

REPORT NUMBER: 201UI-CAL-08-08

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

**TOYOTA MOTOR CORPORATION  
2009 TOYOTA COROLLA**

NHTSA NUMBER: C95103

CALSPAN TEST NUMBER: 8851-08

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



Test Date: May 9, 2008

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION  
National Highway Traffic Safety Administration  
Enforcement  
Office of Vehicle Safety Compliance  
Mail Code: NVS-220, West Building 4<sup>th</sup> Floor  
1200 New Jersey Avenue, SE  
Washington, DC 20590

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Prepared by:



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James Czarnecki, Project Engineer

Approved by:



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James Czarnecki, Program Manager  
Transportation Science Center

Approval Date:

**APPROVED**  
By James.Czarnecki at 1:12 pm, 9/19/08

FINAL REPORT ACCEPTANCE BY:

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NHTSA, Office of Vehicle Safety Compliance

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Date of Report Acceptance

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16. <i>Abstract</i>  Compliance tests were conducted on the subject vehicle, a 2009 Toyota Corolla, 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 2009 Toyota Corolla, NHTSA No. C95103, met 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 2009 Toyota Corolla , NHTSA No. C95103 , was tested at various upper interior locations by a 4.54 kg 50<sup>th</sup> percentile headform. A total of thirteen (13) 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 thirteen (13) areas chosen for testing were:

Pass. RP1	URRP	URRSR	BP4	URBP
SR2A	AP3	AP1	RP2	Driv. RP1
BP2	BP1	AP2		

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:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08 (SEE CERTIFICATION LABEL)
COLOR:	Green

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	2054.015	-508.351	2086.211	2054.223	509.630	2083.612	Relocated 2 circles				
AP1 R2	2089.935	-519.745	2058.887	2091.992	521.053	2057.140	117°	20°	18.47	239.0	346.8
AP2	1981.125	-562.277	1997.338	1998.462	558.733	2001.698	210°	50°	18.41	250.7	355.6
AP3	1828.327	-593.138	1934.284	1823.938	595.089	1930.242	153°	47°	23.73	971.7	899.5
BP1	2571.507	-473.494	2121.909	2576.330	473.774	2121.697	270°	11°	18.88	225.8	336.8
BP2	2545.683	-585.135	1905.105	2542.382	586.888	1904.866	270°	4°	23.61	570.7	597.0
BP3	2533.504	-581.293	1925.917	2513.884	585.778	1923.482	-	-	-	-	-
BP4	2620.924	-639.327	1827.617	2621.721	642.384	1825.971	147°	-10°	23.49	297.6	390.9
FH1	1987.351	-399.061	2103.134	1990.781	398.672	2102.502	-	-	-	-	-
FH2	1975.276	-249.913	2110.289	1974.081	250.649	2108.742	Relocated 1 circle		-	-	-
FH2 R1	1976.516	-271.149	2109.902	1973.072	275.140	2107.410	-	-	-	-	-
RP1	3338.566	-490.146	2078.828	3338.026	491.955	2075.848	68°	14°	23.74	491.7	537.3
							288°	14°	18.55	218.7	331.4
RP2	3387.239	-592.724	1927.402	3375.689	598.524	1925.829	Relocated 1 circle		-	-	-
RP2 R1	3373.110	-584.721	1941.504	3368.859	584.727	1944.461	282°	25°	23.74	881.7	831.6
SR1	2203.242	-484.688	2103.607	2203.989	487.684	2103.027	Relocated 2 circles		-	-	-
SR1 R2	2171.505	-505.613	2079.548	2168.763	509.762	2077.042	-	-	-	-	-
SR2A	2353.283	-494.217	2121.198	2354.348	496.775	2122.668	Relocated 2 circles		-	-	-
SR2A R2	2384.684	-471.373	2113.282	2392.440	479.831	2102.657	90°	29°	23.86	280.2	377.8
SR2B	2271.561	-497.003	2115.966	2276.504	498.012	2117.651	Relocated 2 circles		-	-	-
SR2B R2	2242.254	-488.077	2084.805	2245.318	491.791	2083.699	-	-	-	-	-
SR3F	2966.039	-484.863	2081.856	2966.351	486.756	2079.169	-	-	-	-	-
SR3R	3140.732	-492.069	2068.023	3141.094	494.020	2066.909	-	-	-	-	-
URAP	2199.265	-358.875	2129.729	2191.347	359.372	2126.307	-	-	-	-	-
URBP	2576.594	-362.669	2153.792	2565.341	360.906	2152.745	90°	45°	23.67	570.9	597.1
URRP	3182.960	-366.214	2152.001	3182.625	360.215	2152.211	90°	50°	23.74	797.6	768.2
URRSR	2902.005	-361.763	2169.421	3008.114	359.601	2168.534	90°	36°	23.84	592.5	613.4
URSR	2340.554	-356.783	2170.631	2367.590	359.876	2172.901	-	-	-	-	-

\*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:				2009 Toyota Corolla					
VIN:				JTDBL40E29J001449					
Month & Year of Manufacture:				01/08 (SEE CERTIFICATION LABEL)					
Vehicle Body Color:				Green					
Engine Data:	4	Cylinders;	-	CID;	1.8	Liters;	-	cc	
Engine Placement:		x	Longitudinal;	or		-	Lateral		
Transmission:	4	Speed;	-	Manual;	x	Automatic;	-	Overdrive	
Final Drive:	-	Rear Wheel Drive;	x	Front Wheel Drive;	-	Four Wheel Drive			
Odometer Reading:		10	km						
Options:	x	A/C;	x	Power Steering;	x	Pwr.Brakes;	x	Pwr. Windows	
Interior Trim Information :									
1. Grab handles on all outboard seating positions									
2. Adjustable seat belt anchorage on B-pillar									
3. No sunroof									

<b>DATA FROM TIRE PLACARD:</b>									
Tire Pressure (at capacity);				210		kPa FRONT			
				210		kPa REAR			
Recommended Tire Size:				P195/65R15					
Tires on Test Vehicle:		P195/65R15		Manufacturer:			Goodyear		
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)=				370		kg (A)			
No. of Occupants x 68 kg. =				340		kg (B)			
Rated Cargo/Luggage Weight (RCLW) =				30		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 =	<b>380.0</b>	<b>kg</b>	Left Rear =	<b>251.5</b>	<b>kg</b>
Right Front =	<b>382.5</b>	<b>kg</b>	Right Rear =	<b>238.0</b>	<b>kg</b>
TOTAL FRONT =	<b>762.5</b>	<b>kg</b>	TOTAL REAR =	<b>489.5</b>	<b>kg</b>
% of Total Weight =	<b>60.9%</b>	<b>%</b>	% of Total Weight =	<b>39.1%</b>	<b>%</b>
TOTAL WEIGHT =	<b>1252.0</b>		<b>kg</b>		

<b>CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:</b>		
Total Test Vehicle Delivered Weight=	<b>1252.0</b>	<b>kg (A)</b>
+ Rated Cargo/Luggage Weight =	<b>30.0</b>	<b>kg (B)</b>
TEST VEHICLE TARGET WEIGHT =	<b>1282.0</b>	<b>kg (A+B)</b>

<b>WEIGHT OF TEST VEHICLE (FULLY LOADED):</b>					
Left Front =	<b>379.0</b>	<b>kg</b>	Left Rear =	<b>264.5</b>	<b>kg</b>
Right Front =	<b>380.0</b>	<b>kg</b>	Right Rear =	<b>251.5</b>	<b>kg</b>
TOTAL FRONT =	<b>759.0</b>	<b>kg</b>	TOTAL REAR =	<b>516.0</b>	<b>kg</b>
% of Total Weight =	<b>59.5%</b>	<b>%</b>	% of Total Weight =	<b>40.5%</b>	<b>%</b>
TOTAL TEST WEIGHT =	<b>1275.0</b>				
Weight of vehicle secured in test vehicles cargo area =	<b>23.0</b>		<b>kg</b>		

<b>TEST VEHICLE ATTITUDE (all dimensions in millimeters):</b>				
AS DELIVERED:	Left Front	<b>703</b>	Left Rear	<b>711</b>
	Right Front	<b>700</b>	Right Rear	<b>719</b>
FULLY LOADED:	Left Front	<b>699</b>	Left Rear	<b>705</b>
	Right Front	<b>696</b>	Right Rear	<b>713</b>
Test Vehicle Wheelbase:	<b>2602</b>		millimeters	

<b>TEST VEHICLE PITCH AND ROLL ANGLES:</b>				
AS DELIVERED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	<b>↑0.8↓</b>	Front Bumper	<b>↑0.1↓</b>
	Right Door Sill	<b>↓0.6↑</b>	Rear Bumper	<b>↓0.1↑</b>
FULLY LOADED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	<b>↑0.6↓</b>	Front Bumper	<b>↑0.1↓</b>
	Right Door Sill	<b>↓0.4↑</b>	Rear Bumper	<b>0.0</b>
AS TESTED:	PITCH ANGLES		ROLL ANGLES	
	Left Door Sill	<b>↑0.6↓</b>	Front Bumper	<b>↑0.1↓</b>
	Right Door Sill	<b>↓0.6↑</b>	Rear Bumper	<b>↓0.1↑</b>

DATA SHEET 2-3

APPROACH ANGLE LIMITS

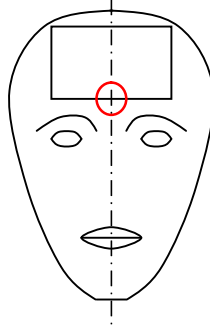
Target Code	Left Side				Target Code	Right Side			
	Horizontal Angles (deg.)		Vertical Angles (deg.)			Horizontal Angles (deg.)		Vertical Angles (deg.)	
	Minimum	Maximum	Minimum	Maximum		Minimum	Maximum	Minimum	Maximum
AP1	202	254	-5	20	AP1	106	158	-5	20
AP2	202	254	-5	50	AP2	106	158	-5	50
AP3	202	254	-5	47	AP3	106	158	-5	47
BP1	202	275	-10	11	BP1	85	158	-10	11
BP2	ANY		0	4	BP2	ANY		0	4
BP3	202	275	-10	6	BP3	85	158	-10	6
BP4	202	275	-10	-10	BP4	85	158	-10	-10
OP1	270		-10	-	OP1	90		-10	-
OP2	270		-10	-	OP2	90		-10	-
RP1	270	345	-10	14	RP1	15	90	-10	14
RP2	270	345	-10	25	RP2	15	90	-10	25
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	29	SR1	90		0	29
SR2A	270		0	29	SR2A	90		0	29
SR2B	270		0	29	SR2B	90		0	29
SR3F	270		0	25	SR3F	90		0	25
SR3R	270		0	25	SR3R	90		0	25
URAP	ANY		0	50	URAP	ANY		0	50
URBP	ANY		0	45	URBP	ANY		0	45
URRSR	ANY		0	36	URRSR	ANY		0	36
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:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green



ã RIGHT SIDE OF FACE

TARGET	Distance Above Point 0 (mm)	Distance Over From Pt. O (mm)
Pass. RP1	<b>34</b>	<b>3L</b>
URRP	<b>35</b>	<b>6L</b>
URRSR	<b>62</b>	<b>4L</b>
BP4	<b>24</b>	<b>0</b>
URBP	<b>51</b>	<b>4L</b>
SR2A	<b>13</b>	<b>2R</b>
AP3	<b>10</b>	<b>6R</b>
AP1	<b>14</b>	<b>34R</b>
RP2	<b>16</b>	<b>0</b>
Driv. RP1	<b>35</b>	<b>0</b>
BP2	<b>5</b>	<b>3R</b>
BP1	<b>38</b>	<b>3L</b>
AP2	<b>4</b>	<b>4L</b>

**SECTION 3**

**SUMMARY OF TEST RESULTS AND DATA PLOTS**

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	01
Test Date:	05/08/08
Target Location:	REAR PILLAR
Target Code:	Pass. RP1
Horizontal Impact Angle:	68°
Vertical Impact Angle:	14°
Ambient Temperature:	20.5°C
Relative Humidity:	39.6
Time of Impact:	9:09
Headform Number:	1142

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	34				mm up



POST-IMPACT Pass. RP1 HEADFORM

Free Motion HIC	491.7
HIC(d)	537.3
Impact Velocity (kph)	23.74
HIC T1 (msec)	3.8
HIC T2 (msec)	12.8

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - RP1

FMH Headform 1142

Location: RP1

Test Date: May 08, 2008

Work File: RP1

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

Lab Temperature: 20.5 C

HICd: 537.3

Lab Humidity: 39.6 %

HIC (36ms): 491.7

Velocity at Impact: 23.74 KPH

t1: 3.8 msec

t2: 12.8 msec

Free Flight Distance: 209.74 mm

Duration: 8.9 msec

Average Acceleration: 9.3 g

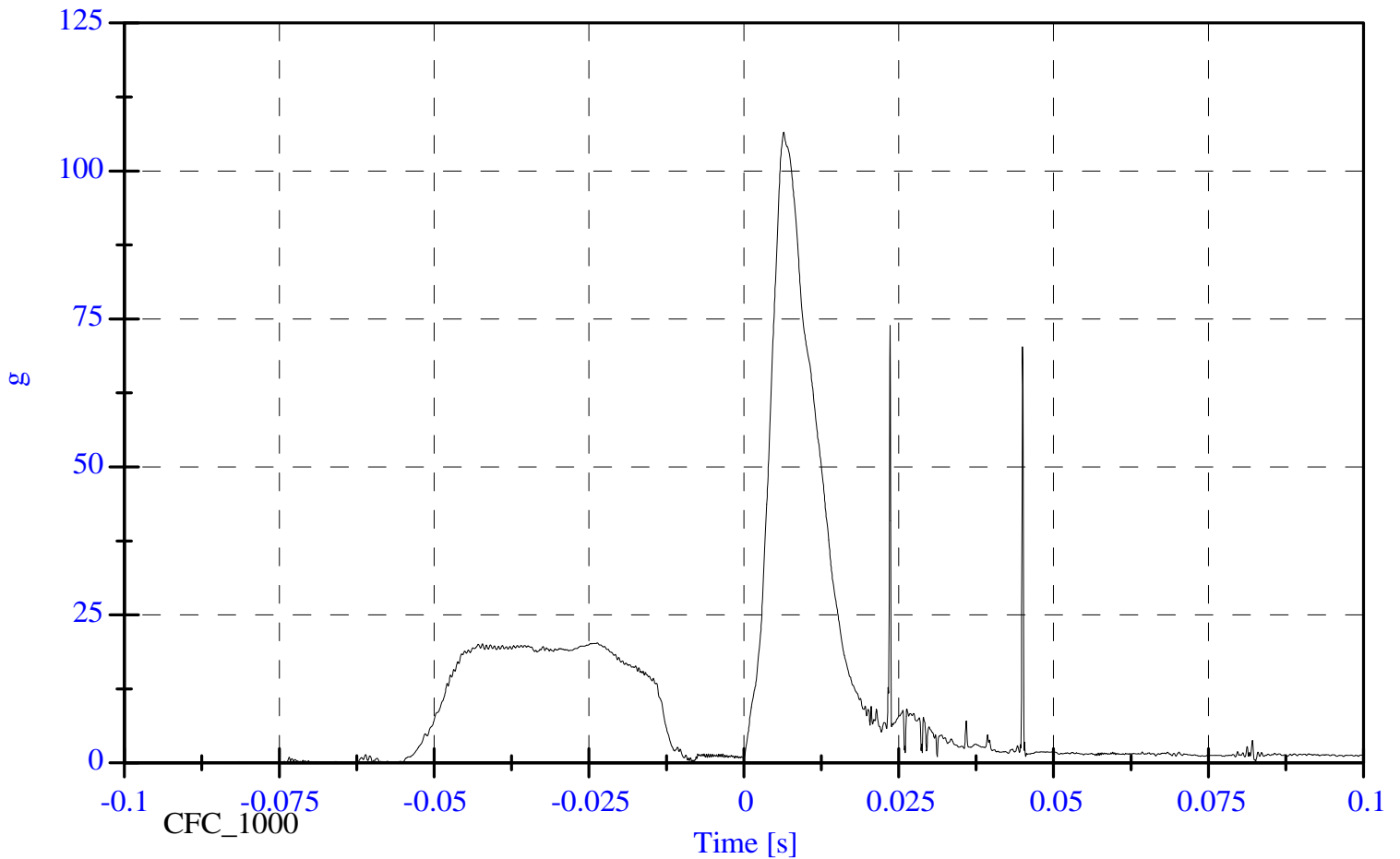
Maximum: 106.6 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 106.6 [g] at 0.006 [s]

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



FMVSS 201U 2009 TOYOTA COROLLA

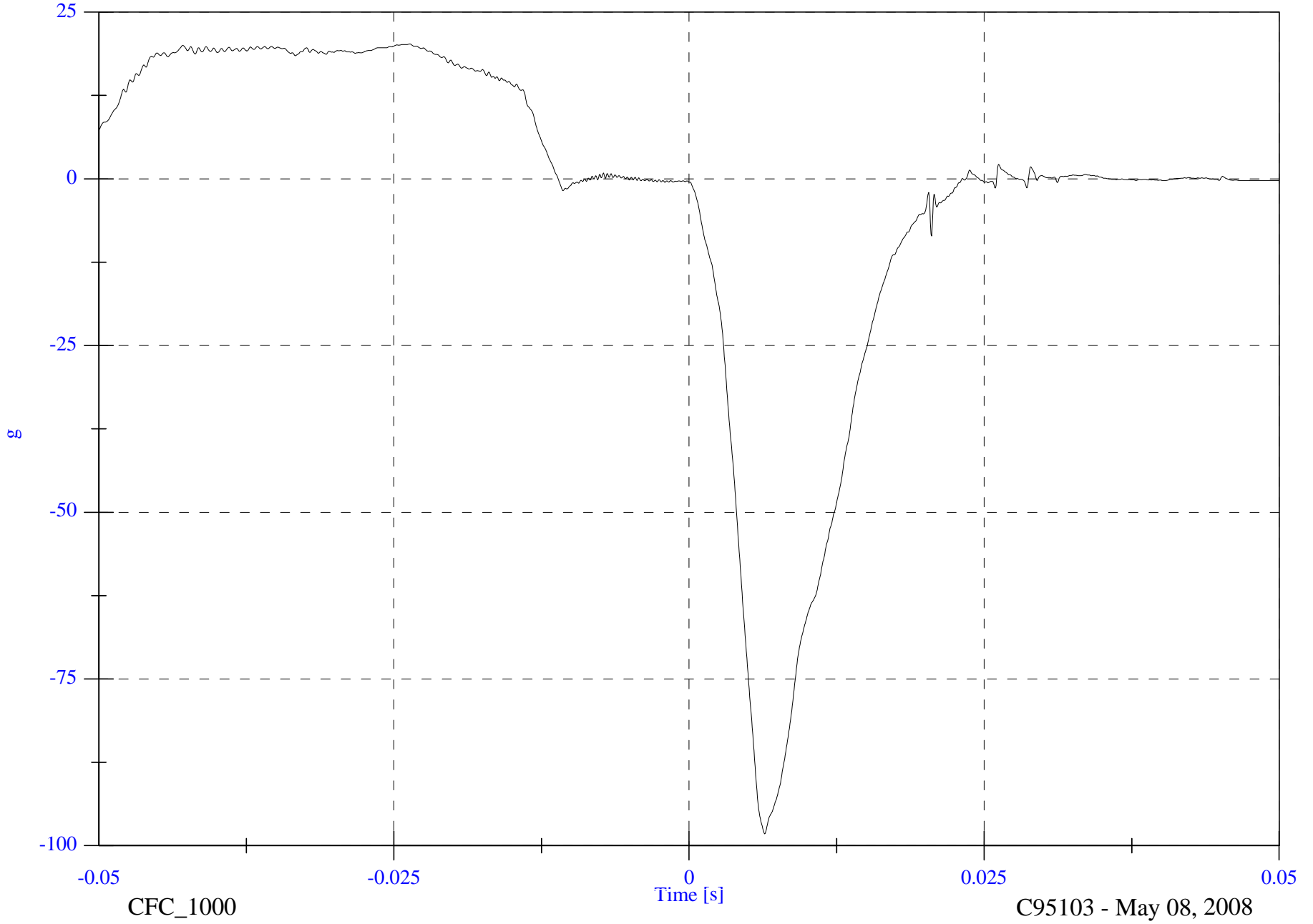
Headform X Acceleration

Max: 20.2 [g] at -0.024 [s]

Min: -98.2 [g] at 0.006 [s]

C95103 PASSENGER SIDE RPI IMPACT PLOT #2

8851-08



CFC\_1000

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FMVSS 201U 2009 TOYOTA COROLLA

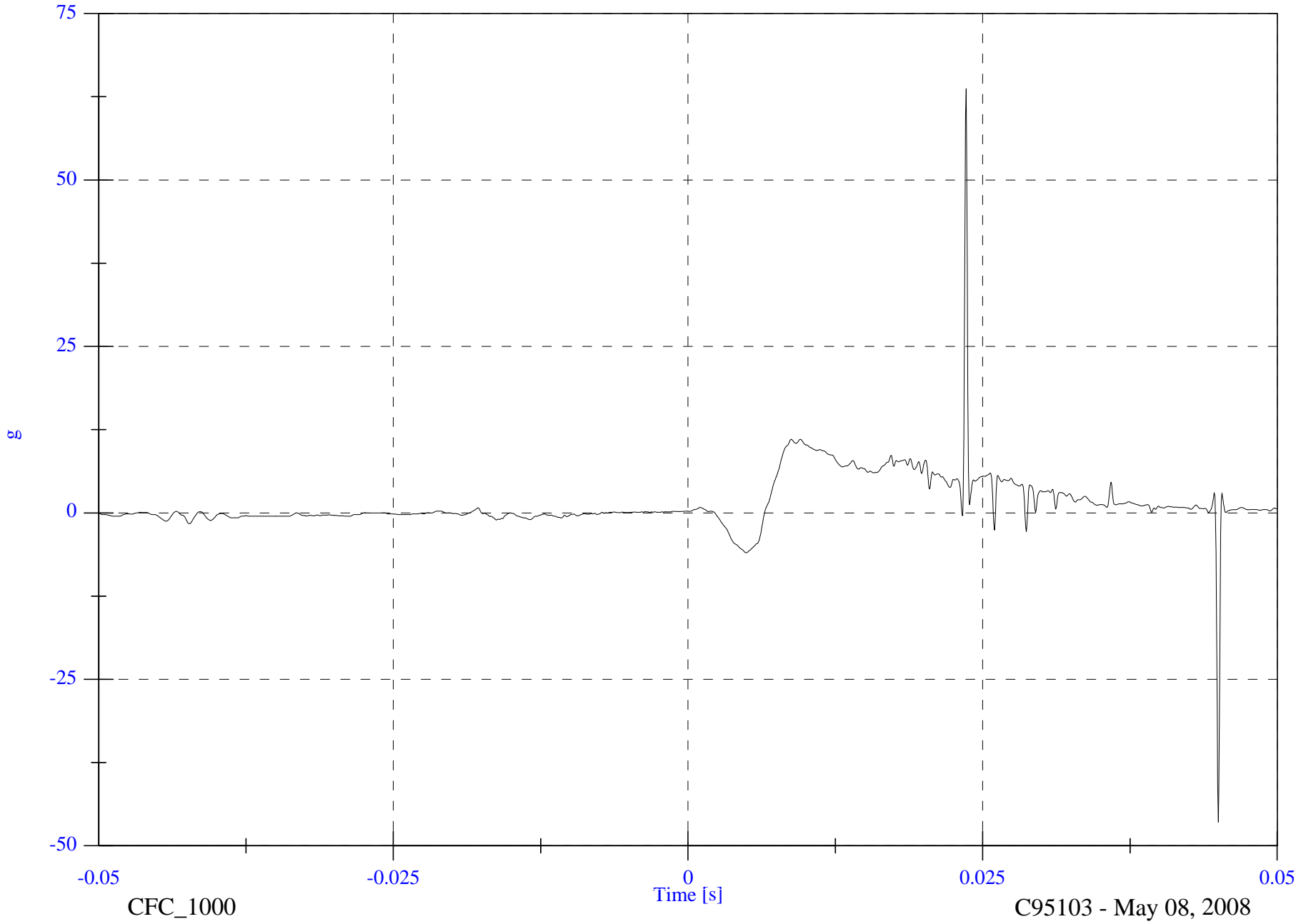
Headform Y Acceleration

Max: 63.7 [g] at 0.024 [s]

Min: -46.5 [g] at 0.045 [s]

C95103 PASSENGER SIDE RPI IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

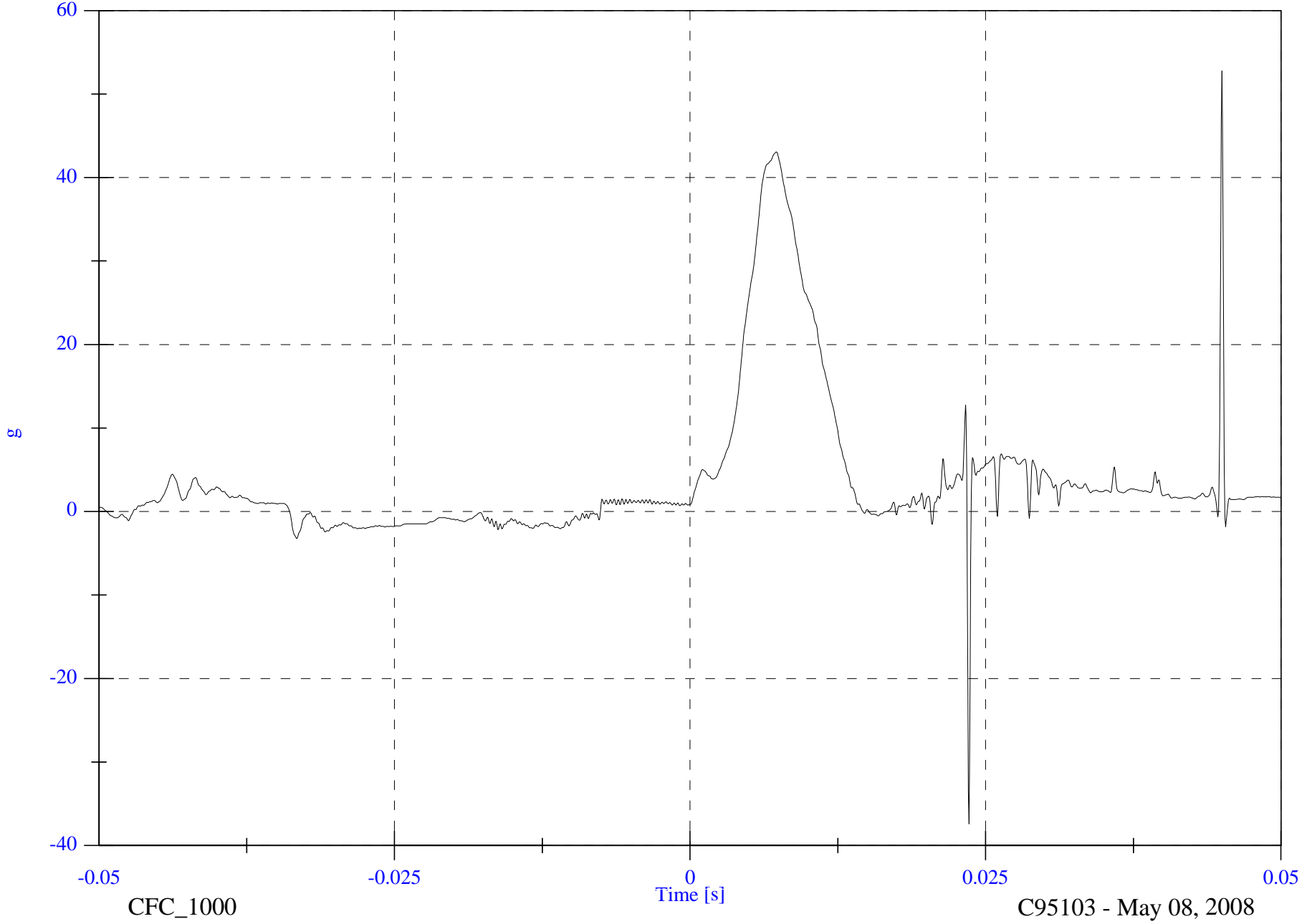
Headform Z Acceleration

Max: 52.8 [g] at 0.045 [s]

Min: -37.4 [g] at 0.024 [s]

C95103 PASSENGER SIDE RPI IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

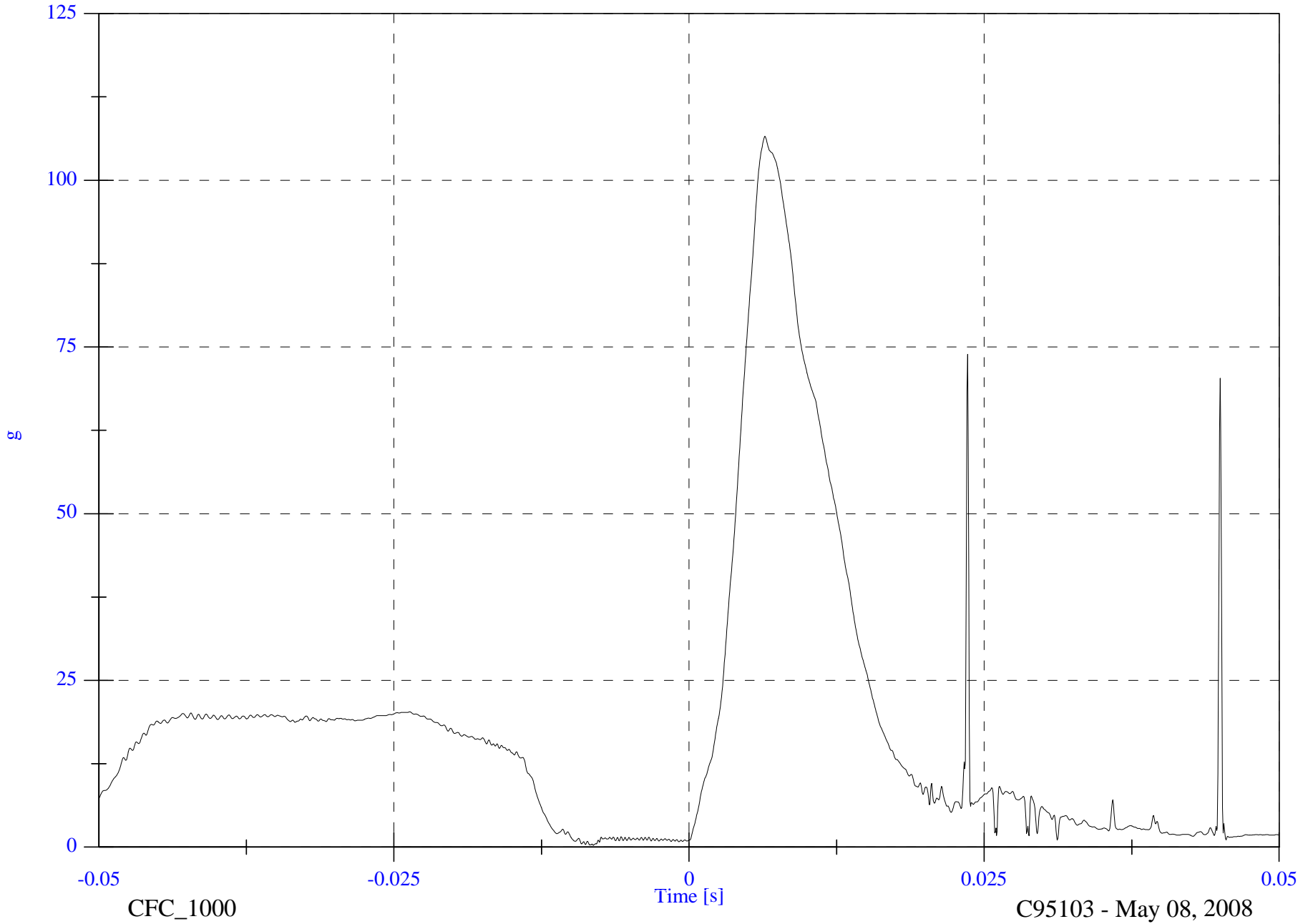
Headform Resultant

Max: 106.6 [g] at 0.006 [s]

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

C95103 PASSENGER SIDE RPI IMPACT PLOT #5

8851-08



CFC\_1000

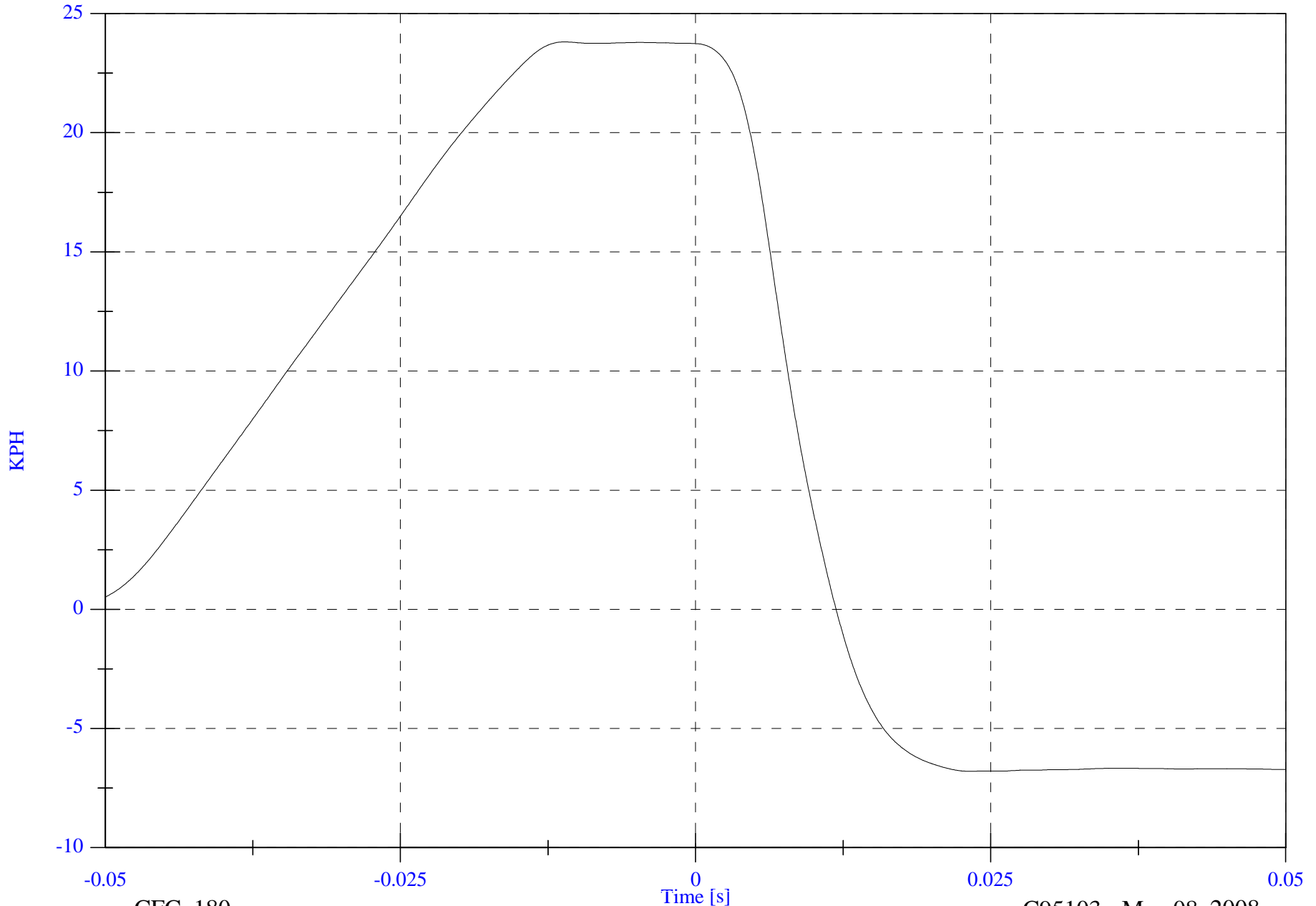
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Max: 23.8 [KPH] at -0.011 [s]

Min: -6.8 [KPH] at 0.023 [s]

### Headform Velocity



C95103 PASSENGER SIDE RPI IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT Pass. RP1



POST-IMPACT Pass. RP1

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	02
Test Date:	<b>05/08/08</b>
Target Location:	UPPER ROOF
Target Code:	URRP
Horizontal Impact Angle:	<b>90°</b>
Vertical Impact Angle:	<b>50°</b>
Ambient Temperature:	<b>20.5°C</b>
Relative Humidity:	<b>39.6</b>
Time of Impact:	<b>9:37</b>
Headform Number:	<b>1140</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	<b>6</b>	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	<b>35</b>				mm up



POST-IMPACT URRP HEADFORM

Free Motion HIC	<b>797.6</b>
HIC(d)	<b>768.2</b>
Impact Velocity (kph)	<b>23.74</b>
HIC T1 (msec)	<b>5.0</b>
HIC T2 (msec)	<b>11.1</b>

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - URRP

FMH Headform 1140

Location: URRP

Test Date: May 08, 2008

Work File: URRP

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

Lab Temperature: 20.5 C

HICd: 768.2

Lab Humidity: 39.6 %

HIC (36ms): 797.6

Velocity at Impact: 23.74 KPH

t1: 5.0 msec

t2: 11.1 msec

Free Flight Distance: 214.87 mm

Duration: 6.1 msec

Average Acceleration: 10.6 g

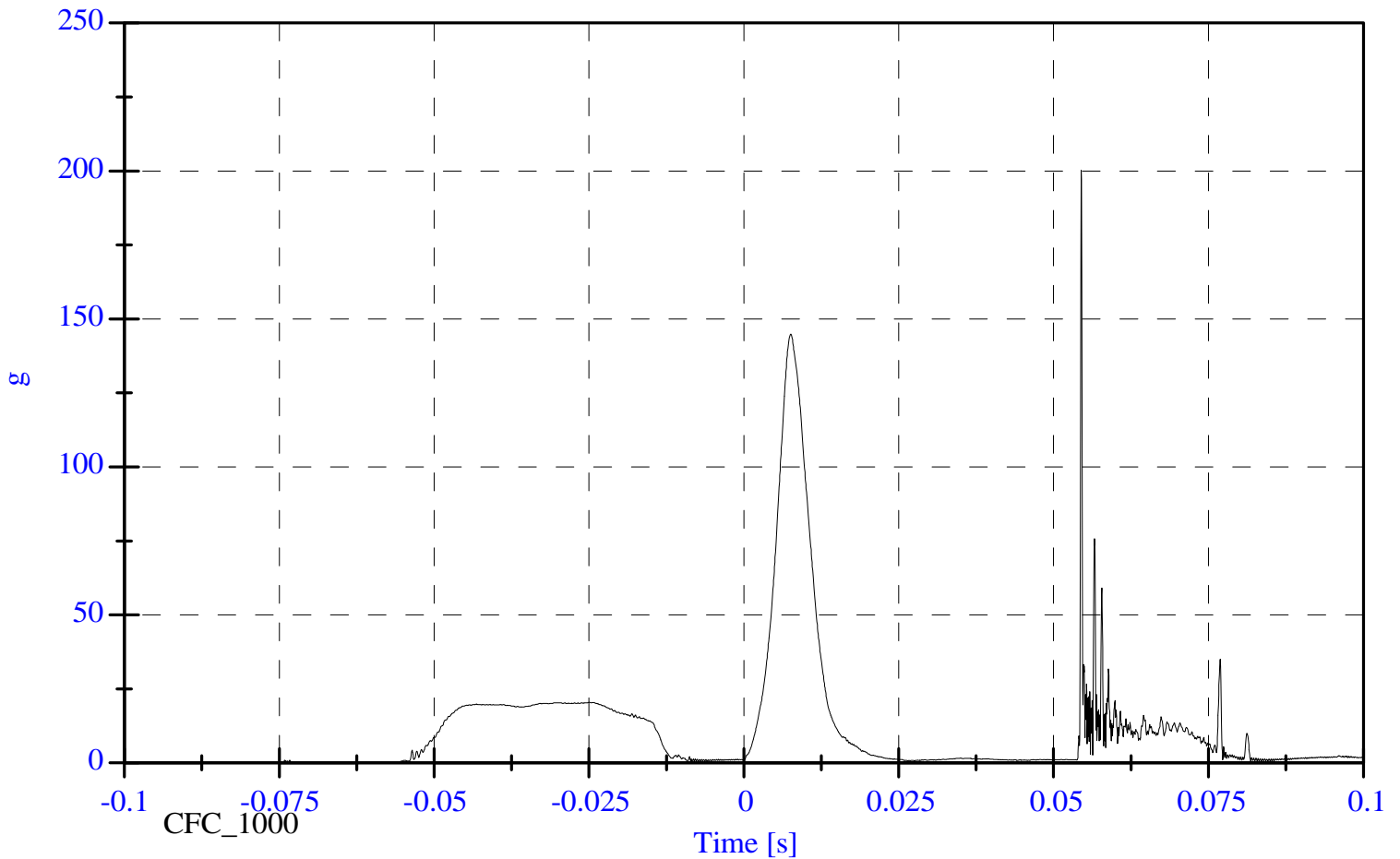
Maximum: 144.8 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 144.8 [g] at 0.008 [s]

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



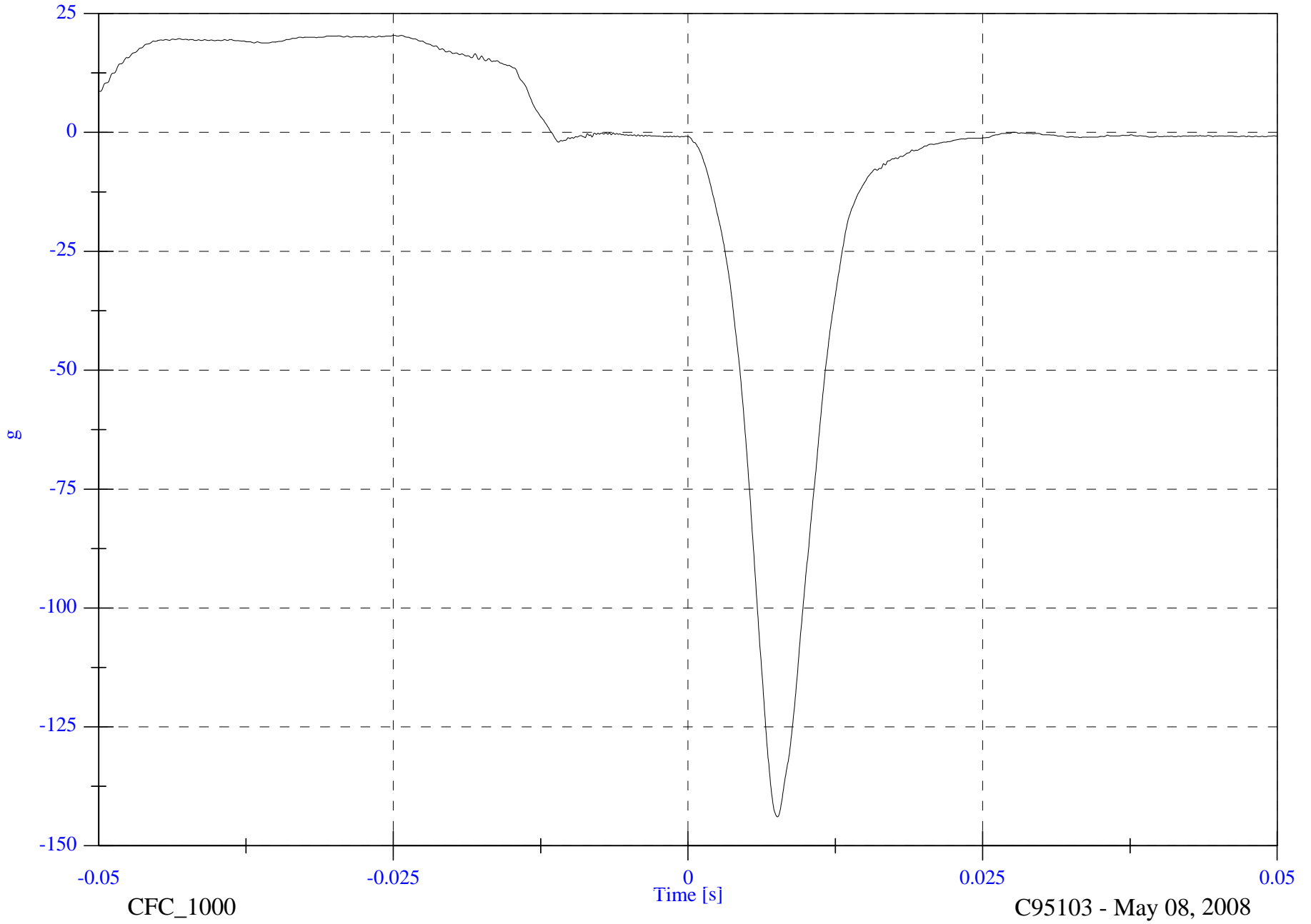


FMVSS 201U 2009 TOYOTA COROLLA

Headform X Acceleration

Max: 20.4 [g] at -0.025 [s]

Min: -144.0 [g] at 0.008 [s]



C95103 PASSENGER SIDE URRP IMPACT PLOT #2

8851-08

CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

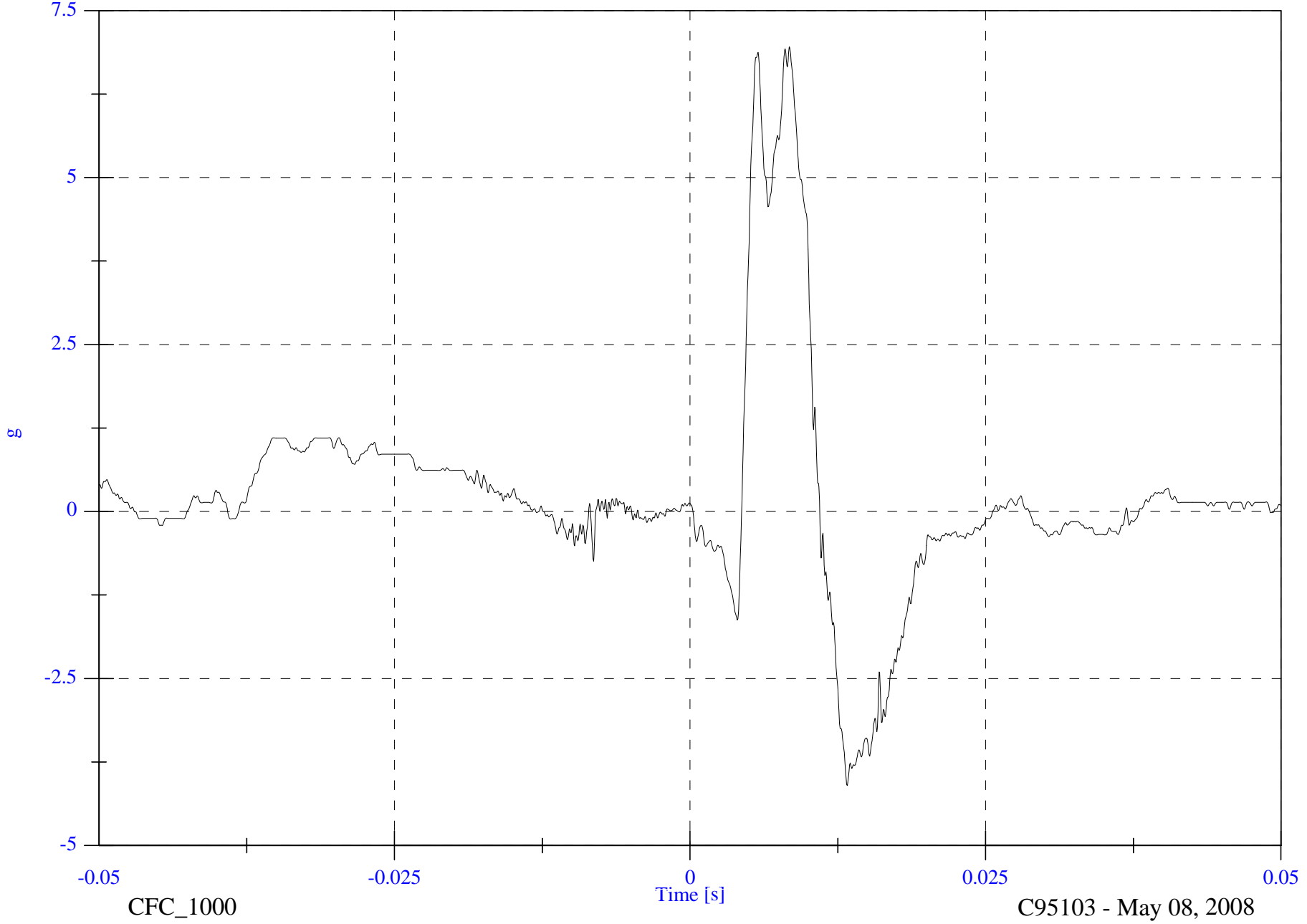
Headform Y Acceleration

Max: 7.0 [g] at 0.008 [s]

Min: -4.1 [g] at 0.013 [s]

C95103 PASSENGER SIDE URRP IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

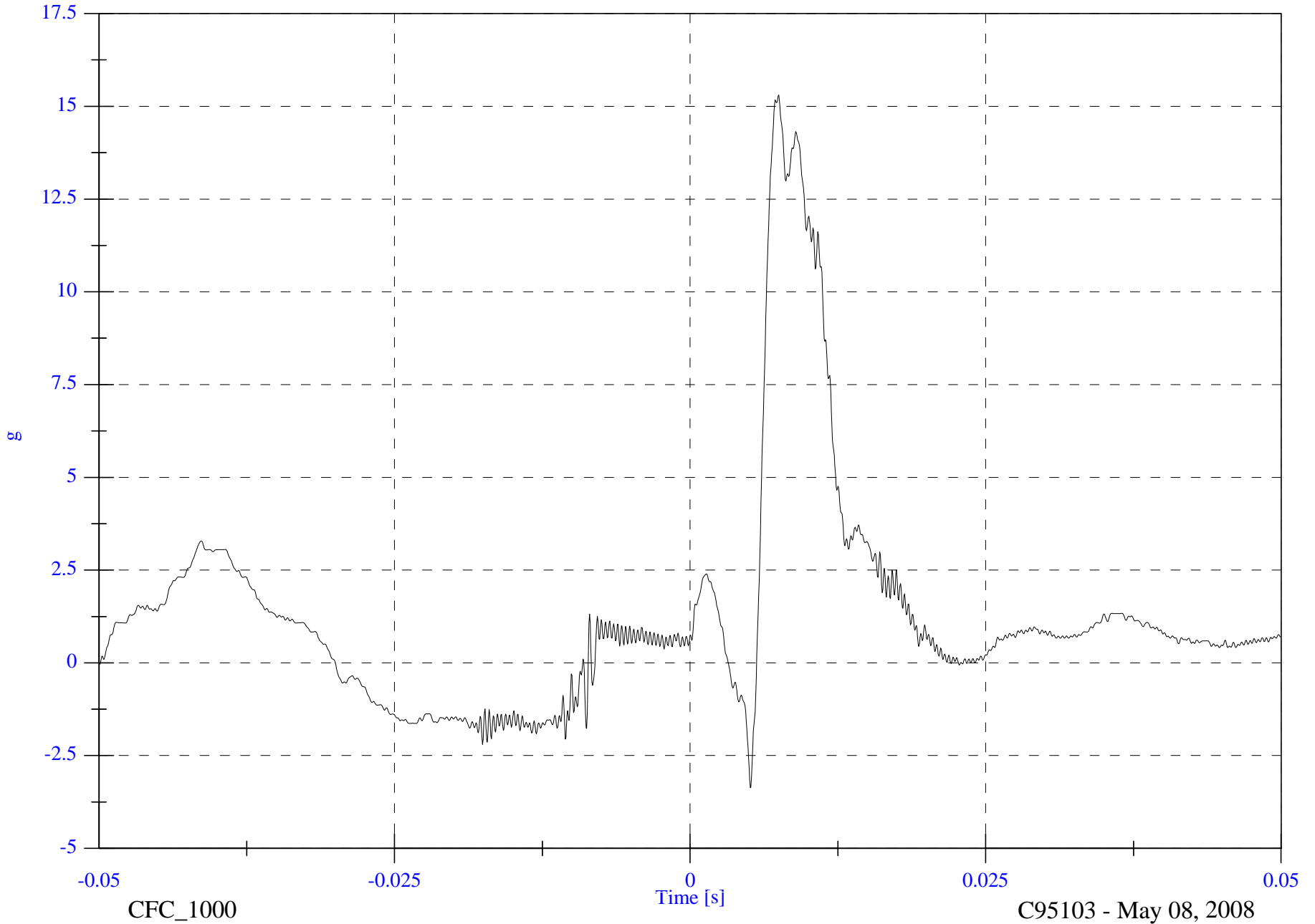
Headform Z Acceleration

Max: 15.3 [g] at 0.008 [s]

Min: -3.4 [g] at 0.005 [s]

C95103 PASSENGER SIDE URRP IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

