NEW CAR ASSESSMENT PROGRAM (NCAP)
SIDE IMPACT POLE TEST

Honda Motor Co., LTD
2016 Honda Fit

PREPARED BY:
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Report Date: July 30, 2016

DRAFT REPORT

PREPARED FOR:
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TRC TEST NUMBER: 160510

Project Manager, Melinda Lackey

Report Approved July 30, 2016:

Transportation Research Center Inc.

Final Report Accepted by:

Allison E. Louden Date: 8/12/16

Allison Louden
Project Engineer
Vehicle Research & Test Center

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Section 1

Purpose and Test Procedure

Purpose

This rigid pole side impact test is part of the Federal Motor Vehicle Safety Standard 214 Side Impact Protection program. It was conducted for the National Highway Traffic Safety Administration's (NHTSA) Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.). The purpose of this test was to perform crash tests with the WorldSID 50th dummy to refine the seating procedure and to evaluate dummy response. The test was conducted using the National Highway Traffic Safety Administration's new car assessment program (NCAP) or side impact rigid pole test procedure (TP-SPNCAP-POLE) dated October 2015 and VRTC guidance:

WorldSID-50M dummy was used instead of the SIDIIs listed in the test procedure.

SECTION 2
SUMMARY OF TEST RESULTS

A 2016 Honda Fit impacted the rigid pole on the left side, at a velocity of 31.91 km/h (19.93 mph). The target vehicle was moving and was positioned at an angle of 285°. The side impact test was conducted by Transportation Research Center Inc. in East Liberty, Ohio on May 10, 2016. Pre-test and post-test photographs of the test vehicle, the rigid pole, and the side impact dummy (WorldSID-50M) are included in Appendix A.

One restrained Side Impact Dummy (WorldSID-50M) S/N 016, was placed in the driver (Position #1) designated seating position according to the instructions specified in the VRTC WS50M_Draft Seating Procedure[1]. The dummy was calibrated prior to this test using specifications found in the Humanetics User Manual[2]. The side impact test was documented by two (2) real-time cameras and nine (9) high-speed digital cameras. Camera locations and other pertinent camera information are included in this report.

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

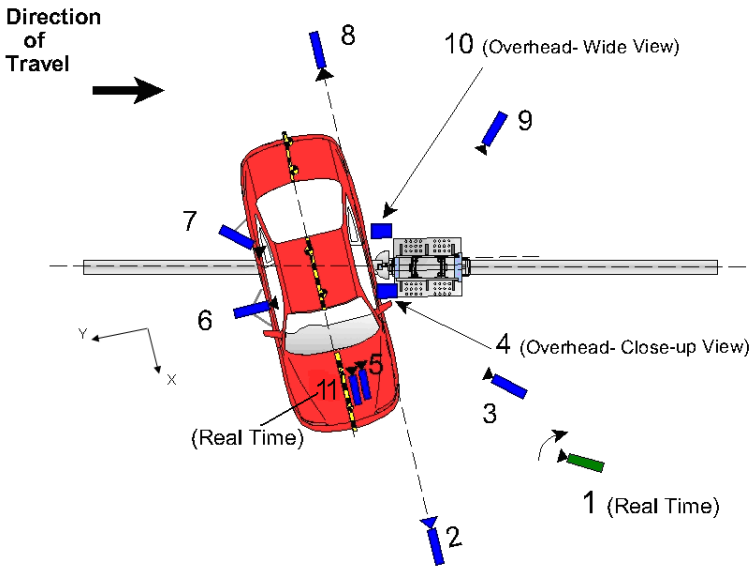
The WorldSID dummy was instrumented with one-hundred twenty-seven (127) dummy channels of acceleration, force, moment, angle, and displacement data were collected for this test. It was also instrumented with a Ribeye system manufactured by Boxboro Systems[3] in the chest in place of the IRTRACCs. Each rib (1 shoulder, 3 thorax, and 2 abdomen) had three LEDs placed at the middle, front and rear location to measure X, Y, and Z position location. The position measurements were used to calculate a change of length at each rib at each location.

Additional information about the Ribeye locations and calculations can be found in Appendix E. The 50th male WorldSID dummy had a fifty-nine (59) channel chest band on thorax rib 1 using only fifty-six (56) channels. The results of the chest band data can be found in Appendix F. All of the dummy channels are detailed in section 3 Table 1.

[1] See Appendix G for WorldSID Draft Seating Procedure used for this testing.
[2] Humanetics User Manual: http://www.humaneticsatd.com [3] http://www.boxborosystems.com/ribeye.html

A total of two-hundred twenty-one (221) channels of data were recorded. Appendix A contains pre-test and post-test photographs. Appendix B contains the vehicle, barrier and dummy response data traces. A summary of the side impact dummy (WorldSID-50M) configuration and verification test data can be found in Appendix C. Appendix D contains miscellaneous test information. Appendix E contains Ribeye information and Appendix F contains chest band information.

Test Results Summary



	Driver WorldSID 50th (#016)
HIC15 (g) CFC 1000	202
HIC36 (g) CFC 1000	317
BRIC Injury Criteria	0.60
Shoulder Force (N) CFC 600	-1,872
Maximum Shoulder Deflection (mm)	60
Maximum Thoracic Rib 1-3 Deflection (mm)	41
Maximum Abdomen Rib 1-2 Deflection (mm)	32
Lower Spine Resultant (g) CFC 180	43
Pelvis Resultant Acceleration (g)	47
Pubic Symphysis Force (N) CFC 600	-1173
Sacro Illiac FY (N) CFC 600	-2,401

	2016 Honda Fit
Vehicle Test Weight	1270.4 kg
Impact Point (Horizontal) rearward of front axle	1205 mm
Impact Angle	285°
Maximum Crush	274 mm Level 3
Impact Speed	31.91 km/h

Data Acquisition Explanations

Left floor Sill Y-Axis Acceleration: no valid data after 27.0 milliseconds.

Left Lower B-Pillar Sill Y-Axis Acceleration: questionable data after 27.0 milliseconds.

Chest band gage 9: no valid data from approximately 200.0 – 235.0 milliseconds.

Chest band gage 30: no valid data throughout the event.

Ribeye Error Codes:

1 if the top sensor is blocked or sees too much ambient light

2 if the bottom sensor is blocked or sees too much ambient light

3 if both top and bottom sensors are blocked or see too much ambient light

4 if the middle sensor is blocked or sees too much ambient light

5 if the middle and top sensors are blocked or see too much ambient light

6 if the middle and bottom sensors are blocked or see too much ambient light

7 if all three sensors are blocked or see too much ambient light

8 if a divide-by-zero condition occurred in the data processing

9 if data goes past the end of the calibration curves

error codes may be positive or negative in data and will occur to all x, y, and z channels

Ribeye Position: Shoulder rear XYZ: Error code 9 (data beyond calibration curves) 48.0 – 48.0 and 48.2 – 58.1 milliseconds.

Ribeye Position: Thorax 2 middle XYZ: Error code 1 (top sensor blocked or sees too much light) 45.5 – 45.5, 45.8- 65.9 and 67.1- 67.1 milliseconds.

Ribeye Position: Thorax 2 front XYZ: Error code 1 (top sensor blocked or sees too much light) 44.0 – 66.9, 67.4 – 67.4 and 67.6 – 67.6 milliseconds.

SECTION 3
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

TEST VEHICLE INFORMATION AND OPTIONS

NHTSA No.	
Model Year	2016
Make	Honda
Model	FIT
Body Style	5 DR Sedan
VIN	JHMGK5H54GX005711
Body Color	Milano Red
Odometer Reading (km/mi)	10 mi.
Engine Displacement (L)	1.5
Type/No. Cylinders	Gas/4
Engine Placement	Front/Transverse
Transmission Type	Automatic
Transmission Speeds	CVT
Overdrive	Yes
Final Drive	FWD
Roof Rack	No
Sunroof/T-Top	No
Running Boards	No
Tilt Steering Wheel	Yes
Power Seats	No
Anti-Lock Brakes (ABS)	Yes

Traction Control System (TCS)	Yes
Auto-Leveling System	No
Automatic Door Locks (ADL)	Yes
Power Window Auto-Reverse	Yes
Other Optional Feature	
Driver Front Airbag	Yes
Driver Curtain Airbag	Yes
Driver Head/Torso Airbag	No
Driver Torso Airbag	No
Driver Torso/Pelvis Airbag	Yes
Driver Pelvis Airbag	No
Driver Knee Airbag	No
Rear Pass. Curtain Airbag	Yes
Rear Pass. Head/Torso Airbag	No
Rear Pass. Torso Airbag	No
Rear Pass. Torso/Pelvis Airbag	No
Rear Pass. Pelvis Airbag	No
Driver Seat Belt Pretensioner	Yes
Rear Pass. Seat Belt Pretensioner	No
Driver Load Limiter	Yes
Rear Pass. Load Limiter	No
Other Safety Restraint	No

Does owner's manual provide instructions to turn off automatic door locks? Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Honda Motor Co., LTD
Date of Manufacturer	10/15
Vehicle Type	Passenger Car

GVWR (kg)	1539
GAWR Front (kg)	823
GAWR Rear (kg)	716

VEHICLE SEATING AND WEIGHT CAPACITY DATA

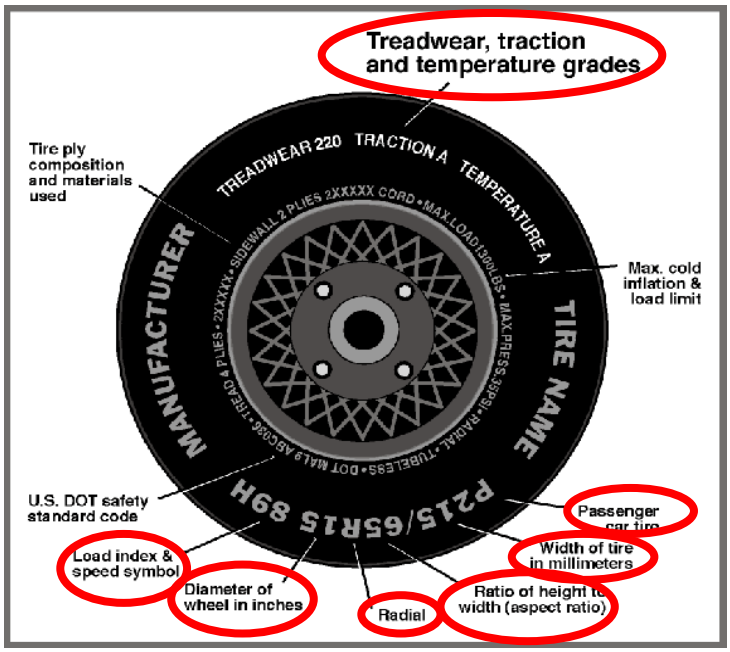
	Front	Rear	Third	Total
Designated Seating Capacity (DSC)	2	3		5
Vehicle Capacity Weight (VCW) (kg)				385
DSC X 68.04 kg				340.2
Rated Cargo and Luggage Weight (RCLW) (kg)				44.8

VEHICLE SEAT TYPE

Seating Location	Type of Seat Pan				Type of Seat Back		
	Bucket	Bench	Split Bench	Contoured	Fixed	Adjustable	
						W/ Lever	W/ Knob
Front Seat	Yes					Yes	
Rear or Second Row Seat			Yes	Yes	Yes		
Third row seat							

DATA SHEET NO. 1 (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	300	300
Cold Pressure (kPa)	230	230
Recommended Tire Size	185/60R15	185/60R15
Tire Size on Vehicle	185/60R15	185/60R15
Tire Manufacturer	Firestone	Firestone
Tire Model	FR 740	FR 740
Treadwear	400	400
Traction	A	A
Temperature Grades	A	A
Tire Plies Sidewall	1	1
Tire Plies Body	4	4
Load Index/Speed Symbol	84 T	84T
Tire Material	Polyester, Steel & Nylon	Polyester, Steel & Nylon
DOT Safety Code Left	EL CA CJJ4015	EL CA CJJ4015
DOT Safety Code Right	EL CA CJJ4015	EL CA CJJ4015

DATA SHEET NO. 1 (CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

TIRE PRESSURES

	Units	LF	RF	LR	RR
As Delivered	kPa	230	230	230	230
Tire Placard	kPa	230	230	230	230
Owner's Manual	kPa				
As Tested	kPa	230	230	230	230

TEST VEHICLE AXLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)			Fully Loaded		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	368.8	224.8		380.0	276.4		396.4	276.0	
Right	kg	353.8	208.8		363.0	251.0		360.8	242.8	
Ratio	%	62.5	37.5		58.8	41.2		59.3	40.7	
Totals	kg	722.6	433.6	1156.2	743.0	527.4	1270.4	757.2	518.8	1276.0

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value	
Total As Delivered Weight (UVW)	kg	1156.2	(A)
Actual Weight of 1 ATD (WorldSID) Dummy Used	kg	75.0	(B)
Rated Cargo/Luggage Weight (RCLW)	kg	44.8	(C)
Calculated Vehicle Target Weight (TVTW)	kg	1276.0	(A+B+C)

Does the measured As Tested Vehicle Weight lie within the required weight range (i.e. Calculated Test Vehicle Target Weight – 4.5 kg to 9 kg)? X YES □ NO

TEST VEHICLE ATTITUDES AND CG

	Units	As Delivered	As Tested	Fully Loaded	Meets Requirement***
Driver Door Sill Angle (front-to-rear)*	Deg.	+0.4	+0.6	+0.8	Yes
Front Passenger Sill Angle (front-to-rear)*	Deg.	+0.3	+0.7	+1.0	Yes
Front Bumper-Line Angle (left-to-right)**	Deg.	+0.6	-0.3	-0.9	Yes
Rear Bumper-Line Angle (left-to-right)**	Deg.	+0.3	-0.3	-0.4	Yes
Vehicle CG (Aft of Front Axle)	Mm	949	520	1029	
Vehicle CG (Left (+) / Right (-) from longitudinal Centerline)	Mm	+20		+40	

*ND=Nose Down (-), NU=Nose Up (+) **LD=Left Down (-), LU=Left Up (+)
*** The "As Tested" vehicle attitude measurements must be equal to or between the "As Delivered" and "Fully Loaded" vehicle attitude measurements. Indicate "Yes" or "No" for "Meets Requirements".

WEIGHT OF BALLAST AND VEHICLE COMPONENTS REMOVED TO MEET TVTW

Component Description	Weight (kg)
Ballast:	0
Components removed: Front and Rear fascia, Front and rear bumper beams, headlights , tail lights, wipers, tail gate trim, AC condenser, radiator & fans, hubcaps, Right rear door trim and speaker, washer bottle, right rear seatbelt assembly, rear wiper and motor, rear hatch counterweight	53
Test height adjustable suspension setting, if applicable:	N/A

DATA SHEET NO. 2

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

Test Vehicle: 2016 Honda Fit

Test Program: SPNCAP Side Impact Test Date: 5/10/16

SCRL ANGLE RANGE

Seat	SCRL(°)		
	Max.	Min.	Mid
Driver Seat	14.4	12.4	13.4
Front Passenger Seat			
Front Center Seat*			
Struck Side Rear Seat			
Non-Struck Side Rear Seat			
Rear Center Seat*			

* If applicable.

SEAT HEIGHT AND ANGLE

Seat	As Tested SCRL Angle (Mid) (°)	As Tested SCRP Height (mm)	SCRP Height Position	SCRP Height (mm)		
				Rearmost	Mid-Fore/Aft	Forward-Most
Driver Seat	13.4	176	Max			
			Mid	174	160	145
			Min			
Front Passenger Seat			Max			
			Mid			
			Min			
Front Center Seat*			Max			
			Mid			
			Min			
Struck Side Rear Seat	Fixed	Fixed	Max			
			Mid			
			Min			
Non-Struck Side Rear Seat			Max			
			Mid			
			Min			
Rear Center Seat*			Max			
			Mid			
			Min			

* If applicable.

DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

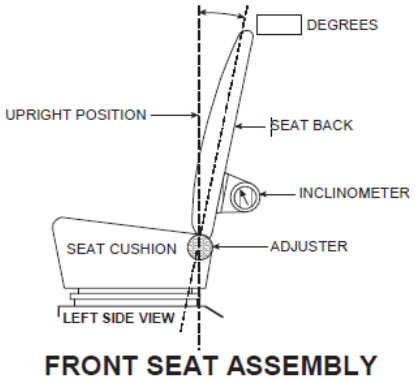
SEAT FORE/AFT POSITION

Seat	Total Fore/Aft Travel		Test Position from Forwardmost Position	
	Mm	Detents*	mm	Detent*
Driver Seat	235	35	125	19
Front Passenger Seat	235	35	1258	19
Front Center Seat*				
Struck Side Rear Seat	Fixed			
Non-Struck Side Rear Seat				
Rear Center Seat*				

* If applicable.

Driver seat: The driver's seat back is positioned at 0.4° measured at the head rest post per Form 1 instructions. The seat was positioned 20.0 millimeters rearward of mid-track fore and aft travel.

Right Front Passenger Seat: The right front passenger seat back was positioned in a similar manner as the driver's seat back.



FRONT SEAT ASSEMBLY

Seat	Total Seat Back Angle Range		Test Position from Most Upright	
	Degrees	Detents*	Degrees	Detent*
Driver Seat w/ Seated Dummy	64.9	32	-1	5
Front Passenger Seat			-0.7	5
Front Center Seat*				
Struck Side Rear Seat	Fixed			
Non-Struck Side Rear Seat				
Rear Center Seat*				

* If applicable.

SEAT BELT ANCHORAGE ADJUSTMENT

Seat belt anchorages are adjusted with the information provided by the manufacturer on Form No. 1

	Total # of Positions	Placed in Position #
Driver Seat	4	1

HEAD RESTRAINT ADJUSTMENT

Head restraints are adjusted to the highest and full rearward in-use position.

	Total # of Positions	Placed in Position #
Driver Seat	4	1

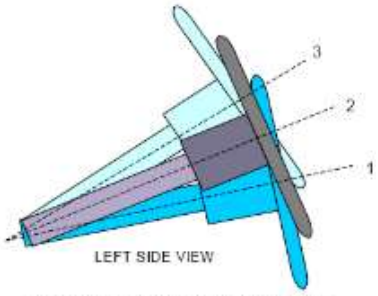
DATA SHEET NO. 2 (CONTINUED)
SEAT, SEAT BELT, STEERING WHEEL ADJUSTMENT AND FUEL SYSTEMS DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel geometric locus it describes when moved through its full range of motion.

	Degrees	Fore/Aft Position, mm
Lowermost, Position No. 1	24.2	
Geometric Center, Position No. 2	26.6	
Uppermost, Position No. 3	29.0	
Telescoping Steering Wheel Travel		40
Test Position	26.6	20

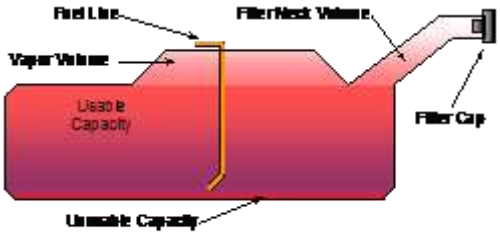


STEERING COLUMN ASSEMBLY

FUEL PUMP

Describe the fuel pump type, details about how it operates and the location of the fuel filler neck:

Pump will run for about 3 seconds when the key is turned on and then will not run unless the engine is cranking or running



VEHICLE FUEL TANK ASSEMBLY

FUEL TANK CAPACITY

	Liters
Usable Capacity of "Standard Tank" (see Form No. 1)	40.1
Usable Capacity of "Optional" Tank (see Form No. 1)	
Usable Capacity of Standard Tank (see Owner's Manual)	
Usable Capacity of Optional Tank (see Owner's Manual)	
93% of Usable Capacity	37.3
Actual Amount of Solvent Used in Test	37.3
1/3 of Usable Capacity	13.4

Is the Actual Amount of Solvent Used in the test equal to 93% +/- 1% of the Usable Capacity stated on Form No. 1? ☒ YES ☐ NO

Table 1 WorldSID Instrumentation Data

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Driver Dummy Serial Number: 016

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Head Acceleration (g)	X	7.327	179.1	-22.724	60.35
	Y	41.677	57.2	-6.925	148.95
	Z	16.506	50.6	-5.324	93.8
	R	47.96	57.15		
Head Angular Velocity	X	807.127	96.8	-1,408.00	46.75
	Y	677.779	88.55	-665.593	222.85
	Z	887.34	283.1	-1,043.64	47.9
Upper Neck Force	X	260.605	179.15	-107.261	298.9
	Y	38.538	34.7	-408.676	51.55
	Z	676.511	49.3	-195.712	94.55
Upper Neck Moment	X	24.991	52.85	-17.943	157.9
	Y	15.52	71.85	-22.777	195.5
	Z	17.527	252.15	-10.518	309.7
Lower Neck Force	X	359.319	182.9	-299.307	56.9
	Y	352.848	38.3	-292.565	122.75
	Z	821.157	49.1	-320.99	94.2
Lower Neck Moment	X	14.727	39.1	-57.504	151.3
	Y	32.755	58.85	-72.542	186.55
	Z	19.532	254.1	-18.155	178.6
T1 Acceleration (g)	X	6.425	143.6	-11.381	17.9
	Y	37.923	52.1	-6.003	107.9
	Z	8.504	45.9	-5.587	92.45
	R	39.385	52.05		
T4 Acceleration (g)	X	4.935	141.45	-10.652	46.3
	Y	36.774	40.35	-6.108	108.7
	Z	8.261	45.95	-5.12	92.9
	R	37.998	40.45		
T12 Acceleration (g)	X	5.309	110.25	-9.463	22.5
	Y	41.941	44.15	-11.632	93.15
	Z	6.381	45.35	-6.63	92.9
	R	43.023	44.2		

Table 1 WorldSID Instrumentation Data (Continued)

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Driver Dummy Serial Number: 016

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Shoulder Force (N)	X	184.498	32.95	-642.176	50.85
	Y	207.941	109.15	-1,871.95	48.2
	Z	416.701	33.9	-133.831	108.65
Pubic Symphysis (N)	Y	11.191	18.3	-1,173.17	48.2
Sacro-Iliac Left Force (N)	X	44.067	19	-548.998	52.25
	Y	126.091	103.25	-2,401.44	48.7
	Z	136.111	92.8	-393.402	48.65
Sacro-Iliac Left Moment (Nm)	X	19.009	204.45	-33.479	49
	Y	23.614	48.05	-4.756	19.1
	Z	27.091	43.8	-16.379	62
Lumbar Force (N)	X	332.041	52.4	-431.357	188.2
	Y	514.766	48.05	-654.173	95.2
	Z	666.453	60.55	-1,112.90	92.55
Lumbar Moment (Nm)	X	16.824	49.55	-75.74	96.45
	Y	15.812	89.75	-20.762	57.65
	Z	22.239	87.65	-1.637	-19.85
Pelvis Acceleration (g)	X	7.006	108.2	-10.286	23.25
	Y	46.158	45.7	-10.063	84.3
	Z	8.549	43.35	-6.426	117.05
	R	46.551	45.55		
Left Femur Force (N)	X	211.997	44.5	-41.398	88.95
	Y	46.834	156.7	-659.585	43.9
	Z	439.616	85.25	-342.638	42.6
Left Femur Moment (Nm)	X	208.92	49.3	-11.479	20.7
	Y	54.967	46.95	-5.475	178.5
	Z	35.492	47.2	-6.777	223.3
Left Femoral Neck Force (N)	X	626.379	46.6	-21.181	224.4
	Y	82.789	19.6	-2,343.49	46.05
	Z	98.885	148.8	-1,252.58	51.1

Table 1 WorldSID Instrumentation Data, (Continued)

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Driver Dummy Serial Number: 016

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Shoulder Rear Ribeye Position (mm)*	X	0	47.95	-63.076	47.9
	Y	0	47.95	-87.224	19.5
	Z	26.116	109	0	47.95
Length of Change (mm)*		9.593	63.5		
Shoulder Middle Ribeye Position (mm)	X	3.722	181.8	-30.693	50.7
	Y	-43.863	54.2	-95.369	19.3
	Z	26.193	107.7	0.961	31.6
Length of Change (mm)		40.75	54.3		
Shoulder Front Ribeye Position (mm)	X	37.228	182.1	18.455	45.9
	Y	-27.509	54.4	-88.722	17.9
	Z	21.27	108.9	-4.565	32.2
Length of Change (mm)		59.587	53.3		
Thorax Rib 1 Rear Ribeye Position (mm)	X	-31.204	26.9	-41.739	43.5
	Y	-77.253	52.9	-102.447	16.3
	Z	9.165	50.3	-5.232	34.7
Length of Change (mm)		22.222	54.3		
Thorax Rib 1 Middle Ribeye Position (mm)	X	8.154	28.7	-5.505	83.9
	Y	-72.116	53.6	-113.532	16.5
	Z	11.482	51.2	-6.6	33.3
Length of Change (mm)		40.415	53.6		
Thorax Rib 1 Front Ribeye Position (mm)	X	48.017	29.9	31.555	83.3
	Y	-52.757	53	-104.63	16.3
	Z	9.803	51.5	-7.831	33.8
Length of Change (mm)		41.475	52.9		
Thorax Rib 2 Rear Ribeye Position (mm)	X	-21.964	60.5	-35.53	121.7
	Y	-82.765	33.4	-103.296	74.7
	Z	-9.981	47.8	-17.056	35.7
Length of Change (mm)		17.687	33.3		
Thorax Rib 2 Middle Ribeye Position (mm)*	X	18.593	67	-1.171	125.9
	Y	0	45.3	-114.004	67
	Z	0	45.3	-15.299	34.4
Length of Change (mm)*		24.423	44.4		

* Ribeye generated an error or questionable data: see Data Acquisition Explanations

Table 1 WorldSID Instrumentation Data, (Continued)

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Driver Dummy Serial Number: 016

Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Thorax Rib 2 Front Ribeye Position (mm)*	X	62.366	67.3	0	43.95
	Y	0	43.95	-108	67.3
	Z	0	43.95	-11.875	33.7
Length of Change (mm)*		19.664	43.3		
Thorax Rib 3 Rear Ribeye Position (mm)	X	-15.819	58.7	-30.97	124
	Y	-83.097	52.3	-97.902	278.5
	Z	15.405	96.1	7.438	65.3
Length of Change (mm)		15.589	52.3		
Thorax Rib 3 Middle Ribeye Position (mm)	X	22.39	56.1	0.933	121.8
	Y	-87.928	53.5	-104.122	131.7
	Z	17.061	93.8	8.975	62.8
Length of Change (mm)		12.856	35.9		
Thorax Rib 3 Front Ribeye Position (mm)	X	55.991	53	31.508	124.1
	Y	-77.561	53.8	-96.196	127.1
	Z	16.401	94.8	9.086	63
Length of Change (mm)		8.534	37.9		
Abdomen Rib 1 Rear Ribeye Position (mm)	X	-20.298	58.9	-32.35	25.3
	Y	-74.617	51.9	-96.162	201.5
	Z	1.461	102.7	-7.301	65
Length of Change (mm)		22.675	52		
Abdomen Rib 1 Middle Ribeye Position (mm)	X	20.638	53.2	0.861	4
	Y	-77.716	52.1	-107.197	125.8
	Z	2.623	102.2	-7.899	62.5
Length of Change (mm)		26.118	51.3		
Abdomen Rib 1 Front Ribeye Position (mm)	X	58.182	52.8	32.351	-5.9
	Y	-68.454	52.2	-96.799	308.1
	Z	0.664	103.4	-9.056	63.7
Length of Change (mm)		11.566	47.7		
Abdomen Rib 2 Rear Ribeye Position (mm)	X	-23.988	63.3	-37.435	26.1
	Y	-66.801	52.1	-93.459	135.3
	Z	-9.937	135.3	-17.841	88
Length of Change (mm)		27.056	52.1		

* Ribeye generated an error or questionable data: see Data Acquisition Explanations

Table 1 WorldSID Instrumentation Data, (Continued)

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Driver Dummy Serial Number: 016

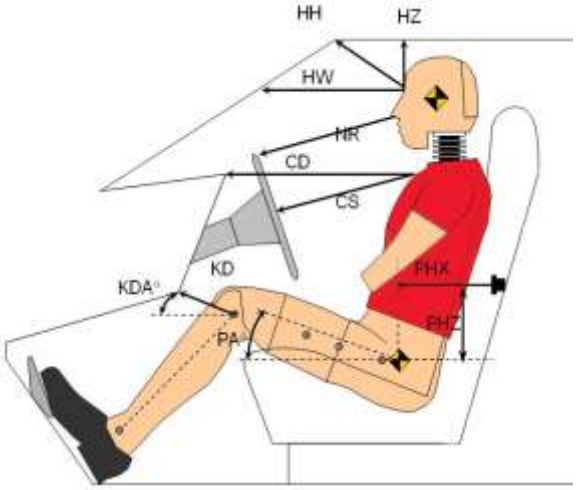
Location		Positive Direction		Negative Direction	
		Max.	Time (ms)	Max.	Time (ms)
Abdomen Rib 2 Middle Ribeye Position (mm)	X	15.855	57.1	-2.508	4
	Y	-69.605	50.5	-104.055	171.9
	Z	-11.047	182.1	-19.768	88
Length of Change (mm)		32.462	50.5		
Abdomen Rib 2 Front Ribeye Position (mm)	X	53.311	54.2	28.656	1.6
	Y	-61.373	51.4	-95.26	-13.2
	Z	-10.155	128.7	-18.755	87.9
Length of Change (mm)		18.482	51.4		

Positive Direction
Longitudinal: Forward
Lateral: Rightward
Vertical: Downward

Negative Direction
Longitudinal: Rearward
Lateral: Leftward
Vertical: Upward

DATA SHEET NO. 3
DUMMY LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



Left Side View

Code	Measurement Description	Driver WorldSID # 016	
		Length (mm)	Angle
HH	Header to Header	352	
HW	Header to Windshield	670	
HZ	Head to Roof Liner	173	
NR	Nose to Rim/Seat Back	453	
CD	Chest to Dash/Seat Back	671	
CS	Chest to Steering Wheel	351	
KD(L)/KDA(L)°	Left Knee to Dash/Seat Back	64	13.2
KD(R)/KDA(R)°	Right Knee to Dash/Seat Back	71	14.2
PAX°	Pelvic Tilt Angle X		1.1
PAY°	Pelvic Tilt Angle Y		0.5
PHX	Hip Point to Striker (X-Axis)	236	
PHZ	Hip Point to Striker (Z-Axis)	70	
HAX°	Head Tilt Angle X		0.2
HAY[1]°	Head Tilt Angle Y		-0.4
TAX°	Thorax Tilt Angle X		0.8
TAY°	Thorax Tilt Angle Y		-2.2
	Head Rest Angle		0.4
	H-Point Tool Angle		47.02
	Torso Angle		14.34
	Windshield Angle		26.37

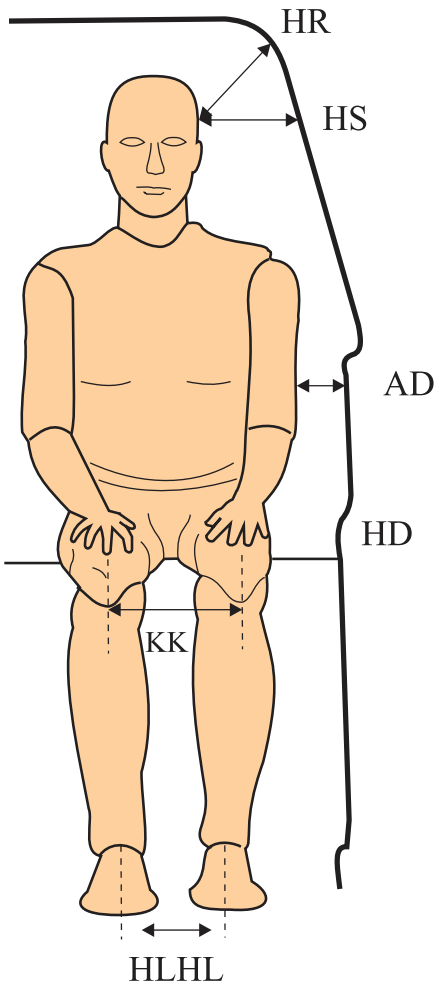
Note: All measurements are in millimeters. 2-door vehicle shown. Rear dummy HX, HZ, PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

All tilt sensor angles are recorded digitally

[1] W2 point not measured

DATA SHEET NO. 4
DUMMY LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

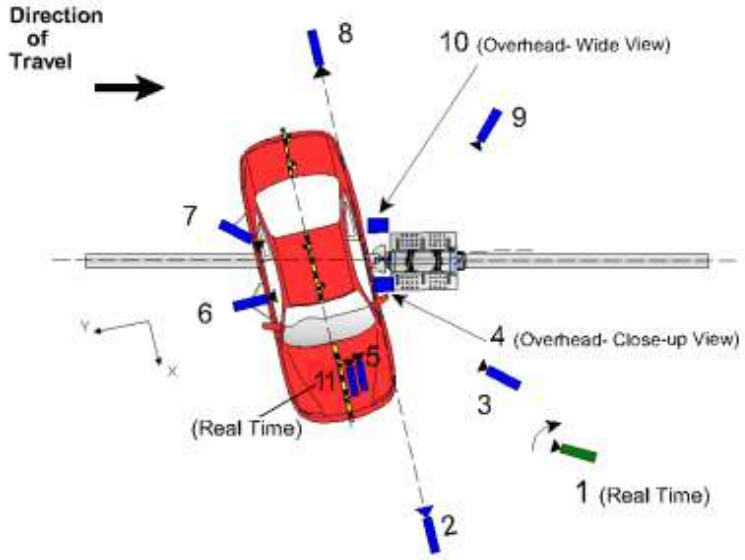


Code	Measurement Description	Driver WorldSID # 016
HR	Head to Side Header	200
HS	Head to Side Window	325
AD	Arm to Door	77
HD	Hip Point to Door	108
KK	Knee to Knee	329
HLHL	Heel to Heel	360

Note: All measurements are in millimeters.

DATA SHEET NO. 5
CAMERA AND INSTRUMENTATION DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



REFERENCE: (from point of impact for X and Y; from ground for Z)
+ X = Forward of vehicle, + Y = Right of vehicle, + Z = Down

Camera No.	View	Coordinates (mm)			Lens Length (mm)	Operating Frame Rate (fps)
		X	Y	Z		
1	Real time (24-30 fps) pan view of impact				Zoom	30
2	Front ground level – impact view	4841	0	-1287	20	1000
3	Impact side 45° – forward pole view	3364	-844	-1230	20	1000
4	Overhead Close-up view of impact	0	0	-5696	50	1000
5	Onboard – dummy front view				25	1000
6	Onboard – dummy side view				12.5	1000
7	Onboard – dummy rear oblique view				8.5	1000
8	Rear ground level – impact view	-5178	0	-1257	20	1000
9	Impact side 45° – rearward pole view	2887	-2360	-1333	20	1000
10	Overhead wide view of impact	-150	385	-5707	18	1000
11	Real time dummy front view				Zoom	30

All measurements accurate to +/- 6 mm.

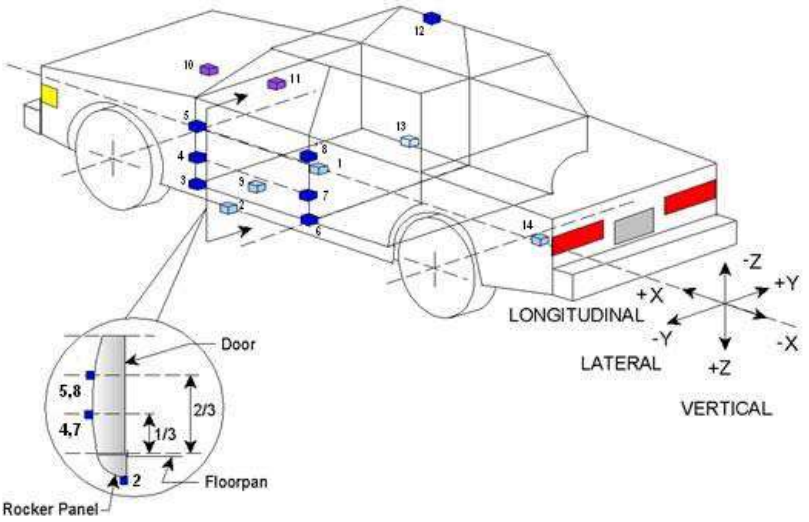
NOTE: Vehicle was at a 75° angle to the rigid pole.
If applicable, explain why camera(s) did not run: Not Applicable

INSTRUMENTATION

	Number of Channels
Driver Dummy	127
Chest Band	56
Vehicle Structure	30
Pole Load Cells	8
TOTAL	221

DATA SHEET NO. 6
VEHICLE ACCELEROMETER DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
1	Vehicle CG	2078	55	-455				
	Longitudinal (g)				3.189	91.6	-10.991	40.15
	Lateral (g)				24.632	43.15	-0.88	2.9
	Vertical (g)				13.206	39.9	-7.615	26.65
	Resultant (g)				26.993	42.85		
2	Left Floor Sill	2290	-668	-300				
	Lateral (g)				68.832	26.95	-2,112.27	35.6
3	Left A-Pillar Sill	2762	-665	-350				
	Lateral (g)				69.876	25.8	-1.62	32.7
4	Left Lower A-Pillar	2810	-780	-483				
	Lateral (g)				35.833	45.15	-16.473	25.5
5	Left Mid A-Pillar	2801	-780	-844				
	Lateral (g)				26.194	52	-2.026	3.25
6	Left B-Pillar Sill	1698	-702	-293				
	Lateral (g)				68.224	23.4	-2,116.21	31.95
7	Left Lower B-Pillar	1740	-778	-574				
	Lateral (g)				95.41	27.95	-2.394	1.15
8	Left Mid B-Pillar	1730	--778	-910				
	Lateral (g)				38.319	25.75	-2.889	20.25
9	Driver Seat Track at Dummy H-Point	2035	-485	-337				
	Lateral (g)				102.678	31.8	-79.142	50.9
10	Engine Top	3413	-50	-764				
	Longitudinal (g)				3.983	101.35	-13.456	31.85
	Lateral (g)				16.94	37.85	-4.543	23.8

DATA SHEET NO. 6 (Continued)
VEHICLE ACCELEROMETER DATA

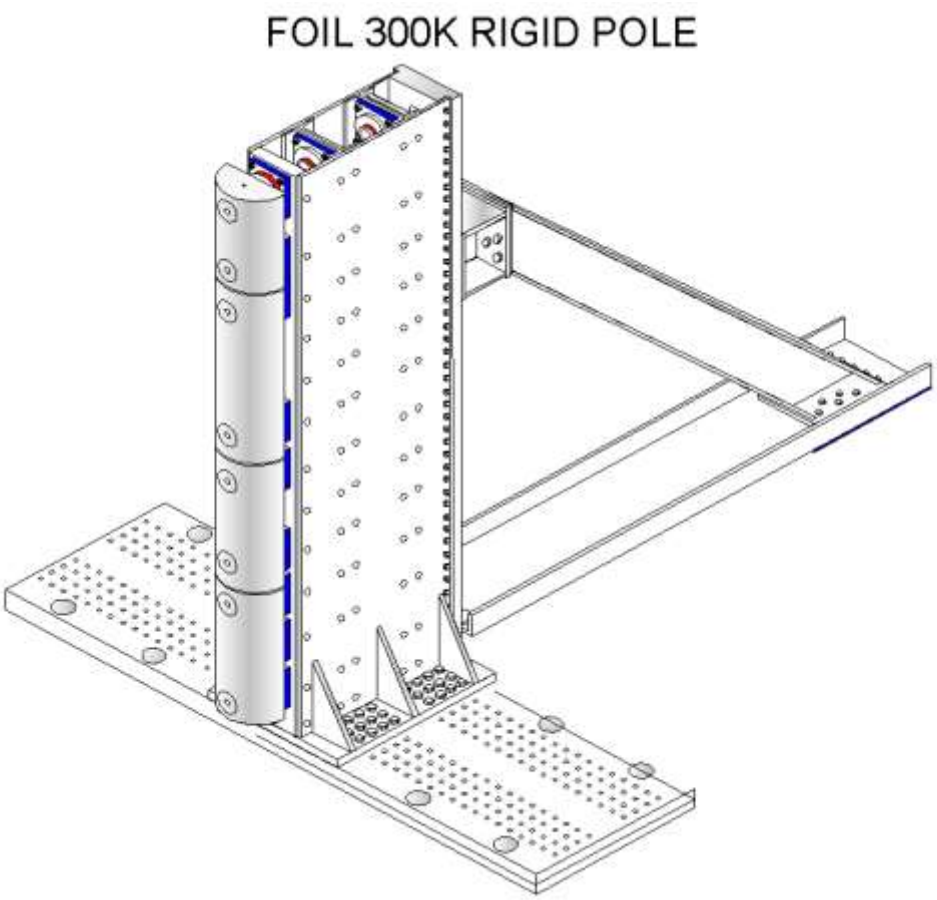
Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

Location		Coordinates (mm)			Positive Direction		Negative Direction	
		X	Y	Z	Max	Time (ms)	Max	Time (ms)
11	Firewall Center	3292	0	-832				
	Lateral (g)				14.36	48.65	-1.797	37.5
12	Right Roof at Vertical Impact Reference Line	1645	523	-1477				
	Lateral (g)				30.986	33.8	-7.297	10.8
13	Right Sill at Vertical Impact Reference Line	2263	685	-310				
	Lateral (g)				21.982	25.05	-0.954	208.65
14	Rear Floorpan Behind Rear Axle at Centerline	912	0	-435				
	Longitudinal (g)				4.35	96.75	-9.372	56.35
	Lateral (g)				65.874	23.25	-47.581	14.35
15	Left Front Door Mid Centerline	2278	-735	-905				
	Lateral (g)				148.923	9.15	-63.877	23.05
16	Left Front Door Mid Rear	2295	-735	-700				
	Lateral (g)				94.441	11.8	-78.146	25.8
17	Left Front Door Upper Centerline	1895	-735	-668				
	Lateral (g)				45.669	46.25	-6.329	26.9
18	Left Rear Door Mid Rear	1035	-690	-797				
	Lateral (g)				48.431	25.5	-14.231	33.95
19	Left Rear Door Upper Centerline	1280	-690	-977				
	Lateral (g)				20.652	51.75	-0.957	164.25

*0,0,0 located at rear bumper

DATA SHEET NO. 7
RIGID POLE LOAD CELL DATA

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



Load Cell Locations	
ID	**Height From Top of Carrier (mm)**
1	87
2	468
3	648
4	978
5	1168
6	1651
7	1816
8	2057

DATA SHEET NO. 8
POST TEST OBSERVATIONS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

TEST DUMMY INFORMATION AND CONTACT POINTS

Dummy Body Part	Driver SID-IIs Dummy
Face	SCAB
Top of Head	SCAB,
Left Side of Head	SCAB
Back of Head	SCAB, Head Rest
Left Shoulder	Torso Bag, Door Panel
Upper Torso	Torso Bag
Lower Torso	Torso Bag
Left Hip	Door Panel
Left Knee	Door Panel

POST TEST DOOR PERFORMANCE

Description	Struck Side		Non-Struck Side		Rear Hatch/ Other Door
	Front	Rear	Front	Rear	
Remained Closed and Operational	No	No	Yes	Yes	Yes
Total Separation from Vehicle at Hinges or Latches	No	No	No	No	No
Latch or Hinge Systems Pulled Out of Their Anchorages	No	No	No	No	No
Disengaged from Latched Position	No	No	No	No	No
Latch Separated from Striker	No	No	No	No	No
Jammed Shut	Yes	Yes	No	No	No
If Door Opened at Striker, Record Width of Opening at Striker (mm)					

* Indicate “Yes”, “No”, or “NA”.

POST-TEST SEAT PERFORMANCE

Description	Struck Side		Non-Struck Side	
	Front	Rear	Front	Rear
Seat Movement Along Seat Track	None	None	None	None
Seat Disengagement from Floor pan	None	None	None	None
Seat Back Movement from Initial Position	None	None	None	None
Seat Back Collapse	None	None	None	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Major Deformation
Sill Separation	None Visible
Windshield Damage	Cracked and Broken
Side Window Damage	Shattered
Other Notable Effects	

DATA SHEET NO. 8 (CONTINUED)
POST TEST OBSERVATIONS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

SUPPLEMENTAL RESTRAINT SYSTEM INFORMATION

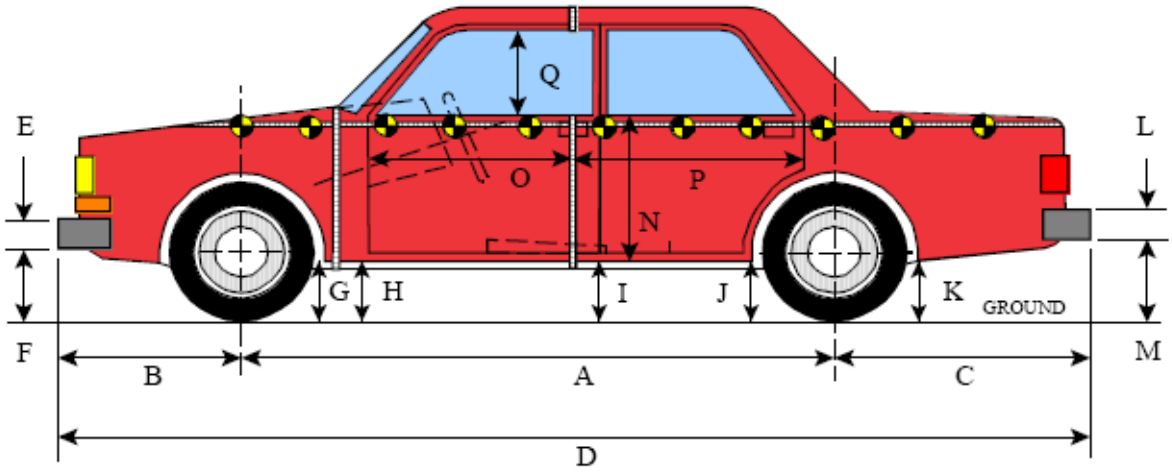
Restraint Type	Struck Side (Driver)		Struck Side (Rear Passenger)	
	Mounted	Deployed	Mounted	Deployed
Front Airbag	Yes	No		
Knee Airbag				
Side Curtain Airbag	Yes	Yes	Yes	No
Side Torso/Pelvis Airbag	Yes	Yes		
Side Torso Airbag				
Seat Belt Pretensioner	Yes	Yes		
Seat Belt Load Limiter	Yes	Yes		
Other				

VEHICLE SPEED, VEHICLE ANGLE AT IMPACT AND IMPACT POINT LOCATION DATA

Measured Parameter	Units	Tolerance	Value
Vertical Impact Reference Line (Aft of Front Axle) (Intended Impact Point)	mm		1205
Actual Impact Point (Aft of Front Axle)	mm		1207
Horizontal Offset (+ forward / - rearward)	mm	+/- 38 of Intended Impact point	-2
Angle Between Vehicle's Longitudinal Centerline and Line of Motion	degrees	75 +/- 3	75
Trap No. 1 Velocity (Primary)	km/h	31.4 to 33.0	31.89
Trap No. 2 Velocity (Redundant)	km/h	31.4 to 33.0	31.86

DATA SHEET NO. 9
VEHICLE PROFILE MEASUREMENTS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



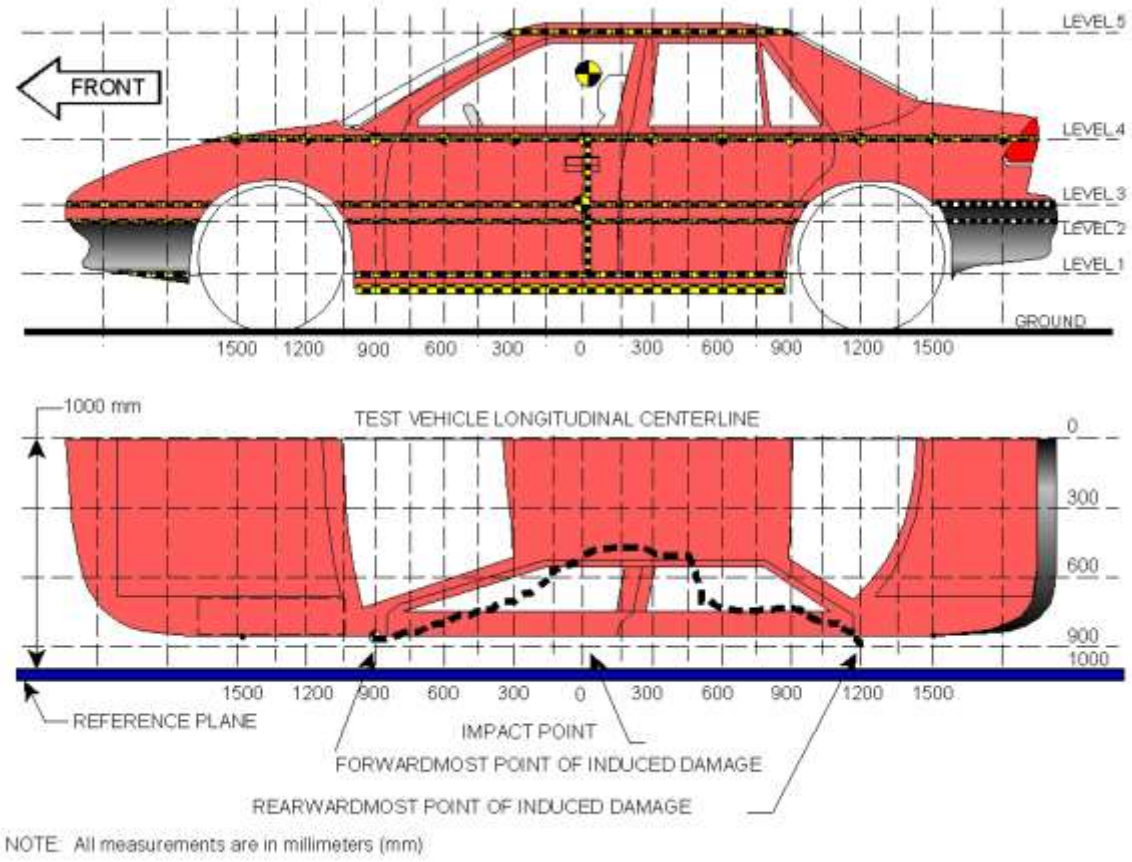
LEFT SIDE VIEW
All MEASUREMENTS IN (mm) WITH TOLERANCE OF ± 3mm

VEHICLE PRE- AND POST-TEST MEASUREMENT INFORMATION

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2530	2512	18
B	Front Axle to Front Surface of Vehicle	815	815	0
C	Rear Axle to Rear Surface of Vehicle	725	715	10
D	Total Length at Centerline	4070	4042	28
E	Front Bumper Thickness	125	125	0
F	Front Bumper Bottom to Ground	417	419	-2
G	Sill Height at Front Wheel Well	310	330	-20
H	Sill Height at Front Door Leading Edge	310	344	-34
I	Sill Height at B-Pillar	350	376	-26
J1	Sill Height at Rear Wheel Well	322	357	-35
J2	Pinch Weld Height at Rear Wheel Well	161	193	-32
K	Sill Height Aft of Rear Wheel Well	320	351	-31
L	Rear Bumper Thickness	162	162	0
M	Rear Bumper Bottom to Ground	330	351	-21
N	Sill Height to Bottom of Front Window Sill	717	716	1
O	Front Door Leading Edge to Impact CL	789	731	58
P	Rear Door Trailing Edge to Impact CL	1282	1232	50
Q	Front Window Opening	412	390	22
R	Right Side Length	4002	3982	20
S	Left Side Length	4002	3936	66
T	Vehicle Width at "B" Pillars	1695	1595	100
U	Maximum Width	1695	1714	-19

DATA SHEET NO. 10
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



NOTE: All measurements are in millimeters (mm)

MAXIMUM EXTERIOR CRUSH MEASUREMENTS

Level	Measurement Description	Height Above Ground	Maximum Exterior Static Crush	Distance from Impact
1	Sill Top	364	242	0
2	Occupant H-Point	608	268	0
3	Mid-Door	646	274	0
4	Window Sill	940	271	0
5	Window Top	1478	96	0

NOTE: The above measurements should be taken along the vertical impact reference line. Vehicle measurements forward of the vertical impact reference line are negative.

DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16

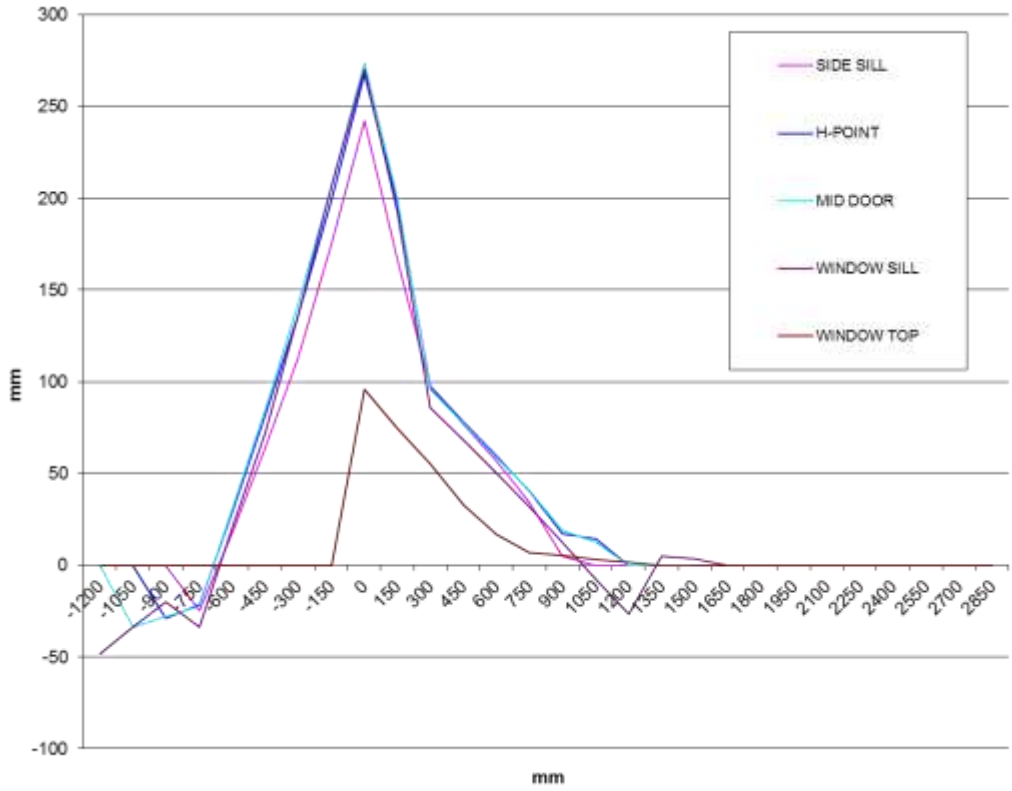
	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-1200				755					803					-48	
-1050			844	775				877	809				-33	-34	
-900		844	843	781			873	871	801		0	-29	-28	-20	
-750	830	840	838	782		855	861	860	816		-25	-21	-22	-34	
-600	830	836	835	841		812	807	805	821		18	29	30	20	
-450	834	836	836	793		771	754	751	721		63	82	85	72	
-300	838	837	838	799		726	701	695	663		112	136	143	136	
-150	840	838	840	804		665	639	633	597		175	199	207	207	
0	840	840	842	808	541	598	572	568	537	445	242	268	274	271	96
150	840	841	843	811	570	673	643	643	619	495	167	198	200	192	75
300	838	841	844	813	581	741	743	748	727	526	97	98	96	86	55
450	834	840	843	813	579	758	762	766	745	546	76	78	77	68	33
600	831	839	842	812	572	774	779	783	762	556	57	60	59	50	16
750	831	838	841	799	556	797	798	800	768	549	34	40	41	31	7
900	833	842	842	791	530	828	825	823	779	525	5	17	19	12	5
1050		846	846	787	497		832	833	794	494		14	13	-7	3
1200				790	454				817	453				-27	
1350				791					786					5	
1500				786					782					4	
1650															

NOTE: Pre-test measurements are taken when the vehicle is in the "As Tested" weight condition. Vehicle measurements forward of the vertical impact reference line are negative. The crush profile grid is established prior to the test based on an estimated impact point. The final distance from impact is determined after the final dummy positioning and the pole is aligned with the center of gravity of the dummy's head.

[1] The vertical impact reference line was set at (0, 0, 0) with the seat set mid track minus 20 mm per the COR.

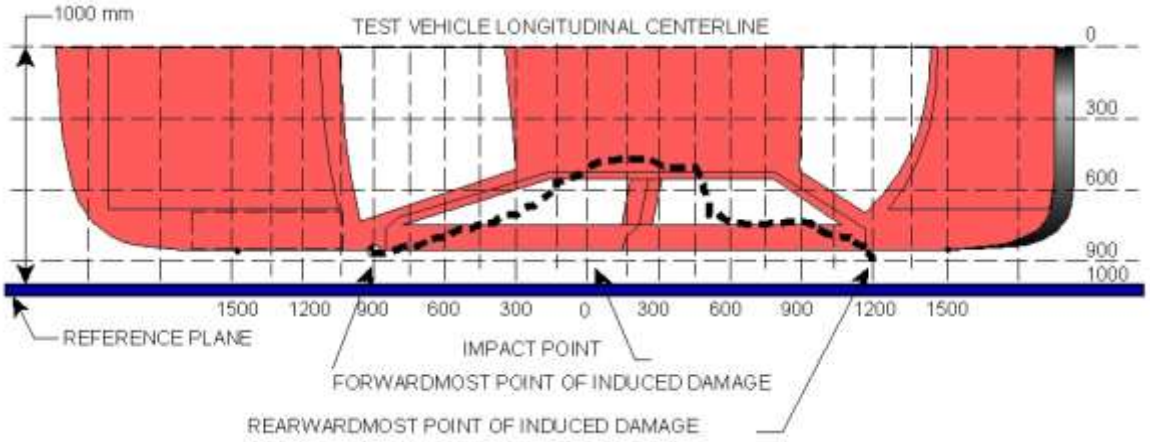
DATA SHEET NO. 10 (CONTINUED)
VEHICLE EXTERIOR CRUSH MEASUREMENTS

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2016 Honda Fit
Test Program: SPNCAP Side Impact Test Date: 5/10/16



VEHICLE DAMAGE PROFILE DISTANCES[1]

DPD	Distance From Impact Point (mm)	Level	Post-Test (mm)	Pre-Test (mm)	Crush (mm)
1	1500	4	786	782	0
2	1050	3	846	832	14
3	600	4	839	779	60
4	300	3	841	743	98
5	-150	3	804	597	207
6	-600	4	835	805	0

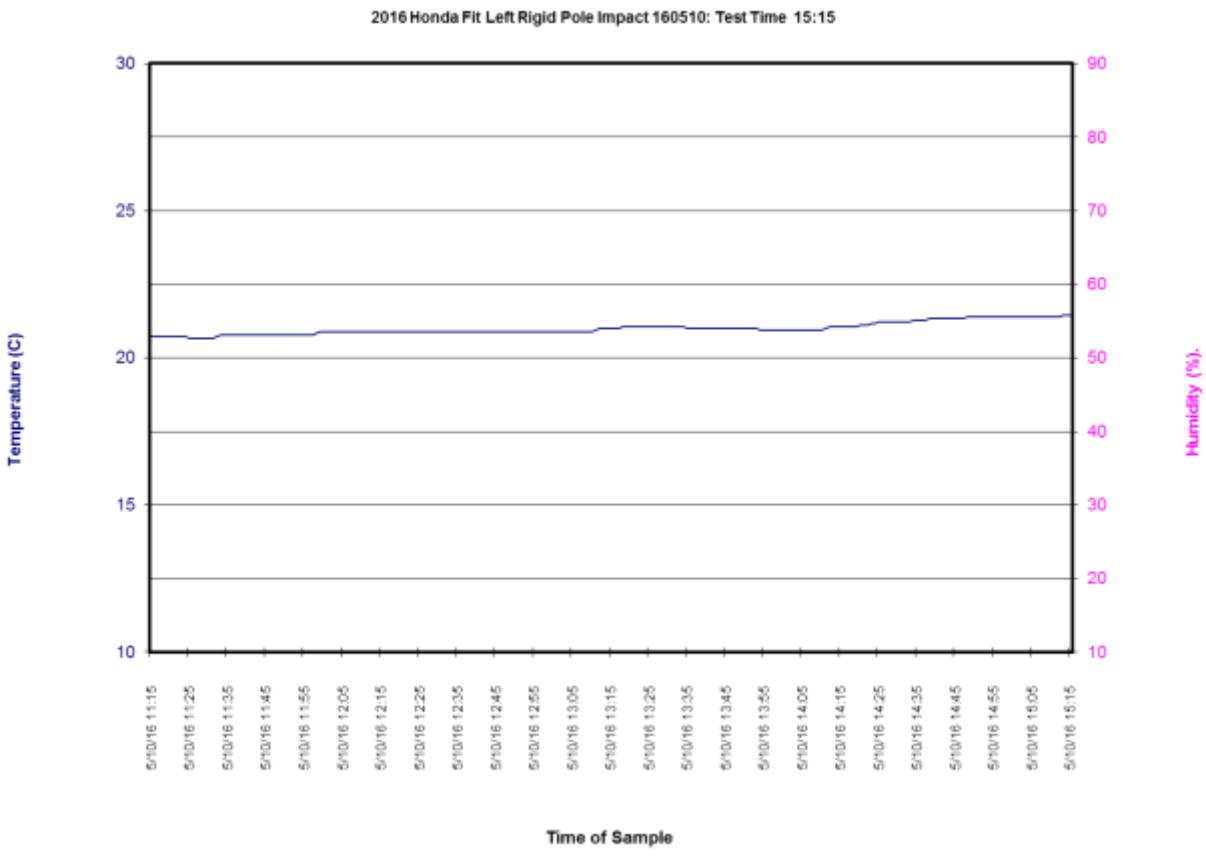
[1] DPD 1 and 6 defined as zero crush since the crush does not extend to the end of the vehicle.

DATA SHEET NO. 12

DUMMY/VEHICLE TEMPERATURE AND HUMIDITY STABILIZATION DATA[1]

Test Vehicle: 2016 Honda Fit

Test Program: SPNCAP Side Impact Test Date: 5/10/16



[1] Humidity was not recorded

APPENDIX A

PHOTOGRAPHS

Figure A-1 As Delivered Right Front ¾ View of Test Vehicle

Figure A-2 As Delivered Left Rear ¾View of Test Vehicle

Figure A-3 Pre-Test Frontal View of Test Vehicle

Figure A-4 Post-Test Frontal View of Test Vehicle

Figure A-5 Pre-Test Left Front ¾ View of Vehicle

Figure A-6 Post-Test Left Front ¾ View of Test Vehicle

Figure A-7 Pre-Test Left Side View of Test Vehicle

Figure A-8 Post-Test Left Side View of Test Vehicle

Figure A-9 Pre-Test Left Rear ¾ View of Test Vehicle

Figure A-10 Post-Test Left Rear ¾ View of Test Vehicle

Figure A-11 Pre-Test Rear View of Test Vehicle

Figure A-12 Post-Test Rear View of Test Vehicle

Figure A-13 Pre-Test Right Side View of Test Vehicle

Figure A-14 Post-Test Right Side View of Test Vehicle

Figure A-15 Pre-Test Overhead View of Test Area

Figure A-16 Post-Test Overhead View of Test Area

Figure A-17 Pre-Test Left Side View of Pole Positioned Against Side of Vehicle

Figure A-18 Pre-Test Right Side View of Pole Positioned Against Side of Vehicle

Figure A-19 Pre-Test Close-Up View of Impact Point Target

Figure A-20 Post-Test Close-Up View of Impact Point Target Showing Impact Location

Figure A-21 Pre-Test Front Close-Up View of Dummy Head and Chest

Figure A-22 Post-Test Front Close-Up View of Dummy

Figure A-23 Pre-Test Left Side View of Dummy Showing Belt and Chalking

Intentionally Left Blank

Figure A-24 Pre-Test Left Side View of Dummy Shoulder and Door Top View

Figure A-25 Post-Test Left Side View of Dummy Shoulder and Door Top View

Figure A-26 Pre-Test Front View of Seat Back Prior to Dummy Positioning

Figure A-27 Pre-Test Front Close-Up View of Dummy Head and Shoulders in Relation to Head Restraint

Figure A-28 Pre-Test Front View of Seat Pan Prior to Dummy Positioning

Figure A-29 Pre-Test Overhead View of Dummy Thighs on Seat Pan

Figure A-30 Pre-Test Left Side View of Dummy's Neck Showing Position of Adjustable Neck Bracket

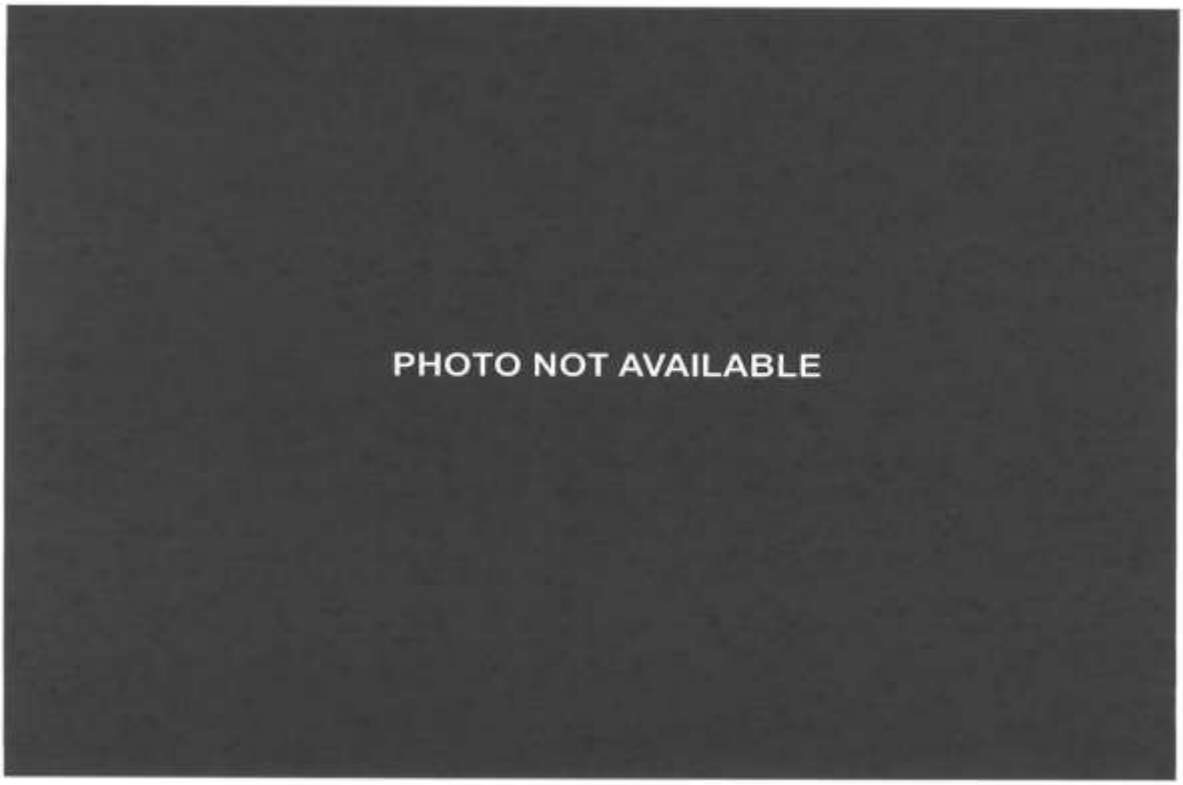


Figure A-31 Pre-Test Left Side View of Dummy's Head Showing Dummy's Head is Level

Figure A-32 Pre-Test Placement of Dummy's Feet

Figure A-33 Pre-Test View of Belt Anchorage for Dummy

Figure A-34 Pre-Test Left Side View of Steering Wheel

Figure A-35 Pre-Test View of Disengaged Parking Brake

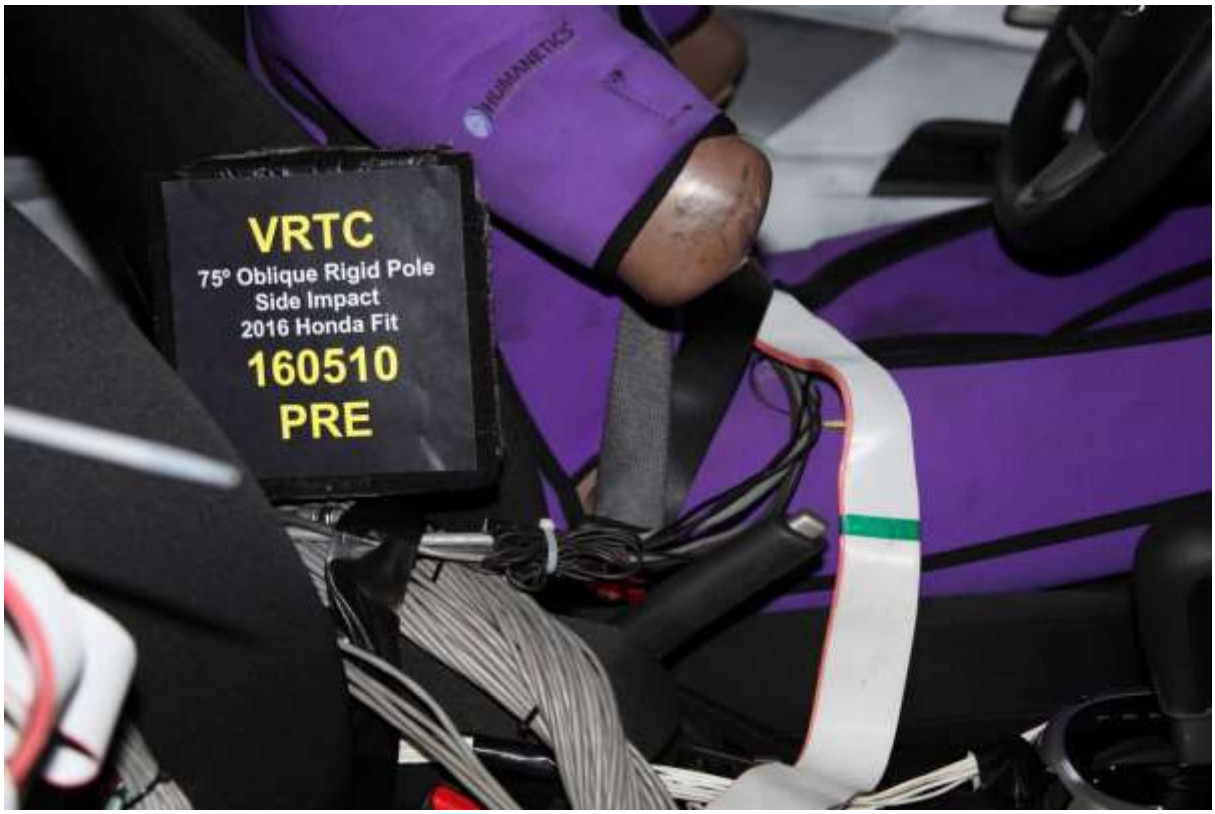


Figure A-36 Pre-Test View of Parking Brake

Figure A-37 Pre-Test Close-Up Left Side View of Driver Seat Track

Figure A-38 Pre-Test Close-Up Left Side View of Driver Seat Back

Figure A-39 Pre-Test Close-Up View of Driver Seat Back or Head Restraint

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

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

Figure A-42 Pre-Test Right Side View of Dummy and Front Seat of Occupant Compartment

Figure A-43 Post-Test Right Side View of Dummy and Front Seat of Occupant Compartment

Figure A-44 Pre-Test Inner Door Panel View

Figure A-45 Post-Test Inner Door Panel View Showing Dummy Contact Locations

Figure A-46 Post-Test Dummy Close-Up Head Contact with Vehicle View

Figure A-47 Post-Test Dummy Close-Up Head Contact with Side Airbag View

Figure A-48 Post-Test Dummy Close-Up Torso Contact with Vehicle Interior View

Figure A-49 Post-Test Dummy Close-Up Torso Contact with Side Airbag View

Figure A-50 Post-Test Dummy Close-Up Pelvis Contact with Vehicle Interior View

Figure A-51 Post-Test Dummy Close-Up Pelvis Contact with Side Airbag View

Figure A-52 Post-Test Dummy Close-Up Knee Contact with Vehicle Interior View

Figure A-53 Pre-Test Tilt Sensor View

Figure A-54 Pre-Test View of Fuel Filler Cap or Fuel Filler Neck

Figure A-55 Post-Test View of Fuel Filler Cap or Fuel Filler Neck

Figure A-56 Close-Up View of Vehicle's Certification Label

Figure A-57 Close-Up View of Vehicle's Tire Information Placard or Label

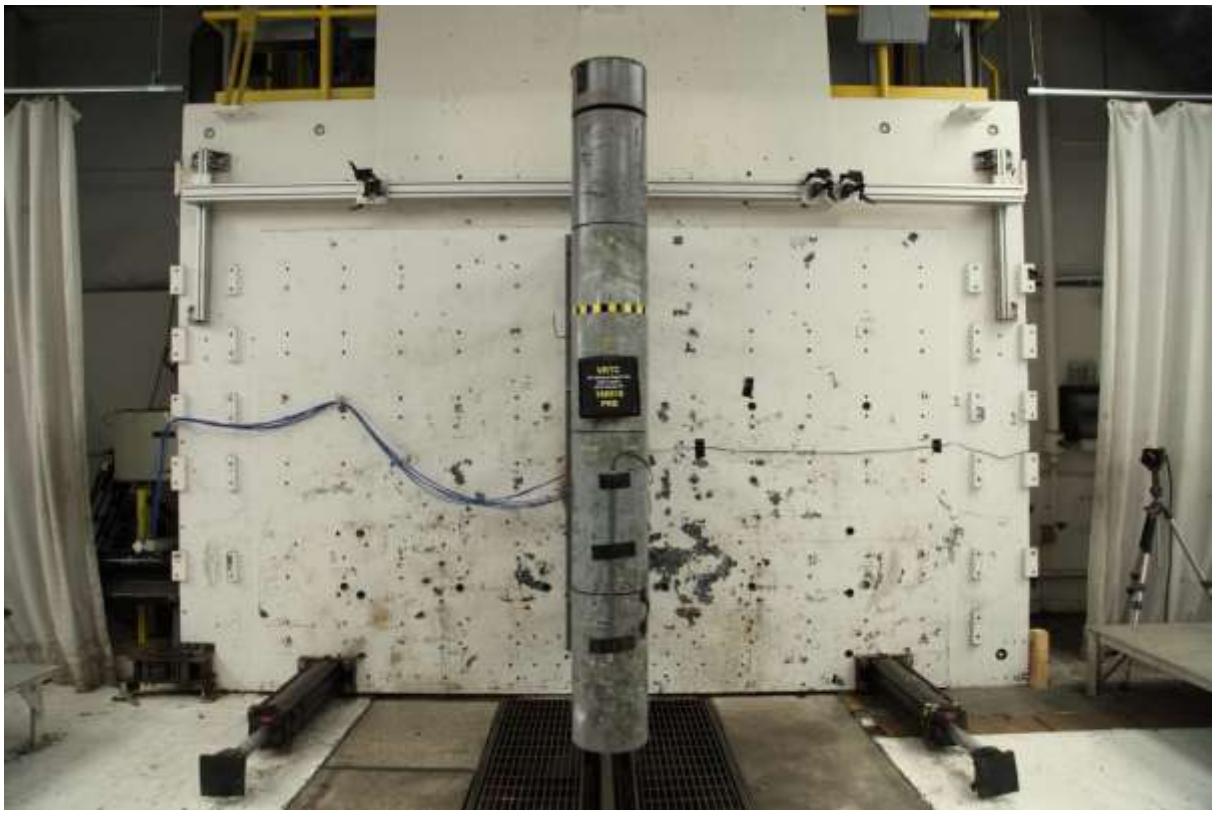


Figure A-58 Pre-Test Pole Barrier Front View

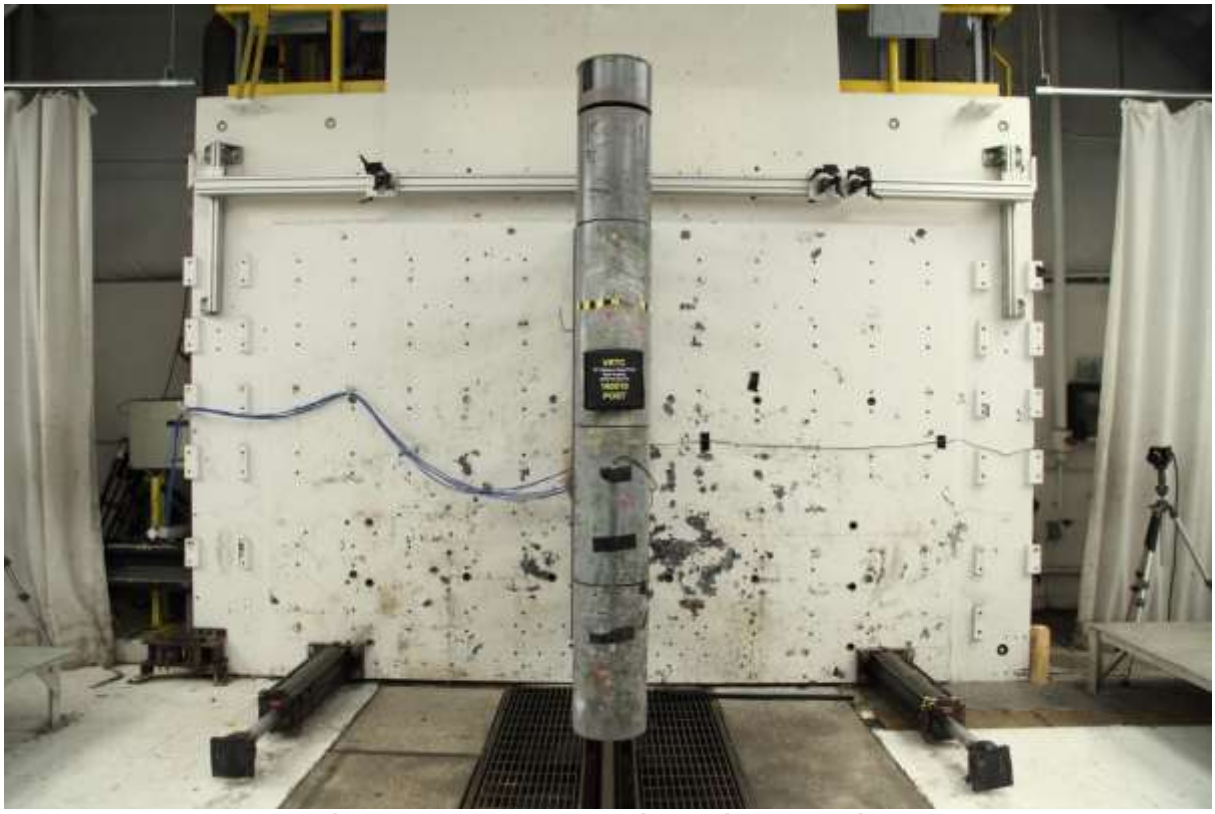


Figure A-59 Post-Test Pole Barrier Front View

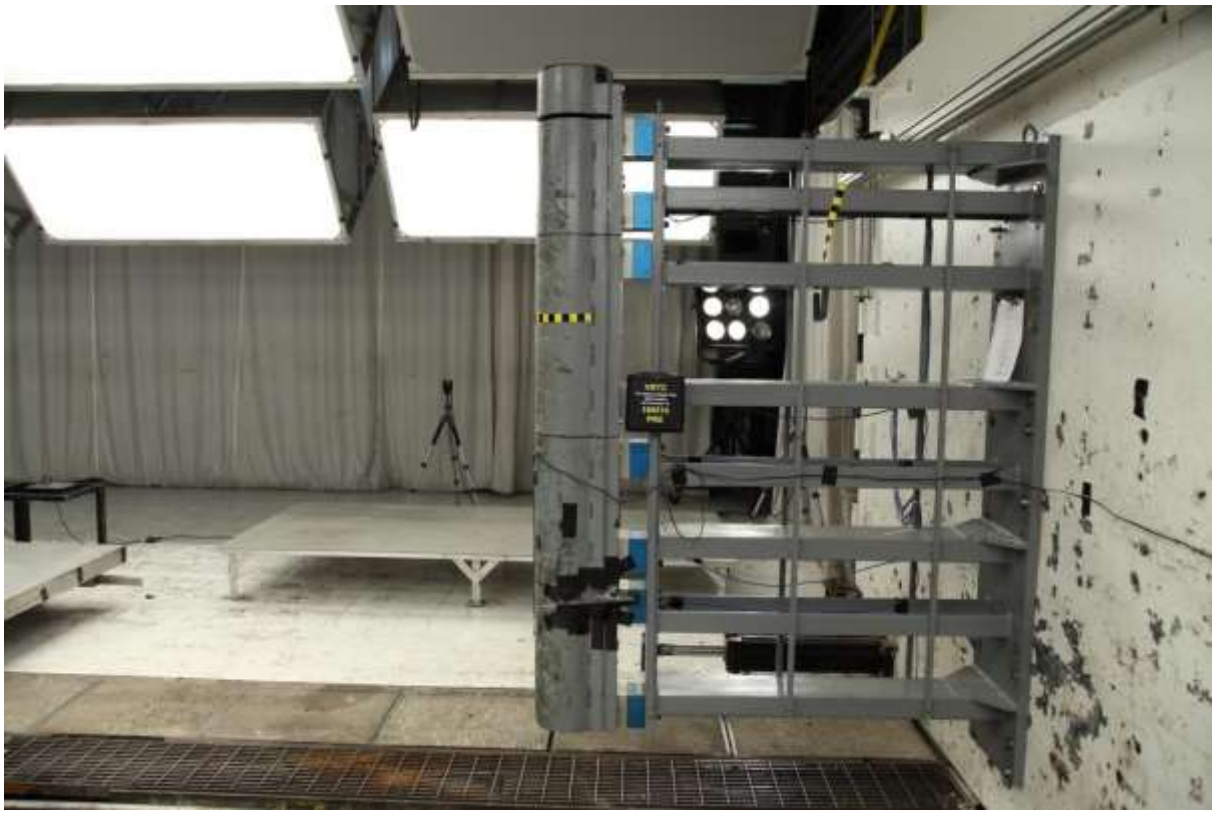


Figure A-60 Pre-Test Pole Barrier Side View

Figure A-61 Post-Test Pole Barrier Side View

Figure A-62 Pre-Test Ballast View

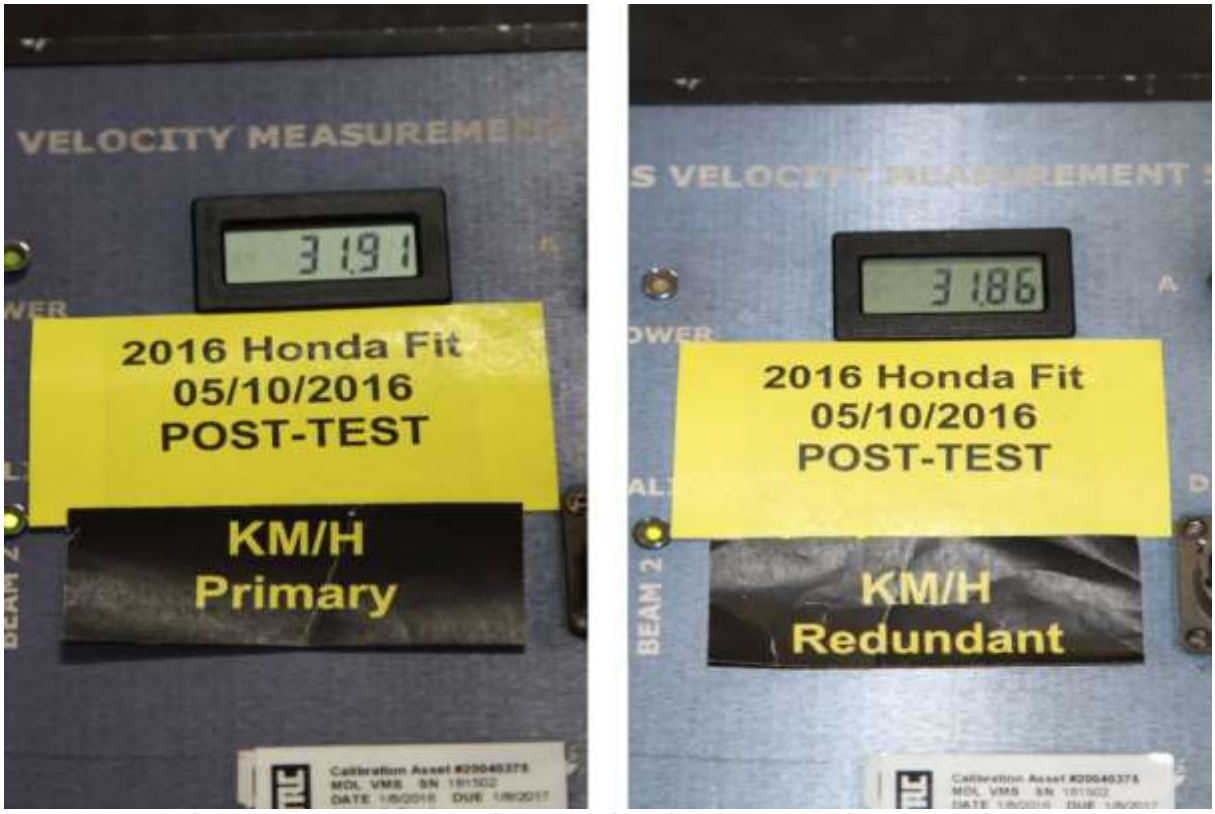


Figure A-63 Post-Test Primary and Redundant Speed Trap Read-out

Figure A-64 Impact Event

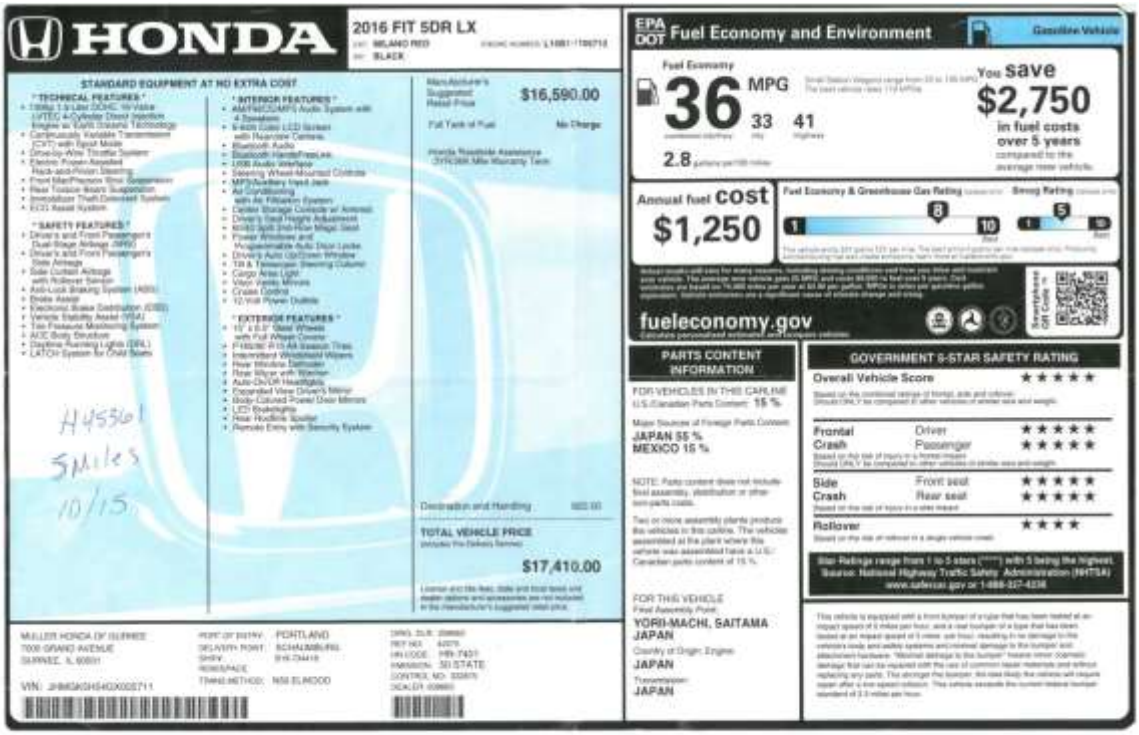


Figure A-65 Monroney Label

VEHICLE CONTROLS

Adjusting the Head Restraints

Your vehicle is equipped with head restraints in all seating positions. Head restraints are most effective for protection against whiplash and other rear-impact crash injuries.

The center of the back of the occupant's head should rest against the center of the restraint. The tops of the occupant's ears should be level with the center height of the restraint.

To raise the head restraint: Pull it upward.

To lower the head restraint: Push it down while pressing the release button.

To remove the head restraint: Pull the restraint up as far as it will go. Then push the release button, and pull the restraint up and out.

To reinstall a head restraint: Insert the legs back in place, then adjust the head restraint to an appropriate height while pressing the release button. Pull up on the restraint to make sure it is locked in position.

In order for the head restraint system to work properly:

- Do not hang any items on the head restraints, or from the restraint legs.
- Do not place any object between an occupant and the seat-back.
- Install each restraint in its proper location.

⚠ WARNING

Improperly positioning head restraints reduces their effectiveness and increases the likelihood of serious injury in a crash.

Make sure head restraints are in place and positioned properly before driving.

⚠ WARNING

Failure to reinstall, or correctly reinstall, the head restraints can result in severe injury during a crash.

Always replace the head restraints before driving.

Figure A-66 Head Restraint Use and Adjustment Information from Vehicle Owner's Manual

APPENDIX B
VEHICLE AND DUMMY RESPONSE DATA PLOTS

2016 Honda Fit WorldSID Pole Impact

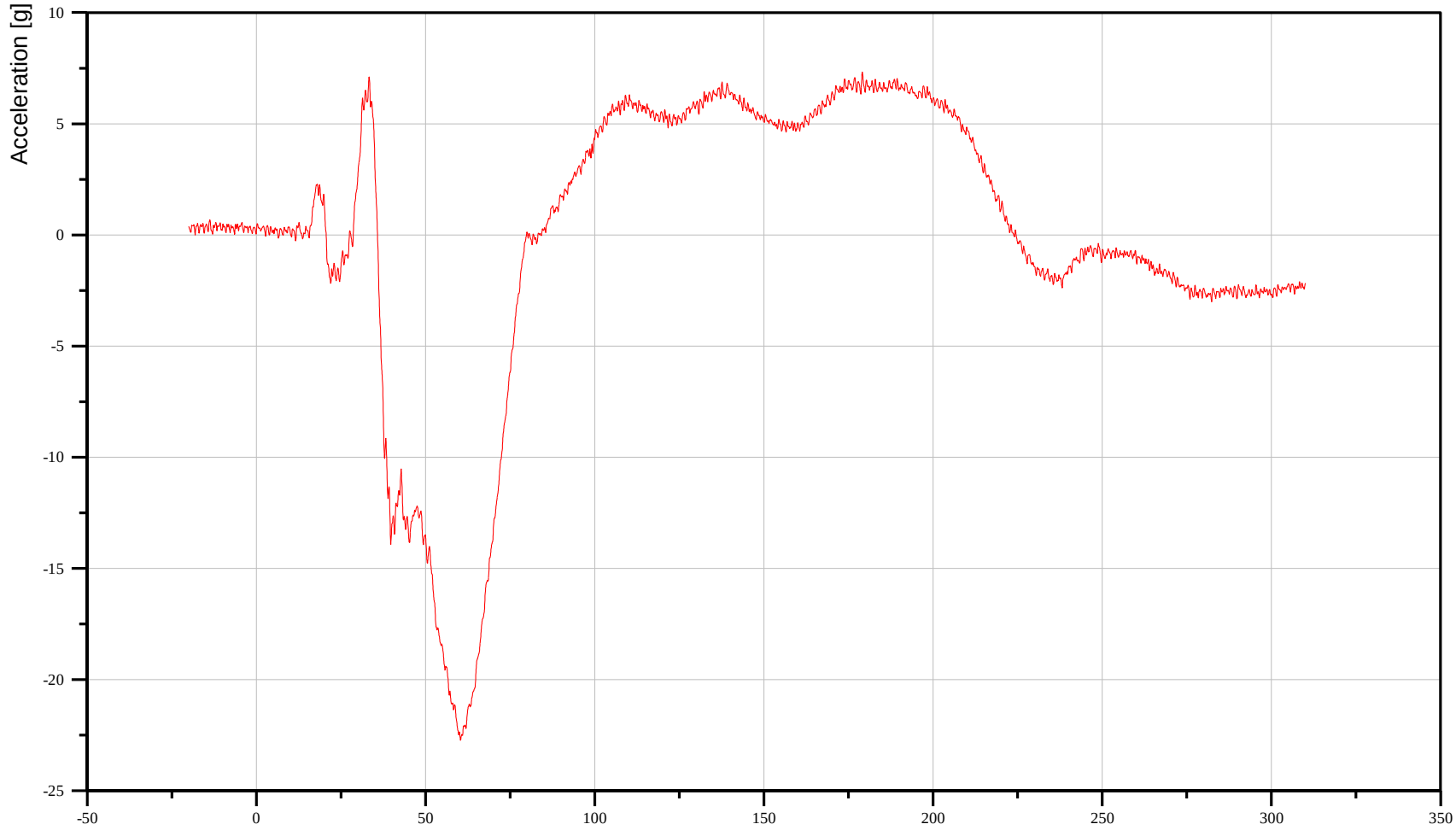
Head X-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSACXA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-22.72 g at 60.35 ms

Max. Value
7.33 g at 179.10 ms

2016 Honda Fit WorldSID Pole Impact

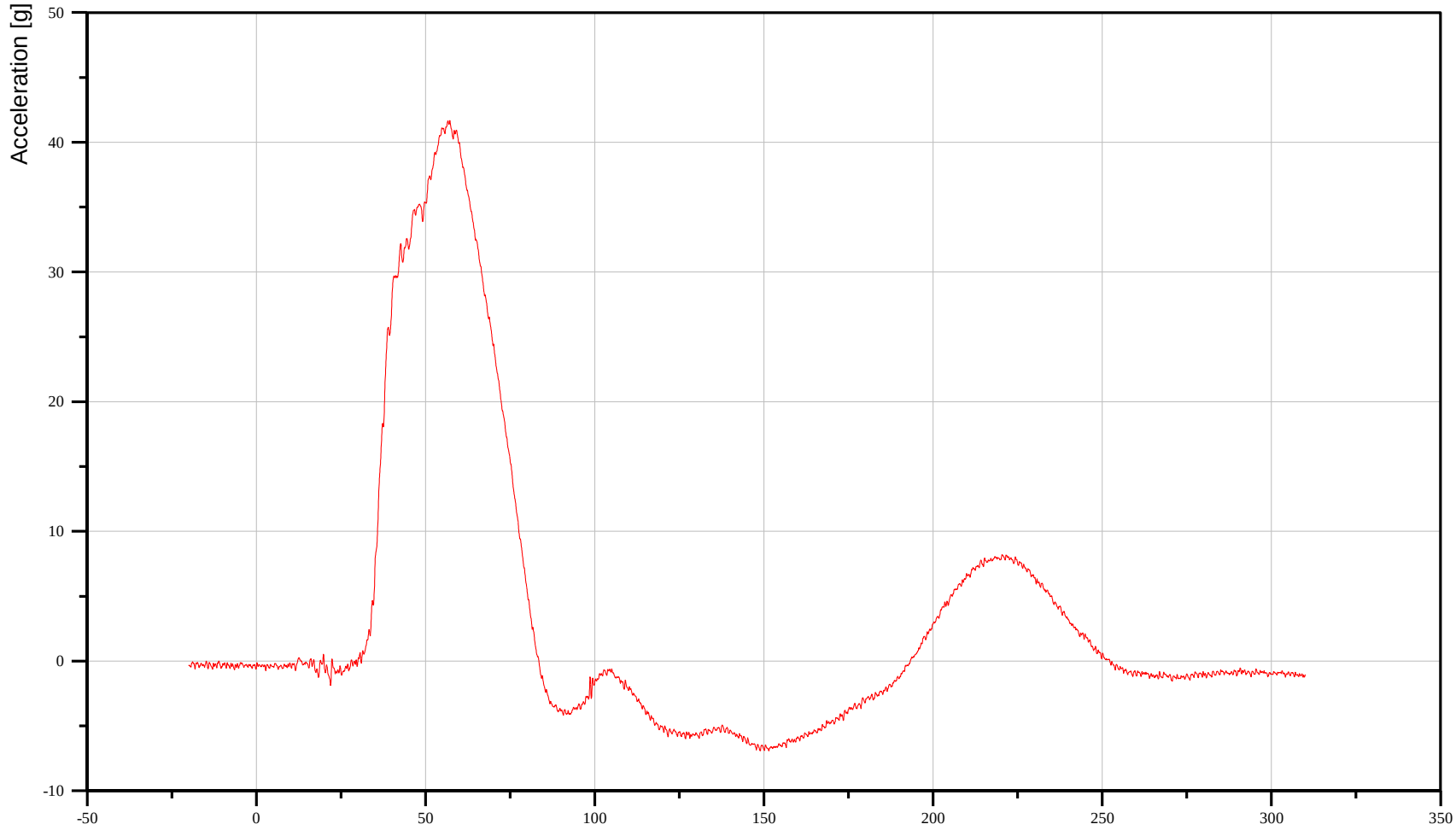
Head Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSACYA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-6.92 g at 148.95 ms

Max. Value
41.68 g at 57.20 ms

2016 Honda Fit WorldSID Pole Impact

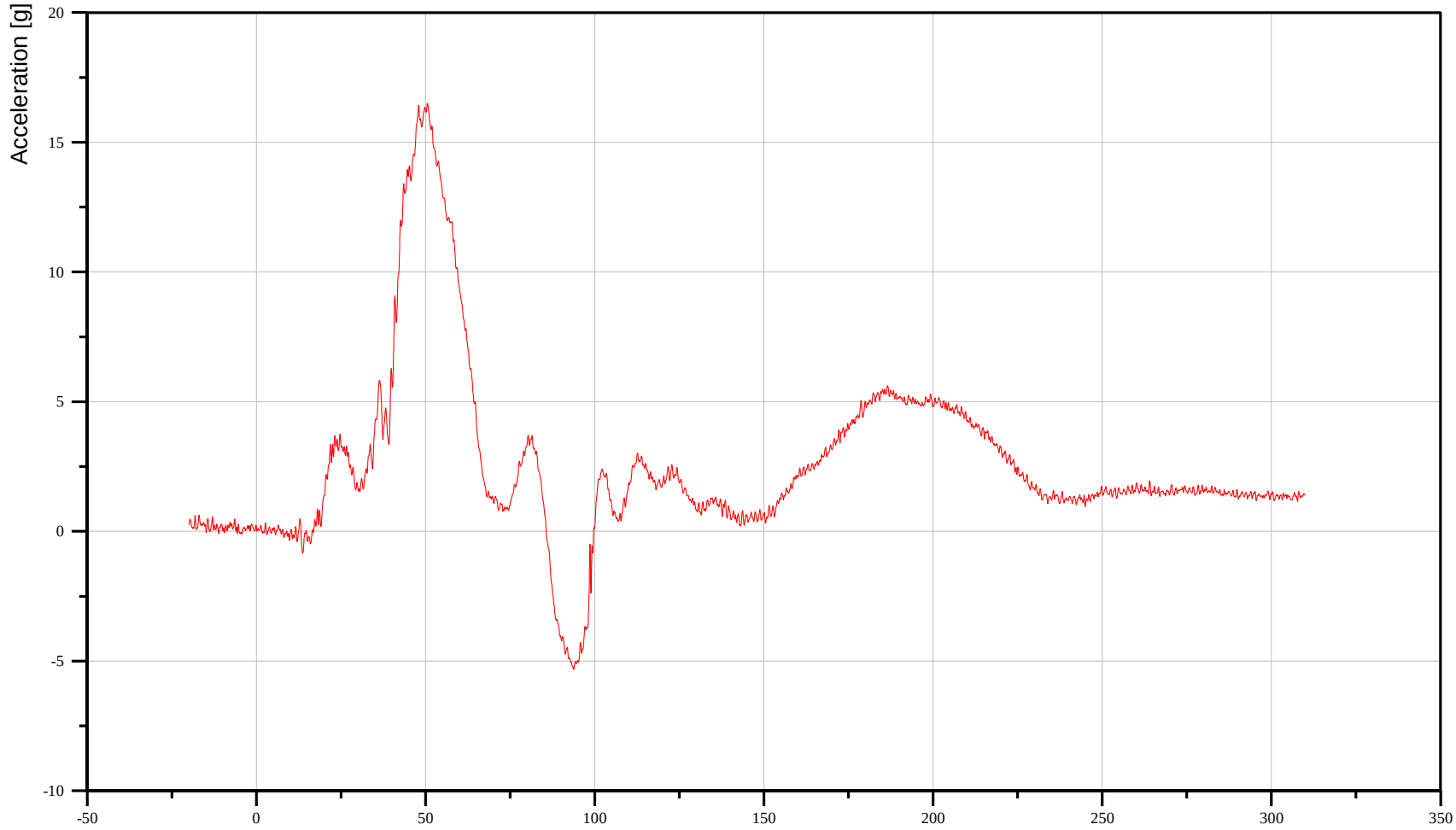
Head Z-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSACZA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-5.32 g at 93.80 ms

Max. Value
16.51 g at 50.60 ms

2016 Honda Fit WorldSID Pole Impact

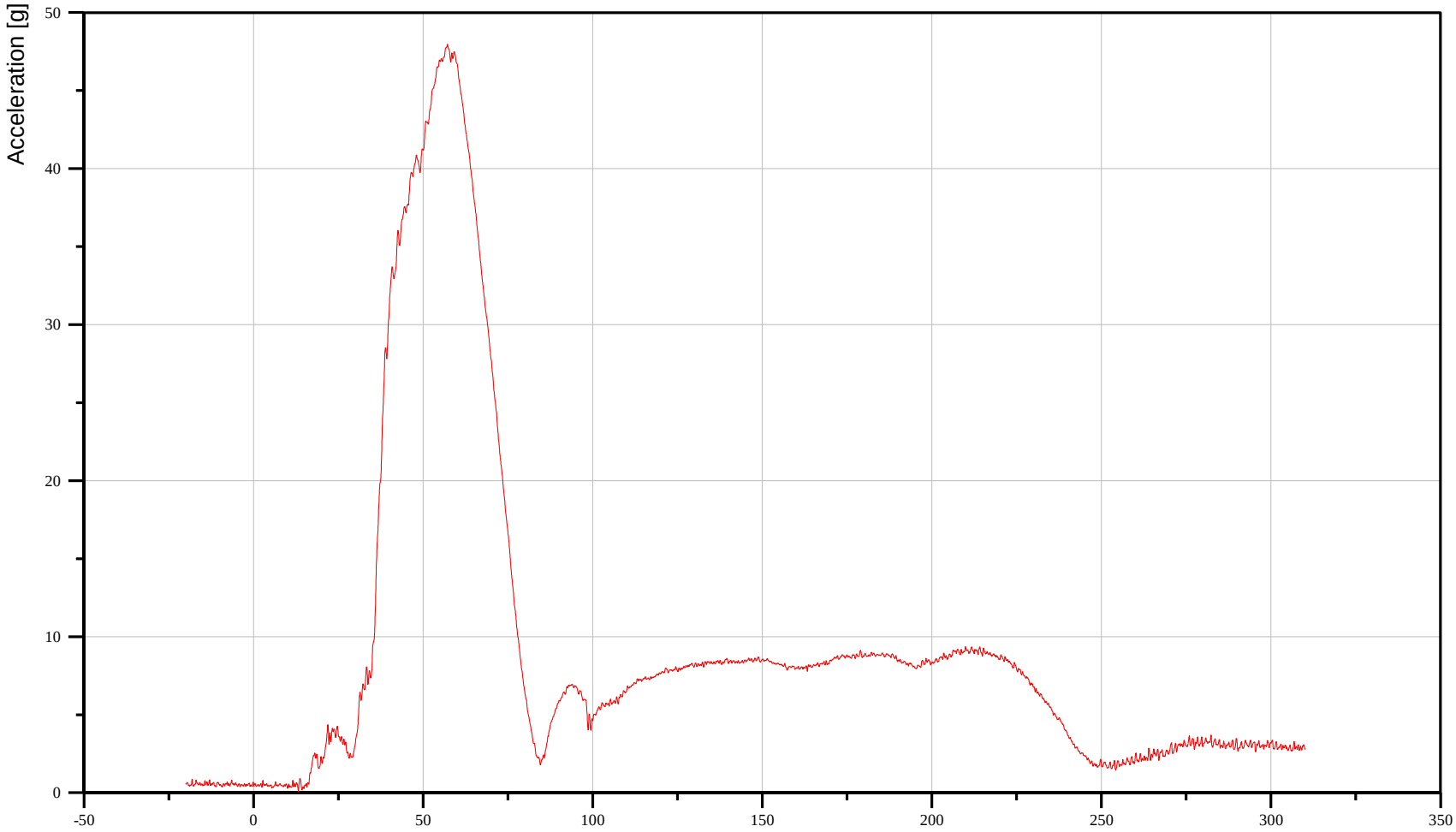
Head A Resultant

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSACRA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
0.07 g at 13.20 ms

Max. Value
47.96 g at 57.15 ms

2016 Honda Fit WorldSID Pole Impact

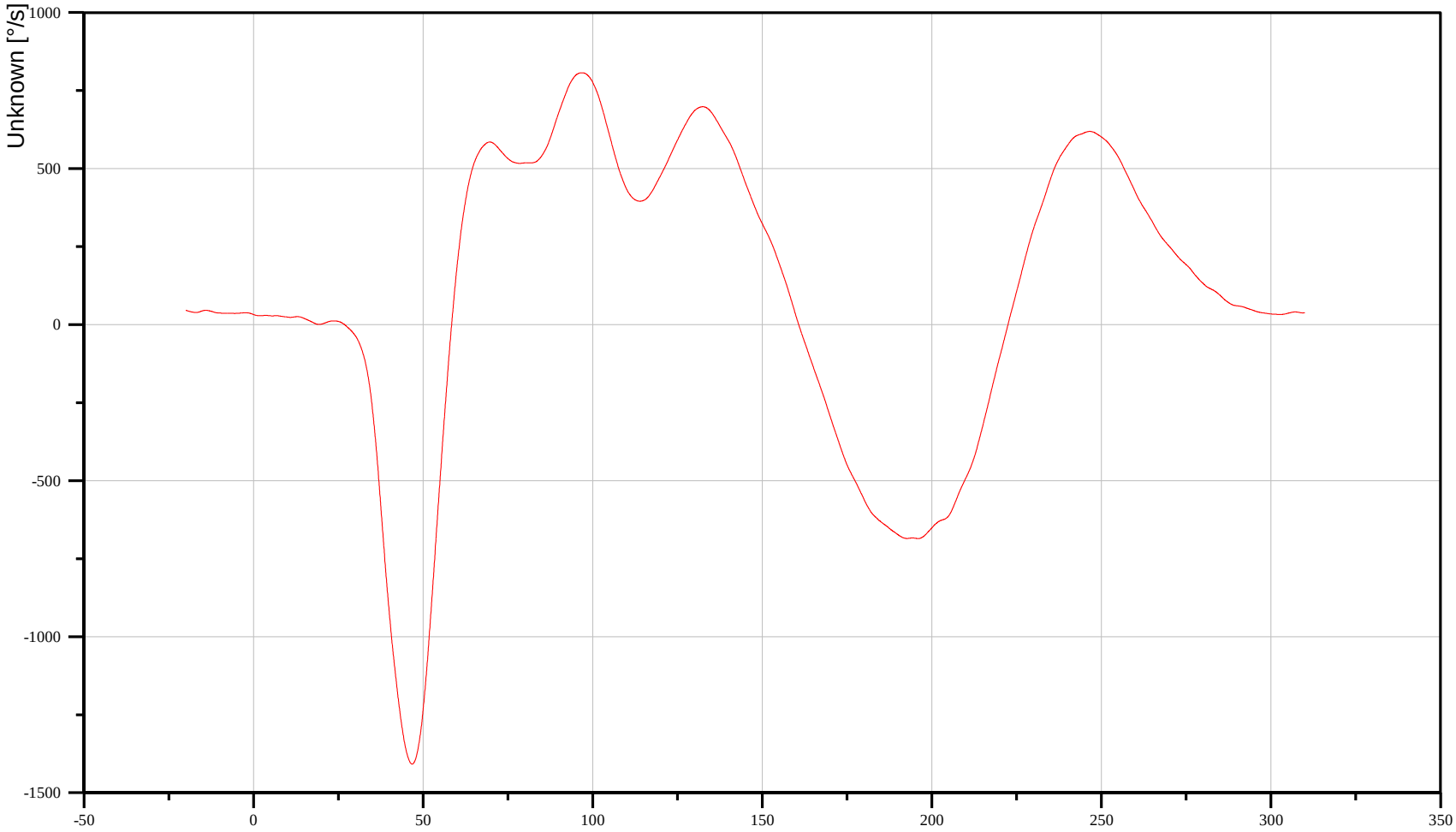
Head X-Axis Angular Velocity

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSAVXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,408.00 °/s at 46.75 ms

Max. Value
807.13 °/s at 96.80 ms

2016 Honda Fit WorldSID Pole Impact

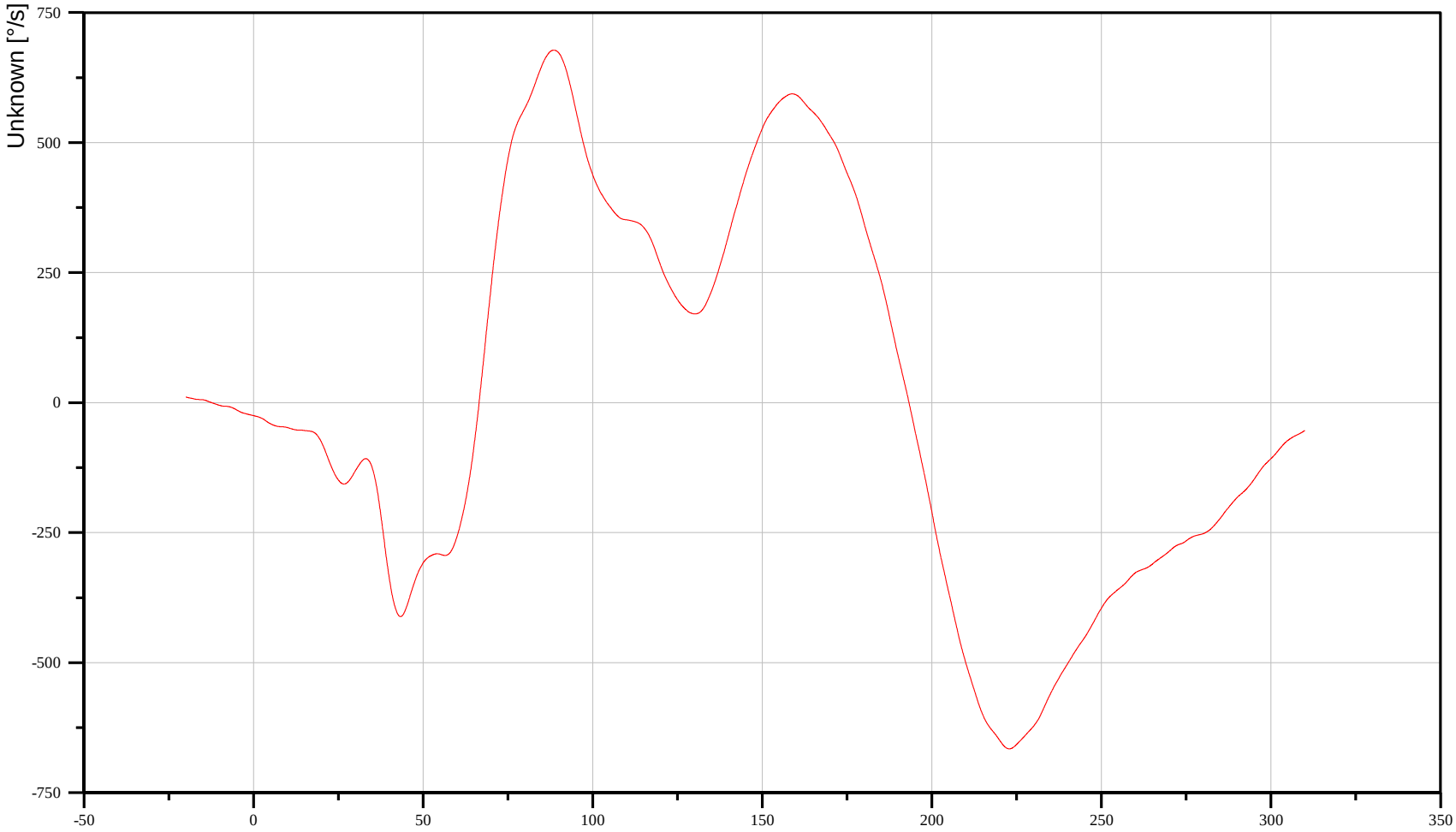
Head Y-Axis Angular Velocity

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSAVYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-665.59 °/s at 222.85 ms

Max. Value
677.78 °/s at 88.55 ms

2016 Honda Fit WorldSID Pole Impact

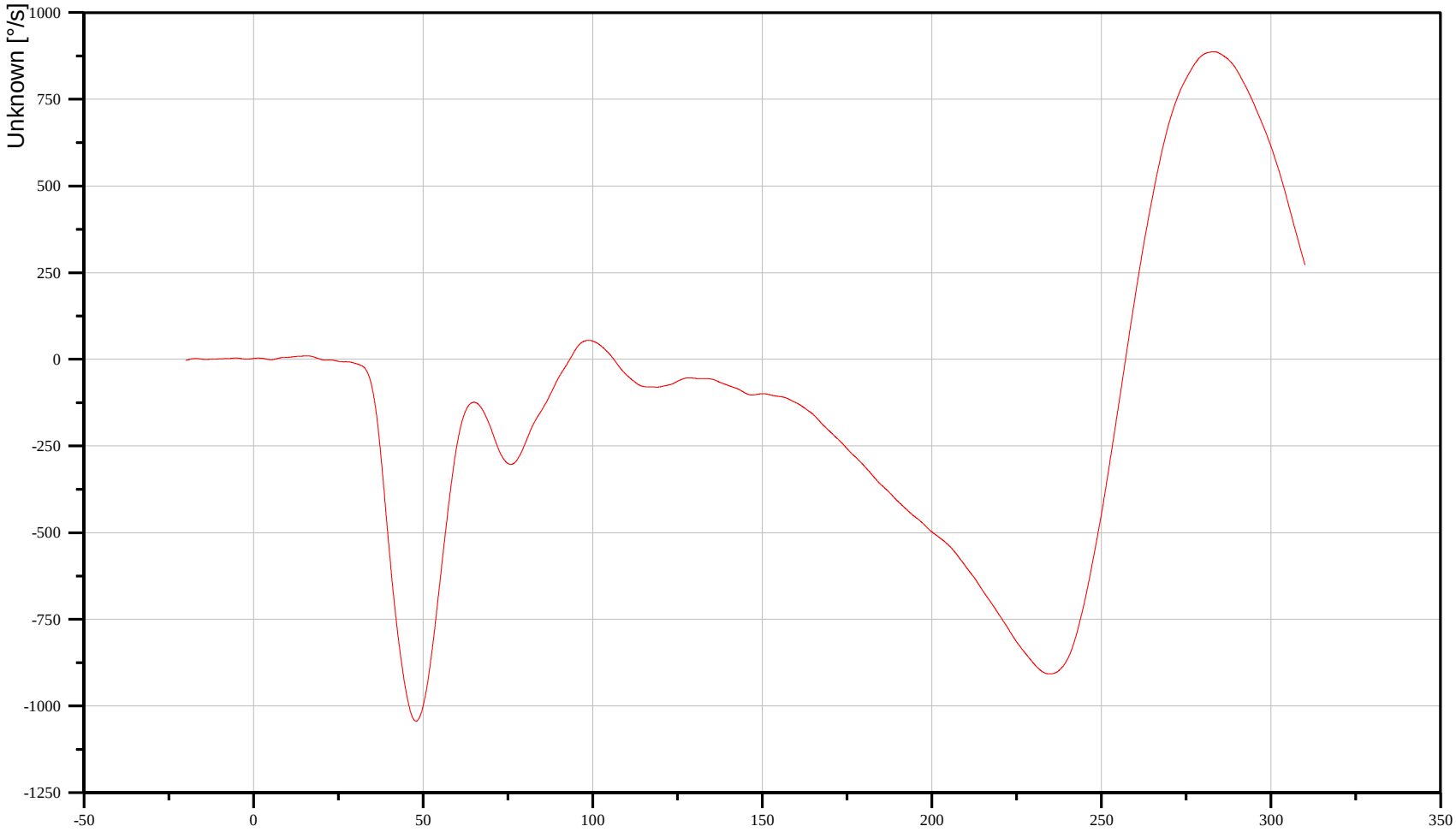
Head Z-Axis Angular Velocity

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEADCG00WSAVZD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,043.64 °/s at 47.90 ms

Max. Value
887.34 °/s at 283.10 ms

2016 Honda Fit WorldSID Pole Impact

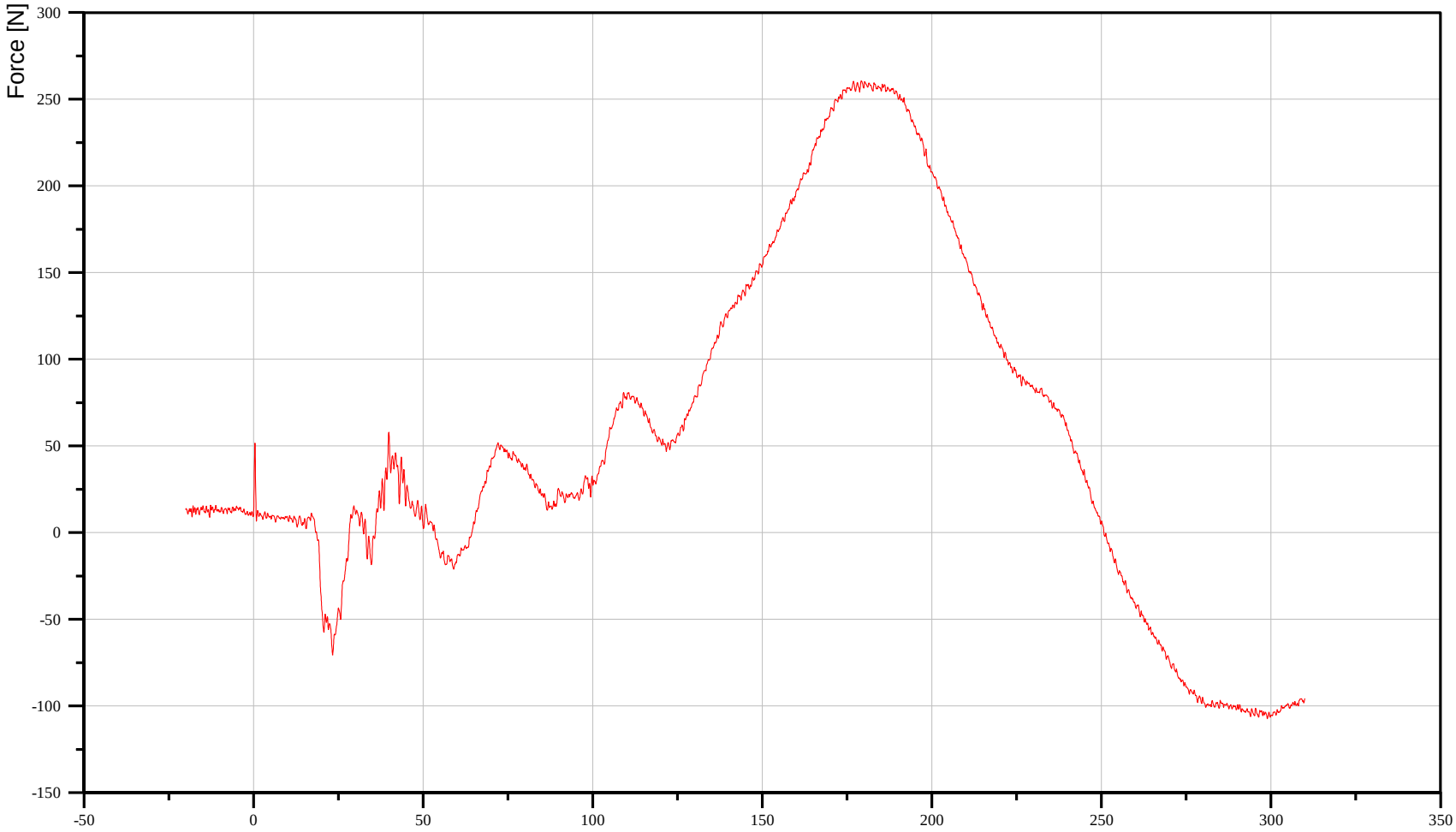
Upper Neck X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-107.26 N at 298.90 ms

Max. Value
260.60 N at 179.15 ms

2016 Honda Fit WorldSID Pole Impact

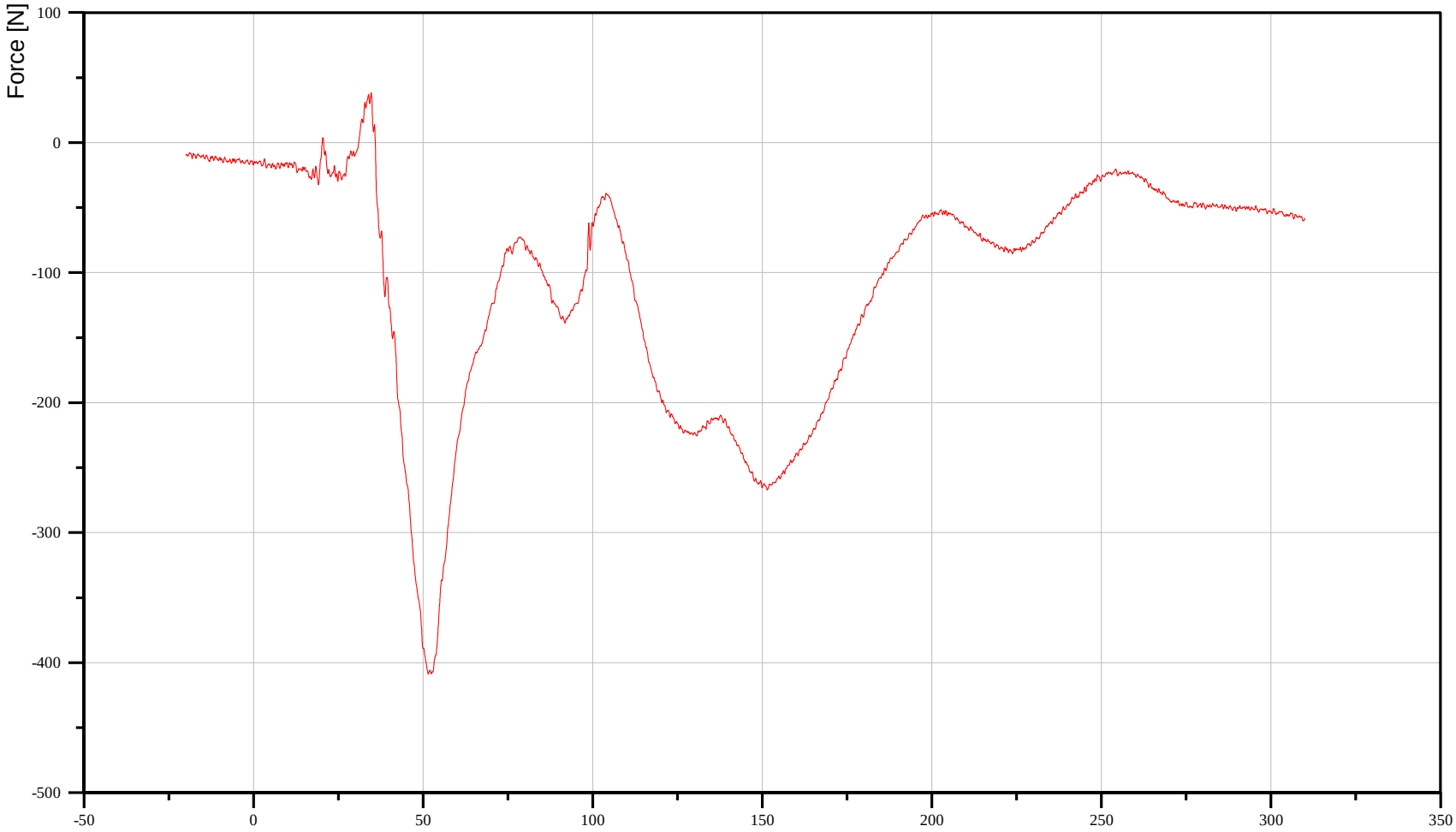
Upper Neck Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-408.68 N at 51.55 ms

Max. Value
38.54 N at 34.70 ms

2016 Honda Fit WorldSID Pole Impact

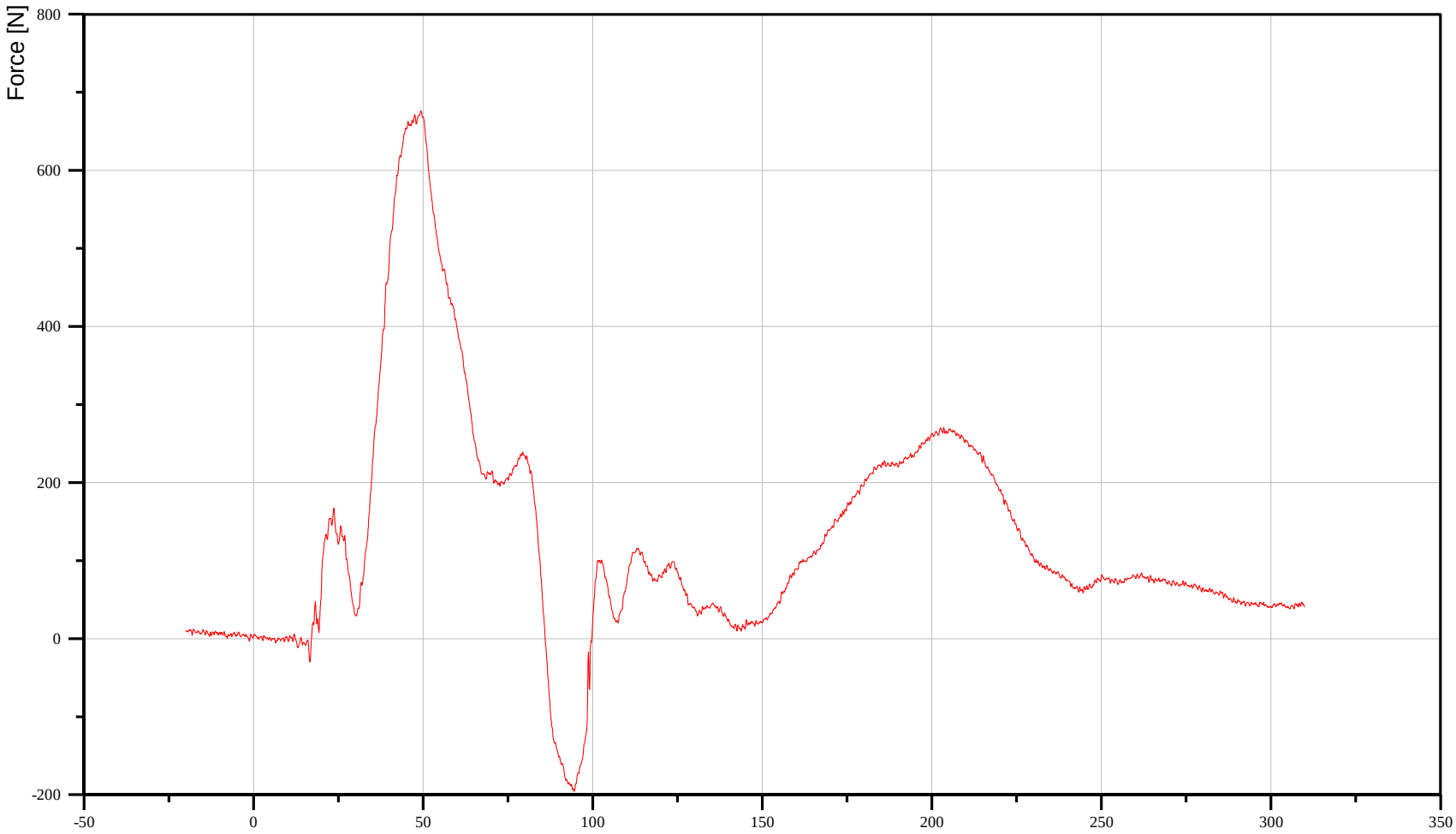
Upper Neck Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-195.71 N at 94.55 ms

Max. Value
676.51 N at 49.30 ms

2016 Honda Fit WorldSID Pole Impact

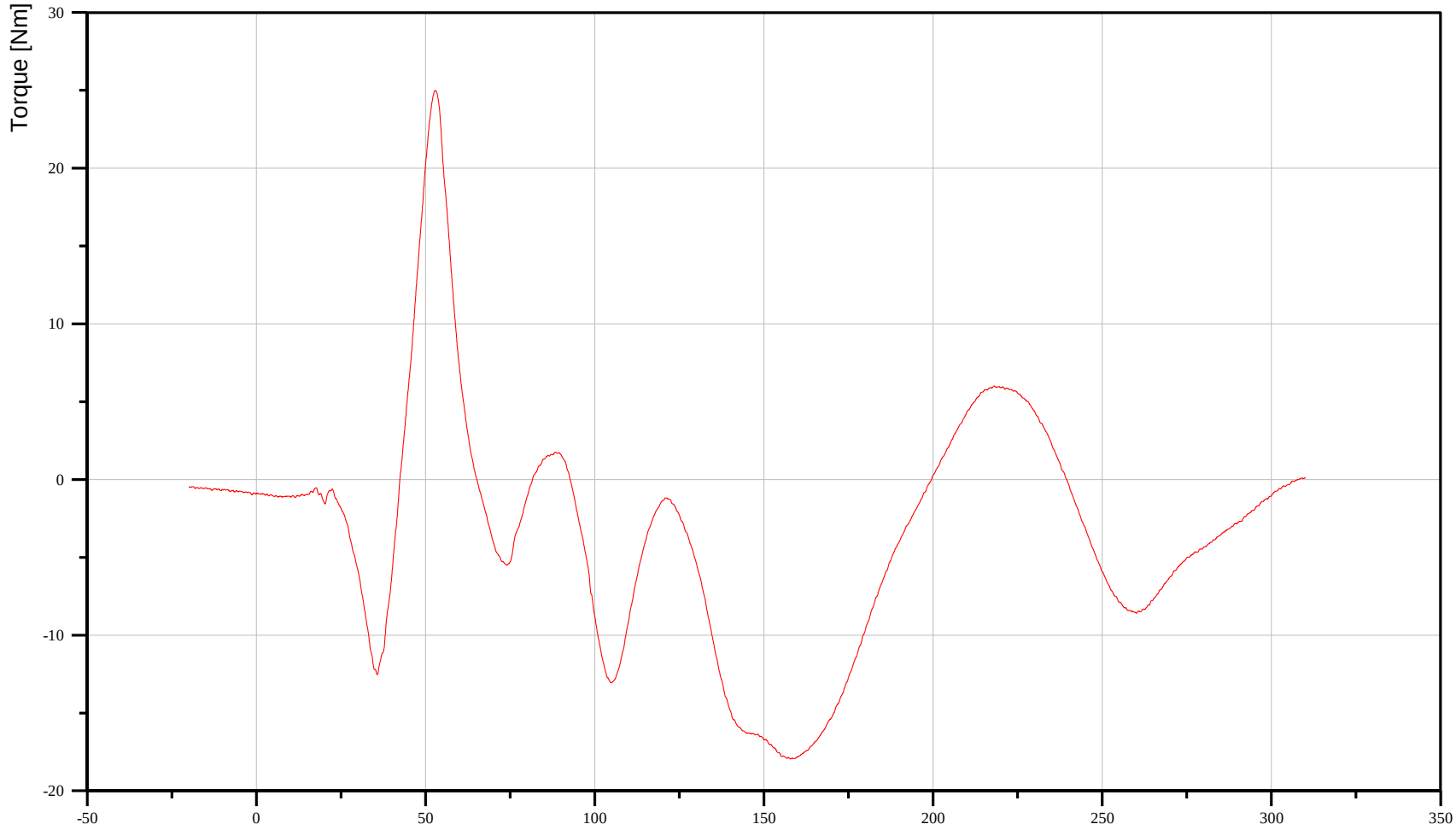
Upper Neck Moment About X Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-17.94 Nm at 157.90 ms

Max. Value
24.99 Nm at 52.85 ms

2016 Honda Fit WorldSID Pole Impact

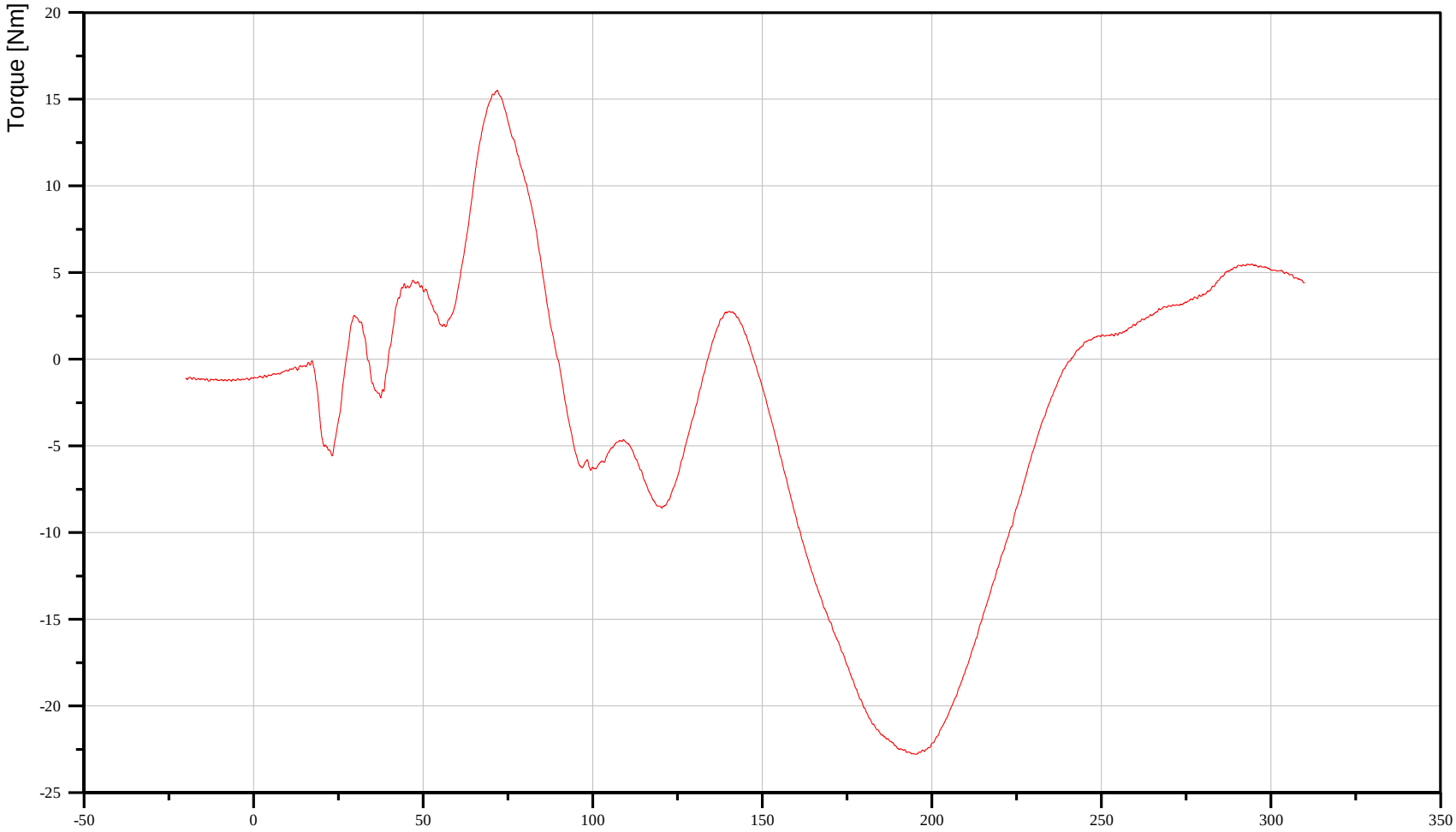
Upper Neck Moment About Y Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-22.78 Nm at 195.50 ms

Max. Value
15.52 Nm at 71.85 ms

2016 Honda Fit WorldSID Pole Impact

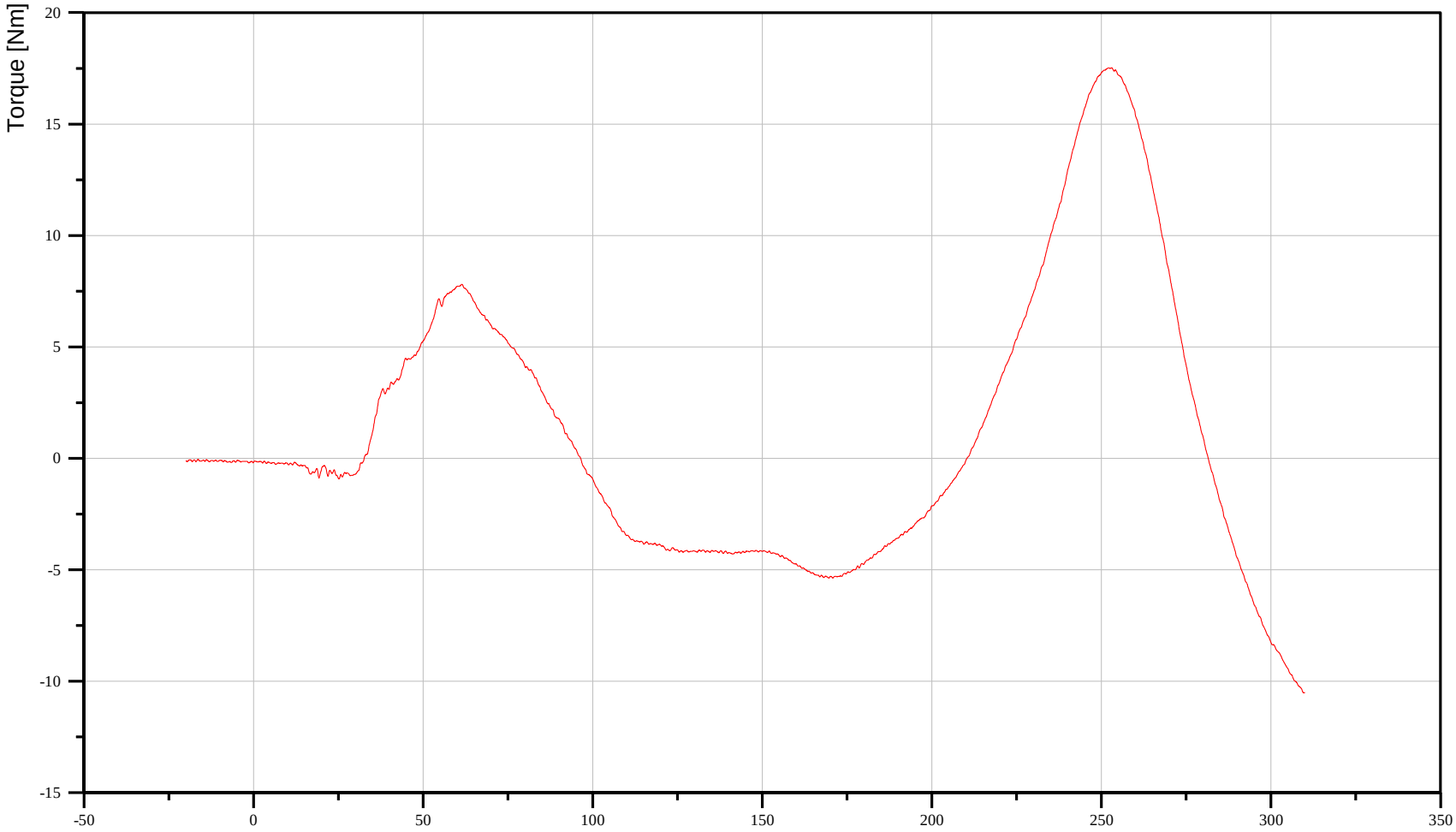
Upper Neck Moment About Z Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKUP00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-10.52 Nm at 309.70 ms

Max. Value
17.53 Nm at 252.15 ms

2016 Honda Fit WorldSID Pole Impact

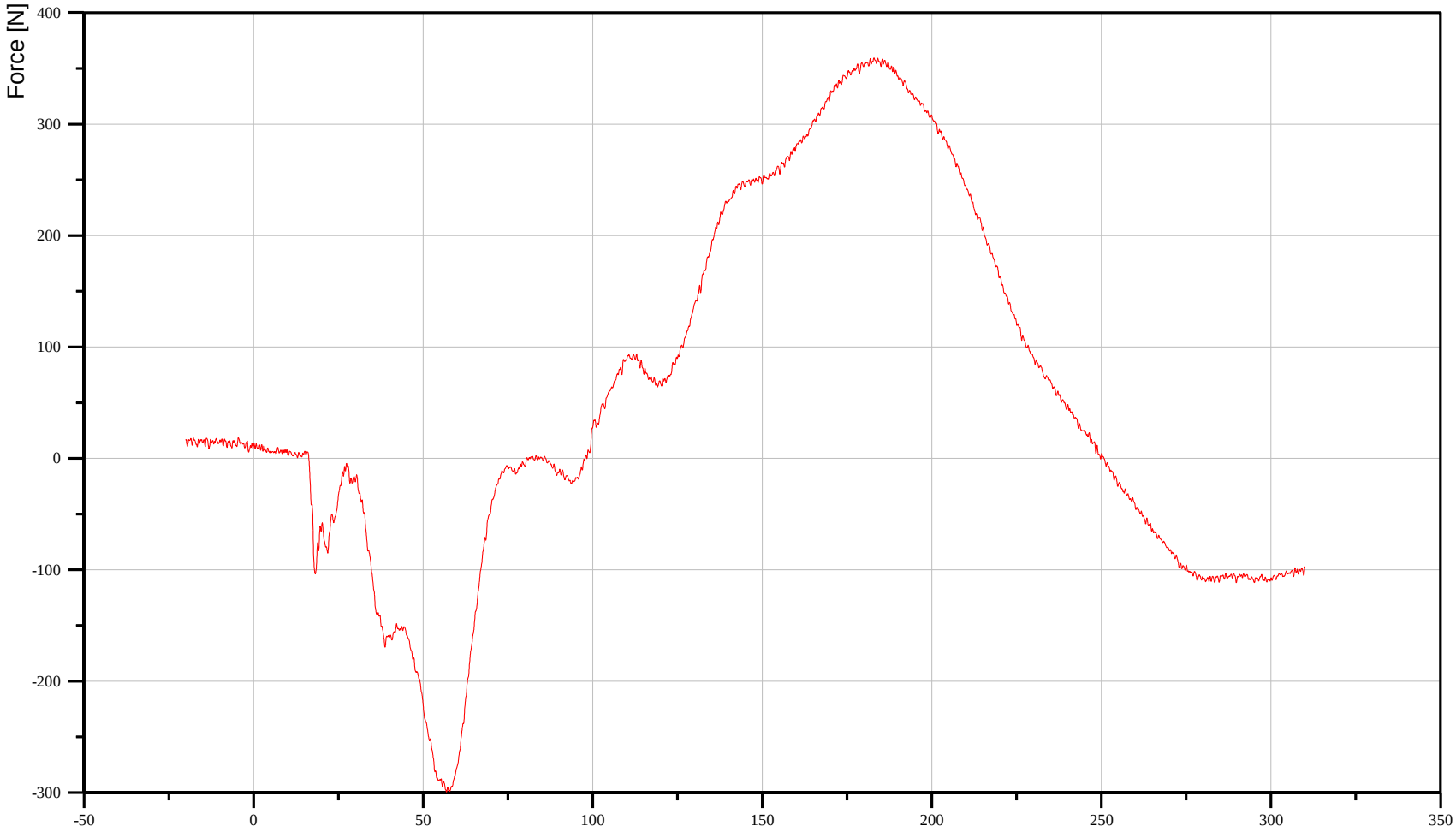
Lower Neck X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSFOXA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-299.31 N at 56.90 ms

