

REPORT NUMBER: 301-CAL-04-04

**NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
MODERATE-TO-HIGH SPEED REAR IMPACT TEST**

**PERFORMED IN CONJUNCTION WITH
SAFETY COMPLIANCE TESTING FOR FMVSS 301R
FUEL SYSTEM INTEGRITY**

MITSUBISHI MOTORS NORTH AMERICA, INC.
2004 MITSUBISHI ENDEAVOR
SUV

NHTSA NUMBER: C45601

GDAIS TEST NUMBER: 8655-F301-21R

June 30, 2004

GENERAL DYNAMICS
ADVANCED INFORMATION ENGINEERING SERVICES
P.O. BOX 400
BUFFALO, NEW YORK 14225



FINAL REPORT

PREPARED FOR:

U. S. Department of Transportation
National Highway Traffic Safety Administration
Office of Vehicle Safety Research
Crashworthiness Research Division
400 Seventh Street, S. W.
Room No. 6226
Washington, DC 20590

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12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Research, Crashworthiness Research Division Mail Code: NVS-321 400 Seventh St, S.W., Rm. 6226 Washington, D.C. 20590				13. Type of Report and Period Covered Final Test Report June 2004 – July 2004	
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16. Abstract This test was performed in conjunction with Compliance Testing for FMVSS 301R, Fuel System Integrity. The purpose of this test is to evaluate the seat and occupant performance in moderate-to-high speed rear impacts. The base FMVSS 301R test was modified as follows: <ul style="list-style-type: none"> - 2 fully instrumented Hybrid III ATDs were positioned in the front seats (P1 and P3) in place of ballast ATDs. - 2 door mounted high speed cameras were installed. - 4 seatback frame and 2 front sill MHDs were installed. - 4 vehicle accelerometers were installed. - VRTC seatback translation was installed. <p>The ATDs were positioned following TP208-12 with the following exceptions: <ul style="list-style-type: none"> - Seatbacks for positions that contained a 50th percentile male were set to 25 degrees ± 1 degree as measured with the SAE J826 manikin. </p>					
17. Key Words Seatback Rotation and Displacement Test FMVSS 301R Rear Impact Test			18. Distribution Statement <u>Copies of this report are available from:</u> NHTSA Technical Reference Division Room 5108 (NPO-230), 400 Seventh , S.W., Washington, D.C. 20590 Telephone No. (202) 366-4946		
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SECTION 1

PURPOSE OF TEST

This moderate-to-high speed rear impact test was performed in conjunction with a Federal Motor Vehicle Safety Standard (FMVSS) 301R 30 mph rear moving barrier impact test of a 2004 Mitsubishi Endeavor SUV. The purpose of this test is to evaluate the seat and occupant performance in moderate-to-high speed rear impacts.

SECTION 2

SUMMARY OF TEST

A 1989.5 kg 2004 Mitsubishi Endeavor SUV was impacted from the rear by a 1797 kg moving barrier at a velocity of 47.80 kph (29.7 mph). The test was performed by Advanced Information Engineering Services on June 30, 2004.

The test vehicle was prepared for the Federal Motor Vehicle Safety Standard (FMVSS) 301R Compliance Test Program conducted for the National Highway Traffic Safety Administration (NHTSA) following the OVSC Laboratory Test Procedure No. TP-301-03, dated February 28, 2003. For the purpose of acquiring information for Office of Vehicle Safety Research, the test was modified as follows:

- An instrumented 50th percentile male Part 572E Hybrid III ATD was positioned in the driver seat (P1) in place of a ballast ATD.
- An instrumented 50th percentile male Part 572E Hybrid III ATD was positioned in the right rear passenger seat (P3) in place of the right front passenger seat (P2) ballast ATD.
- The right front passenger seat (P2) was removed to improve film coverage and to help offset instrumentation weight.
- 2 high speed cameras were installed on the vehicle front doors (P2 and P4 doors).
- 2 seatback frame MHDs were installed on each occupied seat to measure rotation about the Y axis.
- 1 front sill MHD was installed to measure rotation about the Y-axis.
- 4 vehicle accelerometers were installed to measure acceleration along the X-axis.
- The VRTC seatback translation device was installed on the inside of the roof to measure rearward displacement of the P1 and P3 seatbacks.

The crash event was recorded by ten high-speed cameras and one real-time camera. Camera locations and other pertinent camera information are found on pages 3-13 and 3-14 of this report. Pre- and post-test photographs of the ATDs can be found in Appendix A. Electronic data plots are presented in Appendix B.

The occupant and seat data is summarized below.

	Seatback Rotation		HIC (36ms)	Nij				Head -to- Torso Rotation		Clip (g)	Chest Disp. (mm)	Femur	
	Left (deg)	Right (deg)		Ntf	Nte	Ncf	Nce	Flexion (deg)	Extension (deg)			Left (N)	Right (N)
P1 ATD	24.7	26.8	153.6	0.20	0.13	0.01	0.14	11.7	-27.8	18.6	-1.6	-660.7	-964.2
P3 ATD	6.5	10.8	78.4	0.20	0.31	0.20	0.58	12.7	-60.1	37.3	-5.3	-1548.9	-1429.5

The P1 seatback frame immediately above the adjustment mechanism deformed rearward and the lower seatback frame crossmember deformed rearward. The adjustment mechanism remained operable following the test. The P1 seat back reclined 18.2 degrees statically from its pre-test position. The P3 seatback frame deformed rearward 4.5 degrees statically from its pre-test position.

SECTION 3
TEST DATA

DATA SHEET 1

TEST VEHICLE SPECIFICATIONS

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2004 Mitsubishi Endeavor SUV
NHTSA No.: C45601; Color: Silver
Engine Data: 6 Cylinders; - CID; 3.8 Liters; - cc
Placement: - Longitudinal or In-Line; X Transverse or Lateral
Transmission Data: 4 Speeds; - Manual; X Automatic; X Overdrive
Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive
Major Options: X A/C; X Power Steering; X Power Brakes
X Power Windows; X Power Door Locks; X Tilt Wheel
Date Received: 10/16/03; Odometer Reading 117 km
Selling Dealer: Carlisle Mitsubishi
& Address: 177 Fairport Road, Fairport, NY 14450

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Mitsubishi Motors North America, Inc.
Date of Manufacture: AUG. 2003
VIN: 4A4MM21S44E034123
GVWR: 2290 kg; GAWR-FRONT: 1245 kg; GAWR-REAR: 1270 kg

DATA FROM VEHICLE'S TIRE LABEL:

Location of Placard on Vehicle: Left B-Pillar
Recommended Tire Size: P235/65R17 103S or P235/65R17 103T
* Recommended Cold Tire Pressure: FRONT: 220 kPa; REAR: 220 kPa

DATA FROM TIRE SIDEWALL:

Size of Tires on Test Vehicle: P235/65R17 103S Manufacturer: Goodyear Integrity
Tire Pressure with Maximum Capacity Vehicle Load: FRONT: 300 kPa; REAR: 300 kPa
Type of Spare Tire: P235/65R17 103S

VEHICLE CAPACITY DATA:

Type of Front Seats: - Bench; X Bucket; - Split Bench
Number of Occupants: 2 Front; 3 Rear; 5 Total
Vehicle Capacity Weight (VCW) = 440 kg
No. of Occupants x 68.04 kg = 340.2 kg
Rated Cargo/Luggage Weight (RCLW) = 99.8 kg

*Tire pressure used for test

DATA SHEET 2

VEHICLE DATA

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front	=	<u>491.0</u>	kg	Right Rear =	<u>375.0</u>	kg
Left Front	=	<u>519.0</u>	kg.	Left Rear =	<u>364.0</u>	kg
TOTAL FRONT	=	<u>1010</u>	kg	TOTAL REAR =	<u>739</u>	kg
TOTAL DELIVERED WEIGHT	=	<u>1749</u>	kg			
% of Total Front of Vehicle Weight	=	<u>57.7%</u>		of Total Rear Weight	=	<u>42.3%</u>

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight	=	<u>1749</u>	kg
Rated Cargo/Luggage Weight (RCLW)	=	<u>99.8</u>	kg
Weight of 2 p.572 Dummies, 74.4 kg	=	<u>148.8</u>	kg
TARGET TEST WEIGHT	=	<u>1997.6</u>	kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 91.7 KG OF CARGO WEIGHT:

Right Front	=	<u>561.0</u>	kg	Right Rear =	<u>423.5</u>	kg
Left Front	=	<u>576.0</u>	kg	Left Rear =	<u>429.0</u>	kg
TOTAL FRONT	=	<u>1137</u>	kg	TOTAL REAR =	<u>852.5</u>	kg
TOTAL TEST WEIGHT	=	<u>1989.5</u>	kg			
% of Total Front of Vehicle Weight	=	<u>57.2%</u>		of Total Rear Weight	=	<u>42.8%</u>

* Weight of Ballast Secured in Vehicle Trunk Area = 16 kg

Type of Ballast: Lead Shot

Method of Securing Ballast: Left rear seat anchorages

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED:	RF	<u>879</u>	LF	<u>880</u>	RR	<u>871</u>	LR	<u>864</u>
AS TESTED:	RF	<u>860</u>	LF	<u>856</u>	RR	<u>853</u>	LR	<u>848</u>
Vehicle's Wheel Base:	<u>2755</u>	mm						
Location of Vehicle's C.G.:	<u>1181</u>	millimeters rearward of front wheel center.						

DATA SHEET 2 (continued)

VEHICLE DATA

TYPE OF TEST:

Type of Test: Rear Barrier Impact Angle: 0°
Test Date: June 30, 2004 Time: 11:49 Temperature: 21.1 °C
Vehicle NHTSA No.: C45601 VIN: 4A4MM21S44E034123
Required Impact Velocity Range: 46.51 to 48.12 kph

BARRIER IMPACT VELOCITY: (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 47.80 kph; Trap No. 2 = 47.80 kph
Average Impact Speed = 47.80 kph

VEHICLE STATIC CRUSH:

Vehicle Length:

Pre-Test Left = 4647 ; C/L = 4835 Right = 4650
Post-Test Left = 4527 ; C/L = 4650 Right = 4531
Crush Left = 120 ; C/L = 185 Right = 119
AVERAGE = 141 millimeters

DATA SHEET 3

MOVING BARRIER DATA

WEIGHT OF MOVING BARRIER:

Right Front	=	<u>504.9</u>	kg	Right Rear	=	<u>393.7</u>	kg.
Left Front	=	<u>499.9</u>	kg	Left Rear	=	<u>398.3</u>	kg
TOTAL FRONT	=	<u>1004.8</u>	kg	TOTAL REAR	=	<u>792.0</u>	kg
TOTAL BARRIER WEIGHT	=	<u>1796.8</u>	kg				

MOVING BARRIER DIMENSIONS:

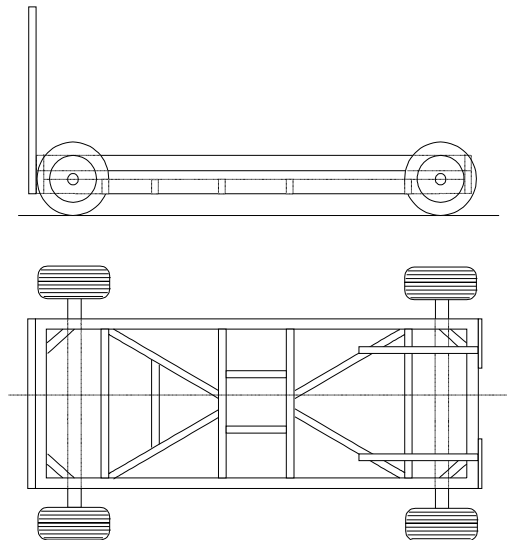
Barrier Face Height: 1524 mm
Barrier Face Width: 1981 mm
Barrier Face Ground Clearance: 127 mm
Tread Width: 1511 mm
Wheel Base: 3048 mm
Location of C.G.: X: 1344 mm rearward of front wheel center.
Y: 0 mm from longitudinal-vertical plane of symmetry.
Z: 414 mm above ground.

MOVING BARRIER TIRES:

Manufacturer: Dunlop
Model: AT Radial Rover
Size: P205/75R15
Recommended Max Pressure: 240 kPa:

MOVING BARRIER ABORT SYSTEM:

Type: Trailing cable



DATA SHEET 4

SEAT DATA

PI DATA:

HEAD RESTRAINT	YES	NO		DETAILS
Fixed:	<u>-</u>	<u>X</u>		
Vertical Adjustment:	<u>X</u>	<u>-</u>		
Vertical Locks:	<u>X</u>	<u>-</u>		Prevents head restraint from sliding downward. Button must be pushed to move restraint downward.
Fore-Aft Adjustment:	<u>-</u>	<u>X</u>		
Fore-Aft Locks:	<u>-</u>	<u>X</u>		
SEATBACK RECLINE TYPE	YES	NO		
Fixed:	<u>-</u>	<u>X</u>		
Power:	<u>X</u>	<u>-</u>		
Lever (with detents):	<u>-</u>	<u>X</u>		
Lever (infinite):	<u>-</u>	<u>X</u>		
Lever (ratchet):	<u>-</u>	<u>X</u>		
Rotary Knob:	<u>-</u>	<u>X</u>		
Pivot locks on Both Sides:	<u>X</u>	<u>-</u>		
LUMBAR ADJUSTMENT	YES	NO		DETAILS
Fixed:	<u>-</u>	<u>X</u>		
Adjustable:	<u>X</u>	<u>-</u>		Placed in retracted position for ICBC measurements and test.
BOLSTER ADJUSTMENT	YES	NO		DETAILS
Fixed:	<u>X</u>	<u>-</u>		
Adjustable:	<u>-</u>	<u>X</u>		Placed in full open for ICBC measurements and test.
SEAT CUSHION TYPE	YES	NO		DETAILS
Cushion moves vertically independently of seat back:	<u>-</u>	<u>X</u>		
SEAT CUSHION FORE-AFT	YES	NO		DETAILS
Fixed:	<u>-</u>	<u>X</u>		
Power:	<u>-</u>	<u>X</u>	Travel: <u>-</u> mm	
Manual-Detents:	<u>X</u>	<u>-</u>	First Detent: <u>0</u> Last Detent: <u>22</u>	Travel: <u>220</u> mm
Manual-Infinite:	<u>-</u>	<u>X</u>	Travel: <u>-</u> mm	
SEAT CUSHION VERTICAL	YES	NO		DETAILS
Fixed:	<u>X</u>	<u>-</u>		
Power:	<u>-</u>	<u>X</u>		
Manual-Detents:	<u>-</u>	<u>X</u>		
Manual-Infinite:	<u>-</u>	<u>X</u>		
SEAT TEST POSITION				
Seat Cushion Fore-aft:	<u>Mid-position (detent 11) OR 110 mm forward of rearward-most position</u>			
Seat Cushion Vertical:	<u>Fixed</u>			
Seat Back:	<u>25 degree torso angle as set with the H-point machine.</u>			
Head Restraint:	<u>Full up</u>			

DATA SHEET 4 (continued)

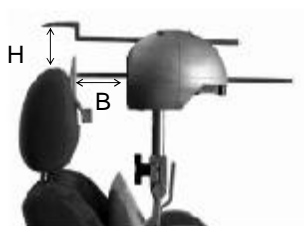
SEAT DATA

P3 DATA:

HEAD RESTRAINT	YES	NO	DETAILS
Fixed:	<u>-</u>	<u>X</u>	
Vertical Adjustment:	<u>X</u>	<u>-</u>	
Vertical Locks:	<u>X</u>	<u>-</u>	Prevents head restraint from sliding downward. Button must be pushed to move restraint downward.
Fore-Aft Adjustment:	<u>-</u>	<u>X</u>	
Fore-Aft Locks:	<u>-</u>	<u>X</u>	
SEATBACK RECLINE TYPE	YES	NO	DETAILS
Fixed:	<u>X</u>	<u>-</u>	
Power:	<u>-</u>	<u>X</u>	
Lever (with detents):	<u>-</u>	<u>X</u>	
Lever (infinite):	<u>-</u>	<u>X</u>	
Lever (ratchet):	<u>-</u>	<u>X</u>	
Rotary Knob:	<u>-</u>	<u>X</u>	
Pivot locks on Both Sides:	<u>-</u>	<u>X</u>	Forward folding seatback latches in a single upright position for occupant use. Latch is located at the upper outboard side of the seatback.
LUMBAR ADJUSTMENT	YES	NO	DETAILS
Fixed:	<u>X</u>	<u>-</u>	
Adjustable:	<u>-</u>	<u>X</u>	Placed in retracted position for ICBC measurements and test.
BOLSTER ADJUSTMENT	YES	NO	DETAILS
Fixed:	<u>X</u>	<u>-</u>	
Adjustable:	<u>-</u>	<u>X</u>	Placed in full open for ICBC measurements and test.
SEAT CUSHION TYPE	YES	NO	DETAILS
Cushion moves vertically independently of seat back:	<u>-</u>	<u>X</u>	
SEAT CUSHION FORE-AFT	YES	NO	DETAILS
Fixed:	<u>X</u>	<u>-</u>	
Power:	<u>-</u>	<u>X</u>	Travel: <u>-</u> mm
Manual-Detents:	<u>-</u>	<u>X</u>	First Detent: <u>-</u> Last Detent: <u>-</u> Travel: <u>-</u> mm
Manual-Infinite:	<u>-</u>	<u>X</u>	Travel: <u>-</u> mm
SEAT CUSHION VERTICAL	YES	NO	DETAILS
Fixed:	<u>X</u>	<u>-</u>	
Power:	<u>-</u>	<u>X</u>	
Manual-Detents:	<u>-</u>	<u>X</u>	
Manual-Infinite:	<u>-</u>	<u>X</u>	
SEAT TEST POSITION			
Seat Cushion Fore-aft:	<u>Fixed</u>		
Seat Cushion Vertical:	<u>Fixed</u>		
Seat Back:	<u>Fixed</u>		
Head Restraint:	<u>Full up</u>		

DATA SHEET 5

ICBC MEASUREMENTS



P1 DATA:

ICBC MEASUREMENTS

HEAD RESTRAINT POSITION (vertical/fore-aft)	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Fixed:	99	21	25.0	848
Full Down / Fixed:	105	114	25.0	759

HEAD RESTRAINT POSITION – CONFIGURED FOR TEST (vertical/fore-aft)	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Fixed:	99	21	25.0	848

Head restraint positioning details: Head restraint was positioned full up.

P3 DATA:

ICBC MEASUREMENTS

HEAD RESTRAINT POSITION (vertical/fore-aft)	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Fixed:	93	20	25.0	844
Full Down / Fixed:	101	120	25.0	749

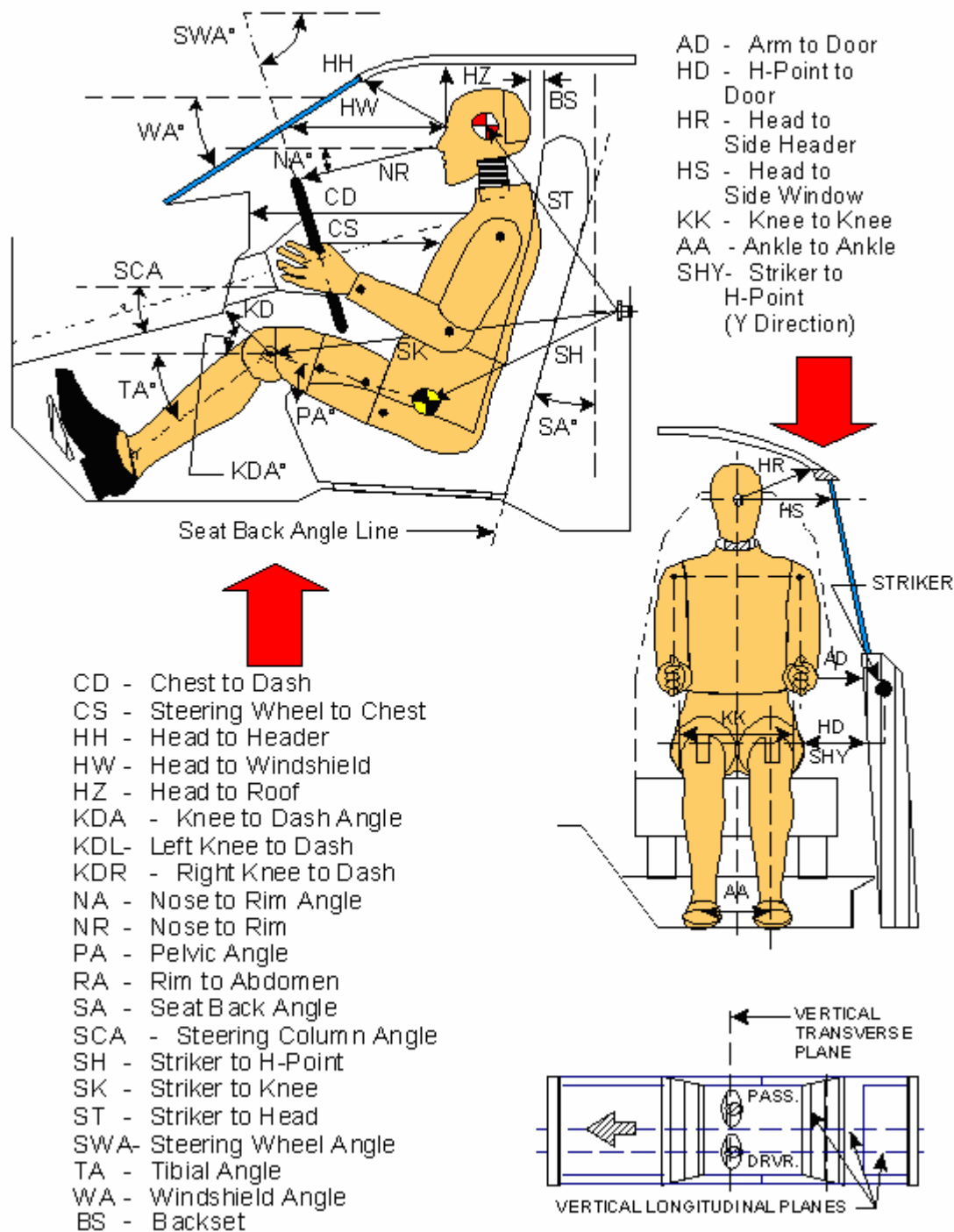
HEAD RESTRAINT POSITION – CONFIGURED FOR TEST (vertical/fore-aft)	B (mm, backset)	H (mm, height)	Torso Angle (deg)	Height Along Torso Line From Pivot (mm)
Full Up / Fixed:	93	20	25.0	844

Head restraint positioning details: Head restraint was positioned full up.

DATA SHEET 6

DUMMY MEASUREMENTS

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET 6 (continued)

DUMMY MEASUREMENTS

	DRIVER (Serial #202)			PASS. (Serial #206)		
WA ^o	32.5 deg.			N/A		
SWA ^o	63 deg.			N/A		
SCA ^o	27 deg.			N/A		
SA ^o	25 deg. (H-point machine back pan)			25 deg. (H-point machine back pan)		
HZ	210			225		
HH	520			1418		
HW	789			1685		
HR	245			291		
NR	451	Angle	13 deg.	N/A		
CD	609			1486		
CS	310			N/A		
RA	190			N/A		
KDL	139	Angle (KDA)	25 deg.	1049		
KDR	122			1048	Angle (KDA)	-3 deg.
PA ^o	24.5 deg.			25.0 deg.		
TA ^o	40.5 deg.			55.1 deg.		
KK	373			318		
AA	293			208		
ST	463	Angle	3 deg.	366	Angle	8 deg.
SK	590	Angle	98 deg.	596	Angle	104 deg.
SH	262	Angle	132 deg.	317	Angle	133 deg.
SHY	244			243		
HS	365			371		
HD	173			184		
AD	118			131		
BS*	100			115		

*Note: Measured with ATD in final seating position
Dimensions in millimeters

DATA SHEET 7

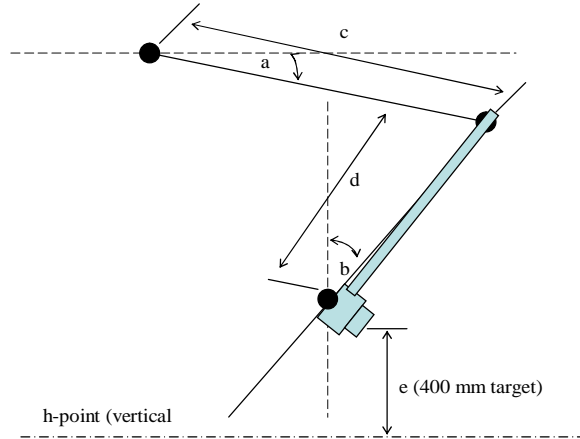
VEHICLE AND SEAT INSTRUMENTATION MEASUREMENTS

VEHICLE INSTRUMENTATION					
LOCATION	TRANSDUCER TYPE	DIRECTION OF MEASURE	PRE-TEST DIMENSIONS (mm) *		
			X	Y	Z
Left Rear Seat Cross Member	Accelerometer	X	2005	-720	-460
Left Rear Seat Cross Member Redundant	Accelerometer	X	2005	-720	-460
Right Rear Seat Cross Member Redundant	Accelerometer	X	2005	720	-460
Right Rear Seat Cross Member	Accelerometer	X	2005	720	-460
Left Front Sill	MHD ARS-06	About Y	2670	-700	-445
Right Front Sill	MHD ARS-06	About Y	-	-	-

* X: From rear bumper, positive forward; Y: From long. centerline, positive right; Z: From ground, positive down.

DATA SHEET 7

VEHICLE AND SEAT INSTRUMENTATION MEASUREMENTS



DIMENSION	P1 LEFT	P1 RIGHT	P3 LEFT	P3 RIGHT
a (deg from horiz.)	18.8	19.0	27.6	28.5
b (deg from vertical)	28.5	28.8	33.9	33.0
c (mm)	326	323	352	349
d (mm)	371	371	375	375
e (mm, target=400)	323	323	302	297

SEATBACK ANGLE	P1		P3	
	PRE (deg)	POST (deg)	PRE (deg)	POST (deg)
Left MDH Bracket	24.2	42.2	29.4	33.3
Right MHD Bracket	24.5	42.7	28.5	33.9
Front Sill	-0.5	-0.6	-0.5	-0.3

POST TEST DETAILS

Seatback Deformation: The lower seatback frame brackets immediately above the seat pivot point deformed rearward. The lower seatback frame crossmember bent rearward.

Seat/Floor Attachment Point Deformation: None

Recliner Mechanism Deformation: None – mechanism remained operable following the rear impact test.

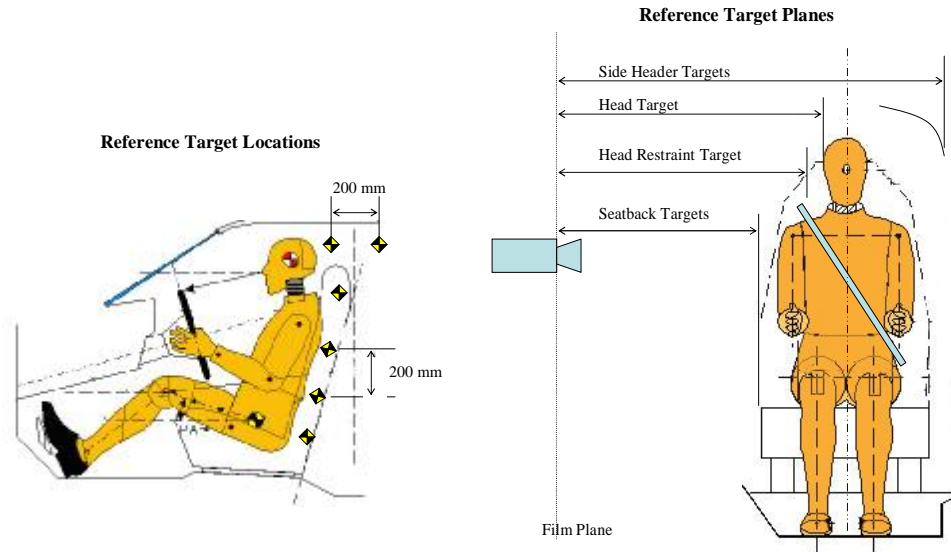
Comments: None

DATA SHEET 8

REFERENCE TARGET MEASUREMENTS

NHTSA No. : C45601

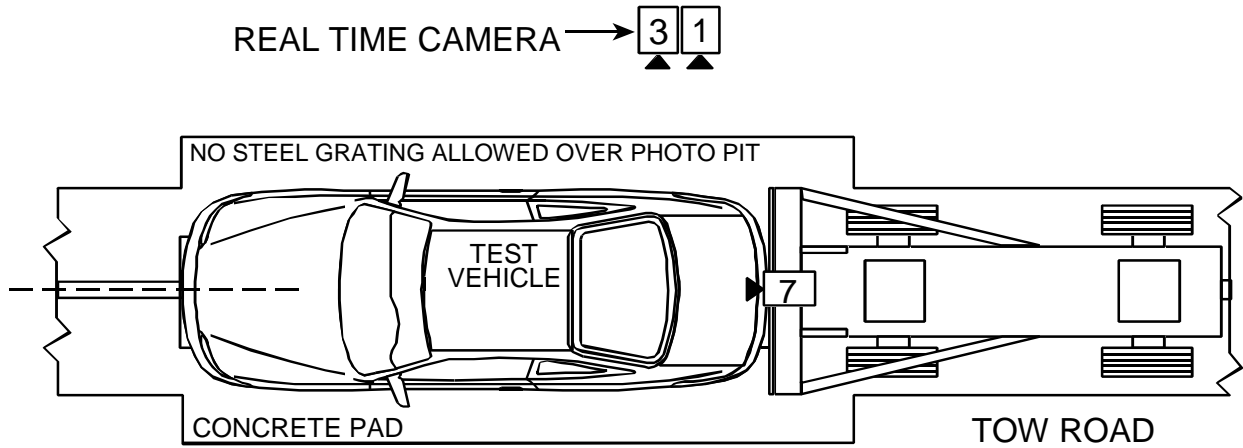
Vehicle : 2004 Mitsubishi Endeavor SUV



Film Plane to Reference Plane Distance		
Plane	Front Occupant View (mm)	Rear Occupant View (mm)
Seatback	1052	-
Head Restraint	1200	1140
Head Target	1230	1215
Side Header	1472	1460

DATA SHEET 9

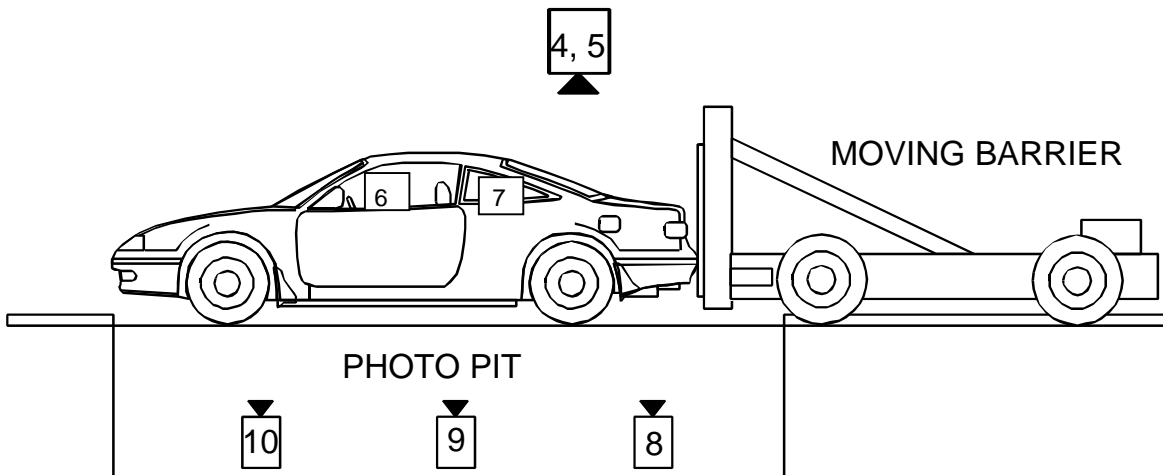
HIGH SPEED CAMERA LOCATIONS



[2]

TOP VIEW

This caption is centered below the top view diagram. It features a box containing the number '2' with a downward-pointing arrow above it.



LEFT SIDE VIEW

This caption is centered below the left side view diagram.

DATA SHEET 9 (continued)

HIGH SPEED CAMERA LOCATIONS

NHTSA No. : C45601

Vehicle : 2004 Mitsubishi Endeavor SUV

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)*			ANGLE** (degrees)	LENS (mm)	SPEED (fps)
		X	Y	Z			
1	Real-Time Camera	-	-	-	-	-	24
2	Left Side View	17665	2960	1098	1.0	13	1005
3	Right Side View	-16665	1415	1135	-1.0	25	1000
4	Overhead Overall View	0	508	9804	-90	13	1000
5	Overhead Close View	0	508	9804	-105	35	1000
6†	Onboard Driver View	-912	2660	1160	-5.0	8	1005
7†	Onboard Passenger View	1013	1858	1204	-0.5	8	1000
8	Vehicle Rear Underbody View	0	950	-1956	90	13	1005
9	Vehicle Mid-Section Underbody View	0	2525	-1956	90	13	1015
10	Vehicle Front Underbody View	0	3850	-1956	90	13	1005

- * X = film plane to monorail centerline (+ to left of rail)
- Y = film plane to impact location (+ ahead of impact location)
- Z = film plane to ground (+ above ground)
- ** = referenced to horizontal plane

† Research cameras – X distance is measured to the reference target plane.

Appendix A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

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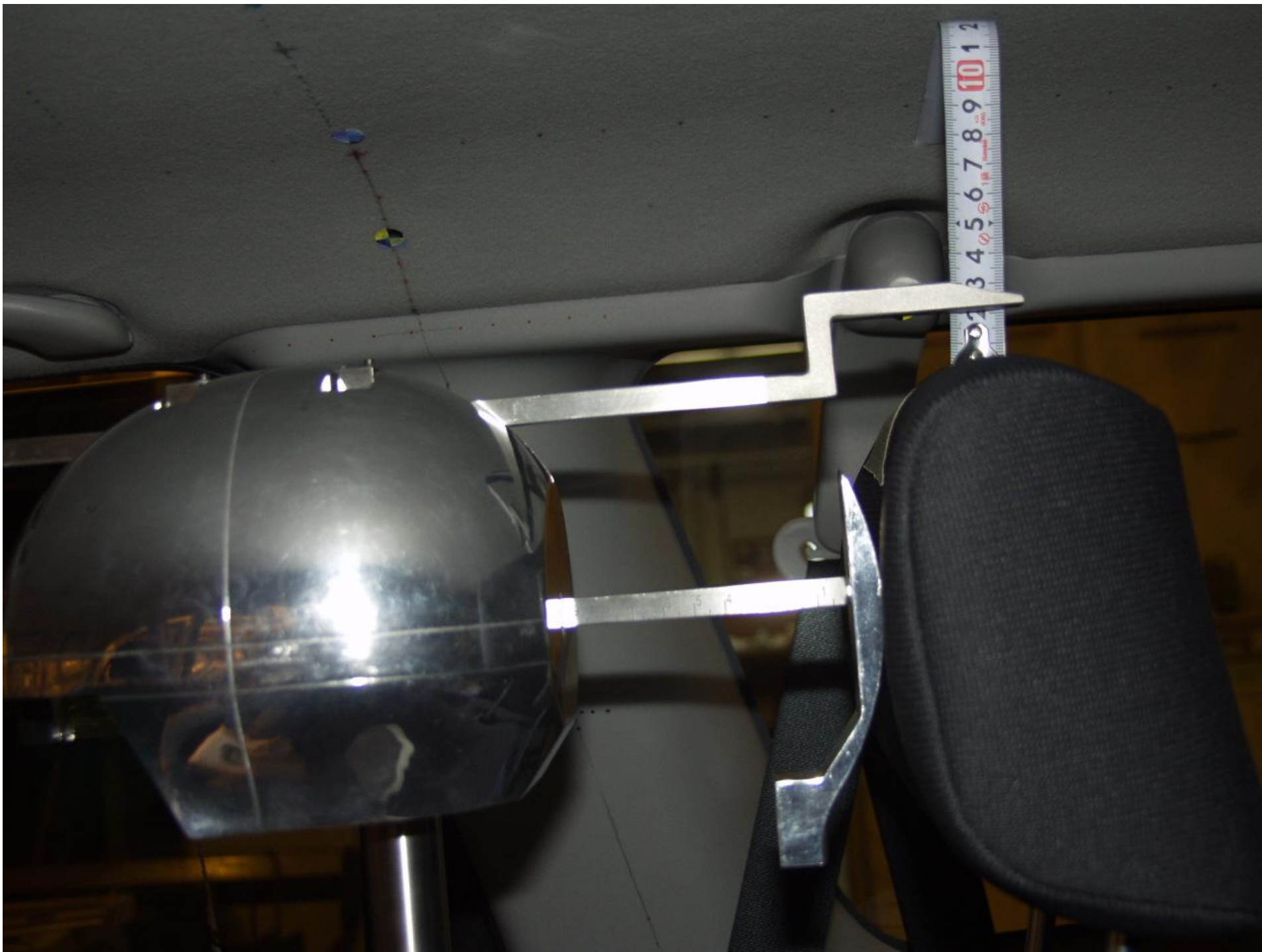


Figure A-1 DRIVER ICBC BACKSET VIEW



Figure A-2 PASSENGER ICBC BACKSET VIEW



Figure A-3 PRE-TEST DRIVER BACKSET VIEW

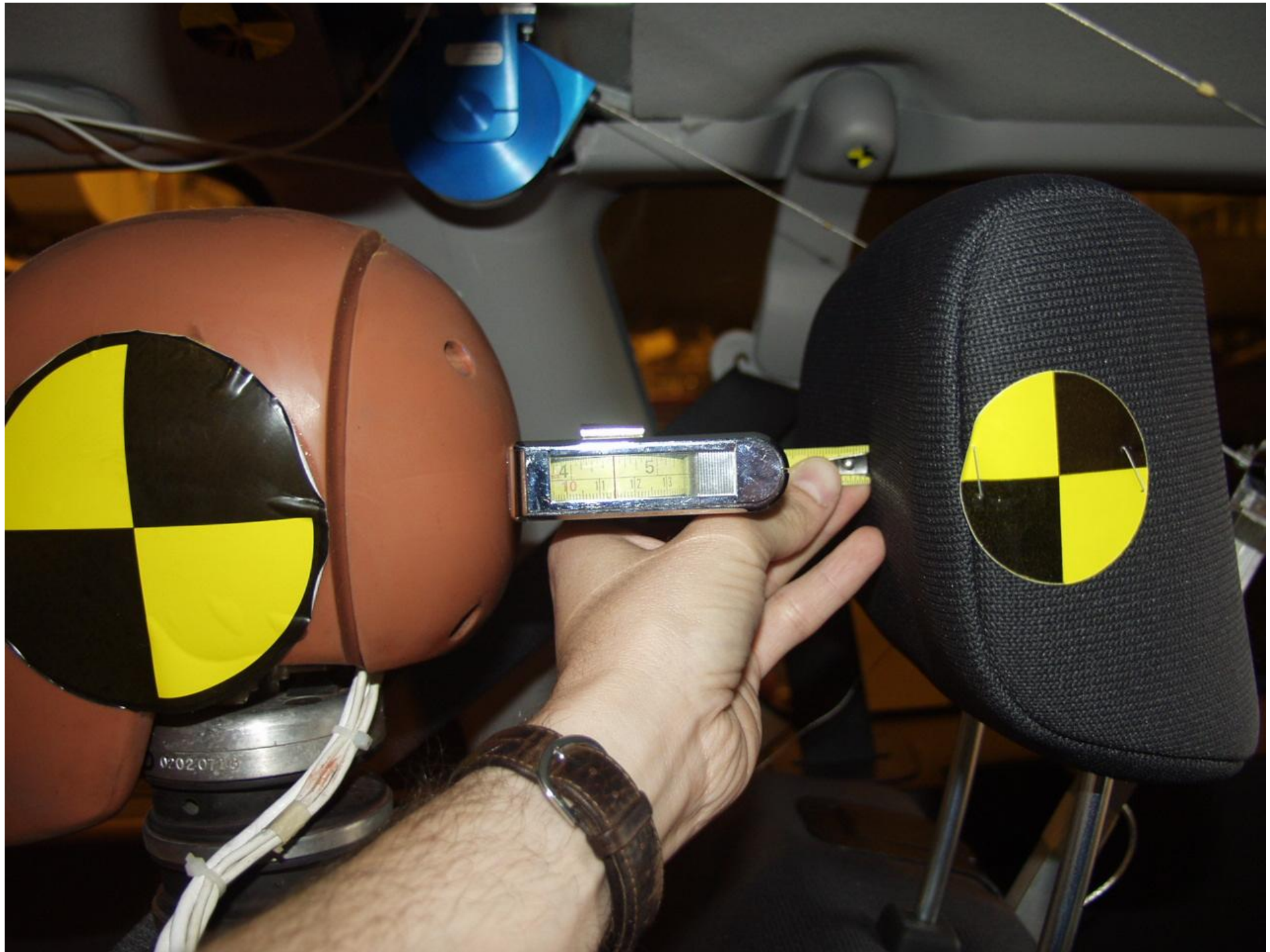


Figure A-4 PRE-TEST PASSENGER BACKSET VIEW



A-7

8655-F301-21R

Figure A-5 PRE-TEST DRIVER SEAT CLOSE-UP VIEW



Figure A-6 POST-TEST DRIVER SEAT CLOSE-UP VIEW

A-9

8655-F301-21R



Figure A-7 PRE-TEST DRIVER SEAT PERPENDICULAR VIEW



Figure A-8 POST-TEST DRIVER SEAT PERPENDICULAR VIEW

A-11

8655-F301-21R



Figure A-9 PRE-TEST PASSENGER SEAT CLOSE-UP VIEW



A-12

8655-F301-21R

Figure A-10 POST-TEST PASSENGER SEAT CLOSE-UP VIEW



A-13

8655-F301-21R

Figure A-11 PRE-TEST PASSENGER SEAT PERPENDICULAR VIEW

A-14

8655-F301-21R

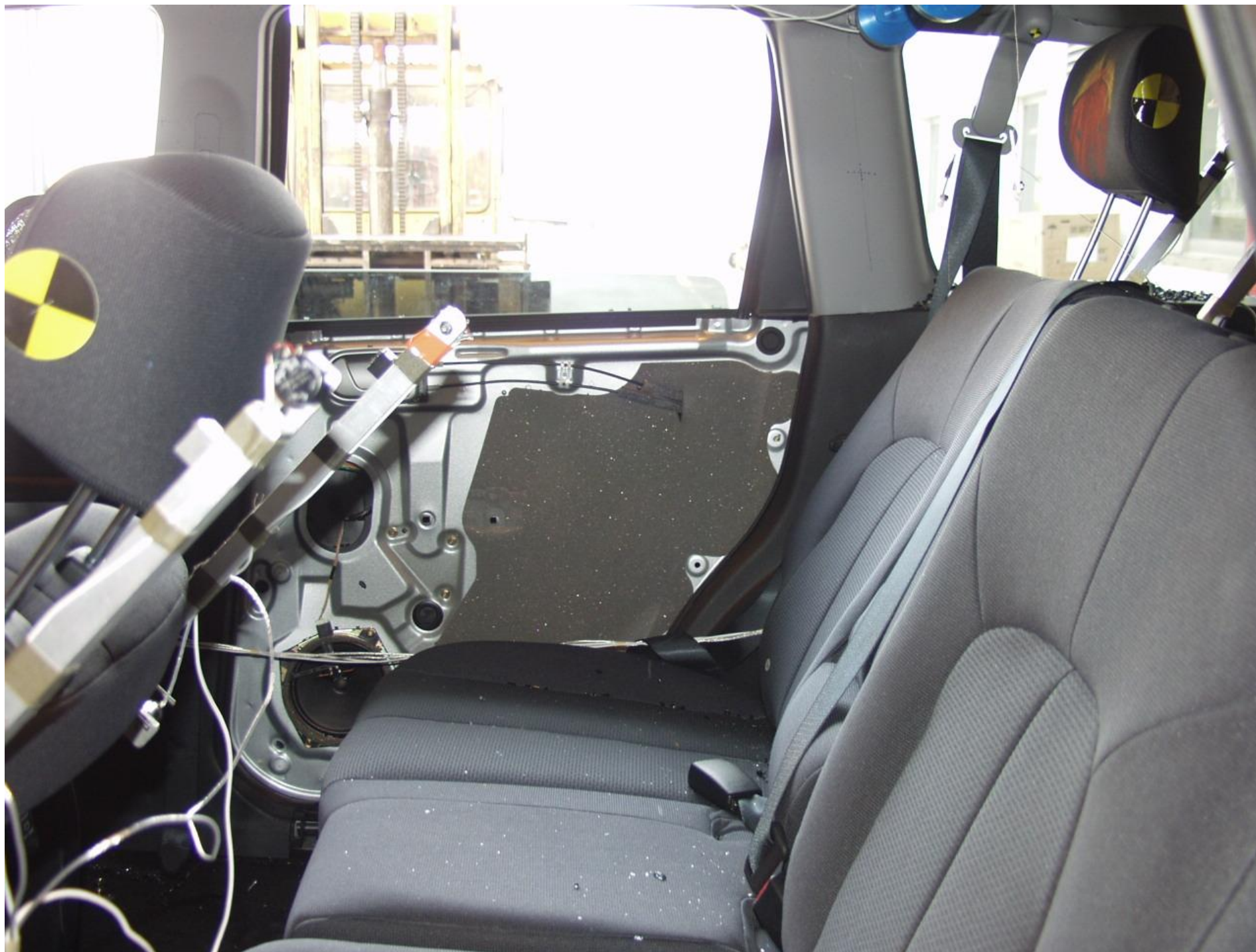


Figure A-12 POST-TEST PASSENGER SEAT PERPENDICULAR VIEW



Figure A-13 PRE-TEST DRIVER LEFT SIDE VIEW



Figure A-14 POST-TEST DRIVER LEFT SIDE VIEW



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8655-F301-21R

Figure A-15 PRE-TEST DRIVER RIGHT SIDE VIEW



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8655-F301-21R

Figure A-16 POST-TEST DRIVER RIGHT SIDE VIEW



Figure A-17 PRE-TEST DRIVER ISOMETRICAL VIEW



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8655-F301-21R

Figure A-18 POST-TEST DRIVER ISOMETRICAL VIEW



Figure A-19 PRE-TEST PASSENGER LEFT SIDE VIEW



A-22

8655-F301-21R

Figure A-20 POST-TEST PASSENGER LEFT SIDE VIEW



Figure A-21 PRE-TEST PASSENGER RIGHT SIDE VIEW



A-24

8655-F301-21R

Figure A-22 POST-TEST PASSENGER RIGHT SIDE VIEW



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8655-F301-21R

Figure A-23 PRE-TEST PASSENGER ISOMETRICAL VIEW



A-26

8655-F301-21R

Figure A-24 POST-TEST PASSENGER ISOMETRICAL VIEW

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

TEST NO. C45601

DRIVER DUMMY (Pos. 1)	SAE FILTER CHANNEL CLASS
Head Accelerations	1000
Head Angular Velocity	1000
Neck Forces	1000
Neck Moments	600
Chest Accelerations	180
Chest Angular Velocity	600
Chest Rotations	1000
Pelvic Accelerations	1000
Belt Forces	60
Belt Spoolout	180
Vehicle Accelerations	60
Vehicle Angular Velocity	1000

Note: Angular position is measured in degrees of rotation from the initial (design) position.

FACILITY: VERF
TEST#: 42057-2004
TITLE: 2004 '301' Test 4 2004 Mitsubishi Endeavor C45601
Version 5.00

DATE: June 30, 2004

P1 Head

P1 HIC(15 ms): 90.6
t1: 103.4 msec
t2: 118.4 msec
Duration: 15.0 msec
Average Acceleration: 32.5 g

P1 HIC(36 ms): 153.6
t1: 90.1 msec
t2: 125.2 msec
Duration: 35.1 msec
Average Acceleration: 28.6 g

P1 Upper Neck

P1 UP NECK Fx: Max: 336.5 N 107.0 msec
Min: -130.2 N 327.6 msec

P1 UP NECK Fz: Max: 1182.3 N 97.0 msec
Min: -56.2 N 133.8 msec

P1 UP NECK Mocy (50th Male)
Max: 13.6 N-m 115.8 msec
Min: -18.1 N-m 139.4 msec

P1 UP NECK Nij (50th Male)

Ntf: 0.20 Nij 97.1 msec CVt: 6806; CVf: 310
Fz: 1179.8 N
Fx: 220.4 N
Mocy: 8.8 N-m

Nte: 0.13 Nij 143.2 msec CVt: 6806; CVe: 135
Fz: 7.0 N
Fx: -101.9 N
Mocy: -17.5 N-m

Ncf: 0.01 Nij 446.0 msec CVc: 6160; CVf: 310
Fz: -0.6 N
Fx: -45.9 N
Mocy: 3.4 N-m

Nce: 0.14 Nij 139.4 msec CVc: 6160; CVe: 135
Fz: -45.3 N
Fx: -113.8 N
Mocy: -18.1 N-m

P1 Chest

P1 CLIP(3 ms): 18.6 g
t1: 52.8 msec
t2: 55.8 msec
Duration: 3.0 msec
P1 CSI: 41.6

P1 CHEST DISP: Max: 0.4 mm 160.0 msec
Min: -1.6 mm 97.9 msec

P1 Femur

P1 LEFT FEMUR: Max: 132.5 N 72.2 msec
Min: -660.7 N 54.9 msec

P1 RIGHT FEMUR: Max: 488.2 N 78.2 msec
Min: -964.2 N 53.6 msec

FACILITY: VERF DATE: June 30, 2004
TEST#: 42057-2004
TITLE: 2004 '301' Test 4 2004 Mitsubishi Endeavor C45601
Version 5.00

P3 Head

P3 HIC(15 ms): 70.2
t1: 60.8 msec
t2: 75.8 msec
Duration: 15.0 msec
Average Acceleration: 29.4 g

P3 HIC(36 ms): 78.4
t1: 50.5 msec
t2: 85.5 msec
Duration: 35.0 msec
Average Acceleration: 21.9 g

P3 Upper Neck

P3 UP NECK Fx: Max: 451.2 N 53.0 msec
Min: -162.2 N 95.3 msec

P3 UP NECK Fz: Max: 1116.4 N 65.0 msec
Min: -1126.2 N 36.0 msec

P3 UP NECK Mocy (50th Male)

Max: 49.4 N-m 51.2 msec
Min: -63.7 N-m 97.6 msec

P3 UP NECK Nij (50th Male)

Ntf: 0.20 Nij 49.3 msec CVt: 6806; CVf: 310
Fz: 309.4 N
Fx: 376.8 N
Mocy: 47.2 N-m

Nte: 0.31 Nij 72.1 msec CVt: 6806; CVe: 135
Fz: 492.8 N
Fx: -132.0 N
Mocy: -32.4 N-m

Ncf: 0.20 Nij 36.0 msec CVc: 6160; CVf: 310
Fz: -1121.7 N
Fx: 46.4 N
Mocy: 4.2 N-m

Nce: 0.58 Nij 99.1 msec CVc: 6160; CVe: 135
Fz: -680.0 N
Fx: -83.7 N
Mocy: -62.9 N-m

P3 Chest

P3 CLIP(3 ms): 37.3 g
t1: 39.5 msec
t2: 42.5 msec
Duration: 3.0 msec
P3 CSI: 128.0

P3 CHEST DISP: Max: 2.4 mm 56.4 msec
Min: -5.3 mm 45.2 msec

P3 Femur

P3 LEFT FEMUR: Max: 279.6 N 127.3 msec
Min: -1548.9 N 47.7 msec

P3 RIGHT FEMUR: Max: 333.0 N 122.4 msec
Min: -1429.5 N 43.4 msec

Maximum and Minimum Data

NAME	Unit	Max	msec	Min	msec	Comment
V2P1 Head x	g	36.2	110.5	-3.3	324.3	
V2P1 Head y	g	2.4	311.6	-2.5	111.4	
V2P1 Head z	g	19.8	96.7	-0.4	465.0	
V2P1 Head Resultant	g	38.2	110.1	0.0	-50.2	
V2P1 Head AVy	deg/s	1672.1	91.1	-823.3	200.4	
V2P1 Head Comp AVy	deg/s	1740.5	91.5	-815.7	201.5	f2=0.283 Hz; f4=0.001 Hz
V2P1 Head Comp ADy	deg	62.7	113.0	-31.3	383.9	f2=0.283 Hz; f4=0.001 Hz
V2P1 Upper Neck Fx	N	336.5	107.0	-130.2	327.6	
V2P1 Upper Neck Fy	N	98.9	312.3	-79.1	395.7	
V2P1 Upper Neck Fz	N	1182.3	97.0	-56.2	133.8	
V2P1 Upper Neck F Resultant	N	1202.0	97.0	0.1	-63.7	
V2P1 Upper Neck Mx	N-m	6.3	318.4	-4.9	387.1	
V2P1 Upper Neck My	N-m	19.3	115.2	-20.2	139.4	
V2P1 Upper Neck Mz	N-m	2.0	340.1	-3.8	123.9	
V2P1 Upper Neck M Resultant	N-m	20.4	139.4	0.0	4.3	
V2P1 Lower Neck Fx	N	594.1	108.1	-135.4	359.0	
V2P1 Lower Neck Fy	N	95.6	296.0	-94.0	111.1	
V2P1 Lower Neck Fz	N	1183.7	97.0	-58.1	399.2	
V2P1 Lower Neck F Resultant	N	1253.5	97.0	0.1	-60.8	
V2P1 Lower Neck Mx	N-m	24.1	309.6	-14.7	395.6	
V2P1 Lower Neck My	N-m	34.7	325.7	-164.4	97.1	
V2P1 Lower Neck Mz	N-m	7.1	335.6	-80.6	97.3	
V2P1 Lower Neck M Resultant	N-m	183.1	97.1	0.0	-54.7	
V2P1 Lower Neck x	g	17.6	54.0	-2.5	356.9	
V2P1 Chest x	g	19.3	54.4	-2.1	284.6	
V2P1 Chest y	g	1.9	284.8	-0.8	360.2	
V2P1 Chest z	g	8.5	66.6	-1.6	96.4	
V2P1 Chest Resultant	g	19.7	54.3	0.0	-41.9	
V2P1 Chest Displacement	mm	0.4	160.0	-1.6	97.9	
V2P1 Chest AVy	deg/s	698.6	70.5	-458.4	151.8	
V2P1 Chest Comp AVy	deg/s	726.4	73.1	-412.8	152.6	f2=0.298 Hz; f4=0.001 Hz
V2P1 Chest Comp ADy	deg	36.3	124.6	-22.3	393.9	f2=0.298 Hz; f4=0.001 Hz
V2P1 Pelvic x	g	26.1	61.3	-4.9	94.7	
V2P1 Pelvic y	g	2.7	63.3	-1.1	133.0	
V2P1 Pelvic z	g	8.2	61.4	-1.3	291.4	
V2P1 Pelvic Resultant	g	27.4	61.3	0.0	-45.1	
V2P1 Left Femur	N	132.5	72.2	-660.7	54.9	
V2P1 Right Femur	N	488.2	78.2	-964.2	53.6	
V2P1 Head to Chest	deg	11.7	332.6	-27.8	111.2	
V2P1 Lap Belt	N	393.7	127.0	-17.1	12.9	
V2P1 Belt Spoolout	mm	0.0	-100.0	-80.4	93.8	

Maximum and Minimum Data (Continued)

NAME	Unit	Max	msec	Min	msec	Comment
V2P3 Head x	g	28.7	67.4	-9.2	154.1	
V2P3 Head y	g	3.3	116.0	-3.6	95.9	
V2P3 Head z	g	27.8	65.8	-25.2	36.1	
V2P3 Head Resultant	g	38.8	67.3	0.0	-86.8	
V2P3 Head AVy	deg/s	2862.8	62.0	-1158.9	207.5	
V2P3 Head Comp AVy	deg/s	2916.5	62.2	-1136.7	209.6	f2=0.287 Hz; f4=0.001 Hz
V2P3 Head Comp ADy	deg	70.9	121.3	-16.3	499.9	f2=0.287 Hz; f4=0.001 Hz
V2P3 Upper Neck Fx	N	451.2	53.0	-162.2	95.3	
V2P3 Upper Neck Fy	N	46.3	126.8	-58.8	69.4	
V2P3 Upper Neck Fz	N	1116.4	65.0	-1126.2	36.0	
V2P3 Upper Neck F Resultant	N	1127.3	36.0	0.1	-39.7	
V2P3 Upper Neck Mx	N-m	5.2	96.5	-3.4	280.8	
V2P3 Upper Neck My	N-m	57.1	51.3	-66.1	97.3	
V2P3 Upper Neck Mz	N-m	2.3	96.2	-2.7	114.8	
V2P3 Upper Neck M Resultant	N-m	66.3	97.3	0.0	-21.1	
V2P3 Lower Neck Fx	N	1134.7	52.0	-465.8	100.1	
V2P3 Lower Neck Fy	N	122.7	140.2	-117.2	70.8	
V2P3 Lower Neck Fz	N	905.7	65.0	-1462.2	36.0	
V2P3 Lower Neck F Resultant	N	1475.7	36.0	0.2	-20.6	
V2P3 Lower Neck Mx	N-m	10.9	219.8	-12.5	284.7	
V2P3 Lower Neck My	N-m	102.7	36.5	-127.3	64.7	
V2P3 Lower Neck Mz	N-m	8.7	141.9	-6.5	71.0	
V2P3 Lower Neck M Resultant	N-m	127.4	64.7	0.0	-88.2	
V2P3 Lower Neck x	g	40.1	43.0	-6.2	148.9	
V2P3 Chest x	g	38.6	41.7	-5.5	129.1	
V2P3 Chest y	g	1.4	157.9	-2.2	36.9	
V2P3 Chest z	g	7.8	47.6	-17.7	33.3	
V2P3 Chest Resultant	g	38.7	41.5	0.0	-98.1	
V2P3 Chest Compression	mm	2.4	56.4	-5.3	45.2	
V2P3 Chest AVy	deg/s	662.6	42.4	-213.3	121.3	
V2P3 Chest Comp AVy	deg/s	673.7	42.4	-194.8	122.1	f2=0.308 Hz; f4=0.001 Hz
V2P3 Chest Comp ADy	deg	13.8	99.9	-7.7	499.9	f2=0.308 Hz; f4=0.001 Hz
V2P3 Pelvic x	g	42.3	44.9	-6.7	131.1	
V2P3 Pelvic y	g	4.8	60.1	-2.8	36.7	
V2P3 Pelvic z	g	6.8	32.8	-9.5	43.4	
V2P3 Pelvic Resultant	g	43.2	44.9	0.0	-43.9	
V2P3 Left Femur	N	279.6	127.3	-1548.9	47.7	
V2P3 Right Femur	N	333.0	122.4	-1429.5	43.4	
V2P3 Head to Chest	deg	12.7	248.4	-60.1	126.9	
V2P3 Lap Belt	N	2267.6	133.0	-19.4	362.6	

Maximum and Minimum Data (Continued)

NAME	Unit	Max	msec	Min	msec	Comment
V2 Left X Member x	g	18.7	5.7	-1.0	134.1	
V2 Left X Member RED x	g	18.9	5.9	-1.1	93.5	
V2 Right X Member x	g	10.1	6.6	-439.8	370.5	Invalid Data: After 28 ms
V2 Right X Member RED x	g	19.7	6.5	-2.3	91.6	
V2 Left Front Sill AVy	deg/s	66.3	23.4	-56.3	49.1	
V2 Left Front Sill Comp AVy	deg/s	67.1	23.4	-56.4	49.1	f2=0.283 Hz; f4=0.001 Hz
V2 Left Front Sill Comp ADy	deg	1.2	334.5	-0.4	61.5	f2=0.283 Hz; f4=0.001 Hz
V2P1 Left Seat AVy	deg/s	608.3	60.5	-236.9	141.4	
V2P1 Left Seat Comp AVy	deg/s	630.9	60.6	-197.7	144.1	f2=0.374 Hz; f4=0.001 Hz
V2P1 Left Seat Comp ADy	deg	24.5	106.6	0.0	7.6	f2=0.374 Hz; f4=0.001 Hz
V2P1 Right Seat AVy	deg/s	585.7	61.2	-289.6	143.9	
V2P1 Right Seat Comp AVy	deg/s	608.8	61.3	-256.4	144.0	f2=0.296 Hz; f4=0.001 Hz
V2P1 Right Seat Comp ADy	deg	26.6	109.0	0.0	8.0	f2=0.296 Hz; f4=0.001 Hz
V2P1 Left Link ADy	deg	18.6	106.8	-1.9	11.7	
V2P1 Right Link ADy	deg	17.9	106.7	-3.0	12.7	
V2P1 Left Span Bar D	mm	343.5	105.3	-40.3	49.2	Invalid Data: 48-66 ms
V2P1 Right Span Bar D	mm	359.4	107.9	-0.3	10.9	
V2P3 Left Seat AVy	deg/s	524.6	46.7	-445.2	57.3	
V2P3 Left Seat Comp AVy	deg/s	535.4	46.7	-434.0	57.3	f2=0.396 Hz; f4=0.001 Hz
V2P3 Left Seat Comp ADy	deg	6.3	52.1	0.0	4.3	f2=0.396 Hz; f4=0.001 Hz
V2P3 Right Seat AVy	deg/s	766.3	45.5	-675.0	54.4	
V2P3 Right Seat Comp AVy	deg/s	781.2	45.5	-658.5	54.4	f2=0.3 Hz; f4=0.001 Hz
V2P3 Right Seat Comp ADy	deg	10.7	50.6	0.0	4.2	f2=0.3 Hz; f4=0.001 Hz
V2P3 Left Link ADy	deg	15.7	58.0	-0.3	95.9	
V2P3 Right Link ADy	deg	52.8	57.3	-4.9	64.8	
V2P3 Left Span Bar D	mm	65.8	52.6	0.0	-74.6	
V2P3 Right Span Bar D	mm	0.0	499.9	0.0	66.5	Transducer Failed
P1 Left Change in Seat Back Angle WR	deg	24.7	106.5	0.0	8.0	
P1 Left Change in String Angle	deg	0.0	5.1	-15.0	113.9	
P1 Left Seat X Displacement	mm	177.9	106.7	-120.0	64.5	Invalid Data: 48-66 ms
P1 Right Change in Seat Back Angle W	deg	26.8	108.9	0.0	8.4	
P1 Right Change in String Angle	deg	0.0	5.9	-15.0	99.4	
P1 Right Seat X Displacement	mm	169.0	106.6	-8.7	15.0	
P3 Left Change in Seat Back Angle WR	deg	6.5	52.5	0.0	4.4	
P3 Left Change in String Angle	deg	10.7	58.1	-5.2	95.8	
P3 Left Seat X Displacement	mm	52.9	57.4	-4.0	15.8	
P3 Right Change in Seat Back Angle W	deg	10.8	50.8	0.0	4.3	
P3 Right Change in String Angle	deg	44.9	57.4	-13.0	64.8	
P3 Right Seat X Displacement	mm	14.2	38.6	-87.4	64.8	Invalid Data

Table of Data Plots

PLOT	PLOT NAME[UNITS, CHANNEL FILTER CLASS]	PAGE
1	V2P1 Head x [g, CFC_1000]	B-11
2	V2P1 Head y [g, CFC_1000]	B-12
3	V2P1 Head z [g, CFC_1000]	B-13
4	V2P1 Head Resultant [g, CFC_1000]	B-14
5	V2P1 Head AVy	B-15
6	V2P1 Head Comp AVy	B-16
7	V2P1 Head Comp ADy	B-17
8	V2P1 Upper Neck Fx [N, CFC_1000]	B-18
9	V2P1 Upper Neck Fy [N, CFC_1000]	B-19
10	V2P1 Upper Neck Fz [N, CFC_1000]	B-20
11	V2P1 Upper Neck F Resultant [N, CFC_1000]	B-21
12	V2P1 Upper Neck Mx [N-m, CFC_600]	B-22
13	V2P1 Upper Neck My [N-m, CFC_600]	B-23
14	V2P1 Upper Neck Mz [N-m, CFC_600]	B-24
15	V2P1 Upper Neck M Resultant [N-m, CFC_600]	B-25
16	V2P1 Lower Neck Fx [N, CFC_1000]	B-26
17	V2P1 Lower Neck Fy [N, CFC_1000]	B-27
18	V2P1 Lower Neck Fz [N, CFC_1000]	B-28
19	V2P1 Lower Neck F Resultant [N, CFC_1000]	B-29
20	V2P1 Lower Neck Mx [N-m, CFC_600]	B-30
21	V2P1 Lower Neck My [N-m, CFC_600]	B-31
22	V2P1 Lower Neck Mz [N-m, CFC_600]	B-32
23	V2P1 Lower Neck M Resultant [N-m, CFC_600]	B-33
24	V2P1 Lower Neck x [g, CFC_1000]	B-34
25	V2P1 Chest x [g, CFC_180]	B-35
26	V2P1 Chest y [g, CFC_180]	B-36
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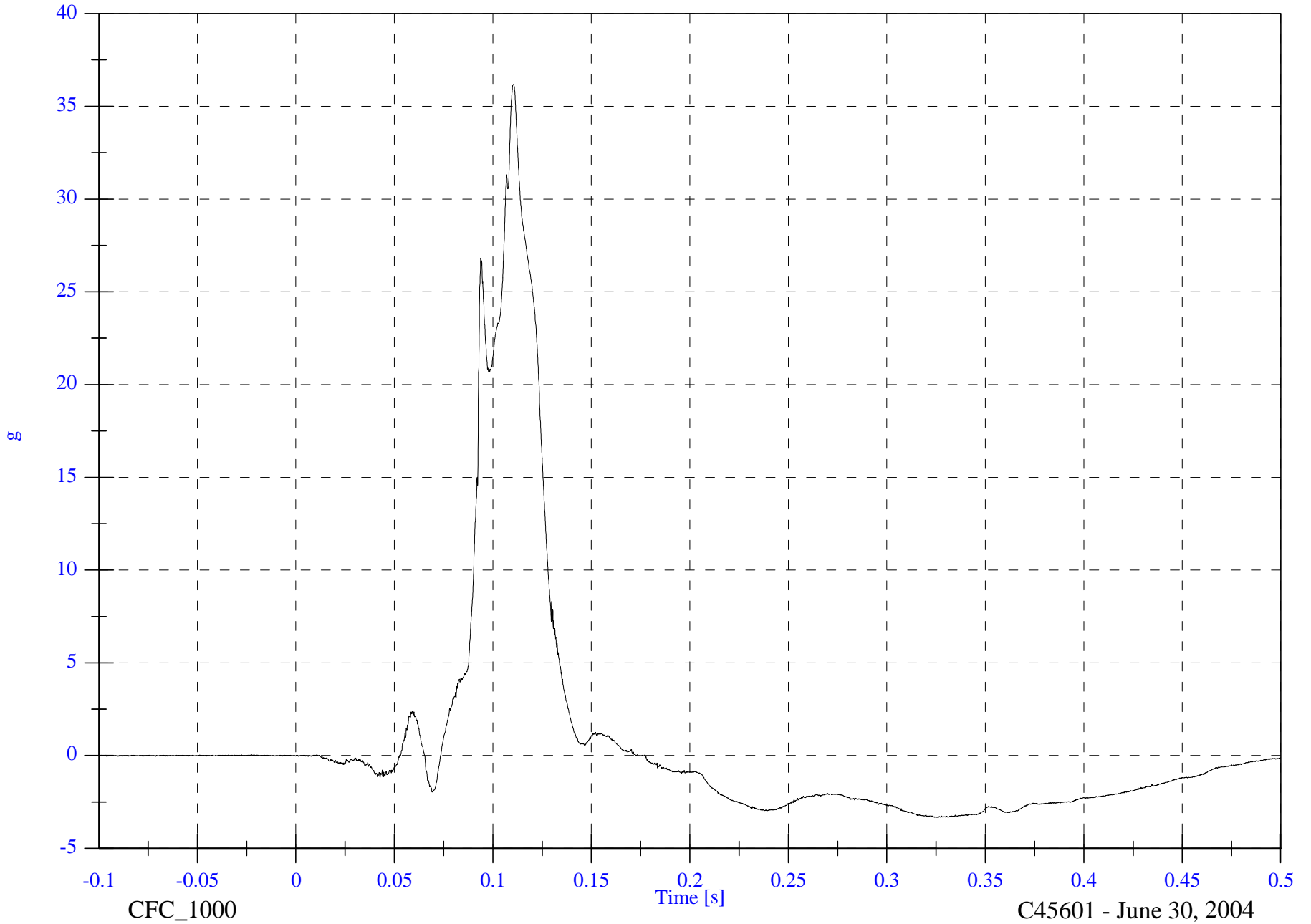
V2P1 Head x

Max: 36.2 [g] at 0.110 [s]

Min: -3.3 [g] at 0.324 [s]

