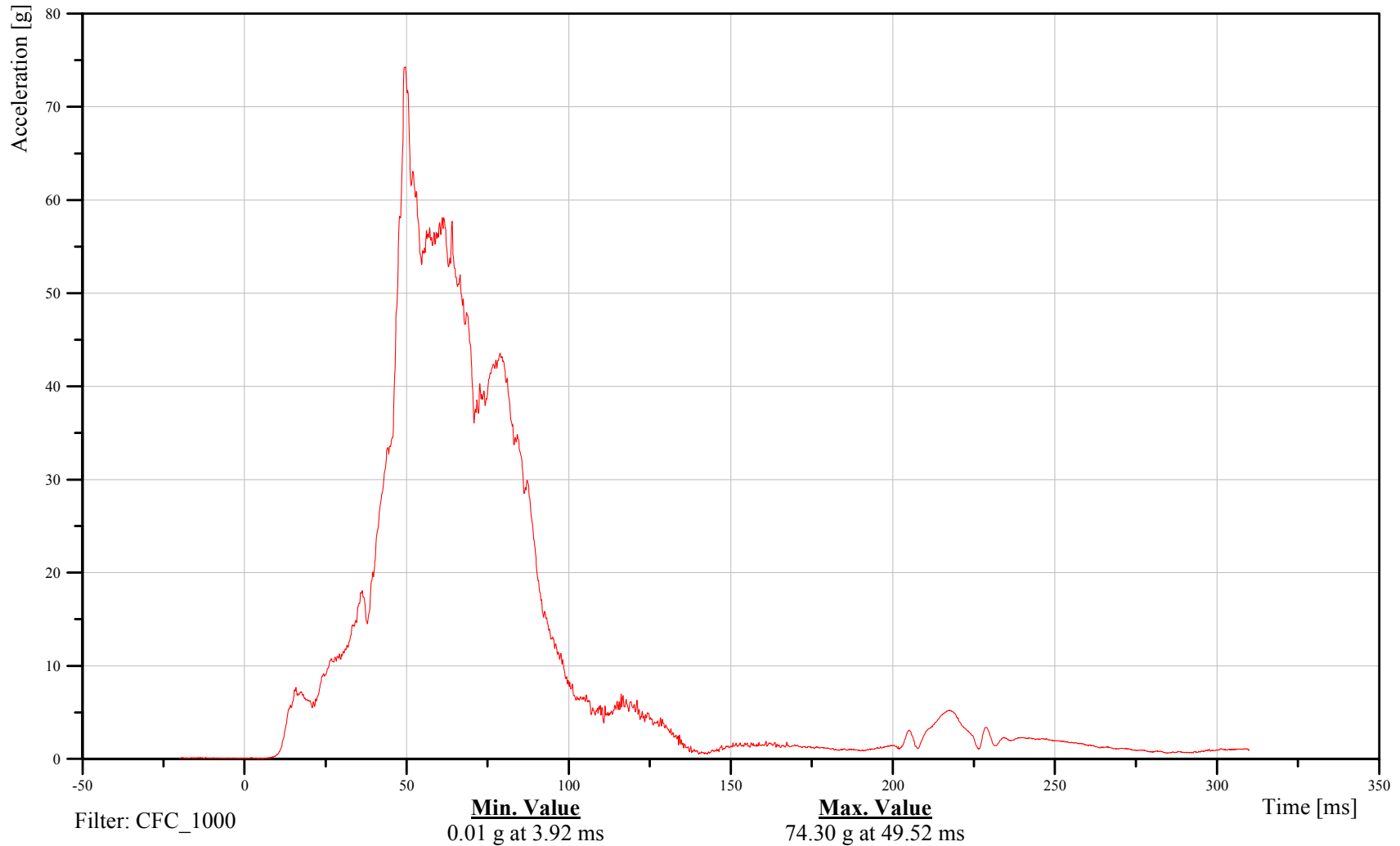
Target Driver Pelvis CG Resultant Acceleration

Customer: VRTC

11PELVCG00H3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

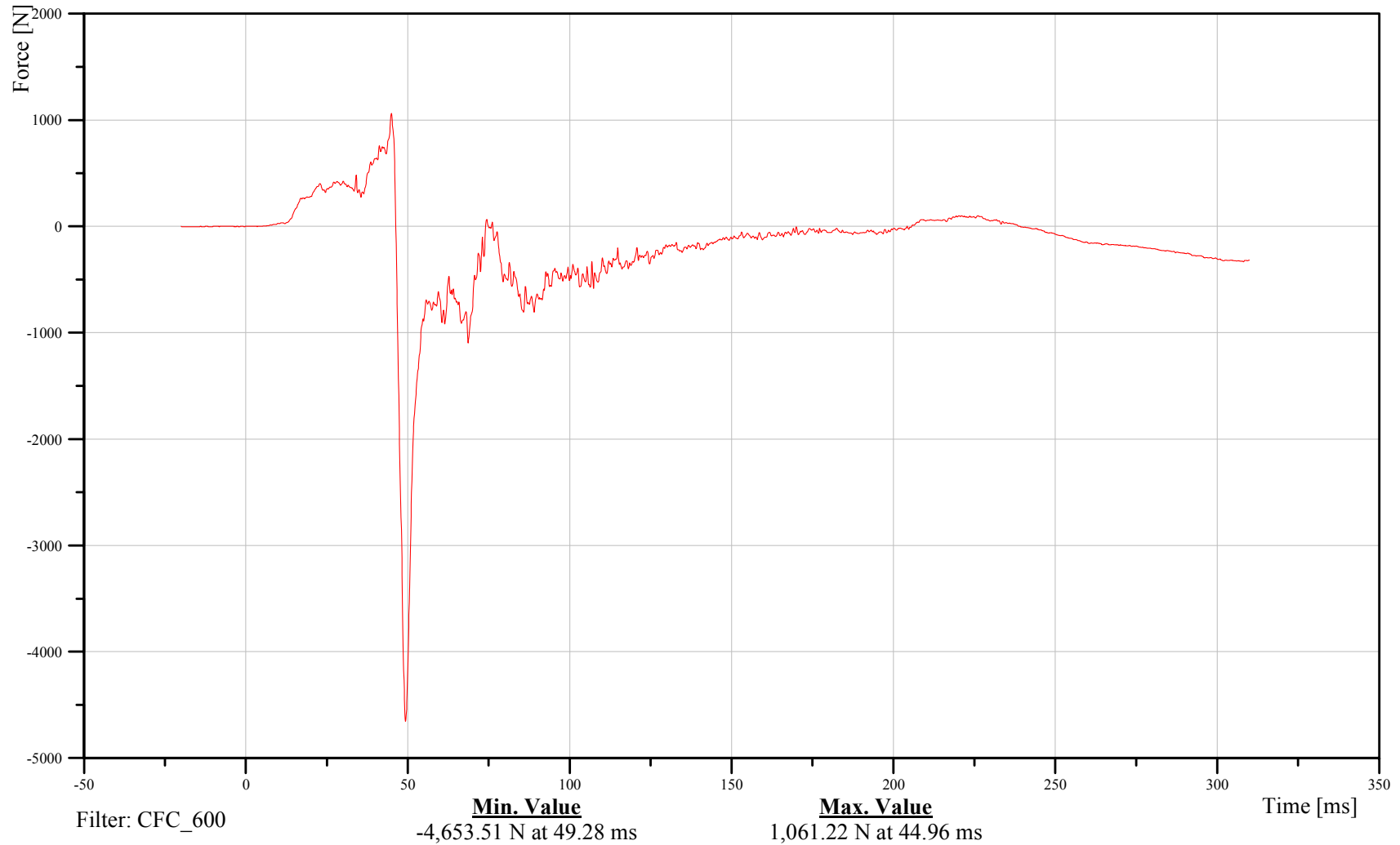
Target Driver Left Femur Z-Axis Force

Customer: VRTC

11FEMRLL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

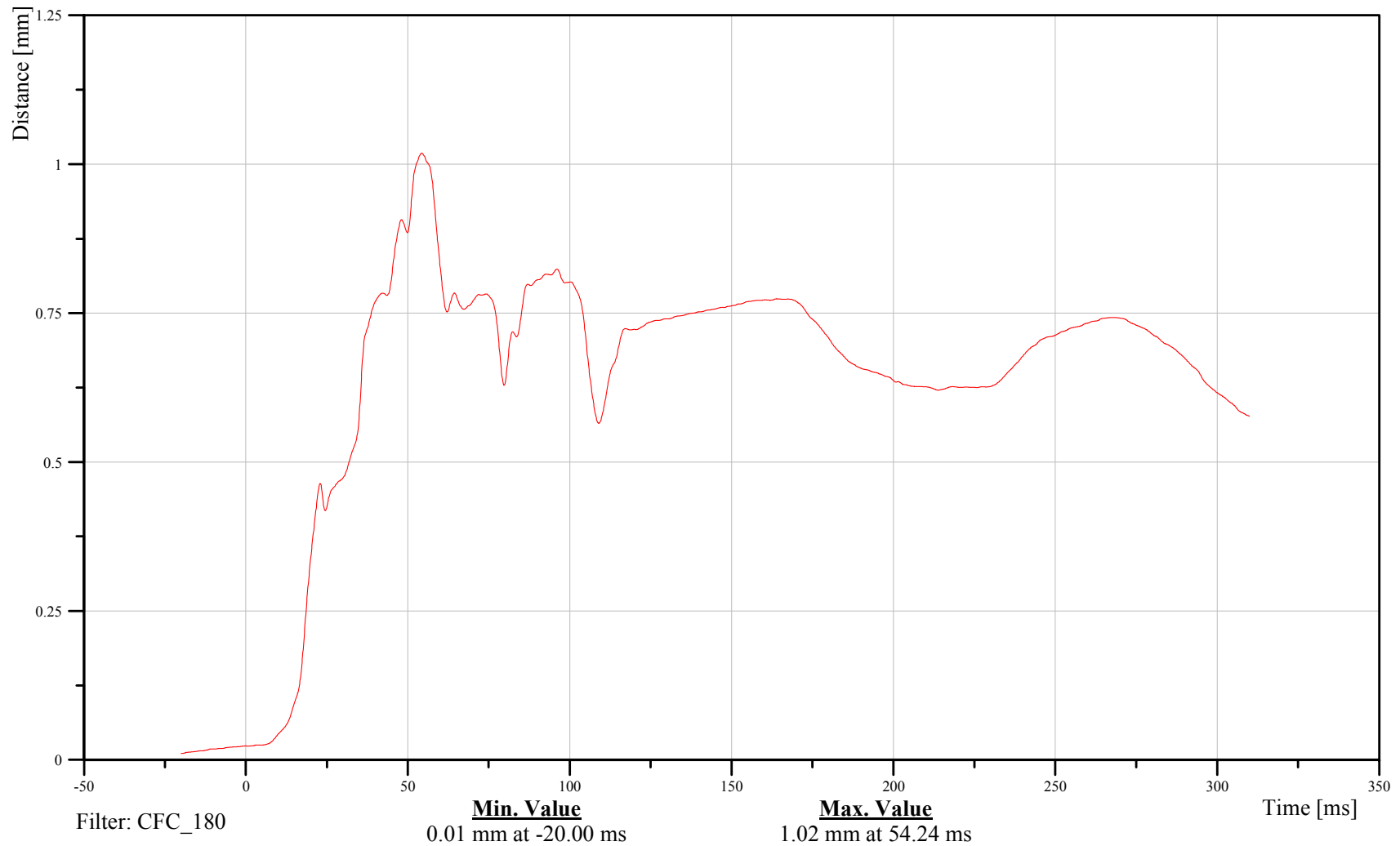
Target Driver Left Knee Displacement

Customer: VRTC

11KNSLLE00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 050906





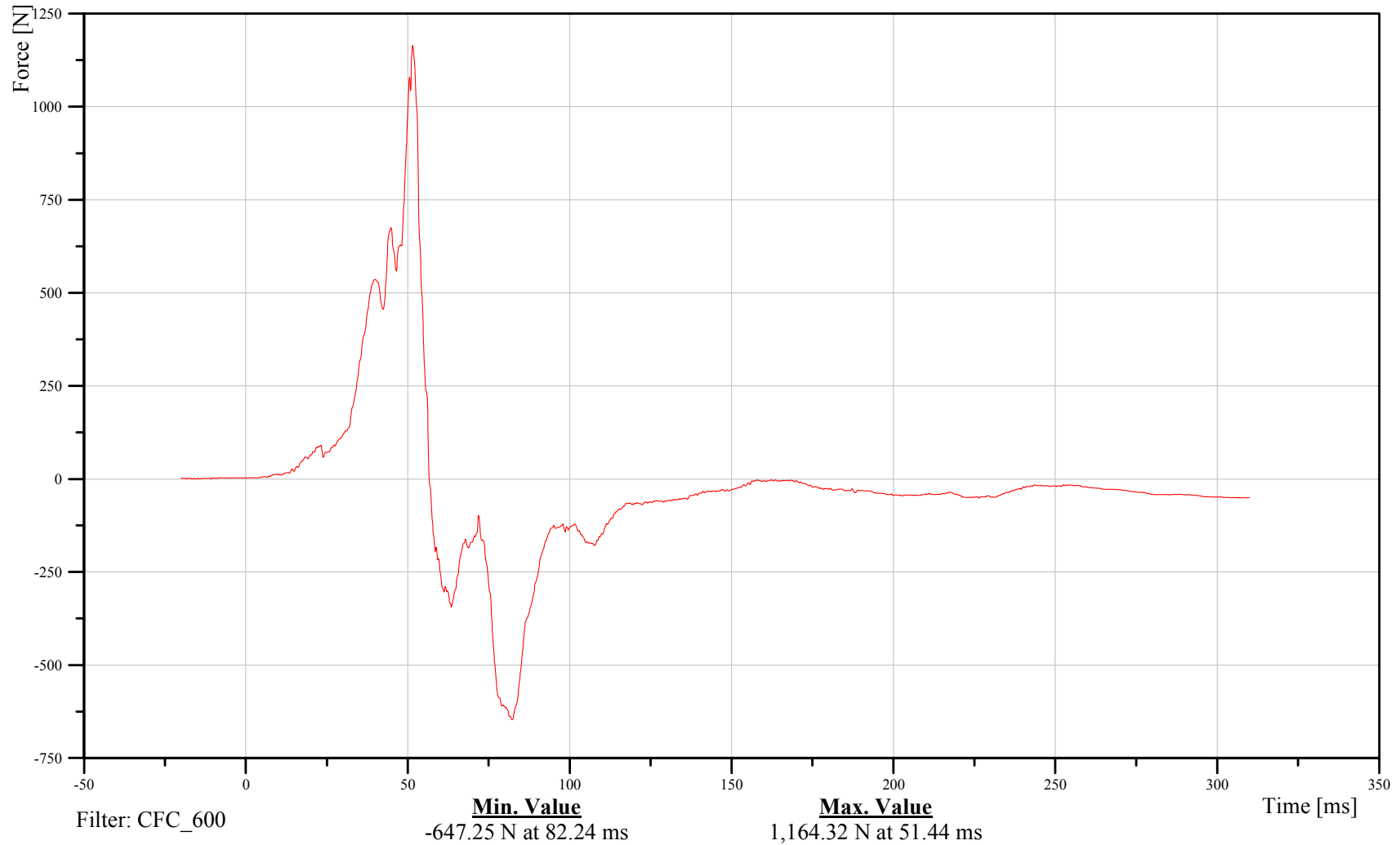
Target Driver Left Upper Tibia X-Axis Force

Customer: VRTC

11TIBILULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

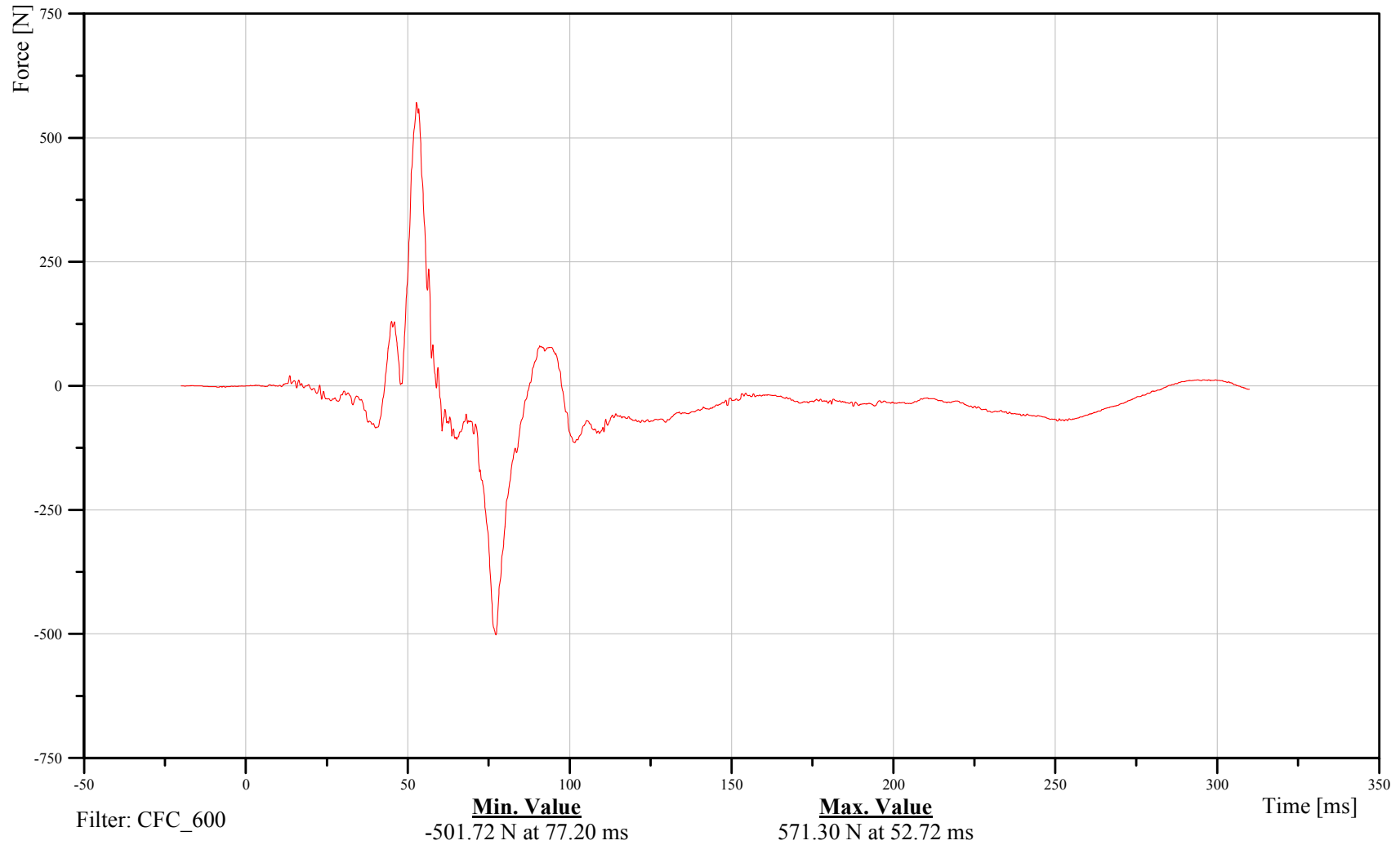
Target Driver Left Upper Tibia Y-Axis Force

Customer: VRTC

11TIBILULXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





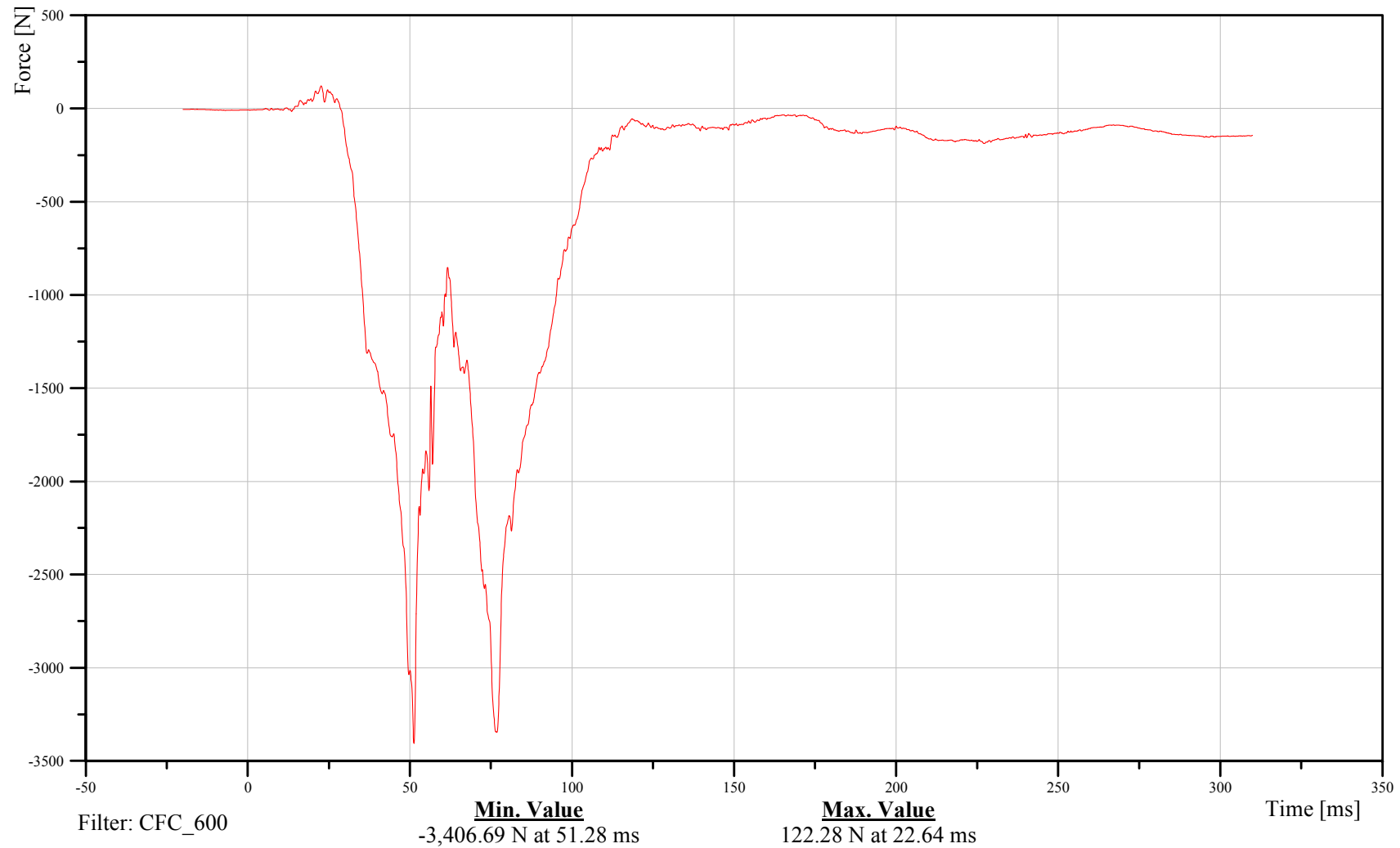
Target Driver Left Upper Tibia Z-Axis Force

Customer: VRTC

11TIBILULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

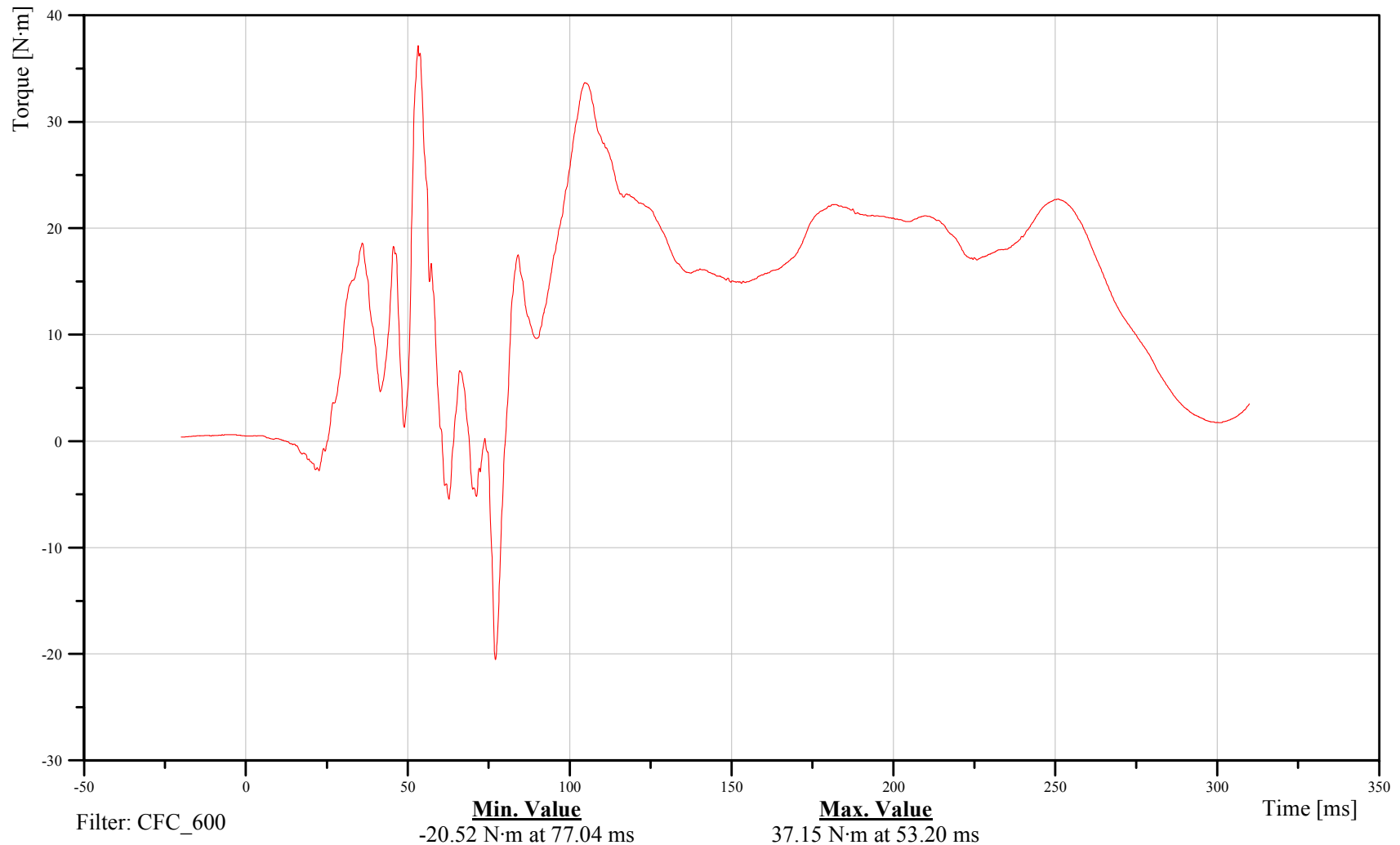
Target Driver Left Upper Tibia Moment About X Axis

Customer: VRTC

11TIBILULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

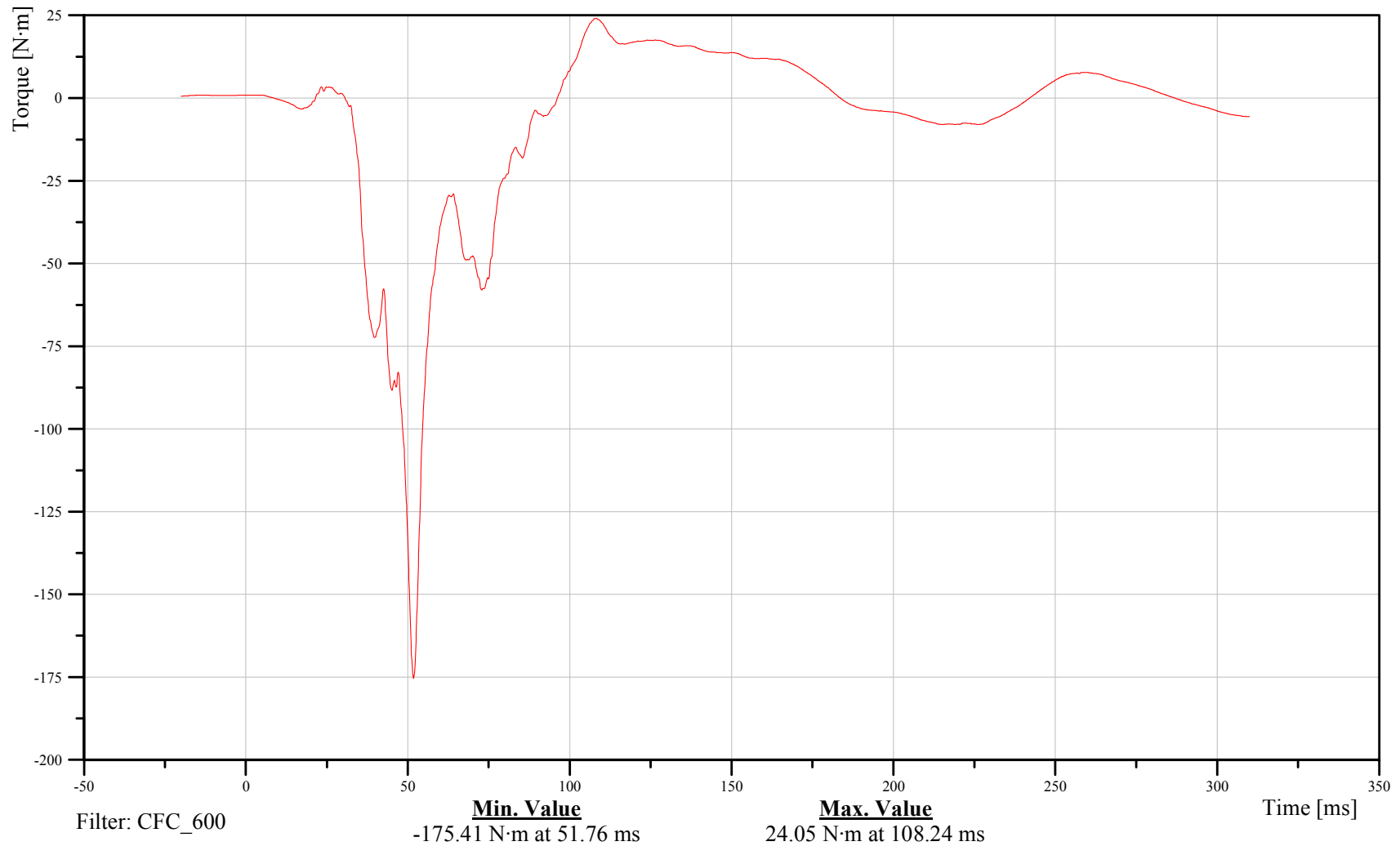
Target Driver Left Upper Tibia Moment About Y Axis

Customer: VRTC

11TIBILULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

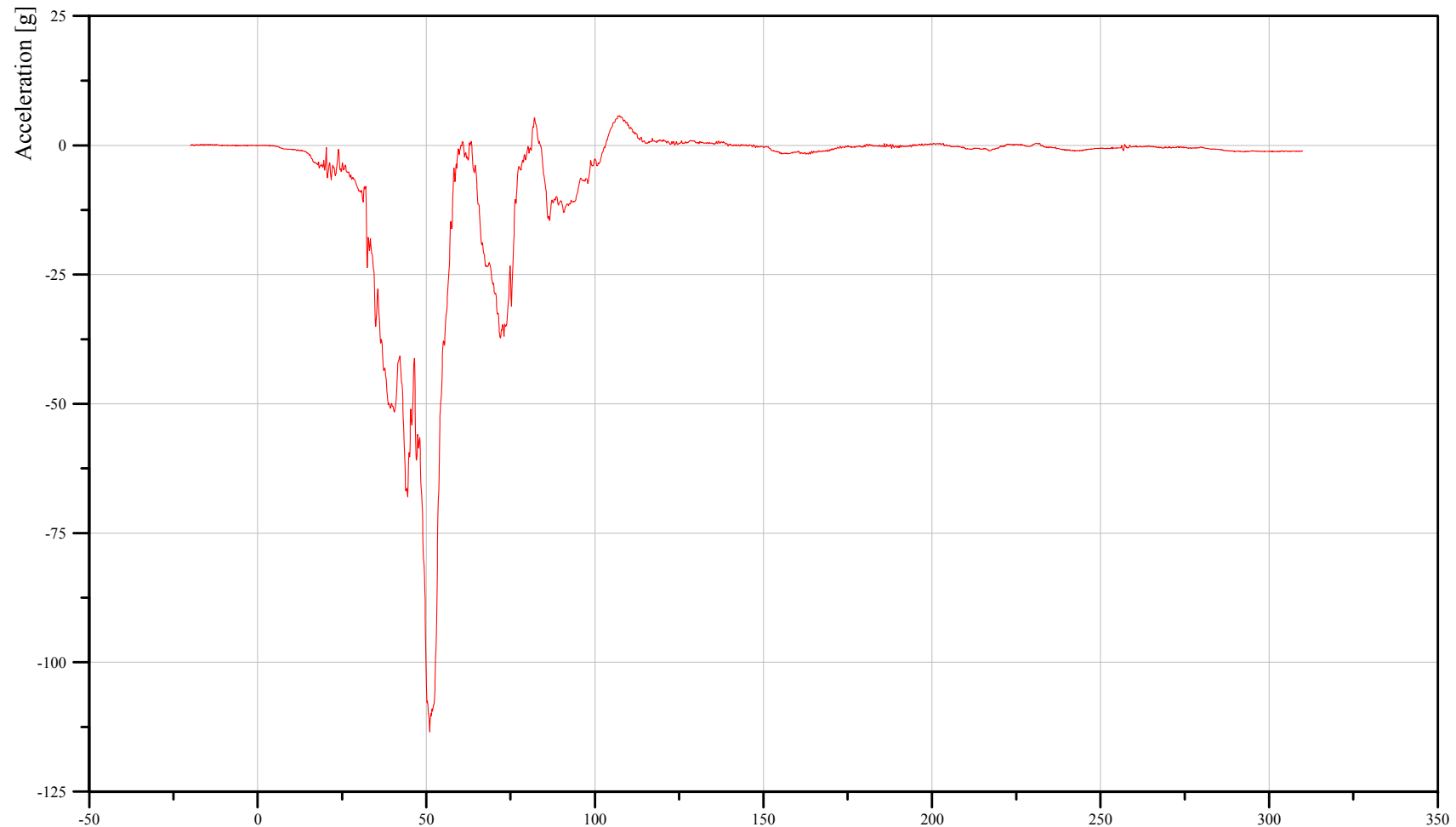
Target Driver Left Tibia X-Axis Acceleration

Customer: VRTC

11TIBILELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906



Filter: CFC_1000

Min. Value
-113.44 g at 51.04 ms

Max. Value
5.75 g at 107.36 ms

Time [ms]



2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

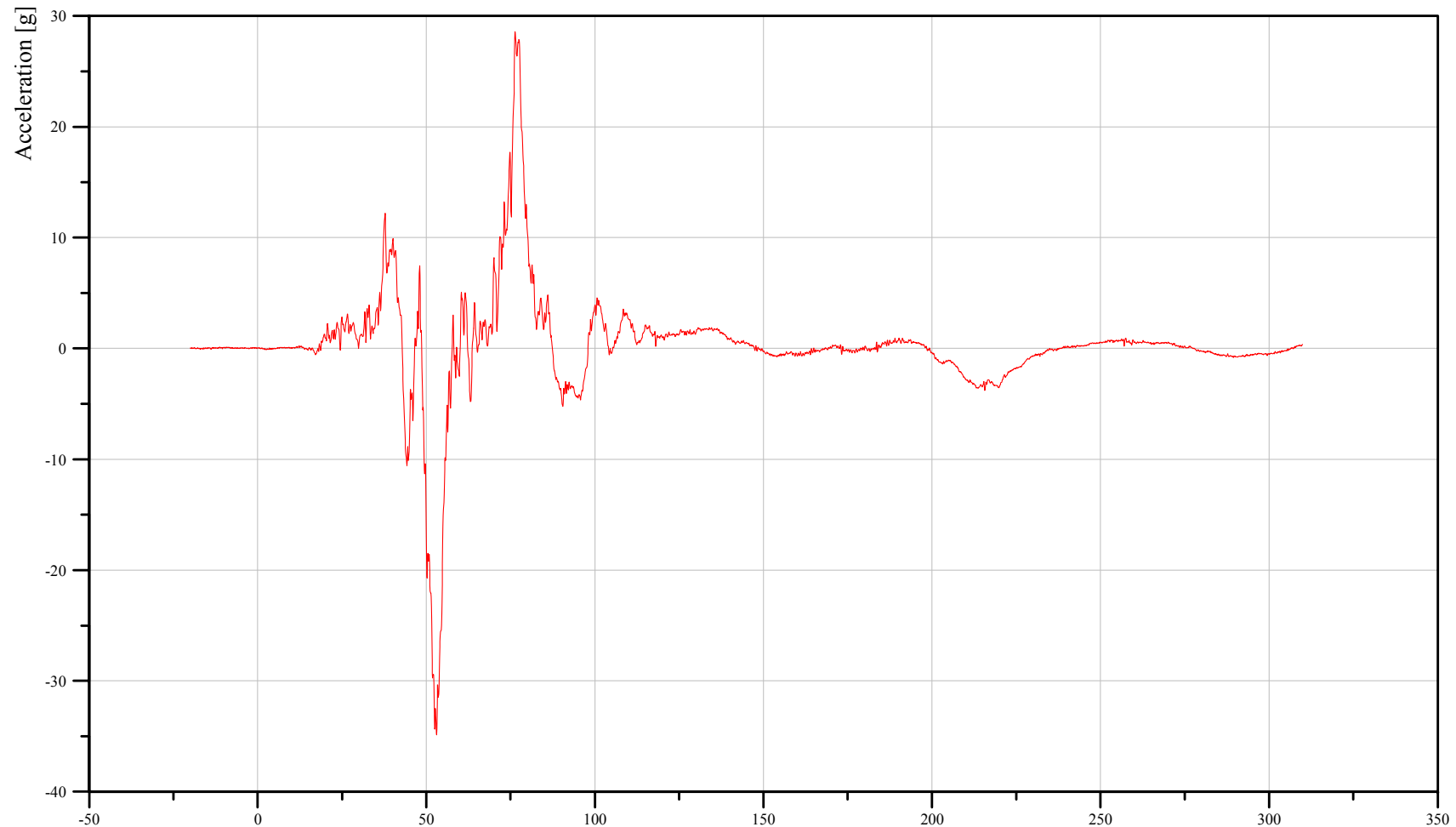
Target Driver Left Tibia Y-Axis Acceleration

Customer: VRTC

11TIBILELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906



Filter: CFC_1000

Min. Value
-34.88 g at 53.04 ms

Max. Value
28.58 g at 76.32 ms

Time [ms]



2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

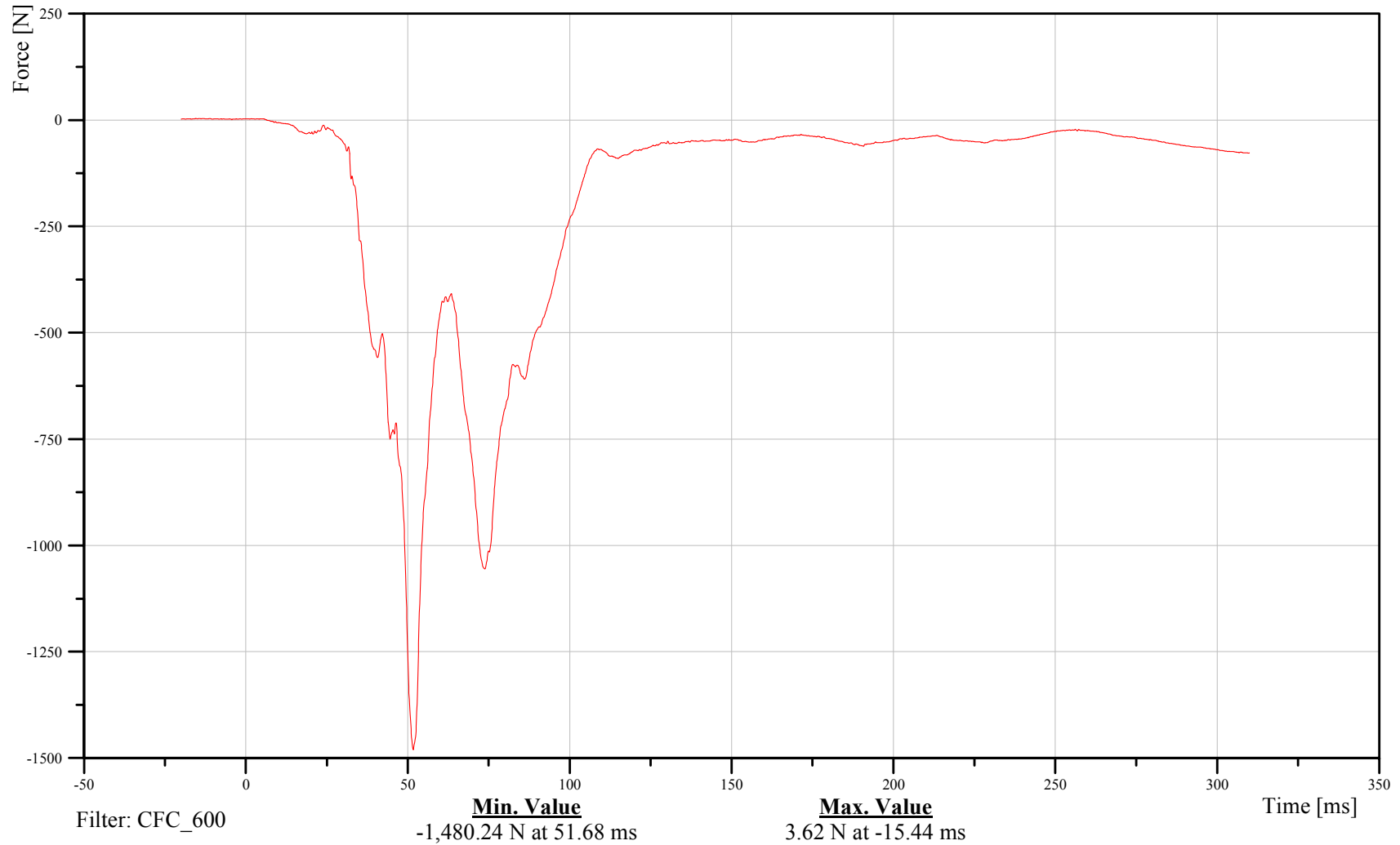
Target Driver Left Lower Tibia X-Axis Force

Customer: VRTC

11TIBILLXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

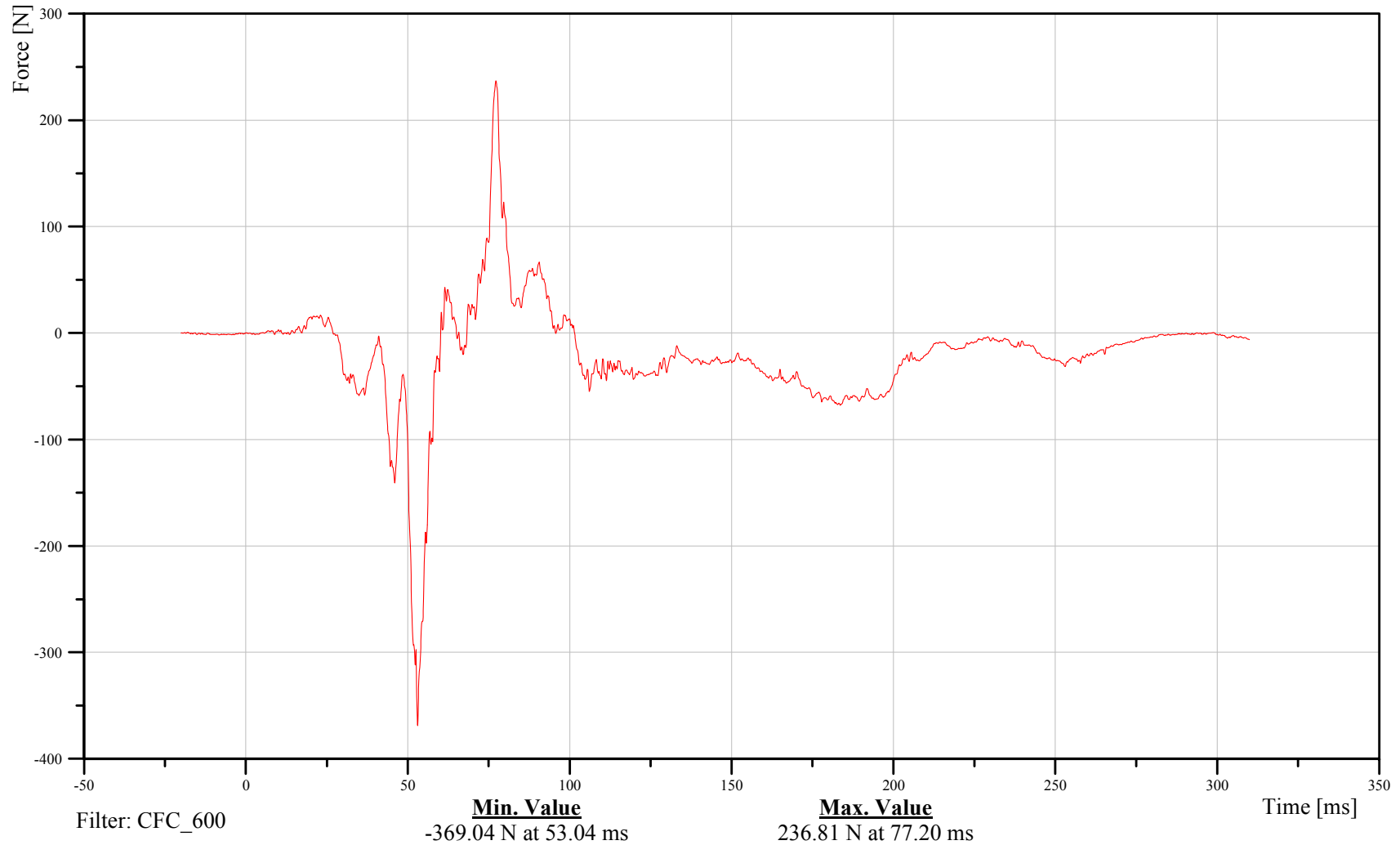
Target Driver Left Lower Tibia Y-Axis Force

Customer: VRTC

11TIBILLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

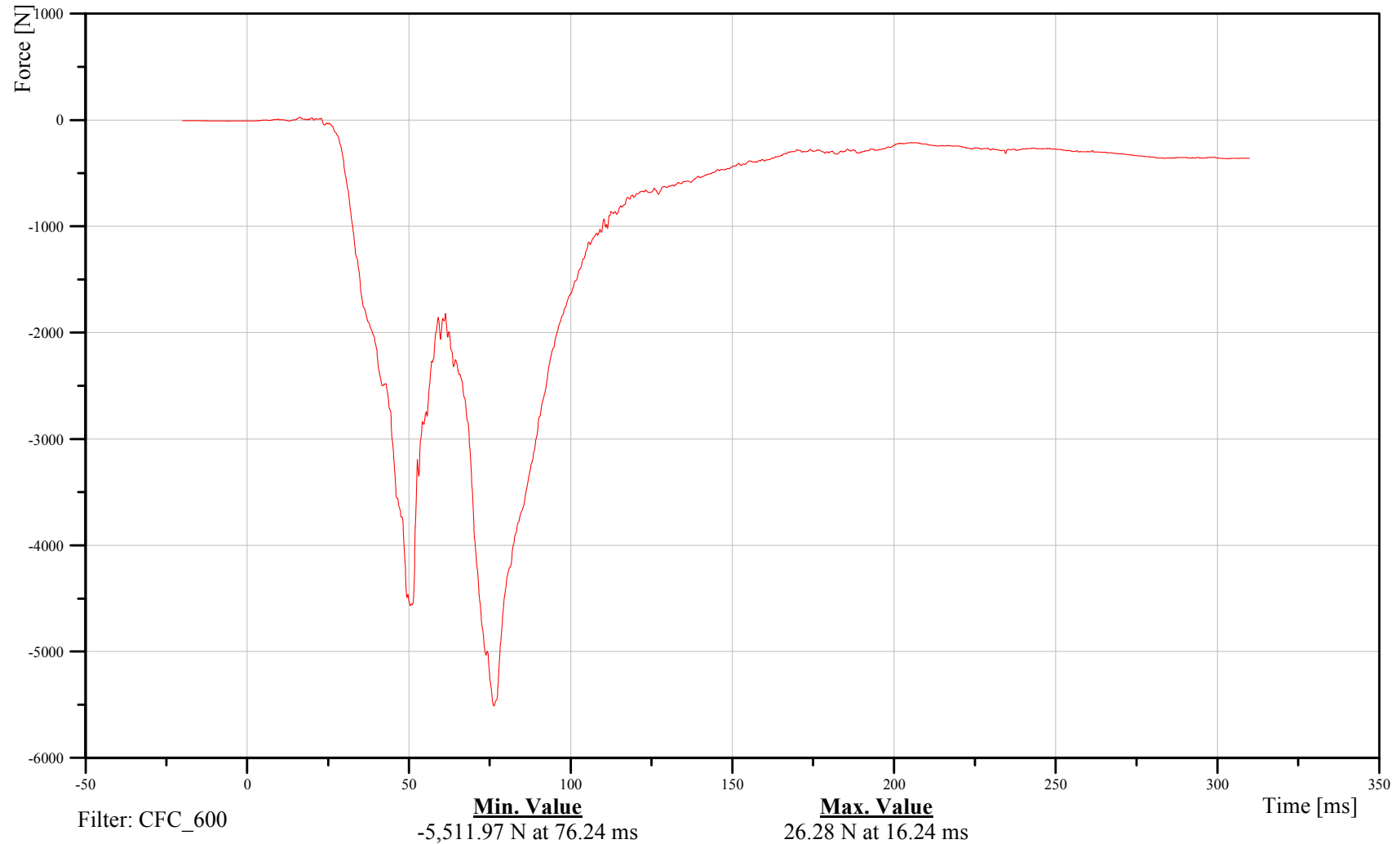
Target Driver Left Lower Tibia Z-Axis Force

Customer: VRTC

11TIBILLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

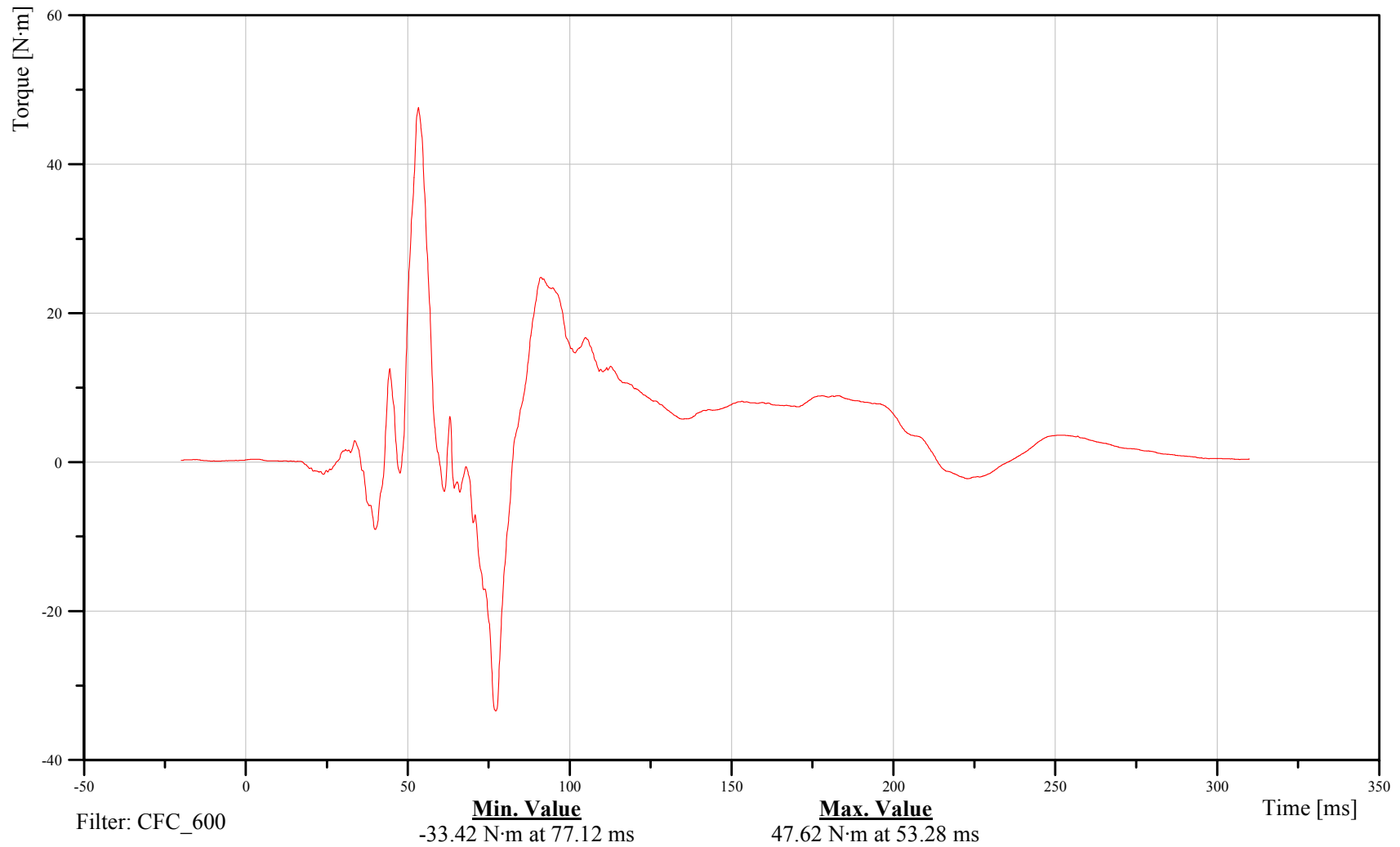
Target Driver Left Lower Tibia Moment About X Axis

Customer: VRTC

11TIBILLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

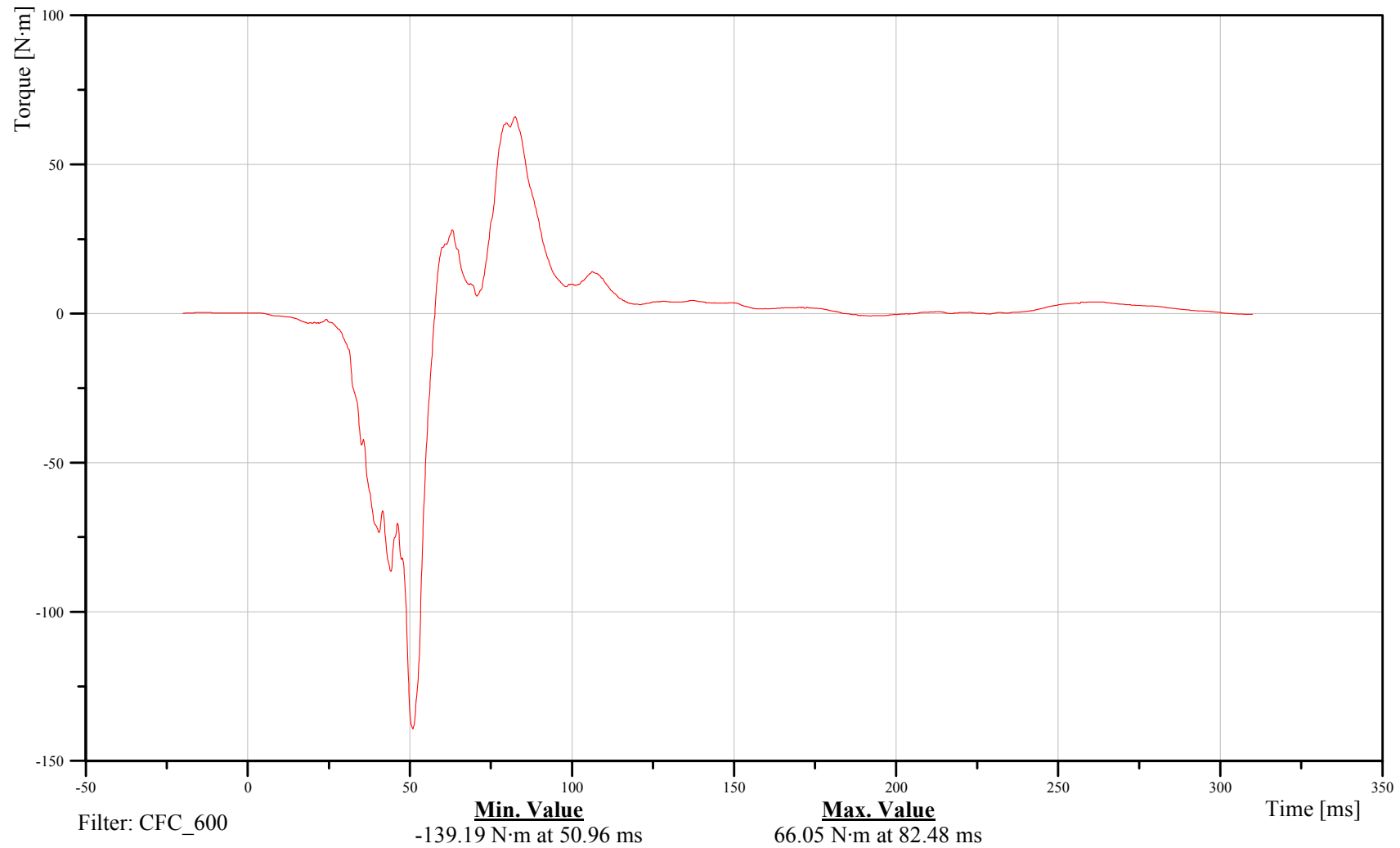
Target Driver Left Lower Tibia Moment About Y Axis

Customer: VRTC

11TIBILLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

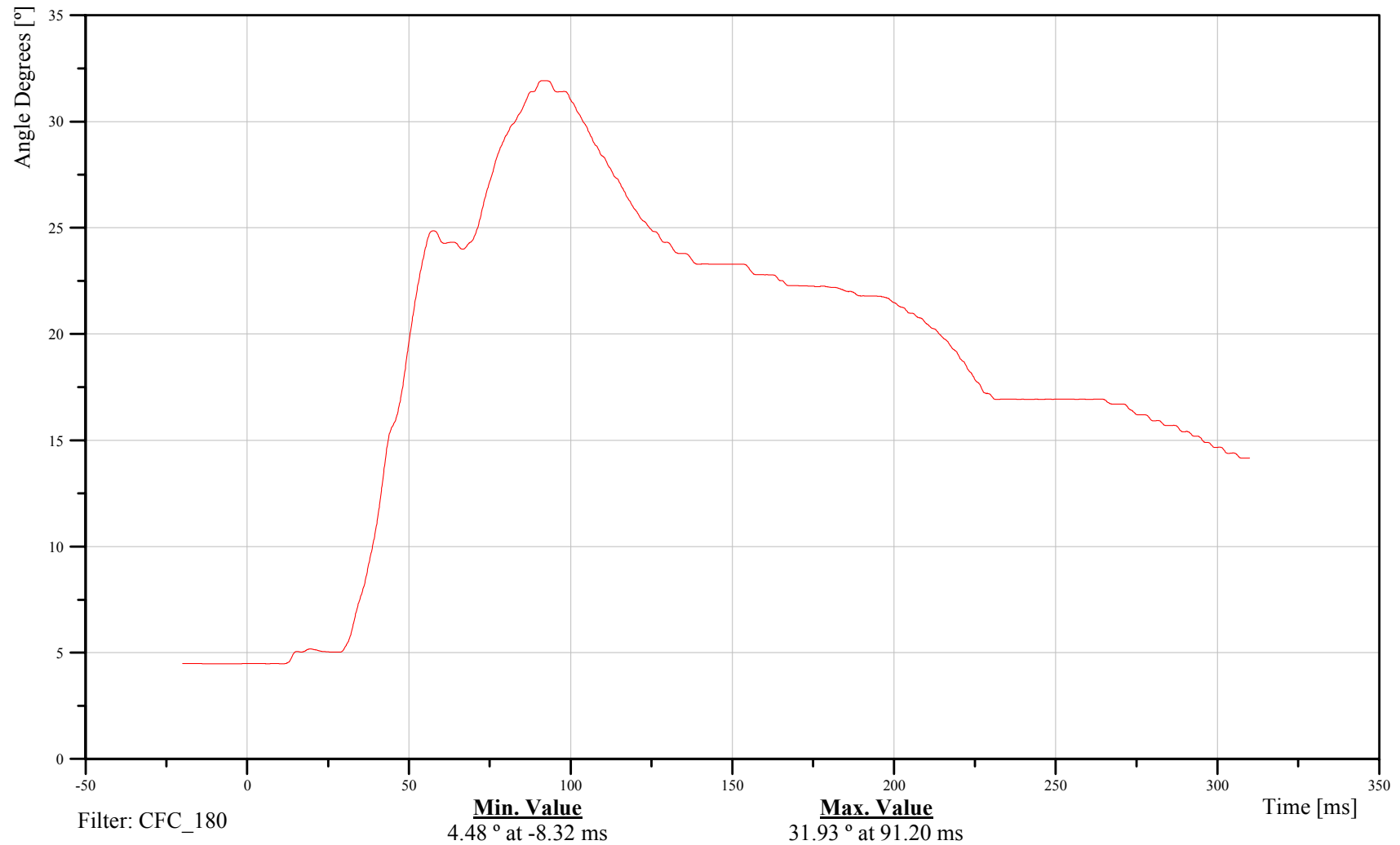
Target Driver Left Foot X-Axis Rotation

Customer: VRTC

11FOOTLELXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

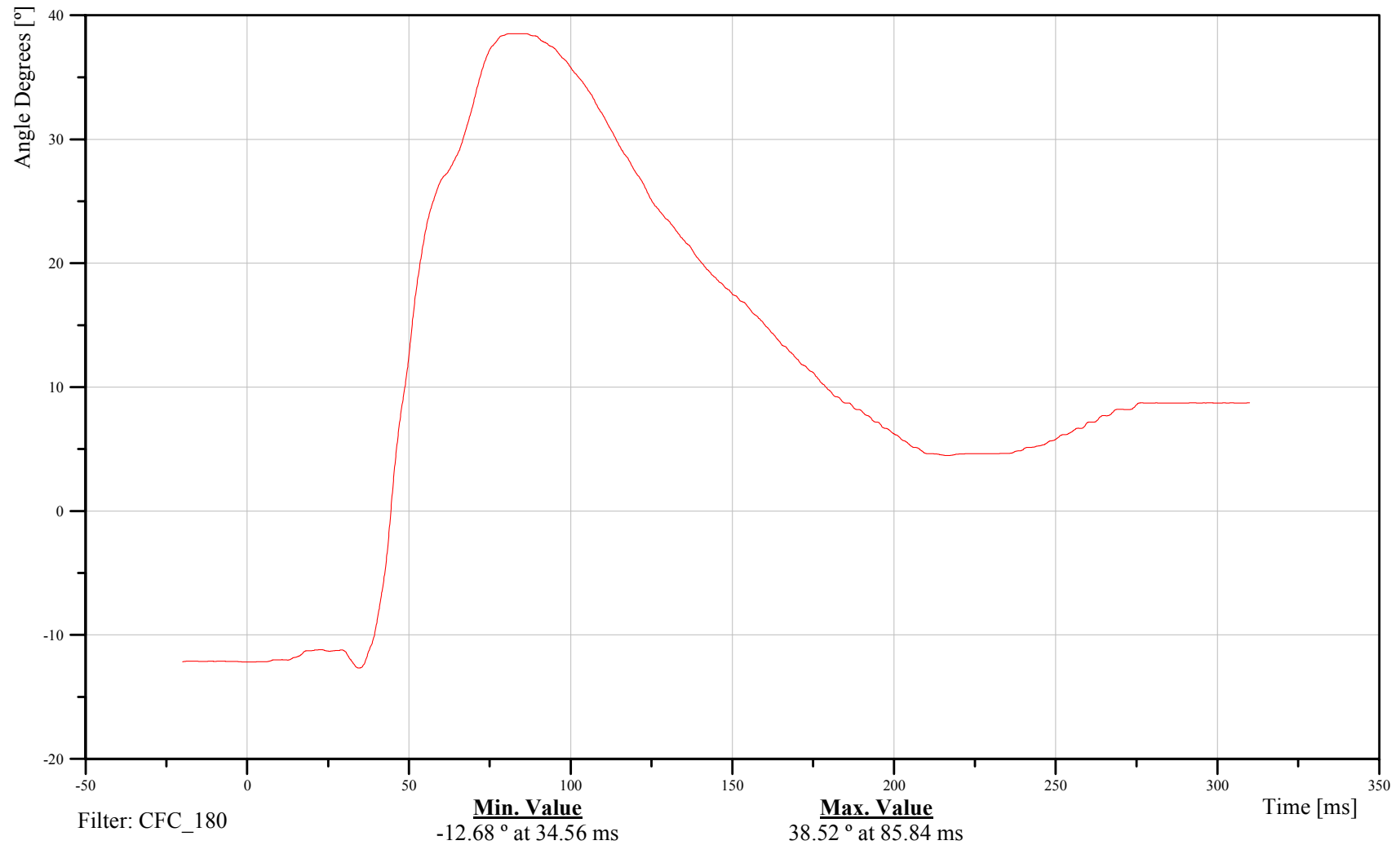
Target Driver Left Foot Y-Axis Rotation

Customer: VRTC

11FOOTLELXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

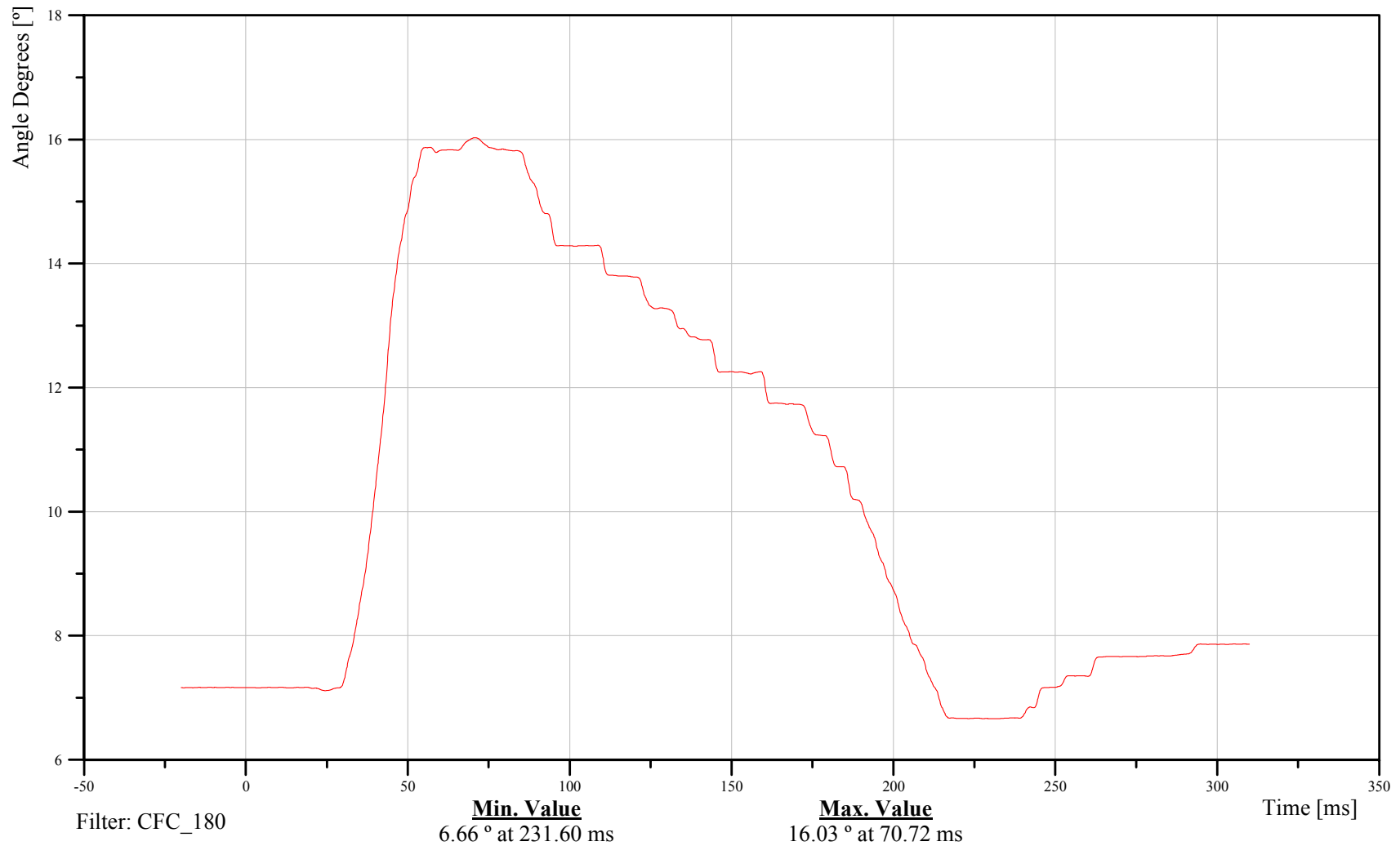
Target Driver Left Foot Z-Axis Rotation

Customer: VRTC

11FOOTLELXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

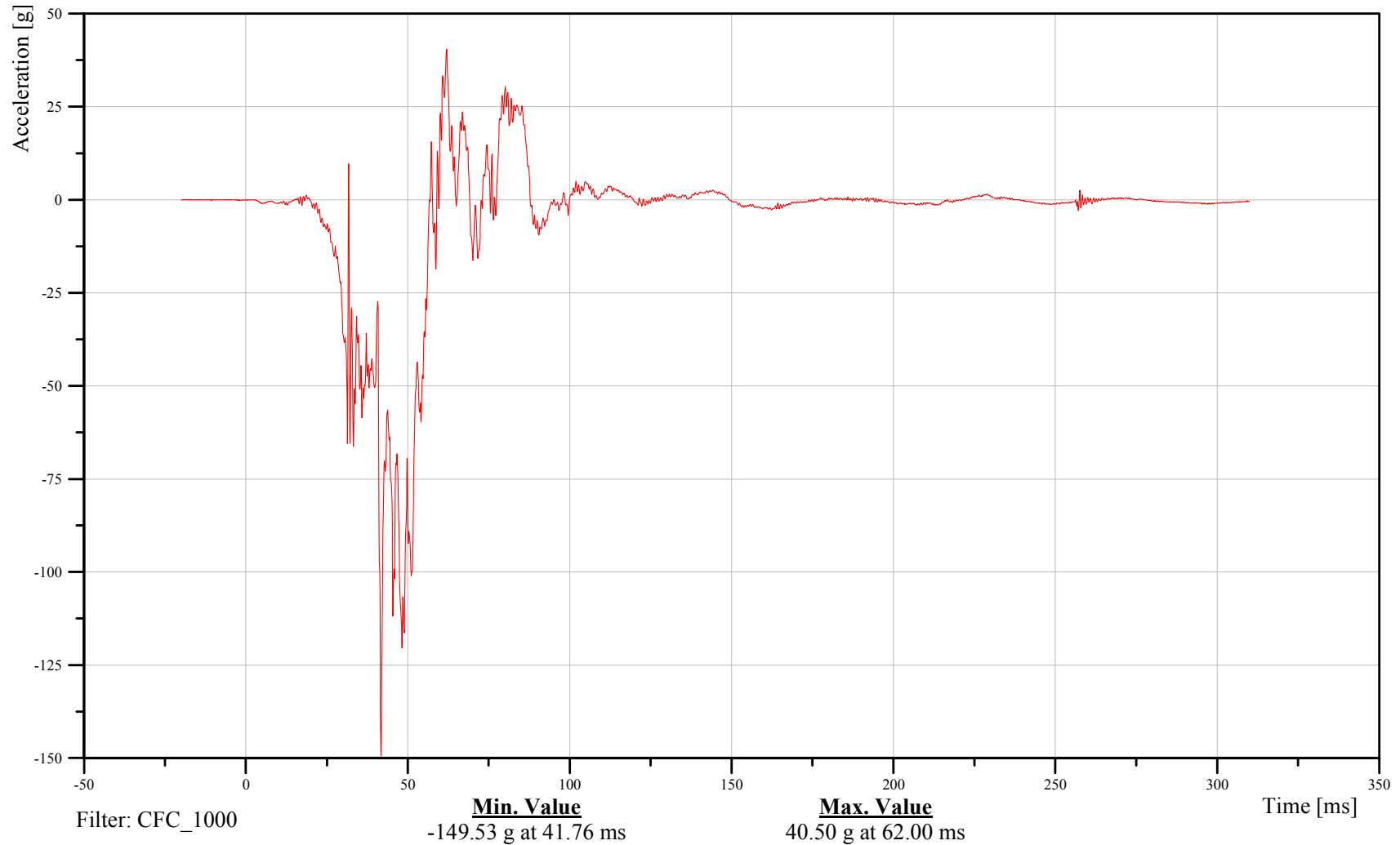
Target Driver Left Foot X-Axis Acceleration

Customer: VRTC

11FOOTLELXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

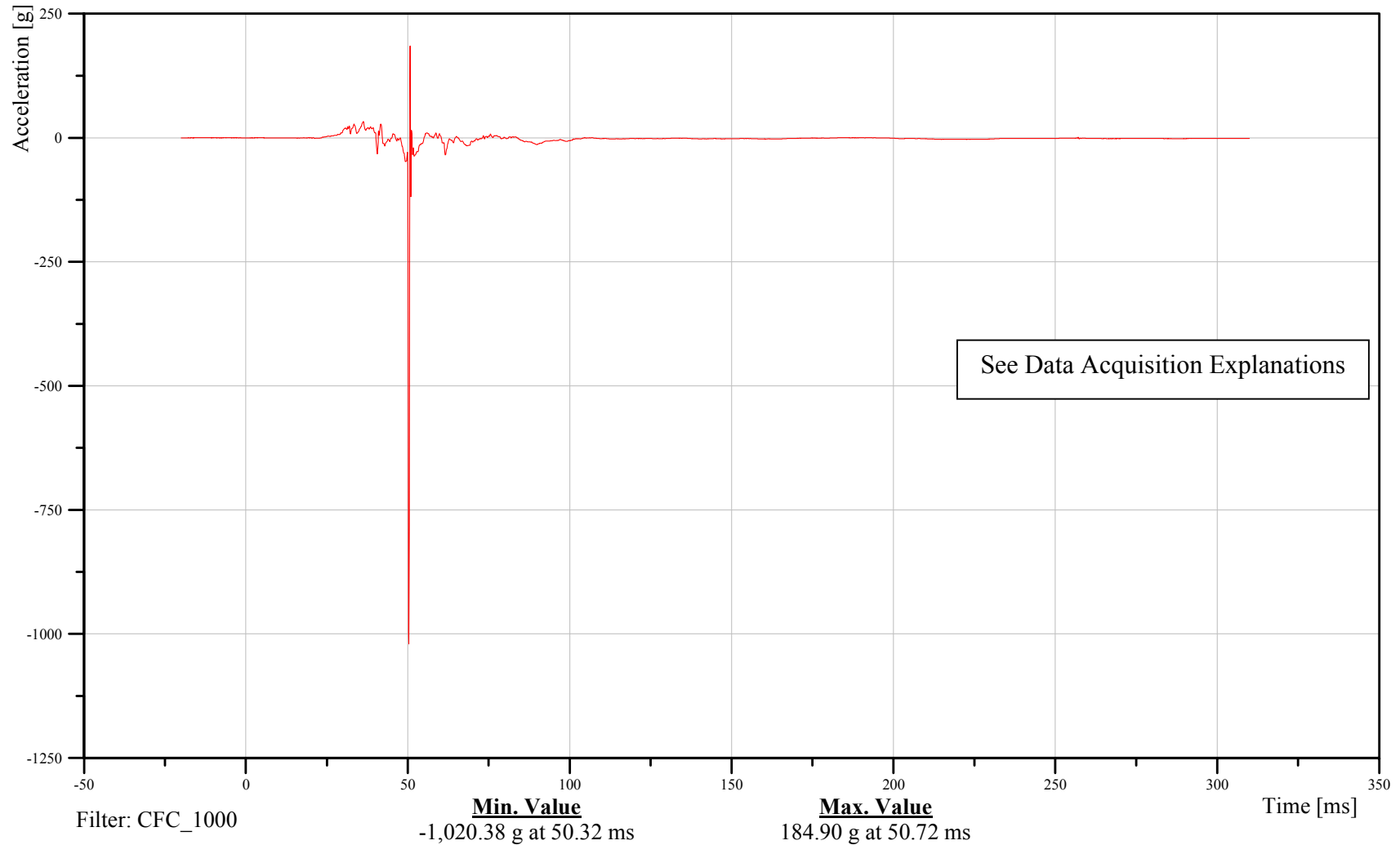
Target Driver Left Foot Y-Axis Acceleration

Customer: VRTC

11FOOTLELXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

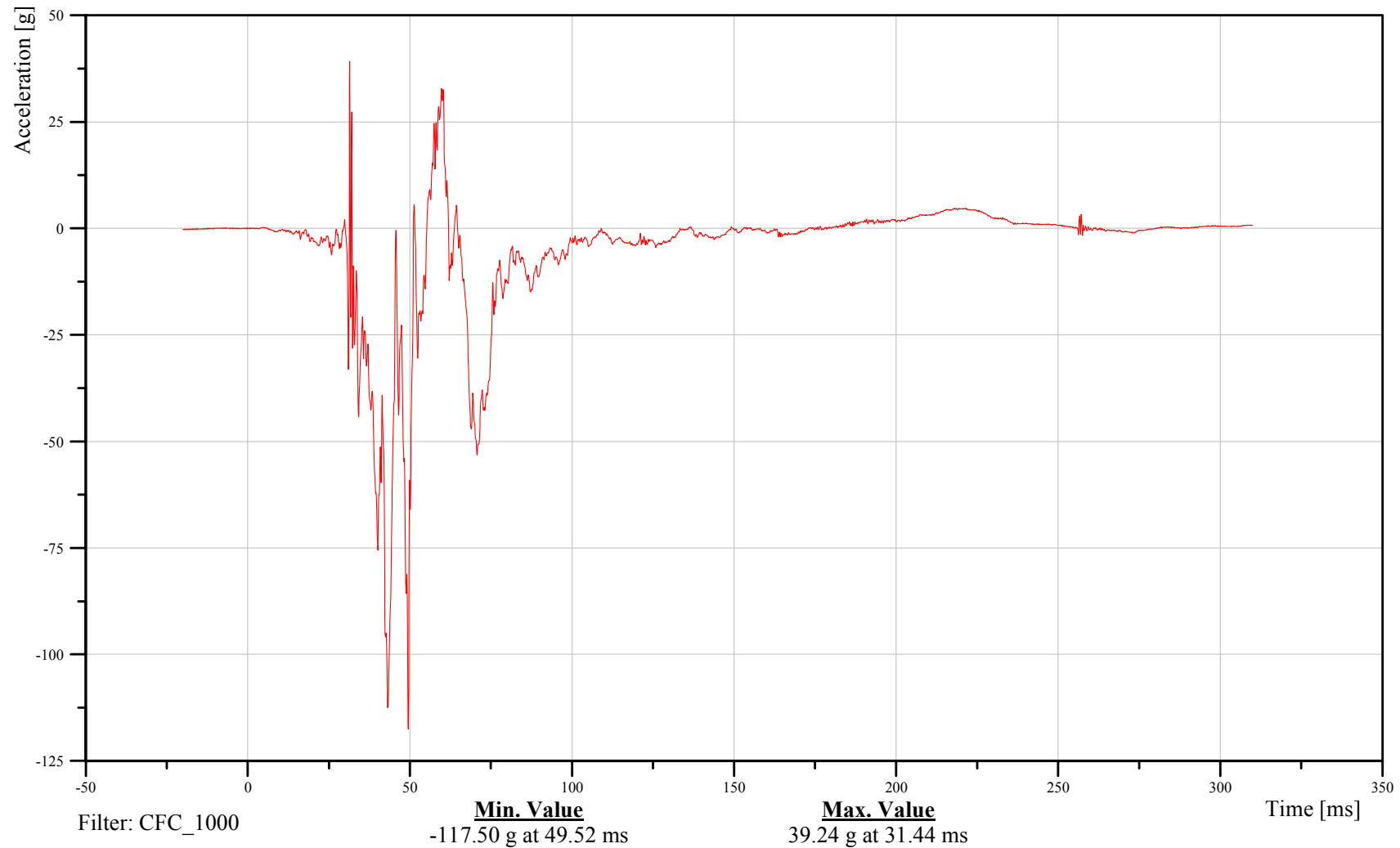
Target Driver Left Foot Z-Axis Acceleration

Customer: VRTC

11FOOTLELXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

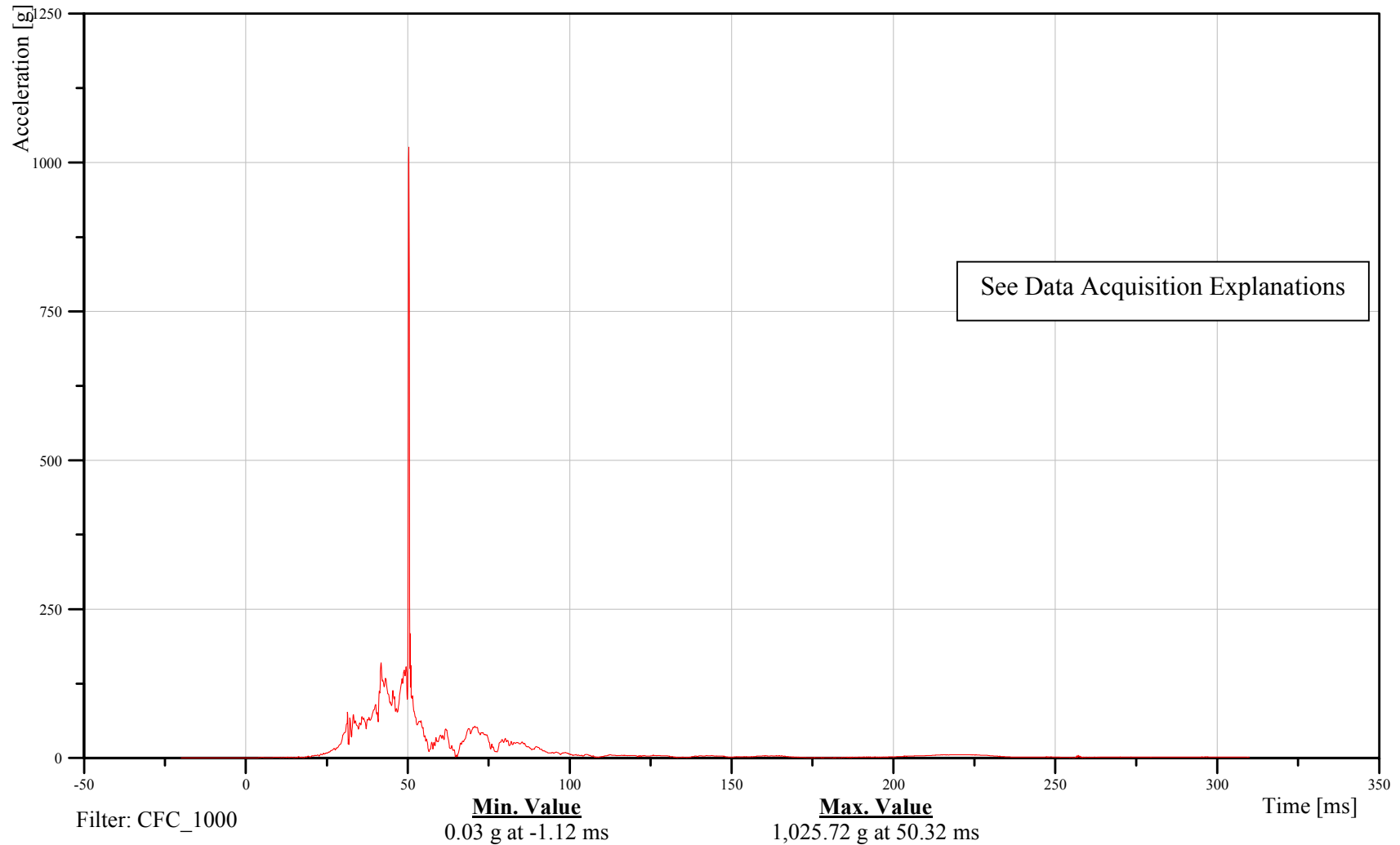
Target Driver Left Foot Resultant Acceleration

Customer: VRTC

11FOOTLELXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

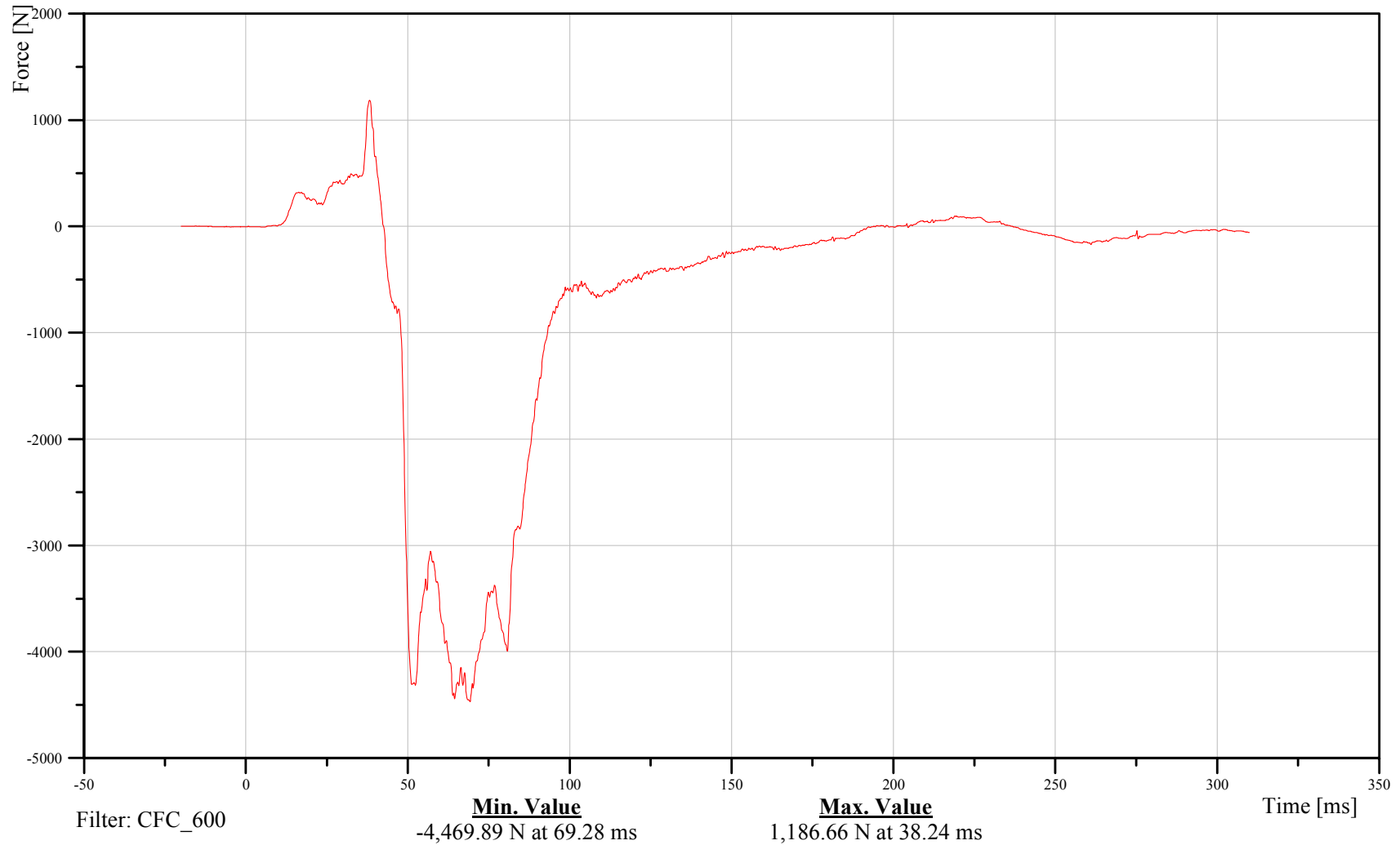
Target Driver Right Femur Z-Axis Force

Customer: VRTC

11FEMRRL00H3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

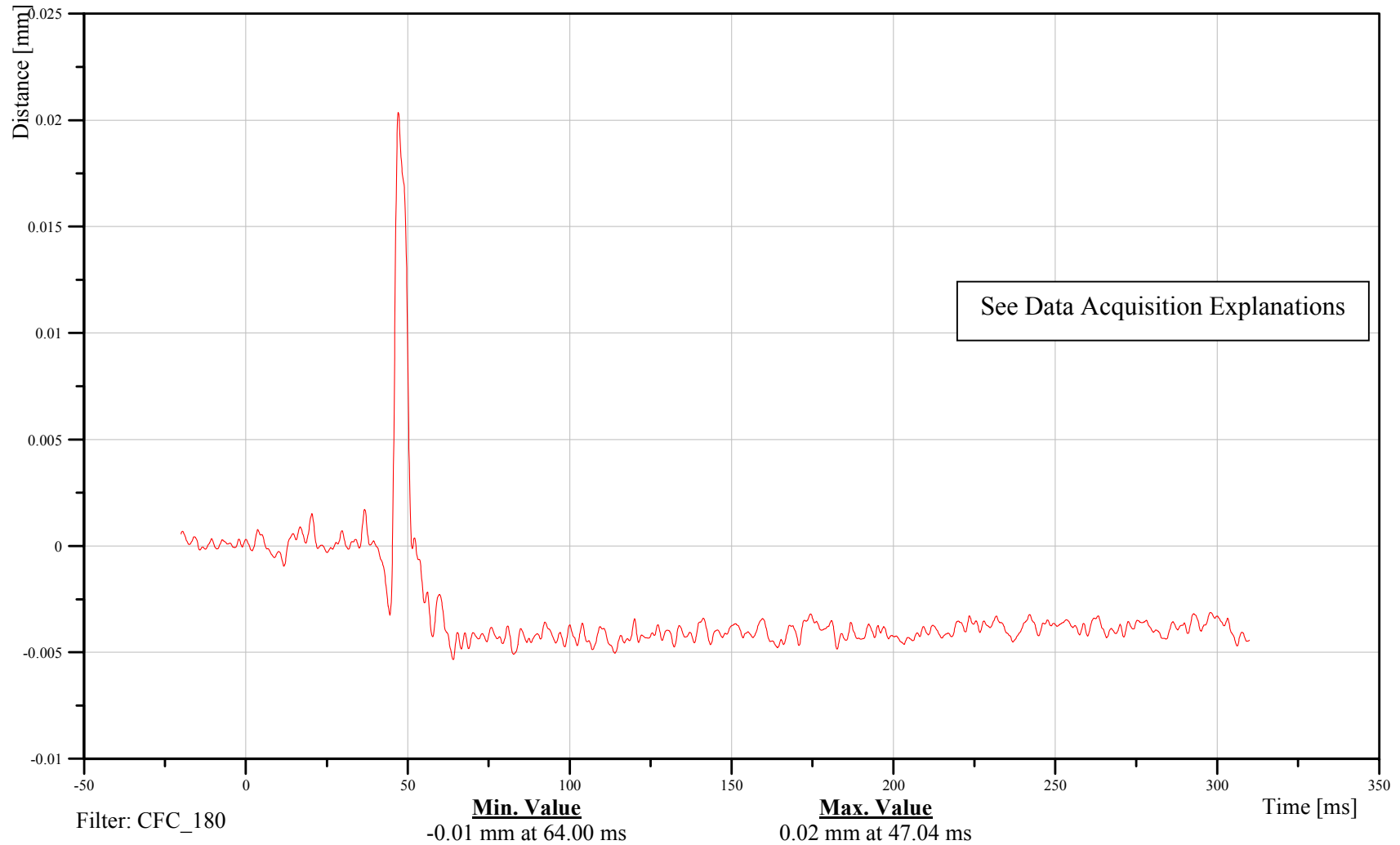
Target Driver Right Knee Displacement

Customer: VRTC

11KNSLRI00H3DSXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

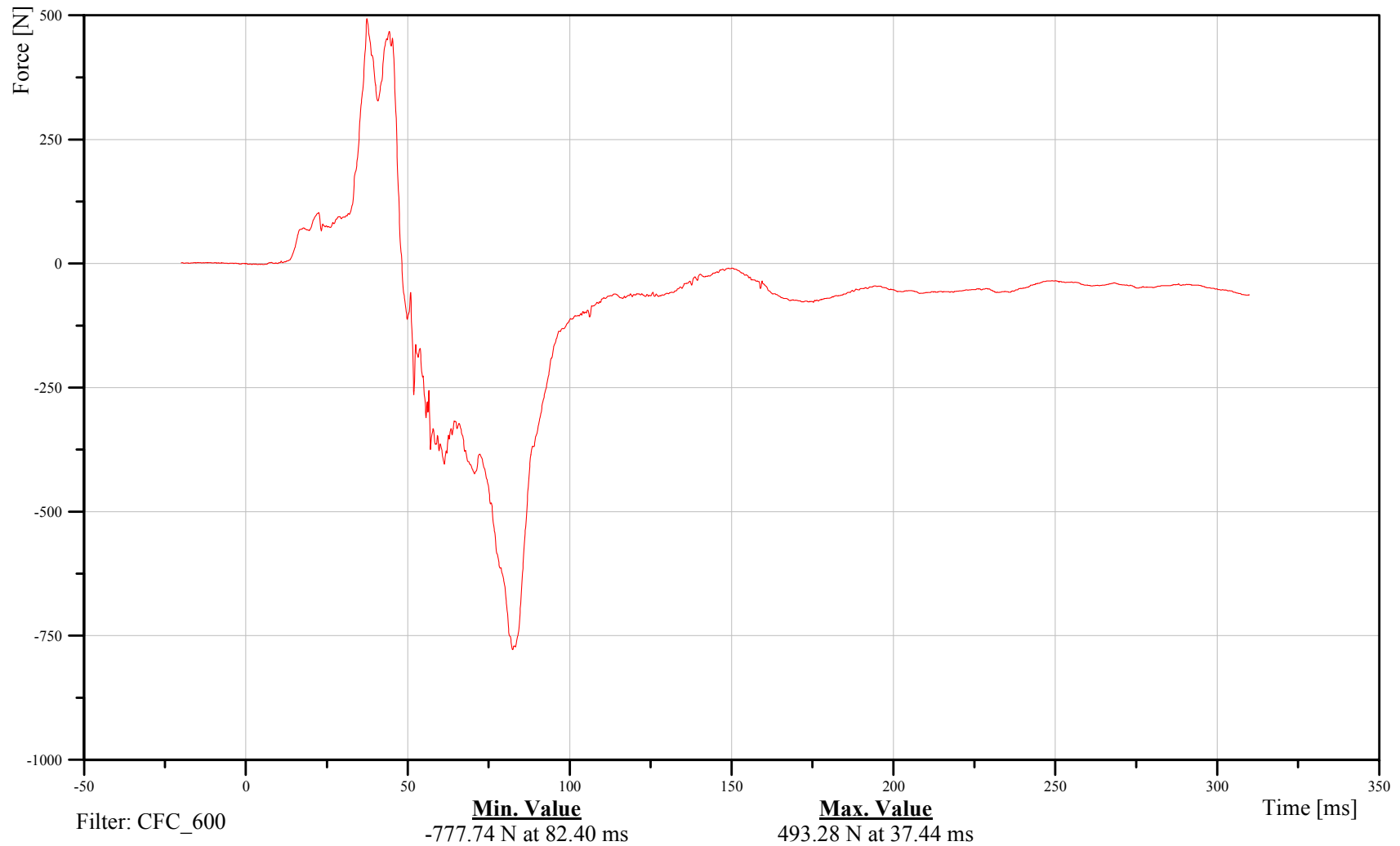
Target Driver Right Upper Tibia X-Axis Force

Customer: VRTC

11TIBIRULXH3FOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

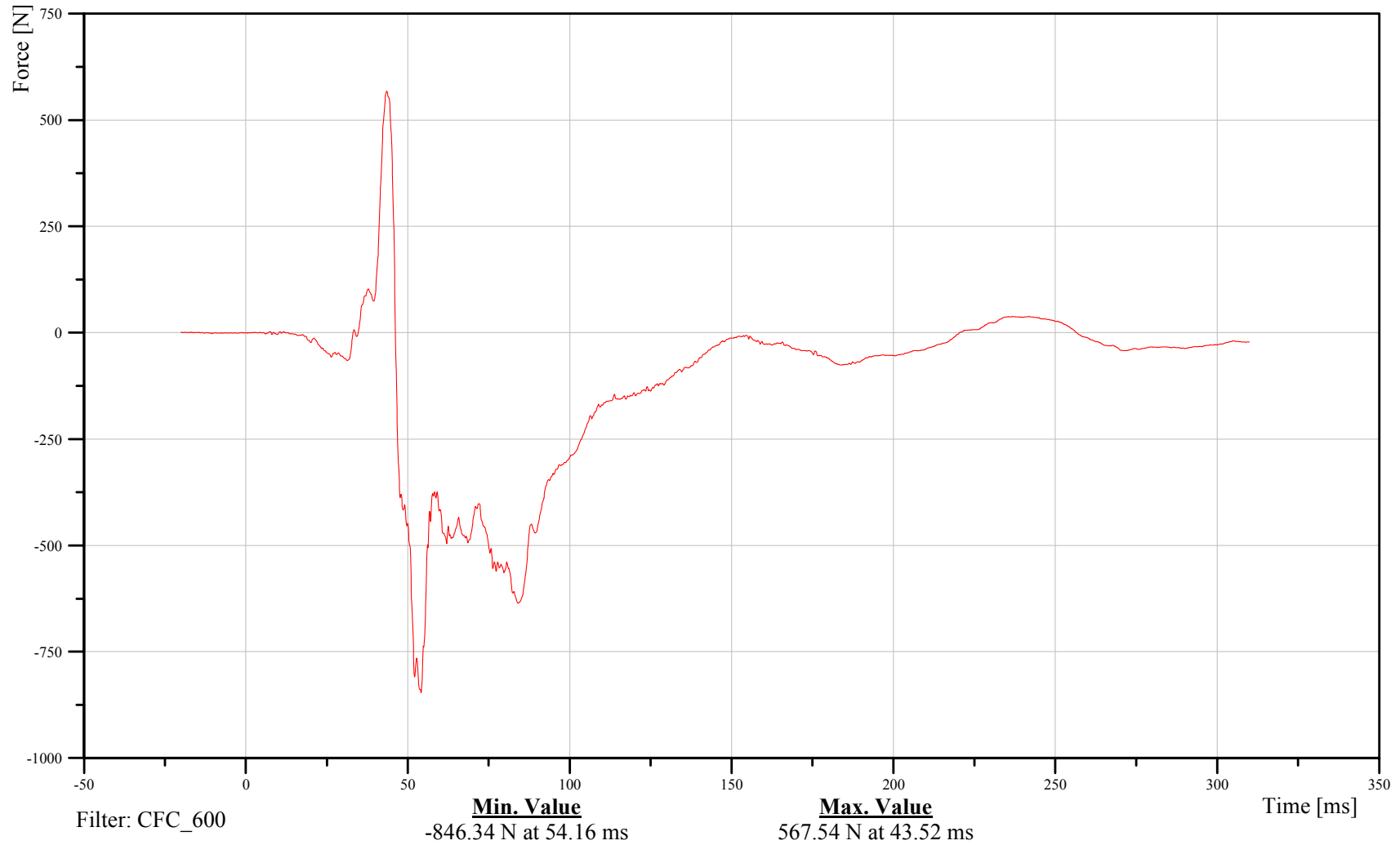
Target Driver Right Upper Tibia Y-Axis Force

Customer: VRTC

11TIBIRULXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

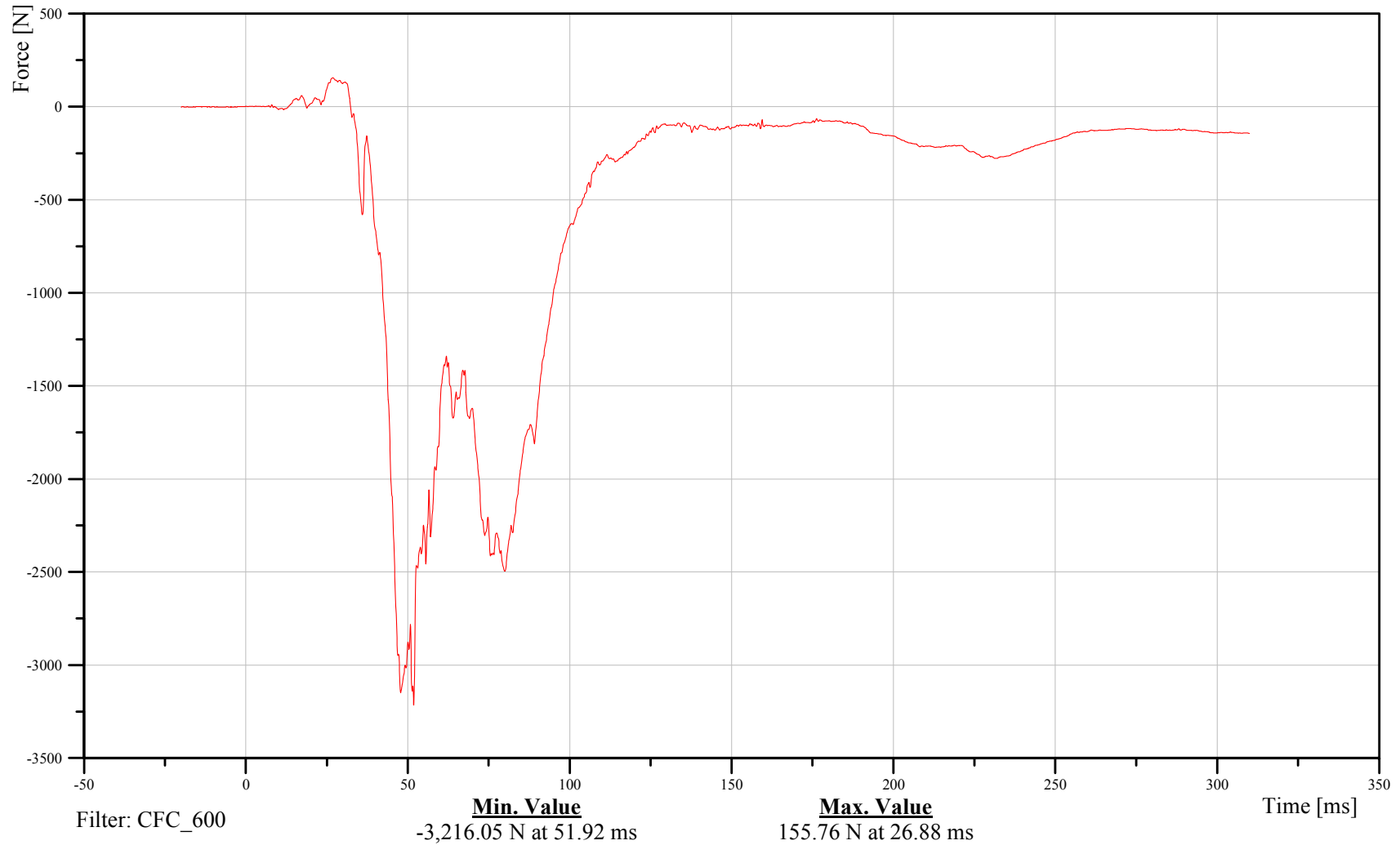
Target Driver Right Upper Tibia Z-Axis Force

Customer: VRTC

11TIBIRULXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

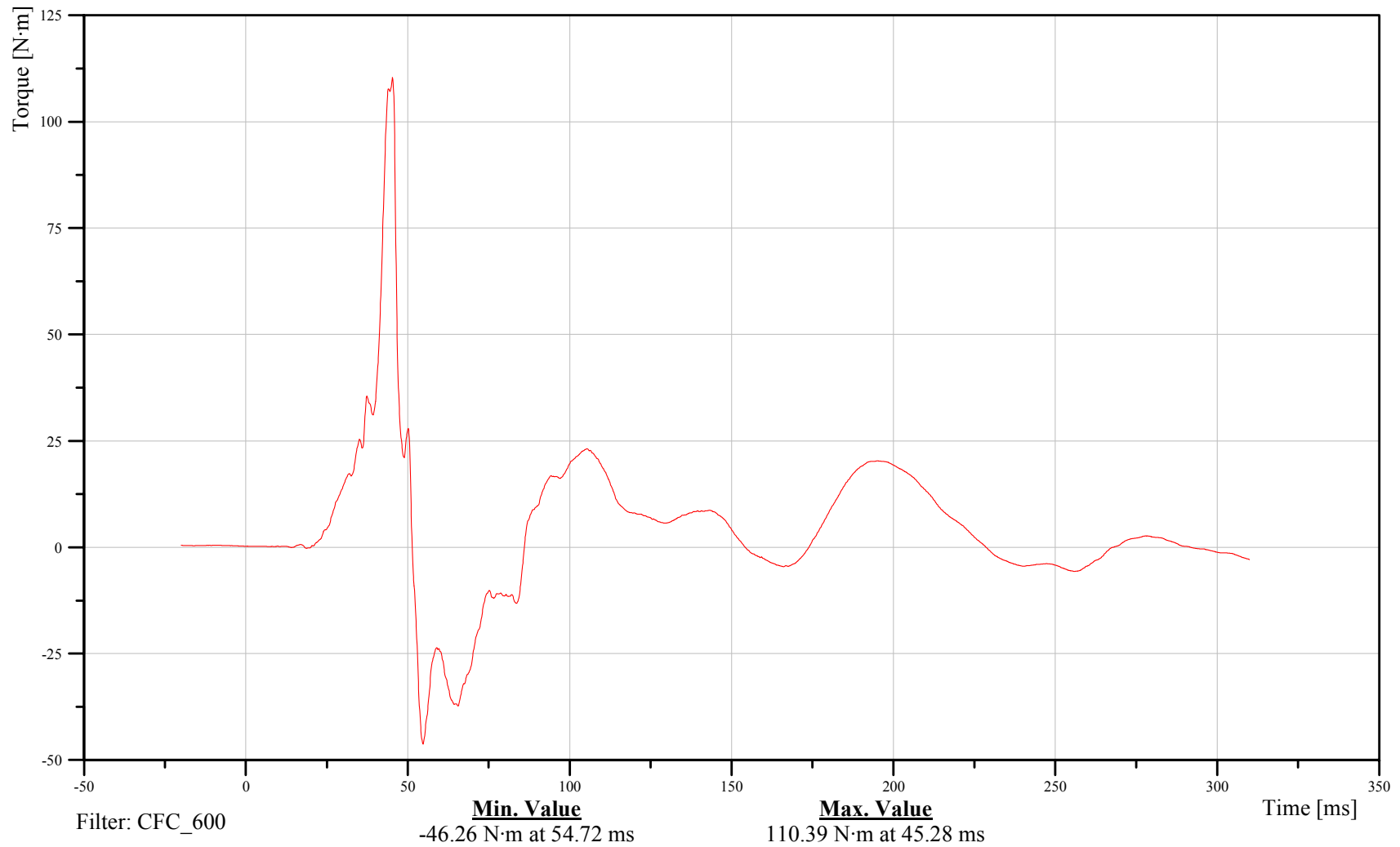
Target Driver Right Upper Tibia Moment About X Axis

Customer: VRTC

11TIBIRULXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

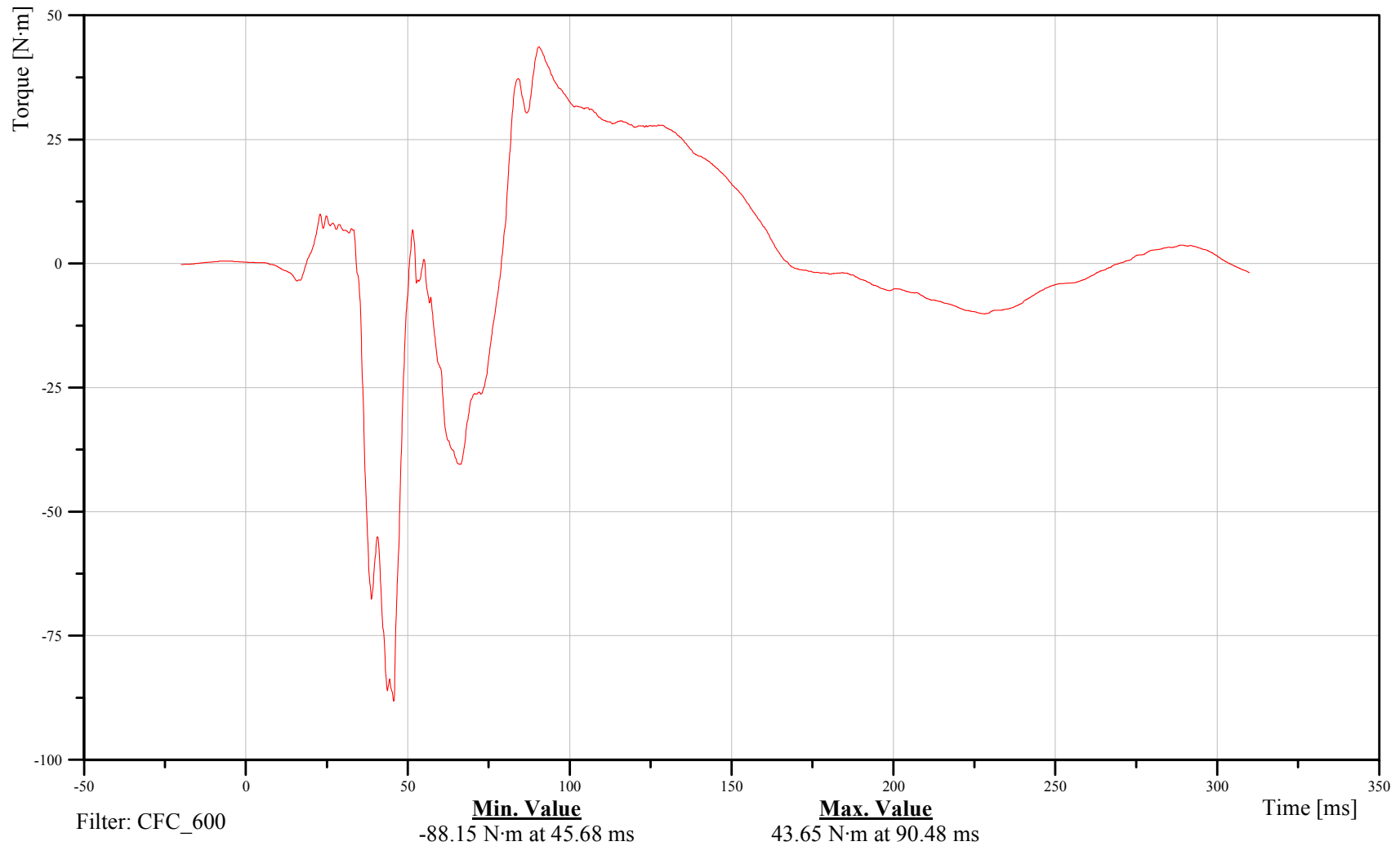
Target Driver Right Upper Tibia Moment About Y Axis

Customer: VRTC

11TIBIRULXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

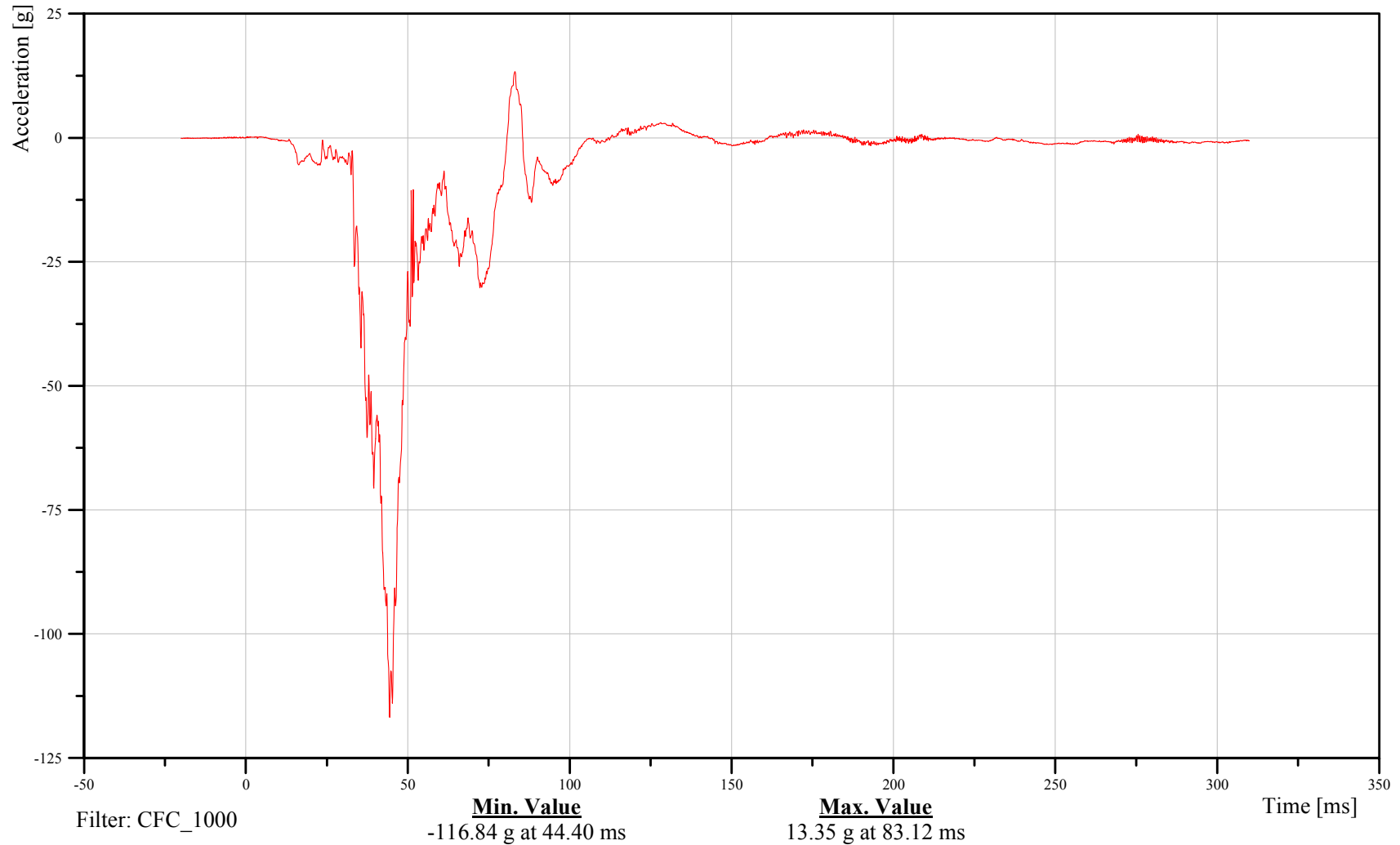
Target Driver Right Tibia X-Axis Acceleration

Customer: VRTC

11TIBIRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

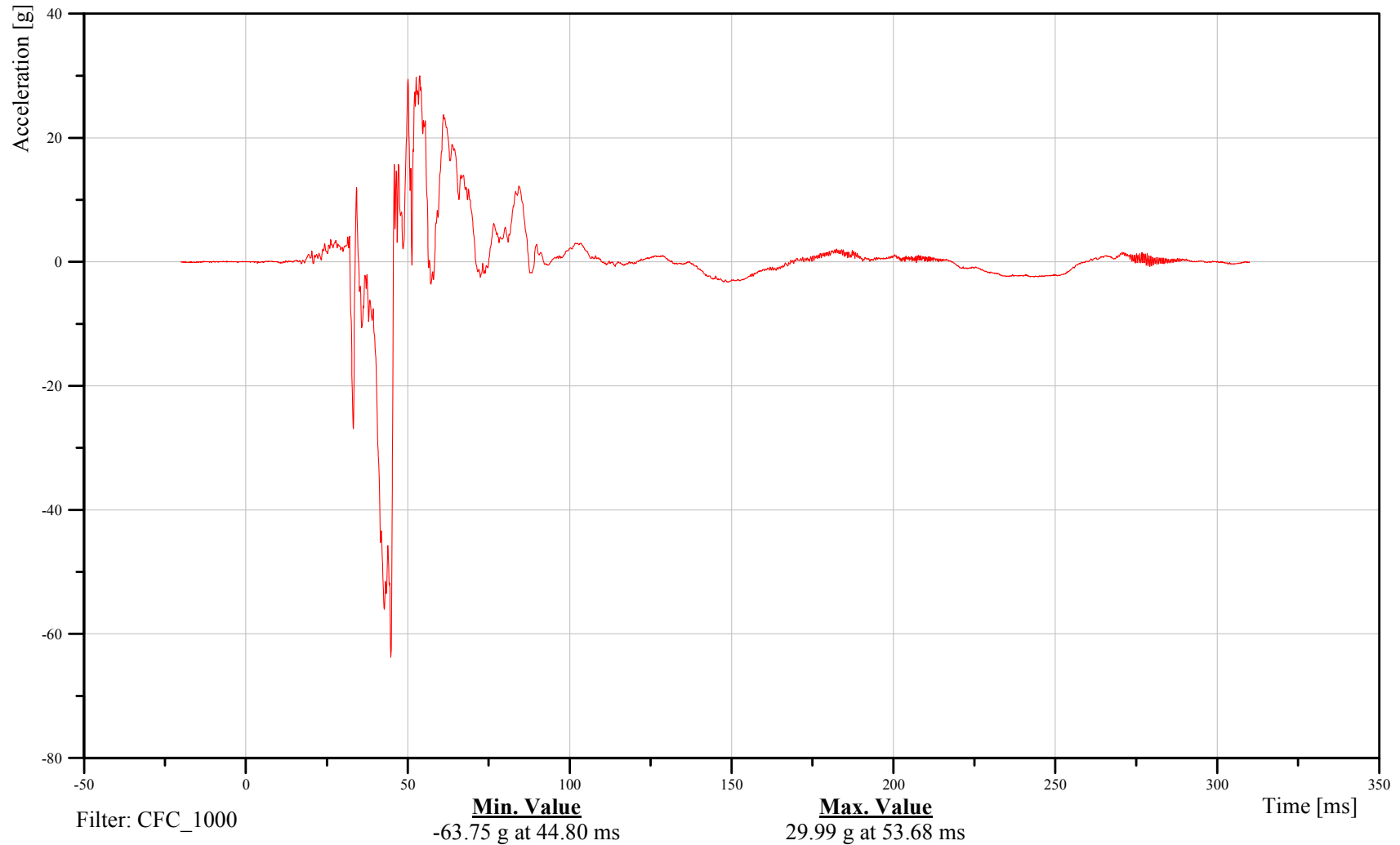
Target Driver Right Tibia Y-Axis Acceleration