Max. Value
359.32 N at 182.90 ms

2016 Honda Fit WorldSID Pole Impact

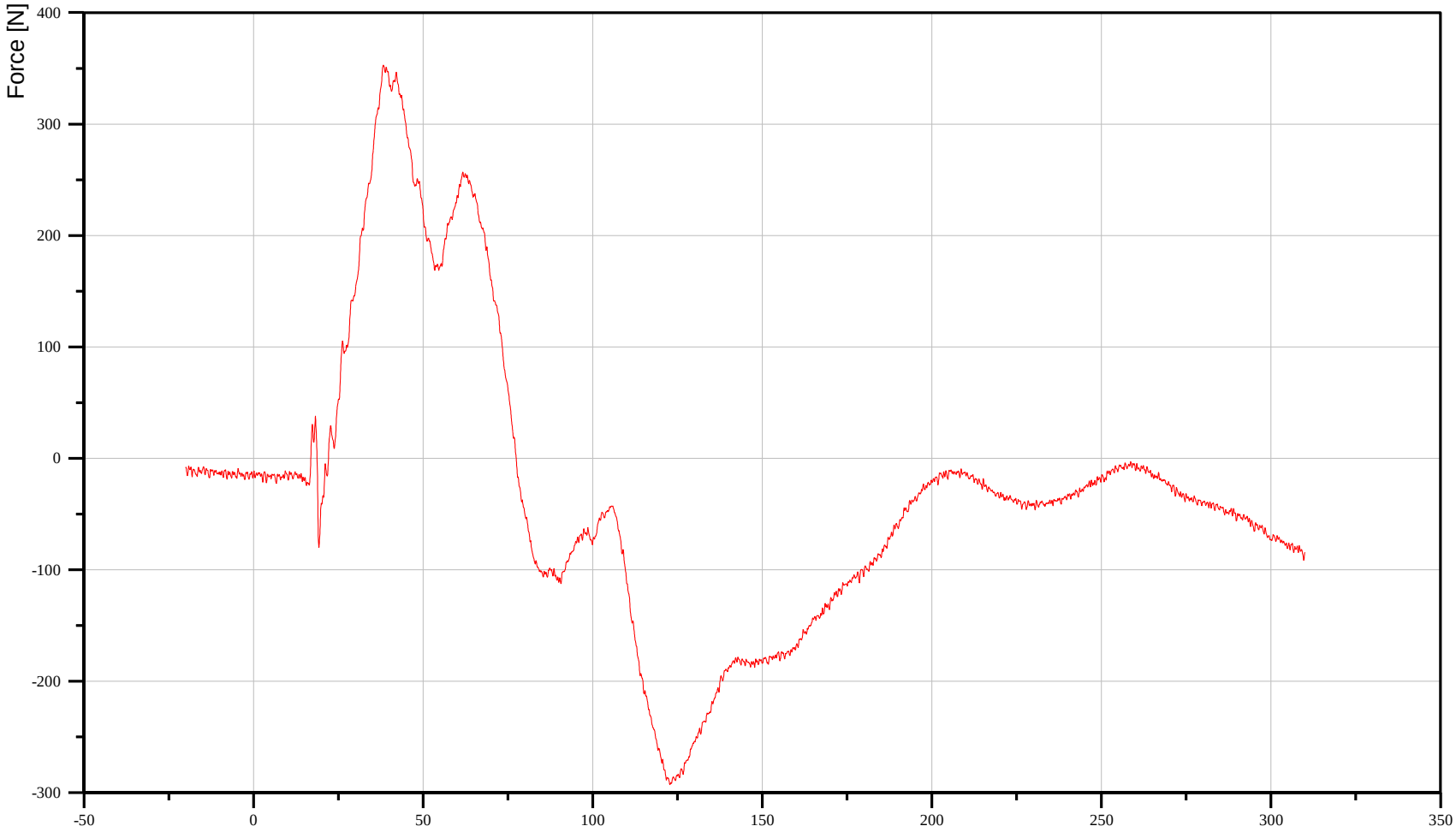
Lower Neck Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSFOYA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-292.57 N at 122.75 ms

Max. Value
352.85 N at 38.30 ms

2016 Honda Fit WorldSID Pole Impact

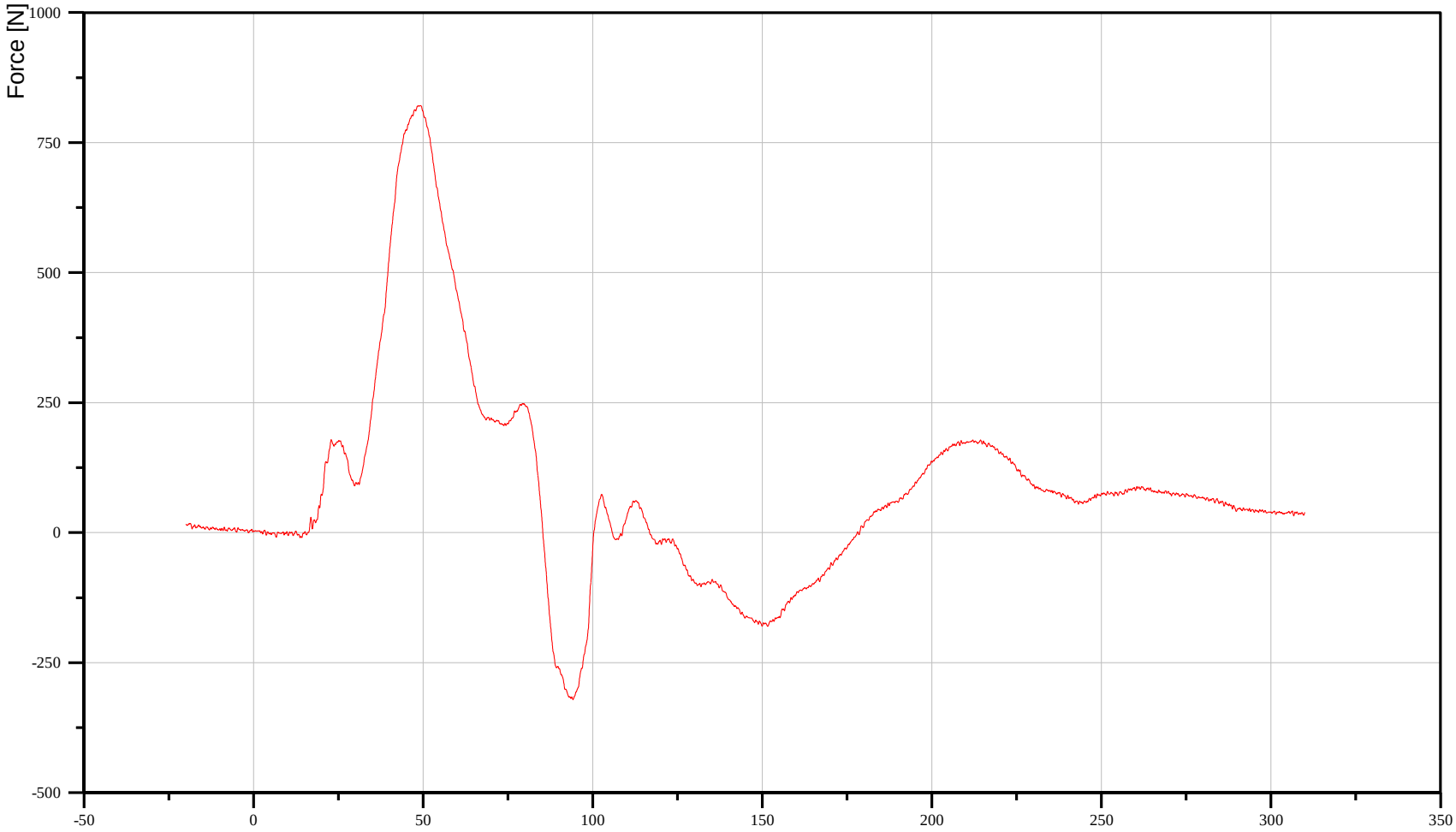
Lower Neck Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSFOZA

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-320.99 N at 94.20 ms

Max. Value
821.16 N at 49.10 ms

2016 Honda Fit WorldSID Pole Impact

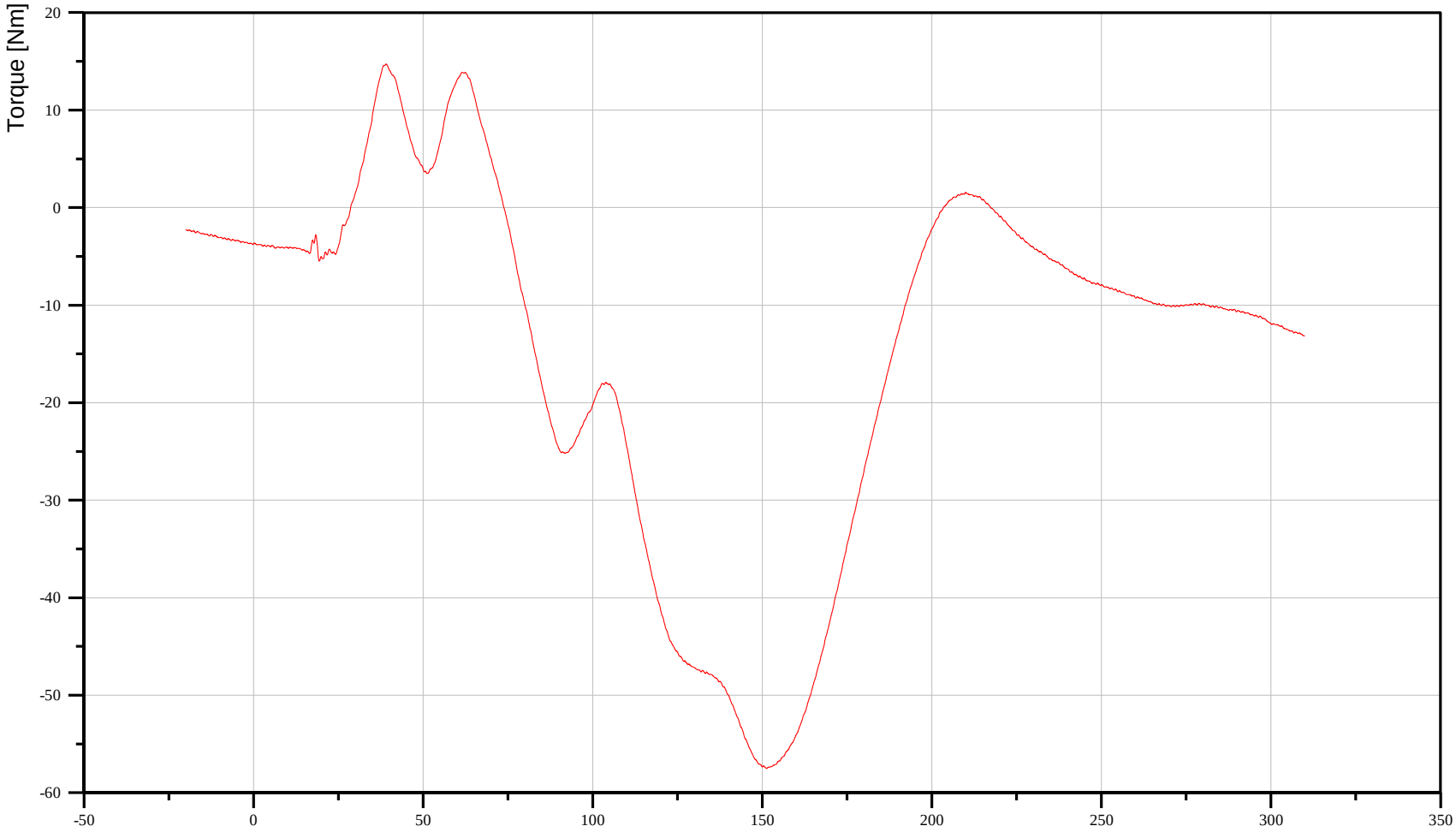
Lower Neck Moment About X Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-57.50 Nm at 151.30 ms

Max. Value
14.73 Nm at 39.10 ms

2016 Honda Fit WorldSID Pole Impact

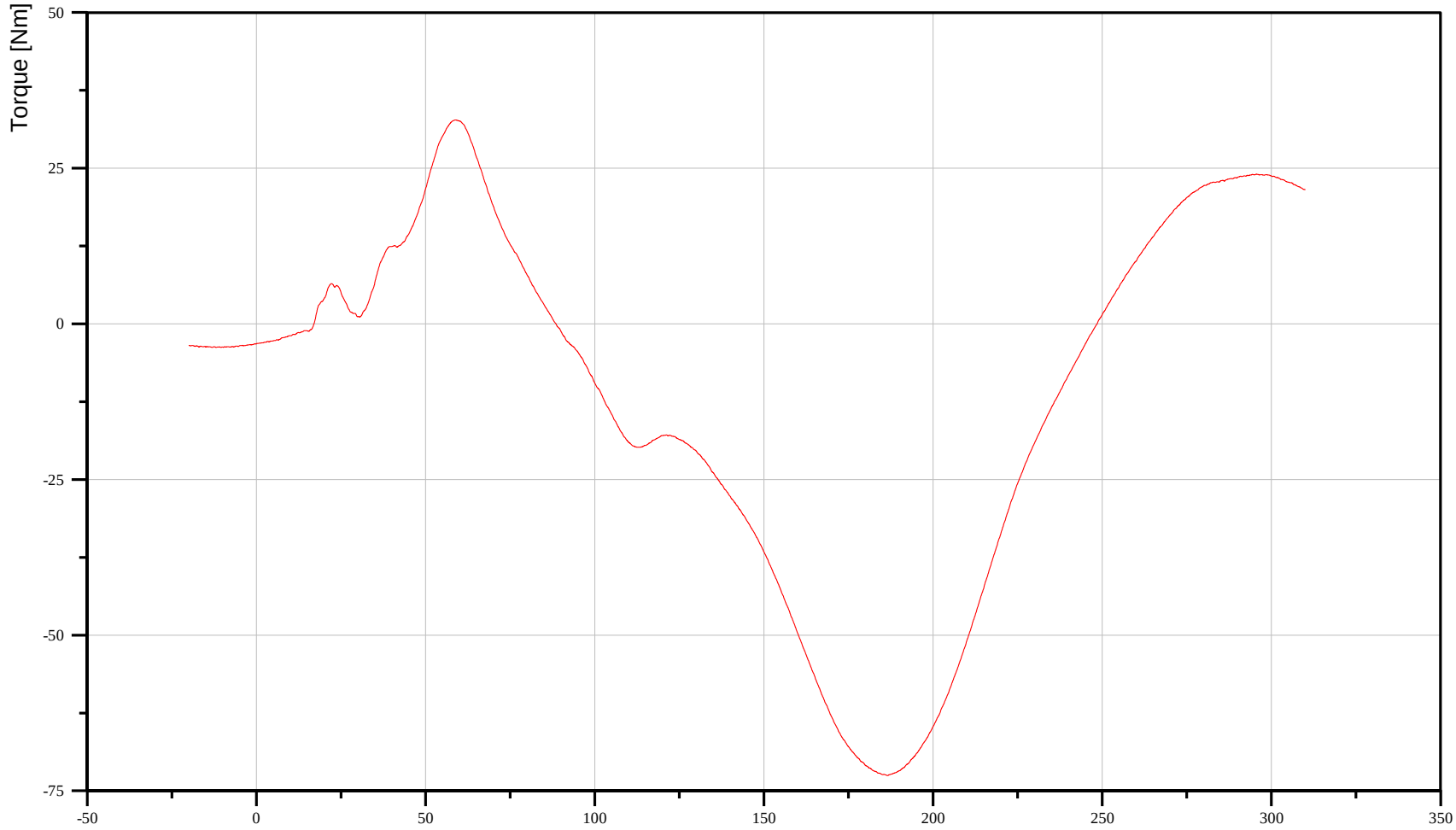
Lower Neck Moment About Y Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-72.54 Nm at 186.55 ms

Max. Value
32.76 Nm at 58.85 ms

2016 Honda Fit WorldSID Pole Impact

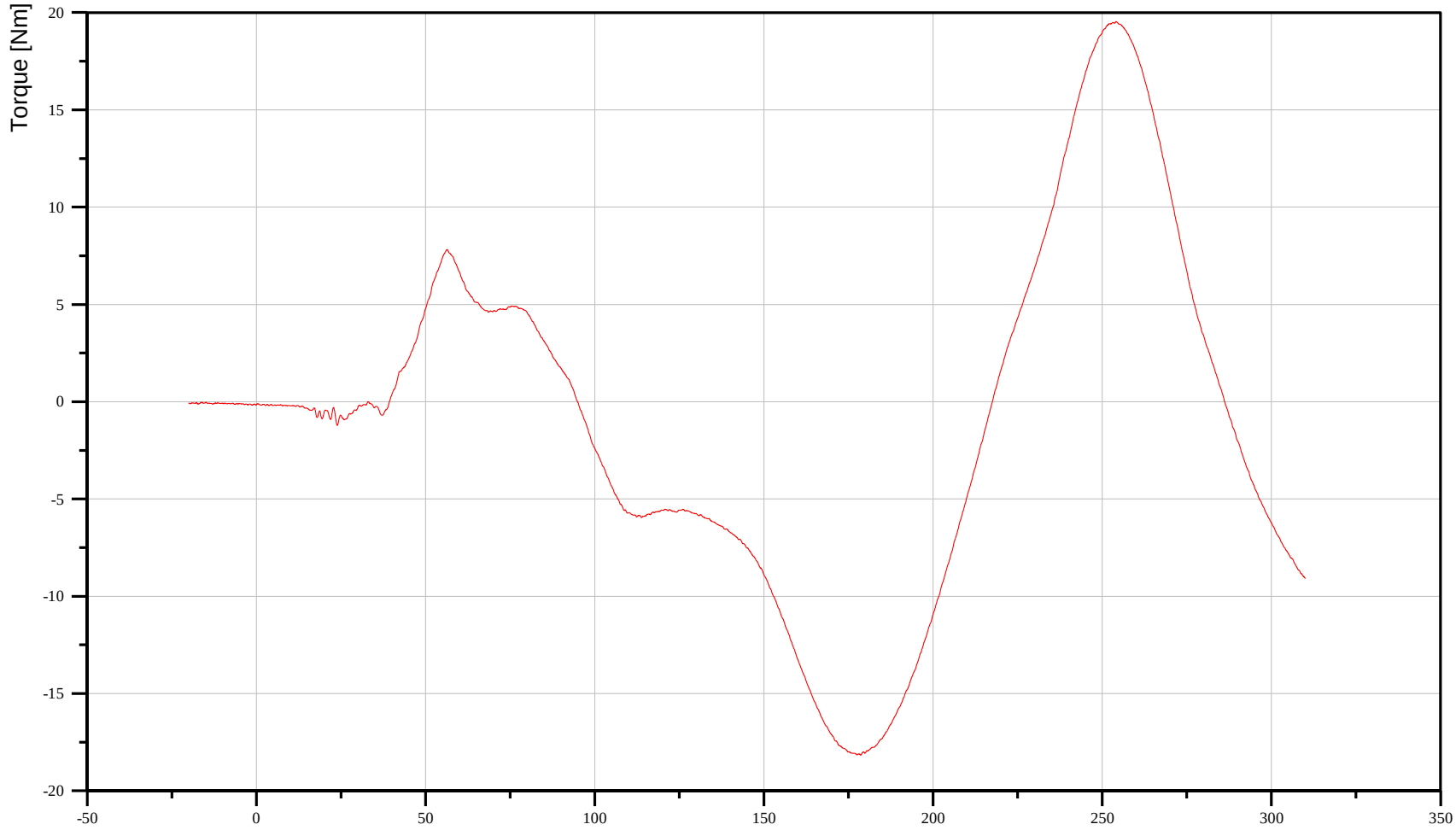
Lower Neck Moment About Z Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11NECKLO00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-18.15 Nm at 178.60 ms

Max. Value
19.53 Nm at 254.10 ms

2016 Honda Fit WorldSID Pole Impact

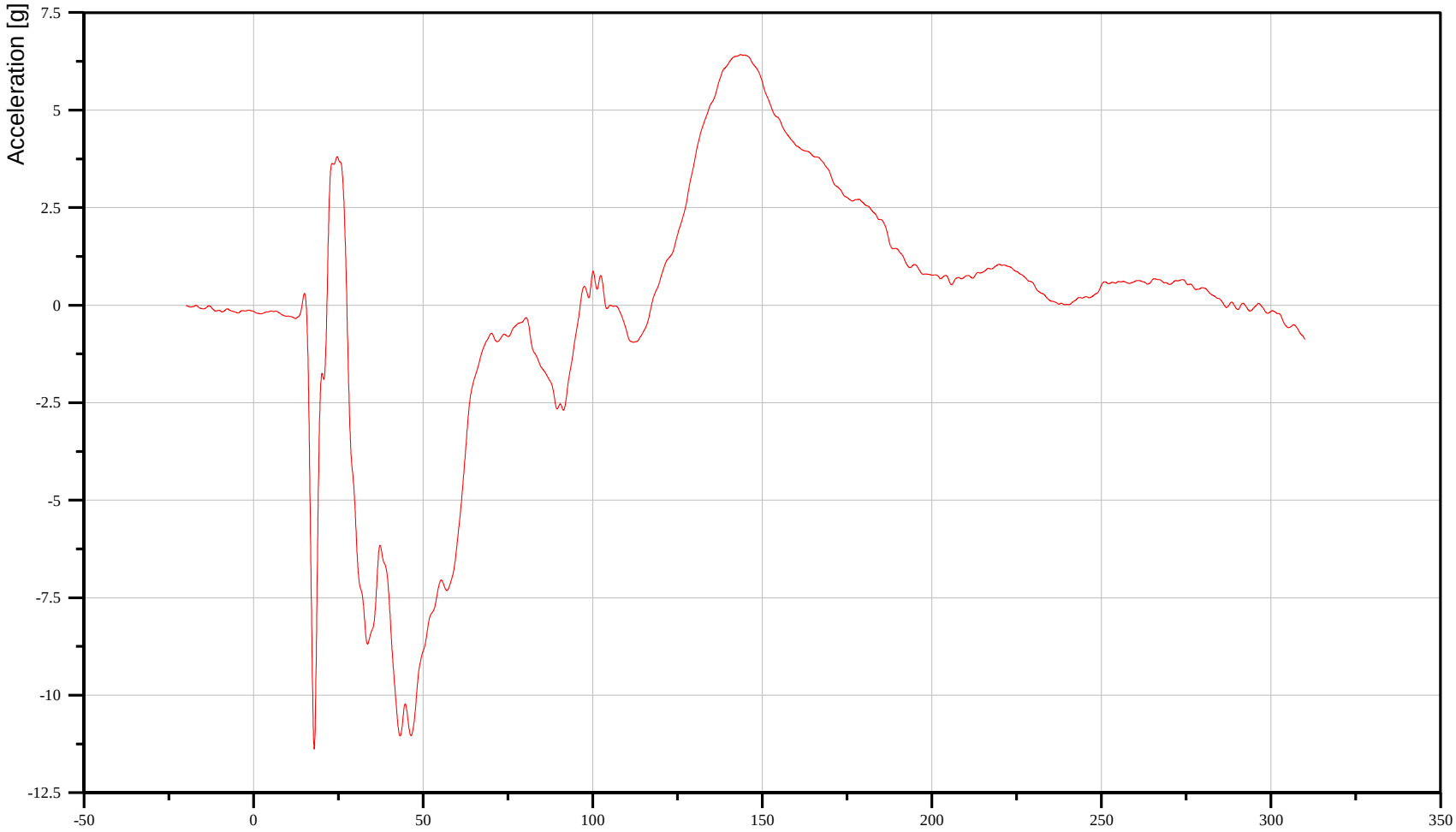
T1 Longitudinal Ax

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0100WSACXC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-11.38 g at 17.90 ms

Max. Value
6.43 g at 143.60 ms

2016 Honda Fit WorldSID Pole Impact

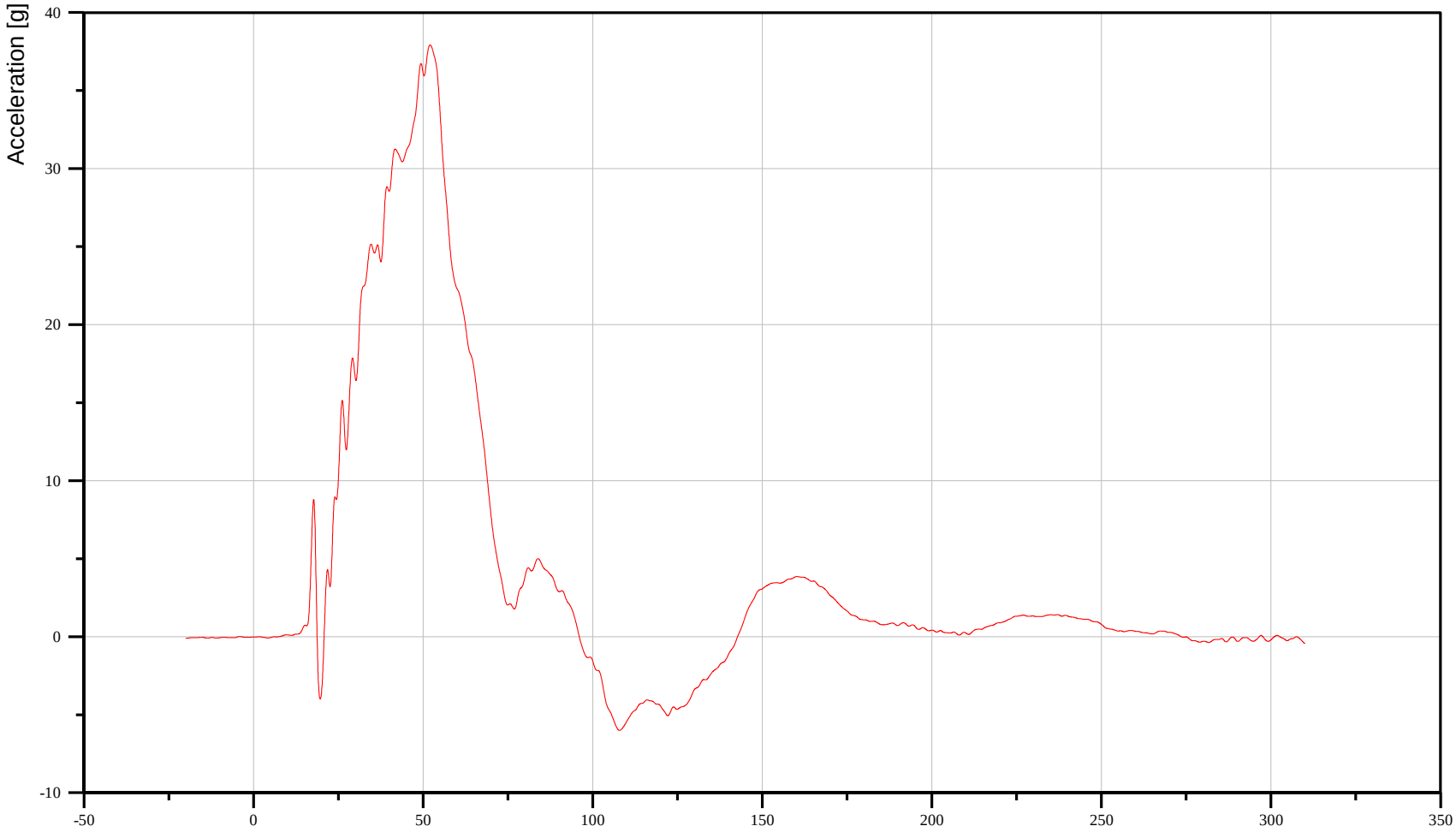
T1 Lateral Ay

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0100WSACYC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-6.00 g at 107.90 ms

Max. Value
37.92 g at 52.10 ms

2016 Honda Fit WorldSID Pole Impact

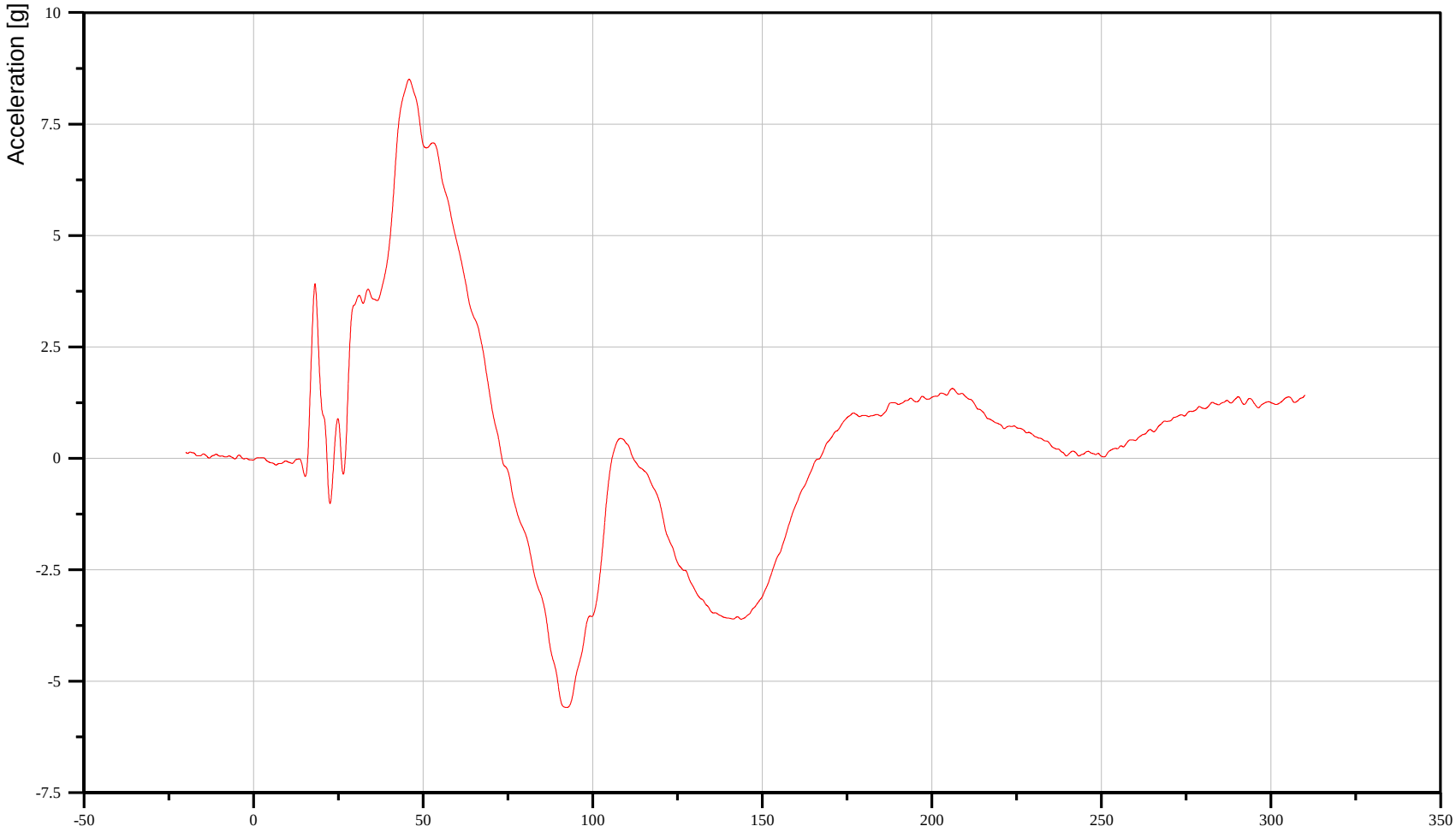
T1 Vertical Az

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0100WSACZC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-5.59 g at 92.45 ms

Max. Value
8.50 g at 45.90 ms

2016 Honda Fit WorldSID Pole Impact

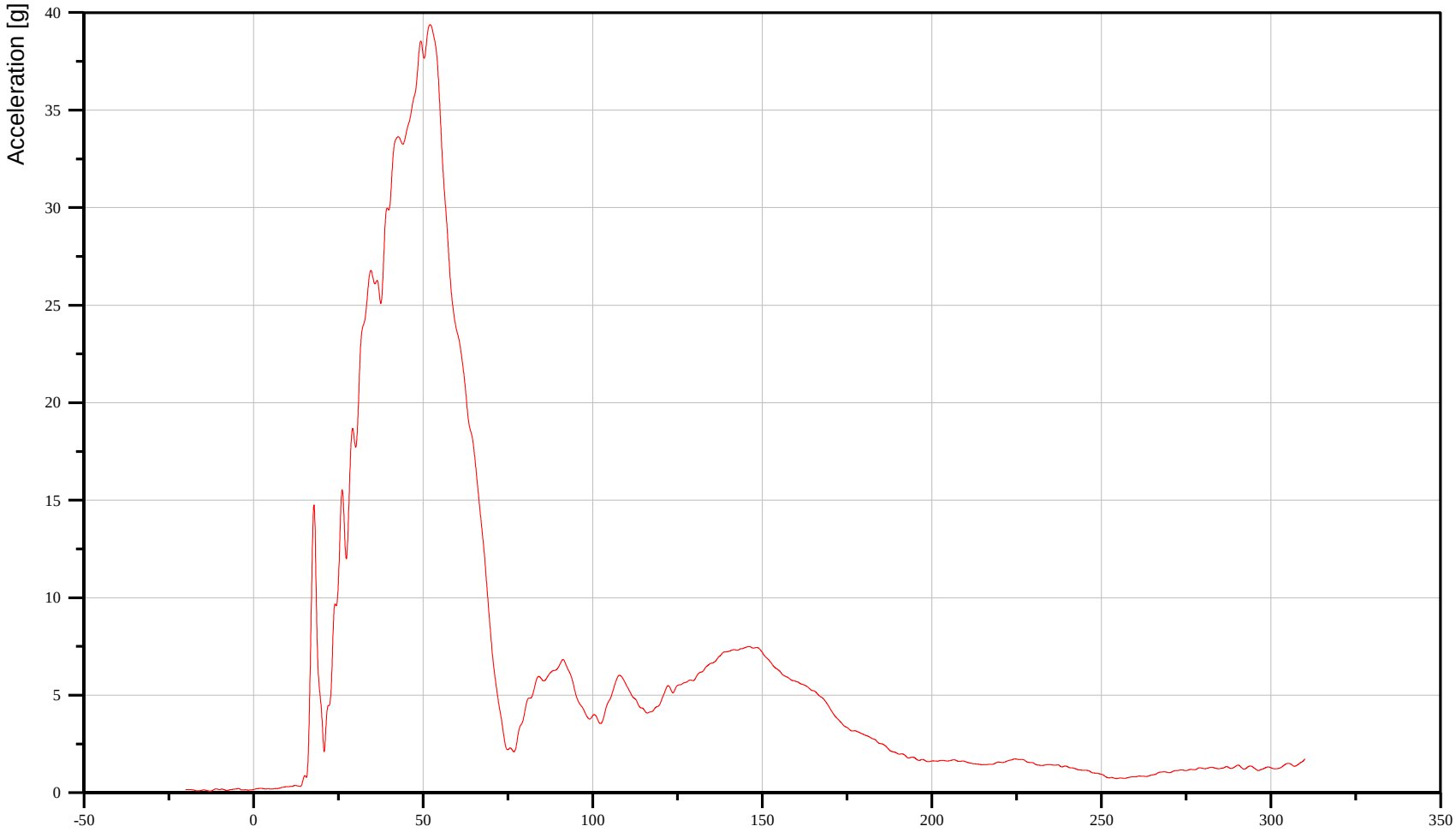
T1 A Resultant

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0100WSACRC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
0.08 g at -12.70 ms

Max. Value
39.38 g at 52.05 ms

2016 Honda Fit WorldSID Pole Impact

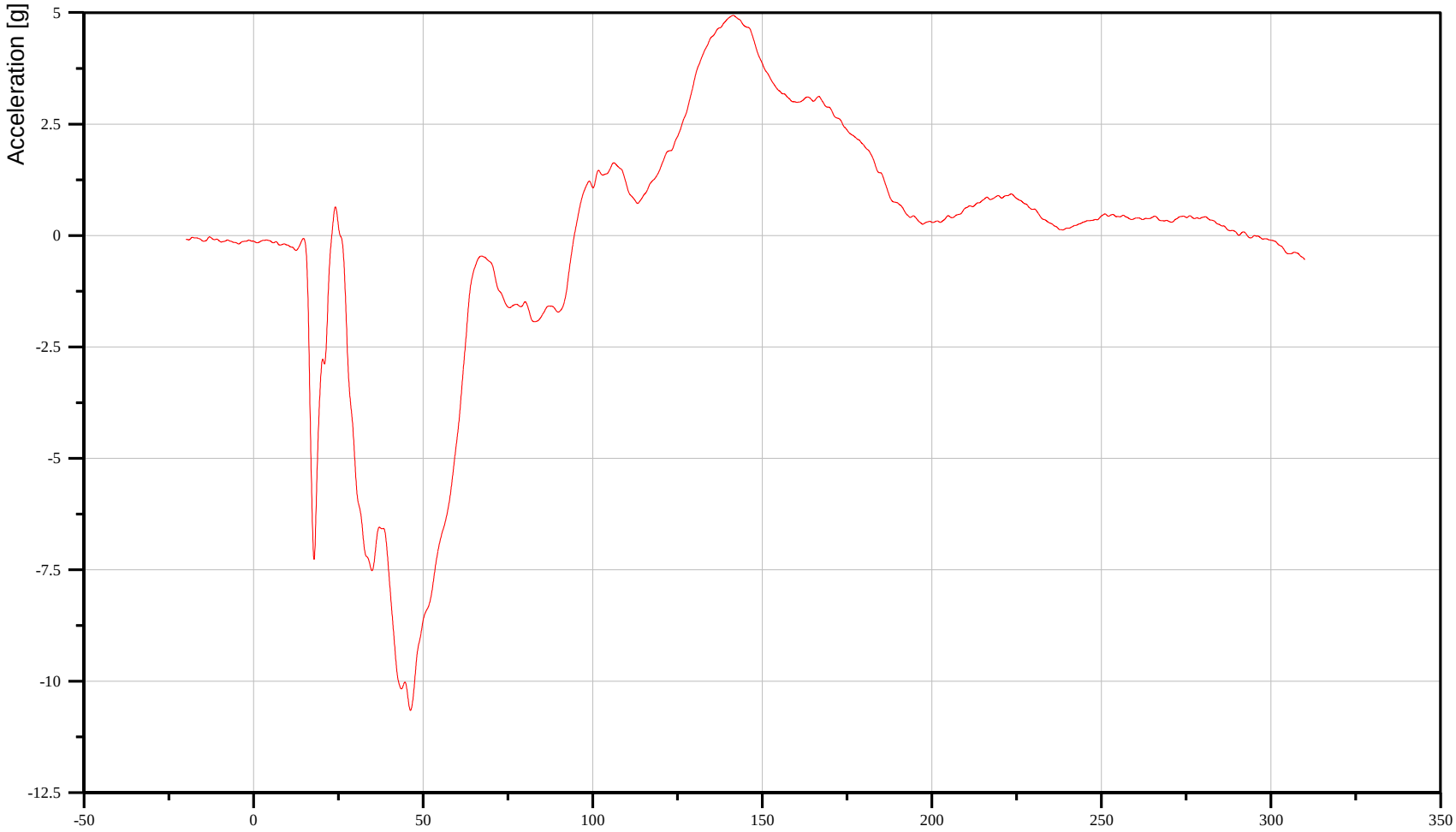
T4 Longitudinal Ax

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0400WSACXC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-10.65 g at 46.30 ms

Max. Value
4.93 g at 141.45 ms

2016 Honda Fit WorldSID Pole Impact

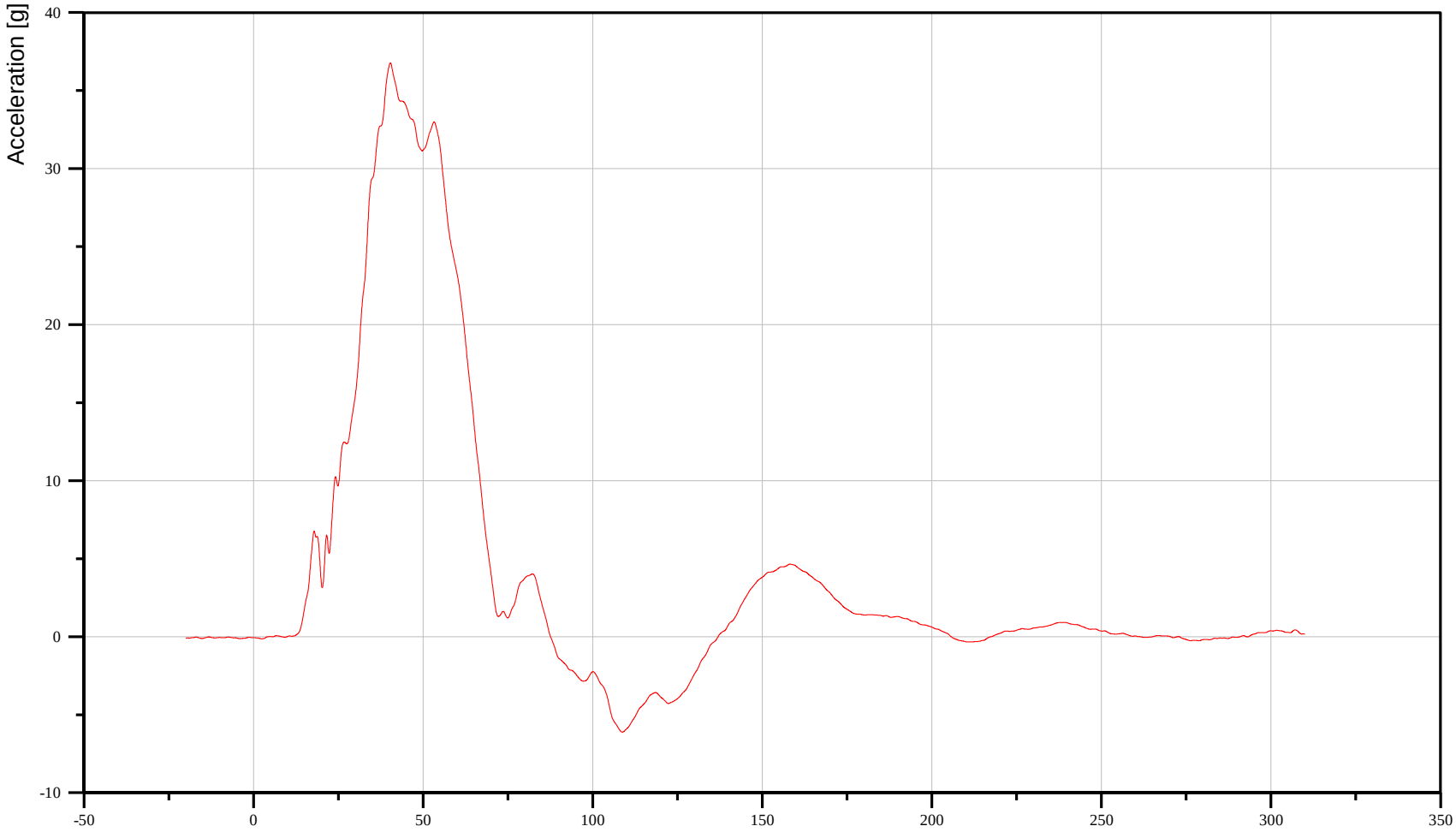
T4 Lateral Ay

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0400WSACYC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-6.11 g at 108.70 ms

Max. Value
36.77 g at 40.35 ms

2016 Honda Fit WorldSID Pole Impact

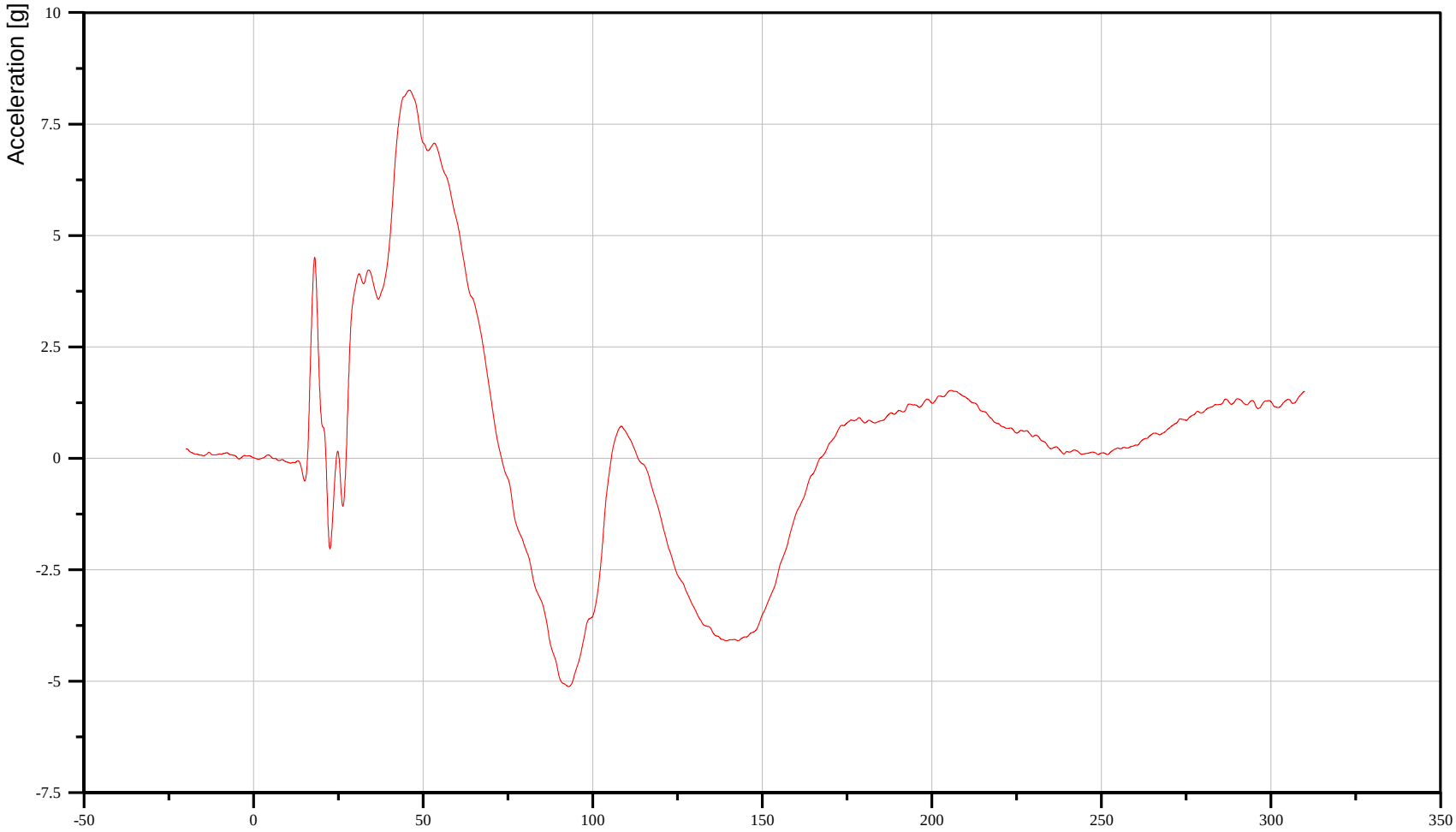
T4 Vertical Az

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0400WSACZC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-5.12 g at 92.90 ms

Max. Value
8.26 g at 45.95 ms

2016 Honda Fit WorldSID Pole Impact

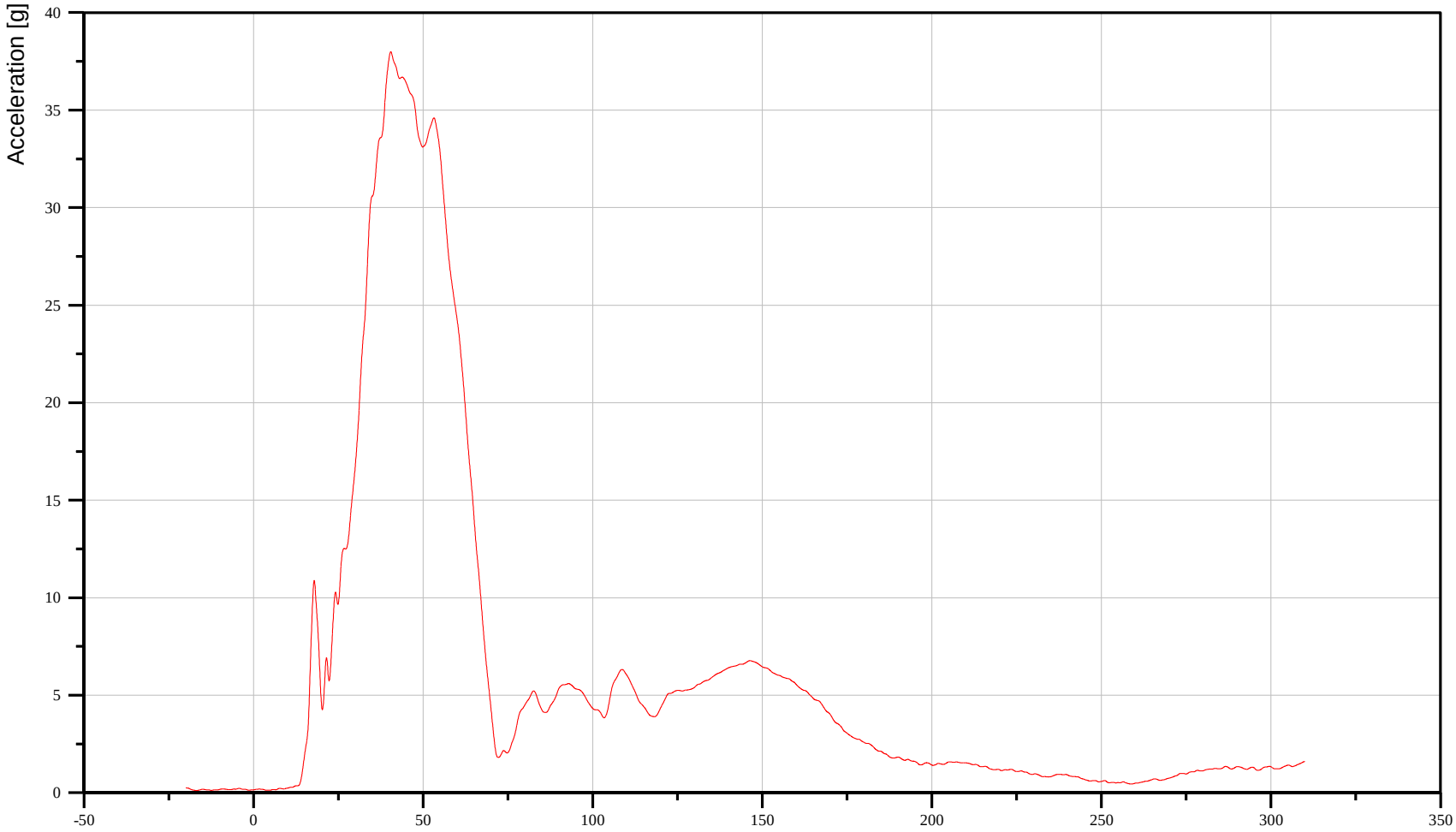
T4 A Resultant

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP0400WSACRC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
0.11 g at -16.85 ms

Max. Value
38.00 g at 40.45 ms

2016 Honda Fit WorldSID Pole Impact

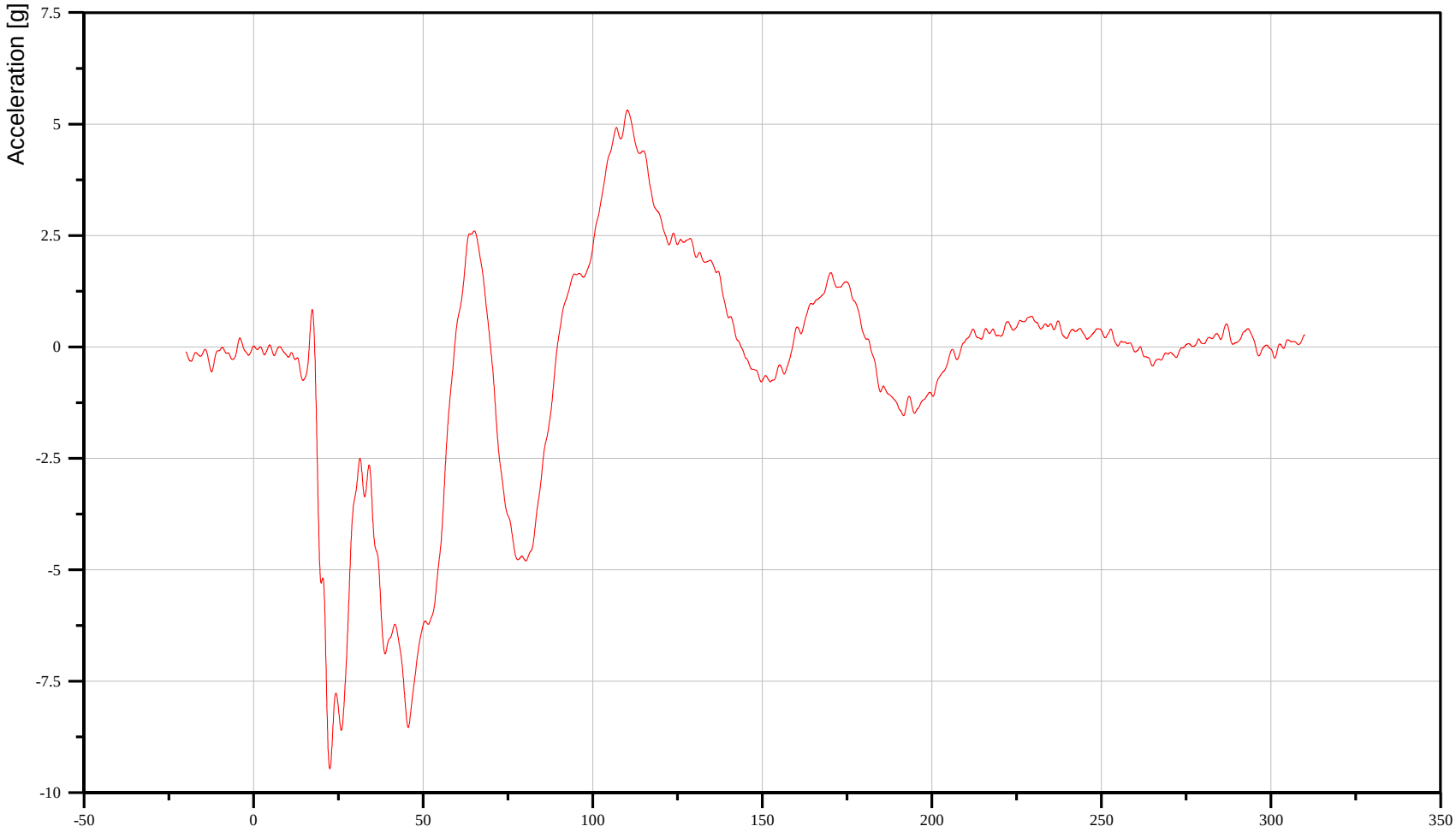
T12 Longitudinal Ax

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP1200WSACXC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-9.46 g at 22.50 ms

Max. Value
5.31 g at 110.25 ms

2016 Honda Fit WorldSID Pole Impact

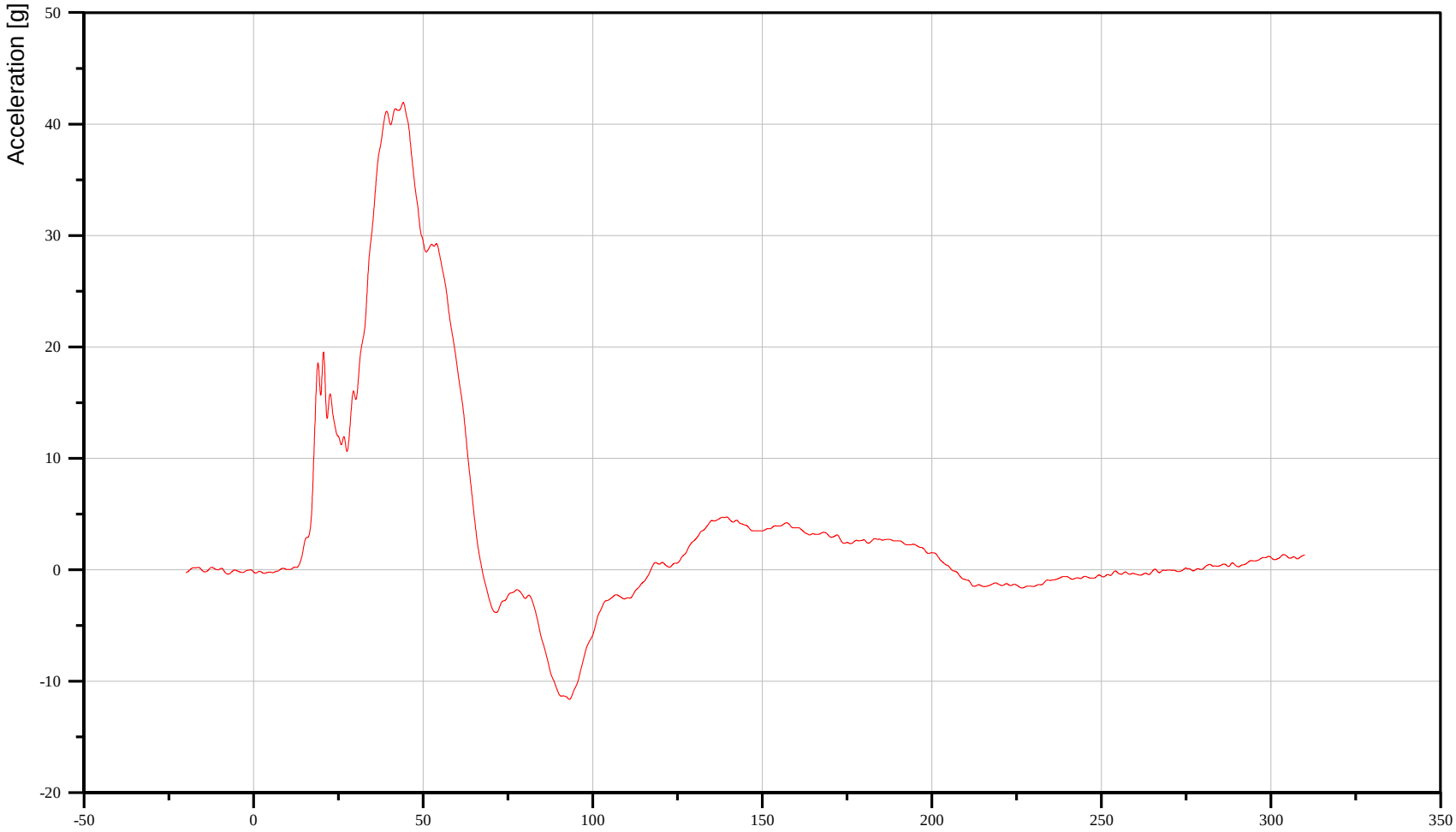
T12 Lateral Ay

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP1200WSACYC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-11.63 g at 93.15 ms

Max. Value
41.94 g at 44.15 ms

2016 Honda Fit WorldSID Pole Impact

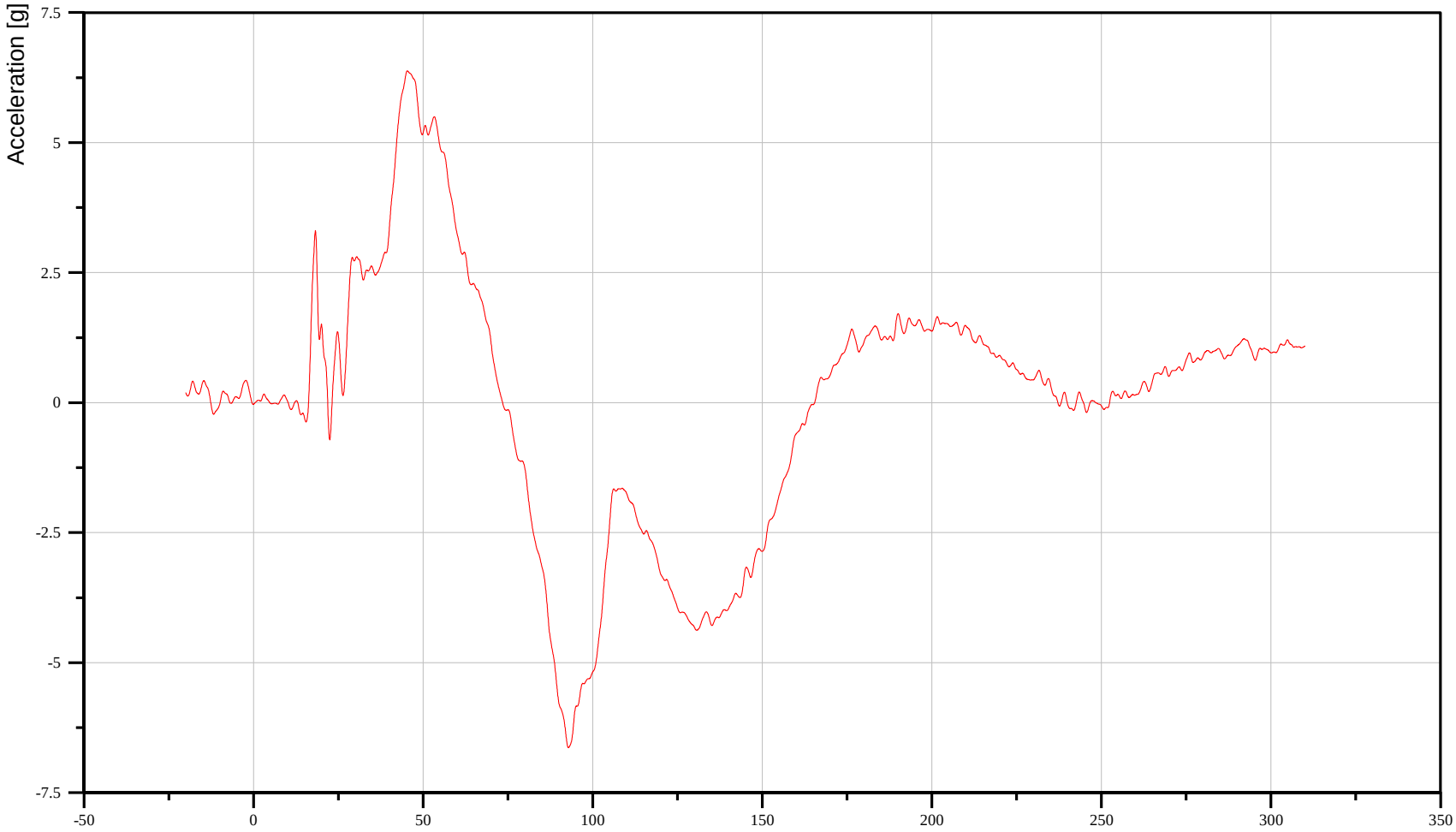
T12 Vertical Az

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP1200WSACZC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-6.63 g at 92.90 ms

Max. Value
6.38 g at 45.35 ms

2016 Honda Fit WorldSID Pole Impact

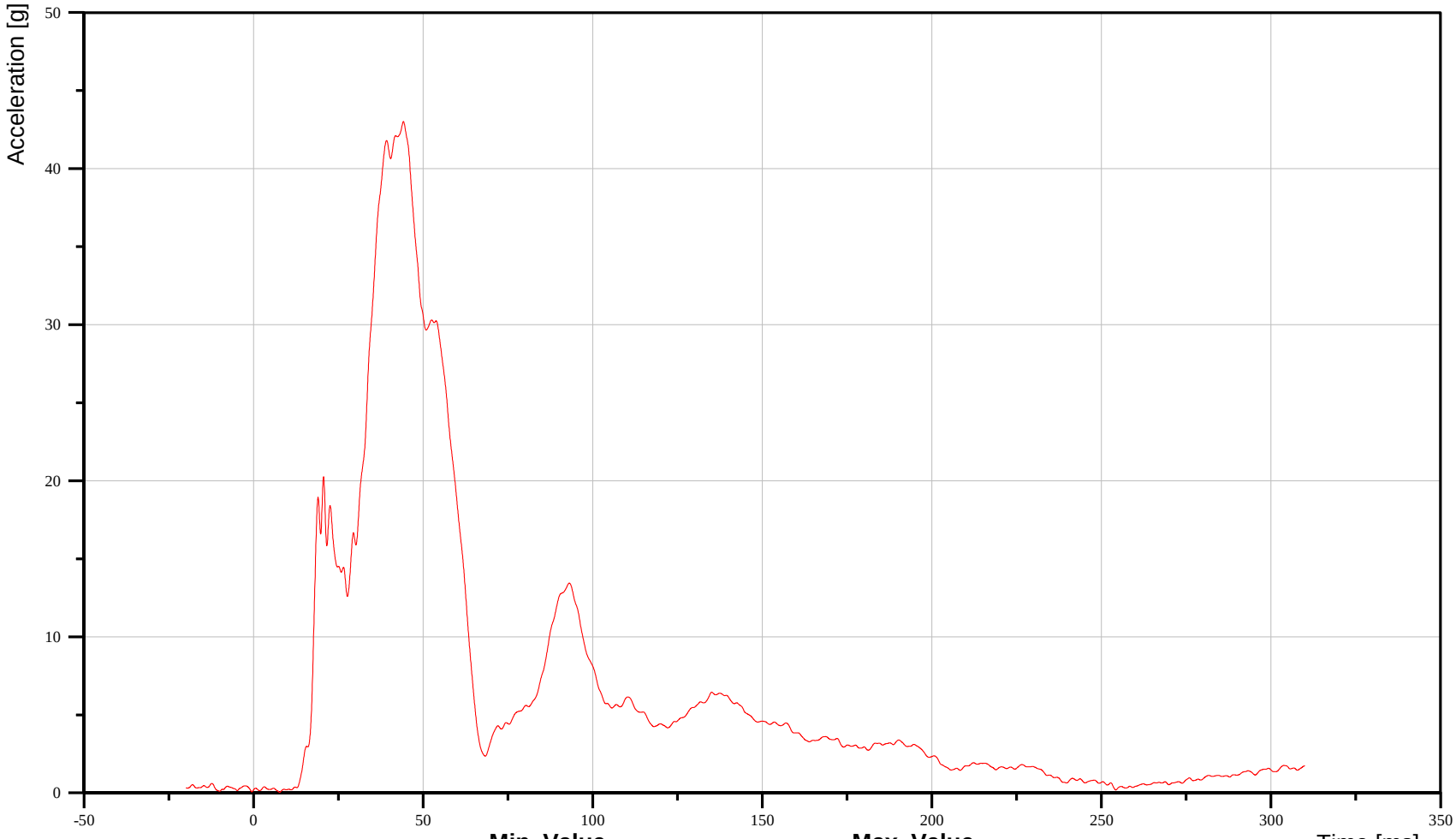
T12 A Resultant

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THSP1200WSACRC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
0.02 g at 7.70 ms

Max. Value
43.02 g at 44.20 ms

2016 Honda Fit WorldSID Pole Impact

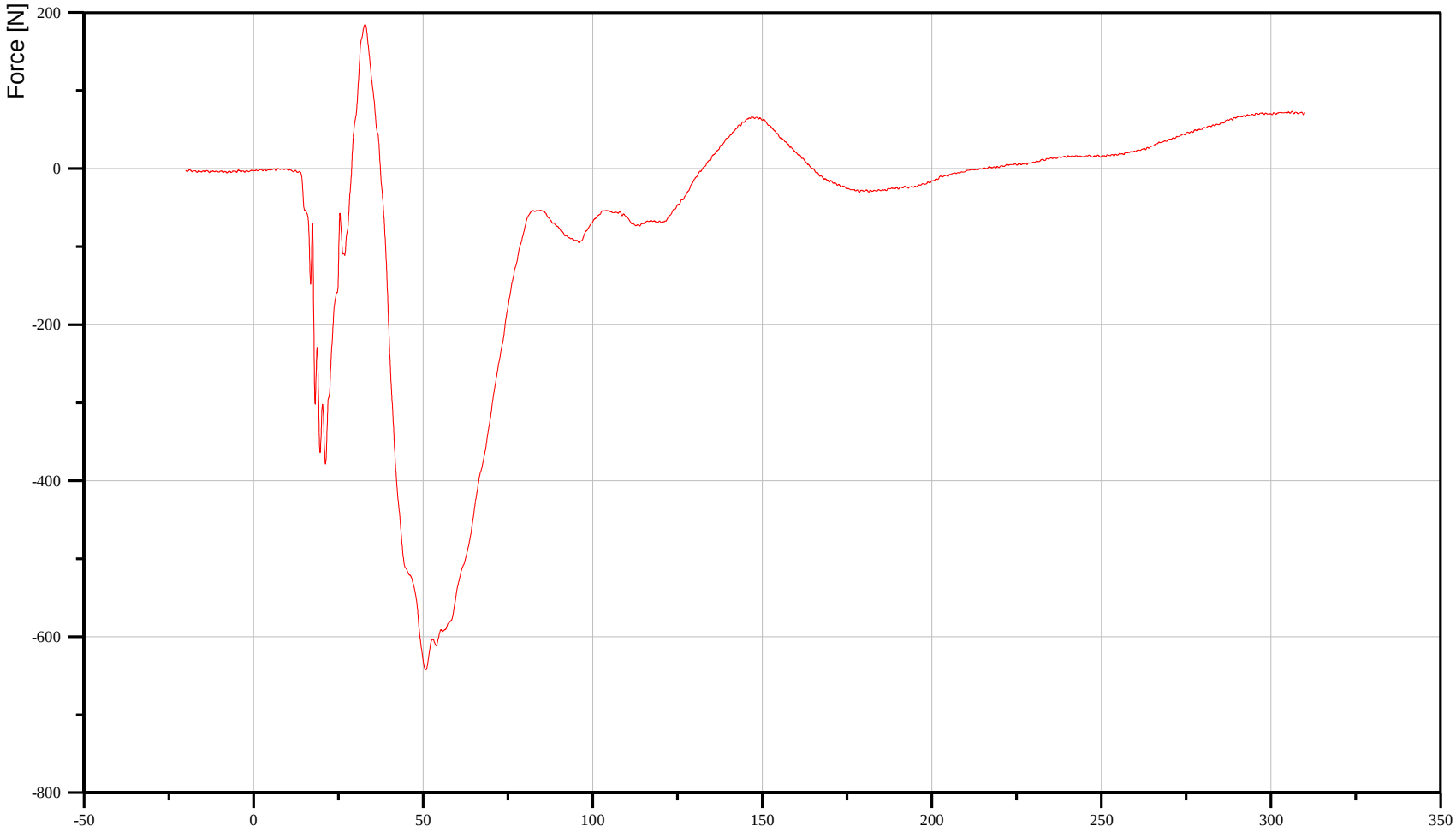
Shoulder X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHLDLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-642.18 N at 50.85 ms

Max. Value
184.50 N at 32.95 ms

2016 Honda Fit WorldSID Pole Impact

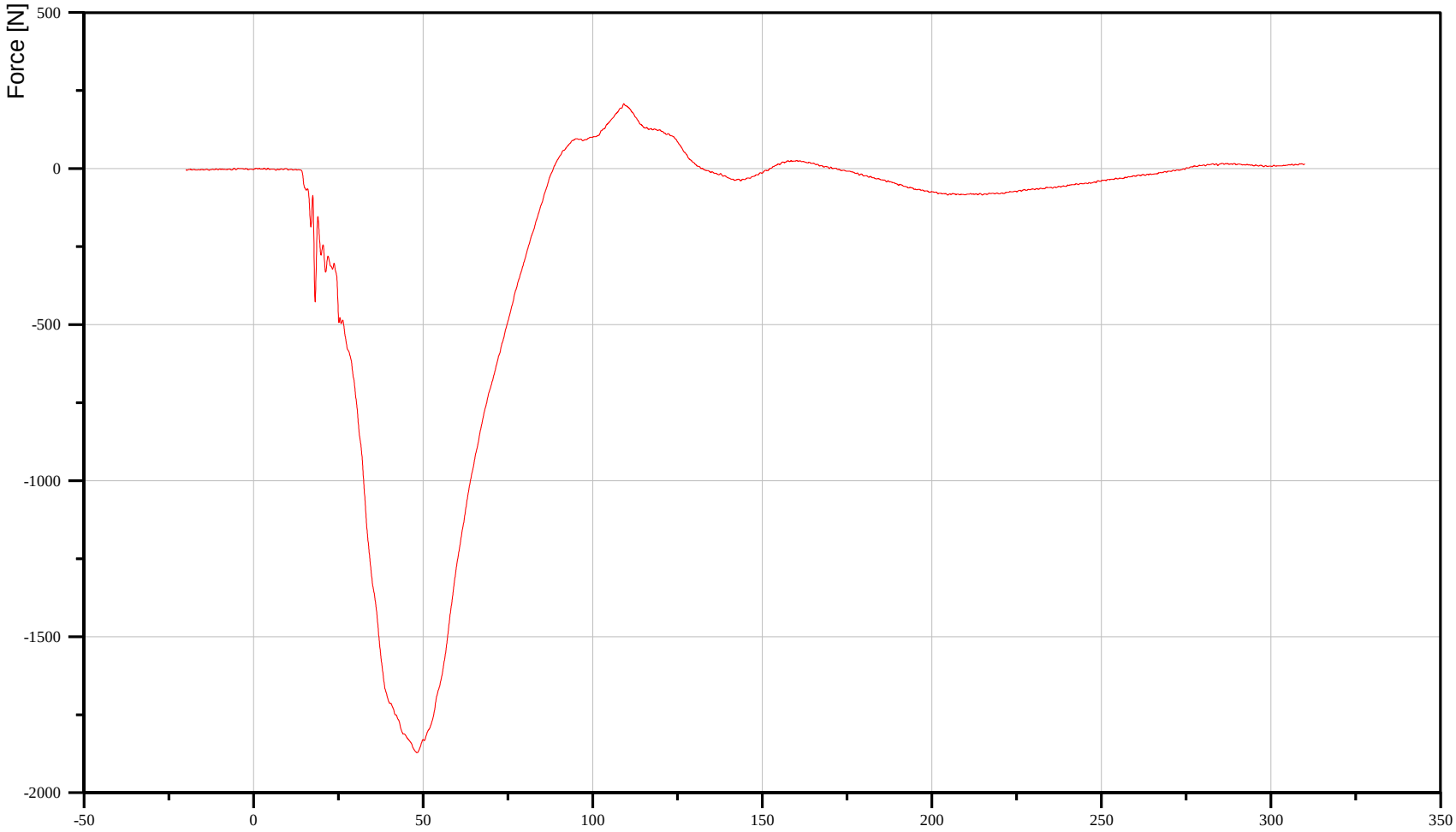
Shoulder Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHLDLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-1,871.95 N at 48.20 ms

Max. Value
207.94 N at 109.15 ms

2016 Honda Fit WorldSID Pole Impact

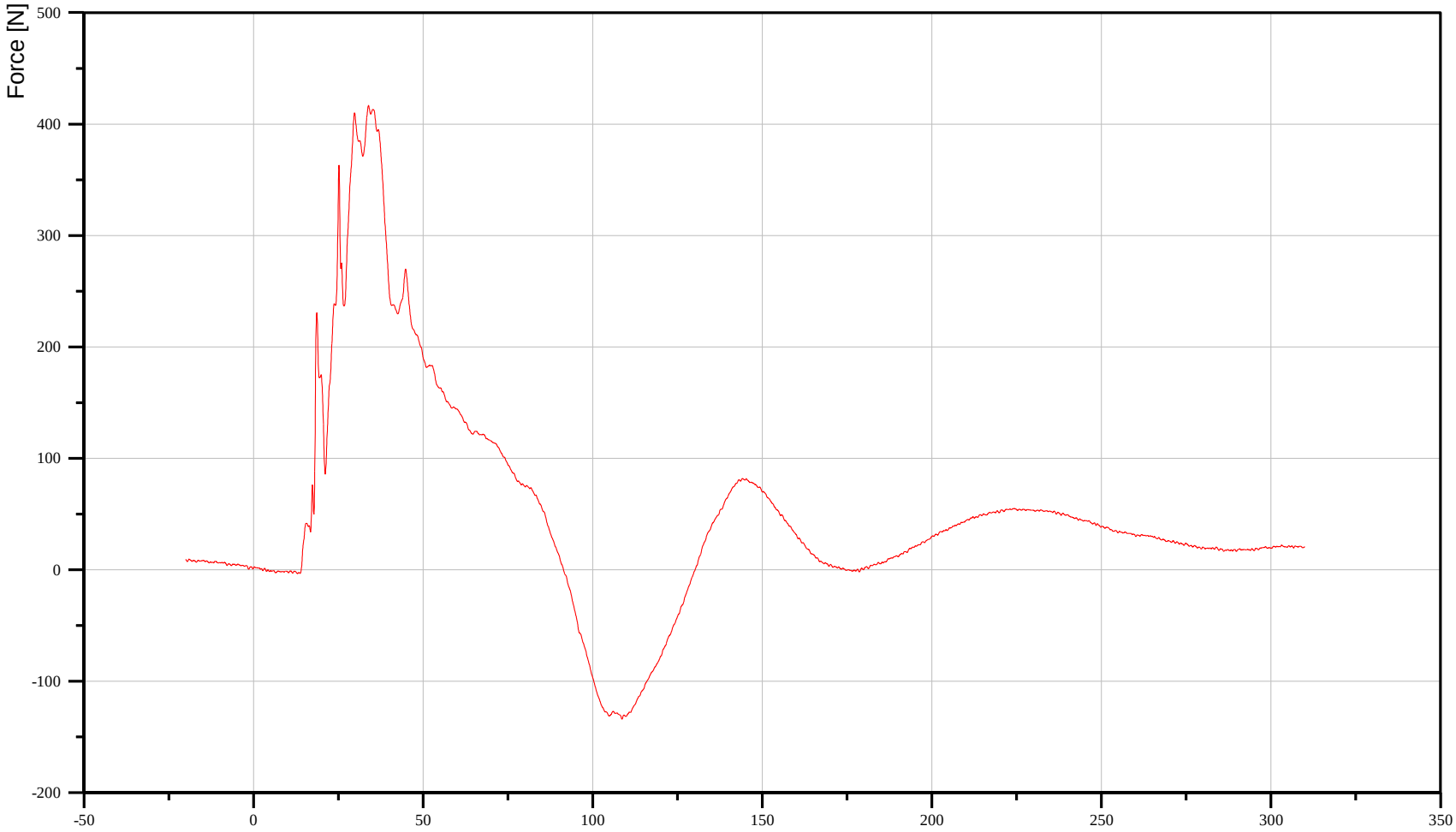
Shoulder Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHLDLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-133.83 N at 108.65 ms

Max. Value
416.70 N at 33.90 ms

2016 Honda Fit WorldSID Pole Impact

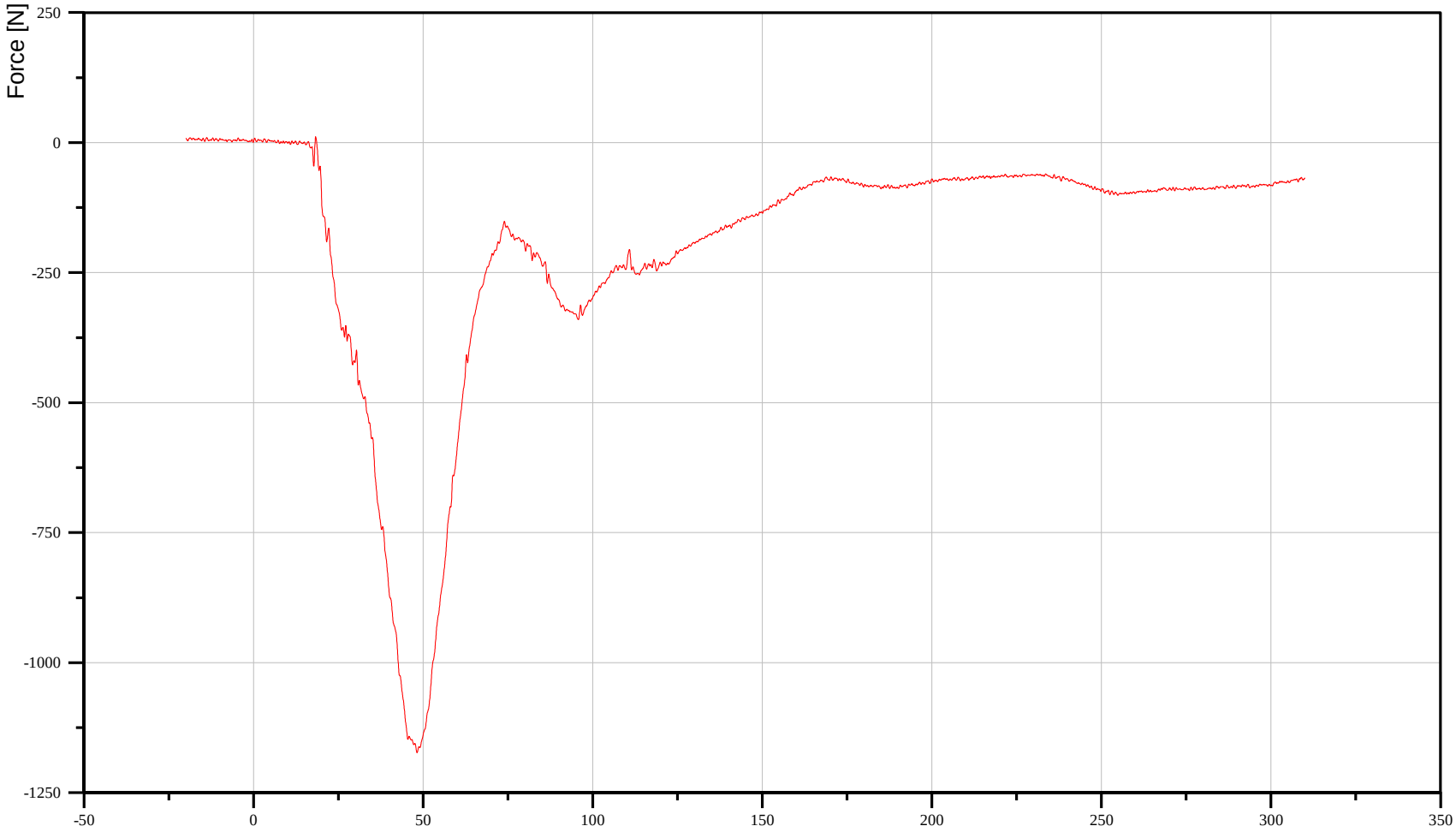
Pubic Symphysis Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PUBC0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-1,173.16 N at 48.20 ms

Max. Value
11.19 N at 18.30 ms

2016 Honda Fit WorldSID Pole Impact

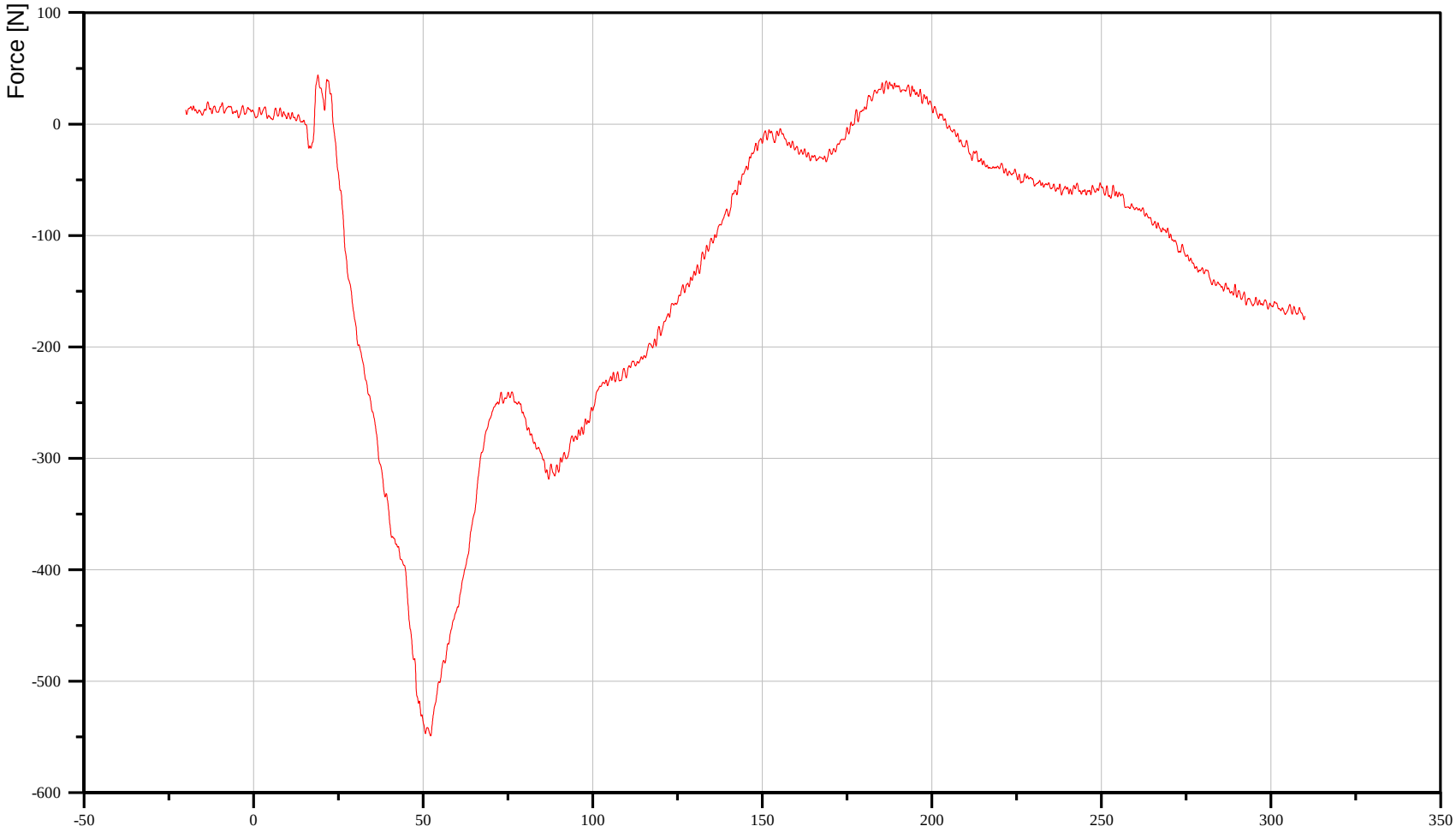
Sacro-Iliac Left X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-549.00 N at 52.25 ms

Max. Value
44.07 N at 19.00 ms

2016 Honda Fit WorldSID Pole Impact

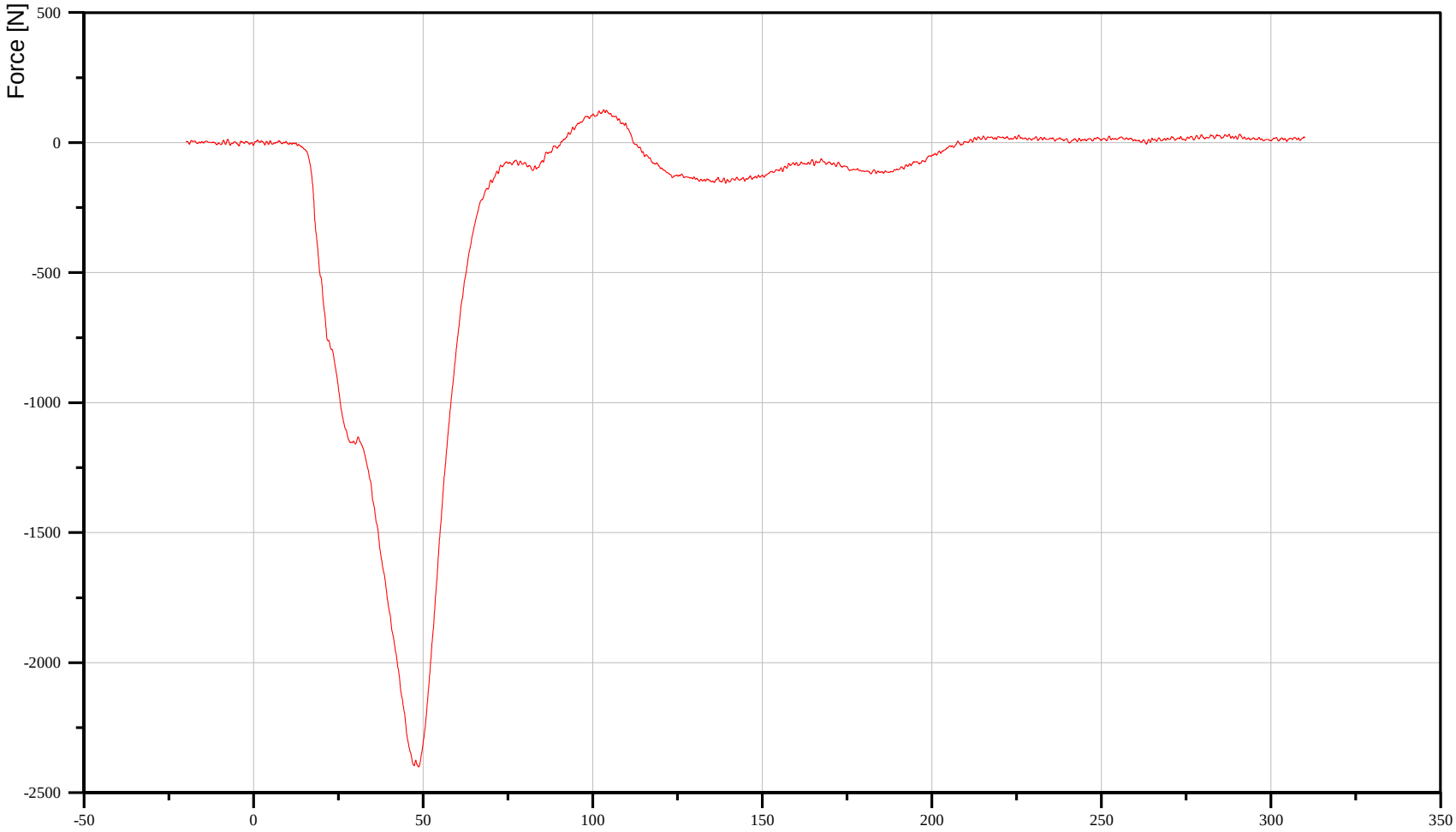
Sacro-Iliac Left Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-2,401.44 N at 48.70 ms

Max. Value
126.09 N at 103.25 ms

2016 Honda Fit WorldSID Pole Impact

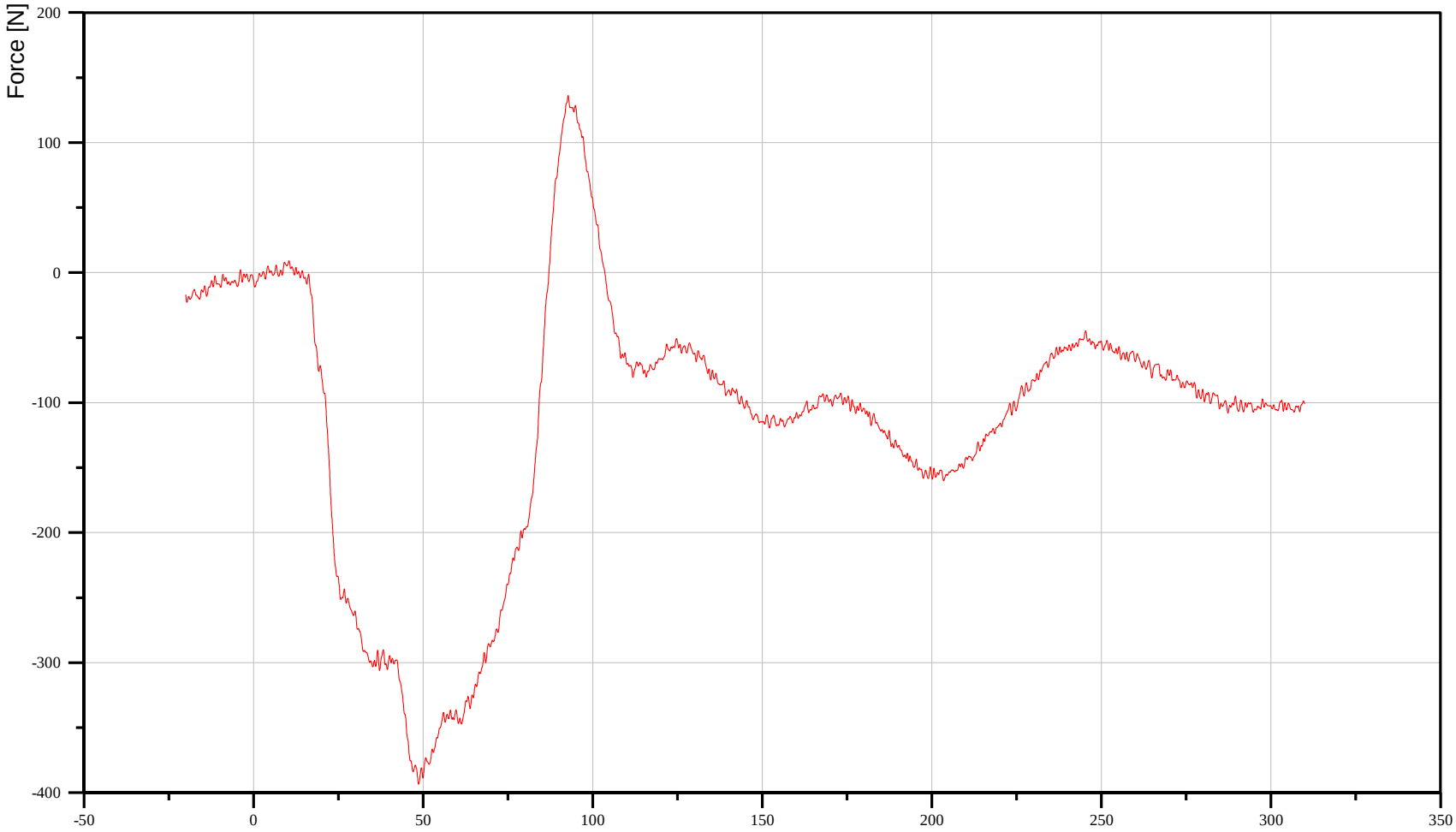
Sacro-Iliac Left Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-393.40 N at 48.65 ms

Max. Value
136.11 N at 92.80 ms

2016 Honda Fit WorldSID Pole Impact

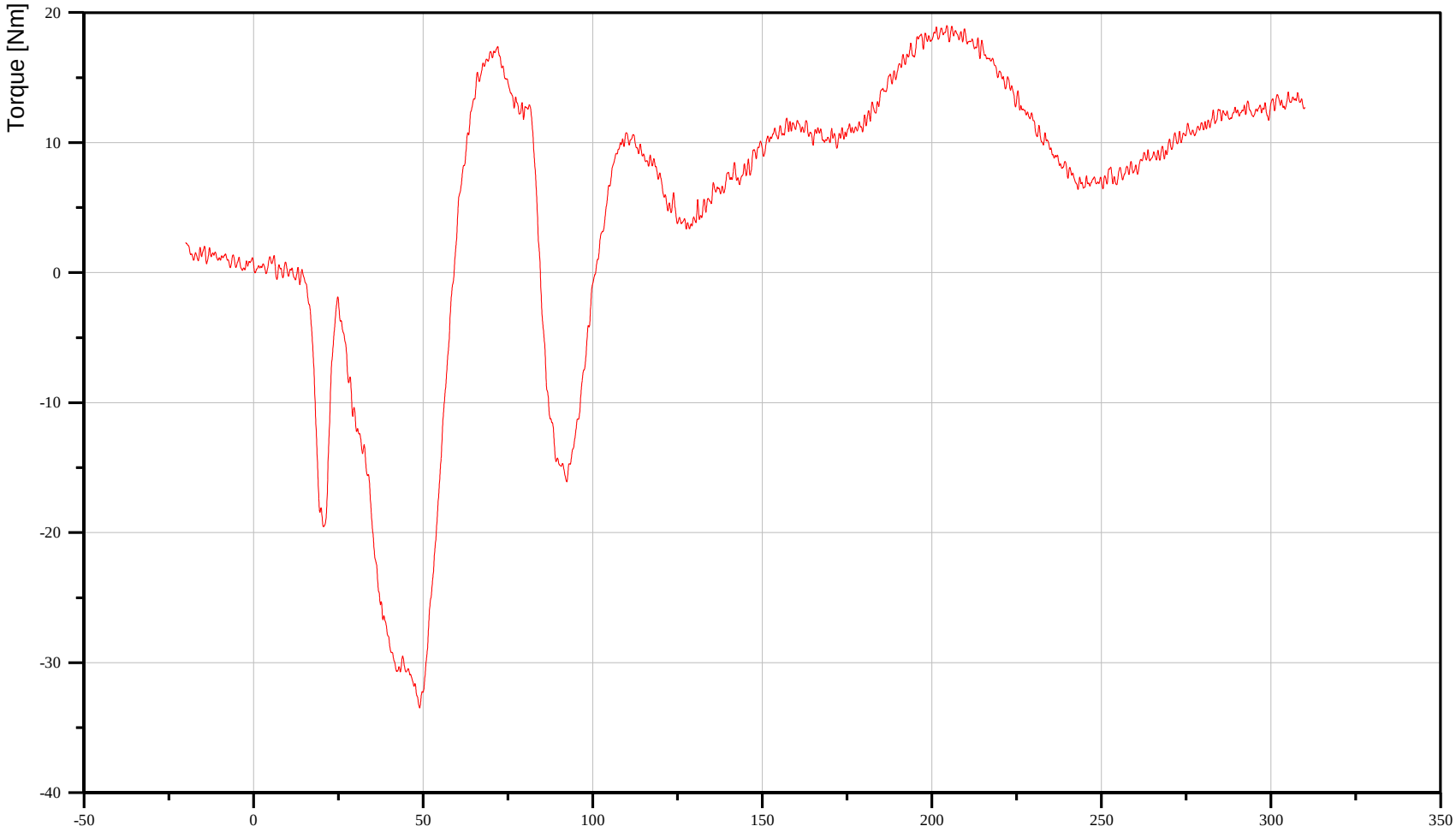
Sacro-Iliac Left Moment About X Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-33.48 Nm at 49.00 ms

Max. Value
19.01 Nm at 204.45 ms

2016 Honda Fit WorldSID Pole Impact

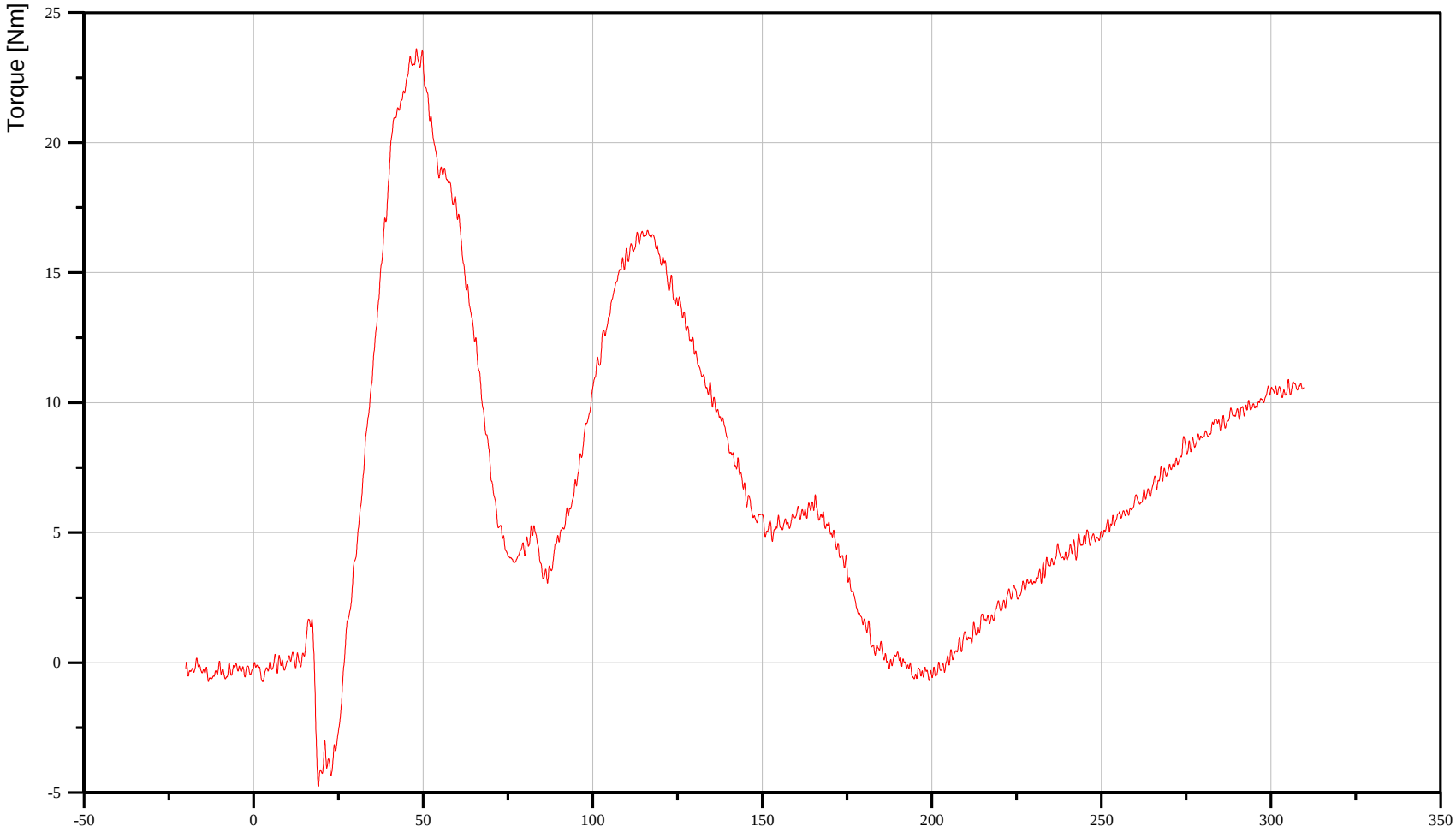
Sacro-Iliac Left Moment About Y Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-4.76 Nm at 19.10 ms

Max. Value
23.61 Nm at 48.05 ms

2016 Honda Fit WorldSID Pole Impact

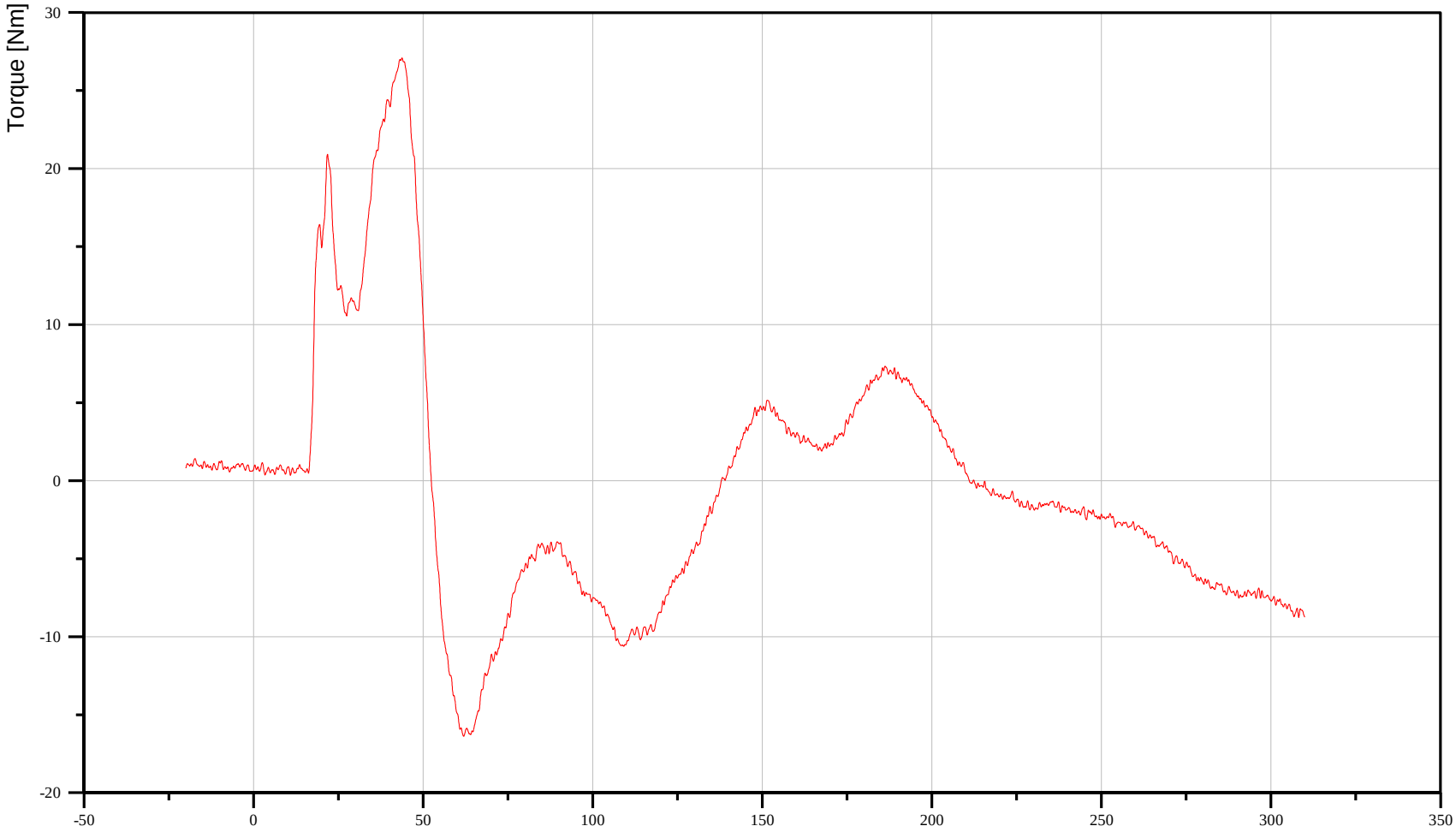
Sacro-Iliac Left Moment About Z Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SACRLE00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-16.38 Nm at 62.00 ms

Max. Value
27.09 Nm at 43.80 ms

2016 Honda Fit WorldSID Pole Impact

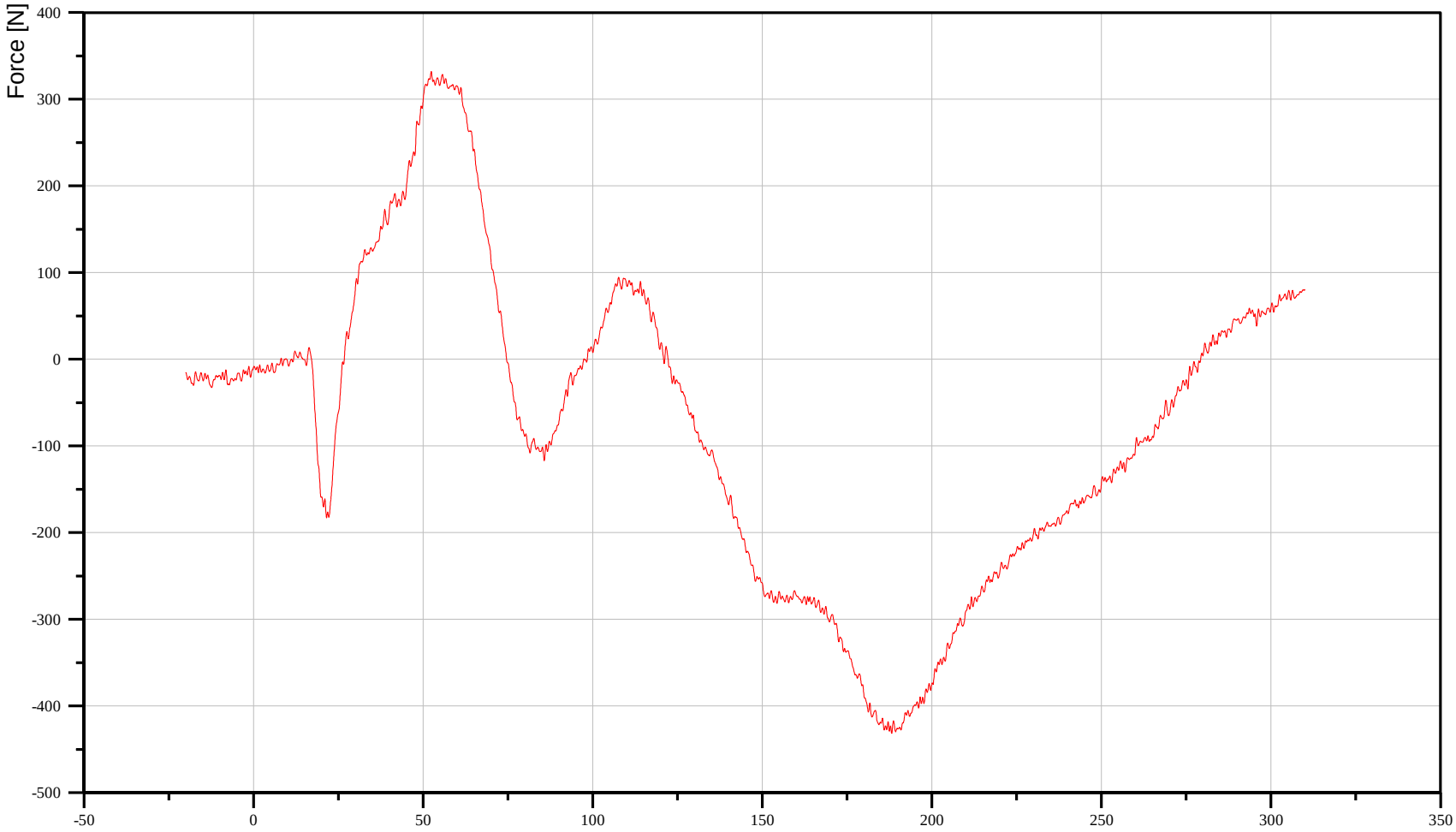
Lumbar X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-431.36 N at 188.20 ms

Max. Value
332.04 N at 52.40 ms

2016 Honda Fit WorldSID Pole Impact

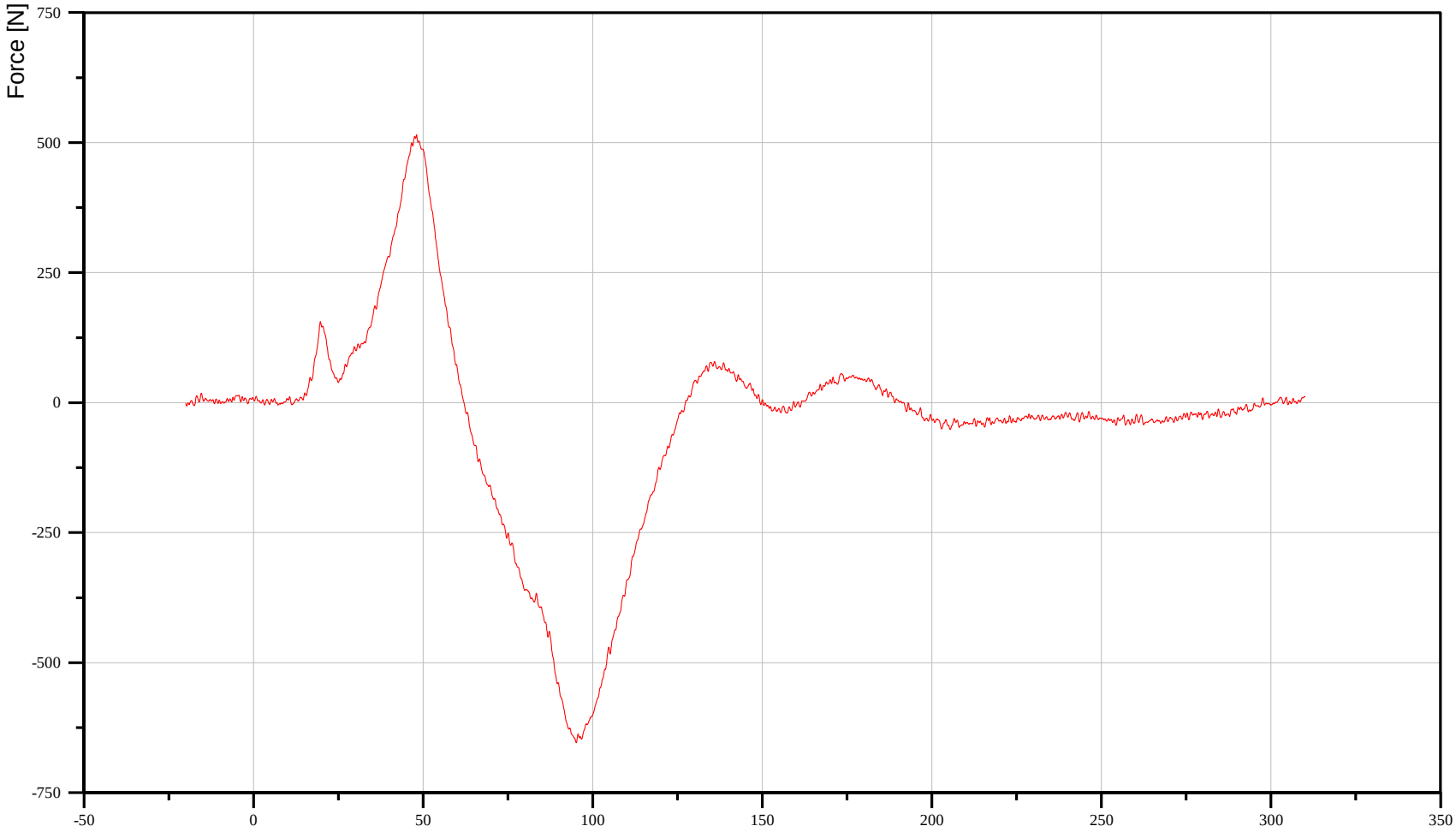
Lumbar Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-654.17 N at 95.20 ms

Max. Value
514.77 N at 48.05 ms

2016 Honda Fit WorldSID Pole Impact

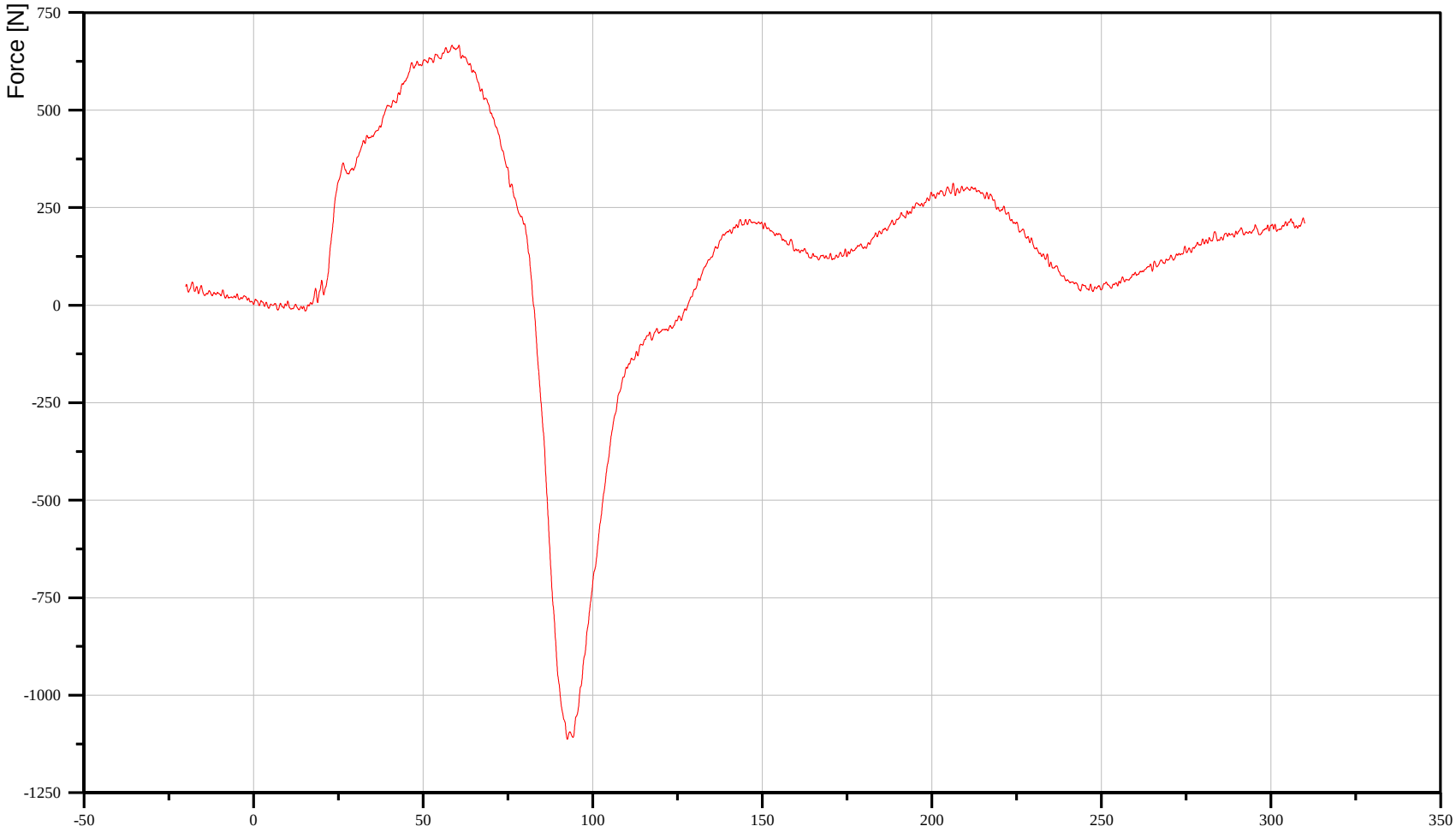
Lumbar Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-1,112.90 N at 92.55 ms

Max. Value
666.45 N at 60.55 ms

2016 Honda Fit WorldSID Pole Impact

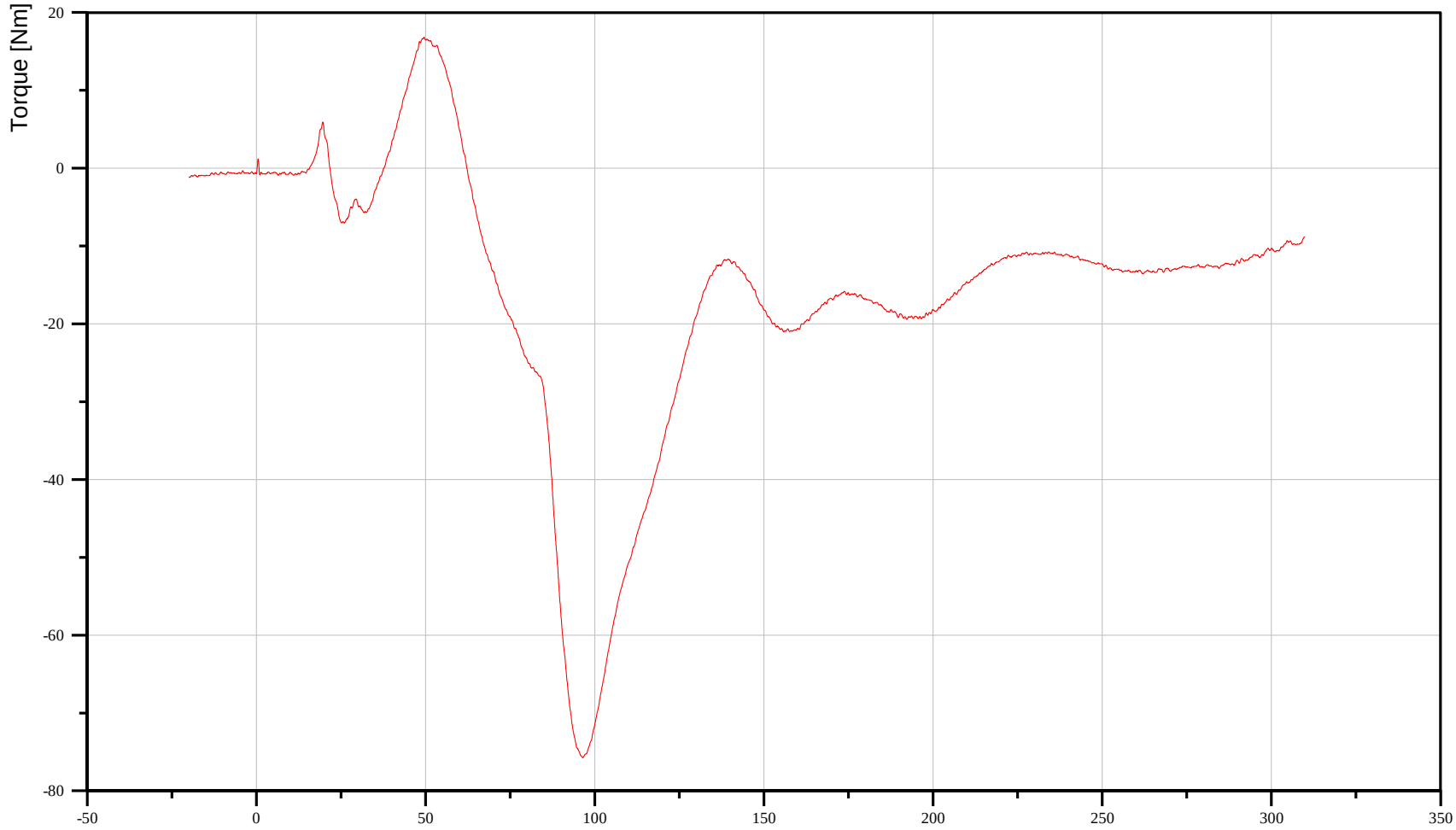
Lumbar Moment About X Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-75.74 Nm at 96.45 ms

Max. Value
16.82 Nm at 49.55 ms

2016 Honda Fit WorldSID Pole Impact

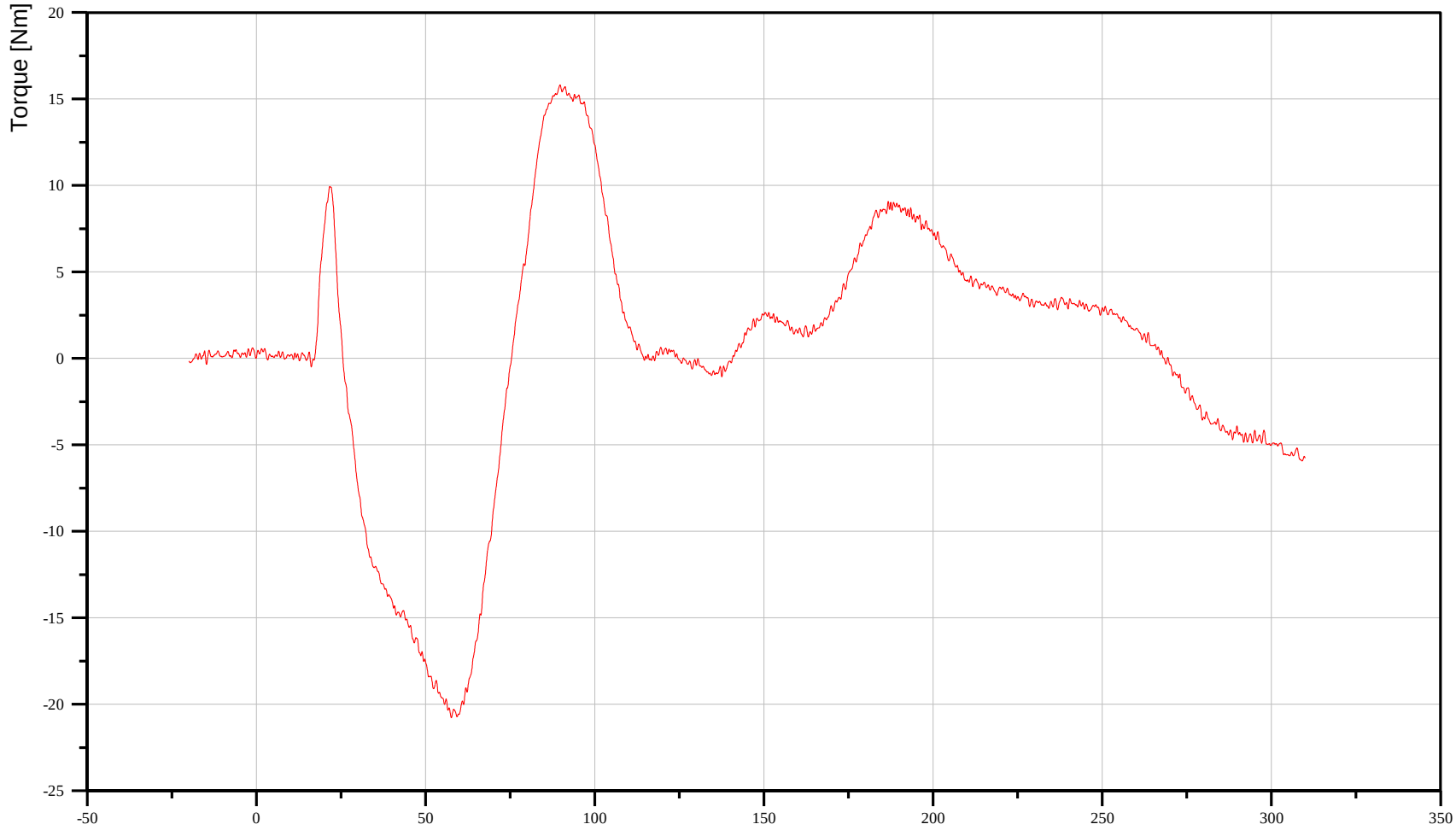
Lumbar Moment About Y Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-20.76 Nm at 57.65 ms

Max. Value
15.81 Nm at 89.75 ms

2016 Honda Fit WorldSID Pole Impact

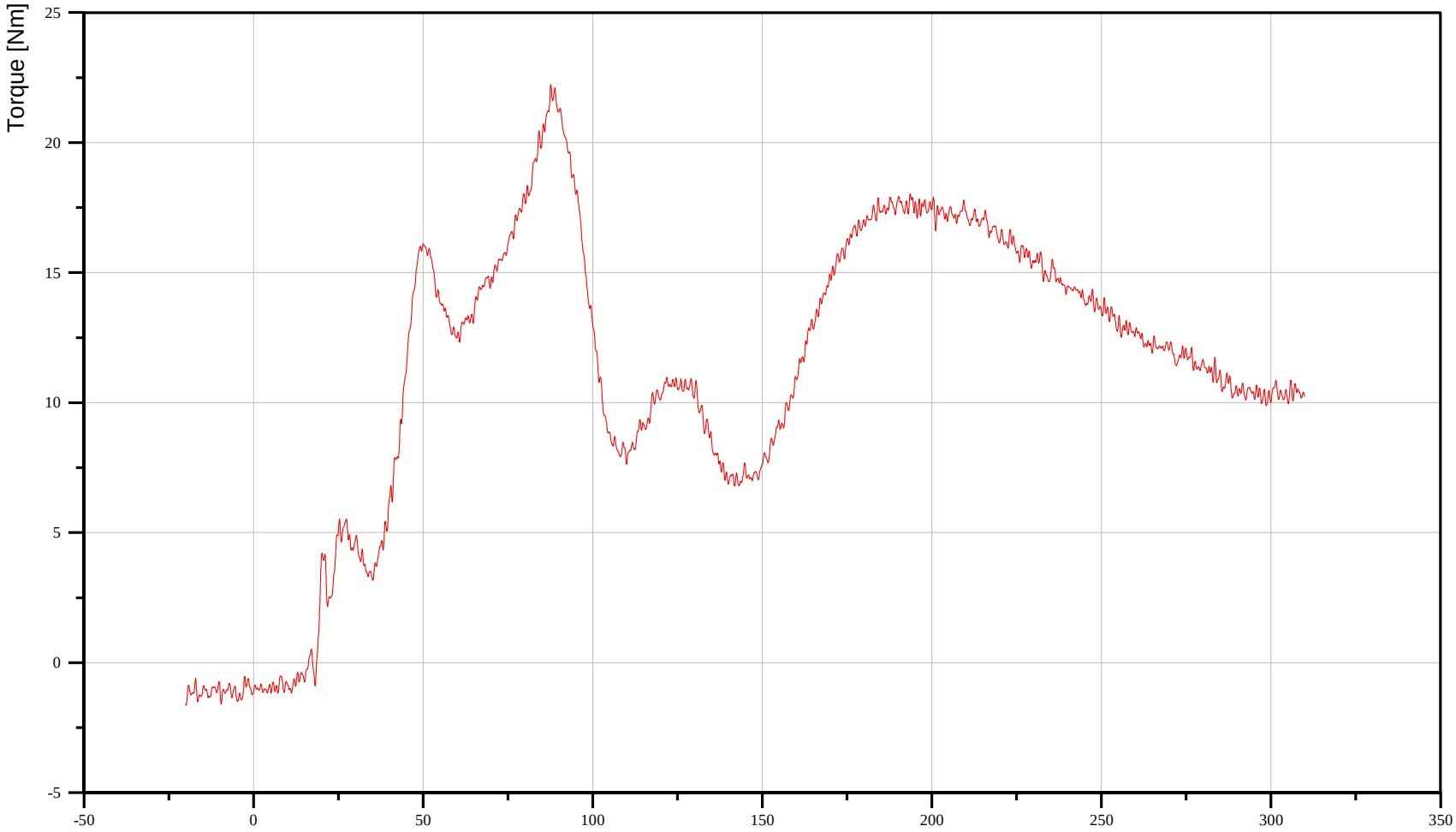
Lumbar Moment About Z Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11LUSP0000WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-1.64 Nm at -19.85 ms

Max. Value
22.24 Nm at 87.65 ms

2016 Honda Fit WorldSID Pole Impact

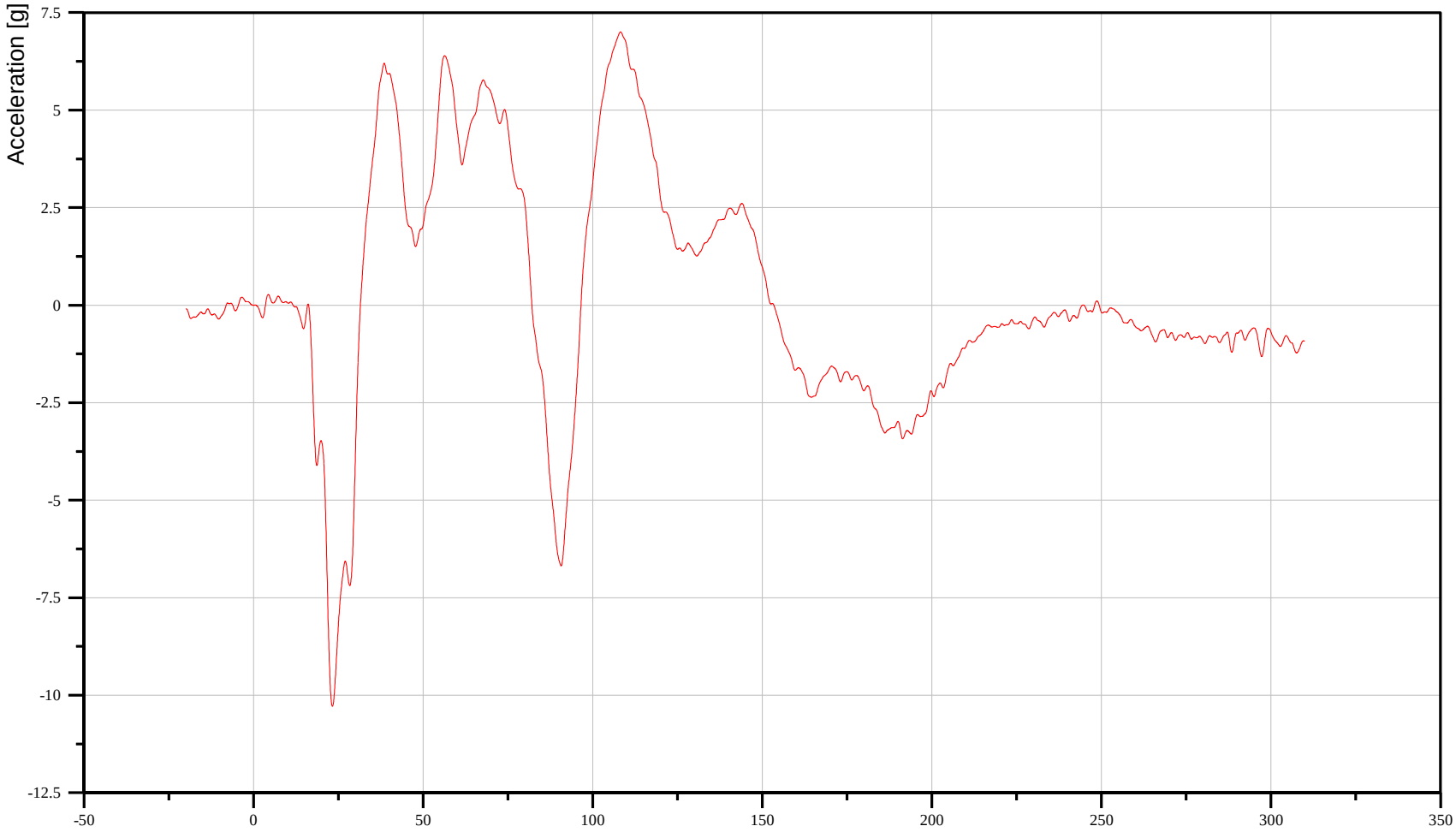
Pelvis Longitudinal Ax

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PELV0000WSACXC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-10.29 g at 23.25 ms

Max. Value
7.01 g at 108.20 ms

2016 Honda Fit WorldSID Pole Impact

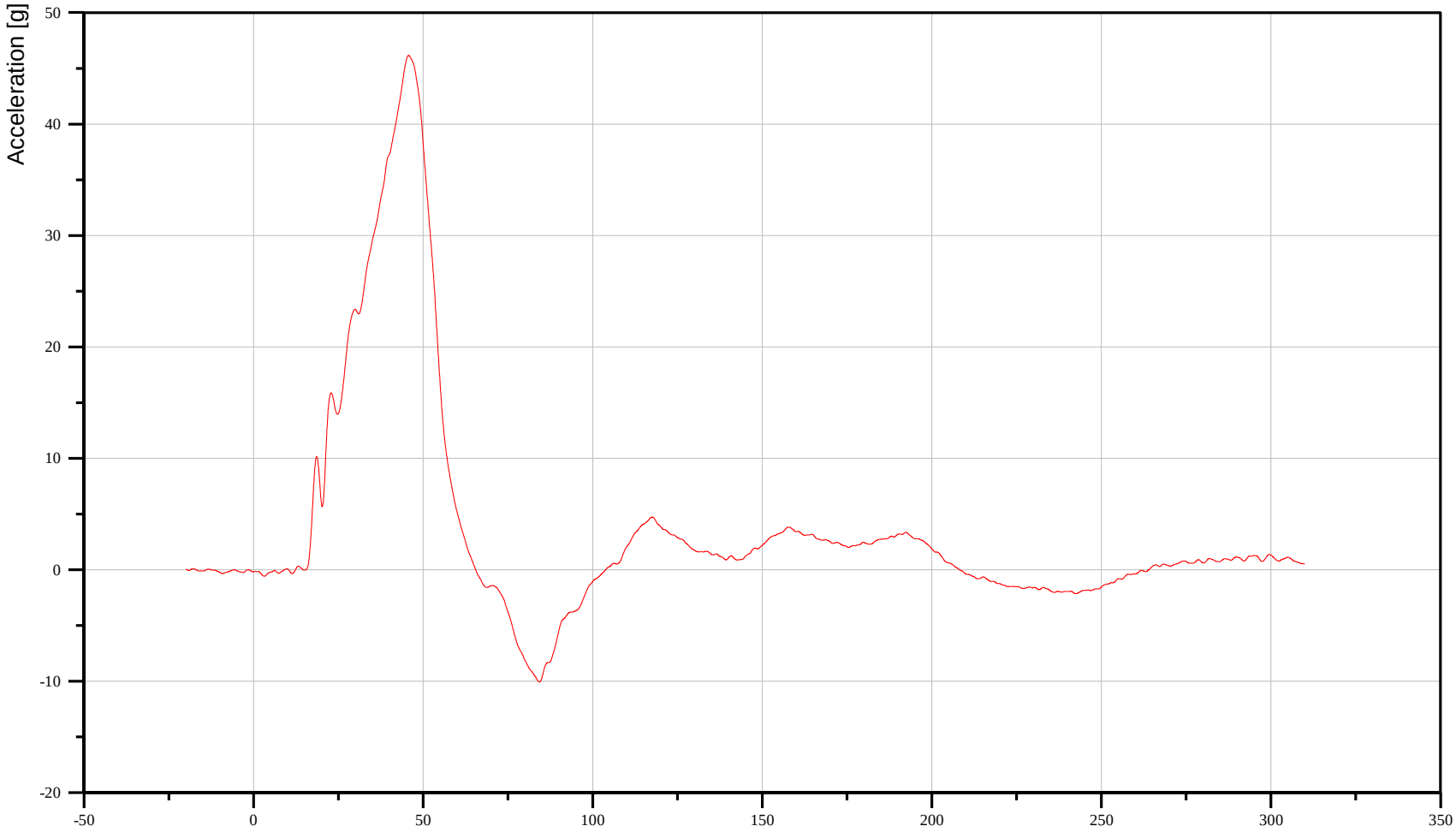
Pelvis Lateral Ay

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PELV0000WSACYC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-10.06 g at 84.30 ms

Max. Value
46.16 g at 45.70 ms

2016 Honda Fit WorldSID Pole Impact

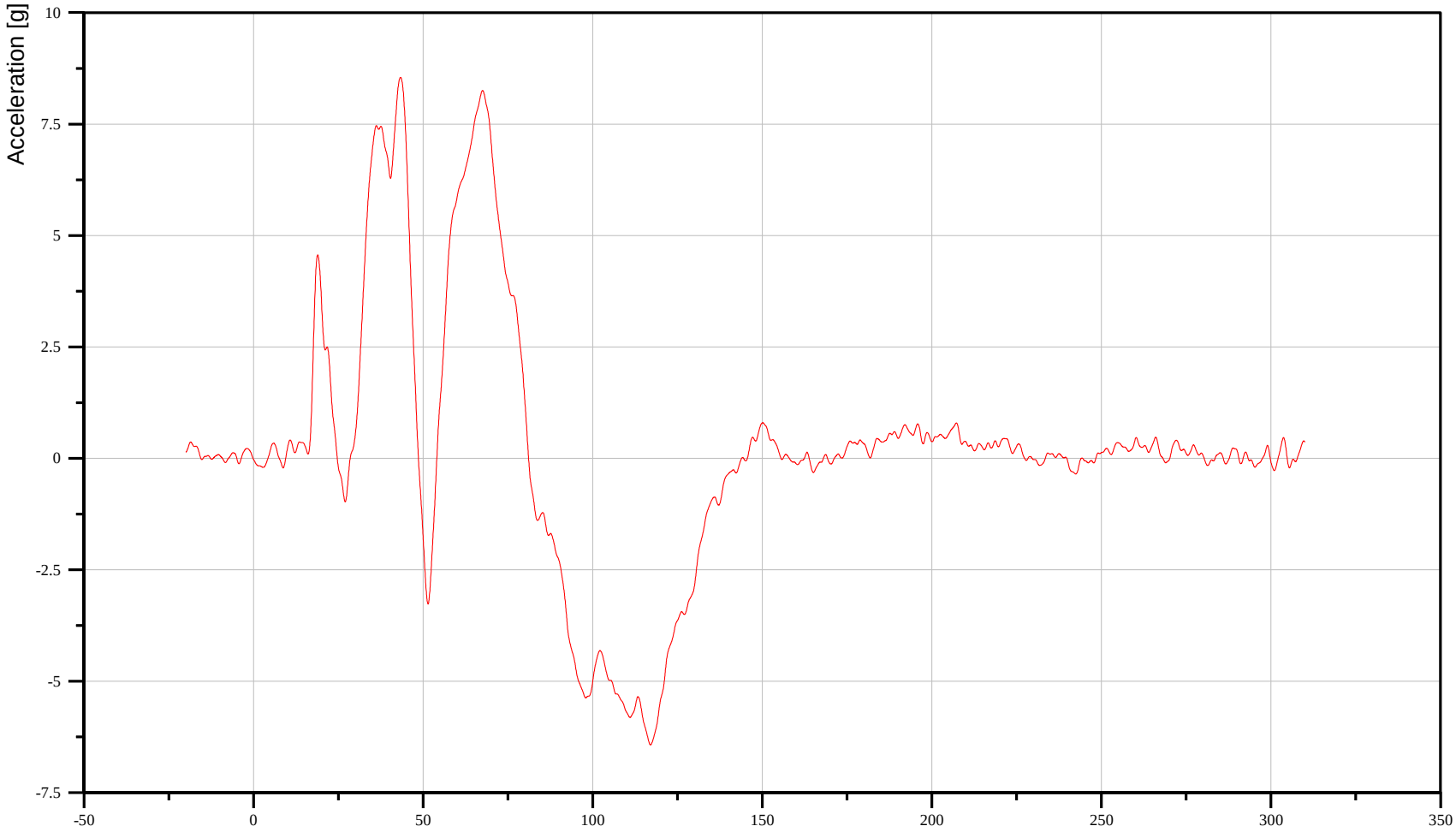
Pelvis Vertical Az

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PELV0000WSACZC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
-6.43 g at 117.05 ms

Max. Value
8.55 g at 43.35 ms

2016 Honda Fit WorldSID Pole Impact

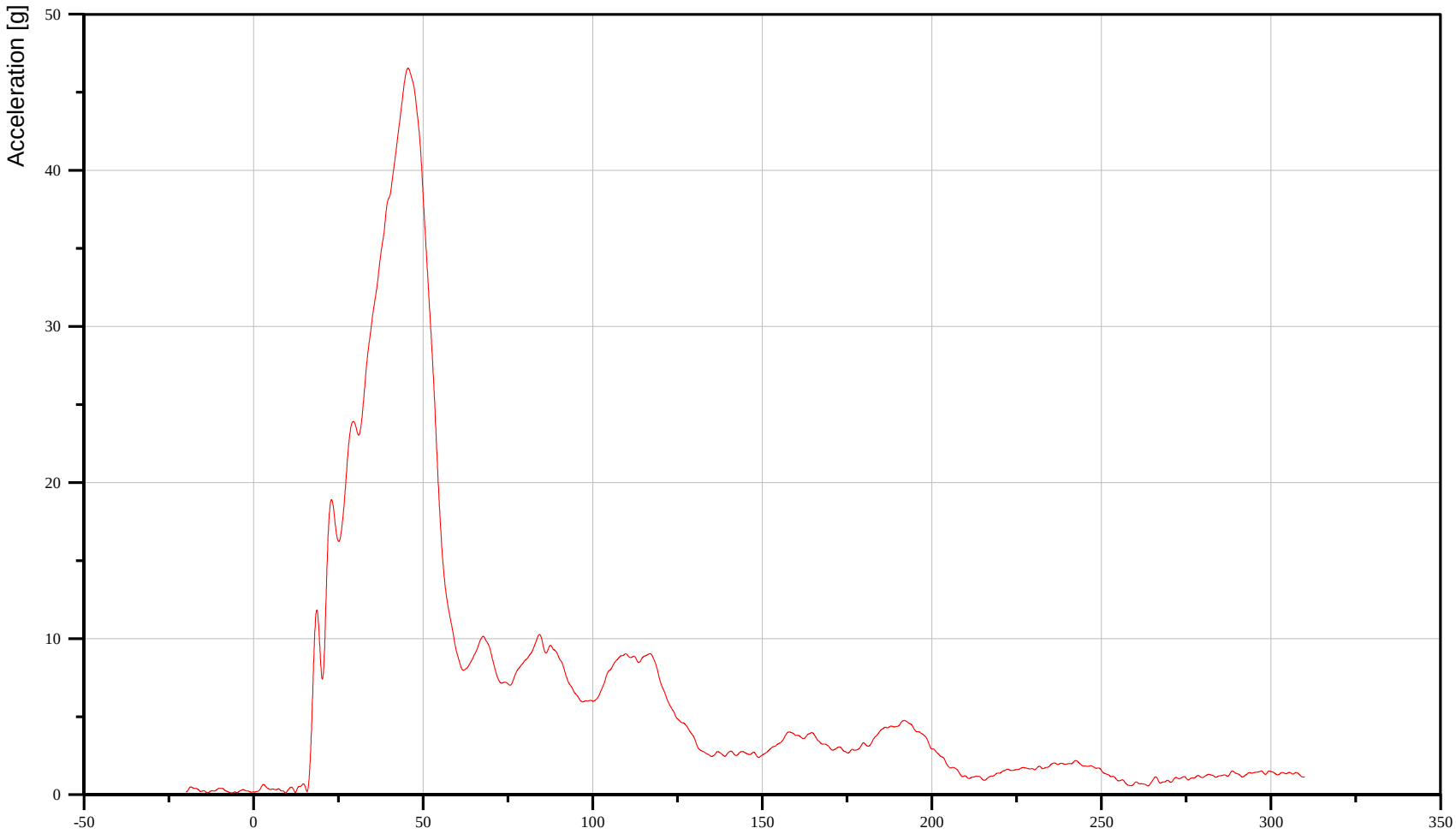
Pelvis A Resultant

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PELV0000WSACRC

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_180

Min. Value
0.11 g at 9.45 ms

Max. Value
46.55 g at 45.55 ms

2016 Honda Fit WorldSID Pole Impact

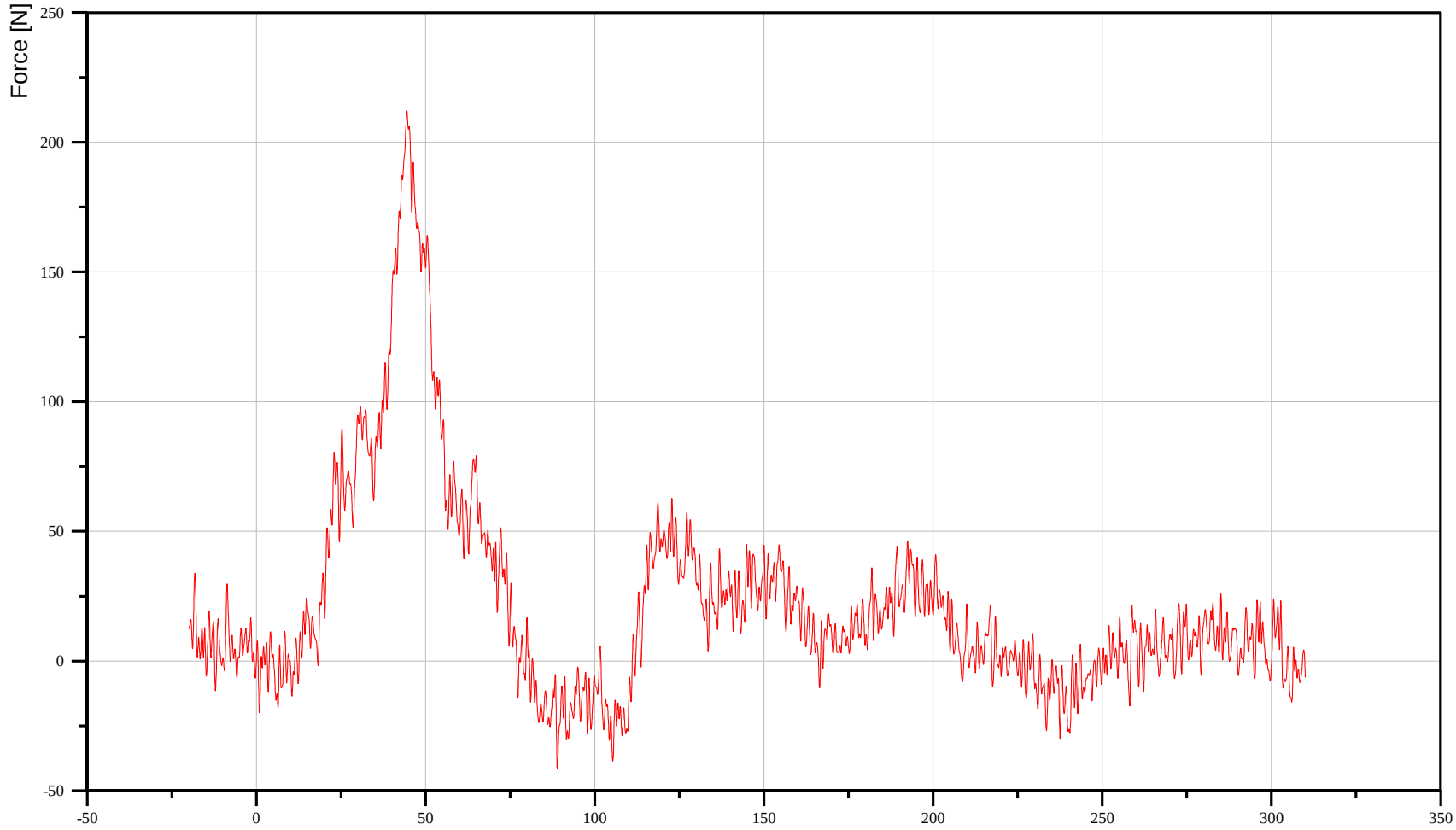
Left Femur X-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-41.40 N at 88.95 ms