B-11

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

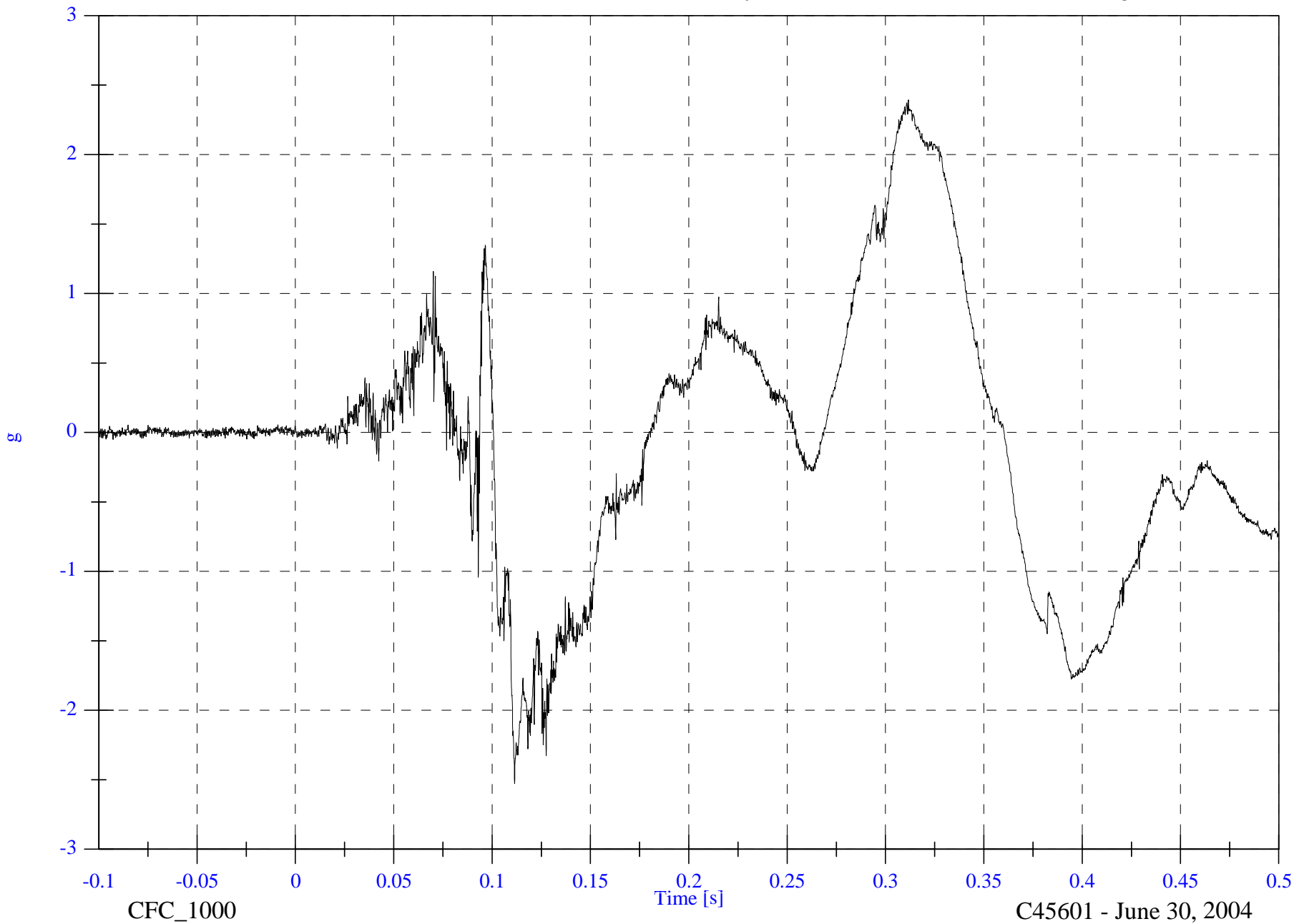
V2P1 Head y

Max: 2.4 [g] at 0.312 [s]

Min: -2.5 [g] at 0.111 [s]

B-12

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

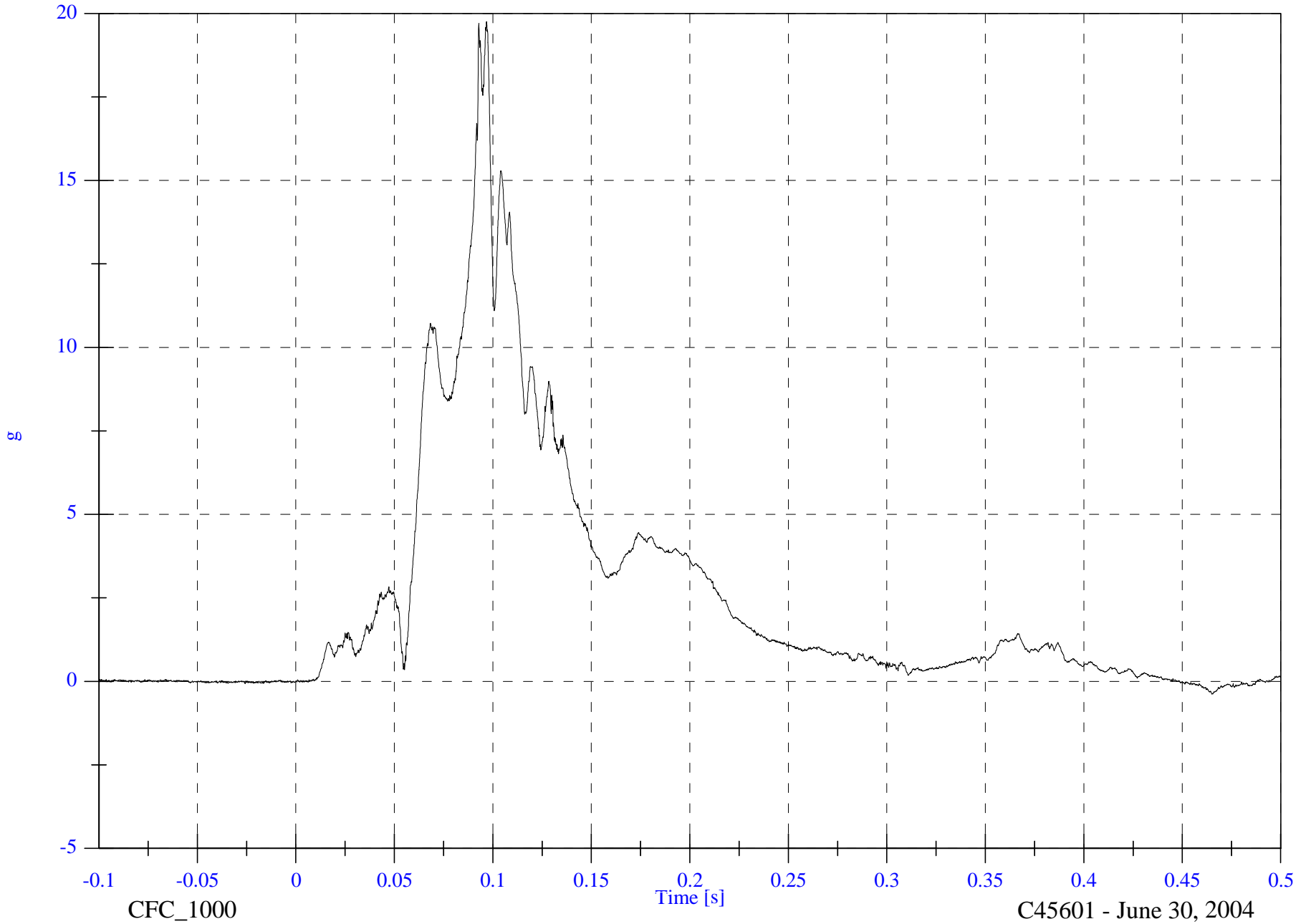
V2P1 Head z

Max: 19.8 [g] at 0.097 [s]

Min: -0.4 [g] at 0.465 [s]

B-13

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

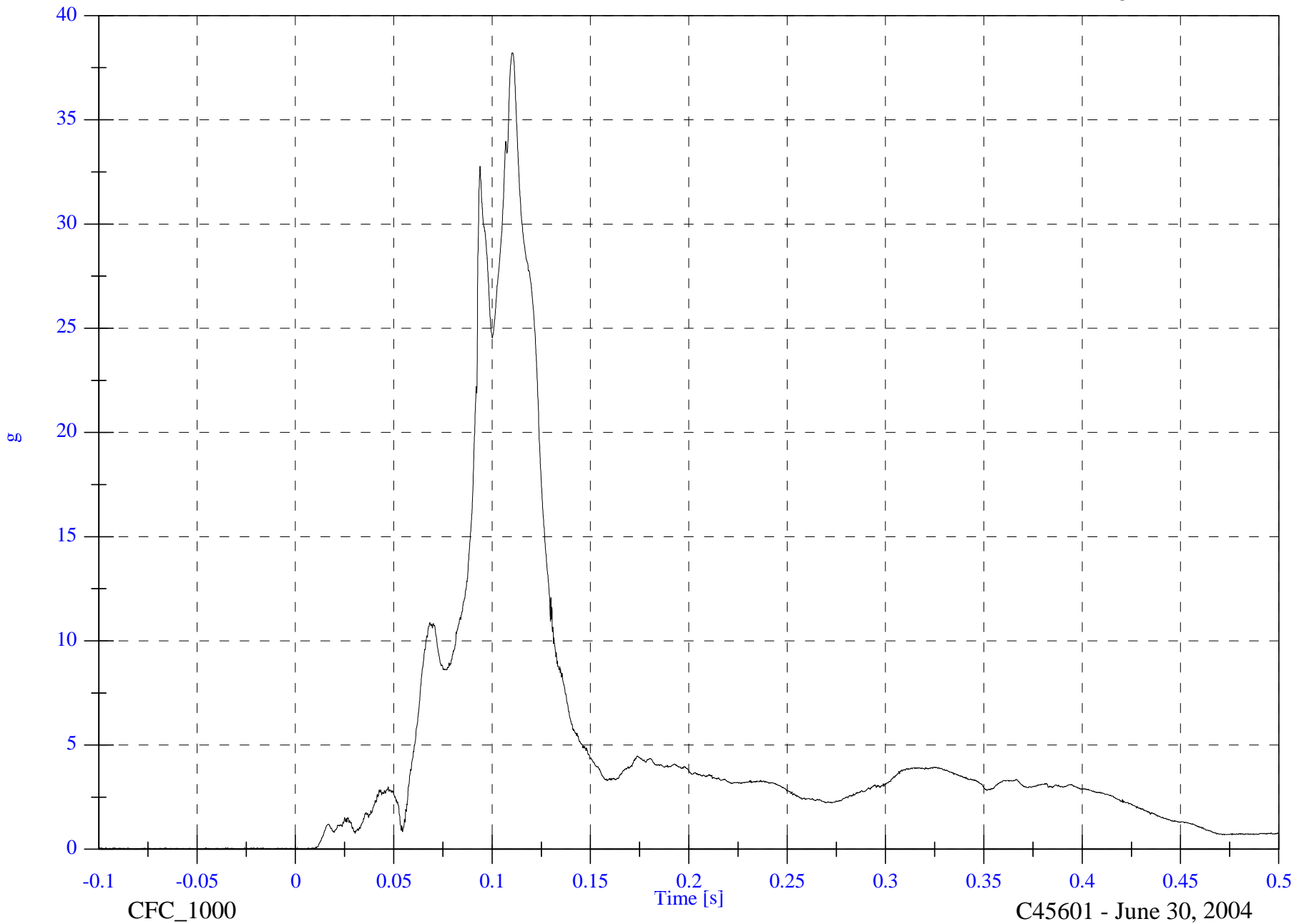
V2P1 Head Resultant

Max: 38.2 [g] at 0.110 [s]

Min: 0.0 [g] at -0.050 [s]

B-14

8655-F301-21R



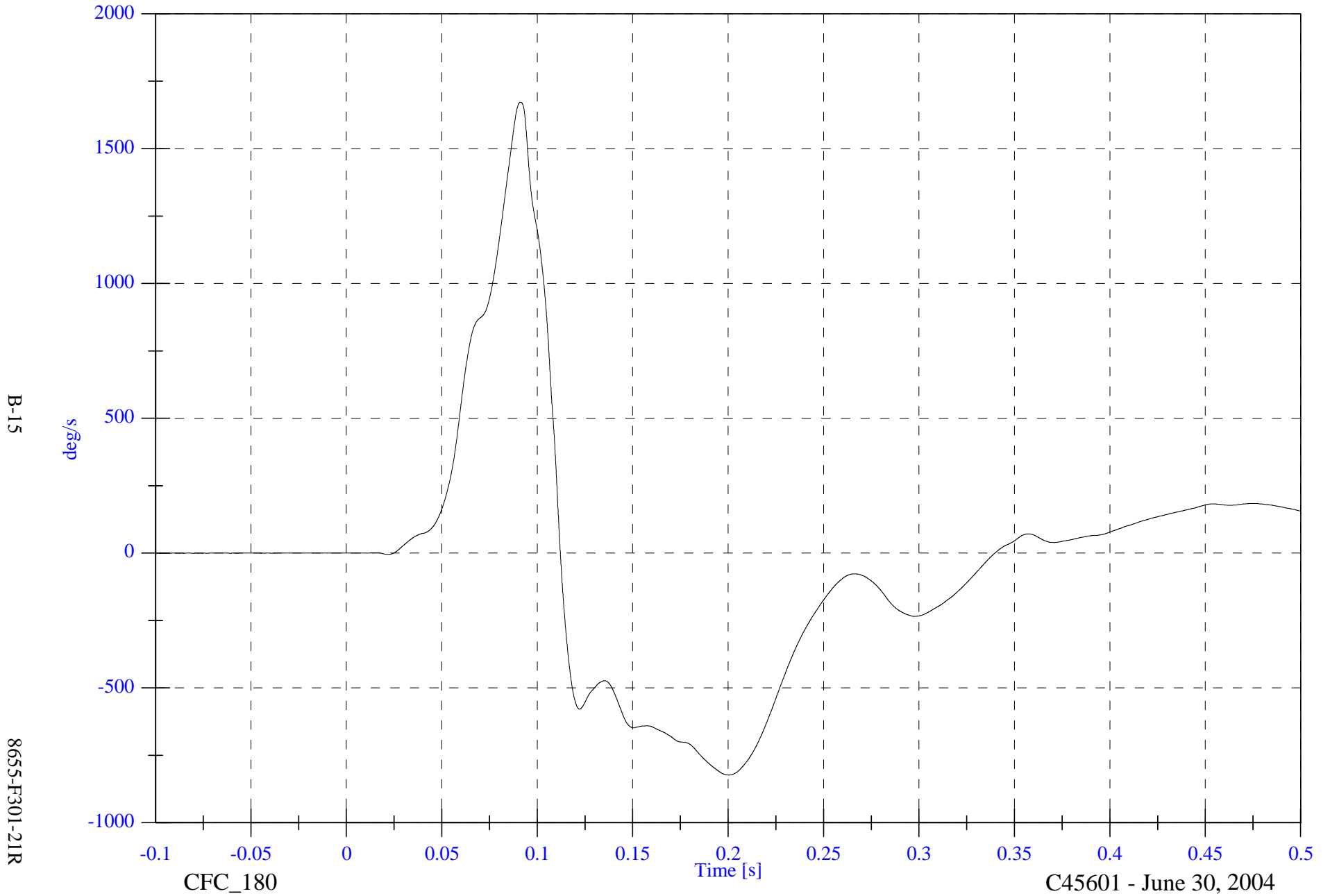
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Head AVy

Max: 1672.1 [deg/s] at 0.091 [s]

Min: -823.3 [deg/s] at 0.200 [s]



B-15

8655-F301-21R

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

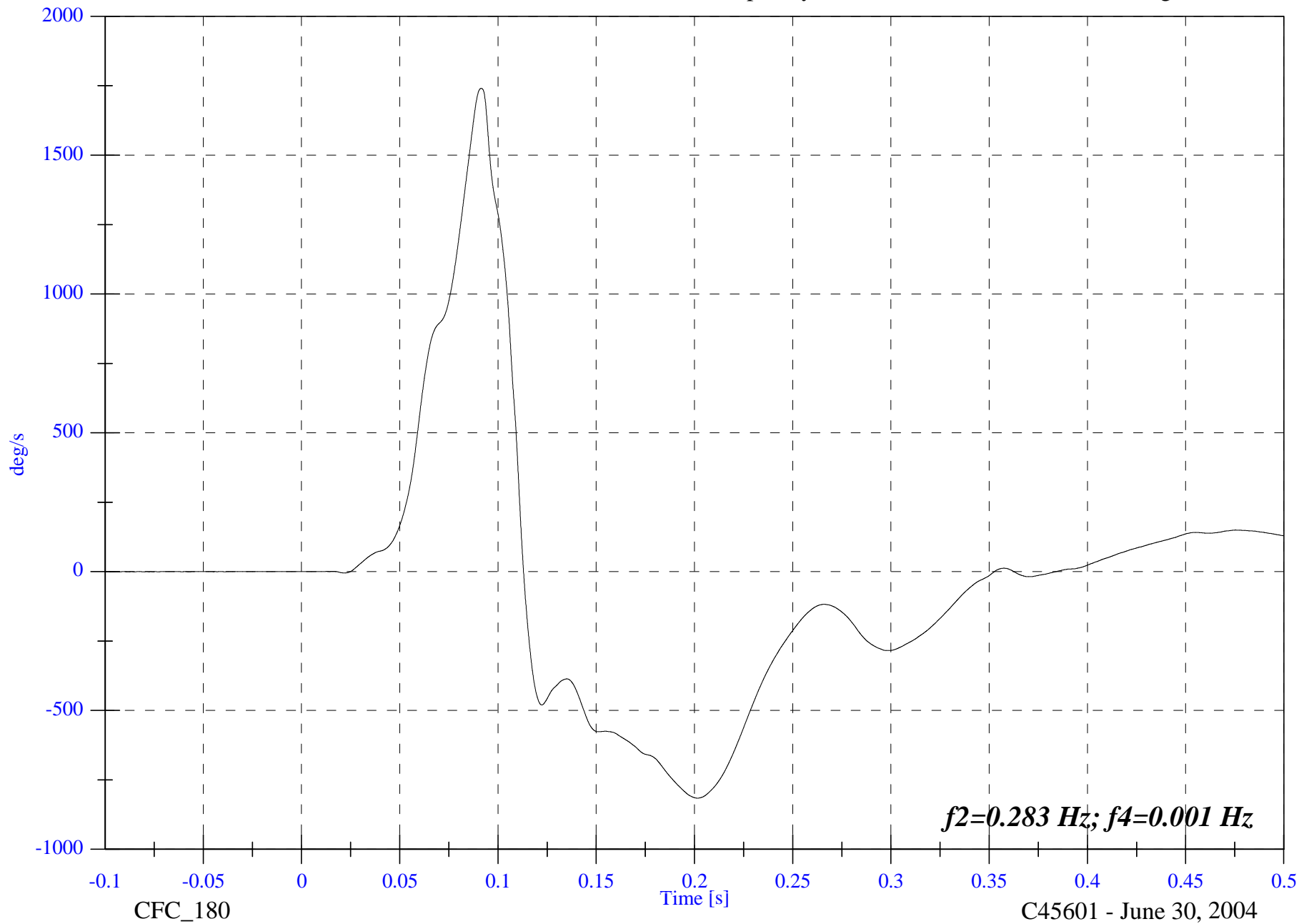
V2P1 Head Comp AVy

Max: 1740.5 [deg/s] at 0.092 [s]

Min: -815.7 [deg/s] at 0.201 [s]

B-16

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

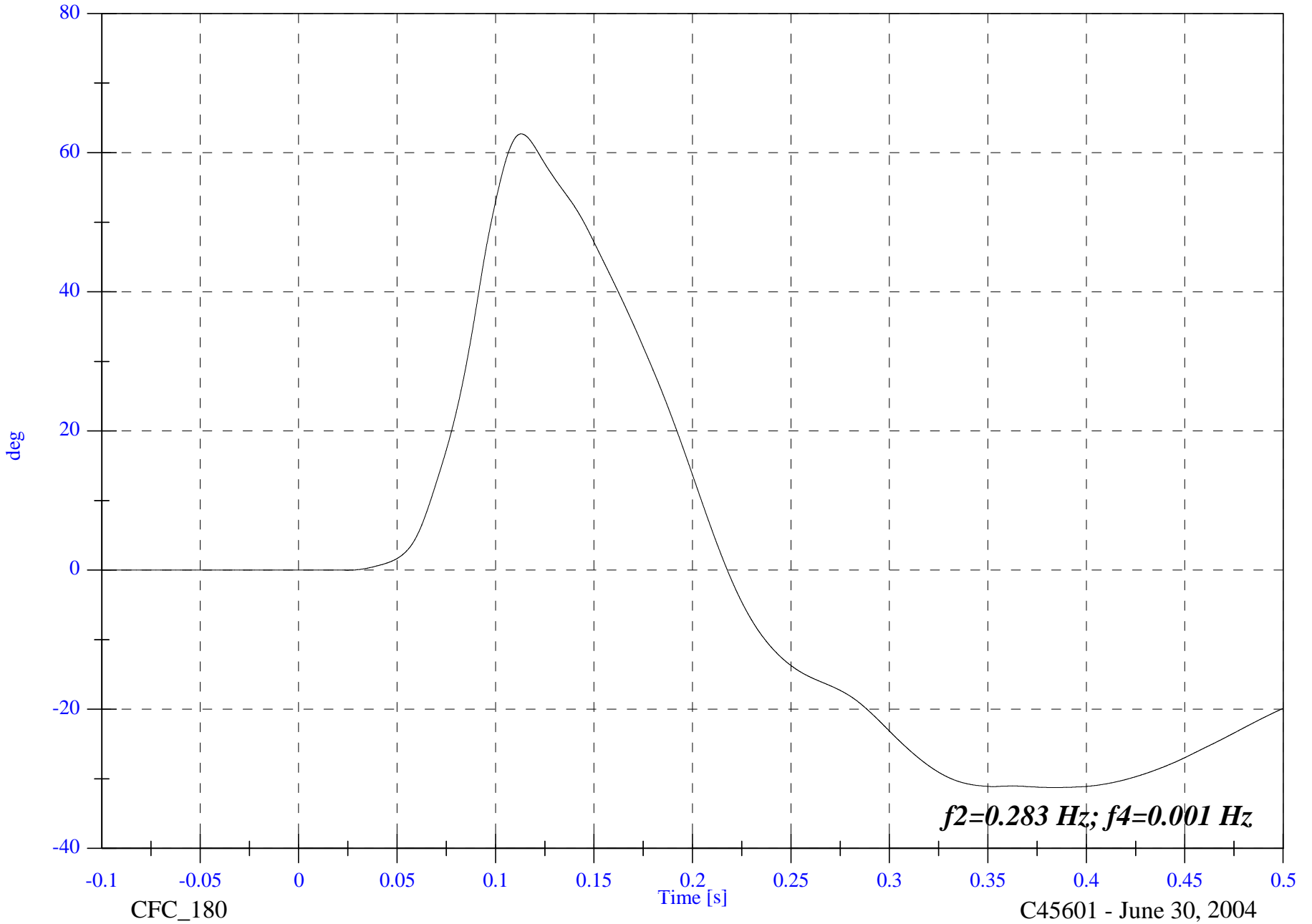
V2P1 Head Comp ADy

Max: 62.7 [deg] at 0.113 [s]

Min: -31.3 [deg] at 0.384 [s]

B-17

8655-F301-21R

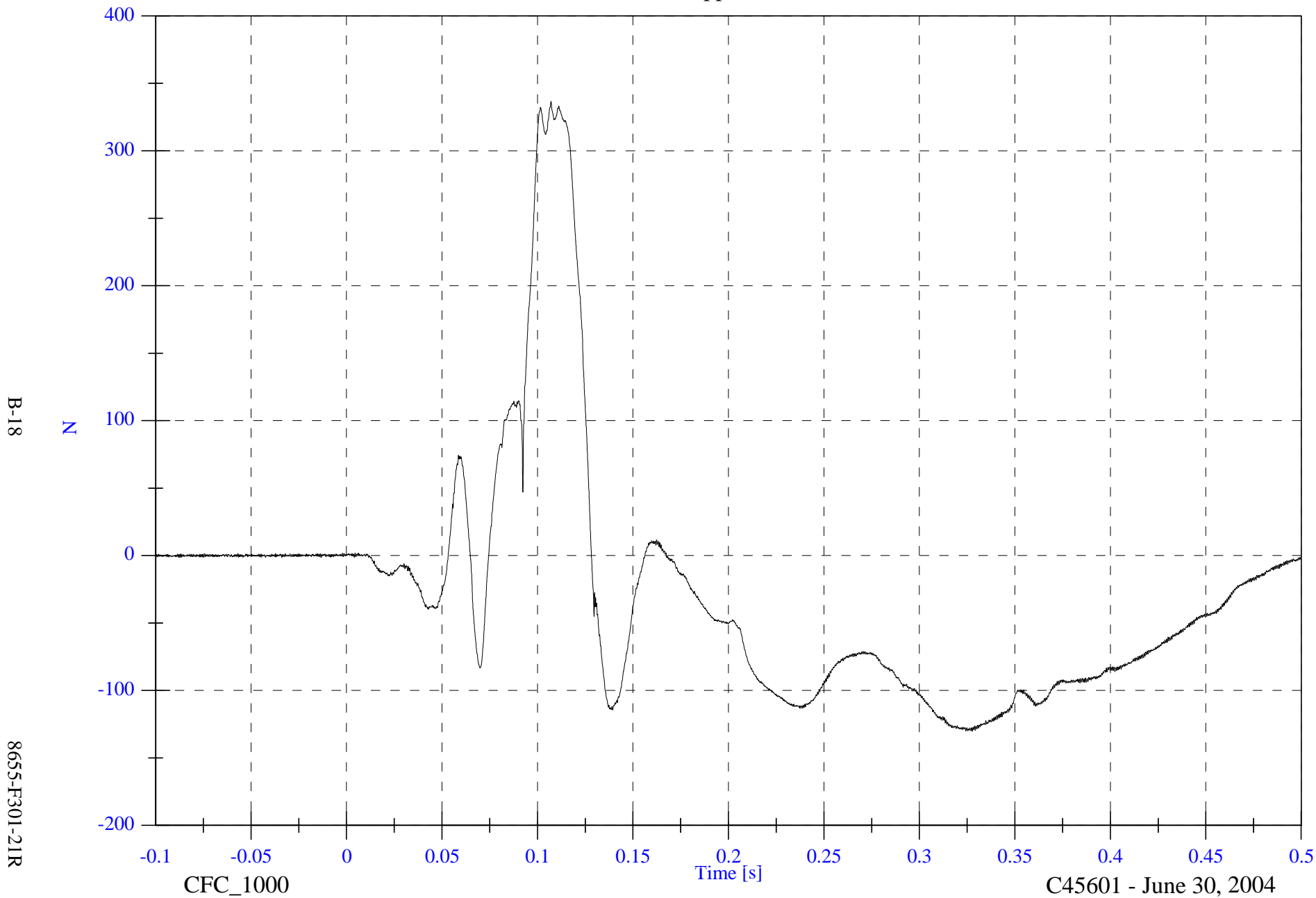


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Max: 336.5 [N] at 0.107 [s]

V2P1 Upper Neck Fx

Min: -130.2 [N] at 0.328 [s]



B-18

8655-F301-21R

CFC_1000

Time [s]

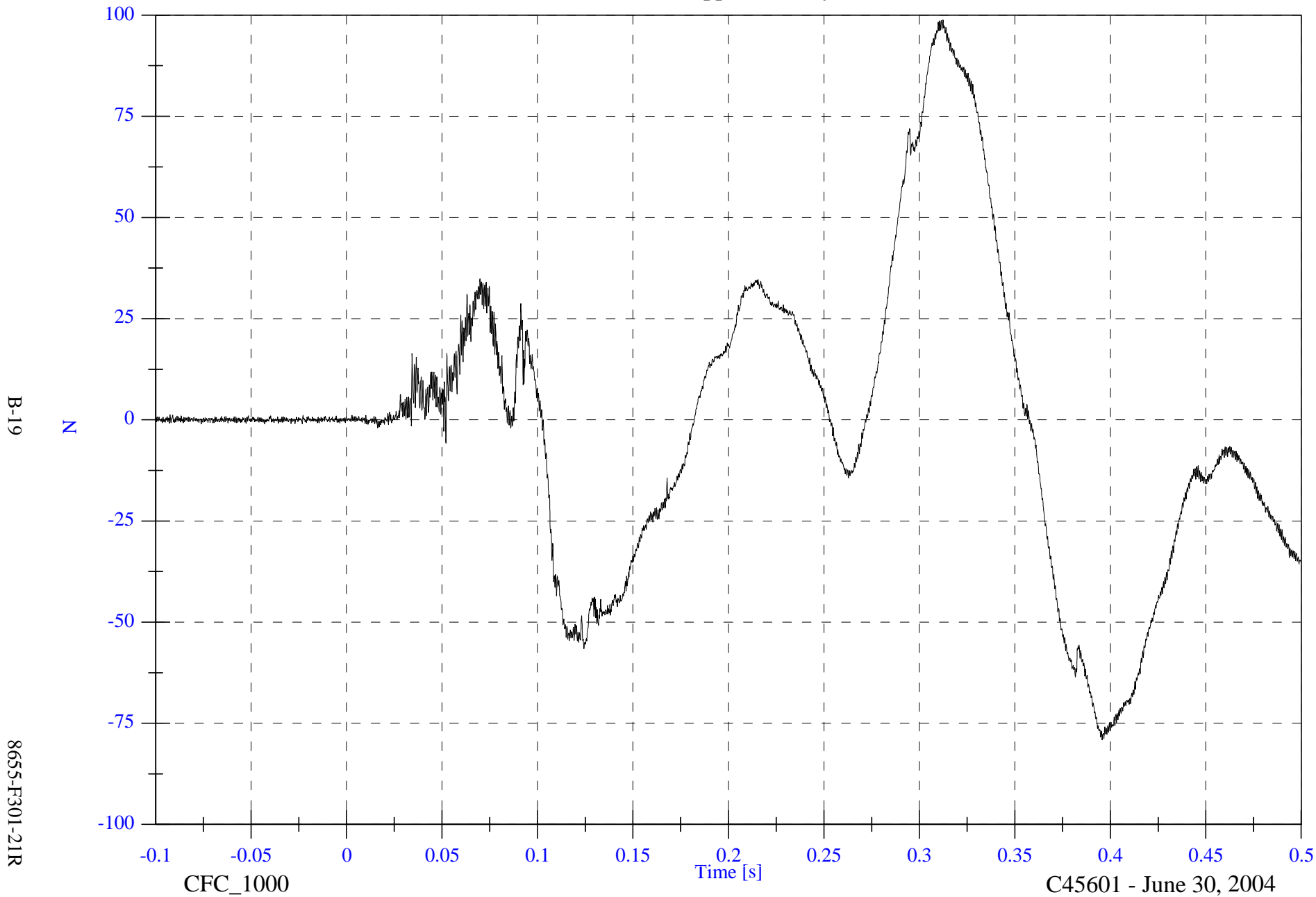
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Upper Neck Fy

Max: 98.9 [N] at 0.312 [s]

Min: -79.1 [N] at 0.396 [s]



B-19

8655-F301-21R

CFC_1000

Time [s]

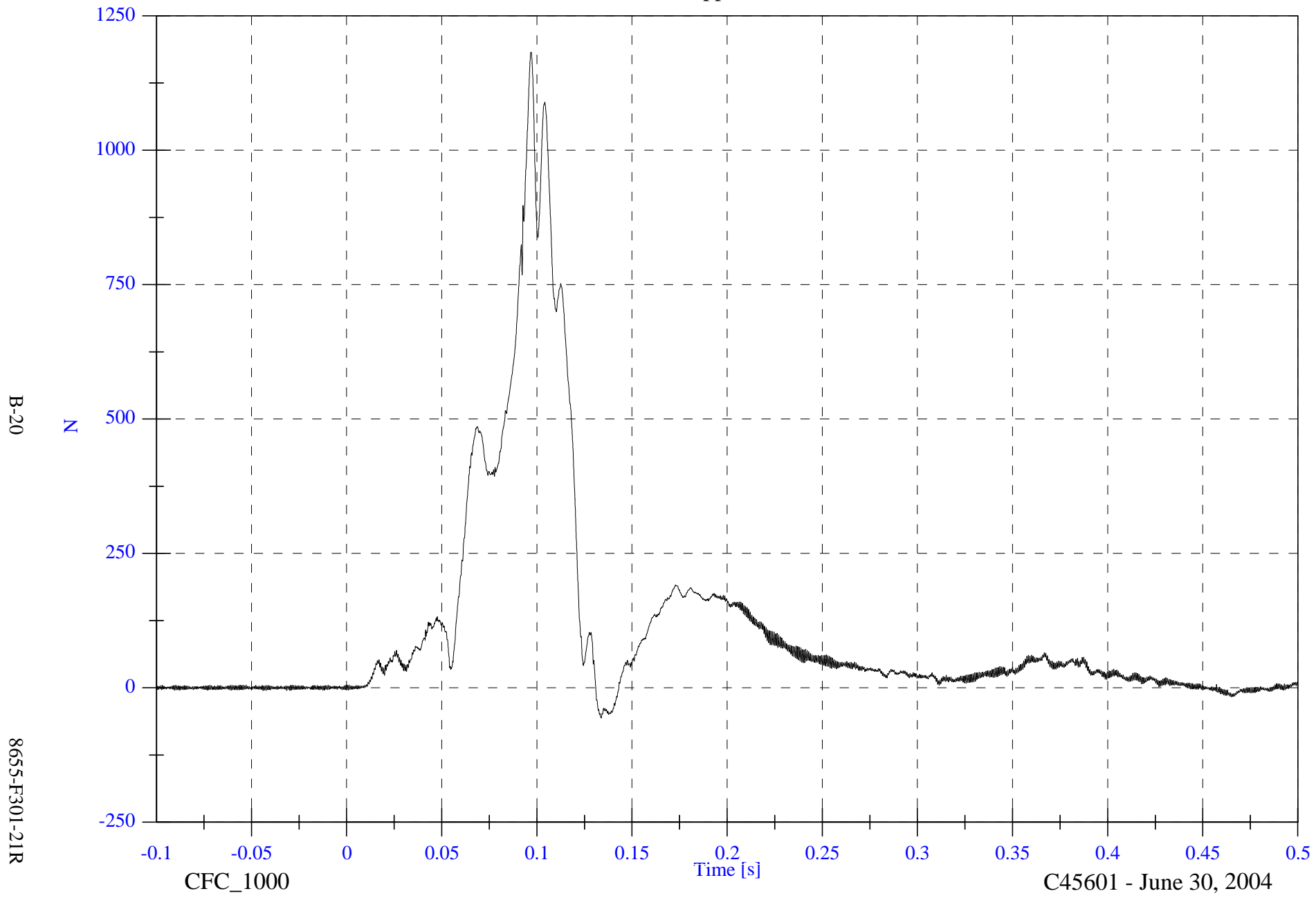
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 1182.3 [N] at 0.097 [s]

V2P1 Upper Neck Fz

Min: -56.2 [N] at 0.134 [s]



B-20

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

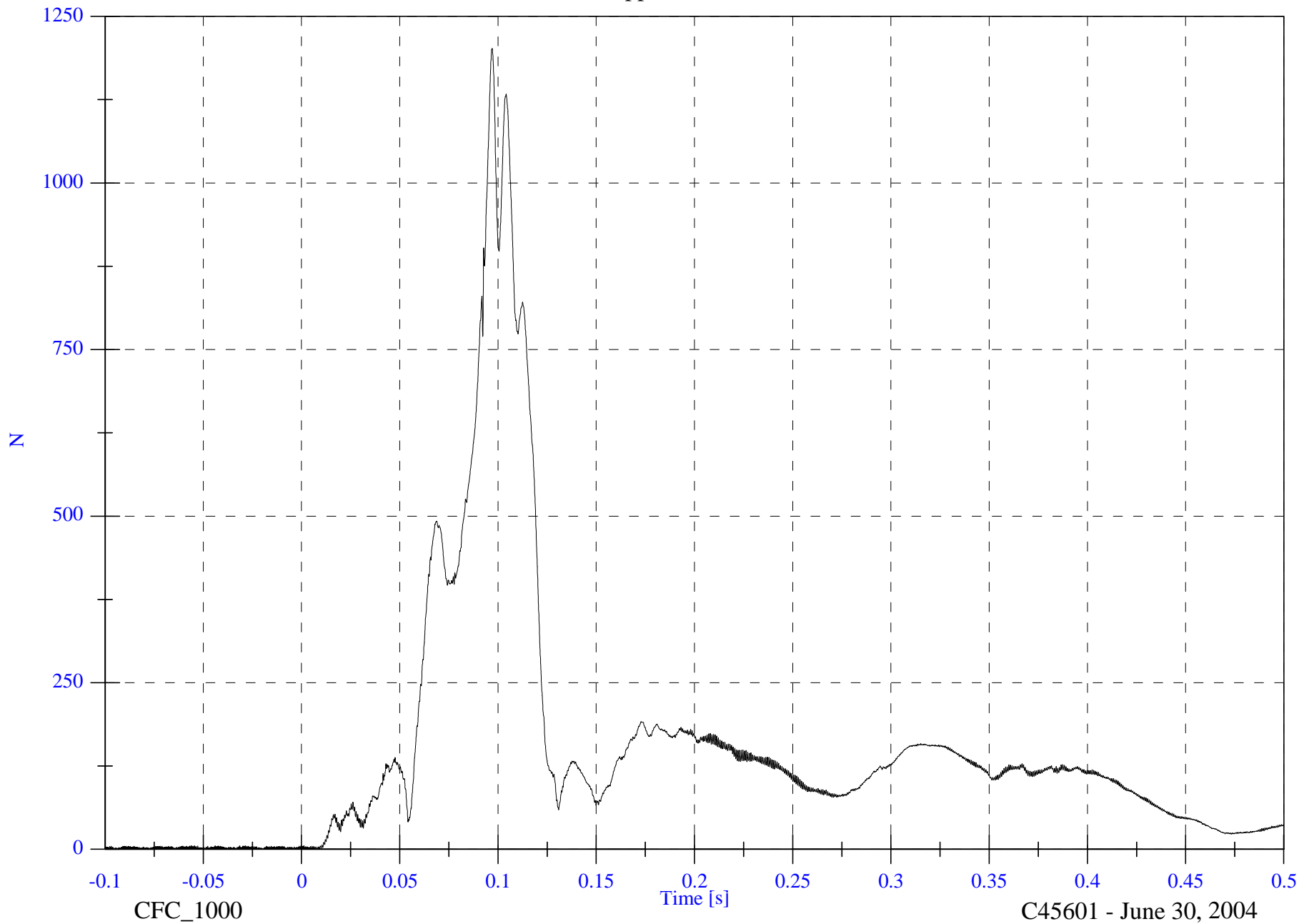
V2P1 Upper Neck F Resultant

Max: 1202.0 [N] at 0.097 [s]

Min: 0.1 [N] at -0.064 [s]

B-21

8655-F301-21R

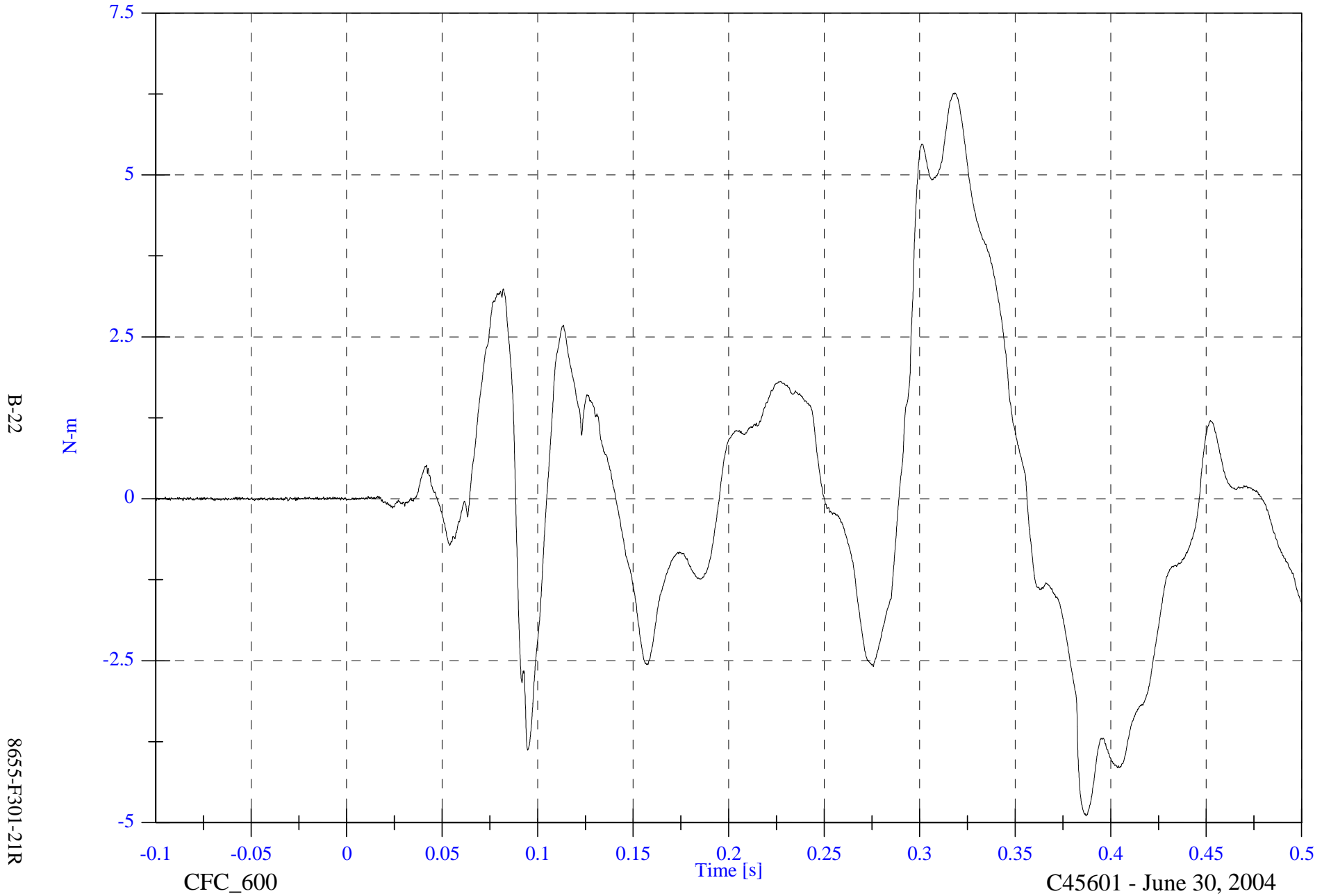


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Upper Neck Mx

Max: 6.3 [N-m] at 0.318 [s]

Min: -4.9 [N-m] at 0.387 [s]



B-22

8655-F301-21R

CFC_600

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

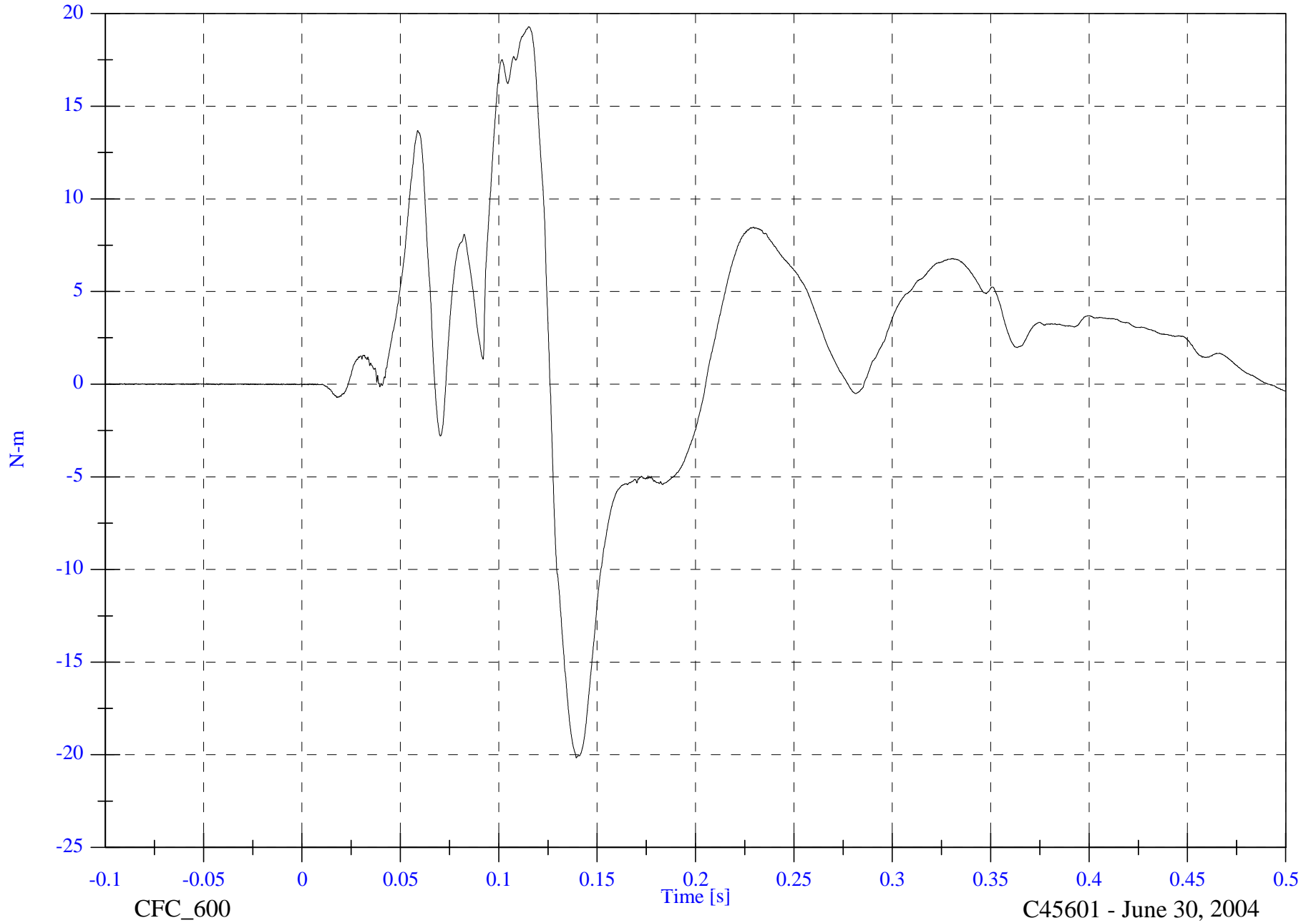
V2P1 Upper Neck My

Max: 19.3 [N-m] at 0.115 [s]

Min: -20.2 [N-m] at 0.139 [s]

B-23

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

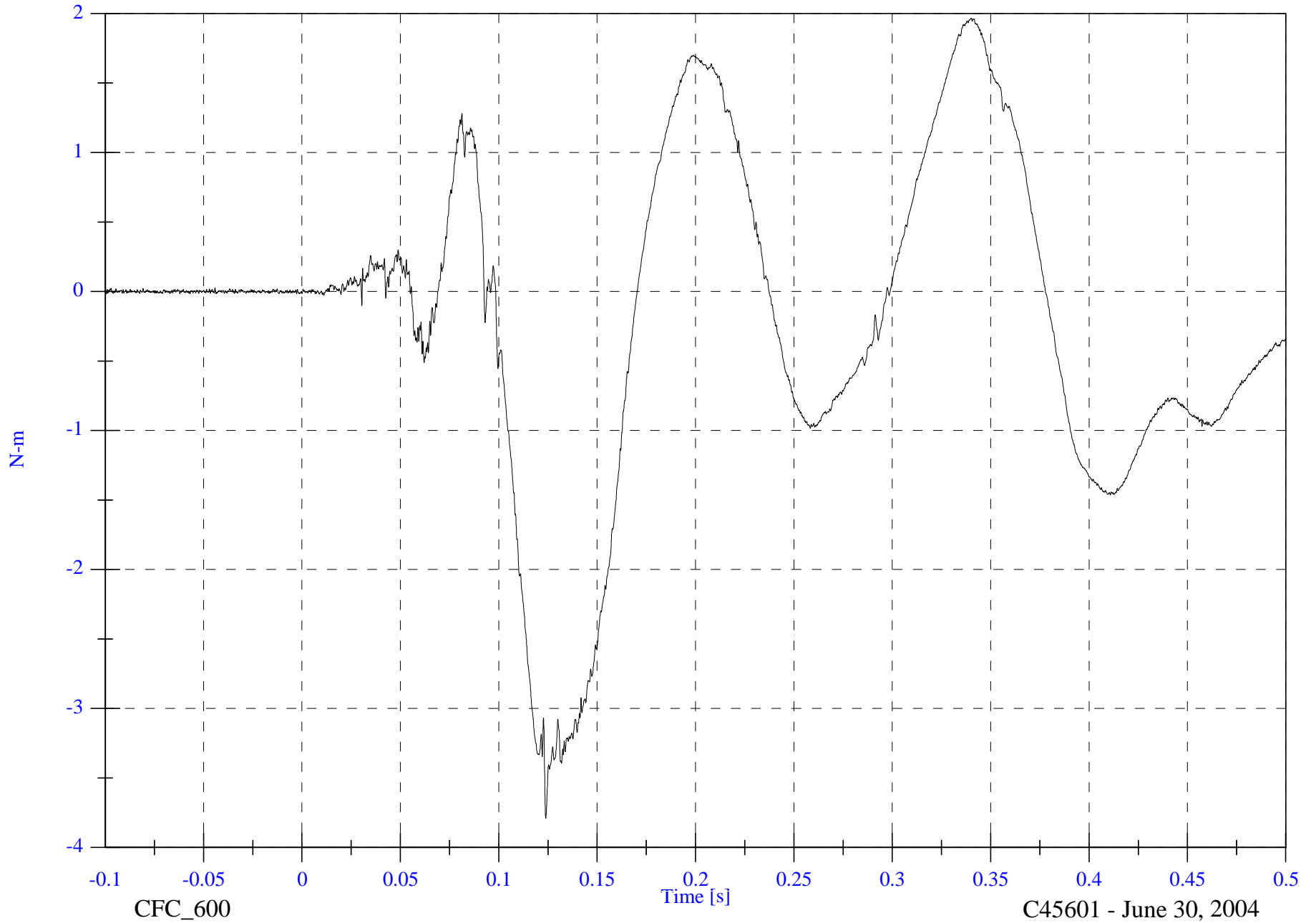
V2P1 Upper Neck Mz

Max: 2.0 [N-m] at 0.340 [s]

Min: -3.8 [N-m] at 0.124 [s]

B-24

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

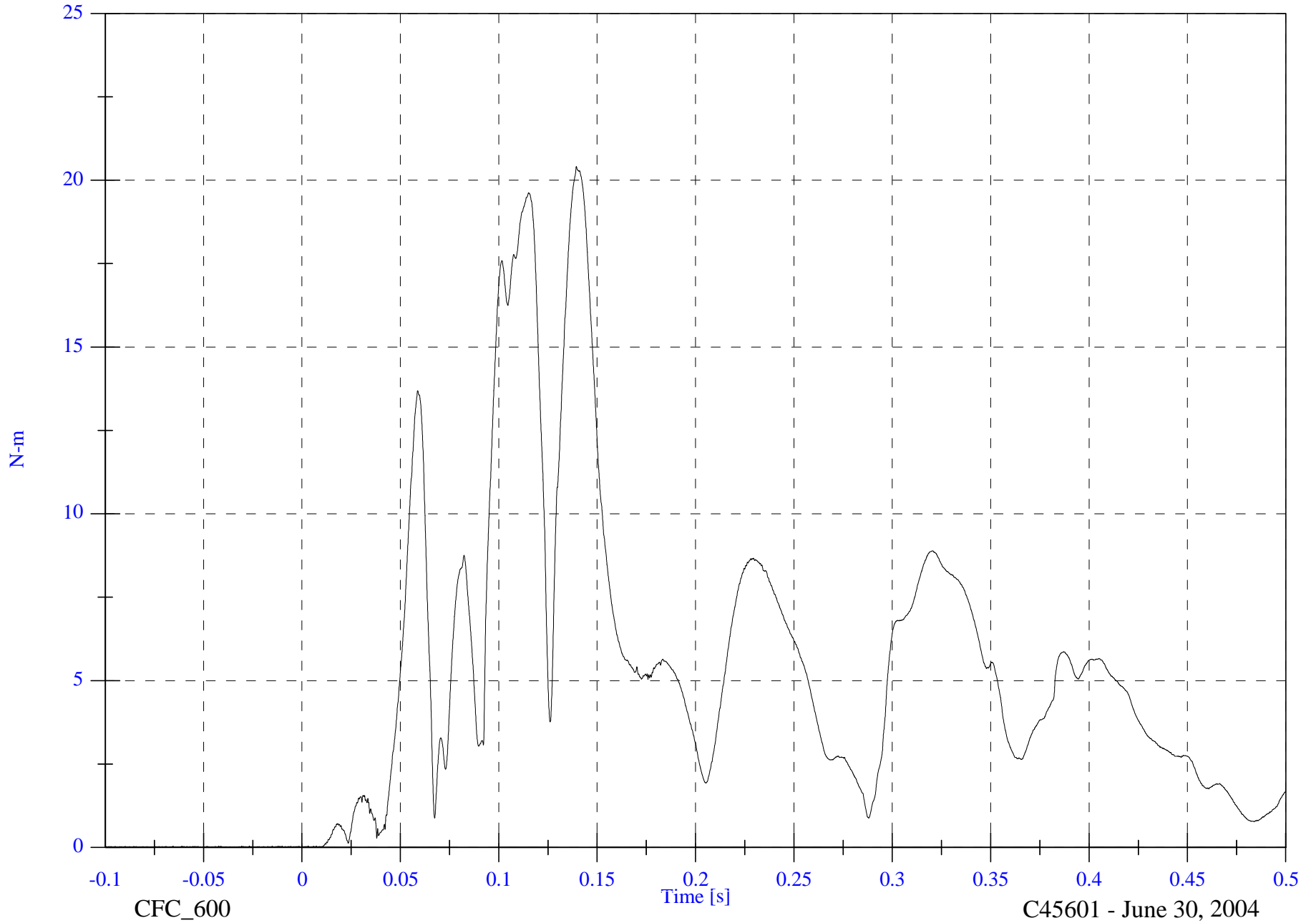
V2P1 Upper Neck M Resultant

Max: 20.4 [N-m] at 0.139 [s]

Min: 0.0 [N-m] at 0.004 [s]

B-25

8655-F301-21R

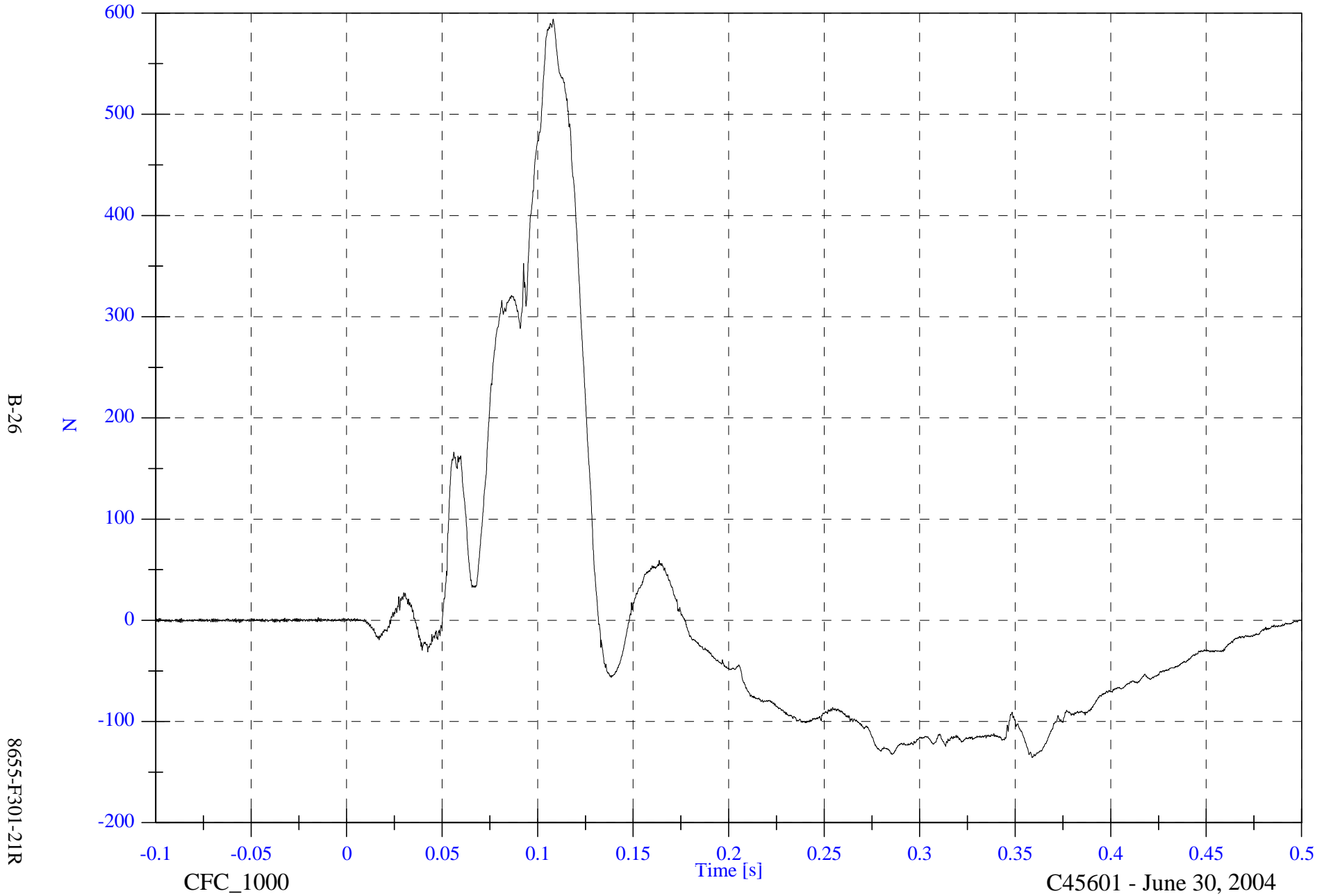


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 594.1 [N] at 0.108 [s]

V2P1 Lower Neck Fx

Min: -135.4 [N] at 0.359 [s]

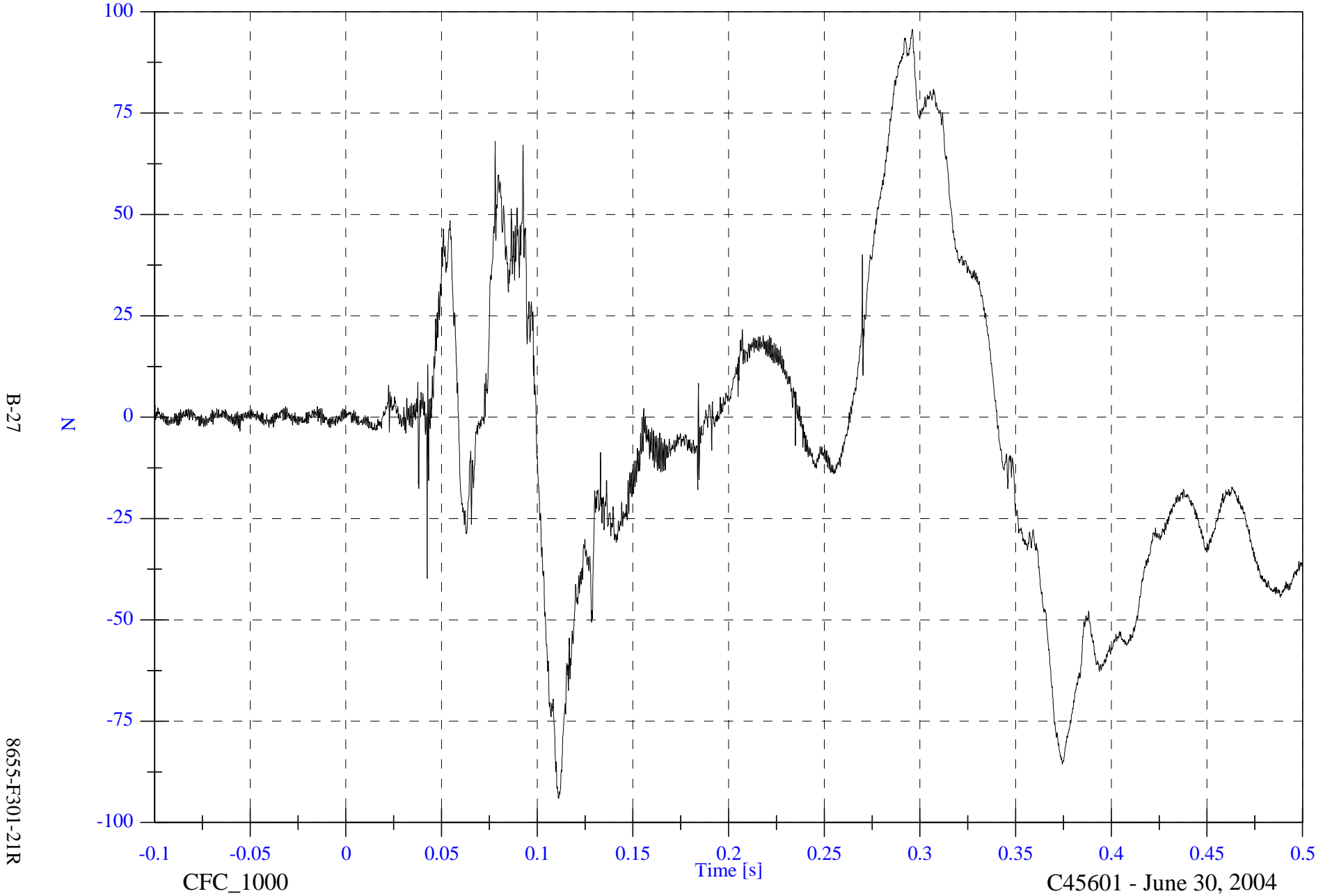


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Lower Neck Fy

Max: 95.6 [N] at 0.296 [s]

Min: -94.0 [N] at 0.111 [s]

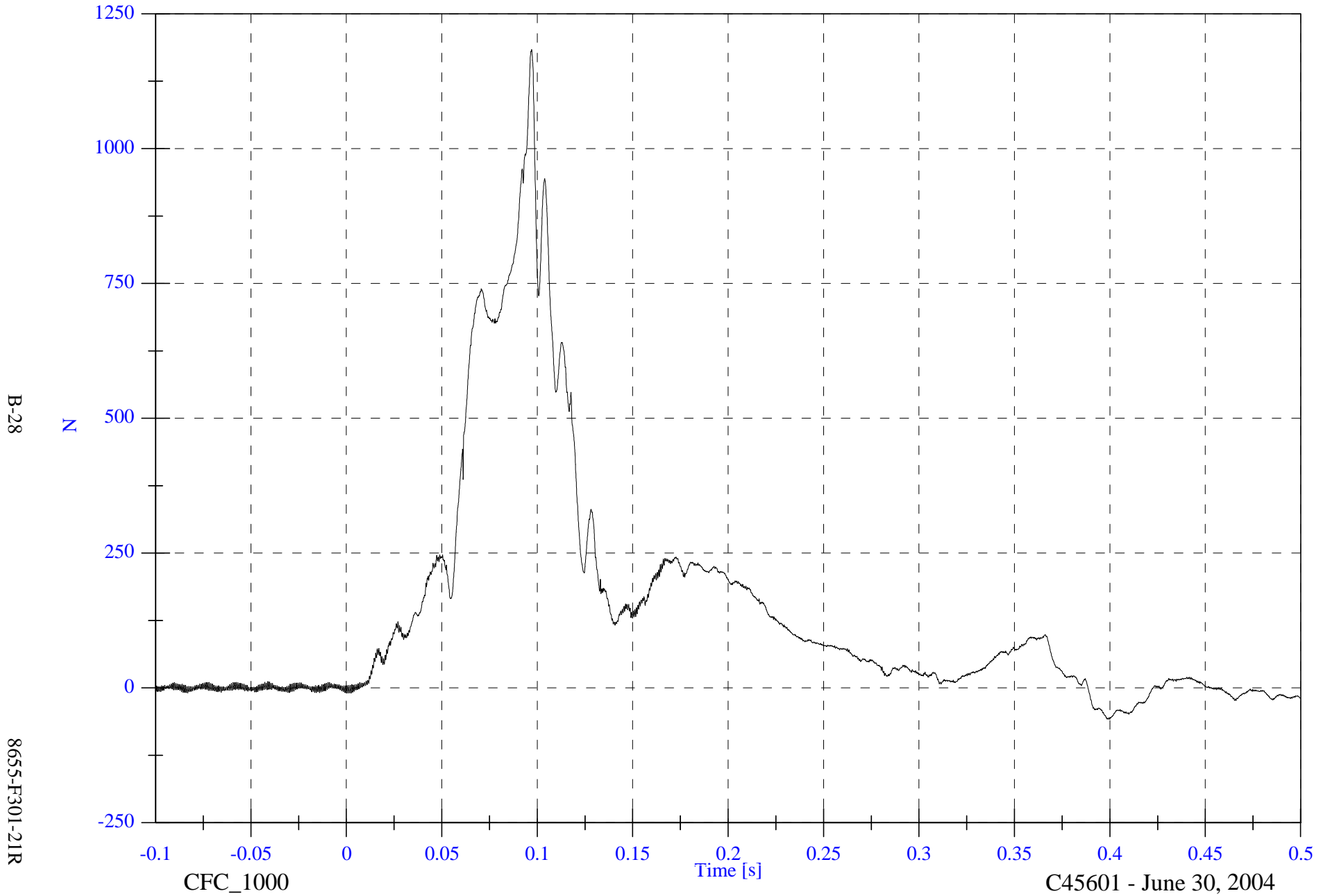


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 1183.7 [N] at 0.097 [s]

V2P1 Lower Neck Fz

Min: -58.1 [N] at 0.399 [s]



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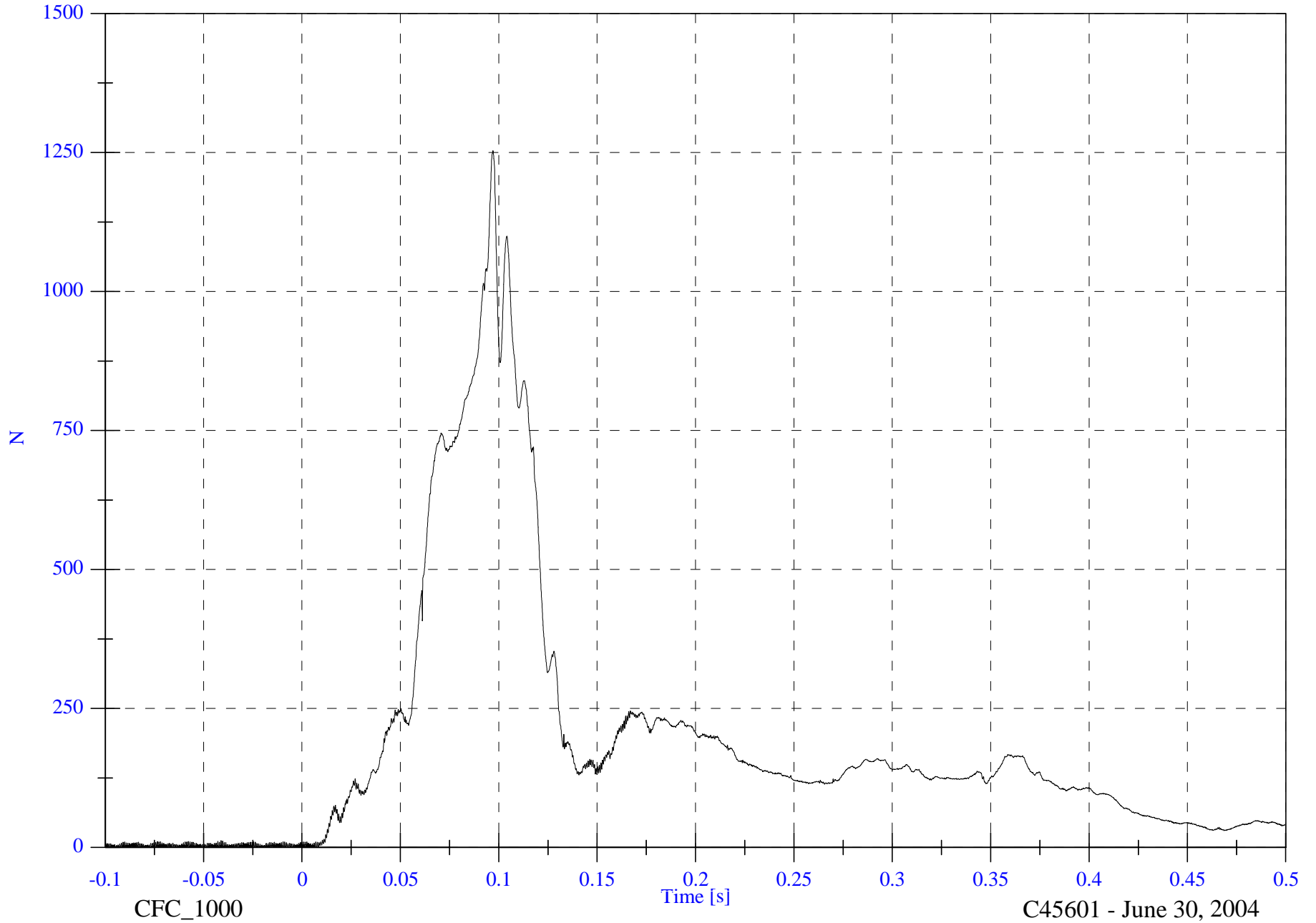
V2P1 Lower Neck F Resultant

Max: 1253.5 [N] at 0.097 [s]

Min: 0.1 [N] at -0.061 [s]