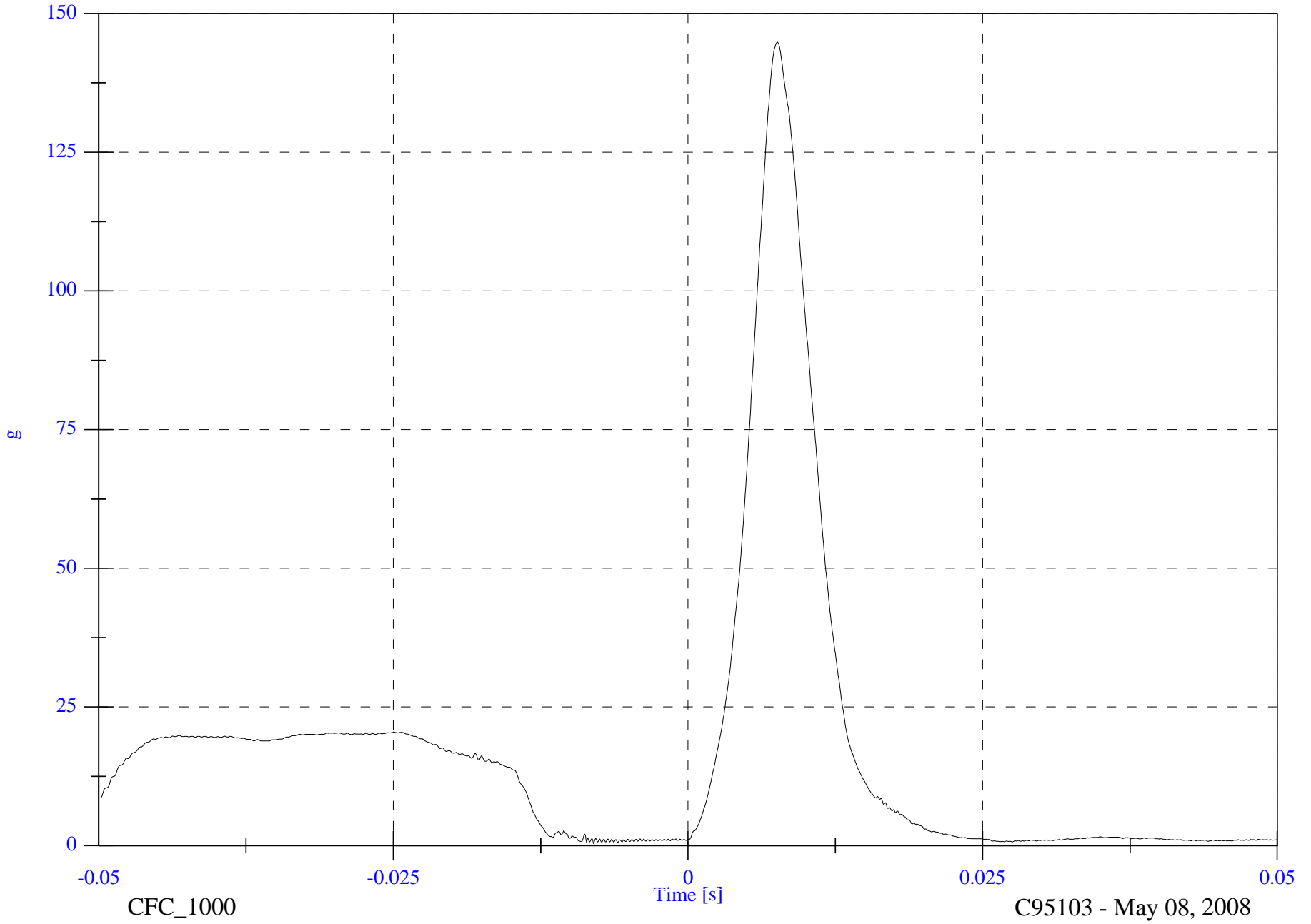
Headform Resultant

Max: 144.8 [g] at 0.008 [s]

Min: 0.4 [g] at -0.008 [s]

C95103 PASSENGER SIDE URRP IMPACT PLOT #5

8851-08



CFC\_1000

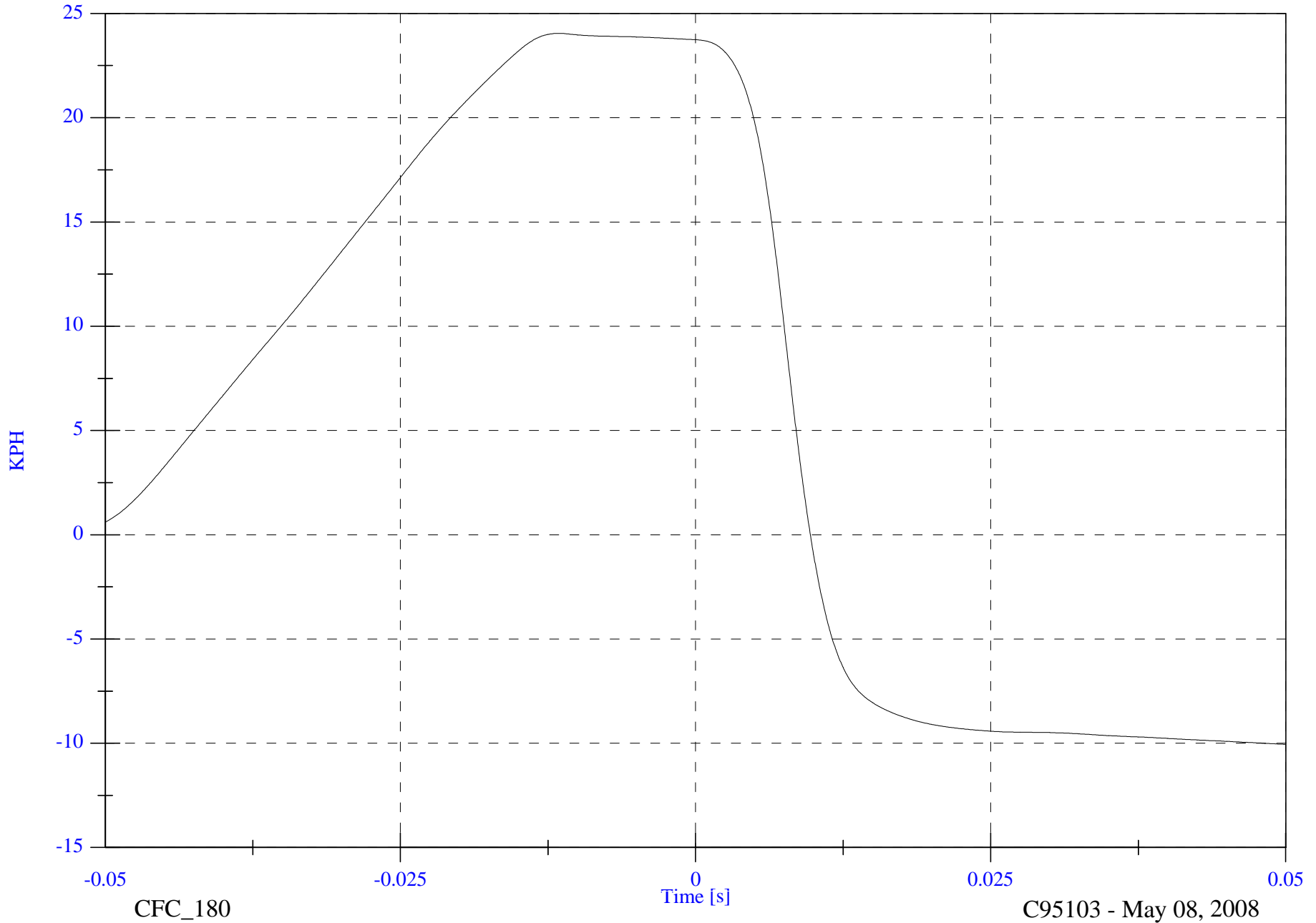
C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 24.0 [KPH] at -0.012 [s]

Min: -10.1 [KPH] at 0.050 [s]

Headform Velocity



C95103 PASSENGER SIDE URRP IMPACT PLOT #6

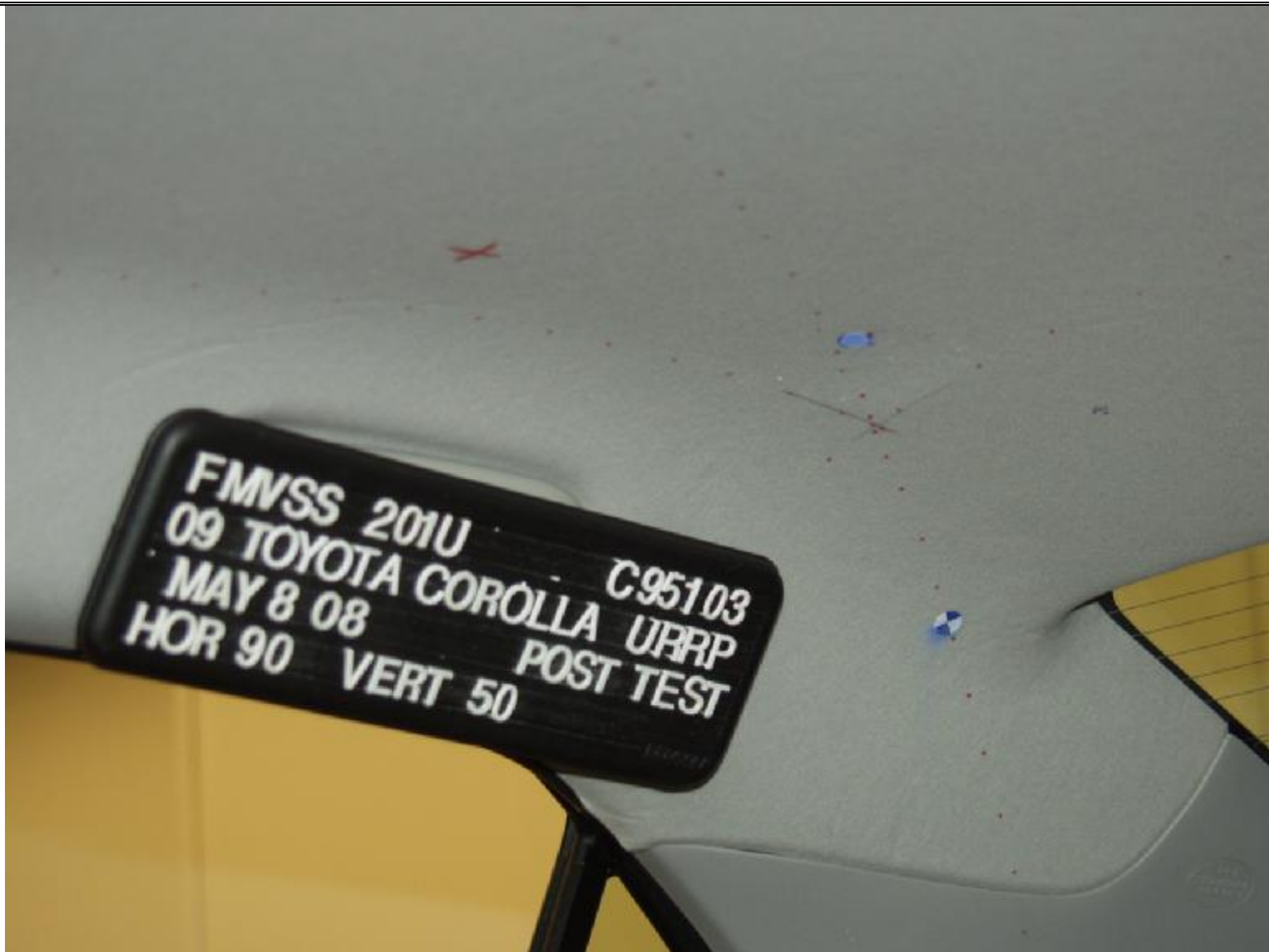
8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT URRP



POST-IMPACT URRP

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	03
Test Date:	<b>05/08/08</b>
Target Location:	UPPER ROOF
Target Code:	URRSR
Horizontal Impact Angle:	<b>90°</b>
Vertical Impact Angle:	<b>36°</b>
Ambient Temperature:	<b>20.5°C</b>
Relative Humidity:	<b>39.2</b>
Time of Impact:	<b>10:07</b>
Headform Number:	<b>0355</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	4	<input type="checkbox"/>	mm right	<input checked="" type="checkbox"/>	mm left
On Centerline	62				mm up



POST-IMPACT URRSR HEADFORM

Free Motion HIC	592.5
HIC(d)	613.4
Impact Velocity (kph)	23.84
HIC T1 (msec)	3.8
HIC T2 (msec)	11.5



# FMVSS 201U 2009 TOYOTA COROLLA C95103 - URRSR

FMH Headform 0355

Location: URRSR

Test Date: May 08, 2008

Work File: URRSR

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

Lab Temperature: 20.5 C

HICd: 613.4

Lab Humidity: 39.2 %

HIC (36ms): 592.5

Velocity at Impact: 23.84 KPH

t1: 3.7 msec

t2: 11.5 msec

Free Flight Distance: 227.13 mm

Duration: 7.7 msec

Average Acceleration: 8.5 g

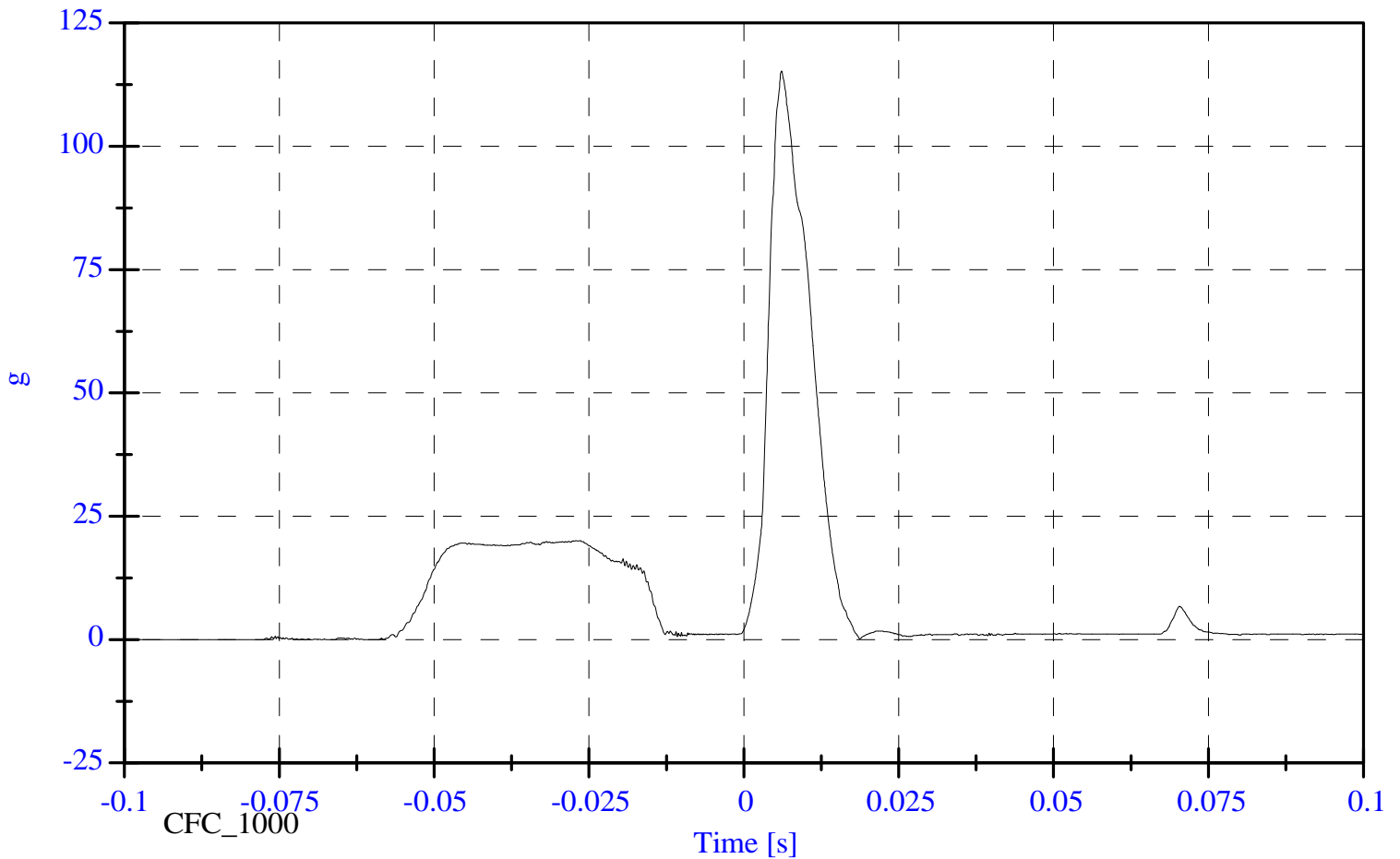
Maximum: 115.3 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 115.3 [g] at 0.006 [s]

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



FMVSS 201U 2009 TOYOTA COROLLA

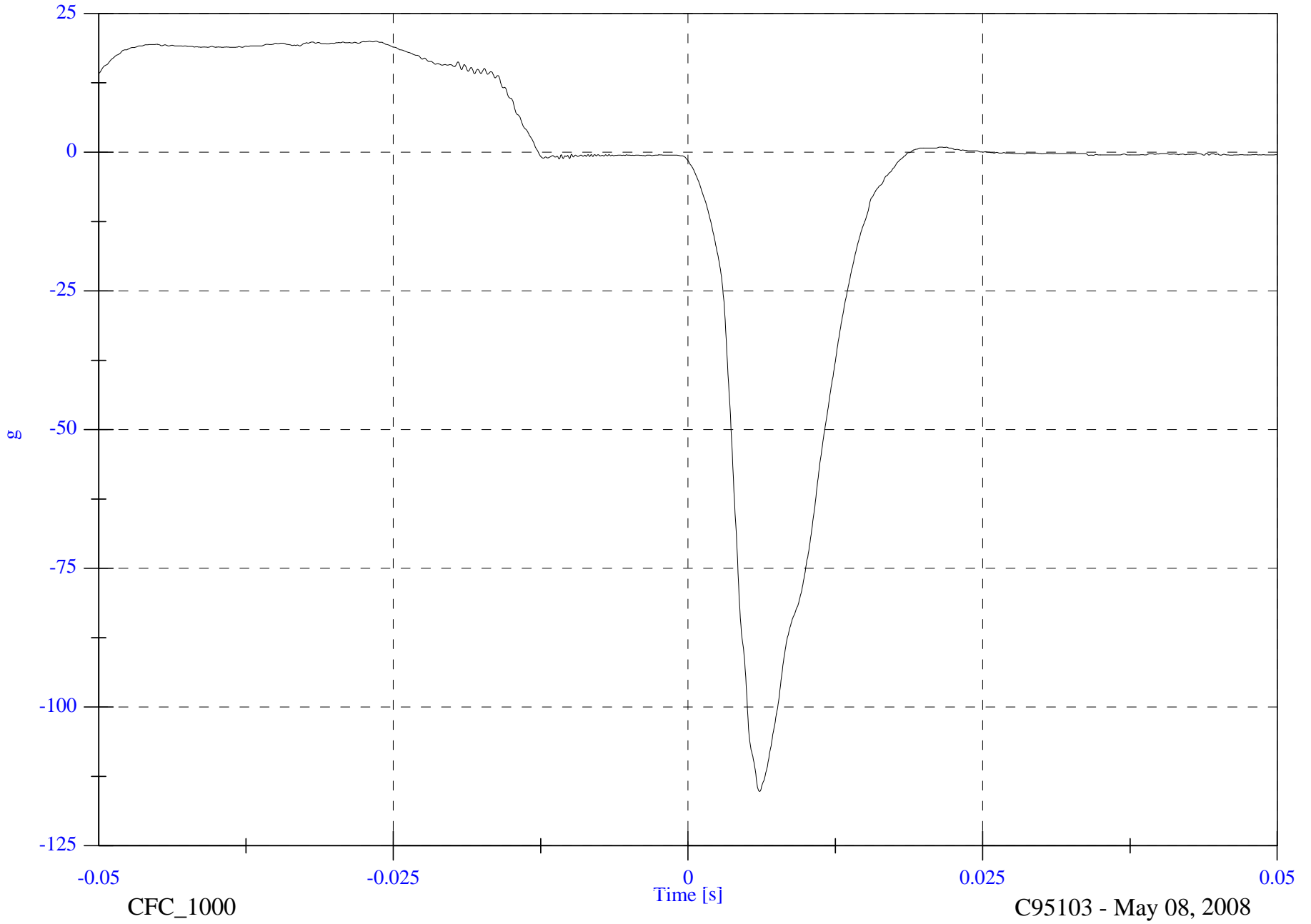
Headform X Acceleration

Max: 20.0 [g] at -0.026 [s]

Min: -115.2 [g] at 0.006 [s]

C95103 PASSENGER SIDE URRSR IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

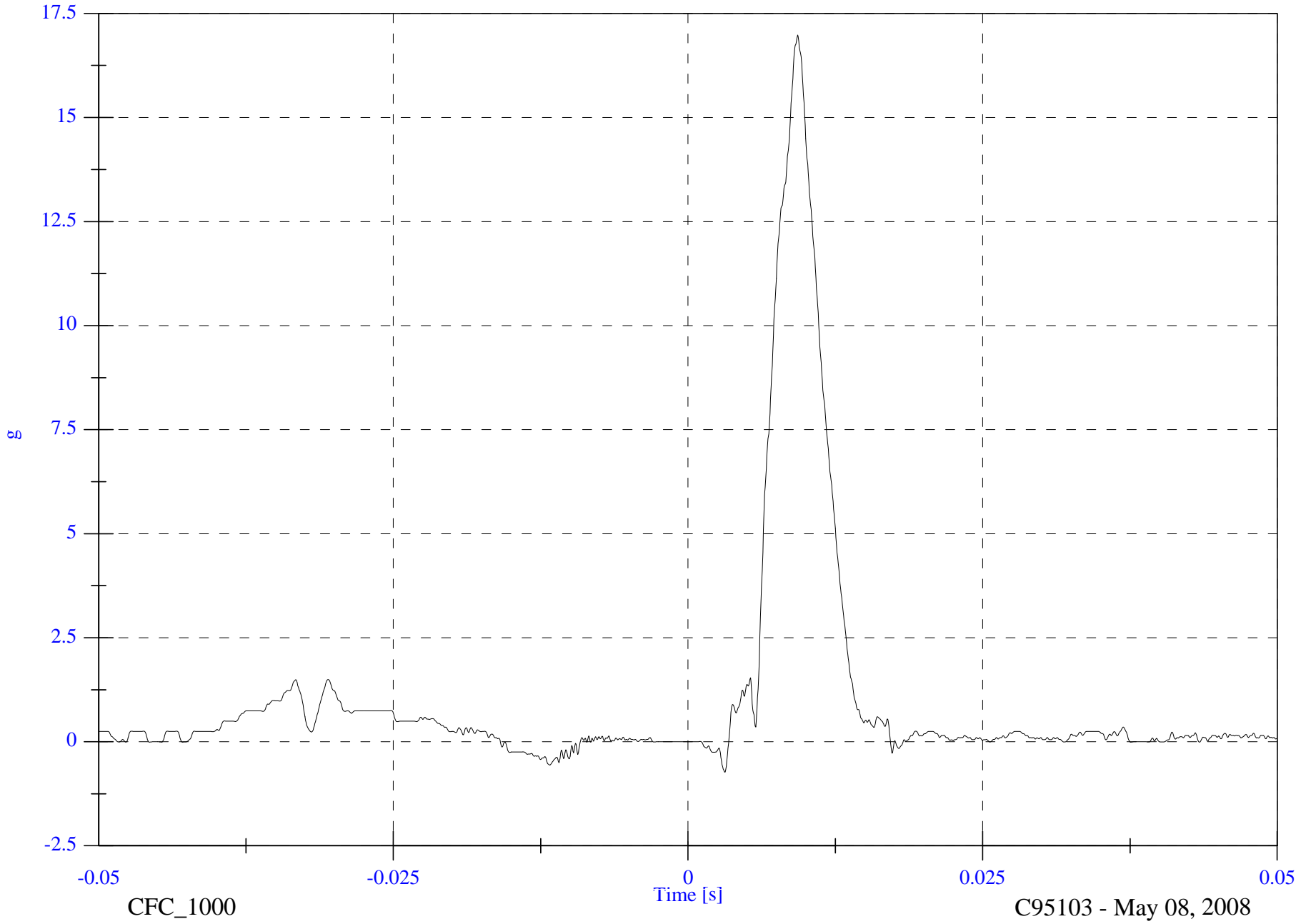
Headform Y Acceleration

Max: 17.0 [g] at 0.009 [s]

Min: -0.7 [g] at 0.003 [s]

C95103 PASSENGER SIDE URRSR IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

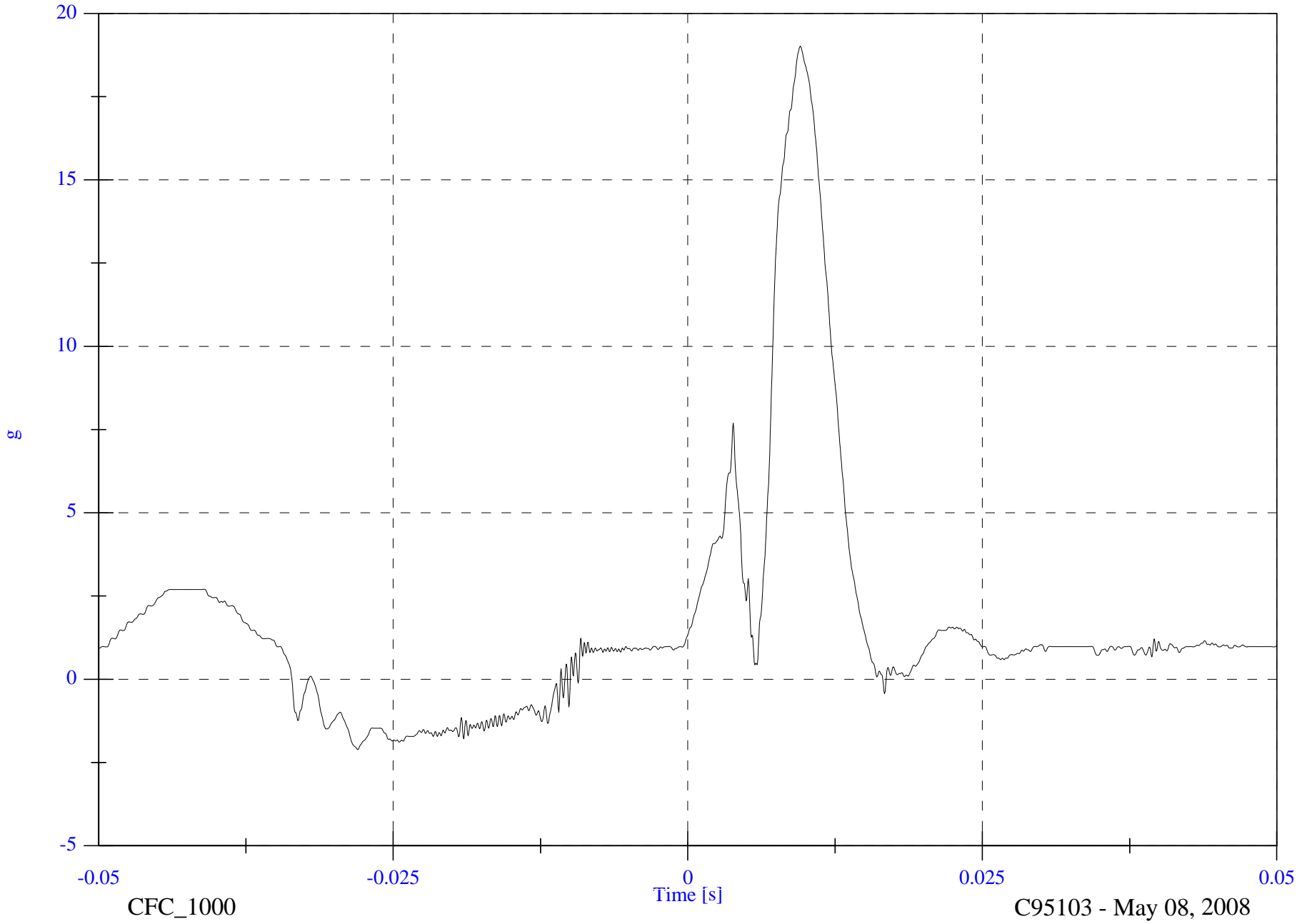
Headform Z Acceleration

Max: 19.0 [g] at 0.010 [s]

Min: -2.1 [g] at -0.028 [s]

C95103 PASSENGER SIDE URRSR IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

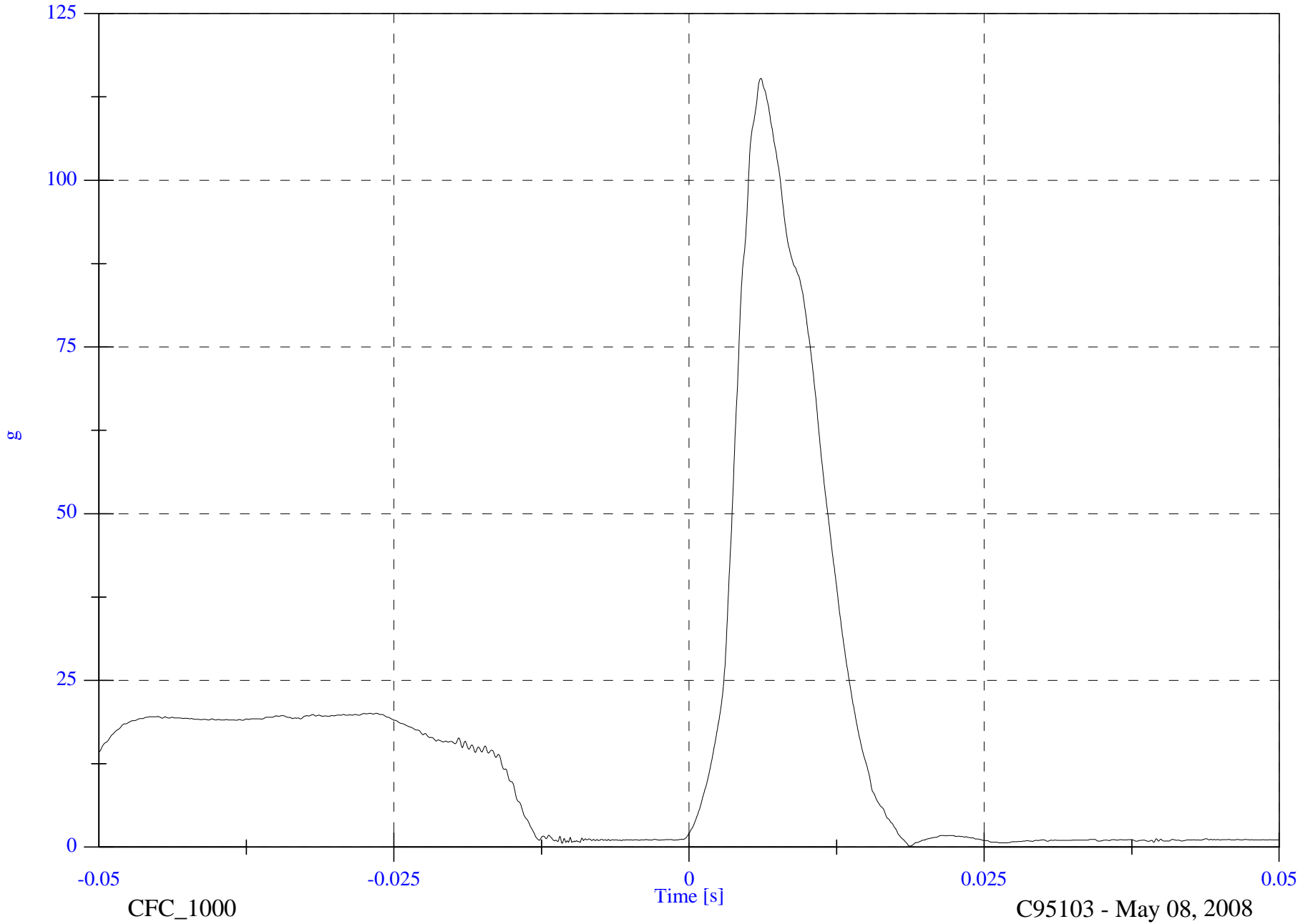
Headform Resultant

Max: 115.3 [g] at 0.006 [s]

Min: 0.2 [g] at 0.019 [s]

C95103 PASSENGER SIDE URRSR IMPACT PLOT #5

8851-08

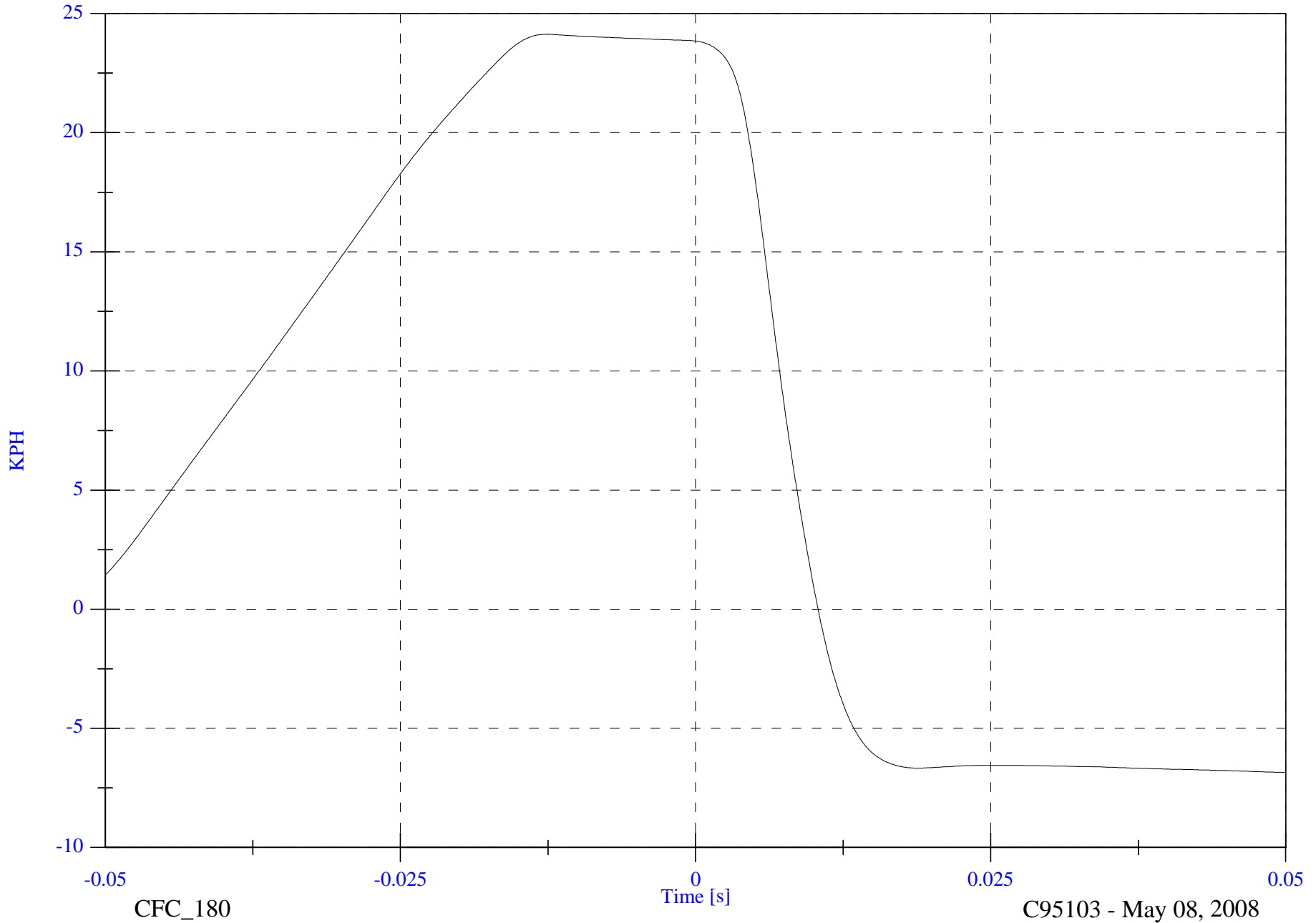


FMVSS 201U 2009 TOYOTA COROLLA

Max: 24.1 [KPH] at -0.013 [s]

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

### Headform Velocity



C95103 PASSENGER SIDE URRSR IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT URRSR



POST-IMPACT URRSR



VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	04
Test Date:	<b>05/08/08</b>
Target Location:	B-PILLAR
Target Code:	BP4
Horizontal Impact Angle:	<b>147°</b>
Vertical Impact Angle:	<b>-10°</b>
Ambient Temperature:	<b>20.5°C</b>
Relative Humidity:	<b>38.3</b>
Time of Impact:	<b>10:50</b>
Headform Number:	<b>0805</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	<b>0</b>	<input type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	<b>24</b>				mm up



POST-IMPACT BP4 HEADFORM

Free Motion HIC	<b>297.6</b>
HIC(d)	<b>390.9</b>
Impact Velocity (kph)	<b>23.49</b>
HIC T1 (msec)	<b>1.3</b>
HIC T2 (msec)	<b>16.4</b>

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - BP4

FMH Headform 0805

Location: BP4

Test Date: May 08, 2008

Work File: BP4

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

Lab Temperature: 20.5 C

HICd: 390.9

Lab Humidity: 38.3 %

HIC (36ms): 297.6

Velocity at Impact: 23.49 KPH

t1: 1.3 msec

t2: 16.4 msec

Free Flight Distance: 218.78 mm

Duration: 15.0 msec

Average Acceleration: 9.3 g

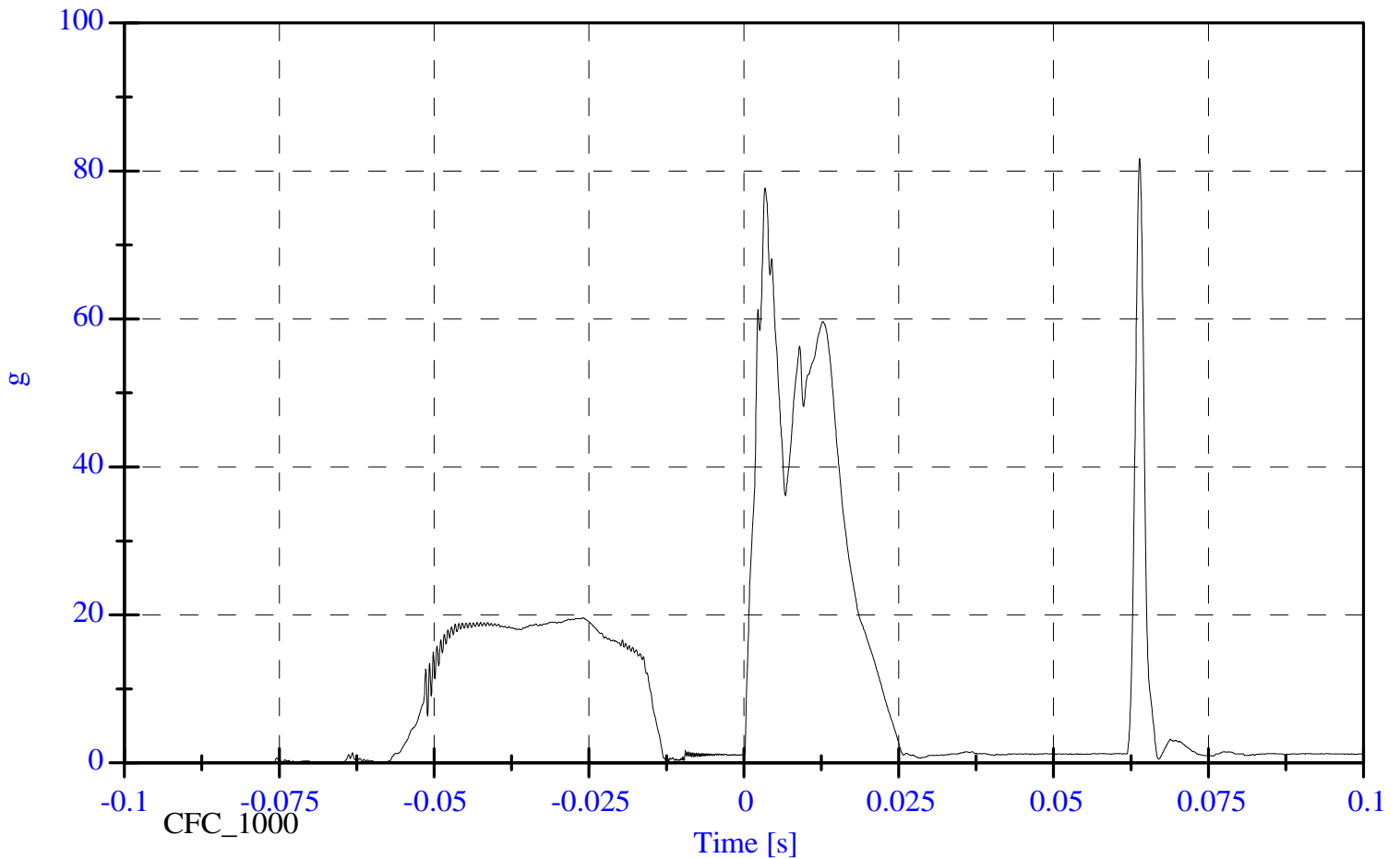
Maximum: 77.7 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 77.7 [g] at 0.003 [s]

Min: 0.0 [g] at -0.082 [s]



FMVSS 201U 2009 TOYOTA COROLLA

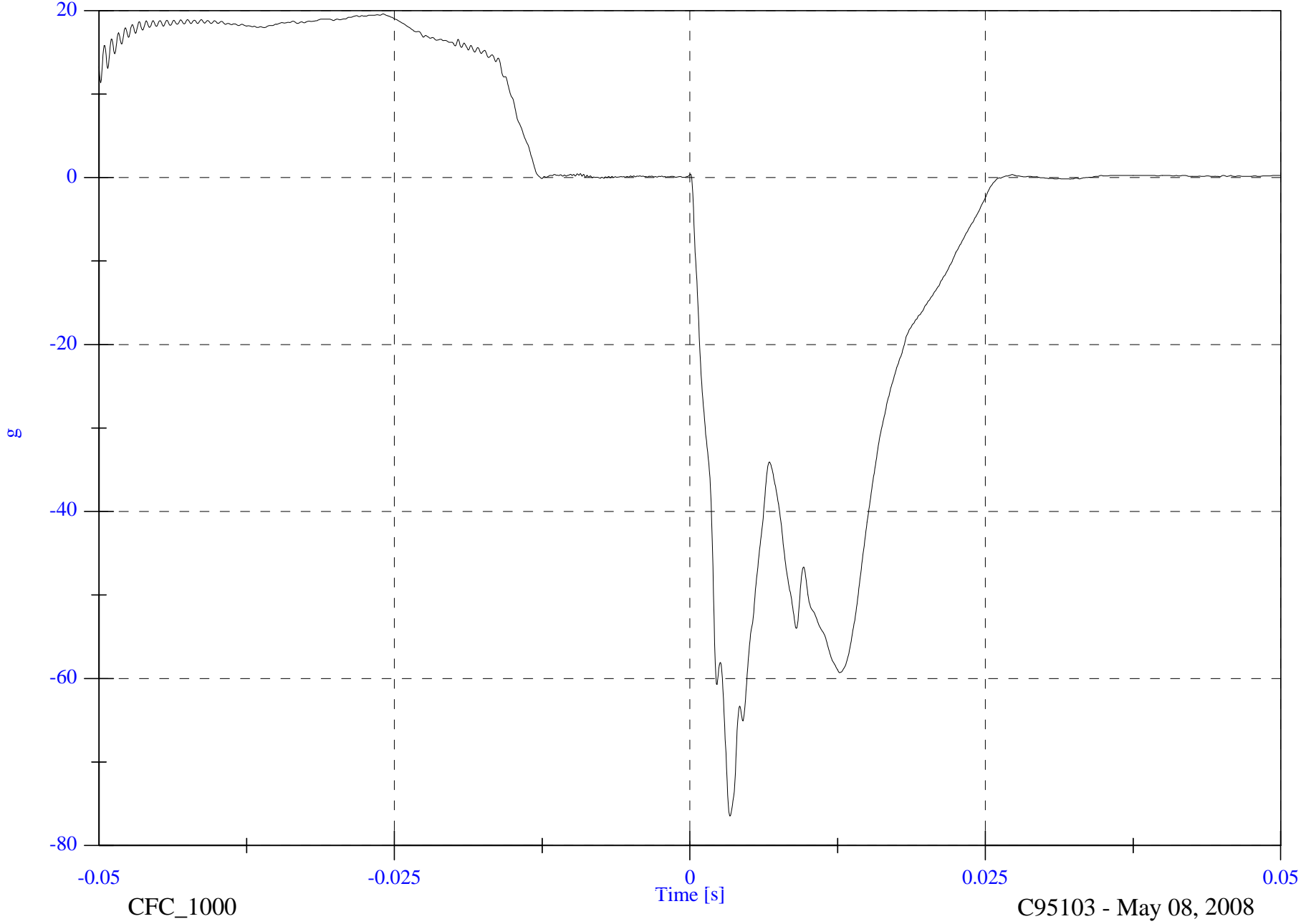
Headform X Acceleration

Max: 19.6 [g] at -0.026 [s]

Min: -76.5 [g] at 0.003 [s]

C95103 PASSENGER SIDE BP4 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

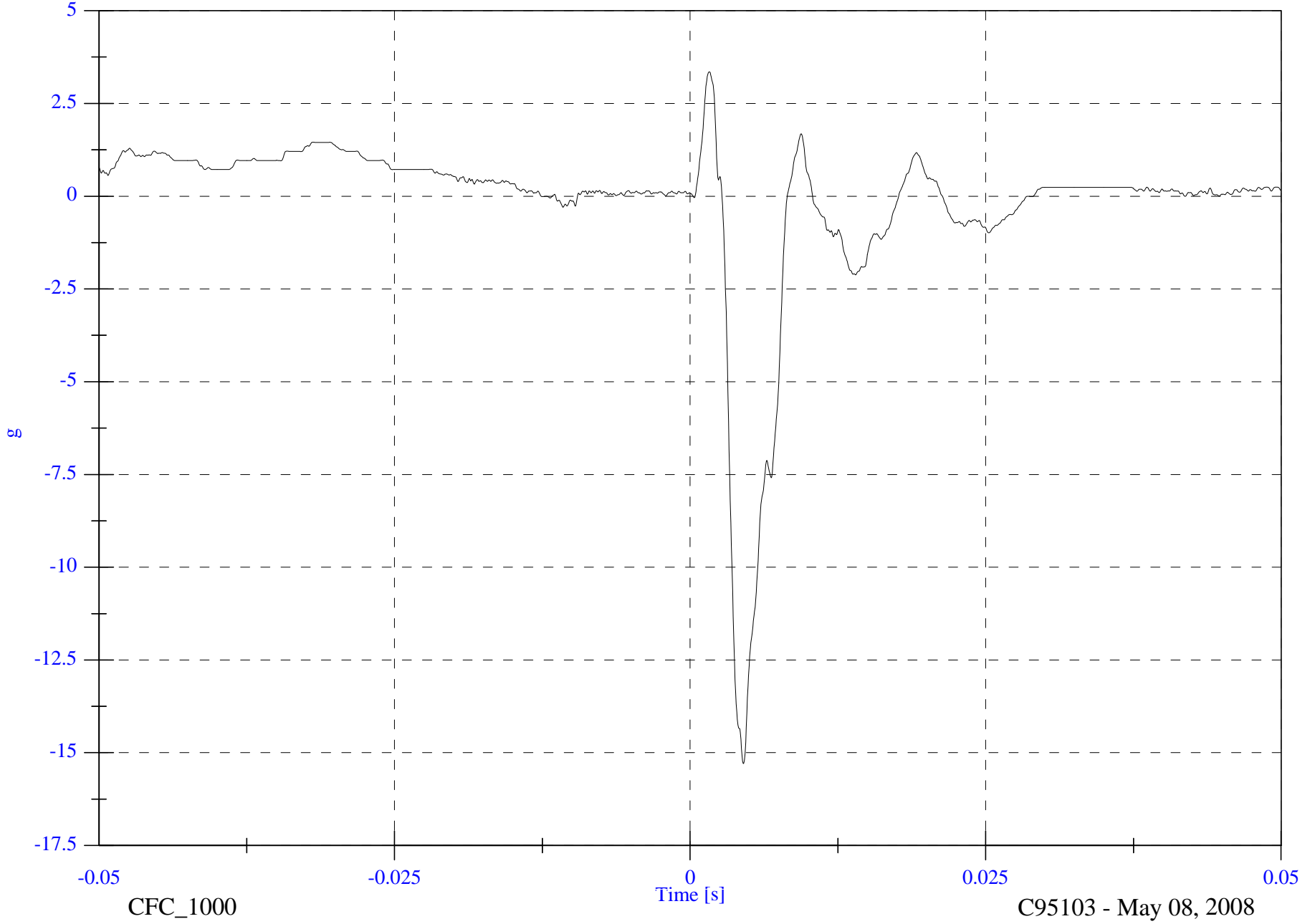
Headform Y Acceleration

Max: 3.4 [g] at 0.002 [s]

Min: -15.3 [g] at 0.004 [s]

C95103 PASSENGER SIDE BP4 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

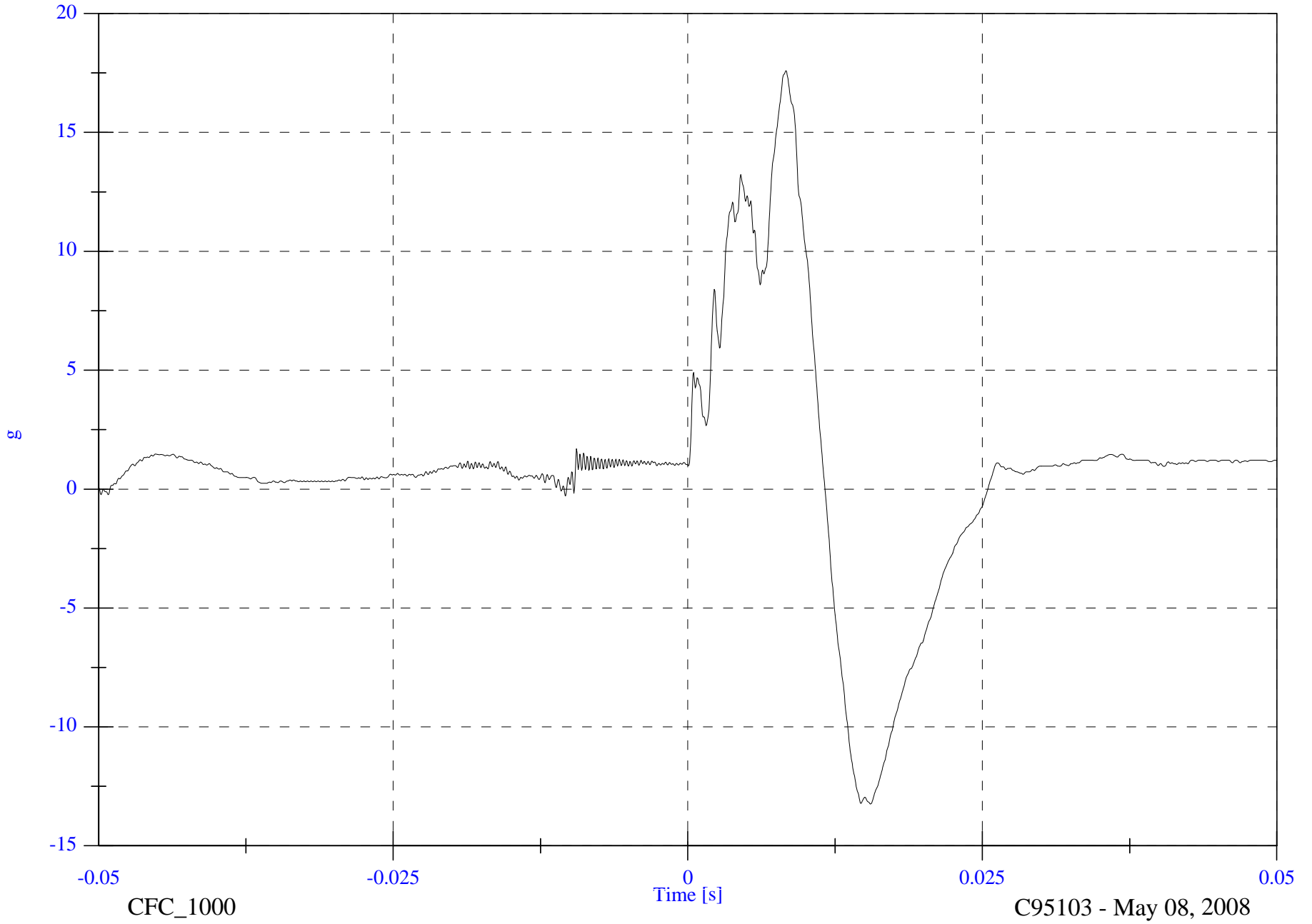
Headform Z Acceleration

Max: 17.6 [g] at 0.008 [s]

Min: -13.2 [g] at 0.015 [s]

C95103 PASSENGER SIDE BP4 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

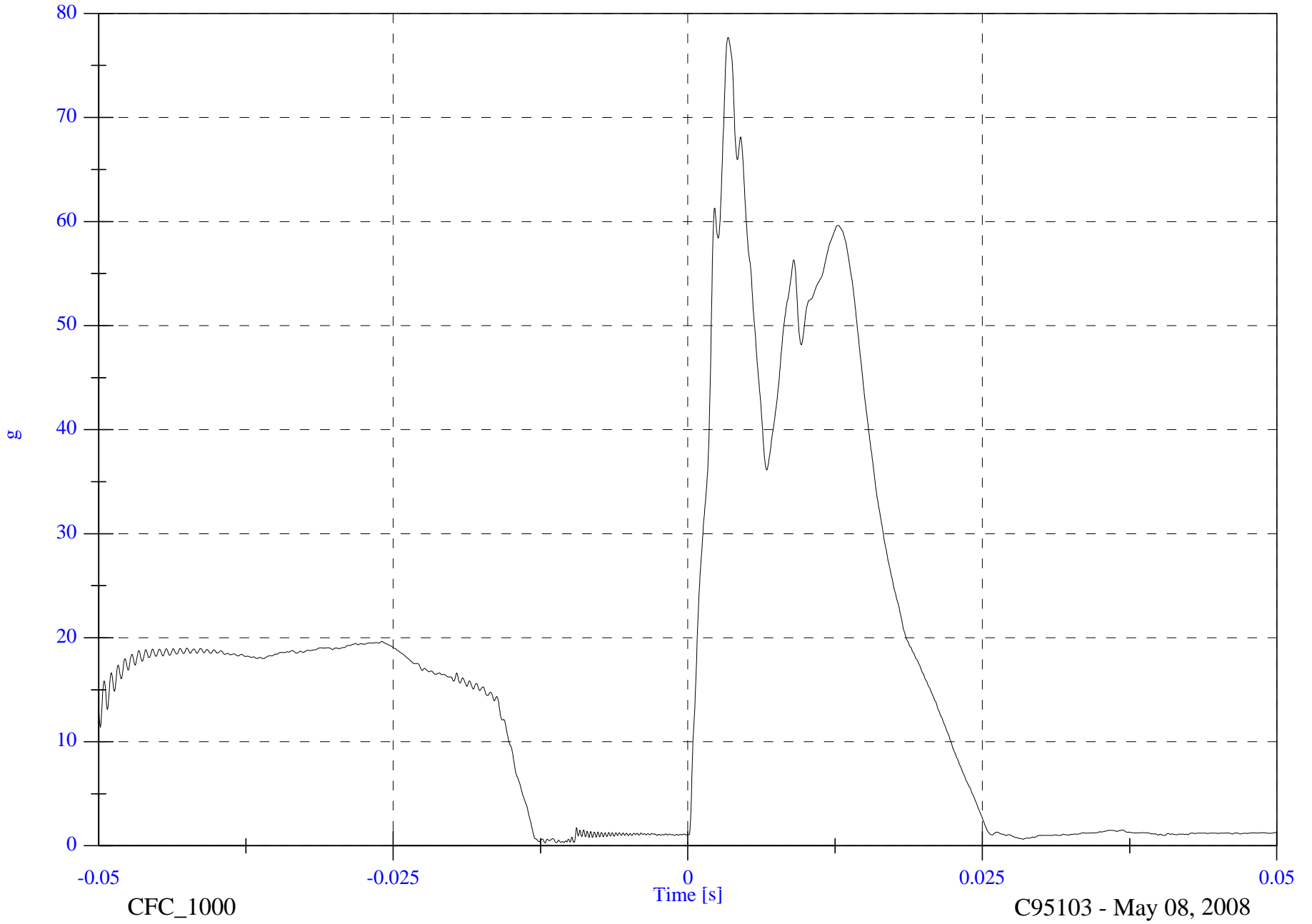
Headform Resultant

Max: 77.7 [g] at 0.003 [s]