Max. Value
212.00 N at 44.50 ms

2016 Honda Fit WorldSID Pole Impact

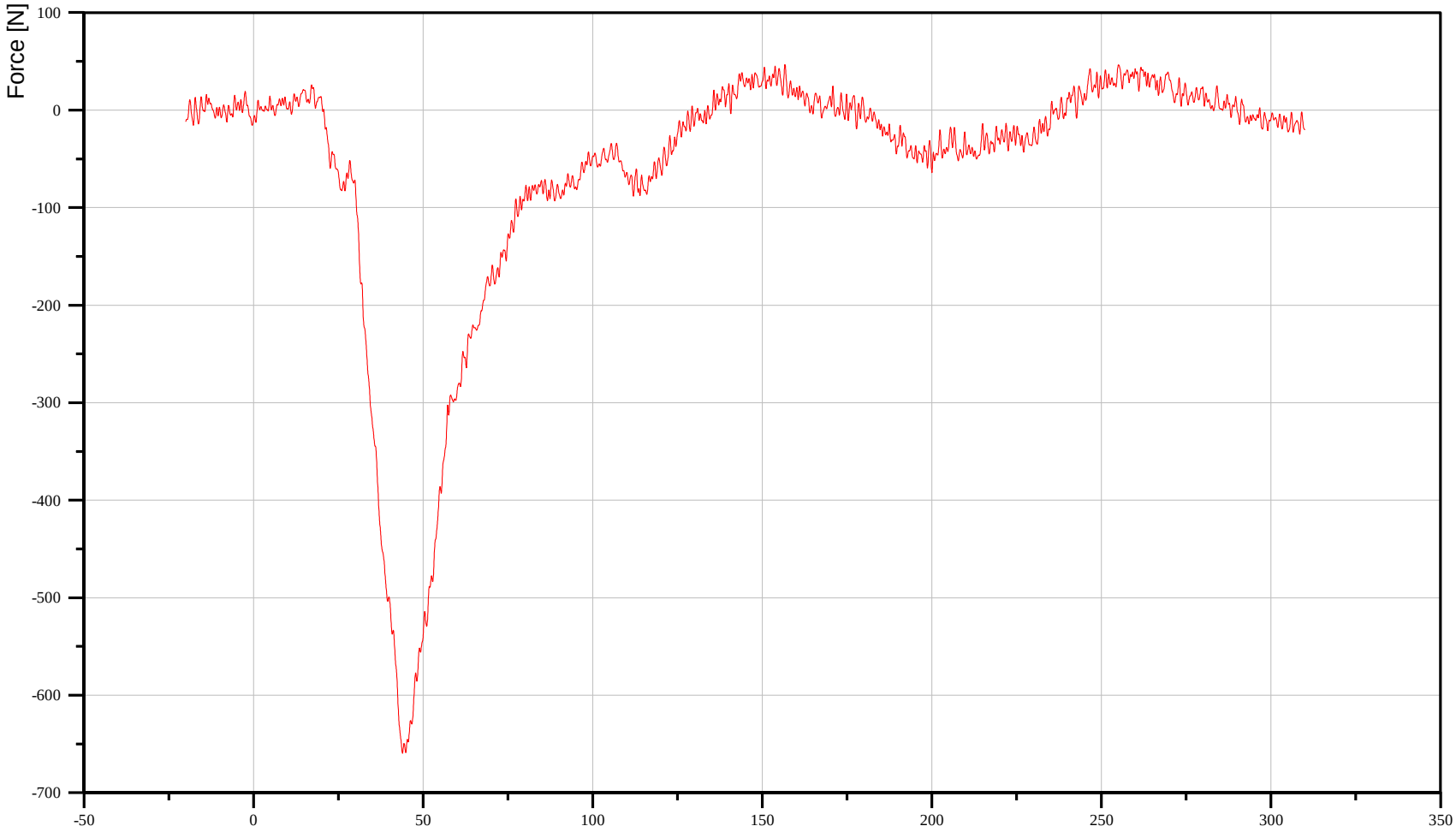
Left Femur Y-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-659.59 N at 43.90 ms

Max. Value
46.83 N at 156.70 ms

2016 Honda Fit WorldSID Pole Impact

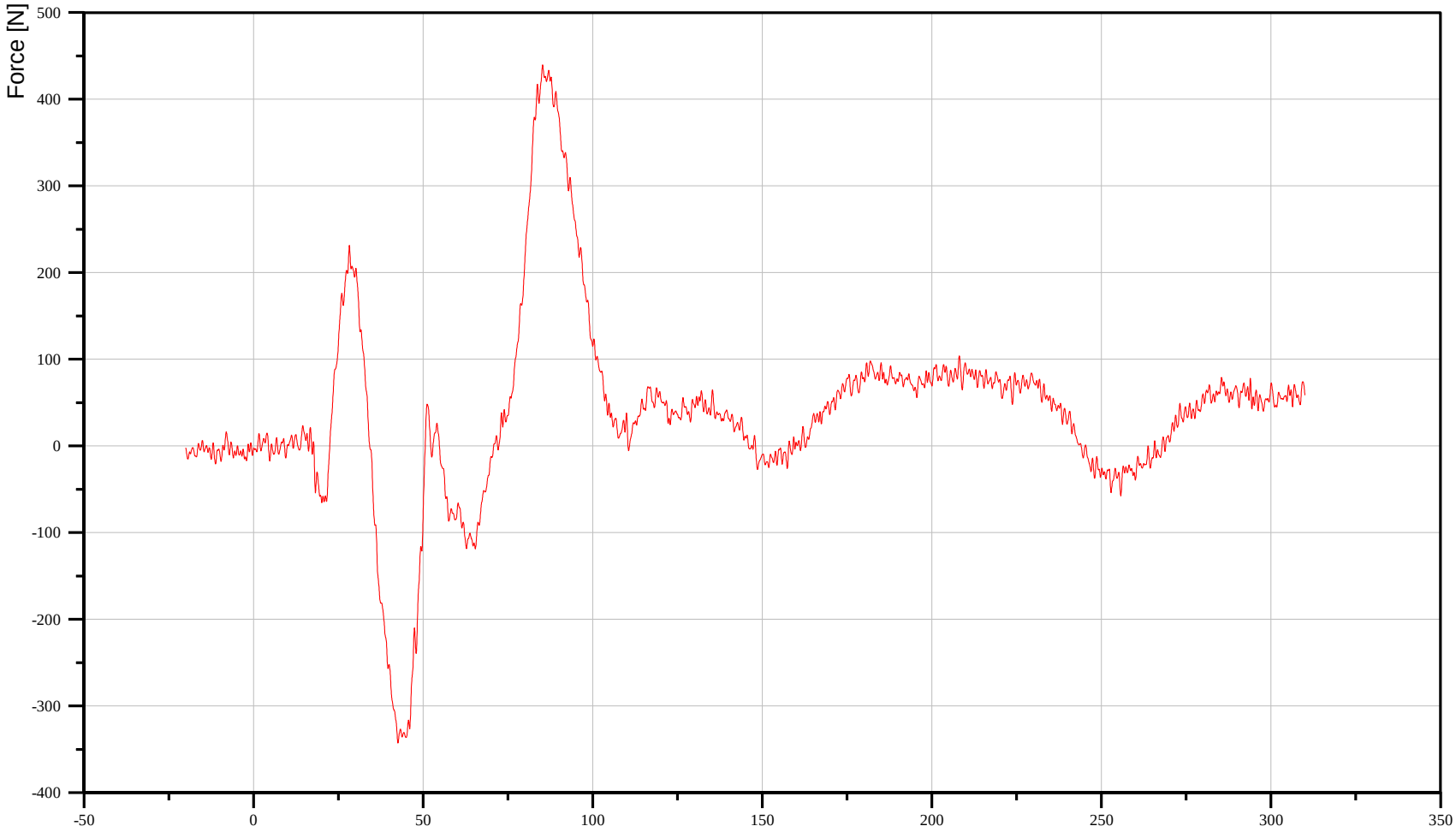
Left Femur Z-Axis Force

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-342.64 N at 42.60 ms

Max. Value
439.62 N at 85.25 ms

2016 Honda Fit WorldSID Pole Impact

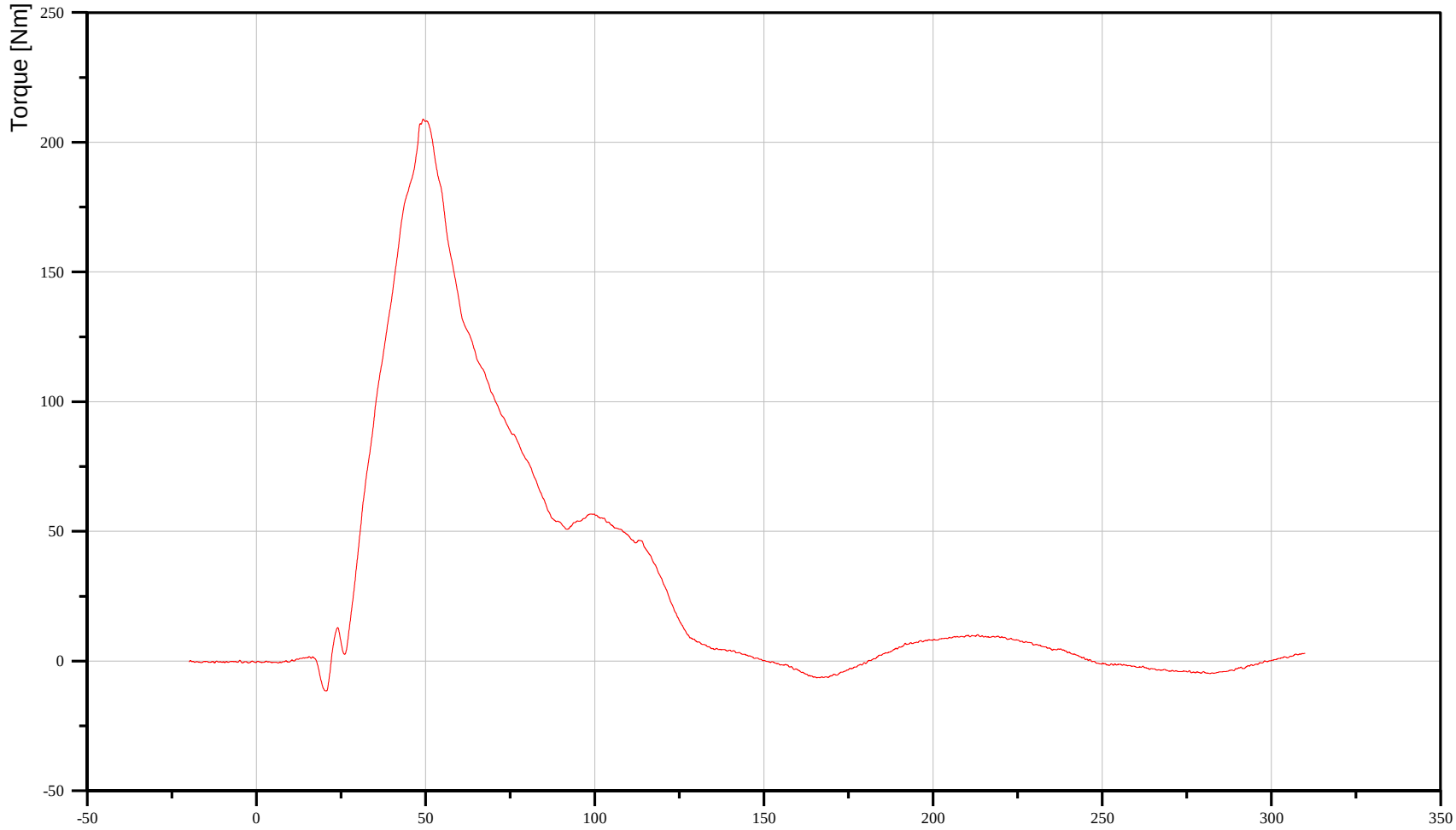
Left Femur Moment About X Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSMOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-11.48 Nm at 20.70 ms

Max. Value
208.92 Nm at 49.30 ms

2016 Honda Fit WorldSID Pole Impact

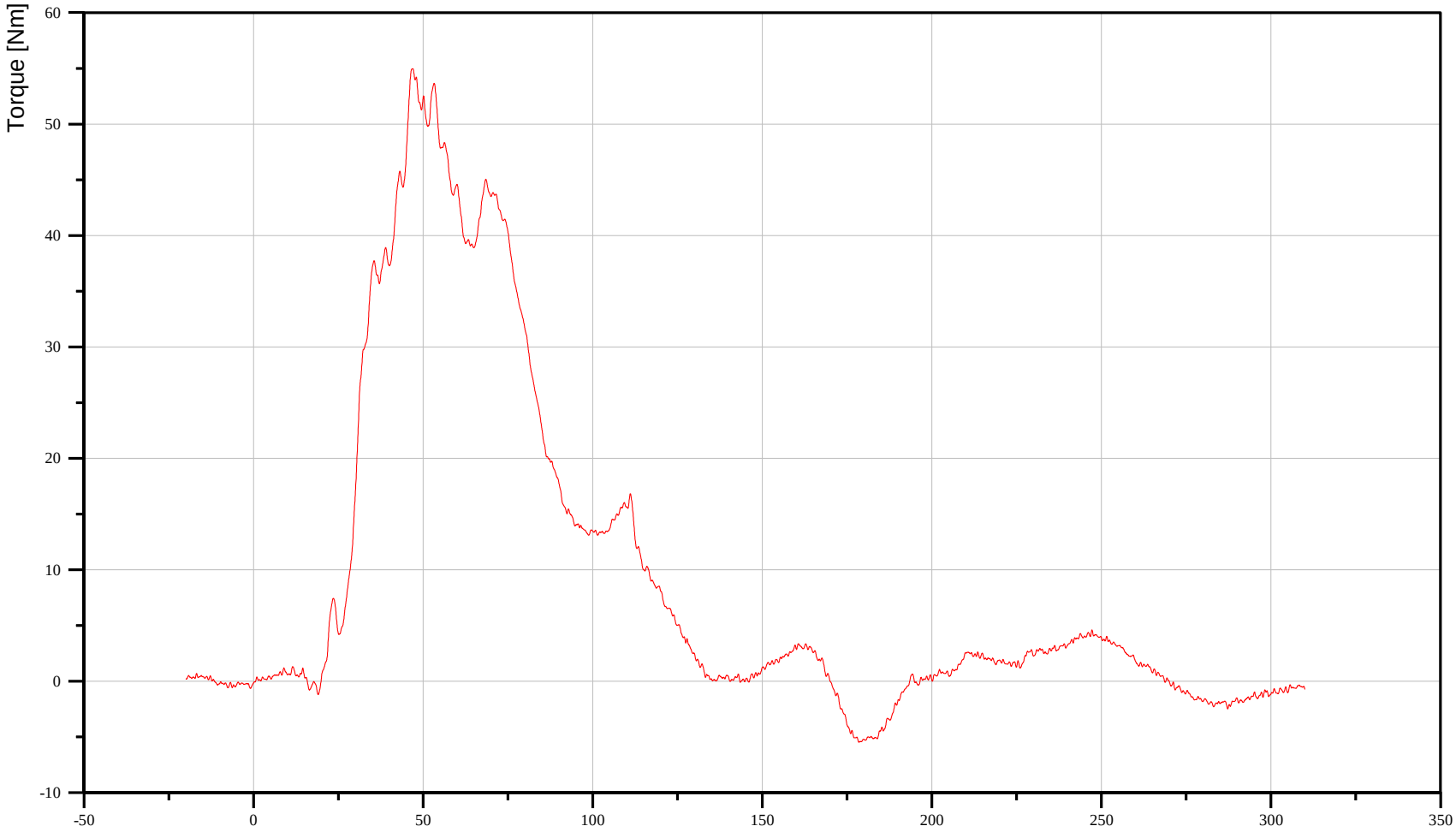
Left Femur Moment About Y Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSMOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-5.48 Nm at 178.50 ms

Max. Value
54.97 Nm at 46.95 ms

2016 Honda Fit WorldSID Pole Impact

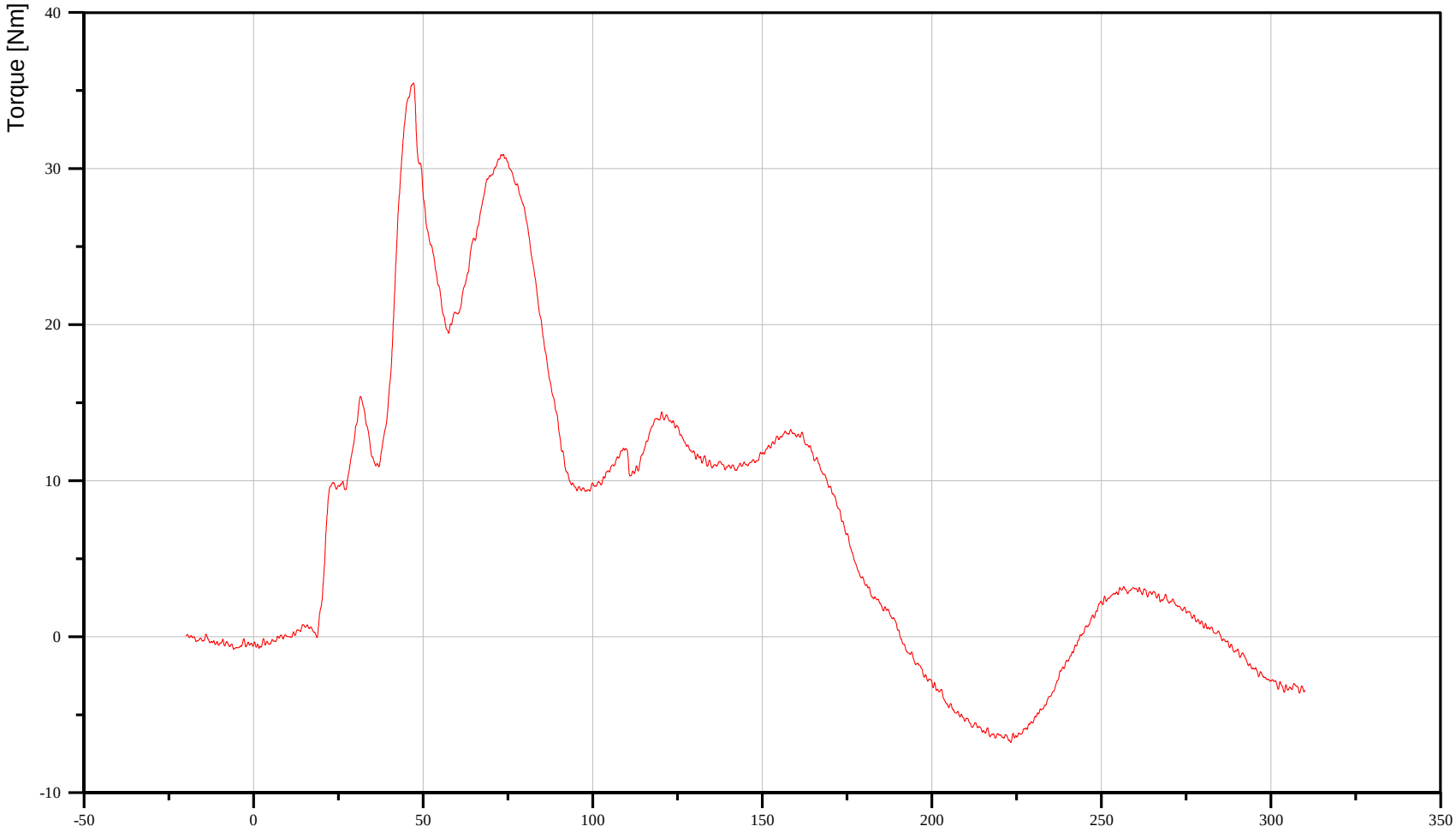
Left Femur Moment About Z Axis

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEMRLE00WSMOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-6.78 Nm at 223.30 ms

Max. Value
35.49 Nm at 47.20 ms

2016 Honda Fit WorldSID Pole Impact

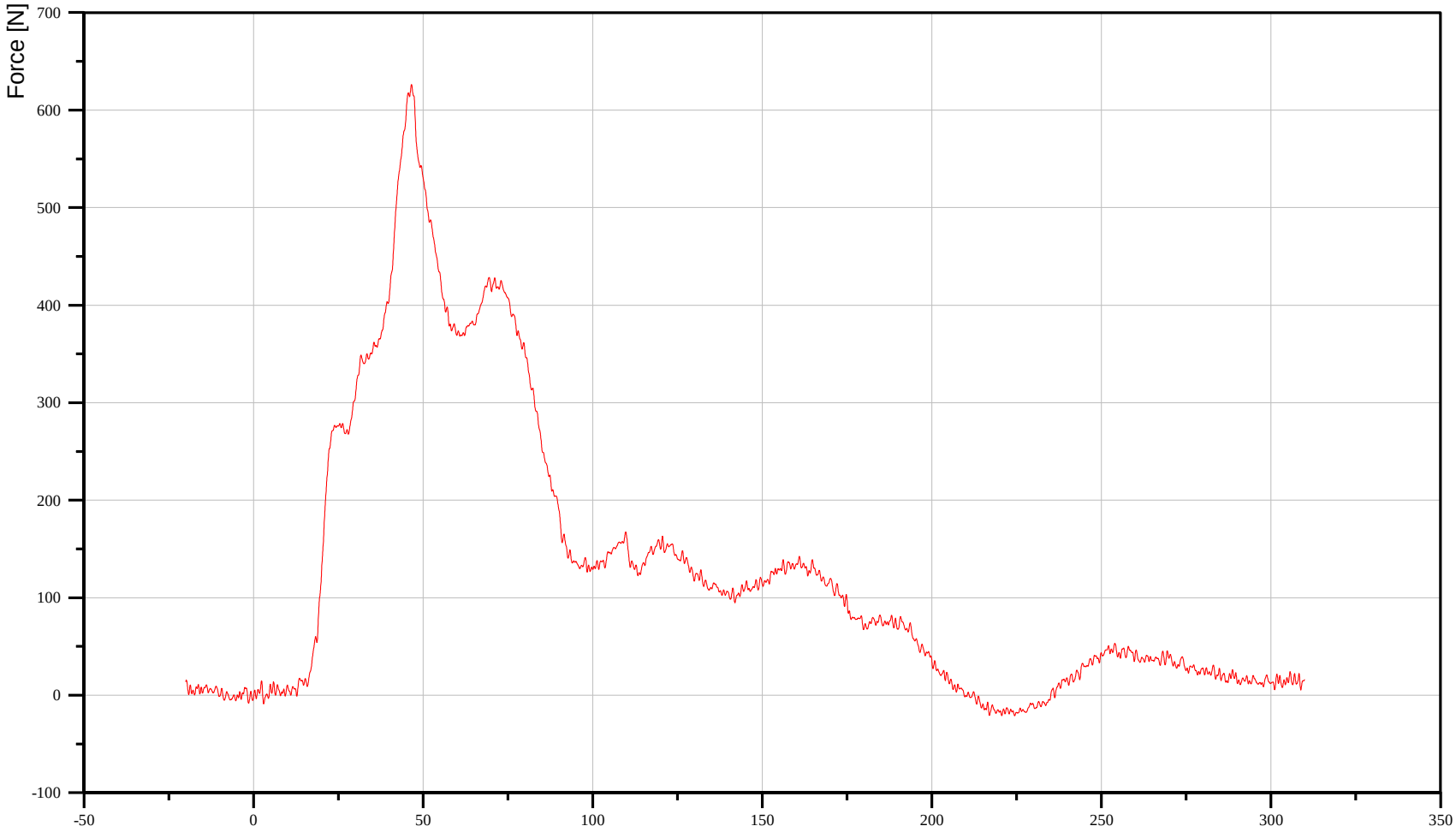
Left Femoral Neck Force X

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEACLE00WSFOXB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-21.18 N at 224.40 ms

Max. Value
626.38 N at 46.60 ms

2016 Honda Fit WorldSID Pole Impact

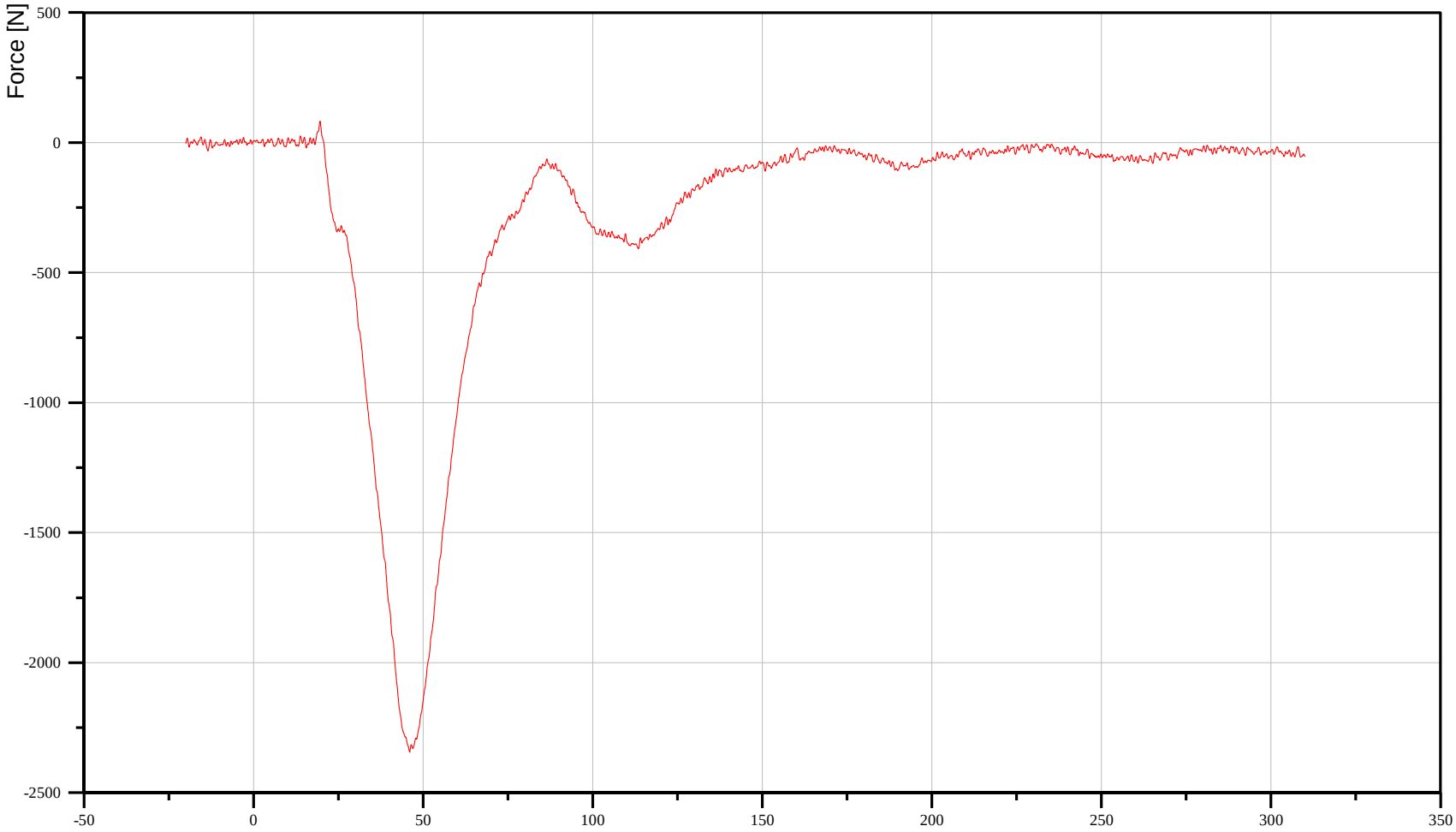
Left Femoral Neck Force Y

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEACLE00WSFOYB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-2,343.49 N at 46.05 ms

Max. Value
82.79 N at 19.60 ms

2016 Honda Fit WorldSID Pole Impact

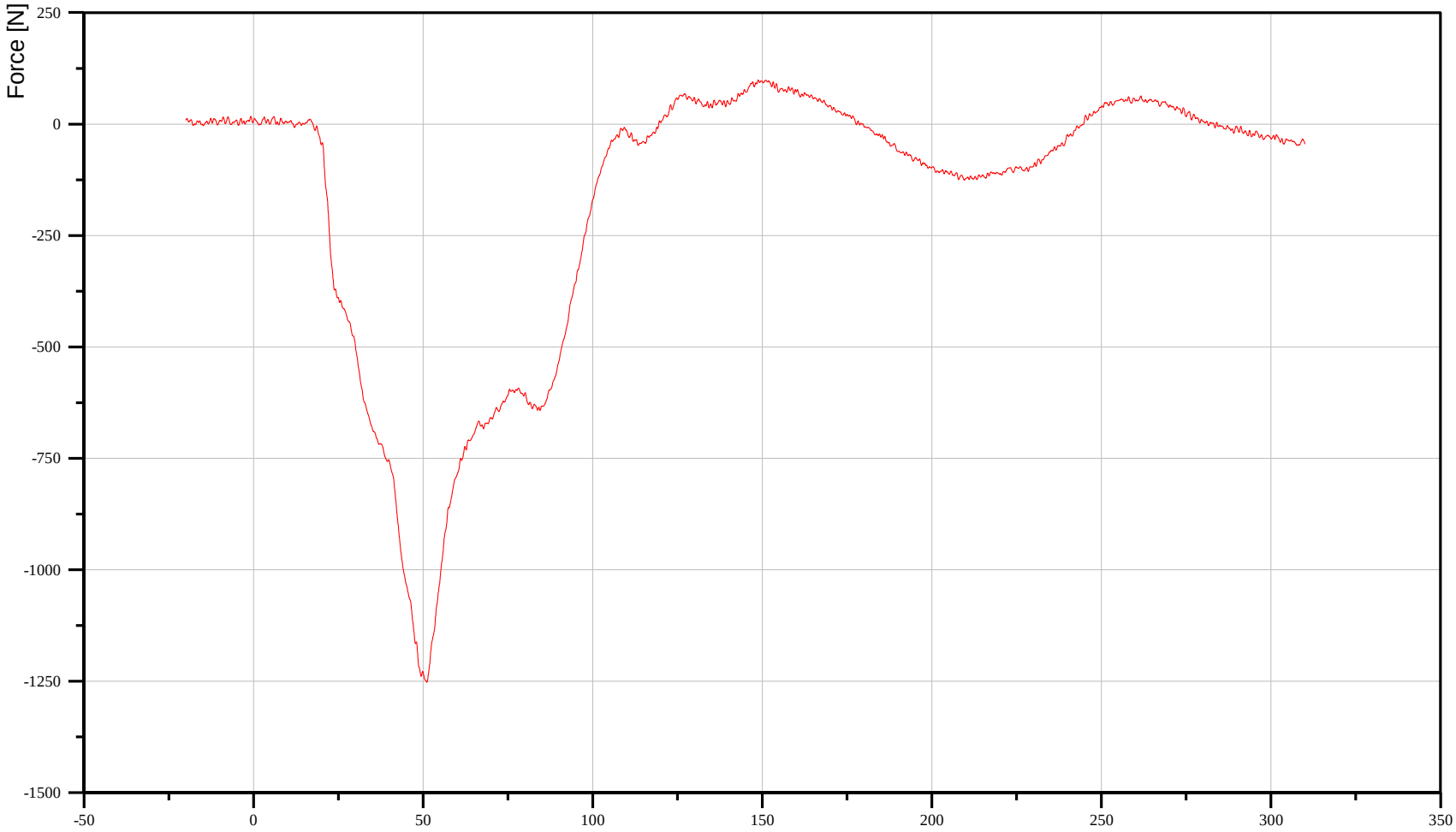
Left Femoral Neck Force Z

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FEACLE00WSFOZB

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_600

Min. Value
-1,252.58 N at 51.10 ms

Max. Value
98.88 N at 148.80 ms

2016 Honda Fit WorldSID Pole Impact

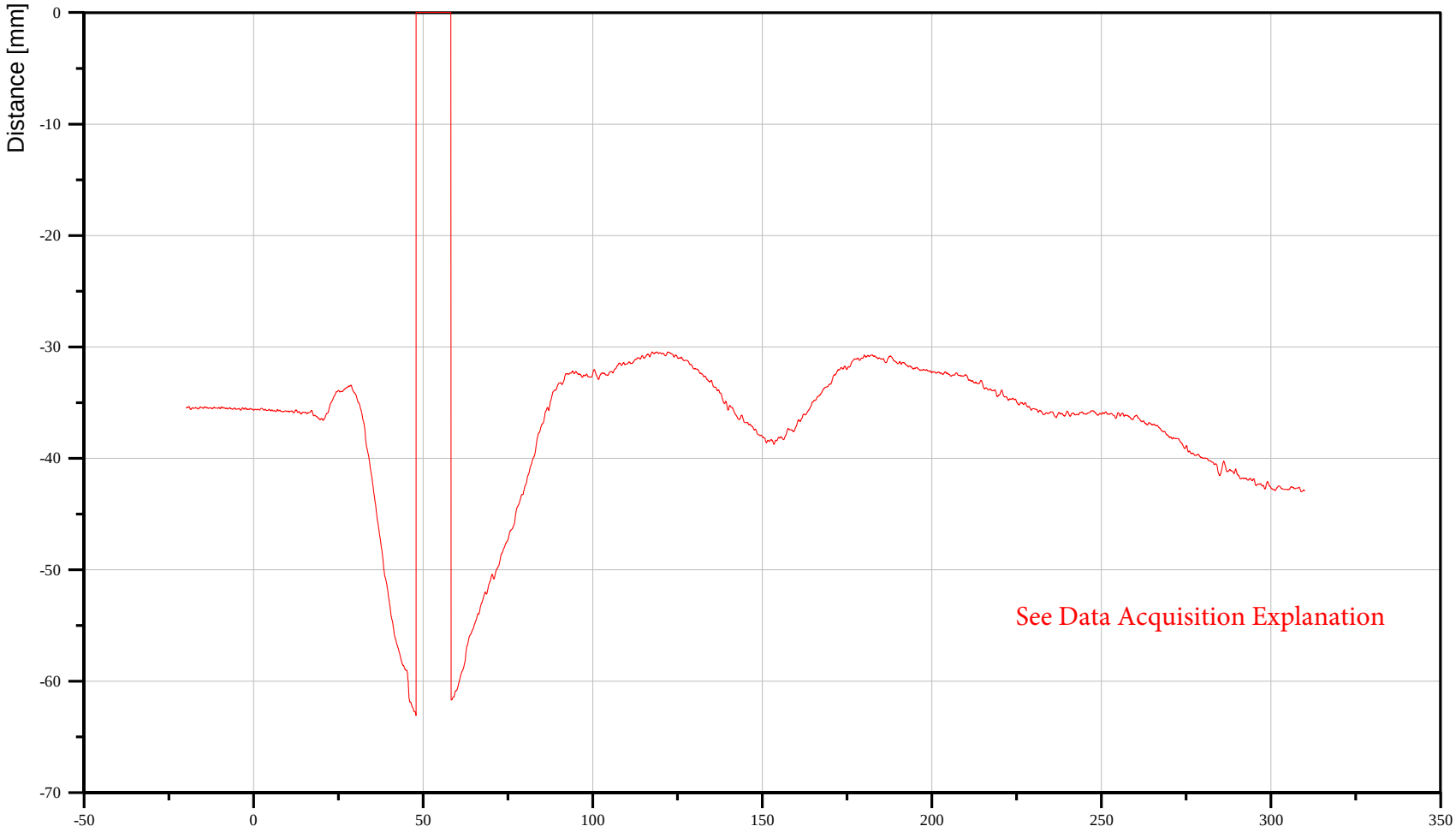
Shoulder Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-63.08 mm at 47.90 ms

Max. Value
0.00 mm at 47.95 ms

2016 Honda Fit WorldSID Pole Impact

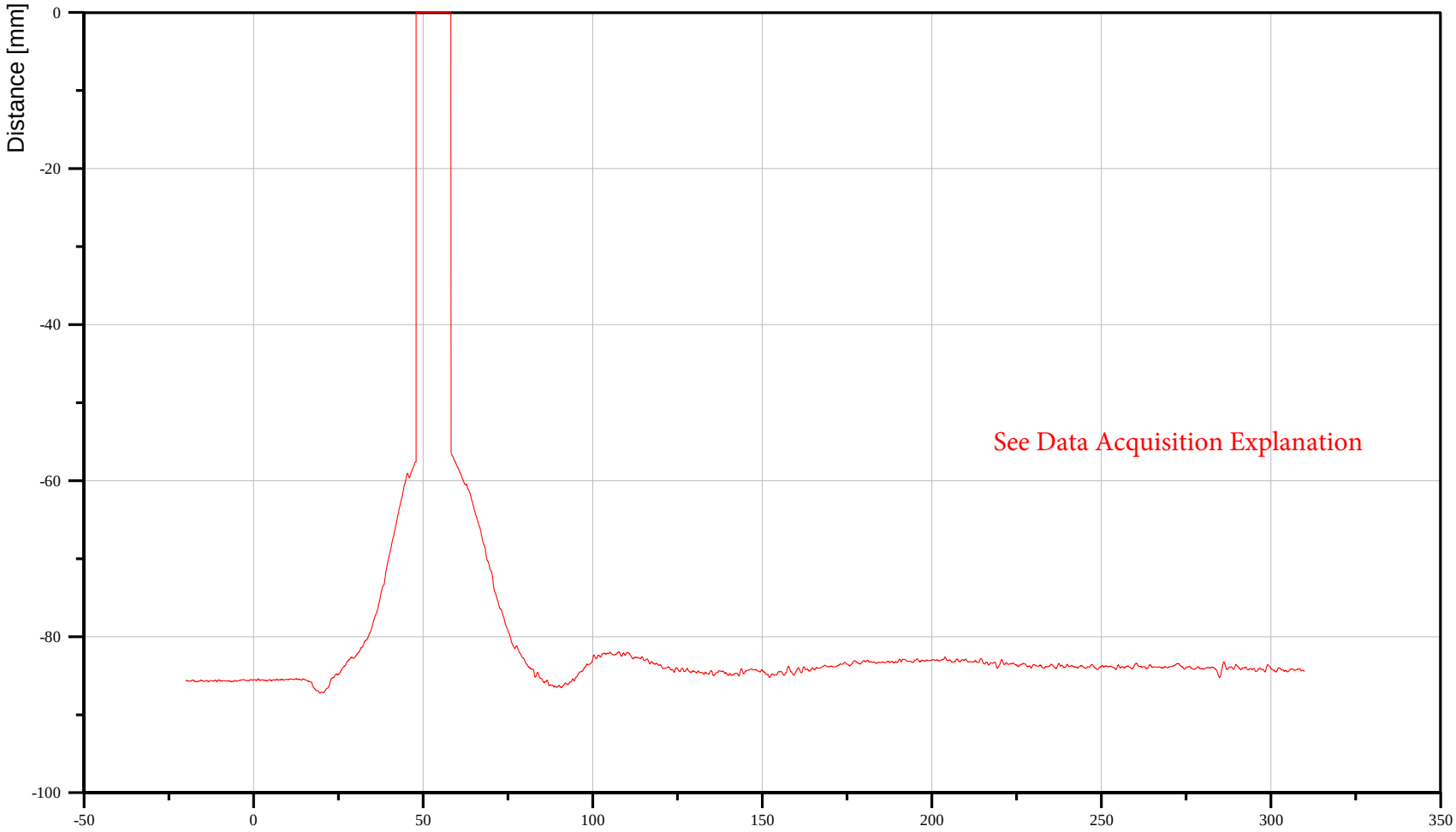
Shoulder Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-87.22 mm at 19.50 ms

Max. Value
0.00 mm at 47.95 ms

2016 Honda Fit WorldSID Pole Impact

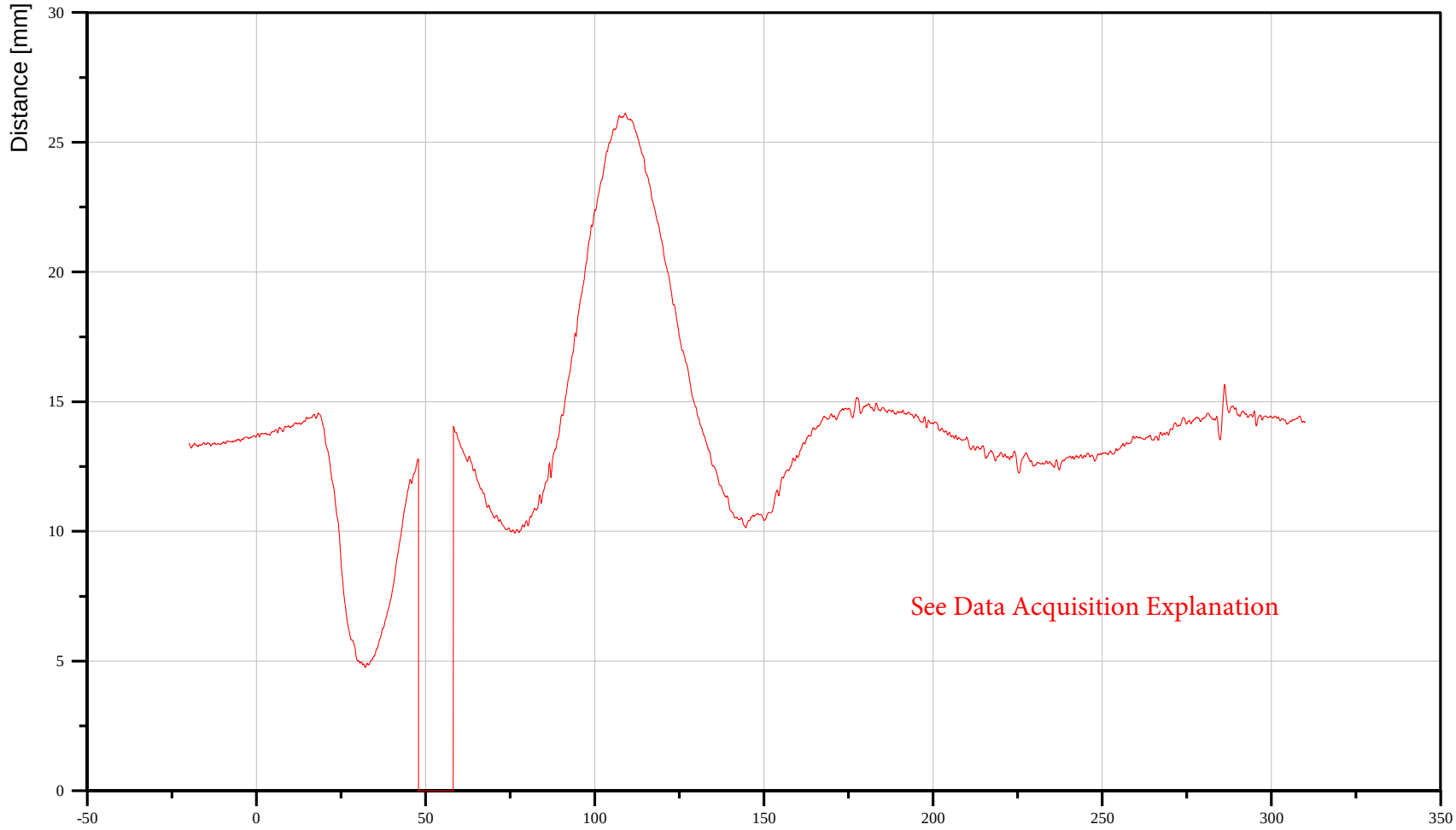
Shoulder Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.00 mm at 47.95 ms

Max. Value
26.12 mm at 109.00 ms

2016 Honda Fit WorldSID Pole Impact

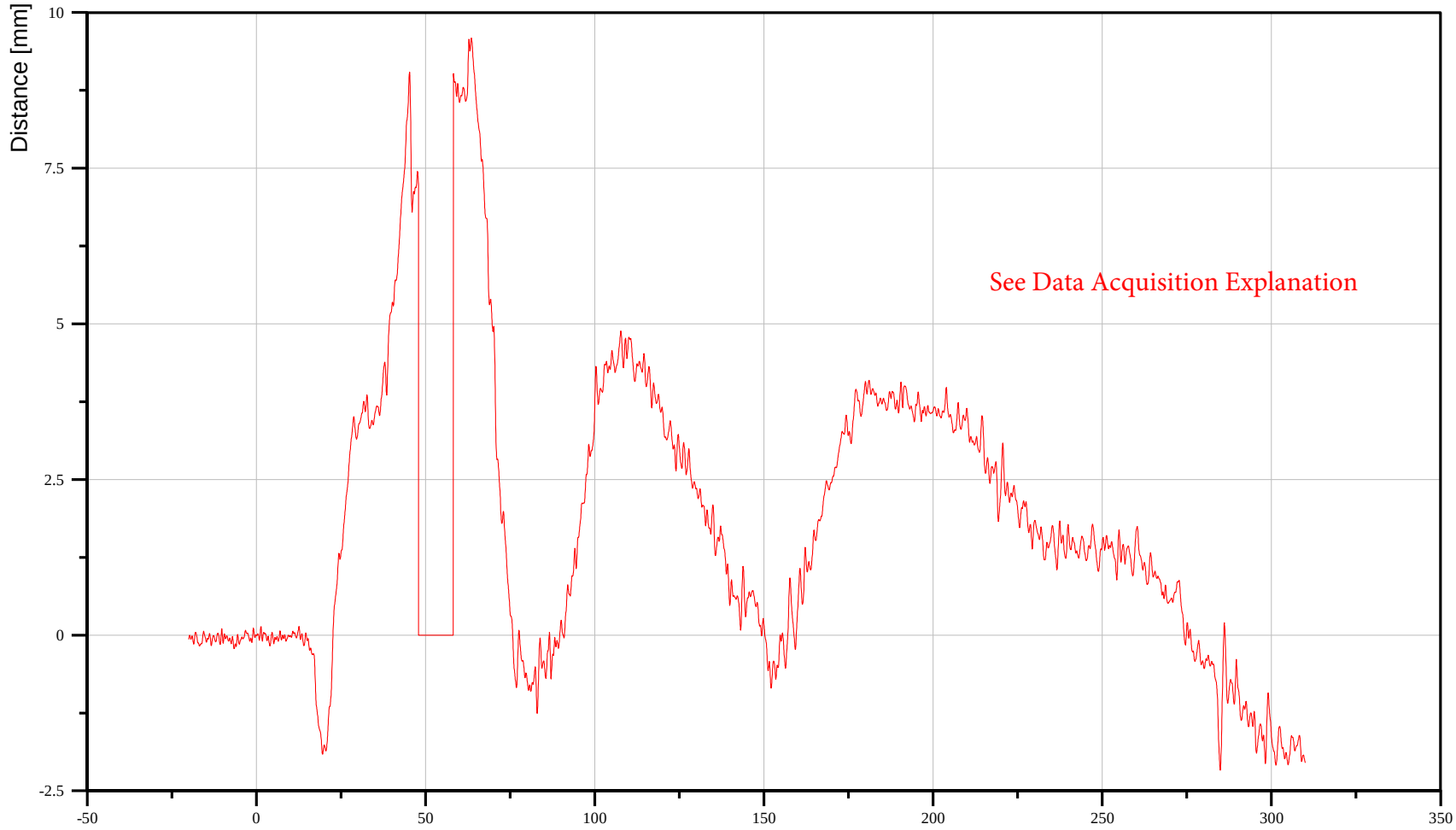
Shoulder Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-2.17 mm at 284.90 ms

Max. Value
9.59 mm at 63.50 ms

2016 Honda Fit WorldSID Pole Impact

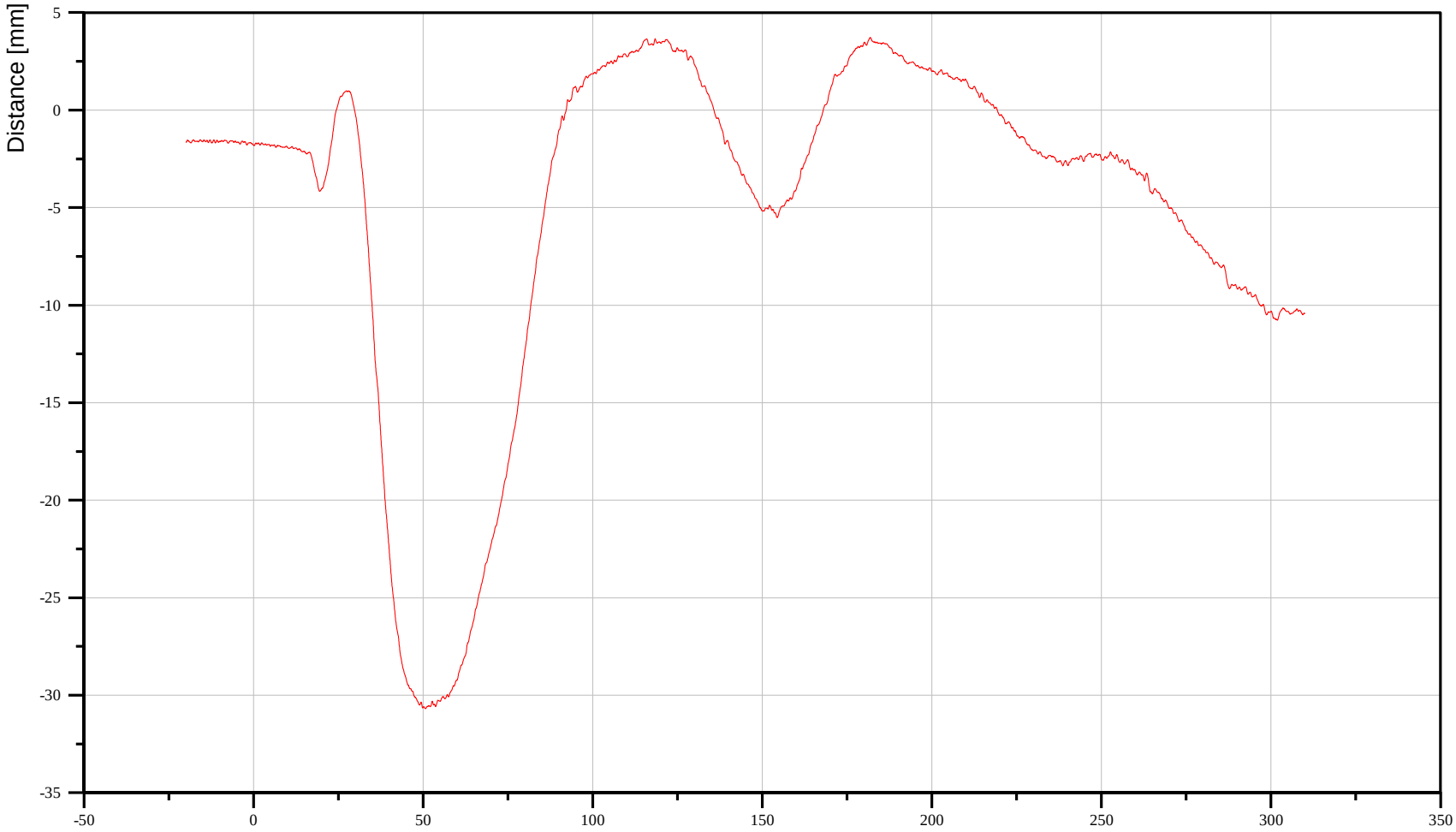
Shoulder Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-30.69 mm at 50.70 ms

Max. Value
3.72 mm at 181.80 ms

2016 Honda Fit WorldSID Pole Impact

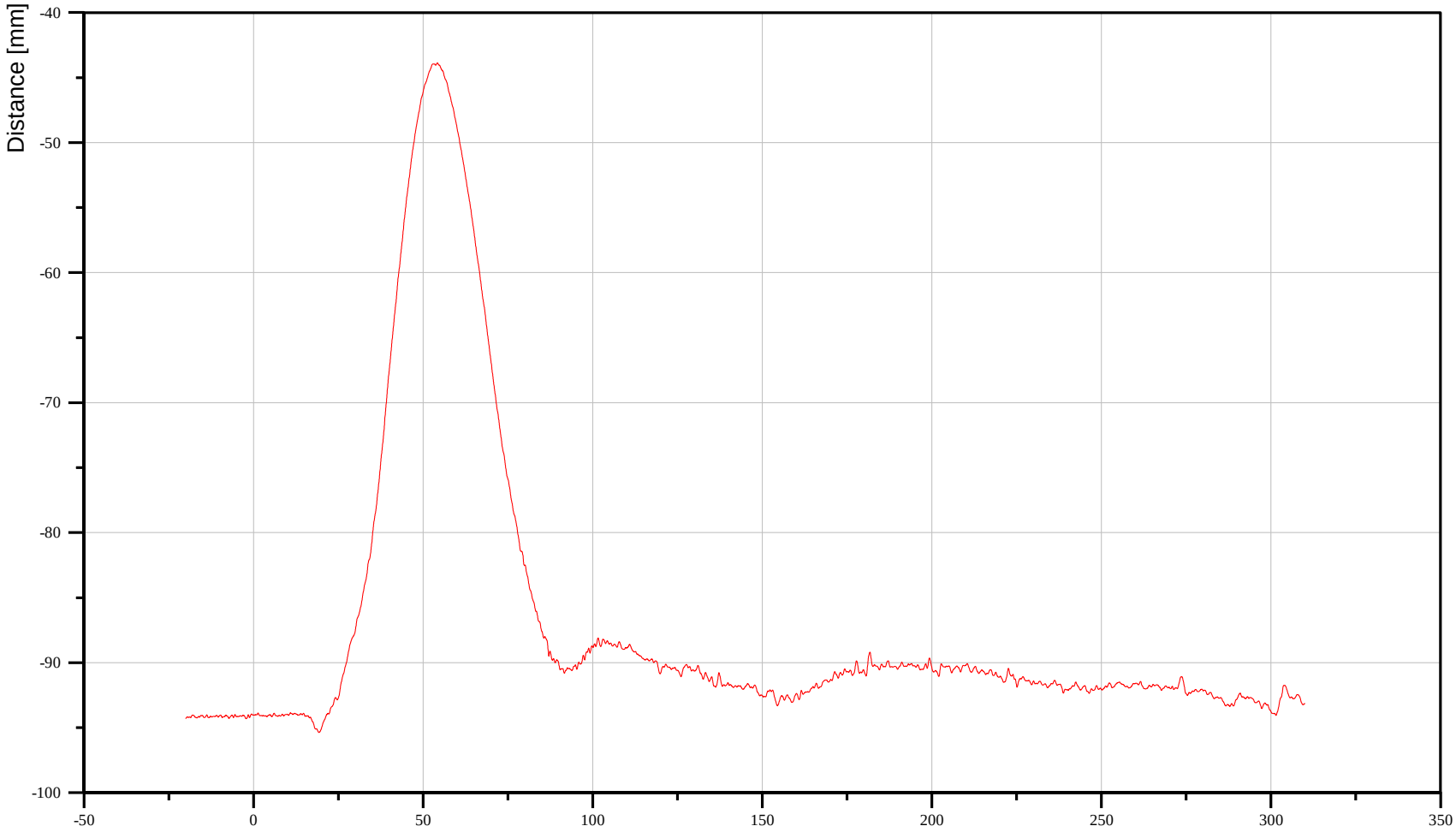
Shoulder Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-95.37 mm at 19.30 ms

Max. Value
-43.86 mm at 54.20 ms

2016 Honda Fit WorldSID Pole Impact

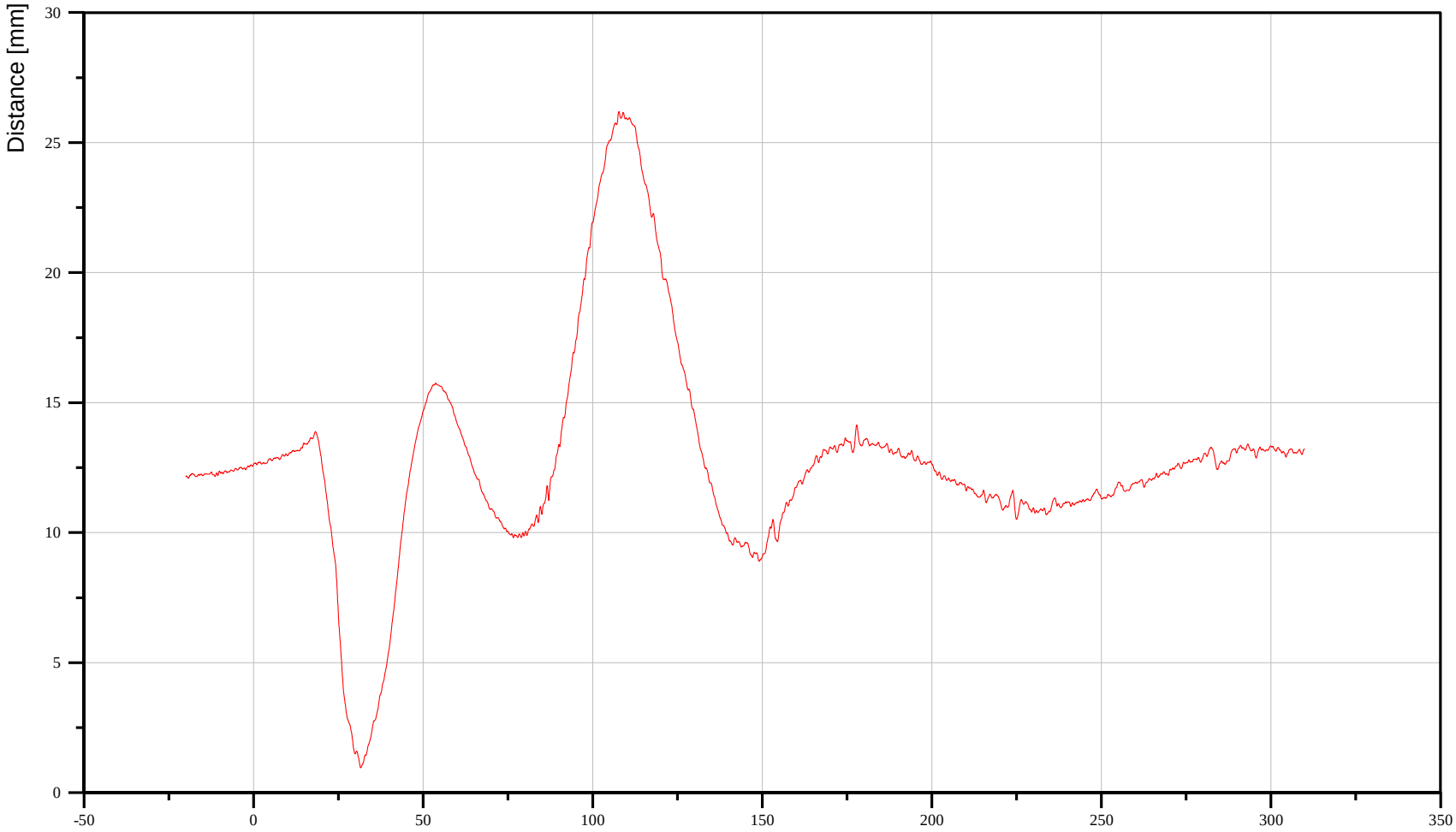
Shoulder Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.96 mm at 31.60 ms

Max. Value
26.19 mm at 107.70 ms

2016 Honda Fit WorldSID Pole Impact

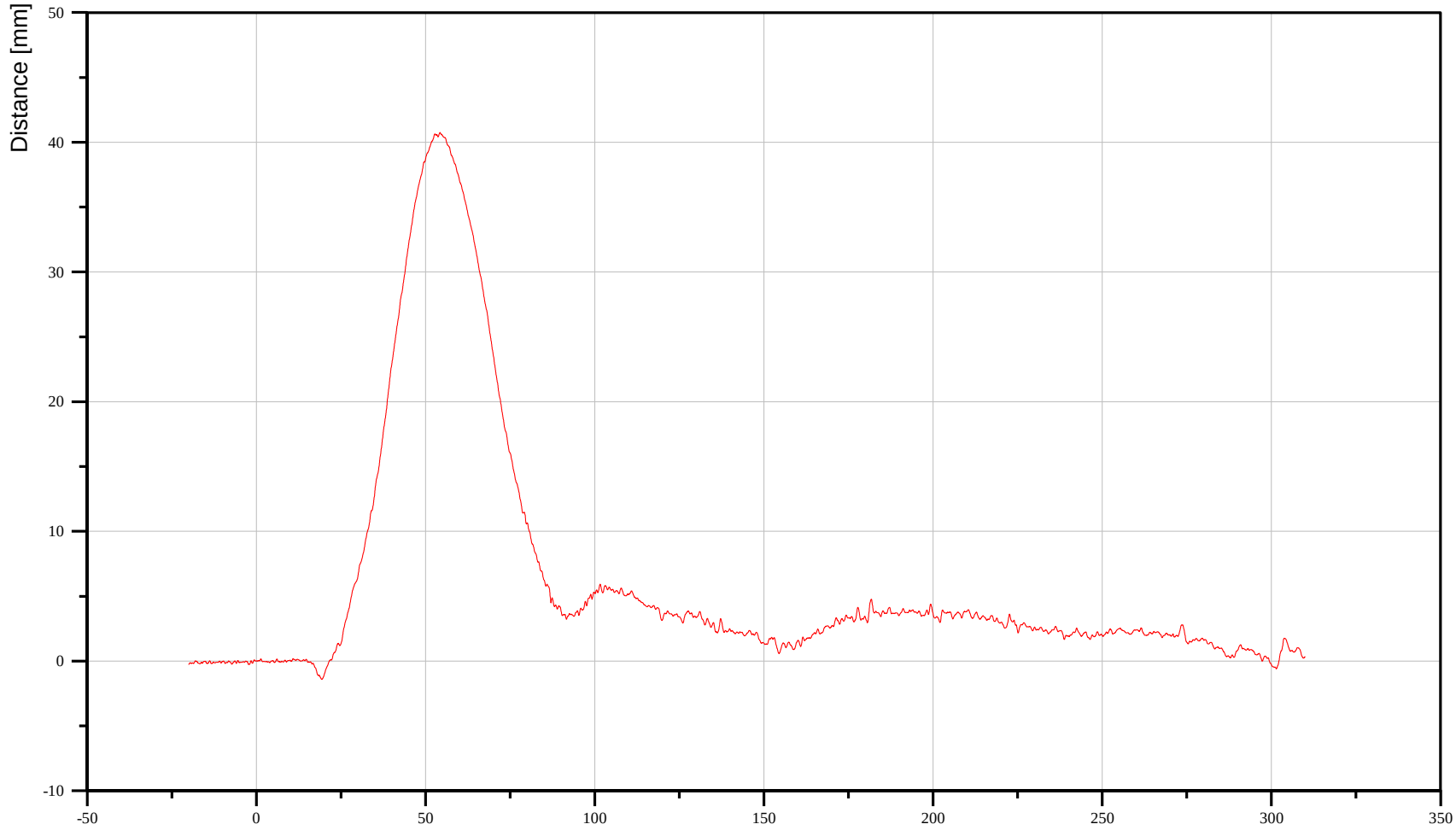
Shoulder Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.41 mm at 19.30 ms

Max. Value
40.75 mm at 54.30 ms

2016 Honda Fit WorldSID Pole Impact

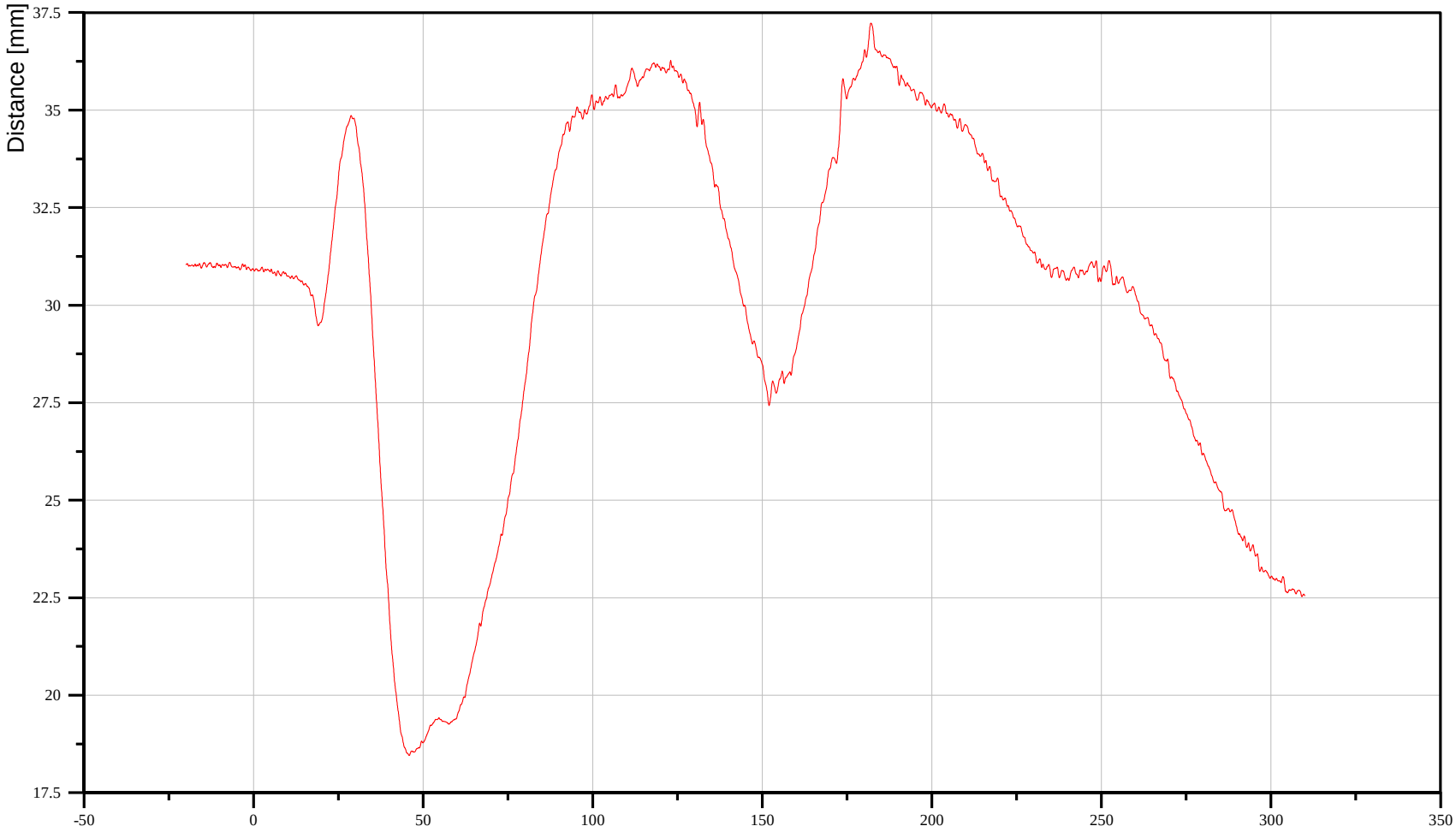
Shoulder Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
18.45 mm at 45.90 ms

Max. Value
37.23 mm at 182.10 ms

2016 Honda Fit WorldSID Pole Impact

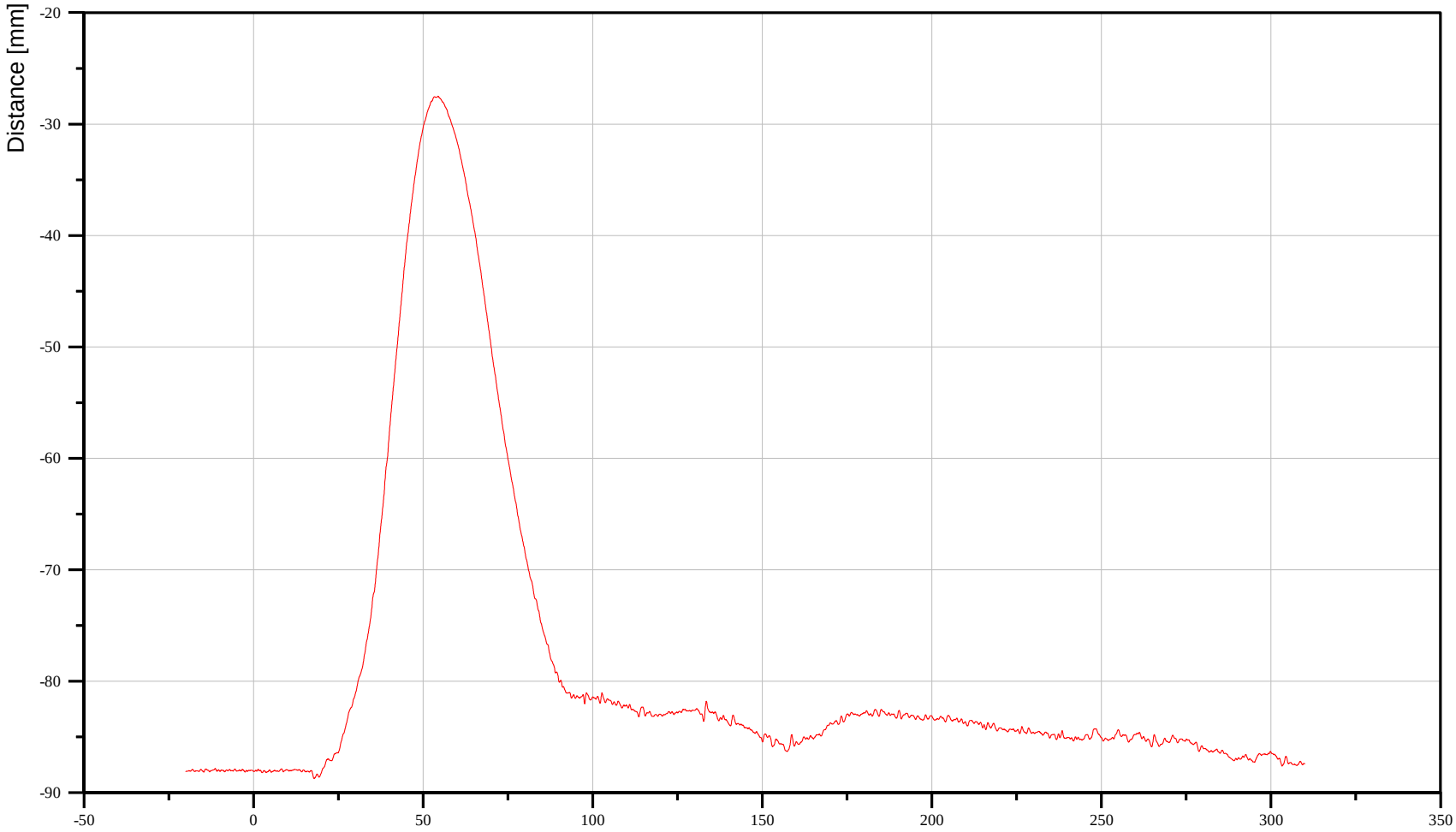
Shoulder Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-88.72 mm at 17.90 ms

Max. Value
-27.51 mm at 54.40 ms

2016 Honda Fit WorldSID Pole Impact

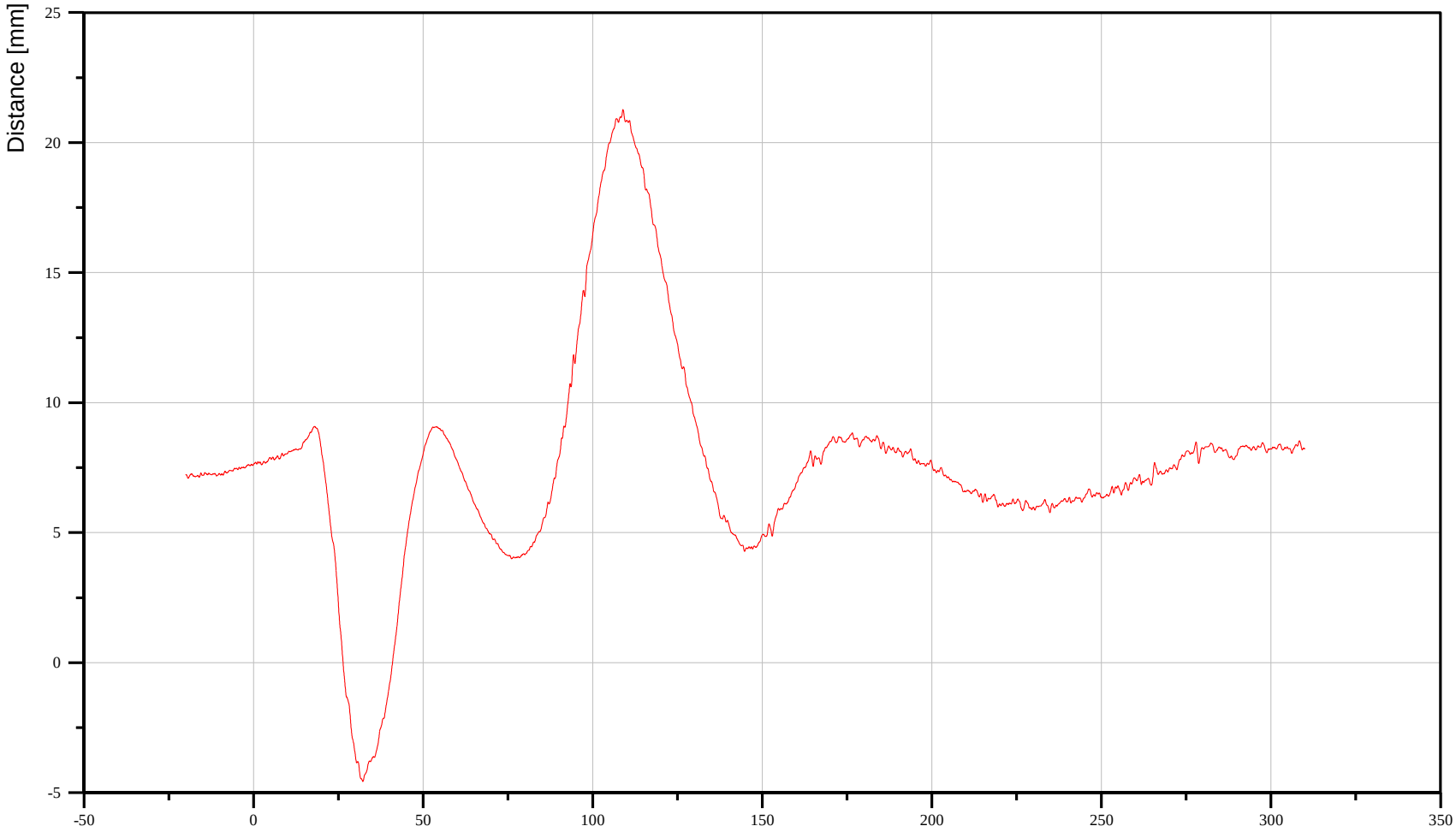
Shoulder Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-4.57 mm at 32.20 ms

Max. Value
21.27 mm at 108.90 ms

2016 Honda Fit WorldSID Pole Impact

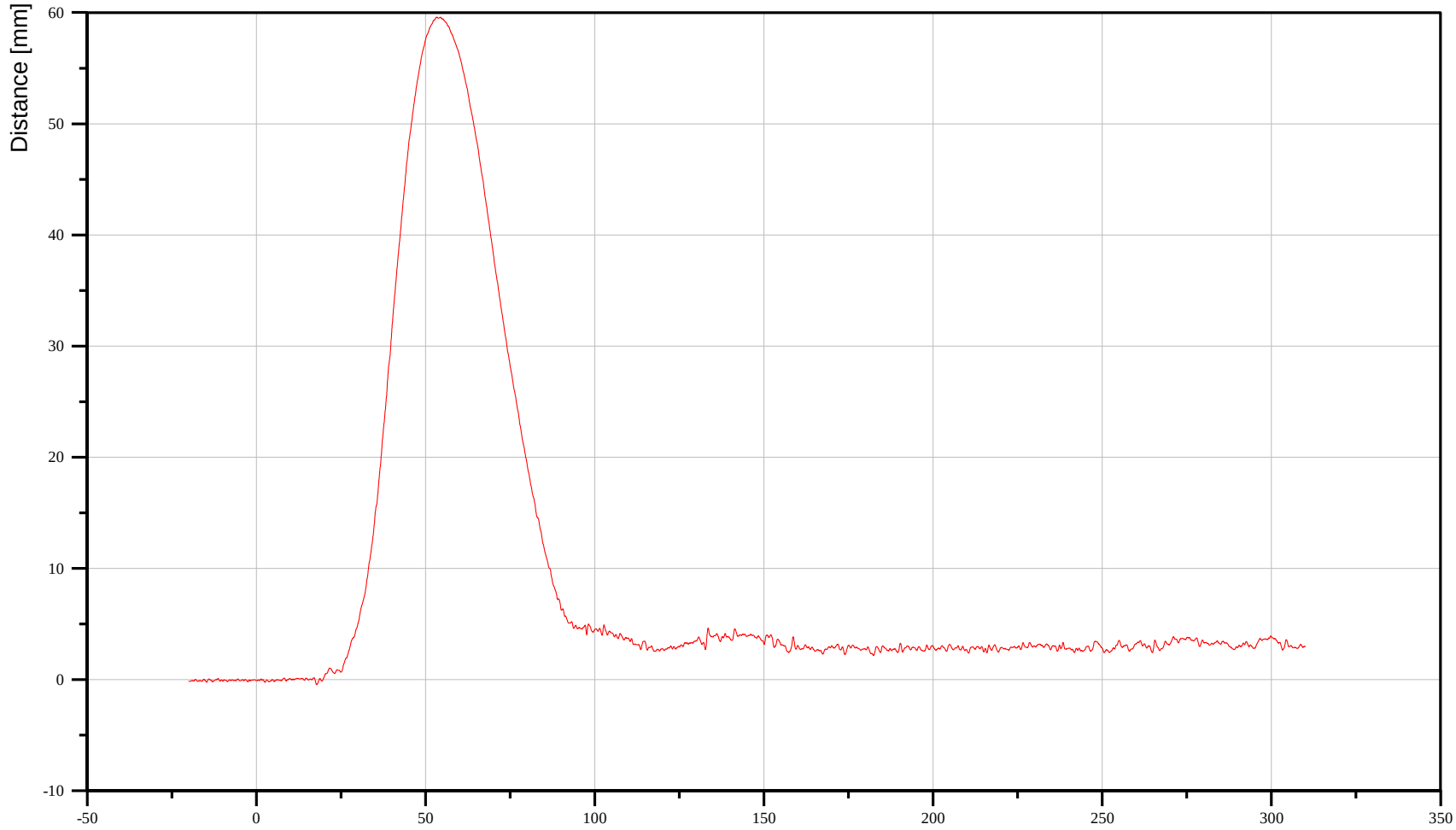
Shoulder Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHRI00FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.45 mm at 17.80 ms

Max. Value
59.59 mm at 53.30 ms

2016 Honda Fit WorldSID Pole Impact

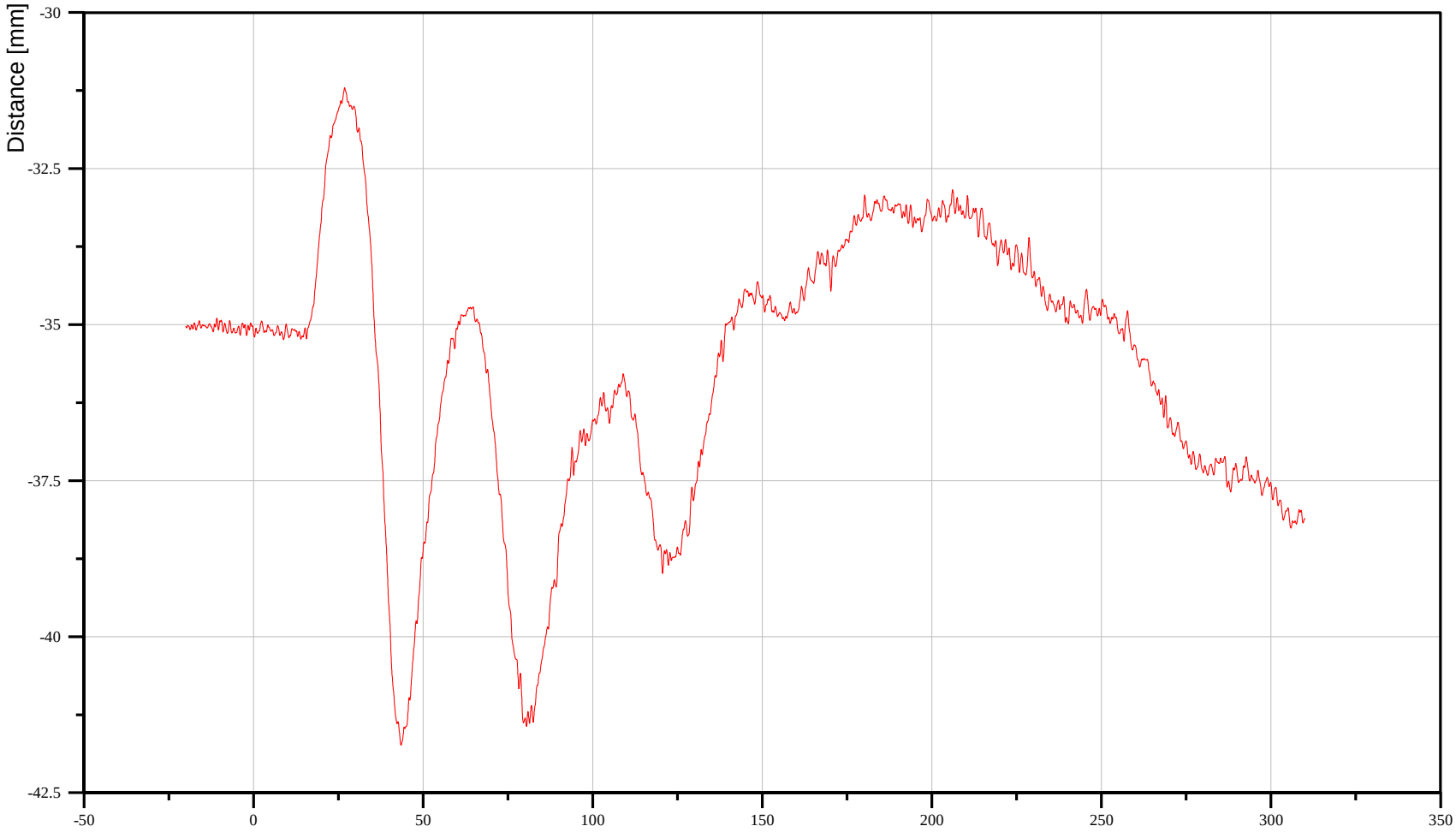
Thorax Rib 1 Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-41.74 mm at 43.50 ms

Max. Value
-31.20 mm at 26.90 ms

2016 Honda Fit WorldSID Pole Impact

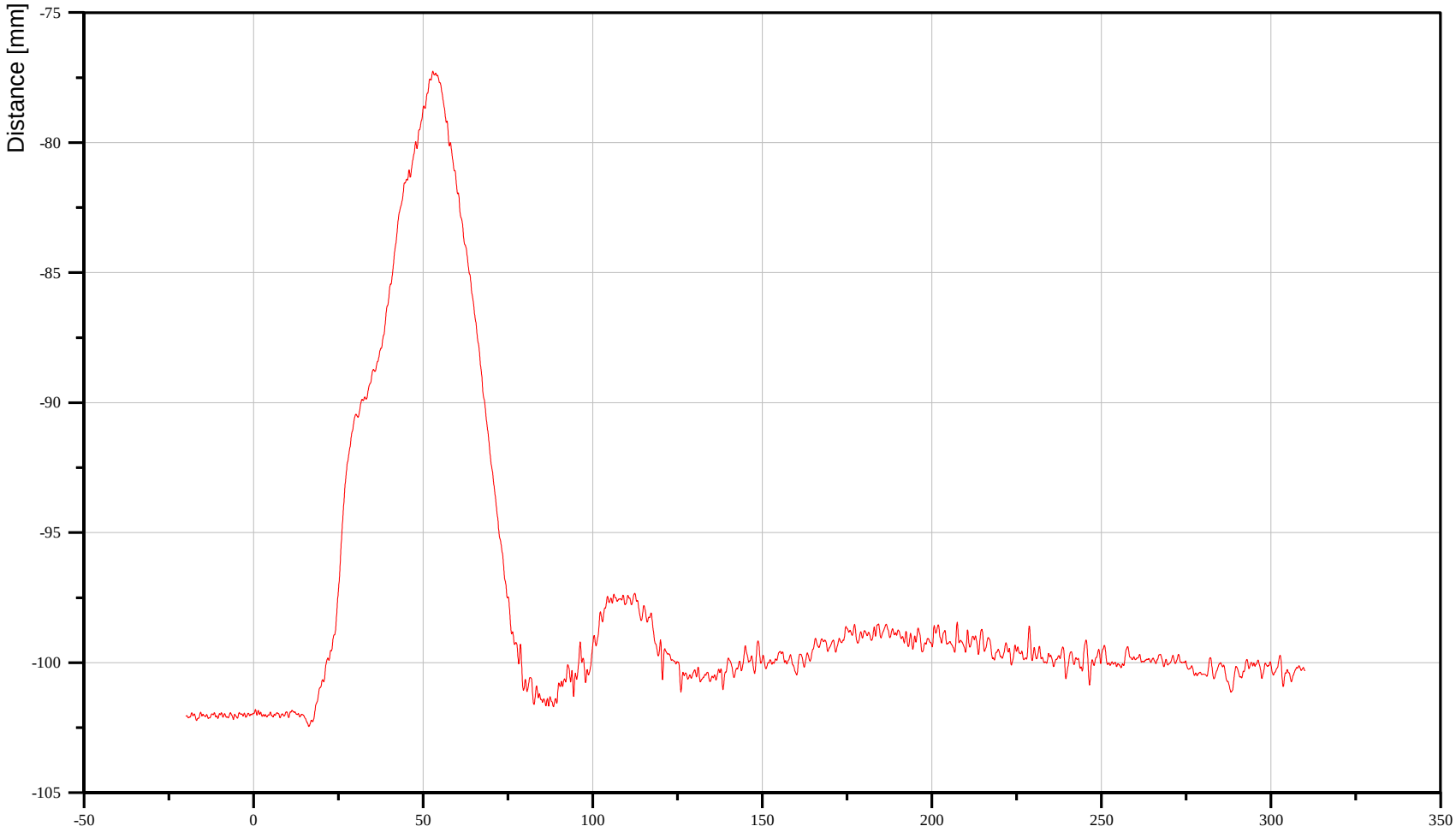
Thorax Rib 1 Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-102.45 mm at 16.30 ms

Max. Value
-77.25 mm at 52.90 ms

2016 Honda Fit WorldSID Pole Impact

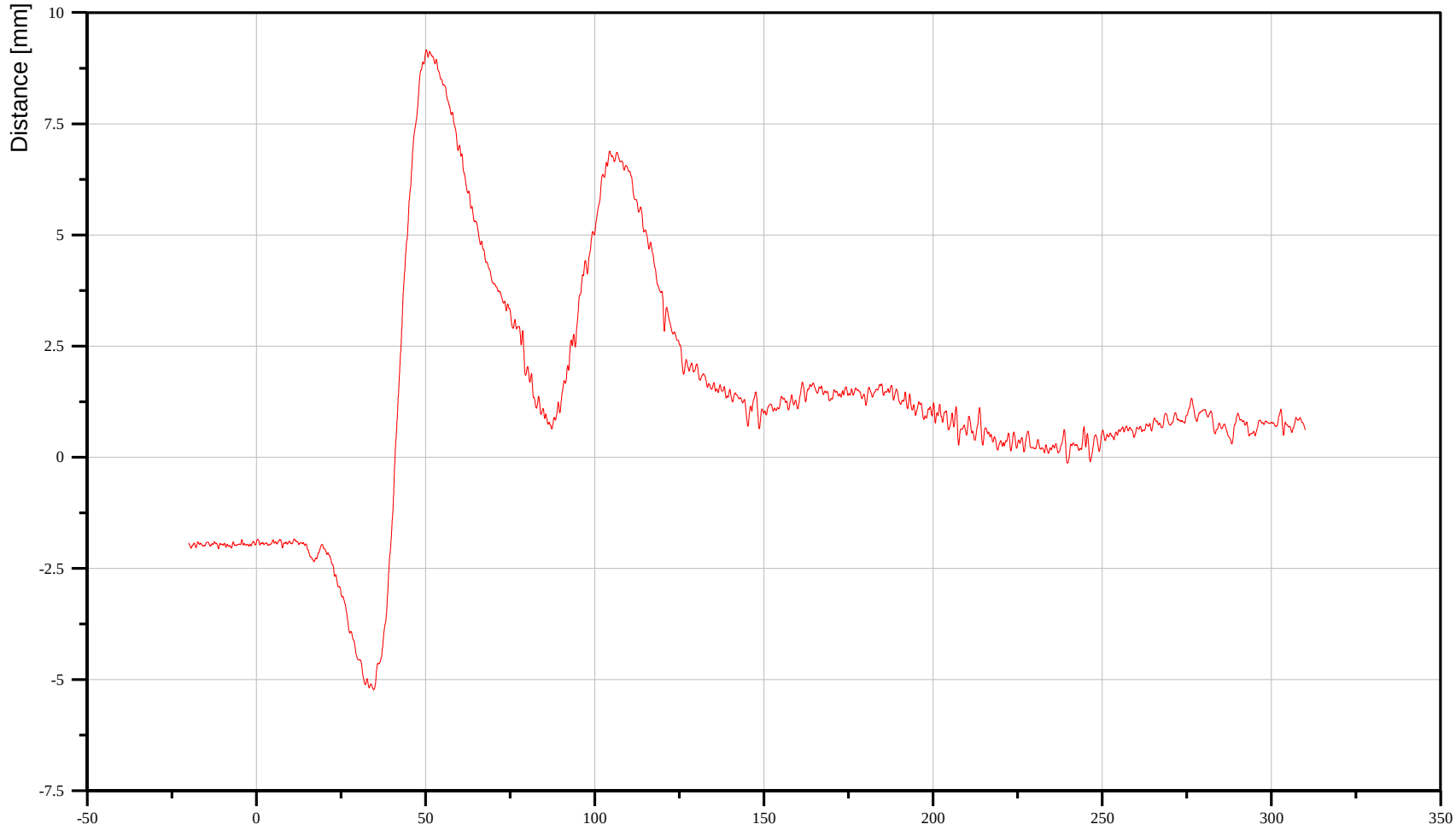
Thorax Rib 1 Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-5.23 mm at 34.70 ms

Max. Value
9.16 mm at 50.30 ms

2016 Honda Fit WorldSID Pole Impact

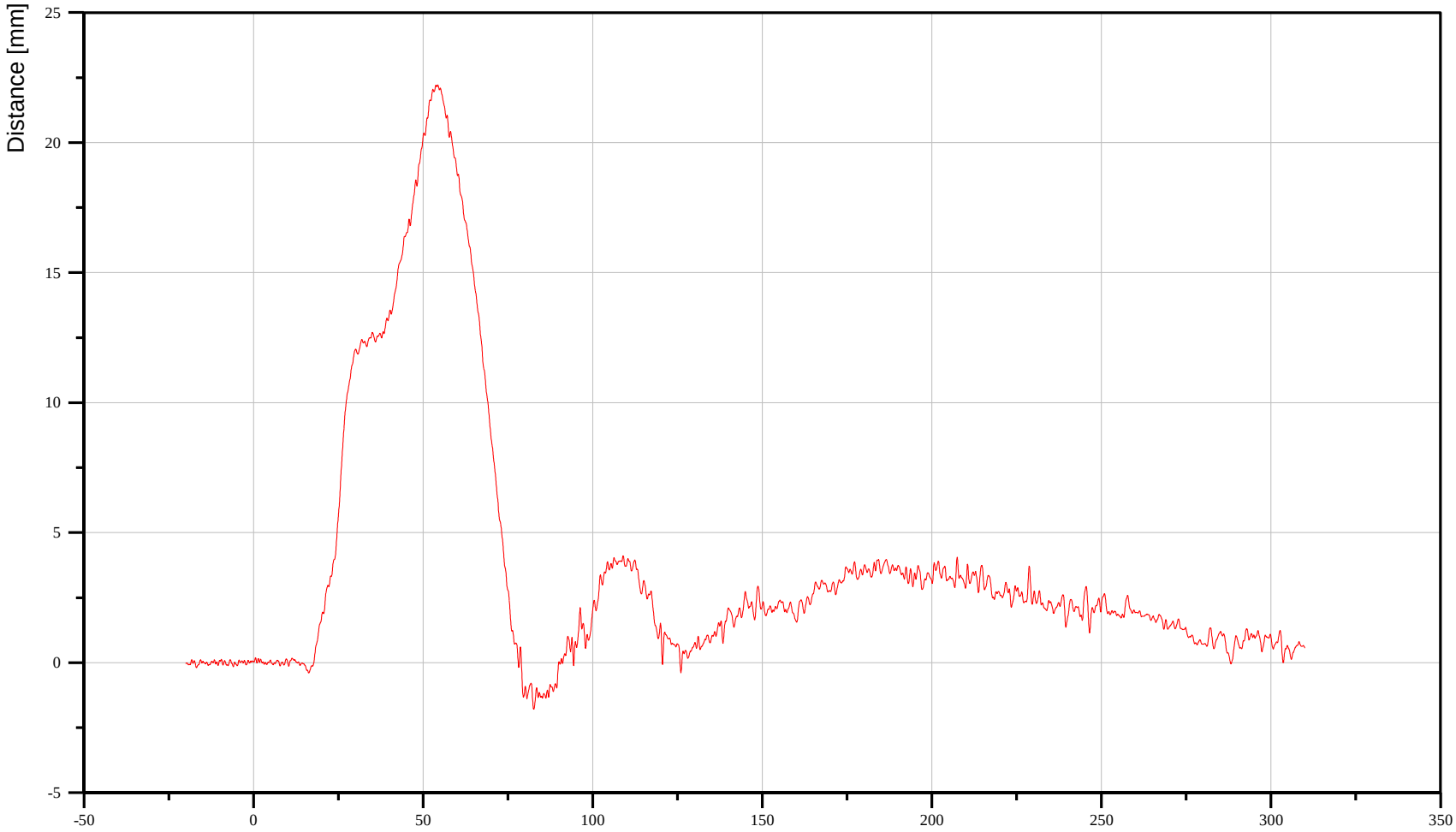
Thorax Rib 1 Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.79 mm at 82.60 ms

Max. Value
22.22 mm at 54.30 ms

2016 Honda Fit WorldSID Pole Impact

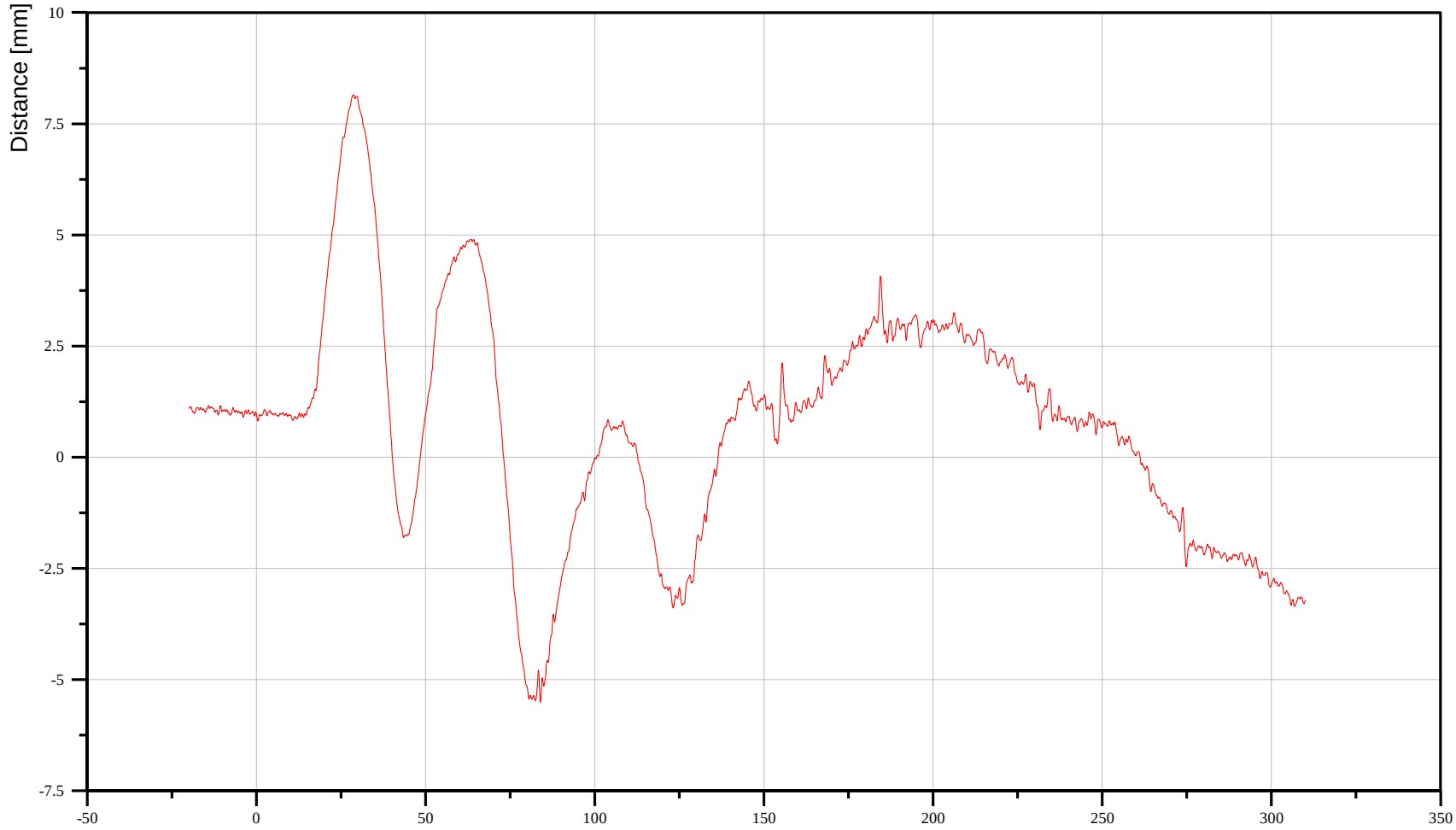
Thorax Rib 1 Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-5.51 mm at 83.90 ms

Max. Value
8.15 mm at 28.70 ms

2016 Honda Fit WorldSID Pole Impact

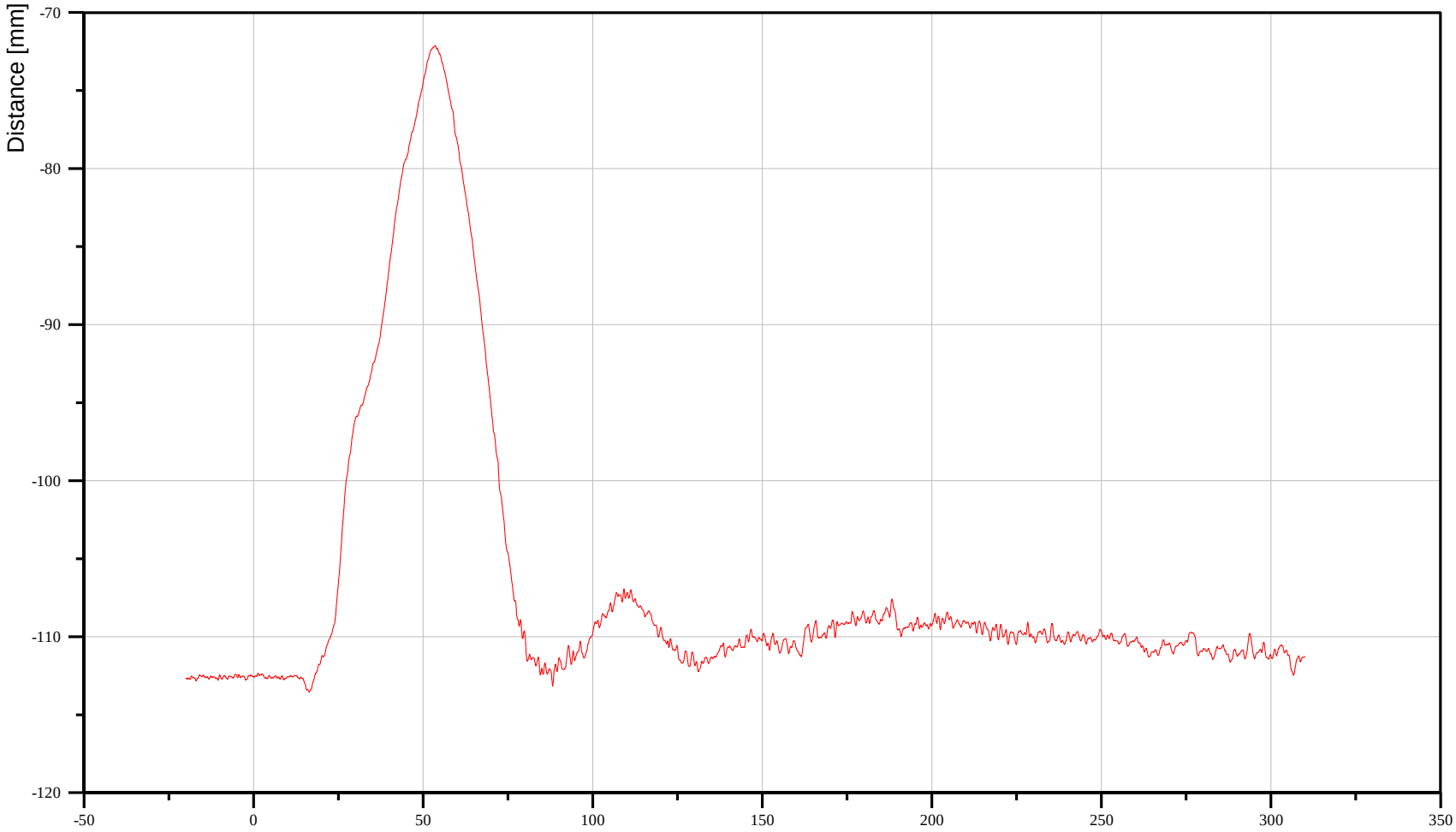
Thorax Rib 1 Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-113.53 mm at 16.50 ms

Max. Value
-72.12 mm at 53.60 ms

2016 Honda Fit WorldSID Pole Impact

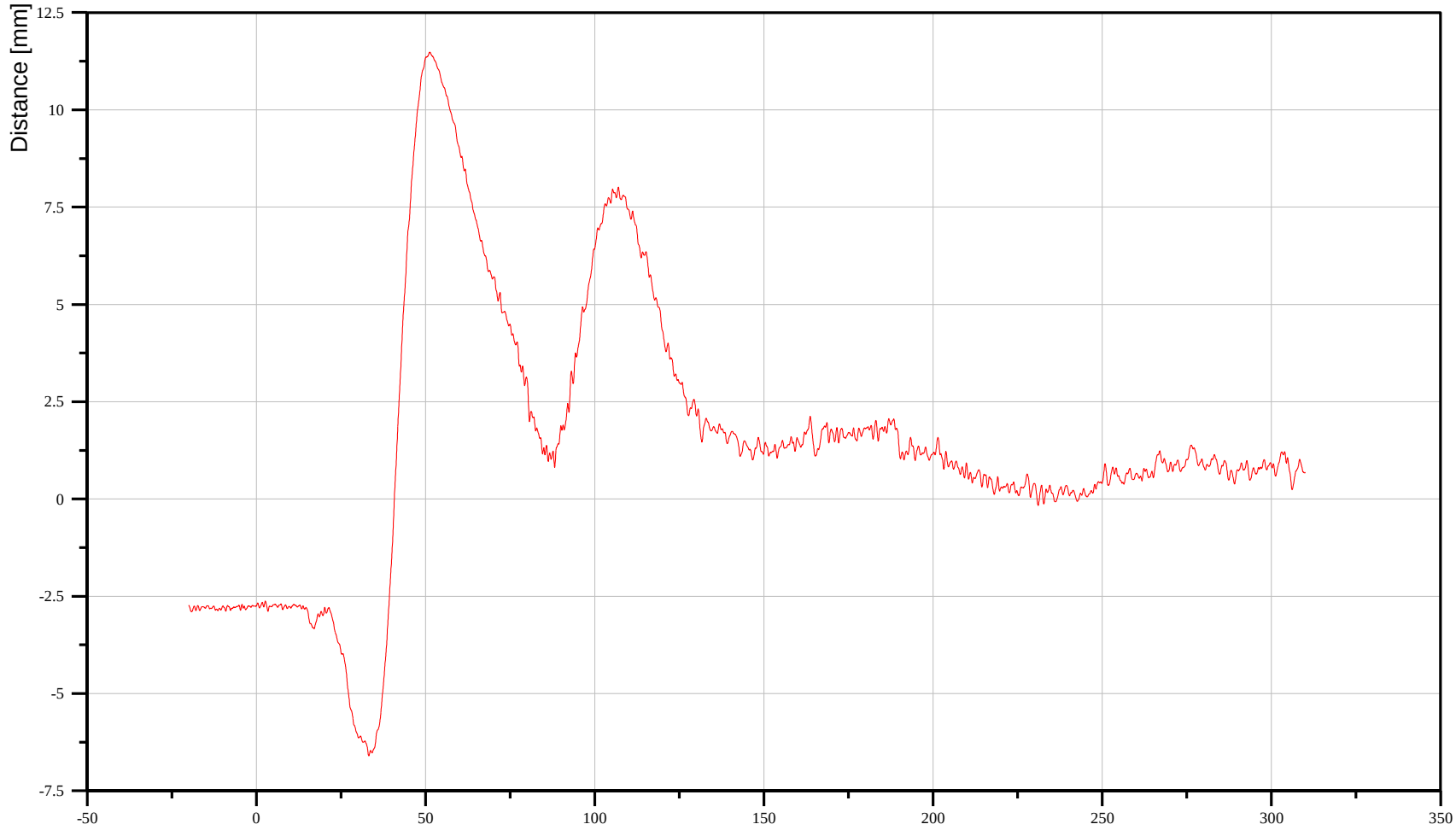
Thorax Rib 1 Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-6.60 mm at 33.30 ms

Max. Value
11.48 mm at 51.20 ms

2016 Honda Fit WorldSID Pole Impact

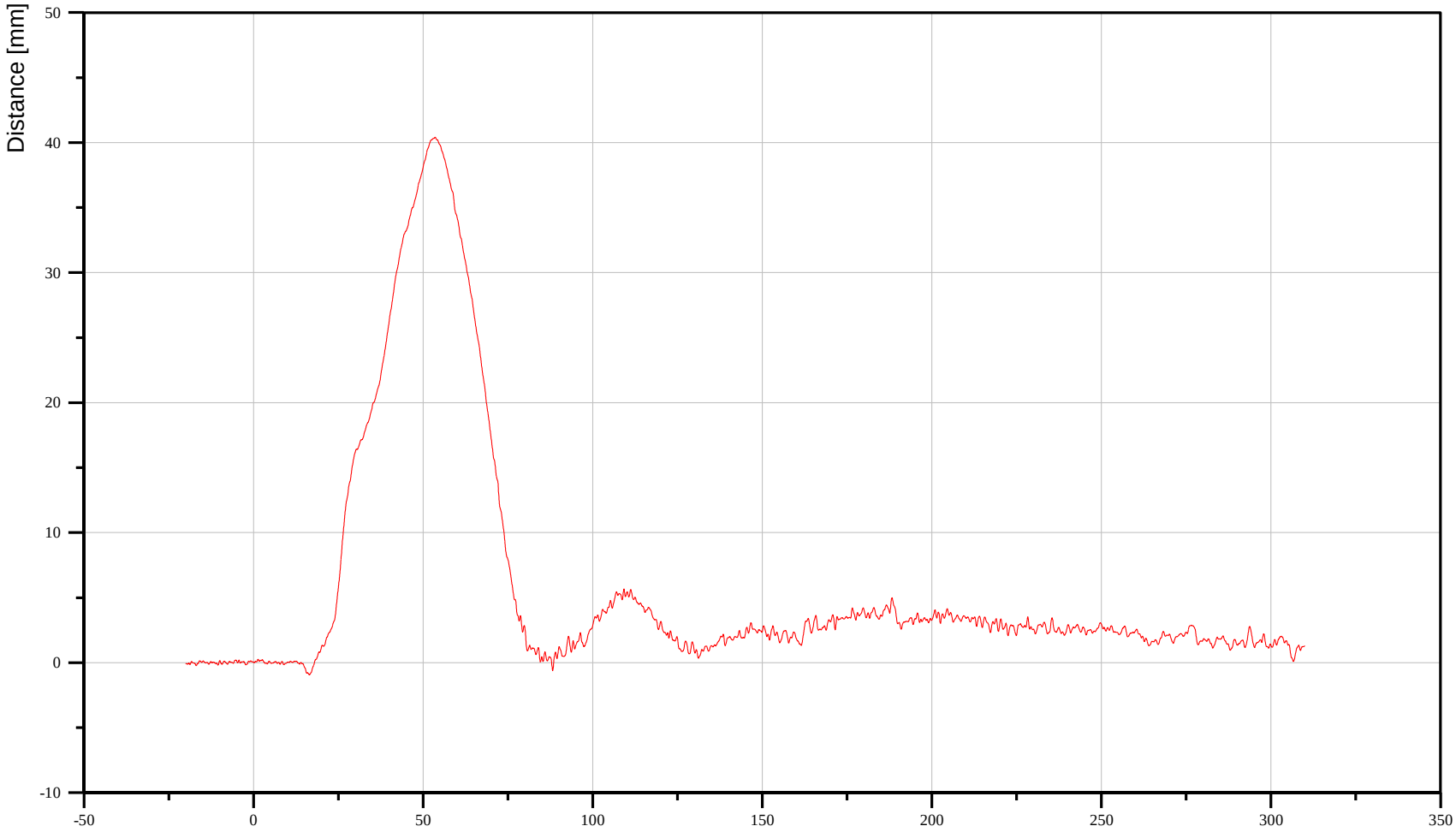
Thorax Rib 1 Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.93 mm at 16.50 ms

Max. Value
40.42 mm at 53.60 ms

2016 Honda Fit WorldSID Pole Impact

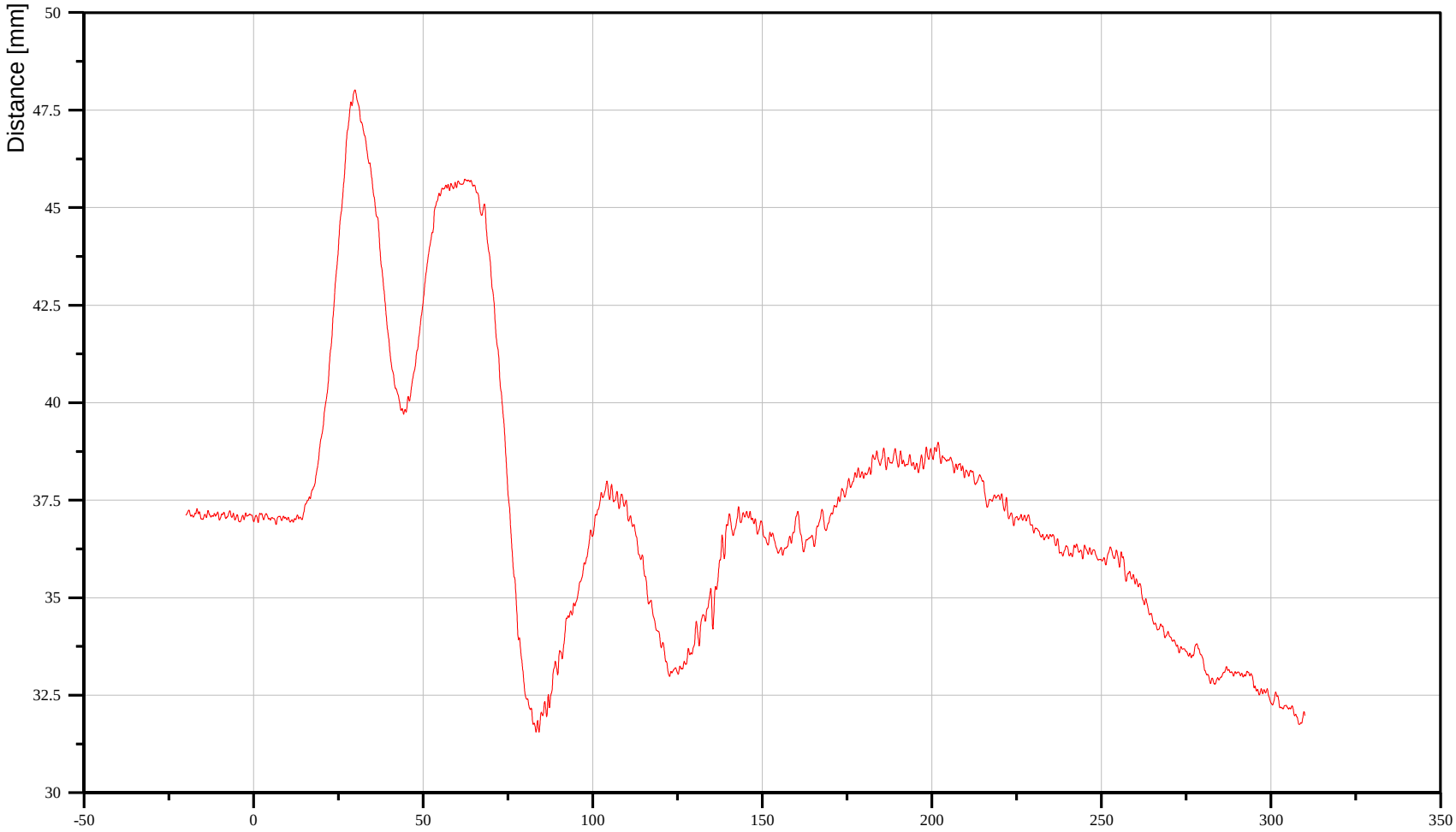
Thorax Rib 1 Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
31.55 mm at 83.30 ms

Max. Value
48.02 mm at 29.90 ms

2016 Honda Fit WorldSID Pole Impact

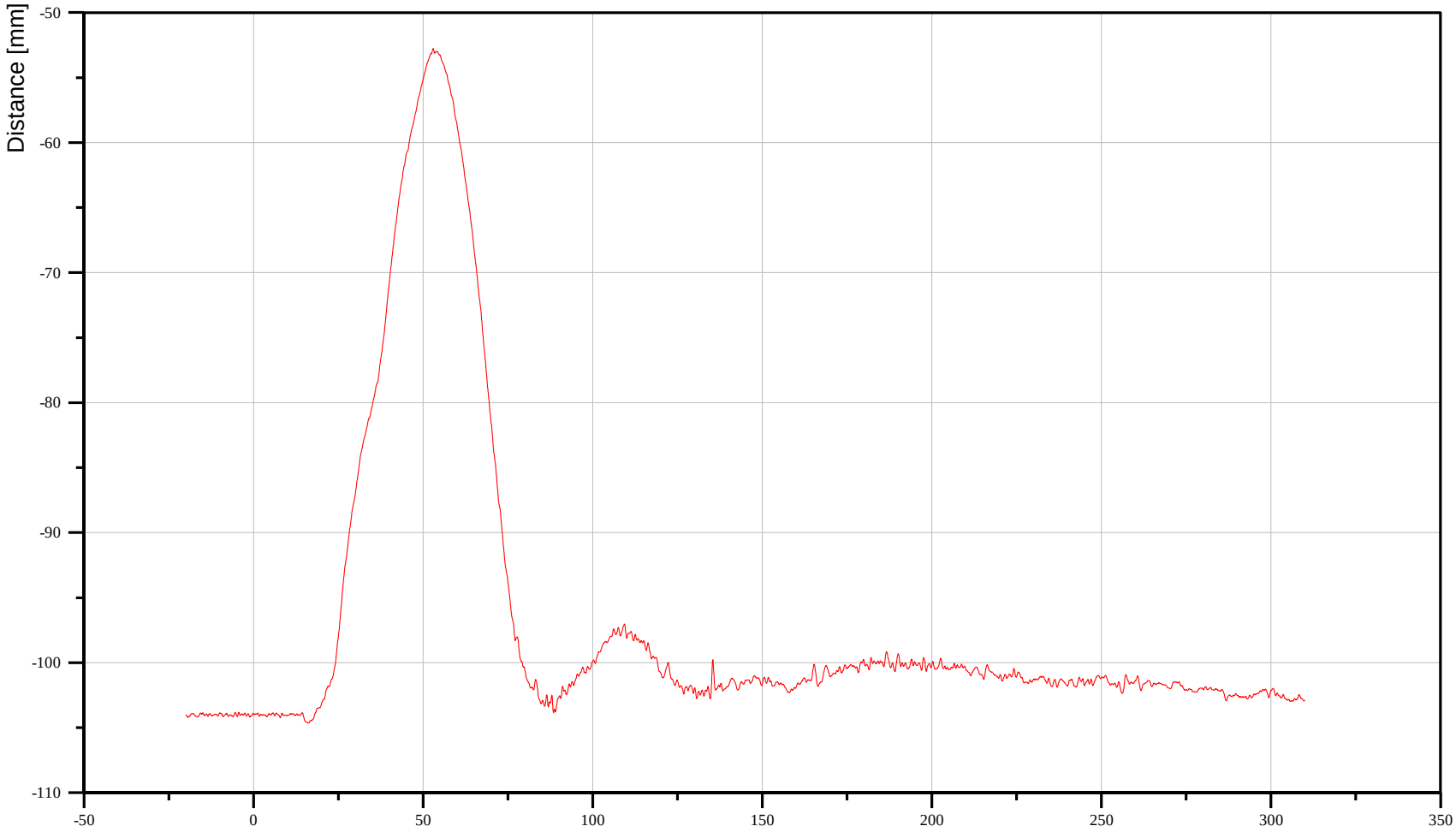
Thorax Rib 1 Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-104.63 mm at 16.30 ms

Max. Value
-52.76 mm at 53.00 ms

2016 Honda Fit WorldSID Pole Impact

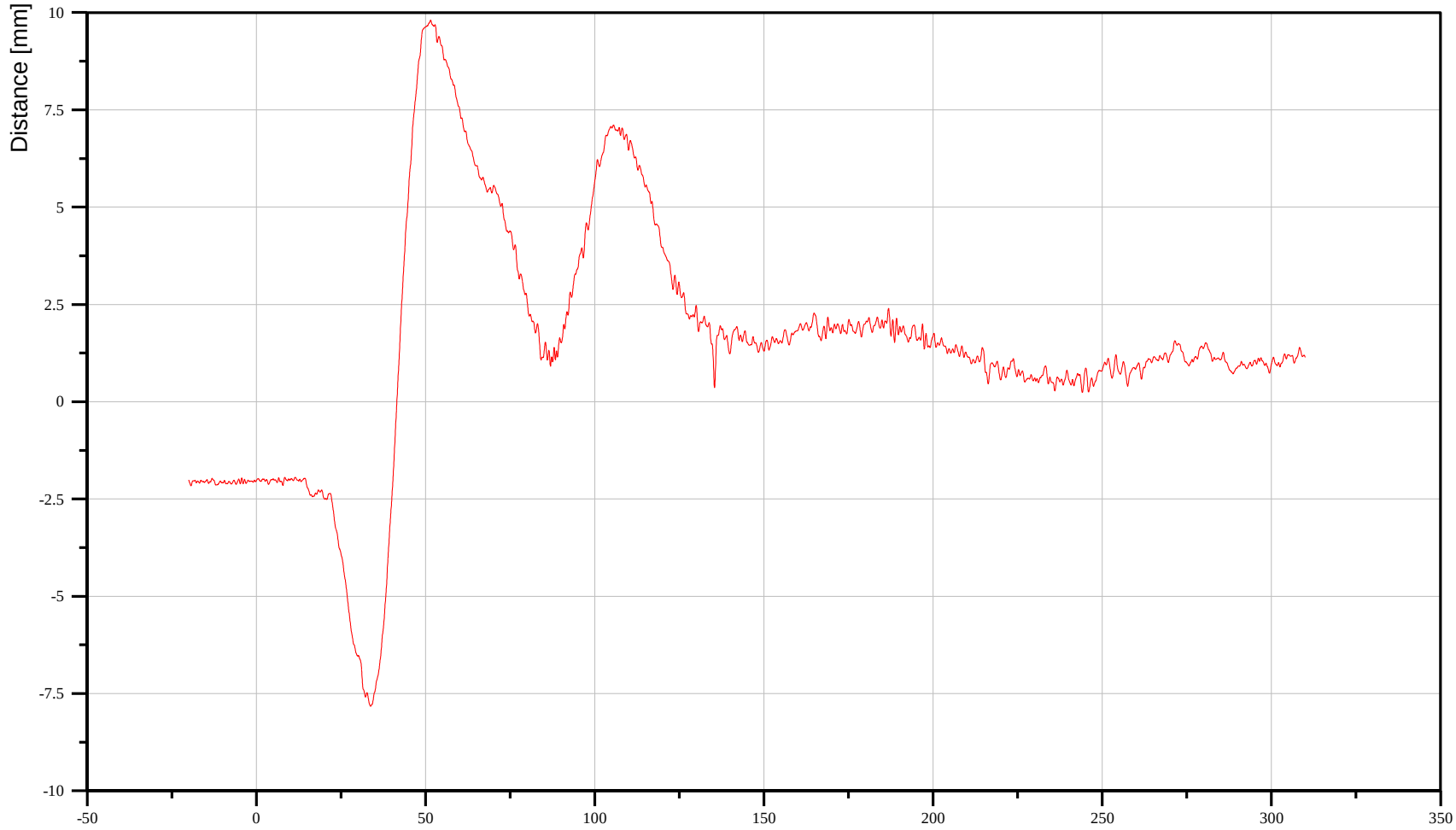
Thorax Rib 1 Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-7.83 mm at 33.80 ms

Max. Value
9.80 mm at 51.50 ms

2016 Honda Fit WorldSID Pole Impact

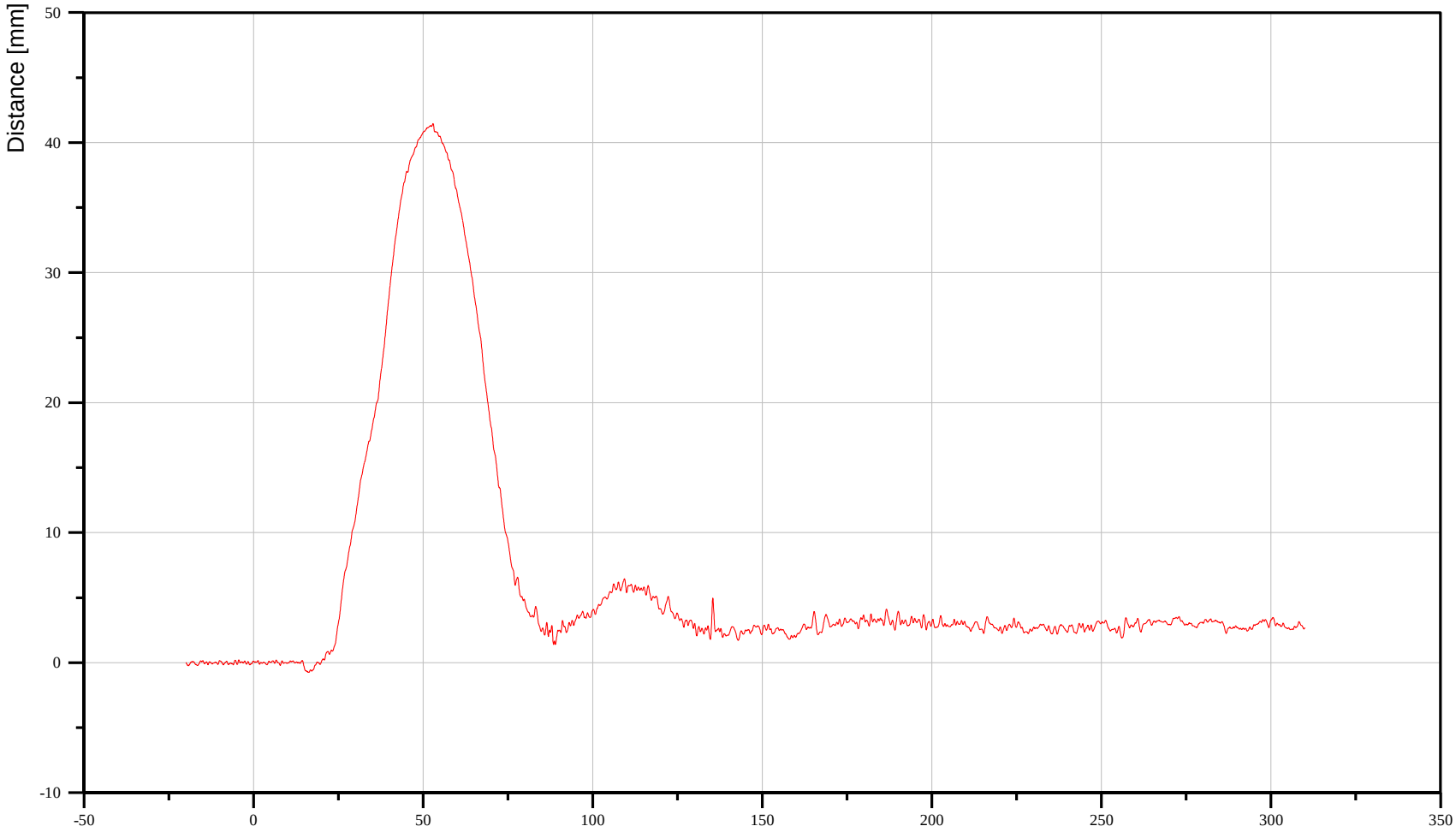
Thorax Rib 1 Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI01FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.74 mm at 16.40 ms

Max. Value
41.48 mm at 52.90 ms

2016 Honda Fit WorldSID Pole Impact

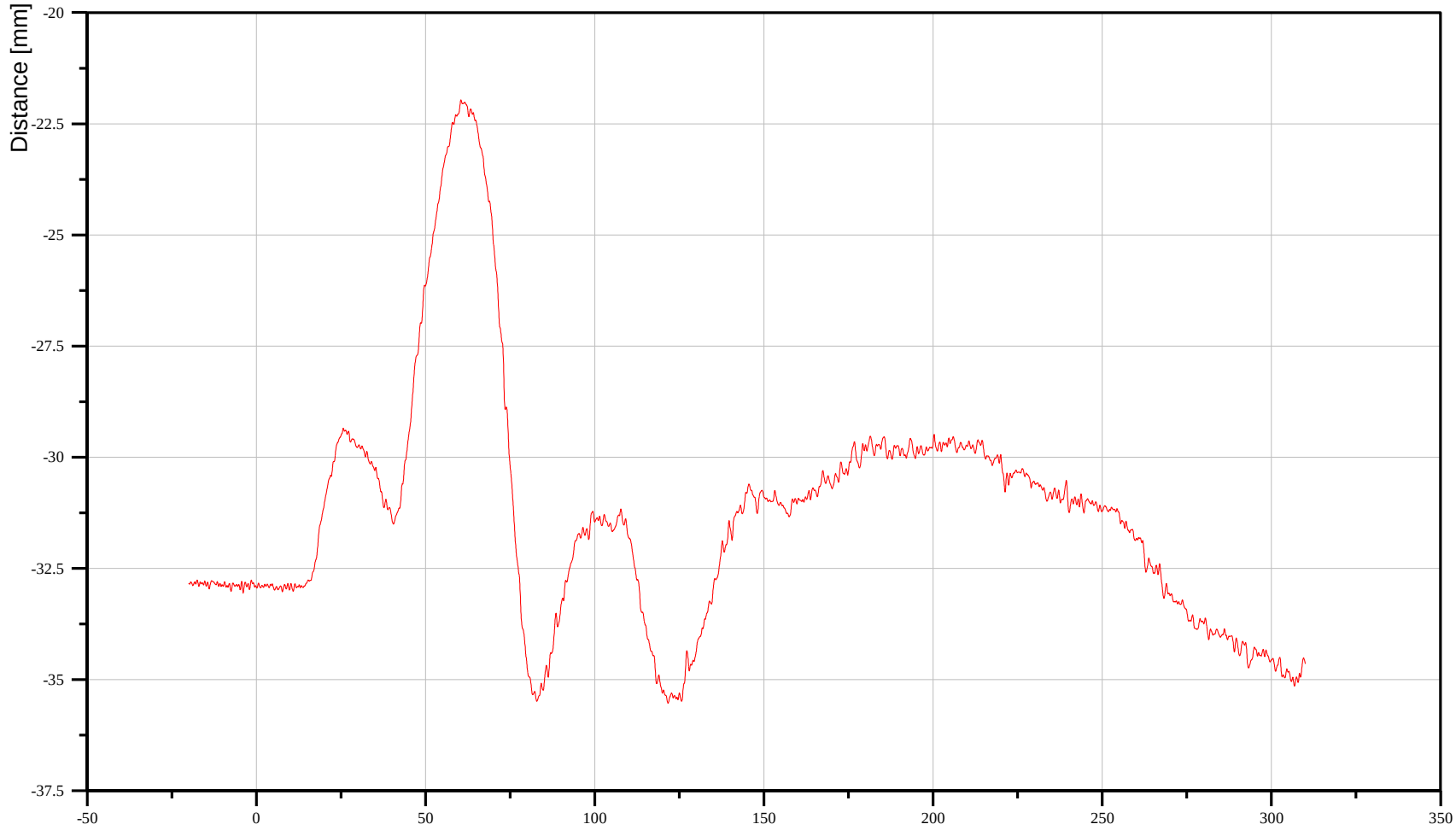
Thorax Rib 2 Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-35.53 mm at 121.70 ms

Max. Value
-21.96 mm at 60.50 ms

2016 Honda Fit WorldSID Pole Impact

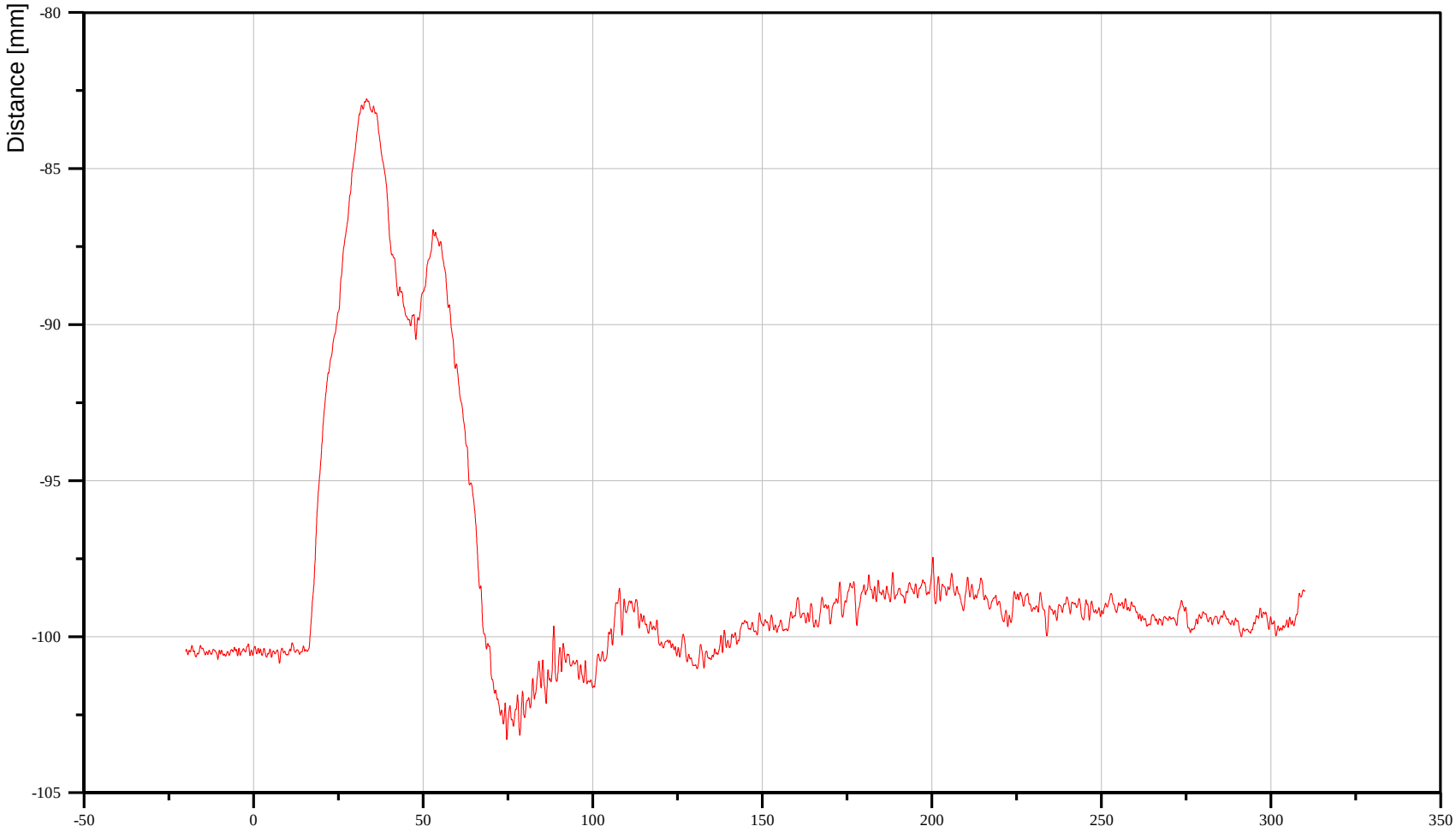
Thorax Rib 2 Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-103.30 mm at 74.70 ms

Max. Value
-82.77 mm at 33.40 ms

2016 Honda Fit WorldSID Pole Impact

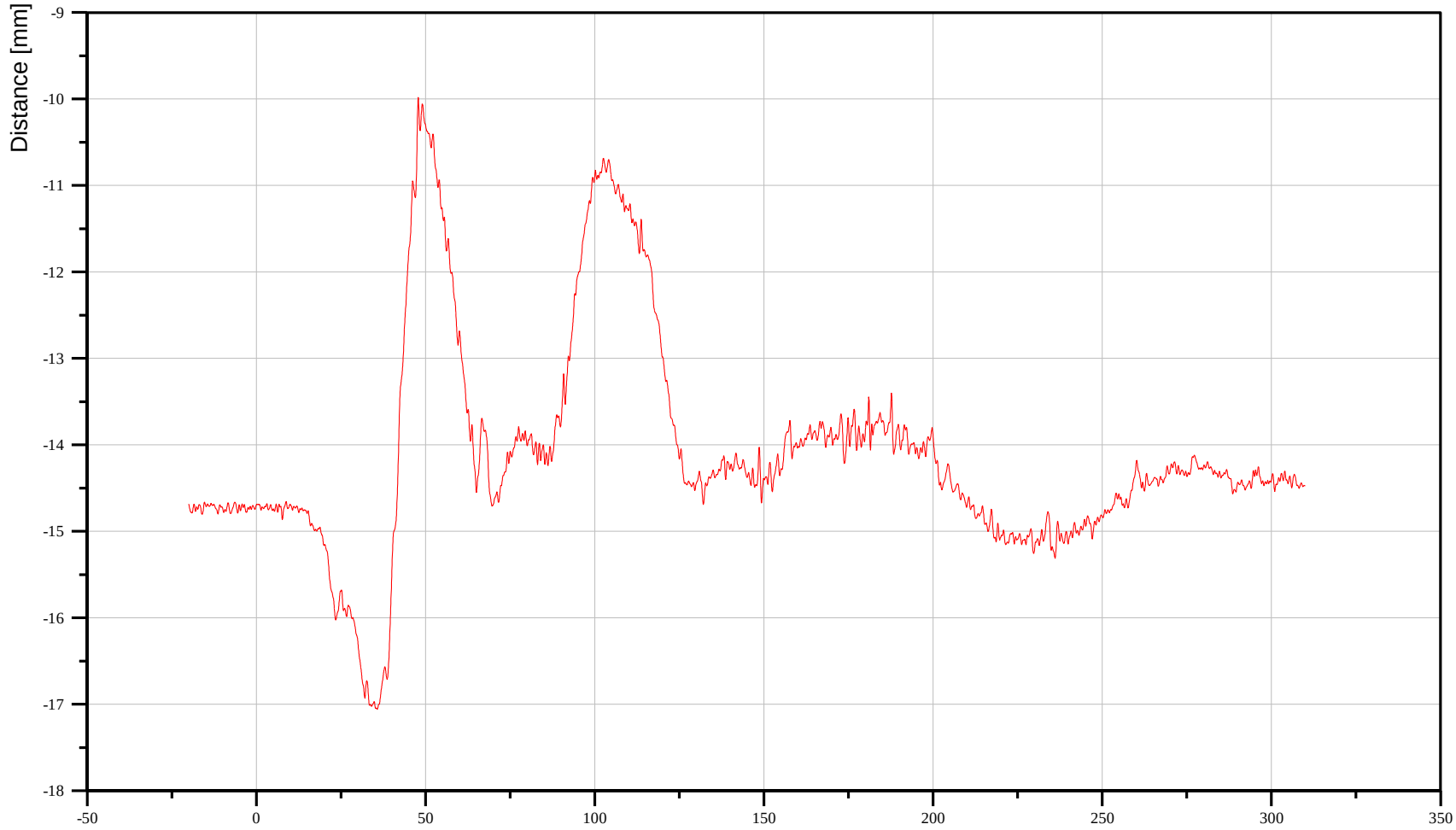
Thorax Rib 2 Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-17.06 mm at 35.70 ms

Max. Value
-9.98 mm at 47.80 ms

2016 Honda Fit WorldSID Pole Impact

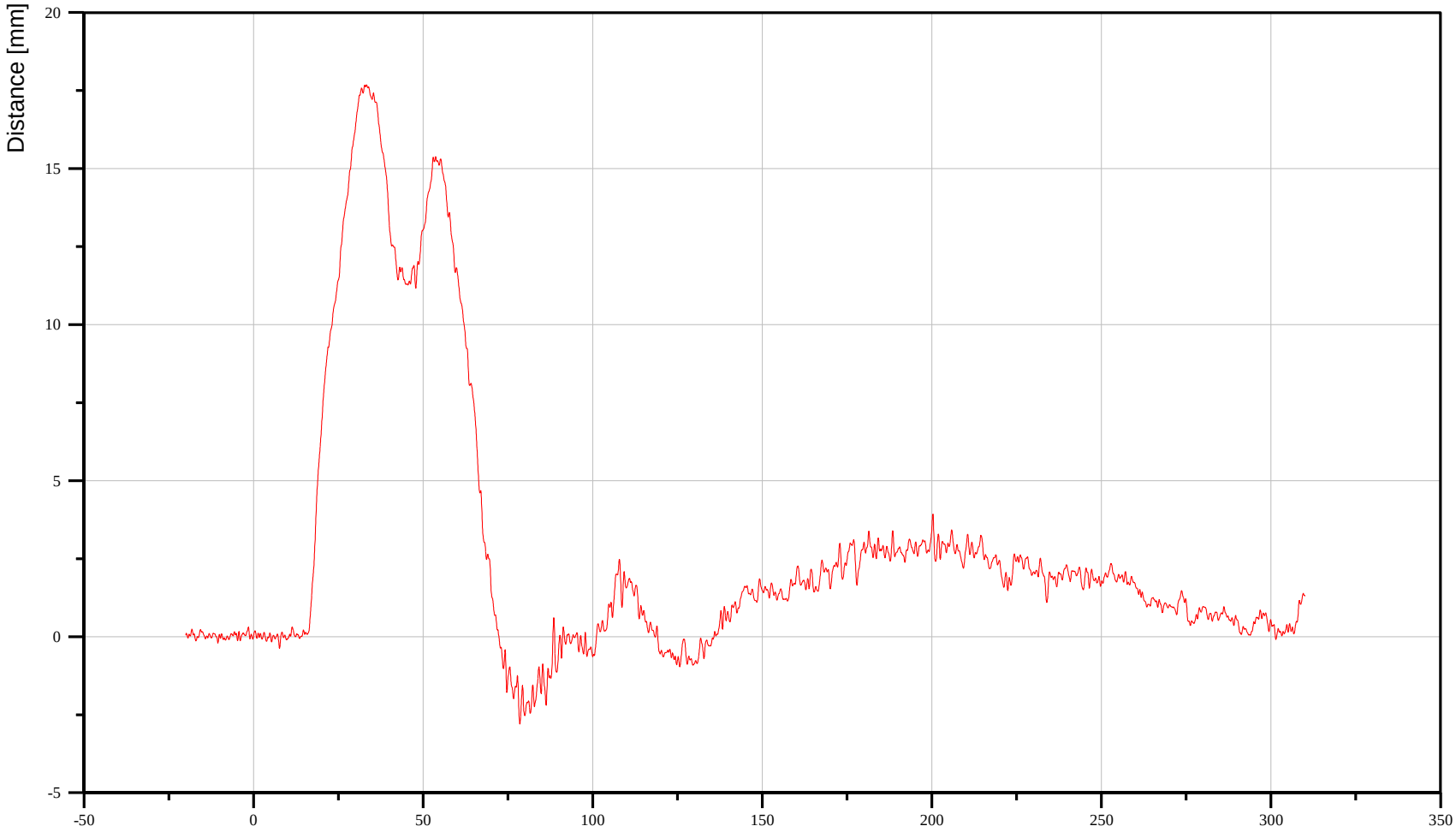
Thorax Rib 2 Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-2.80 mm at 78.50 ms