Customer: VRTC

11TIBIRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

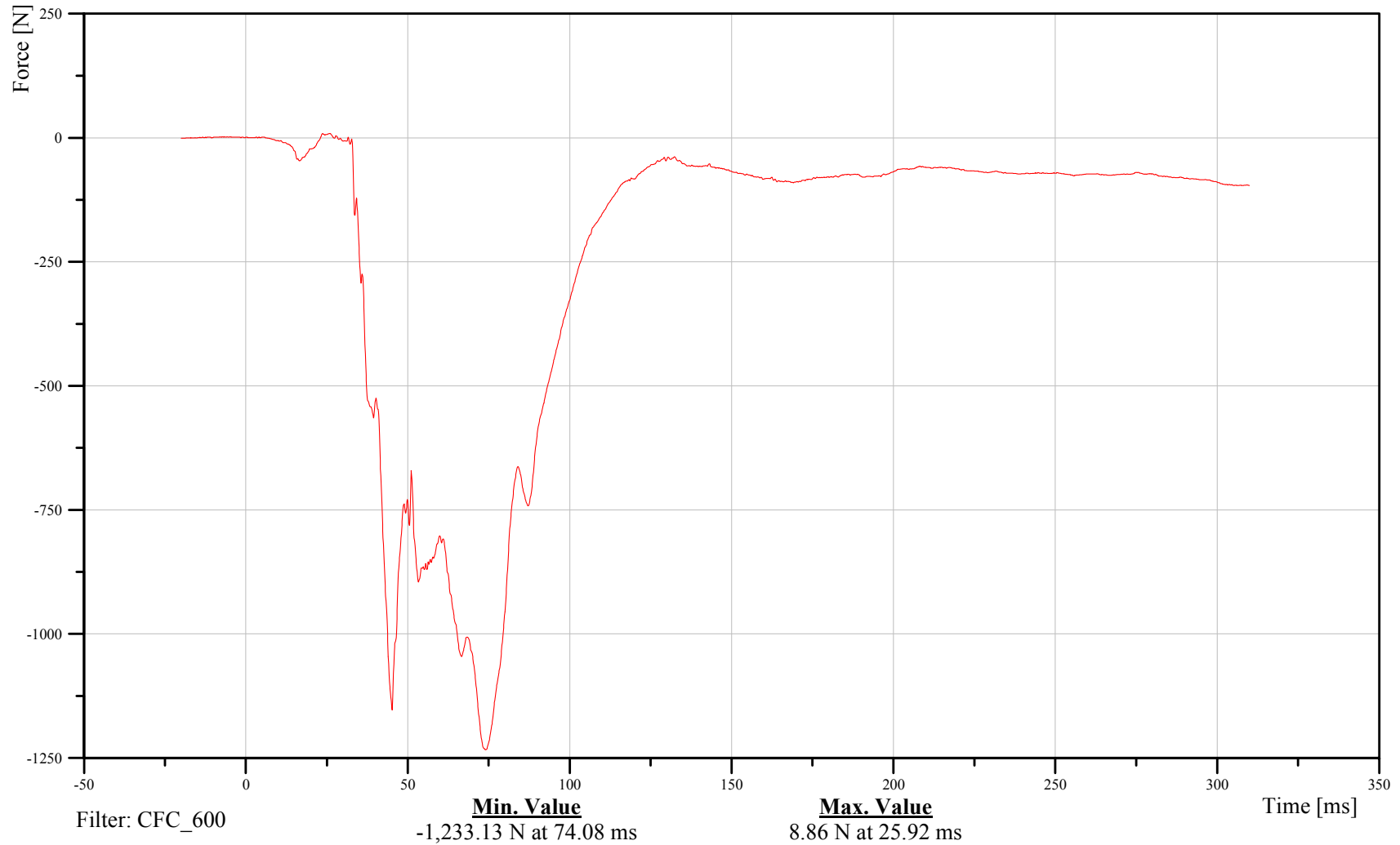
Target Driver Right Lower Tibia X-Axis Force

Customer: VRTC

11TIBIRLLXH3FOX B

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

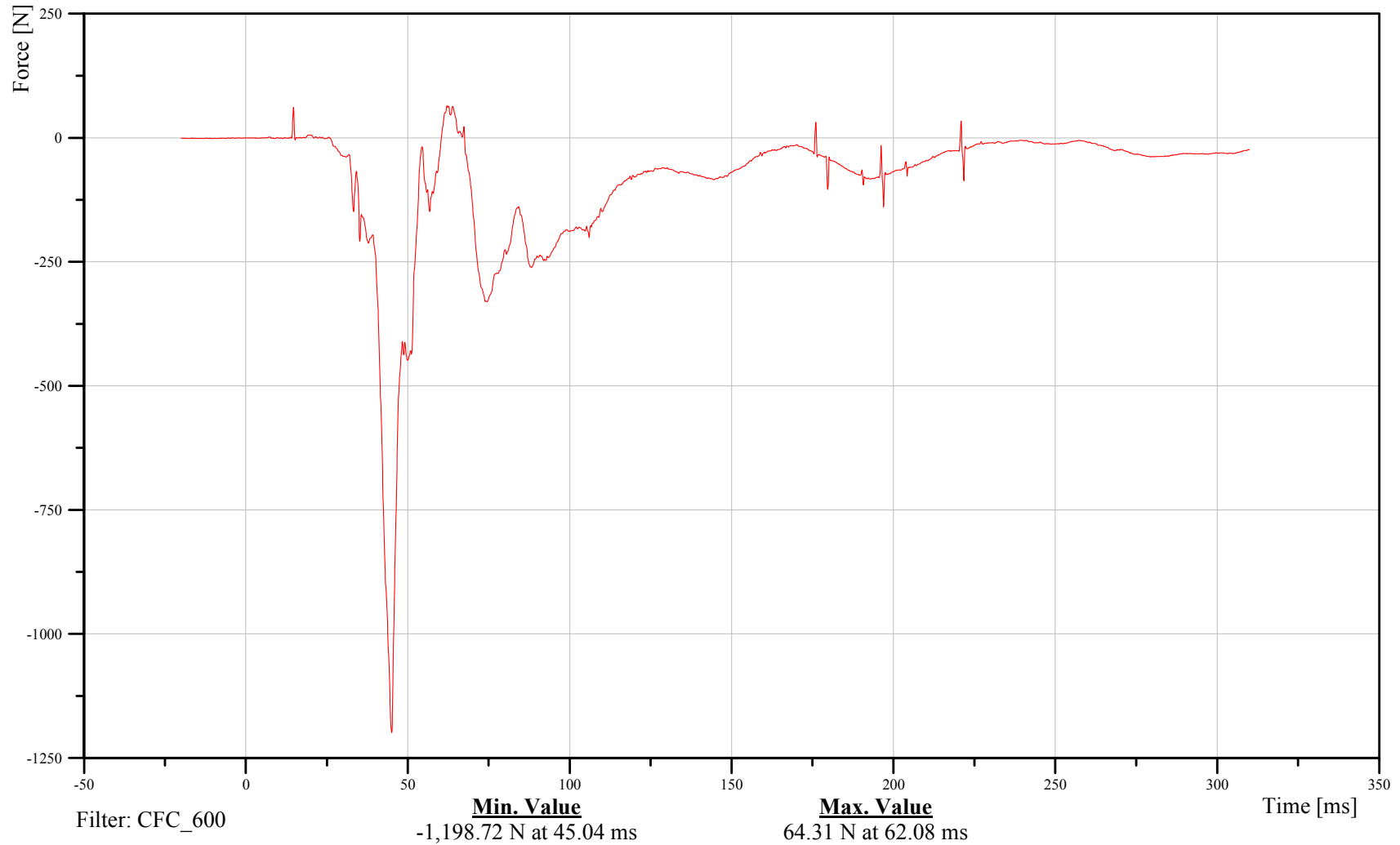
Target Driver Right Lower Tibia Y-Axis Force

Customer: VRTC

11TIBIRLLXH3FOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

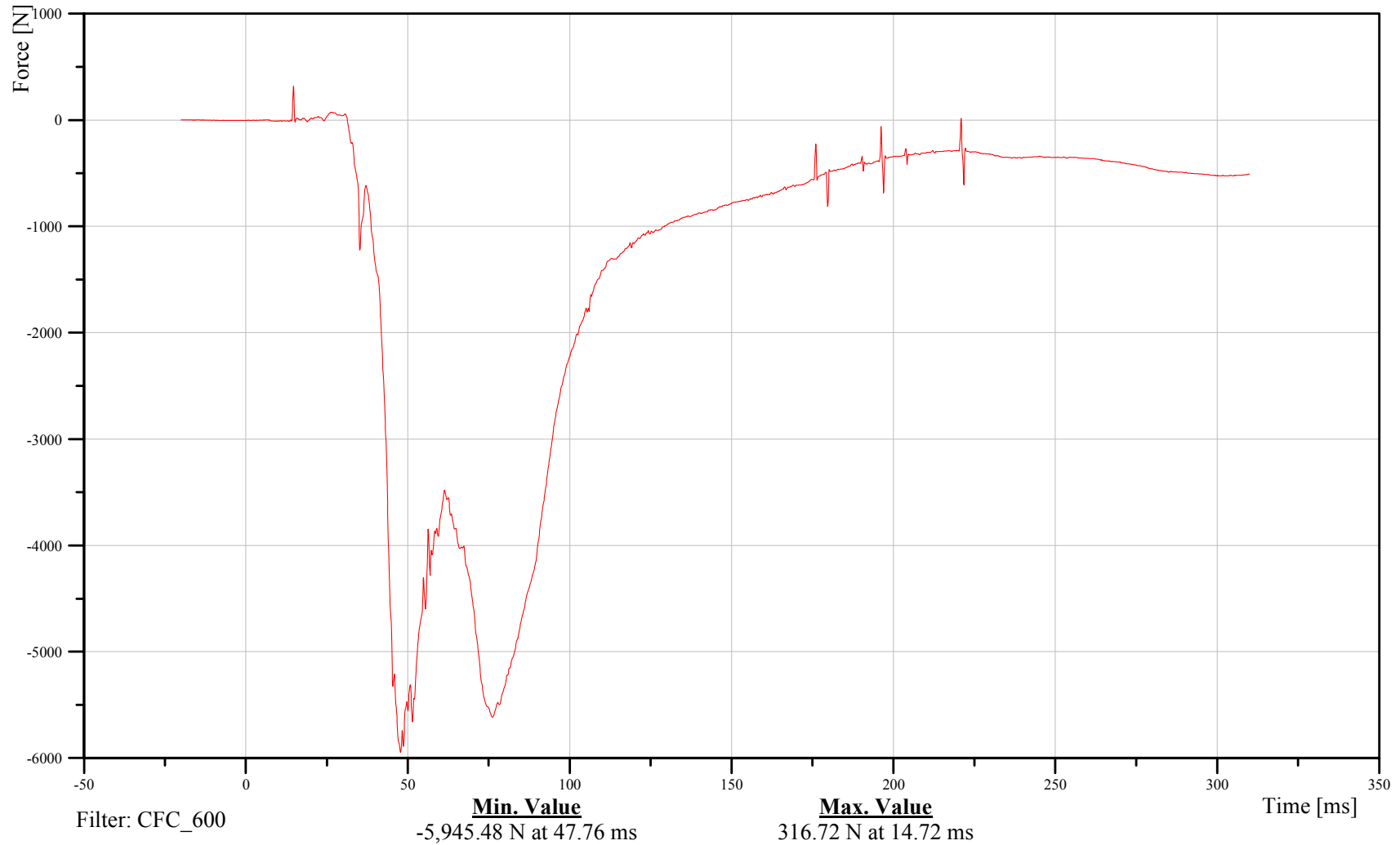
Target Driver Right Lower Tibia Z-Axis Force

Customer: VRTC

11TIBIRLLXH3FOZB

TRC Inc. Test Lab: CTF

Test Number: 050906



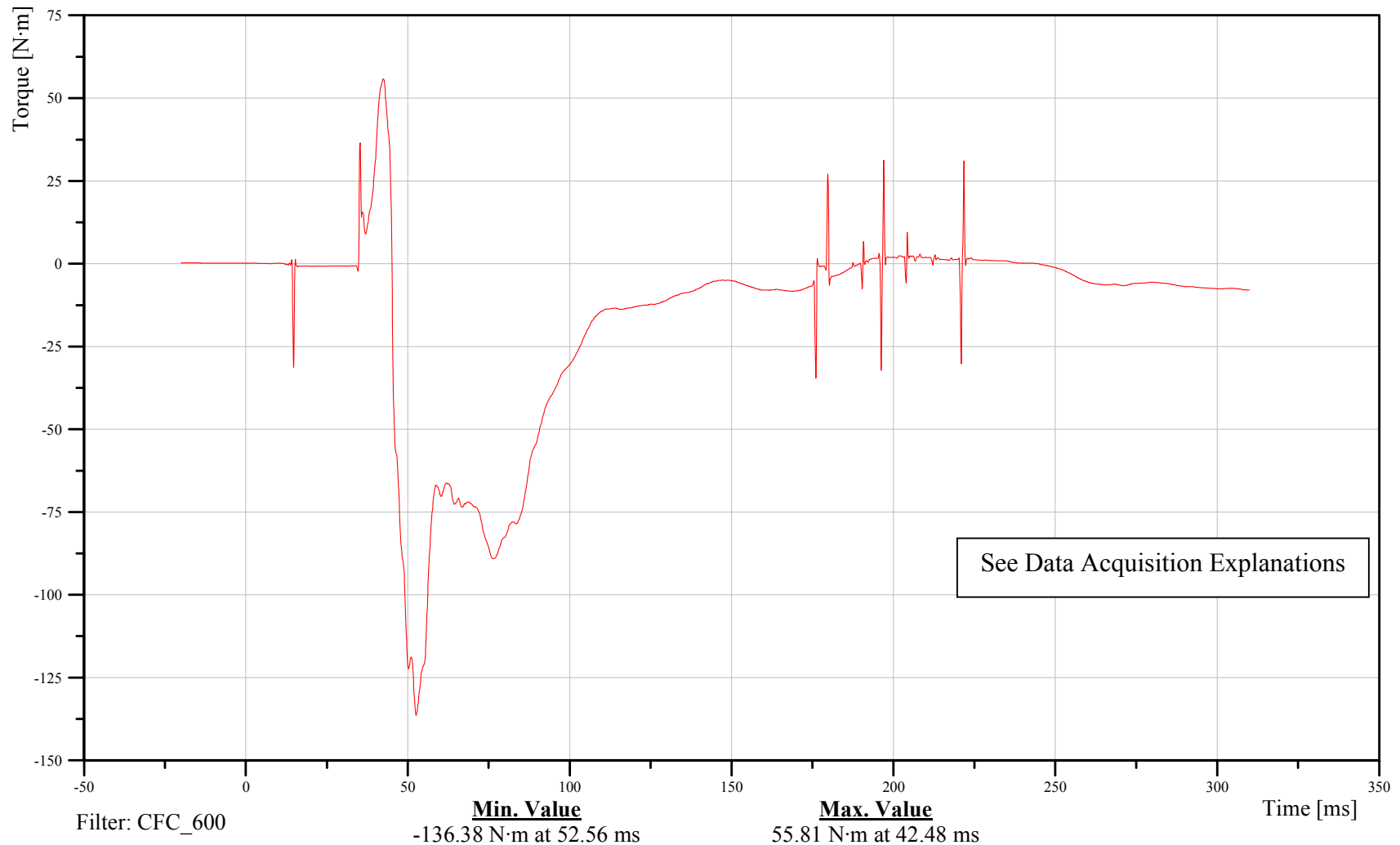


Customer: VRTC

11TIBIRLLXH3MOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

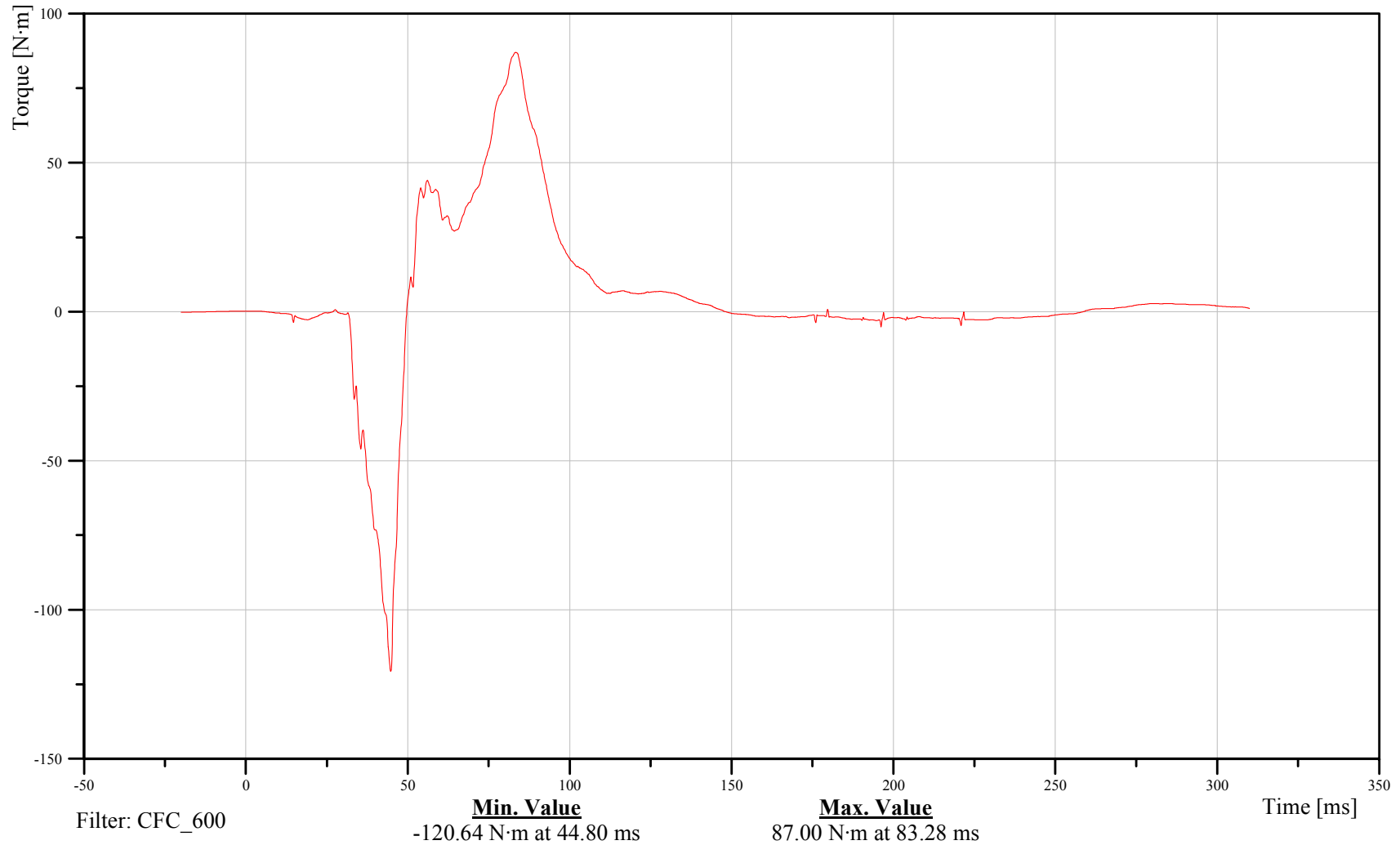
Target Driver Right Lower Tibia Moment About Y Axis

Customer: VRTC

11TIBIRLLXH3MOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

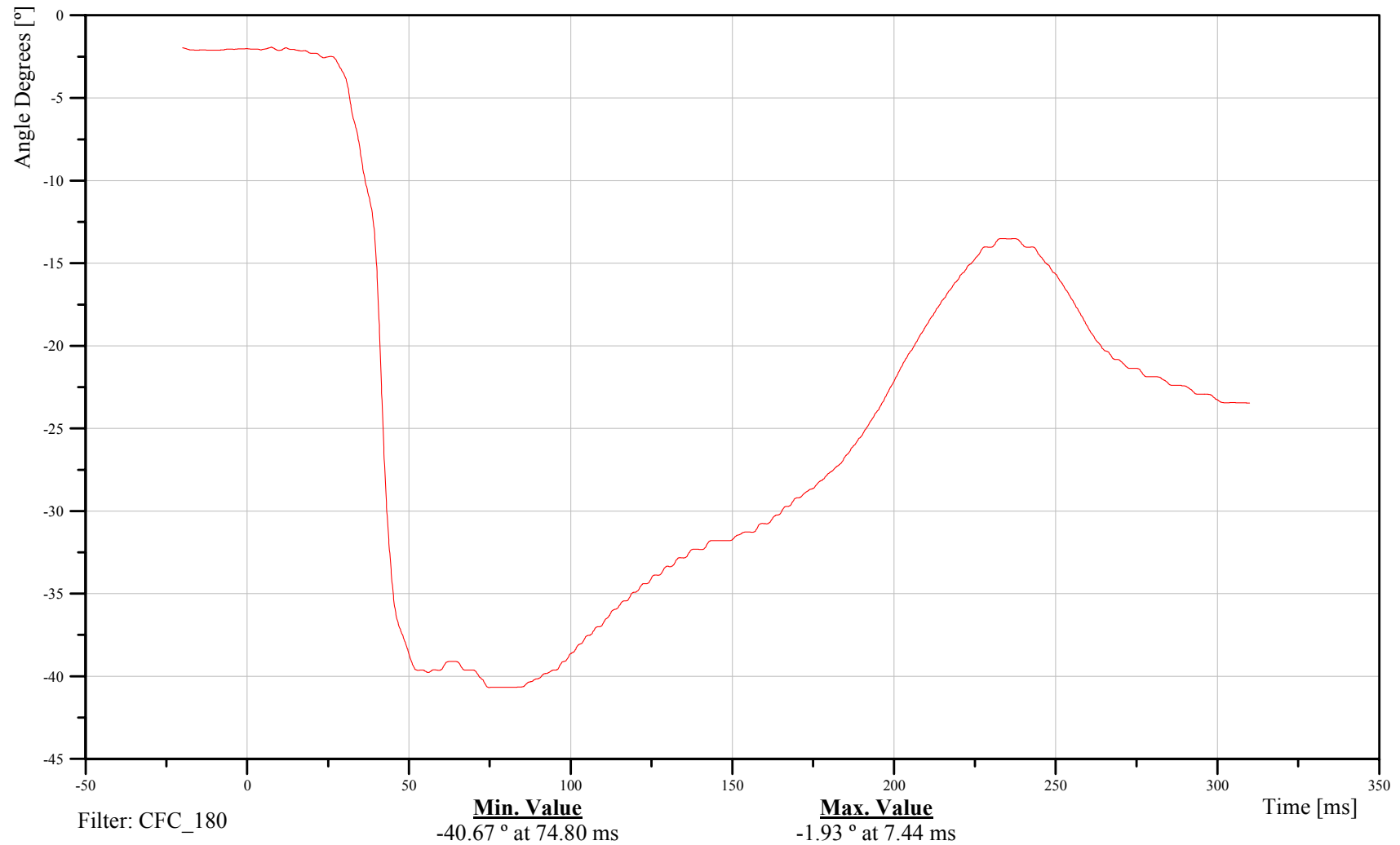
Target Driver Right Foot X-Axis Rotation

Customer: VRTC

11FOOTRILXH3ANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





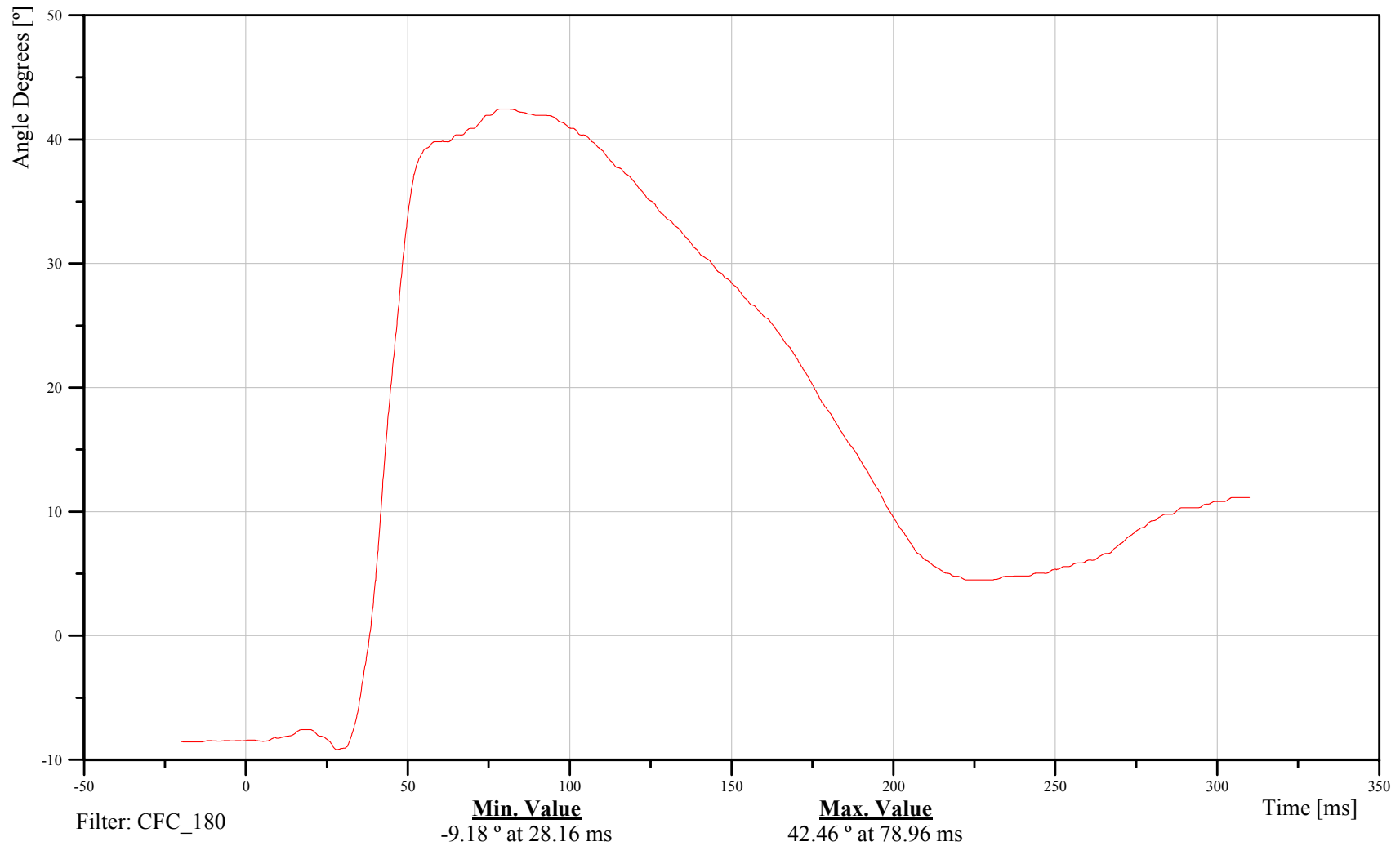
Target Driver Right Foot Y-Axis Rotation

Customer: VRTC

11FOOTRILXH3ANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

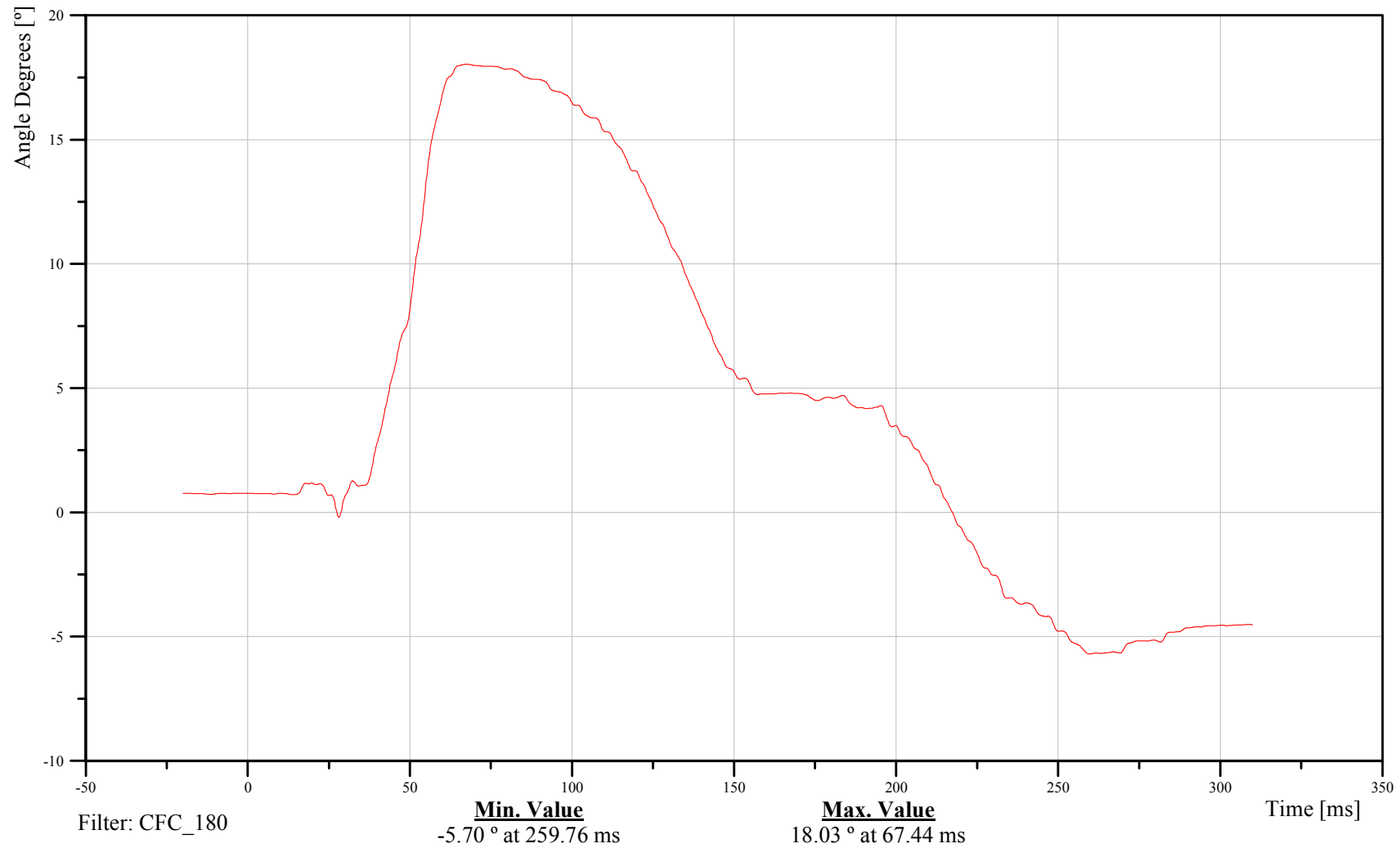
Target Driver Right Foot Z-Axis Rotation

Customer: VRTC

11FOOTRILXH3ANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

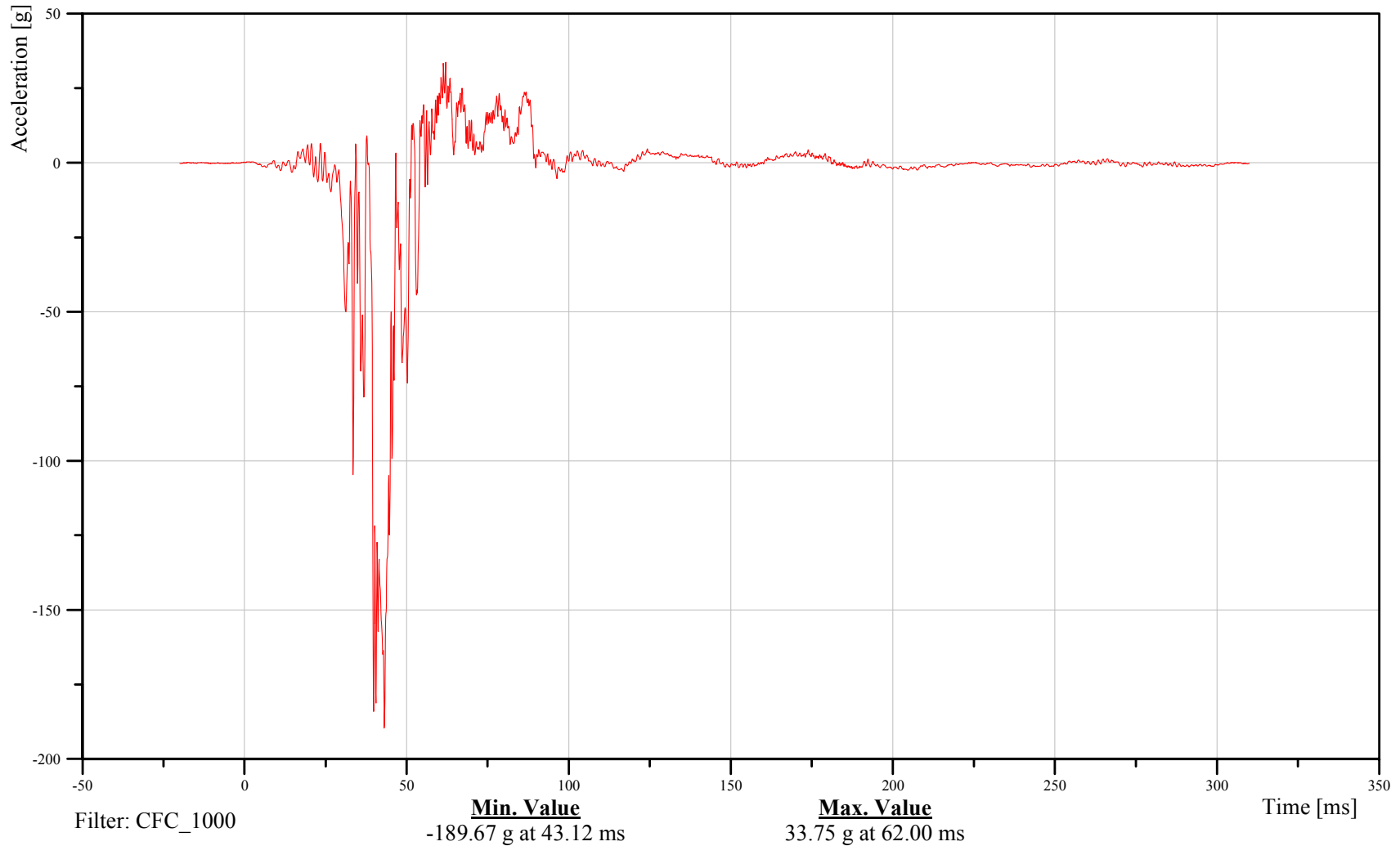
Target Driver Right Foot X-Axis Acceleration

Customer: VRTC

11FOOTRILXH3ACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

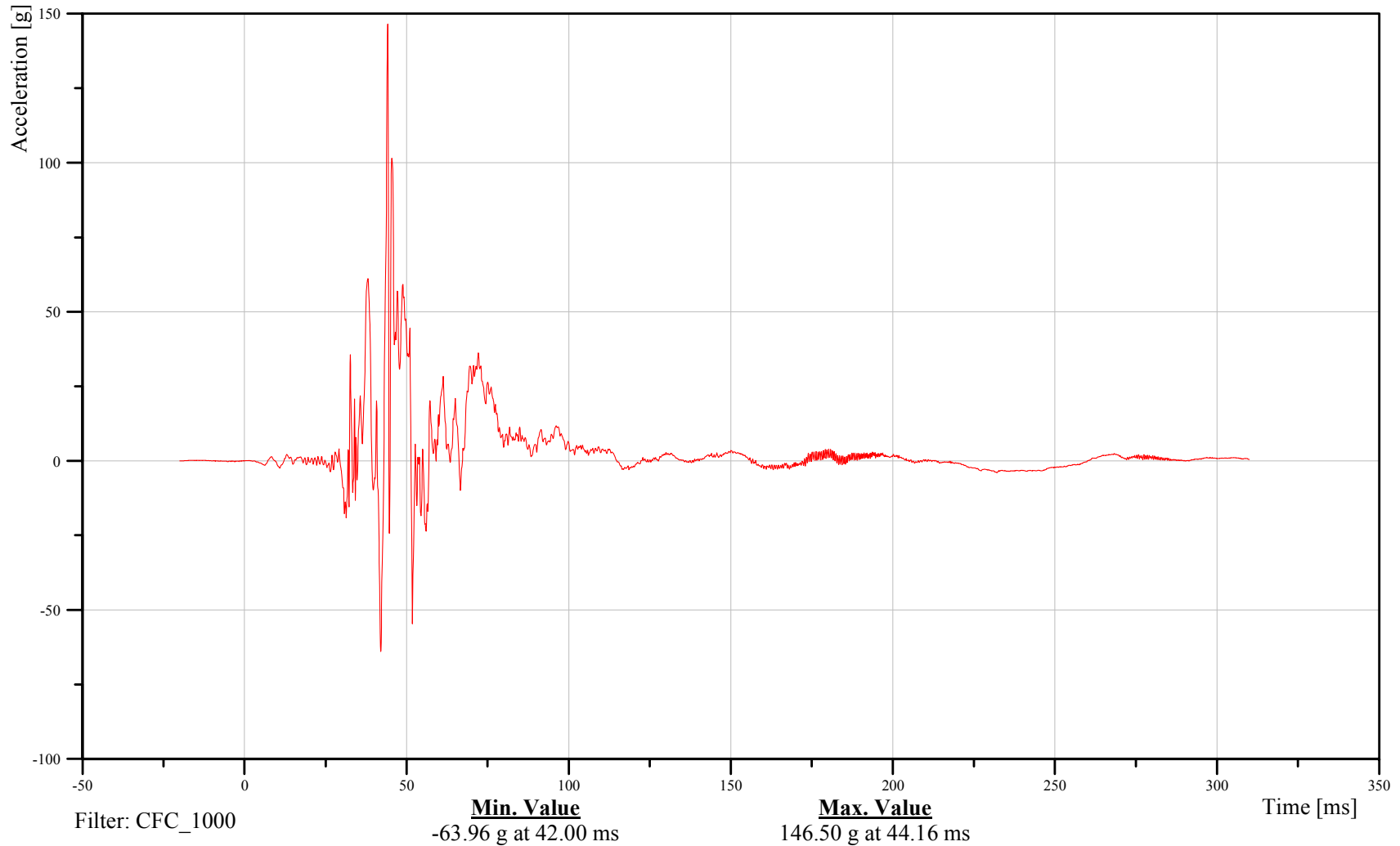
Target Driver Right Foot Y-Axis Acceleration

Customer: VRTC

11FOOTRILXH3ACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

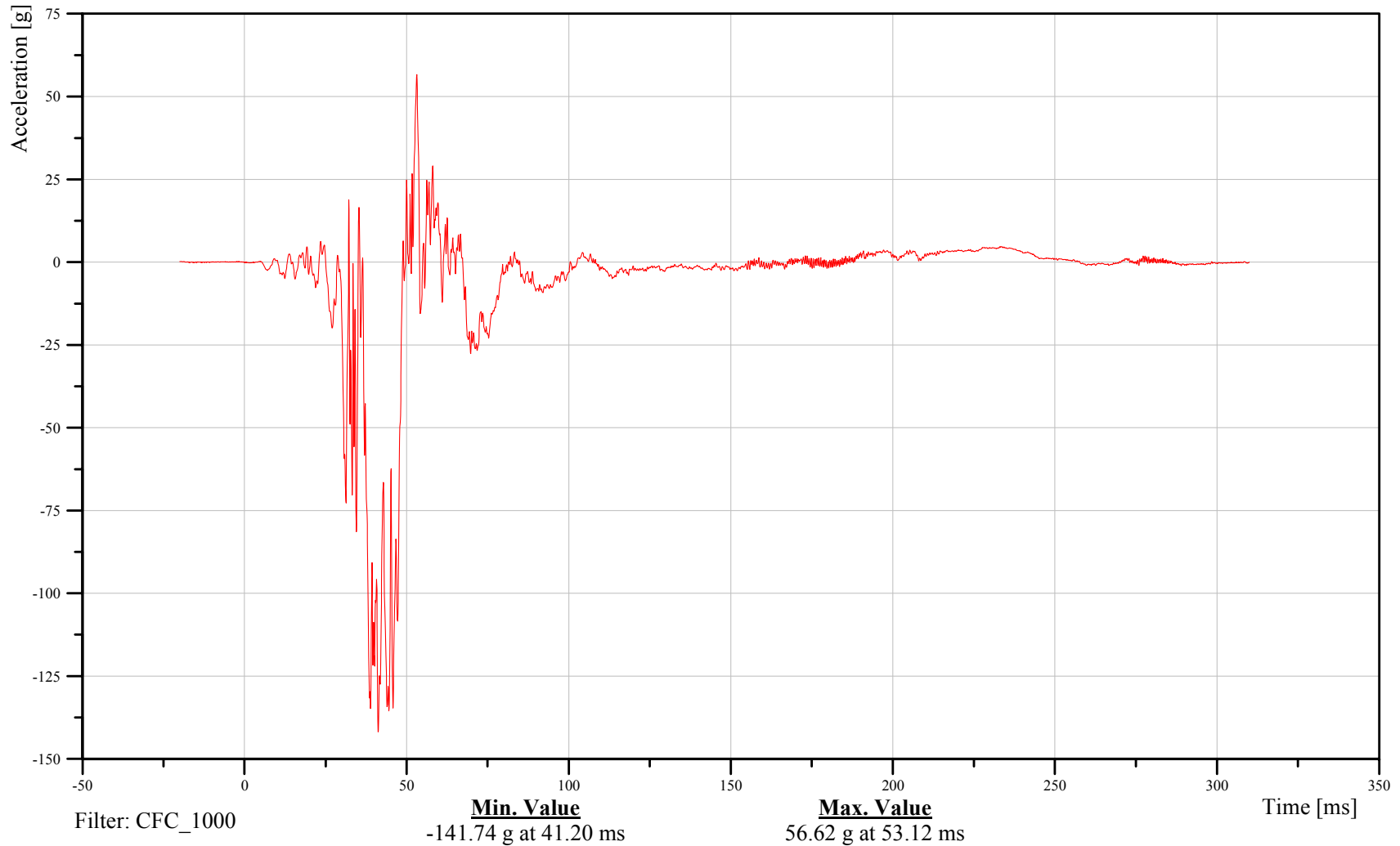
Target Driver Right Foot Z-Axis Acceleration

Customer: VRTC

11FOOTRILXH3ACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





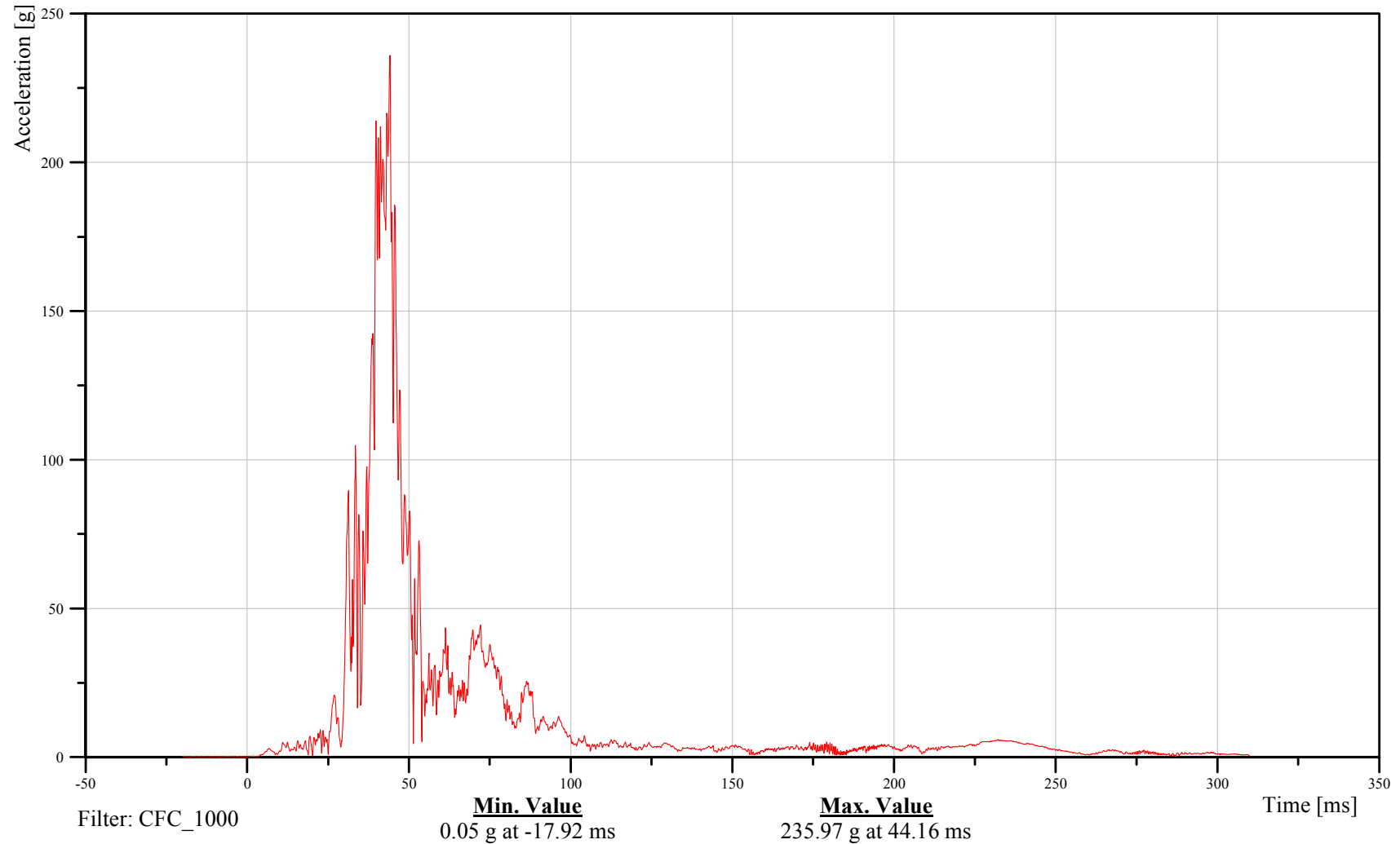
Target Driver Right Foot Resultant Acceleration

Customer: VRTC

11FOOTRILXH3ACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

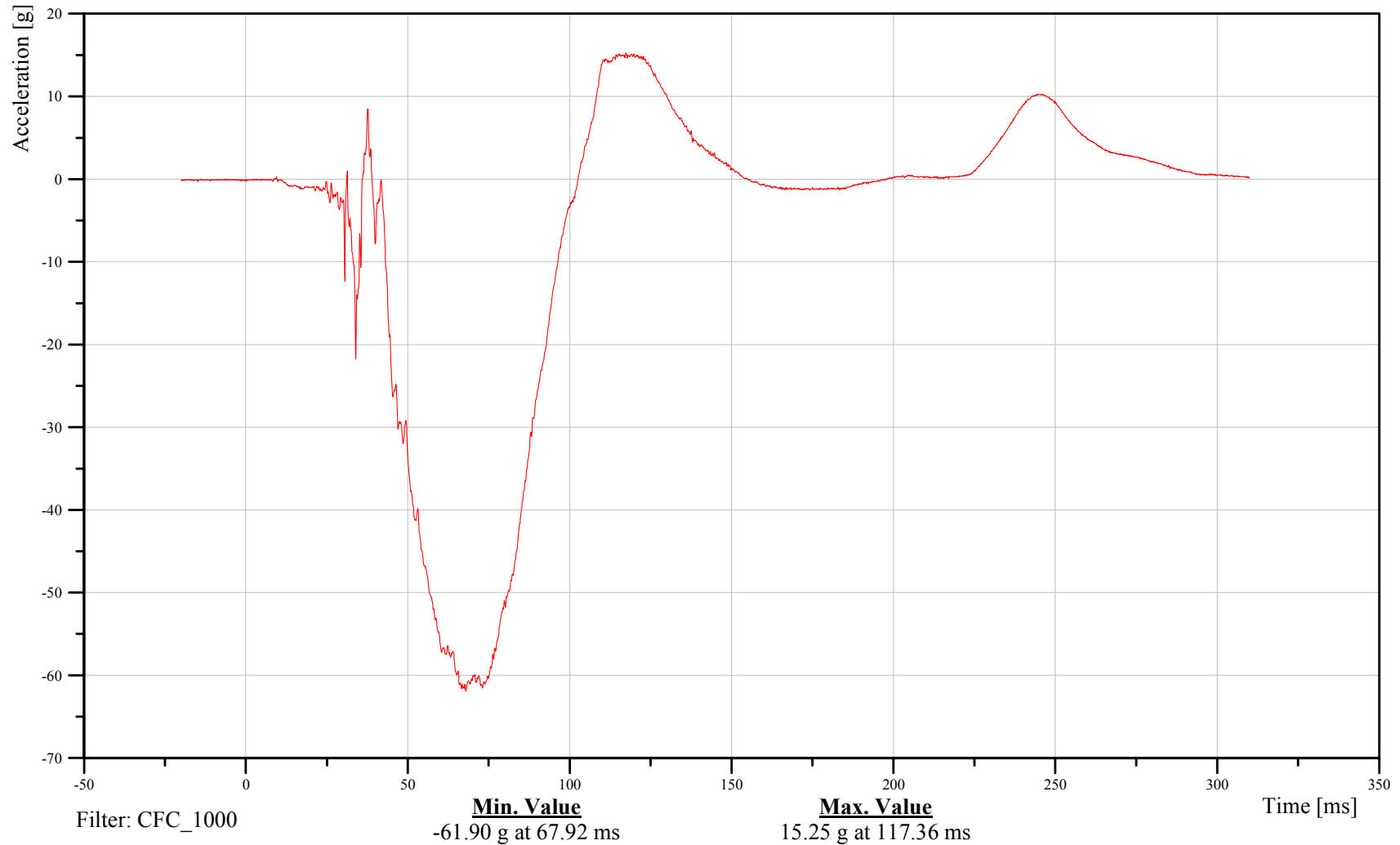
Target Passenger Head CG X-Axis Acceleration

Customer: VRTC

13HEADCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

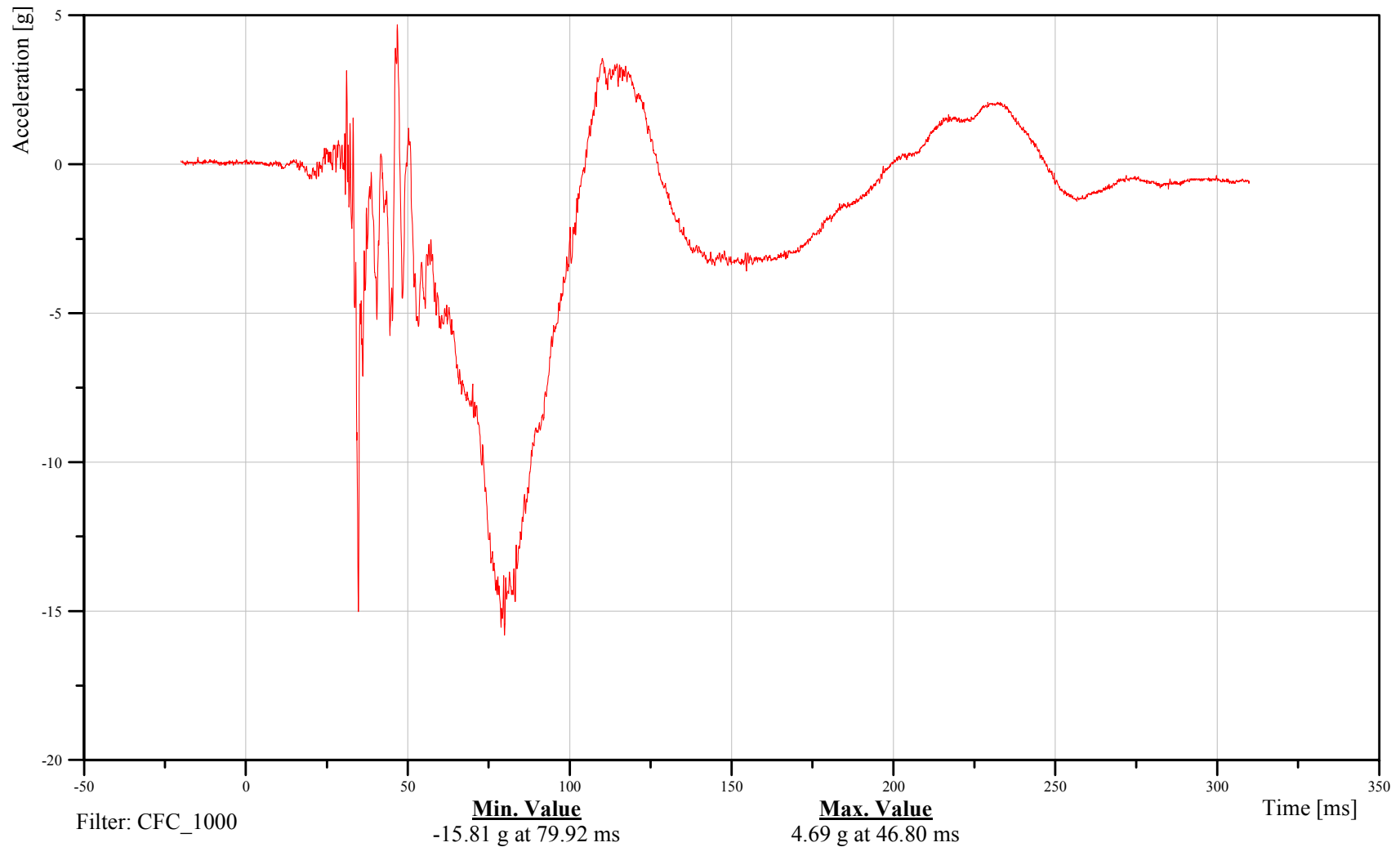
Target Passenger Head CG Y-Axis Acceleration

Customer: VRTC

13HEADCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

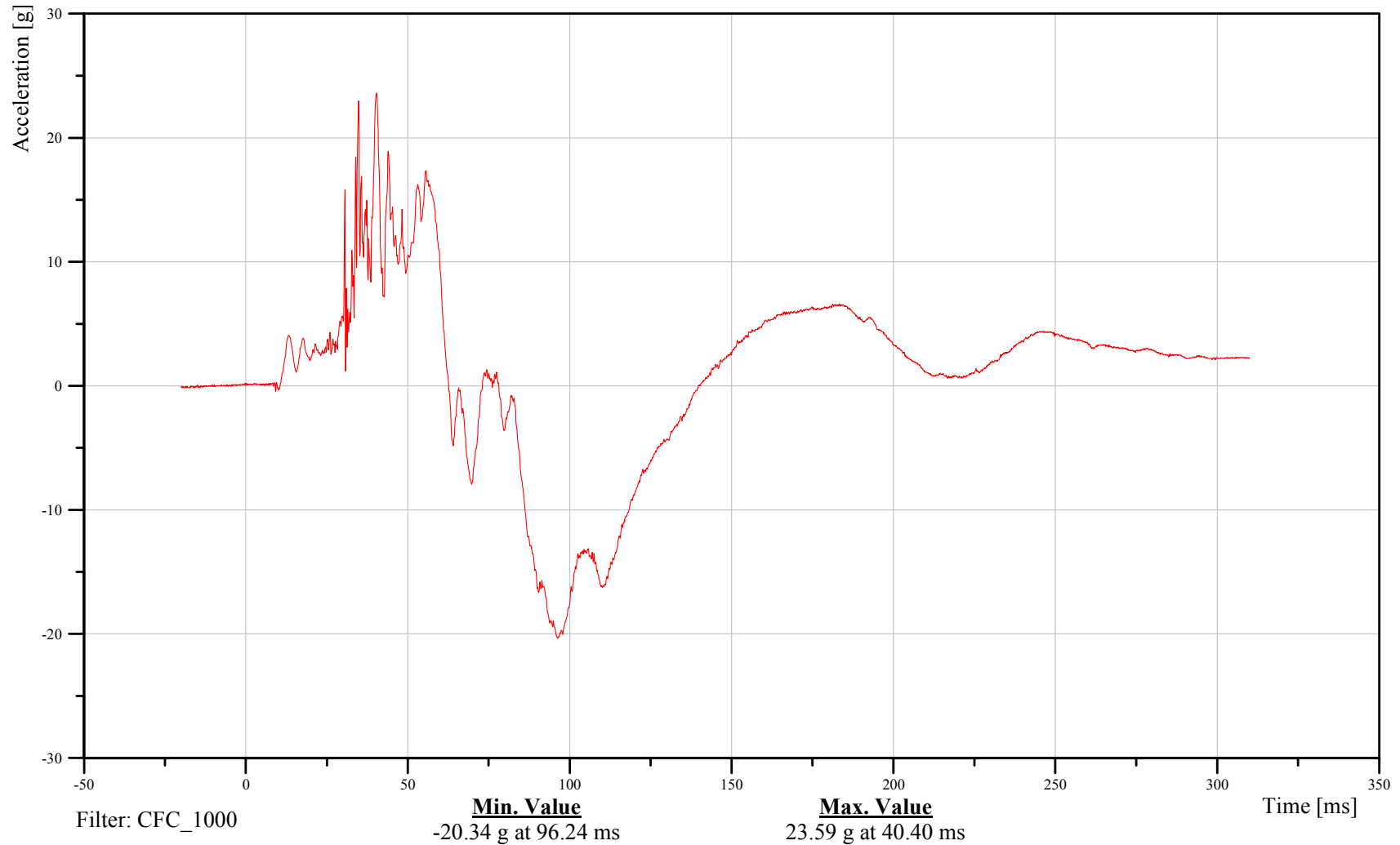
Target Passenger Head CG Z-Axis Acceleration

Customer: VRTC

13HEADCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





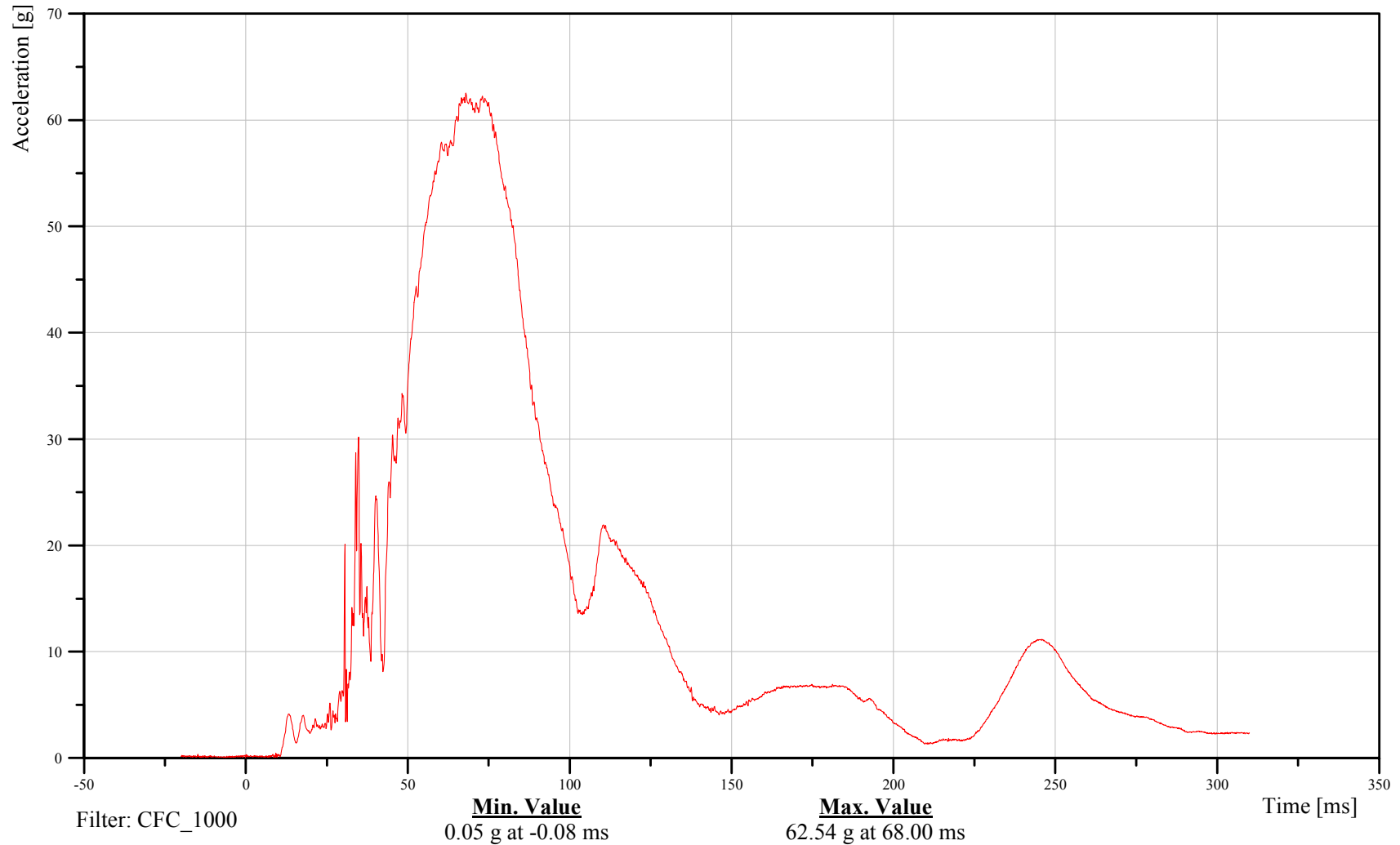
Target Passenger Head CG Resultant Acceleration

Customer: VRTC

13HEADCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

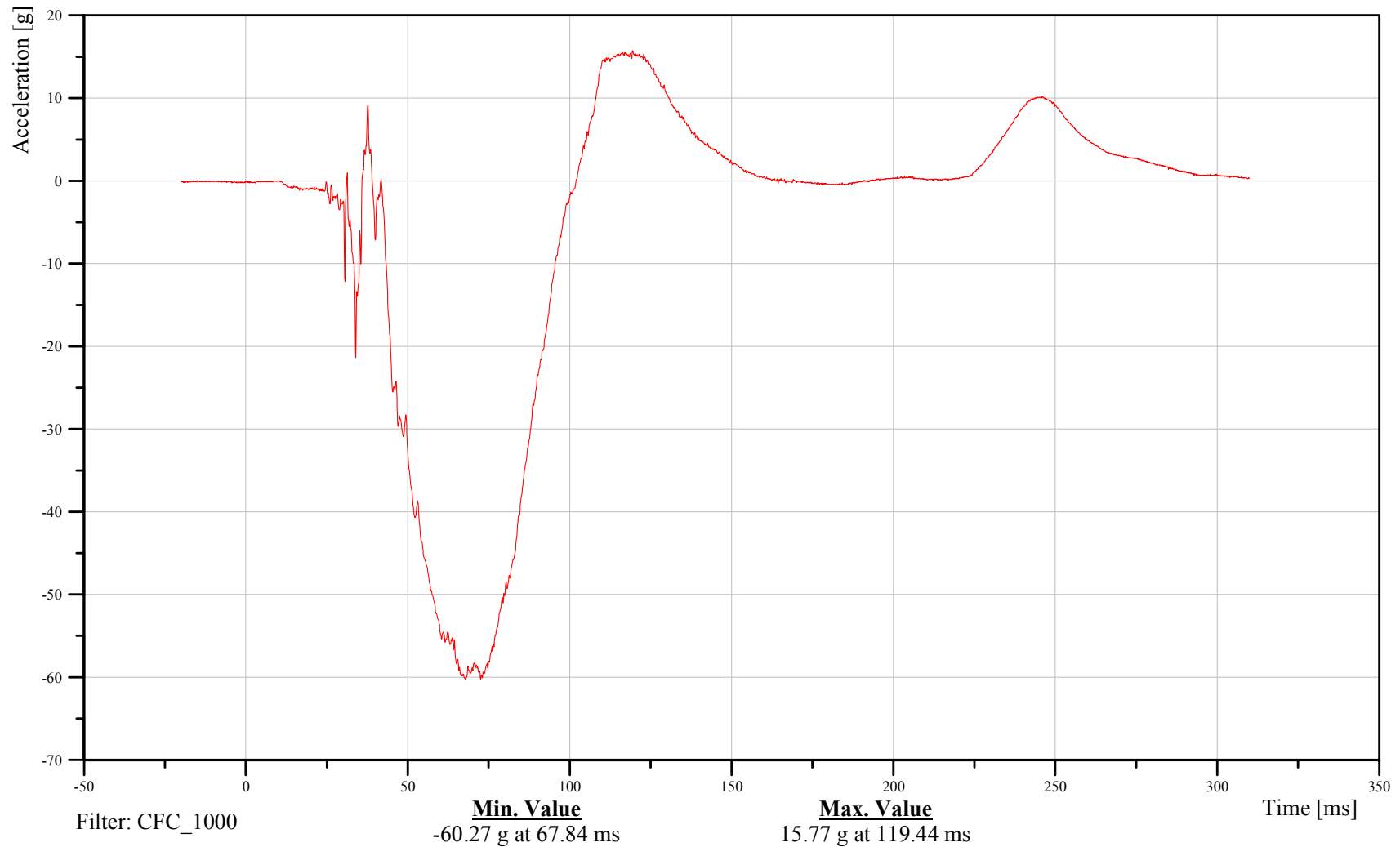
Target Passenger Redundant Head CG X-Axis Acceleration

Customer: VRTC

13HEADCGRDHFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





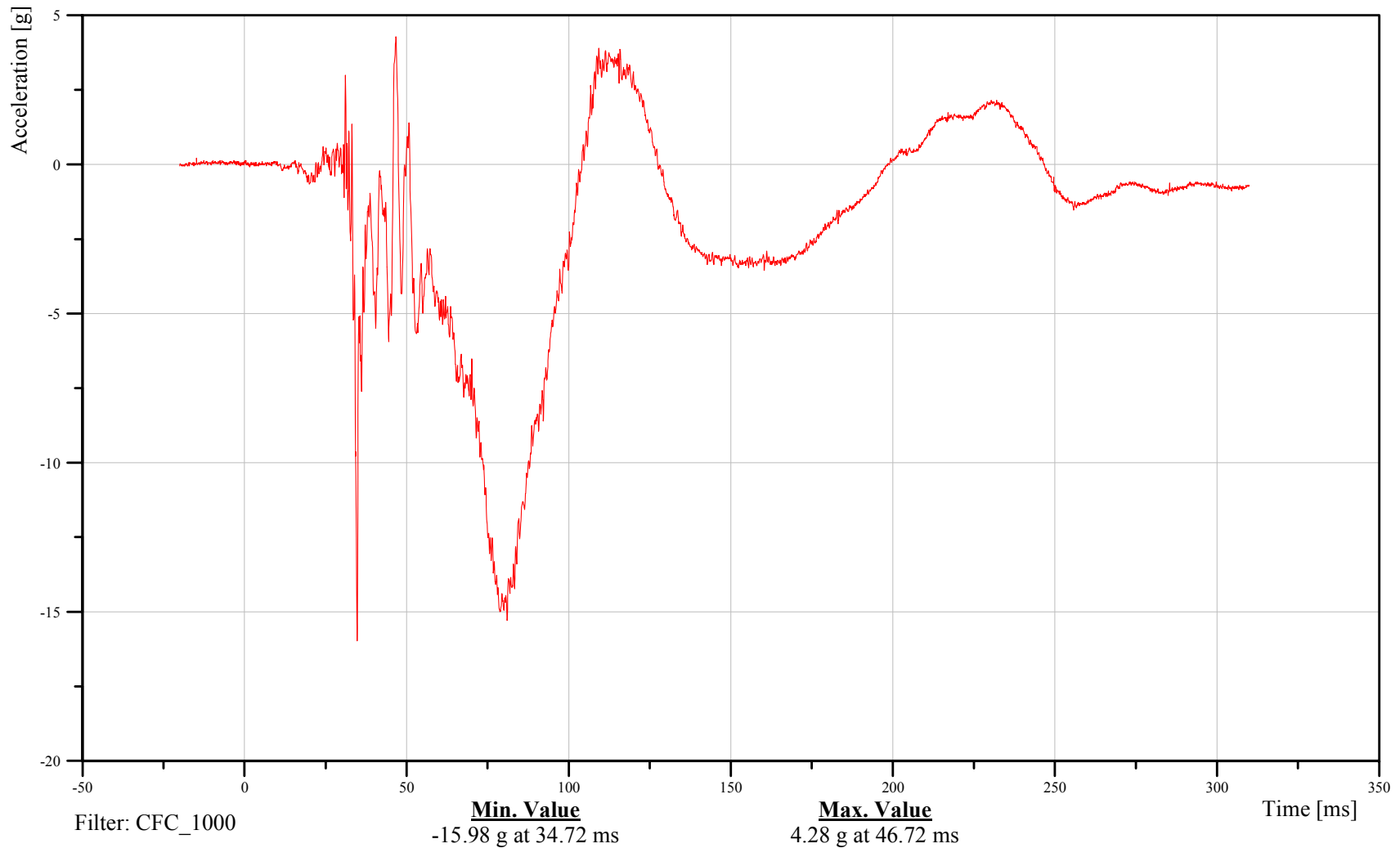
Target Passenger Redundant Head CG Y-Axis Acceleration

Customer: VRTC

13HEADCGRDHFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

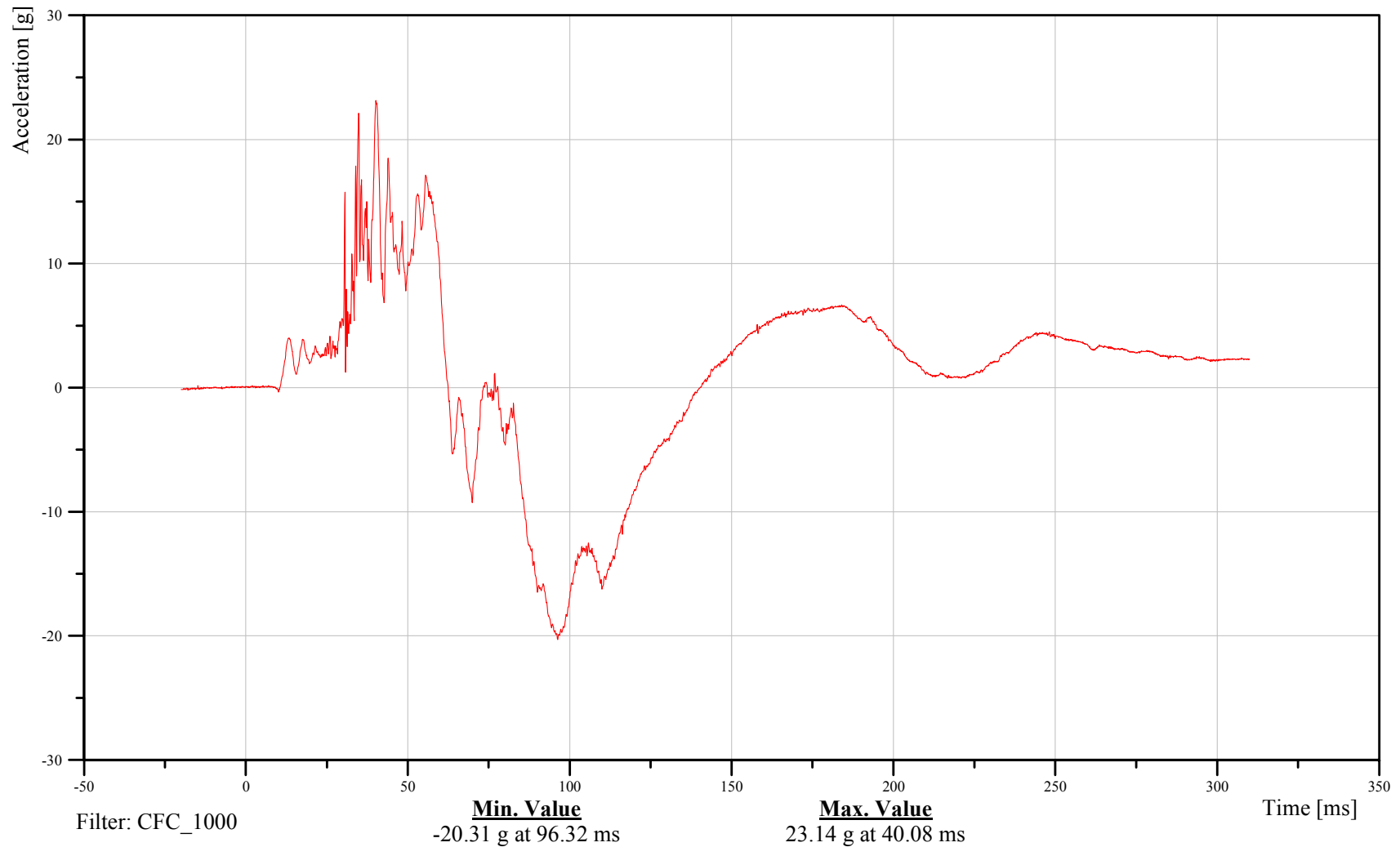
Target Passenger Redundant Head CG Z-Axis Acceleration

Customer: VRTC

13HEADCGRDHFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906



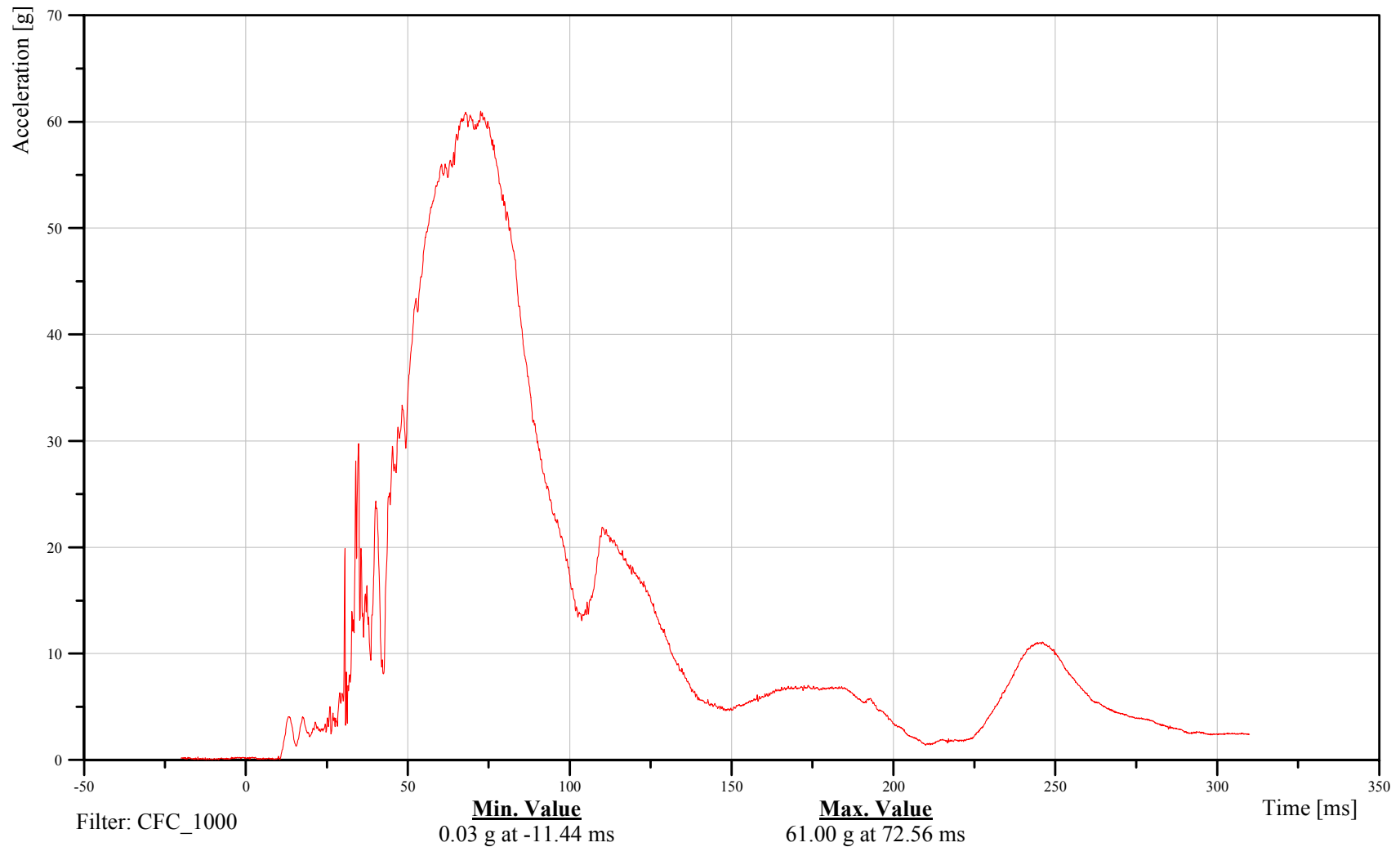


Customer: VRTC

13HEADCGRDHFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

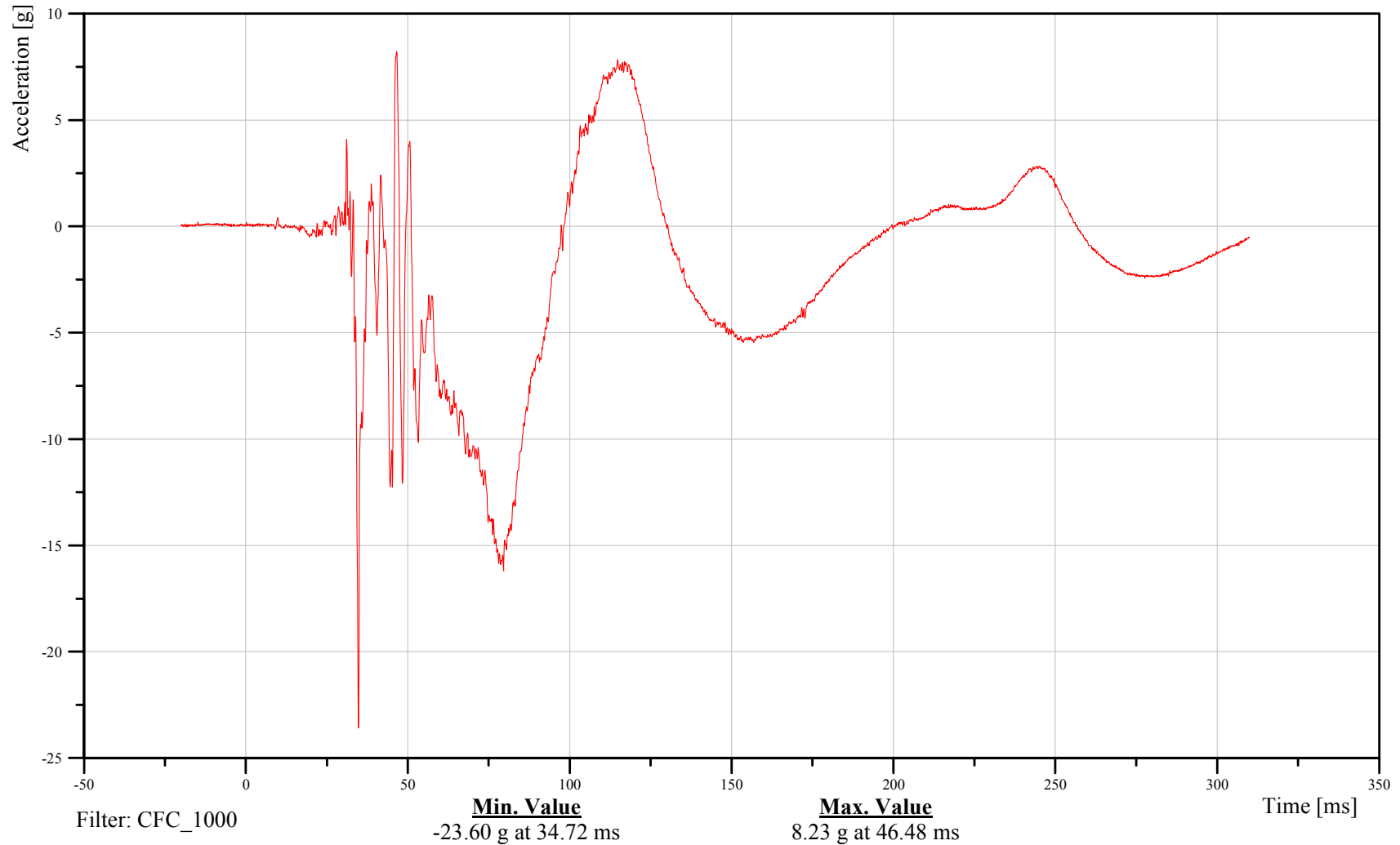
Target Passenger Head Front Y-Axis Acceleration

Customer: VRTC

13HEADFR00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

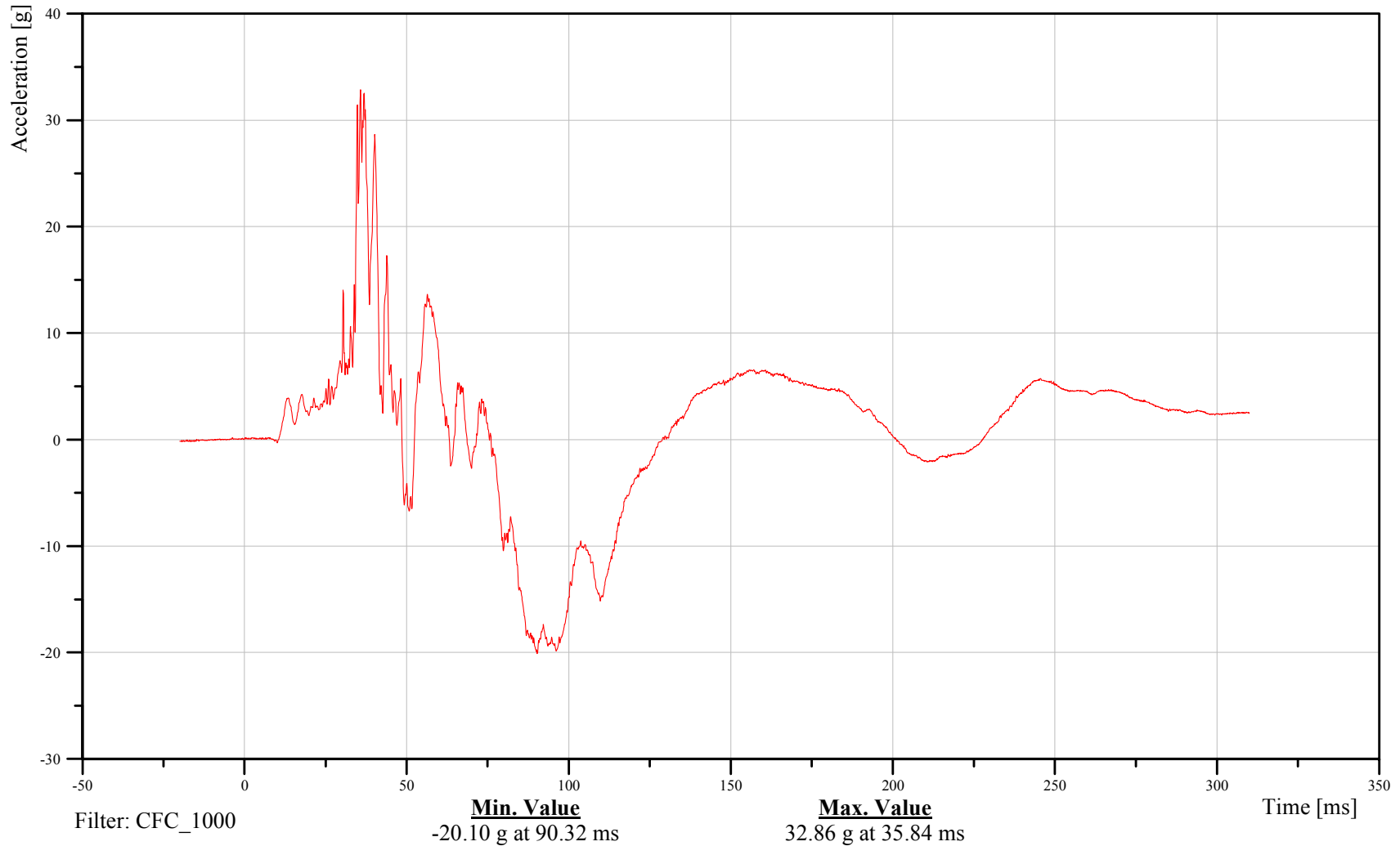
Target Passenger Head Front Z-Axis Acceleration

Customer: VRTC

13HEADFR00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

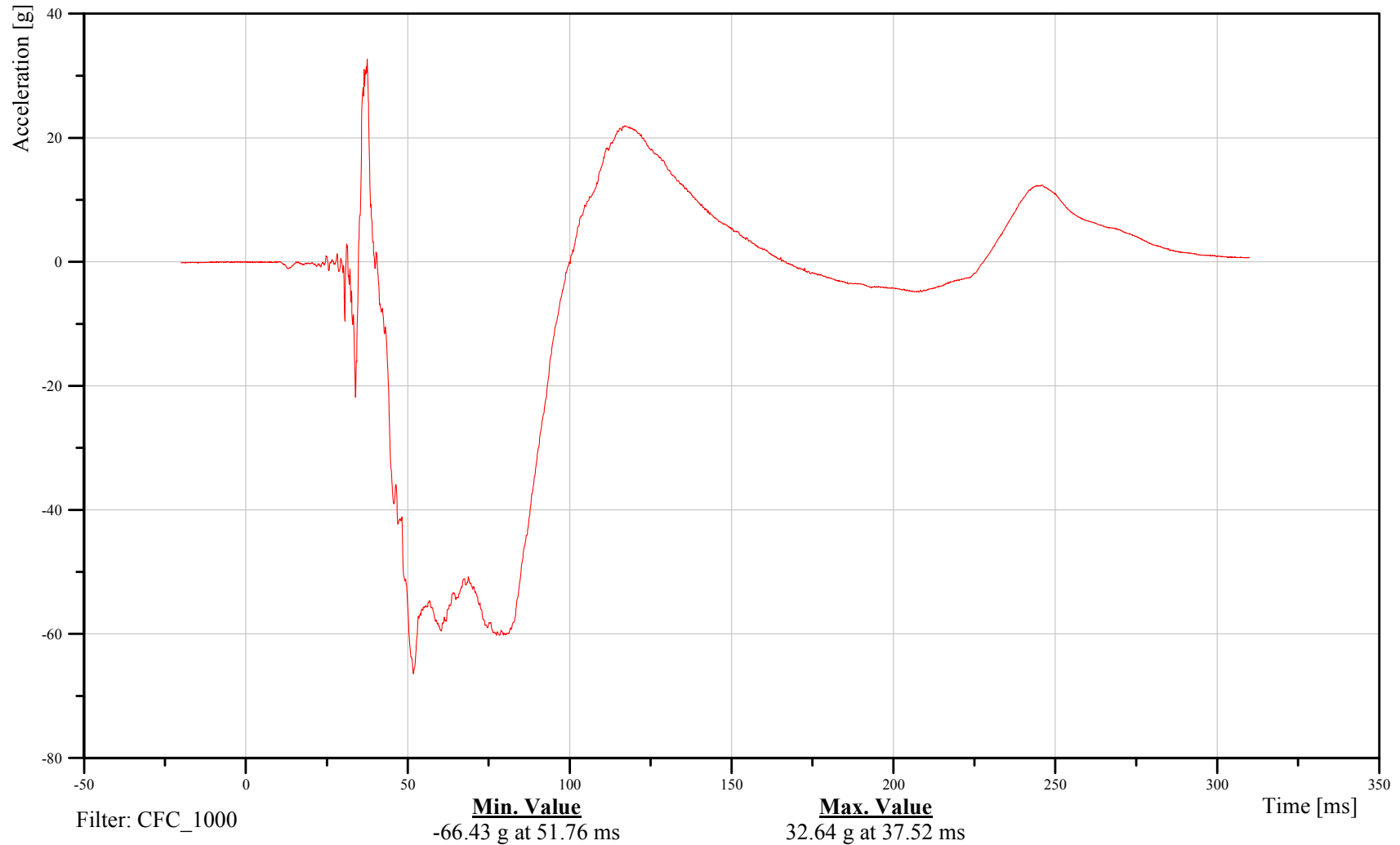
Target Passenger Head Top X-Axis Acceleration

Customer: VRTC

13HEADUP00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

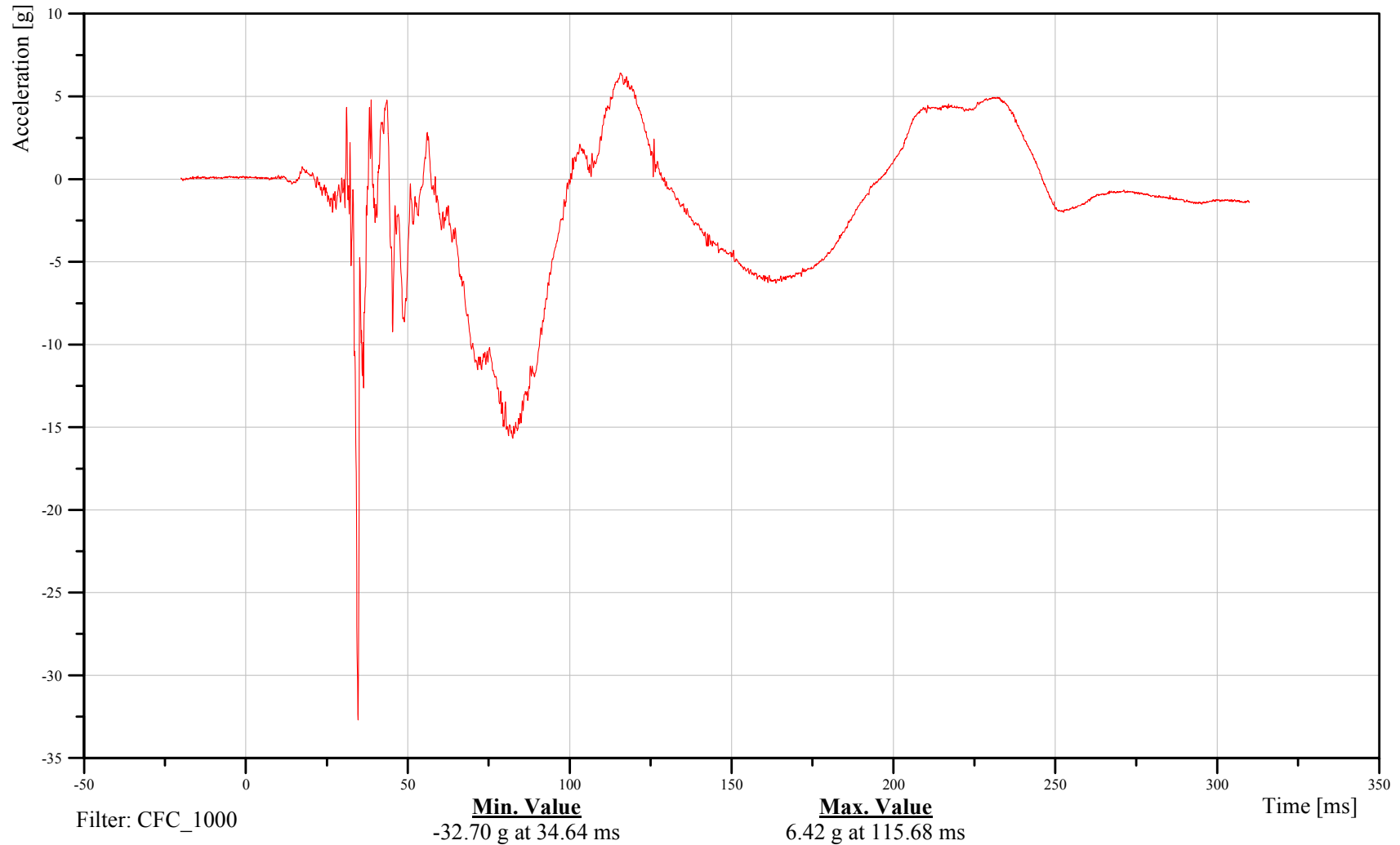
Target Passenger Head Top Y-Axis Acceleration

Customer: VRTC

13HEADUP00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

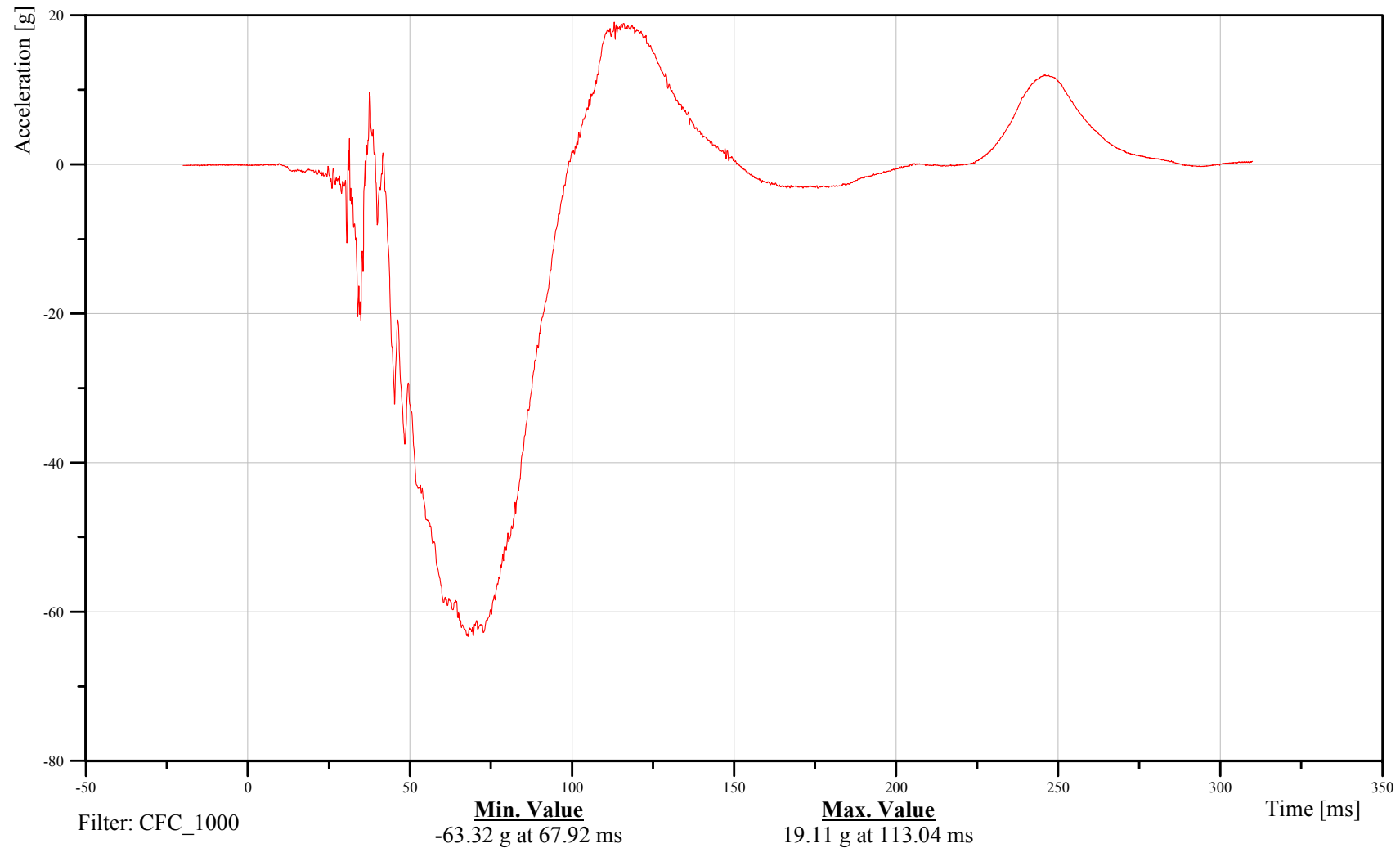
Target Passenger Head Side X-Axis Acceleration

Customer: VRTC

13HEADLE00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

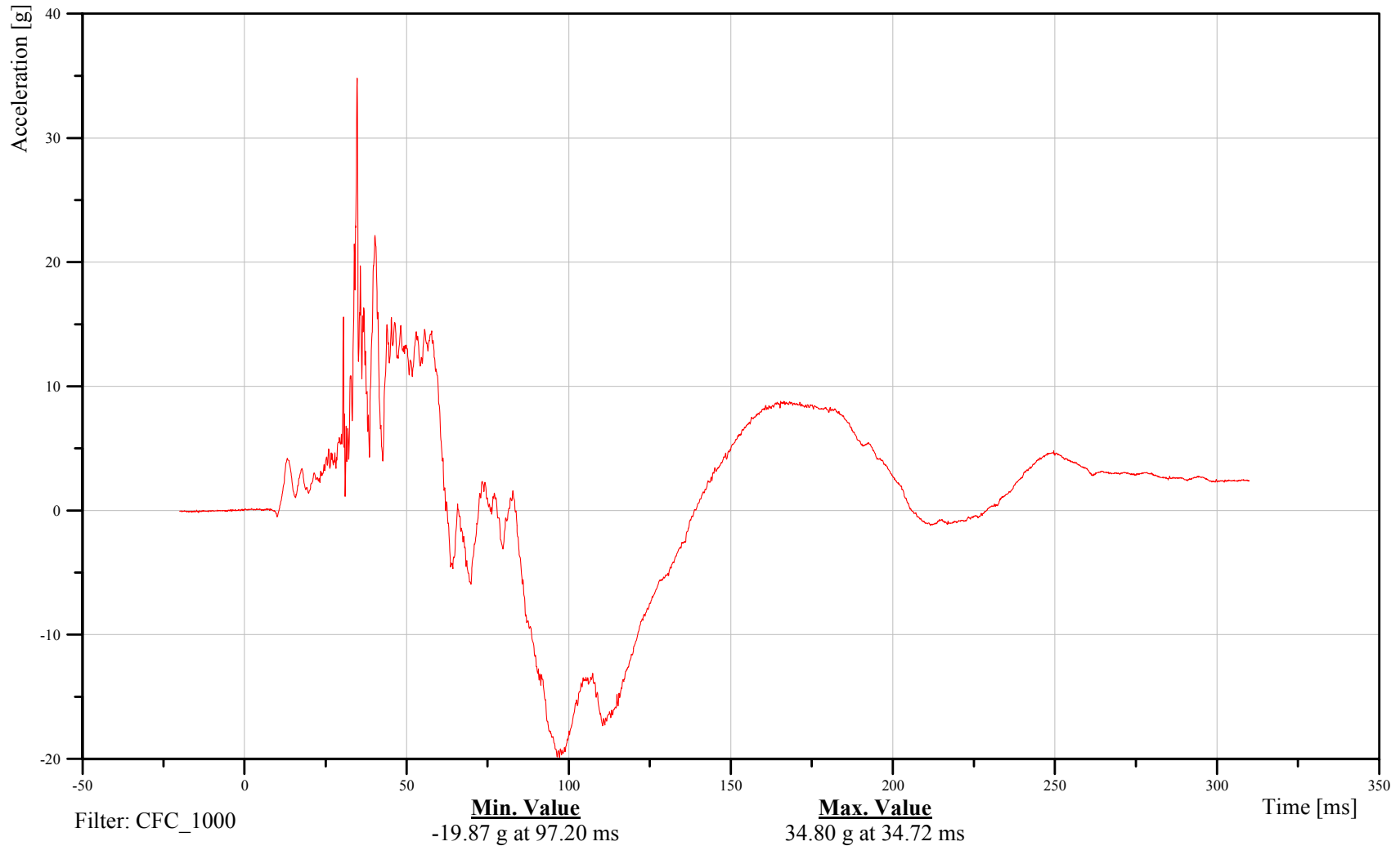
Target Passenger Head Side Z-Axis Acceleration

Customer: VRTC

13HEADLE00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

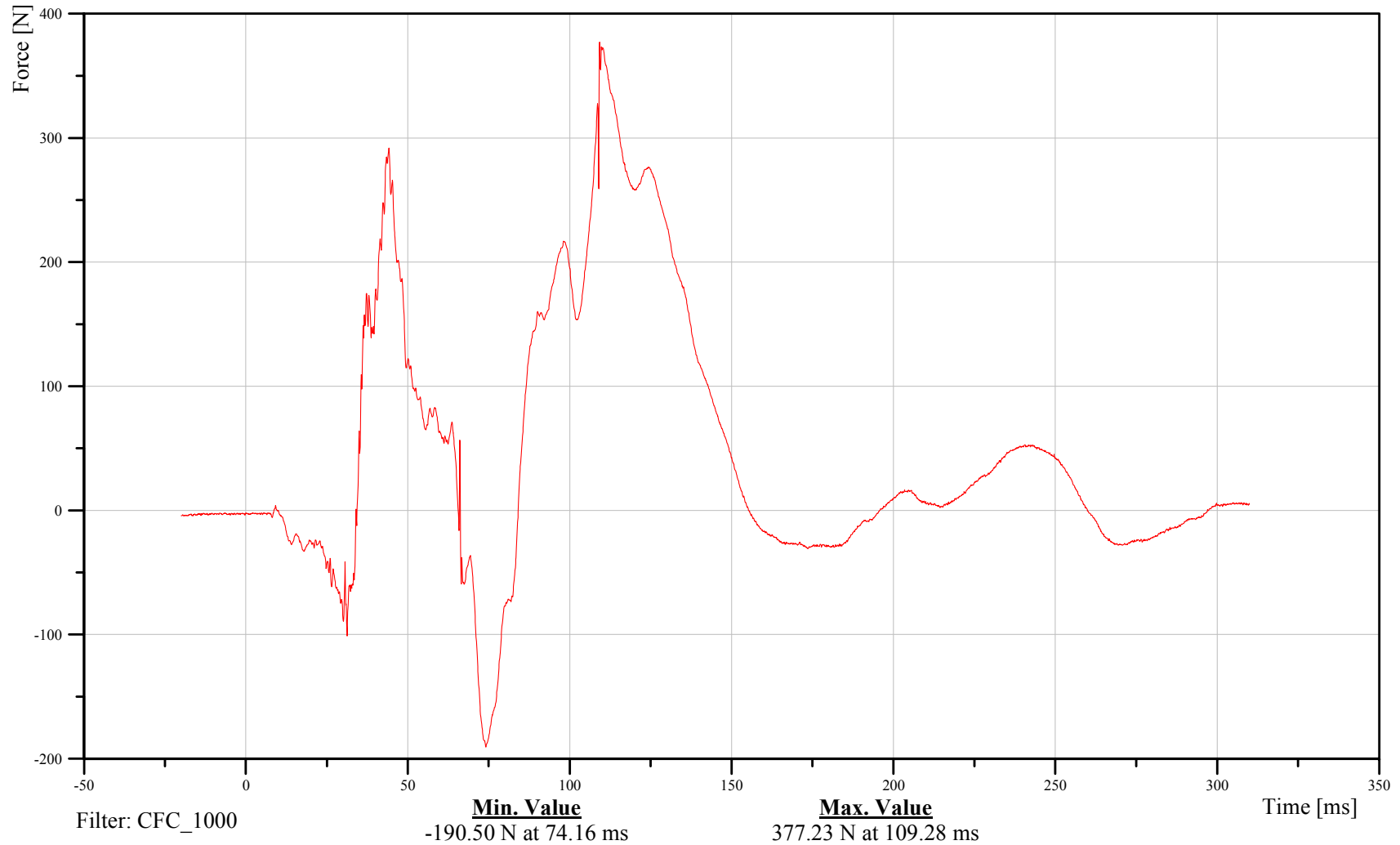
Target Passenger Upper Neck X-Axis Force

Customer: VRTC

13NECKUP00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

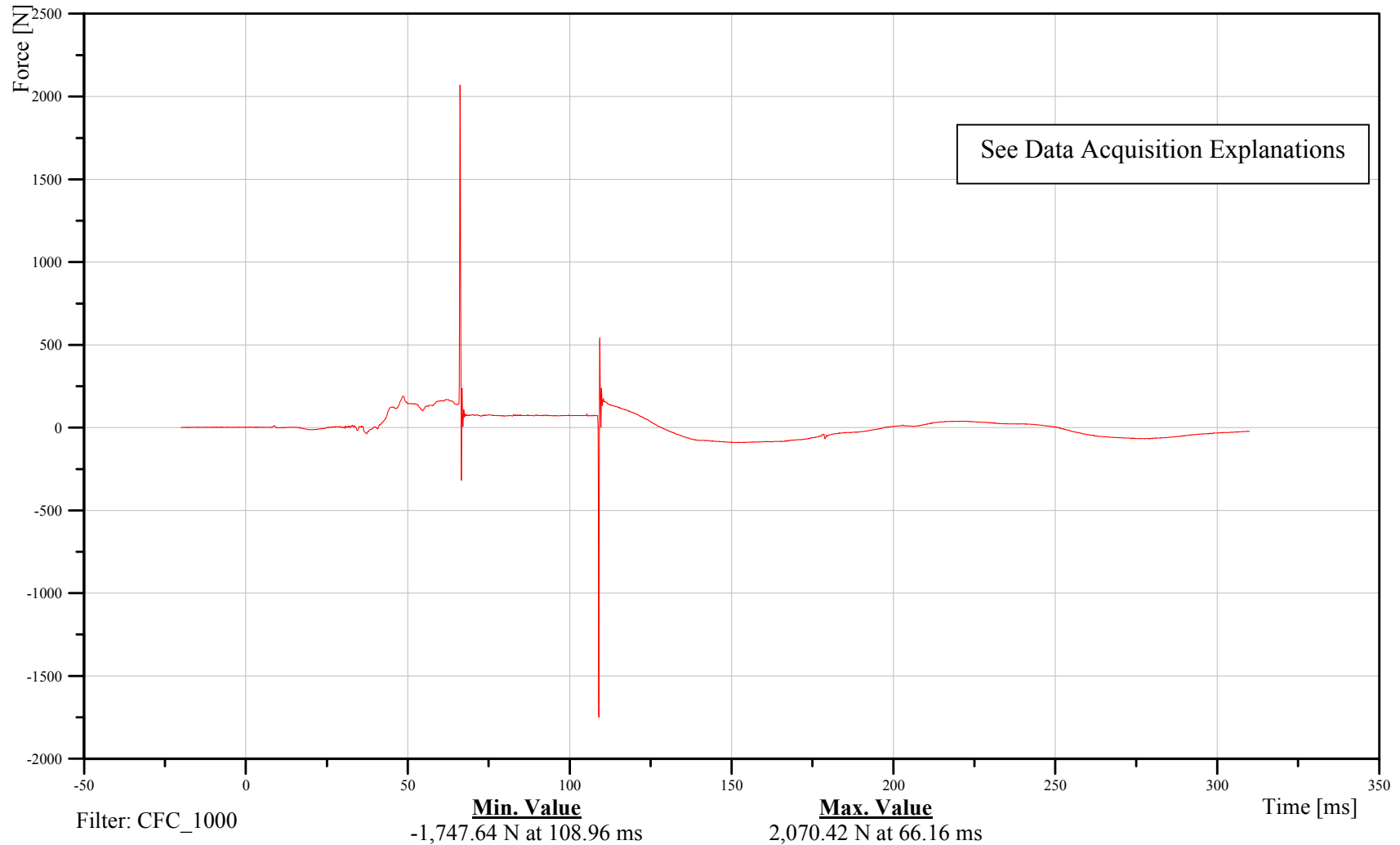
Target Passenger Upper Neck Y-Axis Force

Customer: VRTC

13NECKUP00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

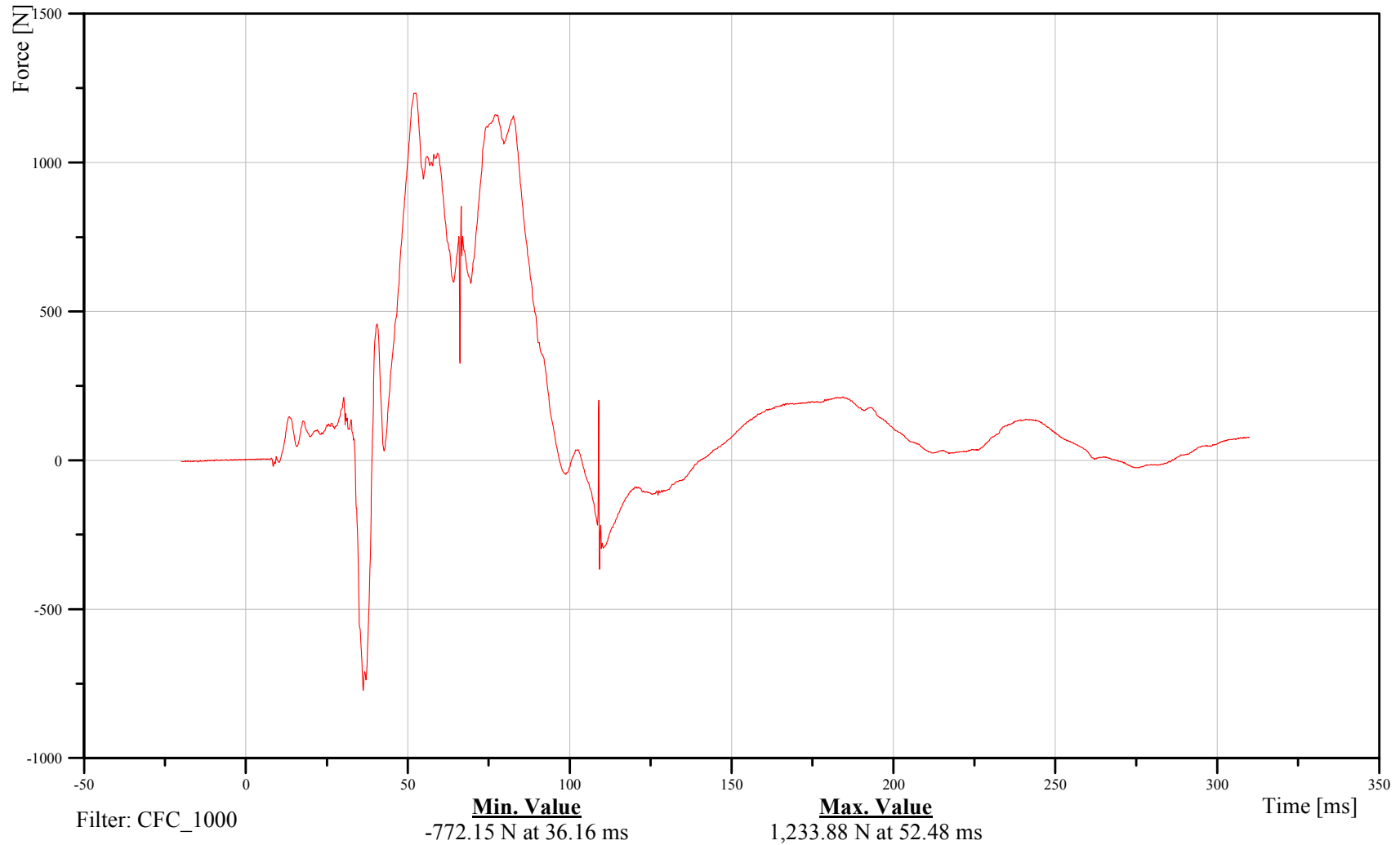
Target Passenger Upper Neck Z-Axis Force

Customer: VRTC

13NECKUP00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

Target Passenger Upper Neck Moment About X Axis

Customer: VRTC

13NECKUP00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

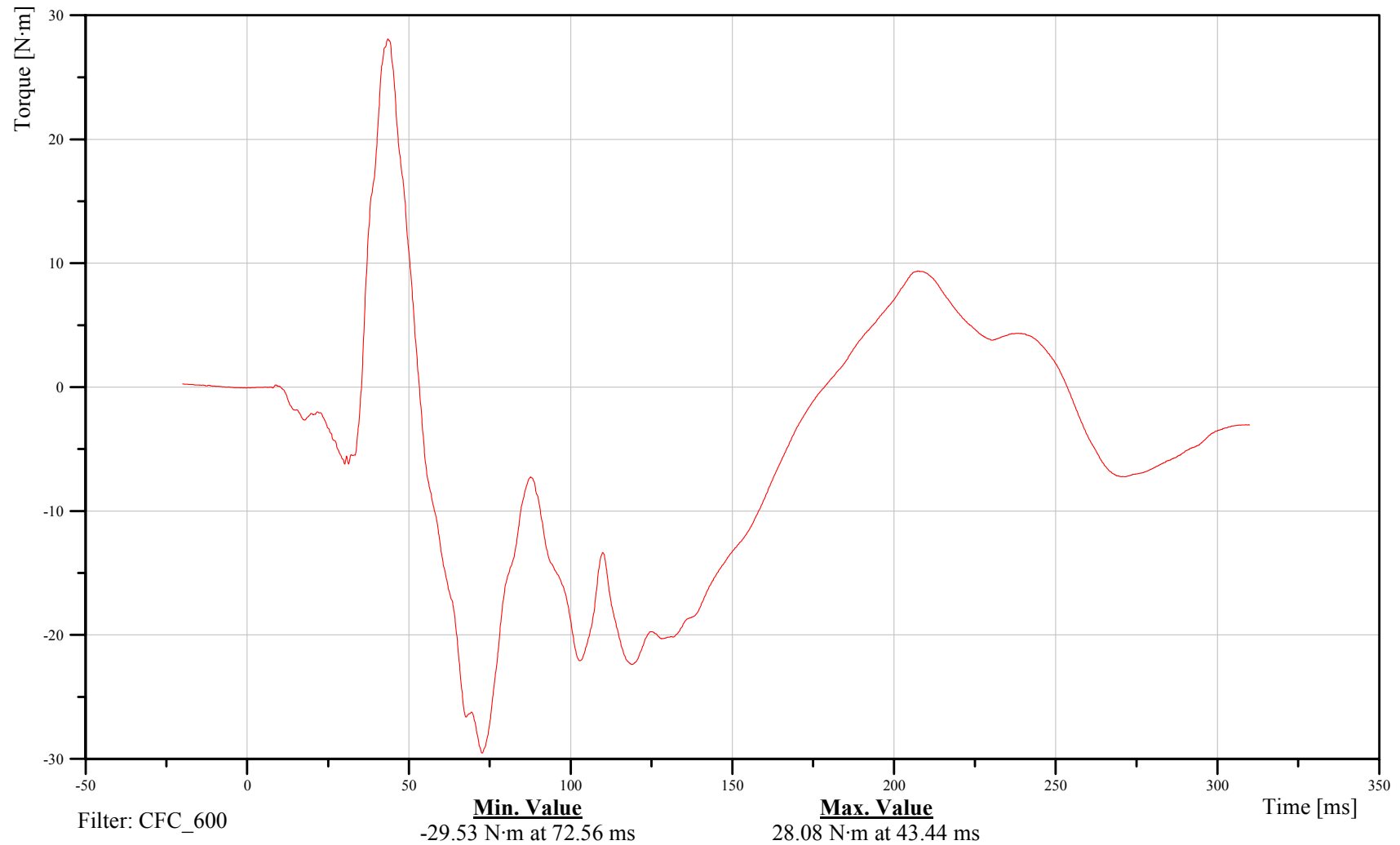
Target Passenger Upper Neck Moment About Y Axis

Customer: VRTC

13NECKUP00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

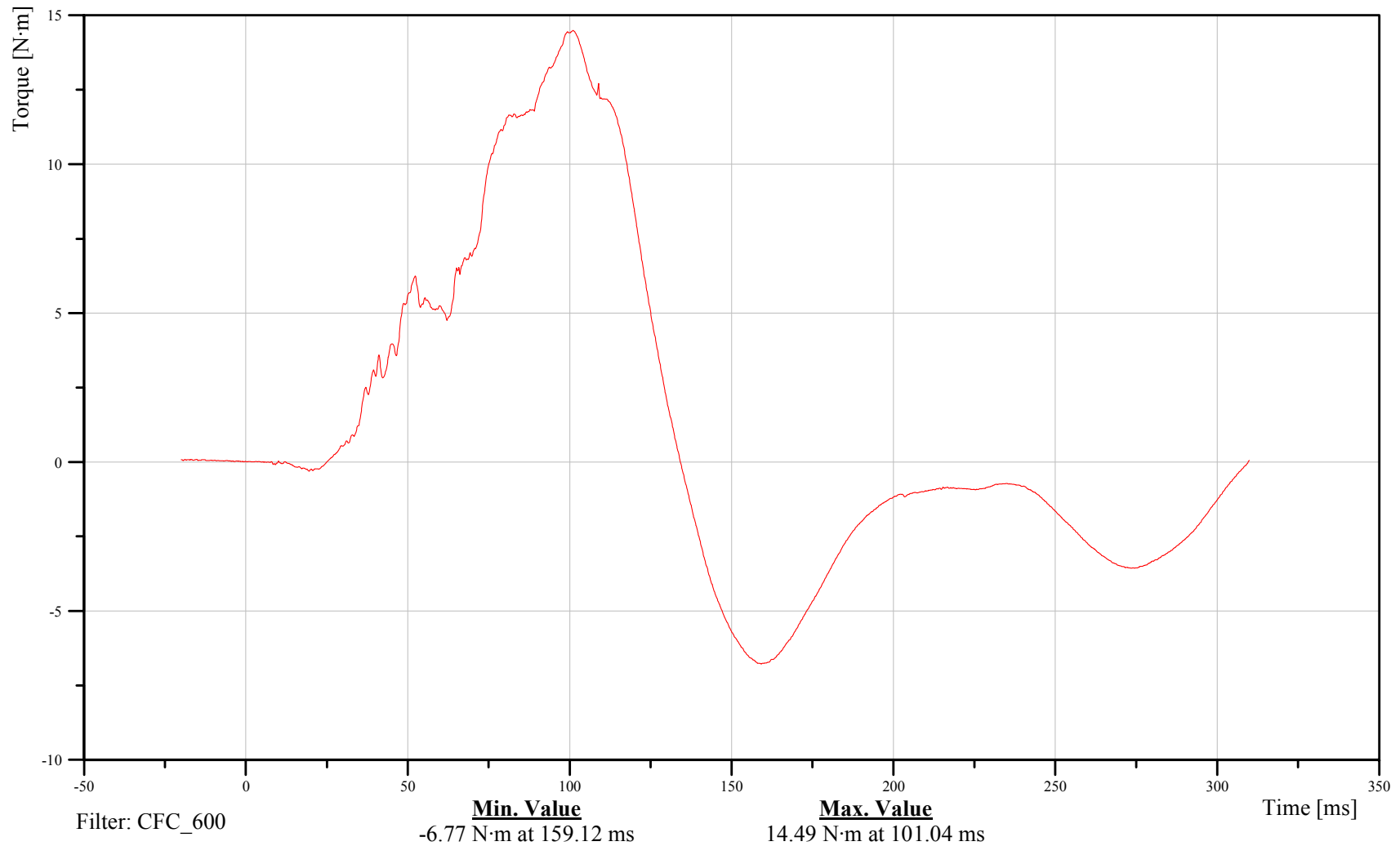
Target Passenger Upper Neck Moment About Z Axis