Min: 0.3 [g] at -0.012 [s]

C95103 PASSENGER SIDE BP4 IMPACT PLOT #5

8851-08



CFC\_1000

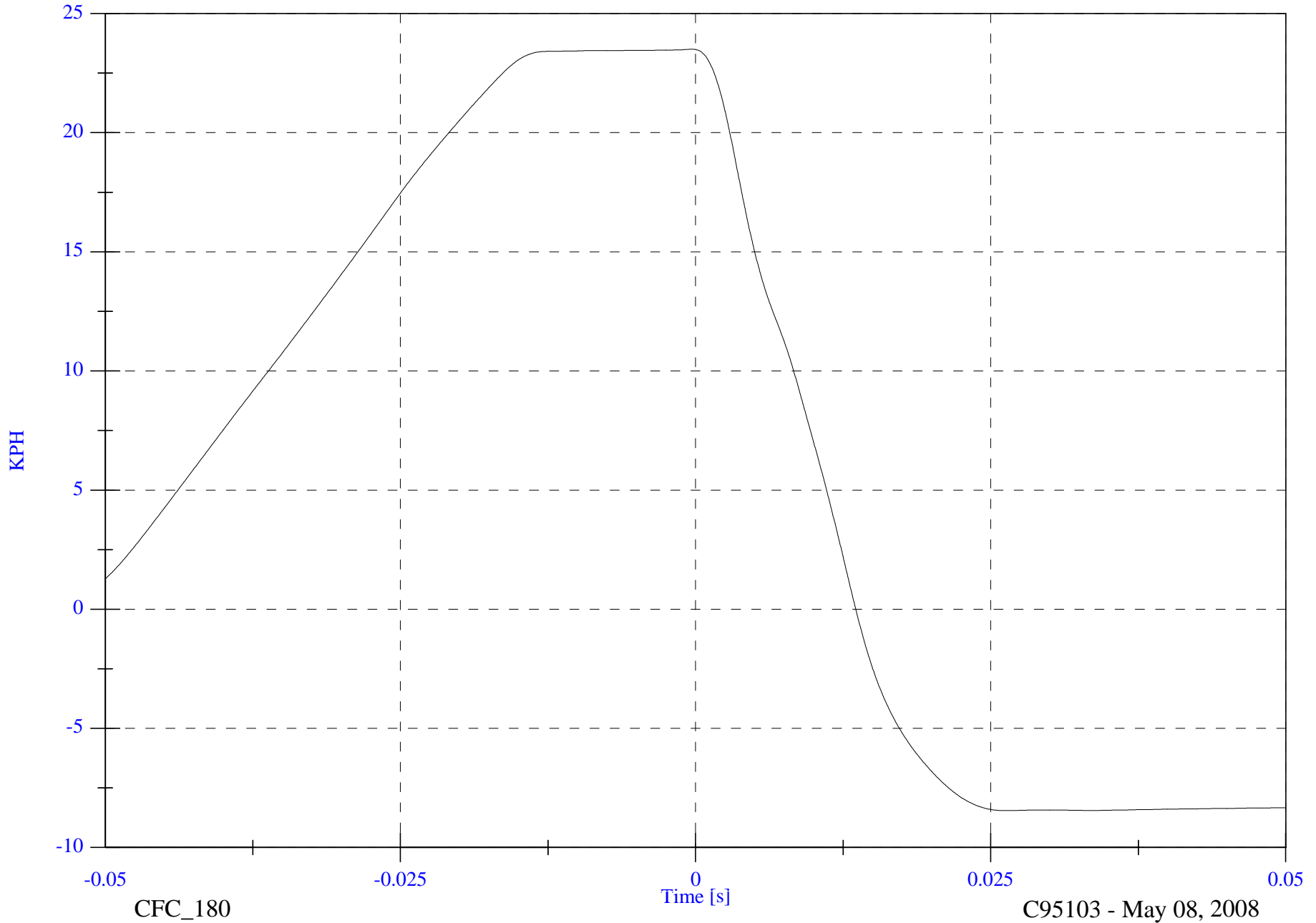
C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 23.5 [KPH] at -0.000 [s]

Min: -8.4 [KPH] at 0.026 [s]

Headform Velocity



C95103 PASSENGER SIDE BP4 IMPACT PLOT #6

8851-08

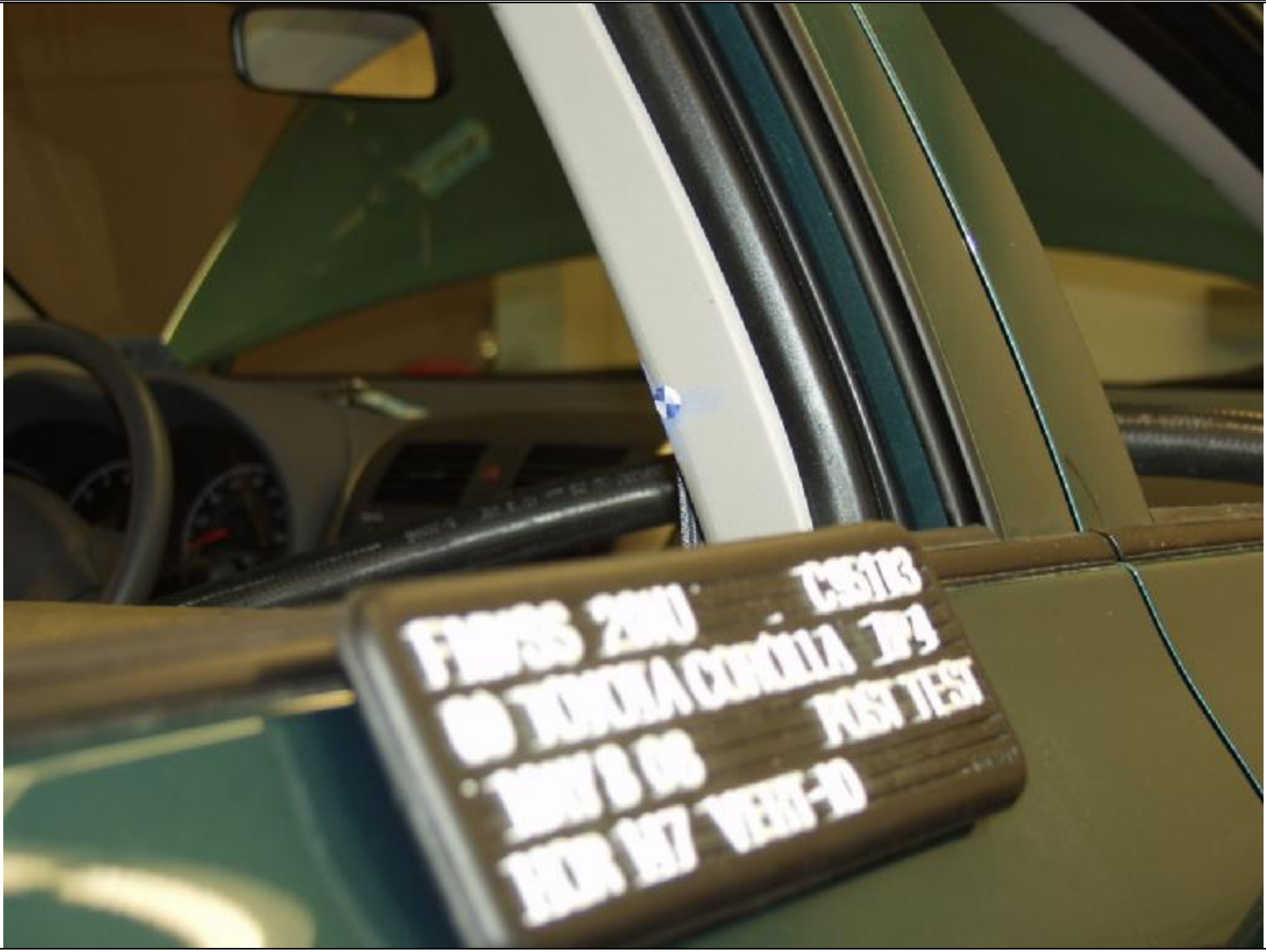
CFC\_180

C95103 - May 08, 2008



PRE-IMPACT BP4





POST-IMPACT BP4

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	05
Test Date:	05/08/08
Target Location:	UPPER ROOF
Target Code:	URBP
Horizontal Impact Angle:	90°
Vertical Impact Angle:	45°
Ambient Temperature:	20.5°C
Relative Humidity:	37.3
Time of Impact:	11:45
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	4	<input type="checkbox"/>	mm right <input checked="" type="checkbox"/> mm left
On Centerline	51		mm up



POST-IMPACT URBP HEADFORM (Vertical angle is 45 degrees)

Free Motion HIC	570.9
HIC(d)	597.1
Impact Velocity (kph)	23.67
HIC T1 (msec)	2.5
HIC T2 (msec)	12.8

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - URBP

FMH Headform 0062

Location: URBP

Test Date: May 08, 2008

Work File: URBP

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

Lab Temperature: 20.5 C

HICd: 597.1

Lab Humidity: 37.3 %

HIC (36ms): 570.9

Velocity at Impact: 23.67 KPH

t1: 2.5 msec

t2: 12.8 msec

Free Flight Distance: 215.59 mm

Duration: 10.3 msec

Average Acceleration: 10.3 g

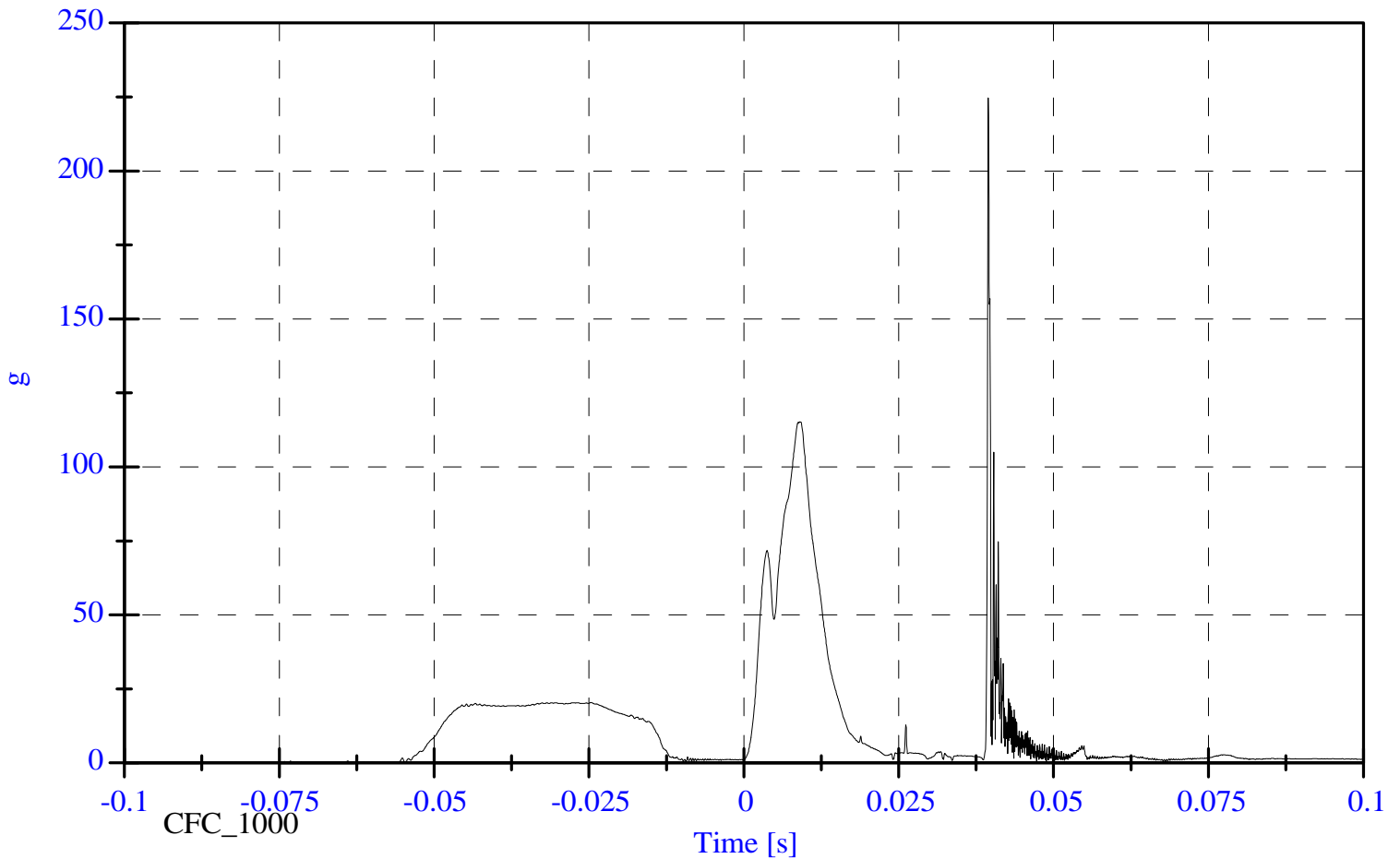
Maximum: 115.3 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 115.3 [g] at 0.009 [s]

Min: 0.0 [g] at -0.076 [s]



FMVSS 201U 2009 TOYOTA COROLLA

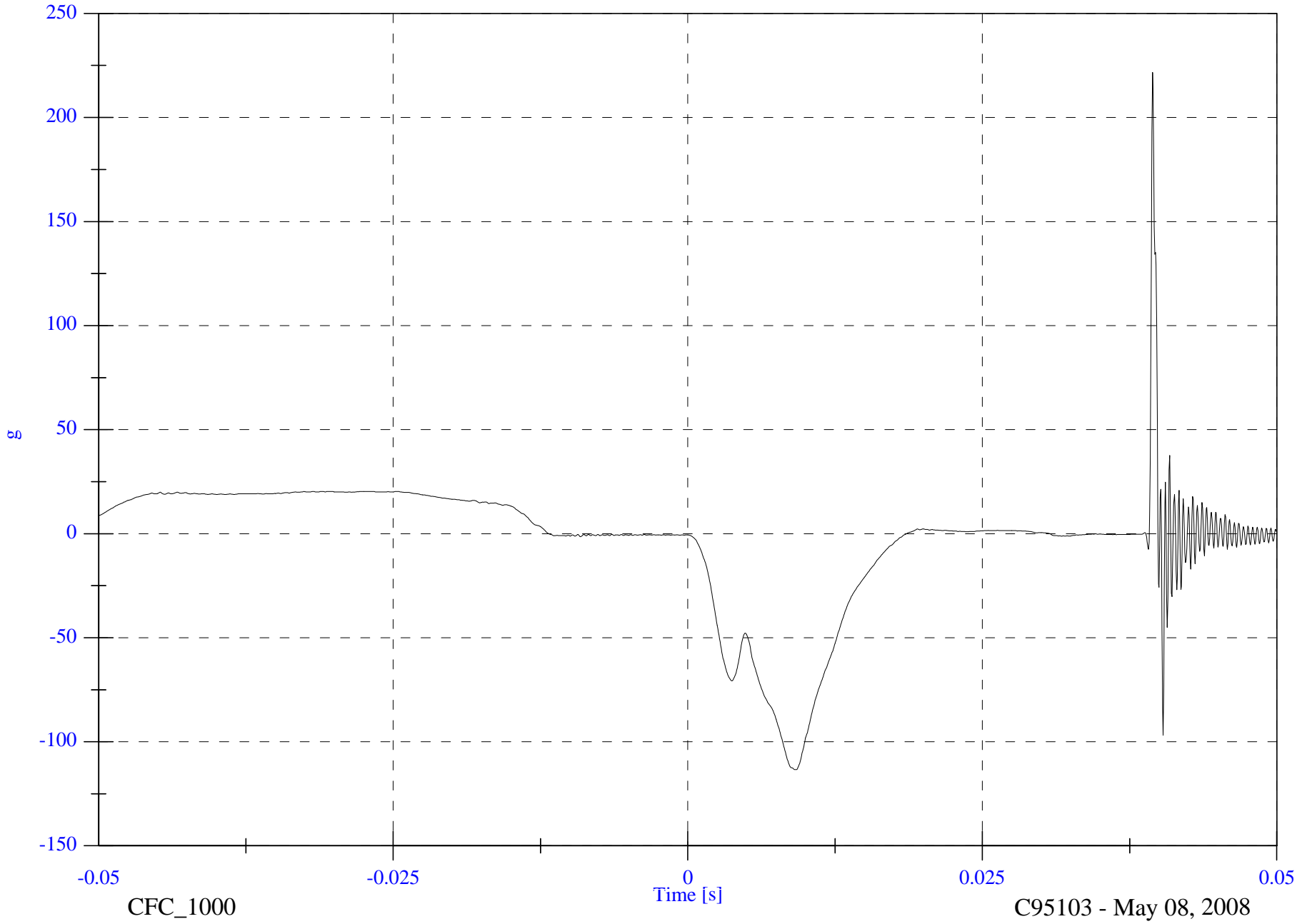
Headform X Acceleration

Max: 221.6 [g] at 0.039 [s]

Min: -113.4 [g] at 0.009 [s]

C95103 PASSENGER SIDE URBP IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

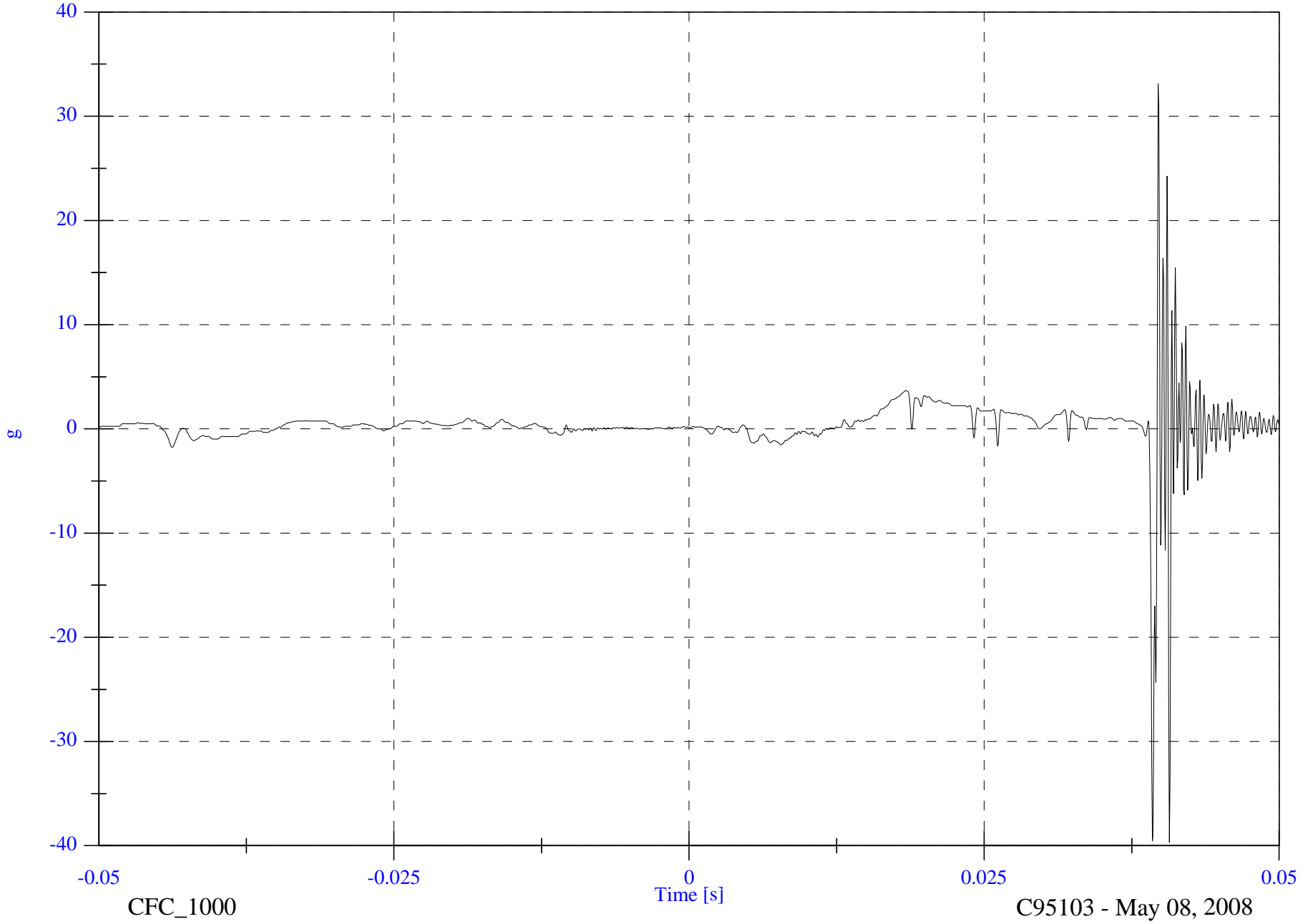
Headform Y Acceleration

Max: 33.1 [g] at 0.040 [s]

Min: -39.7 [g] at 0.041 [s]

C95103 PASSENGER SIDE URBP IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

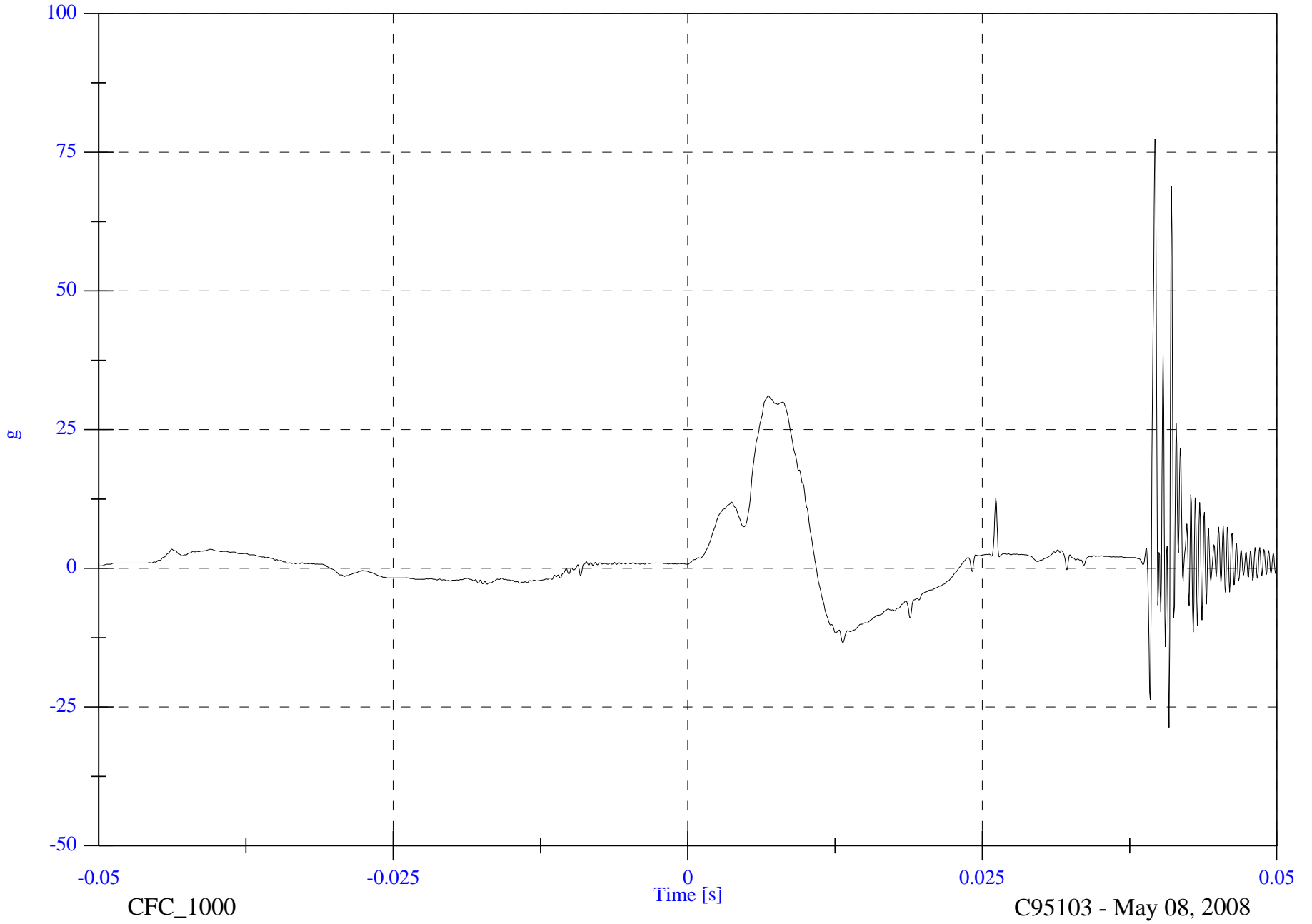
Headform Z Acceleration

Max: 77.3 [g] at 0.040 [s]

Min: -28.6 [g] at 0.041 [s]

C95103 PASSENGER SIDE URBP IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

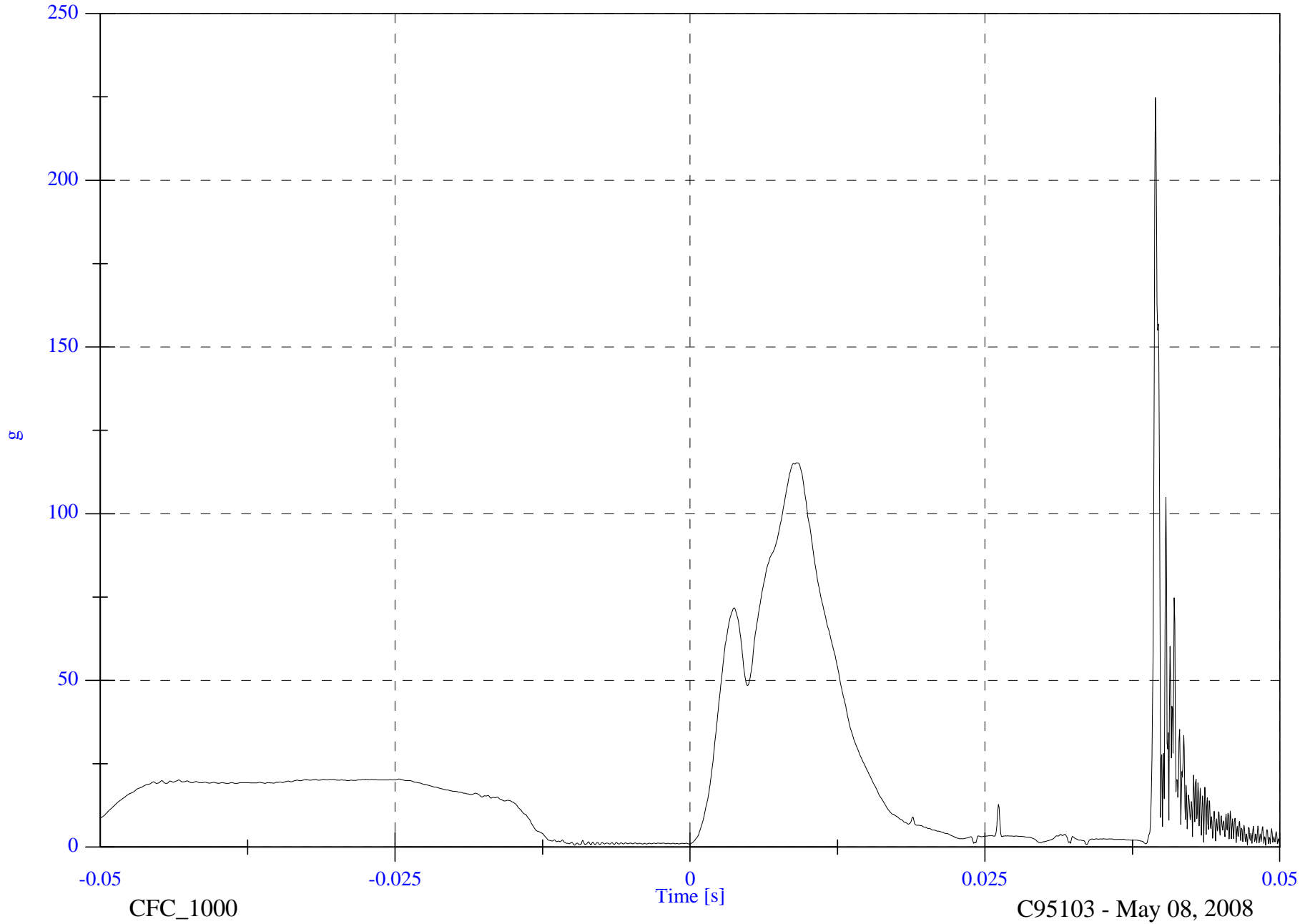
Headform Resultant

Max: 224.8 [g] at 0.039 [s]

Min: 0.6 [g] at 0.049 [s]

C95103 PASSENGER SIDE URBP IMPACT PLOT #5

8851-08



CFC\_1000

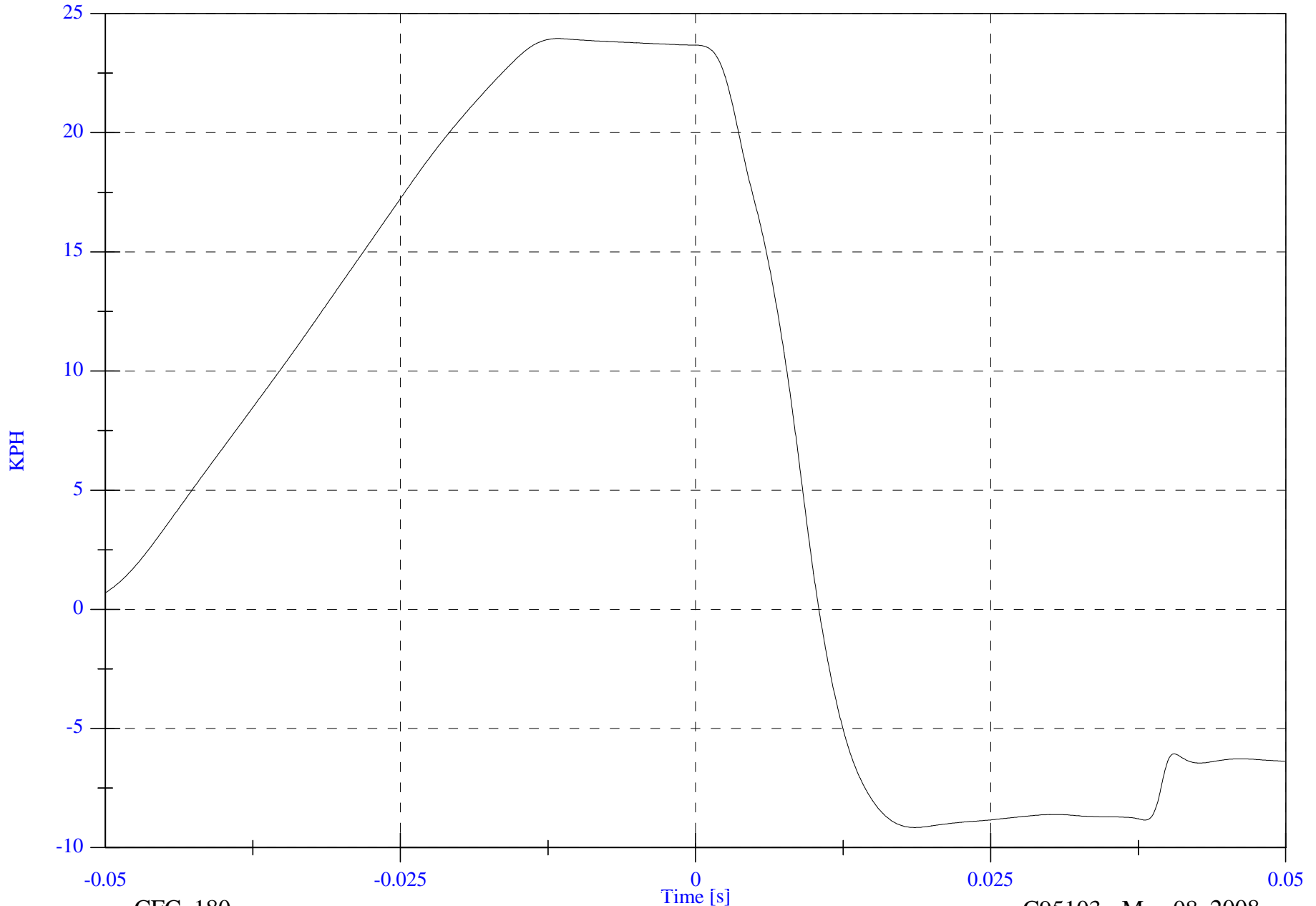
C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 23.9 [KPH] at -0.012 [s]

Min: -9.2 [KPH] at 0.019 [s]

### Headform Velocity



C95103 PASSENGER SIDE URBP IMPACT PLOT #6

8851-08

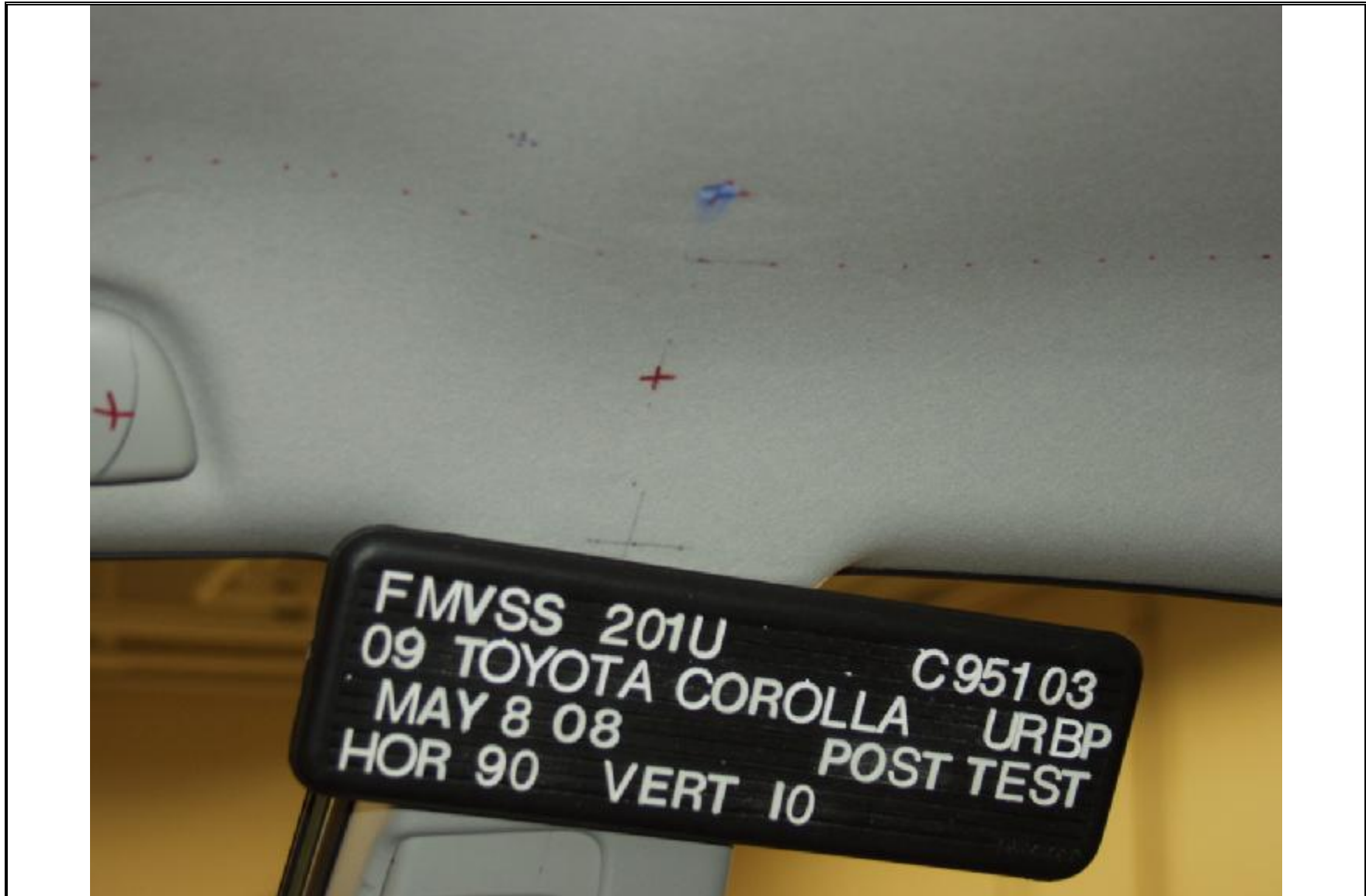
CFC\_180

C95103 - May 08, 2008





PRE-IMPACT URBP (Vertical angle is 45 degrees)



POST-IMPACT URBP (Vertical angle is 45 degrees)

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	06
Test Date:	05/08/08
Target Location:	SIDE RAIL
Target Code:	SR2A
Horizontal Impact Angle:	90°
Vertical Impact Angle:	29°
Ambient Temperature:	20.5°C
Relative Humidity:	36.4
Time of Impact:	13:00
Headform Number:	1142

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	13				mm up



POST-IMPACT SR2A HEADFORM

Free Motion HIC	280.2
HIC(d)	377.8
Impact Velocity (kph)	23.86
HIC T1 (msec)	1.3
HIC T2 (msec)	11.7

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - SR2B

FMH Headform 1142

Location: SR2B

Test Date: May 08, 2008

Work File: SR2B

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

Lab Temperature: 20.5 C

HICd: 377.8

Lab Humidity: 36.4 %

HIC (36ms): 280.2

Velocity at Impact: 23.86 KPH

t1: 1.3 msec

t2: 11.7 msec

Free Flight Distance: 213.44 mm

Duration: 10.4 msec

Average Acceleration: 8.3 g

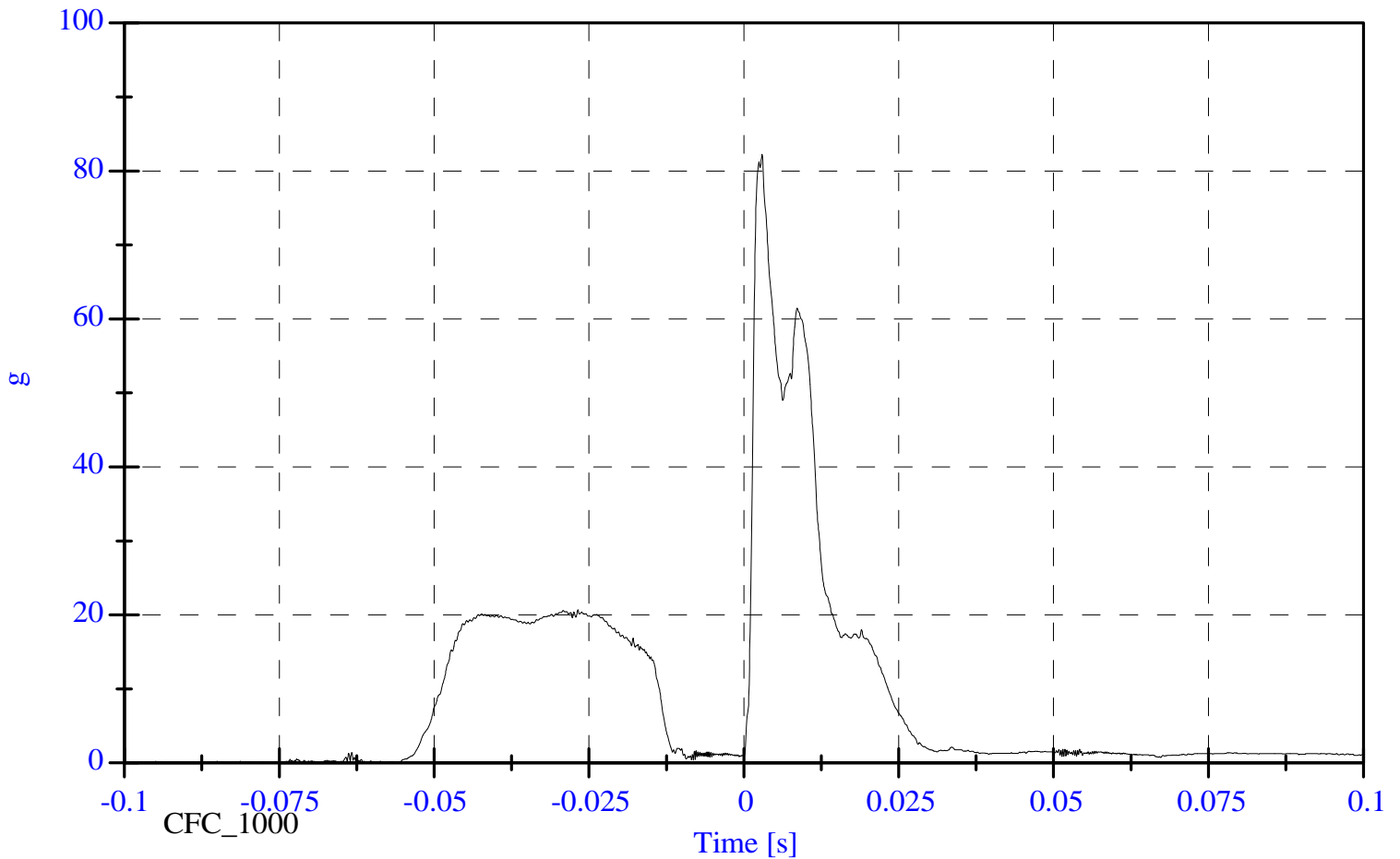
Maximum: 82.3 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 82.3 [g] at 0.003 [s]

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



FMVSS 201U 2009 TOYOTA COROLLA

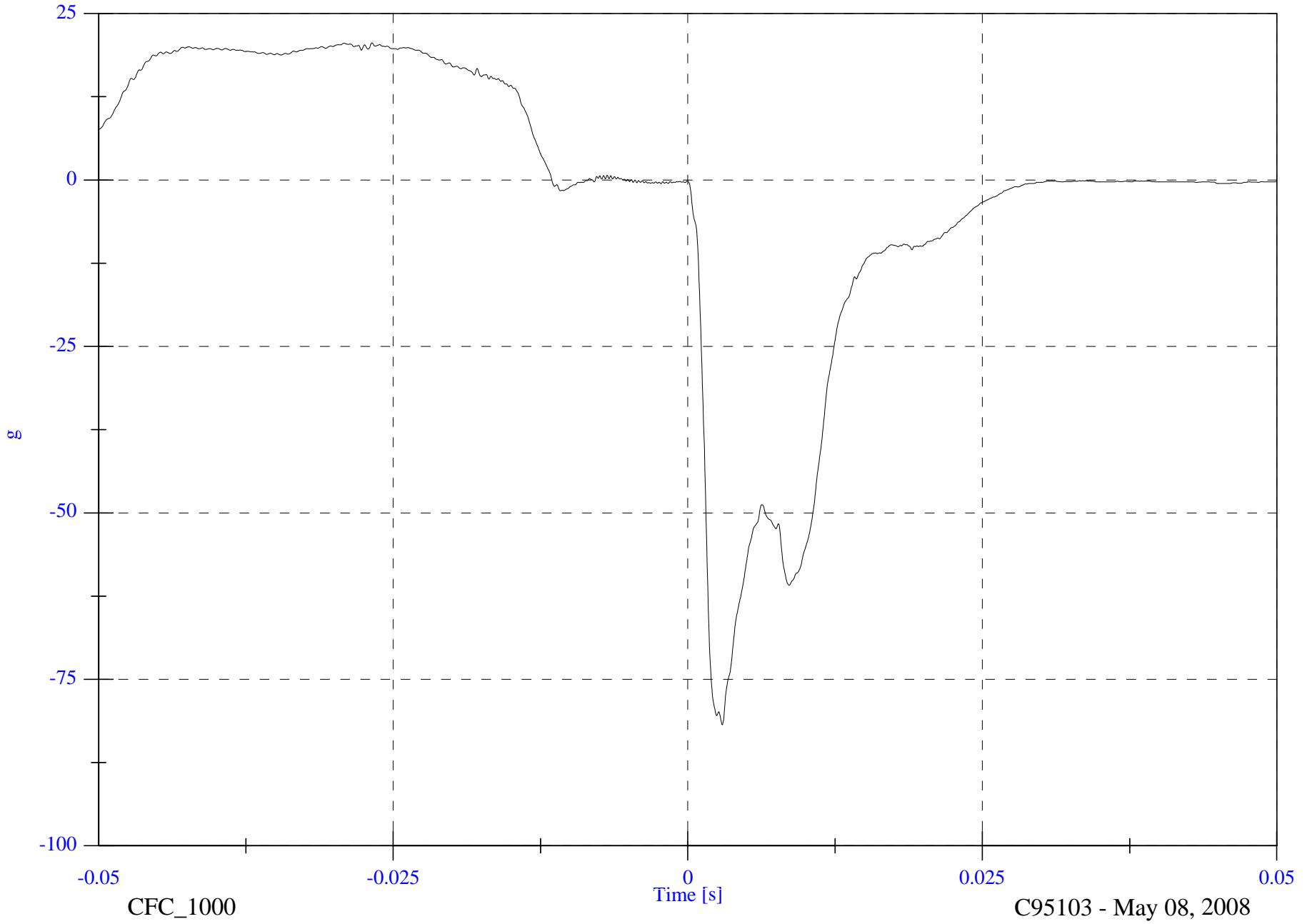
Headform X Acceleration

Max: 20.6 [g] at -0.027 [s]

Min: -81.8 [g] at 0.003 [s]

C95103 PASSENGER SIDE SR2B IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

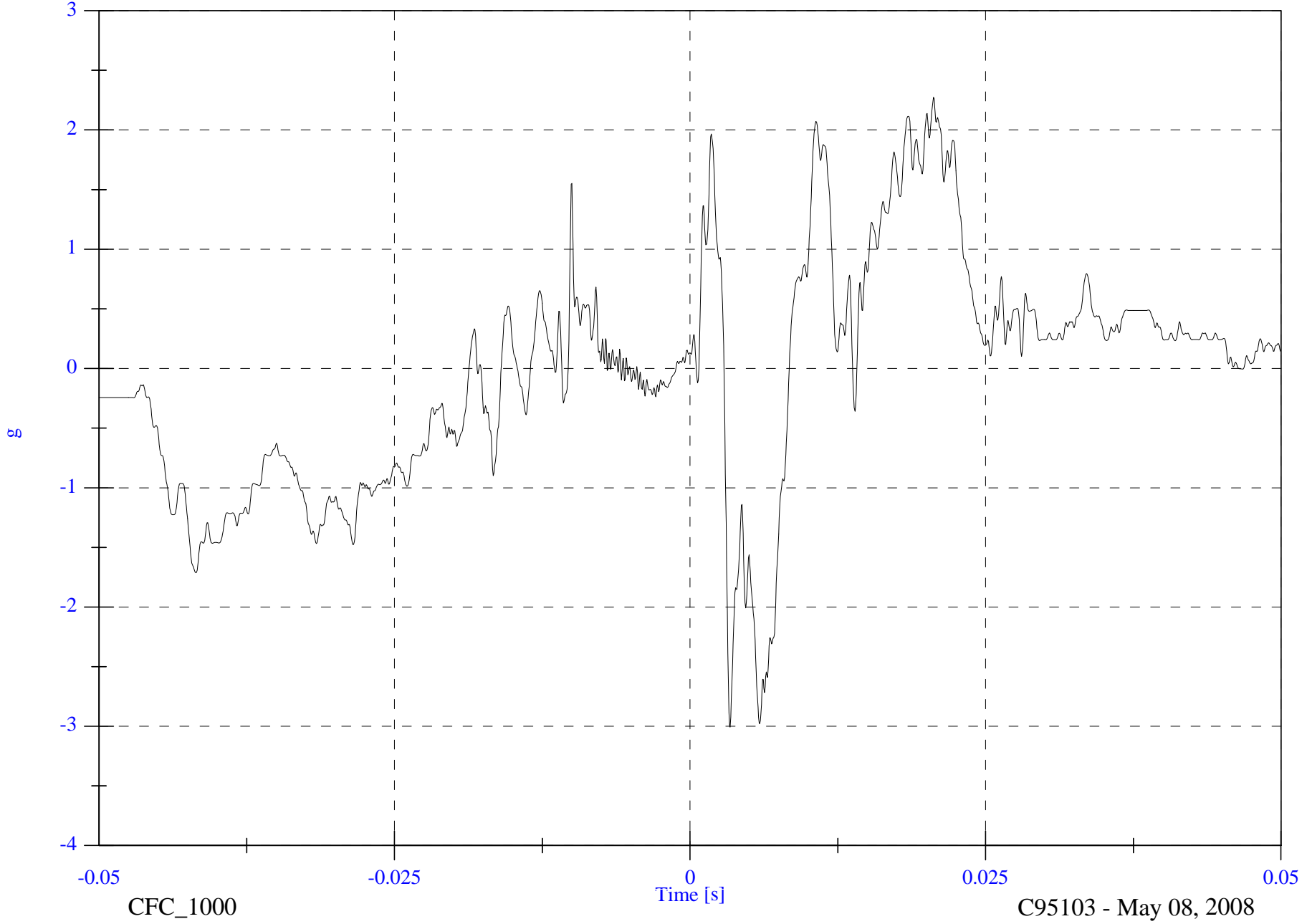
FMVSS 201U 2009 TOYOTA COROLLA

Headform Y Acceleration

Max: 2.3 [g] at 0.021 [s]

Min: -3.0 [g] at 0.003 [s]

C95103 PASSENGER SIDE SR2B IMPACT PLOT #3



8851-08

CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

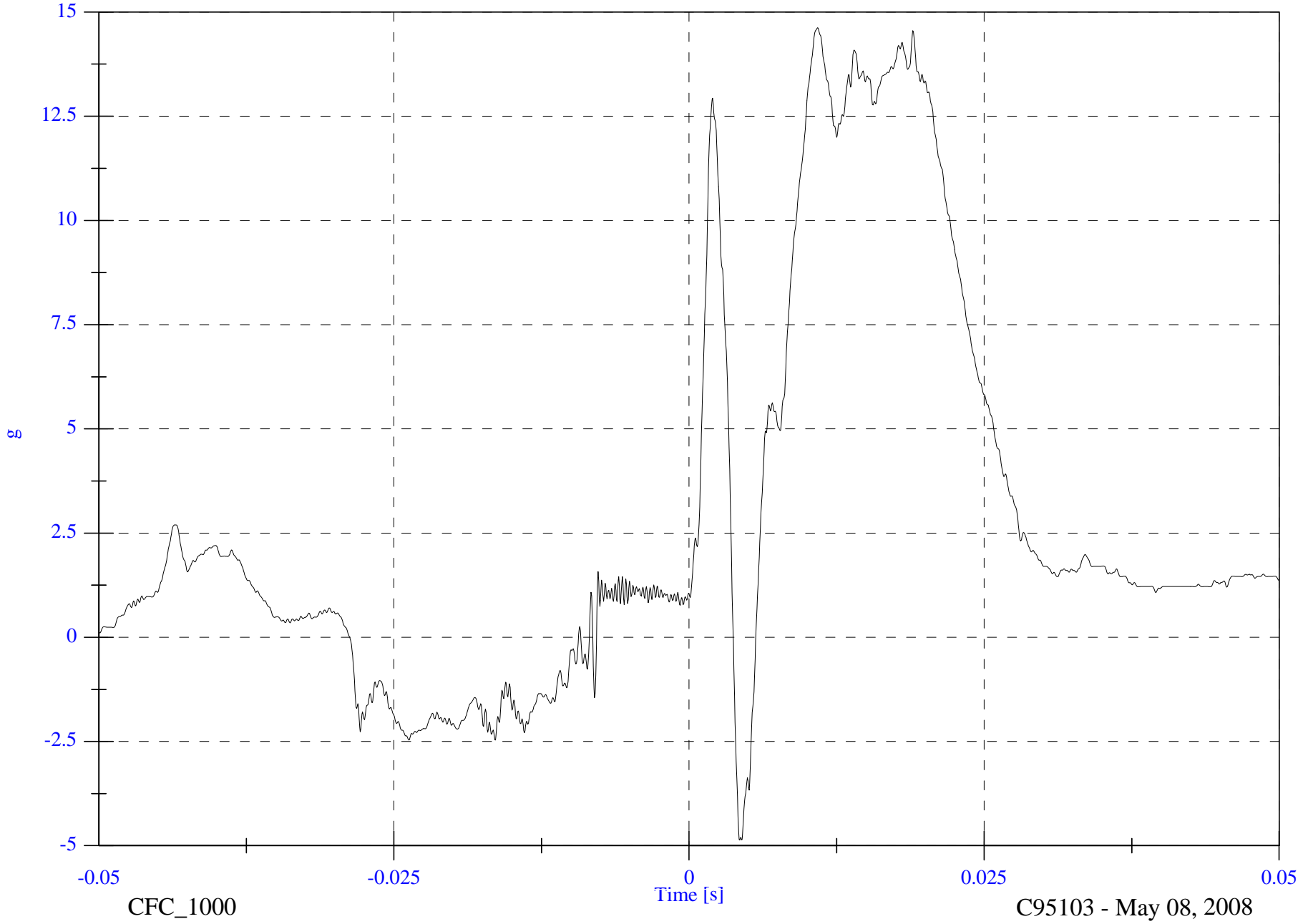
Headform Z Acceleration

Max: 14.6 [g] at 0.011 [s]

Min: -4.9 [g] at 0.004 [s]

C95103 PASSENGER SIDE SR2B IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

