

REPORT NUMBER: 201UI-CAL-08-02

**SAFETY COMPLIANCE TESTING FOR FMVSS 201  
OCCUPANT PROTECTION IN INTERIOR IMPACT  
UPPER INTERIOR HEAD IMPACT PROTECTION**

**GENERAL MOTORS OF CANADA LTD.  
2008 CHEVROLET IMPALA LS 4-DOOR SEDAN**

NHTSA NUMBER: C80102

CALSPAN TEST NUMBER: 8851-02

CALSPAN  
TRANSPORTATION SCIENCES CENTER  
P.O. BOX 400  
BUFFALO, NEW YORK 14225



Test Date: January 30, 2008

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Enforcement  
Office of Vehicle Safety Compliance  
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By James.Czarnecki at 2:59 pm, 4/10/08

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NHTSA, Office of Vehicle Safety Compliance

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Date of Report Acceptance

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15. <i>Supplementary Notes</i>																							
16. <i>Abstract</i>  Compliance tests were conducted on the subject vehicle a, 2008 Chevrolet Impala LS, 4-door Sedan, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure TP-201U-01 for determination of FMVSS 201 compliance. Test failures identified were as follows in the table below:																							
<table border="1"> <thead> <tr> <th>Target Point</th> <th>Horizontal</th> <th>Vertical</th> <th>Velocity</th> <th>HIC</th> <th>HICd</th> </tr> </thead> <tbody> <tr> <td>None</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>None</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>						Target Point	Horizontal	Vertical	Velocity	HIC	HICd	None	-	-	-	-	-	None	-	-	-	-	-
Target Point	Horizontal	Vertical	Velocity	HIC	HICd																		
None	-	-	-	-	-																		
None	-	-	-	-	-																		
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## **SECTION 1**

### **PURPOSE AND TEST PROCEDURE**

This head impact compliance test is part of the FMVSS 201 Upper Interior Head Impact Protection Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-04-C-01027. The purpose of this head impact compliance test was to determine whether the subject vehicle, a 2008 Chevrolet Impala LS, 4-door Sedan, NHTSA No. C80102, meets the performance requirements of FMVSS 201, Occupant Protection in Interior Impact. The compliance test was conducted in accordance with the OVSC Laboratory Test Procedure No. TP-201U-01 dated April 03, 1998.

## SECTION 2

### SUMMARY OF UPPER INTERIOR HEAD IMPACTS

A 2008 Chevrolet Impala LS, 4-door Sedan, NHTSA No. C80102, was tested at various upper interior locations by a 4.54 kg 50<sup>th</sup> percentile headform. A total of twelve (12) impacts were performed in this test series. The target area impacts were chosen by the NHTSA Contracting Officer's Technical Representative (COTR). A summary of test results can be found on Data Sheet 2-1, Summary of Upper Interior Head Impact Tests. The twelve (12) area chosen for testing were:

OP2	RP1	BP4	AP3	AP1
SR2A	BP1	URRP	URBP	BP3
AP2	URAP			

The selected impact areas on the test vehicle appeared to comply with the performance requirements of FMVSS 201.

Five Free Motion Headforms (FMH) were used in this test series. All five FMH's were calibrated prior to and after the test series. Calibration information are included in Appendix B. Each FMH weighed  $4.54 \pm 0.5$  kg and had an orthogonal tri-axis accelerometer pack mounted at the headform's center of gravity (c.g.).

A total of three (3) channels of data for each test were recorded on a Keyser-Threde data acquisition system. Data plots, along with still images, can be found in Section 3, Summary of Test Results and Data Plots.

To document each target area impact test, a Weinberger high-speed video camera was placed at an appropriate location to record the headform contact with the selected target area.

**DATA SHEET 2-1**

**SUMMARY OF UPPER INTERIOR HEAD IMPACT TESTS**

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07 (SEE CERTIFICATION LABEL)
COLOR:	Black

TARGET CODE	Target Coordinates						Approach Angles (degrees)		Velocity (kph)	FMH HIC	HIC(d)
	Driver Side			Passenger Side			Horizontal	Vertical			
	X(mm)	Y(mm)	Z(mm)	X(mm)	Y(mm)	Z(mm)					
AP1	2985.451	-552.443	1462.002	2983.474	555.590	1456.360	111°	25°	18.45	746.8	729.8
AP2	2823.892	-605.611	1372.759	2816.788	602.448	1370.784	211°	46°	18.62	203.3	319.8
AP3	2694.014	-632.776	1309.944	2683.649	634.873	1303.662	138°	46°	18.75	215.7	329.1
BP1	3474.356	-491.415	1537.766	3470.110	486.721	1546.259	90°	18°	18.51	385.2	457
BP2	3463.503	-578.489	1356.522	3459.150	578.088	1360.630	-	-	-	-	-
BP3 PILLAR	3395.646	-634.815	1345.469	3399.358	630.792	1349.037	279°	-3°	23.56	686.8	684.6
BP4	3505.451	-673.508	1250.955	3504.546	675.793	1253.029	125°	-8°	23.54	670.8	672.5
FH1	2913.285	-448.745	1510.635	2910.948	459.536	1509.154	-	-	-	-	-
FH1 R2	2915.177	-413.530	1515.035	2901.837	422.995	1511.019	Relocated 2 circles		-	-	-
FH2	2886.025	-300.256	1516.361	2891.520	310.153	1515.141	-	-	-	-	-
OP1	4216.244	-479.713	1531.140	4198.045	481.040	1542.820	-	-	-	-	-
OP2	4276.189	-637.846	1355.892	4269.699	641.146	1361.237	-	-	-	-	-
OP2 R1	4257.993	-641.253	1347.278	4251.672	642.750	1356.263	90°	4°	23.47	833.2	795
RH	4349.414	-381.141	1504.094	4316.240	510.252	1490.724	-	-	-	-	-
RP1	4323.764	-518.539	1477.513	4297.646	506.072	1494.838	Relocated 1 circle		-	-	-
RP1 R1	4305.582	-517.961	1479.019	4477.427	623.773	1343.324	57°	21°	18.65	291.3	386.2
RP2	4498.690	-629.285	1327.405	4263.510	565.526	1440.560	Relocated 10 circles		-	-	-
RP2 R10	4297.445	-566.185	1427.620	3132.341	495.284	1517.239	-	-	-	-	-
SR1	3136.635	-507.759	1526.257	3145.432	485.020	1524.522	-	-	-	-	-
SR2A	3286.156	-506.140	1535.658	3280.006	496.281	1520.477	90°	40°	18.33	219	331.6
SR2B	3171.339	-506.299	1531.085	3171.433	505.015	1504.803	-	-	-	-	-
SR3 F	3800.280	-467.780	1545.704	3795.919	472.352	1546.941	-	-	-	-	-
SR3 R	3938.331	-474.577	1538.313	3933.583	476.697	1544.152	-	-	-	-	-
URAP	3105.993	-389.953	1538.728	3101.788	402.689	1536.011	180°	46°	23.48	708.4	700.8
URBP	3477.264	-383.973	1592.119	3473.365	393.938	1590.581	270°	34°	23.48	583.6	606.7
UROP	4159.486	-394.916	1562.275	4176.287	400.591	1564.258	-	-	-	-	-
URRP	3710.321	-391.620	1592.763	3754.726	367.751	1592.611	305°	50°	23.86	943.8	878.4

\*HIC(d)=0.75446(Free Motion Headform HIC)+166.4



**DATA SHEET 2-2**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

<b>TEST VEHICLE INFORMATION:</b>									
Year/Make/Model/Body Style:			2008 Chevrolet Impala LS 4-door Sedan						
VIN:			2G1WB58N889100388						
Month & Year of Manufacture:			05/07 (SEE CERTIFICATION LABEL)						
Vehicle Body Color:			Black						
Engine Data:	6	Cylinders;	-	CID;	3.5	Liters;	-	cc	
Engine Placement:		x	Longitudinal;	or		-	Lateral		
Transmission:		Speed;	-	Manual;	x	Automatic;	-	Overdrive	
Final Drive:	-	Rear Wheel Drive;	x	Front Wheel Drive;	-	Four Wheel Drive			
Odometer Reading:		183	km						
Options:	x	A/C;	x	Power Steering;	x	Pwr.Brakes;	x	Pwr. Windows	
Interior Trim Information :									
1. Adjustable seat belt anchorages on both b-pillars									
2. Grab handles on all outboard seating positions except the front seat driver position									
3. No sun roof									

<b>DATA FROM TIRE PLACARD:</b>									
Tire Pressure (at capacity);				<b>210</b>			kPa FRONT		
				210			kPa REAR		
Recommended Tire Size:				P225/60R16					
Tires on Test Vehicle:		P225/60R16			Manufacturer:				
Vehicle Capacity Data:									
Number of Occupants:	2	Front;	3	Rear;	-	3rd Seat;	5	Total	
Type of Front Seats:	x	Bucket;	-	Bench;	-	Split Bench			
Type of Front Seat Back:	-	Fixed;	x	Adjustable with	x	Lever or	-	Knob	
Vehicle Capacity Weight (VCW)=				428		kg (A)			
No. of Occupants x 68 kg. =				340		kg (B)			
Rated Cargo/Luggage Weight (RCLW) =				88		kg (A-B) Max. RCLW = 136 kg.			

**DATA SHEET 2-2**

**GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)**

<b>TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:</b>							
Left Front	=	492.5	kg	Left Rear	=	301.5	kg
Right Front	=	511	kg	Right Rear	=	302	kg
TOTAL FRONT	=	1003.5	kg	TOTAL REAR	=	603.5	kg
% of Total Weight	=	62.4%	%	% of Total Weight	=	37.6%	%
TOTAL WEIGHT	=	1607.0				kg	

<b>CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:</b>		
Total Test Vehicle Delivered Weight=	1607.0	kg (A)
+ Rated Cargo/Luggage Weight =	88	kg (B)
TEST VEHICLE TARGET WEIGHT =	1695.0	kg (A+B)

<b>WEIGHT OF TEST VEHICLE (FULLY LOADED):</b>							
Left Front	=	490	kg	Left Rear	=	343.5	kg
Right Front	=	508	kg	Right Rear	=	345	kg
TOTAL FRONT	=	998.0	kg	TOTAL REAR	=	688.5	kg
% of Total Weight	=	59.2%	%	% of Total Weight	=	40.8%	%
TOTAL TEST WEIGHT	=	1686.5					
Weight of vehicle secured in test vehicles cargo area	=	79.5				kg	

<b>TEST VEHICLE ATTITUDE (all dimensions in millimeters):</b>				
AS DELIVERED:	Left Front	744	Left Rear	761
	Right Front	743	Right Rear	760
FULLY LOADED:	Left Front	747	Left Rear	737
	Right Front	746	Right Rear	736
Test Vehicle Wheelbase:	2808		millimeters	

<b>TEST VEHICLE PITCH AND ROLL ANGLES:</b>				
AS DELIVERED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	↑0.7↓	Front Bumper	↑0.2↓
	Right Door Sill	↓0.8↑	Rear Bumper	↓0.3↑
FULLY LOADED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	↑0.3↓	Front Bumper	↑0.2↓
	Right Door Sill	↓0.3↑	Rear Bumper	↓0.3↑
AS TESTED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	↑0.3↓	Front Bumper	↑0.2↓
	Right Door Sill	↓0.3↑	Rear Bumper	↓0.3↑

DATA SHEET 2-3

APPROACH ANGLE LIMITS

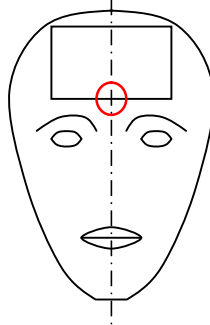
Target Code	Left Side				Target Code	Right Side			
	Horizontal Angles (deg.)		Vertical Angles (deg.)			Horizontal Angles (deg.)		Vertical Angles (deg.)	
	Minimum	Maximum	Minimum	Maximum		Minimum	Maximum	Minimum	Maximum
AP1	209	251	-5	25	AP1	109	151	-5	25
AP2	209	251	-5	46	AP2	109	151	-5	46
AP3	209	251	-5	46	AP3	109	151	-5	46
BP1	201	279	-10	18	BP1	81	159	-10	18
BP2	ANY		0	12	BP2	ANY		0	12
BP3	201	279	-10	-3	BP3	81	159	-10	-3
BP4	201	279	-10	-8	BP4	81	159	-10	-8
OP1	270		-10	4	OP1	90		-10	4
OP2	270		-10	6	OP2	90		-10	6
RP1	270	345	-10	21	RP1	15	90	-10	21
RP2	270	345	-10	6	RP2	15	90	-10	6
FH1	180		0	50	FH1	180		0	50
FH2	180		0	50	FH2	180		0	50
RH	360		0	50	RH	0		0	50
SR1	270		0	26	SR1	90		0	40
SR2A	270		0	25	SR2A	90		0	40
SR2B	270		0	25	SR2B	90		0	41
SR3	270		0	26	SR3	90		0	41
URAP	ANY		0	46	URAP	ANY		0	46
URBP	ANY		0	34	URBP	ANY		0	34
URRP	ANY		0	50	URRP	ANY		0	50

Note : BP2 target location – Seat belt anchorage

**DATA SHEET 2-4**

**SUMMARY TARGET IMPACT LOCATION ON FMH**

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black



ã RIGHT SIDE OF FACE

TARGET	Distance Above Point 0 (mm)	Distance Over From Pt. O (mm)
OP2	18	0
RP1	34	5L
BP4	25	13L
AP3	7	10L
AP1	7	9R
SR2A	6	2R
BP1	21	3L
URRP	29	12L
URBP	68	5L
BP3	11	30L
AP2	7	2R
URAP	19	2L

**SECTION 3**

**SUMMARY OF TEST RESULTS AND DATA PLOTS**

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	01
Test Date:	01/29/08
Target Location:	OTHER PILLAR
Target Code:	OP2
Horizontal Impact Angle:	90°
Vertical Impact Angle:	4°
Ambient Temperature:	23.4 C°
Relative Humidity:	24.5%
Time of Impact:	11:15
Headform Number:	1140

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	0	mm right	mm left
On Centerline	18	mm up	



POST-IMPACT OP2 HEADFORM

Free Motion HIC	833.2
HIC(d)	795.0
Impact Velocity (kph)	23.47
HIC T1 (msec)	1.9
HIC T2 (msec)	7.4

# FMVSS 201U 2007 Chevrolet Impala C80102 - OP2

FMH Headform 1140

Location: OP2

Test Date: January 29, 2008

Work File: OP2

## -----TEST RESULTS-----

Lab Temperature: 23.4 C

HICd: 795.0

Lab Humidity: 24.5 %

HIC (36ms): 833.2

Velocity at Impact: 23.47 KPH

t1: 1.9 msec

t2: 7.4 msec

Free Flight Distance: 217.67 mm

Duration: 5.5 msec

Maximum: 143.8 g

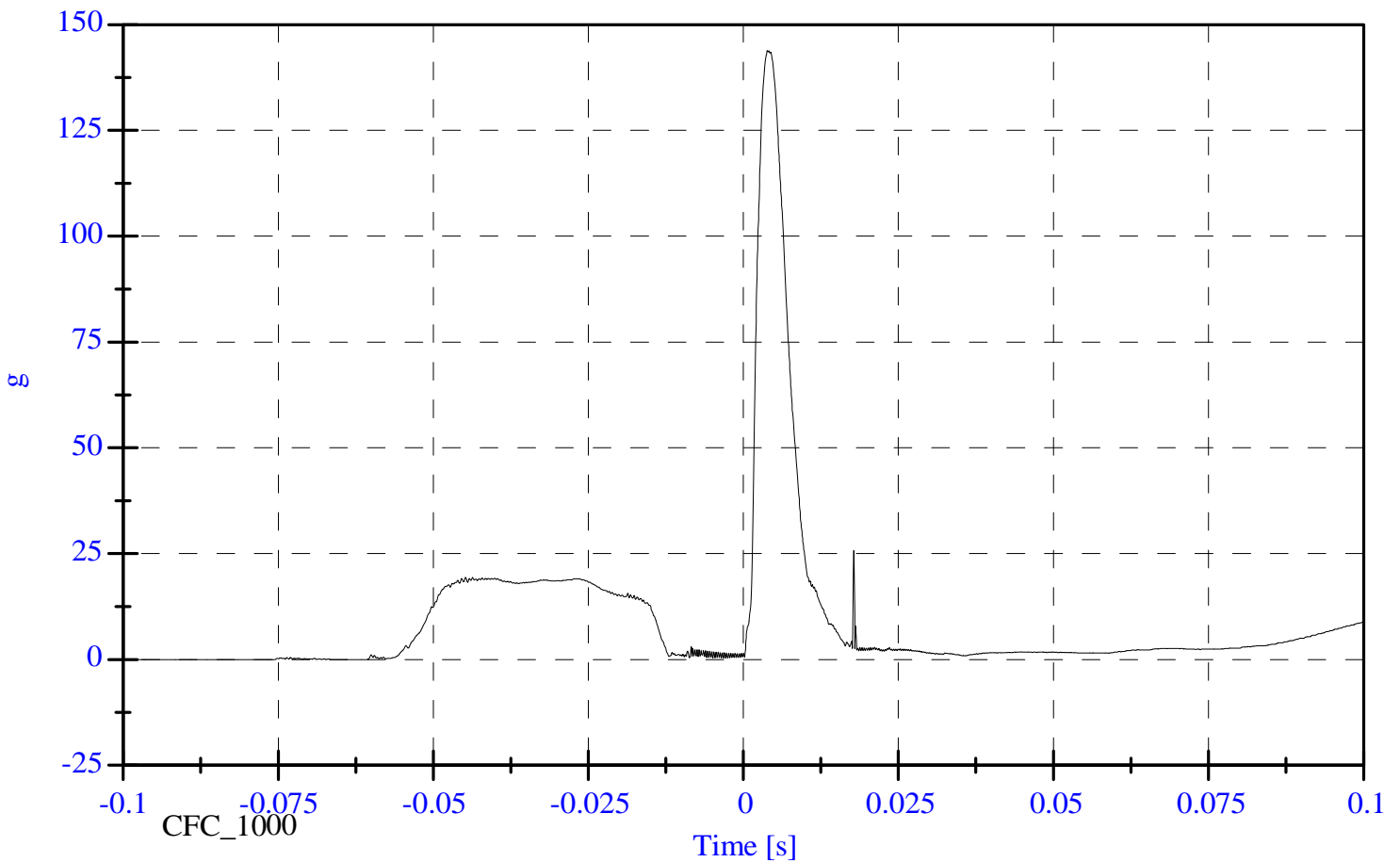
Average Acceleration: 9.0 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 143.8 [g] at 0.004 [s]

Min: -0.0 [g] at -0.099 [s]



FMVSS 201U 2007 Chevrolet Impala

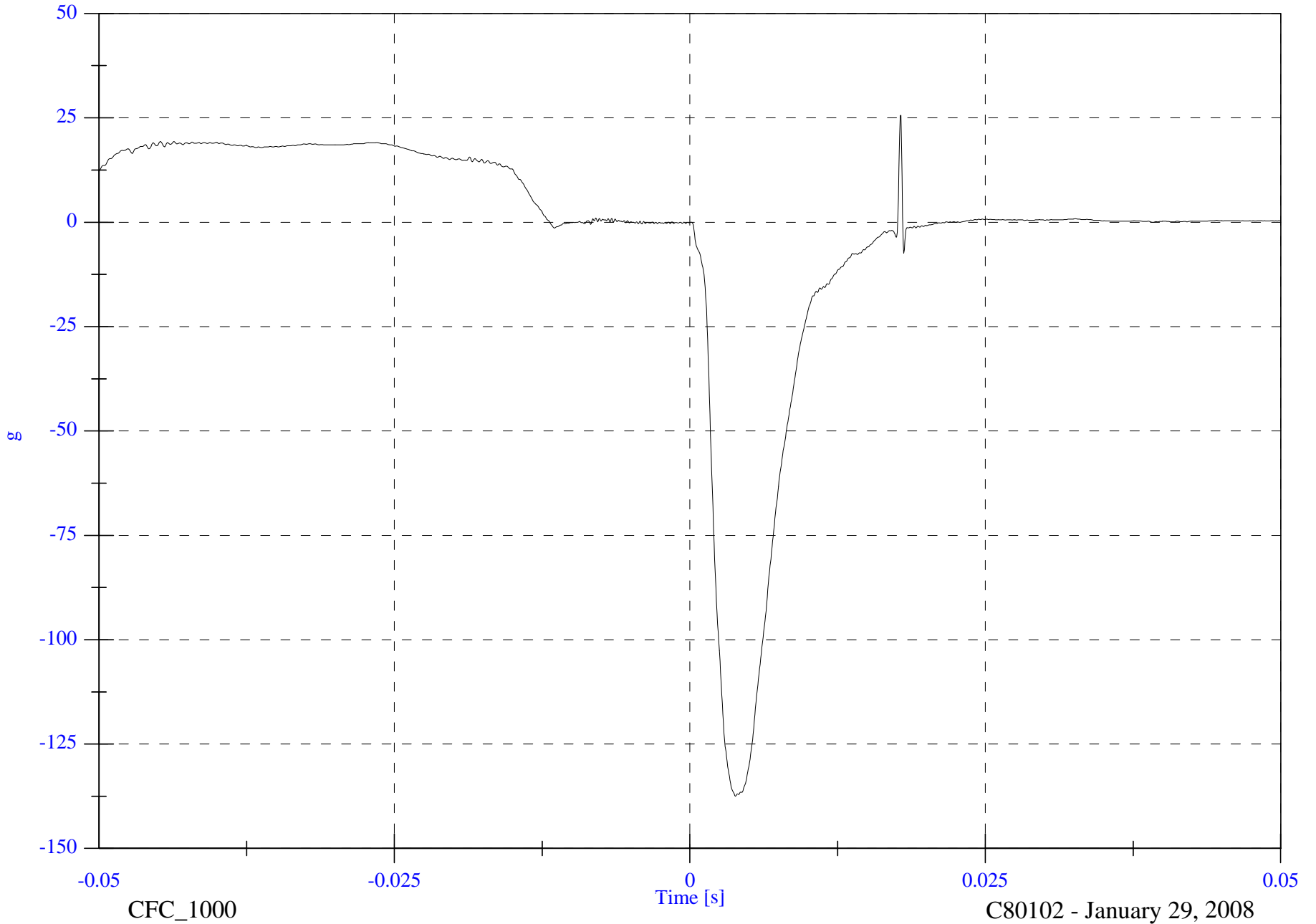
Headform X Acceleration

Max: 25.6 [g] at 0.018 [s]

Min: -137.5 [g] at 0.004 [s]

C80102 PASSENGER SIDE OP2 IMPACT PLOT #1

8851-02



CFC\_1000

C80102 - January 29, 2008

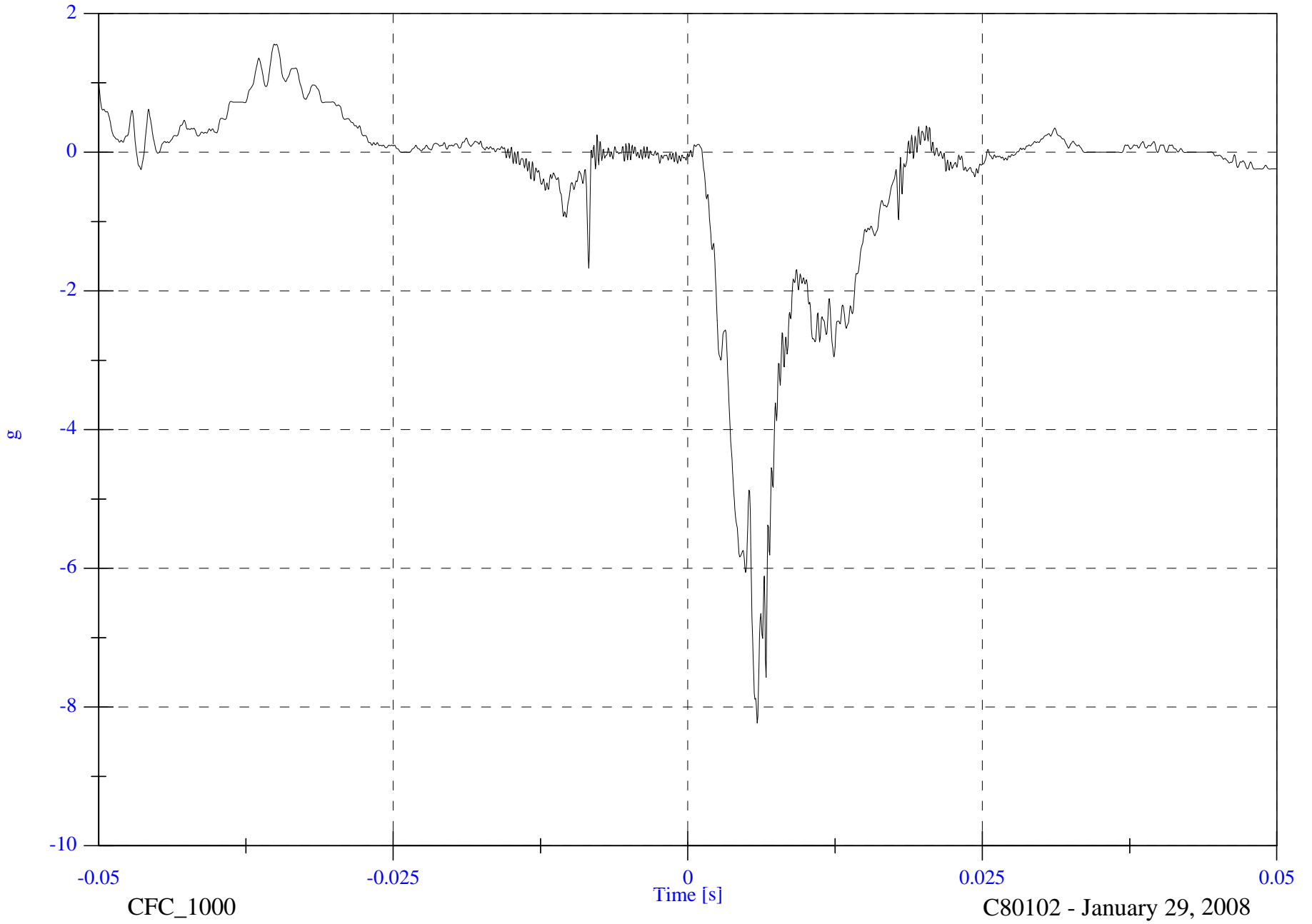


FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 1.6 [g] at -0.035 [s]

Min: -8.2 [g] at 0.006 [s]



C80102 PASSENGER SIDE OP2 IMPACT PLOT #2

8851-02

CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

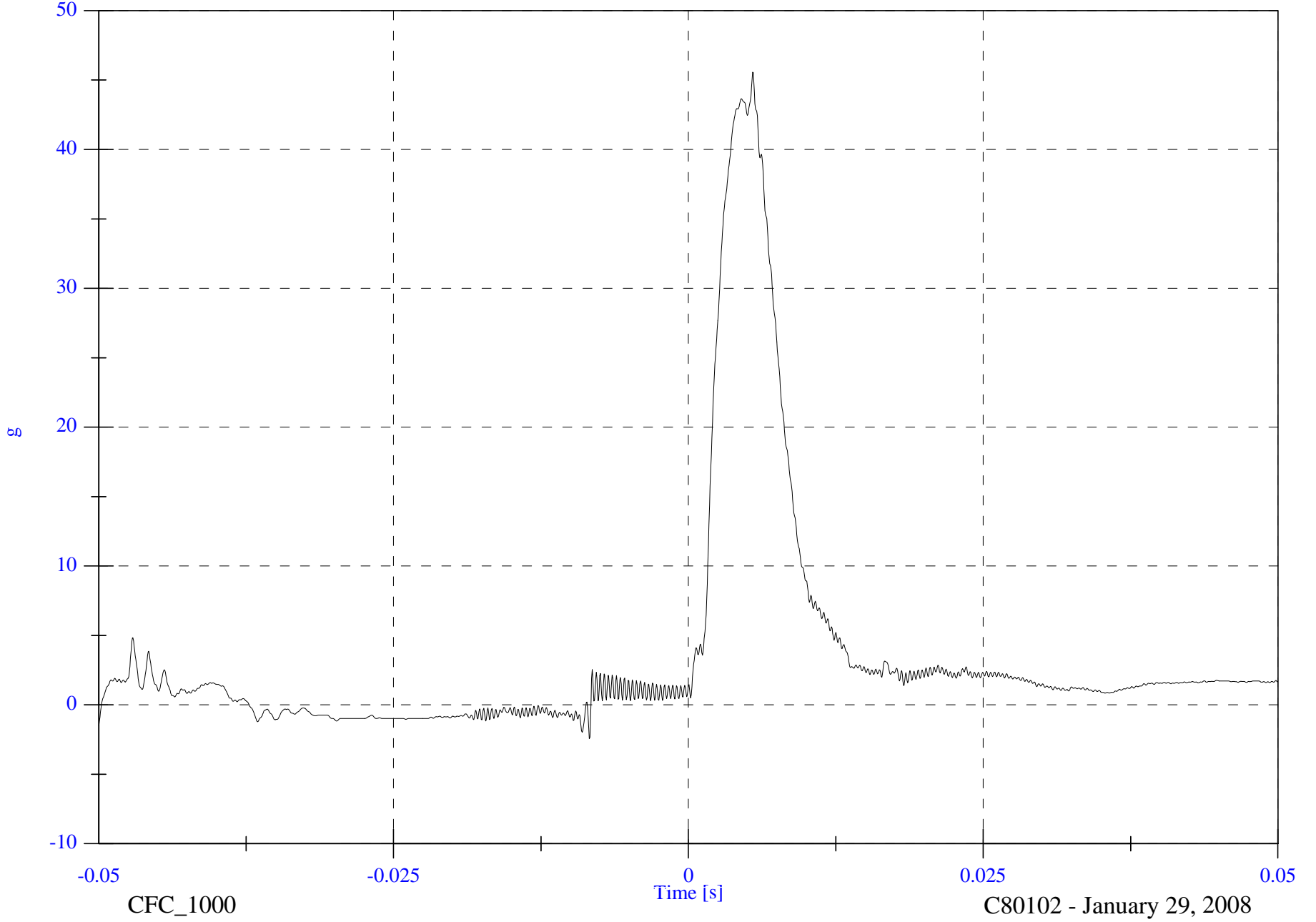
Headform Z Acceleration

Max: 45.6 [g] at 0.005 [s]

Min: -2.4 [g] at -0.008 [s]

C80102 PASSENGER SIDE OP2 IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

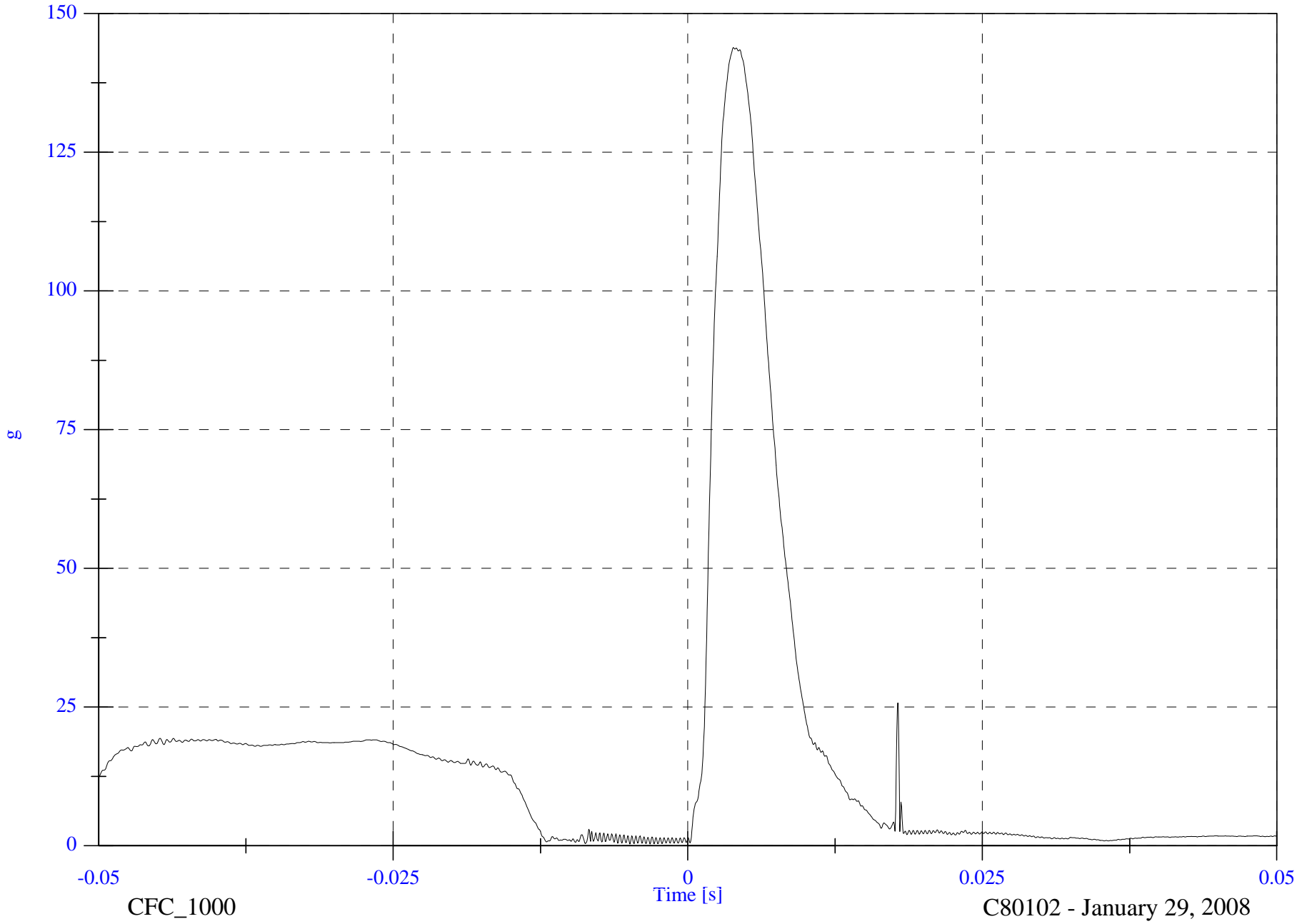
Headform Resultant

Max: 143.8 [g] at 0.004 [s]

Min: 0.3 [g] at -0.005 [s]

C80102 PASSENGER SIDE OP2 IMPACT PLOT #4

8851-02



CFC\_1000

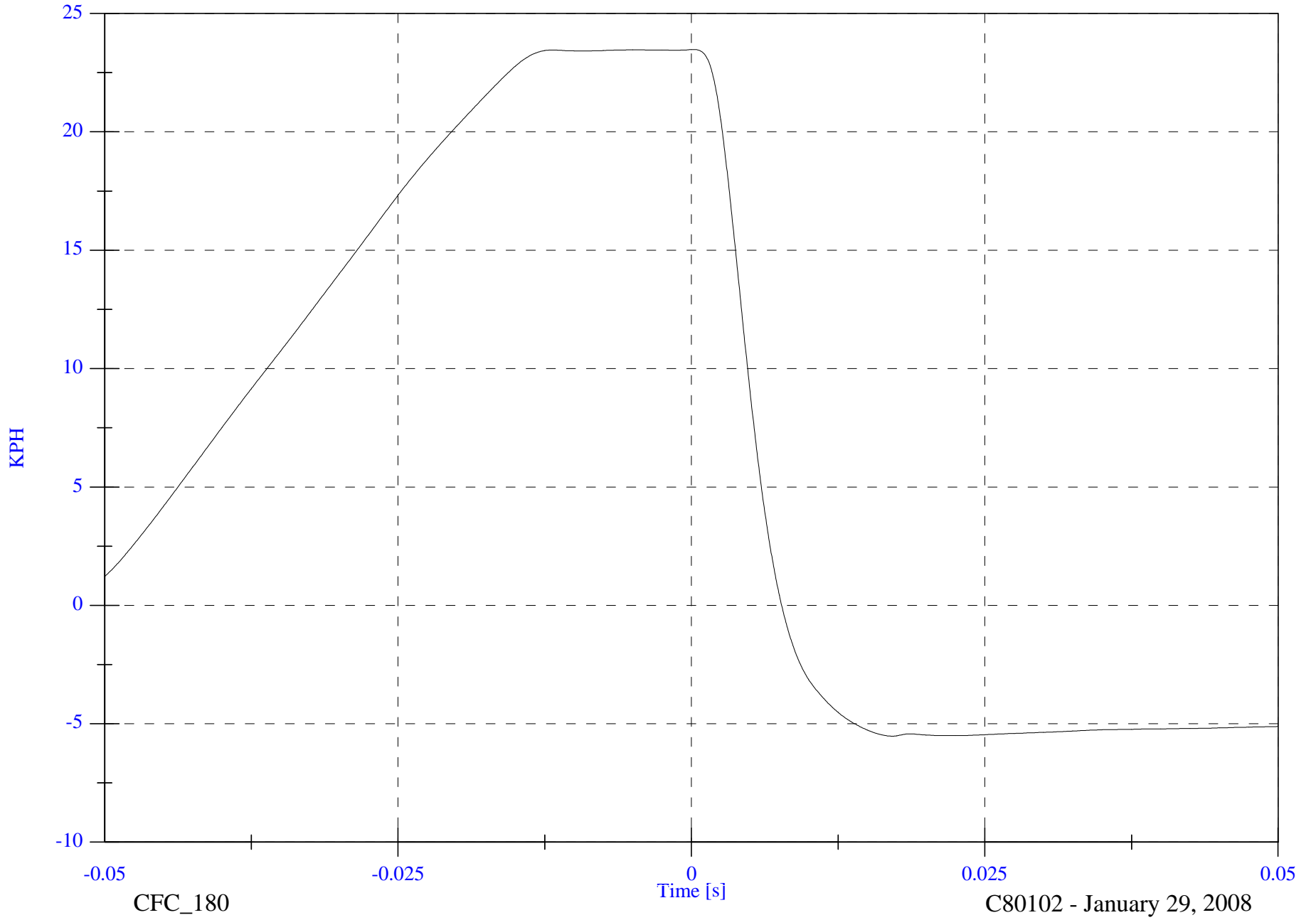
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

### Headform Velocity

Max: 23.5 [KPH] at 0.000 [s]

Min: -5.5 [KPH] at 0.017 [s]



C80102 PASSENGER SIDE OP2 IMPACT PLOT #5

8851-02

CFC\_180

C80102 - January 29, 2008



PRE-IMPACT OP2



POST-IMPACT OP2

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	02
Test Date:	01/29/08
Target Location:	REAR PILLAR
Target Code:	RP1
Horizontal Impact Angle:	57°
Vertical Impact Angle:	21°
Ambient Temperature:	23.7 C°
Relative Humidity:	24.2%
Time of Impact:	11:50
Headform Number:	805

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	5	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	34				mm up



POST-IMPACT RP1 HEADFORM

Free Motion HIC	291.3
HIC(d)	386.2
Impact Velocity (kph)	18.65
HIC T1 (msec)	4.7
HIC T2 (msec)	12.4

# FMVSS 201U 2007 Chevrolet Impala C80102 - RP1

FMH Headform 805

Location: RP1

Test Date: January 29, 2008

Work File: RP1

## -----TEST RESULTS-----

Lab Temperature: 23.7 C

HICd: 386.2

Lab Humidity: 24.2 %

HIC (36ms): 291.3

Velocity at Impact: 18.65 KPH

t1: 4.7 msec

t2: 12.4 msec

Free Flight Distance: 213.25 mm

Duration: 7.7 msec

Average Acceleration: 7.7 g

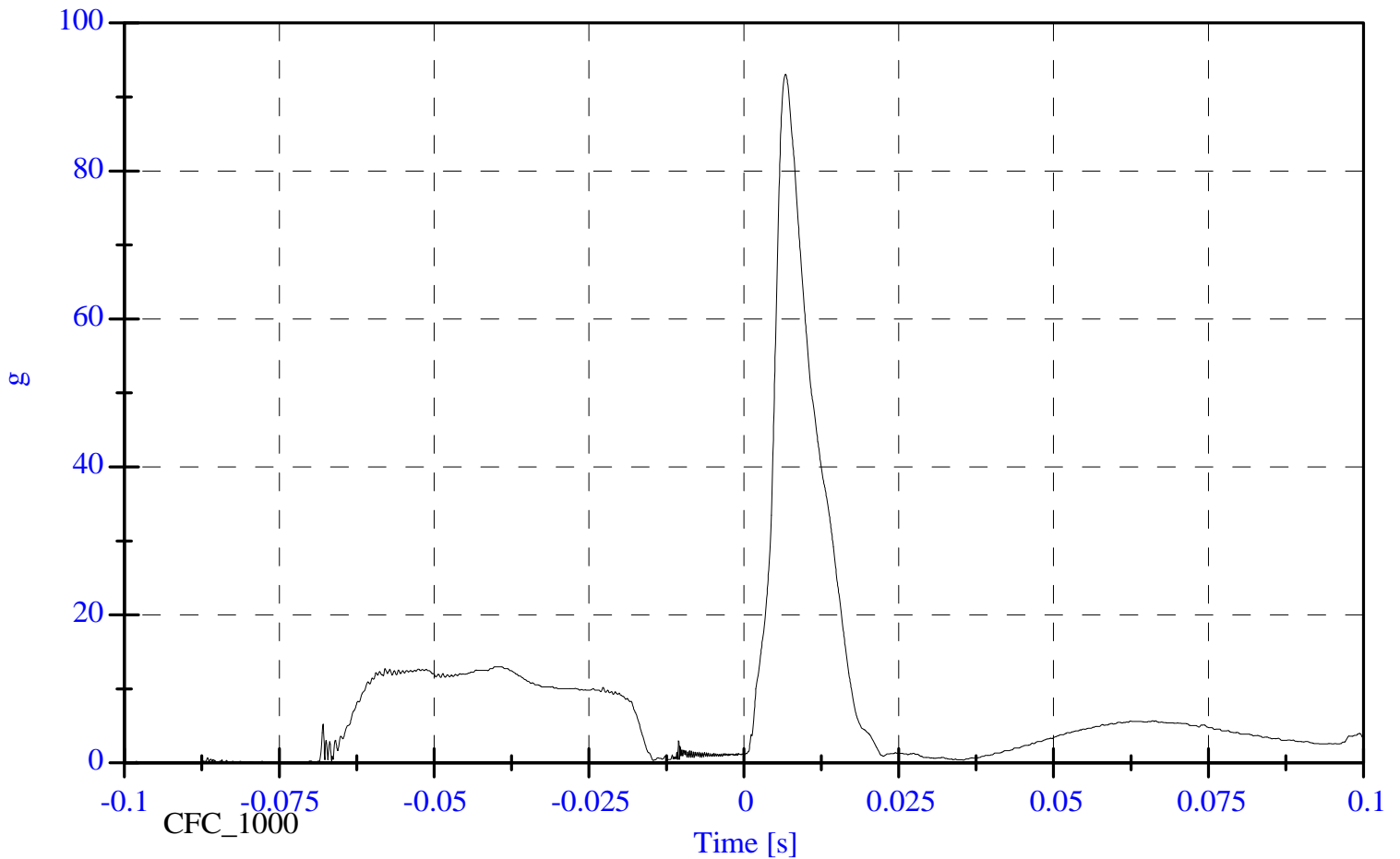
Maximum: 93.1 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 93.1 [g] at 0.007 [s]

Min: 0.0 [g] at -0.096 [s]





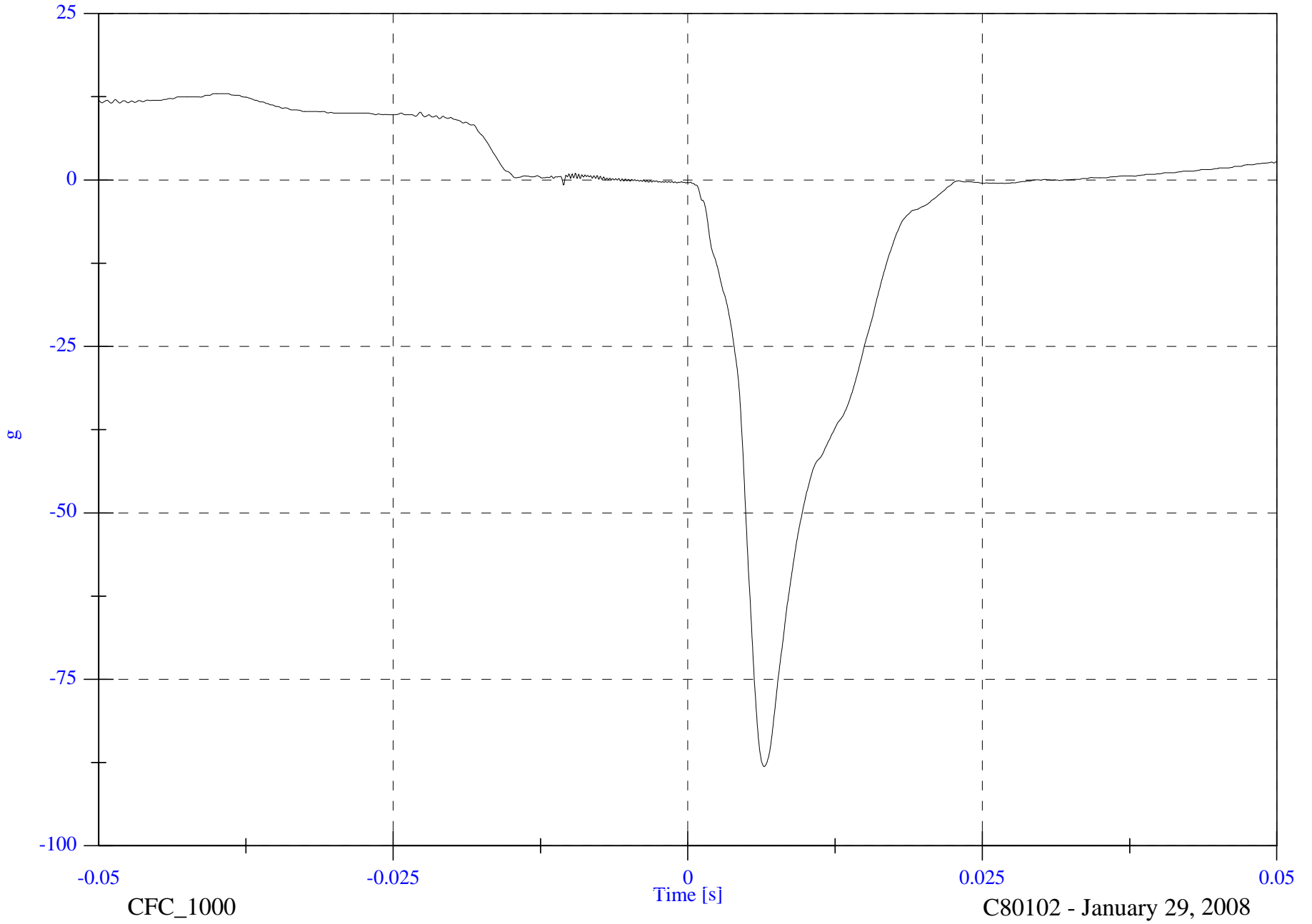
FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 13.0 [g] at -0.040 [s]

Min: -88.1 [g] at 0.007 [s]

C80102 PASSENGER SIDE RP1 IMPACT PLOT #1



CFC\_1000

C80102 - January 29, 2008

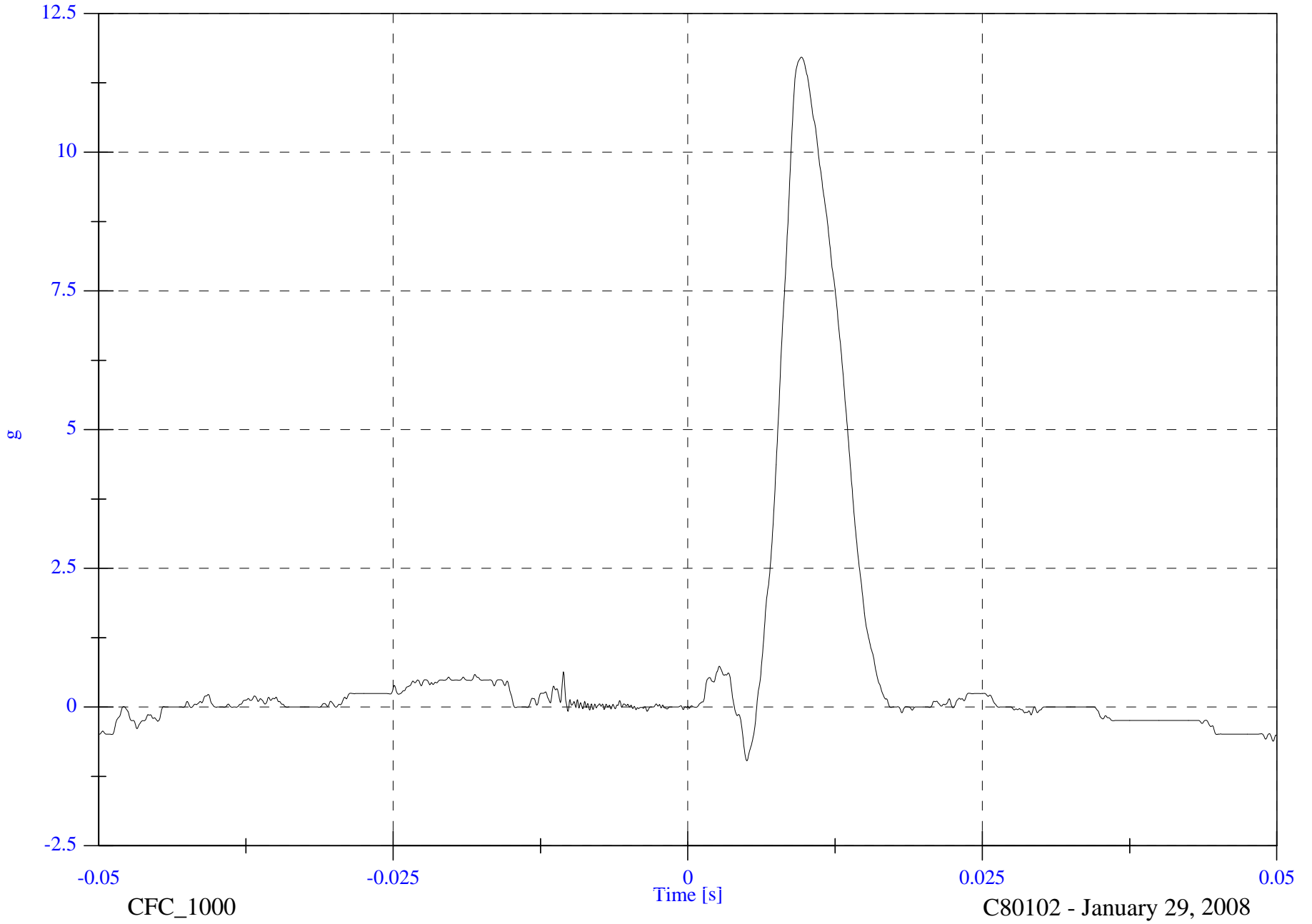
FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 11.7 [g] at 0.010 [s]

Min: -1.0 [g] at 0.005 [s]