Max. Value
17.69 mm at 33.30 ms

2016 Honda Fit WorldSID Pole Impact

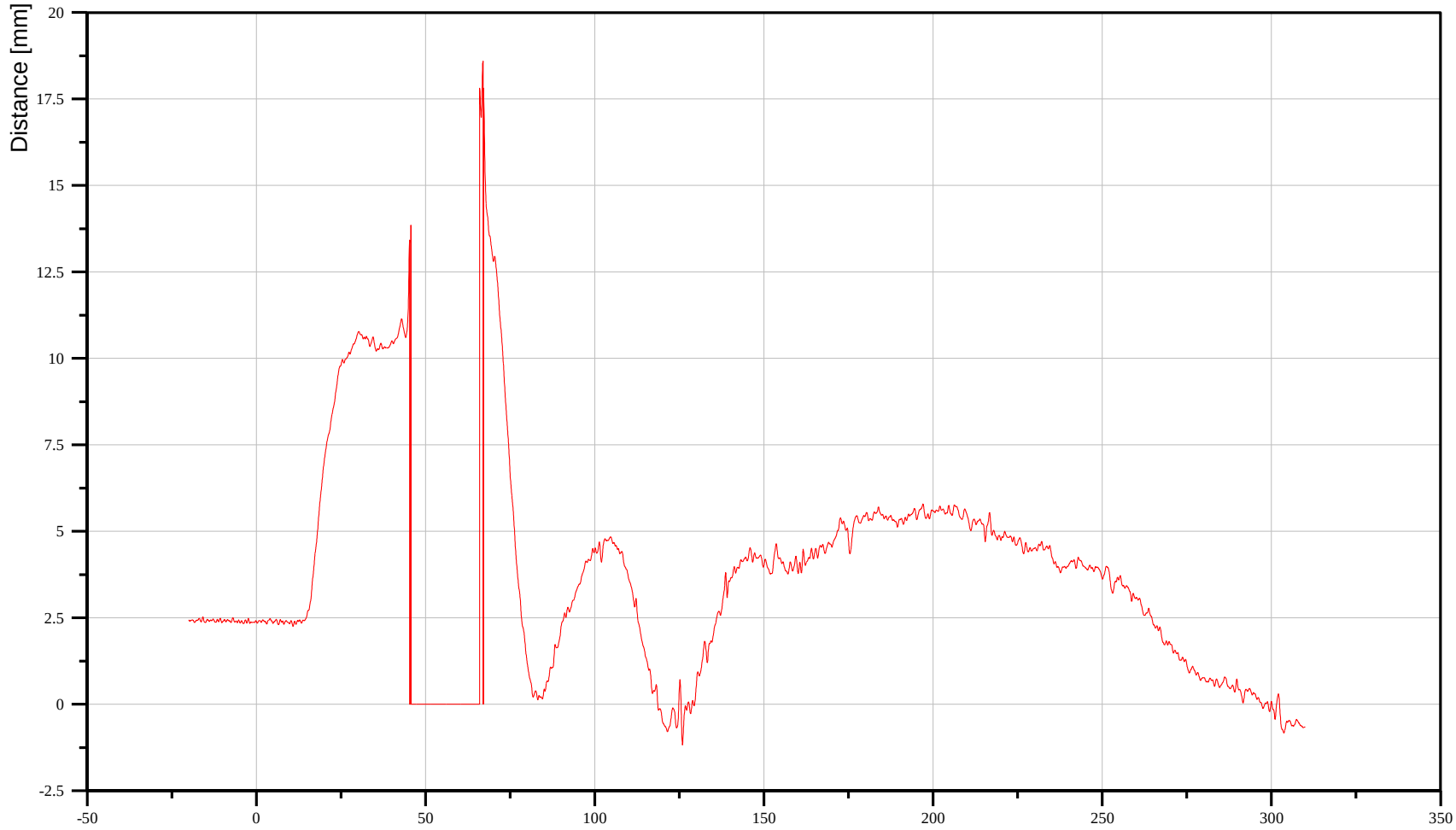
Thorax Rib 2 Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.17 mm at 125.90 ms

Max. Value
18.59 mm at 67.00 ms

2016 Honda Fit WorldSID Pole Impact

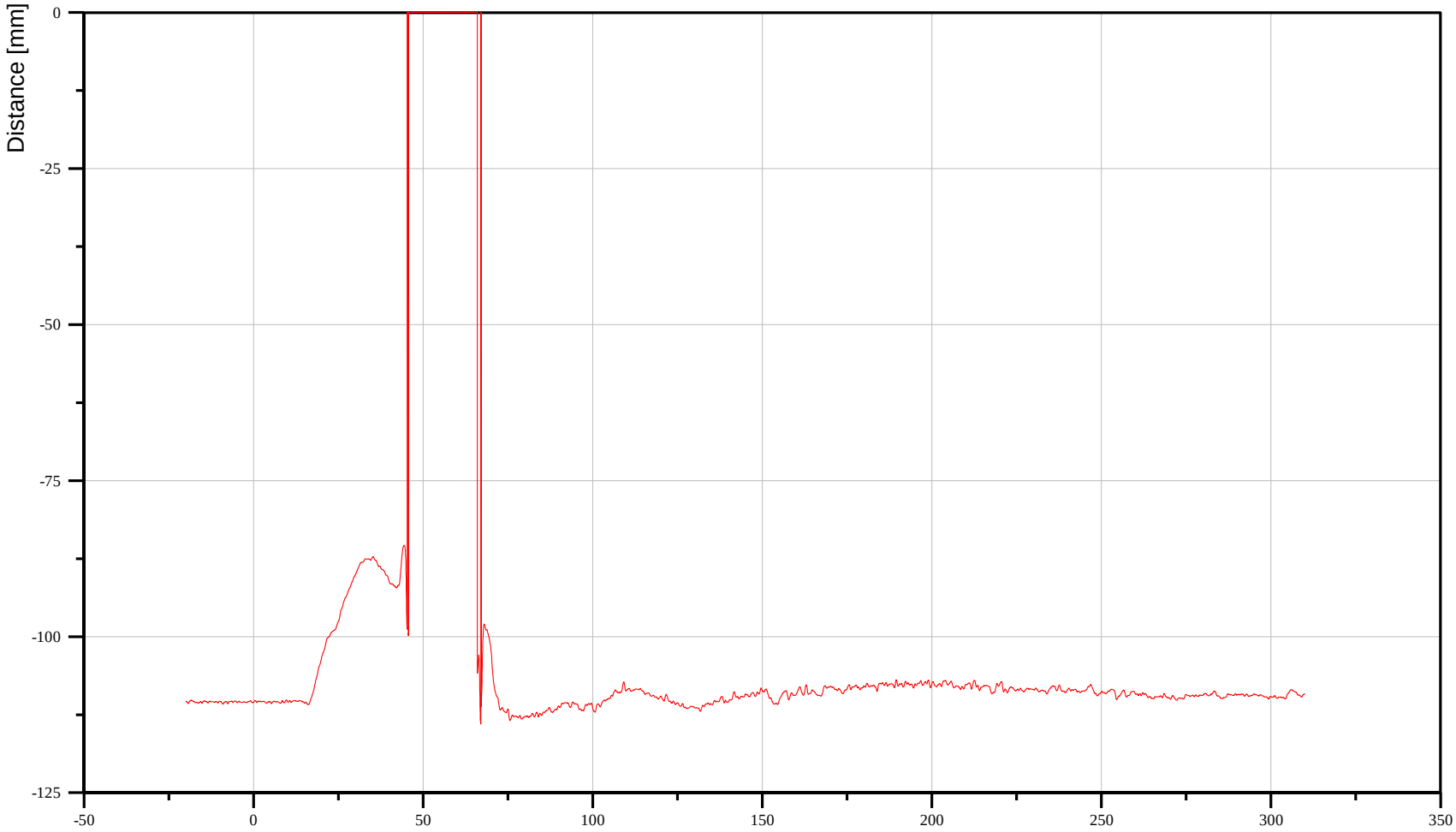
Thorax Rib 2 Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-114.00 mm at 67.00 ms

Max. Value
0.00 mm at 45.30 ms

2016 Honda Fit WorldSID Pole Impact

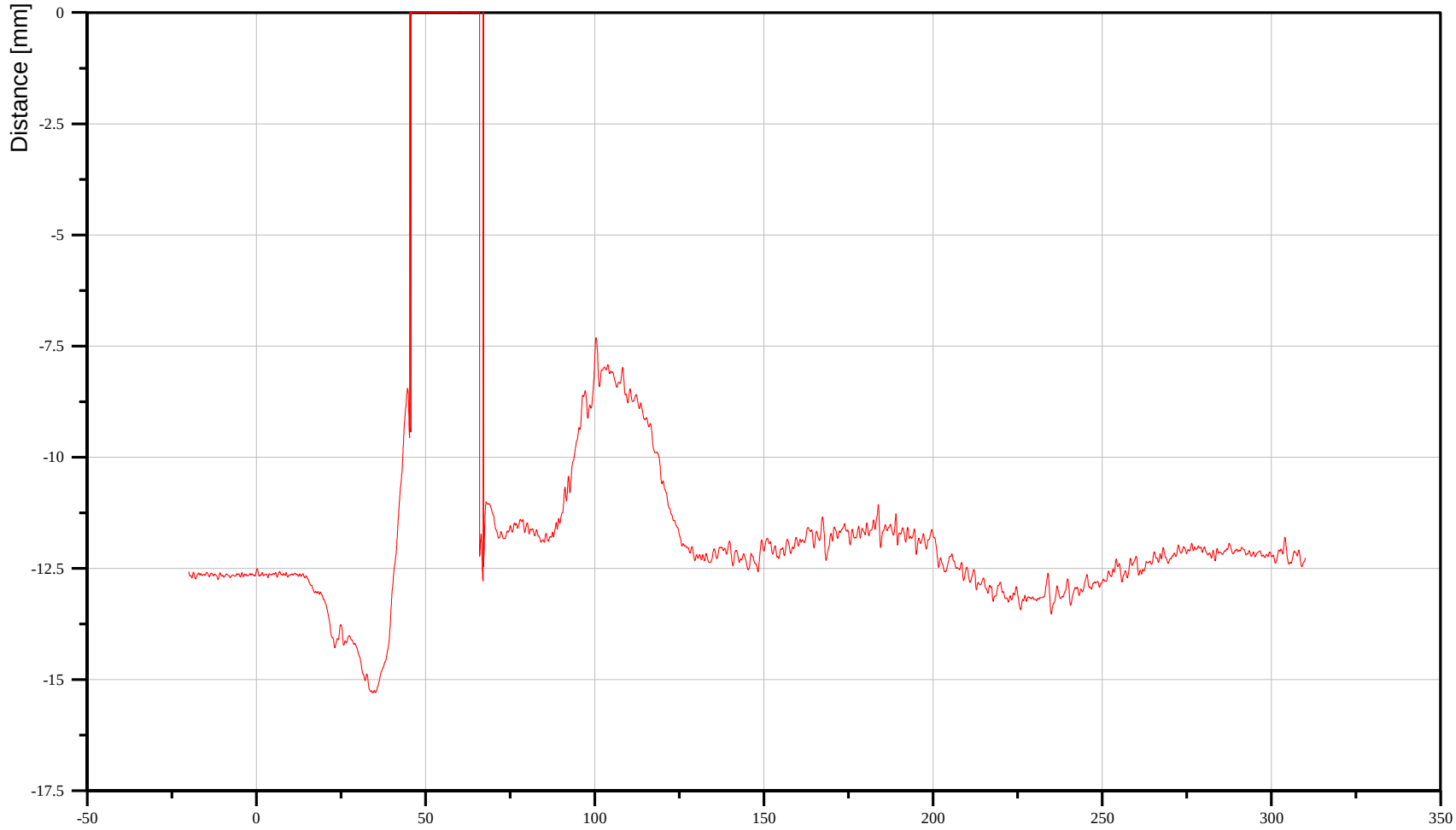
Thorax Rib 2 Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-15.30 mm at 34.40 ms

Max. Value
0.00 mm at 45.30 ms

2016 Honda Fit WorldSID Pole Impact

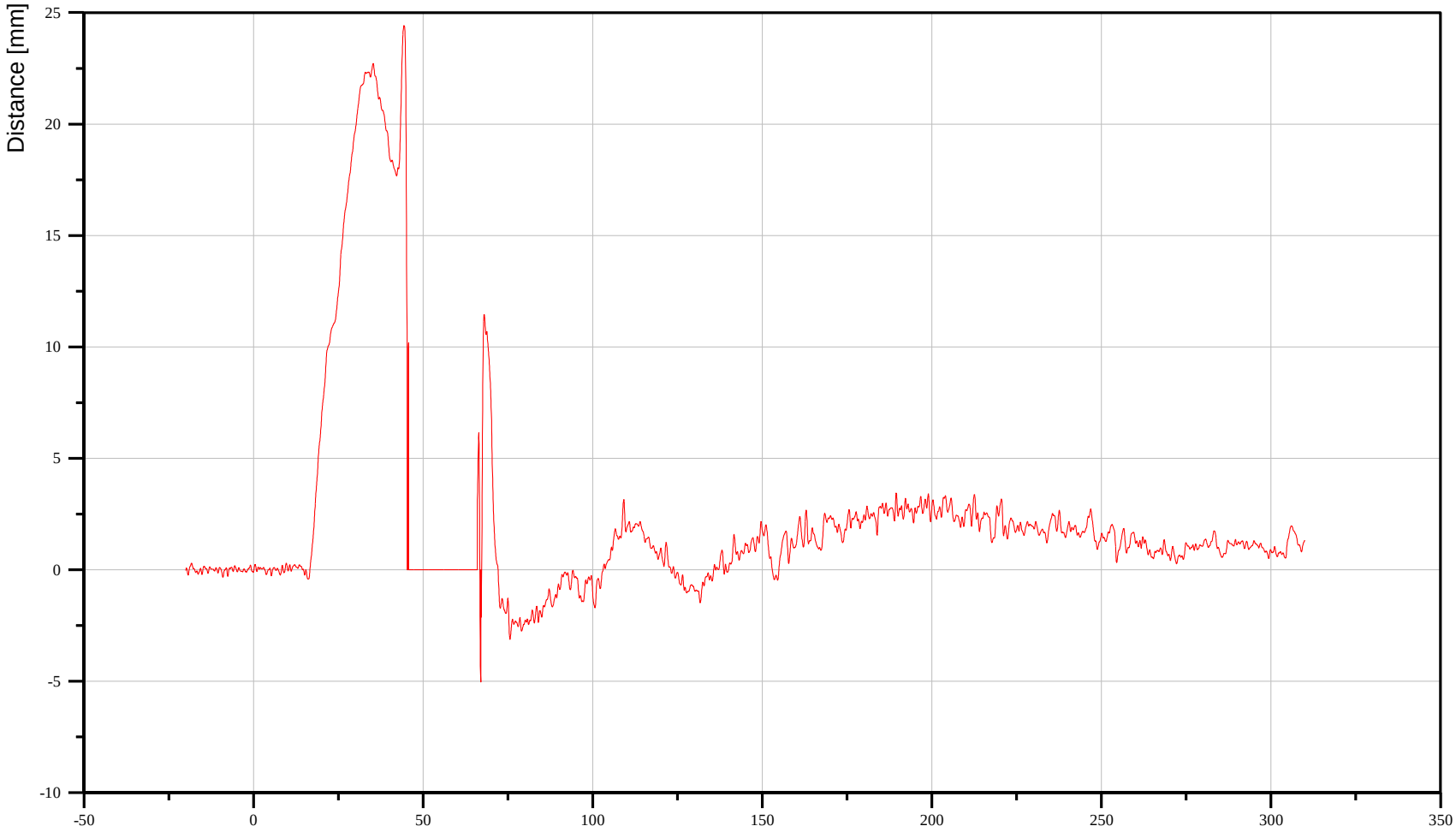
Thorax Rib 2 Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-5.04 mm at 67.00 ms

Max. Value
24.42 mm at 44.40 ms

2016 Honda Fit WorldSID Pole Impact

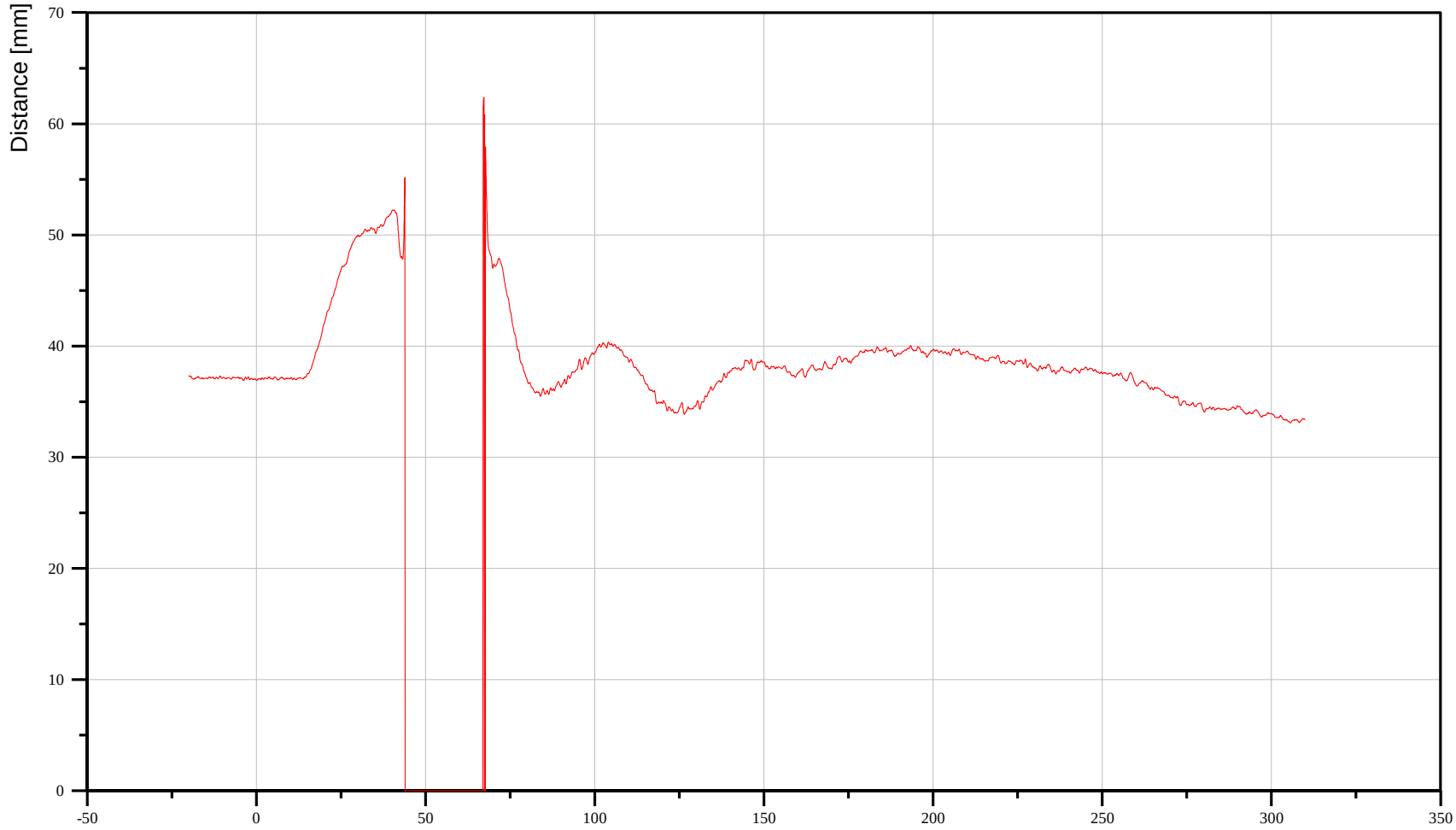
Thorax Rib 2 Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.00 mm at 43.95 ms

Max. Value
62.37 mm at 67.30 ms

2016 Honda Fit WorldSID Pole Impact

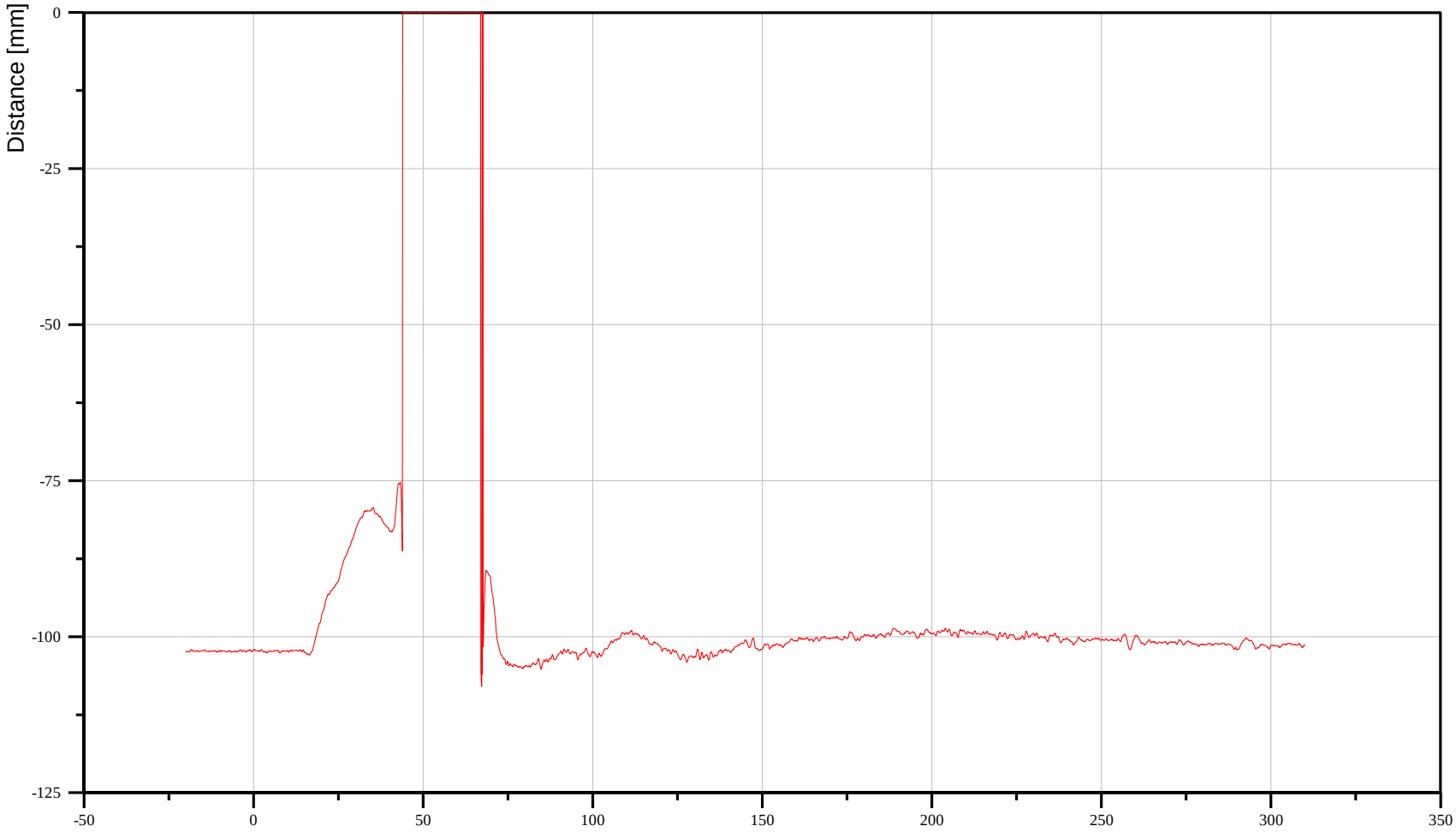
Thorax Rib 2 Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-108.00 mm at 67.30 ms

Max. Value
0.00 mm at 43.95 ms

2016 Honda Fit WorldSID Pole Impact

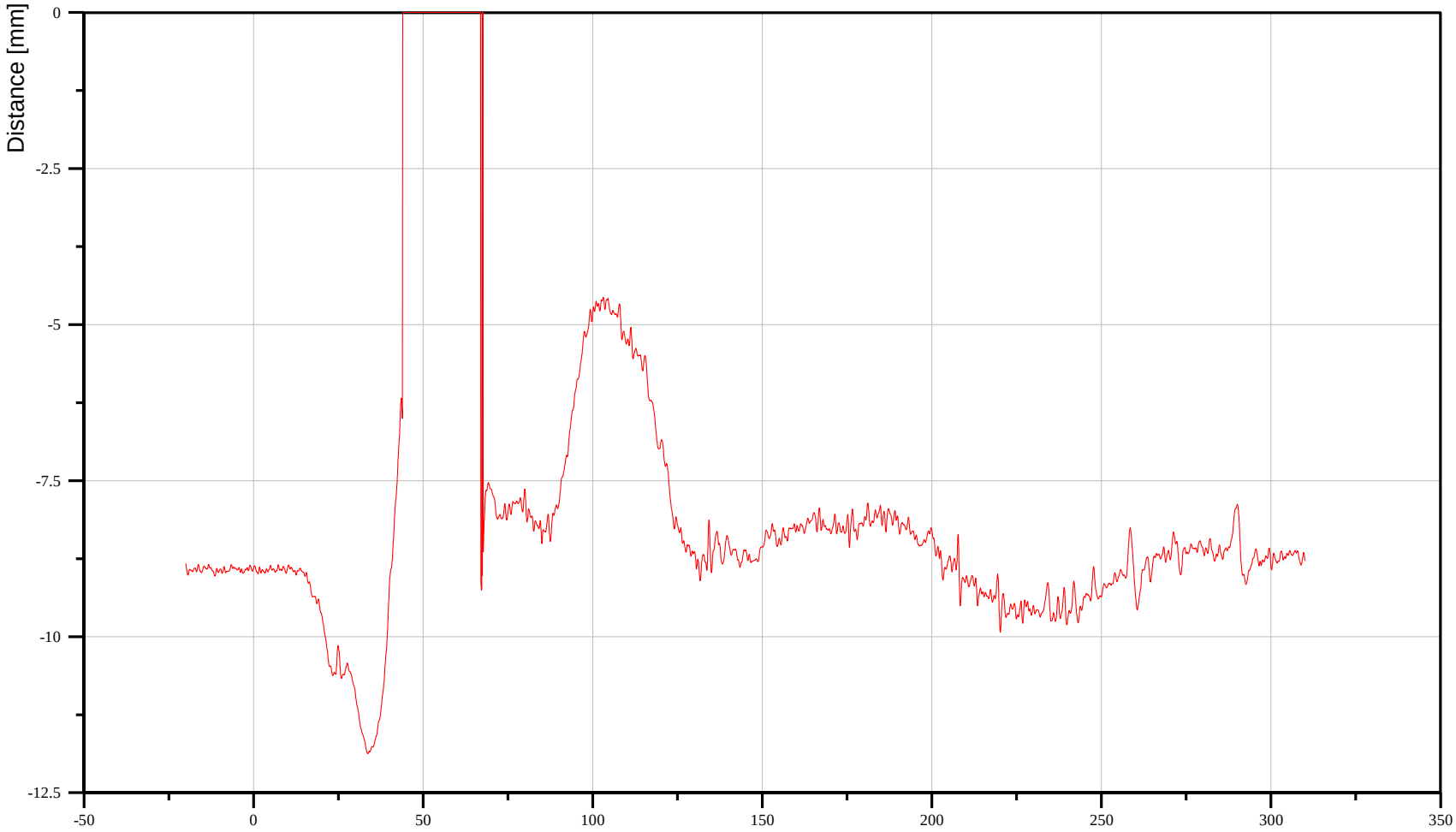
Thorax Rib 2 Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-11.87 mm at 33.70 ms

Max. Value
0.00 mm at 43.95 ms

2016 Honda Fit WorldSID Pole Impact

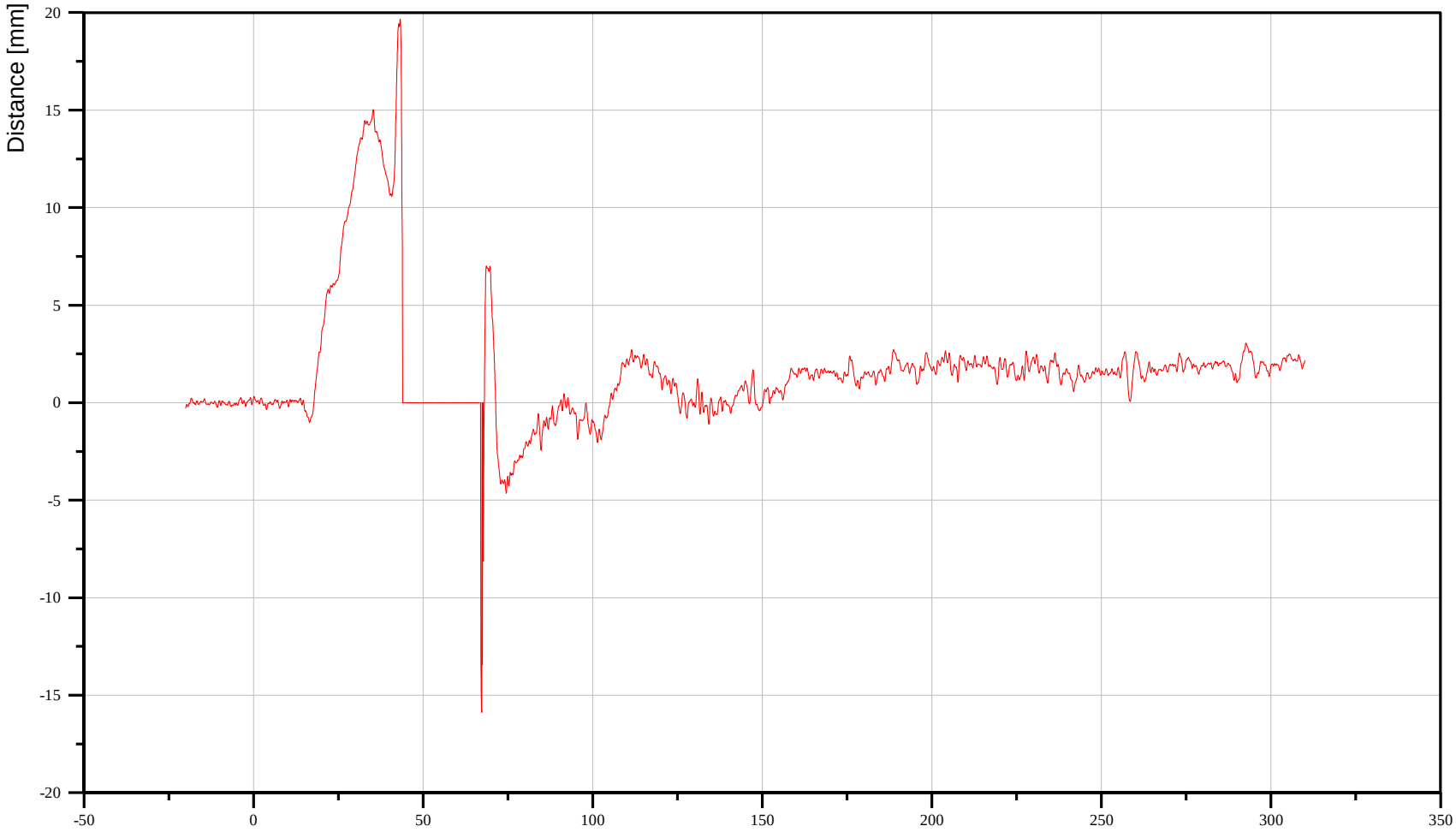
Thorax Rib 2 Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI02FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-15.89 mm at 67.30 ms

Max. Value
19.66 mm at 43.30 ms

2016 Honda Fit WorldSID Pole Impact

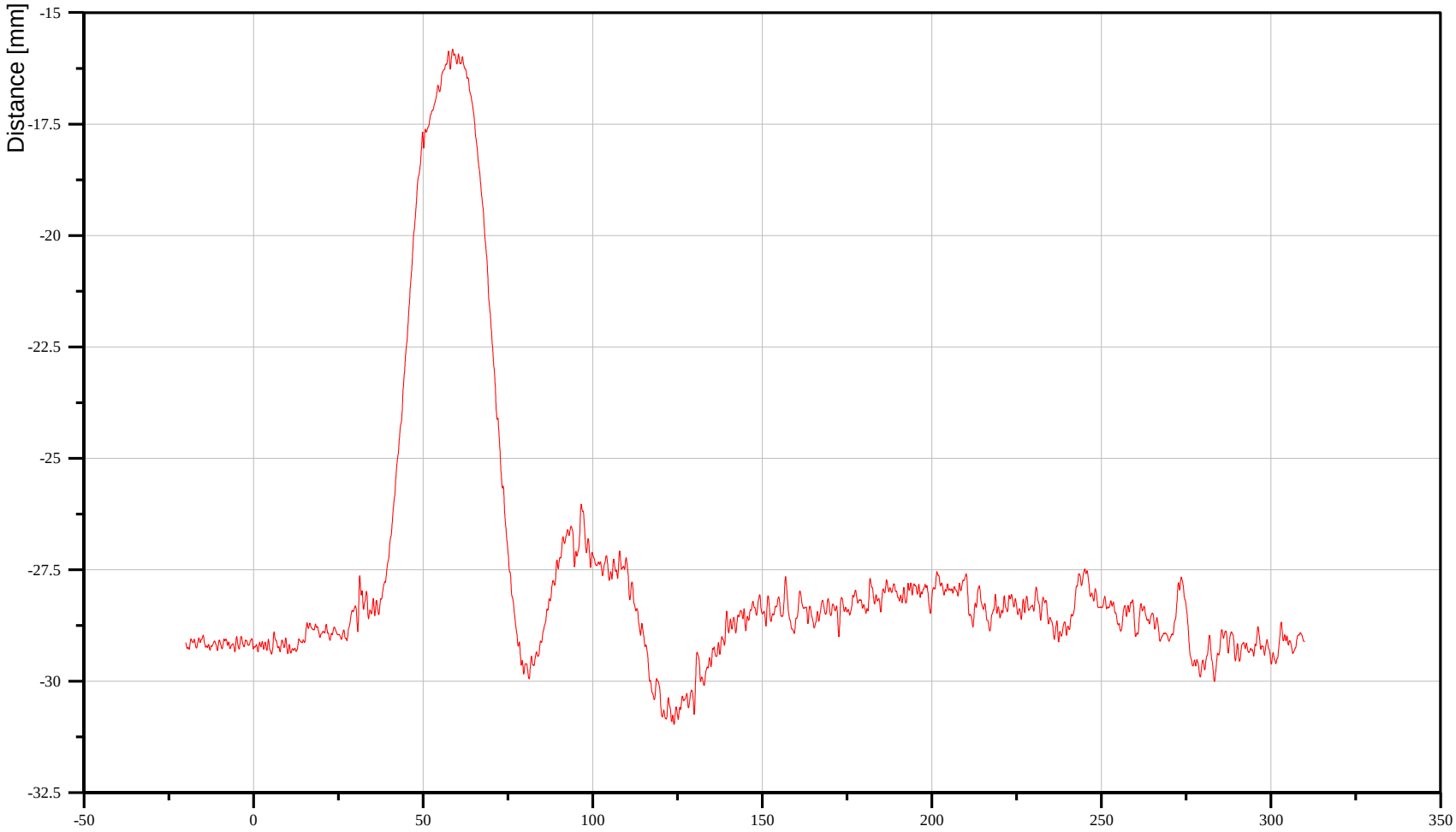
Thorax Rib 3 Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-30.97 mm at 124.00 ms

Max. Value
-15.82 mm at 58.70 ms

2016 Honda Fit WorldSID Pole Impact

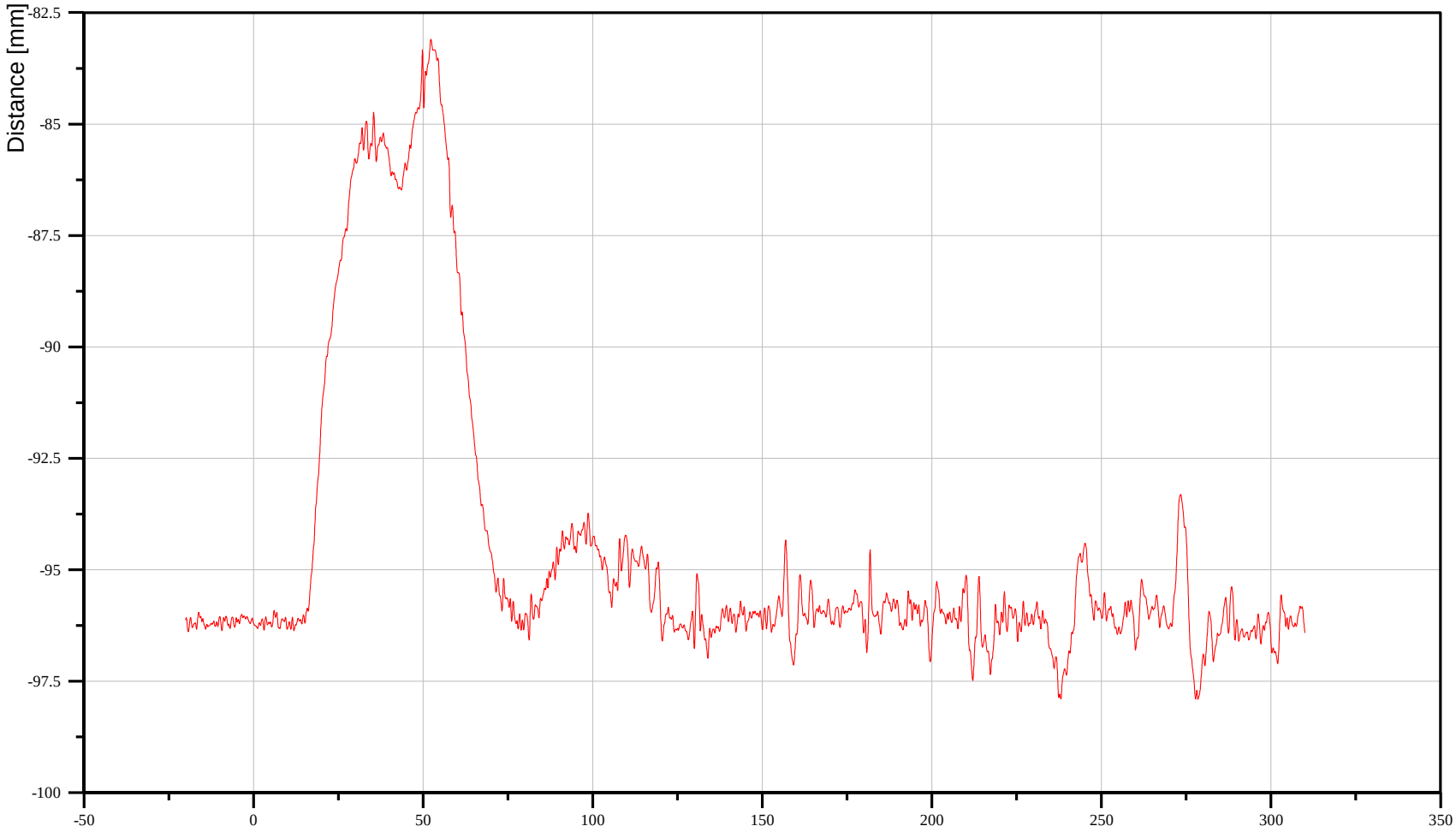
Thorax Rib 3 Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-97.90 mm at 278.50 ms

Max. Value
-83.10 mm at 52.30 ms

2016 Honda Fit WorldSID Pole Impact

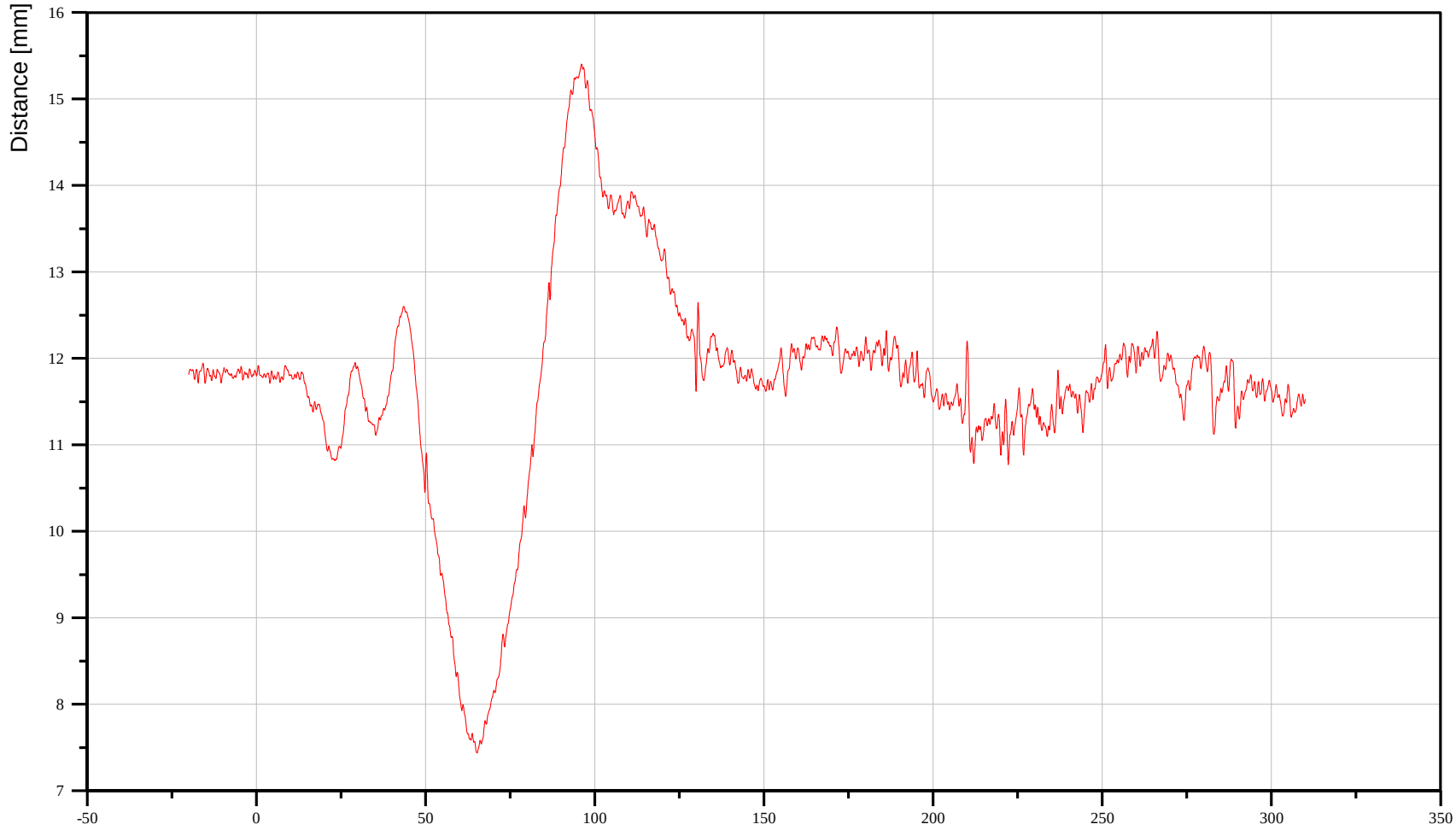
Thorax Rib 3 Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
7.44 mm at 65.30 ms

Max. Value
15.40 mm at 96.10 ms

2016 Honda Fit WorldSID Pole Impact

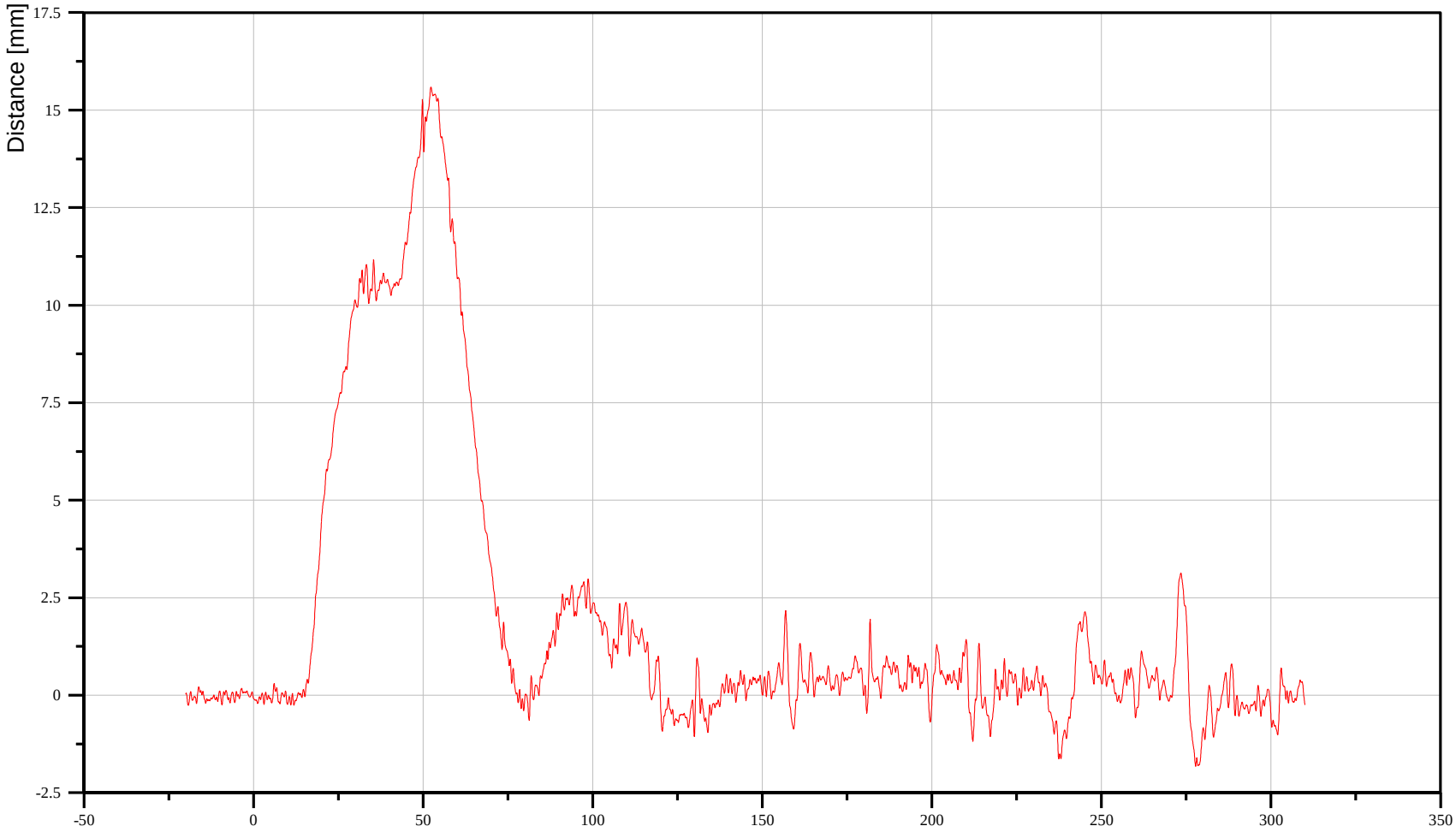
Thorax Rib 3 Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.83 mm at 277.80 ms

Max. Value
15.59 mm at 52.30 ms

2016 Honda Fit WorldSID Pole Impact

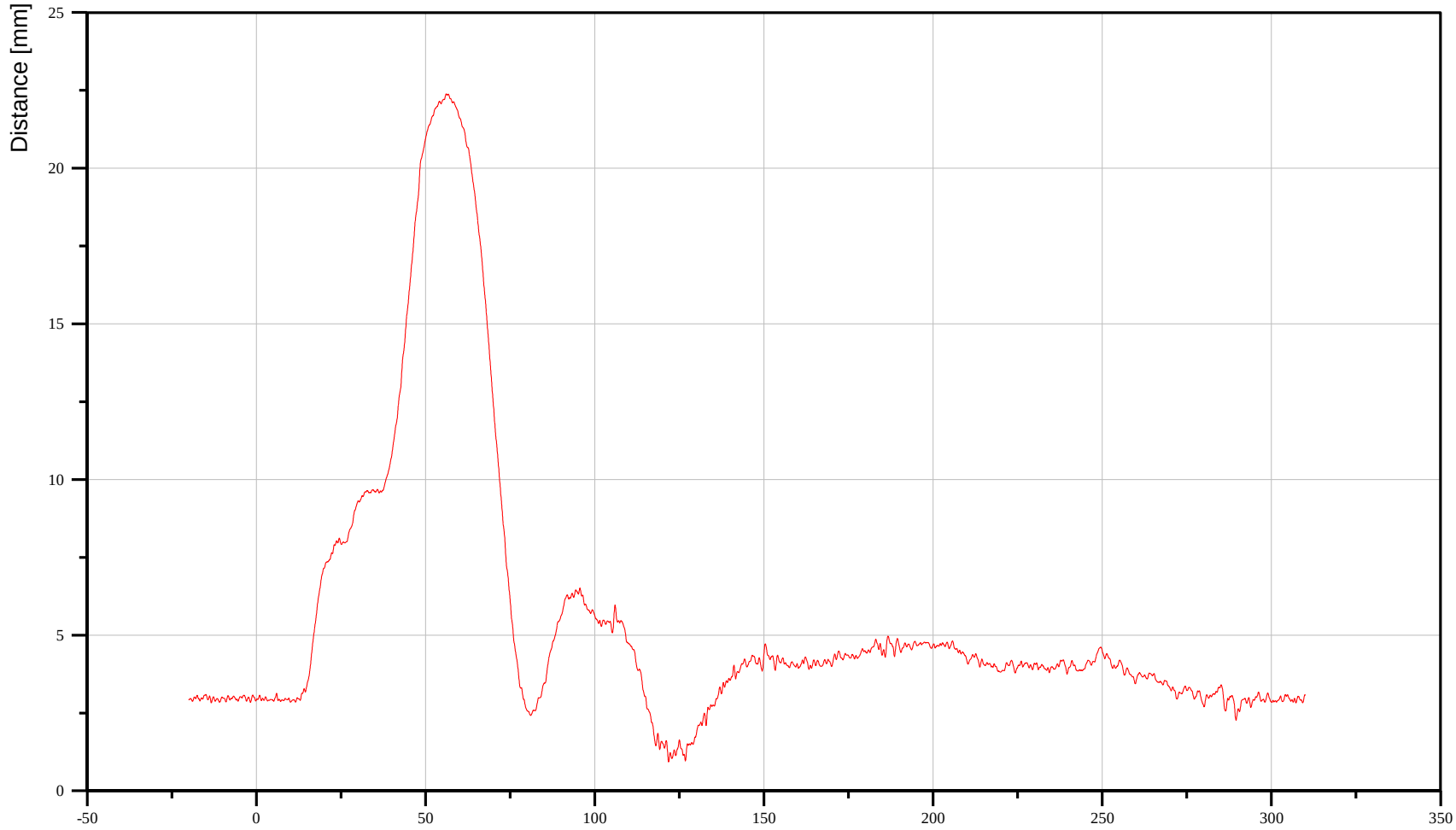
Thorax Rib 3 Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.93 mm at 121.80 ms

Max. Value
22.39 mm at 56.10 ms

2016 Honda Fit WorldSID Pole Impact

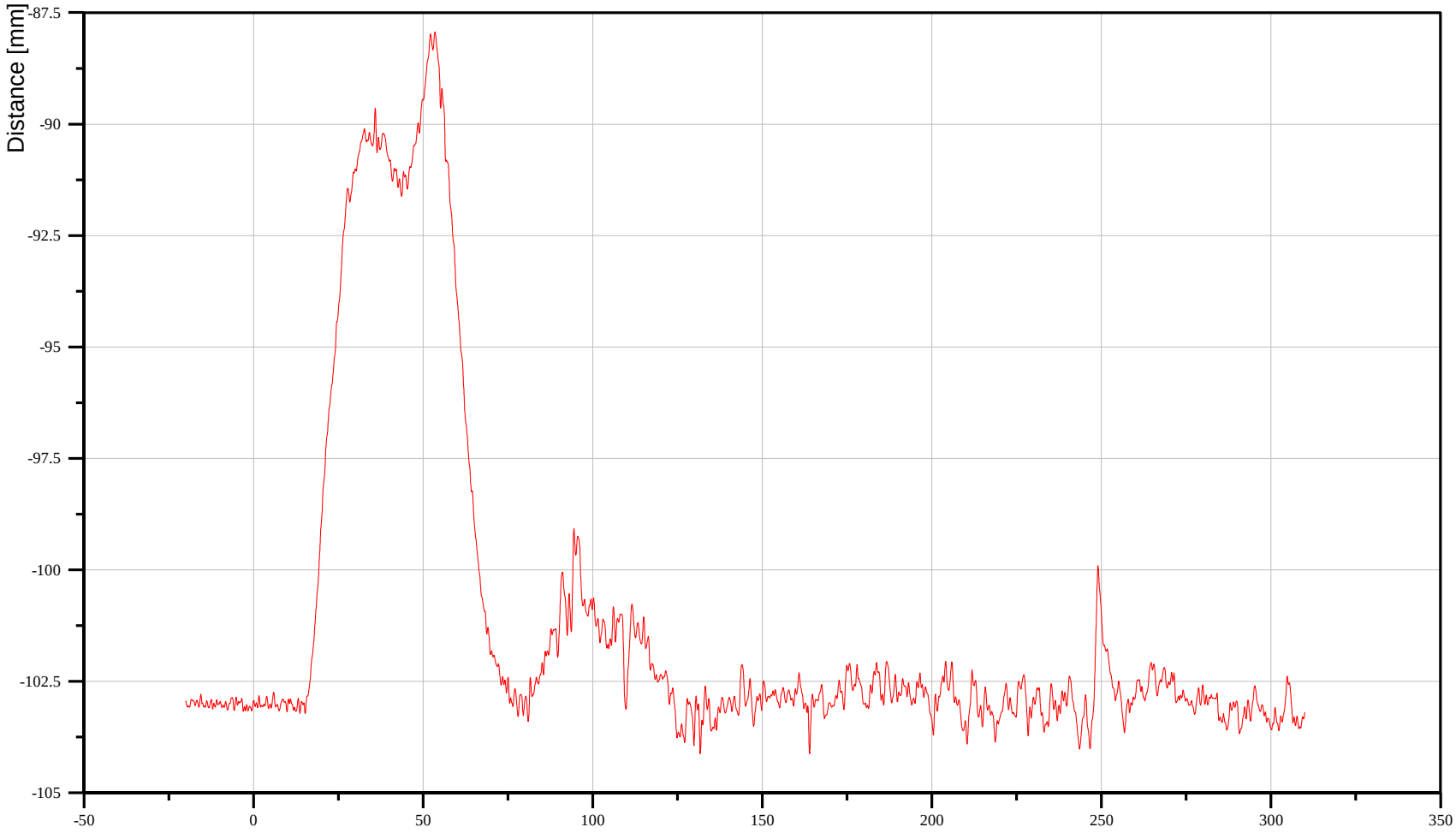
Thorax Rib 3 Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-104.12 mm at 131.70 ms

Max. Value
-87.93 mm at 53.50 ms

2016 Honda Fit WorldSID Pole Impact

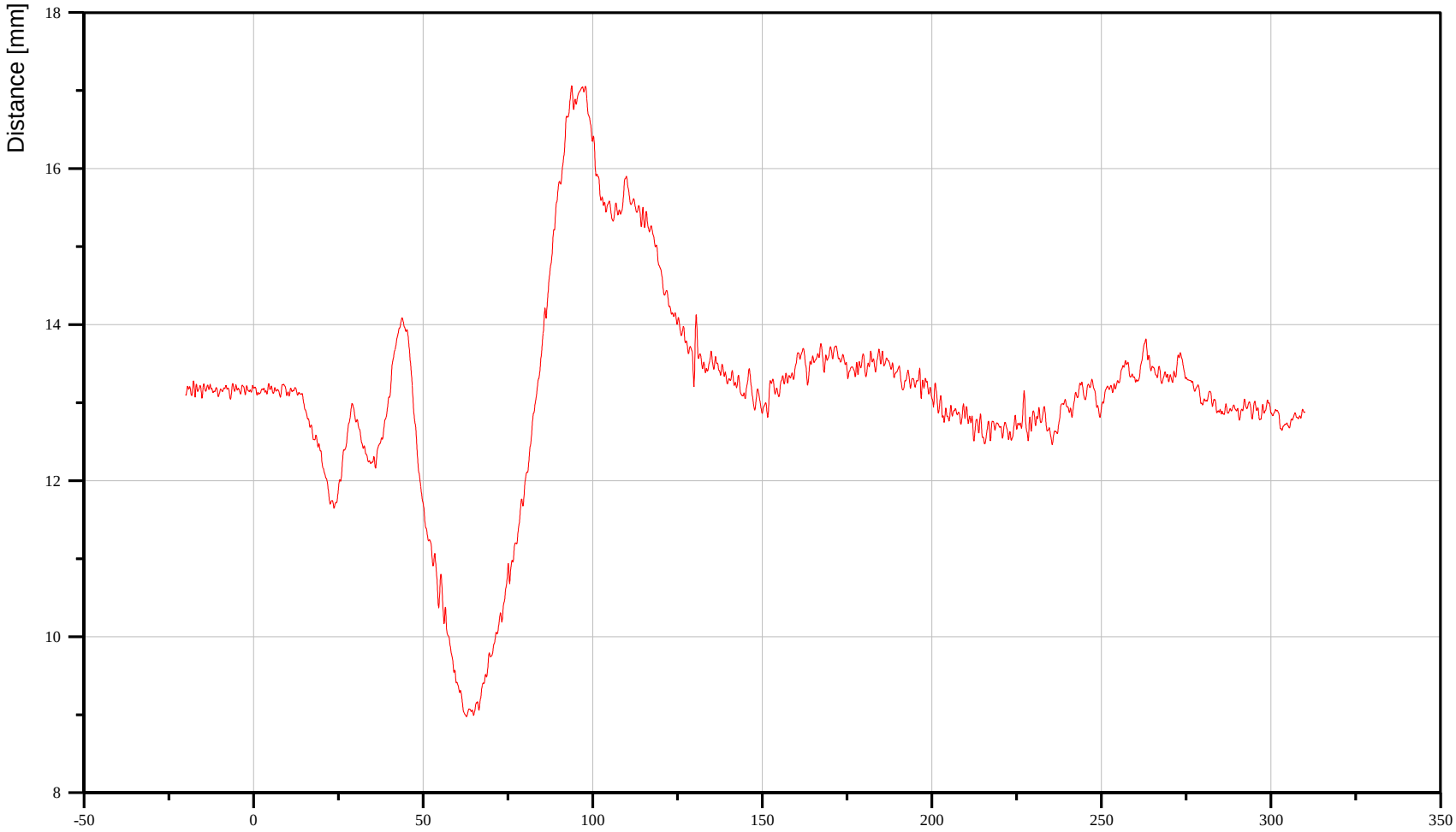
Thorax Rib 3 Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
8.97 mm at 62.80 ms

Max. Value
17.06 mm at 93.80 ms

2016 Honda Fit WorldSID Pole Impact

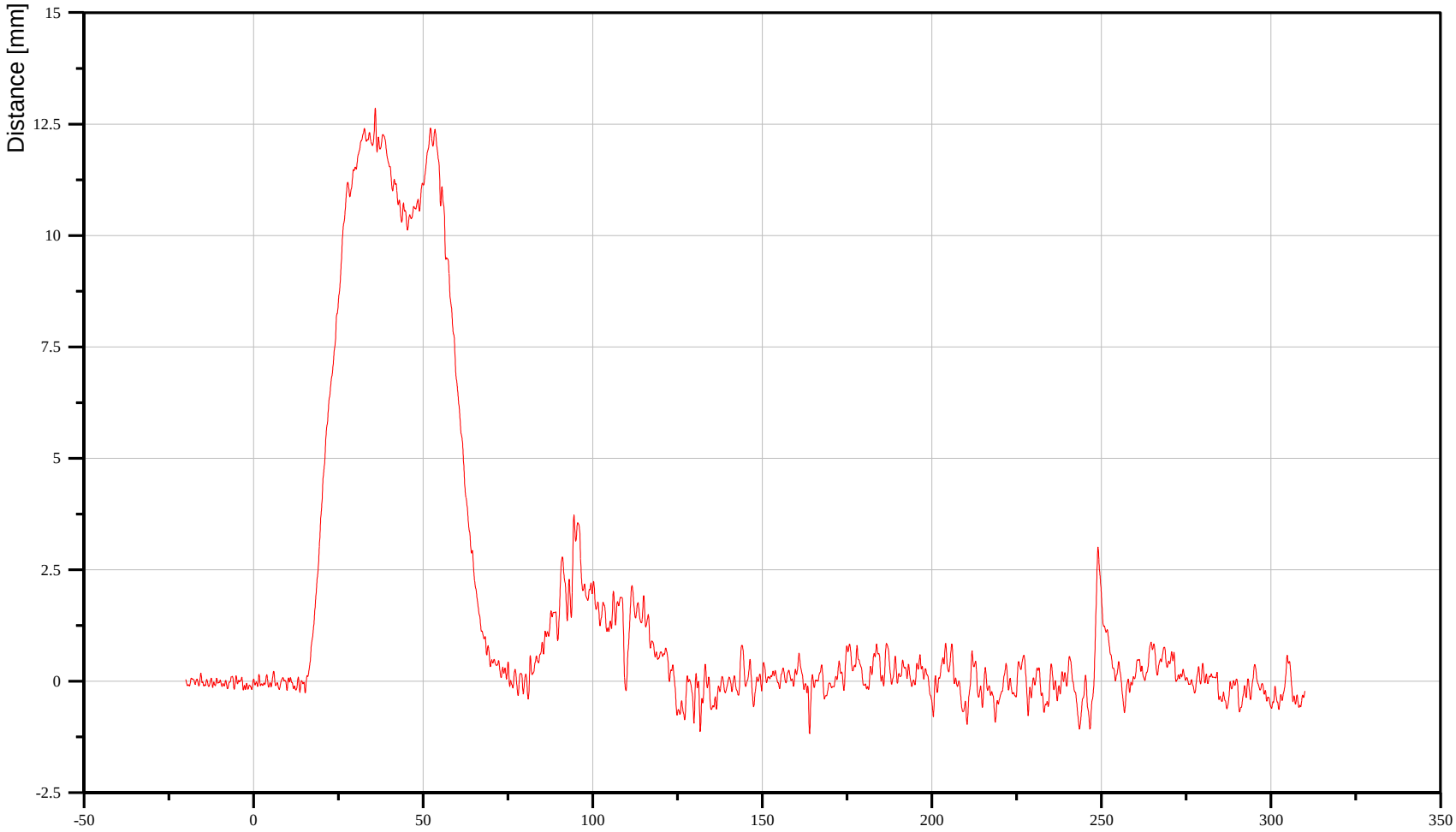
Thorax Rib 3 Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.18 mm at 164.00 ms

Max. Value
12.86 mm at 35.90 ms

2016 Honda Fit WorldSID Pole Impact

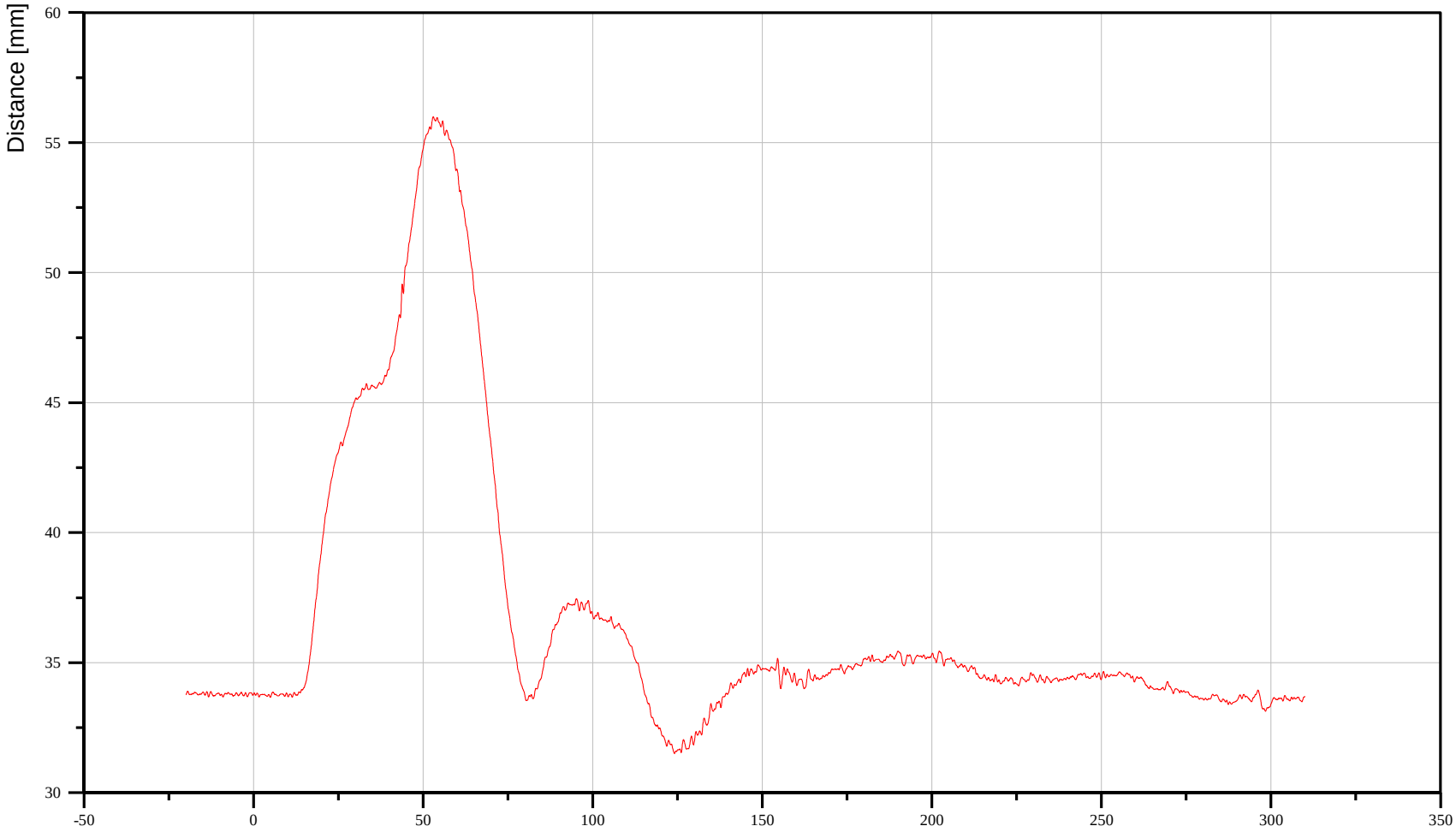
Thorax Rib 3 Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
31.51 mm at 124.10 ms

Max. Value
55.99 mm at 53.00 ms

2016 Honda Fit WorldSID Pole Impact

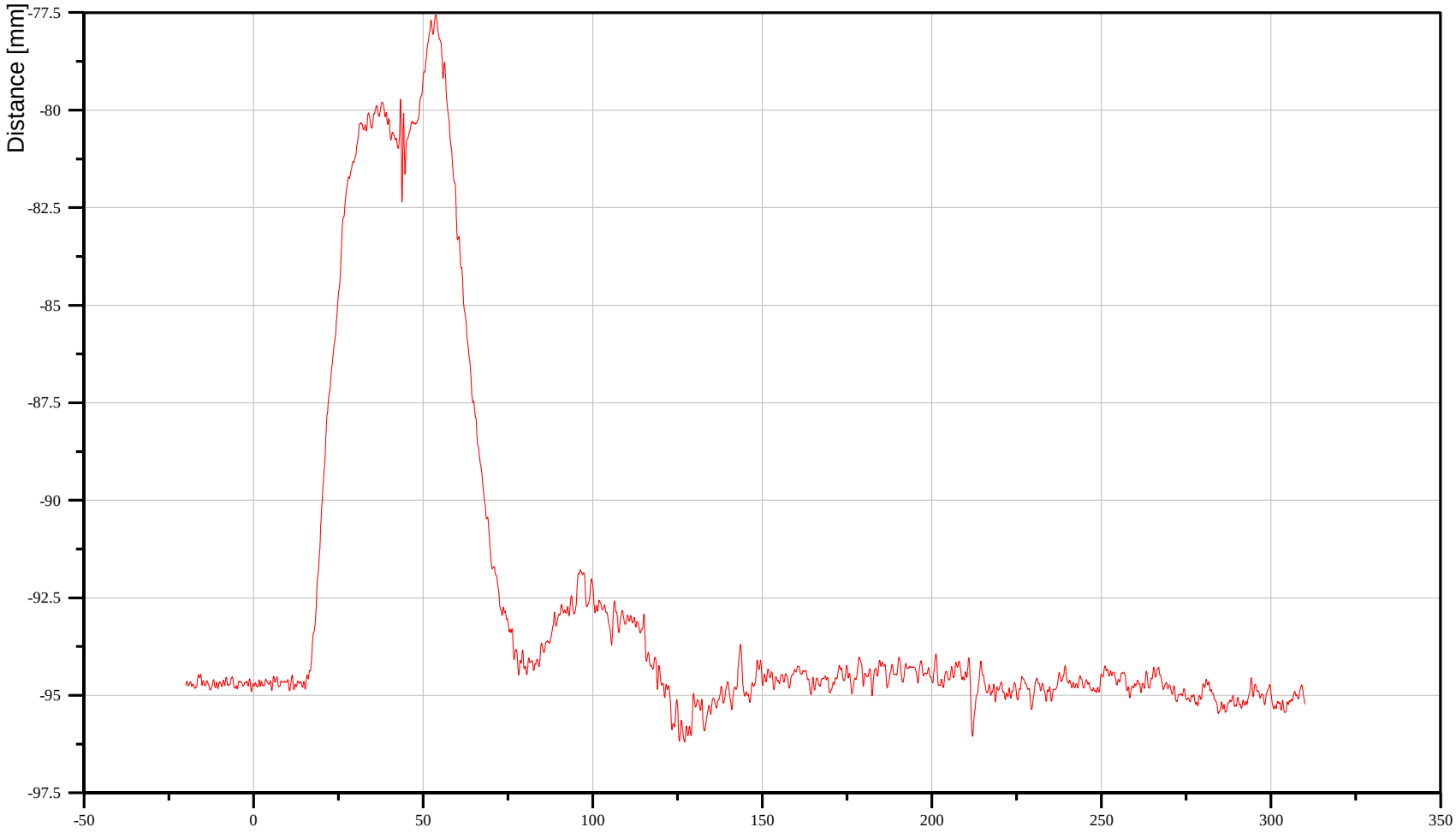
Thorax Rib 3 Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-96.20 mm at 127.10 ms

Max. Value
-77.56 mm at 53.80 ms

2016 Honda Fit WorldSID Pole Impact

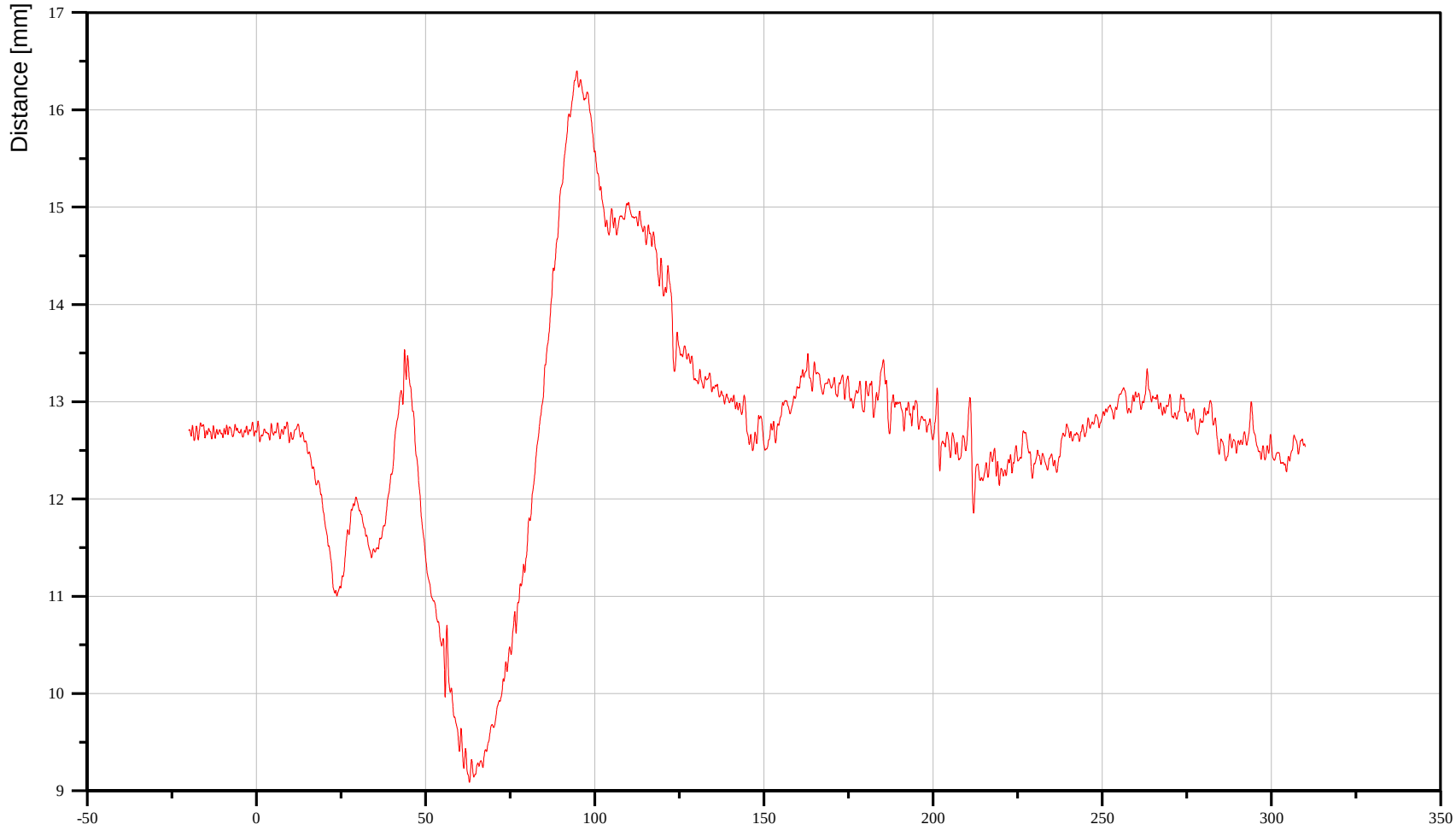
Thorax Rib 3 Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
9.09 mm at 63.00 ms

Max. Value
16.40 mm at 94.80 ms

2016 Honda Fit WorldSID Pole Impact

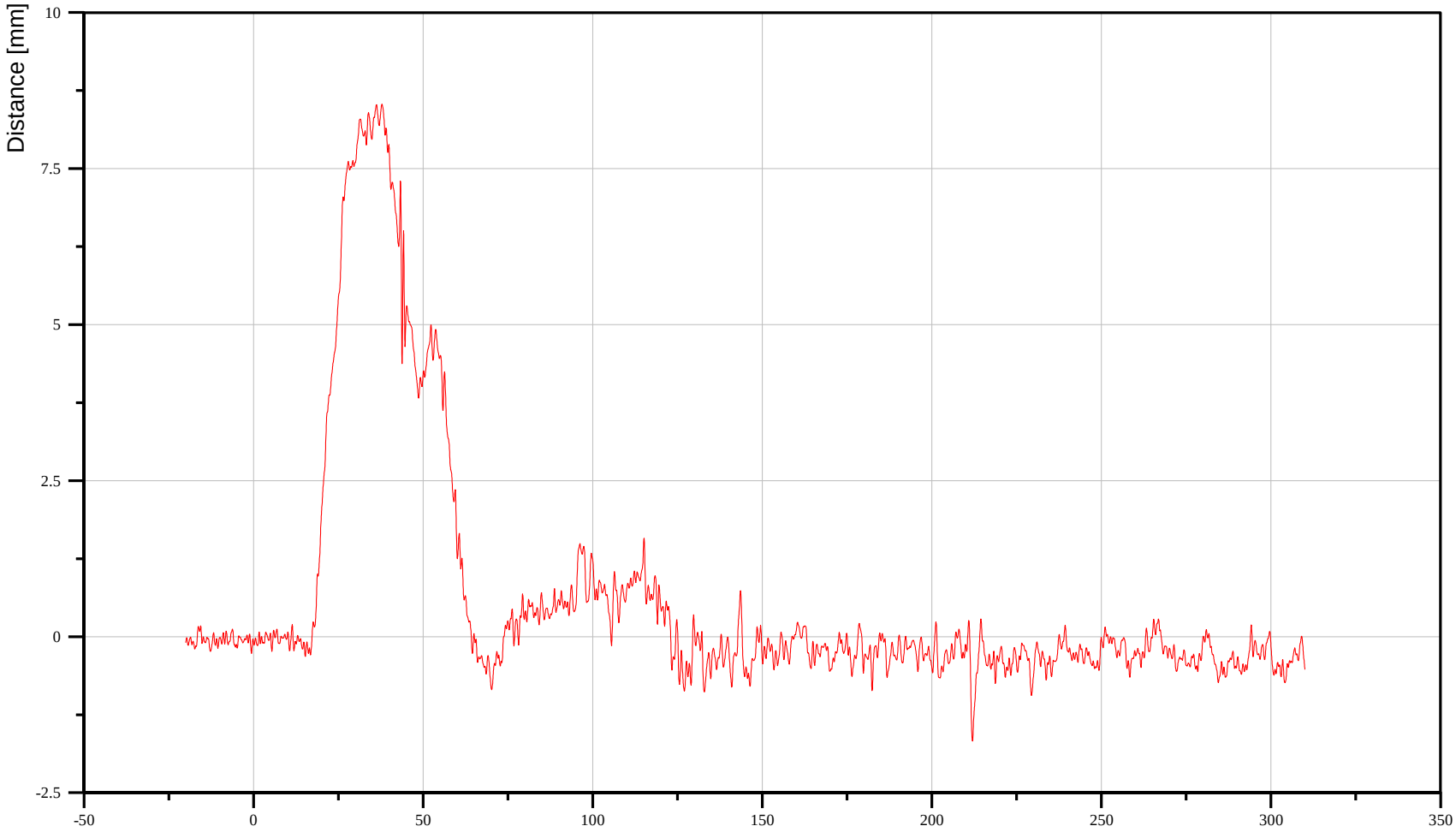
Thorax Rib 3 Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11THRI03FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.67 mm at 212.00 ms

Max. Value
8.53 mm at 37.90 ms

2016 Honda Fit WorldSID Pole Impact

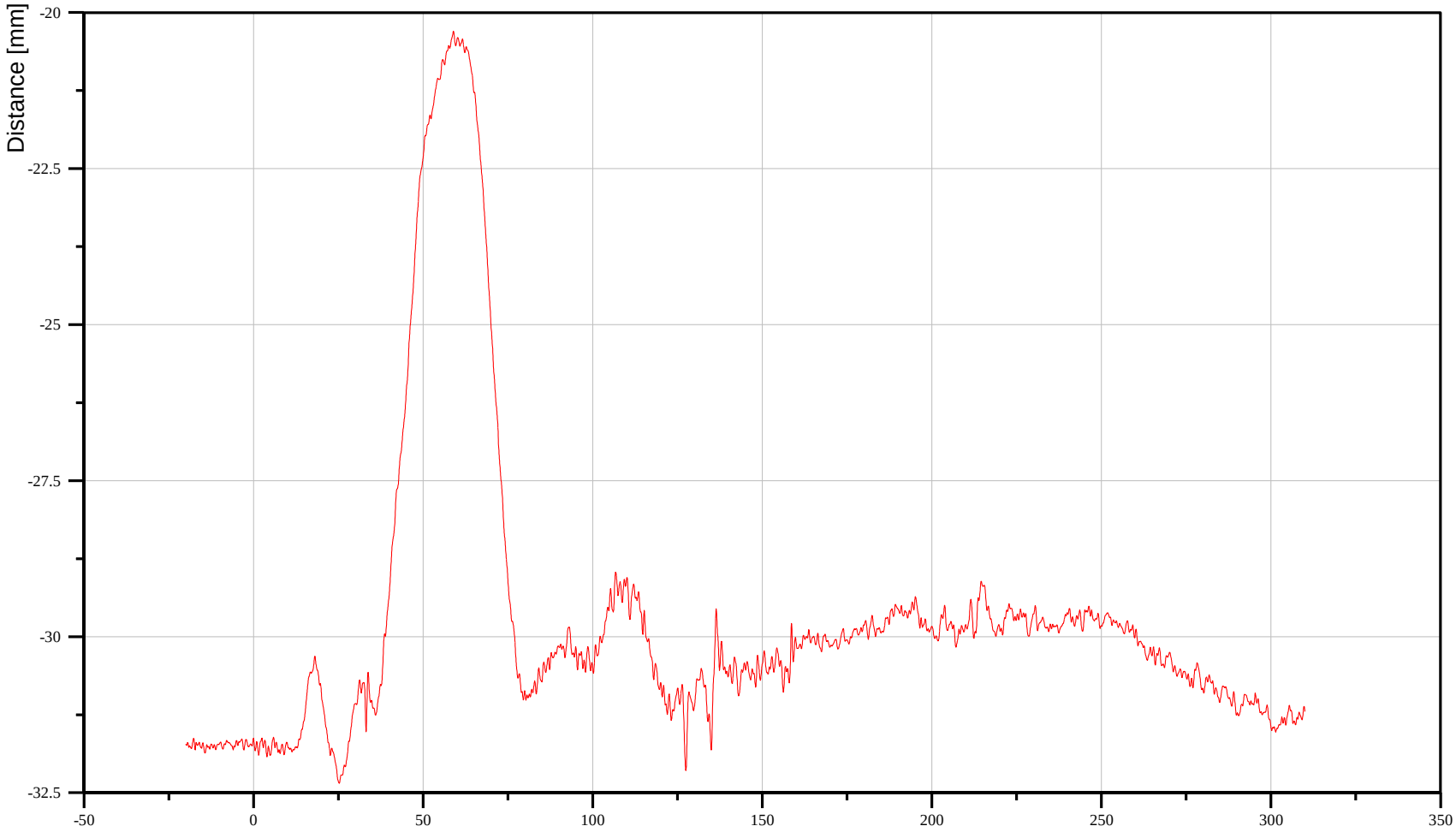
Abdomen Rib 1 Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-32.35 mm at 25.30 ms

Max. Value
-20.30 mm at 58.90 ms

2016 Honda Fit WorldSID Pole Impact

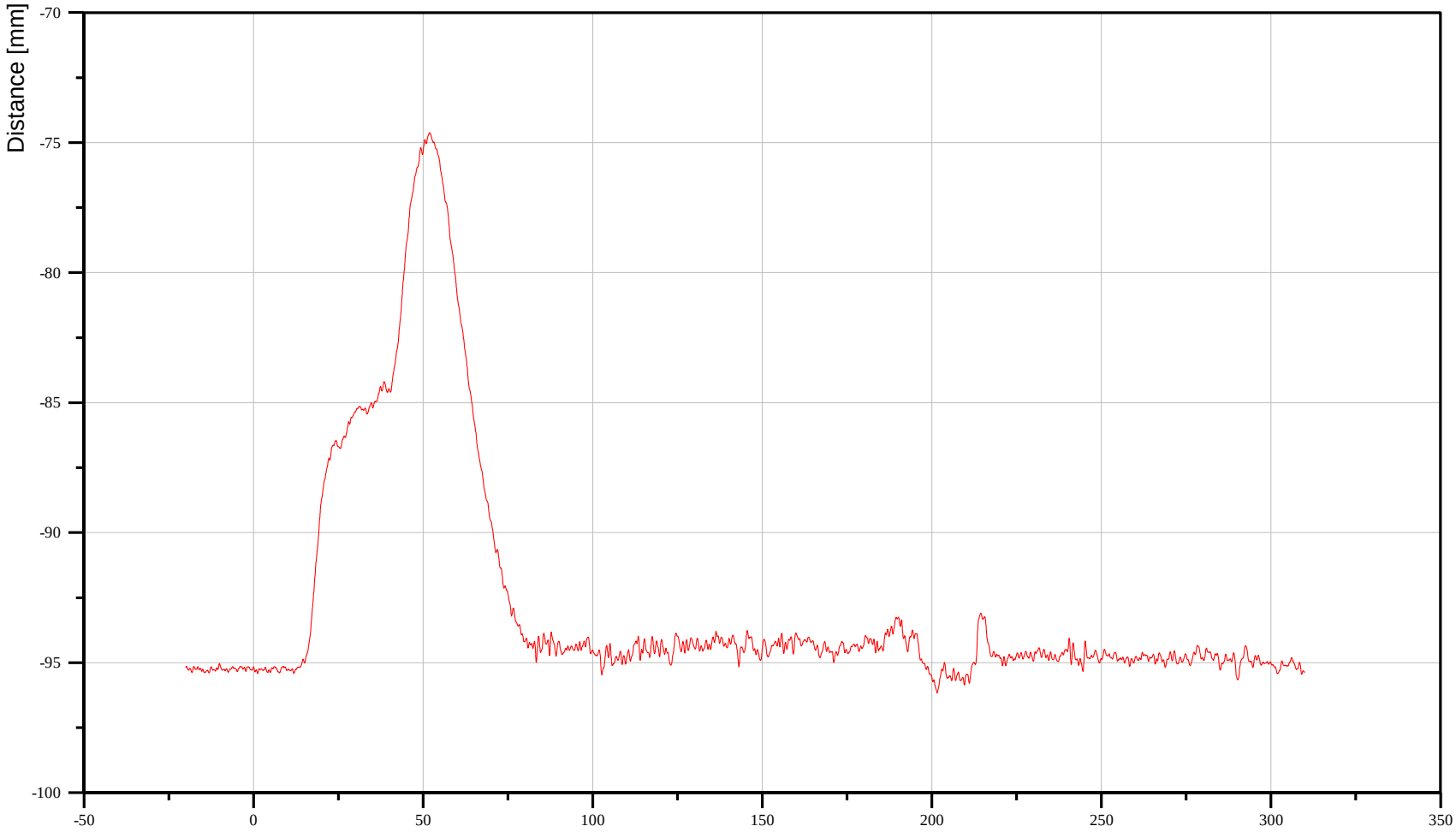
Abdomen Rib 1 Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-96.16 mm at 201.50 ms

Max. Value
-74.62 mm at 51.90 ms

2016 Honda Fit WorldSID Pole Impact

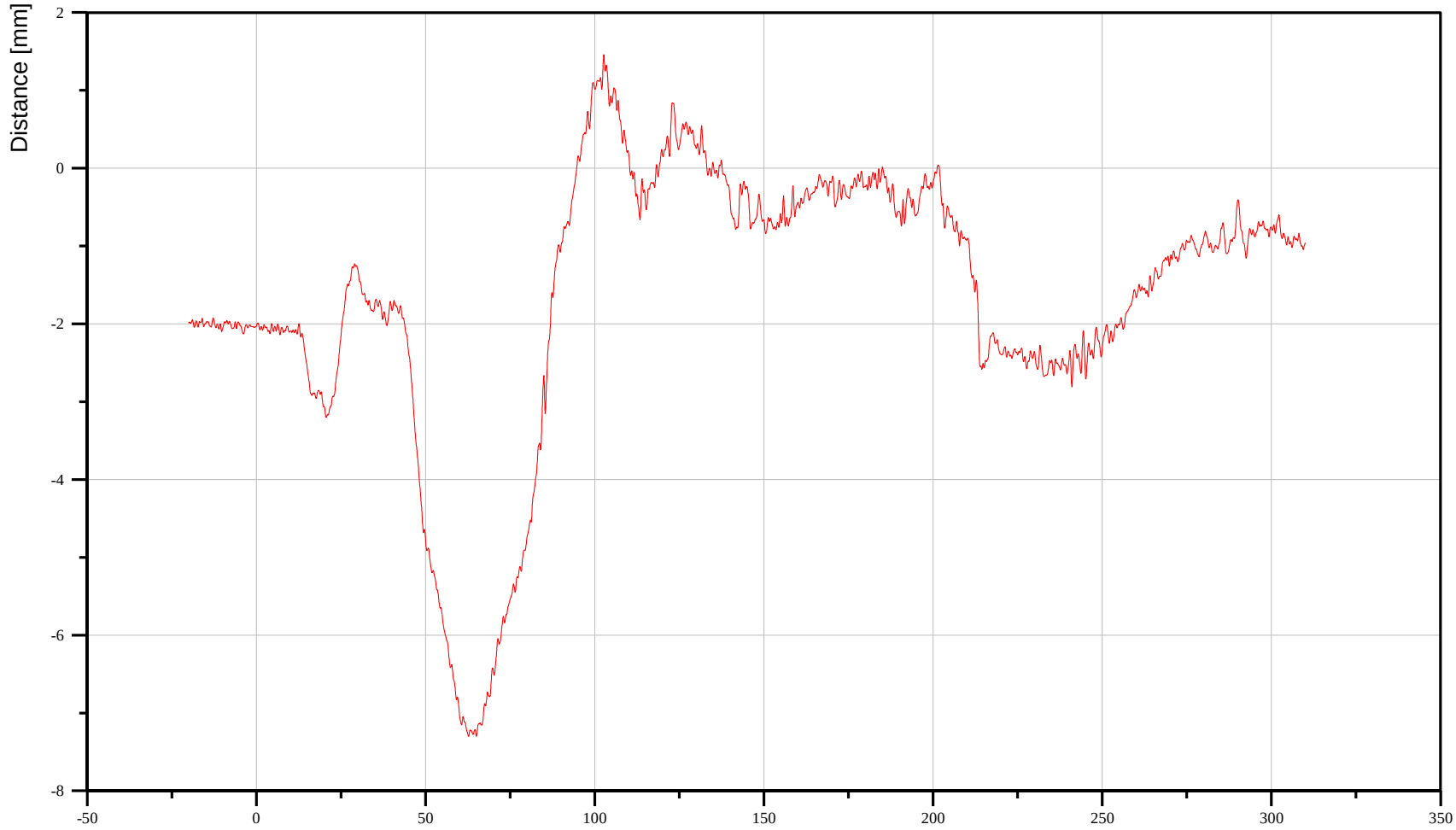
Abdomen Rib 1 Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-7.30 mm at 65.00 ms

Max. Value
1.46 mm at 102.70 ms

2016 Honda Fit WorldSID Pole Impact

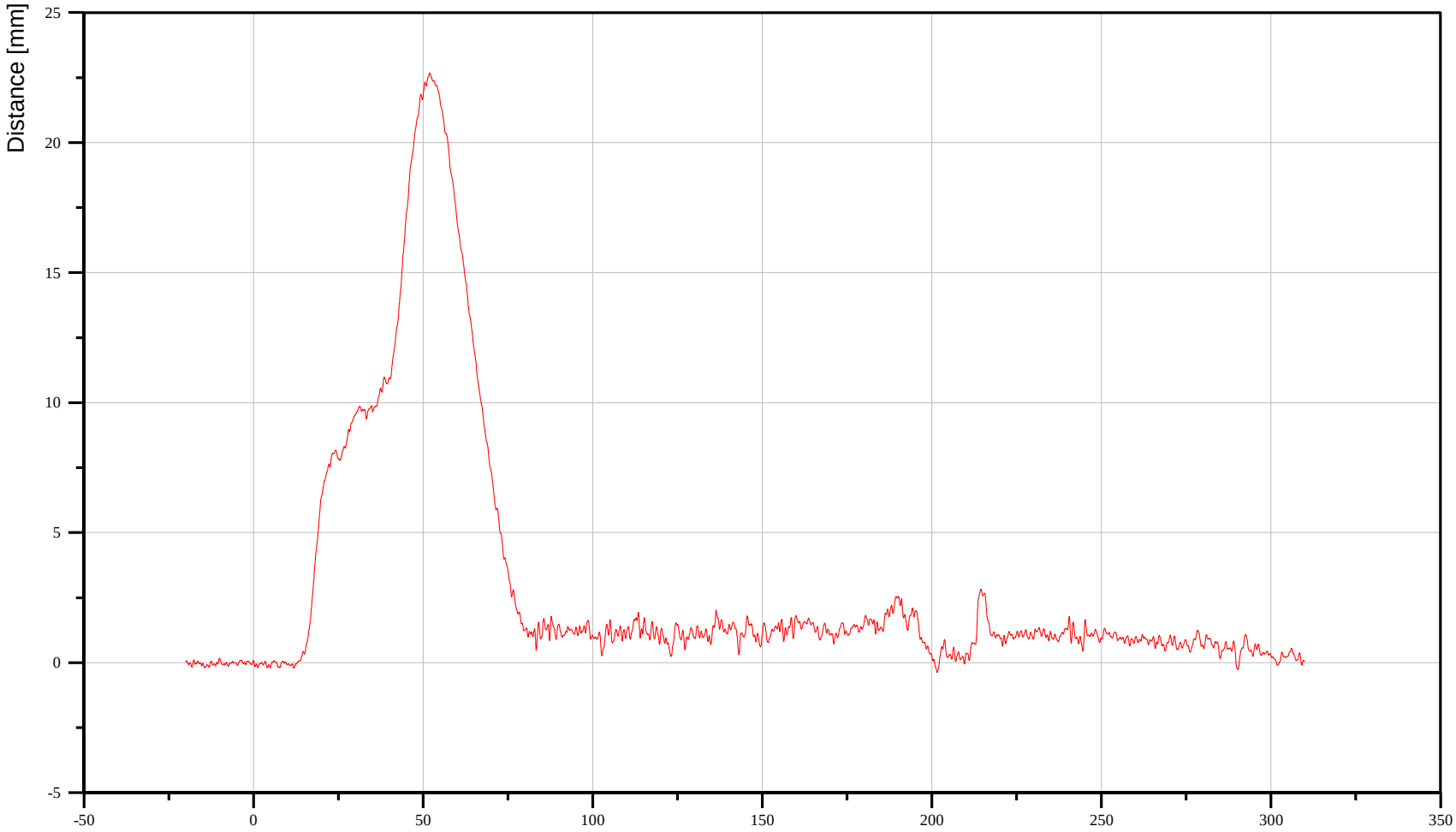
Abdomen Rib 1 Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.38 mm at 201.60 ms

Max. Value
22.67 mm at 52.00 ms

2016 Honda Fit WorldSID Pole Impact

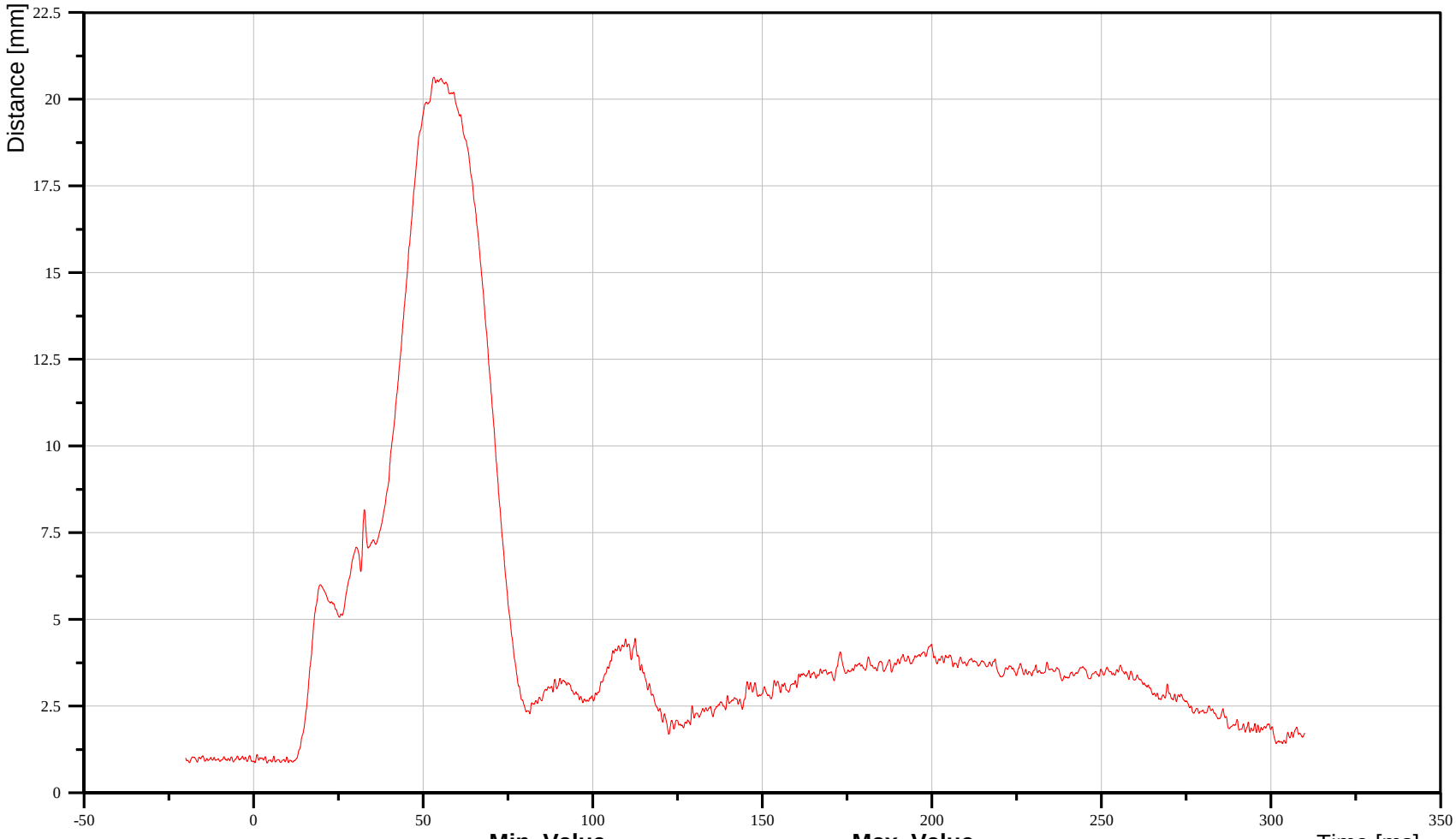
Abdomen Rib 1 Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.86 mm at 4.00 ms

Max. Value
20.64 mm at 53.20 ms

2016 Honda Fit WorldSID Pole Impact

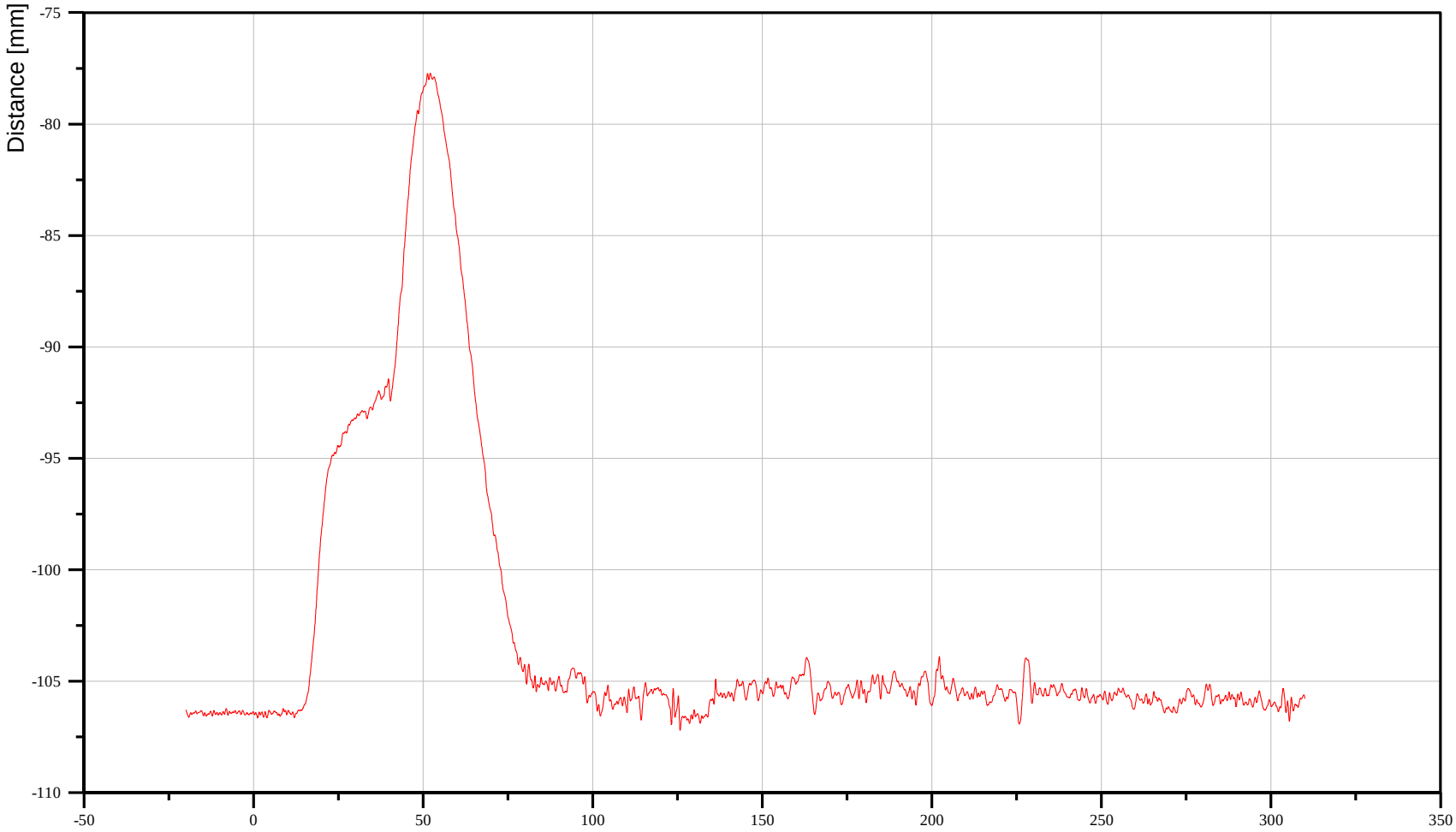
Abdomen Rib 1 Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-107.20 mm at 125.80 ms

Max. Value
-77.72 mm at 52.10 ms

2016 Honda Fit WorldSID Pole Impact

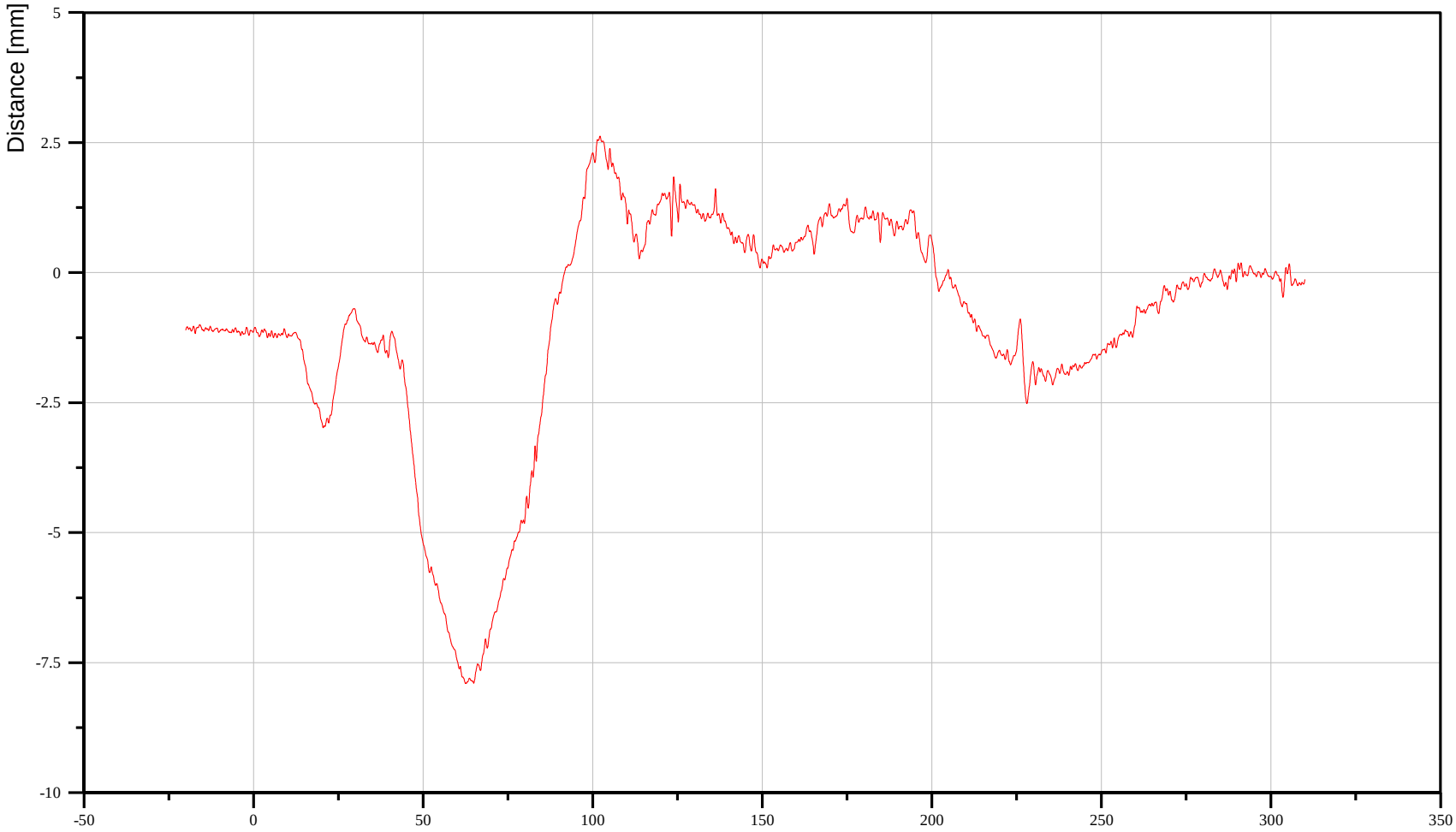
Abdomen Rib 1 Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-7.90 mm at 62.50 ms

Max. Value
2.62 mm at 102.20 ms

2016 Honda Fit WorldSID Pole Impact

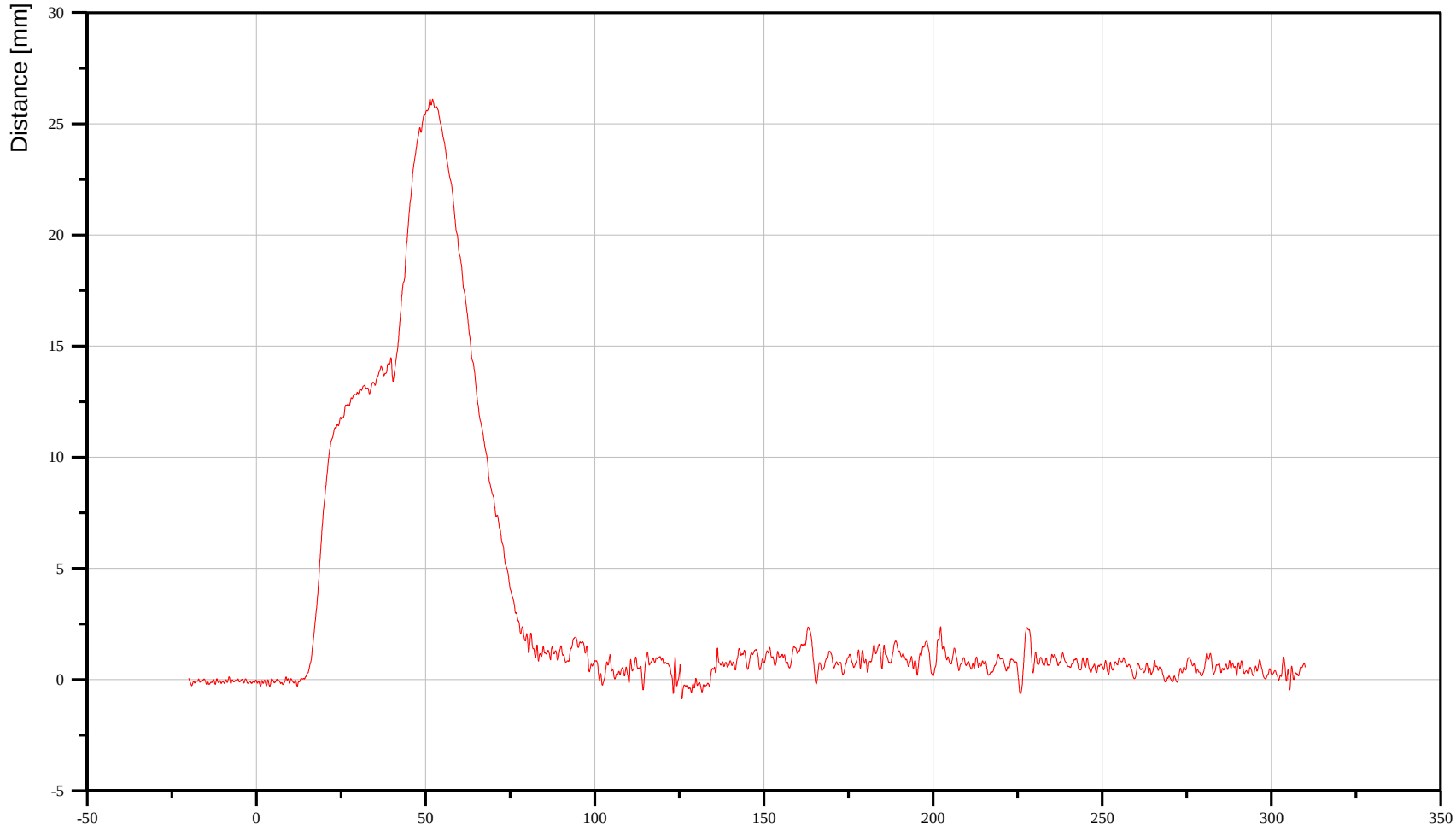
Abdomen Rib 1 Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.87 mm at 125.80 ms

Max. Value
26.12 mm at 51.30 ms

2016 Honda Fit WorldSID Pole Impact

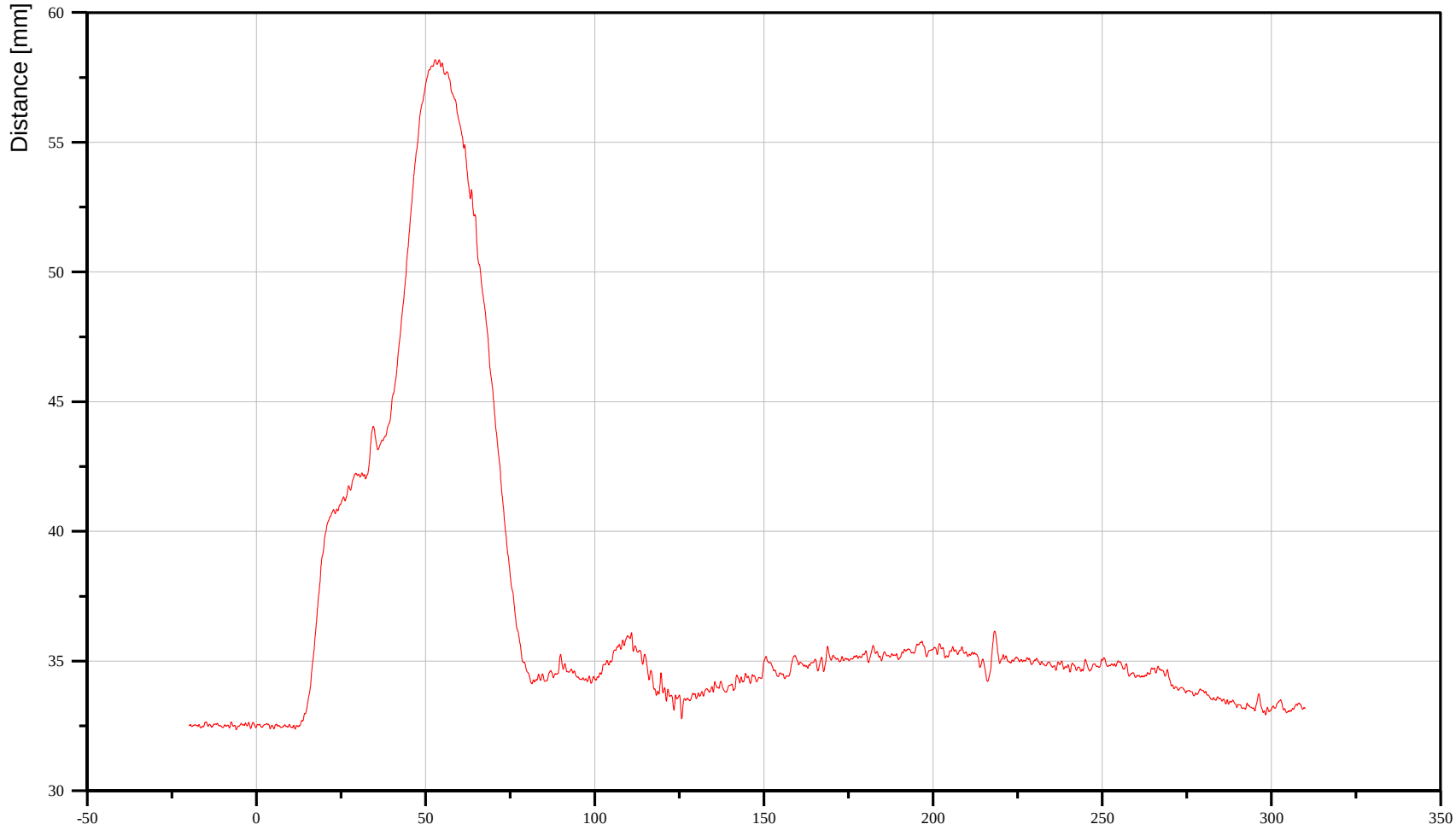
Abdomen Rib 1 Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
32.35 mm at -5.90 ms

Max. Value
58.18 mm at 52.80 ms

2016 Honda Fit WorldSID Pole Impact

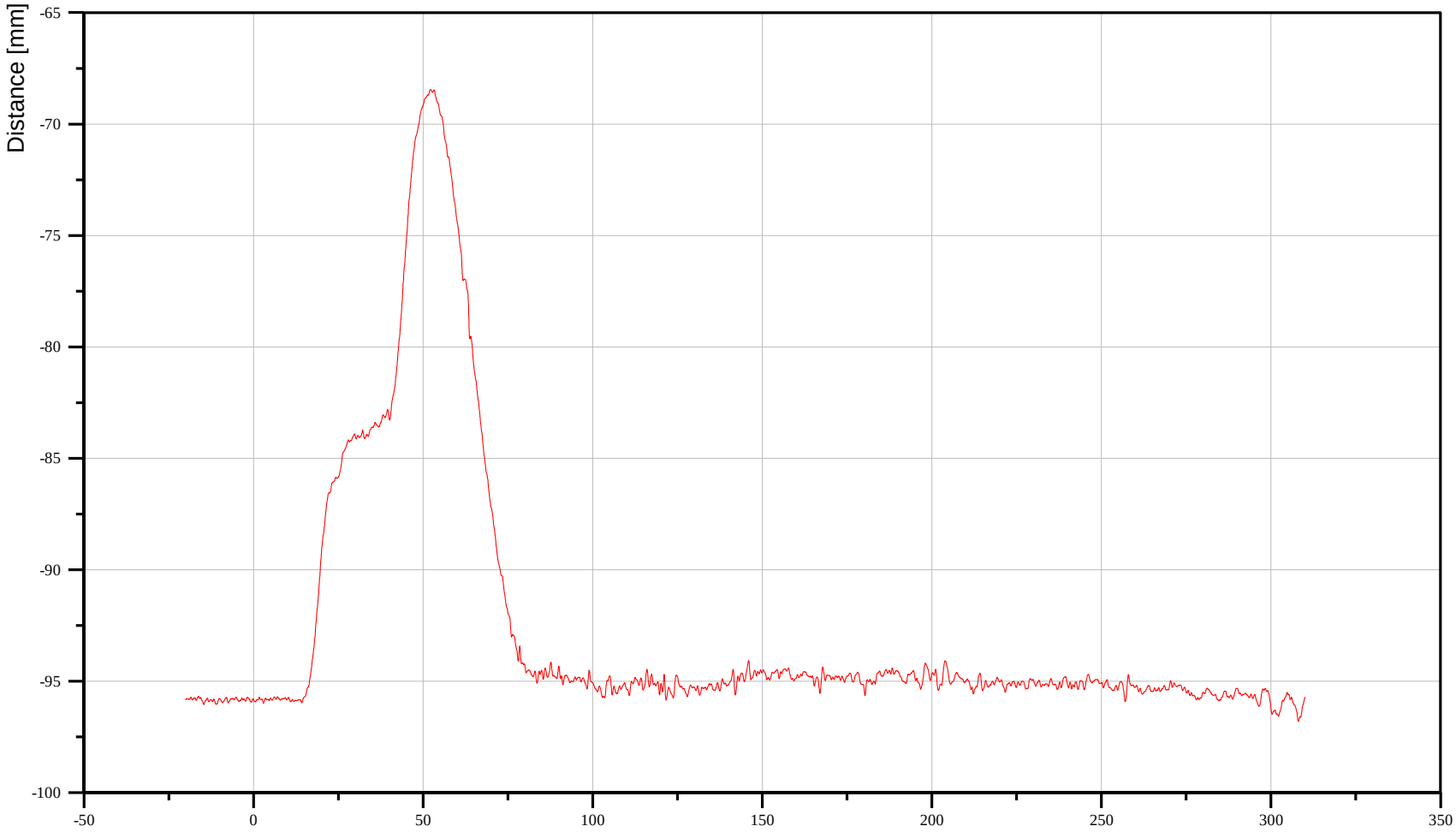
Abdomen Rib 1 Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-96.80 mm at 308.10 ms

Max. Value
-68.45 mm at 52.20 ms

2016 Honda Fit WorldSID Pole Impact

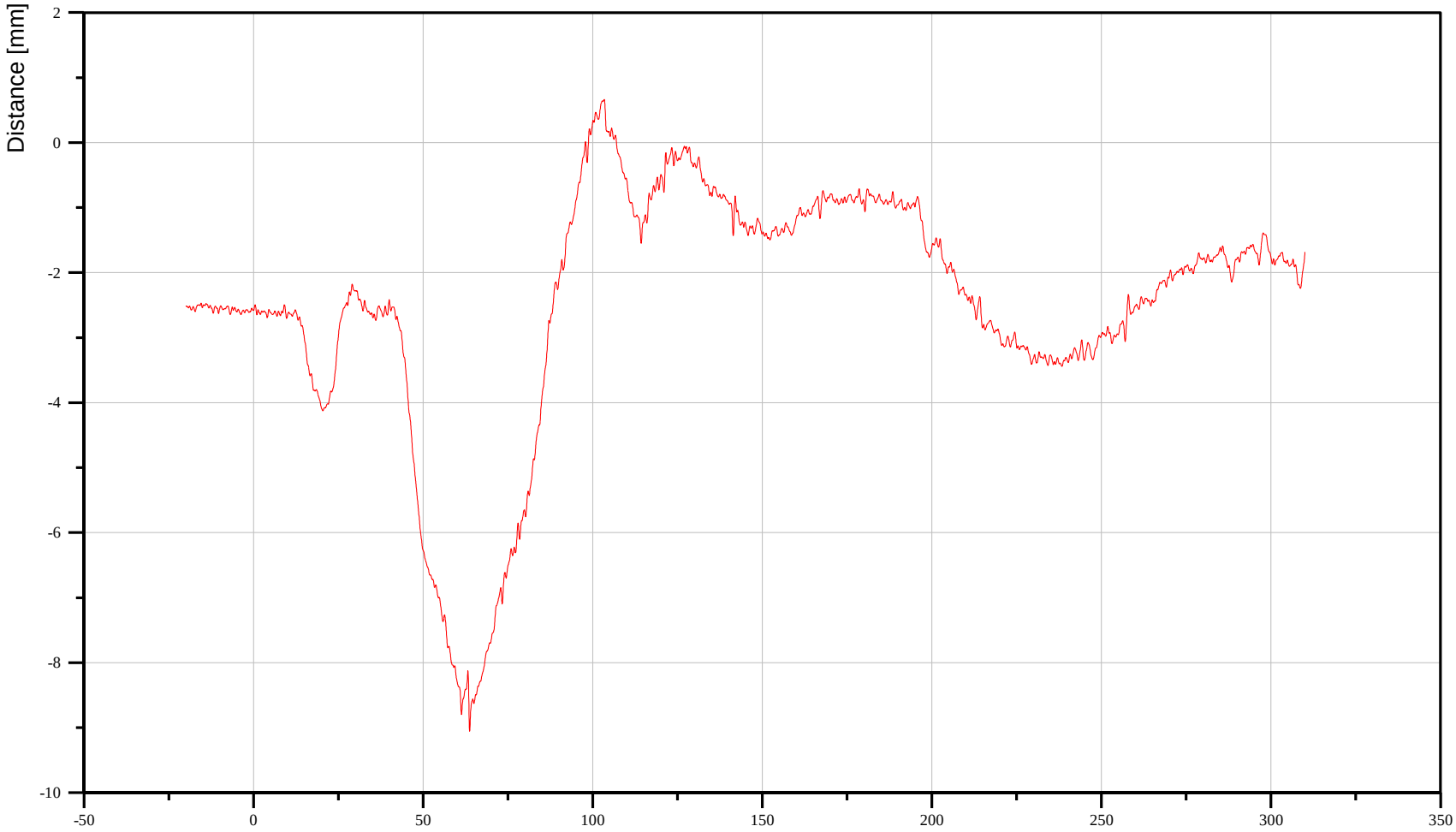
Abdomen Rib 1 Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-9.06 mm at 63.70 ms

Max. Value
0.66 mm at 103.40 ms

2016 Honda Fit WorldSID Pole Impact

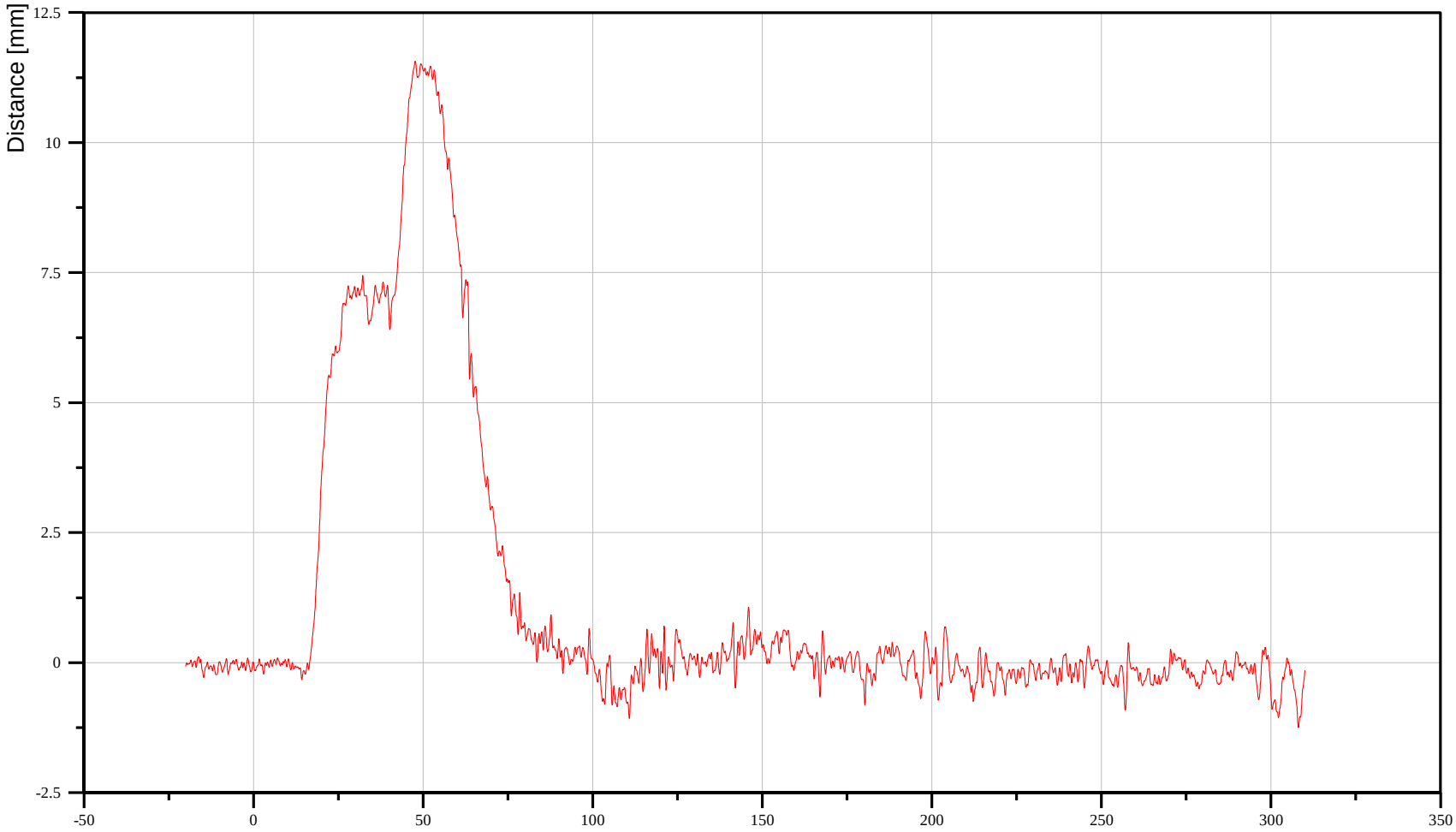
Abdomen Rib 1 Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI01FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.25 mm at 308.10 ms

Max. Value
11.57 mm at 47.70 ms

2016 Honda Fit WorldSID Pole Impact

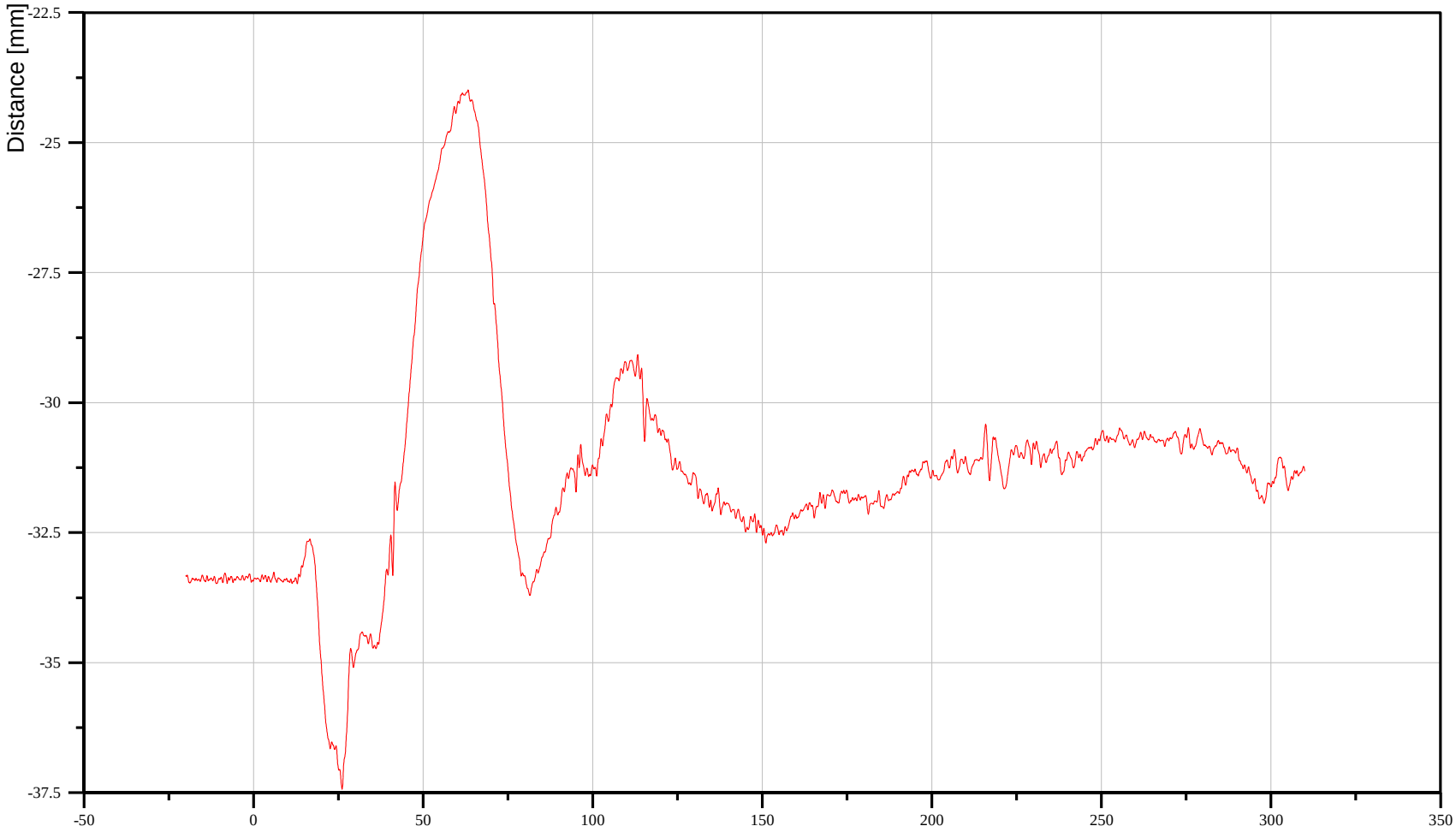
Abdomen Rib 2 Rear Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02REWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-37.44 mm at 26.10 ms

Max. Value
-23.99 mm at 63.30 ms

2016 Honda Fit WorldSID Pole Impact

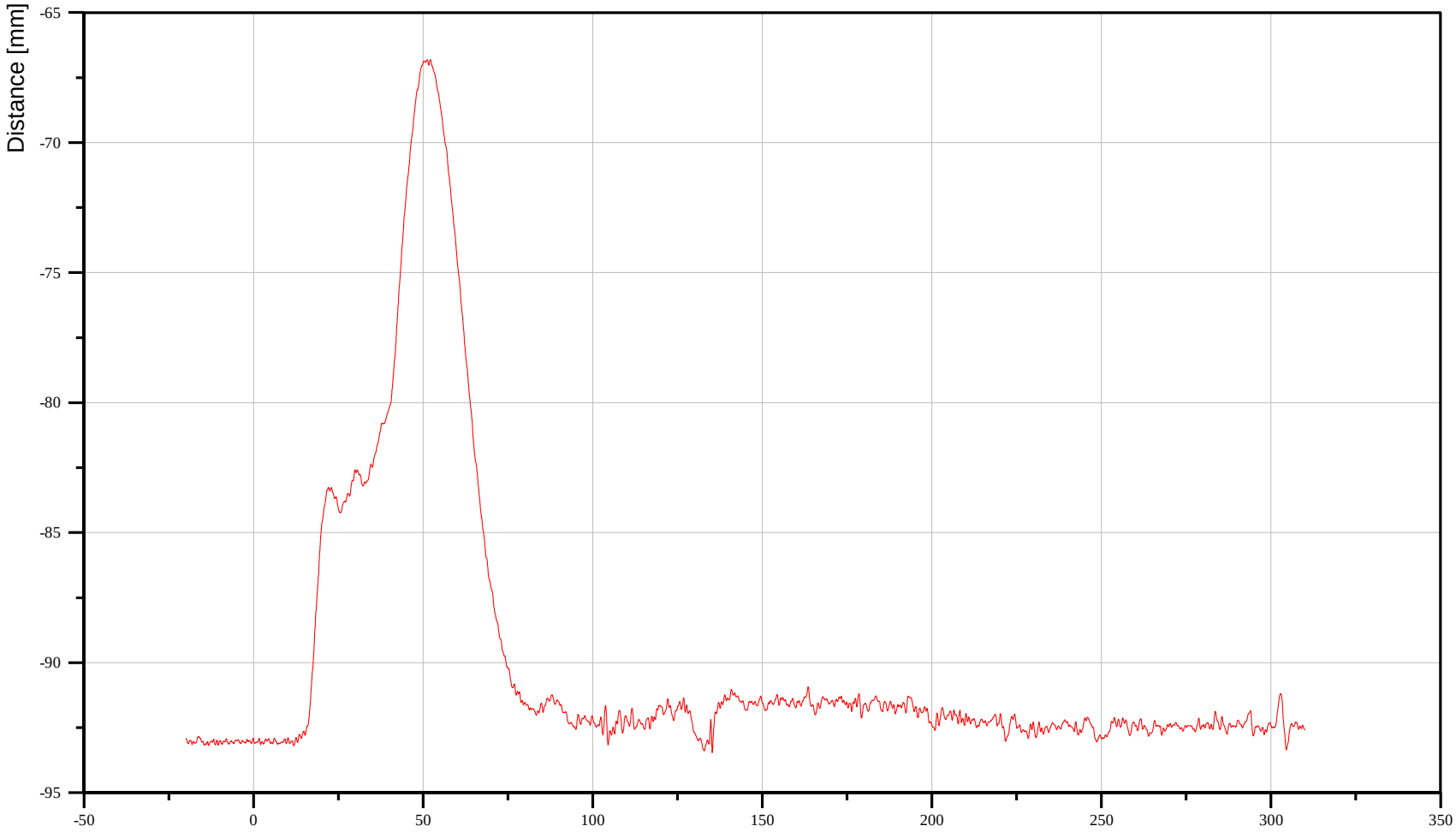
Abdomen Rib 2 Rear Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02REWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-93.46 mm at 135.30 ms

Max. Value
-66.80 mm at 52.10 ms

2016 Honda Fit WorldSID Pole Impact

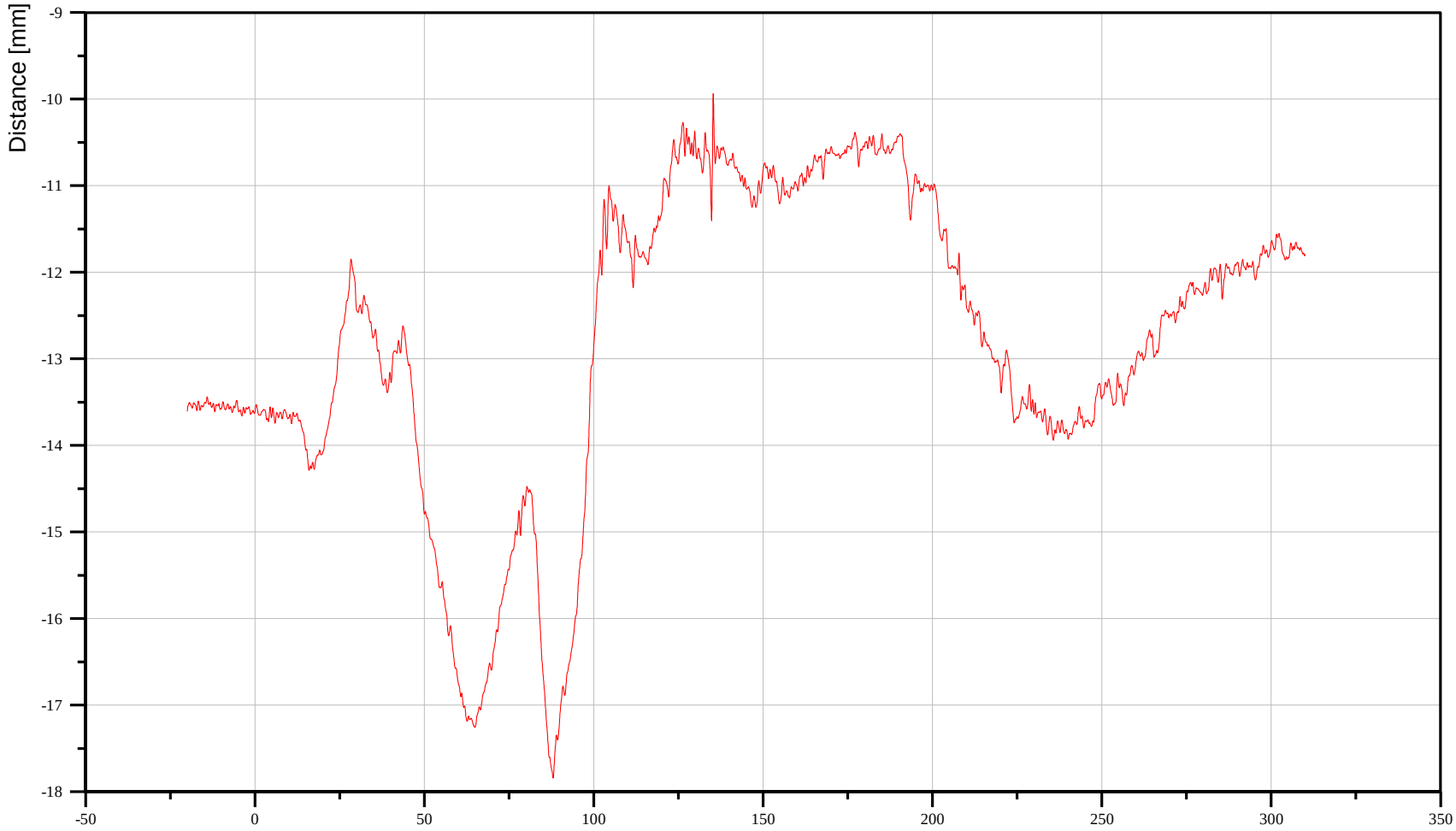
Abdomen Rib 2 Rear Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02REWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-17.84 mm at 88.00 ms

Max. Value
-9.94 mm at 135.30 ms

2016 Honda Fit WorldSID Pole Impact

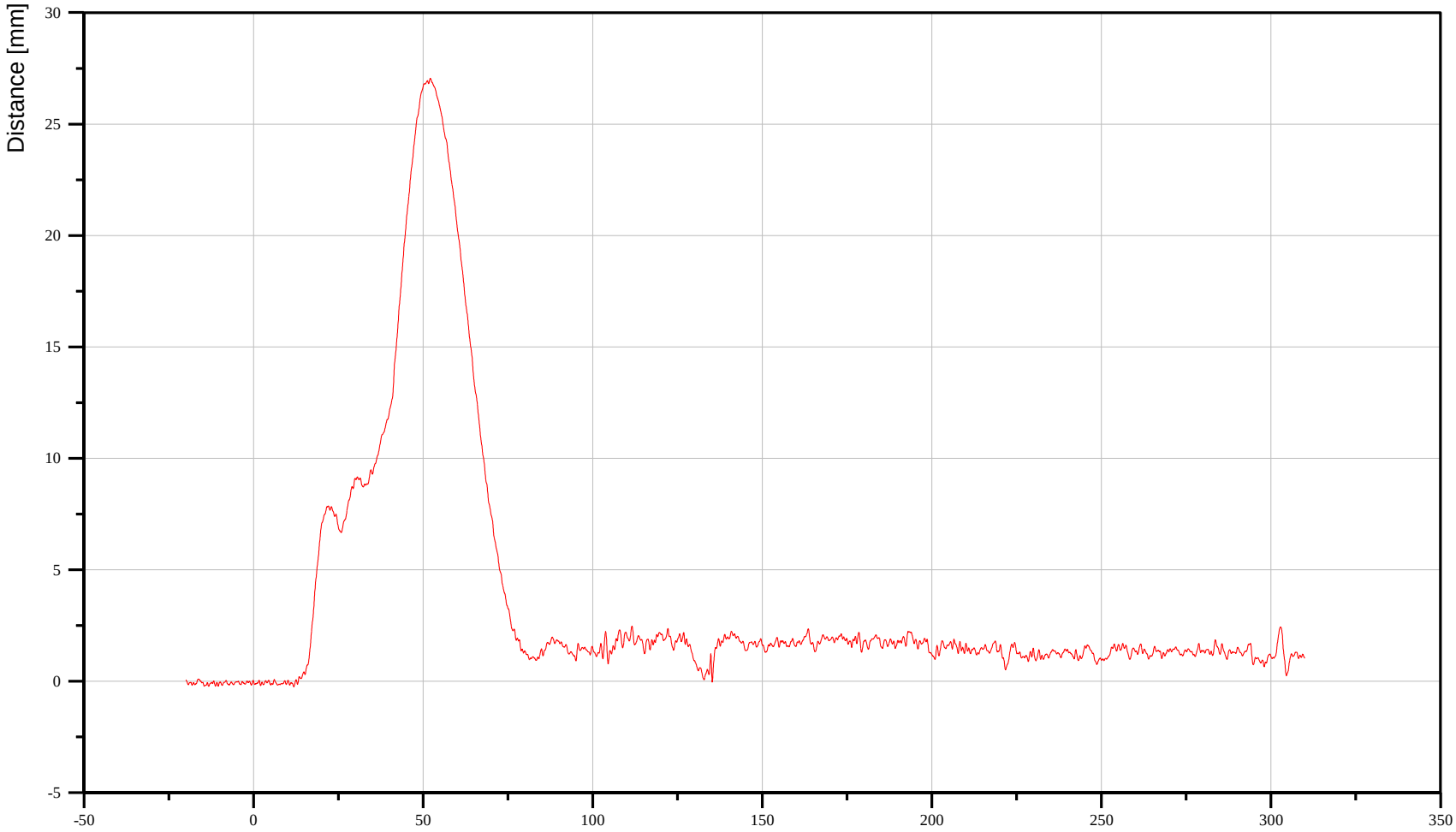
Abdomen Rib 2 Rear Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02REWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.25 mm at 11.90 ms

Max. Value
27.06 mm at 52.10 ms

2016 Honda Fit WorldSID Pole Impact

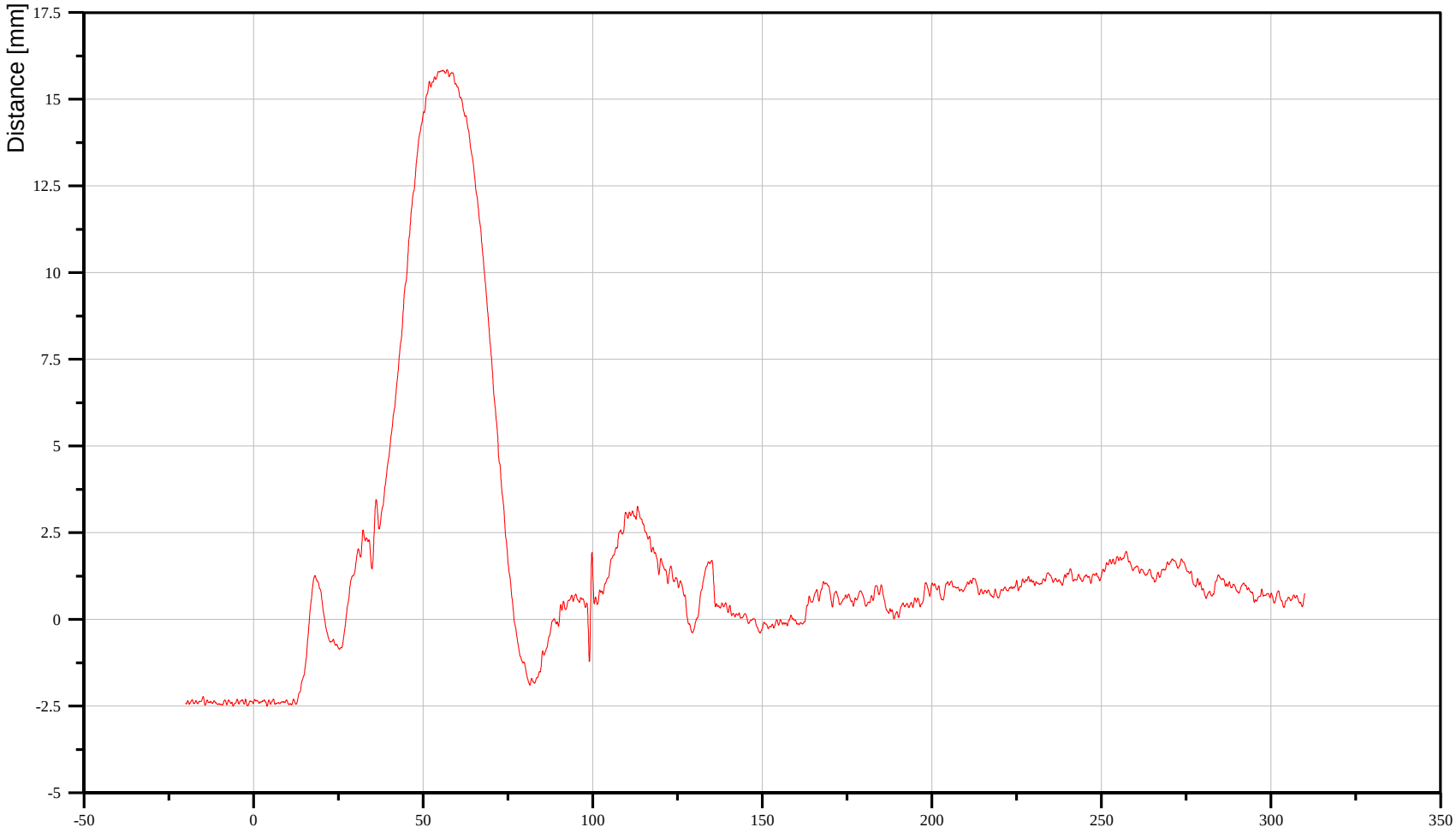
Abdomen Rib 2 Middle Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02MIWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-2.51 mm at 4.00 ms