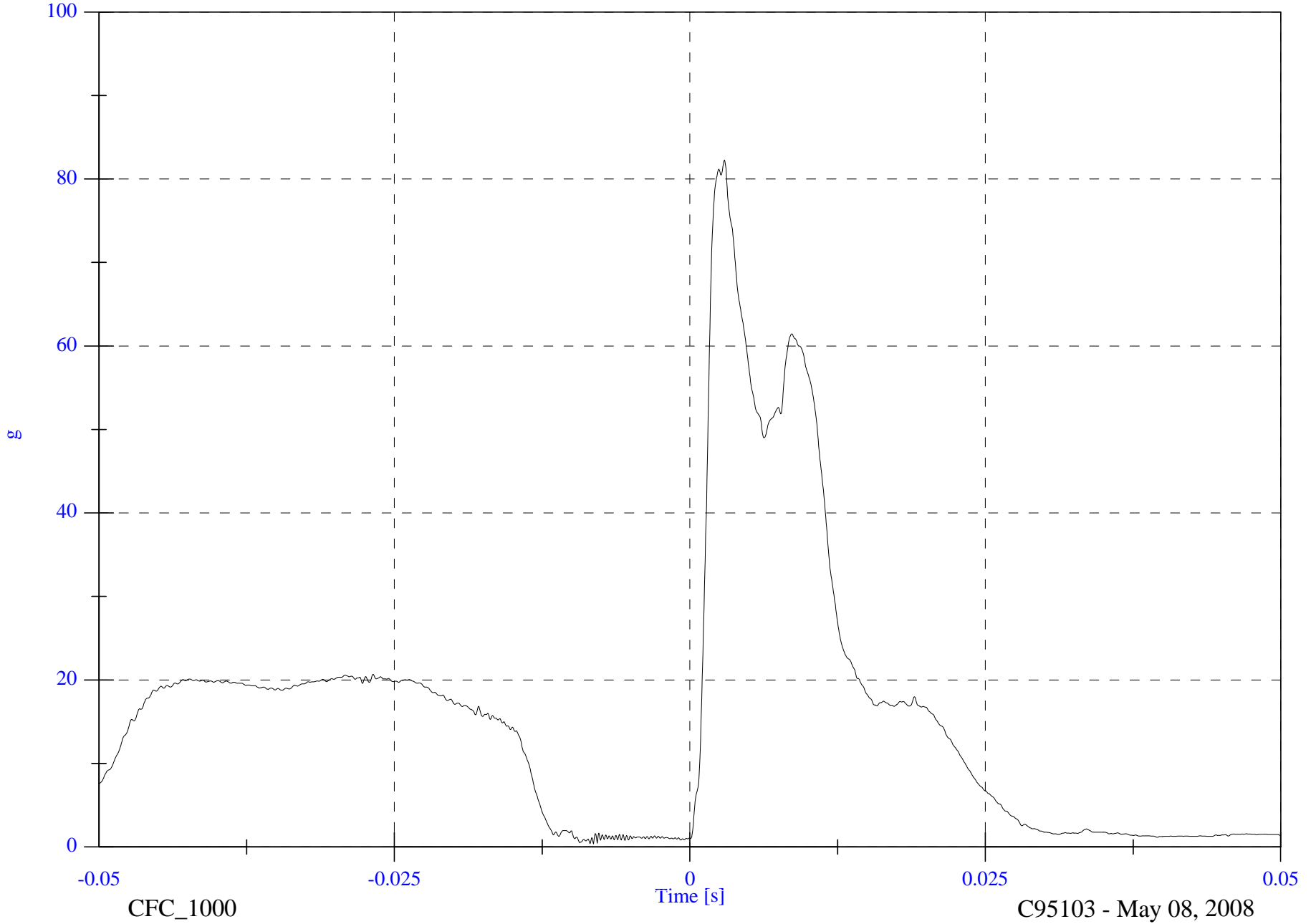
Headform Resultant

Max: 82.3 [g] at 0.003 [s]

Min: 0.4 [g] at -0.008 [s]

C95103 PASSENGER SIDE SR2B IMPACT PLOT #5

8851-08



CFC\_1000

C95103 - May 08, 2008

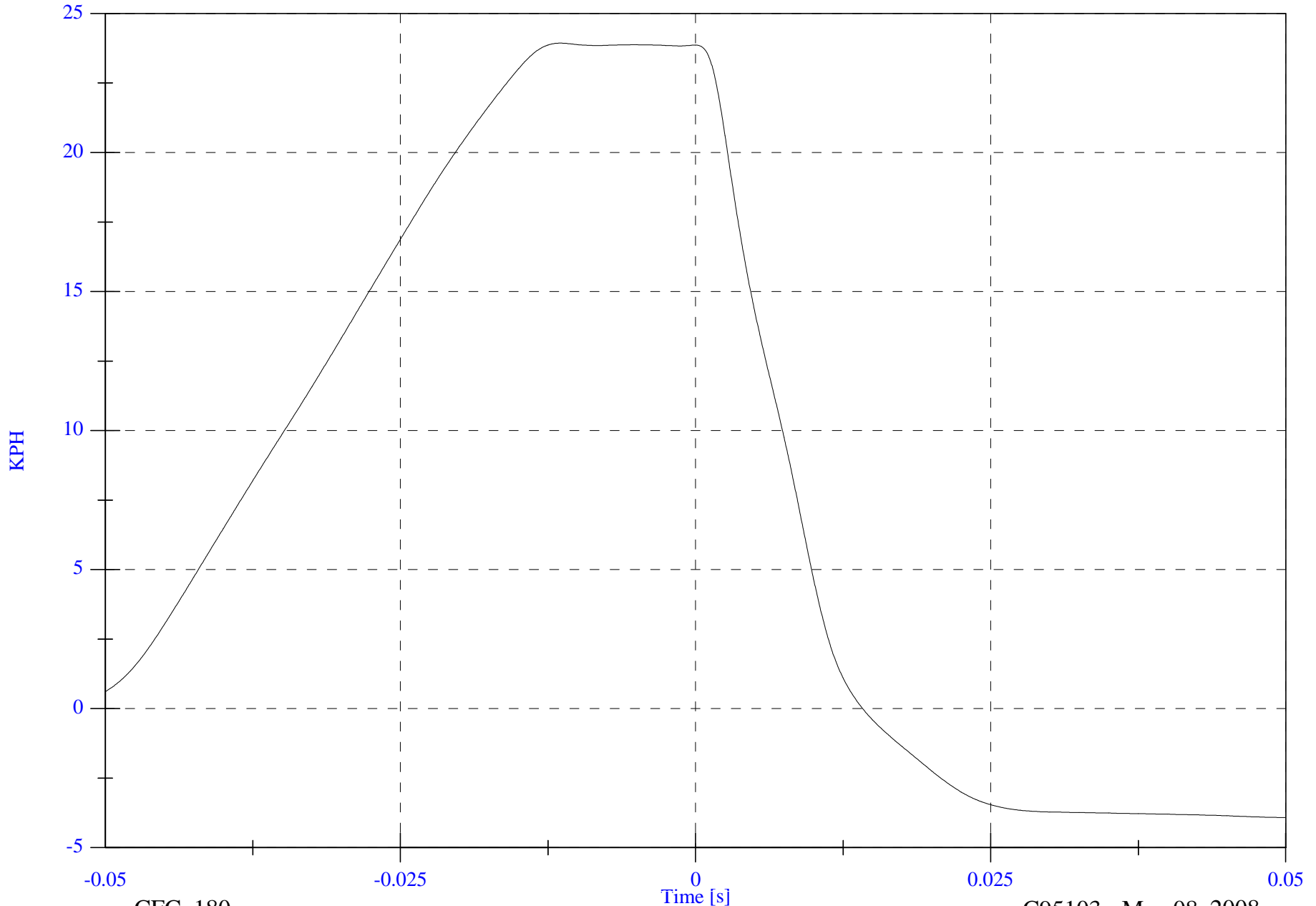


FMVSS 201U 2009 TOYOTA COROLLA

Max: 23.9 [KPH] at -0.011 [s]

Min: -3.9 [KPH] at 0.050 [s]

### Headform Velocity



C95103 PASSENGER SIDE SR2B IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT SR2A



POST-IMPACT SR2A

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	07
Test Date:	<b>05/08/08</b>
Target Location:	A-PILLAR
Target Code:	AP3
Horizontal Impact Angle:	<b>153°</b>
Vertical Impact Angle:	<b>47°</b>
Ambient Temperature:	<b>20.5°C</b>
Relative Humidity:	<b>35.6</b>
Time of Impact:	<b>13:35</b>
Headform Number:	<b>1140</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	6	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	10				mm up



POST-IMPACT AP3 HEADFORM

Free Motion HIC	971.7
HIC(d)	899.5
Impact Velocity (kph)	23.73
HIC T1 (msec)	6.7
HIC T2 (msec)	11.2

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - AP3

FMH Headform 1140

Location: AP3

Test Date: May 08, 2008

Work File: AP3

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

Lab Temperature: 20.5 C

HICd: 899.5

Lab Humidity: 35.6 %

HIC (36ms): 971.7

Velocity at Impact: 23.73 KPH

t1: 6.7 msec

t2: 11.2 msec

Free Flight Distance: 219.13 mm

Duration: 4.5 msec

Average Acceleration: 10.5 g

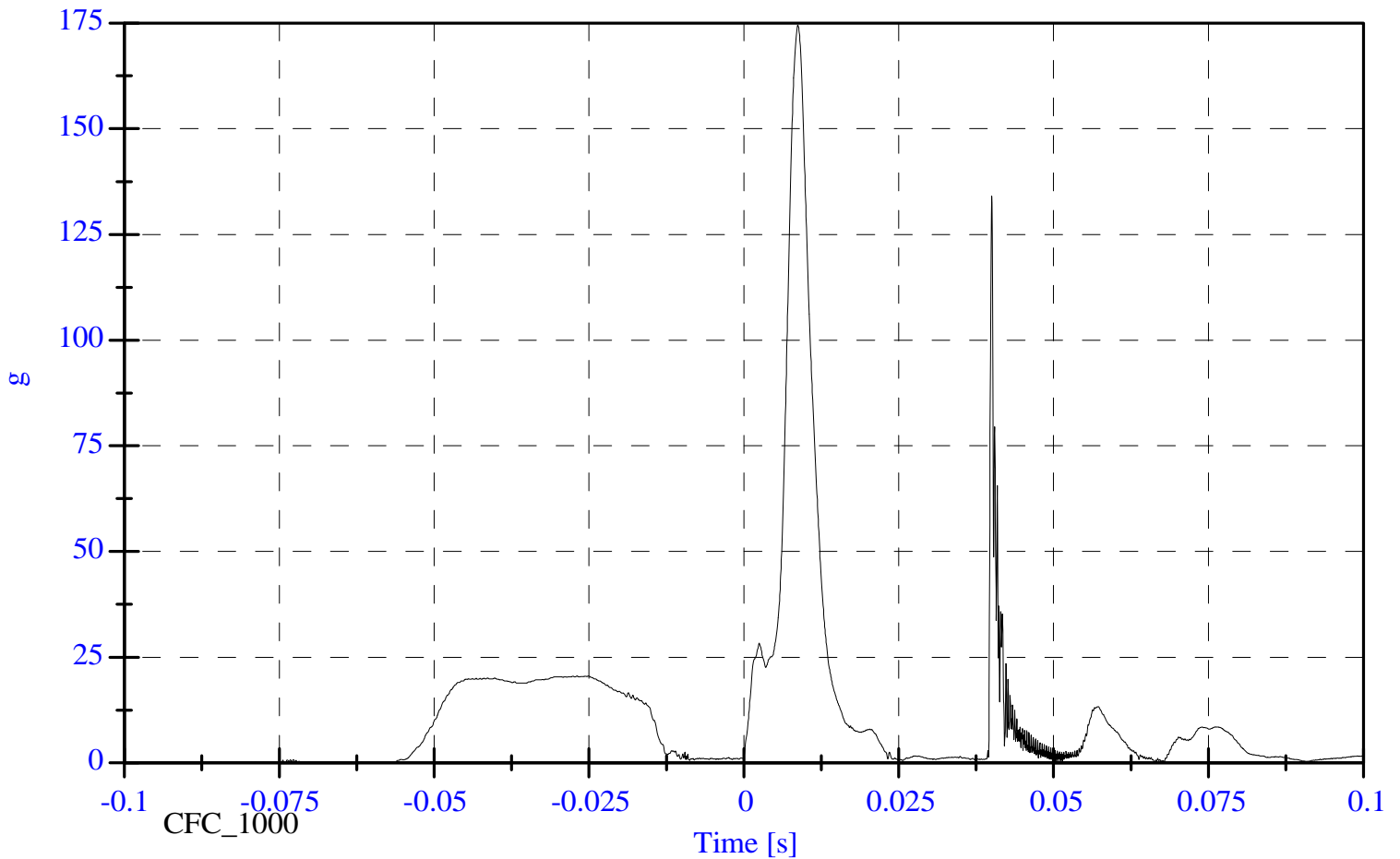
Maximum: 174.5 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 174.5 [g] at 0.009 [s]

Min: 0.0 [g] at -0.077 [s]



FMVSS 201U 2009 TOYOTA COROLLA

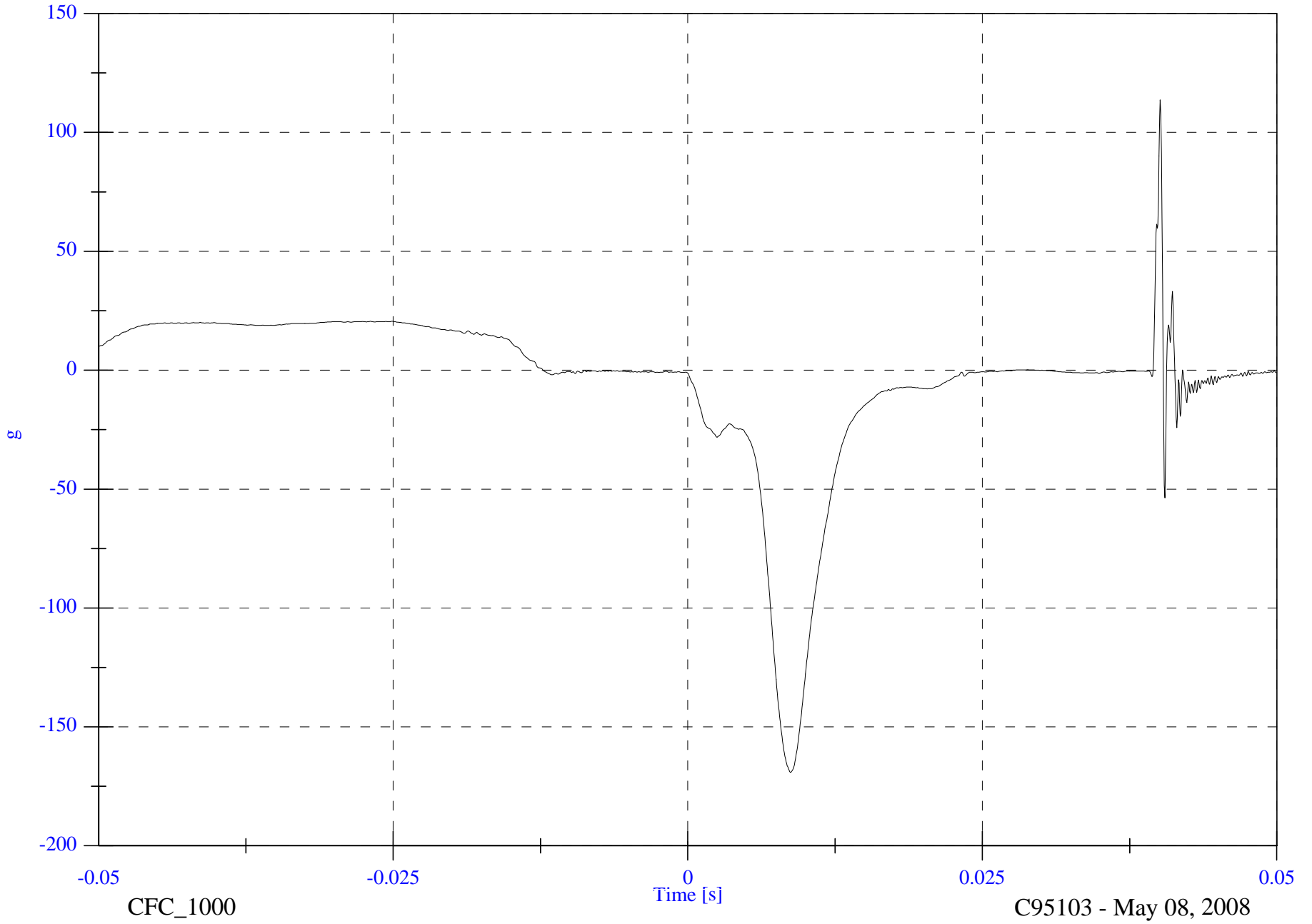
Headform X Acceleration

Max: 113.6 [g] at 0.040 [s]

Min: -169.1 [g] at 0.009 [s]

C95103 PASSENGER SIDE AP3 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

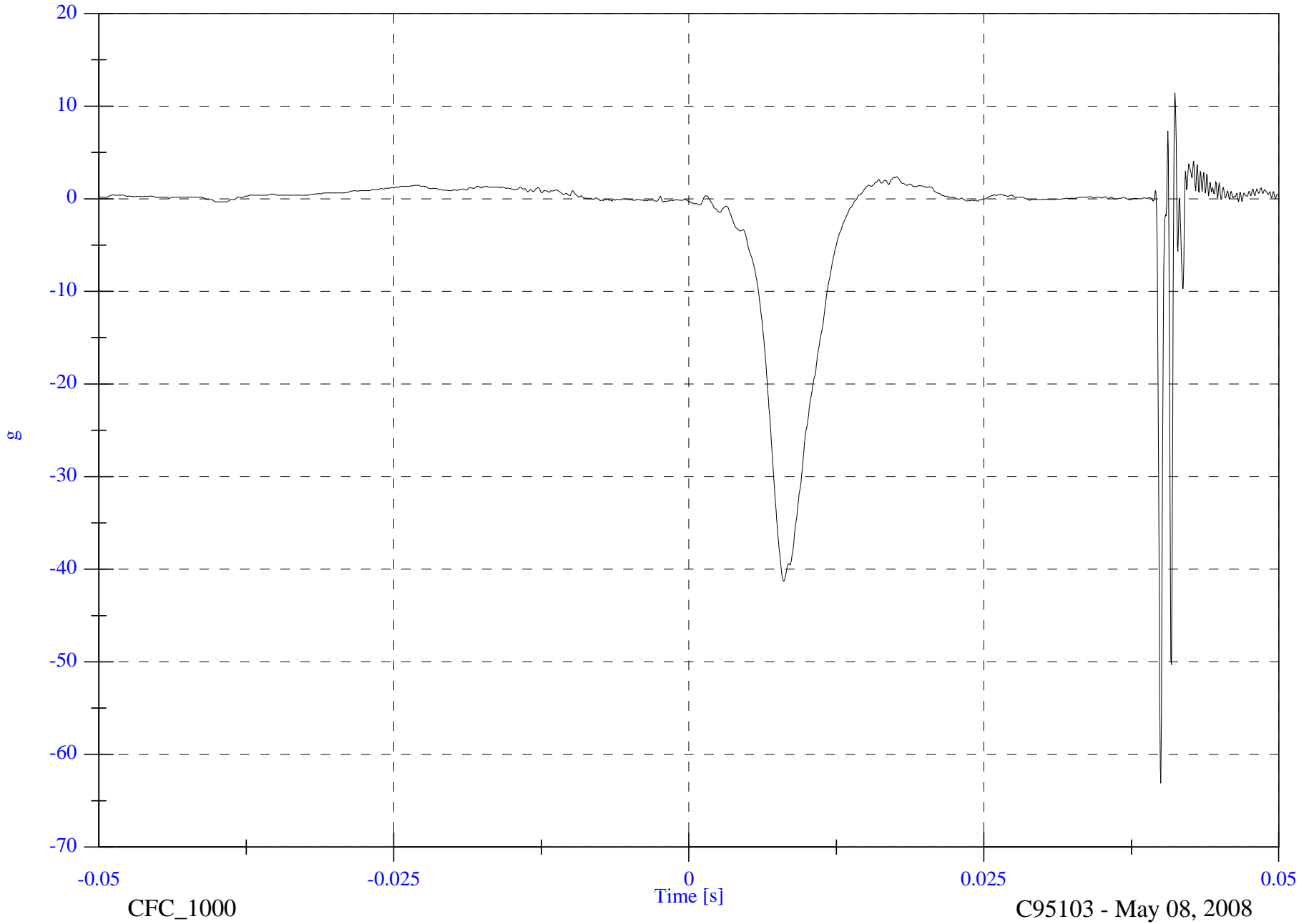
Headform Y Acceleration

Max: 11.4 [g] at 0.041 [s]

Min: -63.1 [g] at 0.040 [s]

C95103 PASSENGER SIDE AP3 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

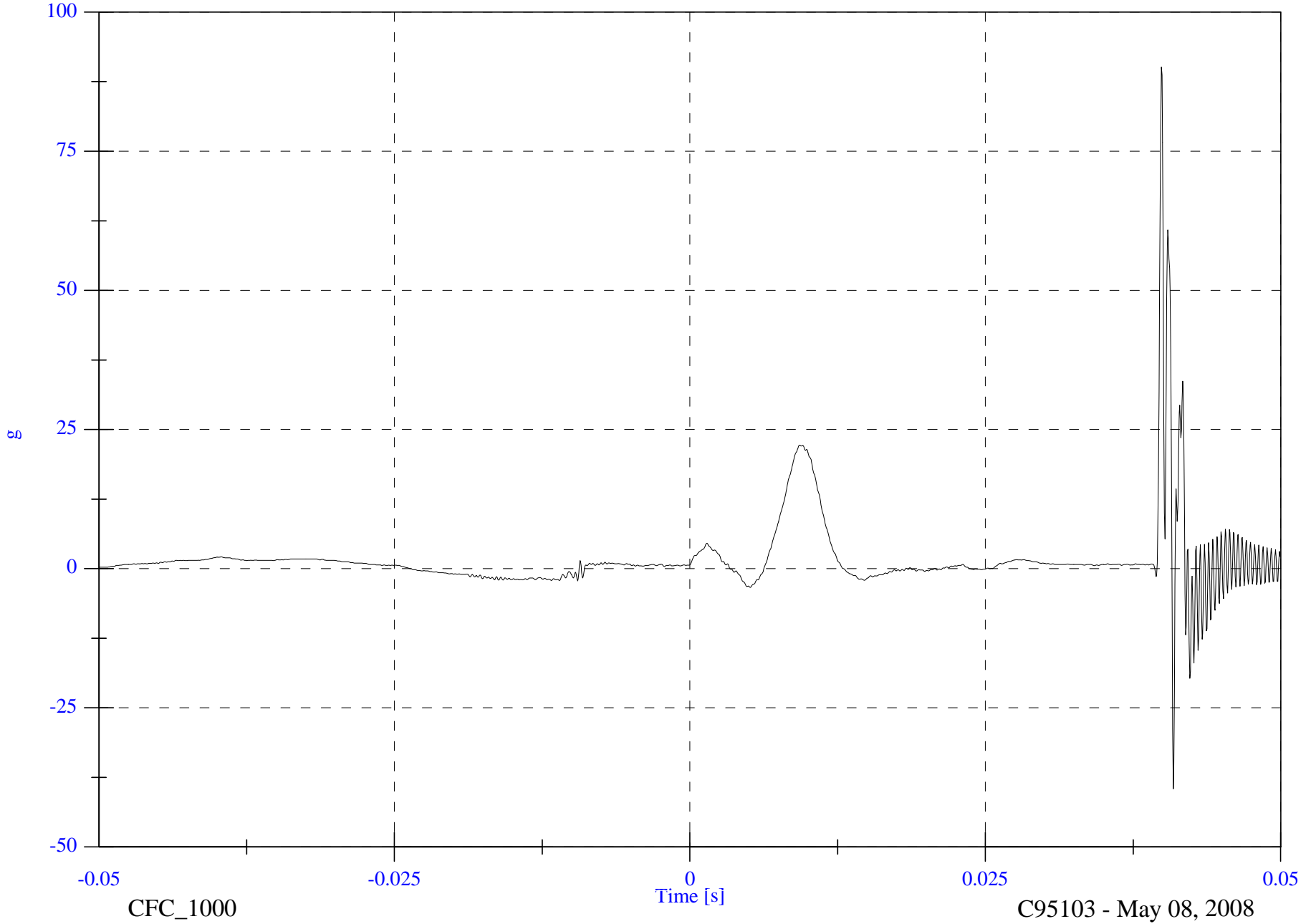
Headform Z Acceleration

Max: 90.1 [g] at 0.040 [s]

Min: -39.6 [g] at 0.041 [s]

C95103 PASSENGER SIDE AP3 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008



FMVSS 201U 2009 TOYOTA COROLLA

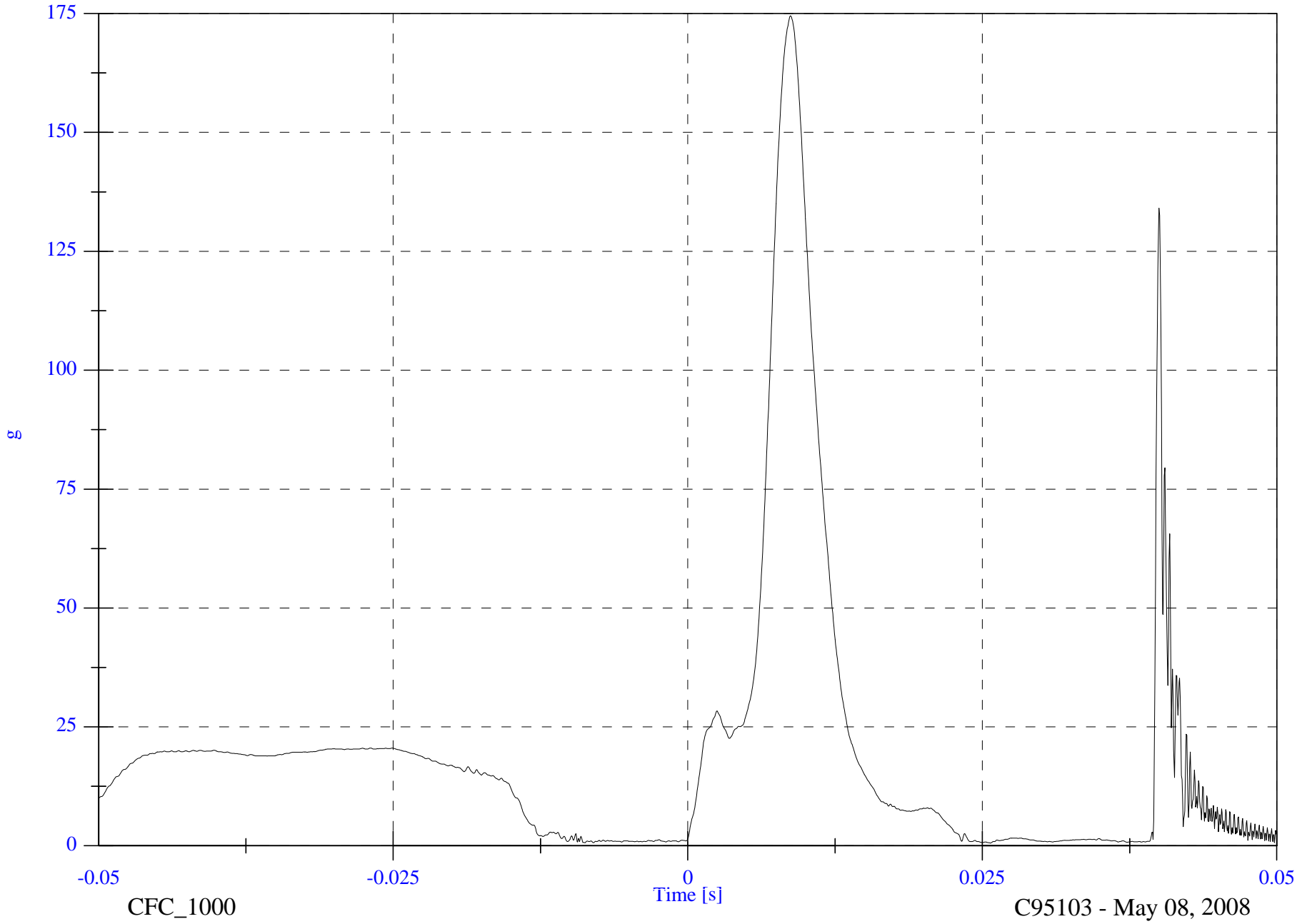
Headform Resultant

Max: 174.5 [g] at 0.009 [s]

Min: 0.6 [g] at 0.026 [s]

C95103 PASSENGER SIDE AP3 IMPACT PLOT #5

8851-08



CFC\_1000

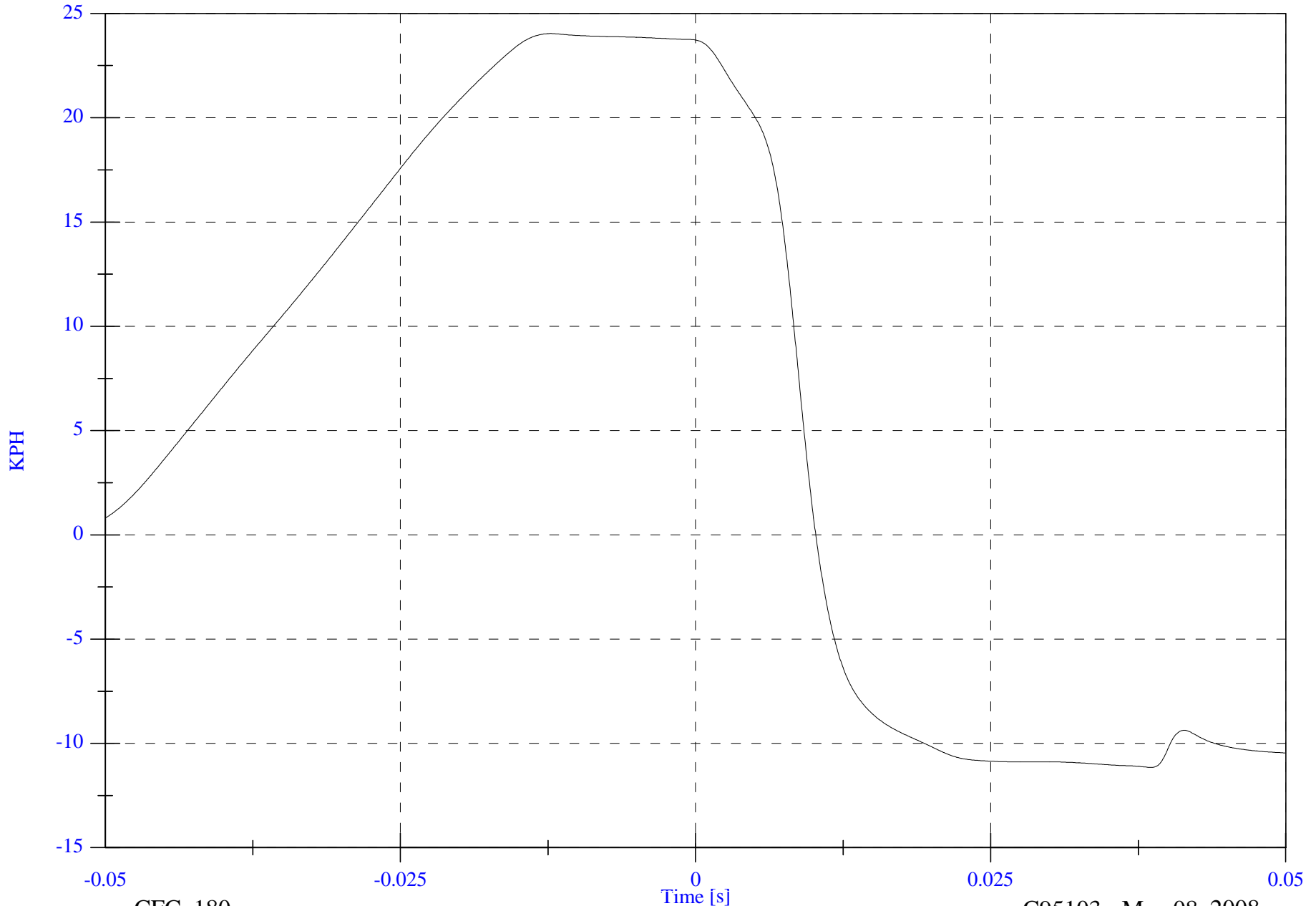
C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 24.0 [KPH] at -0.012 [s]

Min: -11.2 [KPH] at 0.039 [s]

### Headform Velocity

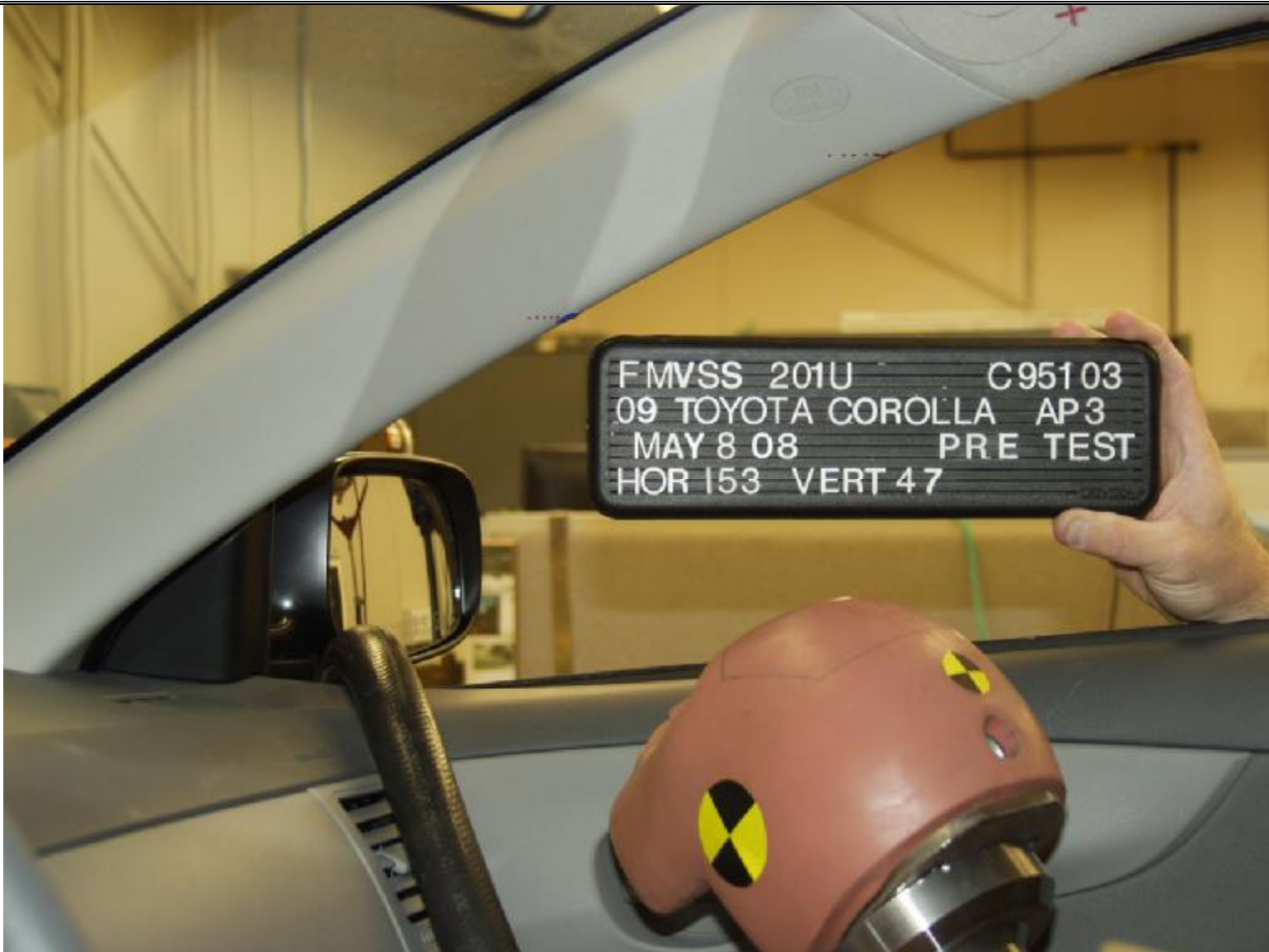


C95103 PASSENGER SIDE AP3 IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT AP3



POST-IMPACT AP3

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	08
Test Date:	<b>05/08/08</b>
Target Location:	A-PILLAR
Target Code:	AP1
Horizontal Impact Angle:	<b>117°</b>
Vertical Impact Angle:	<b>20°</b>
Ambient Temperature:	<b>20.5°C</b>
Relative Humidity:	<b>35.0</b>
Time of Impact:	<b>14:19</b>
Headform Number:	<b>355</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	<b>34</b>	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	<b>14</b>				mm up



POST-IMPACT AP1 HEADFORM

Free Motion HIC	<b>239.0</b>
HIC(d)	<b>346.8</b>
Impact Velocity (kph)	<b>18.47</b>
HIC T1 (msec)	<b>7.4</b>
HIC T2 (msec)	<b>13.6</b>

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - AP1

FMH Headform 0355

Location: AP1

Test Date: May 08, 2008

Work File: AP1

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

Lab Temperature: 20.5 C

HICd: 346.8

Lab Humidity: 35.0 %

HIC (36ms): 239.0

Velocity at Impact: 18.47 KPH

t1: 7.4 msec

t2: 13.6 msec

Free Flight Distance: 218.79 mm

Duration: 6.2 msec

Average Acceleration: 6.8 g

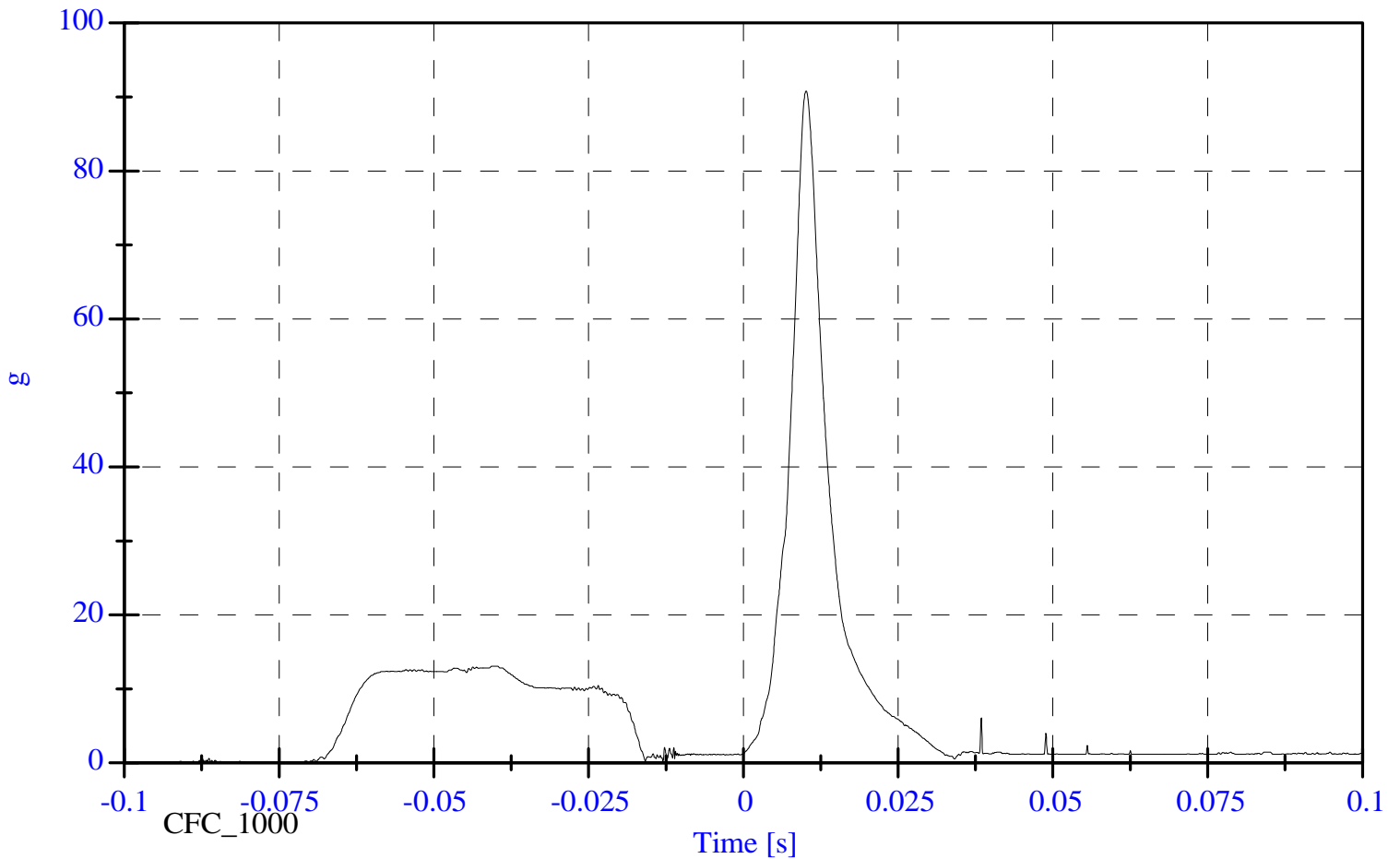
Maximum: 90.8 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 90.8 [g] at 0.010 [s]

Min: 0.0 [g] at -0.092 [s]



FMVSS 201U 2009 TOYOTA COROLLA

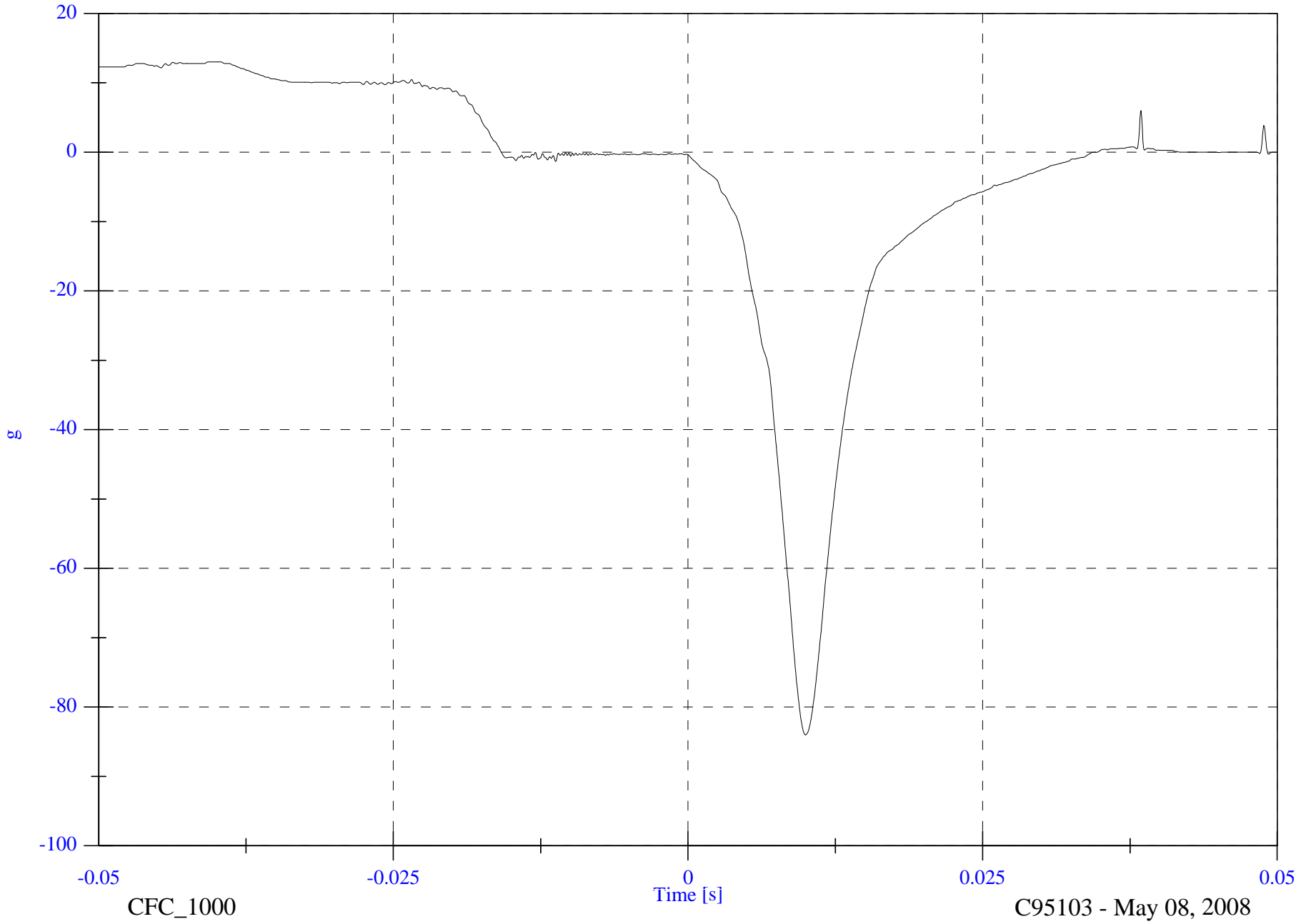
Headform X Acceleration

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

Min: -84.0 [g] at 0.010 [s]

C95103 PASSENGER SIDE AP1 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

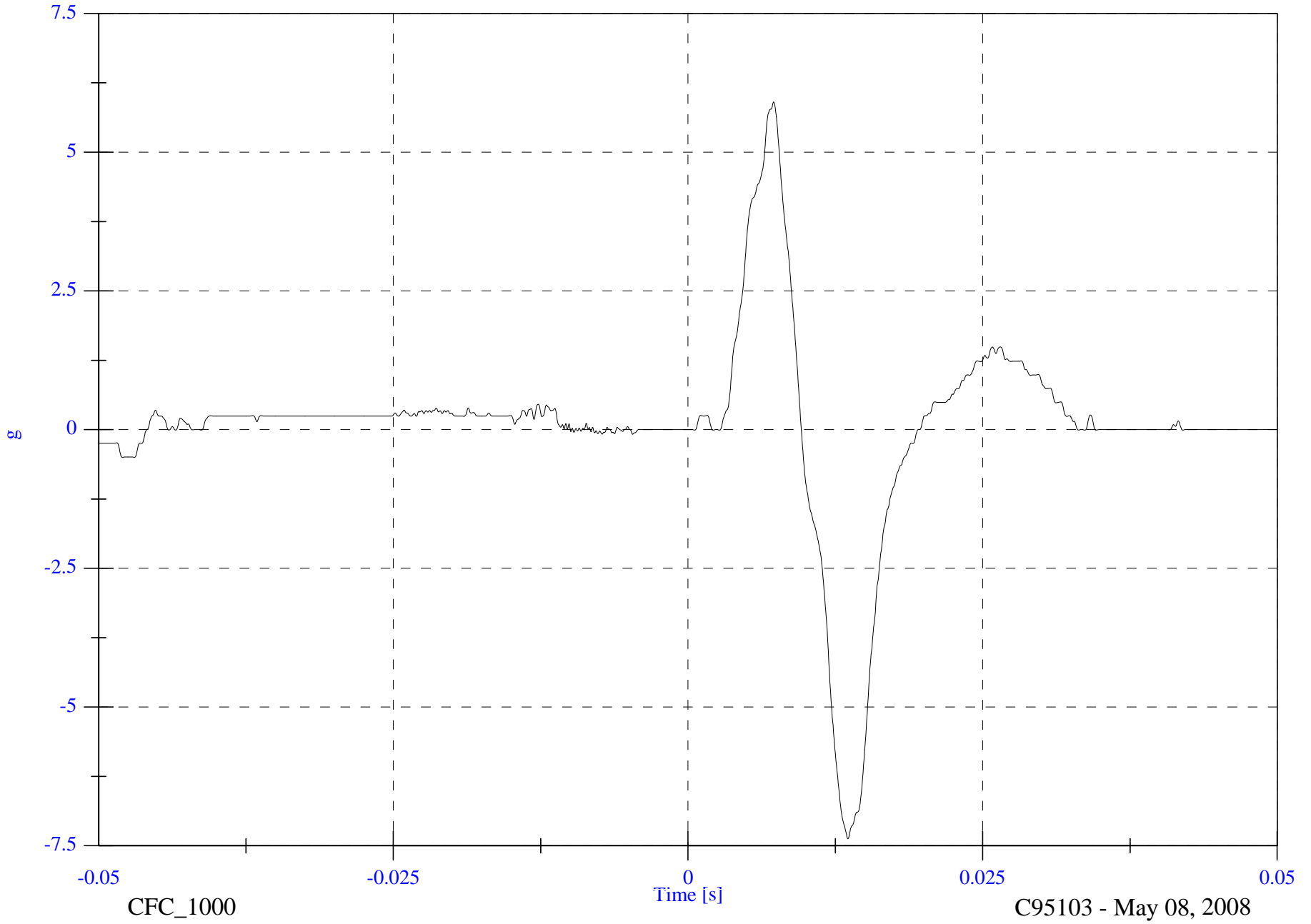
Headform Y Acceleration

Max: 5.9 [g] at 0.007 [s]

Min: -7.4 [g] at 0.014 [s]

C95103 PASSENGER SIDE AP1 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008



FMVSS 201U 2009 TOYOTA COROLLA

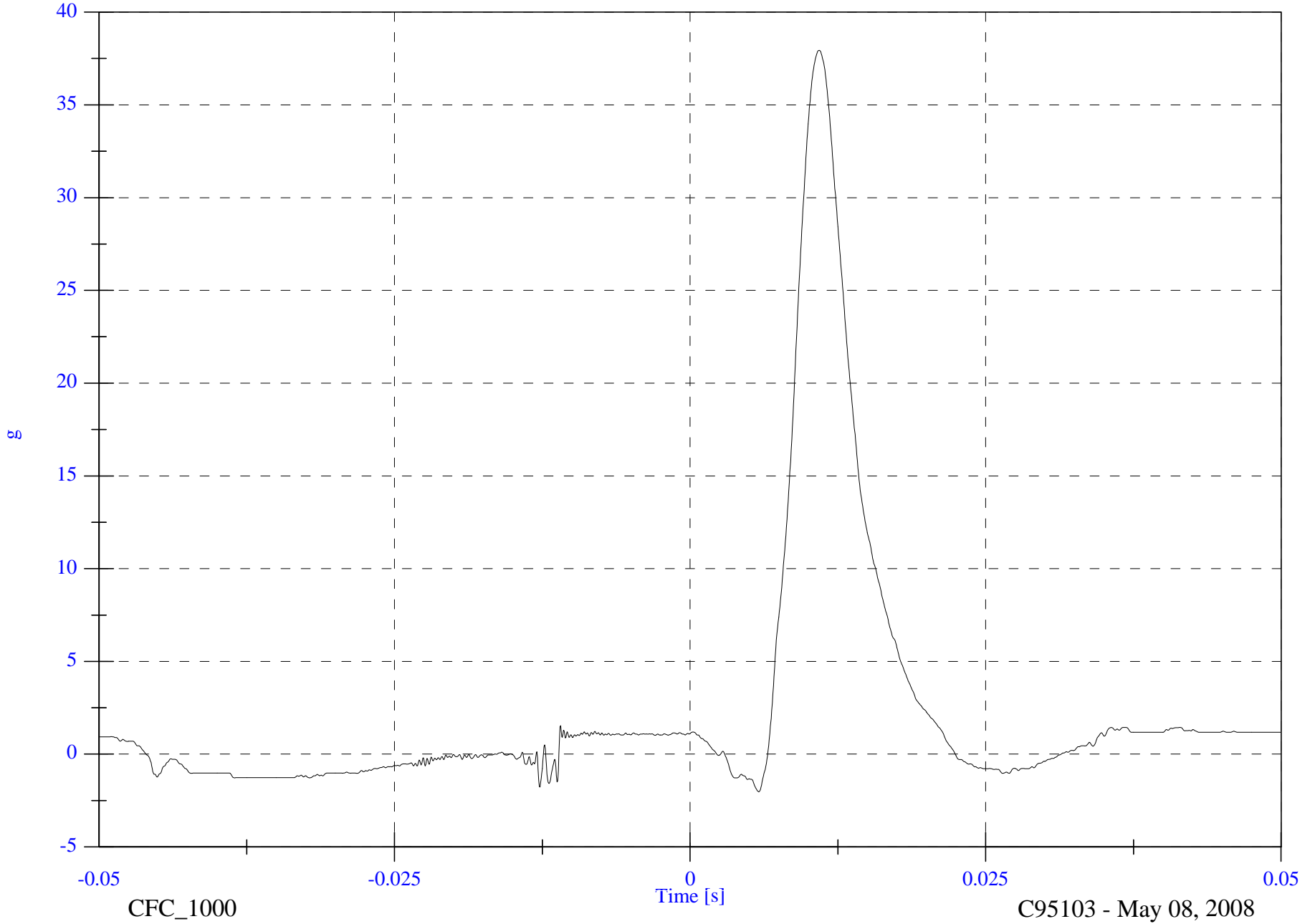
Headform Z Acceleration

Max: 37.9 [g] at 0.011 [s]

Min: -2.0 [g] at 0.006 [s]

C95103 PASSENGER SIDE AP1 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

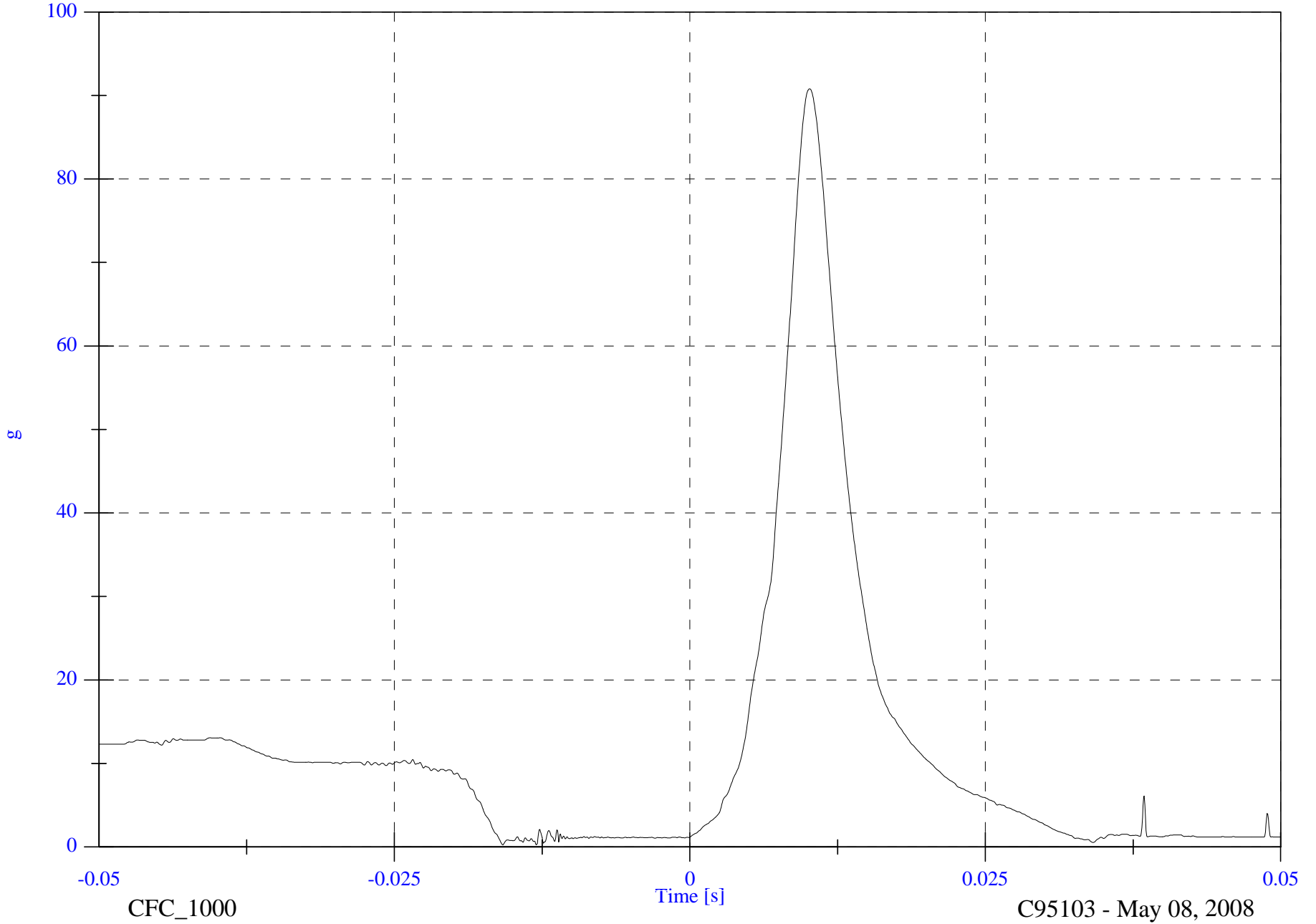
Headform Resultant

Max: 90.8 [g] at 0.010 [s]