C80102 PASSENGER SIDE RP1 IMPACT PLOT #2



C80102 - January 29, 2008

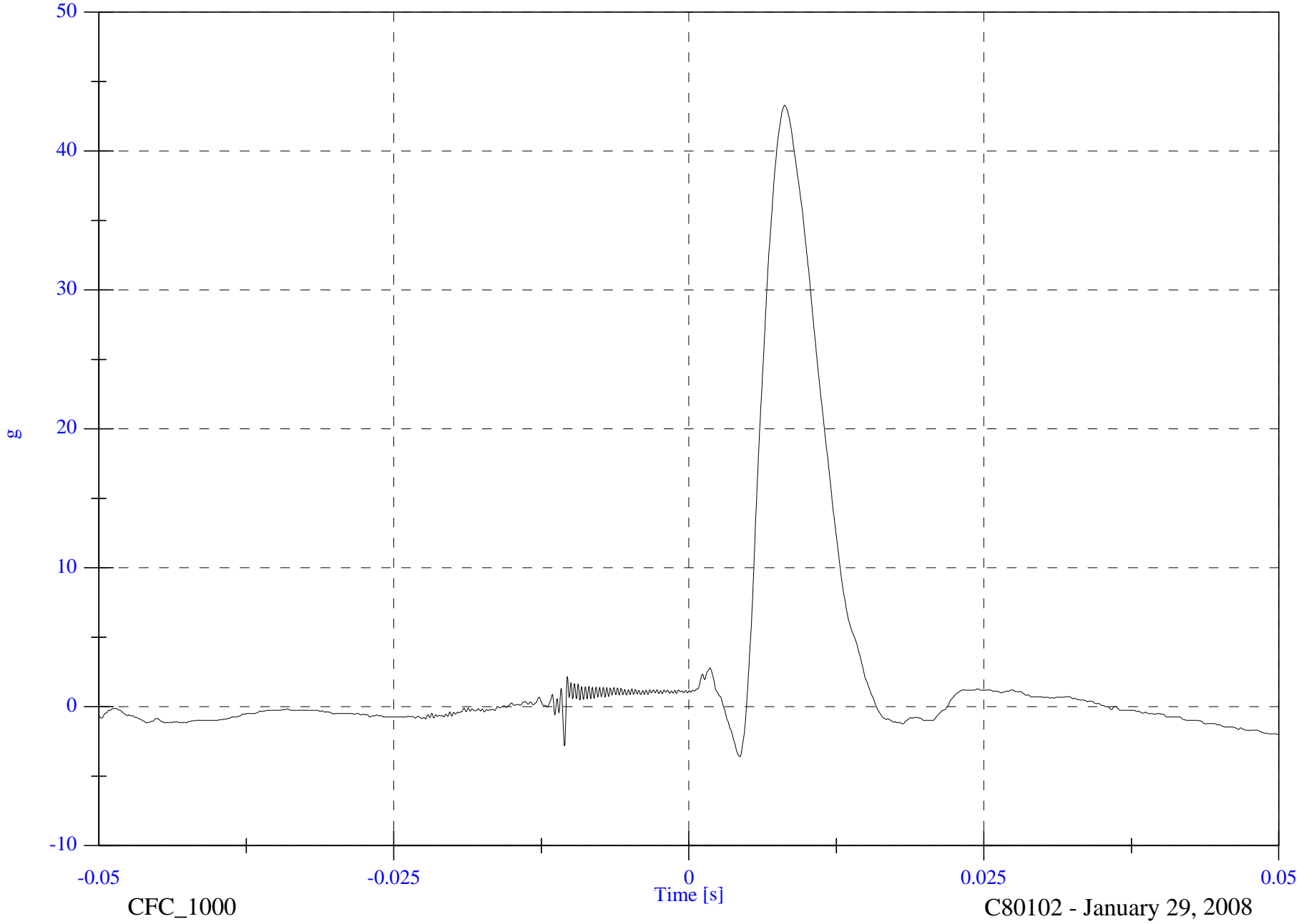
FMVSS 201U 2007 Chevrolet Impala

Headform Z Acceleration

Max: 43.3 [g] at 0.008 [s]

Min: -3.6 [g] at 0.004 [s]

C80102 PASSENGER SIDE RP1 IMPACT PLOT #3



CFC\_1000

C80102 - January 29, 2008

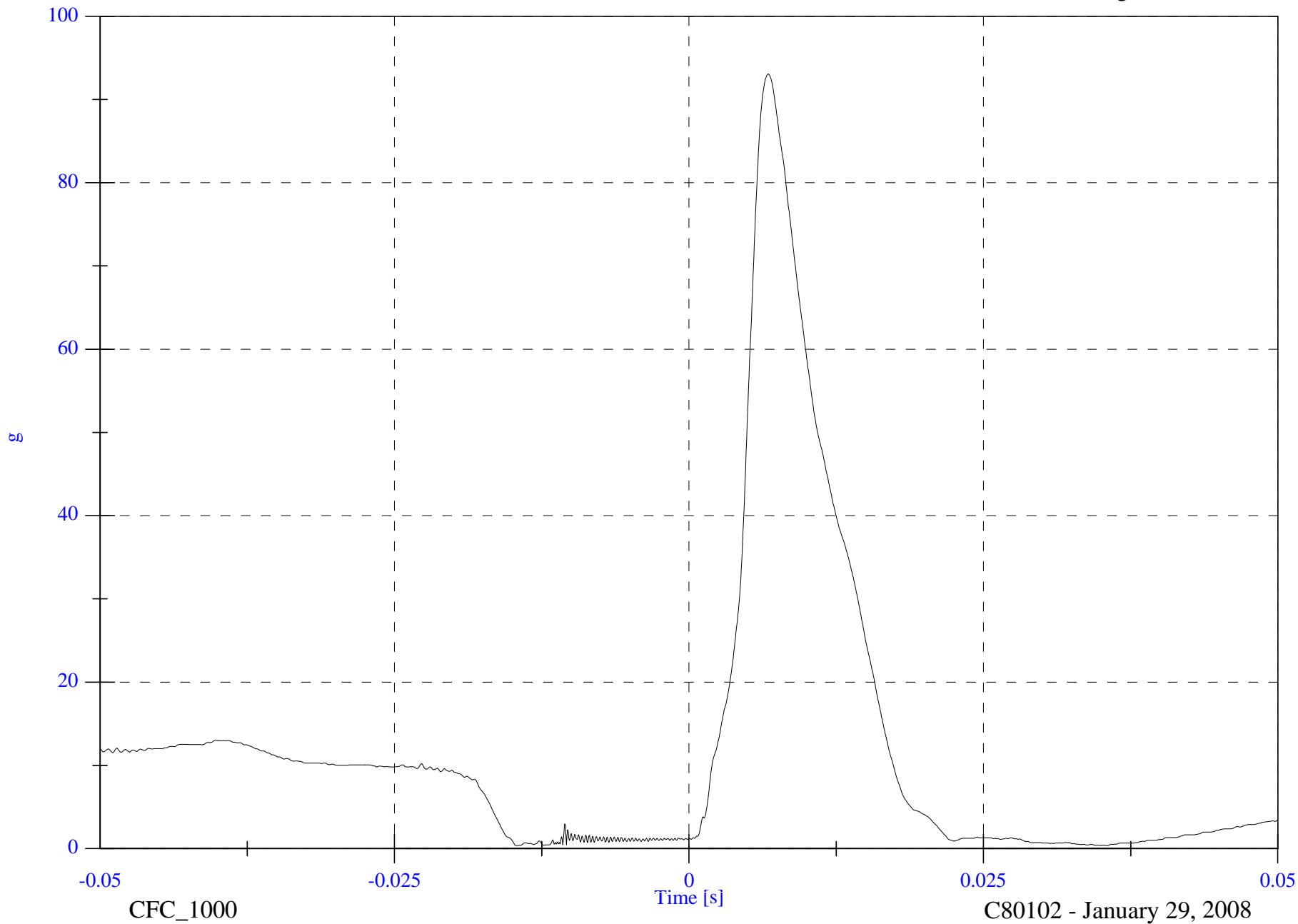
FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 93.1 [g] at 0.007 [s]

Min: 0.3 [g] at -0.015 [s]

C80102 PASSENGER SIDE RP1 IMPACT PLOT #4



CFC\_1000

C80102 - January 29, 2008

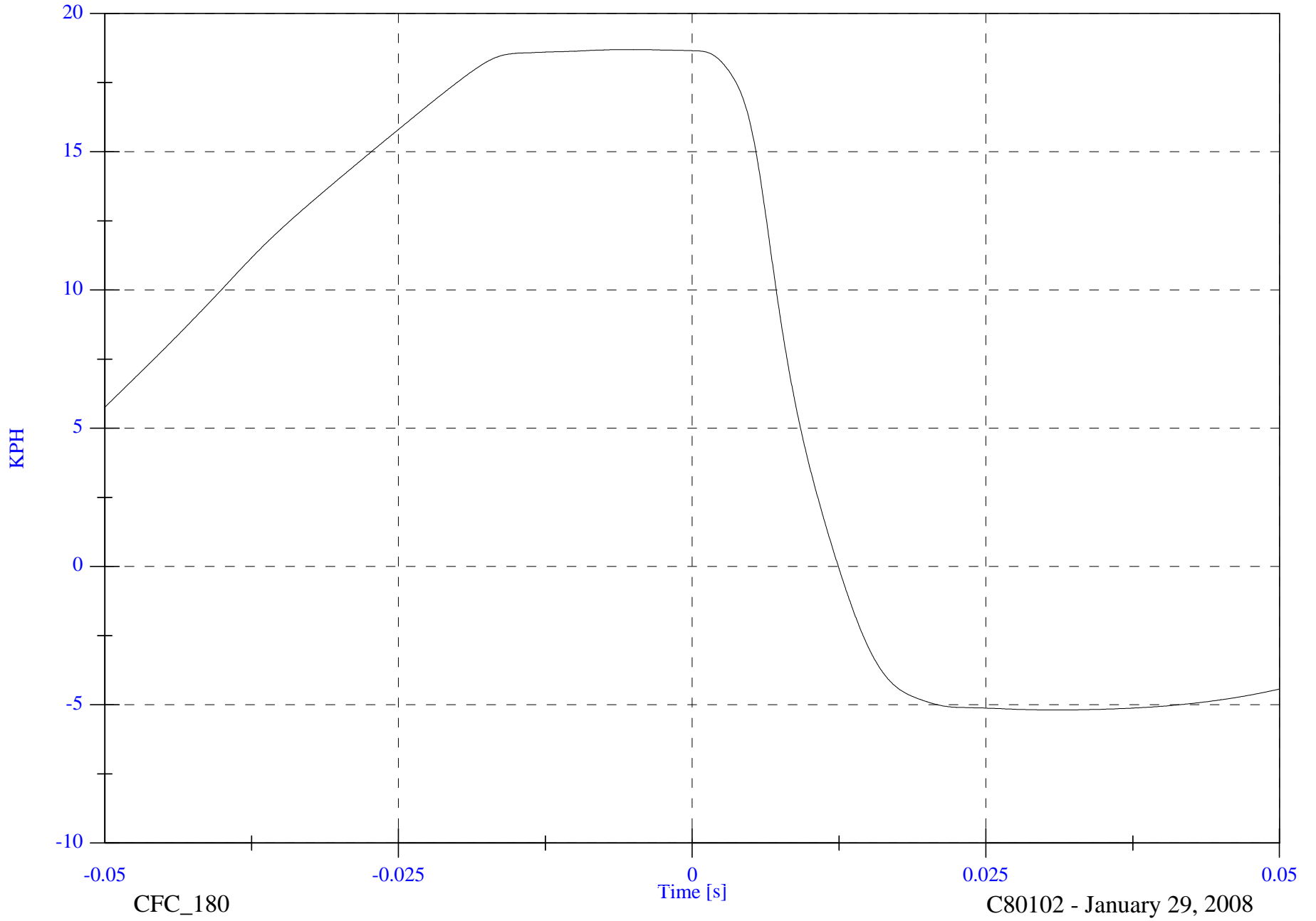
FMVSS 201U 2007 Chevrolet Impala

### Headform Velocity

Max: 18.7 [KPH] at -0.005 [s]

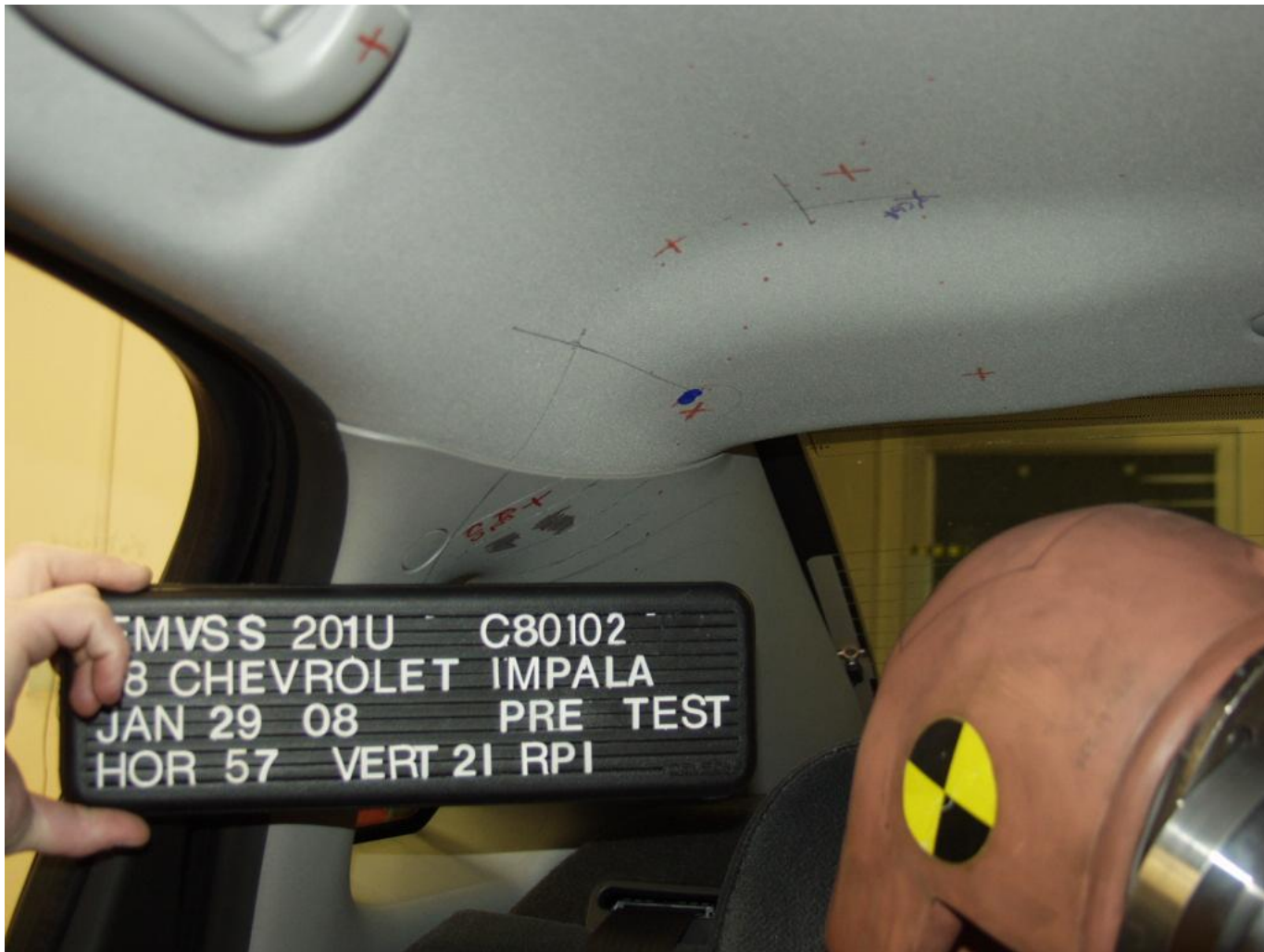
Min: -5.2 [KPH] at 0.032 [s]

C80102 PASSENGER SIDE RP1 IMPACT PLOT #5



CFC\_180

C80102 - January 29, 2008



PRE-IMPACT RP1



POST-IMPACT RPI

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	03
Test Date:	01/29/08
Target Location:	B-PILLAR
Target Code:	BP4
Horizontal Impact Angle:	125°
Vertical Impact Angle:	-8°
Ambient Temperature:	23.8 C°
Relative Humidity:	24.3%
Time of Impact:	13:10
Headform Number:	355

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	13	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	25				mm up



POST-IMPACT BP4 HEADFORM

Free Motion HIC	670.8
HIC(d)	672.5
Impact Velocity (kph)	23.54
HIC T1 (msec)	1.5
HIC T2 (msec)	10.3



# FMVSS 201U 2007 Chevrolet Impala C80102 - BP4

FMH Headform 0355

Location: BP4

Test Date: January 29, 2008

Work File: BP4

## -----TEST RESULTS-----

Lab Temperature: 23.8 C

HICd: 672.5

Lab Humidity: 24.3 %

HIC (36ms): 670.8

Velocity at Impact: 23.54 KPH

t1: 1.5 msec

t2: 10.3 msec

Free Flight Distance: 221.23 mm

Duration: 8.8 msec

Average Acceleration: 9.2 g

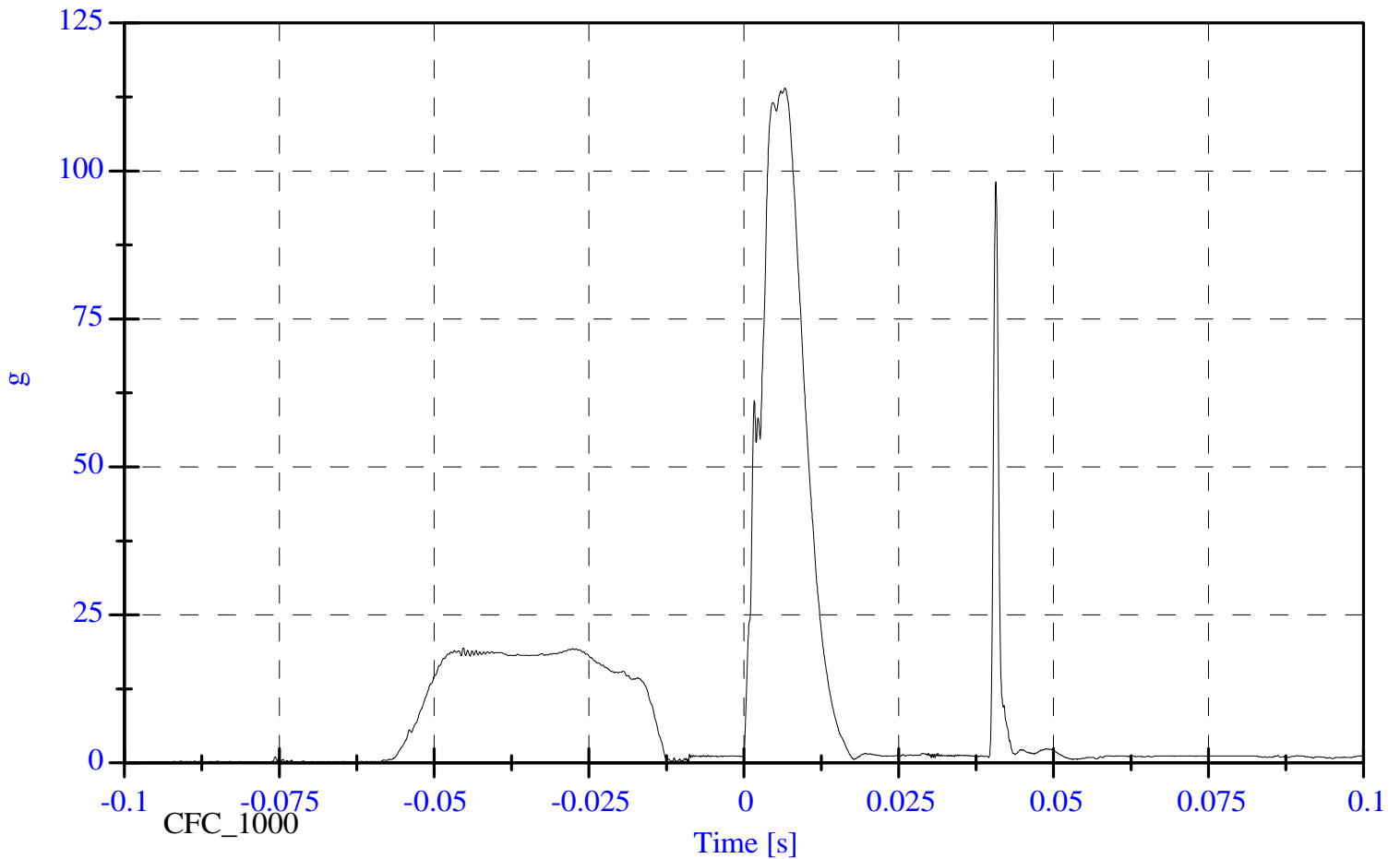
Maximum: 114.0 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 114.0 [g] at 0.007 [s]

Min: 0.0 [g] at -0.084 [s]



FMVSS 201U 2007 Chevrolet Impala

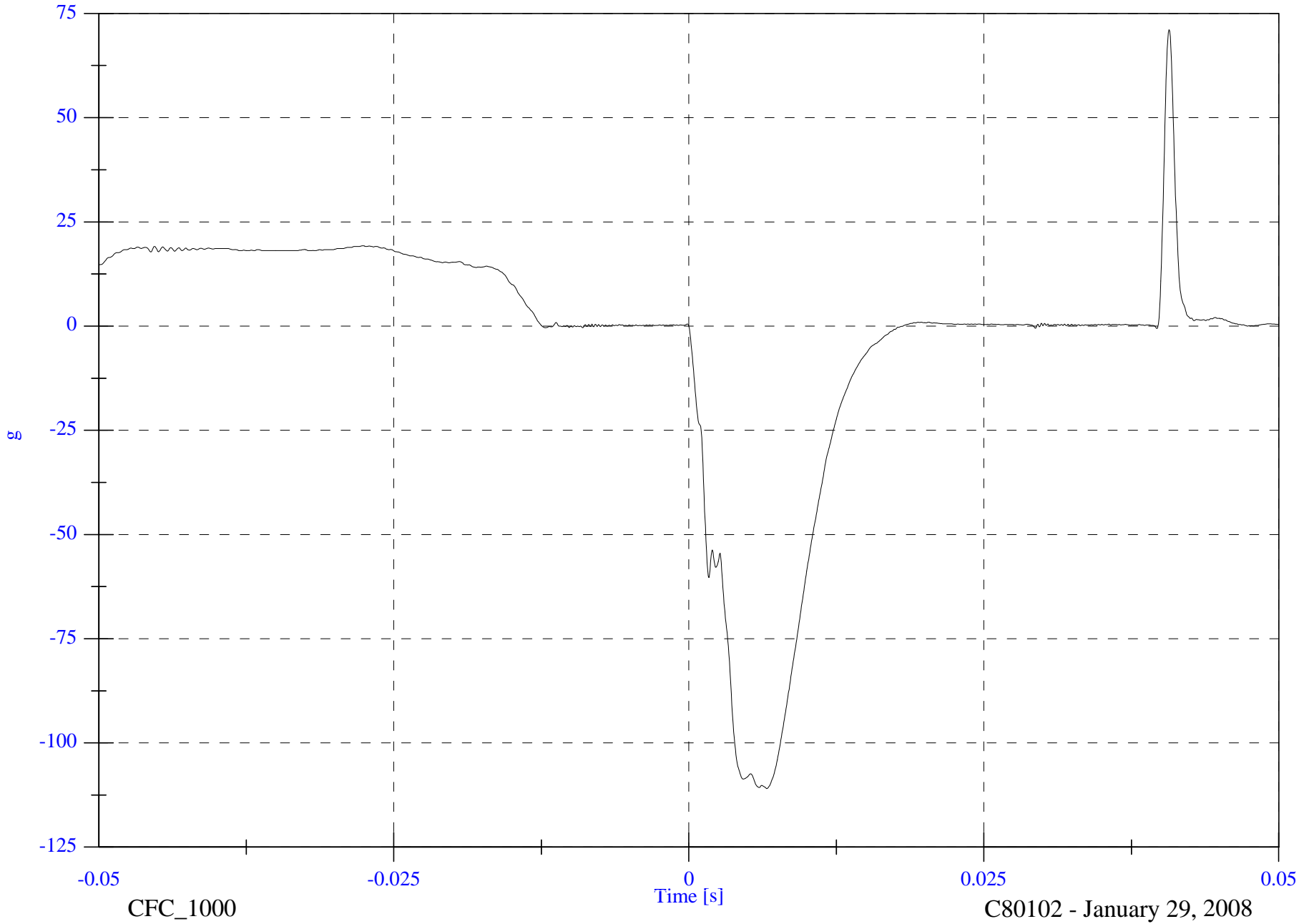
Headform X Acceleration

Max: 71.1 [g] at 0.041 [s]

Min: -111.0 [g] at 0.007 [s]

C80102 PASSENGER SIDE BP4 IMPACT PLOT #1

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

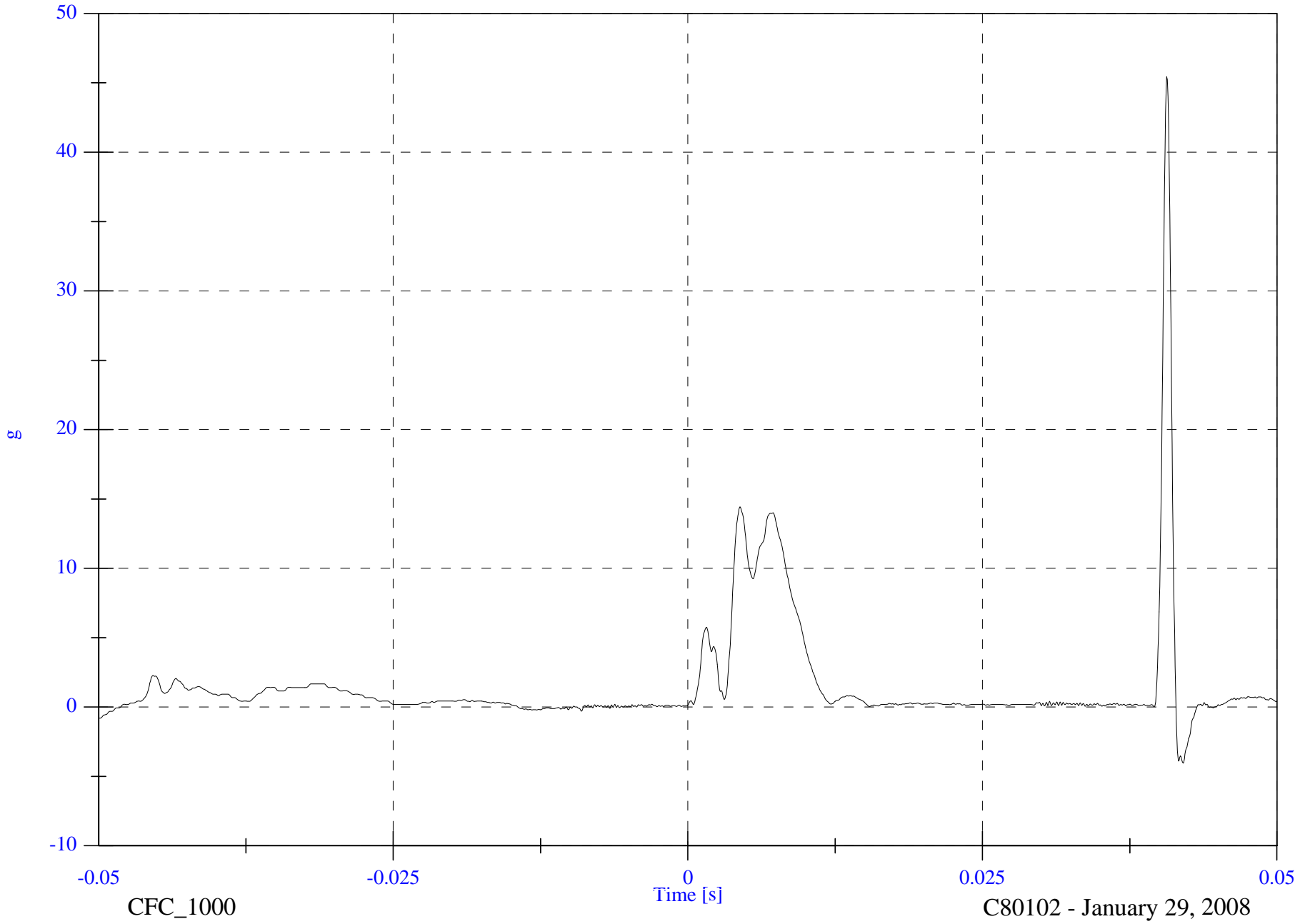
Headform Y Acceleration

Max: 45.4 [g] at 0.041 [s]

Min: -4.0 [g] at 0.042 [s]

C80102 PASSENGER SIDE BP4 IMPACT PLOT #2

8851-02



FMVSS 201U 2007 Chevrolet Impala

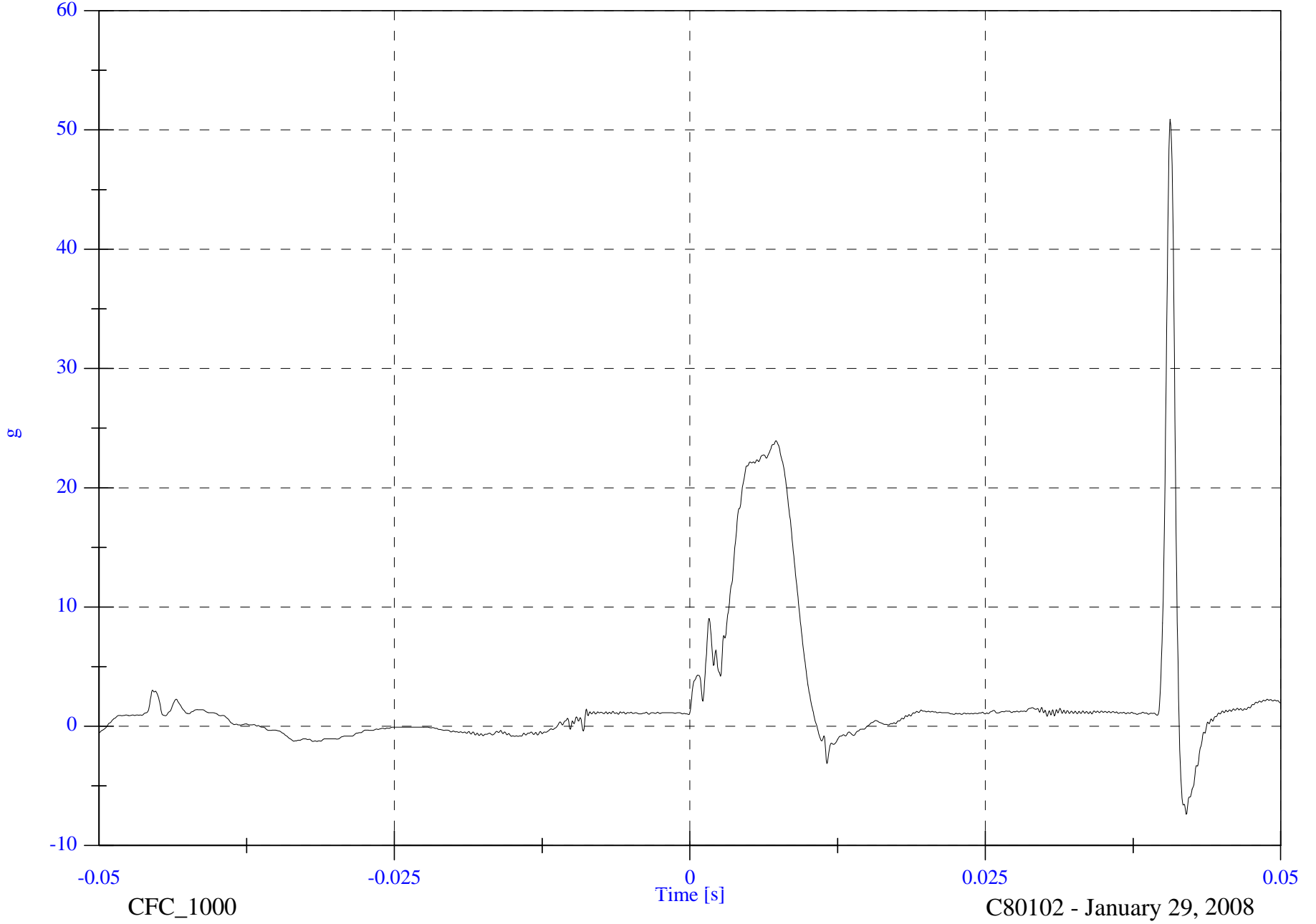
Headform Z Acceleration

Max: 50.9 [g] at 0.041 [s]

Min: -7.4 [g] at 0.042 [s]

C80102 PASSENGER SIDE BP4 IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

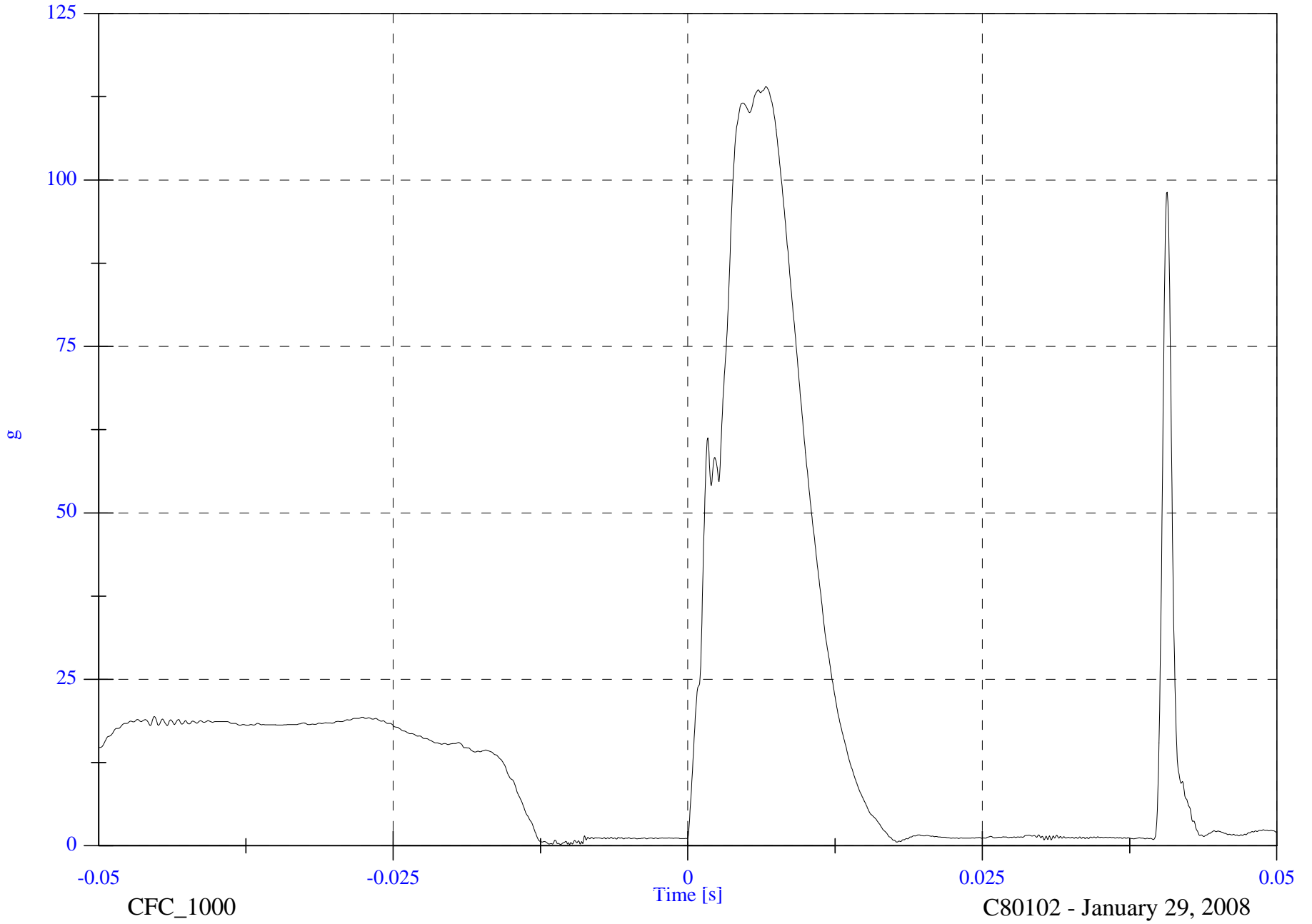
Headform Resultant

Max: 114.0 [g] at 0.007 [s]

Min: 0.1 [g] at -0.010 [s]

C80102 PASSENGER SIDE BP4 IMPACT PLOT #4

8851-02



CFC\_1000

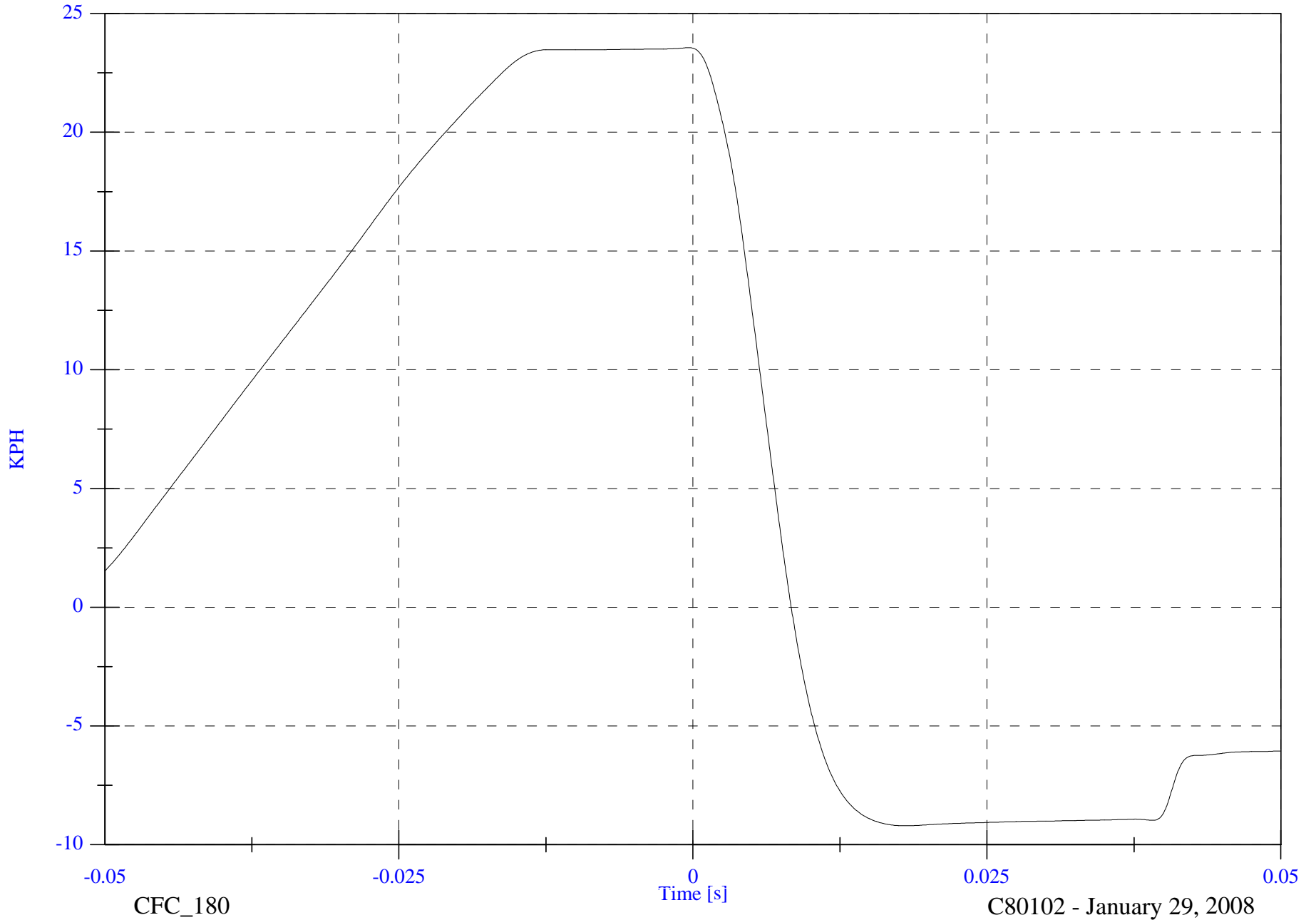
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Max: 23.6 [KPH] at -0.000 [s]

Min: -9.2 [KPH] at 0.018 [s]

### Headform Velocity



C80102 PASSENGER SIDE BP4 IMPACT PLOT #5

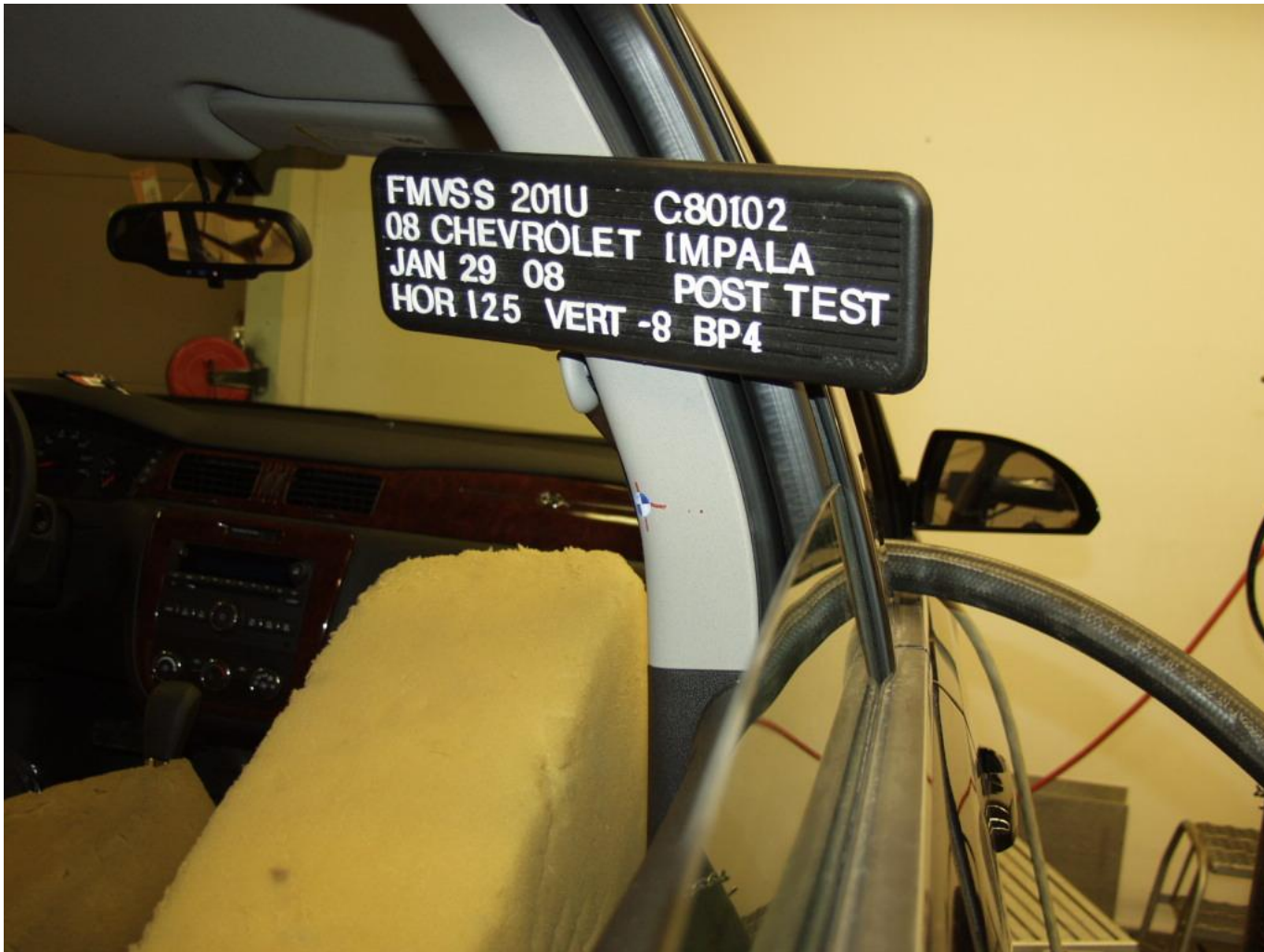
8851-02

CFC\_180

C80102 - January 29, 2008



PRE-IMPACT BP4



POST-IMPACT BP4



VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	04
Test Date:	01/29/08
Target Location:	A-PILLAR
Target Code:	AP3
Horizontal Impact Angle:	138°
Vertical Impact Angle:	46°
Ambient Temperature:	24.0 C°
Relative Humidity:	24.9%
Time of Impact:	13:50
Headform Number:	62

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	10	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	7				mm up



POST-IMPACT AP3 HEADFORM

Free Motion HIC	215.7
HIC(d)	329.1
Impact Velocity (kph)	18.75
HIC T1 (msec)	2.1
HIC T2 (msec)	13.3

# FMVSS 201U 2007 Chevrolet Impala C80102 - AP3

FMH Headform 0062

Location: AP3

Test Date: January 29, 2008

Work File: AP3

## -----TEST RESULTS-----

Lab Temperature: 24.0 C

HICd: 329.1

Lab Humidity: 25.2 %

HIC (36ms): 215.7

Velocity at Impact: 18.75 KPH

t1: 2.1 msec

t2: 13.3 msec

Free Flight Distance: 221.98 mm

Duration: 11.2 msec

Average Acceleration: 8.4 g

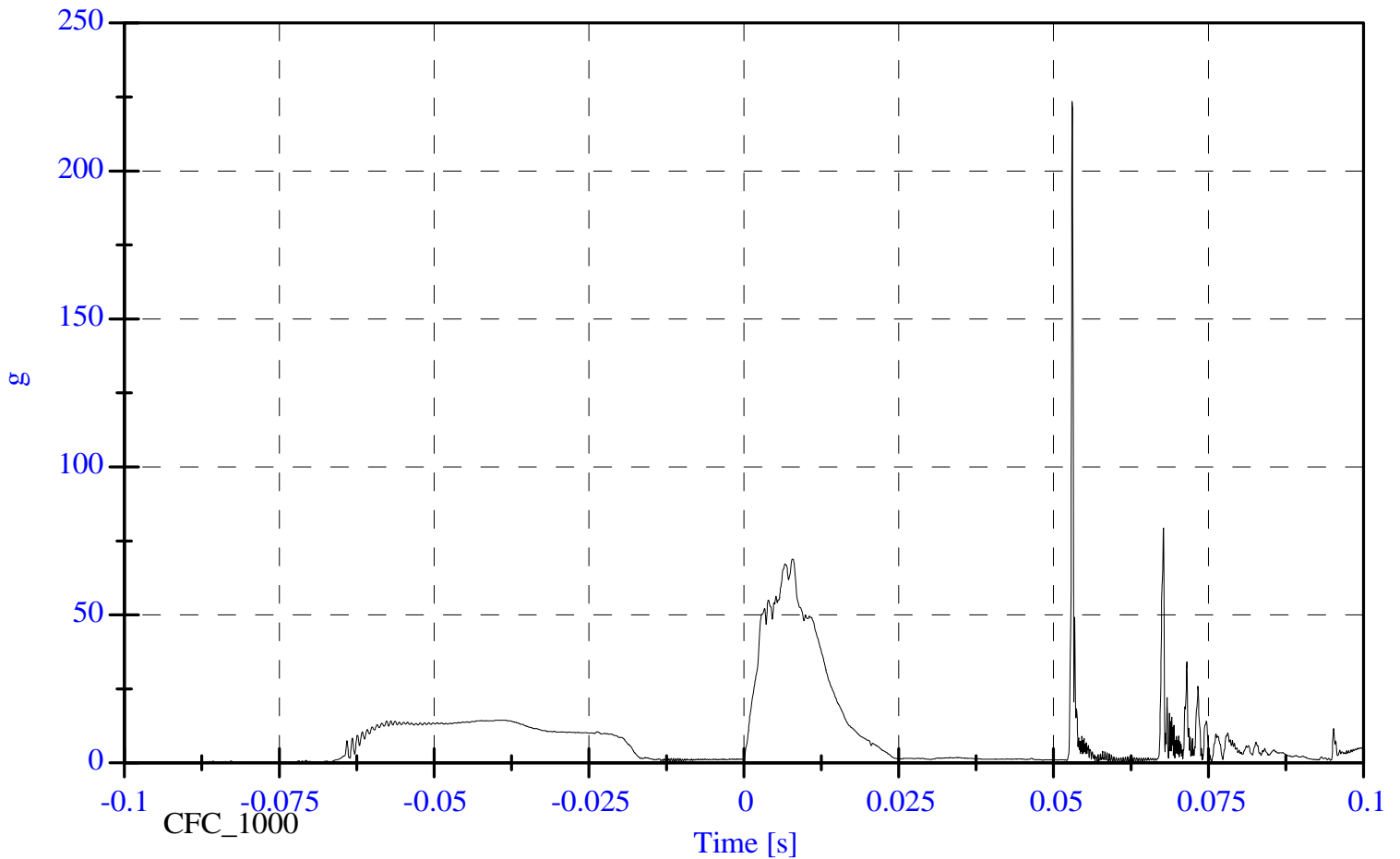
Maximum: 68.8 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 68.8 [g] at 0.008 [s]

Min: 0.0 [g] at -0.075 [s]



FMVSS 201U 2007 Chevrolet Impala

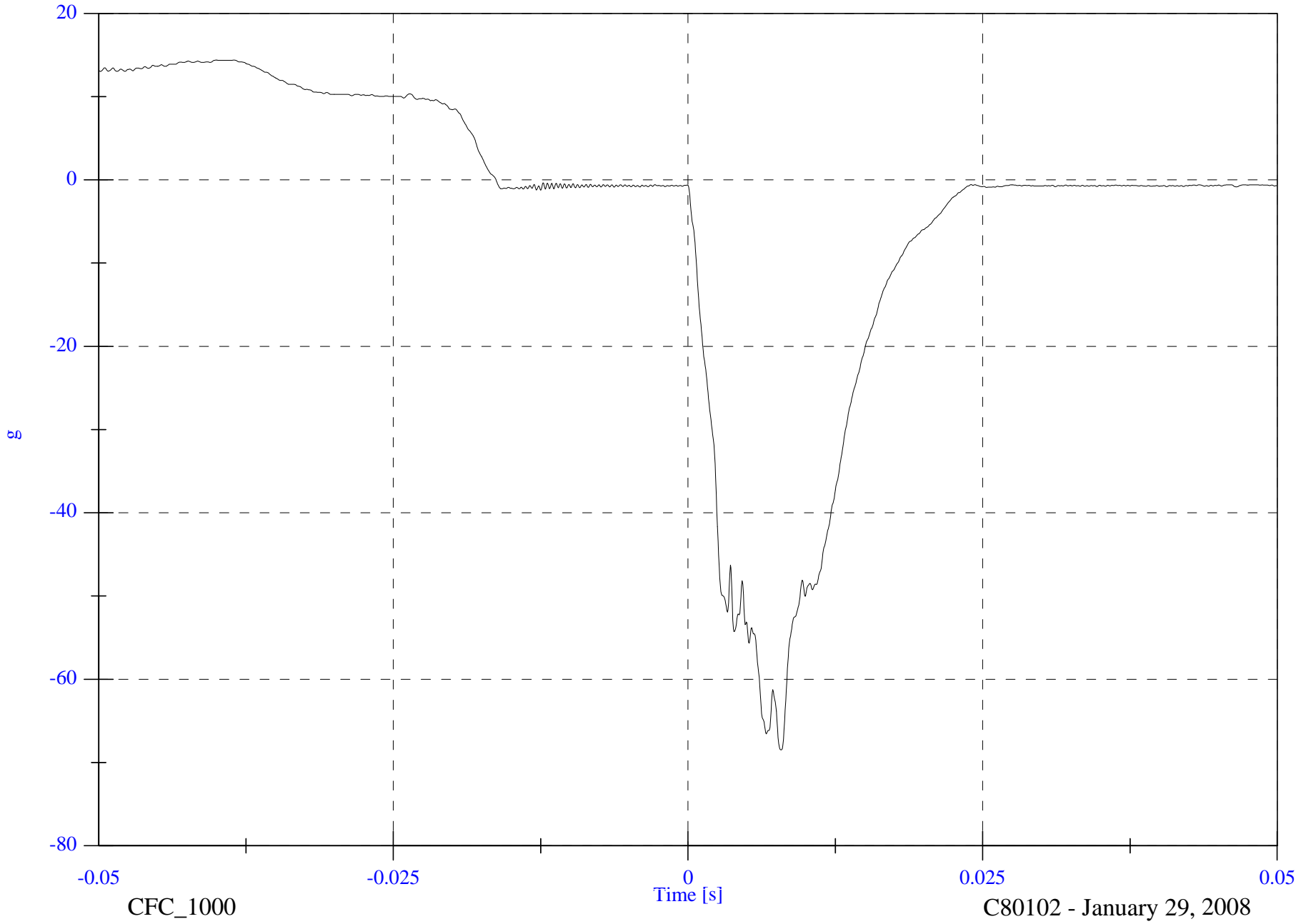
Headform X Acceleration

Max: 14.4 [g] at -0.040 [s]

Min: -68.5 [g] at 0.008 [s]