Customer: VRTC

13NECKUP00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

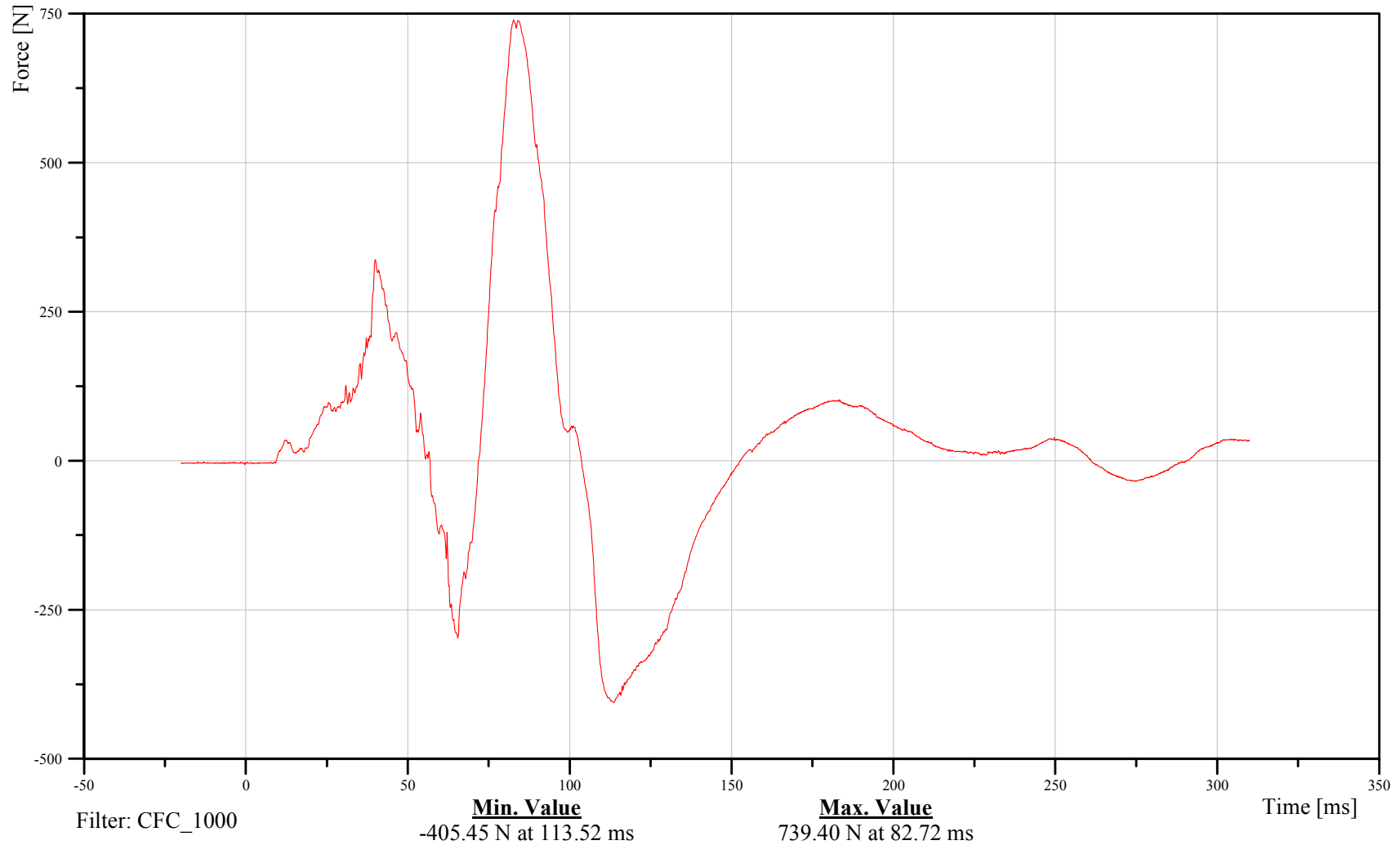
Target Passenger Lower Neck X-Axis Force

Customer: VRTC

13NECKLO00HFFOXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

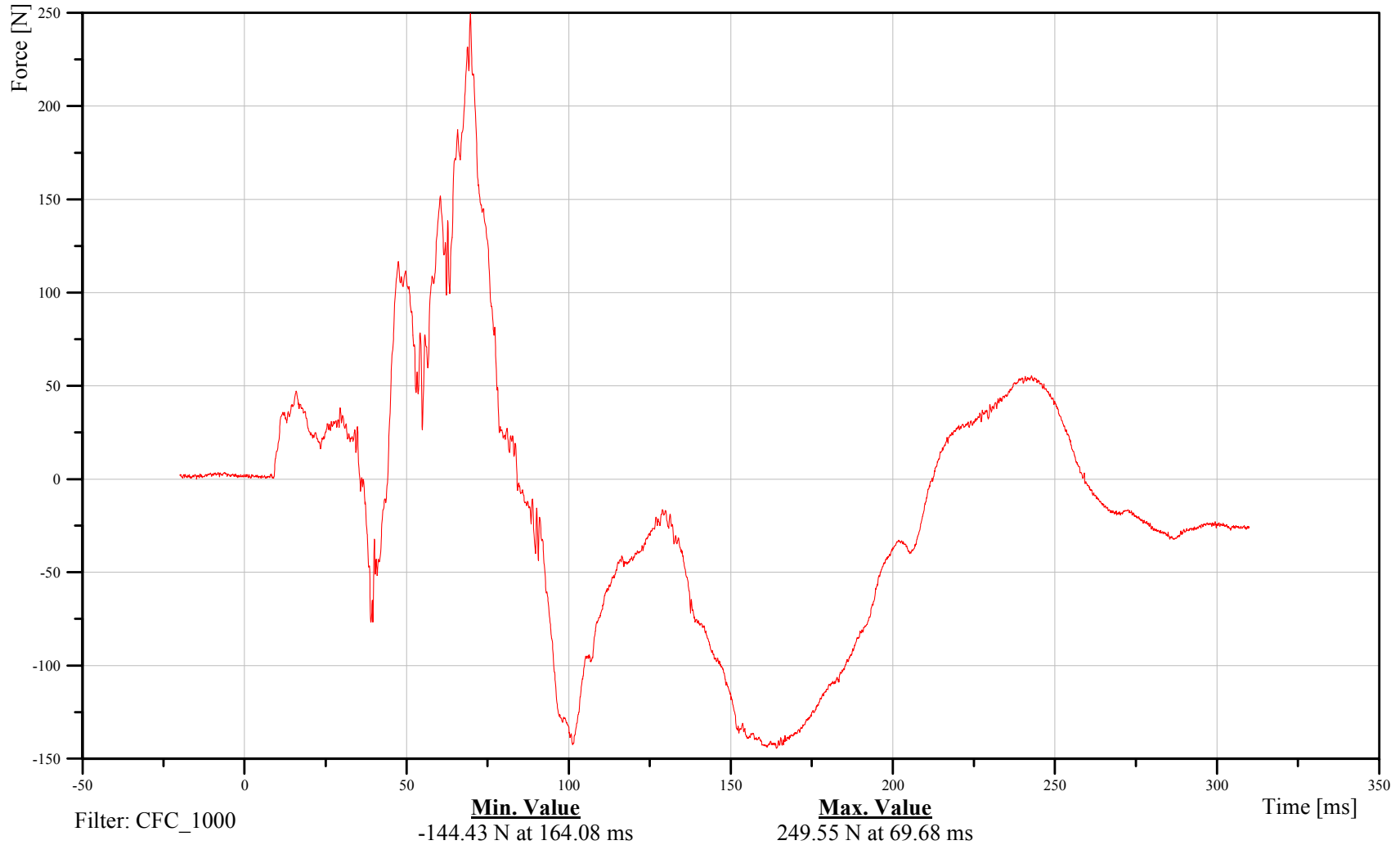
Target Passenger Lower Neck Y-Axis Force

Customer: VRTC

13NECKLO00HFFOYA

TRC Inc. Test Lab: CTF

Test Number: 050906





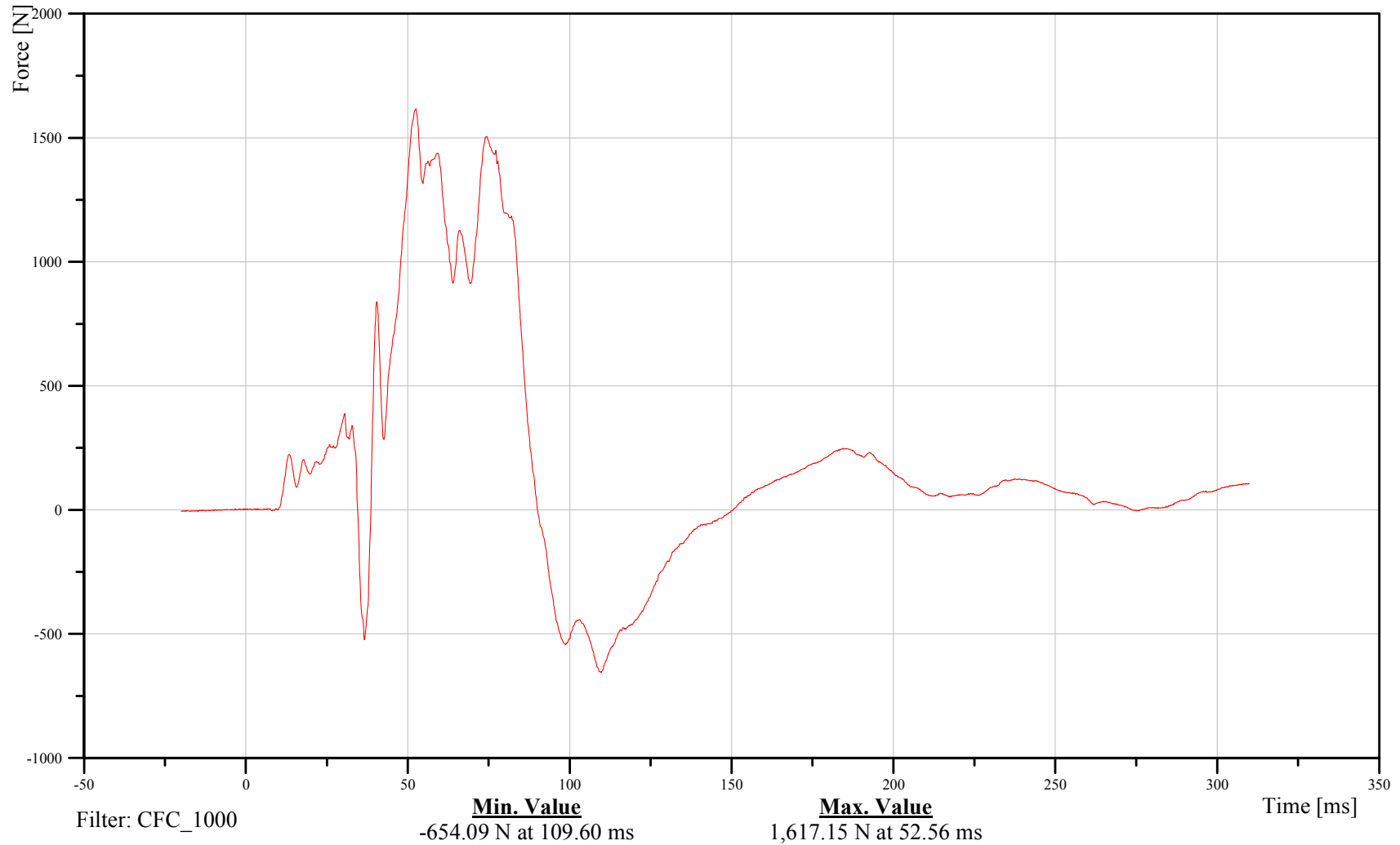
Target Passenger Lower Neck Z-Axis Force

Customer: VRTC

13NECKLO00HFFOZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

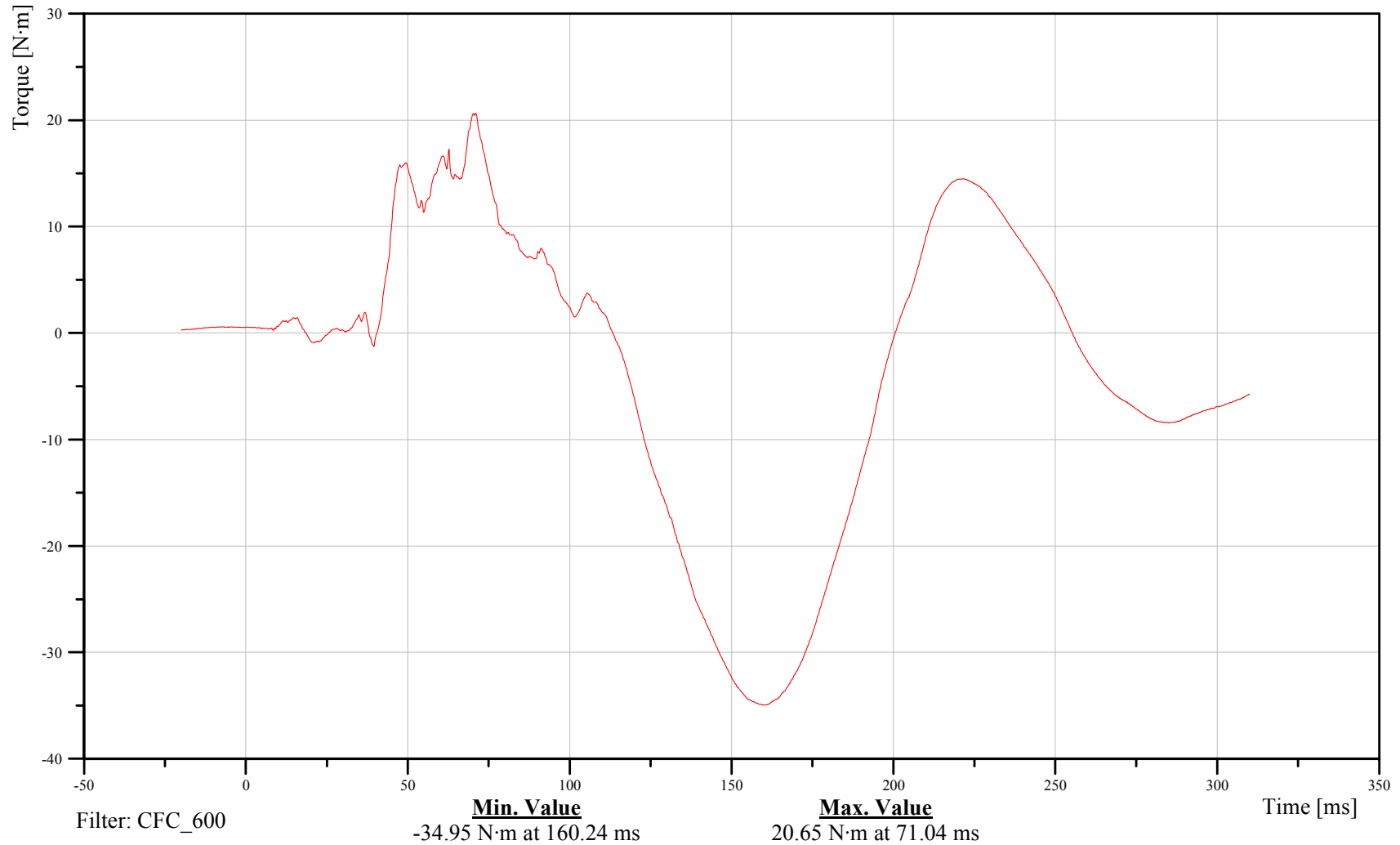
Target Passenger Lower Neck Moment About X Axis

Customer: VRTC

13NECKLO00HFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

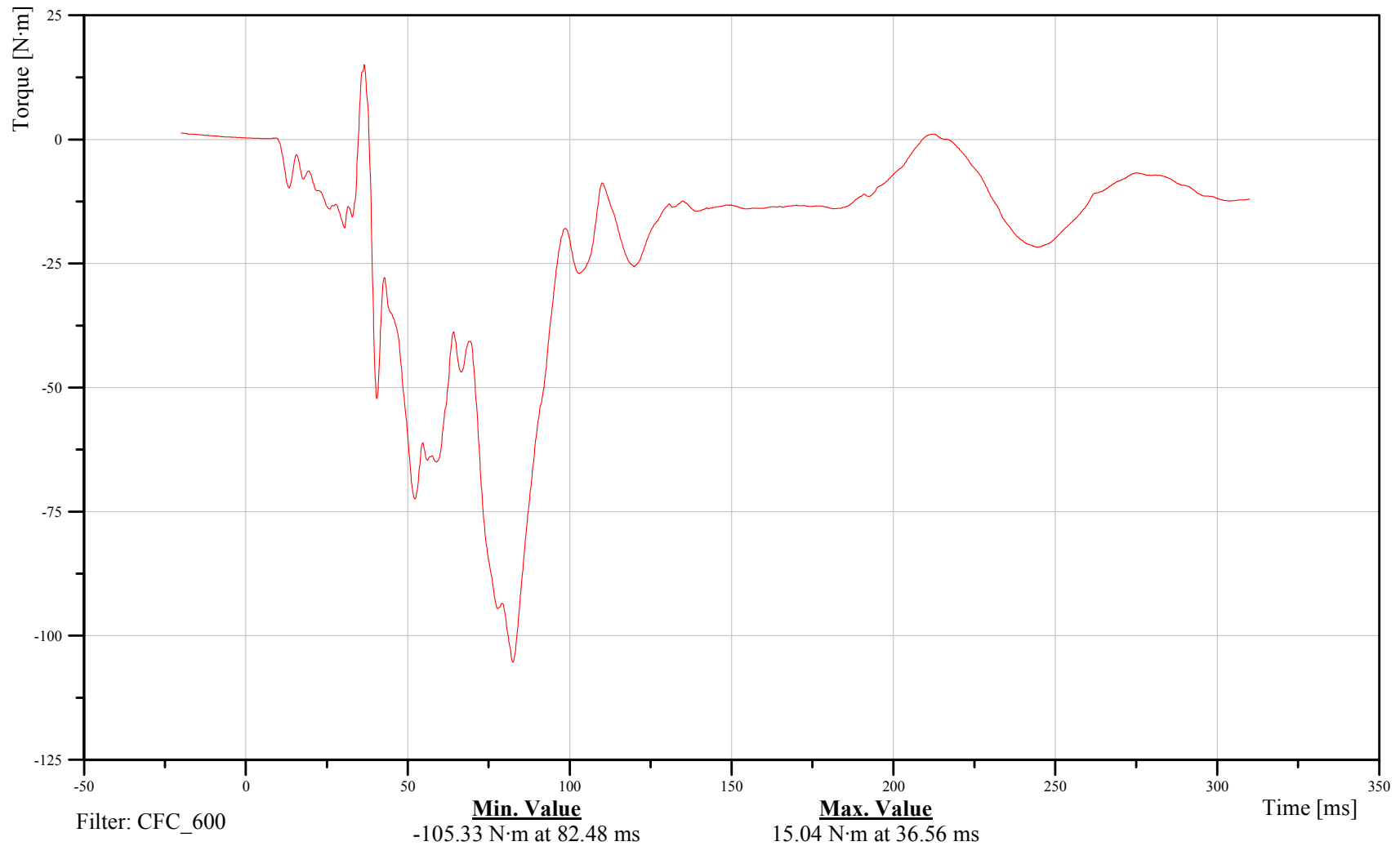
Target Passenger Lower Neck Moment About Y Axis

Customer: VRTC

13NECKLO00HFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





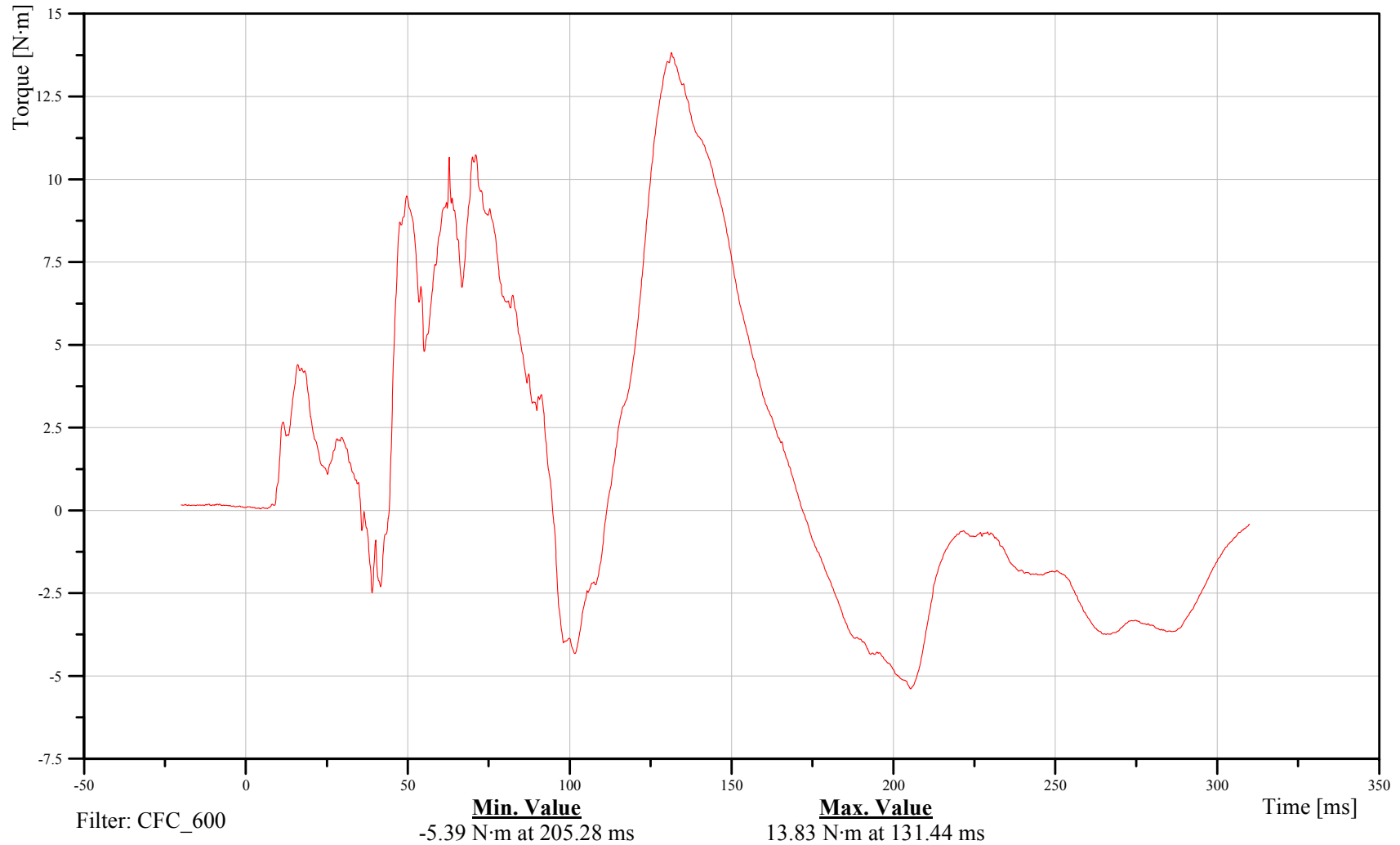
Target Passenger Lower Neck Moment About Z Axis

Customer: VRTC

13NECKLO00HFMOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

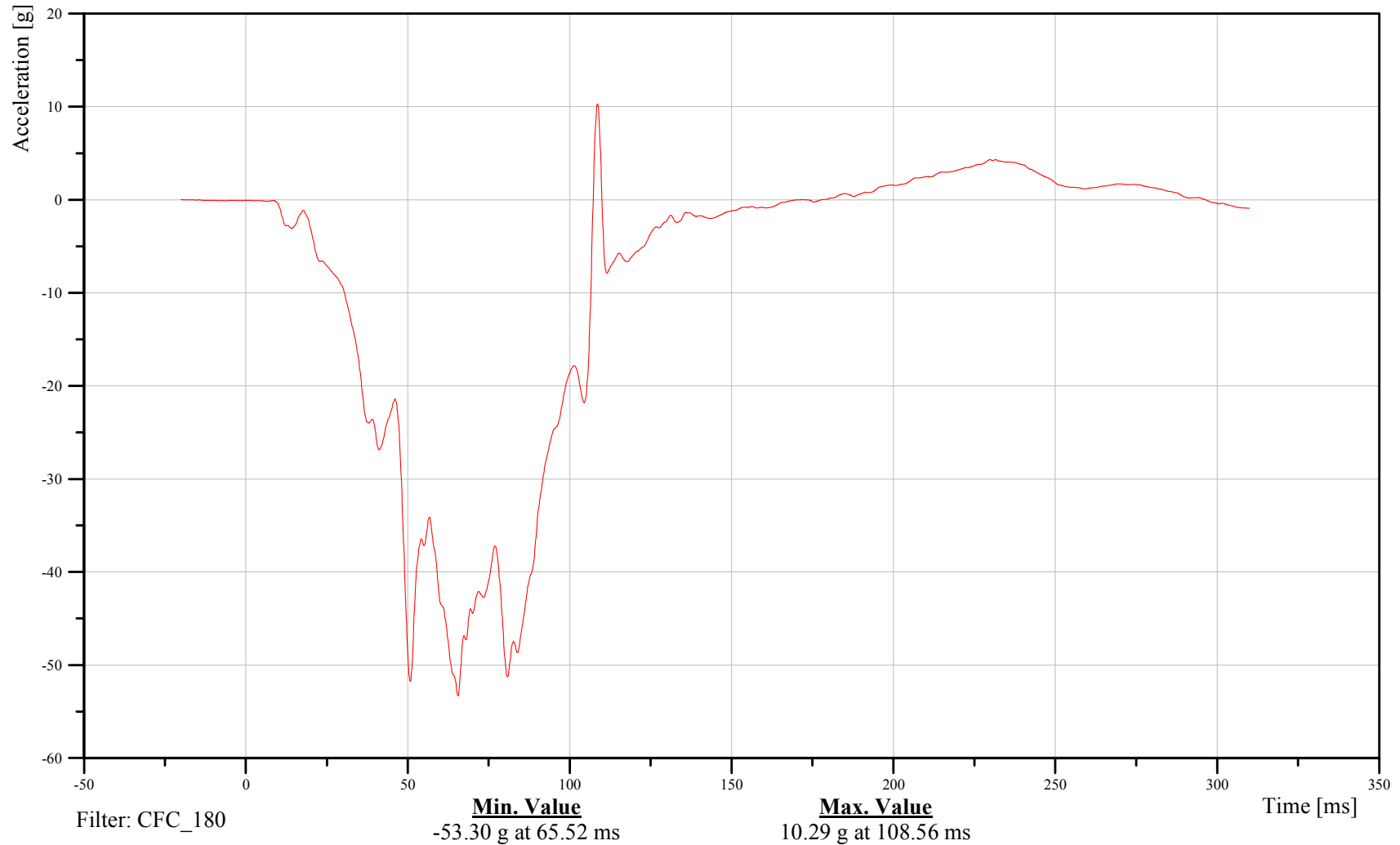
Target Passenger Chest CG X-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

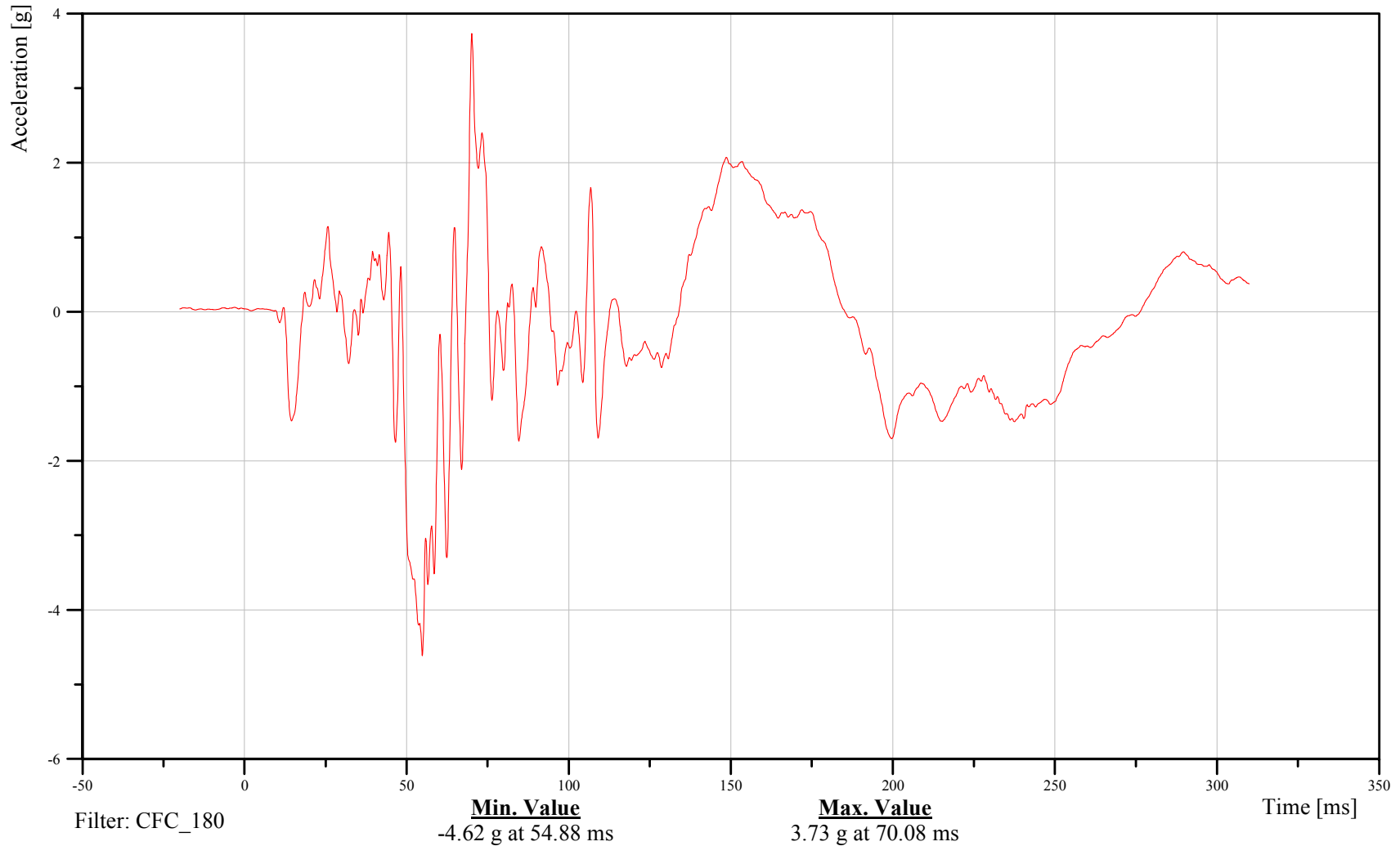
Target Passenger Chest CG Y-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

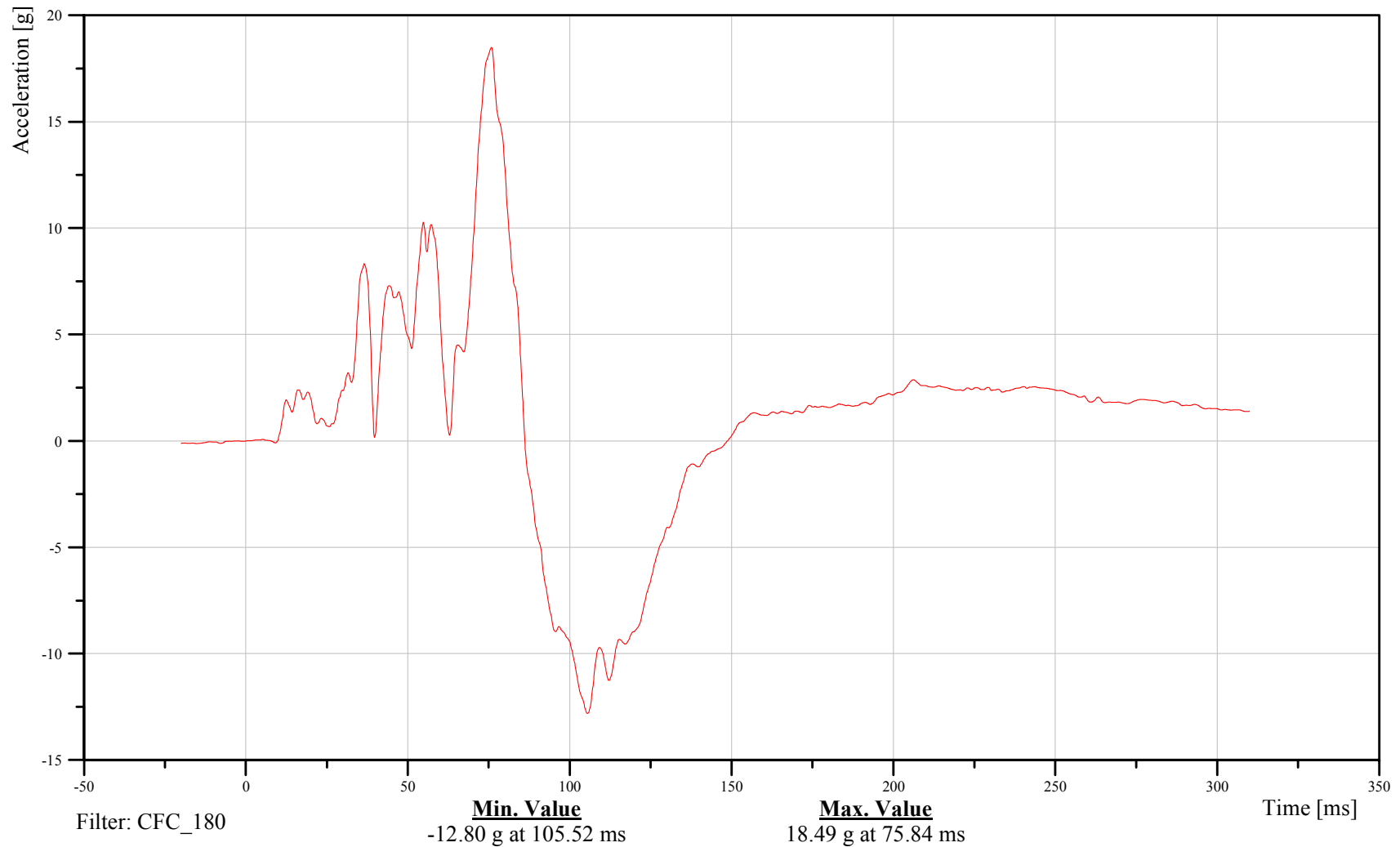
Target Passenger Chest CG Z-Axis Acceleration

Customer: VRTC

13CHSTCG00HFACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

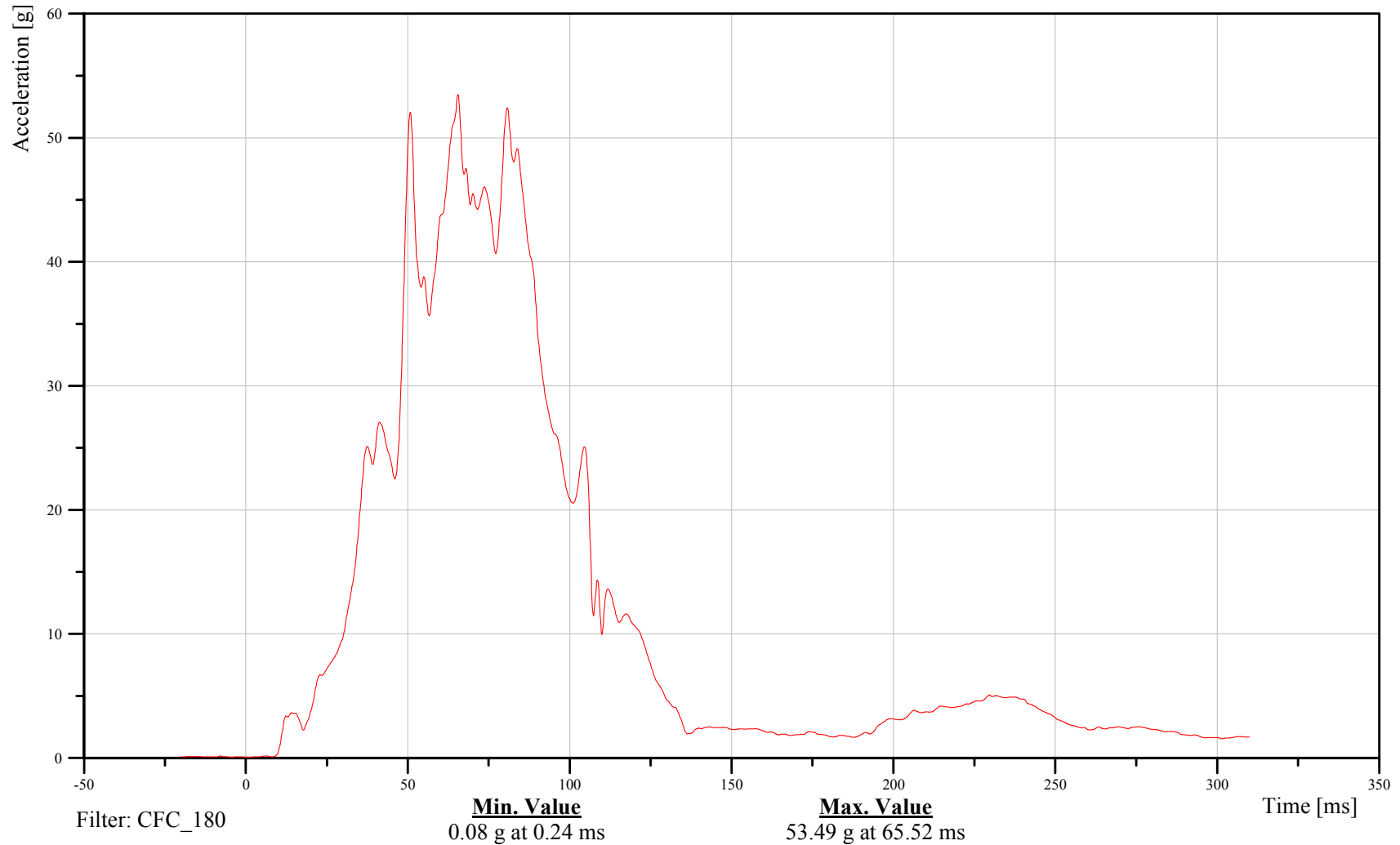
Target Passenger Chest CG Resultant Acceleration

Customer: VRTC

13CHSTCG00HFACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

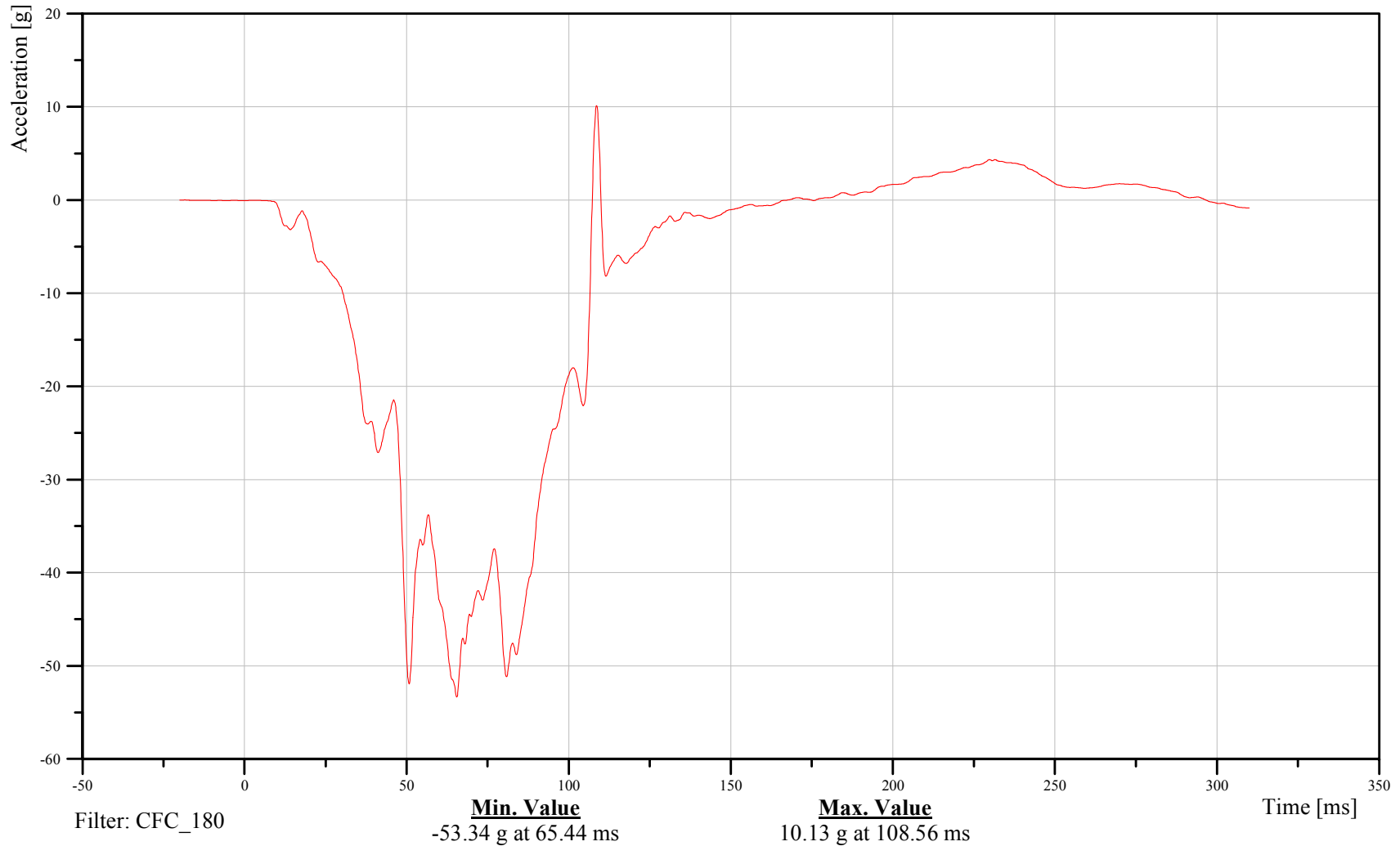
Target Passenger Redundant Chest CG X-Axis Acceleration

Customer: VRTC

13CHSTCGRDHFACXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Passenger Redundant Chest CG Y-Axis Acceleration

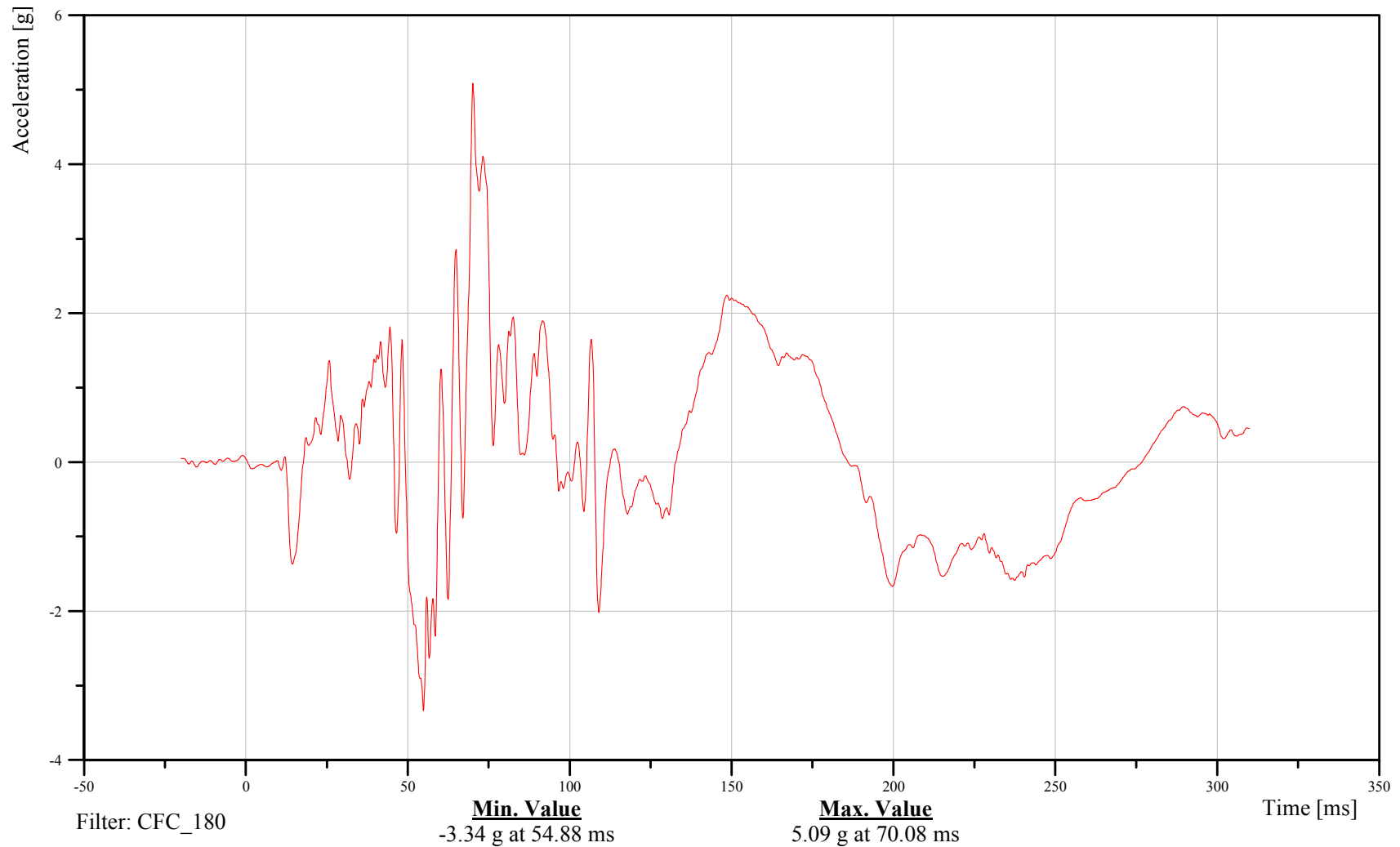
Time: 12:43

Customer: VRTC

13CHSTCGRDHFACYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Passenger Redundant Chest CG Z-Axis Acceleration

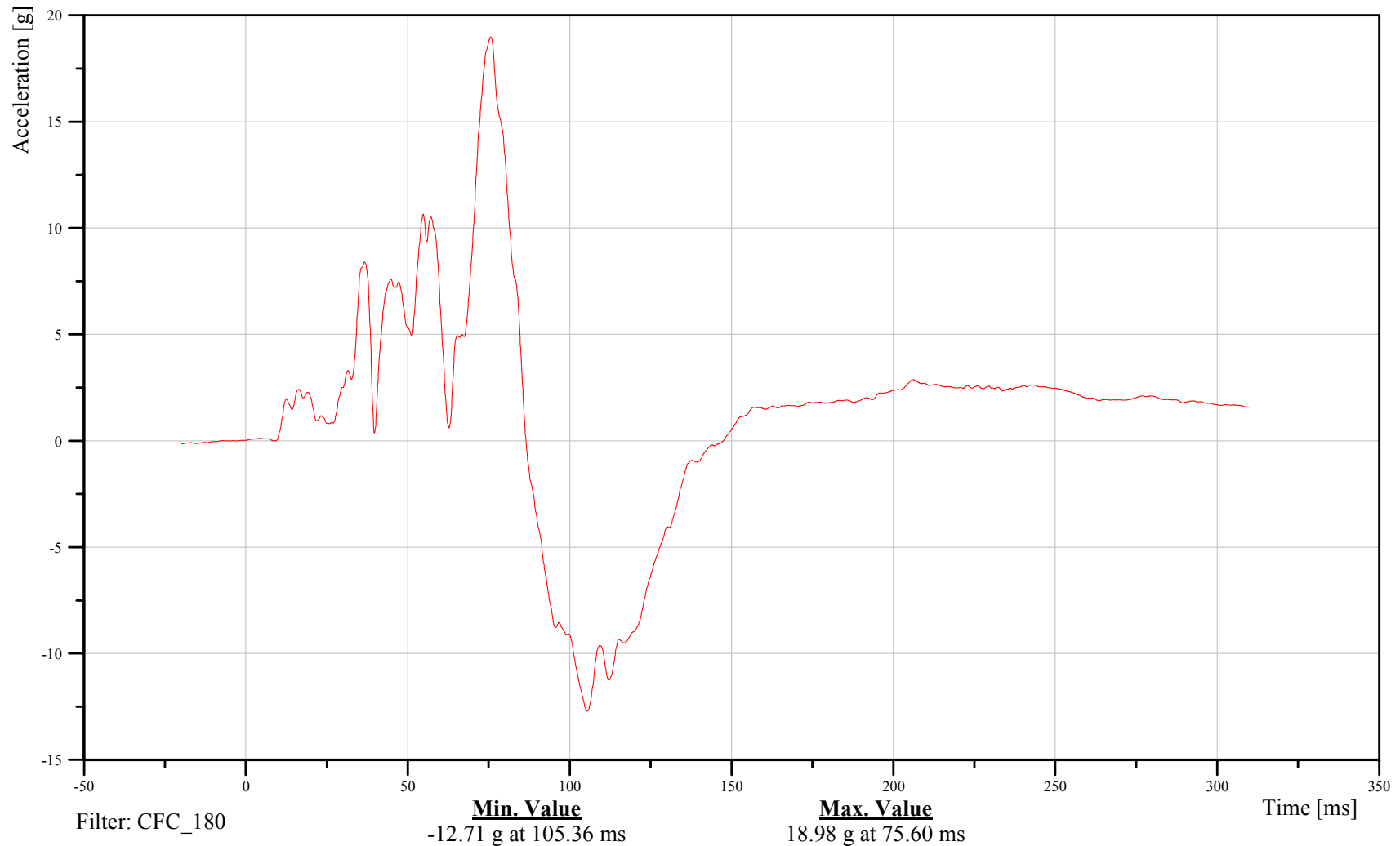
Time: 12:43

Customer: VRTC

13CHSTCGRDHFACZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

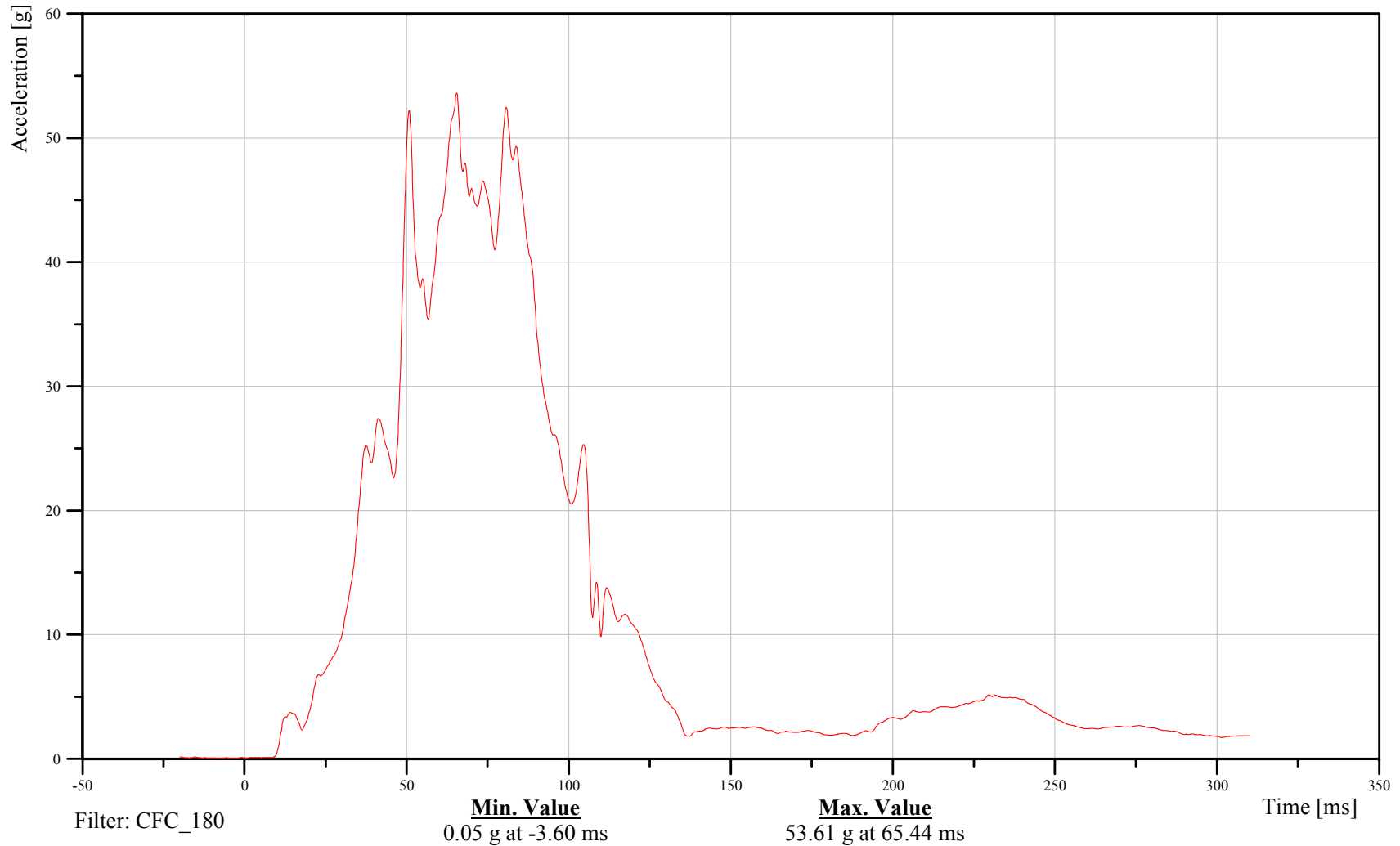
Target Passenger Redundant Chest CG Resultant Acceleration

Customer: VRTC

13CHSTCGRDHFACRC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

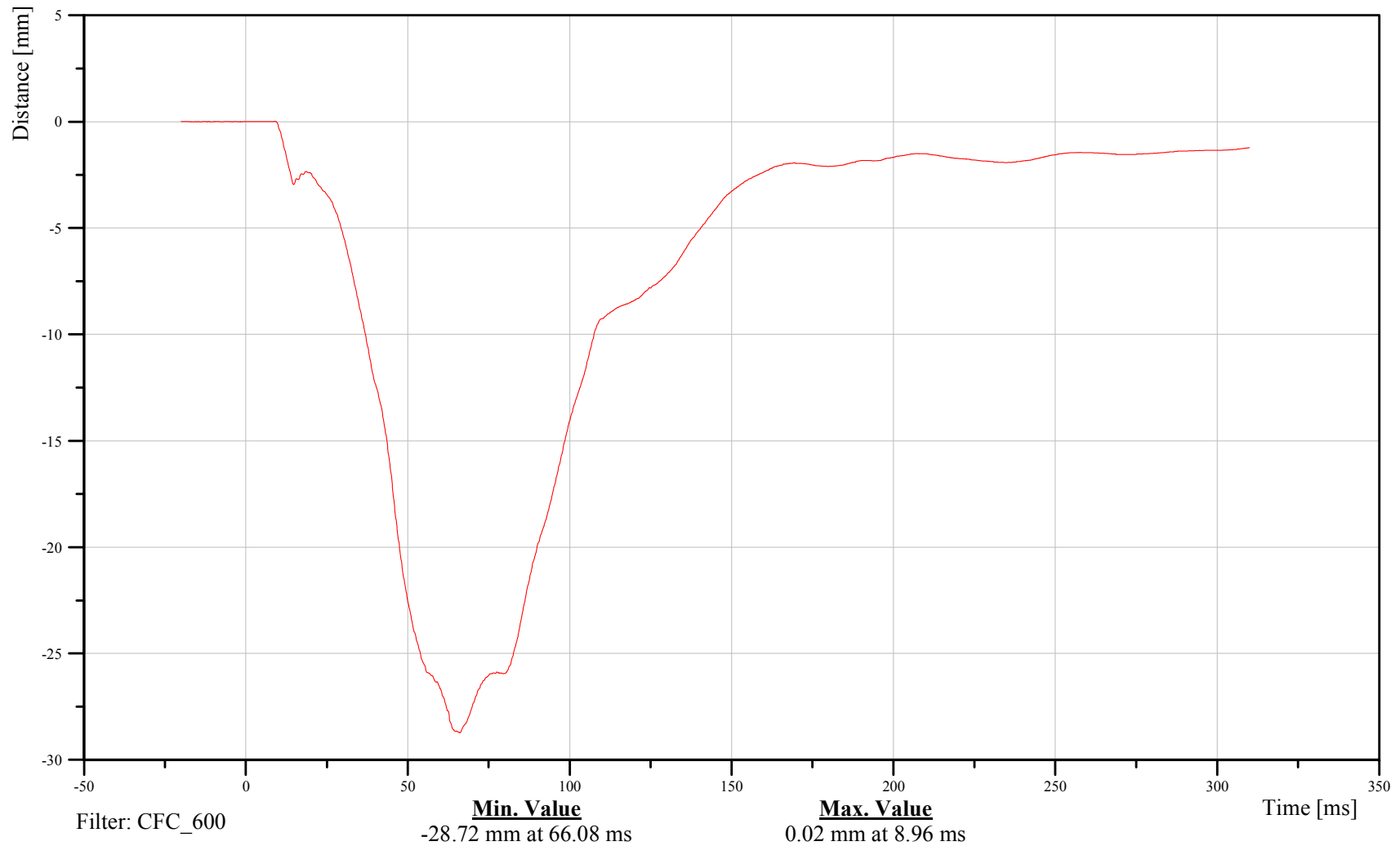
Target Passenger Chest Displacement

Customer: VRTC

13CHST0000HFDSXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Passenger Sternum Upper X-Axis Acceleration

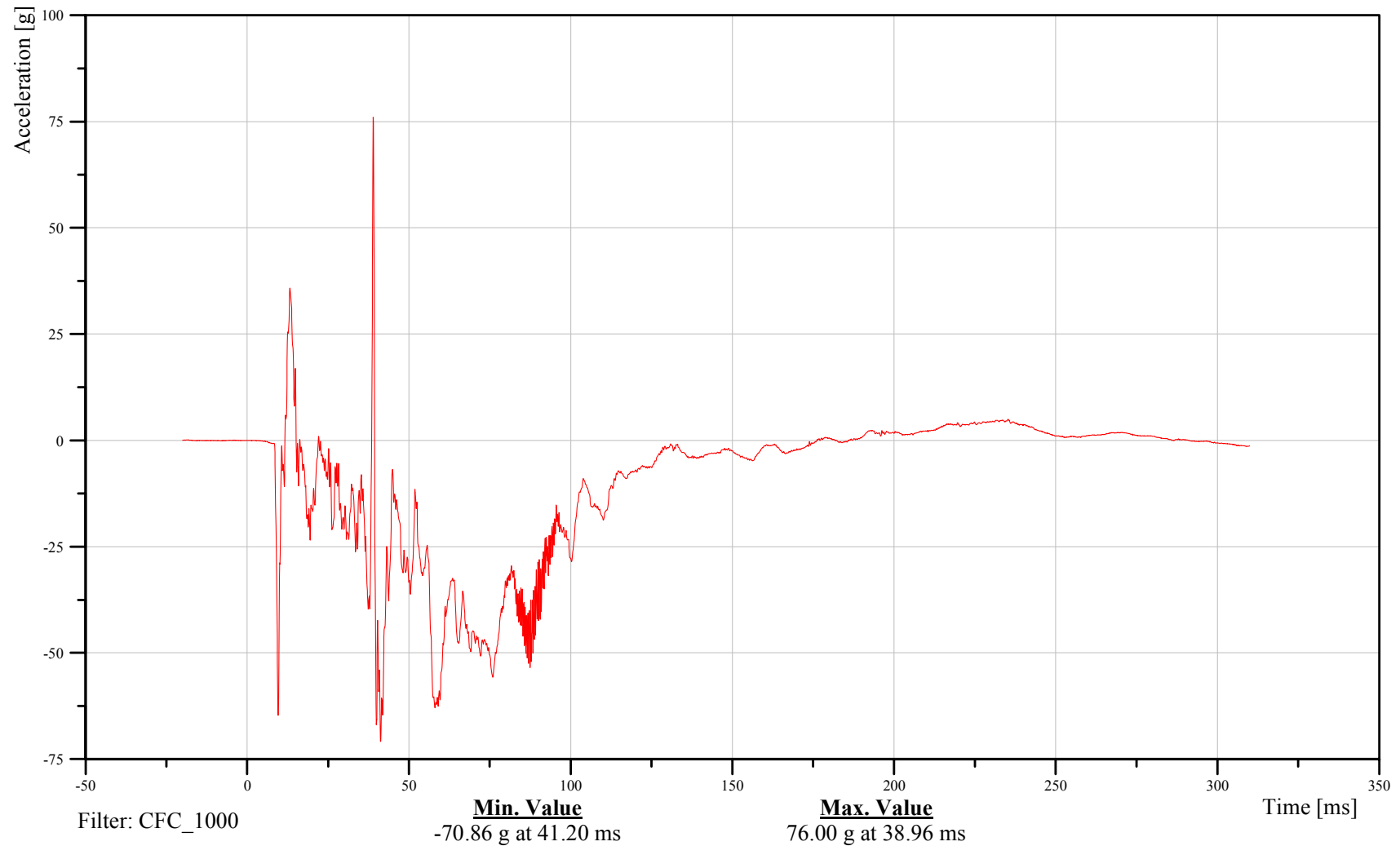
Time: 12:43

Customer: VRTC

13STRNUP00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

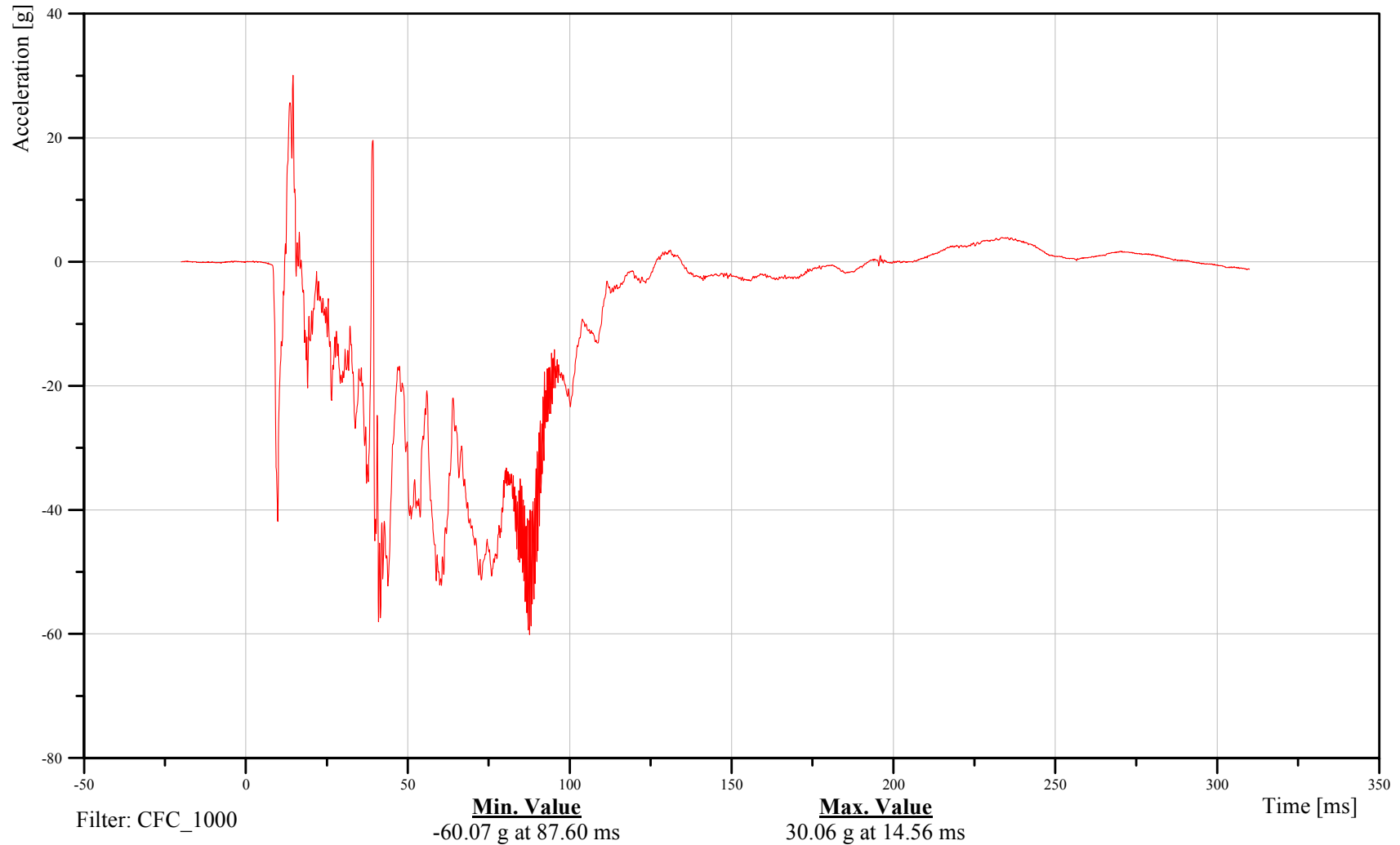
Target Passenger Sternum Mid X-Axis Acceleration

Customer: VRTC

13STRNMI00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

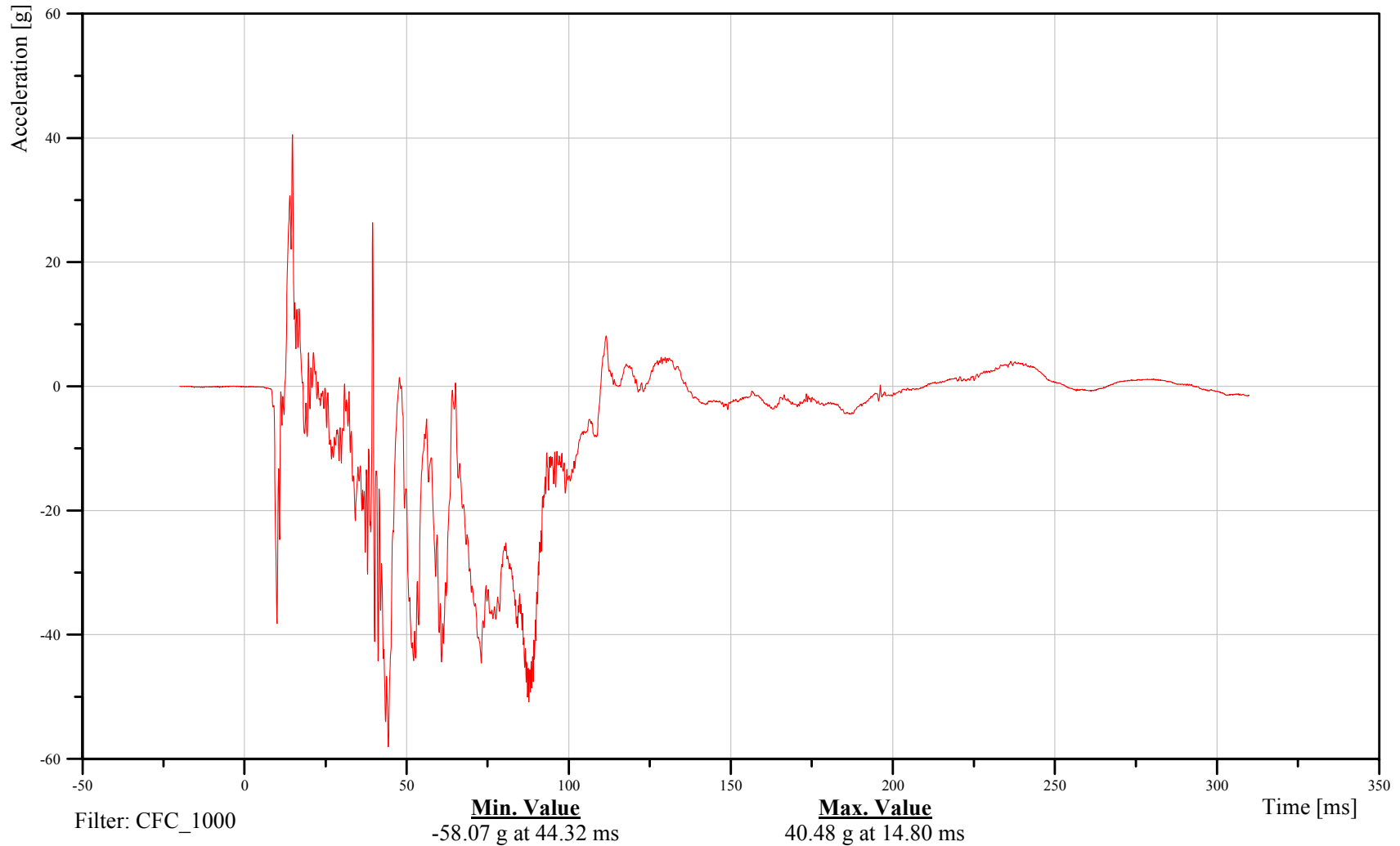
Target Passenger Sternum Lower X-Axis Acceleration

Customer: VRTC

13STRNLO00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

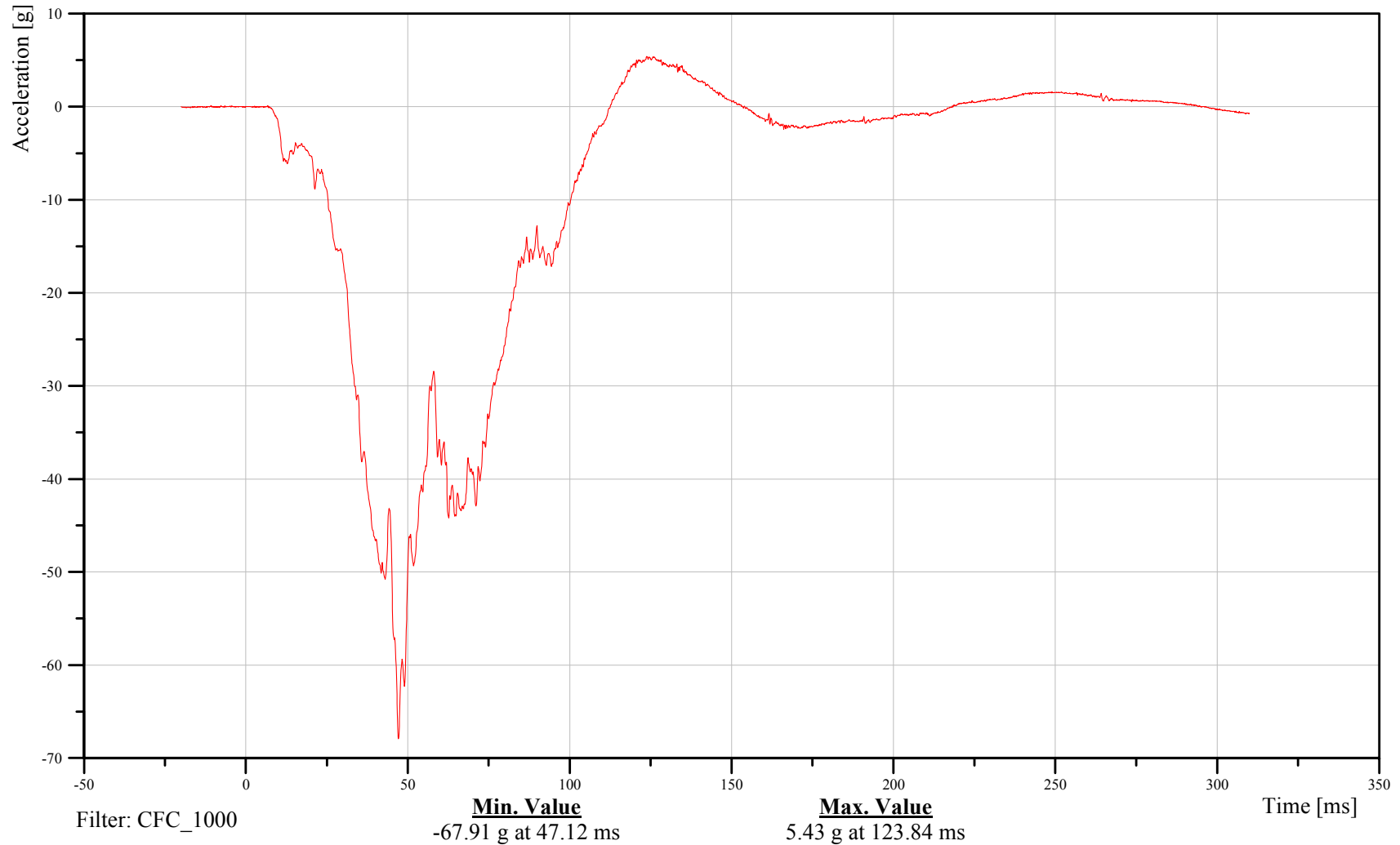
Target Passenger Pelvis CG X-Axis Acceleration

Customer: VRTC

13PELVCG00HFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

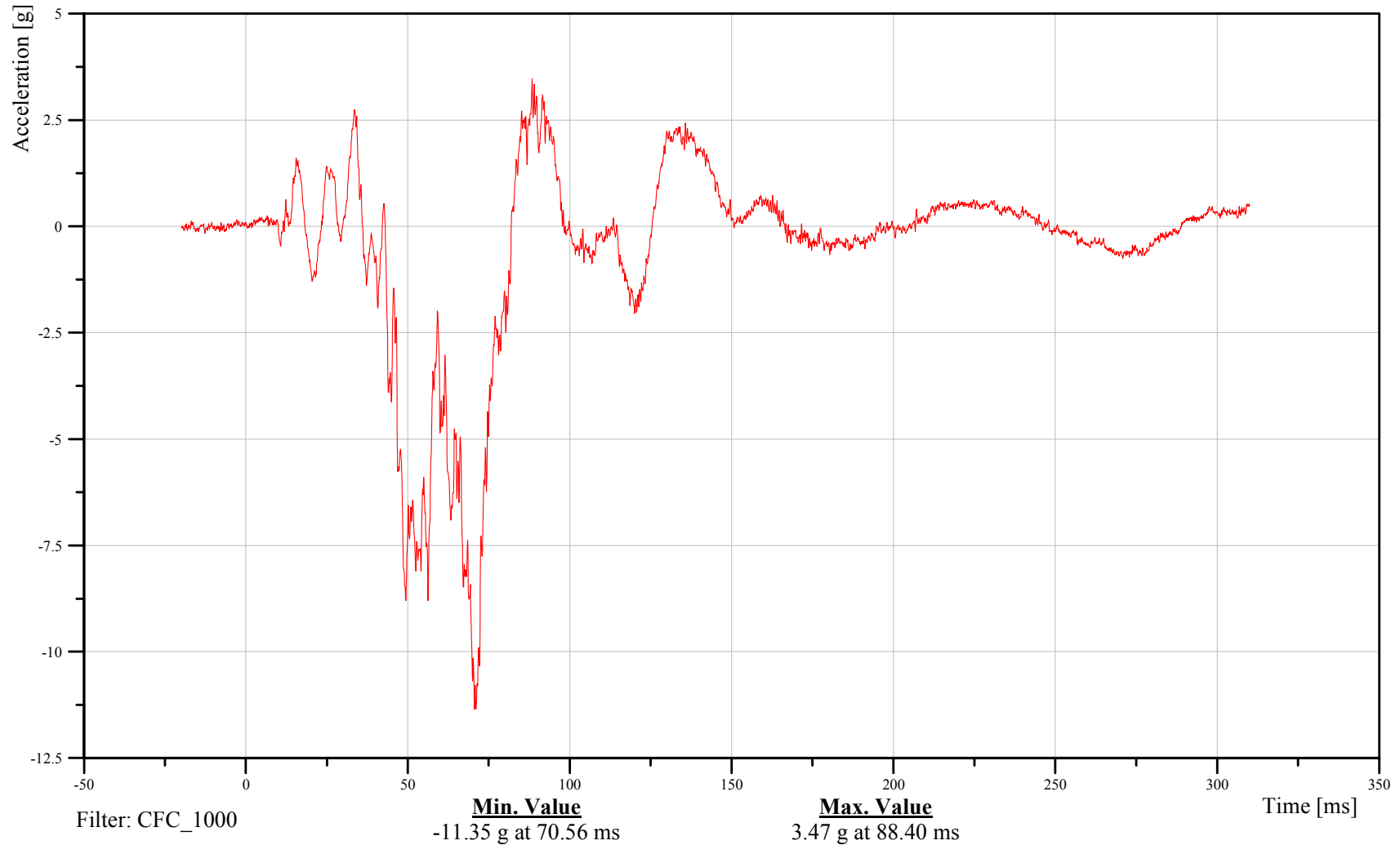
Target Passenger Pelvis CG Y-Axis Acceleration

Customer: VRTC

13PELVCG00HFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

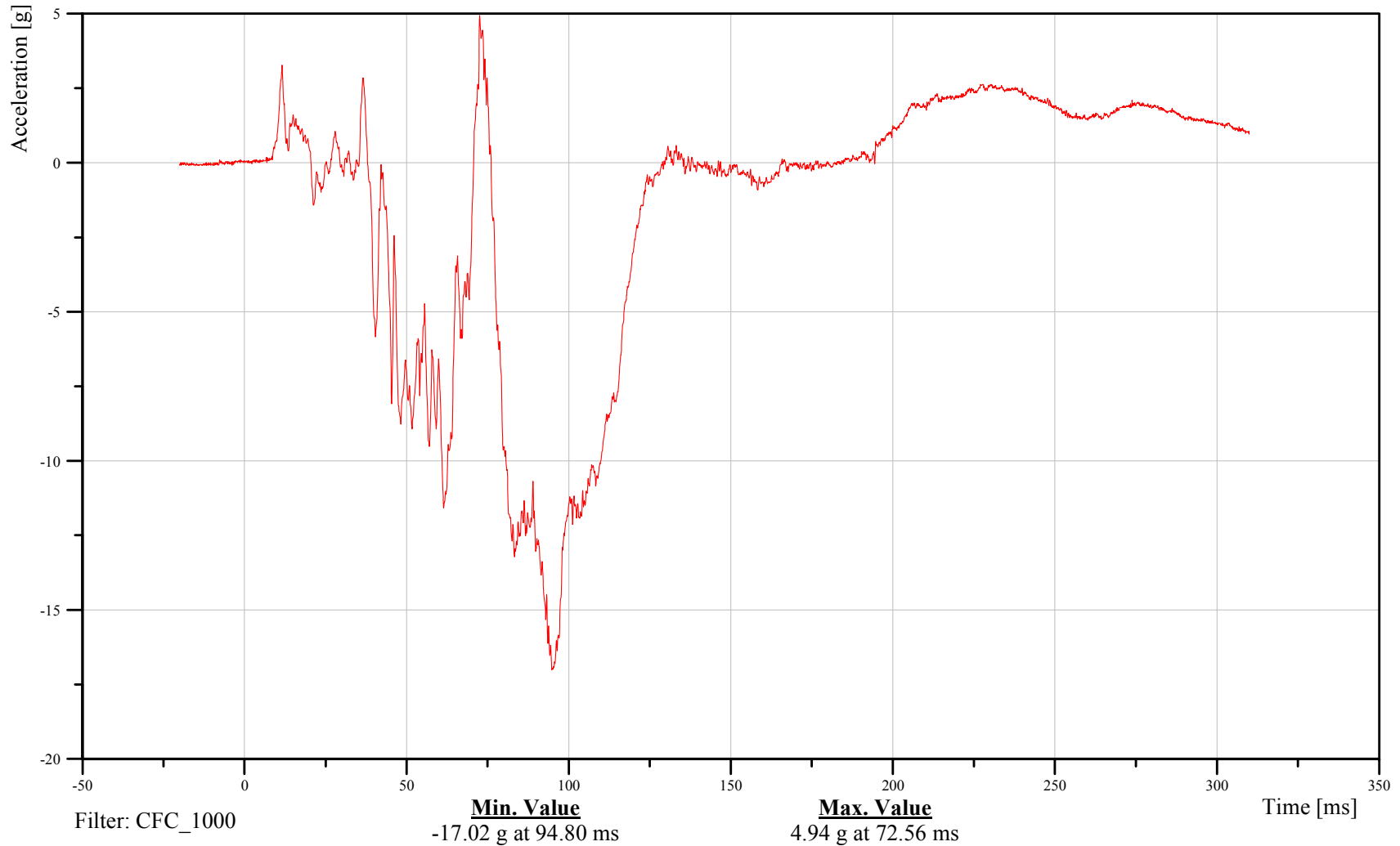
Target Passenger Pelvis CG Z-Axis Acceleration

Customer: VRTC

13PELVCG00HFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





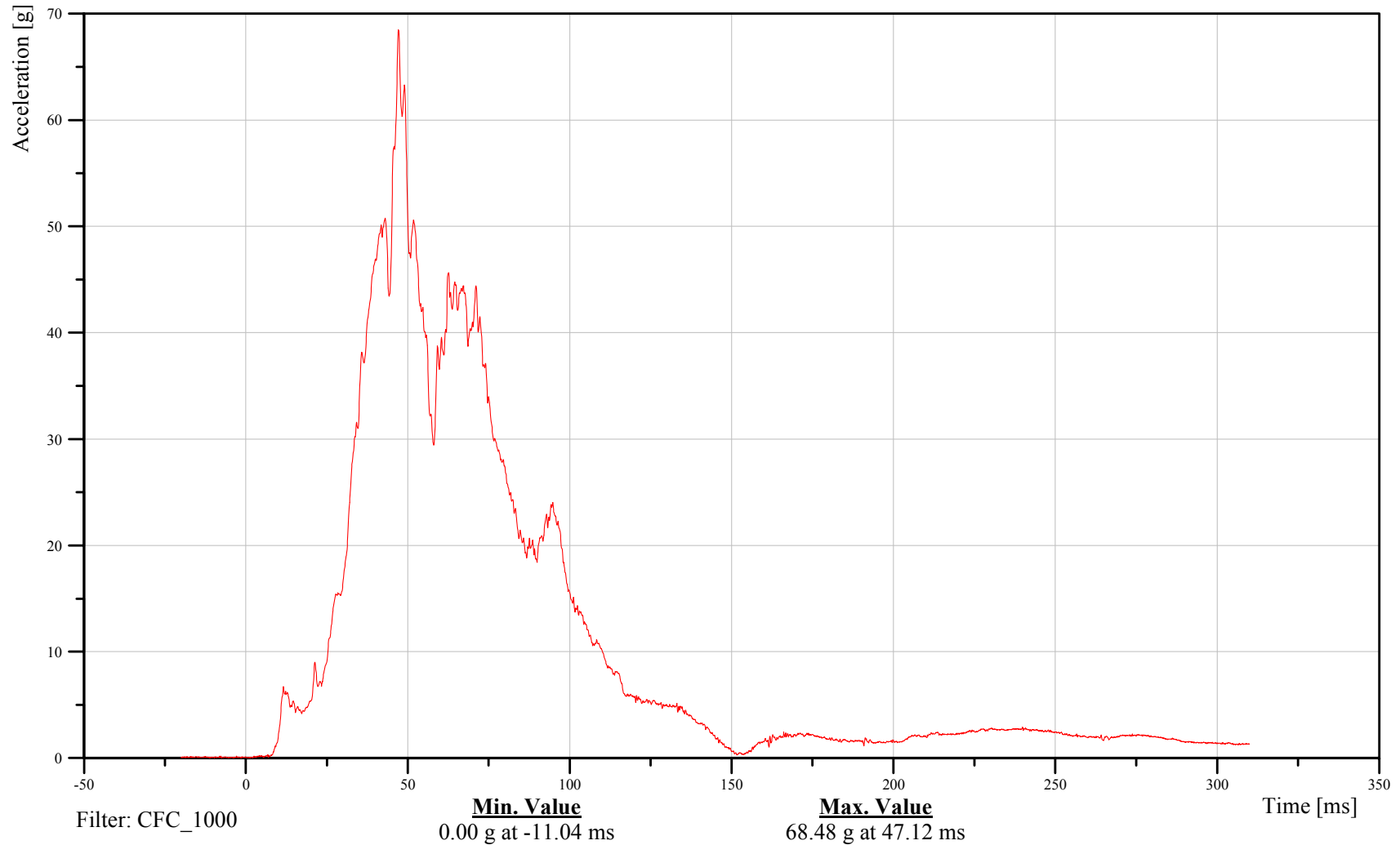
Target Passenger Pelvis CG Resultant Acceleration

Customer: VRTC

13PELVCG00HFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

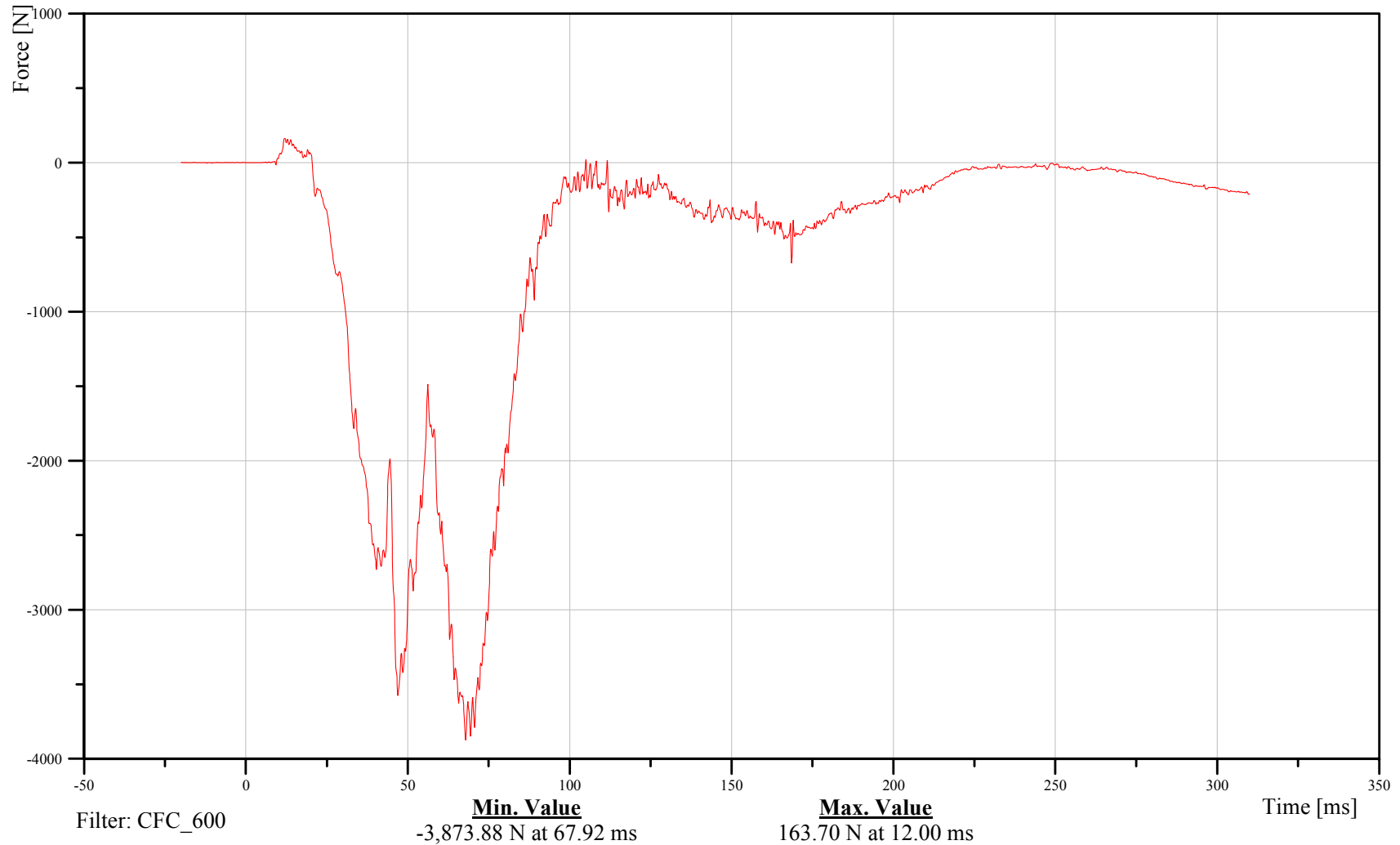
Target Passenger Left Femur Z-Axis Force

Customer: VRTC

13FEMRLL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

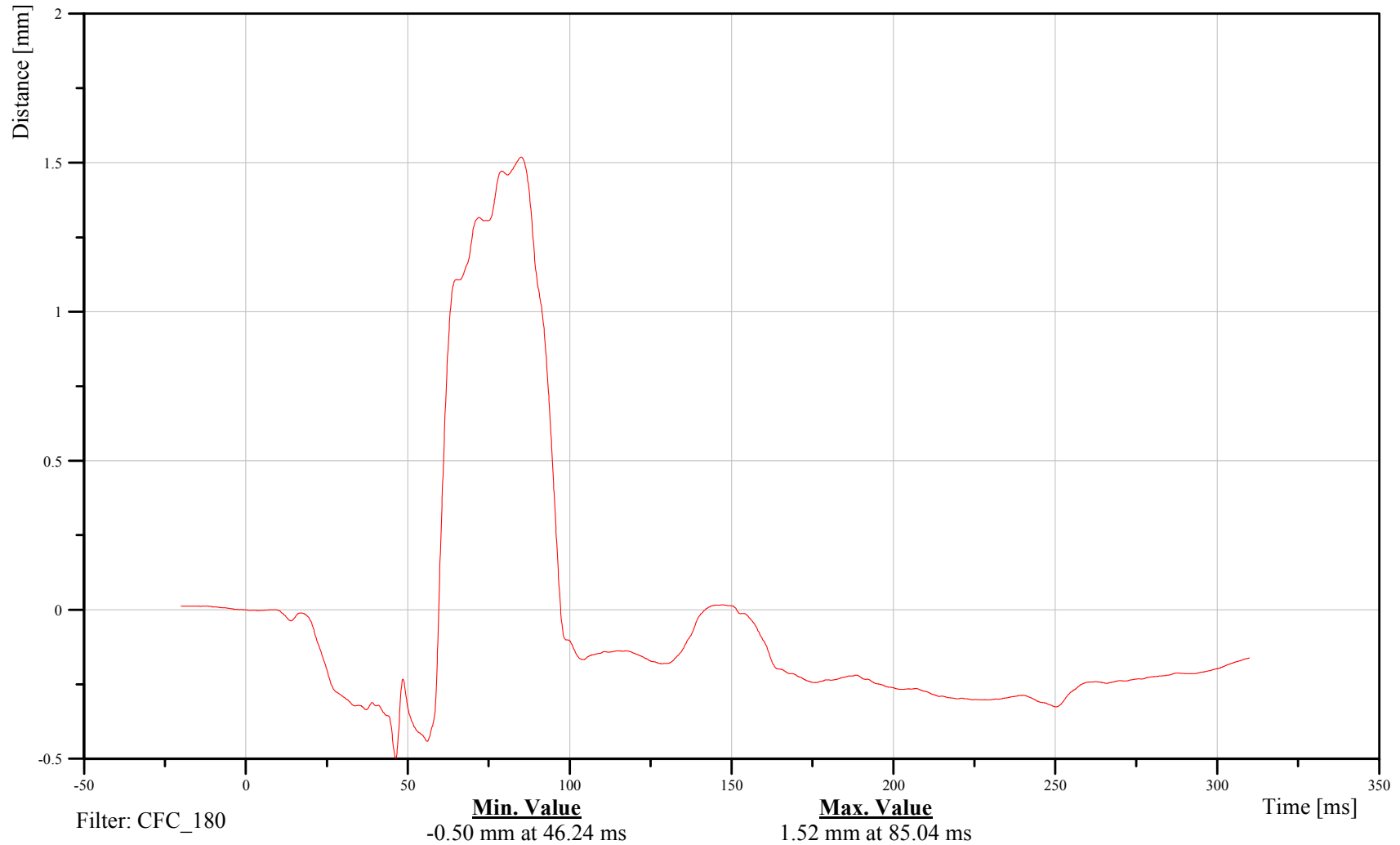
Target Passenger Left Knee Displacement

Customer: VRTC

13KNSLLE00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 050906





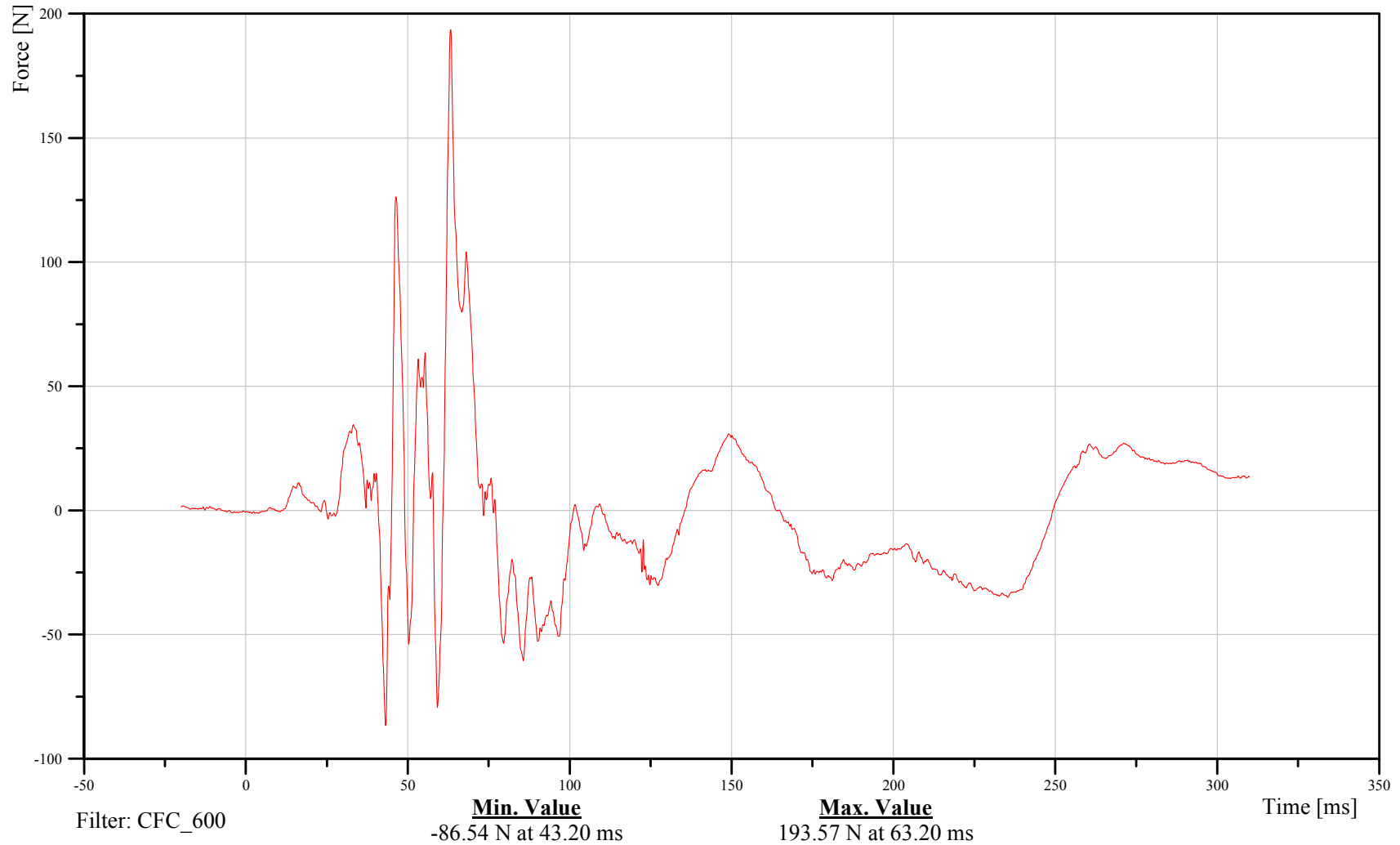
Target Passenger Left Upper Tibia X-Axis Force

Customer: VRTC

13TIBILUFXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

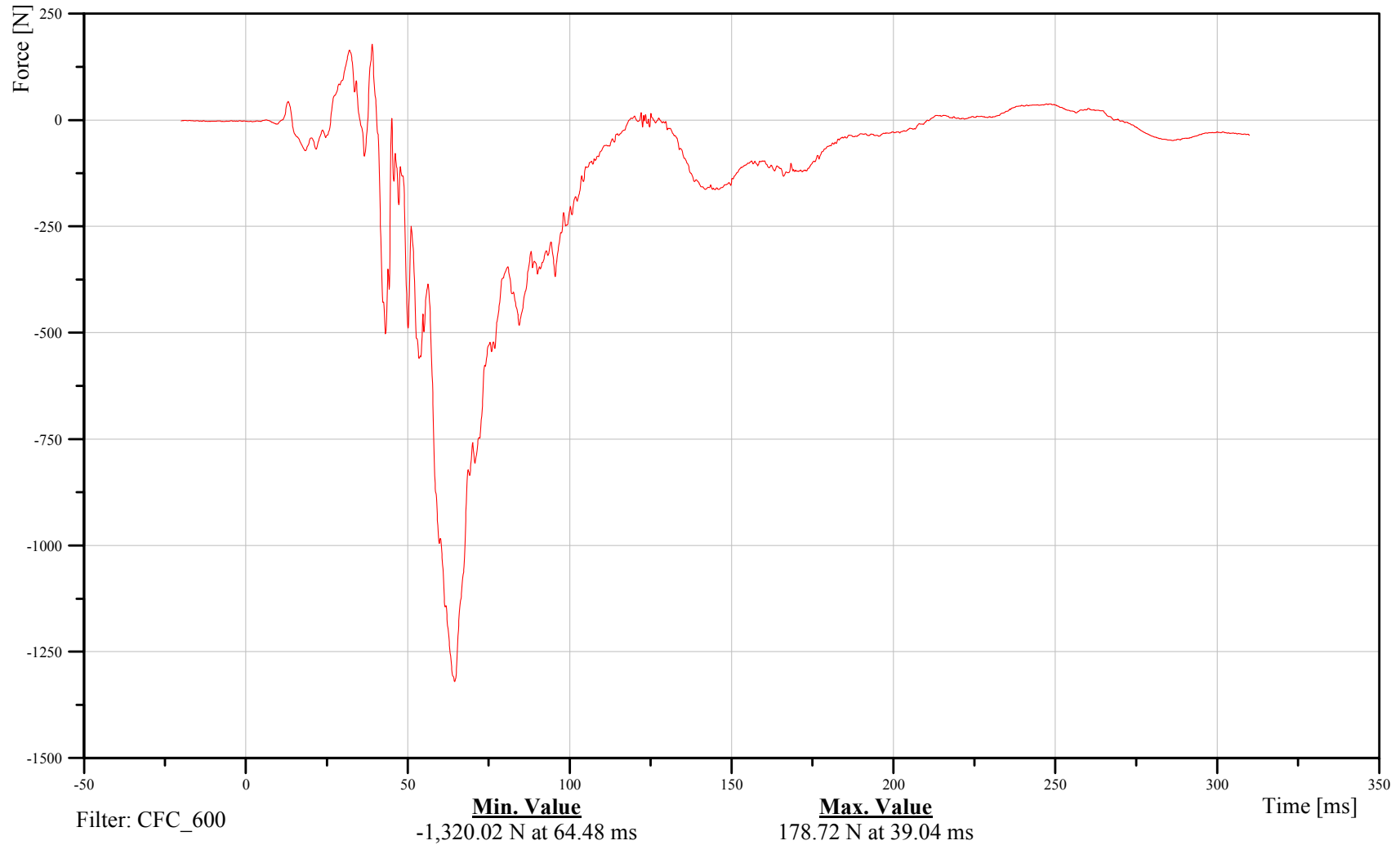
Target Passenger Left Upper Tibia Z-Axis Force

Customer: VRTC

13TIBILUFXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906



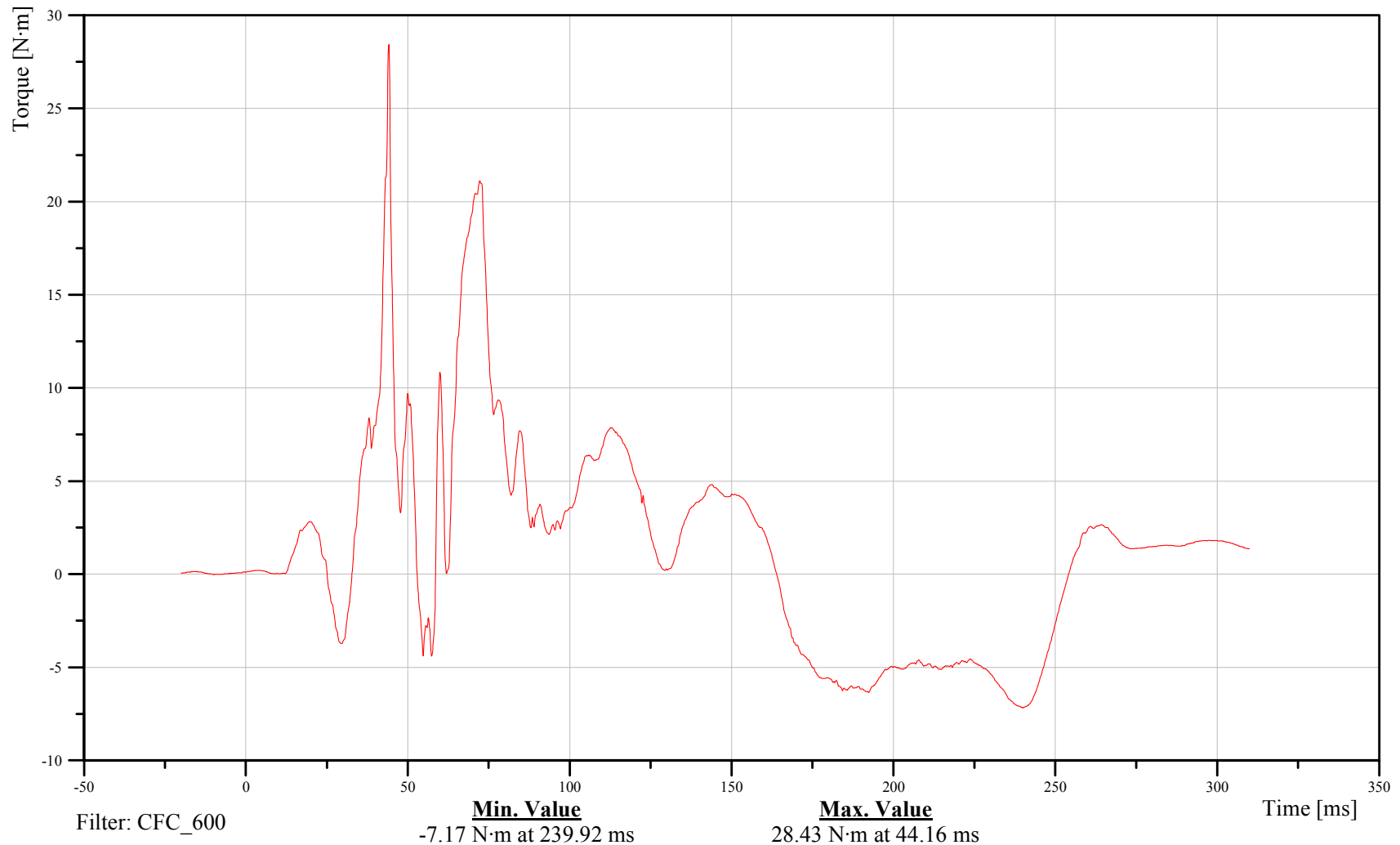


Customer: VRTC

13TIBILUFXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

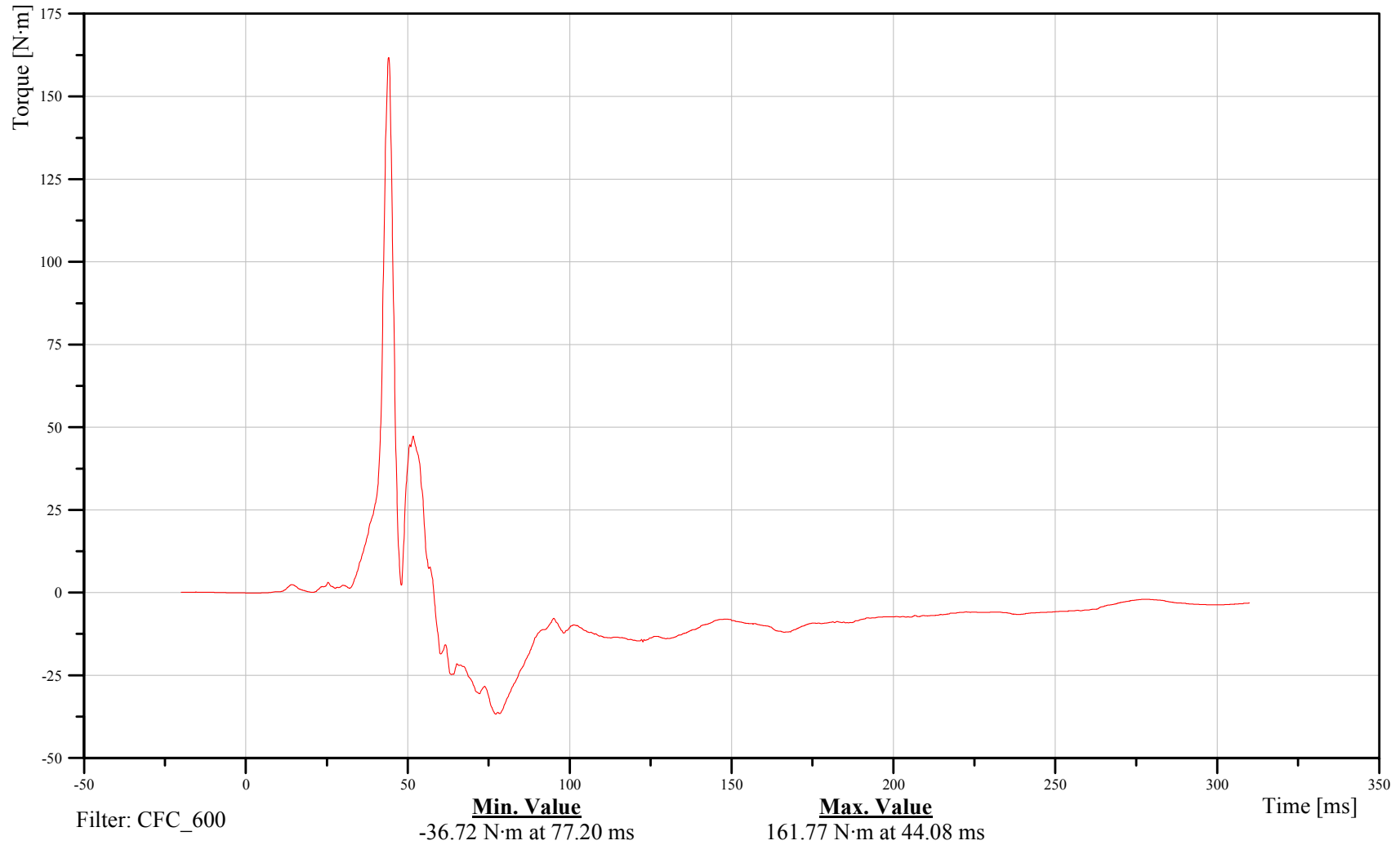
Target Passenger Left Upper Tibia Moment About Y Axis

Customer: VRTC

13TIBILUFXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

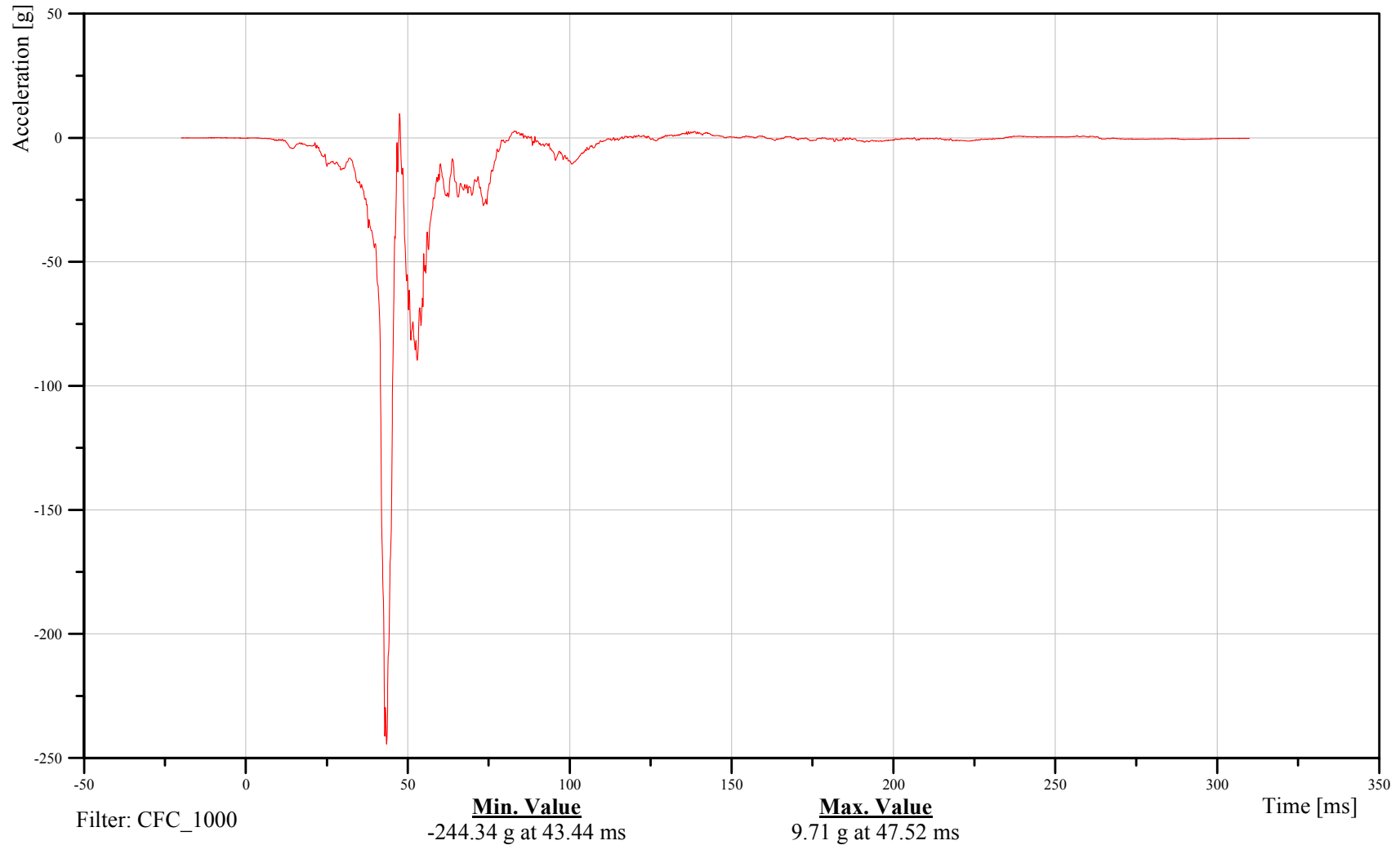
Target Passenger Left Tibia X-Axis Acceleration

Customer: VRTC

13TIBILEFXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





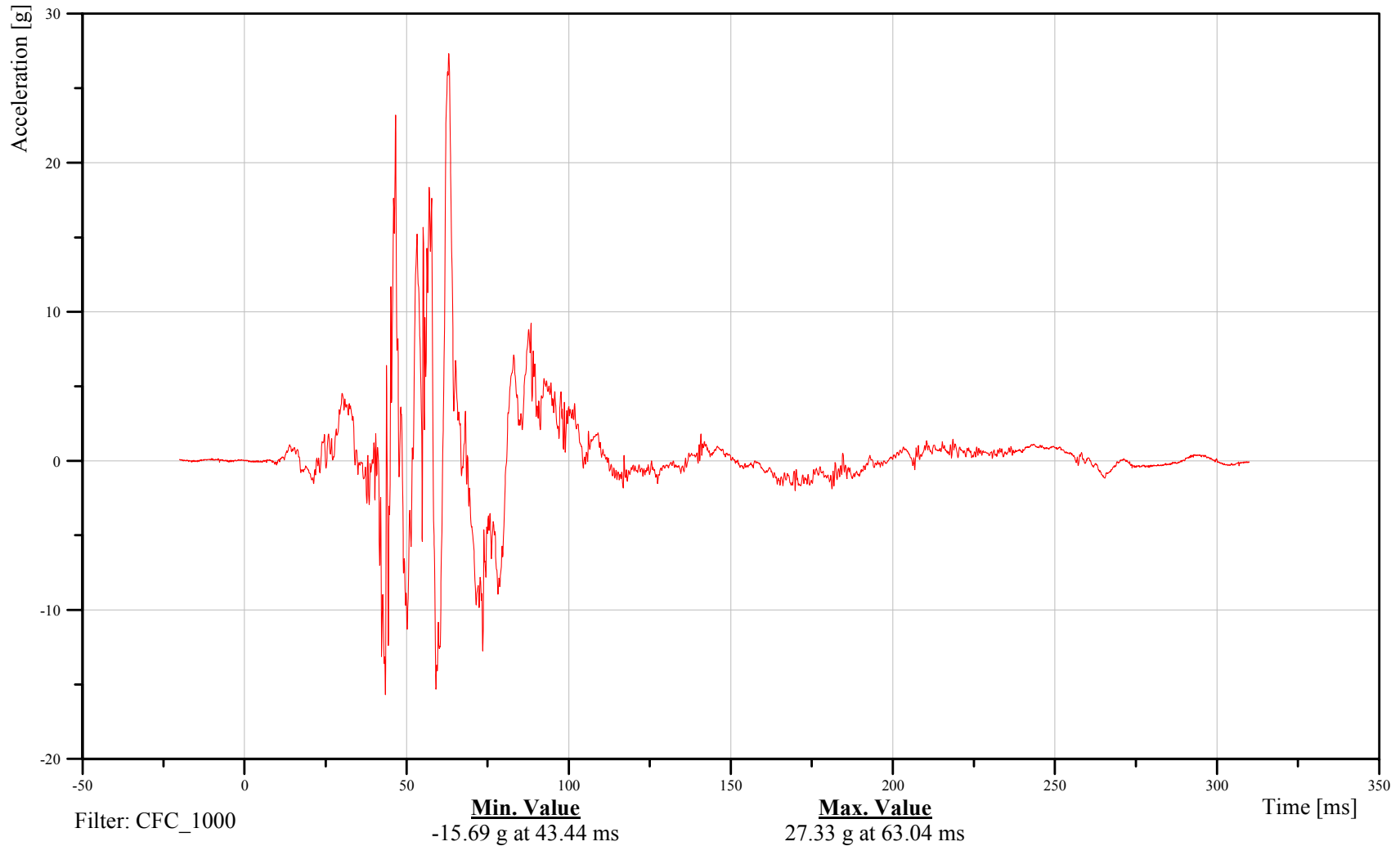
Target Passenger Left Tibia Y-Axis Acceleration

Customer: VRTC

13TIBILEFXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

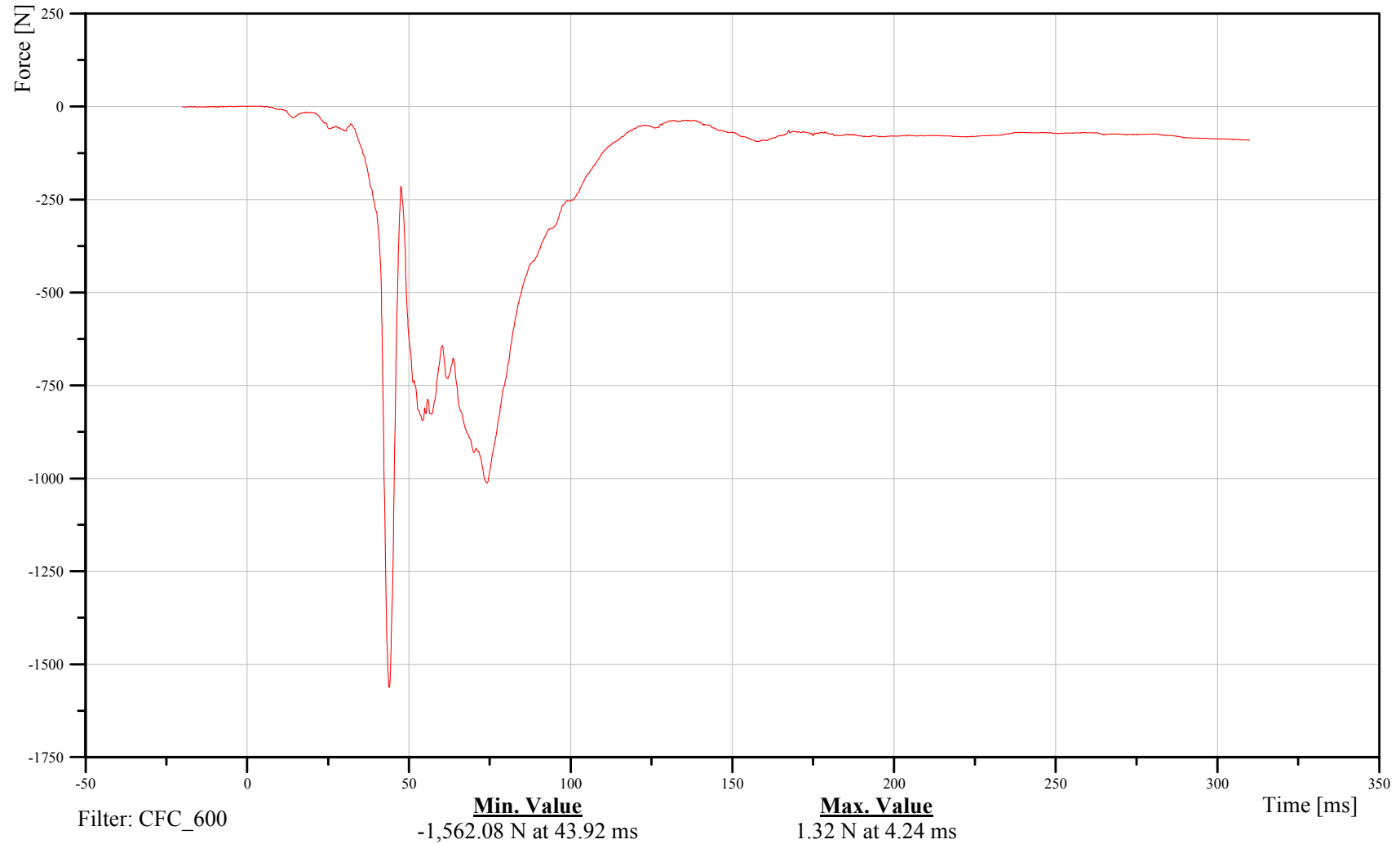
Target Passenger Left Lower Tibia X-Axis Force

Customer: VRTC

13TIBILLFXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

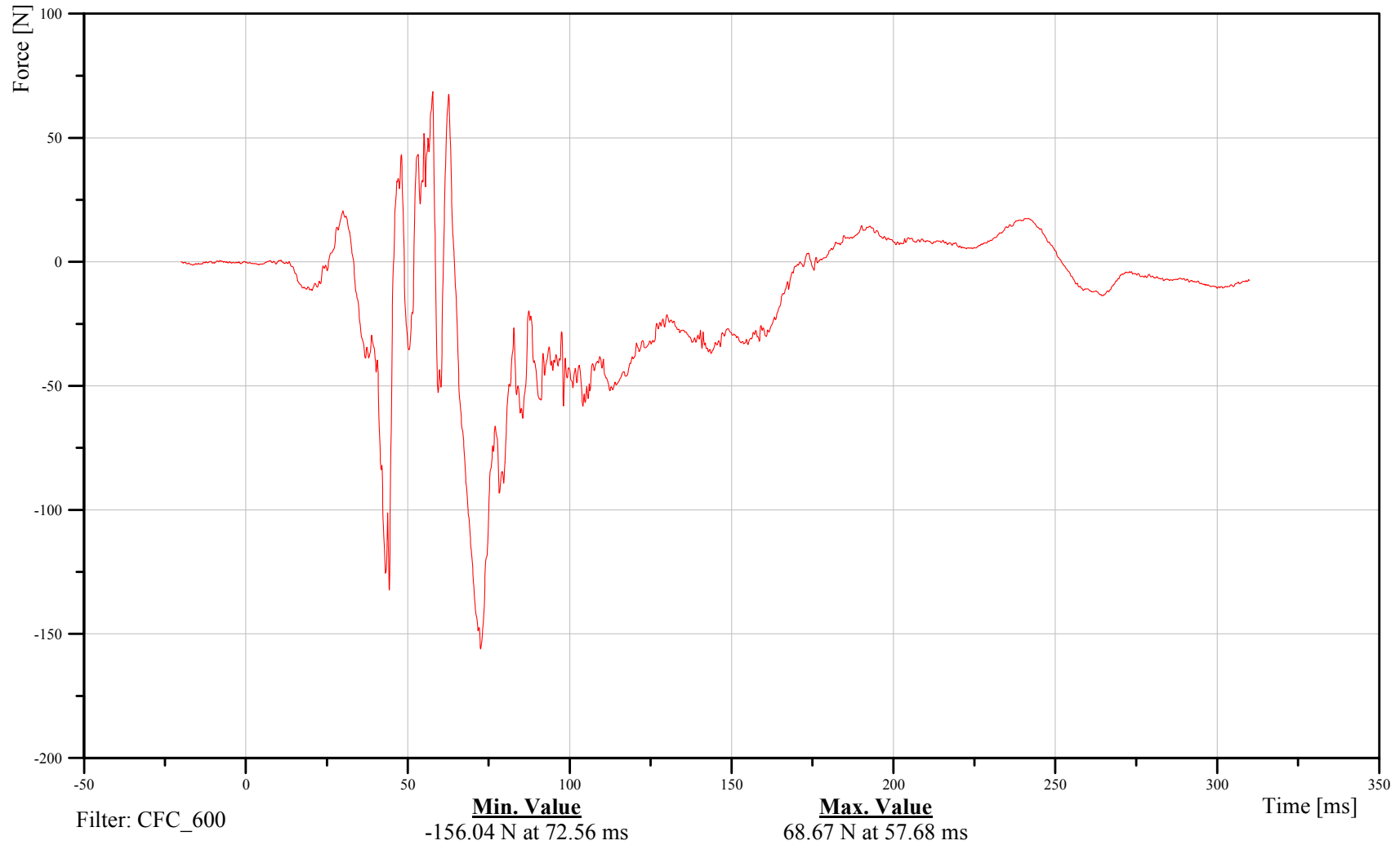
Target Passenger Left Lower Tibia Y-Axis Force