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

C95103 PASSENGER SIDE AP1 IMPACT PLOT #5

8851-08

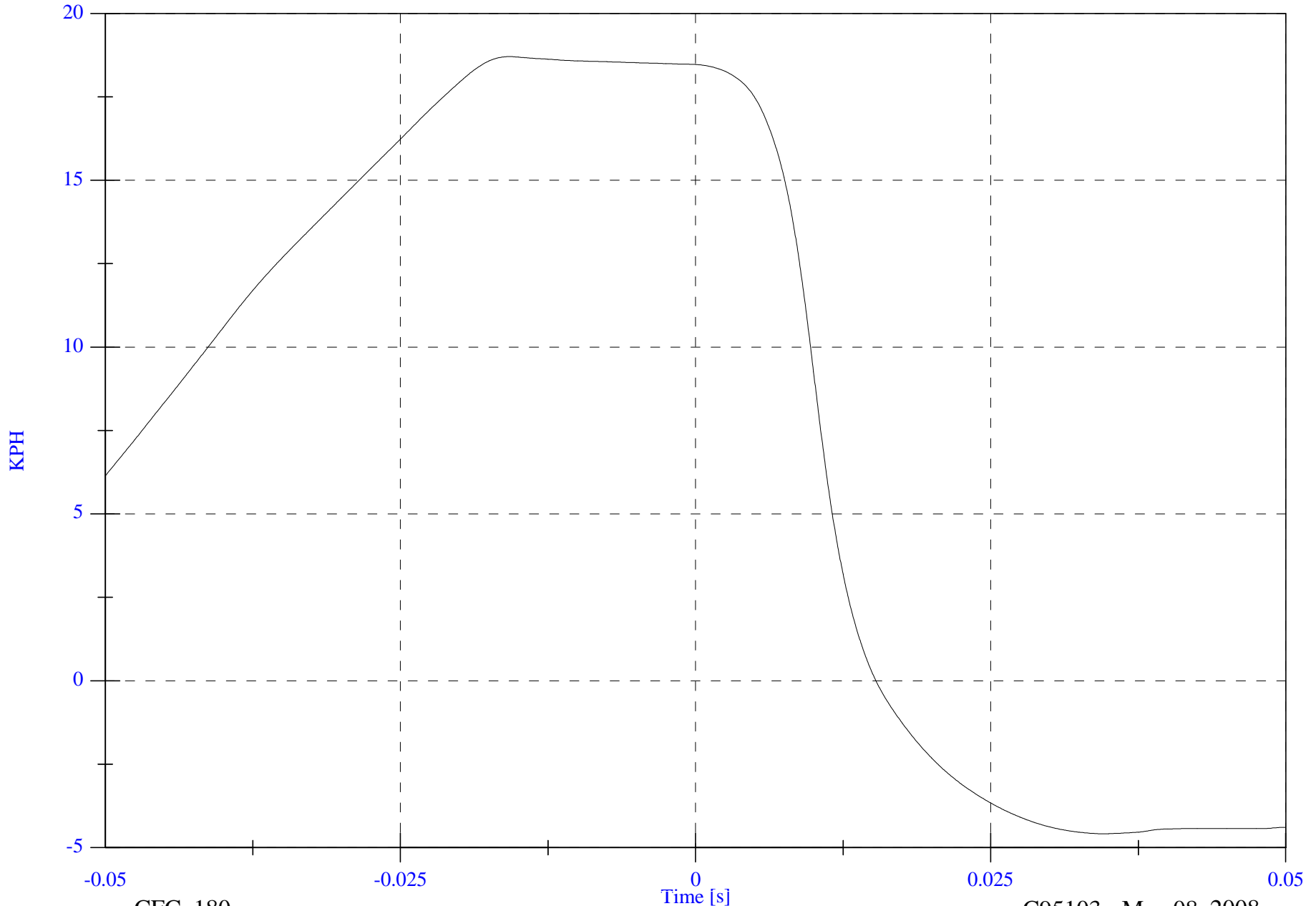


FMVSS 201U 2009 TOYOTA COROLLA

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

Min: -4.6 [KPH] at 0.035 [s]

### Headform Velocity

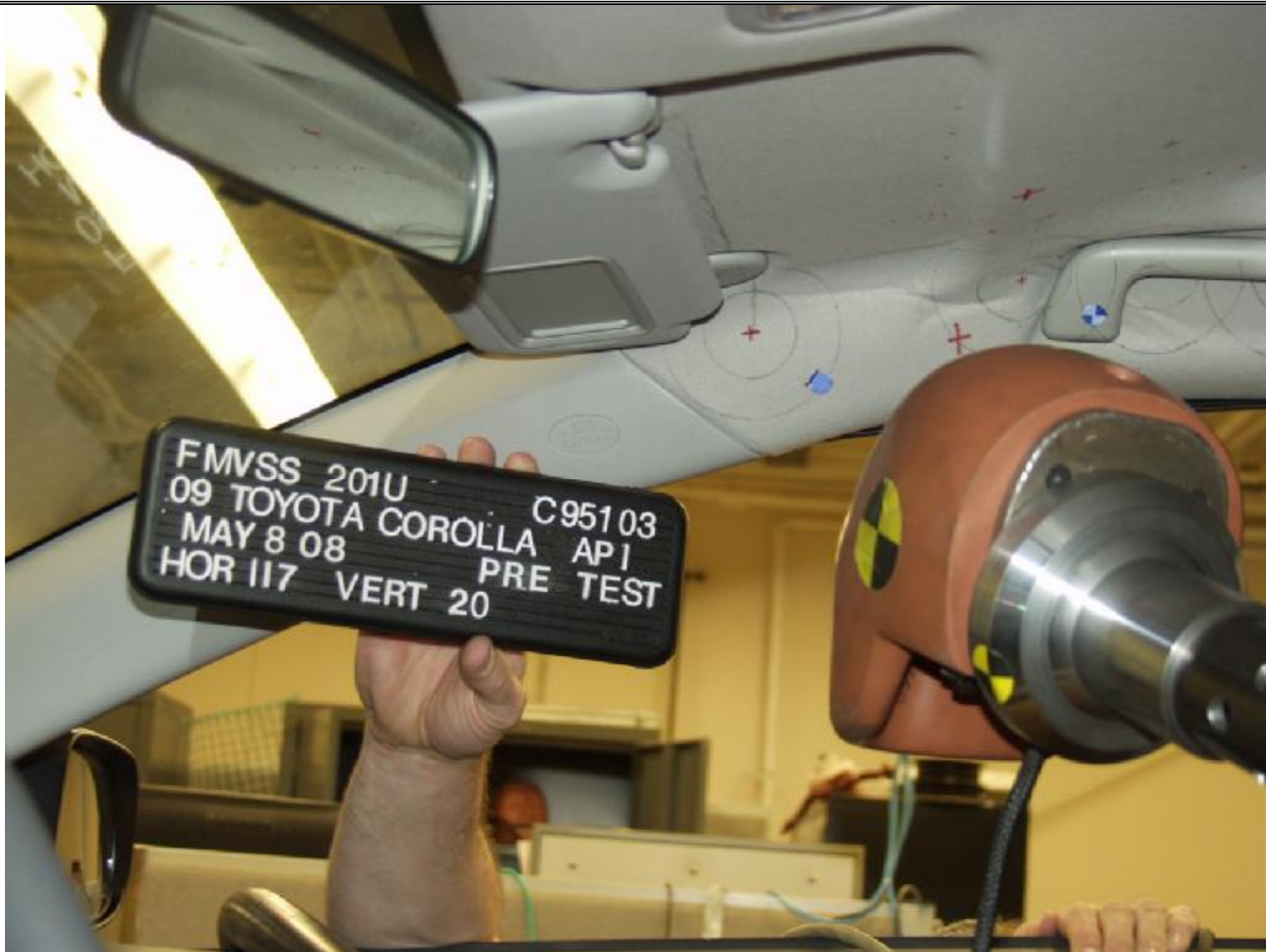


C95103 PASSENGER SIDE AP1 IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT API



POST-IMPACT API

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	09
Test Date:	05/08/08
Target Location:	REAR PILLAR
Target Code:	RP2
Horizontal Impact Angle:	282°
Vertical Impact Angle:	25°
Ambient Temperature:	20.5°C
Relative Humidity:	35
Time of Impact:	15:45
Headform Number:	0805

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	0	<input type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	16				mm up



POST-IMPACT RP2 HEADFORM

Free Motion HIC	881.7
HIC(d)	831.6
Impact Velocity (kph)	23.74
HIC T1 (msec)	3.7
HIC T2 (msec)	10.1

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - RP2

FMH Headform 0805

Location: RP2

Test Date: May 08, 2008

Work File: RP2

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

Lab Temperature: 20.5 C

HICd: 831.6

Lab Humidity: 35.0 %

HIC (36ms): 881.7

Velocity at Impact: 23.74 KPH

t1: 3.7 msec

t2: 10.1 msec

Free Flight Distance: 215.14 mm

Duration: 6.3 msec

Average Acceleration: 11.7 g

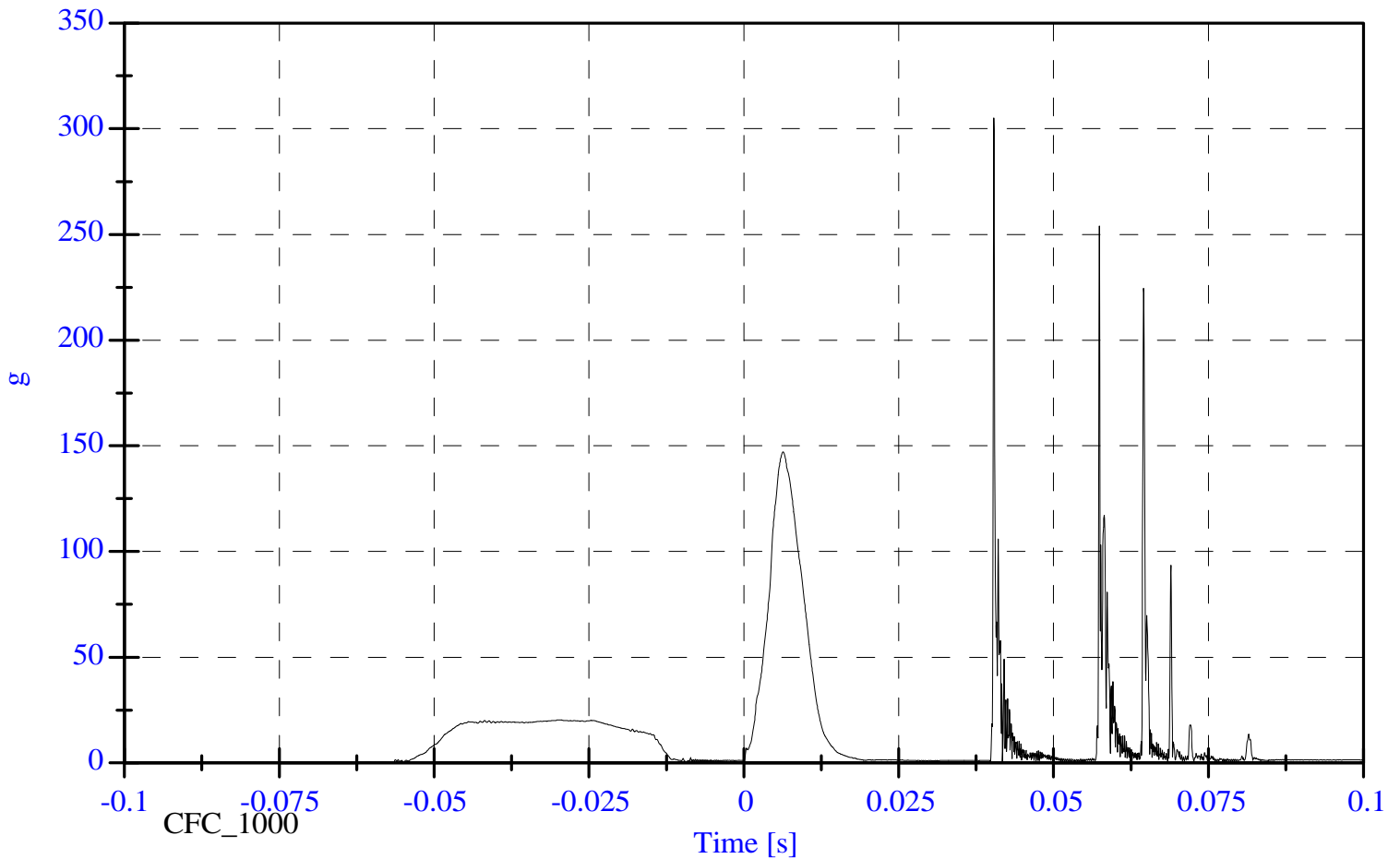
Maximum: 147.1 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 147.1 [g] at 0.006 [s]

Min: 0.0 [g] at -0.091 [s]



FMVSS 201U 2009 TOYOTA COROLLA

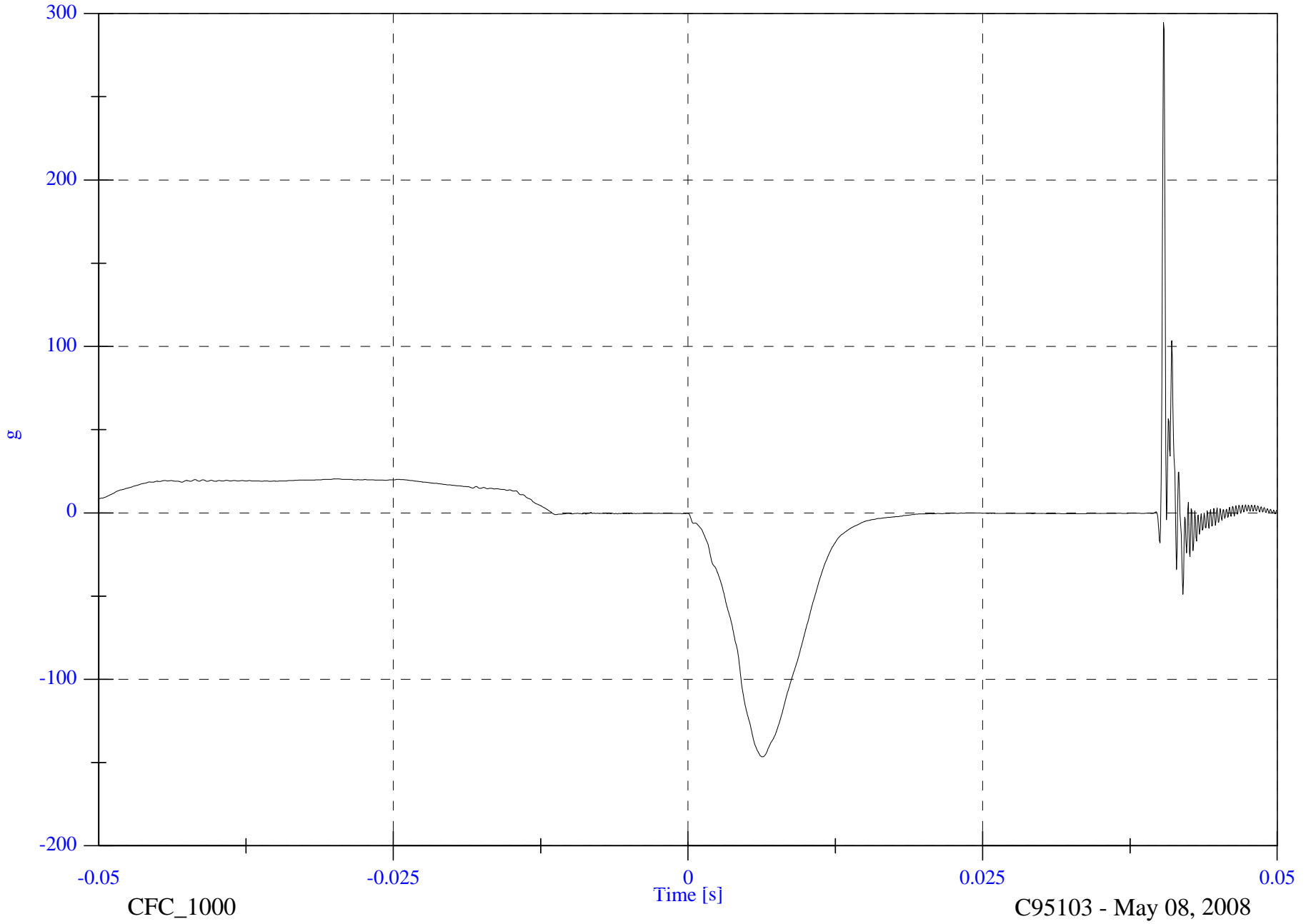
Headform X Acceleration

Max: 294.7 [g] at 0.040 [s]

Min: -146.6 [g] at 0.006 [s]

C95103 DRIVER SIDE RP2 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008



FMVSS 201U 2009 TOYOTA COROLLA

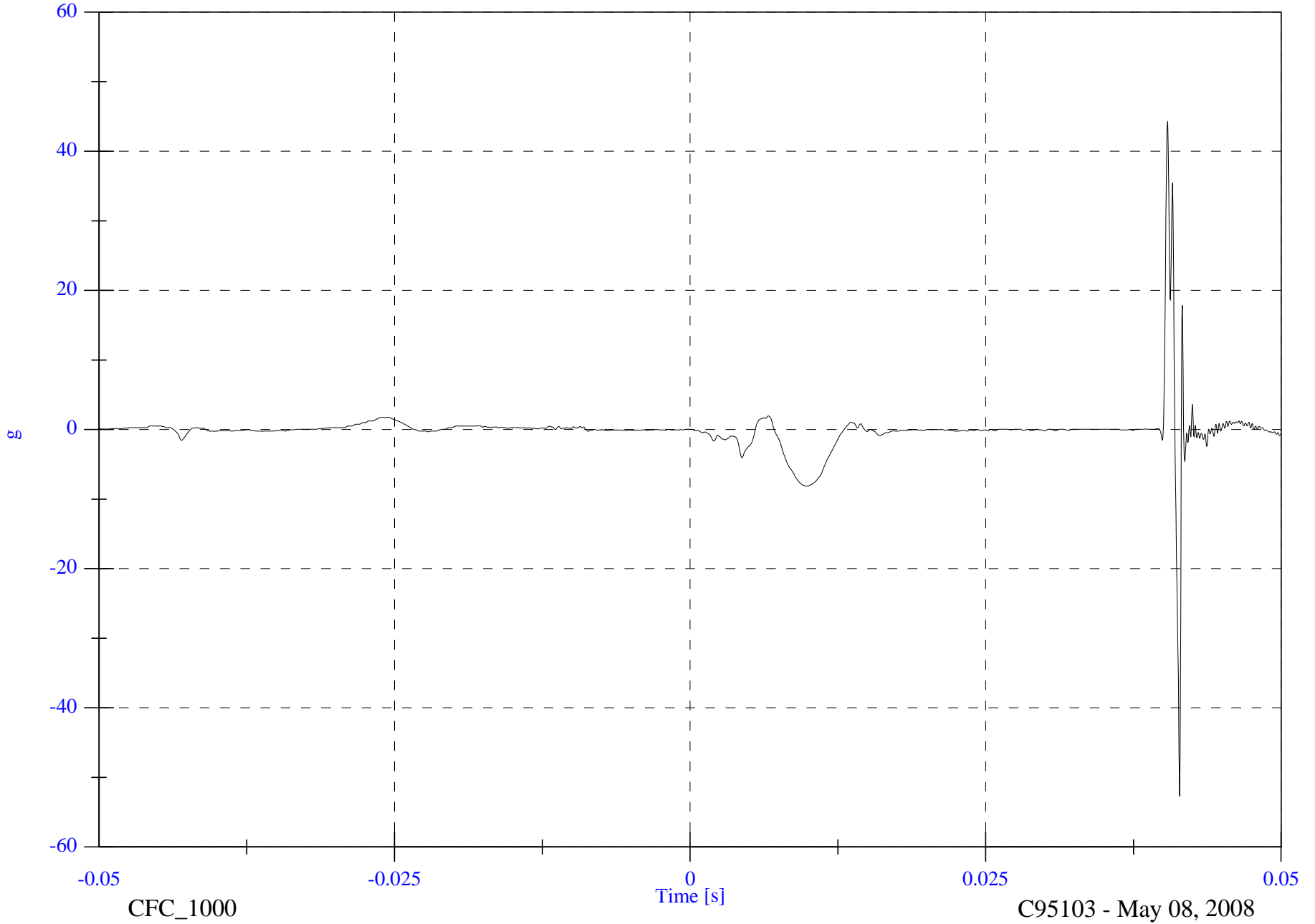
Headform Y Acceleration

Max: 44.3 [g] at 0.040 [s]

Min: -52.7 [g] at 0.041 [s]

C95103 DRIVER SIDE RP2 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

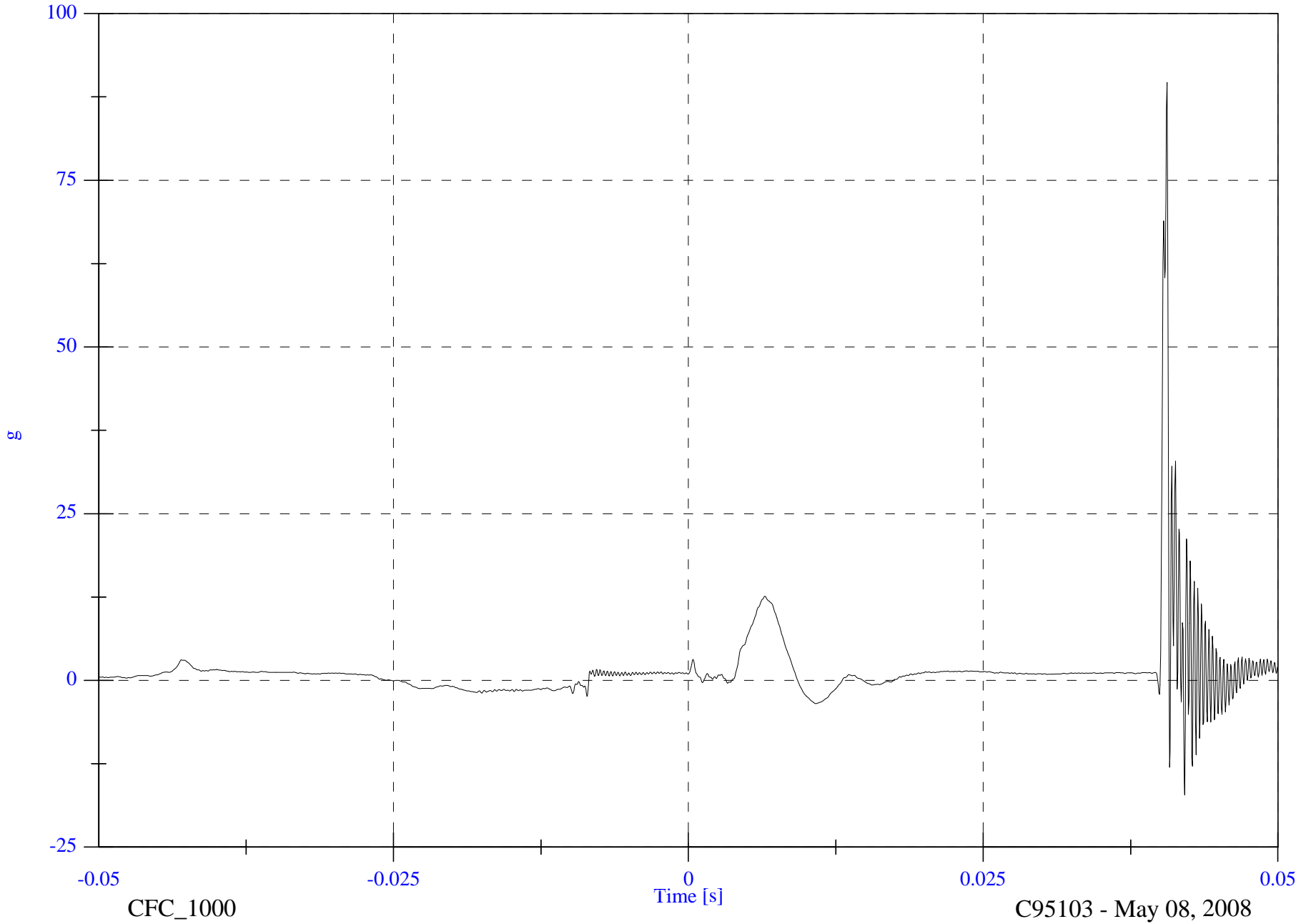
Headform Z Acceleration

Max: 89.7 [g] at 0.041 [s]

Min: -17.2 [g] at 0.042 [s]

C95103 DRIVER SIDE RP2 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

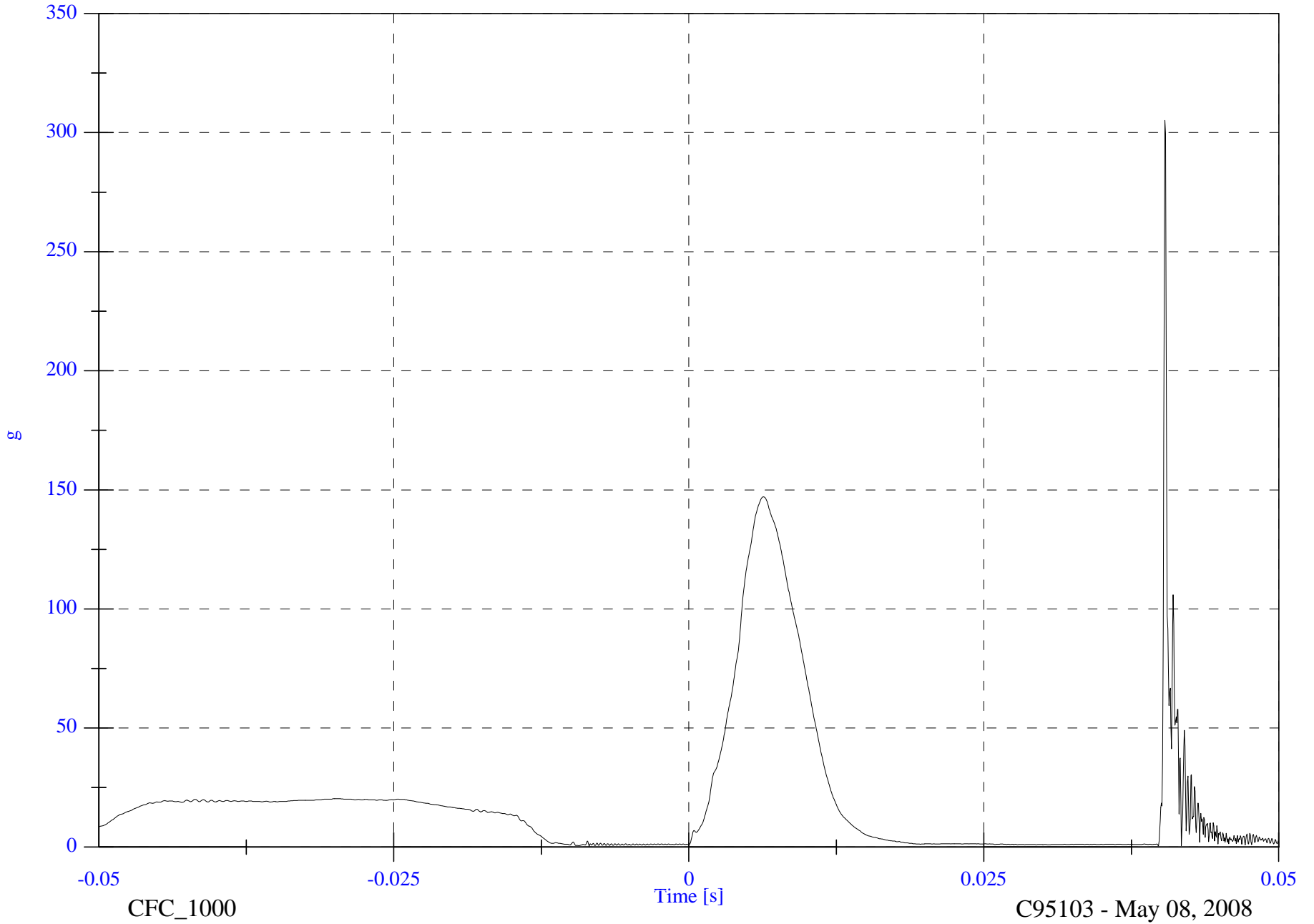
Headform Resultant

Max: 305.1 [g] at 0.040 [s]

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

C95103 DRIVER SIDE RP2 IMPACT PLOT #5

8851-08

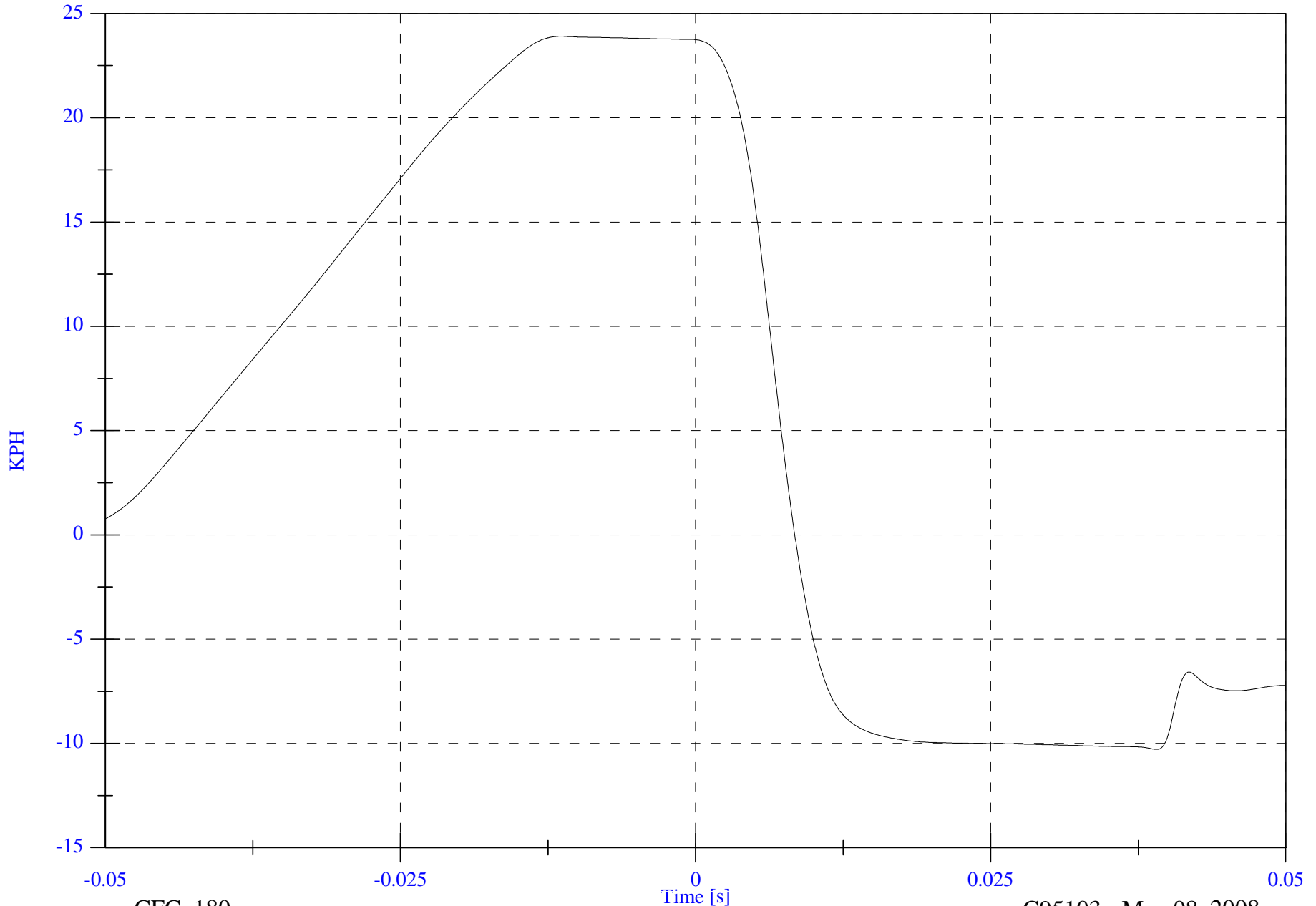


FMVSS 201U 2009 TOYOTA COROLLA

Max: 23.9 [KPH] at -0.011 [s]

Min: -10.3 [KPH] at 0.039 [s]

### Headform Velocity



C95103 DRIVER SIDE RP2 IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 08, 2008



PRE-IMPACT RP2



POST-IMPACT RP2

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	10
Test Date:	05/08/08
Target Location:	REAR PILLAR
Target Code:	Driv. RP1
Horizontal Impact Angle:	288°
Vertical Impact Angle:	14°
Ambient Temperature:	20.5°C
Relative Humidity:	35.7
Time of Impact:	16:20
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	0	<input type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	35				mm up



POST-IMPACT Driv. RP1 HEADFORM

Free Motion HIC	218.7
HIC(d)	331.4
Impact Velocity (kph)	18.55
HIC T1 (msec)	4.5
HIC T2 (msec)	14.7

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - RP1

FMH Headform 0062

Location: RP1

Test Date: May 08, 2008

Work File: RP1

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

Lab Temperature: 20.5 C

HICd: 331.4

Lab Humidity: 35.7 %

HIC (36ms): 218.7

Velocity at Impact: 18.55 KPH

t1: 4.5 msec

t2: 14.7 msec

Free Flight Distance: 209.17 mm

Duration: 10.2 msec

Average Acceleration: 7.0 g

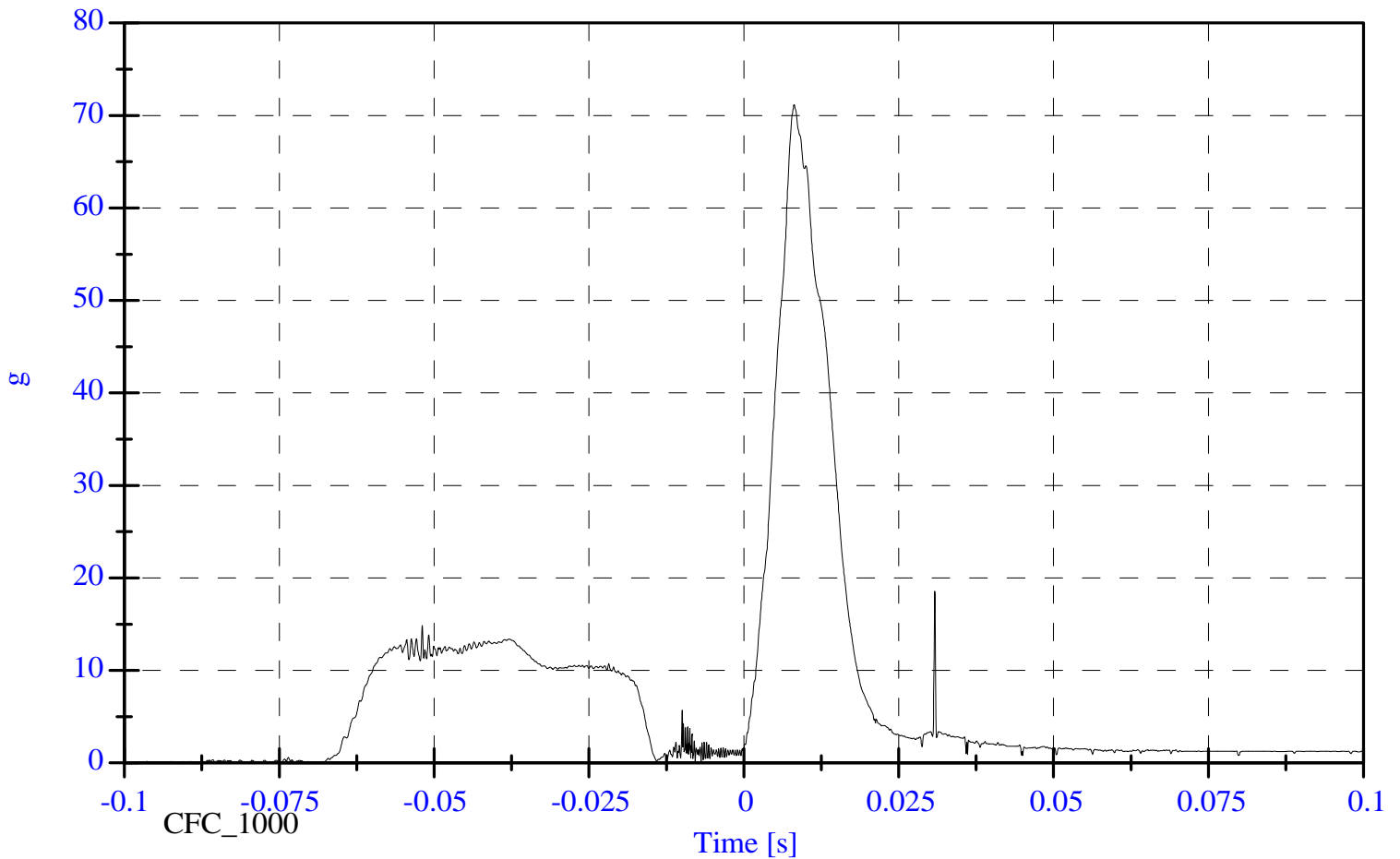
Maximum: 71.2 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 71.2 [g] at 0.008 [s]

Min: 0.0 [g] at -0.089 [s]





FMVSS 201U 2009 TOYOTA COROLLA

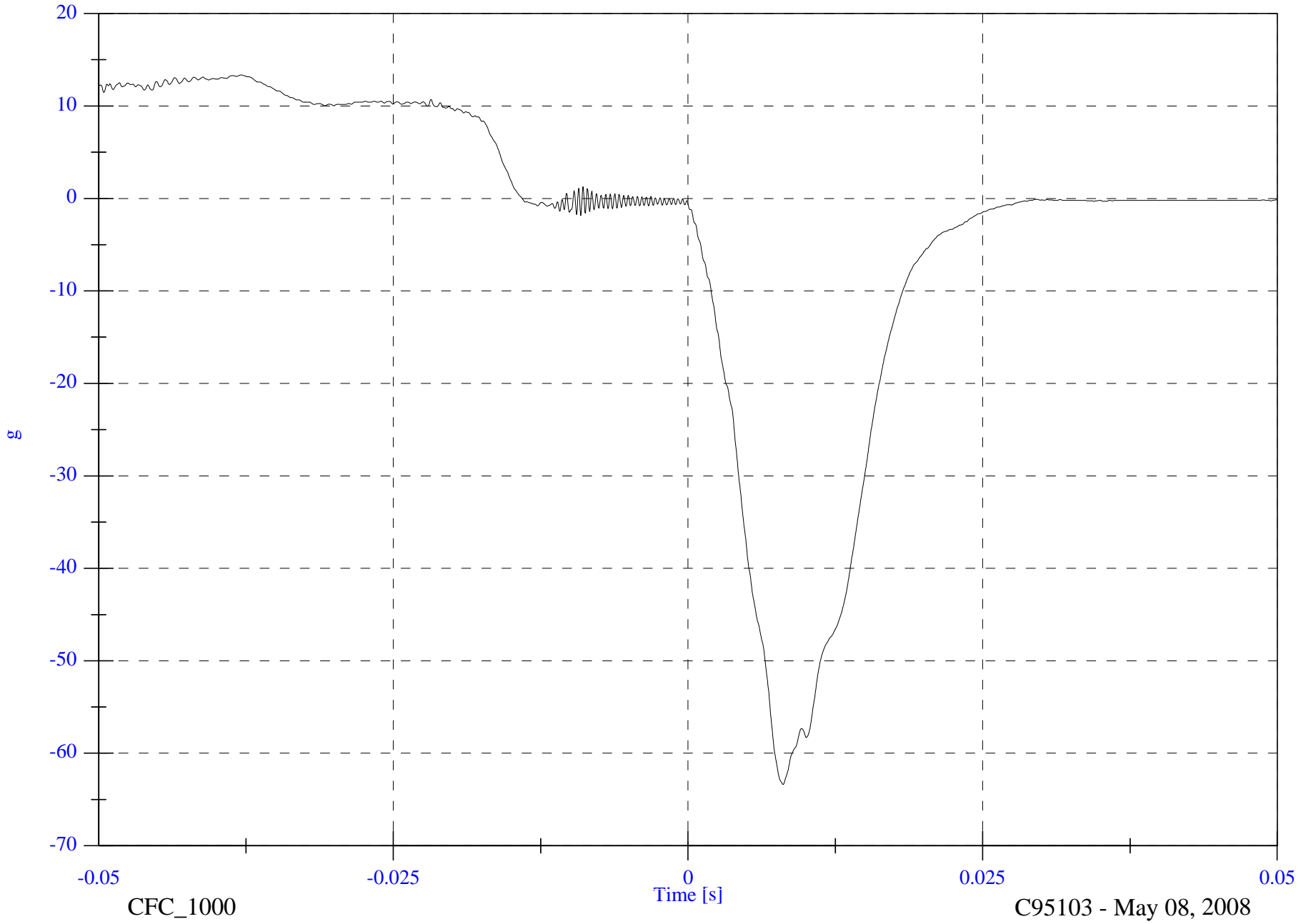
Headform X Acceleration

Max: 13.4 [g] at -0.038 [s]

Min: -63.4 [g] at 0.008 [s]

C95103 DRIVER SIDE RP1 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

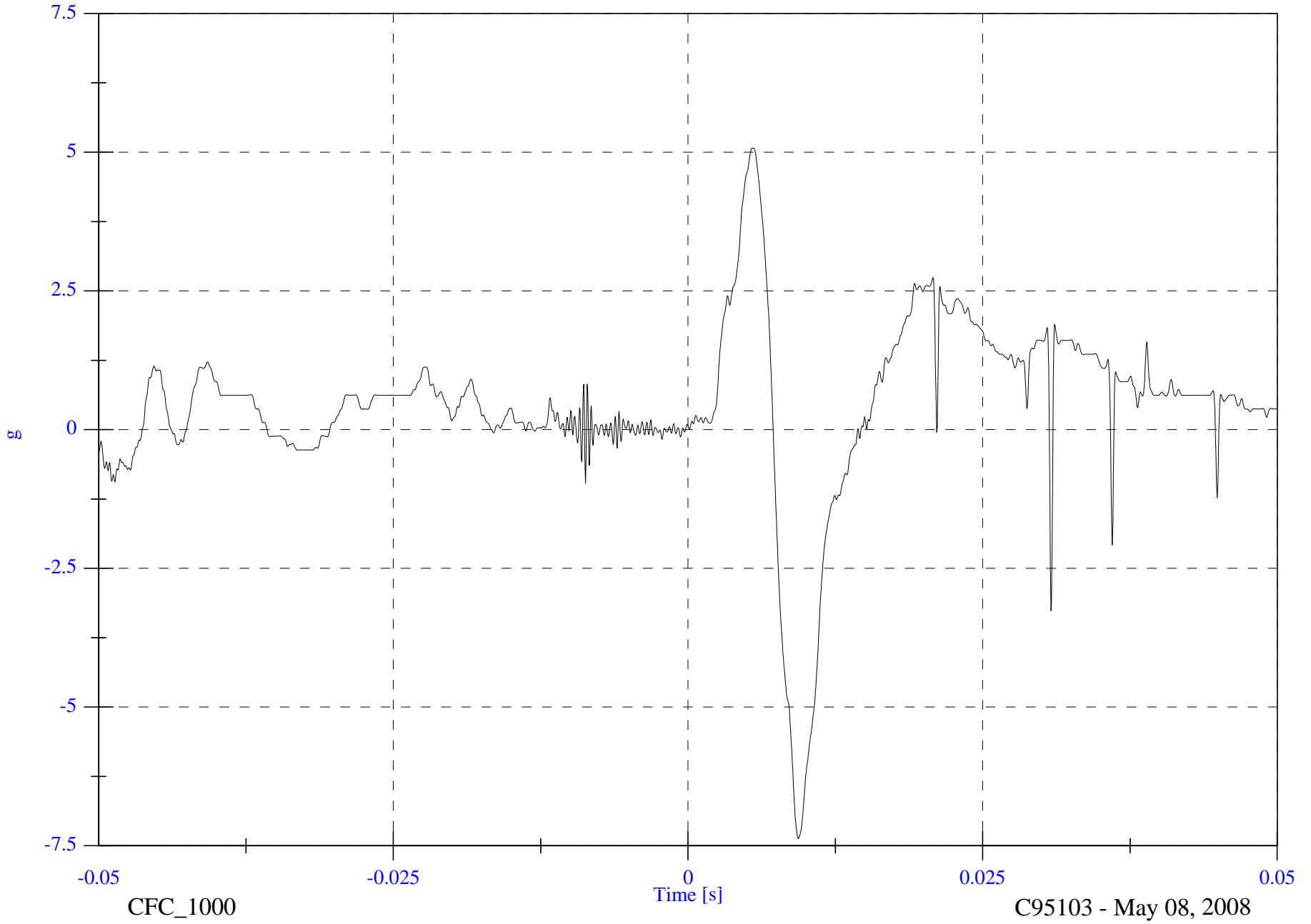
Headform Y Acceleration

Max: 5.1 [g] at 0.006 [s]

Min: -7.4 [g] at 0.009 [s]

C95103 DRIVER SIDE RP1 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

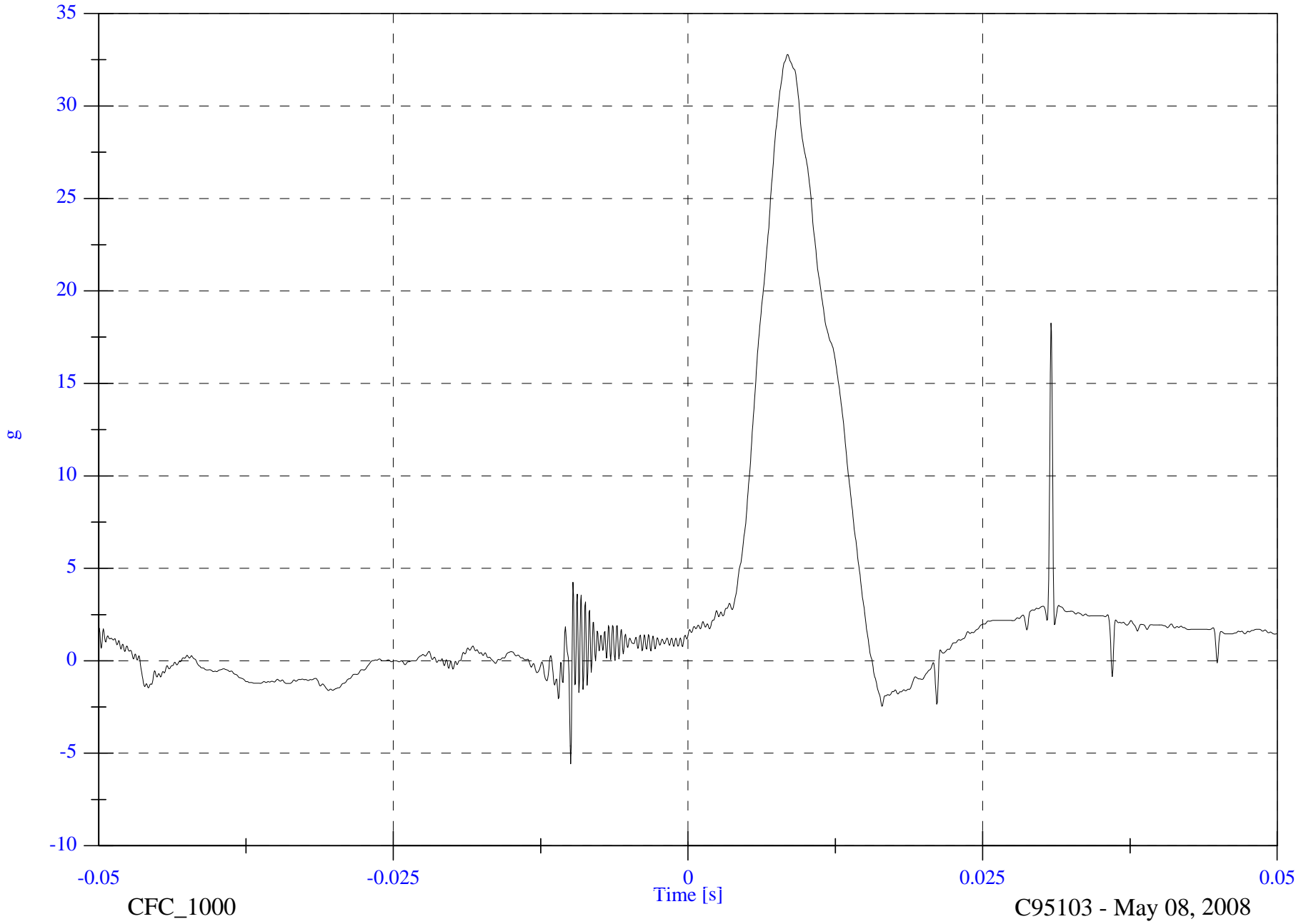
Headform Z Acceleration

Max: 32.8 [g] at 0.008 [s]

Min: -5.6 [g] at -0.010 [s]

C95103 DRIVER SIDE RP1 IMPACT PLOT #4

8851-08



C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

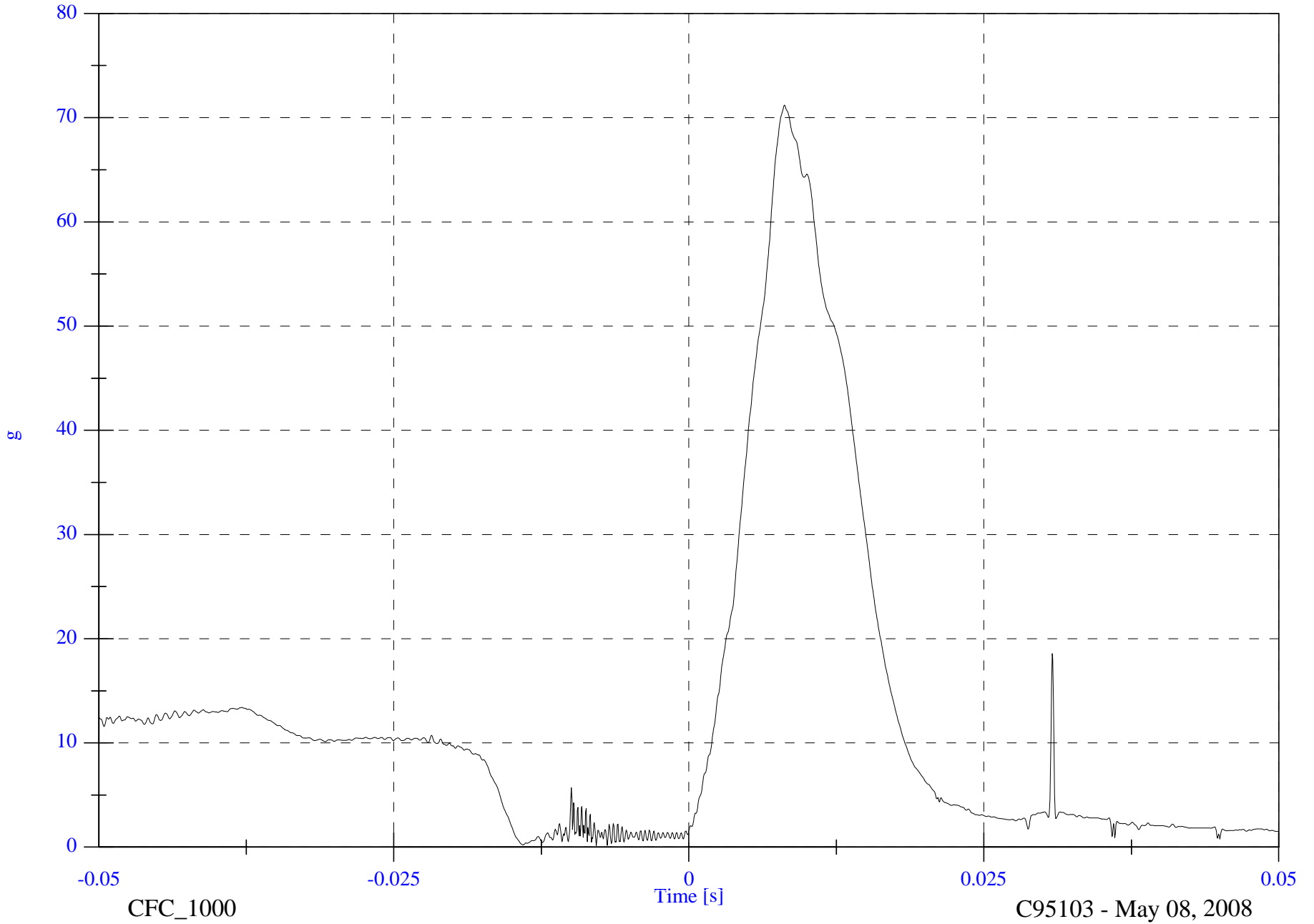
Headform Resultant

Max: 71.2 [g] at 0.008 [s]

Min: 0.1 [g] at -0.008 [s]