C80102 PASSENGER SIDE AP3 IMPACT PLOT # 1

8851-02



CFC\_1000

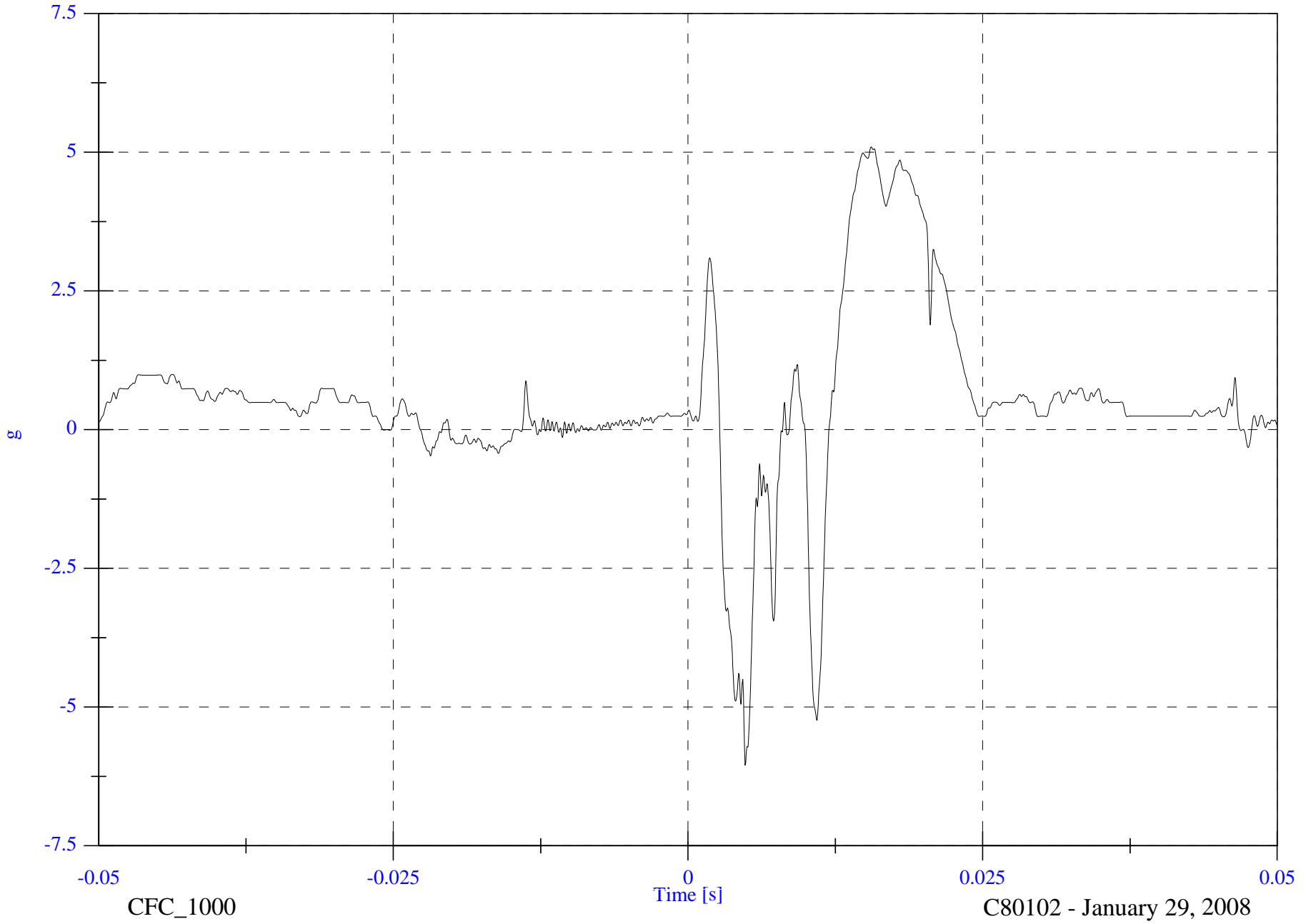
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 5.1 [g] at 0.016 [s]

Min: -6.0 [g] at 0.005 [s]



C80102 PASSENGER SIDE AP3 IMPACT PLOT # 2

8851-02

CFC\_1000

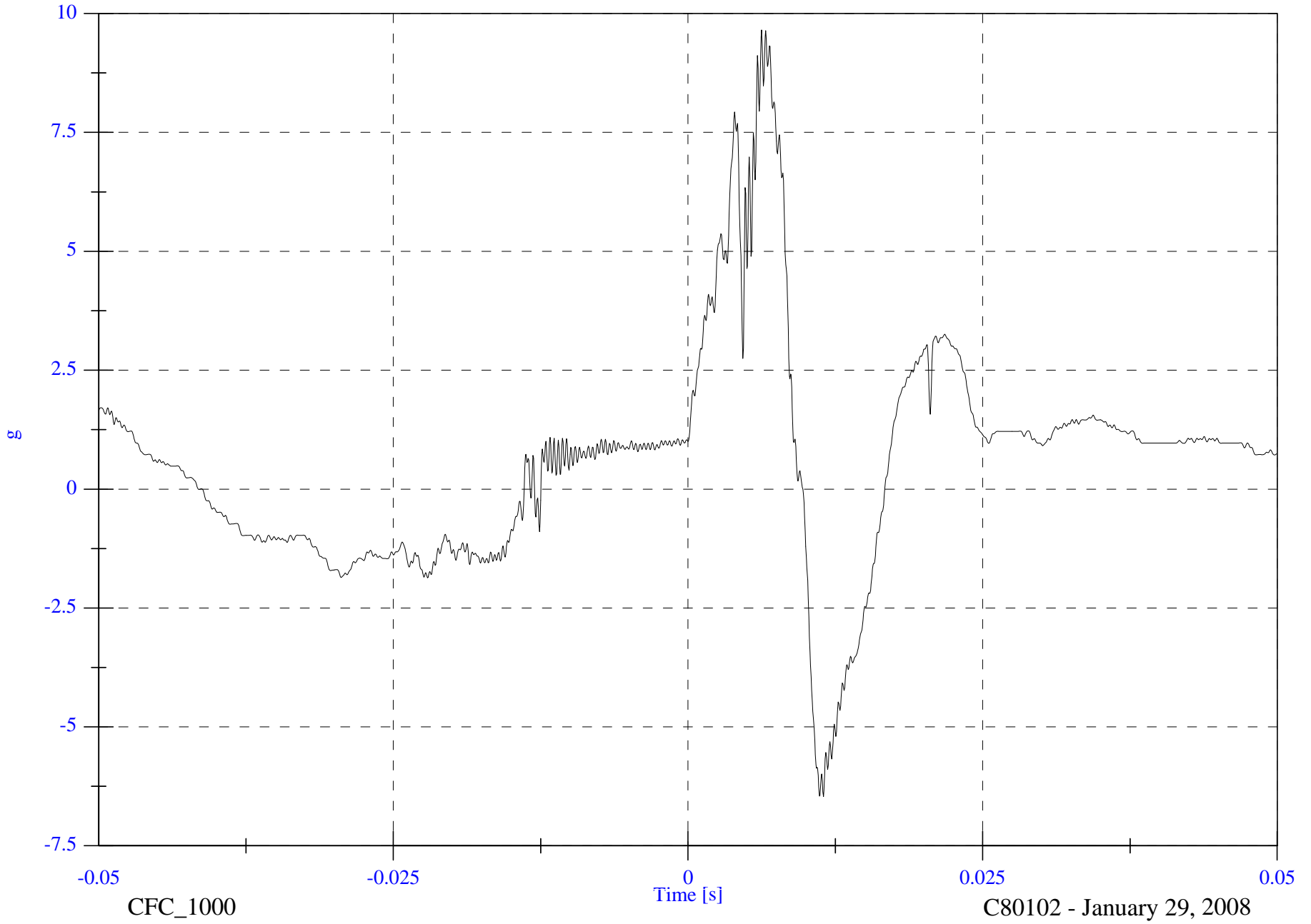
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Z Acceleration

Max: 9.7 [g] at 0.006 [s]

Min: -6.5 [g] at 0.011 [s]



C80102 PASSENGER SIDE AP3 IMPACT PLOT # 3

8851-02

CFC\_1000

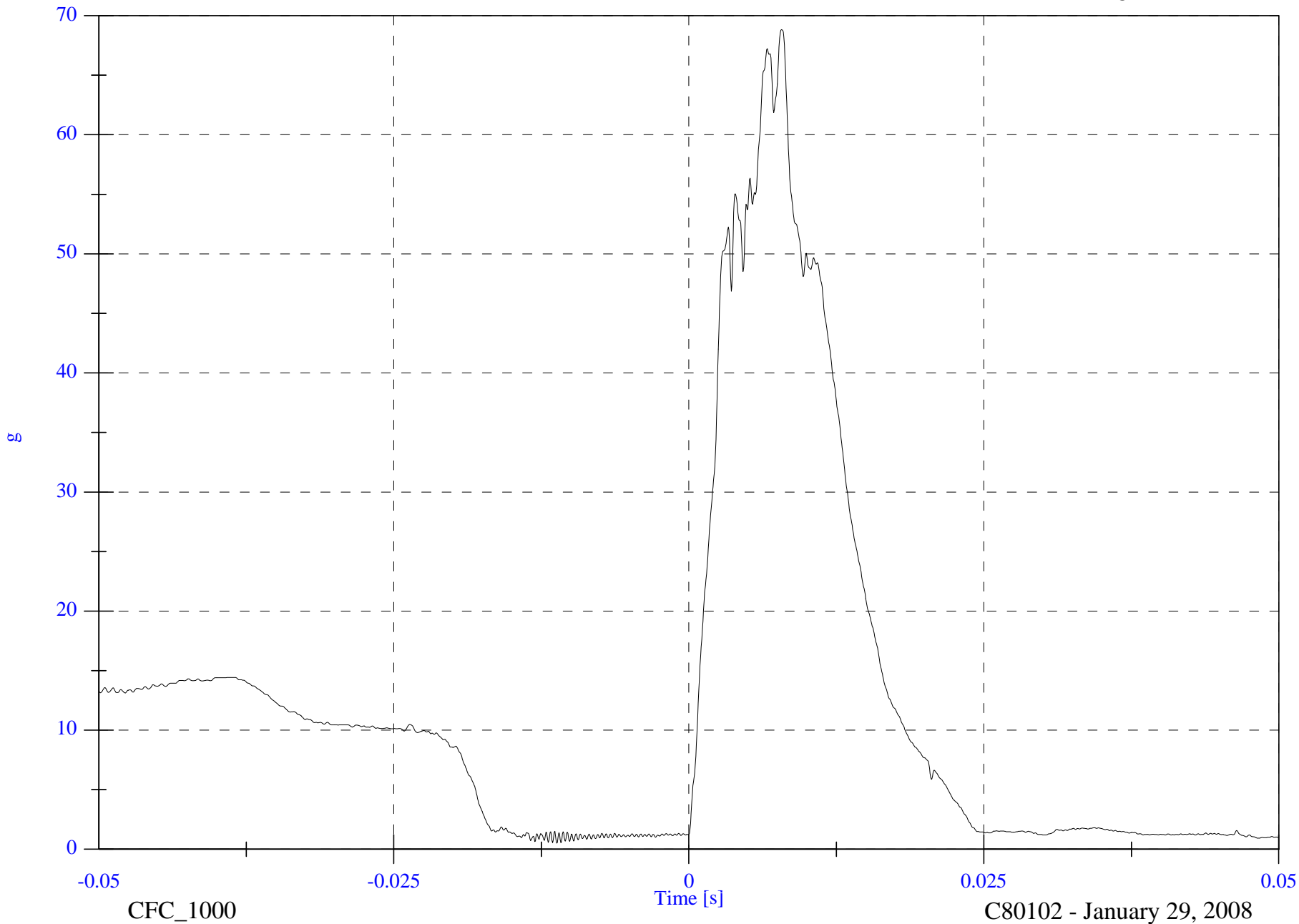
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 68.8 [g] at 0.008 [s]

Min: 0.5 [g] at -0.011 [s]



C80102 PASSENGER SIDE AP3 IMPACT PLOT # 4

8851-02

CFC\_1000

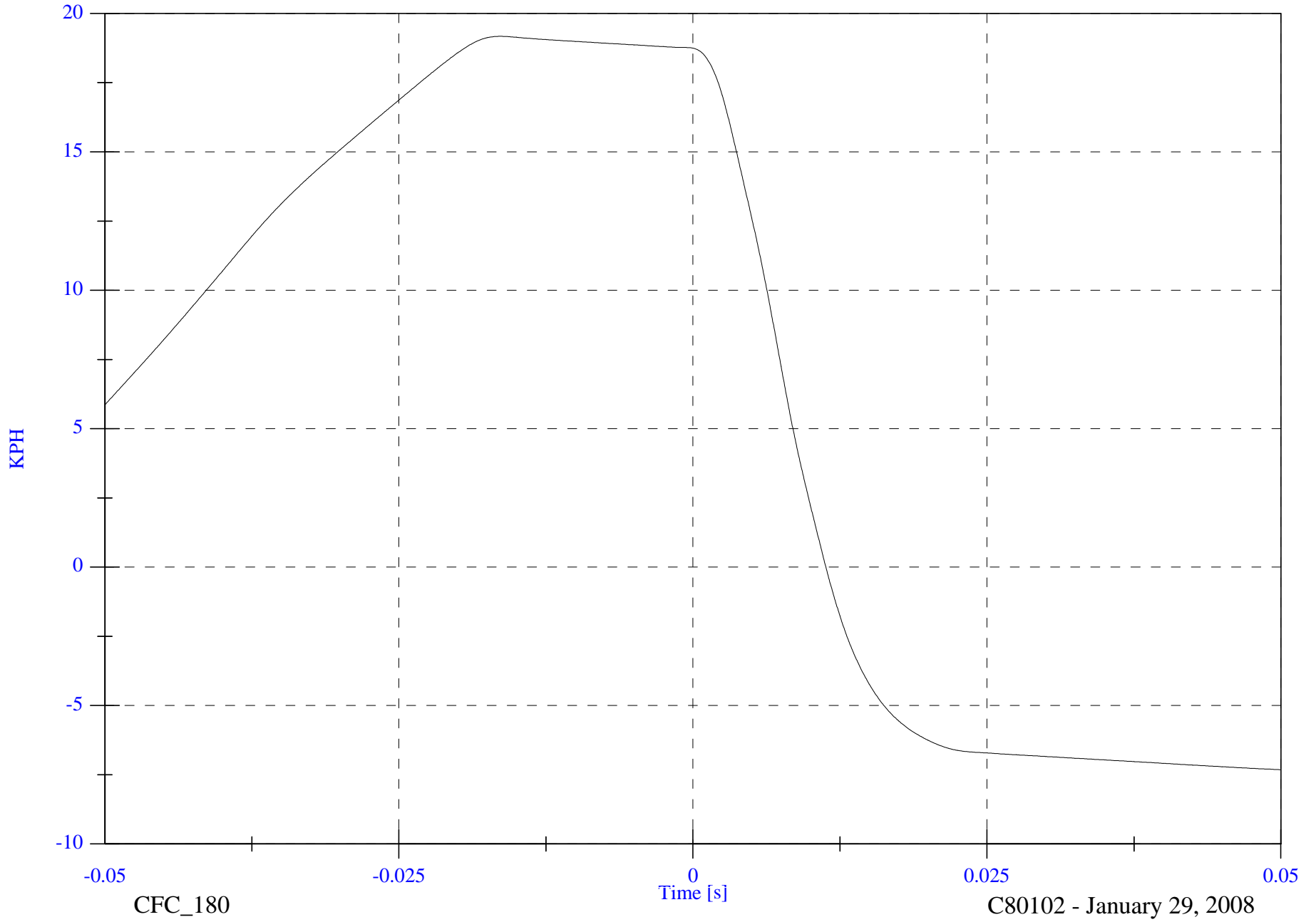
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

### Headform Velocity

Max: 19.2 [KPH] at -0.016 [s]

Min: -7.3 [KPH] at 0.050 [s]



C80102 PASSENGER SIDE AP3 IMPACT PLOT # 5

8851-02

CFC\_180

C80102 - January 29, 2008



PRE-IMPACT AP3



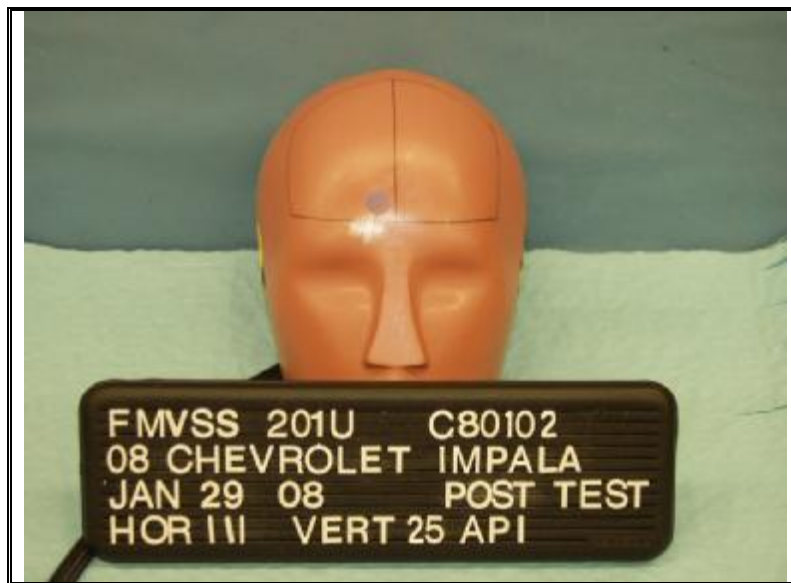


POST-IMPACT AP3

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	05
Test Date:	01/29/08
Target Location:	A-PILLAR
Target Code:	AP1
Horizontal Impact Angle:	111°
Vertical Impact Angle:	25°
Ambient Temperature:	24.0 C°
Relative Humidity:	25.2%
Time of Impact:	14:50
Headform Number:	1142

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	9	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	7				mm up



POST-IMPACT AP1 HEADFORM

Free Motion HIC	746.8
HIC(d)	729.8
Impact Velocity (kph)	18.45
HIC T1 (msec)	5.8
HIC T2 (msec)	8.9

# FMVSS 201U 2007 Chevrolet Impala C80102 - AP1

FMH Headform 1142

Location: AP1

Test Date: January 29, 2008

Work File: AP1

## -----TEST RESULTS-----

Lab Temperature: 24.0 C

HICd: 729.8

Lab Humidity: 25.2 %

HIC (36ms): 746.8

Velocity at Impact: 18.45 KPH

t1: 5.8 msec

t2: 8.9 msec

Free Flight Distance: 219.78 mm

Duration: 3.1 msec

Average Acceleration: 7.2 g

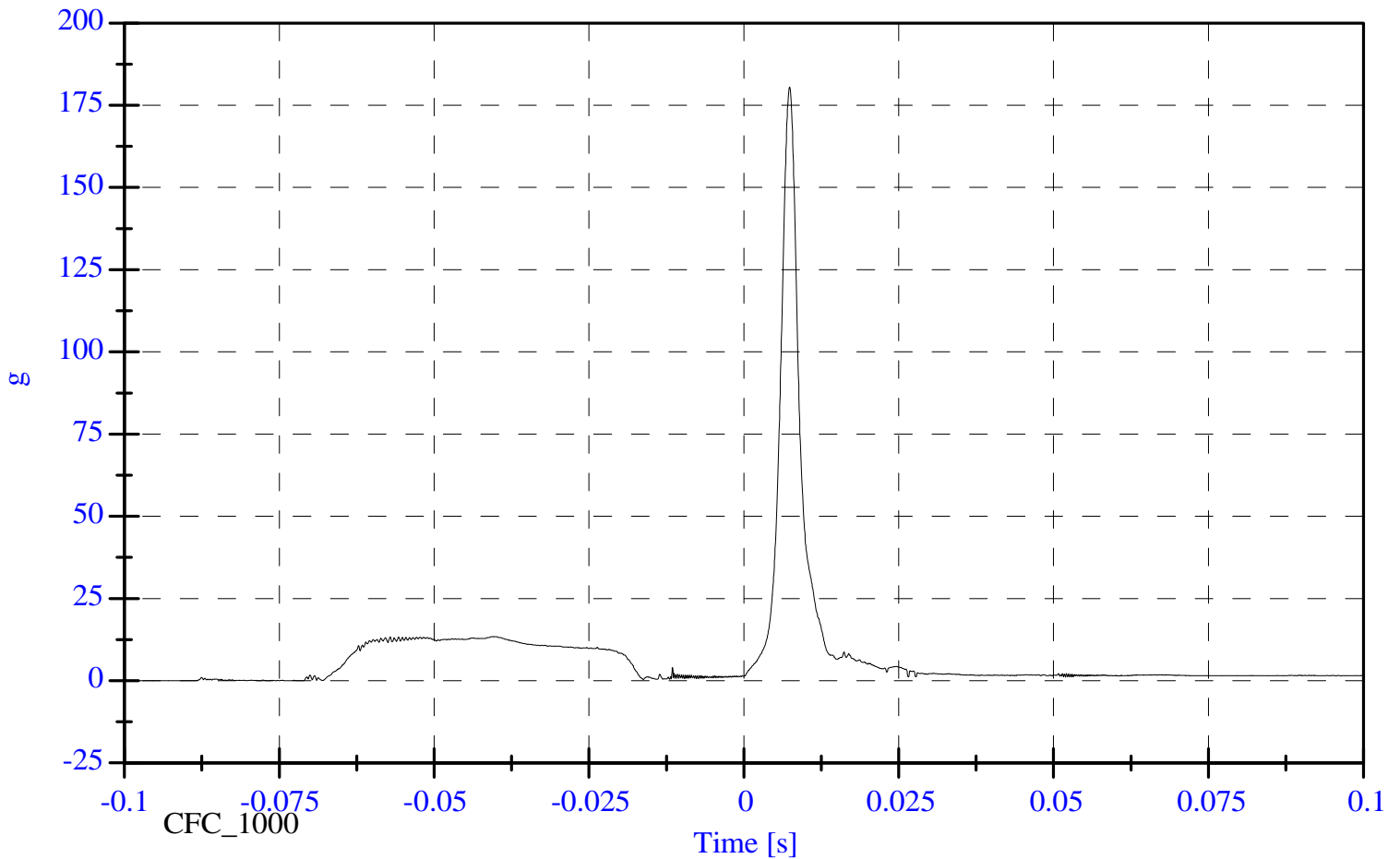
Maximum: 180.5 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 180.5 [g] at 0.007 [s]

Min: -0.0 [g] at -0.098 [s]

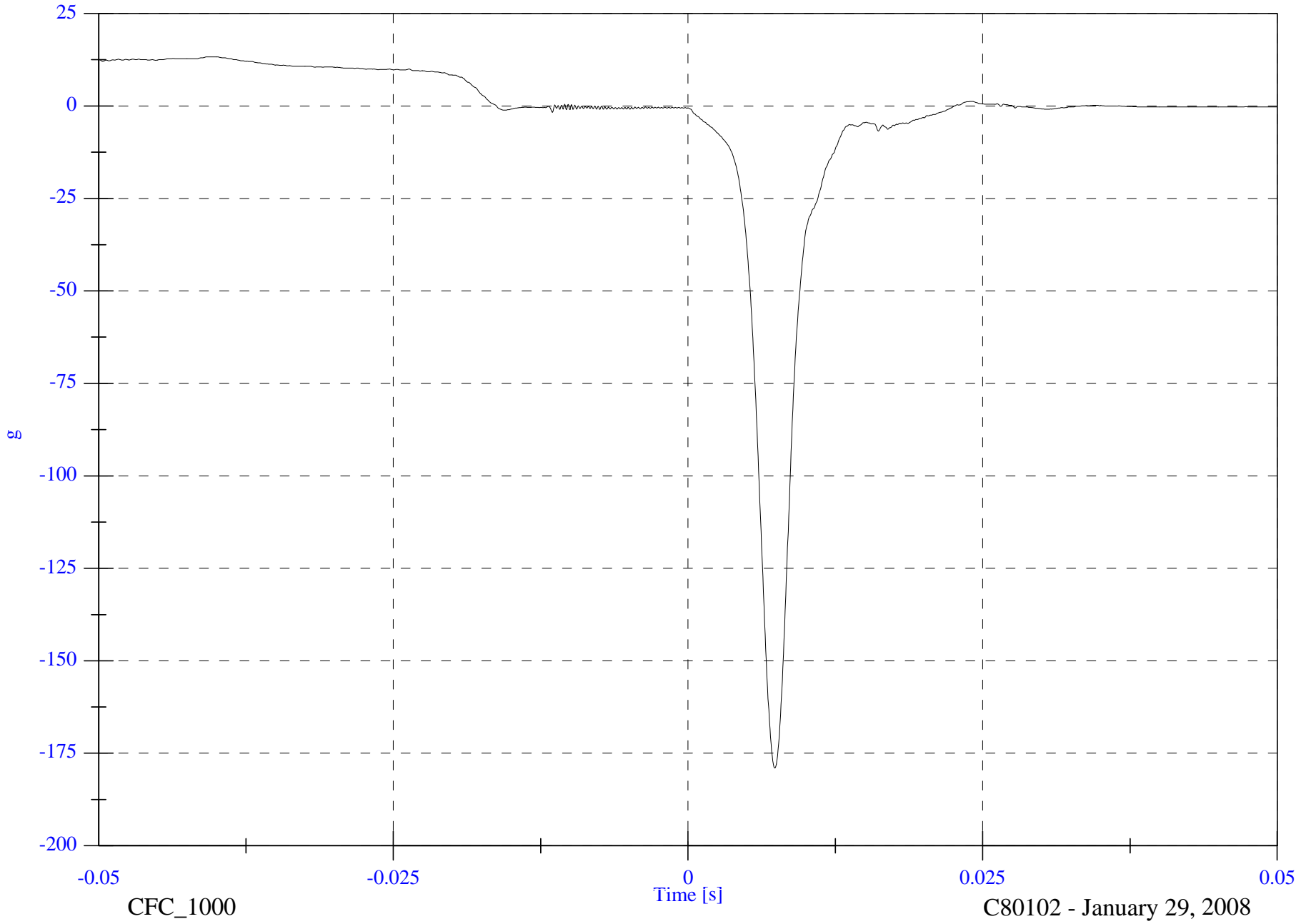


FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 13.3 [g] at -0.041 [s]

Min: -178.9 [g] at 0.007 [s]



C80102 PASSENGER SIDE AP1 IMPACT PLOT #1

8851-02

CFC\_1000

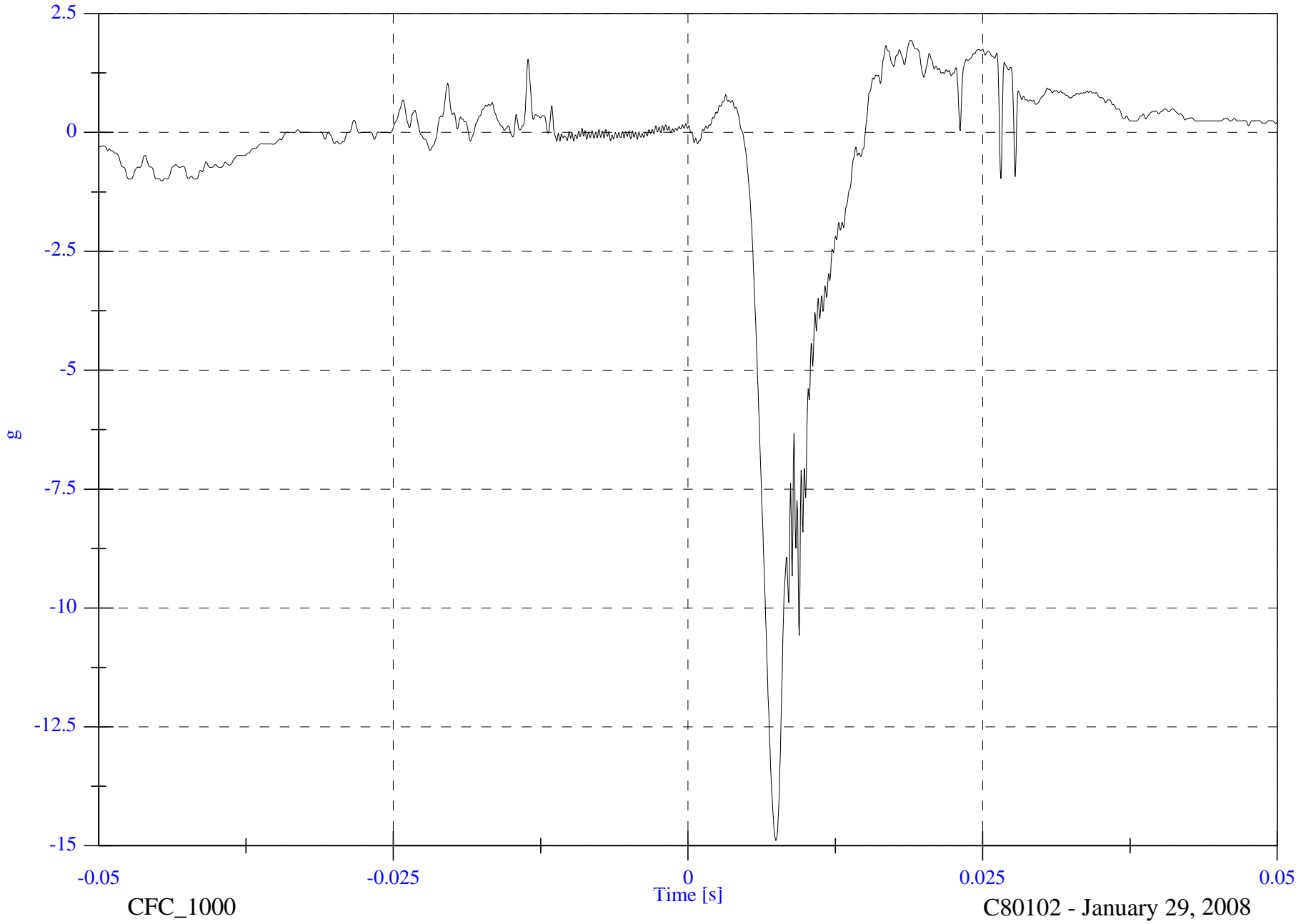
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 1.9 [g] at 0.019 [s]

Min: -14.9 [g] at 0.007 [s]



C80102 PASSENGER SIDE AP1 IMPACT PLOT #2

8851-02

CFC\_1000

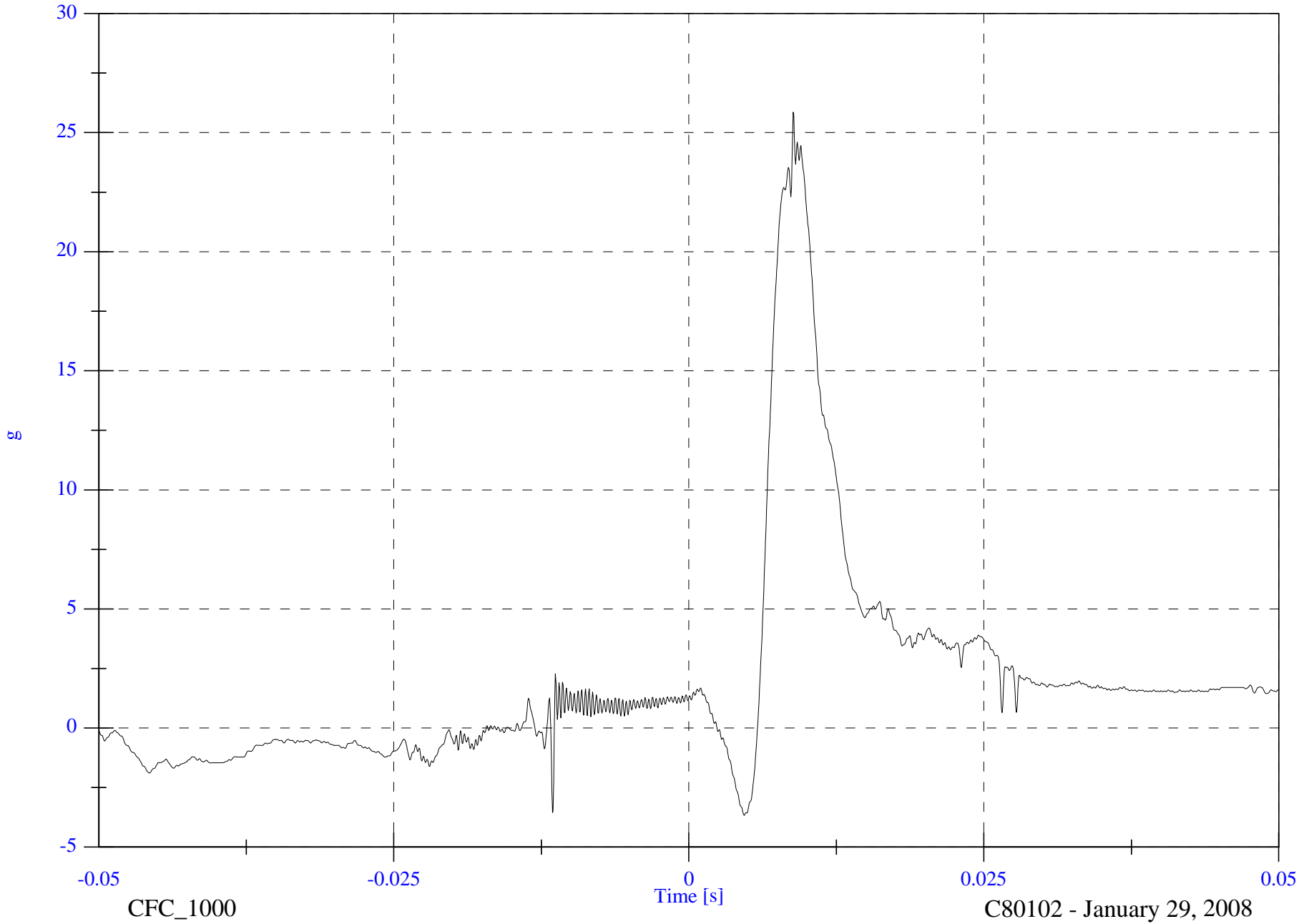
C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Z Acceleration

Max: 25.9 [g] at 0.009 [s]

Min: -3.7 [g] at 0.005 [s]



C80102 PASSENGER SIDE AP1 IMPACT PLOT #3

8851-02

CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

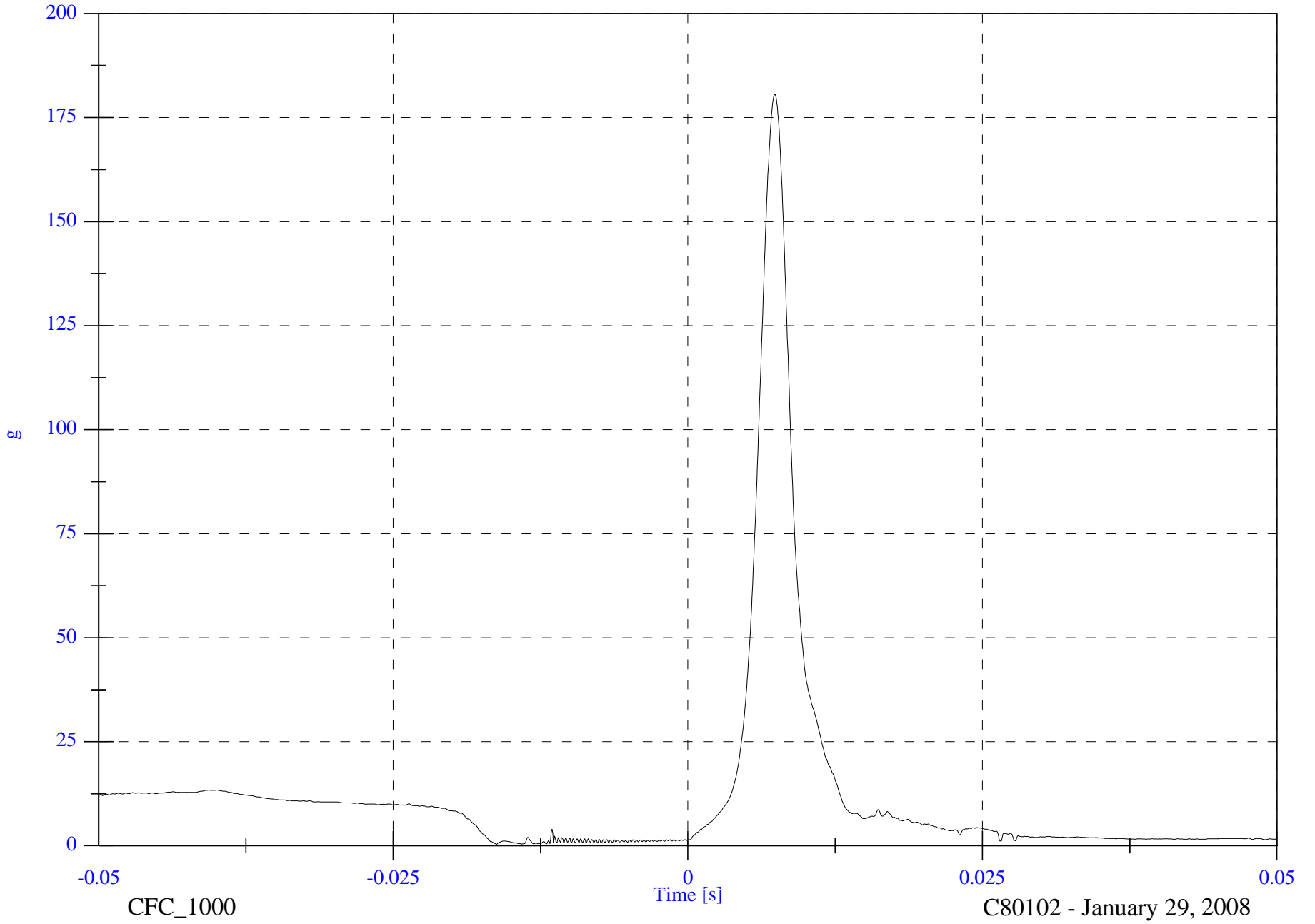
Headform Resultant

Max: 180.5 [g] at 0.007 [s]

Min: 0.3 [g] at -0.016 [s]

C80102 PASSENGER SIDE AP1 IMPACT PLOT #4

8851-02

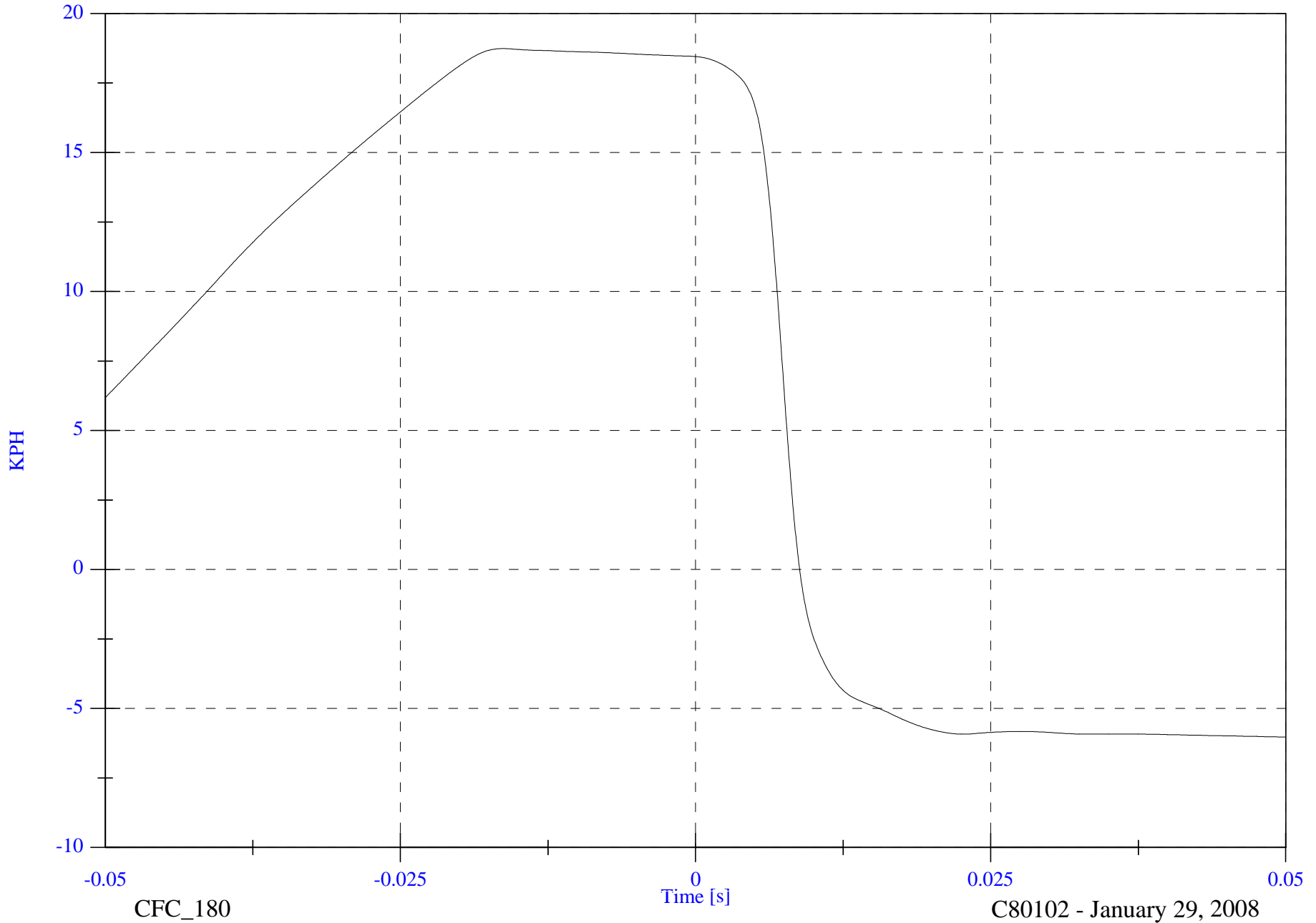


FMVSS 201U 2007 Chevrolet Impala

### Headform Velocity

Max: 18.7 [KPH] at -0.016 [s]

Min: -6.0 [KPH] at 0.050 [s]



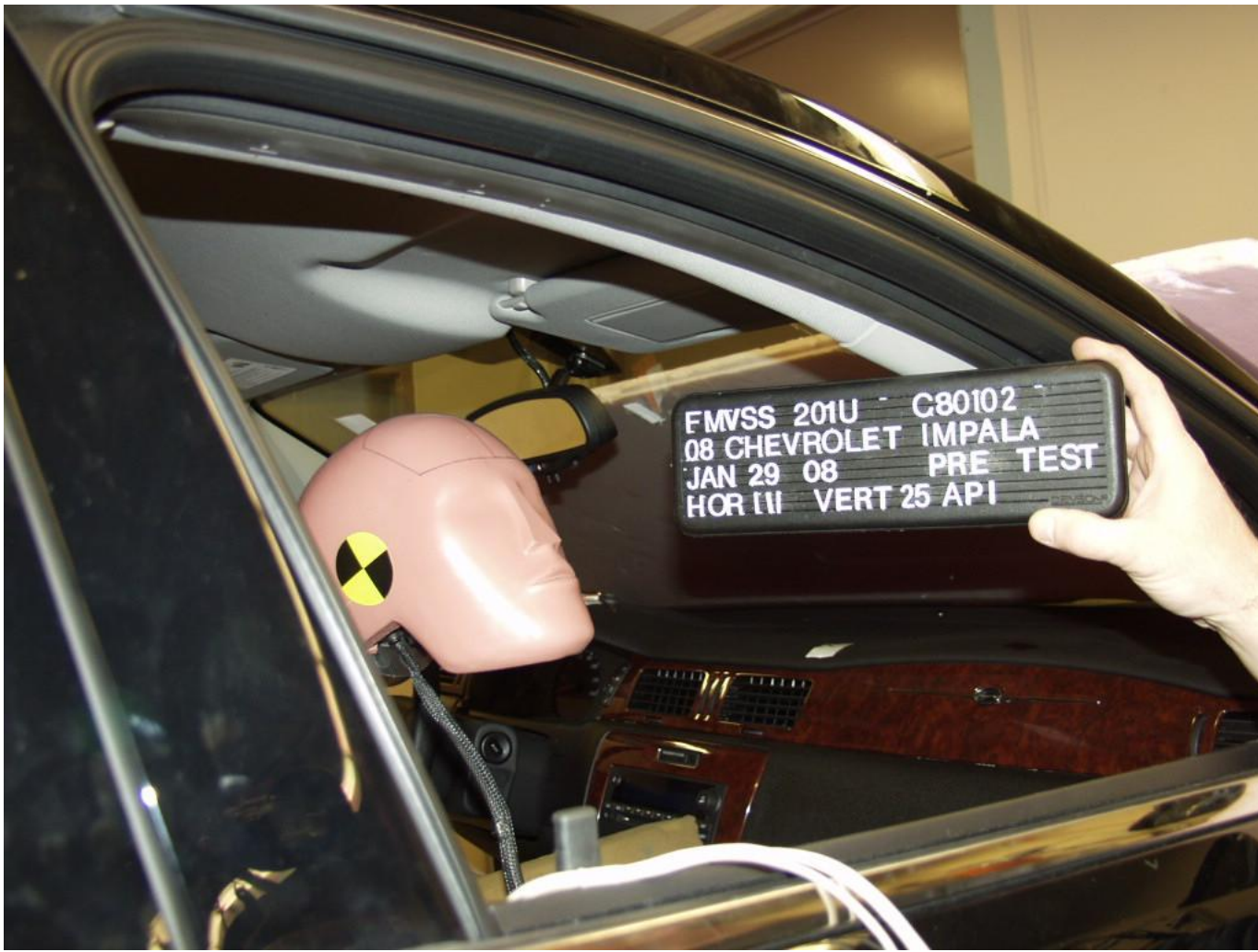
C80102 PASSENGER SIDE AP1 IMPACT PLOT #5

8851-02

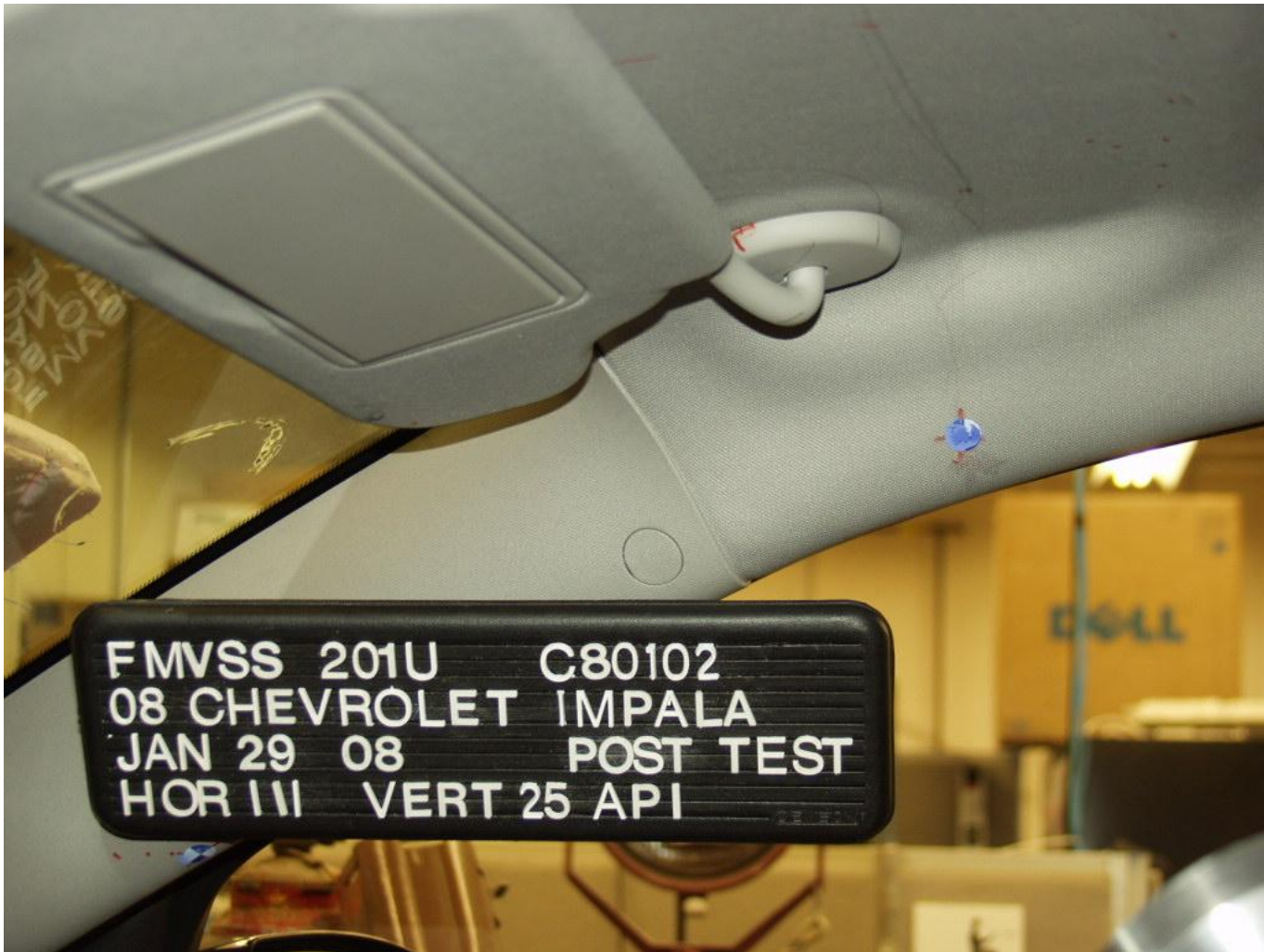
CFC\_180

C80102 - January 29, 2008





PRE-IMPACT AP1



POST-IMPACT API

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	06
Test Date:	01/29/08
Target Location:	SIDE RAIL
Target Code:	SR2A
Horizontal Impact Angle:	90°
Vertical Impact Angle:	40°
Ambient Temperature:	24.3 C°
Relative Humidity:	25.9%
Time of Impact:	15:40
Headform Number:	1140

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	2	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	6				mm up



POST-IMPACT SR2A HEADFORM

Free Motion HIC	219.0
HIC(d)	331.6
Impact Velocity (kph)	18.33
HIC T1 (msec)	3.1
HIC T2 (msec)	13.6

# FMVSS 201U 2007 Chevrolet Impala C80102 - SR2A

FMH Headform 1140

Location: SR2A

Test Date: January 29, 2008

Work File: SR2A

## -----TEST RESULTS-----

Lab Temperature: 24.3 C

HICd: 331.6

Lab Humidity: 25.9 %

HIC (36ms): 219.0

Velocity at Impact: 18.33 KPH

t1: 3.1 msec

t2: 13.6 msec

Free Flight Distance: 212.76 mm

Duration: 10.5 msec

Average Acceleration: 7.1 g

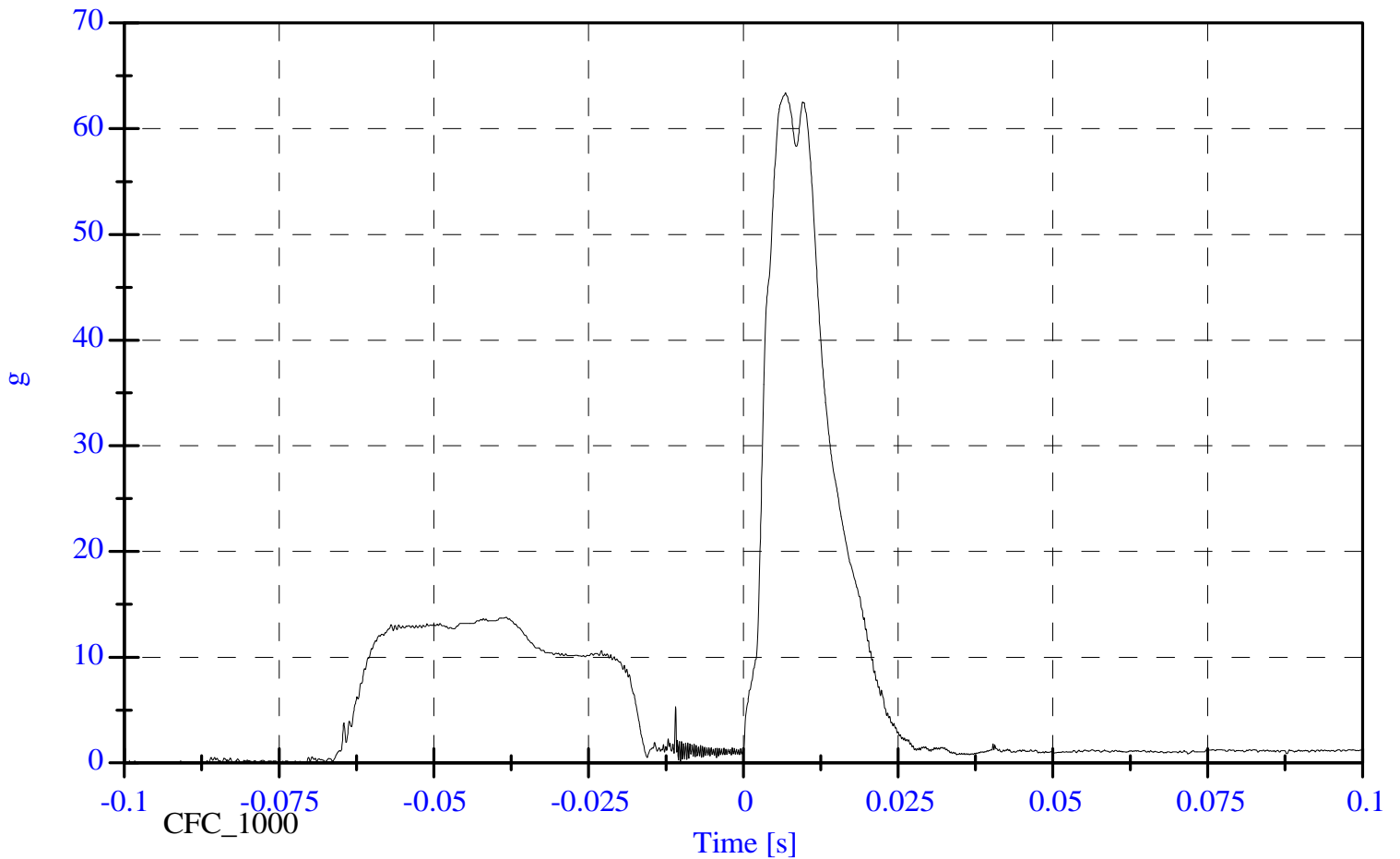
Maximum: 63.4 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 63.4 [g] at 0.007 [s]