B-29

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

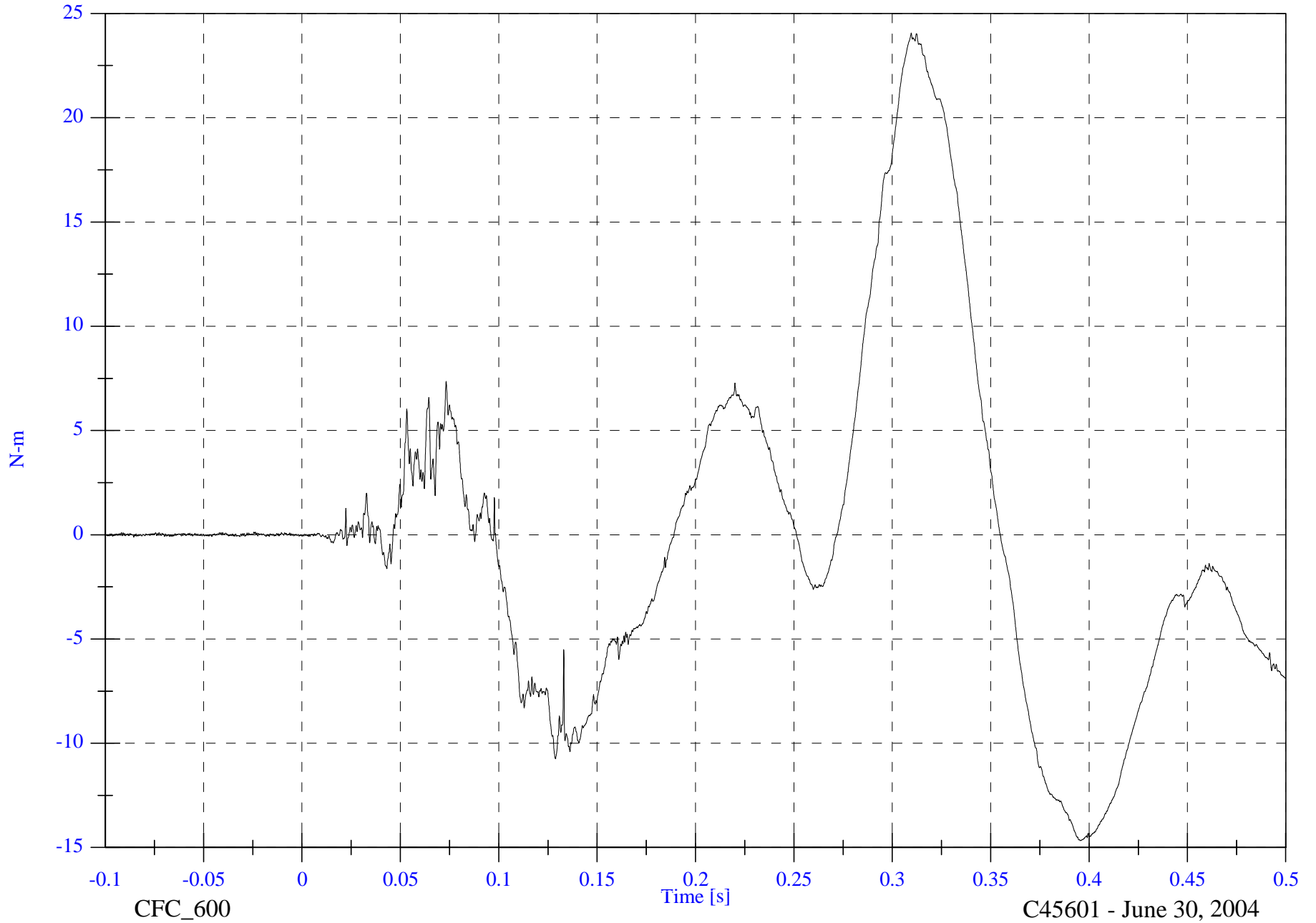
V2P1 Lower Neck Mx

Max: 24.1 [N-m] at 0.310 [s]

Min: -14.7 [N-m] at 0.396 [s]

B-30

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

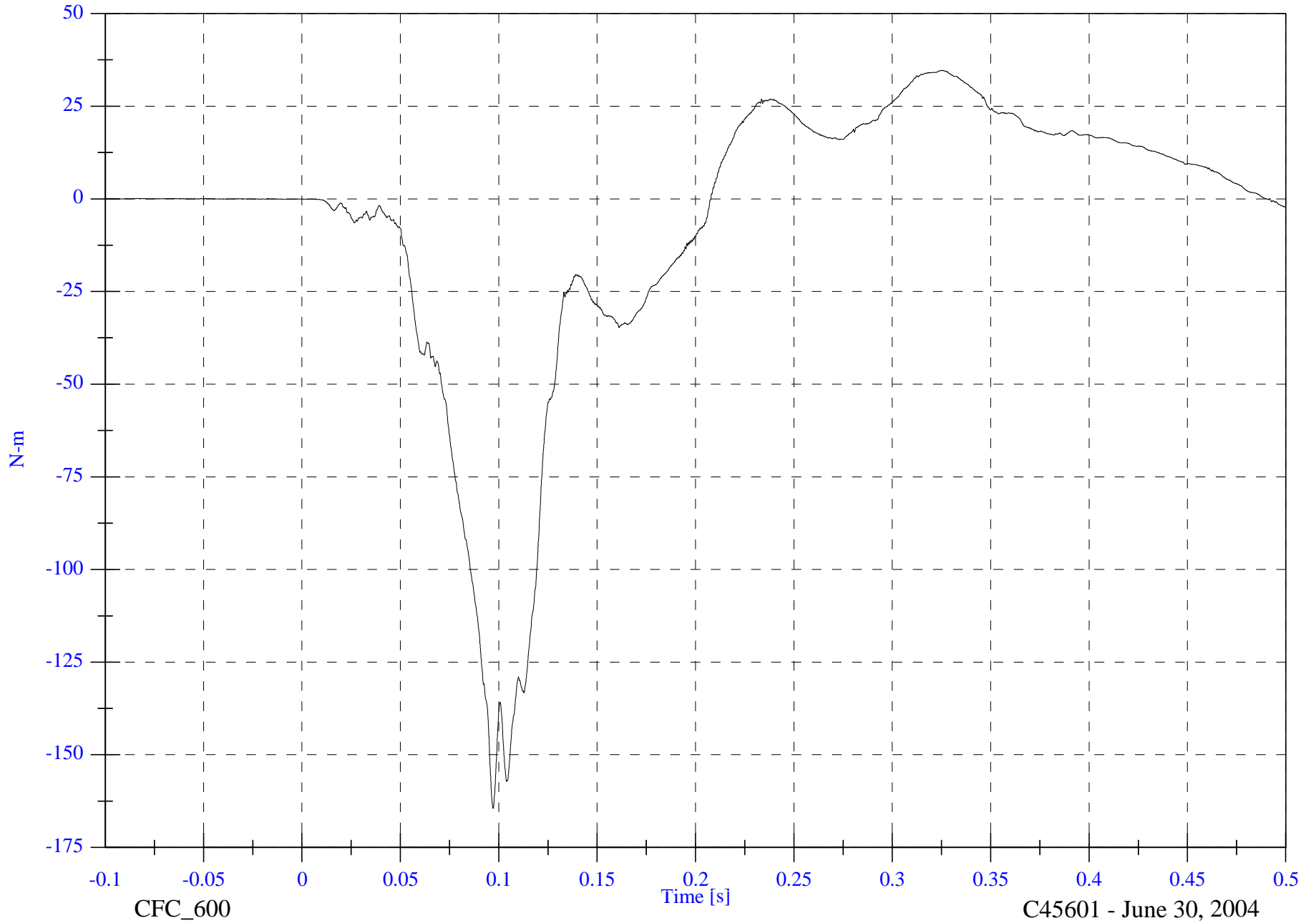
V2P1 Lower Neck My

Max: 34.7 [N-m] at 0.326 [s]

Min: -164.4 [N-m] at 0.097 [s]

B-31

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

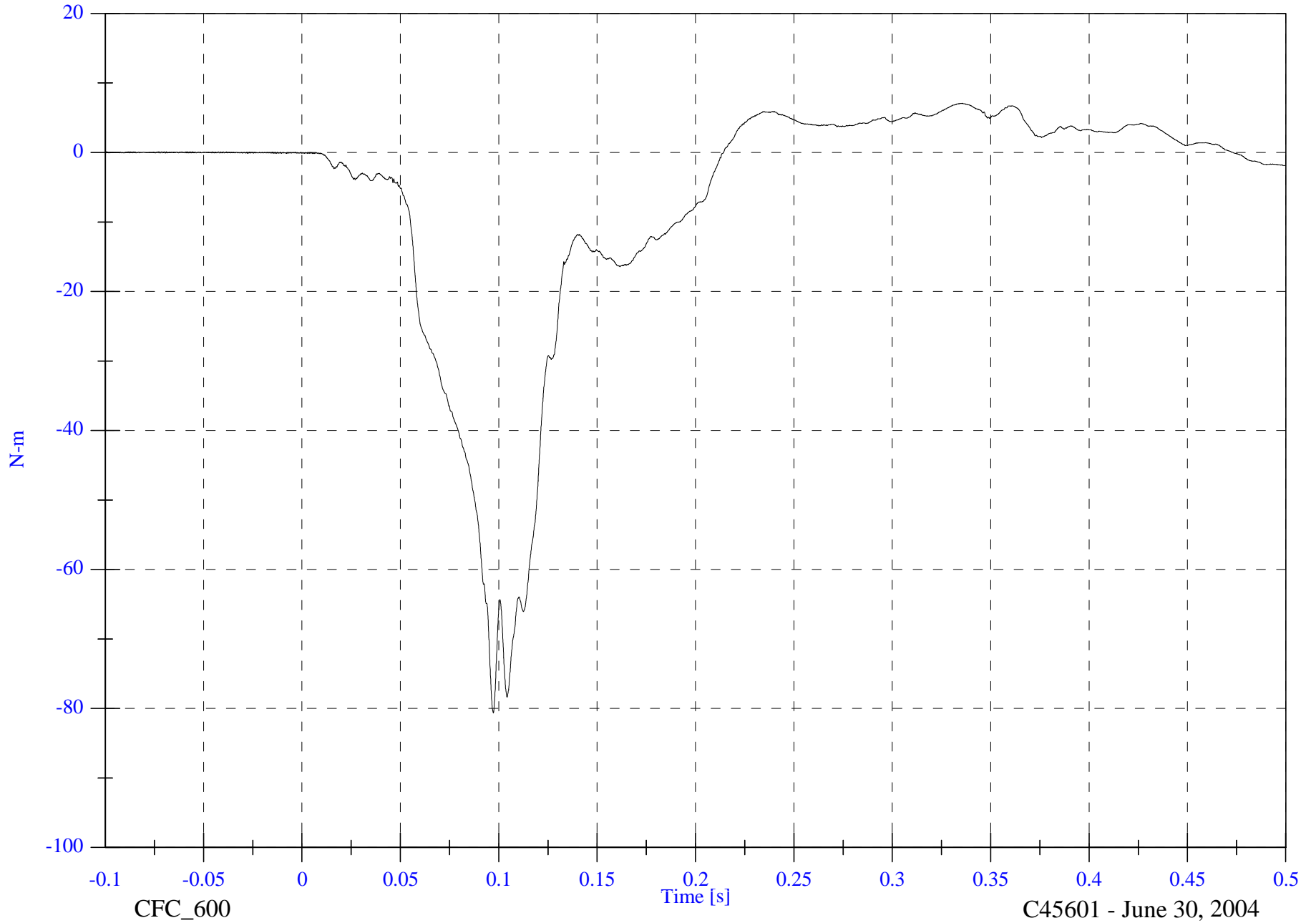
V2P1 Lower Neck Mz

Max: 7.1 [N-m] at 0.336 [s]

Min: -80.6 [N-m] at 0.097 [s]

B-32

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

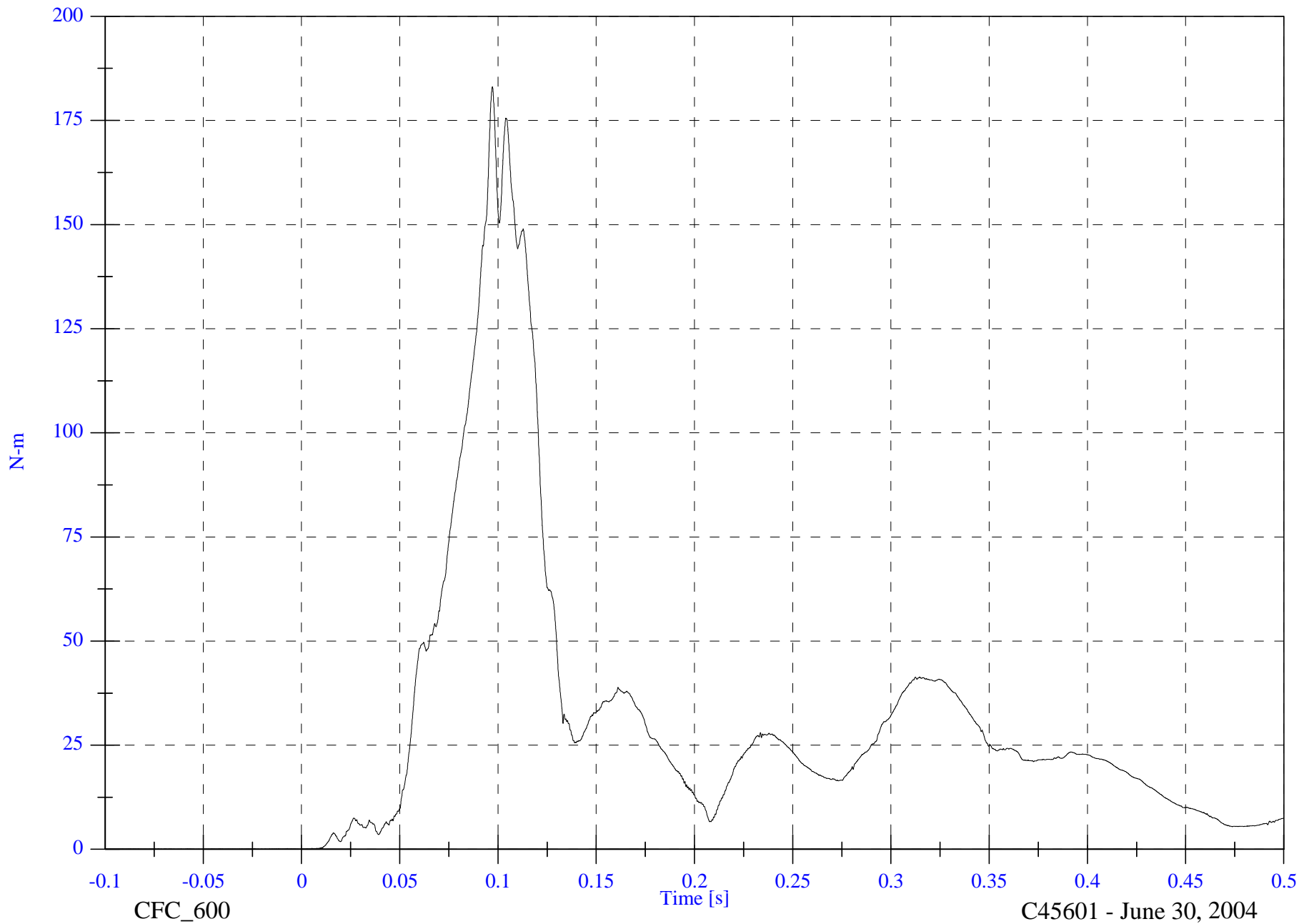
V2P1 Lower Neck M Resultant

Max: 183.1 [N-m] at 0.097 [s]

Min: 0.0 [N-m] at -0.055 [s]

B-33

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

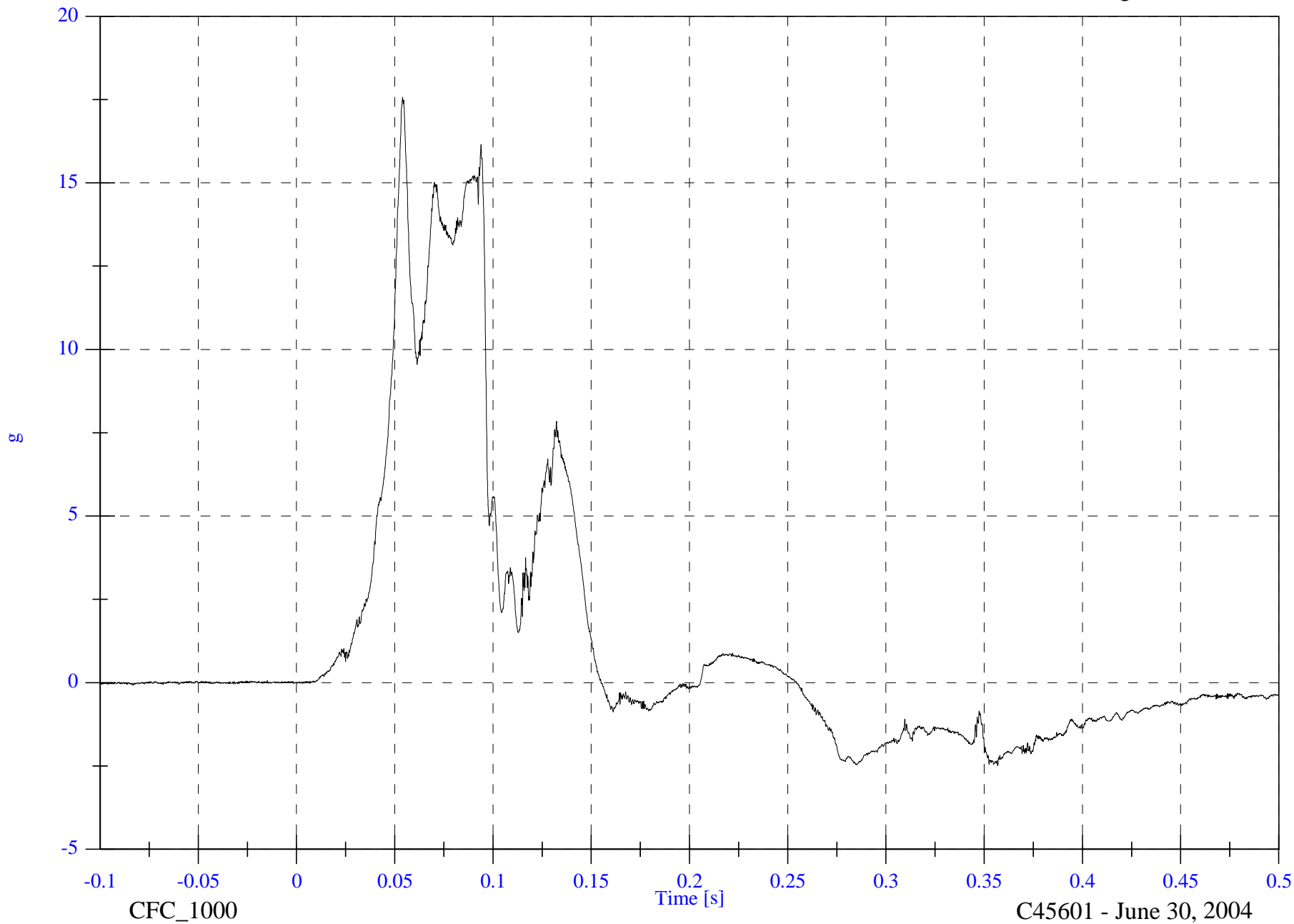
V2P1 Lower Neck x

Max: 17.6 [g] at 0.054 [s]

Min: -2.5 [g] at 0.357 [s]

B-34

8655-F301-21R

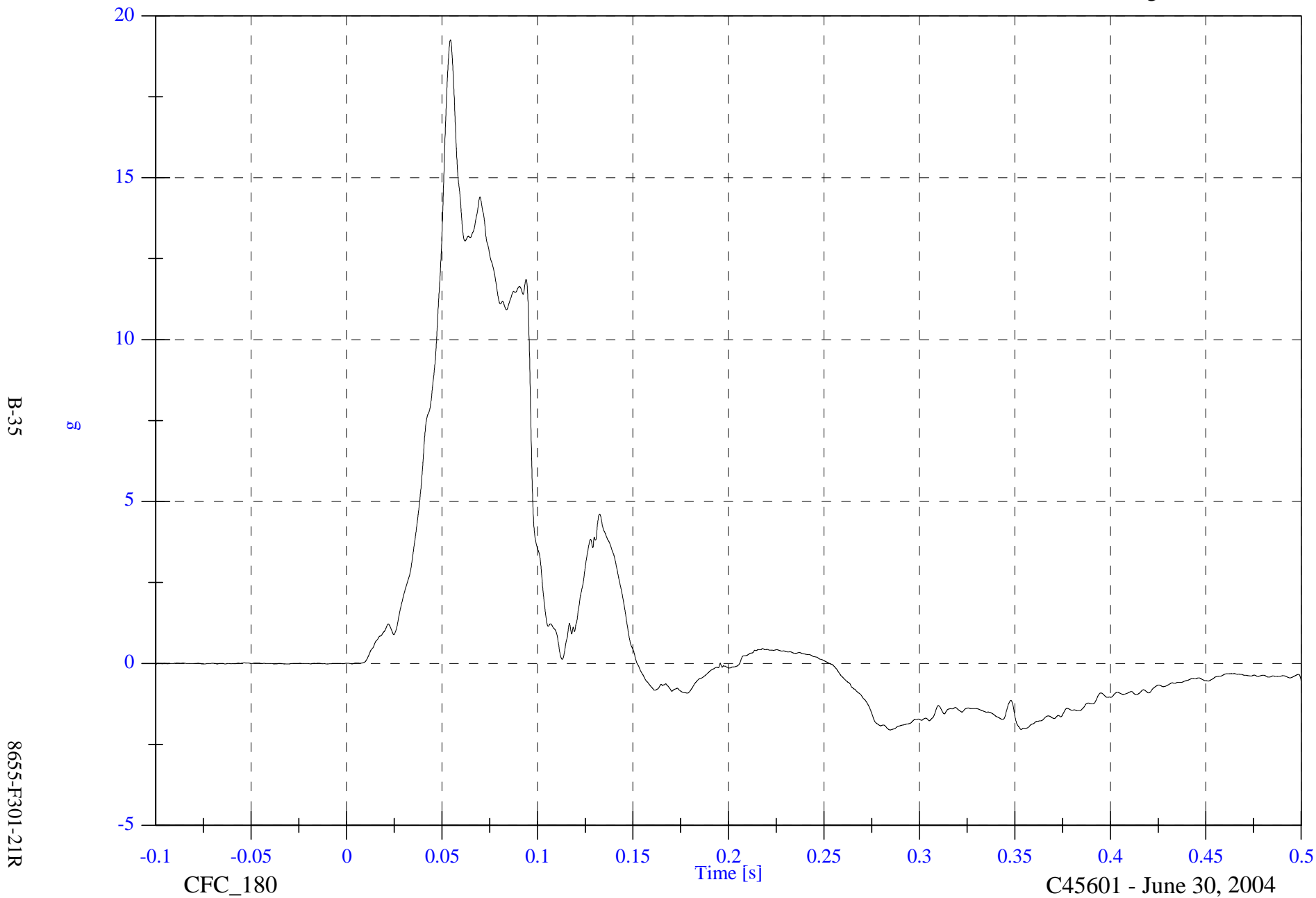


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V2P1 Chest x

Max: 19.3 [g] at 0.054 [s]

Min: -2.1 [g] at 0.285 [s]



B-35

8655-F301-21R

CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

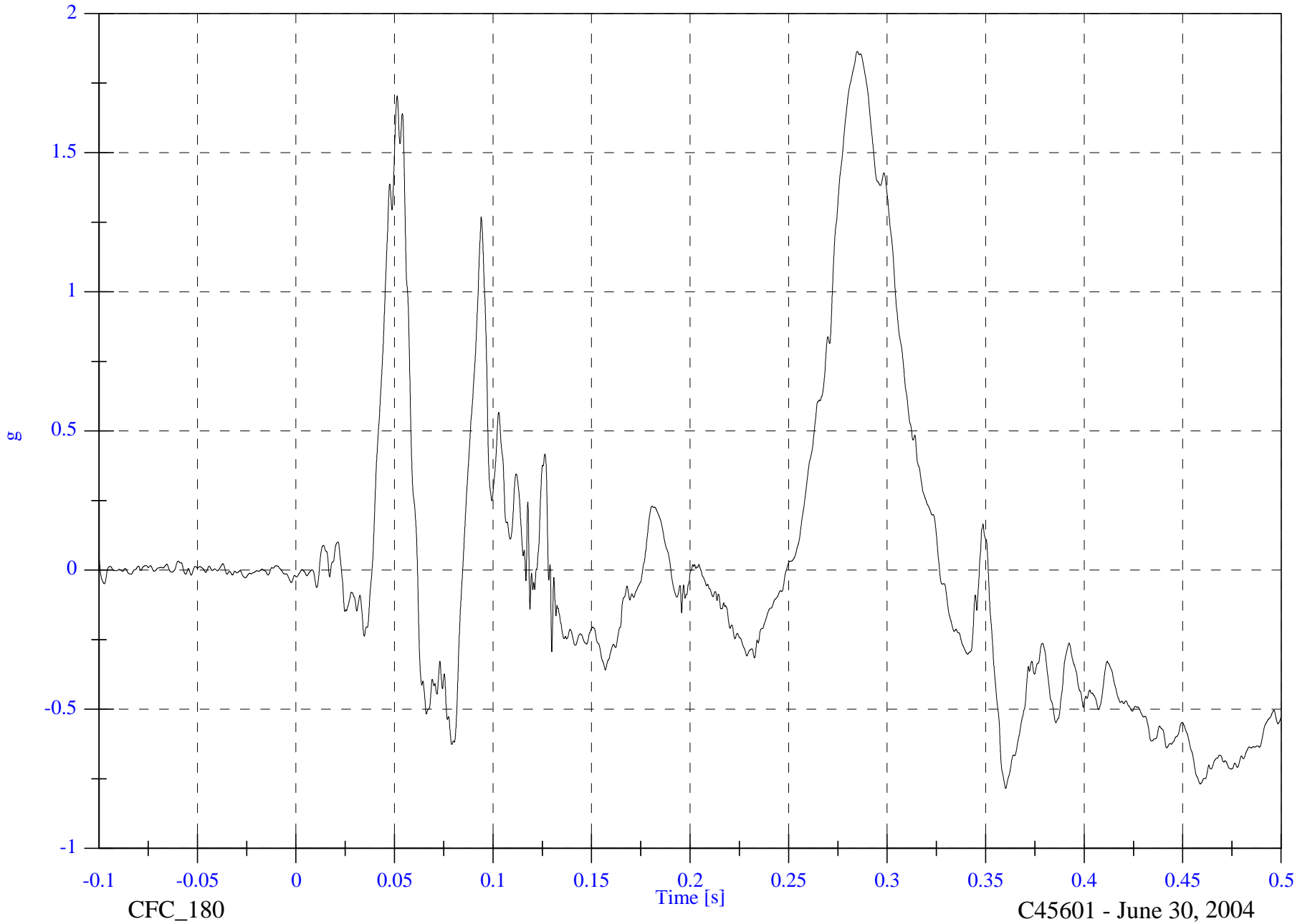
V2P1 Chest y

Max: 1.9 [g] at 0.285 [s]

Min: -0.8 [g] at 0.360 [s]

B-36

8655-F301-21R

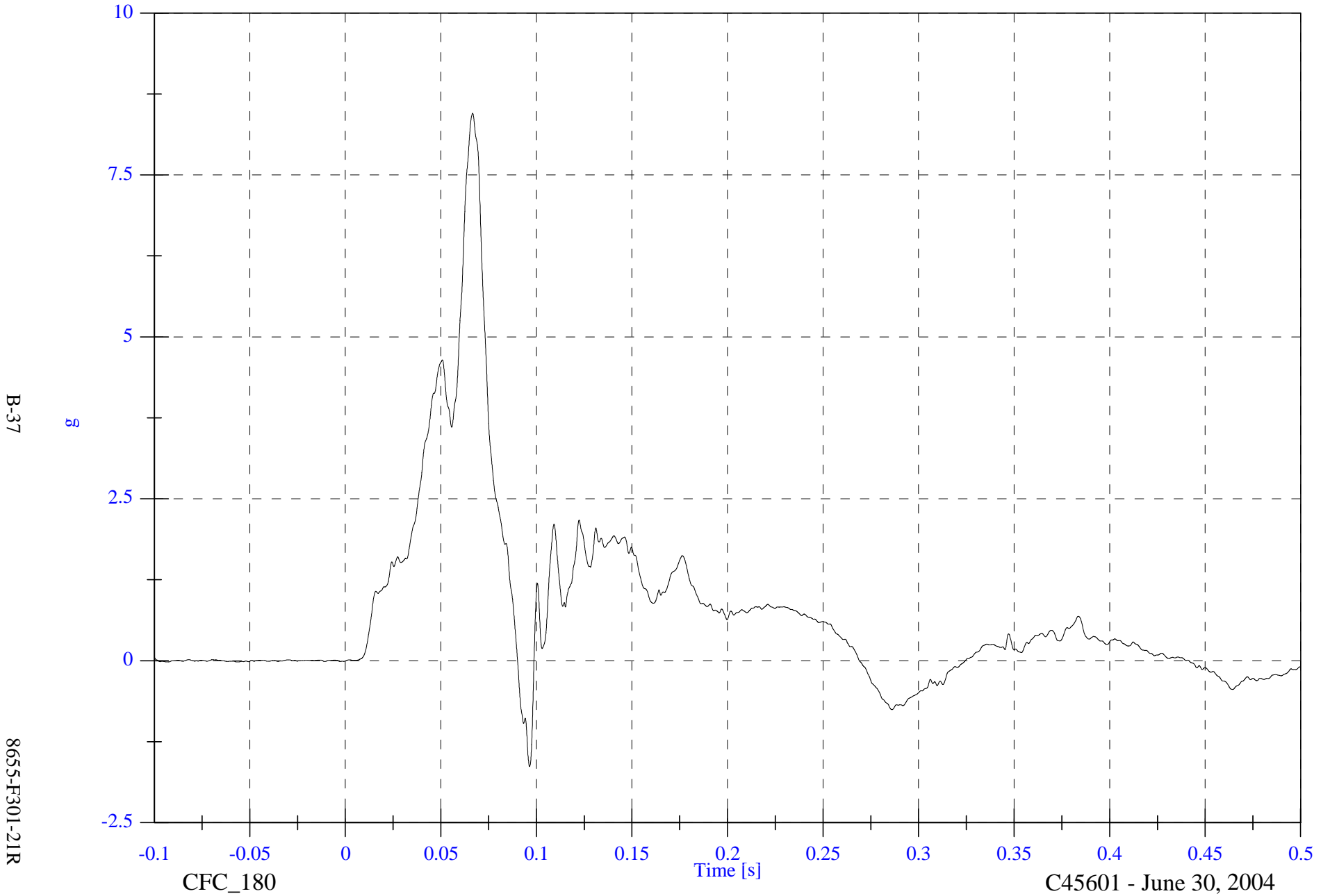


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Chest z

Max: 8.5 [g] at 0.067 [s]

Min: -1.6 [g] at 0.096 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

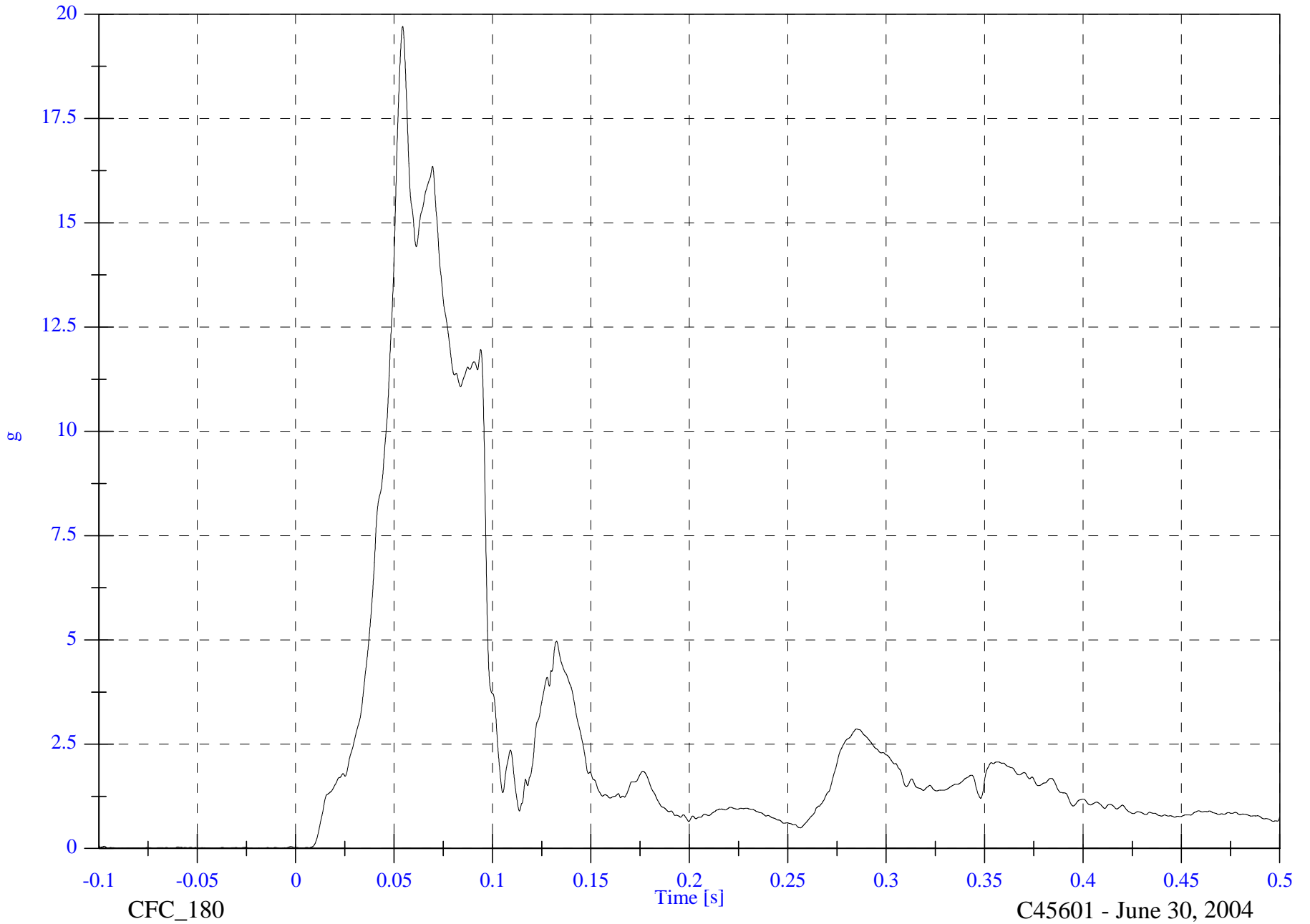
V2P1 Chest Resultant

Max: 19.7 [g] at 0.054 [s]

Min: 0.0 [g] at -0.042 [s]

B-38

8655-F301-21R



CFC_180

Time [s]

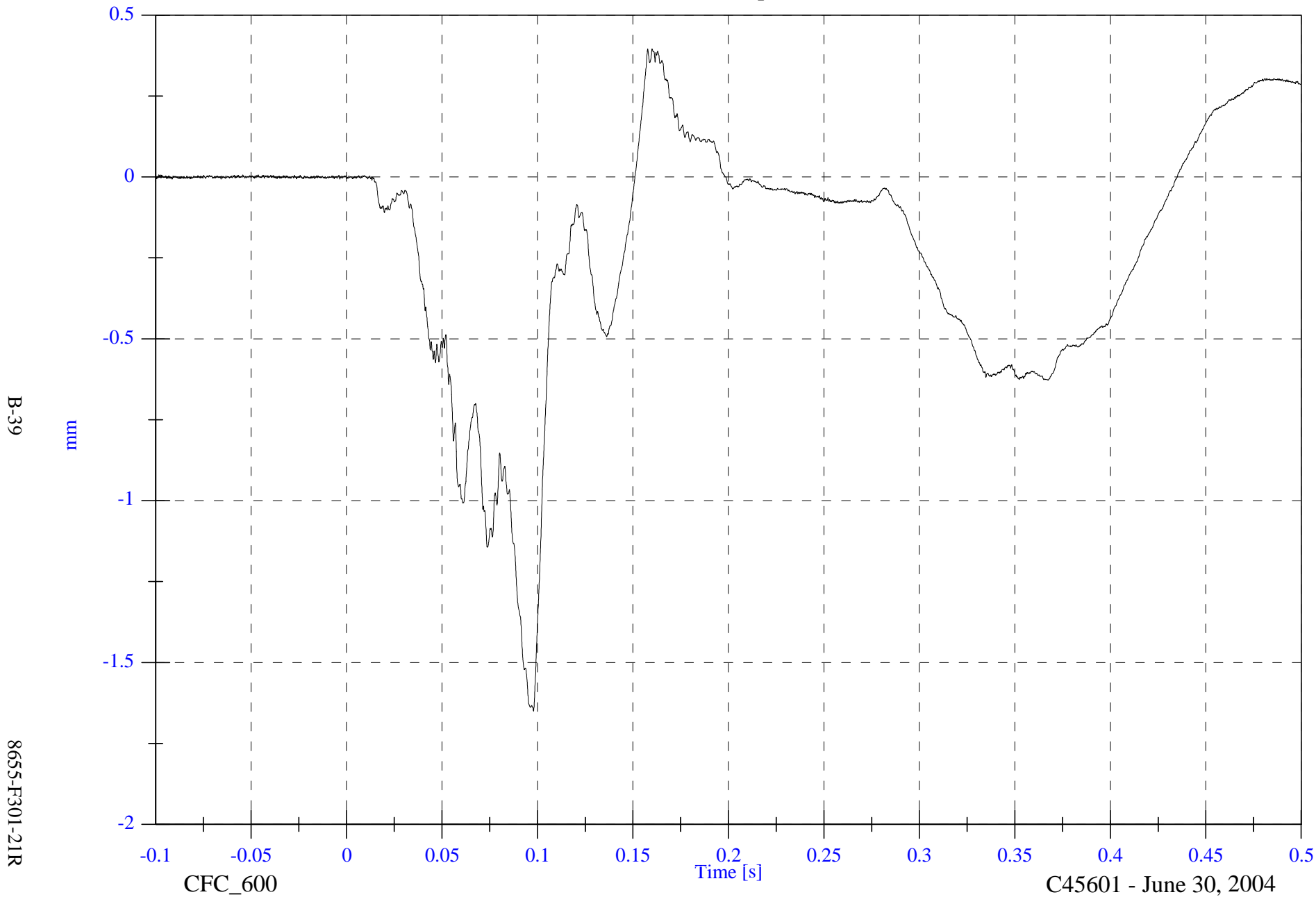
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Chest Displacement

Max: 0.4 [mm] at 0.160 [s]

Min: -1.6 [mm] at 0.098 [s]



B-39

8655-F301-21R

CFC_600

Time [s]

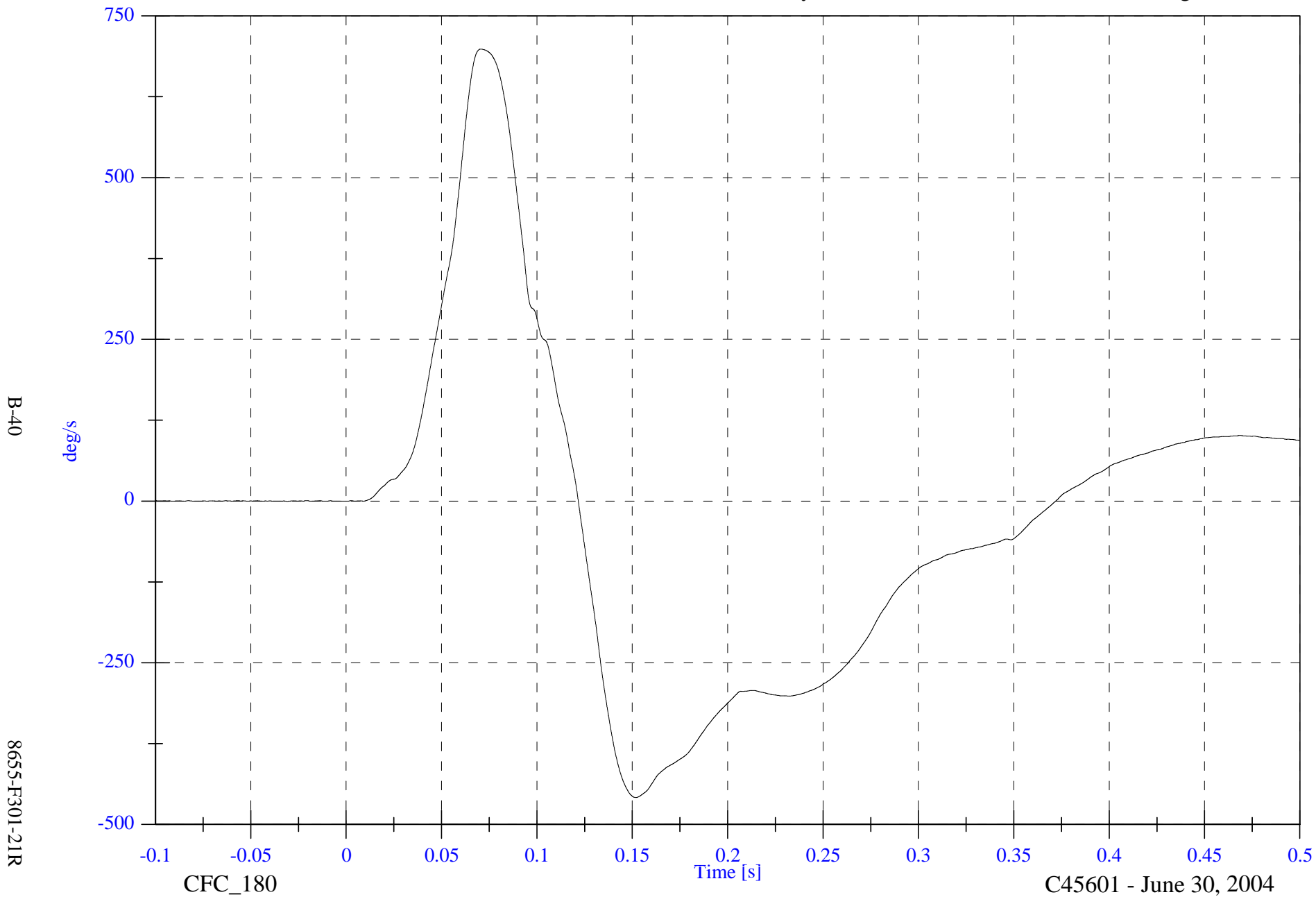
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Chest AVy

Max: 698.6 [deg/s] at 0.071 [s]

Min: -458.4 [deg/s] at 0.152 [s]



B-40

8655-F301-21R

CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

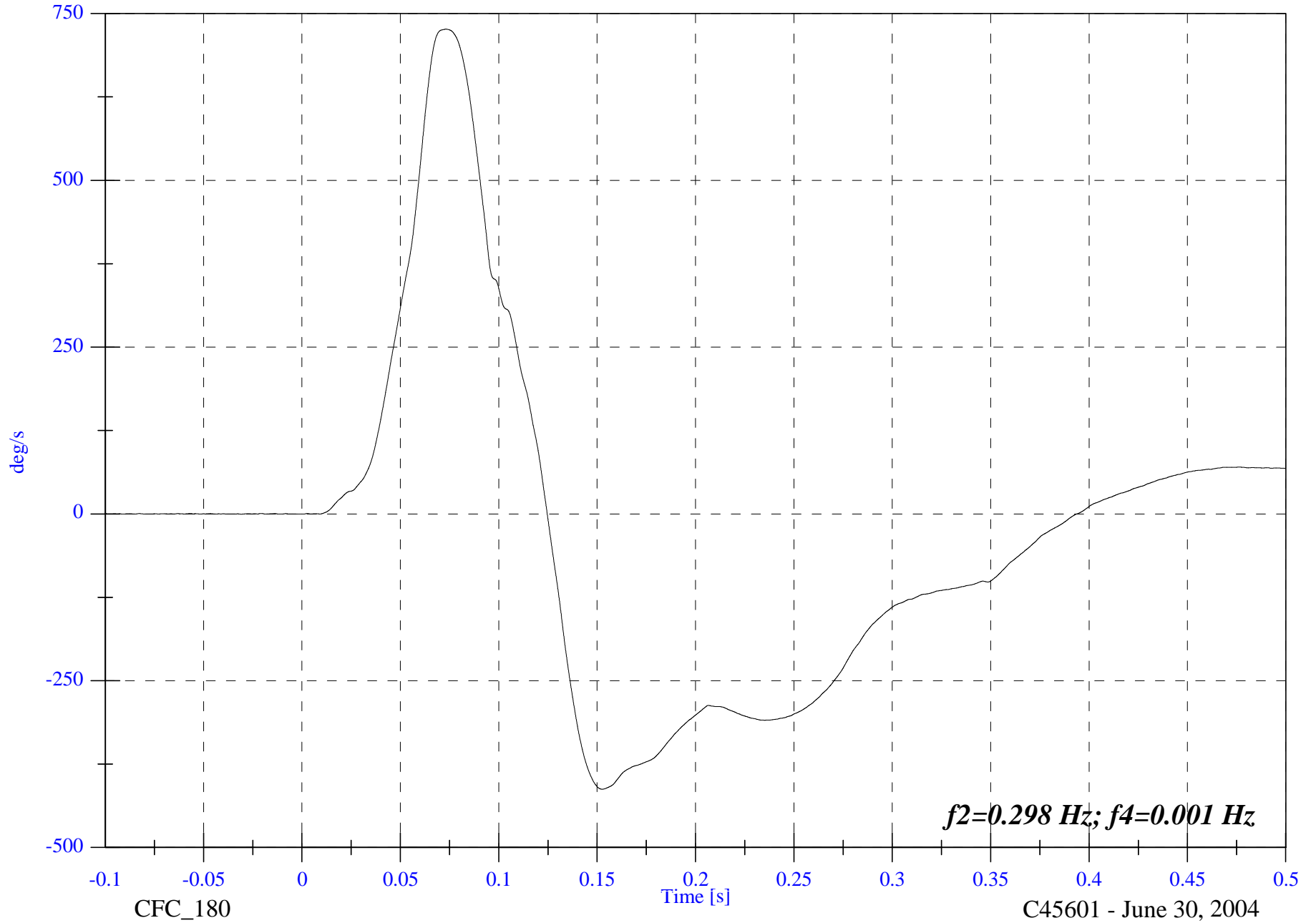
V2P1 Chest Comp AVy

Max: 726.4 [deg/s] at 0.073 [s]

Min: -412.8 [deg/s] at 0.153 [s]

B-41

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

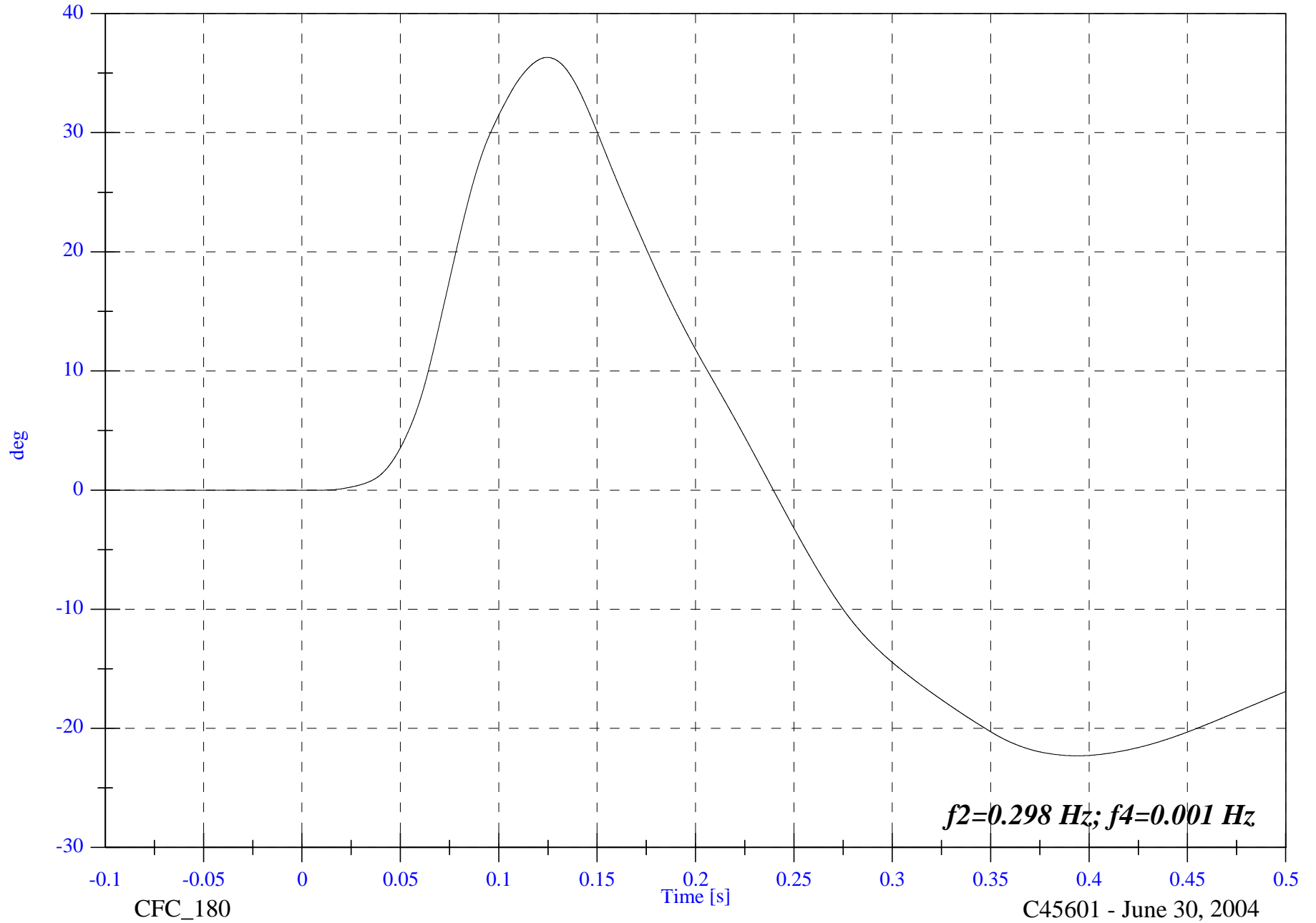
V2P1 Chest Comp ADy

Max: 36.3 [deg] at 0.125 [s]

Min: -22.3 [deg] at 0.394 [s]

B-42

8655-F301-21R

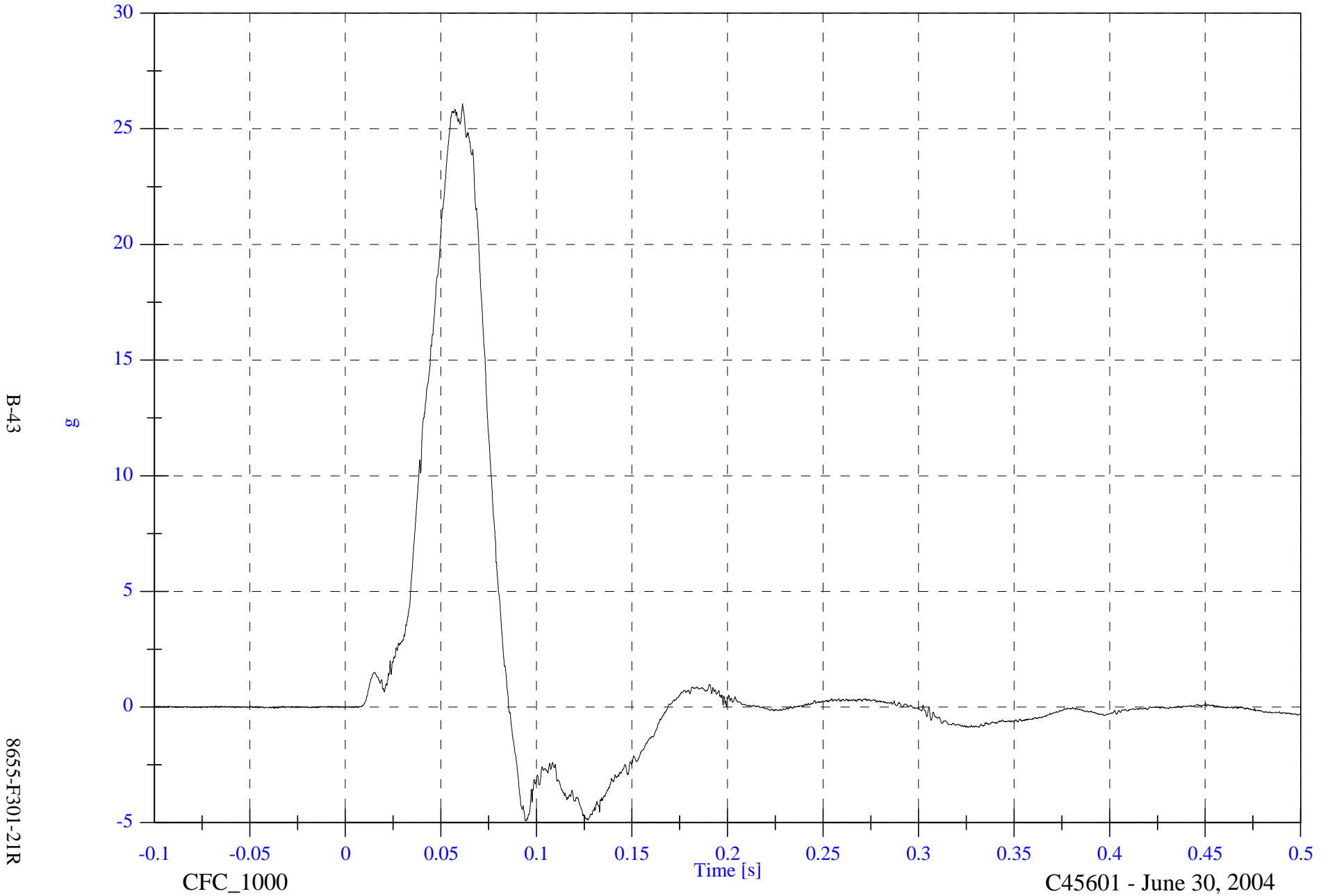


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Max: 26.1 [g] at 0.061 [s]

V2P1 Pelvic x

Min: -4.9 [g] at 0.095 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

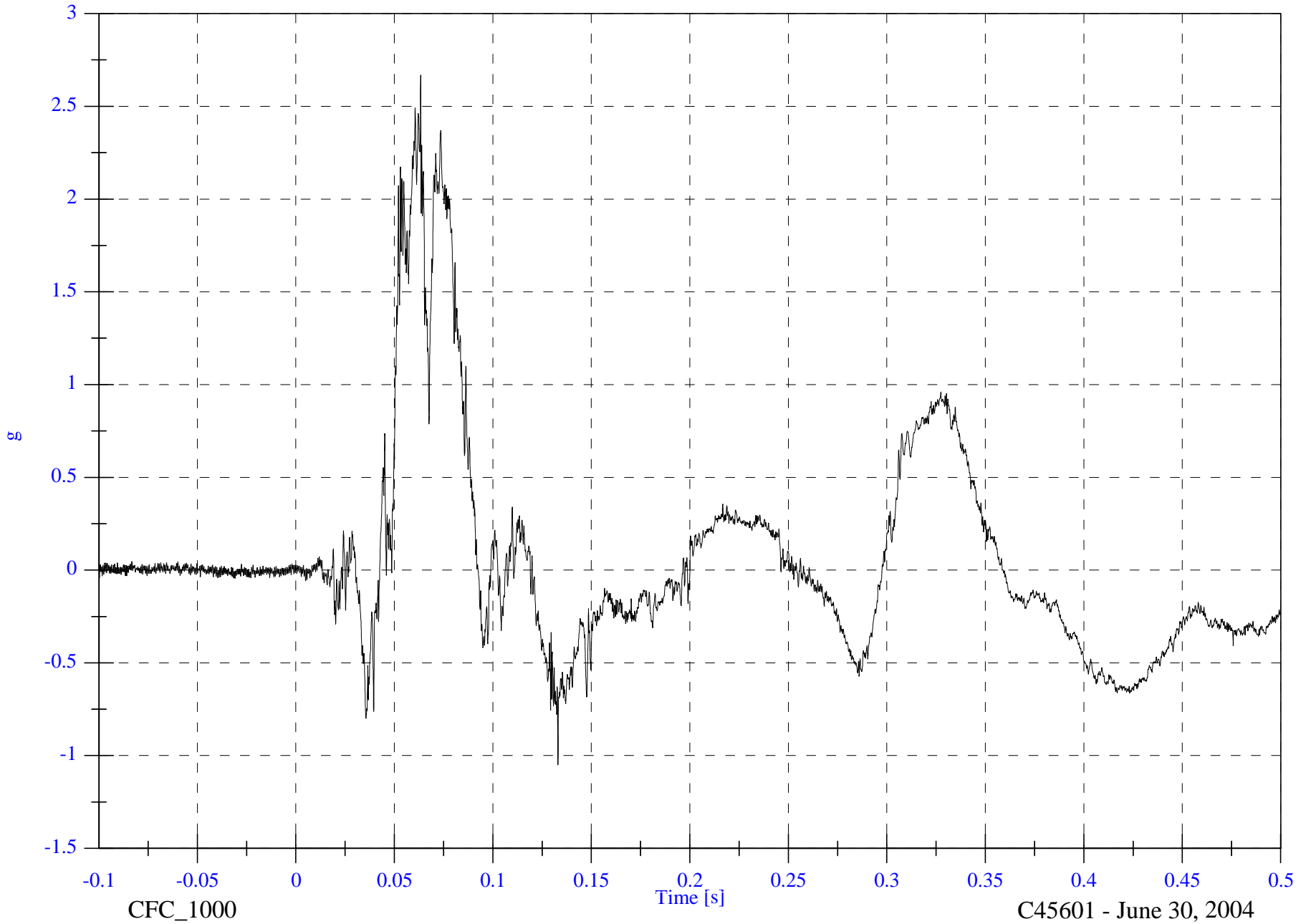
V2P1 Pelvic y

Max: 2.7 [g] at 0.063 [s]

Min: -1.1 [g] at 0.133 [s]

B-44

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

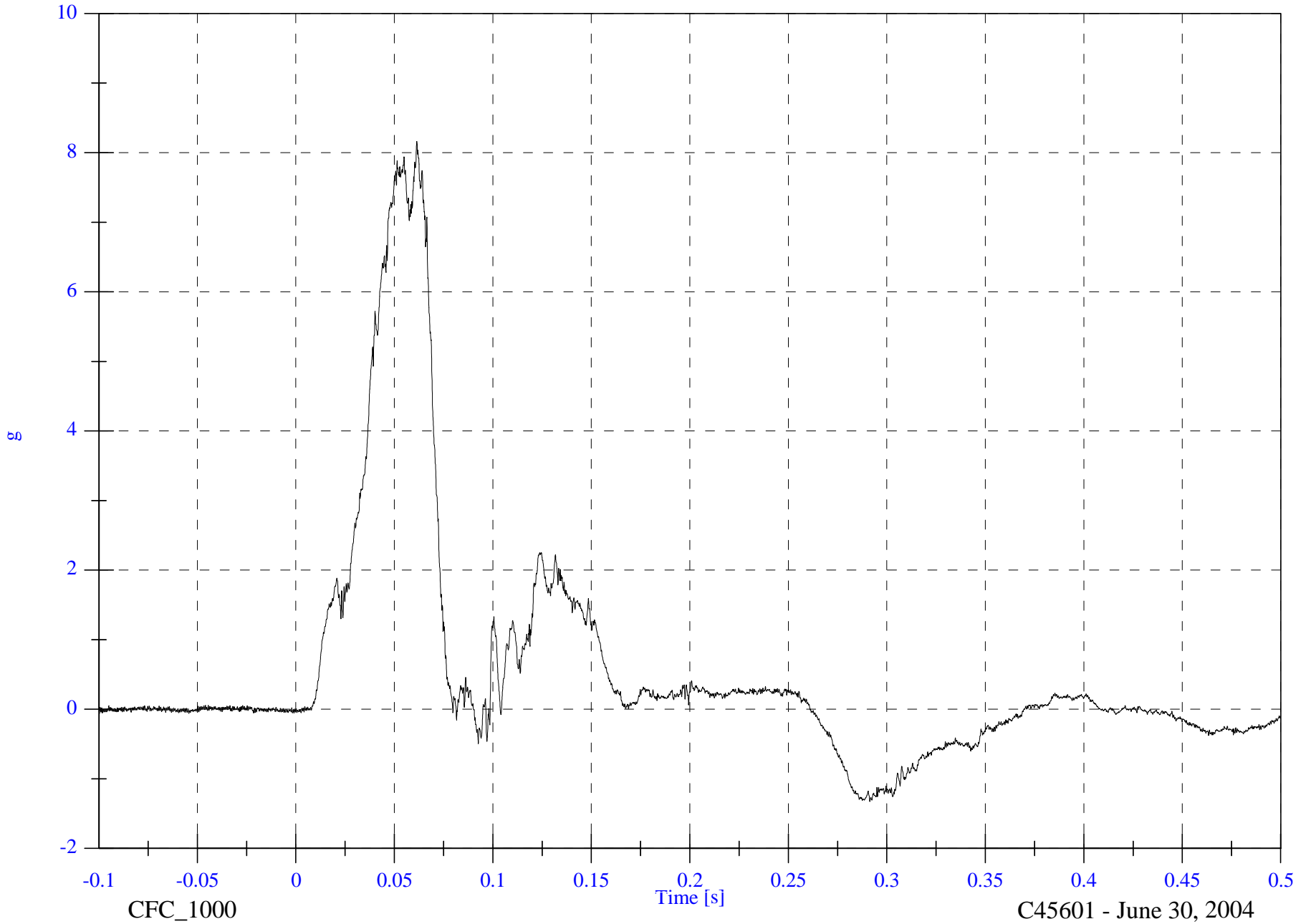
V2P1 Pelvic z

Max: 8.2 [g] at 0.061 [s]

Min: -1.3 [g] at 0.291 [s]

B-45

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

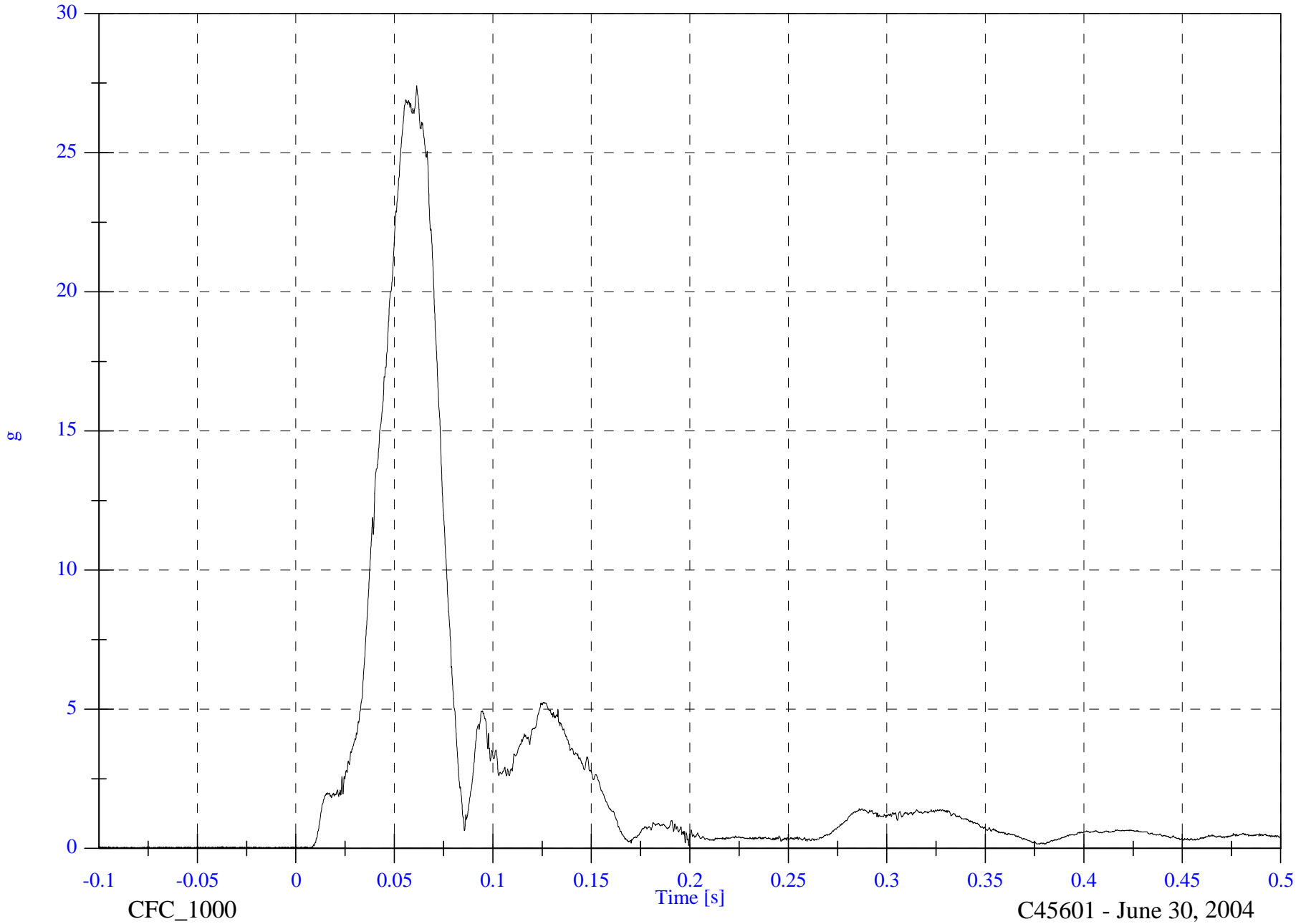
V2P1 Pelvic Resultant

Max: 27.4 [g] at 0.061 [s]

Min: 0.0 [g] at -0.045 [s]

B-46

8655-F301-21R



CFC_1000

Time [s]

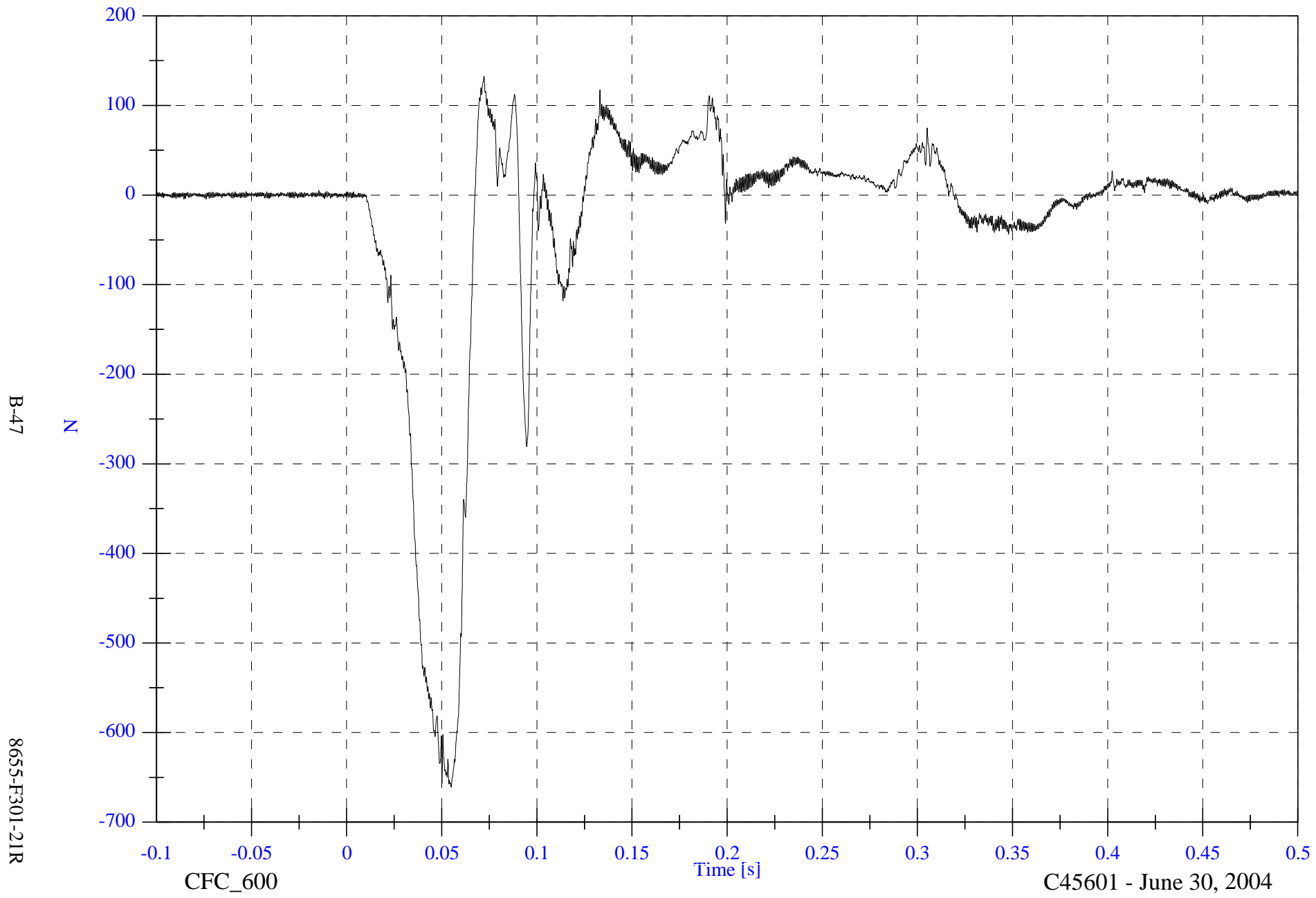
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 132.5 [N] at 0.072 [s]

V2P1 Left Femur

Min: -660.7 [N] at 0.055 [s]



B-47

8655-F301-21R

CFC_600

Time [s]