Customer: VRTC

13TIBILLFXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

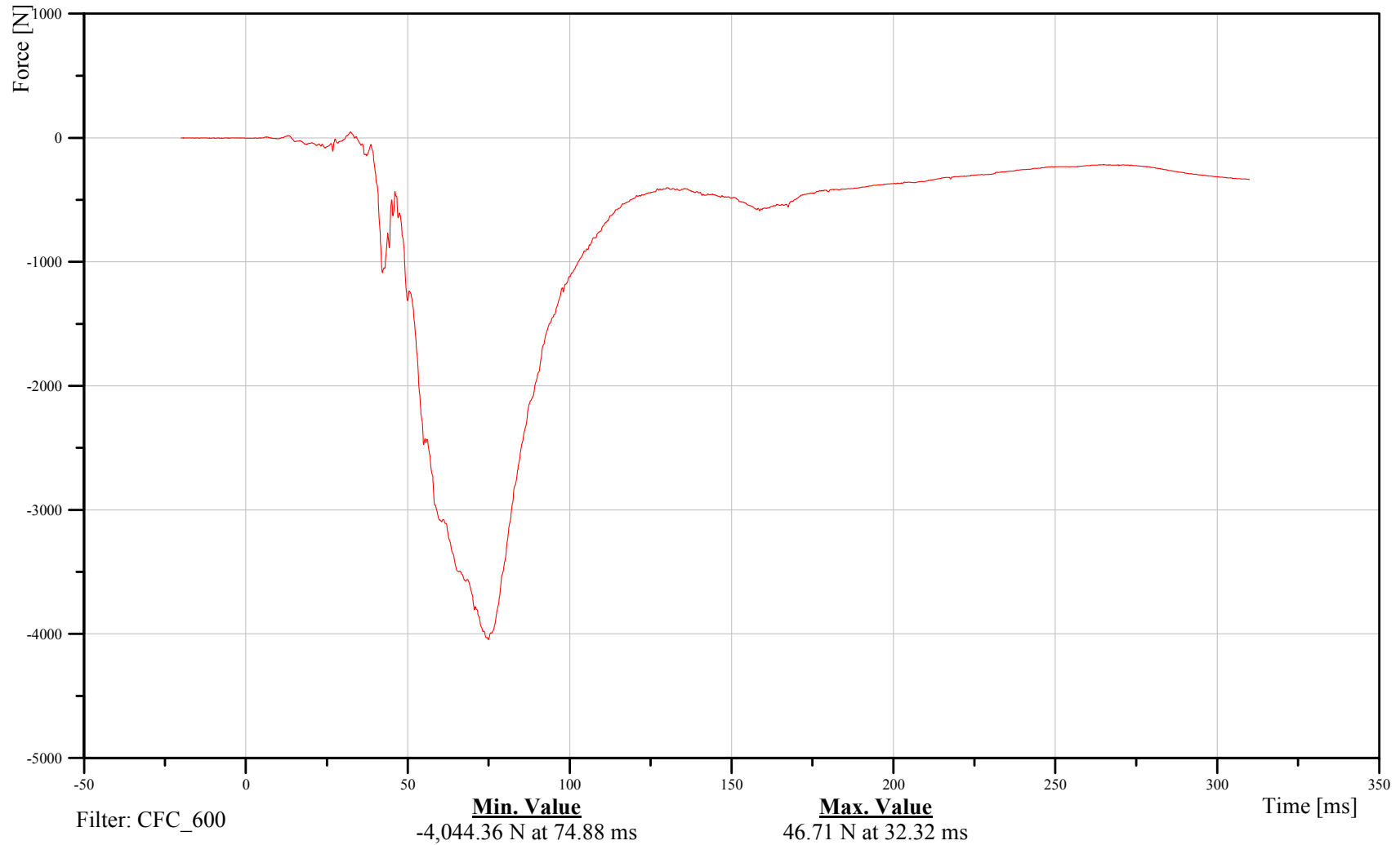
Target Passenger Left Lower Tibia Z-Axis Force

Customer: VRTC

13TIBILLFXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





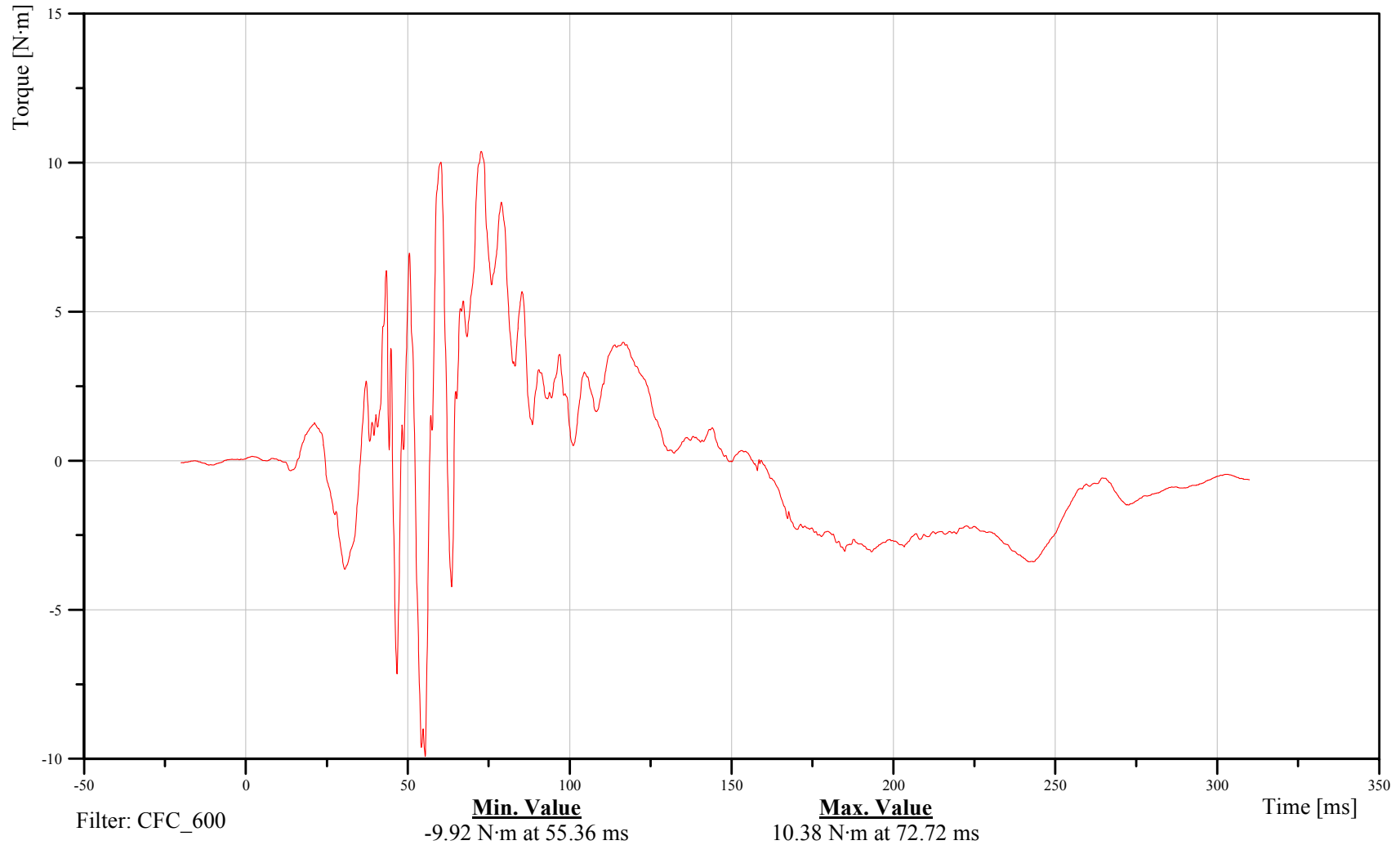
Target Passenger Left Lower Tibia Moment About X Axis

Customer: VRTC

13TIBILLFXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Passenger Left Lower Tibia Moment About Y Axis

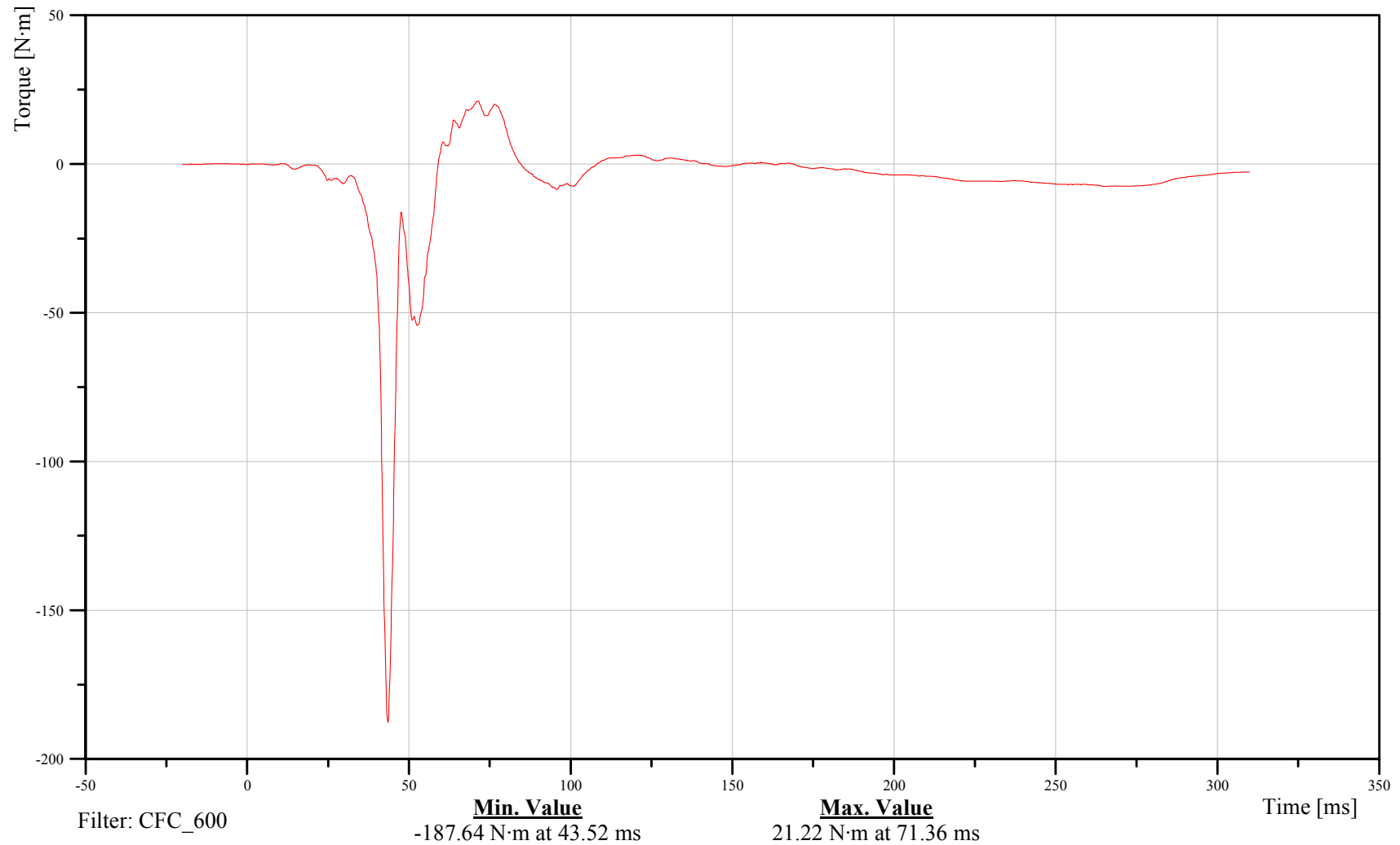
Time: 12:43

Customer: VRTC

13TIBILLFXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





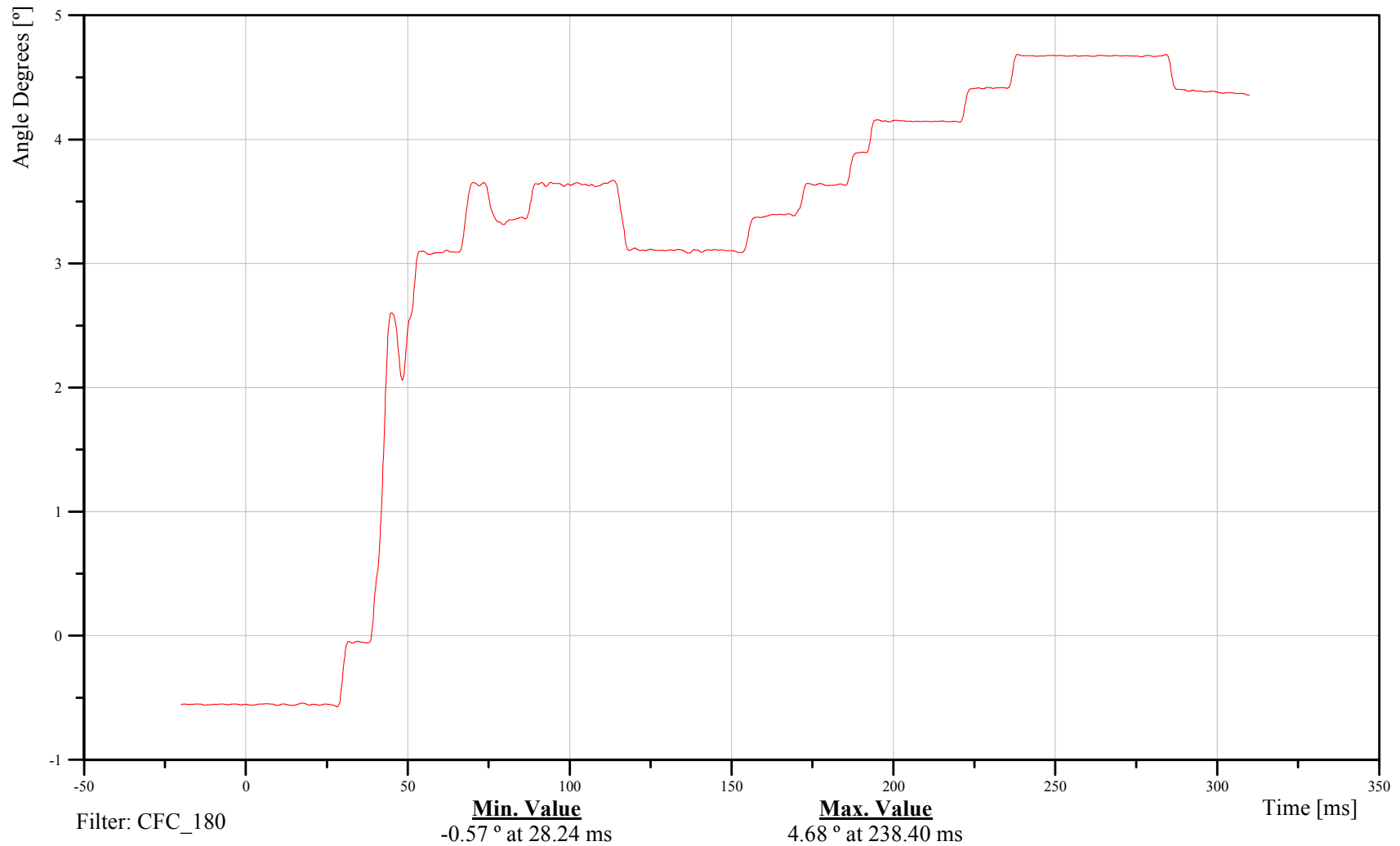
Target Passenger Left Foot X-Axis Rotation

Customer: VRTC

13FOOTLEFXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





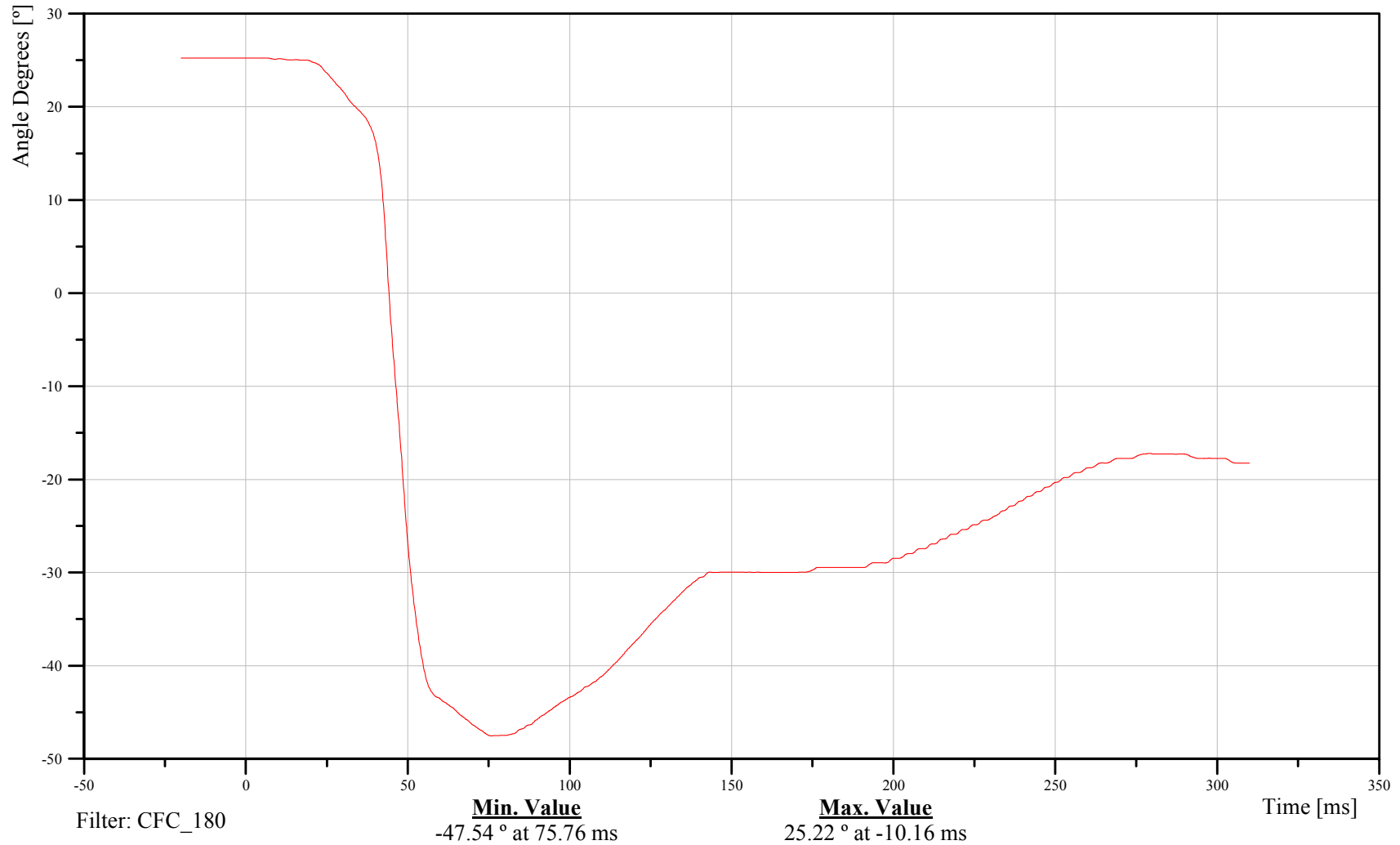
Target Passenger Left Foot Y-Axis Rotation

Customer: VRTC

13FOOTLEFXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





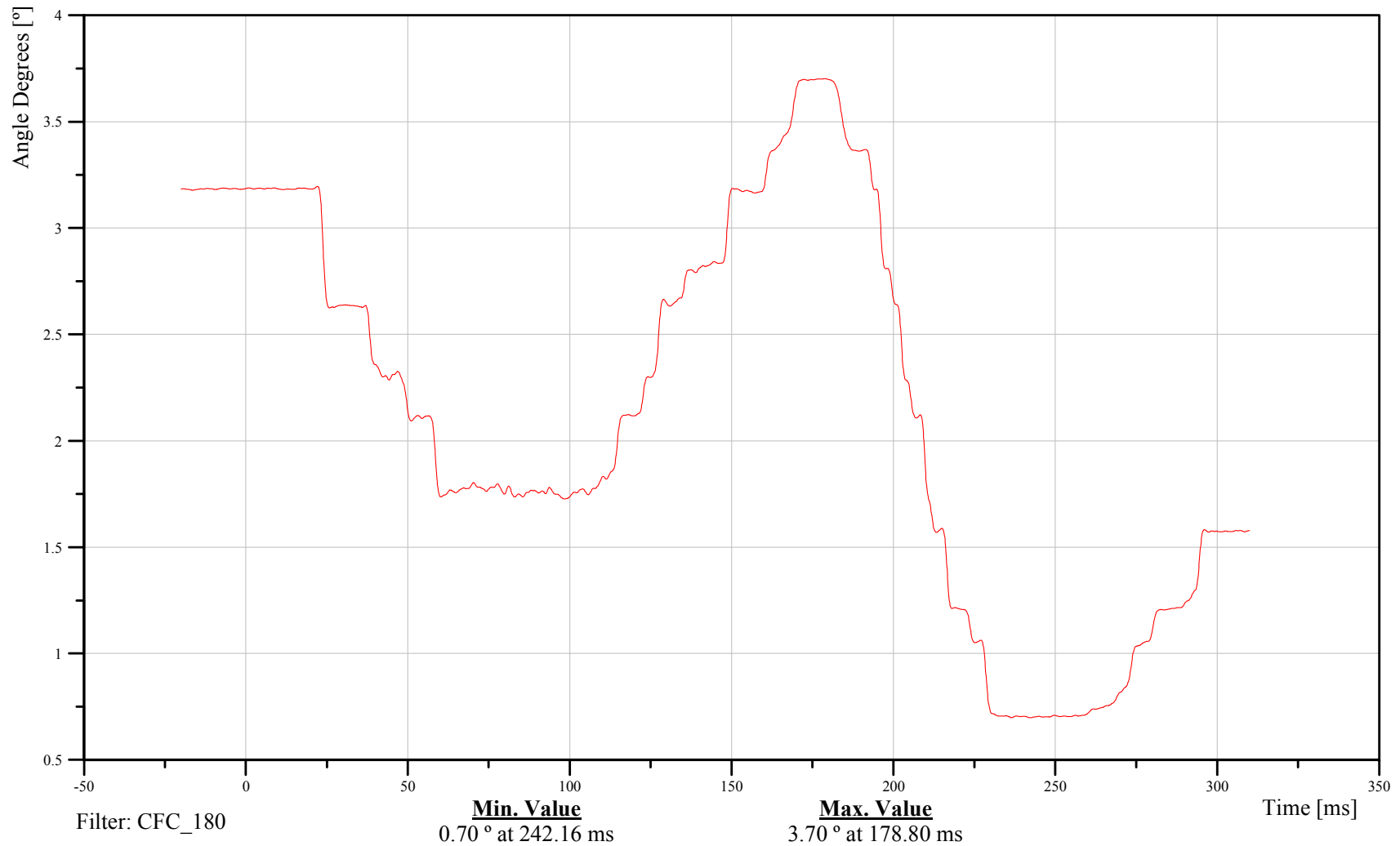
Target Passenger Left Foot Z-Axis Rotation

Customer: VRTC

13FOOTLEFXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

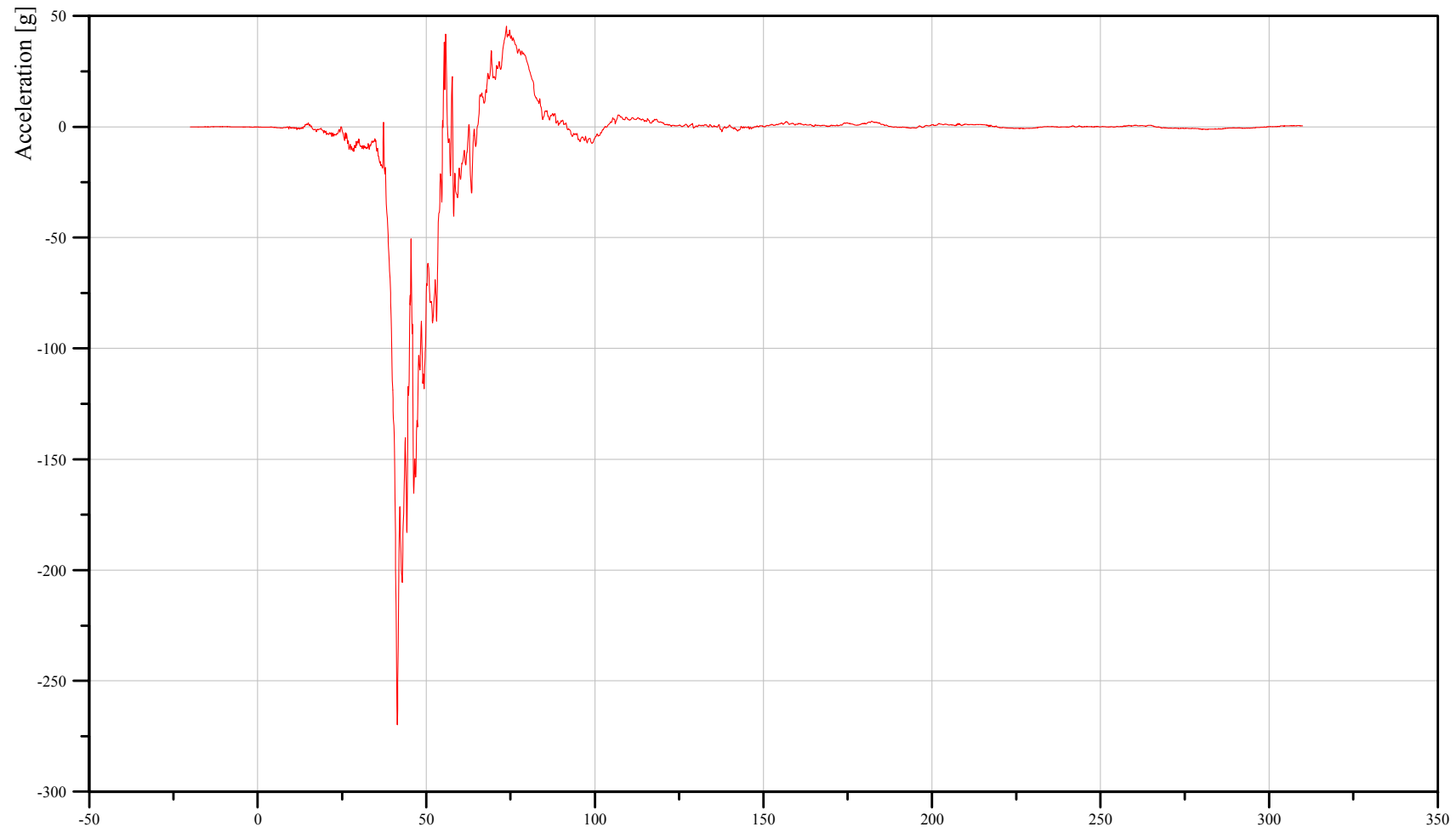
Target Passenger Left Foot X-Axis Acceleration

Customer: VRTC

13FOOTLEFXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906



Filter: CFC_1000

Min. Value
-269.76 g at 41.44 ms

Max. Value
45.41 g at 73.76 ms

Time [ms]



2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

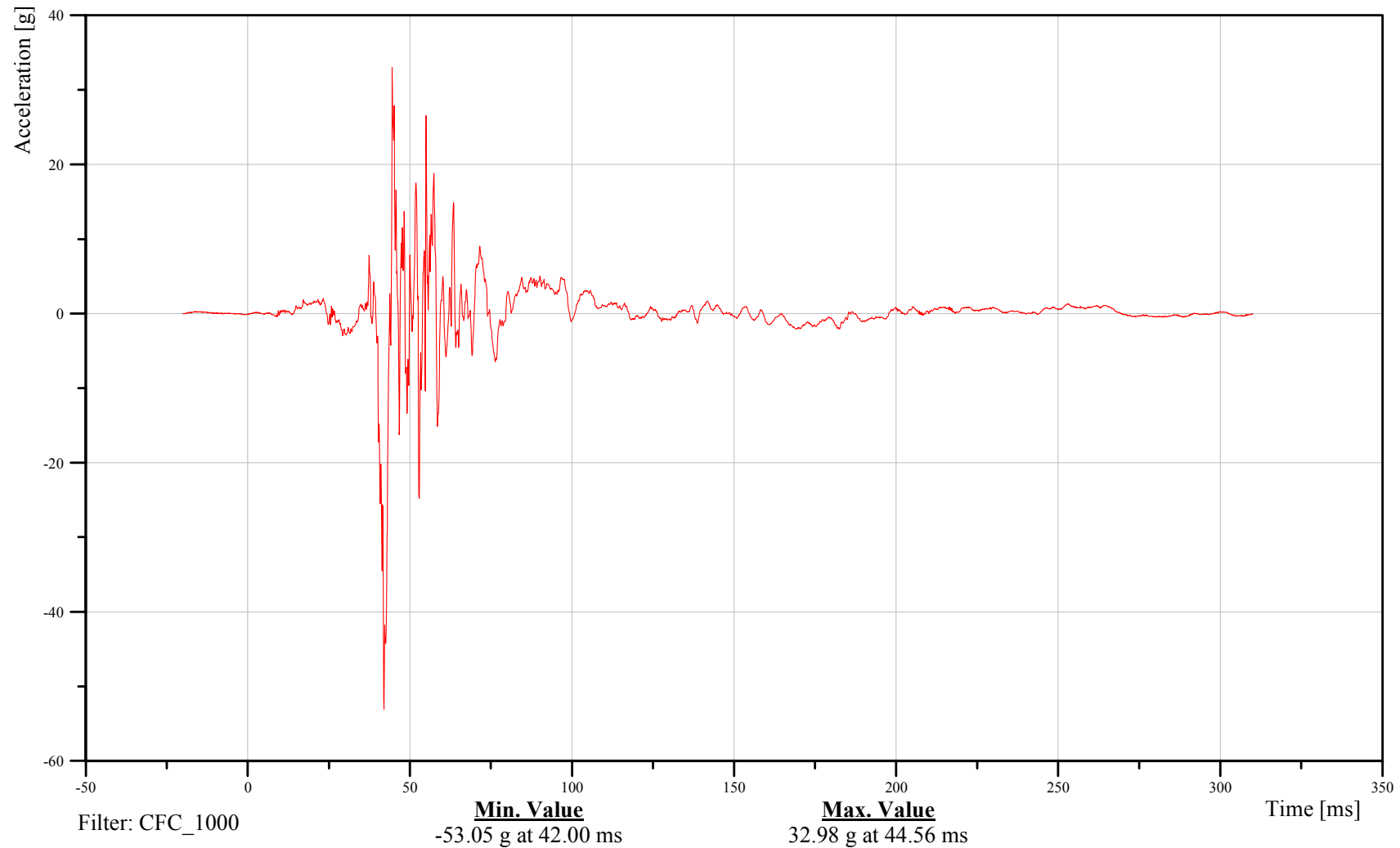
Target Passenger Left Foot Y-Axis Acceleration

Customer: VRTC

13FOOTLEFXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

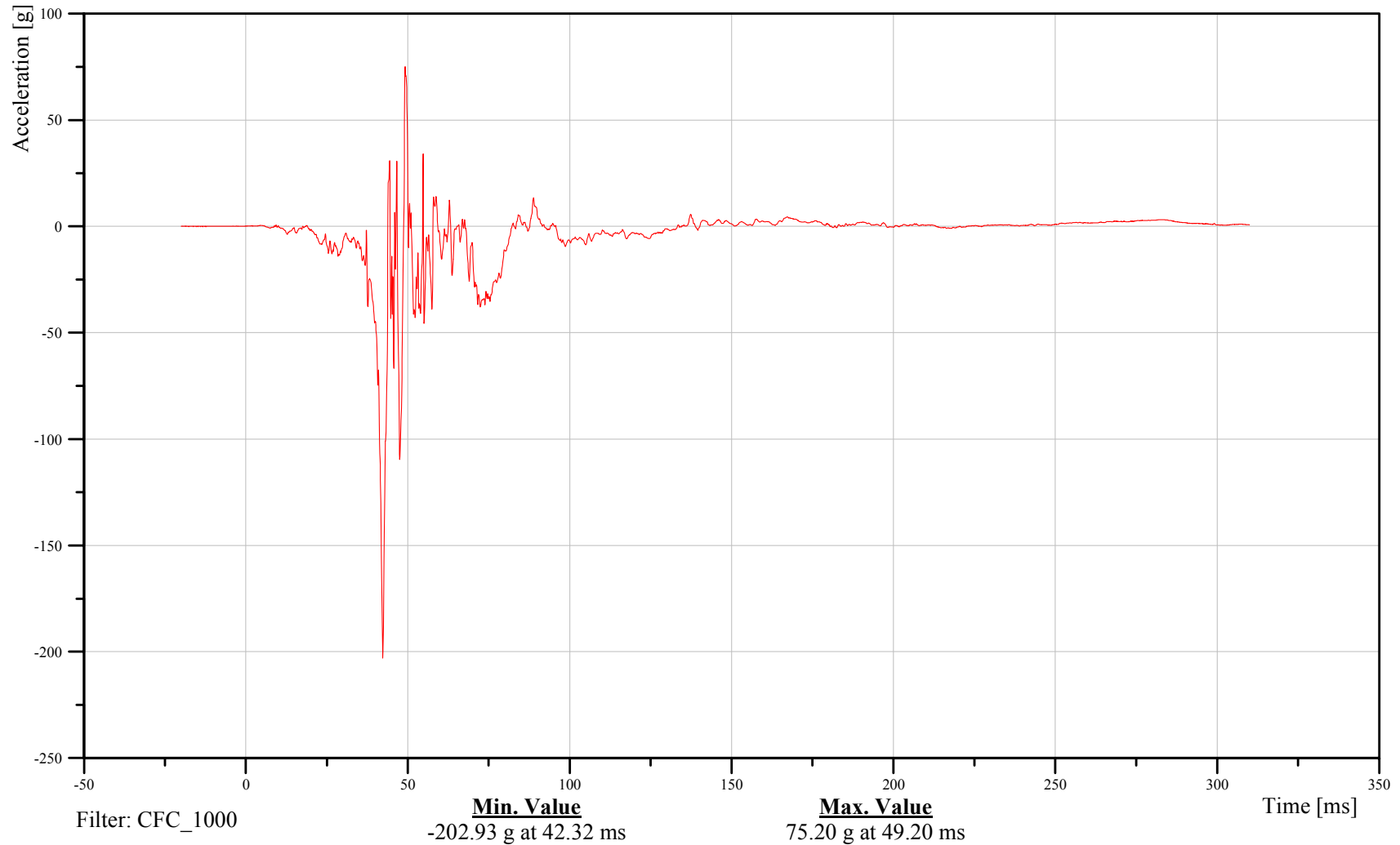
Target Passenger Left Foot Z-Axis Acceleration

Customer: VRTC

13FOOTLEFXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

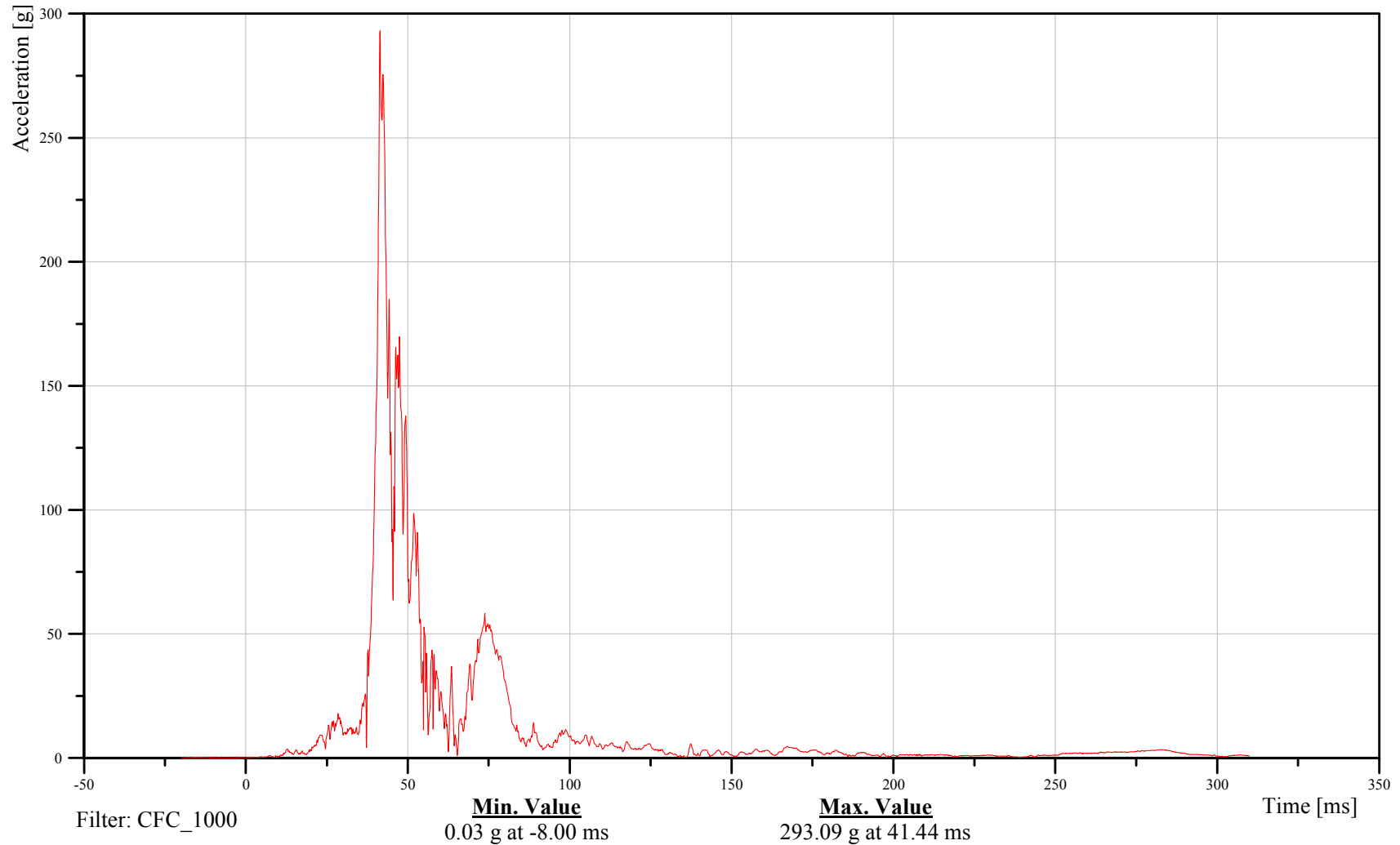
Target Passenger Left Foot Resultant Acceleration

Customer: VRTC

13FOOTLEFXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

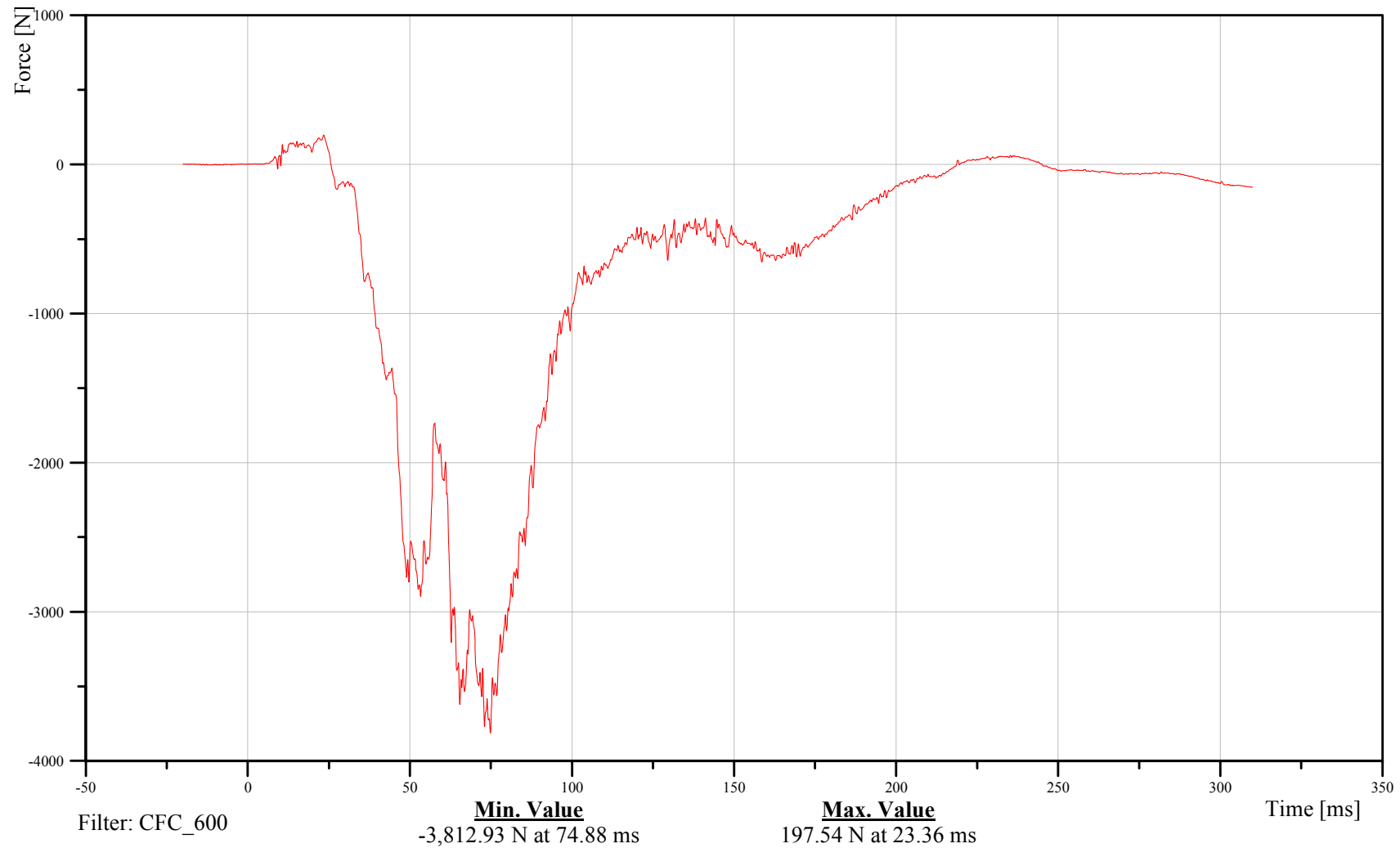
Target Passenger Right Femur Z-Axis Force

Customer: VRTC

13FEMRRL00HFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

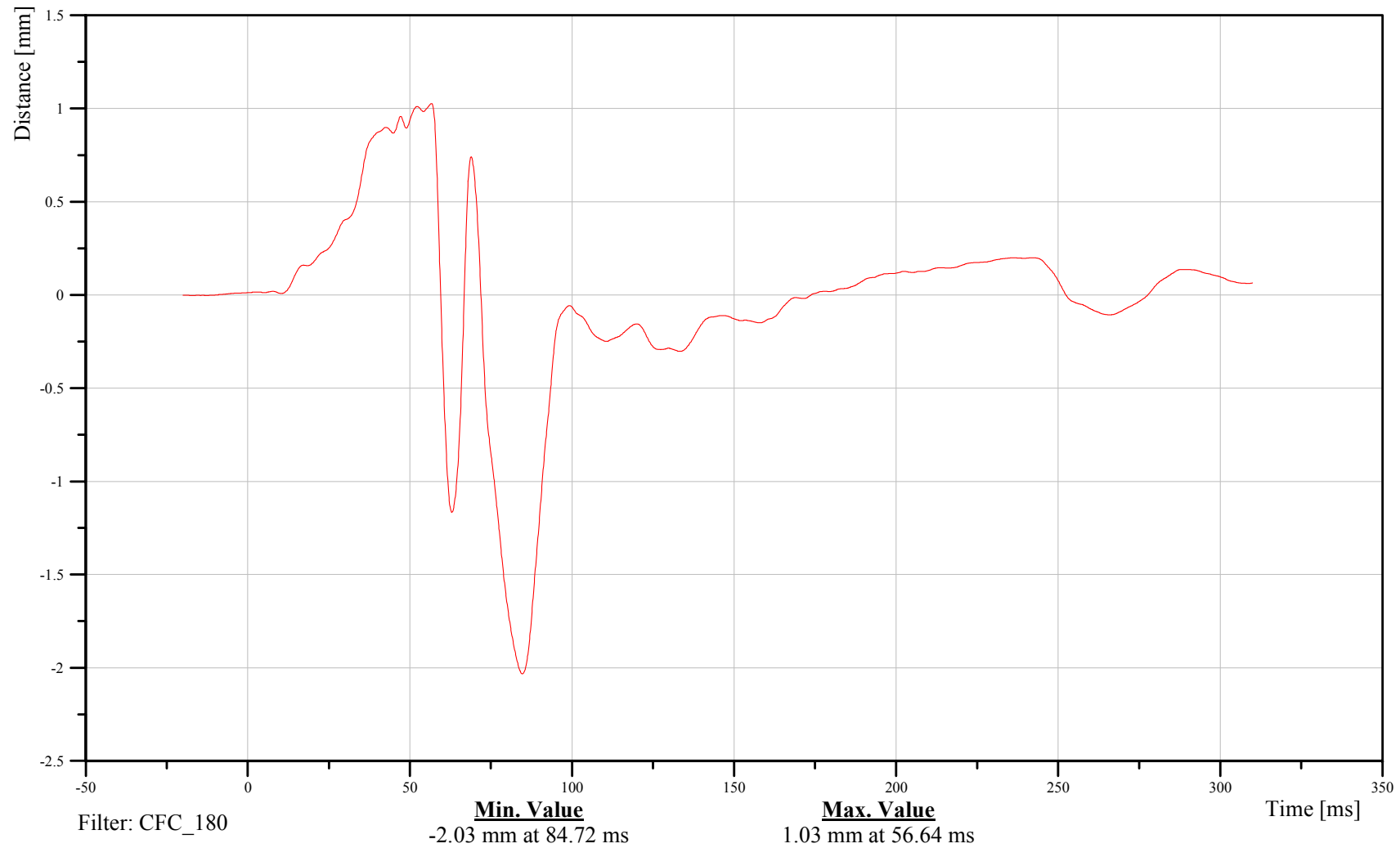
Target Passenger Right Knee Displacement

Customer: VRTC

13KNSLRI00HFDSXC

TRC Inc. Test Lab: CTF

Test Number: 050906



Filter: CFC_180

Min. Value
-2.03 mm at 84.72 ms

Max. Value
1.03 mm at 56.64 ms

Time [ms]



2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

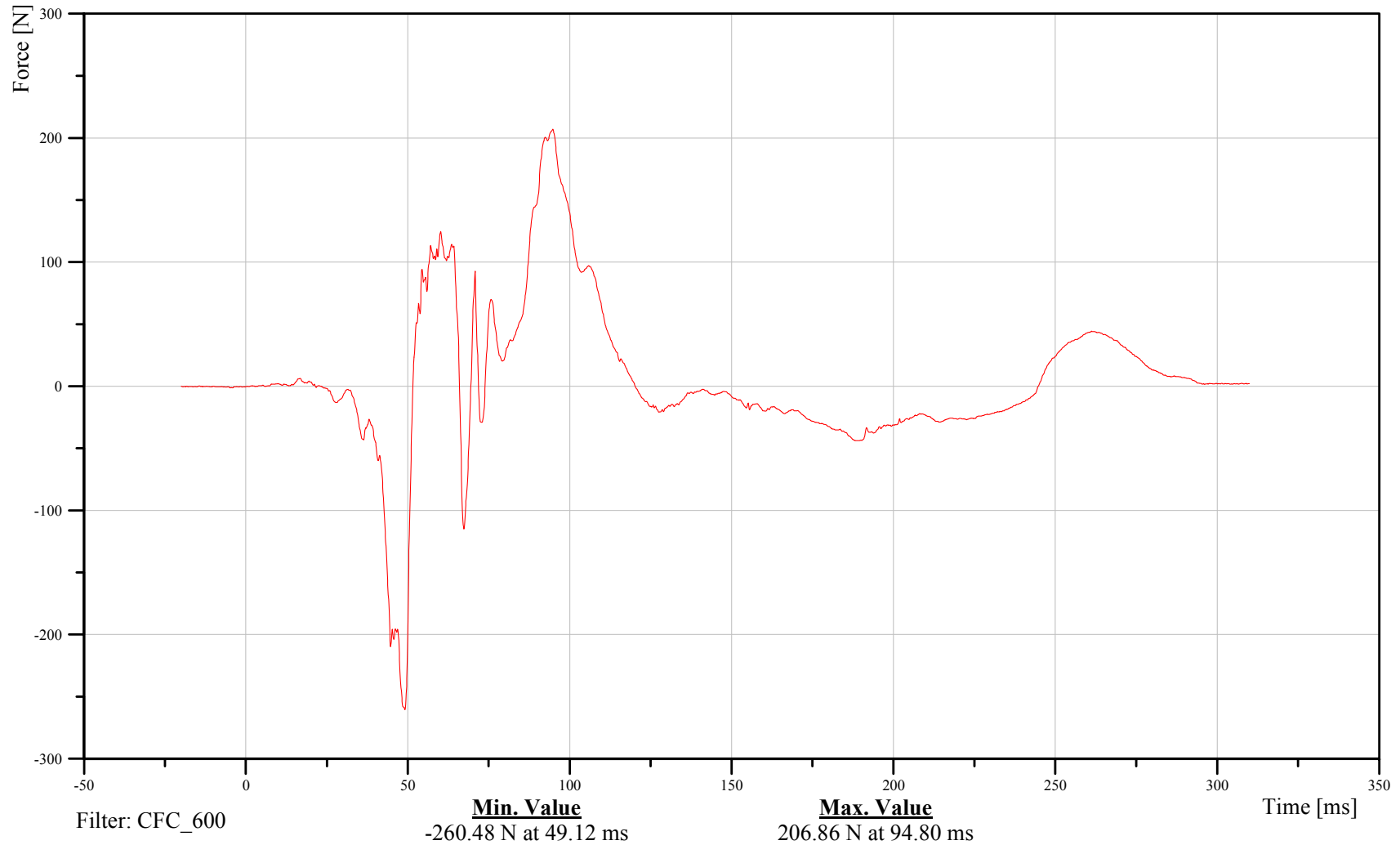
Target Passenger Right Upper Tibia X-Axis Force

Customer: VRTC

13TIBIRUFXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

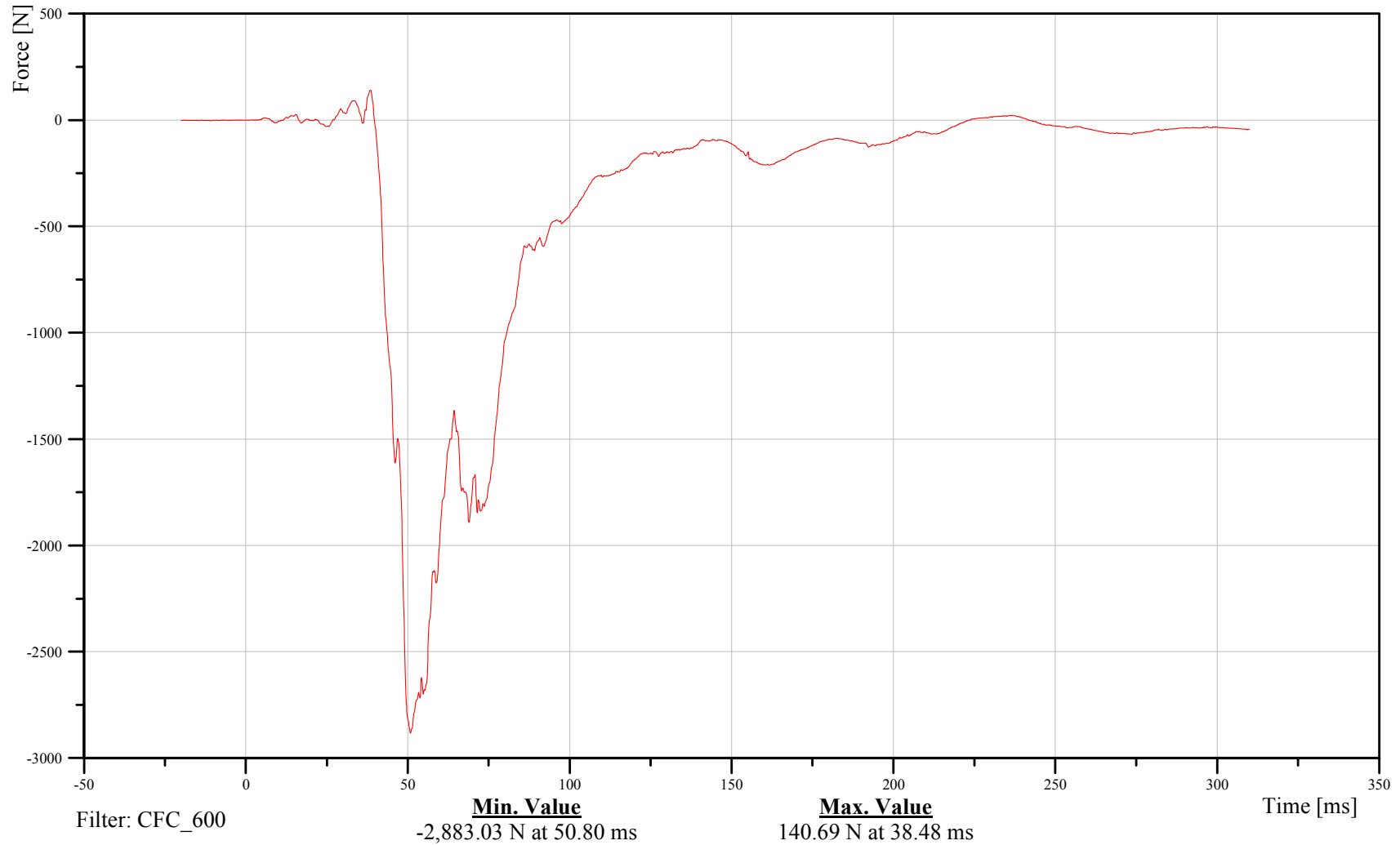
Target Passenger Right Upper Tibia Z-Axis Force

Customer: VRTC

13TIBIRUFXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





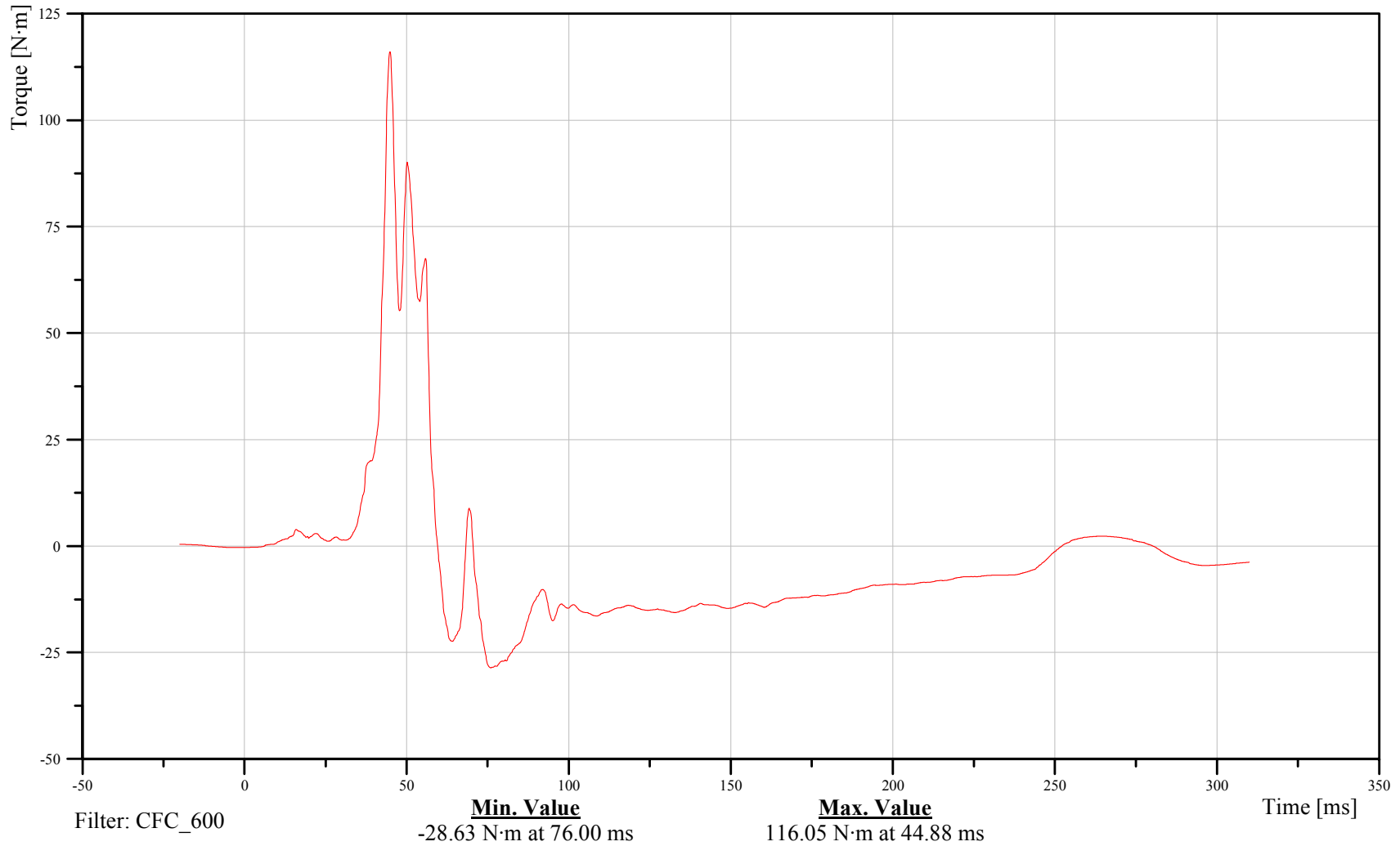
Target Passenger Right Upper Tibia Moment About X Axis

Customer: VRTC

13TIBIRUFXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





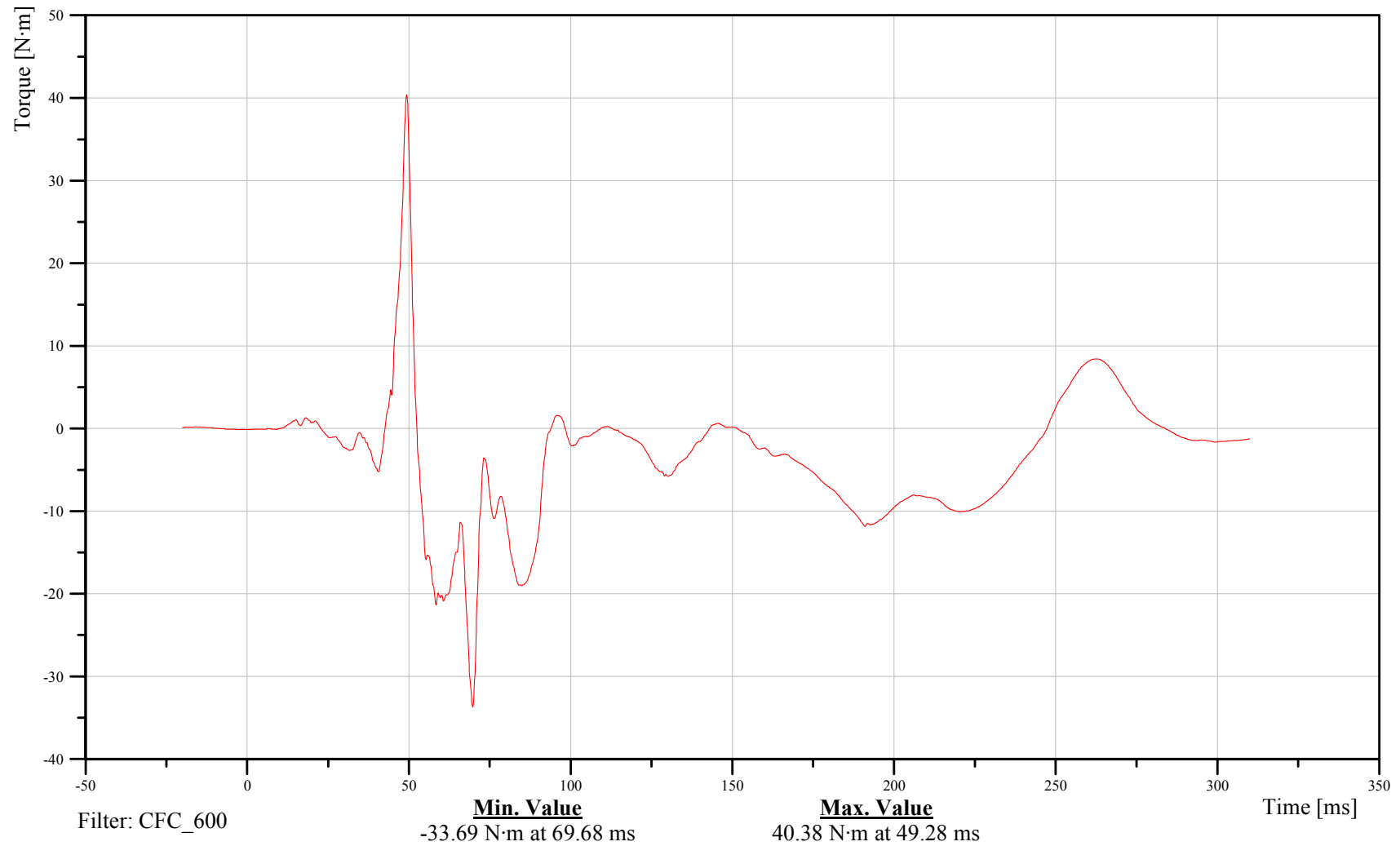
Target Passenger Right Upper Tibia Moment About Y Axis

Customer: VRTC

13TIBIRUFXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

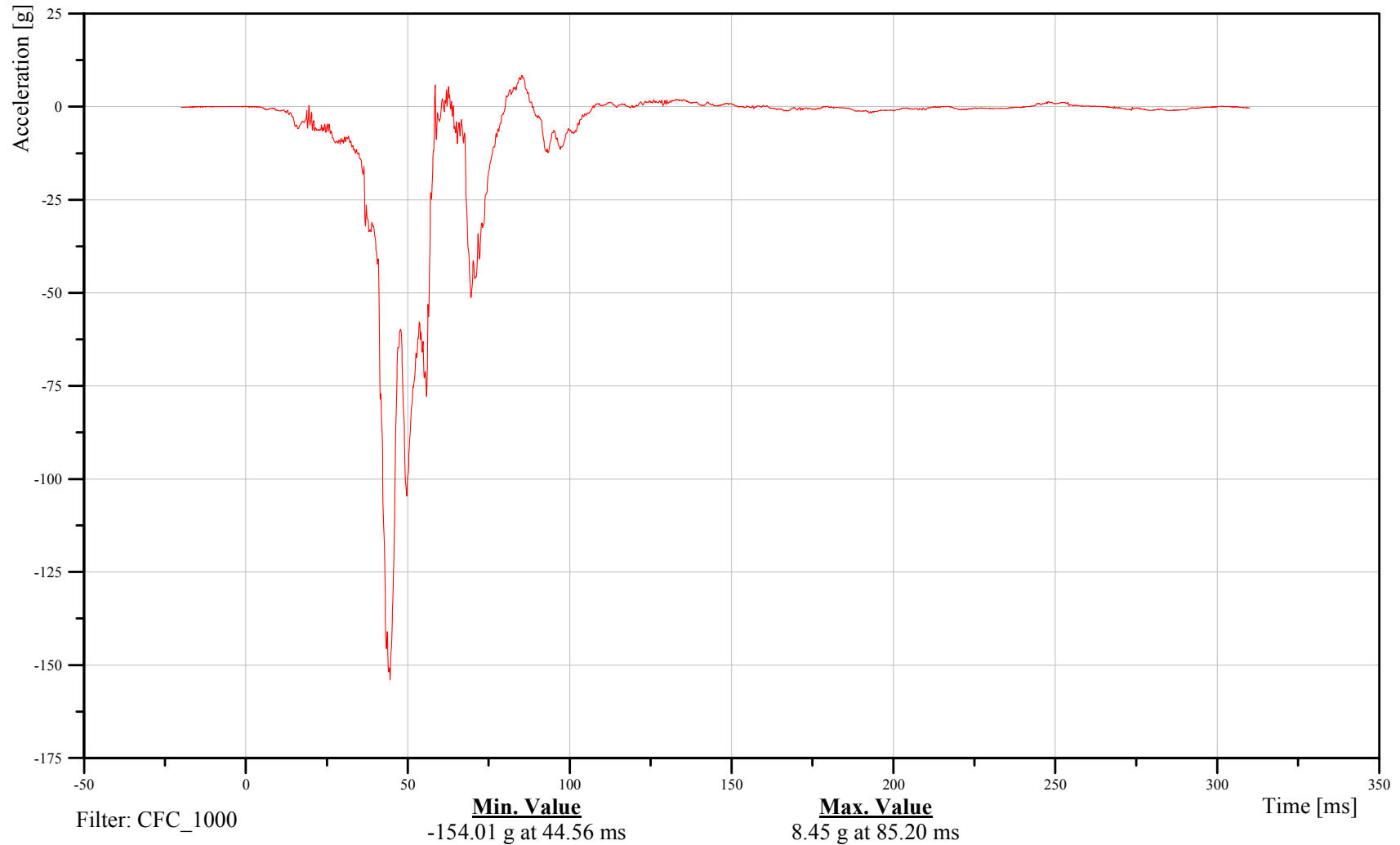
Target Passenger Right Tibia X-Axis Acceleration

Customer: VRTC

13TIBIRIFXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

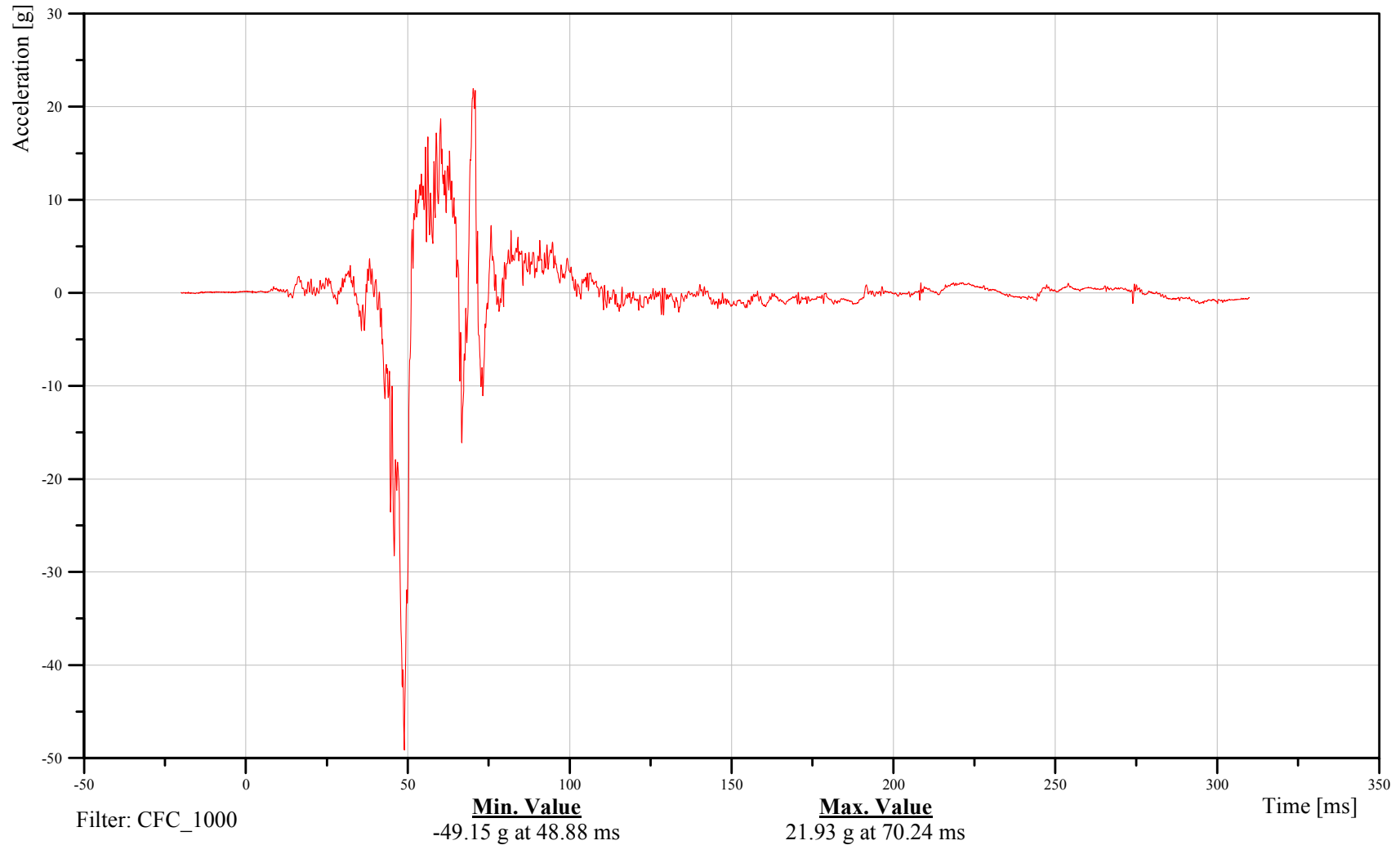
Target Passenger Right Tibia Y-Axis Acceleration

Customer: VRTC

13TIBIRIFXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

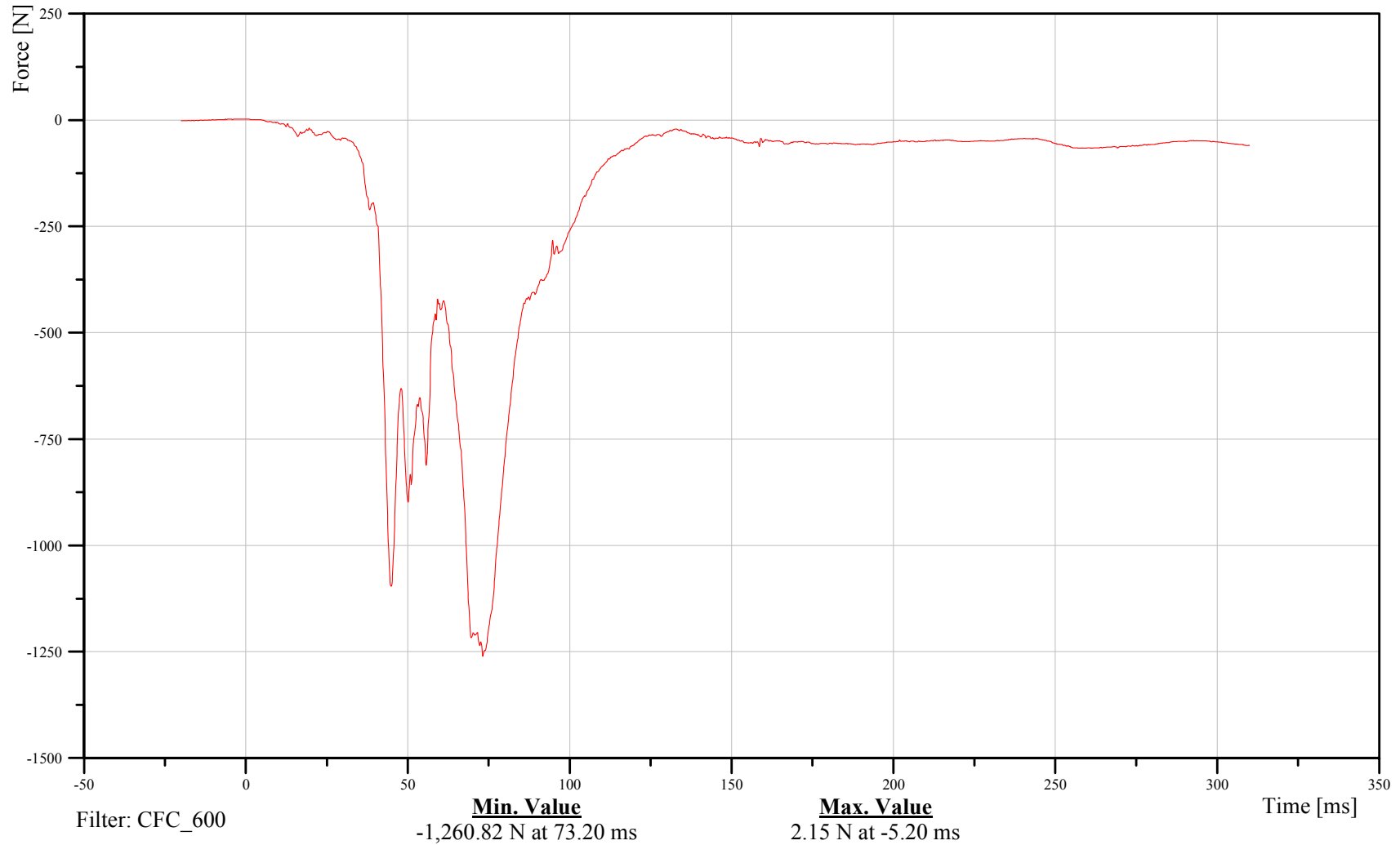
Target Passenger Right Lower Tibia X-Axis Force

Customer: VRTC

13TIBIRLFXHFFOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

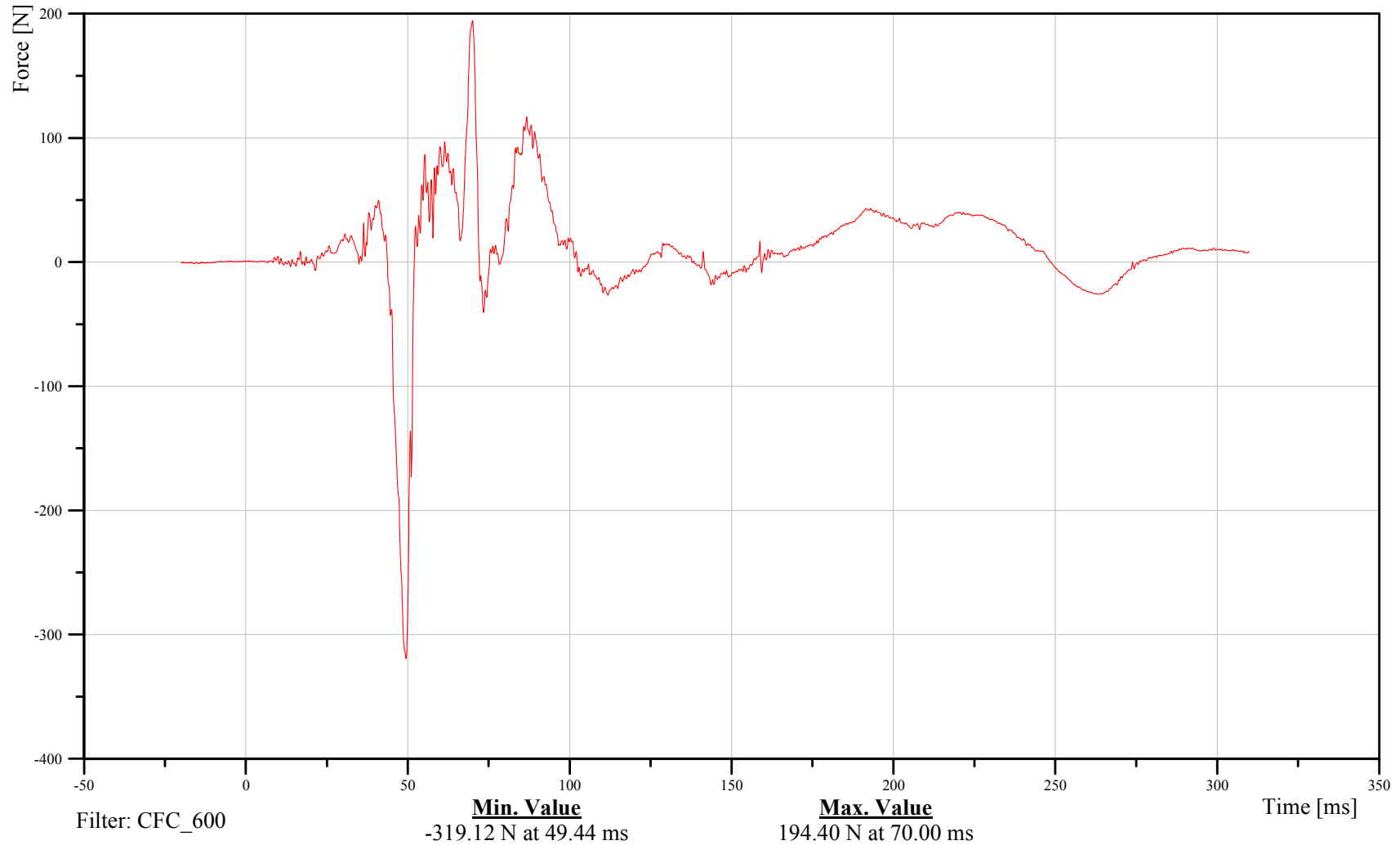
Target Passenger Right Lower Tibia Y-Axis Force

Customer: VRTC

13TIBIRLFXHFFOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

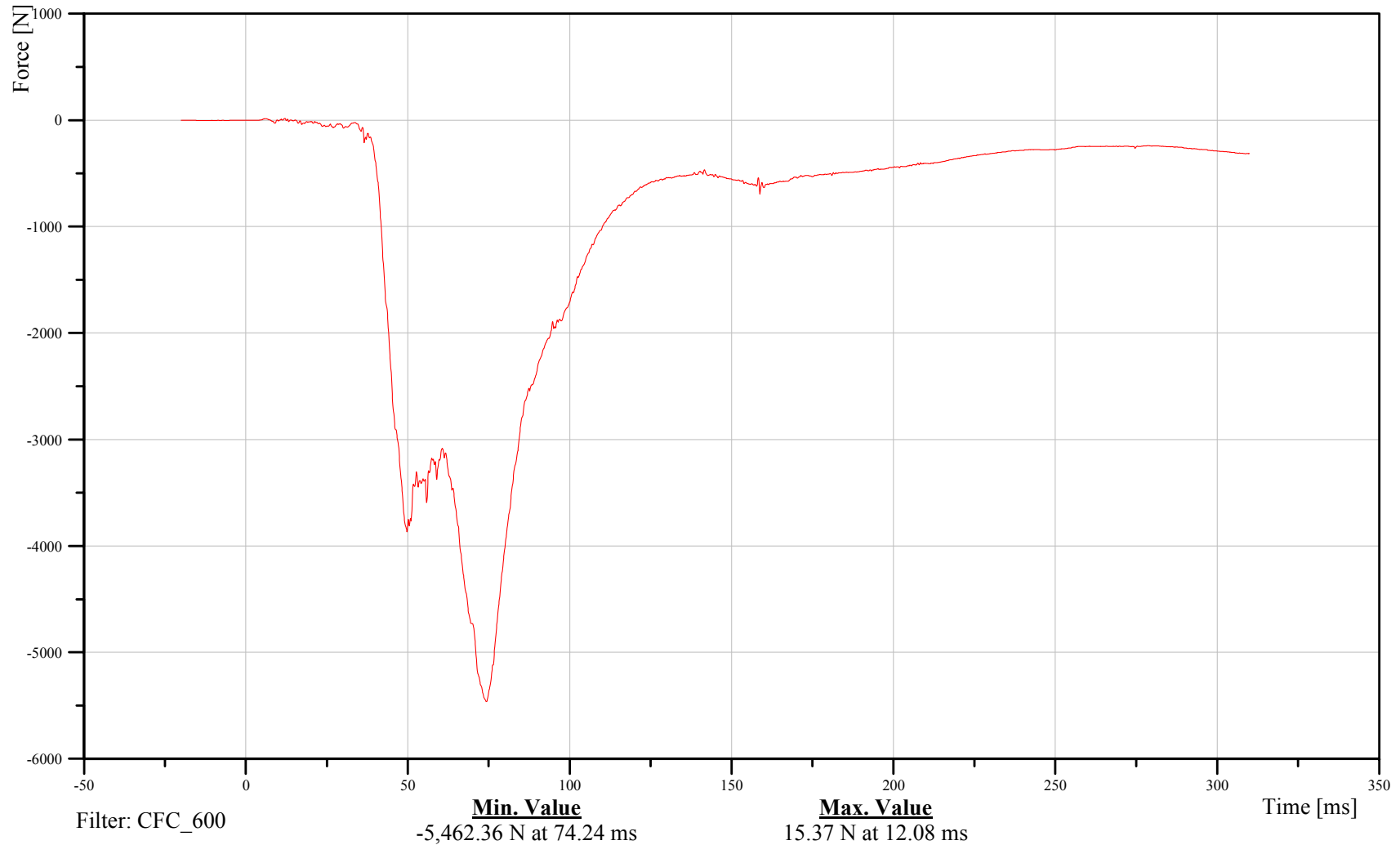
Target Passenger Right Lower Tibia Z-Axis Force

Customer: VRTC

13TIBIRLFXHFFOZB

TRC Inc. Test Lab: CTF

Test Number: 050906





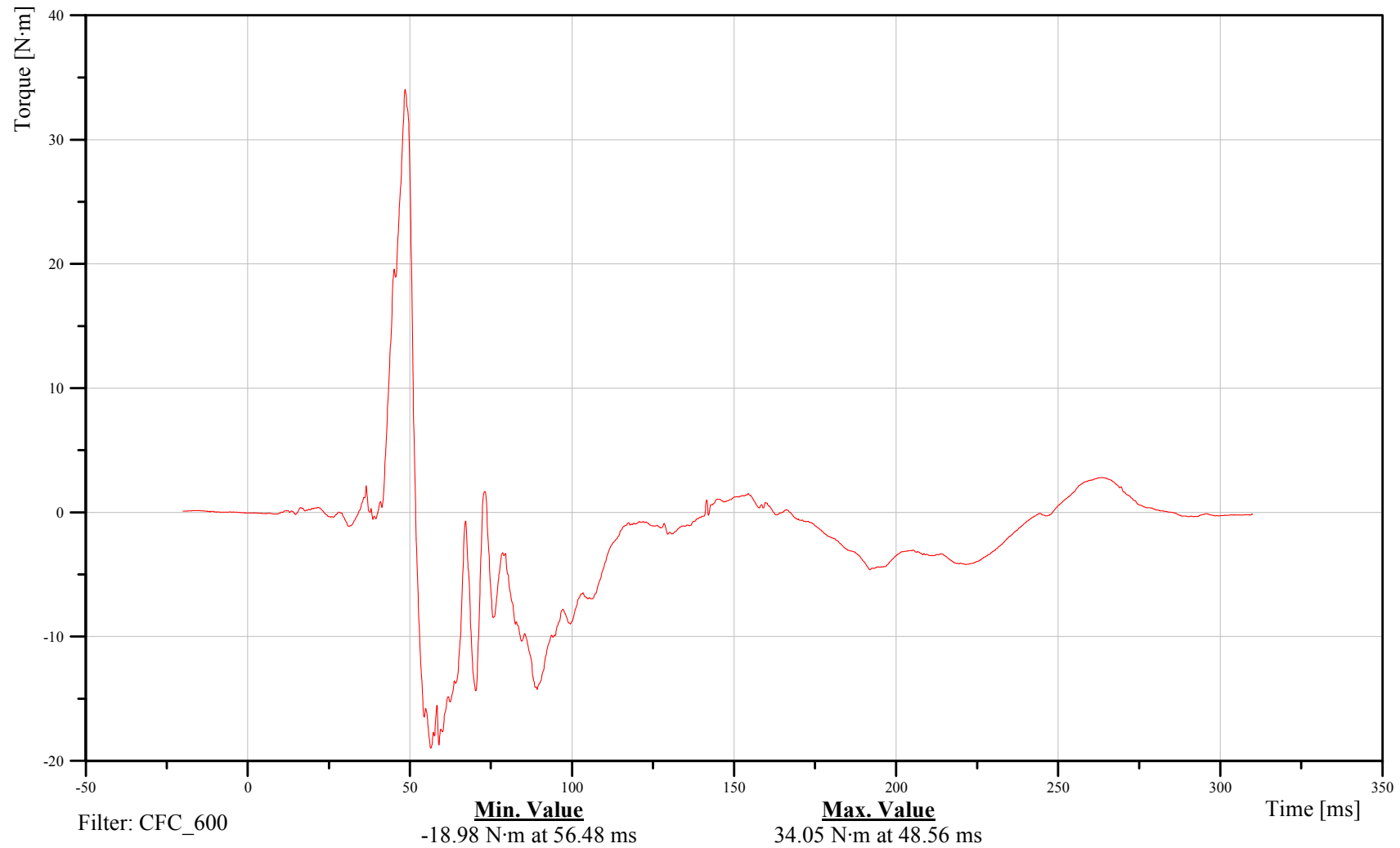
Target Passenger Right Lower Tibia Moment About X Axis

Customer: VRTC

13TIBIRLFXHFMOXB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

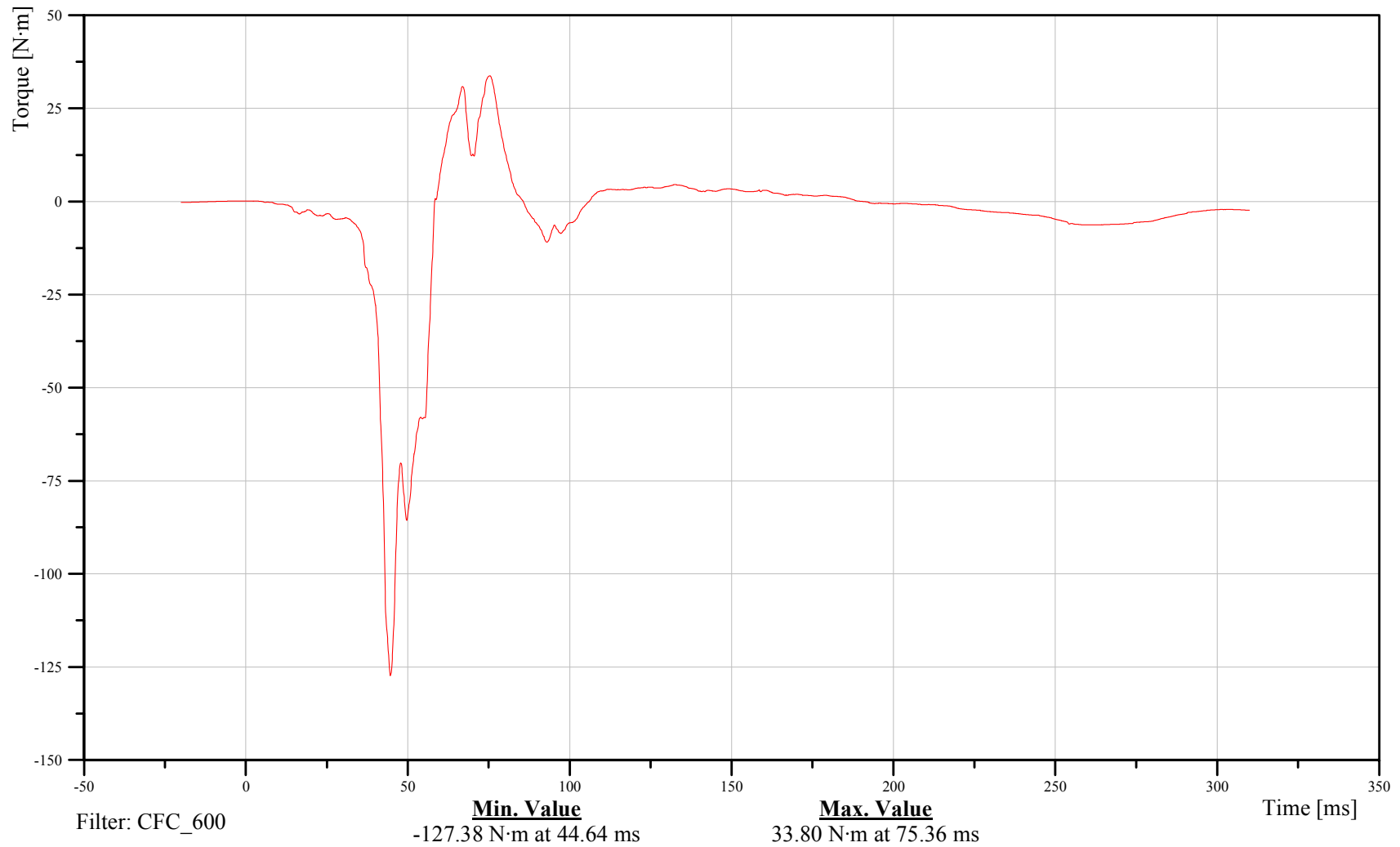
Target Passenger Right Lower Tibia Moment About Y Axis

Customer: VRTC

13TIBIRLFXHFMOYB

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

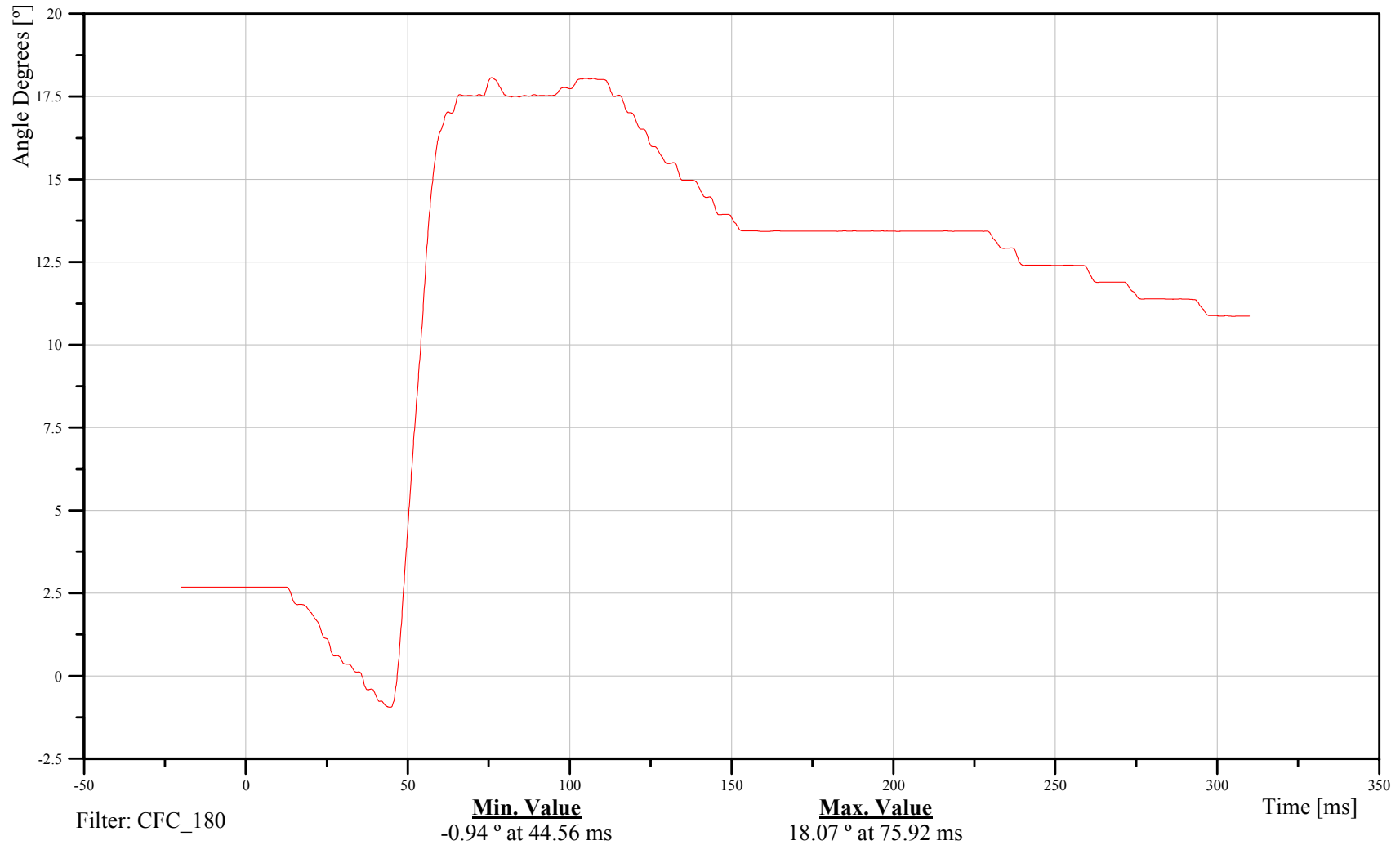
Target Passenger Right Foot X-Axis Rotation

Customer: VRTC

13FOOTRIFXHFANXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Passenger Right Foot Y-Axis Rotation

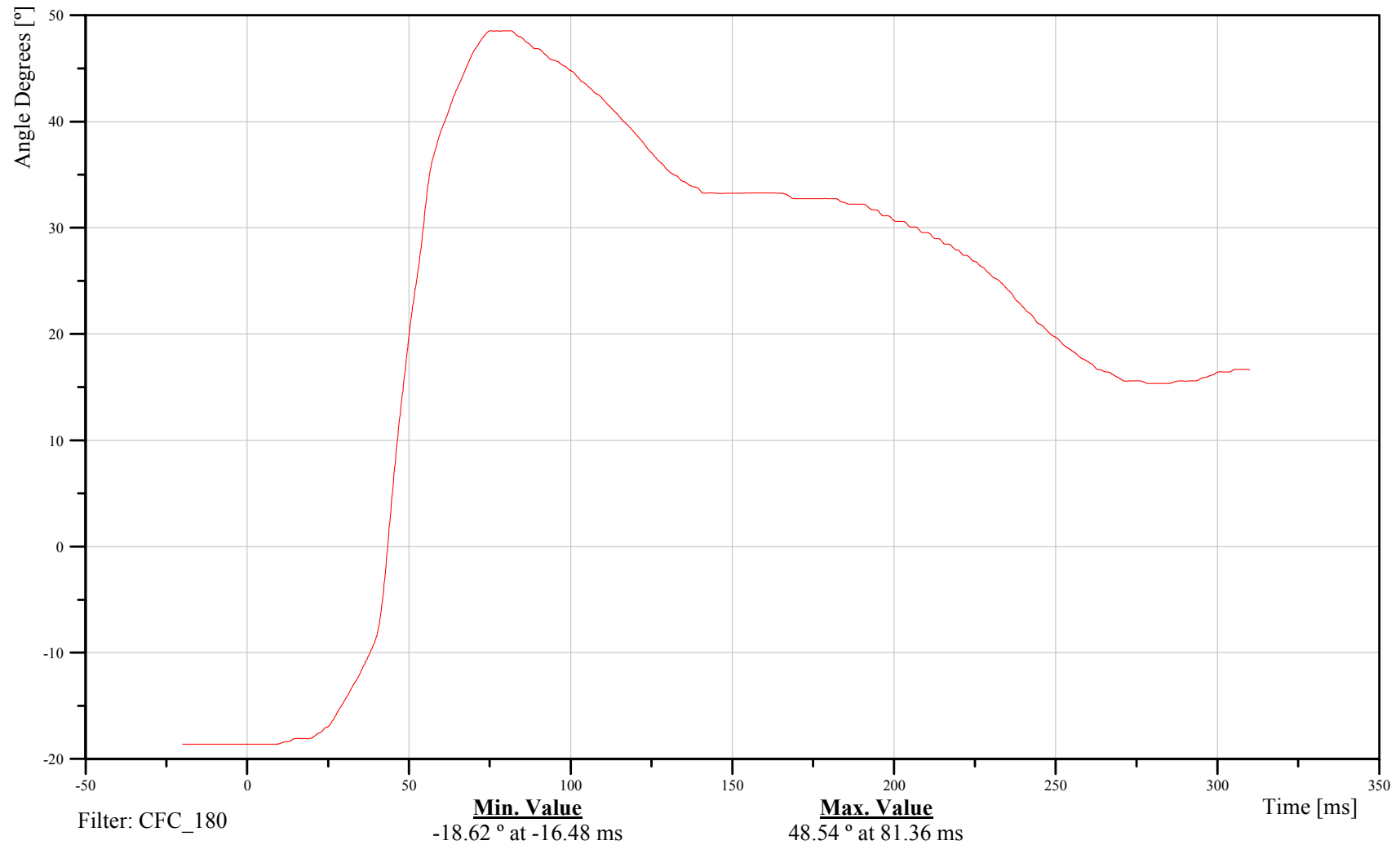
Time: 12:43

Customer: VRTC

13FOOTRIFXHFANYC

TRC Inc. Test Lab: CTF

Test Number: 050906





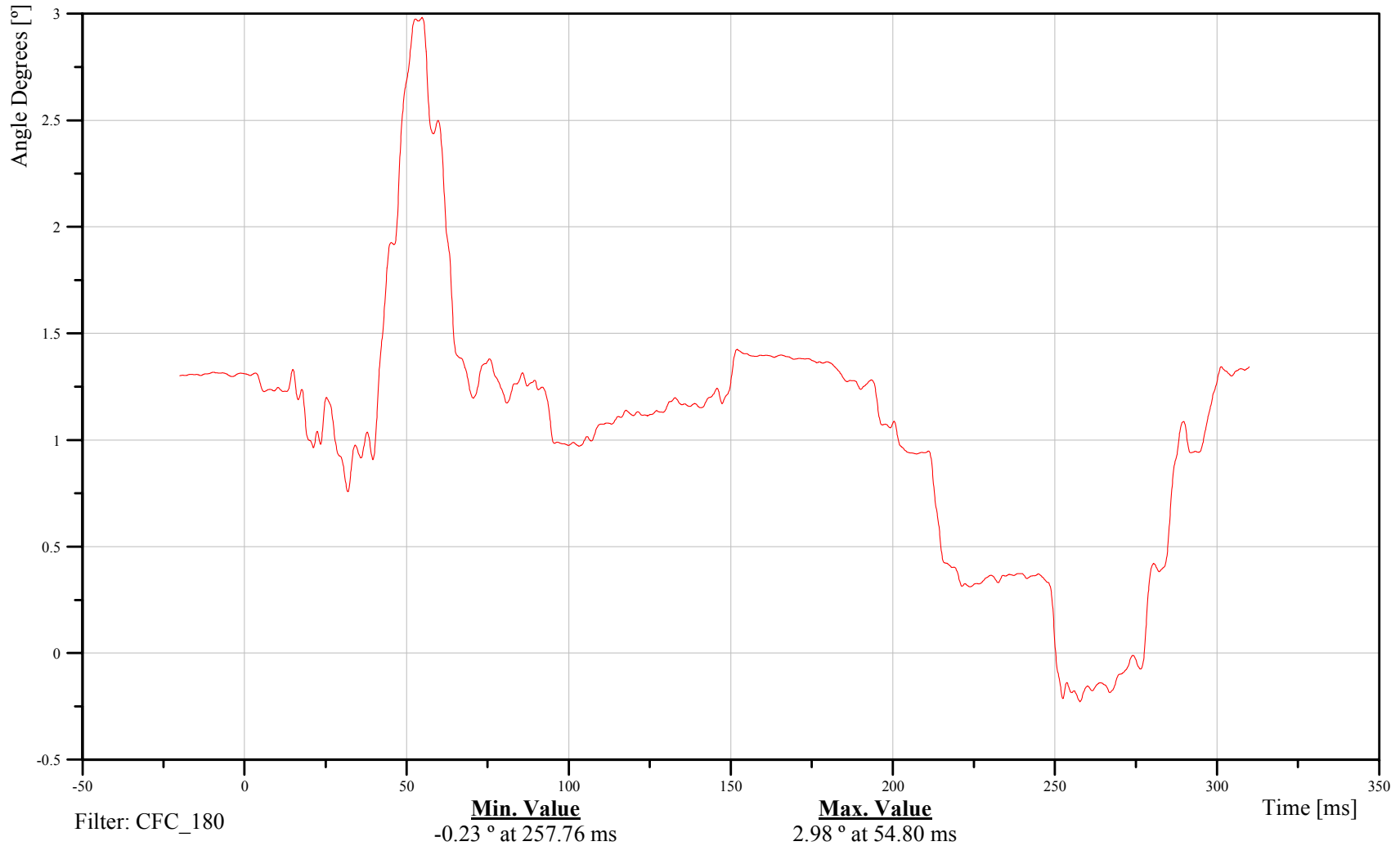
Target Passenger Right Foot Z-Axis Rotation

Customer: VRTC

13FOOTRIFXHFANZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

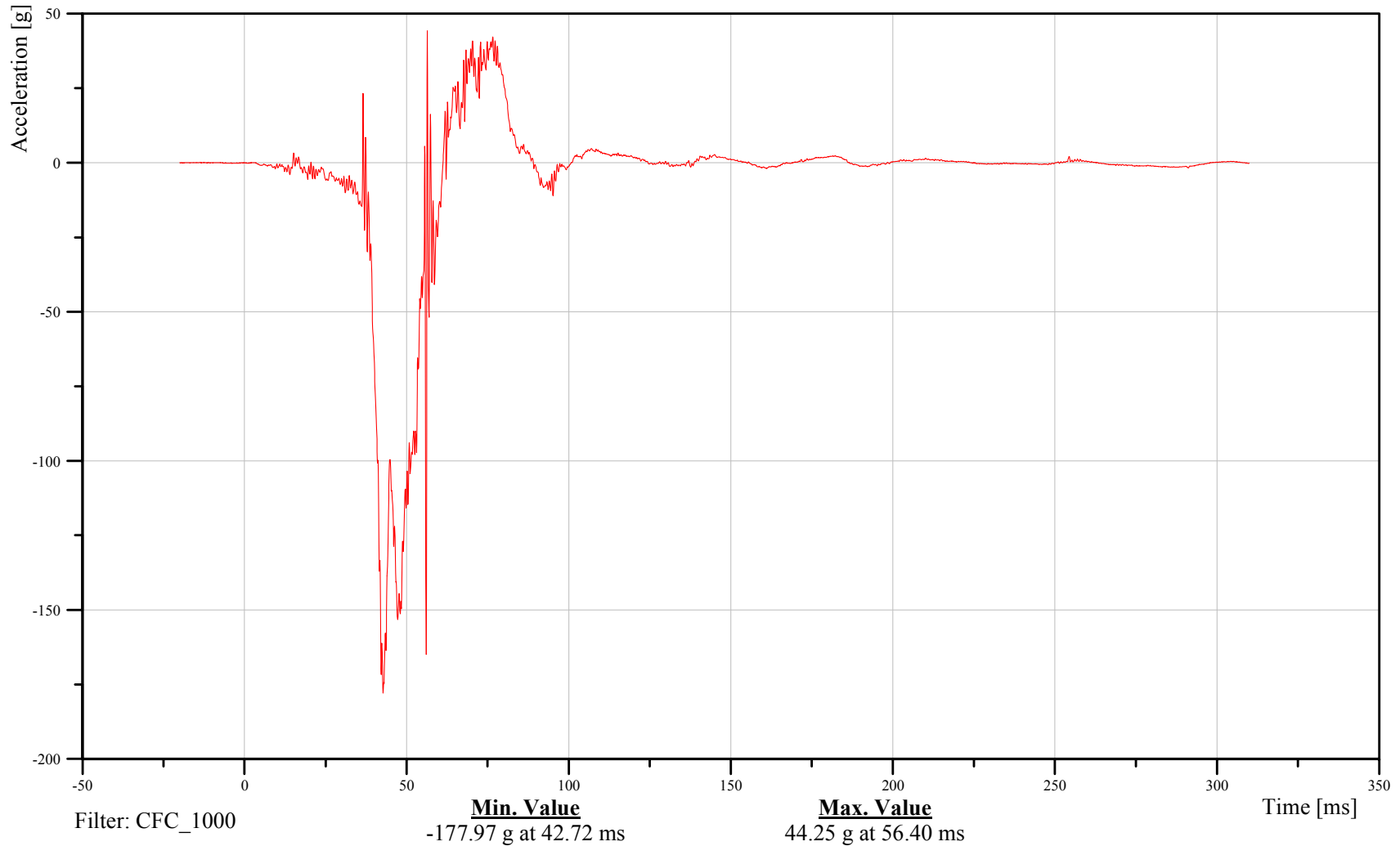
Target Passenger Right Foot X-Axis Acceleration

Customer: VRTC

13FOOTRIFXHFACXA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

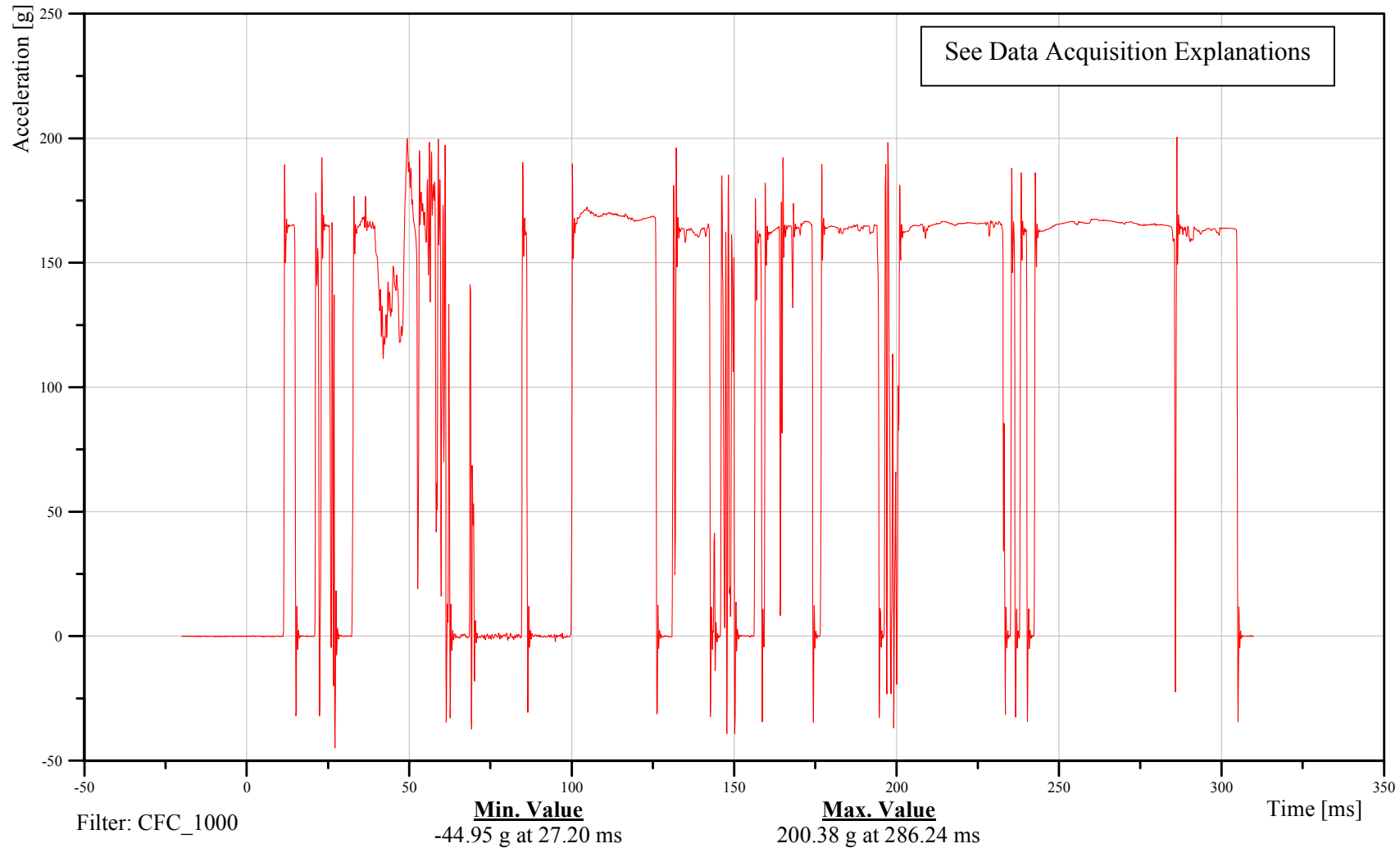
Target Passenger Right Foot Y-Axis Acceleration

Customer: VRTC

13FOOTRIFXHFACYA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

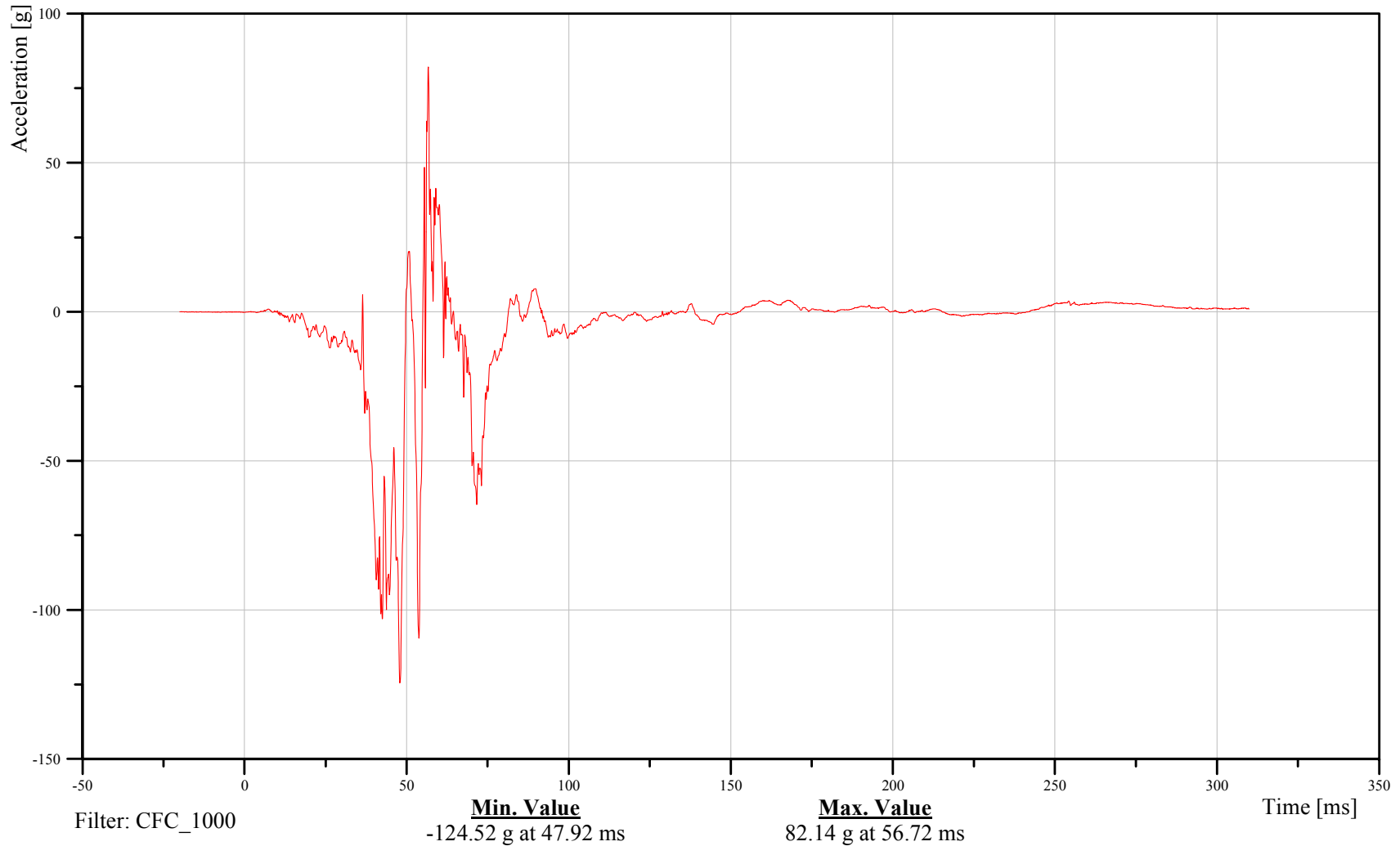
Target Passenger Right Foot Z-Axis Acceleration

Customer: VRTC

13FOOTRIFXHFACZA

TRC Inc. Test Lab: CTF

Test Number: 050906





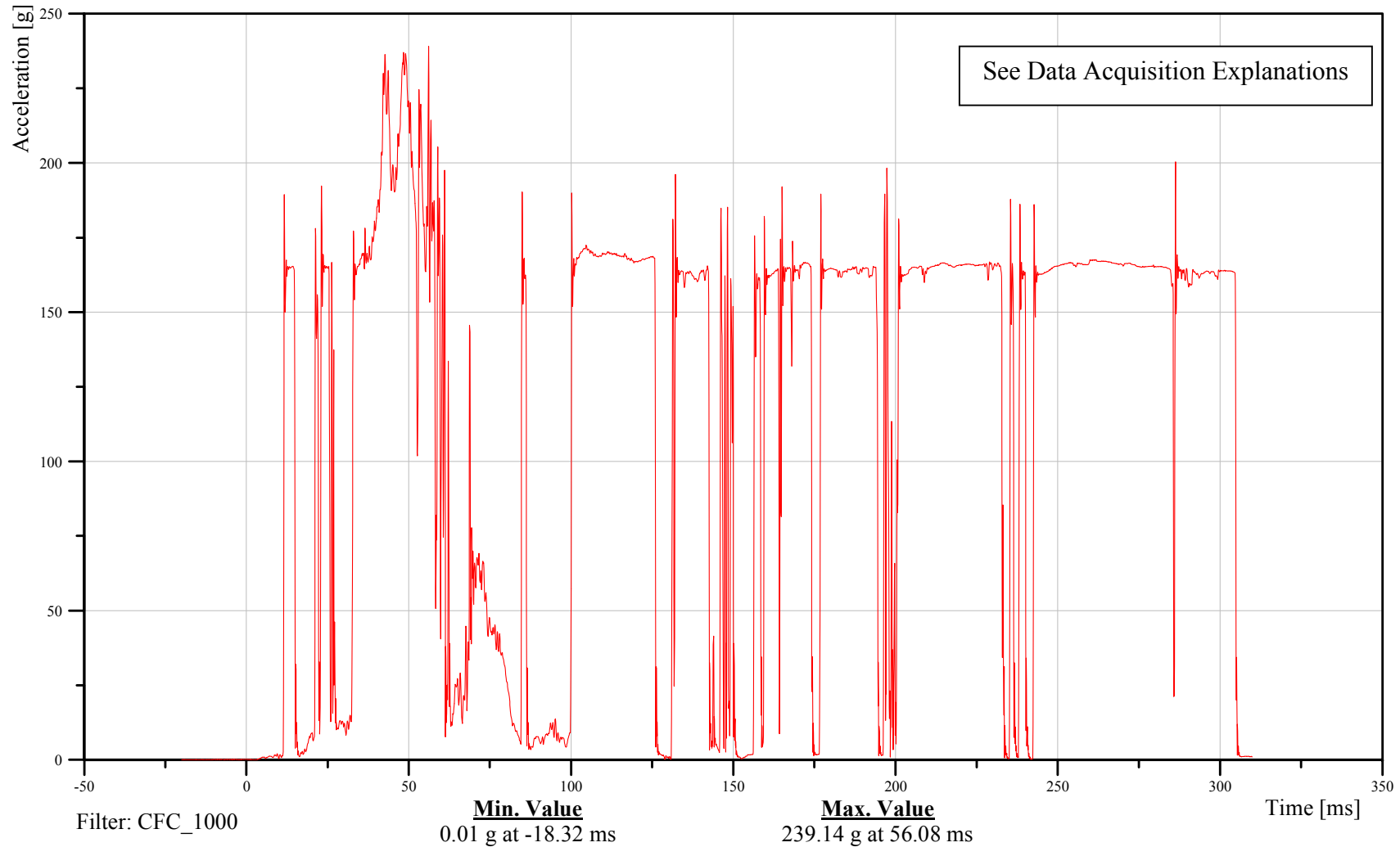
Target Passenger Right Foot Resultant Acceleration

Customer: VRTC

13FOOTRIFXHFACRA

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

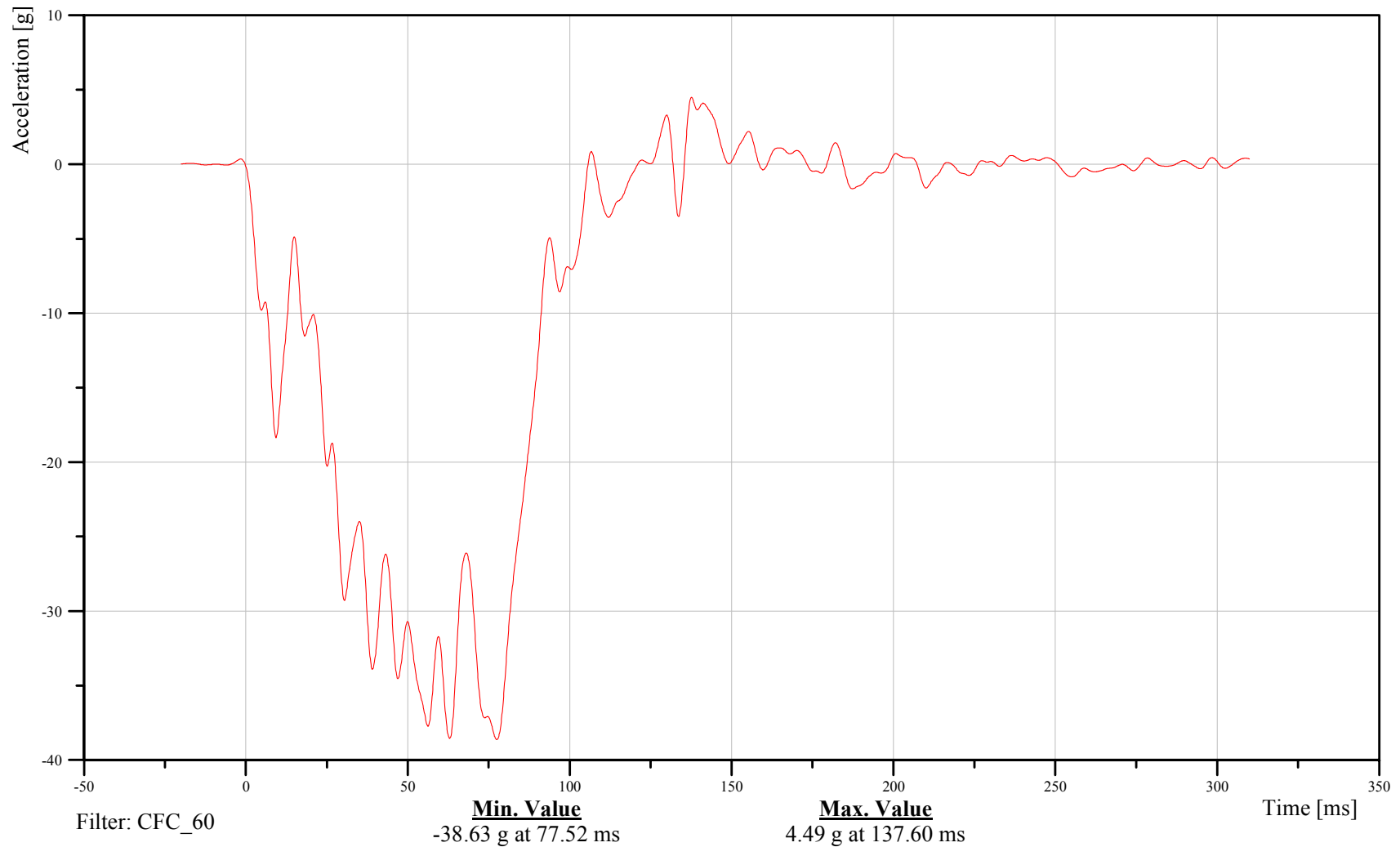
Target Vehicle Left Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

14CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

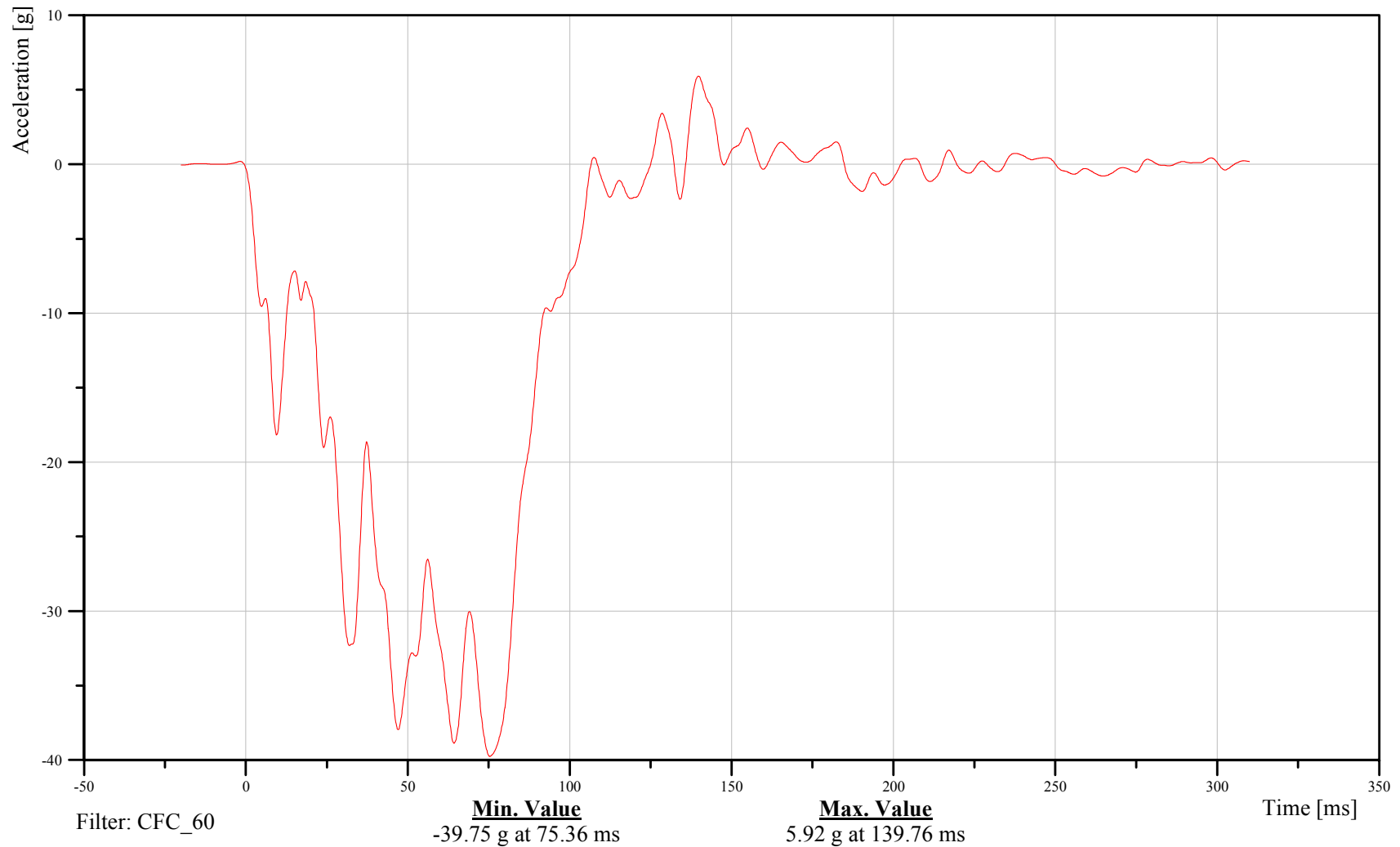
Target Vehicle Right Rear Seat Crossmember X-Axis Acceleration

Customer: VRTC

16CRME000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

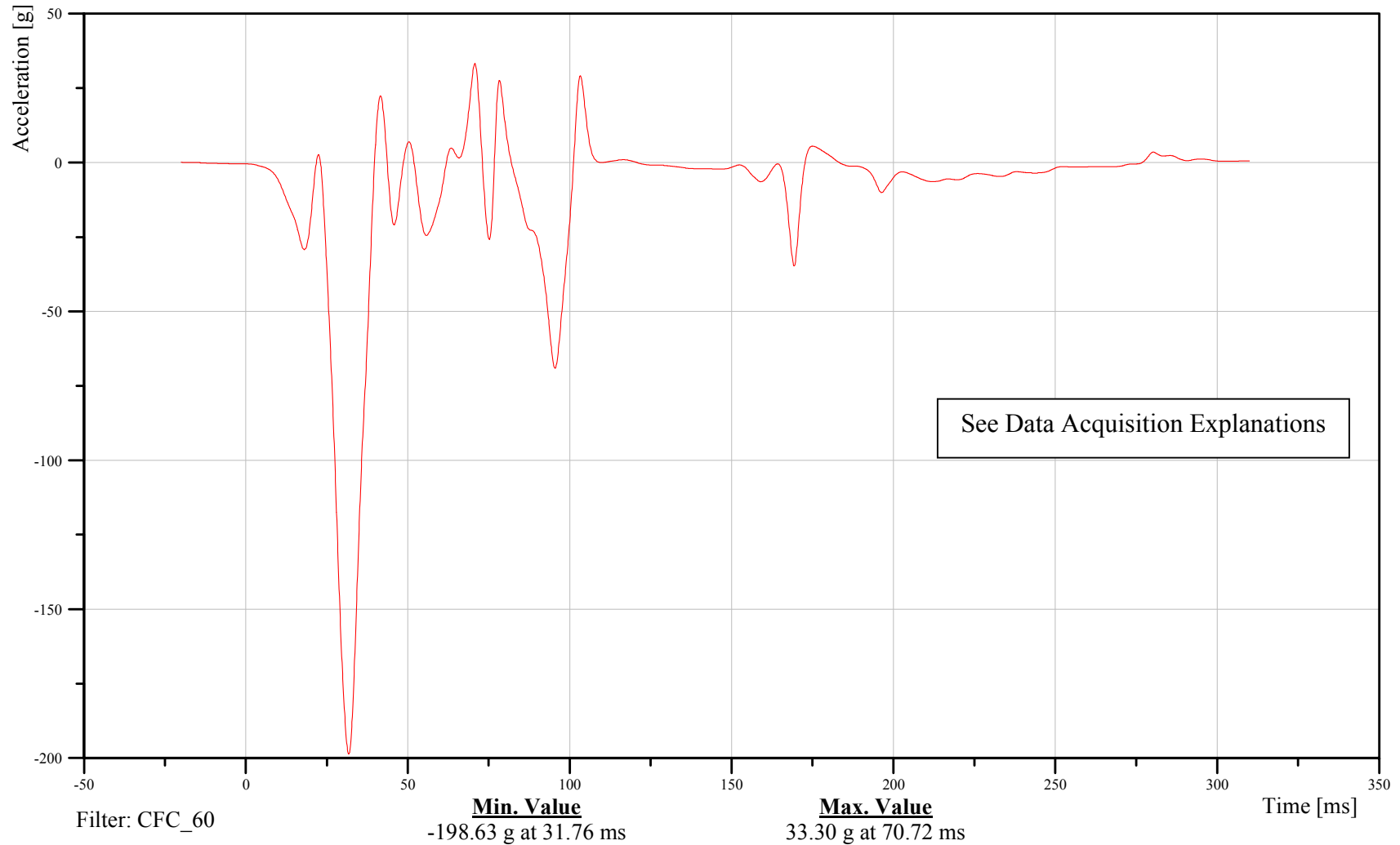
Target Vehicle Top of Engine X-Axis Acceleration

Customer: VRTC

12ENGNTTP0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Vehicle Bottom of Engine X-Axis Acceleration

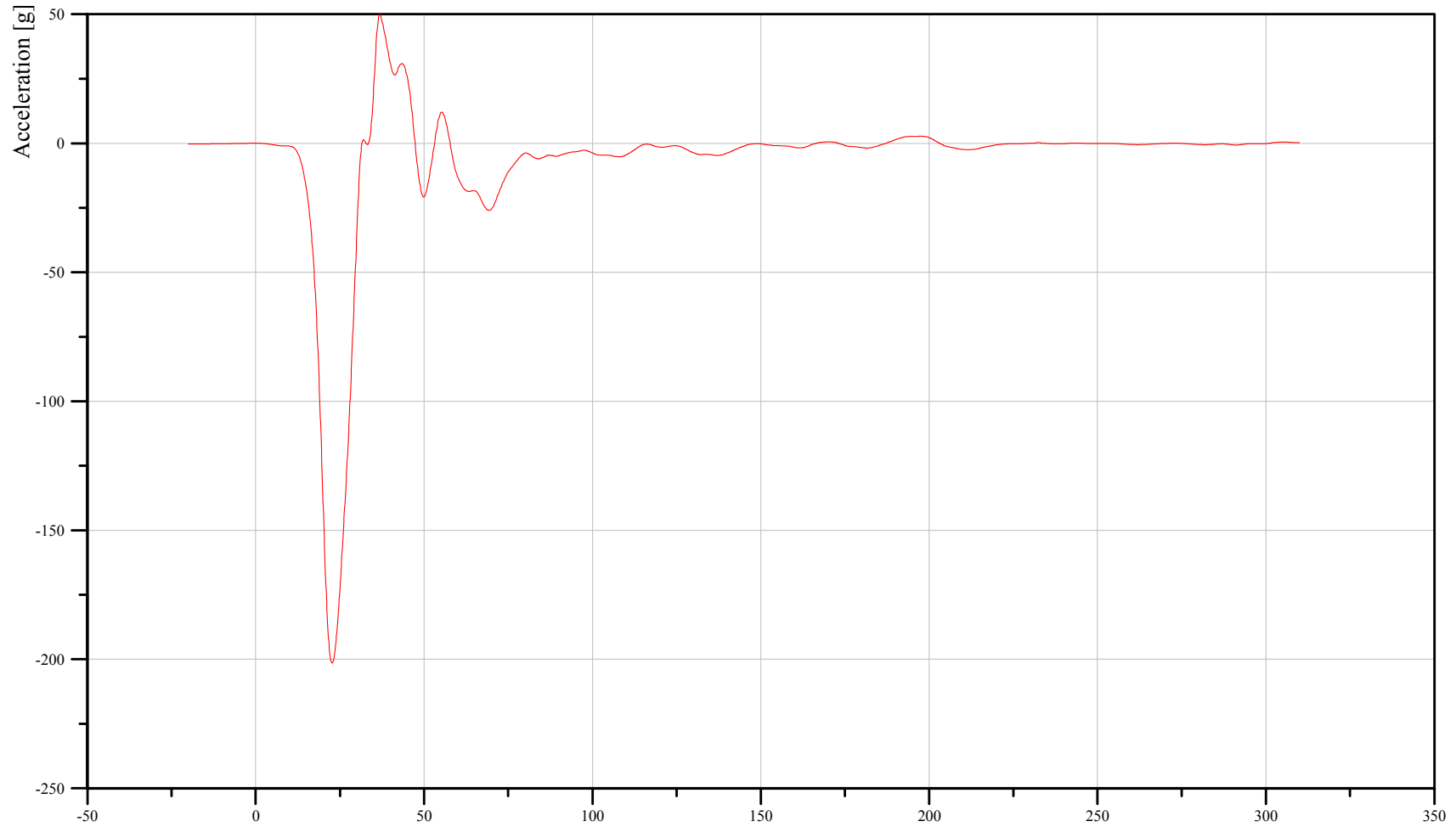
Time: 12:43

Customer: VRTC

12ENGNB00000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906



Filter: CFC_60

Min. Value
-201.43 g at 22.64 ms

Max. Value
49.81 g at 36.80 ms

Time [ms]



2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

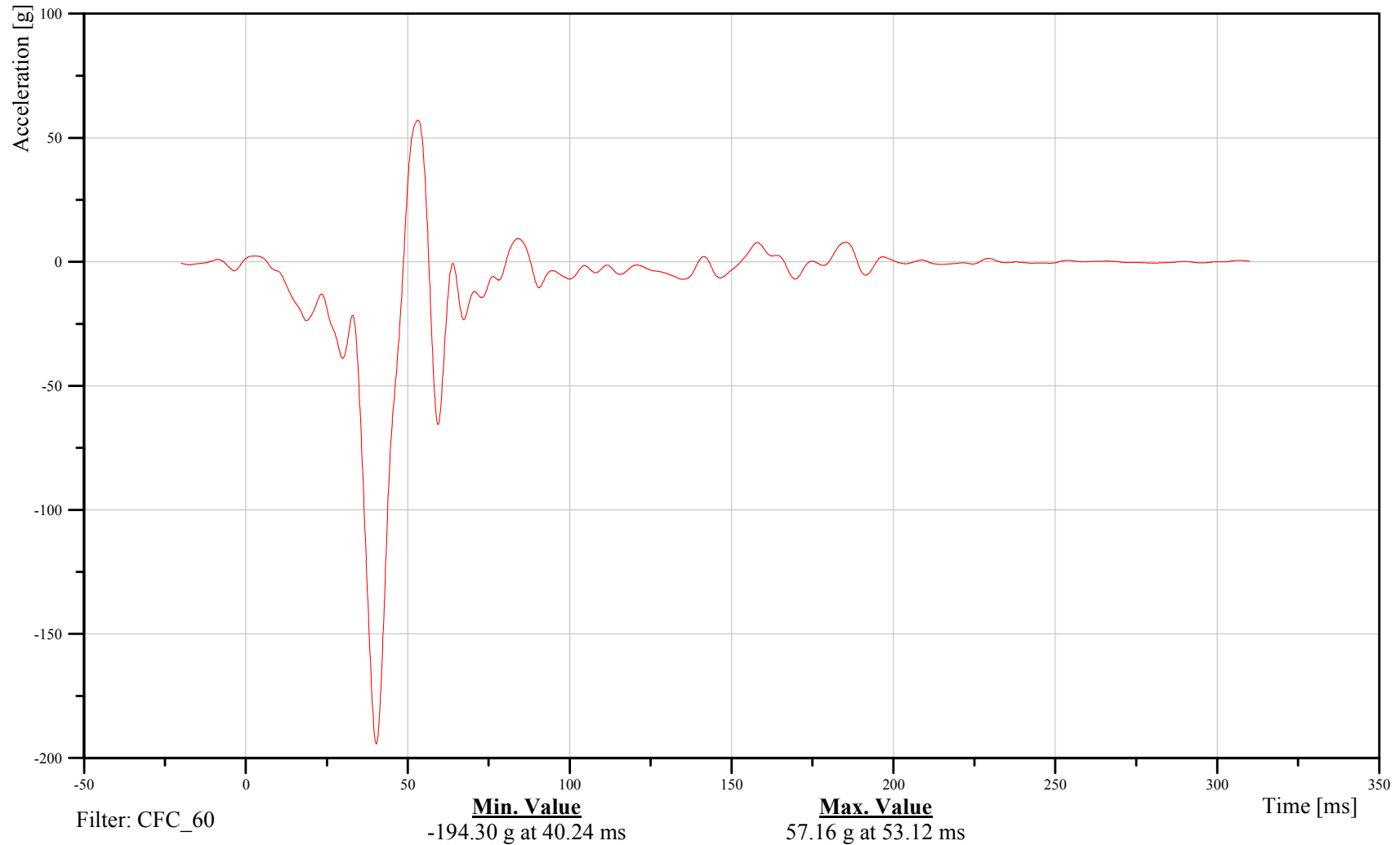
Target Vehicle Right Front Brake Caliper X-Axis Acceleration

Customer: VRTC

13VEHCRI0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

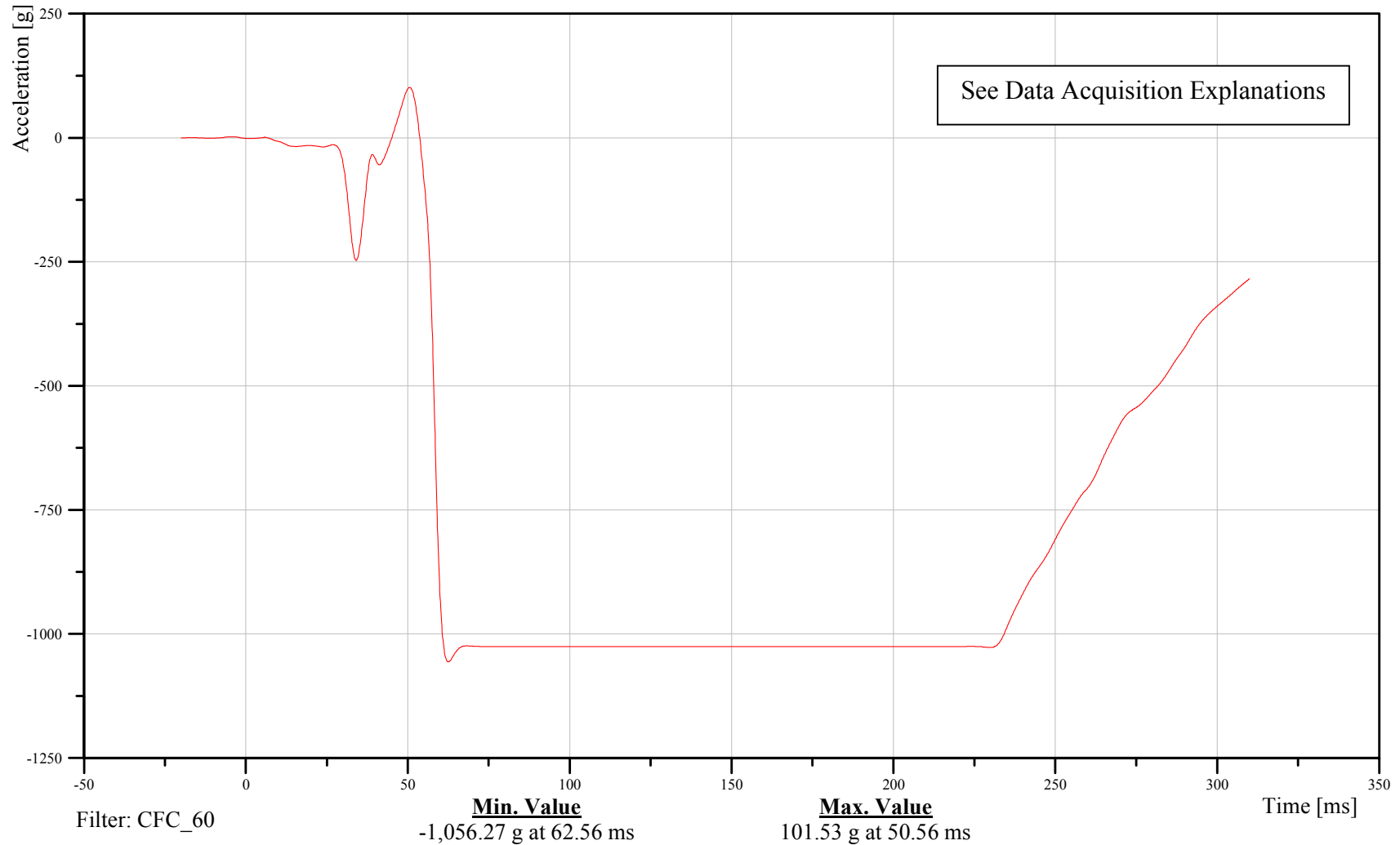
Target Vehicle Left Front Brake Caliper X-Axis Acceleration

Customer: VRTC

11VEHICLE0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Vehicle Toe Pan Accelerator X-Axis Acceleration

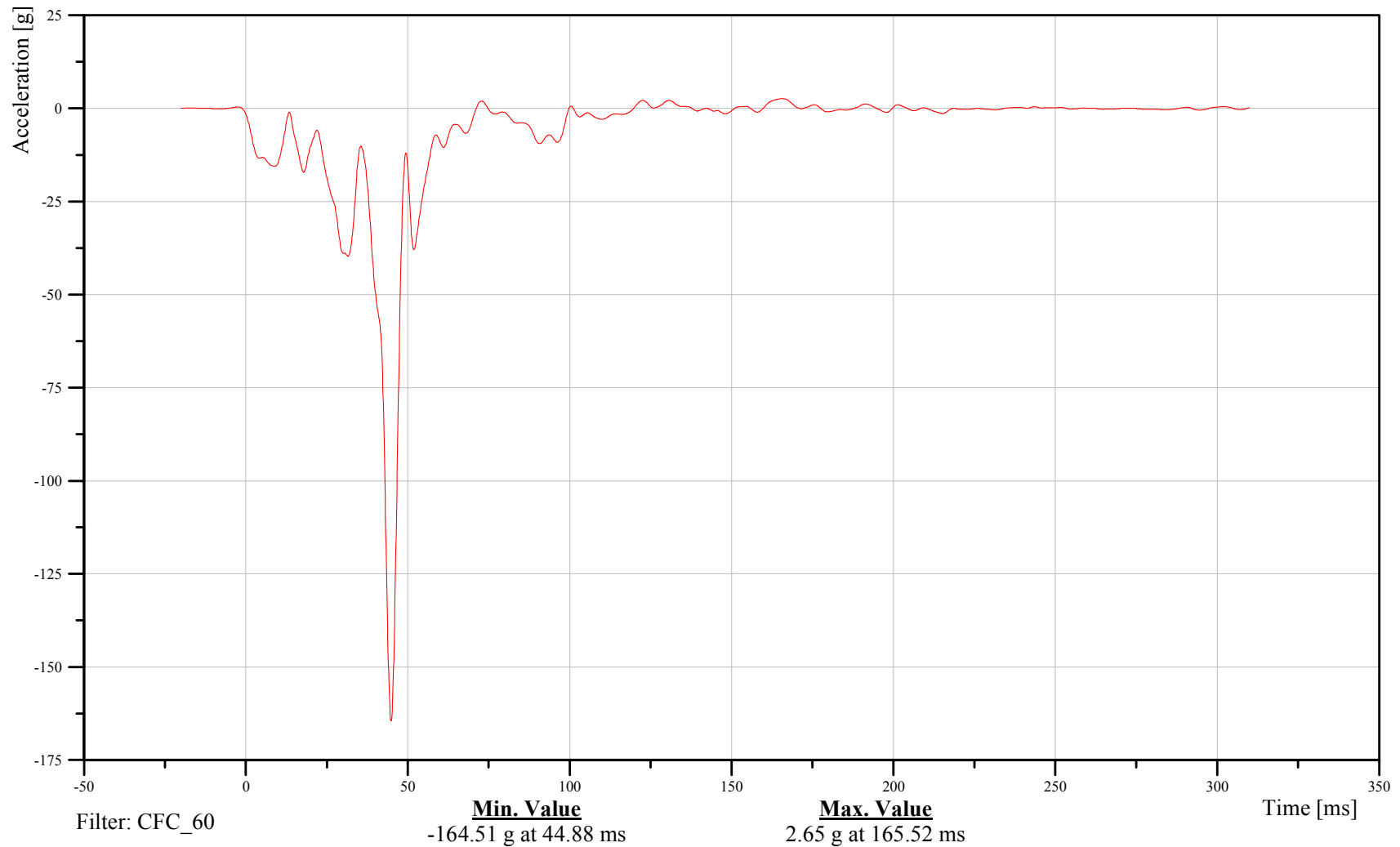
Time: 12:43

Customer: VRTC

11PEAC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

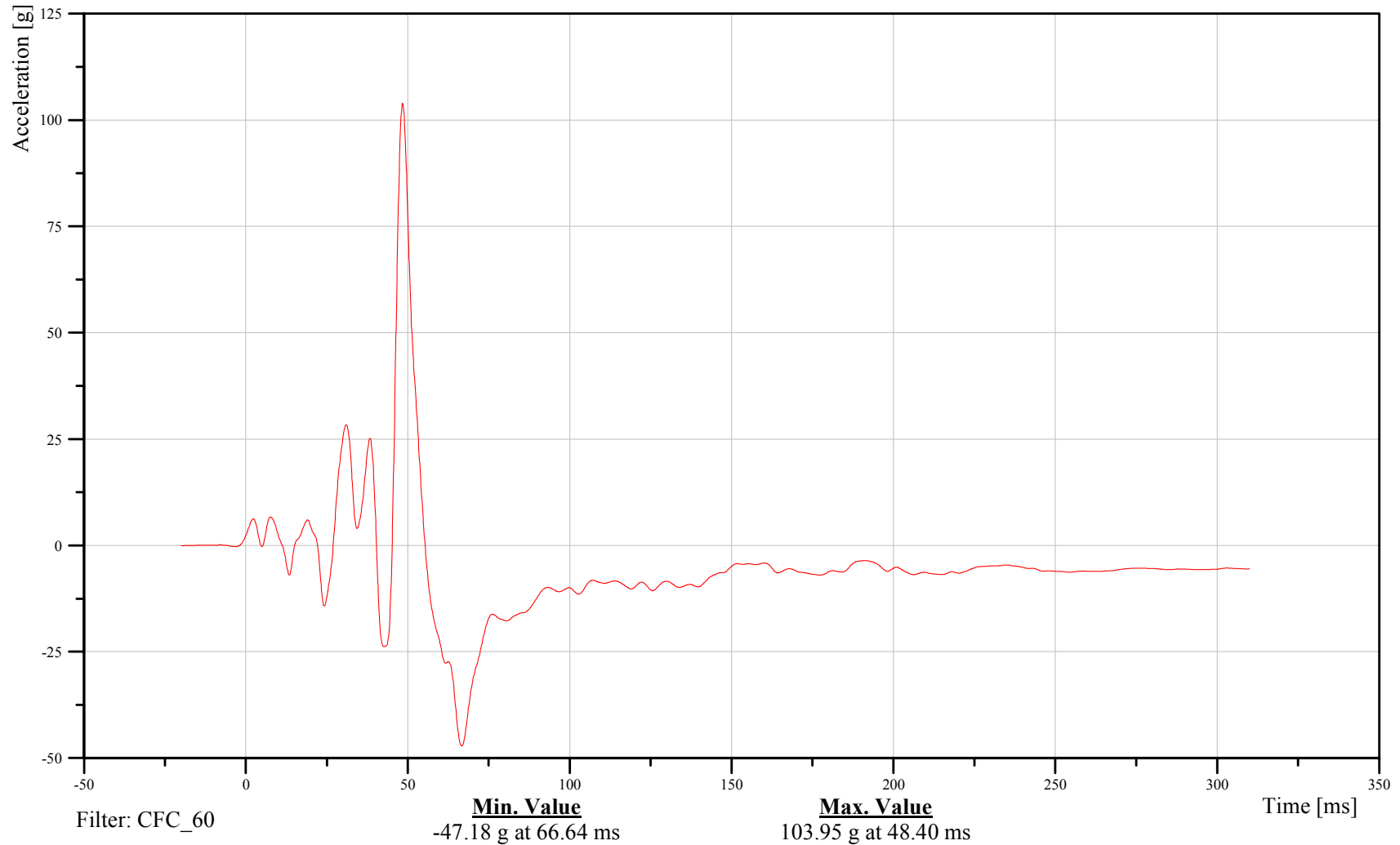
Target Vehicle Toe Pan Accelerator Z-Axis Acceleration

Customer: VRTC

11PEAC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

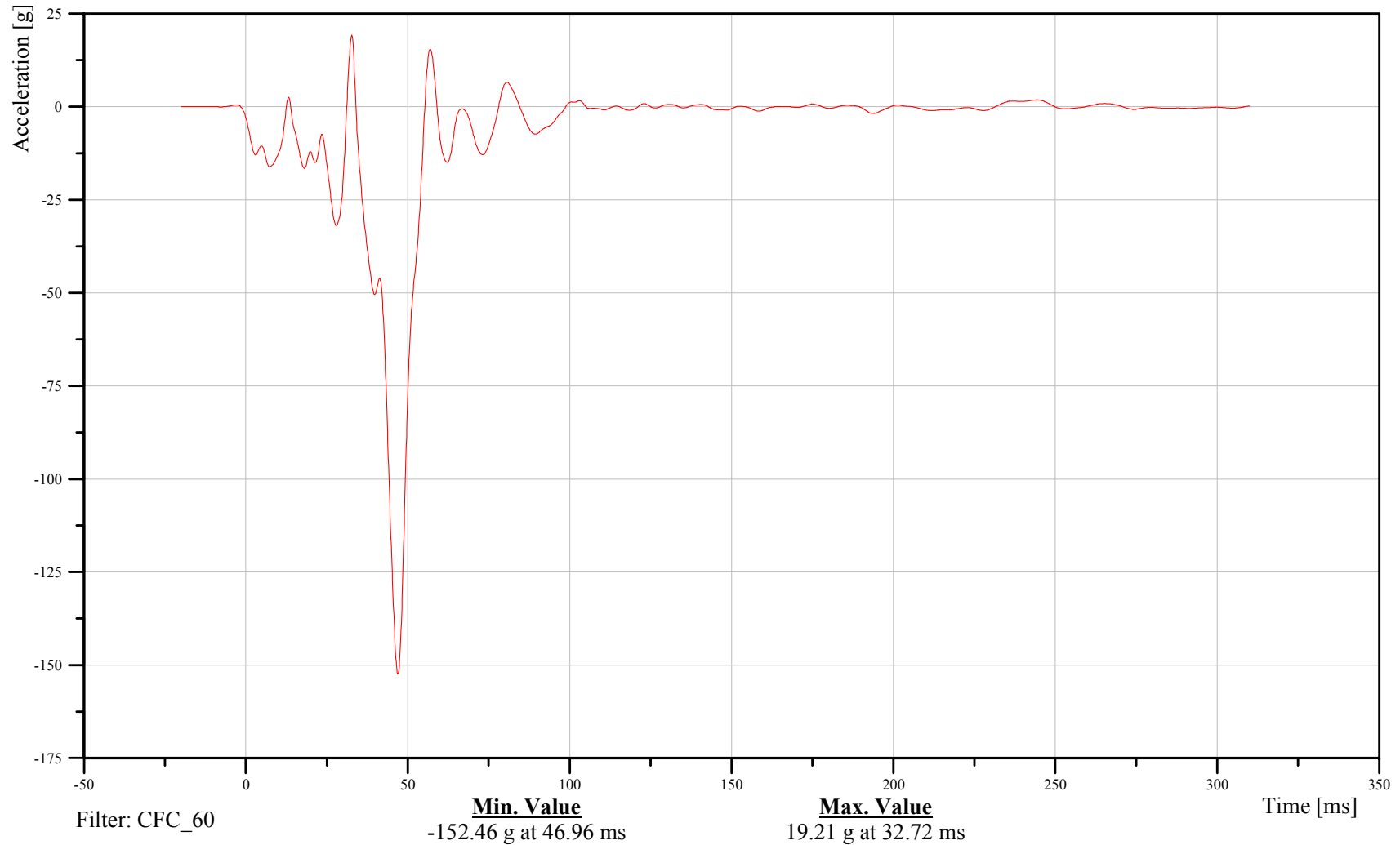
Target Vehicle Toe Pan Footrest X-Axis Acceleration

Customer: VRTC

11VEHC000001ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

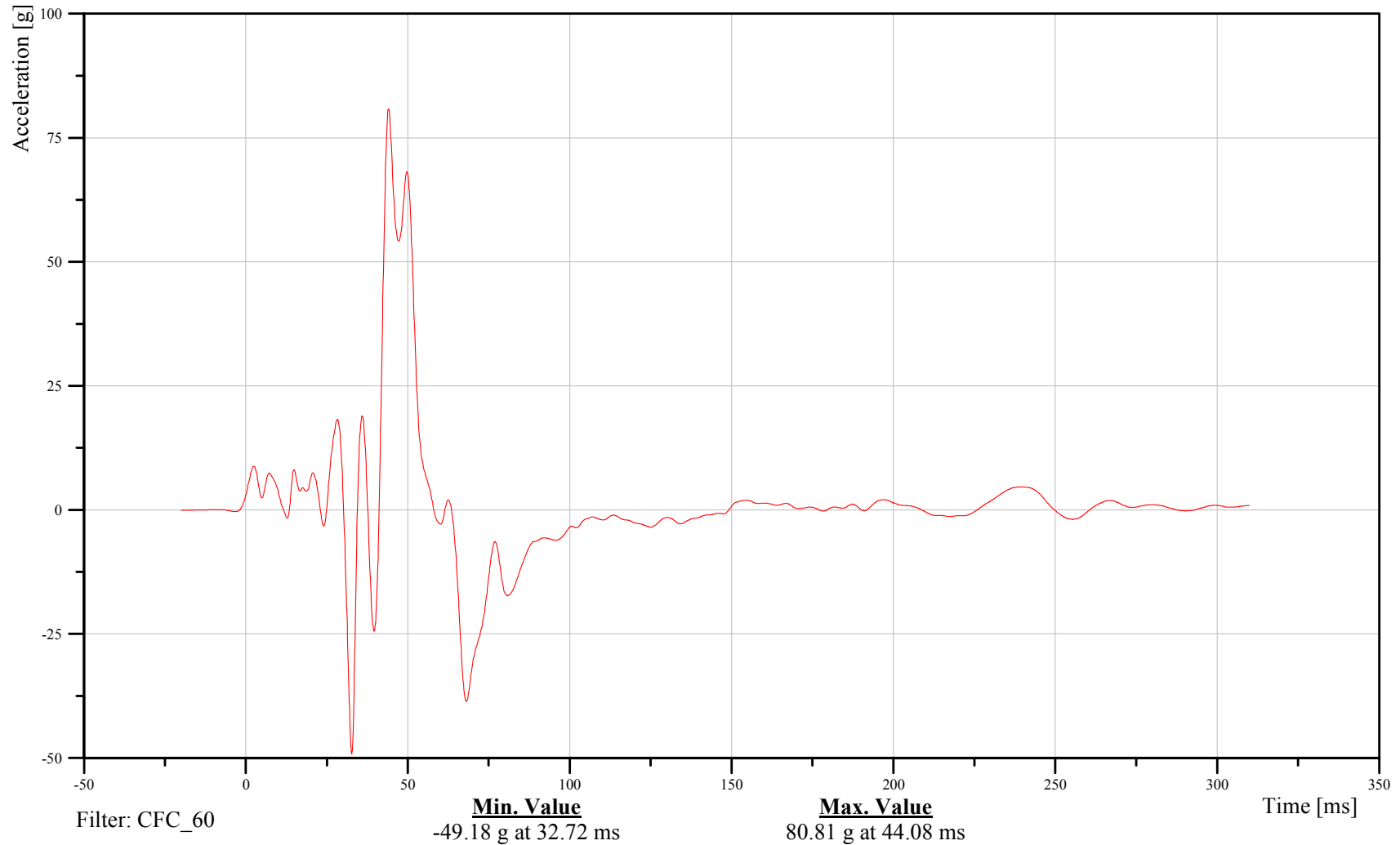
Target Vehicle Toe Pan Footrest Z-Axis Acceleration

Customer: VRTC

11VEHC000001ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

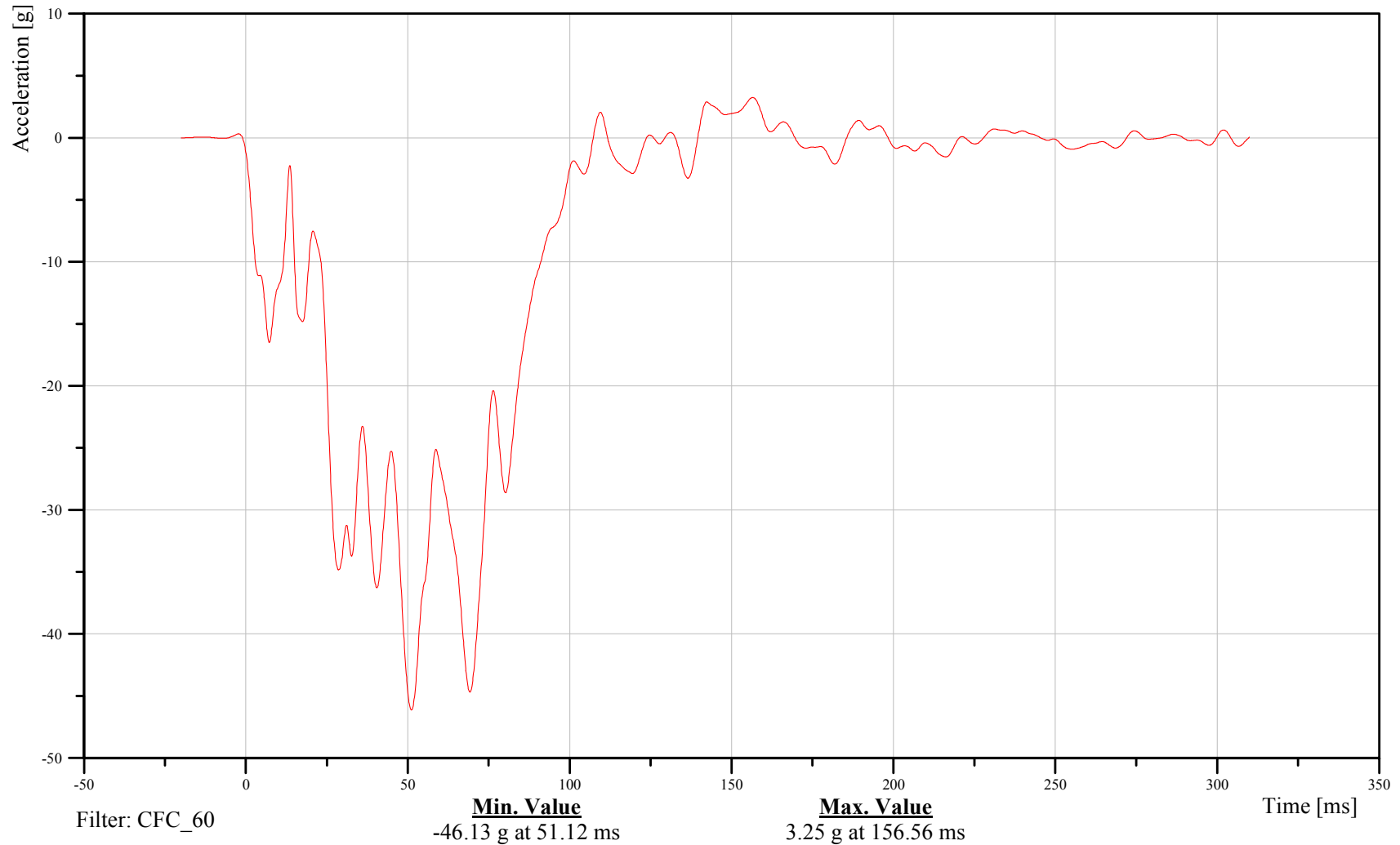
Target Vehicle Rear Tunnel Center X-Axis Acceleration

Customer: VRTC

15TUNNCY0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

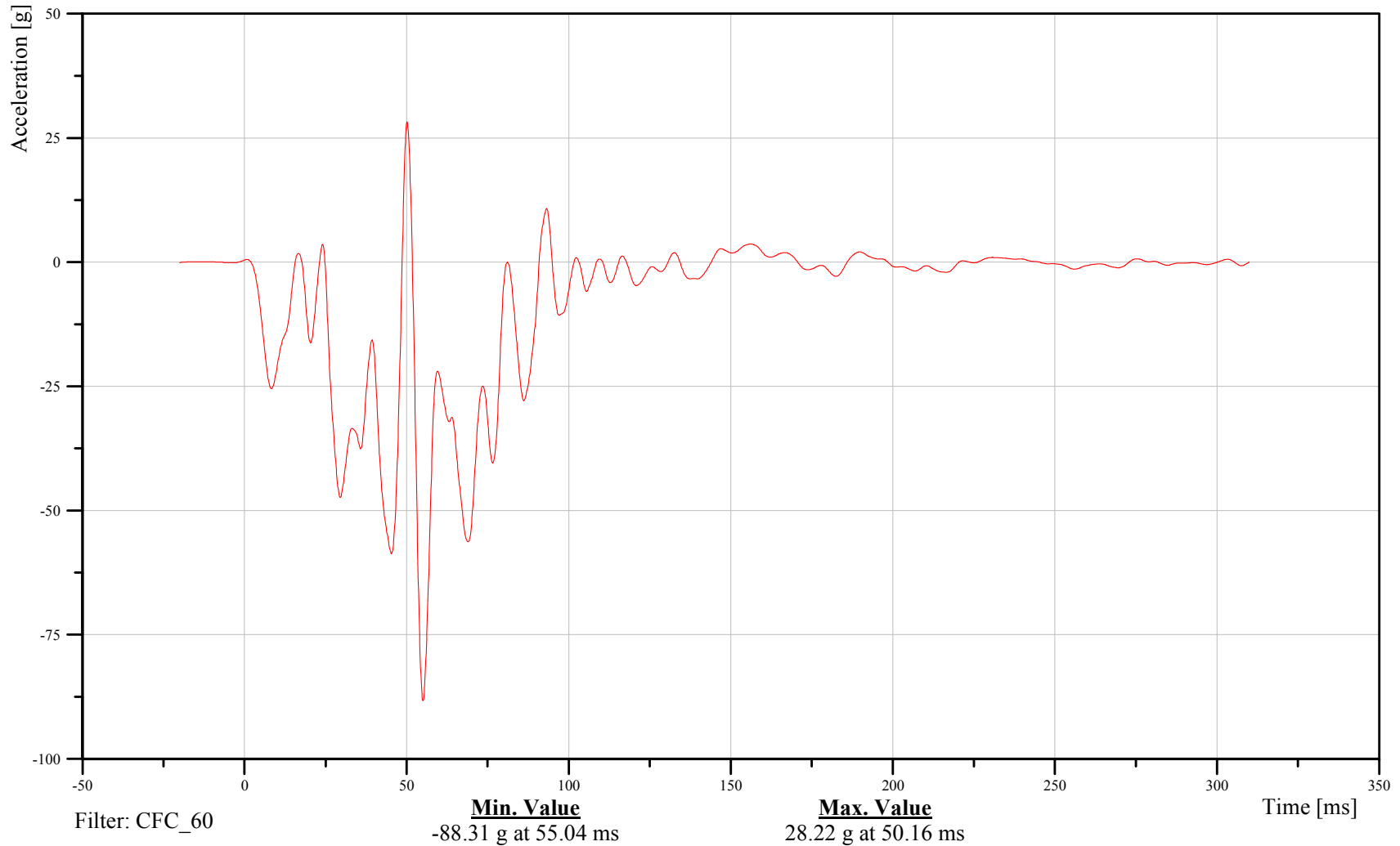
Target Vehicle CG X-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

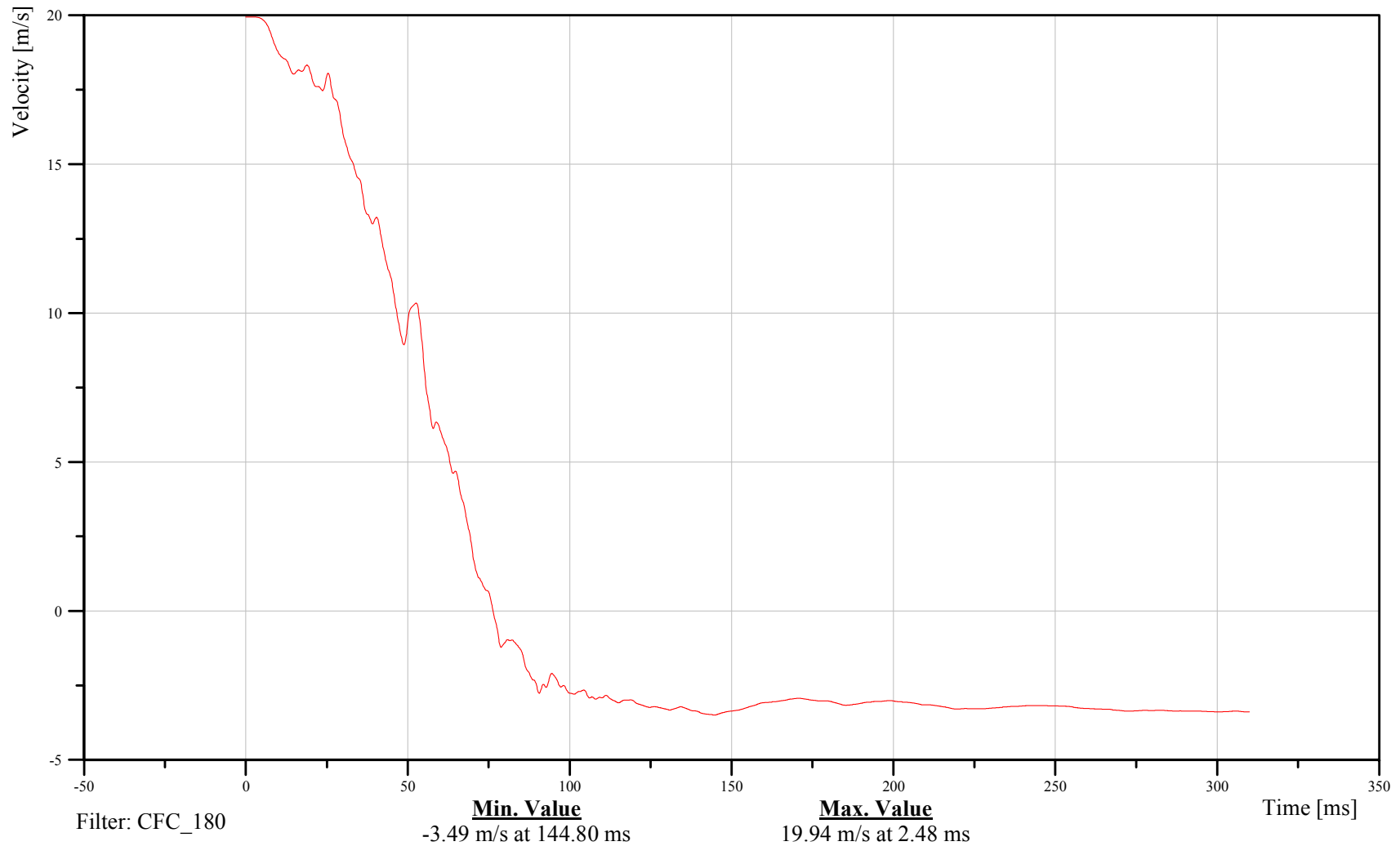
Target Vehicle CG X-Axis Velocity

Customer: VRTC

10VEHCCG0000VEXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

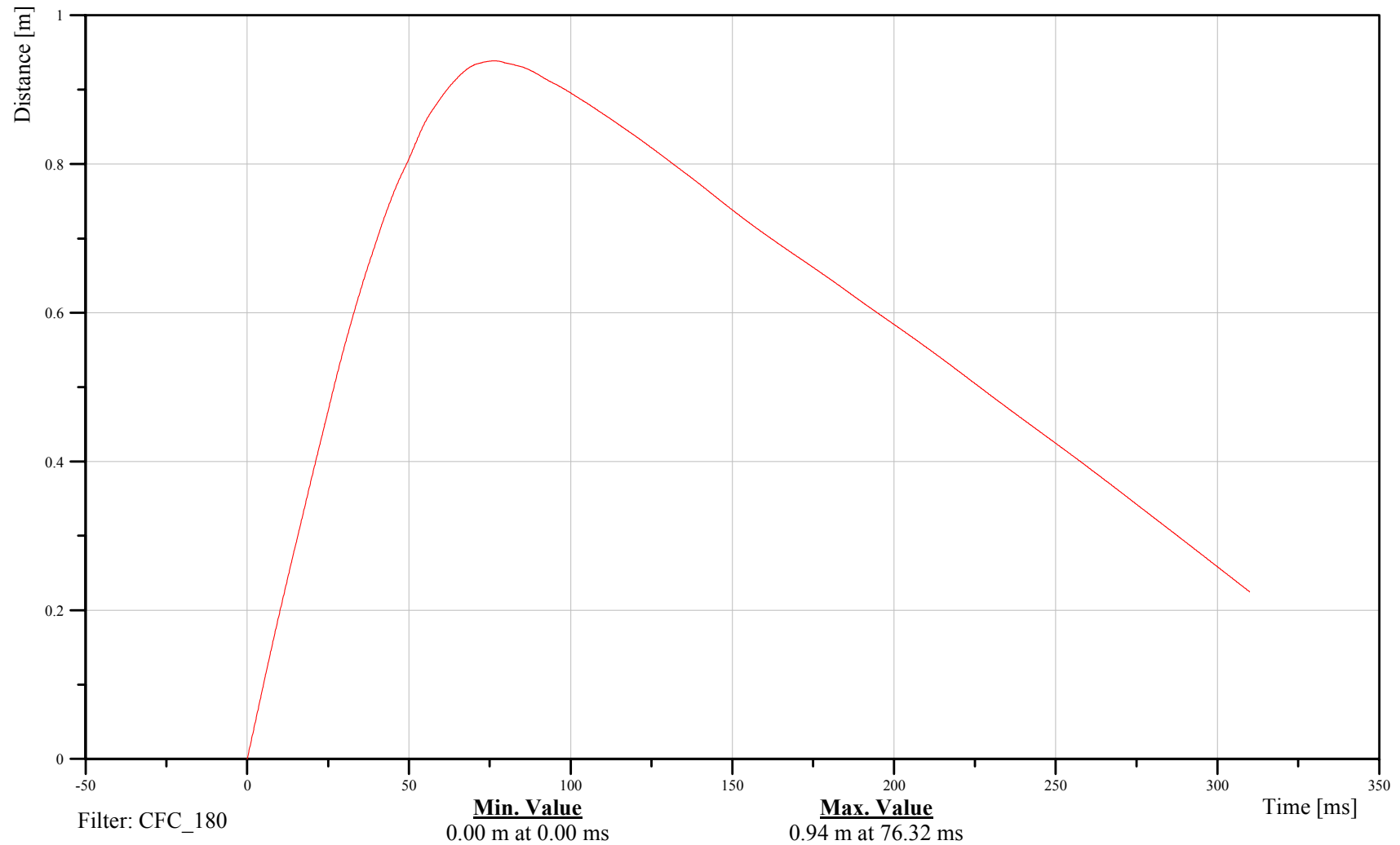
Target Vehicle CG X-Axis Displacement

Customer: VRTC

10VEHCCG0000DCXC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

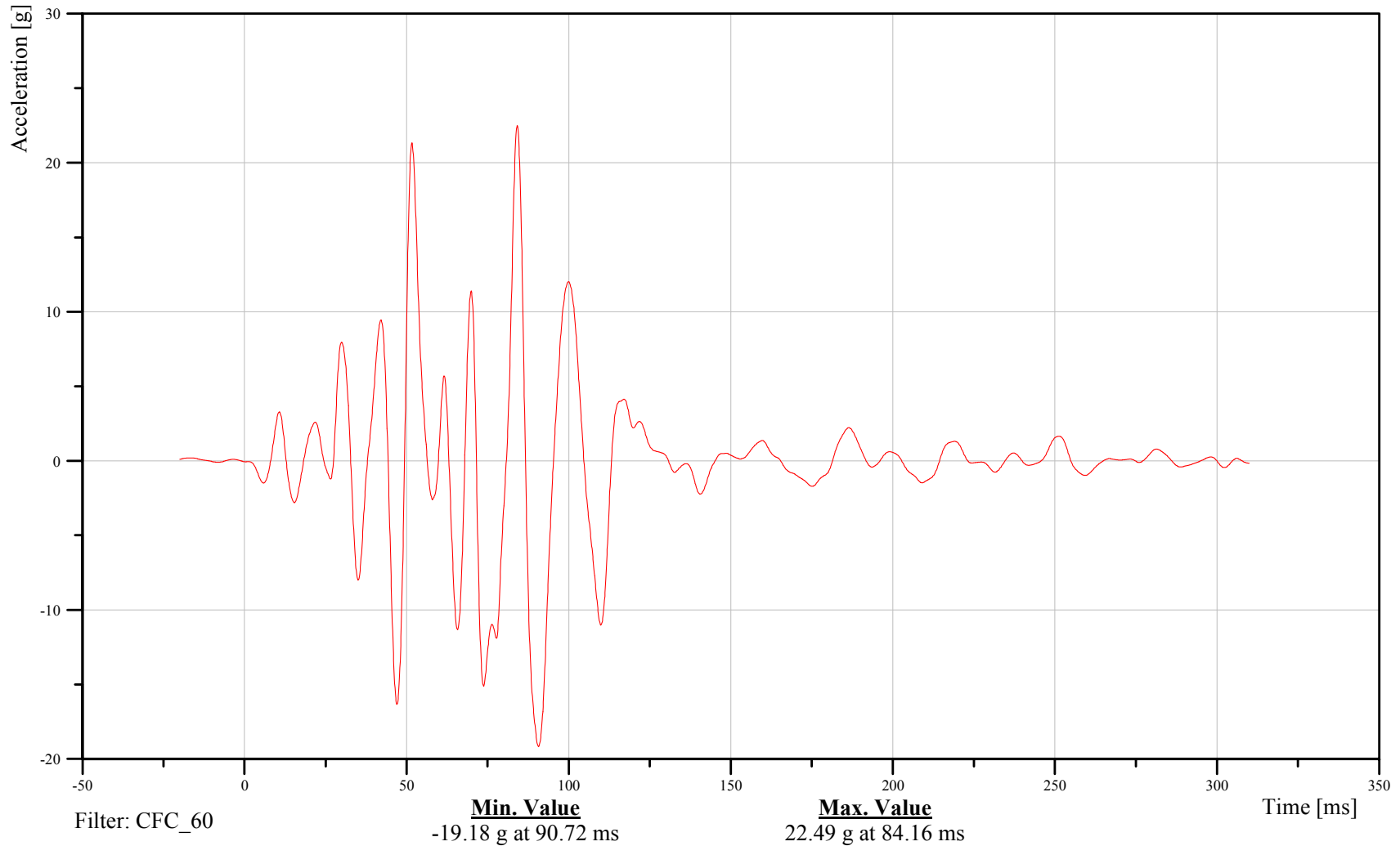
Target Vehicle CG Y-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

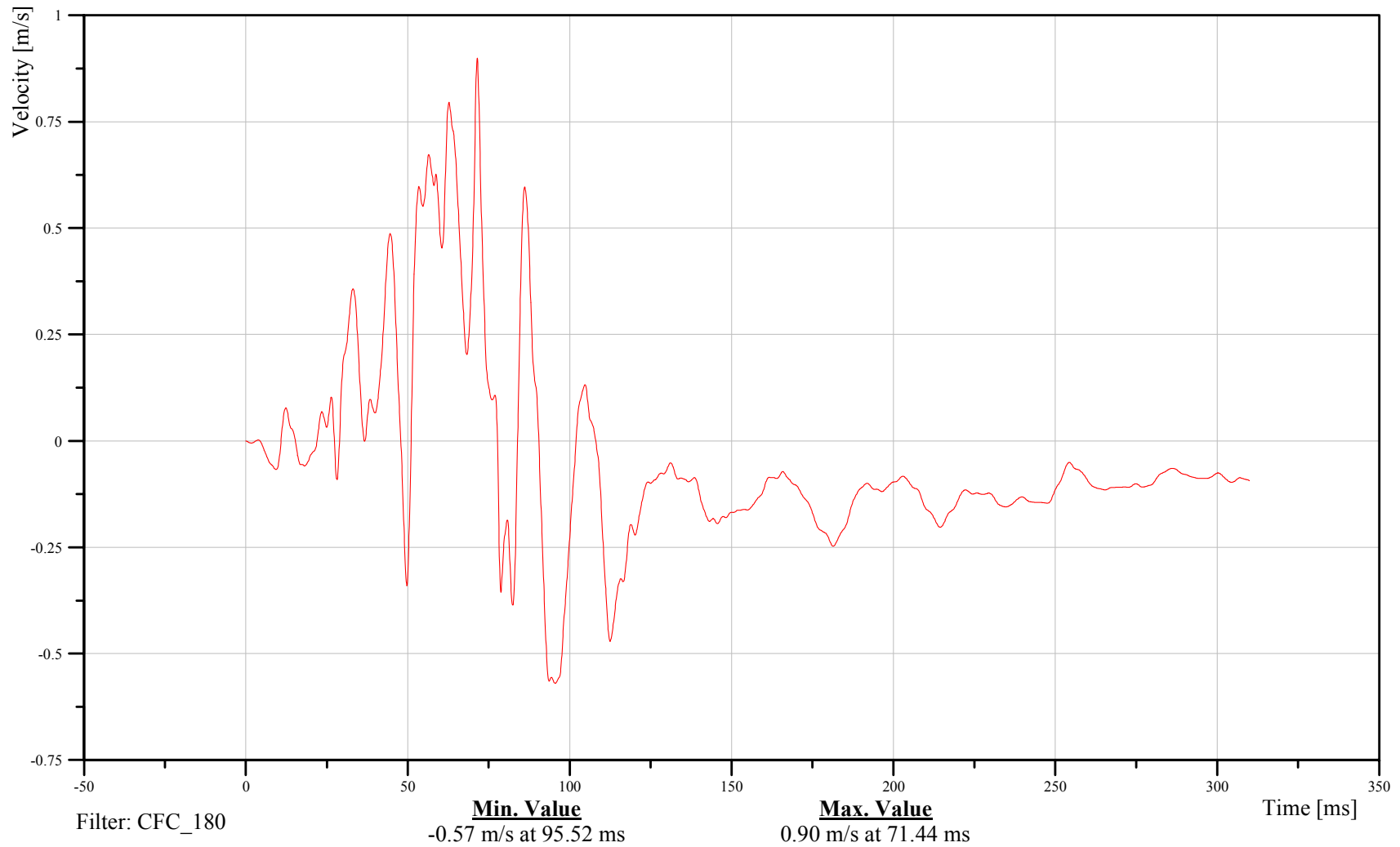
Target Vehicle CG Y-Axis Velocity

Customer: VRTC

10VEHCCG0000VEYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

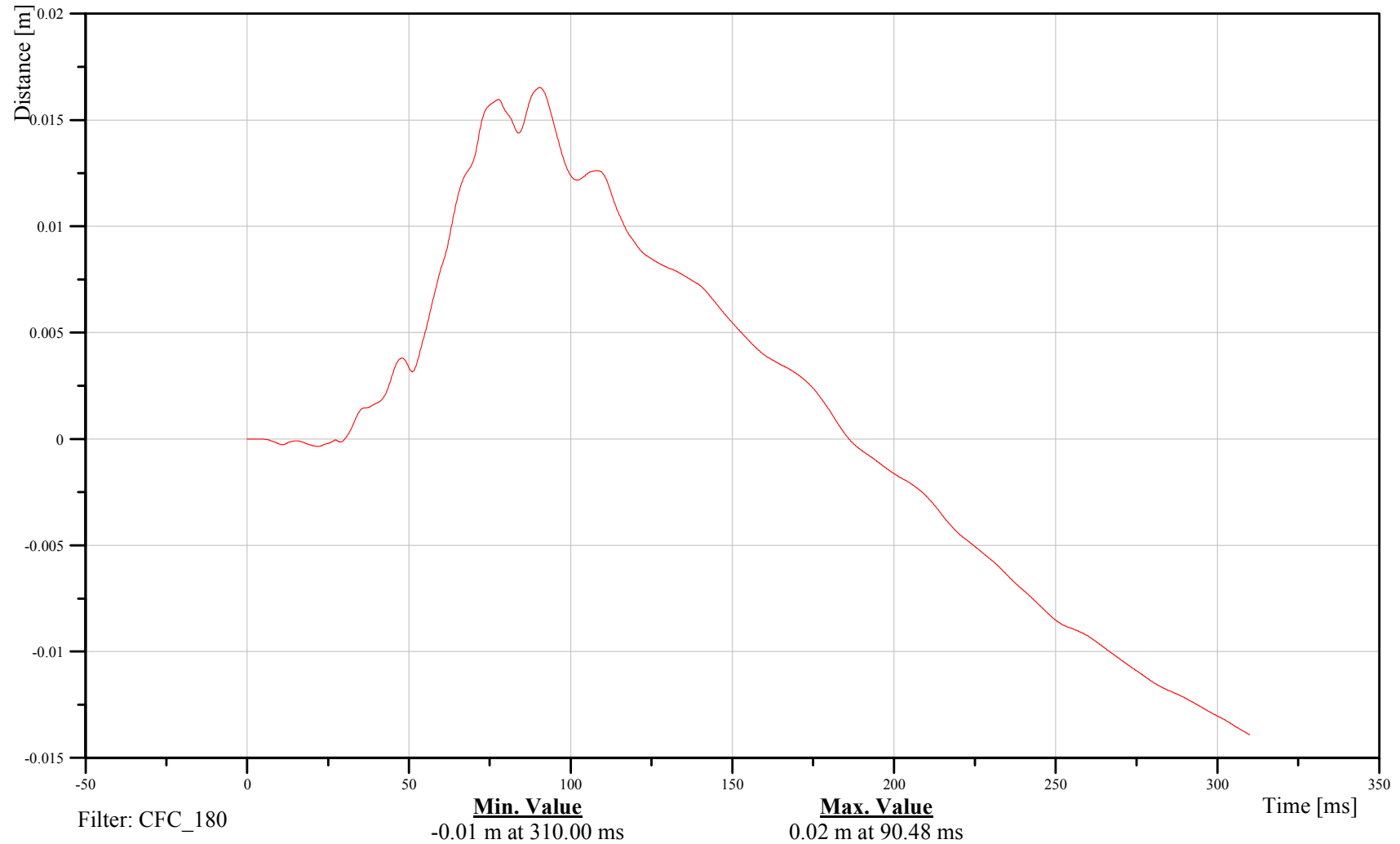
Target Vehicle CG Y-Axis Displacement

Customer: VRTC

10VEHCCG0000DCYC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

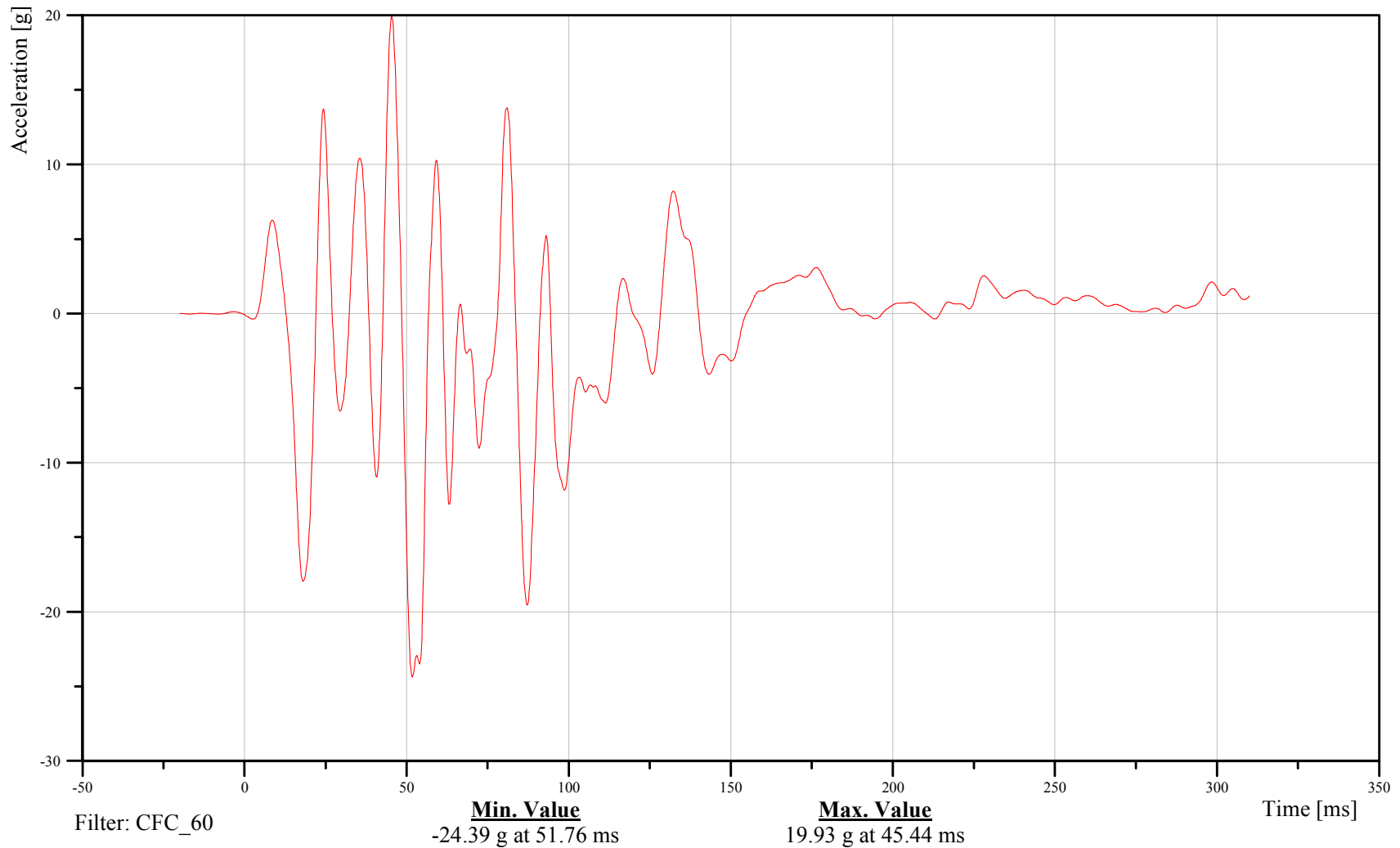
Target Vehicle CG Z-Axis Acceleration

Customer: VRTC

10VEHCCG0000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

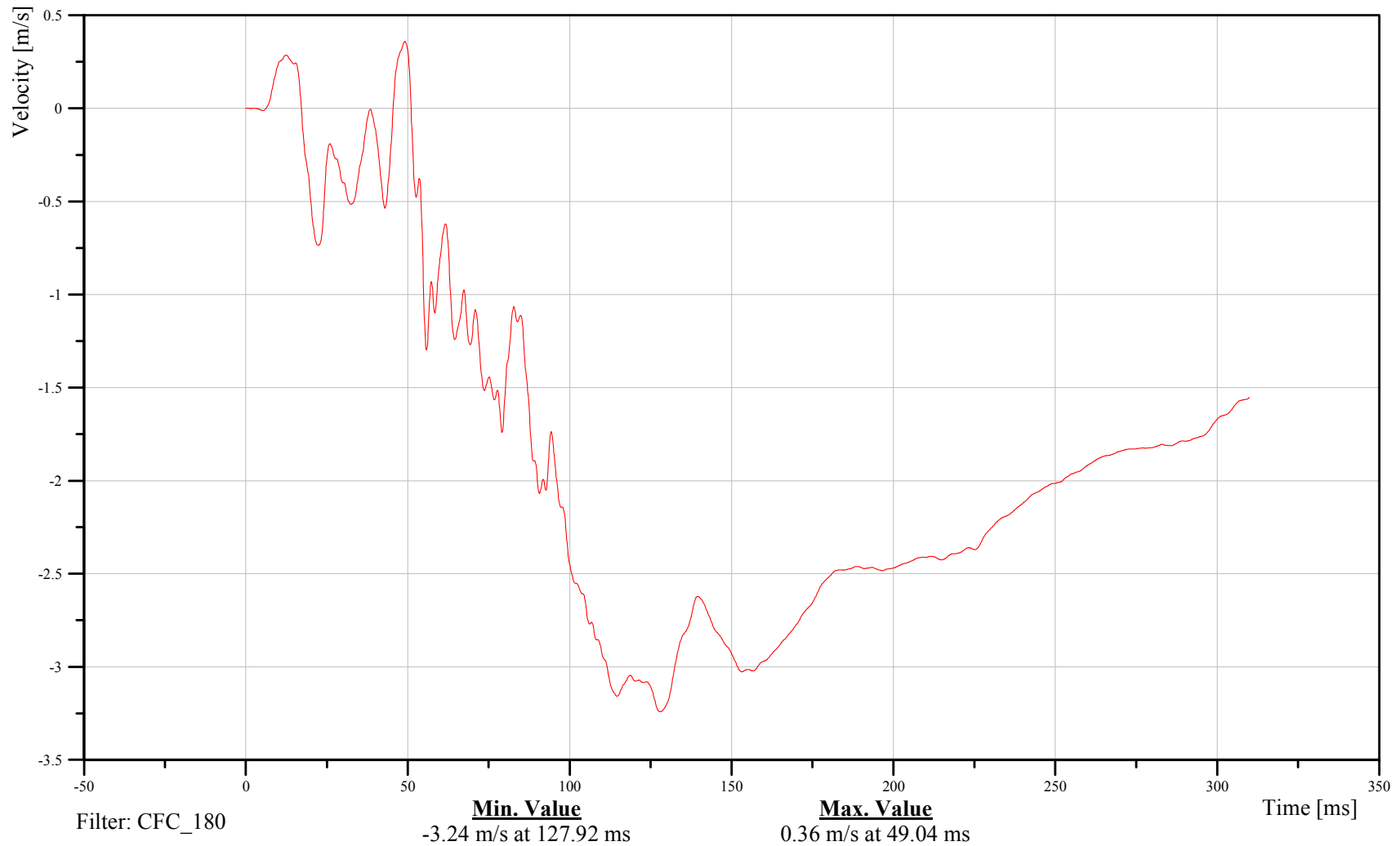
Target Vehicle CG Z-Axis Velocity

Customer: VRTC

10VEHCCG0000VEZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

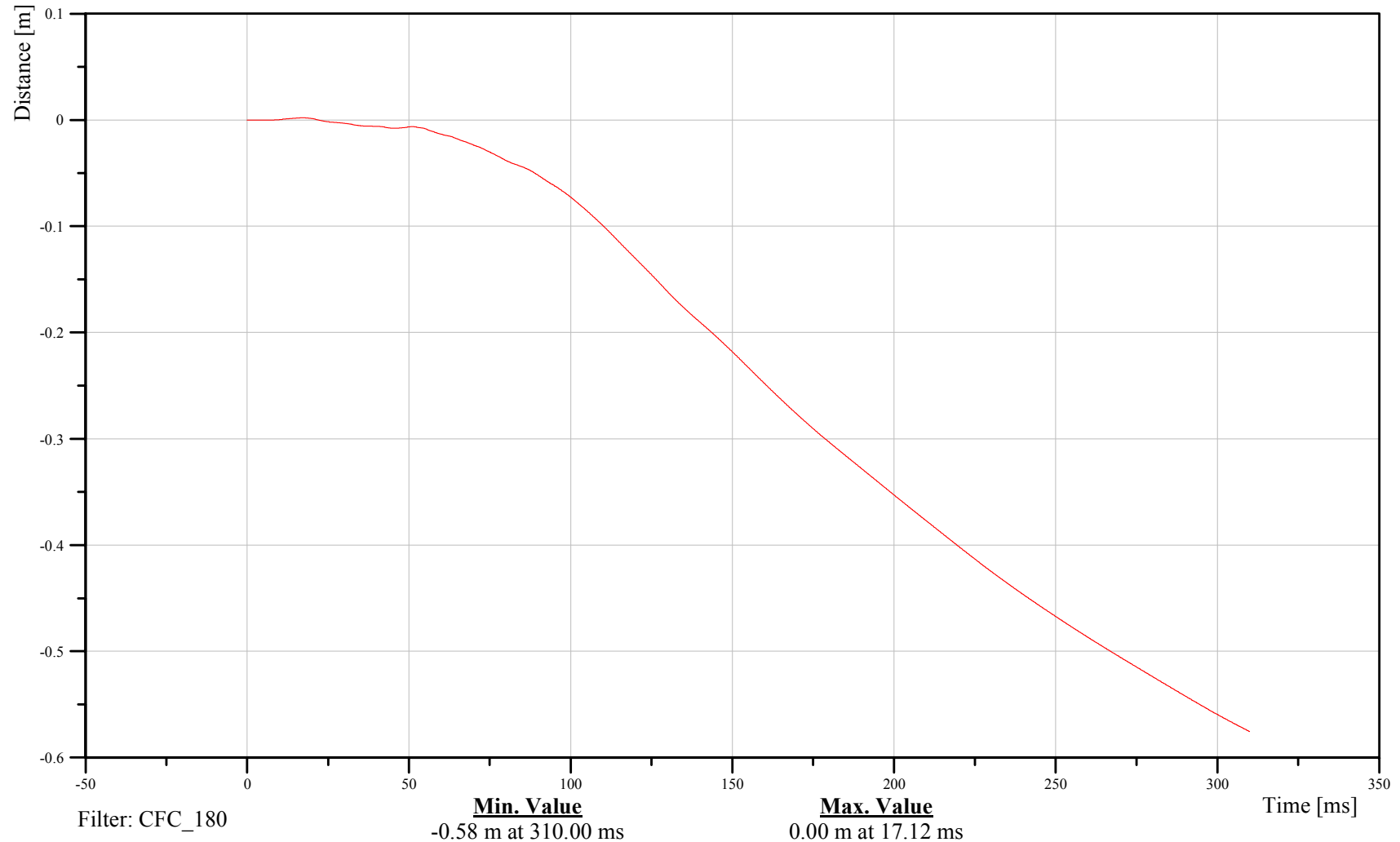
Target Vehicle CG Z-Axis Displacement

Customer: VRTC

10VEHCCG0000DCZC

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

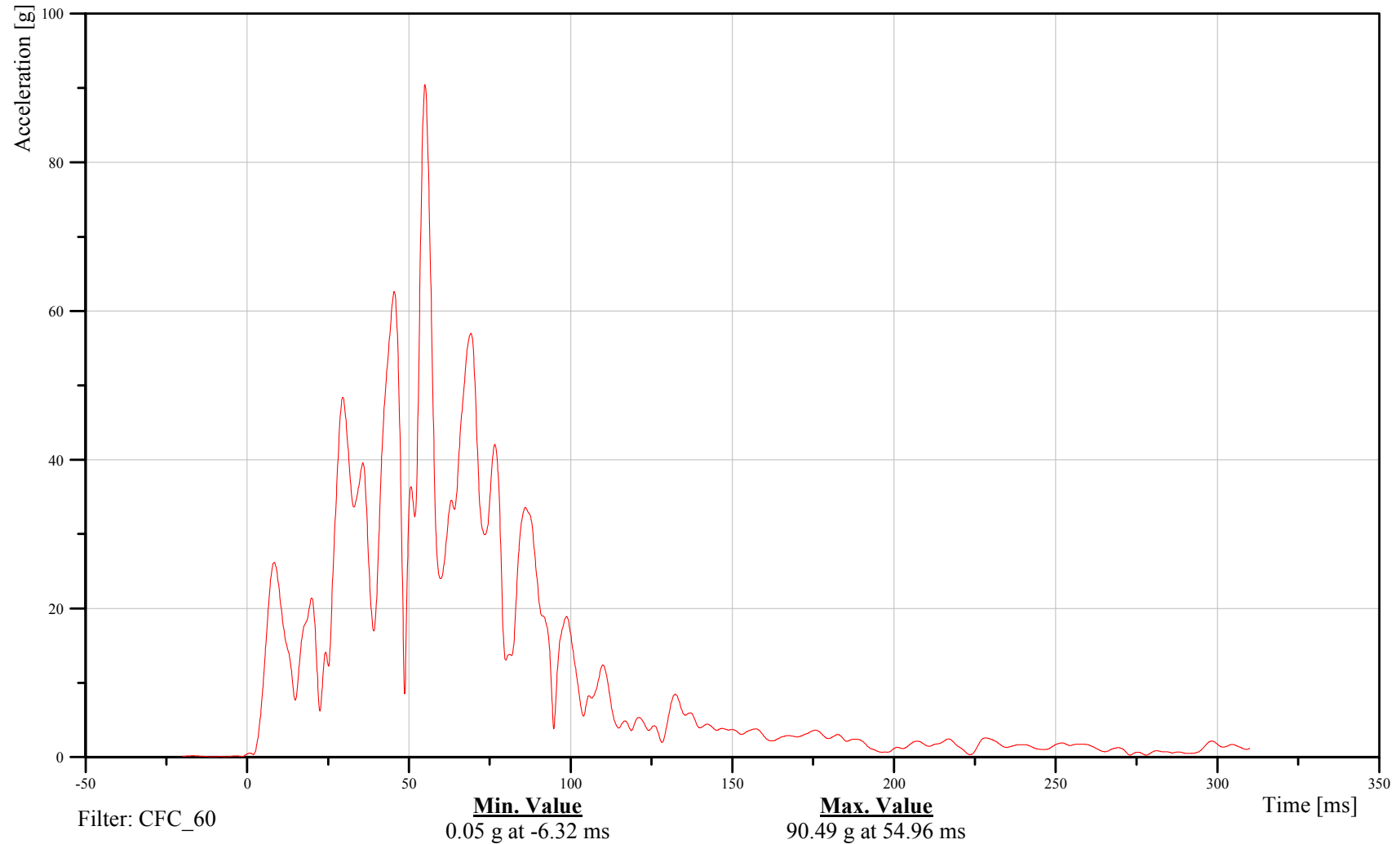
Target Vehicle CG Resultant Acceleration

Customer: VRTC

10VEHCCG0000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

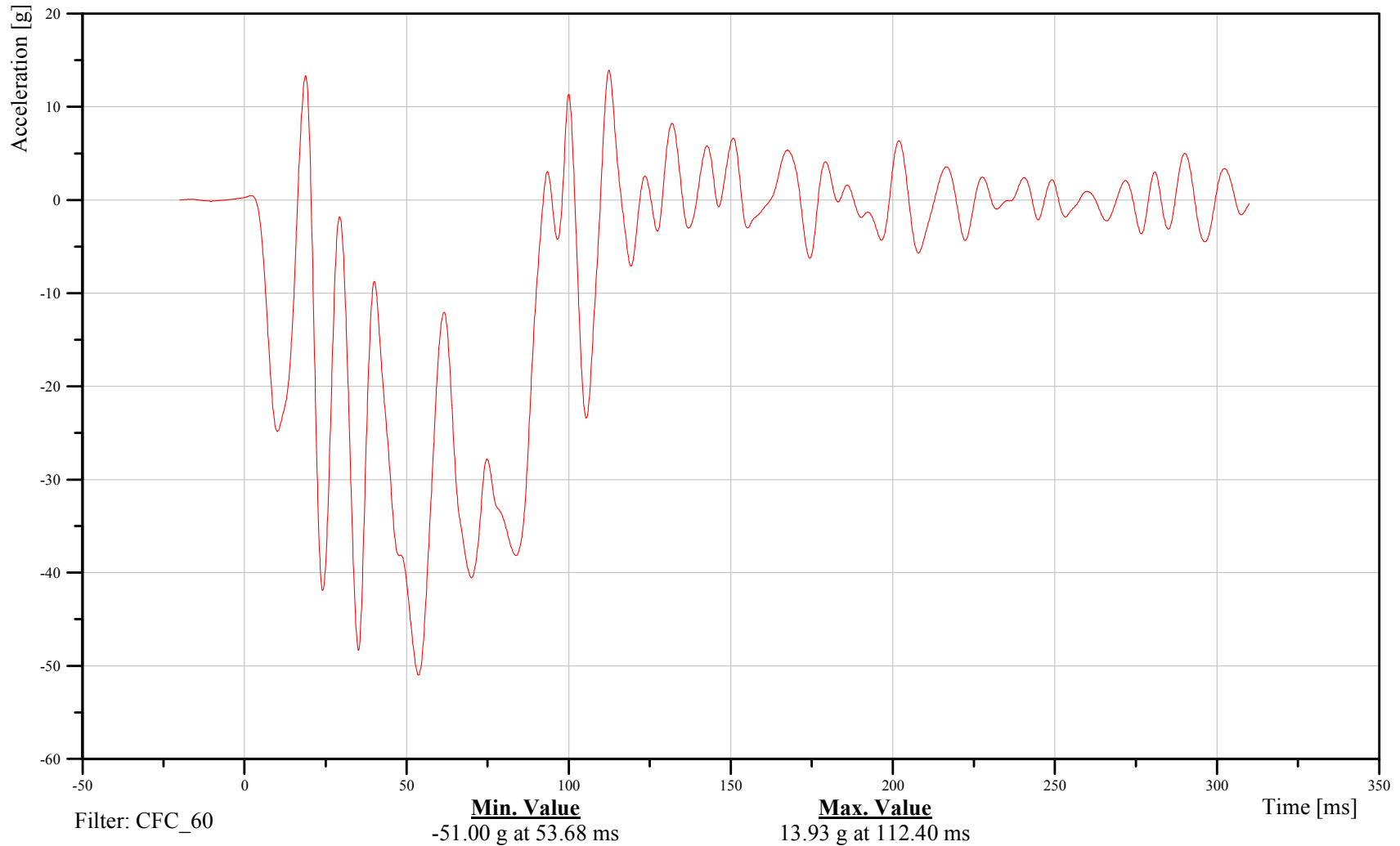
Target Vehicle Rear Deck X-Axis Acceleration

Customer: VRTC

18VEHC000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

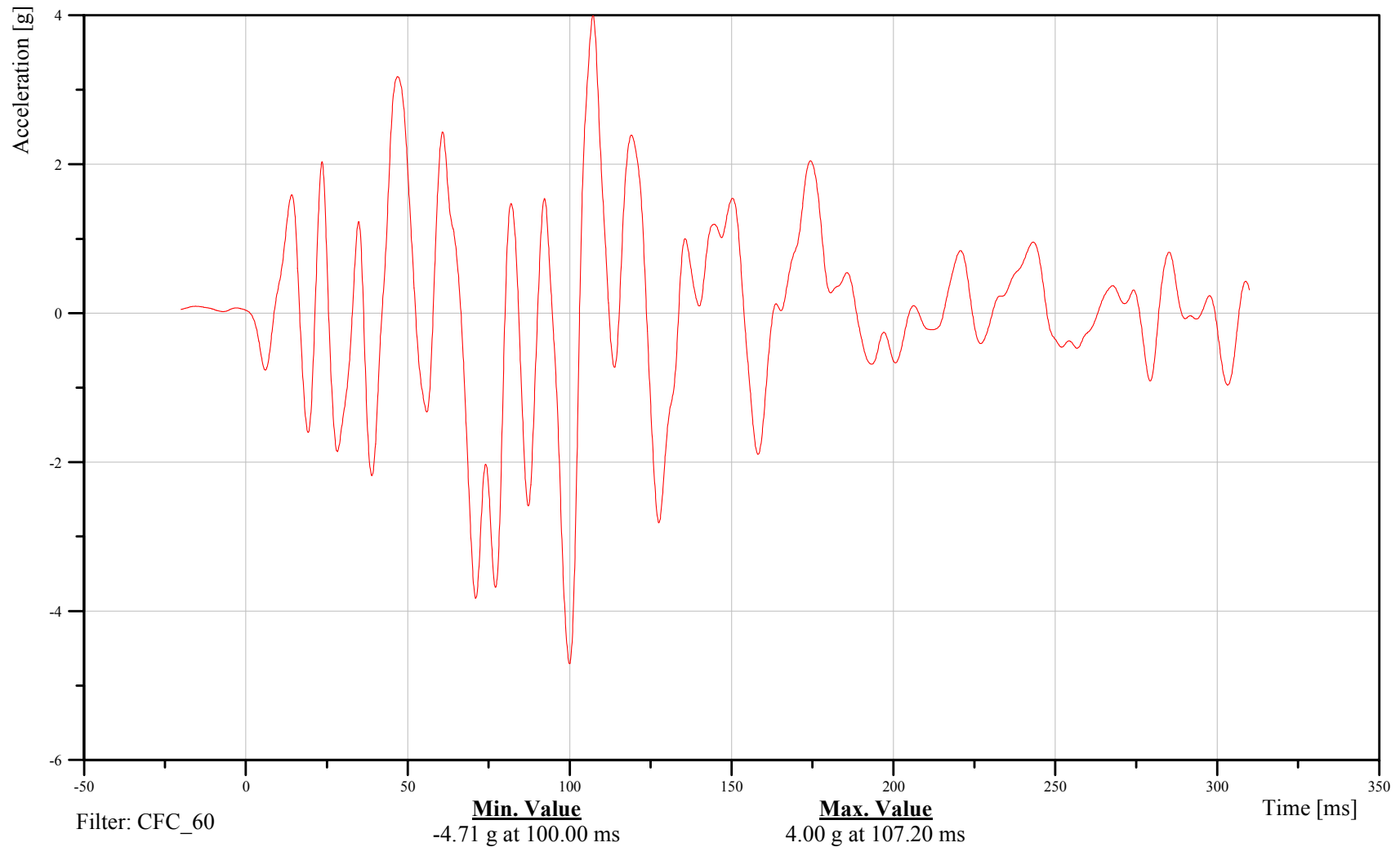
Target Vehicle Rear Deck Y-Axis Acceleration

Customer: VRTC

18VEHC000000ACYD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

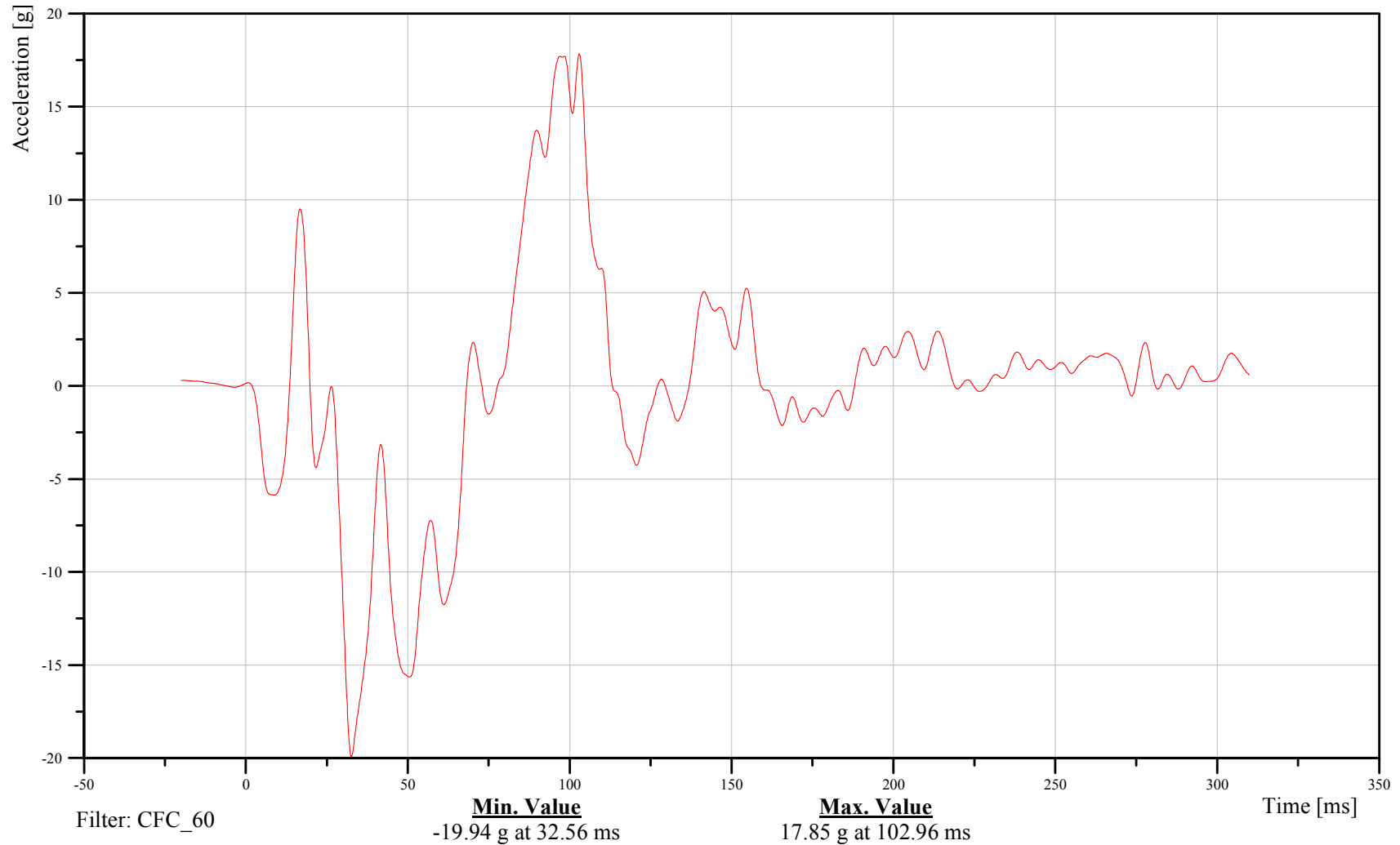
Target Vehicle Rear Deck Z-Axis Acceleration

Customer: VRTC

18VEHC000000ACZD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

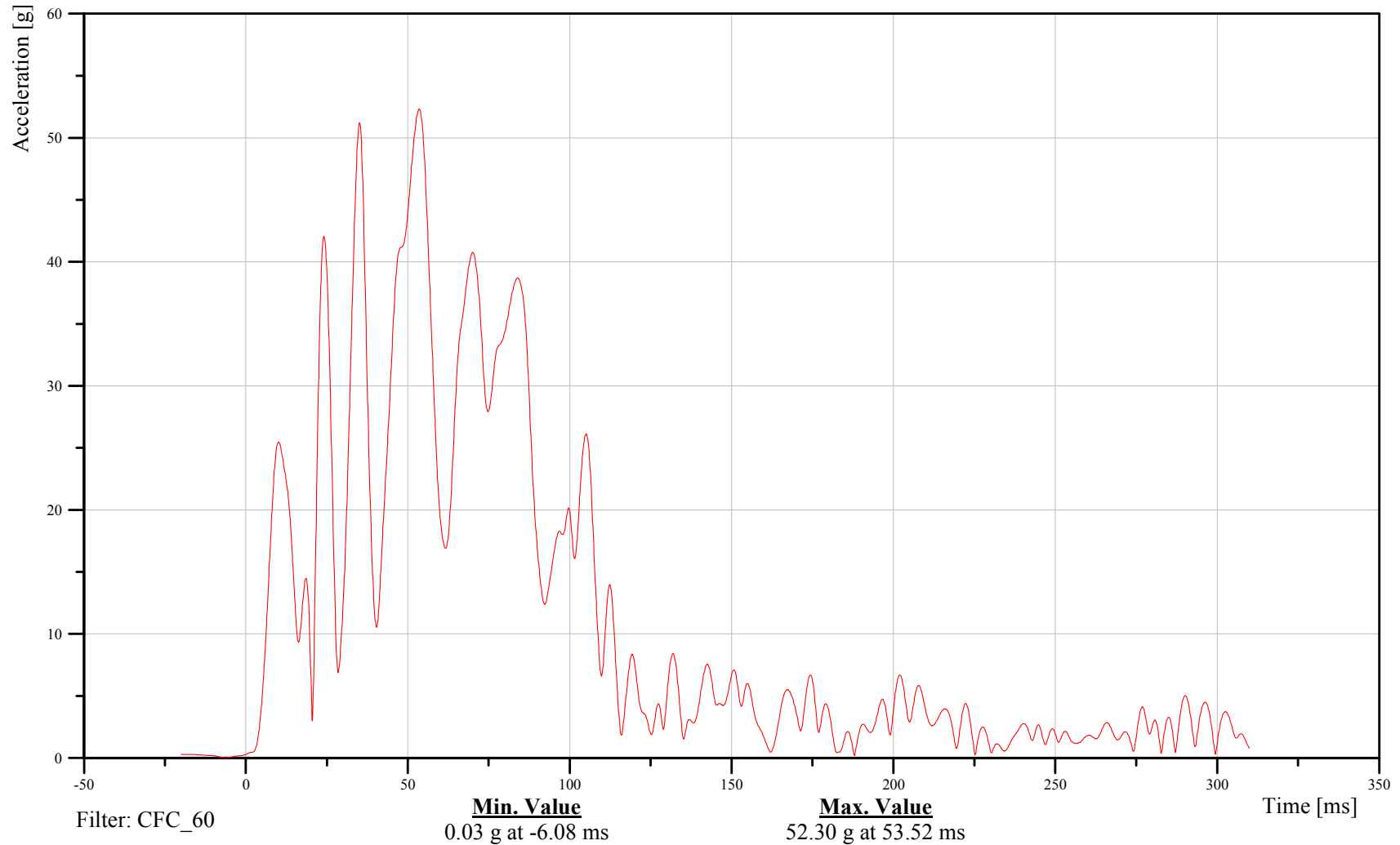
Target Vehicle Rear Deck Resultant Acceleration

Customer: VRTC

18VEHC000000ACRD

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

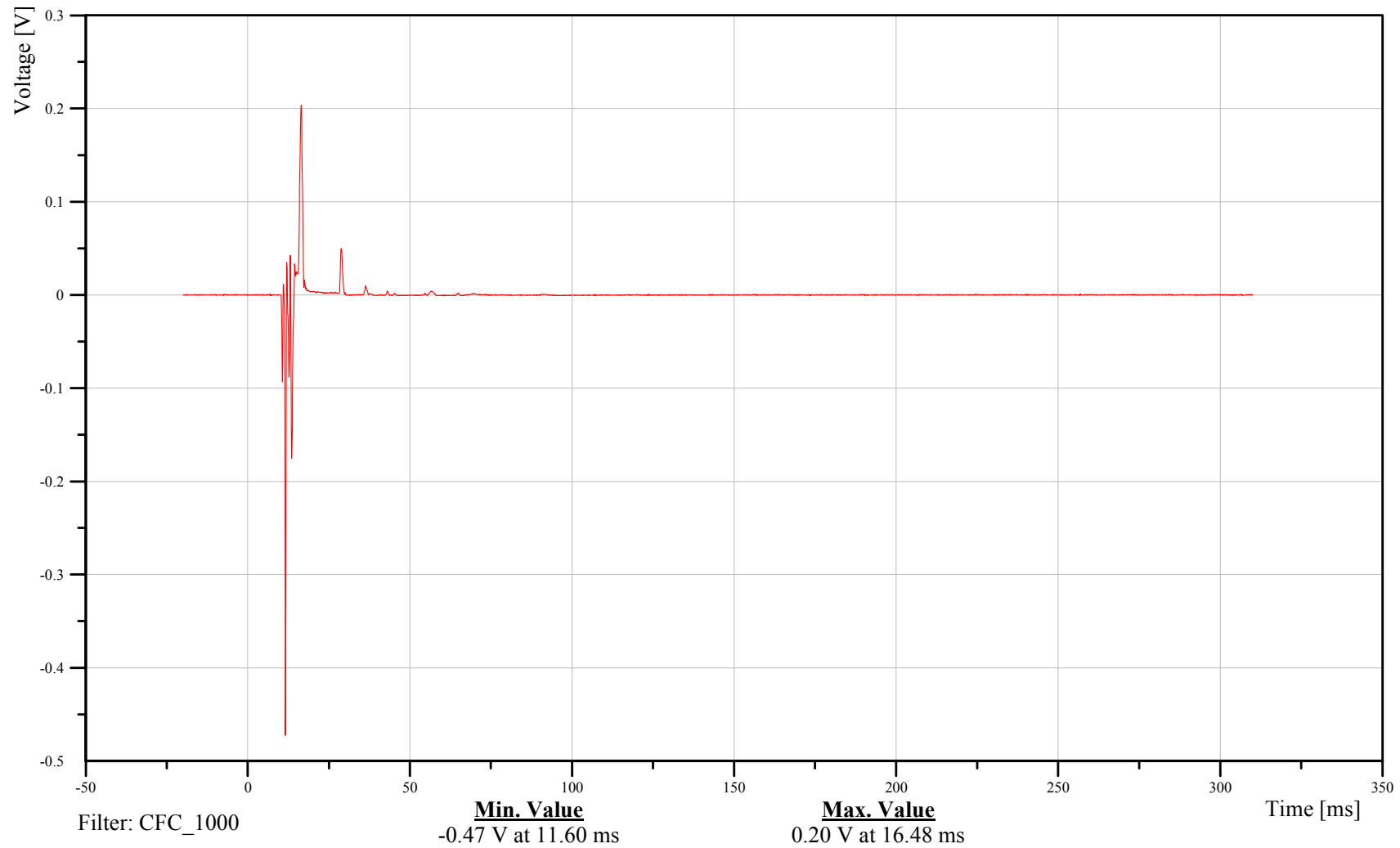
Target Vehicle Driver Airbag - Primary

Customer: VRTC

11SENS000001V00A

TRC Inc. Test Lab: CTF

Test Number: 050906



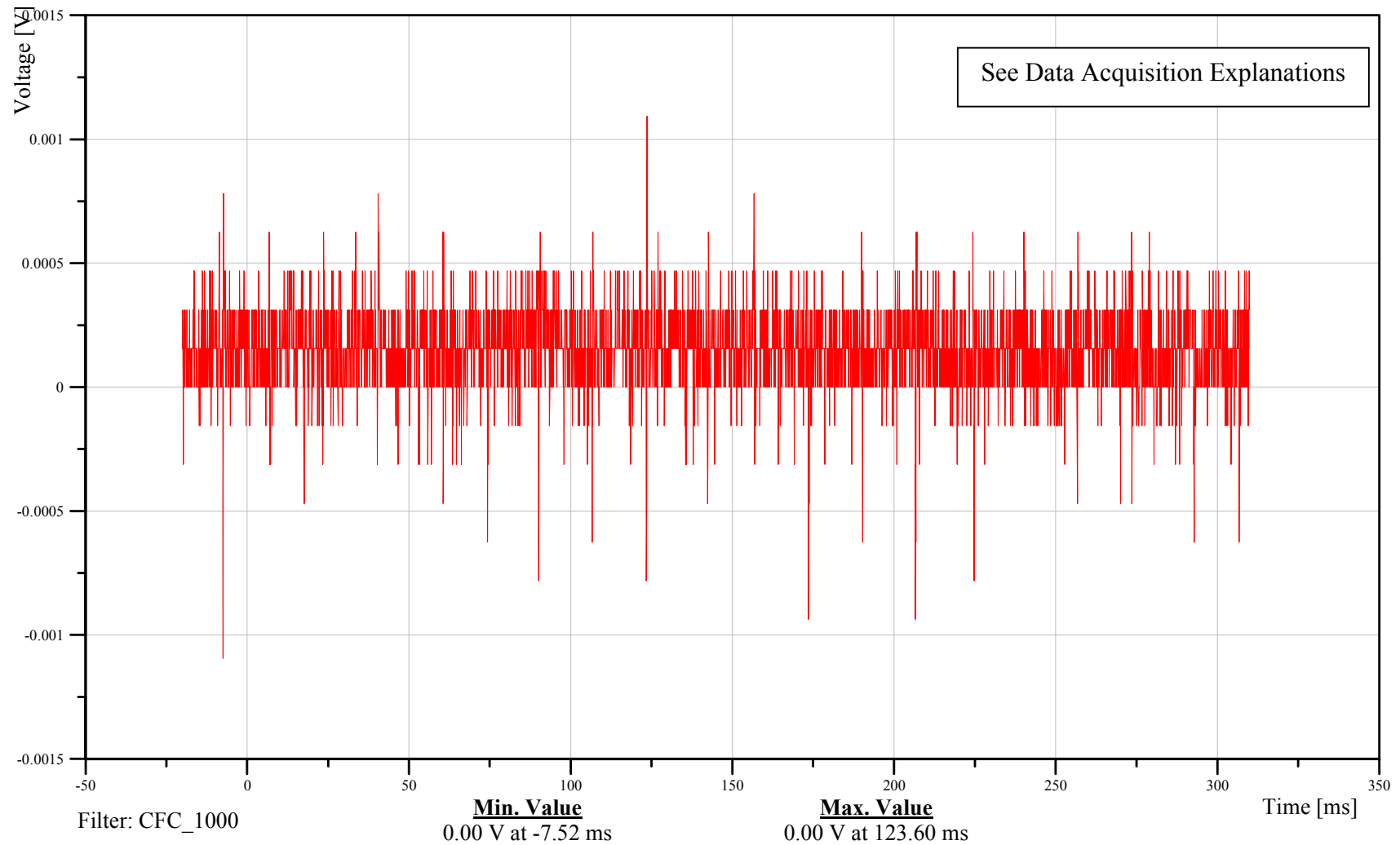


Customer: VRTC

11SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906



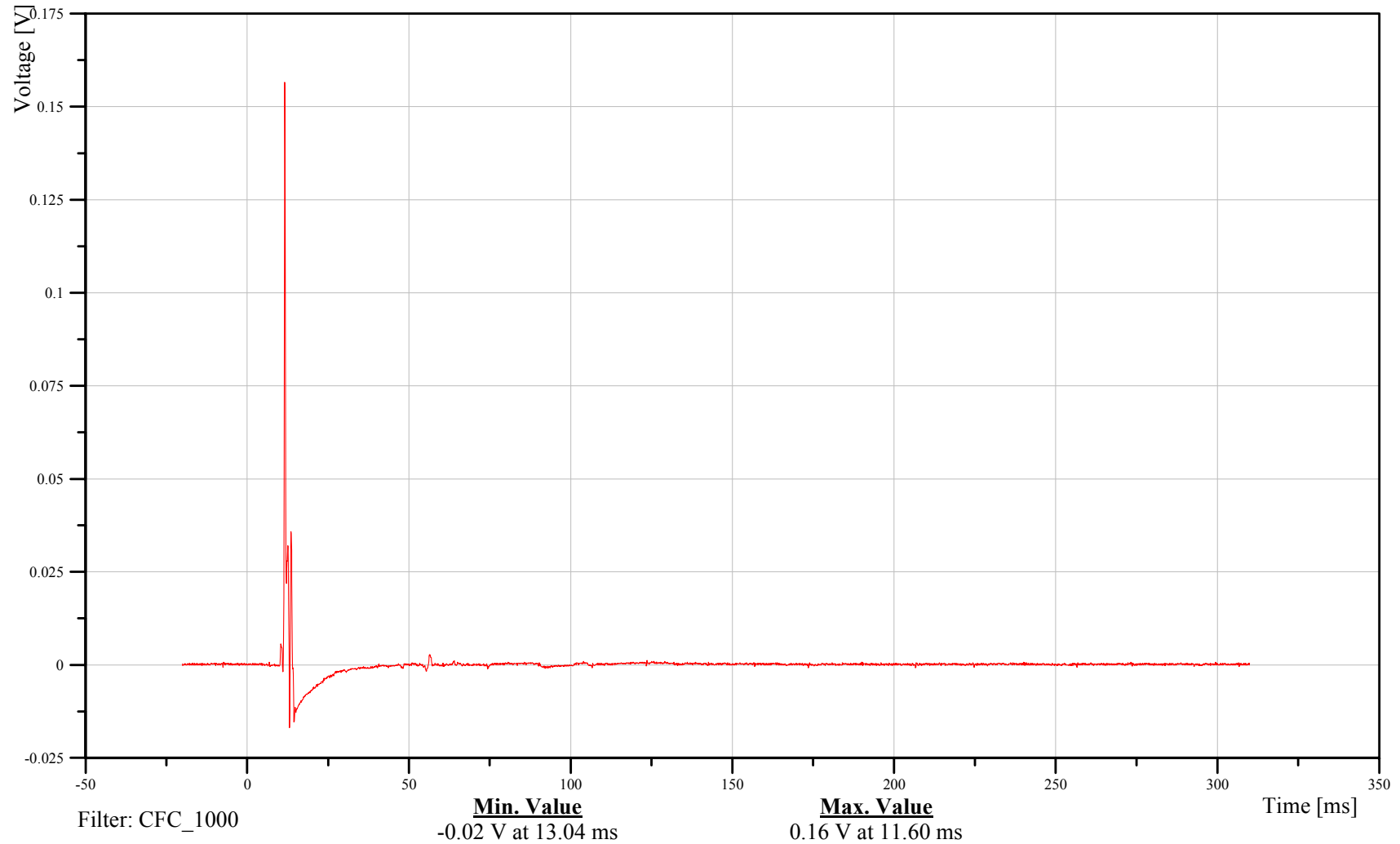


Customer: VRTC

13SENS000001VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

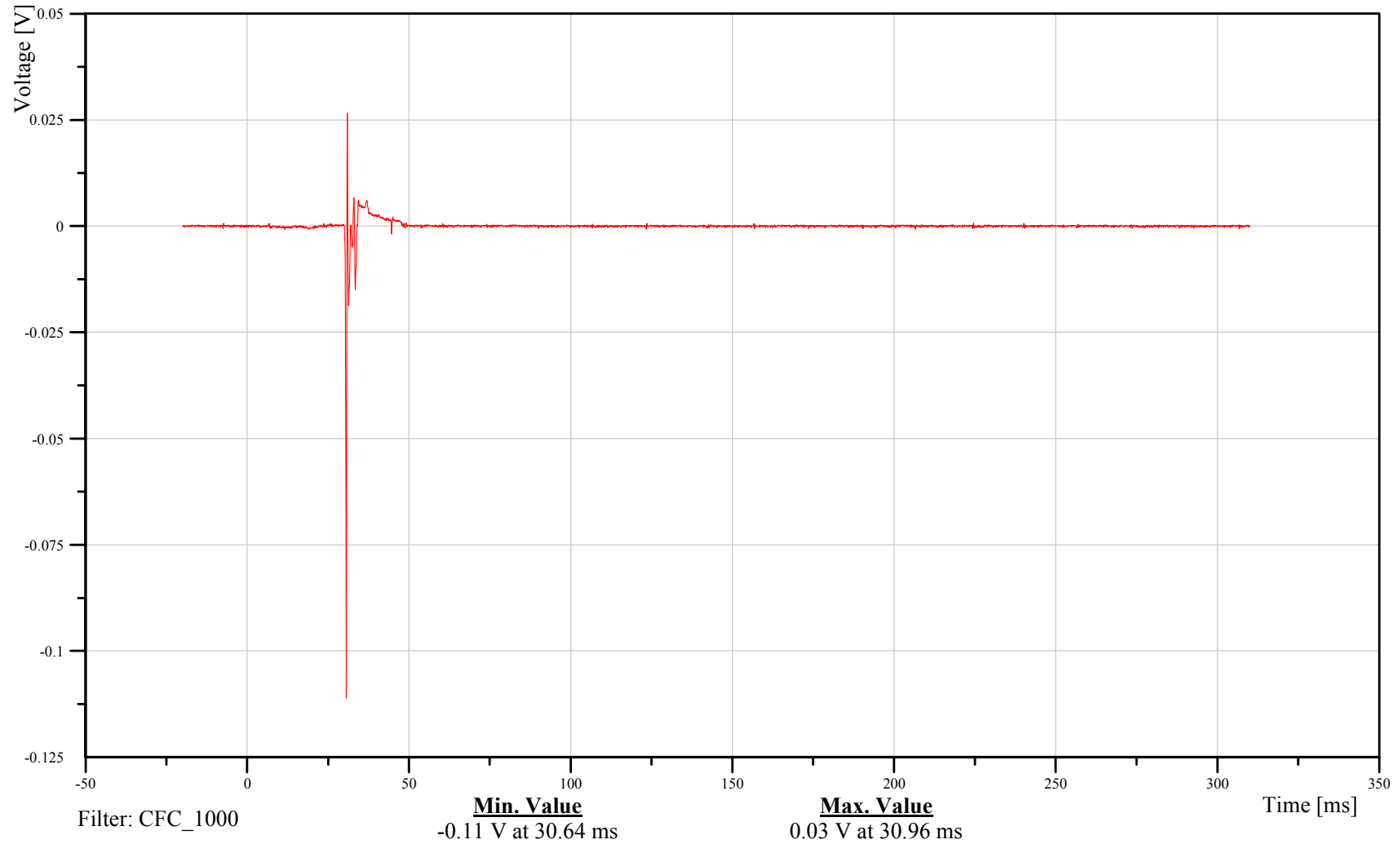
Target Vehicle Passenger Airbag - Secondary

Customer: VRTC

13SENS000002VO0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

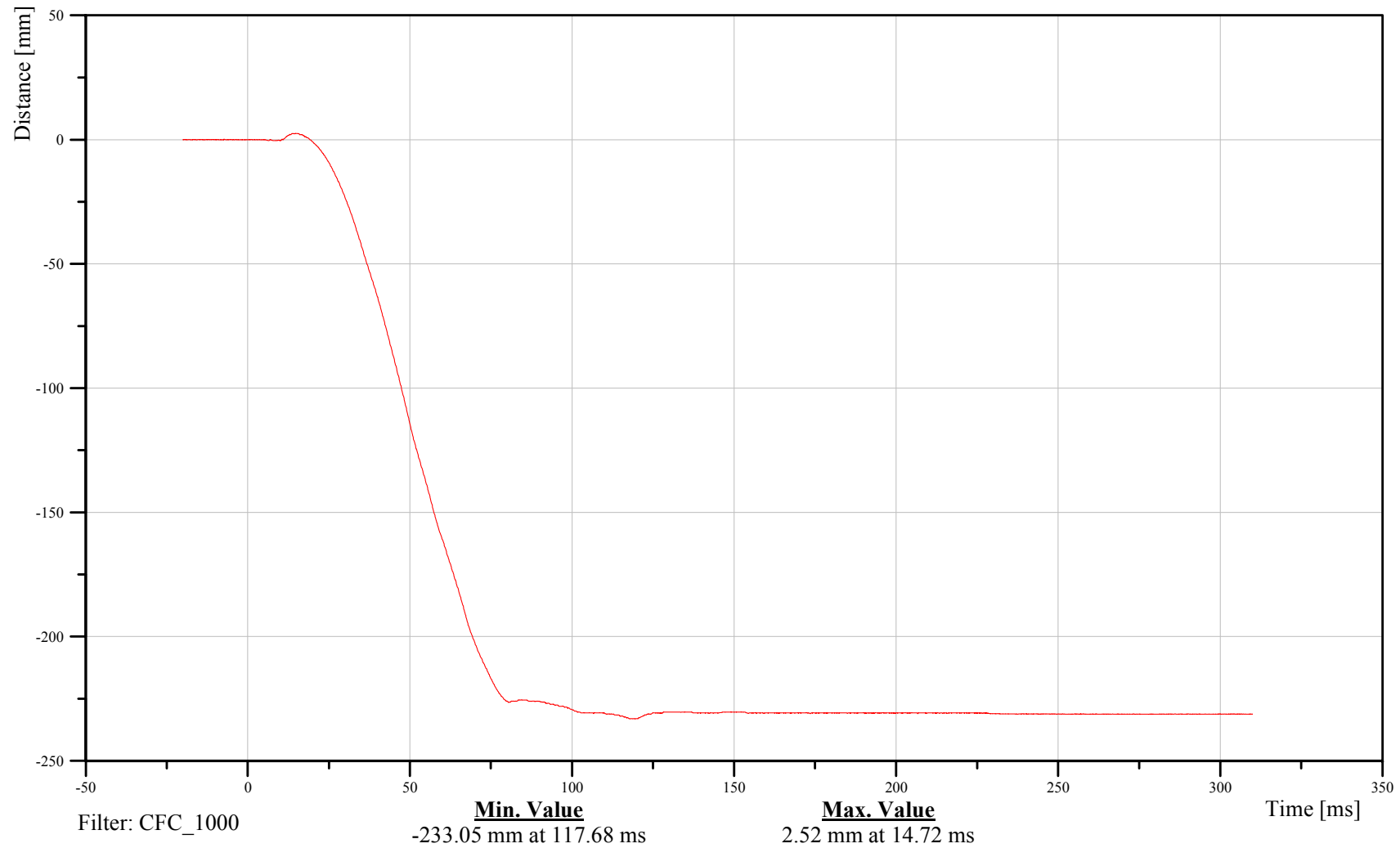
Target Vehicle Driver Lap Belt Spool

Customer: VRTC

11SEBA0000B5DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2022 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

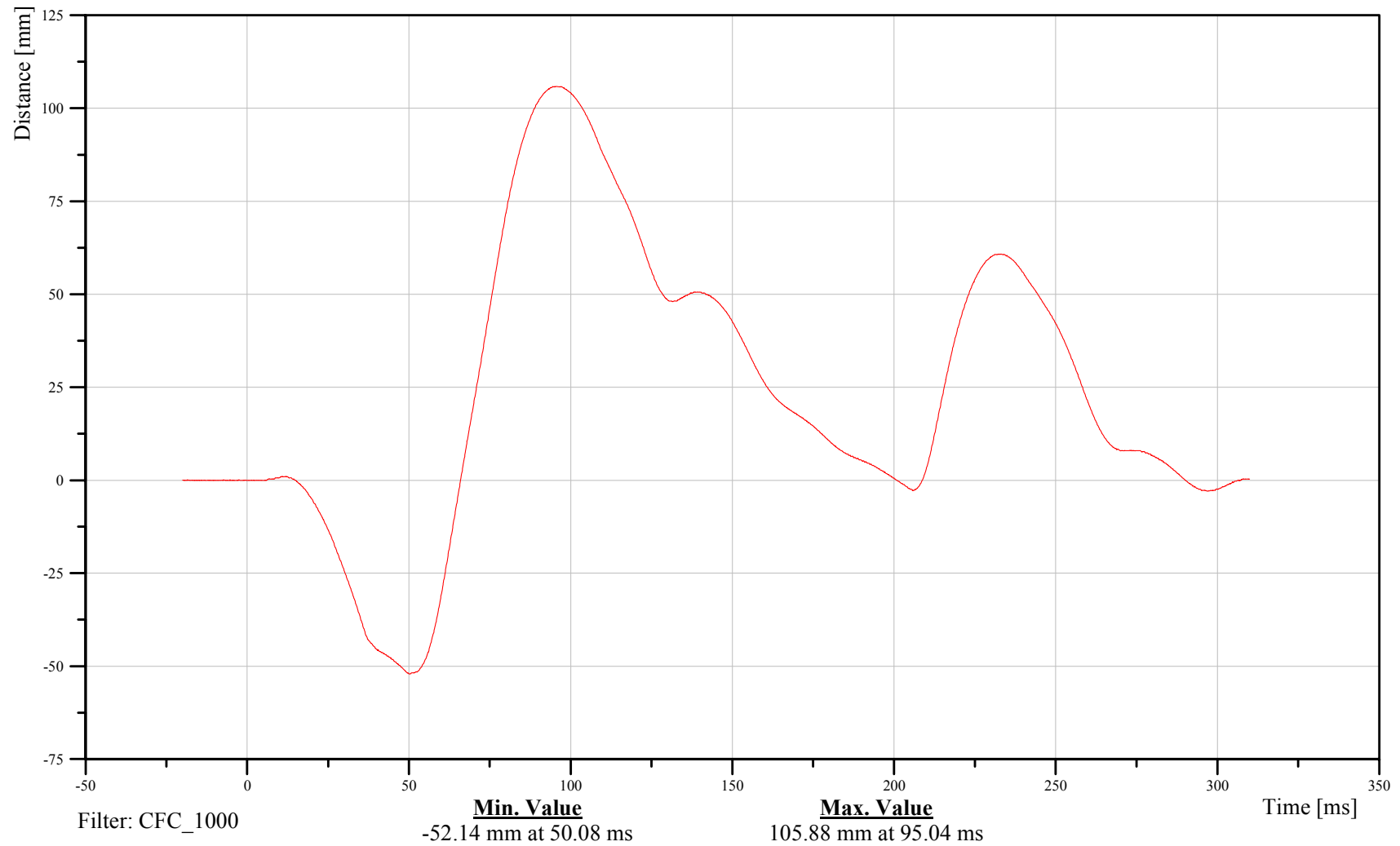
Target Vehicle Driver Shoulder Belt Spool and Retraction

Customer: VRTC

11SEBA0000B3DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Vehicle RF Pass Lap Belt Spool

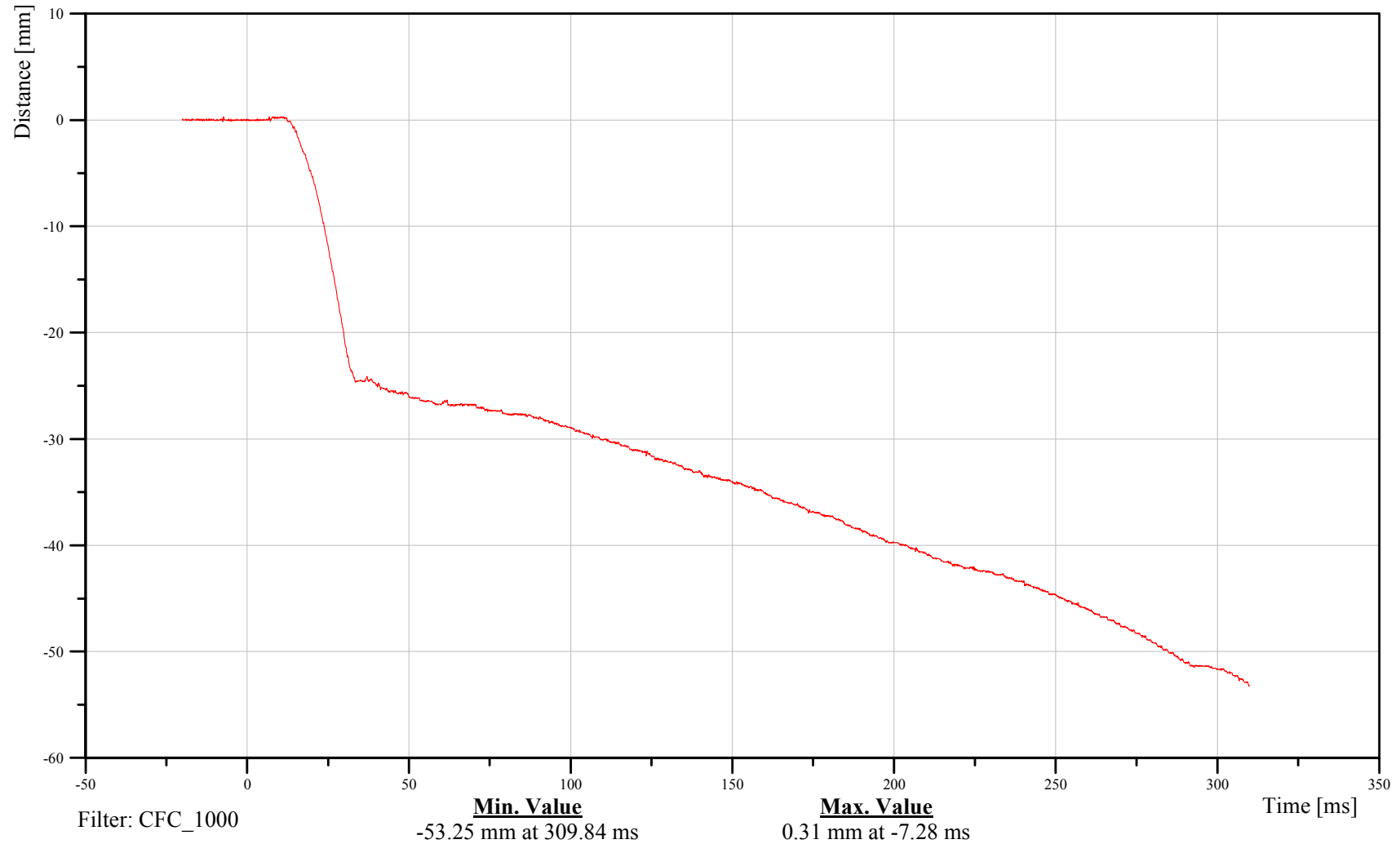
Time: 12:43

Customer: VRTC

13SEBA0000B5DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005

Target Vehicle RF Pass Shoulder Belt Spool and Retraction

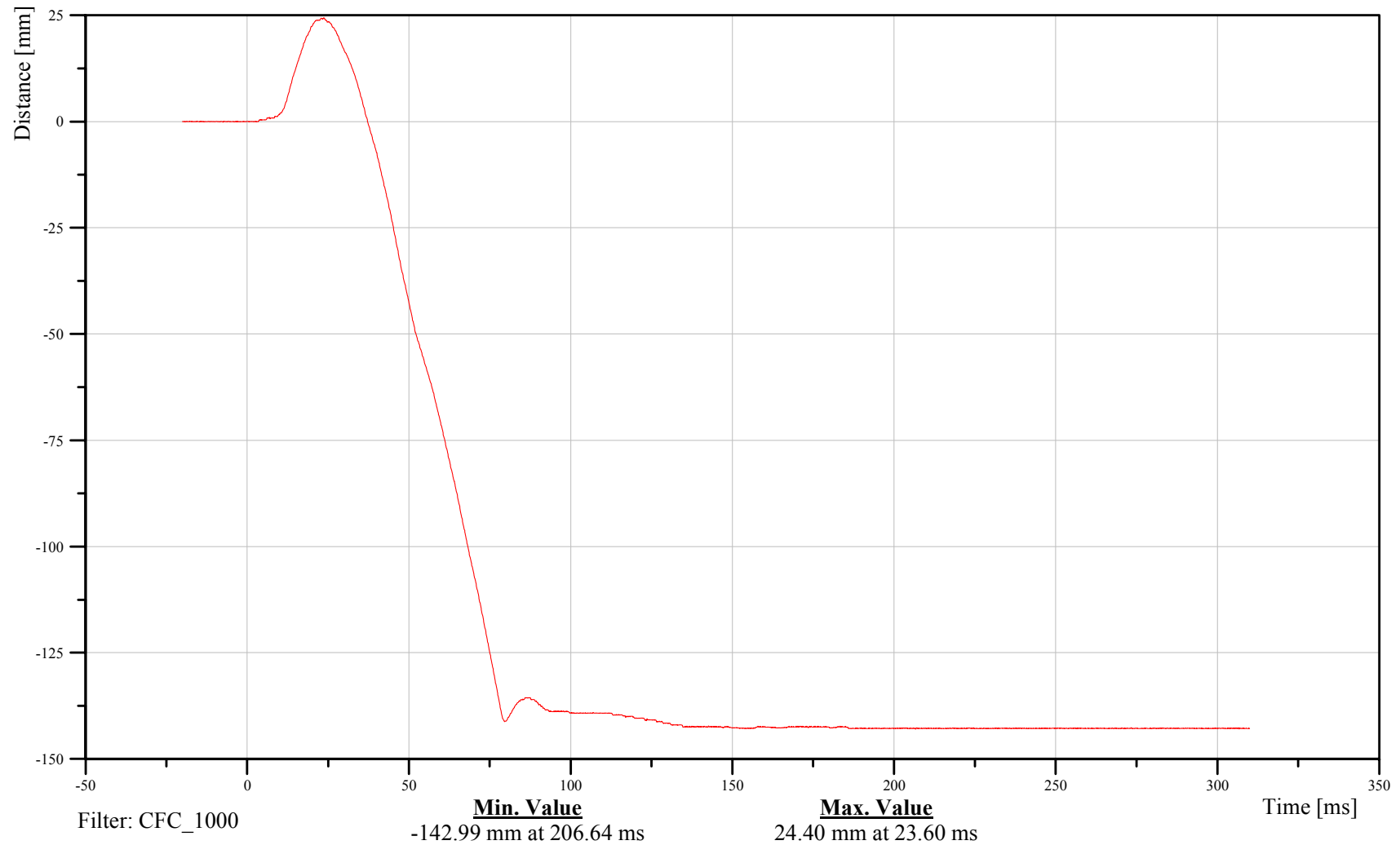
Time: 12:43

Customer: VRTC

13SEBA0000B3DS0A

TRC Inc. Test Lab: CTF

Test Number: 050906





2005 Chrysler Town & Country into 2002 Ford Focus Full Frontal Collinear

Date: 09/26/2005
Time: 12:43

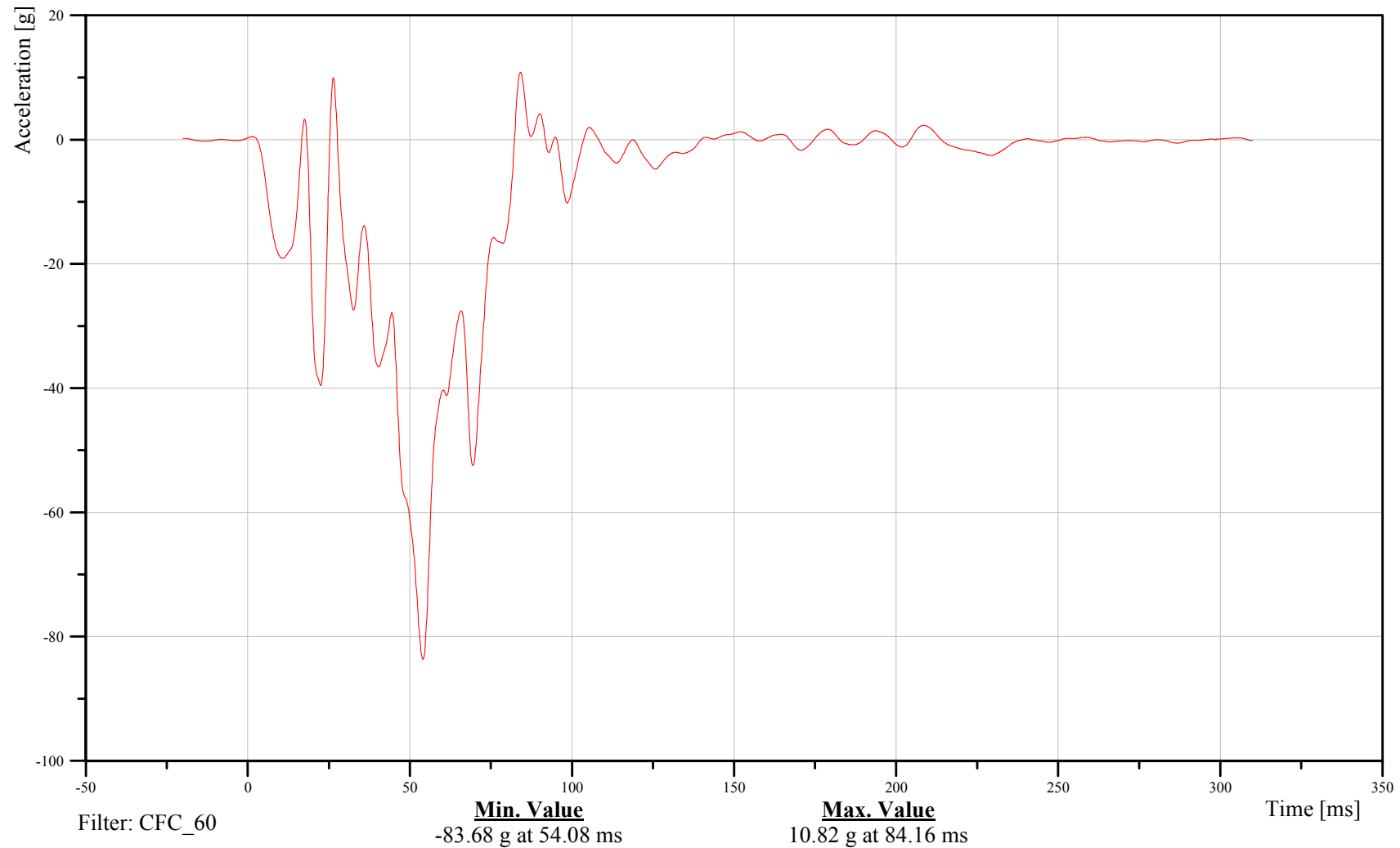
Target Vehicle IP Center

Customer: VRTC

12DASH000000ACXD

TRC Inc. Test Lab: CTF

Test Number: 050906



Appendix C

Dummy Configuration and Performance Verification Data

Pre-Test Dummy Configuration and Performance Verification Data

Target Vehicle Driver Dummy S/N: 110

Transportation Research Center Inc.
572E HIII 50th Male Dummy
External Dimensions
Serial No. 110 w/ THOR-LX Calibration No. 16

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	888	Yes
B	Shoulder Pivot Height	505.5 - 520.7	515	Yes
C	H-Point Height	83.8 - 88.9	92	No
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	154	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	291	Yes
H	Skull Cap To Backline	40.6 - 45.7	43	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	341	Yes
J	Elbow Rest Height	190.5 - 210.8	210	Yes
K	Buttock Knee Length	579.1 - 604.5	601	Yes
L	Popliteal Height	429.3 - 454.7	439	Yes
M	Knee Pivot Height	485.1 - 500.4	497	Yes
N	Buttock Popliteal Length	452.1 - 477.5	471	Yes
O	Chest Depth	213.4 - 228.6	222	Yes
P	Foot Length	251.5 - 266.7	253	Yes
V	Shoulder Breadth	421.6 - 436.9	426	Yes
W	Foot Breadth	91.4 - 106.7	97	Yes
Y	Chest Circumference	970.3 - 1000.8	980	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	228	Yes

Does not meet all specifications

Technician

Vivian D. Smith

Approved

V. P. Watts

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 110 Certification No. 16-3

Test Date: 8/25/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	258.2 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	6.6 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Pre-test calibration. Head response was adjusted with a light application of silicone to the skin/skull interface.