Min: 0.0 [g] at -0.087 [s]



FMVSS 201U 2007 Chevrolet Impala

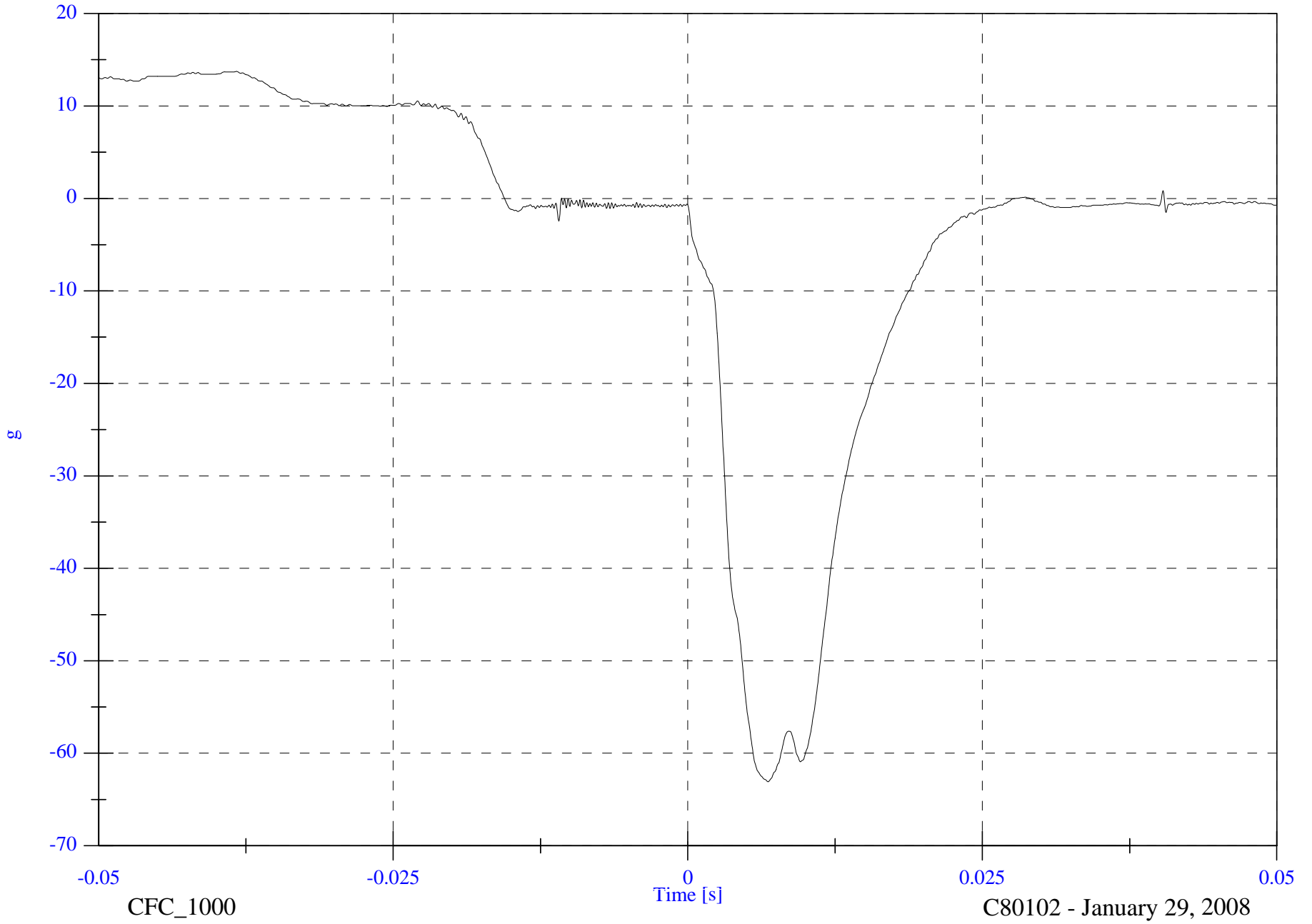
Headform X Acceleration

Max: 13.7 [g] at -0.038 [s]

Min: -63.1 [g] at 0.007 [s]

C80102 PASSENGER SIDE SR2A IMPACT PLOT #1

8851-02



CFC\_1000

C80102 - January 29, 2008

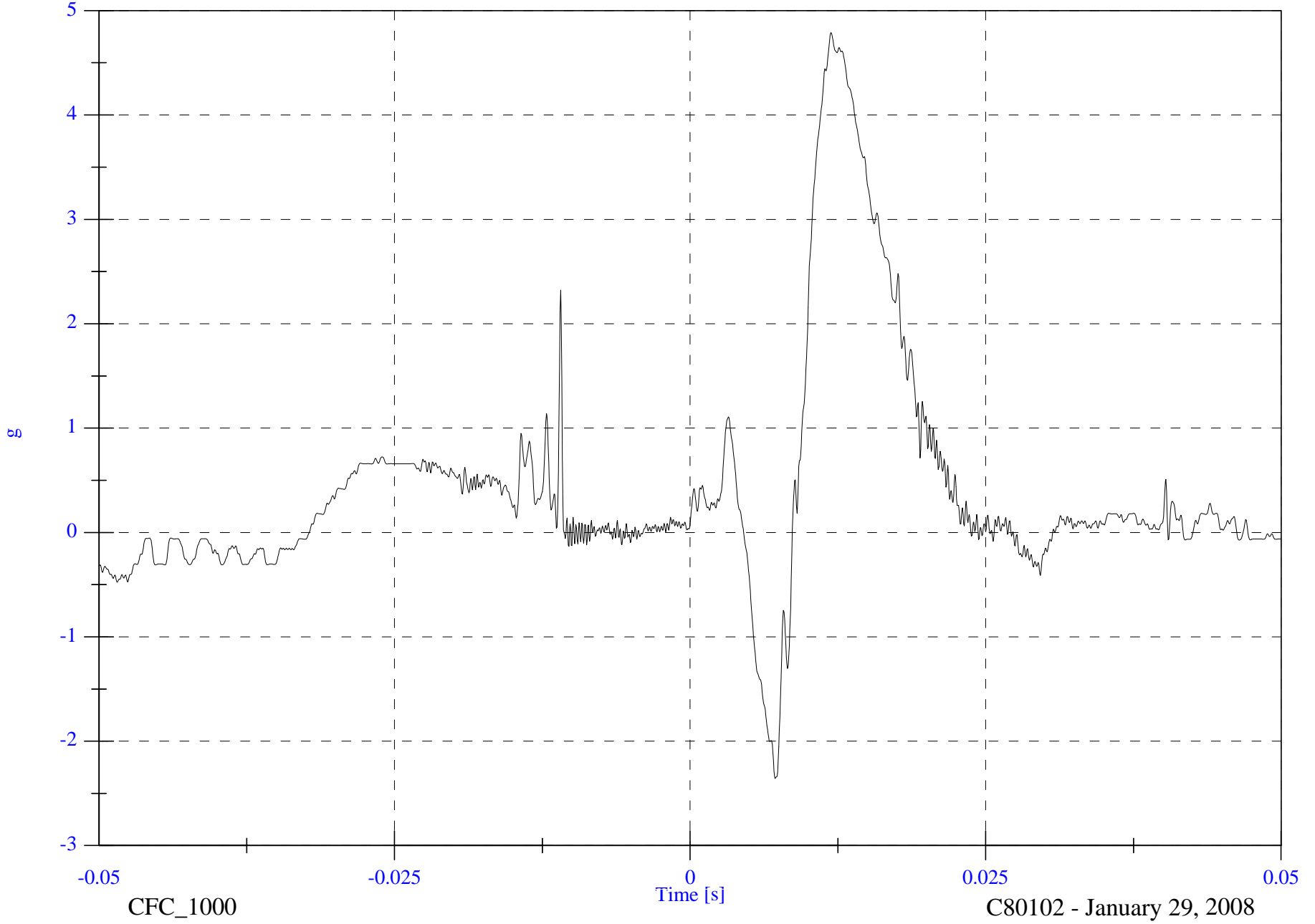
FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 4.8 [g] at 0.012 [s]

Min: -2.4 [g] at 0.007 [s]

C80102 PASSENGER SIDE SR2A IMPACT PLOT #2



8851-02

CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

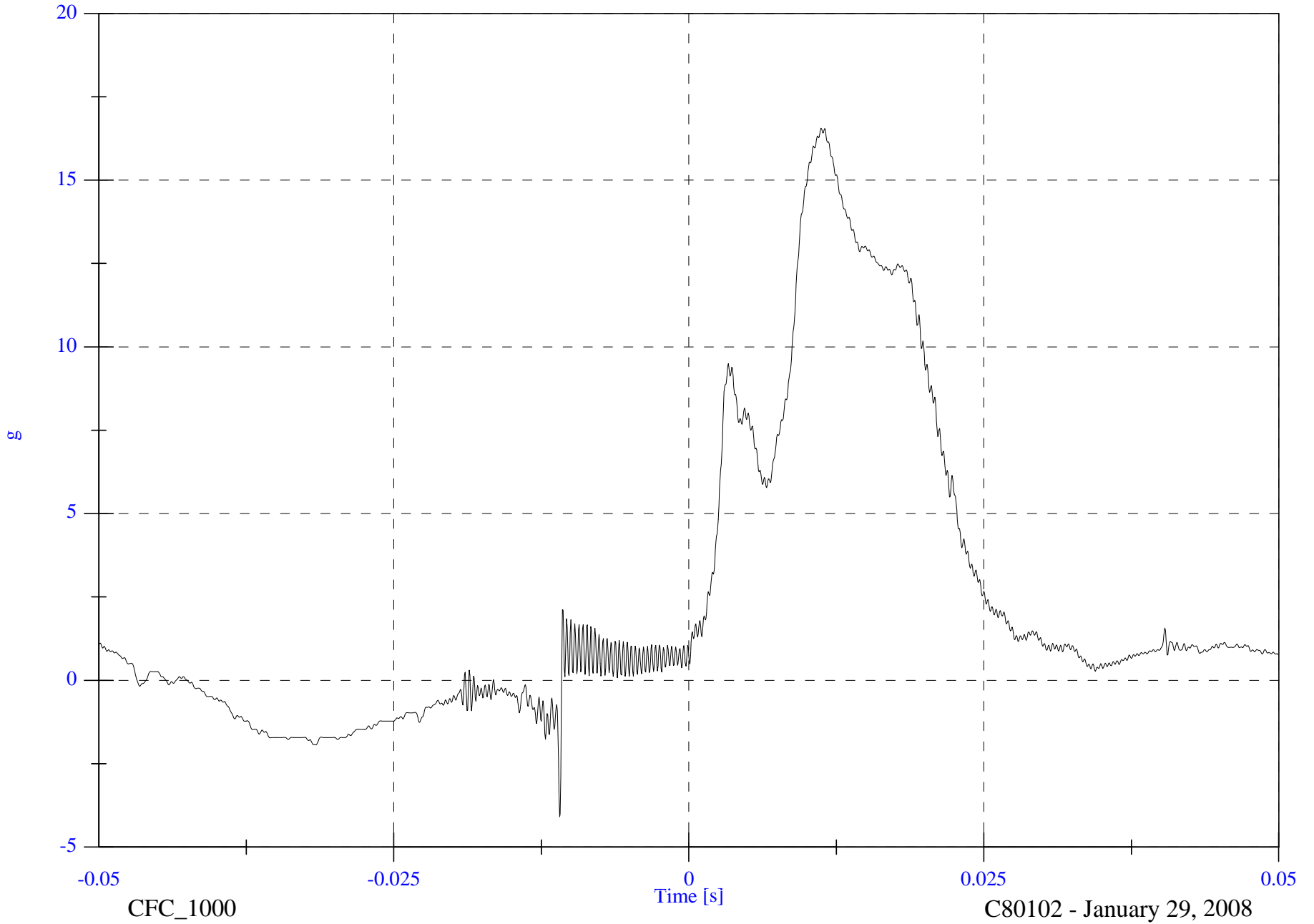
Headform Z Acceleration

Max: 16.6 [g] at 0.011 [s]

Min: -4.1 [g] at -0.011 [s]

C80102 PASSENGER SIDE SR2A IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

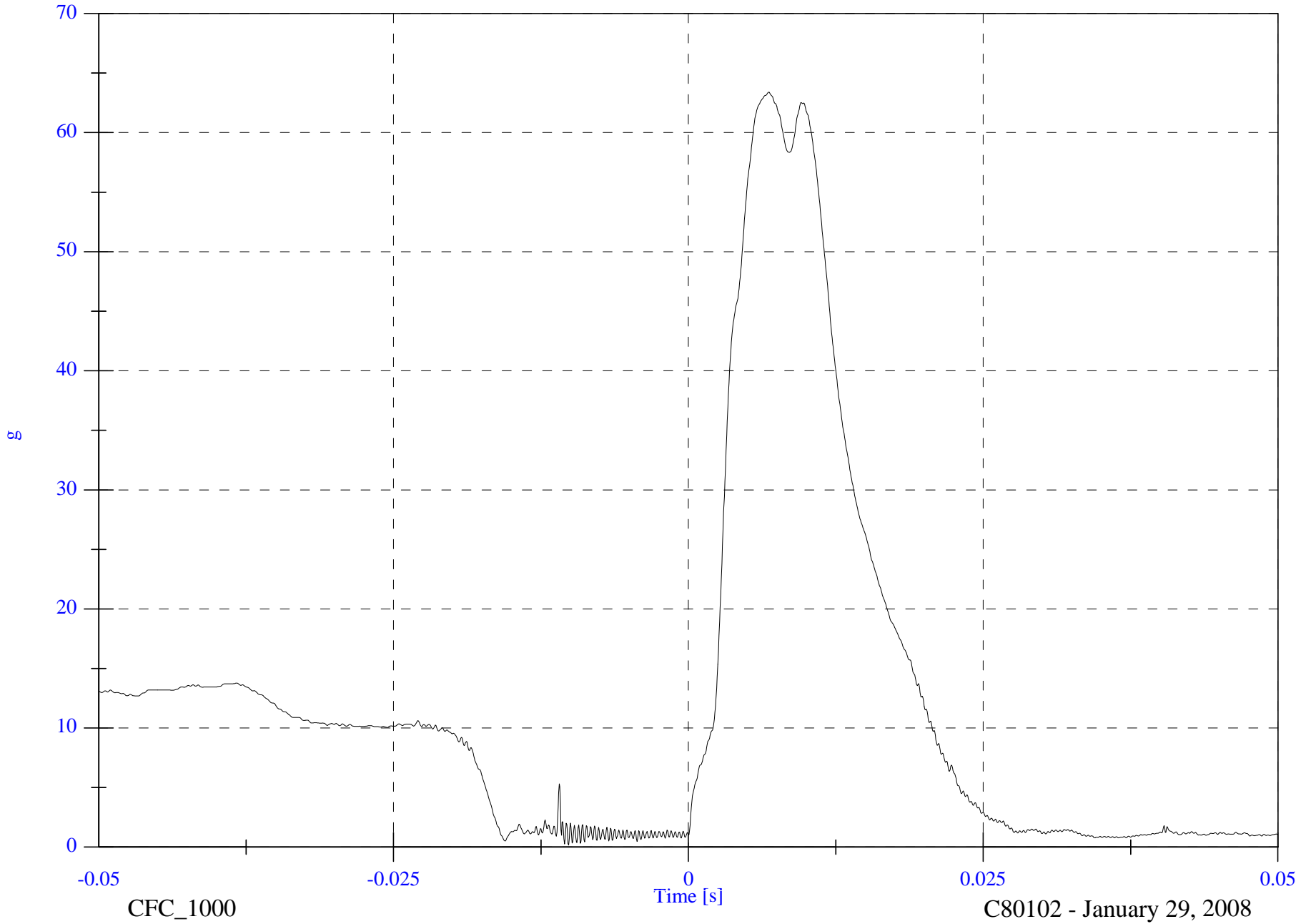
Headform Resultant

Max: 63.4 [g] at 0.007 [s]

Min: 0.2 [g] at -0.010 [s]

C80102 PASSENGER SIDE SR2A IMPACT PLOT #4

8851-02



CFC\_1000

C80102 - January 29, 2008

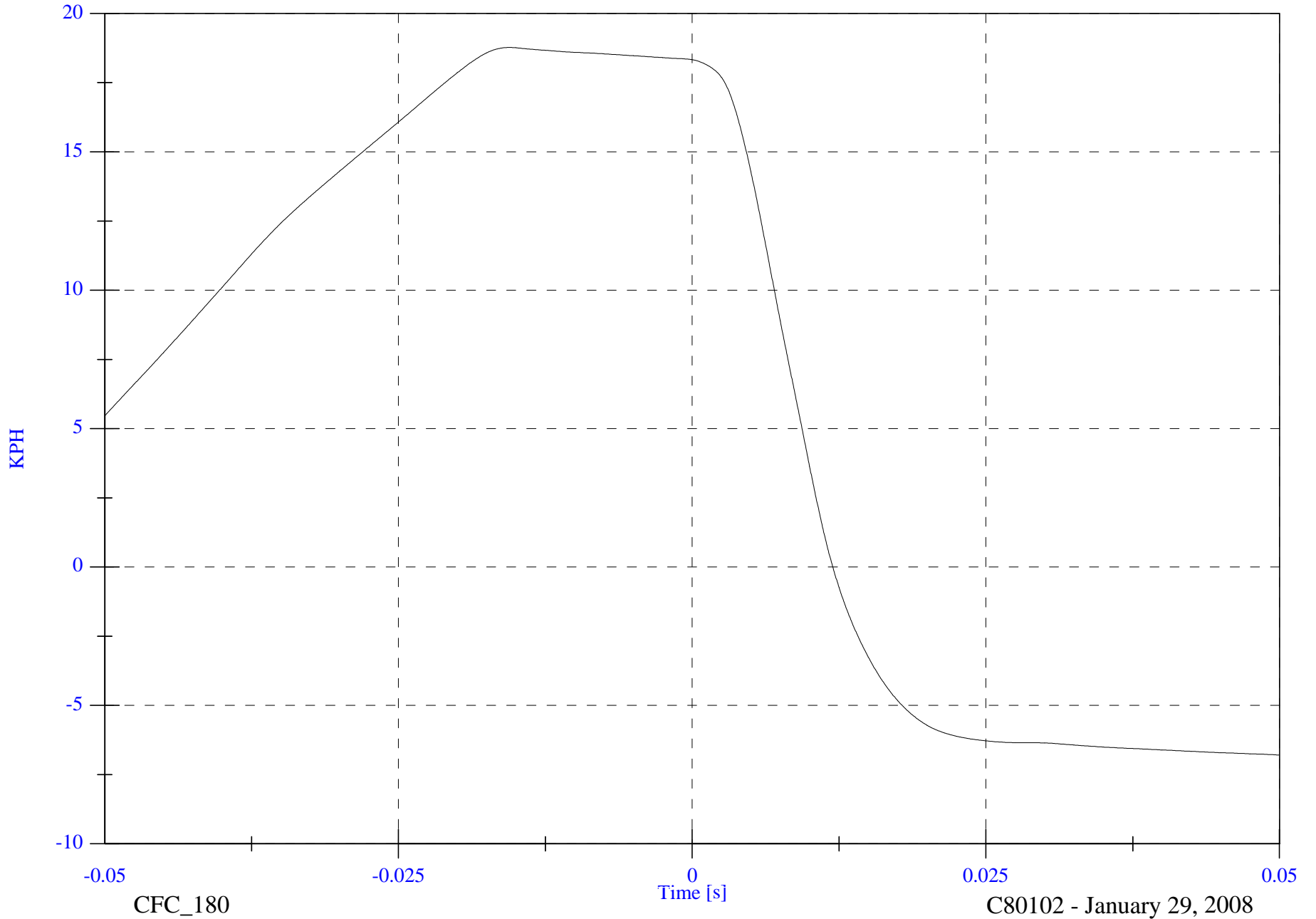


FMVSS 201U 2007 Chevrolet Impala

Max: 18.8 [KPH] at -0.016 [s]

Min: -6.8 [KPH] at 0.050 [s]

### Headform Velocity



C80102 PASSENGER SIDE SR2A IMPACT PLOT #5

8851-02

CFC\_180

C80102 - January 29, 2008



PRE-IMPACT SR2A



POST-IMPACT SR2A

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	07
Test Date:	01/29/08
Target Location:	B-PILLAR
Target Code:	BP1
Horizontal Impact Angle:	90°
Vertical Impact Angle:	18°
Ambient Temperature:	24.3 C°
Relative Humidity:	25.9%
Time of Impact:	16:25
Headform Number:	805

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	3	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	21				mm up



POST-IMPACT BP1 HEADFORM

Free Motion HIC	385.2
HIC(d)	457.0
Impact Velocity (kph)	18.51
HIC T1 (msec)	4.7
HIC T2 (msec)	13.6

# FMVSS 201U 2007 Chevrolet Impala C80102 - BP1

FMH Headform 0805

Location: BP1

Test Date: January 29, 2008

Work File: BP1

## -----TEST RESULTS-----

Lab Temperature: 24.3 C

HICd: 457.0

Lab Humidity: 25.9 %

HIC (36ms): 385.2

Velocity at Impact: 18.51 KPH

t1: 4.7 msec

t2: 13.6 msec

Free Flight Distance: 217.69 mm

Duration: 8.8 msec

Average Acceleration: 8.4 g

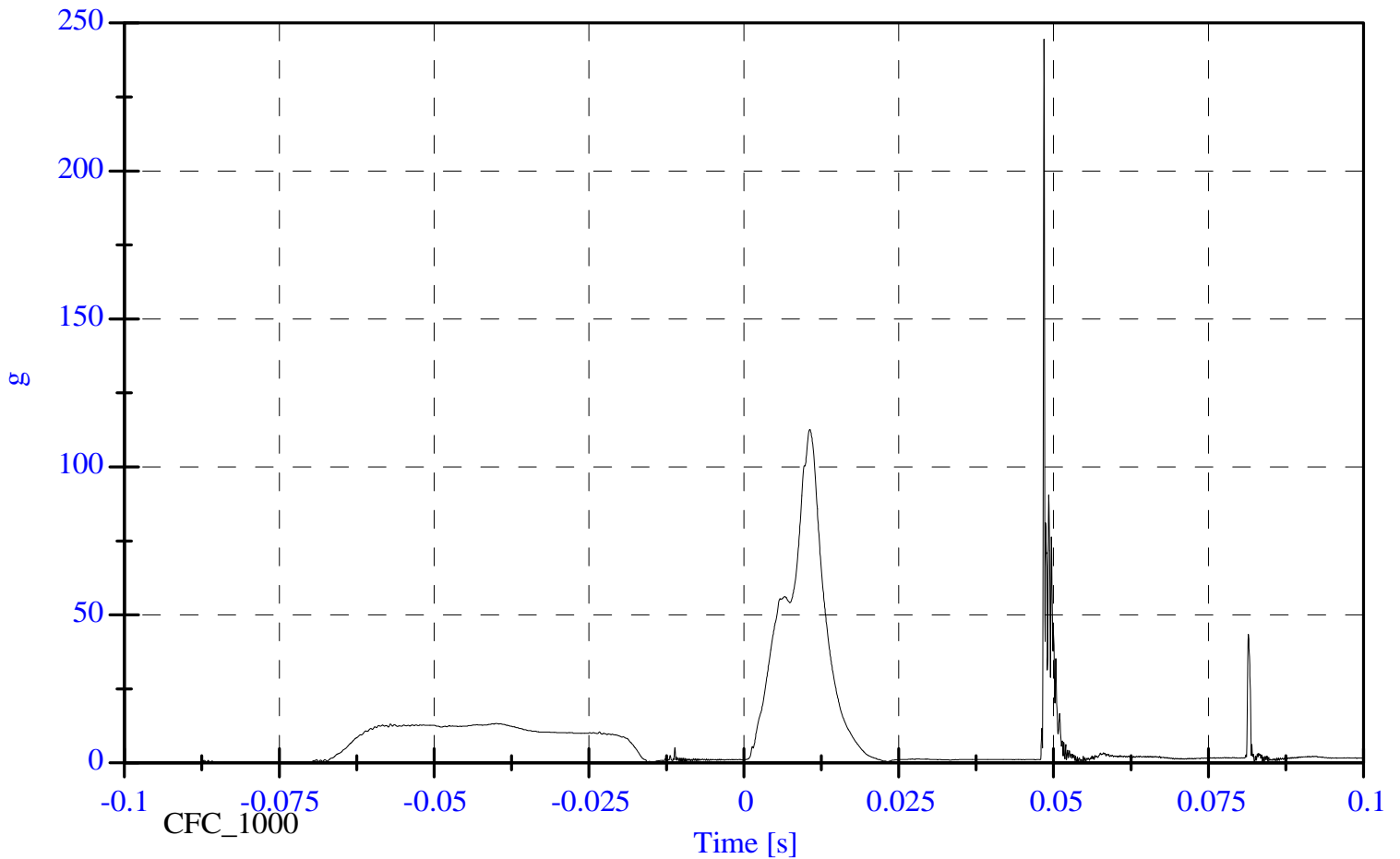
Maximum: 112.7 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 112.7 [g] at 0.011 [s]

Min: 0.0 [g] at -0.097 [s]



FMVSS 201U 2007 Chevrolet Impala

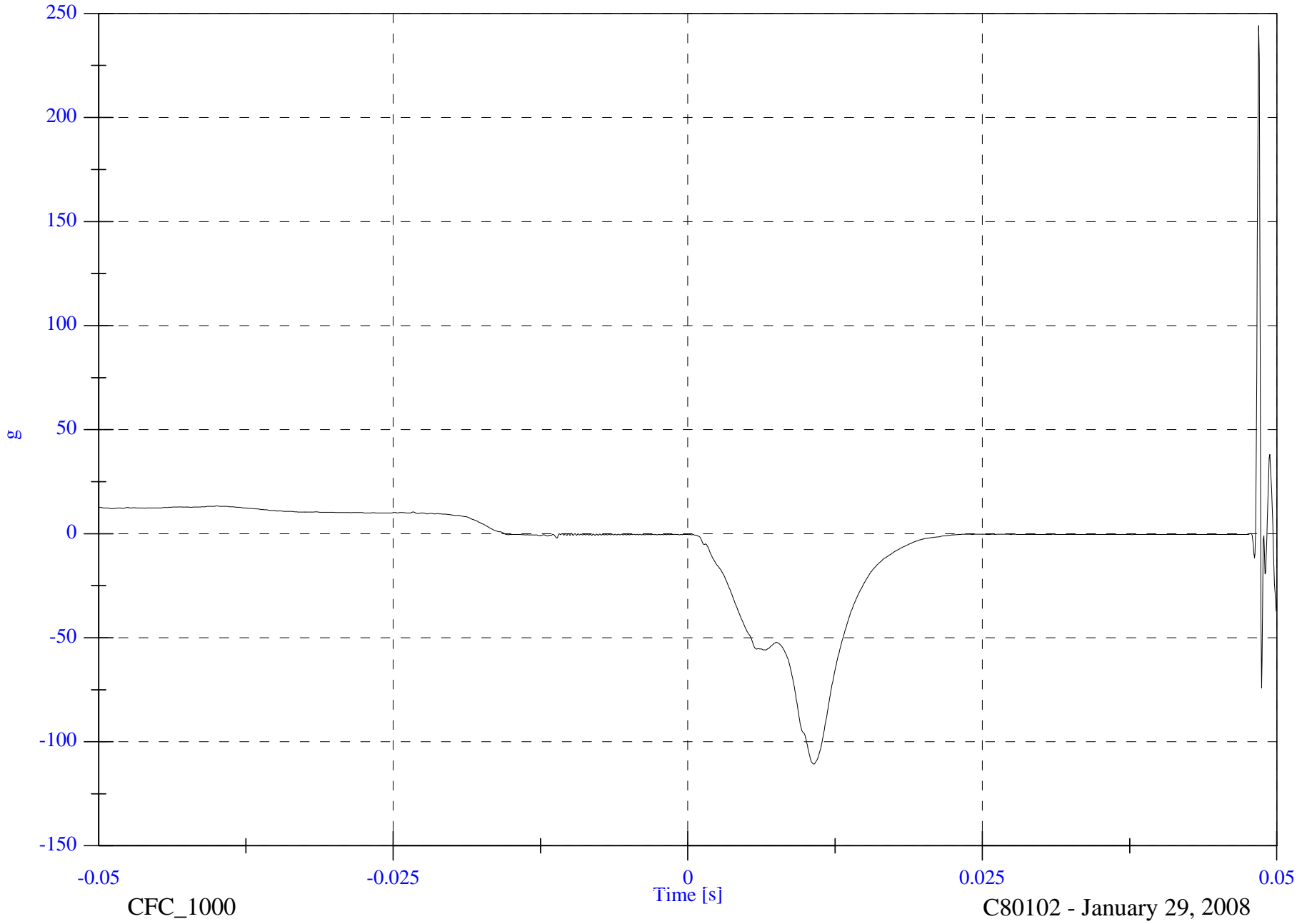
Headform X Acceleration

Max: 244.2 [g] at 0.048 [s]

Min: -110.7 [g] at 0.011 [s]

C80102 PASSENGER SIDE BPI IMPACT PLOT #1

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

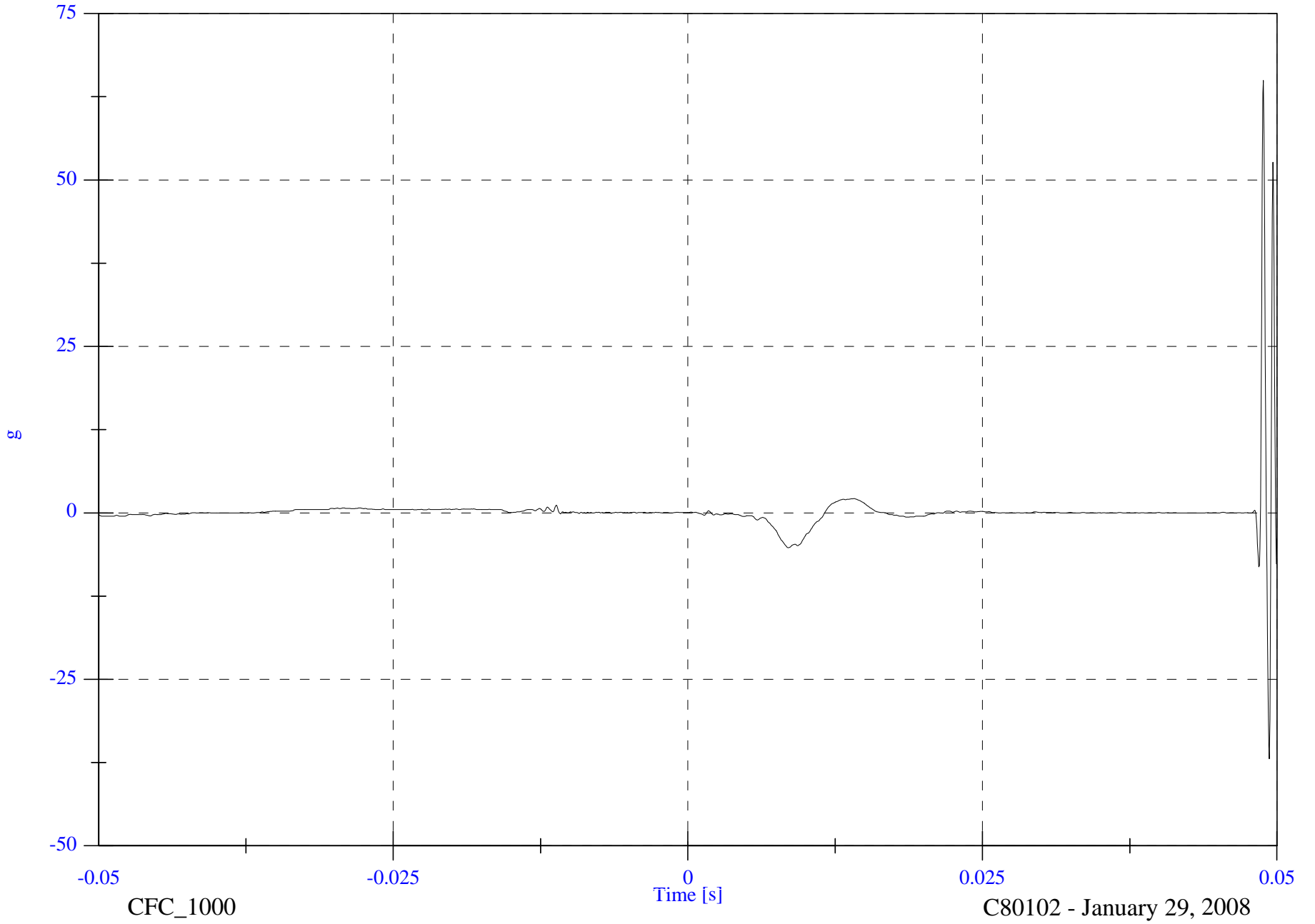
Headform Y Acceleration

Max: 65.0 [g] at 0.049 [s]

Min: -37.0 [g] at 0.049 [s]

C80102 PASSENGER SIDE BPI IMPACT PLOT #2

8851-02



FMVSS 201U 2007 Chevrolet Impala

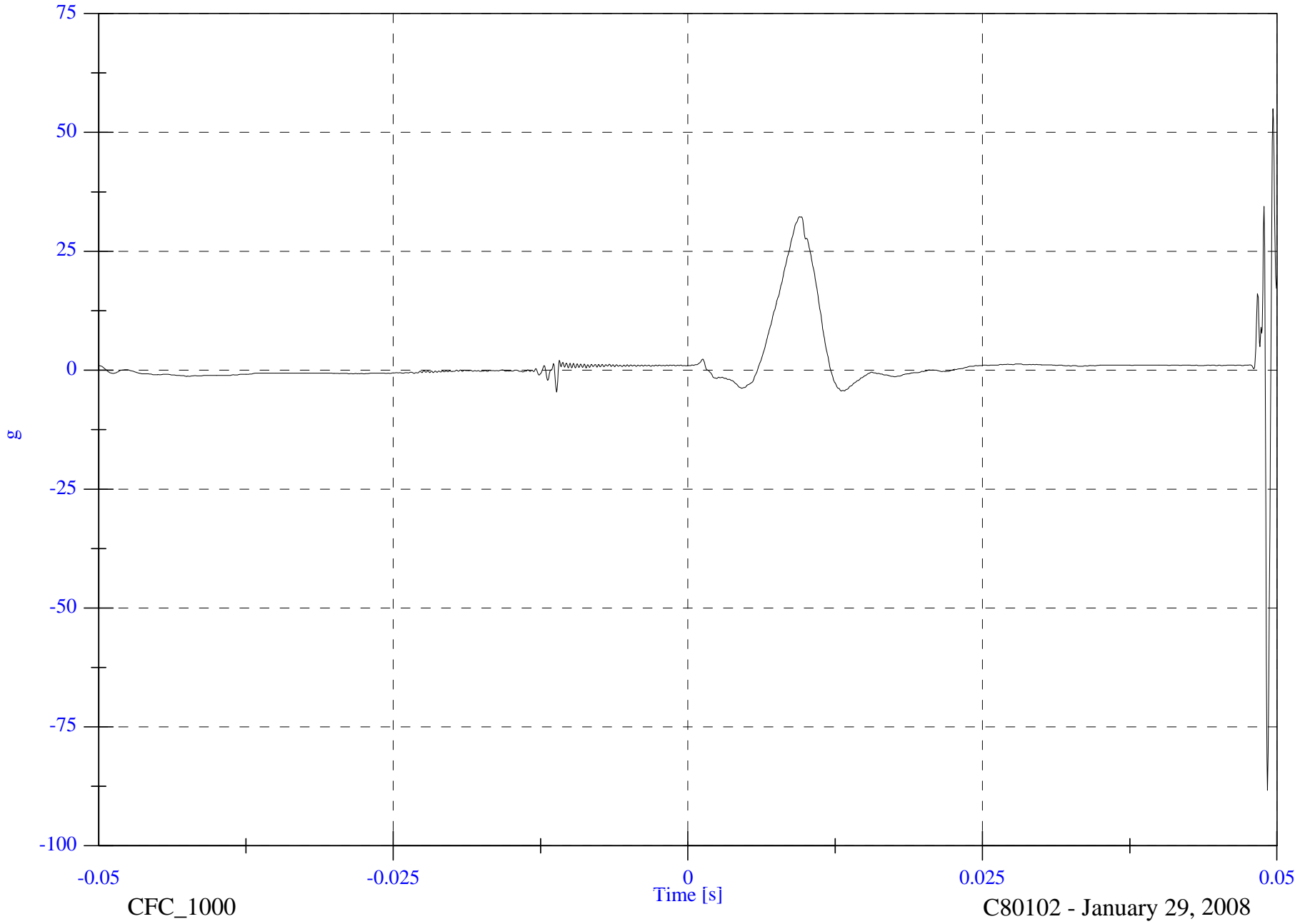
Headform Z Acceleration

Max: 55.0 [g] at 0.050 [s]

Min: -88.3 [g] at 0.049 [s]

C80102 PASSENGER SIDE BPI IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 29, 2008



FMVSS 201U 2007 Chevrolet Impala

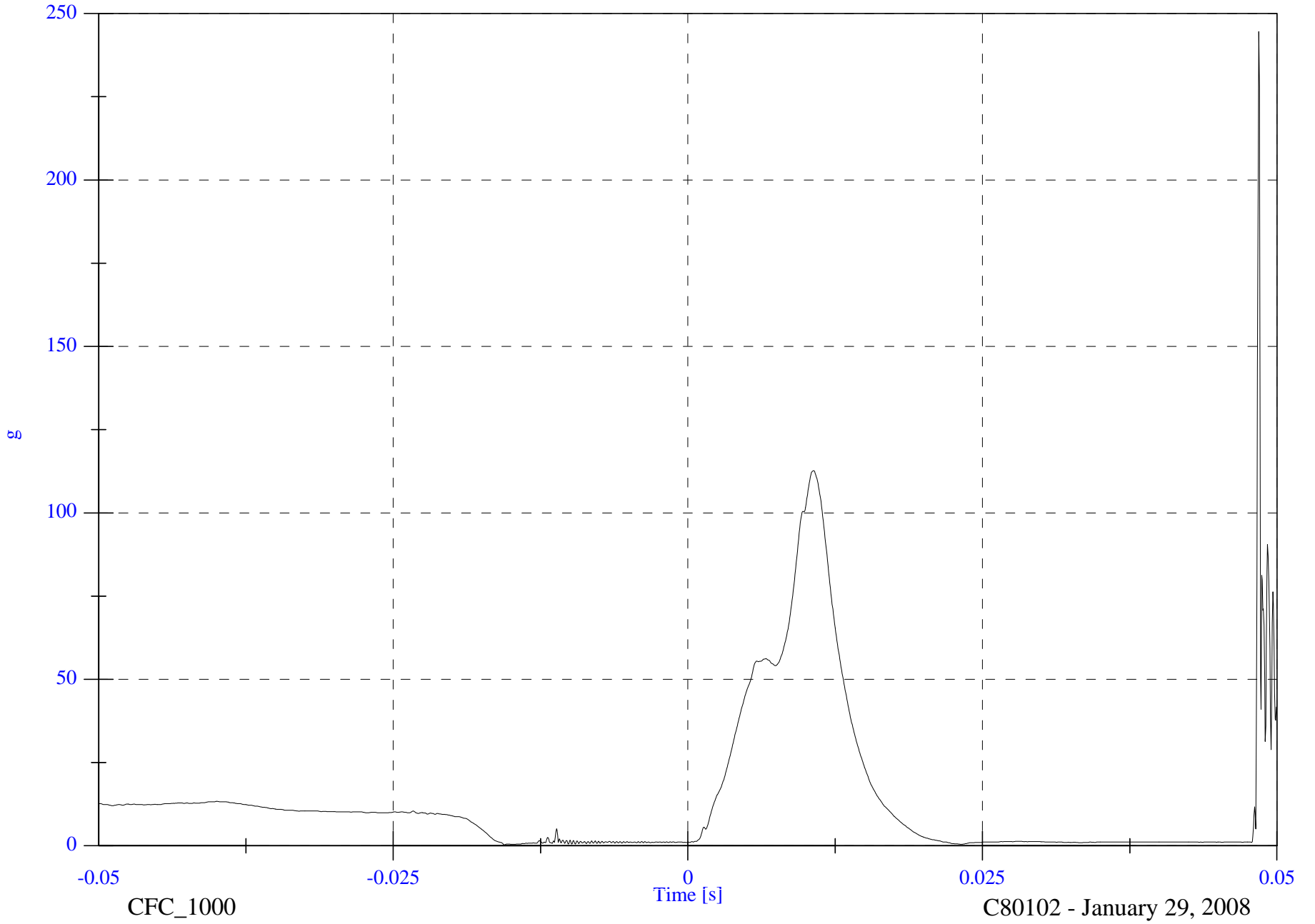
Headform Resultant

Max: 244.6 [g] at 0.048 [s]

Min: 0.3 [g] at -0.016 [s]

C80102 PASSENGER SIDE BP1 IMPACT PLOT #4

8851-02



CFC\_1000

C80102 - January 29, 2008

FMVSS 201U 2007 Chevrolet Impala

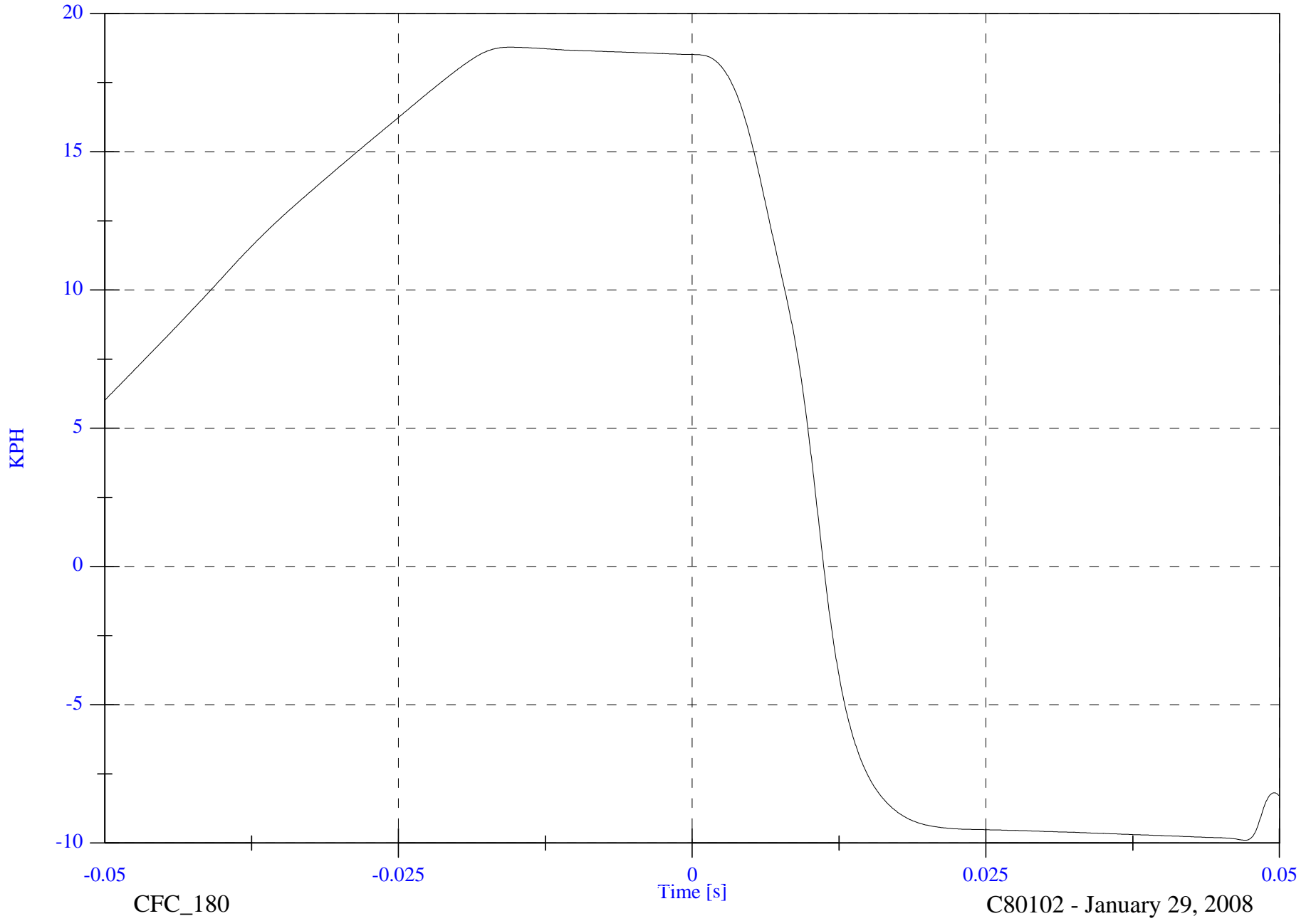
### Headform Velocity

Max: 18.8 [KPH] at -0.015 [s]

Min: -9.9 [KPH] at 0.047 [s]

C80102 PASSENGER SIDE BP1 IMPACT PLOT #5

8851-02

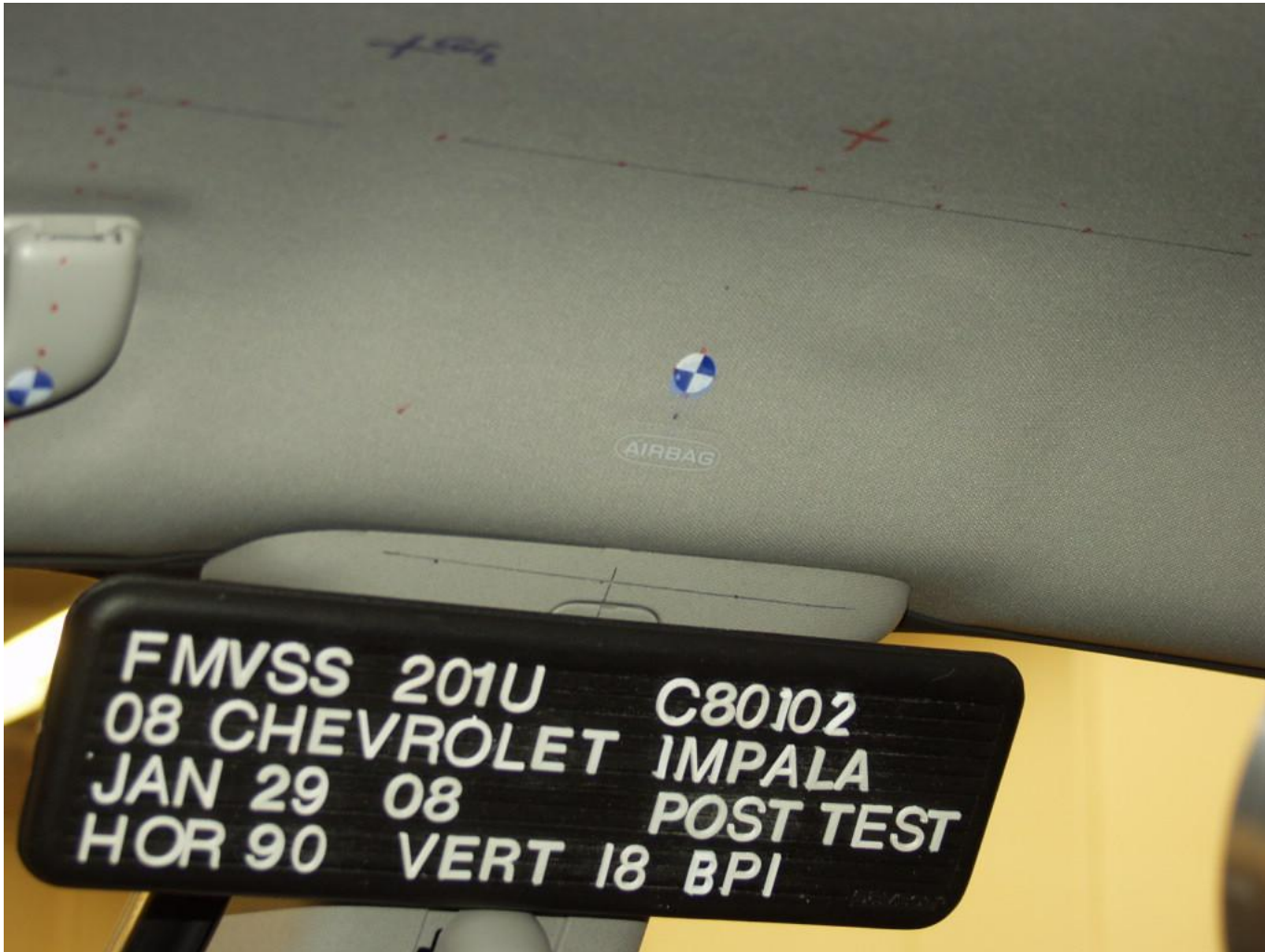


CFC\_180

C80102 - January 29, 2008



PRE-IMPACT BPI



POST-IMPACT BP1

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	08
Test Date:	01/30/08
Target Location:	UPPER ROOF
Target Code:	URRP
Horizontal Impact Angle:	305°
Vertical Impact Angle:	50°
Ambient Temperature:	21.1 C°
Relative Humidity:	17.3%
Time of Impact:	9:45
Headform Number:	805

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	12	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	29				mm up



POST-IMPACT URRP HEADFORM

Free Motion HIC	943.8
HIC(d)	878.4
Impact Velocity (kph)	23.86
HIC T1 (msec)	5.4
HIC T2 (msec)	10.3

# FMVSS 201U 2007 Chevrolet Impala C80102 - URRP

FMH Headform 805

Location: URRP

Test Date: January 30, 2008

Work File: URRP

## -----TEST RESULTS-----

Lab Temperature: 21.1 C

HICd: 878.4

Lab Humidity: 17.3 %

HIC (36ms): 943.8

Velocity at Impact: 23.86 KPH

t1: 5.4 msec

t2: 10.3 msec

Free Flight Distance: 218.46 mm

Duration: 4.8 msec

Average Acceleration: 13.8 g

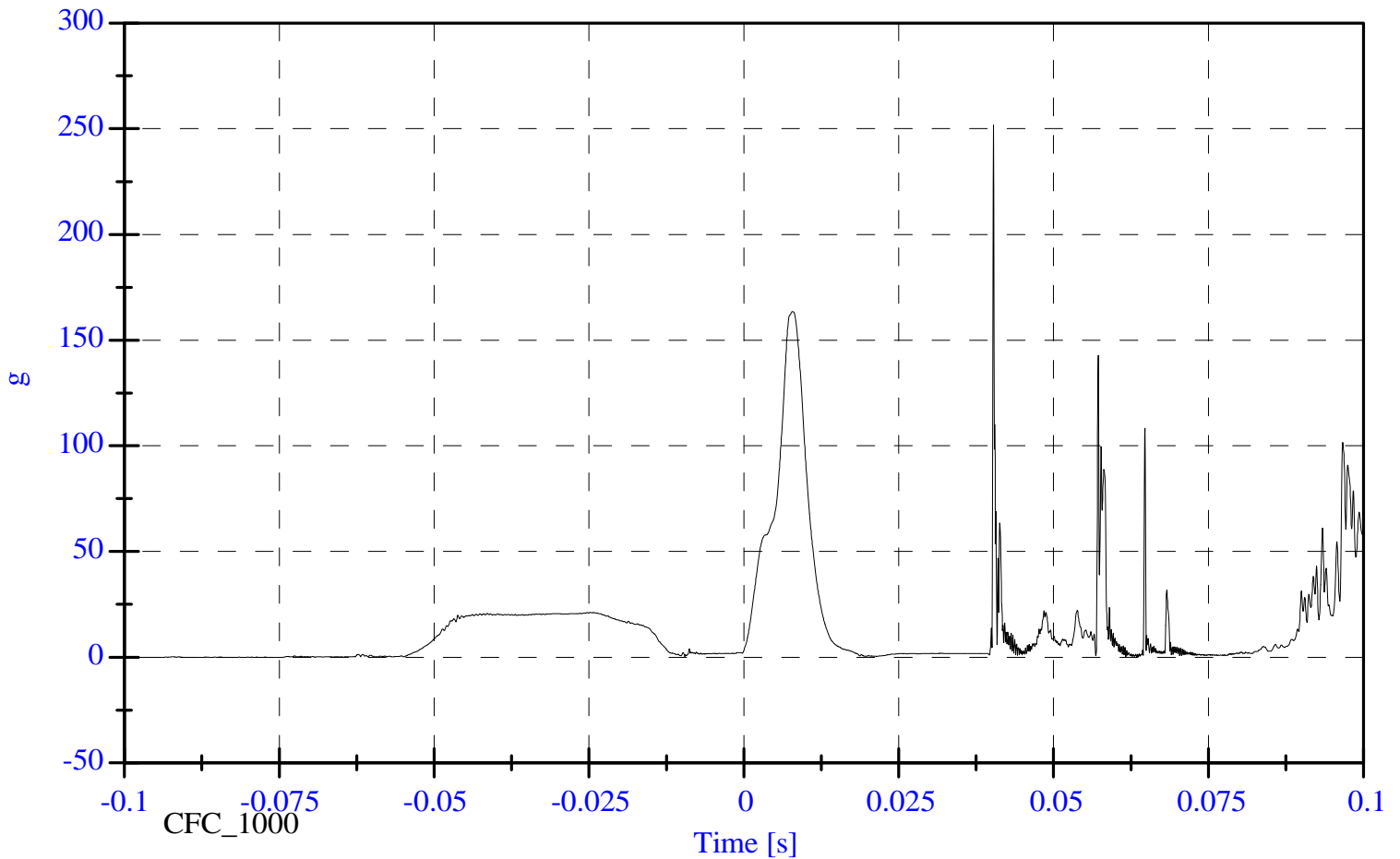
Maximum: 163.6 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 163.6 [g] at 0.008 [s]