Max. Value
15.86 mm at 57.10 ms

2016 Honda Fit WorldSID Pole Impact

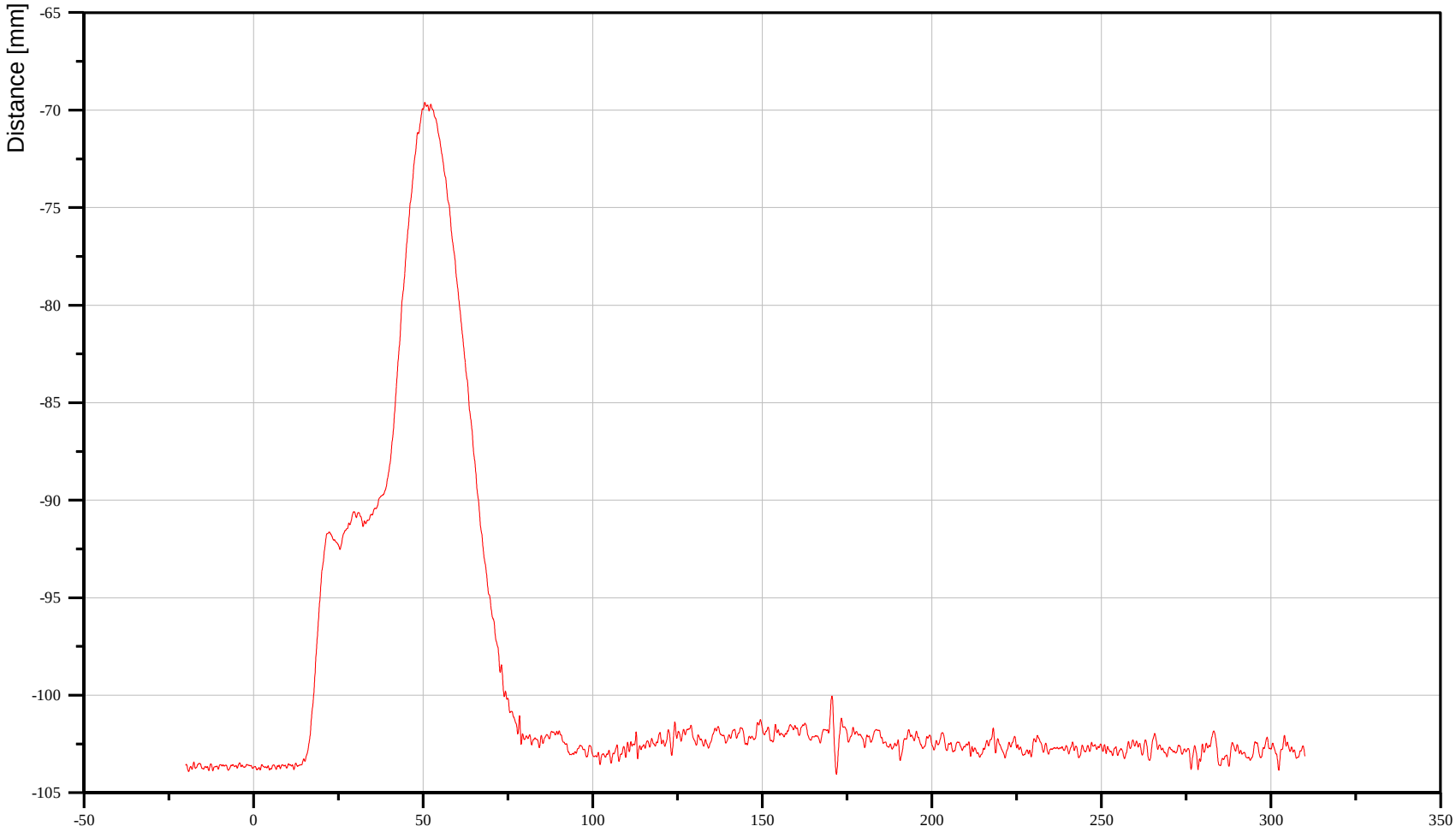
Abdomen Rib 2 Middle Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02MIWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-104.06 mm at 171.90 ms

Max. Value
-69.61 mm at 50.50 ms

2016 Honda Fit WorldSID Pole Impact

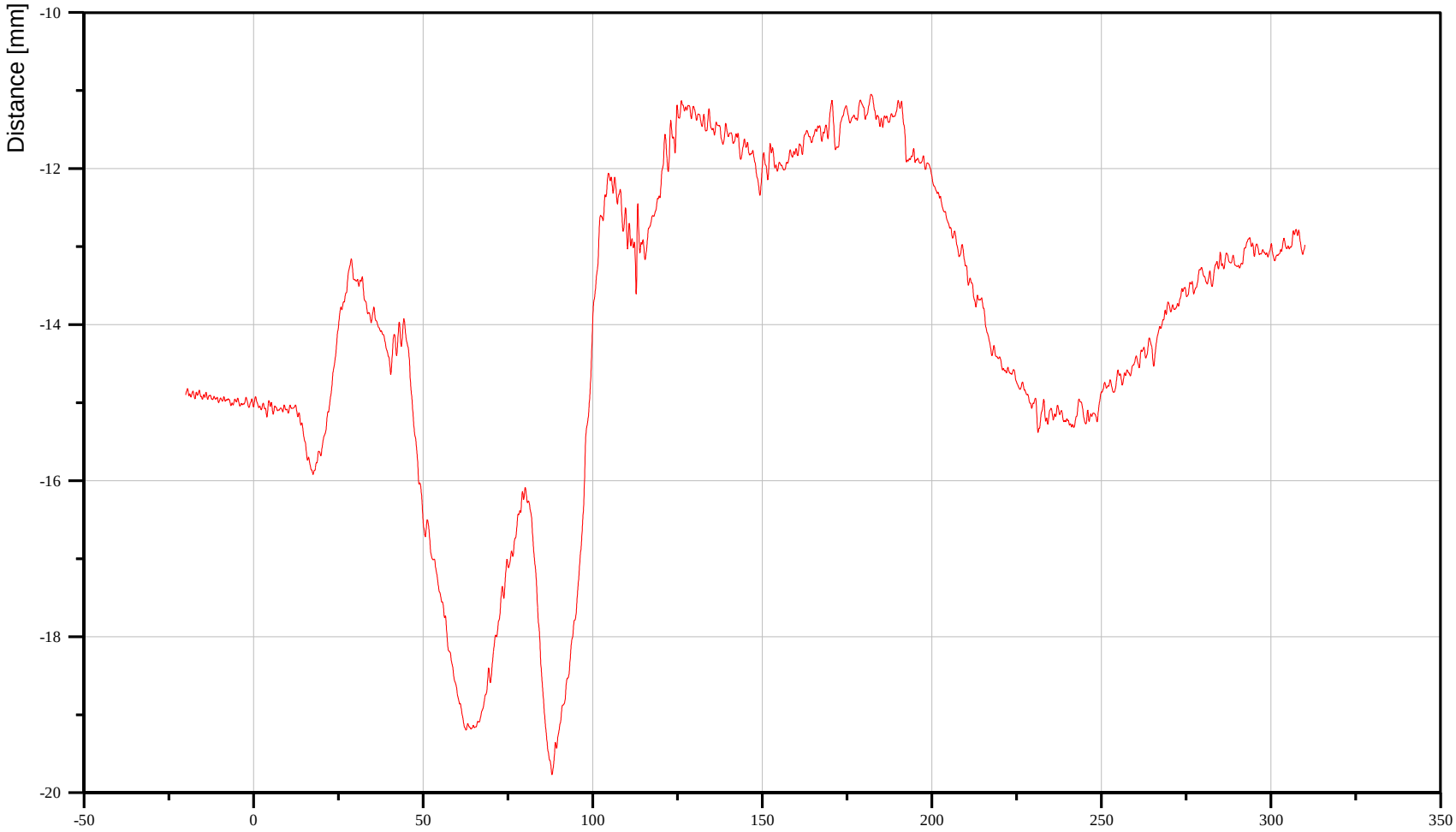
Abdomen Rib 2 Middle Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02MIWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-19.77 mm at 88.00 ms

Max. Value
-11.05 mm at 182.10 ms

2016 Honda Fit WorldSID Pole Impact

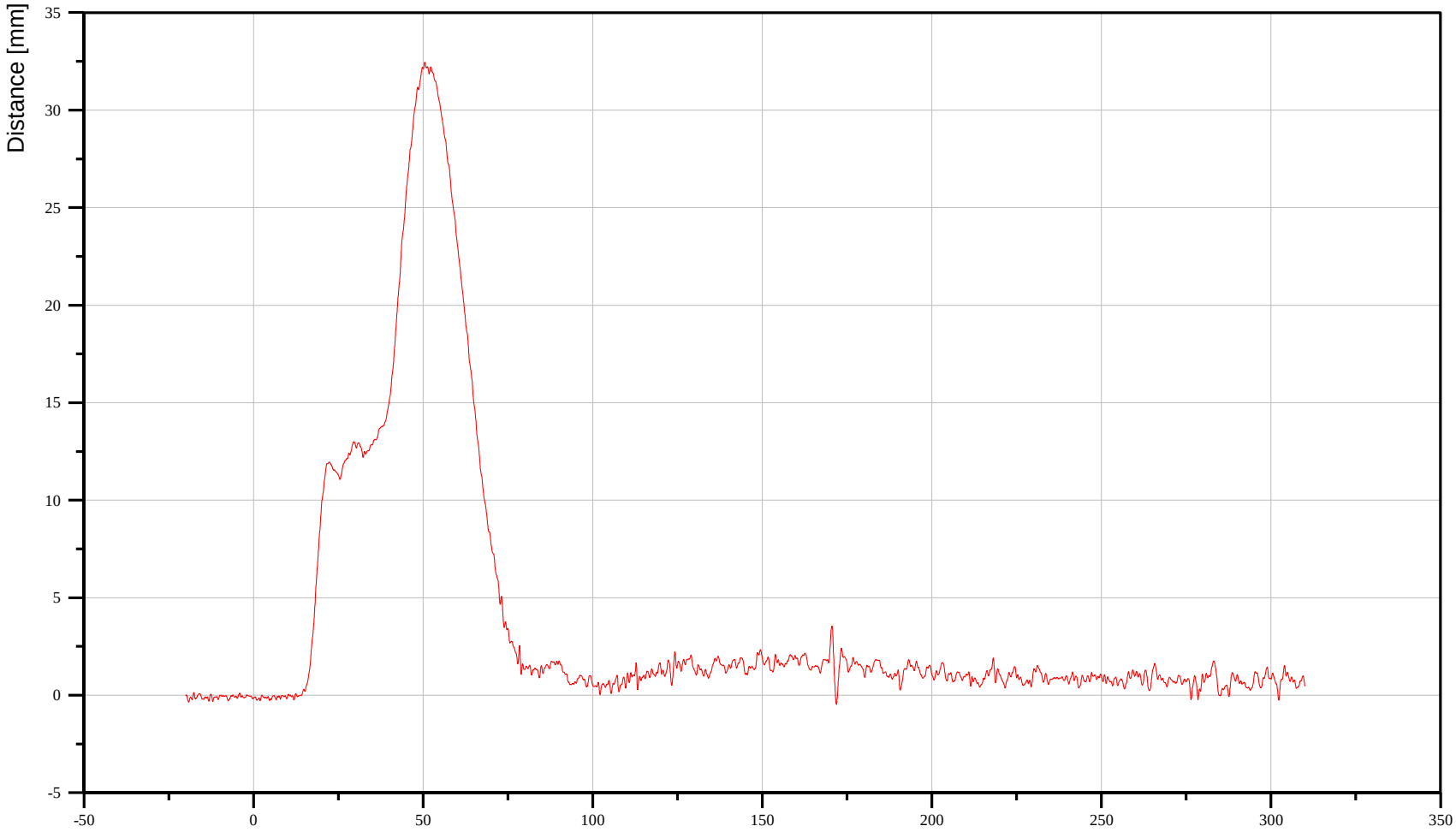
Abdomen Rib 2 Middle Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02MIWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-0.47 mm at 171.90 ms

Max. Value
32.46 mm at 50.50 ms

2016 Honda Fit WorldSID Pole Impact

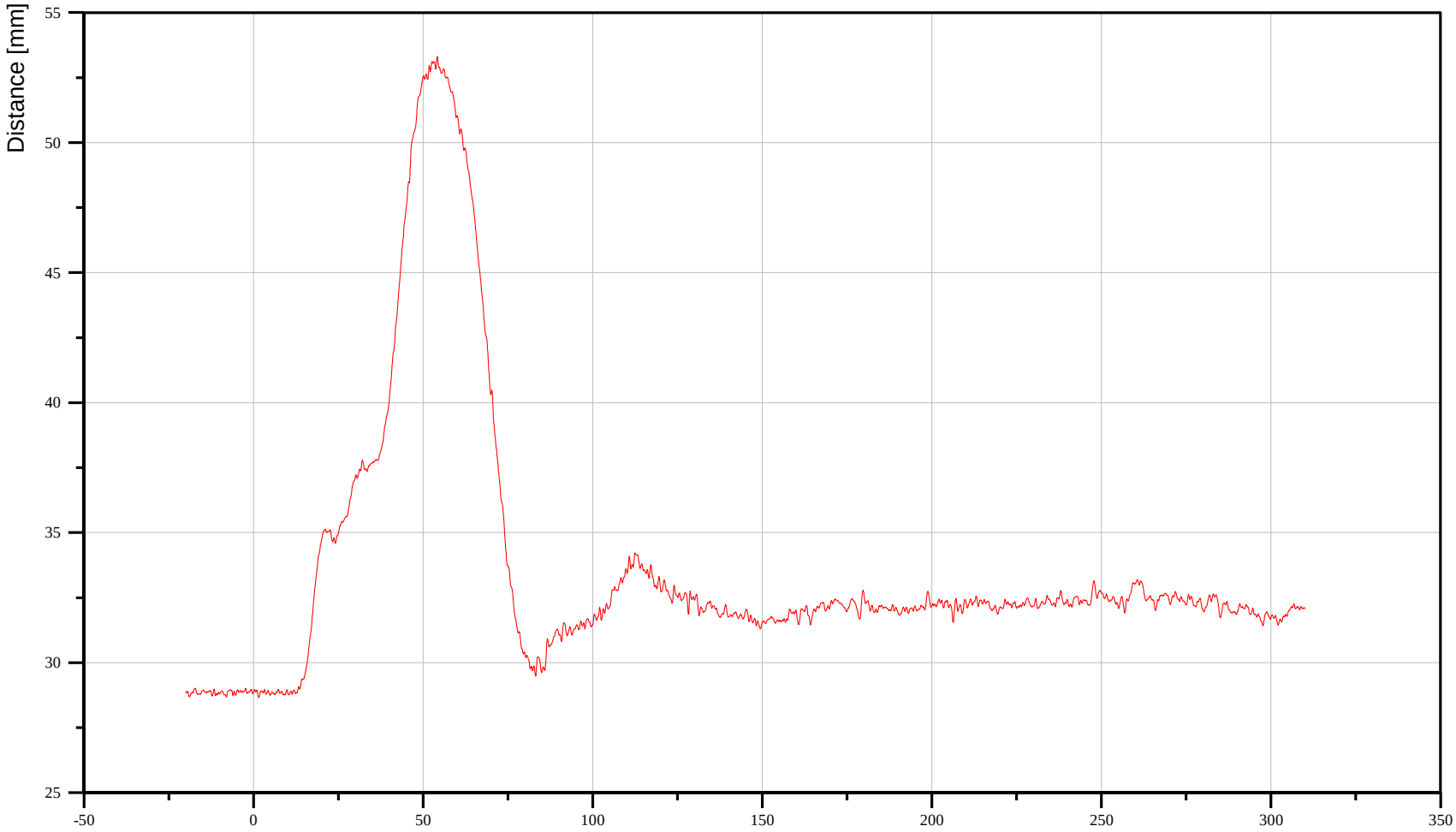
Abdomen Rib 2 Front Ribeye X-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02FRWSDSX0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
28.66 mm at 1.60 ms

Max. Value
53.31 mm at 54.20 ms

2016 Honda Fit WorldSID Pole Impact

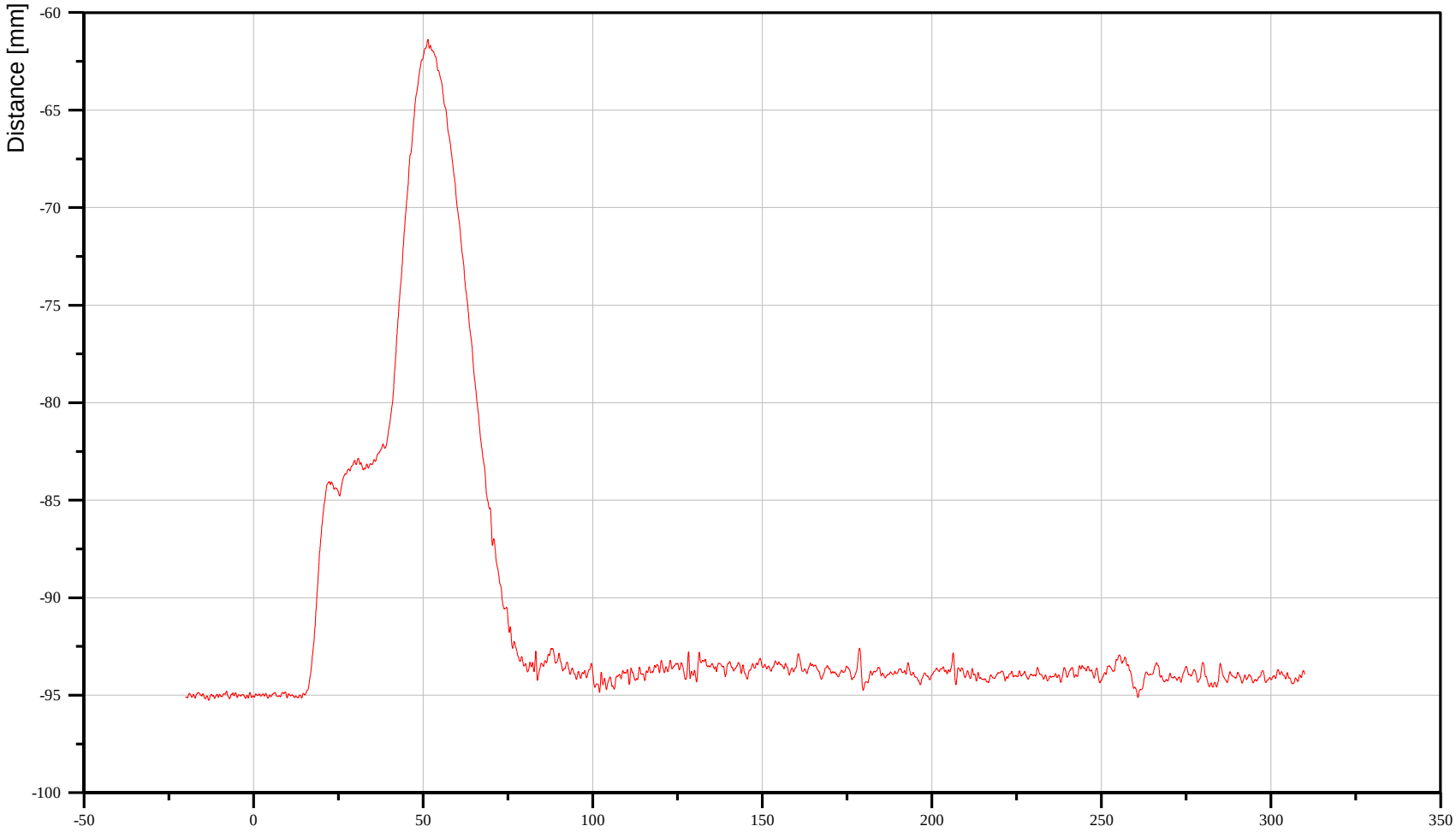
Abdomen Rib 2 Front Ribeye Y-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02FRWSDSY0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-95.26 mm at -13.20 ms

Max. Value
-61.37 mm at 51.40 ms

2016 Honda Fit WorldSID Pole Impact

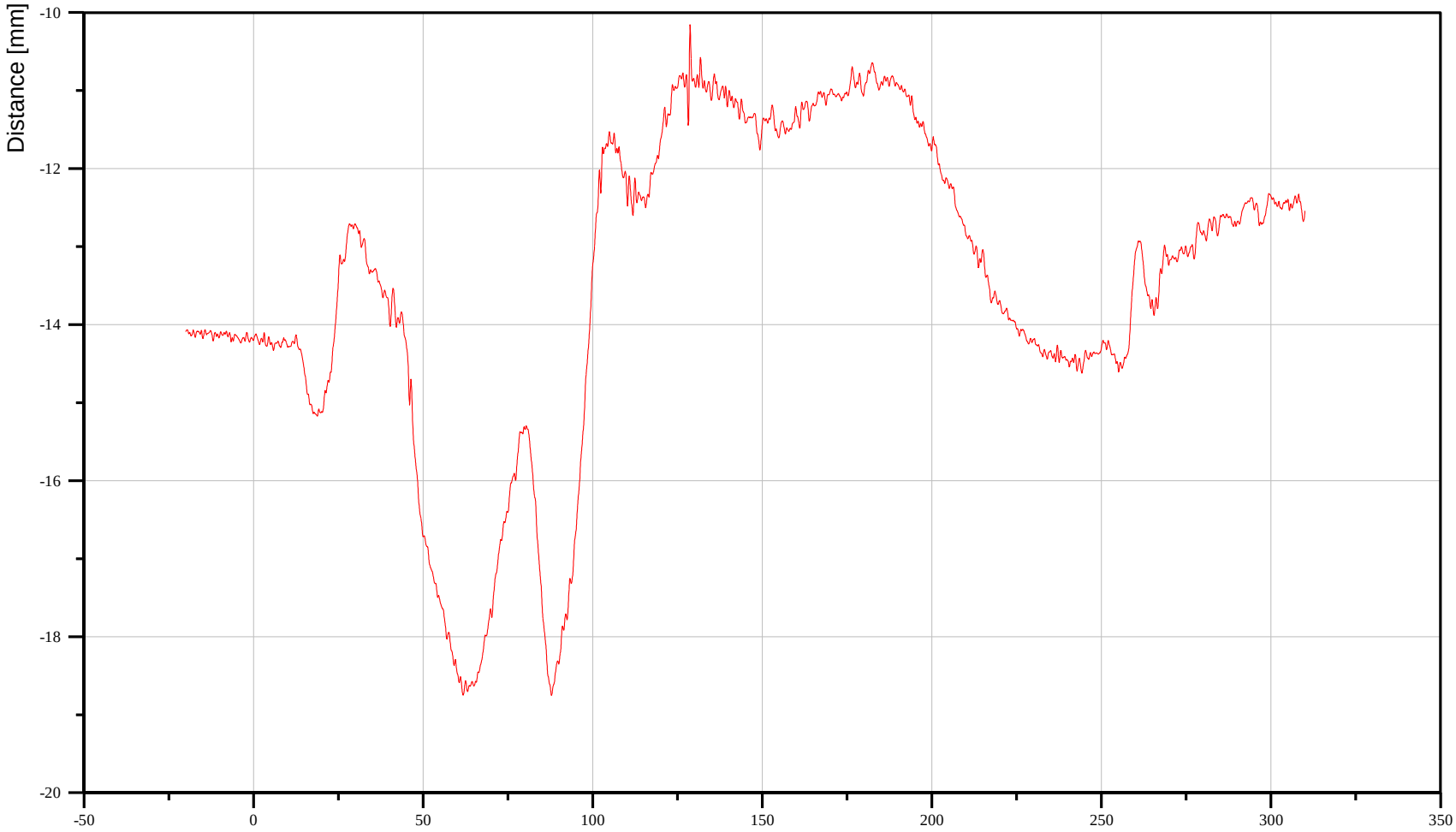
Abdomen Rib 2 Front Ribeye Z-Axis Displacement

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02FRWSDSZ0

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-18.75 mm at 87.90 ms

Max. Value
-10.15 mm at 128.70 ms

2016 Honda Fit WorldSID Pole Impact

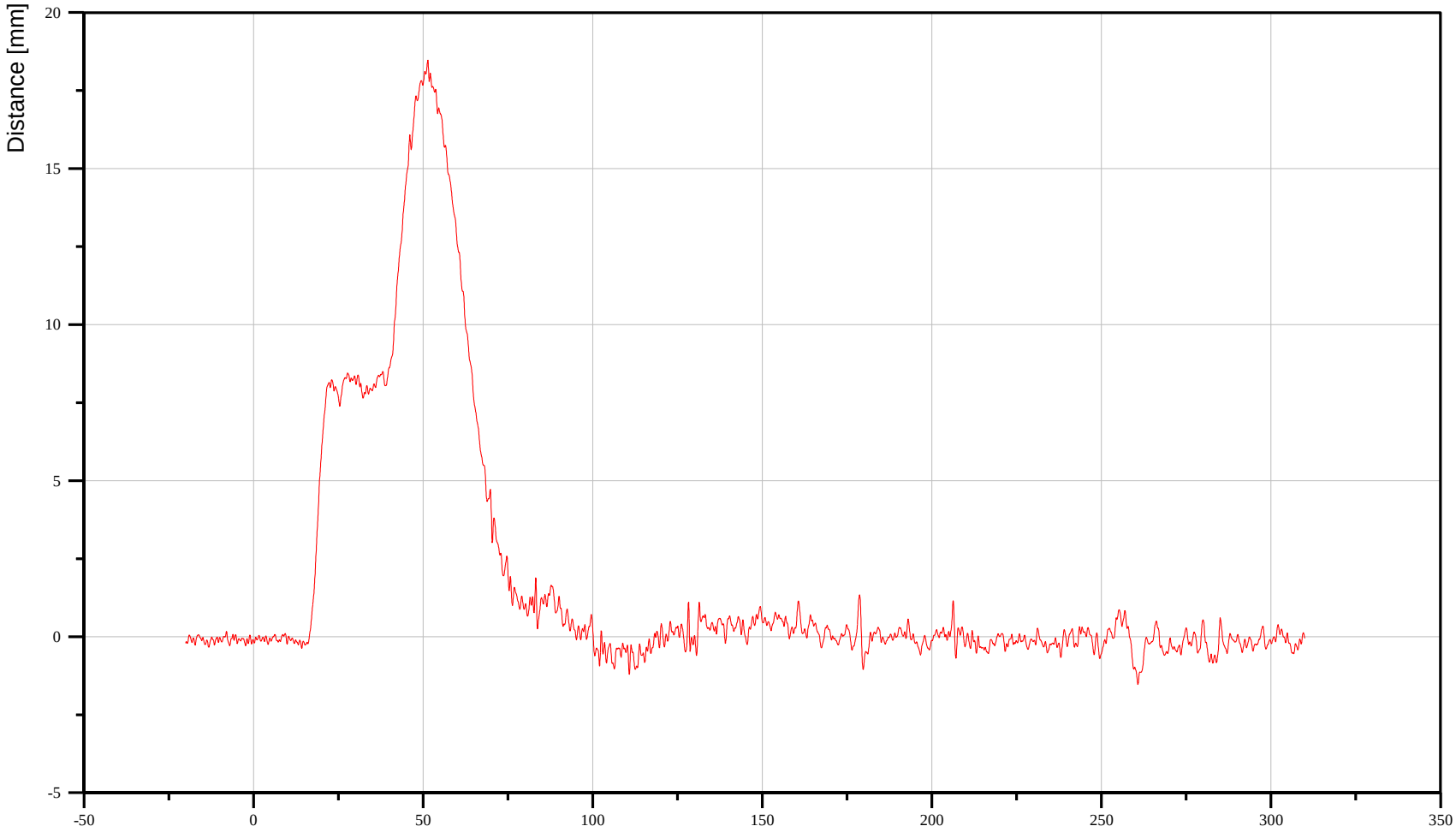
Abdomen Rib 2 Front Ribeye Length Change

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ABRI02FRWSDS00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
-1.53 mm at 260.80 ms

Max. Value
18.48 mm at 51.40 ms

2016 Honda Fit WorldSID Pole Impact

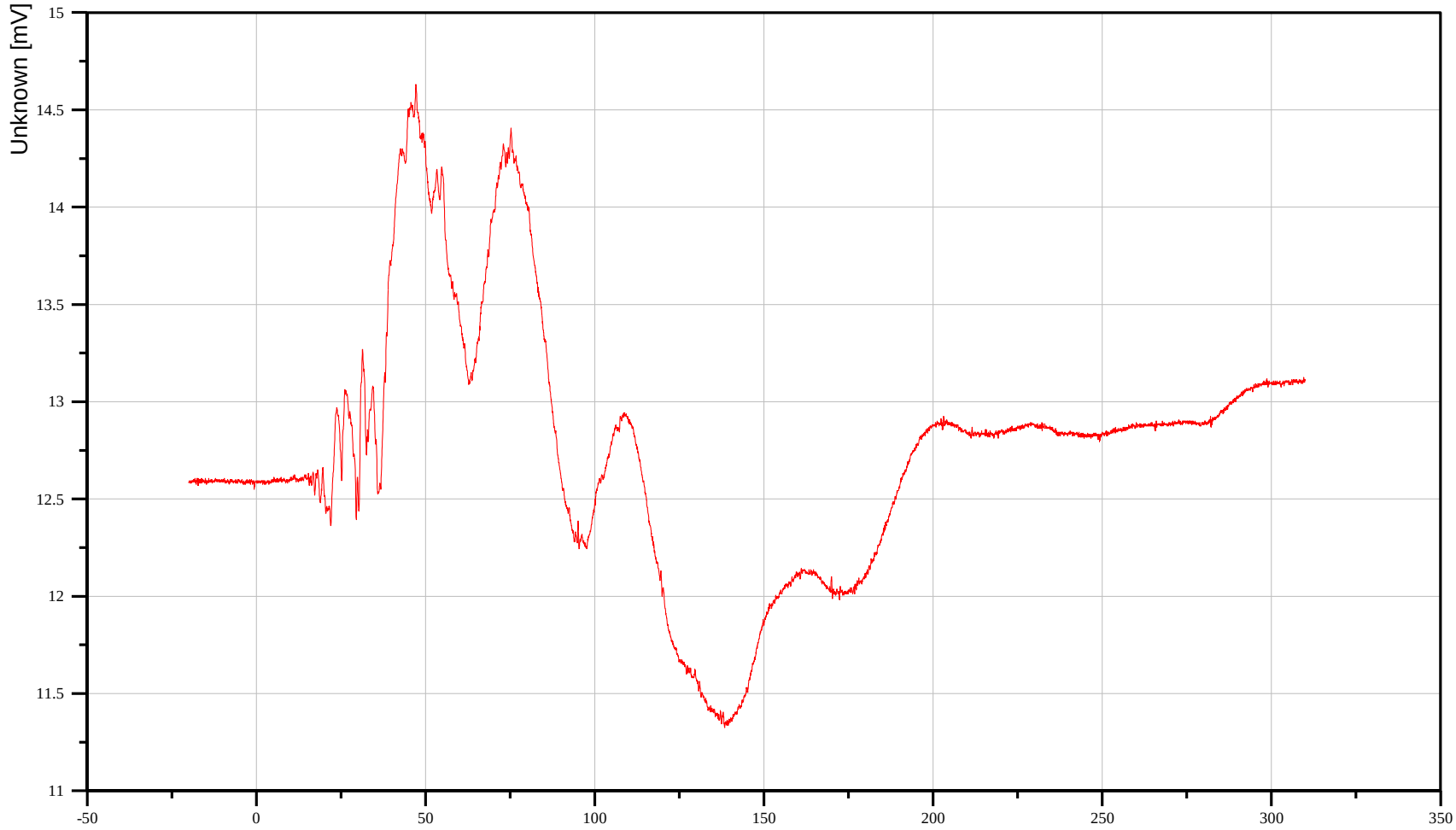
W50-1

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
11.32 mV at 138.40 ms

Max. Value
14.63 mV at 47.15 ms

2016 Honda Fit WorldSID Pole Impact

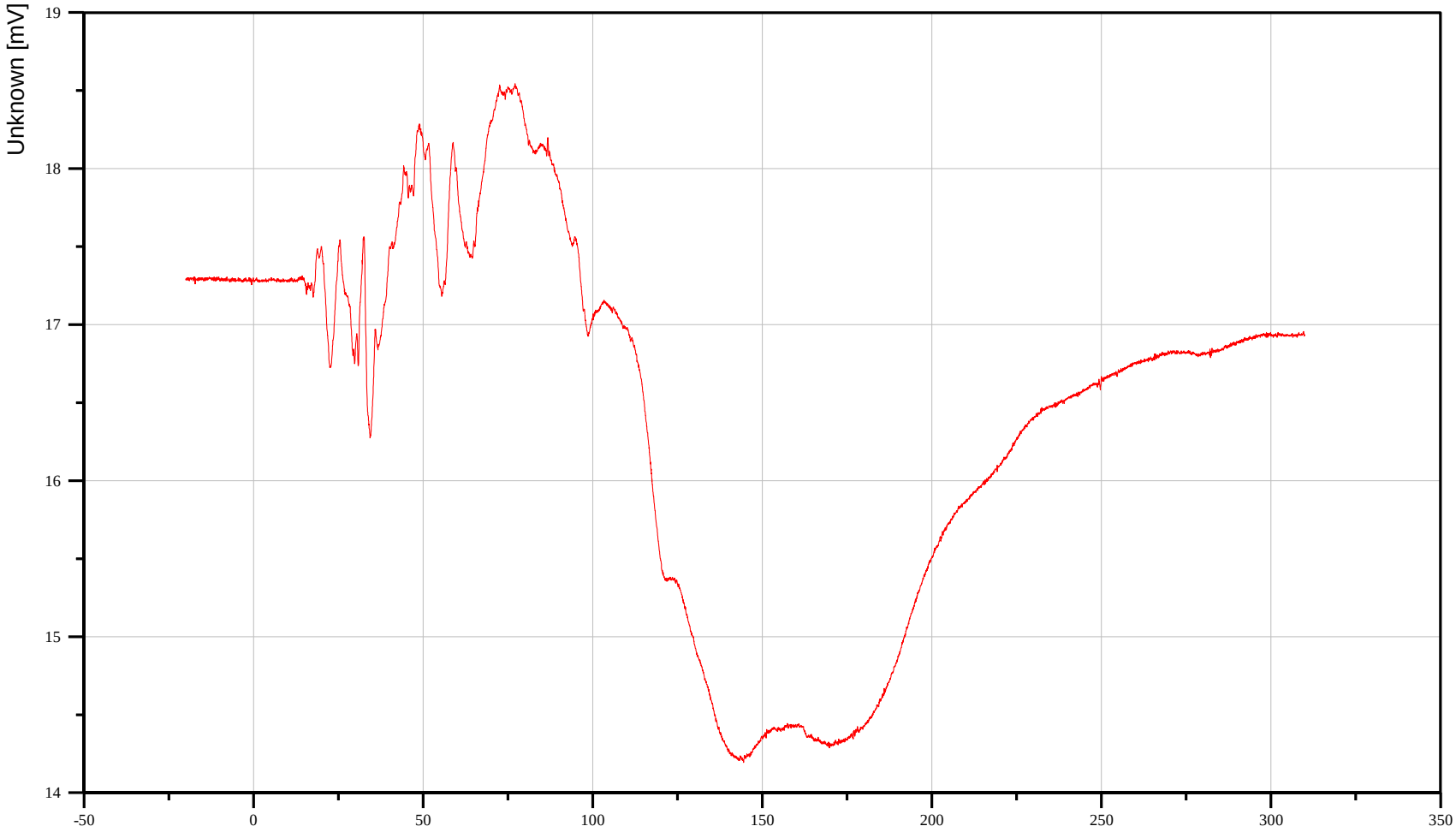
W50-2

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
14.19 mV at 144.50 ms

Max. Value
18.54 mV at 77.10 ms

2016 Honda Fit WorldSID Pole Impact

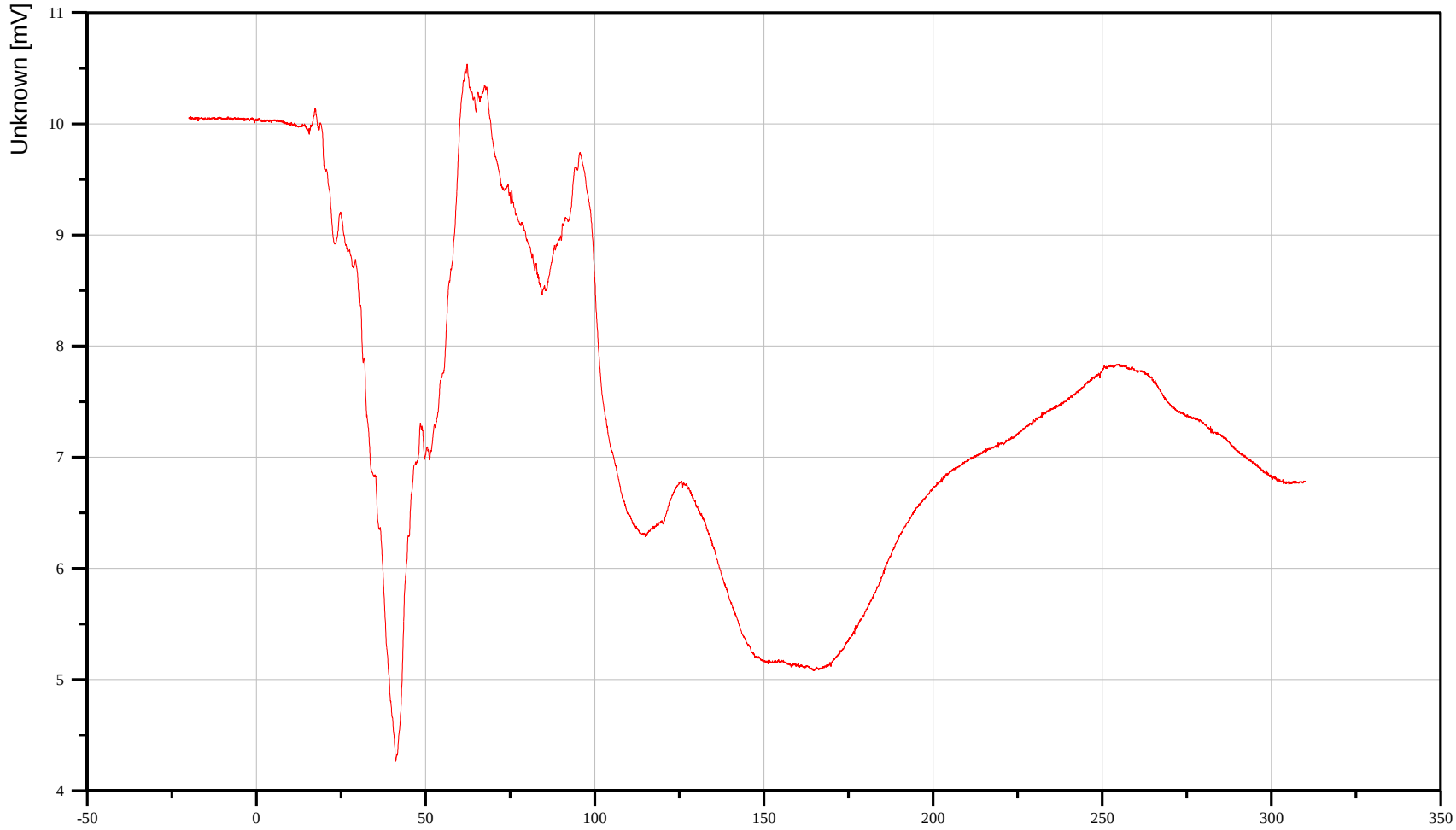
W50-3

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
4.27 mV at 41.20 ms

Max. Value
10.54 mV at 62.30 ms

2016 Honda Fit WorldSID Pole Impact

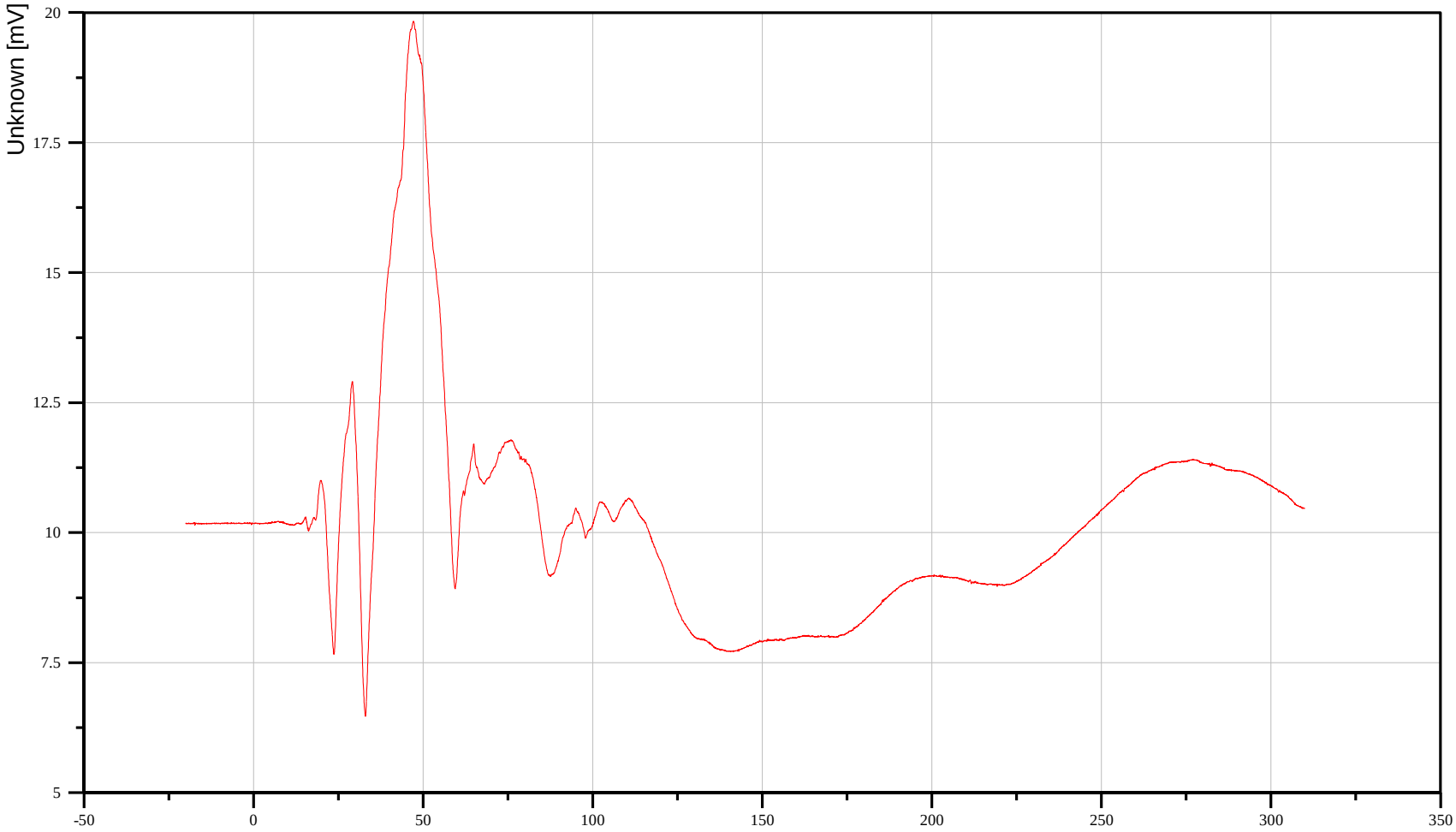
W50-4

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
6.47 mV at 33.00 ms

Max. Value
19.83 mV at 47.10 ms

2016 Honda Fit WorldSID Pole Impact

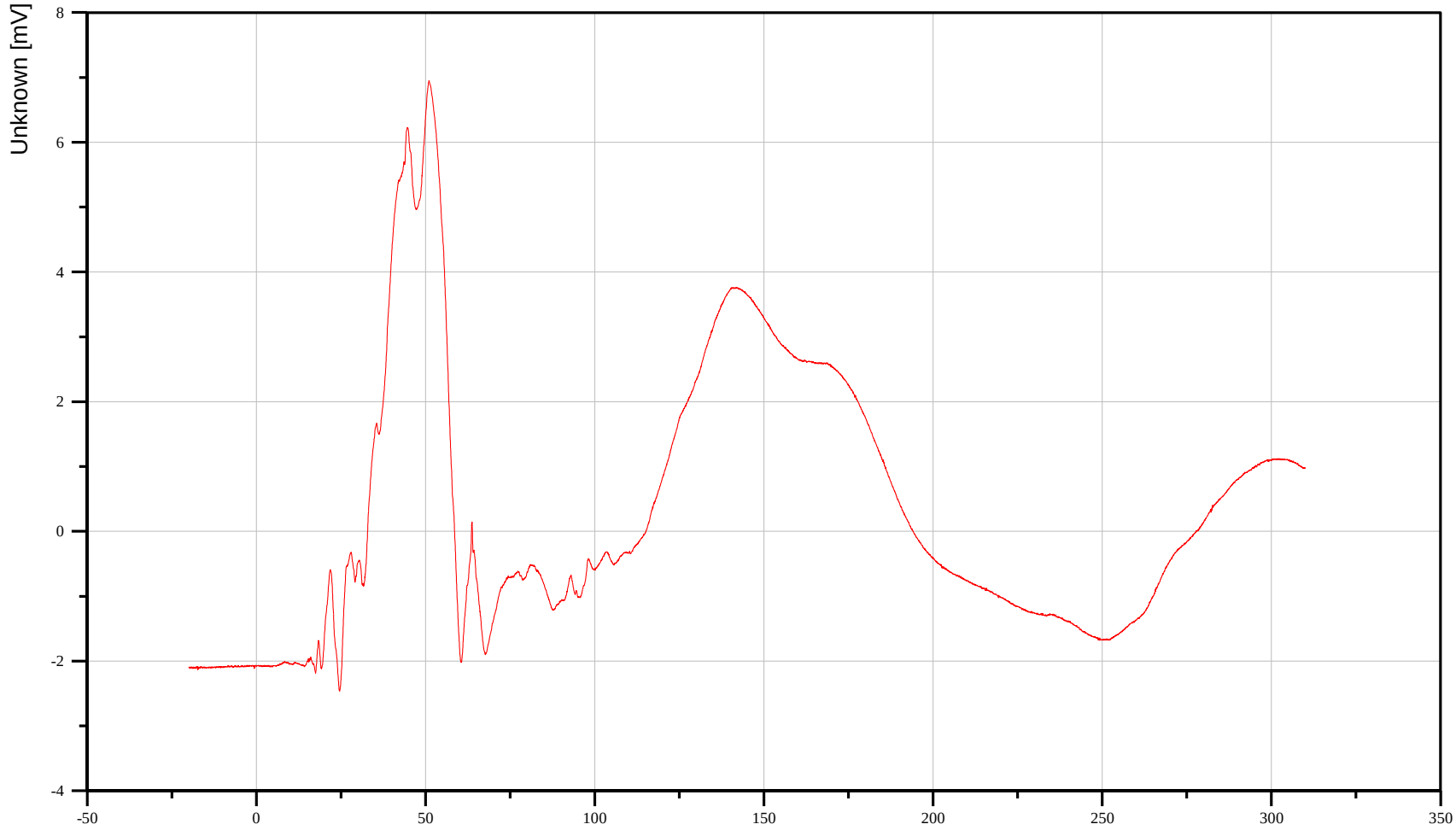
W50-5

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-2.46 mV at 24.60 ms

Max. Value
6.95 mV at 51.00 ms

2016 Honda Fit WorldSID Pole Impact

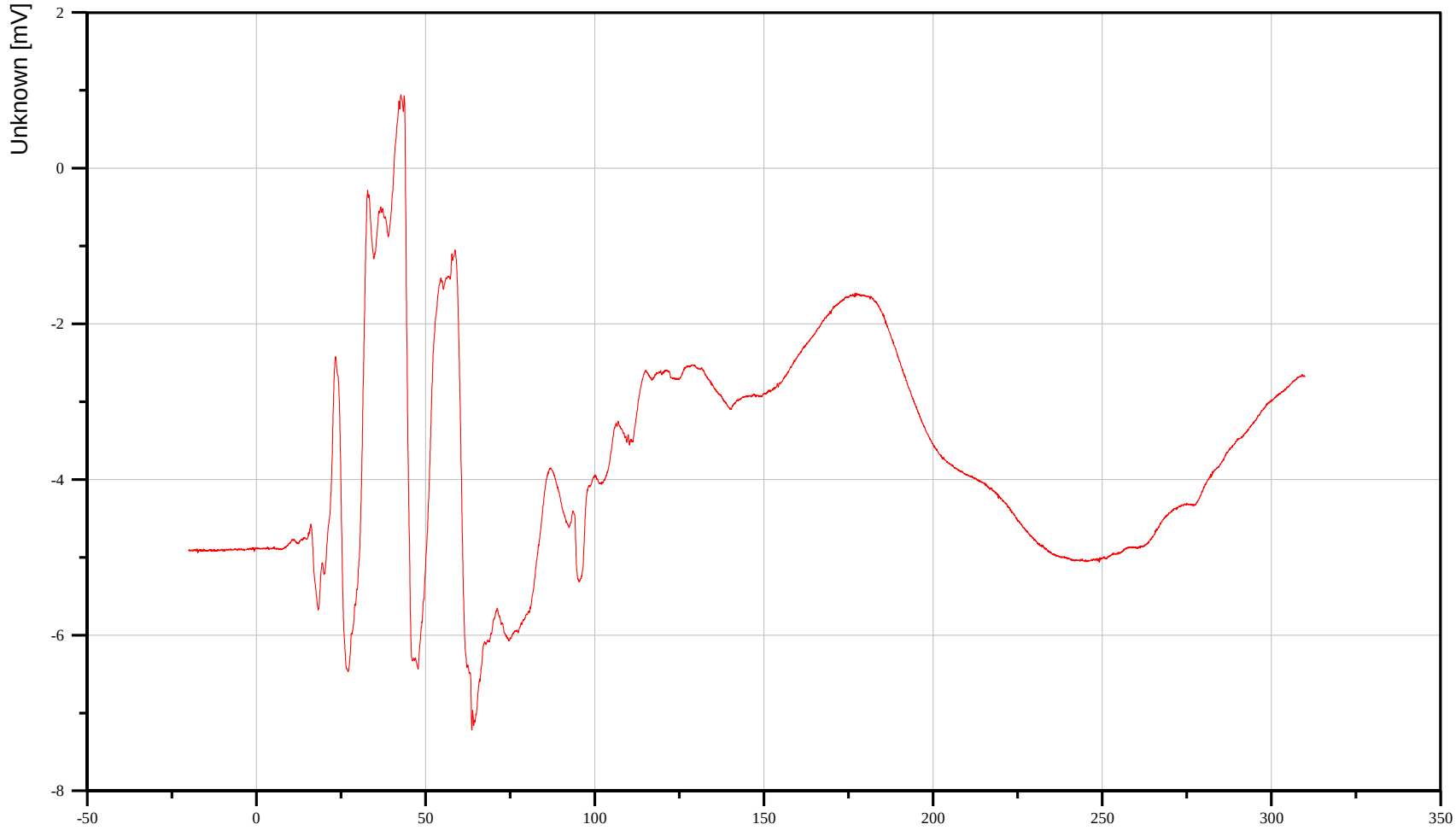
W50-6

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0600WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-7.22 mV at 63.70 ms

Max. Value
0.94 mV at 42.70 ms

2016 Honda Fit WorldSID Pole Impact

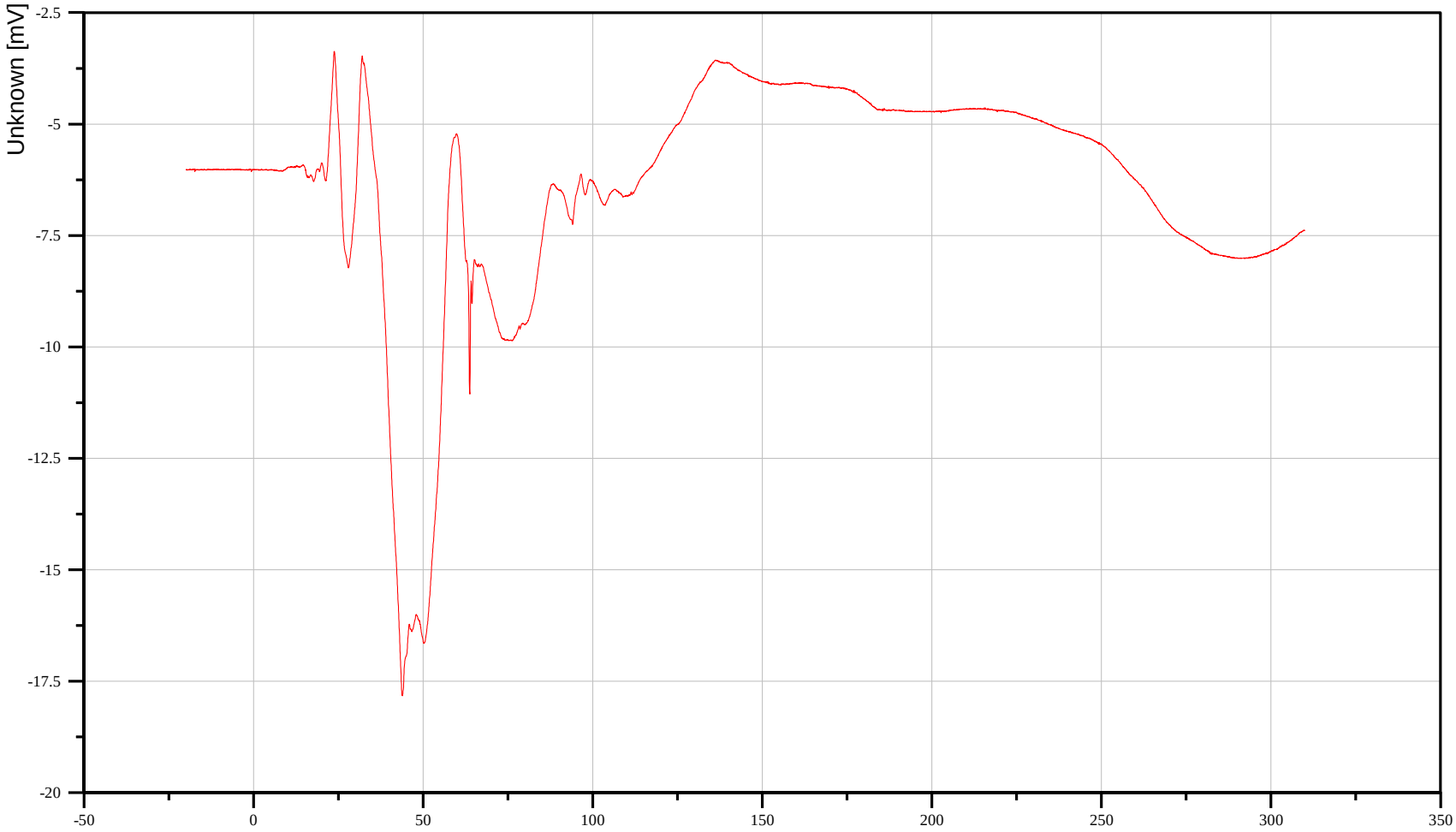
W50-7

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0700WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-17.83 mV at 43.85 ms

Max. Value
-3.37 mV at 23.80 ms

2016 Honda Fit WorldSID Pole Impact

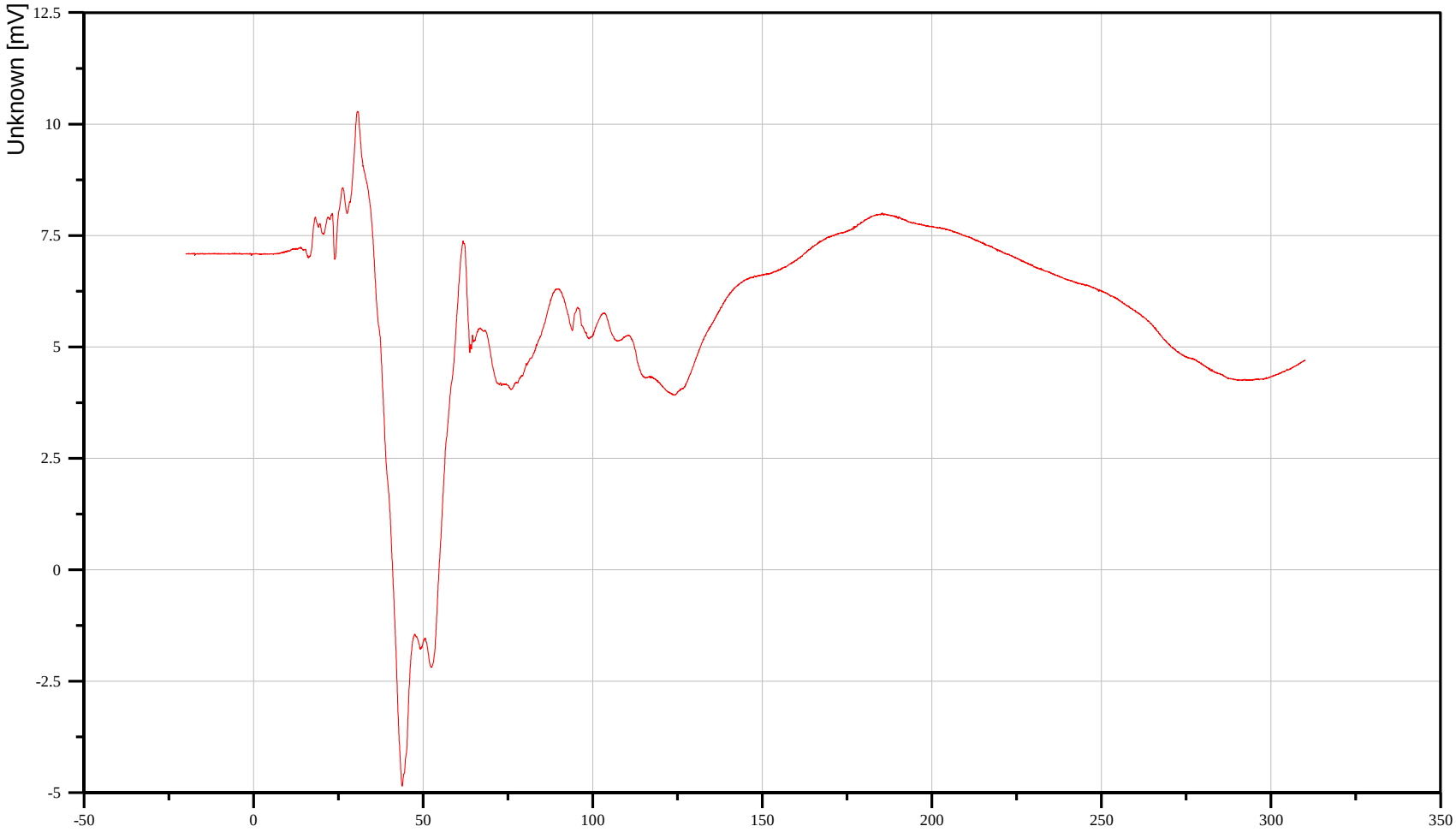
W50-8

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0800WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-4.85 mV at 43.80 ms

Max. Value
10.29 mV at 30.60 ms

2016 Honda Fit WorldSID Pole Impact

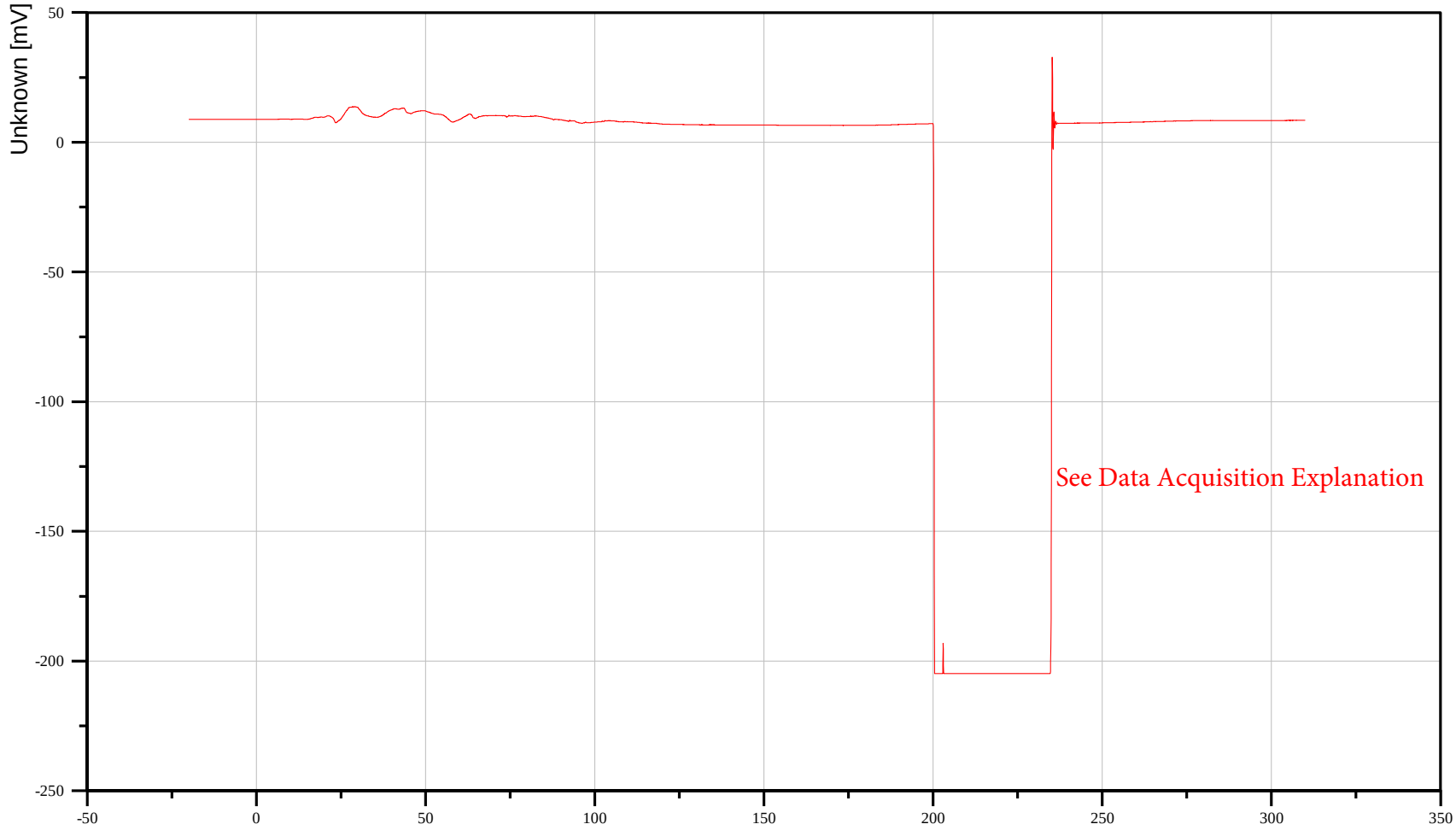
W50-9

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA0900WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-204.80 mV at 200.45 ms

Max. Value
32.76 mV at 235.20 ms

2016 Honda Fit WorldSID Pole Impact

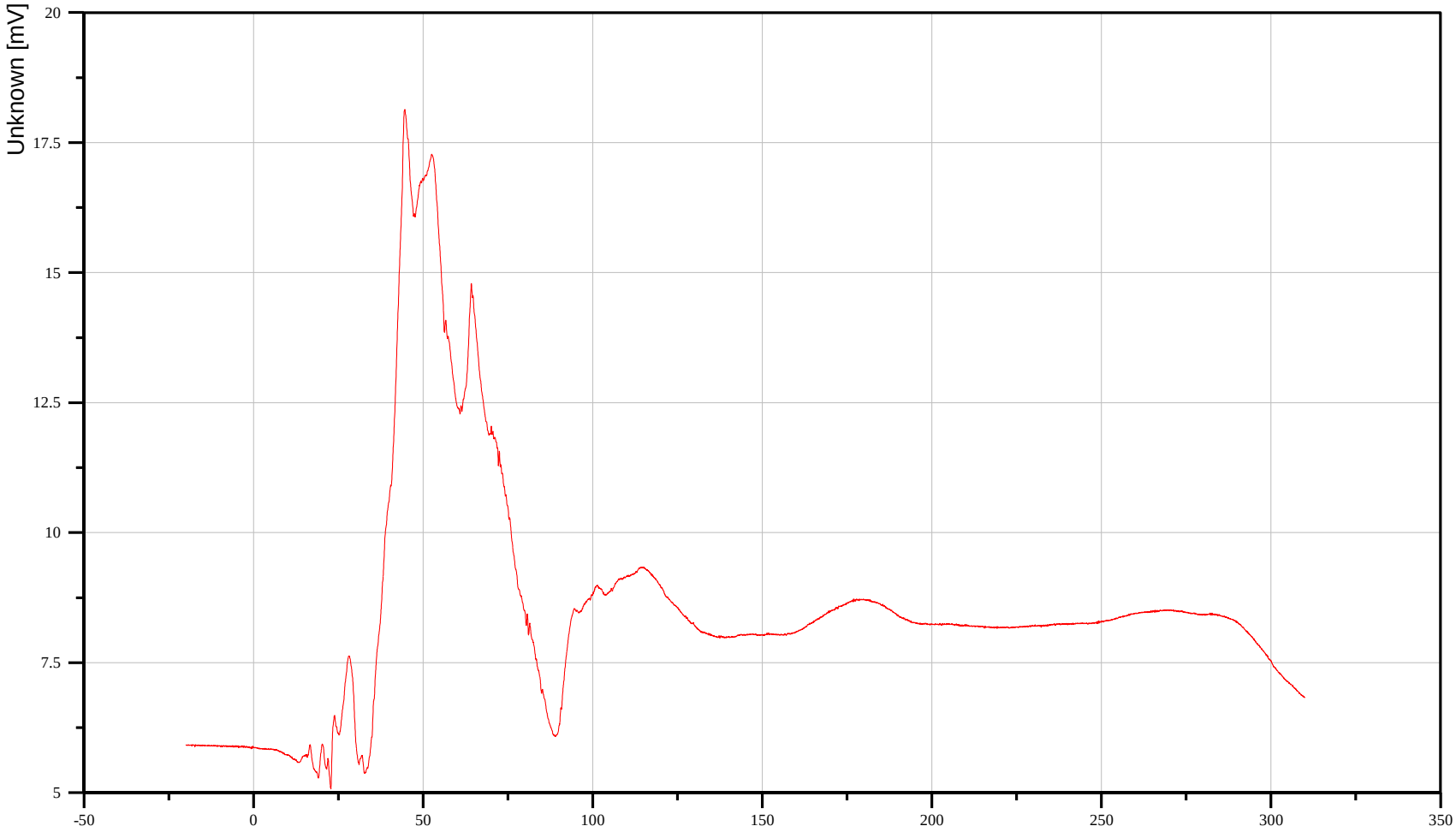
W50-10

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1000WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
5.07 mV at 22.80 ms

Max. Value
18.14 mV at 44.60 ms

2016 Honda Fit WorldSID Pole Impact

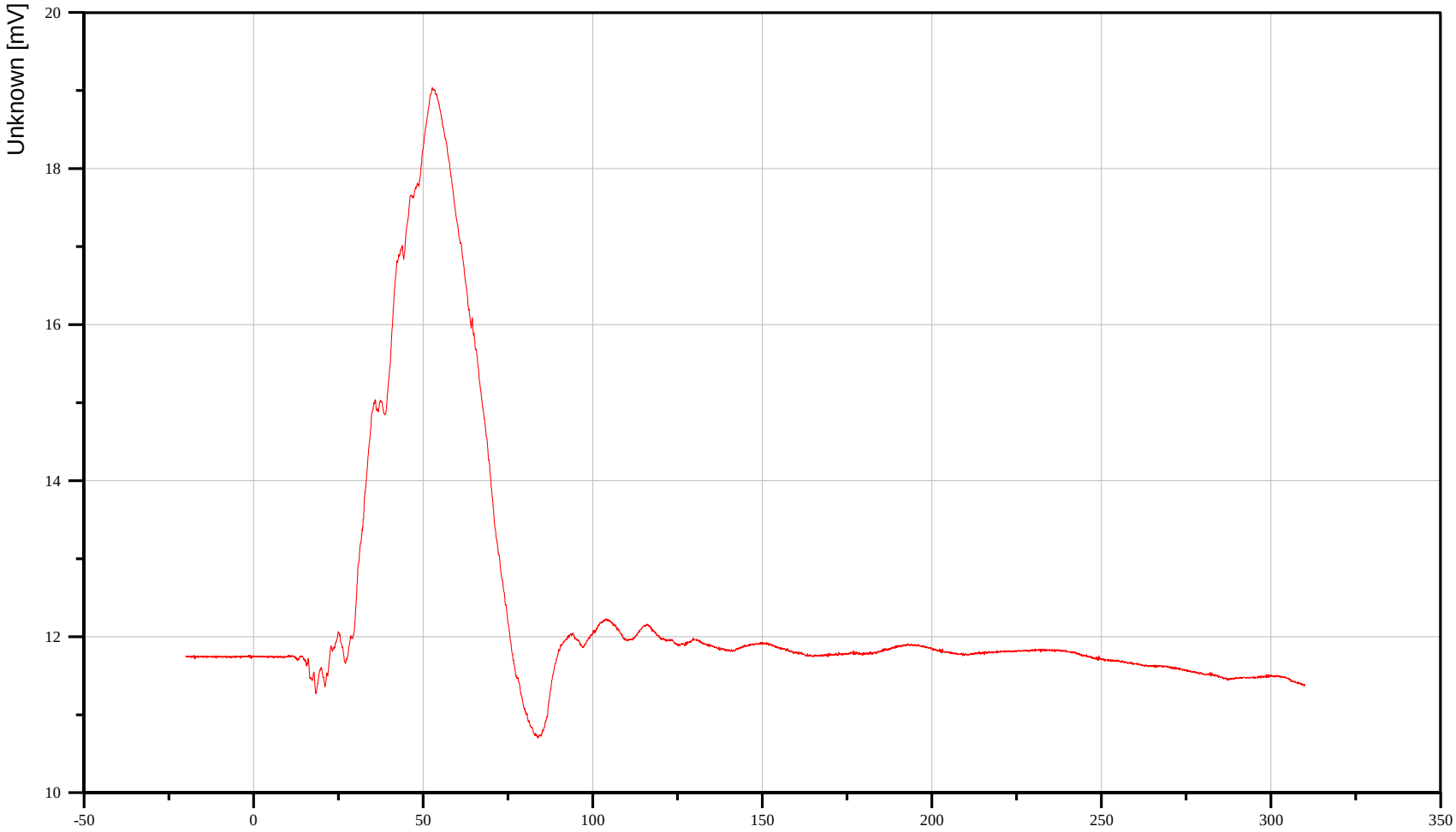
W50-11

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
10.71 mV at 83.85 ms

Max. Value
19.04 mV at 52.75 ms

2016 Honda Fit WorldSID Pole Impact

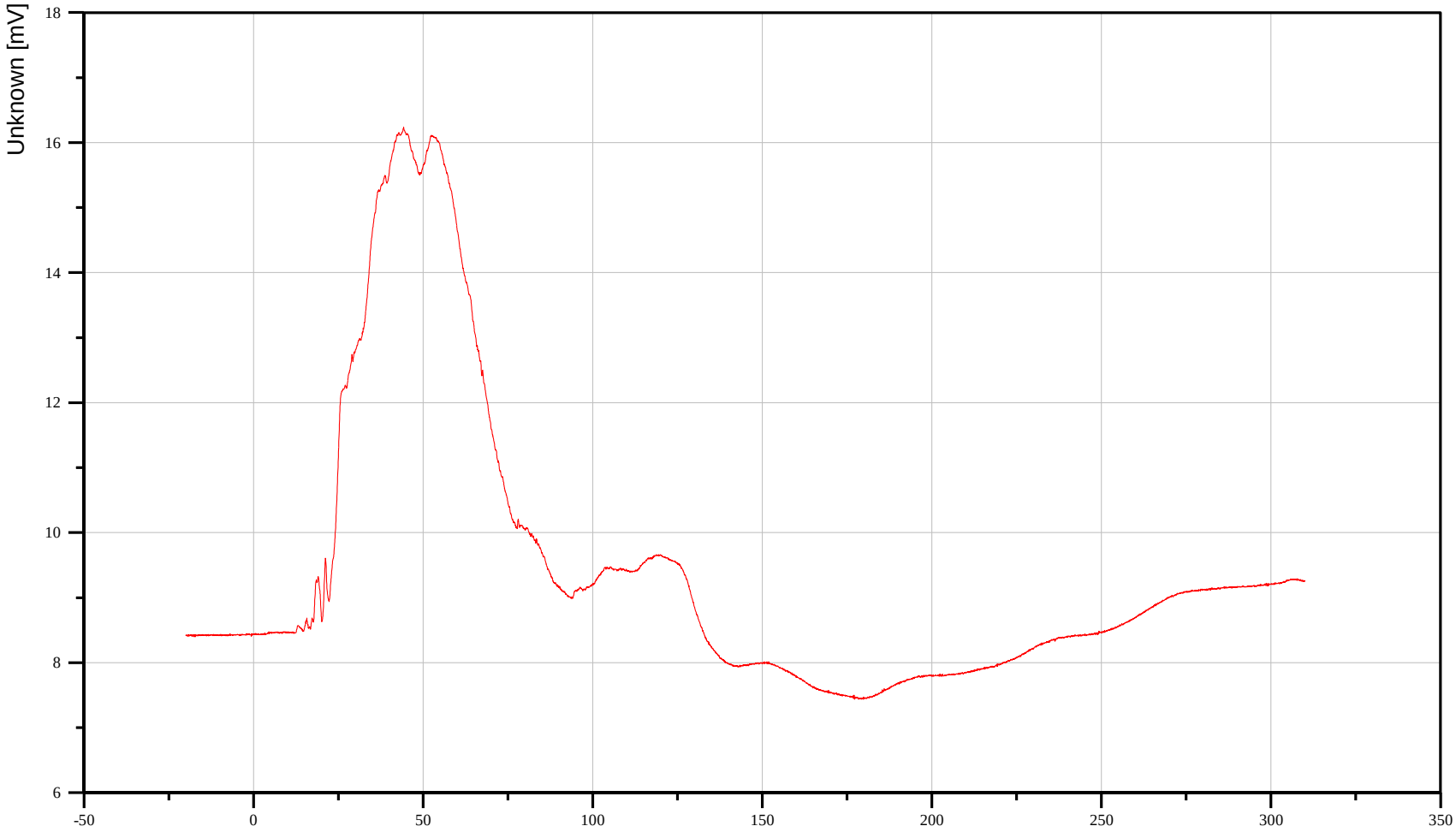
W50-12

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
7.44 mV at 177.15 ms

Max. Value
16.24 mV at 44.25 ms

2016 Honda Fit WorldSID Pole Impact

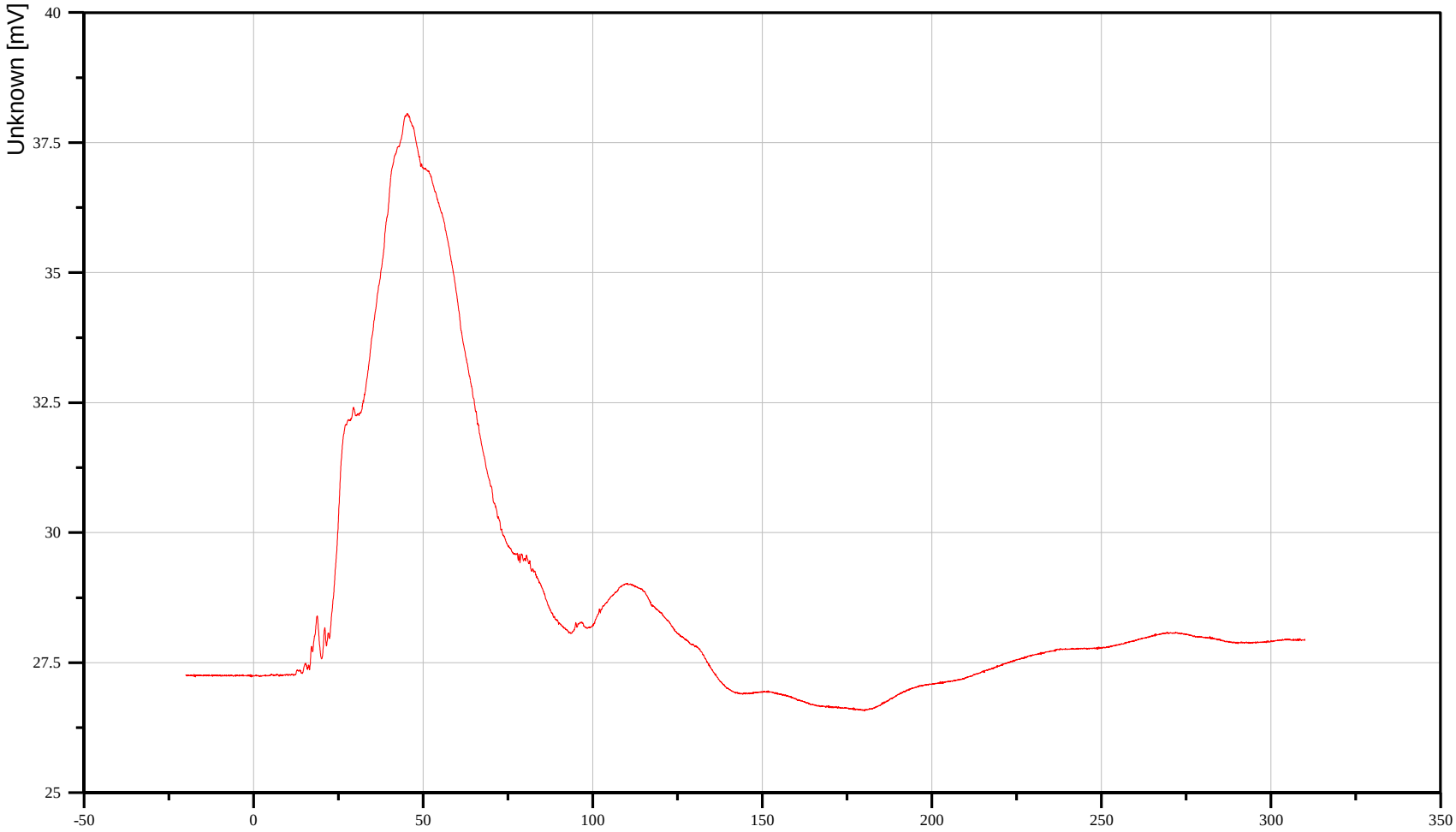
W50-13

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
26.58 mV at 180.20 ms

Max. Value
38.06 mV at 45.30 ms

2016 Honda Fit WorldSID Pole Impact

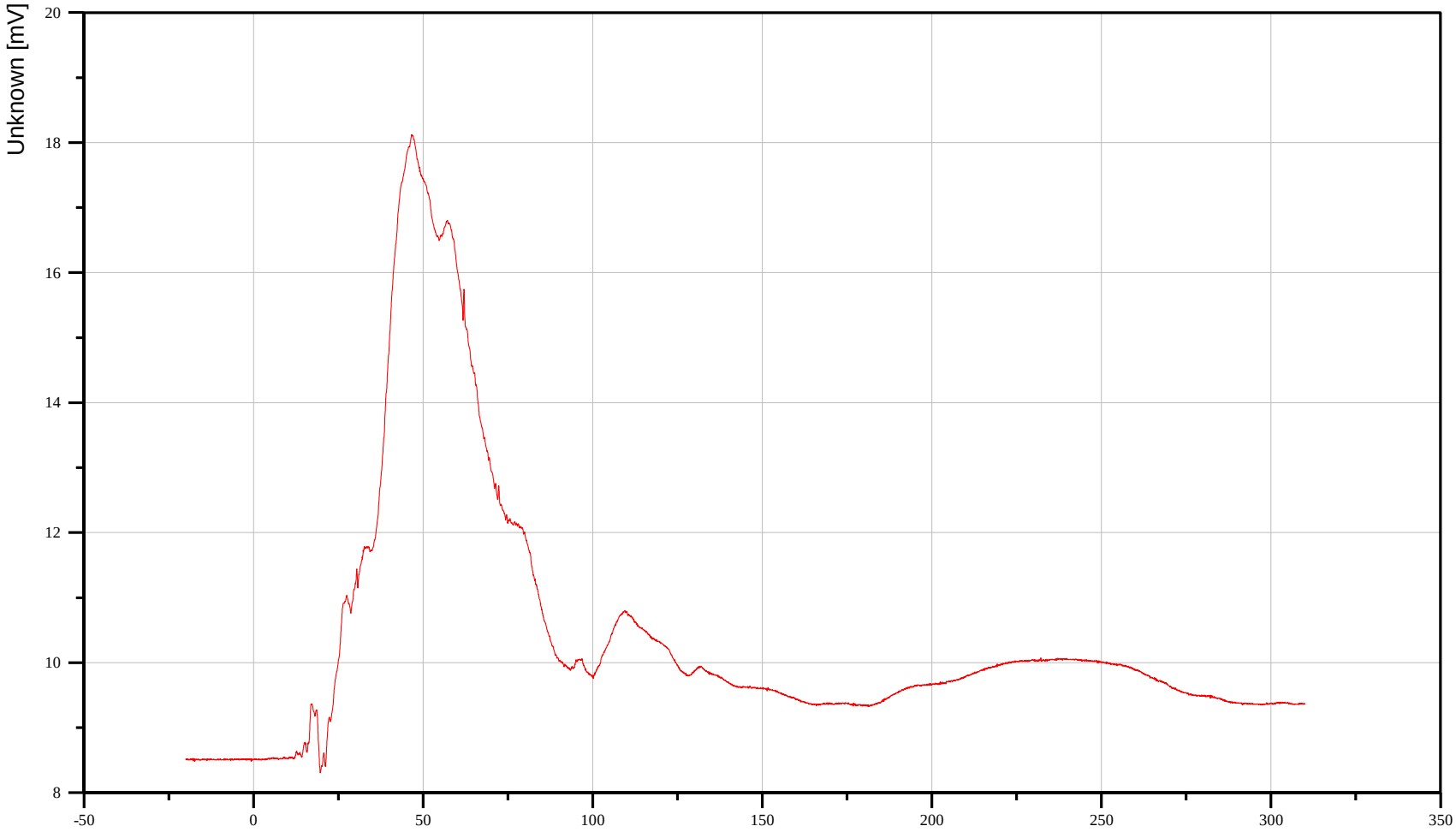
W50-14

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
8.31 mV at 19.65 ms

Max. Value
18.12 mV at 46.60 ms

2016 Honda Fit WorldSID Pole Impact

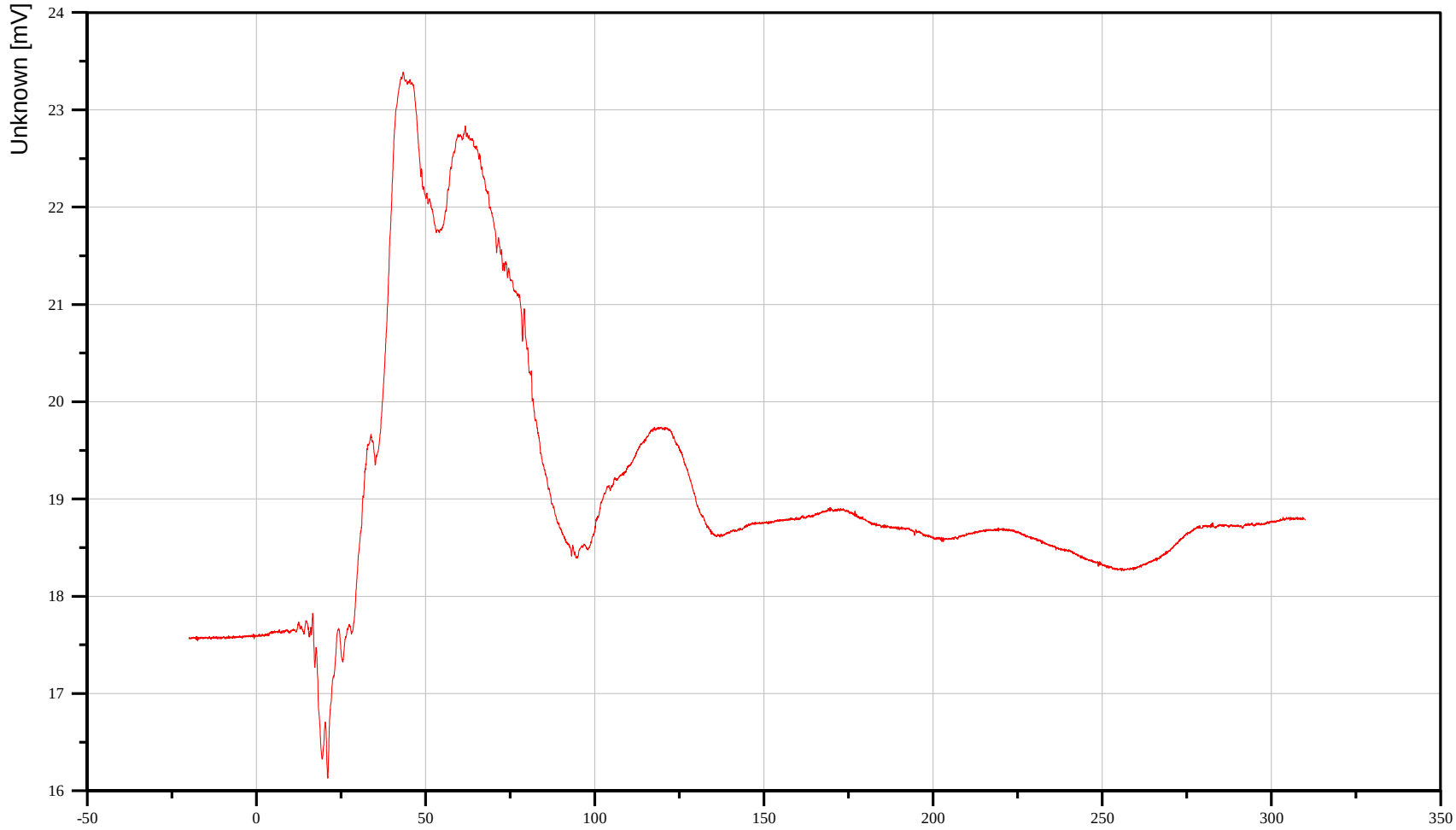
W50-15

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
16.13 mV at 21.10 ms

Max. Value
23.39 mV at 43.40 ms

2016 Honda Fit WorldSID Pole Impact

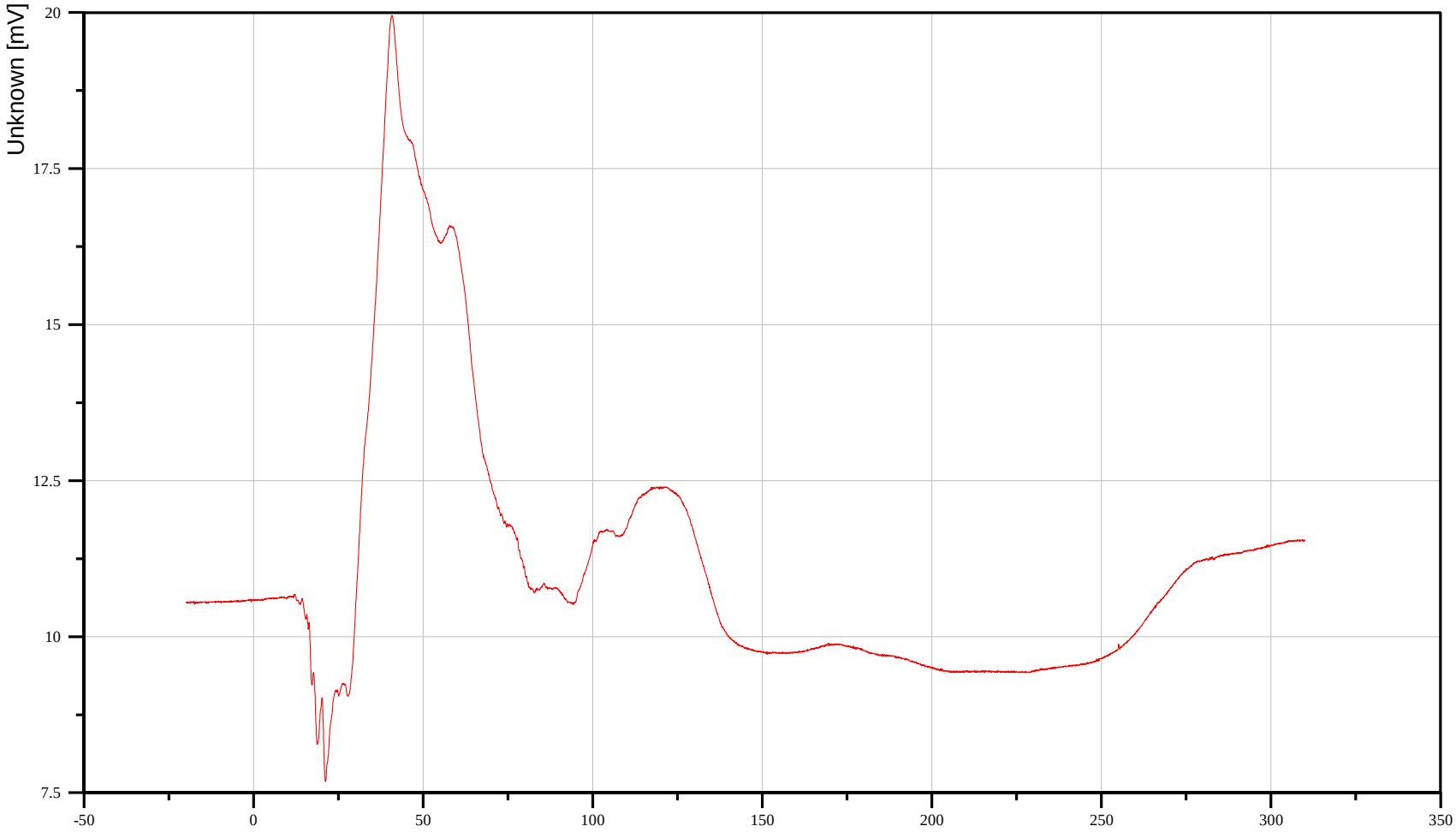
W50-16

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1600WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
7.68 mV at 21.25 ms

Max. Value
19.96 mV at 40.80 ms

2016 Honda Fit WorldSID Pole Impact

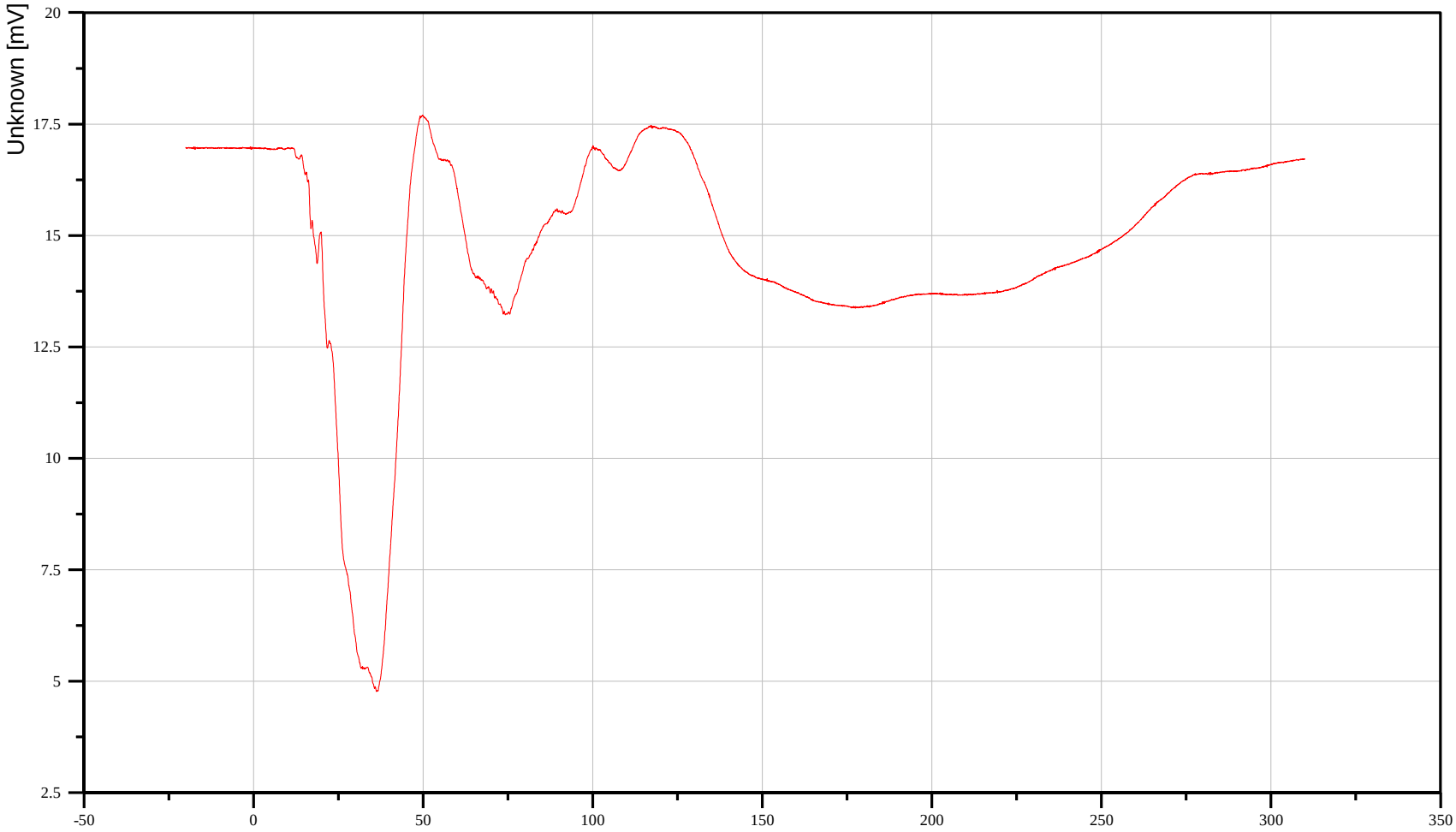
W50-17

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1700WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
4.77 mV at 36.25 ms

Max. Value
17.70 mV at 49.85 ms

2016 Honda Fit WorldSID Pole Impact

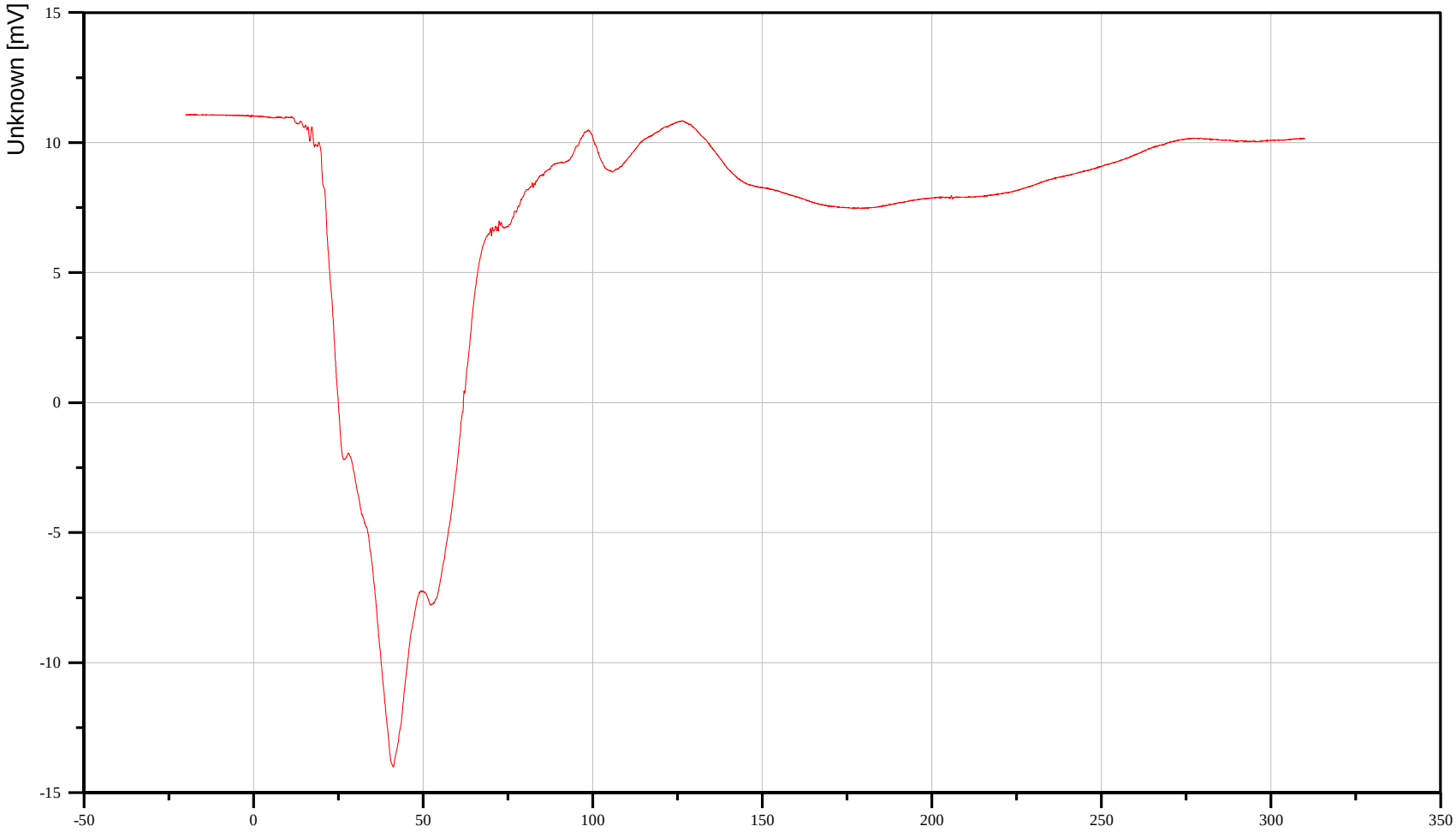
W50-18

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1800WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-14.01 mV at 41.15 ms

Max. Value
11.09 mV at -17.60 ms

2016 Honda Fit WorldSID Pole Impact

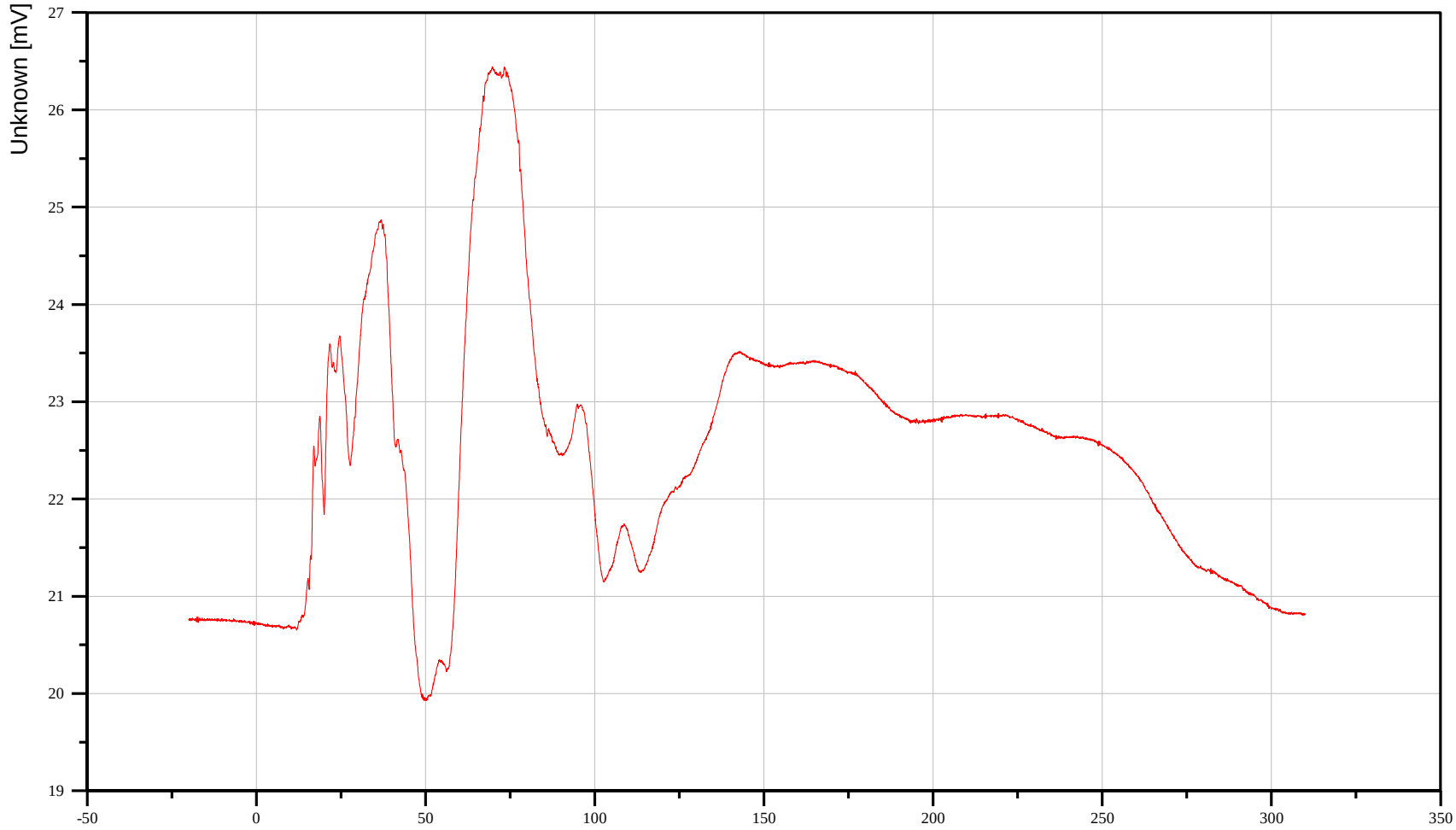
W50-19

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA1900WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
19.93 mV at 49.50 ms

Max. Value
26.44 mV at 69.70 ms

2016 Honda Fit WorldSID Pole Impact

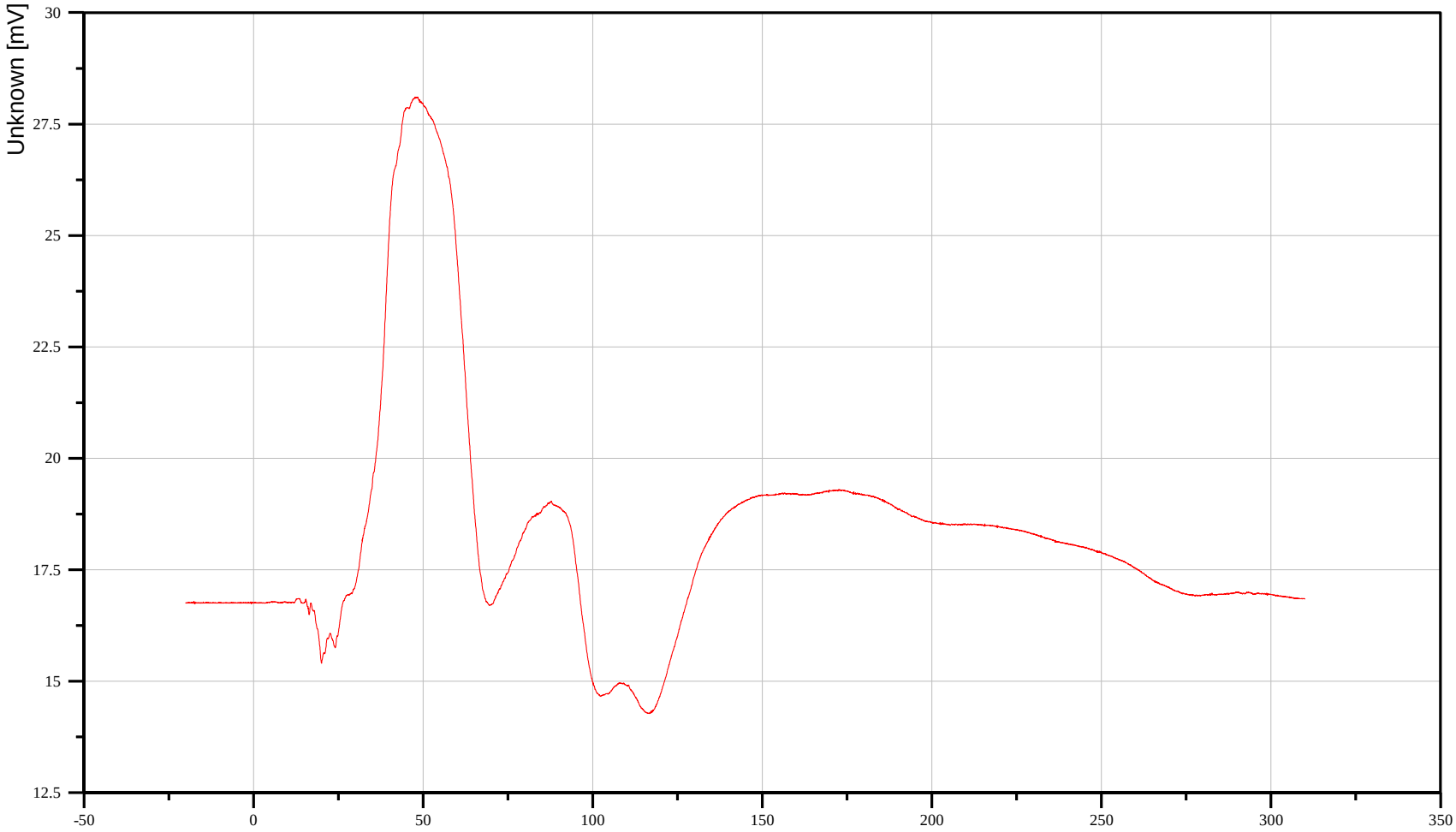
W50-20

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2000WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
14.27 mV at 116.75 ms

Max. Value
28.11 mV at 47.70 ms

2016 Honda Fit WorldSID Pole Impact

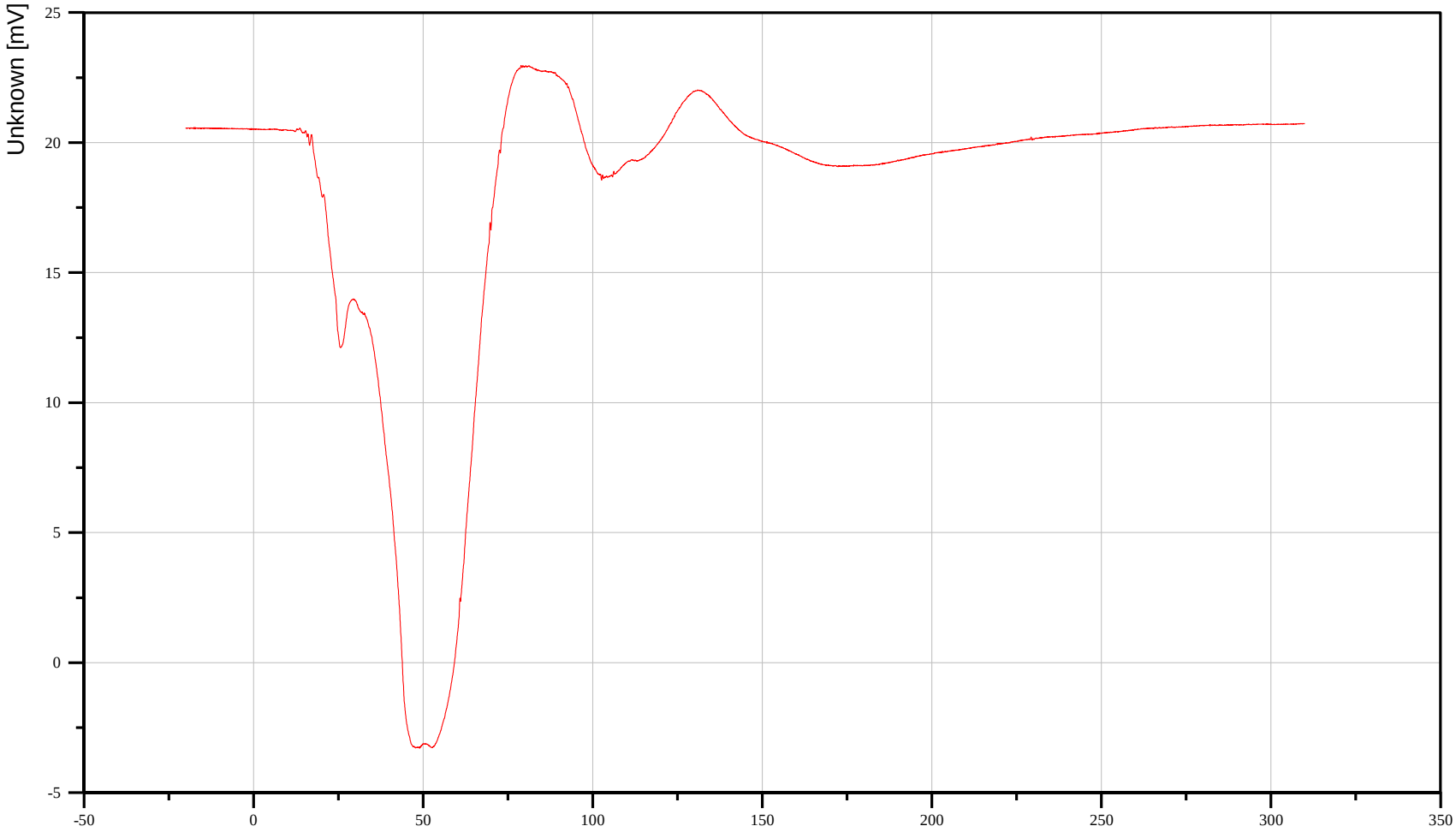
W50-21

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-3.29 mV at 49.00 ms

Max. Value
22.96 mV at 78.90 ms

2016 Honda Fit WorldSID Pole Impact

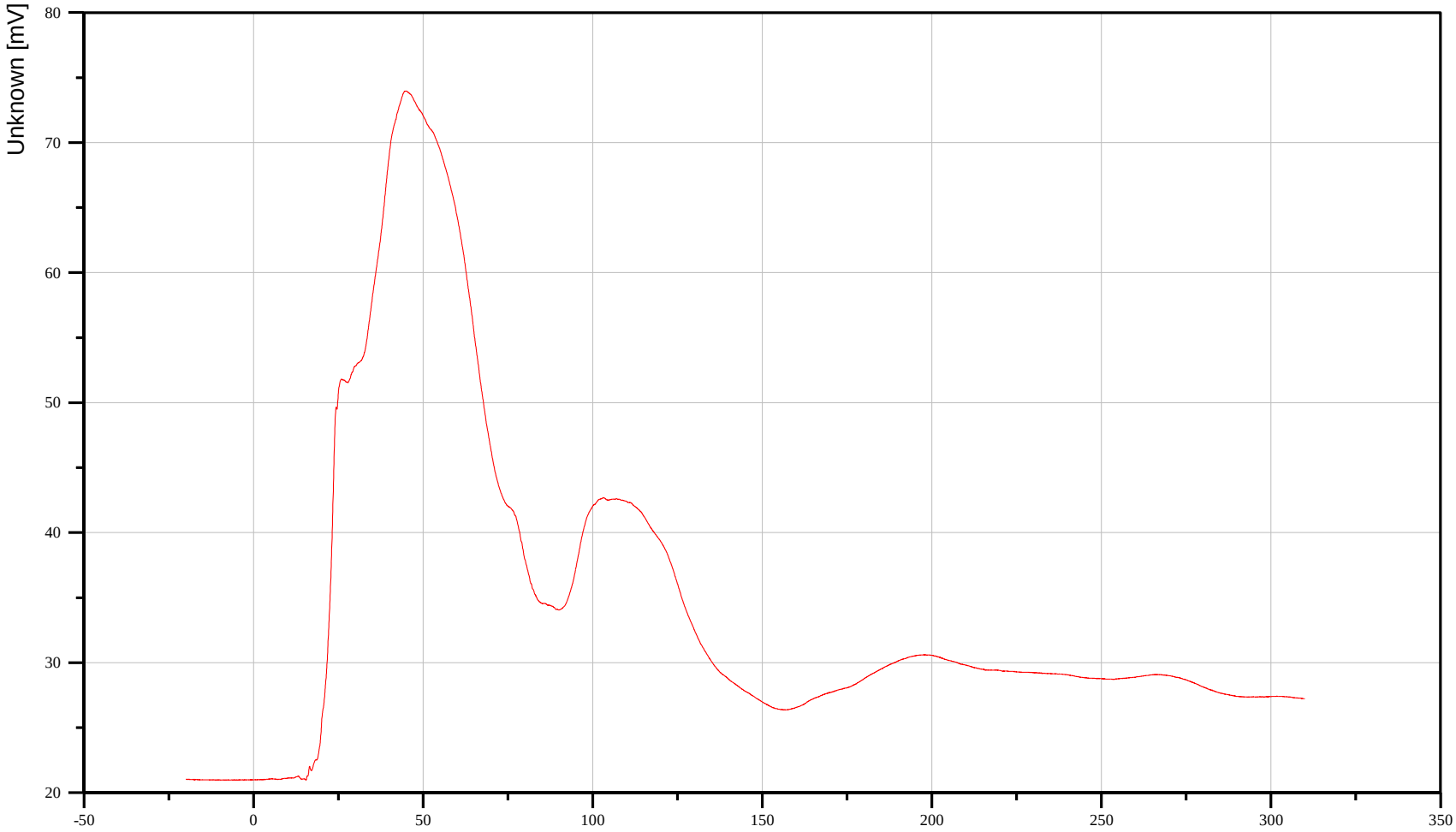
W50-22

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
20.95 mV at 15.45 ms

Max. Value
73.97 mV at 45.00 ms

2016 Honda Fit WorldSID Pole Impact

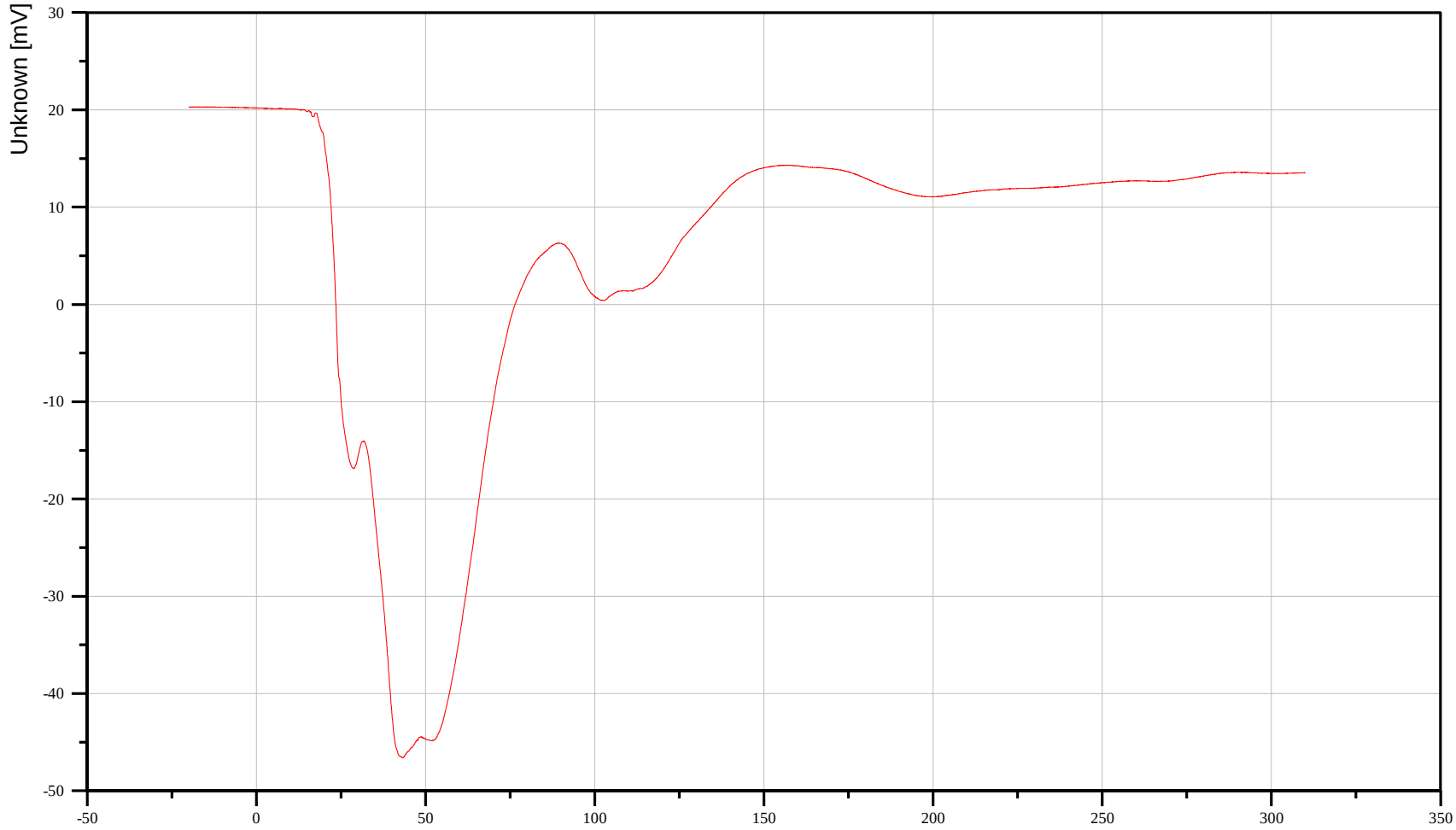
W50-23

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-46.62 mV at 43.25 ms

Max. Value
20.31 mV at -17.60 ms

2016 Honda Fit WorldSID Pole Impact

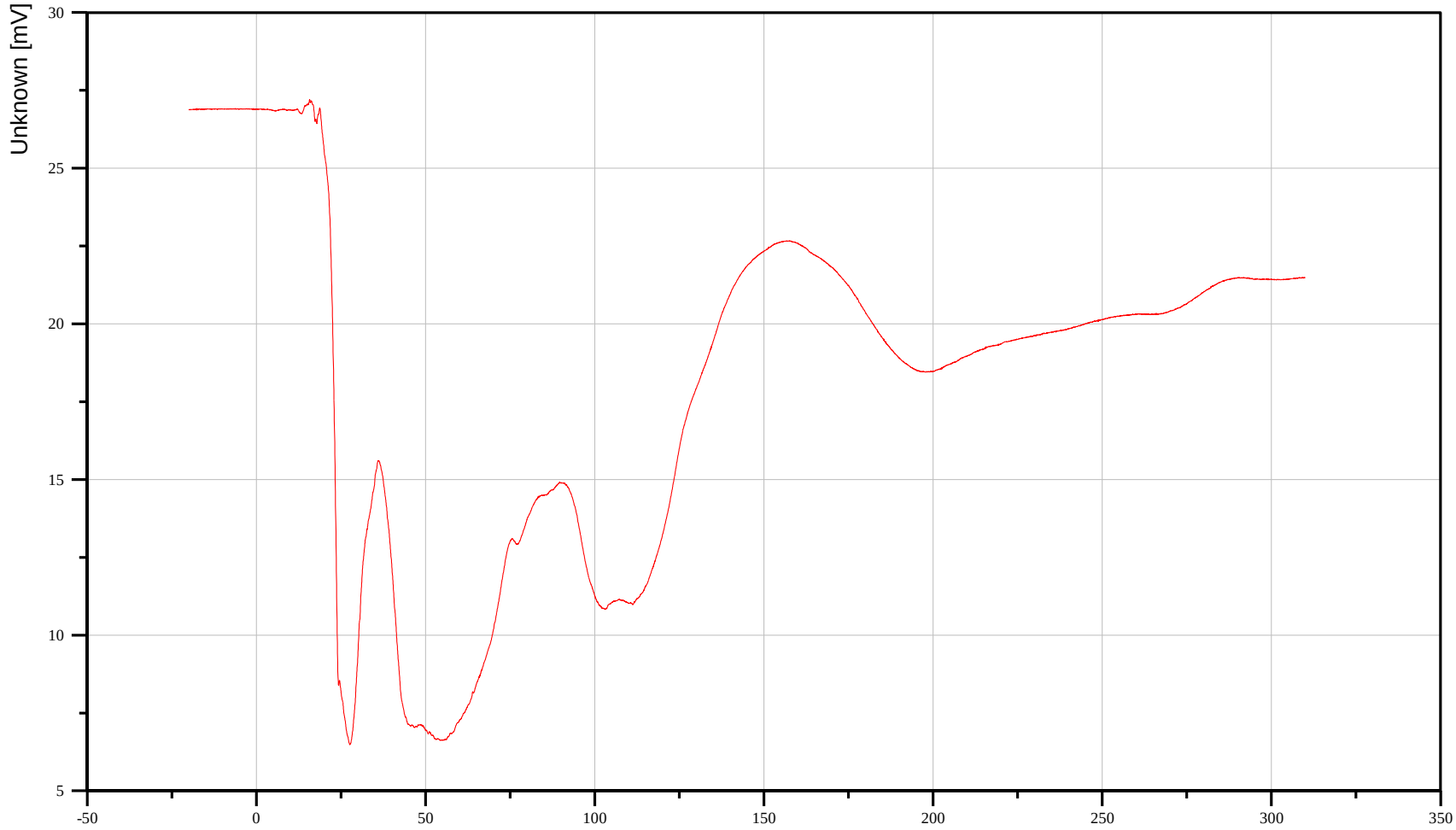
W50-24

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
6.48 mV at 27.65 ms

Max. Value
27.21 mV at 15.70 ms

2016 Honda Fit WorldSID Pole Impact

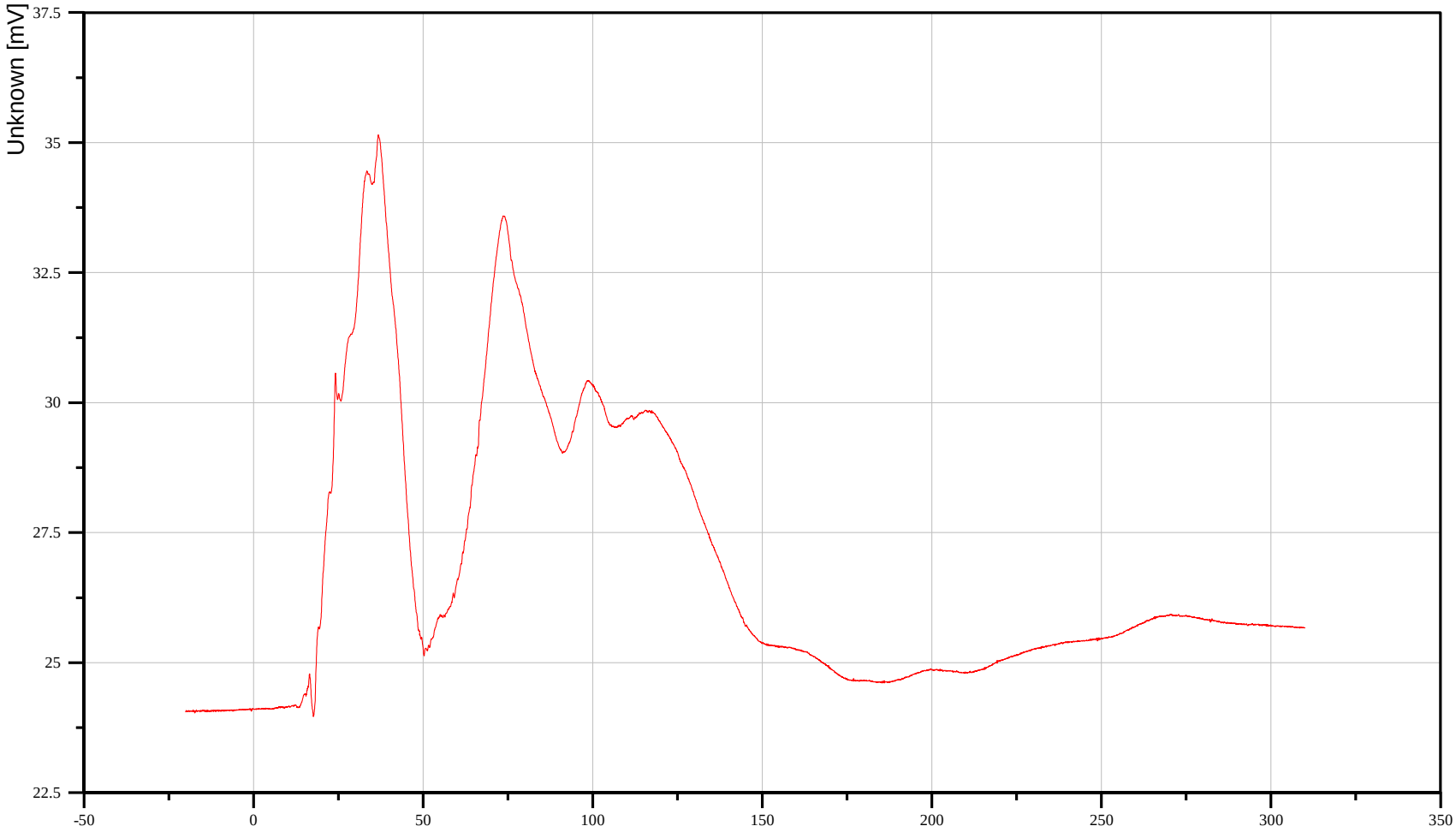
W50-25

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
23.96 mV at 17.65 ms

Max. Value
35.15 mV at 36.75 ms

2016 Honda Fit WorldSID Pole Impact

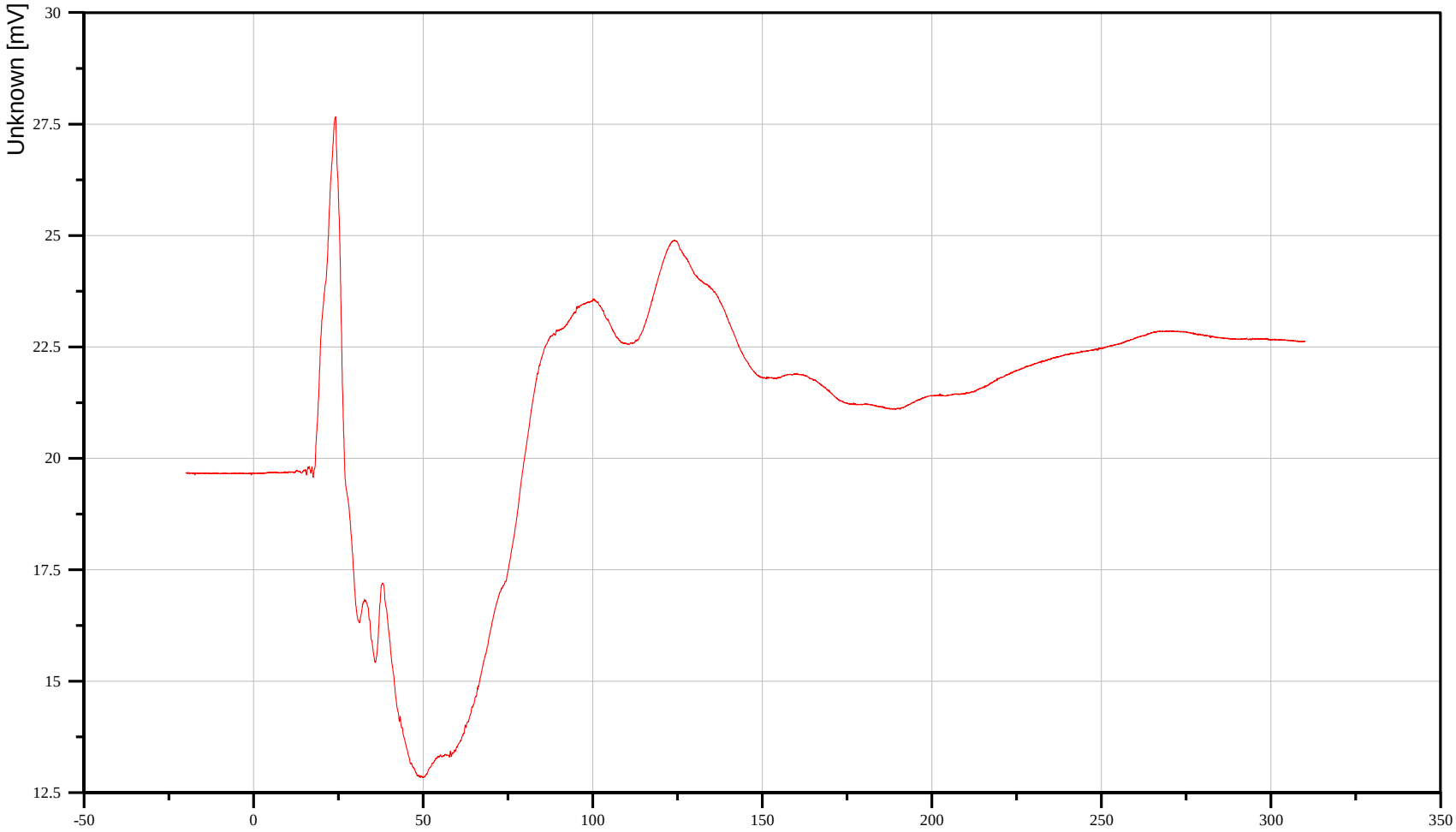
W50-26

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2600WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
12.84 mV at 49.85 ms

Max. Value
27.66 mV at 24.20 ms

2016 Honda Fit WorldSID Pole Impact

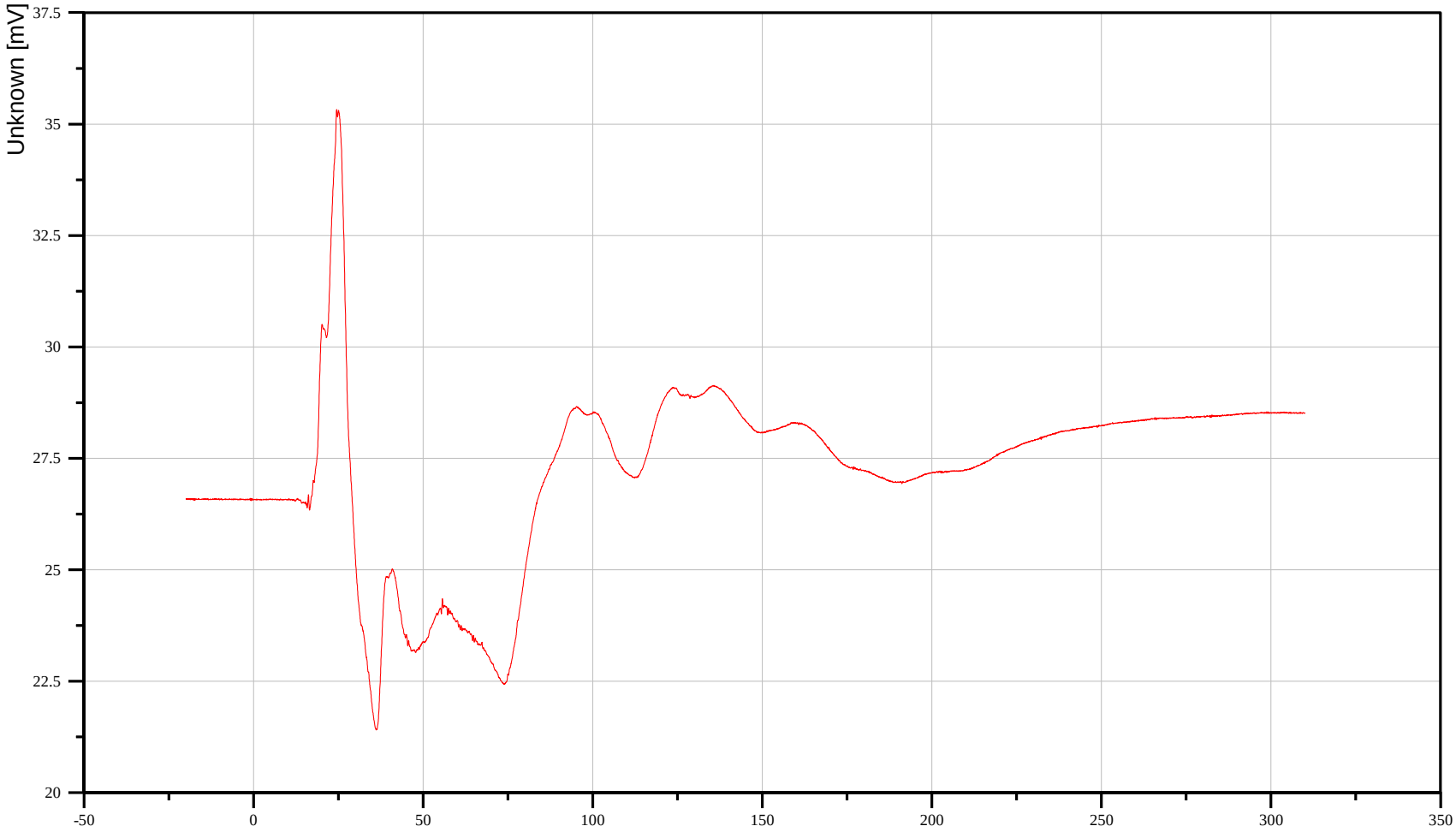
W50-27

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2700WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
21.41 mV at 36.20 ms

Max. Value
35.33 mV at 24.50 ms

2016 Honda Fit WorldSID Pole Impact

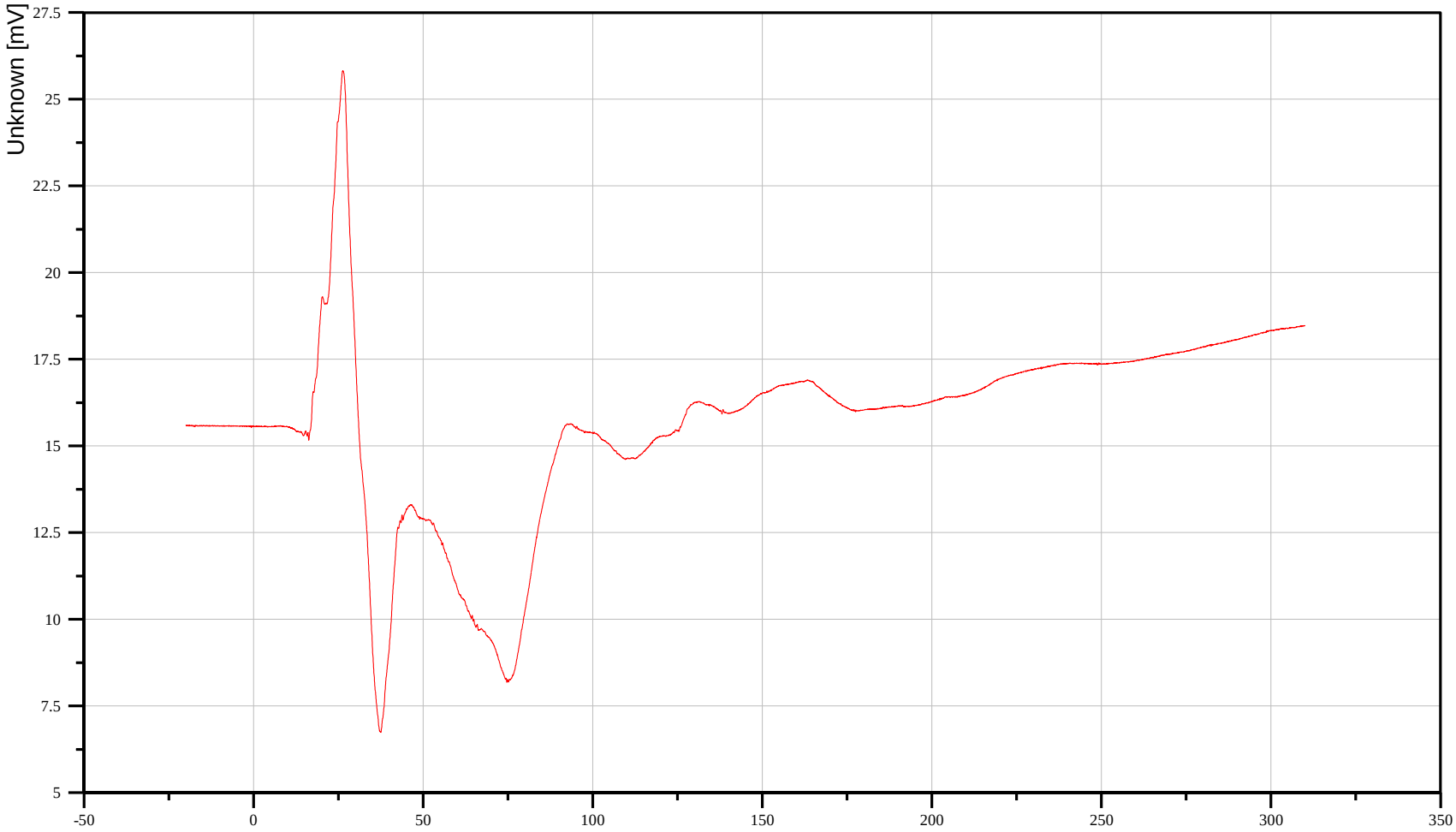
W50-28

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2800WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
6.74 mV at 37.55 ms

Max. Value
25.83 mV at 26.30 ms

2016 Honda Fit WorldSID Pole Impact

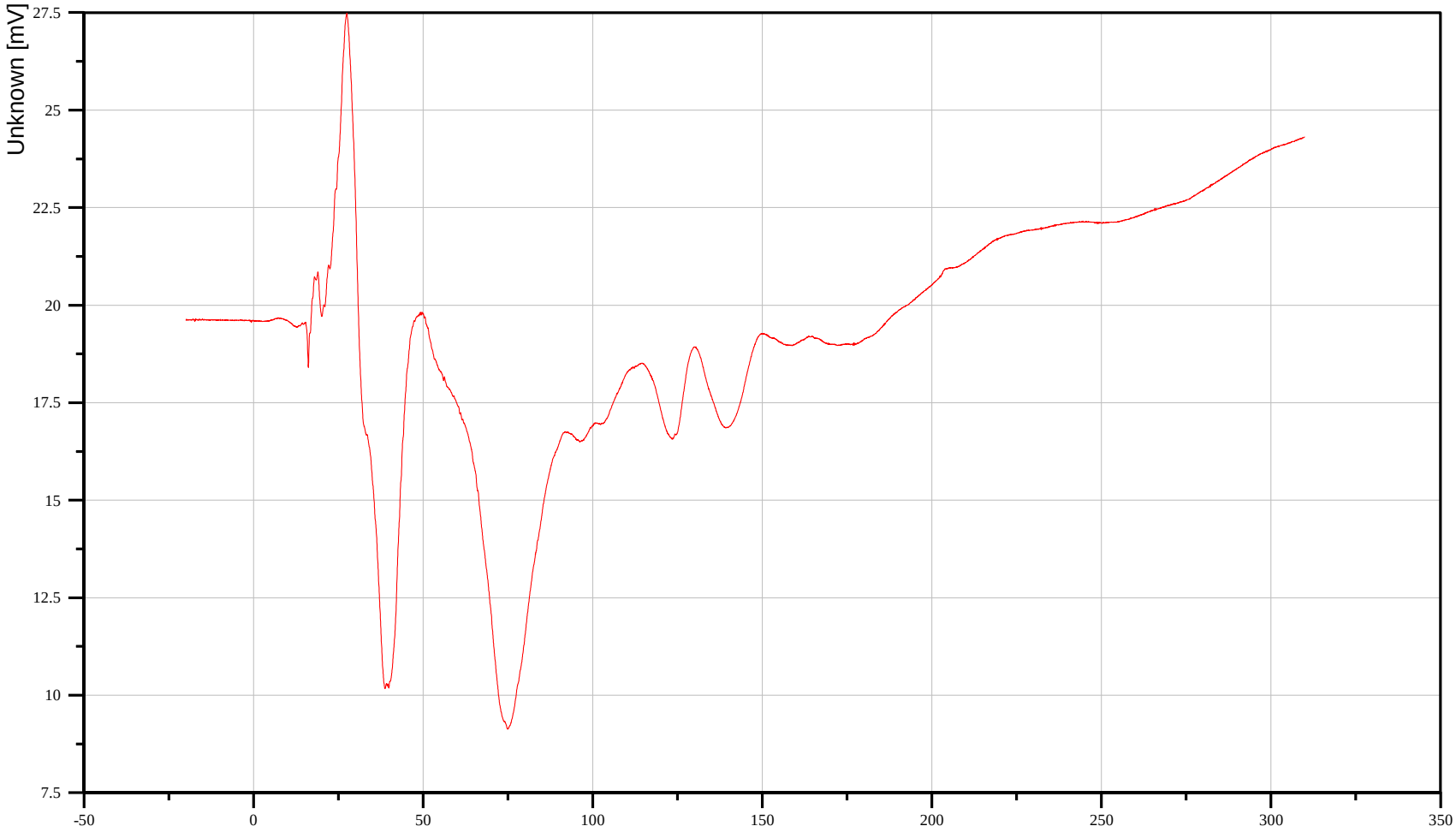
W50-29

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA2900WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
9.13 mV at 74.95 ms

Max. Value
27.49 mV at 27.50 ms

2016 Honda Fit WorldSID Pole Impact

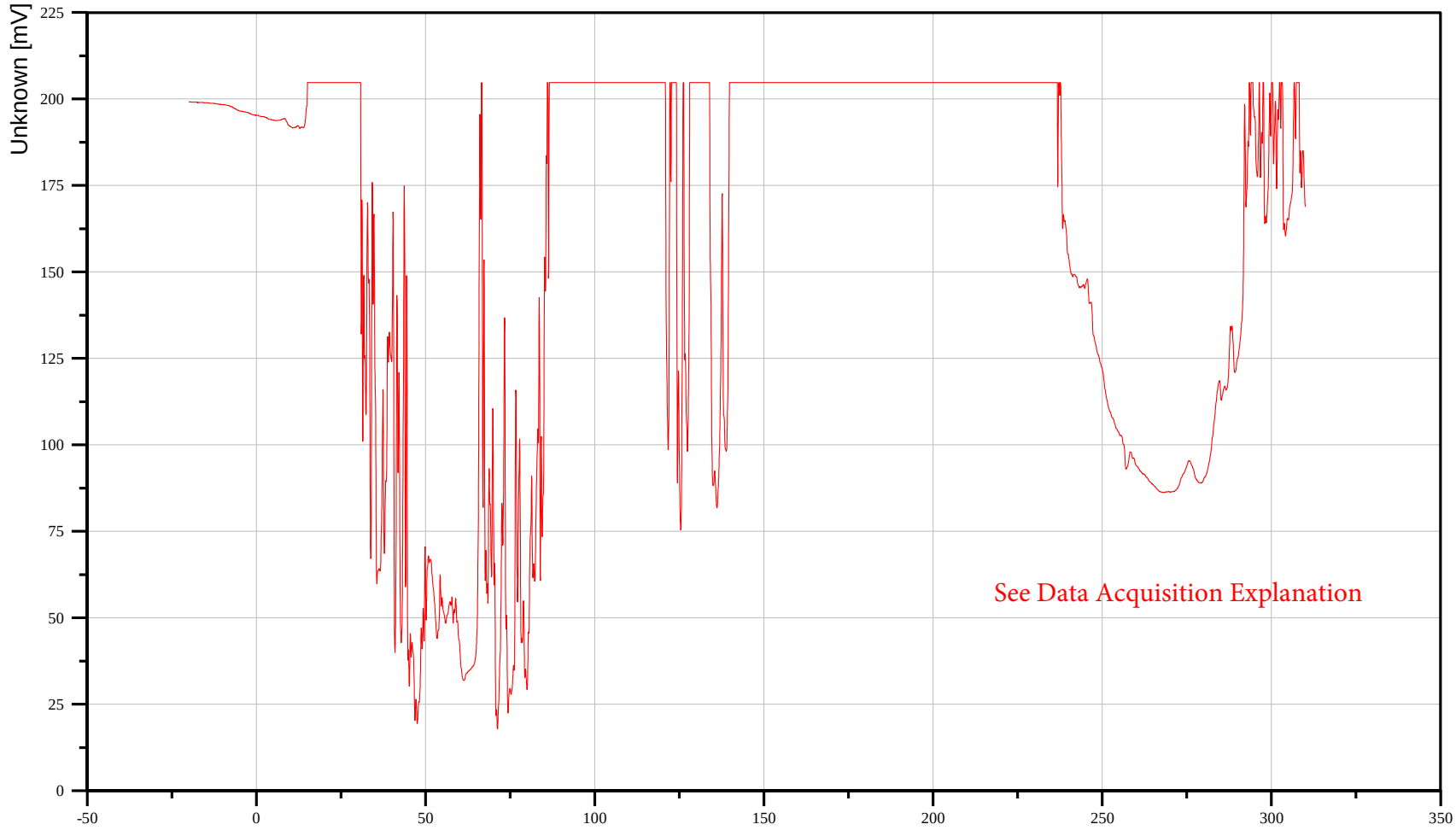
W50-30

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3000WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
17.94 mV at 71.25 ms