C95103 DRIVER SIDE RP1 IMPACT PLOT #5

8851-08



CFC\_1000

C95103 - May 08, 2008

FMVSS 201U 2009 TOYOTA COROLLA

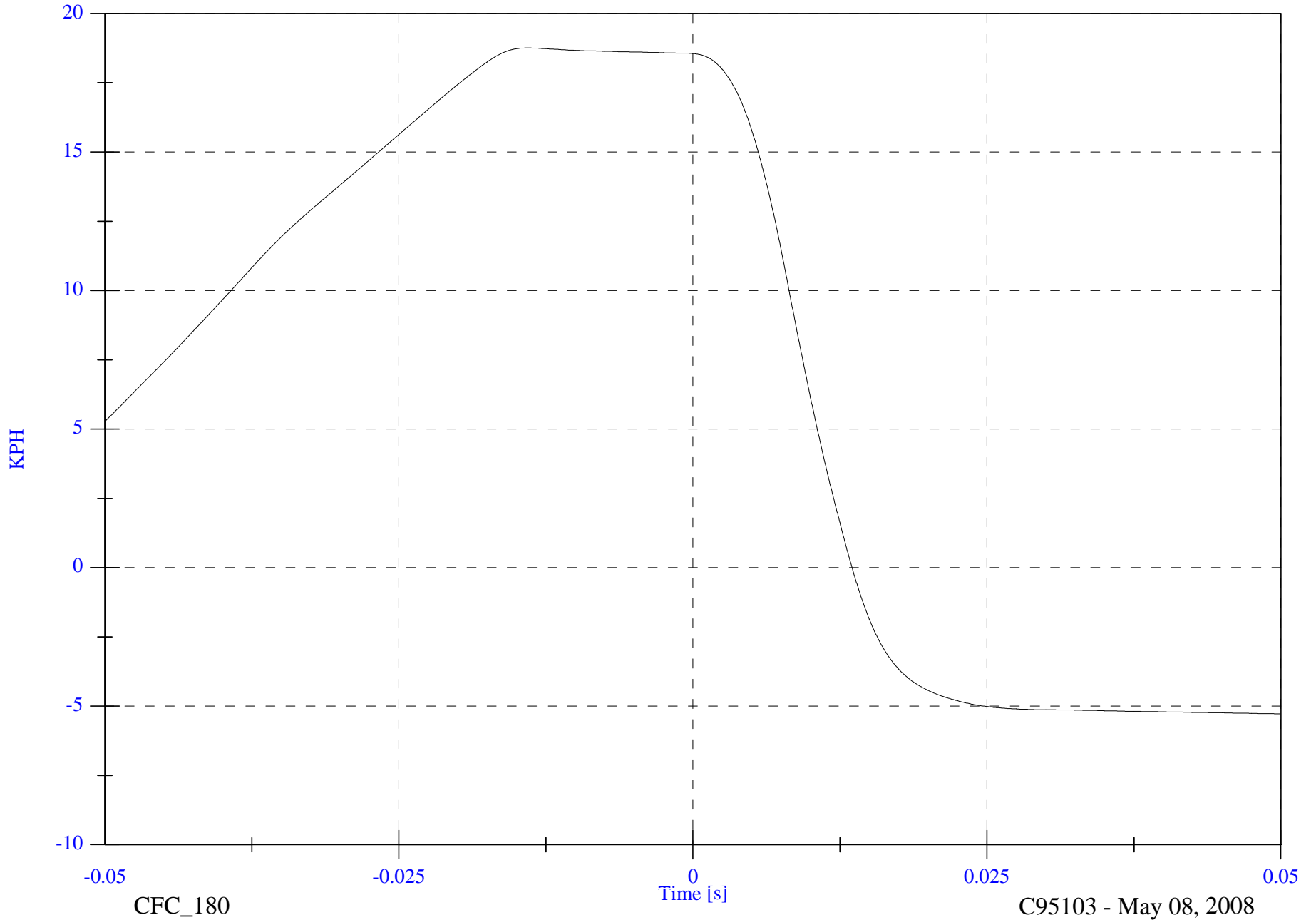
Headform Velocity

Max: 18.8 [KPH] at -0.014 [s]

Min: -5.3 [KPH] at 0.050 [s]

C95103 DRIVER SIDE RP1 IMPACT PLOT #6

8851-08



CFC\_180

C95103 - May 08, 2008



PRE-IMPACT Driv. RPI



POST-IMPACT Driv. RPI

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	11
Test Date:	05/09/08
Target Location:	B-PILLAR
Target Code:	BP2
Horizontal Impact Angle:	270°
Vertical Impact Angle:	4°
Ambient Temperature:	20.0°C
Relative Humidity:	35.0
Time of Impact:	8:46
Headform Number:	0062

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	3	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	5				mm up



POST-IMPACT BP2HEADFORM

Free Motion HIC	570.7
HIC(d)	597.0
Impact Velocity (kph)	23.61
HIC T1 (msec)	1.7
HIC T2 (msec)	10.8



# FMVSS 201U 2009 TOYOTA COROLLA C95103 - BP2

FMH Headform 0062

Location: BP2

Test Date: May 09, 2008

Work File: BP2

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

Lab Temperature: 20.0 C

HICd: 597.0

Lab Humidity: 35.0 %

HIC (36ms): 570.7

Velocity at Impact: 23.61 KPH

t1: 1.7 msec

t2: 10.8 msec

Free Flight Distance: 219.68 mm

Duration: 9.1 msec

Average Acceleration: 8.7 g

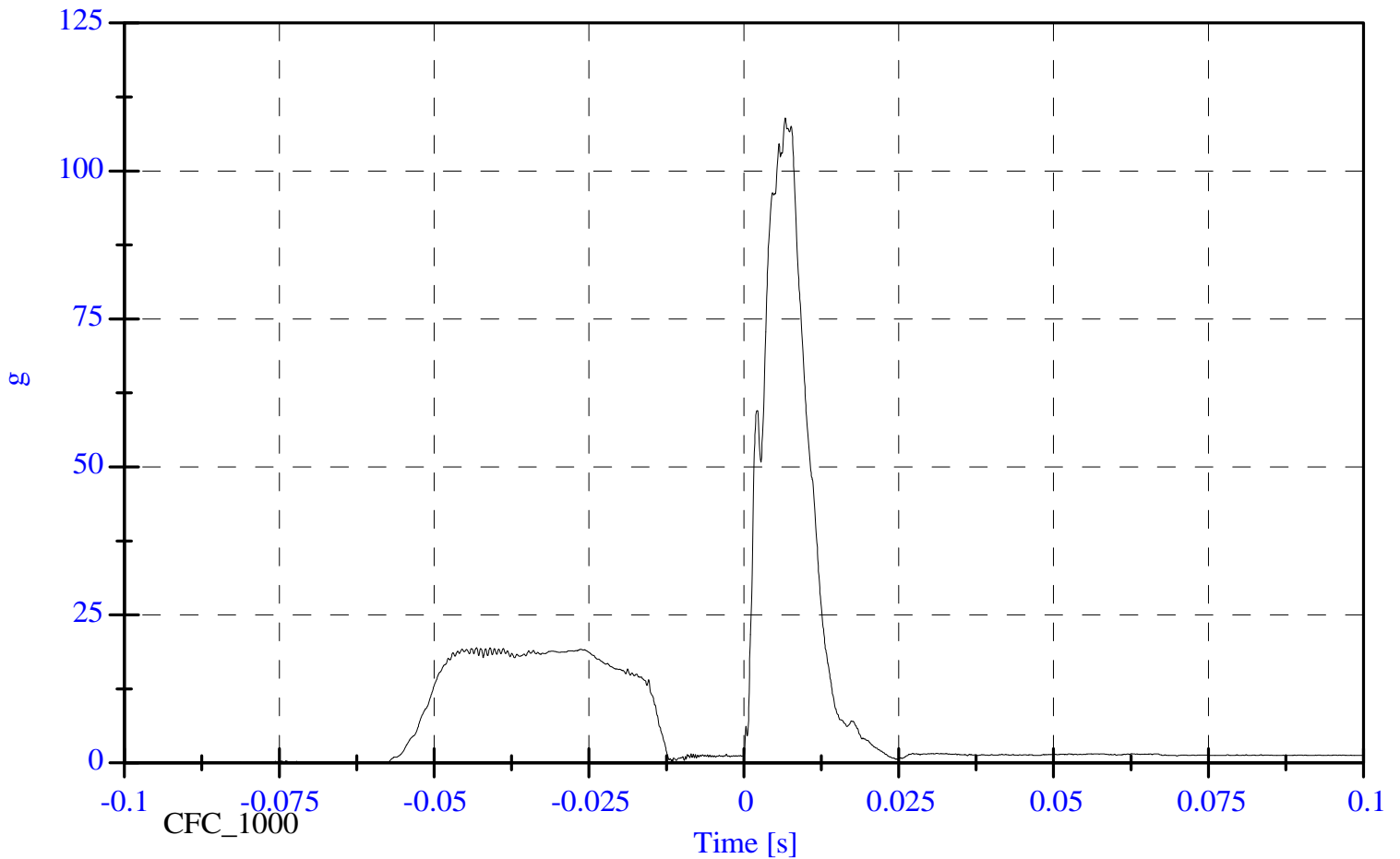
Maximum: 109.0 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 109.0 [g] at 0.007 [s]

Min: 0.0 [g] at -0.079 [s]

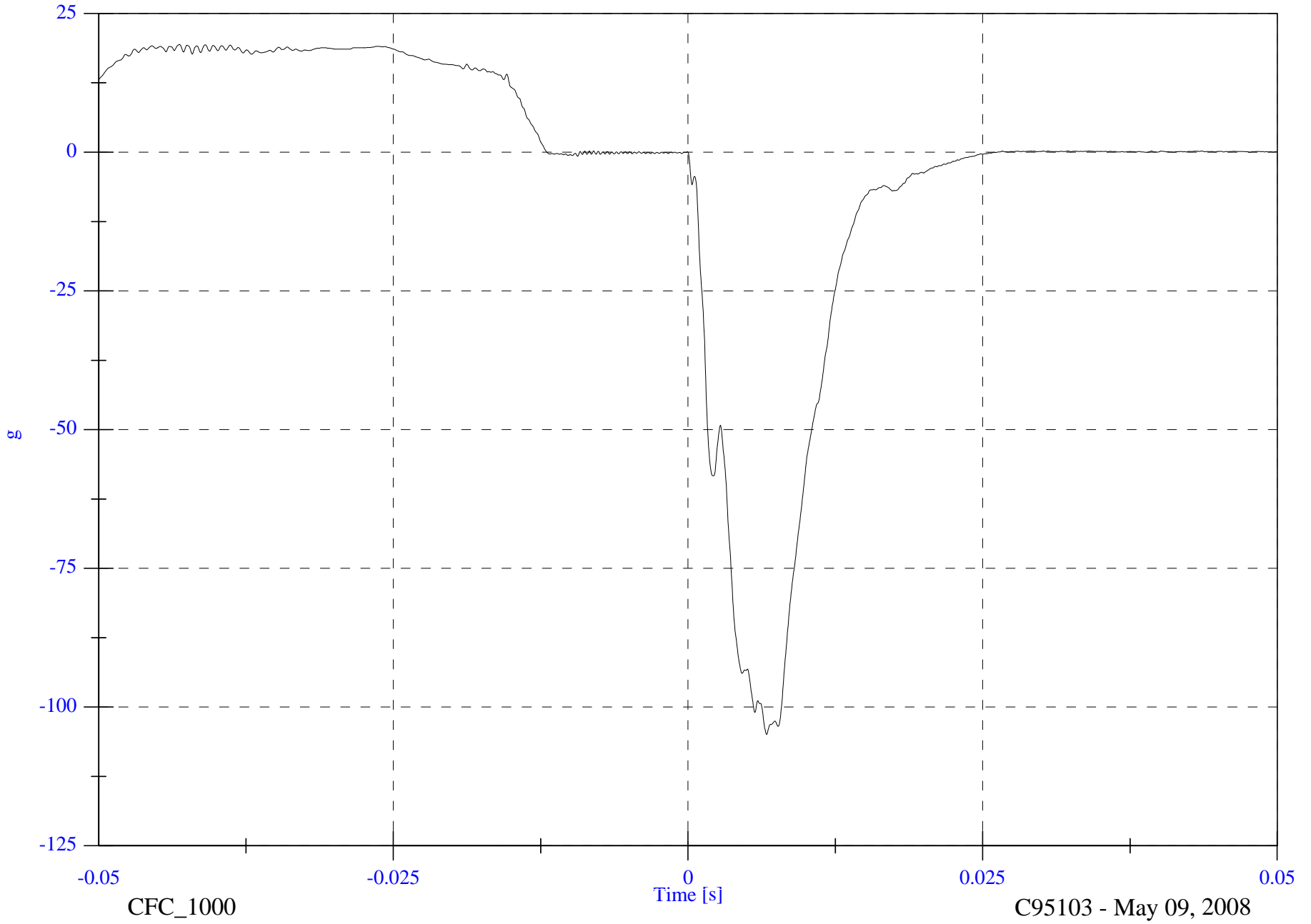


FMVSS 201U 2009 TOYOTA COROLLA

Headform X Acceleration

Max: 19.4 [g] at -0.043 [s]

Min: -104.9 [g] at 0.007 [s]



C95103 DRIVER SIDE BP2 IMPACT PLOT #2

8851-08

CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

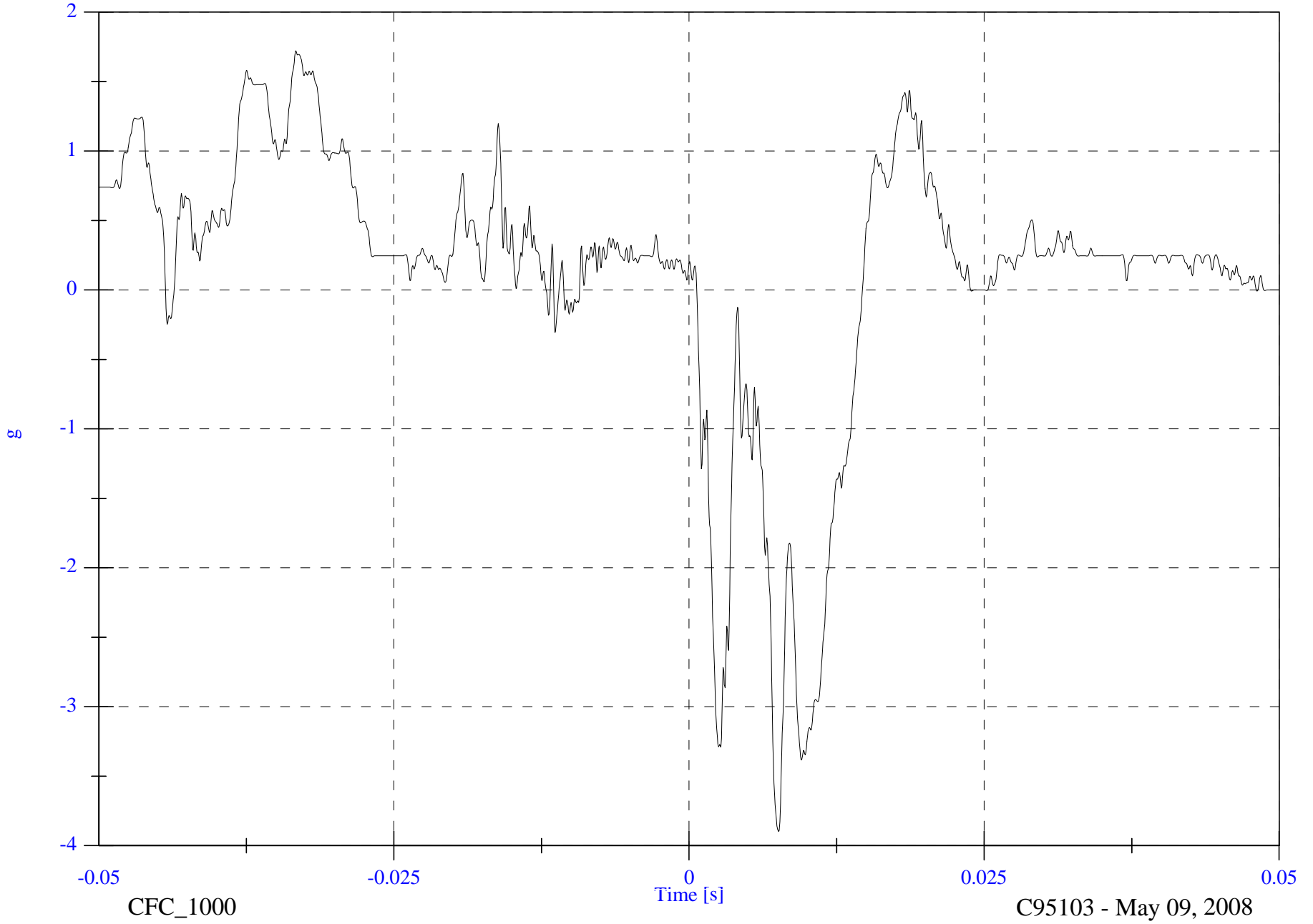
Headform Y Acceleration

Max: 1.7 [g] at -0.033 [s]

Min: -3.9 [g] at 0.008 [s]

C95103 DRIVER SIDE BP2 IMPACT PLOT #3

8851-08



CFC\_1000

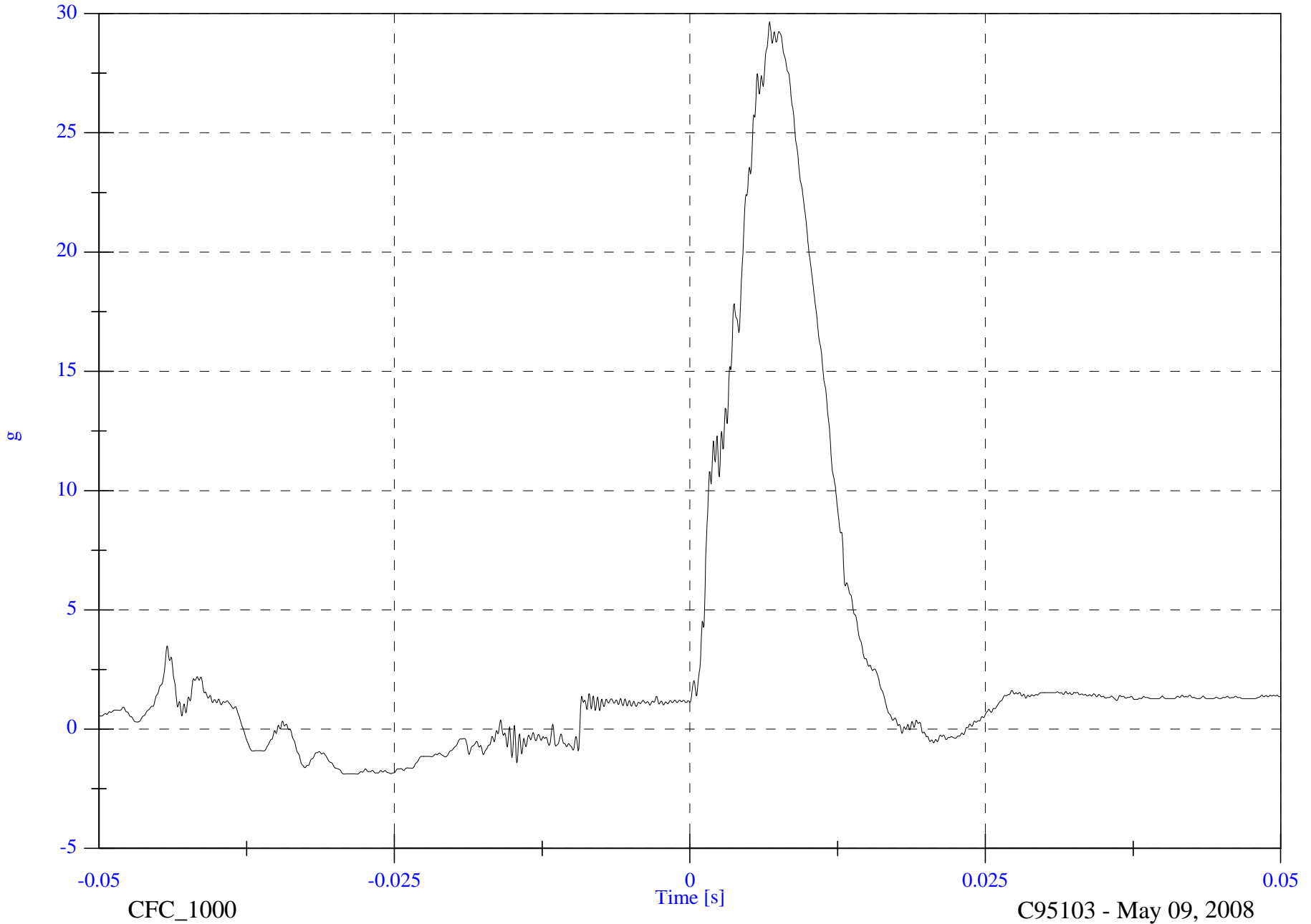
C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Headform Z Acceleration

Max: 29.7 [g] at 0.007 [s]

Min: -1.9 [g] at -0.029 [s]



C95103 DRIVER SIDE BP2 IMPACT PLOT #4

8851-08

CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

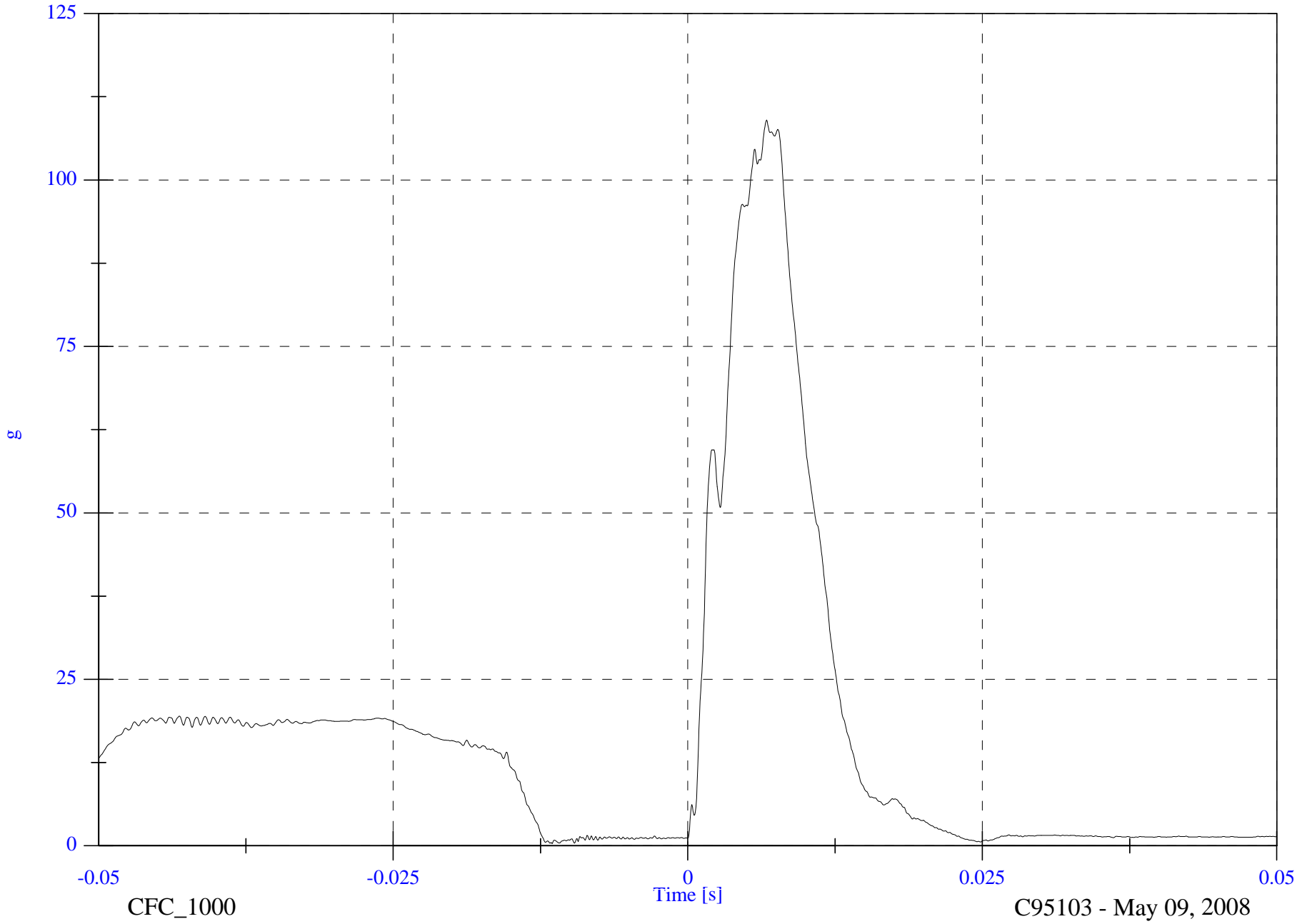
Headform Resultant

Max: 109.0 [g] at 0.007 [s]

Min: 0.3 [g] at -0.011 [s]

C95103 DRIVER SIDE BP2 IMPACT PLOT #5

8851-08



CFC\_1000

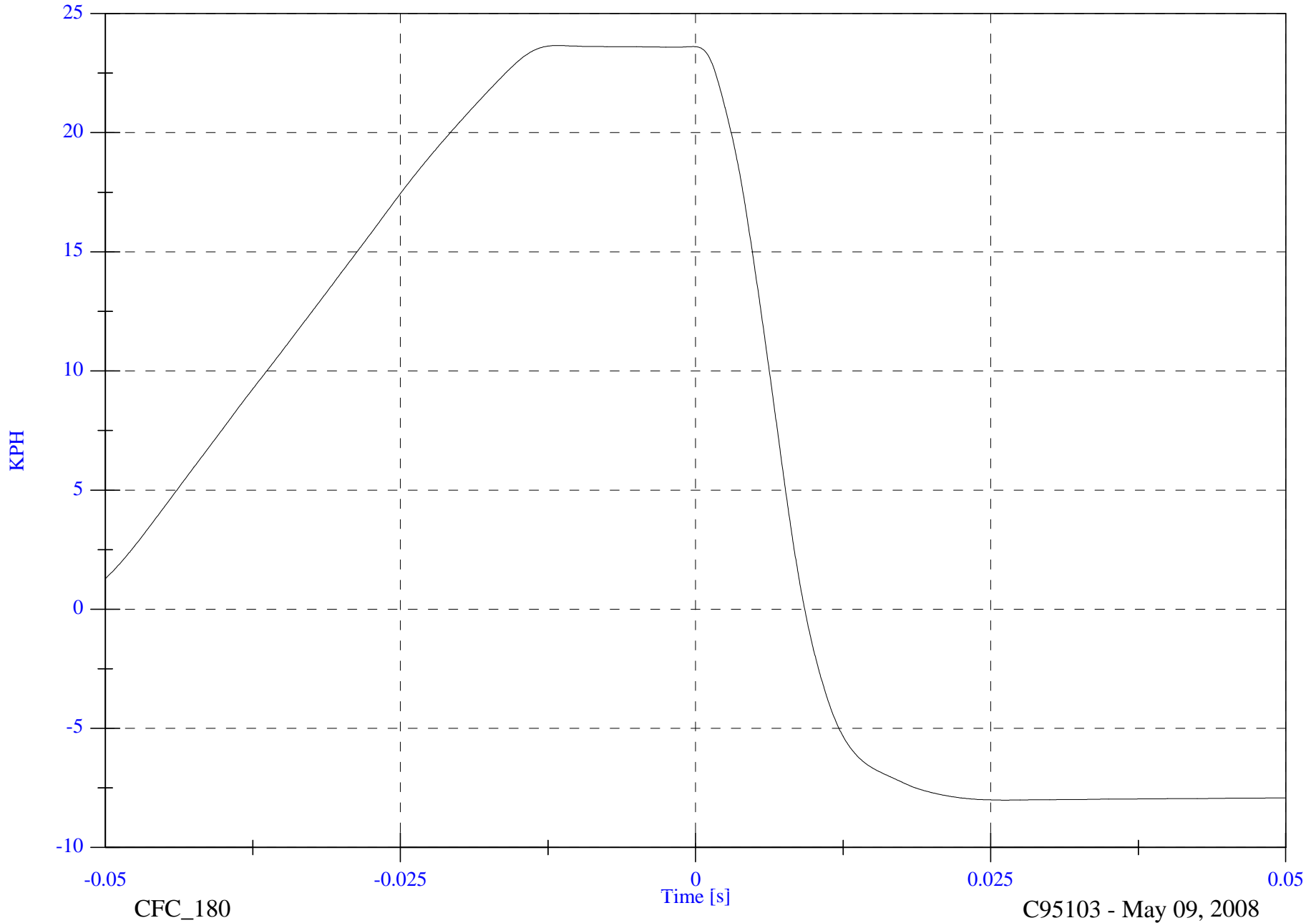
C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 23.7 [KPH] at -0.012 [s]

Min: -8.0 [KPH] at 0.026 [s]

### Headform Velocity



C95103 DRIVER SIDE BP2 IMPACT PLOT #6

8851-08

CFC\_180

C95103 - May 09, 2008



PRE-IMPACT BP2



POST-IMPACT BP2



VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	12
Test Date:	<b>05/09/08</b>
Target Location:	<b>B-PILLAR</b>
Target Code:	BP1
Horizontal Impact Angle:	<b>270°</b>
Vertical Impact Angle:	<b>11°</b>
Ambient Temperature:	<b>20.0°C</b>
Relative Humidity:	<b>35.5</b>
Time of Impact:	<b>9:18</b>
Headform Number:	<b>1142</b>

Impact Point Description (from lower midpoint on midsagittal line)					
On Centerline	3	<input checked="" type="checkbox"/>	mm right	<input type="checkbox"/>	mm left
On Centerline	38				mm up



POST-IMPACT BP1 HEADFORM

Free Motion HIC	<b>225.8</b>
HIC(d)	<b>336.8</b>
Impact Velocity (kph)	<b>18.88</b>
HIC T1 (msec)	7.3
HIC T2 (msec)	15.6

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - BP1

FMH Headform 1142

Location: BP1

Test Date: May 09, 2008

Work File: BP1

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

Lab Temperature: 20.0 C

HICd: 336.8

Lab Humidity: 35.5 %

HIC (36ms): 225.8

Velocity at Impact: 18.88 KPH

t1: 7.3 msec

t2: 15.6 msec

Free Flight Distance: 204.73 mm

Duration: 8.3 msec

Average Acceleration: 7.4 g

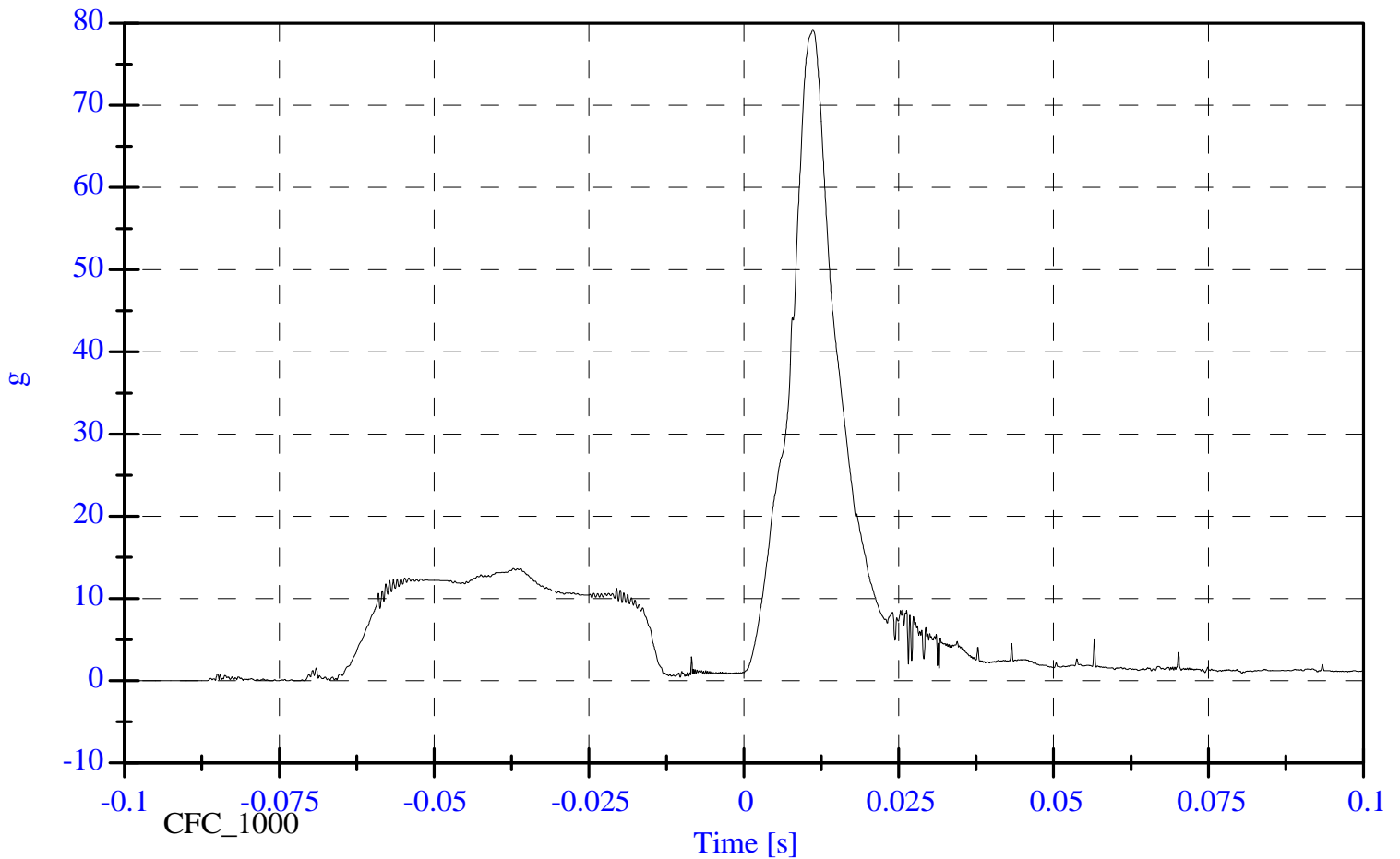
Maximum: 79.2 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 79.2 [g] at 0.011 [s]

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



FMVSS 201U 2009 TOYOTA COROLLA

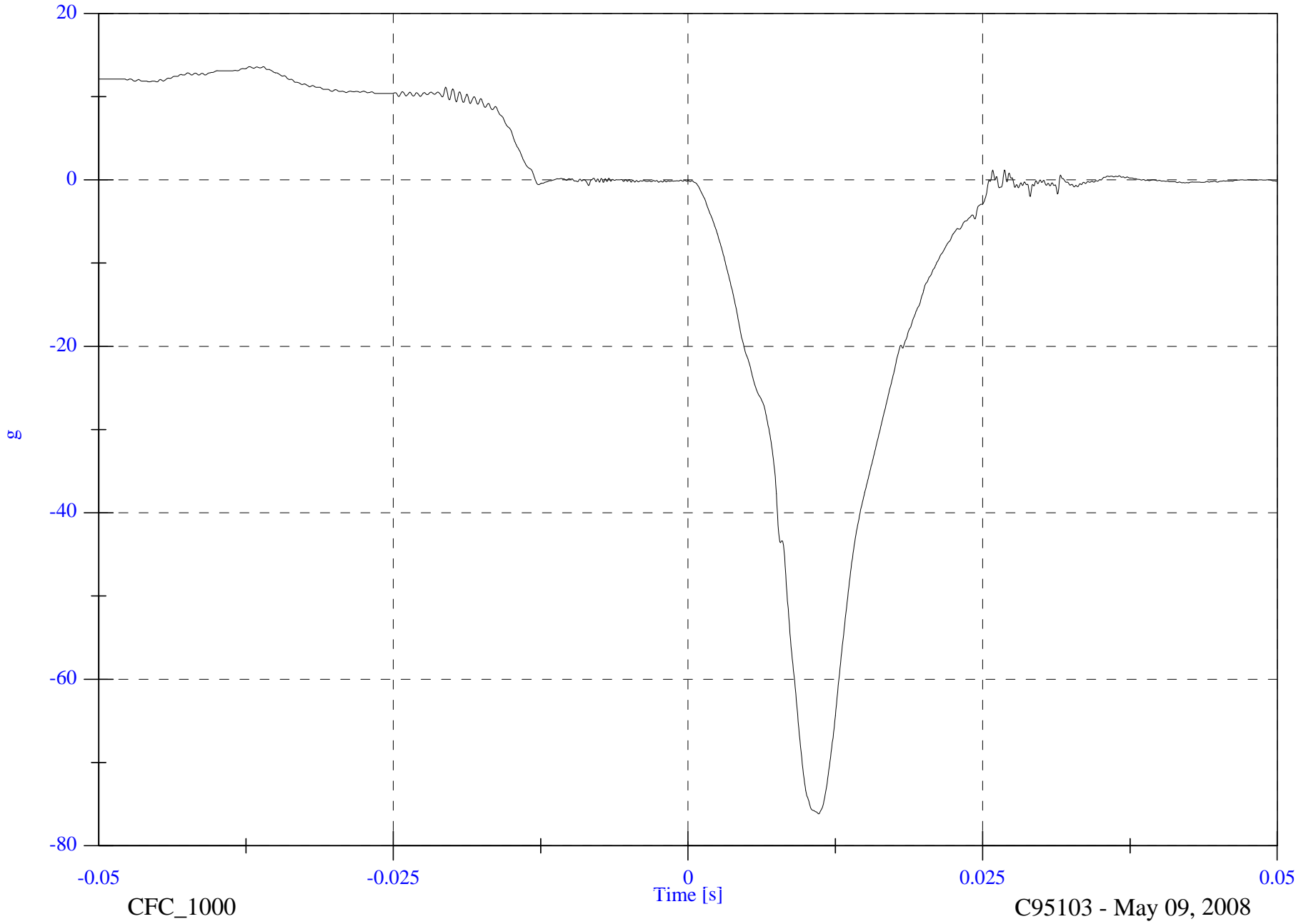
Headform X Acceleration

Max: 13.6 [g] at -0.037 [s]

Min: -76.2 [g] at 0.011 [s]

C95103 DRIVER SIDE BP1 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

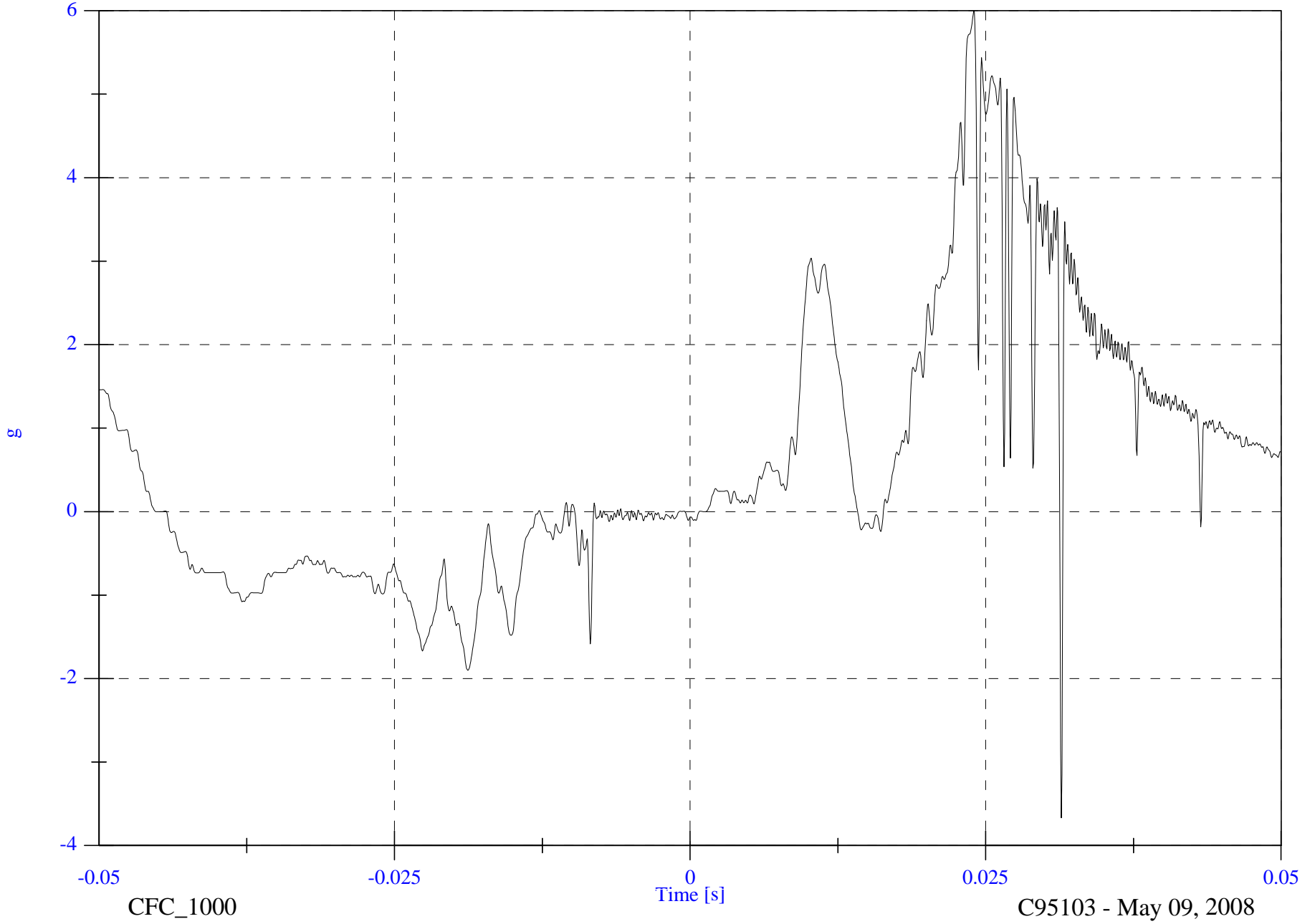
Headform Y Acceleration

Max: 6.0 [g] at 0.024 [s]

Min: -3.7 [g] at 0.031 [s]

C95103 DRIVER SIDE BP1 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

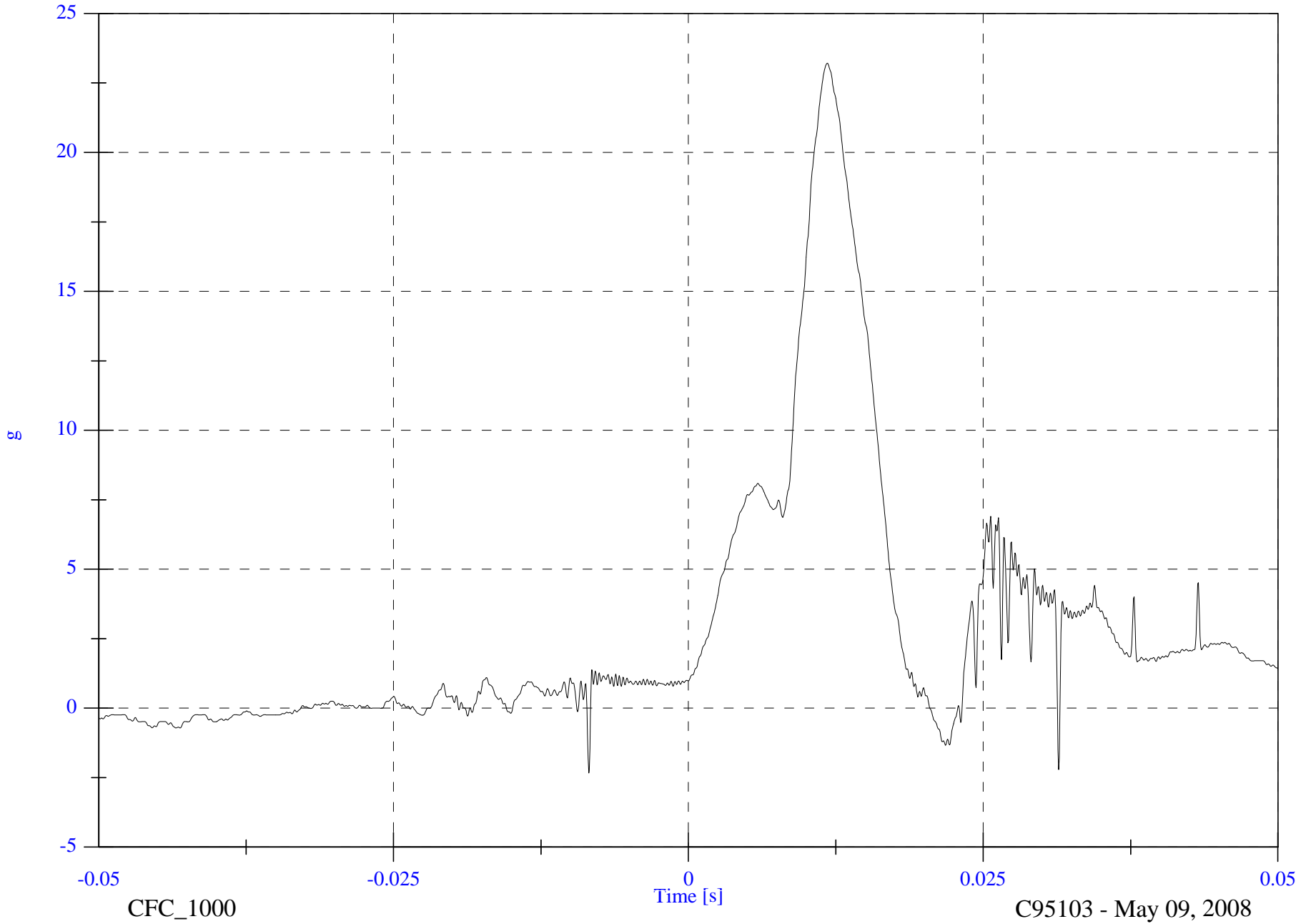
Headform Z Acceleration

Max: 23.2 [g] at 0.012 [s]

Min: -2.3 [g] at -0.008 [s]

C95103 DRIVER SIDE BP1 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

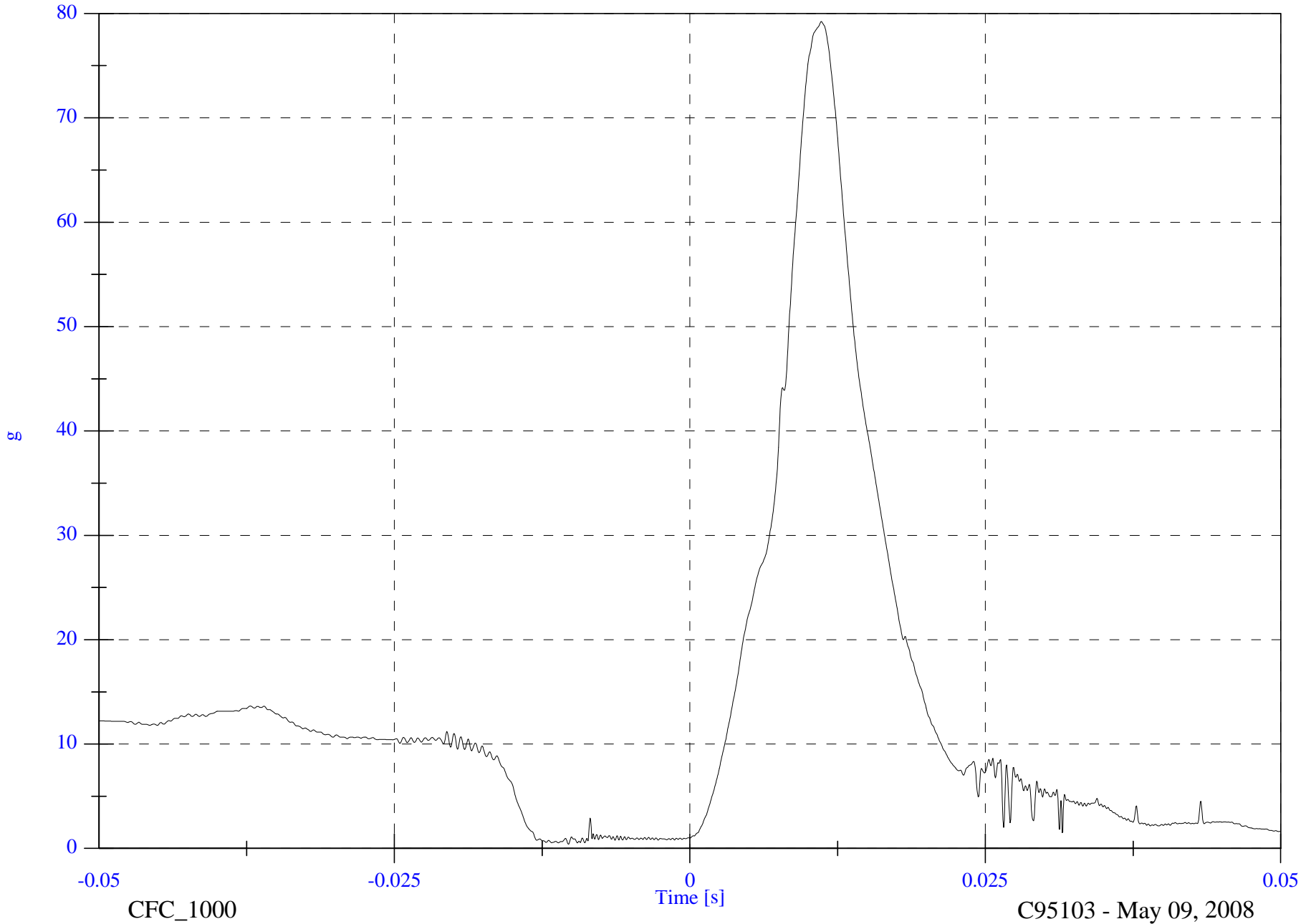
Headform Resultant

Max: 79.2 [g] at 0.011 [s]

Min: 0.4 [g] at -0.010 [s]

C95103 DRIVER SIDE BP1 IMPACT PLOT #5

8851-08



CFC\_1000

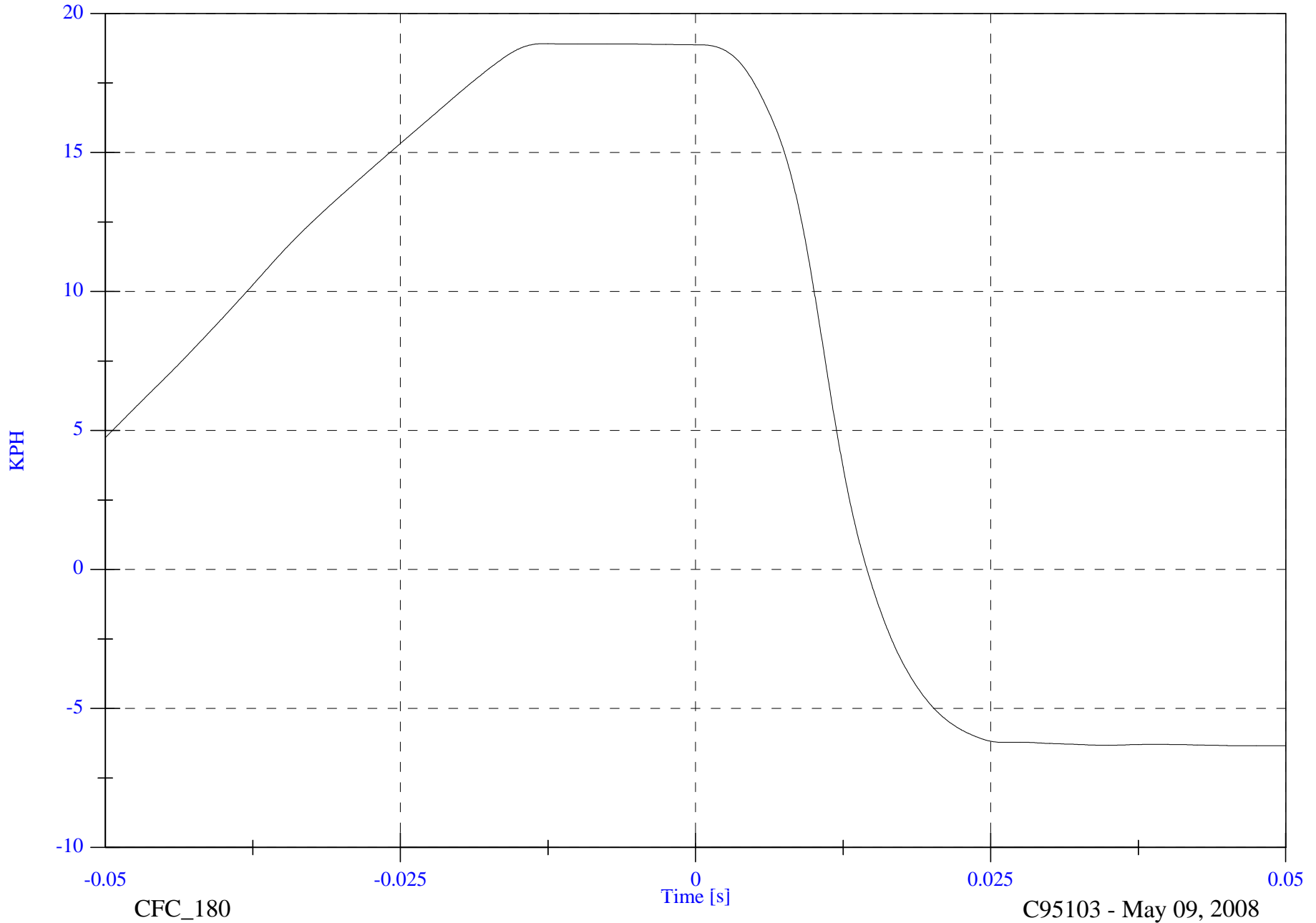
C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

Max: 18.9 [KPH] at -0.013 [s]

Min: -6.3 [KPH] at 0.050 [s]