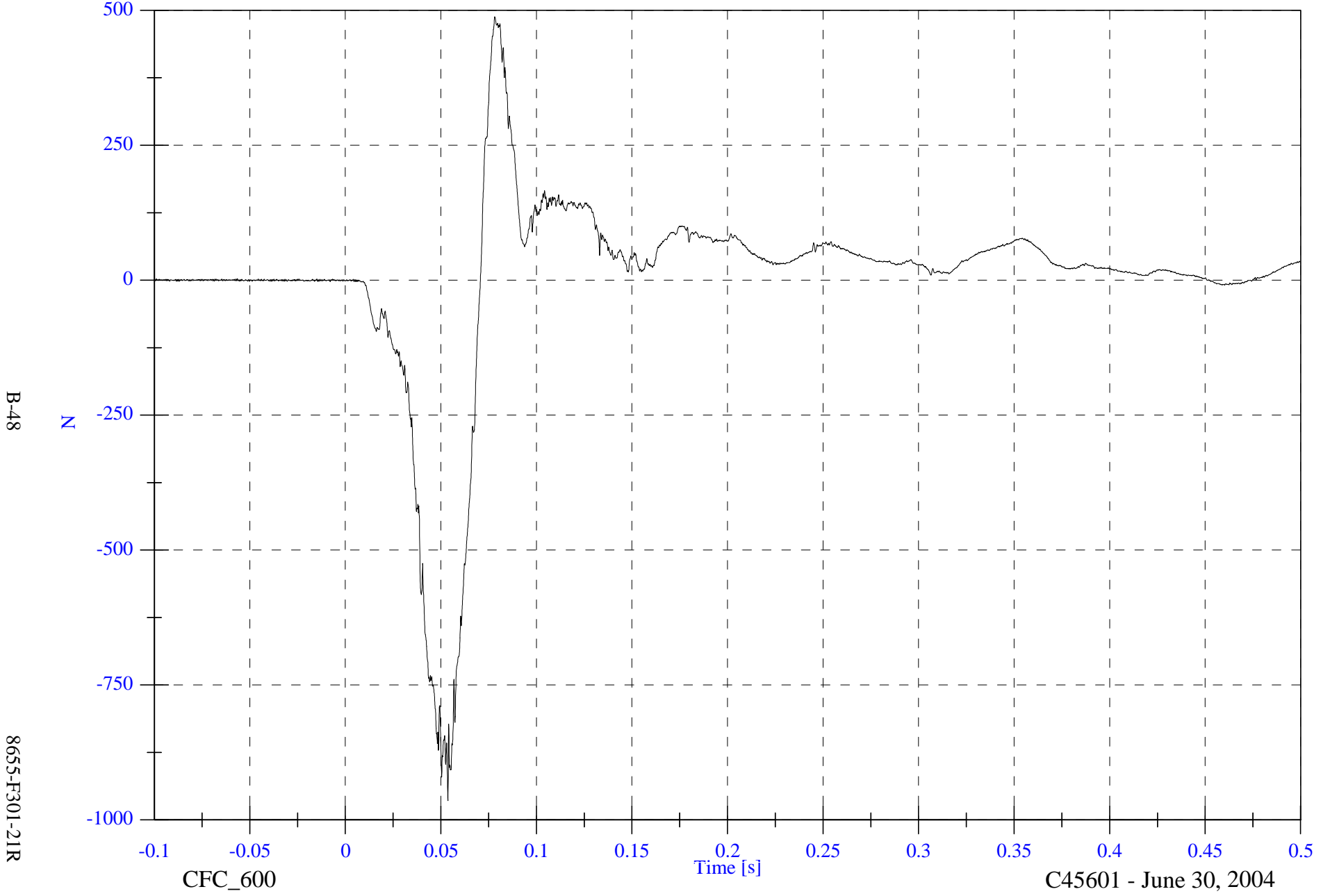
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Right Femur

Max: 488.2 [N] at 0.078 [s]

Min: -964.2 [N] at 0.054 [s]



B-48

8655-F301-21R

CFC_600

Time [s]

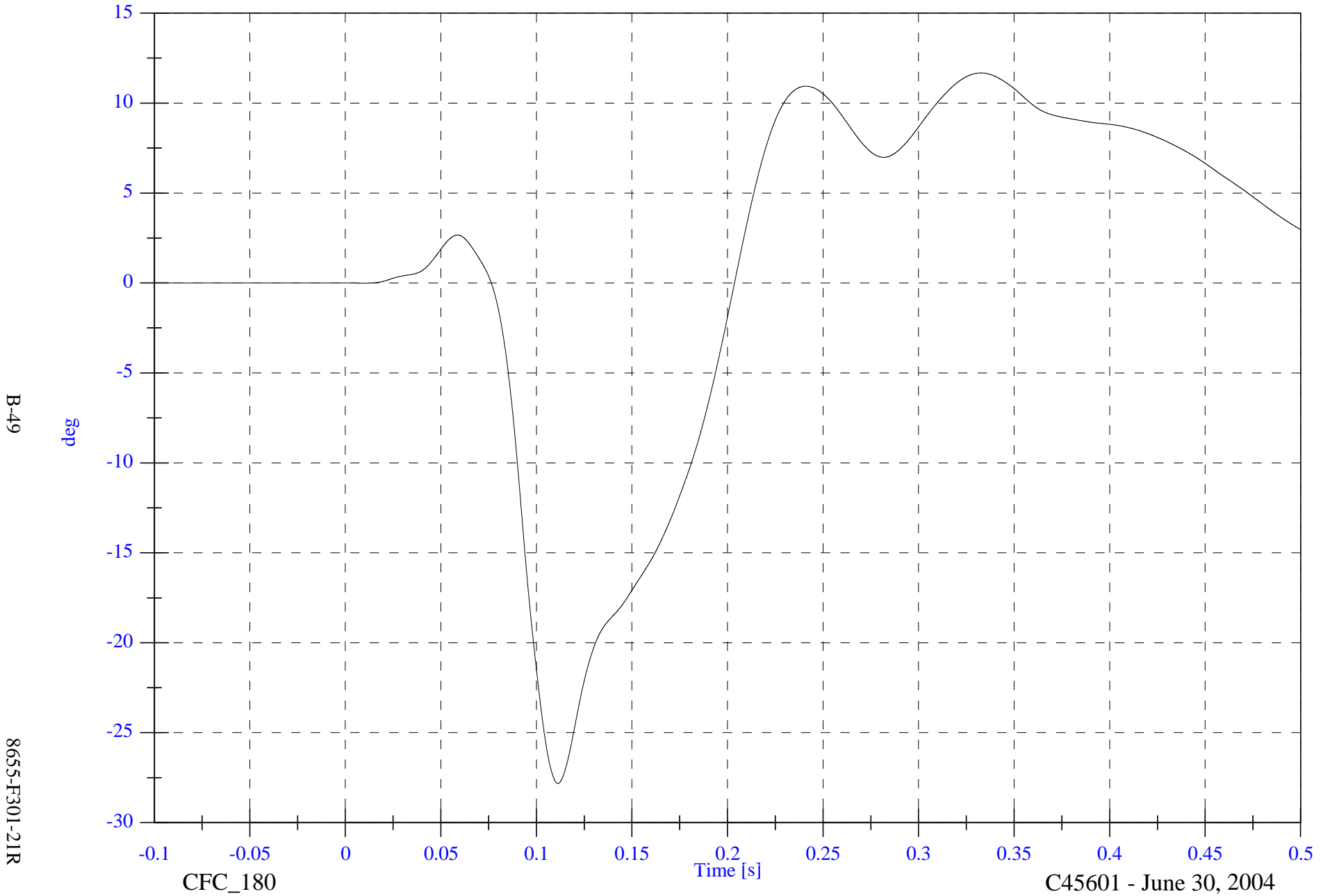
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Head to Chest

Max: 11.7 [deg] at 0.333 [s]

Min: -27.8 [deg] at 0.111 [s]



B-49

8655-F301-21R

CFC_180

Time [s]

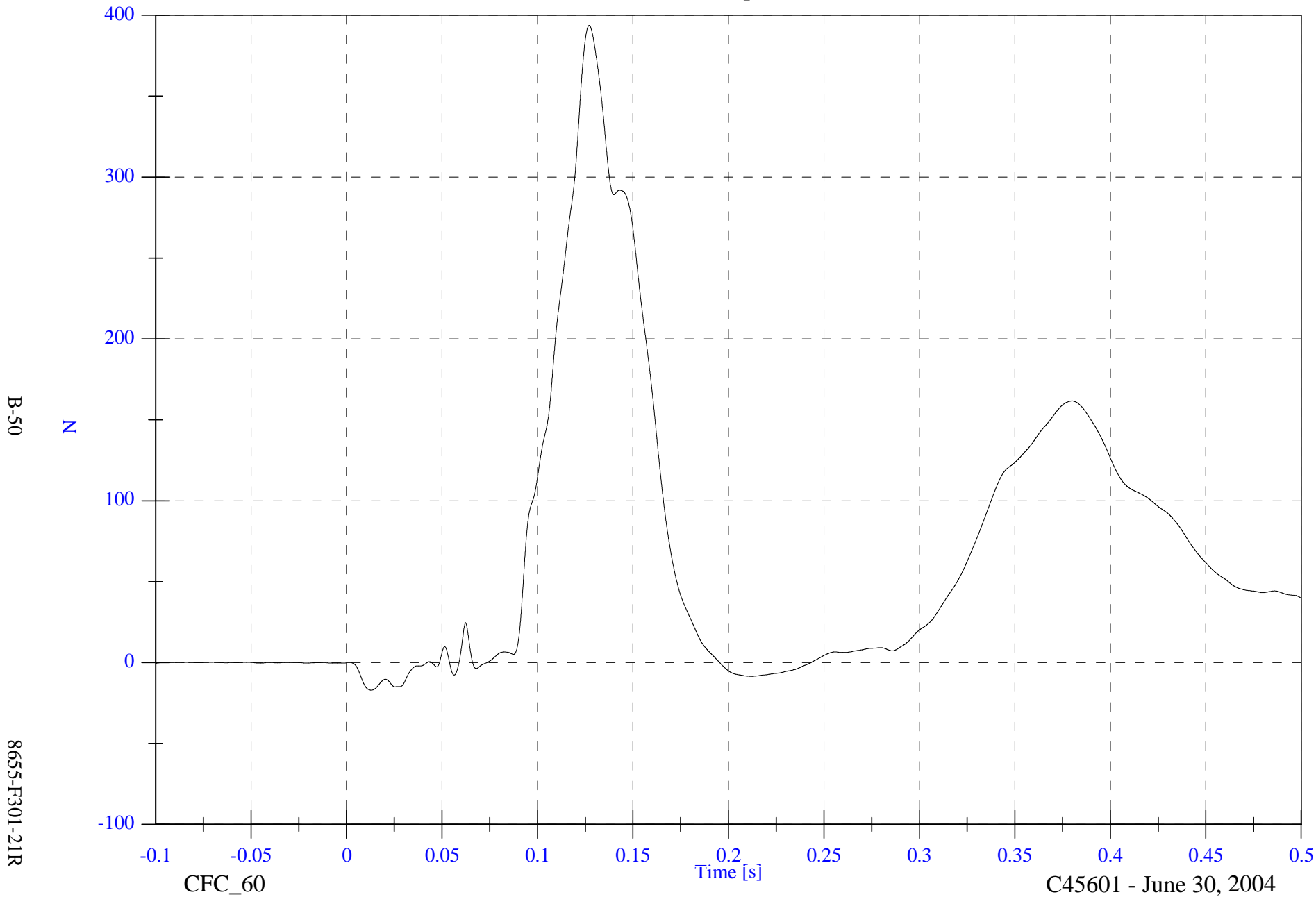
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Lap Belt

Max: 393.7 [N] at 0.127 [s]

Min: -17.1 [N] at 0.013 [s]



B-50

N

8655-F301-21R

CFC_60

Time [s]

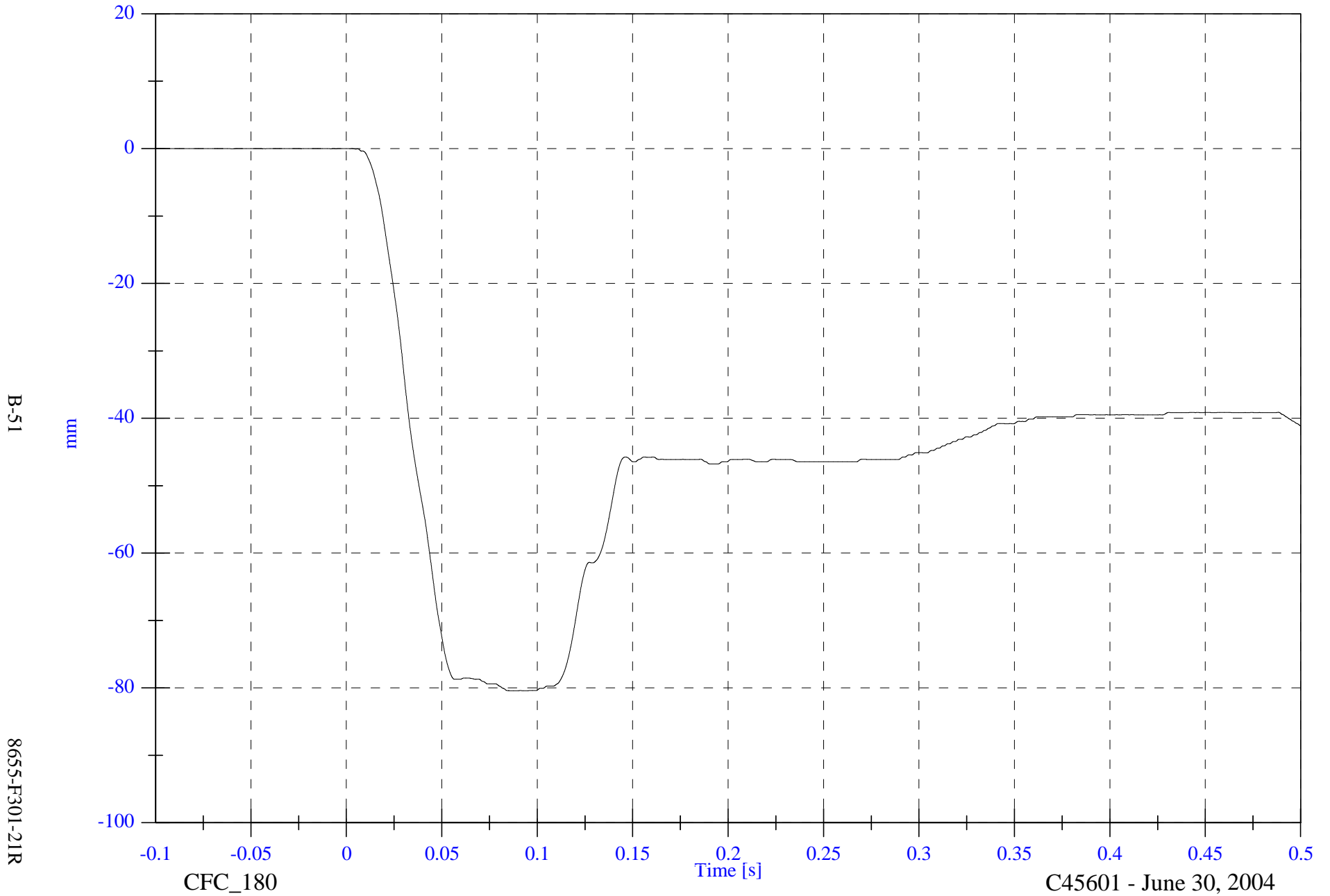
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Belt Spoolout

Max: 0.0 [mm] at -0.100 [s]

Min: -80.4 [mm] at 0.094 [s]



B-51

8655-F301-21R

CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

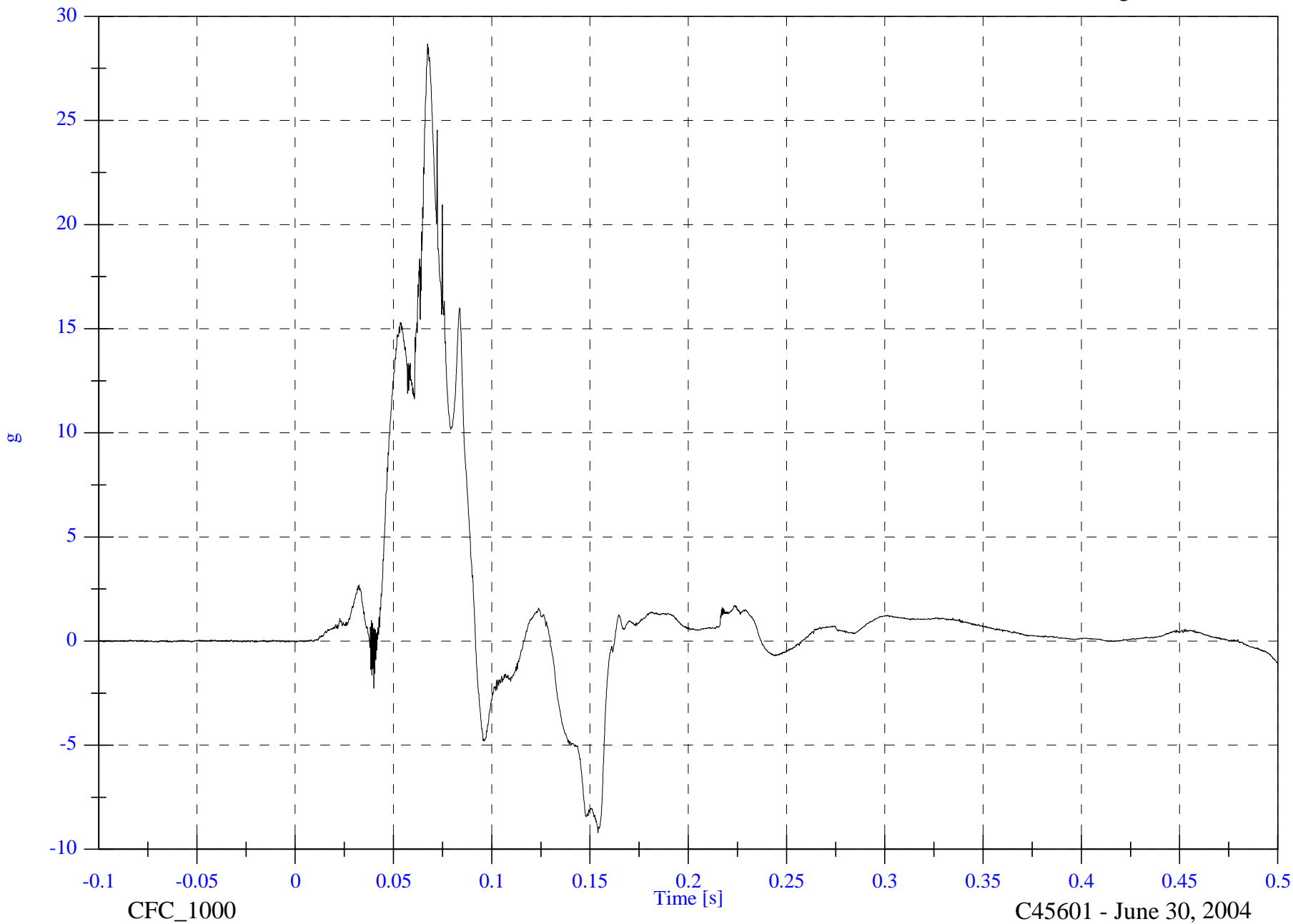
V2P3 Head x

Max: 28.7 [g] at 0.067 [s]

Min: -9.2 [g] at 0.154 [s]

B-52

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

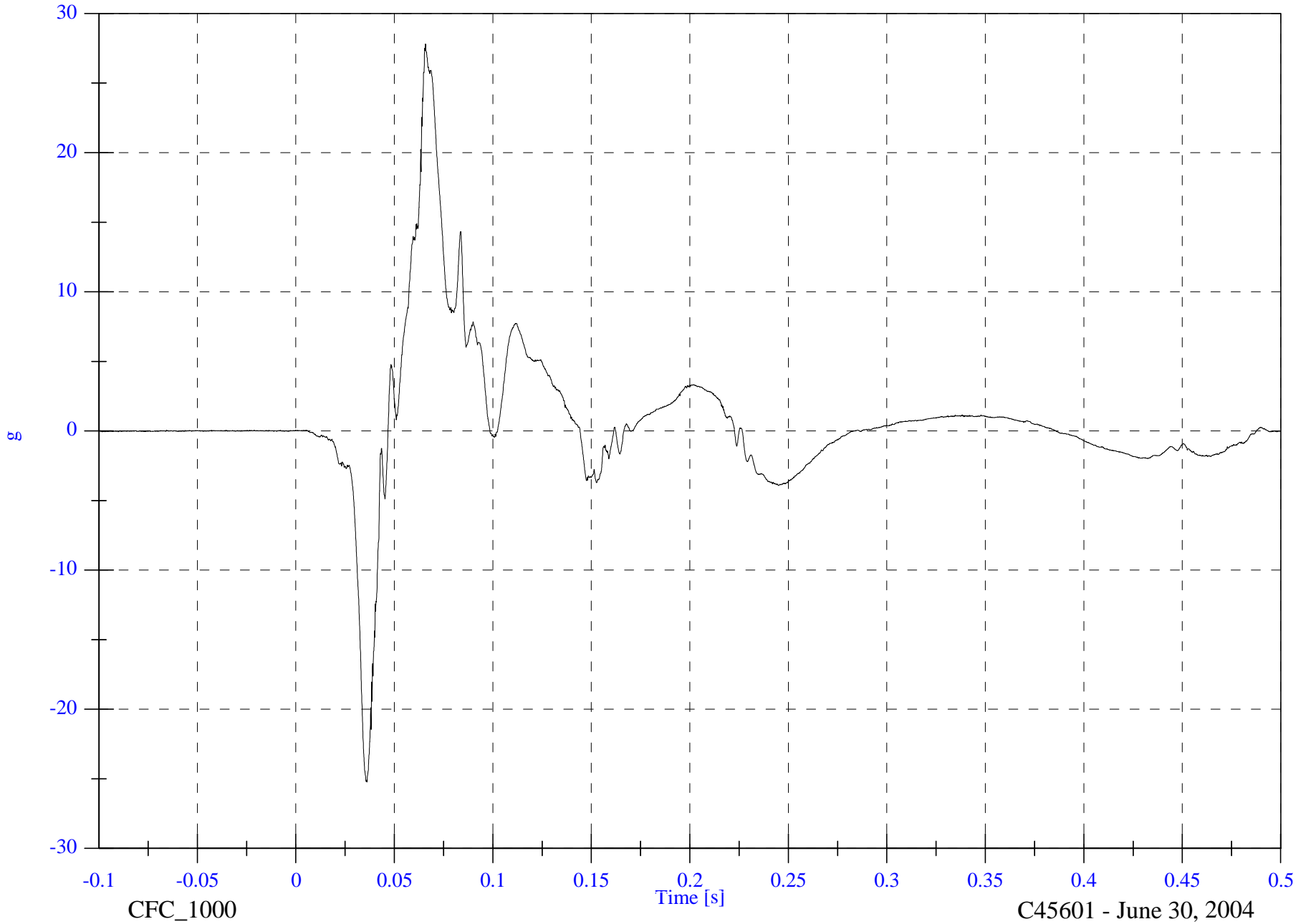
V2P3 Head z

Max: 27.8 [g] at 0.066 [s]

Min: -25.2 [g] at 0.036 [s]

B-54

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

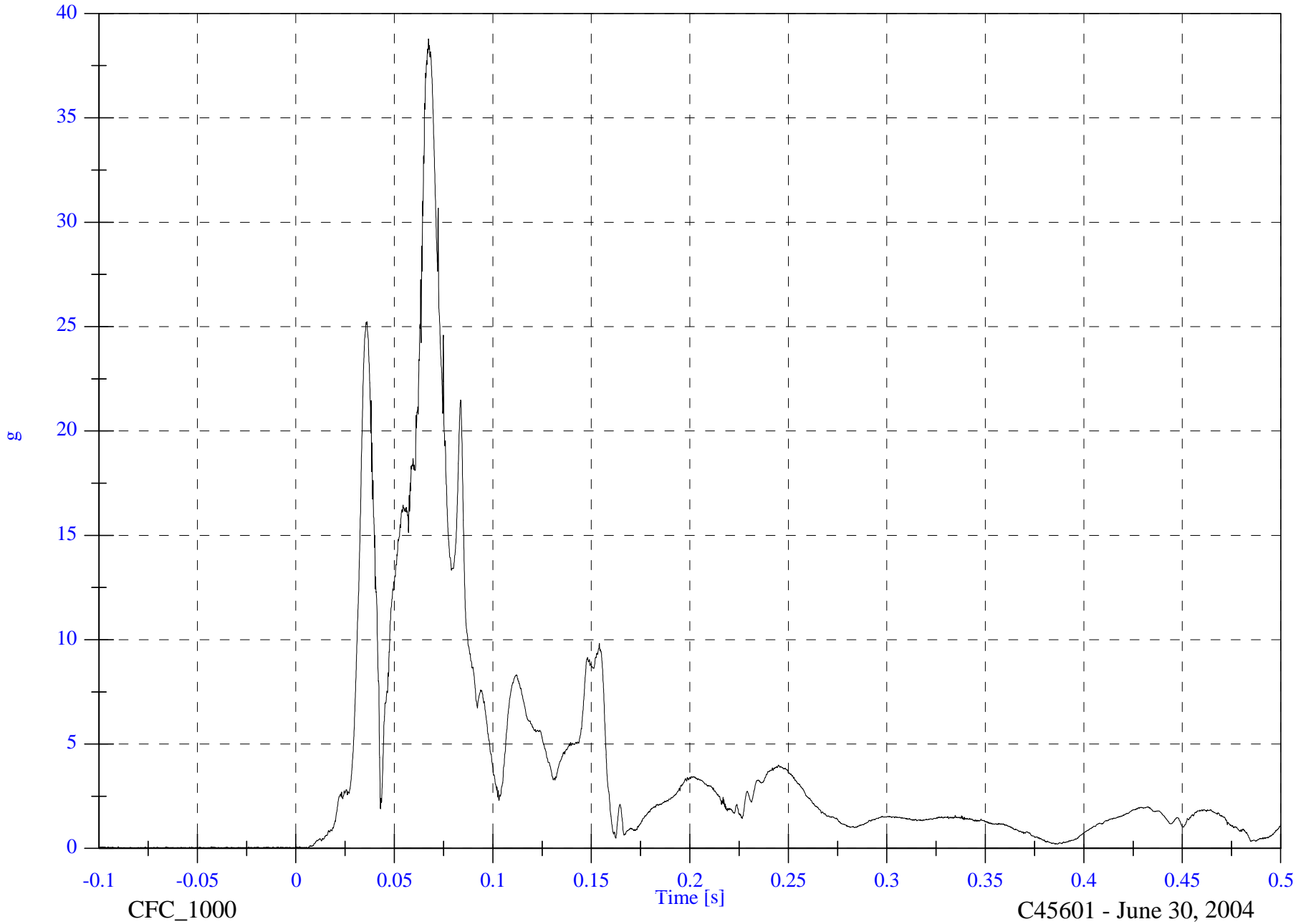
V2P3 Head Resultant

Max: 38.8 [g] at 0.067 [s]

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

B-55

8655-F301-21R



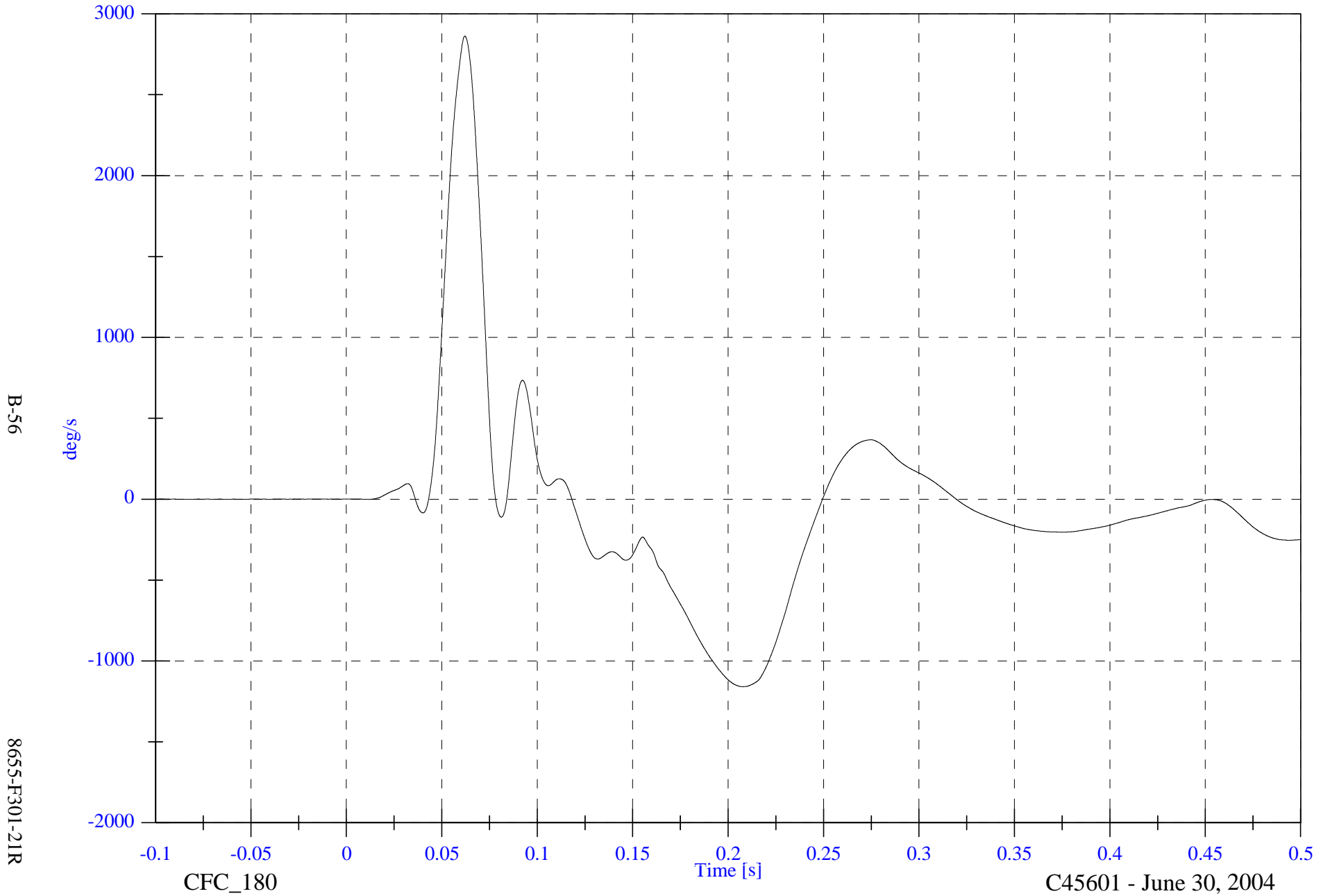
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Head AVy

Max: 2862.8 [deg/s] at 0.062 [s]

Min: -1158.9 [deg/s] at 0.208 [s]

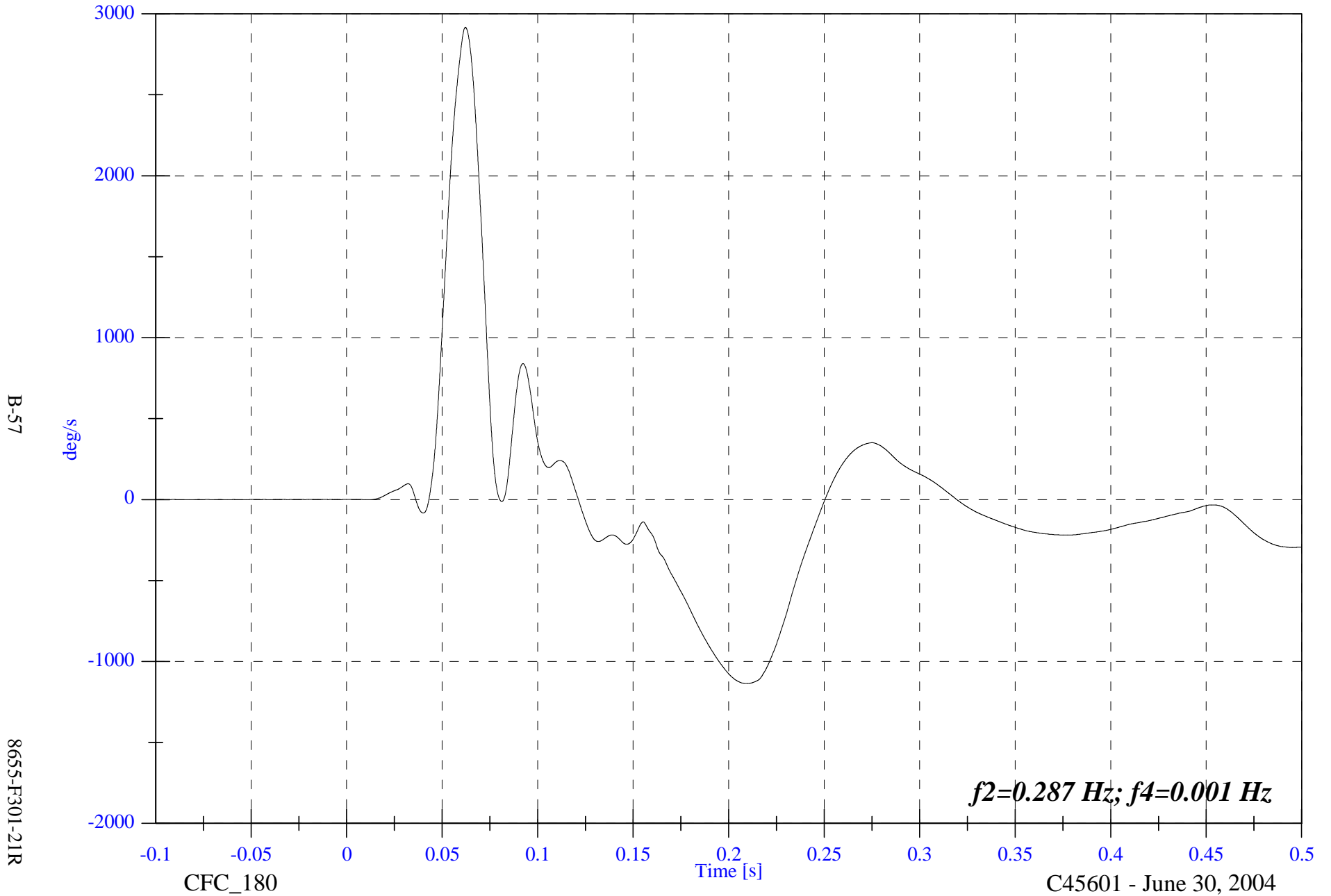


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Head Comp AVy

Max: 2916.5 [deg/s] at 0.062 [s]

Min: -1136.7 [deg/s] at 0.210 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

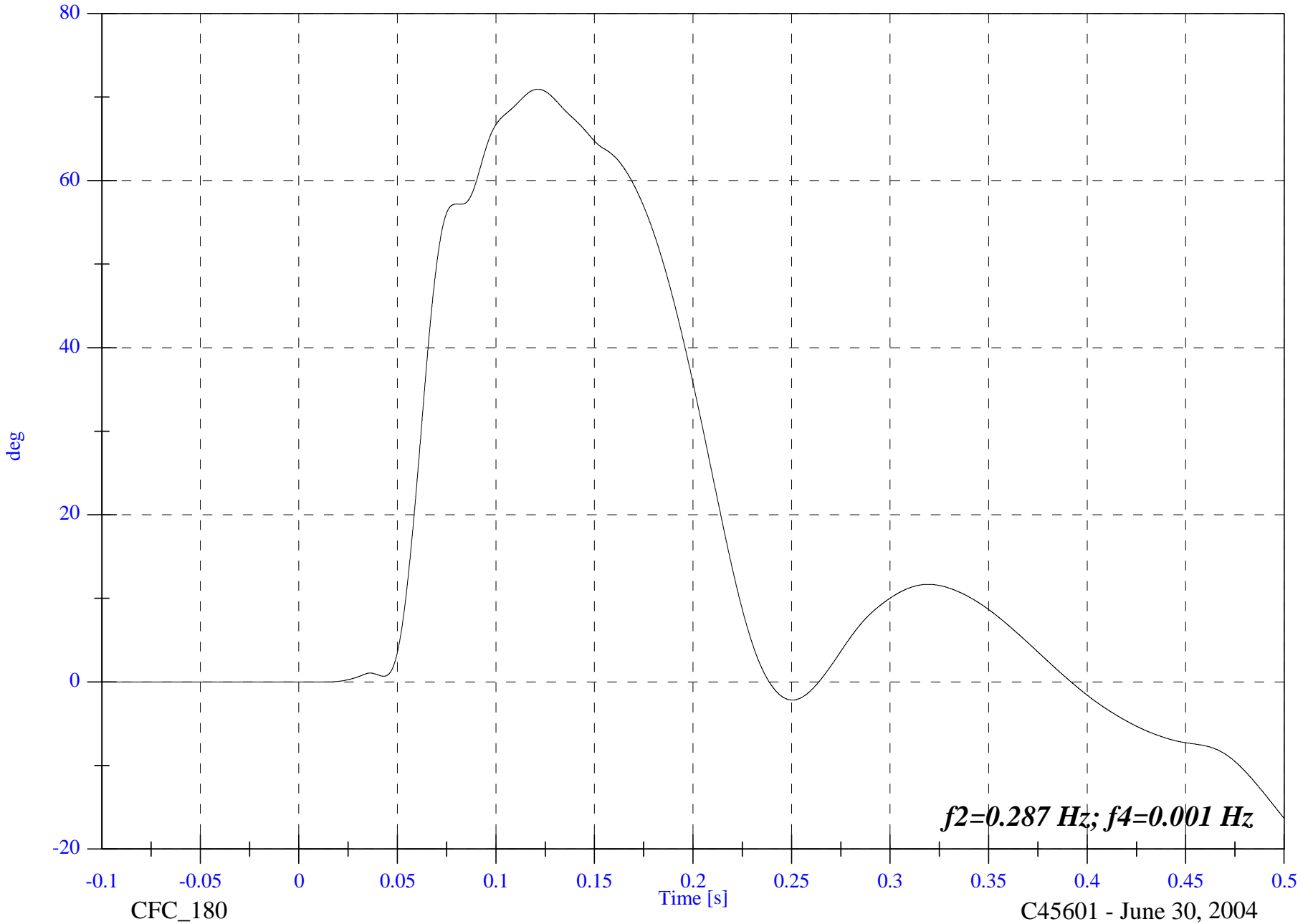
V2P3 Head Comp ADy

Max: 70.9 [deg] at 0.121 [s]

Min: -16.3 [deg] at 0.500 [s]

B-58

8655-F301-21R

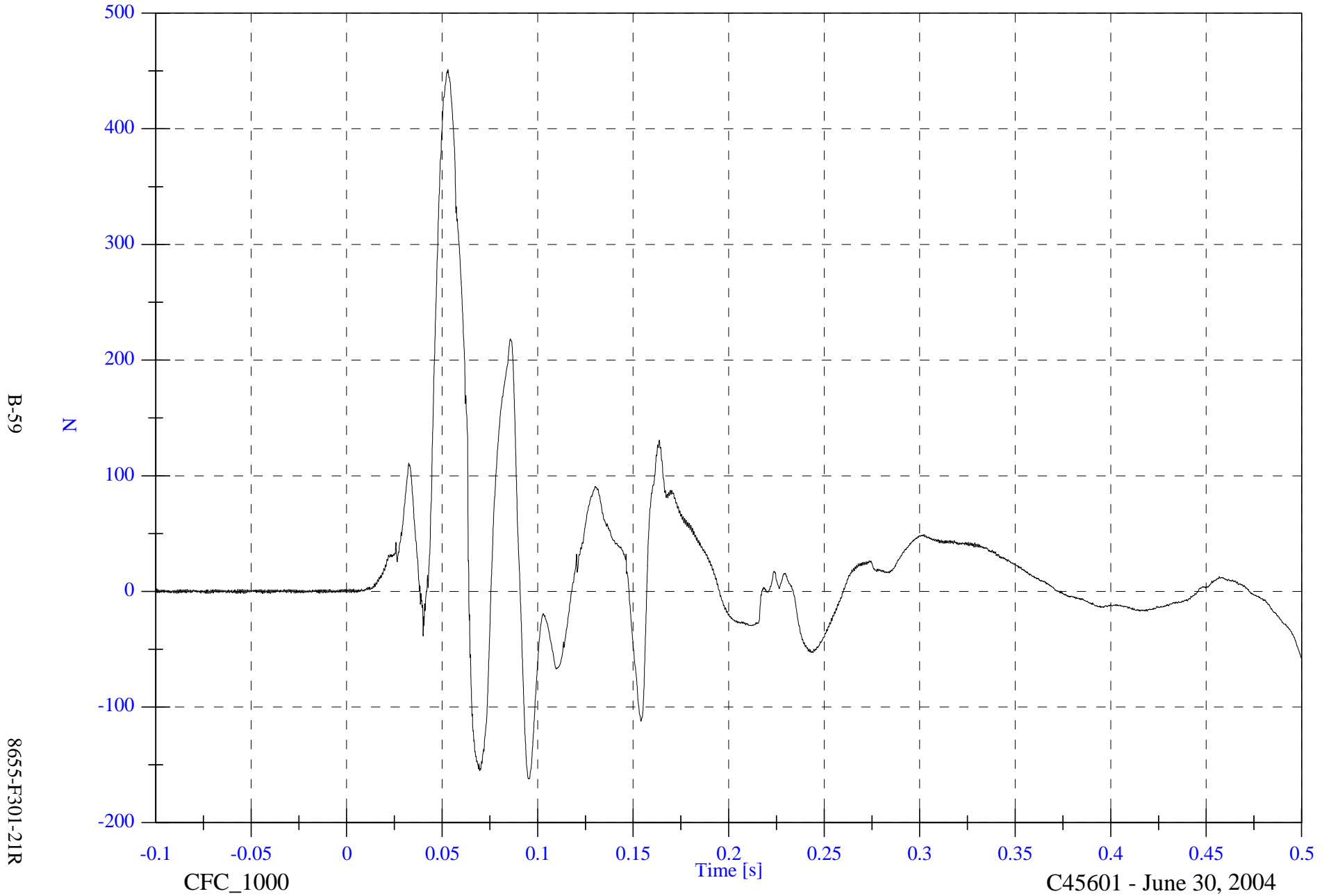


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 451.2 [N] at 0.053 [s]

V2P3 Upper Neck Fx

Min: -162.2 [N] at 0.095 [s]



B-59

8655-F301-21R

CFC_1000

Time [s]

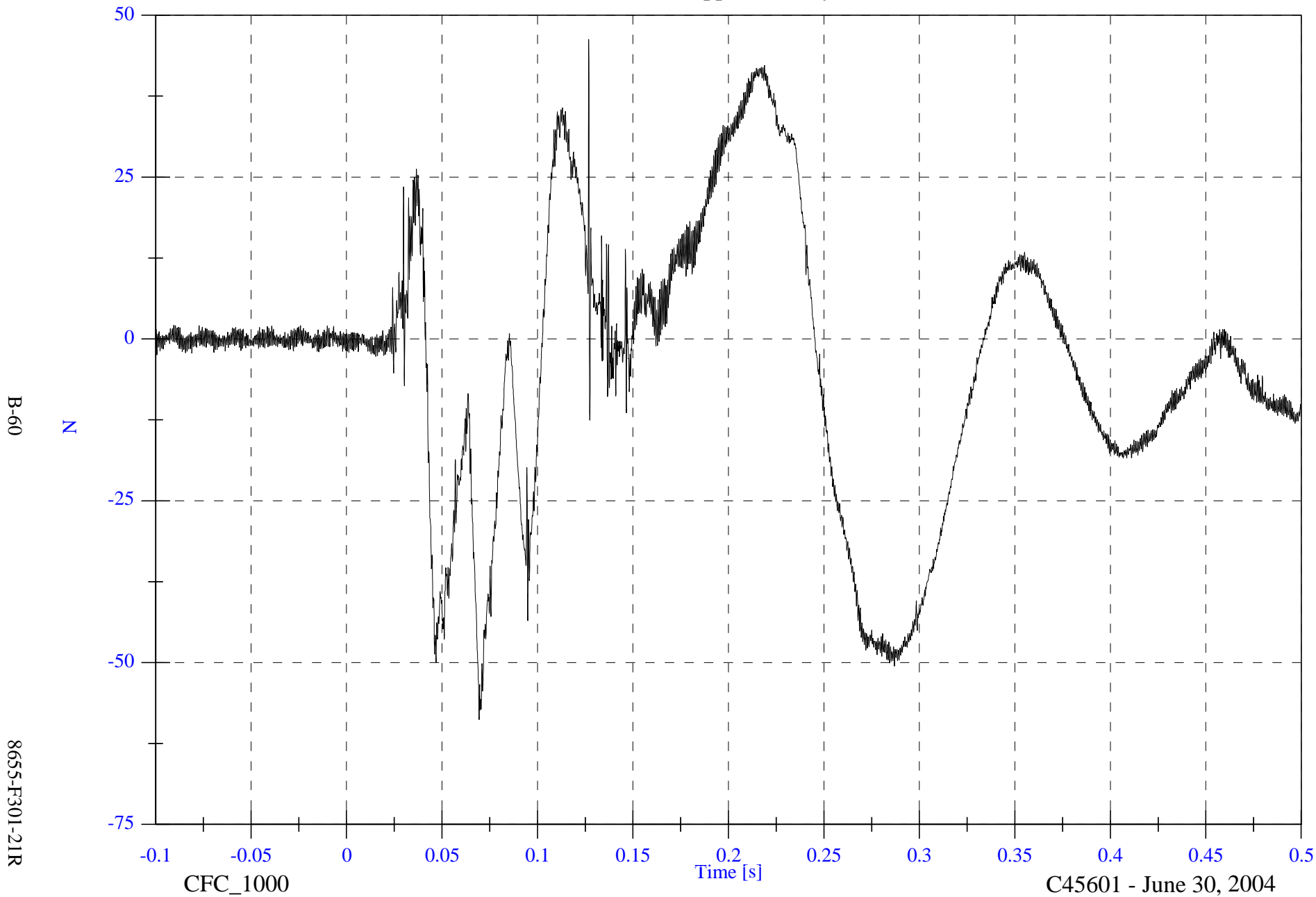
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Upper Neck Fy

Max: 46.3 [N] at 0.127 [s]

Min: -58.8 [N] at 0.069 [s]



B-60

N

8655-F301-21R

CFC_1000

Time [s]

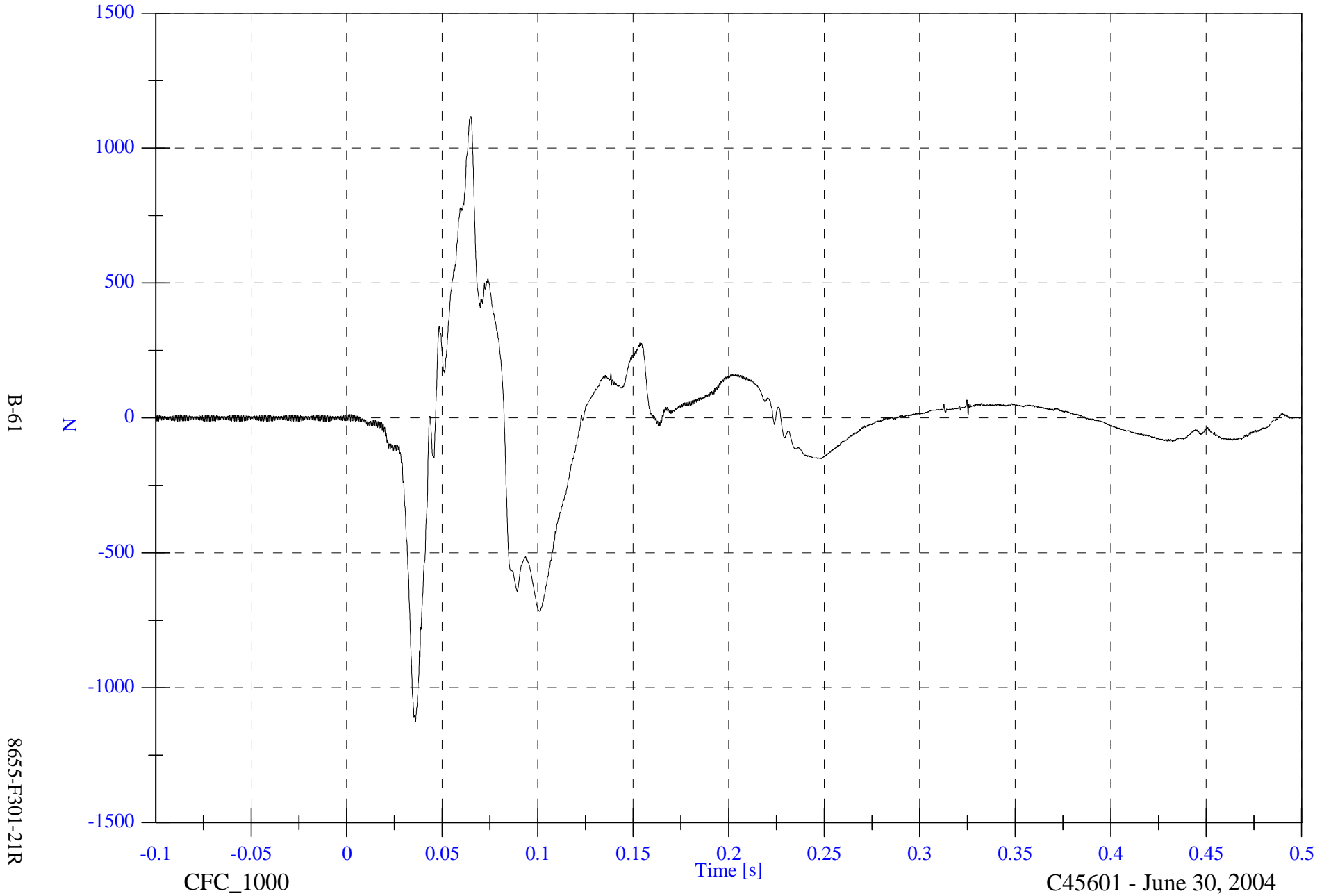
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Upper Neck Fz

Max: 1116.4 [N] at 0.065 [s]

Min: -1126.2 [N] at 0.036 [s]



B-61

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

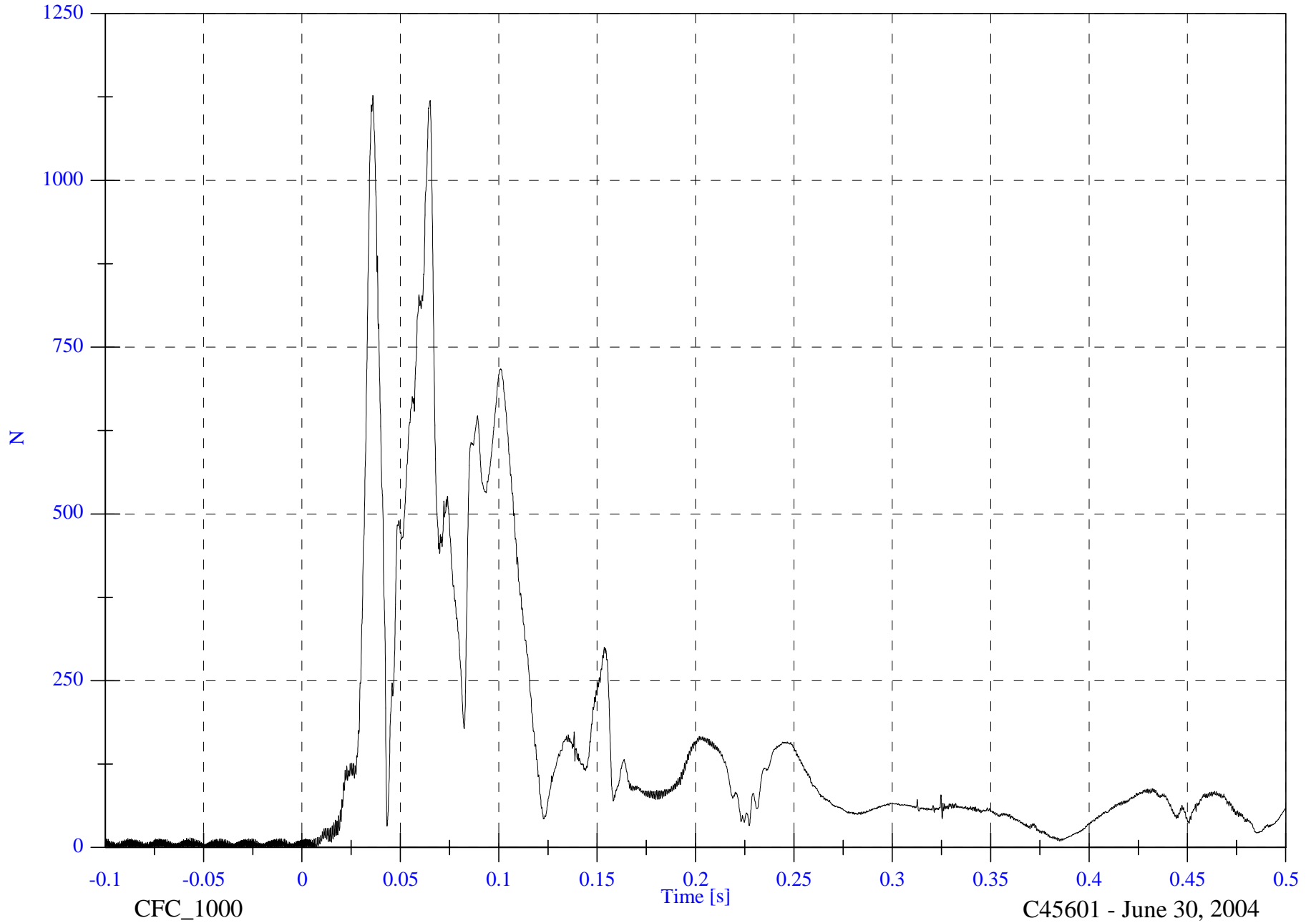
V2P3 Upper Neck F Resultant

Max: 1127.3 [N] at 0.036 [s]

Min: 0.1 [N] at -0.040 [s]

B-62

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

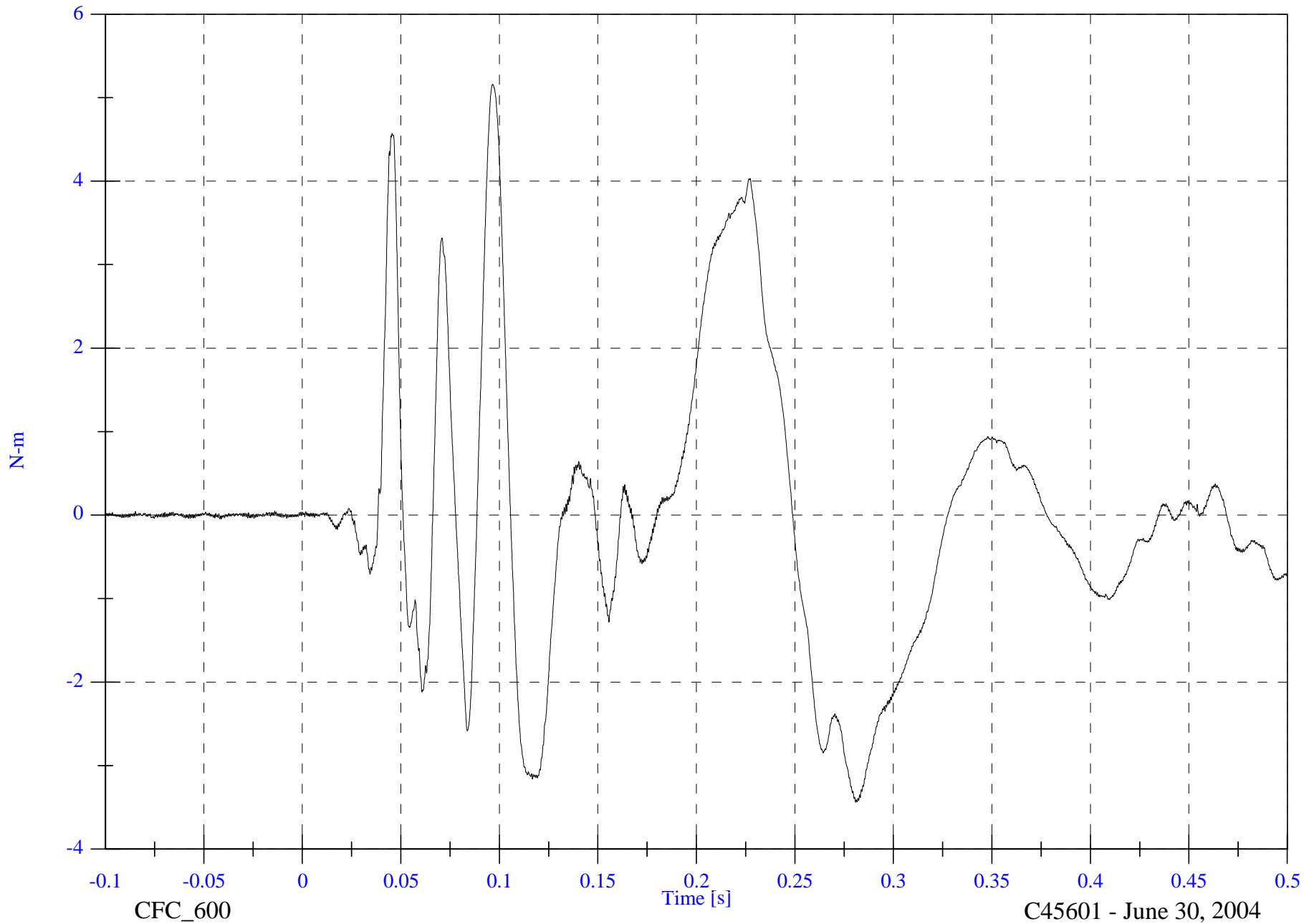
V2P3 Upper Neck Mx

Max: 5.2 [N-m] at 0.096 [s]

Min: -3.4 [N-m] at 0.281 [s]

B-63

8655-F301-21R



CFC_600

Time [s]

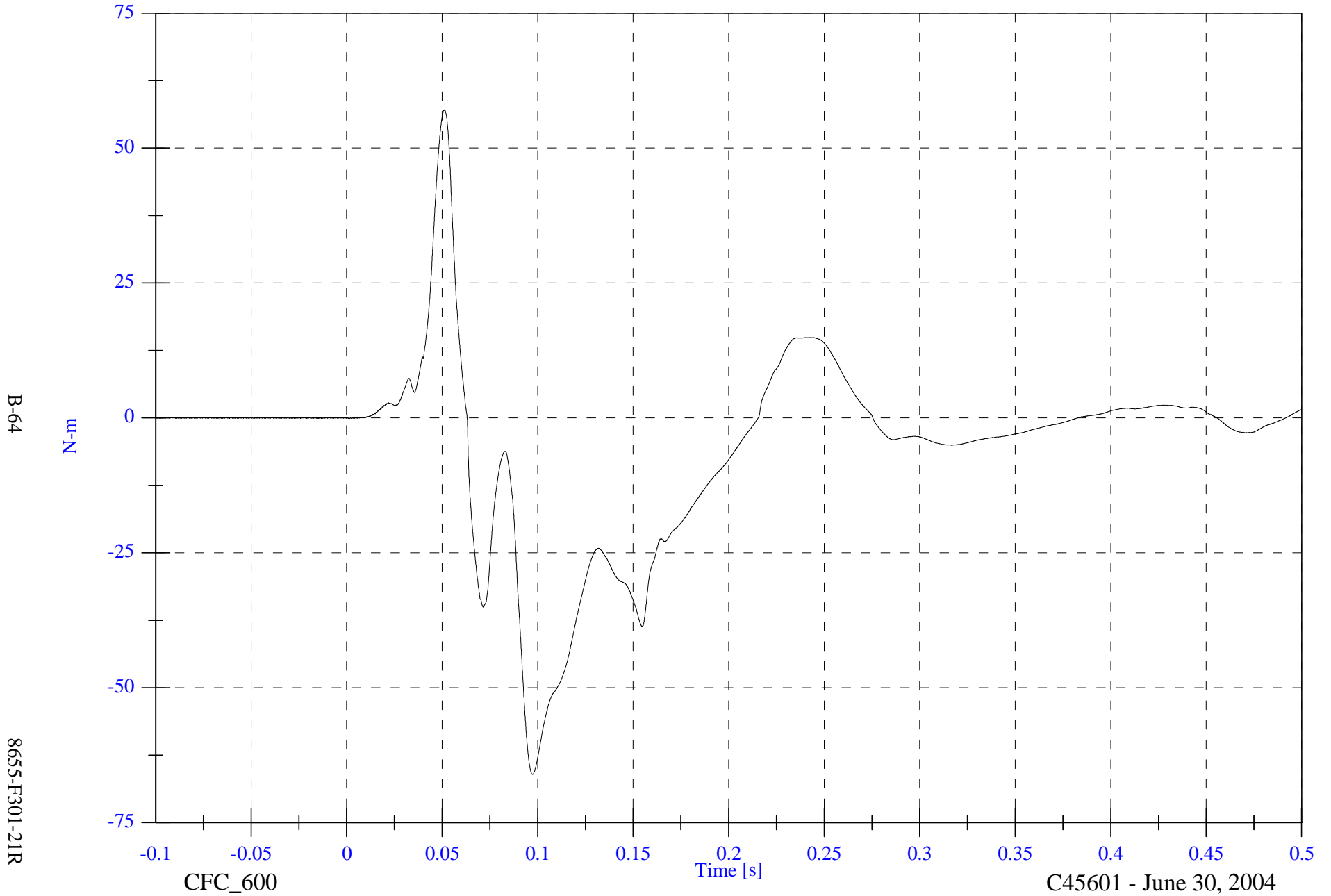
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Upper Neck My

Max: 57.1 [N-m] at 0.051 [s]

Min: -66.1 [N-m] at 0.097 [s]



B-64

8655-F301-21R

CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

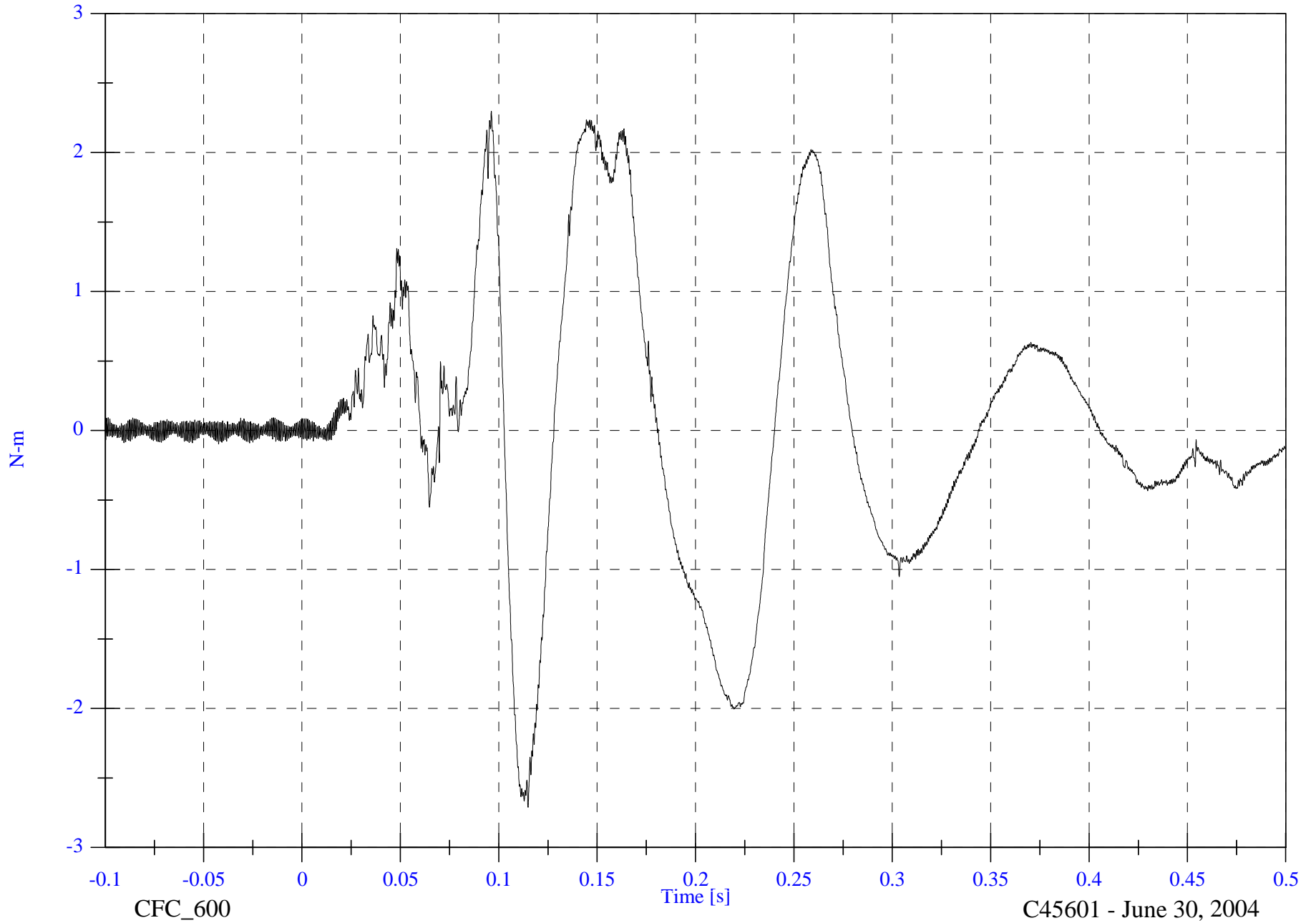
V2P3 Upper Neck Mz

Max: 2.3 [N-m] at 0.096 [s]

Min: -2.7 [N-m] at 0.115 [s]

B-65

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

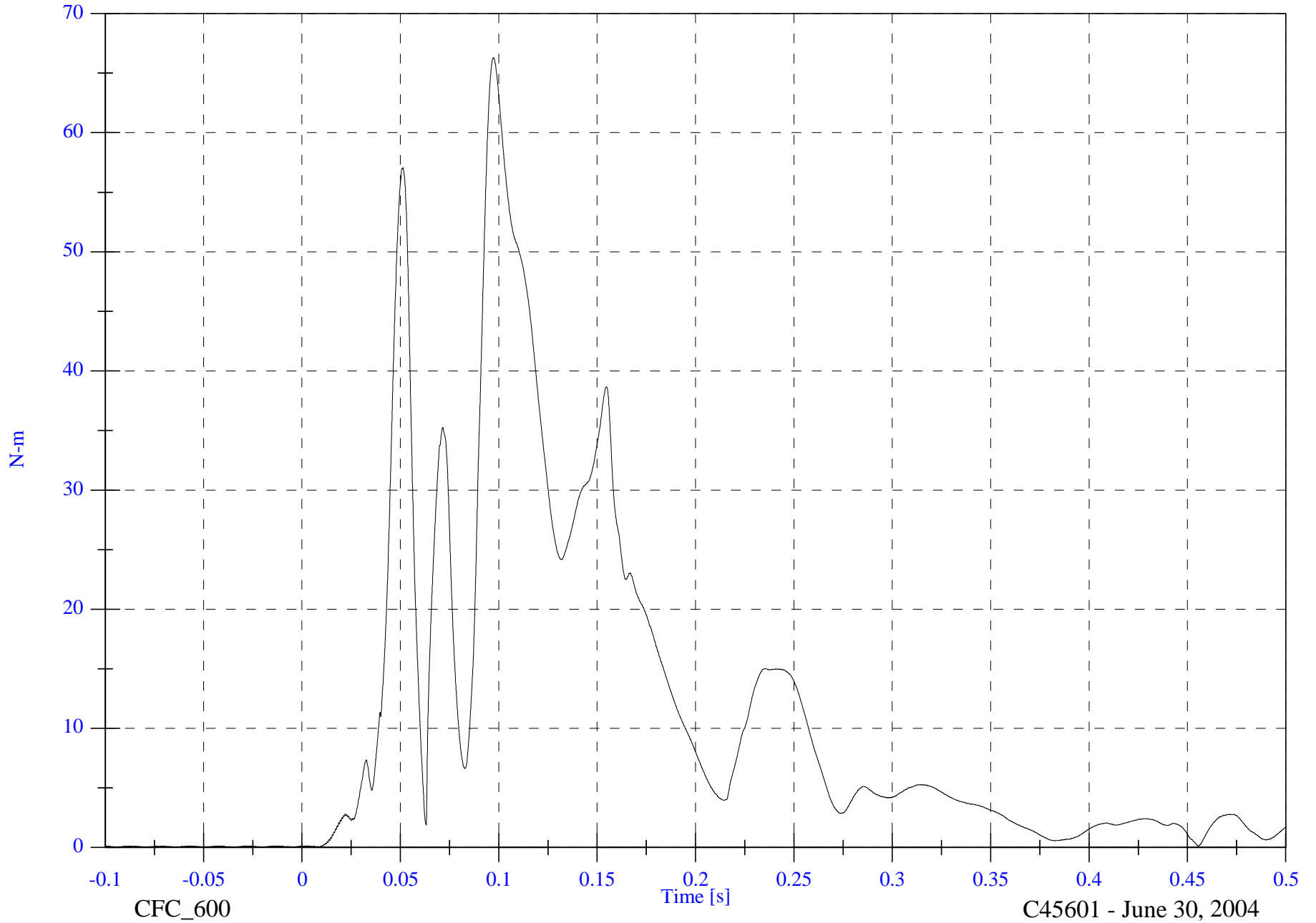
V2P3 Upper Neck M Resultant

Max: 66.3 [N-m] at 0.097 [s]

Min: 0.0 [N-m] at -0.021 [s]

B-66

8655-F301-21R



CFC_600

Time [s]