Max. Value
204.79 mV at 15.15 ms

2016 Honda Fit WorldSID Pole Impact

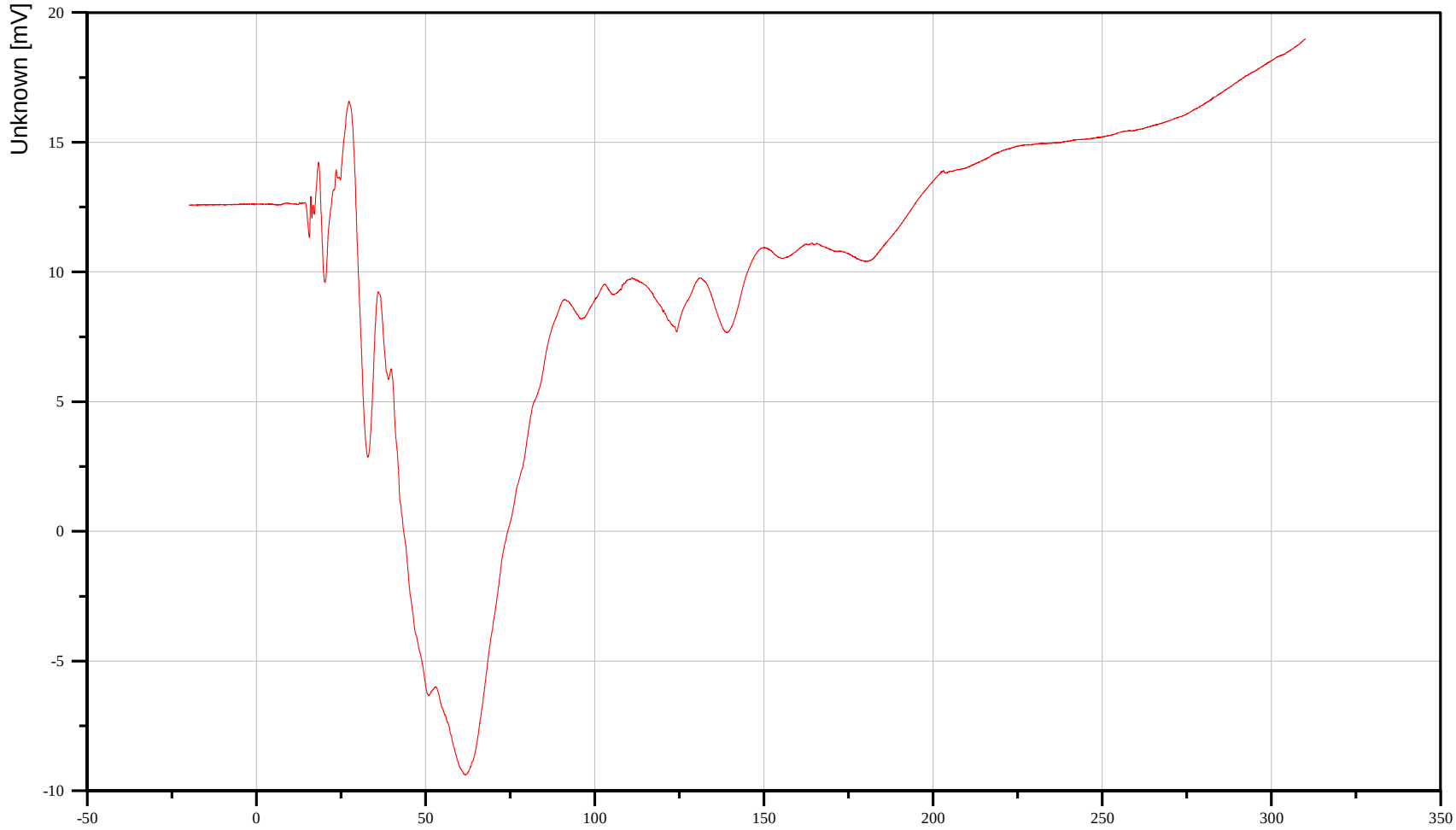
W50-31

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-9.40 mV at 61.75 ms

Max. Value
18.99 mV at 310.00 ms

2016 Honda Fit WorldSID Pole Impact

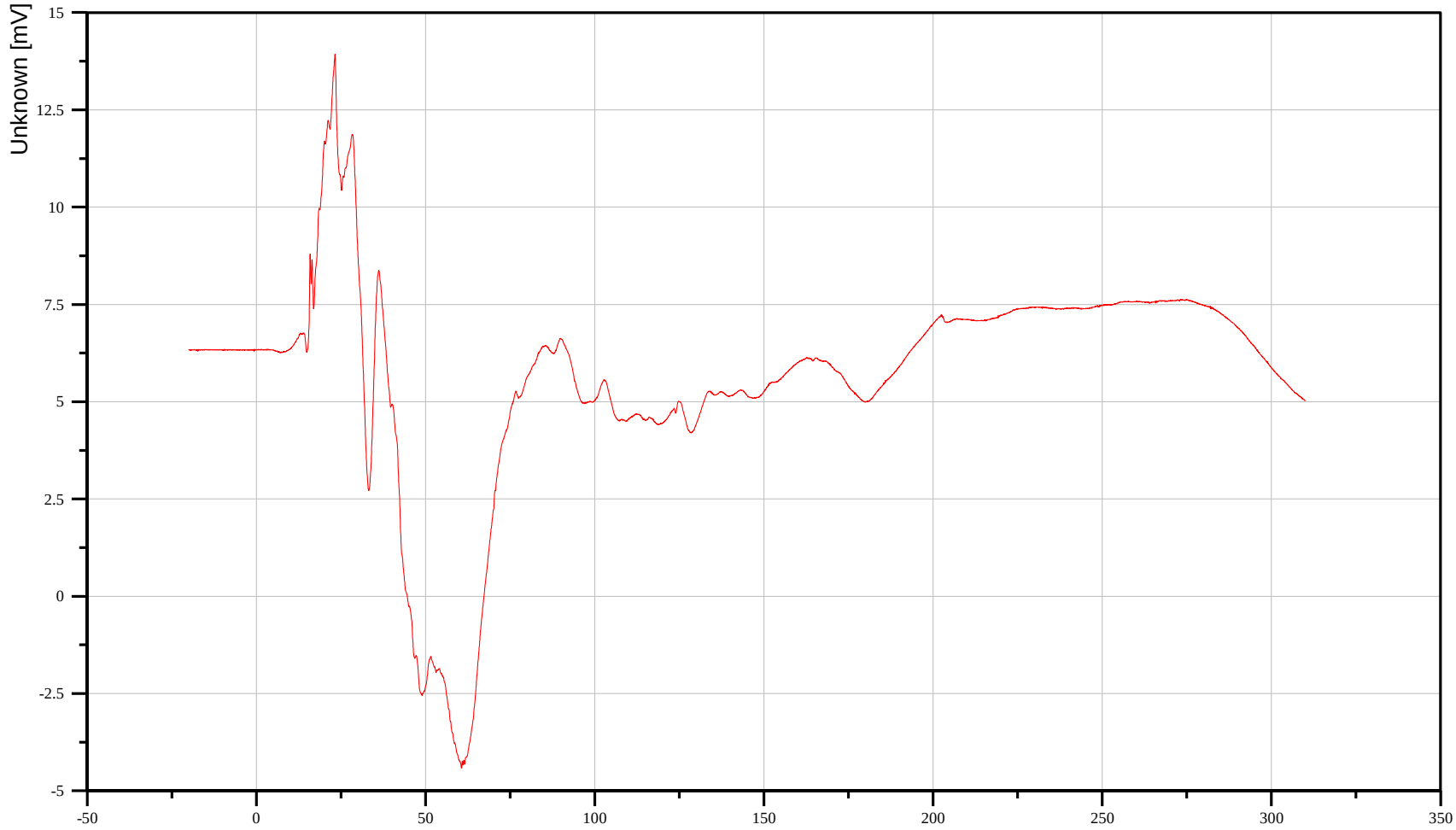
W50-32

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-4.42 mV at 60.60 ms

Max. Value
13.93 mV at 23.25 ms

2016 Honda Fit WorldSID Pole Impact

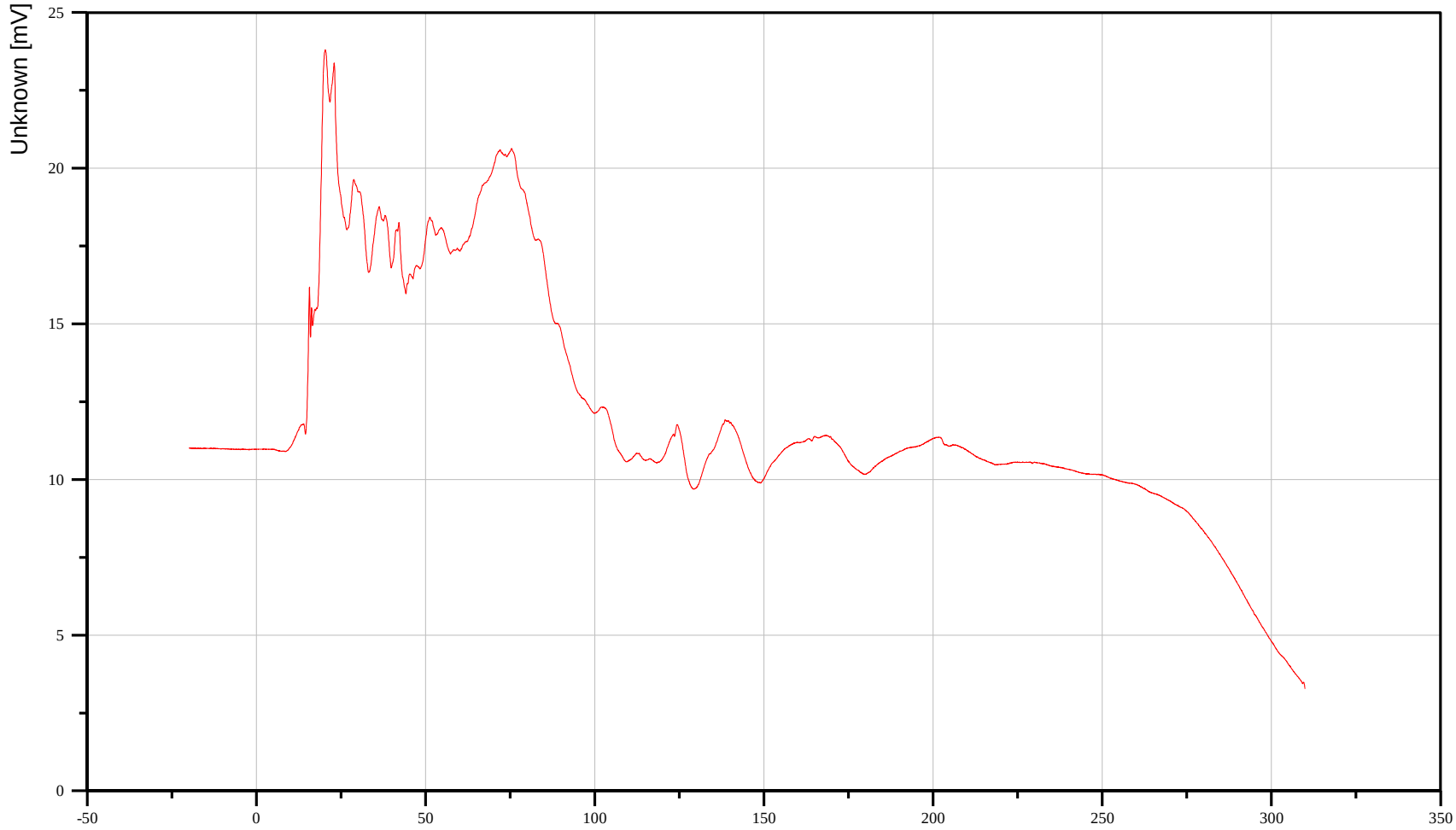
W50-33

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
3.28 mV at 309.95 ms

Max. Value
23.80 mV at 20.40 ms

2016 Honda Fit WorldSID Pole Impact

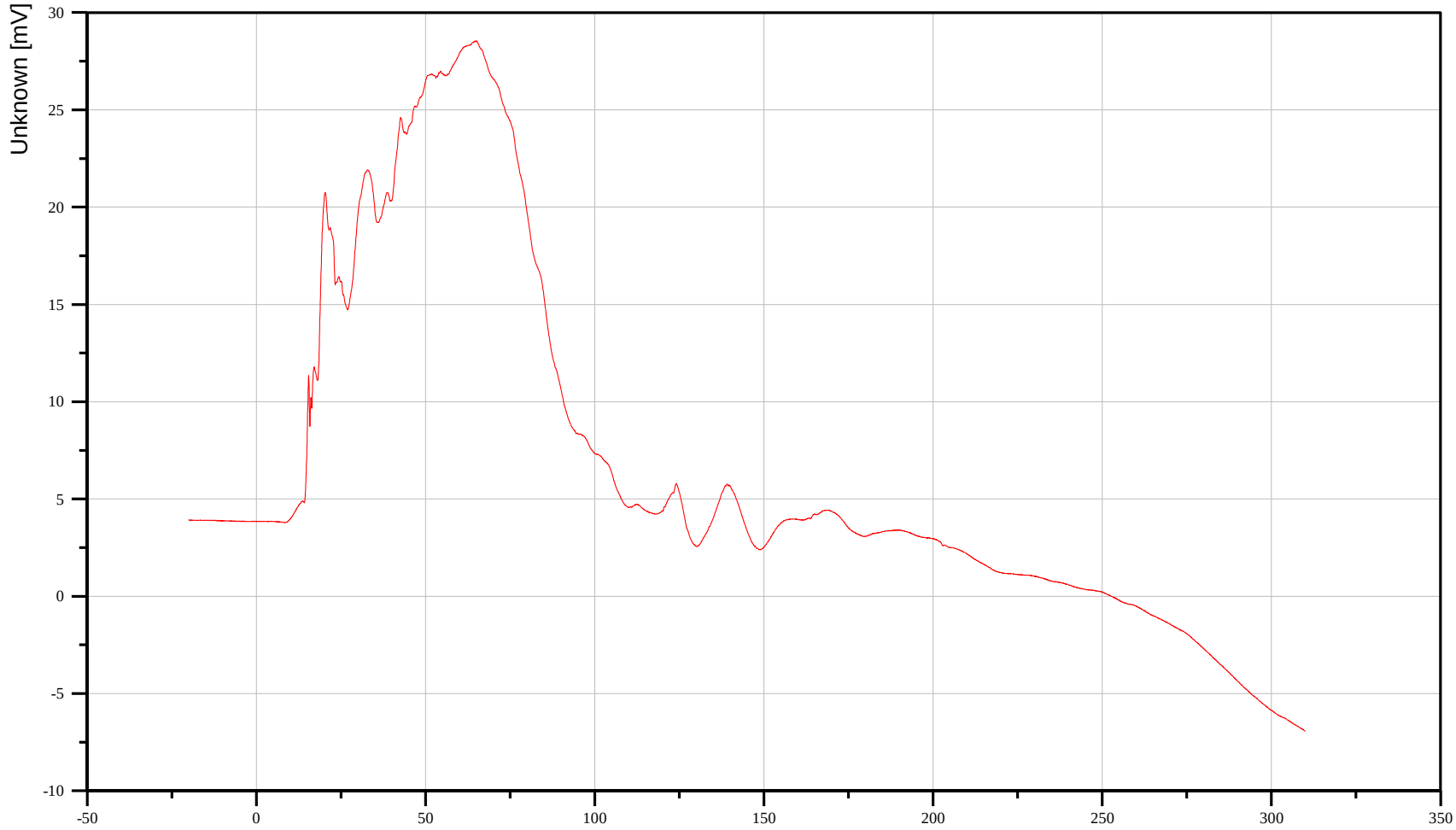
W50-34

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-6.94 mV at 309.90 ms

Max. Value
28.55 mV at 65.10 ms

2016 Honda Fit WorldSID Pole Impact

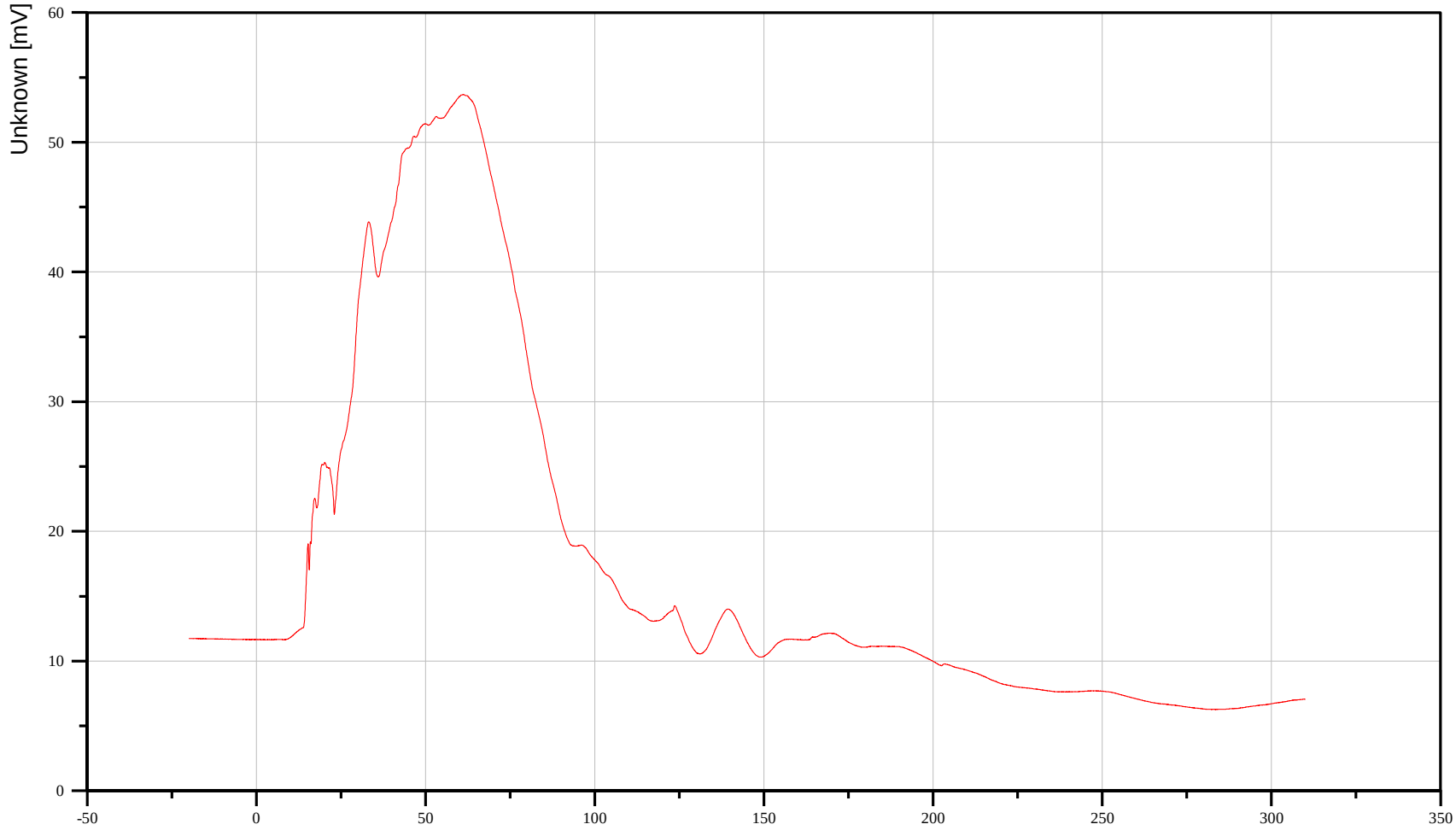
W50-35

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
6.28 mV at 282.25 ms

Max. Value
53.68 mV at 61.05 ms

2016 Honda Fit WorldSID Pole Impact

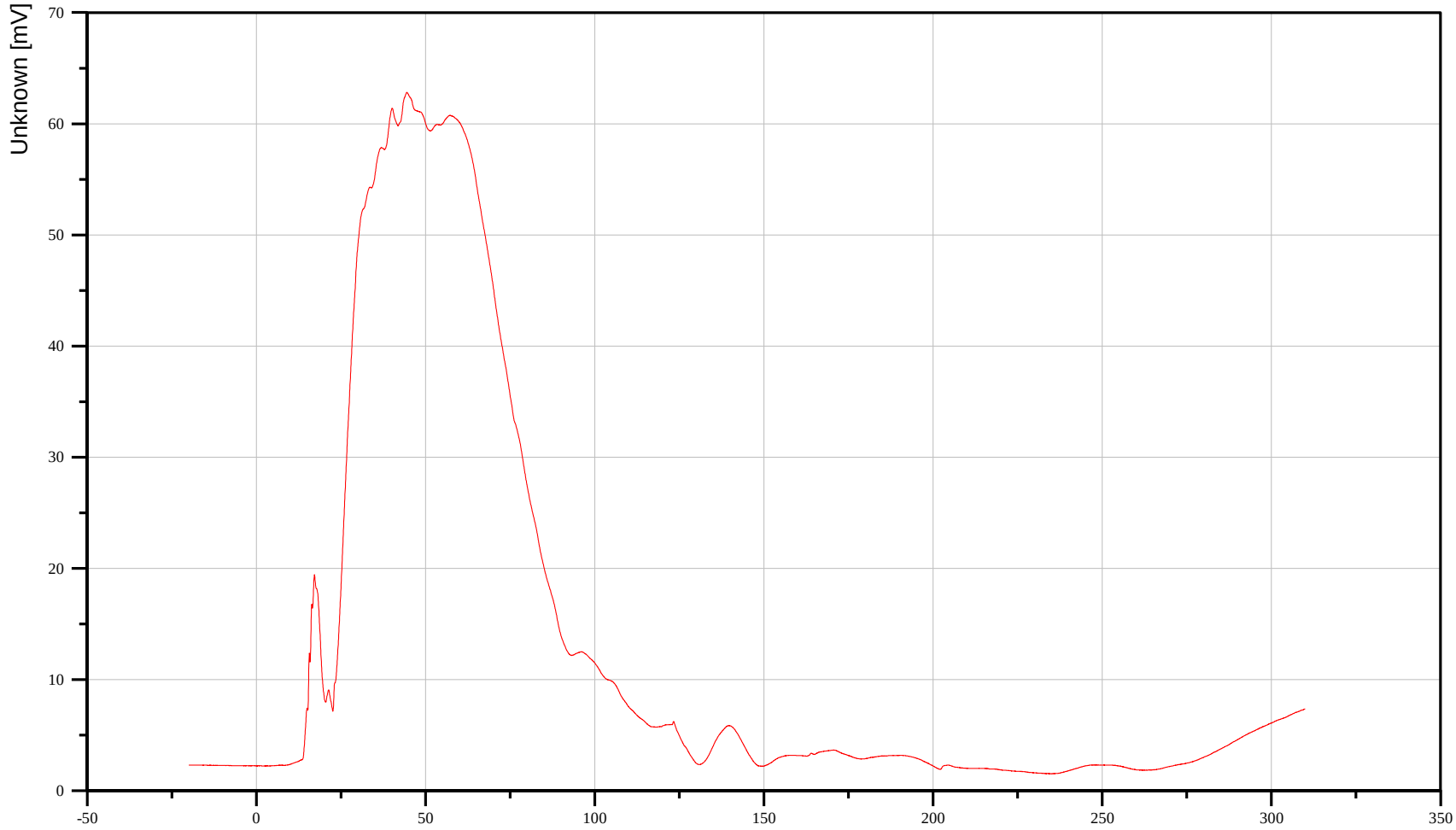
W50-36

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3600WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
1.54 mV at 234.45 ms

Max. Value
62.83 mV at 44.45 ms

2016 Honda Fit WorldSID Pole Impact

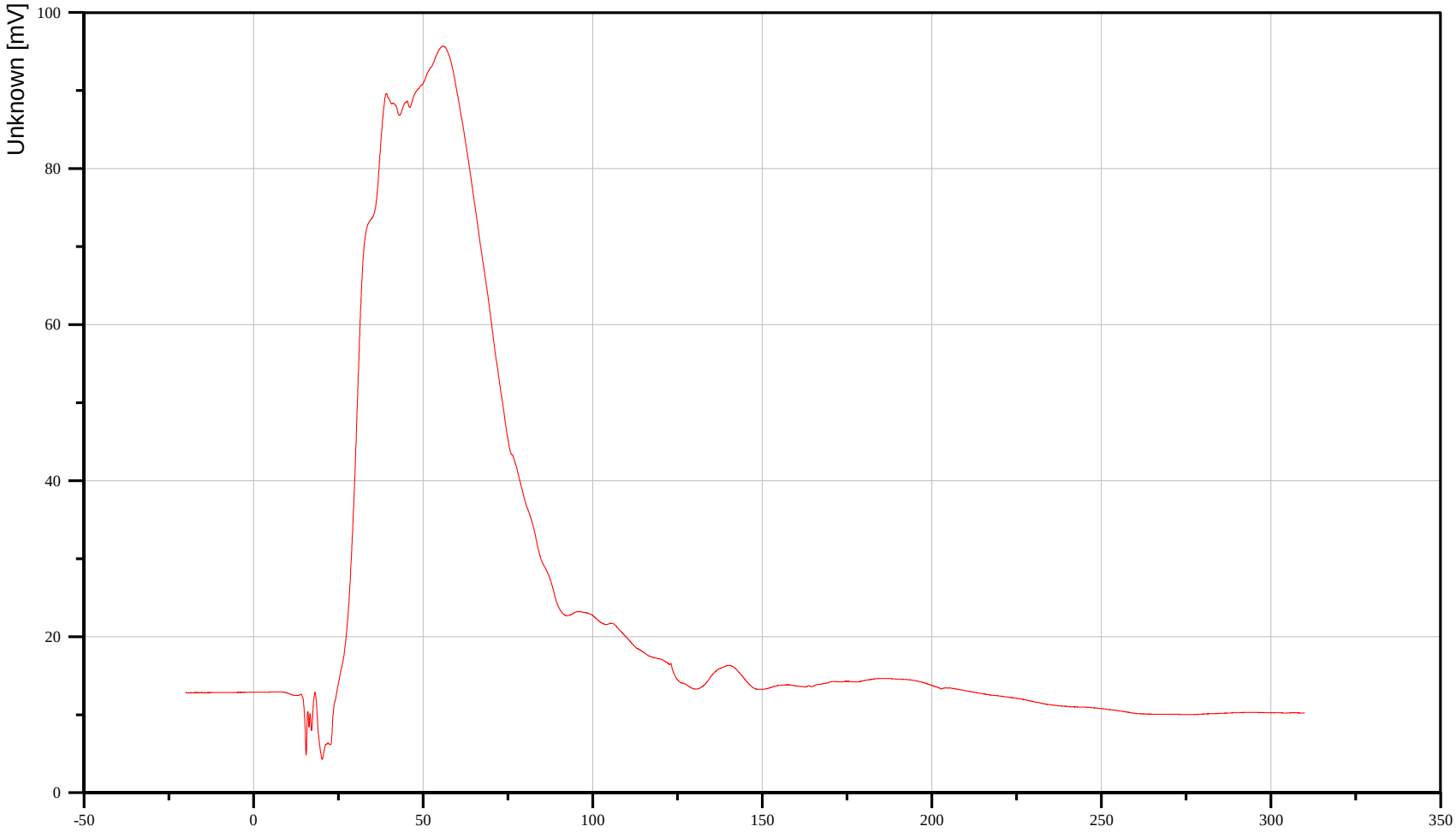
W50-37

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3700WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
4.26 mV at 20.25 ms

Max. Value
95.71 mV at 55.90 ms

2016 Honda Fit WorldSID Pole Impact

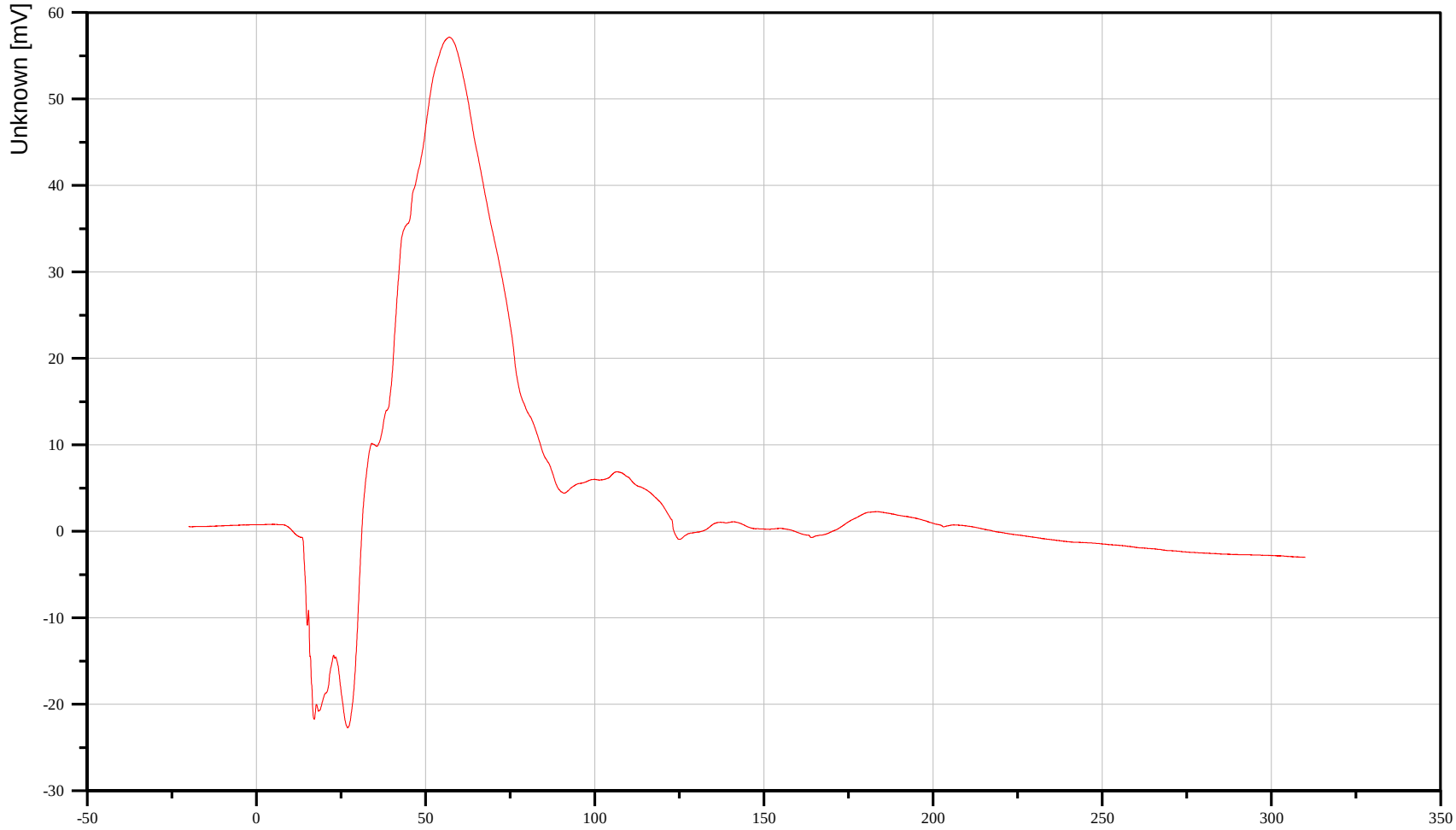
W50-38

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3800WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-22.70 mV at 27.00 ms

Max. Value
57.18 mV at 56.95 ms

2016 Honda Fit WorldSID Pole Impact

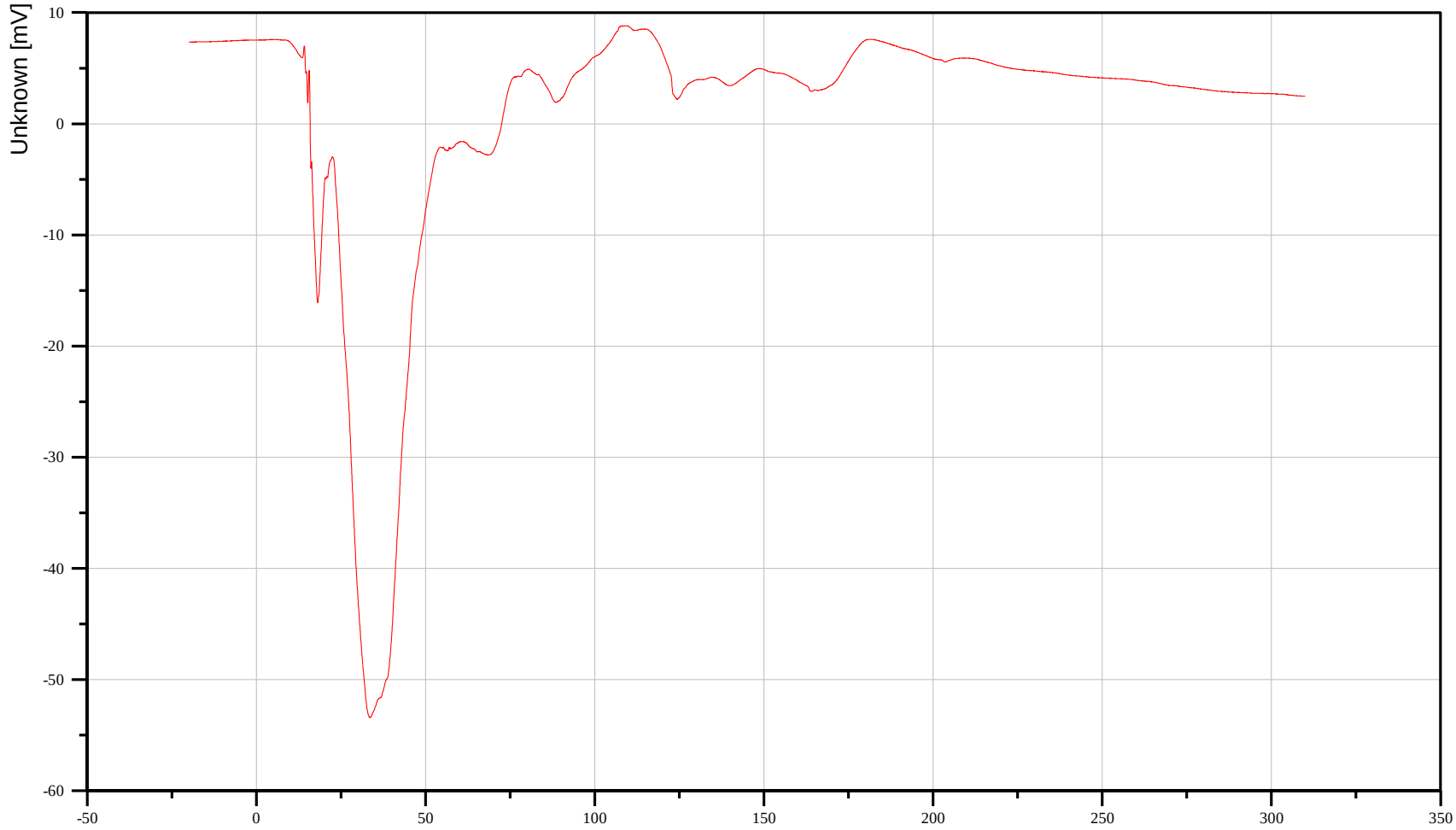
W50-39

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA3900WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-53.41 mV at 33.55 ms

Max. Value
8.82 mV at 108.40 ms

2016 Honda Fit WorldSID Pole Impact

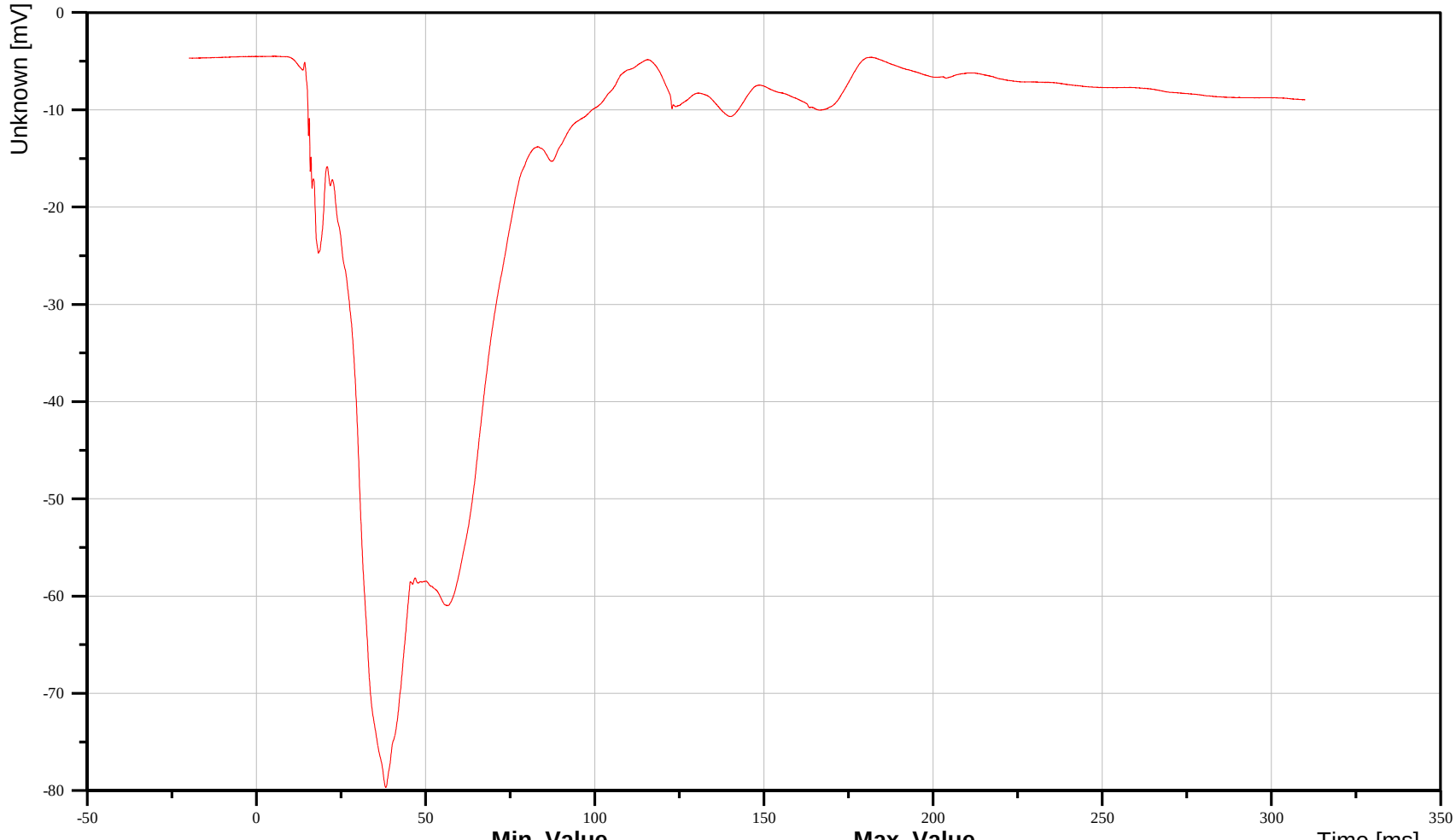
W50-40

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4000WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-79.69 mV at 38.25 ms

Max. Value
-4.47 mV at 5.40 ms

2016 Honda Fit WorldSID Pole Impact

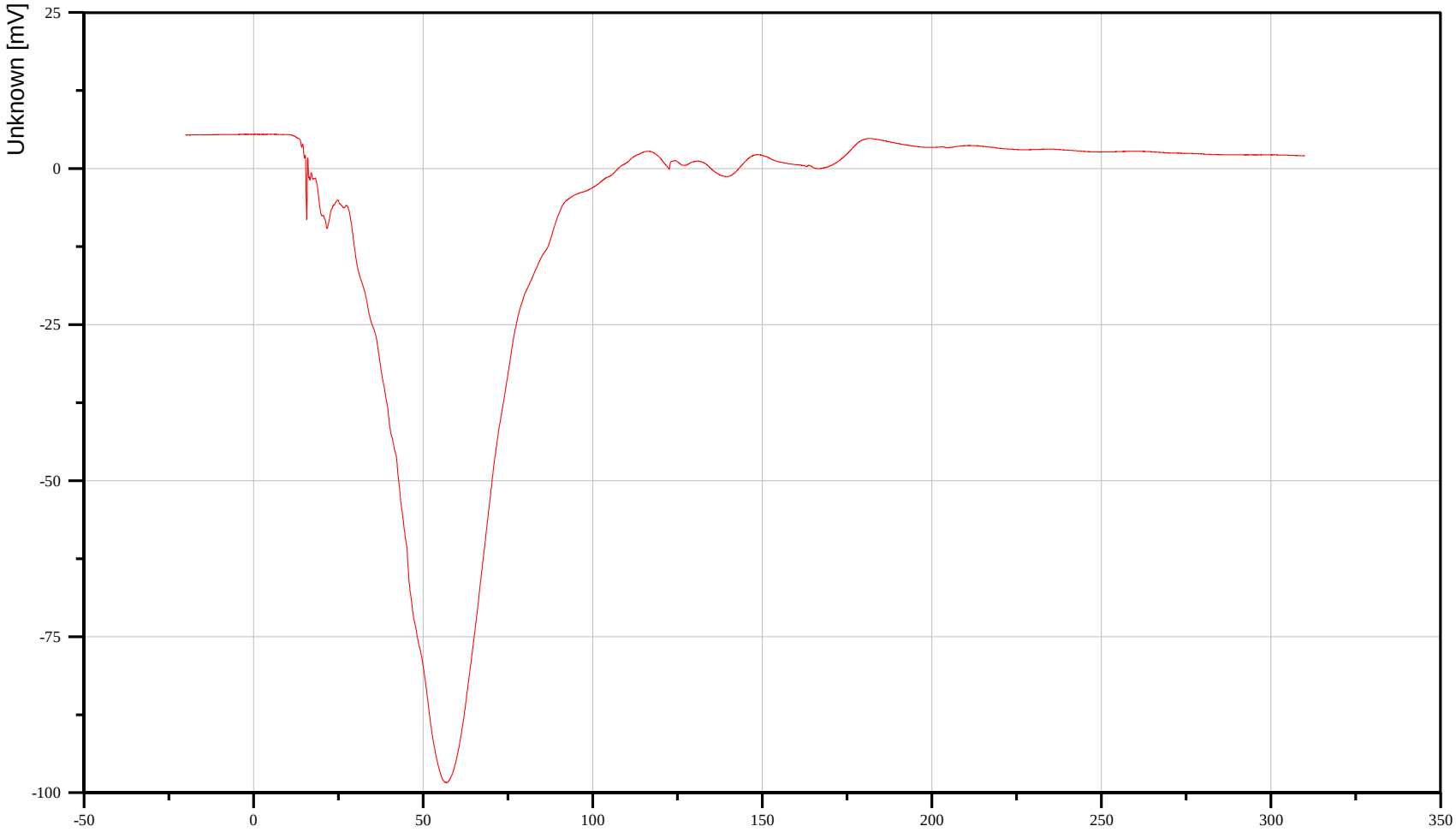
W50-41

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-98.42 mV at 57.00 ms

Max. Value
5.50 mV at -3.85 ms

2016 Honda Fit WorldSID Pole Impact

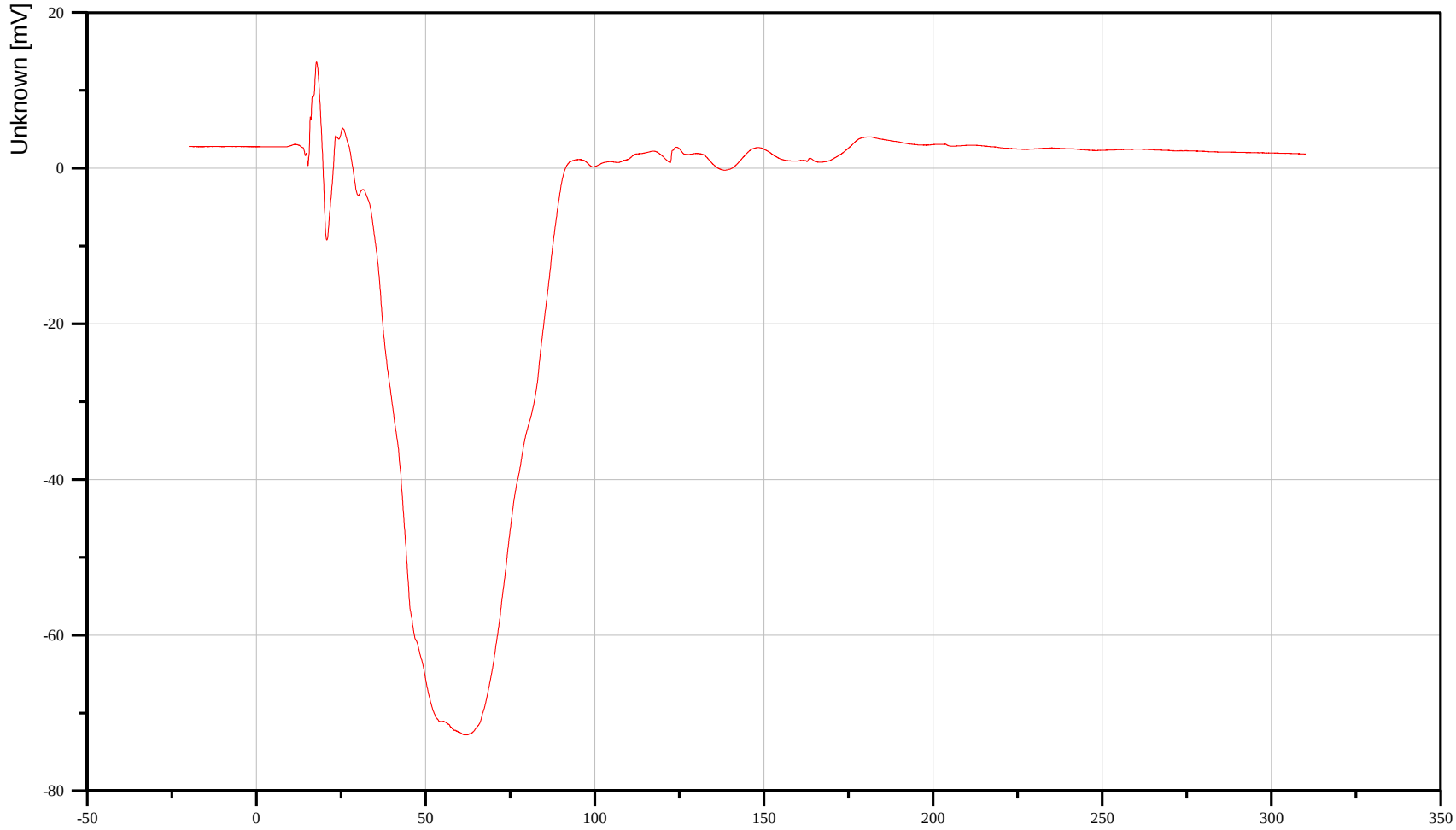
W50-42

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-72.81 mV at 61.50 ms

Max. Value
13.65 mV at 17.80 ms

2016 Honda Fit WorldSID Pole Impact

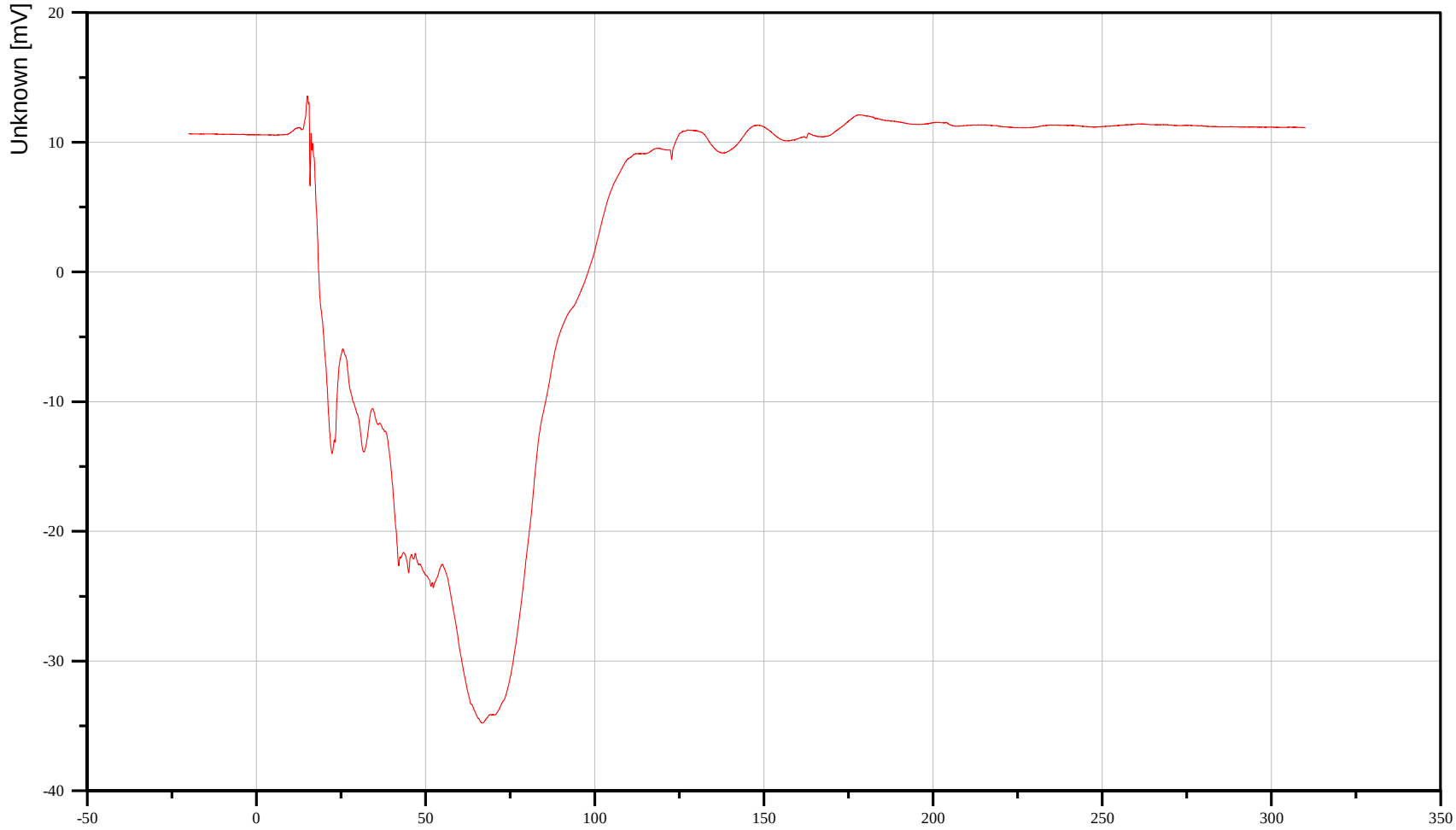
W50-43

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-34.78 mV at 66.80 ms

Max. Value
13.58 mV at 15.10 ms

2016 Honda Fit WorldSID Pole Impact

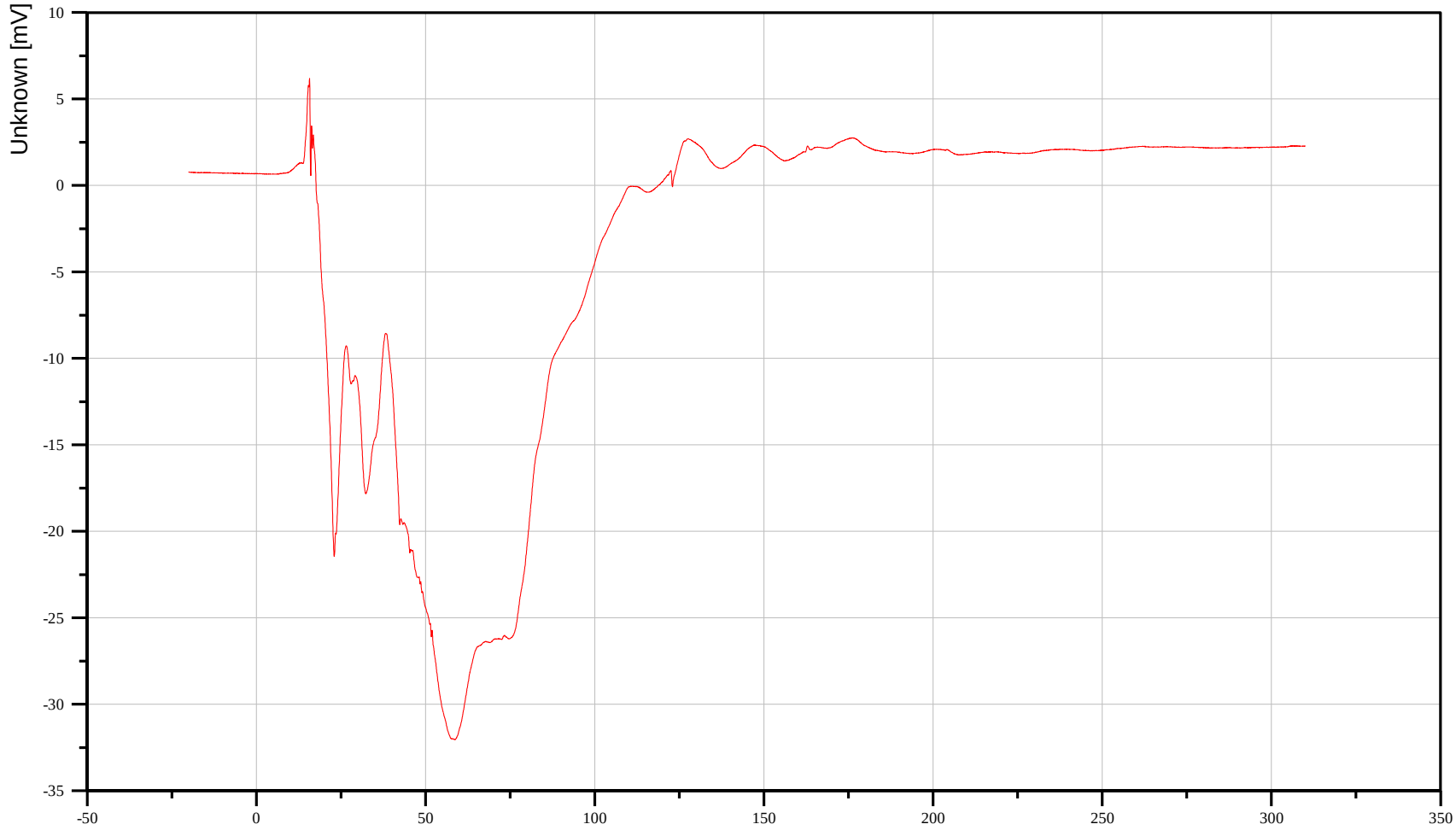
W50-44

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-32.04 mV at 58.60 ms

Max. Value
6.20 mV at 15.70 ms

2016 Honda Fit WorldSID Pole Impact

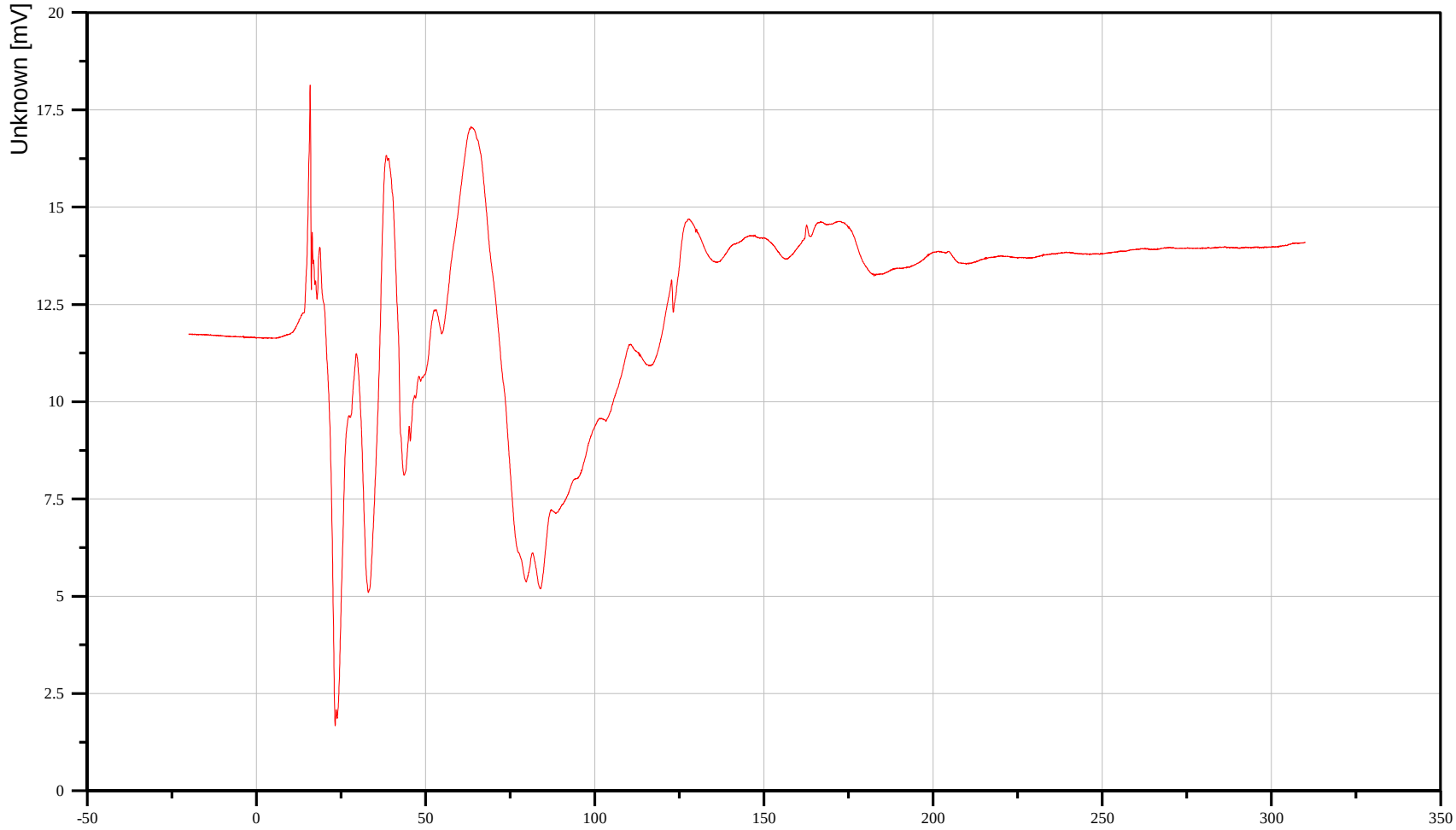
W50-45

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
1.67 mV at 23.30 ms

Max. Value
18.14 mV at 15.90 ms

2016 Honda Fit WorldSID Pole Impact

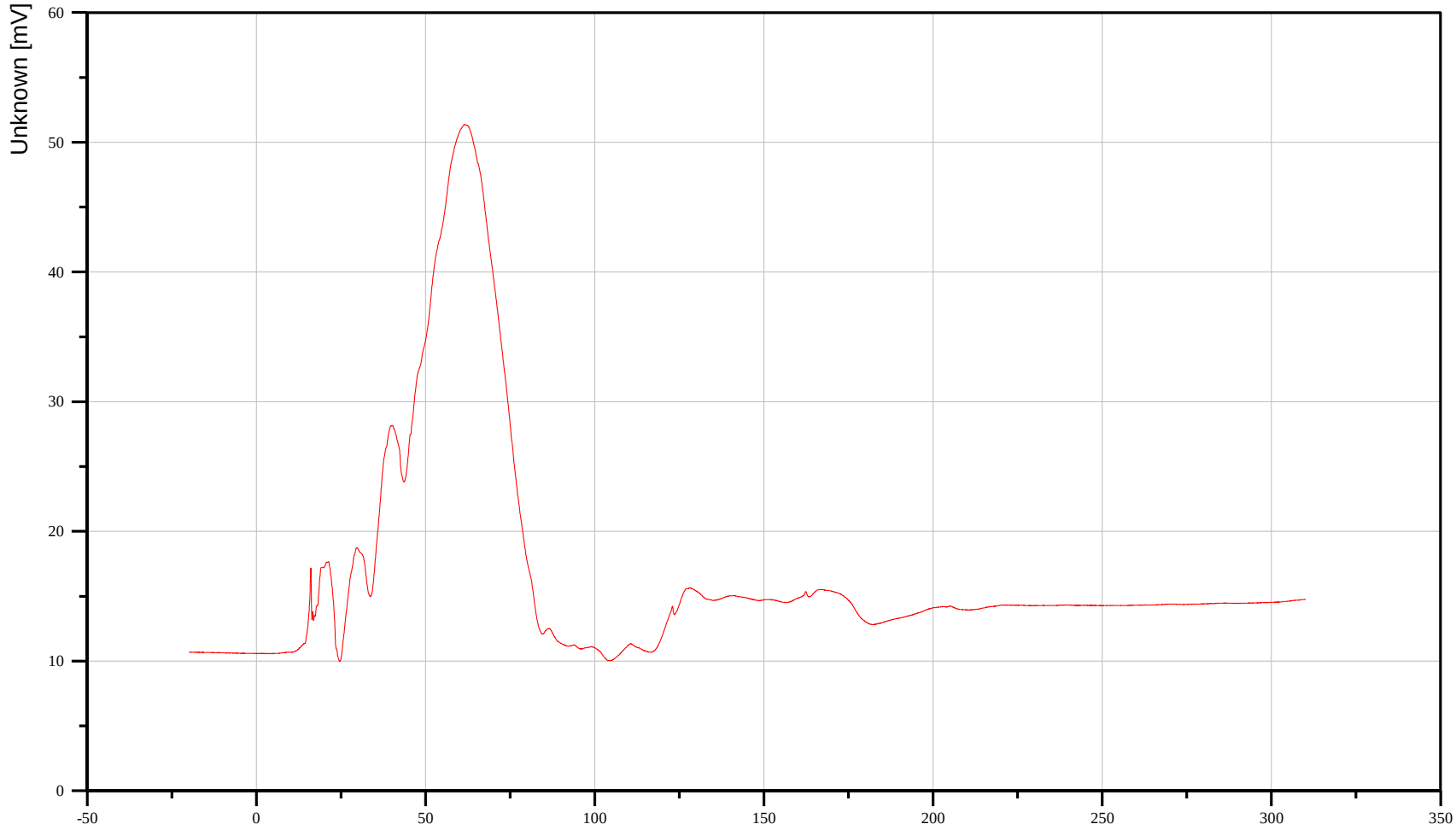
W50-46

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4600WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
9.99 mV at 24.65 ms

Max. Value
51.39 mV at 61.45 ms

2016 Honda Fit WorldSID Pole Impact

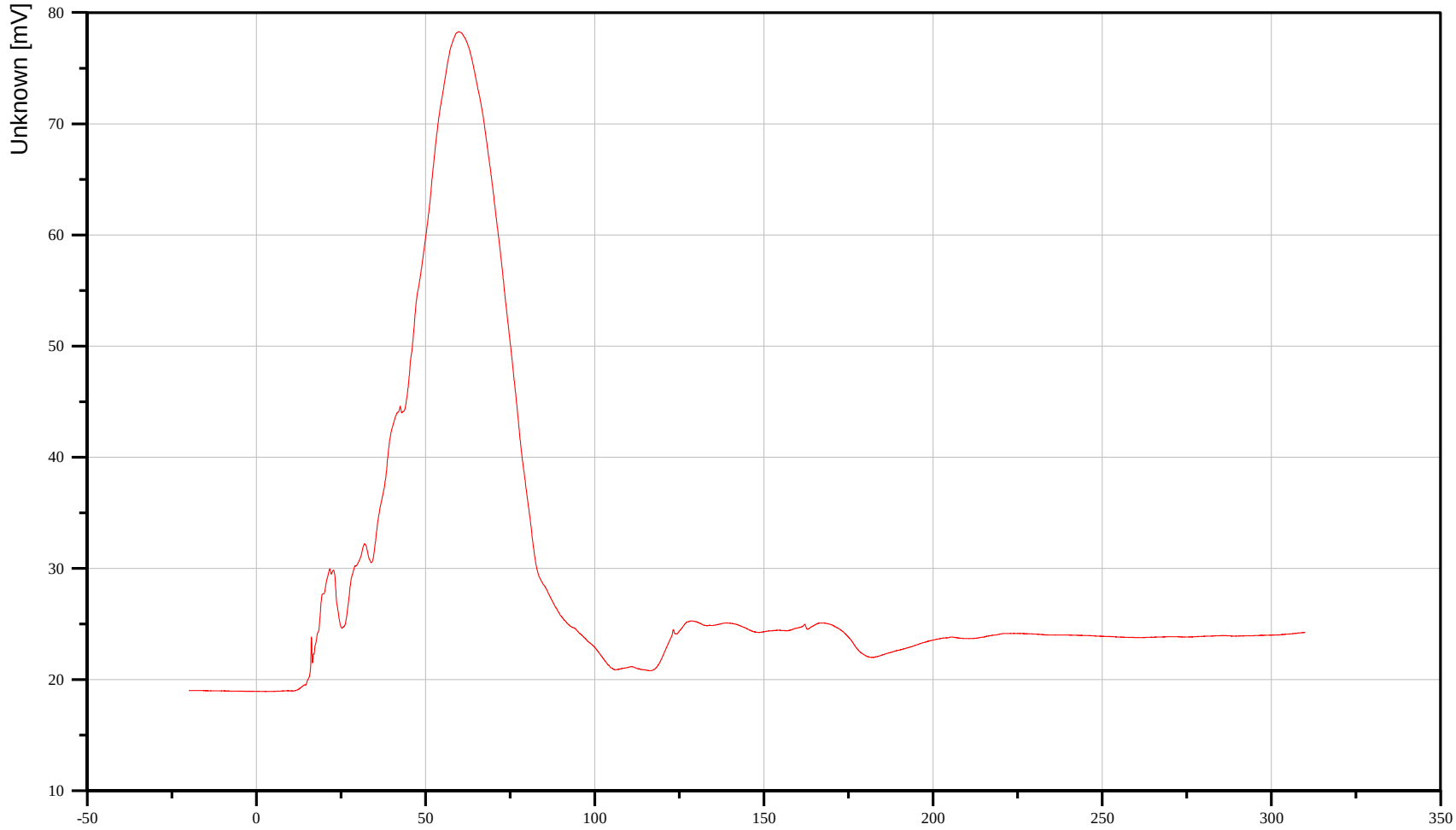
W50-47

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4700WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
18.92 mV at 2.70 ms

Max. Value
78.27 mV at 59.75 ms

2016 Honda Fit WorldSID Pole Impact

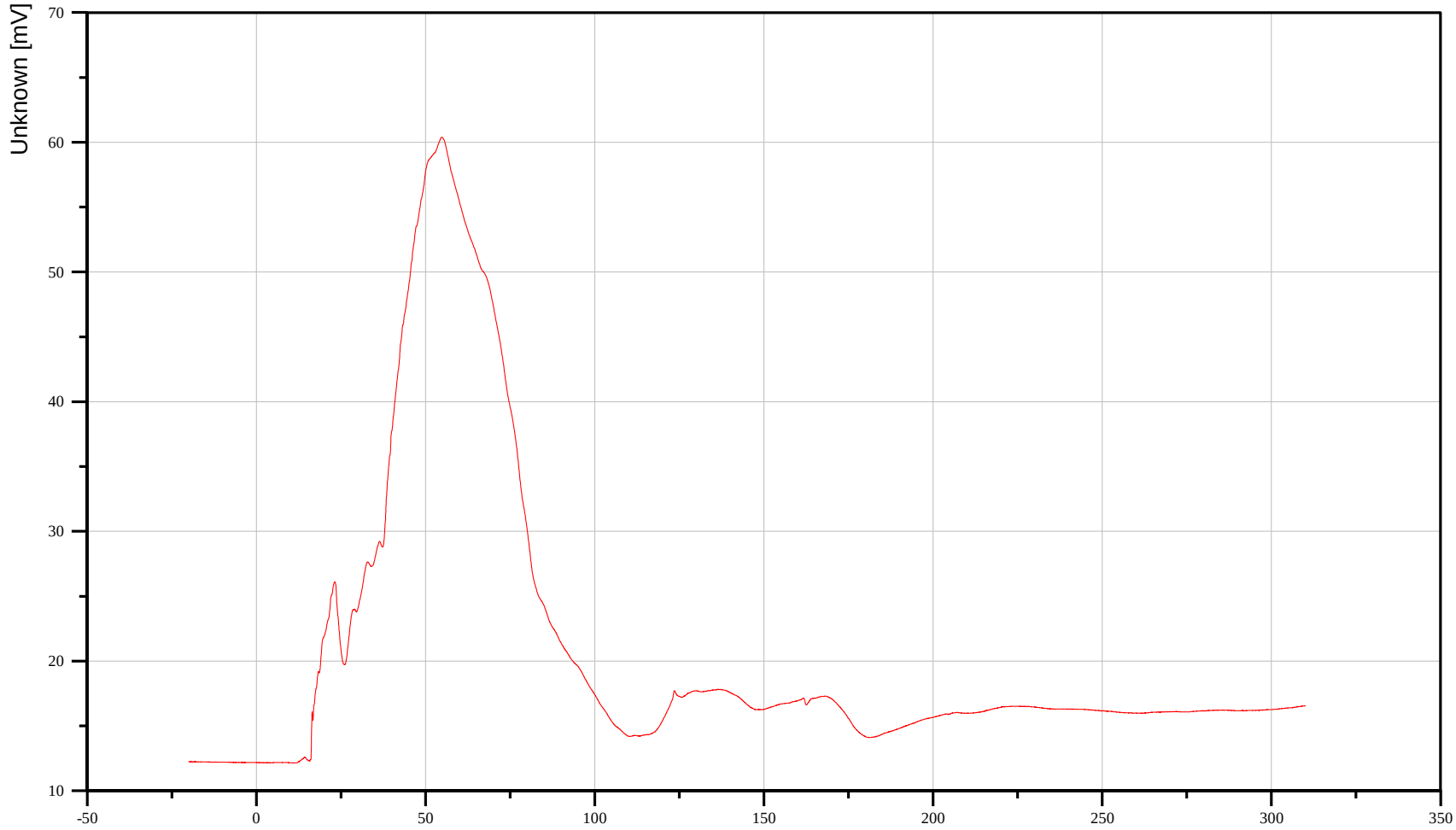
W50-48

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4800WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
12.14 mV at 10.85 ms

Max. Value
60.39 mV at 54.75 ms

2016 Honda Fit WorldSID Pole Impact

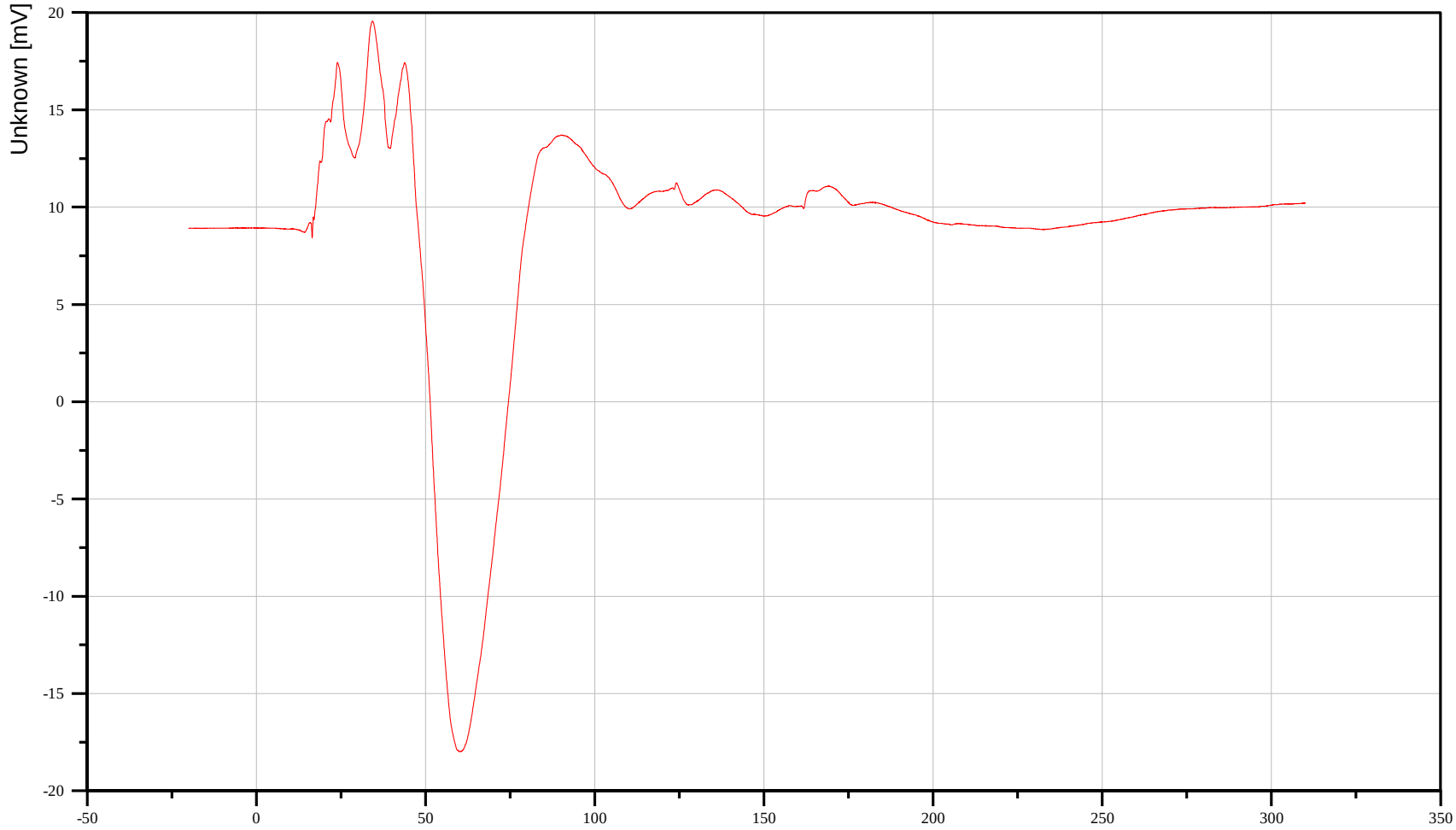
W50-49

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA4900WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-17.99 mV at 60.35 ms

Max. Value
19.57 mV at 34.30 ms

2016 Honda Fit WorldSID Pole Impact

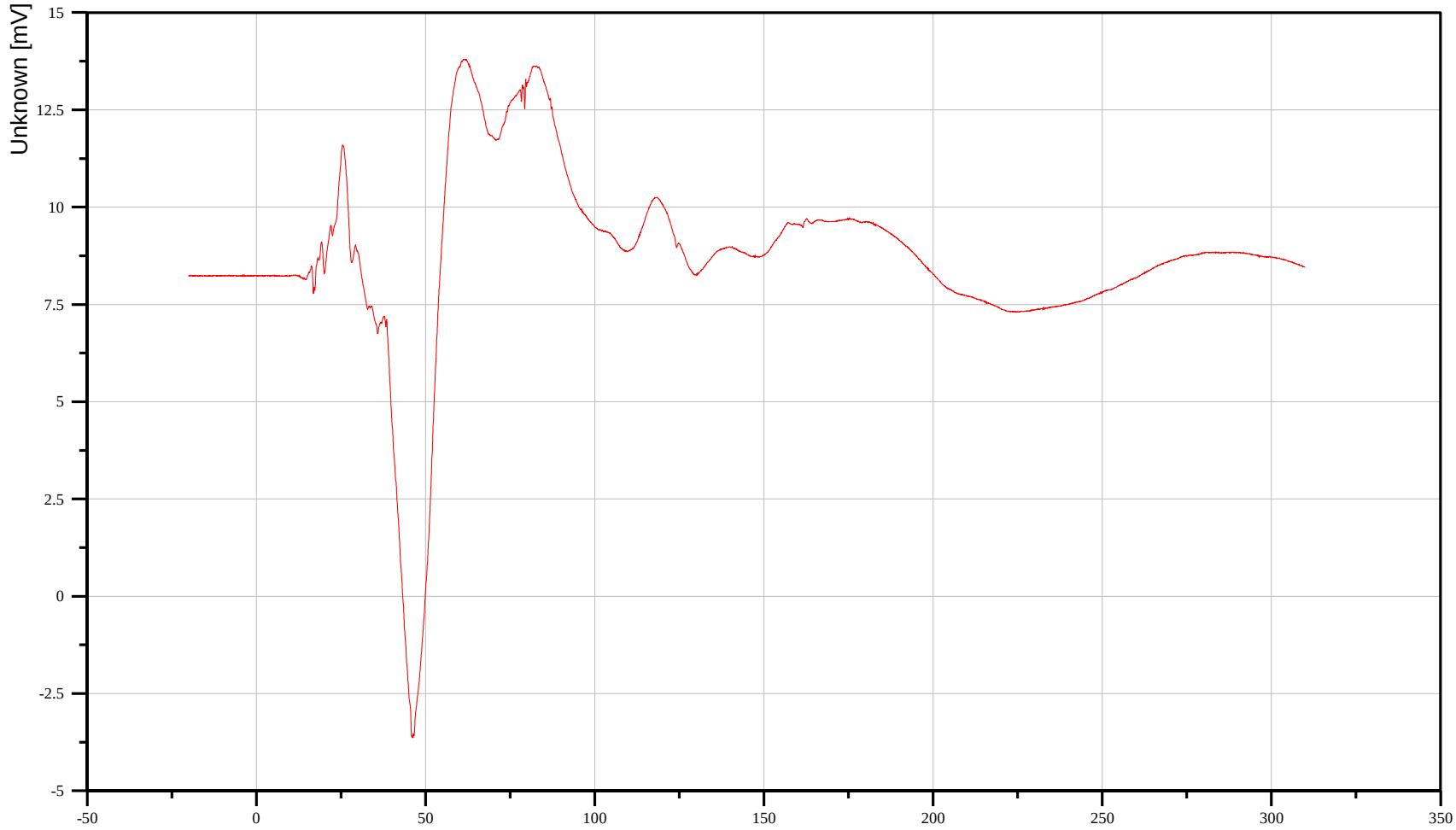
W50-50

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5000WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-3.64 mV at 46.30 ms

Max. Value
13.80 mV at 61.30 ms

2016 Honda Fit WorldSID Pole Impact

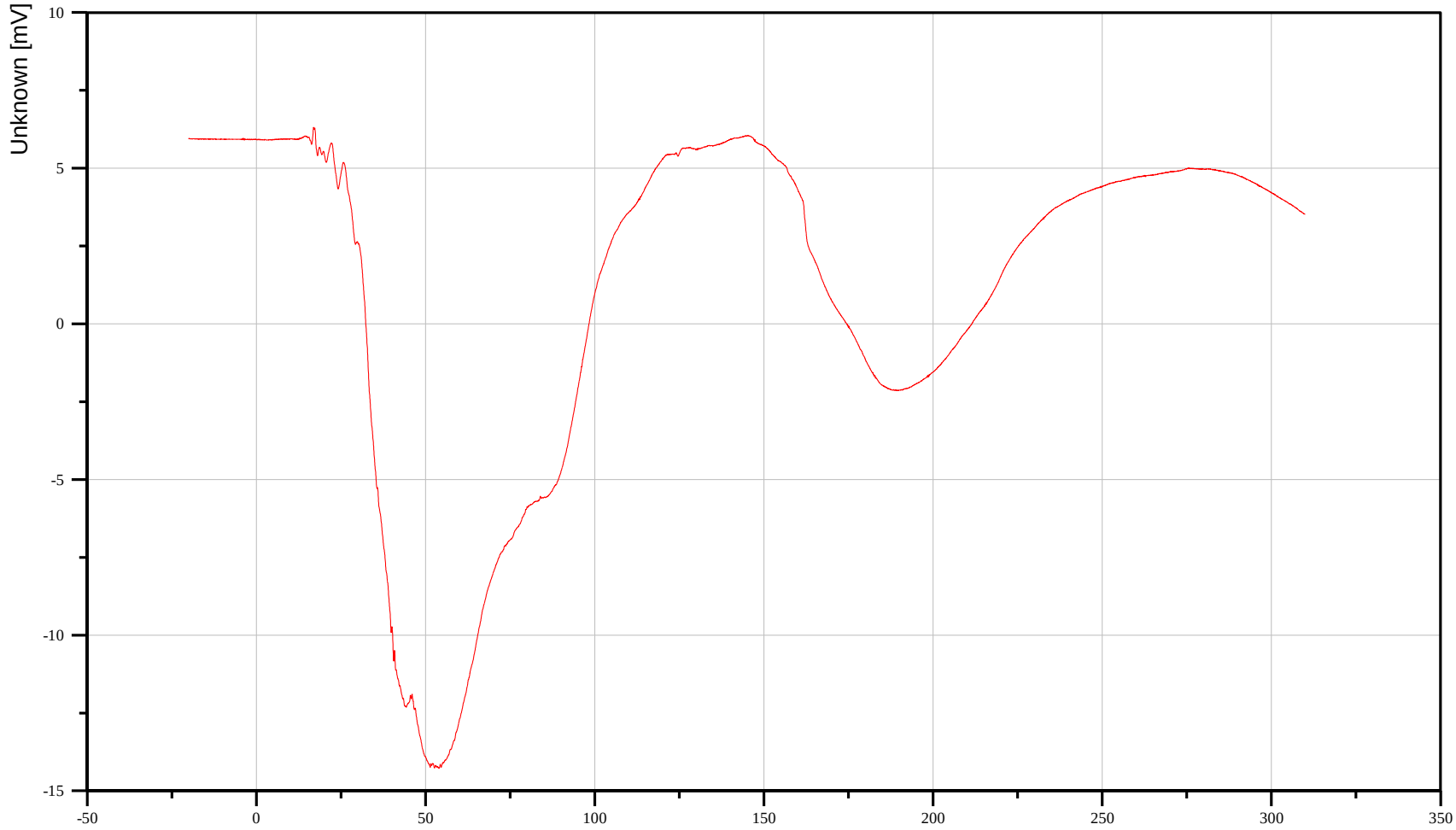
W50-51

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5100WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-14.27 mV at 54.00 ms

Max. Value
6.31 mV at 16.95 ms

2016 Honda Fit WorldSID Pole Impact

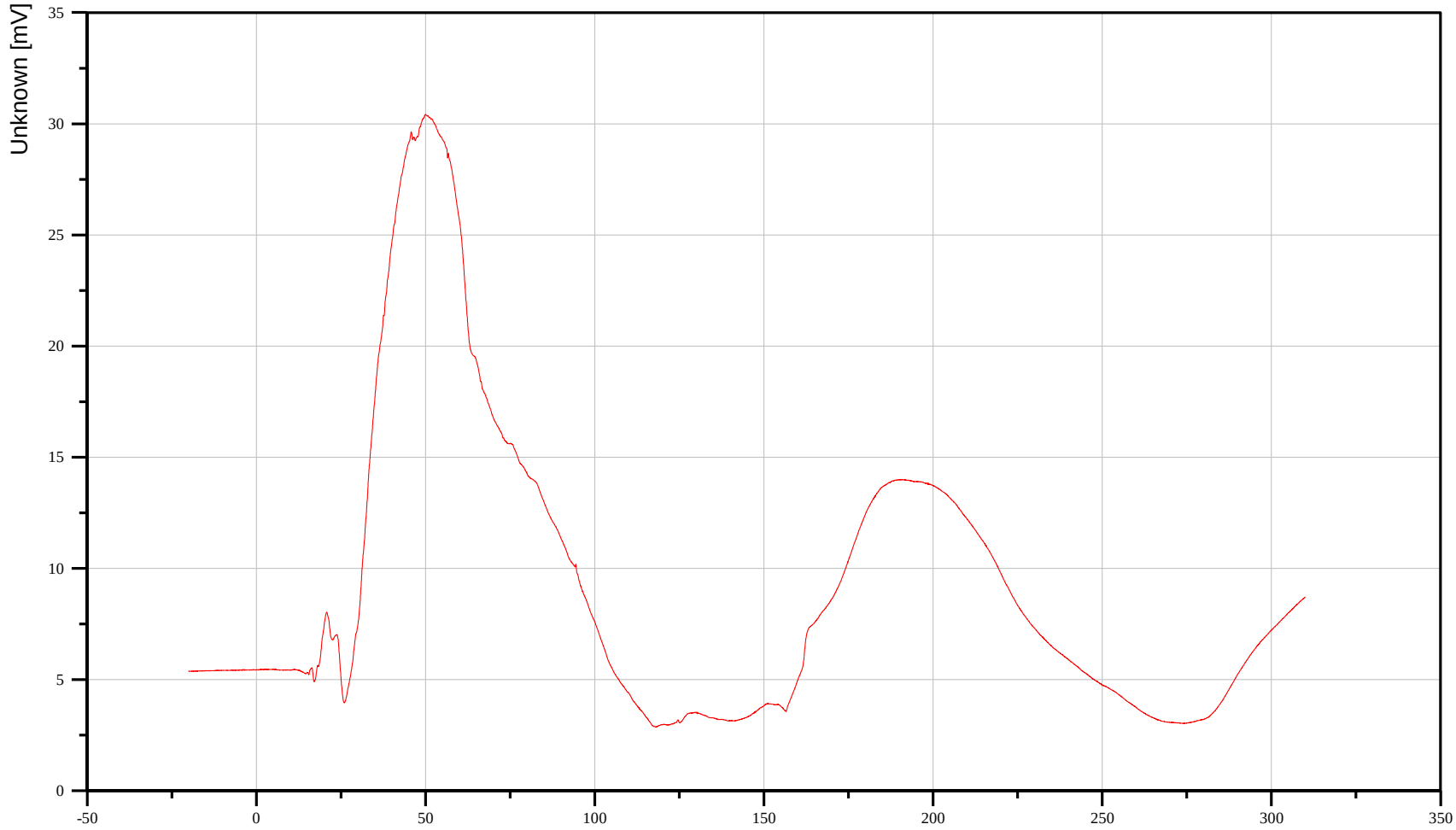
W50-52

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5200WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
2.86 mV at 118.10 ms

Max. Value
30.42 mV at 50.00 ms

2016 Honda Fit WorldSID Pole Impact

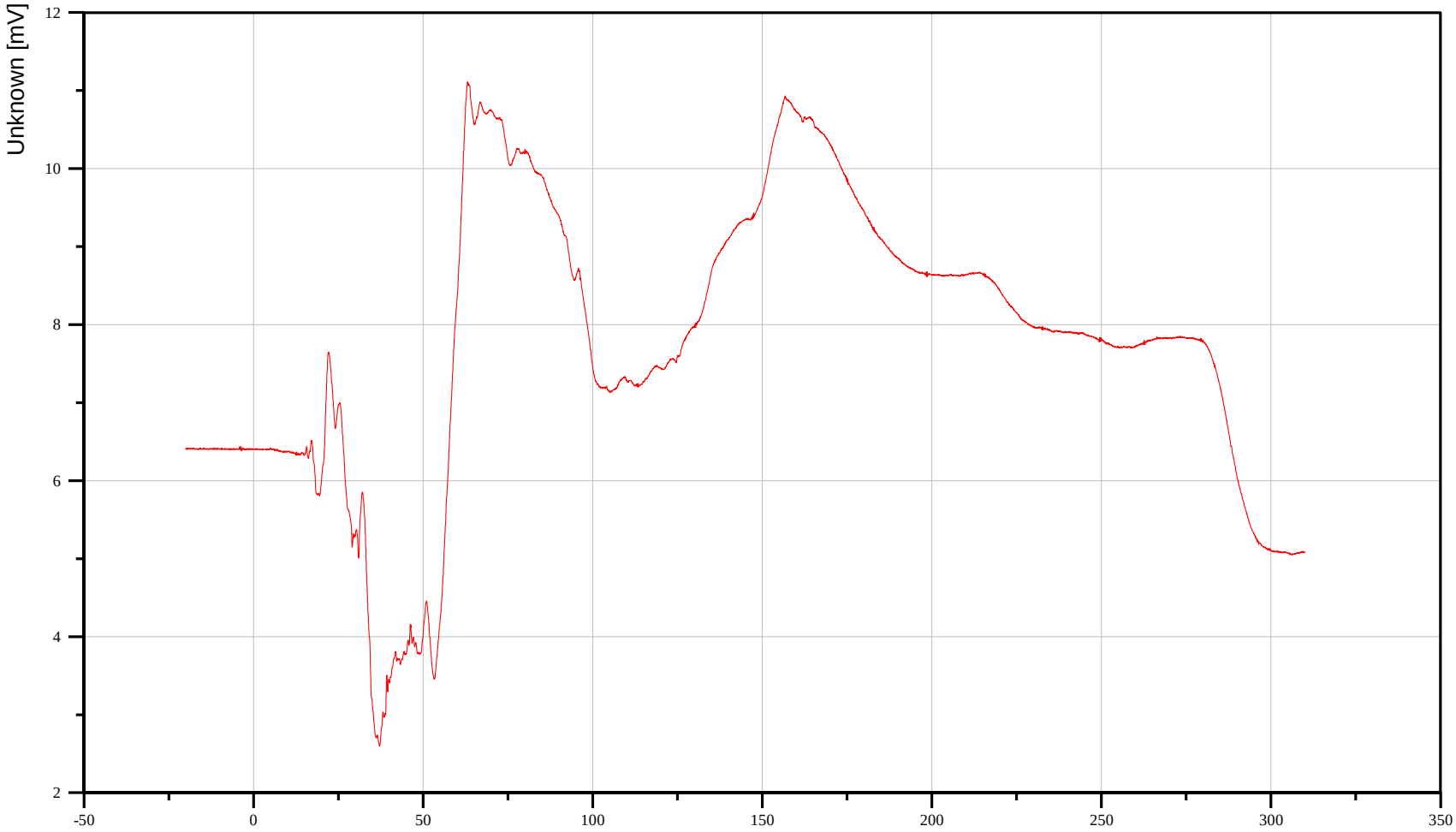
W50-53

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5300WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
2.59 mV at 37.20 ms

Max. Value
11.11 mV at 63.10 ms

2016 Honda Fit WorldSID Pole Impact

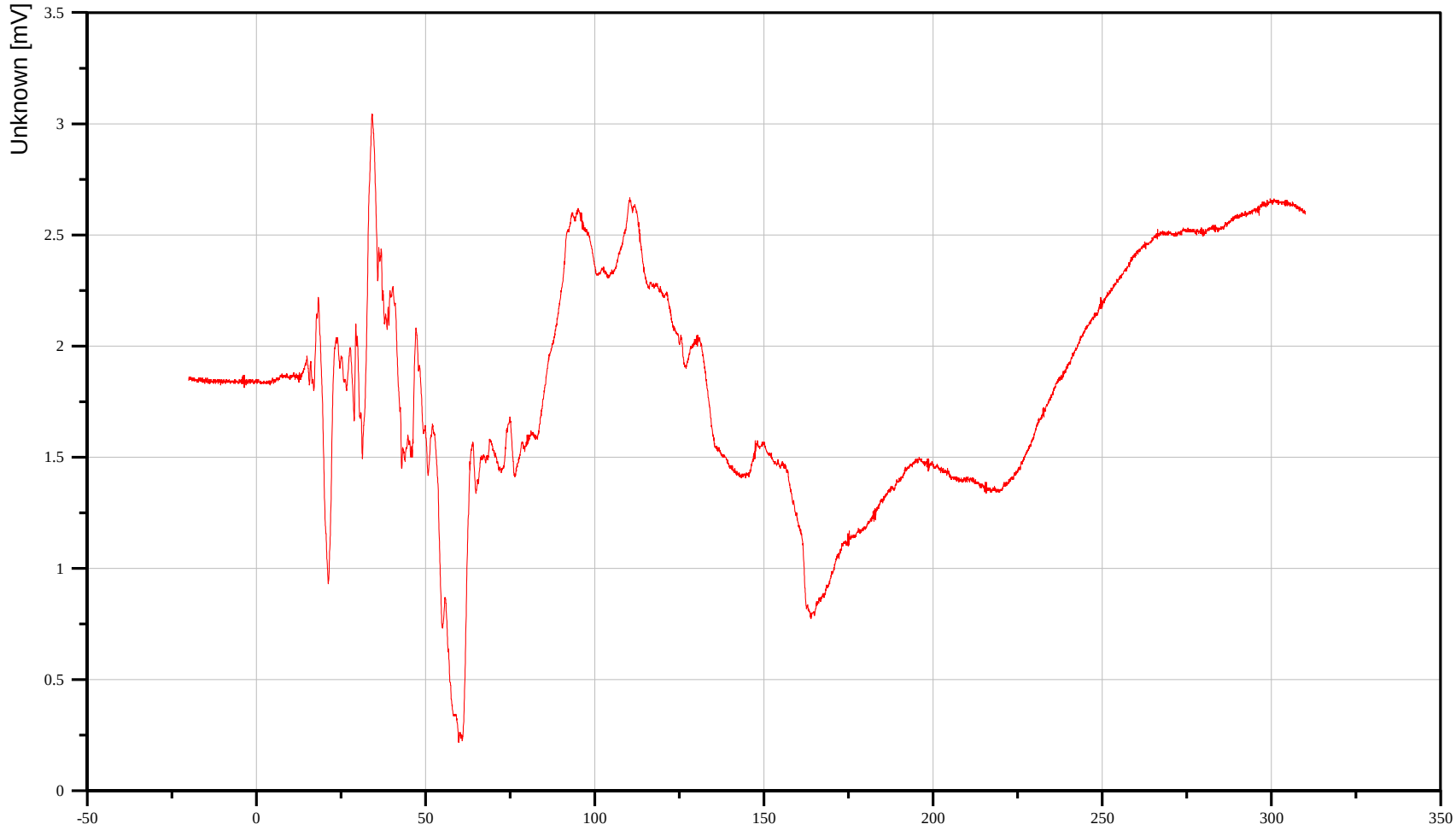
W50-54

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5400WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
0.22 mV at 59.75 ms

Max. Value
3.04 mV at 34.15 ms

2016 Honda Fit WorldSID Pole Impact

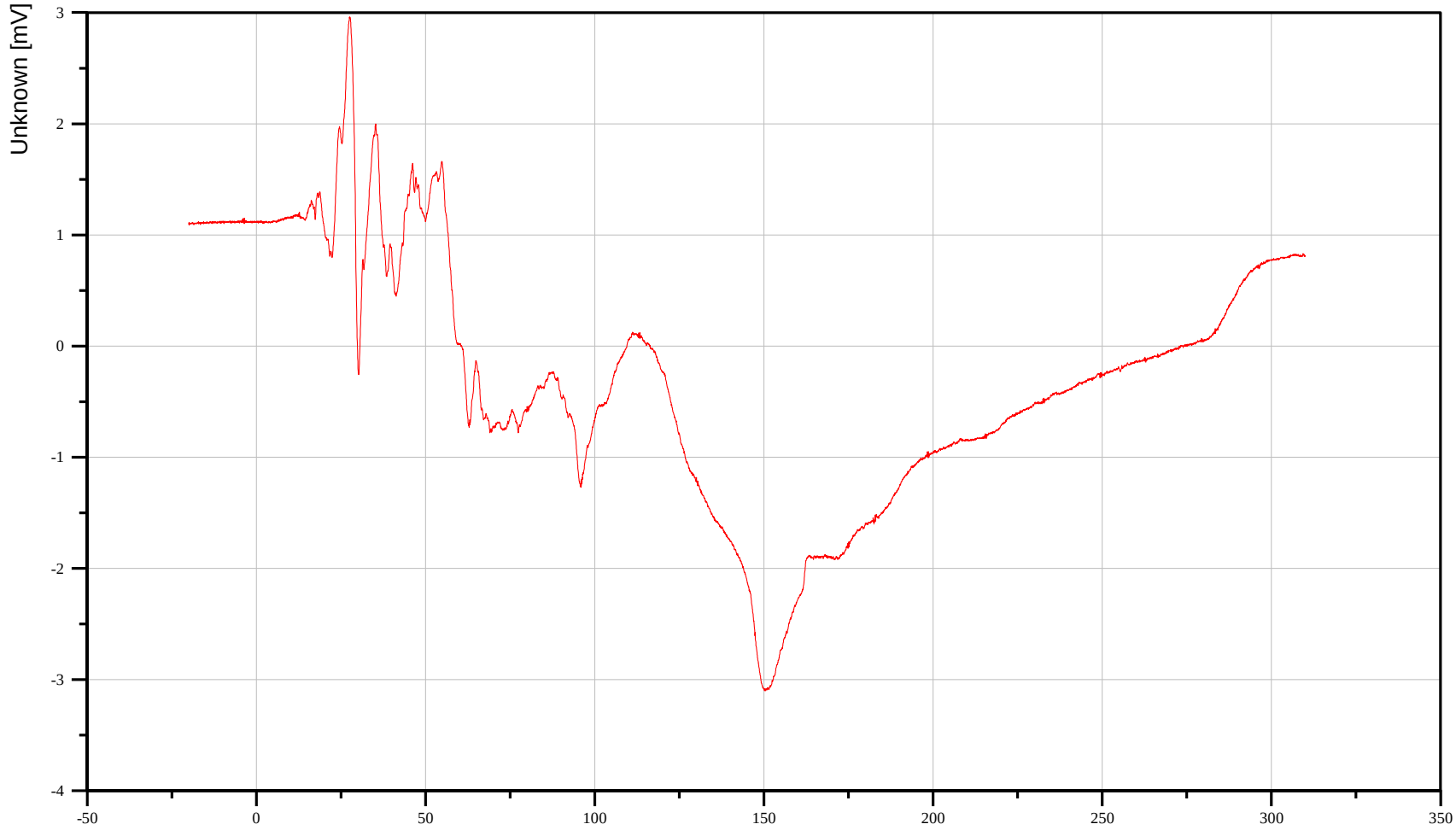
W50-55

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11CHBA5500WSVO0A

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_1000

Min. Value
-3.10 mV at 150.15 ms

Max. Value
2.96 mV at 27.60 ms

2016 Honda Fit WorldSID Pole Impact

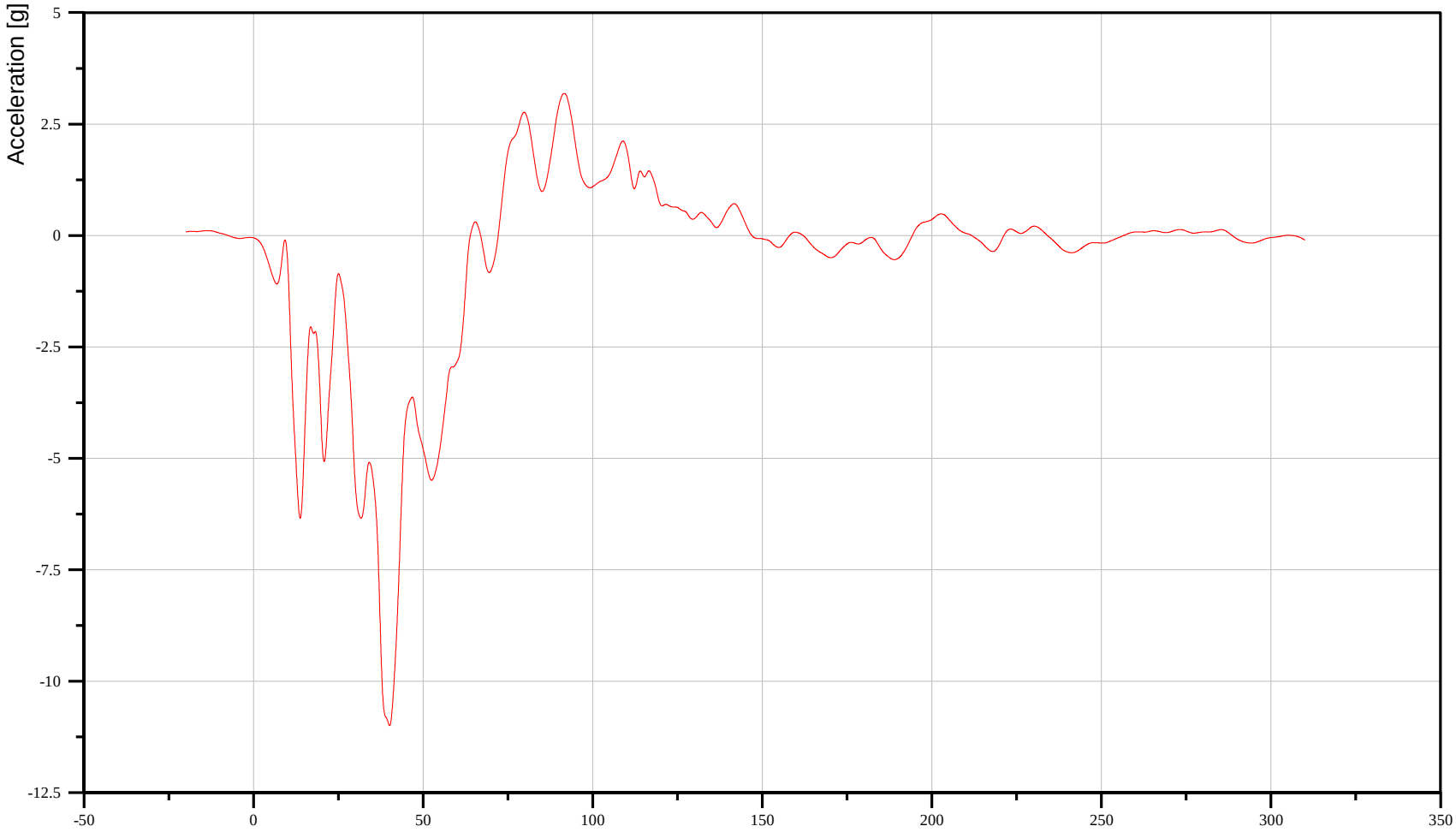
Vehicle Center of Gravity X-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11VEHCCG0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-10.99 g at 40.15 ms

Max. Value
3.19 g at 91.60 ms

2016 Honda Fit WorldSID Pole Impact

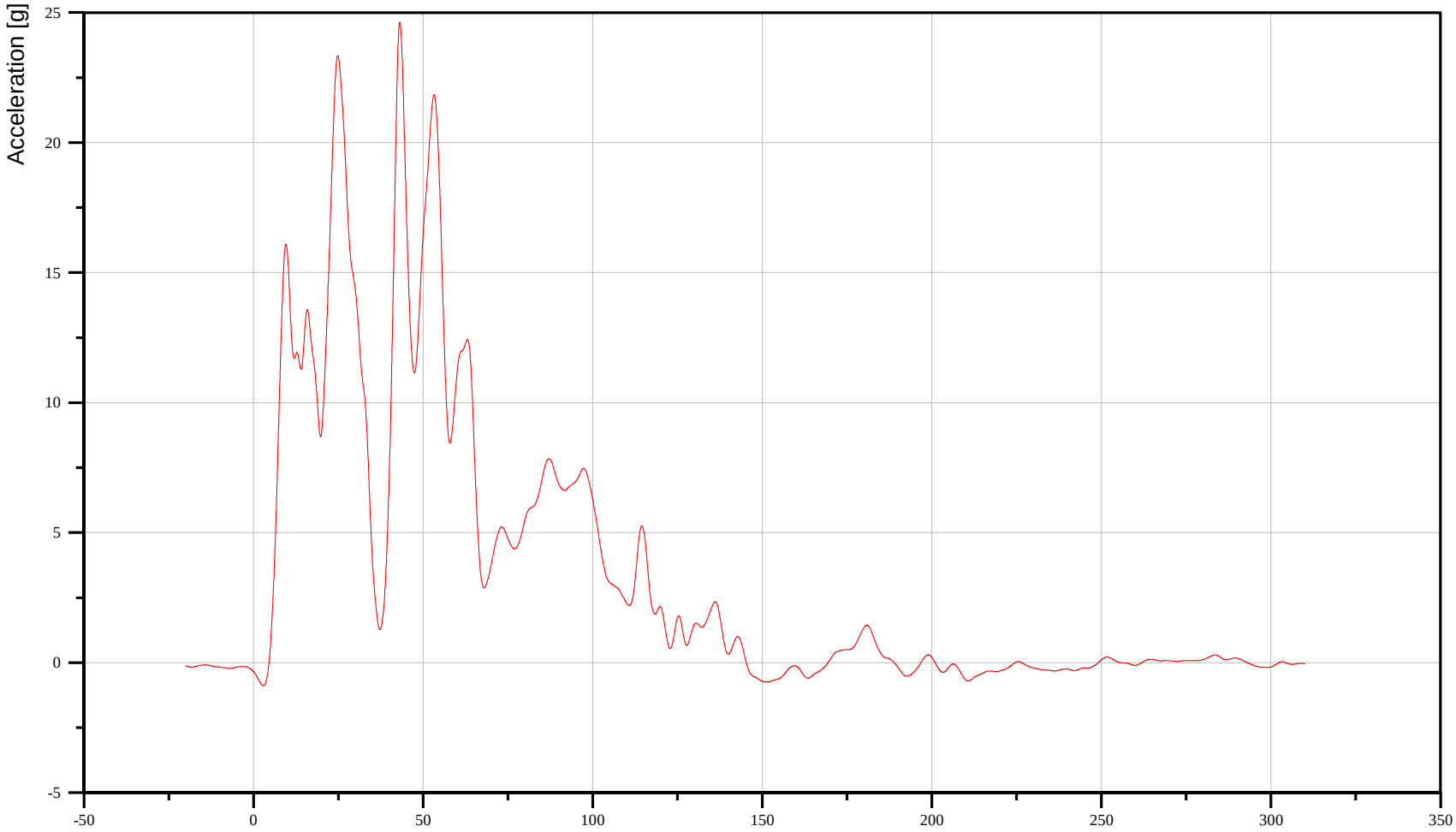
Vehicle Center of Gravity Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11VEHCCG0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-0.88 g at 2.90 ms

Max. Value
24.63 g at 43.15 ms

2016 Honda Fit WorldSID Pole Impact

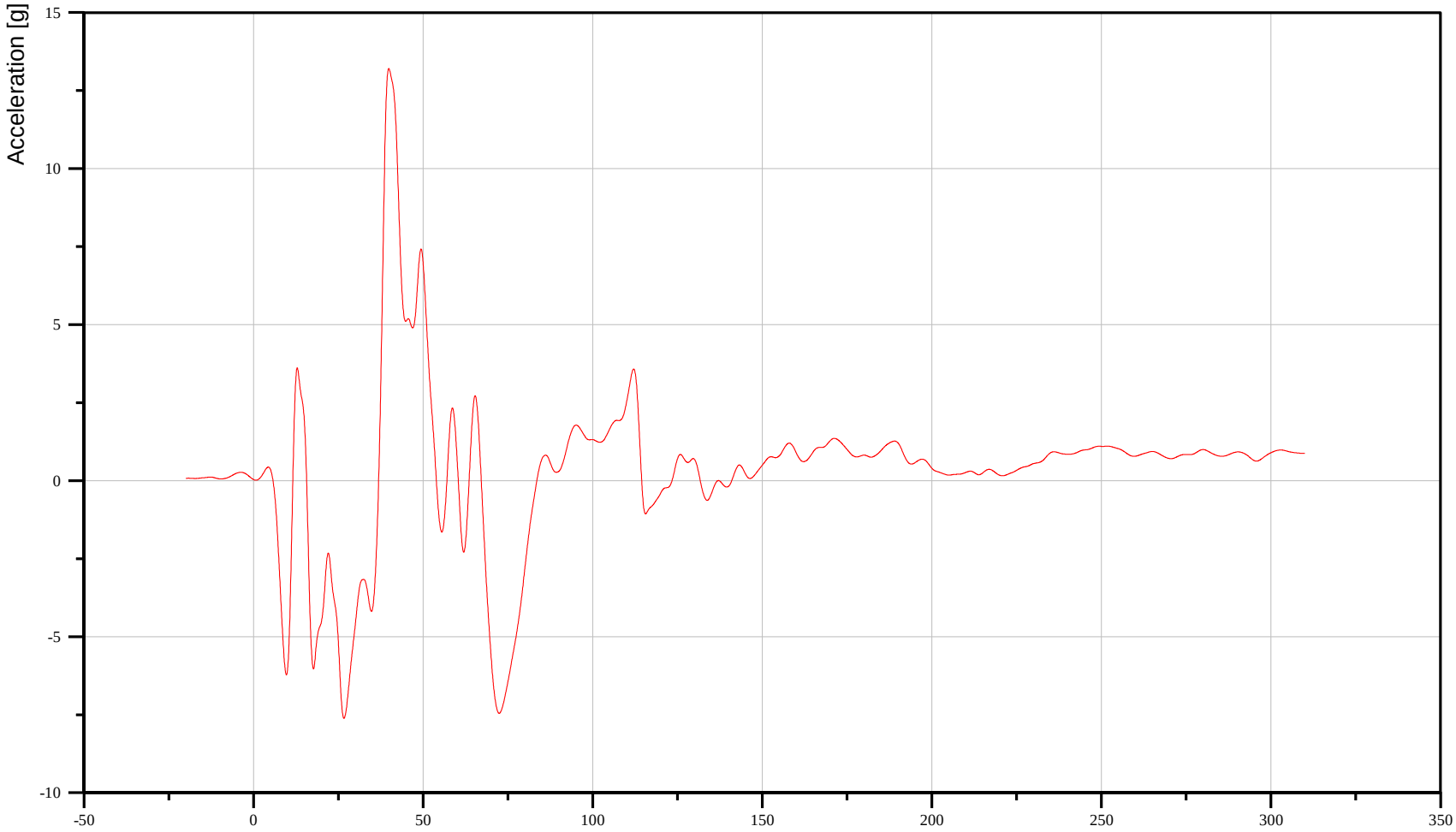
Vehicle Center of Gravity Z-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11VEHCCG0000ACZD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-7.62 g at 26.65 ms

Max. Value
13.21 g at 39.90 ms

2016 Honda Fit WorldSID Pole Impact

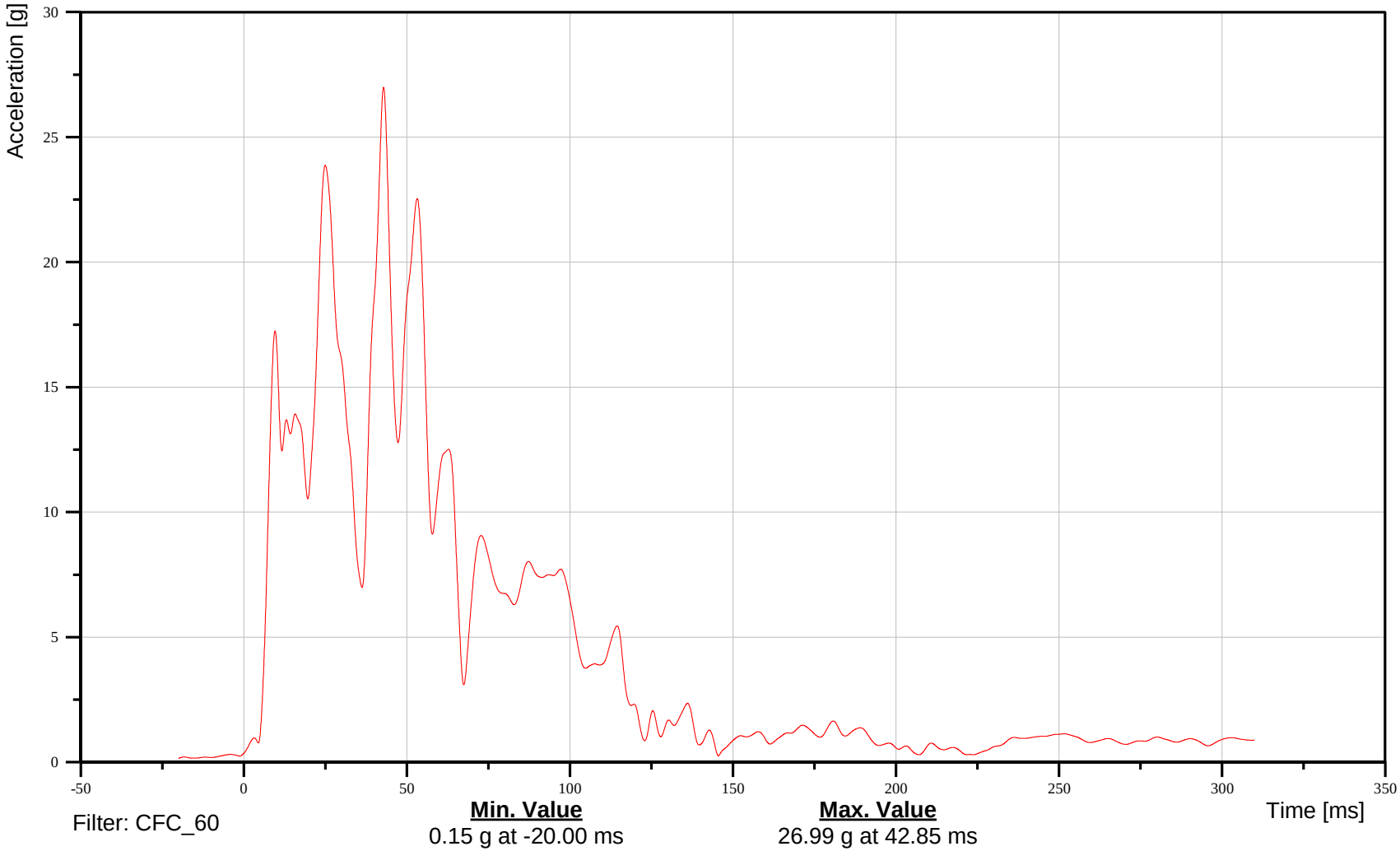
Vehicle Center of Gravity Resultant Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11VEHCCG0000ACRD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
0.15 g at -20.00 ms

Max. Value
26.99 g at 42.85 ms

2016 Honda Fit WorldSID Pole Impact

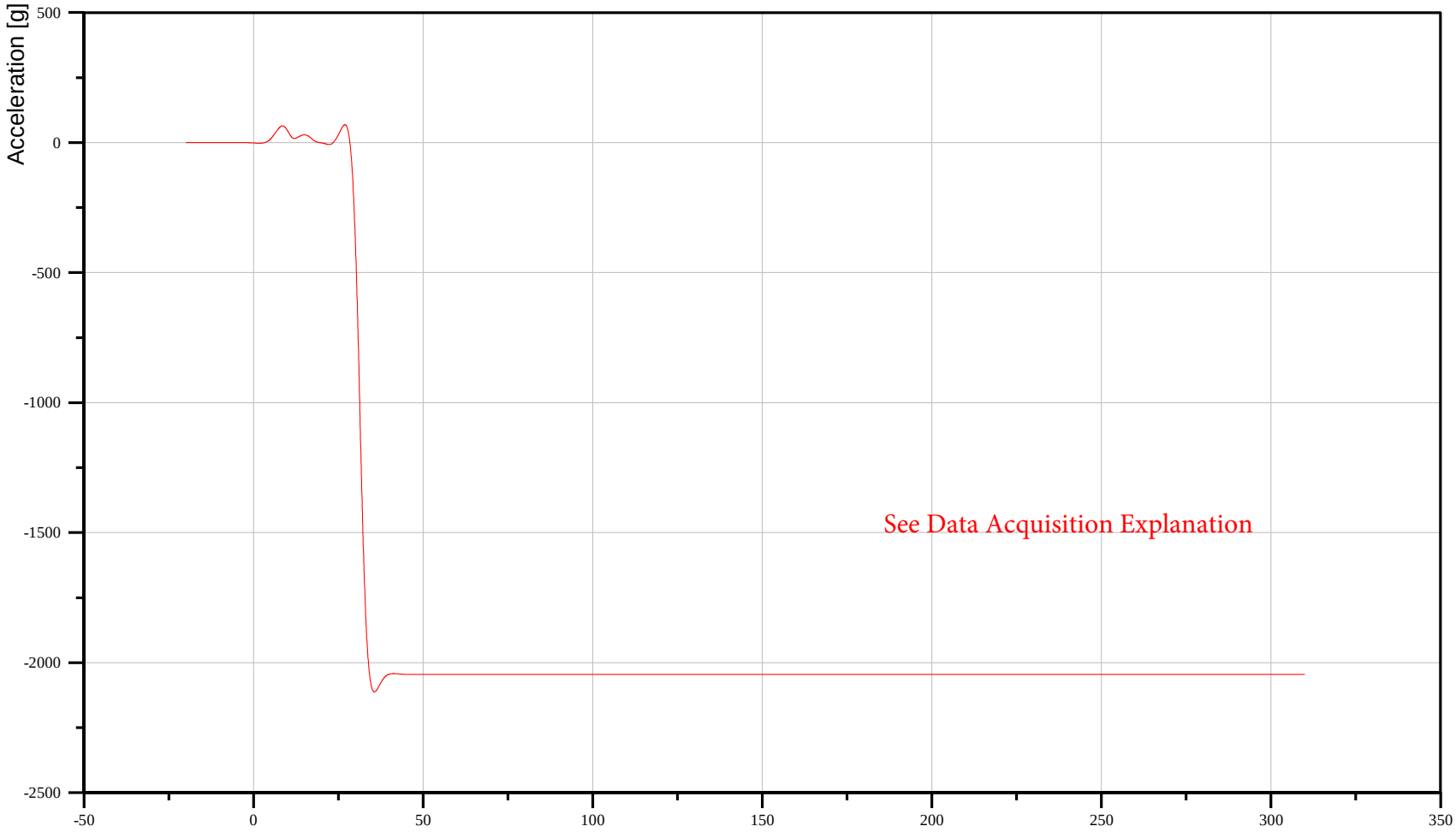
Left Floor Sill Y

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11VEHC00LO00ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2,112.27 g at 35.60 ms

Max. Value
68.83 g at 26.95 ms

2016 Honda Fit WorldSID Pole Impact

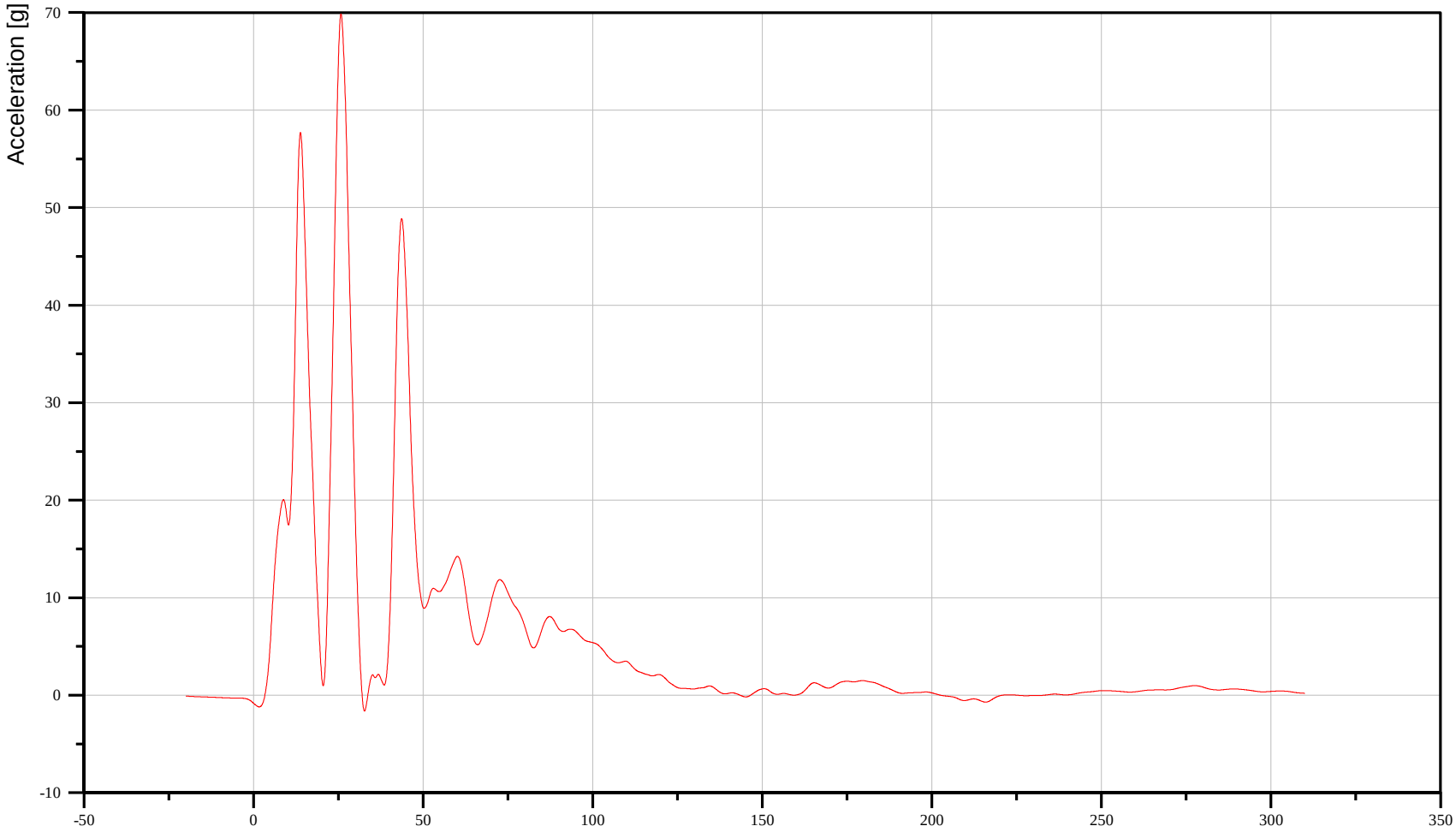
Left A-Pillar Sill Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11APIL000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1.62 g at 32.70 ms

Max. Value
69.88 g at 25.80 ms

2016 Honda Fit WorldSID Pole Impact

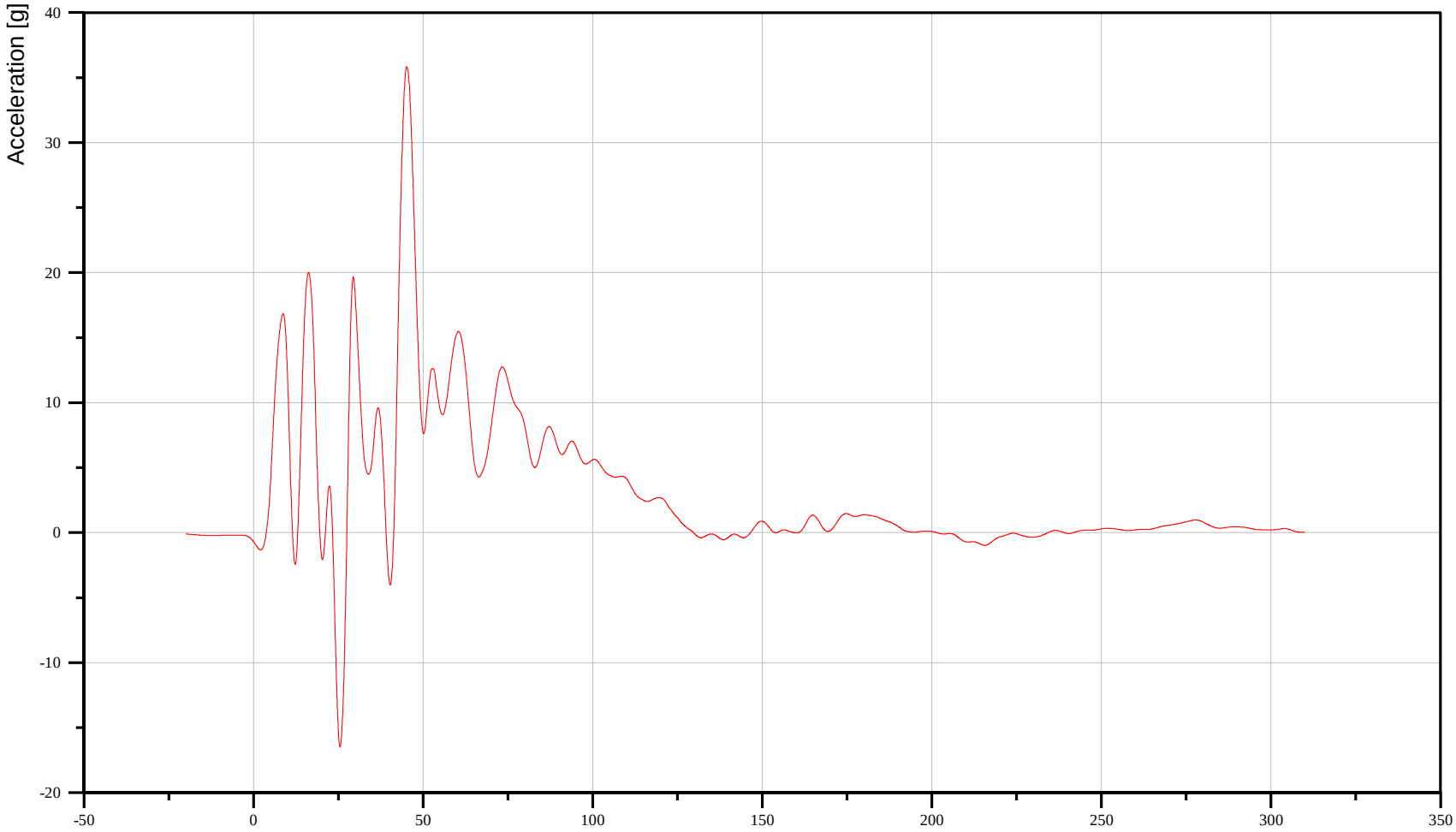
Left Lower A-Pillar Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11APILLO0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-16.47 g at 25.50 ms

Max. Value
35.83 g at 45.15 ms

2016 Honda Fit WorldSID Pole Impact

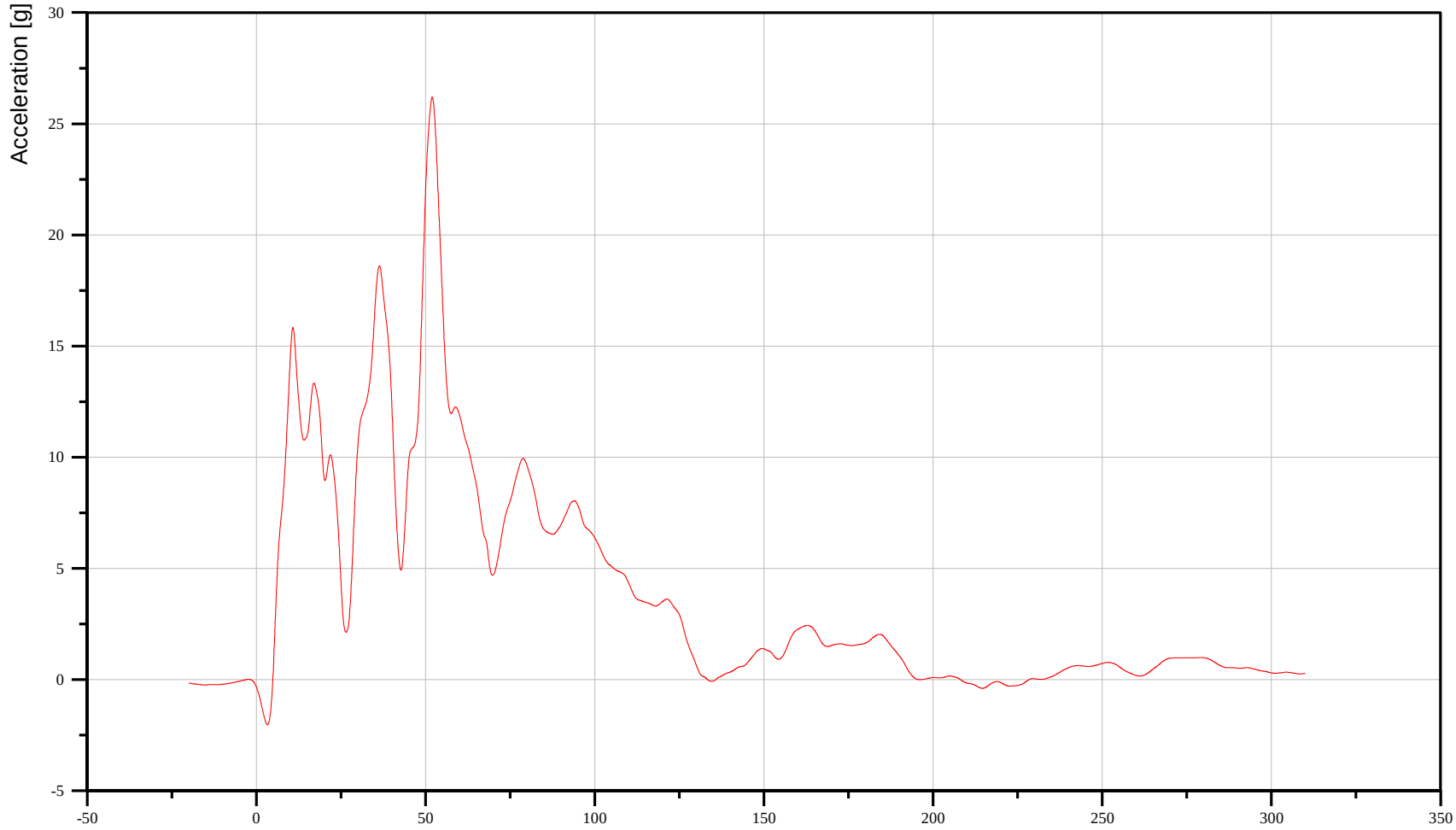
Left Mid A-Pillar Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11APILMI0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2.03 g at 3.25 ms

Max. Value
26.19 g at 52.00 ms

2016 Honda Fit WorldSID Pole Impact

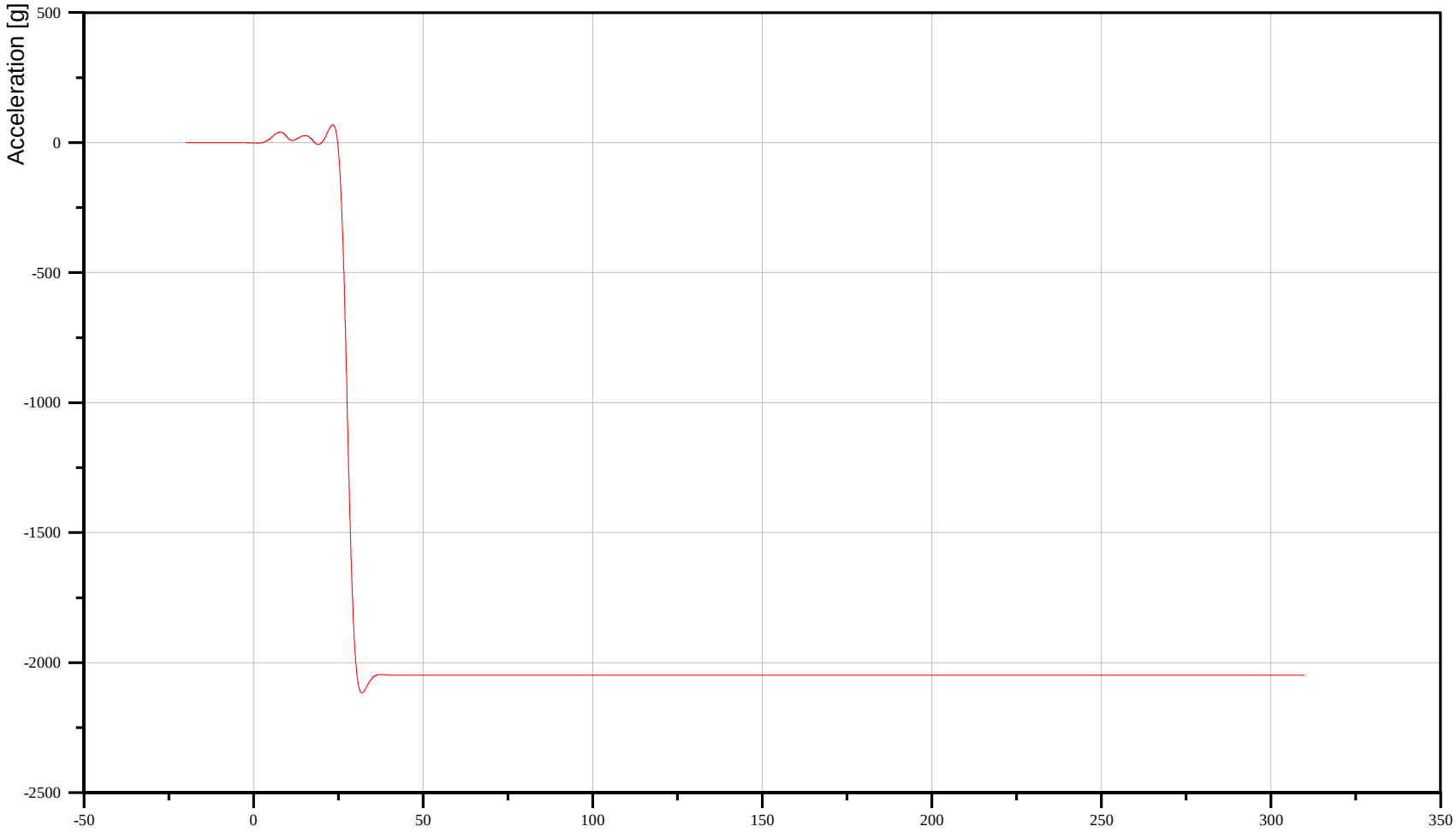
Left B-Pillar Sill Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11BPIL000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2,116.21 g at 31.95 ms

Max. Value
68.22 g at 23.40 ms

2016 Honda Fit WorldSID Pole Impact

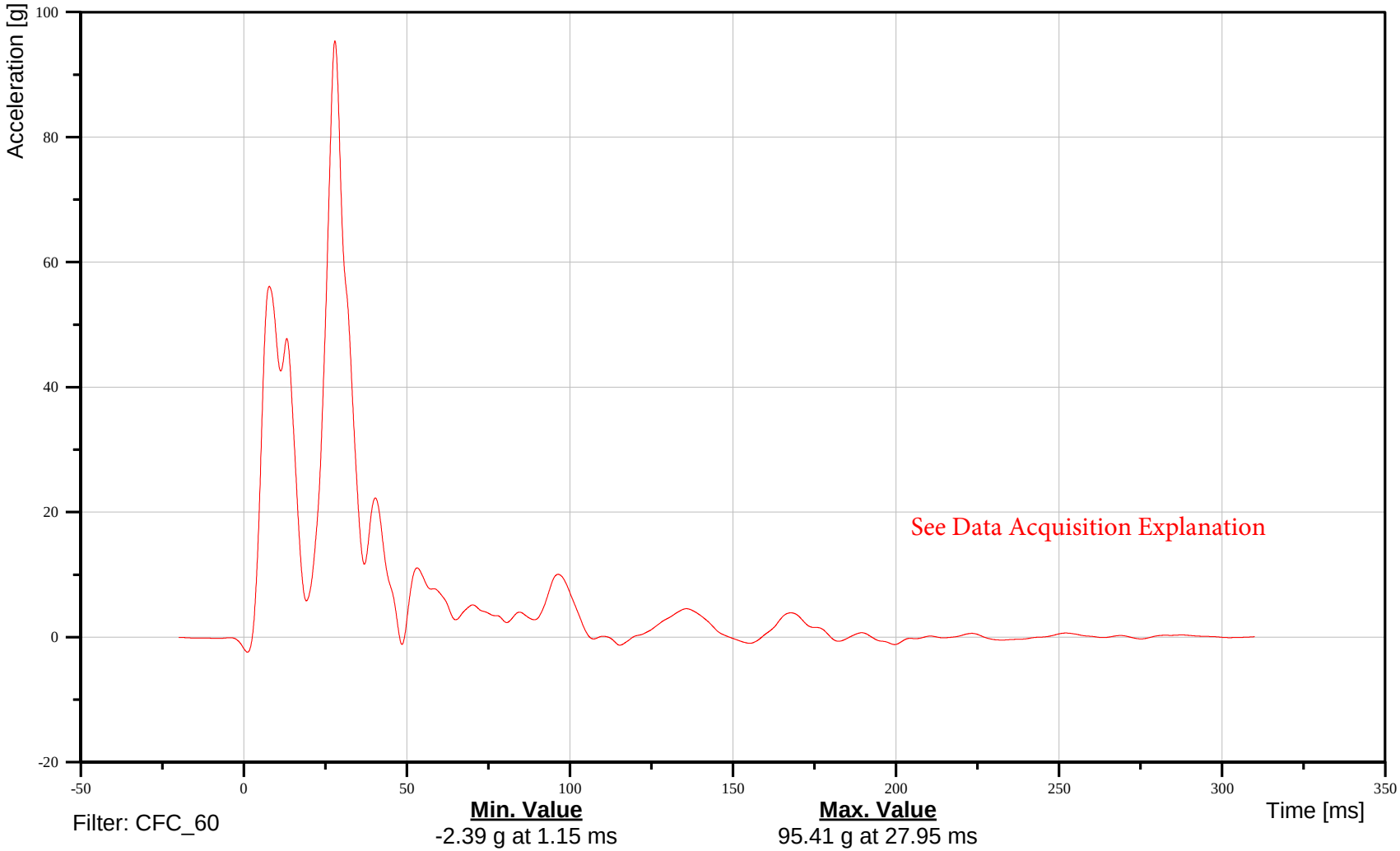
Left Lower B-Pillar Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11BPILLO0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2.39 g at 1.15 ms

Max. Value
95.41 g at 27.95 ms

2016 Honda Fit WorldSID Pole Impact

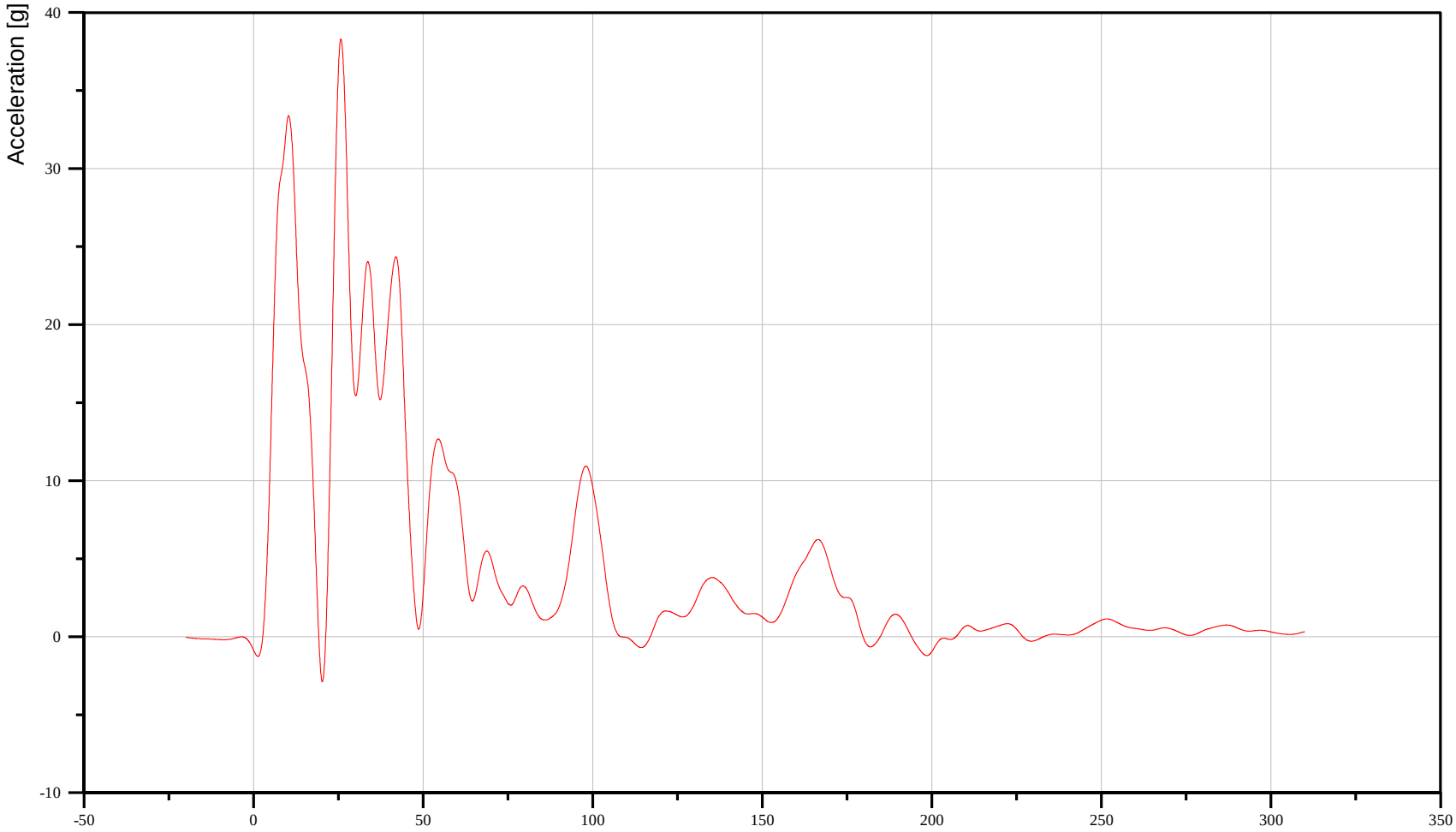
Left Mid B-Pillar Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11BPILMI0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2.89 g at 20.25 ms

Max. Value
38.32 g at 25.75 ms

2016 Honda Fit WorldSID Pole Impact

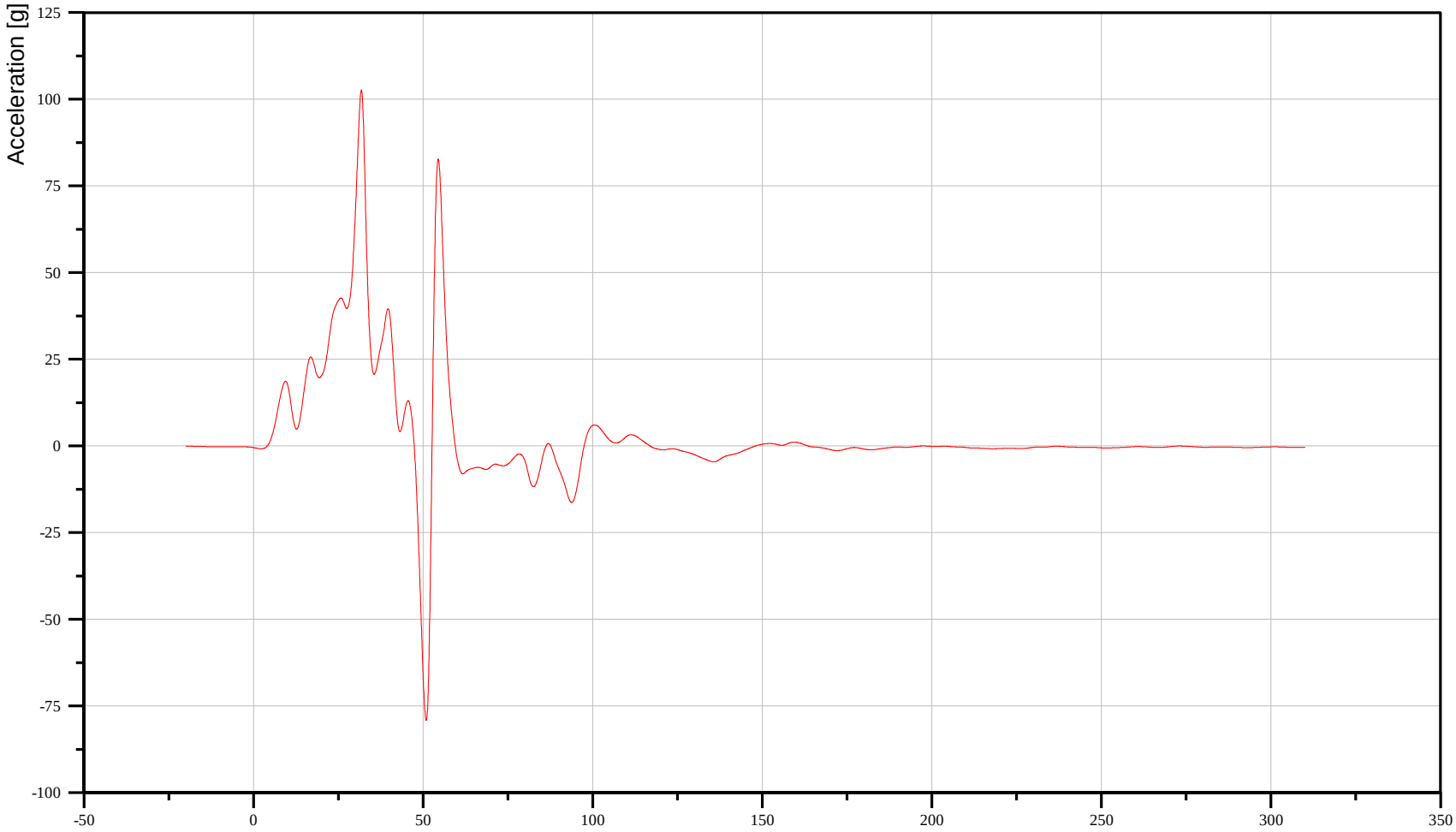
Driver Seat Track at Dummy H-Point Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SETR000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-79.14 g at 50.90 ms