### Headform Velocity



C95103 DRIVER SIDE BP1 IMPACT PLOT #6

8851-08

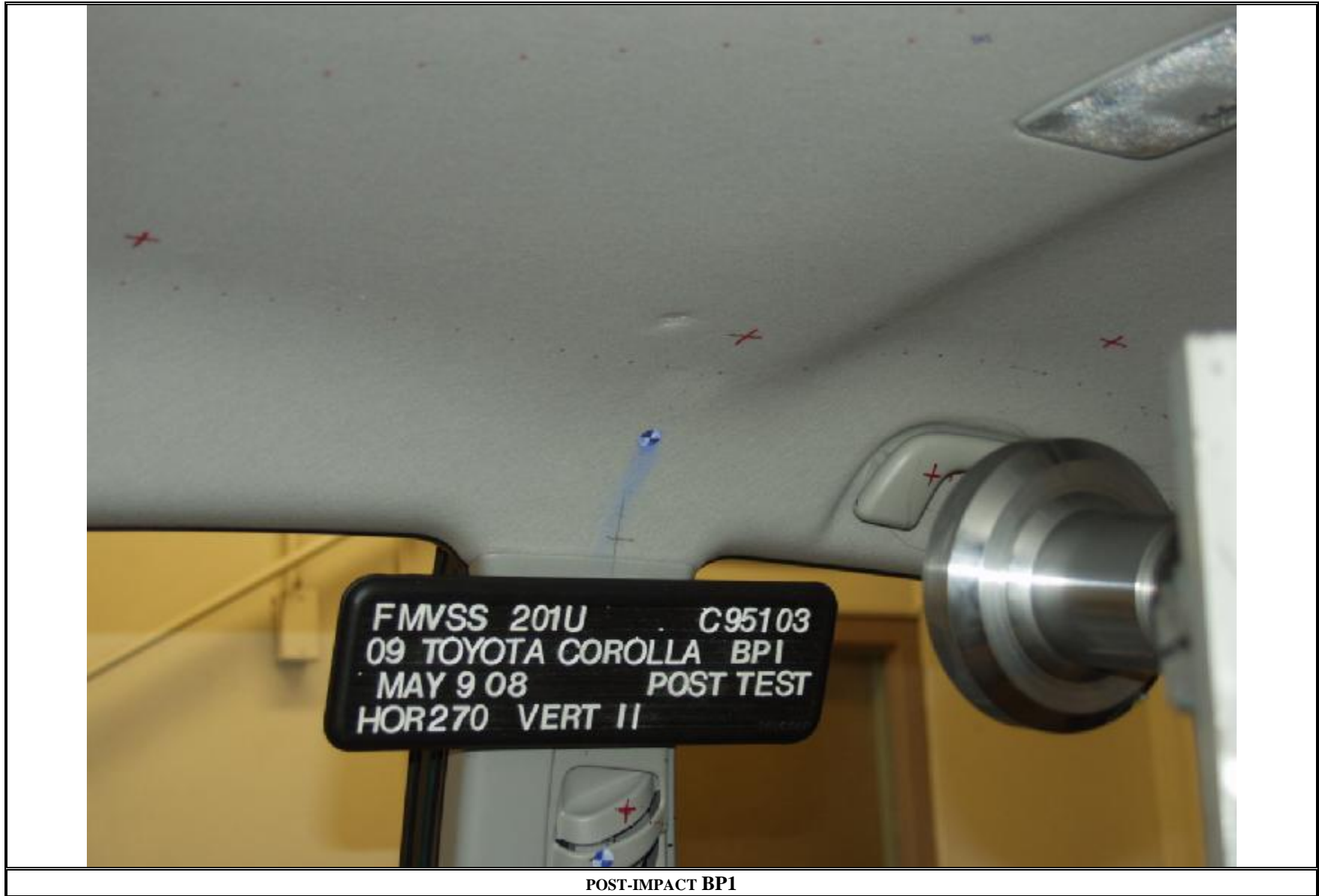
CFC\_180

C95103 - May 09, 2008



PRE-IMPACT BP1





POST-IMPACT BPI

VEHICLE YEAR/MAKE/MODEL/STYLE:	2009 Toyota Corolla
VIN:	JTDBL40E29J001449
DATE OF MANUFACTURE:	01/08(SEE CERTIFICATION LABEL)
COLOR:	Green

Test Number:	13
Test Date:	05/09/08
Target Location:	A-PILLAR
Target Code:	AP2
Horizontal Impact Angle:	210°
Vertical Impact Angle:	50°
Ambient Temperature:	20.0°C
Relative Humidity:	35.7
Time of Impact:	10:00
Headform Number:	1140

Impact Point Description (from lower midpoint on midsagittal line)			
On Centerline	4	<input type="checkbox"/>	mm right <input checked="" type="checkbox"/> mm left
On Centerline	4		mm up



POST-IMPACT AP2 HEADFORM

Free Motion HIC	250.7
HIC(d)	355.6
Impact Velocity (kph)	18.41
HIC T1 (msec)	9.5
HIC T2 (msec)	15.1

# FMVSS 201U 2009 TOYOTA COROLLA C95103 - AP2

FMH Headform 1140

Location: AP2

Test Date: May 09, 2008

Work File: AP2

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

Lab Temperature: 20.0 C

HICd: 355.6

Lab Humidity: 35.7 %

HIC (36ms): 250.7

Velocity at Impact: 18.41 KPH

t1: 9.5 msec

t2: 15.1 msec

Free Flight Distance: 215.06 mm

Duration: 5.5 msec

Average Acceleration: 9.7 g

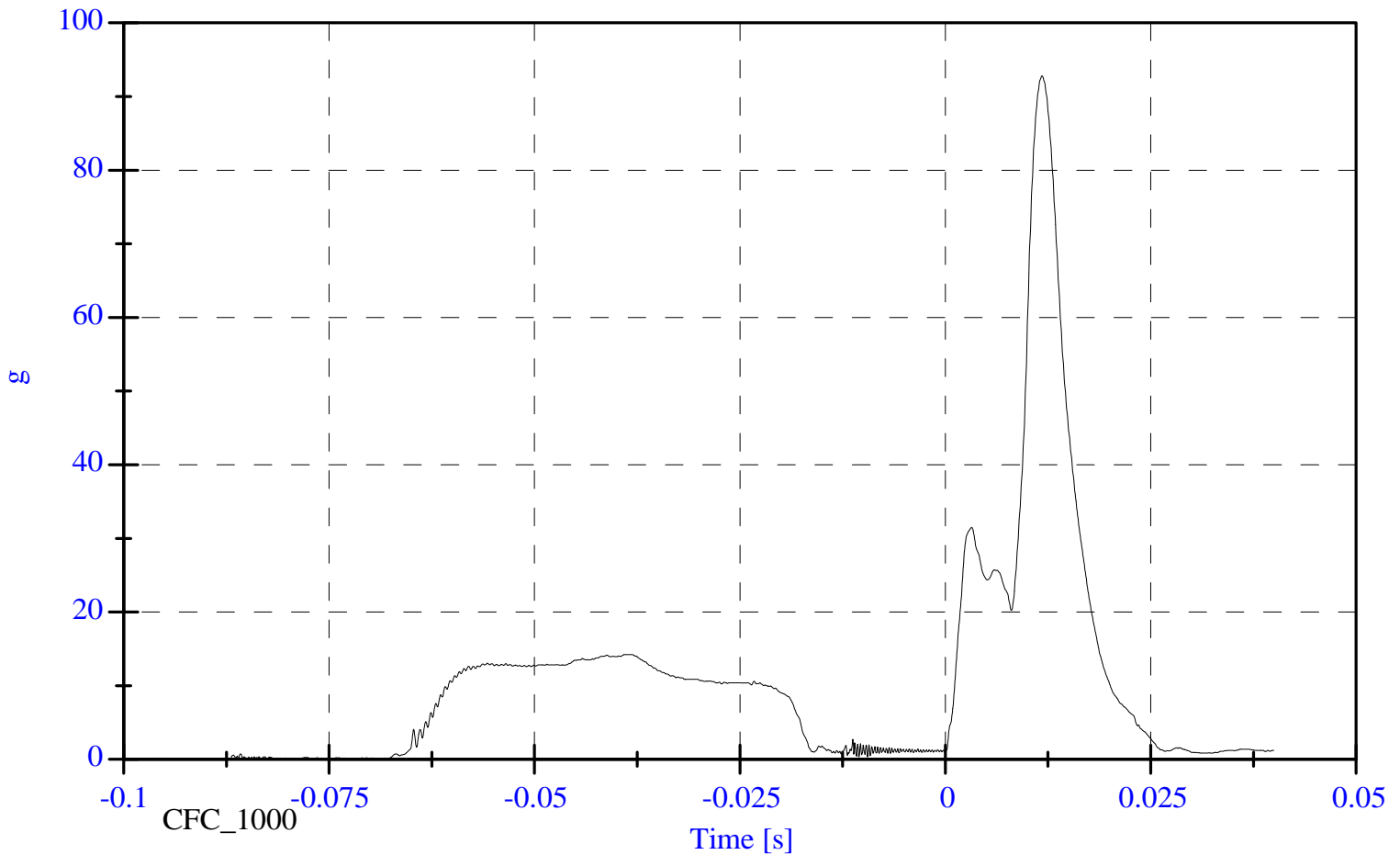
Maximum: 92.8 g

FMVSS 201U 2009 TOYOTA COROLLA

Headform Resultant

Max: 92.8 [g] at 0.012 [s]

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



FMVSS 201U 2009 TOYOTA COROLLA

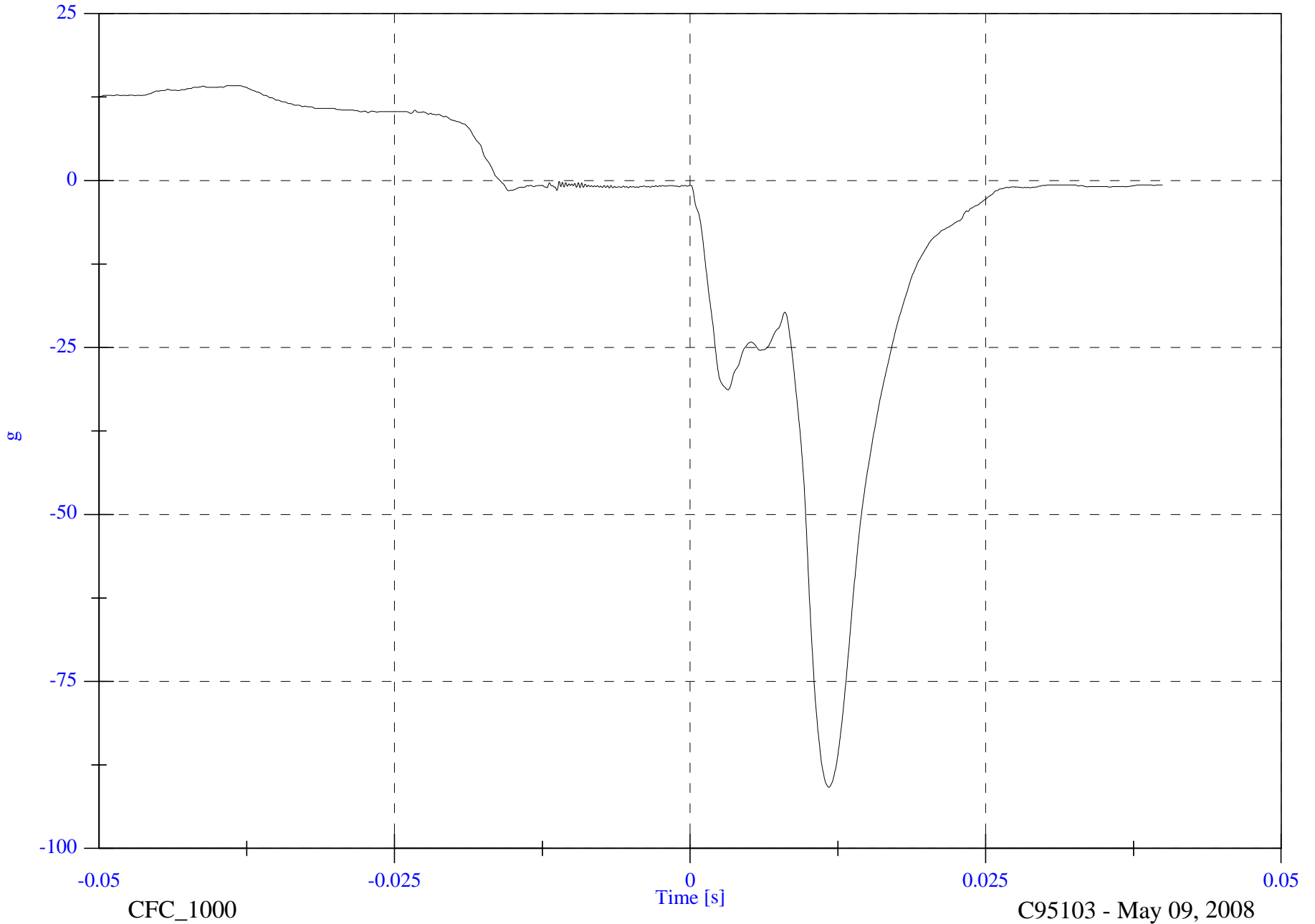
Headform X Acceleration

Max: 14.2 [g] at -0.039 [s]

Min: -90.9 [g] at 0.012 [s]

C95103 DRIVER SIDE AP2 IMPACT PLOT #1

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

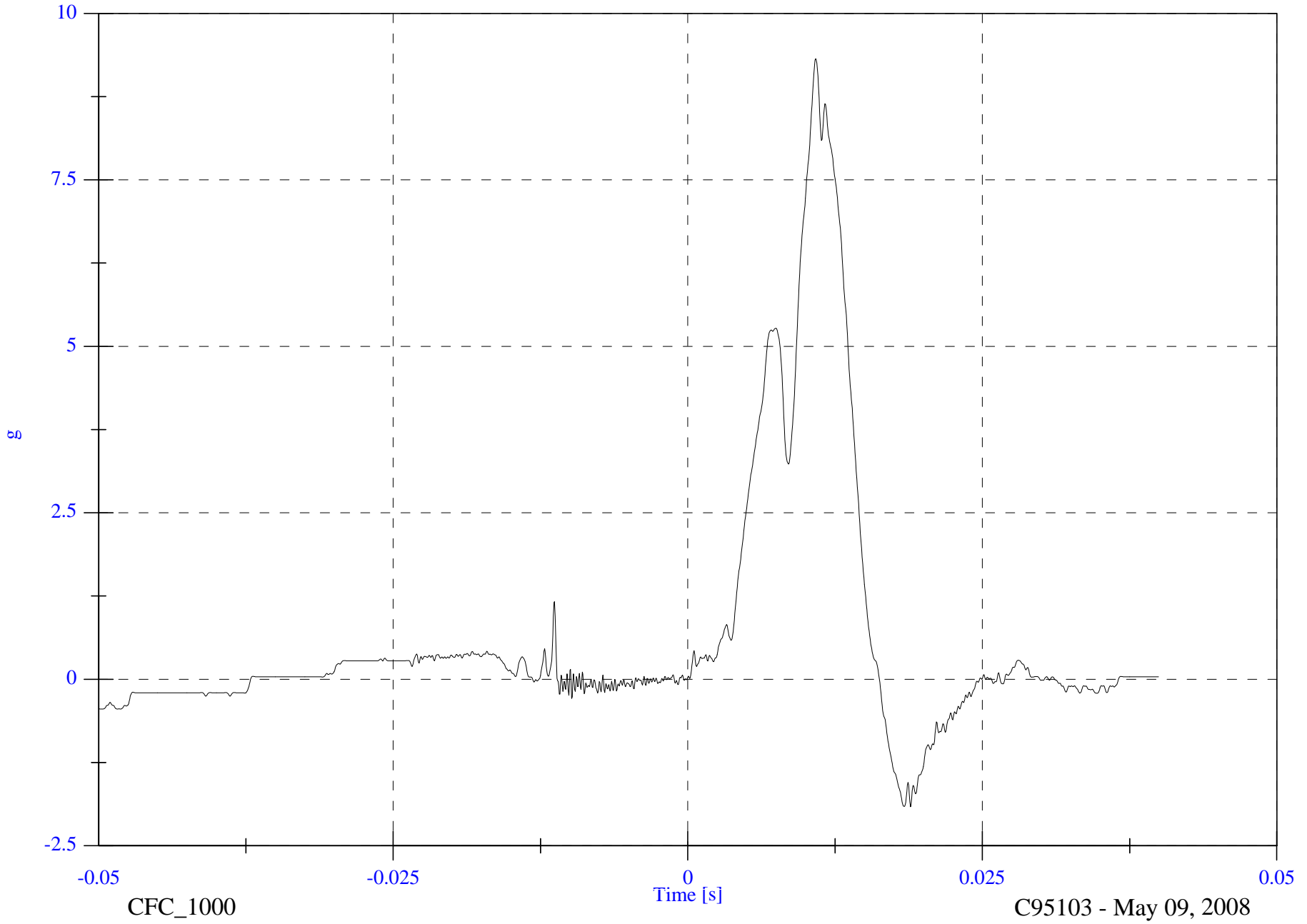
Headform Y Acceleration

Max: 9.3 [g] at 0.011 [s]

Min: -1.9 [g] at 0.019 [s]

C95103 DRIVER SIDE AP2 IMPACT PLOT #2

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

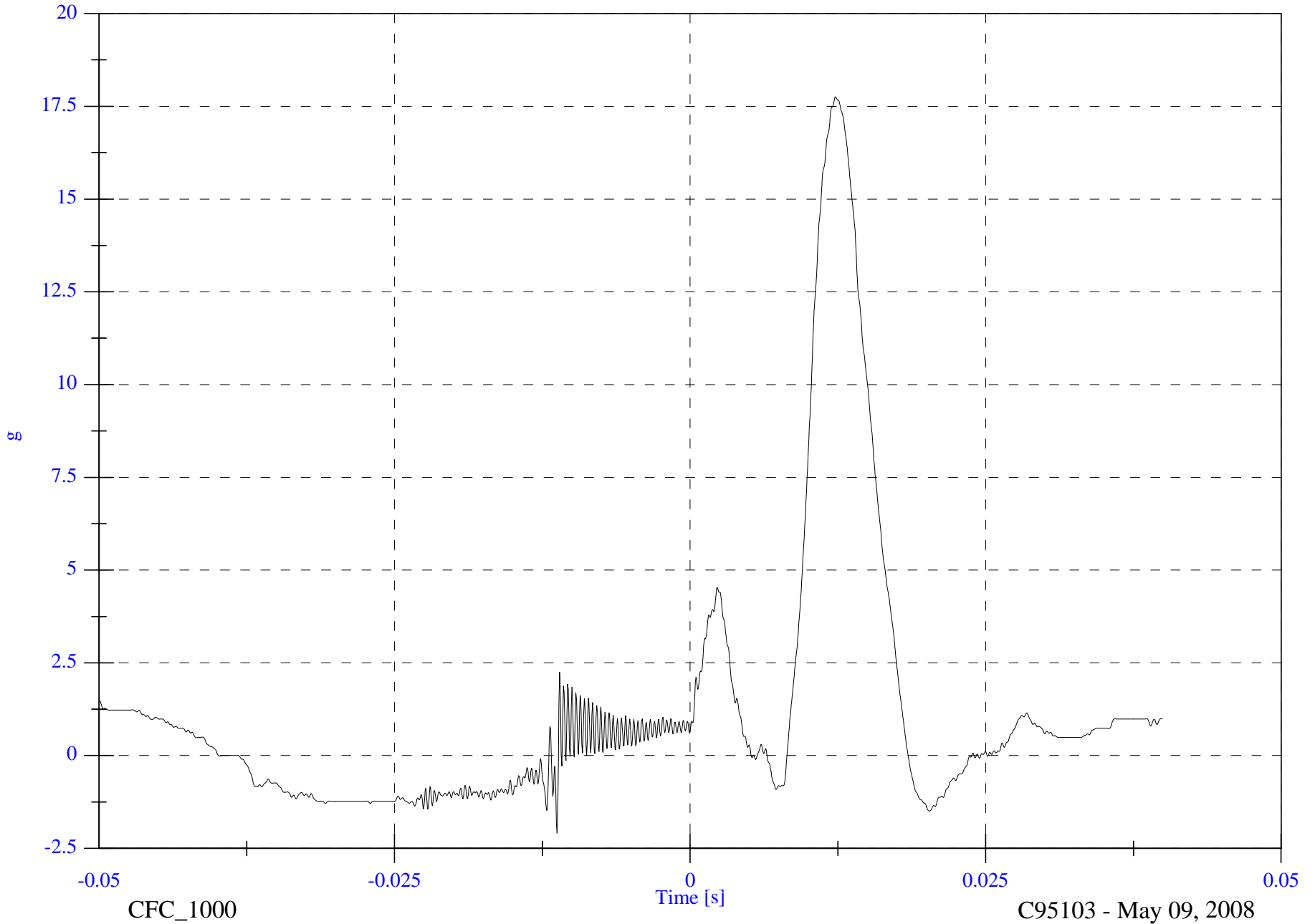
Headform Z Acceleration

Max: 17.8 [g] at 0.012 [s]

Min: -2.1 [g] at -0.011 [s]

C95103 DRIVER SIDE AP2 IMPACT PLOT #3

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

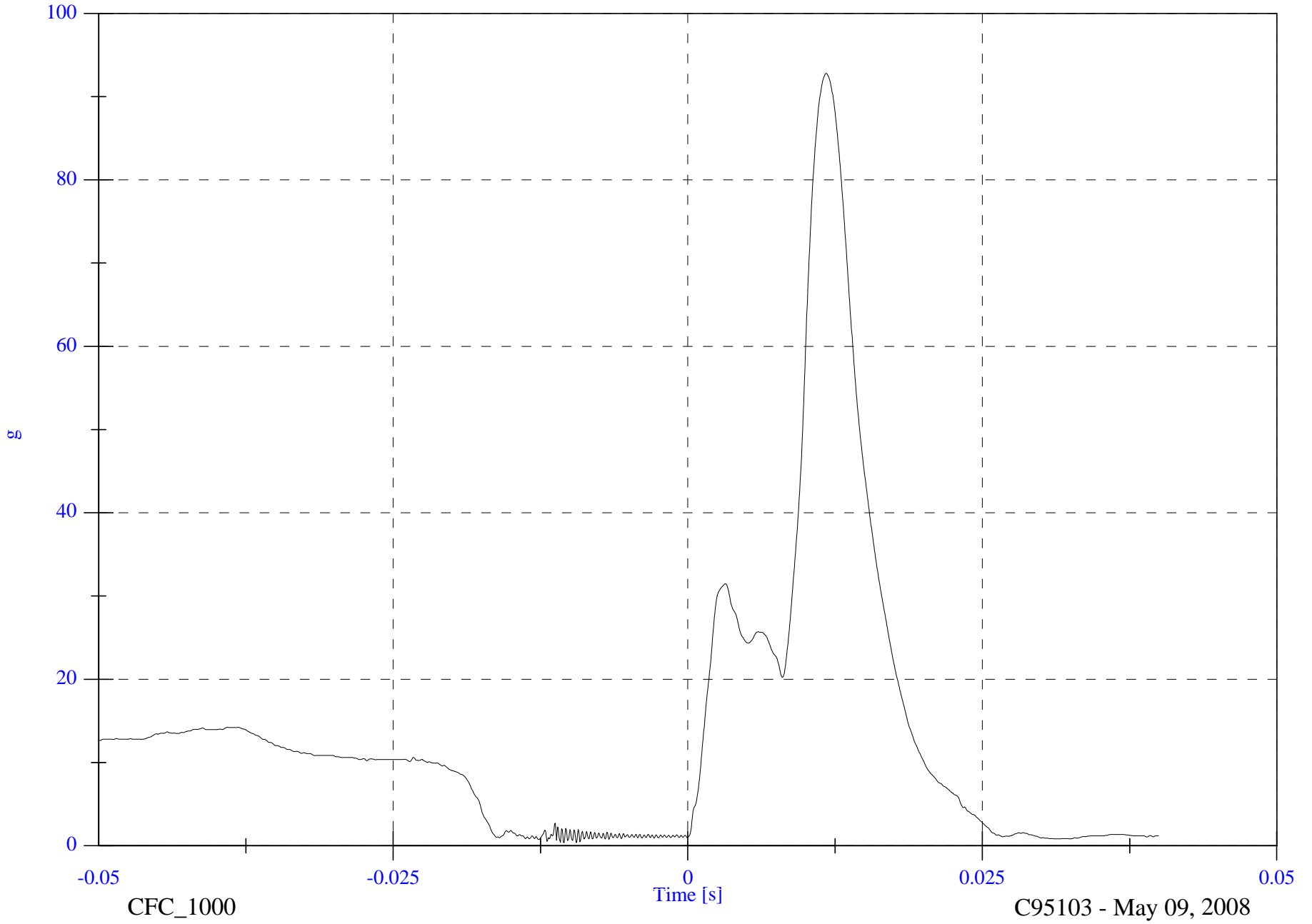
Headform Resultant

Max: 92.8 [g] at 0.012 [s]

Min: 0.3 [g] at -0.009 [s]

C95103 DRIVER SIDE AP2 IMPACT PLOT #4

8851-08



CFC\_1000

C95103 - May 09, 2008

FMVSS 201U 2009 TOYOTA COROLLA

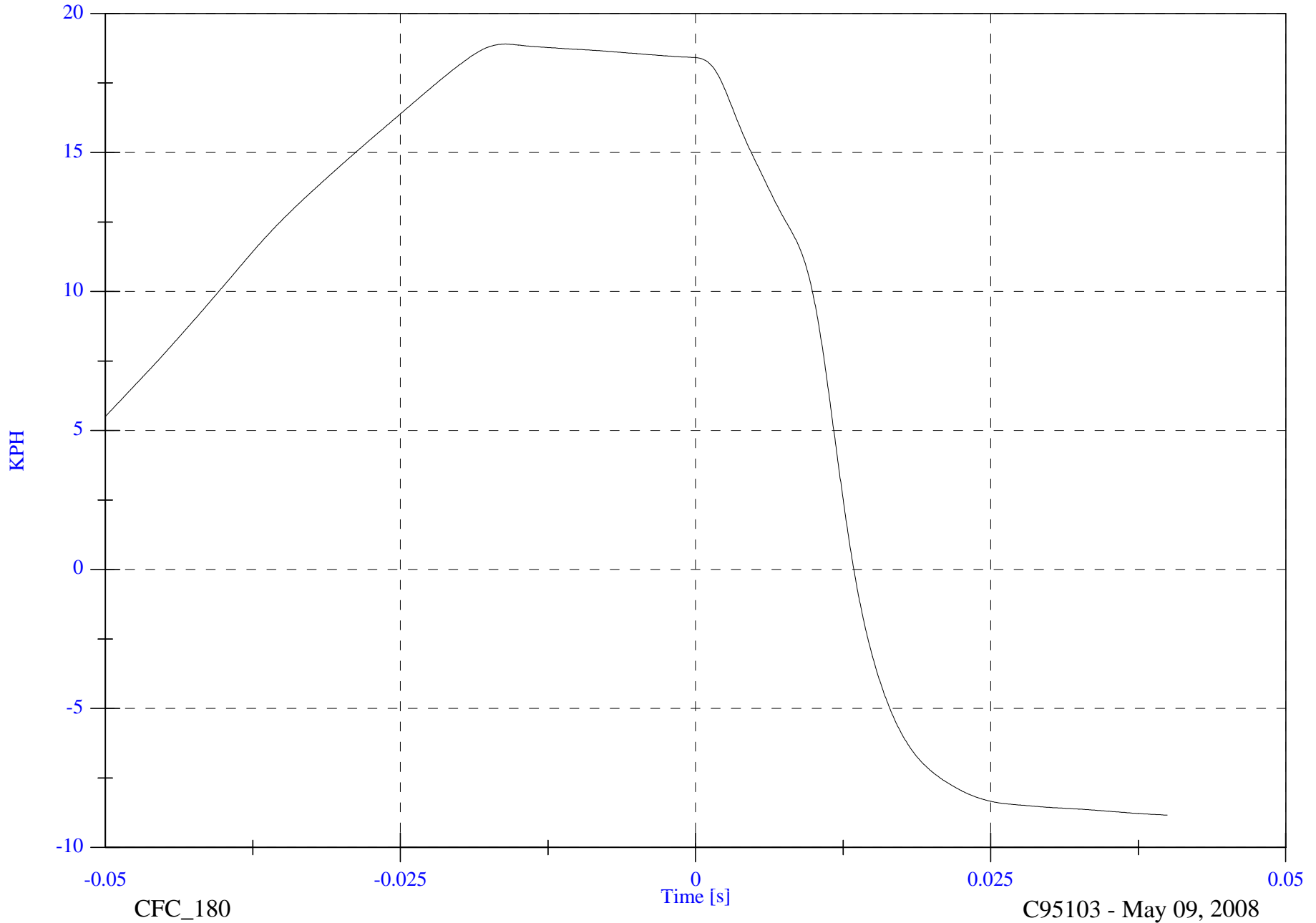
Headform Velocity

Max: 18.9 [KPH] at -0.016 [s]

Min: -8.8 [KPH] at 0.040 [s]

C95103 DRIVER SIDE AP2 IMPACT PLOT #5

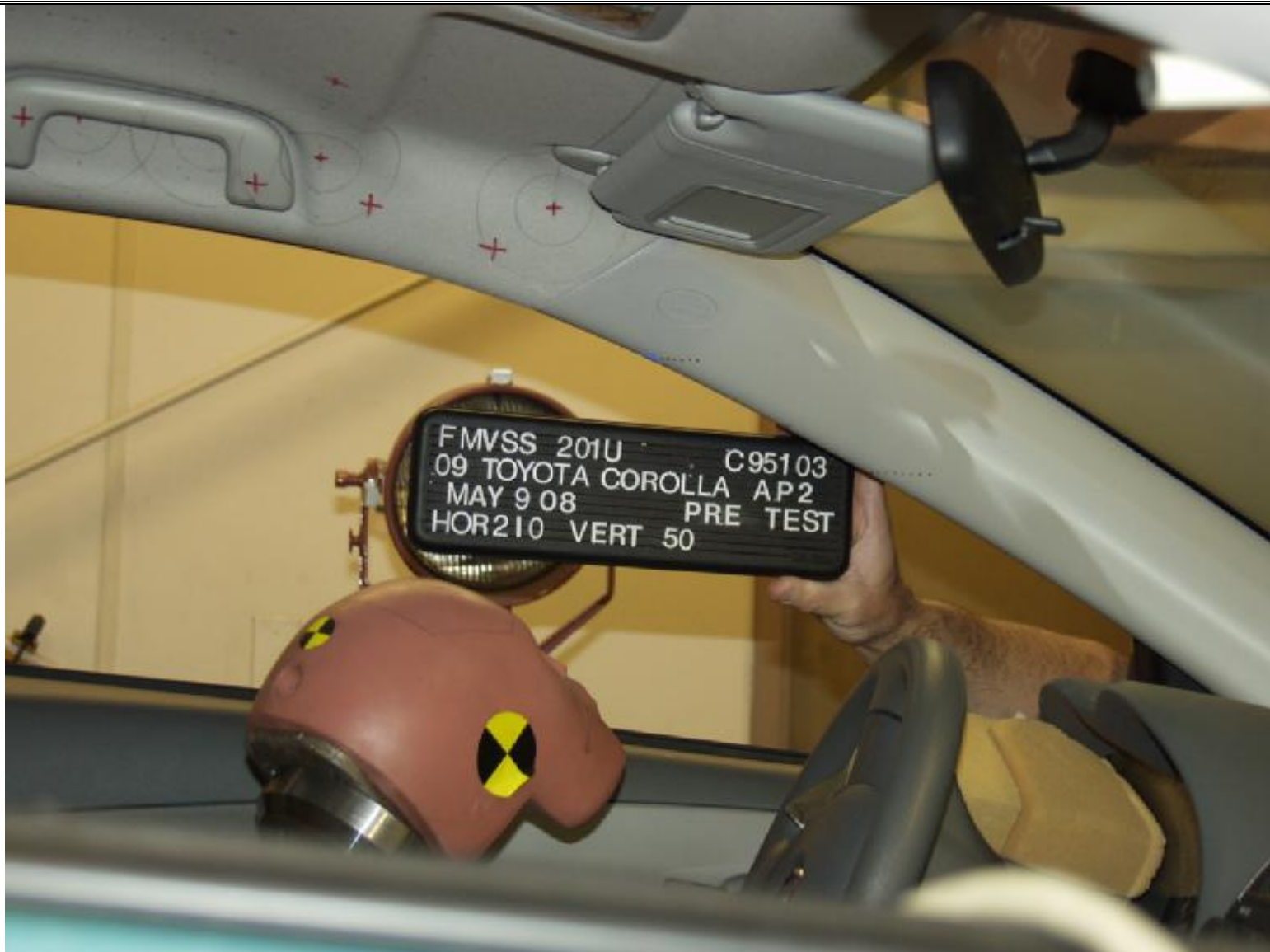
8851-08



CFC\_180

C95103 - May 09, 2008





PRE-IMPACT AP2



POST-IMPACT AP2

**APPENDIX A**

**PHOTOGRAPHS**

## PHOTOGRAPHS

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A-21	POST-TEST DRIVER SIDE REAR PILLAR	A-23
A-22	POST-TEST PASSENGER SIDE A-PILLAR	A-24
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A-24	POST-TEST PASSENGER SIDE SIDE RAIL	A-26
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A-26	POST-TEST PASSENGER SIDE REAR PILLAR	A-28



Figure A-1 : LEFT SIDE VIEW OF VEHICLE



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 : VEHICLE'S CERTIFICATION LABEL



Figure A-6 : VEHICLE'S TIRE INFORMATION LABEL



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



Figure A-8 : PRE-TEST DRIVER SIDE FRONT HEADER



Figure A-9 : PRE-TEST DRIVER SIDE SIDE RAIL



Figure A-10 : PRE-TEST DRIVER SIDE B-PILLAR



Figure A-11 : PRE-TEST DRIVER SIDE REAR PILLAR



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





Figure A-13 : PRE-TEST PASSENGER SIDE FRONT HEADER



Figure A-14 : PRE-TEST PASSENGER SIDE SIDE RAIL



Figure A-15 : PRE-TEST PASSENGER SIDE B-PILLAR



Figure A-16 : PRE-TEST PASSENGER SIDE REAR PILLAR



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



Figure A-18 : POST-TEST DRIVER SIDE FRONT HEADER



Figure A-19 : POST-TEST DRIVER SIDE SIDE RAIL



Figure A-20 : POST-TEST DRIVER SIDE B-PILLAR





Figure A-21 : POST-TEST DRIVER SIDE REAR PILLAR



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



Figure A-23 : POST-TEST PASSENGER SIDE FRONT HEADER



Figure A-24 : POST-TEST PASSENGER SIDE SIDE RAIL



Figure A-25 : POST-TEST PASSENGER SIDE B-PILLAR



Figure A-26 : POST-TEST PASSENGER SIDE REAR PILLAR

## **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>1140</b>	
<b>CALIBRATION DATE:</b>		<b>MAY 7, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.0</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>34.3</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>260.8</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>7.8</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

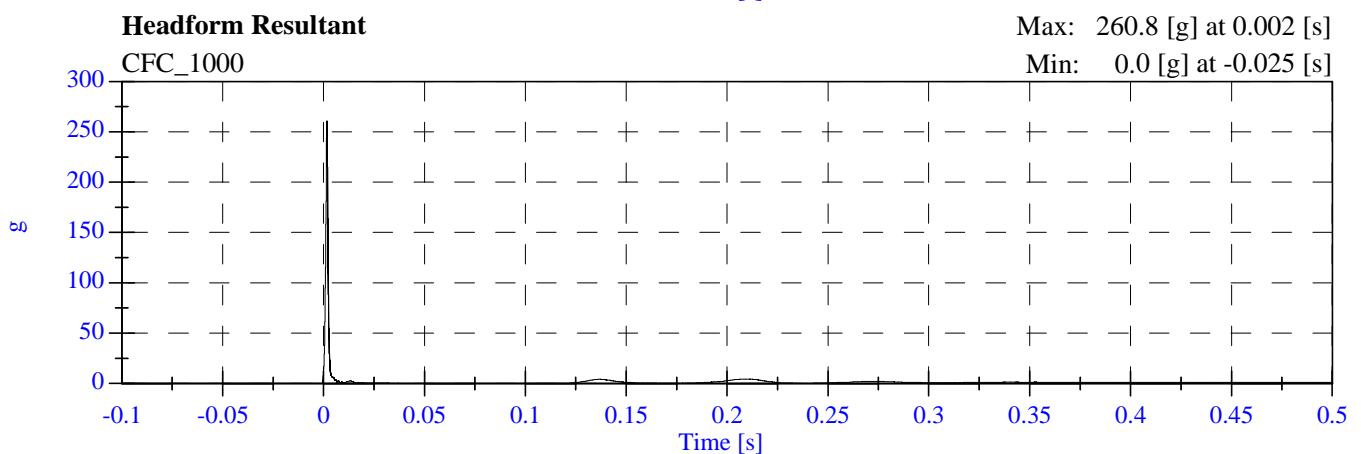
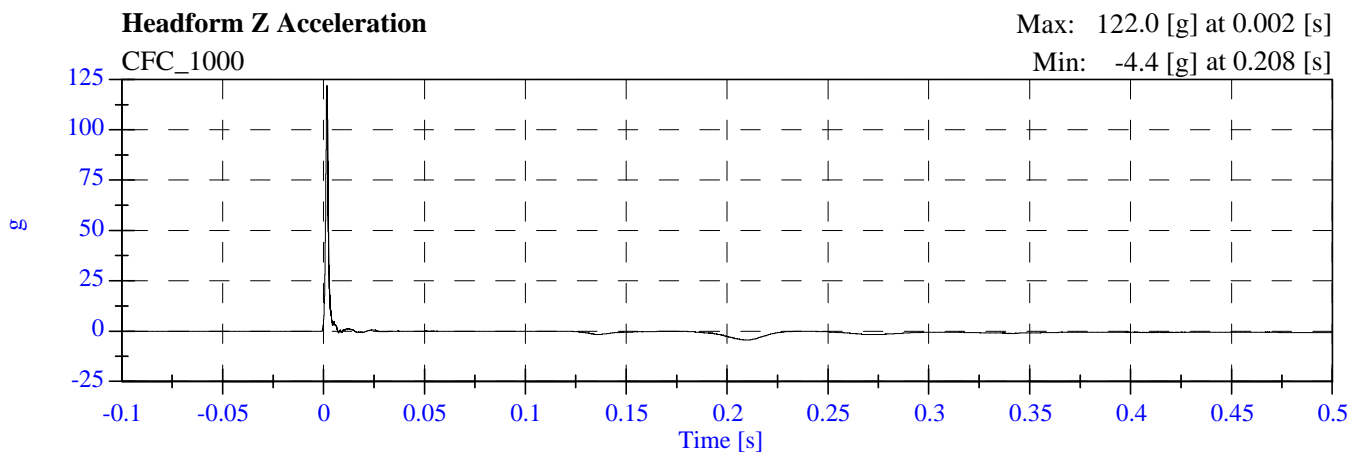
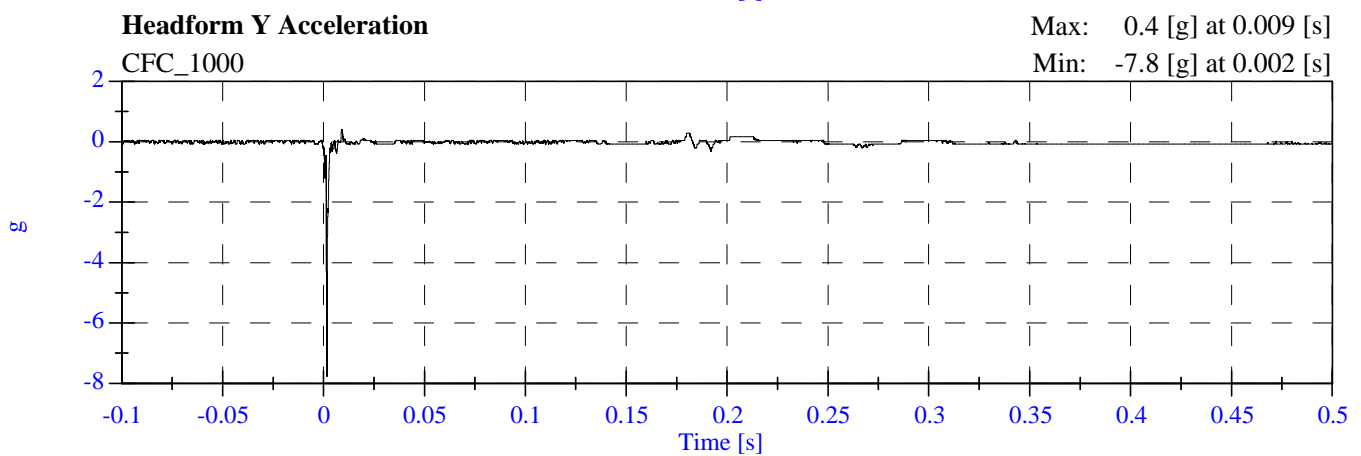
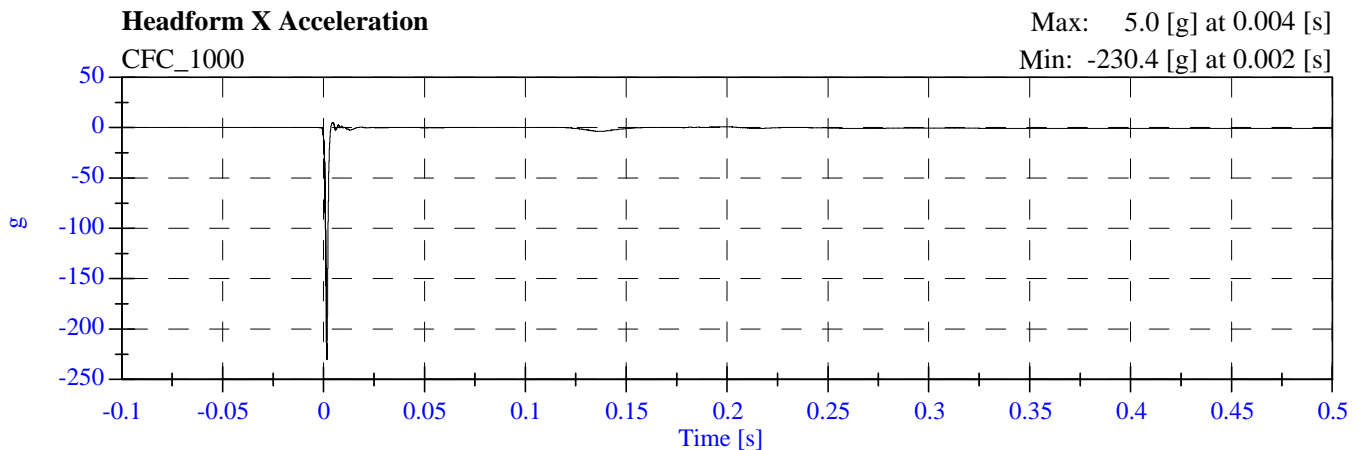
<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J24876</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33030</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J31009</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**



# FMVSS 201U - Headform Calibration Drops

## C95103 - May 07, 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>MAY 7, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.0</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>34.3</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>273.9</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>6.7</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

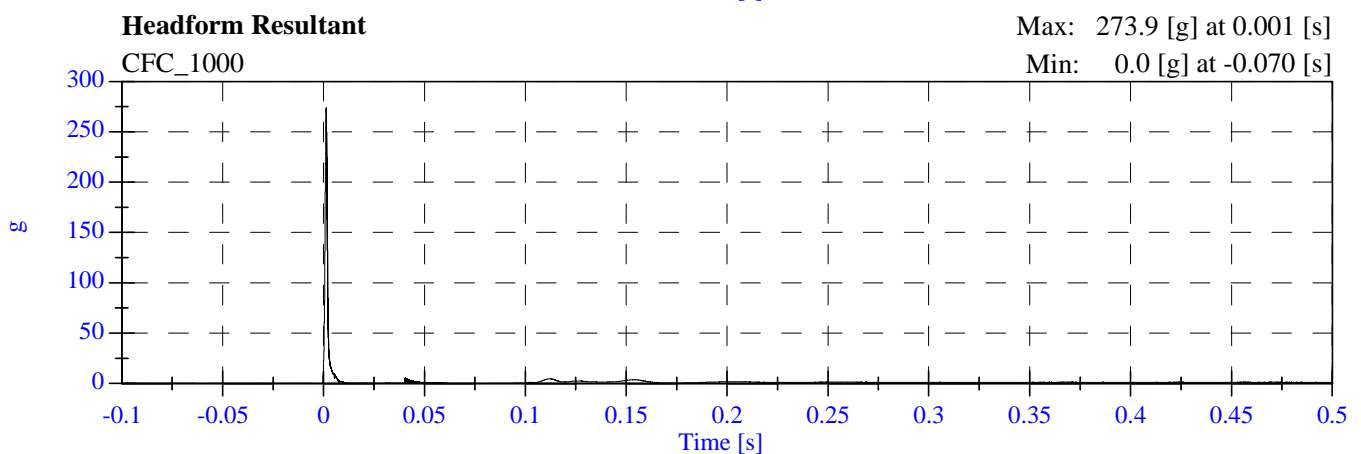
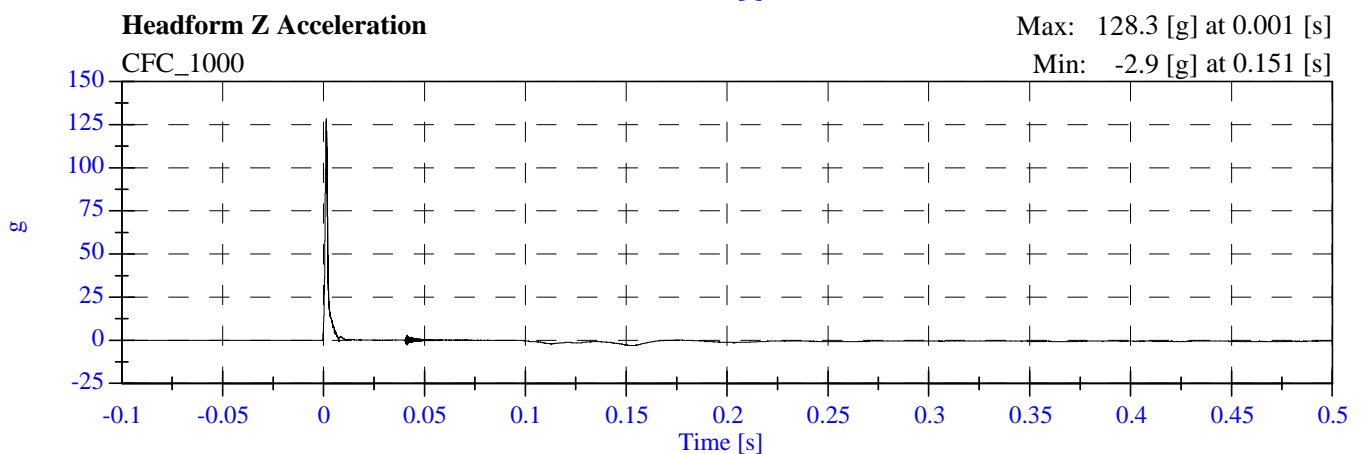
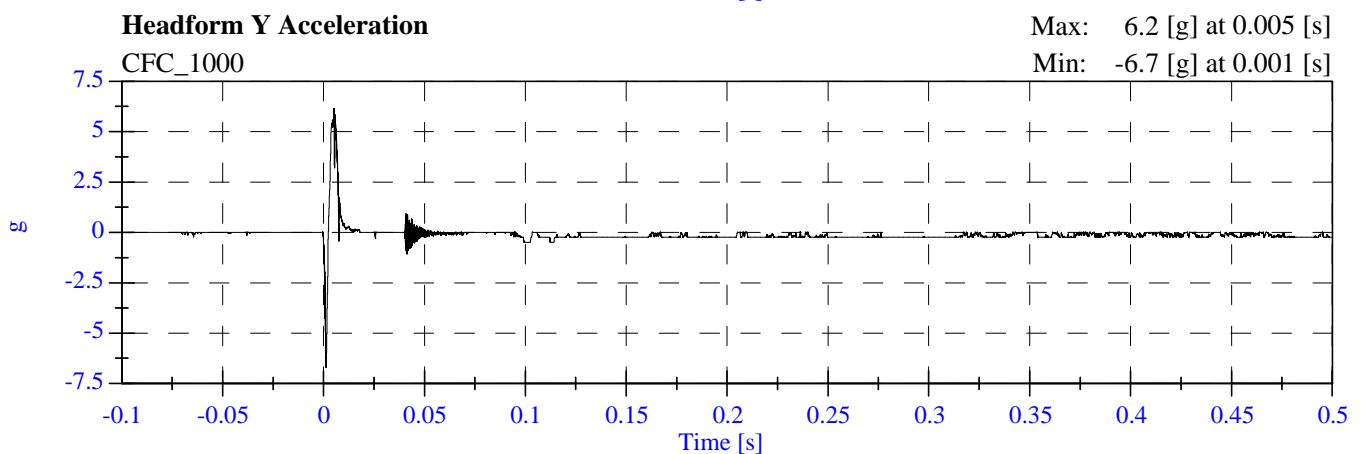
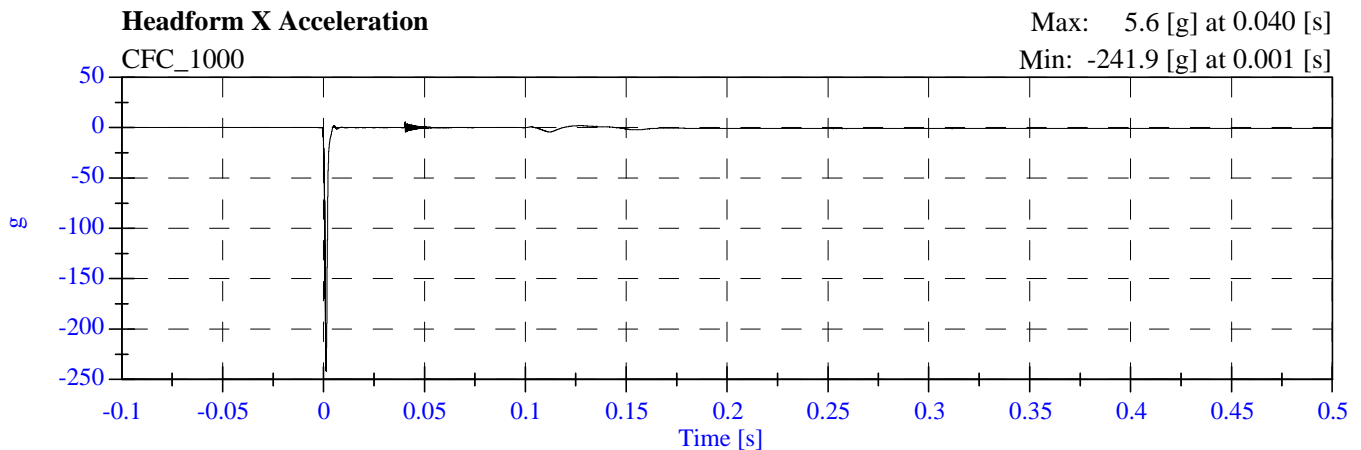
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33019</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32782</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 07, 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>MAY 7, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.0</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>34.3</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>265.7</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>11.3</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

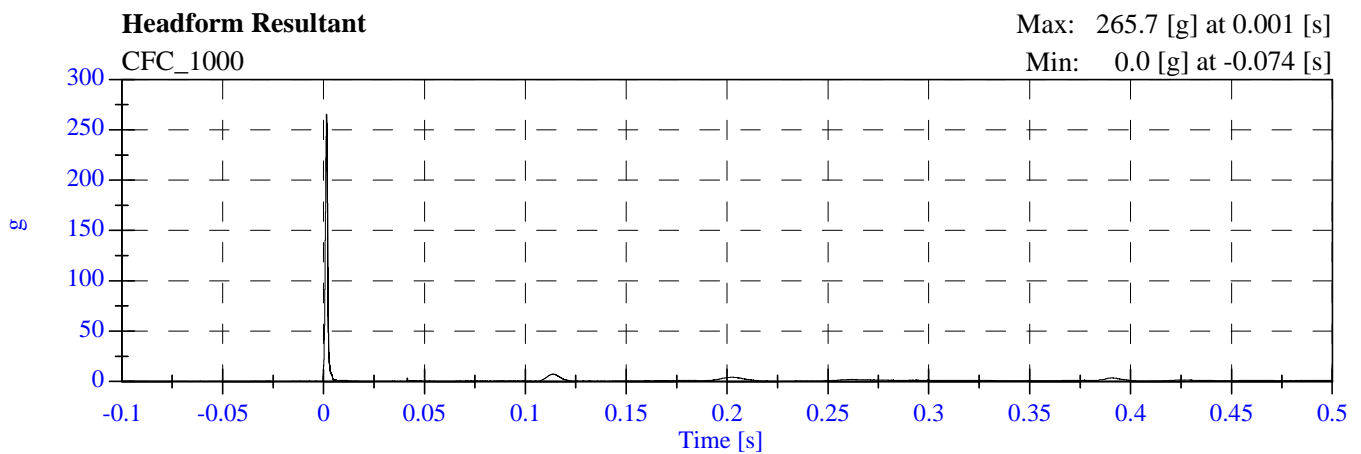
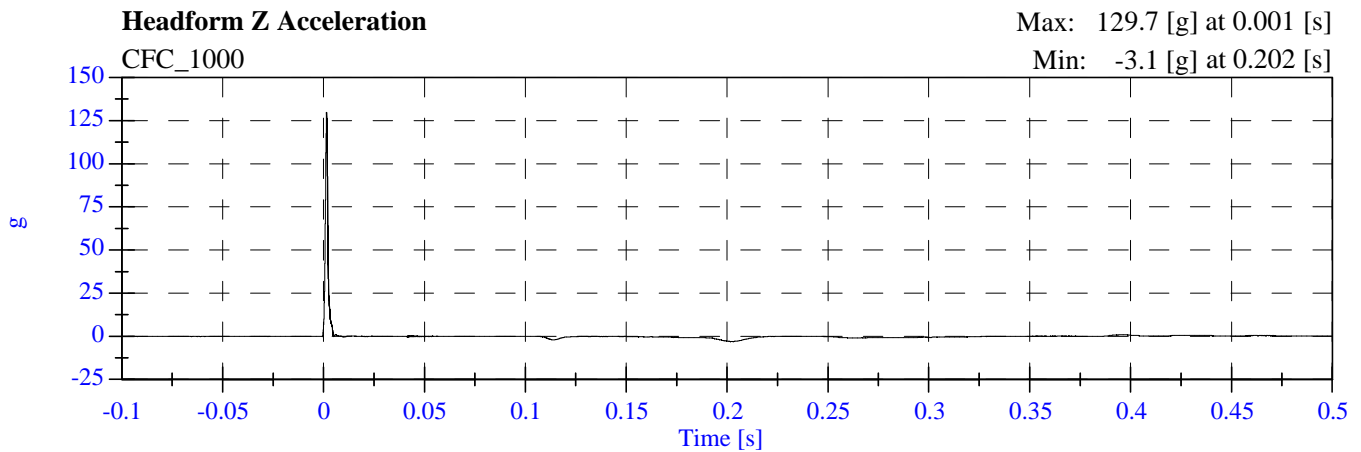
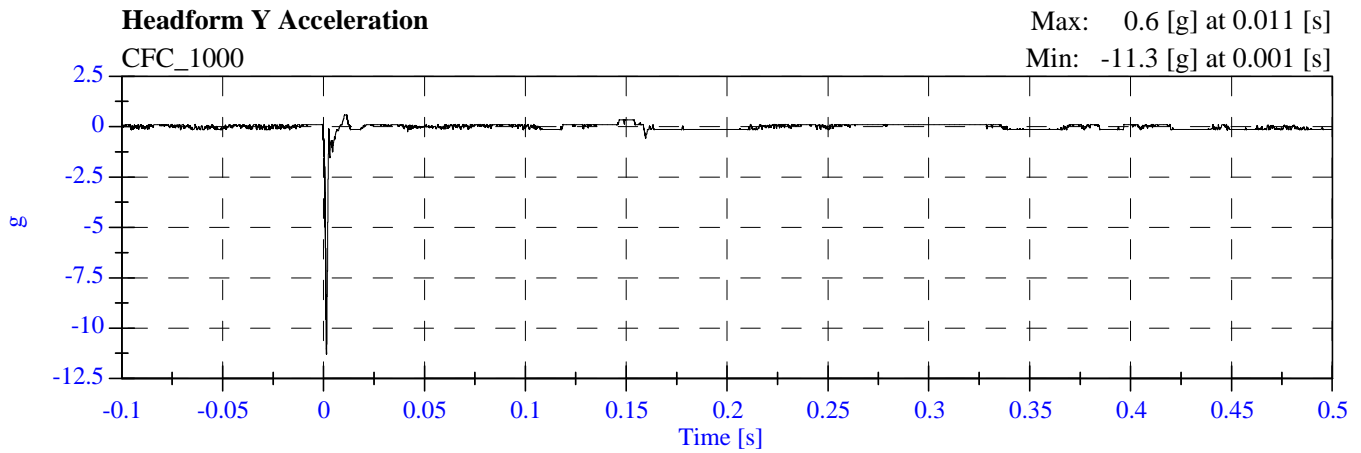
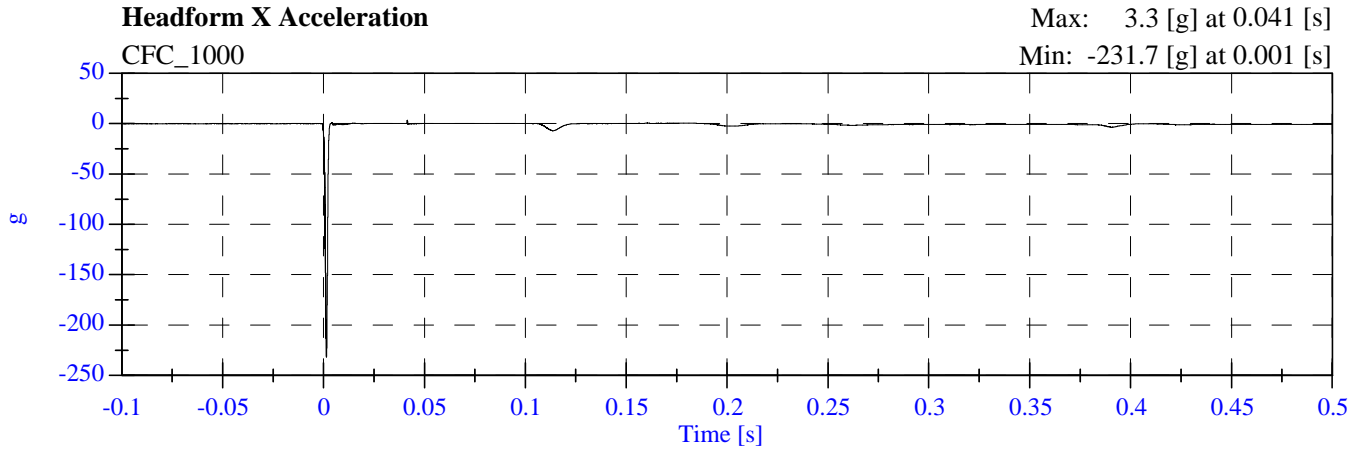
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J37496</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41016</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 07, 2008