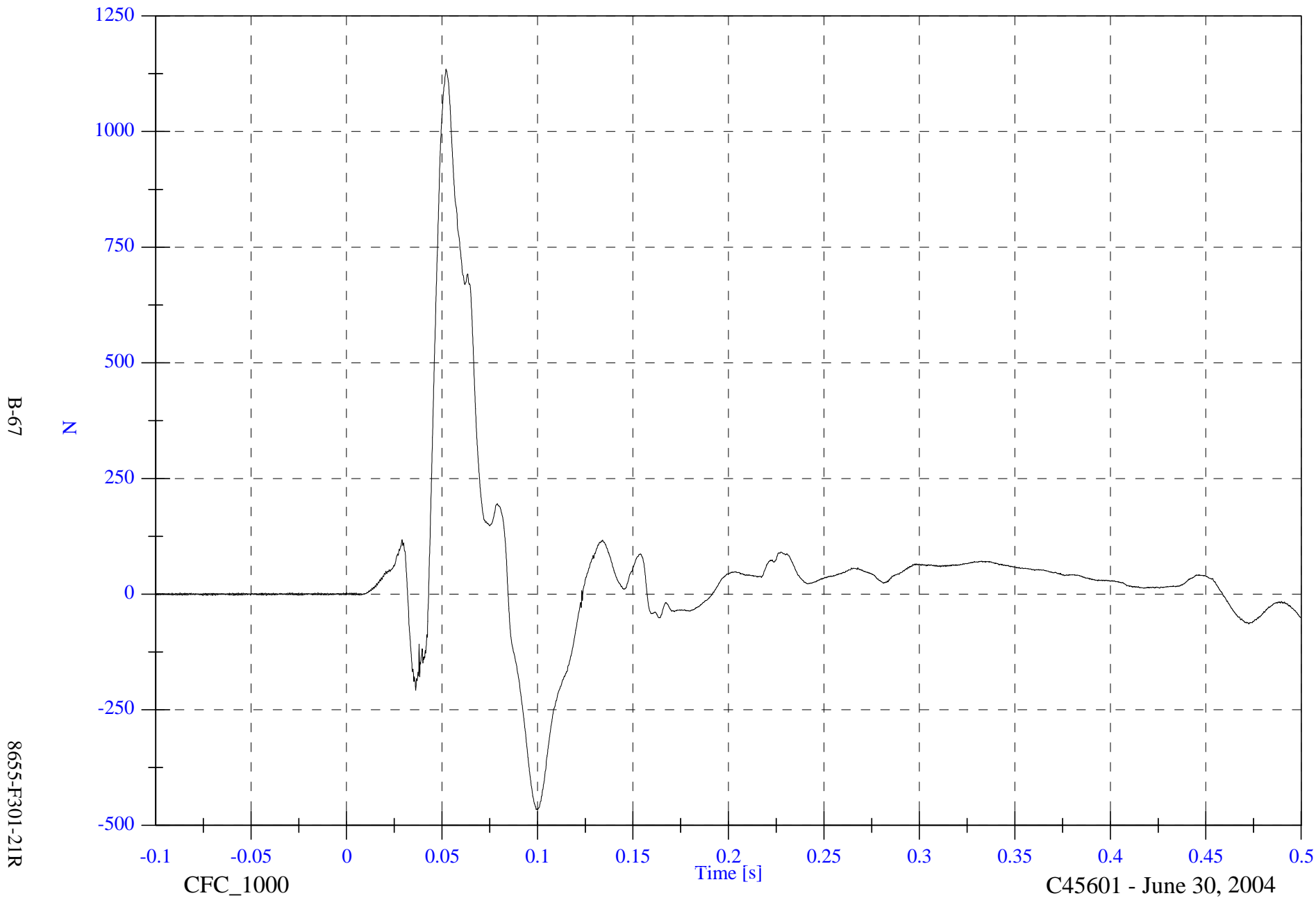
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 1134.7 [N] at 0.052 [s]

V2P3 Lower Neck Fx

Min: -465.8 [N] at 0.100 [s]



B-67

8655-F301-21R

CFC_1000

Time [s]

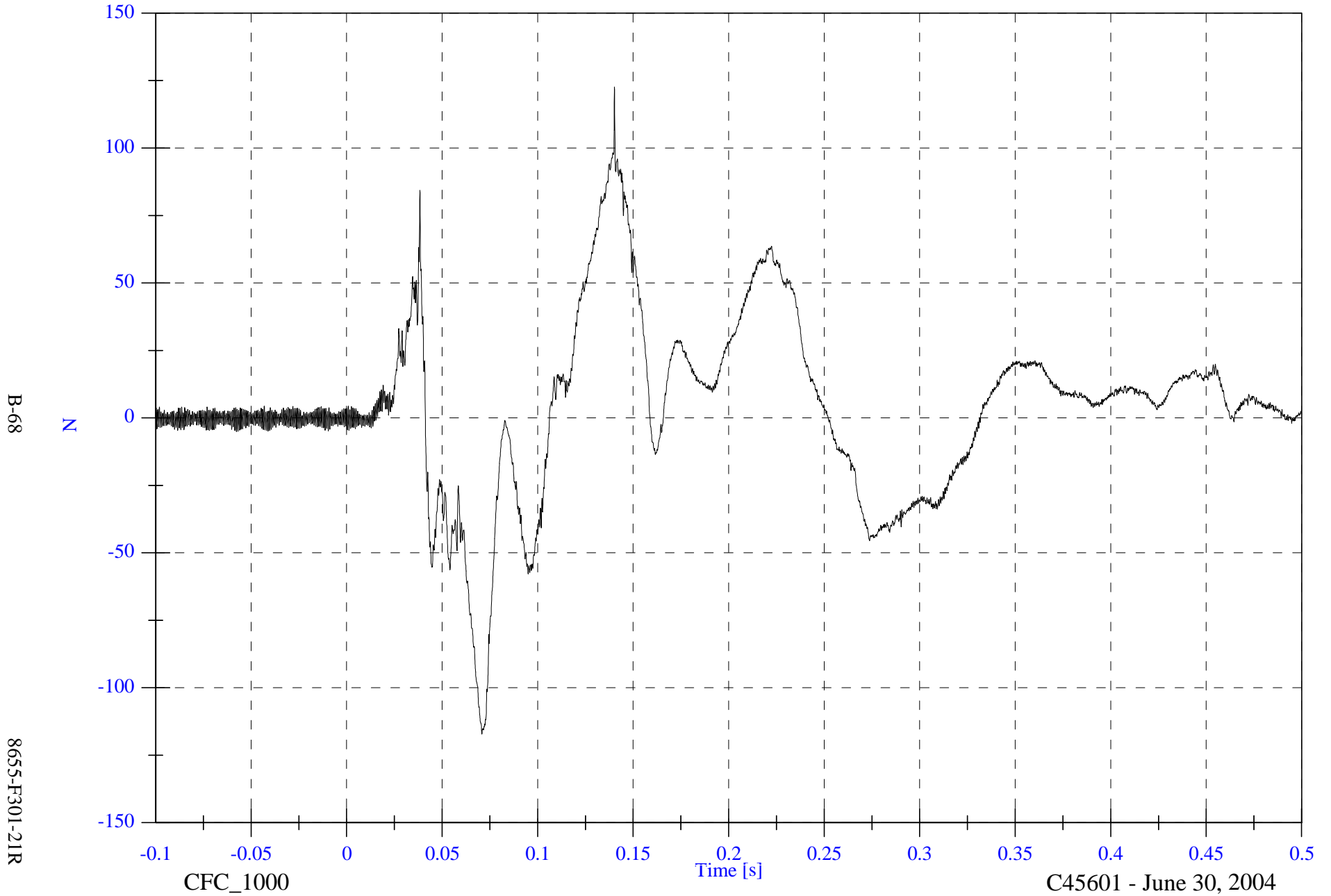
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 122.7 [N] at 0.140 [s]

V2P3 Lower Neck Fy

Min: -117.2 [N] at 0.071 [s]

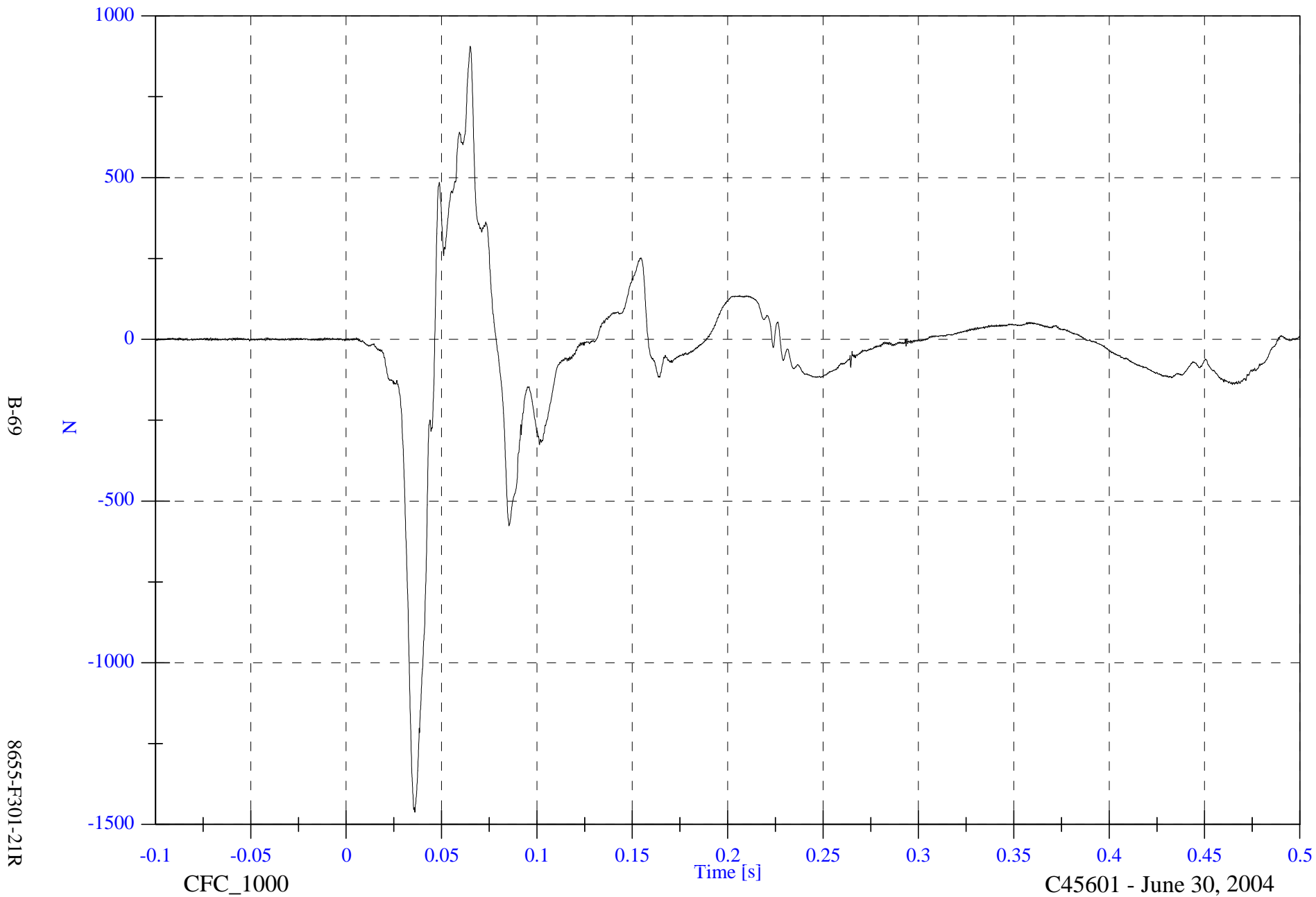


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lower Neck Fz

Max: 905.7 [N] at 0.065 [s]

Min: -1462.2 [N] at 0.036 [s]

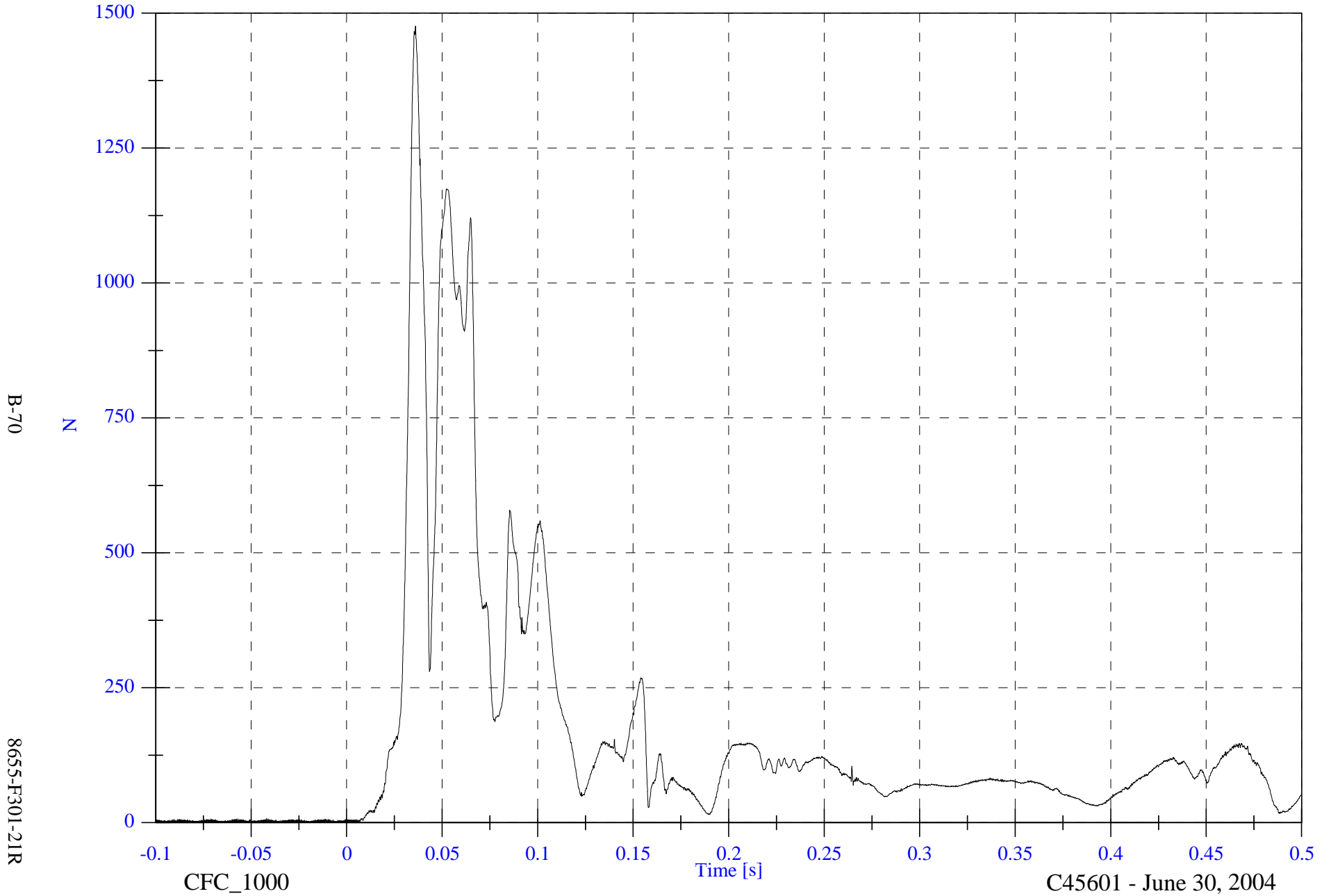


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lower Neck F Resultant

Max: 1475.7 [N] at 0.036 [s]

Min: 0.2 [N] at -0.021 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

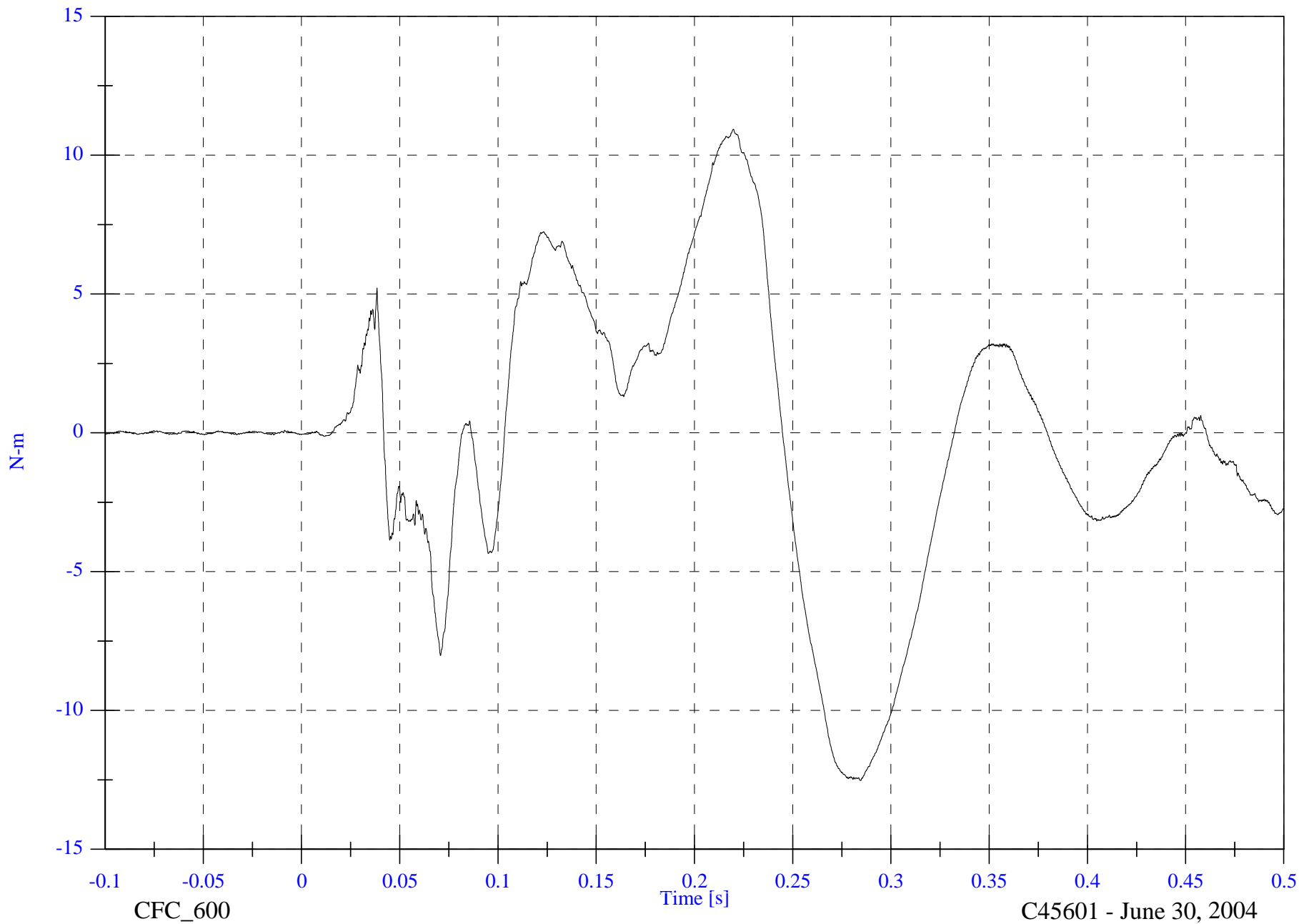
V2P3 Lower Neck Mx

Max: 10.9 [N-m] at 0.220 [s]

Min: -12.5 [N-m] at 0.285 [s]

B-71

8655-F301-21R

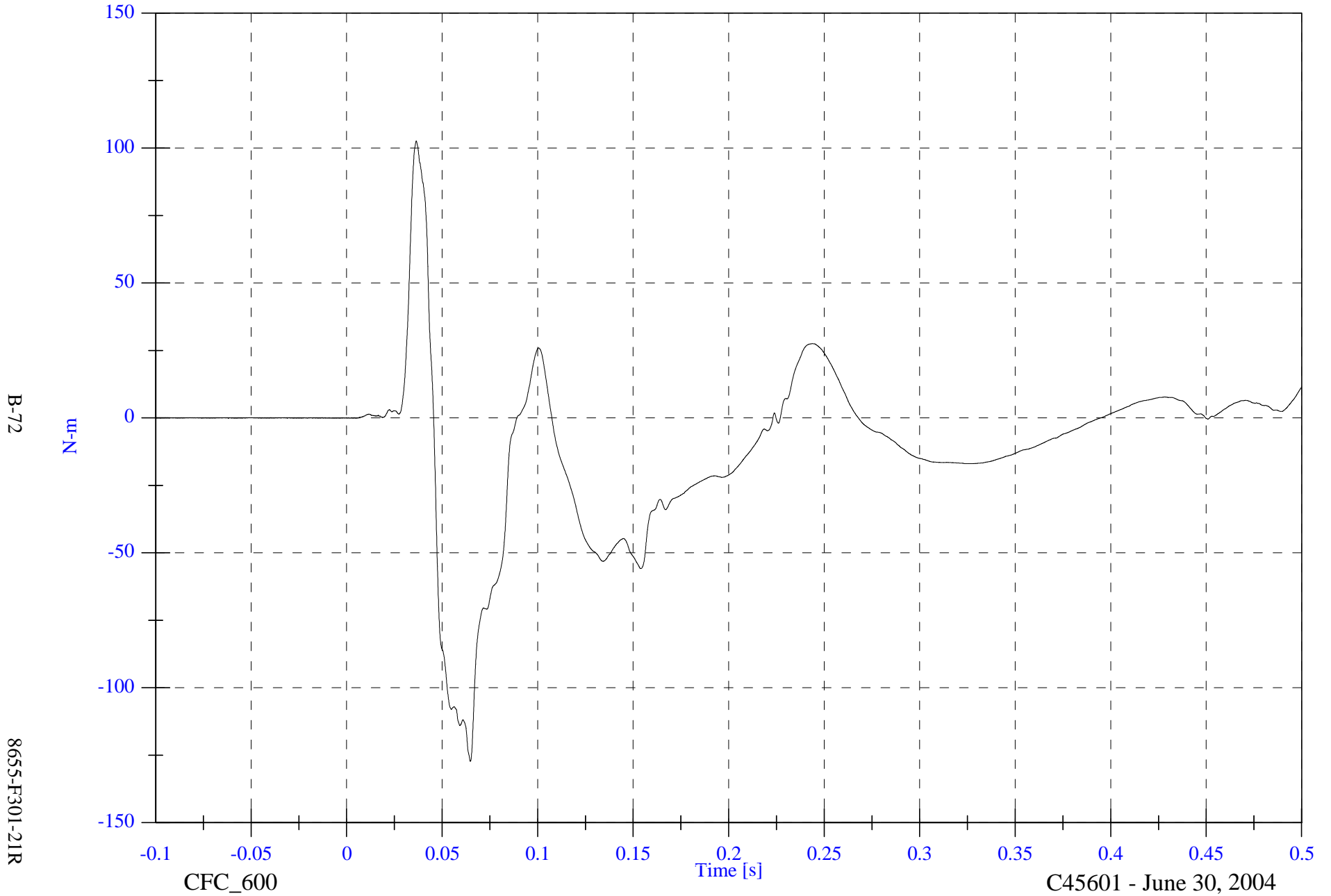


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lower Neck My

Max: 102.7 [N-m] at 0.036 [s]

Min: -127.3 [N-m] at 0.065 [s]



B-72

8655-F301-21R

CFC_600

Time [s]

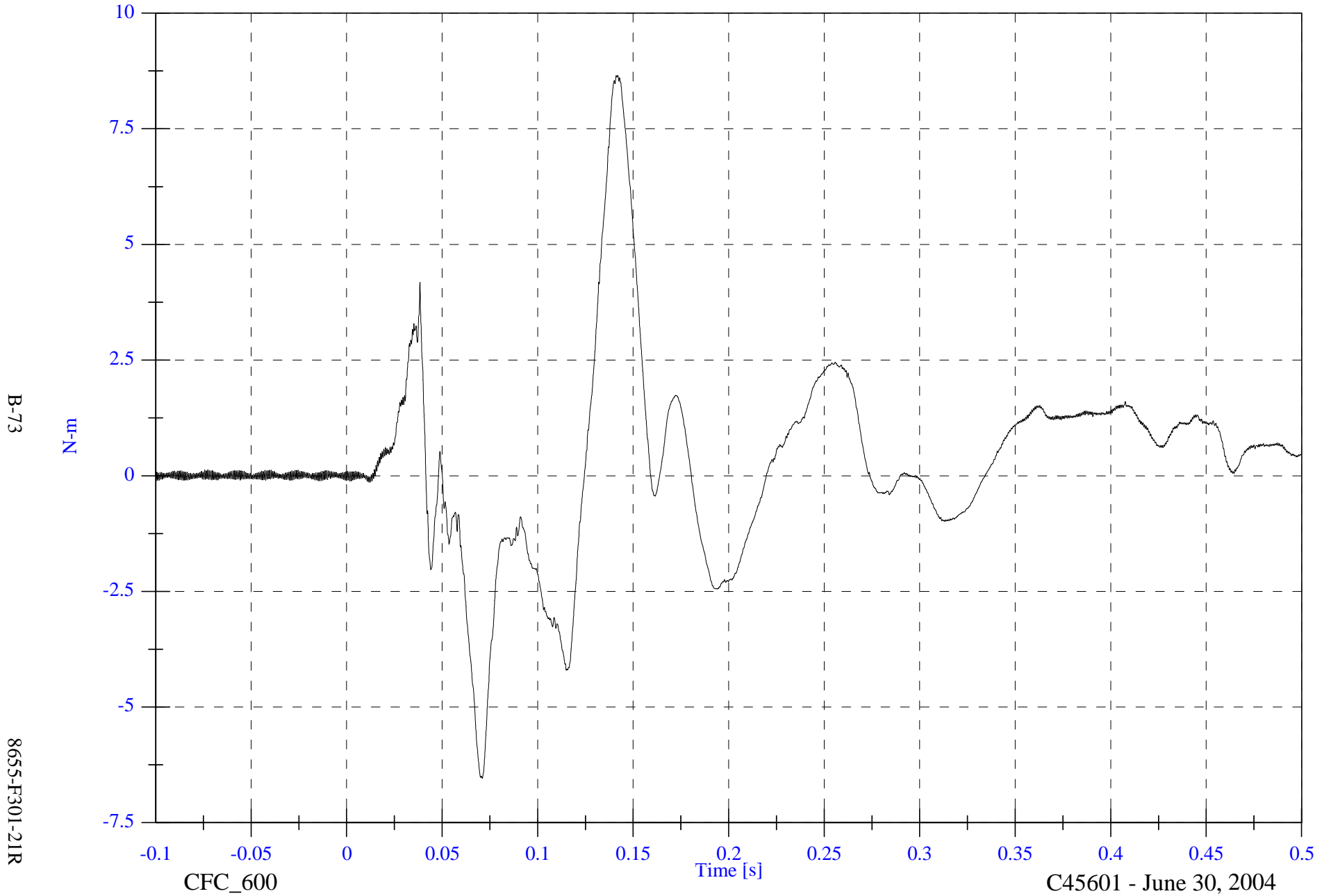
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lower Neck Mz

Max: 8.7 [N-m] at 0.142 [s]

Min: -6.5 [N-m] at 0.071 [s]



B-73

8655-F301-21R

CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

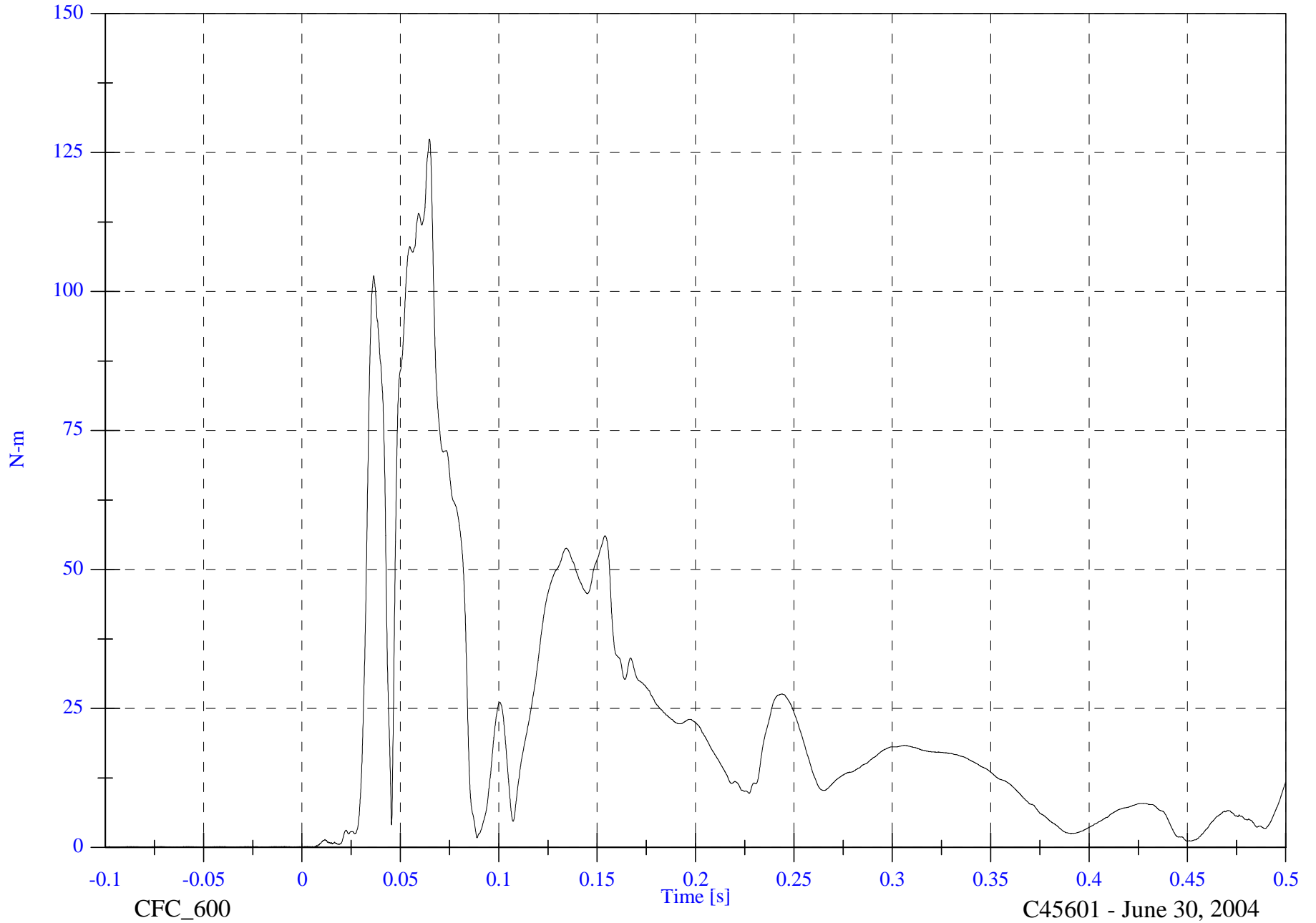
V2P3 Lower Neck M Resultant

Max: 127.4 [N-m] at 0.065 [s]

Min: 0.0 [N-m] at -0.088 [s]

B-74

8655-F301-21R

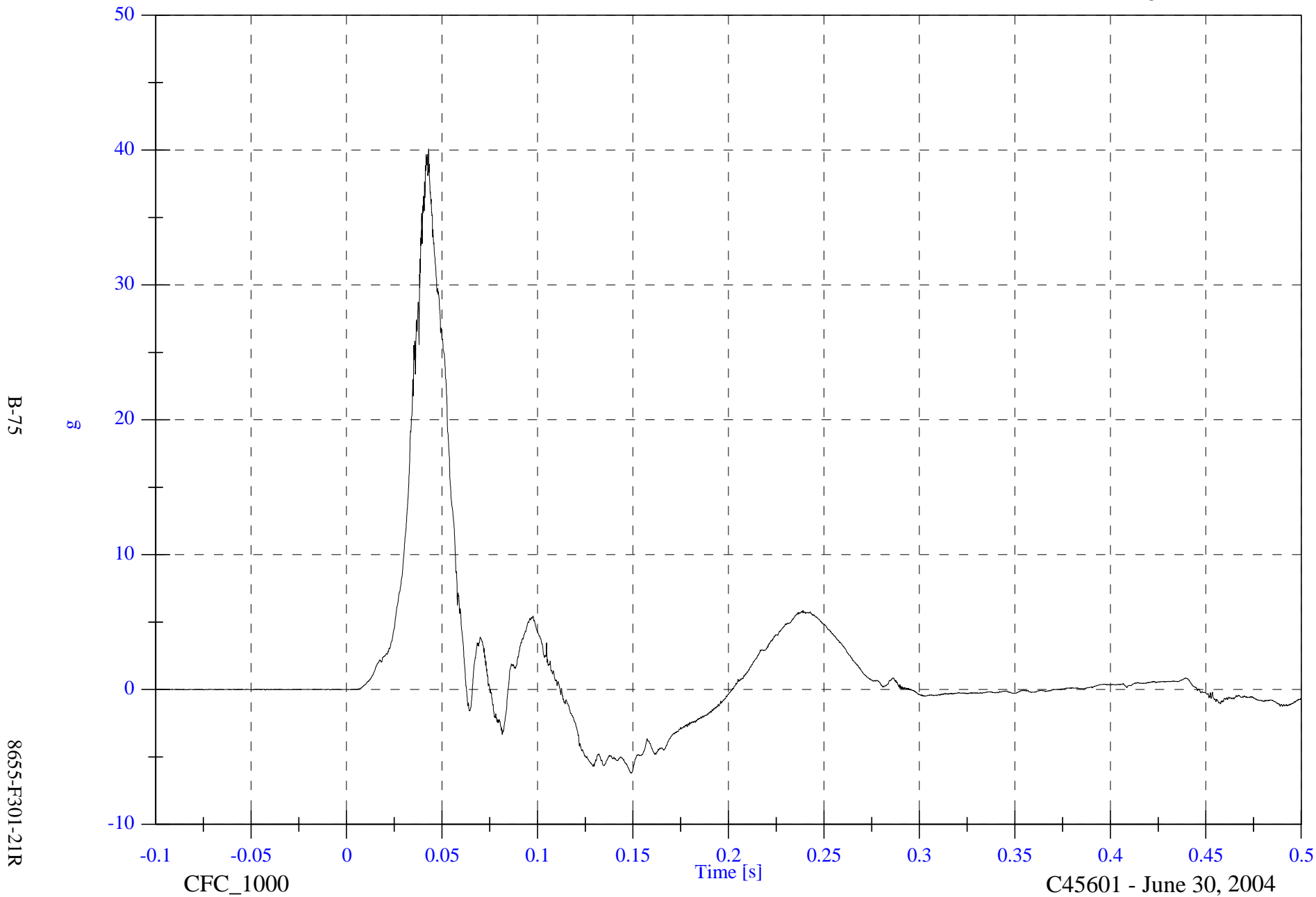


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lower Neck x

Max: 40.1 [g] at 0.043 [s]

Min: -6.2 [g] at 0.149 [s]



B-75

8655-F301-21R

CFC_1000

Time [s]

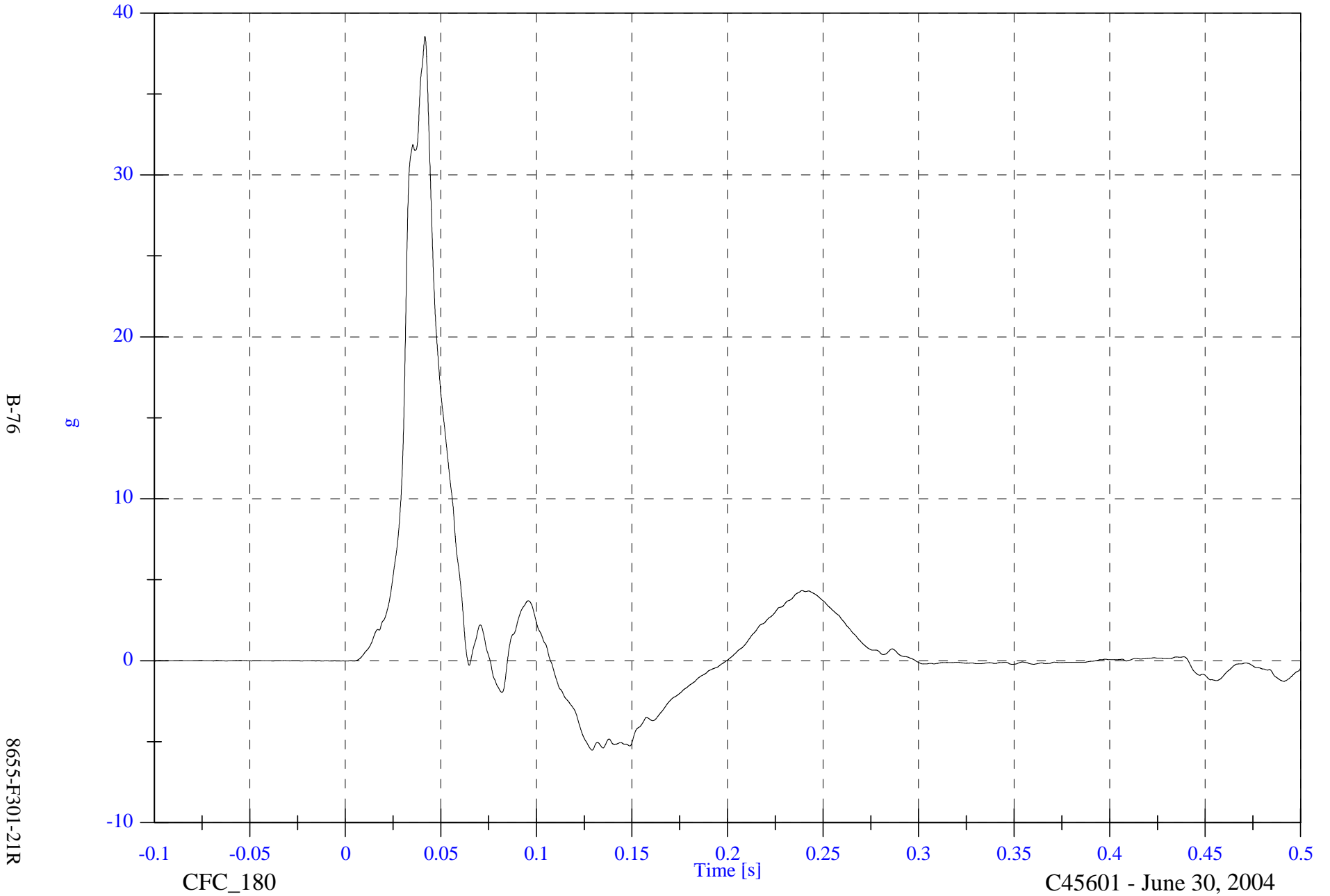
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Chest x

Max: 38.6 [g] at 0.042 [s]

Min: -5.5 [g] at 0.129 [s]



B-76

8655-F301-21R

CFC_180

Time [s]

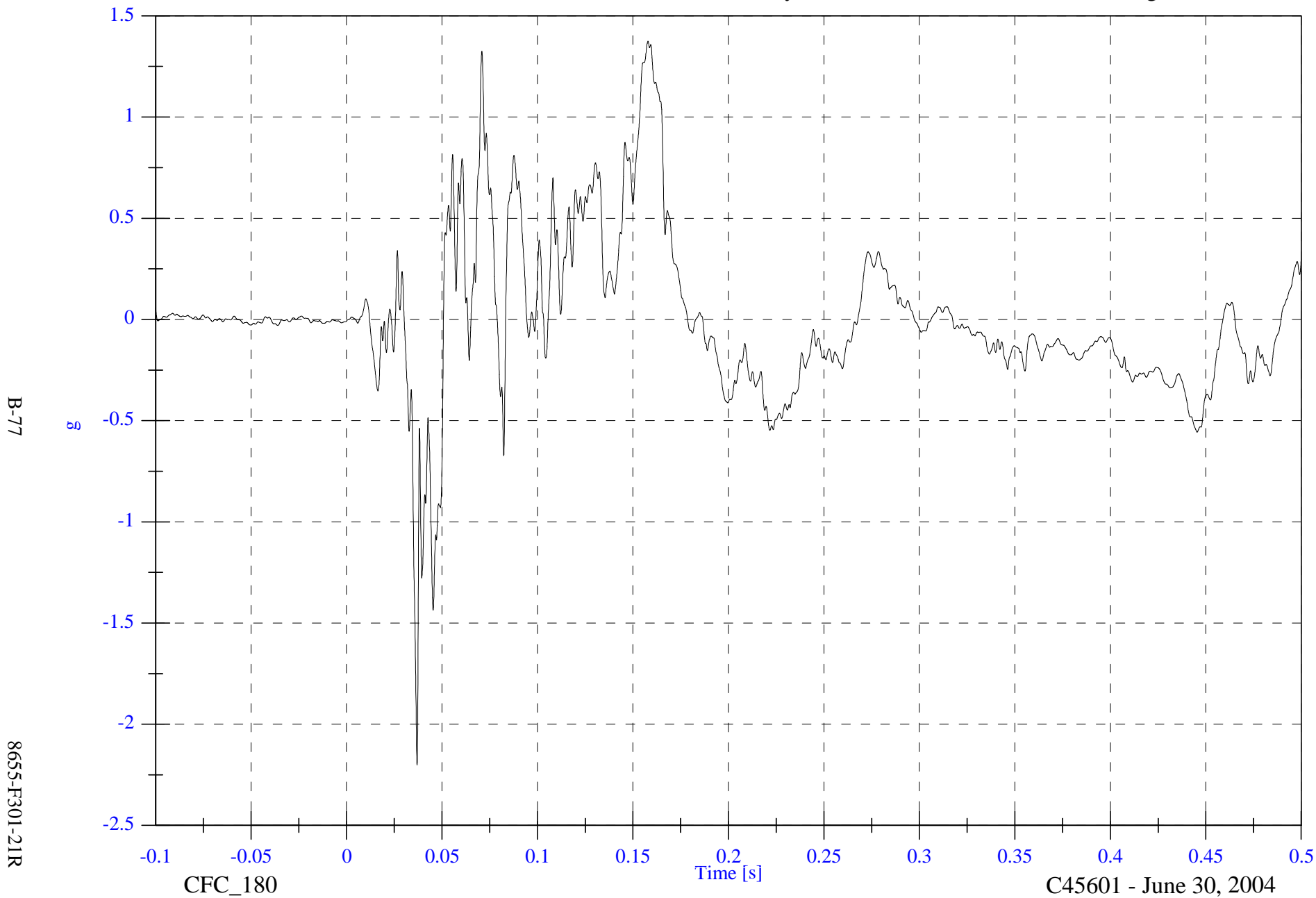
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Chest y

Max: 1.4 [g] at 0.158 [s]

Min: -2.2 [g] at 0.037 [s]

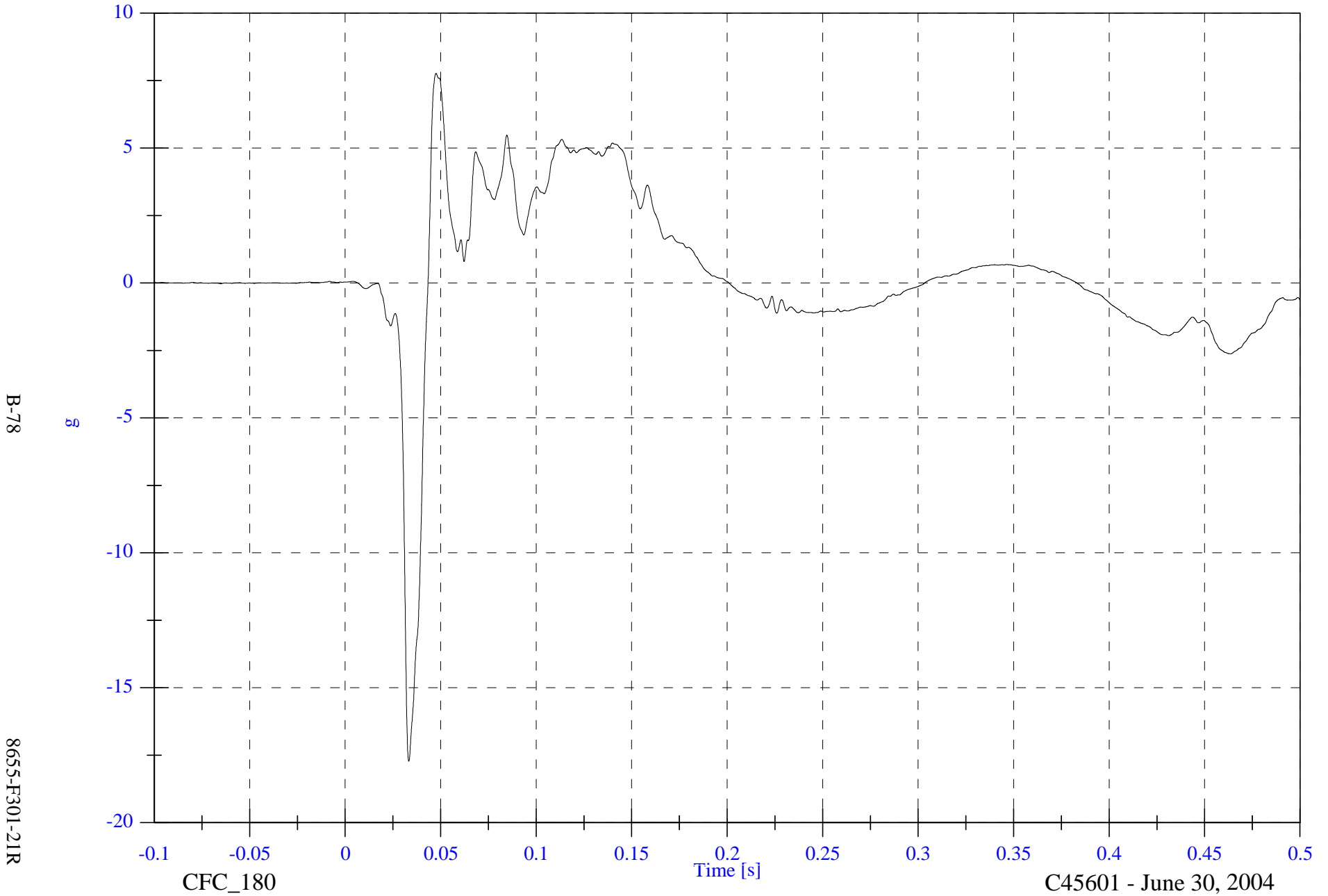


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Chest z

Max: 7.8 [g] at 0.048 [s]

Min: -17.7 [g] at 0.033 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

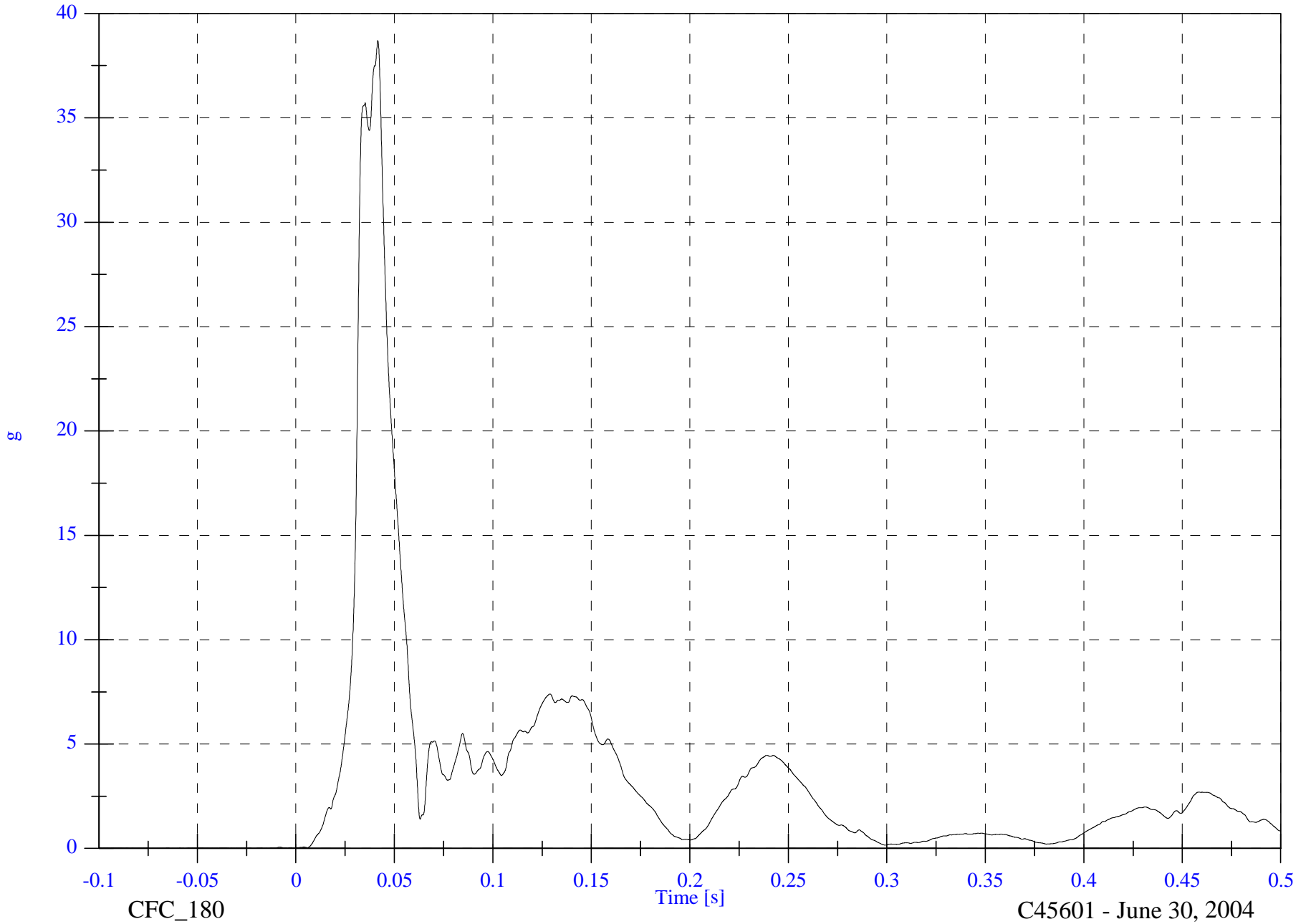
V2P3 Chest Resultant

Max: 38.7 [g] at 0.042 [s]

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

B-79

8655-F301-21R



CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

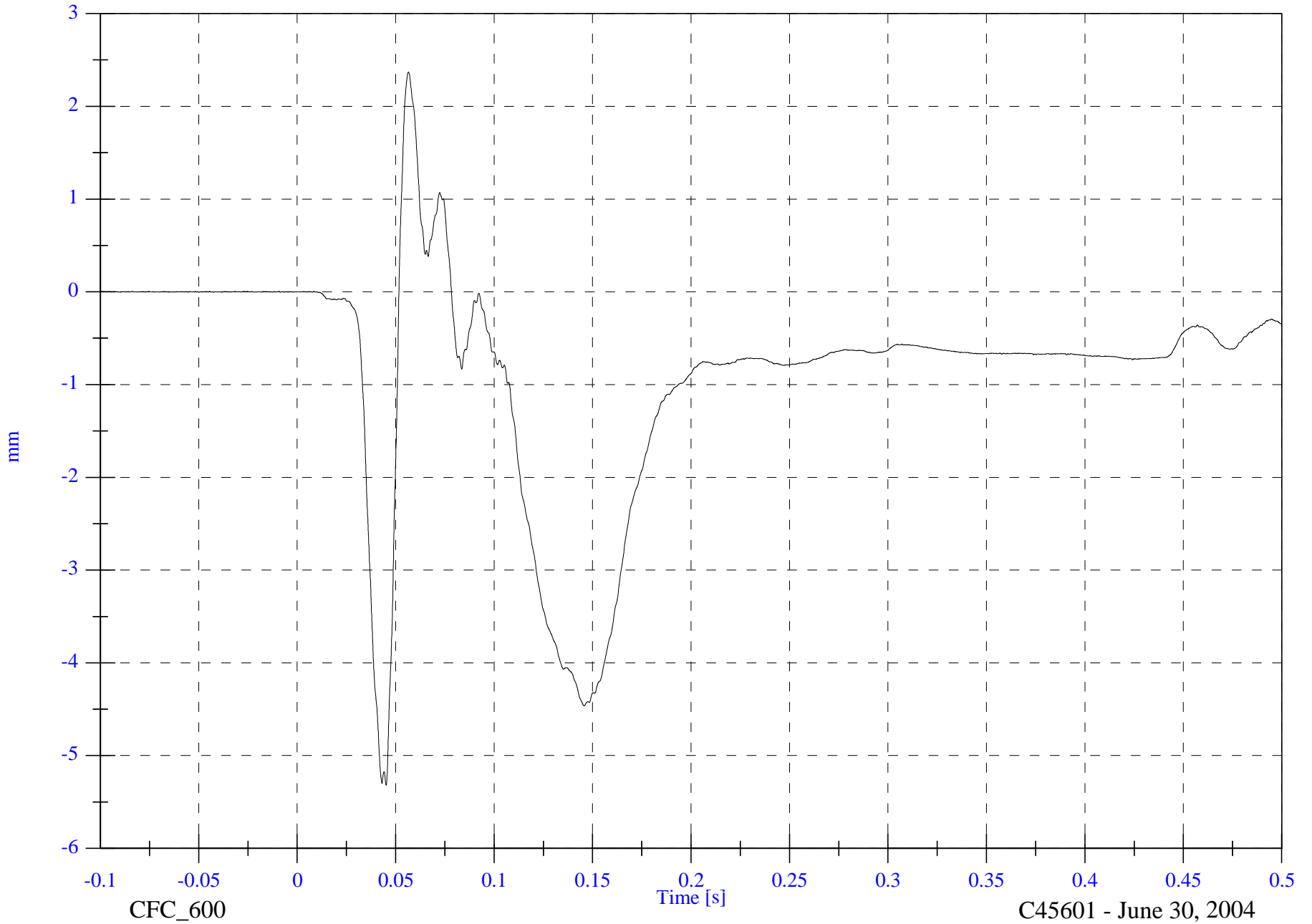
V2P3 Chest Compression

Max: 2.4 [mm] at 0.056 [s]

Min: -5.3 [mm] at 0.045 [s]

B-80

8655-F301-21R



CFC_600

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

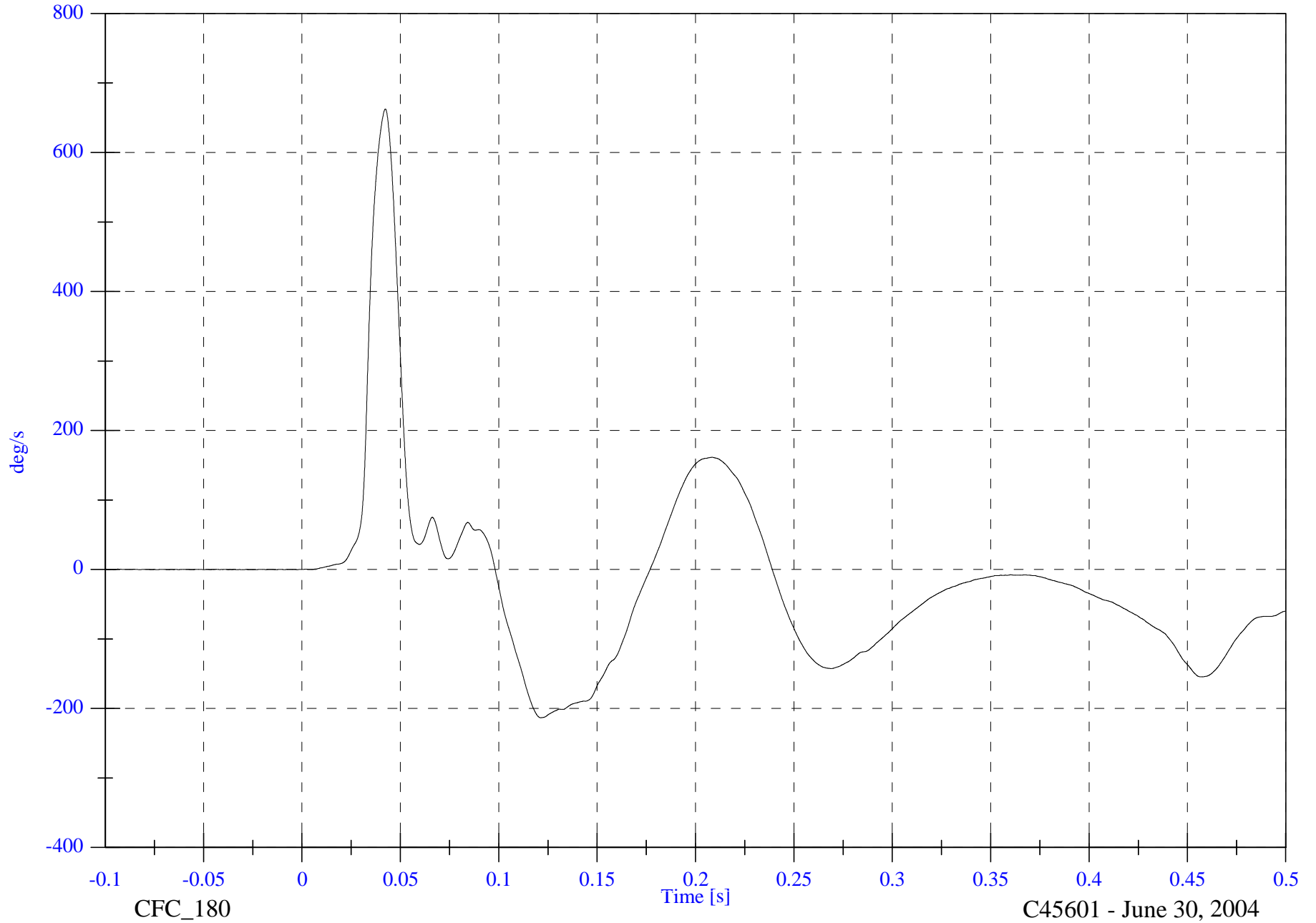
V2P3 Chest AVy

Max: 662.6 [deg/s] at 0.042 [s]

Min: -213.3 [deg/s] at 0.121 [s]

B-81

8655-F301-21R



CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

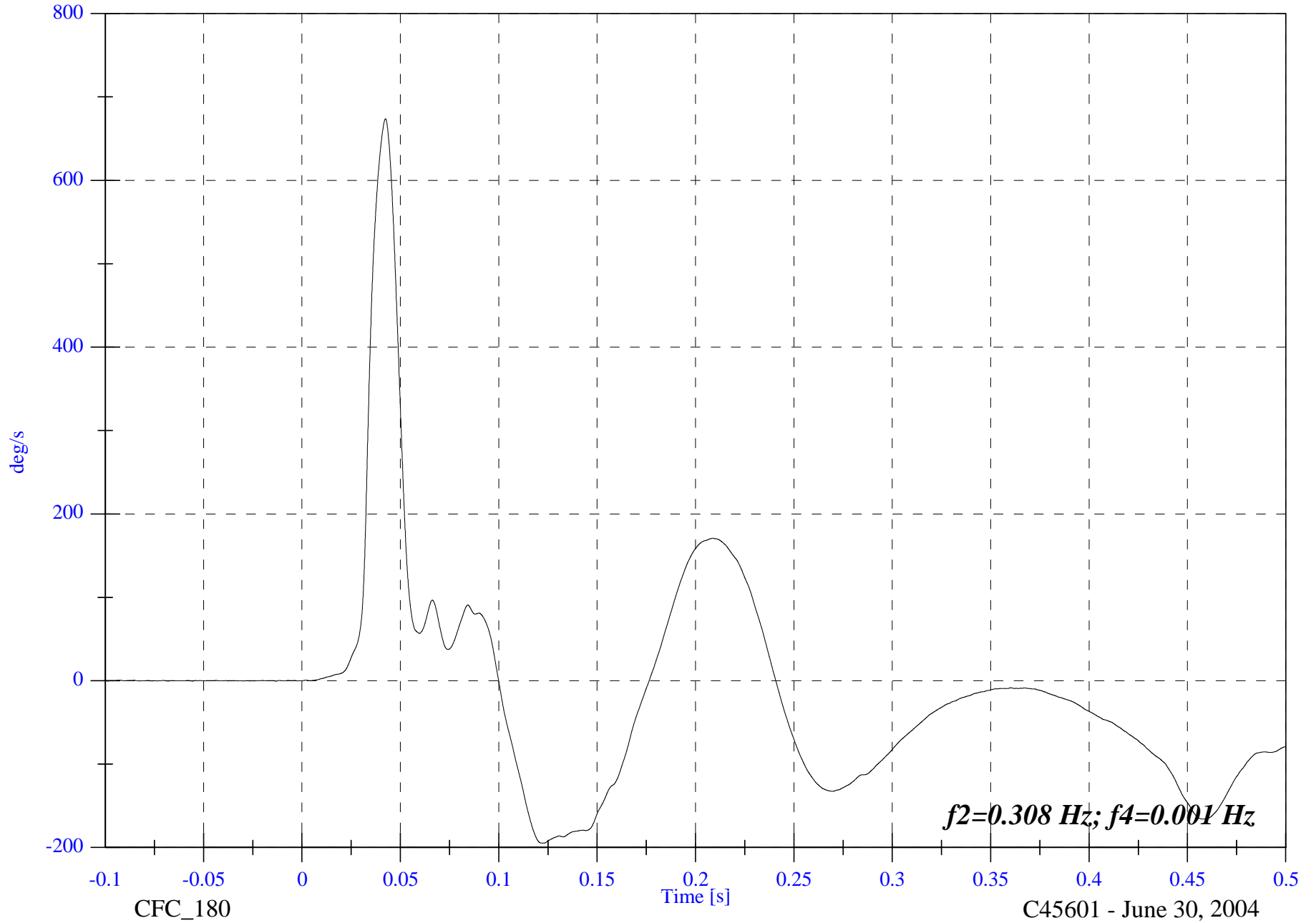
V2P3 Chest Comp AVy

Max: 673.7 [deg/s] at 0.042 [s]

Min: -194.8 [deg/s] at 0.122 [s]

B-82

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

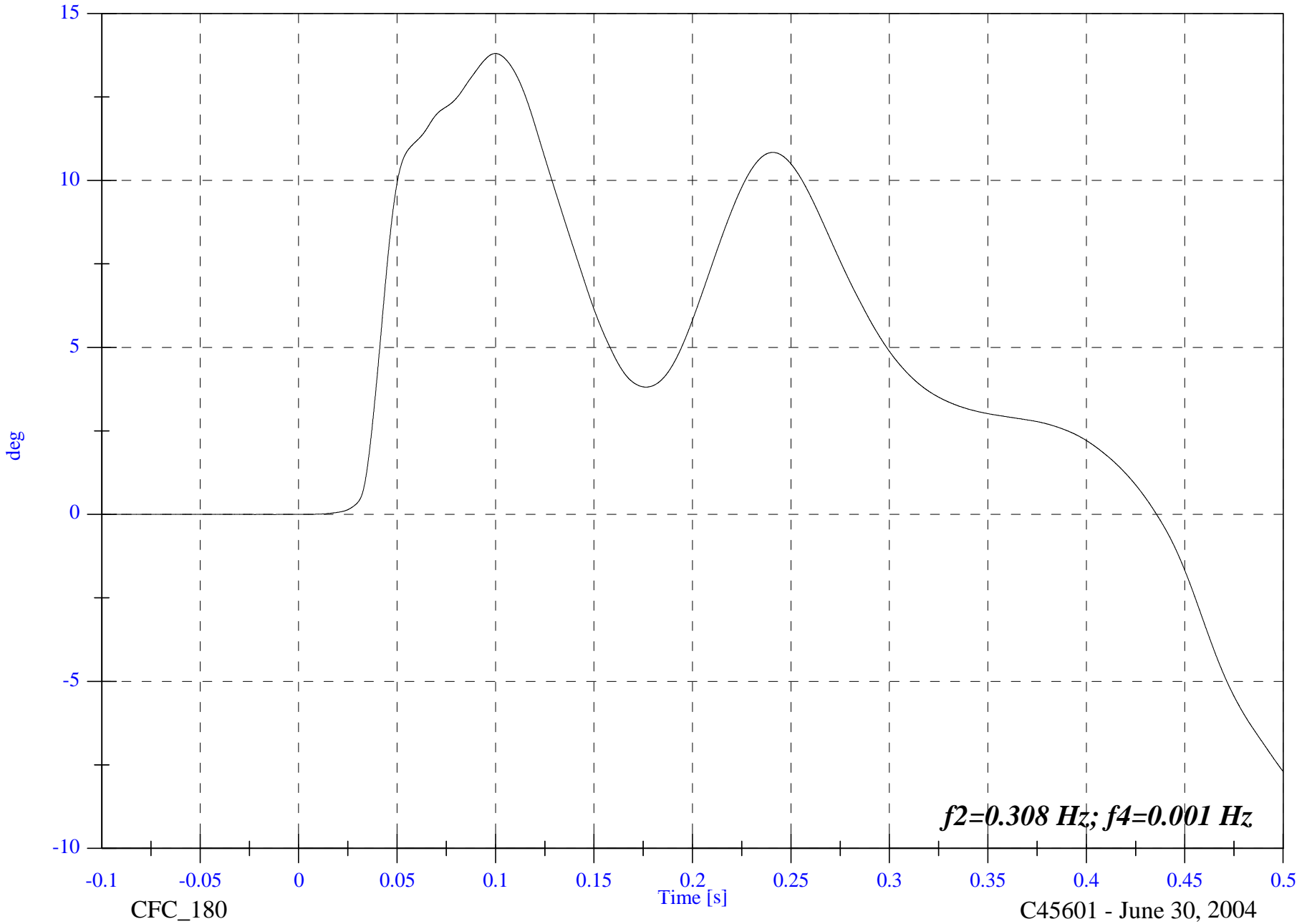
V2P3 Chest Comp ADy

Max: 13.8 [deg] at 0.100 [s]

Min: -7.7 [deg] at 0.500 [s]

B-83

8655-F301-21R



f2=0.308 Hz; f4=0.001 Hz

CFC_180

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

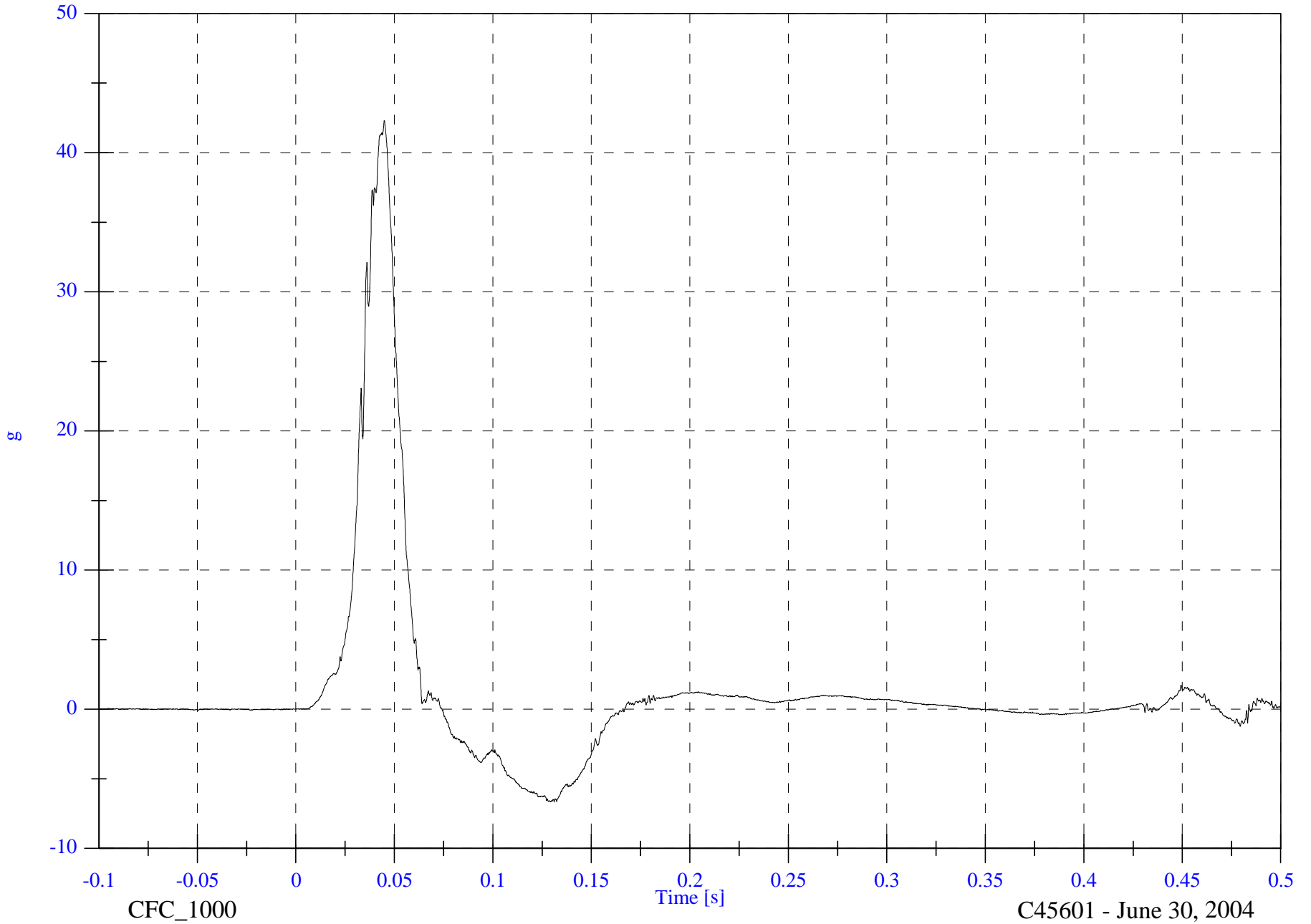
V2P3 Pelvic x

Max: 42.3 [g] at 0.045 [s]

Min: -6.7 [g] at 0.131 [s]