Max. Value
102.68 g at 31.80 ms

2016 Honda Fit WorldSID Pole Impact

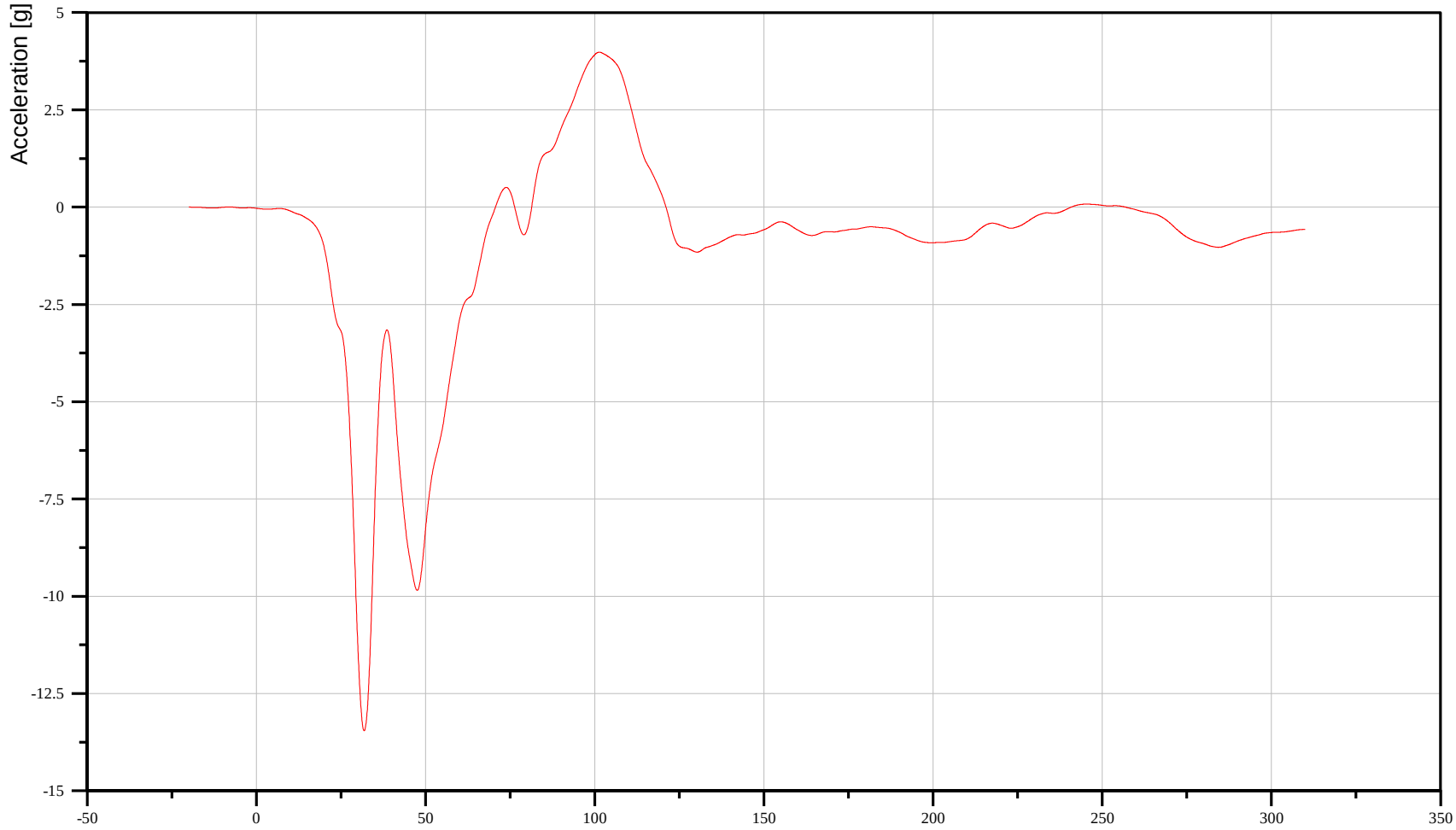
Engine Top X-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ENGNTP0000ACXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-13.46 g at 31.85 ms

Max. Value
3.98 g at 101.35 ms

2016 Honda Fit WorldSID Pole Impact

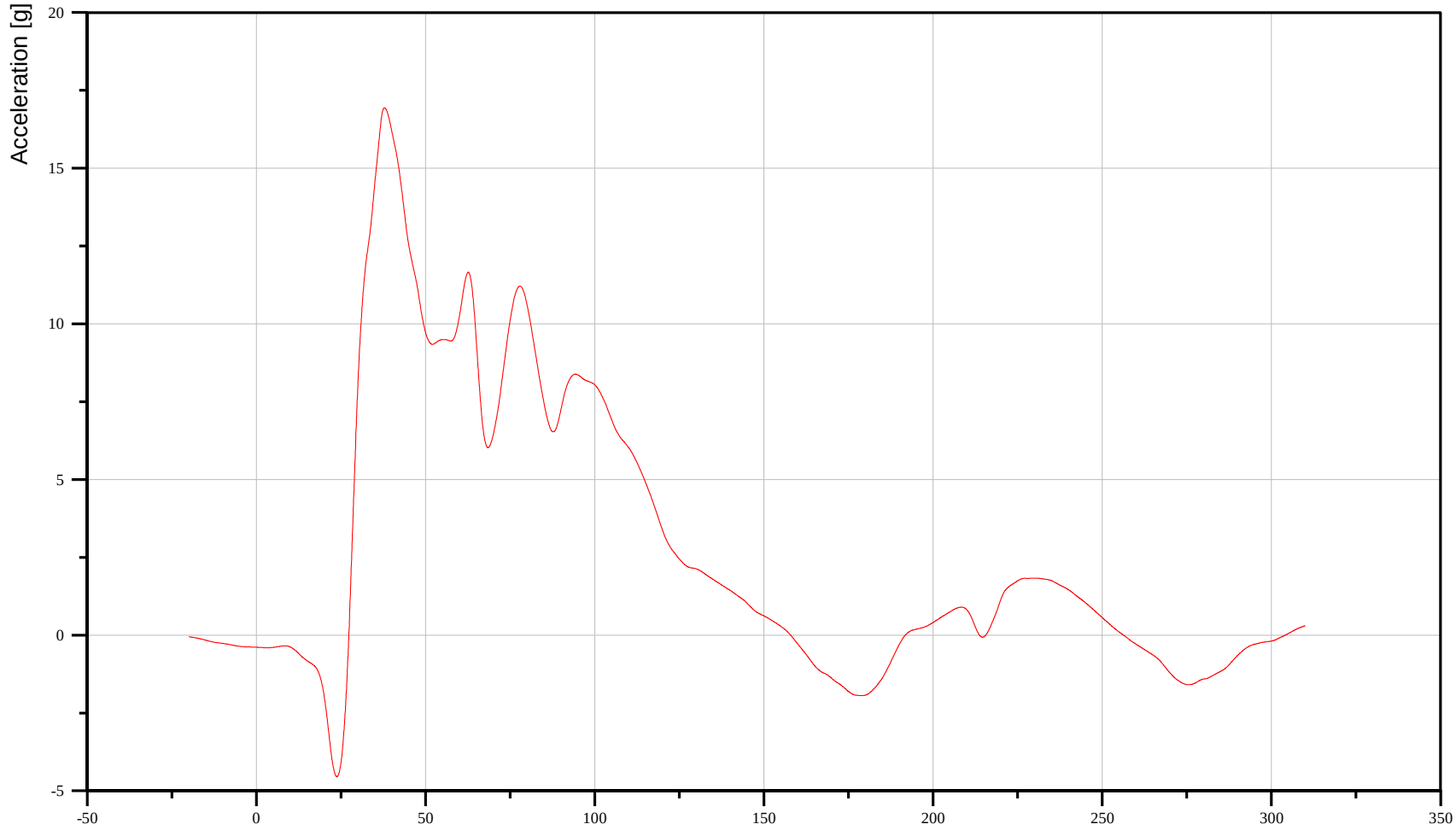
Engine Top Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11ENGNTP0000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-4.54 g at 23.80 ms

Max. Value
16.94 g at 37.85 ms

2016 Honda Fit WorldSID Pole Impact

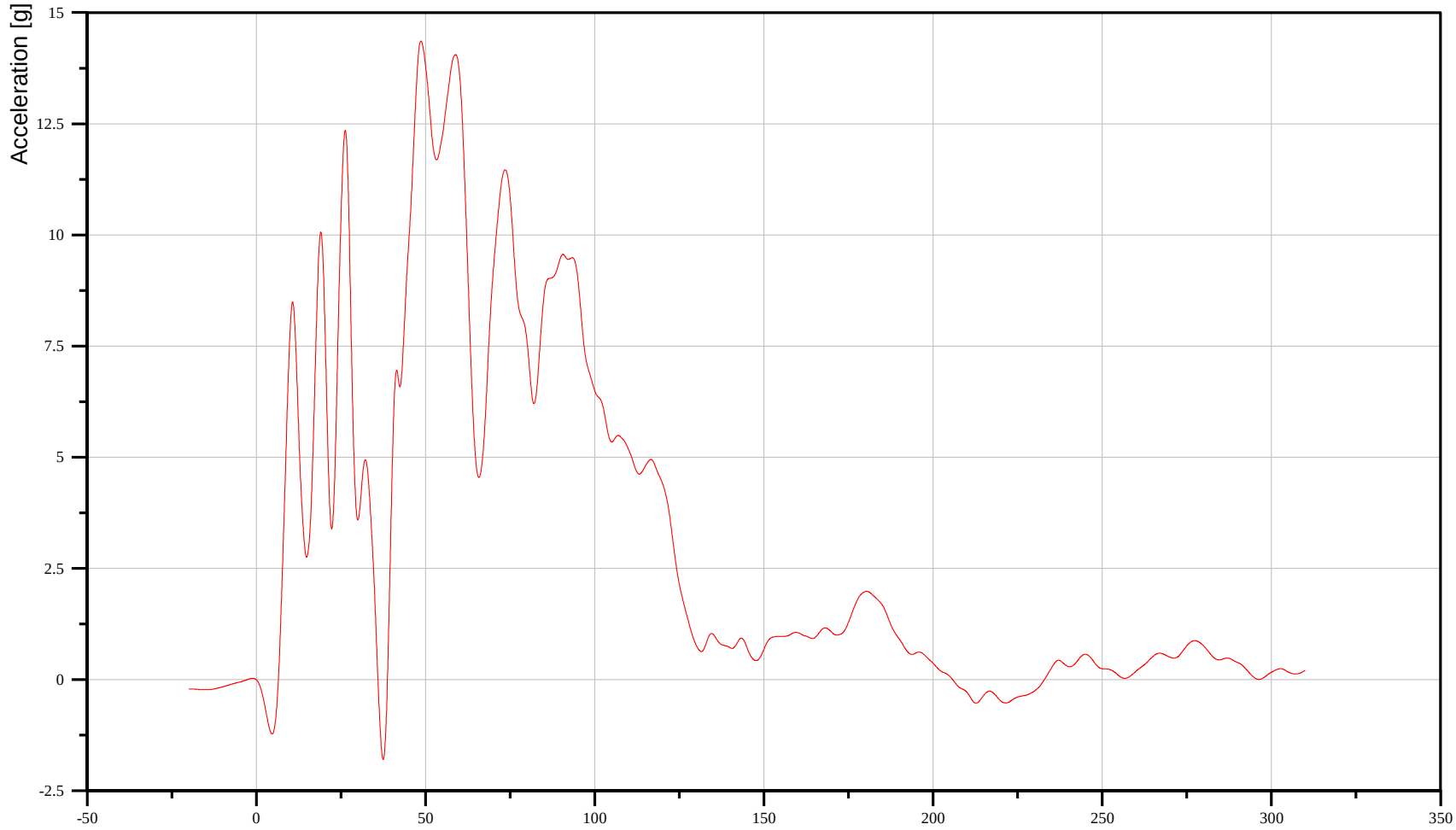
Firewall Center Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

12FIRCX00000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1.80 g at 37.50 ms

Max. Value
14.36 g at 48.65 ms

2016 Honda Fit WorldSID Pole Impact

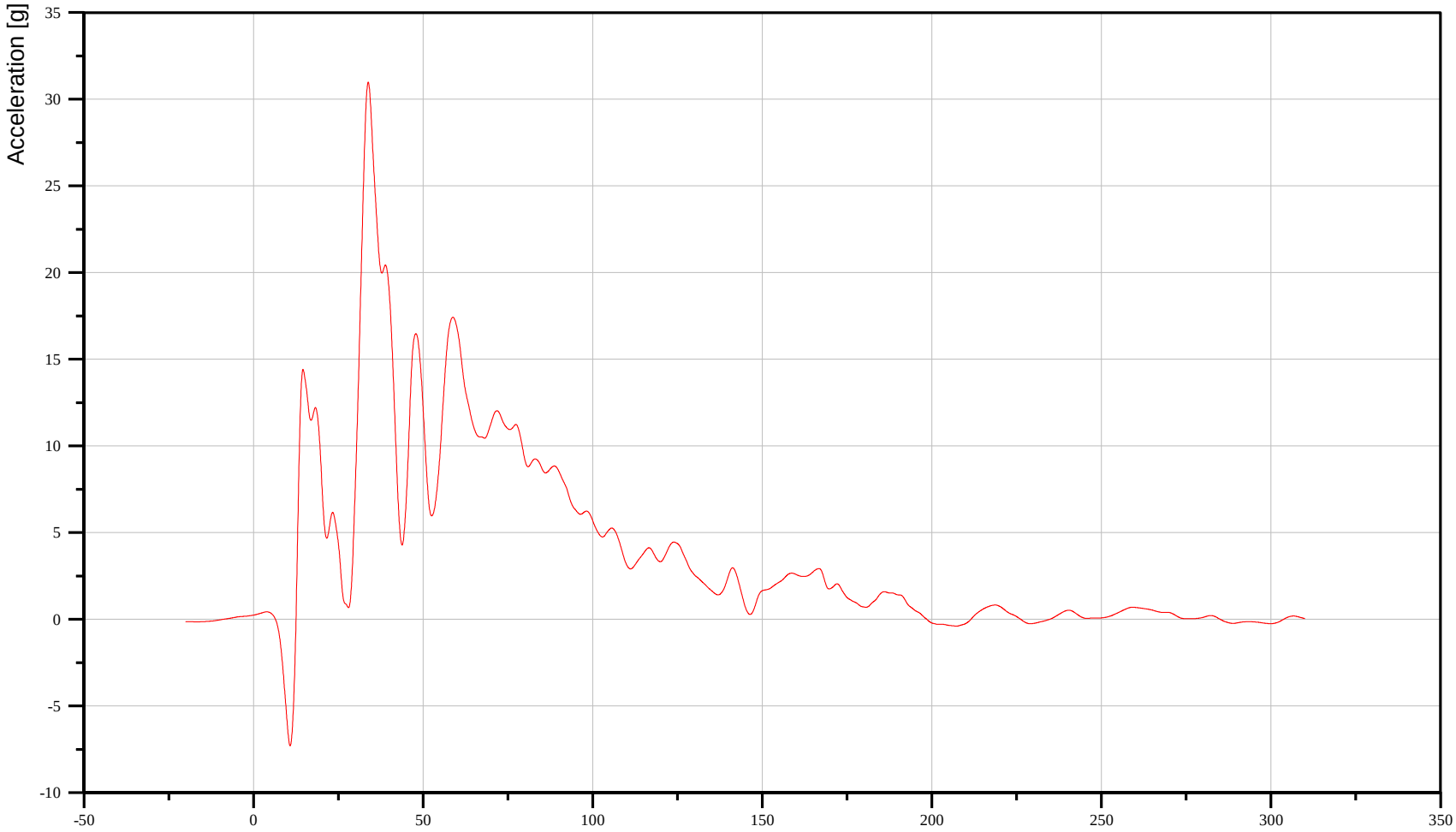
Right Roof at Vertical Impact Reference Line Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

13ROFR000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-7.30 g at 10.80 ms

Max. Value
30.99 g at 33.80 ms

2016 Honda Fit WorldSID Pole Impact

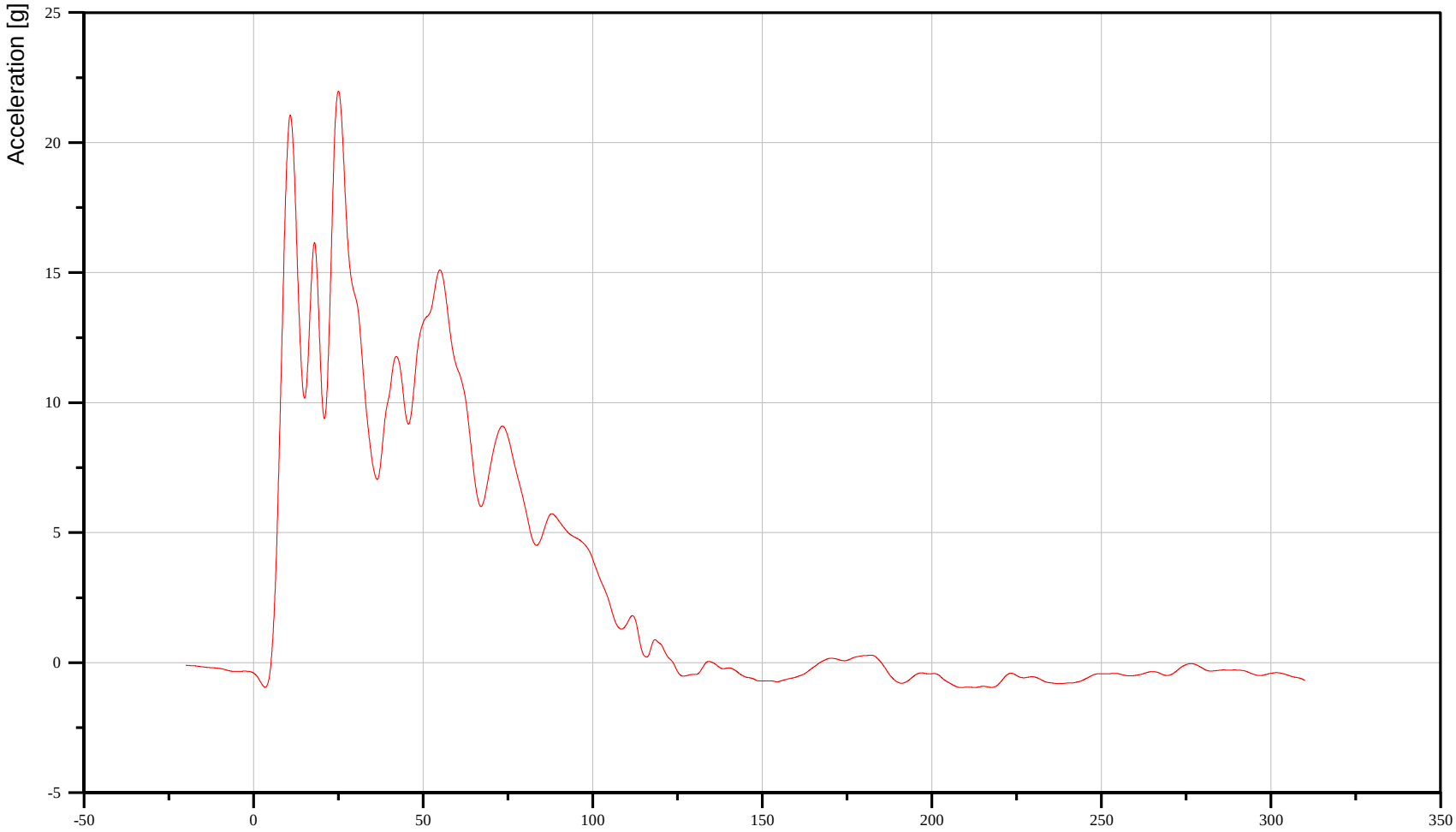
Right Sill at Vertical Impact Reference Line Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

13SILB000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-0.95 g at 208.65 ms

Max. Value
21.98 g at 25.05 ms

2016 Honda Fit WorldSID Pole Impact

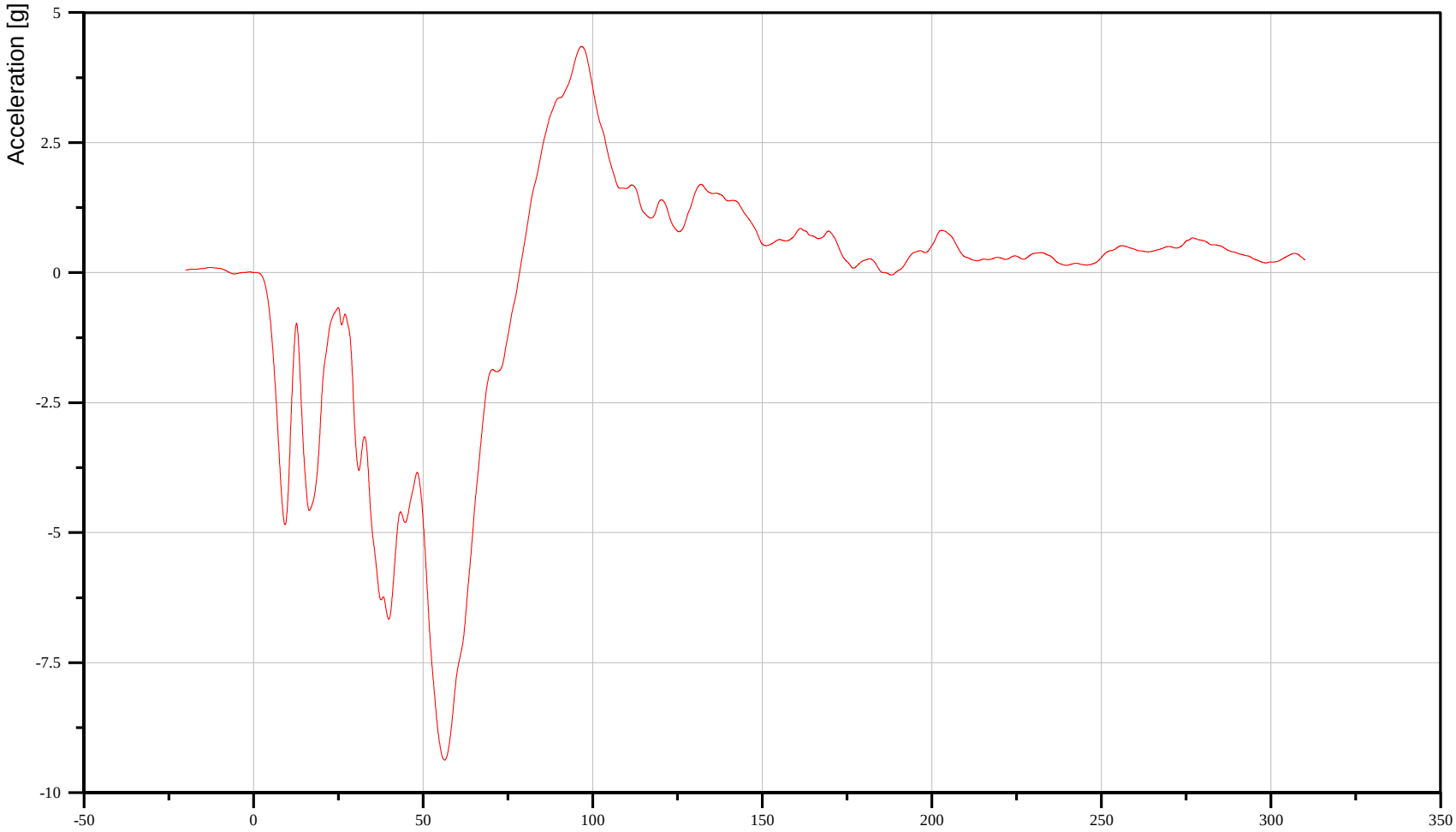
Rear Floorpan Behind Rear Axle at Centerline Acceleration X-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FORA000000ACXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-9.37 g at 56.35 ms

Max. Value
4.35 g at 96.75 ms

2016 Honda Fit WorldSID Pole Impact

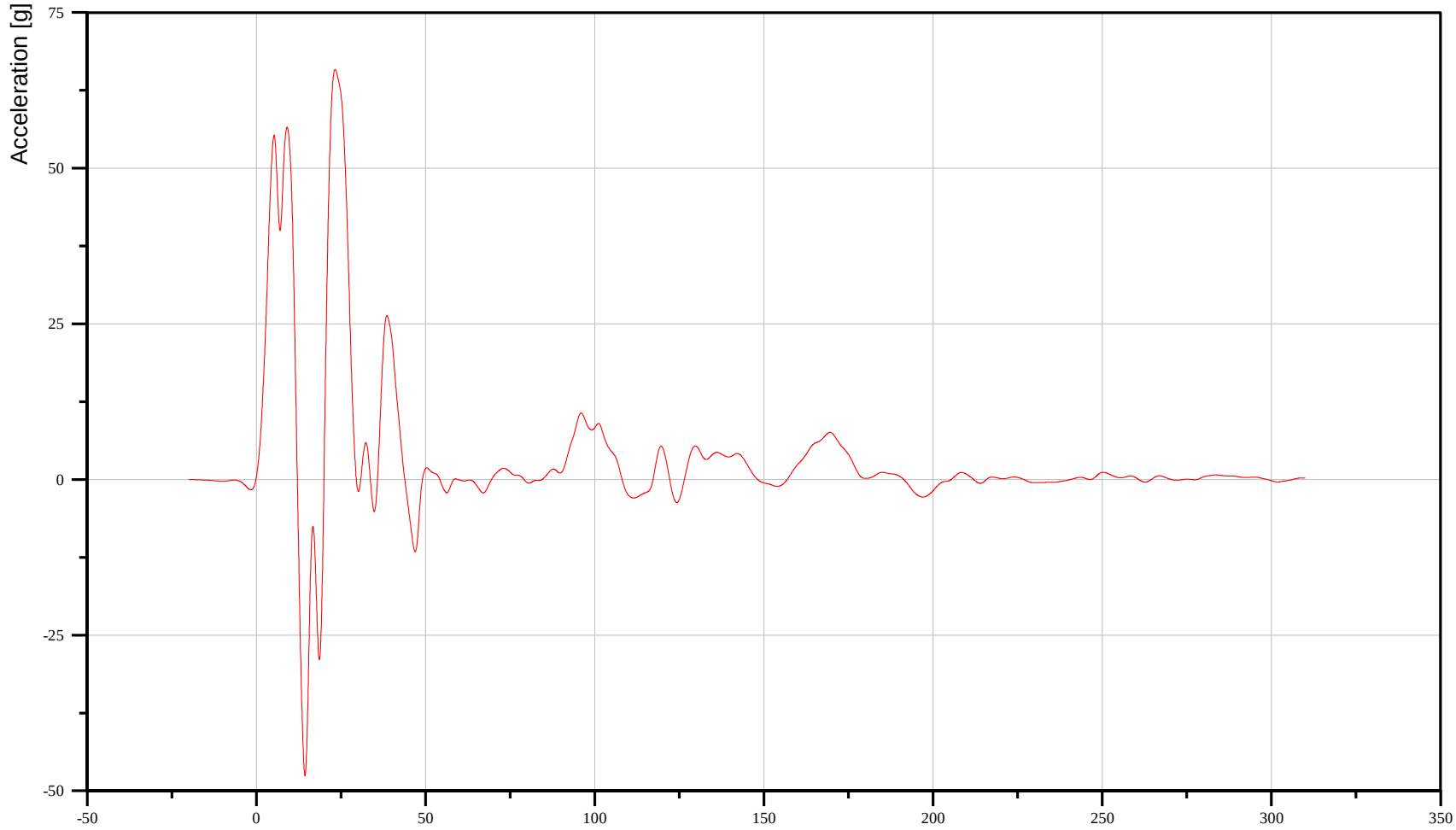
Left Front Door Mid Centerline (Y)

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11DOORMIMI71ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-47.58 g at 14.35 ms

Max. Value
65.87 g at 23.25 ms

2016 Honda Fit WorldSID Pole Impact

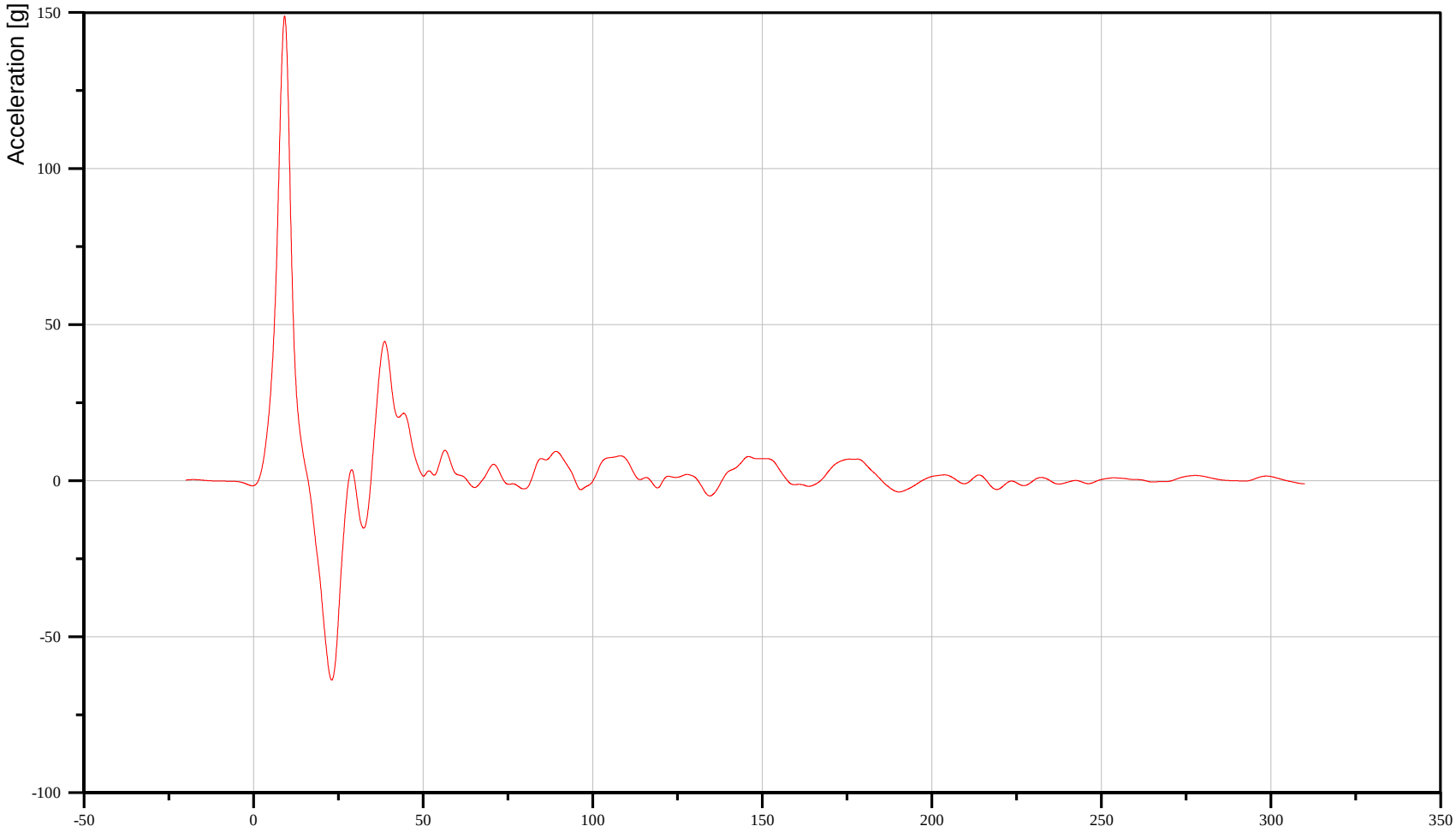
Left Front Door Mid Rear (Y)

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11DOORMIRE71ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-63.88 g at 23.05 ms

Max. Value
148.92 g at 9.15 ms

2016 Honda Fit WorldSID Pole Impact

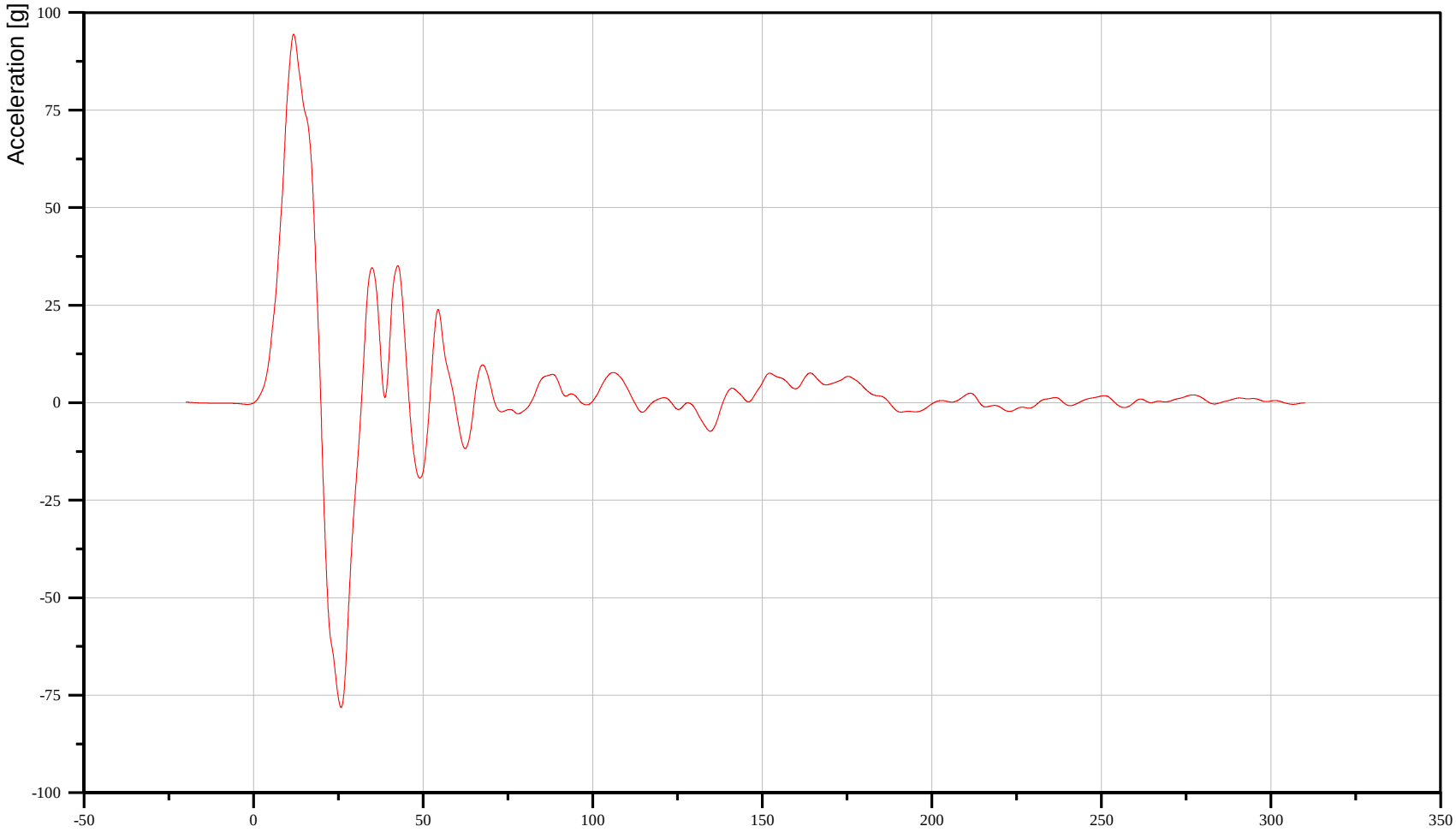
Left Front Door Upper Centerline (Y)

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11DOORMIUP71ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-78.15 g at 25.80 ms

Max. Value
94.44 g at 11.80 ms

2016 Honda Fit WorldSID Pole Impact

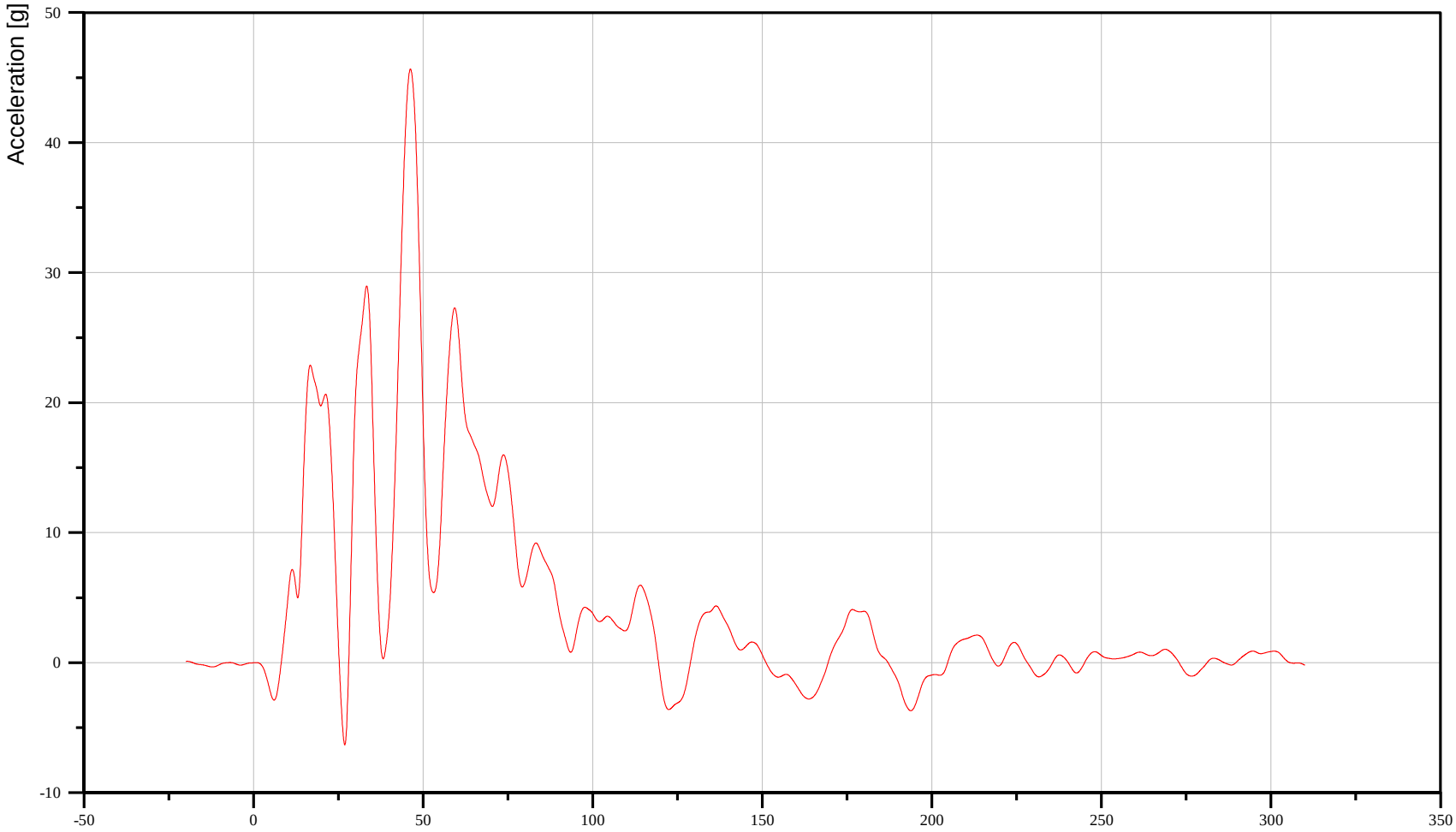
Left Rear Door Mid Rear (Y)

Date: 05/10/2016
Time: 15:15

Customer: VRTC

14DOORMIRE71ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-6.33 g at 26.90 ms

Max. Value
45.67 g at 46.25 ms

2016 Honda Fit WorldSID Pole Impact

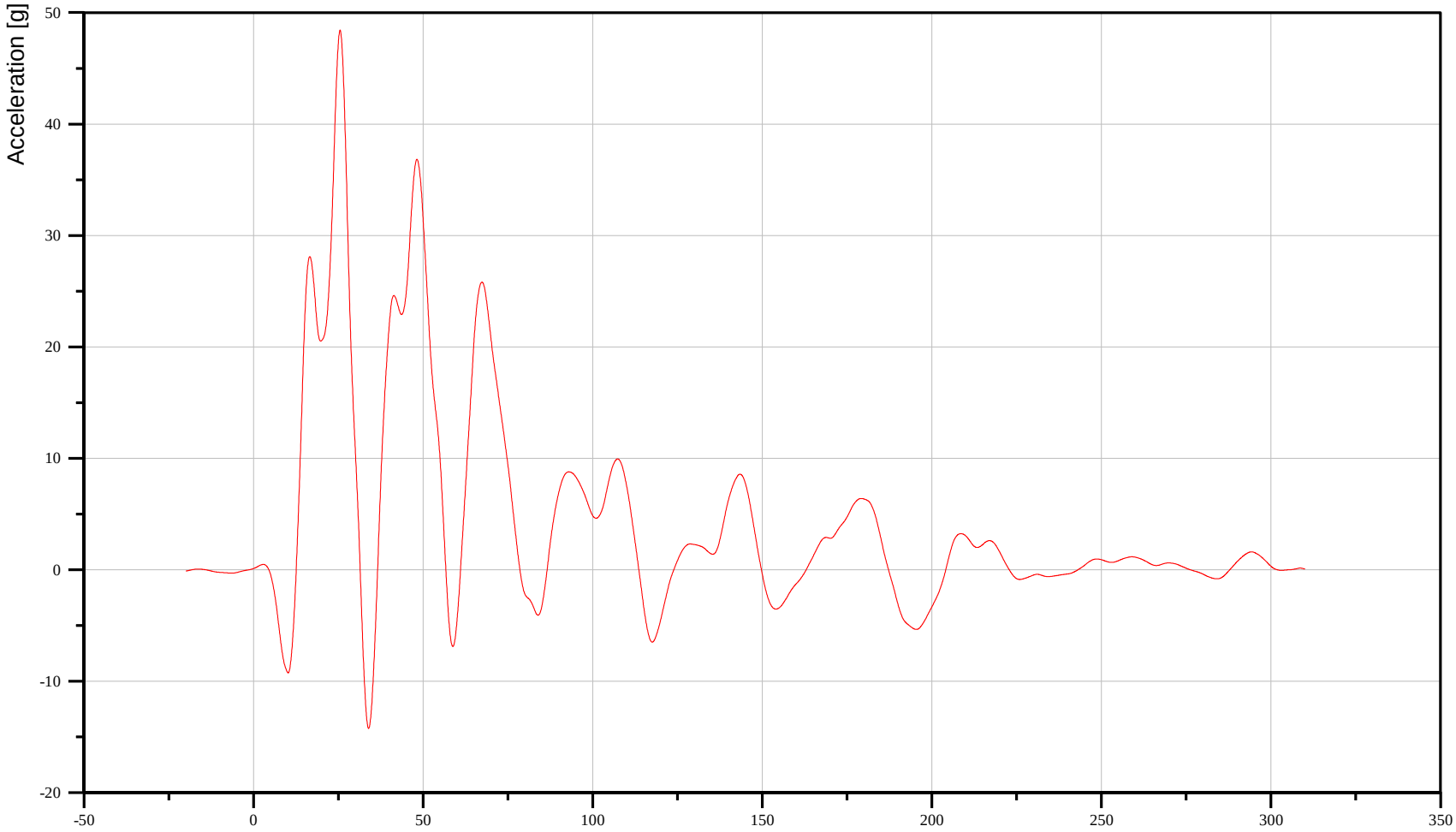
Left Rear Door Upper Centerline (Y)

Date: 05/10/2016
Time: 15:15

Customer: VRTC

14DOORMIUP71ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-14.23 g at 33.95 ms

Max. Value
48.43 g at 25.50 ms

2016 Honda Fit WorldSID Pole Impact

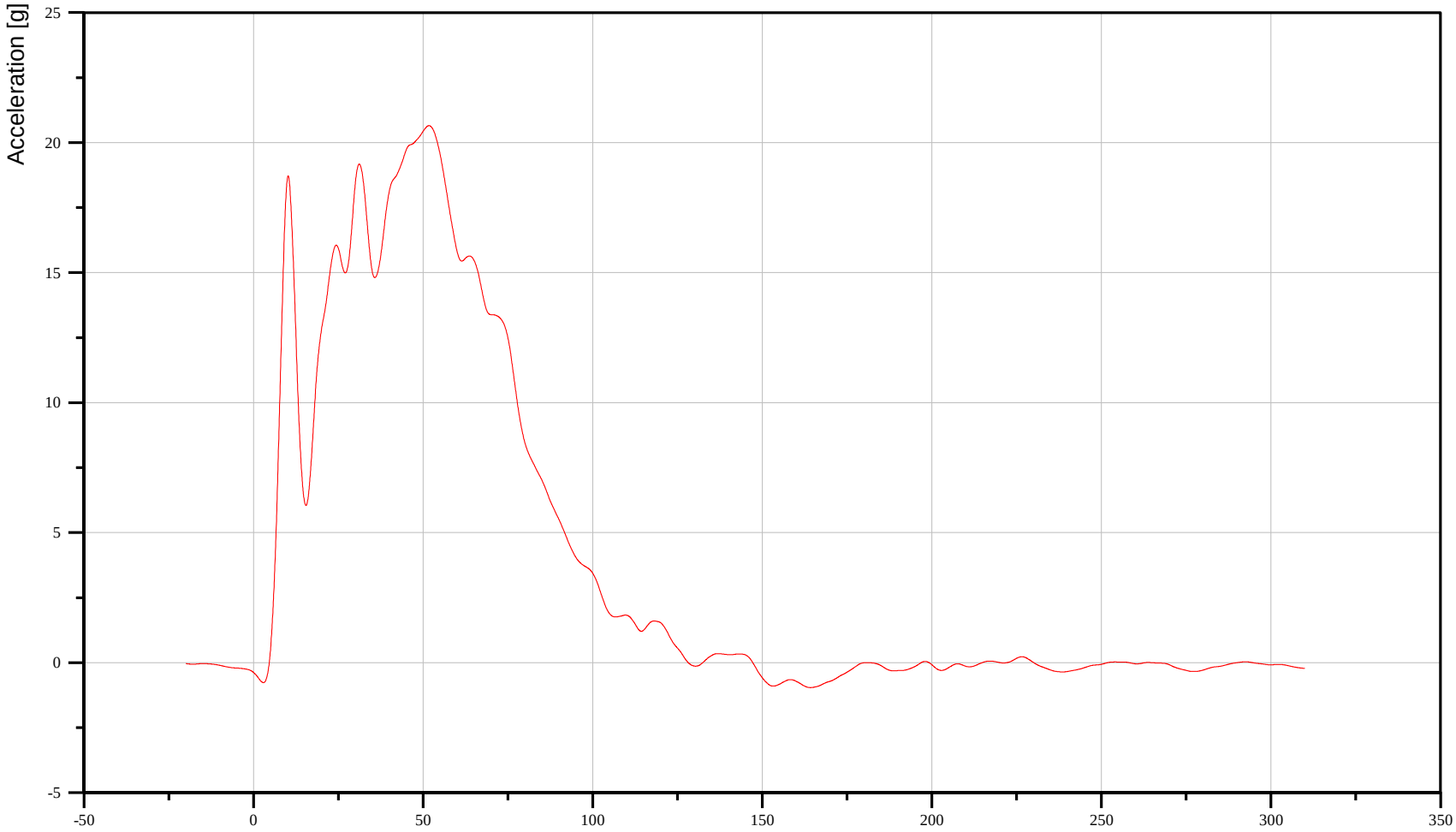
Rear Floorpan Behind Rear Axle at Centerline Acceleration Y-Axis Acceleration

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11FORA000000ACYD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-0.96 g at 164.25 ms

Max. Value
20.65 g at 51.75 ms

2016 Honda Fit WorldSID Pole Impact

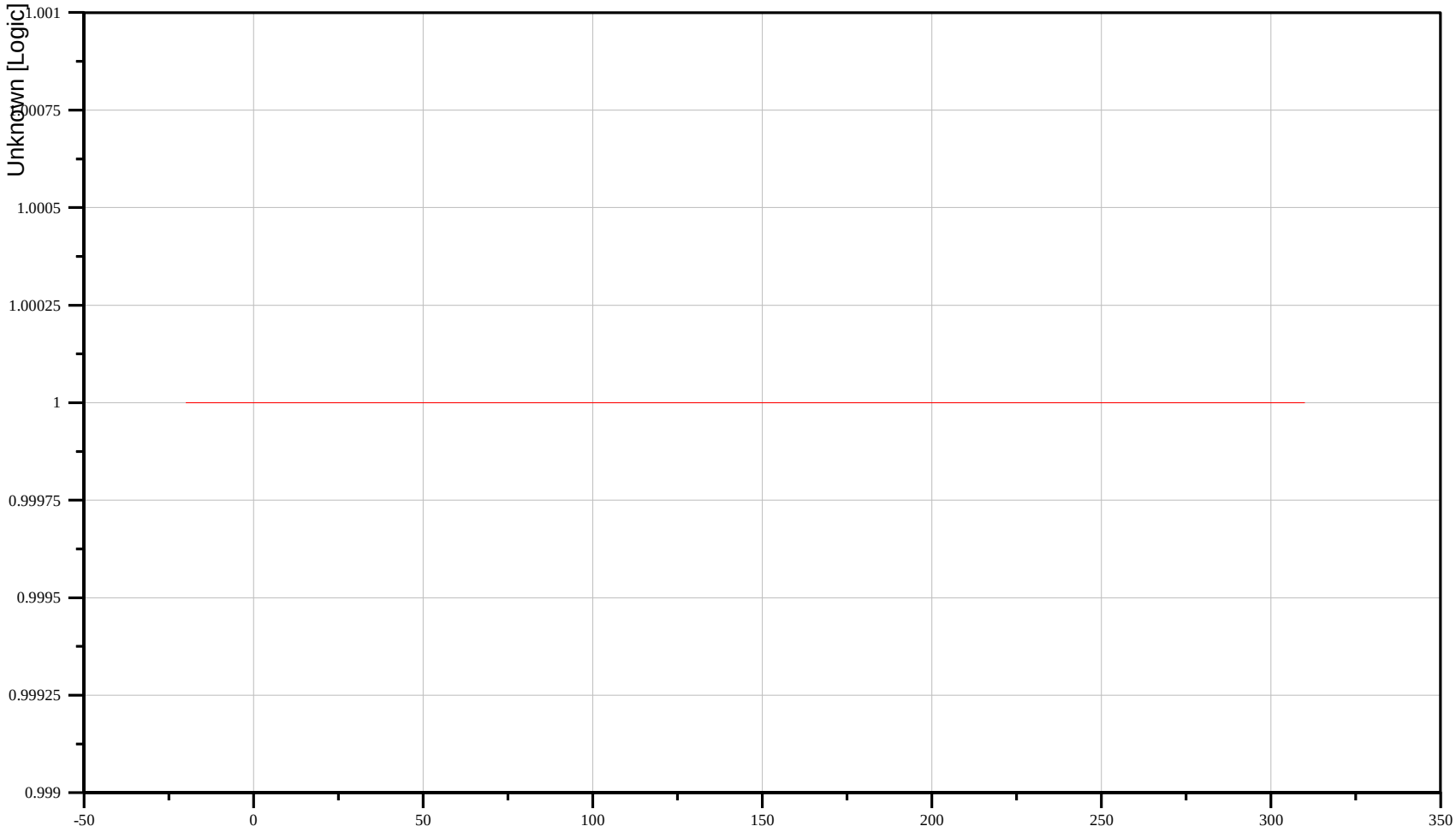
Head Contact

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11HEAD000000EV00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
1.00 Logic at -20.00 ms

Max. Value
1.00 Logic at -20.00 ms

2016 Honda Fit WorldSID Pole Impact

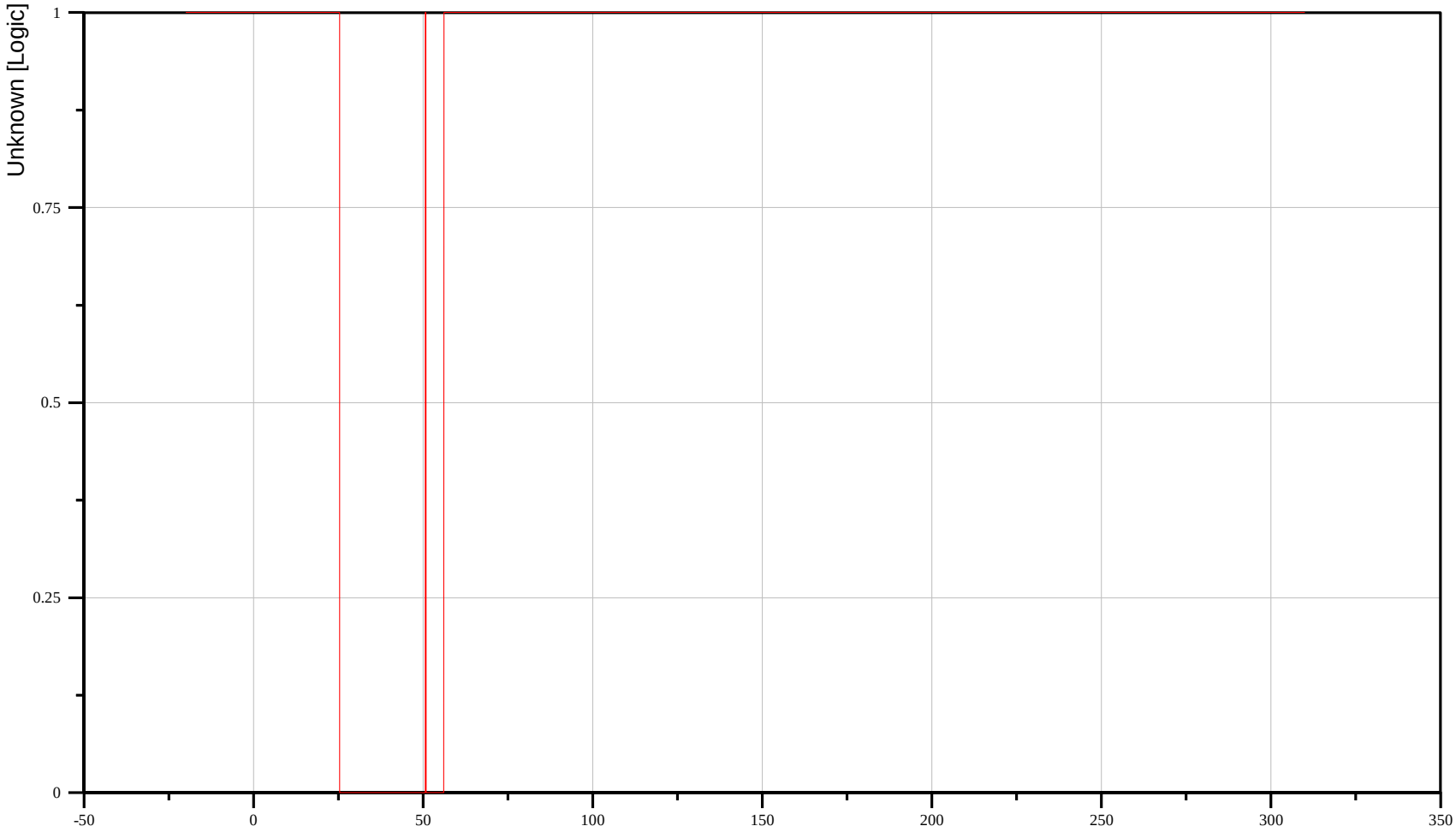
Shoulder Contact

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11SHLD000000EV00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.00 Logic at 25.40 ms

Max. Value
1.00 Logic at -20.00 ms

2016 Honda Fit WorldSID Pole Impact

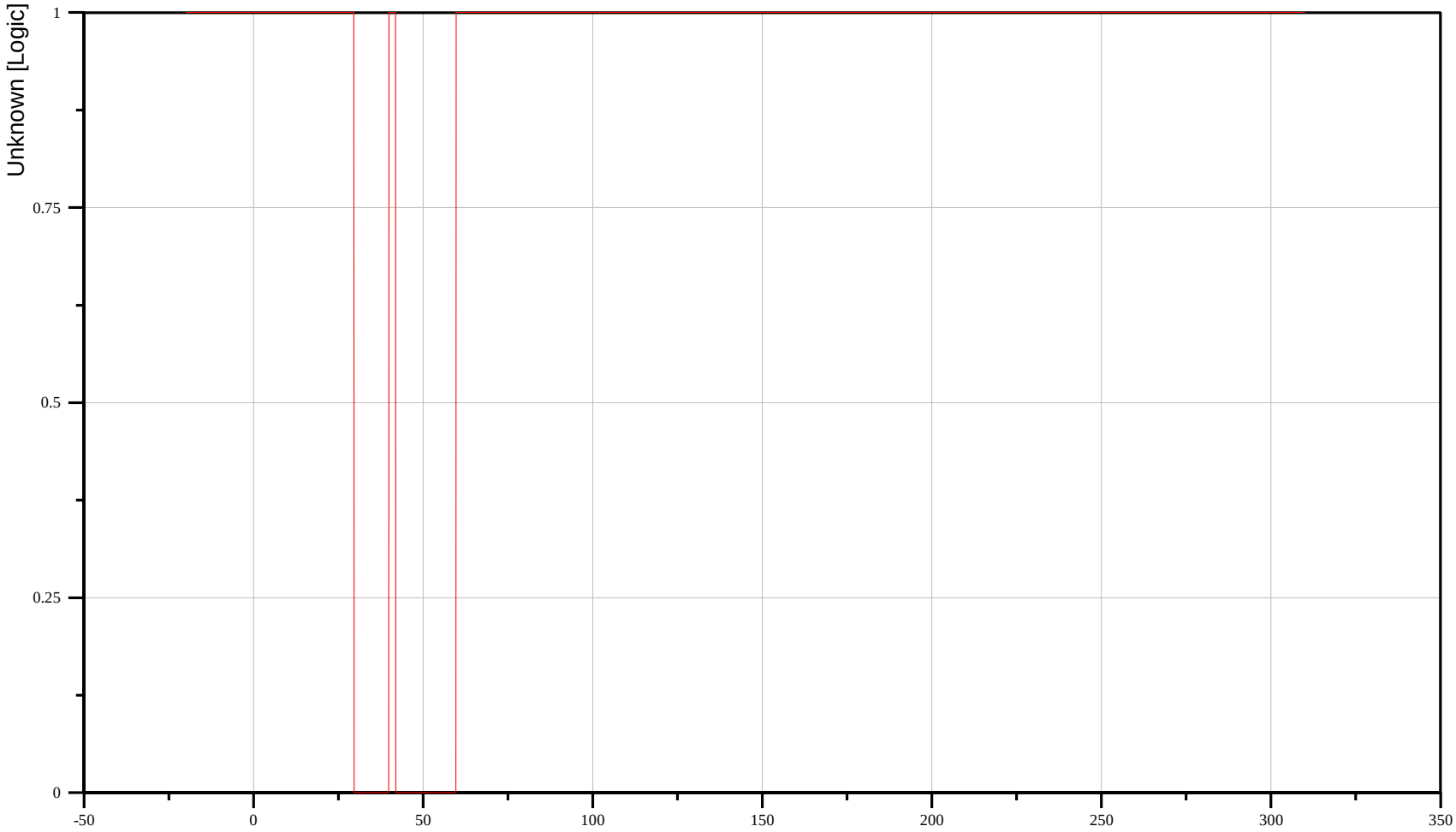
Thorax Contact

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11TRRI000000EV00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.00 Logic at 29.65 ms

Max. Value
1.00 Logic at -20.00 ms

2016 Honda Fit WorldSID Pole Impact

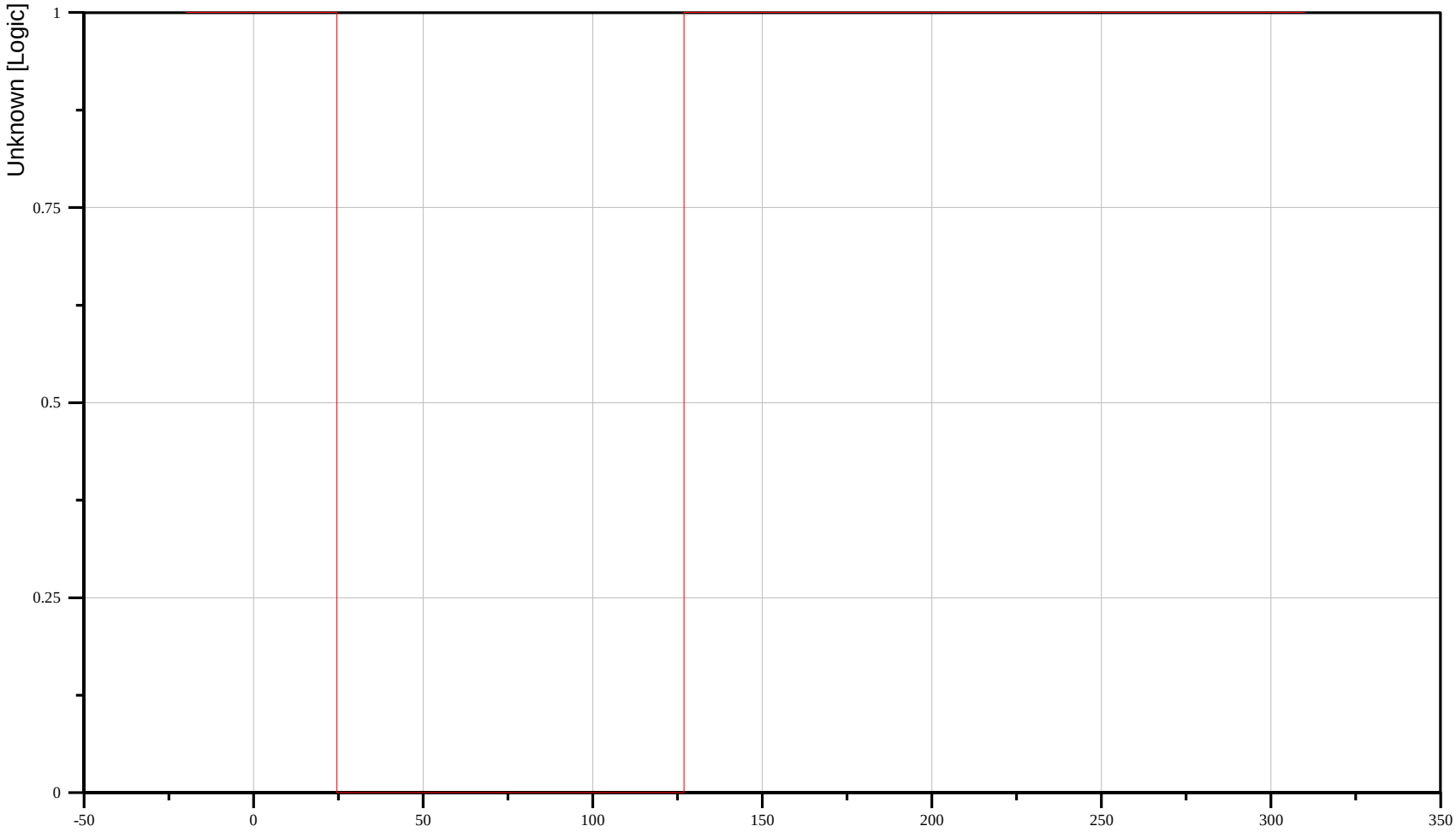
Pelvis Contact

Date: 05/10/2016
Time: 15:15

Customer: VRTC

11PELV000000EV00

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: Unfiltered

Min. Value
0.00 Logic at 24.60 ms

Max. Value
1.00 Logic at -20.00 ms

2016 Honda Fit WorldSID Pole Impact

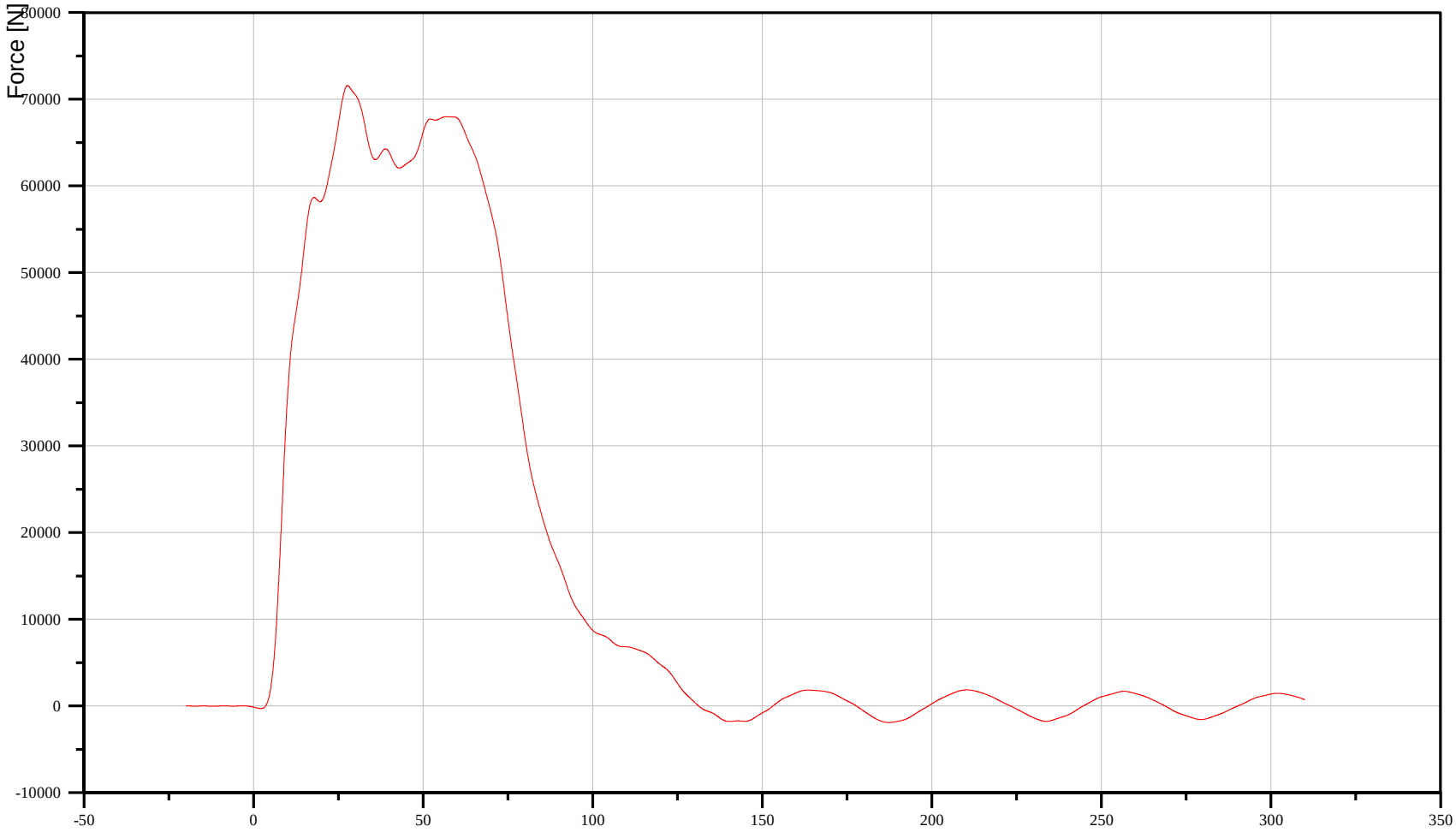
POLE LOAD CELL 1

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR010000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,894.59 N at 187.30 ms

Max. Value
71,589.35 N at 27.70 ms

2016 Honda Fit WorldSID Pole Impact

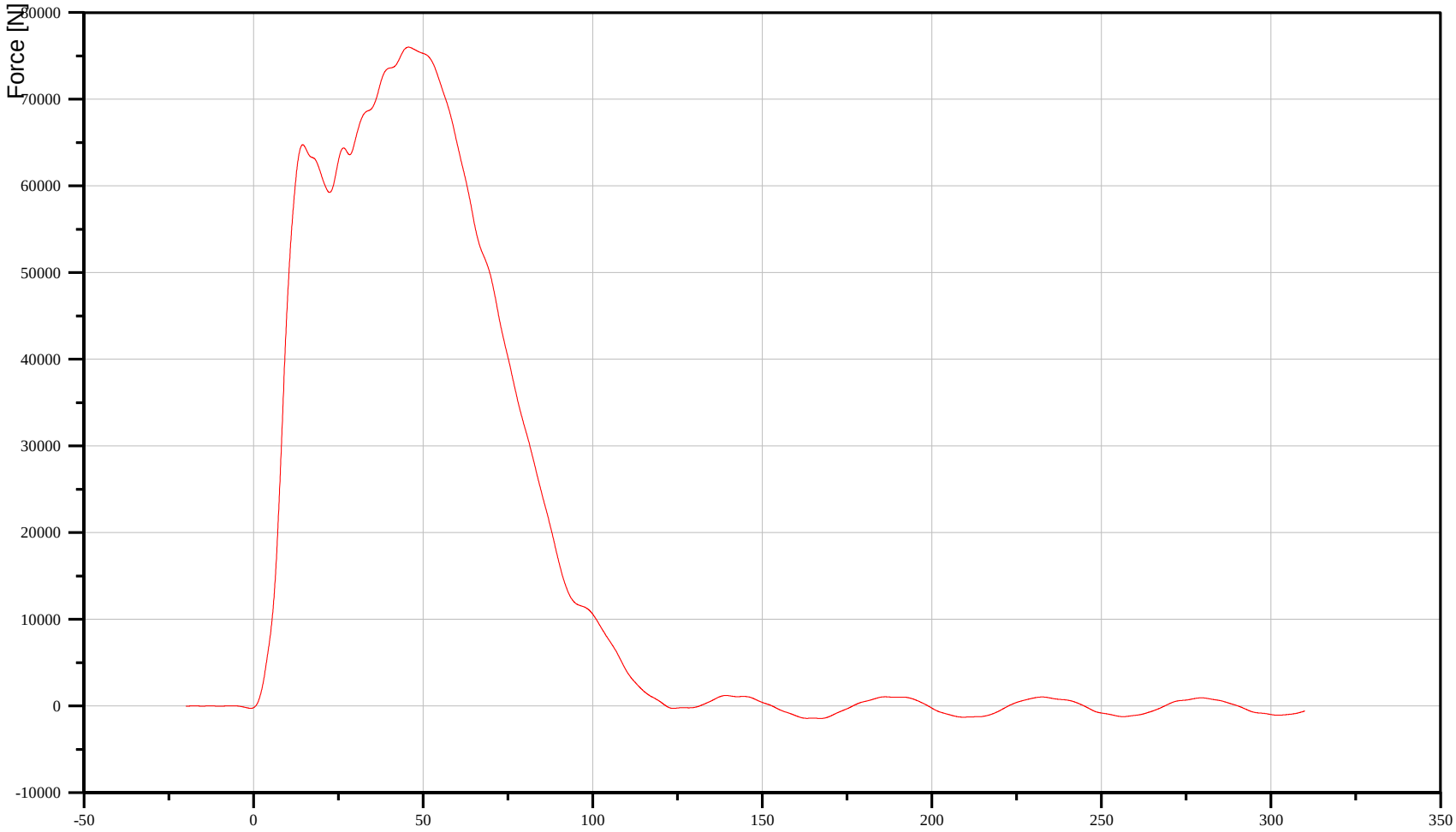
POLE LOAD CELL 2

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR020000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,424.10 N at 167.20 ms

Max. Value
76,018.06 N at 45.70 ms

2016 Honda Fit WorldSID Pole Impact

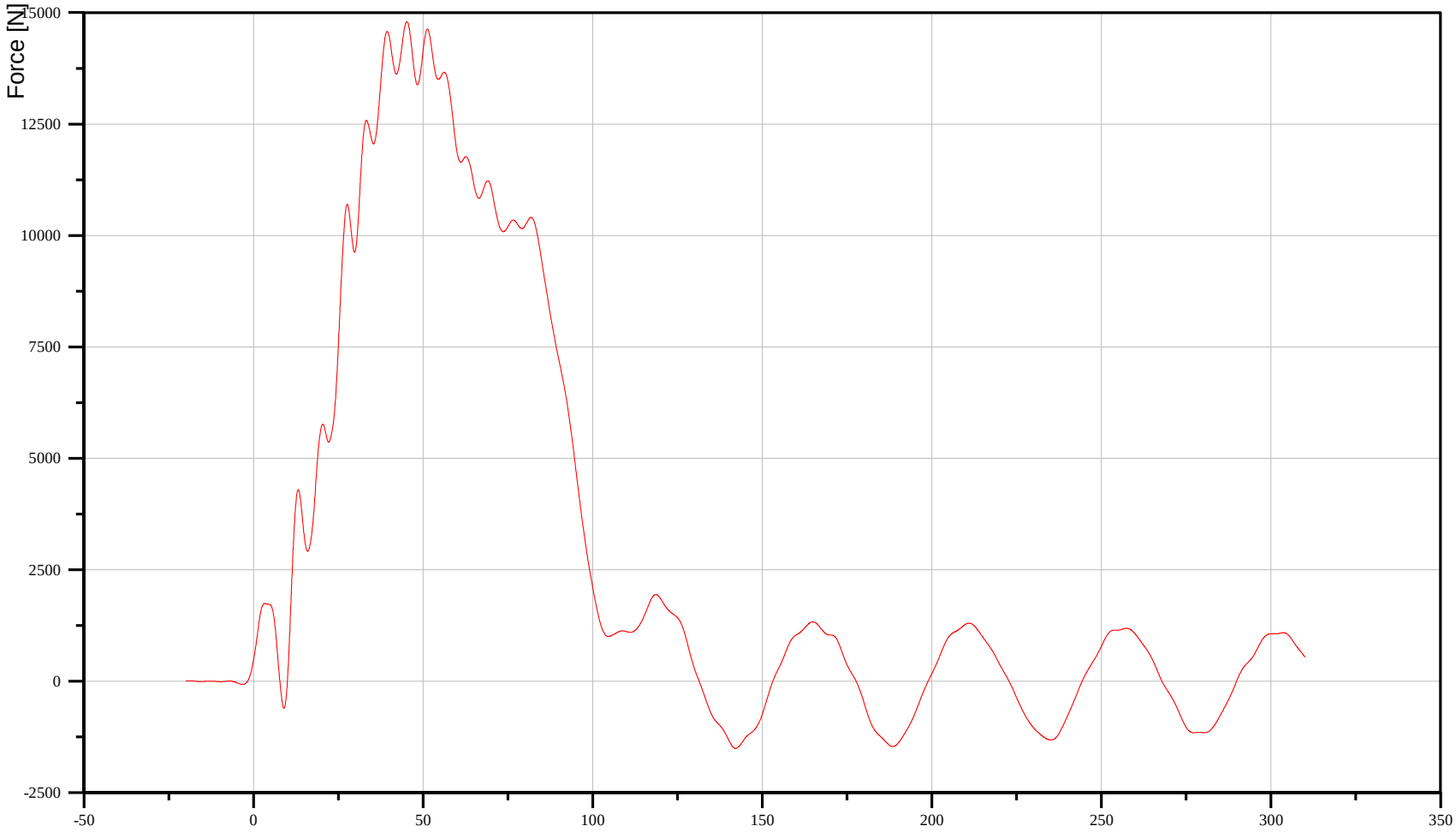
POLE LOAD CELL 3

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR030000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,505.05 N at 142.15 ms

Max. Value
14,797.41 N at 45.20 ms

2016 Honda Fit WorldSID Pole Impact

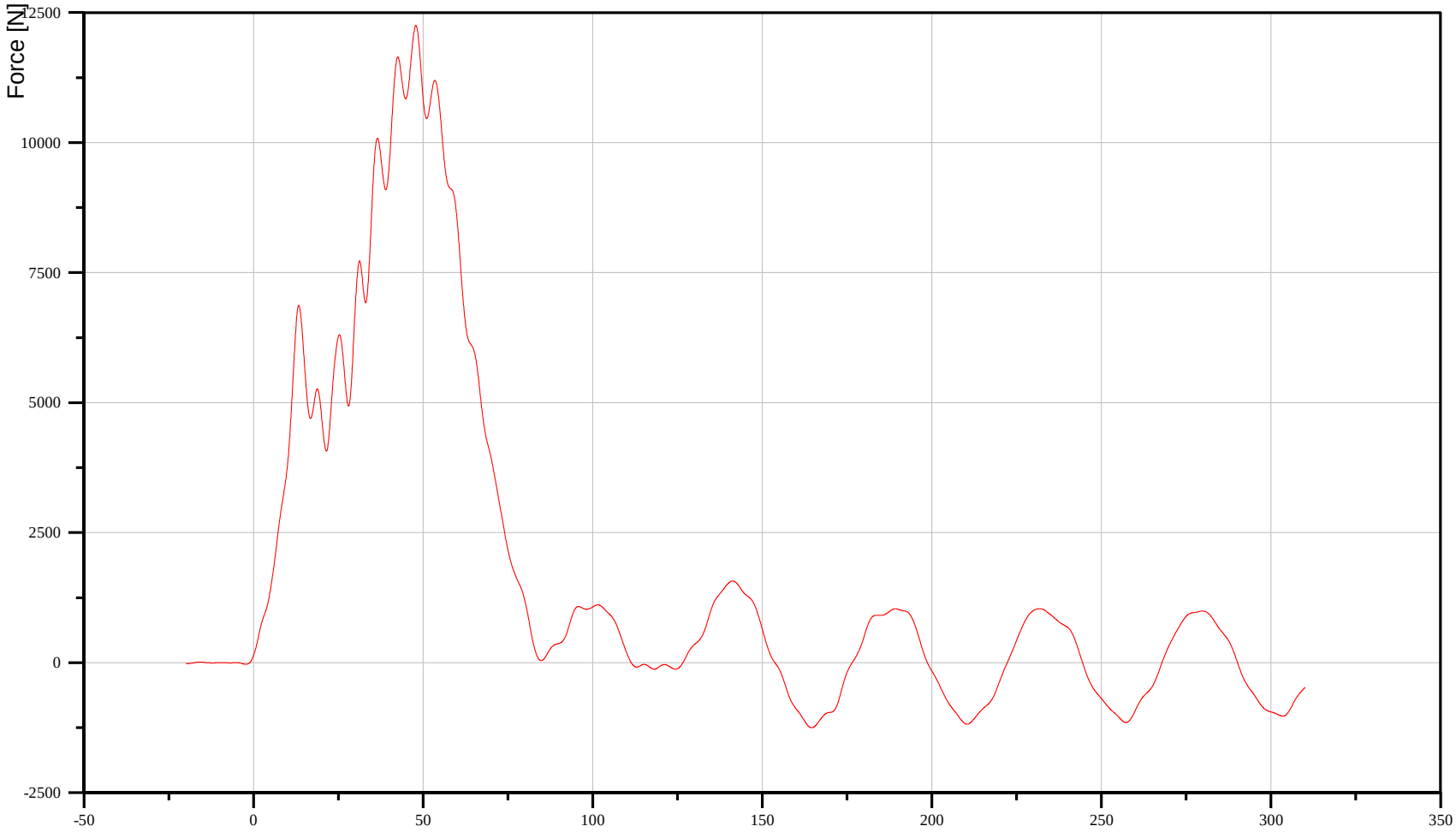
POLE LOAD CELL 4

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR040000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,250.43 N at 164.60 ms

Max. Value
12,254.00 N at 47.85 ms

2016 Honda Fit WorldSID Pole Impact

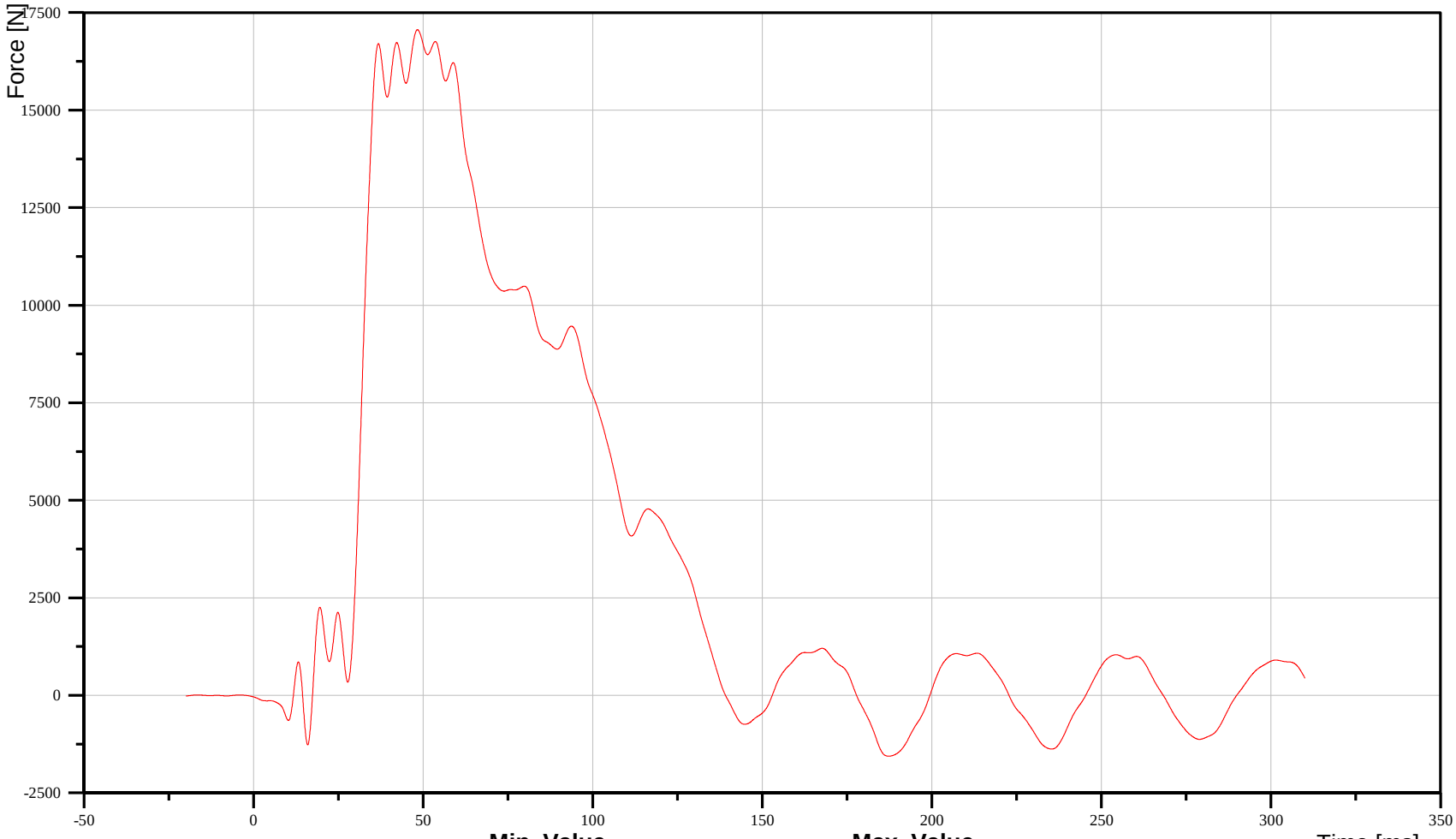
POLE LOAD CELL 5

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR050000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,557.40 N at 187.30 ms

Max. Value
17,062.42 N at 48.35 ms

2016 Honda Fit WorldSID Pole Impact

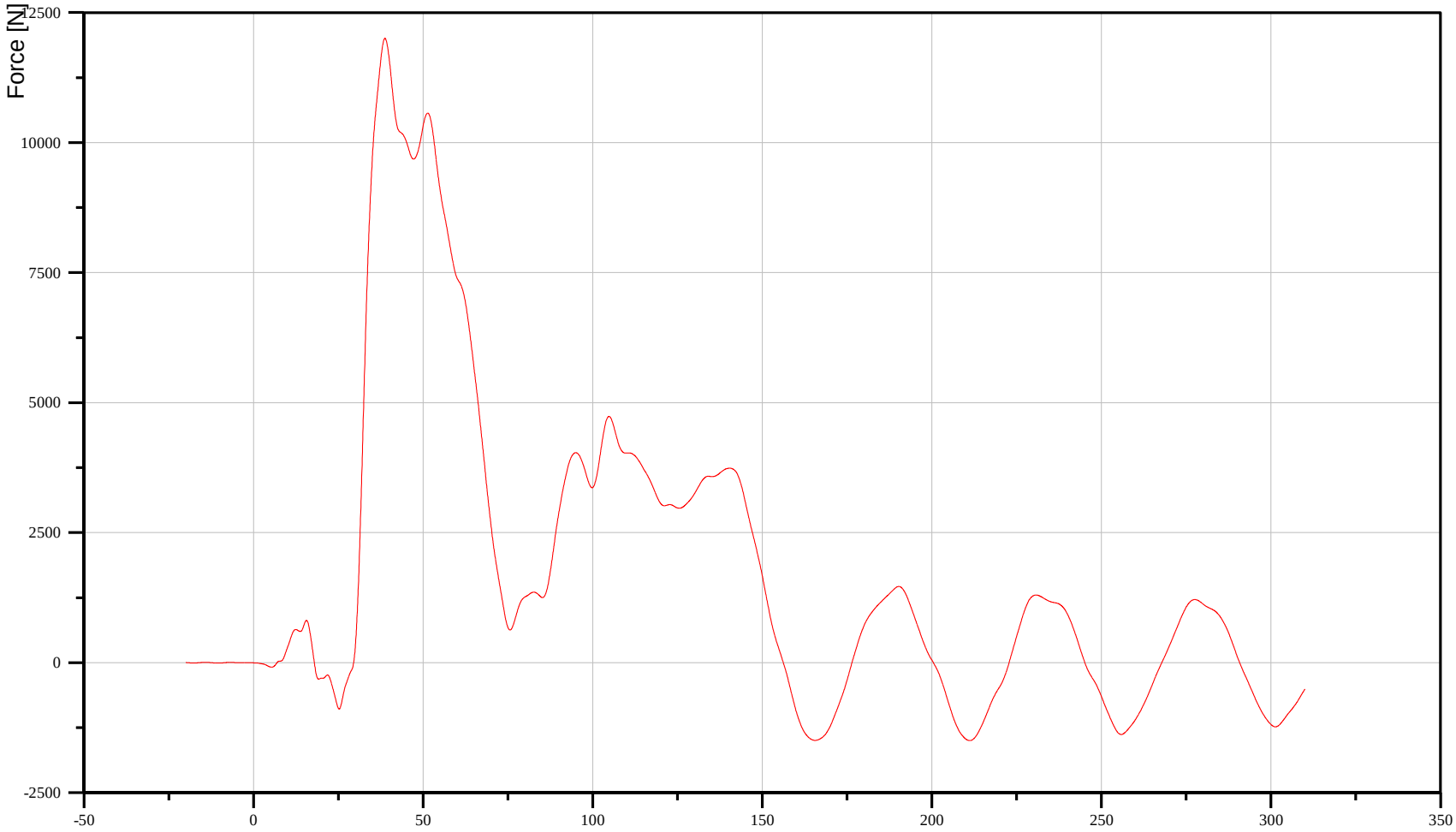
POLE LOAD CELL 6

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR060000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-1,497.48 N at 211.20 ms

Max. Value
12,007.74 N at 38.75 ms

2016 Honda Fit WorldSID Pole Impact

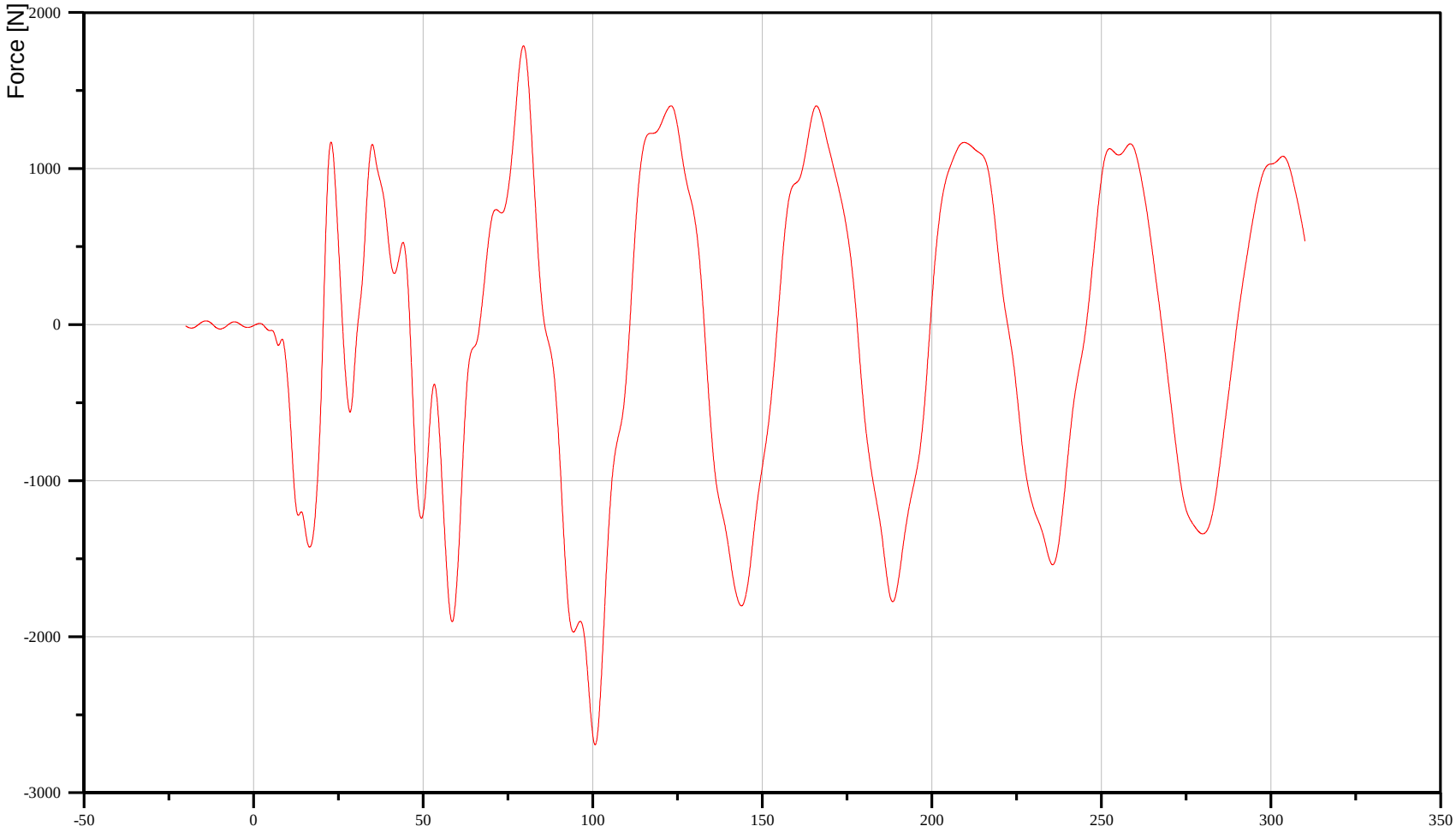
POLE LOAD CELL 7

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR070000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2,692.79 N at 100.70 ms

Max. Value
1,787.70 N at 79.60 ms

2016 Honda Fit WorldSID Pole Impact

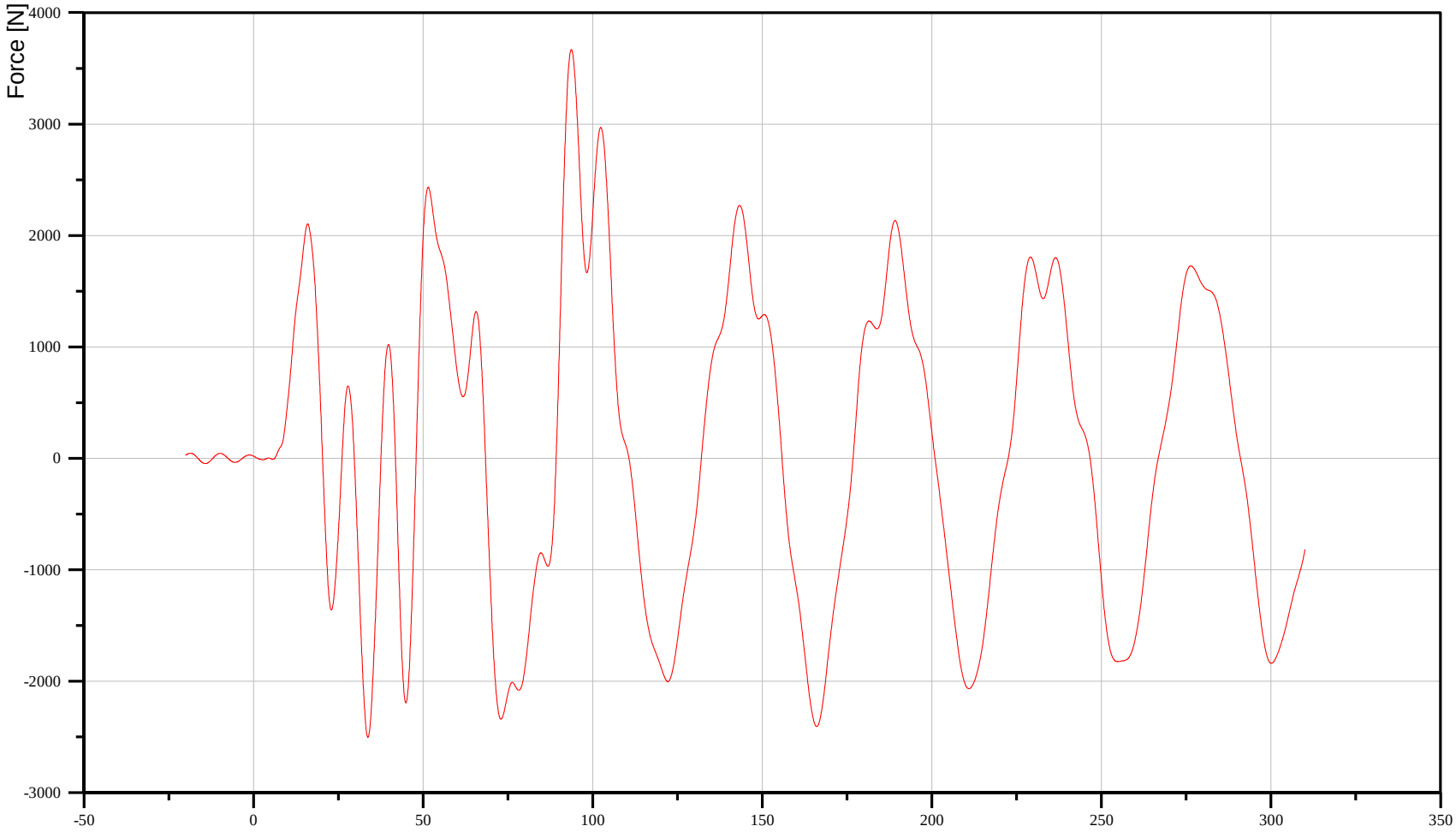
POLE LOAD CELL 8

Date: 05/10/2016
Time: 15:15

Customer: VRTC

K0FBAR080000FOXD

TRC Inc. Test Lab: CTF
Test Number: 160510



Filter: CFC_60

Min. Value
-2,503.38 N at 33.75 ms

Max. Value
3,668.13 N at 93.70 ms

APPENDIX C
DUMMY CONFIGURATION AND PERFORMANCE VERIFICATION DATA

CALIBRATION TEST RESULTS
WorldSID-50M 016

Transportation Research Center Inc.

ATD Calibration Report

for

VRTC

World SID Serial No. 016
Calibration No. 19

Transportation Research Center Inc.
P.O. Box B-67
10820 St. Rt. 347
East Liberty, OH 43319-0367

Transportation Research Center Inc.

Front Head Drop

WorldSID 50th Serial No. 016 Certification No. 19-1

Test Date: 4/20/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	22.1 ºC	Yes
Relative Humidity	10 - 70 %	38 %	Yes
Peak Head Resultant Acceleration	205 - 255 g	232.6 g	Yes
Peak Head Lateral Acceleration	(-15) - 15 g	-6.1 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

Comments:

Head: DL8882

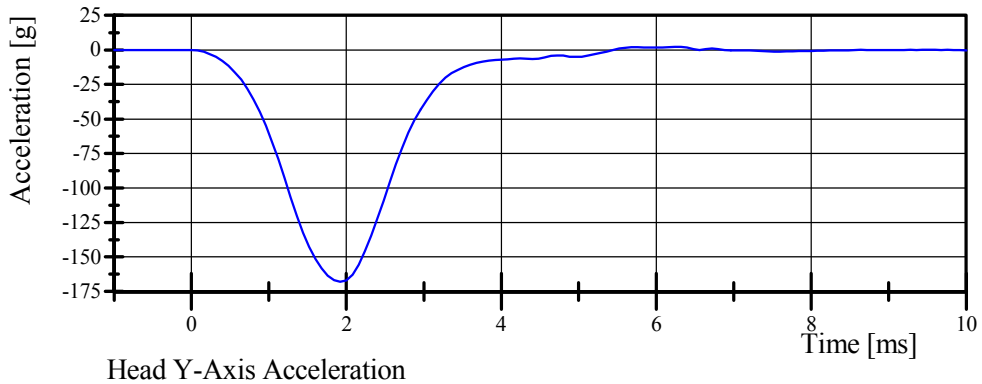
Transportation Research Center Inc.

Front Head Drop

WorldSID 50th Serial No. 016 Certification No. 19-1

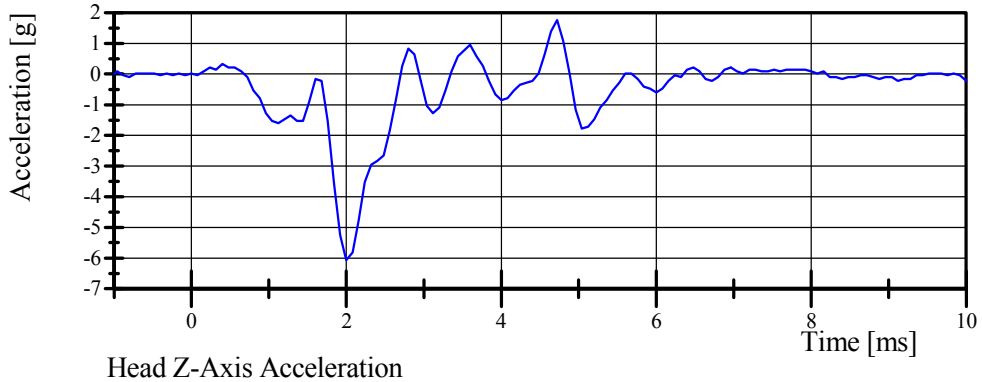
Test Date: 4/20/2016

Head X-Axis Acceleration



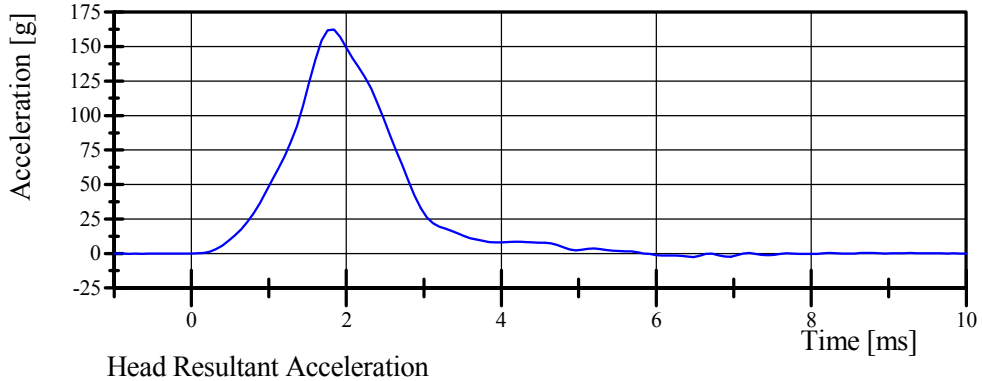
Filter Class: CFC_1000
Max: 2.2 g at 6.3 ms
Min: -168.1 g at 1.9 ms

Head Y-Axis Acceleration



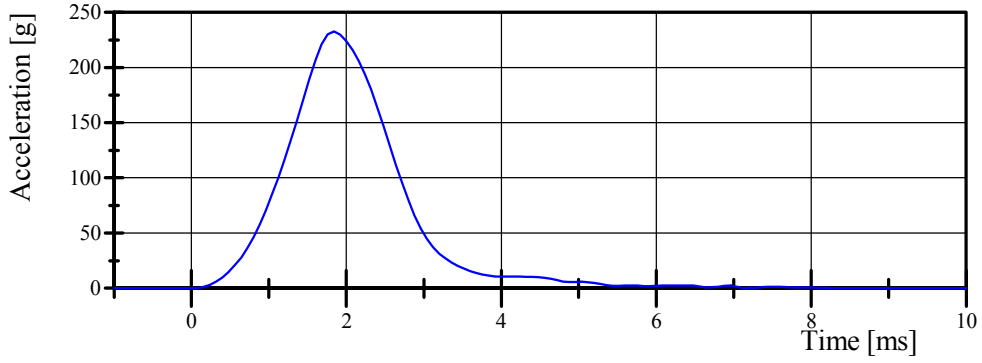
Filter Class: CFC_1000
Max: 1.8 g at 4.7 ms
Min: -6.1 g at 2.0 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 162.2 g at 1.8 ms
Min: -2.5 g at 6.5 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 232.6 g at 1.8 ms
Min: 0.0 g at -0.6 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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Transportation Research Center Inc.

Left Lateral Head Drop
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/21/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.3 ºC	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Peak Head Resultant Acceleration	104 - 123 g	122.7 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	-5.5 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

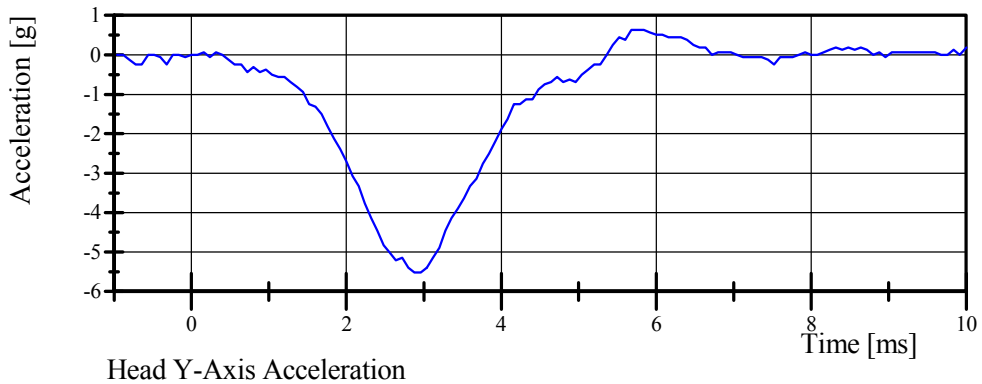
Comments:

Head: DL8882

Transportation Research Center Inc.

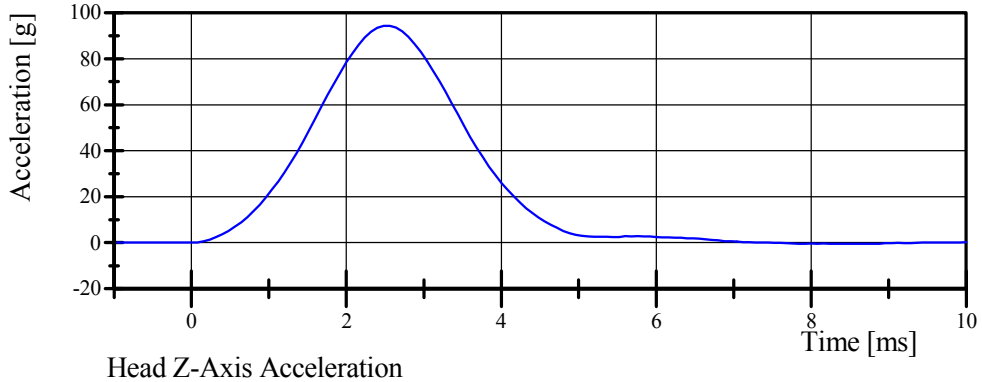
Left Lateral Head Drop
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/21/2016

Head X-Axis Acceleration



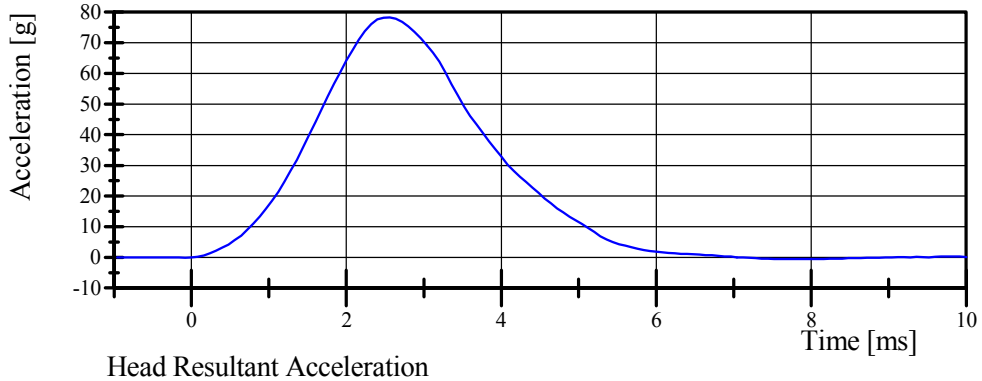
Filter Class: CFC_1000
Max: 0.6 g at 5.7 ms
Min: -5.5 g at 2.9 ms

Head Y-Axis Acceleration



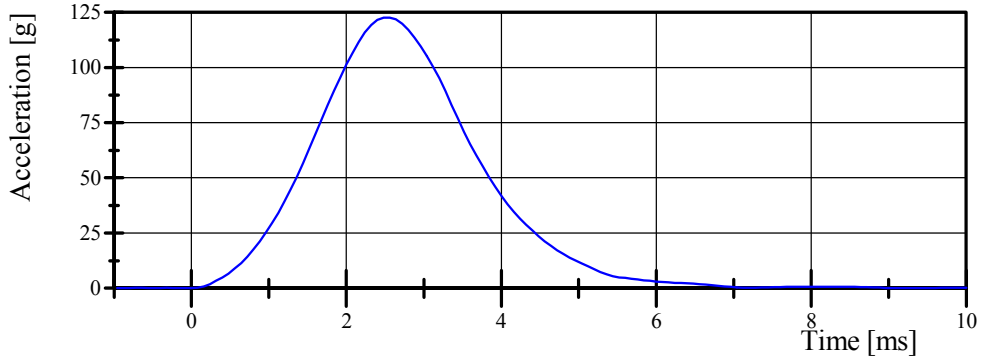
Filter Class: CFC_1000
Max: 94.3 g at 2.5 ms
Min: -0.5 g at 8.2 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 78.3 g at 2.6 ms
Min: -0.6 g at 7.7 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 122.7 g at 2.6 ms
Min: 0.0 g at -0.6 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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Transportation Research Center Inc.

Right Lateral Head Drop
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/21/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.2 ºC	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Peak Head Resultant Acceleration	104 - 123 g	119.3 g	Yes
Peak Head Longitudinal Acceleration	(-15) - 15 g	4.0 g	Yes
Is Acceleration Curve Unimodal within 10% of Peak?	Yes	Yes	Yes

Test meets specifications.

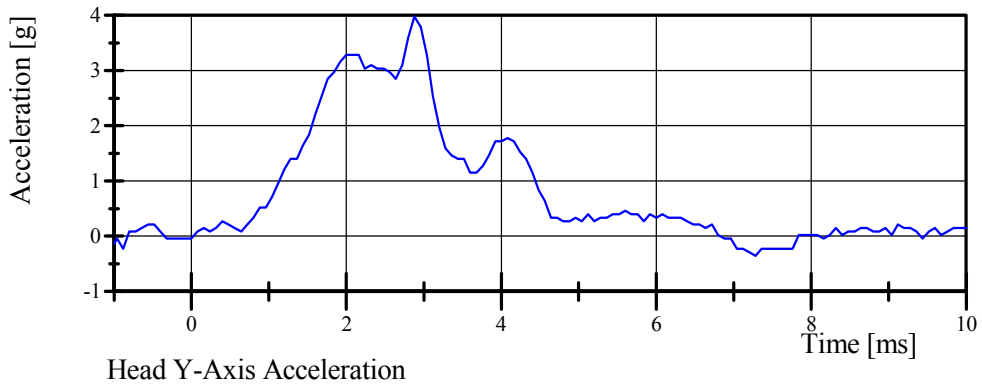
Comments:

Head: DL8882

Transportation Research Center Inc.

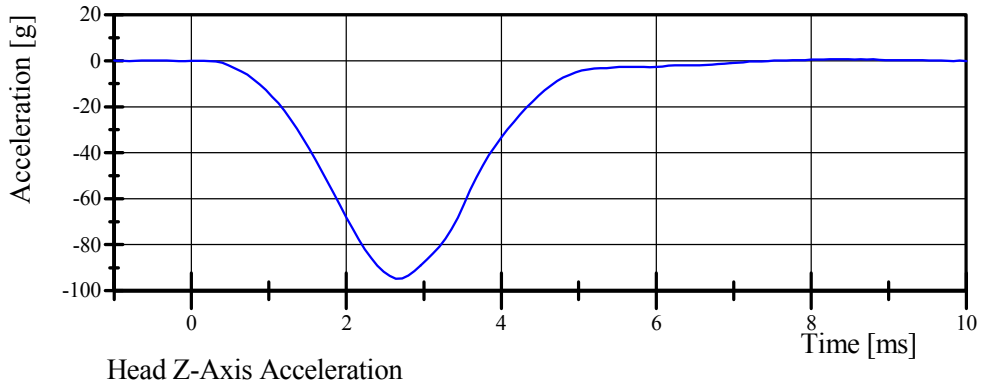
Right Lateral Head Drop
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/21/2016

Head X-Axis Acceleration



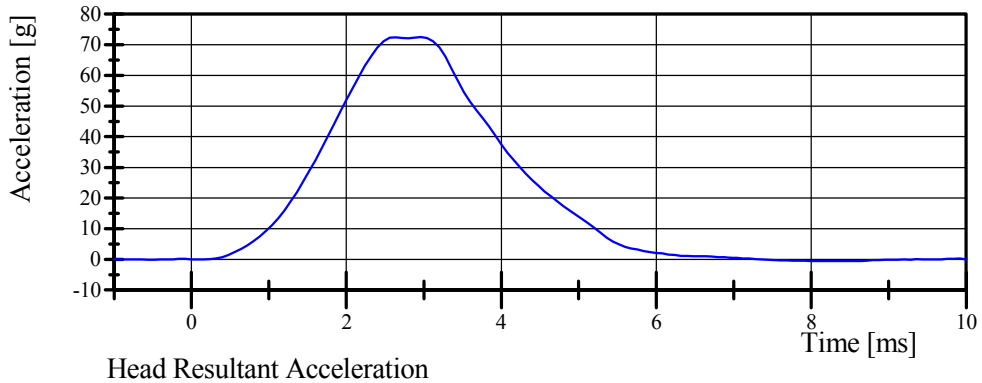
Filter Class: CFC_1000
Max: 4.0 g at 2.9 ms
Min: -0.4 g at 7.3 ms

Head Y-Axis Acceleration



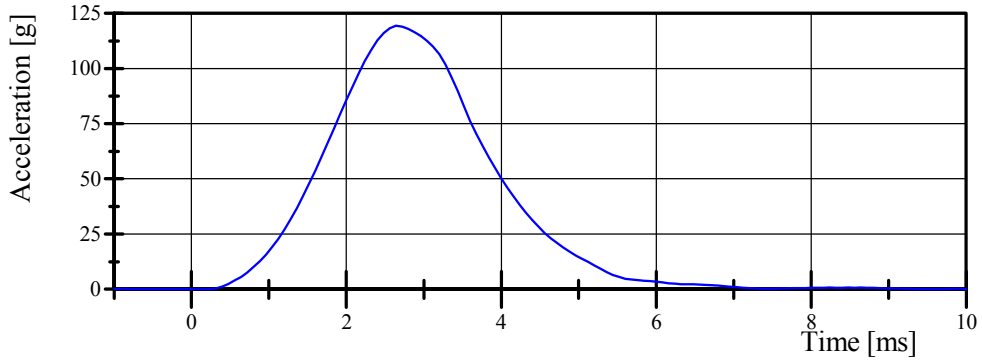
Filter Class: CFC_1000
Max: 0.7 g at 8.2 ms
Min: -94.8 g at 2.6 ms

Head Z-Axis Acceleration



Filter Class: CFC_1000
Max: 72.5 g at 3.0 ms
Min: -0.6 g at 8.2 ms

Head Resultant Acceleration



Filter Class: CFC_1000
Max: 119.3 g at 2.6 ms
Min: 0.0 g at 9.7 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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Transportation Research Center Inc.

Left Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.1 ºC	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Pendulum Velocity	(-3.3) - (-3.5) m/s	-3.39 m/s	Yes
Pendulum Integrated Velocity Change at 4 ms	0.77 - 1.04 m/s	0.864 m/s	Yes
Change at 8 ms	1.6 - 1.9 m/s	1.77 m/s	Yes
Change at 12 ms	2.43 - 3.29 m/s	2.749 m/s	Yes
Maximum Headform Flexion	(-50) - (-61) deg	-51.7 deg	Yes
Headform Flexion Decay - from Peak to Zero Degrees	58 - 72 ms	58.3 ms	Yes
Total Neck Occipital Condyles Moment	55 - 68 N·m	64.6 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	71 - 87 ms	73.7 ms	Yes
Maximum Forward Pot Rotation			
Peak	(-32) - (-39) º	-33.6 º	Yes
Time of Peak	56 - 68 ms	58.9 ms	Yes
Maximum Rear Pot Rotation			
Peak	(-30) - (-37) º	-30.3 º	Yes
Time of Peak	56 - 68 ms	61.1 ms	Yes

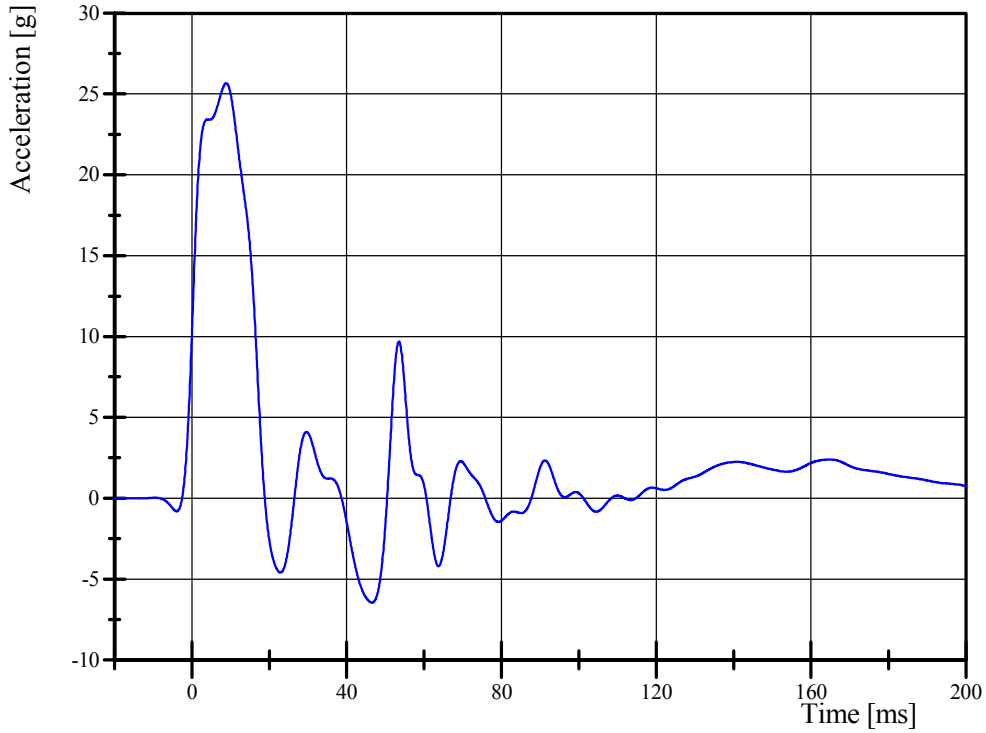
Test meets specifications.

Comments:

Transportation Research Center Inc.

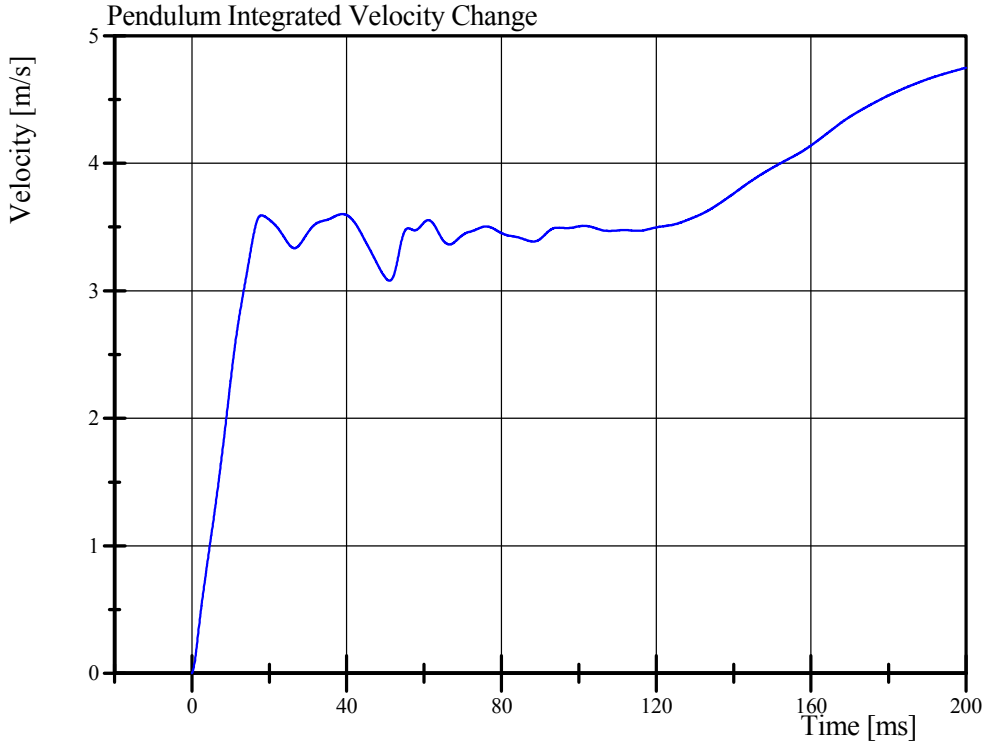
Left Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Pendulum Acceleration



Filter Class: CFC_60
Max: 25.7 g at 8.9 ms
Min: -6.5 g at 46.6 ms

Pendulum Integrated Velocity Change

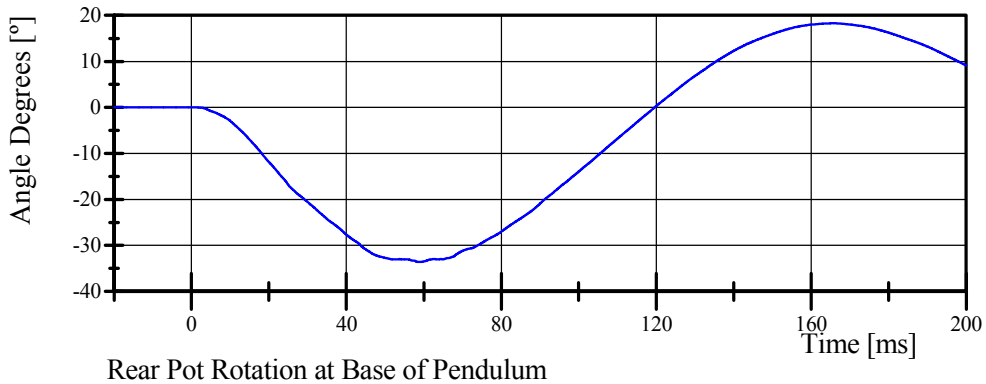


Filter Class: CFC_180
Max: 4.7 m/s at 200.0 ms
Min: 0.0 m/s at 0.0 ms

Transportation Research Center Inc.

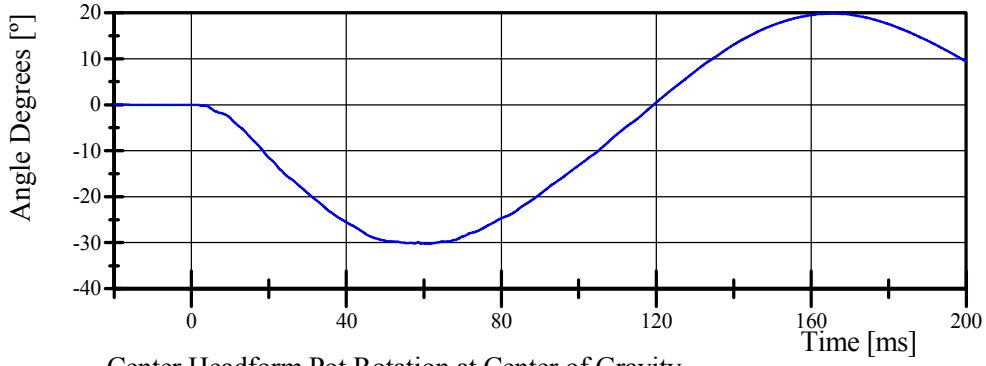
Left Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Forward Pot Rotation at Base of Pendulum



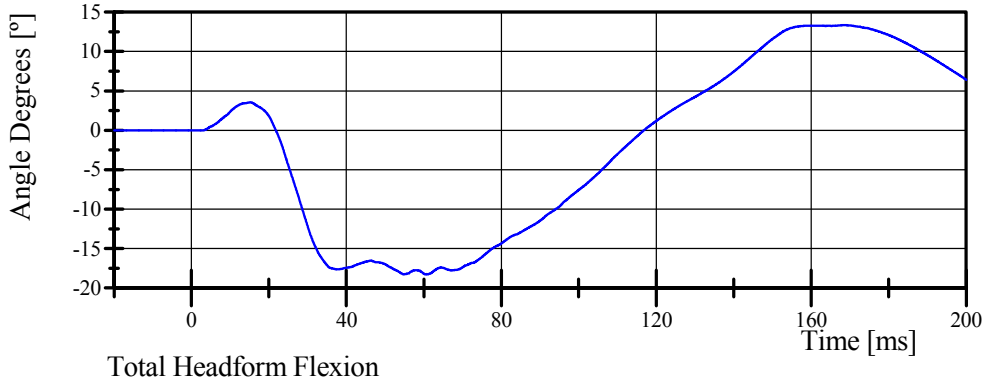
Filter Class: CFC_1000
Max: 18.3 ° at 165.3 ms
Min: -33.6 ° at 58.9 ms

Rear Pot Rotation at Base of Pendulum



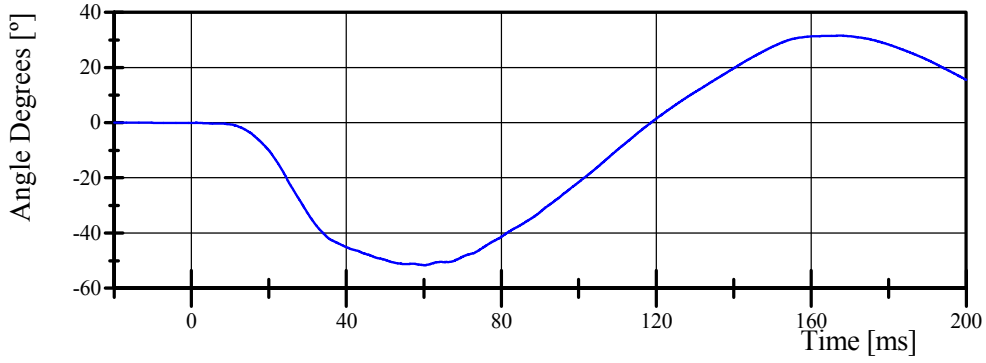
Filter Class: CFC_1000
Max: 19.8 ° at 165.0 ms
Min: -30.3 ° at 61.1 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_1000
Max: 13.4 ° at 168.2 ms
Min: -18.3 ° at 60.4 ms

Total Headform Flexion



Filter Class: CFC_1000
Max: 31.6 ° at 167.7 ms
Min: -51.7 ° at 60.4 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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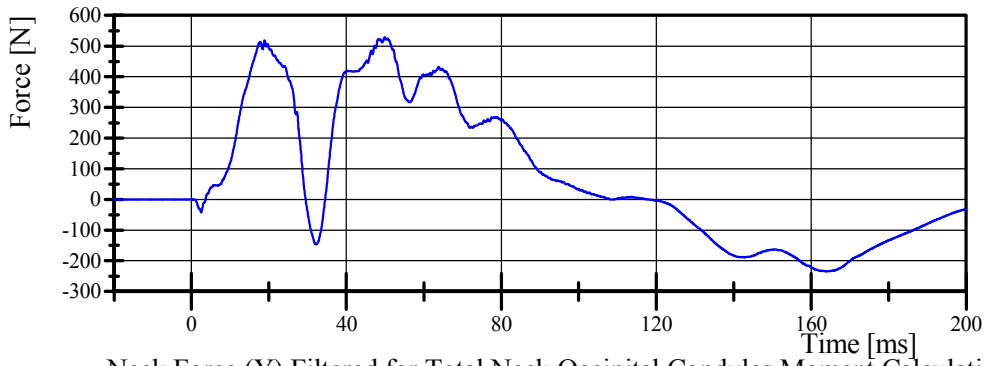
Transportation Research Center Inc.

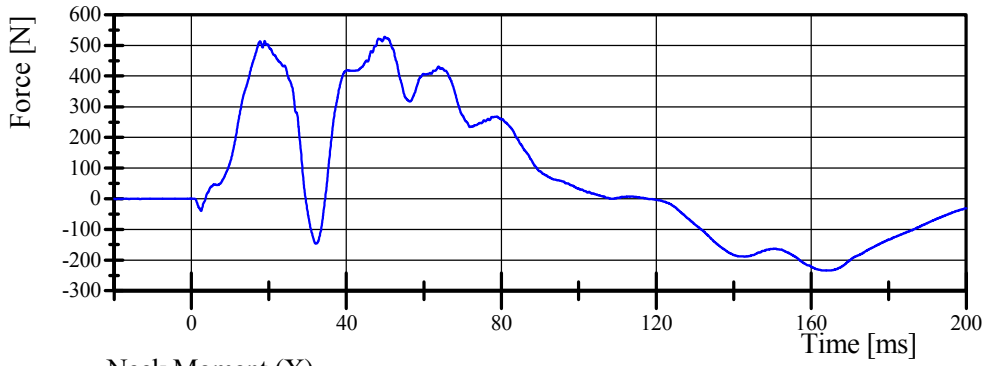
Left Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Neck Force (Y)



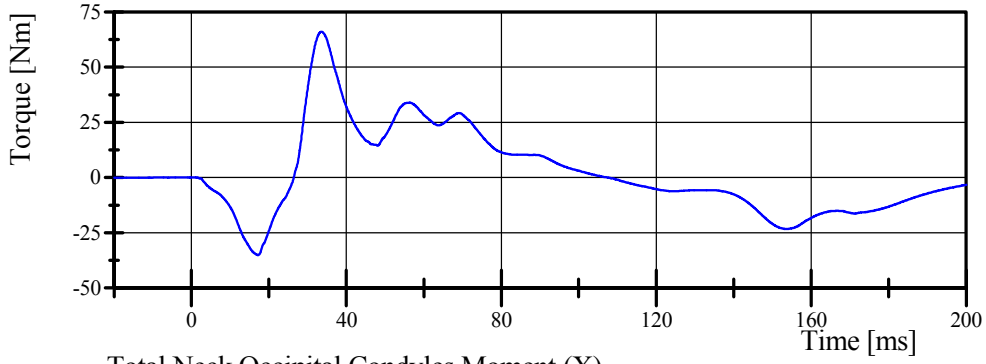
Filter Class: CFC_1000
Max: 529.3 N at 49.9 ms
Min: -234.8 N at 163.9 ms

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



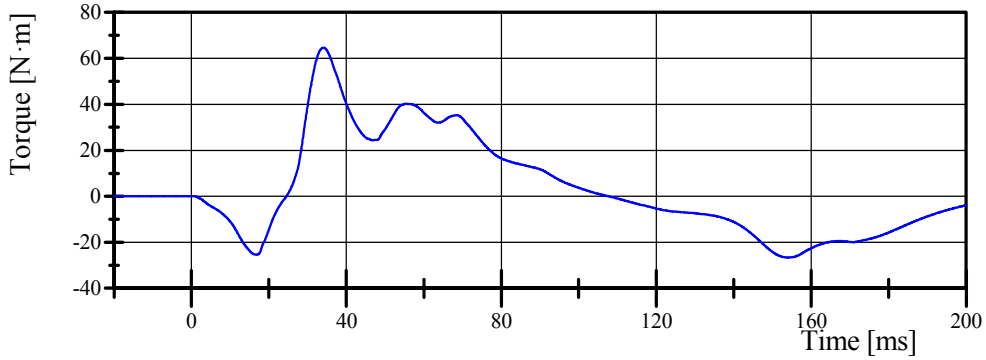
Filter Class: CFC_600
Max: 527.5 N at 49.9 ms
Min: -234.7 N at 164.0 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 66.1 Nm at 33.6 ms
Min: -35.0 Nm at 17.2 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 64.6 N·m at 34.1 ms
Min: -26.6 N·m at 153.8 ms

Transportation Research Center Inc.

Right Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.9 ºC	Yes
Relative Humidity	10 - 70 %	37 %	Yes
Pendulum Velocity	3.3 - 3.5 m/s	3.39 m/s	Yes
Pendulum Integrated Velocity Change at 4 ms	(-0.77) - (-1.04) m/s	-0.868 m/s	Yes
Change at 8 ms	(-1.6) - (-1.9) m/s	-1.85 m/s	Yes
Change at 12 ms	(-2.43) - (-3.29) m/s	-2.891 m/s	Yes
Maximum Headform Flexion	50 - 61 deg	52.0 deg	Yes
Headform Flexion Decay - from Peak to Zero Degrees	58 - 72 ms	59.6 ms	Yes
Total Neck Occipital Condyles Moment	(-55) - (-68) N·m	-65.0 N·m	Yes
Total Neck Occipital Condyles Moment Decay Time to 0 N·m	71 - 87 ms	75.1 ms	Yes
Maximum Forward Pot Rotation			
Peak	32 - 39 º	33.3 º	Yes
Time of Peak	56 - 68 ms	58.2 ms	Yes
Maximum Rear Pot Rotation			
Peak	30 - 37 º	30.3 º	Yes
Time of Peak	56 - 68 ms	60.0 ms	Yes

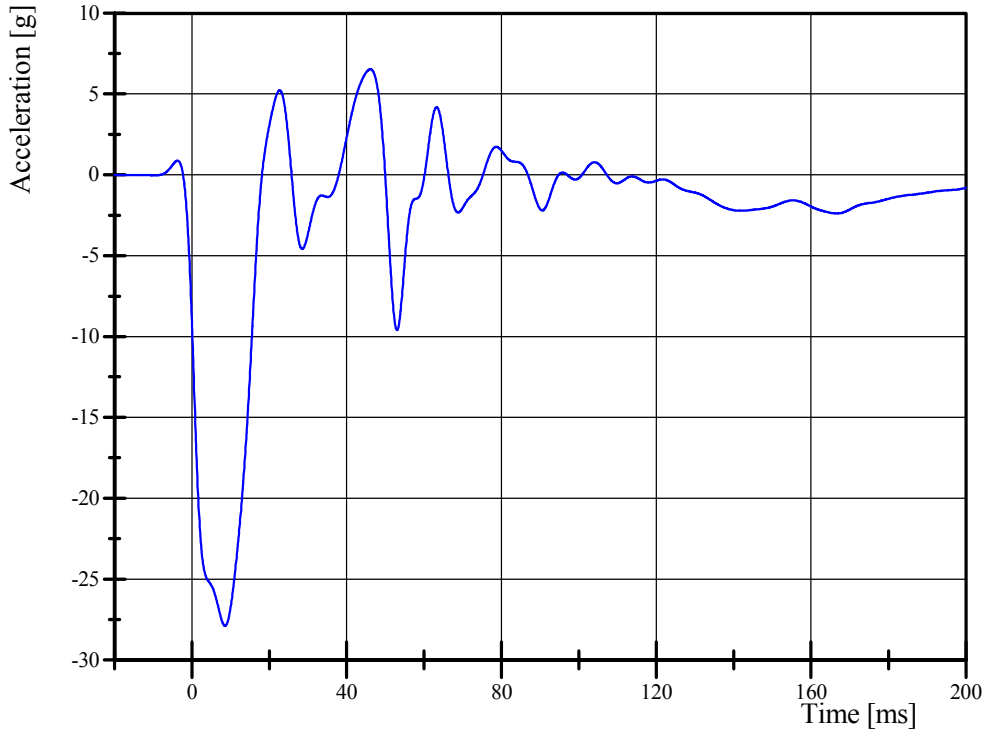
Test meets specifications.

Comments:

Transportation Research Center Inc.

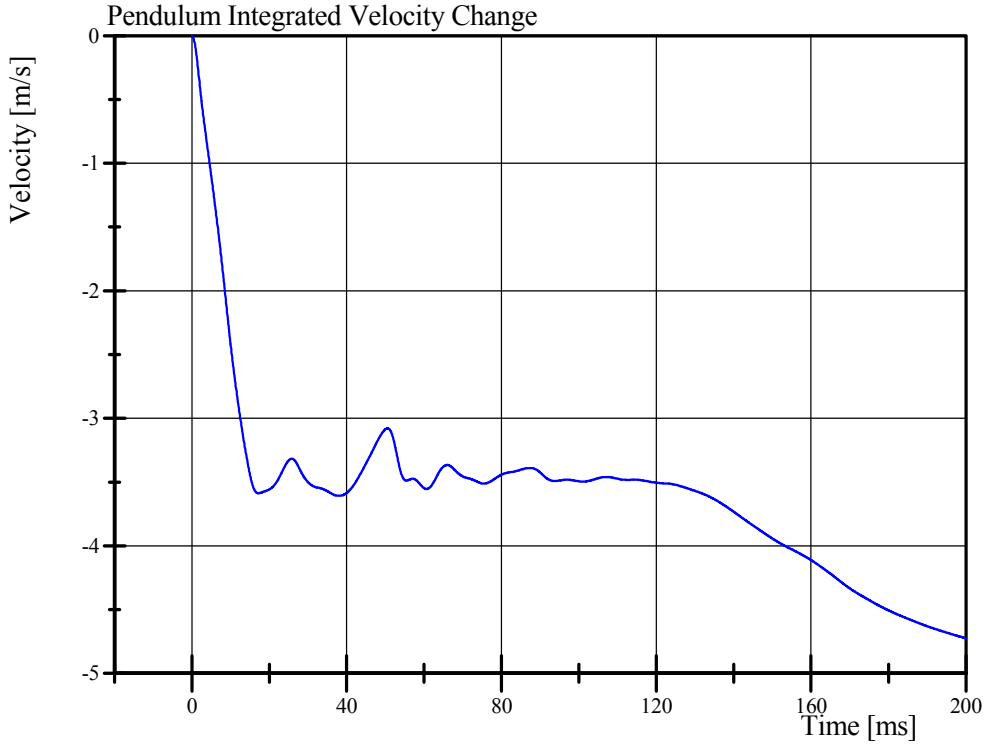
Right Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Pendulum Acceleration



Filter Class: CFC_60
Max: 6.5 g at 46.2 ms
Min: -27.9 g at 8.6 ms

Pendulum Integrated Velocity Change



Filter Class: CFC_180
Max: 0.0 m/s at 0.0 ms
Min: -4.7 m/s at 200.0 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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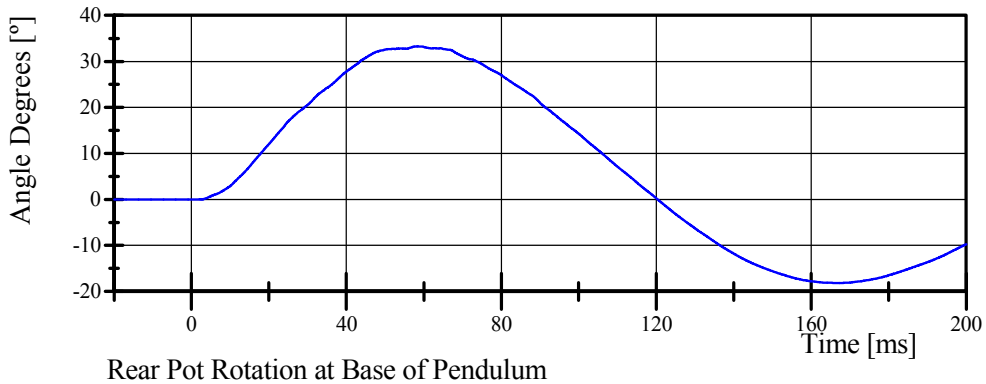
Transportation Research Center Inc.

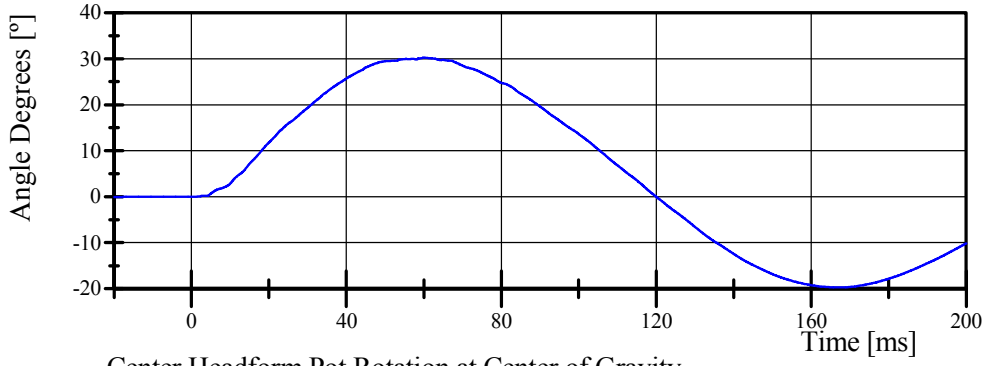
Right Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Forward Pot Rotation at Base of Pendulum



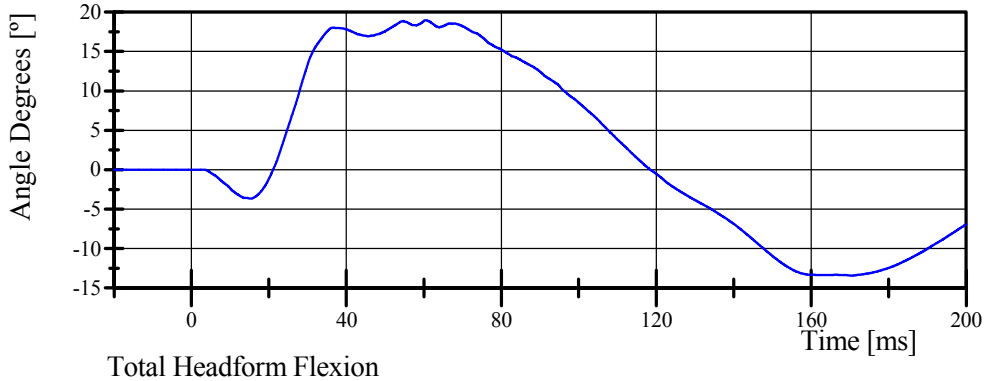
Filter Class: CFC_1000
Max: 33.3 ° at 58.2 ms
Min: -18.2 ° at 166.7 ms

Rear Pot Rotation at Base of Pendulum



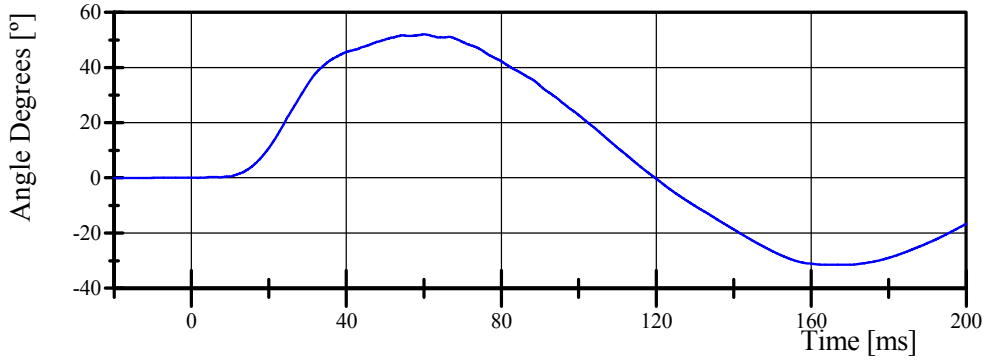
Filter Class: CFC_1000
Max: 30.3 ° at 60.0 ms
Min: -19.7 ° at 167.3 ms

Center Headform Pot Rotation at Center of Gravity



Filter Class: CFC_1000
Max: 19.0 ° at 60.7 ms
Min: -13.4 ° at 170.3 ms

Total Headform Flexion

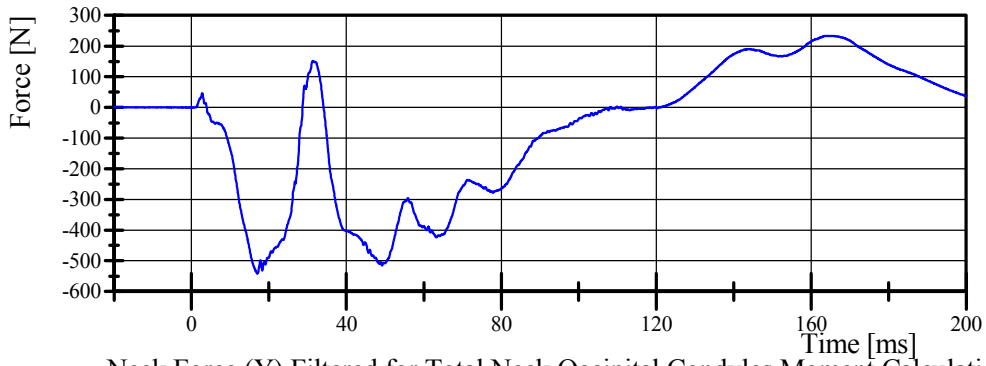


Filter Class: CFC_1000
Max: 52.0 ° at 60.2 ms
Min: -31.5 ° at 167.0 ms

Transportation Research Center Inc.

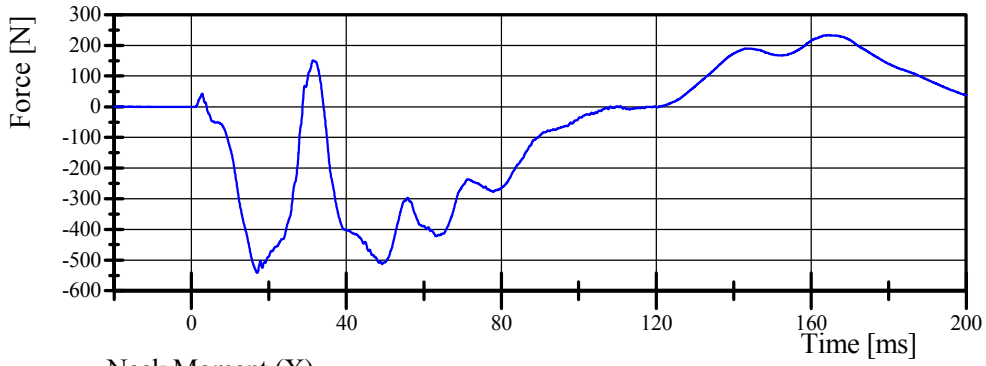
Right Lateral Neck
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/20/2016

Neck Force (Y)



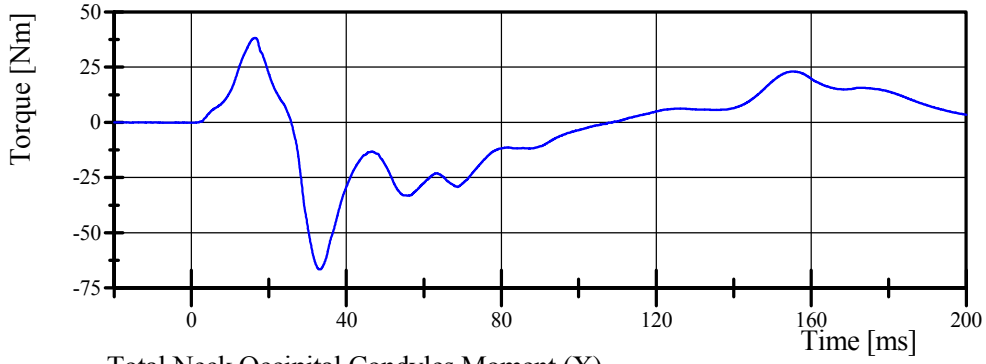
Filter Class: CFC_1000
Max: 233.6 N at 164.7 ms
Min: -540.9 N at 17.0 ms

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



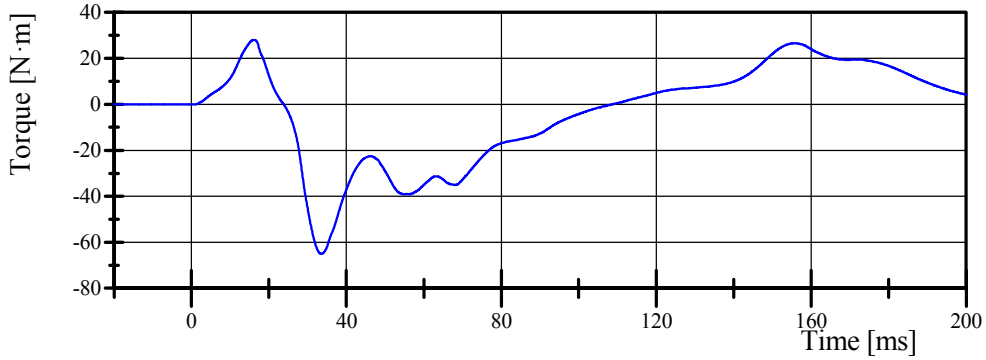
Filter Class: CFC_600
Max: 233.3 N at 164.7 ms
Min: -541.1 N at 17.0 ms

Neck Moment (X)



Filter Class: CFC_600
Max: 38.3 Nm at 16.4 ms
Min: -66.6 Nm at 33.1 ms

Total Neck Occipital Condyles Moment (X)



Filter Class: Without_(Constar
Max: 28.0 N·m at 16.2 ms
Min: -65.0 N·m at 33.6 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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Transportation Research Center Inc.