Technician

Vince Olms

Approved

V.P. Walter

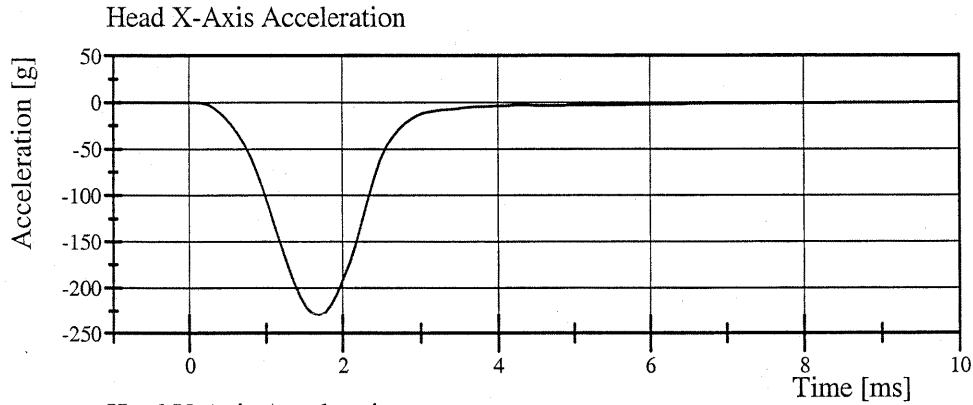


Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 110 Certification No. 16-3

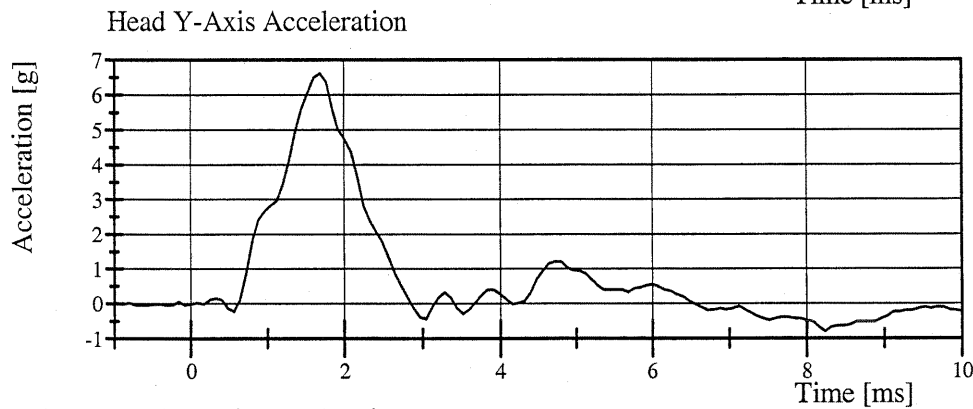
Test Date: 8/25/2005



Filter Class: CFC_1000

Max: 0.2 g at 9.9 ms

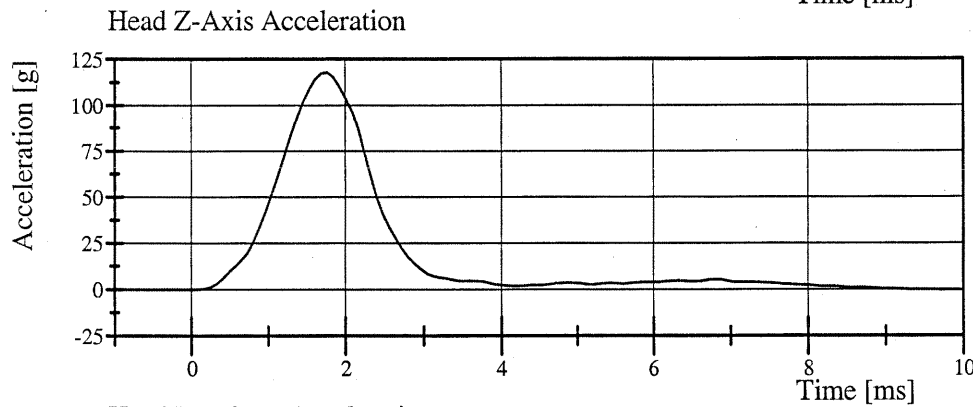
Min: -229.9 g at 1.7 ms



Filter Class: CFC_1000

Max: 6.6 g at 1.7 ms

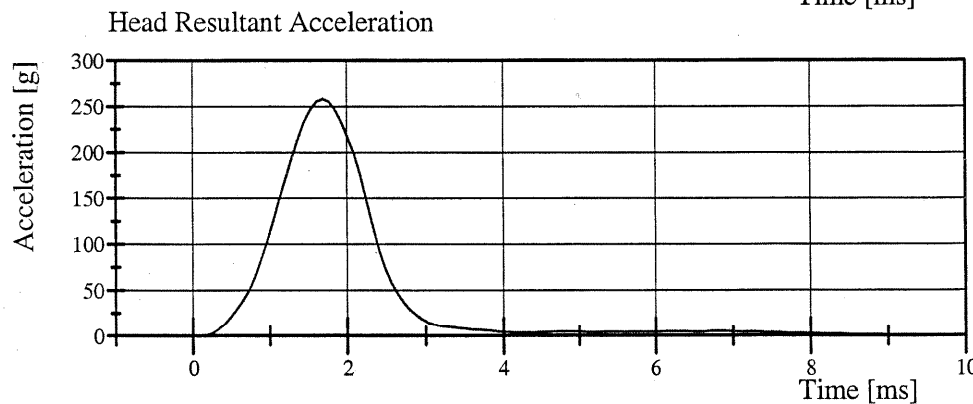
Min: -0.8 g at 8.2 ms



Filter Class: CFC_1000

Max: 117.9 g at 1.8 ms

Min: -0.4 g at 10.0 ms



Filter Class: CFC_1000

Max: 258.2 g at 1.7 ms

Min: 0.0 g at -0.9 ms

Transportation Research Center Inc.

572E Neck Flexion Test - 6 Channel Transducer

HIII 50th Male Serial No. 110 Calibration No. 16 - 3

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Impact Velocity	6.89 - 7.13 m/s	6.97 m/s	Yes
Pendulum Deceleration			
10 ms	22.50 - 27.50 g	23.24 g	Yes
20 ms	17.60 - 22.60 g	21.26 g	Yes
30 ms	12.50 - 18.50 g	15.47 g	Yes
Max Pendulum Deceleration	29.00 g	24.31 g	Yes
Max Pendulum Deceleration After 30 ms	29.00 g	15.38 g	Yes
Deceleration-Time Curve Decay Time To 5g	34 - 42 ms	39.92 ms	Yes
D Plane Rotation			
Max	64 - 78 °	67.61 °	Yes
Time	57 - 64 ms	58.72 ms	Yes
Moment About Occipital Condyle			
Max	88.1 - 108.5 N·m	98.25 N·m	Yes
Time	47 - 58 ms	52.88 ms	Yes
Rotation Angle-Time Curve Decay Time To Zero	113 - 128 ms	120.80 ms	Yes
Positive Moment-Time Curve Decay Time To Zero	97 - 107 ms	100.16 ms	Yes

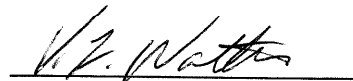
Test meets specifications.

Comments:

Technician



Approved



08.30.2005 12:15:55 590

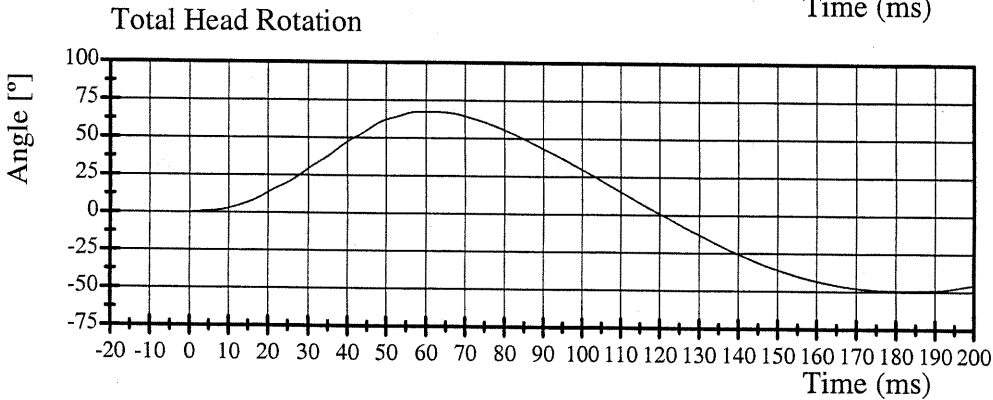
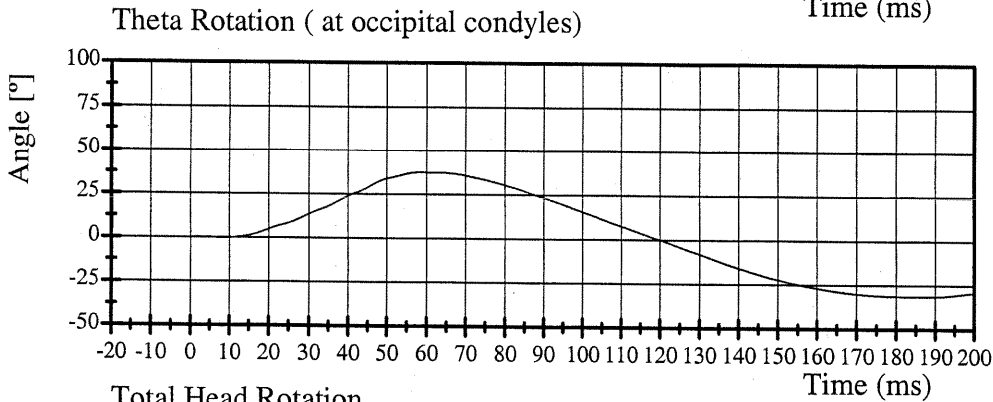
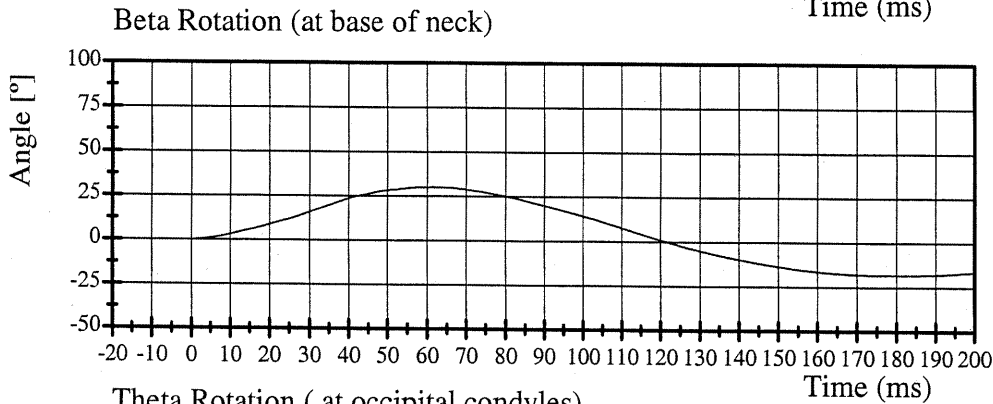
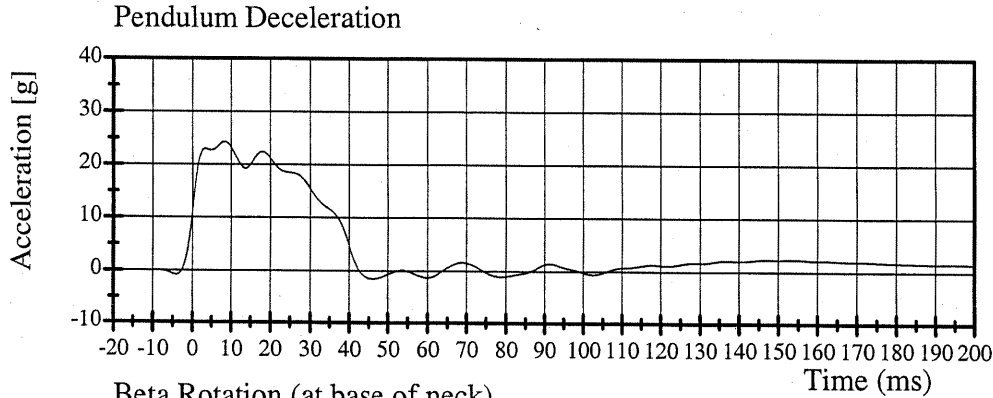


Transportation Research Center Inc.

572E Neck Flexion Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 3

Test Date 08/30/2005



08.30.2005 12:15:56 590

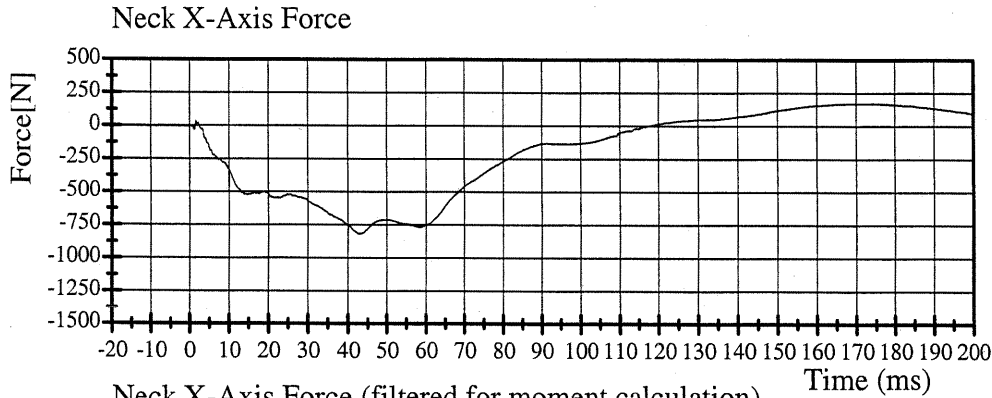


Transportation Research Center Inc.

572E Neck Flexion Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 3

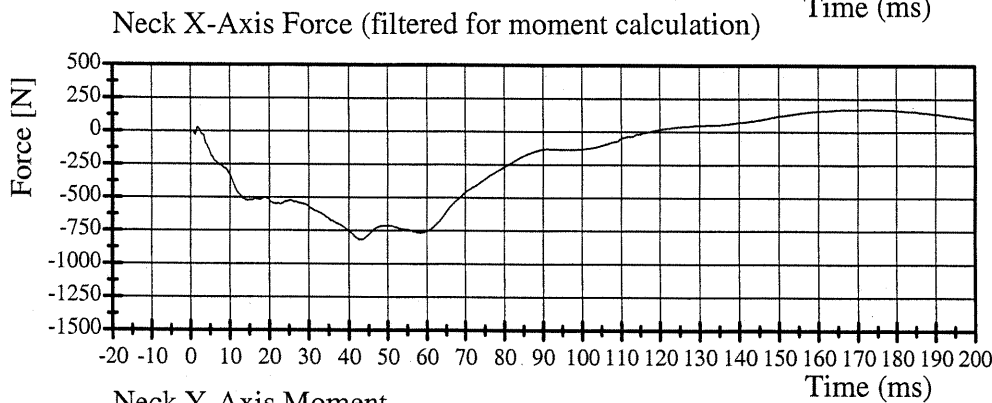
Test Date 08/30/2005



Filter Class: 1000

Max: 172.5 N at 172.2 ms

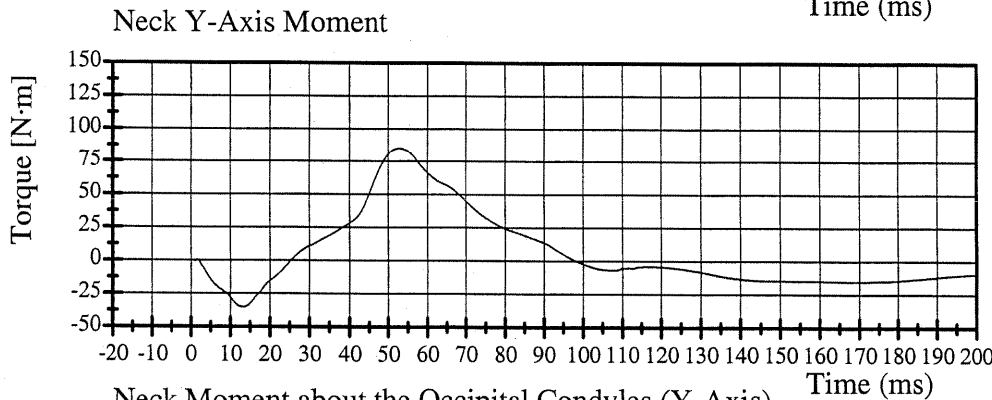
Min: -816.8 N at 43.0 ms



Filter Class: 600

Max: 172.0 N at 173.7 ms

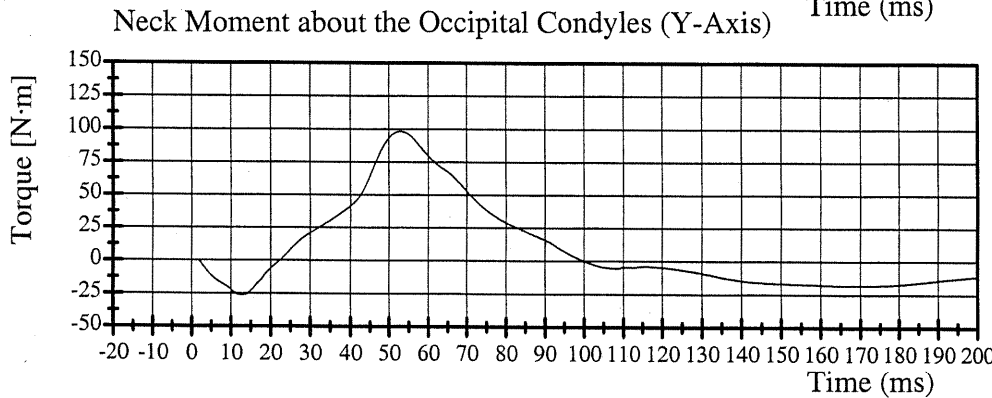
Min: -816.7 N at 43.1 ms



Filter Class: 600

Max: 85.3 N·m at 52.8 ms

Min: -35.1 N·m at 13.3 ms



Filter Class: 600

Max: 98.3 N·m at 52.9 ms

Min: -26.3 N·m at 12.7 ms

08.30.2005 12:15:57 590



Transportation Research Center Inc.

572E Neck Extension Test - 6 Channel Transducer

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.02 m/s	Yes
Pendulum Deceleration			
10 ms	17.20 - 21.20 g	18.45 g	Yes
20 ms	14.00 - 19.00 g	16.76 g	Yes
30 ms	11.00 - 16.00 g	14.84 g	Yes
Max Pendulum Deceleration	22.00 g	19.22 g	Yes
Max Pendulum Deceleration After 30 ms	22.00 g	14.93 g	Yes
Deceleration-Time Curve			
Decay Time To 5g	38 - 46 ms	39.76 ms	Yes
D Plane Rotation			
Max	81 - 106 °	95.20 °	Yes
Time	72 - 82 ms	76.72 ms	Yes
Moment About Occipital Condyle			
Min	-80.0 - (-52.9) N·m	-68.87 N·m	Yes
Time	65 - 79 ms	71.60 ms	Yes
Rotation Angle-Time Curve			
Decay Time To Zero	147 - 174 ms	160.80 ms	Yes
Negative Moment-Time Curve			
Decay Time To Zero	120 - 148 ms	143.60 ms	Yes

Test meets specifications.

Comments:

Technician

Approved

08.30.2005 13:05:58 677

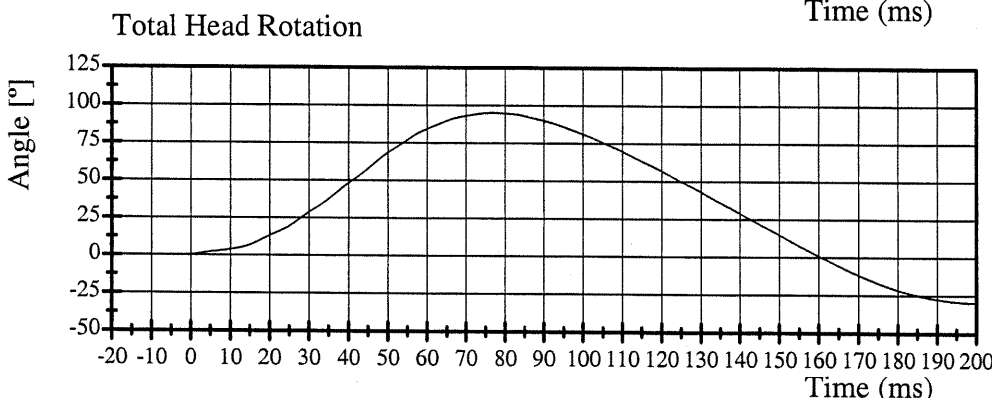
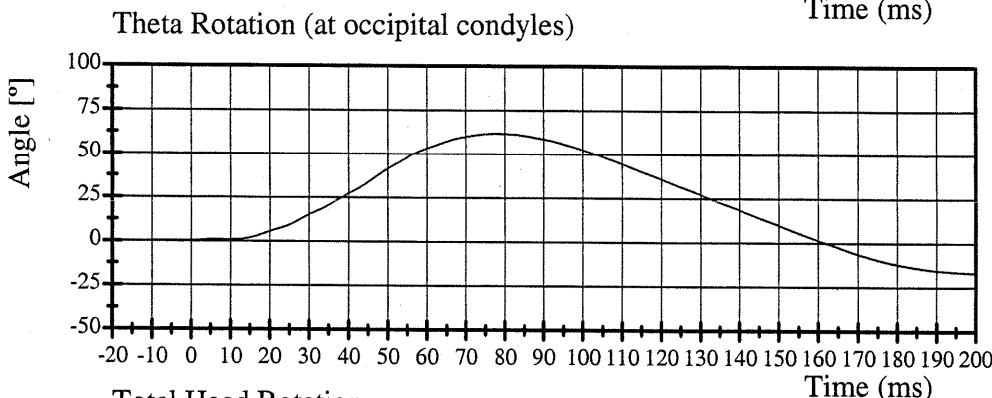
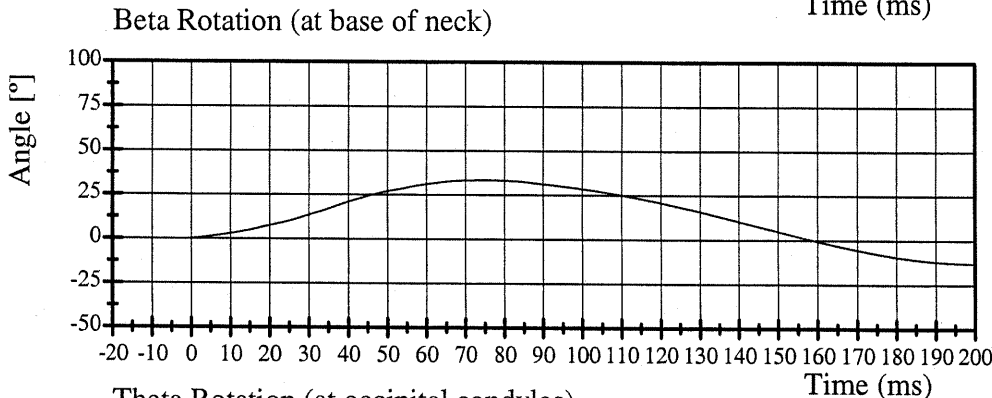
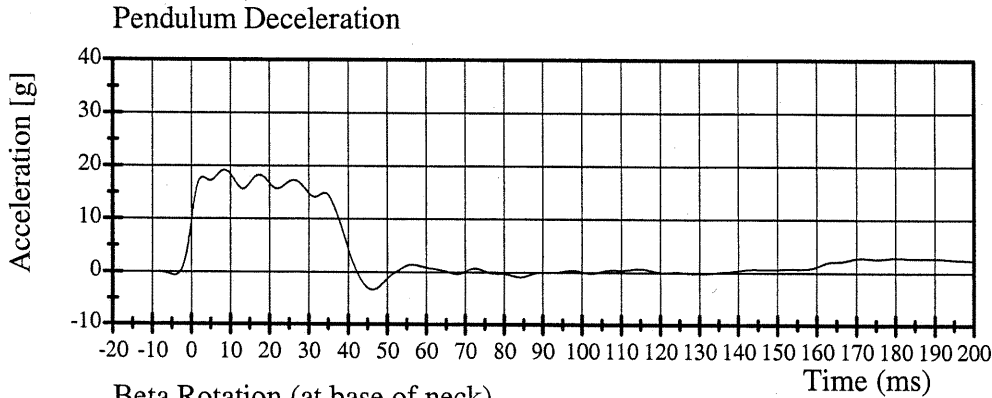


Transportation Research Center Inc.

572E Neck Extension Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/30/2005



08.30.2005 13:05:59 677

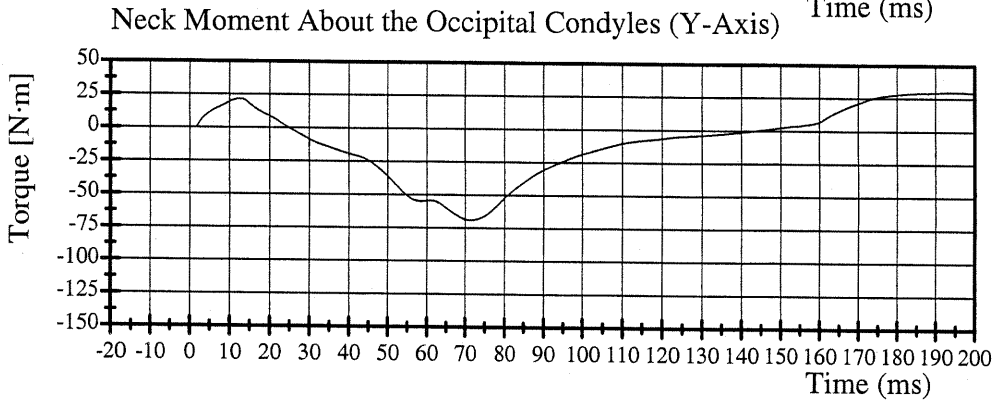
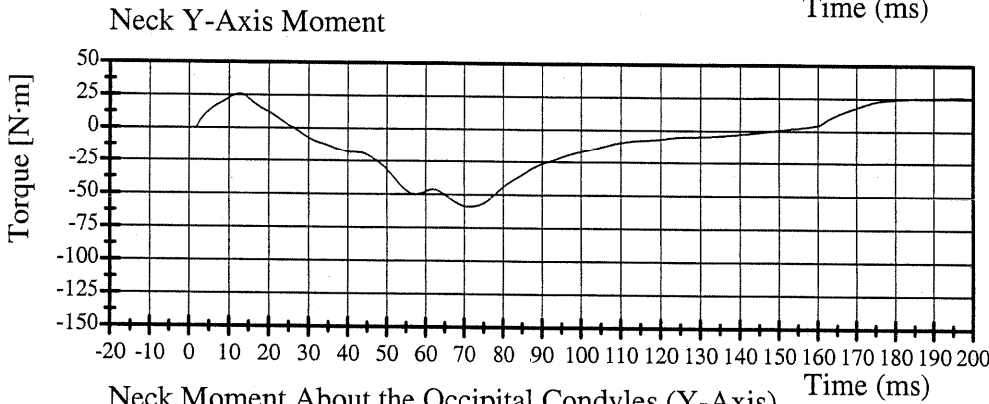
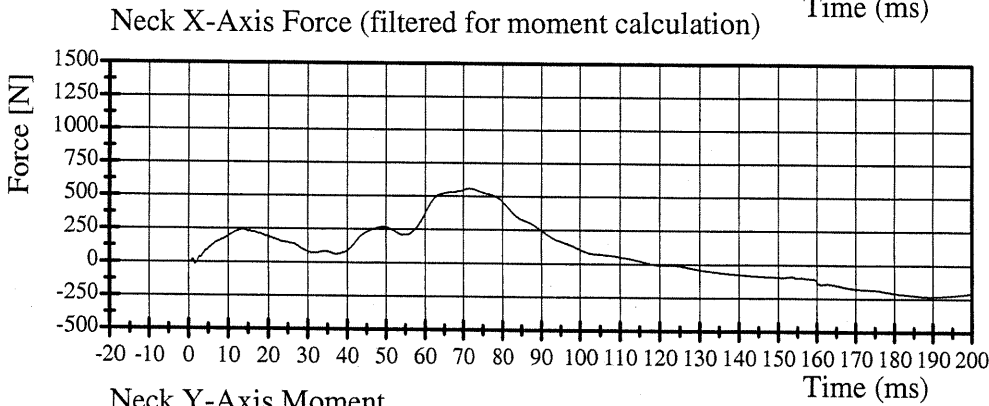
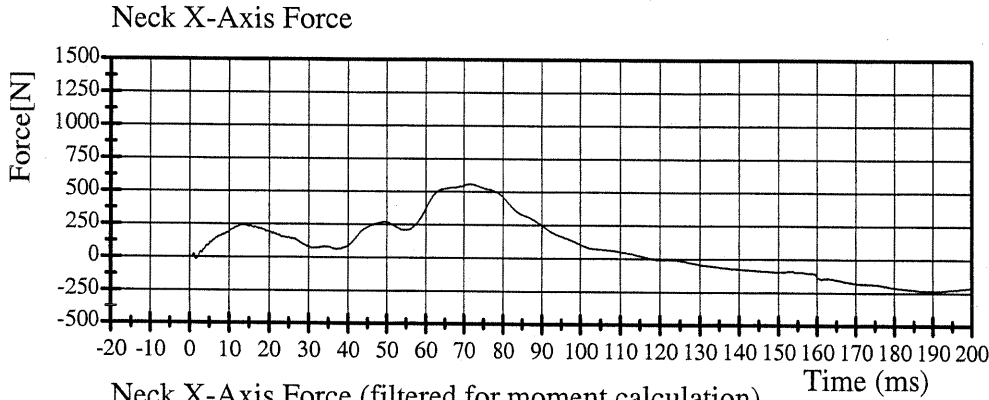


Transportation Research Center Inc.

572E Neck Extension Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/30/2005



08.30.2005 13:06:00 677



Transportation Research Center Inc.

572E Thorax Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 09/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.65 m/s	Yes
Maximum Chest Deflection	-72.6 - (-63.5) mm	-67.0 mm	Yes
Maximum Resistive Force	5160 - 5894 N	5637 N	Yes
Internal Hysteresis	69 - 85 %	71 %	Yes

Test meets specifications.

Comments:

Technician

Vincent D. Dini

Approved

V. F. Watts

09.02.2005 09:10:40 1617

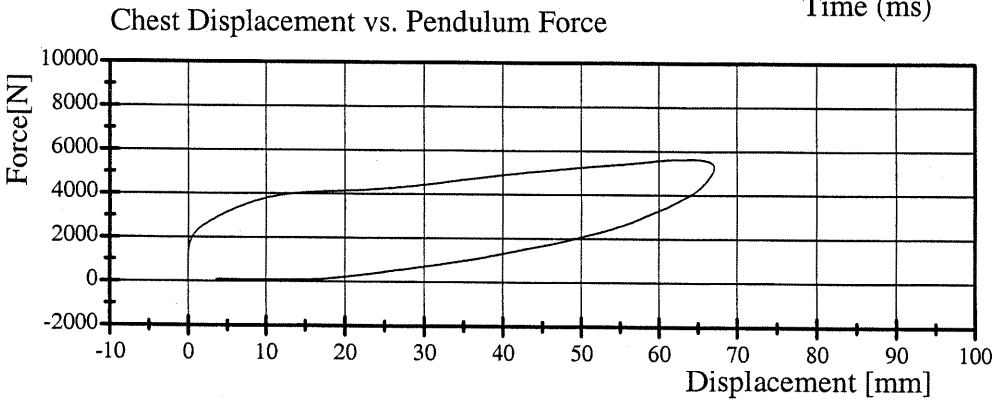
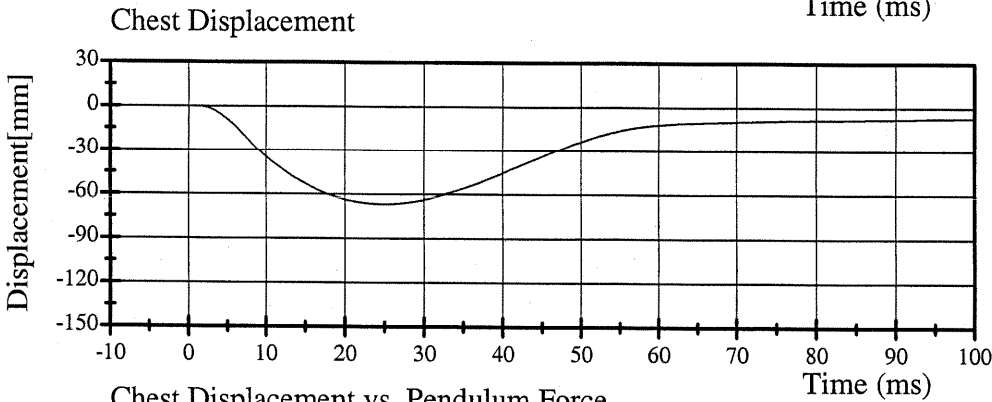
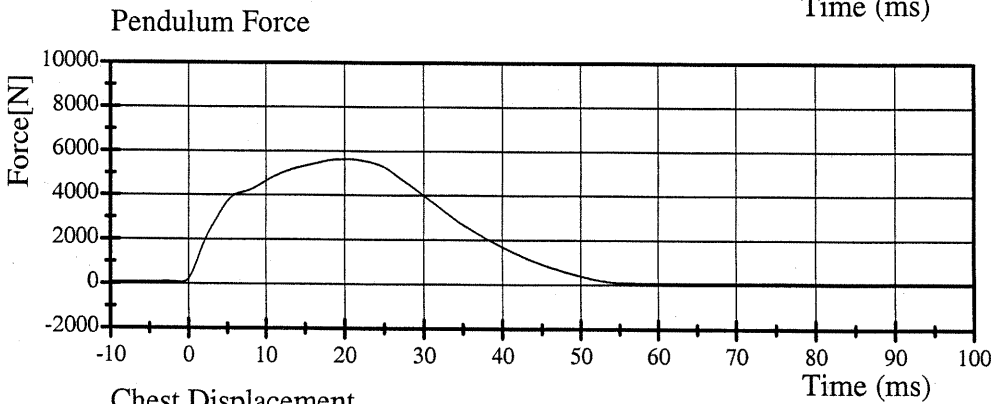
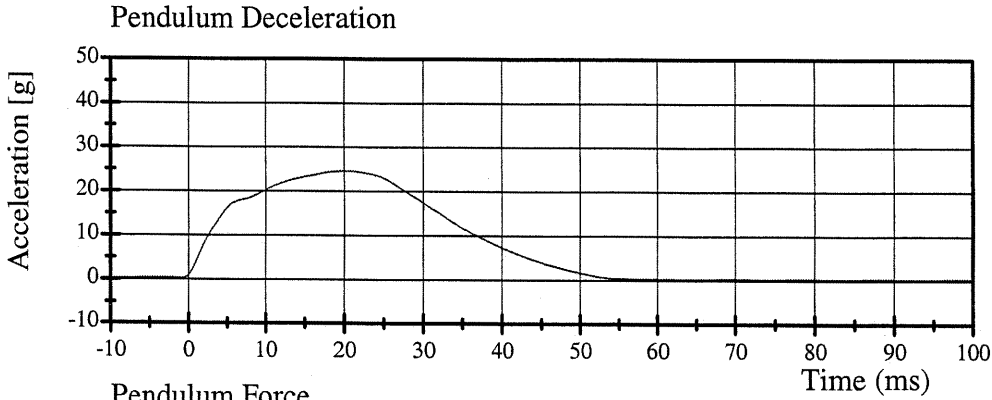


Transportation Research Center Inc.

572E Thorax Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 09/02/2005



09.02.2005 09:10:41 1617



Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

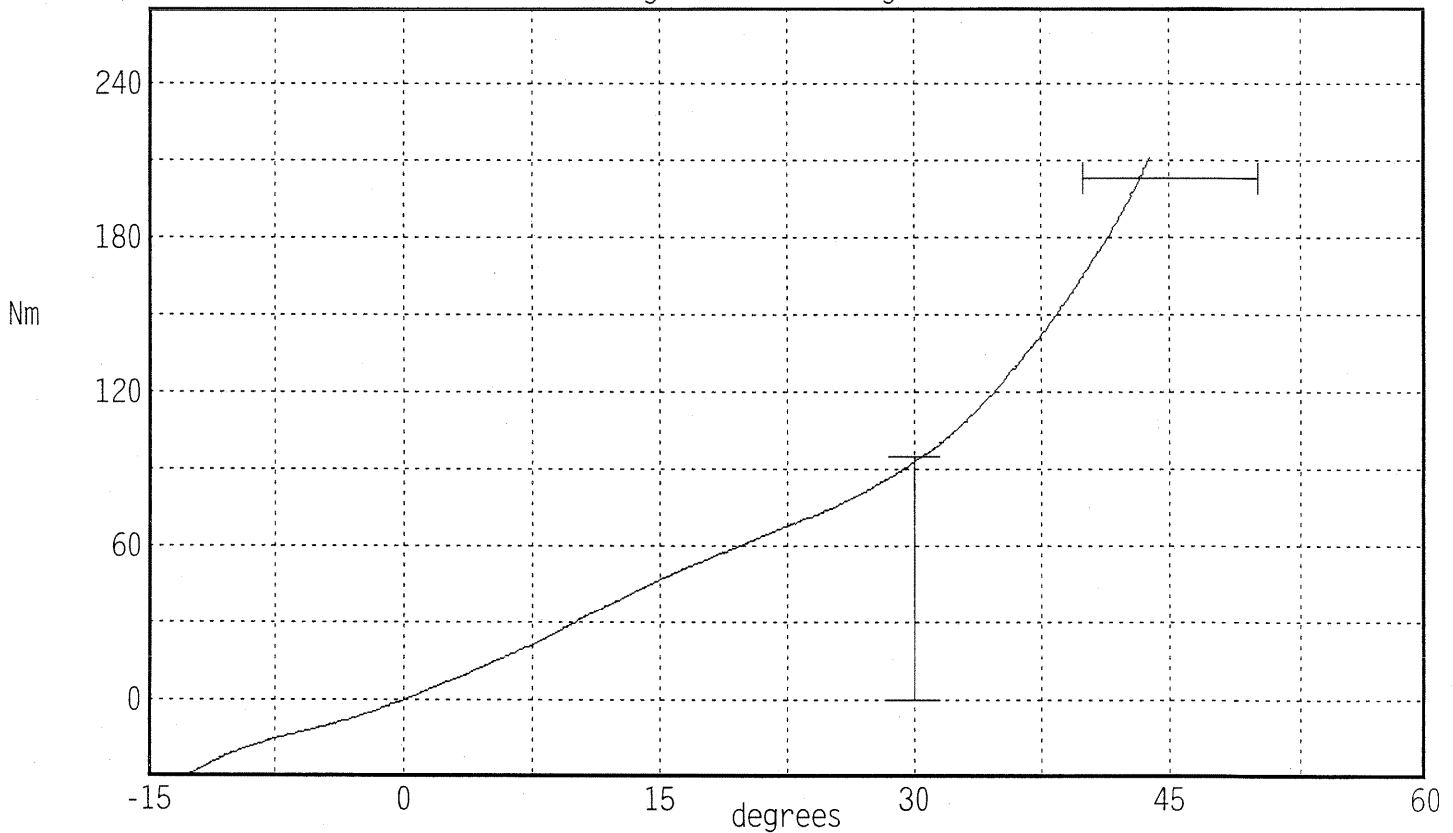
Serial Number: 110L
Test Number: 110C16
Comments:

Date: 08/17/2005
Time: 14:37

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.5 °C Pass
Humidity	10 - 70	52 % Pass
Moment at 30 deg	<= 94.9	93.0 Nm Pass
Angle at 203 Nm	40.0 - 50.0	43.4 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass

Peak Moment: 211.0 Nm at 43.8 deg
Peak Angle: 43.8 deg at 211.0 Nm

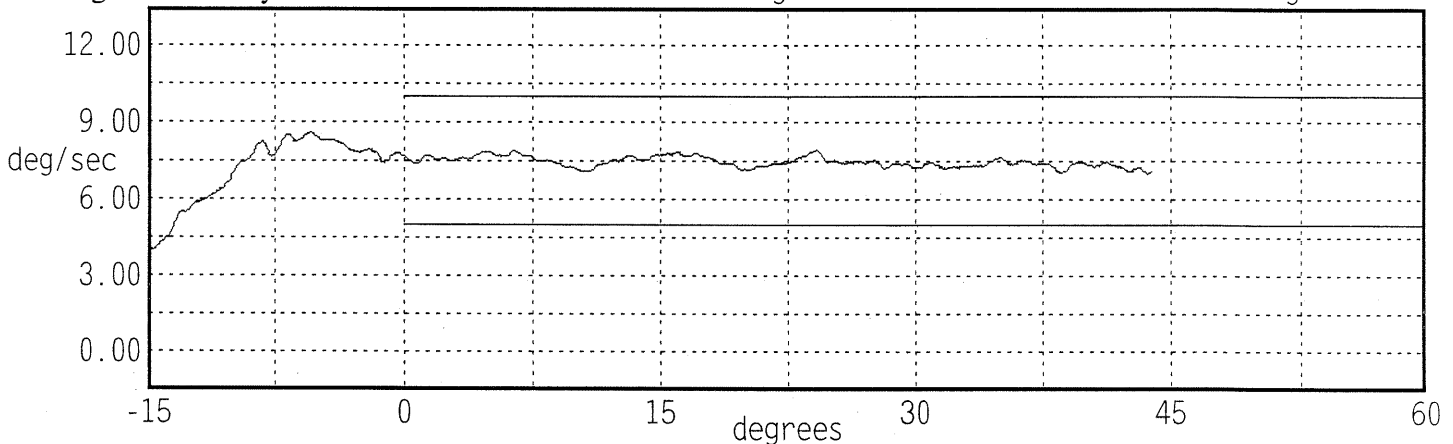
Moment About H-Point



Angular Velocity

Max: 7.9 deg/sec

Min: 7.0 deg/sec



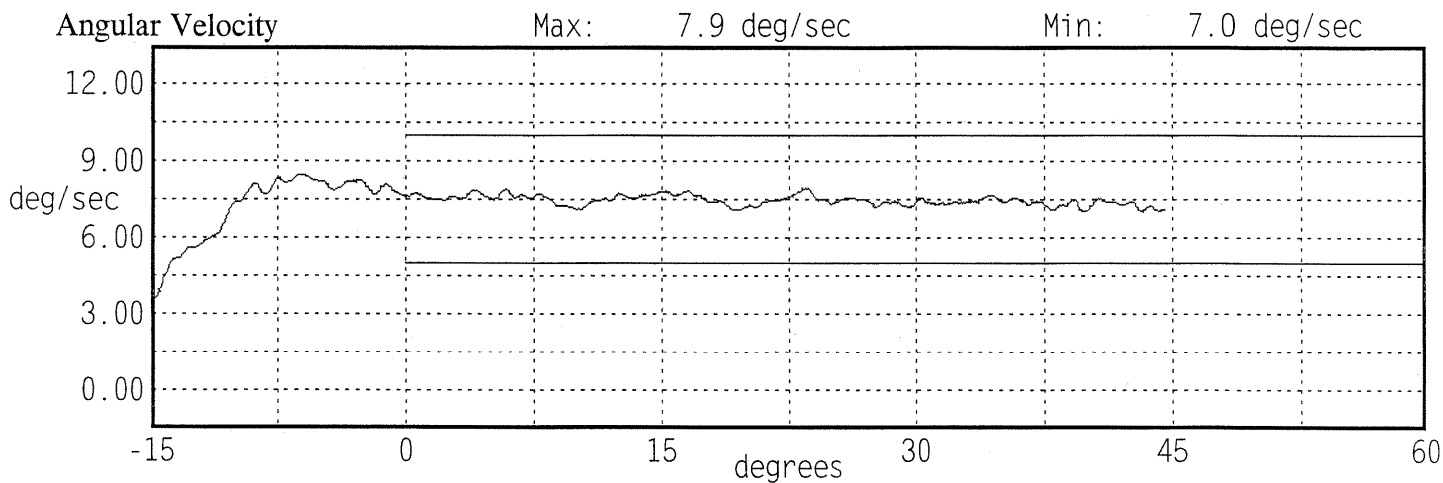
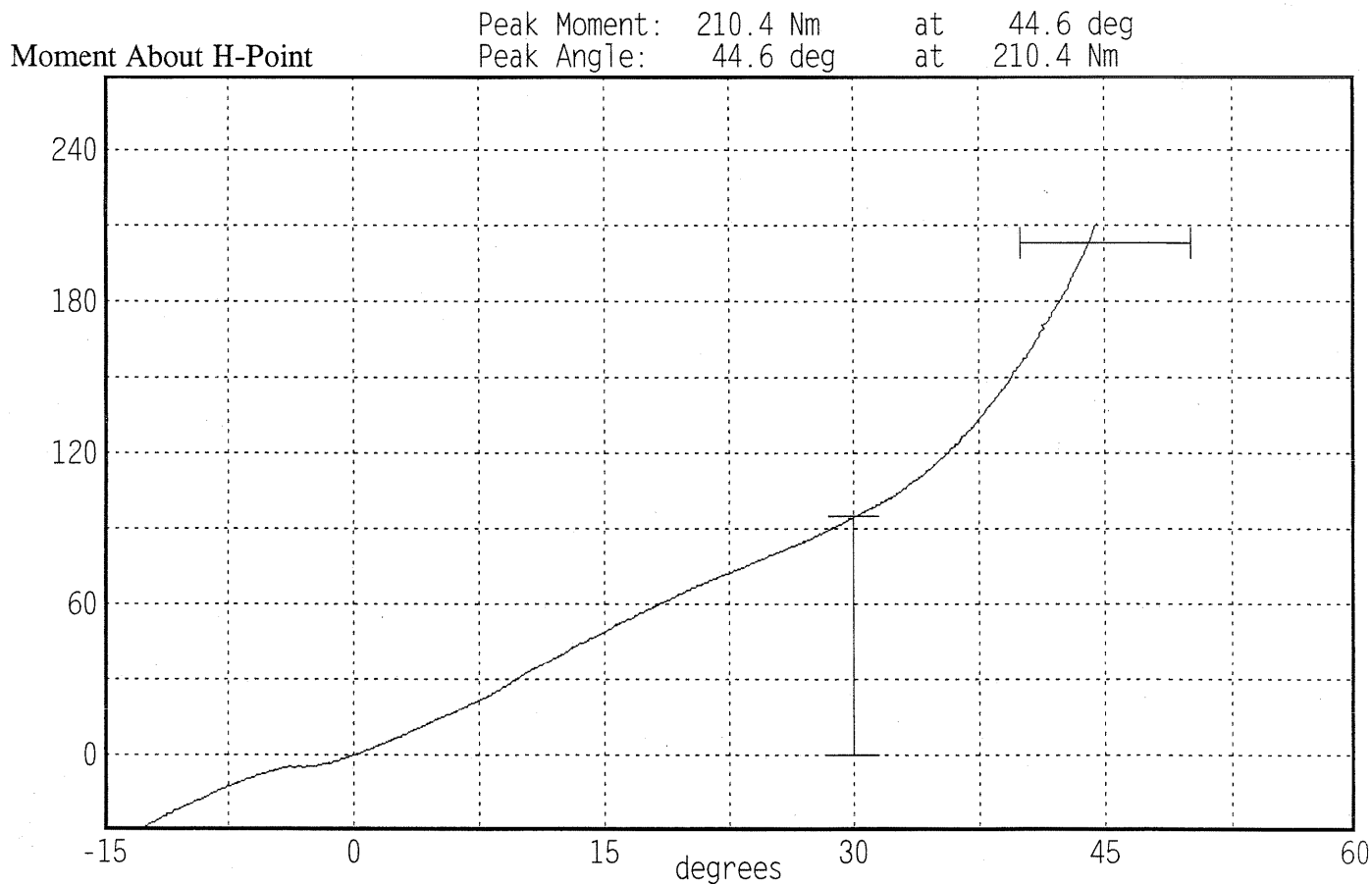
Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

Serial Number: 110R
Test Number: 110C16
Comments:

Date: 08/17/2005
Time: 14:30

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.4 °C Pass
Humidity	10 - 70	54 % Pass
Moment at 30 deg	<= 94.9	94.3 Nm Pass
Angle at 203 Nm	40.0 - 50.0	44.1 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass



Transportation Research Center Inc.

572E Left Knee Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.09 m/s	Yes
Maximum Pendulum Force	4715 - 5783 N	5120 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.31.2005 13:32:44 2127



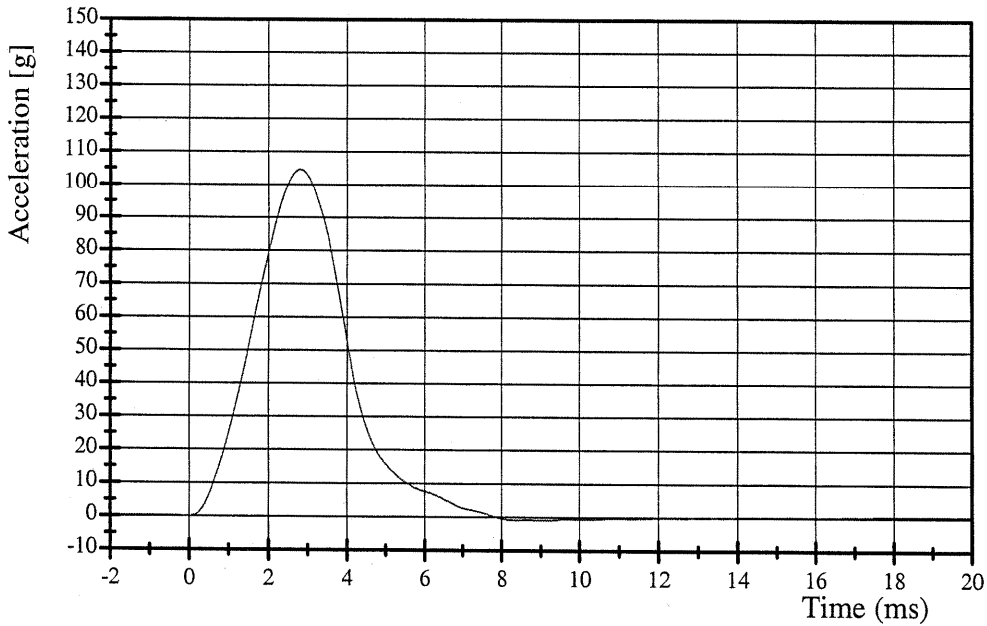
Transportation Research Center Inc.

572E Left Knee Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/31/2005

Pendulum Deceleration

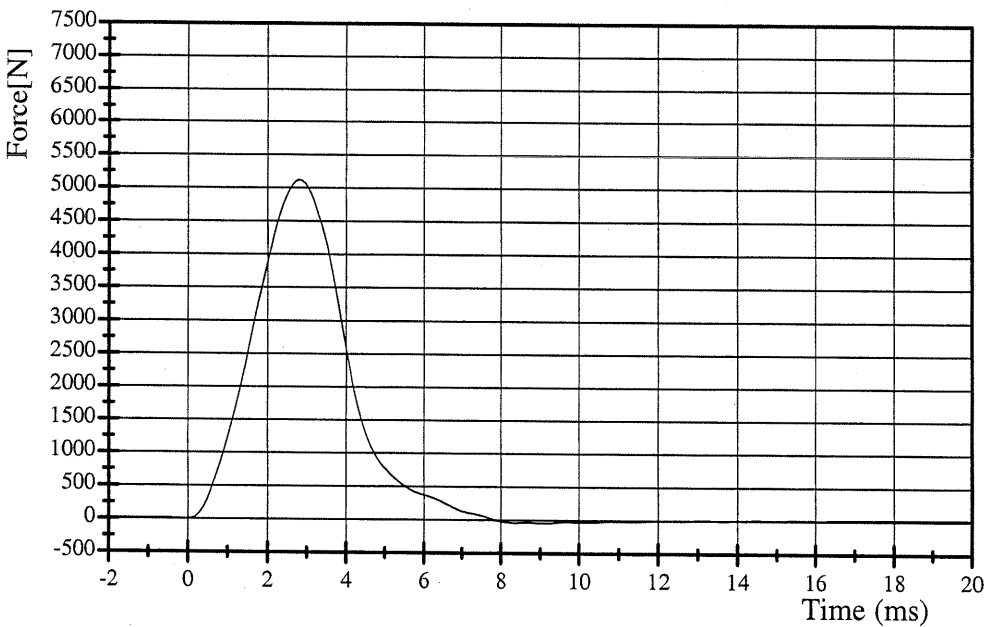


Filter Class: 600

Max: 104.6 g at 2.8 ms

Min: -0.9 g at 9.0 ms

Pendulum Force



Filter Class: 600

Max: 5120.4 N at 2.8 ms

Min: -44.5 N at 9.0 ms

08.31.2005 13:32:44 2127



Transportation Research Center Inc.

572E Left Knee Slider Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 09/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.72 m/s	Yes
Force At 10 mm Displacement	-1259 - (-1721) N	-1539 N	Yes
Force At 18 mm Displacement	-2268 - (-3096) N	-2854 N	Yes

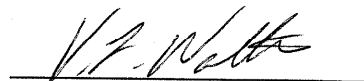
Test meets specifications.

Comments:

Technician



Approved



09.01.2005 07:53:57 2020

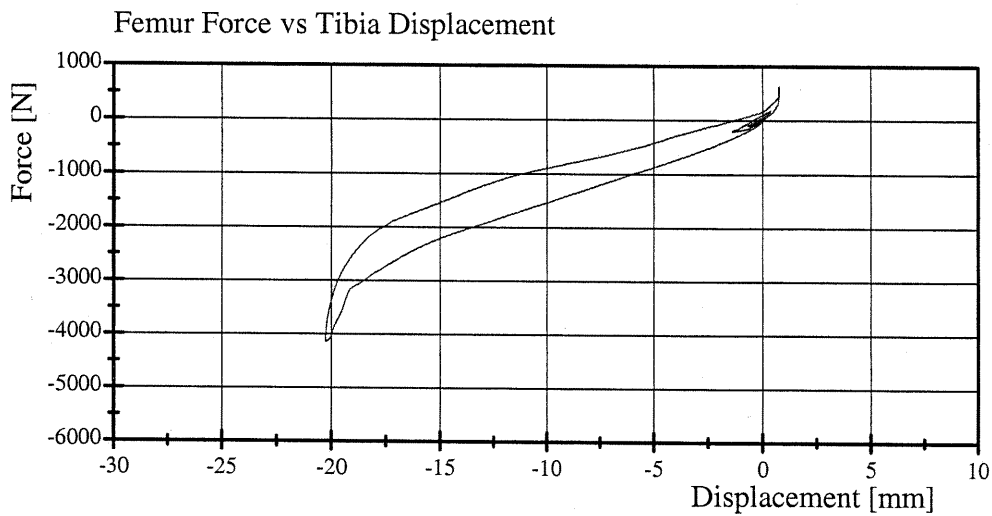
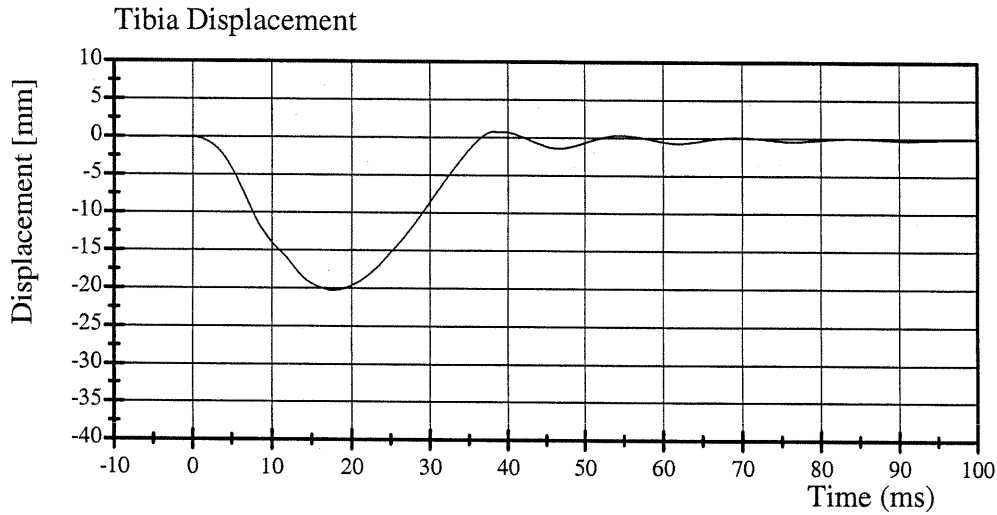
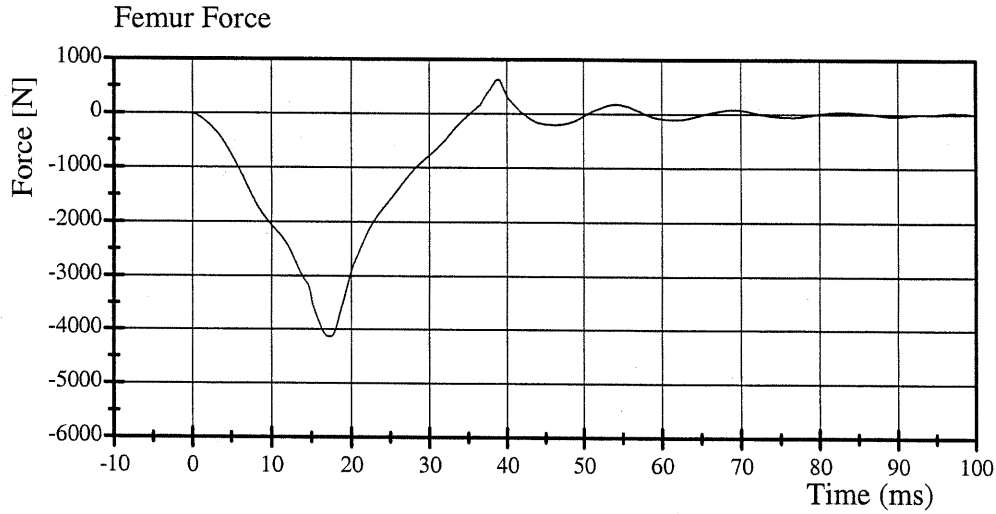


Transportation Research Center Inc.

572E Left Knee Slider Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 09/01/2005



09.01.2005 07:53:58 2020



Transportation Research Center Inc.

572E Right Knee Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.09 m/s	Yes
Maximum Pendulum Force	4715 - 5783 N	5289 N	Yes


Test meets specifications.

Comments:

Technician



Approved



08.31.2005 13:19:42 2124



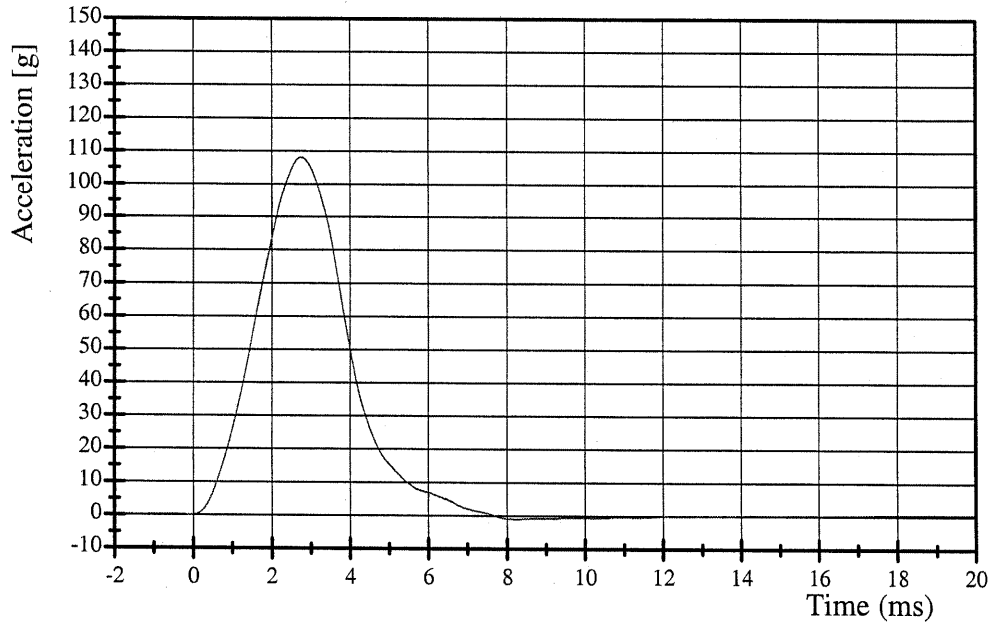
Transportation Research Center Inc.

572E Right Knee Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 1

Test Date 08/31/2005

Pendulum Deceleration

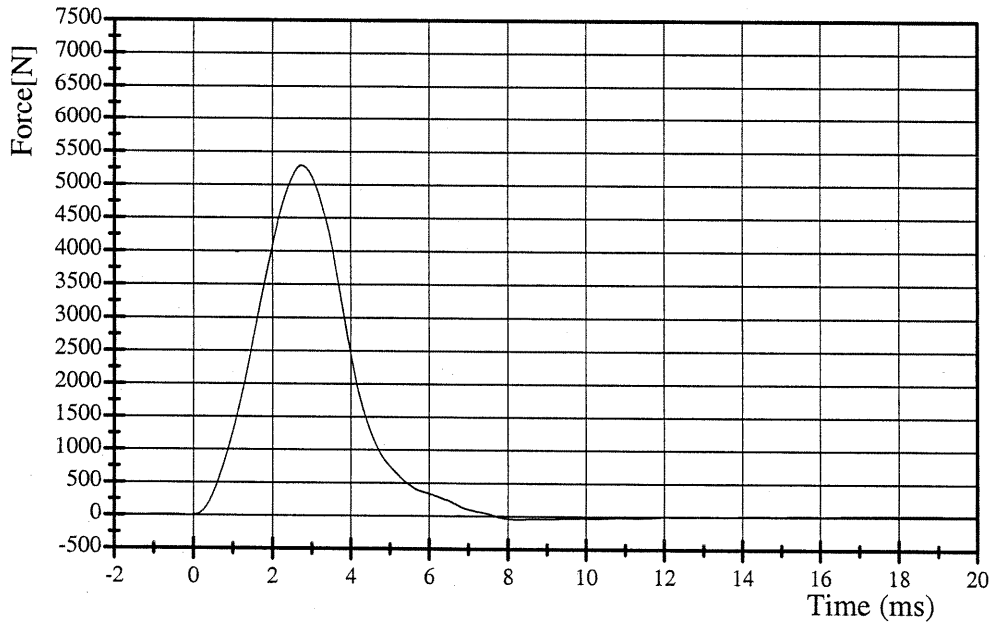


Filter Class: 600

Max: 108.1 g at 2.7 ms

Min: -1.0 g at 8.2 ms

Pendulum Force



Filter Class: 600

Max: 5288.7 N at 2.7 ms

Min: -50.7 N at 8.2 ms

Transportation Research Center Inc.

572E Right Knee Slider Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 3

Test Date 09/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.72 m/s	Yes
Force At 10 mm Displacement	-1259 - (-1721) N	-1527 N	Yes
Force At 18 mm Displacement	-2268 - (-3096) N	-2819 N	Yes

Test meets specifications.

Comments:

Technician



Approved



09.01.2005 07:24:42 2002

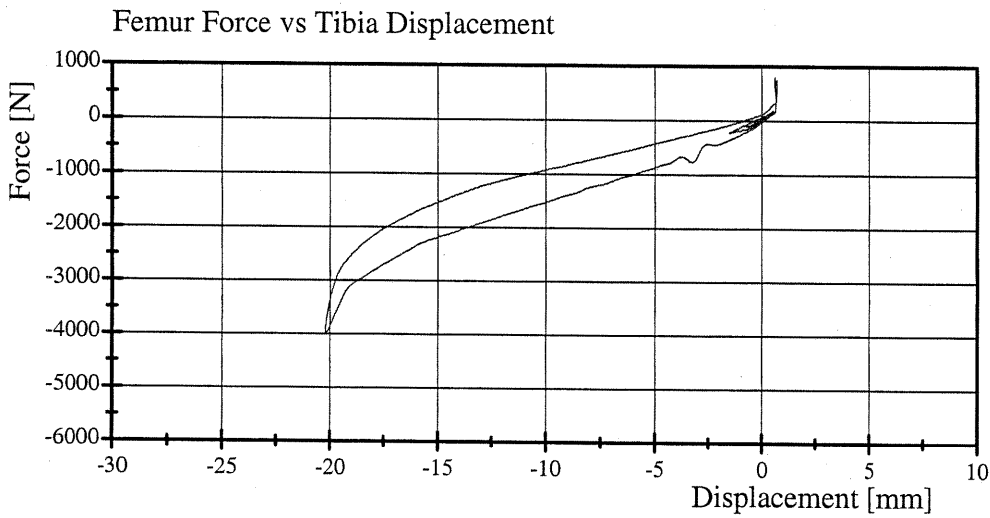
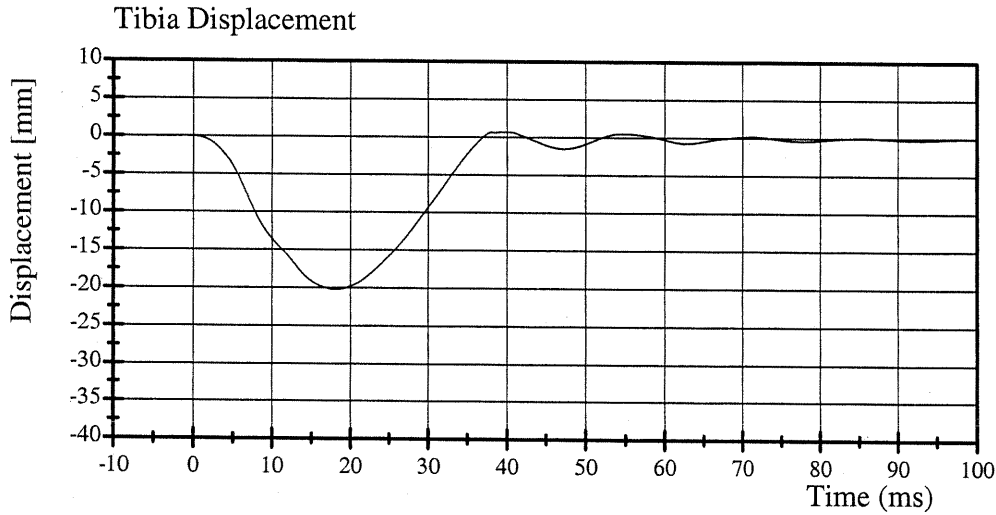
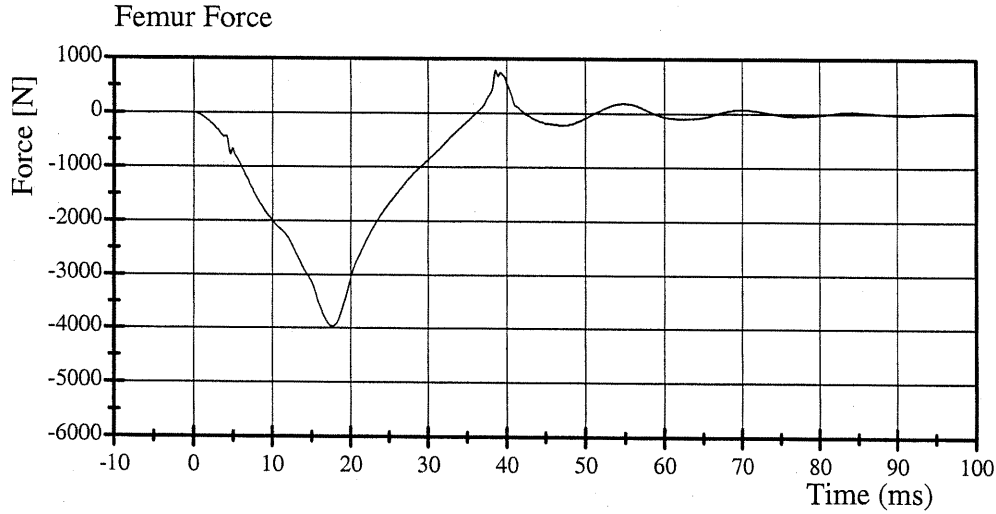


Transportation Research Center Inc.

572E Right Knee Slider Test

HIII 50th Male Serial No. 110 Calibration No. 16 - 3

Test Date 09/01/2005



09.01.2005 07:24:43 2002



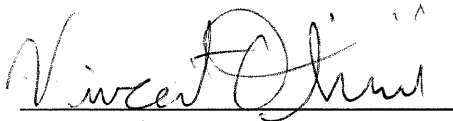
Pre-Test Dummy Configuration and Performance Verification Data

Target Vehicle Passenger Dummy S/N: 416

Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 416 Calibration No. 30
With Thor FLX Legs

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	778	Yes
B	Shoulder Pivot Height	431.8 - 457.2	452	Yes
C	Hip Pivot Height	81.3 - 86.3	84	Yes
D	Hip Pivot from Backline	144.8 - 149.8	147	Yes
E	Shoulder Pivot from Backline	68.6 - 83.8	78	Yes
F	Thigh Clearance	119.4 - 134.6	127	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	248	Yes
H	Head Back to Backline	43.2 - 48.2	44	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	288	Yes
J	Elbow Rest Height	182.8 - 203.2	195	Yes
K	Buttock Knee Length	520.7 - 546.1	530	Yes
L	Popliteal Height	355.6 - 376.0	358	Yes
M	Knee Pivot Height	393.7 - 419.1	404	Yes
N	Buttock Popliteal Height	414.0 - 439.4	424	Yes
O	Chest Depth without Jacket	175.3 - 190.5	185	Yes
P	Foot Length	218.5 - 233.7	220	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	475	Yes
S	Head Breadth	137.1 - 147.3	141	Yes
T	Head Depth	177.8 - 188.0	182	Yes
U	Hip Breadth	299.7 - 314.9	302	Yes
V	Shoulder Breadth	350.5 - 365.7	360	Yes
W	Foot Breadth	78.8 - 94.0	88	Yes
X	Head Circumference	528.3 - 548.7	537	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	870	Yes
Z	Waist Circumference	759.5 - 789.9	771	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	340	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved





Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/25/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Peak Resultant Acceleration	250 - 300 g	286.5 g	Yes
Peak Lateral Acceleration	15 g Max	3.8 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes


Test meets specifications.

Comments:

Technician



Approved



08.25.2005 14:06:48 231

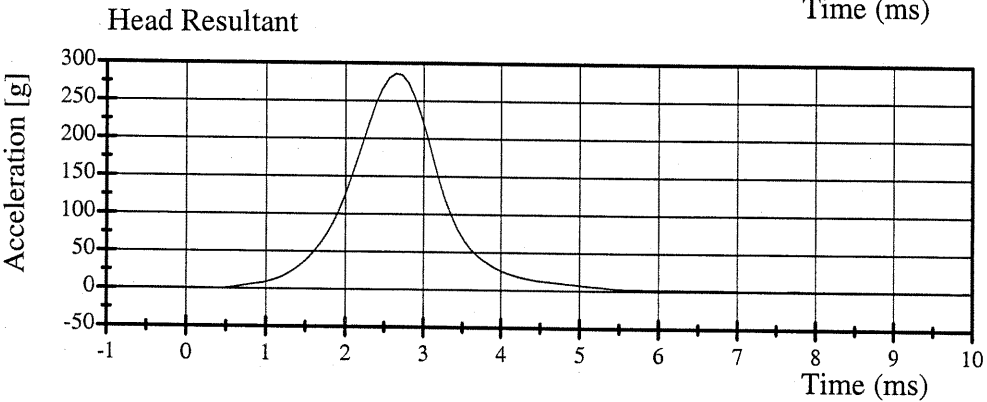
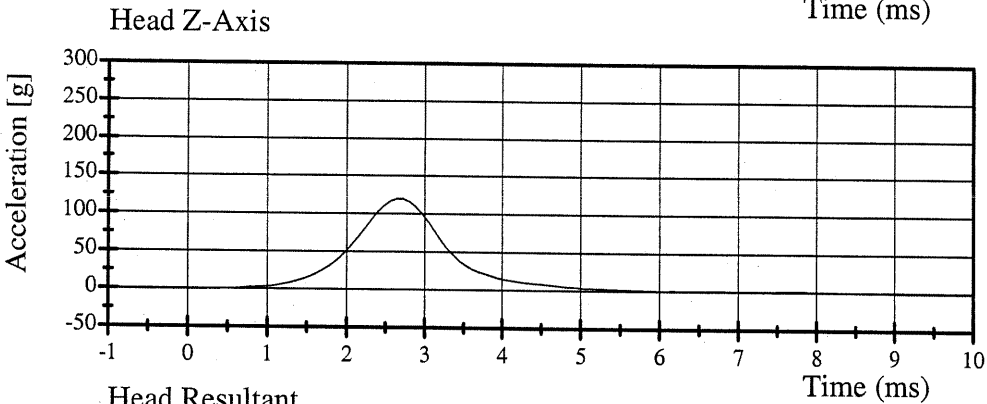
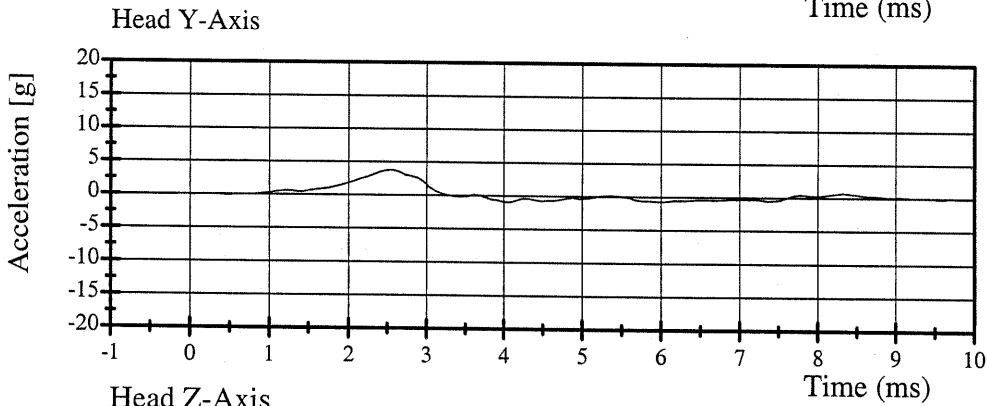
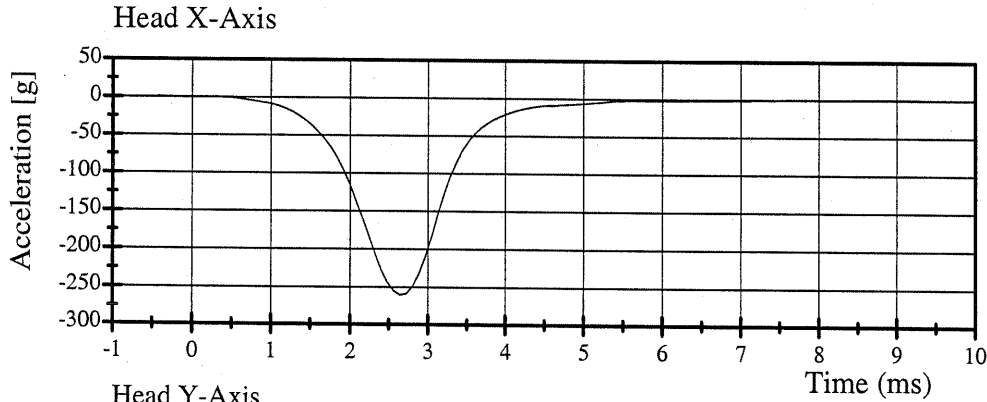


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/25/2005



08.25.2005 14:06:48 231



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.10 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.43 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.68 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.74 m/s	Yes
Peak D Plane Rotation	77 - 91 °	83.6 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	71.00 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	89.60 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



08.30.2005 08:53:43 581



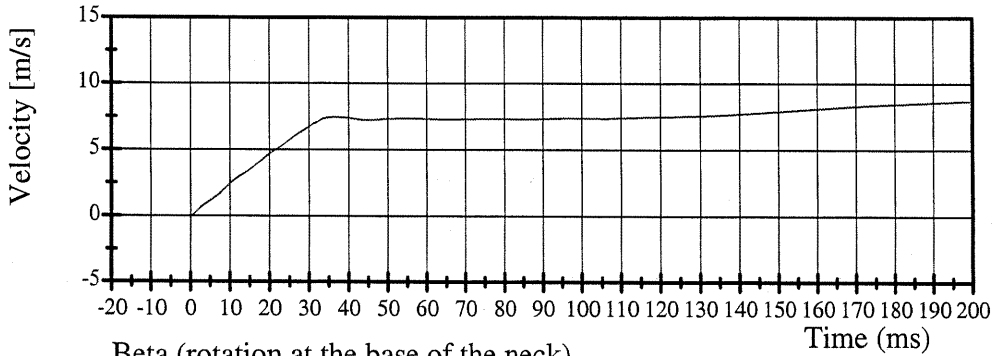
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/30/2005

Integrated Pendulum Velocity

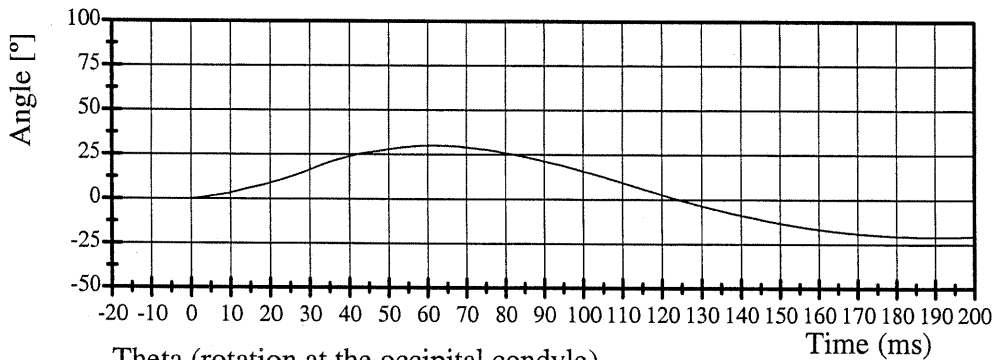


Filter Class: 180

Max: 9.3 m/s at 270.7 ms

Min: -0.0 m/s at -0.6 ms

Beta (rotation at the base of the neck)

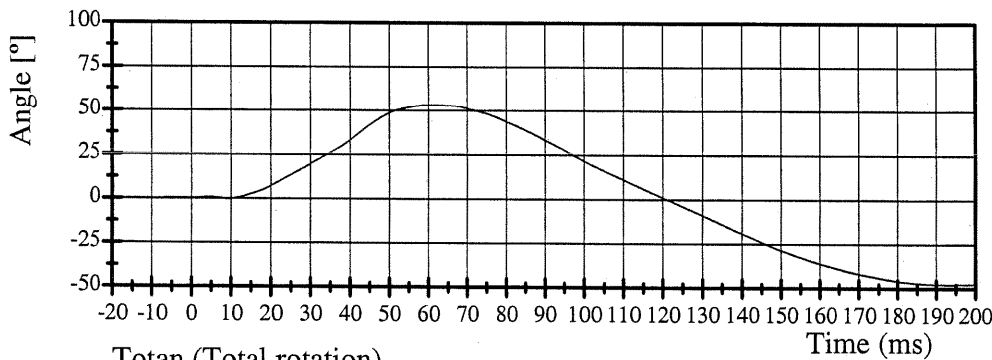


Filter Class: 60

Max: 30.2 ° at 61.0 ms

Min: -20.9 ° at 190.4 ms

Theta (rotation at the occipital condyle)

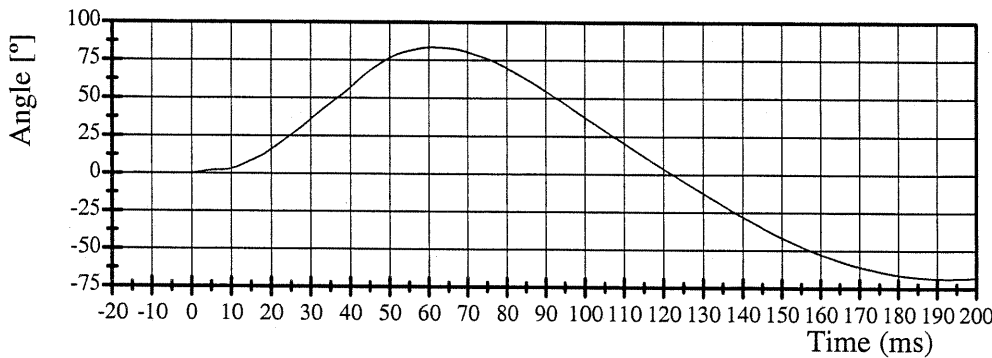


Filter Class: 60

Max: 53.4 ° at 60.6 ms

Min: -47.7 ° at 193.6 ms

Totan (Total rotation)



Filter Class: 60

Max: 83.6 ° at 60.8 ms

Min: -68.5 ° at 192.7 ms

08.30.2005 08:53:44 581

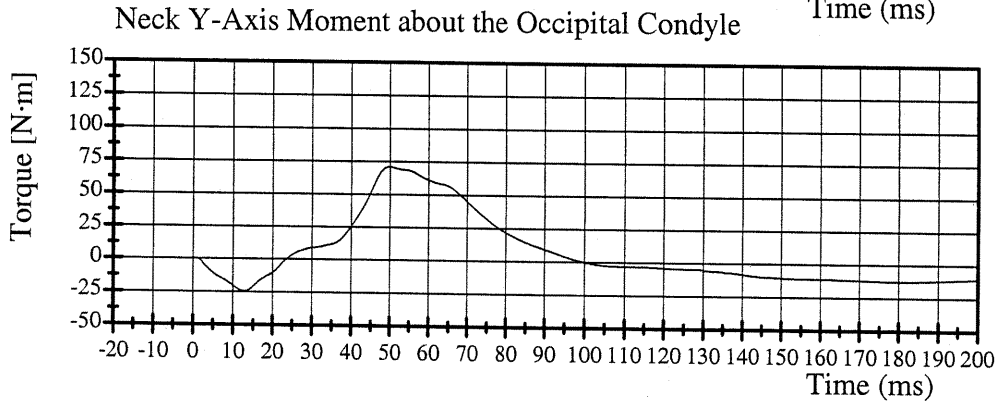
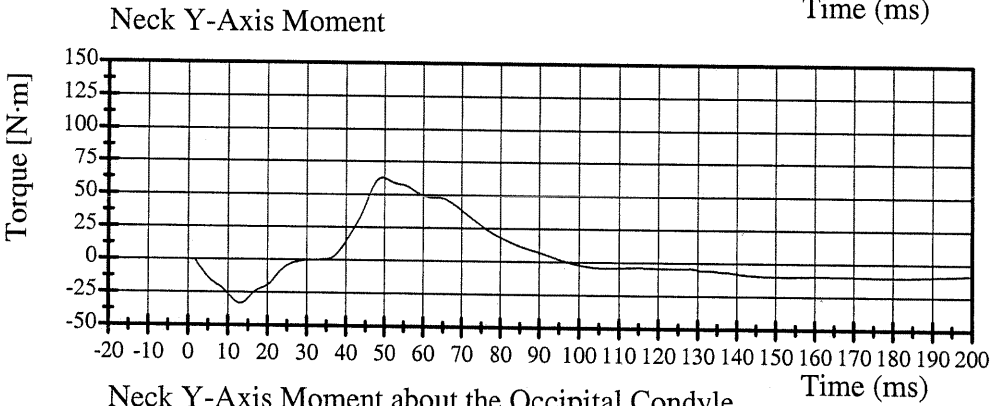
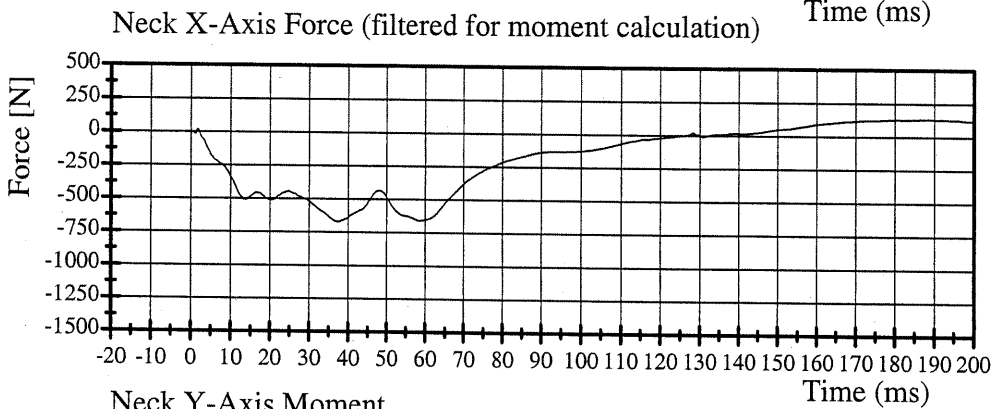
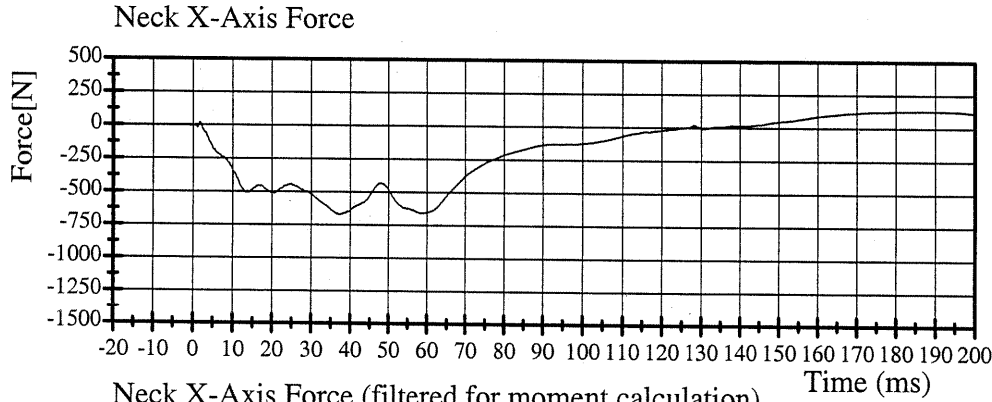


Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/30/2005



08.30.2005 08:53:45 581



Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.11 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.79 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.55 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.19 m/s	Yes
Peak D Plane Rotation	99 - 114 °	113.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-54.19 N·m	Yes
Negative Moment Decay Time To -10 N·m	94 - 114 ms	106.00 ms	Yes


Test meets specifications.

Comments:

Technician



Approved



08.30.2005 09:18:58 666



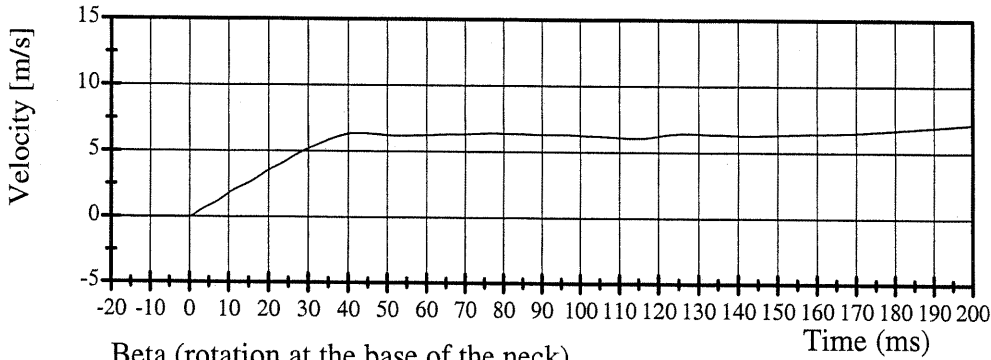
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/30/2005

Integrated Pendulum Velocity

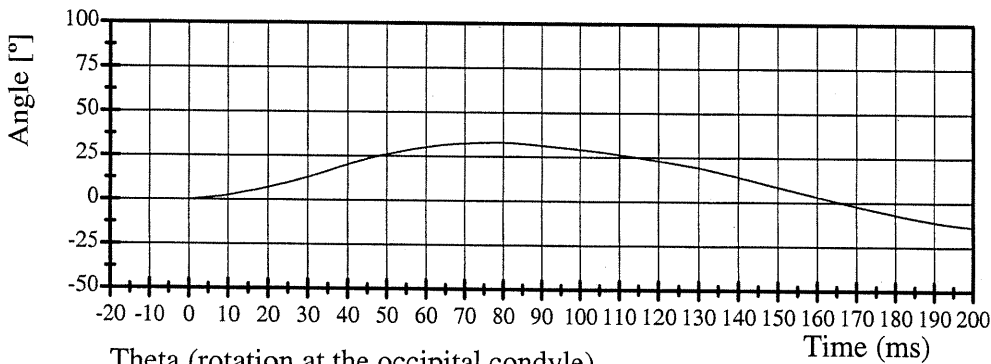


Filter Class: 180

Max: 8.0 m/s at 275.5 ms

Min: -0.0 m/s at -0.6 ms

Beta (rotation at the base of the neck)

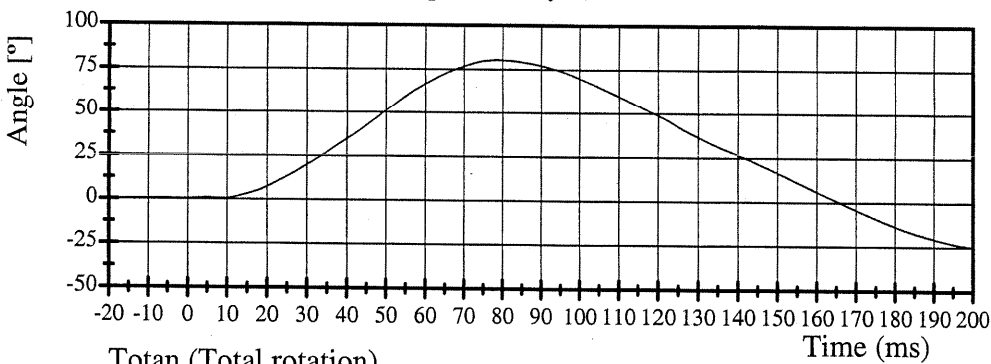


Filter Class: 60

Max: 33.1 ° at 78.7 ms

Min: -15.2 ° at 215.3 ms

Theta (rotation at the occipital condyle)

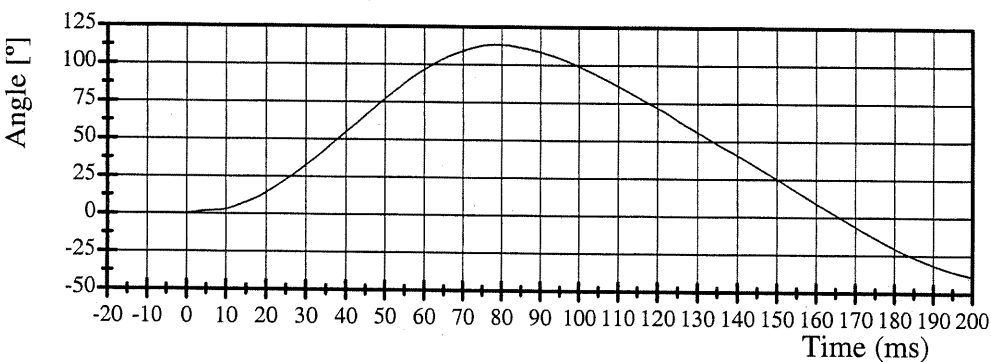


Filter Class: 60

Max: 80.3 ° at 78.9 ms

Min: -27.7 ° at 214.3 ms

Totan (Total rotation)



Filter Class: 60

Max: 113.4 ° at 78.9 ms

Min: -43.0 ° at 214.6 ms

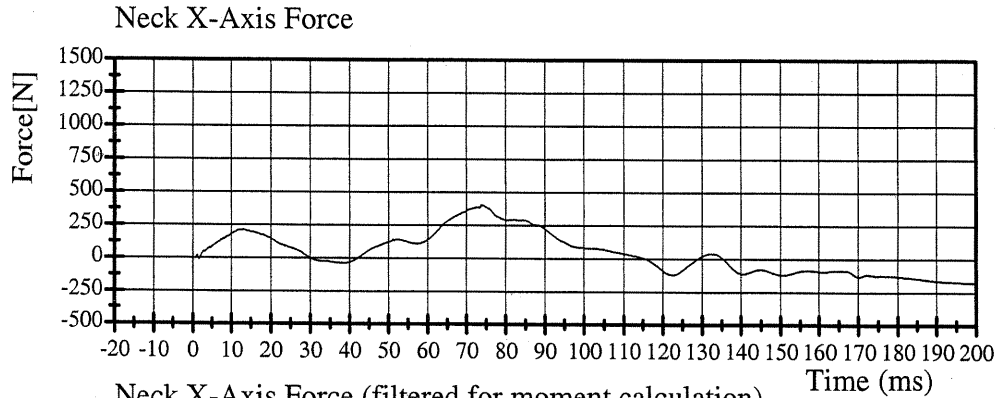


Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

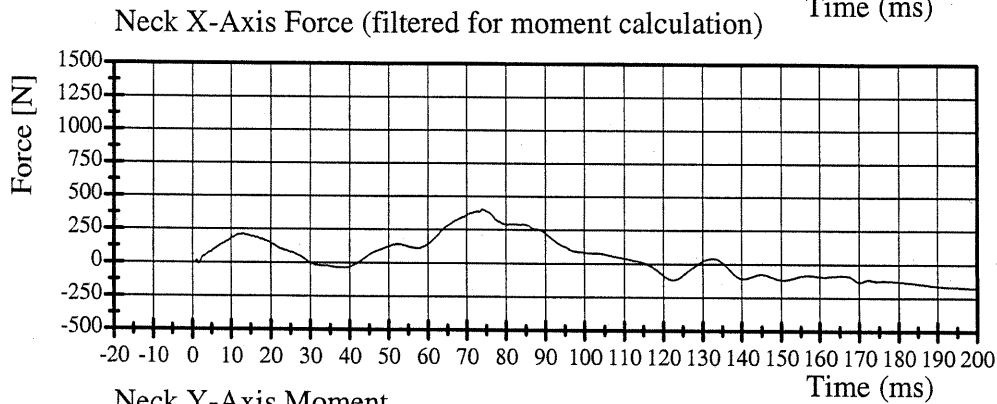
Test Date 08/30/2005



Filter Class: 1000

Max: 405.7 N at 73.8 ms

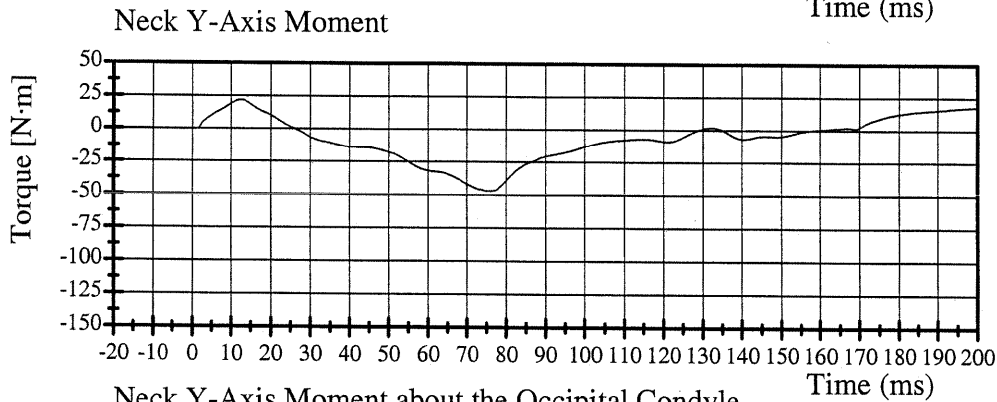
Min: -174.0 N at 198.4 ms



Filter Class: 600

Max: 403.3 N at 73.8 ms

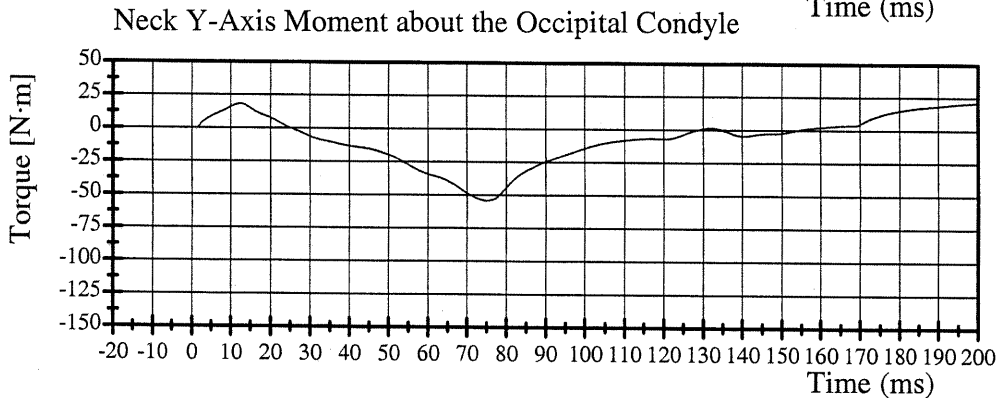
Min: -173.5 N at 199.0 ms



Filter Class: 600

Max: 22.0 N·m at 12.6 ms

Min: -47.3 N·m at 75.1 ms



Filter Class: 600

Max: 22.1 N·m at 205.8 ms

Min: -54.2 N·m at 74.9 ms

08.30.2005 09:18:59 666



Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 09/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.60 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-54.0 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4099 N	Yes
Peak Force Between 18 mm and 50 mm	4600 N	4089 N	Yes
Internal Hysteresis	69 - 85 %	73 %	Yes

Test meets specifications.

Comments:

Technician



Approved



09.01.2005 12:33:13 437

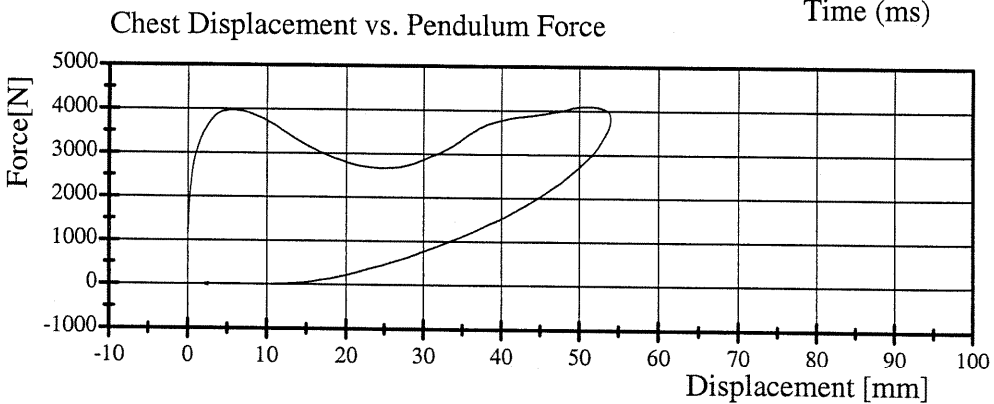
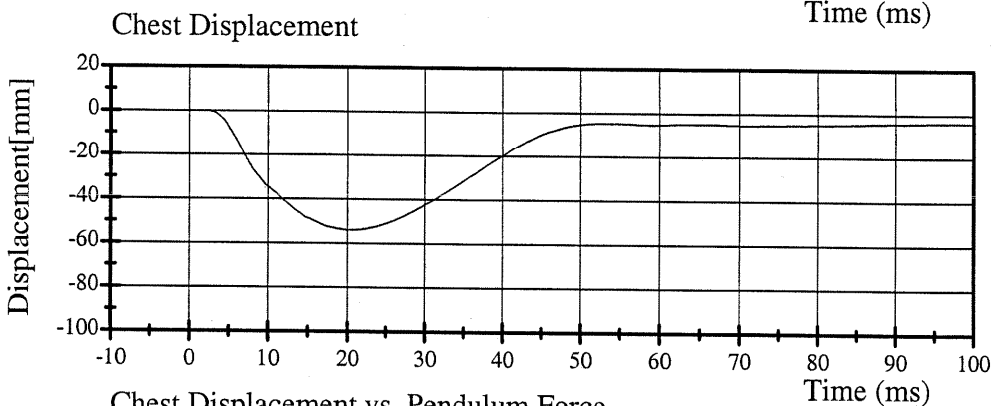
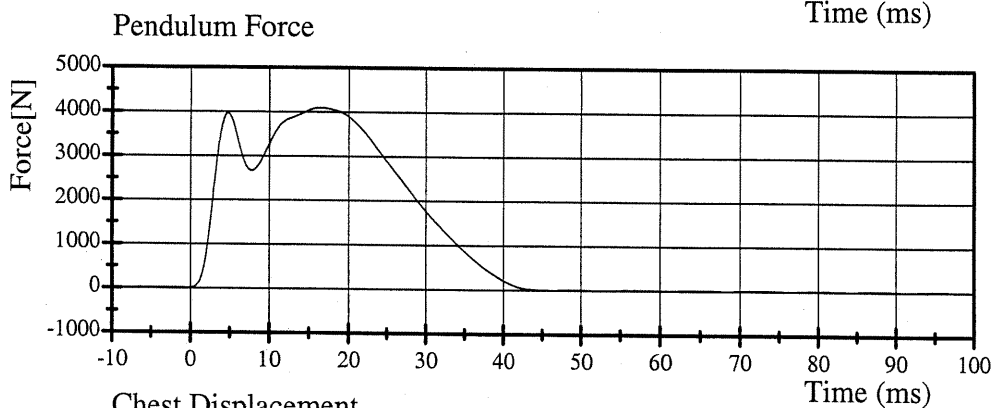
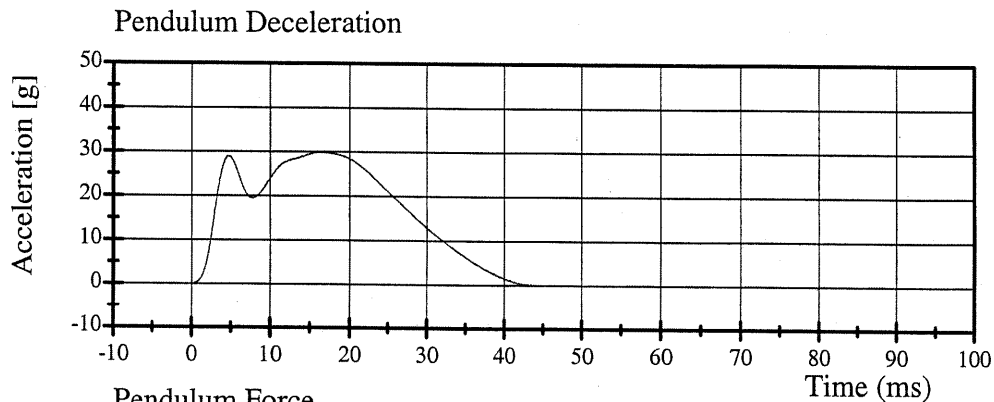


Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 09/01/2005



09.01.2005 12:33:14 437



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 08-Aug-05

TRC, INC. TEST NO: 416C30TF2 572 O SN416 TORSO FLEX CAL 30

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 - 22.2° C	21.6° C
RELATIVE HUMIDITY	10 - 70 %	53 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	$\leq 20^\circ$ REFERENCED TO VERTICAL	17.0°
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 - 390 N	338.8 N
RETURN ANGLE		19.9°
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8° OF INTIAL ANGLE	2.9°
RATE	0.5° - 1.5°/sec	0.98°/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.12 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3501 N	Yes

Test meets specifications.

Comments:

Technician

Vincent O'Brien

Approved

K.T. Walter

08.31.2005 07:28:07 1652

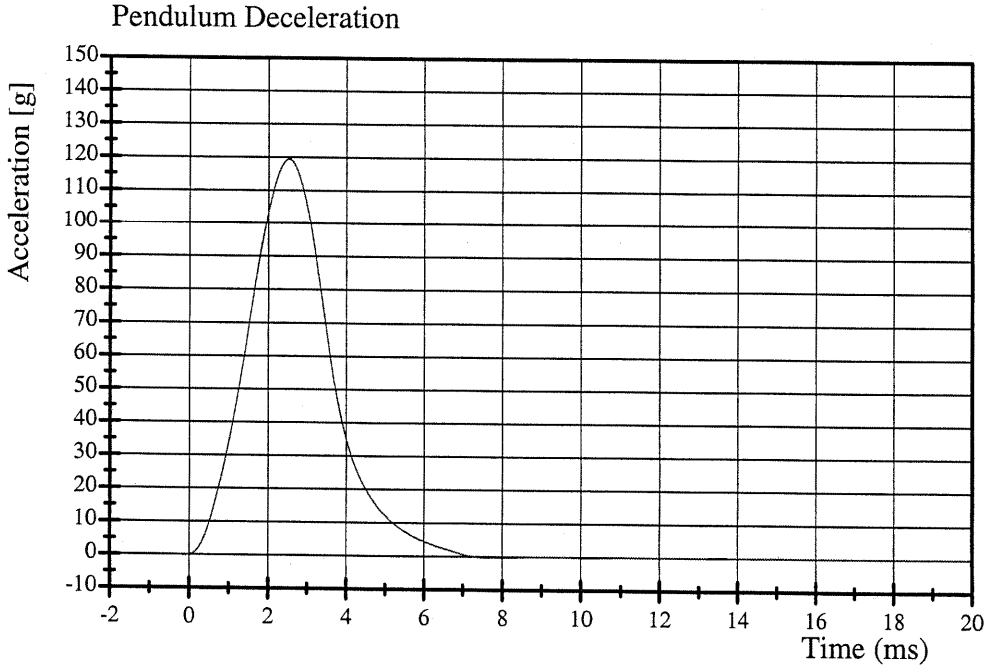


Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

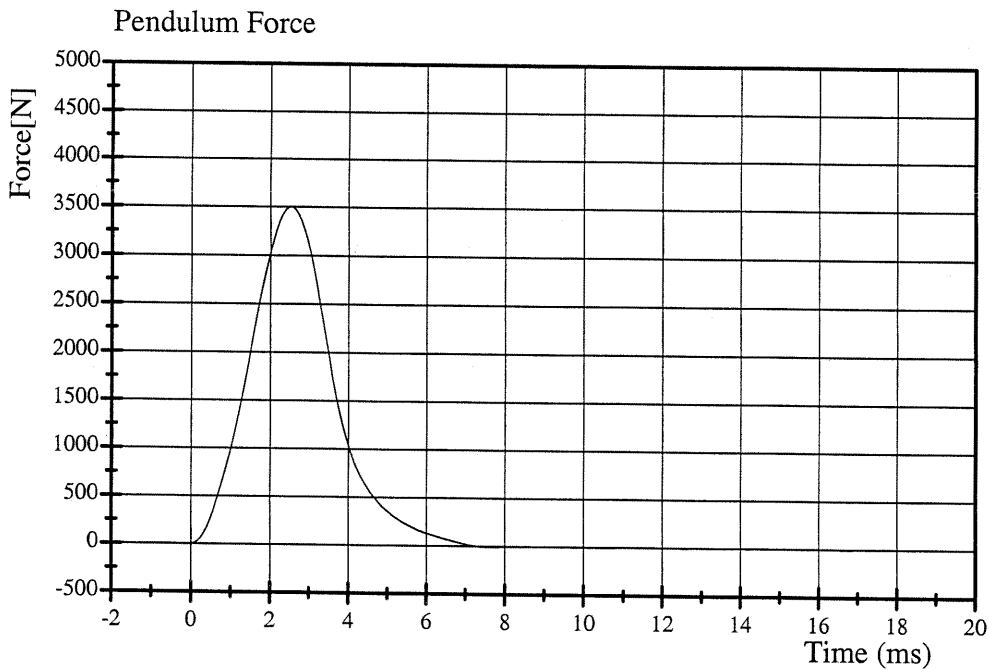
Test Date 08/31/2005



Filter Class: 600

Max: 119.4 g at 2.6 ms

Min: -0.8 g at 95.5 ms



Filter Class: 600

Max: 3500.8 N at 2.6 ms

Min: -24.9 N at 95.5 ms

Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 2

Test Date 09/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.0 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.79 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.0 mm	Yes

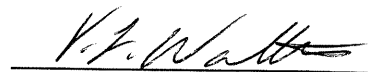
Test meets specifications.