Min: -0.0 [g] at -0.099 [s]



FMVSS 201U 2007 Chevrolet Impala

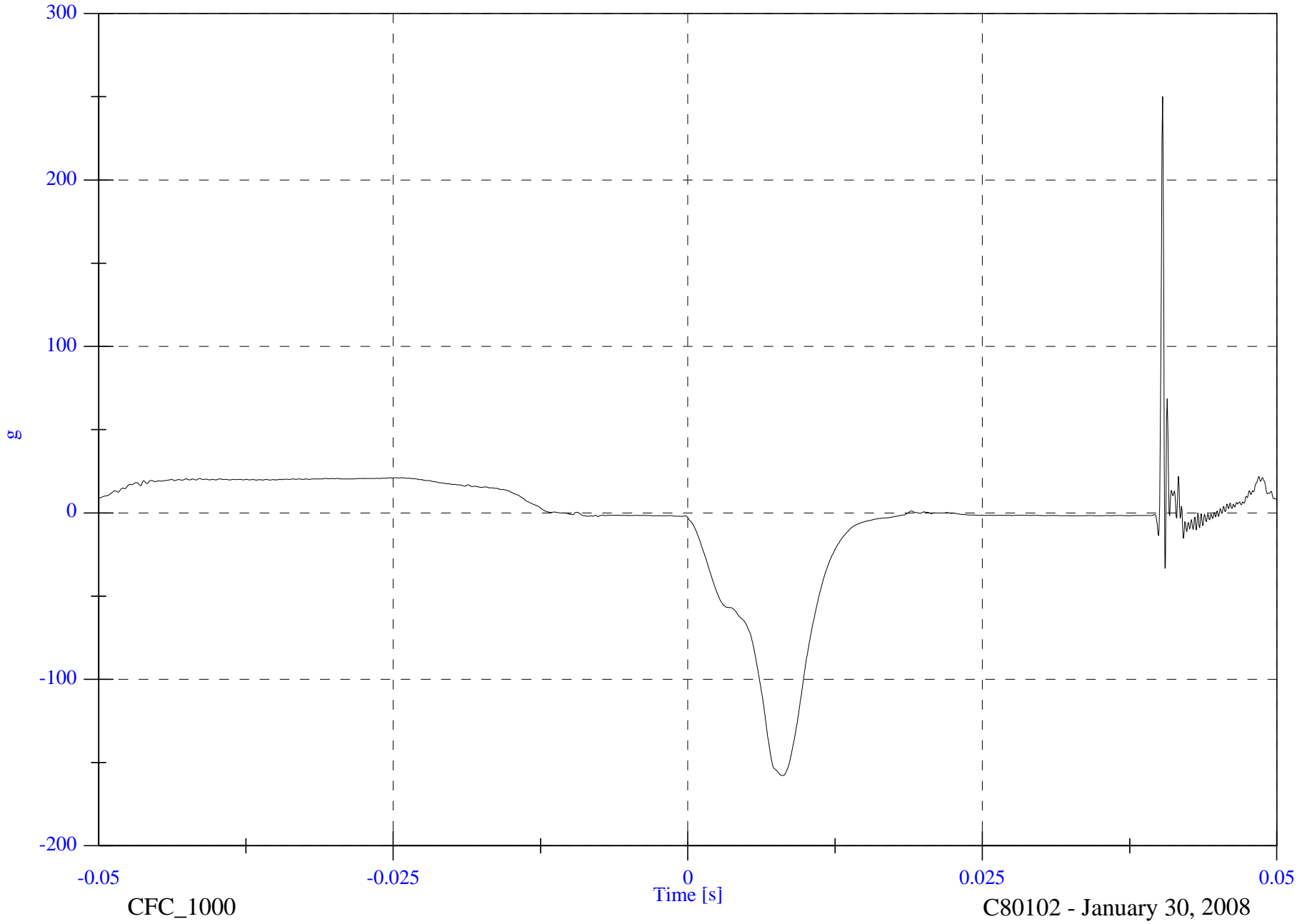
Headform X Acceleration

Max: 250.1 [g] at 0.040 [s]

Min: -157.9 [g] at 0.008 [s]

C80102 DRIVER SIDE URRP IMPACT PLOT #1

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

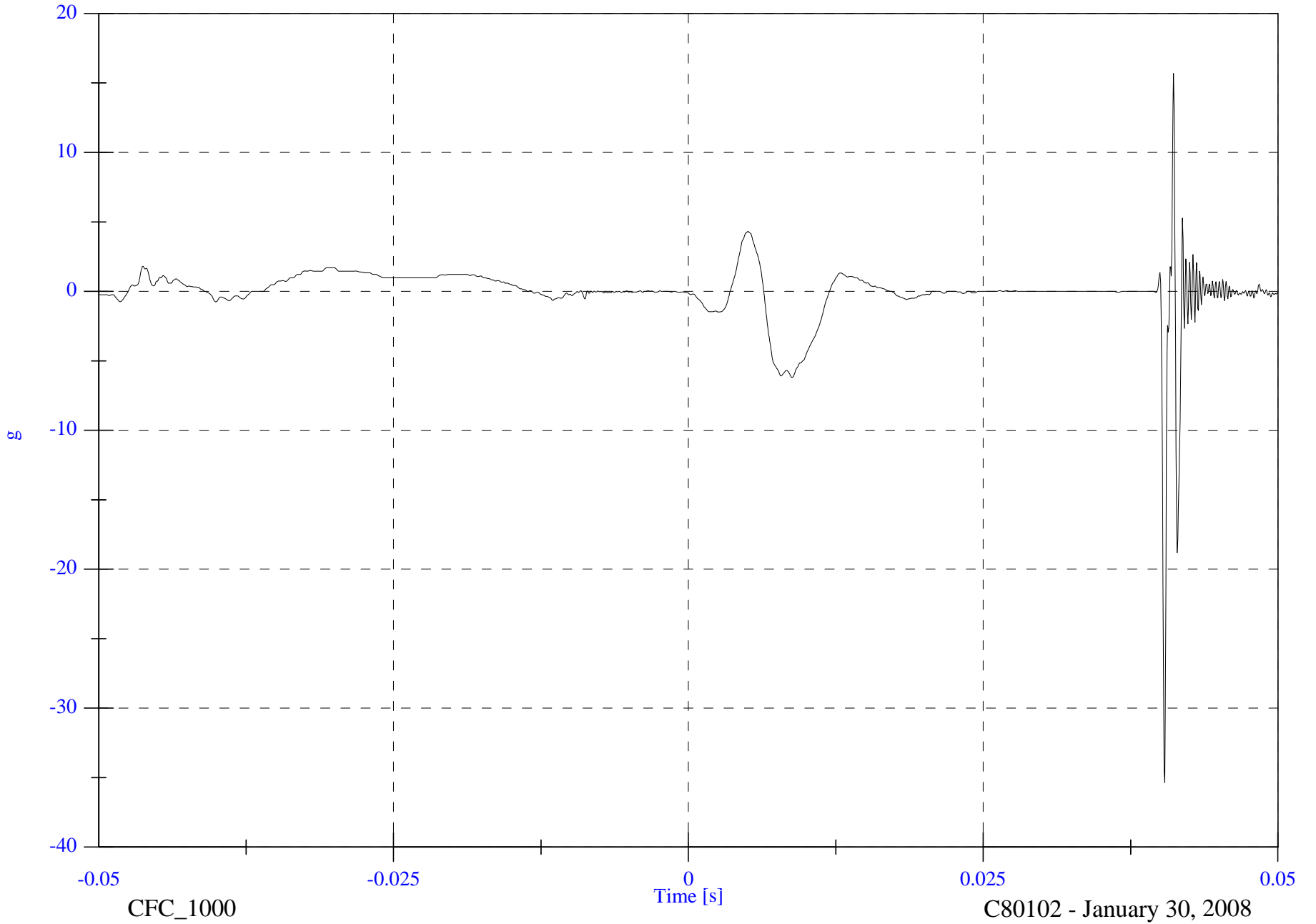
Headform Y Acceleration

Max: 15.7 [g] at 0.041 [s]

Min: -35.4 [g] at 0.040 [s]

C80102 DRIVER SIDE URRP IMPACT PLOT #2

8851-02



CFC\_1000

Time [s]

C80102 - January 30, 2008



FMVSS 201U 2007 Chevrolet Impala

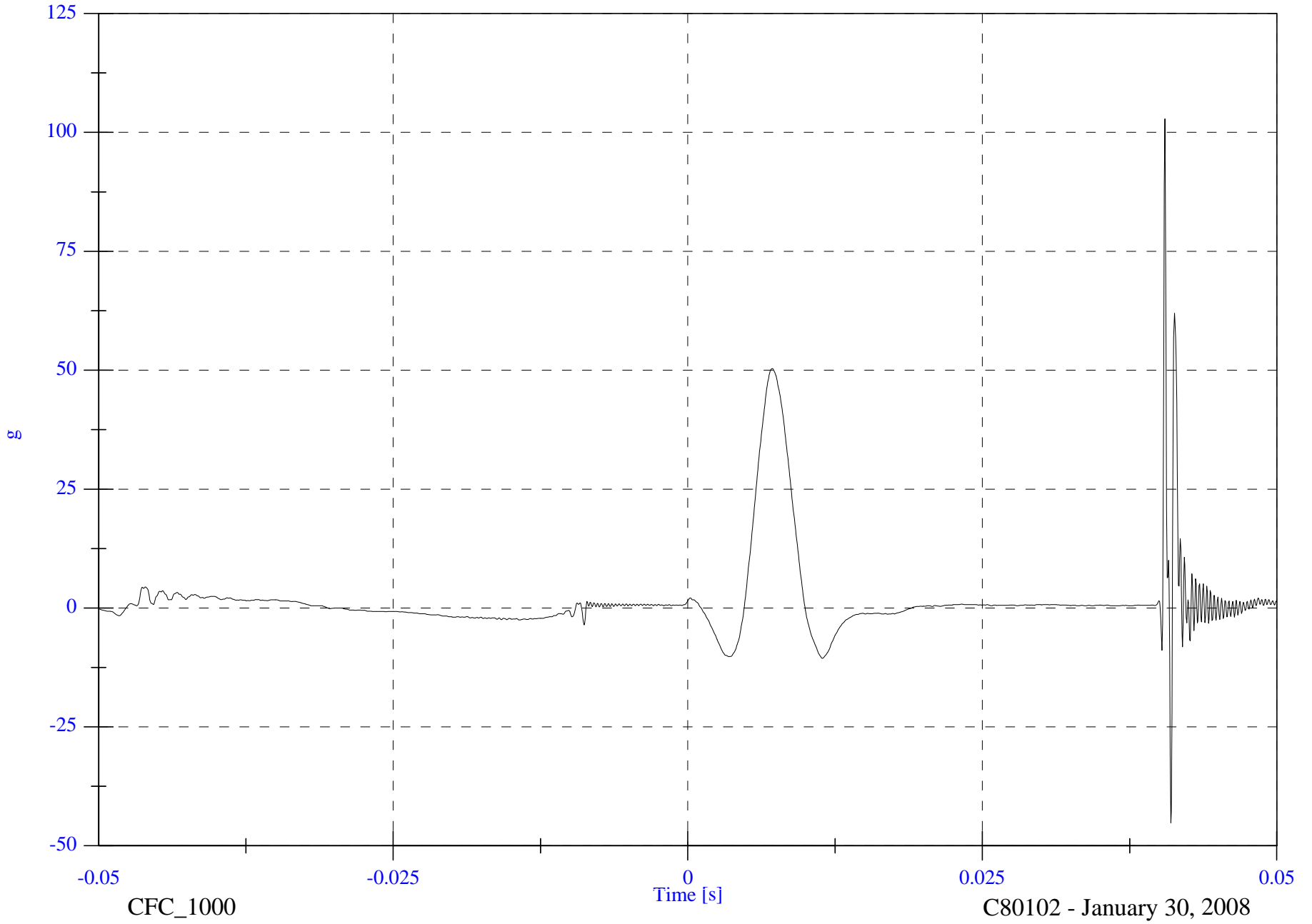
Headform Z Acceleration

Max: 102.8 [g] at 0.040 [s]

Min: -45.2 [g] at 0.041 [s]

C80102 DRIVER SIDE URRP IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

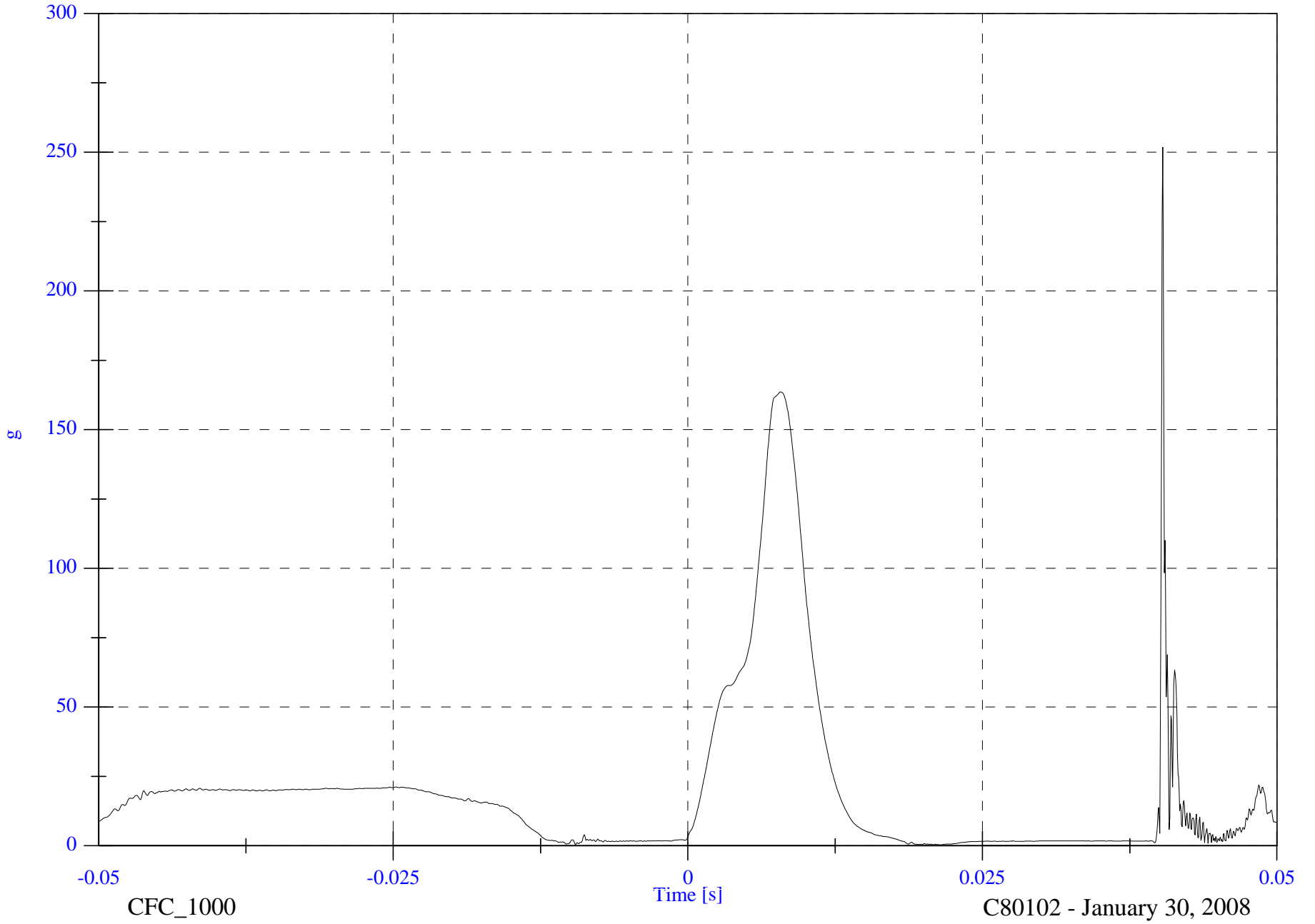
Headform Resultant

Max: 251.8 [g] at 0.040 [s]

Min: 0.3 [g] at -0.010 [s]

C80102 DRIVER SIDE URRP IMPACT PLOT #4

8851-02

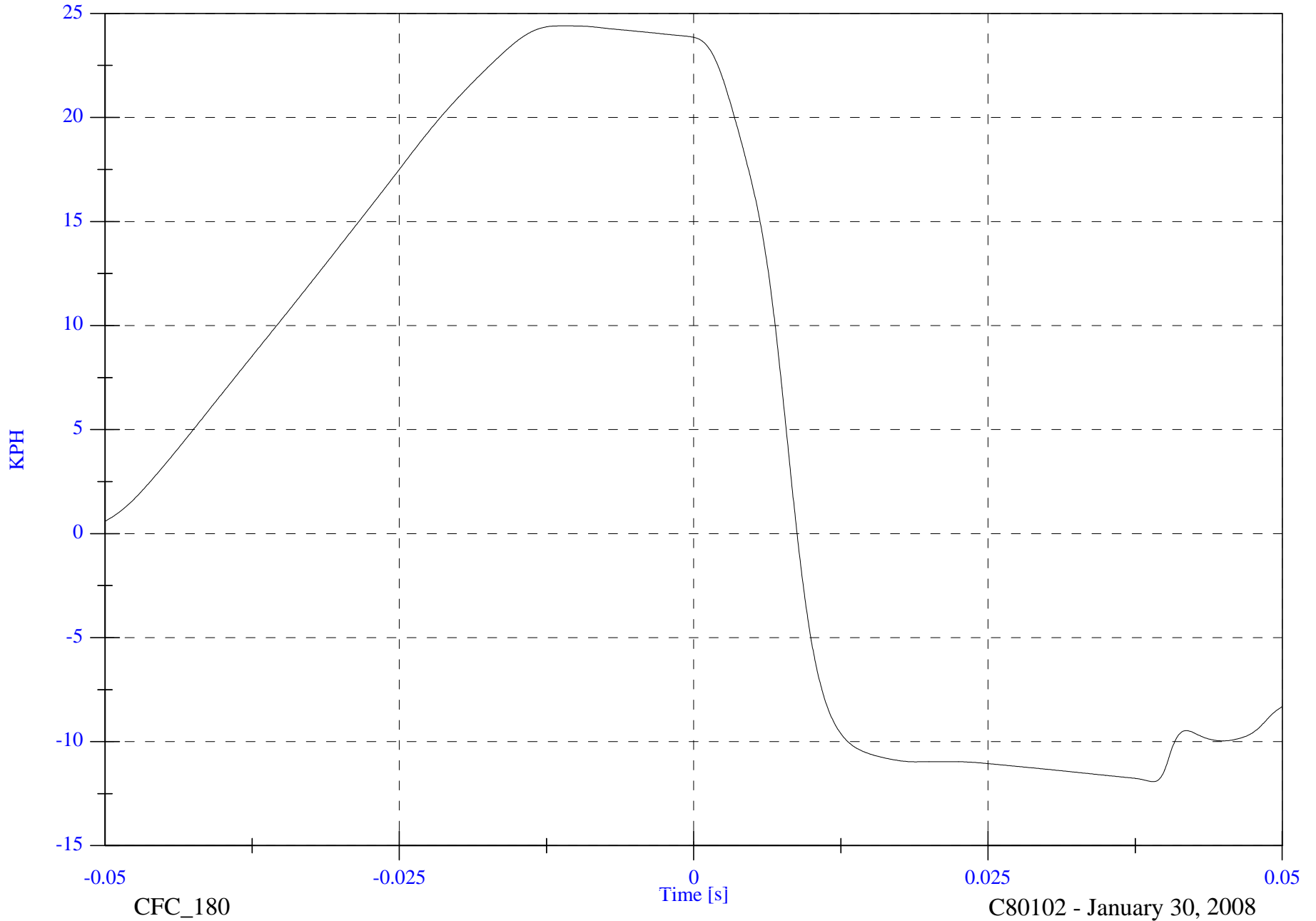


FMVSS 201U 2007 Chevrolet Impala

Max: 24.4 [KPH] at -0.011 [s]

Min: -11.9 [KPH] at 0.039 [s]

### Headform Velocity



C80102 DRIVER SIDE URRP IMPACT PLOT #5

8851-02

CFC\_180

C80102 - January 30, 2008



PRE-IMPACT URRP



POST-IMPACT URRP

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	09
Test Date:	01/30/08
Target Location:	UPPER ROOF
Target Code:	URBP
Horizontal Impact Angle:	270°
Vertical Impact Angle:	34°
Ambient Temperature:	20.9 C°
Relative Humidity:	16.0%
Time of Impact:	11:00
Headform Number:	355

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	5	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	68				mm up



POST-IMPACT URBP HEADFORM

Free Motion HIC	583.6
HIC(d)	606.7
Impact Velocity (kph)	23.48
HIC T1 (msec)	6.4
HIC T2 (msec)	13.9

# FMVSS 201U 2007 Chevrolet Impala C80102 - URBP

FMH Headform 0355

Location: URBP

Test Date: January 30, 2008

Work File: URBP

## -----TEST RESULTS-----

Lab Temperature: 20.9 C

HICd: 606.7

Lab Humidity: 16.0 %

HIC (36ms): 583.6

Velocity at Impact: 23.48 KPH

t1: 6.4 msec

t2: 13.9 msec

Free Flight Distance: 211.03 mm

Duration: 7.5 msec

Average Acceleration: 10.9 g

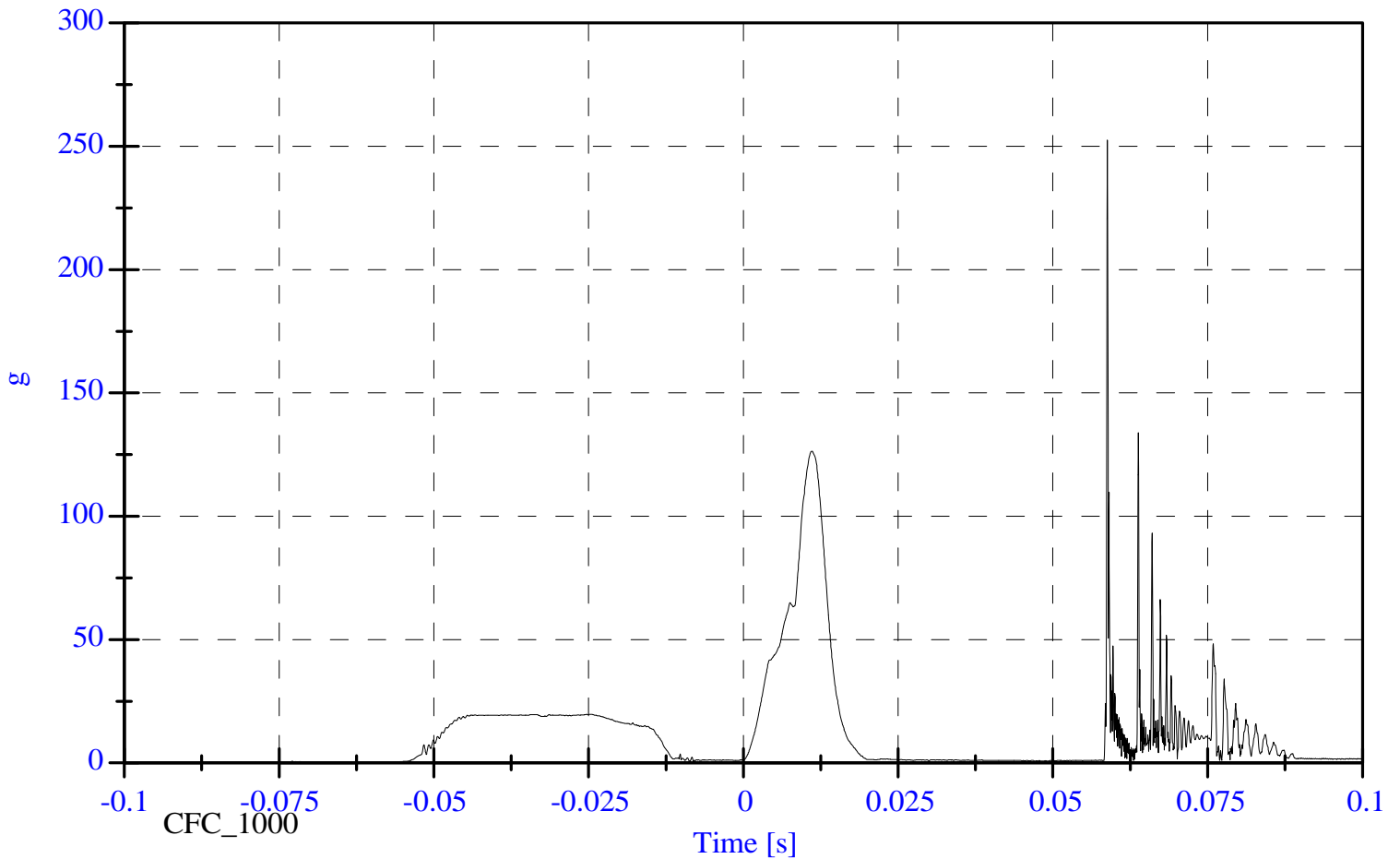
Maximum: 126.4 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 126.4 [g] at 0.011 [s]

Min: 0.0 [g] at -0.066 [s]

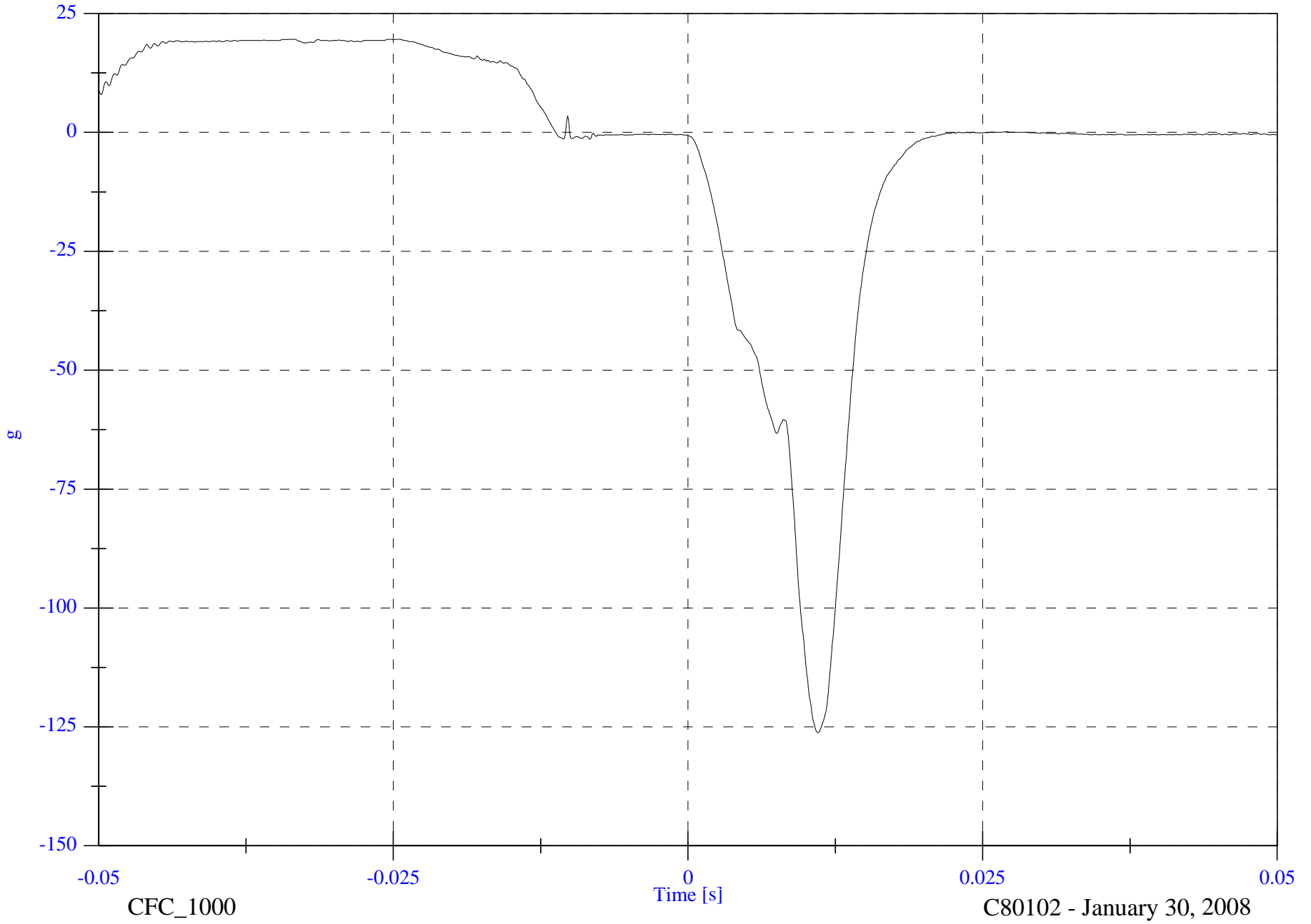


FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 19.6 [g] at -0.033 [s]

Min: -126.2 [g] at 0.011 [s]



C80102 DRIVER SIDE URBP IMPACT PLOT #1

8851-02

CFC\_1000

C80102 - January 30, 2008



FMVSS 201U 2007 Chevrolet Impala

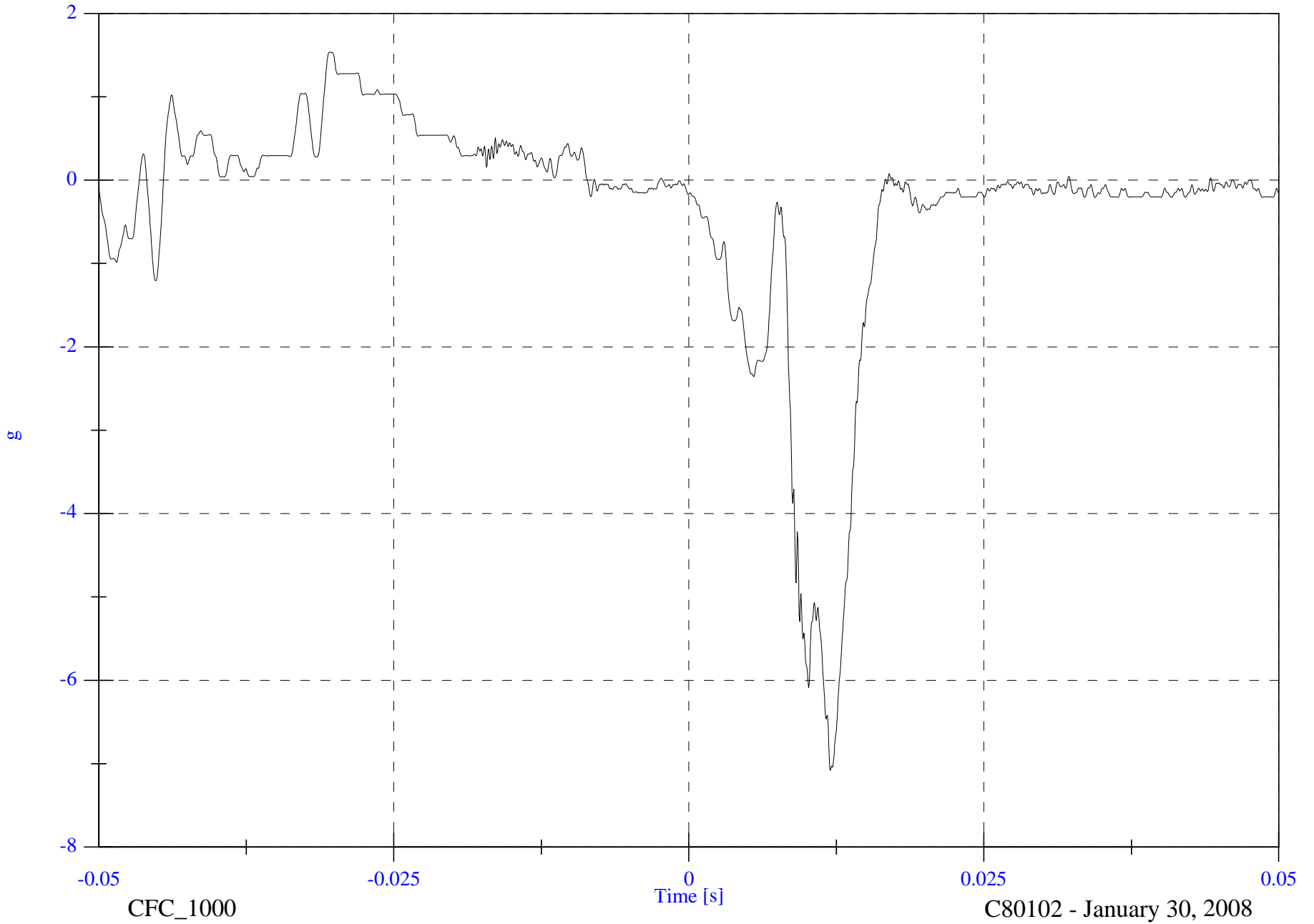
Headform Y Acceleration

Max: 1.5 [g] at -0.030 [s]

Min: -7.1 [g] at 0.012 [s]

C80102 DRIVER SIDE URBP IMPACT PLOT #2

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

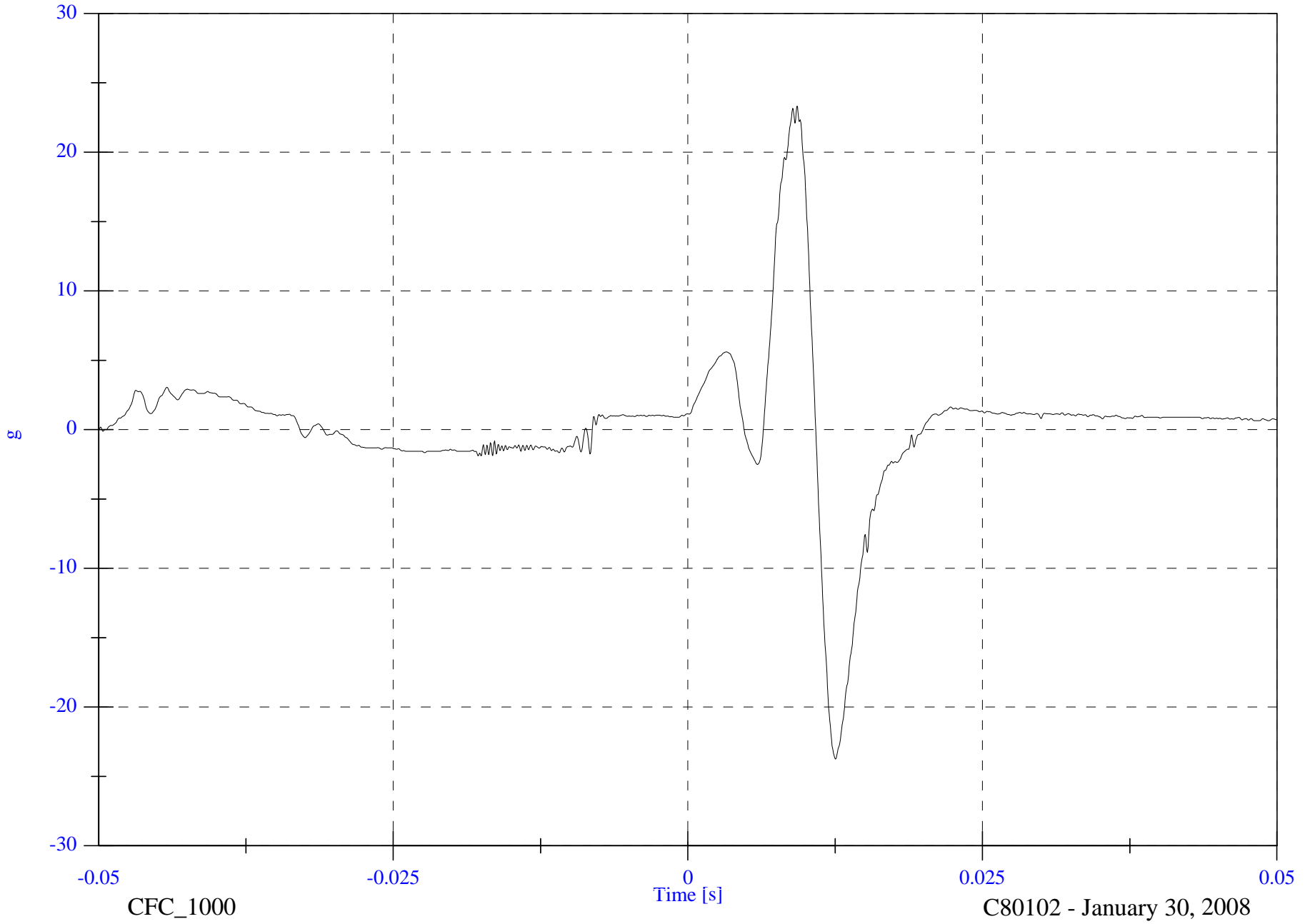
Headform Z Acceleration

Max: 23.3 [g] at 0.009 [s]

Min: -23.7 [g] at 0.013 [s]

C80102 DRIVER SIDE URBP IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

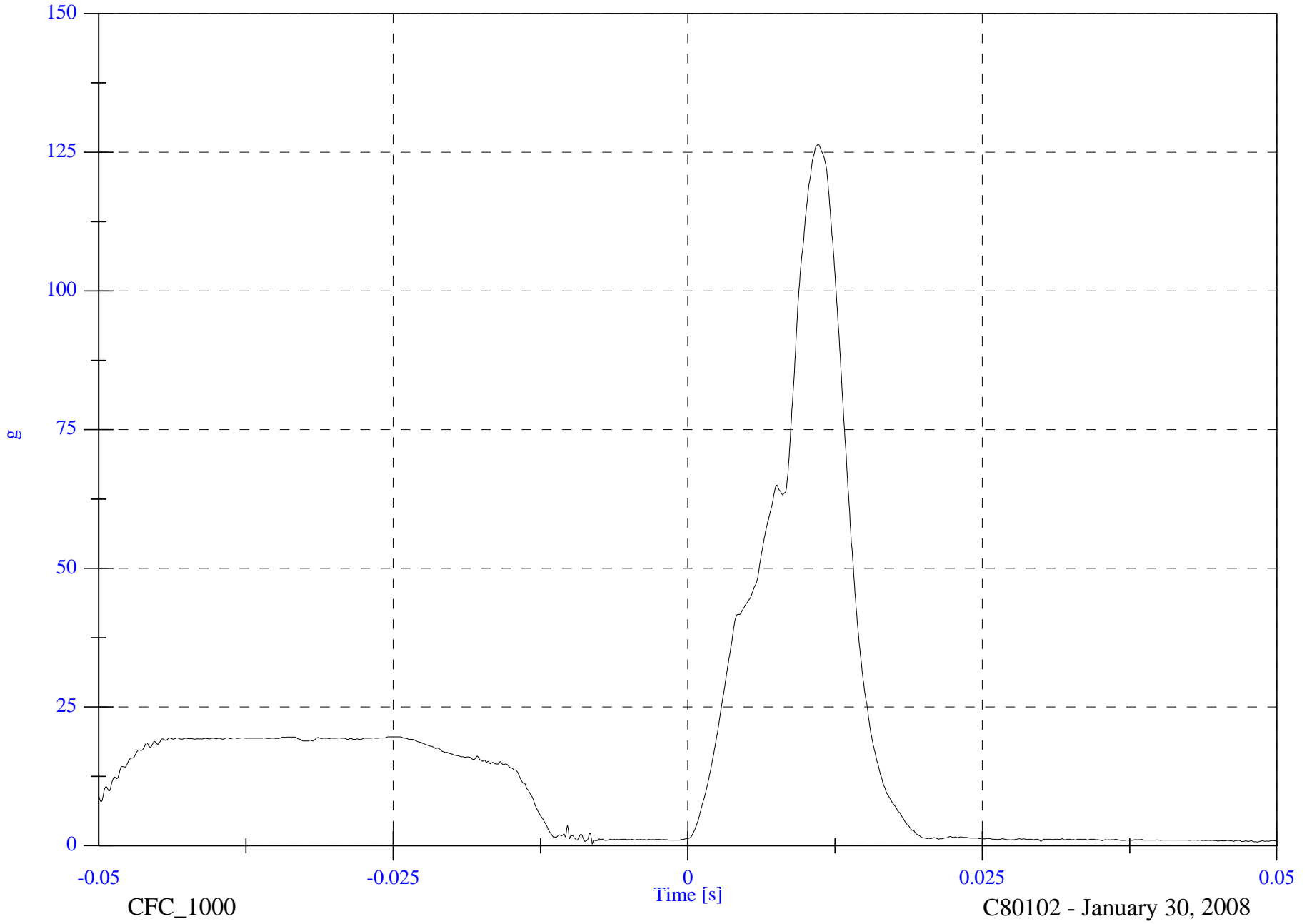
Headform Resultant

Max: 126.4 [g] at 0.011 [s]

Min: 0.3 [g] at -0.008 [s]

C80102 DRIVER SIDE URBP IMPACT PLOT #4

8851-02



CFC\_1000

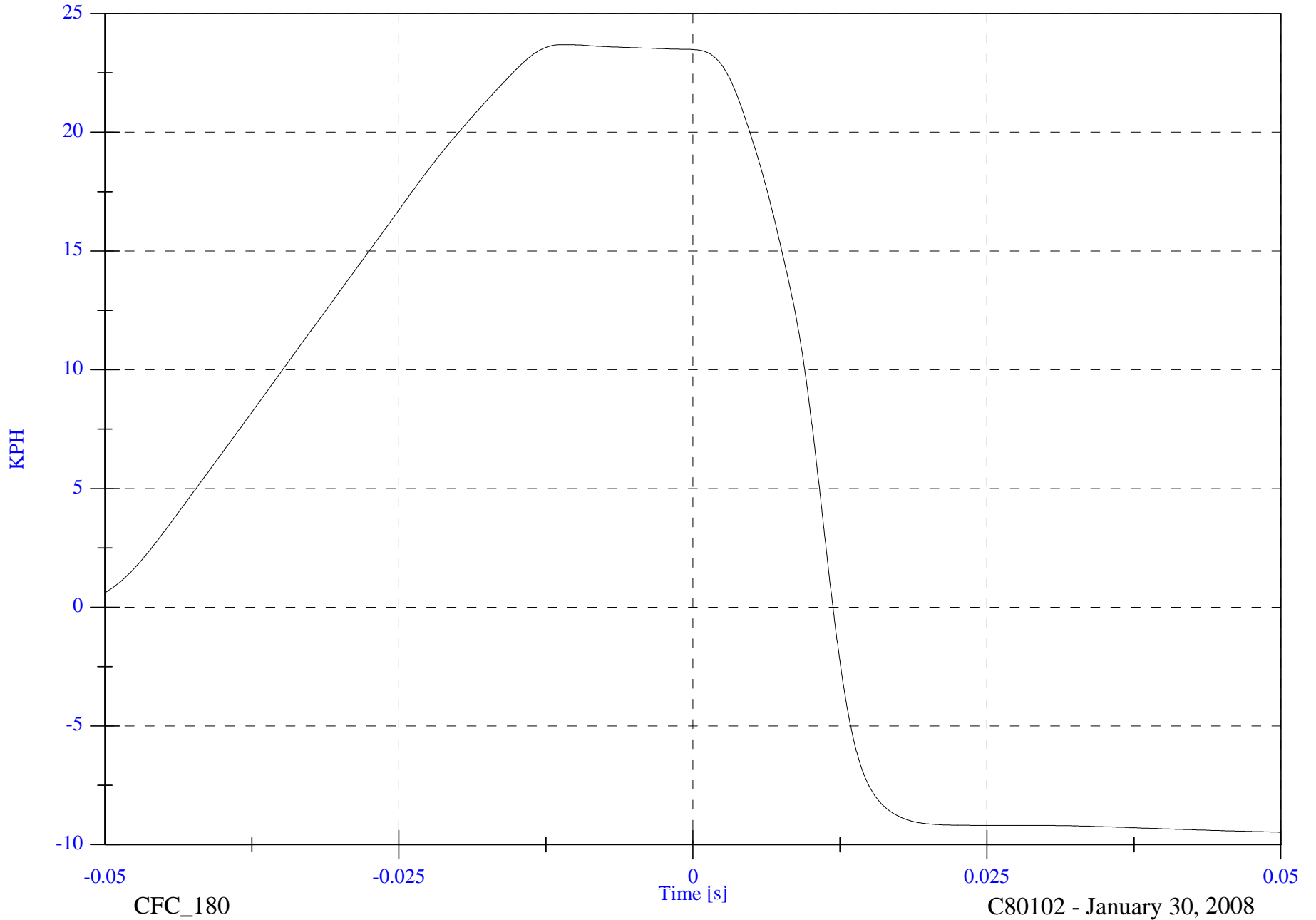
C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

Max: 23.7 [KPH] at -0.011 [s]

Min: -9.5 [KPH] at 0.050 [s]

### Headform Velocity



C80102 DRIVER SIDE URBP IMPACT PLOT #5

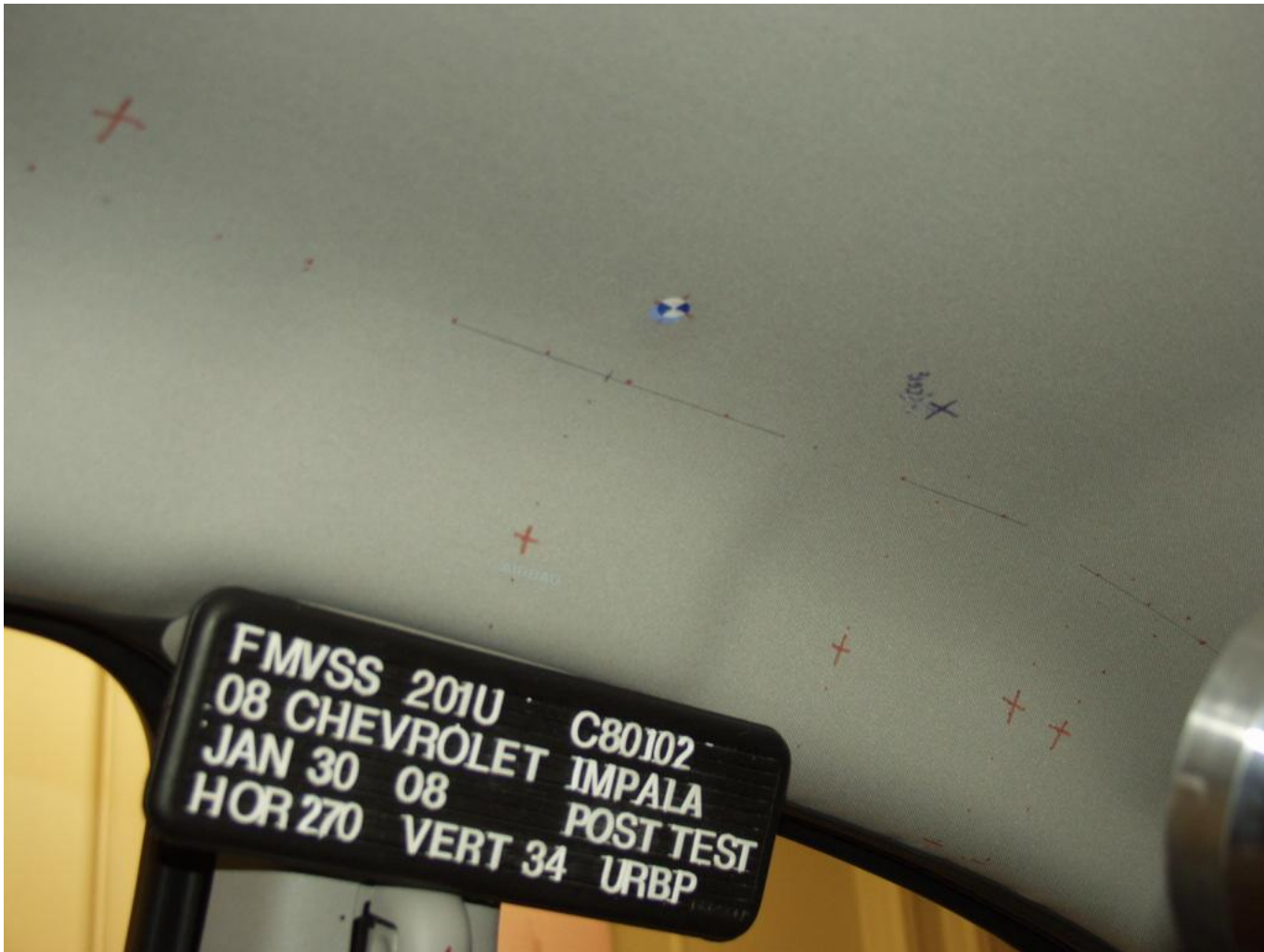
8851-02

CFC\_180

C80102 - January 30, 2008



PRE-IMPACT URBP



POST-IMPACT URBP

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	10
Test Date:	01/30/08
Target Location:	B-PILLAR
Target Code:	BP3
Horizontal Impact Angle:	279°
Vertical Impact Angle:	-3°
Ambient Temperature:	20.8 C°
Relative Humidity:	15.4%
Time of Impact:	11:40
Headform Number:	1140

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	30	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	11				mm up



POST-IMPACT BP3 HEADFORM

Free Motion HIC	686.8
HIC(d)	684.6
Impact Velocity (kph)	23.56
HIC T1 (msec)	2.1
HIC T2 (msec)	9.8