Left Lateral Shoulder
WorldSID 50th Serial No. 016 Certification No. 19-4
Test Date: 4/25/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.4 ºC	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.303 m/s	Yes
Impactor Force	(-2,600) - (-3,300) N	-3,030.3 N	Yes
Shoulder Displacement	35 - 45 mm	44.4 mm	Yes

Test meets specifications.

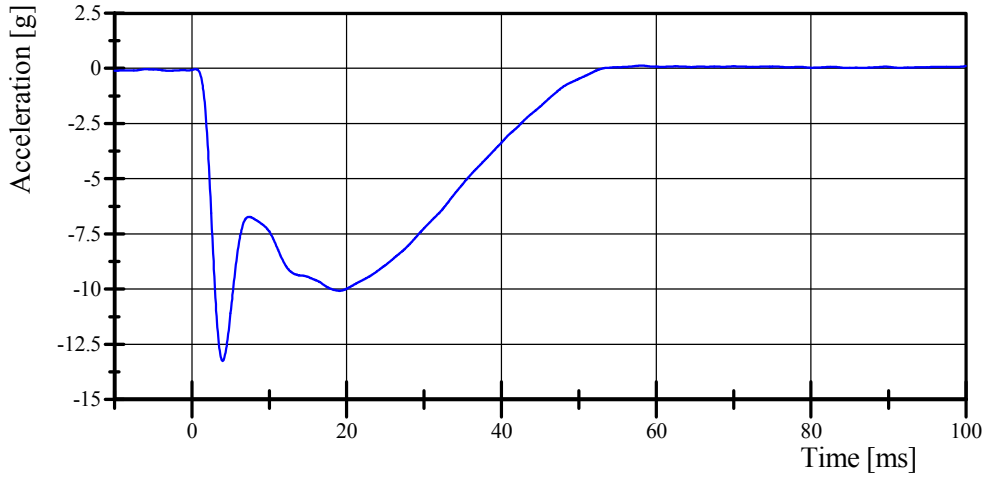
Comments:

Shoulder Rib: DW1914
Thorax Rib 1: DW8861
Thorax Rib 2: DW8862
Thorax Rib 3: DW8863
Abdomen Rib 1: DW9381
Abdomen Rib 2:DW9382

Transportation Research Center Inc.

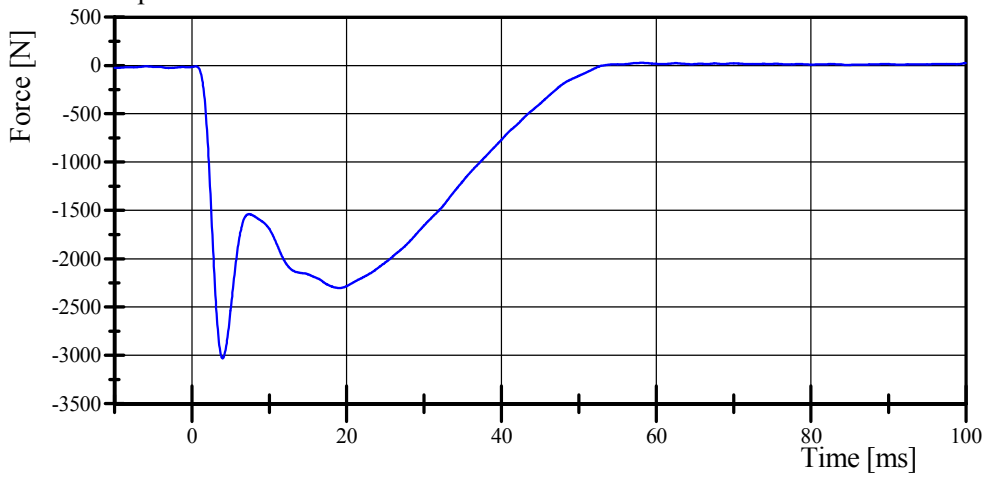
Left Lateral Shoulder
WorldSID 50th Serial No. 016 Certification No. 19-4
Test Date: 4/25/2016

Impactor Acceleration



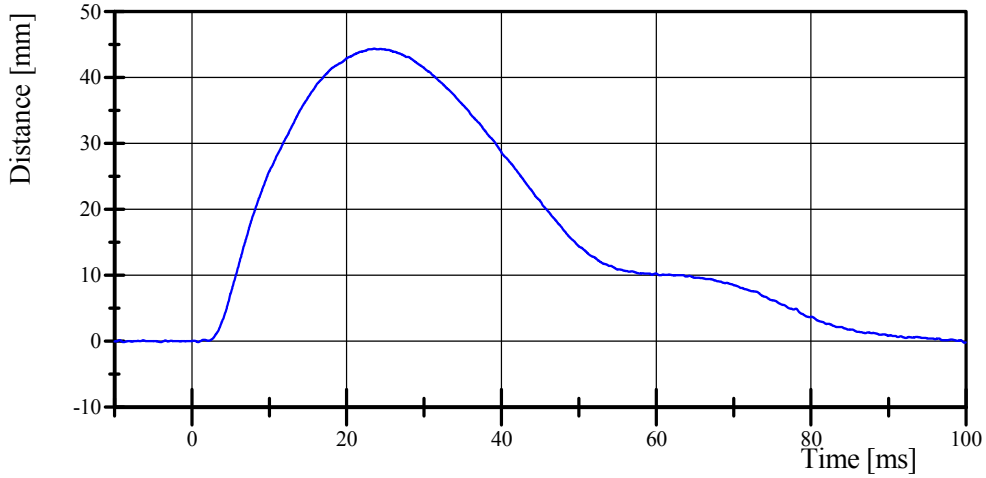
Filter Class: CFC_180
Max: 0.1 g at 58.2 ms
Min: -13.2 g at 4.0 ms

Impactor Force



Filter Class: CFC_180
Max: 27.9 N at 58.2 ms
Min: -3,030.3 N at 4.0 ms

Shoulder Displacement



Filter Class: CFC_600
Max: 44.4 mm at 23.6 ms
Min: -0.3 mm at 99.9 ms

Transportation Research Center Inc.

Left Lateral Thorax with Arm
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	22.1 ºC	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.679 m/s	Yes
Impactor Force	(-4,900) - (-5,800) N	-5,580.2 N	Yes
Upper Thorax Rib Displacement	35 - 47 mm	39.2 mm	Yes
Center Thorax Rib Displacement	46 - 56 mm	45.1 mm	No
Lower Thorax Rib Displacement	39 - 46 mm	36.4 mm	No
Upper Spine Lateral Acceleration	28 - 37 g	31.5 g	Yes
Lower Spine Lateral Acceleration	22 - 28 g	21.0 g	No

Test does not meet specifications.

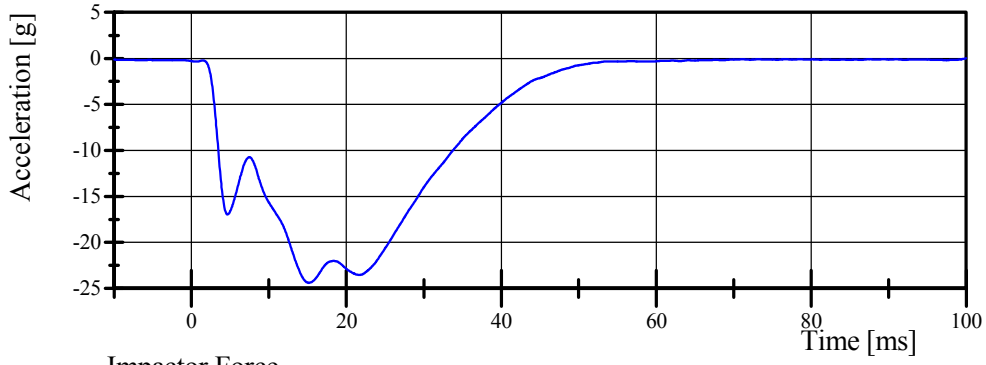
Comments:

Shoulder Rib: DW1914
Thorax Rib 1: DW8861
Thorax Rib 2: DW8862
Thorax Rib 3: DW8863
Abdomen Rib 1: DW9381
Abdomen Rib 2:DW9382

Transportation Research Center Inc.

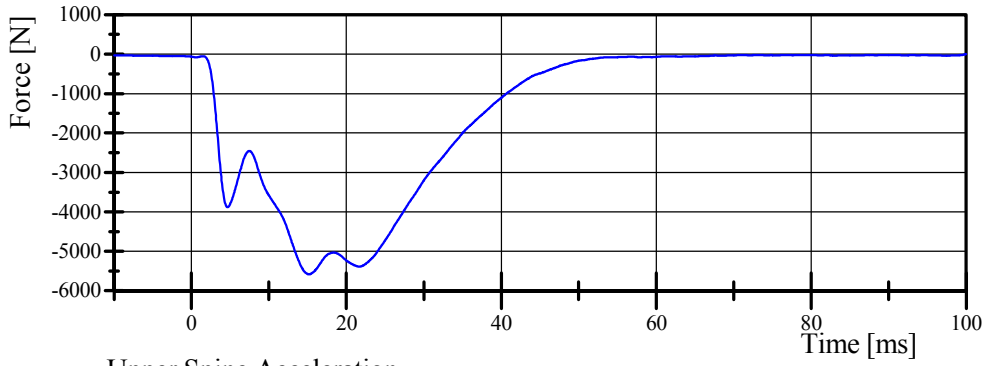
Left Lateral Thorax with Arm
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Impactor Acceleration



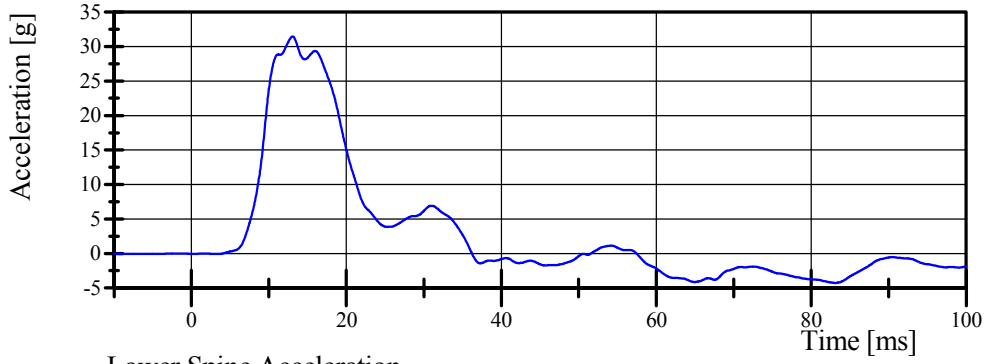
Filter Class: CFC_180
Max: 0.0 g at 100.0 ms
Min: -24.4 g at 15.2 ms

Impactor Force



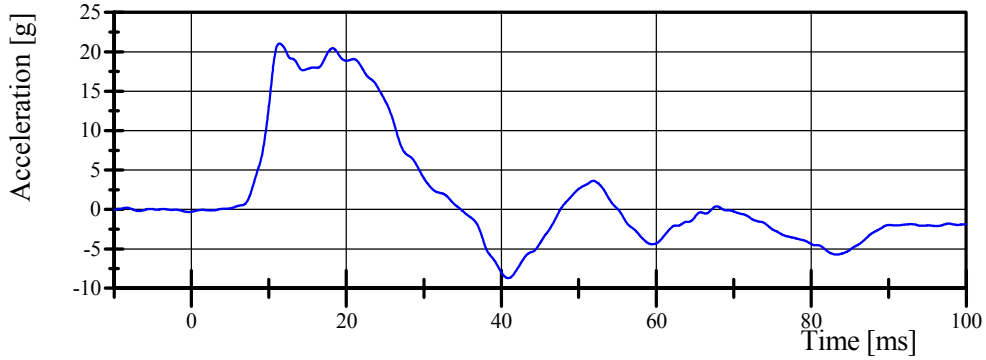
Filter Class: CFC_180
Max: 3.7 N at 100.0 ms
Min: -5,580.2 N at 15.2 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 31.5 g at 13.1 ms
Min: -4.3 g at 83.1 ms

Lower Spine Acceleration



Filter Class: CFC_180
Max: 21.0 g at 11.4 ms
Min: -8.7 g at 40.9 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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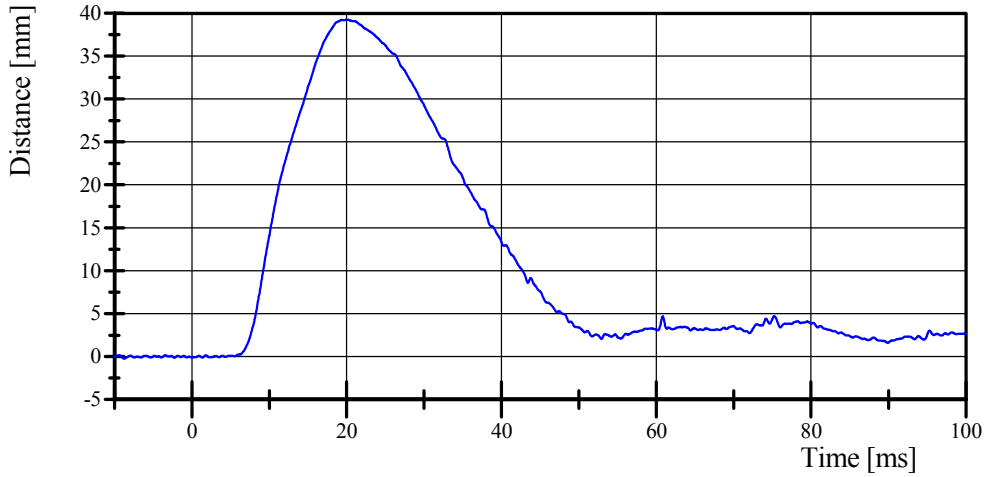
Transportation Research Center Inc.

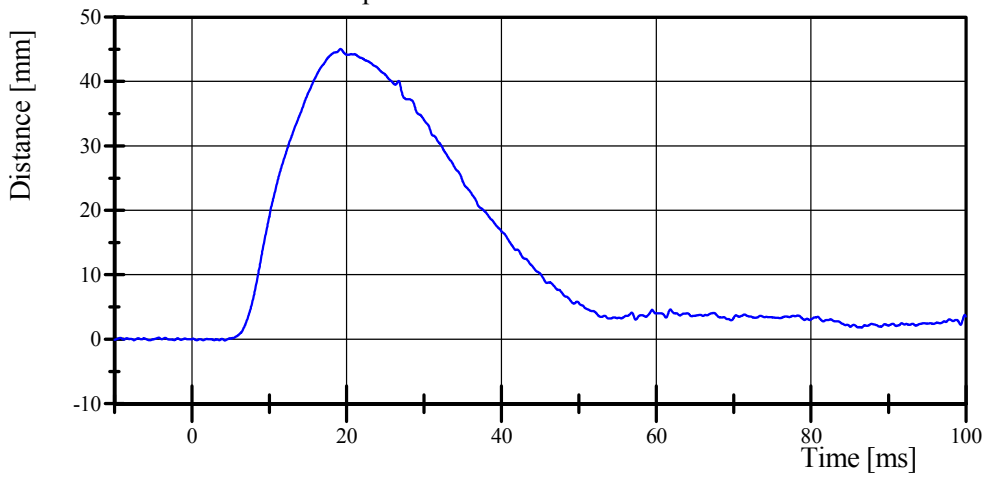
Left Lateral Thorax with Arm
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Upper Thorax Rib Displacement



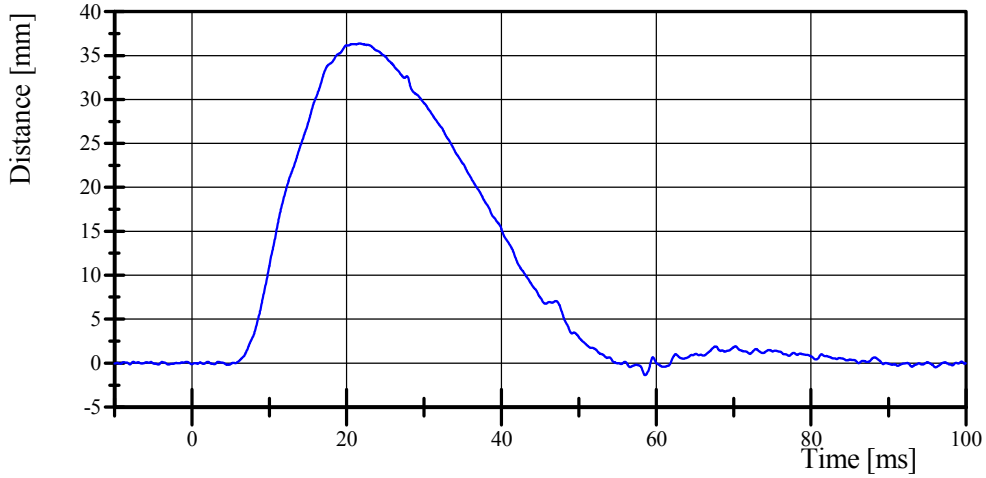
Filter Class: CFC_600
Max: 39.2 mm at 20.1 ms
Min: -0.2 mm at -8.8 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 45.1 mm at 19.2 ms
Min: -0.2 mm at 4.3 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 36.4 mm at 21.7 ms
Min: -1.4 mm at 58.6 ms

Transportation Research Center Inc.

Left Lateral Thorax without Arm
WorldSID 50th Serial No. 016 Certification No. 19-4
Test Date: 4/25/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.3 ºC	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.313 m/s	Yes
Impactor Force	(-3,200) - (-3,800) N	-3,769.9 N	Yes
Upper Thorax Rib Displacement	33 - 43 mm	38.8 mm	Yes
Center Thorax Rib Displacement	35 - 43 mm	41.9 mm	Yes
Lower Thorax Rib Displacement	32 - 40 mm	34.8 mm	Yes
Upper Spine Lateral Acceleration	14 - 20 g	13.9 g	No
Lower Spine Lateral Acceleration	14 - 22 g	12.6 g	No

Test does not meet specifications.

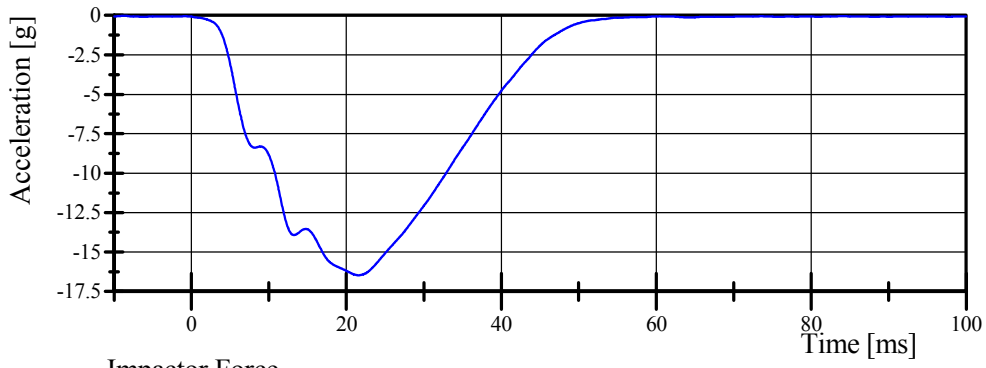
Comments:

Shoulder Rib: DW1914
Thorax Rib 1: DW8861
Thorax Rib 2: DW8862
Thorax Rib 3: DW8863
Abdomen Rib 1: DW9381
Abdomen Rib 2:DW9382

Transportation Research Center Inc.

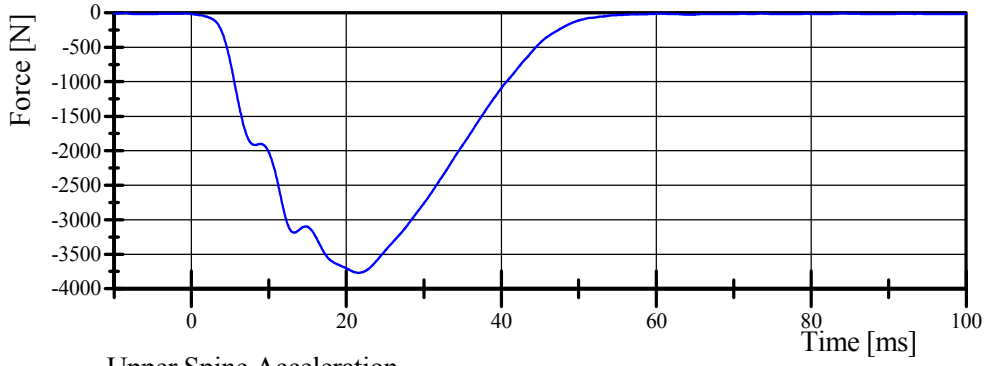
Left Lateral Thorax without Arm
WorldSID 50th Serial No. 016 Certification No. 19-4
Test Date: 4/25/2016

Impactor Acceleration



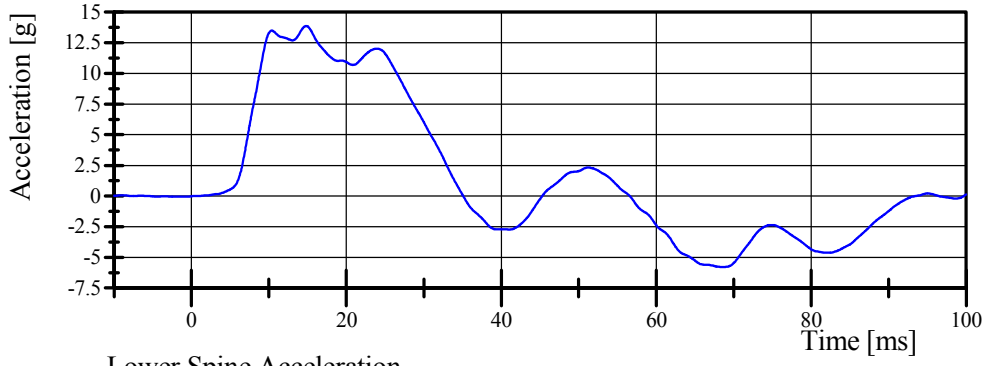
Filter Class: CFC_180
Max: -0.0 g at -8.7 ms
Min: -16.5 g at 21.6 ms

Impactor Force



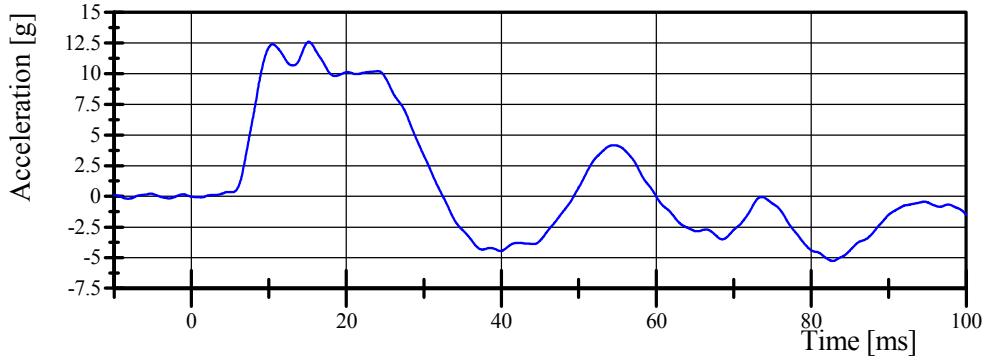
Filter Class: CFC_180
Max: -5.3 N at -8.7 ms
Min: -3,769.9 N at 21.6 ms

Upper Spine Acceleration



Filter Class: CFC_180
Max: 13.9 g at 14.8 ms
Min: -5.8 g at 68.6 ms

Lower Spine Acceleration

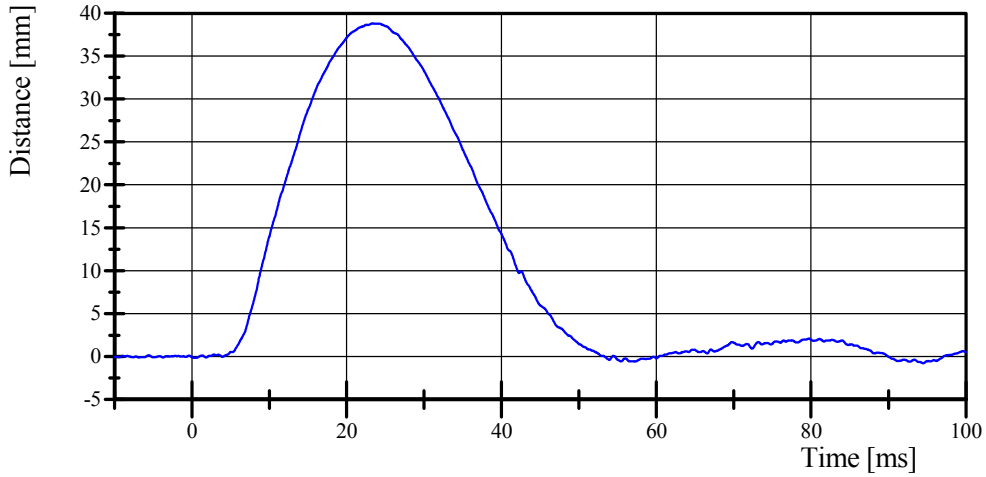


Filter Class: CFC_180
Max: 12.6 g at 15.2 ms
Min: -5.3 g at 82.8 ms

Transportation Research Center Inc.

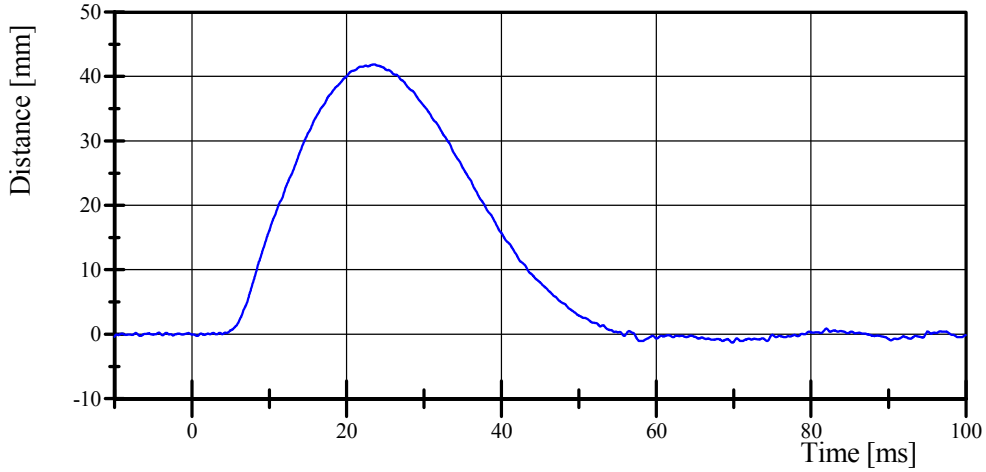
Left Lateral Thorax without Arm
WorldSID 50th Serial No. 016 Certification No. 19-4
Test Date: 4/25/2016

Upper Thorax Rib Displacement



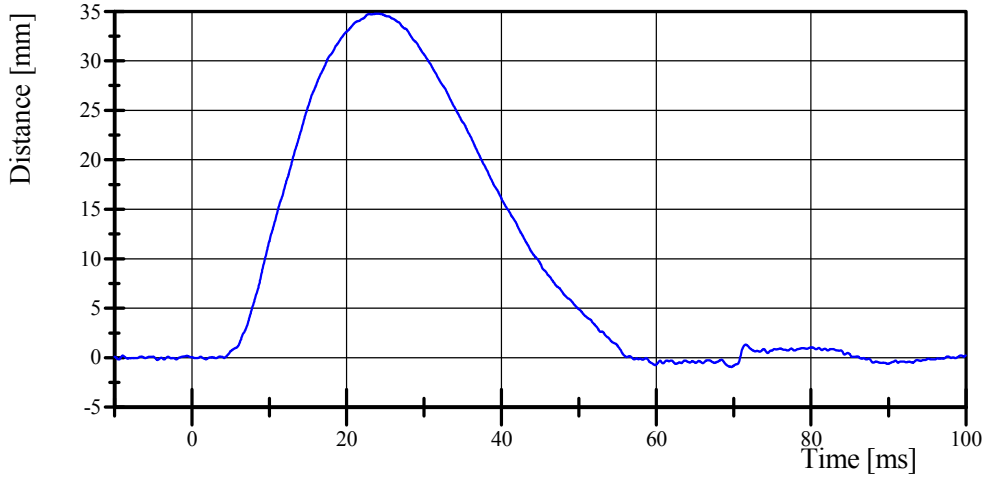
Filter Class: CFC_600
Max: 38.8 mm at 23.4 ms
Min: -0.8 mm at 94.5 ms

Center Thorax Rib Displacement



Filter Class: CFC_600
Max: 41.9 mm at 23.6 ms
Min: -1.3 mm at 69.8 ms

Lower Thorax Rib Displacement



Filter Class: CFC_600
Max: 34.8 mm at 23.9 ms
Min: -0.9 mm at 69.7 ms

Transportation Research Center Inc.

Left Lateral Abdomen
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.9 ºC	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	4.20 - 4.40 m/s	4.313 m/s	Yes
Impactor Force	(-2,700) - (-3,100) N	-3,106.2 N	No
Upper Abdominal Rib Displacement	33 - 40 mm	32.6 mm	No
Lower Abdominal Rib Displacement	30 - 36 mm	35.8 mm	Yes
Lower Spine Lateral Acceleration	15 - 20 g	16.1 g	Yes

Test does not meet specifications.

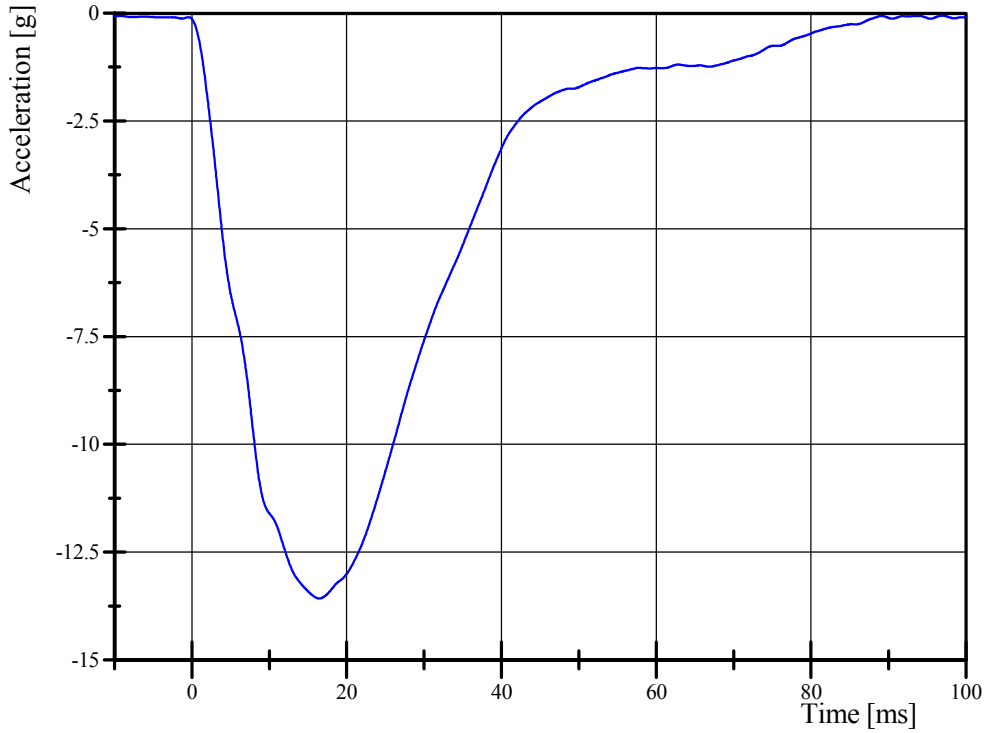
Comments:

Shoulder Rib: DW1914
Thorax Rib 1: DW8861
Thorax Rib 2: DW8862
Thorax Rib 3: DW8863
Abdomen Rib 1: DW9381
Abdomen Rib 2:DW9382

Transportation Research Center Inc.

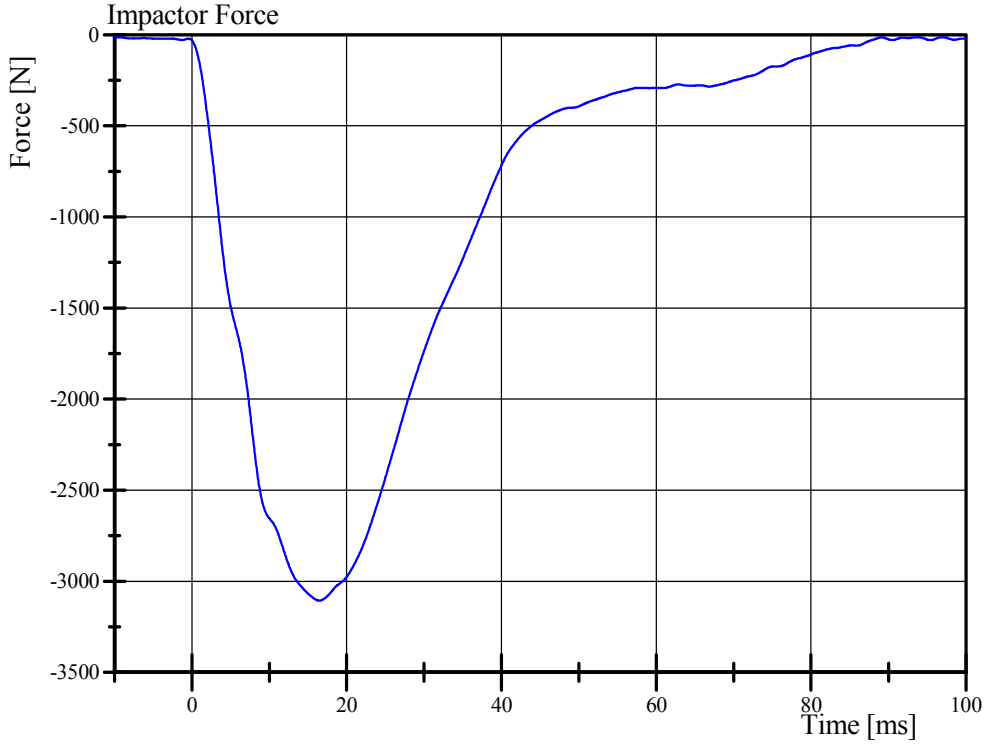
Left Lateral Abdomen
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Impactor Acceleration



Filter Class: CFC_180
Max: -0.1 g at 96.9 ms
Min: -13.6 g at 16.5 ms

Impactor Force



Filter Class: CFC_180
Max: -13.0 N at 96.9 ms
Min: -3,106.2 N at 16.5 ms

Specification Source: W50-9900 User Manual Rev. H, dated Jan. 2016
with Polarity in accordance with J211

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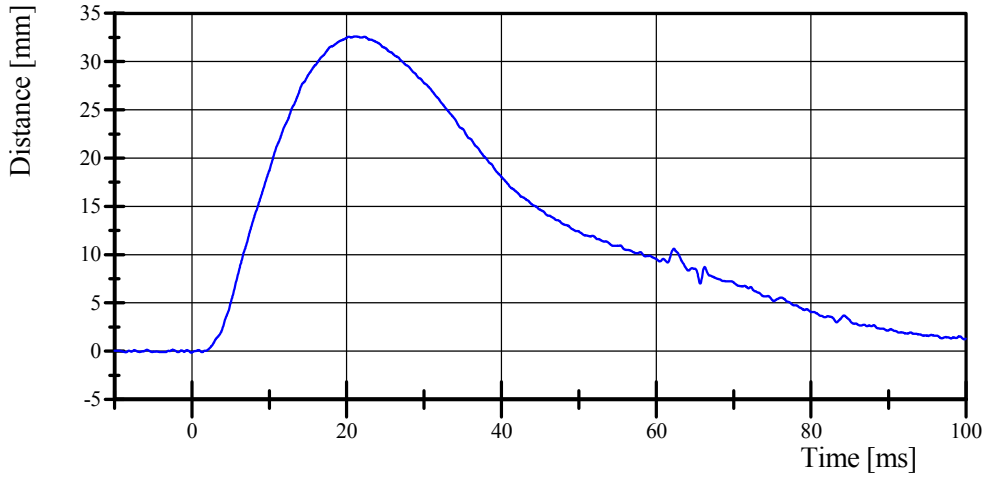
Transportation Research Center Inc.

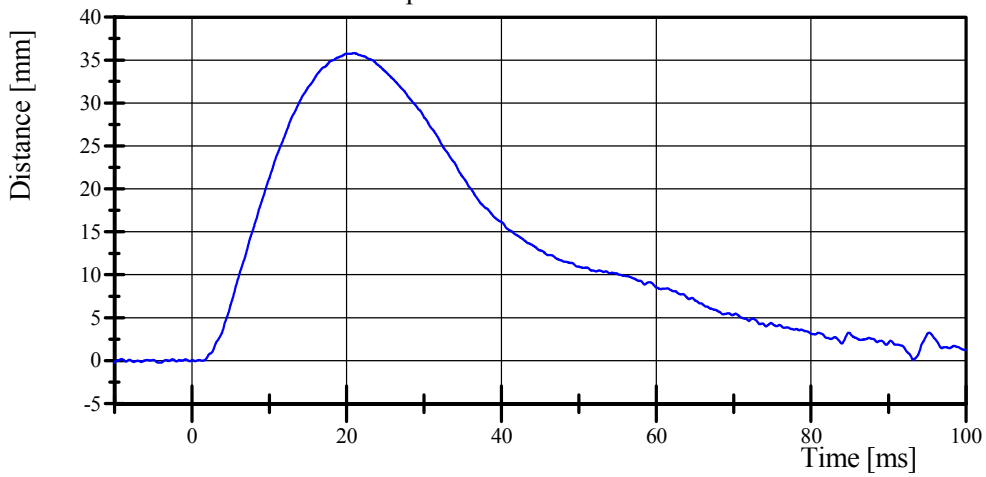
Left Lateral Abdomen
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Upper Abdominal Rib Displacement



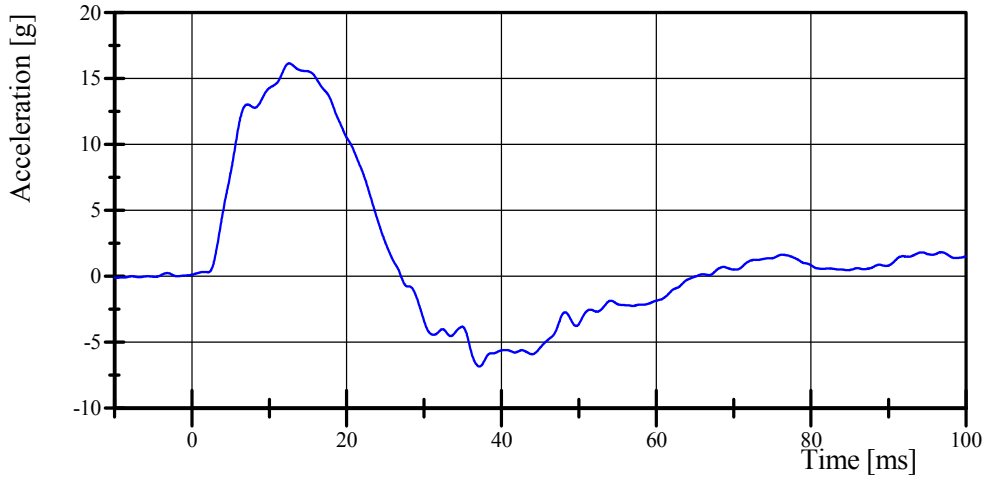
Filter Class: CFC_600
Max: 32.6 mm at 21.1 ms
Min: -0.1 mm at -0.1 ms

Lower Abdominal Rib Displacement



Filter Class: CFC_600
Max: 35.8 mm at 21.0 ms
Min: -0.3 mm at -10.0 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 16.1 g at 12.6 ms
Min: -6.8 g at 37.2 ms

Transportation Research Center Inc.

Left Lateral Pelvis

WorldSID 50th Serial No. 016 Certification No. 19-1

Test Date: 4/25/2016

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 ºC	21.9 ºC	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impactor Velocity	6.60 - 6.80 m/s	6.798 m/s	Yes
Impactor Force	(-6,800) - (-8,200) N	-7,251.1 N	Yes
Pelvis Lateral Acceleration	37 - 47 g	41.4 g	Yes
Lower Spine Lateral Acceleration	10 - 14 g	13.0 g	Yes

Test meets specifications.

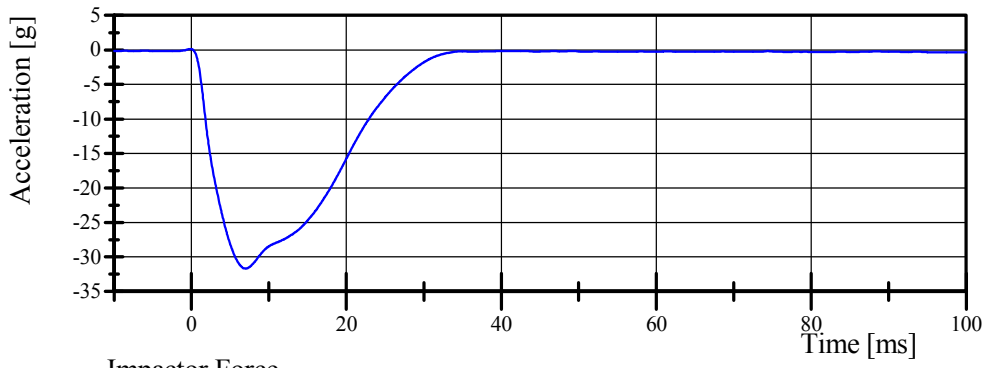
Comments:

Shoulder Rib: DW1914
Thorax Rib 1: DW8861
Thorax Rib 2: DW8862
Thorax Rib 3: DW8863
Abdomen Rib 1: DW9381
Abdomen Rib 2:DW9382

Transportation Research Center Inc.

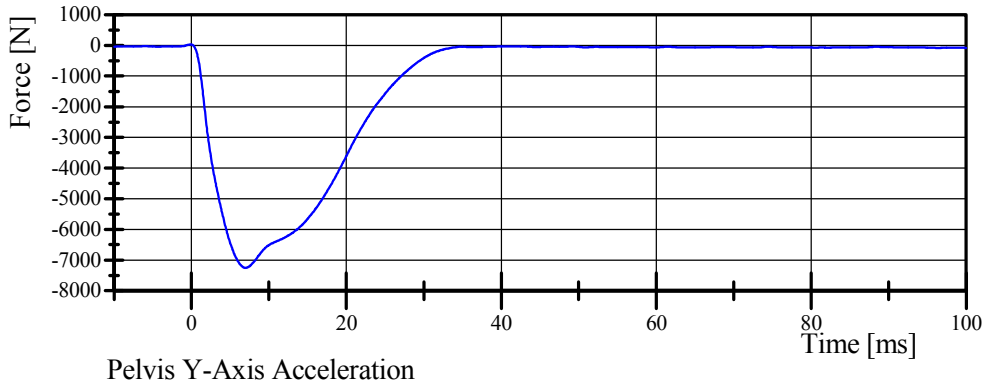
Left Lateral Pelvis
WorldSID 50th Serial No. 016 Certification No. 19-1
Test Date: 4/25/2016

Impactor Acceleration



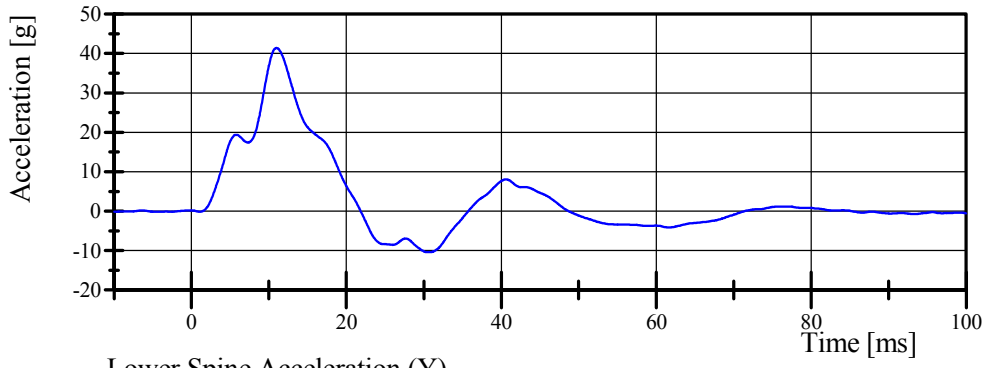
Filter Class: CFC_180
Max: 0.1 g at -0.1 ms
Min: -31.7 g at 7.0 ms

Impactor Force



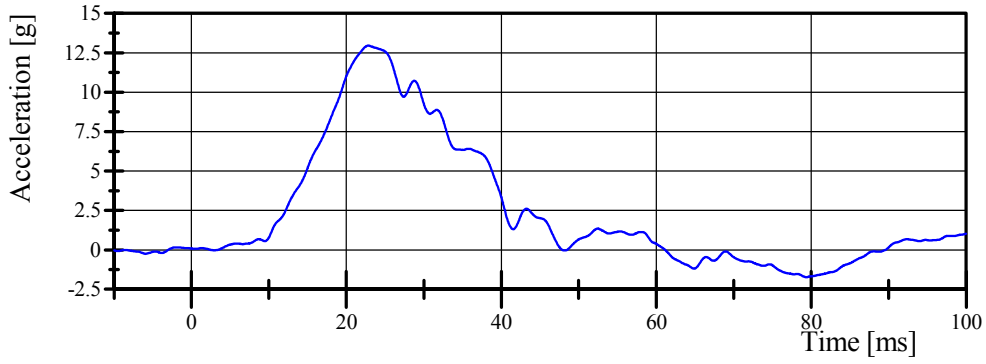
Filter Class: CFC_180
Max: 33.2 N at -0.1 ms
Min: -7,251.1 N at 7.0 ms

Pelvis Y-Axis Acceleration



Filter Class: CFC_180
Max: 41.4 g at 11.0 ms
Min: -10.4 g at 30.7 ms

Lower Spine Acceleration (Y)



Filter Class: CFC_180
Max: 13.0 g at 22.9 ms
Min: -1.7 g at 79.4 ms

APPENDIX D
MISCELLANEOUS TEST INFORMATION

TABLE 1 – DUMMY INSTRUMENTATION (WSID-50M)

		WSID-50M S/N 016		
		Serial Number	**Manufacturer**	**Calibration Date**
Head Accelerometers	X	10172-1	Endevco	13-Jan-16
	Y	10172-3	Endevco	13-Jan-16
	Z	10172-2	Endevco	13-Jan-16
Head Gyros	X	ARS5988	DTS	1-Mar-16
	Y	ARS5989	DTS	26-Jan-16
	Z	ARS6017	DTS	26-Jan-16
Upper Neck Force	X	75	Denton	7-Jan-16
	Y	75	Denton	7-Jan-16
	Z	75	Denton	7-Jan-16
Upper Neck Moment	X	75	Denton	7-Jan-16
	Y	75	Denton	7-Jan-16
	Z	75	Denton	7-Jan-16
Lower Neck Force	X	DQ6781	Denton	7-Jan-16
	Y	DQ6781	Denton	7-Jan-16
	Z	DQ6781	Denton	7-Jan-16
Lower Neck Moment	X	DQ6781	Denton	7-Jan-16
	Y	DQ6781	Denton	7-Jan-16
	Z	DQ6781	Denton	7-Jan-16
Upper Spine Accelerometers (T1)	X	10659-3	Endevco	13-Jan-16
	Y	10659-2	Endevco	13-Jan-16
	Z	10659-1	Endevco	13-Jan-16
Middle Spine Accelerometers (T4)	X	10839-3	Endevco	13-Jan-16
	Y	10839-2	Endevco	13-Jan-16
	Z	10839-1	Endevco	13-Jan-16
Lower Spine Accelerometers (T12)	X	10848-3	Endevco	13-Jan-16
	Y	10848-2	Endevco	13-Jan-16
	Z	10848-1	Endevco	13-Jan-16
Shoulder Force	X	92	Humanetics	15-Jan-16
	Y	92	Humanetics	15-Jan-16
	Z	92	Humanetics	15-Jan-16
Pubic Symphysis Force	Y	AC4889	FTSS	14-Jan-16
Sacro-Iliac Left Force	X	87	Denton	14-Jan-16
	Y	87	Denton	14-Jan-16
	Z	87	Denton	14-Jan-16
Sacro-Iliac Left Moment	X	87	Denton	14-Jan-16
	Y	87	Denton	14-Jan-16
	Z	87	Denton	14-Jan-16

TABLE 1 – DUMMY INSTRUMENTATION (WSID-50M) (CONTINUED)

		WSID-50M S/N 016		
		Serial Number	**Manufacturer**	**Calibration Date**
Lumbar Force	X	95	Denton	15-Jan-16
	Y	95	Denton	15-Jan-16
	Z	95	Denton	15-Jan-16
Lumbar Moment	X	95	Denton	15-Jan-16
	Y	95	Denton	15-Jan-16
	Z	95	Denton	15-Jan-16
Pelvis Accelerometers	X	10046-3	Endevco	13-Jan-16
	Y	10046-2	Endevco	13-Jan-16
	Z	10046-1	Endevco	13-Jan-16
Left Femur Force	X	91	Humanetics	8-Jan-16
	Y	91	Humanetics	8-Jan-16
	Z	91	Humanetics	8-Jan-16
Left Femur Moment	X	91	Humanetics	8-Jan-16
	Y	91	Humanetics	8-Jan-16
	Z	91	Humanetics	8-Jan-16
Left Femoral Neck Force	X	78	Humanetics	15-Jan-16
	Y	78	Humanetics	15-Jan-16
	Z	78	Humanetics	15-Jan-16

TABLE 1 – DUMMY INSTRUMENTATION (WSID-50M) (CONTINUED)

			WSID-50M S/N 016		
			Serial Number	Manufacturer	Calibration Date
Shoulder Ribeye	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
Thorax Rib 1	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
Thorax Rib 2	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
Thorax Rib 3	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016

TABLE 1 – DUMMY INSTRUMENTATION (WSID-50M) (CONTINUED)

			WSID-50M S/N 016		
			Serial Number	Manufacturer	Calibration Date
Abdomen Rib 1	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
Abdomen Rib 2	Front	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Middle	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016
	Rear	X	123	Boxboro Systems	29/Jan/2016
		Y	123	Boxboro Systems	29/Jan/2016
		Z	123	Boxboro Systems	29/Jan/2016

TABLE 2 – Chest Band INSTRUMENTATION

	Serial Number	Manufacturer	Calibration Date
W50-1	DK0833 01	HUMANETICS	13-JAN-2016
W50-2	DK0833 02	HUMANETICS	13-JAN-2016
W50-3	DK0833 03	HUMANETICS	13-JAN-2016
W50-4	DK0833 04	HUMANETICS	13-JAN-2016
W50-5	DK0833 05	HUMANETICS	13-JAN-2016
W50-6	DK0833 06	HUMANETICS	13-JAN-2016
W50-7	DK0833 07	HUMANETICS	13-JAN-2016
W50-8	DK0833 08	HUMANETICS	13-JAN-2016
W50-9	DK0833 09	HUMANETICS	13-JAN-2016
W50-10	DK0833 10	HUMANETICS	13-JAN-2016
W50-11	DK0833 11	HUMANETICS	13-JAN-2016
W50-12	DK0833 12	HUMANETICS	13-JAN-2016
W50-13	DK0833 13	HUMANETICS	13-JAN-2016
W50-14	DK0833 14	HUMANETICS	13-JAN-2016
W50-15	DK0833 15	HUMANETICS	13-JAN-2016
W50-16	DK0833 16	HUMANETICS	13-JAN-2016
W50-17	DK0833 17	HUMANETICS	13-JAN-2016
W50-18	DK0833 18	HUMANETICS	13-JAN-2016
W50-19	DK0833 19	HUMANETICS	13-JAN-2016
W50-20	DK0833 20	HUMANETICS	13-JAN-2016
W50-21	DK0833 21	HUMANETICS	13-JAN-2016
W50-22	DK0833 22	HUMANETICS	13-JAN-2016
W50-23	DK0833 23	HUMANETICS	13-JAN-2016
W50-24	DK0833 24	HUMANETICS	13-JAN-2016
W50-25	DK0833 25	HUMANETICS	13-JAN-2016
W50-26	DK0833 26	HUMANETICS	13-JAN-2016
W50-27	DK0833 27	HUMANETICS	13-JAN-2016
W50-28	DK0833 28	HUMANETICS	13-JAN-2016
W50-29	DK0833 29	HUMANETICS	13-JAN-2016
W50-30	DK0833 30	HUMANETICS	13-JAN-2016
W50-31	DK0833 31	HUMANETICS	13-JAN-2016
W50-32	DK0833 32	HUMANETICS	13-JAN-2016
W50-33	DK0833 33	HUMANETICS	13-JAN-2016
W50-34	DK0833 34	HUMANETICS	13-JAN-2016
W50-35	DK0833 35	HUMANETICS	13-JAN-2016
W50-36	DK0833 36	HUMANETICS	13-JAN-2016
W50-37	DK0833 37	HUMANETICS	13-JAN-2016

TABLE 2 – Chest Band INSTRUMENTATION (Continued)

W50-38	DK0833 38	HUMANETICS	13-JAN-2016
W50-39	DK0833 39	HUMANETICS	13-JAN-2016
W50-40	DK0833 40	HUMANETICS	13-JAN-2016
W50-41	DK0833 41	HUMANETICS	13-JAN-2016
W50-42	DK0833 42	HUMANETICS	13-JAN-2016
W50-43	DK0833 43	HUMANETICS	13-JAN-2016
W50-44	DK0833 44	HUMANETICS	13-JAN-2016
W50-45	DK0833 45	HUMANETICS	13-JAN-2016
W50-46	DK0833 46	HUMANETICS	13-JAN-2016
W50-47	DK0833 47	HUMANETICS	13-JAN-2016
W50-48	DK0833 48	HUMANETICS	13-JAN-2016
W50-49	DK0833 49	HUMANETICS	13-JAN-2016
W50-50	DK0833 50	HUMANETICS	13-JAN-2016
W50-51	DK0833 51	HUMANETICS	13-JAN-2016
W50-52	DK0833 52	HUMANETICS	13-JAN-2016
W50-53	DK0833 53	HUMANETICS	13-JAN-2016
W50-54	DK0833 54	HUMANETICS	13-JAN-2016
W50-55	DK0833 55	HUMANETICS	13-JAN-2016
W50-56	DK0833 56	HUMANETICS	13-JAN-2016

TABLE 3 – VEHICLE INSTRUMENTATION

Vehicle Instrumentation		Serial Number	Manufacturer	Calibration Date
Vehicle Center of Gravity	X	P91966	ENDEVCO	30-Mar-2016
	Y	P91184	ENDEVCO	30-Mar-2016
	Z	P91185	ENDEVCO	30-Mar-2016
Left Floor Sill	Y	P91623	ENDEVCO	3-May-2016
Left A-Pillar Sill	Y	P91165	ENDEVCO	3-May-2016
Left Lower A-Pillar	Y	P91891	ENDEVCO	3-May-2016
Left Mid A-Pillar	Y	P91639	ENDEVCO	3-May-2016
Left B-Pillar Sill	Y	P91897	ENDEVCO	3-May-2016
Left Lower B-Pillar	Y	P76405	ENDEVCO	17-Dec-2015
Left Mid B-Pillar	Y	P54286	ENDEVCO	30-Mar-2016
Driver Seat Track at Dummy H-Point	Y	P91908	ENDEVCO	3-May-2016
Engine Top	X	P91505	ENDEVCO	3-May-2016
	Y	P91903	ENDEVCO	3-May-2016
Firewall Center	Y	P91486	ENDEVCO	3-May-2016
Right Roof at Vertical Impact Reference Line	Y	P91901	ENDEVCO	3-May-2016
Right Sill at Vertical Impact Reference Line	Y	P91523	ENDEVCO	3-May-2016
Rear Floorpan Behind Rear Axle at Centerline	X	P91588	ENDEVCO	3-May-2016
Left Front Door Mid Centerline	Y	P33817	ENDEVCO	22-Feb-2016
Left Front Door Mid Rear	Y	P91180	ENDEVCO	3-Mar-2016
Left Front Door Upper Centerline	Y	P91177	ENDEVCO	29-Feb-2016
Left Rear Door Mid Rear	Y	P91108	ENDEVCO	1-Apr-2016
Left Rear Door Upper Centerline	Y	P90843	ENDEVCO	1-Apr-2016
Rear Floorpan Behind Rear Axle at Centerline	Y	P91473	ENDEVCO	3-May-2016

TABLE 4 – POLE INSTRUMENTATION

Pole Instrumentation	Serial Number	Manufacturer	Calibration Date
Load Cell 1	5763-88-FX	Denton	13-Nov-2015
Load Cell 2	5763-77-FX	Denton	13-Nov-2015
Load Cell 3	5764-103-FX	Denton	13-Nov-2015
Load Cell 4	5764-101-FX	Denton	13-Nov-2015
Load Cell 5	5763-92-FX	Denton	13-Nov-2015
Load Cell 6	5763-84-FX	Denton	13-Nov-2015
Load Cell 7	5764-97-FX	Denton	13-Nov-2015
Load Cell 8	5763-87-FX	Denton	13-Nov-2015

Sign Convention
SAE J211 MAR95

Accelerometers:

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

Potentiometers:

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

Rotation potentiometers:

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

Load cells:

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

Neck load cells:

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

Tibia load cells:

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

Sign Convention (Continued)
SAE J211 MAR95

Lumbar load cells:	+X force:	Chest rearward, pelvis forward
	+Y force:	Chest leftward, pelvis rightward
	+Z force:	Chest upward, pelvis downward
	+X moment:	Left shoulder toward left hip
	+Y moment:	Sternum toward front of legs
	+Z moment:	Right shoulder forward, left shoulder rearward

Frequency Response Classes
SAE J211 MAR95

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

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
1	11HEADCG00WSACXP	Head X-Axis Acceleration	1000	+	no	2000
2	11HEADCG00WSACYP	Head Y-Axis Acceleration	1000	+	no	2000
3	11HEADCG00WSACZP	Head Z-Axis Acceleration	1000	+	no	2000
3A	11HEADCG00WSACRP	Head A Resultant	1000			
4	11HEADCG00WSAVXP	Head X-Axis Angular Velocity	60	+	no	18000
5	11HEADCG00WSAVYP	Head Y-Axis Angular Velocity	60	+	no	18000
6	11HEADCG00WSAVZP	Head Z-Axis Angular Velocity	60	+	no	18000
7	11NECKUP00WSFOXP	Upper Neck X-Axis Force	1000	+	no	10000
8	11NECKUP00WSFOYP	Upper Neck Y-Axis Force	1000	+	no	10000
9	11NECKUP00WSFOZP	Upper Neck Z-Axis Force	1000	+	no	12000
10	11NECKUP00WSMOXP	Upper Neck Moment About X Axis	600	+	no	300
11	11NECKUP00WSMOYP	Upper Neck Moment About Y Axis	600	+	no	300
12	11NECKUP00WSMOZP	Upper Neck Moment About Z Axis	600	+	no	200
13	11NECKLO00WSFOXP	Lower Neck X-Axis Force	1000	+	no	10000
14	11NECKLO00WSFOYP	Lower Neck Y-Axis Force	1000	+	no	10000
15	11NECKLO00WSFOZP	Lower Neck Z-Axis Force	1000	+	no	12000
16	11NECKLO00WSMOXP	Lower Neck Moment About X Axis	600	+	no	300
17	11NECKLO00WSMOYP	Lower Neck Moment About Y Axis	600	+	no	300
18	11NECKLO00WSMOZP	Lower Neck Moment About Z Axis	600	+	no	200
19	11THSP0100WSACXP	T1 Longitudinal Ax	180	+	no	2000
20	11THSP0100WSACYP	T1 Lateral Ay	180	+	no	2000
21	11THSP0100WSACZP	T1 Vertical Az	180	+	no	2000
21A	11THSP0100WSACRP	T1 A Resultant	180			
22	11THSP0400WSACXP	T4 Longitudinal Ax	180	+	no	2000
23	11THSP0400WSACYP	T4 Lateral Ay	180	+	no	2000
24	11THSP0400WSACZP	T4 Vertical Az	180	+	no	2000
24A	11THSP0400WSACRP	T4 A Resultant	180			
25	11THSP1200WSACXP	T12 Longitudinal Ax	180	+	no	2000
26	11THSP1200WSACYP	T12 Lateral Ay	180	+	no	2000
27	11THSP1200WSACZP	T12 Vertical Az	180	+	no	2000
27A	11THSP1200WSACRP	T12 A Resultant	180			
28	11SHLDLE00WSFOXP	Shoulder X-Axis Force	600	+	no	5000
29	11SHLDLE00WSFOYP	Shoulder Y-Axis Force	600	+	no	10000
30	11SHLDLE00WSFOZP	Shoulder Z-Axis Force	600	+	no	5000
31	11PUBC0000WSFOYP	Pubic Symphysis Y-Axis Force	600	+	no	12000
32	11SACRLE00WSFOXP	Sacro-Iliac Left X-Axis Force	600	+	no	6000
33	11SACRLE00WSFOYP	Sacro-Iliac Left Y-Axis Force	600	+	no	12000
34	11SACRLE00WSFOZP	Sacro-Iliac Left Z-Axis Force	600	+	no	6000
35	11SACRLE00WSMOXP	Sacro-Iliac Left Moment About X Axis	600	+	no	800
36	11SACRLE00WSMOYP	Sacro-Iliac Left Moment About Y Axis	600	+	no	400
37	11SACRLE00WSMOZP	Sacro-Iliac Left Moment About Z Axis	600	+	no	400
38	11LUSP0000WSFOXP	Lumbar X-Axis Force	600	+	no	10000
39	11LUSP0000WSFOYP	Lumbar Y-Axis Force	600	+	no	10000
40	11LUSP0000WSFOZP	Lumbar Z-Axis Force	600	+	no	12000
41	11LUSP0000WSMOXP	Lumbar Moment About X Axis	600	+	no	300

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
42	11LUSP0000WSMOYP	Lumbar Moment About Y Axis	600	+	no	300
43	11LUSP0000WSMOZP	Lumbar Moment About Z Axis	600	+	no	200
44	11PELV0000WSACXP	Pelvis Longitudinal Ax	180	+	no	2000
45	11PELV0000WSACYP	Pelvis Lateral Ay	180	+	no	2000
46	11PELV0000WSACZP	Pelvis Vertical Az	180	+	no	2000
46A	11PELV0000WSACRP	Pelvis A Resultant	180			
47	11FEMRLE00WSFOXP	Left Femur X-Axis Force	600	+	no	15000
48	11FEMRLE00WSFOYP	Left Femur Y-Axis Force	600	+	no	15000
49	11FEMRLE00WSFOZP	Left Femur Z-Axis Force	600	+	no	15000
50	11FEMRLE00WSMOXP	Left Femur Moment About X Axis	600	+	no	350
51	11FEMRLE00WSMOYP	Left Femur Moment About Y Axis	600	+	no	350
52	11FEMRLE00WSMOZP	Left Femur Moment About Z Axis	600	+	no	300
53	11FEACLE00WSFOXP	Left Femoral Neck Force X	600	+	no	10000
54	11FEACLE00WSFOYP	Left Femoral Neck Force Y	600	+	no	25000
55	11FEACLE00WSFOZP	Left Femoral Neck Force Z	600	+	no	10000
56	11SHRI00REWSDSX0	Shoulder Rear Ribeye X-Axis Displacement	0	+	no	60
57	11SHRI00REWSDSY0	Shoulder Rear Ribeye Y-Axis Displacement	0	+	no	60
58	11SHRI00REWSDSZ0	Shoulder Rear Ribeye Z-Axis Displacement	0	+	no	60
59	11SHRI00REWSDS00	Shoulder Rear Ribeye Length Change	0	+	no	60
60	11SHRI00MIWSDSX0	Shoulder Middle Ribeye X-Axis Displacement	0	+	no	60
61	11SHRI00MIWSDSY0	Shoulder Middle Ribeye Y-Axis Displacement	0	+	no	60
62	11SHRI00MIWSDSZ0	Shoulder Middle Ribeye Z-Axis Displacement	0	+	no	60
63	11SHRI00MIWSDS00	Shoulder Middle Ribeye Length Change	0	+	no	60
64	11SHRI00FRWSDSX0	Shoulder Front Ribeye X-Axis Displacement	0	+	no	60
65	11SHRI00FRWSDSY0	Shoulder Front Ribeye Y-Axis Displacement	0	+	no	60
66	11SHRI00FRWSDSZ0	Shoulder Front Ribeye Z-Axis Displacement	0	+	no	60
67	11SHRI00FRWSDS00	Shoulder Front Ribeye Length Change	0	+	no	60
68	11THRI01REWSDSX0	Thorax Rib 1 Rear Ribeye X-Axis Displacement	0	+	no	60
69	11THRI01REWSDSY0	Thorax Rib 1 Rear Ribeye Y-Axis Displacement	0	+	no	60
70	11THRI01REWSDSZ0	Thorax Rib 1 Rear Ribeye Z-Axis Displacement	0	+	no	60

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
71	11THRI01REWSDS00	Thorax Rib 1 Rear Ribeye Length Change	0	+	no	60
72	11THRI01MIWSDSX0	Thorax Rib 1 Middle Ribeye X-Axis Displacement	0	+	no	60
73	11THRI01MIWSDSY0	Thorax Rib 1 Middle Ribeye Y-Axis Displacement	0	+	no	60
74	11THRI01MIWSDSZ0	Thorax Rib 1 Middle Ribeye Z-Axis Displacement	0	+	no	60
75	11THRI01MIWSDS00	Thorax Rib 1 Middle Ribeye Length Change	0	+	no	60
76	11THRI01FRWSDSX0	Thorax Rib 1 Front Ribeye X-Axis Displacement	0	+	no	60
77	11THRI01FRWSDSY0	Thorax Rib 1 Front Ribeye Y-Axis Displacement	0	+	no	60
78	11THRI01FRWSDSZ0	Thorax Rib 1 Front Ribeye Z-Axis Displacement	0	+	no	60
79	11THRI01FRWSDS00	Thorax Rib 1 Front Ribeye Length Change	0	+	no	60
80	11THRI02REWSDSX0	Thorax Rib 2 Rear Ribeye X-Axis Displacement	0	+	no	60
81	11THRI02REWSDSY0	Thorax Rib 2 Rear Ribeye Y-Axis Displacement	0	+	no	60
82	11THRI02REWSDSZ0	Thorax Rib 2 Rear Ribeye Z-Axis Displacement	0	+	no	60
83	11THRI02REWSDS00	Thorax Rib 2 Rear Ribeye Length Change	0	+	no	60
84	11THRI02MIWSDSX0	Thorax Rib 2 Middle Ribeye X-Axis Displacement	0	+	no	60
85	11THRI02MIWSDSY0	Thorax Rib 2 Middle Ribeye Y-Axis Displacement	0	+	no	60
86	11THRI02MIWSDSZ0	Thorax Rib 2 Middle Ribeye Z-Axis Displacement	0	+	no	60
87	11THRI02MIWSDS00	Thorax Rib 2 Middle Ribeye Length Change	0	+	no	60
88	11THRI02FRWSDSX0	Thorax Rib 2 Front Ribeye X-Axis Displacement	0	+	no	60
89	11THRI02FRWSDSY0	Thorax Rib 2 Front Ribeye Y-Axis Displacement	0	+	no	60
90	11THRI02FRWSDSZ0	Thorax Rib 2 Front Ribeye Z-Axis Displacement	0	+	no	60
91	11THRI02FRWSDS00	Thorax Rib 2 Front Ribeye Length Change	0	+	no	60
92	11THRI03REWSDSX0	Thorax Rib 3 Rear Ribeye X-Axis Displacement	0	+	no	60

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
93	11THRI03REWSDSY0	Thorax Rib 3 Rear Ribeye Y-Axis Displacement	0	+	no	60
94	11THRI03REWSDSZ0	Thorax Rib 3 Rear Ribeye Z-Axis Displacement	0	+	no	60
95	11THRI03REWSDS00	Thorax Rib 3 Rear Ribeye Length Change	0	+	no	60
96	11THRI03MIWSDSX0	Thorax Rib 3 Middle Ribeye X-Axis Displacement	0	+	no	60
97	11THRI03MIWSDSY0	Thorax Rib 3 Middle Ribeye Y-Axis Displacement	0	+	no	60
98	11THRI03MIWSDSZ0	Thorax Rib 3 Middle Ribeye Z-Axis Displacement	0	+	no	60
99	11THRI03MIWSDS00	Thorax Rib 3 Middle Ribeye Length Change	0	+	no	60
100	11THRI03FRWSDSX0	Thorax Rib 3 Front Ribeye X-Axis Displacement	0	+	no	60
101	11THRI03FRWSDSY0	Thorax Rib 3 Front Ribeye Y-Axis Displacement	0	+	no	60
102	11THRI03FRWSDSZ0	Thorax Rib 3 Front Ribeye Z-Axis Displacement	0	+	no	60
103	11THRI03FRWSDS00	Thorax Rib 3 Front Ribeye Length Change	0	+	no	60
104	11ABRI01REWSDSX0	Abdomen Rib 1 Rear Ribeye X-Axis Displacement	0	+	no	60
105	11ABRI01REWSDSY0	Abdomen Rib 1 Rear Ribeye Y-Axis Displacement	0	+	no	60
106	11ABRI01REWSDSZ0	Abdomen Rib 1 Rear Ribeye Z-Axis Displacement	0	+	no	60
107	11ABRI01REWSDS00	Abdomen Rib 1 Rear Ribeye Length Change	0	+	no	60
108	11ABRI01MIWSDSX0	Abdomen Rib 1 Middle Ribeye X-Axis Displacement	0	+	no	60
109	11ABRI01MIWSDSY0	Abdomen Rib 1 Middle Ribeye Y-Axis Displacement	0	+	no	60
110	11ABRI01MIWSDSZ0	Abdomen Rib 1 Middle Ribeye Z-Axis Displacement	0	+	no	60
111	11ABRI01MIWSDS00	Abdomen Rib 1 Middle Ribeye Length Change	0	+	no	60
112	11ABRI01FRWSDSX0	Abdomen Rib 1 Front Ribeye X-Axis Displacement	0	+	no	60
113	11ABRI01FRWSDSY0	Abdomen Rib 1 Front Ribeye Y-Axis Displacement	0	+	no	60
114	11ABRI01FRWSDSZ0	Abdomen Rib 1 Front Ribeye Z-Axis Displacement	0	+	no	60

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
115	11ABRI01FRWSDS00	Abdomen Rib 1 Front Ribeye Length Change	0	+	no	60
116	11ABRI02REWSDSX0	Abdomen Rib 2 Rear Ribeye X-Axis Displacement	0	+	no	60
117	11ABRI02REWSDSY0	Abdomen Rib 2 Rear Ribeye Y-Axis Displacement	0	+	no	60
118	11ABRI02REWSDSZ0	Abdomen Rib 2 Rear Ribeye Z-Axis Displacement	0	+	no	60
119	11ABRI02REWSDS00	Abdomen Rib 2 Rear Ribeye Length Change	0	+	no	60
120	11ABRI02MIWSDSX0	Abdomen Rib 2 Middle Ribeye X-Axis Displacement	0	+	no	60
121	11ABRI02MIWSDSY0	Abdomen Rib 2 Middle Ribeye Y-Axis Displacement	0	+	no	60
122	11ABRI02MIWSDSZ0	Abdomen Rib 2 Middle Ribeye Z-Axis Displacement	0	+	no	60
123	11ABRI02MIWSDS00	Abdomen Rib 2 Middle Ribeye Length Change	0	+	no	60
124	11ABRI02FRWSDSX0	Abdomen Rib 2 Front Ribeye X-Axis Displacement	0	+	no	60
125	11ABRI02FRWSDSY0	Abdomen Rib 2 Front Ribeye Y-Axis Displacement	0	+	no	60
126	11ABRI02FRWSDSZ0	Abdomen Rib 2 Front Ribeye Z-Axis Displacement	0	+	no	60
127	11ABRI02FRWSDS00	Abdomen Rib 2 Front Ribeye Length Change	0	+	no	60
128	11CHBA0100WSVO0A	W50-1	1000	+	no	100
129	11CHBA0200WSVO0A	W50-2	1000	+	no	100
130	11CHBA0300WSVO0A	W50-3	1000	+	no	100
131	11CHBA0400WSVO0A	W50-4	1000	+	no	100
132	11CHBA0500WSVO0A	W50-5	1000	+	no	100
133	11CHBA0600WSVO0A	W50-6	1000	+	no	100
134	11CHBA0700WSVO0A	W50-7	1000	+	no	100
135	11CHBA0800WSVO0A	W50-8	1000	+	no	100
136	11CHBA0900WSVO0A	W50-9	1000	+	no	100
138	11CHBA1100WSVO0A	W50-11	1000	+	no	100
139	11CHBA1200WSVO0A	W50-12	1000	+	no	100
140	11CHBA1300WSVO0A	W50-13	1000	+	no	100
141	11CHBA1400WSVO0A	W50-14	1000	+	no	100
142	11CHBA1500WSVO0A	W50-15	1000	+	no	100
143	11CHBA1600WSVO0A	W50-16	1000	+	no	100
144	11CHBA1700WSVO0A	W50-17	1000	+	no	100
145	11CHBA1800WSVO0A	W50-18	1000	+	no	100
146	11CHBA1900WSVO0A	W50-19	1000	+	no	100
147	11CHBA2000WSVO0A	W50-20	1000	+	no	100

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
148	11CHBA2100WSVO0A	W50-21	1000	+	no	100
149	11CHBA2200WSVO0A	W50-22	1000	+	no	100
150	11CHBA2300WSVO0A	W50-23	1000	+	no	100
151	11CHBA2400WSVO0A	W50-24	1000	+	no	100
152	11CHBA2500WSVO0A	W50-25	1000	+	no	100
153	11CHBA2600WSVO0A	W50-26	1000	+	no	100
154	11CHBA2700WSVO0A	W50-27	1000	+	no	100
155	11CHBA2800WSVO0A	W50-28	1000	+	no	100
156	11CHBA2900WSVO0A	W50-29	1000	+	no	100
157	11CHBA3000WSVO0A	W50-30	1000	+	no	100
158	11CHBA3100WSVO0A	W50-31	1000	+	no	100
159	11CHBA3200WSVO0A	W50-32	1000	+	no	100
160	11CHBA3300WSVO0A	W50-33	1000	+	no	100
161	11CHBA3400WSVO0A	W50-34	1000	+	no	100
162	11CHBA3500WSVO0A	W50-35	1000	+	no	100
163	11CHBA3600WSVO0A	W50-36	1000	+	no	100
164	11CHBA3700WSVO0A	W50-37	1000	+	no	100
165	11CHBA3800WSVO0A	W50-38	1000	+	no	100
166	11CHBA3900WSVO0A	W50-39	1000	+	no	100
167	11CHBA4000WSVO0A	W50-40	1000	+	no	100
168	11CHBA4100WSVO0A	W50-41	1000	+	no	100
169	11CHBA4200WSVO0A	W50-42	1000	+	no	100
170	11CHBA4300WSVO0A	W50-43	1000	+	no	100
171	11CHBA4400WSVO0A	W50-44	1000	+	no	100
172	11CHBA4500WSVO0A	W50-45	1000	+	no	100
173	11CHBA4600WSVO0A	W50-46	1000	+	no	100
174	11CHBA4700WSVO0A	W50-47	1000	+	no	100
175	11CHBA4800WSVO0A	W50-48	1000	+	no	100
176	11CHBA4900WSVO0A	W50-49	1000	+	no	100
177	11CHBA5000WSVO0A	W50-50	1000	+	no	100
178	11CHBA5100WSVO0A	W50-51	1000	+	no	100
179	11CHBA5200WSVO0A	W50-52	1000	+	no	100
180	11CHBA5300WSVO0A	W50-53	1000	+	no	100
181	11CHBA5400WSVO0A	W50-54	1000	+	no	100
182	11CHBA5500WSVO0A	W50-55	1000	+	no	100
183	11CHBA5600WSVO0A	W50-56	1000	+	no	100
184	11VEHCCG0000ACXA	Vehicle Center of Gravity X-Axis Acceleration	60	+	no	2000
185	11VEHCCG0000ACYA	Vehicle Center of Gravity Y-Axis Acceleration	60	+	no	2000
186	11VEHCCG0000ACZA	Vehicle Center of Gravity Z-Axis Acceleration	60	+	no	2000
186A	11VEHCCG0000ACRA	Vehicle Center of Gravity Resultant Acceleration	60			

Channel Number	ISO mnemonic	Channel Title	Filter Class	Flip	Zero	Full Scale
187	11VEHC00LO00ACYA	Left Floor Sill Y	60	+	no	2000
188	11APIL000000ACYA	Left A-Pillar Sill Y-Axis Acceleration	60	+	no	2000
189	11APILLO0000ACYA	Left Lower A-Pillar Y-Axis Acceleration	60	+	no	2000
190	11APILMI0000ACYA	Left Mid A-Pillar Y-Axis Acceleration	60	+	no	2000
191	11BPIL000000ACYA	Left B-Pillar Sill Y-Axis Acceleration	60	+	no	2000
192	11BPILLO0000ACYA	Left Lower B-Pillar Y-Axis Acceleration	60	+	no	2000
193	11BPILMI0000ACYA	Left Mid B-Pillar Y-Axis Acceleration	60	+	no	2000
194	11SETR000000ACYA	Driver Seat Track at Dummy H-Point Y-Axis Acceleration	60	+	no	2000
195	11ENGNTP0000ACXA	Engine Top X-Axis Acceleration	60	+	no	2000
196						
197	11ENGNTP0000ACYA	Engine Top Y-Axis Acceleration	60	+	no	2000
198	12FIRCX00000ACYA	Firewall Center Y-Axis Acceleration	60	+	no	2000
199	13ROFR000000ACYA	Right Roof at Vertical Impact Reference Line Y-Axis Acceleration	60	+	no	2000
200	13SILB000000ACYA	Right Sill at Vertical Impact Reference Line Y-Axis Acceleration	60	+	no	2000
201	11FORA000000ACXA	Rear Floorpan Behind Rear Axle at Centerline Acceleration X-Axis Acceleration	60	+	no	2000
202	11DOORMIMI71ACYA	Left Front Door Mid Centerline (Y)	60	+	no	2000
203	11DOORMIRE71ACYA	Left Front Door Mid Rear (Y)	60	+	no	2000
204	11DOORMIUP71ACYA	Left Front Door Upper Centerline (Y)	60	+	no	2000
205	14DOORMIRE71ACYA	Left Rear Door Mid Rear (Y)	60	+	no	2000
206	14DOORMIUP71ACYA	Left Rear Door Upper Centerline (Y)	60	+	no	2000
207	11FORA000000ACYA	Rear Floorpan Behind Rear Axle at Centerline Acceleration Y-Axis Acceleration	60	+	no	2000
208	11SENS030000VO00	DR Frontal Airbag Timing Ind	0	+	no	5
209	11SENS010000VO00	Driver SAB Timing Ind.	0	+	no	5
210	11SENS020000VO00	Driver SCAB Timing Ind.	0	+	no	5
211	11HEAD000000EV00	Head Contact	0	+	no	1
212	11SHLD000000EV00	Shoulder Contact	0	+	no	1
213	11TRRI000000EV00	Thorax Contact	0	+	no	1
214	11PELV000000EV00	Pelvis Contact	0	+	no	1
215	K0FBAR010000FOXA	POLE LOAD CELL 1	60	+	no	100000
216	K0FBAR020000FOXA	POLE LOAD CELL 2	60	+	no	100000
217	K0FBAR030000FOXA	POLE LOAD CELL 3	60	+	no	100000
218	K0FBAR040000FOXA	POLE LOAD CELL 4	60	+	no	100000
219	K0FBAR050000FOXA	POLE LOAD CELL 5	60	+	no	100000
220	K0FBAR060000FOXA	POLE LOAD CELL 6	60	+	no	100000
221	K0FBAR070000FOXA	POLE LOAD CELL 7	60	+	no	100000
191	K0FBAR080000FOXA	POLE LOAD CELL 8	60	+	no	100000

HONDA

2016 FIT 5DR LX

EXT: **MILANO RED**
INT: **BLACK**
ENGINE NUMBER: **L15B1-1105713**

STANDARD EQUIPMENT AT NO EXTRA COST

*** TECHNICAL FEATURES ***
- 130hp 1.5-Liter DOHC 16-Valve i-VTEC 4-Cylinder Direct Injection Engine w/ Earth Dreams Technology
- Continuously Variable Transmission (CVT) with Sport Mode
- Drive-by-Wire Throttle System
- Electric Power-Assisted Rack-and-Pinion Steering
- Front MacPherson Strut Suspension
- Rear Torsion Beam Suspension
- Immobilizer Theft-Deterrent System
- ECO Assist System

*** SAFETY FEATURES ***
- Driver's and Front Passenger's Dual-Stage Airbags (SRS)
- Driver's and Front Passenger's Side Airbags
- Side Curtain Airbags with Rollover Sensor
- Anti-Lock Braking System (ABS)
- Brake Assist
- Electronic Brake Distribution (EBD)
- Vehicle Stability Assist (VSA)
- Tire Pressure Monitoring System
- ACE Body Structure
- Daytime Running Lights (DRL)
- LATCH System for Child Seats

*** INTERIOR FEATURES ***
- AM/FM/CD/MP3 Audio System with 4 Speakers
- 5-Inch Color LCD Screen with Rearview Camera
- Bluetooth Audio
- Bluetooth HandsFreeLink
- USB Audio Interface
- Steering Wheel-Mounted Controls
- MP3/Auxiliary Input Jack
- Air Conditioning with Air Filtration System
- Center Storage Console w/ Armrest
- Driver's Seat Height Adjustment
- 60/40 Split 2nd-Row Magic Seat
- Power Windows and Programmable Auto Door Locks
- Driver's Auto Up/Down Window
- Tilt & Telescopic Steering Column
- Cargo Area Light
- Visor Vanity Mirrors
- Cruise Control
- 12-Volt Power Outlets

*** EXTERIOR FEATURES ***
- 15" x 6.0" Steel Wheels with Full Wheel Covers
- P185/60 R15 All-Season Tires
- Intermittent Windshield Wipers
- Rear Window Defroster
- Rear Wiper with Washer
- Auto-On/Off Headlights
- Expanded View Driver's Mirror
- Body-Colored Power Door Mirrors
- LED Brakelights
- Rear Roofline Spoiler
- Remote Entry with Security System

H45361
5Miles
10/15

Manufacturer's Suggested Retail Price	**$16,590.00**
Full Tank of Fuel	**No Charge**
-Honda Roadside Assistance 3YR/36K Mile Warranty Term	
Destination and Handling	820.00
TOTAL VEHICLE PRICE (includes Pre-Delivery Service)	**$17,410.00**

License and title fees, state and local taxes and dealer options and accessories are not included in the manufacturer's suggested retail price.

MULLER HONDA OF GURNEE
7000 GRAND AVENUE
GURNEE, IL 60031

VIN: JHMGK5H54GX005711

PORT OF ENTRY: PORTLAND
DELIVERY POINT: SCHAUMBURG
SHIP#: B18-734418
ROW/SPACE:
TRANS.METHOD: N50 ELWOOD

ORIG. DLR: 208663
REF.NO: 40075
HN CODE: HN-7401
EMISSION: 50 STATE
CONTROL NO: 332875
DEALER: 208663

EPA DOT Fuel Economy and Environment

Gasoline Vehicle

Fuel Economy

36 MPG
combined city/hwy

33 city
41 highway

2.8 gallons per100 miles

Small Station Wagons range from 20 to 105 MPG.
The best vehicle rates 119 MPGe.

You save $2,750 in fuel costs over 5 years compared to the average new vehicle.

Annual fuel cost $1,250

Fuel Economy & Greenhouse Gas Rating (tailpipe only): 8 (1–10, Best)

Smog Rating (tailpipe only): 5 (1–10, Best)

This vehicle emits 247 grams CO^2 per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fueleconomy.gov.

Actual results will vary for many reasons, including driving conditions and how you drive and maintain your vehicle. The average new vehicle gets 25 MPG and costs $9,000 to fuel over 5 years. Cost estimates are based on 15,000 miles per year at $3.00 per gallon. MPGe is miles per gasoline gallon equivalent. Vehicle emissions are a significant cause of climate change and smog.

fueleconomy.gov
Calculate personalized estimates and compare vehicles

Smartphone QR Code ™

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE
U.S./Canadian Parts Content: **15 %**

Major Sources of Foreign Parts Content:
JAPAN 55 %
MEXICO 15 %

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

Two or more assembly plants produce the vehicles in this carline. The vehicles assembled at the plant where this vehicle was assembled have a U.S./Canadian parts content of 15 %

FOR THIS VEHICLE
Final Assembly Point:
YORII-MACHI, SAITAMA JAPAN

Country of Origin: Engine:
JAPAN

Transmission:
JAPAN

GOVERNMENT 5-STAR SAFETY RATING

Overall Vehicle Score ★★★★★

Based on the combined ratings of frontal, side and rollover.
Should ONLY be compared to other vehicles of similar size and weight.

Frontal Crash	Driver	★★★★★
	Passenger	★★★★★

Based on the risk of injury in a frontal impact.
Should ONLY be compared to other vehicles of similar size and weight.

Side Crash	Front seat	★★★★★
	Rear seat	★★★★★

Based on the risk of injury in a side impact.

Rollover ★★★★

Based on the risk of rollover in a single vehicle crash.

Star Ratings range from 1 to 5 stars (*****) with 5 being the highest.
Source: National Highway Traffic Safety Administration (NHTSA)
www.safercar.gov or 1-888-327-4236

This vehicle is equipped with a front bumper of a type that has been tested at an impact speed of 5 miles per hour, and a rear bumper of a type that has been tested at an impact speed of 5 miles per hour, resulting in no damage to the vehicle's body and safety systems and minimal damage to the bumper and attachment hardware. "Minimal damage to the bumper" means minor cosmetic damage that can be repaired with the use of common repair materials and without replacing any parts. The stronger the bumper, the less likely the vehicle will require repair after a low-speed collision. This vehicle exceeds the current federal bumper standard of 2.5 miles per hour.

Driver WSID 50th Seating Worksheet

Vehicle	2016 Honda FIT	**Technician**	M. Postle/Mike Tonneman
VIN #	JHMGK5H54GX005711	**Position**	Engineering Technician
ATD	WorldSID 50th SN 016	**Date**	5/10/2016
SEATING #	1		

SCRL Angle			**WSID 50th Tilt Sensors**		**X**	**Y**
	Max	14.4	Head	0°±2	0.2	-0.4
	Min -	12.4	T1	0°±2		
	Difference	2	T6	0°±2	0.8	-2.2
	/2	1	T12	0°±2		
	Min +	1	Pelvis	0°±2	1.1	0.5
	Mid Angle	13.4				

Seat Back Angle	W/Level °	21.5	**HEAD REST POST**		**FINAL HEAD REST**	
Seat Pan Angle	W/Level °	11.9	**ANGLE**	0.8	**POST ANGLE**	0.4
Pelvis Angle	WSID 50th 0° +/-2.5°		Manual Inclinometer	N/A		

Collected Points			
Name	**Meas X**	**Meas Y**	**Meas Z**
SBU -	-37.802	2.664	-16.673
SBL -	-35.879	0.410	19.344
STRIKER -	0.000	0.000	0.000
FOSB -	524.182	180.577	292.557
FISB -	-24.188	611.430	371.779
ROSB -	-18.509	183.124	378.499
RISB -	-24.188	611.430	371.779
RHP -	912.191	557.305	395.452
LHP -	912.082	244.013	392.998
S0 -	528.986	411.233	-282.357
TS -	601.585	411.029	-435.876
BS -	450.494	409.805	-136.045
SC1 -	721.875	307.935	-148.970
OSCAR H-POINT -	236.335	205.359	70.231
DR PROJECTED WSID H-POINT AT MID-POSITION -	236.000		70.000
DRIVER STP 14.27 MID-POSITION -	256.000		149.000
DRIVER STP STEP 17.6 TRIAL 1 -	236.098	153.591	152.379
DR PROJECTED WSID H-POINT STEP 17.6.2 TRIAL 1 -	236.000		53.000
DRIVER STP STEP 17.6 TRIAL 2 -			
DR PROJECTED WSID H-POINT STEP 17.6.2 TRIAL 2 -			
DRIVER STP STEP 17.6 TRIAL 3 -			
DR PROJECTED WSID H-POINT STEP 17.6.2 TRIAL 3 -			
3DRHCG-	93.246	482.756	-603.963
3DLHCG-	92.264	331.578	-603.187
LHDCG -	72.684	330.314	-604.464
BON -	166.683	409.029	-603.870
TN -	165.100	411.055	-556.422
TC -	152.650	409.404	-484.189
SHLD R1 -	131.156	404.510	-375.281
THX R1 -	163.937	405.945	-299.901
THX R2 -	207.572	407.880	-231.700
THX R3 -	216.988	405.781	-185.116
ABD R1 -	231.783	400.657	-131.000
ABD R2 -	252.911	400.694	-87.012

C1 -	134.594	408.394	-359.016
C2 -	177.802	412.544	-284.860
C3 -	240.242	411.670	-136.629
SHT -	45.057	165.417	-354.519
E1 -	247.957	110.353	-179.343
P1 -	188.757	183.623	6.733
H-POINT -	241.512	182.097	55.893
OK -	663.967	177.909	-75.510
IK -	668.168	506.799	-75.324
OA -	876.756	183.139	271.408
IA -	867.577	518.888	283.902
OH -	905.866	182.474	393.187
IH -	910.435	542.001	400.795
OP -	-160.581	323.336	-411.071
R -	166.117	409.408	-776.406
H -	491.650	409.469	-739.585
W1 -	837.113	409.669	-604.779
W2 -	1,139.903	409.045	-454.704
D1 -	805.705	407.815	-360.391
D2 -	725.971	169.907	-60.992
D3 -	701.491	560.183	-108.466
HRP -	166.386	251.757	-728.126
HSP -	167.461	83.781	-603.762
ADP -	247.522	32.984	-180.280
HDP -	242.514	73.938	55.417

Calculated Measurements

Name	Cal X	Cal Y	Cal Z	Cal 3D Distance	Deg
HZ -			172.536		
HH -				352.168	
HW -	670.430				
NR -				452.826	
CD -				671.113	
CS -	351.184				
IKD -				71.125	
OKD -				64.181	
HR -				200.435	
HS -		325.249			
AD -		77.369			
HD -		108.159			
HLHL -				359.636	
KK -				328.917	
SH -				307.589	
HRA -					0.400
H-POINT TOOL ANGLE -					47.019
TORSO ANGLE -					14.341
WINDSHIELD ANGLE -					26.365

APPENDIX E

RIBEYE INFORMATION

RibEye

A relatively new instrument called RibEye was used in the WorldSID 50th percentile dummy to evaluate the ability of RibEye to capture maximum deflection. When configured for the WorldSID 50th dummy, the RibEye consists of two groups of three sensors (receivers) mounted on the impact side of the spine box, one at each rib level, and three Light Emitting Diodes (LEDs) per rib, mounted on the inner surface of the inner rib on the impact side (Figure 1). The RibEye measures x, y, and z positions for each LED at 10,000 samples per second. The top set of sensors uses red optical filters and monitors the red LEDs mounted on the top three ribs (shoulder, thorax rib 1, and thorax rib 2). The bottom set of sensors uses blue optical filters and monitors the blue LEDs mounted on the bottom three ribs (thorax rib 3, abdomen ribs 1 and 2). Within each group of three sensors, position data from each sensor is reported with respect to a coordinate system that has its origin in the middle sensor of each set. Within each group of three sensors, the LEDs are installed using angled mounting blocks on the top and bottom ribs, and no mounting block on the middle rib (Figure 1). Note that the sensors (Figure 2) are also angled on the top and bottom ribs and flat on the middle rib. The LEDs and sensors are mounted this way so that the LED light is better aimed toward the sensors. The RibEye also includes its own data acquisition system and controller, which are installed on the non-impact side of the spine box. The WorldSID 50th Dummy RibEye Hardware Manual[1] calls for an optional shoulder rib foam strap and stopper plate, which were not utilized in this evaluation. Figure 3 shows the final placement of the LEDs when used in this series of crash testing.

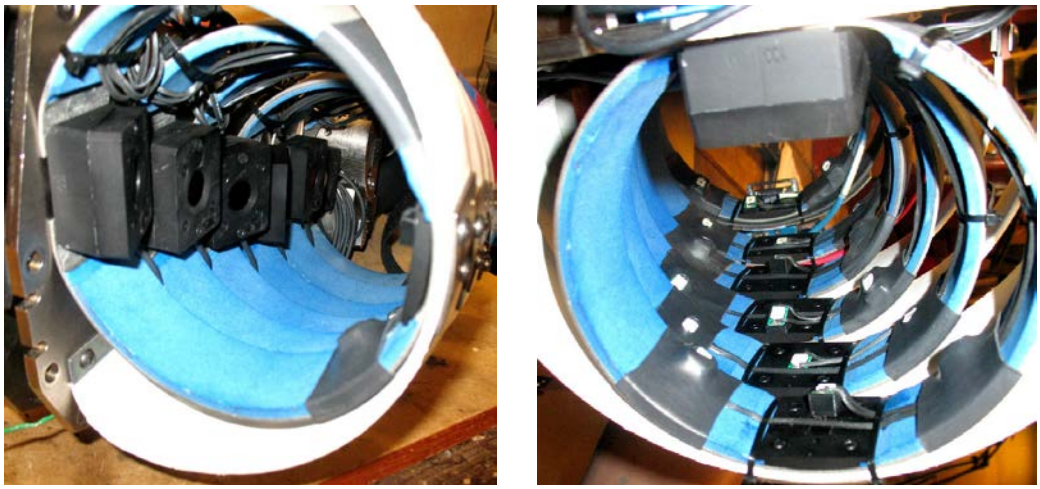


Figure 1. RibEye sensors (left) and LEDs (right) installed in WorldSID 50th dummy. Note that for a group of three sensors, the sensors for the top and bottom ribs are mounted at an angle, and the sensor for the middle rib is mounted flat. View is from pelvis upward. Photo copyright Boxboro Systems.

[1] Boxboro Systems, "Hardware User Manual - RibEye™ Multi-Point Deflection Measurement System: 3-Axis Version for the WorldSID 50th Male ATD," www.boxborosystems.com, May 2016

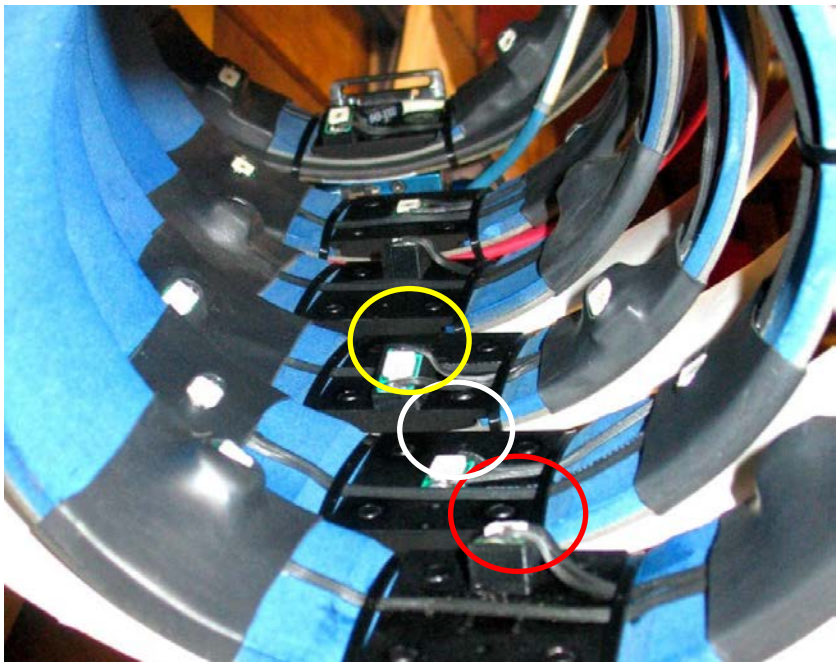


Figure 2. Close-up view of LEDs mounted to ribs. Circles denote angled mounting blocks on the top and bottom ribs (yellow and red), and no mounting block on the middle rib (white). Photo copyright Boxboro Systems.

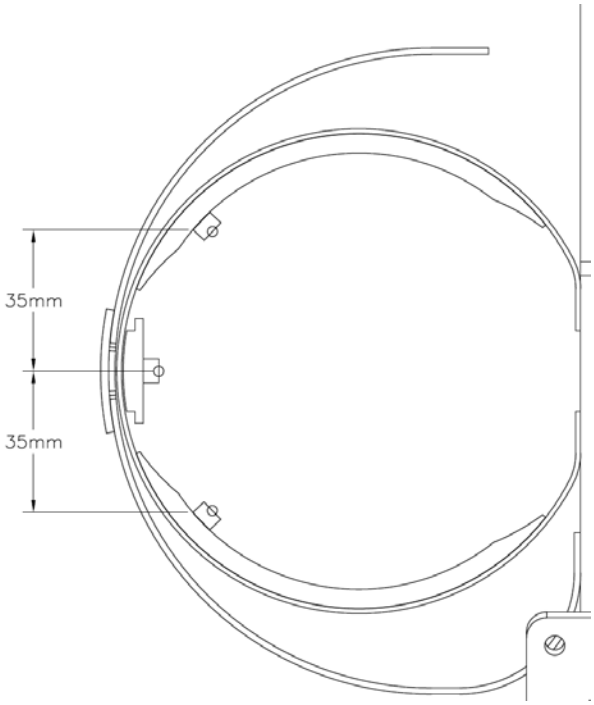


Figure 3. Schematic of a rib showing the final locations for the three LEDs used in the crash tests

RibEye Field of View and Error Codes

Each sensor has a finite field of view, within which it can sense the position of the LEDs. If an LED moves outside the field of view of the sensor, its position can no longer be sensed, and an error code will be produced by the RibEye software. If an error code occurs, all three axes (x, y, and z) will be forced to the same error code. In addition, error codes can occur if the light from an LED gets blocked and cannot be reached by one of the sensors. Too much ambient light can also cause the RibEye to generate error codes. Before a sensor becomes completely blocked, it gets partially blocked, which causes the sensor to report bad data. Thus, if an error code occurs, the data a few milliseconds before and after the error code should be discounted. The error code values are single digit numbers 1-9 and can be positive or negative. Each code indicates a different error (Table 1). It is important to note that removing the bias or filtering can alter the values of the error codes, which could be misleading. Thus, it is important to review the unfiltered absolute position data in order to preserve the error codes. To determine if an LED moved beyond the field of view of the RibEye sensor's range, an X-Y or Y-Z plot of the absolute position data and the RibEye range should be plotted together as shown in Figure 4.

Table 1. RibEye Error Code Descriptions

Error Code	Description
1	The top sensor is blocked or sees too much ambient light
2	The bottom sensor is blocked or sees too much ambient light
3	Both top and bottom sensors are blocked or see too much ambient light
4	The middle sensor is blocked or sees too much ambient light
5	The middle and top sensors are blocked or see too much ambient light
6	The middle and bottom sensors are blocked or see too much ambient
7	All three sensors are blocked or see too much ambient light
8	A divide-by-zero condition occurred in the data processing
9	Data goes past the end of the calibration curves

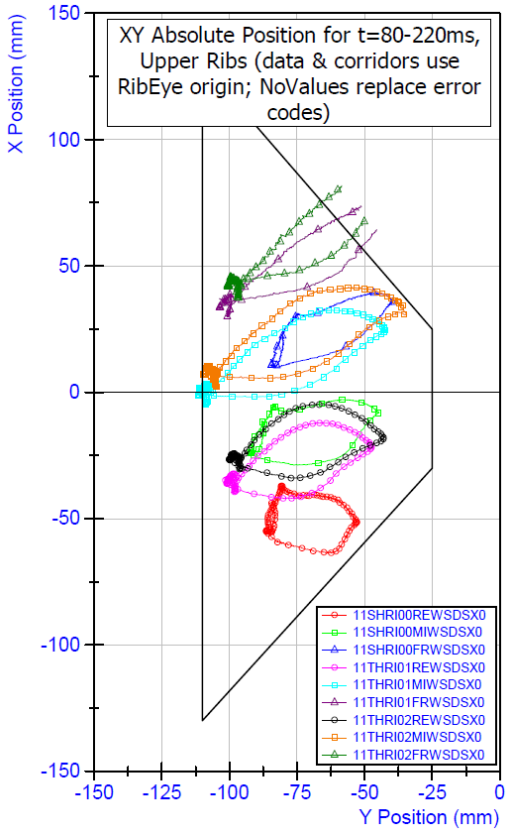


Figure 4. RibEye X-Y position (see legend) and sensor range (trapezoidal area outlined in black) for upper three ribs. Note that thorax rib 1 and thorax rib 2 front LEDs moved beyond the sensor range and their positions were no longer measured.

RibEye Change in Length

In order to assess injury, deflection toward the spine is calculated from the x and y position data from the RibEye as the x-y change in length (or deflection) of the LED from the RibEye origin. However, since the RibEye origin is located at the middle sensor for each group of three sensors, in order to measure the x-y length change for each LED, the origin is first translated to the same relative location for the rib of interest (i.e., for the shoulder rib, the middle sensor origin at thorax rib 1 is translated to the top sensor). Because the WorldSID dummy's ribs are offset in the x (anterior-posterior) and z (superior-inferior) directions, the RibEye origin must be translated in both of these directions so that all of the rib deflections will be measured relative to the center of the inside face of the sensor of the rib of interest (Figure 5).

Table 2 lists the offsets from the RibEye origin for each rib's sensor, measured with the RibEye origin sensor setting the x- and z-axis directions parallel to- and perpendicular to- it, respectively.

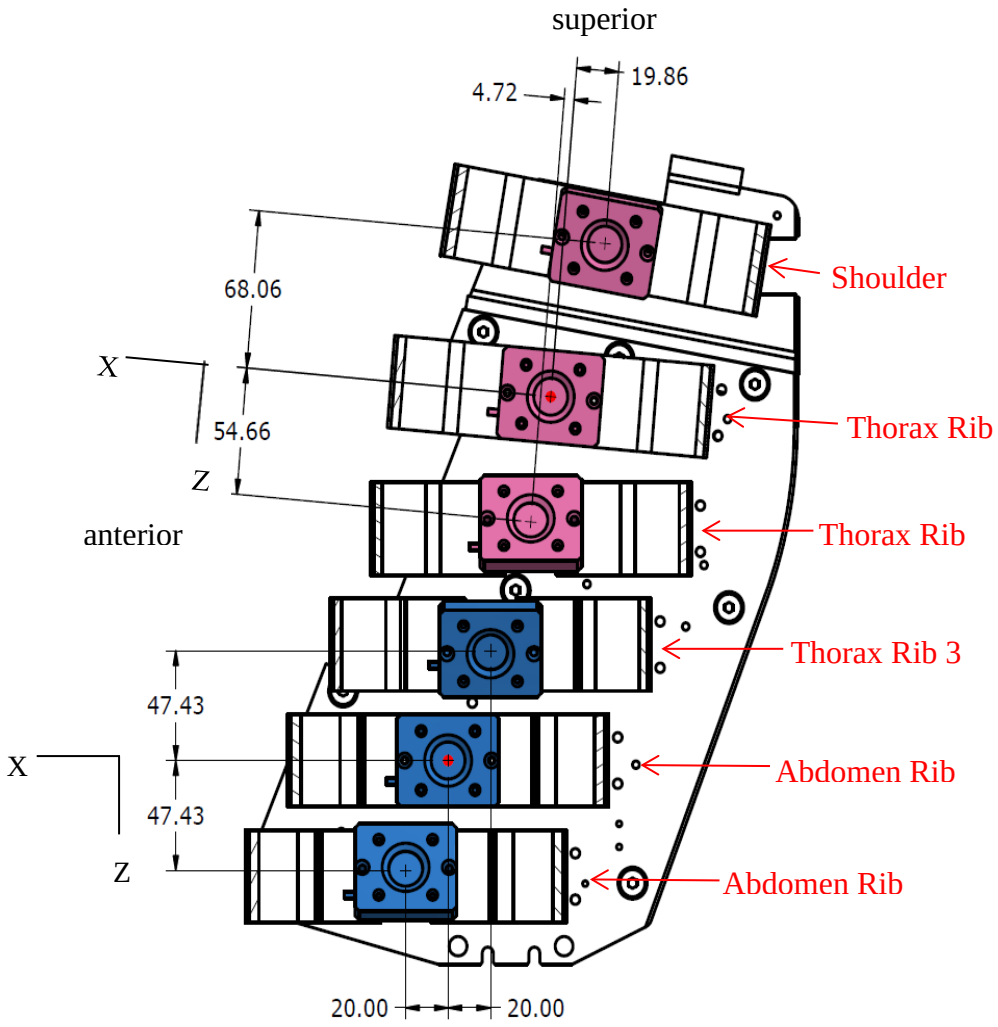


Figure 5. Schematic showing left side cross-section view of thorax with RibEye sensors. Upper set of sensors shown in pink; lower set of sensors shown in blue. RibEye origins denoted by red dots; x and z axes directions defined by the orientation of the origin sensor for each set of sensors. Dimensions indicate location of center of top and bottom sensors from the origin for the upper and lower sets of three sensors.

Table 2. RibEye Origin Offset for Each Rib

RibEye Sensor Group	Rib	Offset from RibEye Origin (mm)	
		X	Z
Red	Shoulder	-19.86	-68.06
	Thorax Rib 1	0	0
	Thorax Rib 2	4.72	54.66
Blue	Thorax Rib 3	-20	-47.43
	Abdomen Rib 1	0	0
	Abdomen Rib 2	20	47.43

For example, if we are interested in the x-y displacement of thorax Rib 2, the RibEye origin would need to be translated in the x and z directions from its location at the middle sensor of thorax rib 1. Then, the change in length is calculated as shown in Figure 6 and Equations 1-3 for any time, t. This measurement is similar to the change in length of the IR-TRACC telescoping tube.

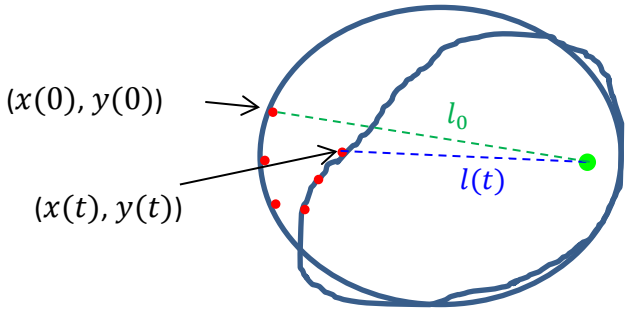


Figure 6. Schematic showing inner rib prior to impact and deformed at some time t, LEDs (red), origin at the rib of interest (green), and lengths between the front LED and the origin at time zero (l_0) and at time t, ($l(t)$). The change in length is l_0 - $l(t)$.

$$l_0 = \sqrt{x(0)^2 + y(0)^2} \quad (1)$$

$$l(t) = \sqrt{x(t)^2 + y(t)^2} \quad (2)$$

$$\textit{Length change} = l_0 - l(t) \quad (3)$$

If error codes occur in the RibEye data, they can cause the length change calculation to be problematic, so to avoid this, the error codes are replaced with null data. Filtering null data may generate erroneous data. After the length change is calculated, the null data are put back in, removing the erroneous data due to filtering null data.

Given these conditions, the data processing steps used for RibEye are as follows:

1. Replace error codes in unfiltered absolute position data with null data
2. Filter at CFC 600
3. Translate absolute position data in x and z directions (per Table 2) to get position data relative to the center of the inside face of the sensor for each rib
4. Calculate length change
5. Replace filtered null data with null data

For more information on the RibEye system and or implementation see the following reports located in the NHTSA Docket.

- "Implementation of RibEye in the WorldSID 50th Percentile Dummy," May 2016, Rhule, H., Mallory, A., Millis, W., Stricklin, J.; NHTSA docket no. NHTSA-2015-0119.
- "Evaluation of RibEye Installed in the WorldSID 50th Percentile Dummy," July 2016, Rhule, H., Stricklin, J., Millis, W., Suntay, B.; NHTSA docket no. NHTSA-2015-0119.

APPENDIX F

CHEST BAND INFORMATION

APPENDIX - CHEST BAND INFORMATION

One 59-channel chest band was installed on the WorldSID 50th male dummy in the driver seat. The chest band was installed directly on the rib denoted in Table 1 using double-sided foam tape to ensure that the band followed the rib's motion (Figures 1-4). The band was used in this test to determine the shape of the rib contour throughout the crash event. Pertinent information regarding the location of the band on the dummy (Table 1) may be used for processing the chest band data in RBandPC or CrashStar software. Table 1 and Figure 5 show results from processing the chest band data using CrashStar. Deflections are measured from each chest band gage left of the spine and sternum to a location that corresponds to the Ribeye origin. Deflection is calculated to be the difference between the initial and final distances of the gage relative to the origin. Information related to the chest band used in this test may be directed to **heather.rhule@dot.gov**.

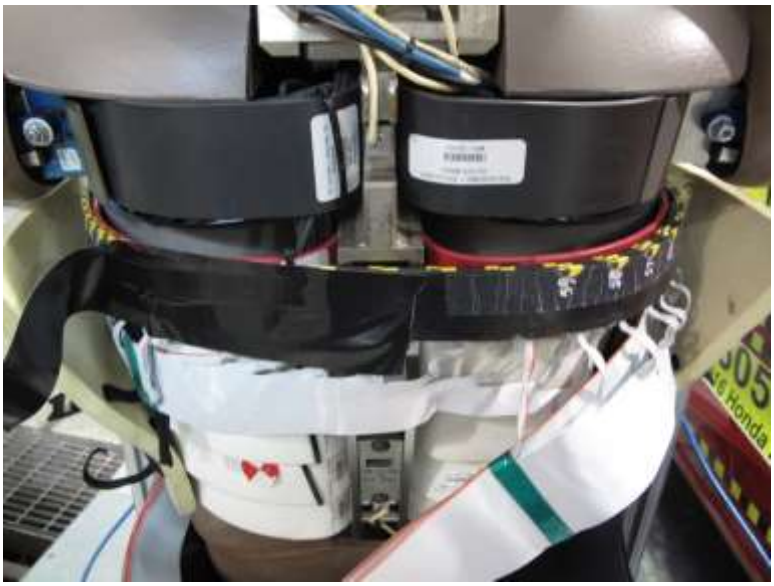


Figure 1. Rear of WorldSID 50th male dummy showing chest band location

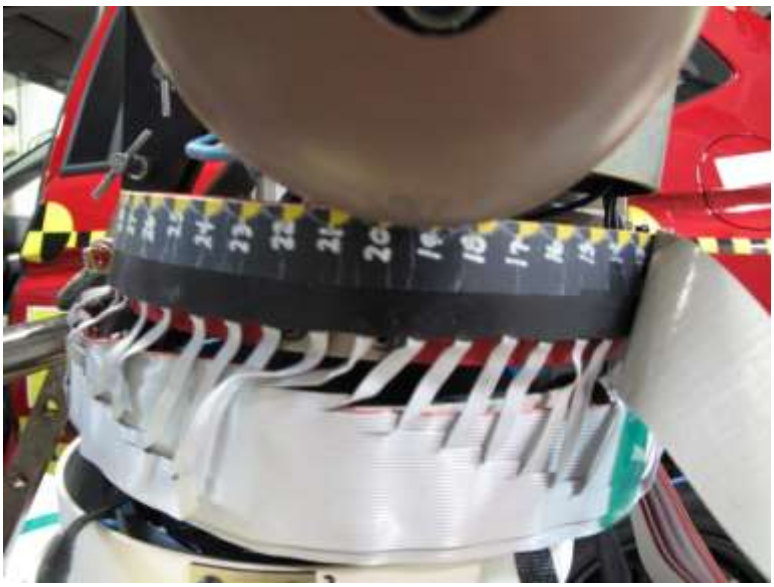


Figure 2. Left side of WorldSID 50th male dummy showing chest band location

Figure 3. Front of WorldSID 50th male dummy showing chest band location

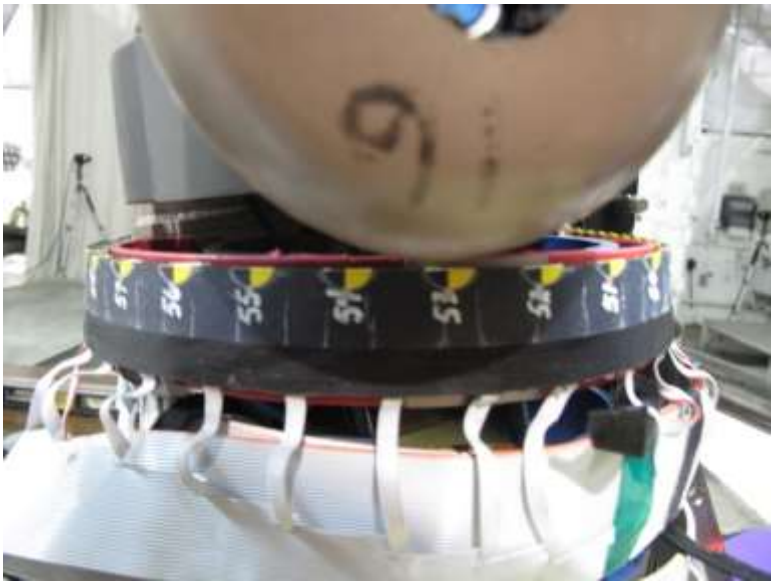


Figure 4. Right side of WorldSID 50th male dummy showing chest band location

Table 1. Chest Band Information

Test date	5/10/2016
Test vehicle	2016 Honda Fit
Dummy	WorldSID 50th Male
Seating position	Driver seat
Chest band location	Thorax Rib 1
Chest circumference	939.8 mm
Number of active gages*	55
Gage closest to spine	7
Distance from spine**	0 mm
Gage closest to sternum	39
Distance from sternum**	0 mm
Maximum chest deflection from chest band data	52.3 mm
Gage of Max Deflection	22

*The number of active gages is the number of gages encircling the subject.

**Distance from anatomical reference (spine or sternum) is positive when the closest gage lies before the anatomical reference when moving around the chest band in a clock-wise direction

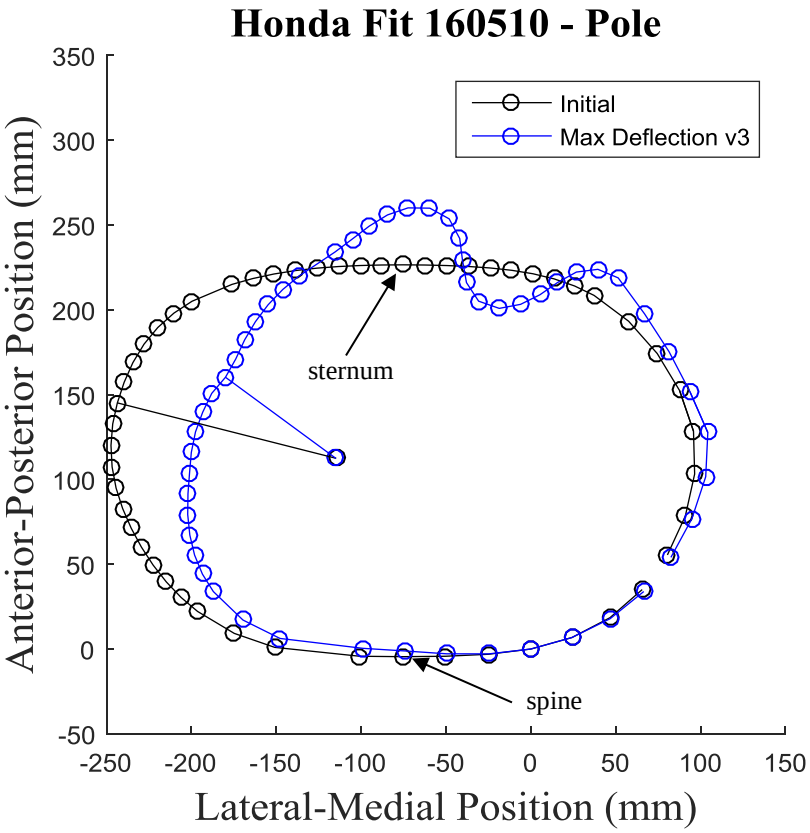


Figure 5. Chest band contours at initial position and maximum deflection for the WorldSID 50th dummy. Chest band gages #9 and #30 were removed due to poor signals.

APPENDIX G
WORLDSID DRAFT SEATING PROCEDURE

- SEATING AND DUMMY POSITIONING PROCEDURES FOR THE WSID 50TH MALE DRIVER DUMMY

__1 Determine the seat type

Visually inspect the seats to determine type (i.e., bucket or bench).

Driver seat:

__Bench

__Bucket

__2 Position lumbar supports

Position the seat's adjustable lumbar supports to the lowest, retracted or deflated adjustment positions.

__*N/A* No lumbar adjustment

__3 Position additional supports

Position any adjustable parts of the seat that provide additional support so that they are in the lowest or most open adjustment position.

__*N/A* No additional support adjustment

__4 Position leg supports

Position an adjustable leg support system in its rearmost position.

__*N/A* No adjustable leg support system

__5 Position the head restraint

__5.1 Using any adjustment of the head restraint, position it to its highest position.

__5.2 Using any adjustment of the head restraint, position it to the full rearward position. If it rotates, rotate it such that the head restraint extends as far rearward as possible.

__*N/A* The test vehicle is equipped with automatically adjusting head restraints or there is no head restraint adjustment,

__6 Mark the centerline of the seats in the XZ plane (complete ONLY the one that is applicable to seat being marked)

__6.1 Bucket Seat: Locate and **mark** for future reference the centerline of the seat cushion in the XZ plane. The intersection of the XZ plane that passes through the SgRP and the seat cushion upper surface determines the centerline of a bucket seat cushion.

__6.2 Bench Seat:

Locate and **mark** for future reference the line on the seat cushion that marks the intersection of the XZ plane through the centerline of the steering wheel and the seat cushion upper surface.

__7 Mark the range of seat travel

Prior to marking the seat for fore/aft travel, move the seat through its full range of motion using all available controls. Separately, operate each control to determine whether it moves the seat and/or seat cushion primarily in the fore-aft or up-down directions.

Seating procedures used for March-June 2016 testing

__7.1 Mark a point (seat cushion reference point - **SCRP**) on the side of the seat cushion that is between 150 mm and 250 mm from the front edge of the seat cushion. For seat cushions that move up and down independently from the seat housing, mark the point on the side of the cushion in an area that will not be obscured by the seat housing when the seat cushion is at its lowest height position.

__7.2 Draw a horizontal line (seat cushion reference line - **SCRL**) through the **SCRP**.

__7.3 Use only the controls that primarily move the seat in the fore-aft direction to move the **SCRP** to the rearmost position.

__7.4 If the seat cushion adjusts fore-aft, independent of the seat back, use only the controls that primarily move the seat cushion in the fore-aft direction to move the **SCRP** to the rearmost position.

__ *N/A* No independent fore-aft seat cushion adjustment

__7.5 Use any part of any control, other than the parts just used for fore-aft positioning, to determine the range of angles of the **SCRL** and to set the **SCRL** at mid-angle. Record the maximum, minimum and mid-angles in the table below.

SCRL°	**Max**	**Min**	**Mid**
Driver			

__7.6 If the seat and/or seat cushion height is adjustable, use any part of any control other than the parts which primarily move the seat or seat cushion fore-aft, to put the **SCRP** in its lowest position with the **SCRL** angle at the mid-angle found in 7.5.

__*N/A* No seat height adjustment

__7.7 Use only the controls that primarily move the seat in the fore-aft direction to verify the seat is in the rearmost position

__7.8 Use only the controls that primarily move the seat in the fore-aft direction to **mark** the fore-aft seat positions. **Mark** each position so that there is a visual indication when the seat is at a particular position. For manual seats, move the seat forward one detent at a time and **mark** each detent. For power seats, **mark** only the rearmost, middle, and foremost positions. Label three of the positions with the following: F for foremost, M for mid-position (if there is no mid-position, label the closest adjustment position to the rear of the mid-point), and R for rearmost.

Measure the SCRP fore-aft travel for each seat position on the table below.

	SCRL Mid-Angle°	Rearmost		Mid-fore/aft		Full forward		SCRP Height (mm) Spacing measurement Between detents (if applicable)
		X	Z	X	Z	X	Z	X
Driver								

__7.8.1 While at mid-position, also mark or label 25 mm rearward on the seat travel.

Two possible methods for marking the fore-aft seat positions are illustrated in the photos below.

__8 Locate and mark the Right Heel Point (RHP) on the carpet.

__8.1 Find the Pedal Center Point (PCP).

Place adjustable pedals in the full forward position (towards the front of the vehicle.)

__N/A – the pedals are not adjustable.

__8.2 Using Diagrams below locate the midpoint between left most and right most edge of the accelerator pedal surface; mark a line on the accelerator pedal and floor pan that represents the intersection of the accelerator midpoint and the vertical longitudinal plane. This center line shall be referred to as L1.

__8.3 Find and mark the Pedal Center Point (PCP) using measurement PL from the top to the bottom edge illustrated in the picture below.

__8.4 Mark a point on the outboard edge of the accelerator pedal surface at the same height as the

PCP. This point shall be referred to as A.

__8.5 Using a 200mm bar, place one end on the outboard edge of the accelerator pedal at point A and sweep the other end in a downward arc in the vertical longitudinal plane until contacting the floor pan. This point of contact shall be referred to as A'.

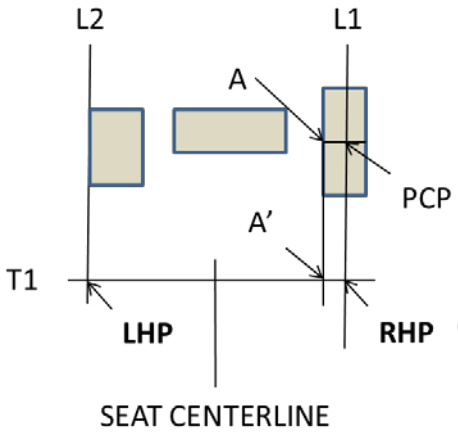
__8.6 Mark a transverse line T1 through the point A' on the floor pan. The intersection of the T1 Line and the L1 line becomes the Right Heel Point (RHP). Mark this location for future placement of the right heel.

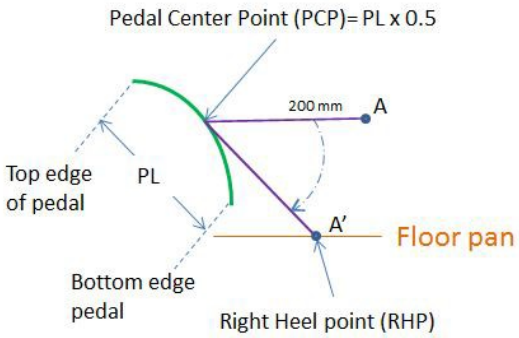
Seating procedures used for March-June 2016 testing

__9 **Locate and mark the Left Heel Point (LHP) on the carpet**.

__9.1 Mark a point on line T1 the same distance to the left of the seat centerline as the RHP is to the right the seat centerline. This point is the Left Heel Point (LHP). Mark a line on the floor pan and toe board that represents the intersection of the LHP and the vertical longitudinal plane. This line shall be referred to as L2.

__9.2 Mark two lines on the floor pan parallel to line T1, the first 10mm forward and the second 10mm rearward of the T1. This zone between these two lines will be used for placement of both the left and right heels.





__10 **Set the seat for a test dummy**

Using the reference marks on the seat, set the seat in the mid fore-aft, lowest height at mid seat cushion angle position as follows;

__10.1 If the seat or seat cushion height is adjustable, other than by the controls that primarily move the seat or seat cushion fore and aft set the height of the **SCRP** to the minimum height, with the **SCRL** set as closely as possible to the mid-angle determined in previous sheets.

__10.2 Using the control that primarily moves the seat fore and aft, move the **SCRP** to the mid-travel (i.e., mid-fore aft) position.

__**10.3 Set the seat back angle at the manufacturer's <u>nominal design riding position</u> for a 50th**

If the position is not specified, set the seat back in the position that produces a torso (back) angle of 25° from vertical when measured with the SAE J826 H-point machine. For seat backs with discrete positions, if a torso (back) angle of 25° from vertical cannot be achieved, set the seat back in the detent that yields a torso (back) angle as close as possible to 25° from vertical. Describe the method used to achieve the nominal design riding position and record the seat back angle.

_____

_____

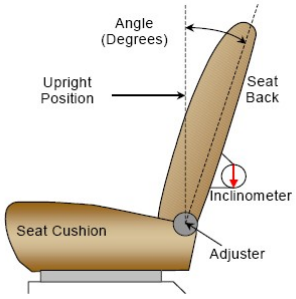
_____

_____

_____

Seat Back Angle_____°

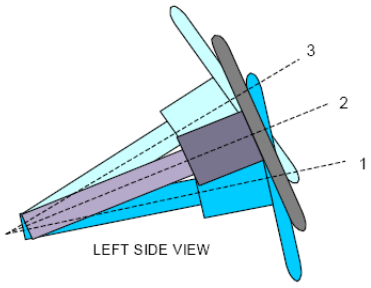
__*N/A* The seat back does not adjust.



FRONT SEAT ASSEMBLY

__**11 Set the steering wheel to the mid-position**

Use the markings to position the steering wheel hub at the geometric center of full range of driving positions including any telescoping positions. For steering columns with discrete positions and no detent at the mid-angle, position the column in the next lowest detent from the mid-angle.



STEERING COLUMN ASSEMBLY

Complete the following table;

	Degrees	**Fore/Aft Position (mm)**
Lowermost - Position 1		
Geometric Center – Position 2		
Uppermost – Position 3		
Telescoping Steering Wheel Travel		
Test Position		

__*N/A* The steering wheel does not adjust.

__12 *Set* adjustable seat belt upper anchorages

Use the markings to position an adjustable seat belt upper anchorage at the manufacturer's nominal design position for a 50th percentile male adult occupant. Fill in the following table;

Seat	Total # of Positions	Placed in Position #
Driver		

__*N/A* The seat belt upper anchorage does not adjust.

__13 Retract the armrest

Retract any folding armrest

__*N/A* No armrest or armrest is fixed, not retractable.

__14 Determine the H-point location with the H-Point machine;

Position the three dimensional H-point manikin (i.e., H-point machine) specified in Society of Automotive Engineers (SAE) Surface Vehicle Standard J826, revised July 1995, Devices for Use in Defining and Measuring Vehicle Seating Accommodation in the seat as follows;

__14.1 Place a 910 mm2 piece of muslin cotton cloth over the seat area. (The muslin cloth shall be comparable to 48 threads/in2 and density of 2.85 lb/yd.) Tuck the muslin cloth in a sufficient amount to prevent hammocking of the material.

__14.2 lace the seat and back assembly of the H-Point machine such that its plane of symmetry is coincident with the centerline marking on the seat.

__14.3 Install the lower leg, and foot segments.

__14.4 Set the length of the lower leg segment at 414 mm (16.3 in) and the length of the thigh bar at 401 mm (15.8 in).

__14.5 Leg and foot placement

__14.5.1 Insert the pin so that the right foot angle is not less than 87°.

__14.5.2 Place the right foot on the un-depressed accelerator pedal with the sole of the foot on the pedal and the heel as far forward as allowable. Do not place the heel on the toe board.

__14.5.3 Adjust the left leg to be the same distance from H-point machine centerline as the right leg.

__14.5.4 With the T-bar level, place the left foot on the toe board with the rearmost point of the heel resting on the floor pan as close as possible to the point of intersection of the planes described by the toe board and the floor pan and not on the wheel well projection. If the foot cannot be positioned on the toe board, set it on the floor pan.

__Foot on toe board

__Foot on floor pan

__14.6 Apply the lower leg weights.

__14.7 Apply the thigh weights.

__14.8 Tilt the back pan forward against the forward stop and draw the H-point machine away from the seatback using the T-bar.

Seating procedures used for March-June 2016 testing

__14.9 Re-positioning the H-point machine.

__14.9.1 Allow the H-point machine to slide rearward until a forward horizontal restraining load on the T-bar is no longer required due to the seat pan contacting the seat back.

__The seat pan does not slide rearward. Go to 14.9.2

__14.9.2 Slide the H-point machine rearward by a horizontal rearward load applied at the T-bar until the seat pan contacts the seat back.

__14.10 Apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.

__14.11 Again apply a 10 kg load at the intersection of the hip angle quadrant and the T-bar housing along a line from the above intersection to a point just above the thigh bar housing.

__14.12 Carefully return the back pan to the seat back.

__14.13 Install the right and left buttock weights.

__14.14 Install the eight torso weights alternately the installation between right and left.

__14.15 Tilt the back pan forward until the stop is contacted.

__14.16 Rock the H-point from side to side over a 10° arc (5° to each side of the vertical centerline) for three complete cycles. Restrain the T-bar during rocking so that the seat pan does not change position. Minimize any inadvertent exterior loads applied in a vertical or fore-aft direction. The feet are free to move during this rocking motion.

__14.17 Without applying a forward or lateral load, lift the right foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.

__14.18 Lower the right foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor, toe board, or undepressed accelerator pedal.

__14.19 Without applying a forward or lateral load, lift the left foot off the floor the minimum amount necessary until no additional forward foot movement is obtained.

__14.20 Lower the left foot until the heel is in contact with the floor pan and the ball of the foot is in contact with the floor or toe board.

__14.21 Is the seat pan level?

__Yes. Go to 14.23

__No. Go to 14.22

__14.22 Apply a sufficient lateral load to the top of the seatback pan to level the H-point machine seat pan on the seat.

__14.23 Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, return the seatback pan to the seatback.

__14.24 Holding the T-bar to prevent the H-point from sliding forward on the seat cushion, apply rearward force perpendicular to the back angle bar just above the torso weights until either 66 N (15 lb) of force is reached or the hip angle is increased by 3°, whichever occurs first. Minimize the exterior downward or side forces applied to the H-point machine. Release the force. Repeat this step until the resulting hip angle readout is identical. Complete as many force applications as necessary and record the results in the following table:

Force App.	Hip Angle
1	
2	
3	
4	
5	

__14.25 Is the H-point machine level?

__Yes, Go to 14.26

__No, Go back to step 14.15 and repeat steps to re-level H-point machine.

__14.26 Record the H-point location in the table below;

Oscar H-point location	
Torso Angle	°
X (Positive (+) forward of striker)	(mm)
Z (Positive (+) below striker)	(mm)

Reference: X-Axis is Positive forward of Striker
Y-Axis is Positive Right of Striker
Z-Axis Is Positive Below Striker

__14.27 Create a Seat Tracking Point (STP): Place a target point 20mm forward of the Oscar H- point on a rigid part of the seat and record its location in the table below. (This reference point will be used to locate the dummy H-point relative to the seat if the seat cannot be set to the mid fore-aft position.)

Seat Tracking Point (STP) location at mid-position	
X (Positive (+) forward of striker)	(mm)
Z (Positive (+) below striker)	(mm)

__14.28 Remove the H-point machine

Seating procedures used for March-June 2016 testing

__15 Calculate the WSID 50TH H-point Target at Mid-position

__15.1 The WSID 50TH H-point is offset 20mm forward and 20mm above the Oscar H-point as determined in the table below:

WSID 50TH Target H-point at Mid-position				
	Oscar H-point (14.26)	+/-	Offset	= WSID 50TH H-Point at Mid-position
X (Positive (+) forward of striker)	( )	+	20mm	mm
Z (Positive (+) below striker)	( )	-	20mm	mm

Once the H-point has been determined, position a qualified WSID 50TH test dummy in the driver seat of the test vehicle.

__16 Check that all joints are set between 1 and 2 g. If they are not, follow the procedures in the WSID 50TH Qualification Manual for setting the joint torques.

__16.1 Place size 11EEE shoes meeting MIL-S-13192(1976) on each foot.

__16.2 Make sure the head and pelvis tilt sensors installed in the dummy are reading correctly about the X & Y axes.

__17 Positioning the test dummy in the seat

__17.1 Move the seat to the full rearward position and place the test dummy in the seat.

__17.2 Position the test dummy in the seat such that its plane of symmetry (i.e., mid-sagittal plane) is coincident with the centerline marking on the seat cushion, seat back and head restraint and its H-point is directly above the STP.

__17.3 Bend the upper torso forward and then lay it back against the seat back. Push the shoulders of the dummy fully rearward. Position the dummy so that it sits square and level in the seat.

__17.4 Align the centerline of the right foot with the centerline of the accelerator pedal while keeping the leg as vertical as practicable.

__17.4.1 Does this vehicle have a footrest?

__Yes, Starting with the foot and leg inboard of the footrest, rotate the leg about the hip the minimal amount needed in order to maximize coverage of the sole of the shoe over the footrest (when viewed longitudinally) while keeping the midline of the foot in a vertical plane and the leg as vertical as practicable.

__ No, Adjust the left leg so the knees are an equal distance from seat center line apart measured at the outer knee flange while keeping the leg as vertical as practicable.

__17.5 Lift the feet and slide the seat forward to 25 mm rearward of mid-position or the detent closest to this position that is **not greater than 25mm** rearward of mid-position

__17.6 Verify the SCRP position then measure the Seat Tracking Point (STP) and record in table below

Seating procedures used for March-June 2016 testing

Seat Tracking Point location	
X (Positive (+) forward of striker)	(mm)
Z (Positive (+) below striker)	(mm)
Seat Tracking Point location Trial 2 (if applicable)	
X (Positive (+) forward of striker)	(mm)
Z (Positive (+) below striker)	(mm)
Seat Tracking Point location Trial 3 (if applicable)	
X (Positive (+) forward of striker)	(mm)
Z (Positive (+) below striker)	(mm)

__17.6.1 Calculate and record the Seat Tracking Point Difference **(STPD)**

STPD = Current (STP) from step 17.6 **–** (STP) Measured in step 14.27

Record in table below

Trial 1				
	Results from 17.6	-	Results from 14.27 =	STPD
X (Positive (+) forward of striker)	( )	-	( )	mm
Z (Positive (+) below striker)	( )	-	( )	mm

Trial 2				
	Results from 17.6	-	Results from 14.27 =	STPD
X (Positive (+) forward of striker)	( )	-	( )	mm
Z (Positive (+) below striker)	( )	-	( )	mm

Trial 3				
	Results from 17.6	-	Results from 14.27 =	STPD
X (Positive (+) forward of striker)	( )	-	( )	mm
Z (Positive (+) below striker)	( )	-	( )	mm

__17.6.2 Calculate and record the Current WSID 50TH Target H-point for seat position.

X: WSID 50TH Target H-point 17.6.2 **=** (WSID 50TH Target H-point from 15.1) **+** (STPD from 17.6.1)
Z: WSID 50TH Target H-point 17.6.2 **=** (WSID 50TH Target H-point from 15.1) **+** (STPD from 17.6.1)

Trial 1						
	Results from 15.1	-	Results from 17.6.1 =		Current Target H-point	
X (Positive (+) forward of striker)	( )	+	( )			mm
Z (Positive (+) below striker)	( )	+	( )			mm

Trial 2						
	Results from 15.1	-	Results from 17.6.1 =		Current Target H-point	
X (Positive (+) forward of striker)	( )		( )			mm
Z (Positive (+) below striker)	( )	+	( )			mm

Trial 3						
	Results from 15.1	-	Results from 17.6.1 =		Current Target H-point	
X (Positive (+) forward of striker)	( )	+	( )			mm
Z (Positive (+) below striker)	( )	+	( )			mm

Note: When Seat is at the Mid-Position the WSID 50TH H-point Target should be within the tolerance of the values from step 15.1

__17.7 Confirm that the dummy is positioned such that a horizontal (lateral) line passing through the dummy's hip pivot center is perpendicular to the center XZ plane of the seat – adjust the dummy if necessary.

__17.8 Measure the pelvic angles using the tilt angle sensors installed in the test dummy. Verify that the pelvic angle is 0°± 2.5° (X) and 0° ± 2.5° (Y).

__17.9 Confirm that the H-point is within ± 5mm of the location (X & Z) determined in step 17.6 – adjust the dummy if necessary.

__17.10 Is the pelvis tilt angle within specification (described in step 17.8)?

__Yes, Go to step 17.11

__No, Go back to step 17.7 and repeat steps to re-adjust pelvic angle the position of the test dummy.

__Proper position cannot be achieved, contact COTR immediately.

__**17.11 Measure the head angles using the tilt angle sensors installed in the test dummy. Verify that the head angle is 0°± 2.5° (X) and 0° ± 2.5° (Y).**

__17.11.1 Is the head level within specification?

__Yes, Go to step 17.12

__No, Head is not touching head rest, go back to step 17.7 and adjust the pelvis angle while maintaining the H-point Target position within tolerance to try to achieve head level.

__No, Head is not level, pelvis has been adjusted and head is not touching headrest.

– Go to step 17.11.2

__No, Head is touching head rest.

Note: If the seat back has not already been adjusted from of the Manufactures specified angle and moving the seat it will help achieve a closer (0°) head angle – Go to Step 17.11.3

– Go to step 17.11.3

__No, Seat back has been adjusted already, contact COTR immediately.

Record Final Head Angle _____

__17.11.2 Adjust the Neck Bracket to adjust the head tilt sensor to **0°± 2.5° (X) and 0° ± 2.5° (Y).**

__Neck was adjusted to achieve Head Level

__Neck was adjusted, Head is now touching Head rest and Head is still not level

-Go to Step 17.11.3

__17.11.3 Adjust seatback a maximum of 1 detent for manual seats and not more than 2**° from the manufactures recommended angle** found in Step 8.3, to bring the head level to 0° ± 2.5° and return to step 17.7

Record original angle before adjustment: _____ ° Record the new angle:_____ °

__**17.12 Right Foot Placement**

__17.12.2 Without inducing pelvis or torso movement, position the right foot in contact with the accelerator pedal such that the midline of the foot is in the same vertical plane as L1 (which passes through the center of the accelerator pedal) and heel is resting in the heel point zone as close as practicable to the right heel point (RHP) (as determined in steps 8 and 9). To the extent practicable keep the right thigh and the leg in a vertical plane by measuring at knee flange. Rotate the toe towards the shin of the dummy to minimize the compression of the accelerator pedal while maintaining contact with the pedal. The heel shall remain within the heel point zone as close as practicable to the right heel point (RHP).

__17.12.3 If there is no footrest, rotate the left leg and thigh laterally to equalize the distance between each knee and the seat cushion marking as determined in step 6. The knees should be placed equal distance apart from seat center line measured at the outer knee flange. If either of the dummy's legs contact the steering wheel, separate the knees the minimum amount required to avoid contact, not to exceed 5 mm clearance.

__N/A- there was no leg contact

__Knees were separated for clearance

Final Knee Spacing: _____mm

__17.12.4 **Left Foot Placement** – Does the vehicle have a footrest?
__Yes, Go to 17.12.5
__No, Go to 17.12.7

__17.12.5 Does the foot rest elevate the left heel more than 20mm above the right heel?
__Yes, Go to 17.12.7 and position the foot off the foot rest
__No, Go to 17.12.6

__17.12.6 To the extent practicable, keep the left thigh and leg in a vertical plane. Rotate the leg about the hip the minimal amount needed in order to maximize contact with the sole of the shoe and the foot rest while keeping the midline of the foot in a vertical plane. Place the heel on the floor pan at the intersection of the foot rest and the floor pan. Go to step 17.13

__17.12.7 To the extent practicable keep the left thigh and the leg in a vertical plane throughout the procedure. With the midline of the foot in the same vertical plane as L2, place the heel on the left heel point (LHP) within the heel point zone. If the left heel cannot be placed within the heal point zone, place the heel as near to the heal point zone and the LHP as practicable while keeping the midline of the foot in the same vertical plane as L2. Rotate the foot towards the toe board (plantar flexion) to the maximum extent practicable while maintaining the heel position. Check the ONLY one of the following that applies.
__The left foot reaches the toe board without adjusting the foot or leg. Go to step 17.13
__The foot does not reach the toe board and does not contact the brake or clutch pedal with foot rotated forward as far as possible (plantar flexion), Go to step 17.13
__The left foot contacts the brake or clutch pedal.
__Rotate the foot about the leg (abduction) the minimal amount needed to avoid pedal contact. If the heel is not in the heal point zone, move the heel forward to the middle of the heal point zone and the LHP to the extent practicable. Rotate the foot towards the toe board (plantar flexion) to the maximum extent practicable while maintaining the heel position. If the foot still contacts the brake or clutch pedal continue to the next step, otherwise Go to step17.13.
__Rotate the leg outboard about the hip the minimum distance necessary to
avoid pedal contact. If the heel is not in the heal point zone, move the heel forward to the middle of the heal point zone to the extent practicable. Rotate the foot towards the toe board (plantar flexion) to the maximum extent practicable while maintain the heel position. Go to step17.13

__17.13 For a seat that is not in mid-position, if the dummy leg to knee bolster/instrument panel has a clearance of 5 mm or greater, the seat may be moved forward.
__N/A, seat already at mid-position. Go to step 17.14
__ Dummy leg to knee bolster/instrument panel clearance is greater than 5 mm. Adjust the seat forward **without going past mid-position** until a clearance of 5 mm or less is achieved or the seat is in the closest position to mid-position that does not cause dummy contact.
Record seat position: _____ mm rearward of mid-position and Return to step 17.6

Seating procedures used for March-June 2016 testing

__Clearance unchanged. No adjustments required.
Record seat position: _____mm rearward of Mid-position. Go to 17.14

__17.14 **Arm and Belt Placement for test dummy placed in driver seating position**

__17.14.1 Place right arm at the first detent downward of the most upward detent.

Is the driver seat belt used for this test?
__Yes, Continue
__No, Go to 17.15

__17.14.2 Fasten the seat belt around the dummy.

__17.14.3 Remove all slack from the lap belt portion.

__17.14.4 Pull the upper torso webbing out of the retractor and allow it to retract; repeat this four times.

__17.14.5 Apply a 2 to 4 pound tension load to the lap belt.
_pound load applied

__17.14.6 Is the belt system equipped with a tension-relieving device?
__Yes, Continue
__No, Go to 17.15

__17.14.7 Introduce the maximum amount of slack into the upper torso bet that is recommended by the vehicle manufacturer in the vehicle owner's manual.

__17.15 Place left arm at the first detent downward of the most upward detent.

14.26

Oscar H-point location

Torso Angle		°
X (Positive (+) forward of striker)		mm
Z (Positive (+) below striker)		mm

14.27

Seat Tracking Point (STP) location at mid-position

X (Positive (+) forward of striker)		mm
Z (Positive (+) below striker)		mm

15.1

WSID Target H-point at Mid-position

	Oscar H-point (14.26)	+/-	20mm	=	WSID H-Point at Mid-position
X (Positive (+) forward of striker)	0	+	20	=	mm
Z (Positive (+) below striker)	0	-	20	=	mm

17.6

Seat Tracking Point location

X (Positive (+) forward of striker)		mm
Z (Positive (+) below striker)		mm

Seat Tracking Point location Trial 2 (if applicable)

X (Positive (+) forward of striker)		mm
Z (Positive (+) below striker)		mm

Seat Tracking Point location Trial 3 (if applicable)

X (Positive (+) forward of striker)		mm
Z (Positive (+) below striker)		mm

Fill in cells to calculate H-point Location

WSID H-point Target

WSID H-point Target at midtrack

17.6.1

Trial 1

	Results from (17.6)	-	Results from (14.27)	=	STPD
X (Positive (+) forward of striker)	0	-	0	=	0 mm
Z (Positive (+) below striker)	0	-	0	=	0 mm

Trial 2

	Results from (17.6)	-	Results from (14.27)	=	STPD
X (Positive (+) forward of striker)	0	-	0	=	0 mm
Z (Positive (+) below striker)	0	-	0	=	0 mm

Trial 2

	Results from (17.6)	-	Results from (14.27)	=	STPD
X (Positive (+) forward of striker)	0	-	0	=	0 mm
Z (Positive (+) below striker)	0	-	0	=	0 mm

17.6.2

Trial 1

	Results from (15.1)	+	Results from (17.6.1)	=	Current H-point Target
X (Positive (+) forward of striker)	0	+	0	=	0 mm
Z (Positive (+) below striker)	0	+	0	=	0 mm

Trial 2

	Results from (15.1)	+	Results from (17.6.1)	=	Current H-point Target
X (Positive (+) forward of striker)	0	+	0	=	0 mm
Z (Positive (+) below striker)	0	+	0	=	0 mm

Trial 3

	Results from (15.1)	+	Results from (17.6.1)	=	Current H-point Target
X (Positive (+) forward of striker)	0	+	0	=	0 mm
Z (Positive (+) below striker)	0	+	0	=	0 mm