Comments:

Technician



Approved



09.02.2005 14:00:50 2164

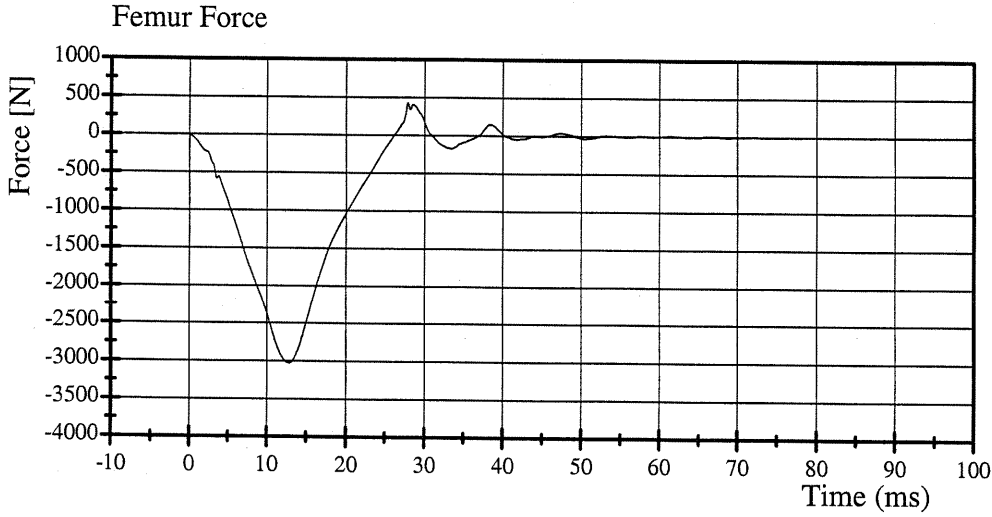


Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 2

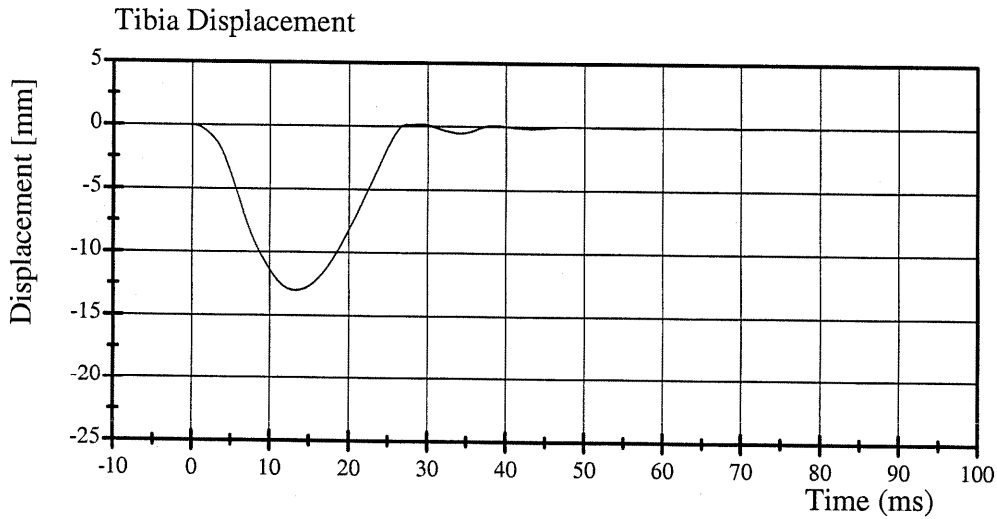
Test Date 09/02/2005



Filter Class: 600

Max: 429.1 N at 27.8 ms

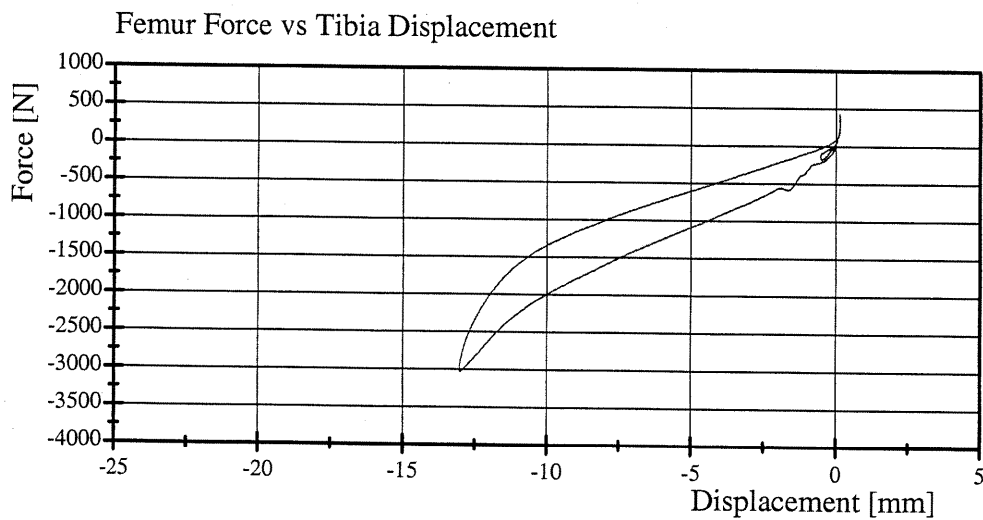
Min: -3027.7 N at 12.9 ms



Filter Class: 180

Max: 0.2 mm at 29.1 ms

Min: -13.0 mm at 13.3 ms



09.02.2005 14:00:50 2164



Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.12 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3525 N	Yes

Test meets specifications.

Comments:

Technician

Vincent D'Amico

Approved

V. L. Watts

08.31.2005 07:41:24 1629

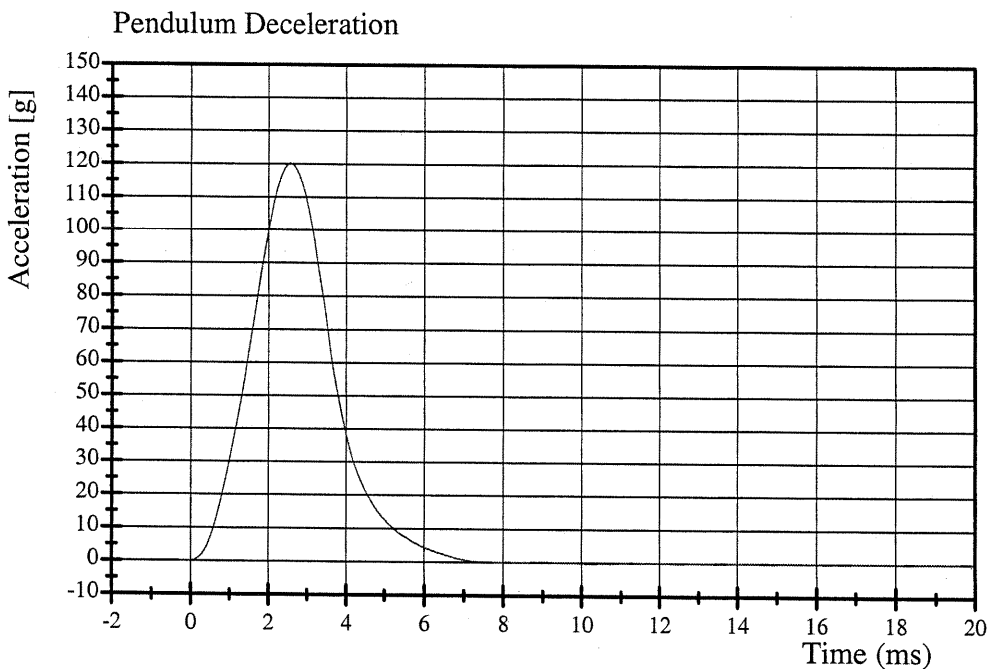


Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 1

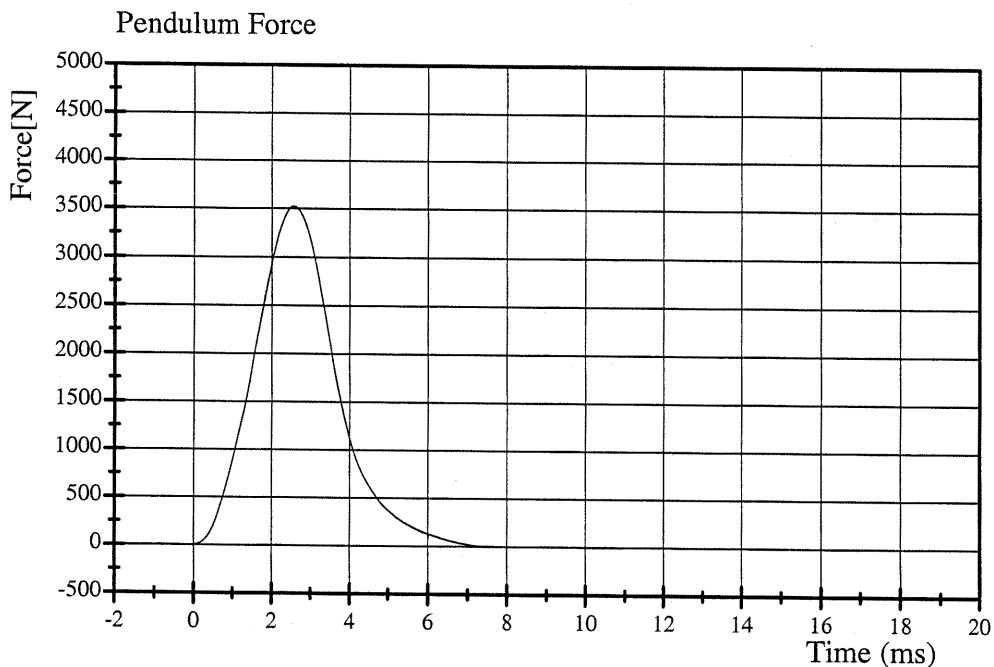
Test Date 08/31/2005



Filter Class: 600

Max: 120.2 g at 2.6 ms

Min: -0.2 g at 10.2 ms



Filter Class: 600

Max: 3525.4 N at 2.6 ms

Min: -4.7 N at 10.2 ms

08.31.2005 07:41:24 1629



Transportation Research Center Inc.

5720 Right Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 2

Test Date 09/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.80 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.4 mm	Yes

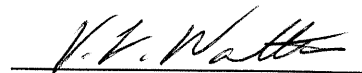
Test meets specifications.

Comments:

Technician



Approved



09.02.2005 13:08:13 2149

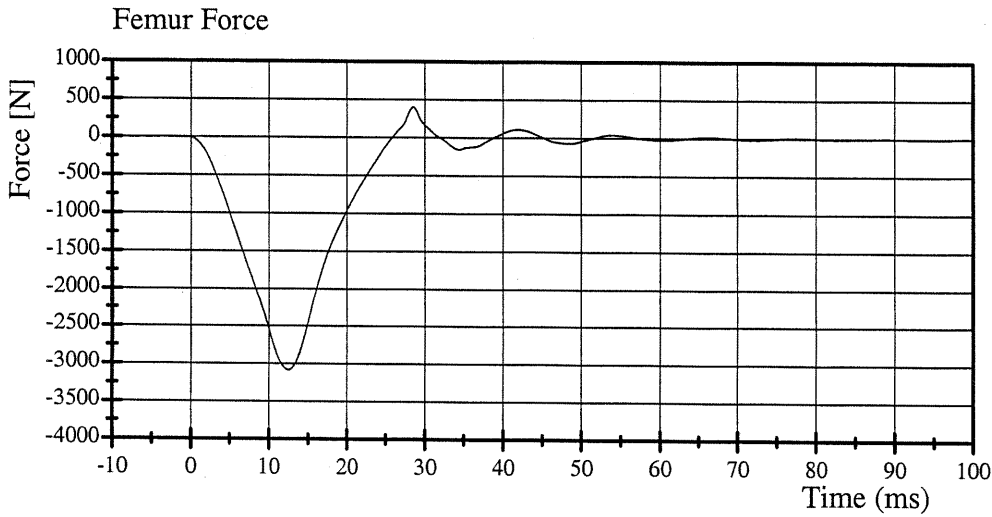


Transportation Research Center Inc.

5720 Right Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 30 - 2

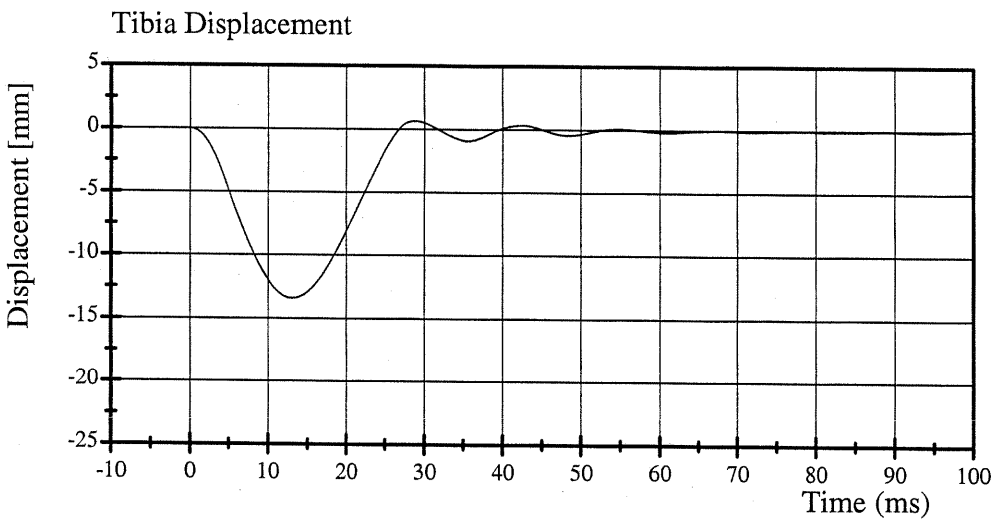
Test Date 09/02/2005



Filter Class: 600

Max: 400.2 N at 28.6 ms

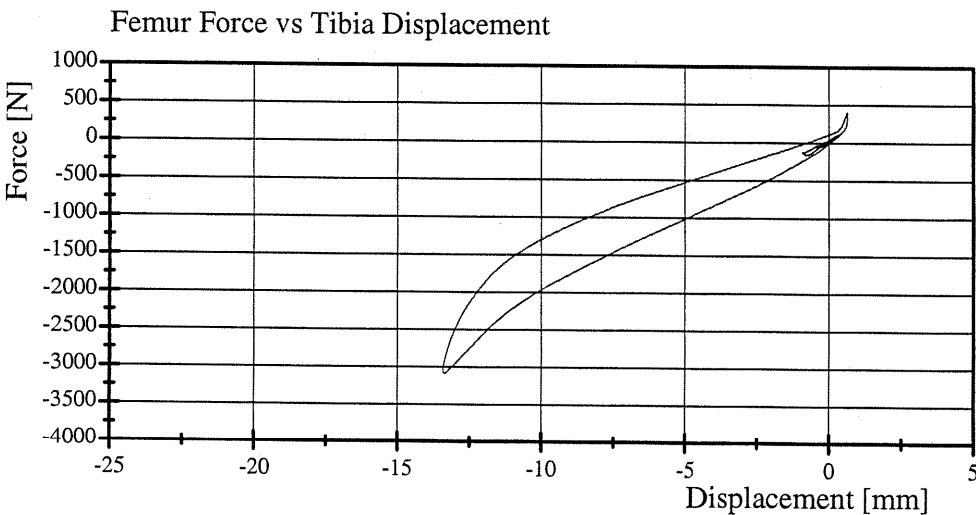
Min: -3083.9 N at 12.6 ms



Filter Class: 180

Max: 0.6 mm at 28.9 ms

Min: -13.4 mm at 13.1 ms



09.02.2005 13:08:14 2149



Pre-Test Dummy Configuration and Performance Verification Data


Bullet Vehicle Driver Dummy S/N: 090

NHTSA/VRTC
572E HIII 50th Male Dummy
External Dimensions

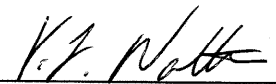
Serial No. 090 w/ THOR-LX legs Calibration No. 47

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	878.8 - 889.0	882	Yes
B	Shoulder Pivot Height	505.5 - 520.7	508	Yes
C	H-Point Height	83.8 - 88.9	88	Yes
D	H-Point From Seatback	134.6 - 139.7	137	Yes
E	Shoulder Pivot From Backline	83.8 - 94.0	93	Yes
F	Thigh Clearance	139.7 - 154.9	154	Yes
G	Back Of Elbow To Wrist Pivot	289.6 - 304.8	294	Yes
H	Skull Cap To Backline	40.6 - 45.7	43	Yes
I	Shoulder-Elbow Length	330.2 - 345.4	340	Yes
J	Elbow Rest Height	190.5 - 210.8	203	Yes
K	Buttock Knee Length	579.1 - 604.5	602	Yes
L	Popliteal Height	429.3 - 454.7	445	Yes
M	Knee Pivot Height	485.1 - 500.4	499	Yes
N	Buttock Popliteal Length	452.1 - 477.5	465	Yes
O	Chest Depth	213.4 - 228.6	218	Yes
P	Foot Length	251.5 - 266.7	253	Yes
V	Shoulder Breadth	421.6 - 436.9	427	Yes
W	Foot Breadth	91.4 - 106.7	97	Yes
Y	Chest Circumference	970.3 - 1000.8	993	Yes
Z	Waist Circumference	835.7 - 866.1	858	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



Transportation Research Center Inc.

572E Head Drop Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Peak Resultant Acceleration	225 - 275 g	257.8 g	Yes
Peak Lateral Acceleration	15 g Max	4.1 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved



08.31.2005 10:46:39 616

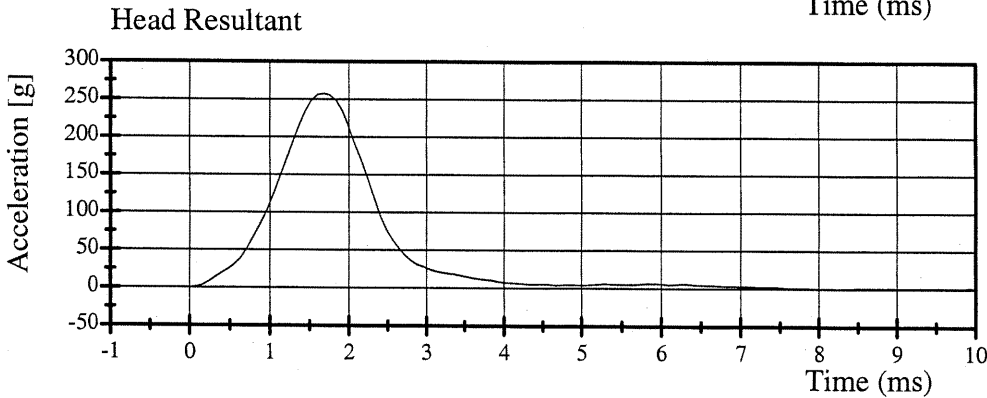
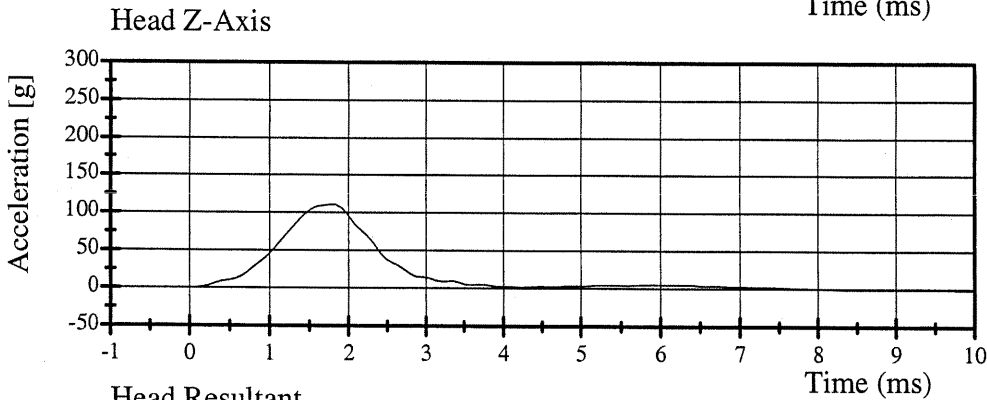
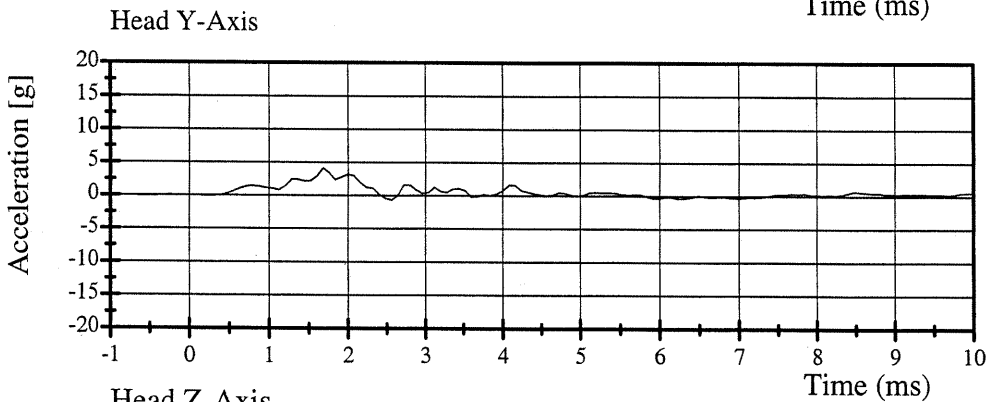
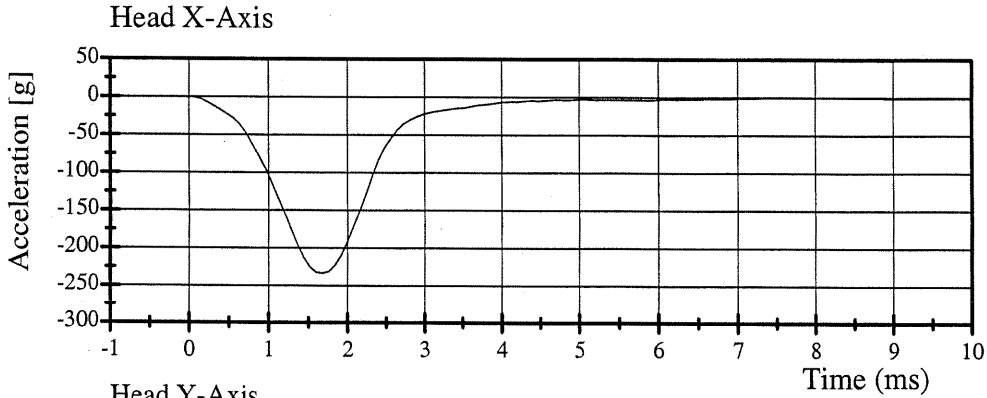


Transportation Research Center Inc.

572E Head Drop Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/31/2005



08.31.2005 10:46:40 616



Transportation Research Center Inc.

572E Neck Flexion Test - 6 Channel Transducer

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.01 m/s	Yes
Pendulum Deceleration			
10 ms	22.50 - 27.50 g	25.93 g	Yes
20 ms	17.60 - 22.60 g	22.29 g	Yes
30 ms	12.50 - 18.50 g	17.45 g	Yes
Max Pendulum Deceleration	29.00 g	26.62 g	Yes
Max Pendulum Deceleration After 30 ms	29.00 g	17.38 g	Yes
Deceleration-Time Curve			
Decay Time To 5g	34 - 42 ms	34.72 ms	Yes
D Plane Rotation			
Max	64 - 78 °	75.81 °	Yes
Time	57 - 64 ms	60.40 ms	Yes
Moment About Occipital Condyle			
Max	88.1 - 108.5 N·m	96.82 N·m	Yes
Time	47 - 58 ms	47.36 ms	Yes
Rotation Angle-Time Curve			
Decay Time To Zero	113 - 128 ms	121.92 ms	Yes
Positive Moment-Time Curve			
Decay Time To Zero	97 - 107 ms	102.56 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



08.30.2005 13:57:15 1139

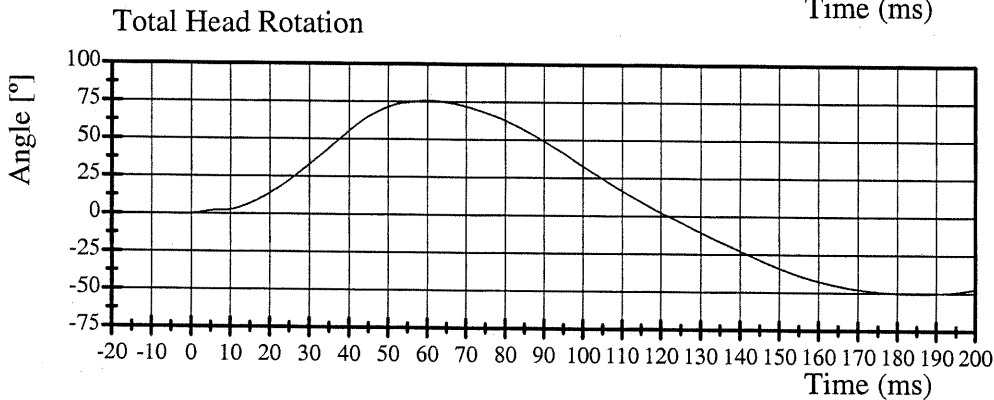
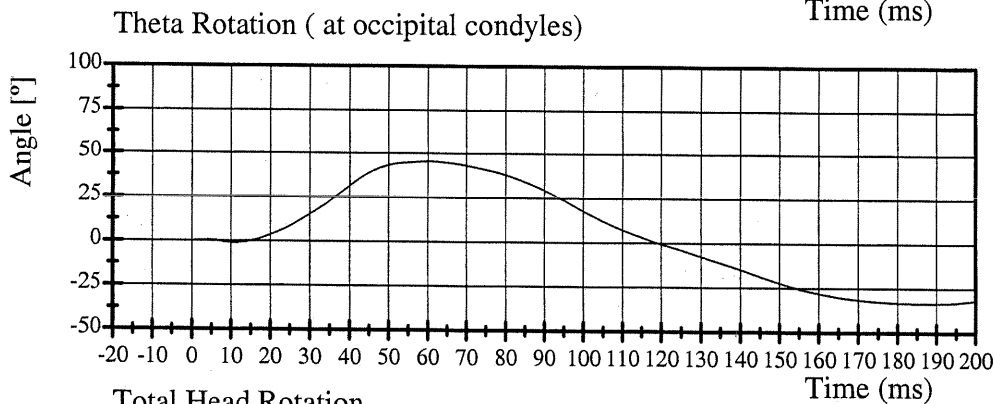
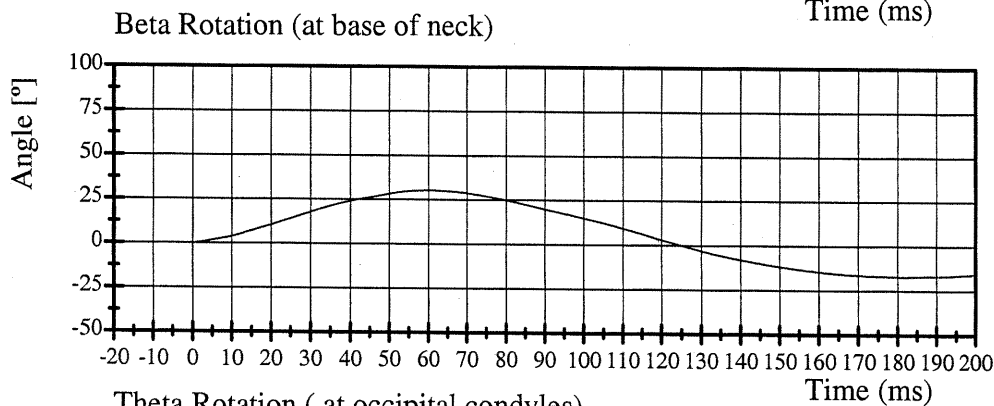
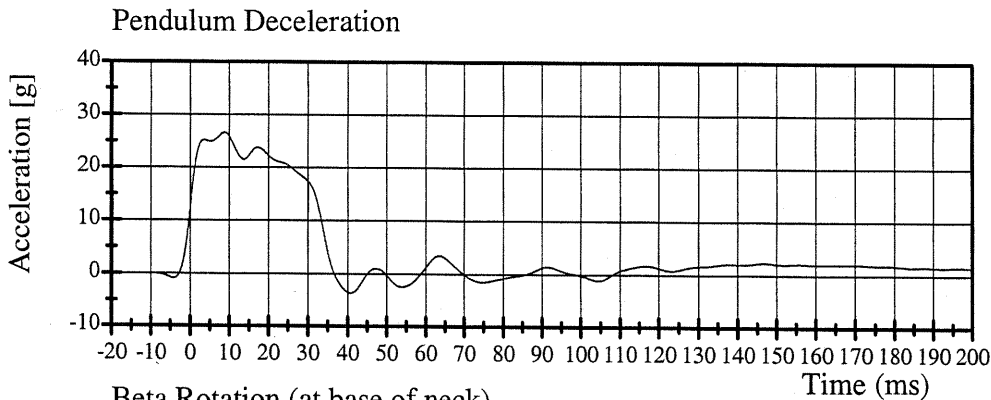


Transportation Research Center Inc.

572E Neck Flexion Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/30/2005



08.30.2005 13:57:16 1139

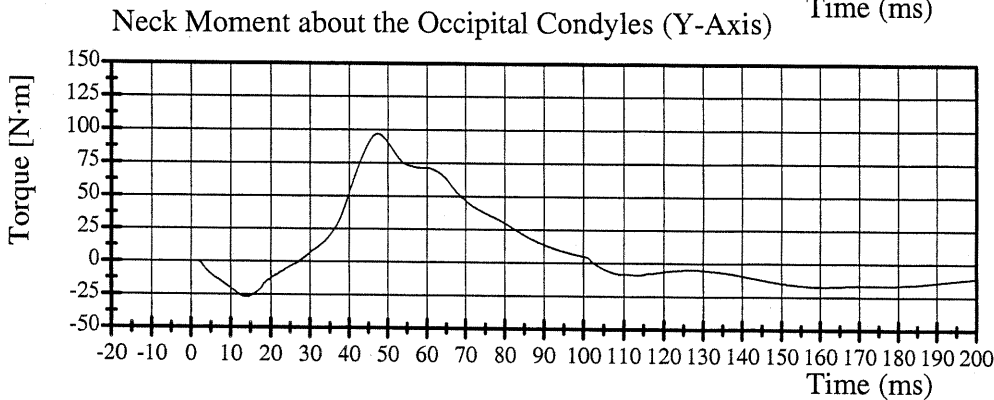
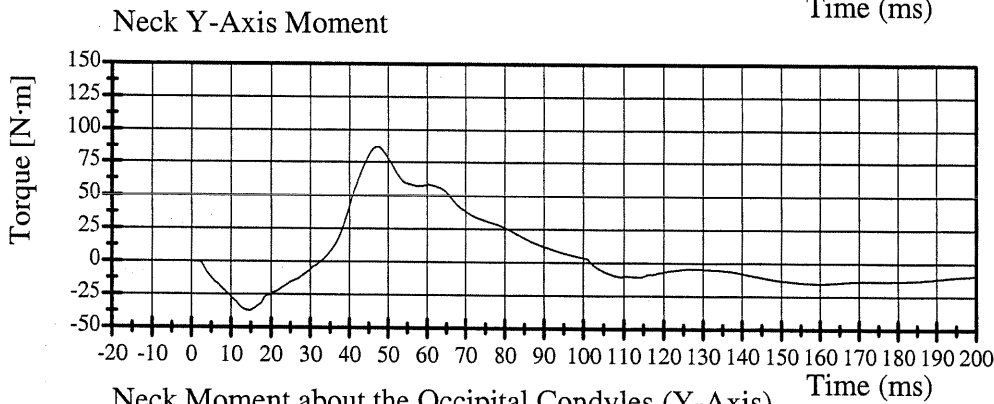
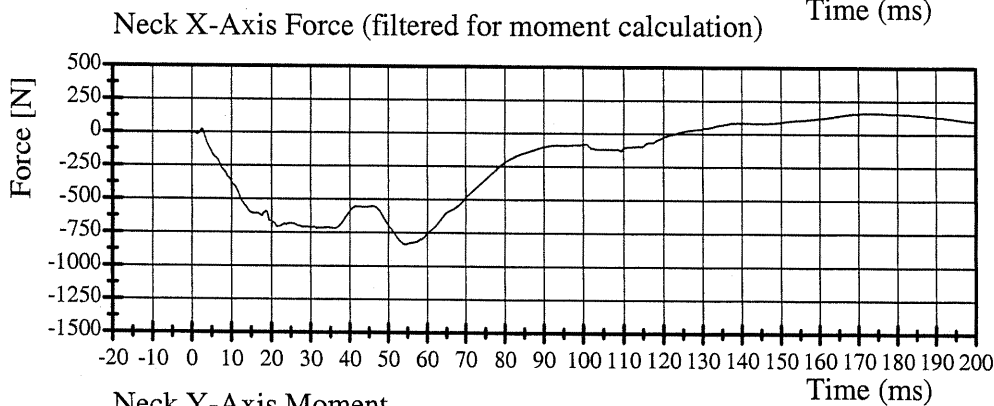
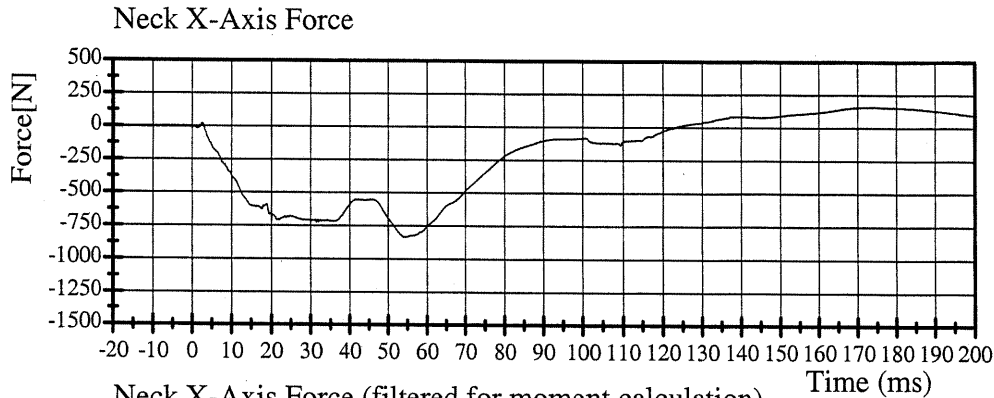


Transportation Research Center Inc.

572E Neck Flexion Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/30/2005



08.30.2005 13:57:17 1139



Transportation Research Center Inc.

572E Neck Extension Test - 6 Channel Transducer

HIII 50th Male Serial No. 090 Calibration No. 49 - 1


Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.02 m/s	Yes
Pendulum Deceleration			
10 ms	17.20 - 21.20 g	19.39 g	Yes
20 ms	14.00 - 19.00 g	16.15 g	Yes
30 ms	11.00 - 16.00 g	13.77 g	Yes
Max Pendulum Deceleration	22.00 g	20.04 g	Yes
Max Pendulum Deceleration After 30 ms	22.00 g	14.22 g	Yes
Deceleration-Time Curve			
Decay Time To 5g	38 - 46 ms	41.28 ms	Yes
D Plane Rotation			
Max	81 - 106 °	100.89 °	Yes
Time	72 - 82 ms	78.32 ms	Yes
Moment About Occipital Condyle			
Min	-80.0 - (-52.9) N·m	-65.29 N·m	Yes
Time	65 - 79 ms	74.80 ms	Yes
Rotation Angle-Time Curve			
Decay Time To Zero	147 - 174 ms	165.52 ms	Yes
Negative Moment-Time Curve			
Decay Time To Zero	120 - 148 ms	145.52 ms	Yes

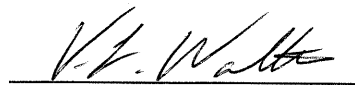
Test meets specifications.

Comments:

Technician



Approved



08.30.2005 14:45:43 1225

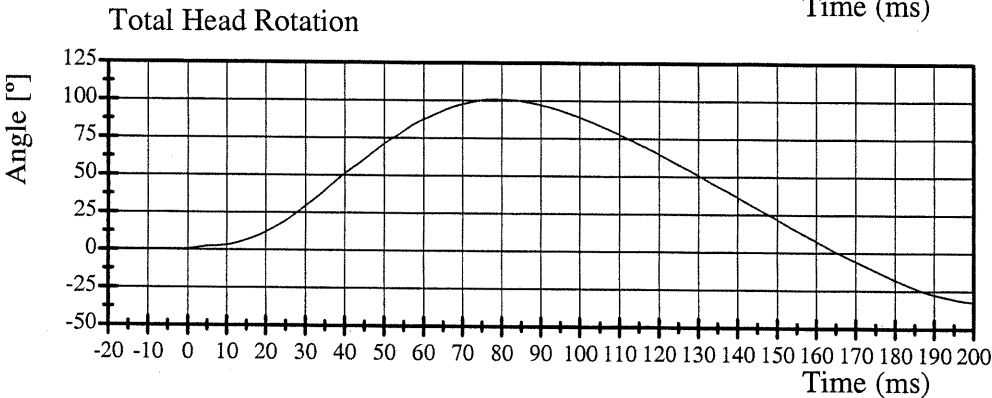
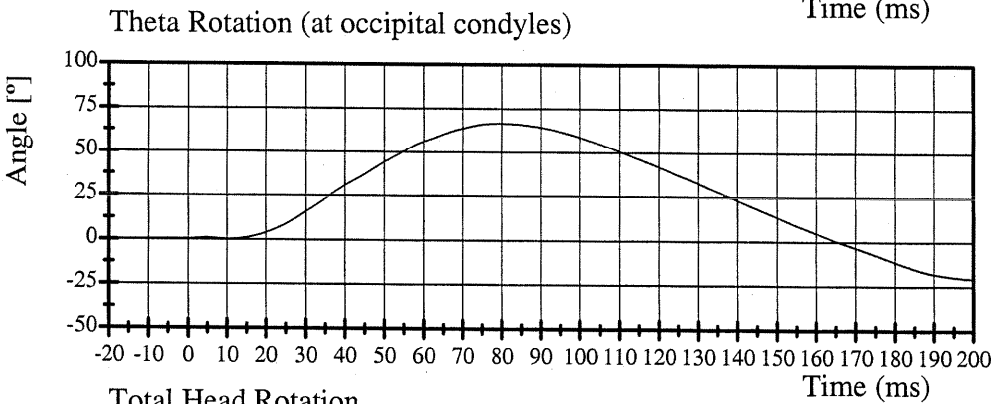
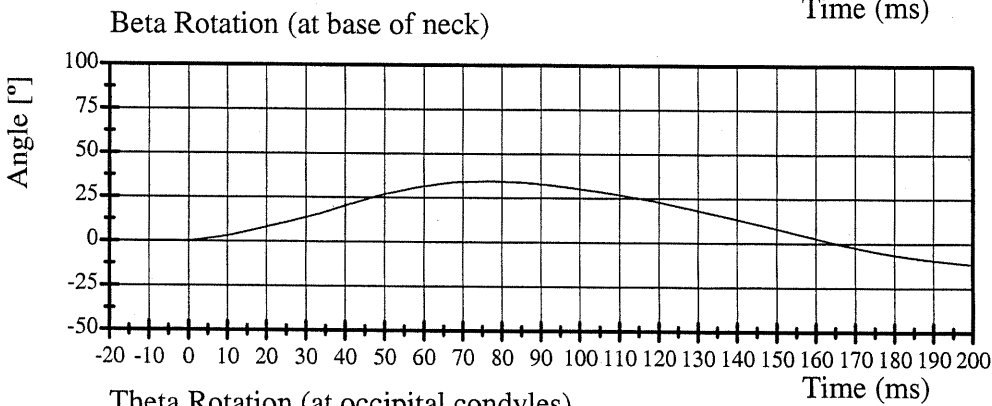
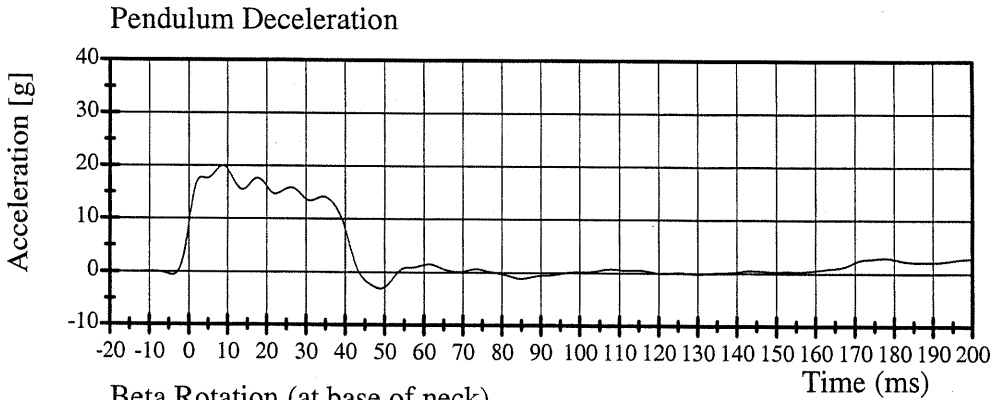


Transportation Research Center Inc.

572E Neck Extension Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 08/30/2005



08.30.2005 14:45:44 1225

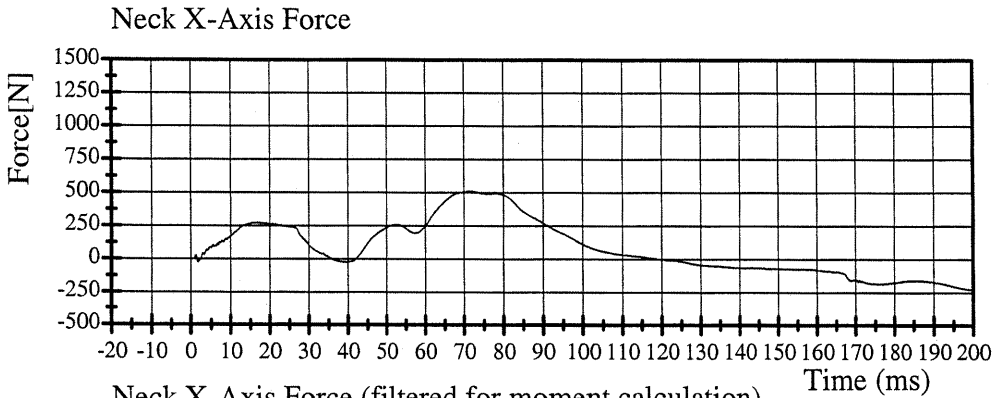


Transportation Research Center Inc.

572E Neck Extension Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

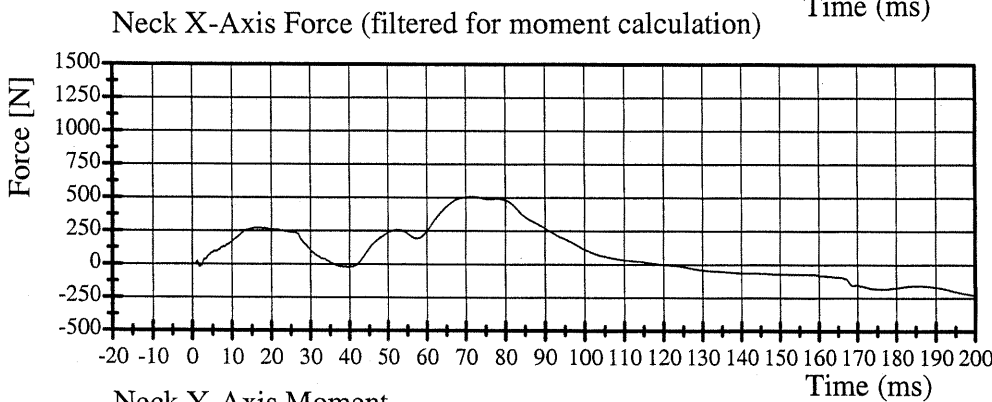
Test Date 08/30/2005



Filter Class: 1000

Max: 510.8 N at 71.6 ms

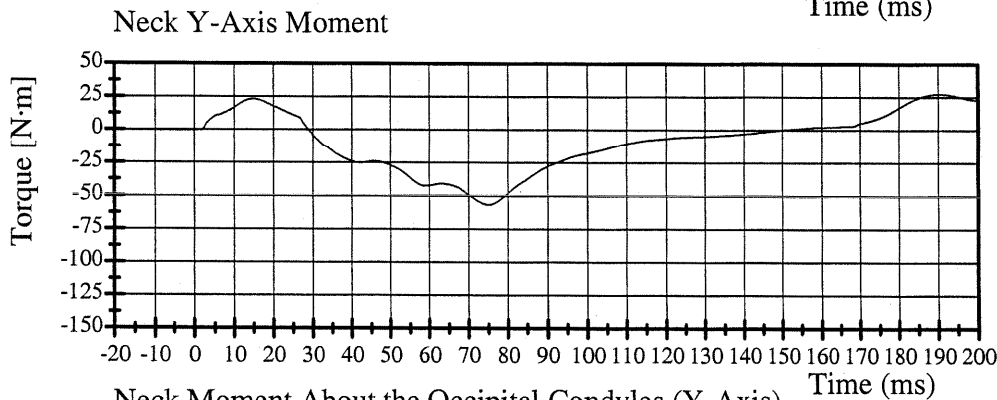
Min: -228.0 N at 201.7 ms



Filter Class: 600

Max: 510.0 N at 71.6 ms

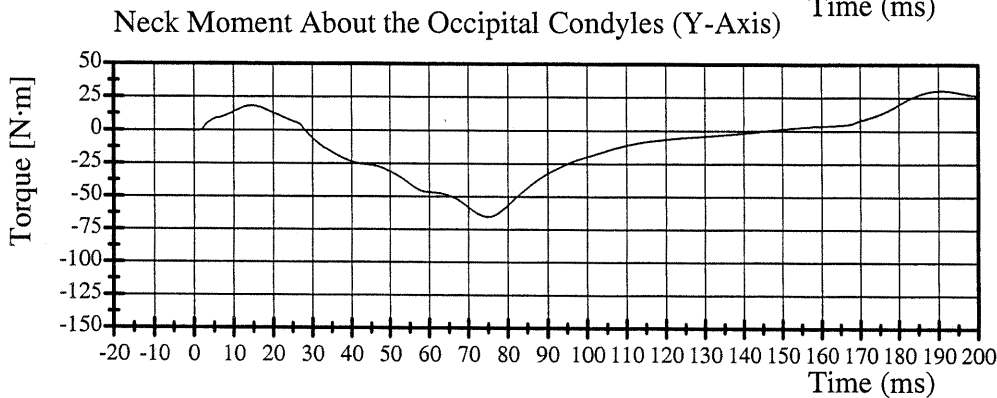
Min: -227.8 N at 201.8 ms



Filter Class: 600

Max: 27.5 N·m at 190.4 ms

Min: -56.6 N·m at 74.9 ms



Filter Class: 600

Max: 30.5 N·m at 190.6 ms

Min: -65.3 N·m at 74.8 ms

08.30.2005 14:45:45 1225



Transportation Research Center Inc.

572E Thorax Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 09/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.65 m/s	Yes
Maximum Chest Deflection	-72.6 - (-63.5) mm	-71.1 mm	Yes
Maximum Resistive Force	5160 - 5894 N	5691 N	Yes
Internal Hysteresis	69 - 85 %	72 %	Yes

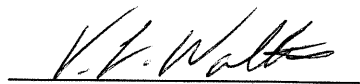
Test meets specifications.

Comments:

Technician



Approved



09.02.2005 11:26:53 1579



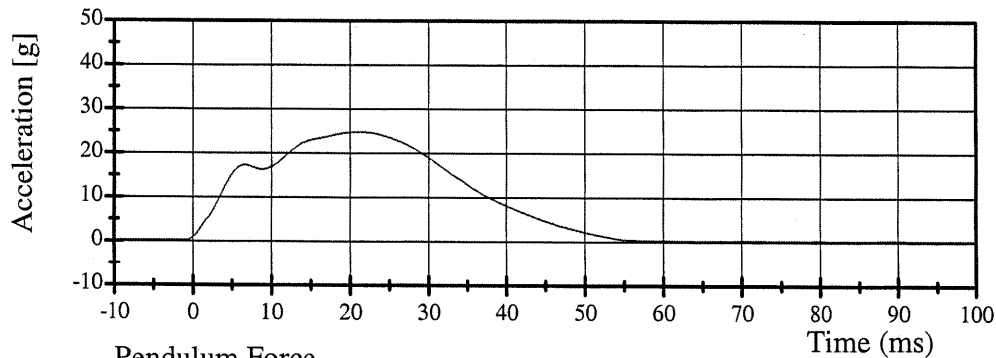
Transportation Research Center Inc.

572E Thorax Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 1

Test Date 09/02/2005

Pendulum Deceleration

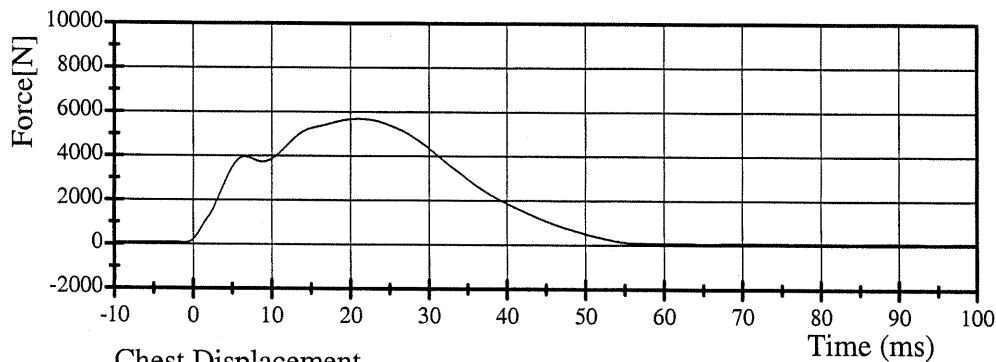


Filter Class: 180

Max: 24.8 g at 21.0 ms

Min: -0.1 g at -126.2 ms

Pendulum Force

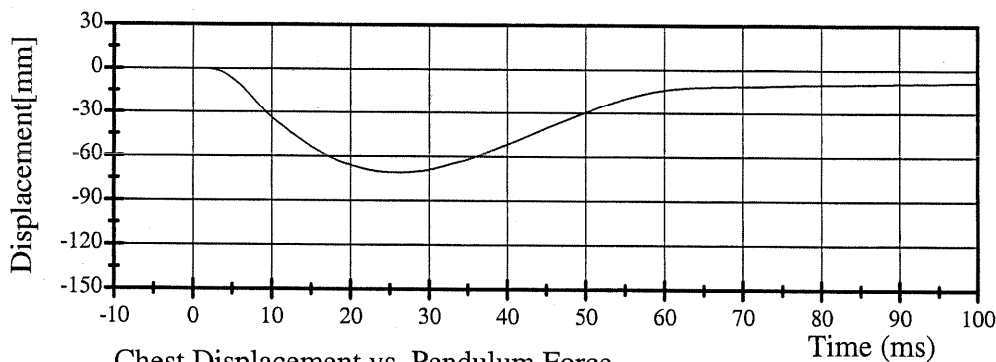


Filter Class: 180

Max: 5690.7 N at 21.0 ms

Min: -11.5 N at -126.2 ms

Chest Displacement

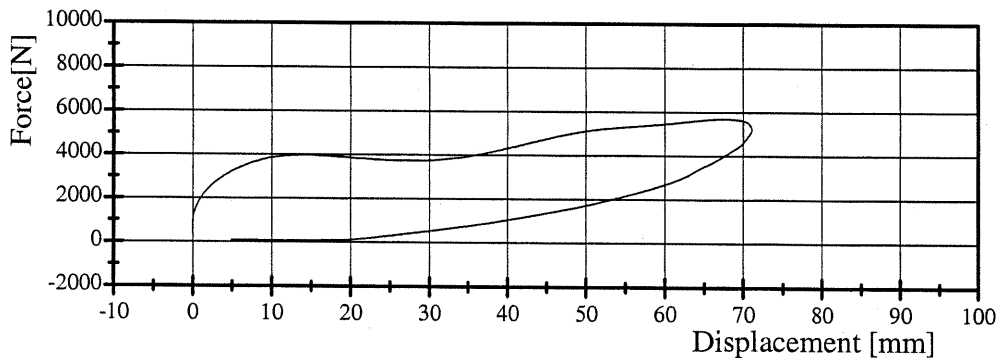


Filter Class: 180

Max: 0.0 mm at 1.0 ms

Min: -71.1 mm at 26.2 ms

Chest Displacement vs. Pendulum Force



09.02.2005 11:26:54 1579



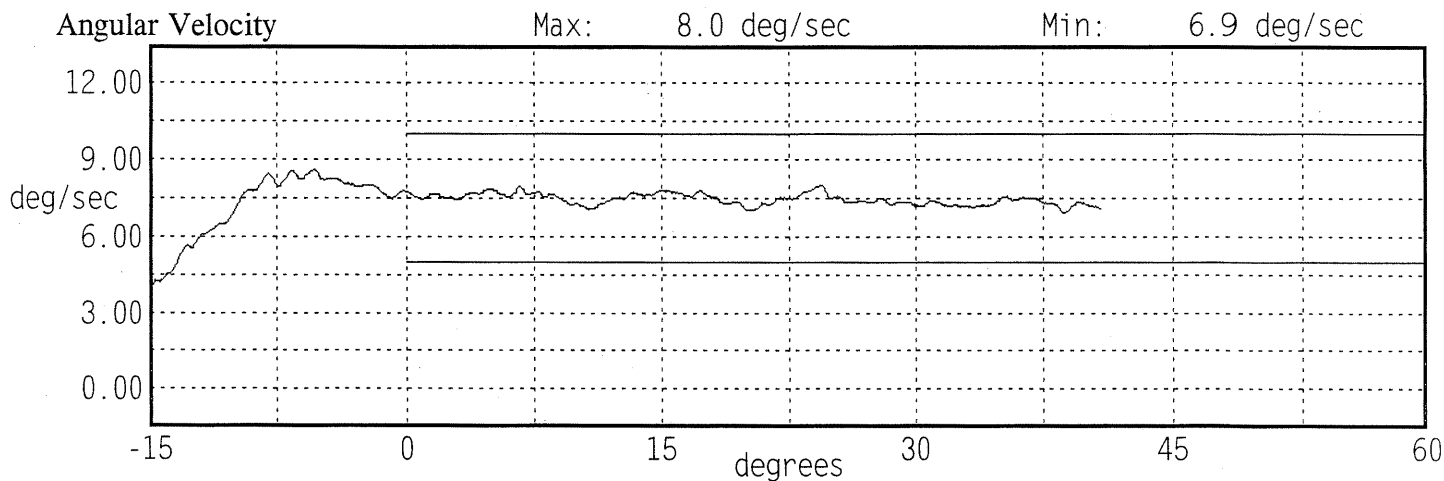
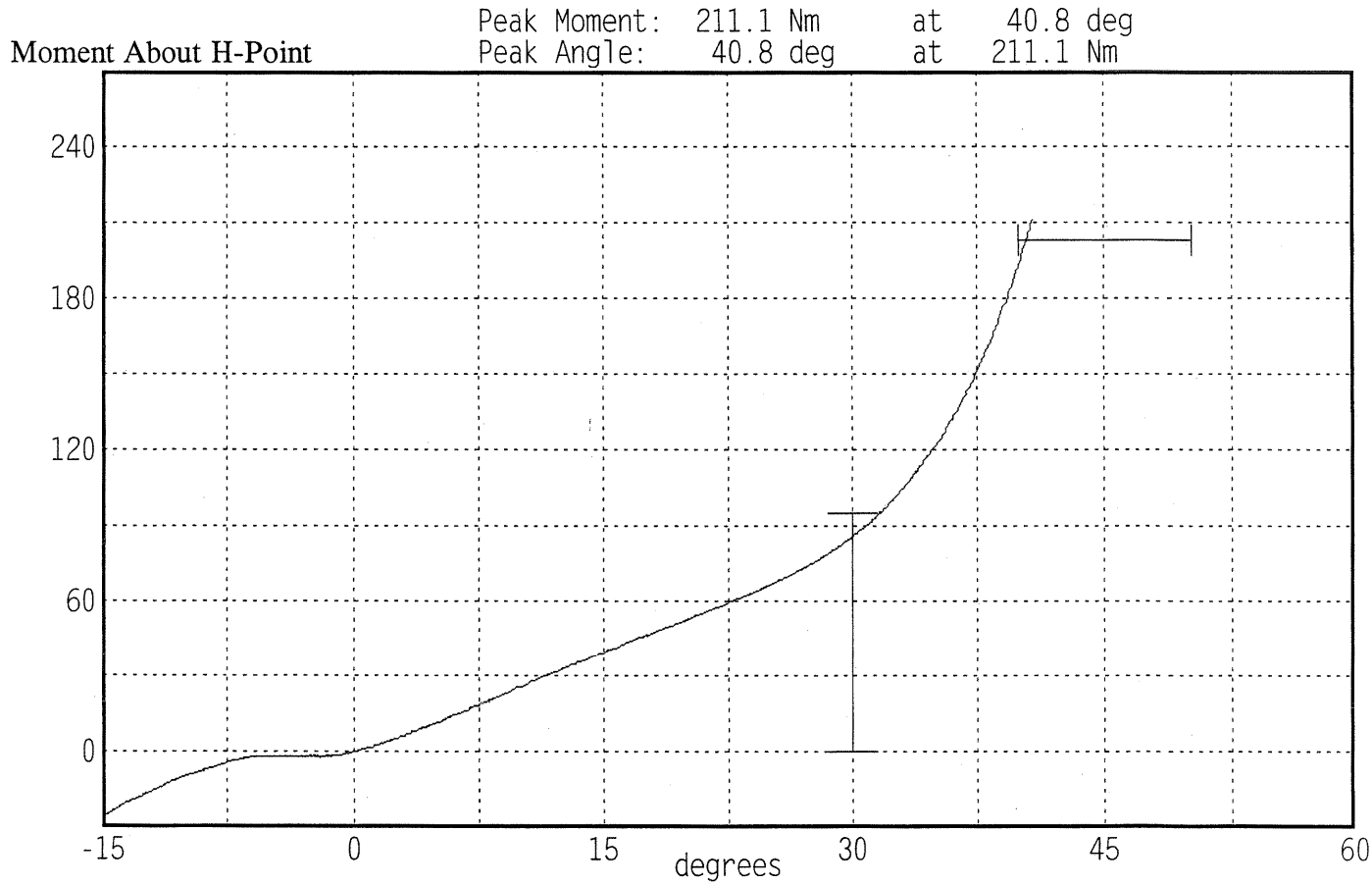
Applied Safety Technologies Corp.

Hybrid III Hip Range of Motion

Serial Number: 090L
Test Number: 090C49
Comments:

Date: 08/29/2005
Time: 12:28

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.6 °C Pass
Humidity	10 - 70	48 % Pass
Moment at 30 deg	<= 94.9	86.2 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.5 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass



Applied Safety Technologies Corp.

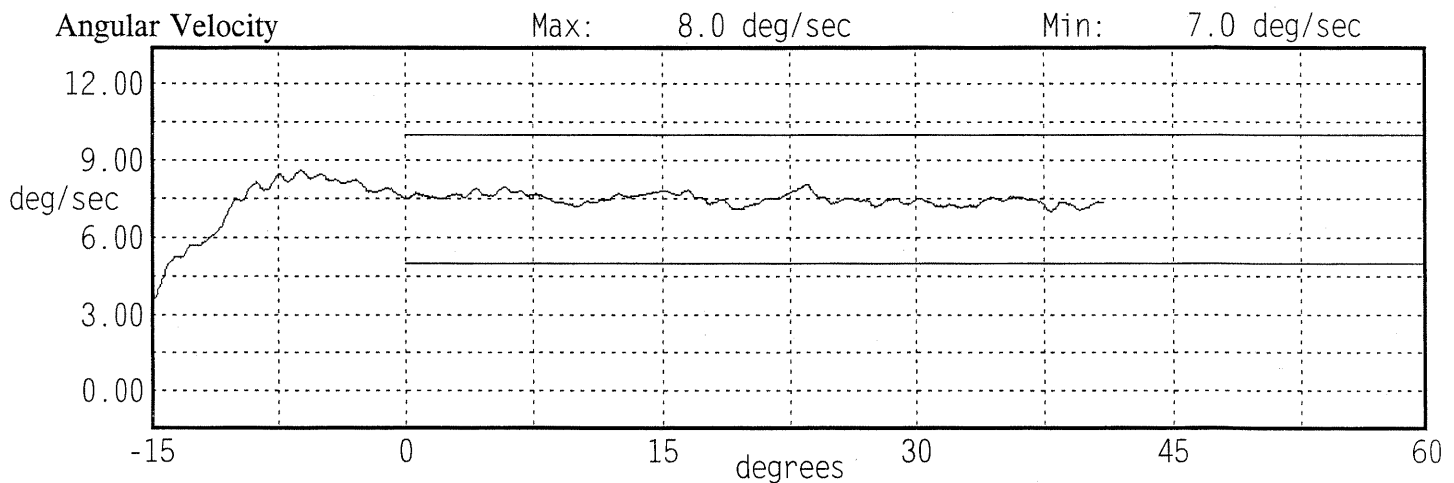
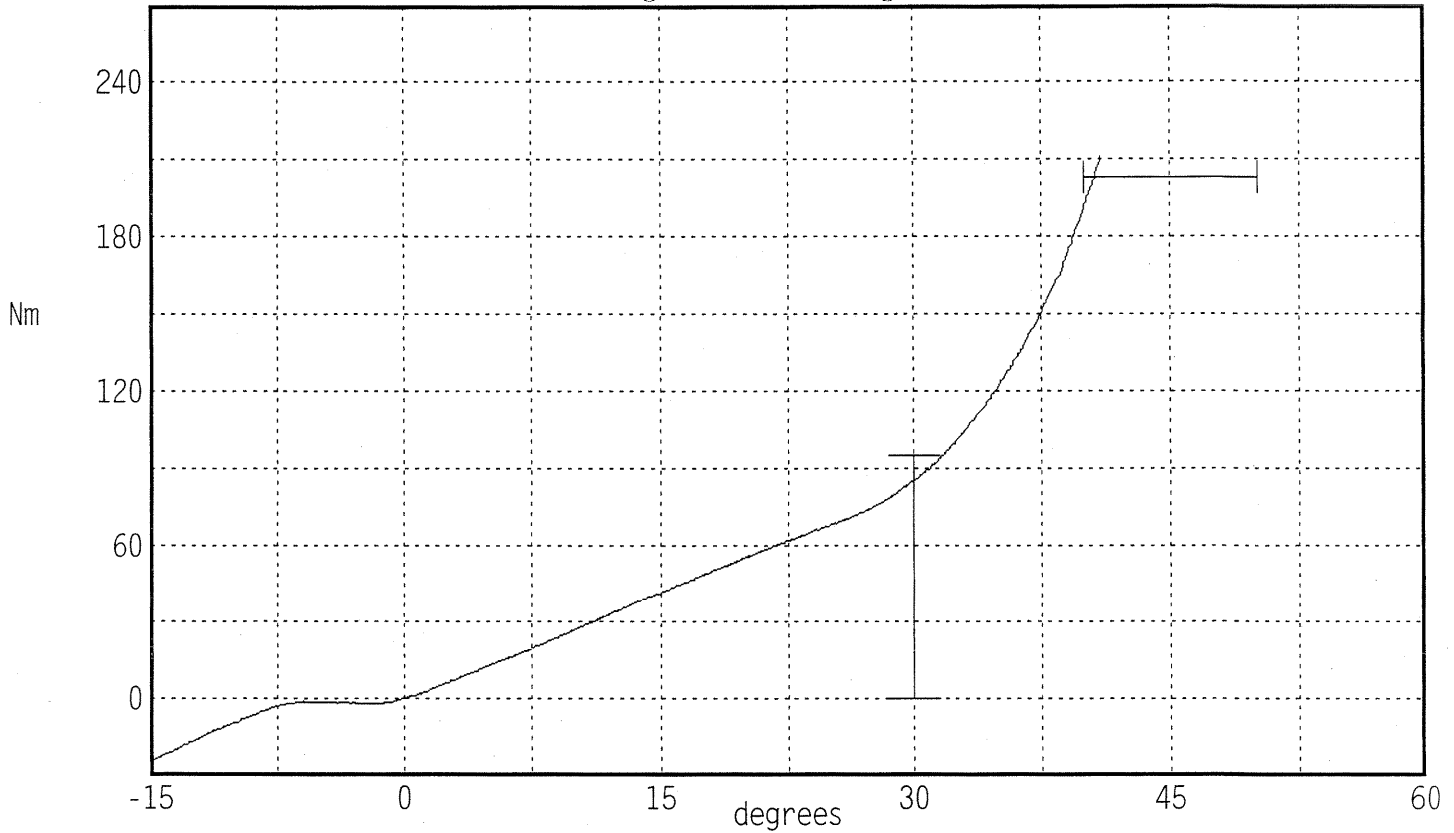
Hybrid III Hip Range of Motion

Serial Number: 090R
Test Number: 090C49
Comments:

Date: 08/29/2005
Time: 12:31

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	18.9 - 25.6	21.6 °C Pass
Humidity	10 - 70	48 % Pass
Moment at 30 deg	<= 94.9	85.4 Nm Pass
Angle at 203 Nm	40.0 - 50.0	40.7 deg Pass
Average Velocity	5.0 - 10.0	7.5 deg/sec Pass

Moment About H-Point
Peak Moment: 211.0 Nm at 41.0 deg
Peak Angle: 41.0 deg at 211.0 Nm



Transportation Research Center Inc.

572E Left Knee Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 4

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.09 m/s	Yes
Maximum Pendulum Force	4715 - 5783 N	4949 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.31.2005 12:26:38 2152



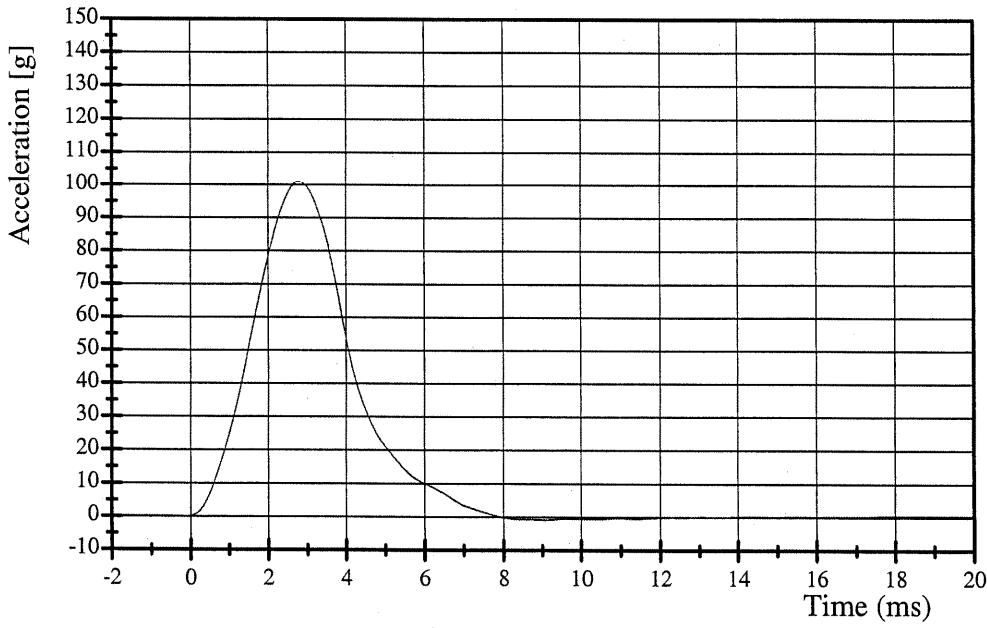
Transportation Research Center Inc.

572E Left Knee Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 4

Test Date 08/31/2005

Pendulum Deceleration

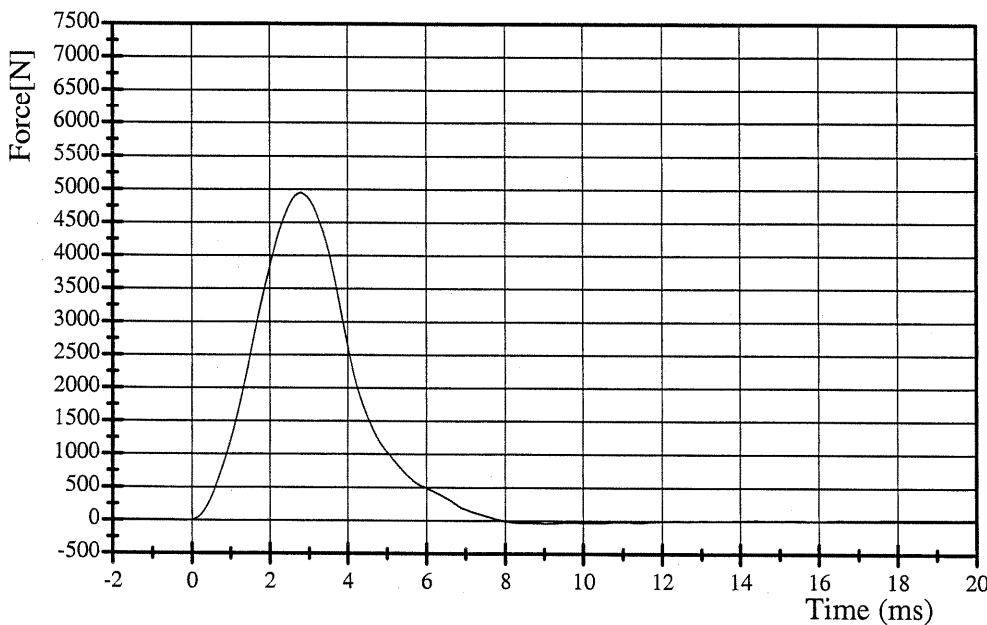


Filter Class: 600

Max: 101.1 g at 2.8 ms

Min: -0.8 g at 9.0 ms

Pendulum Force



Filter Class: 600

Max: 4948.7 N at 2.8 ms

Min: -40.0 N at 9.0 ms



Transportation Research Center Inc.

572E Left Knee Slider Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 2

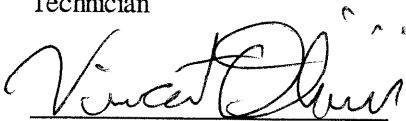
Test Date 09/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.72 m/s	Yes
Force At 10 mm Displacement	-1259 - (-1721) N	-1290 N	Yes
Force At 18 mm Displacement	-2268 - (-3096) N	-2568 N	Yes

Test meets specifications.

Comments:

Technician



Approved



09.01.2005 09:04:18 2005

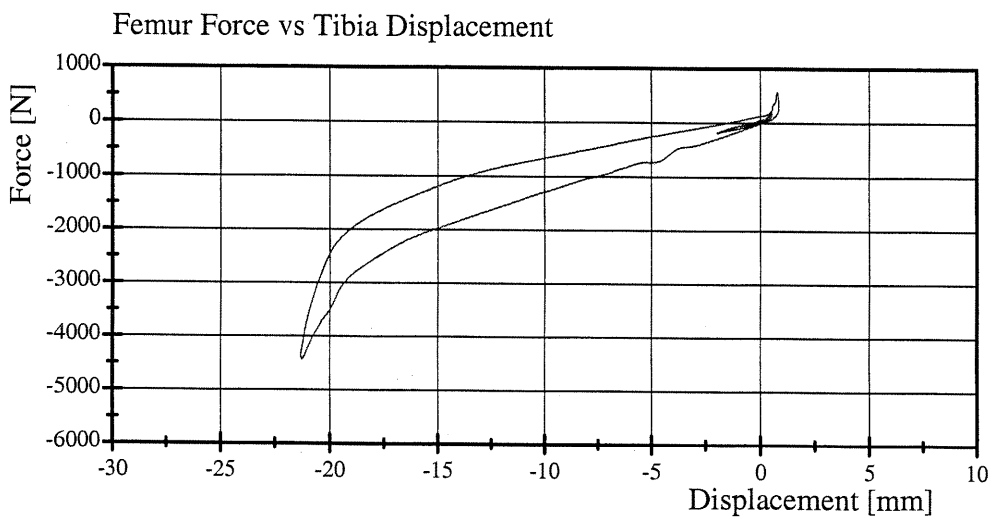
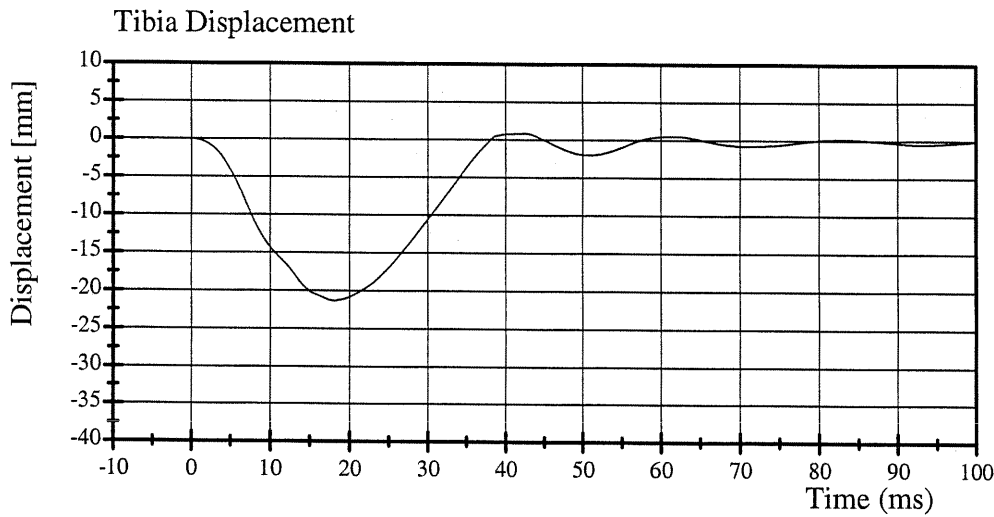
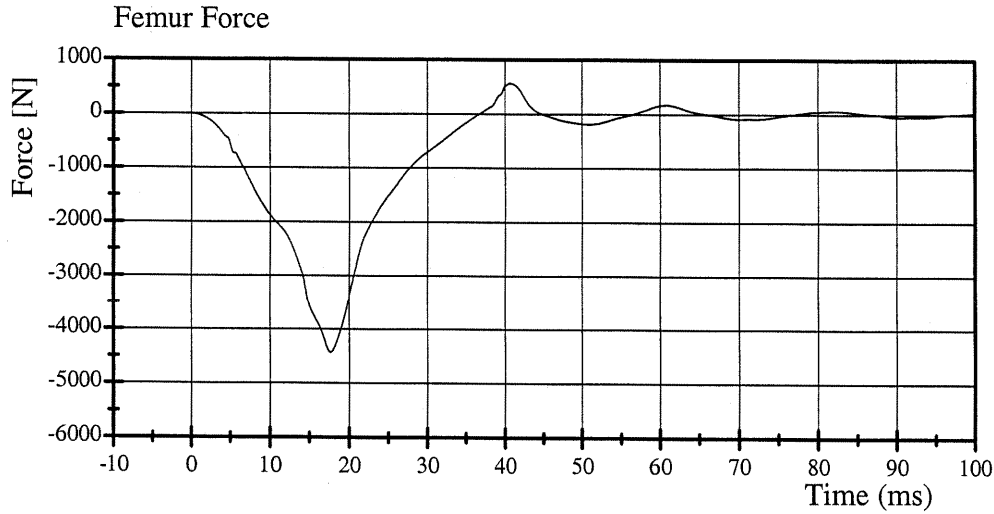


Transportation Research Center Inc.

572E Left Knee Slider Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 2

Test Date 09/01/2005



09.01.2005 09:04:19 2005



Transportation Research Center Inc.

572E Right Knee Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 2

Test Date 08/31/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	20.9 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.09 m/s	Yes
Maximum Pendulum Force	4715 - 5783 N	5437 N	Yes

Test meets specifications.

Comments:

Technician



Approved



08.31.2005 10:06:07 2149



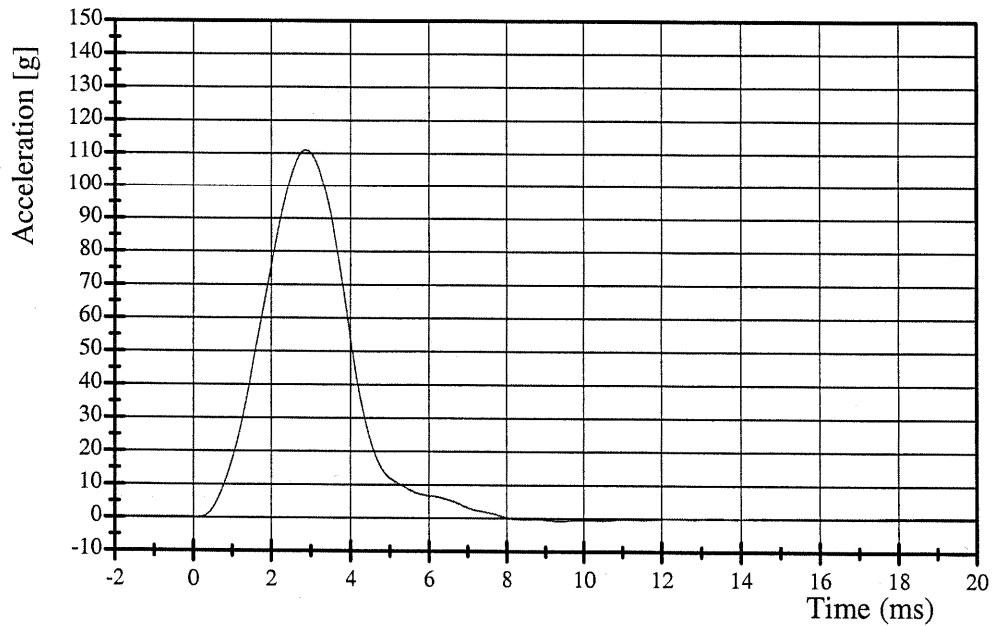
Transportation Research Center Inc.

572E Right Knee Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 2

Test Date 08/31/2005

Pendulum Deceleration

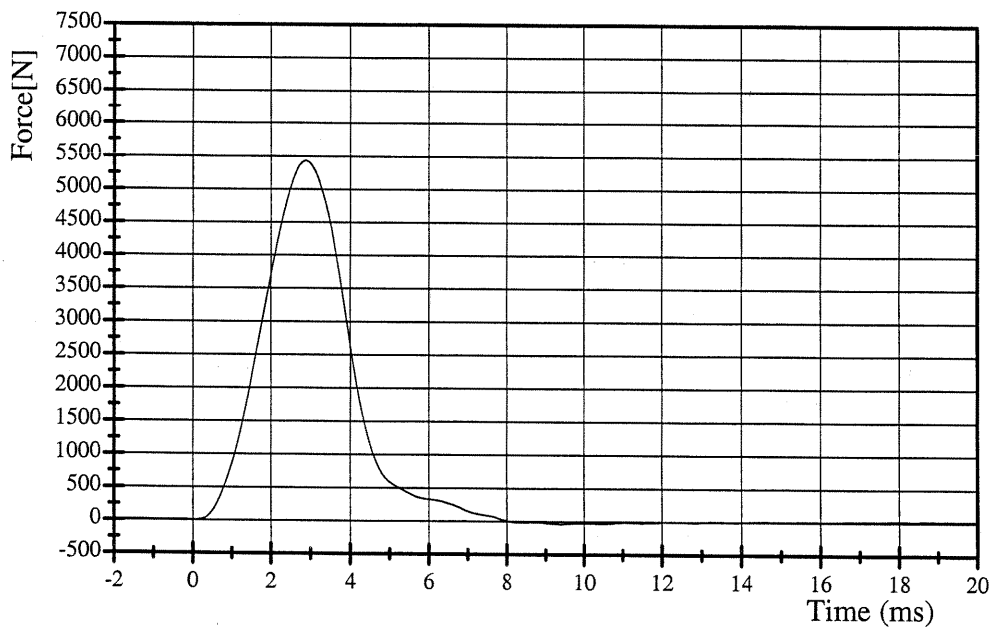


Filter Class: 600

Max: 111.1 g at 2.9 ms

Min: -0.8 g at 9.4 ms

Pendulum Force



Filter Class: 600

Max: 5436.7 N at 2.9 ms

Min: -37.5 N at 9.4 ms

Transportation Research Center Inc.

572E Right Knee Slider Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 11

Test Date 09/02/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.77 m/s	Yes
Force At 10 mm Displacement	-1259 - (-1721) N	-1441 N	Yes
Force At 18 mm Displacement	-2268 - (-3096) N	-2828 N	Yes

Test meets specifications.

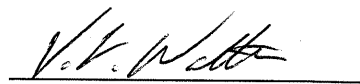
Comments:

New Knee Slider Serial # 1824

Technician



Approved



09.06.2005 14:30:22 1987

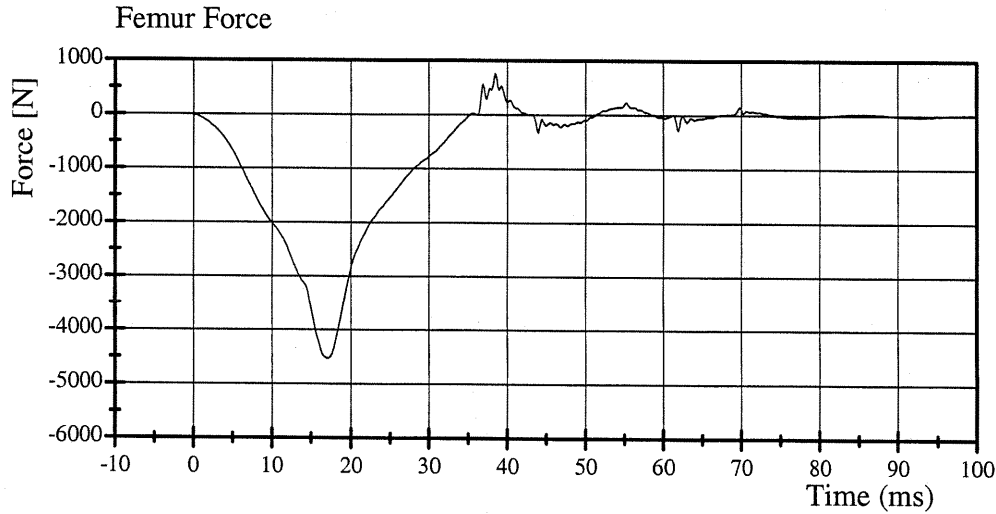


Transportation Research Center Inc.

572E Right Knee Slider Test

HIII 50th Male Serial No. 090 Calibration No. 49 - 11

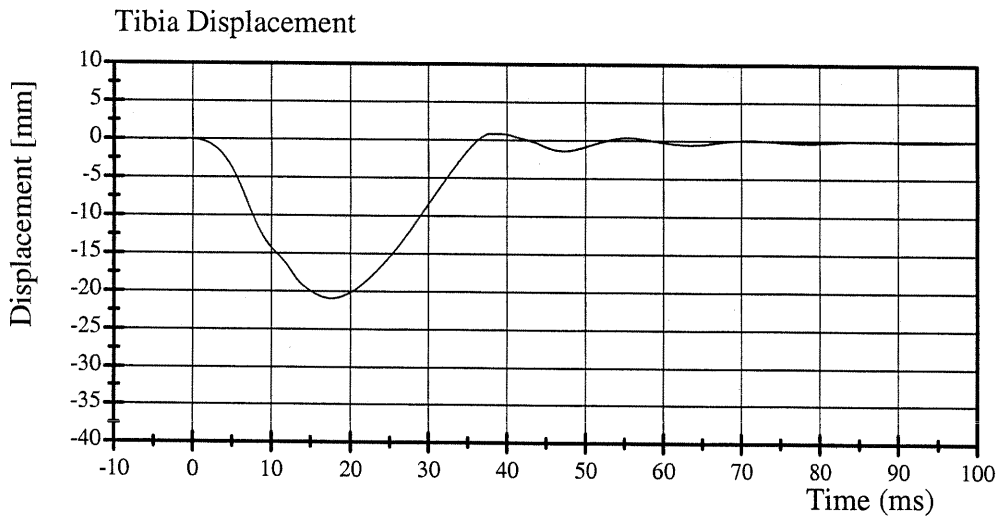
Test Date 09/02/2005



Filter Class: 600

Max: 756.1 N at 38.5 ms

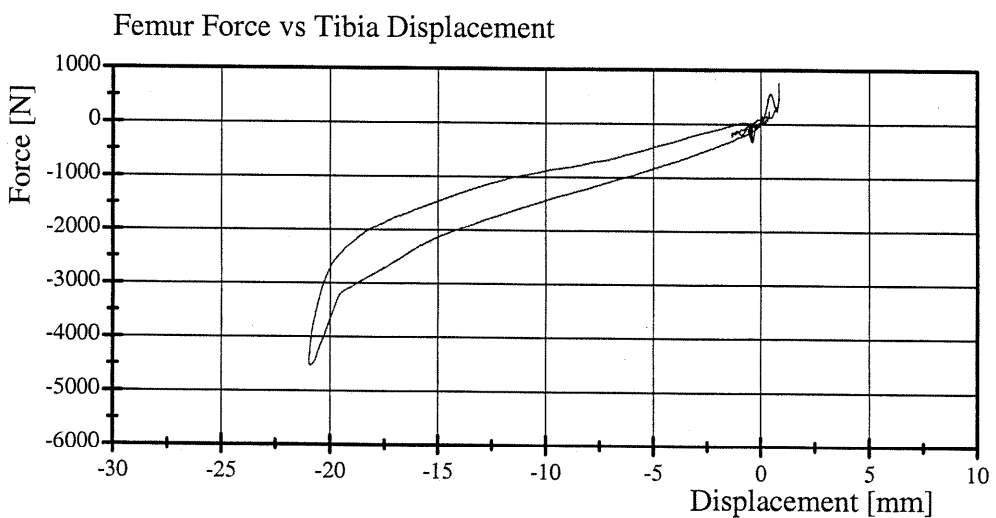
Min: -4528.5 N at 17.1 ms



Filter Class: 600

Max: 0.9 mm at 37.8 ms

Min: -20.9 mm at 17.6 ms



09.06.2005 14:30:22 1987



Pre-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Passenger Dummy S/N: 070

Transportation Research Center Inc.
5720 HIII 5th Female Dummy
External Dimensions
Serial No. 070 Calibration No. 11

Symbol	Description	Specification	Results	Pass
		mm	mm	
A	Total Sitting Height	774.7 - 800.1	785	Yes
B	Shoulder Pivot Height	431.8 - 457.2	449	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	75	Yes
F	Thigh Clearance	119.4 - 134.6	125	Yes
G	Back of Elbow to Wrist Pivot	243.9 - 259.1	249	Yes
H	Head Back to Backline	43.2 - 48.2	44	Yes
I	Shoulder to Elbow Length	276.8 - 297.2	290	Yes
J	Elbow Rest Height	182.8 - 203.2	190	Yes
K	Buttock Knee Length	520.7 - 546.1	535	Yes
L	Popliteal Height	355.6 - 376.0	357	Yes
M	Knee Pivot Height	393.7 - 419.1	403	Yes
N	Buttock Popliteal Length	414.0 - 439.4	420	Yes
O	Chest Depth without Jacket	175.3 - 190.5	186	Yes
P	Foot Length	218.5 - 233.7	221	Yes
R	Buttock to Knee Pivot Length	457.2 - 482.6	479	Yes
S	Head Breadth	137.1 - 147.3	142	Yes
T	Head Depth	177.8 - 188.0	184	Yes
U	Hip Breadth	299.7 - 314.9	309	Yes
V	Shoulder Breadth	350.5 - 365.7	360	Yes
W	Foot Breadth	78.8 - 94.0	87	Yes
X	Head Circumference	528.3 - 548.7	540	Yes
Y	Chest Circumference with Jacket	850.9 - 881.3	868	Yes
Z	Waist Circumference	759.5 - 789.9	781	Yes
AA	Reference Location for Chest Circumference	332.7 - 358.1	350	Yes
BB	Reference Location for Waist Circumference	160.0 - 170.2	165	Yes

Technician



Approved



Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Peak Resultant Acceleration	250 - 300 g	258.9 g	Yes
Peak Lateral Acceleration	15 g Max	14.4 g	Yes
Oscillations After Main Pulse	Less Than 10% of Peak Resultant Acceleration?	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved



08.24.2005 12:57:12 607

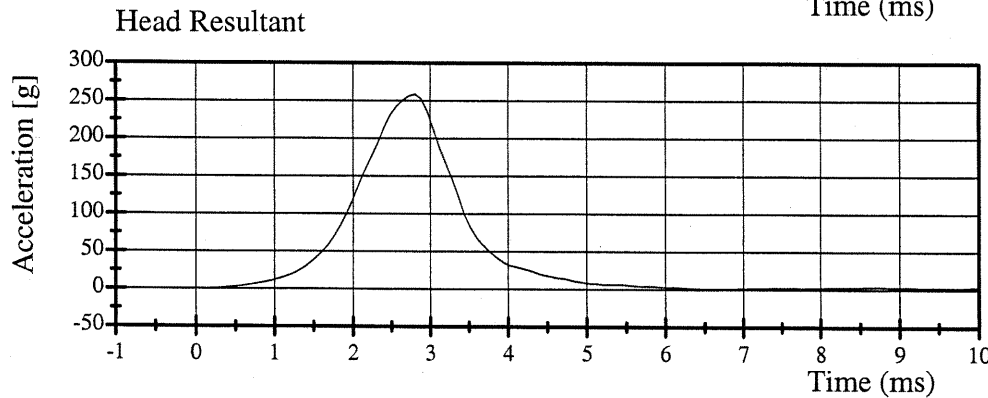
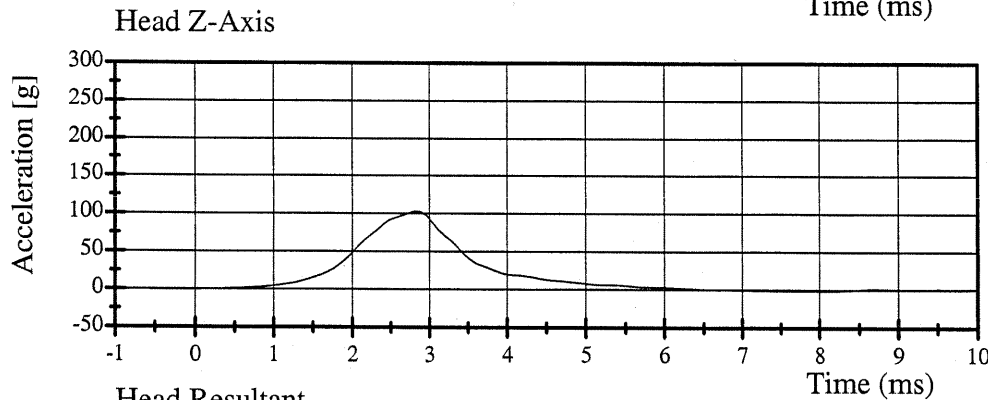
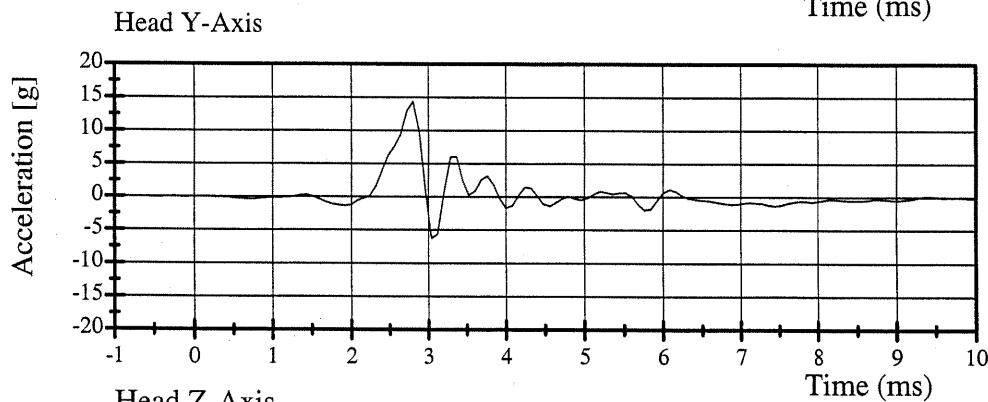
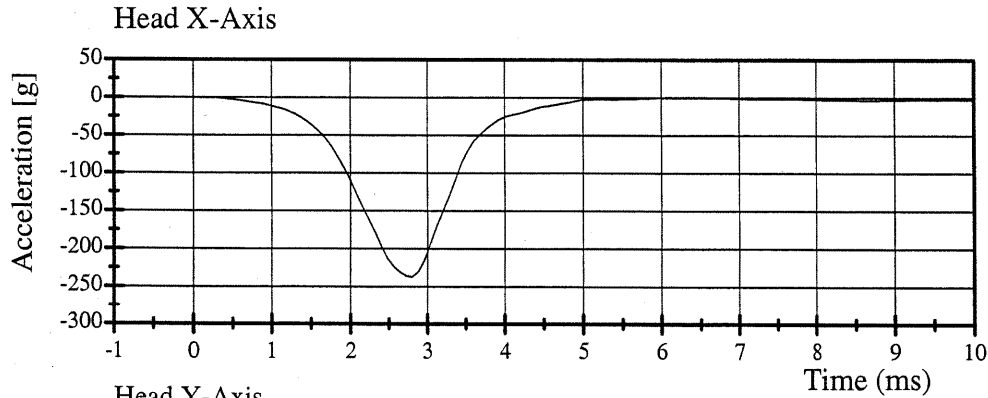


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005



08.24.2005 12:57:13 607



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

HIII 5th Female Serial No. 070 Calibration No. 11 - 1


Test Date 08/24/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.06 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.39 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.60 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.59 m/s	Yes
Peak D Plane Rotation	77 - 91 °	82.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	79.77 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	87.60 ms	Yes

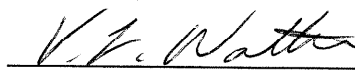
Test meets specifications.

Comments:

Technician



Approved



08.24.2005 14:45:09 1132



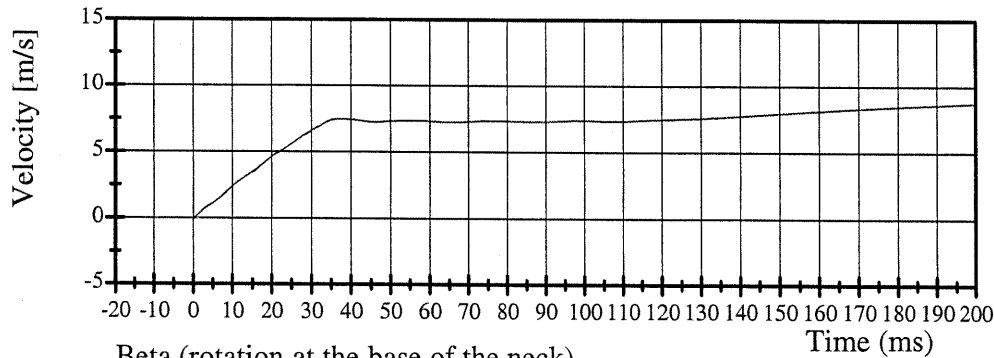
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005

Integrated Pendulum Velocity

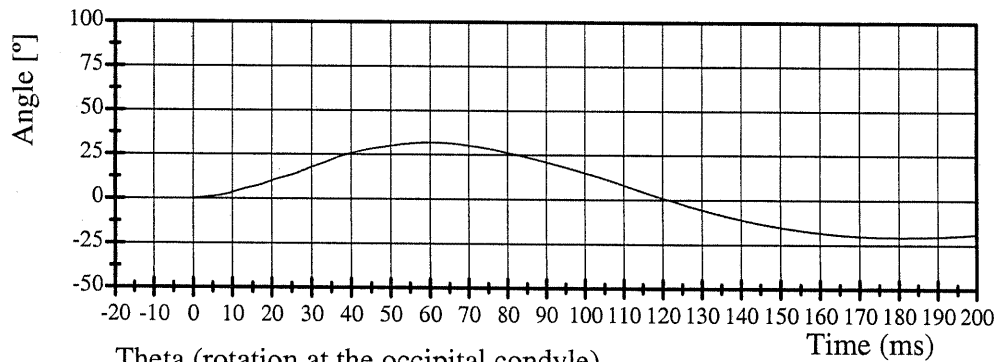


Filter Class: 180

Max: 9.2 m/s at 254.6 ms

Min: -0.0 m/s at -72.6 ms

Beta (rotation at the base of the neck)

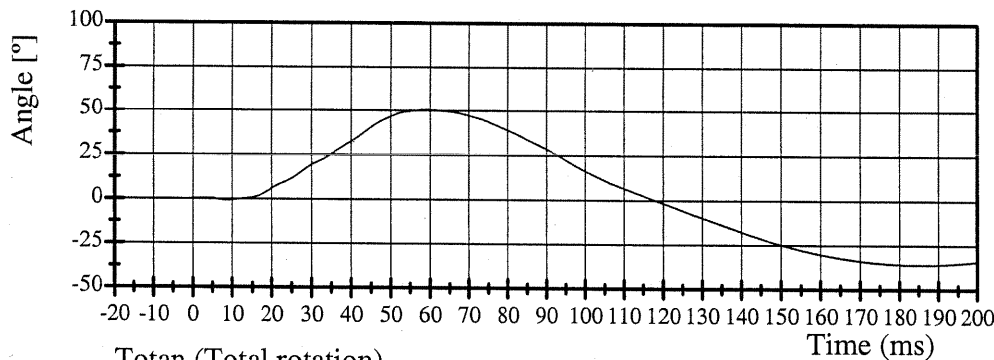


Filter Class: 60

Max: 31.9° at 60.2 ms

Min: -20.7° at 180.8 ms

Theta (rotation at the occipital condyle)

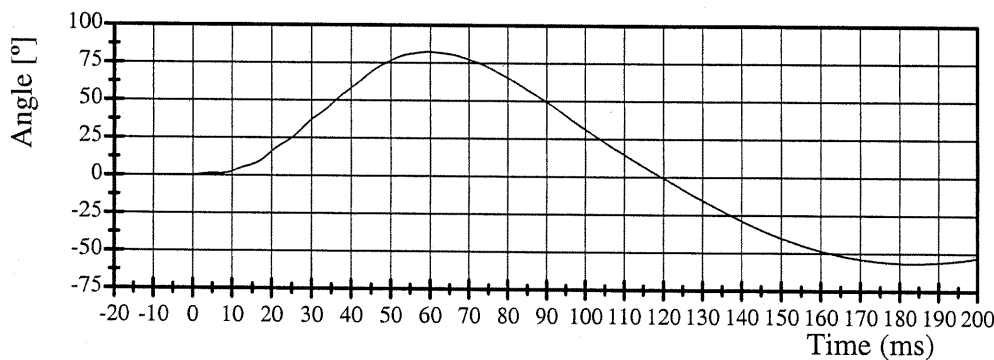


Filter Class: 60

Max: 50.5° at 59.4 ms

Min: -35.9° at 184.9 ms

Totan (Total rotation)



Filter Class: 60

Max: 82.4° at 59.6 ms

Min: -56.5° at 183.4 ms

08.24.2005 14:45:09 1132

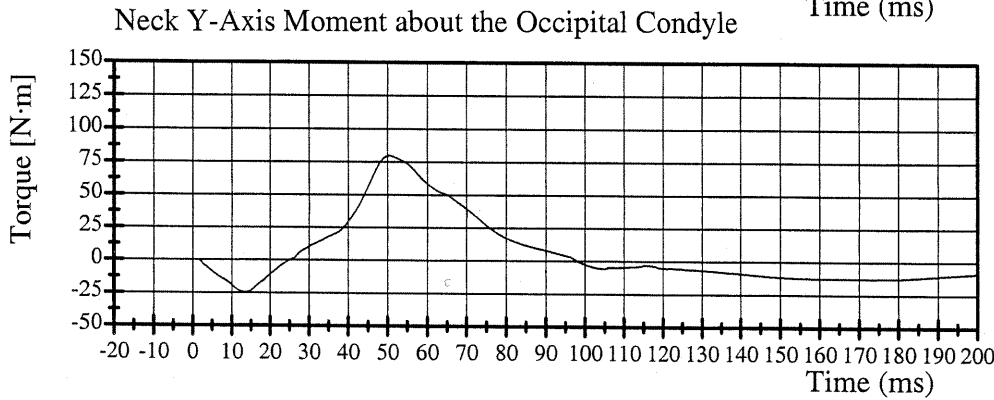
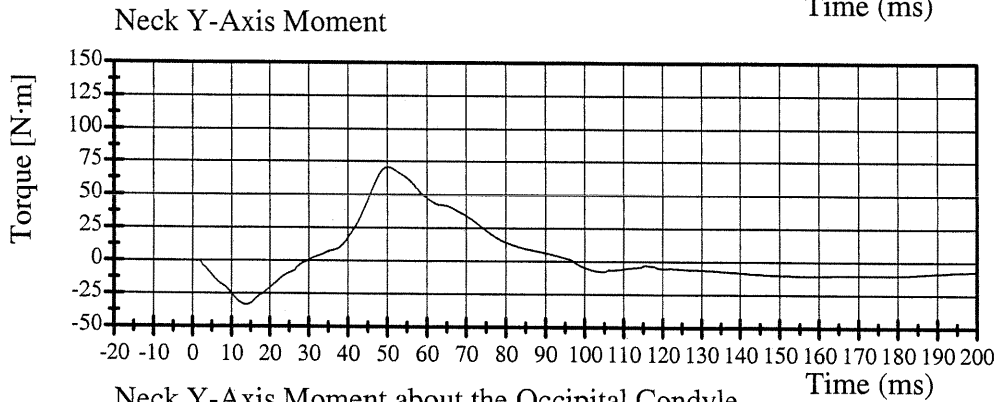
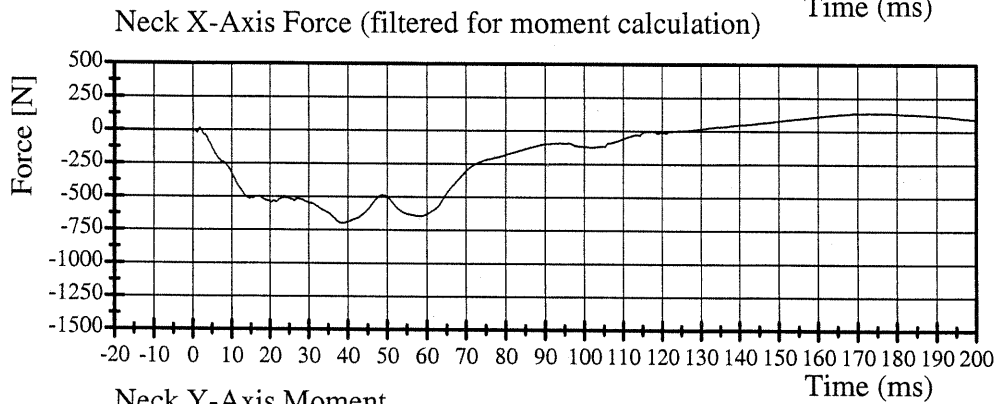
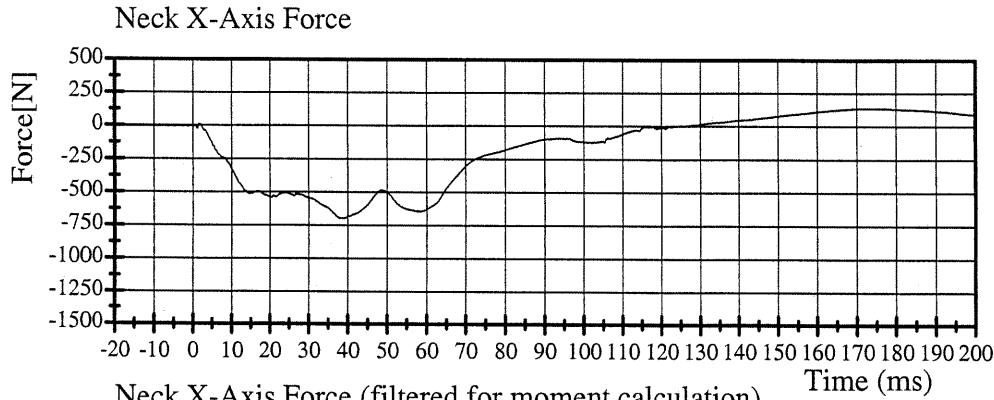


Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005



08.24.2005 14:45:10 1132



Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.08 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.81 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.56 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.19 m/s	Yes
Peak D Plane Rotation	99 - 114 °	101.8 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-59.12 N·m	Yes
Negative Moment Decay Time To -10 N·m	94 - 114 ms	102.96 ms	Yes

Test meets specifications.

Comments:

Technician

Vincent Blum

Approved

V. F. Watter

08.24.2005 15:18:27 1216



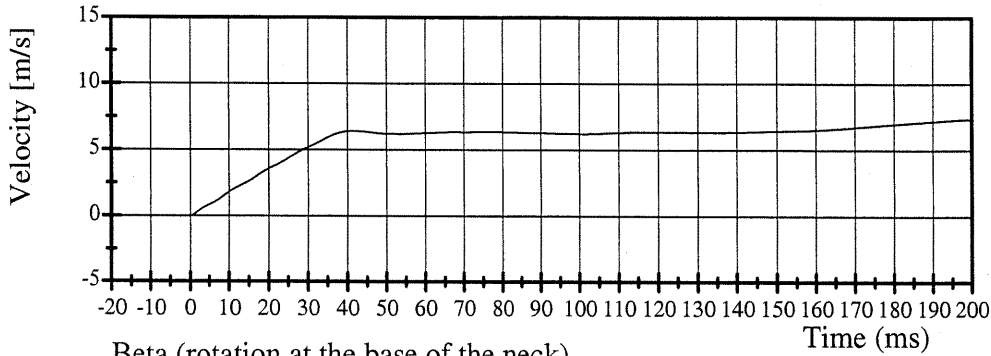
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005

Integrated Pendulum Velocity

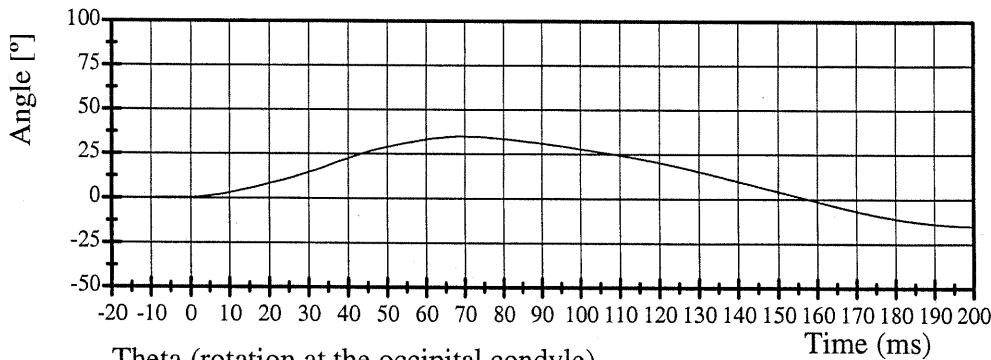


Filter Class: 180

Max: 8.0 m/s at 255.9 ms

Min: -0.0 m/s at -24.8 ms

Beta (rotation at the base of the neck)

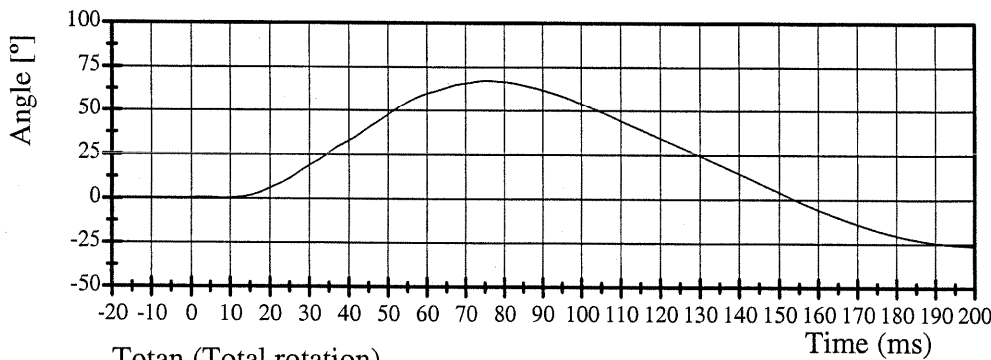


Filter Class: 60

Max: 34.9° at 68.9 ms

Min: -15.1° at 203.5 ms

Theta (rotation at the occipital condyle)

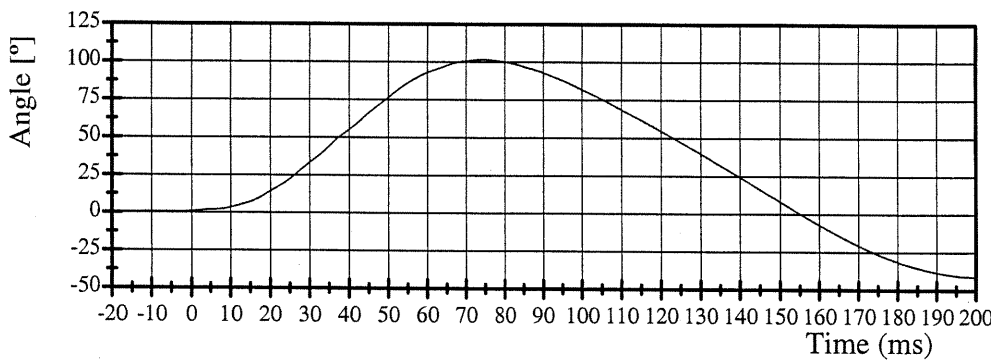


Filter Class: 60

Max: 67.3° at 75.4 ms

Min: -26.2° at 201.6 ms

Totan (Total rotation)



Filter Class: 60

Max: 101.8° at 74.5 ms

Min: -41.3° at 202.2 ms

08.24.2005 15:18:28 1216

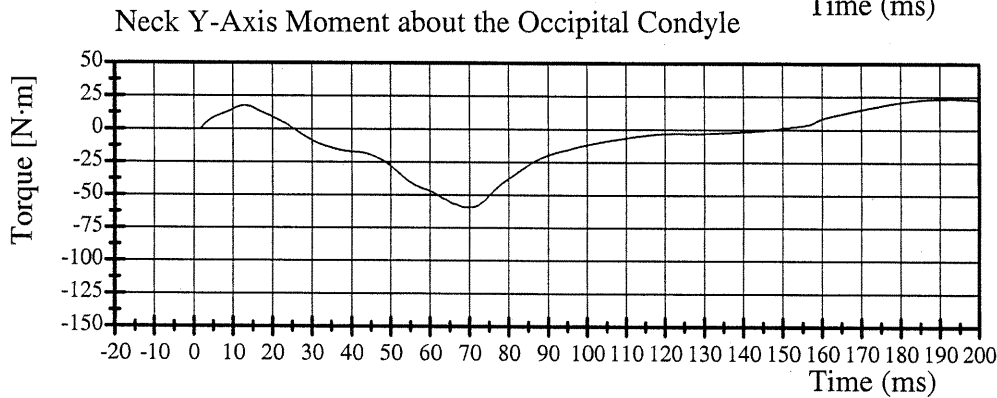
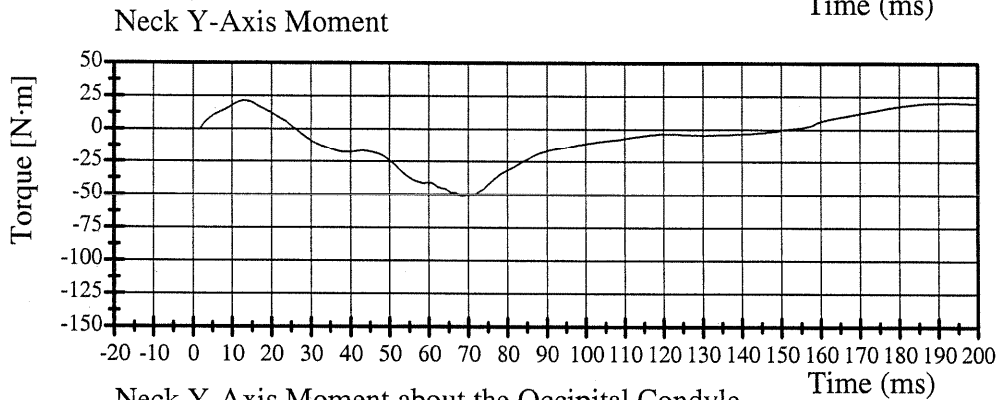
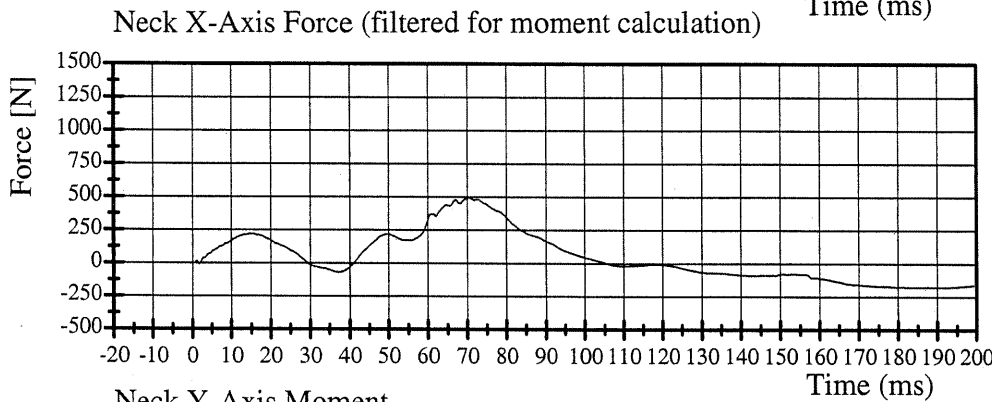
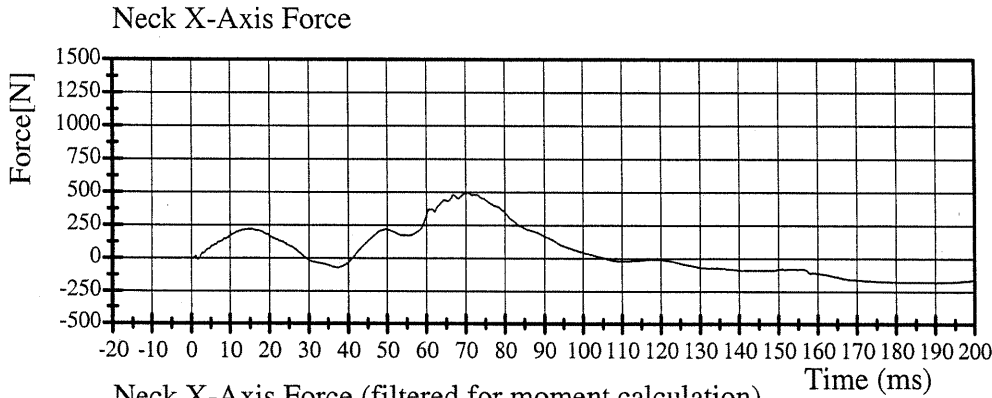


Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/24/2005



08.24.2005 15:18:29 1216



Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 2

Test Date 09/01/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.74 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-54.1 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4220 N	Yes
Peak Force Between 18 mm and 50 mm	4600 N	4214 N	Yes
Internal Hysteresis	69 - 85 %	73 %	Yes

Test meets specifications.

Comments:

Technician



Approved



09.01.2005 10:34:45 1598



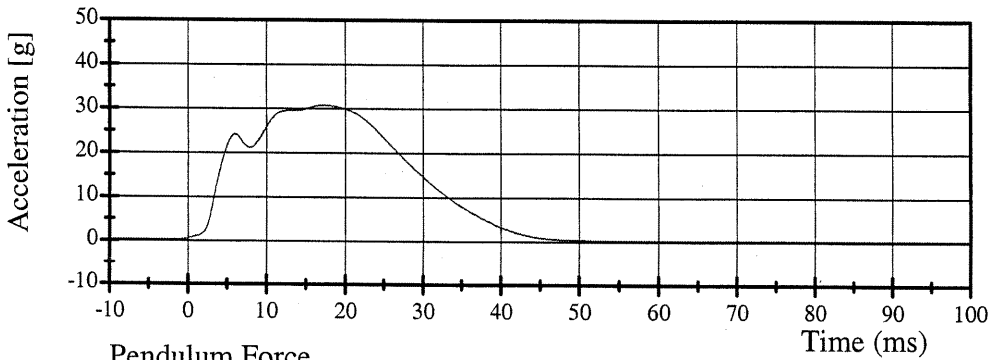
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 2

Test Date 09/01/2005

Pendulum Deceleration

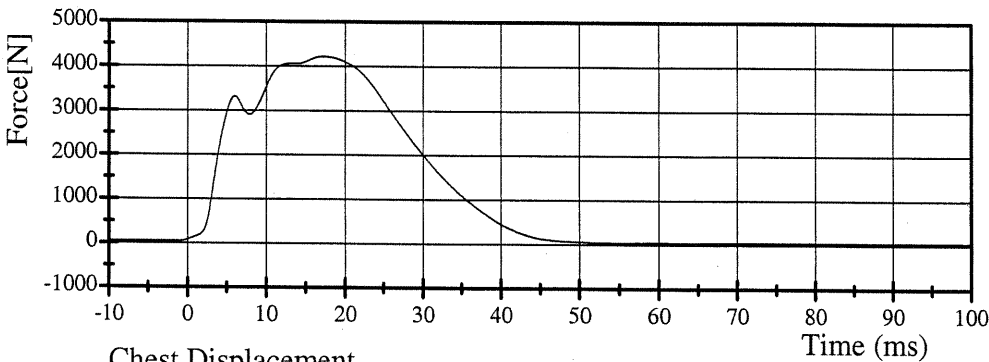


Filter Class: 180

Max: 30.8 g at 17.4 ms

Min: -0.2 g at 194.4 ms

Pendulum Force

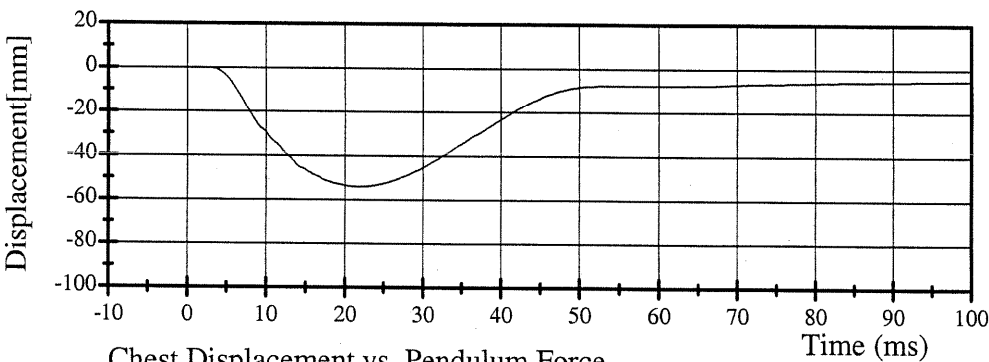


Filter Class: 180

Max: 4220.2 N at 17.4 ms

Min: -29.9 N at 194.4 ms

Chest Displacement

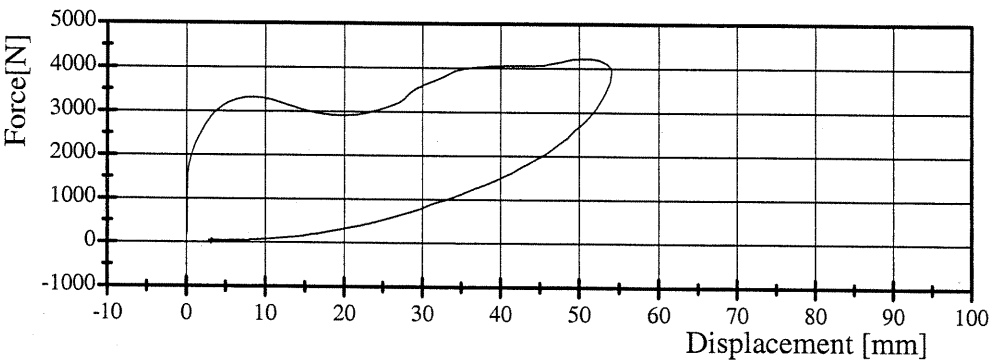


Filter Class: 600

Max: 0.0 mm at -119.2 ms

Min: -54.1 mm at 21.7 ms

Chest Displacement vs. Pendulum Force



09.01.2005 10:34:46 1598



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 15-Aug-05

TRC, INC. TEST NO: 070C11TF1 572 O SN070 TORSO FLEX CAL 11

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2° C	21.4° C
RELATIVE HUMIDITY	10 – 70 %	53 %
INITIAL ANGLE OF UNSUPPORTED DUMMY	<= 20° REFERENCED TO VERTICAL	17.7 °
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	321.6 N
RETURN ANGLE		23.0 °
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 ° OF INTIAL ANGLE	5.3 °
RATE	0.5° - 1.5°/sec	0.97 °/sec

TEST MEETS SPECIFICATIONS

Comments:

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 2

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.12 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3500 N	Yes

Test meets specifications.