# FMVSS 201U 2007 Chevrolet Impala C80102 - BP3

FMH Headform 1140

Location: BP3

Test Date: January 30, 2008

Work File: BP3

## -----TEST RESULTS-----

Lab Temperature: 20.8 C

HICd: 684.6

Lab Humidity: 15.4 %

HIC (36ms): 686.8

Velocity at Impact: 23.56 KPH

t1: 2.1 msec

t2: 9.8 msec

Free Flight Distance: 218.95 mm

Duration: 7.7 msec

Average Acceleration: 8.6 g

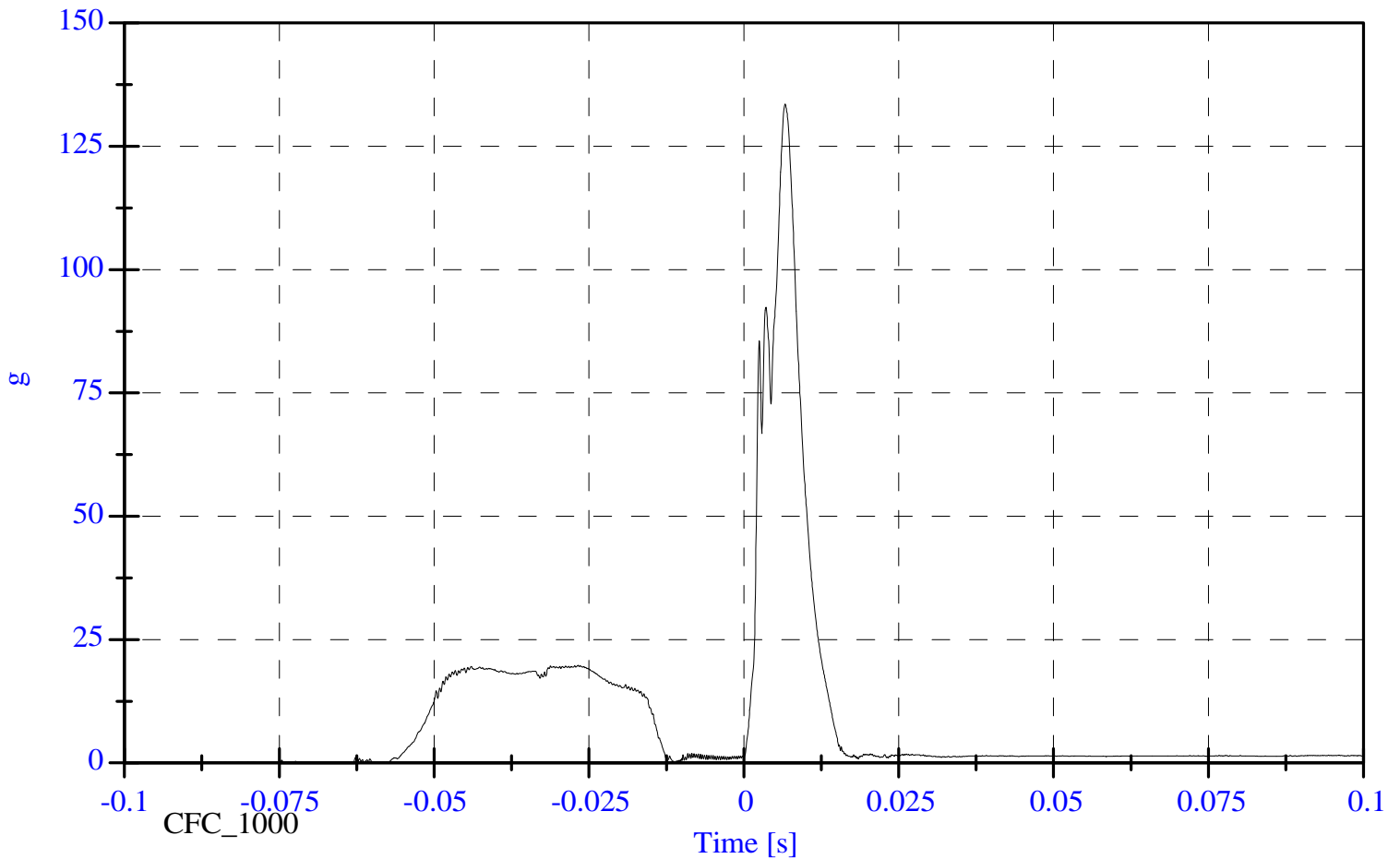
Maximum: 133.6 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 133.6 [g] at 0.007 [s]

Min: 0.0 [g] at -0.083 [s]



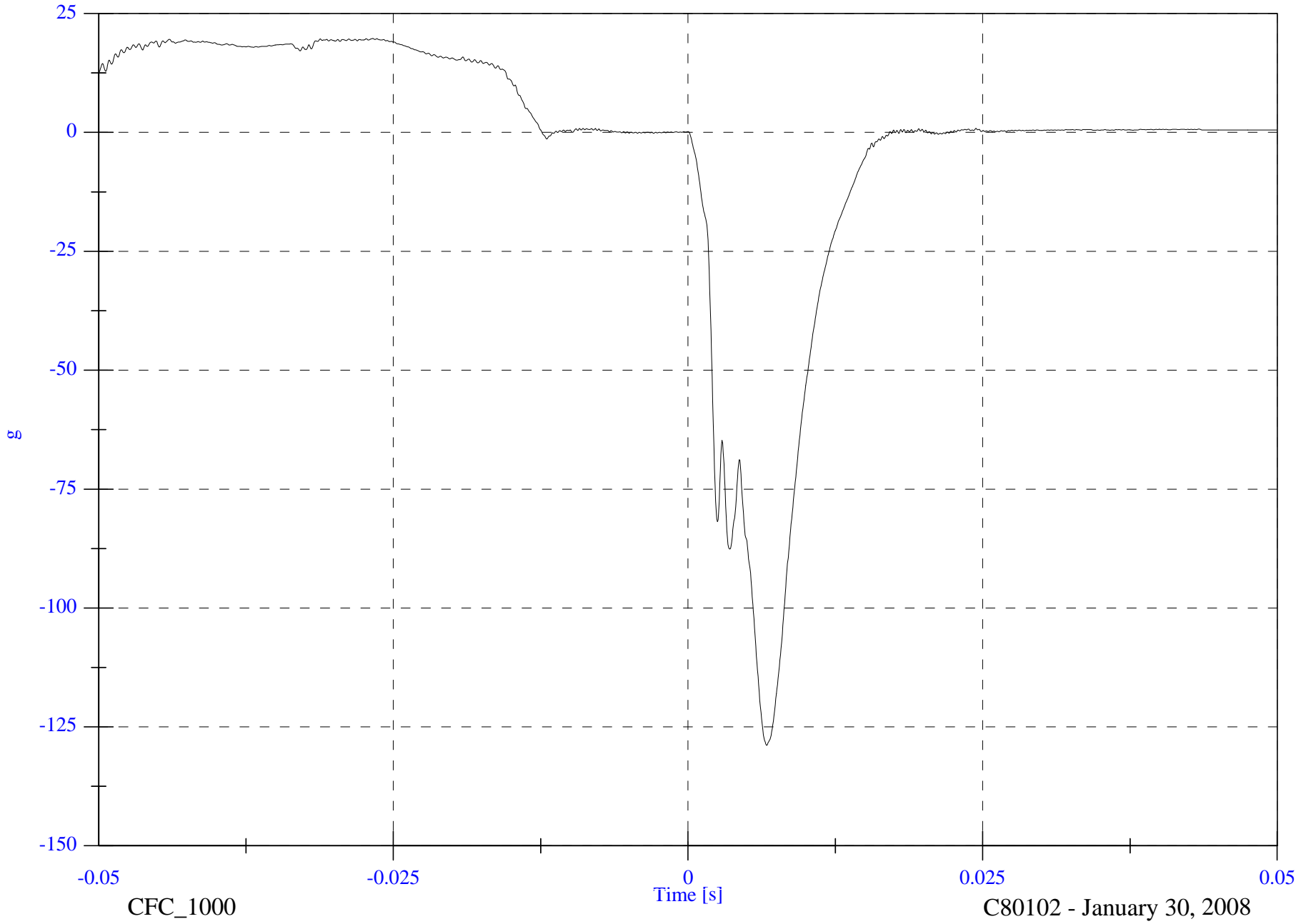


FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 19.7 [g] at -0.027 [s]

Min: -128.9 [g] at 0.007 [s]



C80102 DRIVER SIDE BP3 IMPACT PLOT #1

8851-02

CFC\_1000

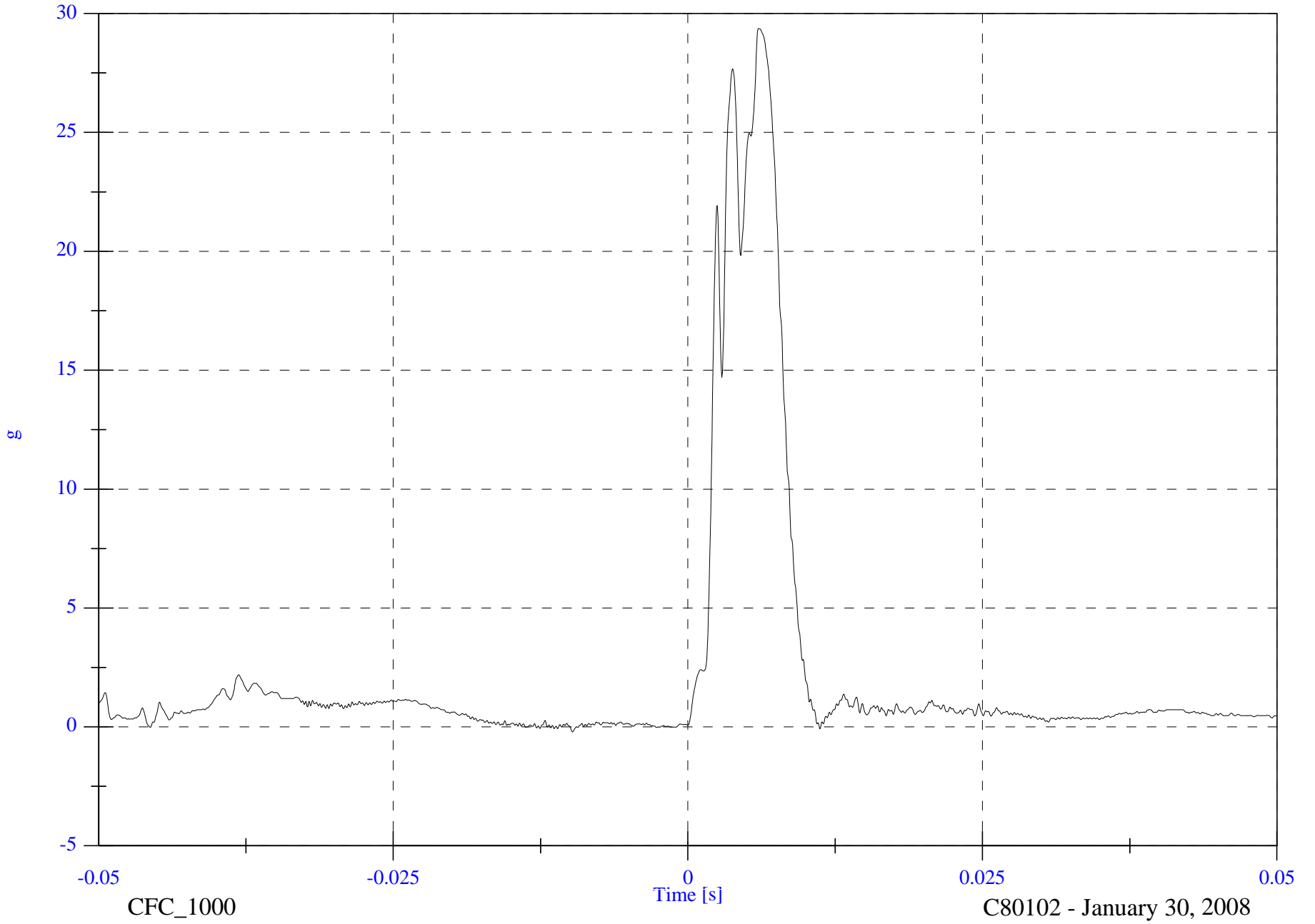
C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

Headform Y Acceleration

Max: 29.4 [g] at 0.006 [s]

Min: -0.2 [g] at -0.010 [s]



C80102 DRIVER SIDE BP3 IMPACT PLOT #2

8851-02

CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

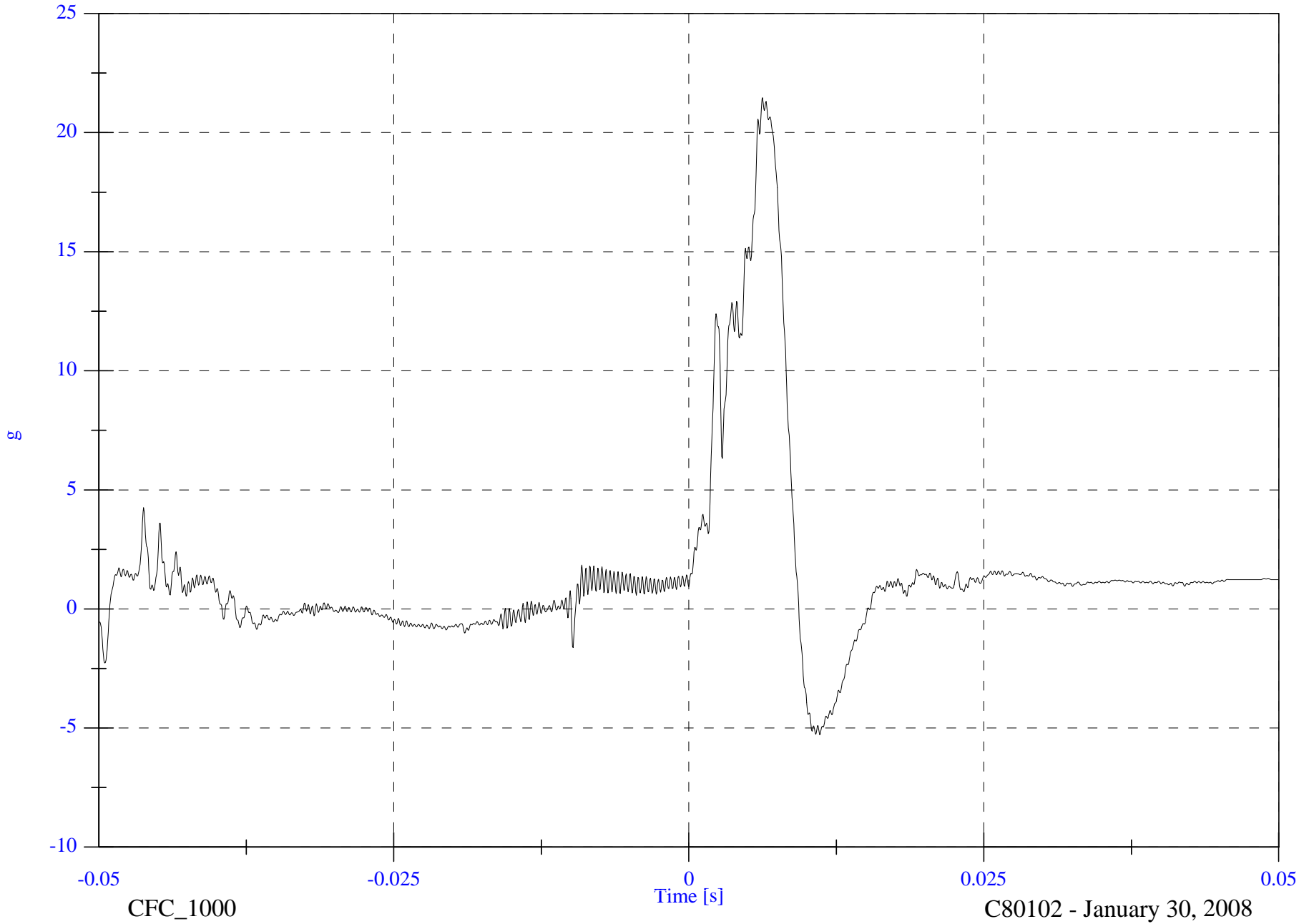
Headform Z Acceleration

Max: 21.5 [g] at 0.006 [s]

Min: -5.3 [g] at 0.011 [s]

C80102 DRIVER SIDE BP3 IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

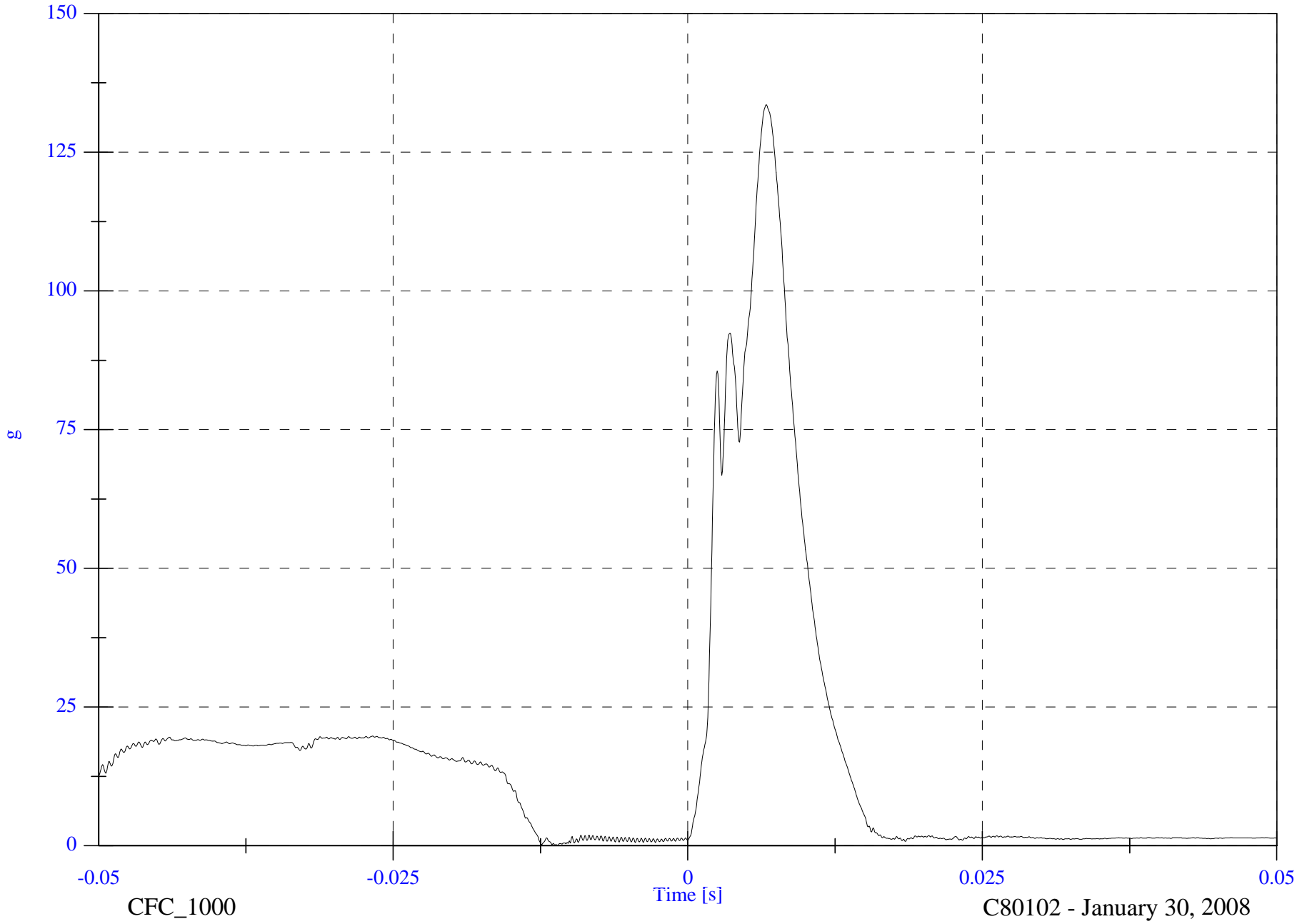
Headform Resultant

Max: 133.6 [g] at 0.007 [s]

Min: 0.1 [g] at -0.011 [s]

C80102 DRIVER SIDE BP3 IMPACT PLOT #4

8851-02



FMVSS 201U 2007 Chevrolet Impala

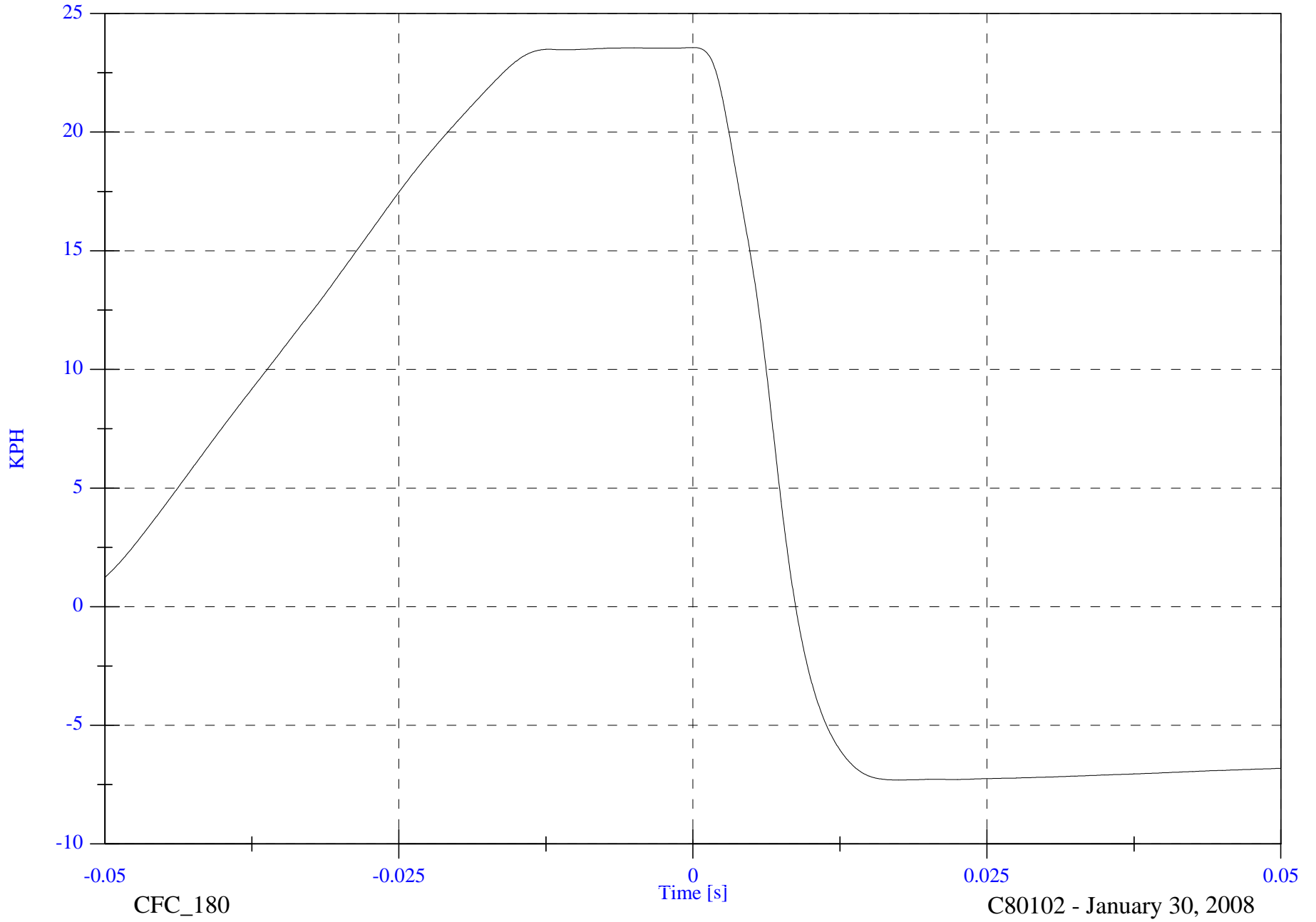
### Headform Velocity

Max: 23.6 [KPH] at -0.000 [s]

Min: -7.3 [KPH] at 0.017 [s]

C80102 DRIVER SIDE BP3 IMPACT PLOT #5

8851-02

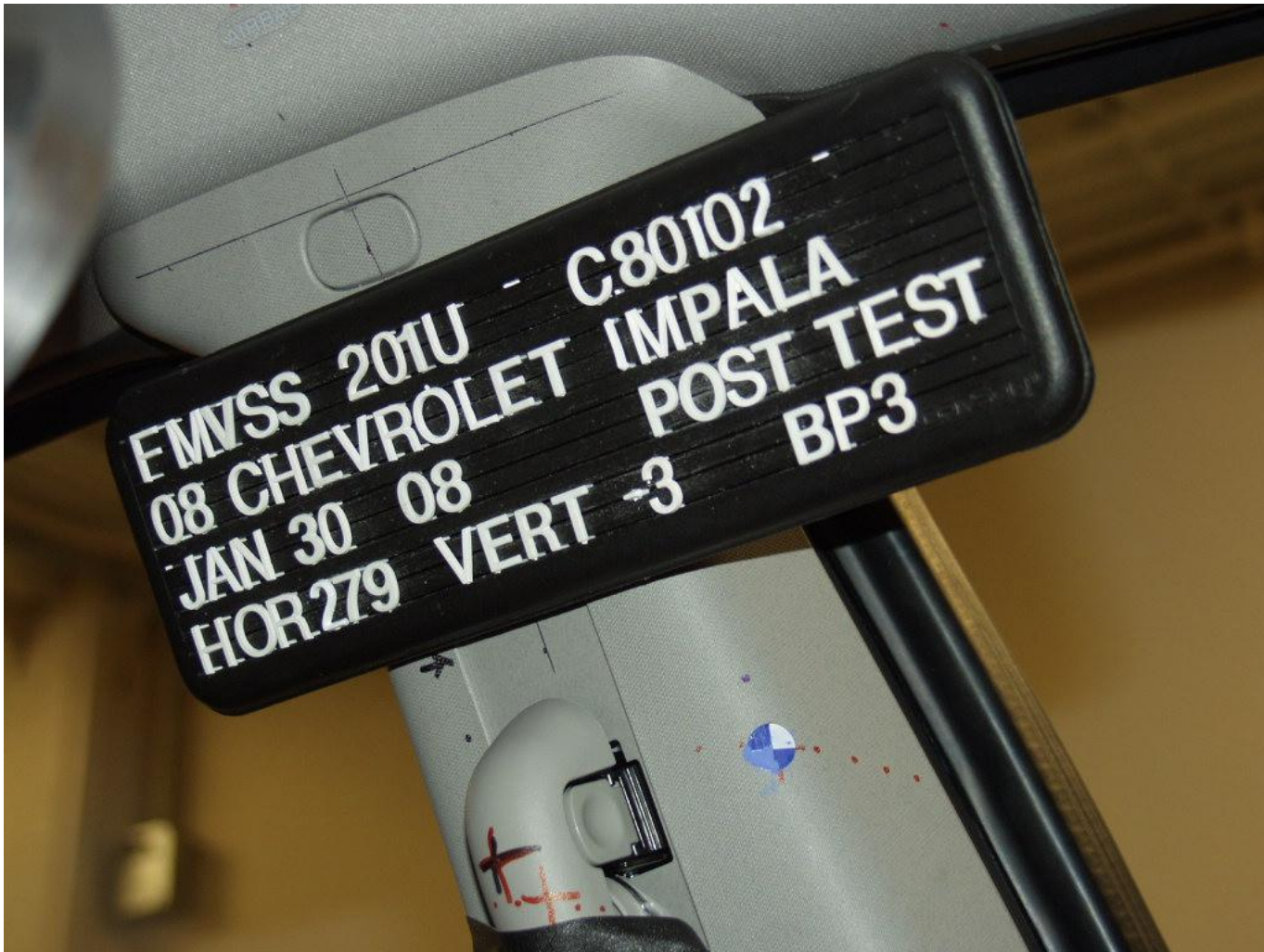


CFC\_180

C80102 - January 30, 2008



PRE-IMPACT BP3



POST-IMPACT BP3

VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	11
Test Date:	01/30/08
Target Location:	A-PILLAR
Target Code:	AP2
Horizontal Impact Angle:	211°
Vertical Impact Angle:	46°
Ambient Temperature:	20.5 C°
Relative Humidity:	15.7%
Time of Impact:	13:25
Headform Number:	62

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	2	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	7				mm up



POST-IMPACT AP2HEADFORM

Free Motion HIC	203.3
HIC(d)	319.8
Impact Velocity (kph)	18.62
HIC T1 (msec)	2.0
HIC T2 (msec)	11.2



# FMVSS 201U 2007 Chevrolet Impala C80102 - AP2

FMH Headform 0062

Location: AP2

Test Date: January 30, 2008

Work File: AP2

## -----TEST RESULTS-----

Lab Temperature: 20.5 C

HICd: 319.8

Lab Humidity: 15.7 %

HIC (36ms): 203.3

Velocity at Impact: 18.62 KPH

t1: 2.0 msec

t2: 11.2 msec

Free Flight Distance: 216.68 mm

Duration: 9.1 msec

Average Acceleration: 9.0 g

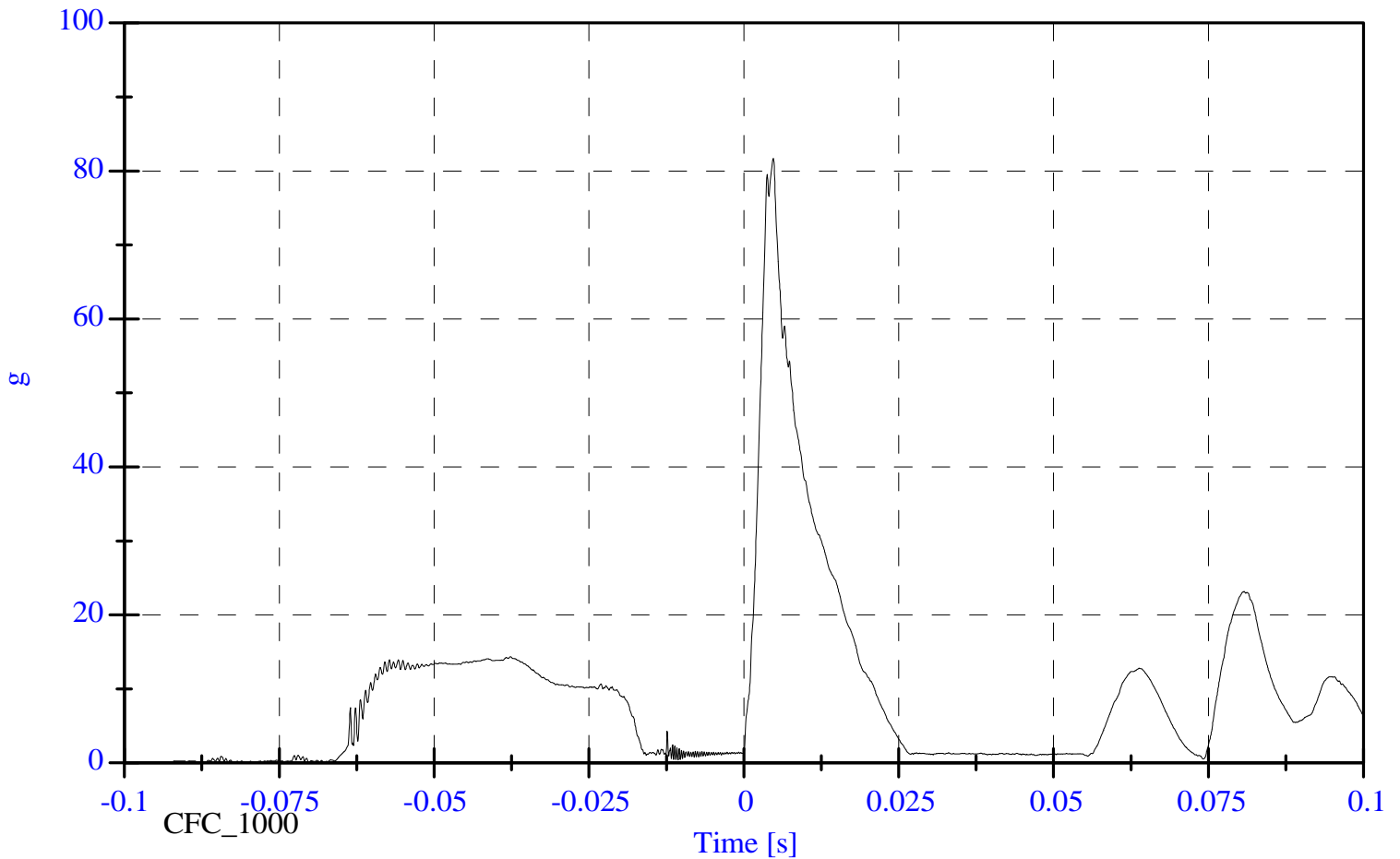
Maximum: 81.7 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 81.7 [g] at 0.005 [s]

Min: 0.0 [g] at -0.096 [s]

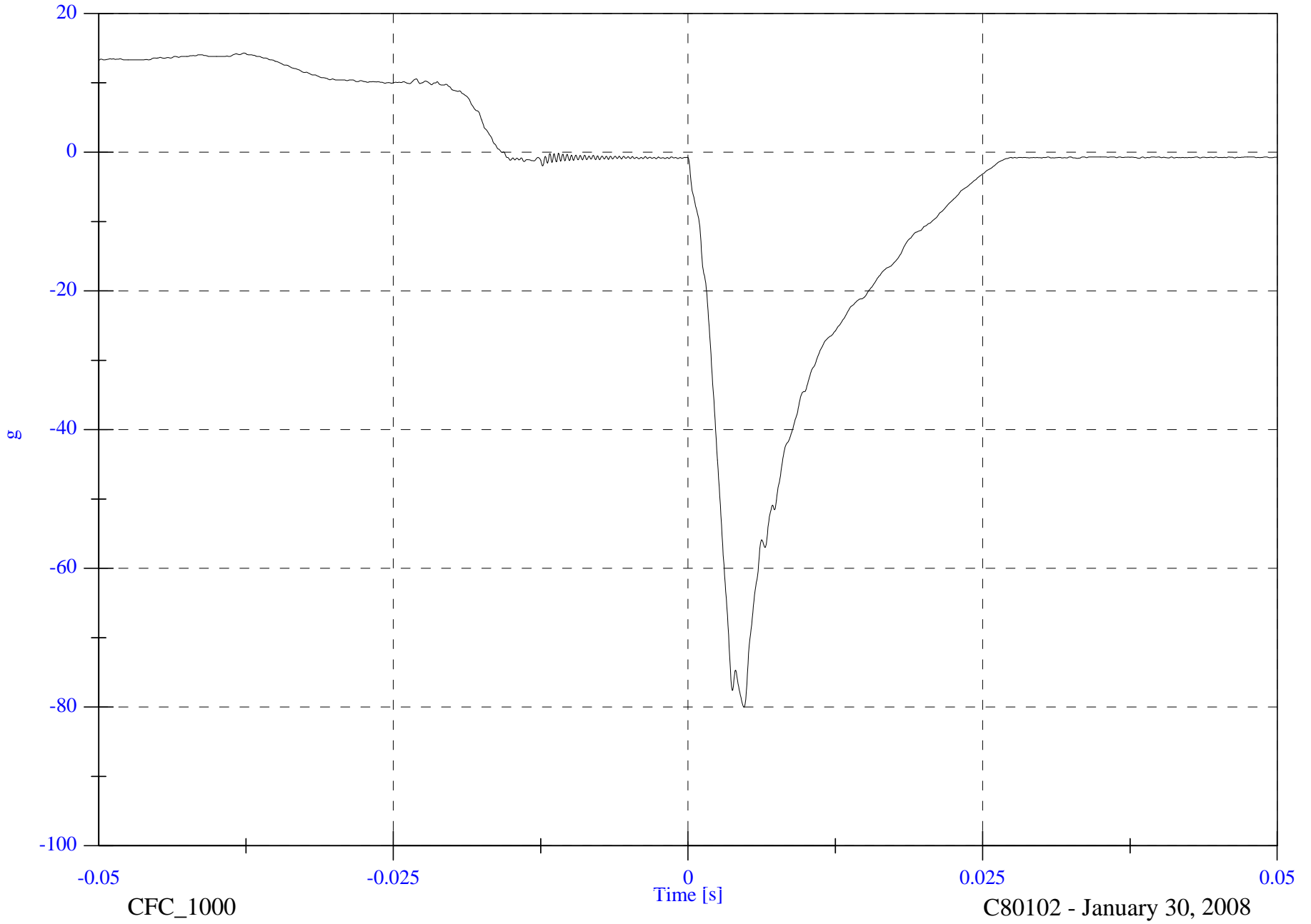


FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 14.3 [g] at -0.038 [s]

Min: -80.0 [g] at 0.005 [s]



C80102 DRIVER SIDE AP2 IMPACT PLOT #1

8851-02

CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

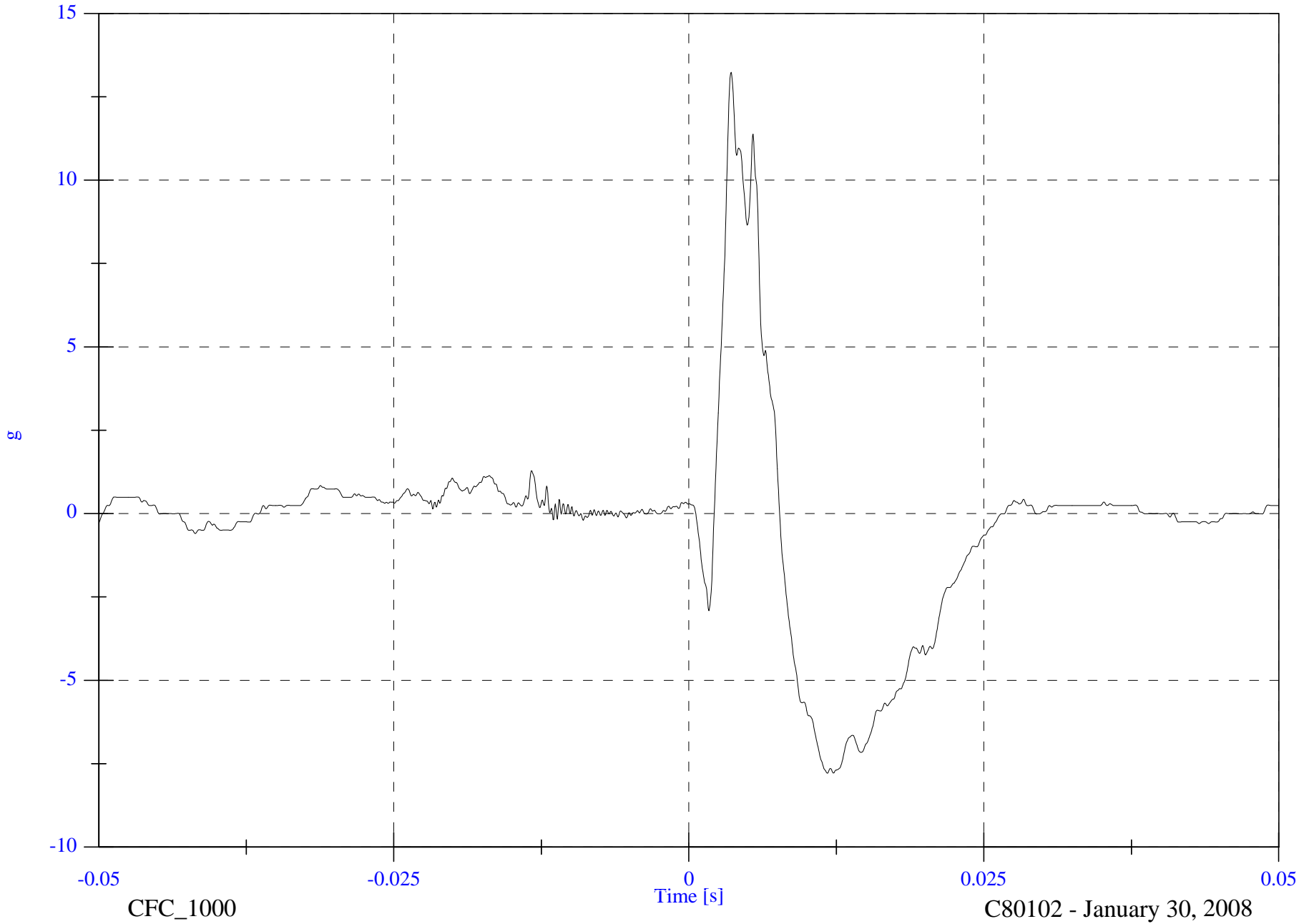
Headform Y Acceleration

Max: 13.2 [g] at 0.004 [s]

Min: -7.8 [g] at 0.012 [s]

C80102 DRIVER SIDE AP2 IMPACT PLOT #2

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

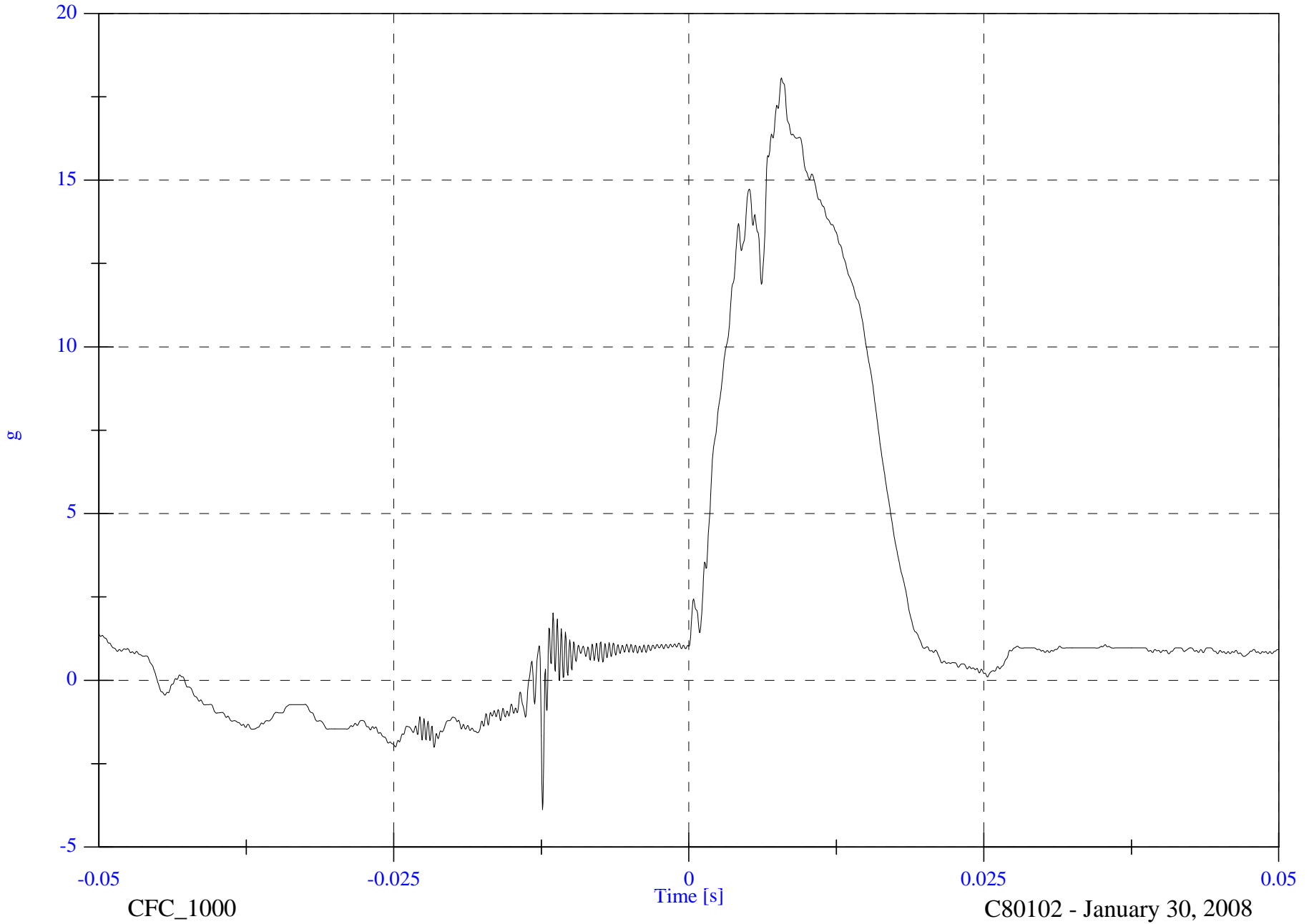
Headform Z Acceleration

Max: 18.1 [g] at 0.008 [s]

Min: -3.9 [g] at -0.012 [s]

C80102 DRIVER SIDE AP2 IMPACT PLOT #3

8851-02



FMVSS 201U 2007 Chevrolet Impala

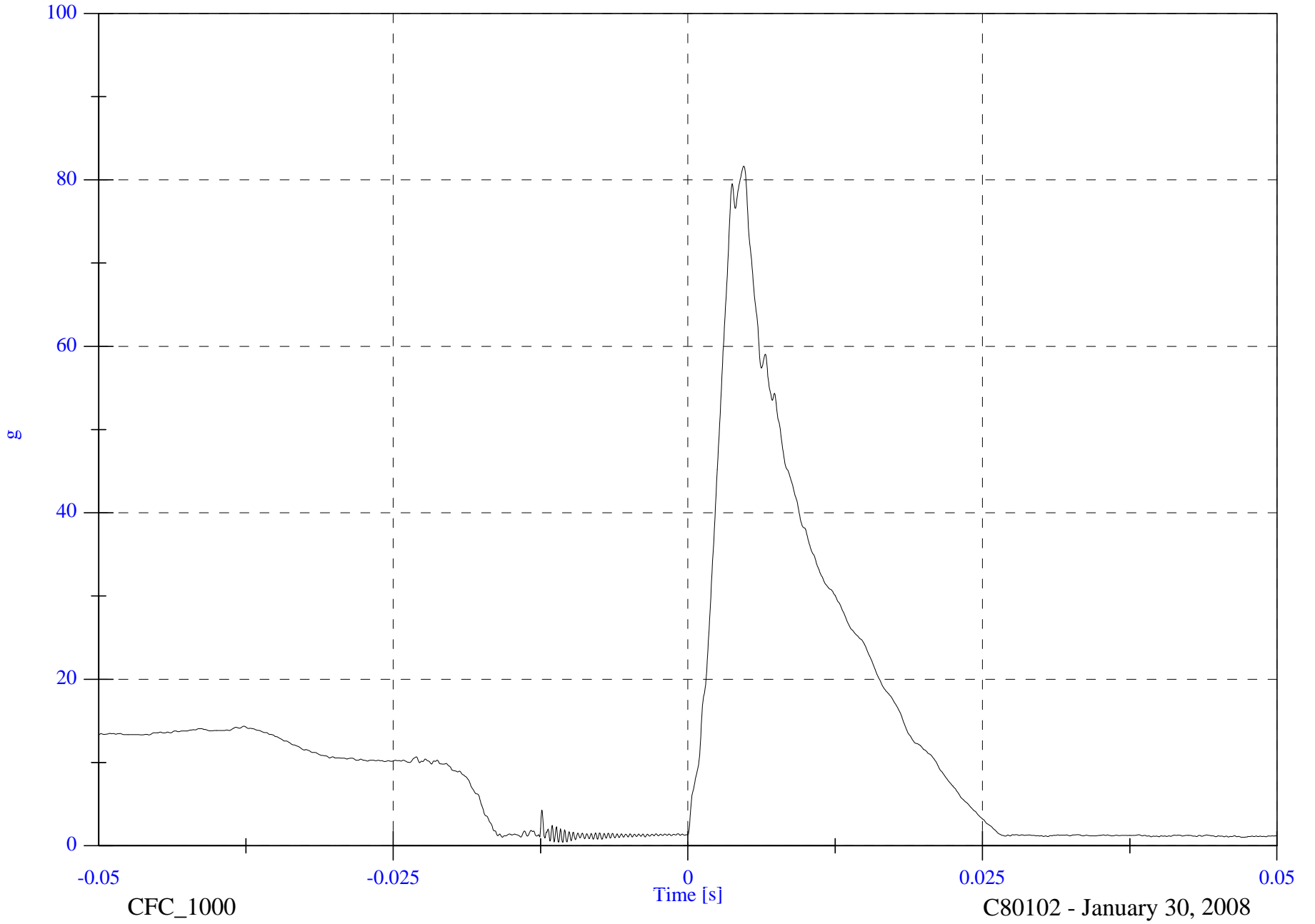
Headform Resultant

Max: 81.7 [g] at 0.005 [s]

Min: 0.4 [g] at -0.011 [s]

C80102 DRIVER SIDE AP2 IMPACT PLOT #4

8851-02

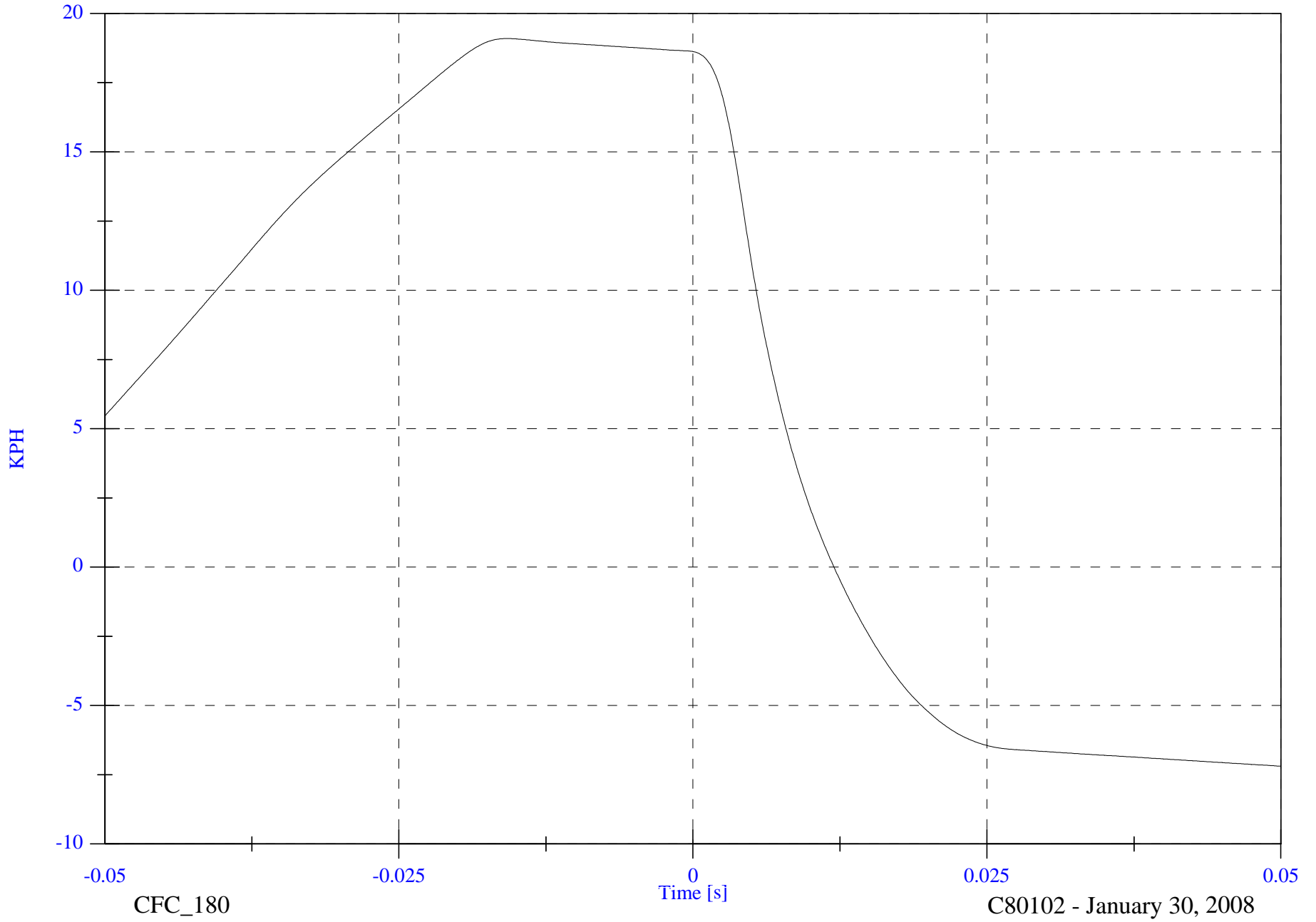


FMVSS 201U 2007 Chevrolet Impala

Headform Velocity

Max: 19.1 [KPH] at -0.016 [s]

Min: -7.2 [KPH] at 0.050 [s]



C80102 DRIVER SIDE AP2 IMPACT PLOT #5

8851-02

CFC\_180

C80102 - January 30, 2008



PRE-IMPACT AP2



POST-IMPACT AP2



VEHICLE YEAR/MAKE/MODEL/STYLE:	2008 Chevrolet Impala LS 4-door Sedan
VIN:	2G1WB58N889100388
DATE OF MANUFACTURE:	05/07(SEE CERTIFICATION LABEL)
COLOR:	Black

Test Number:	12
Test Date:	01/30/08
Target Location:	UPPER ROOF
Target Code:	URAP
Horizontal Impact Angle:	180°
Vertical Impact Angle:	46°
Ambient Temperature:	20.5 C°
Relative Humidity:	15.7%
Time of Impact:	13:55
Headform Number:	1142

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	2	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	19				mm up



POST-IMPACT URAP HEADFORM

Free Motion HIC	708.4
HIC(d)	700.8
Impact Velocity (kph)	23.48
HIC T1 (msec)	3.1
HIC T2 (msec)	9.5