B-84

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

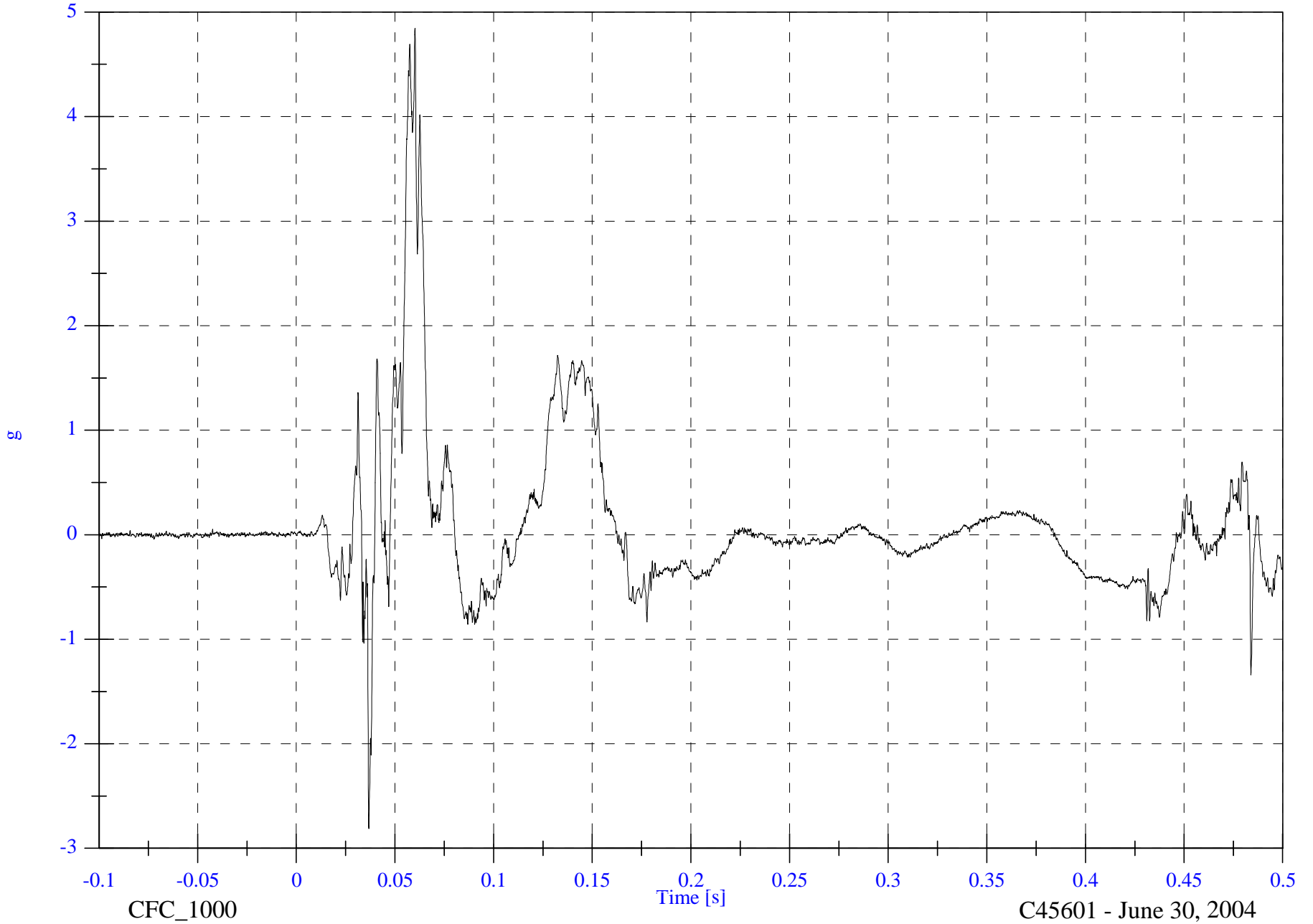
V2P3 Pelvic y

Max: 4.8 [g] at 0.060 [s]

Min: -2.8 [g] at 0.037 [s]

B-85

8655-F301-21R



CFC_1000

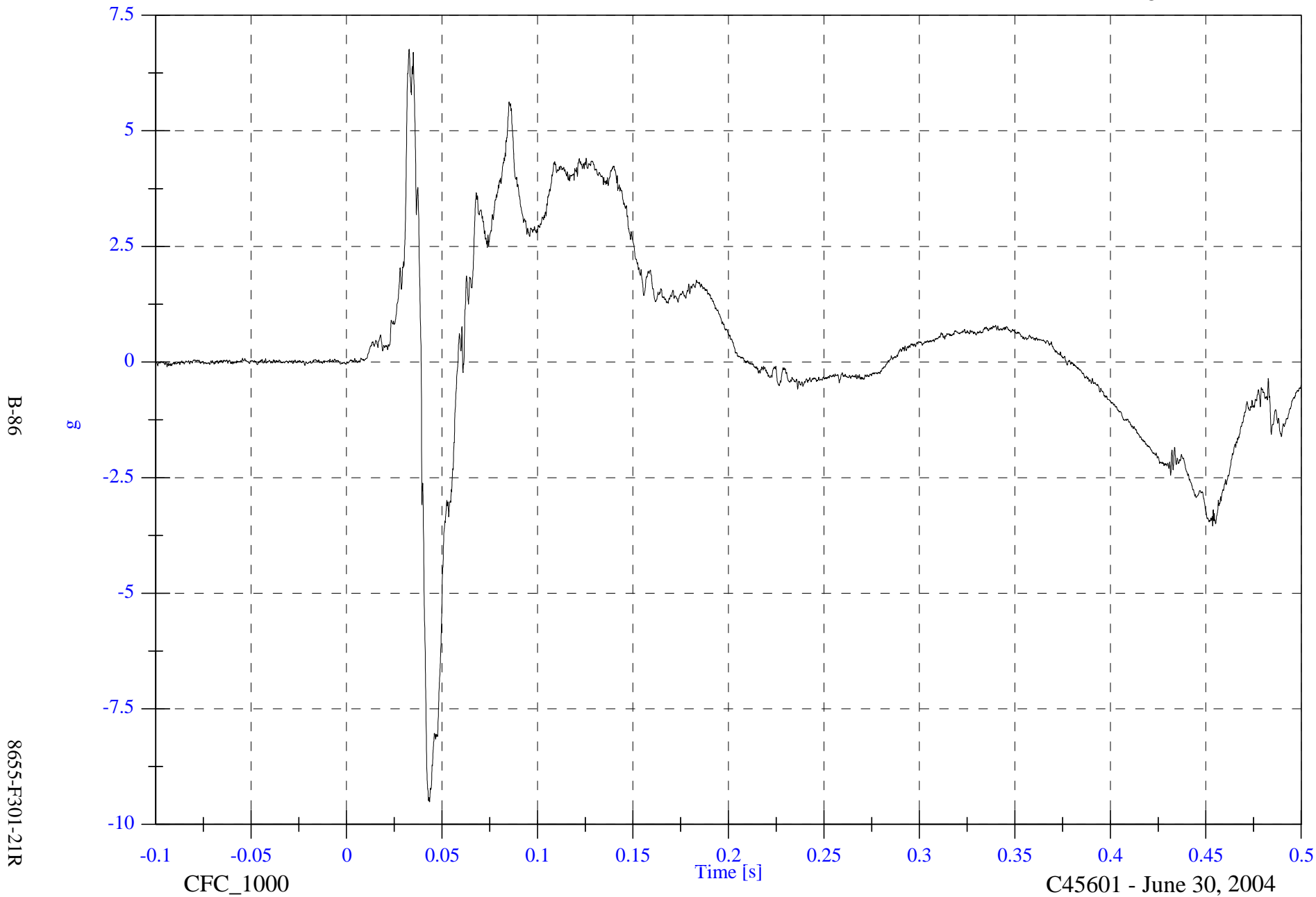
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Pelvic z

Max: 6.8 [g] at 0.033 [s]

Min: -9.5 [g] at 0.043 [s]



B-86

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

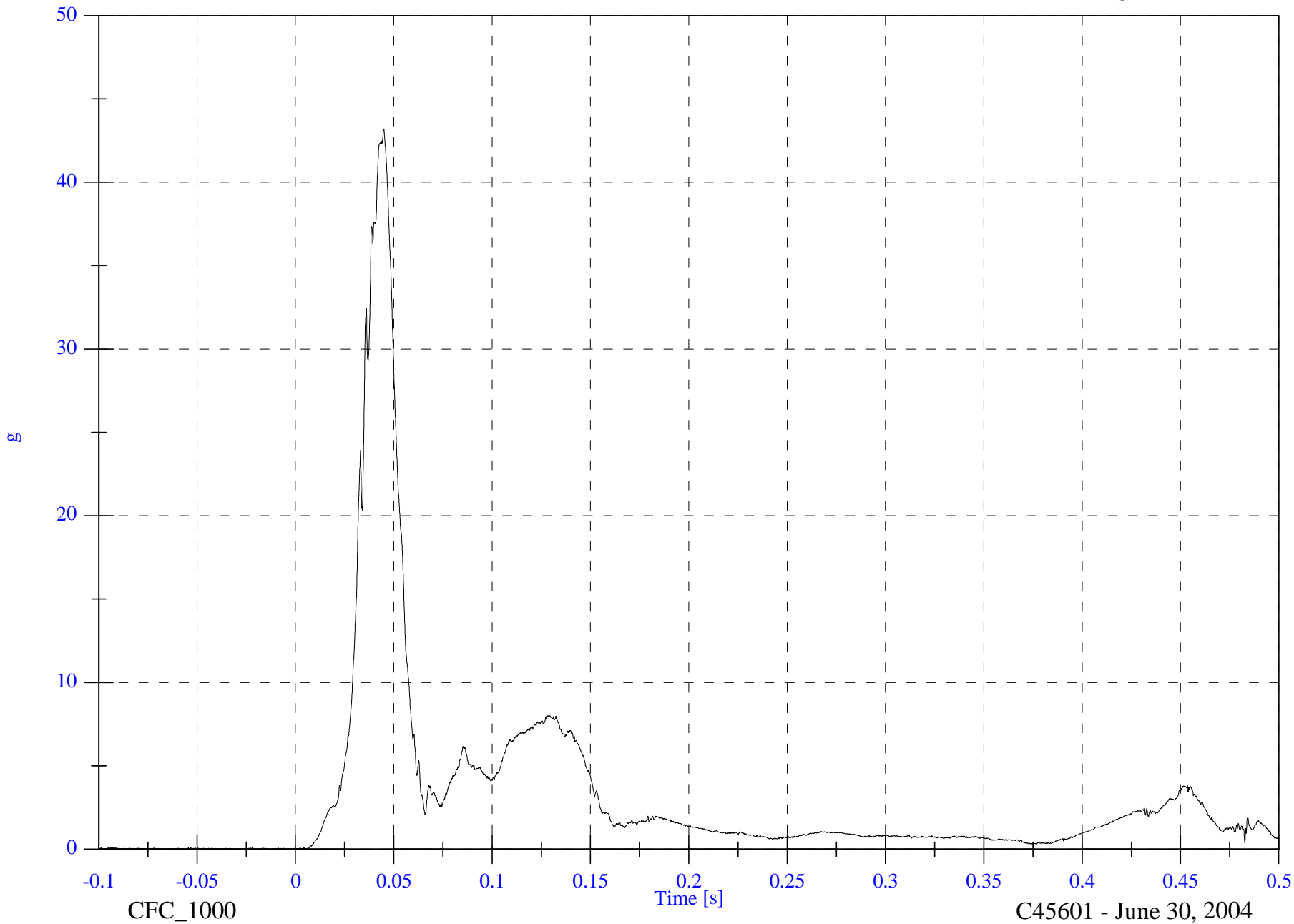
V2P3 Pelvic Resultant

Max: 43.2 [g] at 0.045 [s]

Min: 0.0 [g] at -0.044 [s]

B-87

8655-F301-21R



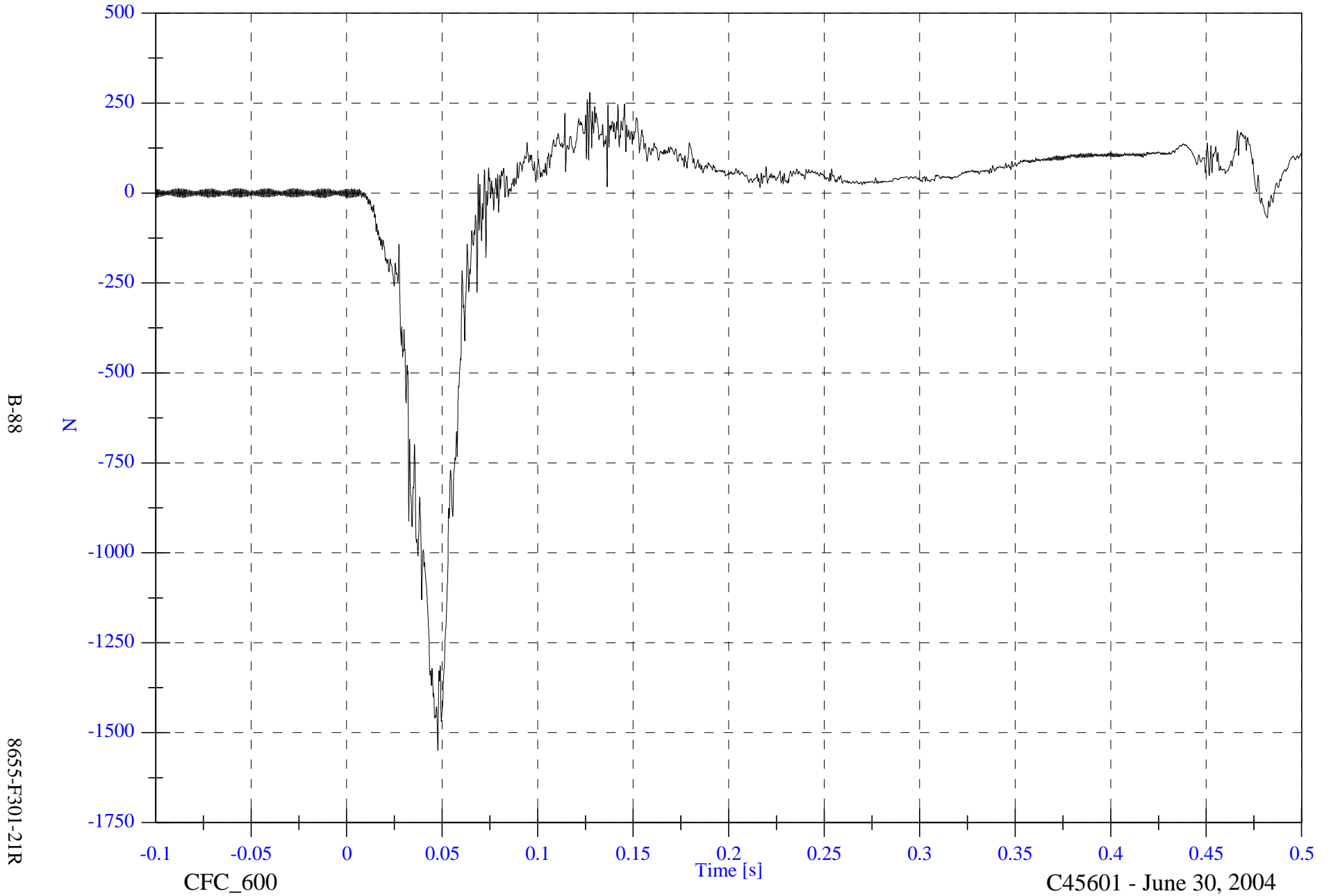
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Left Femur

Max: 279.6 [N] at 0.127 [s]

Min: -1548.9 [N] at 0.048 [s]

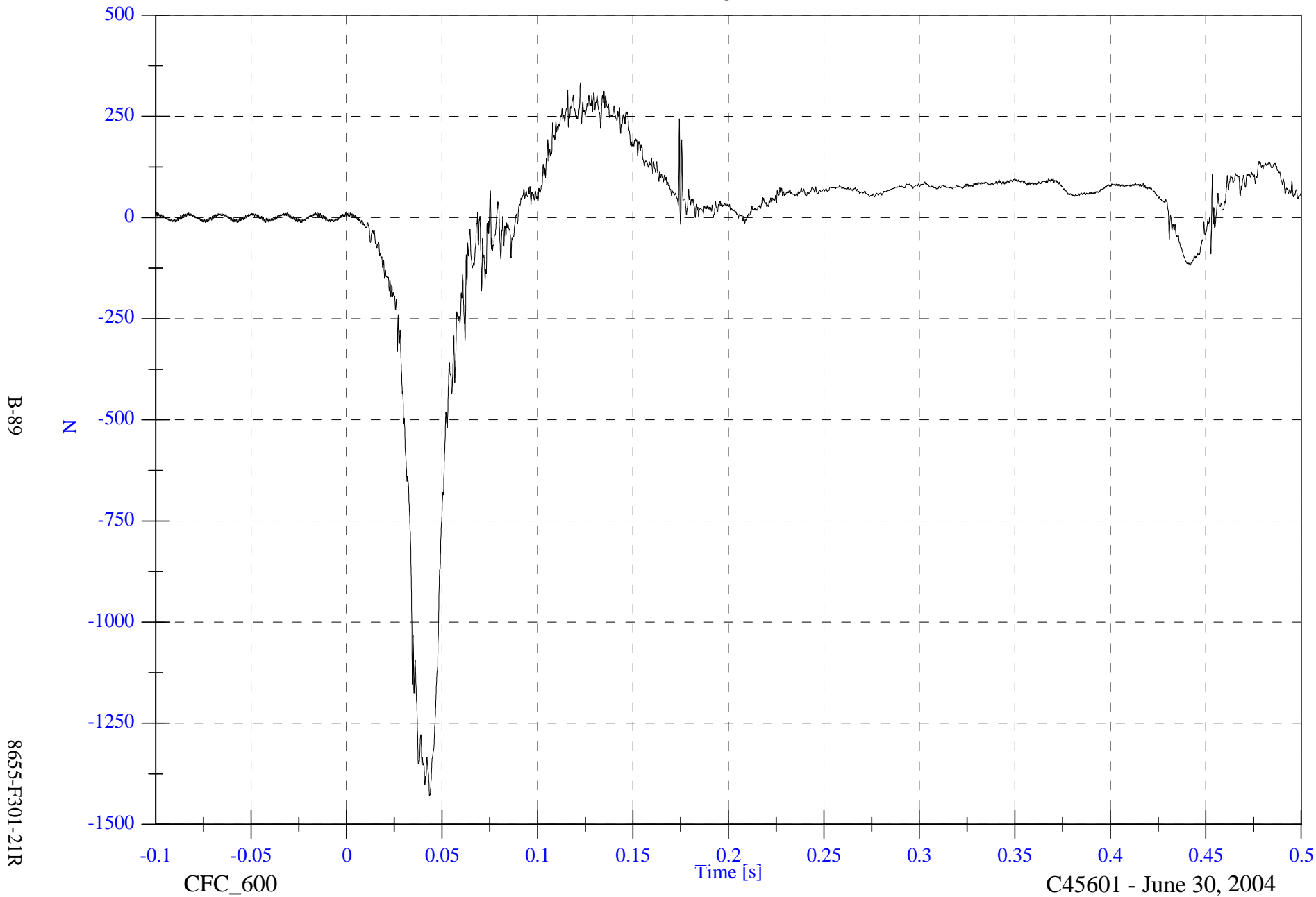


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Right Femur

Max: 333.0 [N] at 0.122 [s]

Min: -1429.5 [N] at 0.043 [s]



B-89

8655-F301-21R

CFC_600

Time [s]

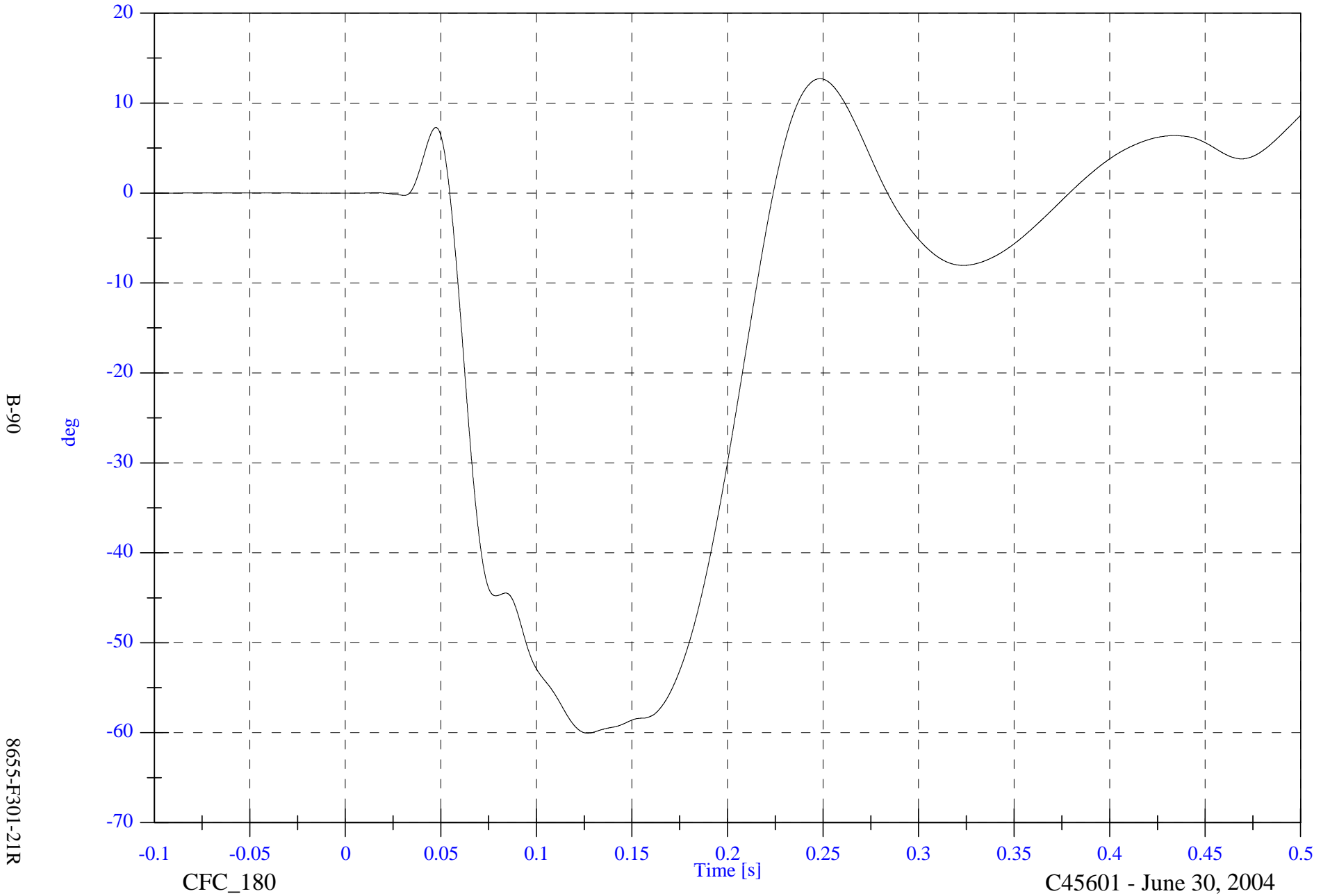
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Head to Chest

Max: 12.7 [deg] at 0.248 [s]

Min: -60.1 [deg] at 0.127 [s]



B-90

8655-F301-21R

CFC_180

Time [s]

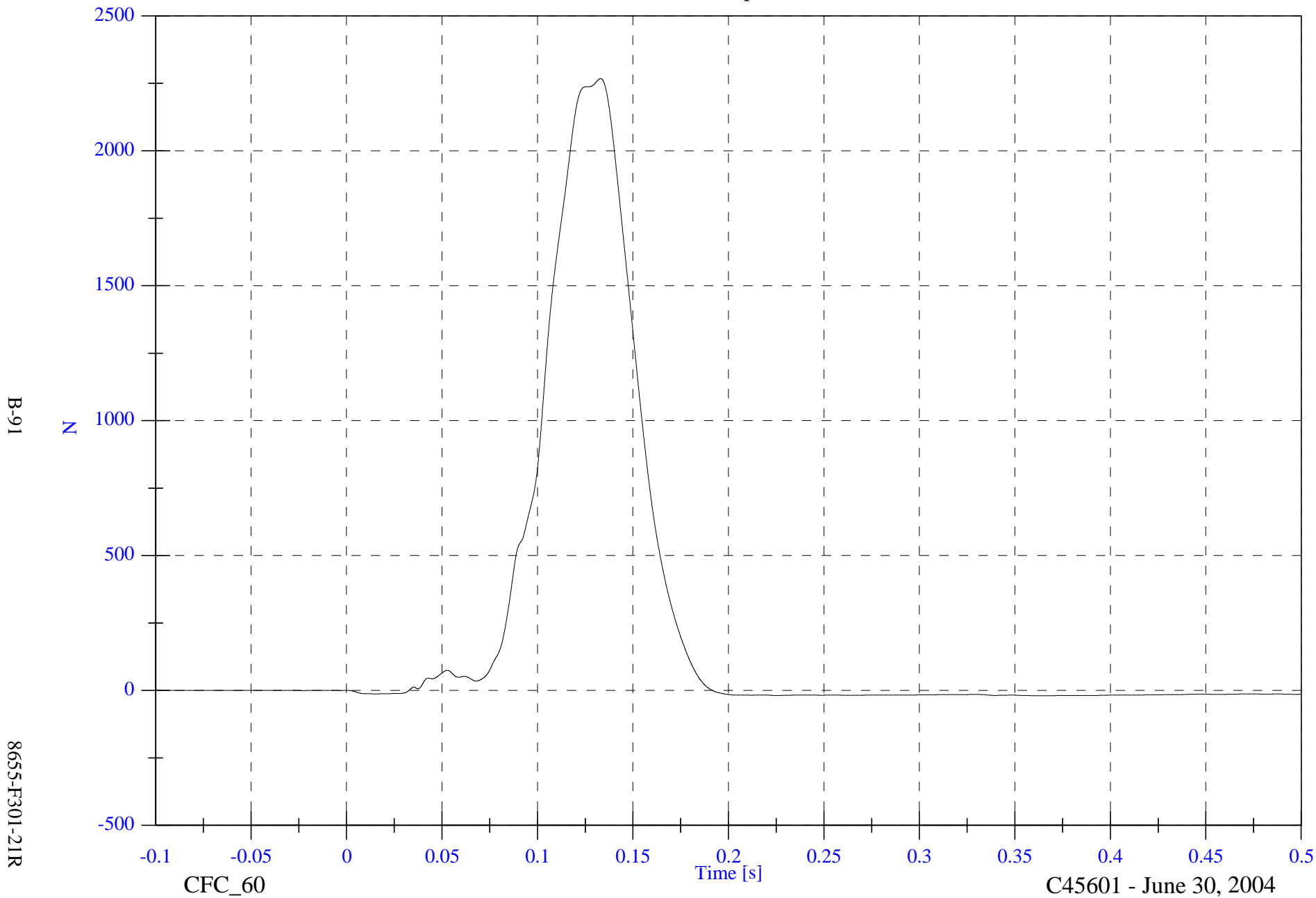
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Lap Belt

Max: 2267.6 [N] at 0.133 [s]

Min: -19.4 [N] at 0.363 [s]



B-91

8655-F301-21R

CFC_60

Time [s]

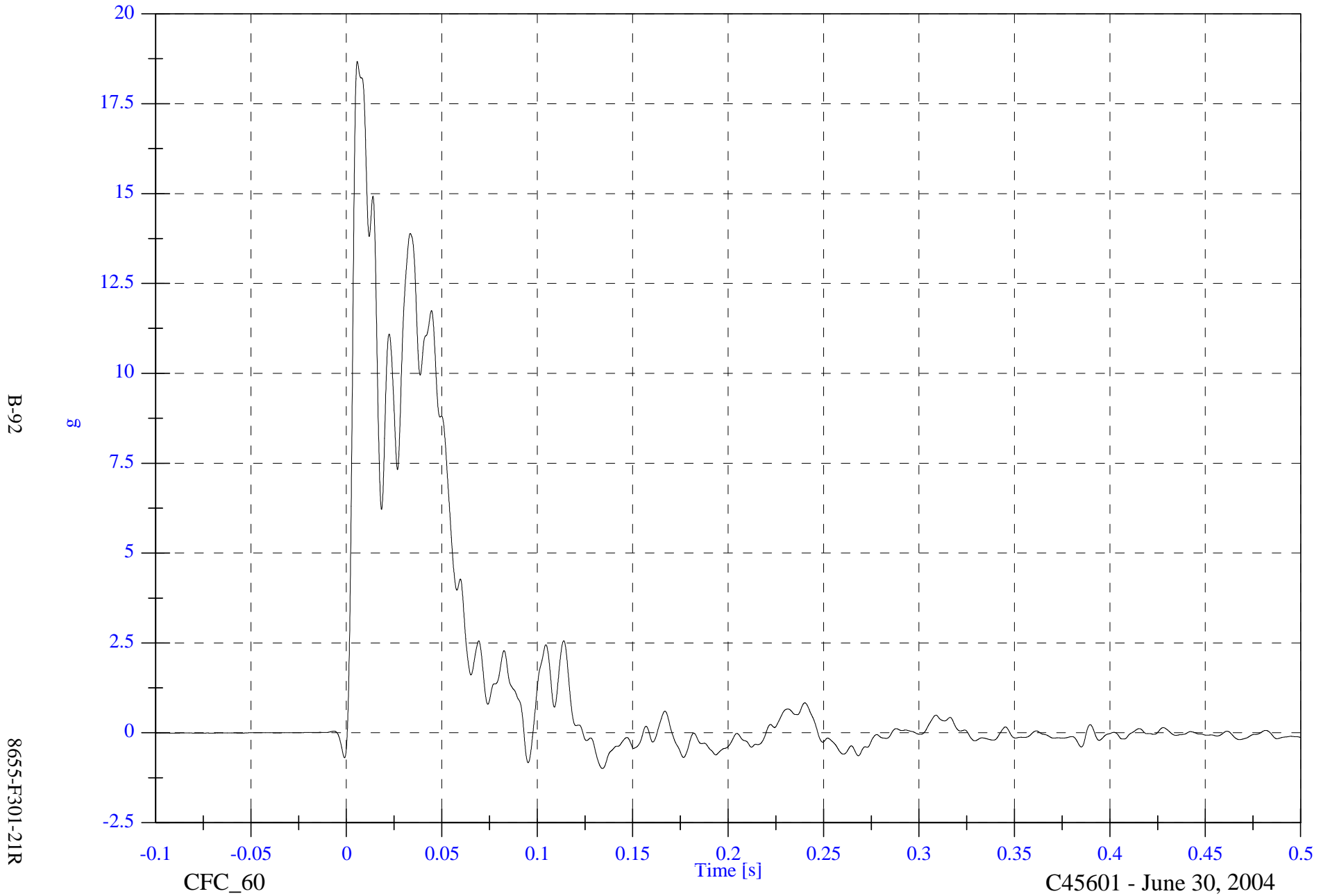
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Left X Member x

Max: 18.7 [g] at 0.006 [s]

Min: -1.0 [g] at 0.134 [s]



B-92

8655-F301-21R

CFC_60

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

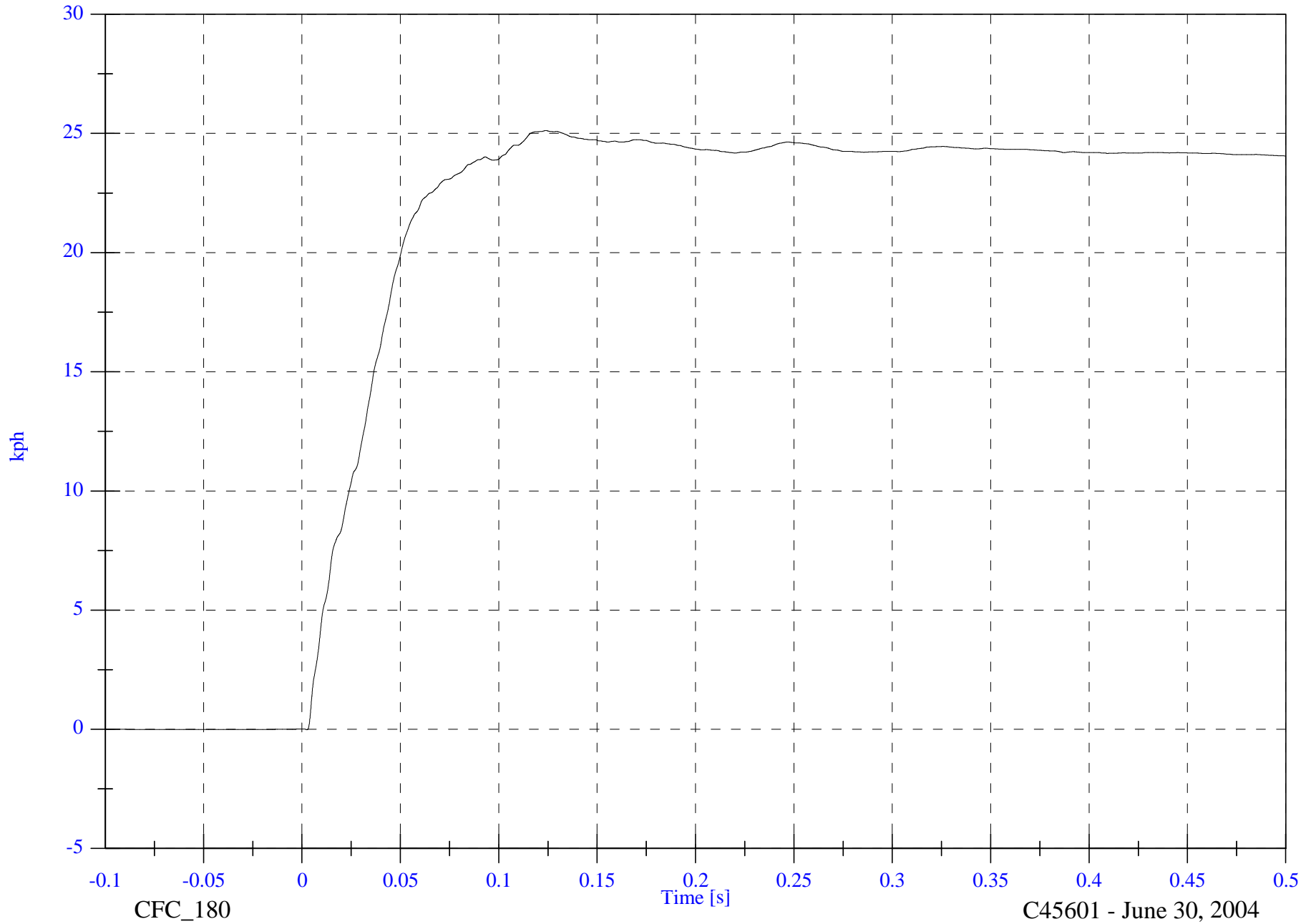
V2 Left X Member x Velocity

Max: 25.1 [kph] at 0.124 [s]

Min: -0.0 [kph] at 0.003 [s]

B-93

8655-F301-21R



CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

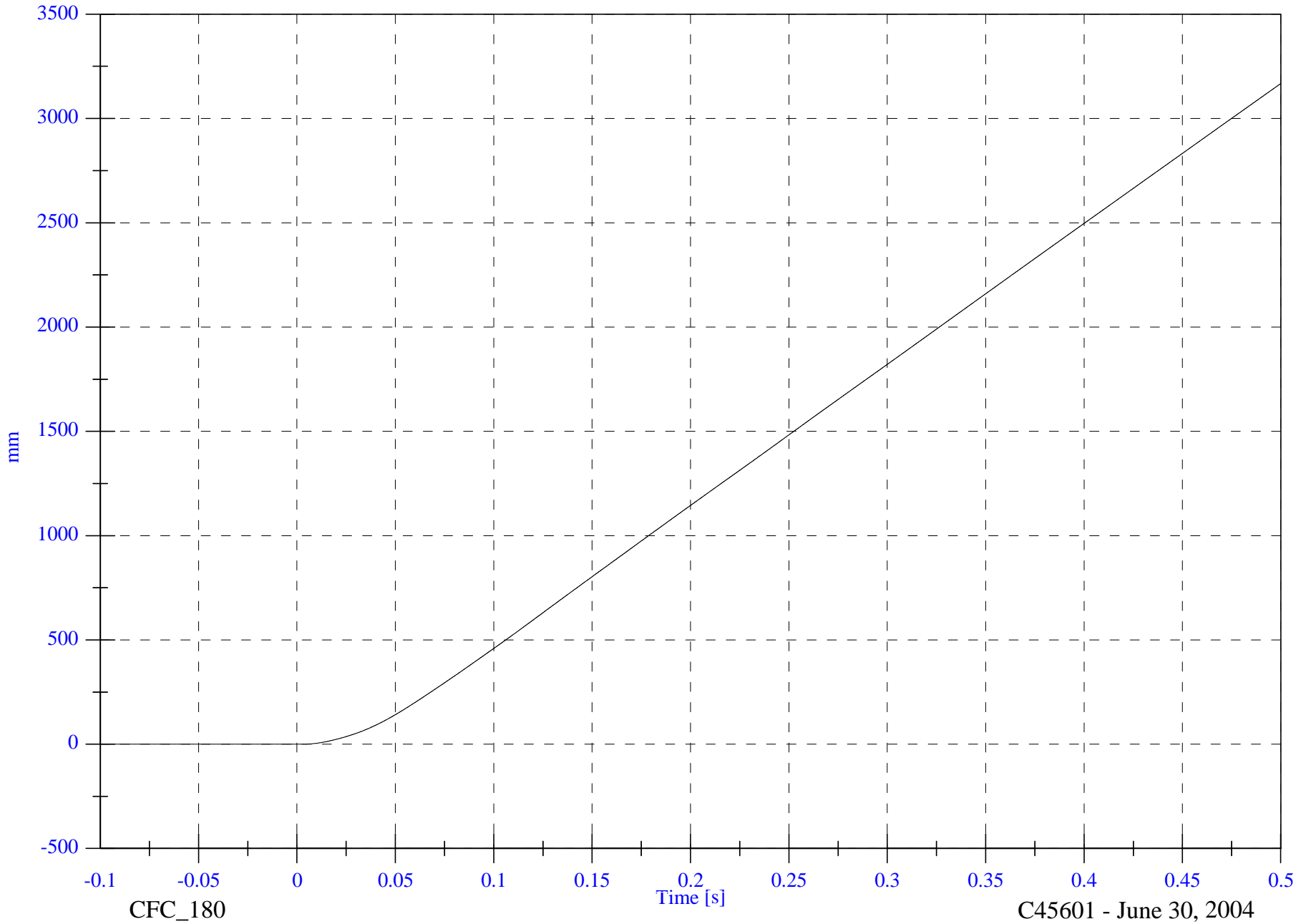
V2 Left X Member x Displacement

Max: 3167.4 [mm] at 0.500 [s]

Min: -0.0 [mm] at -0.010 [s]

B-94

8655-F301-21R



CFC_180

Time [s]

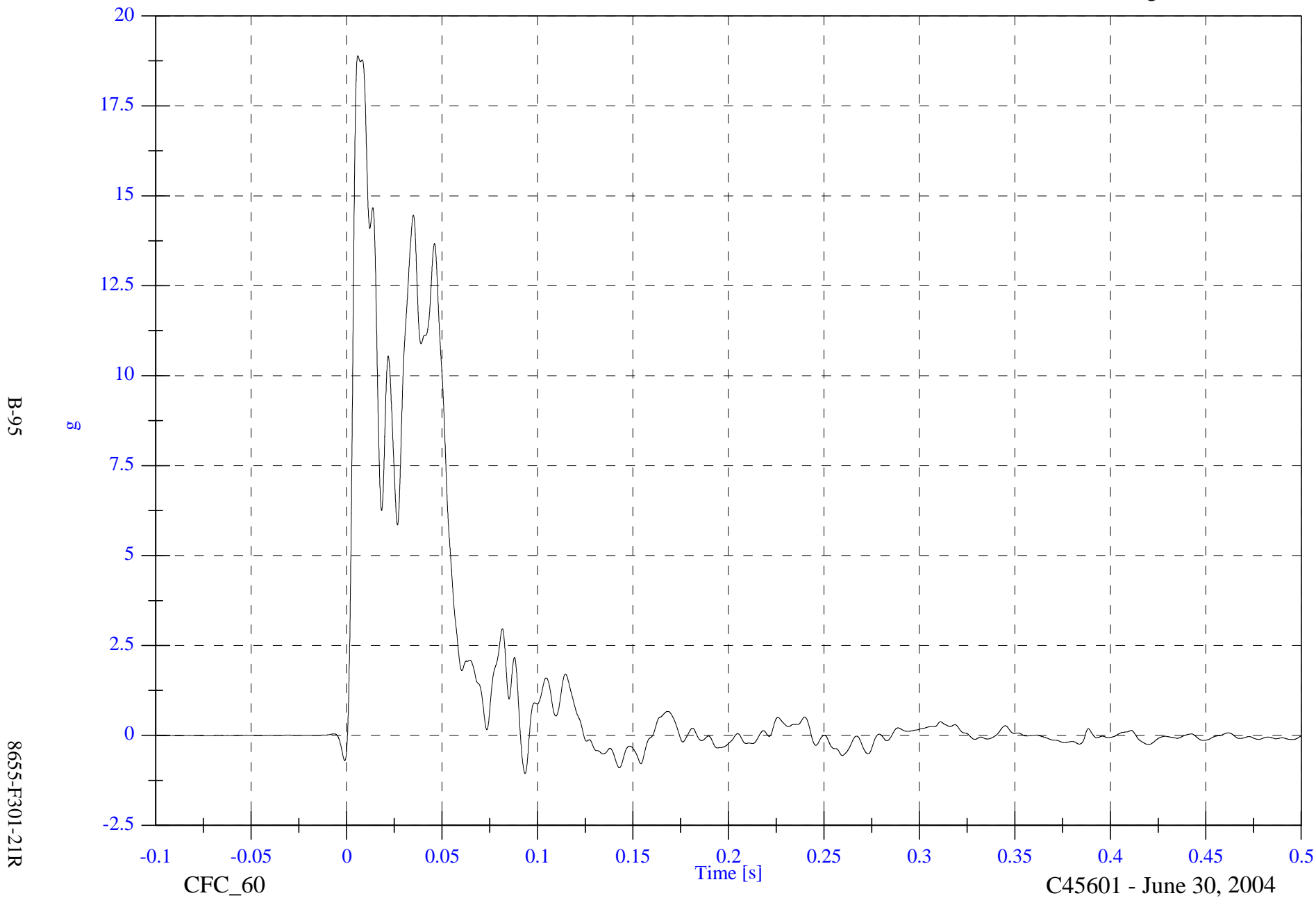
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 18.9 [g] at 0.006 [s]

V2 Left X Member RED x

Min: -1.1 [g] at 0.093 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

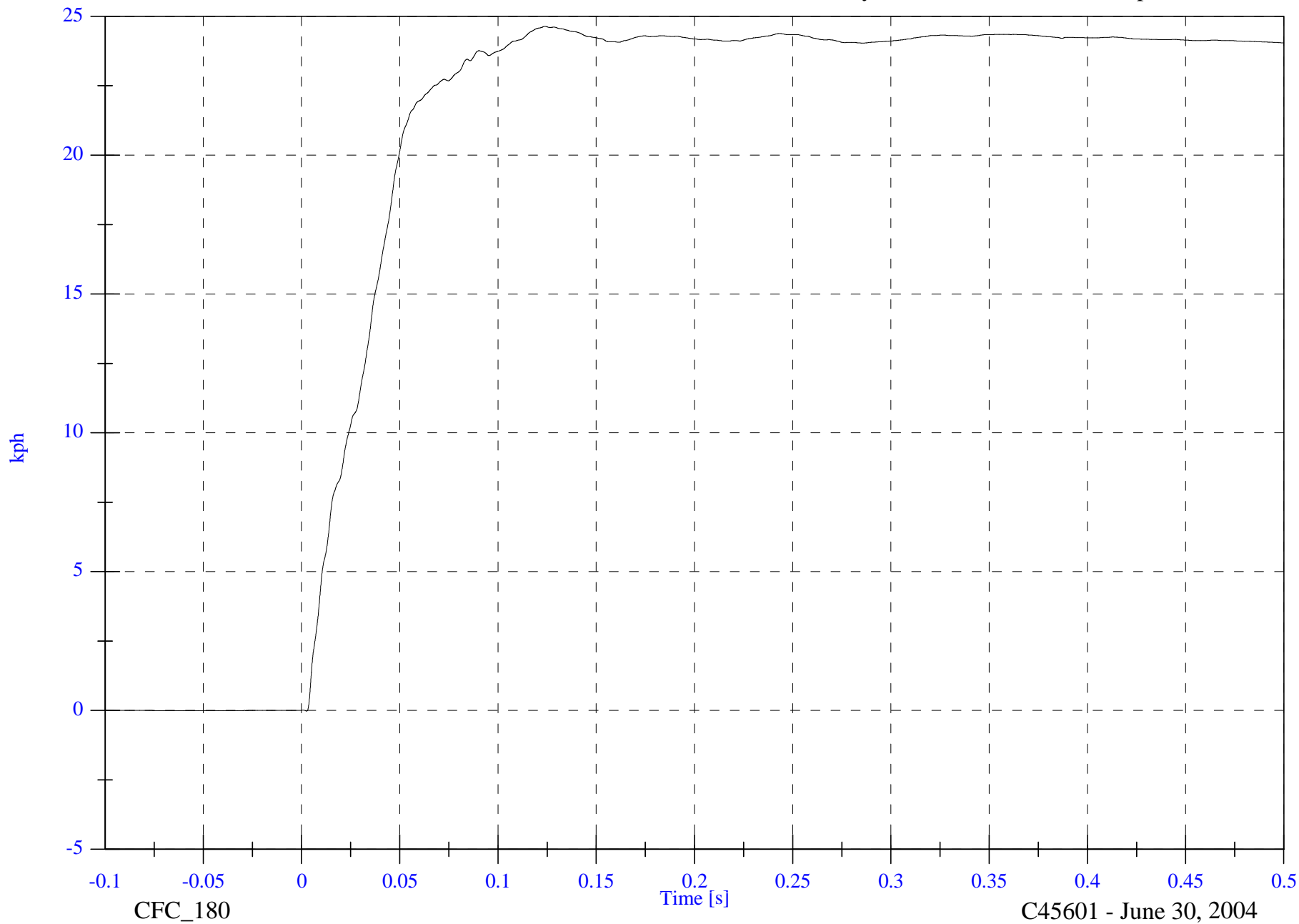
Max: 24.6 [kph] at 0.124 [s]

V2 Left X Member RED x Velocity

Min: -0.0 [kph] at 0.003 [s]

B-96

8655-F301-21R



CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

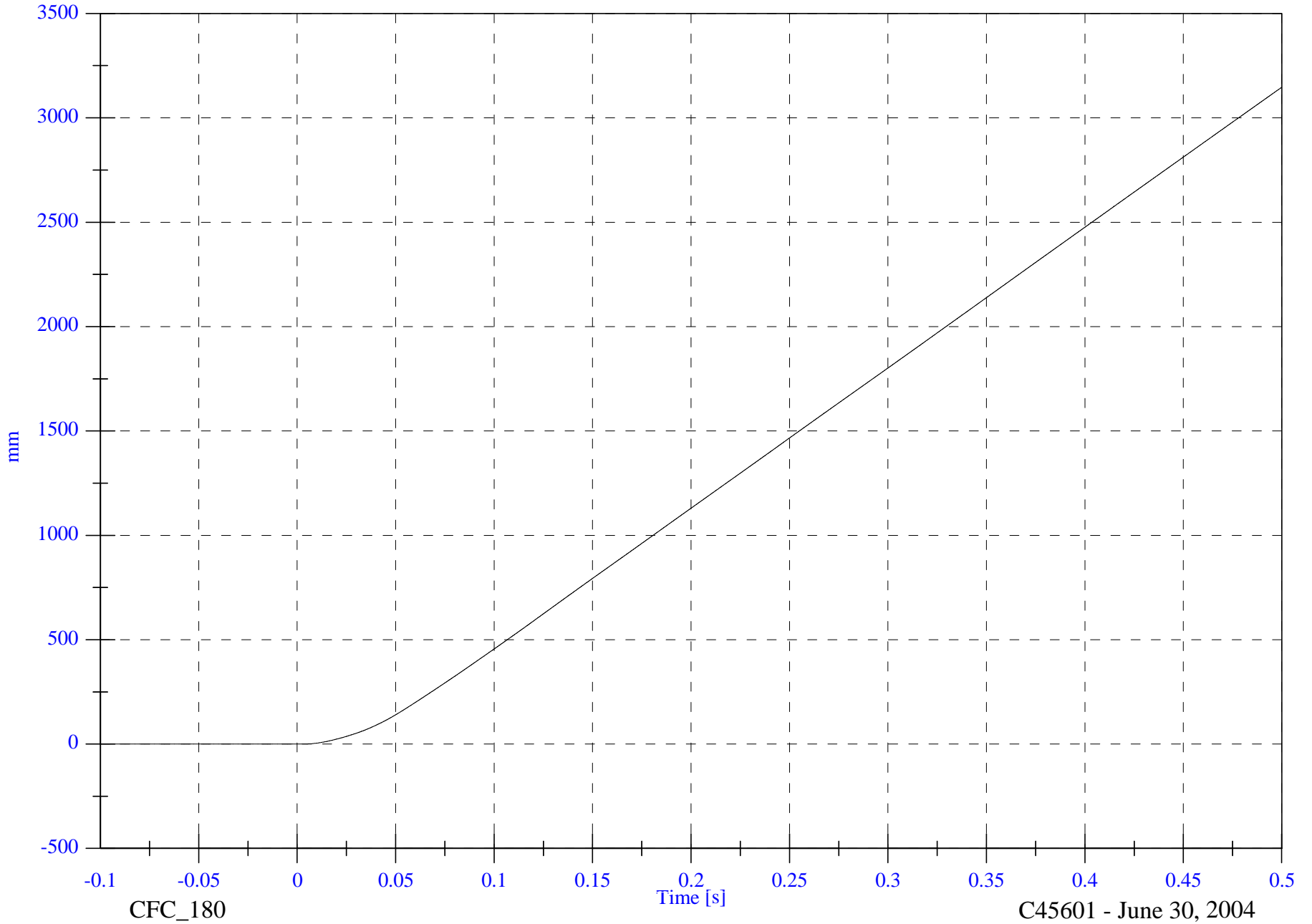
V2 Left X Member RED x Displacement

Max: 3146.5 [mm] at 0.500 [s]

Min: -0.0 [mm] at -0.010 [s]

B-97

8655-F301-21R



CFC_180

Time [s]

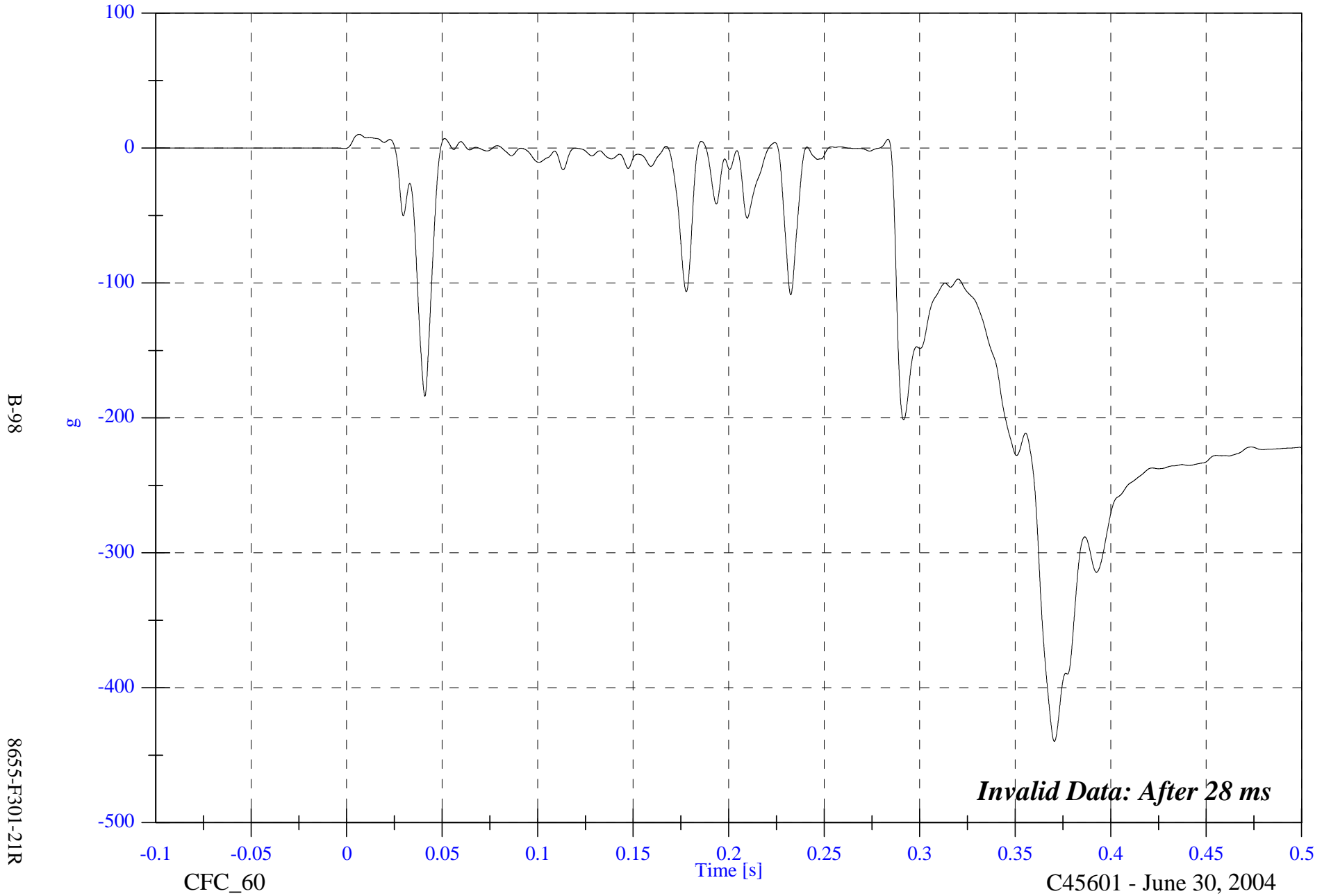
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 10.1 [g] at 0.007 [s]

V2 Right X Member x

Min: -439.8 [g] at 0.370 [s]

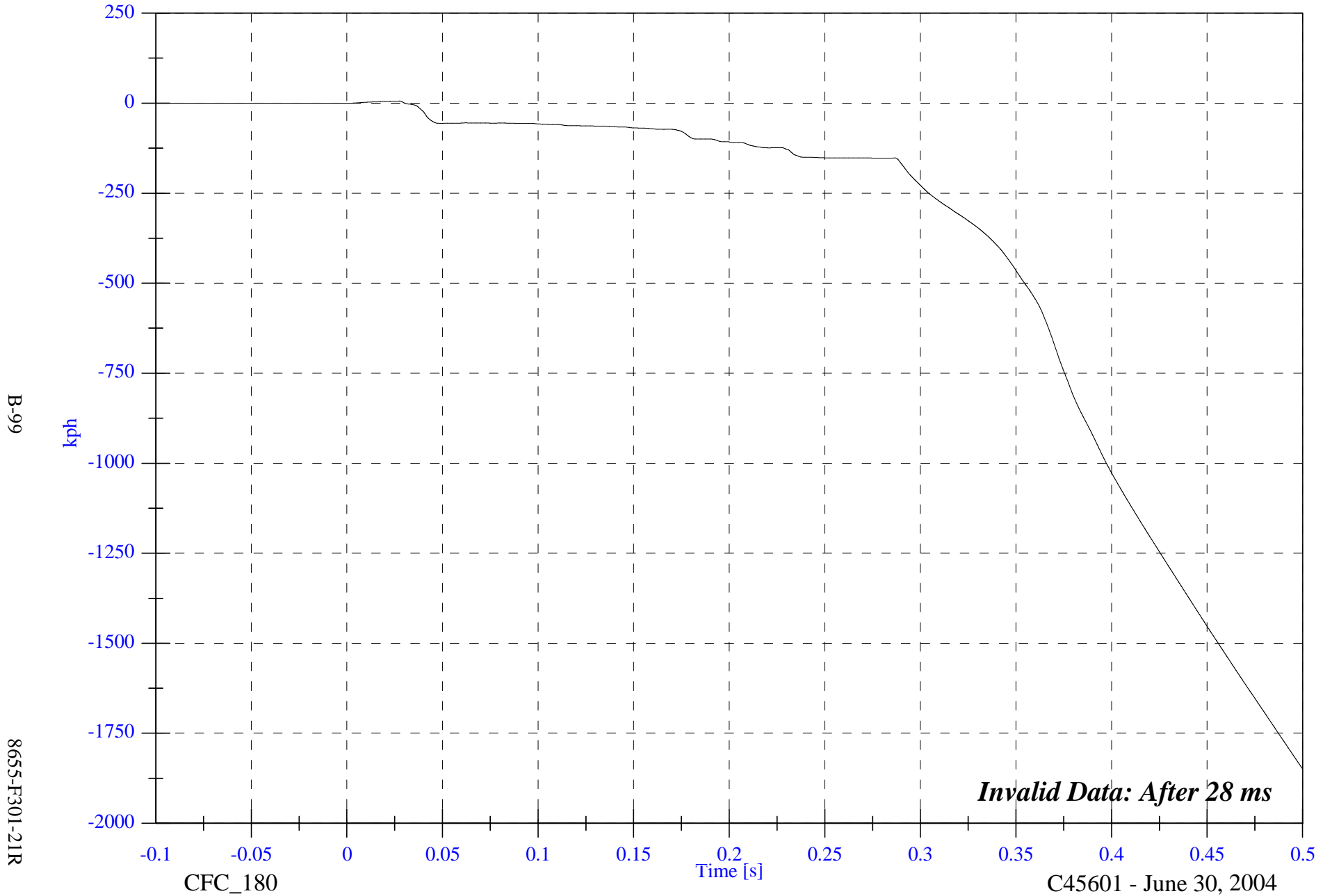


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Right X Member x Velocity

Max: 5.6 [kph] at 0.028 [s]

Min: -1849.1 [kph] at 0.500 [s]



B-99

8655-F301-21R

CFC_180

Time [s]

C45601 - June 30, 2004

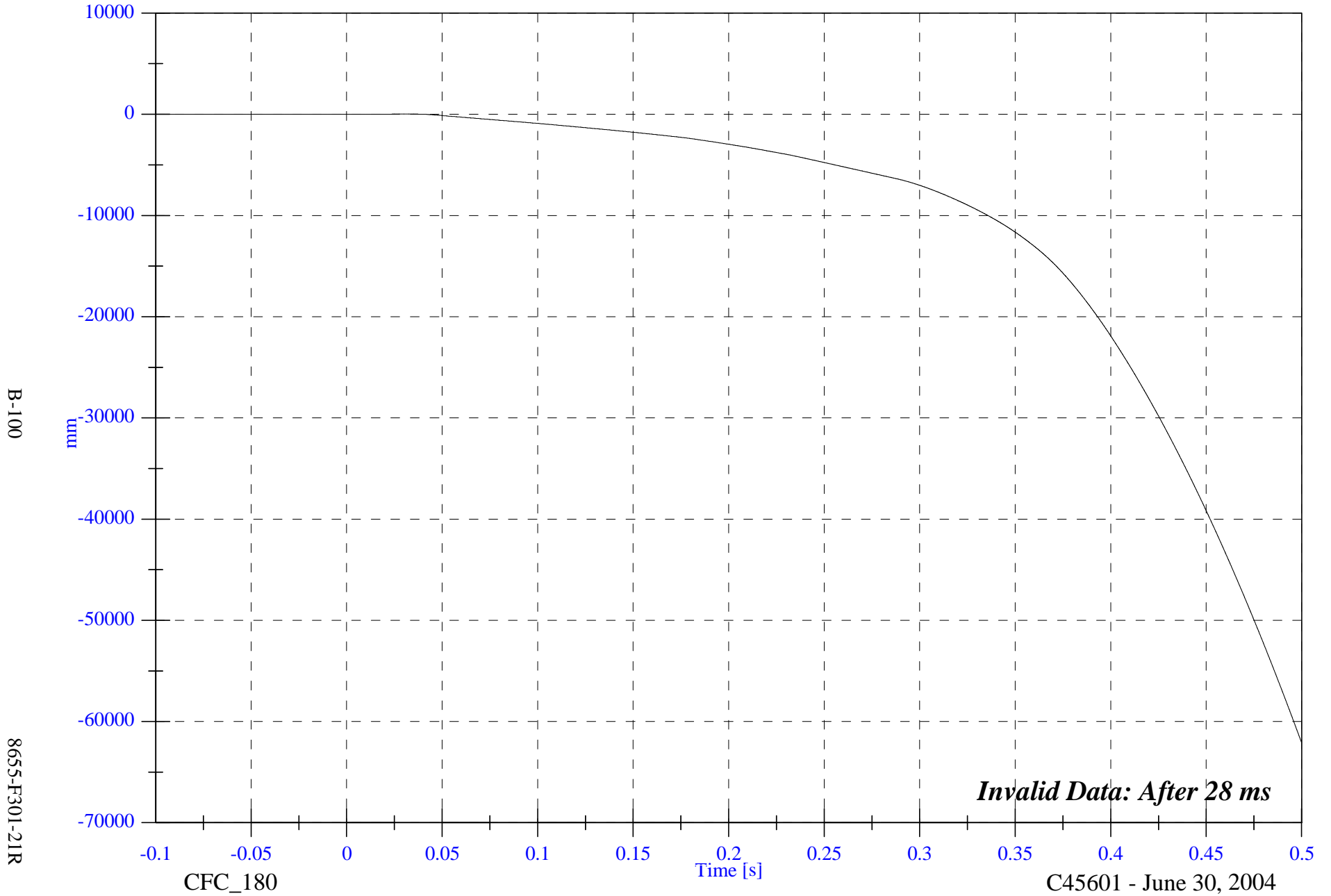
Invalid Data: After 28 ms

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Right X Member x Displacement

Max: 25.6 [mm] at 0.030 [s]

Min: -62092.5 [mm] at 0.500 [s]



B-100

8655-F301-21R

CFC_180

Time [s]

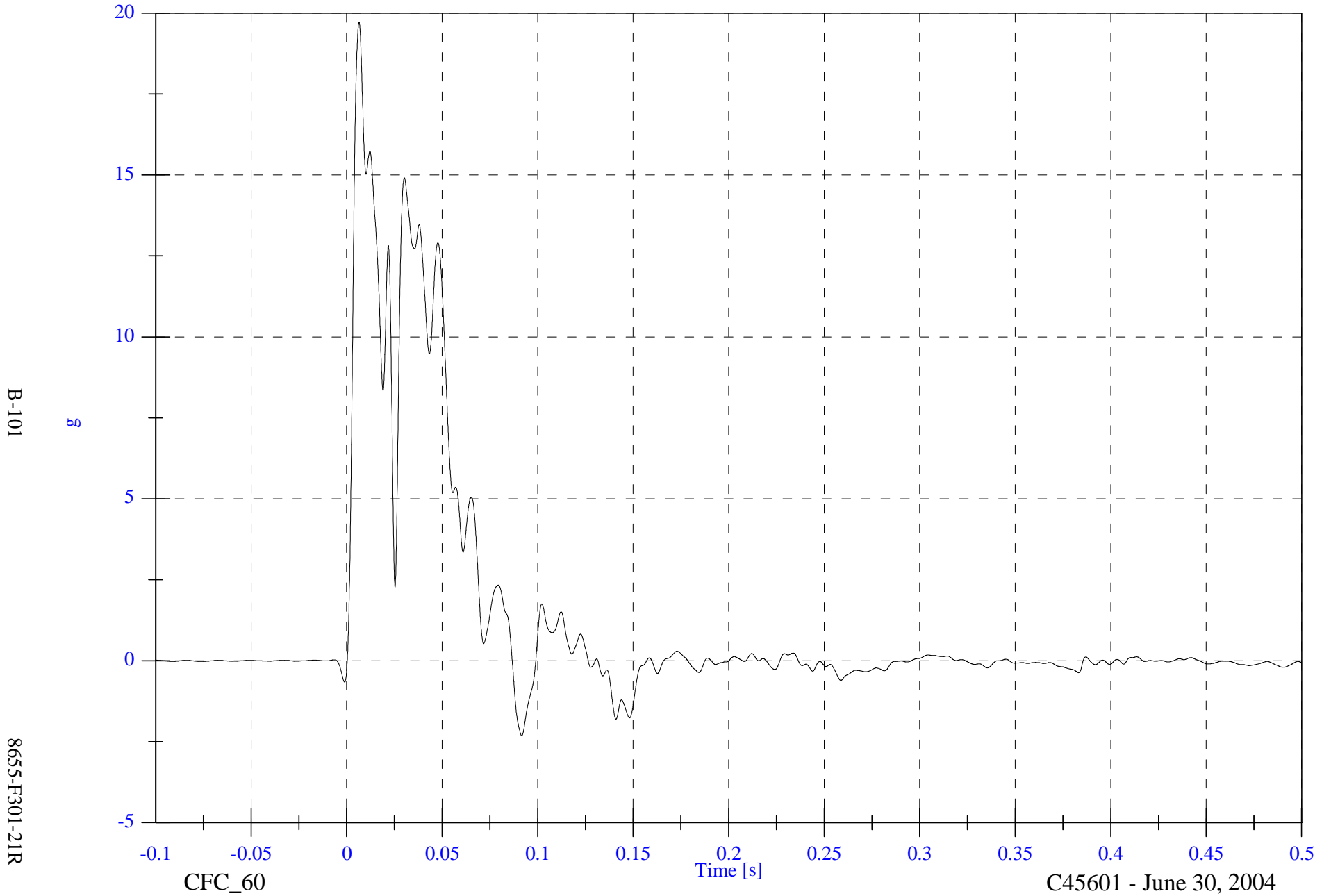
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Right X Member RED x

Max: 19.7 [g] at 0.006 [s]

Min: -2.3 [g] at 0.092 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

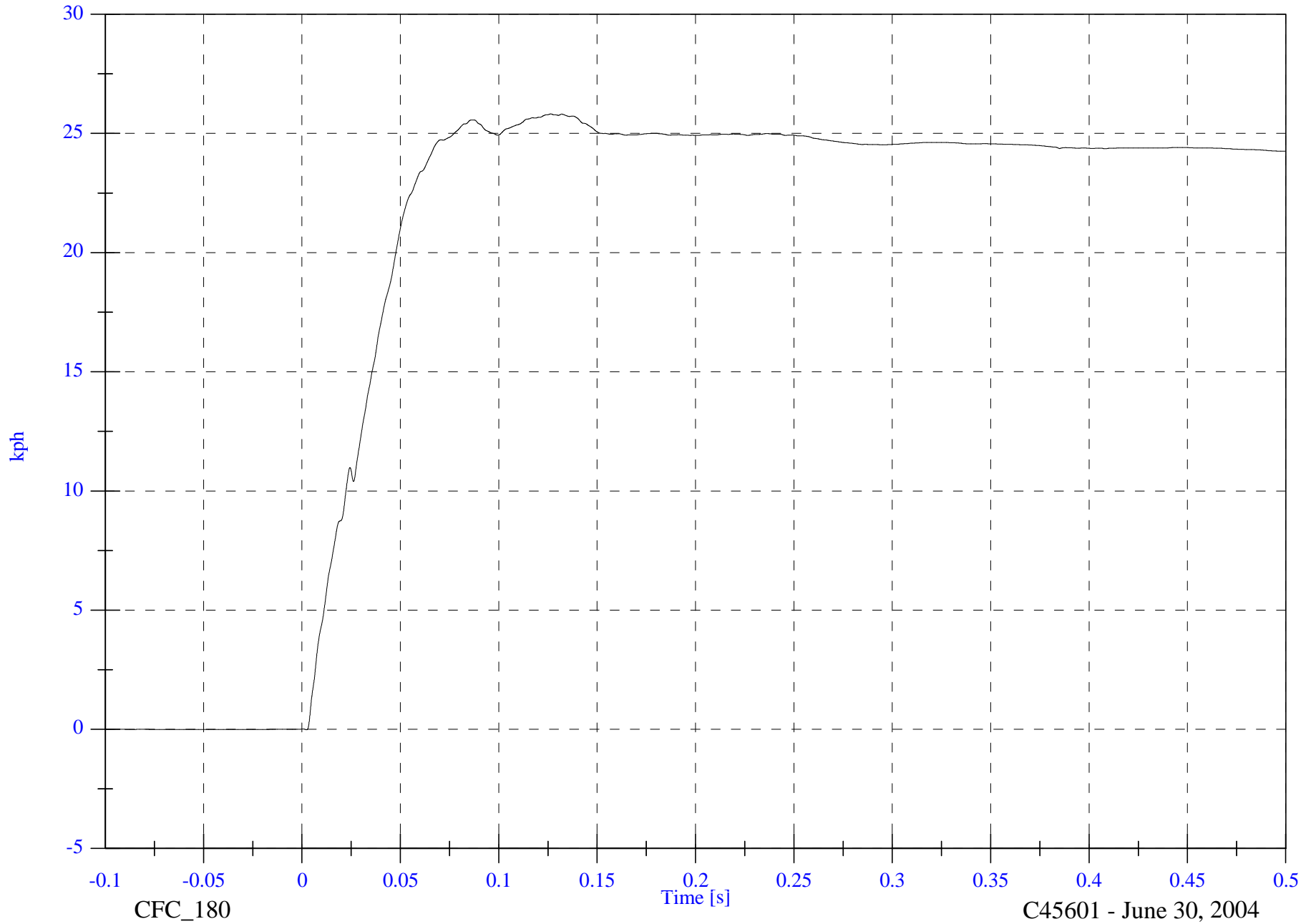
Max: 25.8 [kph] at 0.126 [s]

V2 Right X Member RED x Velocity

Min: -0.0 [kph] at 0.002 [s]