Comments:

Technician

Vincent Orme

Approved

V.L. Walter

08.30.2005 15:16:20 1636

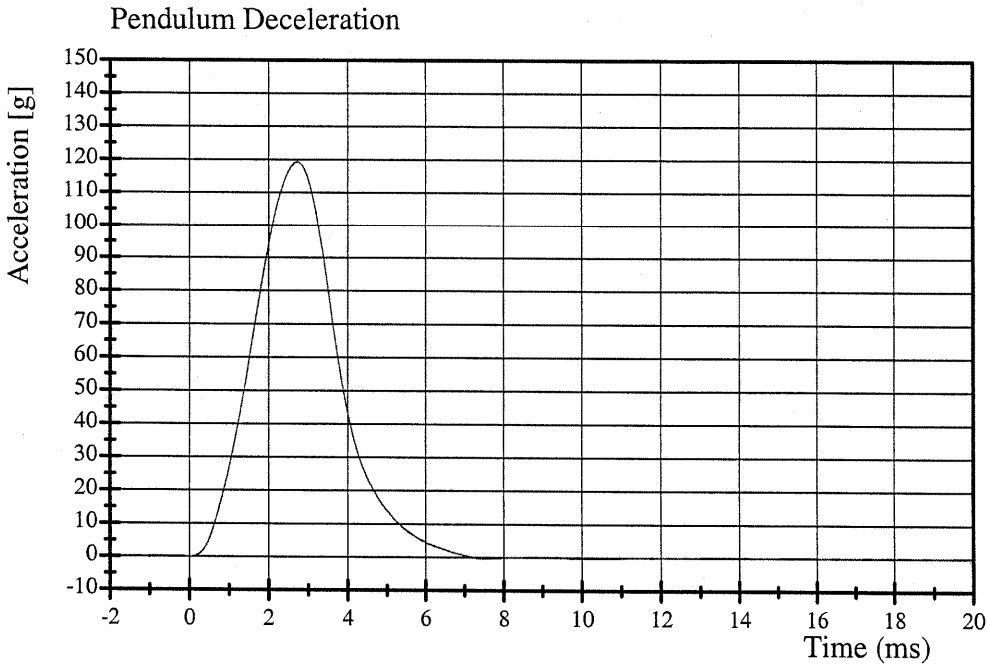


Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 2

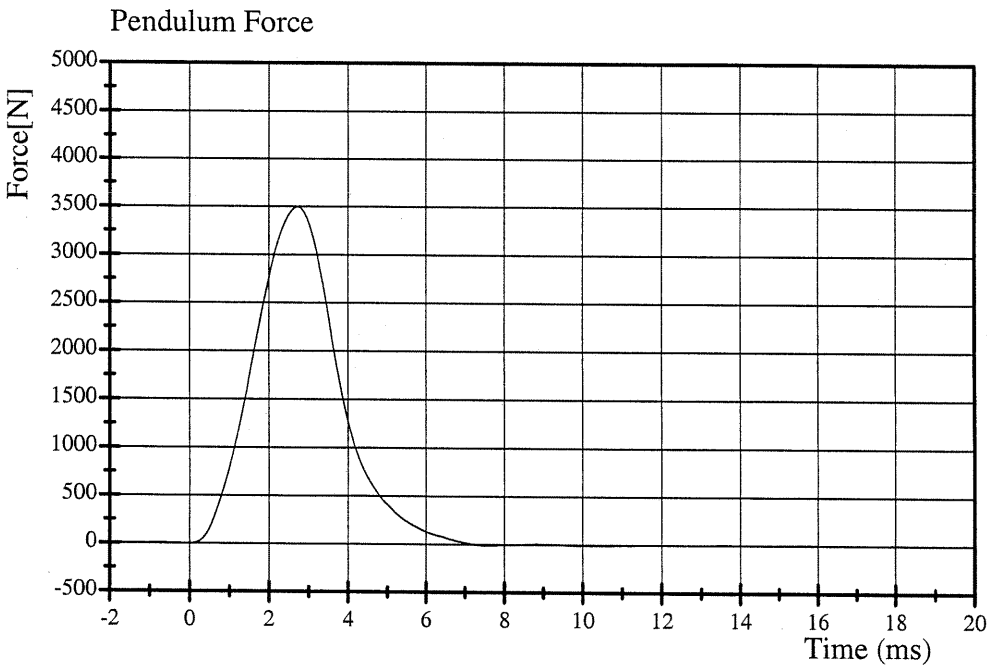
Test Date 08/30/2005



Filter Class: 600

Max: 119.4 g at 2.7 ms

Min: -0.3 g at 7.5 ms



Filter Class: 600

Max: 3500.0 N at 2.7 ms

Min: -10.1 N at 7.5 ms

08.30.2005 15:16:21 1636



Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

Test Date 08/30/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.12 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3628 N	Yes

Test meets specifications.

Comments:

Technician

Vincent O'Brien

Approved

V. J. Walter

08.30.2005 15:04:59 1651

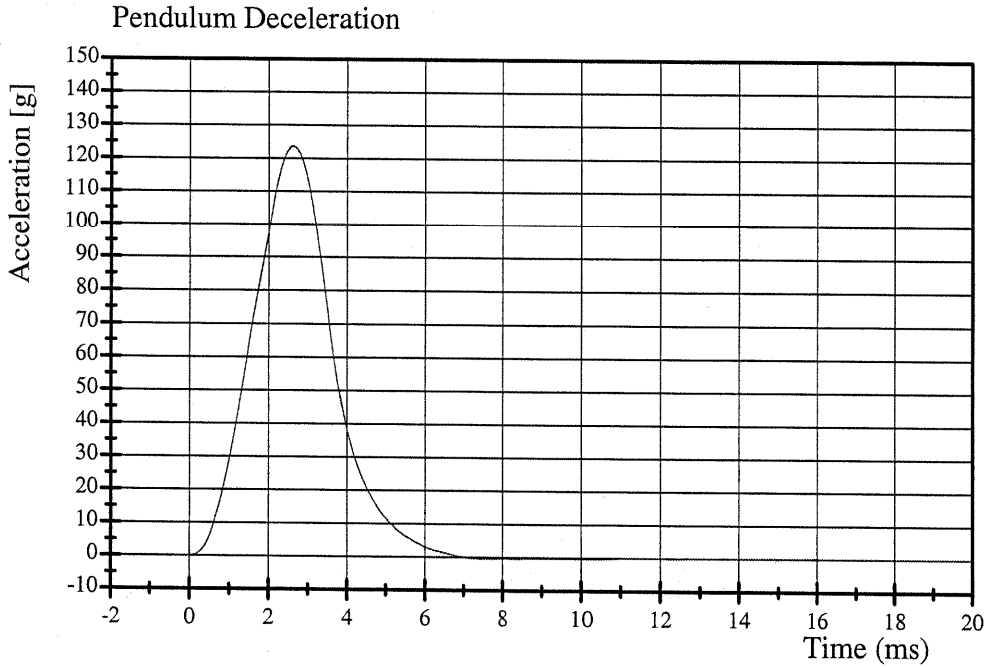


Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 070 Calibration No. 11 - 1

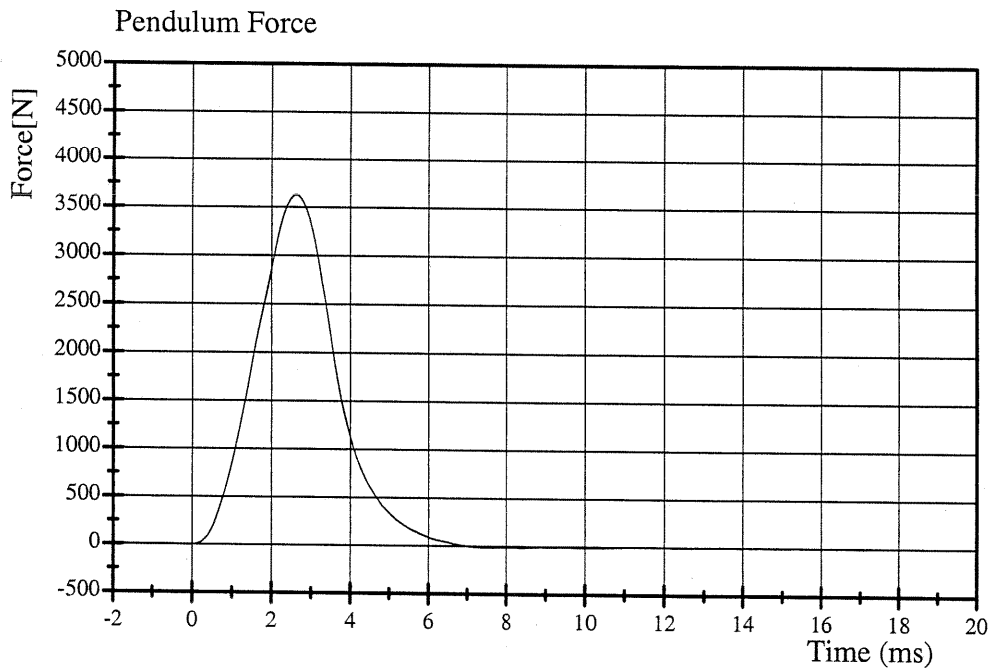
Test Date 08/30/2005



Filter Class: 600

Max: 123.7 g at 2.6 ms

Min: -0.4 g at 7.4 ms



Filter Class: 600

Max: 3628.3 N at 2.6 ms

Min: -11.7 N at 7.4 ms

08.30.2005 15:05:00 1651



Post-Test Dummy Configuration and Performance Verification Data

Target Vehicle Driver Dummy S/N: 110

HIC and CLIP exceeded IARV; new head and chest accelerometer calibration.

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 110 Certification No. 17-1

Test Date: 09/07/2005

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Peak Head Resultant Acceleration	225 - 275 g	268.9 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	6.3 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliveri

Approved

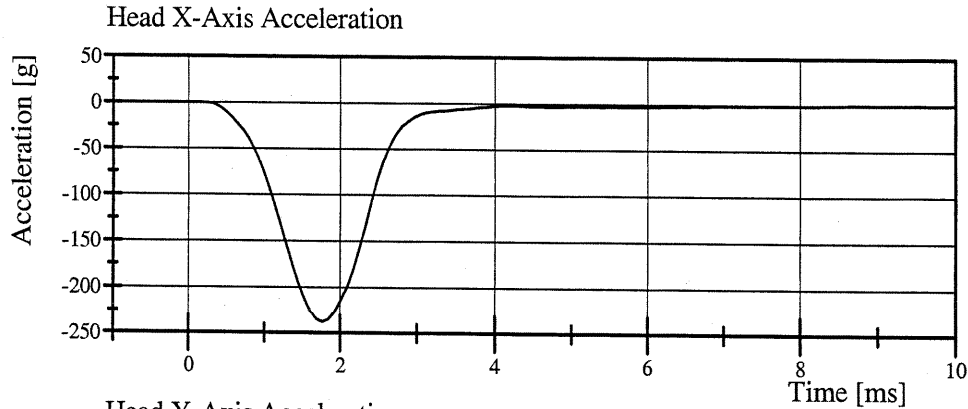
V.J. Walter

Transportation Research Center Inc.

Front Head Drop

HIII 50th Serial No. 110 Certification No. 17-1

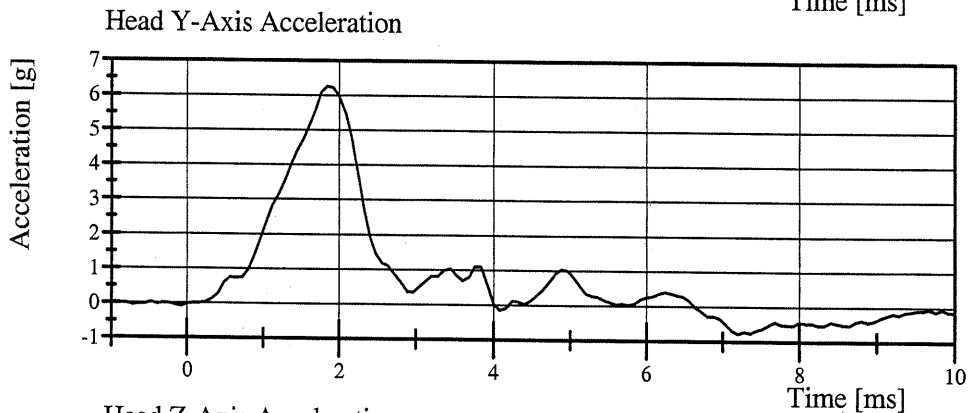
Test Date: 09/07/2005



Filter Class: CFC_1000

Max: 0.4 g at 10.0 ms

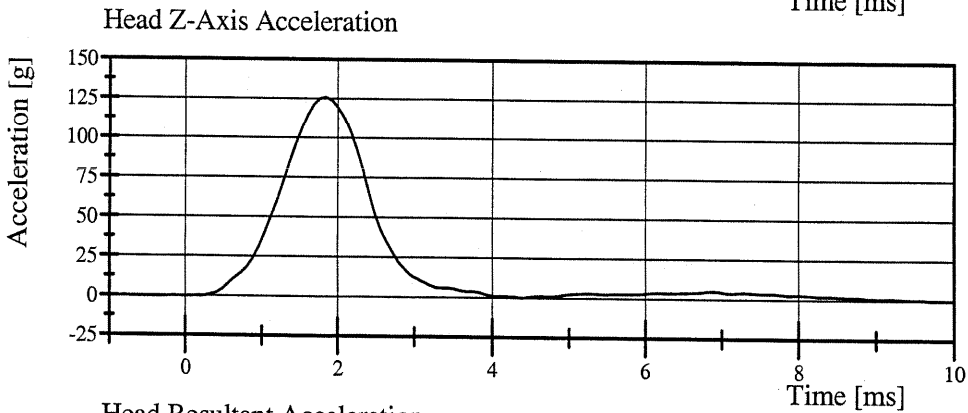
Min: -237.9 g at 1.8 ms



Filter Class: CFC_1000

Max: 6.3 g at 1.8 ms

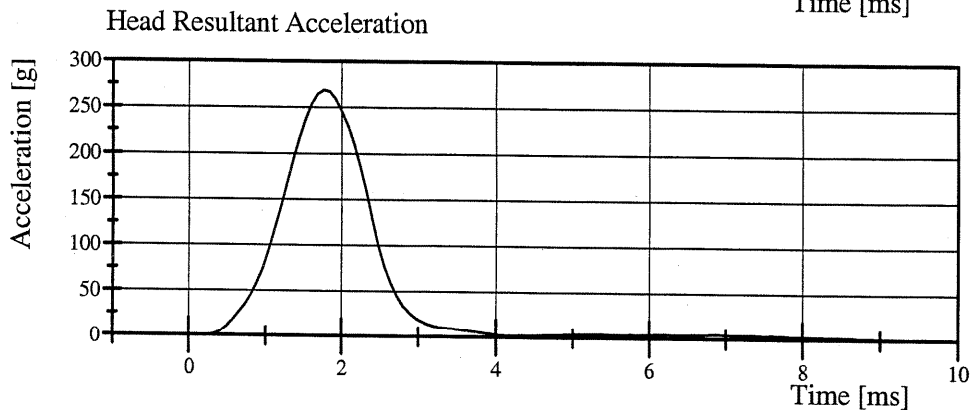
Min: -0.8 g at 7.2 ms



Filter Class: CFC_1000

Max: 126.1 g at 1.8 ms

Min: -0.0 g at -0.7 ms



Filter Class: CFC_1000

Max: 268.9 g at 1.8 ms

Min: 0.0 g at 0.1 ms

Transportation Research Center Inc.

Front Thorax

HM 50th Serial No. 110 Certification No. 17-2

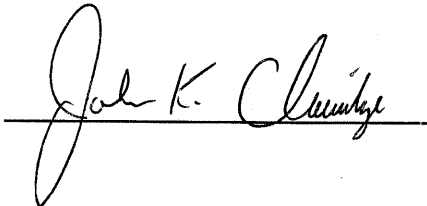
Test Date: 09/26/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Probe Velocity	6.59 - 6.83 m/s	6.638 m/s	Yes
Probe Force Peak	(-5,160) - (-5,893) N	-5,671.5 N	Yes
Maximum Chest Compression	(-63.5) - (-72.6) mm	-69.37 mm	Yes
Internal Hysteresis	65 - 85 %	71.7 %	Yes

Test meets specifications.

Comments:

Technician



Approved

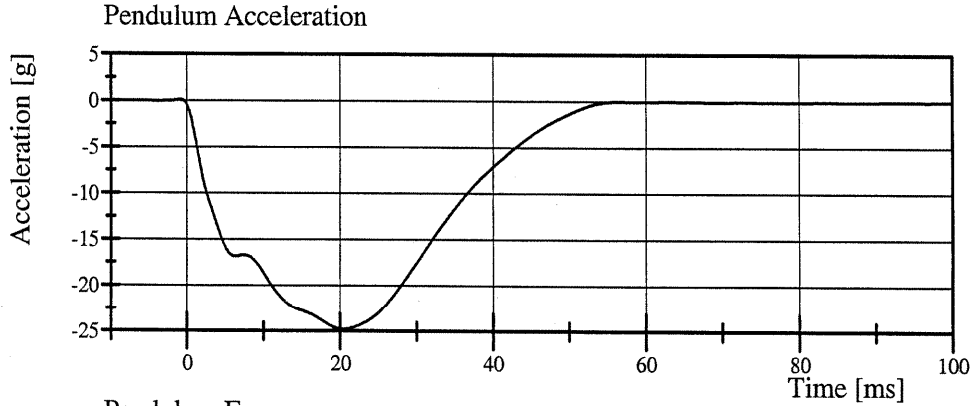


Transportation Research Center Inc.

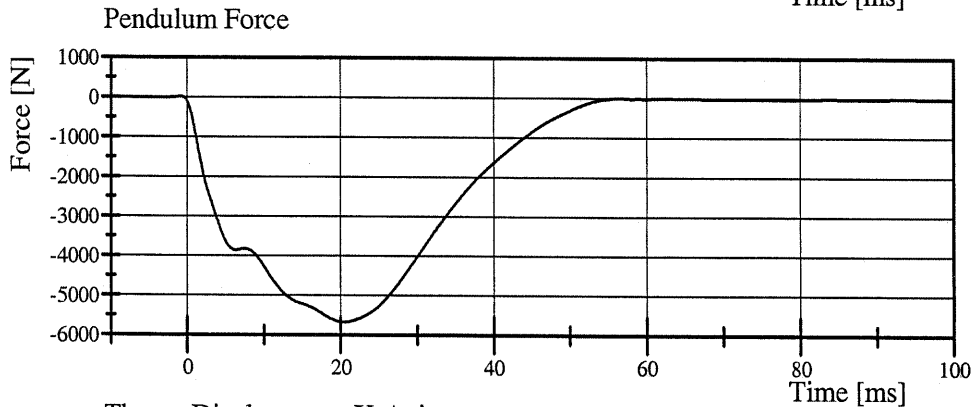
Front Thorax

HIII 50th Serial No. 110 Certification No. 17-2

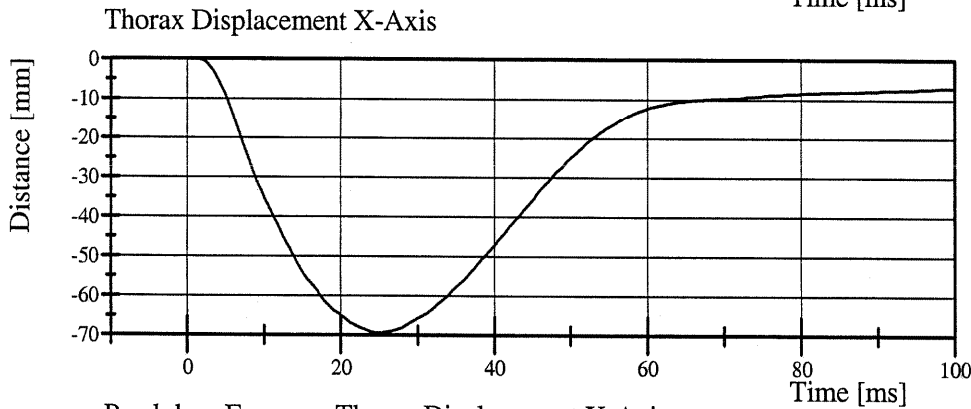
Test Date: 09/26/2005



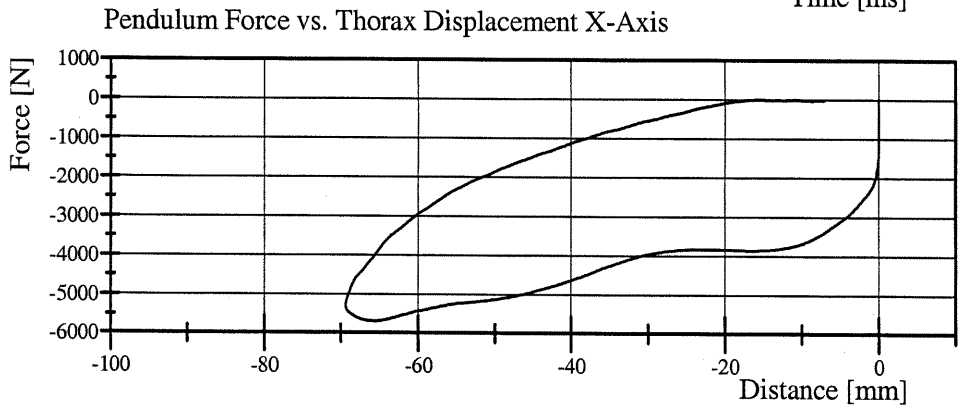
Filter Class: CFC_180
Max: 0.1 g at -0.9 ms
Min: -24.8 g at 20.4 ms



Filter Class: CFC_180
Max: 21.9 N at -0.9 ms
Min: -5,671.5 N at 20.4 ms



Filter Class: CFC_600
Max: 0.0 mm at -3.8 ms
Min: -69.4 mm at 24.9 ms



Filter Class: CFC_180
Max: 21.9 N at 0.0 mm
Min: -5,671.5 N at -65.6 mm

Post-Test Dummy Configuration and Performance Verification Data

Bullet Vehicle Driver Dummy S/N: 090

Transportation Research Center Inc.

Neck Flexion

HIII 50th Serial No. 090 Certification No. 50-5


Test Date: 9/13/2005

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	56 %	Yes
Pendulum Velocity	6.89 - 7.13 m/s	7.008 m/s	Yes
Pendulum Acceleration Decay Crossing -5g	34 - 42 ms	37.2 ms	Yes
Pendulum Acceleration at 10ms	(-22.5) - (-27.5) g	-24.71 g	Yes
Pendulum Acceleration at 20ms	(-17.6) - (-22.6) g	-21.30 g	Yes
Pendulum Acceleration at 30ms	(-12.5) - (-18.5) g	-16.37 g	Yes
Pendulum Acceleration > 30ms	>= (-29.0) g	-16.37 g	Yes
Total Head D-Plane Rotation Peak	(-64) - (-78) °	-77.1 °	Yes
Time of Peak	57 - 64 ms	61.1 ms	Yes
Total Head D-Plane Rotation Decay to 0°	113 - 128 ms	120.2 ms	Yes
Total Neck Occipital Condyles Moment Peak	88 - 108 N·m	99.2 N·m	Yes
Time of Peak	47 - 58 ms	49.1 ms	Yes
Total Neck Occipital Condyles Moment Decay to 0 N·m	97 - 107 ms	102.2 ms	Yes

Test meets specifications.

Comments:

Technician



Approved

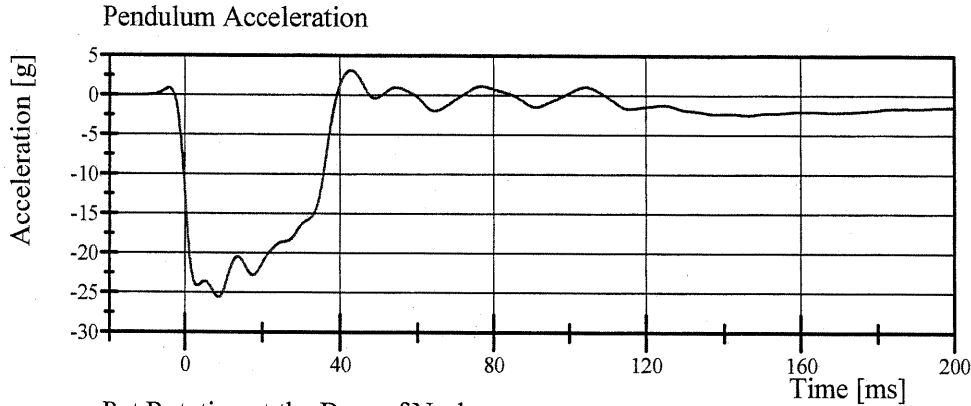


Transportation Research Center Inc.

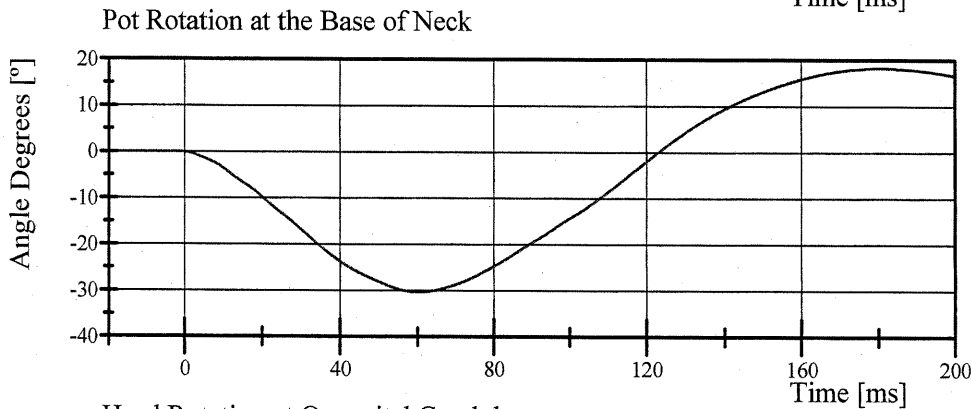
Neck Flexion

HIII 50th Serial No. 090 Certification No. 50-5

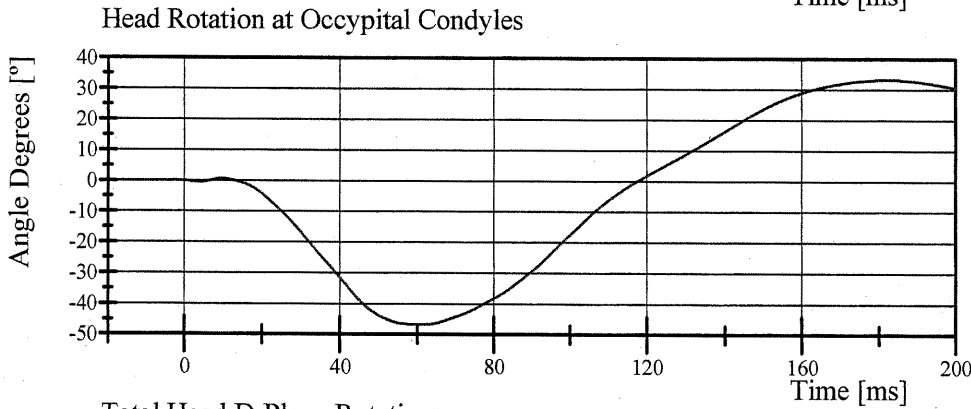
Test Date: 9/13/2005



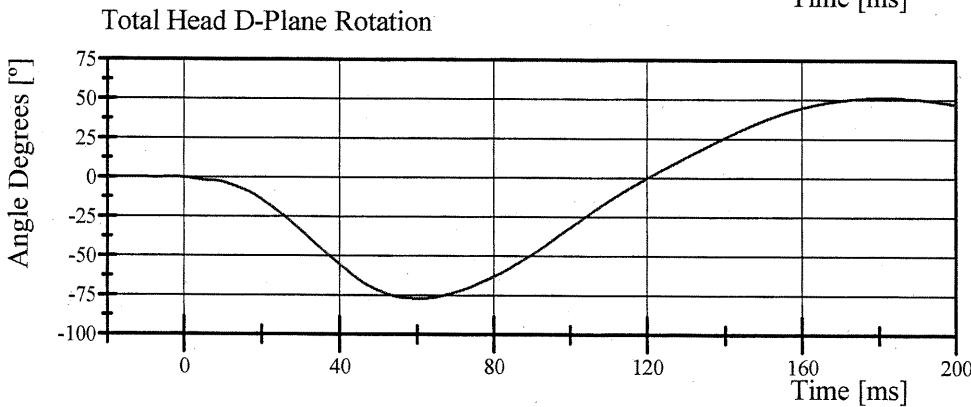
Filter Class: CFC_60
Max: 3.1 g at 42.8 ms
Min: -25.6 g at 8.6 ms



Filter Class: CFC_60
Max: 18.2 ° at 180.2 ms
Min: -30.3 ° at 60.6 ms



Filter Class: CFC_60
Max: 33.2 ° at 182.2 ms
Min: -46.8 ° at 61.8 ms



Filter Class: CFC_60
Max: 51.4 ° at 181.4 ms
Min: -77.1 ° at 61.1 ms

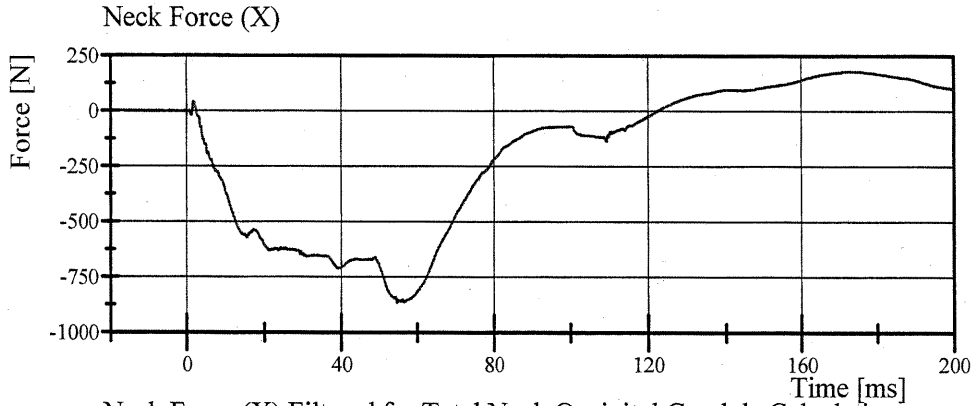


Transportation Research Center Inc.

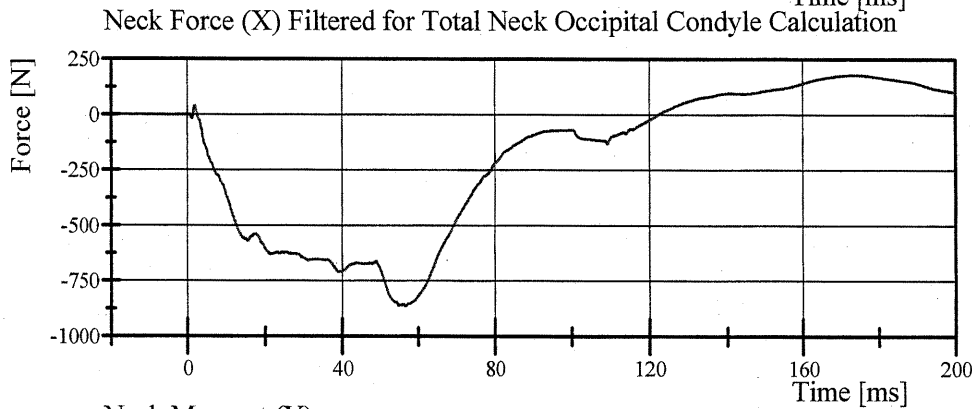
Neck Flexion

HIII 50th Serial No. 090 Certification No. 50-5

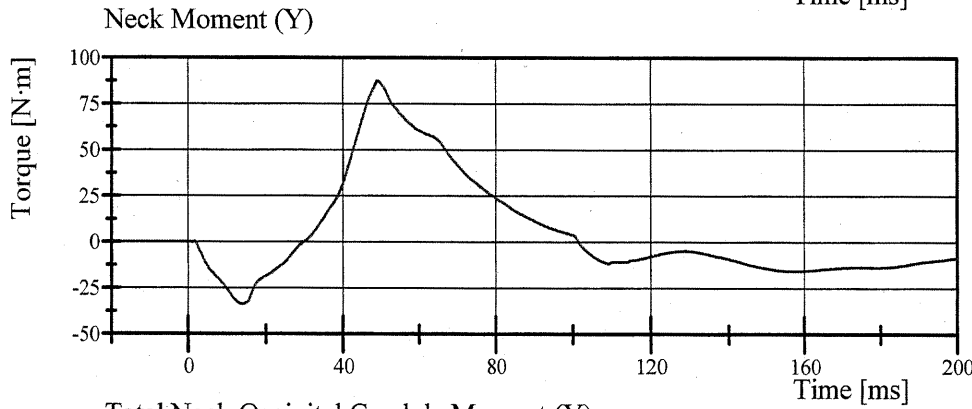
Test Date: 9/13/2005



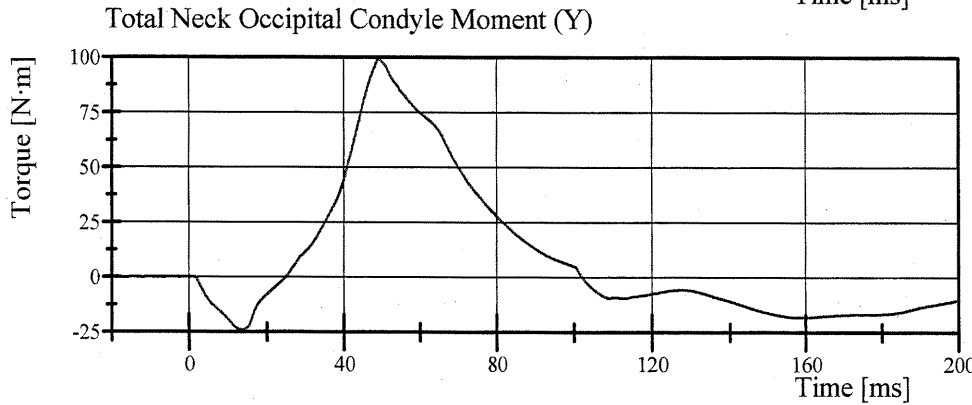
Filter Class: CFC_1000
Max: 179.6 N at 175.0 ms
Min: -866.3 N at 54.6 ms



Filter Class: CFC_600
Max: 179.3 N at 173.2 ms
Min: -863.3 N at 56.5 ms



Filter Class: CFC_600
Max: 87.5 N·m at 49.0 ms
Min: -33.7 N·m at 13.9 ms



Filter Class: CFC_600
Max: 99.2 N·m at 49.1 ms
Min: -24.1 N·m at 13.5 ms



Transportation Research Center Inc.

Neck Extension

HIII 50th Serial No. 090 Certification No. 50-1

Test Date: 9/13/2005

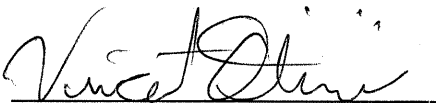
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	(-5.95) - (-6.18) m/s	-6.038 m/s	Yes
Pendulum Acceleration Decay			
Crossing 5g	38 - 46 ms	41.3 ms	Yes
Pendulum Acceleration at 10ms	17.2 - 21.2 g	18.86 g	Yes
Pendulum Acceleration at 20ms	14.0 - 19.0 g	15.62 g	Yes
Pendulum Acceleration at 30ms	11.0 - 16.0 g	13.50 g	Yes
Pendulum Acceleration > 30ms	<= 22.0 g	13.75 g	Yes
Total Head D-Plane Rotation			
Peak	81 - 106 °	99.5 °	Yes
Time of Peak	72 - 82 ms	79.1 ms	Yes
Total Head D-Plane Rotation			
Decay to 0°	147 - 174 ms	163.8 ms	Yes
Total Neck Occipital Condyles Moment			
Peak	(-53) - (-80) N·m	-65.0 N·m	Yes
Time of Peak	65 - 79 ms	75.0 ms	Yes
Total Neck Occipital Condyles Moment			
Decay to 0 N·m	120 - 148 ms	142.8 ms	Yes

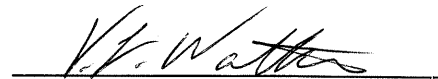
Test meets specifications.

Comments:

Technician

Approved



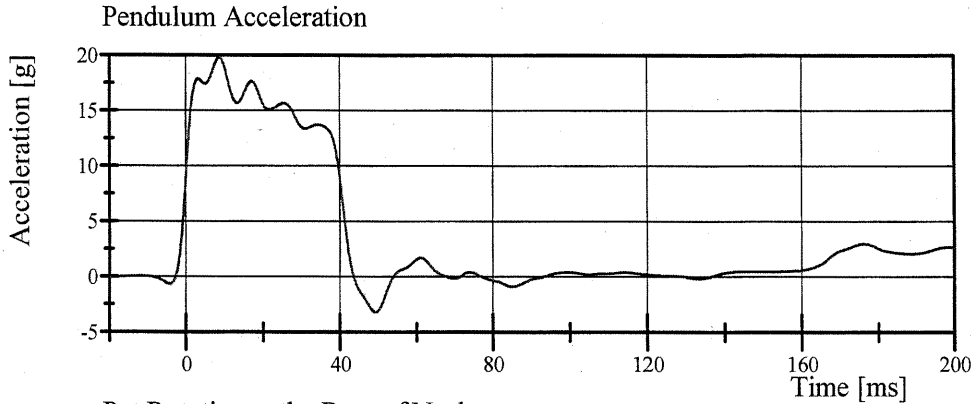


Transportation Research Center Inc.

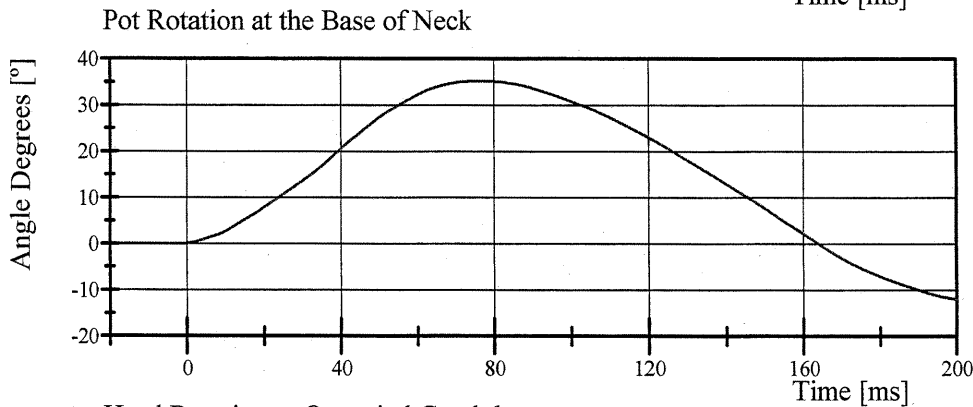
Neck Extension

HIII 50th Serial No. 090 Certification No. 50-1

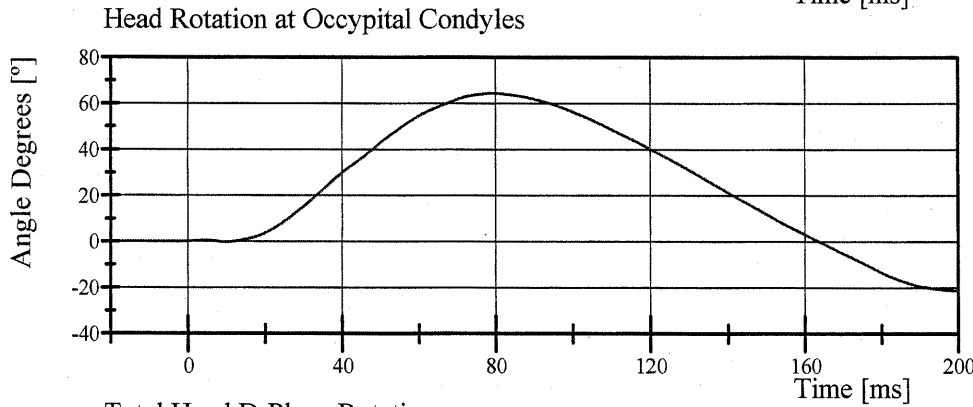
Test Date: 9/13/2005



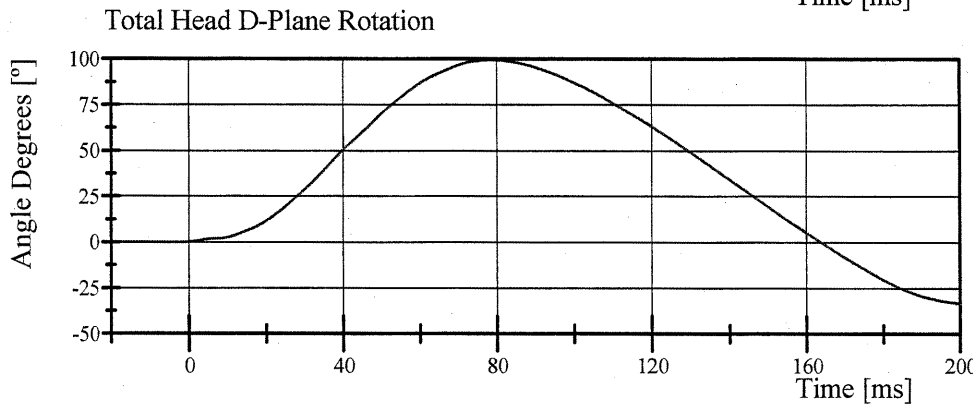
Filter Class: CFC_60
Max: 19.8 g at 8.6 ms
Min: -3.2 g at 49.1 ms



Filter Class: CFC_60
Max: 35.2 ° at 77.7 ms
Min: -12.0 ° at 200.0 ms



Filter Class: CFC_60
Max: 64.3 ° at 79.4 ms
Min: -21.3 ° at 200.0 ms



Filter Class: CFC_60
Max: 99.5 ° at 79.1 ms
Min: -33.3 ° at 200.0 ms

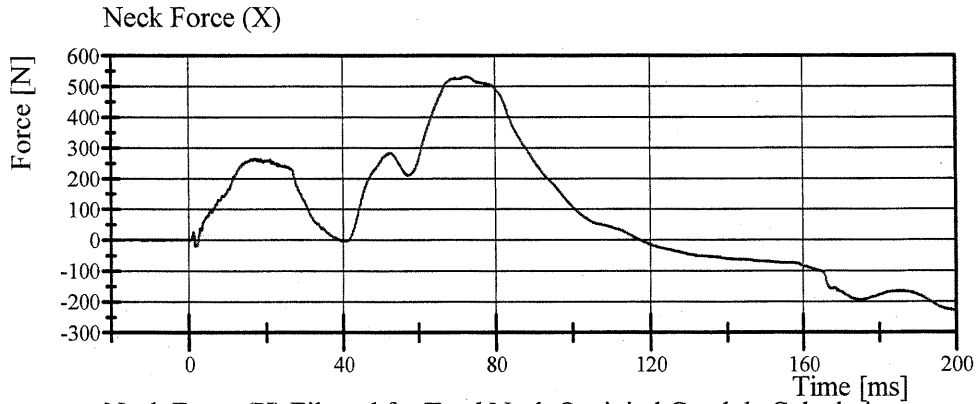


Transportation Research Center Inc.

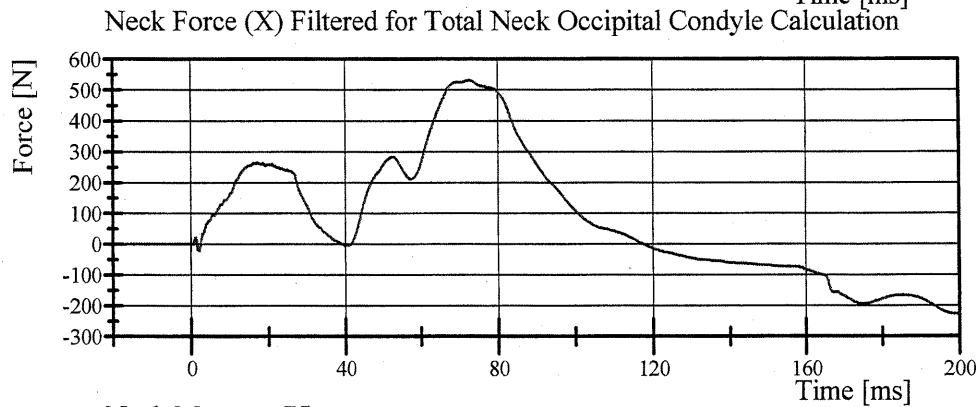
Neck Extension

HIII 50th Serial No. 090 Certification No. 50-1

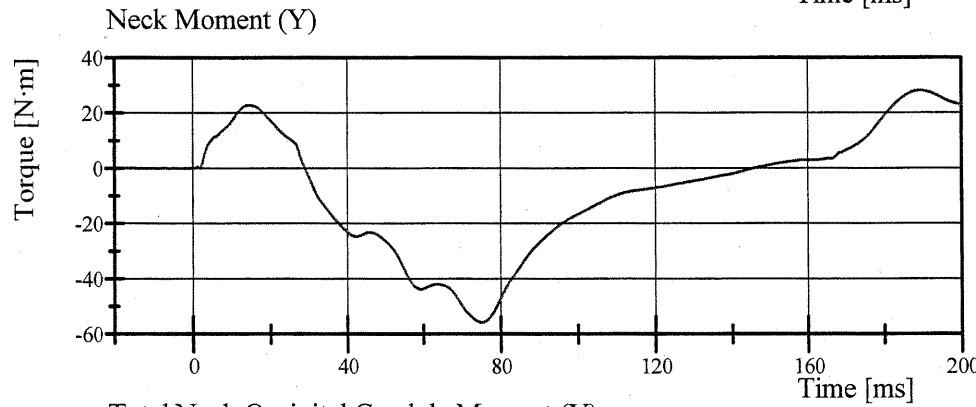
Test Date: 9/13/2005



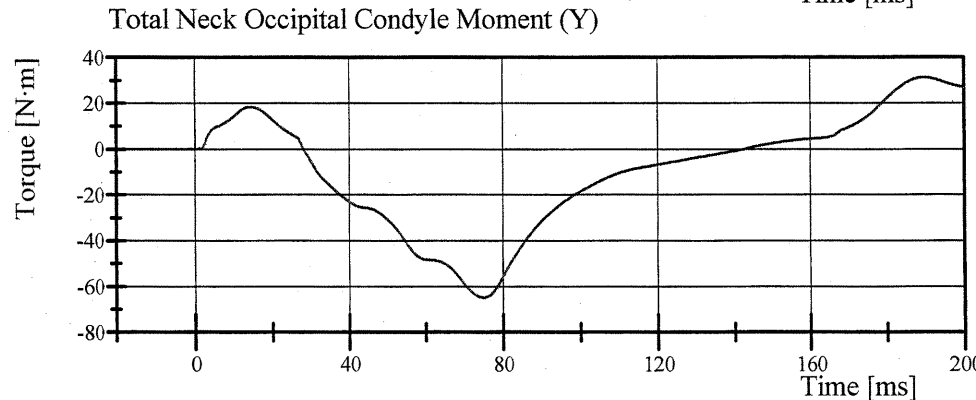
Filter Class: CFC_1000
Max: 531.9 N at 72.6 ms
Min: -228.4 N at 199.8 ms



Filter Class: CFC_600
Max: 531.4 N at 72.7 ms
Min: -227.8 N at 199.1 ms



Filter Class: CFC_600
Max: 28.1 N·m at 189.5 ms
Min: -55.8 N·m at 75.0 ms



Filter Class: CFC_600
Max: 31.2 N·m at 190.0 ms
Min: -65.0 N·m at 75.0 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.

Target Channel Report Test Number 050906

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Assembly
1	Trig D1	10ZERO000000EV00	EVENT		1 Logic	
2	J36743	11HEADCG00H3ACXA	Head Accel X	1000	g	1-110 HIII 50th FTSS.001
3	99102-F15	11HEADCG00H3ACYA	Head Accel Y	1000	g	1-110 HIII 50th FTSS.002
4	J19227	11HEADCG00H3ACZA	Head Accel Z	1000	g	1-110 HIII 50th FTSS.003
5	02A16-A25	11HEADFR00H3ACYA	Head (FT) Accel Y	1000	g	1-110 HIII 50th FTSS.004
6	03E03E21-M21	11HEADFR00H3ACZA	Head (FT) Accel Z	1000	g	1-110 HIII 50th FTSS.005
7	00L13-F14	11HEADUP00H3ACXA	Head (TP) Accel X	1000	g	1-110 HIII 50th FTSS.006
8	98H12-F08	11HEADUP00H3ACYA	Head (TP) Accel Y	1000	g	1-110 HIII 50th FTSS.007
9	03E03E20-N01	11HEADLE00H3ACXA	Head (LT) Accel X	1000	g	1-110 HIII 50th FTSS.008
10	03D03D16-F14	11HEADLE00H3ACZA	Head (LT) Accel Z	1000	g	1-110 HIII 50th FTSS.009
11	1716A-1039-FX	11NECKUP00H3FOXA	Neck Force X	8896.4	N	1-110 HIII 50th FTSS.010
12	1716A-1039-FY	11NECKUP00H3FOYA	Neck Force Y	8896.4	N	1-110 HIII 50th FTSS.011
13	1716A-1039-FZ	11NECKUP00H3FOZA	Neck Force Z	13344	N	1-110 HIII 50th FTSS.012
14	1716A-1039-MX	11NECKUP00H3MOXA	Neck Moment X	282	N·m	1-110 HIII 50th FTSS.013
15	1716A-1039-MY	11NECKUP00H3MOYA	Neck Moment Y	282	N·m	1-110 HIII 50th FTSS.014
16	1716A-1039-MZ	11NECKUP00H3MOZA	Neck Moment Z	282	N·m	1-110 HIII 50th FTSS.015
17	1794A-215-FX	11NECKLO00H3FOXA	Neck Lower Force X	13344	N	1-110 HIII 50th FTSS.016
18	1794A-215-FY	11NECKLO00H3FOYA	Neck Lower Force Y	13344	N	1-110 HIII 50th FTSS.017
19	1794A-215-FZ	11NECKLO00H3FOZA	Neck Lower Force Z	13344	N	1-110 HIII 50th FTSS.018
20	1794A-215-MX	11NECKLO00H3MOXA	Neck Lower Moment X	452	N·m	1-110 HIII 50th FTSS.019
21	1794A-215-MY	11NECKLO00H3MOYA	Neck Lower Moment Y	452	N·m	1-110 HIII 50th FTSS.020
22	1794A-215-MZ	11NECKLO00H3MOZA	Neck Lower Moment Z	452	N·m	1-110 HIII 50th FTSS.021
23	AJ534	11CHSTCG00H3ACXA	Chest Accel X	1000	g	1-110 HIII 50th FTSS.022
24	J17976	11CHSTCG00H3ACYA	Chest Accel Y	1000	g	1-110 HIII 50th FTSS.023
25	J32884	11CHSTCG00H3ACZA	Chest Accel Z	1000	g	1-110 HIII 50th FTSS.024
26	02I02I10-N15	11CHSTCGRDH3ACXA	Chest Accel X Red.	1000	g	1-110 HIII 50th FTSS.025
27	02D02C21-N02	11CHSTCGRDH3ACYA	Chest Accel Y Red.	1000	g	1-110 HIII 50th FTSS.026
28	98H10-F18	11CHSTCGRDH3ACZA	Chest Accel Z Red.	1000	g	1-110 HIII 50th FTSS.027
29	CST110	11CHST0000H3DSXA	Chest Deflection X	100	mm	1-110 HIII 50th FTSS.028
30	J23803	11PELVCG00H3ACXA	Pelvis Accel X	600	g	1-110 HIII 50th FTSS.029
31	J32180	11PELVCG00H3ACYA	Pelvis Accel Y	600	g	1-110 HIII 50th FTSS.030
32	J20556	11PELVCG00H3ACZA	Pelvis Accel Z	600	g	1-110 HIII 50th FTSS.031
33	2430-741	11FEMRLL00H3FOZA	Left Femur Force Z	13344	N	1-110 HIII 50th FTSS.032
34	150-0121VR-14691	11KNSLLE00H3DSXA	Left Knee Displacement X	40	mm	1-110 HIII 50th FTSS.033
35	4509J-90-FX	11TIBILULXH3FOXA	Left Upper Tibia Force X	11120	N	1-110 HIII 50th FTSS.034

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36	4509J-90-FY	11TIBILULXH3FOYA	Left Upper Tibia Force Y	11120 N	1-110 HIII 50th FTSS.035
37	4509J-90-FZ	11TIBILULXH3FOZA	Left Upper Tibia Force Z	11120 N	1-110 HIII 50th FTSS.036
38	4509J-90-MX	11TIBILULXH3MOXA	Left Upper Tibia Moment X	395.4 N·m	1-110 HIII 50th FTSS.037
39	4509J-90-MY	11TIBILULXH3MOYA	Left Upper Tibia Moment Y	395.4 N·m	1-110 HIII 50th FTSS.038
40	P16171	11TIBILELXH3ACXA	Left Tibia Accel X	1000 g	1-110 HIII 50th FTSS.039
41	P15591	11TIBILELXH3ACYA	Left Tibia Accel Y	1000 g	1-110 HIII 50th FTSS.040
42	4929J-120-FX	11TIBILLLXH3FOXA	Left Lower Tibia Force X	11120 N	1-110 HIII 50th FTSS.041
43	4929J-120-FY	11TIBILLLXH3FOYA	Left Lower Tibia Force Y	11120 N	1-110 HIII 50th FTSS.042
44	4929J-120-FZ	11TIBILLLXH3FOZA	Left Lower Tibia Force Z	11120 N	1-110 HIII 50th FTSS.043
45	4929J-120-MX	11TIBILLLXH3MOXA	Left Lower Tibia Moment X	395.4 N·m	1-110 HIII 50th FTSS.044
46	4929J-120-MY	11TIBILLLXH3MOYA	Left Lower Tibia Moment Y	395.4 N·m	1-110 HIII 50th FTSS.045
47	PD210-4B-AK-0326	11FOOTLELXH3ANXA	Left Foot Angular Dis. X	318 °	1-110 HIII 50th FTSS.046
48	PD210-4B-AK-0327	11FOOTLELXH3ANYA	Left Foot Angular Dis. Y	318 °	1-110 HIII 50th FTSS.047
49	PD210-4B-AK-0259	11FOOTLELXH3ANZA	Left Foot Angular Dis. Z	318 °	1-110 HIII 50th FTSS.048
50	P17833	11FOOTLELXH3ACXA	Left Foot Accel X	1000 g	1-110 HIII 50th FTSS.049
51	P15321	11FOOTLELXH3ACYA	Left Foot Accel Y	1000 g	1-110 HIII 50th FTSS.050
52	P16945	11FOOTLELXH3ACZA	Left Foot Accel Z	1000 g	1-110 HIII 50th FTSS.051
53	2430-96661	11FEMRRL00H3FOZA	Right Femur Force Z	13344 N	1-110 HIII 50th FTSS.052
54	150-0121VL-14239	11KNSLRIO0H3DSXA	Right Knee Displacement X	40 mm	1-110 HIII 50th FTSS.053
55	4509J-89-FX	11TIBIRULXH3FOXA	Right Upper Tibia Force X	11120 N	1-110 HIII 50th FTSS.054
56	4509J-89-FY	11TIBIRULXH3FOYA	Right Upper Tibia Force Y	11120 N	1-110 HIII 50th FTSS.055
57	4509J-89-FZ	11TIBIRULXH3FOZA	Right Upper Tibia Force Z	11120 N	1-110 HIII 50th FTSS.056
58	4509J-89-MX	11TIBIRULXH3MOXA	Right Upper Tibia Moment X	395.4 N·m	1-110 HIII 50th FTSS.057
59	4509J-89-MY	11TIBIRULXH3MOYA	Right Upper Tibia Moment Y	395.4 N·m	1-110 HIII 50th FTSS.058
60	P15334	11TIBIRILXH3ACXA	Right Tibia Accel X	1000 g	1-110 HIII 50th FTSS.059
61	J19625	11TIBIRILXH3ACYA	Right Tibia Accel Y	1000 g	1-110 HIII 50th FTSS.060
62	4929J-121-FX	11TIBIRLLXH3FOXA	Right Lower Tibia Force X	11120 N	1-110 HIII 50th FTSS.061
63	4929J-121-FY	11TIBIRLLXH3FOYA	Right Lower Tibia Force Y	11120 N	1-110 HIII 50th FTSS.062
64	4929J-121-FZ	11TIBIRLLXH3FOZA	Right Lower Tibia Force Z	11120 N	1-110 HIII 50th FTSS.063
65	4929J-121-MX	11TIBIRLLXH3MOXA	Right Lower Tibia Moment X	395.4 N·m	1-110 HIII 50th FTSS.064
66	4929J-121-MY	11TIBIRLLXH3MOYA	Right Lower Tibia Moment Y	395.4 N·m	1-110 HIII 50th FTSS.065
67	PD210-4B-AK-0254	11FOOTRILXH3ANXA	Right Foot Angular Dis. X	318 °	1-110 HIII 50th FTSS.066
68	PD210-4B-AK-0255	11FOOTRILXH3ANYA	Right Foot Angular Dis. Y	318 °	1-110 HIII 50th FTSS.067
69	PD210-4B-AK-0256	11FOOTRILXH3ANZA	Right Foot Angular Dis. Z	318 °	1-110 HIII 50th FTSS.068
70	AJ4L3	11FOOTRILXH3ACXA	Right Foot Accel X	1000 g	1-110 HIII 50th FTSS.069
71	J27464	11FOOTRILXH3ACYA	Right Foot Accel Y	1000 g	1-110 HIII 50th FTSS.070
72	J23998	11FOOTRILXH3ACZA	Right Foot Accel Z	1000 g	1-110 HIII 50th FTSS.071

73	03E03E20-N20	13HEADCG00HFACXA	Head Accel X	1200 g	3-416 HIII 5th FTSS.001
74	02A18-N10	13HEADCG00HFACYA	Head Accel Y	1200 g	3-416 HIII 5th FTSS.002
75	02A09-F15	13HEADCG00HFACZA	Head Accel Z	1200 g	3-416 HIII 5th FTSS.003
76	01L26-F02	13HEADCGRDHFACXA	Head Accel Red X	1200 g	3-416 HIII 5th FTSS.004
77	02A09-F13	13HEADCGRDHFACYA	Head Accel Red Y	1200 g	3-416 HIII 5th FTSS.005
78	02A16-A06	13HEADCGRDHFACZA	Head Accel Red Z	1200 g	3-416 HIII 5th FTSS.006
79	02A18-N04	13HEADFR00HFACYA	Head (FT) Accel Y	1000 g	3-416 HIII 5th FTSS.007
80	02A18-N20	13HEADFR00HFACZA	Head (FT) Accel Z	1000 g	3-416 HIII 5th FTSS.008
81	03F03F09-N05	13HEADUP00HFACXA	Head (TP) Accel X	1000 g	3-416 HIII 5th FTSS.009
82	98H14-K10	13HEADUP00HFACYA	Head (TP) Accel Y	1000 g	3-416 HIII 5th FTSS.010
83	02A16-A19	13HEADLE00HFACXA	Head (LT) Accel X	1000 g	3-416 HIII 5th FTSS.011
84	02A16-A22	13HEADLE00HFACZA	Head (LT) Accel Z	1000 g	3-416 HIII 5th FTSS.012
85	IF-205-161-FX	13NECKUP00HFFOXA	Neck Force X	8896 N	3-416 HIII 5th FTSS.013
86	IF-205-161-FY	13NECKUP00HFFOYA	Neck Force Y	8896 N	3-416 HIII 5th FTSS.014
87	IF-205-161-FZ	13NECKUP00HFFOZA	Neck Force Z	13344 N	3-416 HIII 5th FTSS.015
88	IF-205-161-MX	13NECKUP00HFMOXA	Neck Moment X	282 N·m	3-416 HIII 5th FTSS.016
89	IF-205-161-MY	13NECKUP00HFMOYA	Neck Moment Y	282 N·m	3-416 HIII 5th FTSS.017
90	IF-205-161-MZ	13NECKUP00HFMOZA	Neck Moment Z	282 N·m	3-416 HIII 5th FTSS.018
91	3251-108-FX	13NECKLO00HFFOXA	Neck Lower Force X	13344 N	3-416 HIII 5th FTSS.019
92	3251-108-FY	13NECKLO00HFFOYA	Neck Lower Force Y	13344 N	3-416 HIII 5th FTSS.020
93	3251-108-FZ	13NECKLO00HFFOZA	Neck Lower Force Z	13344 N	3-416 HIII 5th FTSS.021
94	3251-108-MX	13NECKLO00HFMOXA	Neck Lower Moment X	452 N·m	3-416 HIII 5th FTSS.022
95	3251-108-MY	13NECKLO00HFMOYA	Neck Lower Moment Y	452 N·m	3-416 HIII 5th FTSS.023
96	3251-108-MZ	13NECKLO00HFMOZA	Neck Lower Moment Z	339 N·m	3-416 HIII 5th FTSS.024
97	02A16-A04	13CHSTCG00HFACXA	Chest Accel X	1000 g	3-416 HIII 5th FTSS.025
98	C02B19-F02	13CHSTCG00HFACYA	Chest Accel Y	1000 g	3-416 HIII 5th FTSS.026
99	C02B19-F06	13CHSTCG00HFACZA	Chest Accel Z	1000 g	3-416 HIII 5th FTSS.027
100	B02A25-N08	13CHSTCGRDHFACXA	Chest Accel Red X	1000 g	3-416 HIII 5th FTSS.028
101	03E03E19-N02	13CHSTCGRDHFACYA	Chest Accel Red Y	1000 g	3-416 HIII 5th FTSS.029
102	C02B19-F04	13CHSTCGRDHFACZA	Chest Accel Red Z	1000 g	3-416 HIII 5th FTSS.030
103	B02A09-F08	13STRNUP00HFACXA	Sternum Upper Accel X	1000 g	3-416 HIII 5th FTSS.031
104	02A16-A05	13STRNMI00HFACXA	Sternum Mid Accel X	1000 g	3-416 HIII 5th FTSS.032
105	03F03F09-N18	13STRNLO00HFACXA	Sternum Lower Accel X	1000 g	3-416 HIII 5th FTSS.033
106	14CB1-2897-416	13CHST0000HFDSXA	Chest Deflection X 516	100 mm	3-416 HIII 5th FTSS.034
107	C02B19-F03	13PELVCG00HFACXA	Pelvis Accel X	1000 g	3-416 HIII 5th FTSS.035
108	02A16-A27	13PELVCG00HFACYA	Pelvis Accel Y	1000 g	3-416 HIII 5th FTSS.036
109	C02B19-F01	13PELVCG00HFACZA	Pelvis Accel Z	1000 g	3-416 HIII 5th FTSS.037

110	2430-736	13FEMRLL00HFFOZA	Left Femur Force Z #8	13344 N	3-416 HIII 5th FTSS.038
111	150-0121VR-22653	13KNSLLE00HFDSXA	Left Knee Displacement	40 mm	3-416 HIII 5th FTSS.039
112	4825J-91-FX	13TIBILUFXHFFOXA	Left Upper Tibia Force X	8896 N	3-416 HIII 5th FTSS.040
113	4825J-91-FZ	13TIBILUFXHFFOZA	Left Upper Tibia Force Z	8896 N	3-416 HIII 5th FTSS.041
114	4825J-91-MX	13TIBILUFXHFMOMA	Left Upper Tibia Moment X	282 N·m	3-416 HIII 5th FTSS.042
115	4825J-91-MY	13TIBILUFXHFMOMA	Left Upper Tibia Moment Y	282 N·m	3-416 HIII 5th FTSS.043
116	99H30-Z01	13TIBILEFXHFACXA	Left Tibia Accel X	1000 g	3-416 HIII 5th FTSS.044
117	99108-F26	13TIBILEFXHFACYA	Left Tibia Accel Y	1000 g	3-416 HIII 5th FTSS.045
118	4826J-92-FX	13TIBILLFXHFFOXA	Left Lower Tibia Force X	8896 N	3-416 HIII 5th FTSS.046
119	4826J-92-FY	13TIBILLFXHFFOYA	Left Lower Tibia Force Y	8896 N	3-416 HIII 5th FTSS.047
120	4826J-92-FZ	13TIBILLFXHFFOZA	Left Lower Tibia Force Z	8896 N	3-416 HIII 5th FTSS.048
121	4826J-92-MX	13TIBILLFXHFMOXA	Left Lower Tibia Moment X	282 N·m	3-416 HIII 5th FTSS.049
122	4826J-92-MY	13TIBILLFXHFMOYA	Left Lower Tibia Moment Y	282 N·m	3-416 HIII 5th FTSS.050
123	PD210-4B-AK-044	13FOOTLEFXHFANXA	Left Foot Disp. X FLX102X	318 °	3-416 HIII 5th FTSS.051
124	PD210-4B-AK-043	13FOOTLEFXHFANYA	Left Foot Disp. Y FLX102Y	318 °	3-416 HIII 5th FTSS.052
125	PD210-4B-265	13FOOTLEFXHFANZA	Left Foot Disp. Z FLX102Z	318 °	3-416 HIII 5th FTSS.053
126	02I02I05-F13	13FOOTLEFXHFACXA	Left Foot Accel X	1000 g	3-416 HIII 5th FTSS.054
127	03E03E21-M10	13FOOTLEFXHFACYA	Left Foot Accel Y	1000 g	3-416 HIII 5th FTSS.055
128	03F03E29-N16	13FOOTLEFXHFACZA	Left Foot Accel Z	1000 g	3-416 HIII 5th FTSS.056
129	2430-742	13FEMRRL00HFFOZA	Right Femur Force Z 507	13344 N	3-416 HIII 5th FTSS.057
130	150-0121VL-20590	13KNSLRI00HFDSXA	Right Knee Displacement	40 mm	3-416 HIII 5th FTSS.058
131	4825J-90-FX	13TIBIRUFXHFFOXA	Right Upper Tibia Force X	8896 N	3-416 HIII 5th FTSS.059
132	4825J-90-FZ	13TIBIRUFXHFFOZA	Right Upper Tibia Force Z	8896 N	3-416 HIII 5th FTSS.060
133	4825J-90-MX	13TIBIRUFXHFMOMA	Right Upper Tibia Moment X	282 N·m	3-416 HIII 5th FTSS.061
134	4825J-90-MY	13TIBIRUFXHFMOMA	Right Upper Tibia Moment Y	282 N·m	3-416 HIII 5th FTSS.062
135	98H10-F05	13TIBIRIFXHACXA	Right Tibia Accel X	1000 g	3-416 HIII 5th FTSS.063
136	J35987	13TIBIRIFXHACYA	Right Tibia Accel Y	1000 g	3-416 HIII 5th FTSS.064
137	4826J-93-FX	13TIBIRLFXHFFOXA	Right Lower Tibia Force X	8896 N	3-416 HIII 5th FTSS.065
138	4826J-93-FY	13TIBIRLFXHFFOYA	Right Lower Tibia Force Y	8896 N	3-416 HIII 5th FTSS.066
139	4826J-93-FZ	13TIBIRLFXHFFOZA	Right Lower Tibia Force Z	8896 N	3-416 HIII 5th FTSS.067
140	4826J-93-MX	13TIBIRLFXHFMOXA	Right Lower Tibia Moment X	282 N·m	3-416 HIII 5th FTSS.068
141	4826J-93-MY	13TIBIRLFXHFMOYA	Right Lower Tibia Moment Y	282 N·m	3-416 HIII 5th FTSS.069
142	PD210-4B-AK-029	13FOOTRIFXHANXA	Right Foot Disp. X FLX101X	318 °	3-416 HIII 5th FTSS.070
143	PD210-4B-AK-030	13FOOTRIFXHANYA	Right Foot Disp. Y FLX101Y	318 °	3-416 HIII 5th FTSS.071
144	PD210-4B-345	13FOOTRIFXHANZA	Right Foot Disp. Z FLX101Z	318 °	3-416 HIII 5th FTSS.072
145	02I02I10-N18	13FOOTRIFXHACXA	Right Foot Accel X	1000 g	3-416 HIII 5th FTSS.073
146	00L13-F29	13FOOTRIFXHACYA	Right Foot Accel Y	1000 g	3-416 HIII 5th FTSS.074

147	01G25-N08	13FOOTRIFXHFACZA	Right Foot Accel Z	1000 g	3-416 HIII 5th FTSS.075
148	P47527	14CRME000000ACXA	Left Rear Seat Cross-member X-axis Acceleration	1000 g	
149	P46483	16CRME000000ACXA	Right Rear Seat Cross-member X-axis Acceleration	1000 g	
150	P33575	12ENGNTPO0000ACXA	Top of Engine X-axis Acceleration	1500 g	
151	P46066	12ENGNBO0000ACXA	Bottom of Engine X-axis Acceleration	1500 g	
152	P46053	13VEHCRI0000ACXA	Right Front Brake Caliper X-axis acceleration	1000 g	
153	P45686	11VEHCLE0000ACXA	Left Front Brake Caliper X-axis acceleration	1000 g	
154	P46471	11PEAC000000ACXA	Toe Pan Accelerator x-axis acceleration	1000 g	
155	P47526	11PEAC000000ACZA	Toe Pan Accelerator z-axis acceleration	1000 g	
156	P47495	11VEHC000001ACXA	Toe Pan footrest x-axis acceleration	1000 g	
157	P46486	11VEHC000001ACZA	Toe Pan footrest z-axis acceleration	1000 g	
158	P46473	15TUNNCY0000ACXA	Rear Tunnel center x-axis acceleration	1000 g	
159	P46502	10VEHCCG0000ACXA	Vehicle CG X-axis acceleration	1000 g	
160	P47510	10VEHCCG0000ACYA	Vehicle CG Y-axis acceleration	1000 g	
161	P46470	10VEHCCG0000ACZA	Vehicle CG Z-axis acceleration	1000 g	
162	P48666	18VEHC000000ACXA	Vehicle rear deck X-axis acceleration	1000 g	
163	P48689	18VEHC000000ACYA	Vehicle rear deck Y-axis acceleration	1000 g	
164	P48650	18VEHC000000ACZA	Vehicle rear deck Z-axis acceleration	1000 g	
165	ABFire1	11SENS000001VO0A	Driver airbag - primary	5 V	
166	ABFire2	11SENS000002VO0A	Driver airbag - secondary	5 V	
167	ABFire3	13SENS000001VO0A	Passenger airbag - primary	5 V	
168	ABFire4	13SENS000002VO0A	Passenger airbag - secondary	5 V	
169	A60896	11SEBA0000B5DS0A	Driver lap belt spool	1270 mm	
170	586135	11SEBA0000B3DS0A	Driver shoulder belt spool and retraction	1016 mm	
171	A23305	13SEBA0000B5DS0A	RF Pass lap belt spool	1524 mm	
172	A37490	13SEBA0000B3DS0A	RF Pass shoulder belt spool and retraction	1270 mm	
173	P48664	12DASH000000ACYA	IP CENTER	1000 g	

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Bullet Channel Report Test Number 050906

Ref	Transducer ID	ISO Signal Identifier	Description	FScale	Units	Assembly
1	J32101	21HEADCG00H3ACXA	Head Accel X	1000	g	1-090 HIII 50th Alderson.001
2	AJ4J6	21HEADCG00H3ACYA	Head Accel Y	1000	g	1-090 HIII 50th Alderson.002
3	01H02-N05	21HEADCG00H3ACZA	Head Accel Z	1000	g	1-090 HIII 50th Alderson.003
4	03E03E18-F08	21HEADFR00H3ACYA	Head (FT) Accel Y	1000	g	1-090 HIII 50th Alderson.004
5	03F03E29-N01	21HEADFR00H3ACZA	Head (FT) Accel Z	1000	g	1-090 HIII 50th Alderson.005
6	02I02I10-N04	21HEADUP00H3ACXA	Head (TP) Accel X	1000	g	1-090 HIII 50th Alderson.006
7	98H10-F02	21HEADUP00H3ACYA	Head (TP) Accel Y	1000	g	1-090 HIII 50th Alderson.007
8	03G03F23-M09	21HEADLE00H3ACXA	Head (LT) Accel X	1000	g	1-090 HIII 50th Alderson.008
9	J27490	21HEADLE00H3ACZA	Head (LT) Accel Z	1000	g	1-090 HIII 50th Alderson.009
10	1716A-810-FX	21NECKUP00H3FOXA	Neck Force X	8896.4	N	1-090 HIII 50th Alderson.010
11	1716A-810-FY	21NECKUP00H3FOYA	Neck Force Y	8896.4	N	1-090 HIII 50th Alderson.011
12	1716A-810-FZ	21NECKUP00H3FOZA	Neck Force Z	13344	N	1-090 HIII 50th Alderson.012
13	1716A-810-MX	21NECKUP00H3MOXA	Neck Moment X	282	N·m	1-090 HIII 50th Alderson.013
14	1716A-810-MY	21NECKUP00H3MOYA	Neck Moment Y	282	N·m	1-090 HIII 50th Alderson.014
15	1716A-810-MZ	21NECKUP00H3MOZA	Neck Moment Z	282	N·m	1-090 HIII 50th Alderson.015
16	1794A-0121-FX	21NECKLO00H3FOXA	Neck Lower Force X	13344	N	1-090 HIII 50th Alderson.016
17	1794A-0121-FY	21NECKLO00H3FOYA	Neck Lower Force Y	13344	N	1-090 HIII 50th Alderson.017
18	1794A-0121-FZ	21NECKLO00H3FOZA	Neck Lower Force Z	13344	N	1-090 HIII 50th Alderson.018
19	1794A-0121-MX	21NECKLO00H3MOXA	Neck Lower Moment X	452	N·m	1-090 HIII 50th Alderson.019
20	1794A-0121-MY	21NECKLO00H3MOYA	Neck Lower Moment Y	452	N·m	1-090 HIII 50th Alderson.020
21	1794A-0121-MZ	21NECKLO00H3MOZA	Neck Lower Moment Z	452	N·m	1-090 HIII 50th Alderson.021
22	P16155	21CHSTCG00H3ACXA	Chest Accel X	1000	g	1-090 HIII 50th Alderson.022
23	J27430	21CHSTCG00H3ACYA	Chest Accel Y	1000	g	1-090 HIII 50th Alderson.023
24	J13739	21CHSTCG00H3ACZA	Chest Accel Z	1000	g	1-090 HIII 50th Alderson.024
25	B02A25-N09	21CHSTCGRDH3ACXA	Chest Accel X Red.	1000	g	1-090 HIII 50th Alderson.025
26	03E03E20-N17	21CHSTCGRDH3ACYA	Chest Accel Y Red.	1000	g	1-090 HIII 50th Alderson.026
27	00L13-F05	21CHSTCGRDH3ACZA	Chest Accel Z Red.	1000	g	1-090 HIII 50th Alderson.027
28	CST090	21CHST0000H3DSXA	Chest Deflection X	100	mm	1-090 HIII 50th Alderson.028
29	AGR67	21PELVCG00H3ACXA	Pelvis Accel X	600	g	1-090 HIII 50th Alderson.029
30	J29023	21PELVCG00H3ACYA	Pelvis Accel Y	600	g	1-090 HIII 50th Alderson.030
31	ACCT5	21PELVCG00H3ACZA	Pelvis Accel Z	600	g	1-090 HIII 50th Alderson.031
32	2121A-1420	21FEMRL00H3FOZA	Left Femur Force Z	13344	N	1-090 HIII 50th Alderson.032
33	150-0121VR-13739	21KNSLLE00H3DSXA	Left Knee Displacement X	40	mm	1-090 HIII 50th Alderson.033
34	4353J-76-FX	21TIBILULXH3FOXA	Left Upper Tibia Force X	11120	N	1-090 HIII 50th Alderson.034
35	4353J-76-FZ	21TIBILULXH3FOZA	Left Upper Tibia Force Z	11120	N	1-090 HIII 50th Alderson.035

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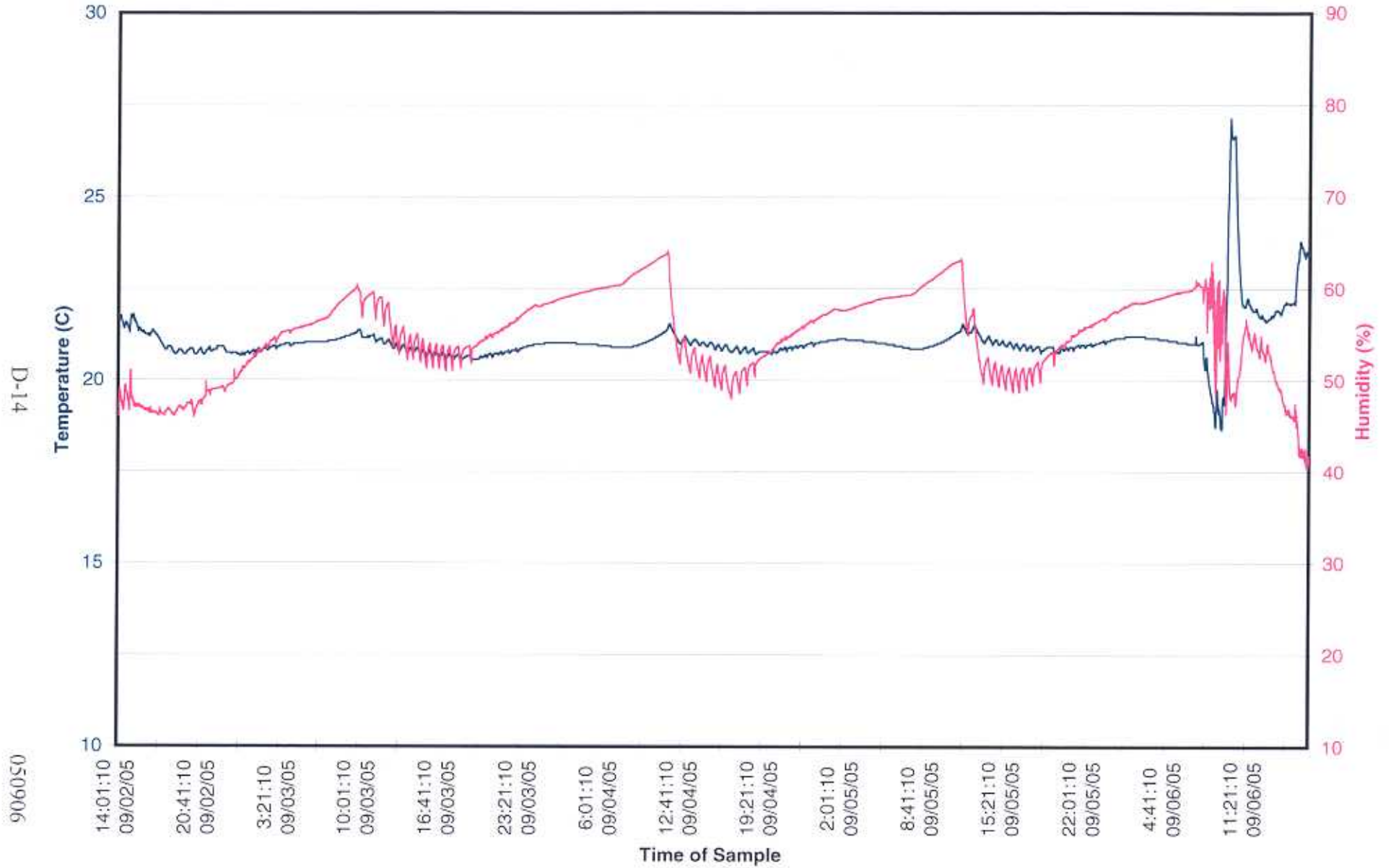
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36	4353J-76-MX	21TIBILULXH3MOXA	Left Upper Tibia Moment X	395.4 N·m	1-090 HIII 50th Alderson.036
37	4353J-76-MY	21TIBILULXH3MOYA	Left Upper Tibia Moment Y	395.4 N·m	1-090 HIII 50th Alderson.037
38	J34330	21TIBILELXH3ACXA	Left Tibia Accel X	1000 g	1-090 HIII 50th Alderson.038
39	J32099	21TIBILELXH3ACYA	Left Tibia Accel Y	1000 g	1-090 HIII 50th Alderson.039
40	4929J-77-FX	21TIBILLLXH3FOXA	Left Lower Tibia Force X	11120 N	1-090 HIII 50th Alderson.040
41	4929J-77-FY	21TIBILLLXH3FOYA	Left Lower Tibia Force Y	11120 N	1-090 HIII 50th Alderson.041
42	4929J-77-FZ	21TIBILLLXH3FOZA	Left Lower Tibia Force Z	11120 N	1-090 HIII 50th Alderson.042
43	4929J-77-MX	21TIBILLLXH3MOXA	Left Lower Tibia Moment X	395.4 N·m	1-090 HIII 50th Alderson.043
44	4929J-77-MY	21TIBILLLXH3MOYA	Left Lower Tibia Moment Y	395.4 N·m	1-090 HIII 50th Alderson.044
45	PD210-4B-118	21FOOTLELXH3ANXA	Left Foot Angular Dis. X X104X	318 °	1-090 HIII 50th Alderson.045
46	PD210-4B-229	21FOOTLELXH3ANYA	Left Foot Angular Dis. Y LX104Y	318 °	1-090 HIII 50th Alderson.046
47	PD210-4B-224	21FOOTLELXH3ANZA	Left Foot Angular Dis. Z LX104Z	318 °	1-090 HIII 50th Alderson.047
48	J27387	21FOOTLELXH3ACXA	Left Foot Accel X	1000 g	1-090 HIII 50th Alderson.048
49	J27040	21FOOTLELXH3ACYA	Left Foot Accel Y	1000 g	1-090 HIII 50th Alderson.049
50	J27553	21FOOTLELXH3ACZA	Left Foot Accel Z	1000 g	1-090 HIII 50th Alderson.050
51	2121A-1421	21FEMRRL00H3FOZA	Right Femur Force Z	13344 N	1-090 HIII 50th Alderson.051
52	150-0121VL-13723	21KNSLR100H3DSXA	Right Knee Displacement X	40 mm	1-090 HIII 50th Alderson.052
53	4353J-75-FX	21TIBIRULXH3FOXA	Right Upper Tibia Force X	11120 N	1-090 HIII 50th Alderson.053
54	4353J-75-FZ	21TIBIRULXH3FOZA	Right Upper Tibia Force Z	11120 N	1-090 HIII 50th Alderson.054
55	4353J-75-MX	21TIBIRULXH3MOXA	Right Upper Tibia Moment X	395.4 N·m	1-090 HIII 50th Alderson.055
56	4353J-75-MY	21TIBIRULXH3MOYA	Right Upper Tibia Moment Y	395.4 N·m	1-090 HIII 50th Alderson.056
57	AALG2	21TIBIRILXH3ACXA	Right Tibia Accel X	1000 g	1-090 HIII 50th Alderson.057
58	J26976	21TIBIRILXH3ACYA	Right Tibia Accel Y	1000 g	1-090 HIII 50th Alderson.058
59	4929J-76-FX	21TIBIRLLXH3FOXA	Right Lower Tibia Force X	11120 N	1-090 HIII 50th Alderson.059
60	4929J-76-FY	21TIBIRLLXH3FOYA	Right Lower Tibia Force Y	11120 N	1-090 HIII 50th Alderson.060
61	4929J-76-FZ	21TIBIRLLXH3FOZA	Right Lower Tibia Force Z	11120 N	1-090 HIII 50th Alderson.061
62	4929J-76-MX	21TIBIRLLXH3MOXA	Right Lower Tibia Moment X	395.4 N·m	1-090 HIII 50th Alderson.062
63	4929J-76-MY	21TIBIRLLXH3MOYA	Right Lower Tibia Moment Y	395.4 N·m	1-090 HIII 50th Alderson.063
64	PD210-4B-AK-037	21FOOTRILXH3ANXA	Right Foot Angular Dis. X AK037X	318 °	1-090 HIII 50th Alderson.064
65	PD210-4B-AK-225	21FOOTRILXH3ANYA	Right Foot Angular Dis. Y AK225Y	318 °	1-090 HIII 50th Alderson.065
66	PD210-4B-AK-039	21FOOTRILXH3ANZA	Right Foot Angular Dis. Z AK039Z	318 °	1-090 HIII 50th Alderson.066
67	AC9P8	21FOOTRILXH3ACXA	Right Foot Accel X	1000 g	1-090 HIII 50th Alderson.067
68	AAKB4	21FOOTRILXH3ACYA	Right Foot Accel Y	1000 g	1-090 HIII 50th Alderson.068
69	AGWB1	21FOOTRILXH3ACZA	Right Foot Accel Z	1000 g	1-090 HIII 50th Alderson.069
70	98H13-F03	23HEADCG00HFACXA	Head Accel X	1000 g	3-070 HIII 5th Denton.001
71	03E03E21-M01	23HEADCG00HFACYA	Head Accel Y	1000 g	3-070 HIII 5th Denton.002
72	02102105-F15	23HEADCG00HFACZA	Head Accel Z	1000 g	3-070 HIII 5th Denton.003

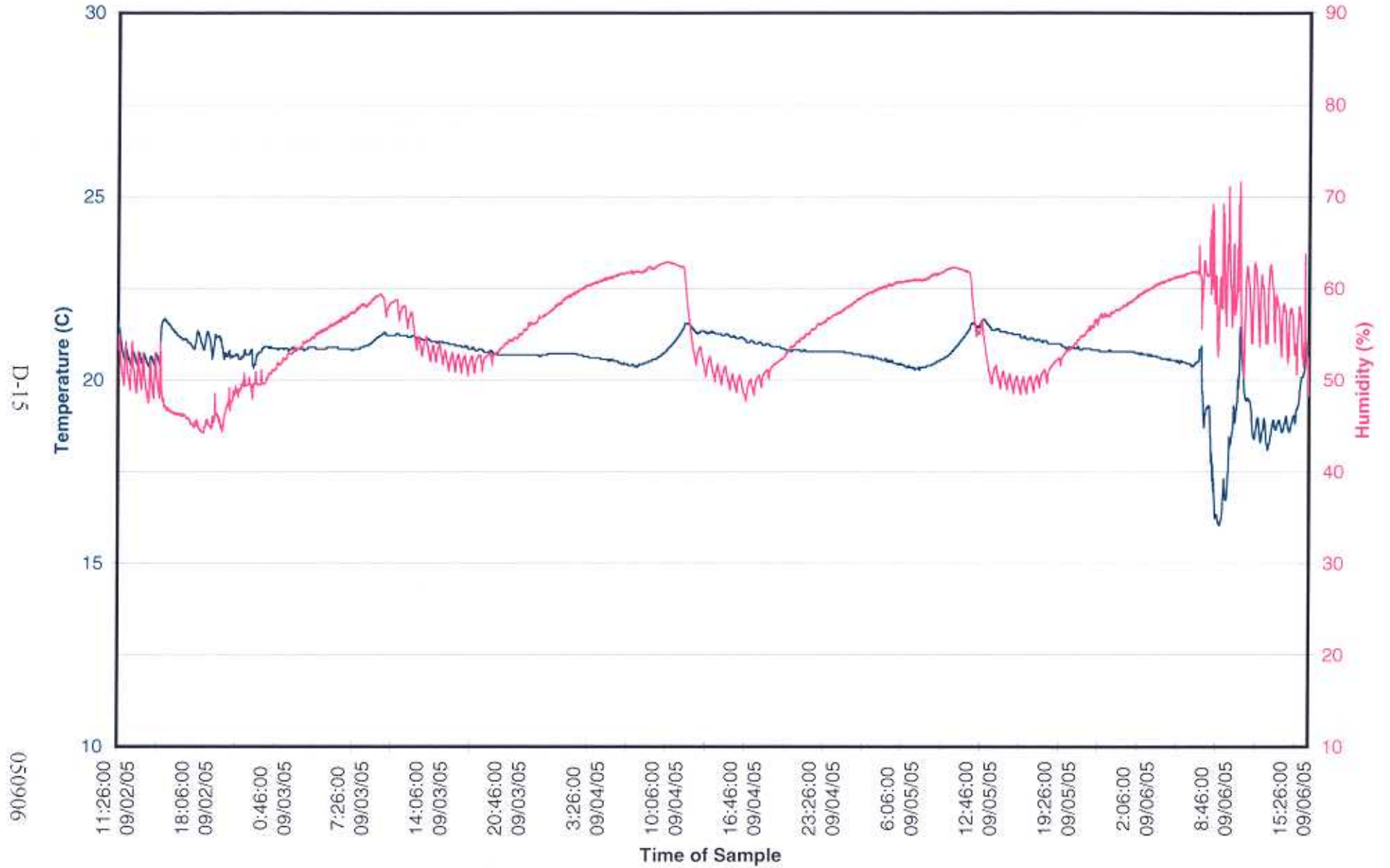
73	1716AJ-1563-FX	23NECKUP00HFFOXA	Neck Force X	8896.4 N	3-070 HIII 5th Denton.010
74	1716AJ-1563-FY	23NECKUP00HFFOYA	Neck Force Y	8896.4 N	3-070 HIII 5th Denton.011
75	1716AJ-1563-FZ	23NECKUP00HFFOZA	Neck Force Z	13344 N	3-070 HIII 5th Denton.012
76	1716AJ-1563-MX	23NECKUP00HFMOXA	Neck Moment X	282 N·m	3-070 HIII 5th Denton.013
77	1716AJ-1563-MY	23NECKUP00HFMOYA	Neck Moment Y	282 N·m	3-070 HIII 5th Denton.014
78	1716AJ-1563-MZ	23NECKUP00HFMOZA	Neck Moment Z	282 N·m	3-070 HIII 5th Denton.015
79	3251-107-FX	23NECKLO00HFFOXA	Neck Lower Force X	13344 N	3-070 HIII 5th Denton.016
80	3251-107-FY	23NECKLO00HFFOYA	Neck Lower Force Y	13344 N	3-070 HIII 5th Denton.017
81	3251-107-FZ	23NECKLO00HFFOZA	Neck Lower Force Z	13344 N	3-070 HIII 5th Denton.018
82	3251-107-MX	23NECKLO00HFMOXA	Neck Lower Moment X	452 N·m	3-070 HIII 5th Denton.019
83	3251-107-MY	23NECKLO00HFMOYA	Neck Lower Moment Y	452 N·m	3-070 HIII 5th Denton.020
84	3251-107-MZ	23NECKLO00HFMOZA	Neck Lower Moment Z	339 N·m	3-070 HIII 5th Denton.021
85	AAJY4	23CHSTCG00HFACXA	Chest Accel X	1000 g	3-070 HIII 5th Denton.022
86	AKAA4	23CHSTCG00HFACYA	Chest Accel Y	1000 g	3-070 HIII 5th Denton.023
87	ACC63	23CHSTCG00HFACZA	Chest Accel Z	1000 g	3-070 HIII 5th Denton.024
88	14CB1-2897-070	23CHST0000HFDSXA	Chest Deflection X	100 mm	3-070 HIII 5th Denton.025
89	AGN83	23PELVCG00HFACXA	Pelvis Accel X	1000 g	3-070 HIII 5th Denton.026
90	J35770	23PELVCG00HFACYA	Pelvis Accel Y	1000 g	3-070 HIII 5th Denton.027
91	J20014	23PELVCG00HFACZA	Pelvis Accel Z	1000 g	3-070 HIII 5th Denton.028
92	IF-625-140-FZ	23FEMRLL00HFFOZA	Left Femur Force Z	13344 N	3-070 HIII 5th Denton.029
93	IF-625-141-FZ	23FEMRRL00HFFOZA	Right Femur Force Z	13344 N	3-070 HIII 5th Denton.030
94	P25874	24CRME000000ACXA	Left Rear Seat Cross-member X-axis Acceleration	1000 g	
95	P39863	26CRME000000ACXA	Right Rear Seat Cross-member X-axis Acceleration	1000 g	
96	P39329	22ENGNT000000ACXA	Top of Engine X-axis Acceleration	1500 g	
97	P42135	22ENGNB000000ACXA	Bottom of Engine X-axis Acceleration	1500 g	
98	P46065	23VEHCRI0000ACXA	Right Front Brake Caliper X-axis acceleration	1000 g	
99	P33618	21VEHCLE0000ACXA	Left Front Brake Caliper X-axis acceleration	1000 g	
100	P46493	21PEAC000000ACXA	Toe Pan Accelerator x-axis acceleration	1000 g	
101	P34079	21PEAC000000ACZA	Toe Pan Accelerator z-axis acceleration	1000 g	
102	P29191	21VEHC000001ACXA	Toe Pan footrest x-axis acceleration	1000 g	
103	P33535	21VEHC000001ACZA	Toe Pan footrest z-axis acceleration	1000 g	
104	P33806	25TUNNCY0000ACXA	Rear Tunnel center x-axis acceleration	1000 g	
105	P47505	20VEHCCG0000ACXA	Vehicle CG X-axis acceleration	1000 g	
106	P47496	20VEHCCG0000ACYA	Vehicle CG Y-axis acceleration	1000 g	
107	P47324	20VEHCCG0000ACZA	Vehicle CG Z-axis acceleration	1000 g	
108	P47491	28VEHC000000ACXA	Vehicle rear deck X-axis acceleration	1000 g	
109	P46504	28VEHC000000ACYA	Vehicle rear deck Y-axis acceleration	1000 g	

110 P46468	28VEHC000000ACZA	Vehicle rear deck Z-axis acceleration	1000 g
111 ABFire1	21SENS000001VO0A	Driver airbag - primary	5 V
112 ABFire2	21SENS000002VO0A	Driver airbag - secondary	5 V
113 ABFire3	23SENS000001VO0A	Passenger airbag - primary	5 V
114 ABFire4	23SENS000002VO0A	Passenger airbag - secondary	5 V
115	14673 21SEBA0000B5DS0A	Driver lap belt spool	750 mm
116 A23306	21SEBA0000B3DS0A	Driver shoulder belt spool and retraction	1524 mm
117 A35691	23SEBA0000B5DS0A	RF Pass lap belt spool	1270 mm
118 A60897	23SEBA0000B3DS0A	RF Pass shoulder belt spool and retraction	1270 mm
119 P46064	22DASH000000ACYA	IP CENTER	1000 g

FULL FRONTAL COLLINEAR 2002 FORD FOCUS



FULL FRONTAL COLLINEAR 2005 CHRYSLER TOWN & COUNTRY



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.

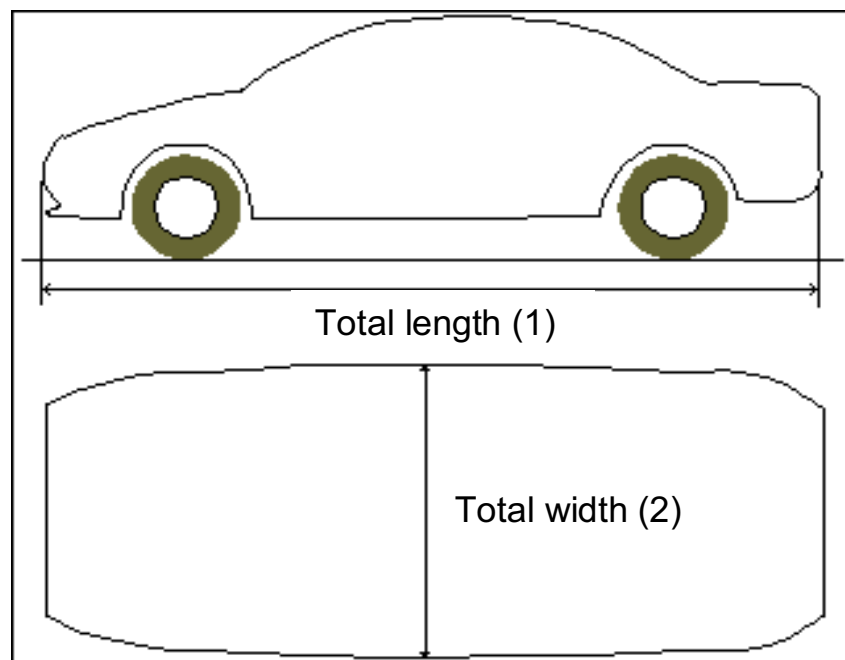


Figure 1.- Definition of the main resistant elements. General dimensions.

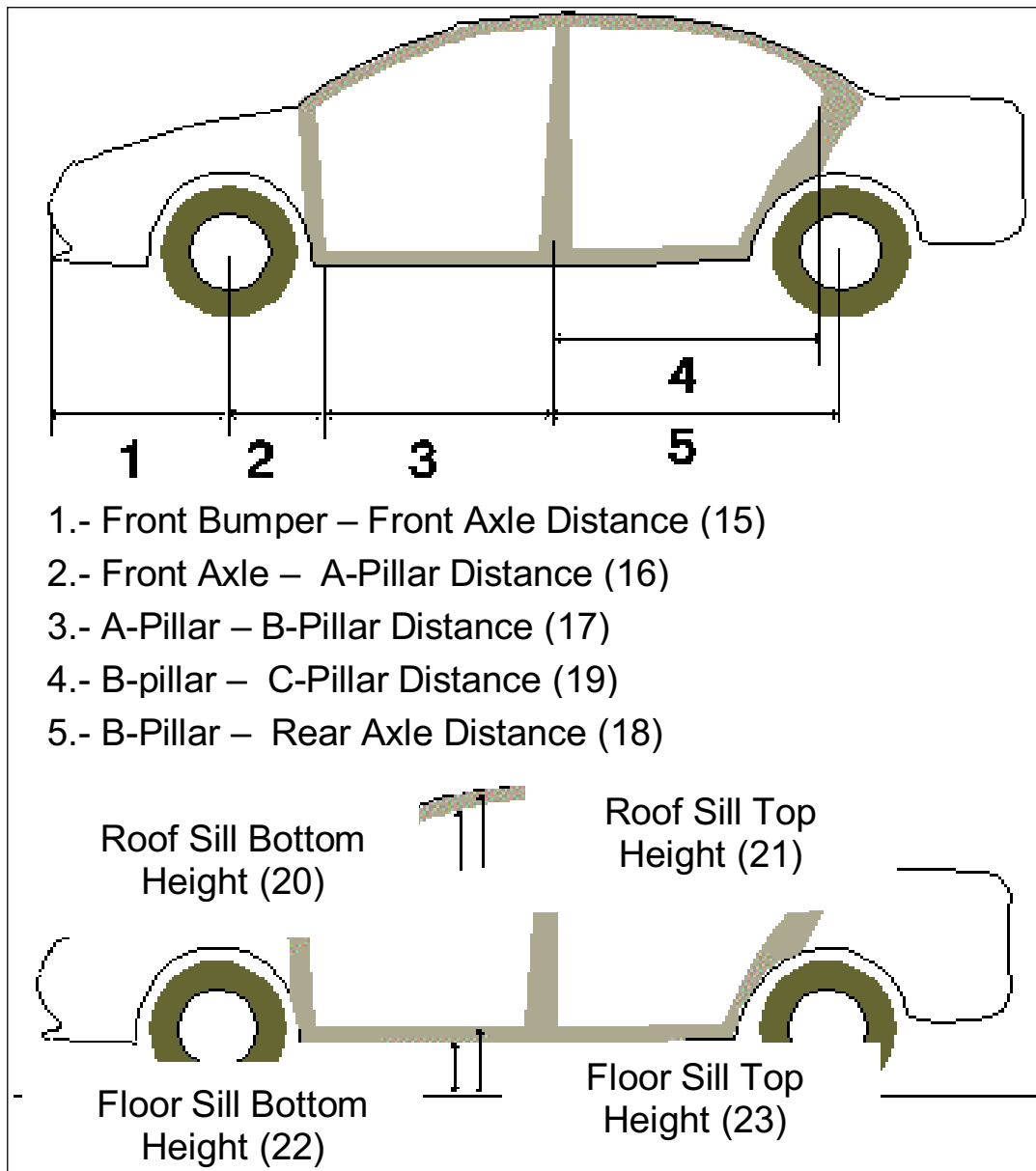


Figure 2.- Definition of the main resistant elements. Side elements.

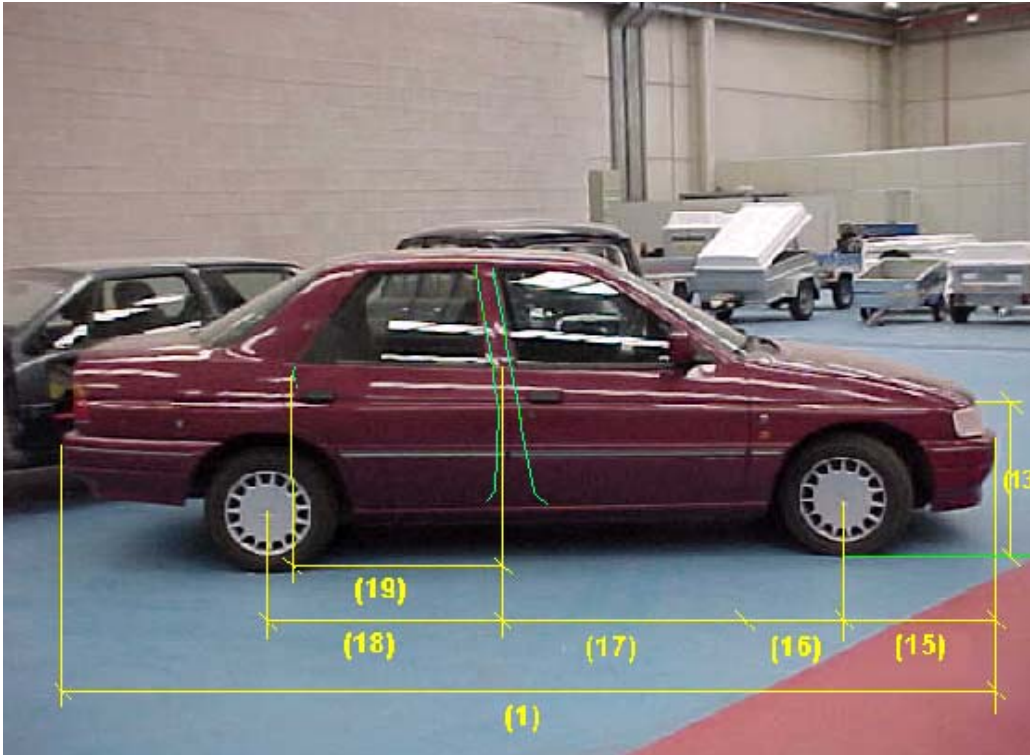
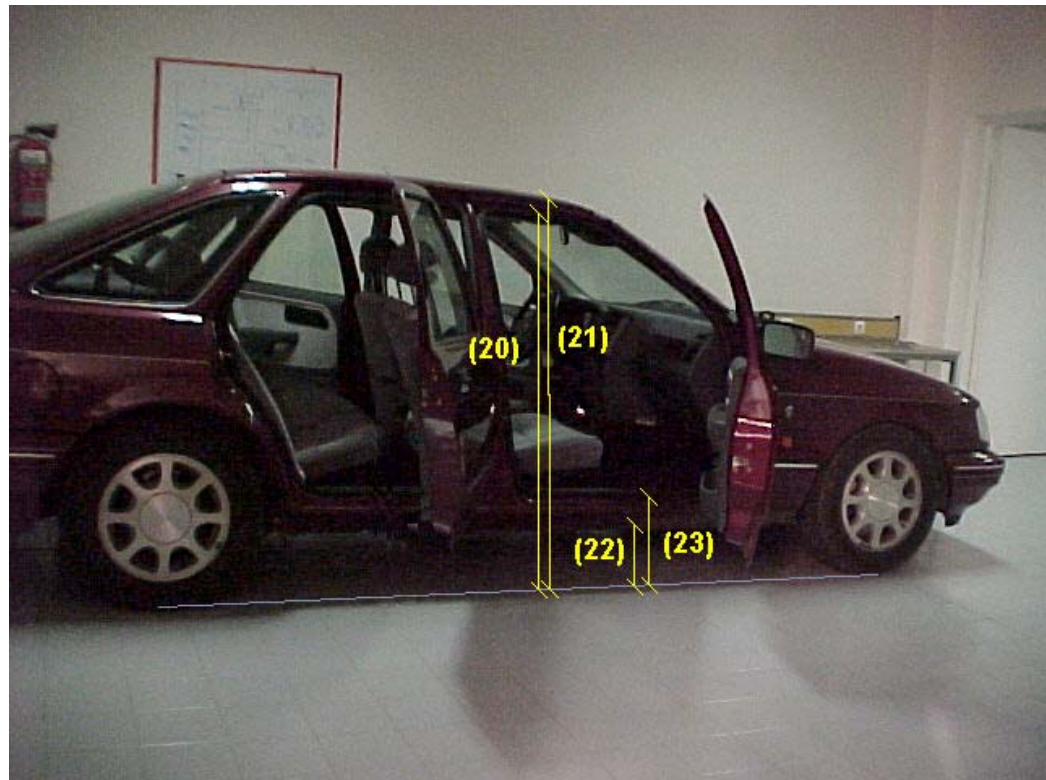


Figure 3.-
Measurements of
the side resistant
elements (outer).

Figure 4.- Measurements
of the side resistant
elements (inner).



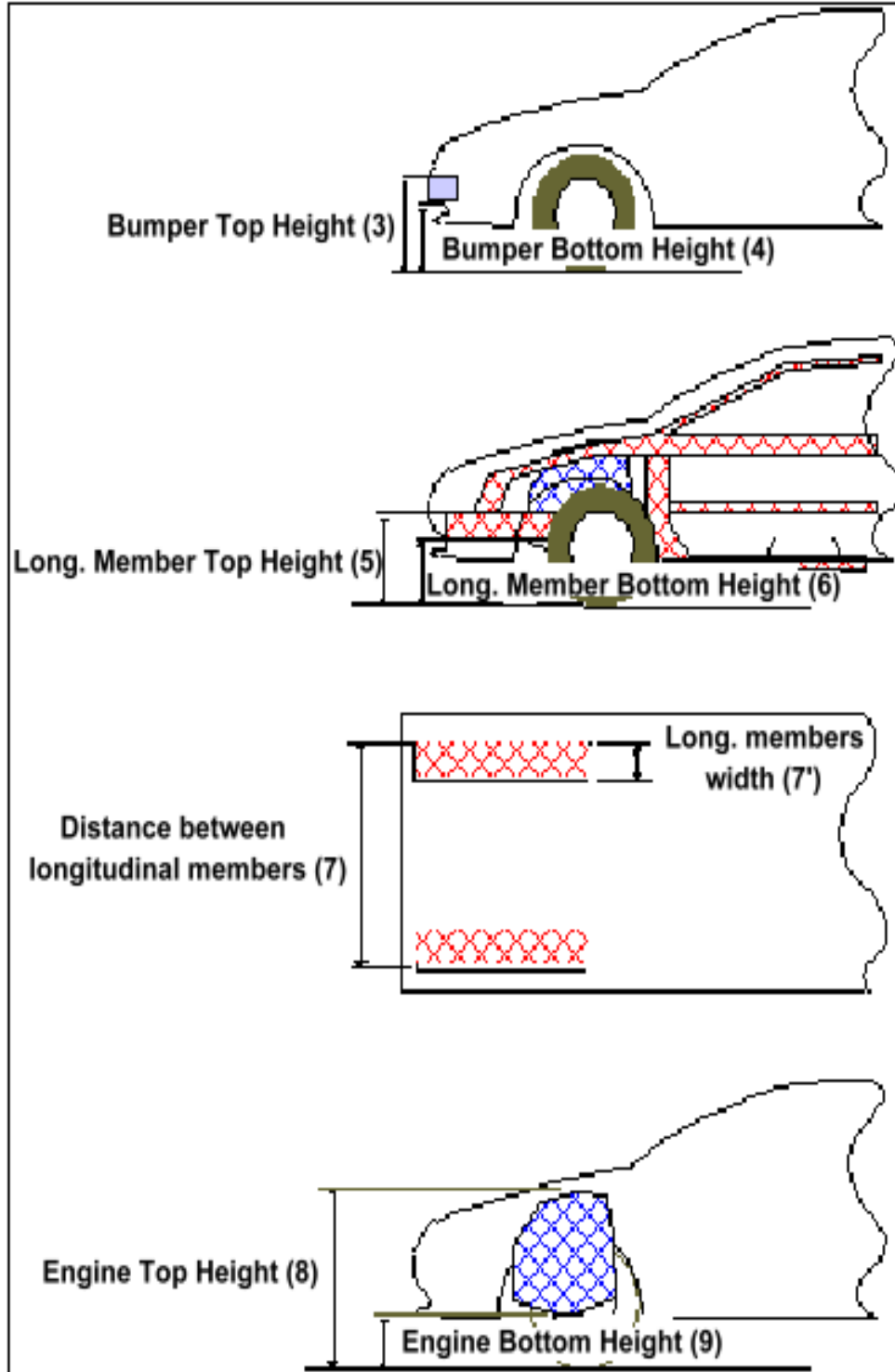


Figure 5.- Definition of the main resistant elements. Front elements.

Figure 6.-
Measurements of the
main resistant elements.
Front elements 1.

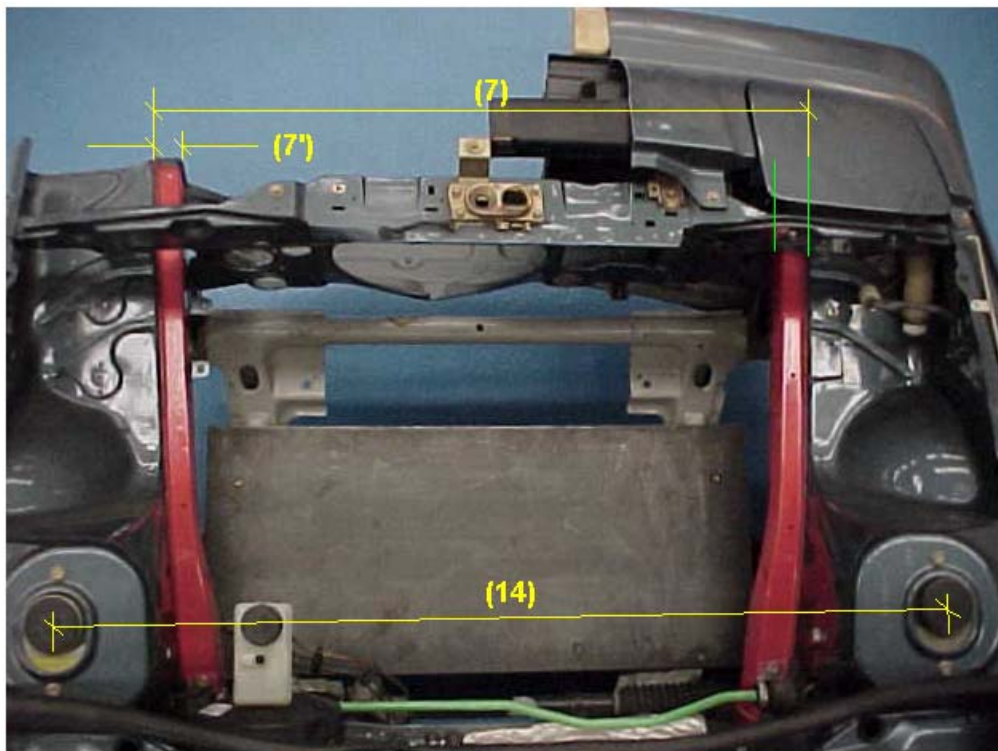
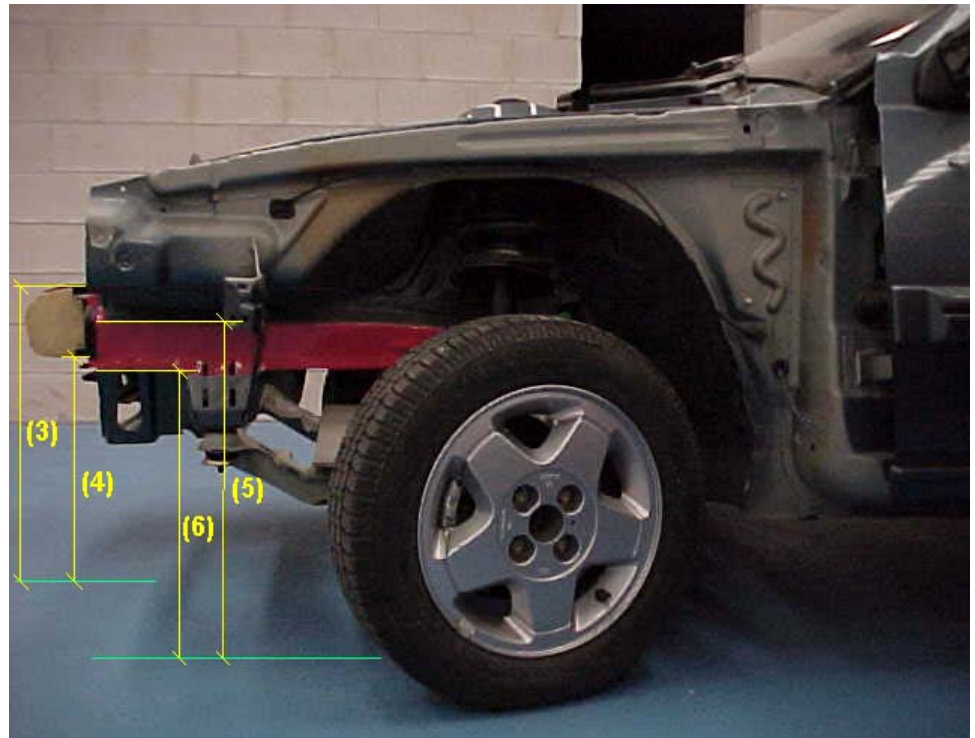


Figure 7.-
Measurements
of the main
resistant
elements. Front
elements 2.

Figure 8.-
Measurements of
the main resistant
elements. Front
elements 3.

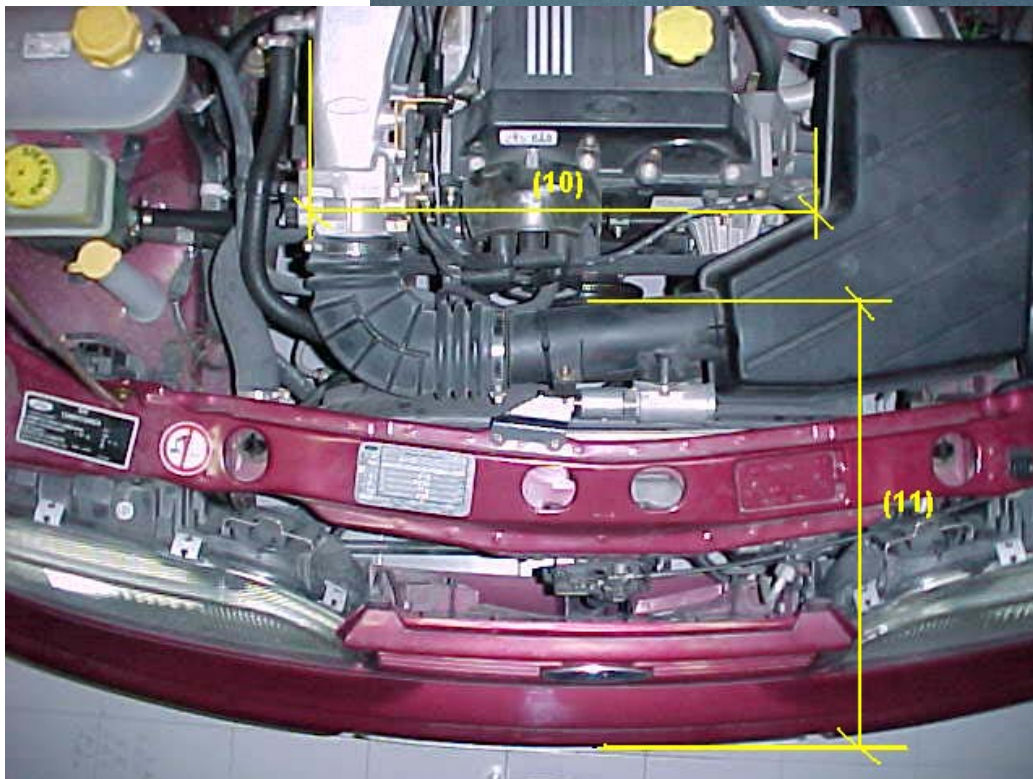
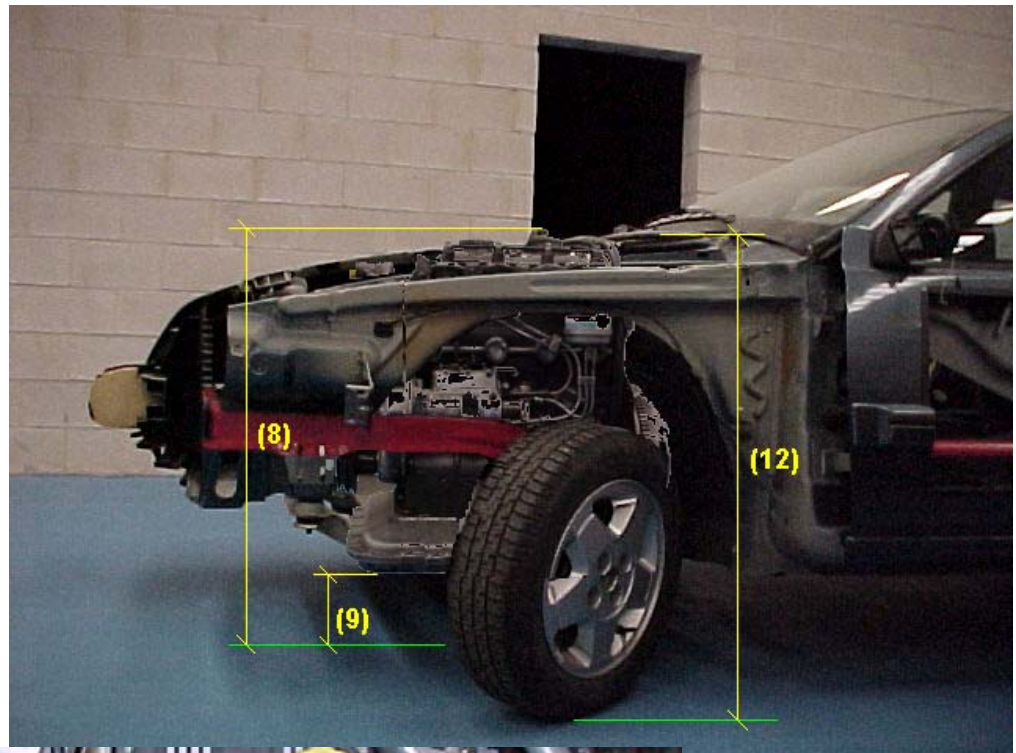


Figure 9.-
Definition of
the main
resistant
elements. Front
elements
(Longitudinal
engine).

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.