# FMVSS 201U 2007 Chevrolet Impala C80102 - URAP

FMH Headform 1142

Location: URAP

Test Date: January 30, 2008

Work File: URAP

## -----TEST RESULTS-----

Lab Temperature: 20.5 C

HICd: 700.8

Lab Humidity: 15.7 %

HIC (36ms): 708.4

Velocity at Impact: 23.48 KPH

t1: 3.1 msec

t2: 9.5 msec

Free Flight Distance: 214.37 mm

Duration: 6.4 msec

Average Acceleration: 8.6 g

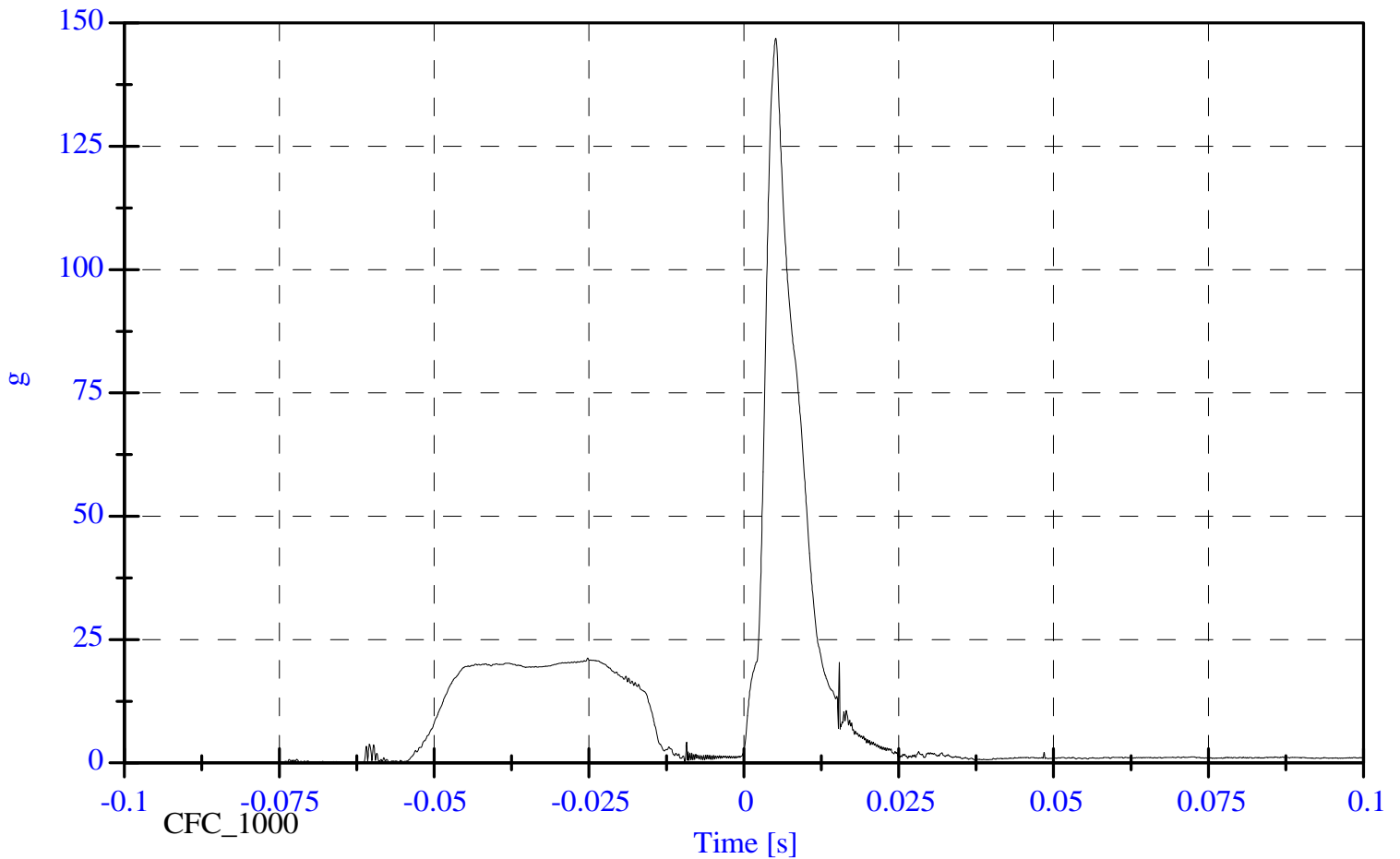
Maximum: 146.9 g

FMVSS 201U 2007 Chevrolet Impala

Headform Resultant

Max: 146.9 [g] at 0.005 [s]

Min: 0.0 [g] at -0.099 [s]

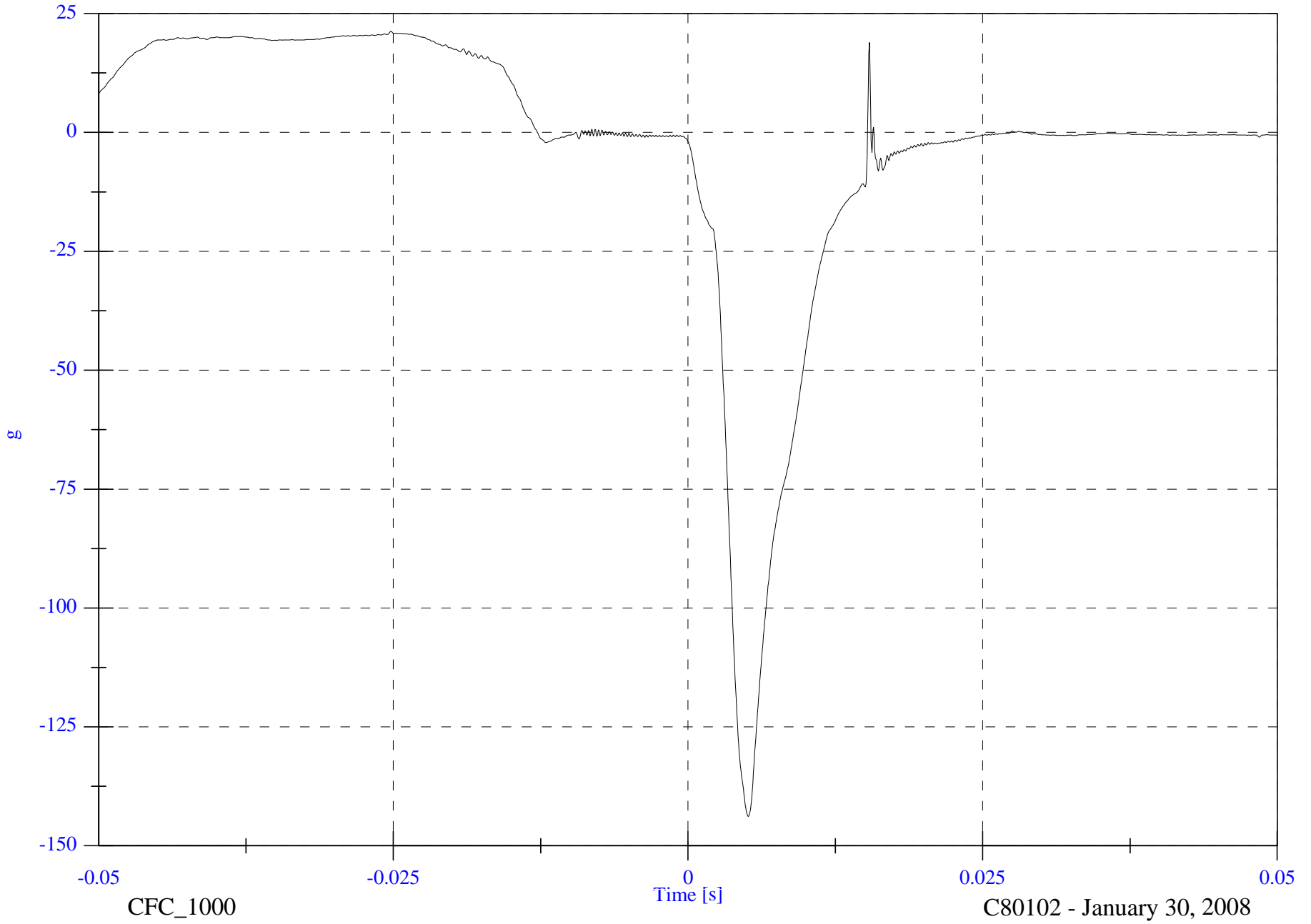


FMVSS 201U 2007 Chevrolet Impala

Headform X Acceleration

Max: 21.3 [g] at -0.025 [s]

Min: -143.8 [g] at 0.005 [s]



C80102 DRIVER SIDE URAP IMPACT PLOT #1

8851-02

CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

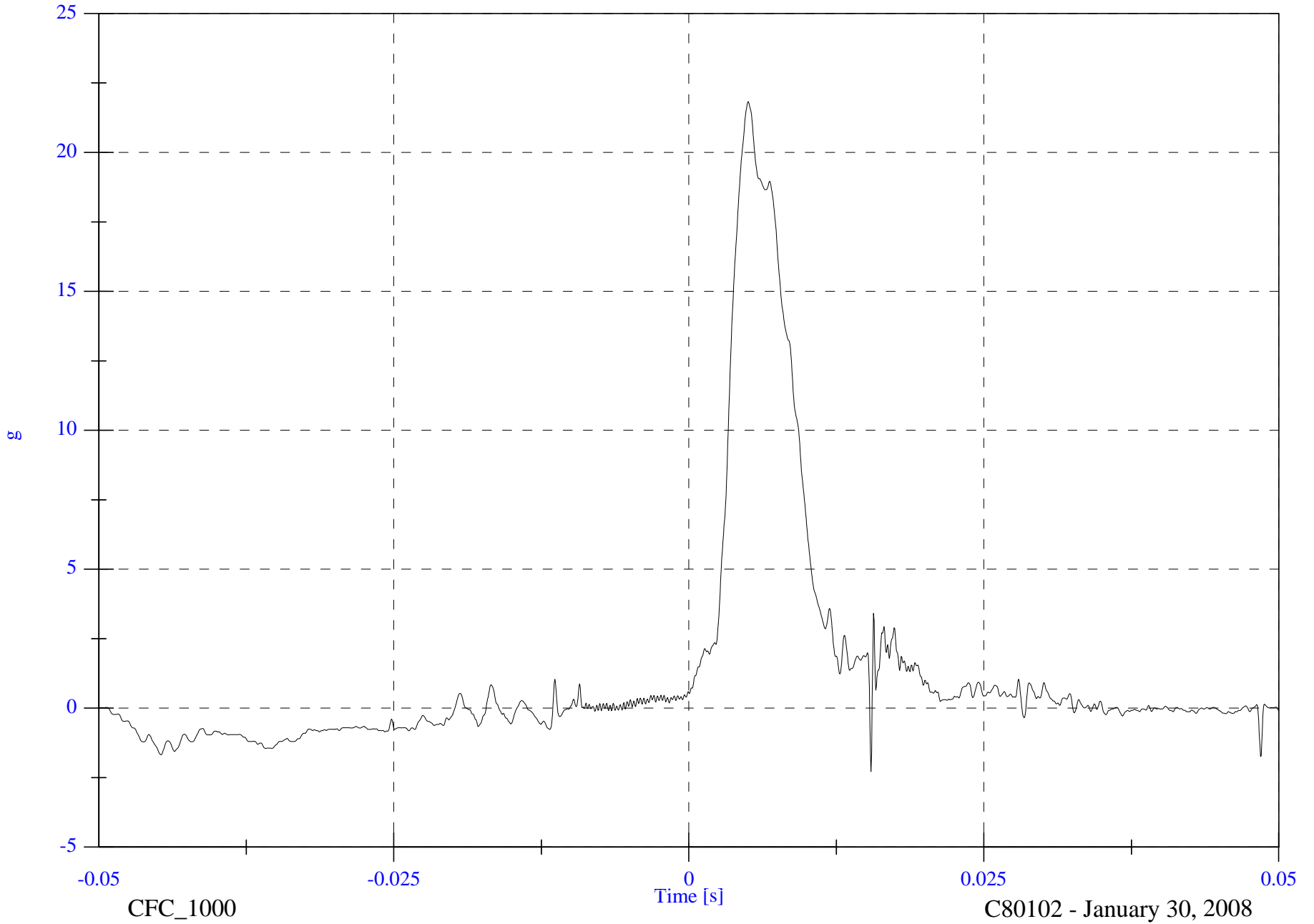
Headform Y Acceleration

Max: 21.8 [g] at 0.005 [s]

Min: -2.3 [g] at 0.015 [s]

C80102 DRIVER SIDE URAP IMPACT PLOT #2

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

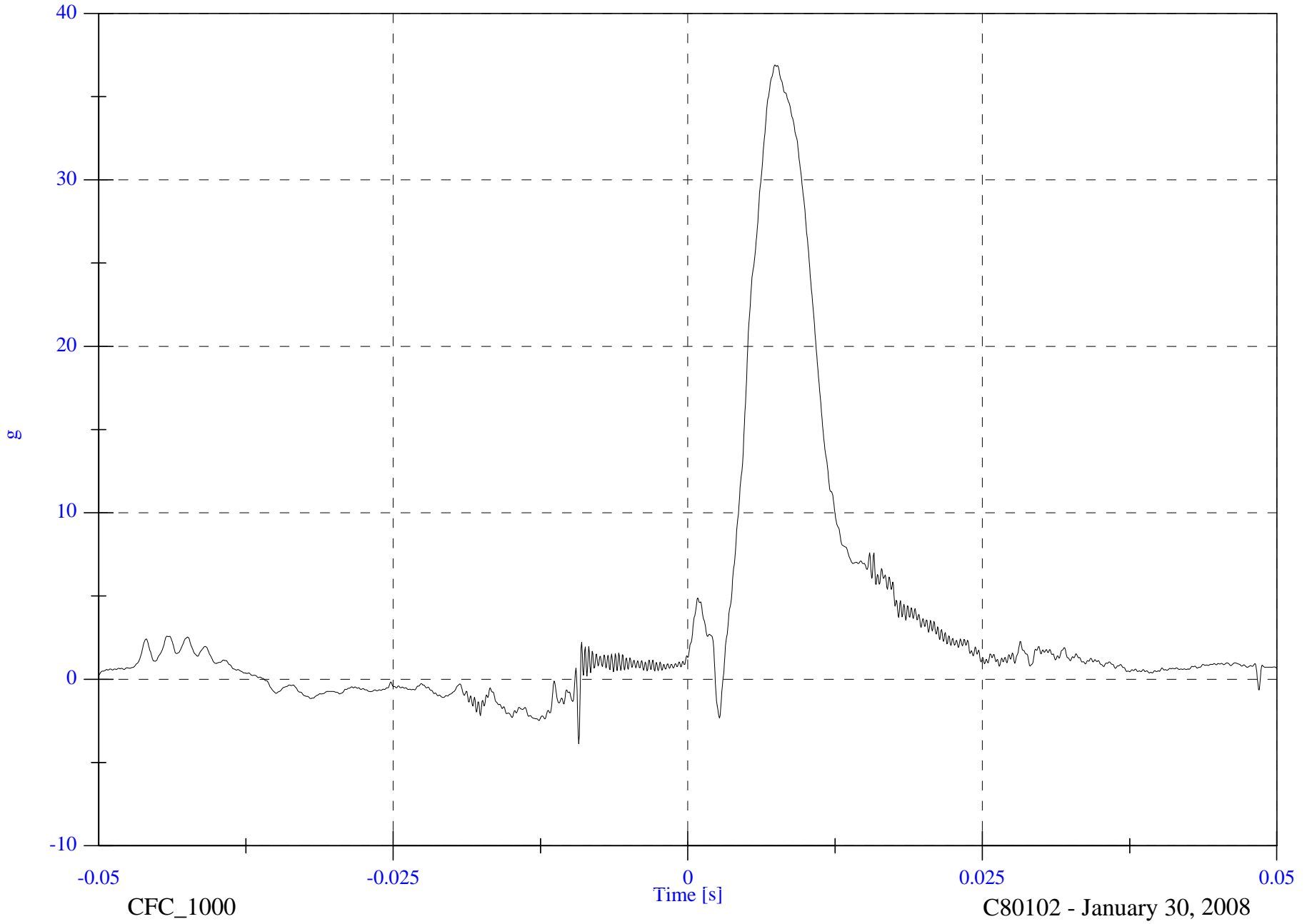
Headform Z Acceleration

Max: 36.9 [g] at 0.007 [s]

Min: -3.9 [g] at -0.009 [s]

C80102 DRIVER SIDE URAP IMPACT PLOT #3

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

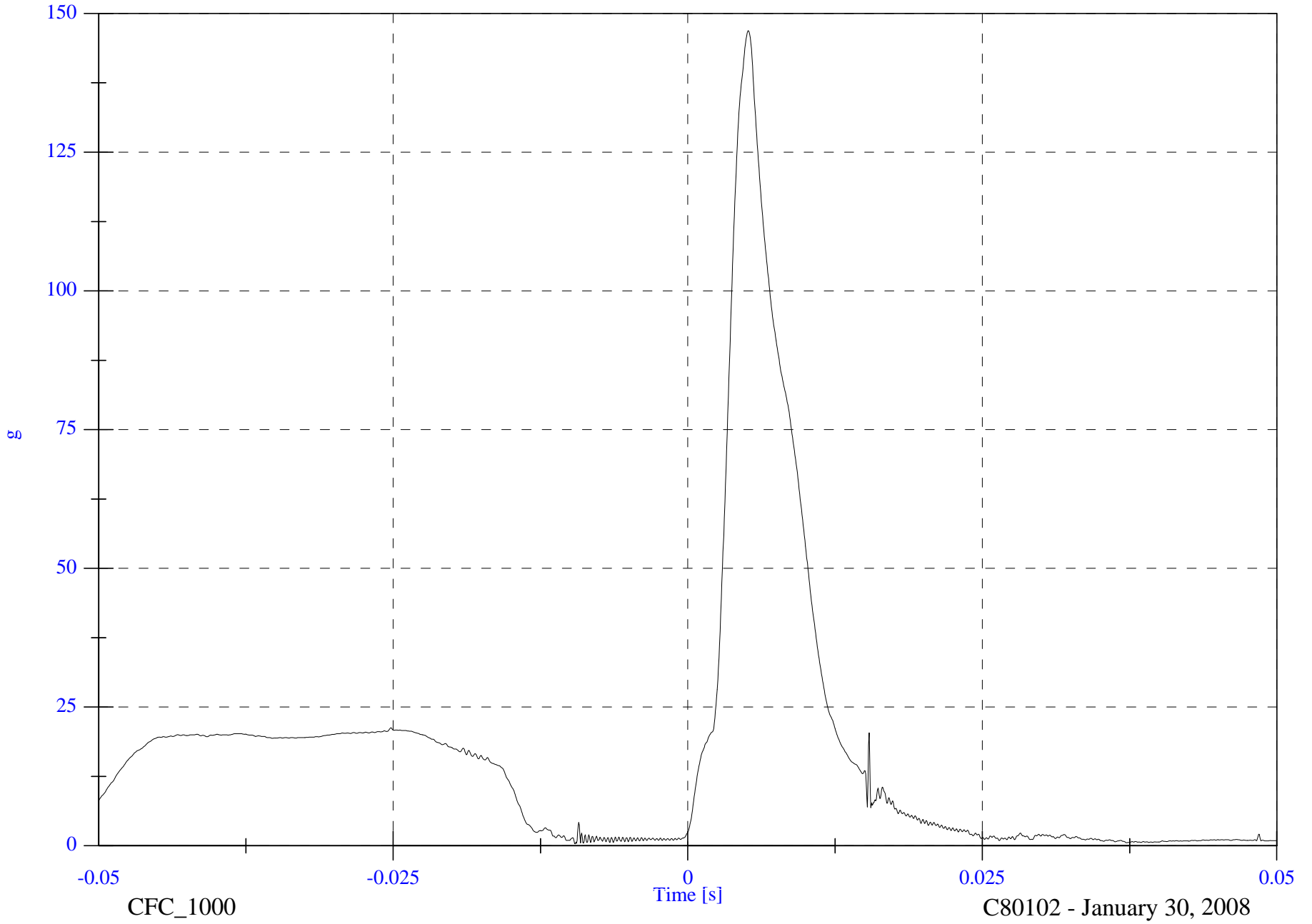
Headform Resultant

Max: 146.9 [g] at 0.005 [s]

Min: 0.3 [g] at -0.010 [s]

C80102 DRIVER SIDE URAP IMPACT PLOT #4

8851-02



CFC\_1000

C80102 - January 30, 2008

FMVSS 201U 2007 Chevrolet Impala

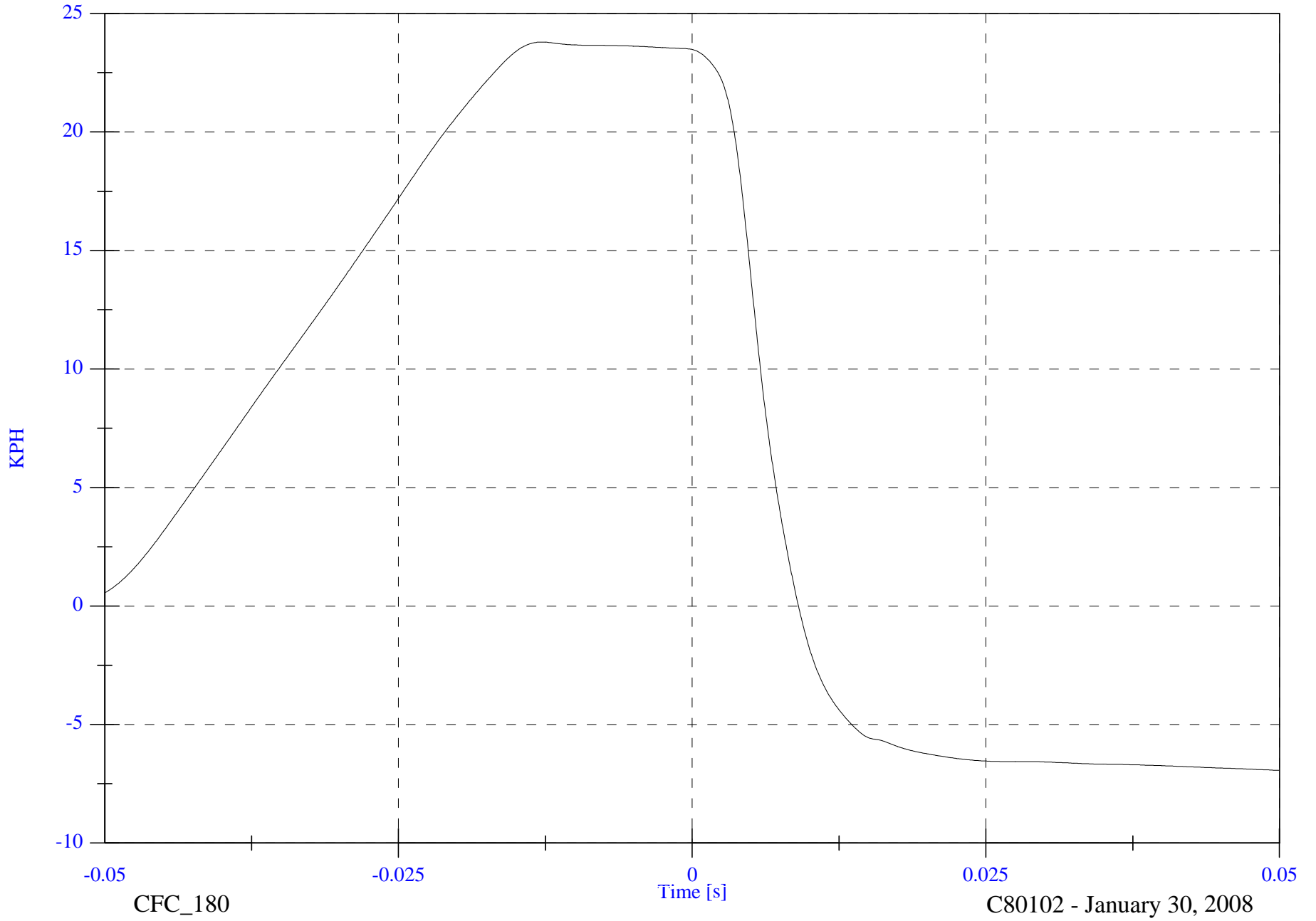
### Headform Velocity

Max: 23.8 [KPH] at -0.013 [s]

Min: -6.9 [KPH] at 0.050 [s]

C80102 DRIVER SIDE URAP IMPACT PLOT #5

8851-02



CFC\_180

C80102 - January 30, 2008



PRE-IMPACT URAP





POST-IMPACT URAP

**APPENDIX A**

**PHOTOGRAPHS**

## PHOTOGRAPHS

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Figure A-1 : LEFT SIDE VIEW OF VEHICLE



A-4

8851-02

Figure A-2 : RIGHT SIDE VIEW OF VEHICLE



Figure A-3 : 3/4 FRONTAL VIEW FROM LEFT SIDE OF VEHICLE



Figure A-4 : 3/4 REAR VIEW FROM RIGHT SIDE OF VEHICLE



Figure A-5 : PRE-TEST DRIVER SIDE A-PILLAR





Figure A-6 : PRE-TEST DRIVER SIDE FRONT HEADER



Figure A-7 : PRE-TEST DRIVER SIDE SIDE RAIL



Figure A-8 : PRE-TEST DRIVER SIDE B-PILLAR



Figure A-9 : PRE-TEST DRIVER SIDE REAR PILLAR



Figure A-10 : PRE-TEST PASSENGER SIDE A-PILLAR



Figure A-11 : PRE-TEST PASSENGER SIDE FRONT HEADER



Figure A-12 : PRE-TEST PASSENGER SIDE SIDE RAIL



Figure A-13 : PRE-TEST PASSENGER SIDE B-PILLAR





Figure A-14 : PRE-TEST PASSENGER SIDE REAR PILLAR



Figure A-15 : POST-TEST DRIVER SIDE A-PILLAR



Figure A-16 : POST-TEST DRIVER SIDE FRONT HEADER



Figure A-17 : POST-TEST DRIVER SIDE SIDE RAIL



Figure A-18 : POST-TEST DRIVER SIDE B-PILLAR



Figure A-19 : POST-TEST DRIVER SIDE REAR PILLAR



Figure A-20 : POST-TEST PASSENGER SIDE A-PILLAR



Figure A-21 : POST-TEST PASSENGER SIDE FRONT HEADER





Figure A-22 : POST-TEST PASSENGER SIDE SIDE RAIL



Figure A-23 : POST-TEST PASSENGER SIDE B-PILLAR



Figure A-24 : POST-TEST PASSENGER SIDE REAR PILLAR

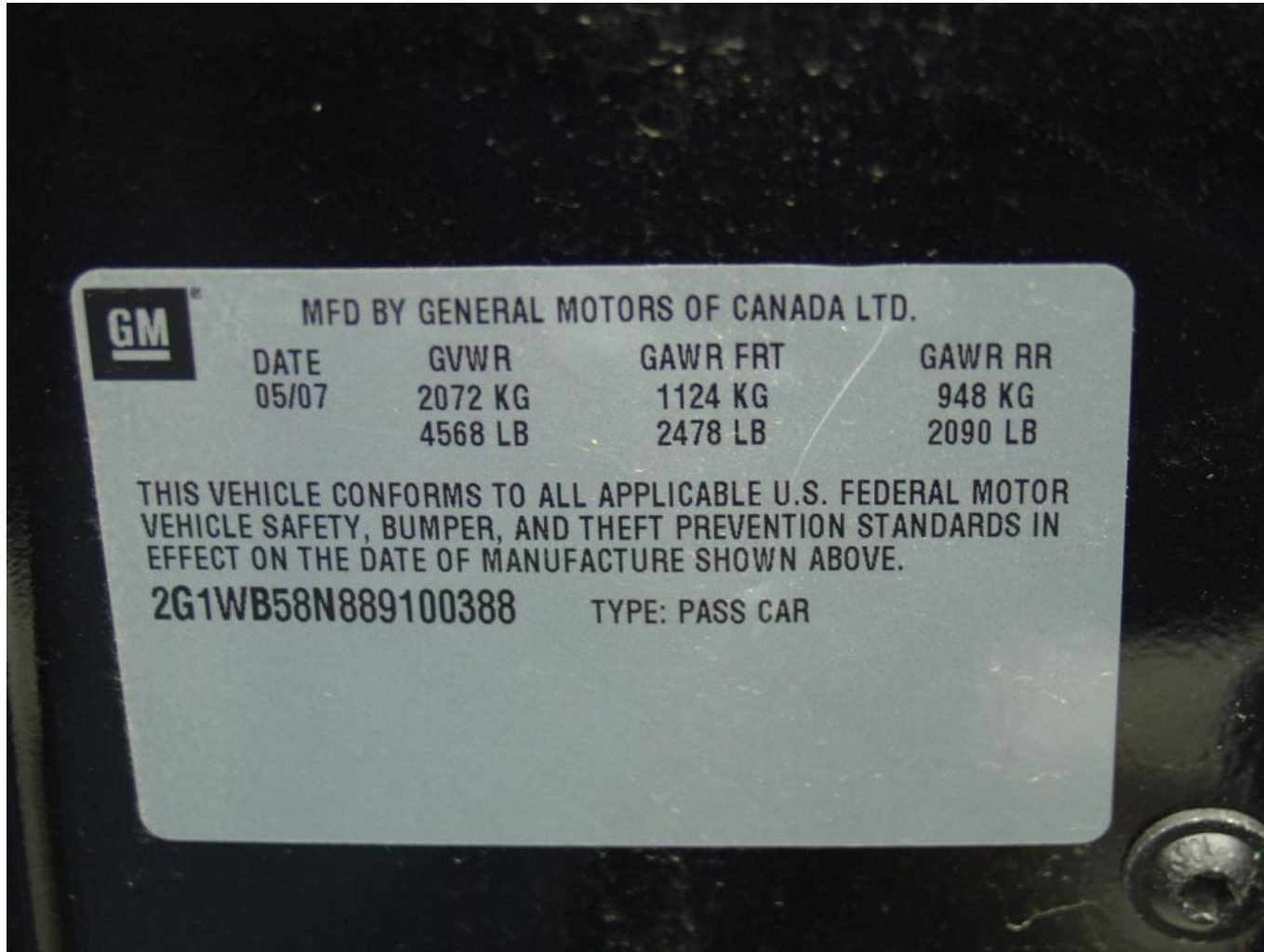


Figure A-25 : CERTIFICATION LABEL



Figure A-26 : TIRE LABEL

## **APPENDIX B**

### **PART 572L PERFORMANCE CALIBRATION IN SUPPORT OF VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT PROTECTION IN INTERIOR IMPACT**

Appendix B contains the results from certification tests performed on the Free Motion Headforms utilized in this test program. The results indicate that the headforms meet all of the performance specifications given in 49 CFR Part 572 Subpart L.

The tests were conducted at the Dummy Certification Test Facility of Calspan Corporation. A summary of the test results are included in this Appendix.

**PART 572L  
HEAD DROP PRE-TEST**

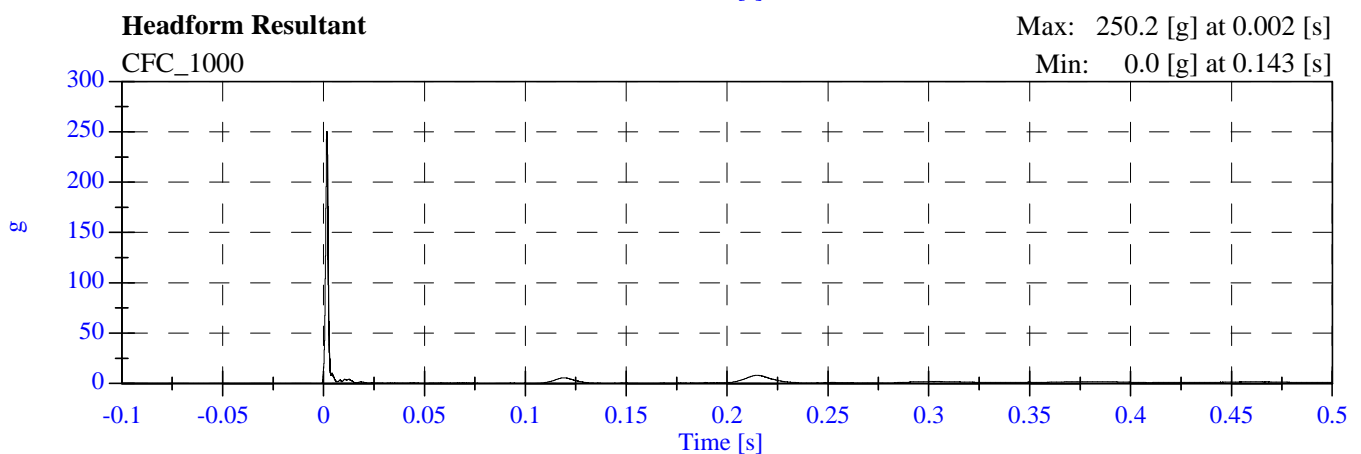
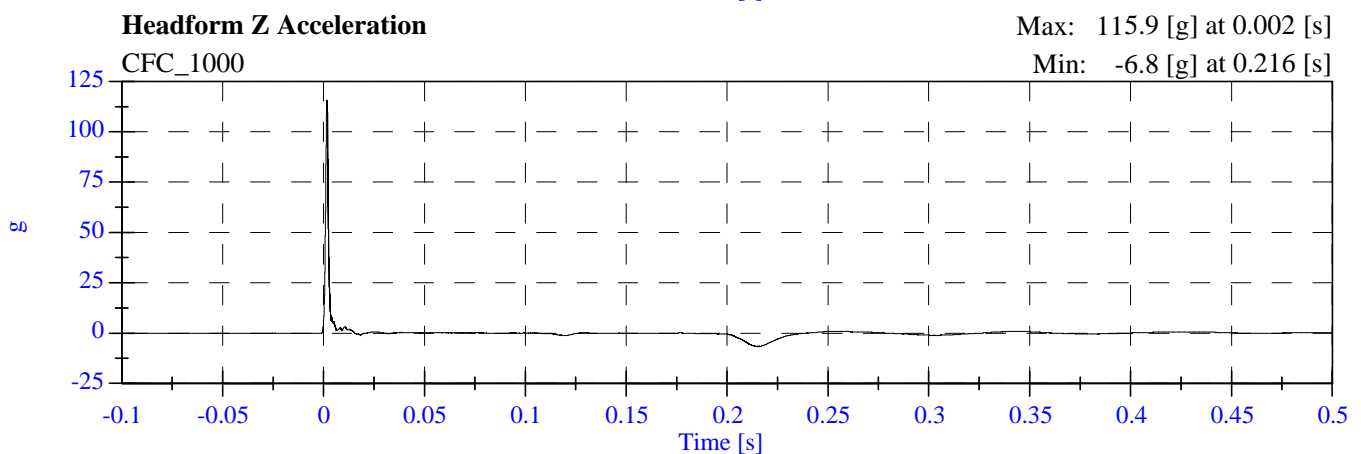
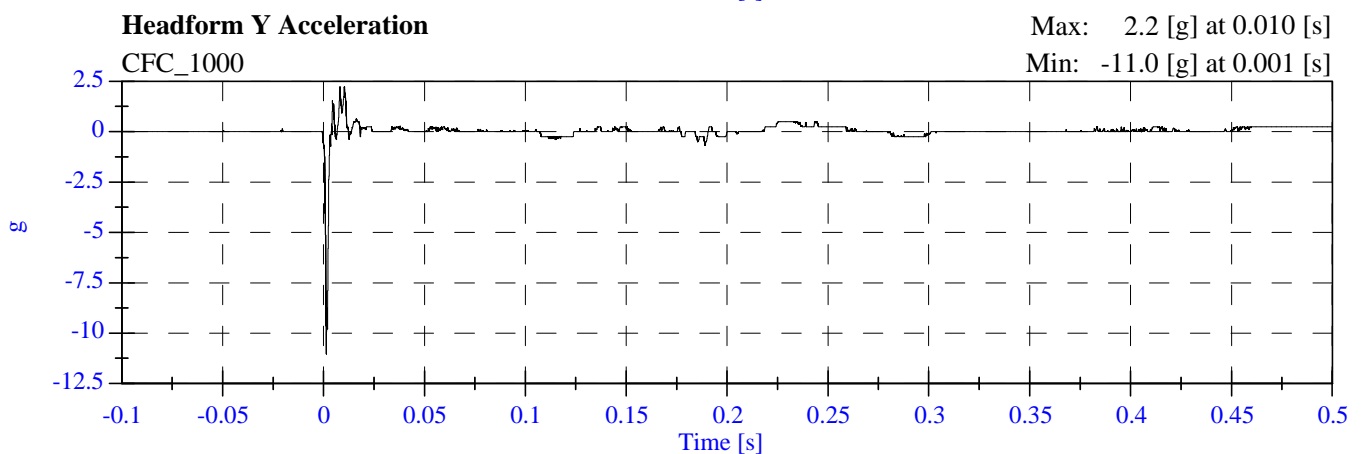
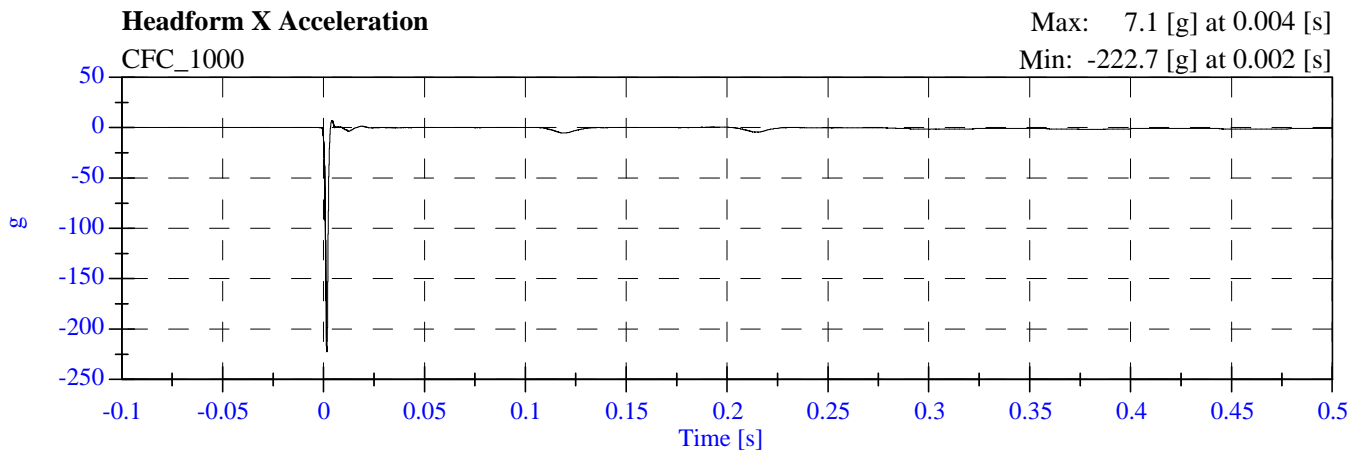
<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>1142</b>	
<b>CALIBRATION DATE:</b>		<b>JANUARY 22, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>21.1</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>35</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>250.2</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>11.0</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J24876</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33030</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J31009</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops C80102 - January 22, 2008





**PART 572L  
HEAD DROP PRE-TEST**

<b>MANUFACTURER:</b>		<b>DENTON ATD INC.</b>	
<b>SERIAL NUMBER:</b>		<b>0062</b>	
<b>CALIBRATION DATE:</b>		<b>JANUARY 22, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>21.1</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>35</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>247.1</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>4.7</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

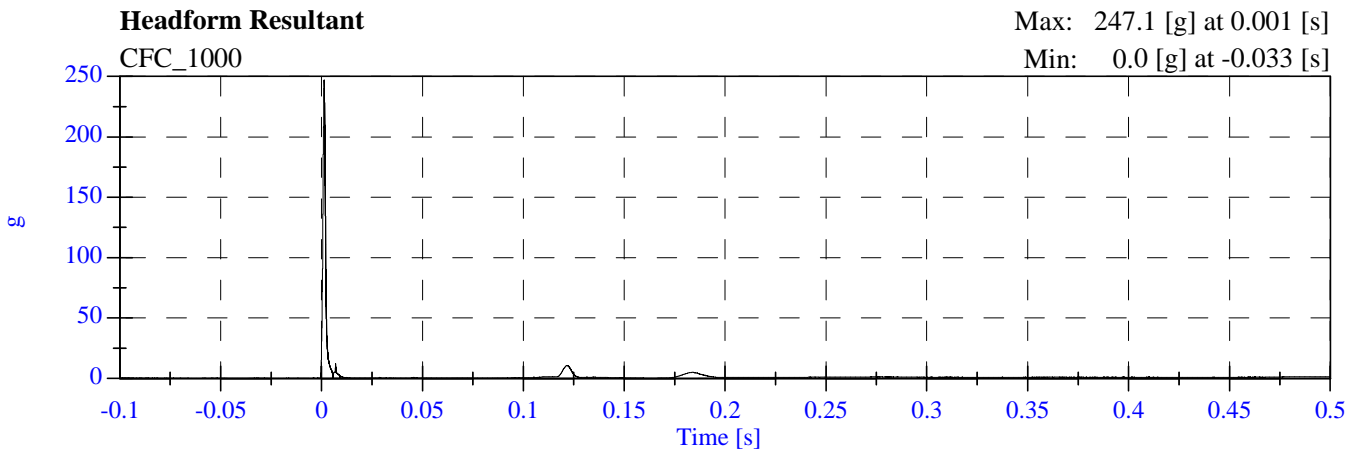
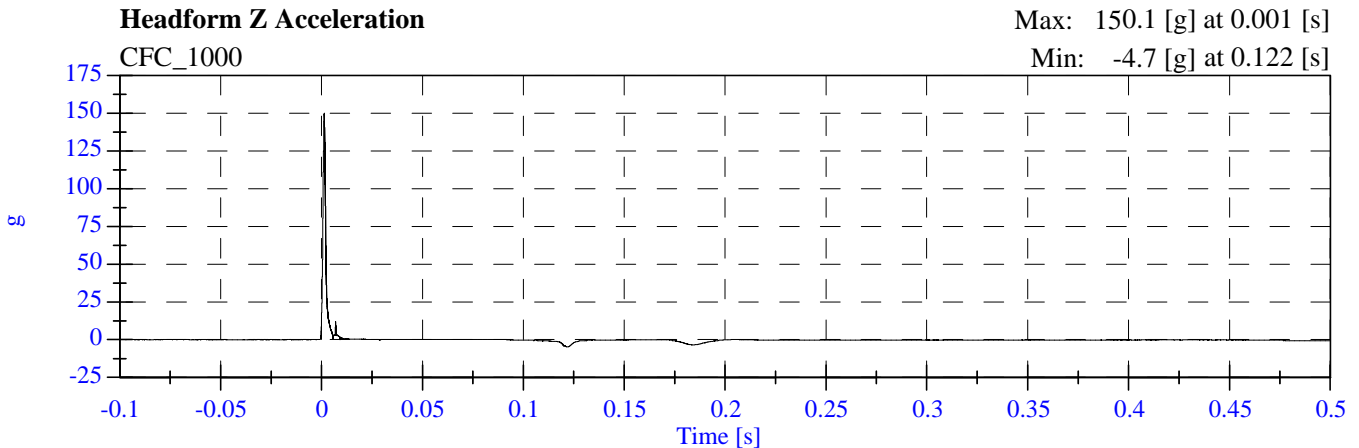
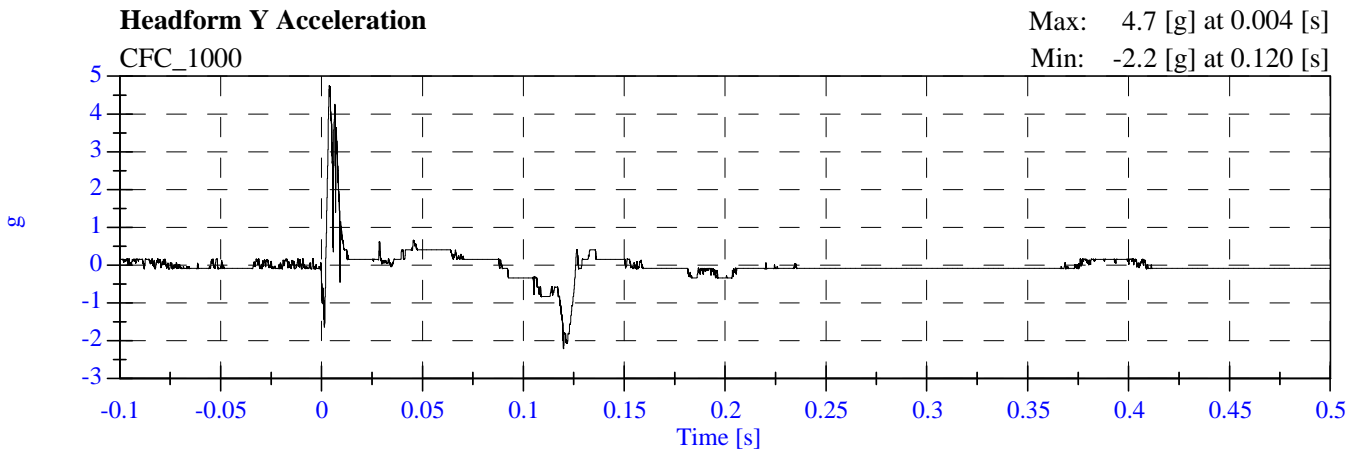
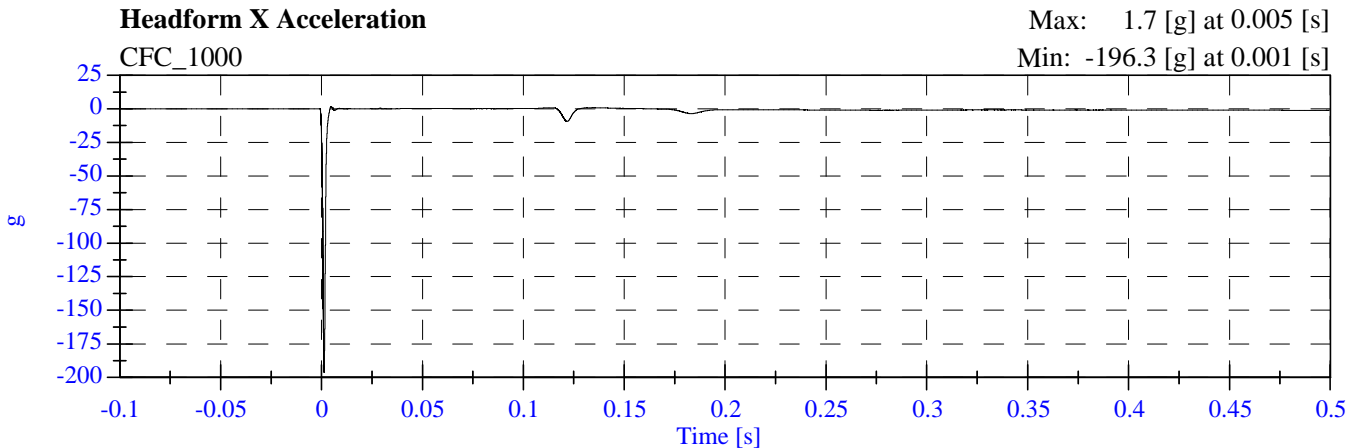
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33127</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33019</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32782</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - January 22, 2008



**PART 572L  
HEAD DROP PRE-TEST**

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>805</b>	
<b>CALIBRATION DATE:</b>		<b>JANUARY 22, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>21.1</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>35</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>261.3</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>7.4</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

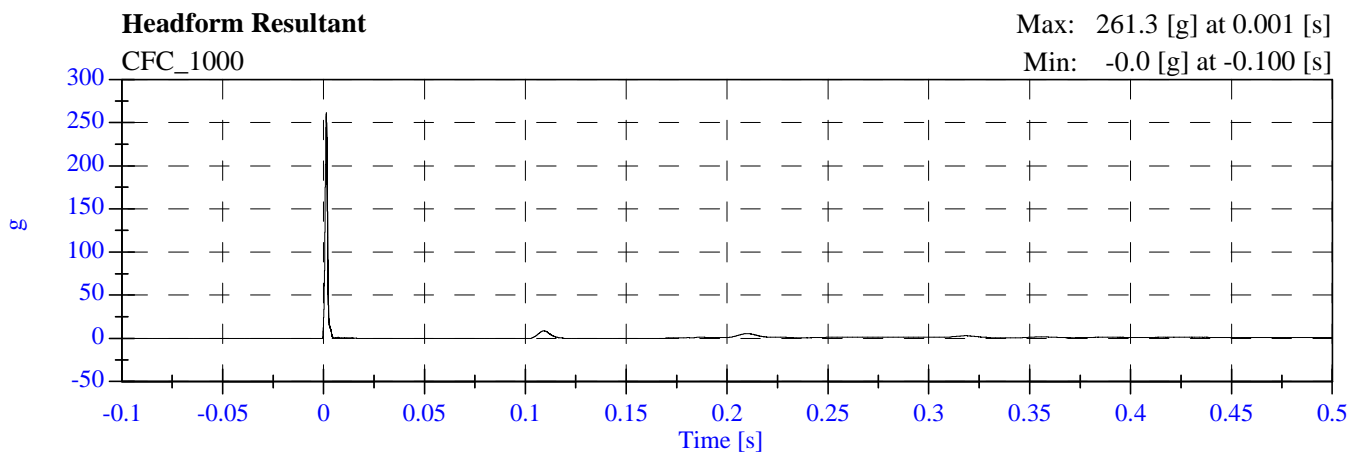
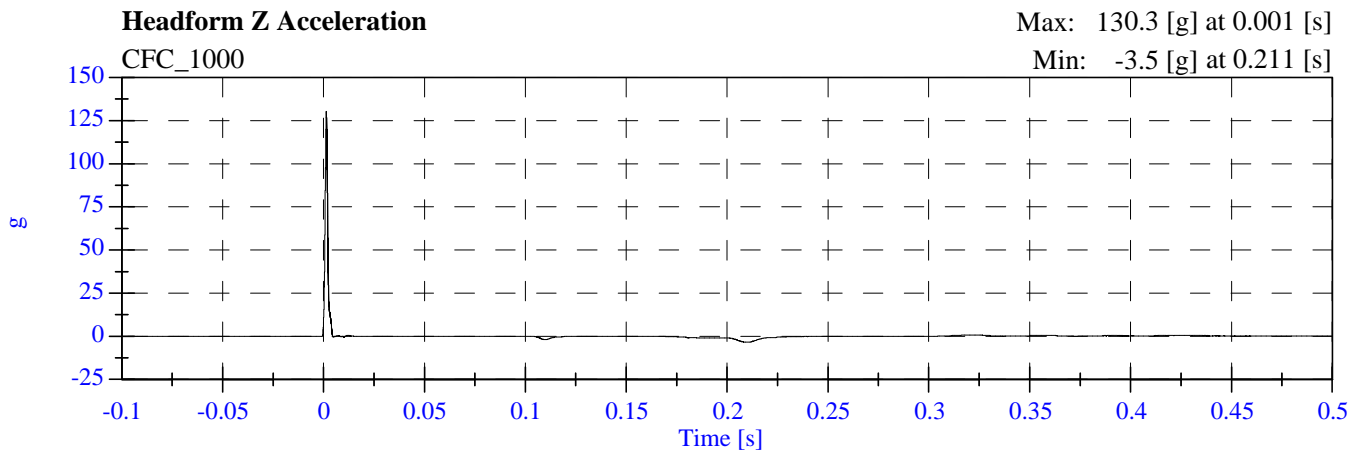
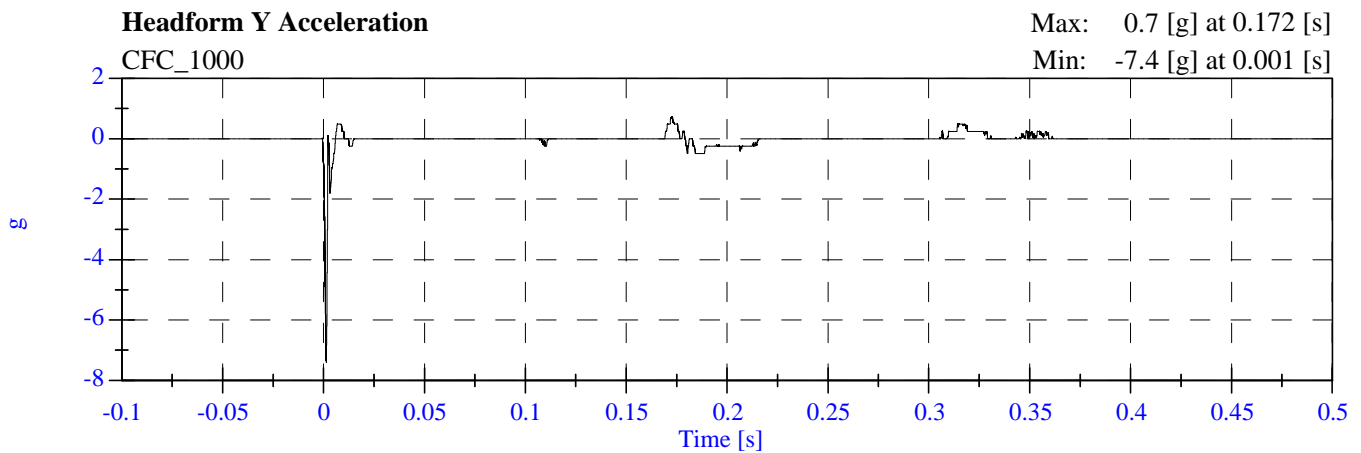
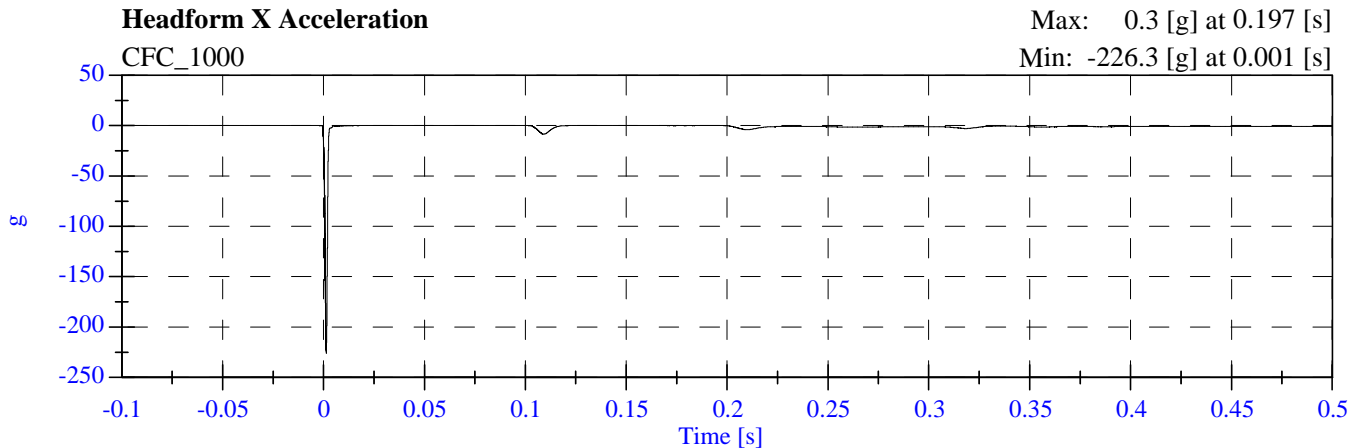
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41004</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J37496</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41016</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - January 22, 2008