B-102

8655-F301-21R



CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

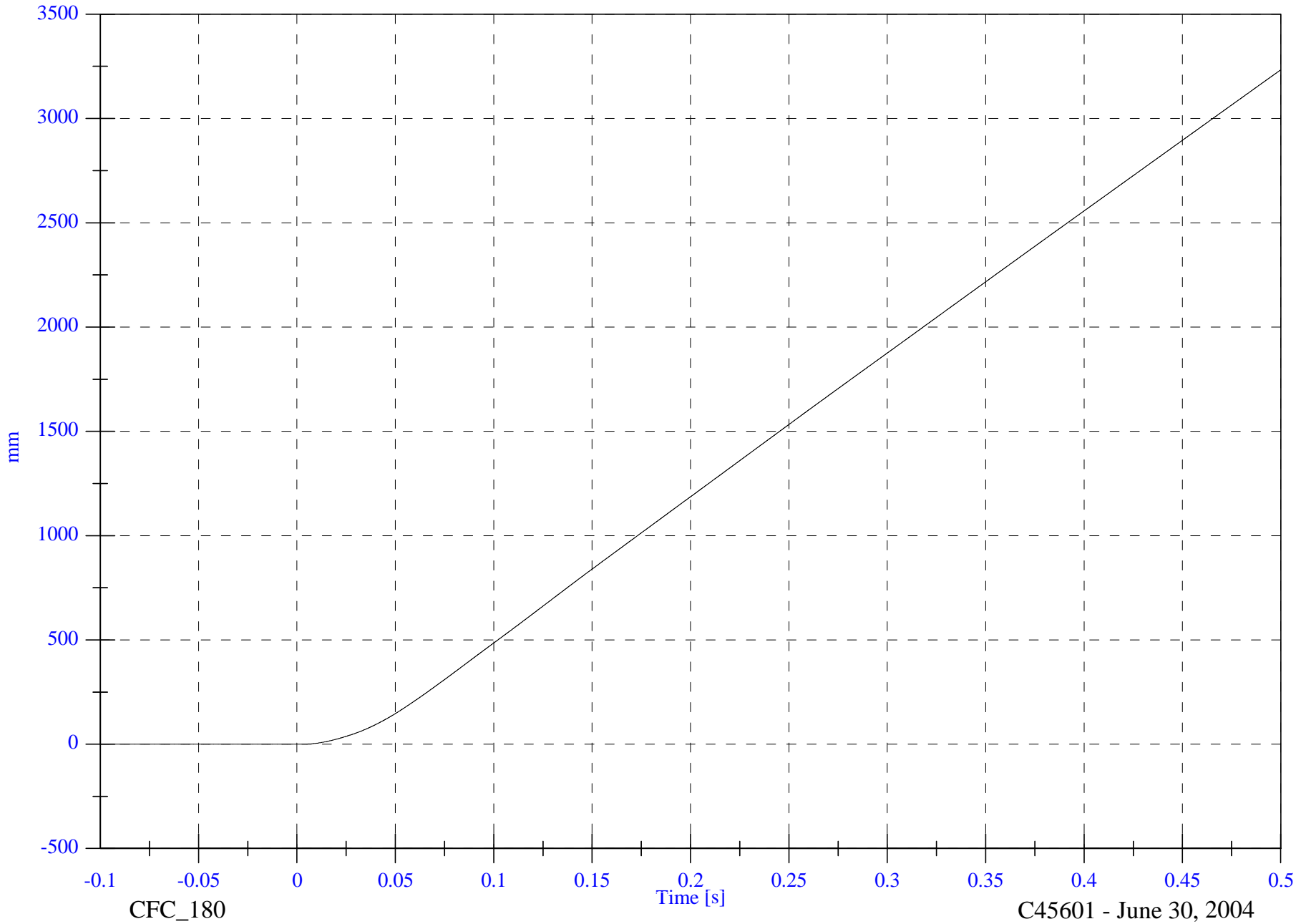
V2 Right X Member RED x Displacement

Max: 3233.1 [mm] at 0.500 [s]

Min: -0.0 [mm] at -0.004 [s]

B-103

8655-F301-21R



CFC_180

Time [s]

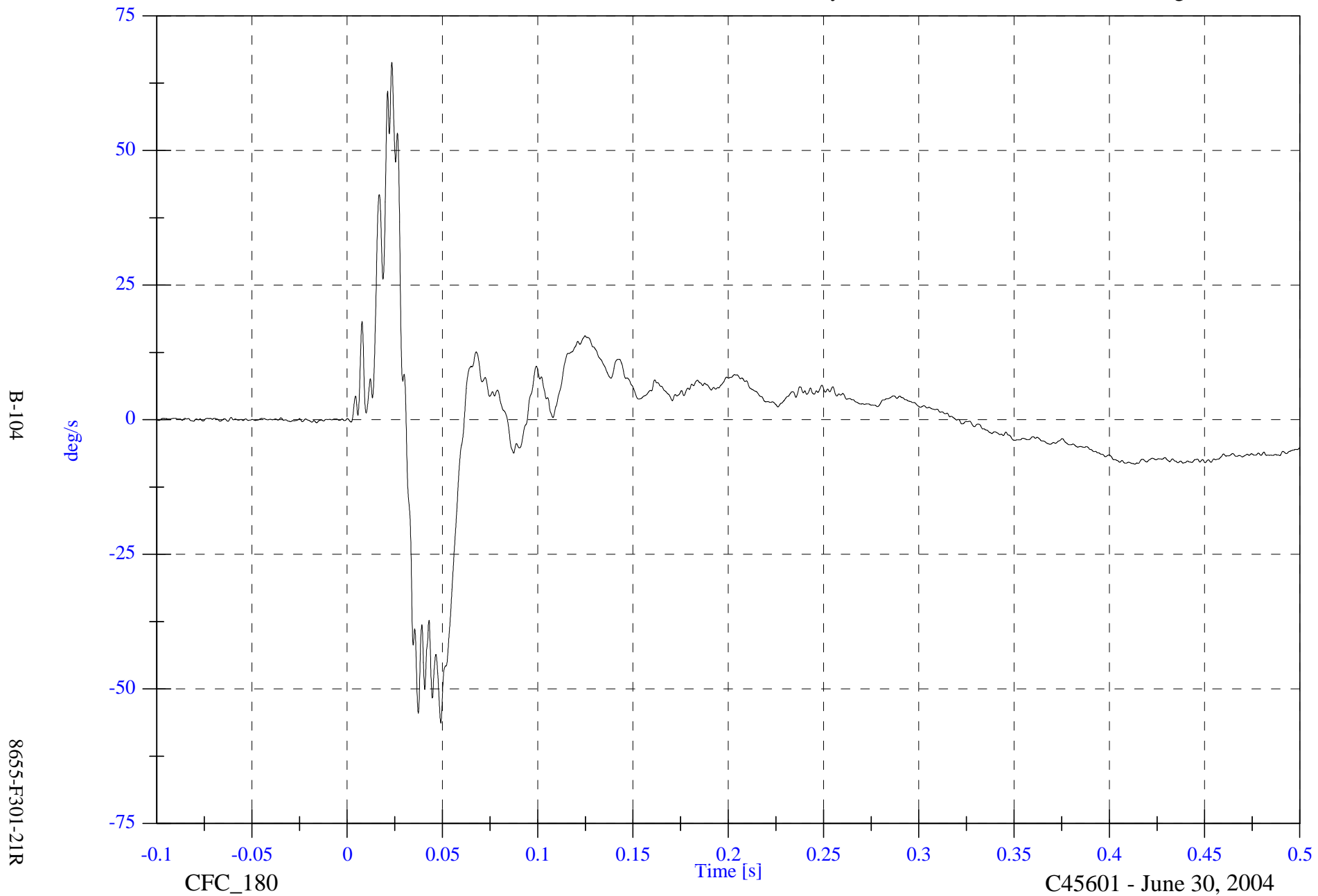
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Left Front Sill AVy

Max: 66.3 [deg/s] at 0.023 [s]

Min: -56.3 [deg/s] at 0.049 [s]



B-104

8655-F301-21R

CFC_180

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

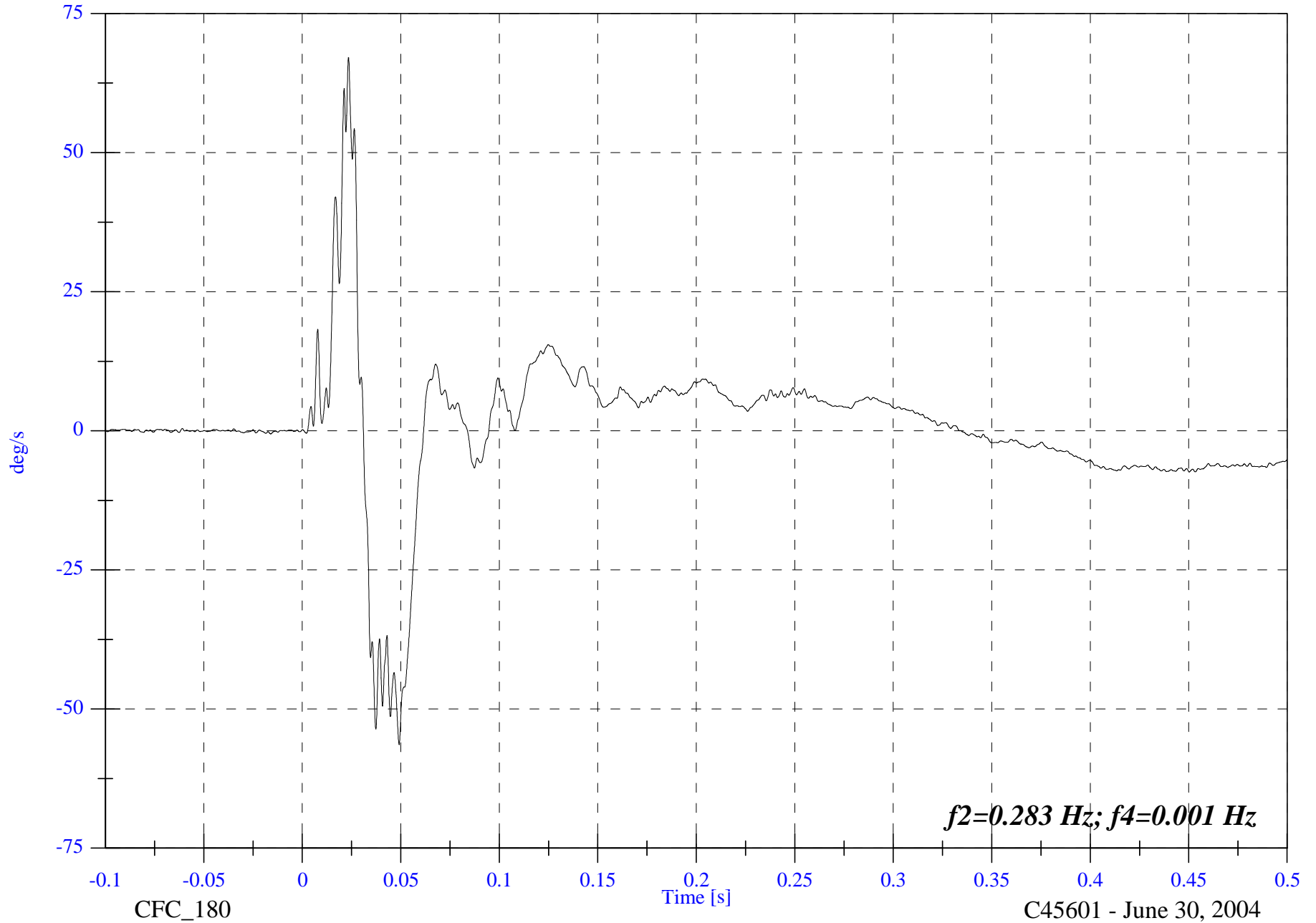
V2 Left Front Sill Comp AVy

Max: 67.1 [deg/s] at 0.023 [s]

Min: -56.4 [deg/s] at 0.049 [s]

B-105

8655-F301-21R

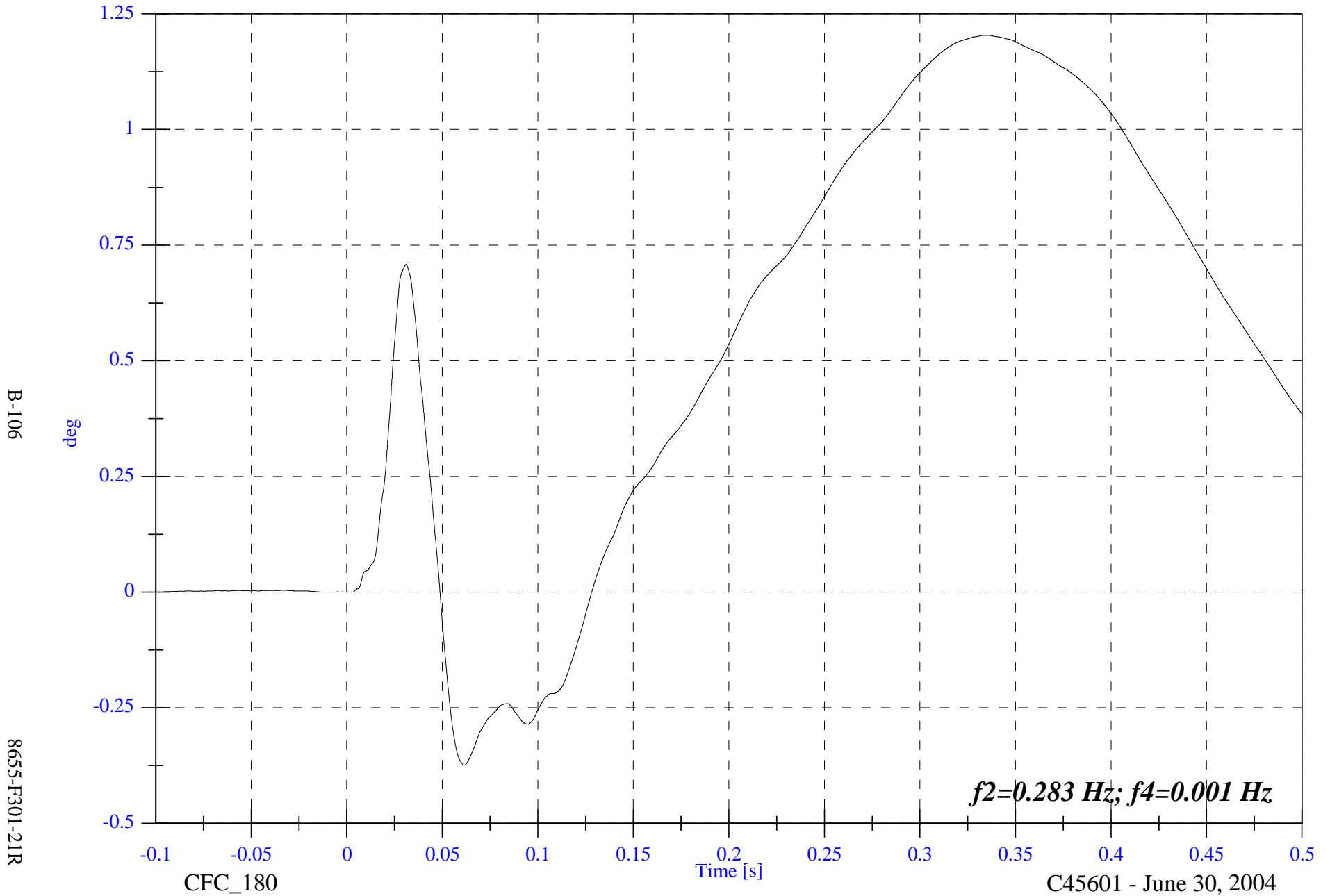


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2 Left Front Sill Comp ADy

Max: 1.2 [deg] at 0.335 [s]

Min: -0.4 [deg] at 0.062 [s]



B-106

8655-F301-21R

CFC_180

Time [s]

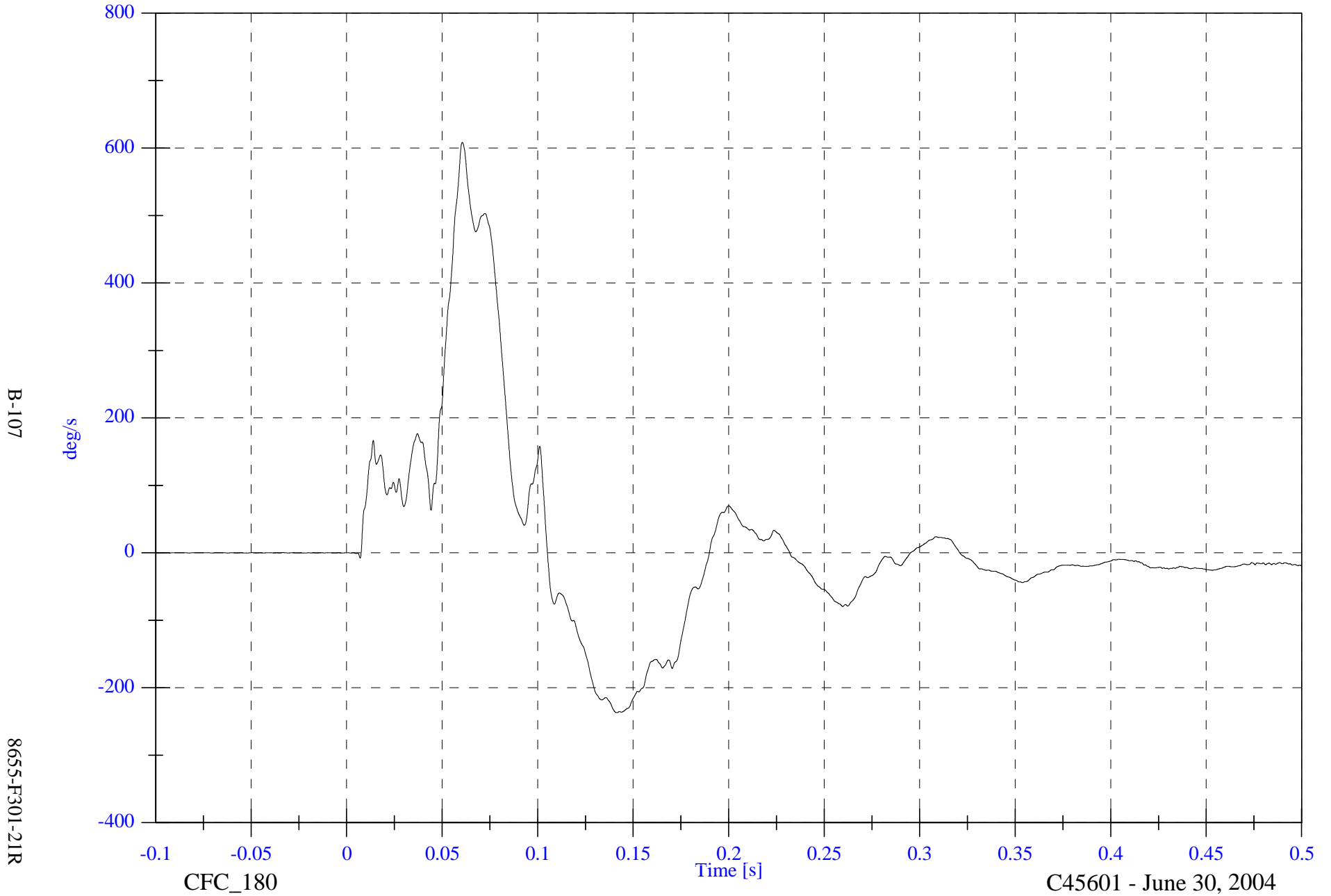
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Left Seat AVy

Max: 608.3 [deg/s] at 0.061 [s]

Min: -236.9 [deg/s] at 0.141 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

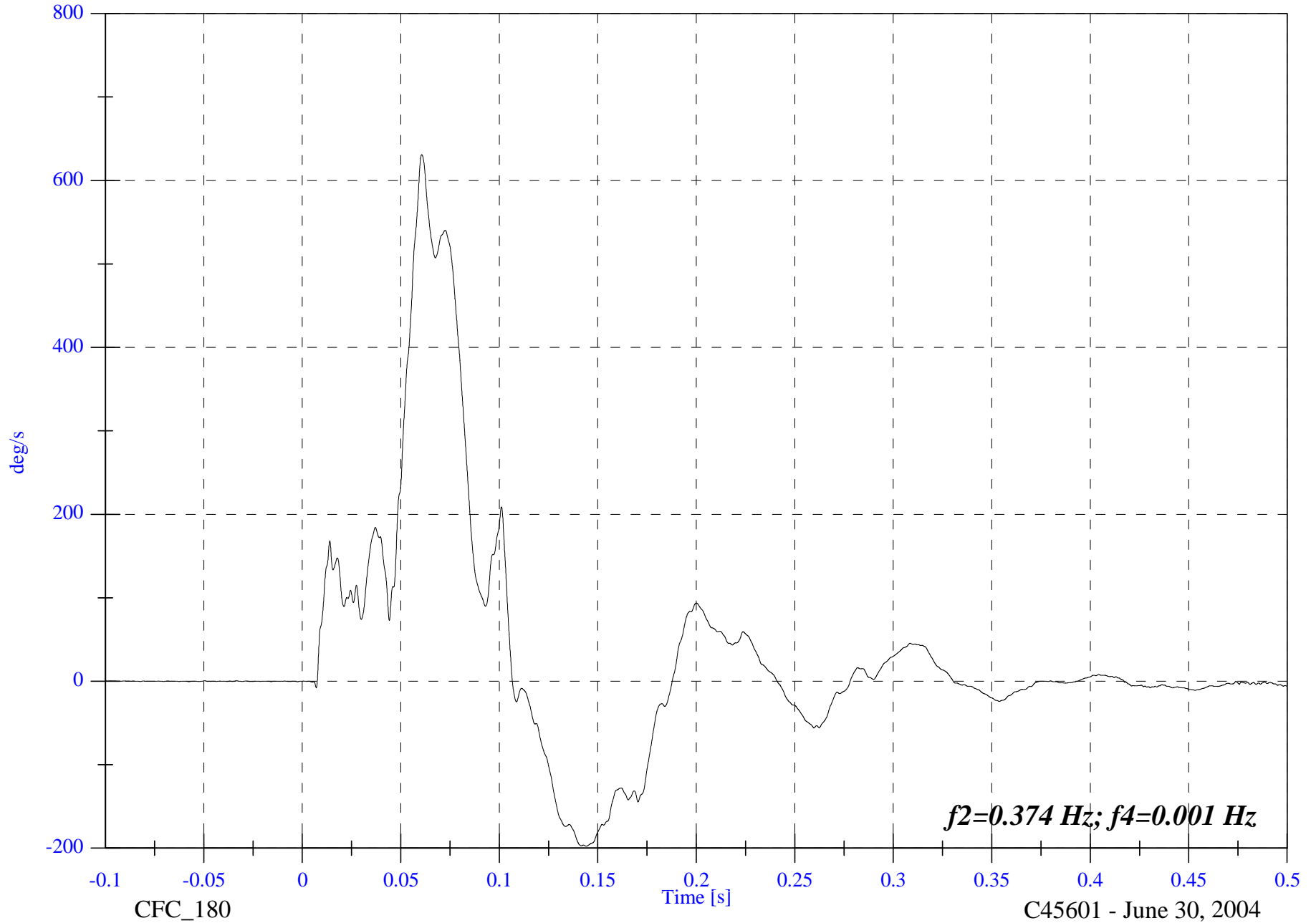
V2P1 Left Seat Comp AVy

Max: 630.9 [deg/s] at 0.061 [s]

Min: -197.7 [deg/s] at 0.144 [s]

B-108

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

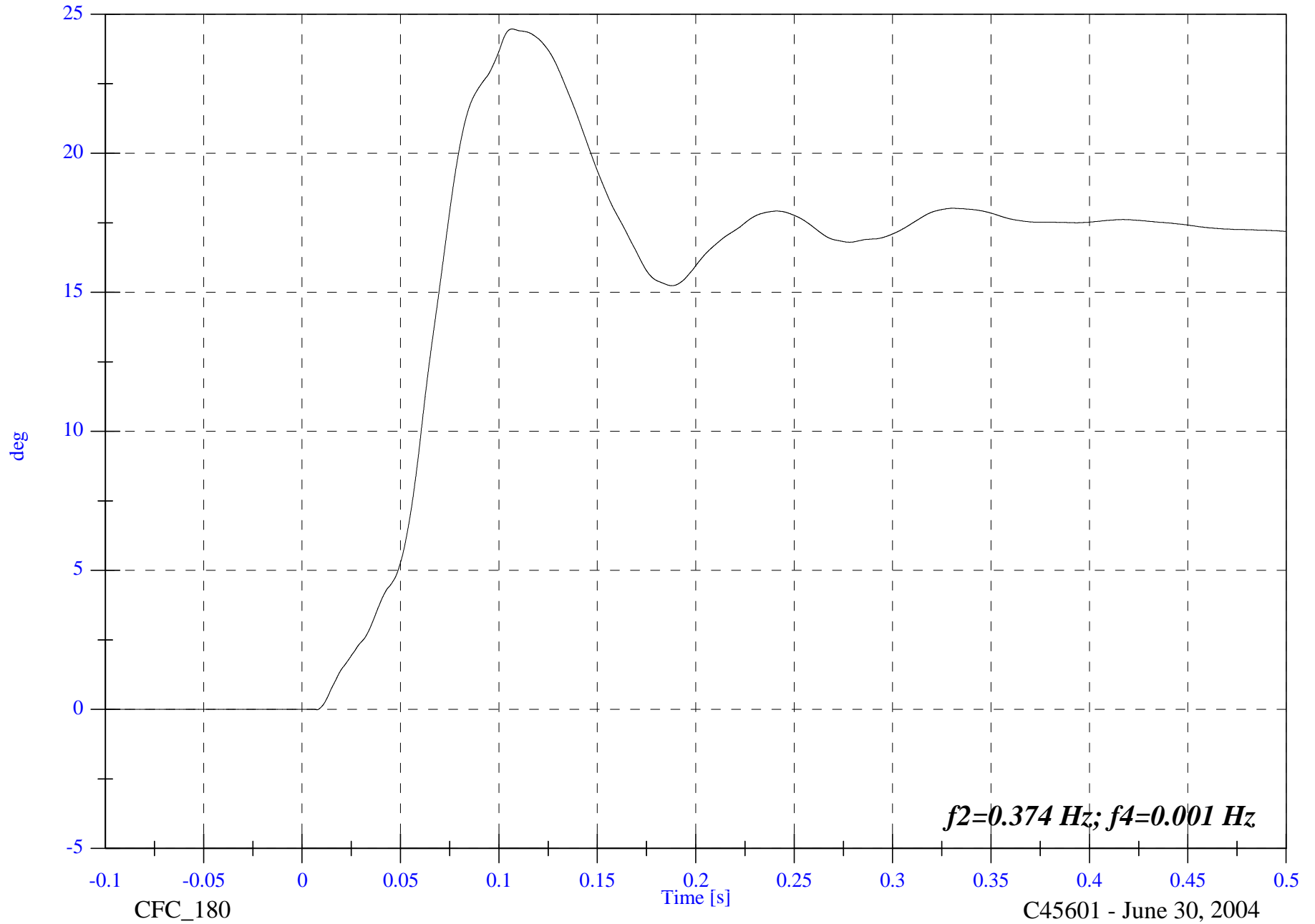
V2P1 Left Seat Comp ADy

Max: 24.5 [deg] at 0.107 [s]

Min: -0.0 [deg] at 0.008 [s]

B-109

8655-F301-21R

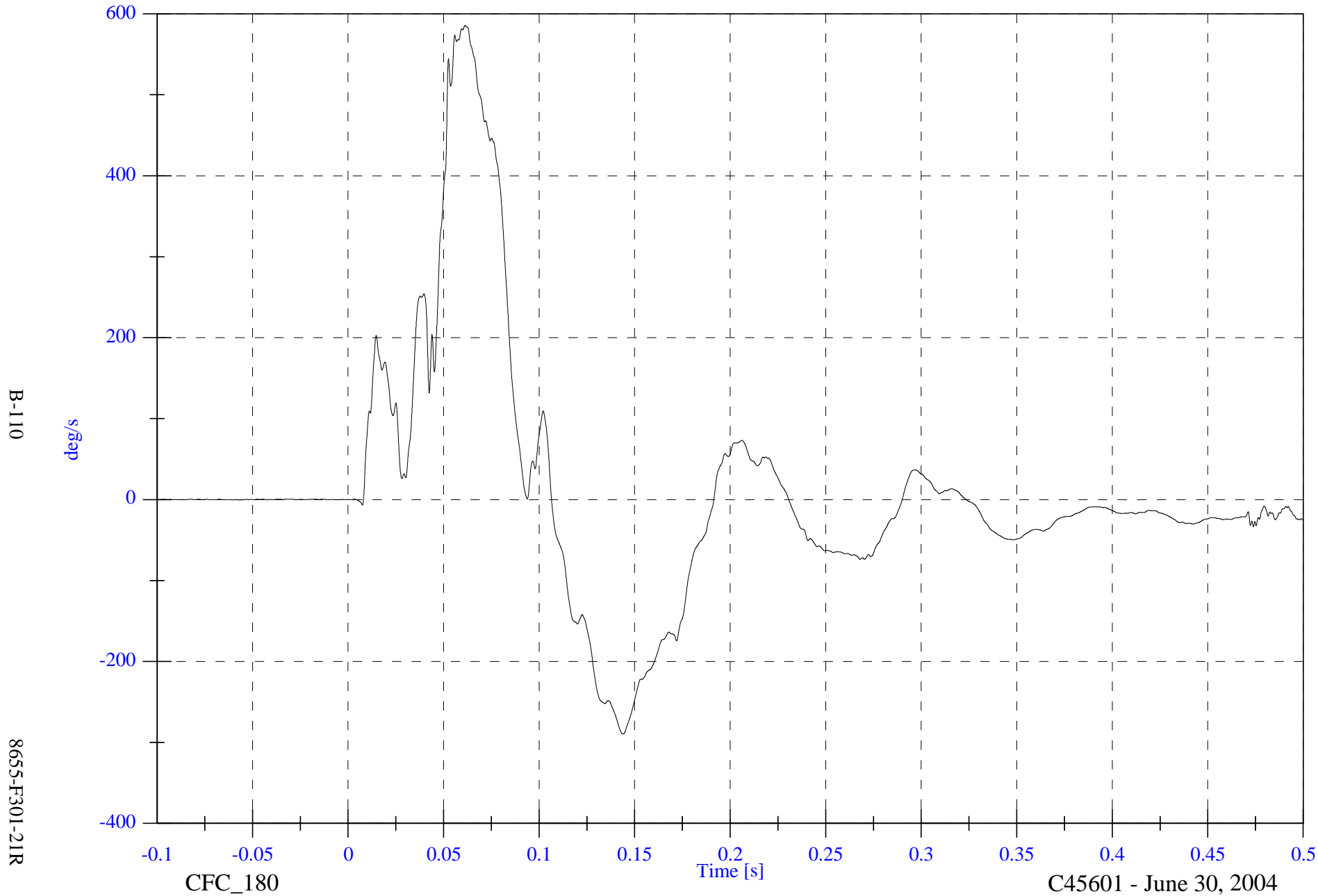


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P1 Right Seat AVy

Max: 585.7 [deg/s] at 0.061 [s]

Min: -289.6 [deg/s] at 0.144 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

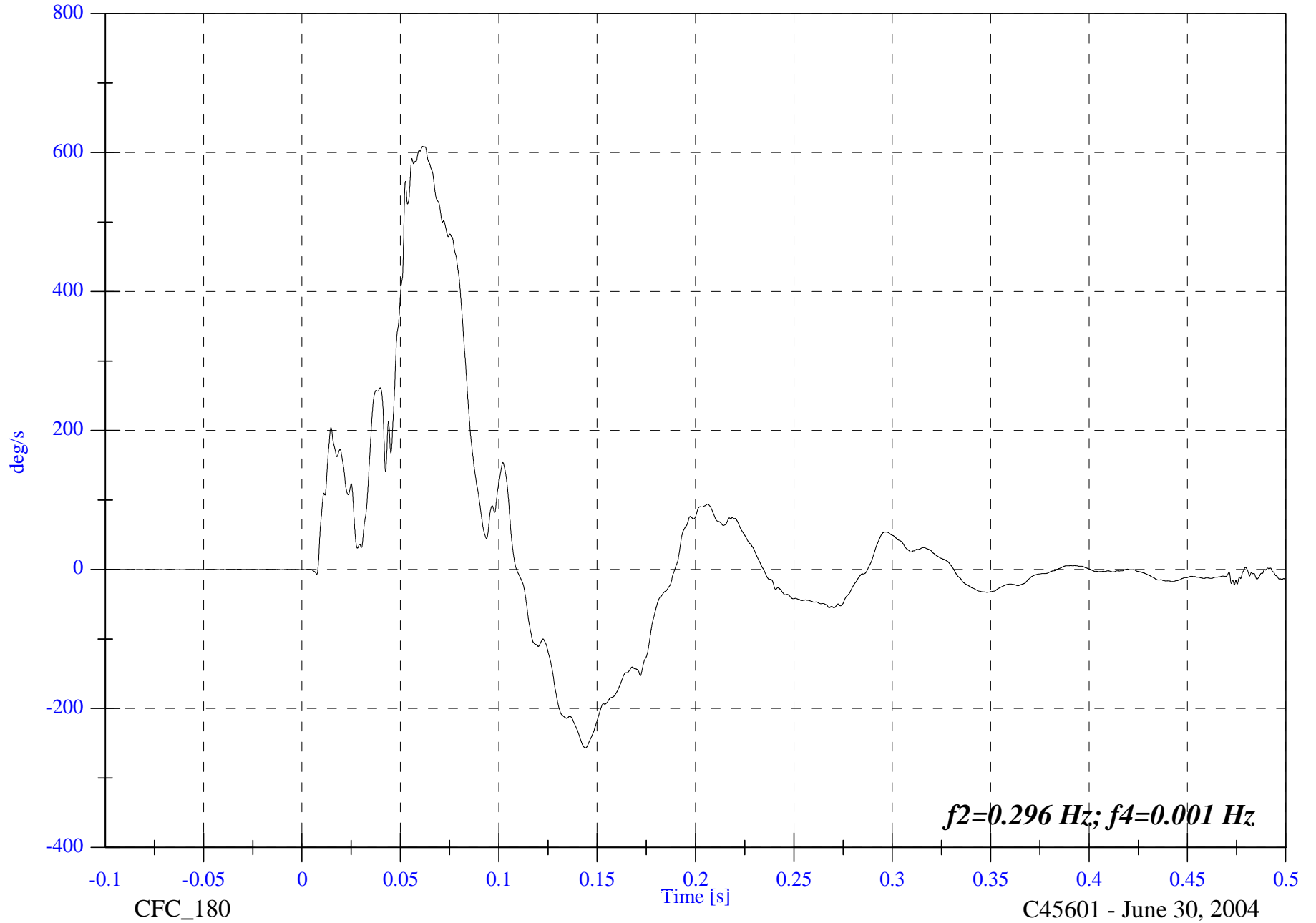
V2P1 Right Seat Comp AVy

Max: 608.8 [deg/s] at 0.061 [s]

Min: -256.4 [deg/s] at 0.144 [s]

B-111

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

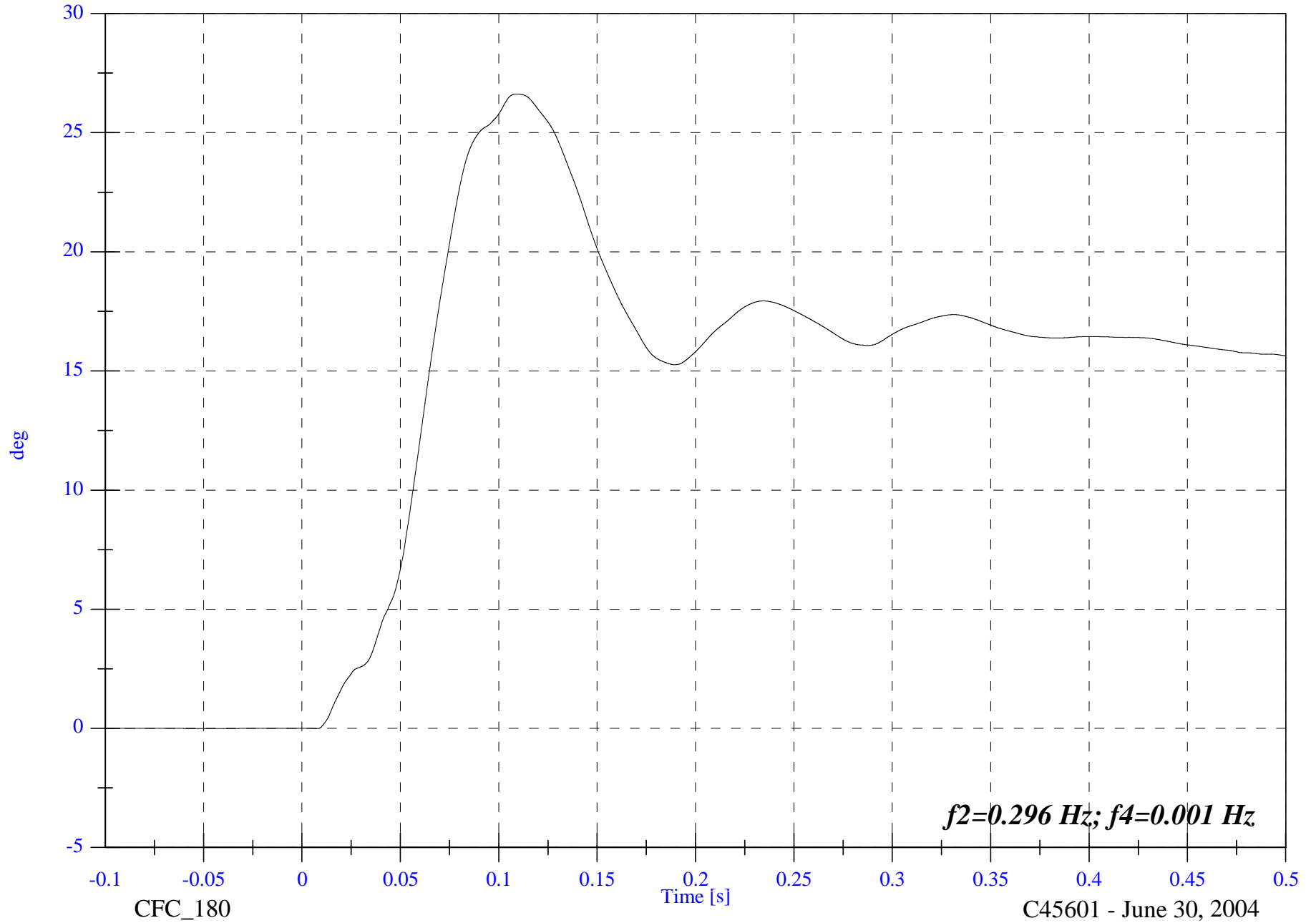
V2P1 Right Seat Comp ADy

Max: 26.6 [deg] at 0.109 [s]

Min: -0.0 [deg] at 0.008 [s]

B-112

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

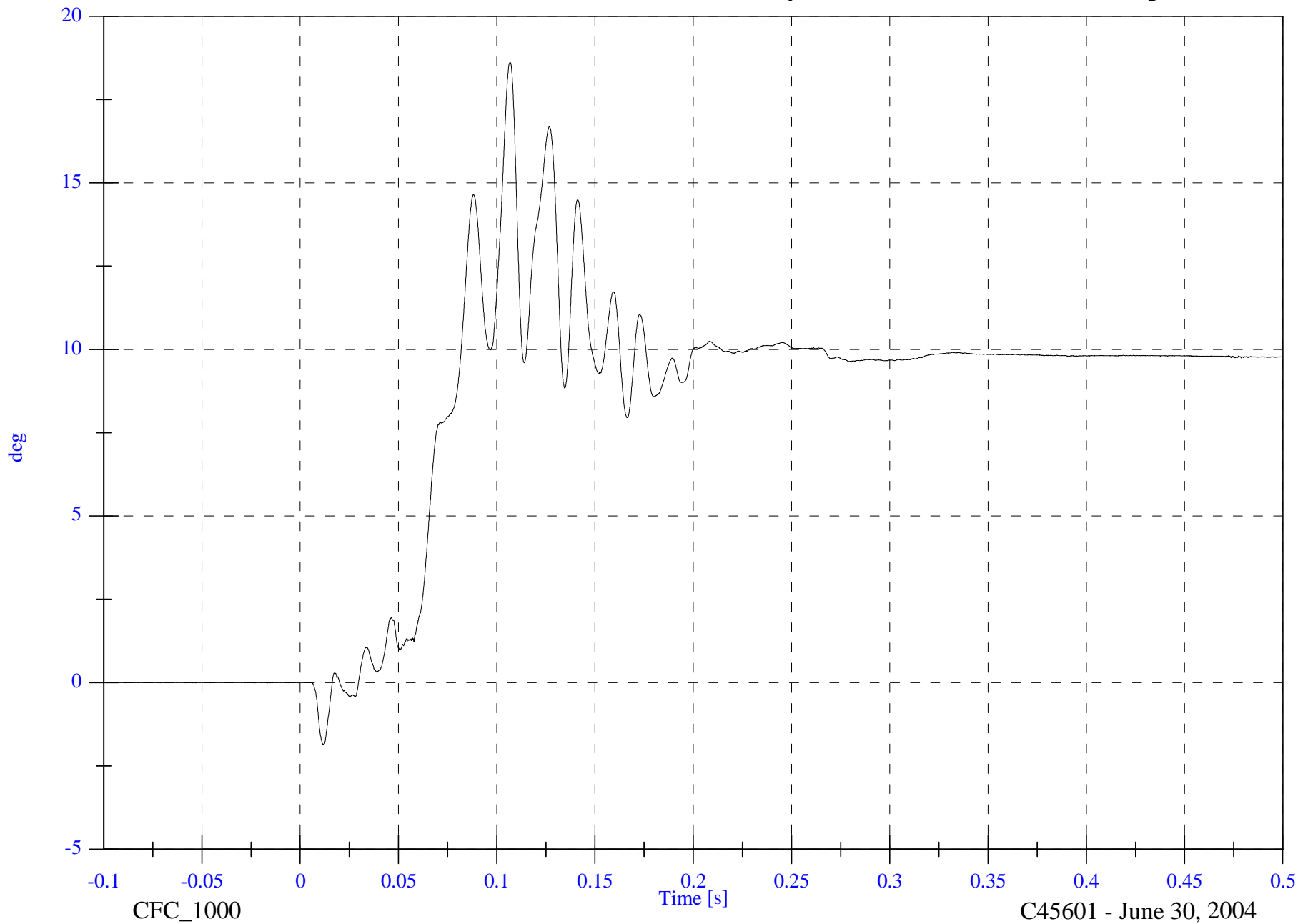
V2P1 Left Link ADy

Max: 18.6 [deg] at 0.107 [s]

Min: -1.9 [deg] at 0.012 [s]

B-113

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

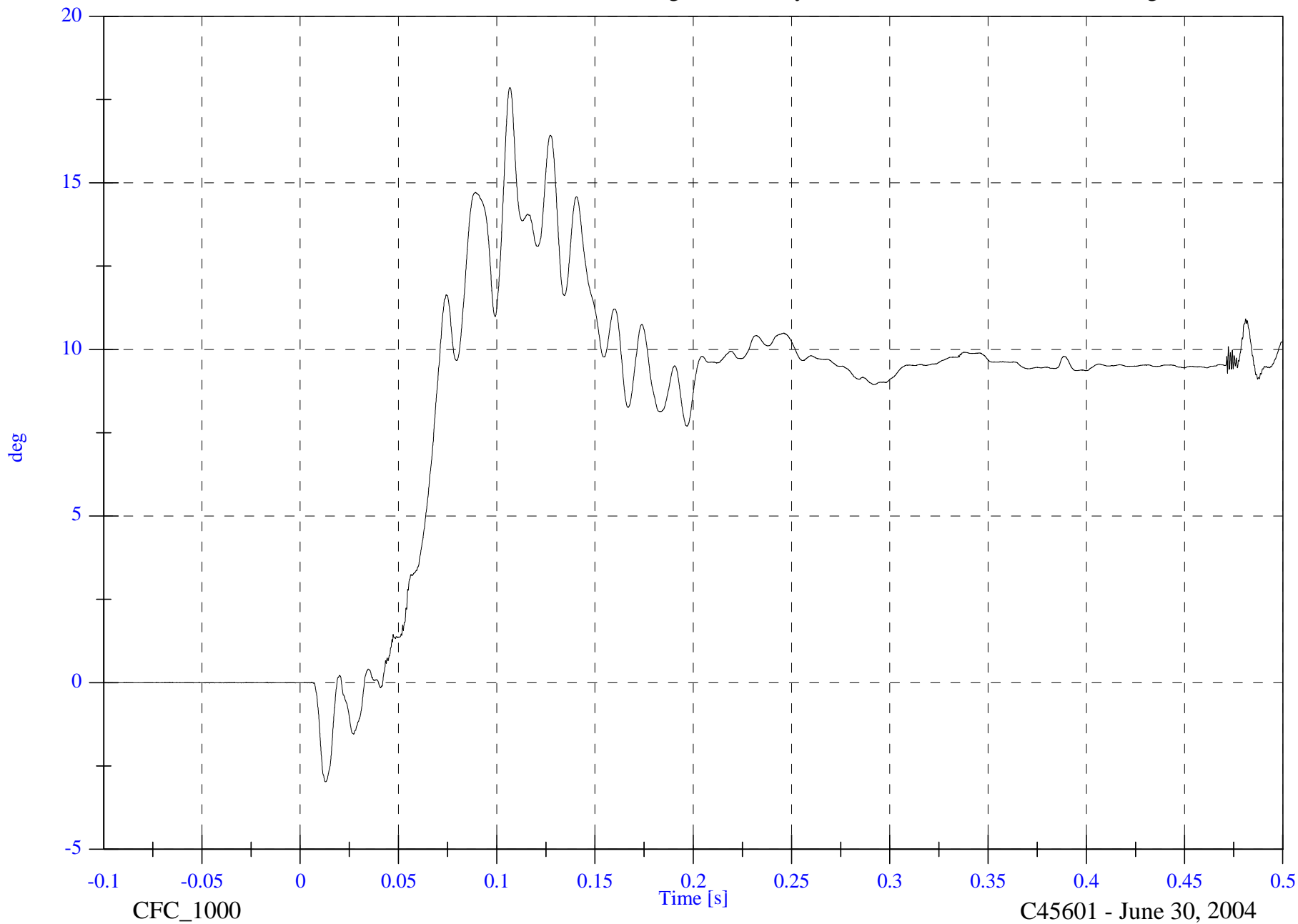
V2P1 Right Link ADy

Max: 17.9 [deg] at 0.107 [s]

Min: -3.0 [deg] at 0.013 [s]

B-114

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

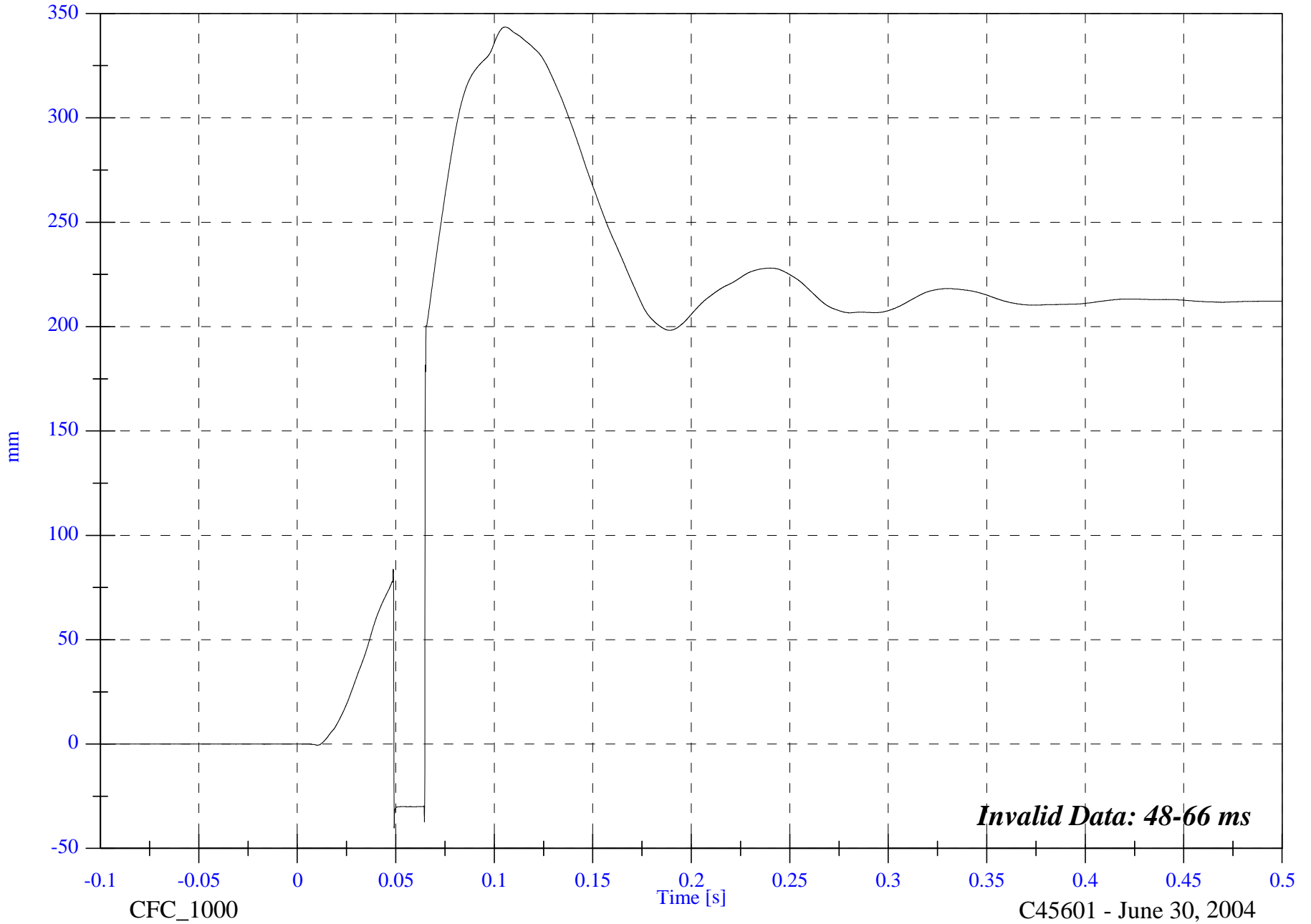
V2P1 Left Span Bar D

Max: 343.5 [mm] at 0.105 [s]

Min: -40.3 [mm] at 0.049 [s]

B-115

8655-F301-21R

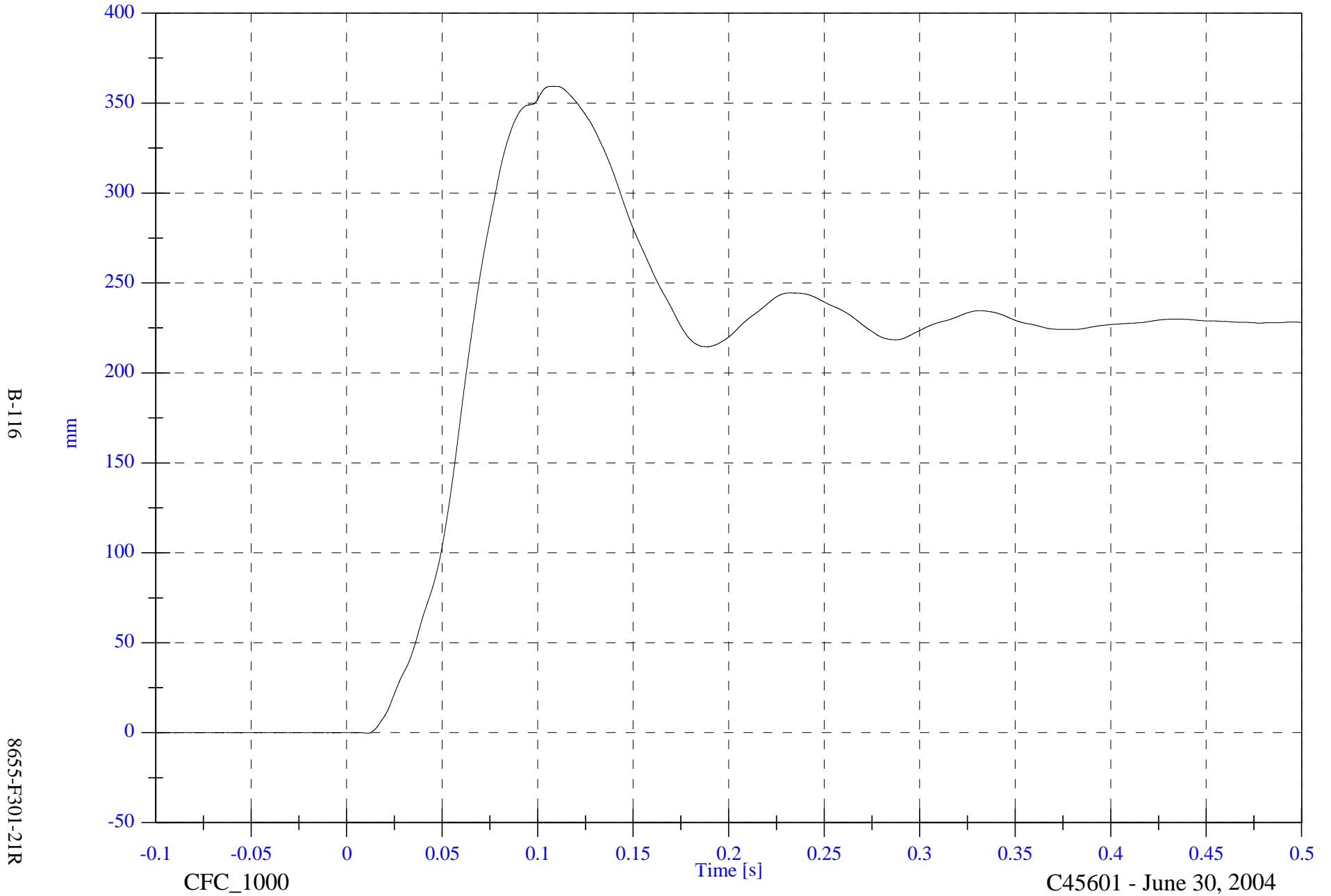


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

Max: 359.4 [mm] at 0.108 [s]

V2P1 Right Span Bar D

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



B-116

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

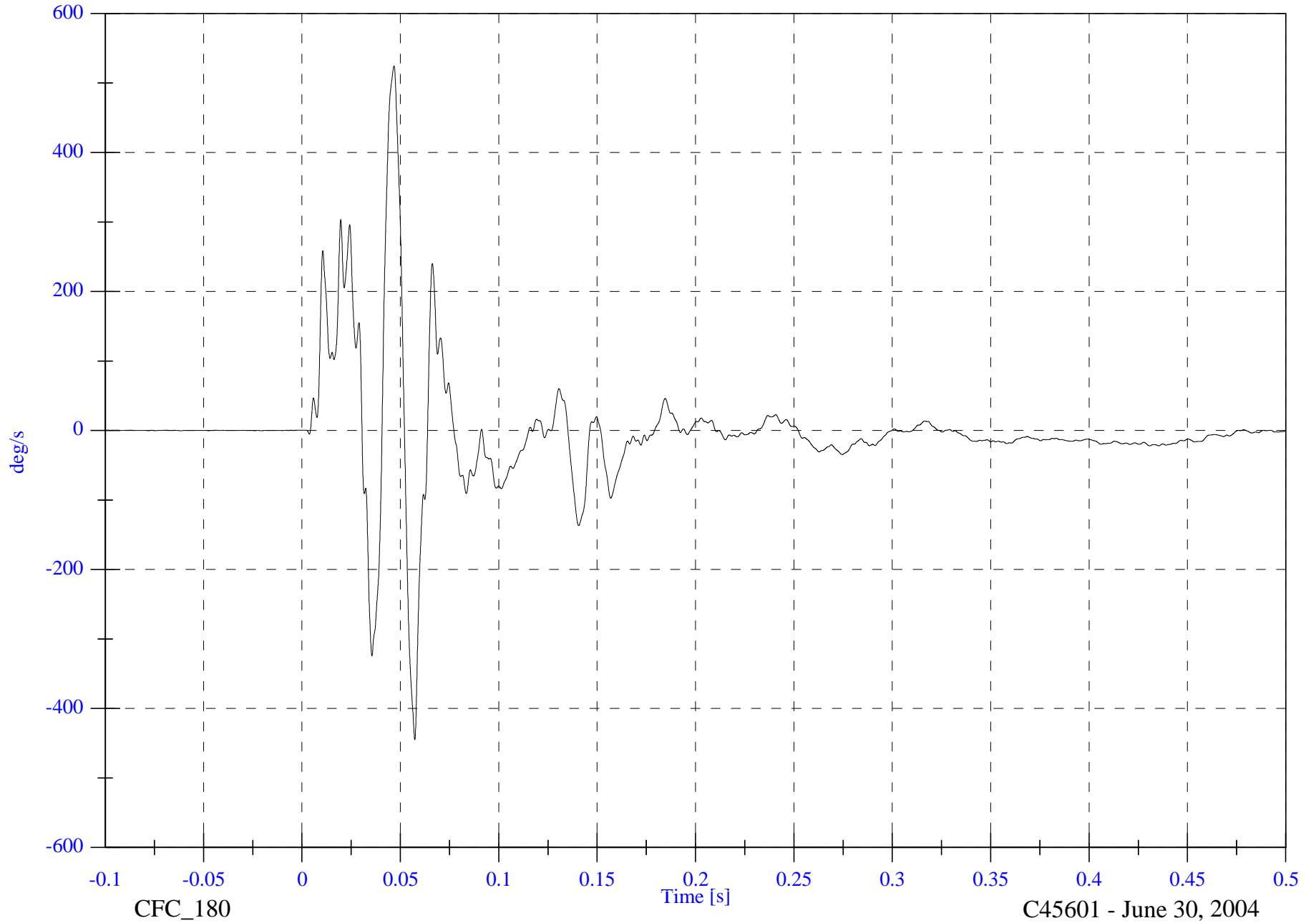
V2P3 Left Seat AVy

Max: 524.6 [deg/s] at 0.047 [s]

Min: -445.2 [deg/s] at 0.057 [s]

B-117

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

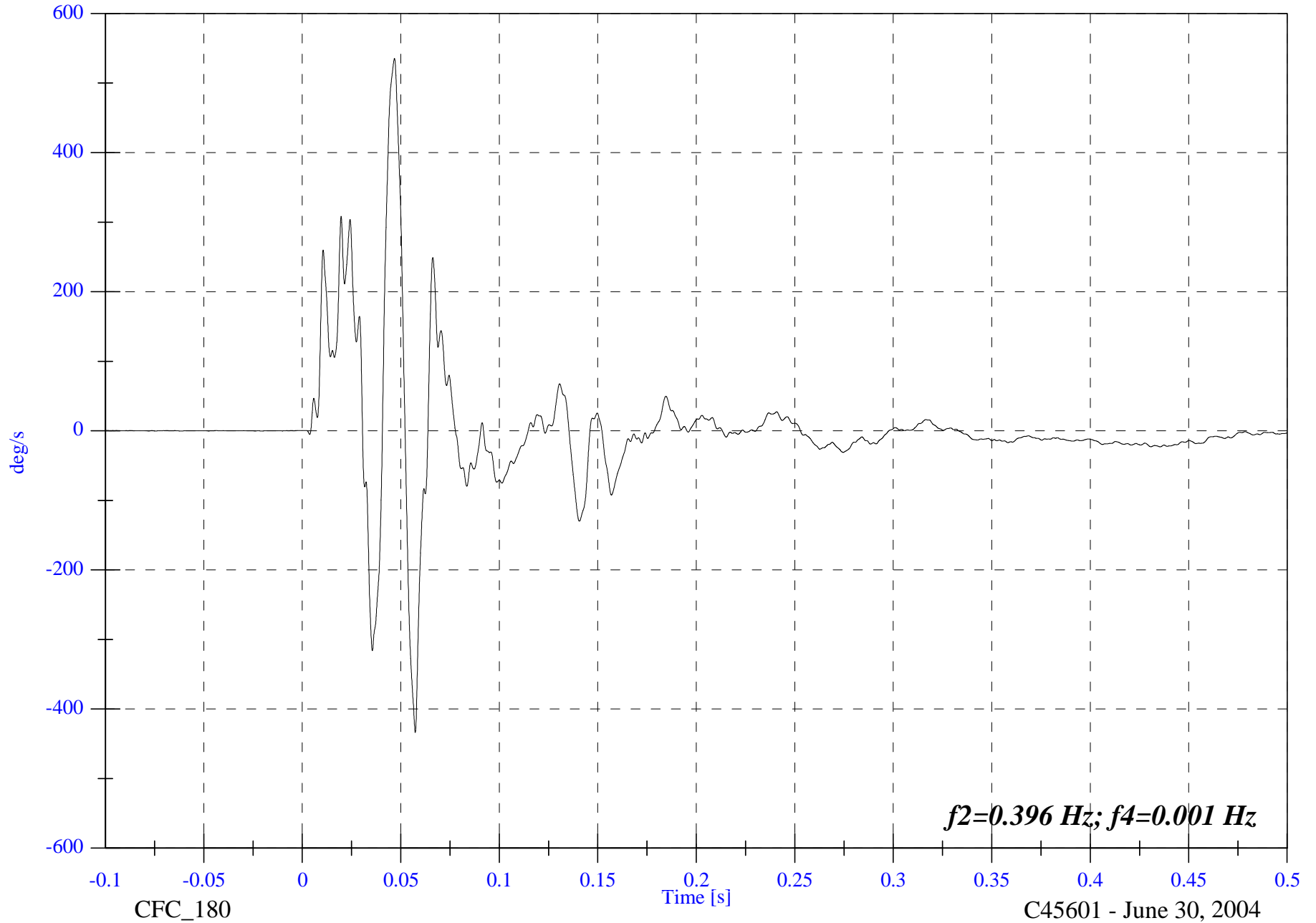
V2P3 Left Seat Comp AVy

Max: 535.4 [deg/s] at 0.047 [s]

Min: -434.0 [deg/s] at 0.057 [s]

B-118

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

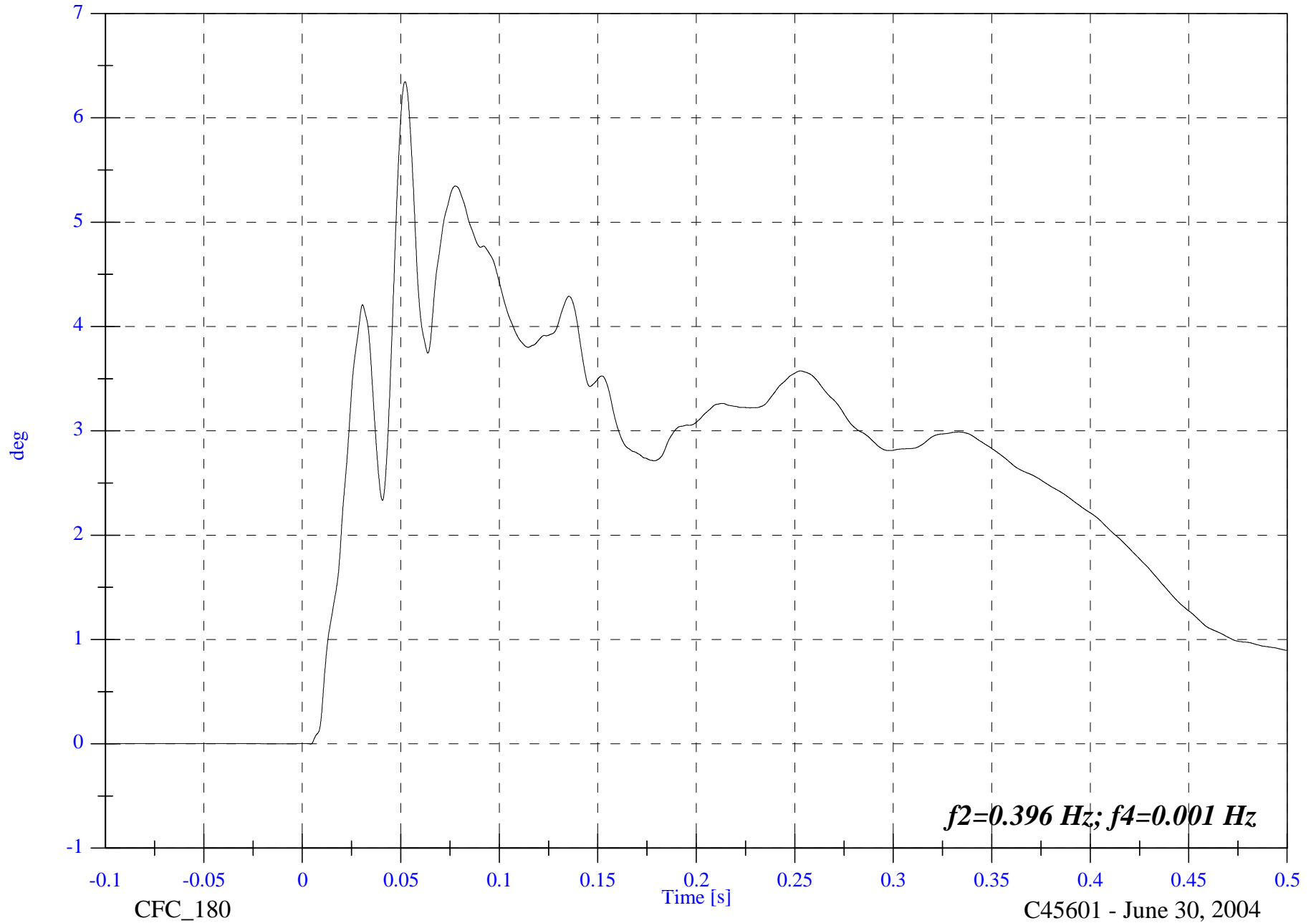
V2P3 Left Seat Comp ADy

Max: 6.3 [deg] at 0.052 [s]

Min: -0.0 [deg] at 0.004 [s]

B-119

8655-F301-21R

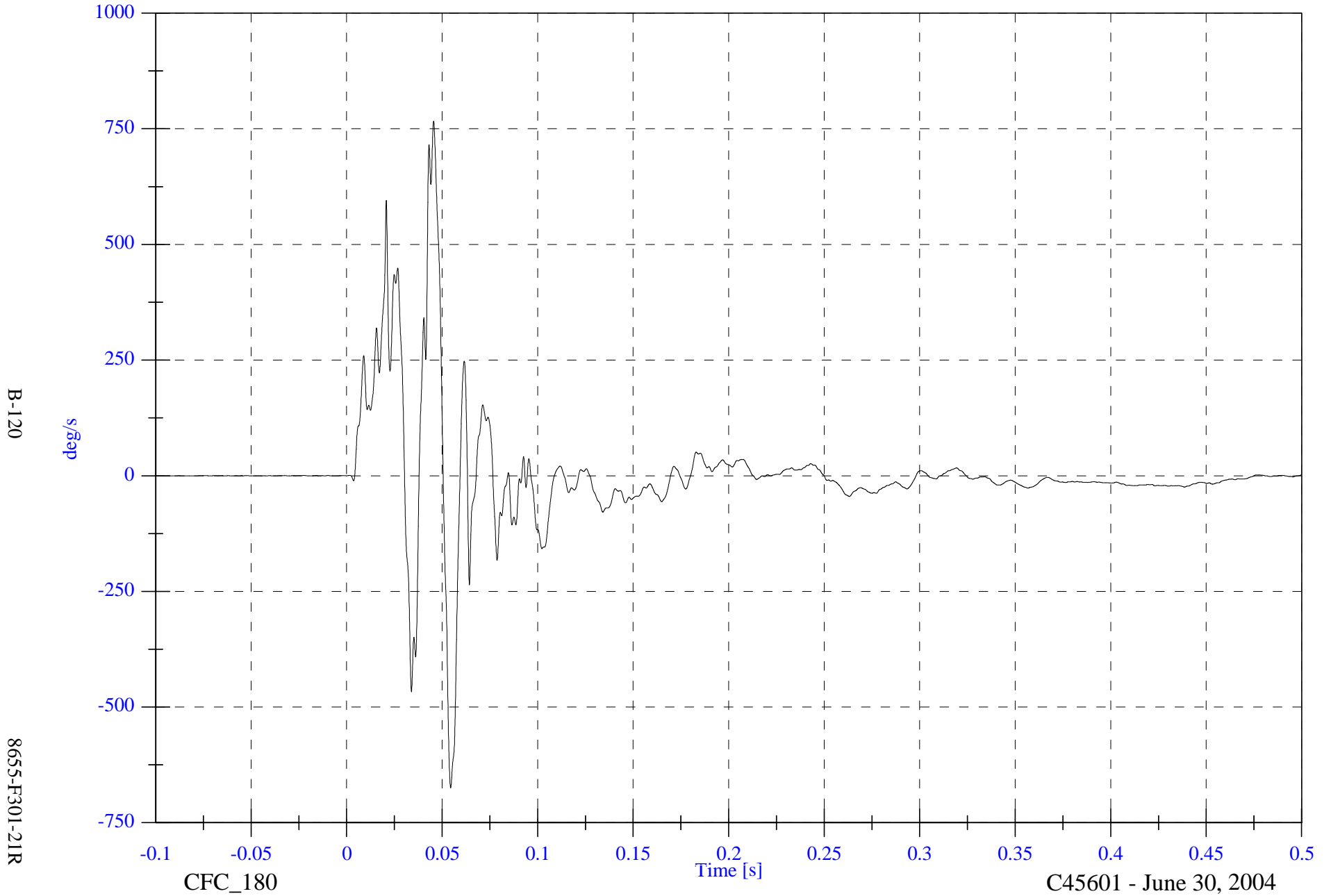


2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Right Seat AVy

Max: 766.3 [deg/s] at 0.045 [s]

Min: -675.0 [deg/s] at 0.054 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