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

<b>MANUFACTURER:</b>		<b>DENTON ATD INC.</b>	
<b>SERIAL NUMBER:</b>		<b>0355</b>	
<b>CALIBRATION DATE:</b>		<b>MAY 7, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.0</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>34.3</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>251.2</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>3.9</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

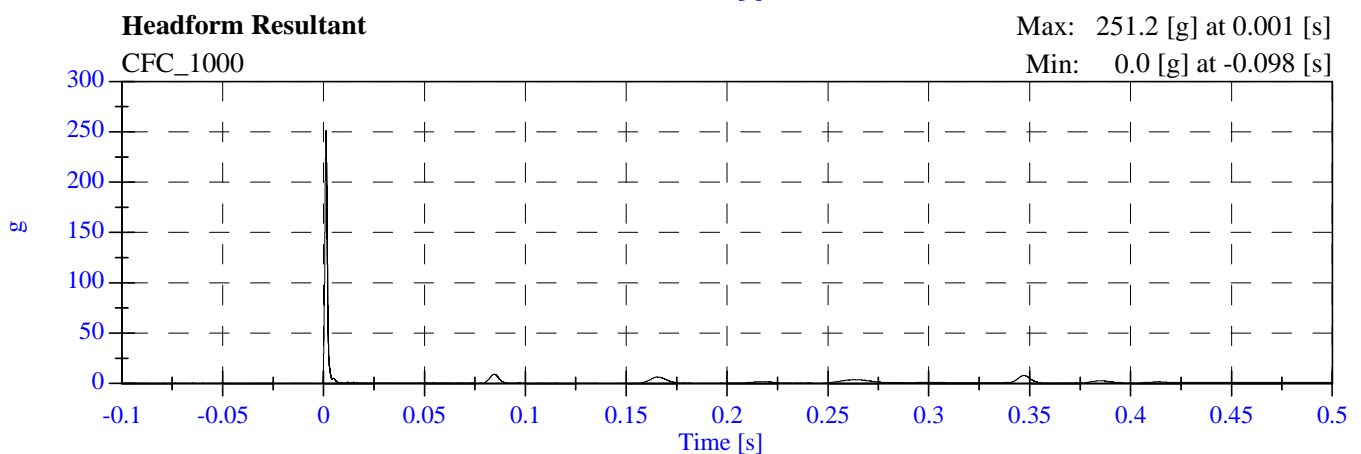
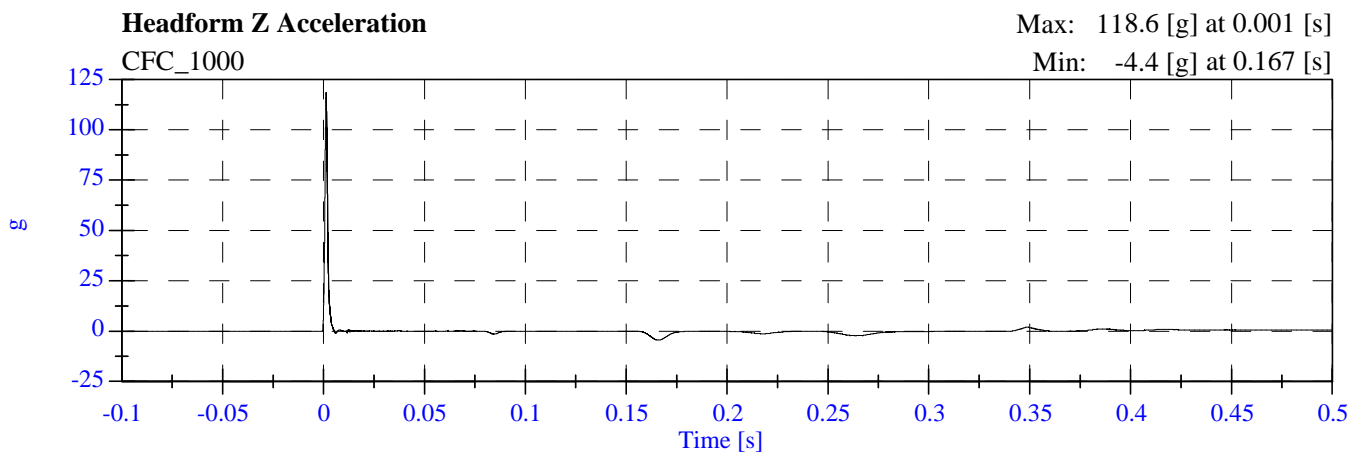
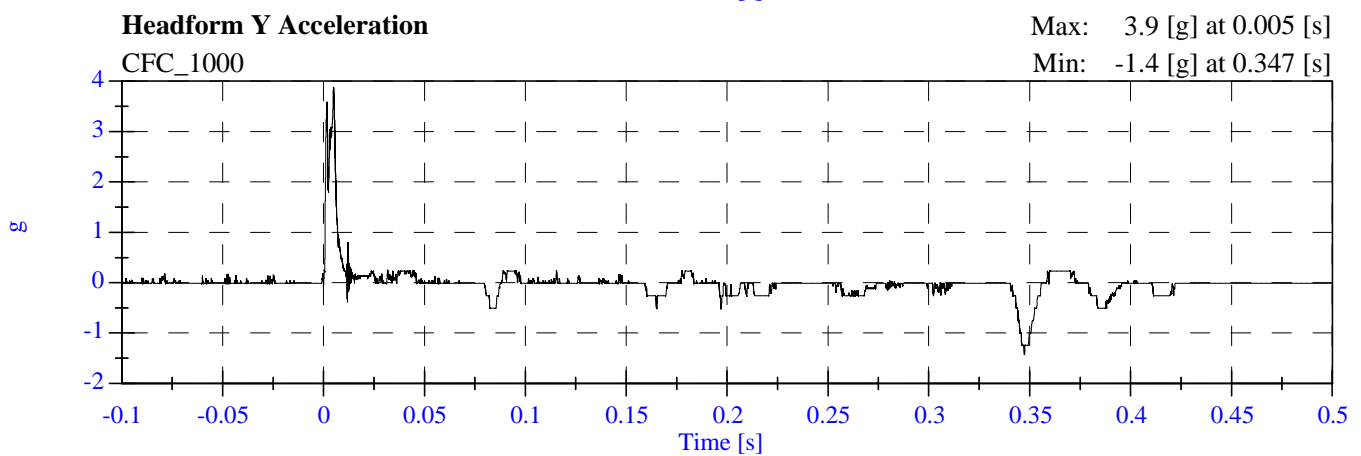
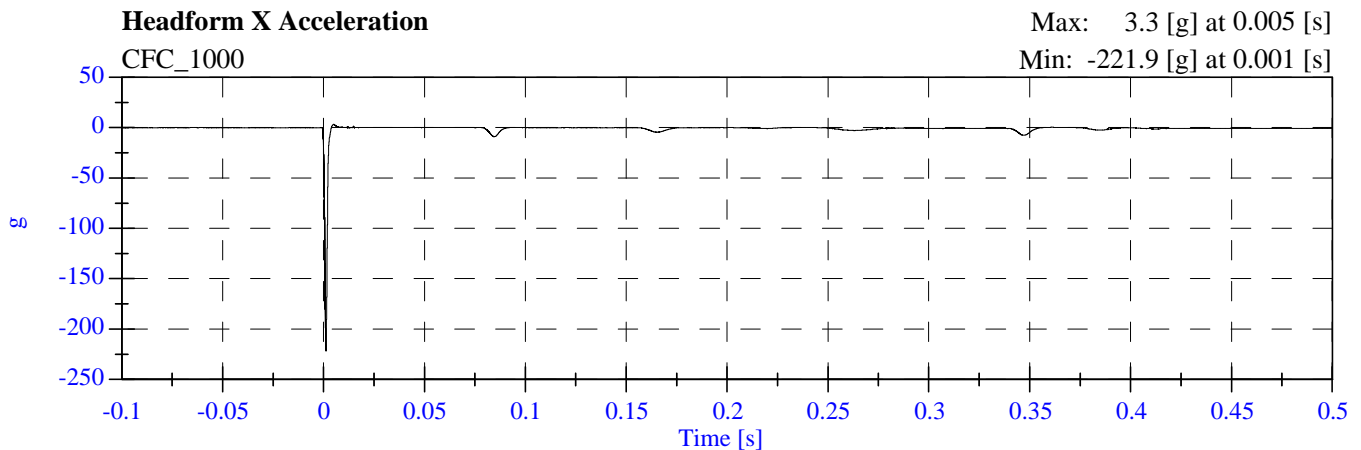
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>J28671</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32779</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J25854</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 07, 2008



**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>MAY 7, 2008</b>	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	<b>19°C to 26°C</b>	<b>20.0</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>34.3</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>256.5</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>3.5</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

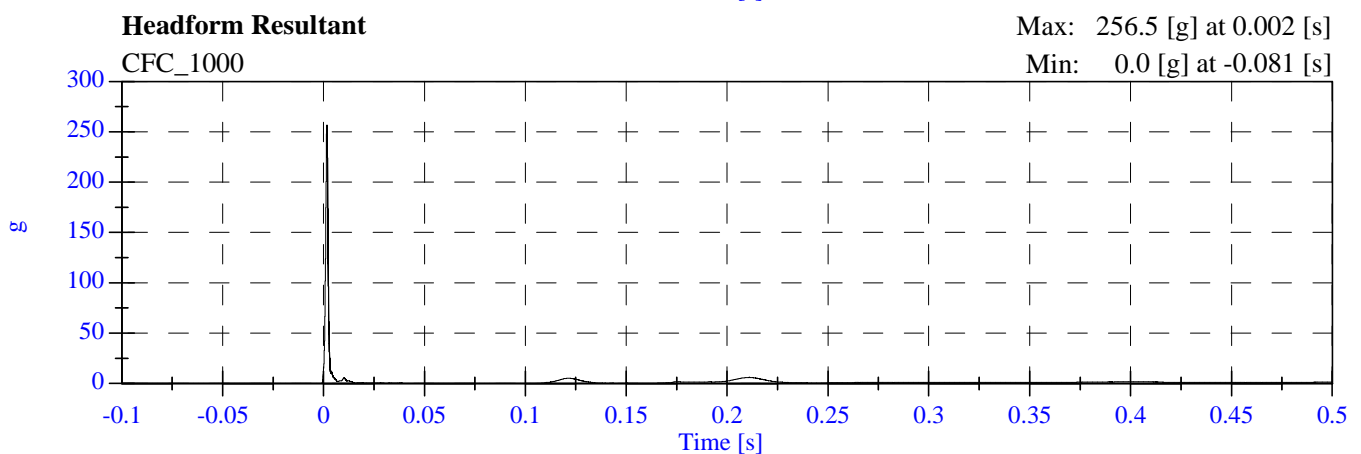
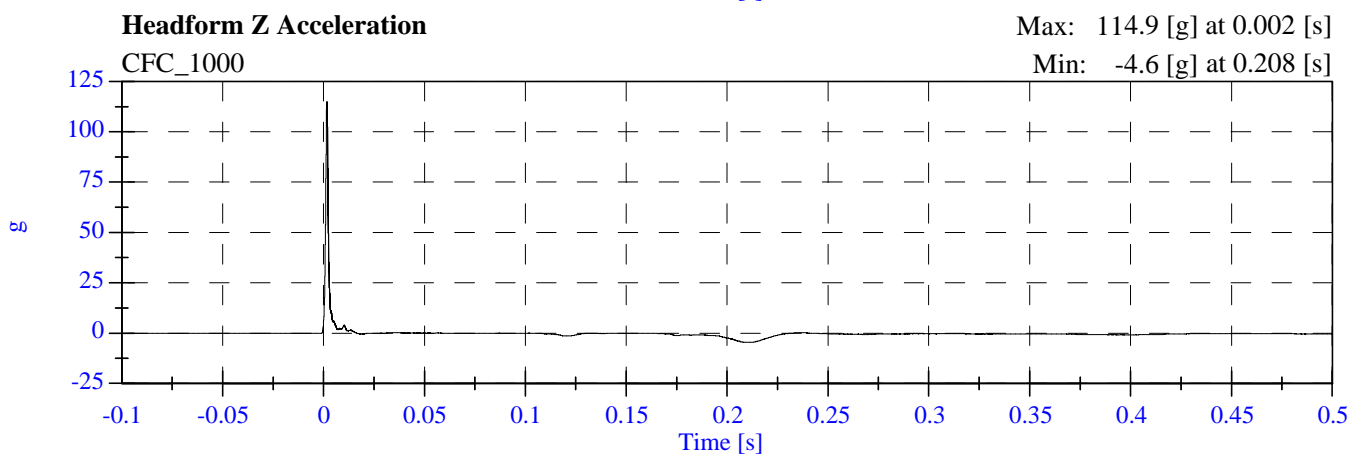
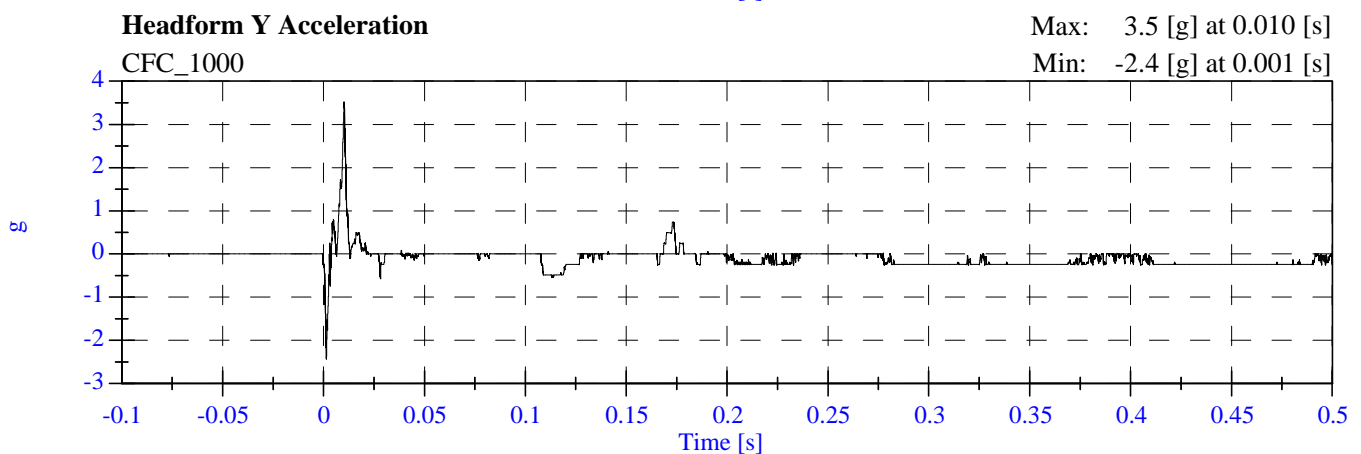
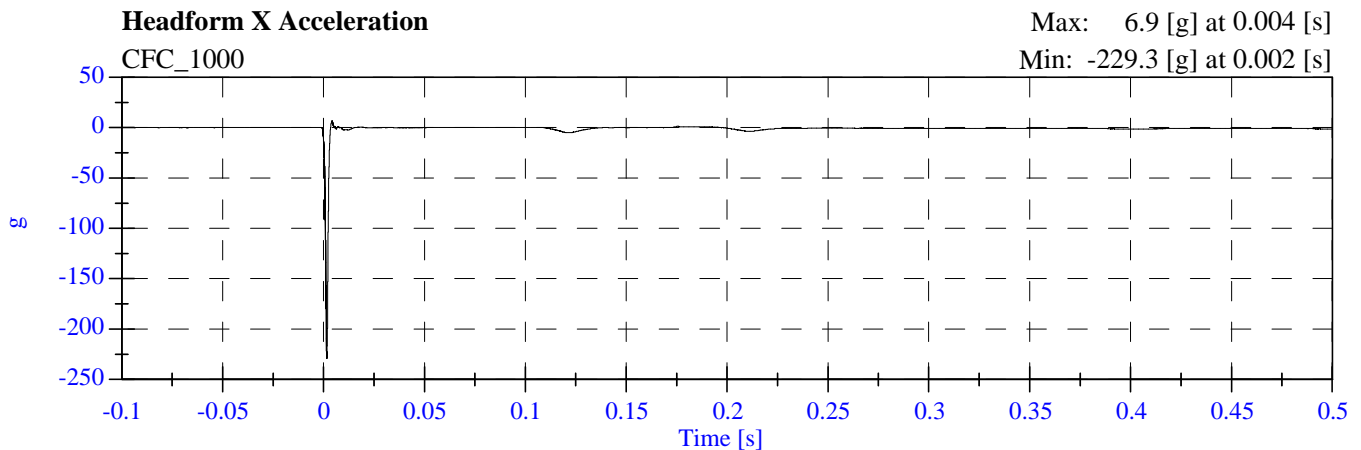
<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41006</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J40994</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41007</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**



# FMVSS 201U - Headform Calibration Drops

## C95103 - May 07, 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>May 19, 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</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>36</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>273.4</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>9.5</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

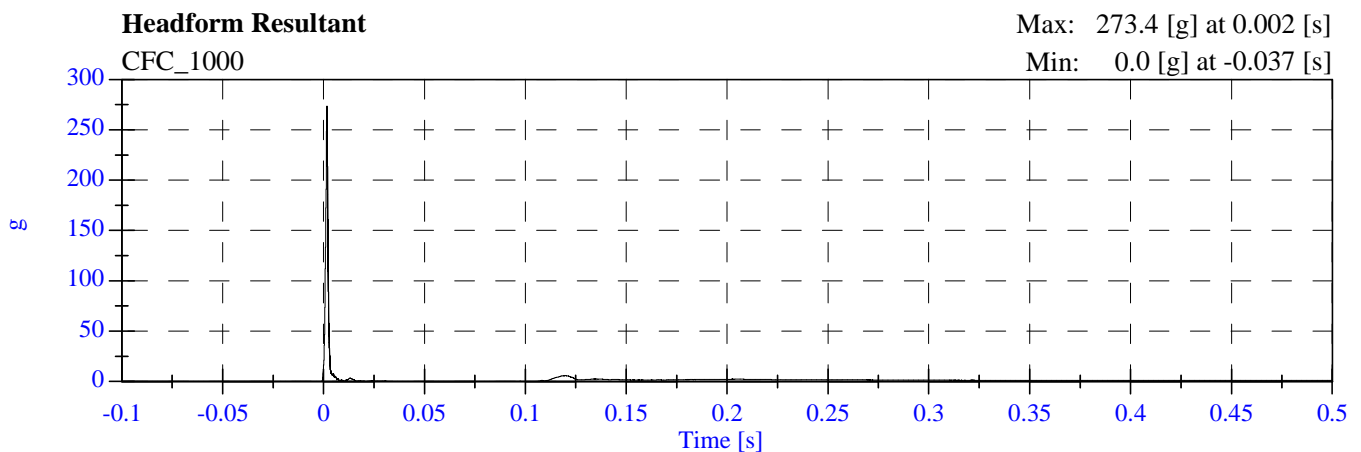
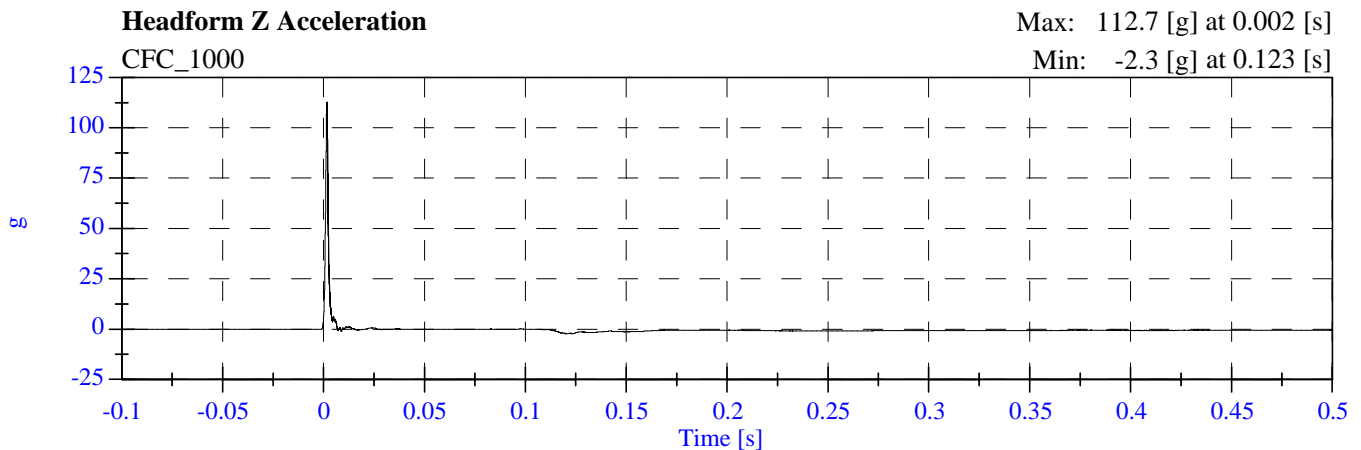
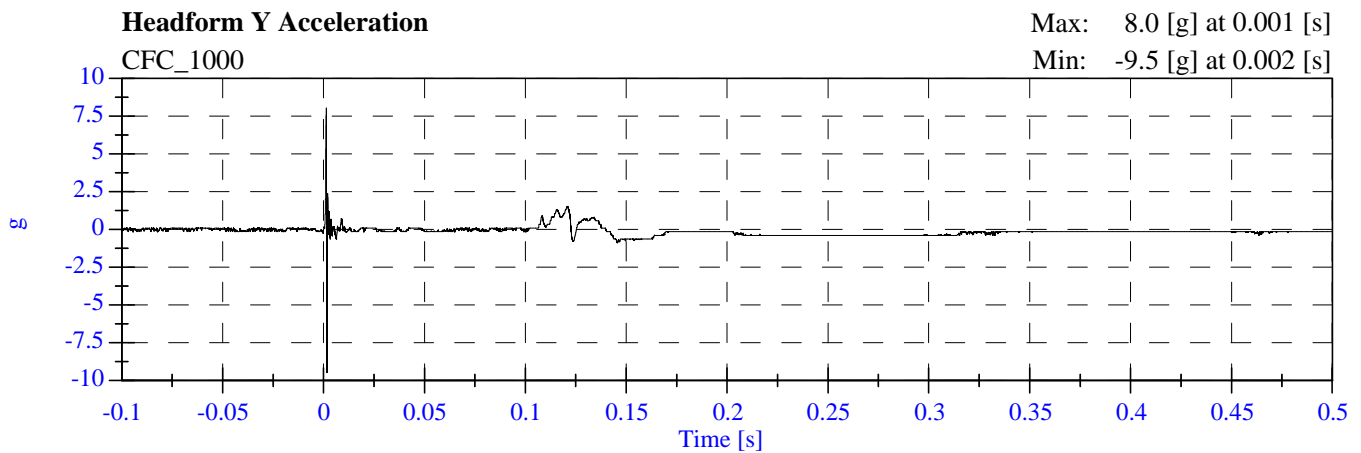
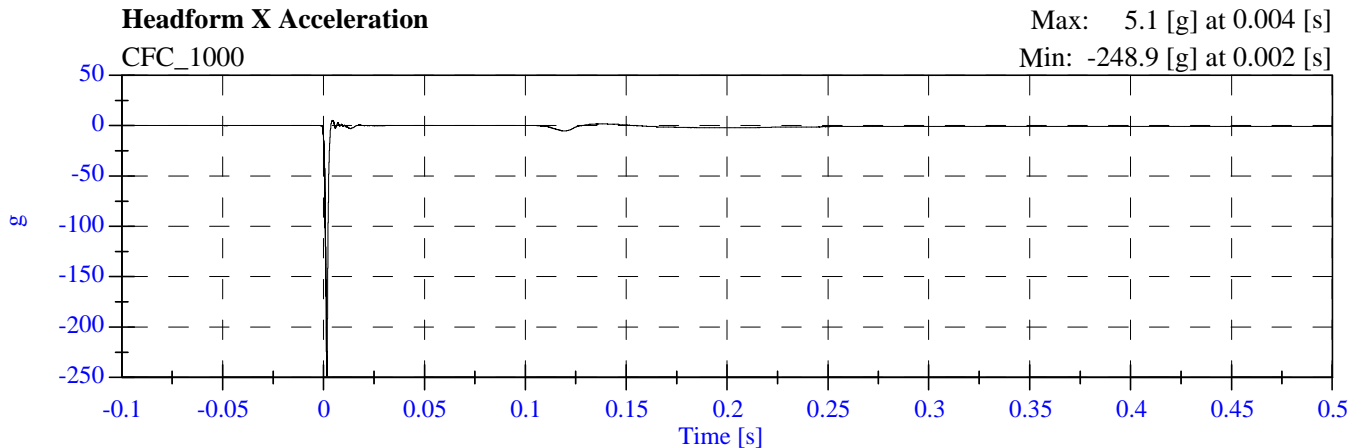
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33030</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J31009</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 19, 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>May 19, 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</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>36</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>273.3</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>7.5</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

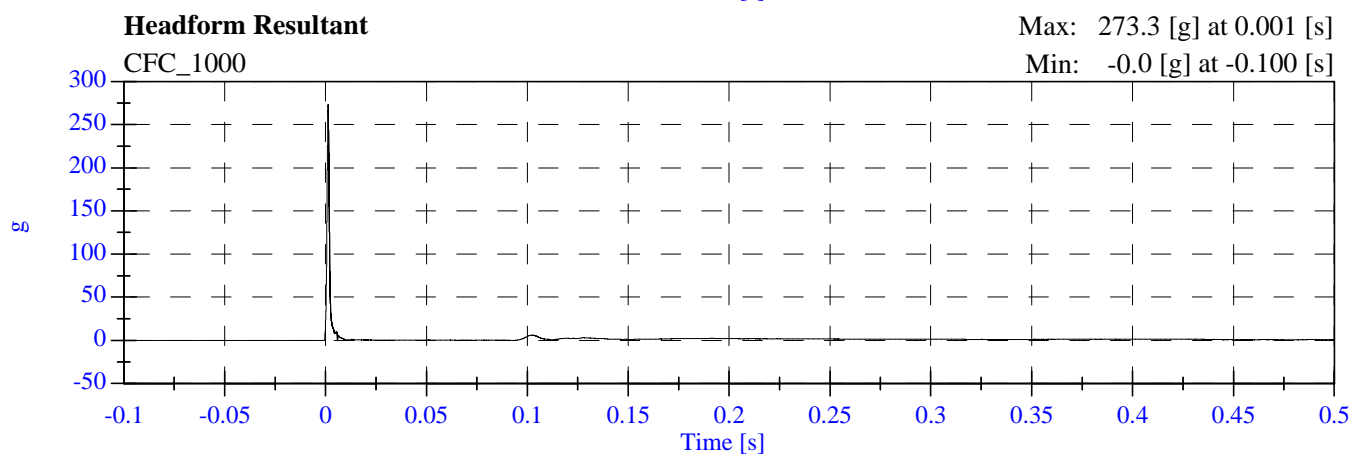
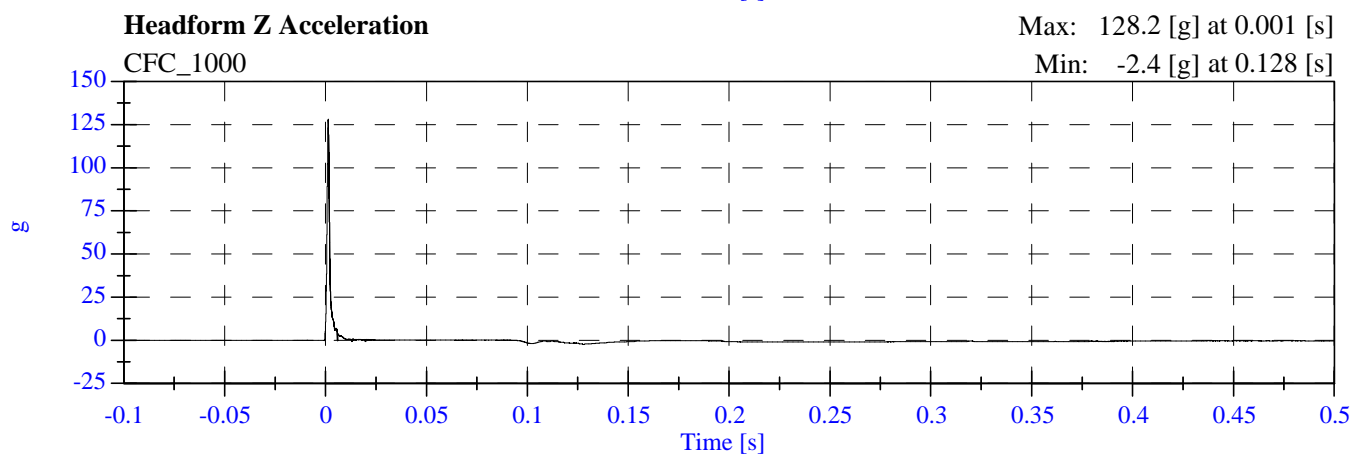
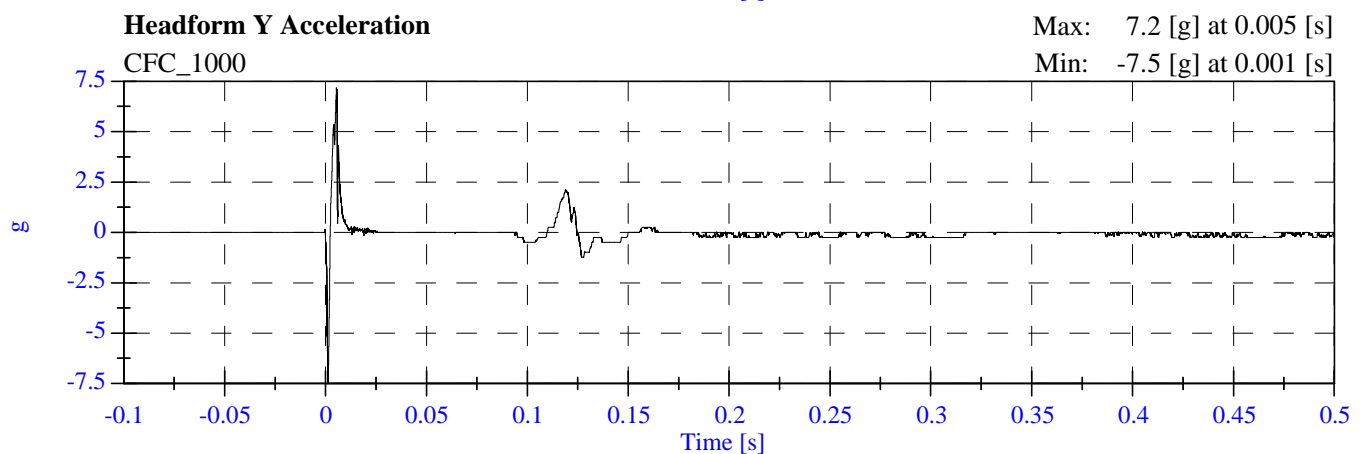
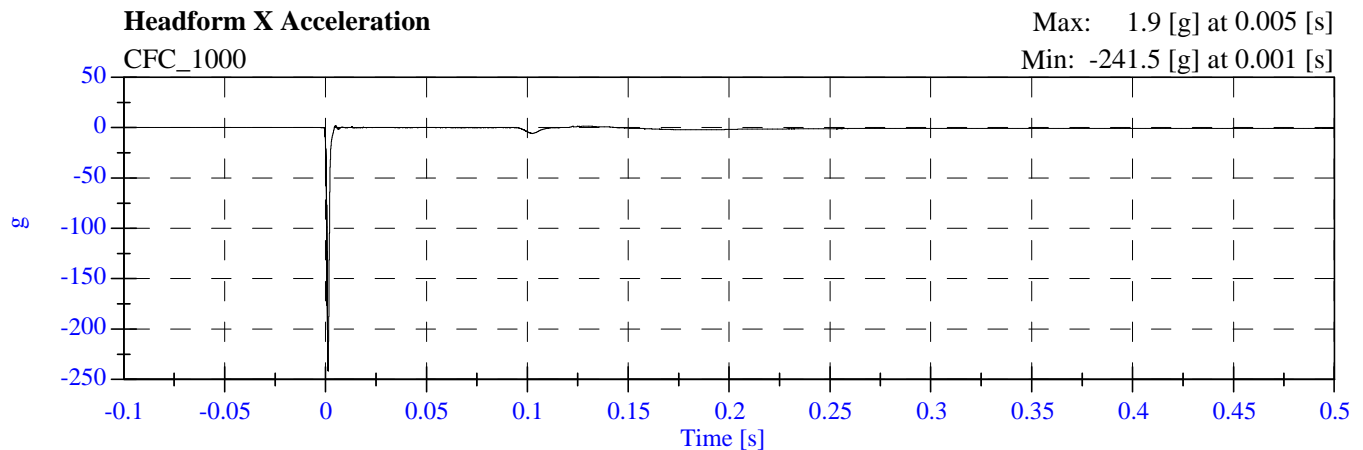
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J33019</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J32782</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 19, 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>May 19, 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</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>36</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>271.8</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>3.1</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

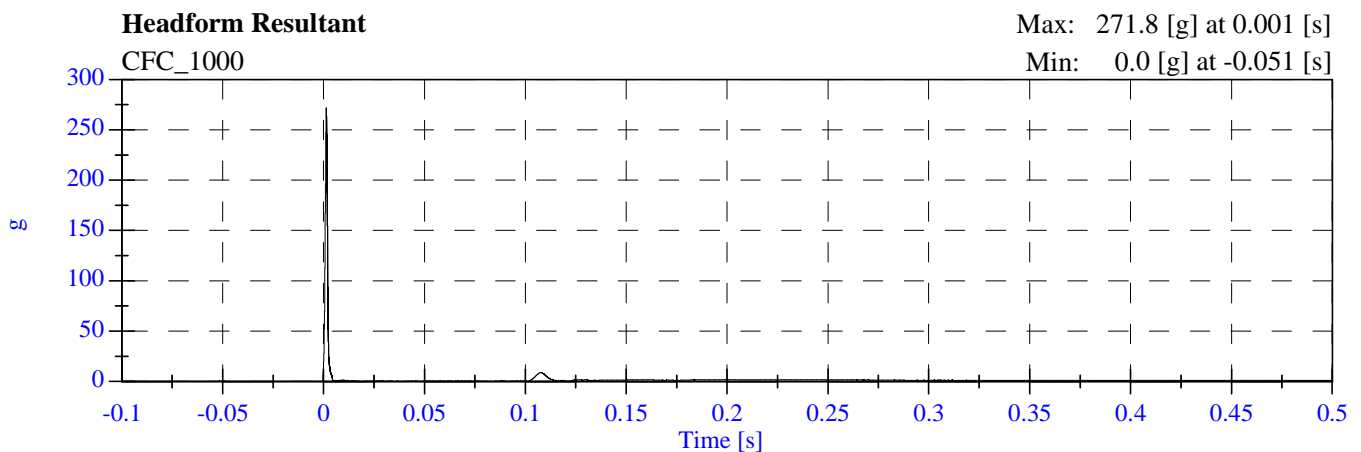
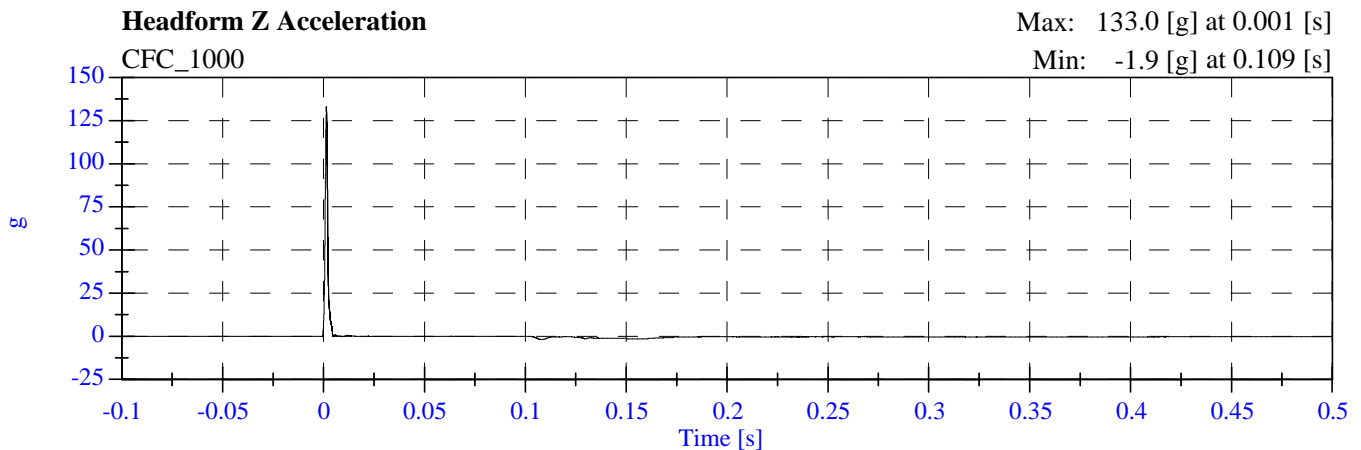
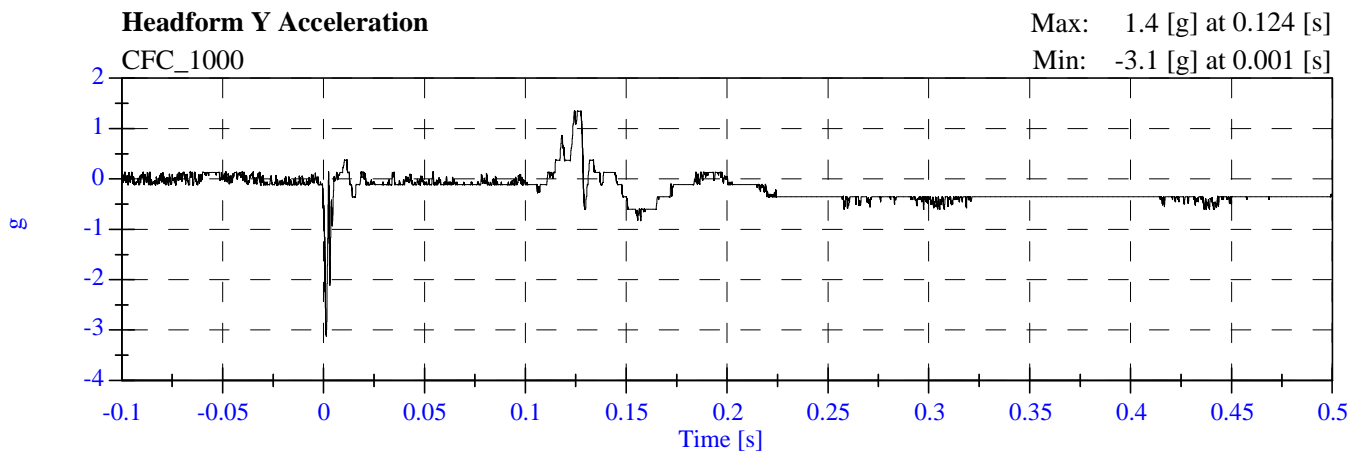
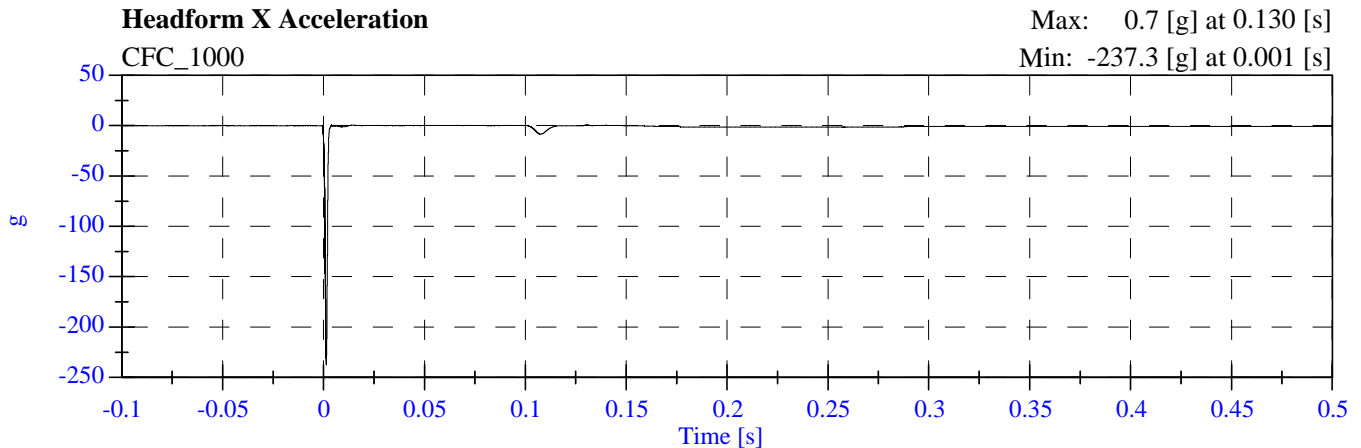
**HEAD ACCELEROMETER CALIBRATION INFORMATION**

<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>J41004</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J37496</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>3 - VERTICAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J41016</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 19, 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>May 19, 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</b>	
<b>RELATIVE HUMIDITY</b>	<b>10% to 70%</b>	<b>36</b>	
<b>PEAK RESULTANT ACCELERATION</b>	<b>225 Gs to 275 Gs</b>	<b>257.4</b>	
<b>PEAK LATERAL ACCELERATION</b>	<b>15 Gs Maximum</b>	<b>1.5</b>	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	<b>YES</b>	<b>YES</b>	

**HEAD ACCELEROMETER CALIBRATION INFORMATION**

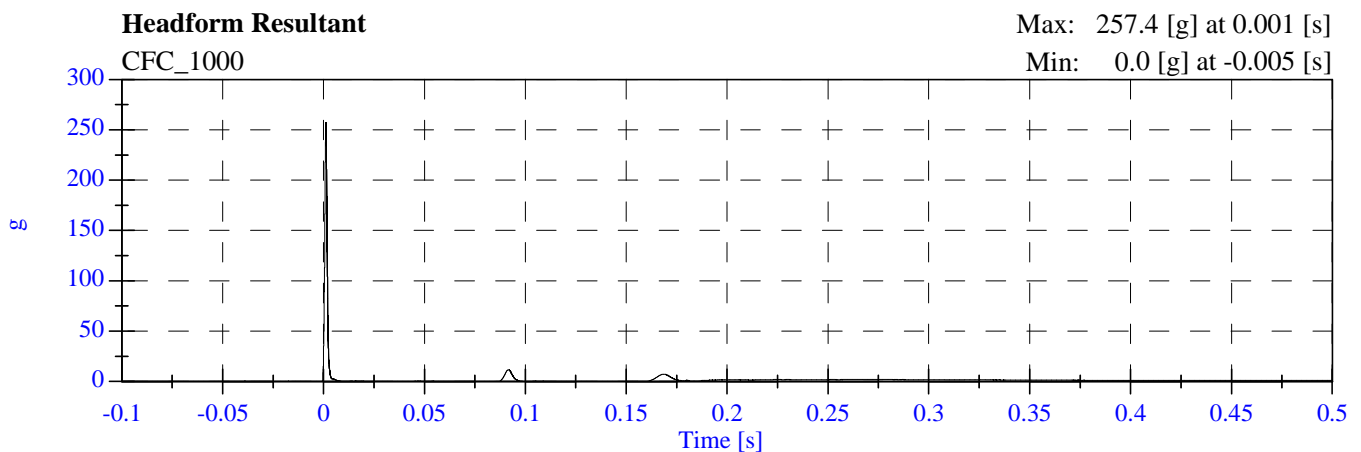
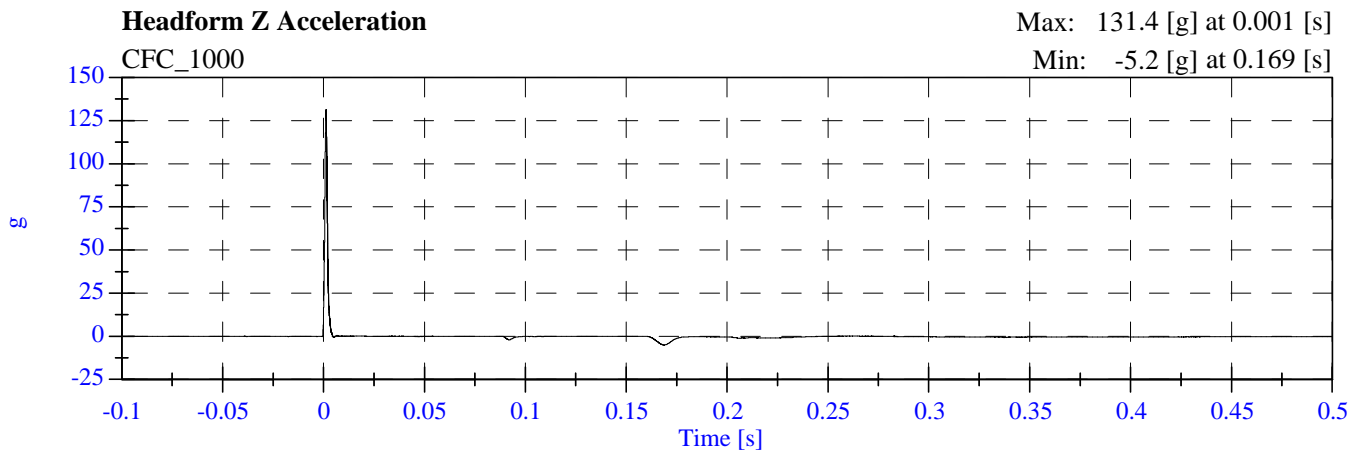
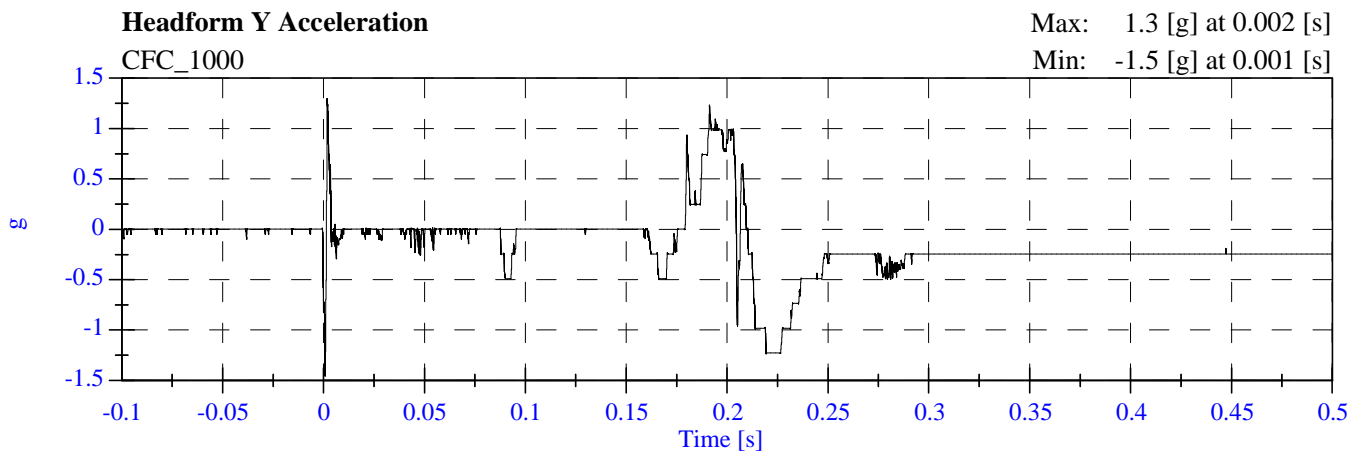
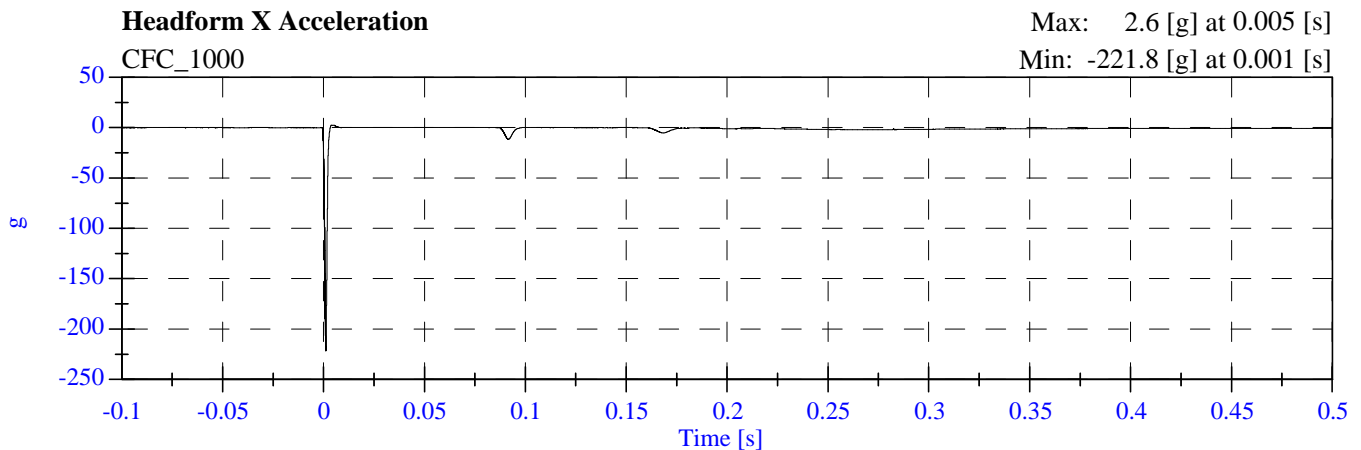
<b>I.D. NUMBER</b>	<b>MANUFACTURER</b>	<b>MODEL NUMBER</b>	<b>SERIAL NUMBER</b>	<b>DATE OF LAST CALIBRATION</b>	<b>DATE OF NEXT CALIBRATION</b>
<b>1 - LONGITUDINAL</b>	<b>ENDEVCO</b>	<b>7264-2000T</b>	<b>J28671</b>	<b>Jan. 18, 2008</b>	<b>June 18, 2008</b>
<b>2 - LATERAL</b>	<b>ENDEVCO</b>	<b>7264-2000T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

**REMARKS:**



# FMVSS 201U - Headform Calibration Drops

## C95103 - May 19, 2008



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

<b>MANUFACTURER:</b>		<b>FIRST TECHNOLOGY SAFETY SYSTEMS</b>	
<b>SERIAL NUMBER:</b>		1142	
<b>CALIBRATION DATE:</b>		May 19, 2008	
<b>TEST PARAMETER</b>	<b>SPECIFICATION</b>	<b>TEST RESULTS</b>	
<b>TEMPERATURE</b>	19°C to 26°C	21	
<b>RELATIVE HUMIDITY</b>	10% to 70%	36	
<b>PEAK RESULTANT ACCELERATION</b>	225 Gs to 275 Gs	255.5	
<b>PEAK LATERAL ACCELERATION</b>	15 Gs Maximum	3.6	
<b>IS ACCELERATION CURVE UNIMODAL?</b>	YES	YES	

**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>
1 - LONGITUDINAL	ENDEVCO	7264-2000T	J41006	Jan. 18, 2008	June 18, 2008
2 - LATERAL	ENDEVCO	7264-2000T	J40994	Jan. 18, 2008	June 18, 2008
3 - VERTICAL	ENDEVCO	7264-2000T	J41007	Jan. 18, 2008	June 18, 2008

**REMARKS:**

# FMVSS 201U - Headform Calibration Drops

## C95103 - May 19, 2008