**PART 572L  
HEAD DROP PRE-TEST**

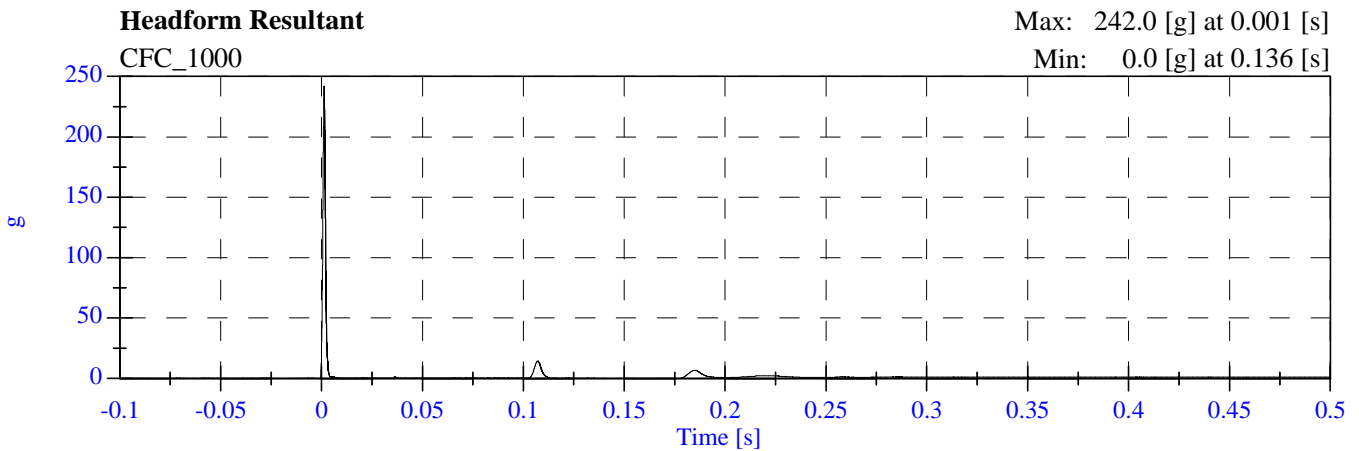
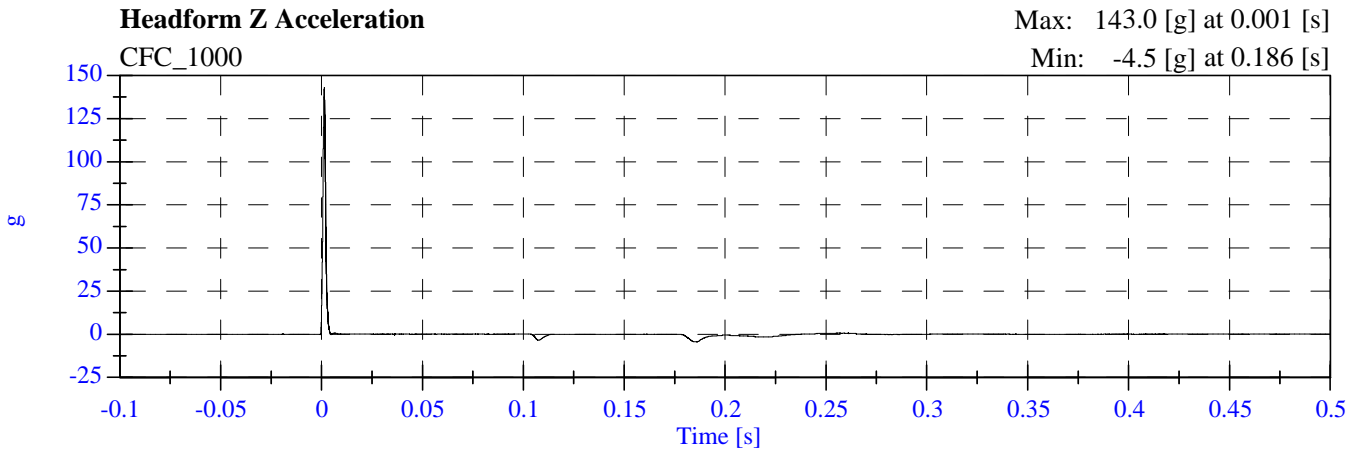
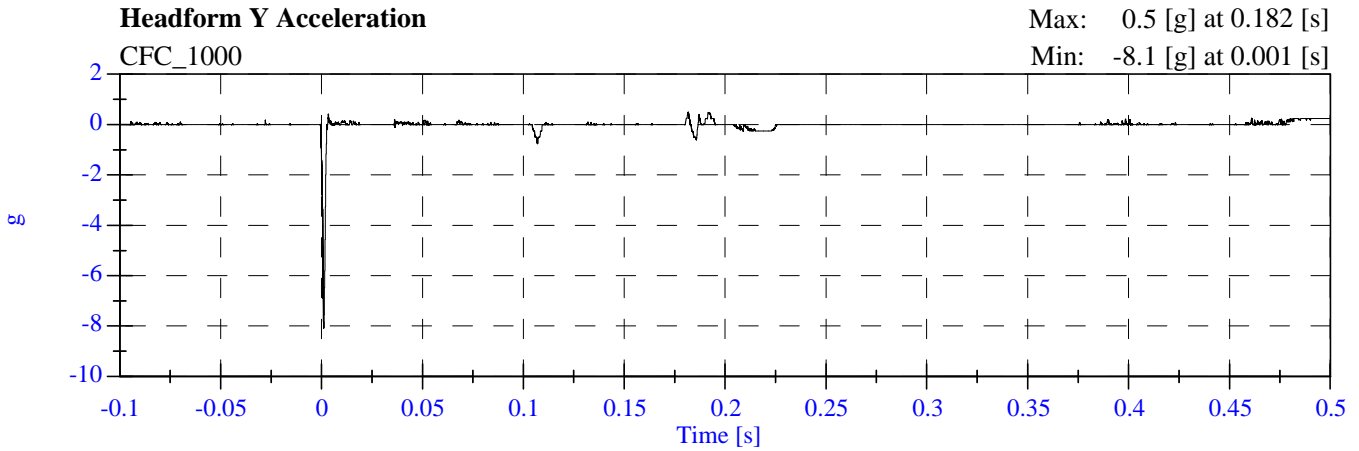
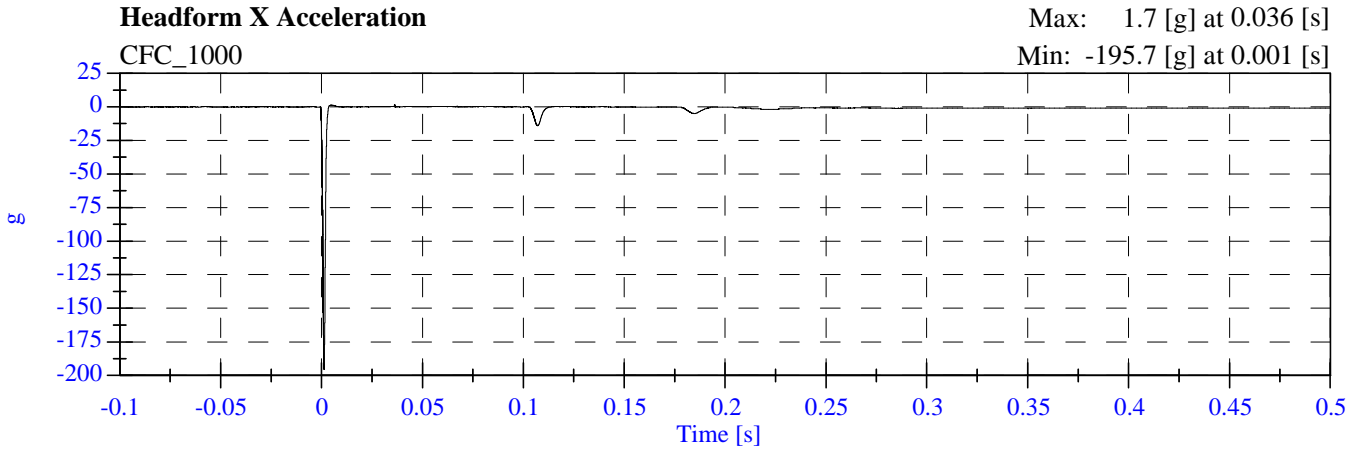
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<b>SERIAL NUMBER:</b>		<b>0355</b>	
<b>CALIBRATION DATE:</b>		<b>JANUARY 22, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>21.1</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>35</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>242.0</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>8.1</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J28671</b>	<b>7/18/2007</b>	<b>1/19/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32779</b>	<b>7/18/2007</b>	<b>1/19/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J25854</b>	<b>7/18/2007</b>	<b>1/19/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops C80102 - January 22, 2008



**PART 572L  
HEAD DROP PRE-TEST**

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>1140</b>	
<b>CALIBRATION DATE:</b>		<b>JANUARY 22, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>21.1</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>35</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>259.1</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>5.0</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

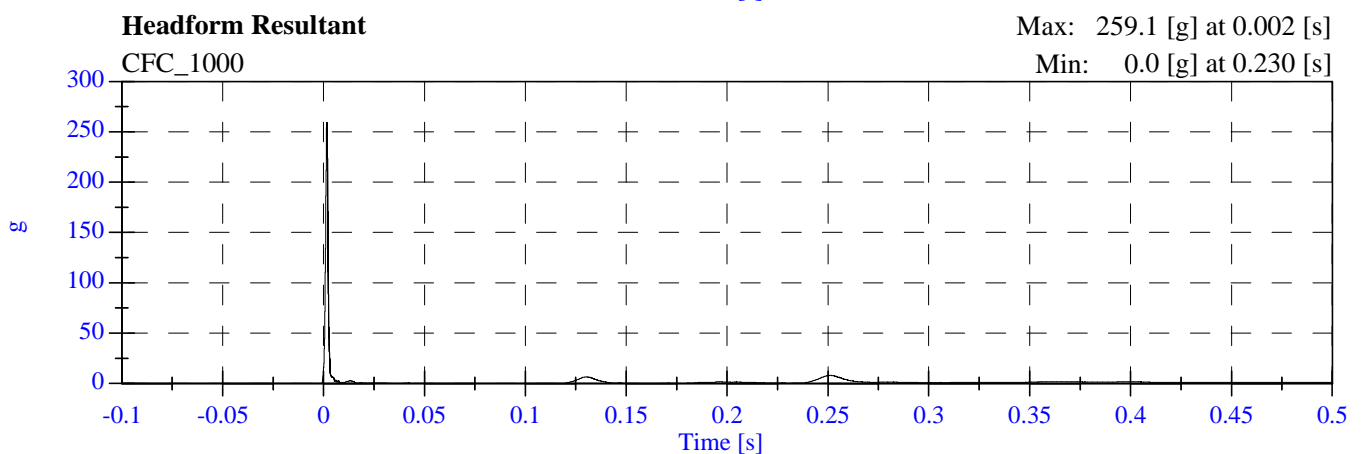
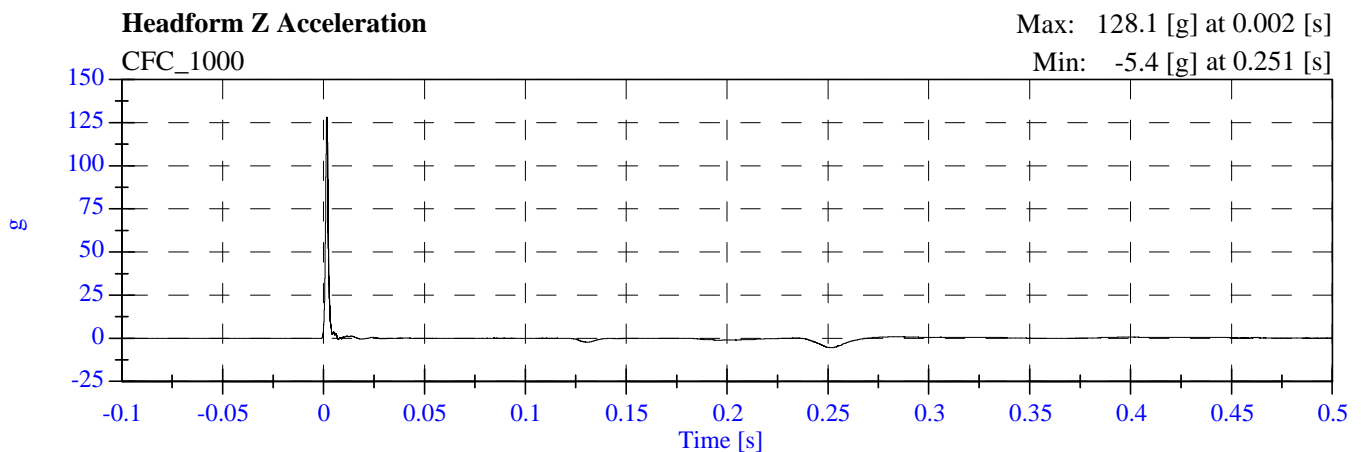
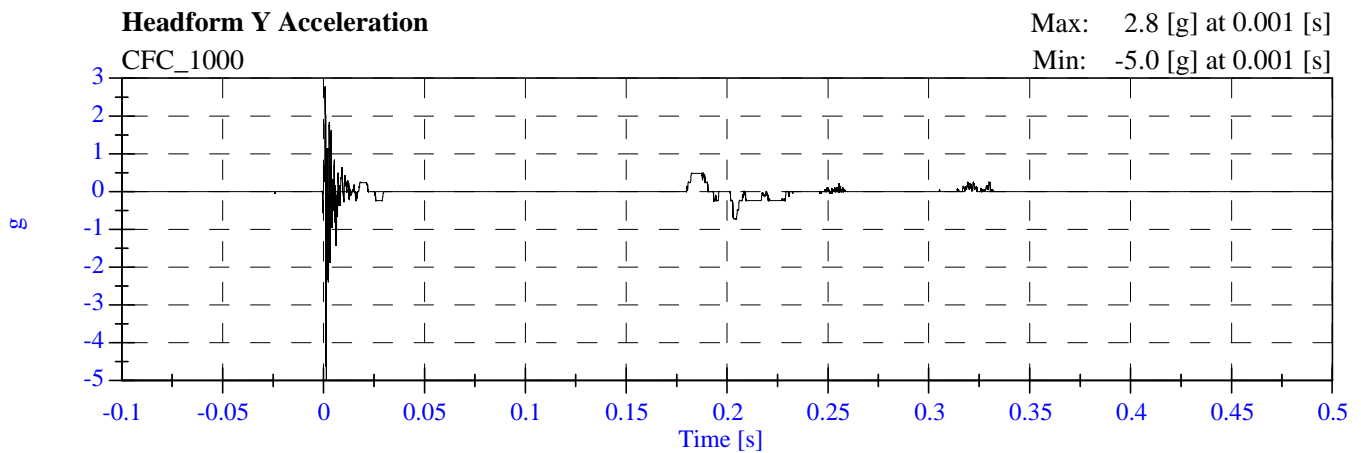
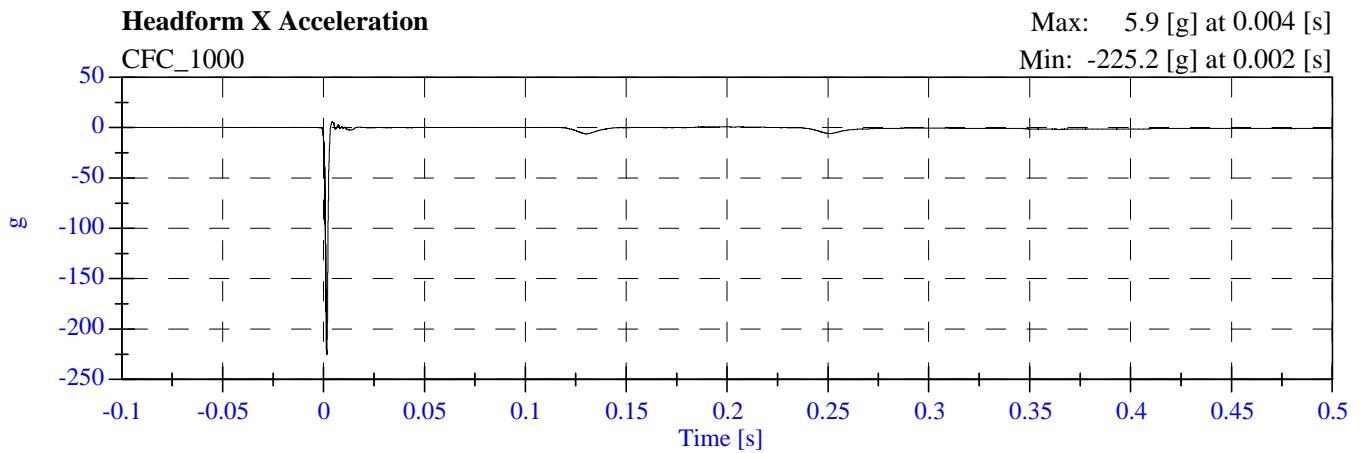
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41006</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J40994</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41007</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - January 22, 2008





**PART 572L  
HEAD DROP POST-TEST**

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>1142</b>	
<b>CALIBRATION DATE:</b>		<b>FEBRUARY 1, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.4</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>17</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>256.4</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>2.9</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

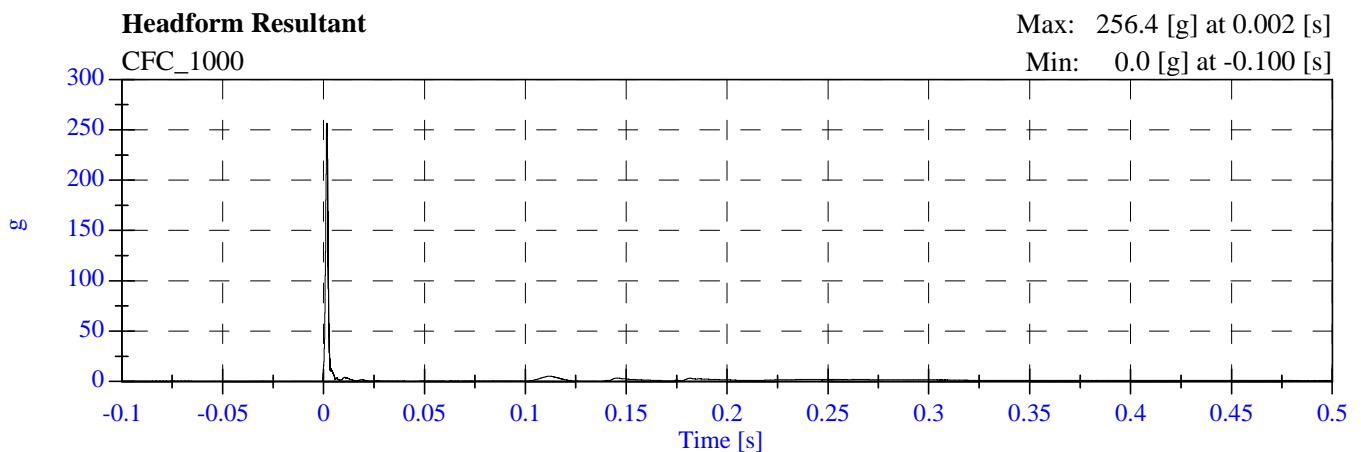
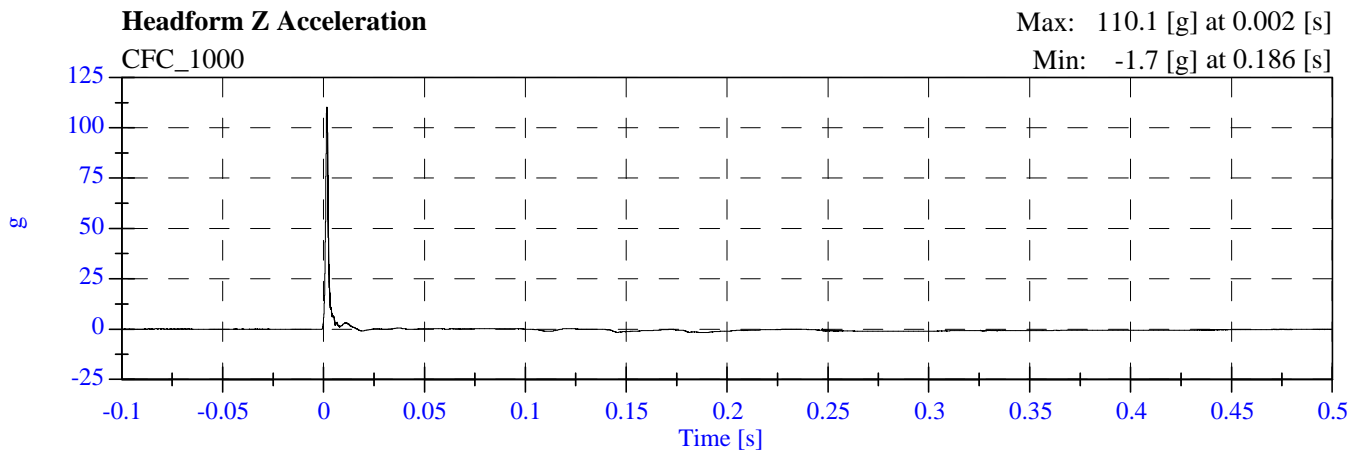
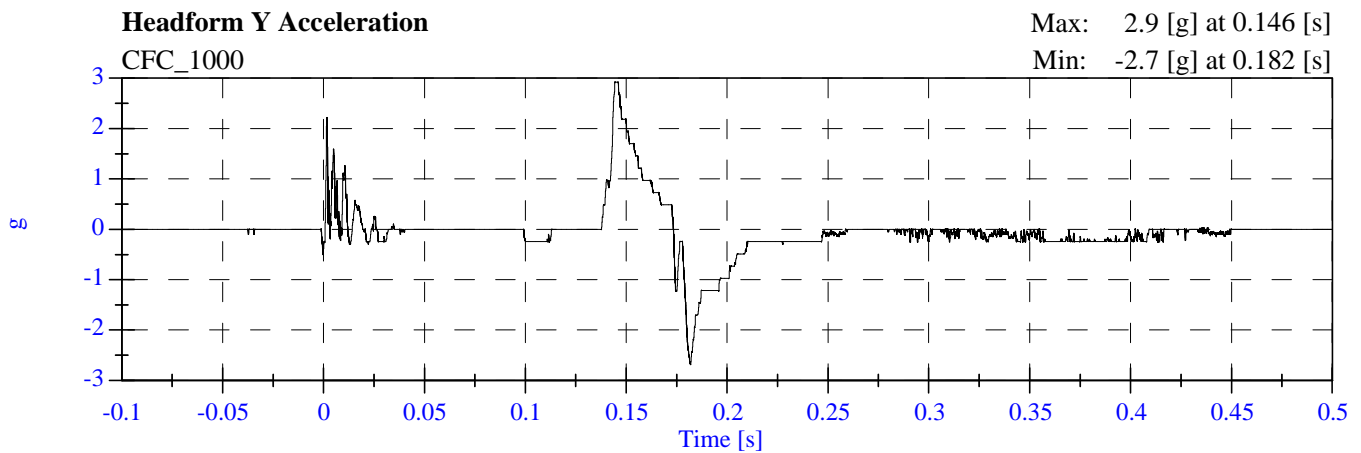
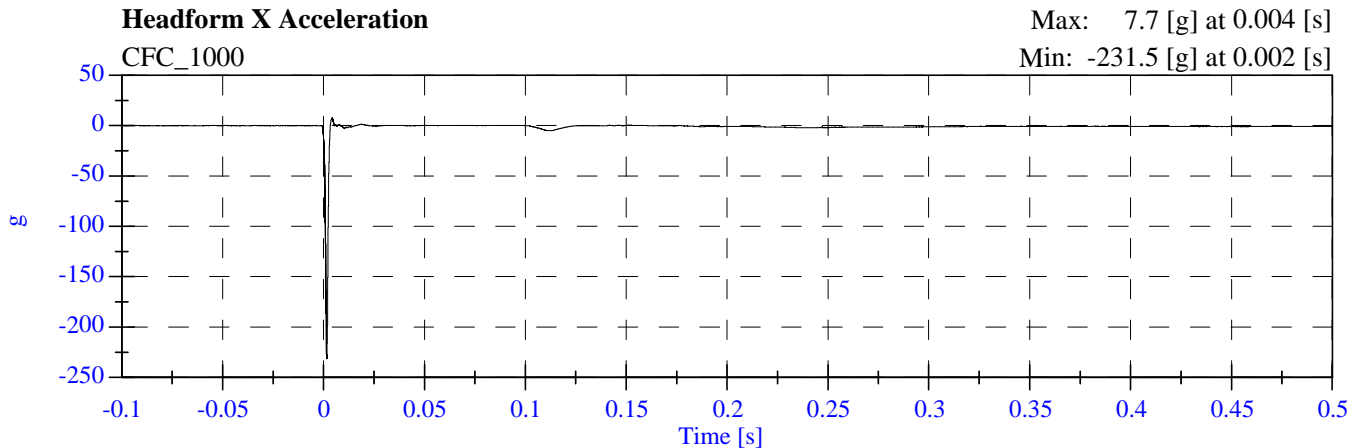
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J24876</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33030</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J31009</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - February 01, 2008



**PART 572L  
HEAD DROP POST-TEST**

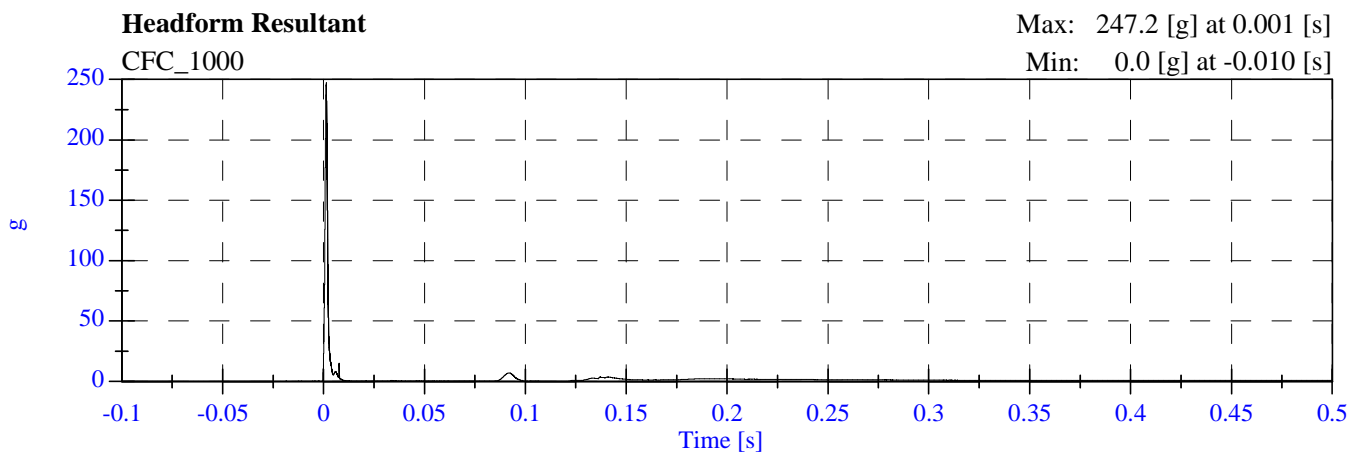
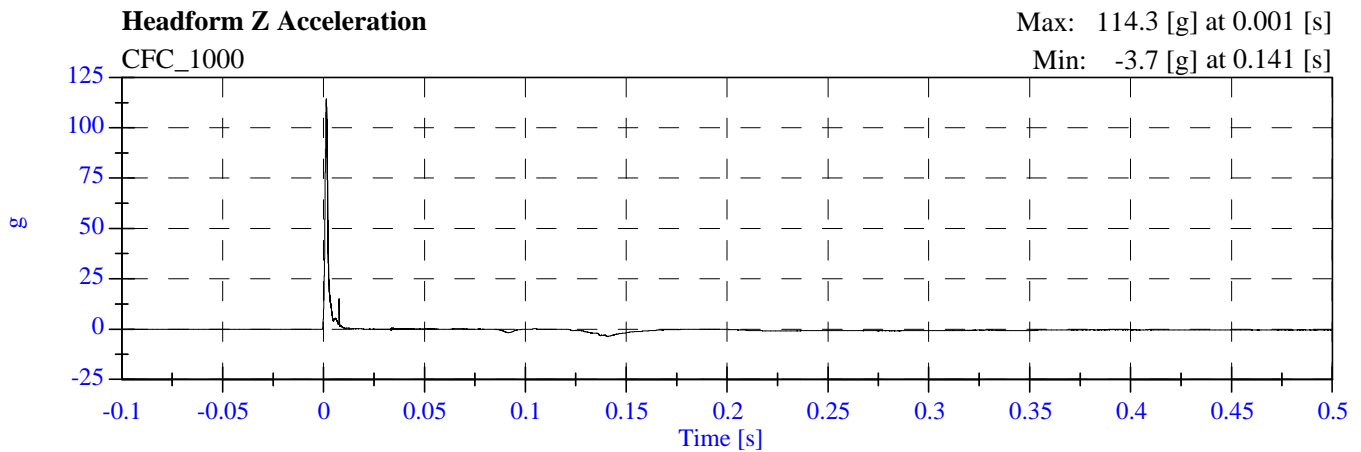
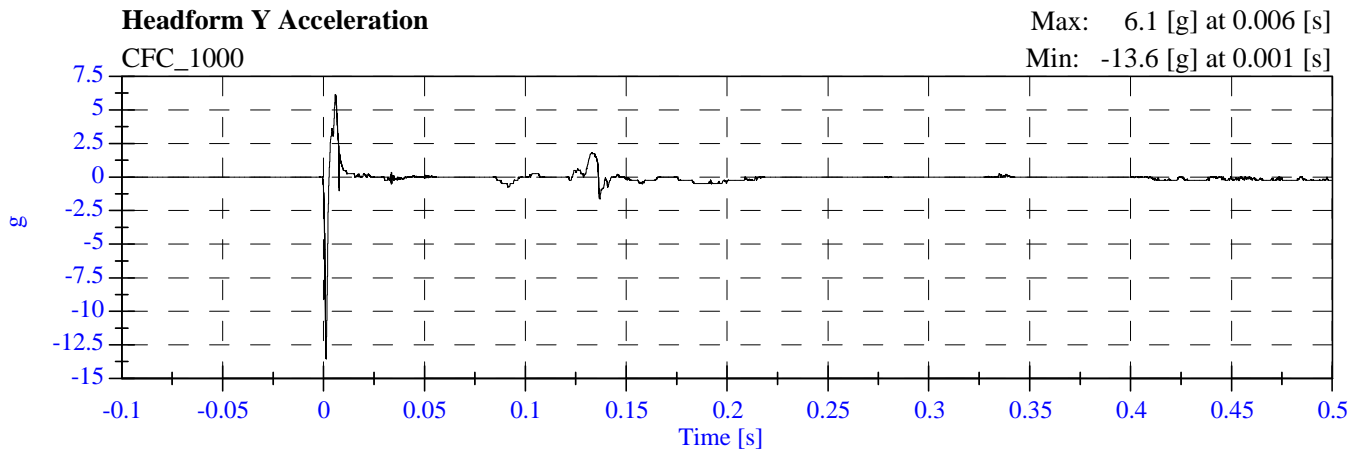
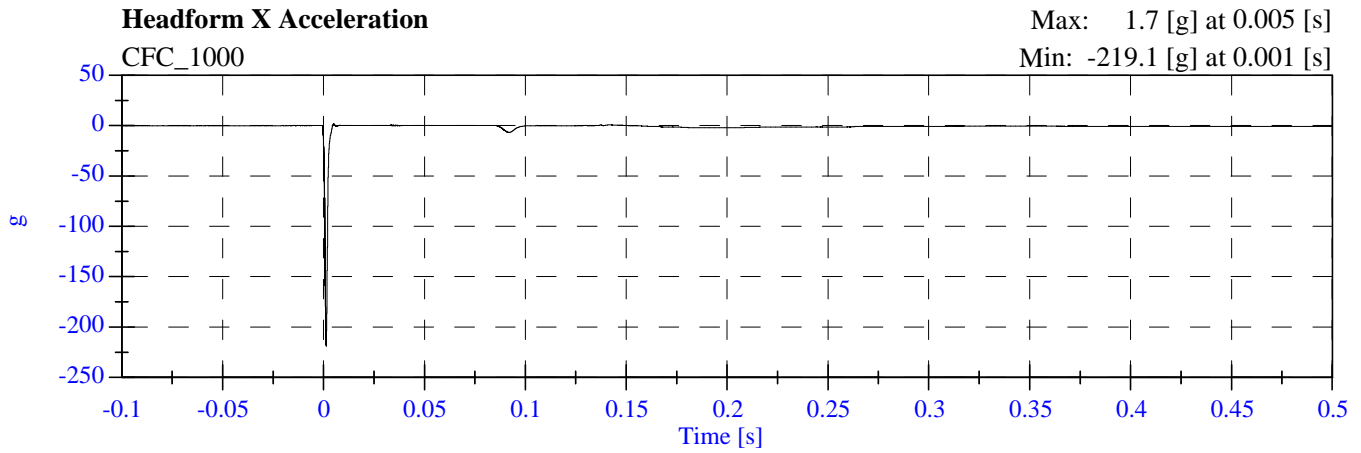
<b>MANUFACTURER:</b>		<b>DENTON ATD INC.</b>	
<b>SERIAL NUMBER:</b>		<b>0062</b>	
<b>CALIBRATION DATE:</b>		<b>FEBRUARY 1, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.4</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>17</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>247.2</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>13.6</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33127</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33019</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32782</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops C80102 - February 01, 2008



**PART 572L  
HEAD DROP POST-TEST**

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>805</b>	
<b>CALIBRATION DATE:</b>		<b>FEBRUARY 1, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.4</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>17</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>272.1</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>3.2</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

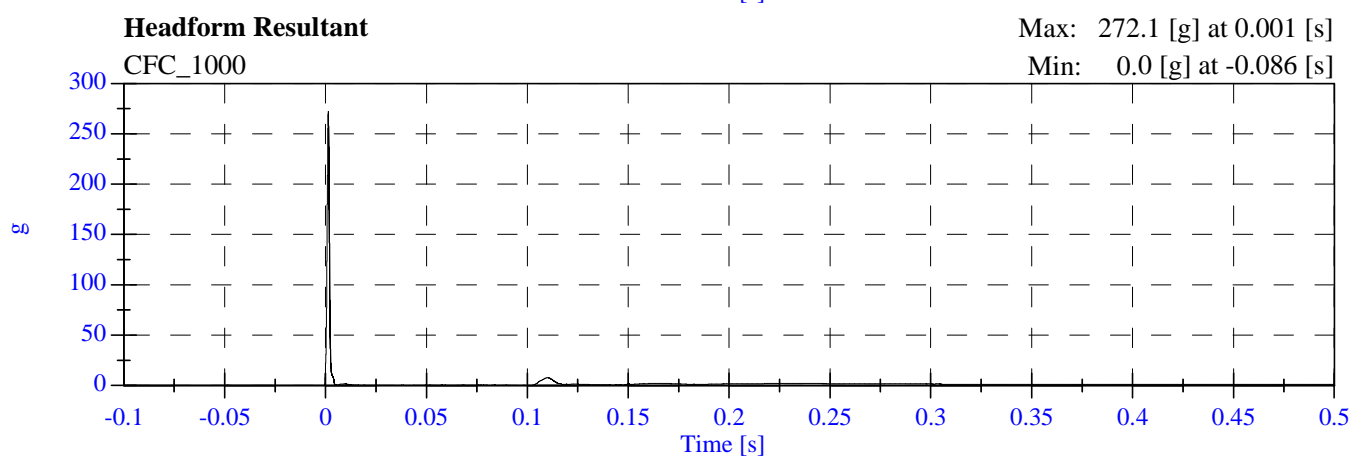
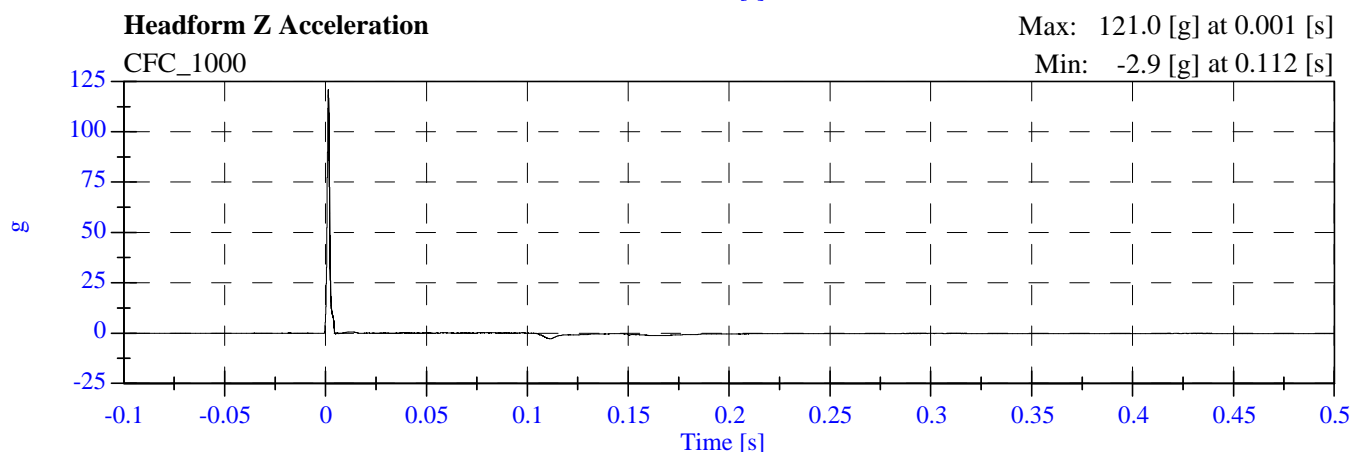
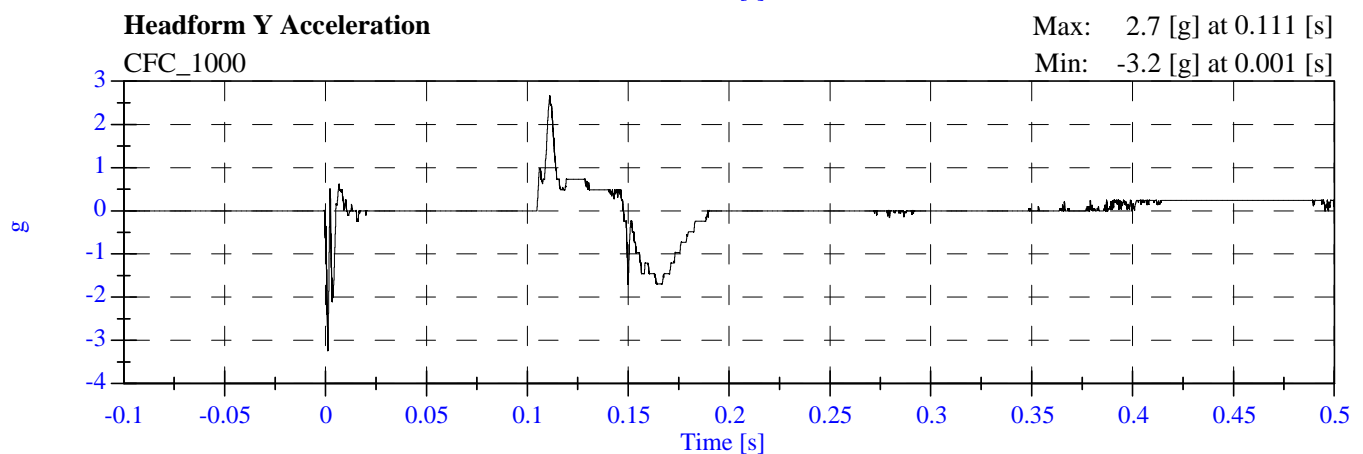
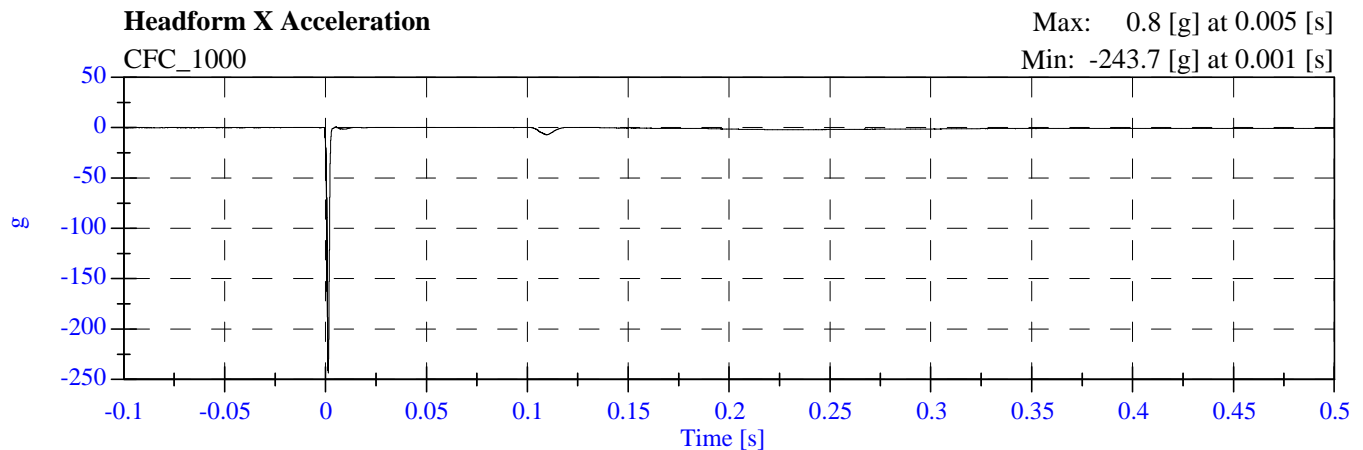
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41004</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J37496</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41016</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - February 04, 2008



**PART 572L  
HEAD DROP POST-TEST**

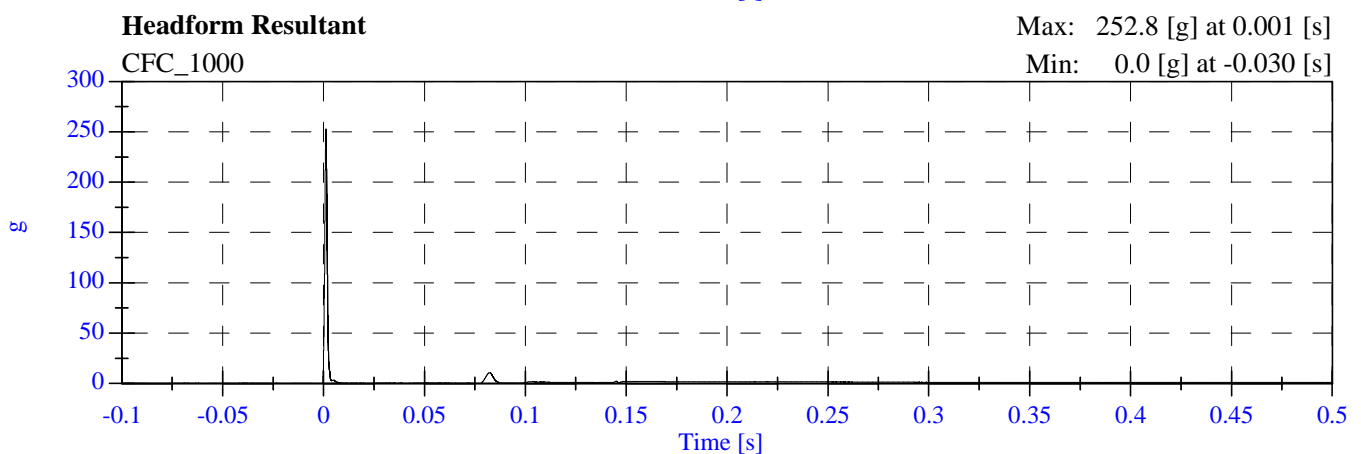
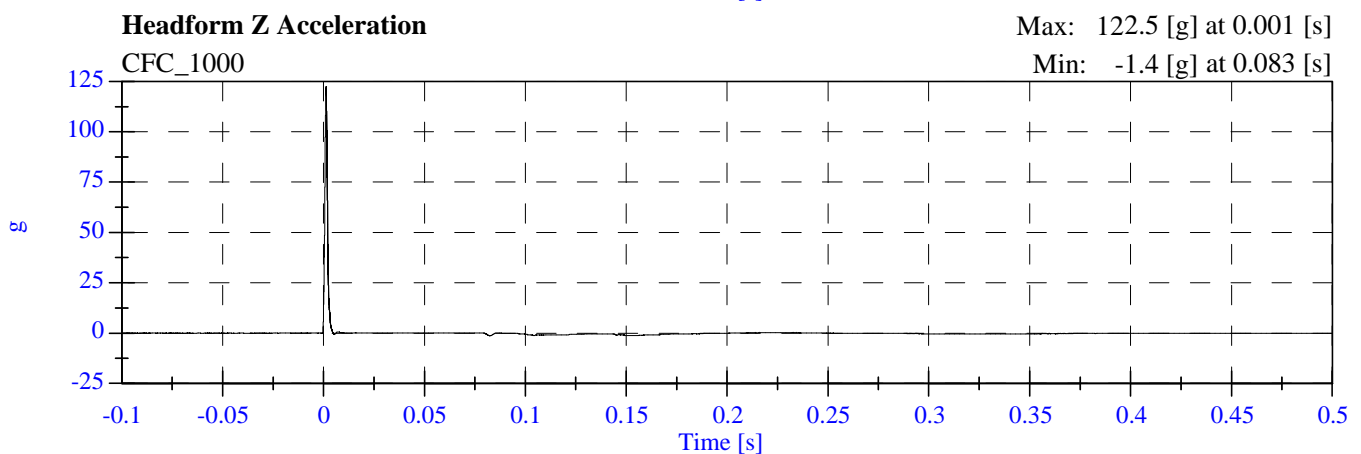
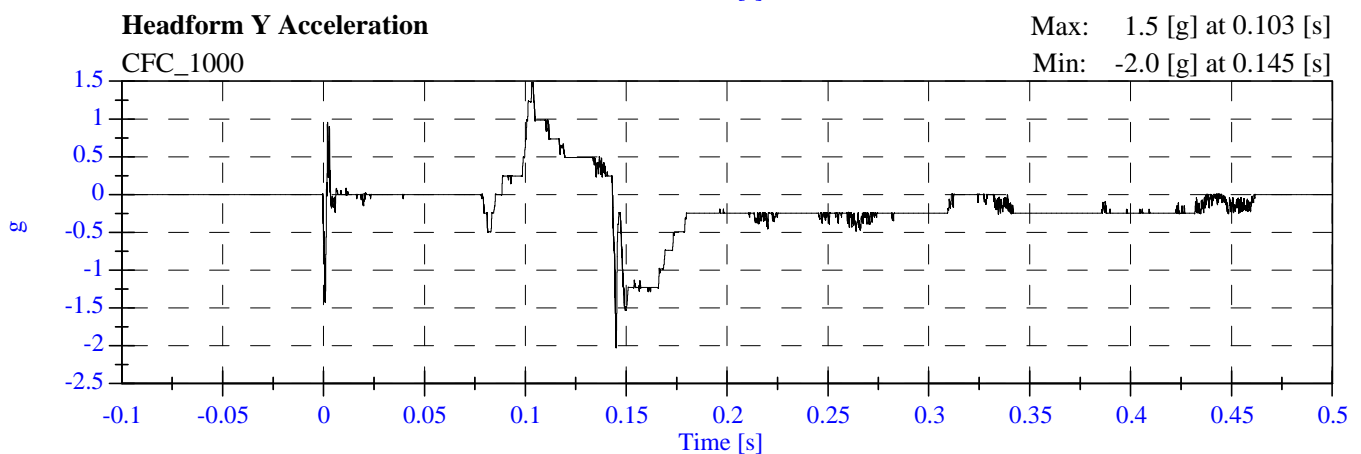
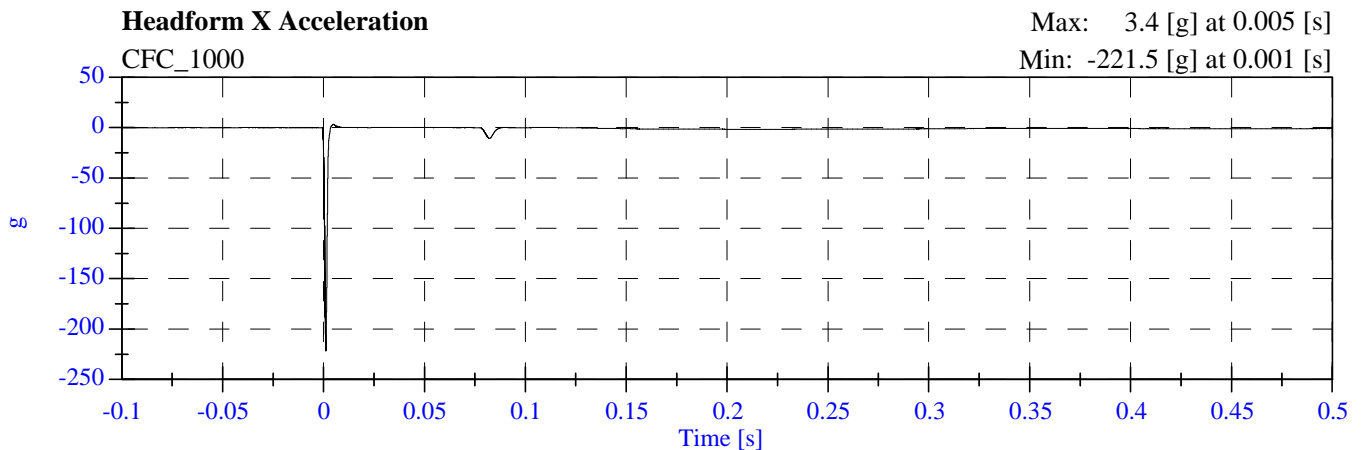
<b>MANUFACTURER:</b>		<b>DENTON ATD INC.</b>	
<b>SERIAL NUMBER:</b>		<b>0355</b>	
<b>CALIBRATION DATE:</b>		<b>FEBRUARY 1, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.4</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>17</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>252.8</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>2.0</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J28671</b>	<b>7/18/2007</b>	<b>1/19/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32779</b>	<b>7/18/2007</b>	<b>1/19/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J25854</b>	<b>7/18/2007</b>	<b>1/19/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops C80102 - February 01, 2008





**PART 572L  
HEAD DROP POST-TEST**

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		<b>1140</b>	
<b>CALIBRATION DATE:</b>		<b>FEBRUARY 1, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.4</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>17</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>260.6</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>1.7</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41006</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J40994</b>	<b>7/10/2007</b>	<b>1/11/2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41007</b>	<b>7/10/2007</b>	<b>1/11/2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C80102 - February 01, 2008