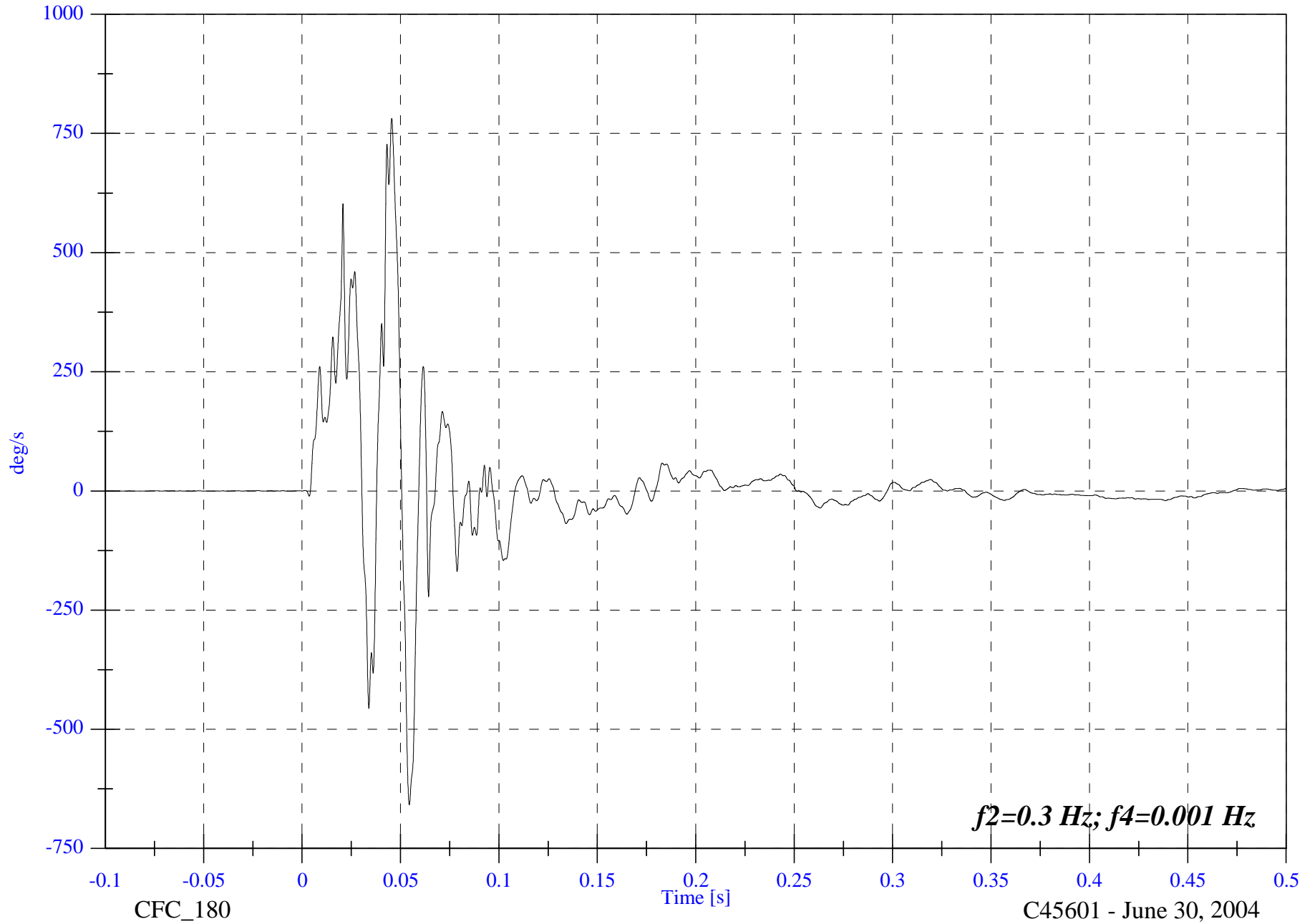
V2P3 Right Seat Comp AVy

Max: 781.2 [deg/s] at 0.045 [s]

Min: -658.5 [deg/s] at 0.054 [s]

B-121

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

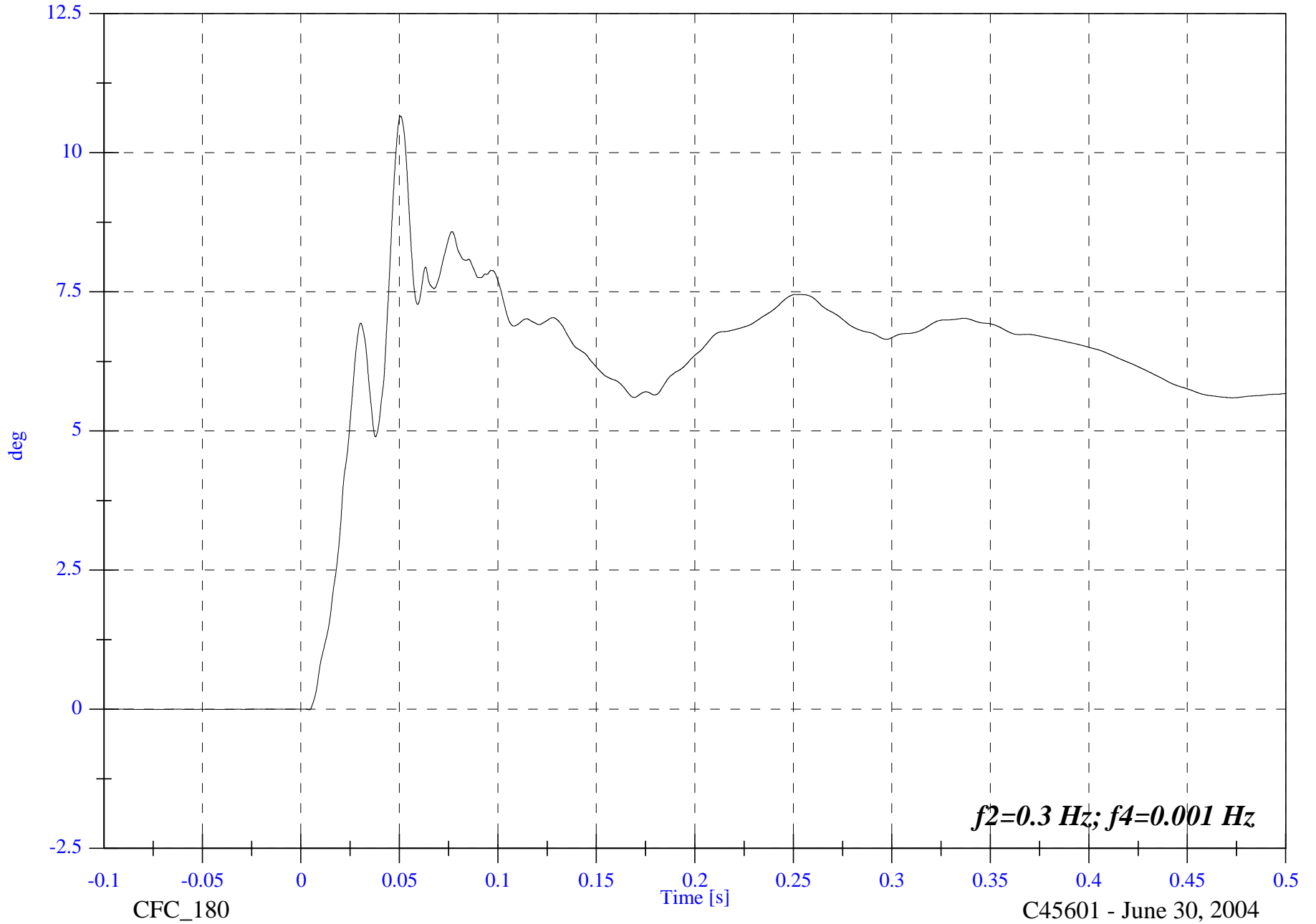
V2P3 Right Seat Comp ADy

Max: 10.7 [deg] at 0.051 [s]

Min: -0.0 [deg] at 0.004 [s]

B-122

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

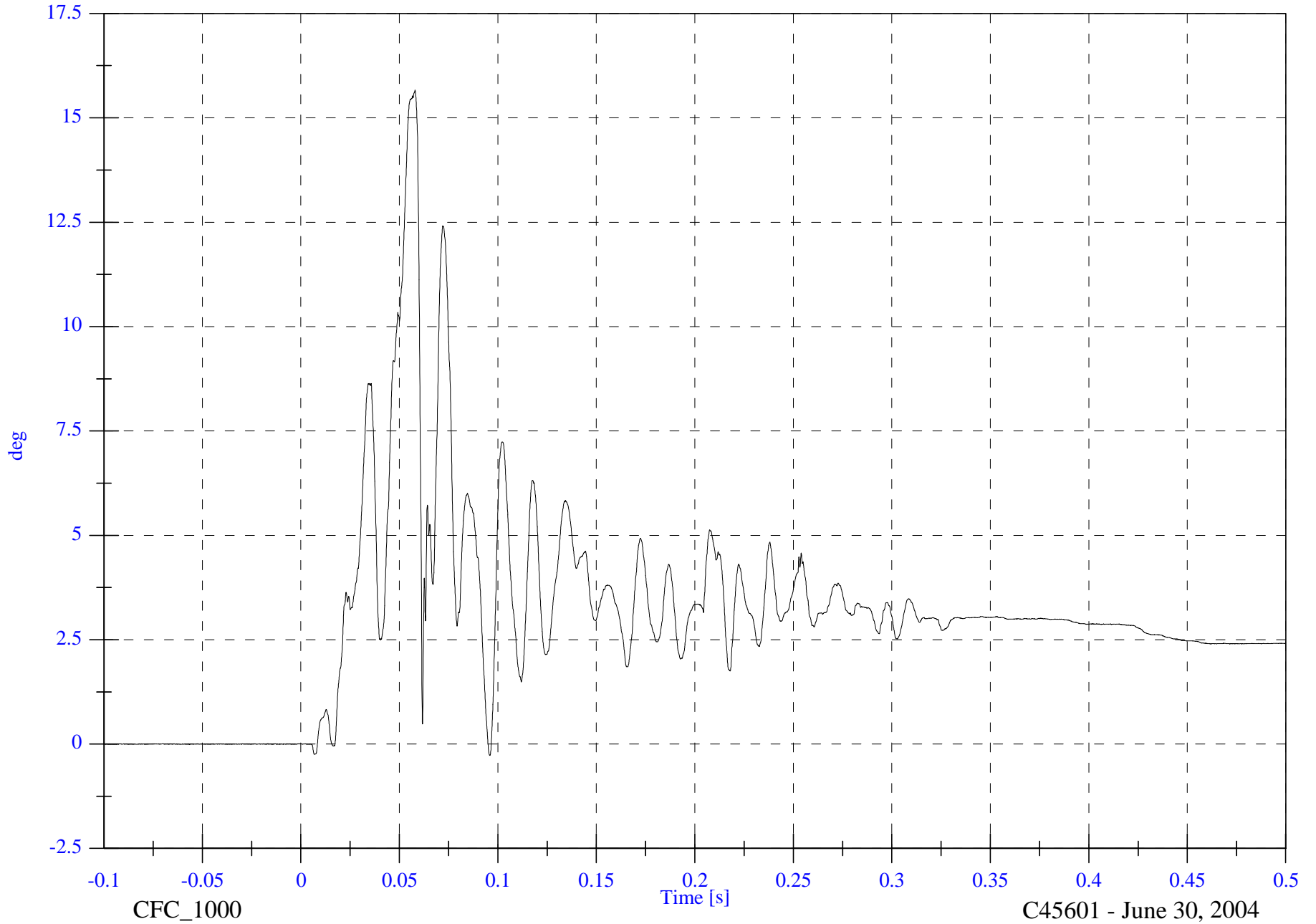
V2P3 Left Link ADy

Max: 15.7 [deg] at 0.058 [s]

Min: -0.3 [deg] at 0.096 [s]

B-123

8655-F301-21R



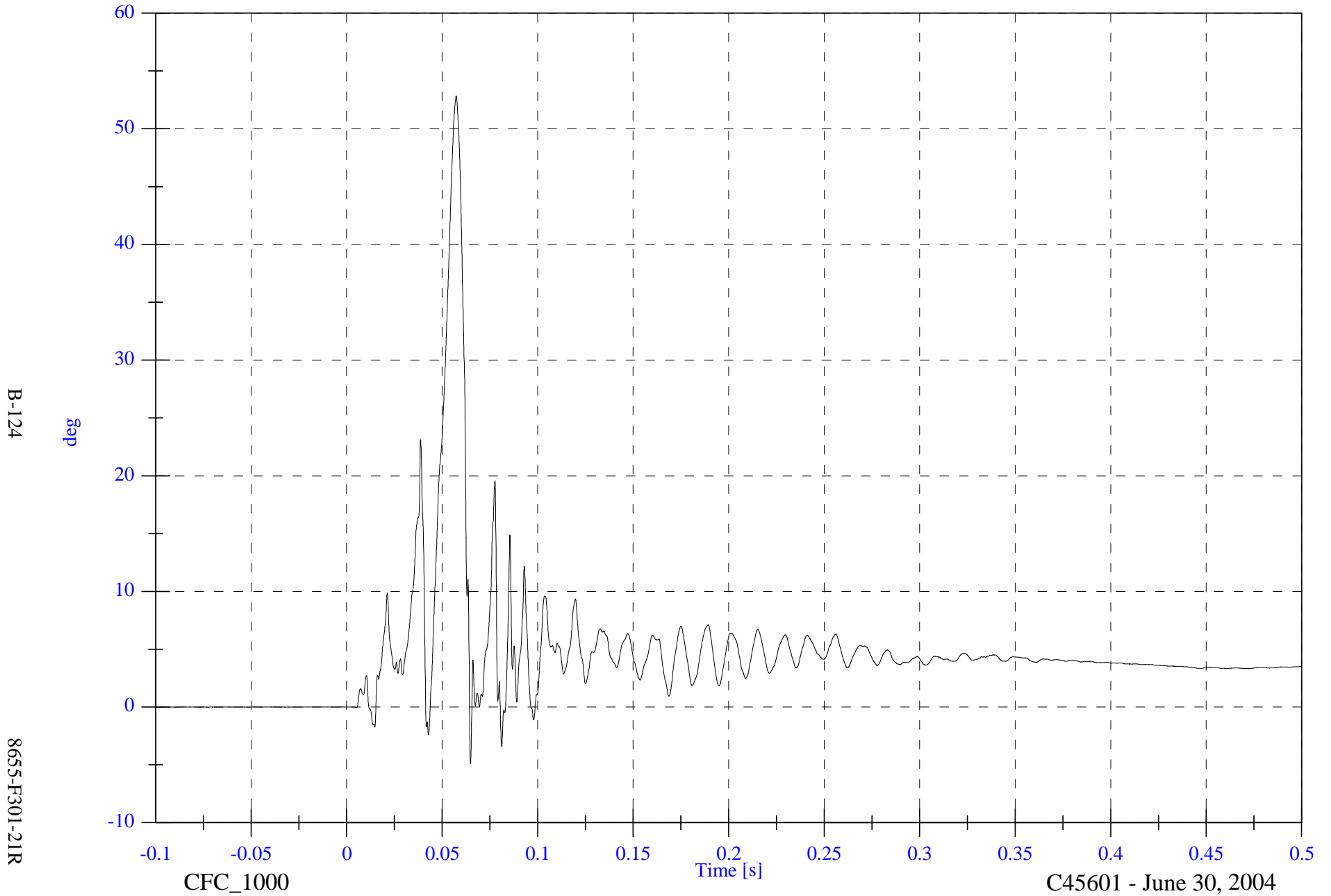
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

V2P3 Right Link ADy

Max: 52.8 [deg] at 0.057 [s]

Min: -4.9 [deg] at 0.065 [s]



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

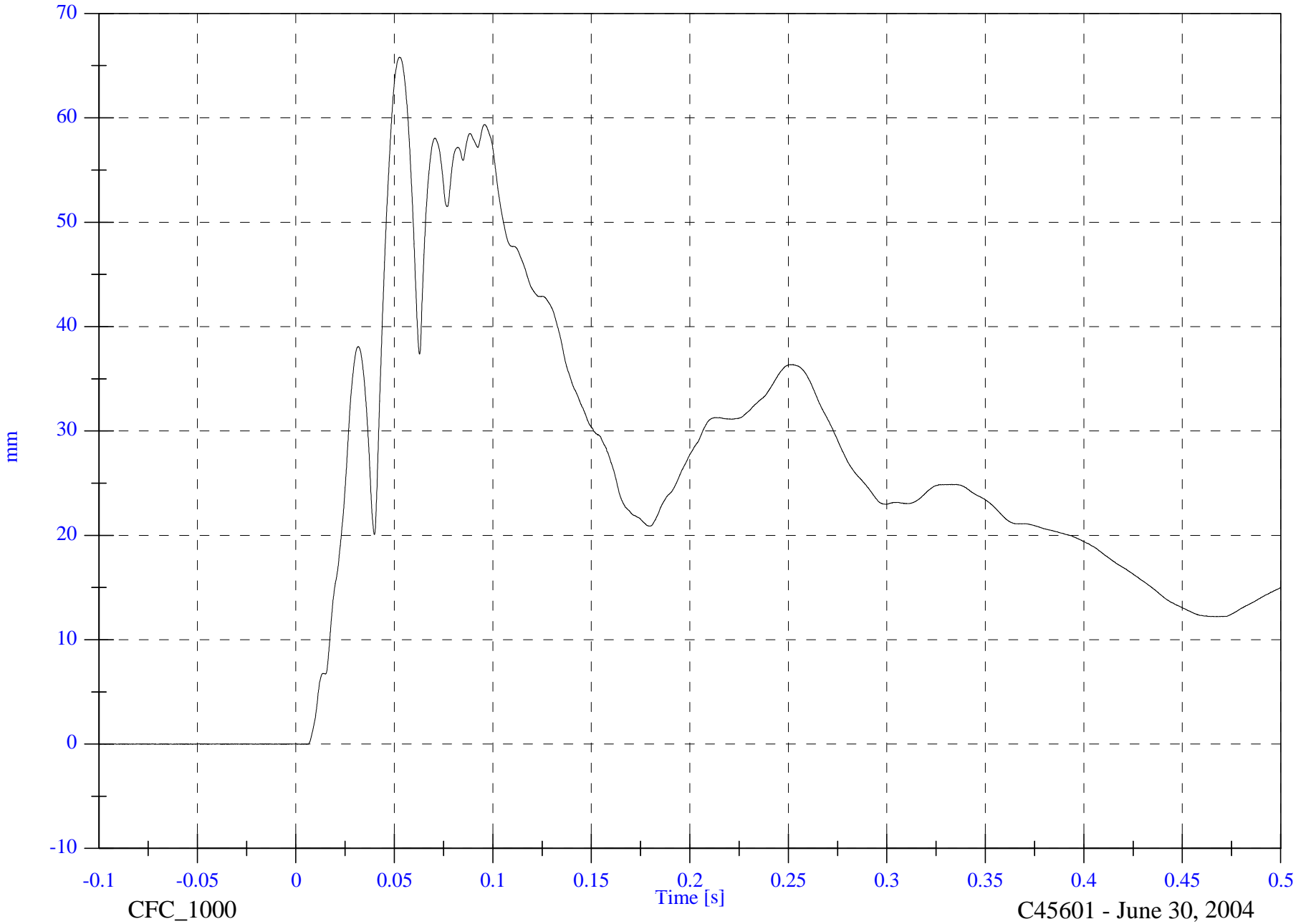
V2P3 Left Span Bar D

Max: 65.8 [mm] at 0.053 [s]

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

B-125

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

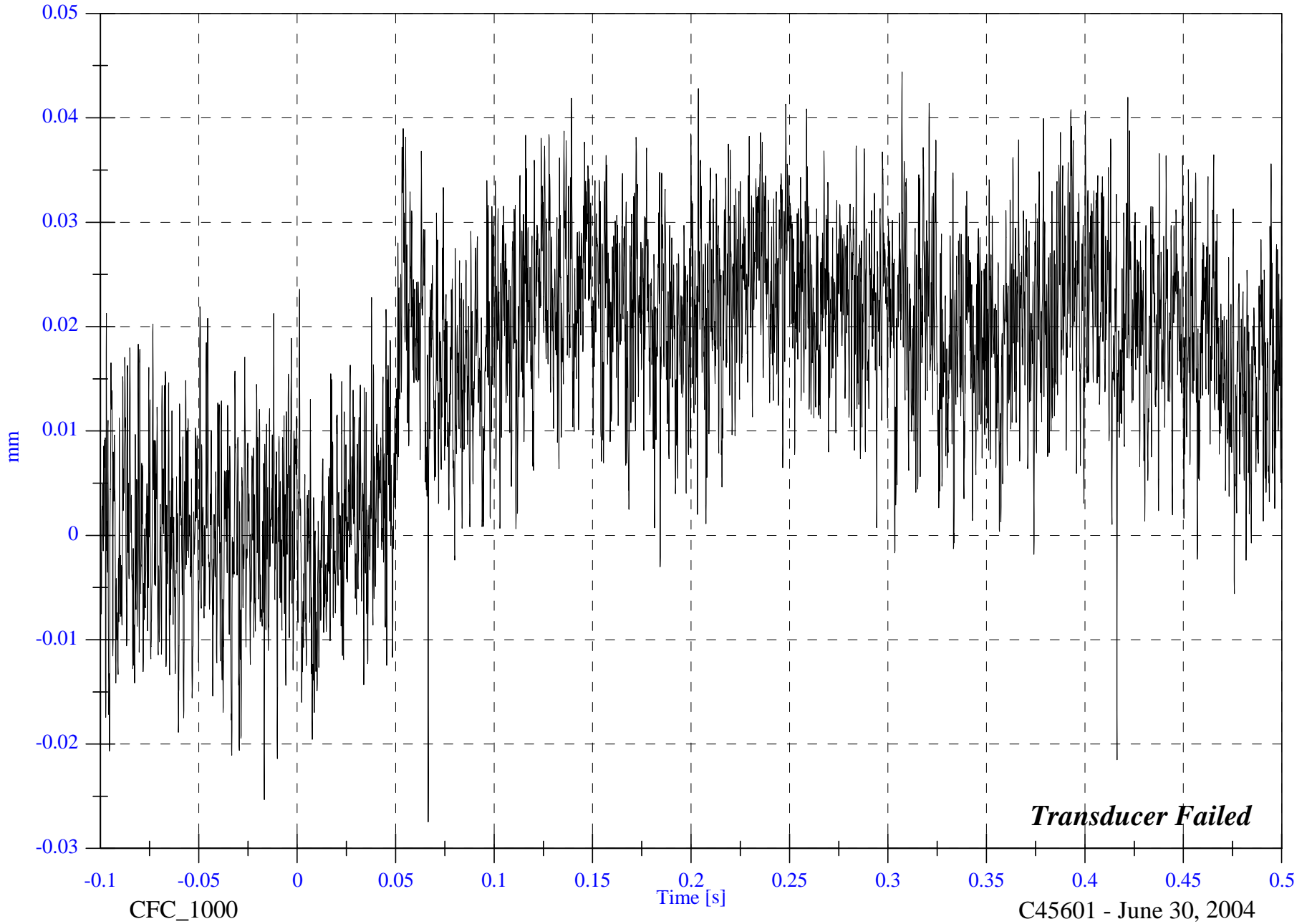
V2P3 Right Span Bar D

Max: 0.0 [mm] at 0.500 [s]

Min: -0.0 [mm] at 0.067 [s]

B-126

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

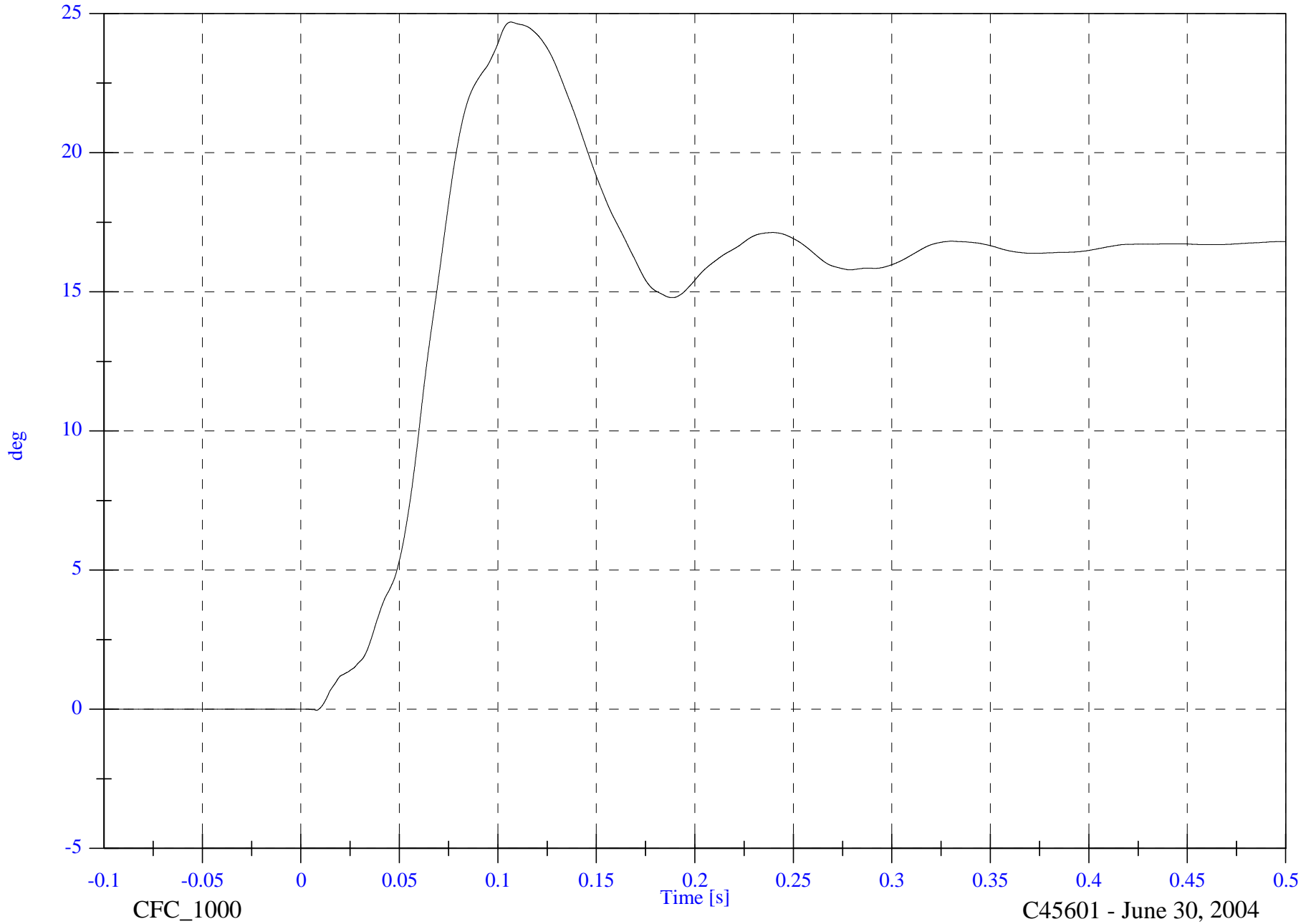
P1 Left Change in Seat Back Angle WRT Sill

Max: 24.7 [deg] at 0.107 [s]

Min: -0.0 [deg] at 0.008 [s]

B-127

8655-F301-21R



CFC_1000

Time [s]

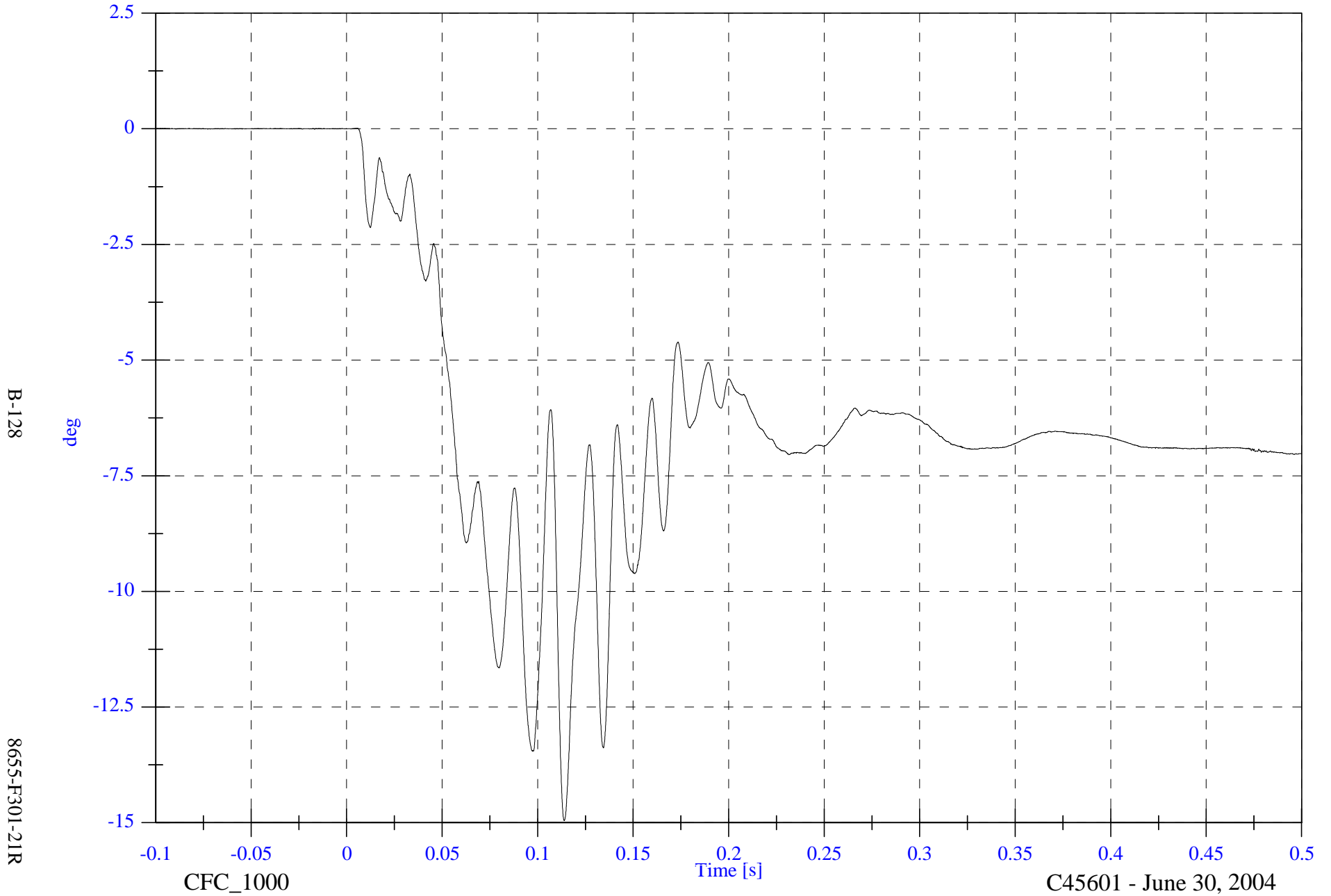
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

P1 Left Change in String Angle

Max: 0.0 [deg] at 0.005 [s]

Min: -15.0 [deg] at 0.114 [s]



B-128

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

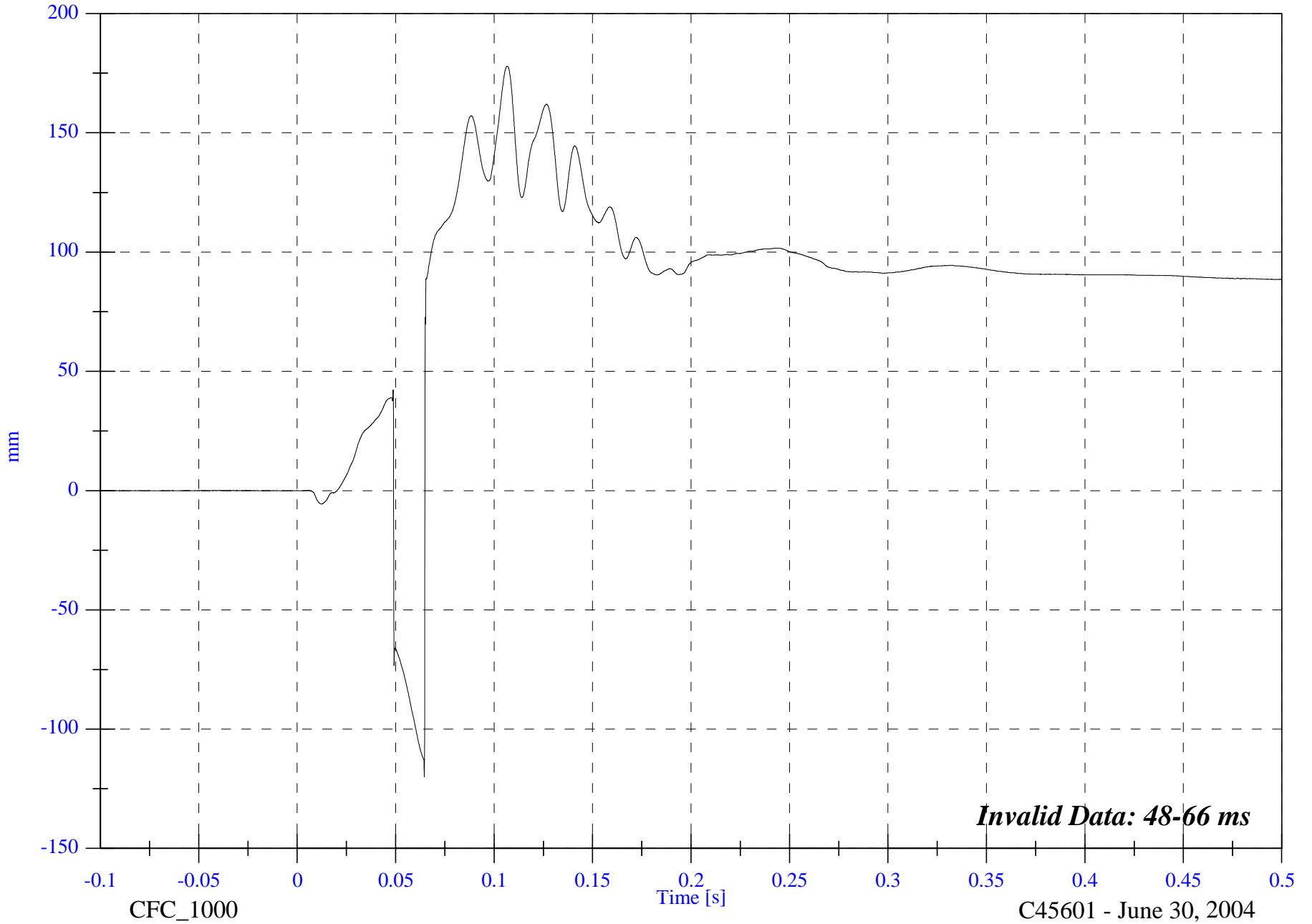
P1 Left Seat X Displacement

Max: 177.9 [mm] at 0.107 [s]

Min: -120.0 [mm] at 0.065 [s]

B-129

8655-F301-21R



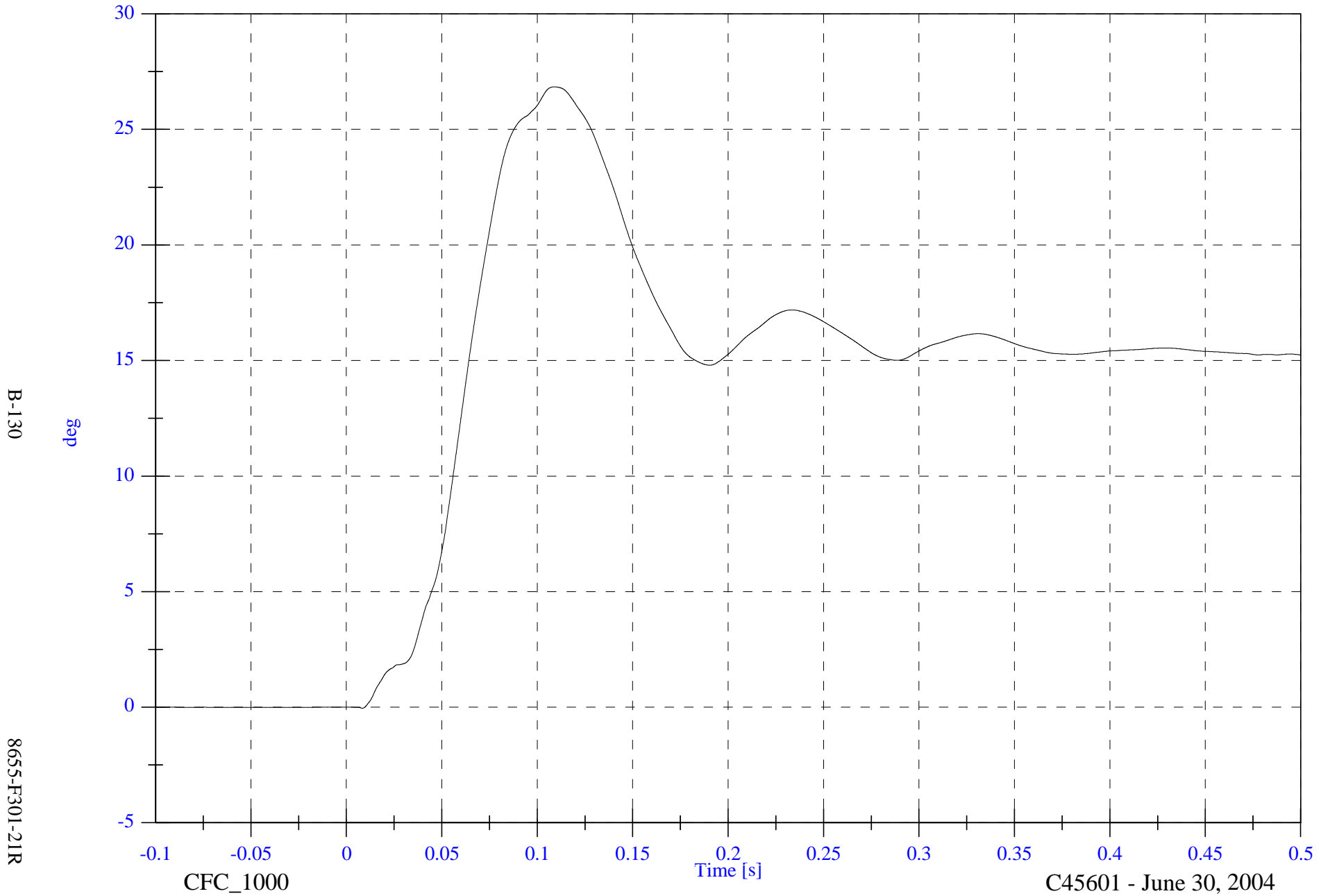
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

P1 Right Change in Seat Back Angle WRT Sill

Max: 26.8 [deg] at 0.109 [s]

Min: -0.0 [deg] at 0.008 [s]



B-130

8655-F301-21R

CFC_1000

Time [s]

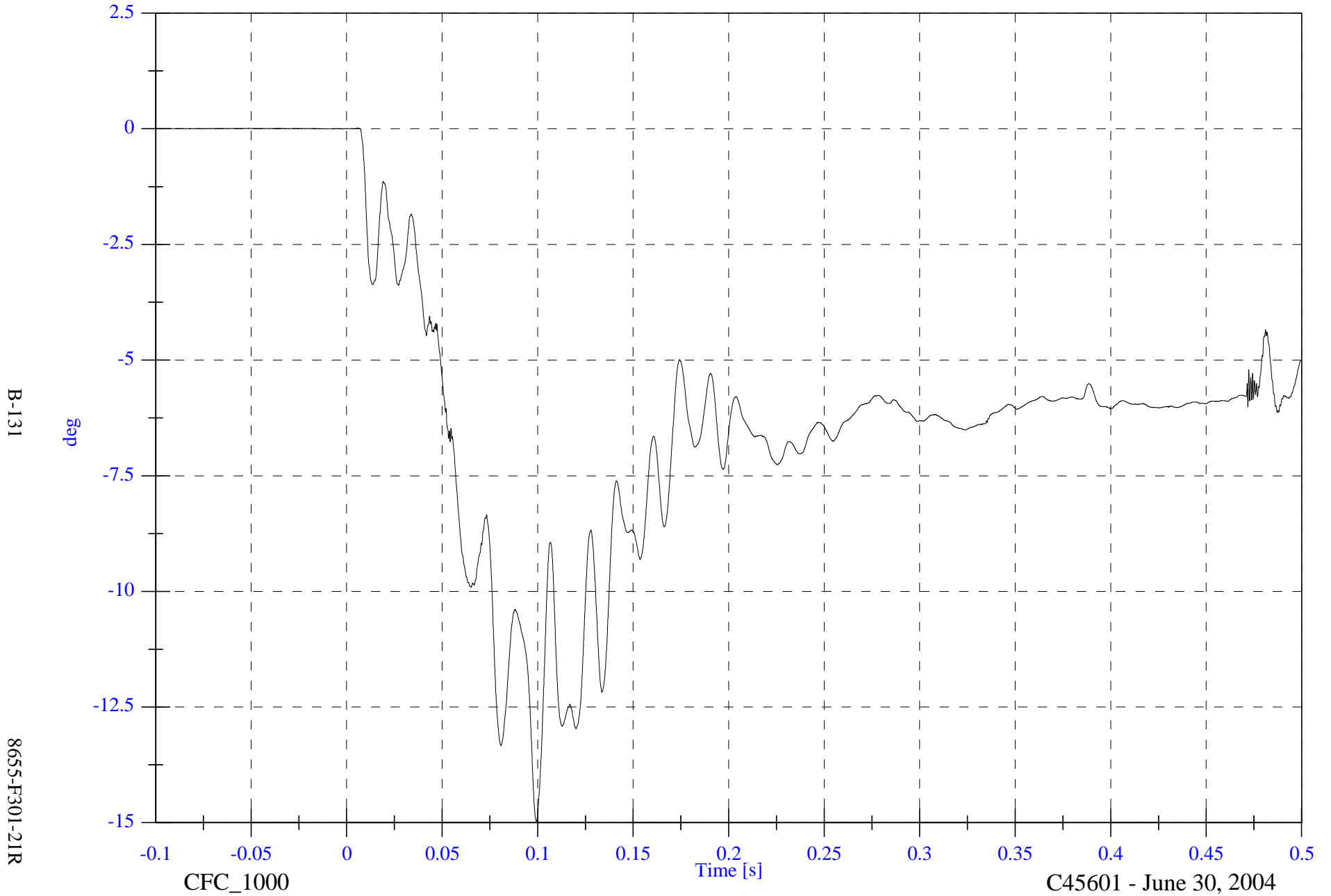
C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

P1 Right Change in String Angle

Max: 0.0 [deg] at 0.006 [s]

Min: -15.0 [deg] at 0.099 [s]



B-131

8655-F301-21R

CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

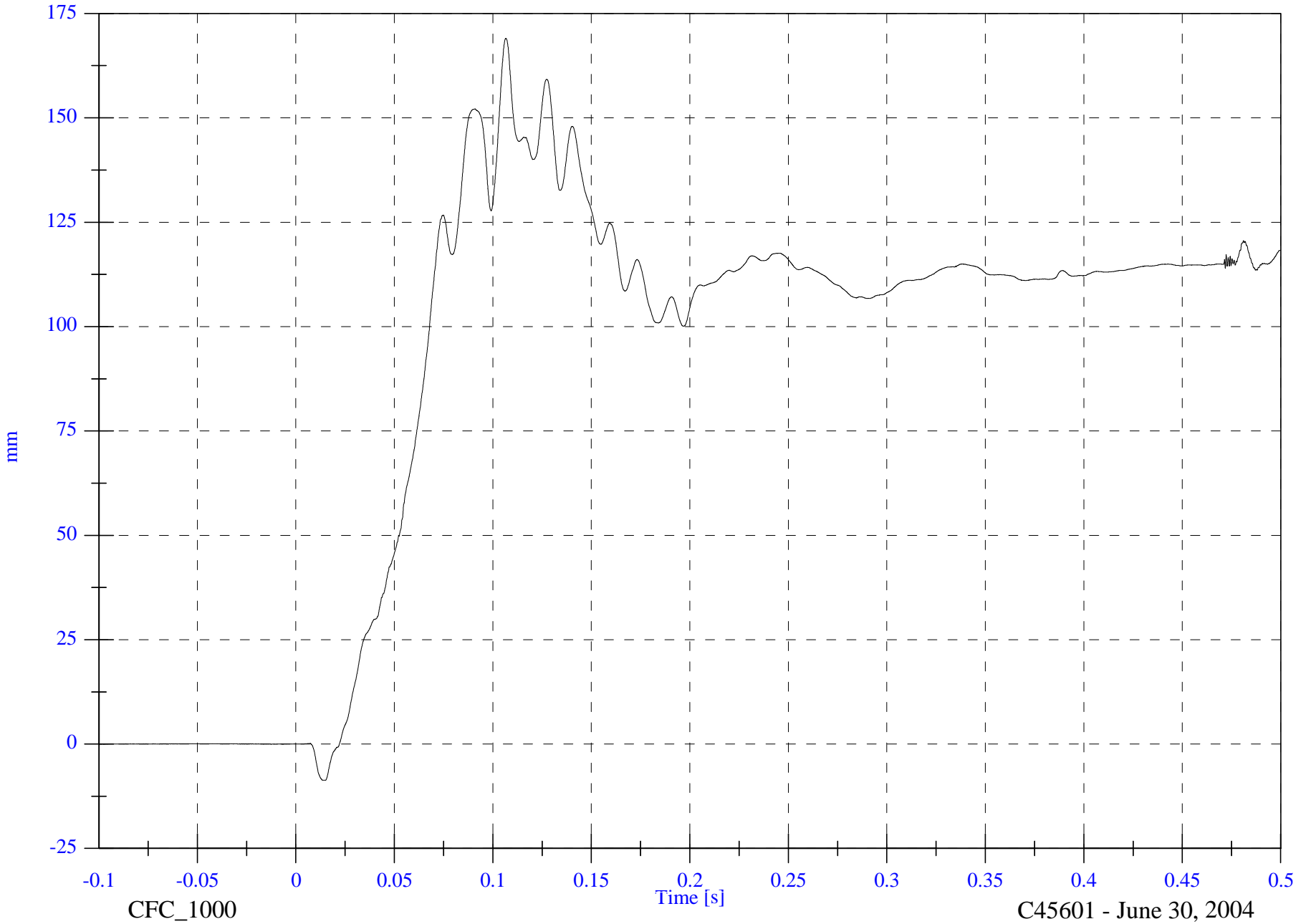
P1 Right Seat X Displacement

Max: 169.0 [mm] at 0.107 [s]

Min: -8.7 [mm] at 0.015 [s]

B-132

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

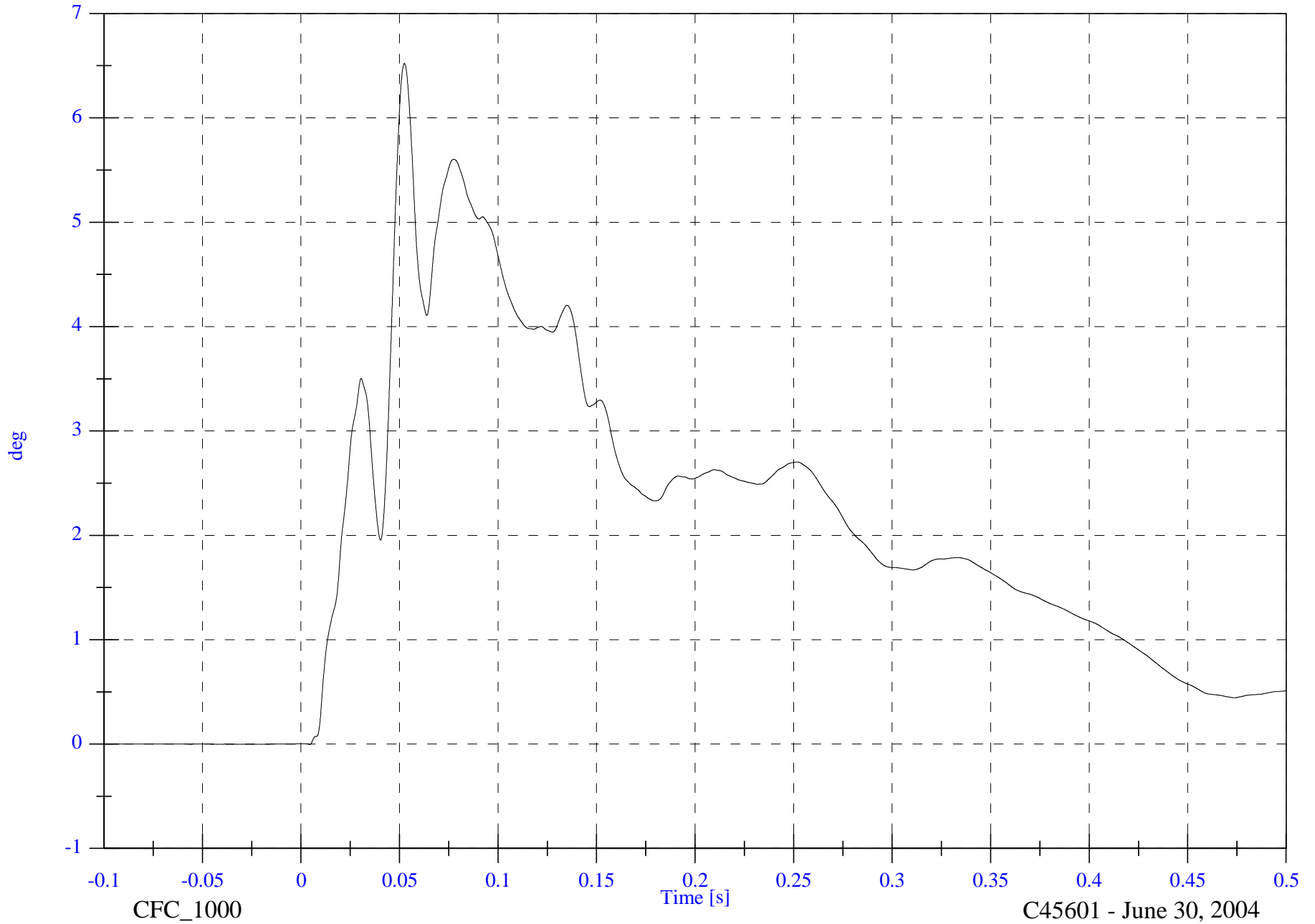
P3 Left Change in Seat Back Angle WRT Sill

Max: 6.5 [deg] at 0.052 [s]

Min: -0.0 [deg] at 0.004 [s]

B-133

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

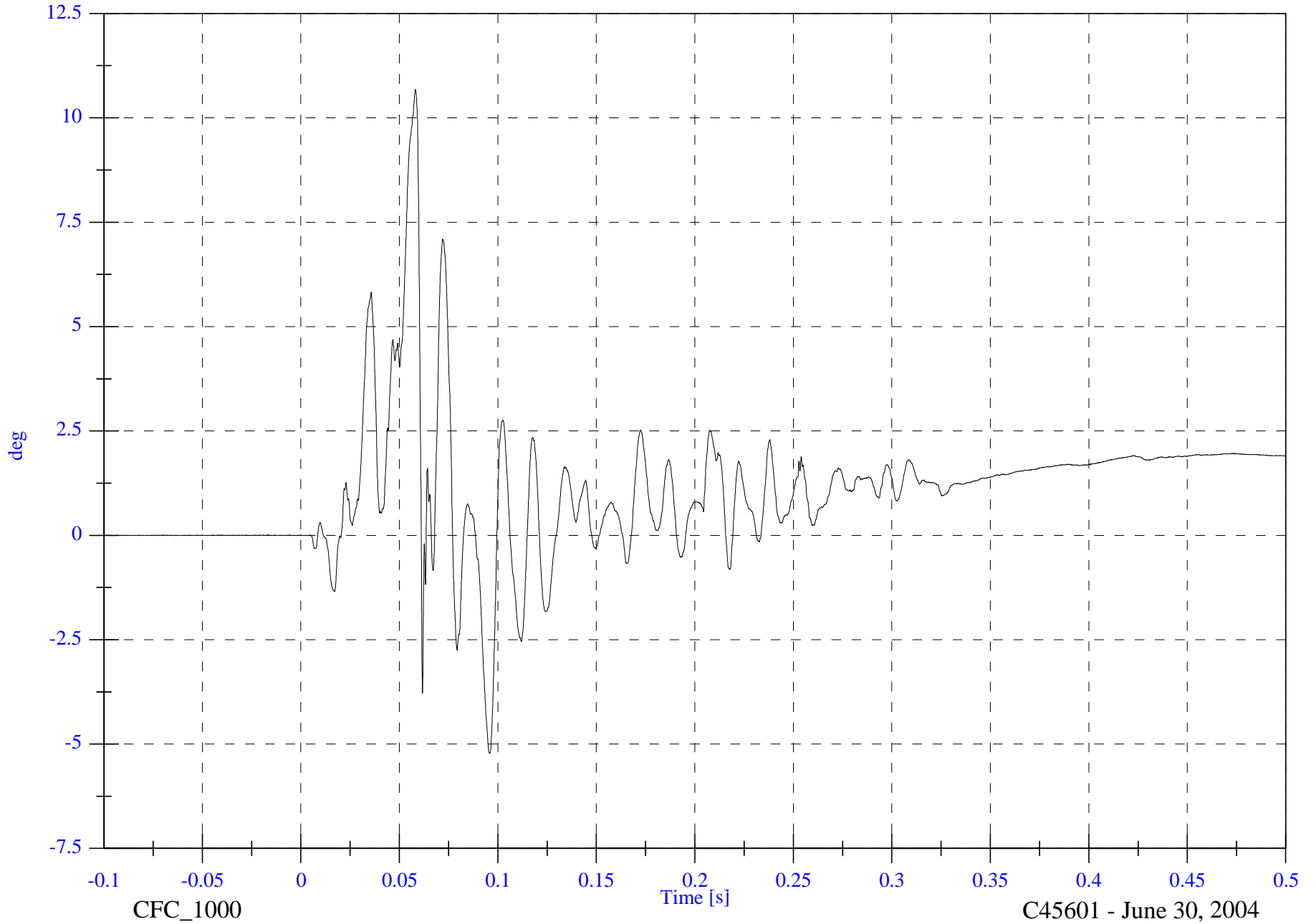
P3 Left Change in String Angle

Max: 10.7 [deg] at 0.058 [s]

Min: -5.2 [deg] at 0.096 [s]

B-134

8655-F301-21R



C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

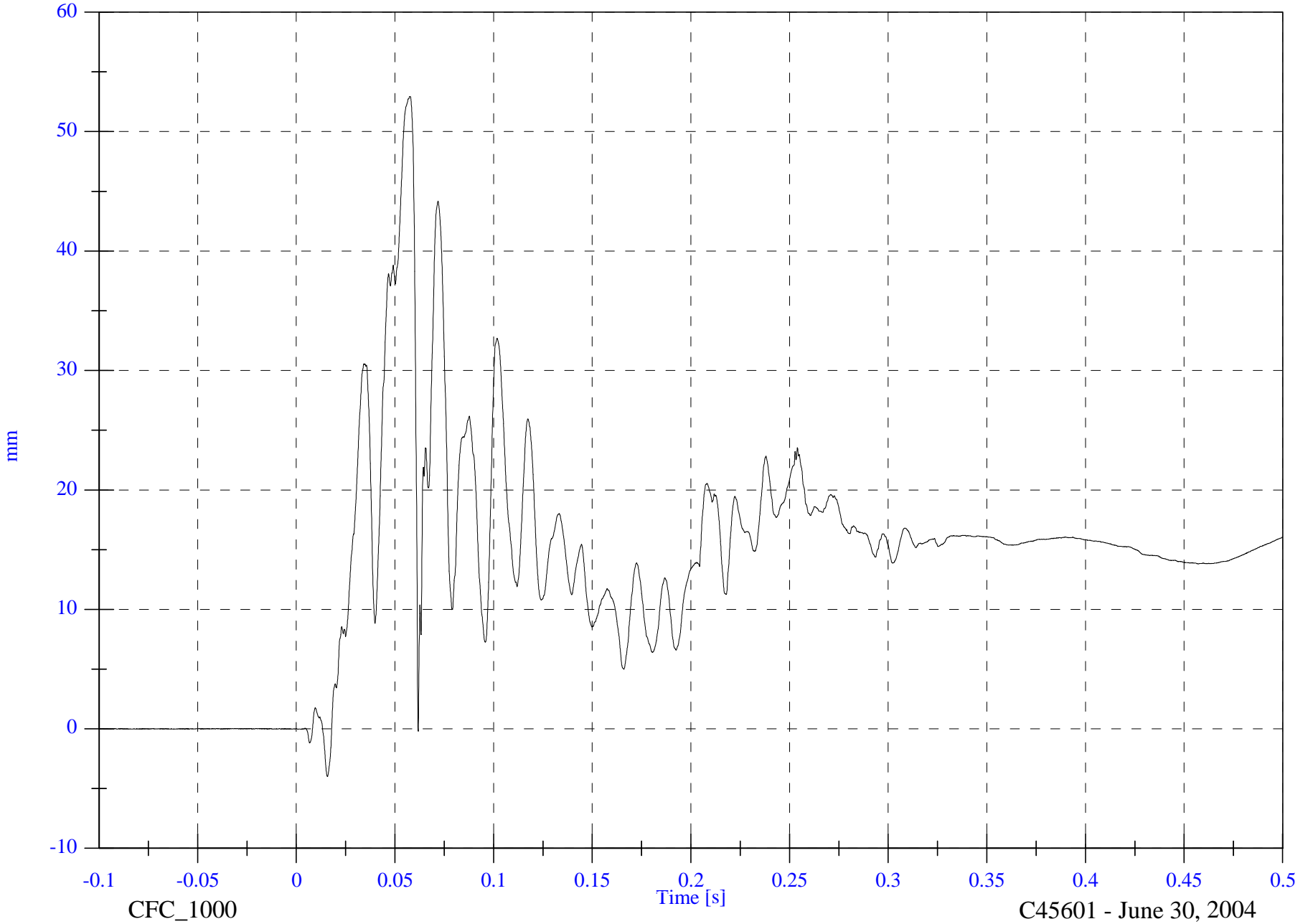
P3 Left Seat X Displacement

Max: 52.9 [mm] at 0.057 [s]

Min: -4.0 [mm] at 0.016 [s]

B-135

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

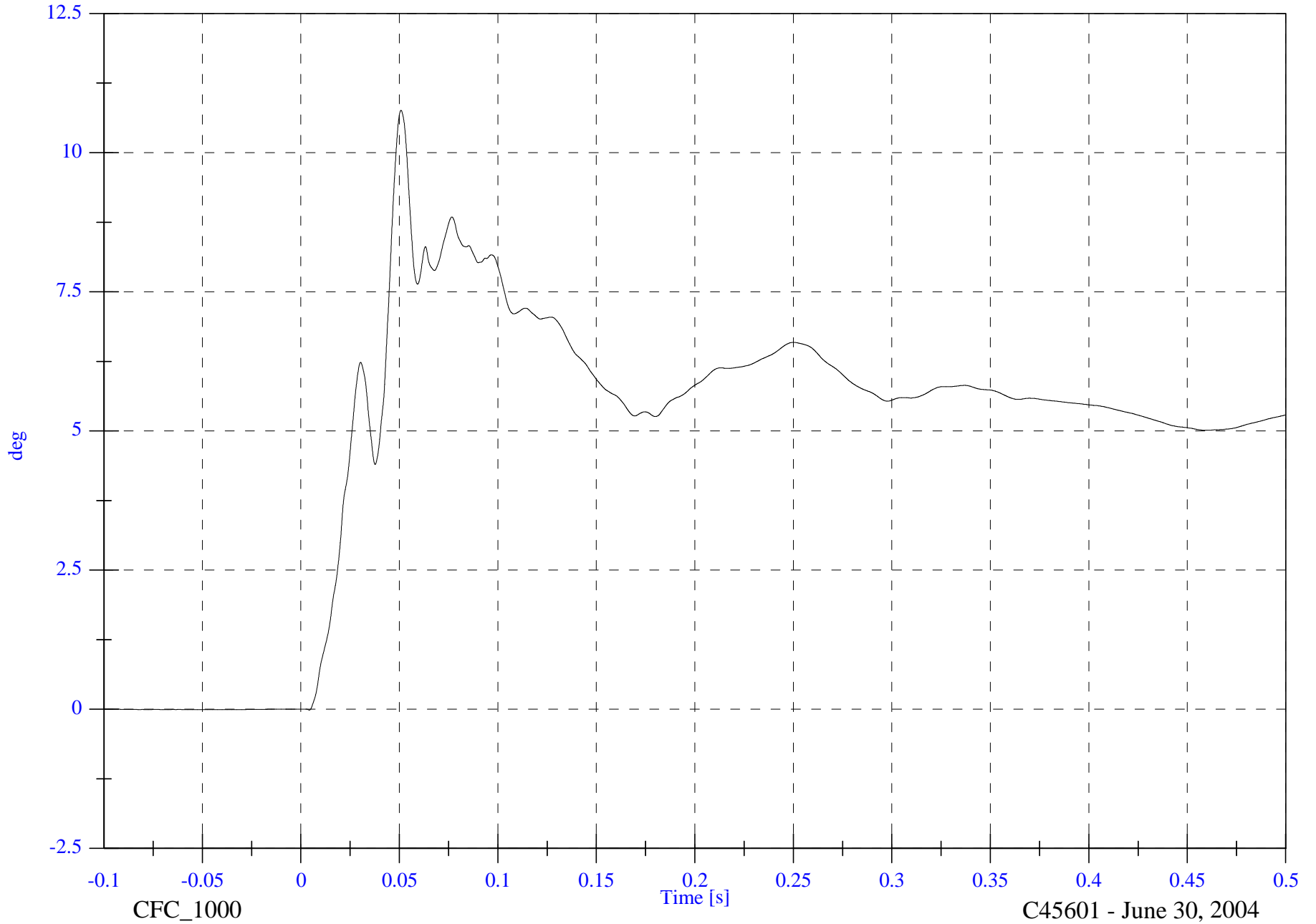
P3 Right Change in Seat Back Angle WRT Sill

Max: 10.8 [deg] at 0.051 [s]

Min: -0.0 [deg] at 0.004 [s]

B-136

8655-F301-21R



2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

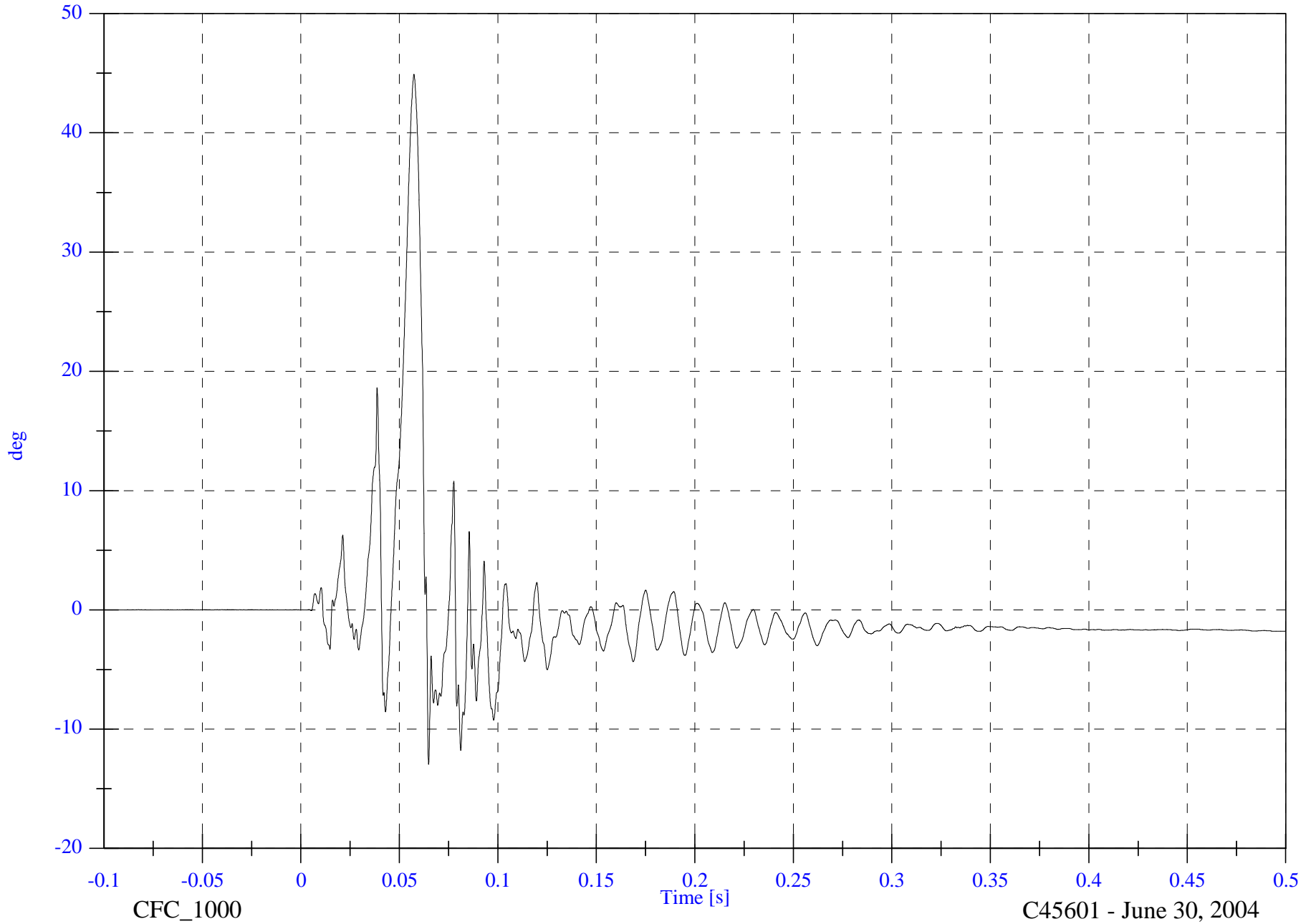
P3 Right Change in String Angle

Max: 44.9 [deg] at 0.057 [s]

Min: -13.0 [deg] at 0.065 [s]

B-137

8655-F301-21R



CFC_1000

Time [s]

C45601 - June 30, 2004

2004 FMVSS301 Test 4 - 2004 Mitsubishi Endeavor

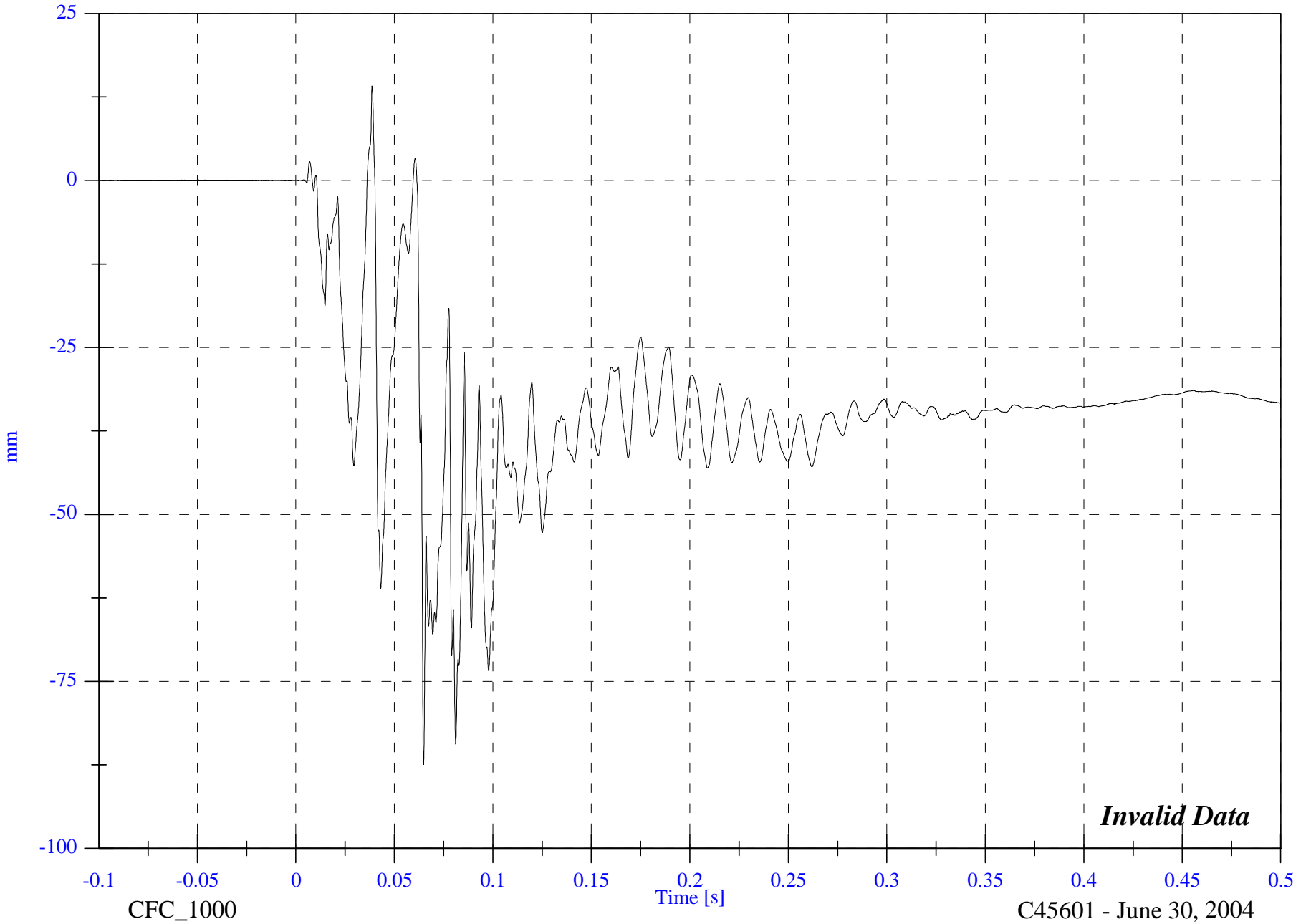
P3 Right Seat X Displacement

Max: 14.2 [mm] at 0.039 [s]

Min: -87.4 [mm] at 0.065 [s]

B-138

8655-F301-21R



Invalid Data

CFC_1000

Time [s]

C45601 - June 30, 2004